ISSN 0020-8671

ACKNOWLEDGEMENTS

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

MEMBERS

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

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

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

Printed in Wales by Cambrian Printers, Aberystwyth

Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

*ISCJB **01** 00:18:12.8±2.1, 125S±02×1667E±03, h250km, mb3.9/5, Error ellipse: s-maj=38.8km s-min=21.6km az=136.8*
*IDC **01** 00:18:16.2±7.5, 1268S×16671E, h274km±79km, mb3.6/5, mb1 3.7/6, mb1mx3.5/15, mbtmp4.2/6, Error ellipse: s-maj=72.1km s-min=29.6km az=164.0*
*NEIC **01** 00:18:17.2±2.7, 1276S×16679E, h289km±26km, mb3.8/1, Error ellipse: s-maj=27.7km s-min=12.2km az=169.0*
ISC 01 00:18:13.8±2.1, **125S**±02×**1667E**±03, **h250**km, **n28, σ0s38**/8, **mb4.0**/6, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.51**	**182**	P	**Pn**	**00 20 26.3**	**+0.2**
	1.2nm,0.3s,baz=86,slow=22,SNR=23						
CTA	**Charters Tower**	**21.04**	**246**	P	**P**	**00 22 38.9**	**+0.3**
	9.2nm,0.7s,mb4.5,baz=75,slow=12,SNR=15						
CTA	**Charters Tower**	**21.04**	**246**	P	**P**	**00 22 38.9**	**+0.2**
STKA	**Stephens Creek**	**30.09**	**226**	P	**P**	**00 23 59.5**	**-0.6**
	3.5nm,1.0s,mb4.0,baz=120,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**31.93**	**252**	P	**P**	**00 24 15.9**	**-0.3**
	1.6nm,0.7s,mb3.6,baz=80,slow=8.2,SNR=14						
ASAR	**Alice Springs**	**33.04**	**246**	P	**P**	**00 24 25.7**	**-0.1**
	3.9nm,0.7s,mb4.0,baz=72,slow=9.5,SNR=33						
FITZ	**Fitzroy Crossi**	**39.96**	**257**	*e*P	**P**	**00 25 24.8**	**+0.7**
	3.3nm,0.7s,mb3.9						
MKAR	**Makanchi Array**	**95.25**	**317**	P	**P**	**00 31 09.1**	**0.0**
	0.5nm,0.5s,mb3.9,baz=78,slow=6.5,SNR=7.7						
ARCES	**ARCESS Array B**	**117.99**	**346**	PKP	PKPdf	00 36 29.9	-0.8
	1.0nm,0.7s,baz=96,slow=1.2,SNR=9.3						
LDF	**La Druitiere**	**142.41**	**346**	*e*PKP1	PKPdf	00 37 16.3	-0.3
LPL	**La Plagne**	**142.97**	**336**	*e*PKP1	PKPdf	00 37 16.9	-0.7
LPG	**La Plagne**	**142.98**	**336**	*e*PKP1	PKPdf	00 37 16.9	-0.7
	2.3nm,0.7s						
MBDF	**Montbardon**	**143.61**	**336**	*e*PKP1	PKPdf	00 37 18.8	0.0
ORIF	**Oris-en-Rattie**	**143.80**	**337**	*e*PKP1	PKPdf	00 37 17.7	-1.4
	5.8nm,0.7s						
TCF	**Toulx Ste Croi**	**143.88**	**342**	*e*PKP1	PKPdf	00 37 18.0	-1.2
MFF	**Saint Martin d**	**144.26**	**344**	*e*PKP1	PKPdf	00 37 18.6	-1.3
	3.8nm,0.6s						
VIVF	**Saint-Julien-l**	**144.31**	**338**	*e*PKP1	PKPdf	00 37 19.3	-0.7
PGF	**Pioggiola**	**144.38**	**331**	*e*PKP1	PKPdf	00 37 19.1	-1.0
	12nm,0.8s						
FRF	**La Foret Royal**	**144.62**	**335**	*e*PKP1	PKPdf	00 37 19.7	-0.8
	11nm,0.8s						
SMRF	**Simiane la Rot**	**144.71**	**336**	*e*PKP1	PKPdf	00 37 20.6	-0.1
	6.5nm,0.9s						
LMR	**La Mourre**	**144.86**	**335**	*e*PKP1	PKPdf	00 37 20.5	-0.4
	5.6nm,0.6s						
RJF	**Les Rejaudoux**	**144.98**	**342**	*e*PKP1	PKPdf	00 37 21.2	+0.1
CAF	**Calviac**	**145.15**	**341**	*e*PKP1	PKPbc	00 37 21.3	-0.2
	3.6nm,0.8s						
LASF	**Ste Croix**	**145.28**	**338**	*e*PKP1	PKPbc	00 37 21.0	-1.0
LFF	**La Frestale**	**145.54**	**342**	*e*PKP1	PKPbc	00 37 22.3	-0.5
	3.6nm,0.6s						
MTLF	**Montolieu**	**146.50**	**339**	*e*PKP1	PKPbc	00 37 22.9	-2.7
	5.0nm,0.8s						
ESDC	**Sonseca Array**	**151.73**	**345**	PKPab	PKPab	00 37 49.0	+0.5
	0.6nm,0.5s,baz=11,slow=3.5,SNR=5.7						
EVO	**Evora**	**153.67**	**351**	*e*PKIKP	PKPdf	00 37 34.1	-0.8
	3.2nm,0.7s						

IDC 01 00:31:01.4±2.5, **1808S**×**17692W**, **h0**km, **mb3.8**/3, **mb1 4.1**/3, **mb1mx3.8**/13, **mbtmp3.9**/3, **Error ellipse: s-maj=59.4km s-min=45.9km az=101.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.77**	**193**	P	P	00 35 44.2	+0.4
	2.6nm,0.3s,baz=299,slow=10,SNR=4.9						
WRA	**Warramunga Arr**	**46.00**	**259**	P	P	00 39 27.0	+0.7
	0.5nm,0.3s,baz=98,slow=6.9,SNR=16						
ASAR	**Alice Springs**	**46.11**	**254**	P	P	00 39 27.1	-0.1
	0.5nm,0.5s,baz=90,slow=8.0,SNR=9.0						
GERES	**GERESS Array B**	**148.13**	**347**	PKPbc	PKPbc	00 50 48.6	-0.5
	0.1nm,0.3s,baz=46,slow=2.8,SNR=3.9						

IDC 01 00:41:22.8±6.5, **3002S**×**17728W**, **h0**km, **mb3.8**/2, **mb1 4.0**/2, **mb1mx3.8**/11, **mbtmp3.8**/2, **Error ellipse: s-maj=268.1km s-min=56.4km az=154.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.95**	**324**	Pn	Pn	00 41 37.4	-5.9
	2μm,0.3s,baz=75,slow=23,SNR=19						
RAO				Sn	Sn	00 42 02.2	+4.7
	3μm,0.3s,baz=97,slow=22,SNR=6.5						
ASAR	**Alice Springs**	**43.75**	**266**	P	P	00 49 31.2	+1.3
	0.9nm,0.8s,baz=123,slow=8.1,SNR=6.0						
WRA	**Warramunga Arr**	**44.71**	**271**	P	P	00 49 38.1	+0.6
	1.8nm,1.1s,baz=110,slow=8.0,SNR=9.7						
FINES	**FINESS Array B**	**145.00**	**341**	PKPbc	PKPdf	01 01 01.0	-1.0
	0.5nm,0.4s,baz=50,slow=3.0,SNR=7.6						

PRE 01 00:42:38.0±0.7, **2105S**×**3290E**, **h5**km, **ML3.8, Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**6.30**	**221**	*e*S	Sn	00 45 22.1	-1.8
SLR				AML	AML	00 46 01.7	
	comp=Z,25nm,0.5s						
POGA	**Pongola**	**6.40**	**190**	*e*P	Pn	00 44 13.0	+0.1
POGA				*e*S	Sn	00 45 23.1	-3.3
POGA				AML	AML	00 46 21.2	
	comp=Z,9.7nm,0.5s						
LBTB	**Lobatse**	**7.80**	**238**	*e*P	Pn	00 44 33.6	+1.5
LBTB				*e*S	Sn	00 45 57.3	-3.4
LBTB				AML	AML	00 46 50.7	
	comp=Z,9.0nm,0.6s						
SWZ	**Schweizer**	**9.22**	**227**	*e*P	Pn	00 44 53.1	+1.5
SWZ				*e*S	Sn	00 46 31.3	-4.5
SWZ				AML	AML	00 46 33.5	
	comp=Z,3.3nm,0.9s						
BOSA	**Boshof**	**10.24**	**221**	*e*P	Pn	00 45 06.9	+1.3
BOSA				*e*S	Sn	00 46 55.6	-5.1
BOSA				AML	AML	00 47 00.6	
	comp=Z,1.6nm,0.6s						
UPI	**Upington**	**12.84**	**233**	*e*P	Pn	00 45 43.0	+1.8
UPI				*e*S	Sn	00 47 58.2	-6.3
UPI				AML	AML	00 48 02.3	
	comp=Z,2.4nm,0.9s						

CASC 01 00:58:14.3±6.2, **1476N**×**8965W**, **h162**km±245km, **MD3.6, 5C-6D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**0.64**	**183**	*e*P	x	00 58 58.1	
RBDL				*e*S	x	00 59 20.1	
RTR	**El Retiro**	**0.86**	**180**	⇑*e*P	x	00 58 55.4	
RTR				*e*S	x	00 59 20.2	
SNJE	**San Jose**	**0.89**	**177**	⇑*e*P	x	00 58 55.1	
SNJE				*e*S	x	00 59 14.3	
SBLS	**San Blas**	**0.92**	**178**	⇑*e*P	x	00 58 54.6	
SBLS				*e*S	x	00 59 12.9	
IXG	**Ixpaco**	**0.97**	**233**	⇑*e*P	Pn	00 58 40.8	+0.8
IXG				*e*S	Sn	00 59 00.9	+1.2
BOQS	**Boqueron**	**1.08**	**161**	⇑*e*P	x	00 58 55.9	
BOQS				*e*S	x	00 59 17.7	
LFU	**La Fuente**	**1.13**	**153**	⇓*e*P	x	00 58 57.7	
LFU				*e*S	x	00 59 17.9	
LBRS	**Las Brisas**	**1.17**	**150**	⇓*e*P	x	00 58 58.7	
LBRS				*e*S	x	00 59 21.7	
LFRS	**El Faro**	**1.27**	**153**	⇓*e*P	x	00 58 56.7	
LFRS				*e*S	x	00 59 18.2	
LCBS	**La Ceiba**	**1.28**	**149**	⇓*e*P	x	00 58 58.1	
LCBS				*e*S	x	00 59 18.9	
SNVI	**San Vicente**	**1.38**	**145**	*e*P	x	00 58 59.3	
SNVI				*e*S	x	00 59 24.1	
VSM	**San Miguel**	**1.88**	**135**	⇓*e*P	x	00 59 05.1	
VSM				*e*S	x	00 59 32.6	
BLLM	**Bellamira**	**1.89**	**134**	⇓*e*P	x	00 59 05.1	
BLLM				*e*S	x	00 59 32.8	

*IDC **01** 01:21:23.8±0.7, 582S×14633E, h0km, mb4.3/9, mb1 4.5/12, mb1mx4.5/15, mbtmp4.3/12, ML4.1/3, MS3.8/8, Ms1 3.8/8, ms1mx3.6/15, Error ellipse: s-maj=23.3km s-min=12.9km az=97.0*
*ISCJB **01** 01:21:27.8±2.0, 583S±007×14628E±009, h41km±18km, mb4.3/18, MS3.8/5, Error ellipse: s-maj=14.7km s-min=11.3km az=132.7*
*MOS **01** 01:21:27.4±1.2, 585S×14621E, h33km, mb4.6/4, Error ellipse: s-maj=19.7km s-min=9.3km az=89.3*
*BJI **01** 01:21:27.1, 590S×14630E, h35km, mb4.6*
*NEIC **01** 01:21:29.2±0.4, 585S×14628E, h35km, mb4.5/10, Error ellipse: s-maj=12.0km s-min=7.7km az=92.0*
ISC 01 01:21:32.3±2.0, **591S**±008×**14625E**±009, **h67**km±18km, **n52, σ1s06**/46, **mb4.2**/18, **1C, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.59**	**166**	Pn	**Pn**	**01 22 21.6**	**-3.9**
	28nm,0.3s,baz=341,slow=6.0,SNR=65						
PMG				Sn	**Sn**	**01 23 07.1**	**+0.4**
	44nm,0.3s,baz=218,slow=21,SNR=3.6						
PMG				LR	LR	01 23 51.9	
	comp=Z,920nm,18.8s,baz=180,slow=40						
PMG	**Port Moresby**	**3.59**	**166**	P	**Pn**	**01 22 21.6**	**-3.9**
PMG						01 23 07.1	
HNR	**Honiara**	**14.01**	**105**	LR	LR	01 29 09.1	
	comp=Z,146nm,21.6s,baz=359,slow=33						
CTA	**Charters Tower**	**14.10**	**180**	*e*P	**Pn**	**01 24 48.6**	**-0.1**
	8.2nm,0.6s						
CTA	**Charters Tower**	**14.10**	**180**	Pn	**Pn**	**01 24 47.4**	**-1.3**
	1.2nm,0.3s,baz=6.0,slow=15,SNR=13						
CTA				LR	LR	01 30 10.8	
	comp=Z,461nm,19.2s,baz=36,slow=37						
CTA	**Charters Tower**	**14.10**	**180**	*e*P	**Pn**	**01 24 48.6**	**-0.1**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CTAO	**Charters Tower**	**14.10**	**180**	*e*P	**Pn**	**01 24 47.9**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,26nm,1.0s						
CTAO	**Charters Tower**	**14.10**	**180**	*e*Pn	**Pn**	**01 24 47.9**	**-0.8**
	comp=Z,26nm,1.0s						
KAKA	**Kakadu**	**15.21**	**243**	*e*P	**Pn**	**01 25 03.3**	**+0.2**
	comp=Z,23nm,0.6s						
WRAB	**Tennant Creek**	**18.12**	**219**	*e*P	**Pn**	**01 25 38.5**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,13nm,0.6s						
WRAB	**Tennant Creek**	**18.12**	**219**	*e*P	**Pn**	**01 25 38.5**	**-0.8**
	comp=Z,13nm,0.6s						
WRA	**Warramunga Arr**	**18.13**	**219**	P	**Pn**	**01 25 38.9**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=41,slow=11,SNR=39						
WRA				ScP	ScP	01 33 45.5	+6.2
	comp=Z,0.0nm,0.3s,baz=36,slow=2.4,SNR=7.1						
AS31	**Alice Springs**	**21.29**	**213**	*e*P	**P**	**01 26 15.1**	**+1.8**
ASAR	**Alice Springs**	**21.29**	**213**	P	**P**	**01 26 13.8**	**+0.5**
	comp=Z,11nm,0.5s,mb4.4,baz=55,slow=8.5,SNR=75						
ASAR				S	**S**	**01 30 13.8**	**+7.8**
	comp=Z,1.3nm,0.7s,baz=29,slow=18,SNR=5.4						
ASAR				ScP	ScP	01 33 53.4	+6.8
	comp=Z,0.7nm,0.7s,baz=67,slow=2.3,SNR=6.8						
ASAR				LR	LR	01 35 35.8	
	comp=Z,539nm,20.4s,baz=35,slow=40						
ASAR	**Alice Springs**	**21.29**	**213**	P	**P**	**01 26 13.8**	**+0.5**
ASAR				S	**S**	**01 30 13.8**	**+7.8**
ASPA	**Alice Springs**	**21.29**	**213**	*e*P	**P**	**01 26 15.1**	**+1.8**
FITZ	**Fitzroy Crossi**	**23.49**	**237**	*e*P	**P**	**01 26 36.1**	**0.0**
	comp=Z,19nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**23.49**	**237**	P	**P**	**01 26 36.3**	**+0.2**
	comp=Z,9.3nm,0.7s,mb4.2,baz=67,slow=10,SNR=30						
FITZ				LR	LR	01 36 50.3	
	comp=Z,269nm,18.9s,baz=87,slow=39						
ARMA	**Armidale**	**24.90**	**169**	*e*P	**P**	**01 26 48.9**	**0.0**
DZM	**Mont Dzumac**	**25.28**	**131**	P	**P**	**01 26 53.5**	**+1.2**
	comp=Z,12nm,0.9s,mb4.3,baz=350,slow=10,SNR=3.5						
STKA	**Stephens Creek**	**26.20**	**189**	⇑*i*P	**P**	**01 26 57.6**	**-3.1**
	comp=Z,12nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**26.20**	**189**	P	**P**	**01 26 58.8**	**-2.0**
	comp=Z,14nm,0.8s,mb4.4,baz=358,slow=8.7,SNR=13						
STKA				LR	LR	01 38 35.0	
	comp=Z,275nm,19.5s,baz=143,slow=39						
CBIJ	**Chichi jima**	**33.04**	**353**	LR	LR	01 39 09.6	
	comp=Z,73nm,19.6s,baz=72,slow=32						
KLBR	**Kellerberrin**	**36.94**	**223**	*e*P	**P**	**01 28 34.3**	**-0.5**
	comp=Z,59nm,1.8s,mb5.2						
RAO	**Raoul Island**	**41.02**	**129**	*e*P	**P**	**01 29 09.2**	**+0.3**
	comp=Z,552nm,0.6s						
MJAR	**Matsushiro Arr**	**42.89**	**350**	P	**P**	**01 29 22.3**	**-1.8**
	comp=Z,0.8nm,0.3s,mb3.9,baz=166,slow=16,SNR=3.5						
MAJO	**Matsushiro**	**42.89**	**350**	*e*P	**P**	**01 29 25.2**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
MAJO	**Matsushiro**	**42.89**	**350**	*e*P	**P**	**01 29 25.2**	**+1.0**
	comp=Z,3.4nm,0.5s,mb4.3						
XAN	**Xi'an**	**53.14**	**321**	P	**P**	**01 30 41.4**	**-1.8**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.6						
ULN	**Ulaanbaatar**	**63.67**	**332**	*e*P	**P**	**01 31 56.5**	**-0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
ULN	**Ulaanbaatar**	**63.67**	**332**	*e*P	**P**	**01 31 56.5**	**0.0**
	comp=Z,2.5nm,0.6s,mb4.2						
SONM	**Songino Array**	**63.96**	**331**	P	**P**	**01 32 00.2**	**+1.7**
	comp=Z,1.9nm,0.7s,mb4.0,baz=148,slow=5.9,SNR=10						
ZAK	**Zakamensk**	**67.20**	**332**	*e*P	**P**	**01 32 20.2**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.2						
MIR	**Mirnyy**	**70.61**	**200**	*e*P	**P**	**01 32 41.0**	**+0.5**
VNDA	**Vanda**	**72.05**	**176**	P	**P**	**01 32 48.2**	**-1.0**
	comp=Z,2.9nm,0.8s,mb4.1,baz=330,slow=6.5,SNR=24						
VNDA				LR	LR	02 02 50.3	
	comp=Z,116nm,20.6s,baz=313,slow=34						
VNDA	**Vanda**	**72.05**	**176**	P	**P**	**01 32 48.2**	**-1.0**
VNDA				LR	LR	02 02 50.3	
MKAR	**Makanchi Array**	**76.95**	**321**	P	**P**	**01 33 18.6**	**+1.0**
	comp=Z,0.8nm,0.7s,mb3.6,baz=102,slow=7.4,SNR=5.6						
ZAL	**Zalesovo**	**78.54**	**328**	P	**P**	**01 33 26.4**	**0.0**
	comp=Z,0.8nm,0.4s,mb3.9,baz=16,slow=5.7,SNR=3.6						
MAW	**Mawson**	**82.05**	**203**	P	**P**	**01 33 44.7**	**-0.6**
	comp=Z,2.8nm,0.7s,mb4.2,baz=88,slow=16,SNR=3.9						
QSPA	**South Pole Qui**	**84.06**	**180**	*e*P	**P**	**01 33 54.9**	**-0.8**
	comp=Z,2.9nm,0.7s,mb4.2						
BRVK	**Borovoye**	**86.33**	**324**	*e*P	**P**	**01 34 03.6**	**-3.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
BRVK	**Borovoye**	**86.33**	**324**	*e*P	**P**	**01 34 03.6**	**-3.4**
	comp=Z,1.5nm,1.1s,mb3.8						
ZRNK	**Zerenda**	**87.05**	**324**	*e*P	**P**	**01 34 10.6**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.9						
ZRNK	**Zerenda**	**87.05**	**324**	*e*P	**P**	**01 34 10.6**	**0.0**
	comp=Z,2.5nm,1.4s,mb4.0						
DAWY	**Dawson**	**88.50**	**25**	*e*P	**P**	**01 34 17.4**	**0.0**
PLCA	**Paso Flores**	**122.61**	**147**	PKP	PKPdf	01 40 22.7	+2.5
	comp=Z,1.6nm,0.9s,baz=281,slow=4.1,SNR=5.0						
LPAZ	**La Paz**	**139.46**	**123**	PKP	PKPdf	01 40 55.8	+3.8
	comp=Z,0.8nm,0.6s,baz=281,slow=3.4,SNR=6.8						
TORD	**Torodi Ar. Bea**	**144.35**	**284**	PKP	PKPdf	01 41 01.4	+0.6
	comp=Z,2.2nm,0.4s,baz=62,slow=3.1,SNR=88						
SAML	**Samuel**	**147.15**	**116**	*e*PKPdf	PKPdf	01 41 07.1	+1.6
DBIC	**Dimbokro**	**151.28**	**273**	PKPbc	PKPbc	01 41 20.8	+2.6
	comp=Z,4.9nm,0.5s,baz=145,slow=2.2,SNR=13						
DBIC	**Dimbokro**	**151.28**	**273**	PKPbc	PKPbc	01 41 20.8	+2.6
BDFB	**Brasilia**	**154.35**	**147**	PKPbc	PKPbc	01 41 29.4	+4.4
	comp=Z,3.6nm,0.6s,baz=230,slow=2.0,SNR=7.7						

*INMG **01** 02:00:27.7±0.9, 4358N×975W, h10km±3km, ML2.0, Error ellipse: s-maj=6.0km s-min=3.8km az=90.0*
*NEIC **01** 02:00:27.8, 4358N×976W, h15km, MN2.5(MDD), After MDD.*
MDD 01 02:00:27.6±1.7, **4358N**×**979W**, **h19**km±6km, **mbLg2.3**/9, **1D, Error ellipse: s-maj=12.4km s-min=10.9km az=105.0, PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**0.86**	**136**	Pg	Pg	02 00 42.8	-1.7
	18nm,0.3s,SNR=119						
EMAZ				Lg		02 00 54.3	
	35nm,0.1s,SNR=9.4						
STS	**Santiago**	**1.14**	**127**	⇓Pg	Pg	02 00 48.2	-1.5
	6.5nm,0.3s,SNR=18						
STS				Lg		02 01 03.3	
	60nm,0.2s,SNR=28						
EPON	**Pontenova**	**1.94**	**97**	Pg	Pg	02 01 02.6	-2.3
	4.5nm,0.7s,SNR=9.5						
EPON				Sn	Sn	02 01 21.5	-1.8
	1.8nm,0.2s,SNR=7.4						
EPON				Lg		02 01 27.3	
	19nm,0.2s						
ELOB	**Lobios**	**2.13**	**143**	Pn	Pn	02 01 01.4	-0.7
	5.8nm,1.0s,SNR=14						
ELOB				Pg	Pg	02 01 05.7	-2.9
	2.3nm,0.4s,SNR=13						
ELOB				Sn	Sn	02 01 26.7	-1.4
	1.9nm,0.1s,SNR=7.3						
ELOB				Lg		02 01 34.3	
	2.7nm,0.1s,SNR=5.2						
PCAB	**Cabril**	**2.27**	**145**	*e*Pn	Pn	02 01 03.3	-0.8
PCAB				*e*Sg	Sg	02 01 39.4	-1.5
PCAB							
	9.5nm,0.2s						
PVRL	**Vila Real**	**2.77**	**146**	*e*Sg	Sg	02 01 56.9	+0.3
PVRL							
	5.6nm,0.2s						
PVRL	**Vila Real**	**2.77**	**146**	Lg		02 01 56.9	
	2.8nm,0.2s						
ECAL	**Calabor**	**2.78**	**125**	Pn	Pn	02 01 10.2	-0.9
	2.0nm,0.5s,SNR=6.1						
ECAL				Pg	Pg	02 01 17.4	-3.5
	10nm,0.3s,SNR=6.1						
ECAL				Sn	Sn	02 01 41.7	-2.4
	3.8nm,0.2s,SNR=9.6						
ECAL				Lg		02 01 53.9	
	8.6nm,0.3s						
ECAL	**Calabor**	**2.78**	**125**	Pn	Pn	02 01 10.2	-0.9
ECAL				Pg	Pg	02 01 17.4	-3.5
ECAL				Sn	Sn	02 01 41.5	-2.6
ECAL				Lg		02 01 53.9	
PBRG	**Braganca**	**2.86**	**127**	*e*Sn	Sn	02 01 43.5	-2.6
PBRG				*e*Sg	Sg	02 01 57.1	-2.5
PBRG							
	5.0nm,0.3s						
PVIS	**Viseu**	**3.19**	**153**	*e*Pn	Pn	02 01 15.5	-1.2
PVIS				*e*Sn	Sn	02 01 51.5	-2.7
EARI	**Arriondas**	**3.35**	**93**	Pn	Pn	02 01 17.6	-1.3
	6.0nm,0.9s,SNR=6.2						
EARI				Sn	Sn	02 01 55.2	-2.9
	37nm,1.4s,SNR=5.0						
EARI				Lg		02 02 13.4	
	0.9nm,0.1s,SNR=5.0						
EARI	**Arriondas**	**3.35**	**93**	Pn	Pn	02 01 17.6	-1.3
EARI				Sn	Sn	02 01 53.5	-4.6
EARI				Lg		02 02 13.4	
MTE	**Manteigas**	**3.59**	**151**	*e*Sg	Sg	02 02 19.3	-3.6
MTE							
	4.3nm,0.7s						
MTE	**Manteigas**	**3.59**	**151**	Lg		02 02 19.3	
	2.2nm,0.7s						
PCBR	**Castelo Branco**	**4.12**	**154**	*e*Pn	Pn	02 01 28.3	-1.1
PCBR				*e*Sn	Sn	02 02 14.2	-2.8
PCBR							
	1.8nm,0.4s						
ELAN	**Lanestosa**	**4.64**	**92**	Pn	Pn	02 01 35.7	-1.0
	0.1nm,0.1s,SNR=4.0						
ELAN				Sn	Sn	02 02 25.9	-4.2
	0.7nm,0.1s,SNR=7.9						

*NIED **01** 02:05:00, 38.10N×137.90E, h32km, Mw3.4 Best double couple: M0 1.45000×10^14 NP1: φs 101.00000°, δ81.00000°, λ171.00000°. NP2: φs 192.00000°, δ81.00000°, λ9.00000°.*
*ISCJB **01** 02:05:31.4±0.9, 38.12N±006×137.88E±005, h28km±6km, Error ellipse: s-maj=10.2km s-min=5.8km az=159.9*
*JMA **01** 02:05:31.6, 38.12N×137.86E, h24km±1km, M3.6*
JMA Felt I J1.
ISC 01 02:05:31.4±0.9, **3812N**±006×**13787E**±005, **h26**km±6km, **n9, σ0s34**/17, **2C-1D, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSD	**Sado**	**0.32**	**105**	⇓P	**Pb**	**02 05 38.7**	**0.0**
JSD				S	**Sb**	**02 05 43.5**	**-0.2**
JSZ	**Suzu**	**0.78**	**211**	⇑P	**Pb**	**02 05 46.2**	**-0.2**
JSZ				S	**Sb**	**02 05 57.0**	**+0.4**
JHG	**Hegura jima**	**0.80**	**250**	⇑P	**Pb**	**02 05 46.2**	**-0.5**
JHG				S	**Sb**	**02 05 57.2**	**+0.1**
JIZZ	**Izumozaki**	**0.89**	**131**	P	**Pb**	**02 05 48.5**	**+0.3**
JIZZ				S	**Sb**	**02 05 59.9**	**+0.3**
JJN	**Nakama**	**1.04**	**167**	P	**Pn**	**02 05 50.6**	**+0.2**
JJN				*e*S	**Sb**	**02 06 03.9**	**-0.2**
JAW	**Awa shima**	**1.13**	**72**	P	**Pn**	**02 05 52.5**	**+0.9**
JNS	**Sasagawa**	**1.18**	**104**	P	**Pn**	**02 05 52.1**	**-0.2**
JNS				S	**Sn**	**02 06 07.2**	**-0.3**
JHK	**Hiroka**	**1.26**	**133**	P	**Pn**	**02 05 53.0**	**-0.4**
JHK				S	**Sn**	**02 06 09.3**	**-0.2**
MAT	**Matsushiro**	**1.60**	**170**	P	**Pn**	**02 05 57.7**	**-0.3**
MAT				S	**Sn**	**02 06 18.1**	**+0.3**

*ISCJB **01** 02:21:34.5±3.8, 80S±05×1184E±06, h108km±48km, mb3.6/4, Error ellipse: s-maj=131.6km s-min=13.6km az=97.2*
*NEIC **01** 02:21:39.5±4.7, 853S×11792E, h153km±47km, mb3.6/2, Error ellipse: s-maj=68.4km s-min=24.2km az=54.0*
*IDC **01** 02:21:42.7±3.6, 848S×118.16E, h179km±37km, mb3.1/3, mb1 3.2/5, mb1mx3.1/16, mbtmp3.6/5, Error ellipse: s-maj=66.3km s-min=12.4km az=48.0*
ISC 01 02:21:41.3±3.1, **85S**±06×**1181E**±06, **h168**km±44km, **n9, σ0s95**/9, **mb3.5**/4, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.07**	**143**	P	**Pn**	**02 24 27.0**	**-0.9**
	0.1nm,0.3s,baz=130,slow=19,SNR=3.9						
FITZ				S	**Sn**	**02 26 32.9**	**-8.7**
	0.9nm,0.3s,baz=195,slow=19,SNR=8.6						
WRA	**Warramunga Arr**	**19.43**	**128**	P	**P**	**02 25 54.8**	**+0.1**
	0.3nm,0.3s,baz=301,slow=12,SNR=6.8						
WRA				S	**S**	**02 29 24.9**	**-0.4**
	0.1nm,0.3s,baz=300,slow=23,SNR=3.8						
WRAB	**Tennant Creek**	**19.44**	**128**	*e*P	**P**	**02 25 55.0**	**+0.2**
	1.7nm,0.7s						
ASAR	**Alice Springs**	**21.40**	**137**	P	**P**	**02 26 17.2**	**+1.5**
	0.3nm,0.3s,mb3.1,baz=312,slow=9.8,SNR=3.2						
SONM	**Songino Array**	**57.01**	**351**	P	**P**	**02 31 09.2**	**-0.2**
	1.2nm,0.5s,mb4.0,baz=173,slow=7.9,SNR=8.0						
MKAR	**Makanchi Array**	**63.58**	**333**	P	**P**	**02 31 55.3**	**+1.3**
	0.3nm,0.5s,mb3.4,baz=124,slow=7.2,SNR=3.3						
ZRNK	**Zerenda**	**74.00**	**332**	*e*P	**P**	**02 32 56.8**	**-1.6**
	0.6nm,0.5s,mb3.6						
TORD	**Torodi Ar. Bea**	**117.47**	**280**	PKP	PKPdf	02 40 07.7	+0.8
	0.2nm,0.6s,baz=88,slow=1.6,SNR=5.9						
TORD	**Torodi Ar. Bea**	**117.47**	**280**	PKP	PKPdf	02 40 07.7	+0.8

IDC 01 02:43:25.2±6.8, **2243S**×**14838E**, **h0**km, **mb1 3.7**/4, **mb1mx3.6**/10, **mbtmp3.6**/4, **ML3.6**/4, **Error ellipse: s-maj=85.2km s-min=39.3km az=88.0, Queensland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**3.06**	**319**	Pn	Pn	02 44 14.9	+0.2
	7.3nm,0.3s,baz=147,slow=17,SNR=95						
CTA				Sn	Sn	02 44 57.0	+5.0
	104nm,0.3s,baz=263,slow=10.0,SNR=19						
STKA	**Stephens Creek**	**11.17**	**211**	Pn	Pn	02 46 06.7	+0.6
	0.4nm,0.3s,baz=44,slow=13,SNR=9.3						
WRA	**Warramunga Arr**	**13.33**	**278**	Pn	Pn	02 46 33.8	-1.8
	0.2nm,0.3s,baz=95,slow=12,SNR=24						
ASAR	**Alice Springs**	**13.38**	**262**	Pn	Pn	02 46 37.5	+1.2
	0.2nm,0.3s,baz=92,slow=14,SNR=6.5						
ASAR				Sn	Sn	02 49 08.7	+2.8
	0.0nm,0.3s,baz=83,slow=17,SNR=4.0						

*ISCJB **01** 02:46:15.8±0.2, 49.13N±001×677E±002, h0km, Error ellipse: s-maj=1.9km s-min=1.6km az=41.9*
*CSEM **01** 02:46:18.2±0.1, 49.19N×686E, h1km, ML2.9/30, Error ellipse: s-maj=0.9km s-min=0.7km az=47.0*
*LDG **01** 02:46:18.6±0.1, 49.17N×685E, h1km, Md3.1/3, Ml2.8/36, Error ellipse: s-maj=1.5km s-min=1.2km az=76.0, Suspected Mining induced.*
*BNS **01** 02:46:19.0±0.4, 49.17N×686E, h1km, ML2.2*
*NEIC **01** 02:46:19.3, 49.14N×689E, h1km, ML2.3(STR), ML2.5(SZGRF), ML2.8(LDG), After STR.*
*PRU **01** 02:46:20.6, 4905N×701E, h0km*
*BGR **01** 02:46:20.4±0.7, 49.18N×697E, h1km, ML2.4/9, Error ellipse: s-maj=6.7km s-min=4.4km az=69.0*
ISC 01 02:46:17.3±0.2, **4915N**±001×**678E**±002, **h0**km, **n131,**

σ1§27/273,**8C-5D,Germany**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.58**	**18**	Pg	**Pg**	**02 46 30.0**	**+1.5**
RUP				Sg	**Sg**	**02 46 37.8**	**+1.7**
WLF	**Walferdange**	**0.66**	**322**	*e*Pg	**Pg**	**02 46 32.5**	**+2.5**
WLF				*e*Sg	**Sg**	**02 46 42.2**	**+3.6**
WLF	**Walferdange**	**0.66**	**322**	P	**Pg**	**02 46 32.4**	**+2.4**
WLF				S	**Sg**	**02 46 41.8**	**+3.2**
	comp=N,59nm,0.0s						
CDF	**Champ du Feu**	**0.81**	**156**	*e*Pn	**Pn**	**02 46 35.4**	**-0.5**
CDF				*e*Sg	**Sg**	**02 46 44.3**	**+1.1**
	comp=N,77nm,0.5s,SNR=1.0						
CDF	**Champ du Feu**	**0.81**	**156**	*e*Pg	**Pg**	**02 46 33.6**	**+0.8**
CDF				*e*Pn	**Pn**	**02 46 35.4**	**-0.5**
CDF				*e*Sg	**Sg**	**02 46 44.3**	**+1.1**
CDF	**Champ du Feu**	**0.81**	**156**	*e*Pn	**Pn**	**02 46 35.4**	**-0.5**
CDF				*e*Sg	**Sg**	**02 46 44.3**	**+1.1**
	comp=N,38nm,0.5s,SNR=1.0						
ABH	**Alteburg**	**0.89**	**34**	Pg	**Pg**	**02 46 36.2**	**+1.8**
ECH	**Echery**	**0.96**	**165**	Pg	**Pg**	**02 46 37.8**	**+2.0**
RFYF	**Reffroy**	**1.01**	**239**	*e*Pg	**Pg**	**02 46 39.4**	**+2.8**
	baz=54						
RFYF				*e*Sg	**Sg**	**02 46 52.7**	**+3.0**
	comp=N,81nm,0.3s						
RFYF	**Reffroy**	**1.01**	**239**	*e*Pg	**Pg**	**02 46 39.4**	**+2.8**
RFYF				*e*Sg	**Sg**	**02 46 52.7**	**+3.0**
	comp=N,40nm,0.3s						
THEF	**They Montfort**	**1.06**	**210**	Pg	**Pg**	**02 46 38.9**	**+1.2**
THEF				Sg	**Sg**	**02 46 55.1**	**+3.7**
BGG	**Burgeitz**	**1.12**	**19**	*e*Pg	**Pg**	**02 46 39.8**	**+1.1**
HILG	**Hillesheim**	**1.15**	**357**	*e*Pg	**Pg**	**02 46 41.1**	**+1.8**
HAU	**Haudompre**	**1.18**	**194**	*e*Pg	**Pg**	**02 46 41.1**	**+1.2**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**02 46 57.0**	**+1.8**
	comp=N,42nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**1.18**	**194**	*e*Pg	**Pg**	**02 46 41.1**	**+1.2**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**02 46 57.0**	**+1.8**
	comp=N,21nm,0.3s,SNR=1.0						
BFO	**Black Forest**	**1.31**	**128**	*e*Pg	**Pg**	**02 46 42.5**	**+0.1**
	SNR=18						
BFO				*e*Sg	**Sg**	**02 46 59.4**	**-0.1**
BFO	**Black Forest**	**1.31**	**128**	*e*Pn	**Pg**	**02 46 42.5**	**0.0**
BFO				*e*Sg	**Sg**	**02 47 00.2**	**+0.7**
BFO	**Black Forest**	**1.31**	**128**	Pg	**Pg**	**02 46 42.5**	**0.0**
	SNR=18						
BFO				*e*Sg	**Sg**	**02 47 00.2**	**+0.7**
MEZF	**Maizieres J'vi**	**1.31**	**241**	*e*Pg	**Pg**	**02 46 43.6**	**+1.1**
	baz=62,SNR=1.0						
MEZF				*e*Sg	**Sg**	**02 47 01.9**	**+2.4**
	comp=N,43nm,0.4s						
MEZF	**Maizieres J'vi**	**1.31**	**241**	*e*Pg	**Pg**	**02 46 43.6**	**+1.1**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**02 47 01.9**	**+2.4**
	comp=N,22nm,0.4s						
MOF	**Molkenrain**	**1.32**	**170**	Pg	**Pg**	**02 46 43.7**	**+1.1**
MOF				Sg	**Sg**	**02 47 01.3**	**+1.6**
HINF	**Hinteralfeld**	**1.33**	**178**	*e*Pg	**Pg**	**02 46 43.9**	**+1.0**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**02 47 00.5**	**+0.4**
	comp=N,39nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**1.33**	**178**	*e*Pg	**Pg**	**02 46 43.9**	**+1.0**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**02 47 00.5**	**+0.4**
	comp=N,19nm,0.2s,SNR=1.0						
STB	**Steinbach**	**1.45**	**1**	*e*Pg	**Pg**	**02 46 45.2**	**+0.1**
STB				*e*Sg	**Sg**	**02 47 05.0**	**+1.1**
SFTF	**Sexfontaines**	**1.49**	**231**	*e*Pg	**Pg**	**02 46 46.0**	**+0.1**
	baz=56						
SFTF				*e*Sg	**Sg**	**02 47 07.0**	**+1.8**
	comp=N,30nm,0.3s						
SFTF	**Sexfontaines**	**1.49**	**231**	*e*Pg	**Pg**	**02 46 46.0**	**+0.1**
SFTF				*e*Sg	**Sg**	**02 47 07.0**	**+1.8**
	comp=N,15nm,0.3s						
FELD	**Feldberg im Sc**	**1.51**	**147**	Pg	**Pg**	**02 46 47.2**	**+0.9**
FELD				Sg	**Sg**	**02 47 06.5**	**+0.7**
TNS	**Taunus Mts**	**1.53**	**45**	*e*Pn	**Pn**	**02 46 46.4**	**+0.5**
	SNR=2.2						
TNS				*e*Sg	**Sg**	**02 47 06.9**	**+0.5**
TNS	**Taunus Mts**	**1.53**	**45**	*e*Pn	**Pn**	**02 46 45.8**	**0.0**
TNS				*e*Sg	**Sg**	**02 47 07.0**	**+0.6**
KLL	**Kalltalsperre**	**1.53**	**349**	*e*Pg	**Pg**	**02 46 45.6**	**-1.1**
MEM	**Membach**	**1.55**	**341**	P	**Pn**	**02 46 46.4**	**+0.3**
MEM				S	**Sn**	**02 47 09.6**	**+2.7**
	comp=N,32nm,0.0s						
MEM	**Membach**	**1.55**	**341**	P	**Pn**	**02 46 46.3**	**+0.2**
MEM				S	**Sn**	**02 47 09.5**	**+2.6**
GIVF	**Givet**	**1.59**	**308**	*e*Pg	**Pg**	**02 46 48.5**	**+0.7**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**02 47 06.4**	**-1.6**
GIVF				*e*Sg	**Sg**	**02 47 09.4**	**+0.9**
	comp=N,56nm,0.5s						
GIVF	**Givet**	**1.59**	**308**	*e*Pn	**Pn**	**02 46 46.1**	**-0.6**
GIVF				*e*Pg	**Pg**	**02 46 48.5**	**+0.7**
GIVF				*e*Sn	**Sn**	**02 47 06.4**	**-1.6**
GIVF				*e*Sg	**Sg**	**02 47 09.4**	**+0.9**
GIVF	**Givet**	**1.59**	**308**	*e*Pg	**Pg**	**02 46 48.5**	**+0.7**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**02 47 06.4**	**-1.6**
GIVF				*e*Sg	**Sg**	**02 47 09.4**	**+0.9**
	comp=N,28nm,0.5s						
BCLA	**Clavier**	**1.59**	**324**	P	**Pn**	**02 46 47.6**	**+0.8**
BCLA	**Clavier**	**1.59**	**324**	P	**Pn**	**02 46 47.5**	**+0.7**
STU	**Stuttgart**	**1.64**	**102**	*e*Sg	**Sg**	**02 47 09.2**	**-0.6**
HGN	**Heimansgroeve**	**1.71**	**342**	⇑*i*Pg	**Pg**	**02 46 51.1**	**+1.0**
	comp=N,6.4nm,0.5s,baz=160						
HGN				*e*Sg	**Sg**	**02 47 10.2**	**-2.0**
DOU	**Dourbes**	**1.71**	**305**	P	**Pn**	**02 46 49.2**	**+0.9**
DOU				S	**Sn**	**02 47 13.2**	**+2.3**
	comp=N,19nm,0.0s						
DOU	**Dourbes**	**1.71**	**305**	P	**Pn**	**02 46 49.2**	**+0.8**
DOU				S	**Sn**	**02 47 13.1**	**+2.2**
BAIF	**Baives**	**1.91**	**300**	*e*Pg	**Pg**	**02 46 55.3**	**+1.4**
BAIF				*e*Sn	**Sn**	**02 47 14.1**	**-1.7**
BAIF				*e*Sg	**Sg**	**02 47 19.0**	**+0.4**
	comp=N,24nm,0.4s,SNR=1.0						
BAIF	**Baives**	**1.91**	**300**	*e*Pn	**Pn**	**02 46 52.0**	**+0.9**
BAIF				*e*Pg	**Pg**	**02 46 55.3**	**+1.4**
BAIF				*e*Sn	**Sn**	**02 47 14.1**	**-1.7**
BAIF				*e*Sg	**Sg**	**02 47 19.0**	**+0.4**
BAIF	**Baives**	**1.91**	**300**	*e*Pg	**Pg**	**02 46 55.3**	**+1.4**
BAIF				*e*Sn	**Sn**	**02 47 14.1**	**-1.7**
BAIF				*e*Sg	**Sg**	**02 47 19.0**	**+0.4**
	comp=N,12nm,0.4s,SNR=1.0						
SNF	**Seneffe**	**2.12**	**311**	P	**Pn**	**02 46 55.4**	**+1.4**
SNF	**Seneffe**	**2.12**	**311**	P	**Pn**	**02 46 55.3**	**+1.4**
UCC	**Uccle**	**2.27**	**318**	P	**Pg**	**02 47 04.4**	**+3.5**
UCC				S	**Sn**	**02 47 29.4**	**+4.6**
BUG	**Bochum--Univer**	**2.32**	**8**	*e*Sg	**Sg**	**02 47 32.2**	**+0.4**
CABF	**La Chapelle**	**2.58**	**191**	*e*Pg	**Pg**	**02 47 06.9**	**+0.1**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**02 47 41.1**	**+0.9**
	comp=N,21nm,0.8s,SNR=1.0						
CABF	**La Chapelle**	**2.58**	**191**	*e*Pn	**Pn**	**02 47 00.0**	**-0.3**
CABF				*e*Pg	**Pg**	**02 47 06.9**	**+0.1**
CABF				*e*Sg	**Sg**	**02 47 41.1**	**+0.9**
CABF	**La Chapelle**	**2.58**	**191**	*e*Pg	**Pg**	**02 47 06.9**	**+0.1**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**02 47 41.1**	**+0.9**
	comp=N,11nm,0.8s,SNR=1.0						
UBBA	**Unterbreizbach**	**2.67**	**50**	*e*Sg	**Sg**	**02 47 40.1**	**-2.9**
LOR	**Lormes**	**2.71**	**227**	*e*Pn	**Pn**	**02 47 01.8**	**-0.3**
	baz=57,SNR=1.0						
LOR				*e*Sn	**Sn**	**02 47 34.6**	**-1.0**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**02 47 45.7**	**+1.2**
	comp=N,15nm,0.4s,SNR=1.0						
LOR	**Lormes**	**2.71**	**227**	*e*Pn	**Pn**	**02 47 01.8**	**-0.3**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**02 47 34.6**	**-1.0**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**02 47 45.7**	**+1.2**
	comp=N,7.6nm,0.4s,SNR=1.0						
DAVA	**Damuels**	**2.79**	**131**	⇓*e*Pn	**Pn**	**02 47 06.8**	**+3.7**
	comp=N,0.6nm,0.2s						
DAVA	**Damuels**	**2.79**	**131**	⇓*i*Sn	**Sg**	**02 47 53.6**	**+6.8**
DAVA	**Damuels**	**2.79**	**131**	⇑*e*Pn	**Pn**	**02 47 04.2**	**+1.1**
	comp=N,0.6nm,0.2s						
DAVA				⇑*i*Sg	**Sg**	**02 47 49.6**	**+2.8**
DAVA	**Damuels**	**2.79**	**131**	⇓*e*Pn	**Pn**	**02 47 06.8**	**+3.7**
DAVA				*i* Sn	**Sg**	**02 47 53.6**	**+6.8**
WTSB	**Winterswijk**	**2.82**	**0**	*e*Pg	**Pg**	**02 47 10.8**	**-0.7**
WTSB				*e*Sg	**Sg**	**02 47 44.9**	**-3.2**
GRA1	**Grafenberg Arr**	**2.95**	**78**	*e*Pg	**Pg**	**02 47 14.7**	**+0.8**
GRA1	**Grafenberg Arr**	**2.95**	**78**	Pg	**Pg**	**02 47 14.0**	**+0.1**
	SNR=2.5						
GRA1				Sg	**Sg**	**02 47 49.7**	**-2.4**
GRF	**Grafenberg Arr**	**2.95**	**78**	*e*Pg	**Pg**	**02 47 14.0**	**+0.1**
	SNR=2.5						
GRF				*e*Sg	**Sg**	**02 47 49.7**	**-2.5**
GRF	**Grafenberg Arr**	**2.95**	**78**	*e*Pg	**Pg**	**02 47 14.7**	**+0.8**
SSF	**Saint Saulge**	**3.03**	**228**	*e*Pg	**Pg**	**02 47 15.5**	**+0.1**
SSF				*e*Sn	**Sn**	**02 47 42.1**	**-1.4**
	comp=N,8.9nm,0.4s,SNR=1.0						
SSF				*e*Sg	**Sg**	**02 47 55.5**	**+0.9**
	comp=N,5.7nm,0.3s						
SSF	**Saint Saulge**	**3.03**	**228**	*e*Pn	**Pn**	**02 47 06.3**	**-0.2**
SSF				*e*Pg	**Pg**	**02 47 15.5**	**+0.1**
SSF				*e*Sn	**Sn**	**02 47 42.1**	**-1.4**
SSF				*e*Sg	**Sg**	**02 47 55.5**	**+0.9**
SSF	**Saint Saulge**	**3.03**	**228**	*e*Pg	**Pg**	**02 47 15.5**	**+0.1**
SSF				*e*Sn	**Sn**	**02 47 42.1**	**-1.4**
	comp=N,4.4nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**3.19**	**219**	*e*Pn	**Pn**	**02 47 08.1**	**-0.6**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**02 47 45.1**	**-2.3**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**02 48 00.7**	**+0.9**
	comp=N,7.0nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**3.19**	**219**	*e*Pn	**Pn**	**02 47 08.1**	**-0.6**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**02 47 45.1**	**-2.3**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**02 48 00.7**	**+0.9**
	comp=N,3.5nm,0.3s,SNR=1.0						
IBBN	**Ibbenburen**	**3.22**	**11**	*e*Sg	**Sg**	**02 48 02.1**	**+1.2**
AVF	**Avril sur Loir**	**3.30**	**226**	*e*Pg	**Pg**	**02 47 20.6**	**+0.1**
AVF				*e*Sn	**Sn**	**02 47 48.8**	**-1.3**
	comp=N,7.1nm,0.6s,SNR=1.0						
AVF				*e*Sg	**Sg**	**02 48 03.9**	**+0.7**
	comp=N,9.4nm,0.7s						
AVF	**Avril sur Loir**	**3.30**	**226**	*e*Pn	**Pn**	**02 47 09.7**	**-0.5**
AVF				*e*Pg	**Pg**	**02 47 20.6**	**+0.1**
AVF				*e*Sn	**Sn**	**02 47 48.8**	**-1.3**
AVF				*e*Sg	**Sg**	**02 48 03.9**	**+0.7**
AVF	**Avril sur Loir**	**3.30**	**226**	*e*Pg	**Pg**	**02 47 20.6**	**+0.1**
AVF				*e*Sn	**Sn**	**02 47 48.8**	**-1.3**
	comp=N,3.5nm,0.6s,SNR=1.0						
AVF				*e*Sg	**Sg**	**02 48 03.9**	**+0.7**
	comp=N,4.7nm,0.7s						
HYF	**Humbligny**	**3.35**	**237**	*e*Pn	**Pn**	**02 47 10.7**	**-0.2**
HYF				*e*Pg	**Pg**	**02 47 21.8**	**+0.3**
HYF				*e*Sg	**Sg**	**02 48 05.4**	**+0.5**
MOTA	**Moosalm**	**3.41**	**120**	⇑*i*Pn	**Pn**	**02 47 12.0**	**+0.3**
	comp=N,0.7nm,0.3s						
MOTA				⇓*i*Sn	**Sn**	**02 47 56.6**	**+3.8**
	comp=N,3.6nm,0.4s						
MOX	**Moxa**	**3.47**	**63**	*e*Pg	**Pg**	**02 47 24.6**	**+0.8**
MOX				*e*Sn	**Sn**	**02 47 52.4**	**-1.9**
MOX				*e*Sg	**Sg**	**02 48 06.4**	**-2.3**
MOX	**Moxa**	**3.47**	**63**	*e*PG	**Pg**	**02 47 24.6**	**+0.8**
MOX				*e*SN	**Sn**	**02 47 52.4**	**-1.9**
MOX				*e*SG	**Sg**	**02 48 08.4**	**-0.3**
MOX	**Moxa**	**3.47**	**63**	*e*Pg	**Pg**	**02 47 24.6**	**+0.8**
MOX				*e*Sn	**Sn**	**02 47 52.4**	**-1.9**
MOX				*e*Sg	**Sg**	**02 48 08.4**	**-0.3**
MOX	**Moxa**	**3.47**	**63**	*e*Pg	**Pg**	**02 47 24.6**	**+0.8**
MOX				*e*Sn	**Sn**	**02 47 52.4**	**-1.9**
SQTA	**Sankt Quirin**	**3.53**	**121**	⇑*i*Sn	**Sg**	**02 48 12.6**	**+1.7**
	comp=N,3.1nm,0.3s						
SQTA	**Sankt Quirin**	**3.53**	**121**	⇑*i*Pn	**Pn**	**02 47 15.8**	**+2.3**
	comp=N,1.7nm,0.2s						
SQTA				⇑*i*Sg	**Sg**	**02 48 13.1**	**+2.2**
	comp=N,3.1nm,0.3s						
SQTA	**Sankt Quirin**	**3.53**	**121**	⇑*i*Pn	**Pn**	**02 47 15.8**	**+2.4**
SQTA				*i* Sn	**Sg**	**02 48 12.6**	**+1.7**
CLZ	**Clausthal**	**3.54**	**39**	*e*Sg	**Sg**	**02 48 08.3**	**-2.8**
LPL	**La Plagne**	**3.63**	**181**	*e*Pg	**Pg**	**02 47 26.3**	**-0.7**
LPL				*e*Sg	**Sg**	**02 48 13.5**	**-0.5**
	comp=N,1.2nm,0.3s						
LPL	**La Plagne**	**3.63**	**181**	*e*Pg	**Pg**	**02 47 26.3**	**-0.7**
LPL				*e*Sg	**Sg**	**02 48 13.5**	**-0.5**
	comp=N,0.6nm,0.3s						
LPG	**La Plagne**	**3.65**	**180**	*e*Pg	**Pg**	**02 47 26.7**	**-0.6**
LPG				*e*Sg	**Sg**	**02 48 14.1**	**-0.5**
	comp=N,2.5nm,0.4s						
LPG	**La Plagne**	**3.65**	**180**	*e*Pg	**Pg**	**02 47 26.7**	**-0.6**
LPG				*e*Sg	**Sg**	**02 48 14.1**	**-0.5**
	comp=N,1.2nm,0.4s						
WATA	**Walderalm**	**3.68**	**118**	⇓*e*Sn	**Sg**	**02 48 16.4**	**+0.8**
	comp=N,3.3nm,0.4s						
BGF	**Bois d'Agland**	**3.71**	**227**	*e*Pn	**Pn**	**02 47 15.8**	**0.0**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**02 47 58.4**	**-1.8**
	comp=N,17nm,0.4s,SNR=1.0						
BGF				*e*Sg	**Sg**	**02 48 16.7**	**+0.3**
	comp=N,28nm,0.5s						
BGF	**Bois d'Agland**	**3.71**	**227**	*e*Pn	**Pn**	**02 47 15.8**	**0.0**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**02 47 58.4**	**-1.8**
	comp=N,8.6nm,0.4s,SNR=1.0						
BGF				*e*Sg	**Sg**	**02 48 16.7**	**+0.3**
	comp=N,14nm,0.5s						
WERD	**Werda**	**3.81**	**68**	*e*Sg	**Sg**	**02 48 16.1**	**-3.6**
NKC	**Novy Kostel**	**3.84**	**71**	*e*SG	**Sg**	**02 48 17.5**	**-3.1**
TANN	**Tannenbergstha**	**3.89**	**69**	*e*Sg	**Sg**	**02 48 18.8**	**-3.7**
WET	**Wettzell**	**4.00**	**88**	*e*Pn	**Pn**	**02 47 19.8**	**-0.1**
	SNR=2.2						
WET				*e*Sg	**Sg**	**02 48 25.3**	**-0.6**
TCF	**Toulx Ste Croi**	**4.21**	**229**	*e*Sn	**Sn**	**02 48 12.2**	**-0.3**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**02 48 31.8**	**-0.7**
	comp=N,5.2nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**4.21**	**229**	*e*Sn	**Sn**	**02 48 12.2**	**-0.3**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**02 48 31.8**	**-0.7**
	comp=N,2.6nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**4.28**	**189**	*e*Pn	**Pn**	**02 47 23.2**	**-0.4**
ORIF				*e*Sg	**Sg**	**02 48 33.8**	**-0.9**
	comp=N,4.6nm,0.7s						
ORIF	**Oris-en-Rattie**	**4.28**	**189**	*e*Pn	**Pn**	**02 47 23.2**	**-0.4**
ORIF				*e*Sg	**Sg**	**02 48 33.8**	**-0.9**
	comp=N,2.3nm,0.7s						
KHC	**Kasperske Hory**	**4.46**	**88**	*e*PN	**Pn**	**02 47 26.9**	**+0.7**
KHC				PG	**Pg**	**02 47 40.0**	**-2.9**
KHC				*e*SN	**Sn**	**02 48 15.8**	**-3.0**
KHC				*e*SG	**Sg**	**02 48 38.7**	**-2.0**
KHC	**Kasperske Hory**	**4.46**	**88**	*e*Pn	**Pn**	**02 47 26.9**	**+0.7**
KHC				*e*		02 47 40.0	
KHC				*e*Sn	**Sn**	**02 48 15.8**	**-3.0**
KHC				*e*Sg	**Sg**	**02 48 38.7**	**-2.0**
VIVF	**Saint-Julien-l**	**4.53**	**199**	*e*Pn	**Pn**	**02 47 26.5**	**-0.6**
VIVF				*e*Sg	**Sg**	**02 48 42.1**	**-0.7**
	comp=N,1.4nm,0.3s						
VIVF	**Saint-Julien-l**	**4.53**	**199**	*e*Pn	**Pn**	**02 47 26.5**	**-0.6**
VIVF				*e*Sg	**Sg**	**02 48 42.1**	**-0.7**
	comp=N,0.7nm,0.3s						
CLL	**Collm**	**4.54**	**59**	*e*SG	**Sg**	**02 48 43.0**	**-0.2**
GEC2	**GERESS Array S**	**4.57**	**91**	*e*Pn	**Pn**	**02 47 28.2**	**+0.5**
	SNR=5.1						
GEC2				*e*Sg	**Sg**	**02 48 41.9**	**-2.2**
LDF	**La Druitiere**	**4.59**	**266**	*e*Pg	**Pg**	**02 47 44.2**	**-1.1**
LDF				*e*Sg	**Sg**	**02 48 44.8**	**0.0**
	comp=N,5.0nm,0.5s,SNR=1.0						
LDF	**La Druitiere**	**4.59**	**266**	*e*Pn	**Pn**	**02 47 27.7**	**-0.3**
LDF				*e*Pg	**Pg**	**02 47 44.2**	**-1.1**
LDF				*e*Sg	**Sg**	**02 48 44.8**	**0.0**
LDF	**La Druitiere**	**4.59**	**266**	*e*Pg	**Pg**	**02 47 44.2**	**-1.1**
LDF				*e*Sg	**Sg**	**02 48 44.8**	**0.0**
	comp=N,2.5nm,0.5s,SNR=1.0						
FLN	**La Foliniere**	**4.80**	**268**	*e*Pn	**Pn**	**02 47 30.1**	**-0.8**
	baz=85						
FLN	**La Foliniere**	**4.80**	**268**	*e*Pg	**Pg**	**02 47 47.4**	**-1.9**
	baz=94						
FLN				*e*Sn	**Sn**	**02 48 24.3**	**-2.9**
	comp=N,6.3nm,0.5s						
FLN				*e*Sg	**Sg**	**02 48 50.2**	**-1.4**
	comp=N,9.2nm,0.5s						
FLN	**La Foliniere**	**4.80**	**268**	*e*Pn	**Pn**	**02 47 30.1**	**-0.8**
FLN				*e*Pg	**Pg**	**02 47 47.4**	**-1.9**
FLN				*e*Sn	**Sn**	**02 48 24.3**	**-2.9**
FLN				*e*Sg	**Sg**	**02 48 50.2**	**-1.4**
FLN	**La Foliniere**	**4.80**	**268**	*e*Pg	**Pg**	**02 47 47.4**	**-1.9**
FLN				*e*Sg	**Sg**	**02 48 50.2**	**-1.4**
	comp=N,4.6nm,0.5s						
BRG	**Berggiesshubel**	**4.93**	**67**	SG	**Sg**	**02 48 55.6**	**-0.1**
	comp=N,1.0nm,0.6s						
GRR	**Gorron**	**5.11**	**264**	*e*Pg	**Pg**	**02 47 53.6**	**-1.6**
GRR				*e*Sn	**Sn**	**02 48 31.0**	**-3.8**
	comp=N,2.0nm,0.2s						
GRR				*e*Sg	**Sg**	**02 49 00.7**	**-0.7**
	comp=N,3.9nm,0.5s						
GRR	**Gorron**	**5.11**	**264**	*e*Pn	**Pn**	**02 47 34.8**	**-0.3**
GRR				*e*Pg	**Pg**	**02 47 53.6**	**-1.6**
GRR				*e*Sn	**Sn**	**02 48 31.0**	**-3.8**
GRR				*e*Sg	**Sg**	**02 49 00.7**	**-0.7**
GRR	**Gorron**	**5.11**	**264**	*e*Pg	**Pg**	**02 47 53.6**	**-1.6**
GRR				*e*Sn	**Sn**	**02 48 31.0**	**-3.8**
	comp=N,1.0nm,0.2s						
GRR				*e*Sg	**Sg**	**02 49 00.7**	**-0.7**
	comp=N,2.0nm,0.5s						
RJF	**Les Rejaudoux**	**5.26**	**225**	*e*Pn	**Pn**	**02 47 37.0**	**-0.1**
RJF				*e*Sn	**Sn**	**02 48 35.1**	**-3.3**
	comp=N,0.8nm,0.2s						
RJF	**Les Rejaudoux**	**5.26**	**225**	*e*Pn	**Pn**	**02 47 37.0**	**-0.1**
RJF				*e*Sn	**Sn**	**02 48 35.1**	**-3.3**
	comp=N,0.4nm,0.2s						
MFF	**Saint Martin d**	**5.31**	**244**	*e*Pn	**Pn**	**02 47 37.5**	**-0.4**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**02 48 35.7**	**-4.0**
MFF				*e*Sg	**Sg**	**02 49 06.8**	**-1.1**
	comp=N,3.4nm,0.6s						
MFF	**Saint Martin d**	**5.31**	**244**	*e*Pn	**Pn**	**02 47 37.5**	**-0.4**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**02 48 35.7**	**-4.0**
MFF				*e*Sg	**Sg**	**02 49 06.8**	**-1.1**
	comp=N,1.7nm,0.6s						
CAF	**Calviac**	**5.31**	**219**	*e*Pn	**Pn**	**02 47 37.1**	**-0.8**
LASF	**Ste Croix**	**5.46**	**203**	*e*Pn	**Pn**	**02 47 39.3**	**-0.6**
LASF				*e*Sg	**Sg**	**02 49 10.7**	**-1.9**
	comp=N,1.9nm,0.6s						
LASF	**Ste Croix**	**5.46**	**203**	*e*Pn	**Pn**	**02 47 39.3**	**-0.6**
LASF				*e*Sg	**Sg**	**02 49 10.7**	**-1.9**
	comp=N,0.9nm,0.6s						
LFF	**La Frestale**	**5.89**	**227**	*e*Sg	**Sg**	**02 49 25.1**	**-1.6**
	comp=N,5.9nm,0.5s						
LFF	**La Frestale**	**5.89**	**227**	*e*Sg	**Sg**	**02 49 25.1**	**-1.6**
	comp=N,3.0nm,0.5s						
SGMF	**Saint Gilles**	**6.25**	**265**	*e*Pn	**Pn**	**02 47 49.6**	**-1.1**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**02 48 58.6**	**-4.2**
	comp=N,1.0nm,0.3s						
SGMF	**Saint Gilles**	**6.25**	**265**	*e*Pn	**Pn**	**02 47 49.6**	**-1.1**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**02 48 58.6**	**-4.2**
	comp=N,0.5nm,0.3s						
MTLF	**Montolieu**	**6.61**	**210**	*e*Pn	**Pn**	**02 47 55.2**	**-0.5**
MTLF				*e*Sg	**Sg**	**02 49 45.6**	**-4.1**
	comp=N,1.7nm,0.6s						
MTLF	**Montolieu**	**6.61**	**210**	*e*Pn	**Pn**	**02 47 55.2**	**-0.5**
MTLF				*e*Sg	**Sg**	**02 49 45.6**	**-4.1**
	comp=N,0.9nm,0.6s						
ROSF	**Rostrenen**	**6.70**	**267**	*e*Pn	**Pn**	**02 47 55.4**	**-1.5**
ROSF				*e*Sn	**Sn**	**02 49 09.5**	**-4.5**
	comp=N,1.1nm,0.3s						
ROSF	**Rostrenen**	**6.70**	**267**	*e*Pn	**Pn**	**02 47 55.4**	**-1.5**
ROSF				*e*Sn	**Sn**	**02 49 09.5**	**-4.5**
	comp=N,0.6nm,0.3s						
QUIF	**Quistinic**	**6.72**	**263**	*e*Pn	**Pn**	**02 47 56.2**	**-1.0**
QUIF				*e*Sn	**Sn**	**02 49 10.1**	**-4.4**
	comp=N,1.9nm,0.4s						
QUIF	**Quistinic**	**6.72**	**263**	*e*Pn	**Pn**	**02 47 56.2**	**-1.0**
QUIF				*e*Sn	**Sn**	**02 49 10.1**	**-4.4**
	comp=N,0.9nm,0.4s						

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*ISCJB **01** 02:47:25.3±0.6,2954S±007×178.1W±0.1,h10km,mb4.7/12, MS4.3/20,Error ellipse: s-maj=15.4km s-min=6.7km az=65.9*

*IDC **01** 02:47:25.2±0.7,2955S×178.11W,h0km,mb4.5/8, mb1 4.6/8,mb1mx4.5/12,mbtmp4.5/8,MS4.3/20, Ms1 4.3/20,ms1mx4.1/26,Error ellipse: s-maj=23.0km s-min=8.9km az=128.0*

*MOS **01** 02:47:26.1±0.9,2932S×17803W,h18km,mb4.7/9,Error ellipse: s-maj=23.6km s-min=16.2km az=168.4*

*BJI **01** 02:47:27.0,2930S×17790W,h22km,mB5.5,mb4.8,Ms4.9, Msz4.6*

*NEIC **01** 02:47:28.0±0.7,2932S×17792W,h23km±4km,mb5.1/5, Error ellipse: s-maj=14.4km s-min=10.6km az=185.0*

*HRVD **01** 02:47:28.0±0.3,2950S×17802W,h16km,MW5.0/72, Centroid moment Tensor Solution. LP body waves: s32,c42;Mantle waves: s72,c106; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.15±.18; $M_{\theta\theta}$1.23±.14; $M_{\phi\phi}$2.92±.14; $M_{r\theta}$0.15±.42; $M_{\theta\phi}$1.84±.09; $M_{\phi r}$-1.06±.42; Best double couple: $M_0$4.26000×10^{16} NP1:ϕ_s222.00000°,δ40.00000°,λ-76.00000°. NP2: ϕ_s24.00000°,δ51.00000°,λ-101.00000°. Principal axes: T 4.1800, Plg6.0000°, Azm122.0000°; N 0.1600, Plg9.0000°, Azm31.0000°; P -4.3390, Plg79.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 02:47:26.5±0.7,**2956S**±005×**1780W**±01,**h10**km,**n69,** σ1§**11**/31,**mb4.7**/12,**MS4.3**/20,**2C-1D,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.31**	**8**	Pg	**Pg**	**02 47 32.2**	**-0.5**
	7µm,0.3s,baz=108,slow=3.2,SNR=75						
RAO	**Raoul Island**	**0.31**	**8**	*e*Pg	**Pg**	**02 47 32.1**	**-0.6**
RAO				*e*Sg	**Sg**	**02 47 36.4**	**-0.4**
URZ	**Urewera**	**9.59**	**204**	Pn	**Pn**	**02 49 40.5**	**-4.1**
	0.6nm,0.3s,baz=18,slow=19,SNR=4.4						
URZ				Sn	**Sn**	**02 51 29.6**	**-2.8**
	4.8nm,0.3s,baz=334,slow=22,SNR=18						
DZM	**Mont Dzumac**	**15.88**	**294**	Pn	**Pn**	**02 51 14.0**	**+3.9**
	0.2nm,0.3s,baz=113,slow=16,SNR=4.3						
DZM				LR	LR	02 55 49.0	
	comp=Z,3µm,21.2s,baz=206,slow=32						
RAR	**Rarotonga**	**18.41**	**67**	LR	LR	02 57 08.2	
	comp=Z,761nm,18.4s,baz=43,slow=32						
TBI	**Tubuai**	**26.22**	**83**	*e*LQ		02 58 12.9	
	1µm,26.2s						
TBI				*e*LR	LR	02 59 15.5	
	2µm,29.2s,baz=250						
PPT	**Papeete**	**28.55**	**72**	*e*LR	LR	03 00 21.2	
	2µm,27.2s,baz=242						
PPT	**Papeete**	**28.55**	**72**	LR	LR	03 02 09.7	
	comp=Z,256nm,18.5s,MS3.9,baz=353,slow=31						
HNR	**Honiara**	**28.78**	**310**	LR	LR	03 02 54.0	
	comp=Z,603nm,20.0s,MS4.2,baz=179,slow=32						
CTA	**Charters Tower**	**33.70**	**278**	P	**P**	**02 54 07.2**	**-0.6**
	13nm,1.0s,mb4.8,baz=92,slow=10,SNR=8.9						
CTA				LR	LR	03 05 52.1	
	comp=Z,1µm,19.6s,MS4.7,baz=77,slow=33						
CTAO	**Charters Tower**	**33.70**	**278**	*e*P	**P**	**02 54 09.1**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,132nm,1.8s,mb5.6						
CTAO	**Charters Tower**	**33.70**	**278**	*e*P	**P**	**02 54 09.1**	**+1.4**
	comp=Z,132nm,1.8s,mb5.6						
STKA	**Stephens Creek**	**34.70**	**256**	*e*P	**P**	**02 54 16.3**	**-0.1**
	comp=Z,17nm,2.0s,mb4.6						
STKA	**Stephens Creek**	**34.70**	**256**	P	**P**	**02 54 16.3**	**-0.2**
	comp=Z,5.7nm,0.7s,mb4.6,baz=93,slow=13,SNR=7.6						
STKA				LR	LR	03 08 11.2	
	comp=Z,676nm,18.1s,MS4.4,baz=286,slow=36						
PMG	**Port Moresby**	**38.28**	**294**	LR	LR	03 07 51.2	
	comp=Z,734nm,19.7s,MS4.5,baz=53,slow=32						
AS31	**Alice Springs**	**43.19**	**266**	*e*P	**P**	**02 55 27.8**	**+0.3**
ASAR	**Alice Springs**	**43.19**	**266**	P	**P**	**02 55 27.7**	**+0.2**
	comp=Z,8.2nm,0.7s,mb4.6,baz=102,slow=7.5,SNR=39						
ASAR				LR	LR	03 12 40.8	
	comp=Z,1µm,18.5s,MS4.9,baz=128,slow=35						
ASAR	**Alice Springs**	**43.19**	**266**	P	**P**	**02 55 27.7**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ASAR				MLR	MLR		
	comp=Z,1µm,18.5s						
ASPA	**Alice Springs**	**43.19**	**266**	*e*P	**P**	**02 55 27.8**	**+0.3**
WB2	**Warramunga Arr**	**44.09**	**271**	*e*P	**P**	**02 55 35.2**	**+0.4**
WRAB	**Tennant Creek**	**44.09**	**271**	P	**P**	**02 55 35.0**	**+0.2**
	comp=Z,128nm,1.4s,mb5.5,SNR=5.1						
WRAB	**Tennant Creek**	**44.09**	**271**	*e*P	**P**	**02 55 35.0**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,64nm,1.4s,mb5.2						
WRAB	**Tennant Creek**	**44.09**	**271**	*e*P	**P**	**02 55 35.0**	**+0.2**
	comp=Z,64nm,1.4s,mb5.2						
WRA	**Warramunga Arr**	**44.10**	**271**	P	**P**	**02 55 35.2**	**+0.3**
	comp=Z,12nm,1.0s,mb4.6,baz=110,slow=8.0,SNR=41						
WRA				LR	LR	03 12 36.4	
	comp=Z,483nm,18.9s,MS4.4,baz=100,slow=34						
VNDA	**Vanda**	**48.93**	**186**	P	**P**	**02 56 14.0**	**+1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.5nm,0.7s,mb4.1,baz=4.3,slow=7.5,SNR=9.5						
VNDA				LR	LR	03 12 15.2	
	comp=Z,171nm,18.8s,MS4.1,baz=30,slow=30						
VNDA	Vanda	48.93	186	*e*P	P	02 56 14.0	+1.2
	comp=Z,9.1nm,1.4s,mb4.6						
FITZ	Fitzroy Crossi	52.39	269	P	P	02 56 39.4	+0.6
	comp=Z,3.5nm,1.0s,mb4.2,baz=104,slow=11						
FITZ				LR	LR	03 16 35.6	
	comp=Z,275nm,21.8s,MS4.2,baz=96,slow=34						
GUMO	Guam	55.90	315	LR	LR	03 17 58.1	
	comp=Z,220nm,20.0s,MS4.2,baz=115,slow=33						
QSPA	South Pole Qui	60.55	180	*e*P	P	02 57 37.8	+0.8
	comp=Z,33nm,1.4s,mb5.3						
MAW	Mawson	73.10	200	LR	LR	03 27 48.8	
	comp=Z,165nm,21.8s,MS4.3,baz=251,slow=33						
JOW	Kunigami	76.12	312	LR	LR	03 27 34.0	
	comp=Z,171nm,21.3s,MS4.3,baz=118,slow=32						
MJAR	Matsushiro Arr	77.57	325	P	P	02 59 21.9	-0.7
	comp=Z,1.4nm,0.6s,mb4.1,baz=164,slow=5.1,SNR=4.8						
MJAR				LR	LR	03 30 45.8	
	comp=Z,126nm,20.3s,MS4.2,baz=185,slow=34						
SYO	Syowa Base	77.94	193	⇓*e*P	P	02 59 23.0	-1.7
SYO	Syowa Base	77.94	193	⇑*e*pP	pP	02 59 31.0	+3.0
ASAJ	Asahikawa	81.71	332	LR	LR	03 36 30.8	
	comp=Z,238nm,18.8s,MS4.6,baz=131,slow=36						
PLCA	Paso Flores	83.06	133	P	P	02 59 53.6	+1.4
	comp=Z,3.0nm,0.9s,mb4.3,baz=266,slow=4.1,SNR=4.8						
PLCA				LR	LR	03 28 09.5	
	comp=Z,273nm,21.6s,MS4.6,baz=192,slow=29						
CN2	Changchun	89.49	323	*e*P	P	03 00 23.8	0.0
CFAA	Coronel Fontan	89.72	127	LR	LR	03 29 23.0	
	comp=Z,19nm,21.0s,MS3.5,baz=273,slow=28						
KLR	Kul'dur	90.32	330	*e*P	P	03 00 24.4	-3.3
KMI	Kunming	93.47	297	P	P	03 00 43.6	+1.3
KMI				AP	pP	03 00 50.4	+4.8
KMI				XP	sP	03 00 53.6	+6.8
KMI				PP	PP	03 04 33.9	+7.4
KMI				S		03 11 48.1	
KMI				XS	sS	03 12 03.6	+7.6
KMI				SS	SS	03 18 10.4	+3.4
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,43nm,4.6s						
KMI				LR	LR		
	comp=N,85nm,18.6s,MS4.4						
KMI				LR	LR		
	comp=E,101nm,20.4s,MS4.4						
KMI				LR	LR		
	comp=Z,131nm,16.7s,MS4.5						
PDAR	Pinedale Array	95.51	43	LR	LR	03 40 34.2	
	comp=Z,132nm,18.3s,MS4.5,baz=250,slow=33						
CD2	Chengdu	95.66	302	P	P	03 00 50.3	-2.0
CD2				AP	pP	03 00 58.3	+2.6
CD2				XP	sP	03 01 01.5	+4.6
CD2				PP	PP	03 04 44.6	+1.0
CD2				SKS		03 11 23.6	
CD2				S		03 12 03.3	
CD2				XS	sS	03 12 16.7	+1.5
CD2				SS	SS	03 18 37.5	-0.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,30nm,9.0s						
CD2				LR	LR		
	comp=E,80nm,16.8s						
CD2				LR	LR		
	comp=Z,80nm,18.0s,MS4.2						
LPAZ	La Paz	98.46	114	LR	LR	03 38 53.0	
	comp=Z,82nm,19.9s,MS4.2,baz=278,slow=31						
MKAR	Makanchi Array	117.25	310	PKiKP	PKiKP	03 06 10.2	-1.8
	comp=Z,0.3nm,0.5s,baz=237,slow=3.6,SNR=3.6						
MKAR	Makanchi Array	117.25	310	*i* PKIKP	PKPdf	03 06 10.2	-1.8
BVAR	Borovoye Array	125.82	316	PKP	PKPdf	03 06 27.3	-1.2
	comp=Z,1.4nm,0.6s,baz=149,slow=3.5,SNR=8.3						
BVAR	Borovoye Array	125.82	316	PKIKP	PKPdf	03 06 27.3	-1.2
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	Borovoye	125.89	316	*e*PKIKP	PKPdf	03 06 27.1	-1.5
ZRNK	Zerenda	126.65	316	*e*PKIKP	PKPdf	03 06 27.9	-2.2
ARCES	ARCESS Array B	137.78	348	PKP	PKPdf	03 06 49.1	-2.0
	comp=Z,1.7nm,0.6s,baz=17,slow=1.3,SNR=11						
ARCES	ARCESS Array B	137.78	348	PKIKP	PKPdf	03 06 49.1	-1.9
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
JOF	Joensuu	141.65	339	*e*pkp	PKPdf	03 06 52.1	-6.0
KAF	Kangasniemi	143.76	341	*e*pkp	PKPdf	03 06 57.4	-4.4
FINES	FINESS Array B	144.37	340	PKP	PKPdf	03 06 59.6	-3.2
	comp=Z,3.9nm,0.6s,baz=66,slow=3.2,SNR=34						
FINES	FINESS Array B	144.37	340	PKIKP	PKPdf	03 06 59.7	-3.2
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
OBN	Obninsk	144.49	326	⇑*e*PKIKP	PKPdf	03 07 00.1	-3.0
OBN				pmax	pmax		
	comp=Z,13nm,0.8s						
MSL	Mosul	145.08	292	*e*x	x	03 07 00.0	
NB2	NORSAR Subarra	147.93	352	PKP	PKPdf	03 07 10.2	+1.3
	comp=Z,25nm,1.7s,baz=11,slow=2.9						
NOA	NORSAR Array B	147.93	352	PKPbc	PKPbc	03 07 10.7	-1.3
	comp=Z,3.2nm,0.8s,baz=14,slow=4.4,SNR=13						
NOA	NORSAR Array B	147.93	352	PKP2	PKPbc	03 07 10.7	-1.2
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MALT	Malatya	148.73	296	*e*PKP2	PKPbc	03 07 14.1	+0.1
ASF	Jabal al Asfar	150.03	284	PKPbc	PKPbc	03 07 17.5	+0.3
	comp=Z,1.0nm,0.4s,baz=158,slow=2.0,SNR=6.7						
ASF	Jabal al Asfar	150.03	284	PKP2	PKPbc	03 07 17.5	+0.2
ASF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	150.64	324	PKPbc	PKPbc	03 07 17.6	-1.1
	comp=Z,2.8nm,0.6s,baz=45,slow=2.8,SNR=18						
AKASG	Malin Array Be	150.64	324	PKIKP	PKPbc	03 07 17.6	-1.1
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRTR	Keskin Array B	152.21	300	PKPbc	PKPbc	03 07 21.5	-0.9
	comp=Z,0.9nm,0.7s,baz=129,slow=3.3,SNR=5.4						
BRTR	Keskin Array B	152.21	300	PKIKP	PKPbc	03 07 21.5	-0.9
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CLL	Collm	156.78	342	*e*PKP2	PKPab	03 07 51.0	-0.5
TORD	Torodi Ar. Bea	163.67	179	PKPab	PKPab	03 08 22.0	+0.4
	comp=Z,1.8nm,0.9s,baz=183,slow=2.9,SNR=14						

WEL 01 02:52:54.4±0.2, 3863S×17591E, h118km±2km, ML3.5/17, 3C, Error ellipse: s-maj=1.1km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PATZ	Paeroa	0.37	48	PN	Pn	02 53 11.6	+0.2
KATZ	Kakaramea	0.39	206	PN	Pn	02 53 11.7	+0.2
KRVZ	Karewarewa	0.51	204	PN	Pn	02 53 12.5	+0.3
WTVZ	West Tongariro	0.55	207	PN	Pn	02 53 12.6	+0.2
TWVZ	Taurewa	0.58	220	⇑PN	Pn	02 53 12.7	0.0
TWVZ				SN	Sn	02 53 26.6	+0.3
NGZ	Ngauruhoe	0.60	204	PN	Pn	02 53 13.2	+0.4
TAZ	Tarawera	0.61	50	⇑PN	Pn	02 53 13.2	+0.3
TUVZ	Tukino	0.67	197	*e*PN	Pn	02 53 13.6	+0.3
FWVZ	Far West T-bar	0.69	204	PN	Pn	02 53 14.1	+0.6
BKZ	Black Stump Fm	0.70	140	PN	Pn	02 53 13.6	+0.1
BKZ				SN	Sn	02 53 28.2	+0.1
WNVZ	Wahianoa	0.74	199	PN	Pn	02 53 14.2	+0.3
MOVZ	Moawhango	0.79	189	PN	Pn	02 53 14.2	-0.1
MOVZ				*e*SN	Sn	02 53 29.3	0.0
PKVZ	Pokaka	0.80	213	PN	Pn	02 53 14.5	+0.1
HIZ	Hauiti	0.83	277	⇑PN	Pn	02 53 14.2	-0.5
HIZ				SN	Sn	02 53 29.3	-0.7
URZ	Urewera	1.01	69	PN	Pn	02 53 15.8	-0.6
URZ				SN	Sn	02 53 32.7	-0.3
MWZ	Matawai	1.30	78	PN	Pn	02 53 19.4	-0.1
MWZ				SN	Sn	02 53 38.4	0.0
WAZ	Wanganui	1.34	212	PN	Pn	02 53 20.5	+0.7
TSZ	Takapari Road	1.43	178	PN	Pn	02 53 20.6	-0.3
TSZ				SN	Sn	02 53 39.6	-1.4
KNZ	Kokohu	1.43	106	PN	Pn	02 53 21.5	+0.6
KNZ				SN	Sn	02 53 40.6	-0.4
PXZ	Pawanui	1.58	153	PN	Pn	02 53 22.6	0.0
PXZ				SN	Sn	02 53 43.1	-1.1
PUZ	Puketiti	1.93	74	PN	Pn	02 53 25.0	-1.9
PUZ				SN	Sn	02 53 50.4	-1.2
MRZ	Mangatainoka R	2.05	187	PN	Pn	02 53 27.1	-1.2
MRZ				SN	Sn	02 53 51.0	-3.3
BFZ	Birch Farm	2.07	173	PN	Pn	02 53 27.5	-1.1
BFZ				SN	Sn	02 53 51.5	-3.3
TIWZ	Tintock	2.15	181	PN	Pn	02 53 28.2	-1.4
TIWZ				SN	Sn	02 53 53.1	-3.4
MXZ	Matakaoa Point	2.17	61	*e*PN	Pn	02 53 30.1	+0.3
KIW	Kapiti Island	2.36	199	PN	Pn	02 53 30.5	-1.8
CAW	Cannon Point	2.56	194	PN	Pn	02 53 32.8	-2.0
MRW	Makara Radio	2.76	199	PN	Pn	02 53 35.3	-2.1
TRWZ	Traveller	2.77	183	PN	Pn	02 53 35.7	-2.0
MSWZ	Moikau Station	2.83	190	PN	Pn	02 53 35.9	-2.5
TCW	Tory Channel	2.87	205	PN	Pn	02 53 36.7	-2.2
TCW				SN	Sn	02 54 08.4	-4.9
TUWZ	Tuamarina	3.18	208	PN	Pn	02 53 40.3	-2.6
QRZ	Quartz Range	3.41	229	PN	Pn	02 53 43.6	-2.4
THZ	Tophouse	3.89	215	PN	Pn	02 53 50.3	-2.1
KHZ	Kahutara	4.20	205	PN	Pn	02 53 53.1	-3.4
MQZ	McQueen's Vall	5.64	205	SN	Sn	02 55 09.8	-10

*IDC **01** 03:13:36.6±2.5, 342N×9598E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/20, mbtmp3.7/6, ML2.8/1, MS3.9/2, Ms1 3.9/2, ms1mx3.0/30, Error ellipse: s-maj=80.5km s-min=23.8km az=49.0*
*ISCJB **01** 03:13:41.0±1.5, 36N±02×963E±02, h33km, mb3.7/5, MS3.9/2, Error ellipse: s-maj=33.5km s-min=14.9km az=70.6*
*NEIC **01** 03:13:42.0±1.4, 357N×9625E, h30km, Error ellipse: s-maj=32.9km s-min=14.5km az=216.0*
ISC 01 03:13:43.3±1.5, 36N±02×963E±02, h35km, n8, σ0s96/8, mb3.7/5, MS3.9/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.76	107	Pn	Pn	03 14 24.7	-0.3
	1.4nm,0.3s,baz=260,slow=11,SNR=6.4						
KULM	Kulim	4.66	69	*e*Pn	Pn	03 14 50.7	-0.3
WRA	Warramunga Arr	44.11	124	P	P	03 21 48.8	+0.7
	0.3nm,0.5s,mb3.3,baz=302,slow=9.0,SNR=5.7						
MKAR	Makanchi Array	44.68	346	P	P	03 21 53.2	+0.5
	0.4nm,0.4s,mb3.6,baz=163,slow=8.9,SNR=4.9						
MKAR	Makanchi Array	44.68	346	P	P	03 21 53.2	+0.5
SONM	Songino Array	44.89	10	P	P	03 21 55.3	+1.0
	0.3nm,0.3s,mb3.5,baz=193,slow=5.8,SNR=3.0						
SONM				LR	LR	03 43 41.0	
	comp=Z,99nm,21.4s,MS3.7,baz=219,slow=40						
ZAL	Zalesovo	51.02	351	P	P	03 22 41.8	0.0
	1.2nm,0.3s,mb4.3,baz=176,slow=3.5,SNR=2.8						
ARCES	ARCESS Array B	79.95	340	P	P	03 25 46.3	-2.4
	1.4nm,1.1s,mb3.8,baz=97,slow=7.4,SNR=4.1						
ARCES				LR	LR	04 05 09.9	
	comp=Z,102nm,19.8s,MS4.2,baz=61,slow=39						

*CRAAG **01** 03:20:02.7, 3655N×456E, Ml3.3*
*ISCJB **01** 03:20:04.8±0.4, 3666N±005×448E±004, h10km, Error ellipse: s-maj=7.0km s-min=3.8km az=35.5*
*CSEM **01** 03:20:04.6±0.1, 3673N×450E, h5km, ML3.3, Error ellipse: s-maj=5.1km s-min=3.0km az=13.0*
*MDD **01** 03:20:05.3±0.4, 3657N×454E, h0km, mb3.8/9, Error ellipse: s-maj=5.4km s-min=4.1km az=5.0, PRXIMO*
*NEIC **01** 03:20:08.8, 3691N×449E, h0km, MG3.7(MDD), After MDD.*
ISC 01 03:20:05.7±0.4, 3660N±005×447E±004, h10km, n42, σ1s54/55, Northern Algeria

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKF	Akfadou	0.08	68	P	Pg	03 20 06.3	-1.7
AKET	Djebel Ketaf	0.73	221	P	Pg	03 20 18.5	-1.2
ABMS	Boumerdes	0.81	281	P	Pg	03 20 21.5	+0.2
SET	Setif	0.85	118	P	Pg	03 20 19.0	-3.1
ADJB	Djebel Djouab	0.94	242	P	Pg	03 20 22.3	-1.5
CKHR	Kef el Ahmar	1.02	124	P	Pg	03 20 22.2	-3.2
DFRA	Djebel Bou Aff	1.13	92	P	Pb	03 20 24.6	-2.7
ABA	Alger-Bouzarea	1.17	280	P	Pb	03 20 27.6	-0.4
EMHD	Djebel Mahouad	1.29	252	P	Pn	03 20 31.5	+1.8
CMER	Merouana	1.52	130	P	Pn	03 20 35.0	+2.2
CTEI	Djebel Teioual	1.65	108	P	Pn	03 20 37.0	+2.3
CASM	Ain Smara	1.66	101	P	Pn	03 20 34.5	-0.4
CKFL	Kef-Lekhel	1.82	96	P	Pn	03 20 39.0	+1.9
CAEH	'Ain El Ouahch	1.92	84	P	Pn	03 20 41.0	+2.6
CMAH	Djebel Manchou	2.37	89	P	Pn	03 20 45.0	+0.4
EBNR	Beni Rached	2.39	263	P	Pn	03 20 44.0	-0.9
ABSA	Djebel Ababsia	2.45	97	P	Pn	03 20 45.0	-0.6
CABS	Djebel Ababsia	2.45	97	P	Pn	03 20 45.0	-0.6
ECHA	Ech Chlef	2.54	261	P	Pn	03 20 46.5	-0.5
ECHF	Ech Chlef	2.56	261	P	Pn	03 20 46.5	-0.7
EANR	'Ain N'Sour	2.80	258	P	Pn	03 20 48.0	-2.5
ETRT	Tiaret	2.84	246	P	Pn	03 20 53.0	+2.0
ETOS	Mallorca	3.42	338	P	Pn	03 20 58.6	-0.4
	2.9nm,0.2s,SNR=16						
ETOS				S	Sn	03 21 38.4	-1.2
	2.2nm,0.3s,SNR=7.9						
ETOS	Mallorca	3.42	338	P	Pn	03 20 58.6	-0.4
ETOS				S	Sn	03 21 34.3	-5.3
ETOS	Mallorca	3.42	338	P	Pn	03 20 58.6	-0.4
	2.9nm,0.2s,SNR=16						
ETOS				S	Sn	03 21 34.3	-5.3
	2.2nm,0.3s,SNR=7.9						
EIBI	Ibiza	3.46	315	P	Pn	03 20 59.9	+0.3
	2.0nm,0.3s,SNR=7.9						
EIBI				S	Sn	03 21 41.0	+0.4
	2.1nm,0.2s,SNR=7.9						
EIBI	Ibiza	3.46	315	P	Pn	03 20 60.0	+0.3
EIBI				S	Sn	03 21 38.1	-2.6
EIBI	Ibiza	3.46	315	P	Pn	03 20 59.9	+0.3
	2.0nm,0.3s,SNR=7.9						
EIBI				S	Sn	03 21 38.1	-2.6
	2.1nm,0.2s,SNR=7.9						
EBEN	Beniarda	4.28	301	P	Pn	03 21 12.5	+1.7
	5.8nm,0.7s,SNR=7.9						
EBEN	Beniarda	4.28	301	P	Pn	03 21 12.5	+1.7
	5.8nm,0.7s,SNR=7.9						
ETOB	Tobarra	5.19	295	P	Pn	03 21 24.8	+1.4
	2.1nm,0.4s,SNR=7.9						
ETOB				S	Sn	03 22 22.0	-1.3
	2.9nm,0.6s,SNR=6.6						
ETOB	Tobarra	5.19	295	P	Pn	03 21 24.8	+1.4
	2.1nm,0.4s,SNR=7.9						
ETOB				S	Sn	03 22 22.0	-1.4
	2.9nm,0.6s,SNR=6.6						
EMOS	Mosqueruela	5.40	316	P	Pn	03 21 26.4	+0.2
	1.2nm,0.4s,SNR=7.9						
EMOS				S	Sn	03 22 25.1	-3.3
	1.3nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	5.40	316	P	Pn	03 21 26.4	+0.2
	1.2nm,0.4s,SNR=7.9						
EMOS				S	Sn	03 22 25.1	-3.3
	1.3nm,0.4s,SNR=7.9						
ERTA	Horta de San J	5.42	325	P	Pn	03 21 26.6	+0.1
	1.0nm,0.4s,SNR=4.0						
ERTA	Horta de San J	5.42	325	P	Pn	03 21 26.6	+0.1
	1.0nm,0.4s,SNR=4.0						
EMIR	Miracle	5.78	338	P	Pn	03 21 31.5	+0.1
	2.8nm,0.2s,SNR=7.9						
EMIR				S	Sn	03 22 29.7	-8.0
	3.3nm,0.4s,SNR=7.9						
EMIR	Miracle	5.78	338	P	Pn	03 21 31.5	+0.1
	2.8nm,0.2s,SNR=7.9						
EVIA	Vianos	5.90	292	P	Pn	03 21 33.4	+0.4
	1.9nm,0.4s,SNR=7.9						
EBER	Berja	5.92	275	P	Pn	03 21 37.1	+3.7
	1.3nm,0.5s,SNR=4.0						
EQES	Quesada	6.14	284	P	Pn	03 21 39.0	+2.6
	1.0nm,0.4s,SNR=7.9						
EQES				S	Sn	03 22 49.5	+2.9
	1.3nm,0.5s,SNR=7.9						
EQES	Quesada	6.14	284	P	Pn	03 21 39.0	+2.6
	1.0nm,0.4s,SNR=7.9						
EQES				S	Sn	03 22 49.5	+2.9

MEX 01 03:30:24.1±0.6, 1722N×9574W, h103km±8km, MD3.6, 1C, Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.83	99	*i* P	Pn	03 30 41.7	-1.3
CMIG				*i* S	Sn	03 30 55.0	-2.1
OXX	Oaxaca	0.95	262	*e*P	Pn	03 30 43.0	-1.1
OXX				*i* S	Sn	03 30 58.0	-1.2
VHO	Vista Hermosa	0.96	262	⇑*i*P	Pn	03 30 43.2	-1.1
VHO				*i* S	Sn	03 30 58.1	-1.3
TUIG	Tuzandepetl	1.50	57	*i* P	Pn	03 30 49.3	-1.2
TUIG				*i* S	Sn	03 31 09.2	-1.2
UTMO	Huajuapan	2.06	288	*i* P	Pn	03 30 56.5	-1.0
UTMO				*i* S	Sn	03 31 20.0	-3.0

*IDC **01** 03:31:38.5±2.8, 2981S×17828W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/11, mbtmp3.6/2, Error ellipse: s-maj=107.8km s-min=45.6km az=21.0*
ISC 01 03:32:25.8±2.0, 3070S±009×1793E±03, h300km, n16, σ1s22/14, mb3.0/2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	6.90	187	PN	Pn	03 34 06.6	+0.7
URZ	Urewera	7.76	193	PN	Pn	03 34 17.6	+1.2
URZ				*e*SN	S	03 35 48.4	+2.4
MWZ	Matawai	7.76	190	*e*PN	Pn	03 34 17.4	+1.0
BKZ	Black Stump Fm	8.76	195	*e*PN	Pn	03 34 27.0	-1.7
WNVZ	Wahianoa	9.13	198	*e*PN	Pn	03 34 34.2	+1.0
BFZ	Birch Farm	10.27	193	*e*PN	Pn	03 34 46.5	-0.7
BFZ				SN	S	03 36 42.8	+0.1
MRZ	Mangatainoka R	10.39	196	*e*PN	Pn	03 34 46.6	-2.1
MRZ				*e*SN	S	03 36 44.0	-1.5
KIW	Kapiti Island	10.75	198	*e*PN	Pn	03 34 51.5	-1.6
MRW	Makara Radio	11.15	198	SN	Sx	03 37 03.0	
TCW	Tory Channel	11.25	200	*e*SN	Sx	03 37 04.9	
THZ	Tophouse	12.19	203	*e*PN	Pn	03 35 11.1	+0.5
MQZ	McQueen's Vall	14.02	200	*e*SN	Sx	03 38 05.2	
ASAR	Alice Springs	40.77	269	P	P	03 39 38.8	+0.4
	0.2nm,0.4s,mb2.7,baz=100,slow=6.4,SNR=4.6						
WRA	Warramunga Arr	41.79	274	P	P	03 39 46.6	+0.1
	0.8nm,0.4s,mb3.3,baz=110,slow=8.2,SNR=23						
FINES	FINESS Array B	144.59	338	PKP	PKPdf	03 51 15.5	-11
	0.4nm,0.3s,baz=58,slow=5.4,SNR=8.7						
TORD	Torodi Ar. Bea	162.40	188	PKPab	PKPab	03 52 34.1	-6.9
	0.3nm,0.5s,baz=177,slow=2.9,SNR=7.1						

*ISCJB **01** 03:41:43.7±2.5, 364N±01×714E±02, h74km±28km, mb3.5/4, Error ellipse: s-maj=30.6km s-min=7.0km az=116.0*
*MOS **01** 03:41:45.3±1.1, 3658N×7133E, h79km, mb4.1/2, Error ellipse: s-maj=36.5km s-min=12.3km az=91.6*
*IDC **01** 03:41:46.7±8.0, 3658N×7149E, h79km±76km, mb3.3/4, mb1 3.5/7, mb1mx3.2/22, mbtmp3.7/7, ML3.9/3, Error ellipse: s-maj=72.8km s-min=52.6km az=108.0*
*NEIC **01** 03:41:46.9±3.5, 3660N×7147E, h81km±30km, mb3.5/2, Error ellipse: s-maj=30.9km s-min=24.8km az=199.0*
*NNC **01** 03:41:55.6±7.2, 3729N×7044E, h92km±93km, mb3.4, mpv3.9, Error ellipse: s-maj=74.0km s-min=60.7km az=77.0*
ISC 01 03:41:46.3±2.0, 365N±01×715E±02, h90km±24km, n37, σ1s09/38, mb3.5/4, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.90	16	P	Pn	03 43 11.3	+0.3
	SNR=15						
UCH	Uchtor	6.20	21	P	Pn	03 43 15.9	+0.8
	SNR=8.7						
KZA	Kyzart	6.30	26	P	Pn	03 43 17.6	+1.0
	SNR=7.2						
EKS2	Erkin-Say	6.42	15	P	Pn	03 43 18.4	+0.2
	SNR=12						
AAK	Ala-Archa	6.57	20	P	Pn	03 43 21.0	+0.8
	SNR=5.0						
AAK	Ala-Archa	6.57	20	*e*PN	Pn	03 43 19.4	-0.8
AAK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
AAK	Ala-Archa	6.57	20	*e*Pn	Pn	03 43 19.4	-0.8
	comp=Z,5.5nm,0.4s						
KK31	Karatay Array	6.67	354	P	Pn	03 43 19.1	-2.4
	comp=Z,5.1nm,0.4s,baz=178,slow=12,SNR=164						
KK31				⇑S	Sn	03 44 26.1	-10
	comp=Z,4.0nm,0.5s,baz=185,slow=21,SNR=5.8						
CHMS	Chumysh	6.98	20	P	Pn	03 43 26.2	+0.4
	SNR=7.5						
TKM2	Tokmak 2	7.17	25	P	Pn	03 43 29.6	+1.3
	SNR=9.0						
MKAR	Makanchi Array	13.07	35	P	Pn	03 44 48.5	+0.2
	comp=Z,0.3nm,0.3s,baz=225,slow=15,SNR=9.4						
KOLN	Koldanda	13.41	127	*e*P	Pn	03 44 54.2	+1.4
	comp=Z,7.3nm,0.5s						
GKN	Gorkha	13.94	124	*e*P	Pn	03 45 01.6	+1.9
	comp=Z,8.4nm,0.4s						
DMN	Daman	14.51	124	*e*P	Pn	03 45 05.2	-1.9
KKN	Kakani	14.51	123	*e*P	Pn	03 45 06.4	-0.7
	comp=Z,11nm,0.5s						
PKI	Pulchoki	14.74	123	*e*P	Pn	03 45 08.4	-1.6
GUN	Gumba	14.84	121	*e*P	Pn	03 45 12.0	+0.7
	comp=Z,30nm,0.7s						
JIRN	Jiri	15.21	121	*e*P	Pn	03 45 14.6	-1.5
	comp=Z,9.2nm,0.3s						
AB31	Akbulak array	15.31	330	⇓P	Pn	03 45 11.8	-5.5
	comp=Z,0.3nm,0.3s,baz=139,slow=13,SNR=28						
AB31				⇓S	S	03 47 44.0	-33
	comp=Z,1.1nm,0.6s,baz=0.0,slow=0.1,SNR=2.8						
VOSK	Vostochnaya	16.25	359	⇑P	Pn	03 45 24.7	-4.4
	comp=Z,3.9nm,2.0s						
BVAR	Borovoye Array	16.57	358	P	Pn	03 45 31.5	-1.5
	comp=Z,0.3nm,0.3s,baz=163,slow=10,SNR=5.5						
ZRNK	Zerenda	16.57	355	⇑P	Pn	03 45 32.9	-0.2
	comp=Z,4.7nm,1.3s						
ZRNK	Zerenda	16.57	355	*e*P	Pn	03 45 32.6	-0.4
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZRNK	Zerenda	16.57	355	*e*P	Pn	03 45 32.6	-0.5
	comp=Z,1.7nm,0.4s						
BRVK	Borovoye	16.61	357	*e*P	Pn	03 45 32.7	-0.8
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRVK	Borovoye	16.61	357	*e*P	Pn	03 45 32.7	-0.8
	comp=Z,3.0nm,1.0s						
AKTK	Aktyubinsk	17.02	329	P	Pn	03 45 38.4	-0.1
AKTO	Aktyubinsk	17.02	329	⇑P	Pn	03 45 37.8	-0.7
AKTO				⇑S	S	03 48 29.5	-22
	comp=Z,0.2nm,1.4s						
AKTO	Aktyubinsk	17.02	329	P	Pn	03 45 38.4	-0.1
	comp=Z,1.3nm,0.3s,baz=132,slow=9.5,SNR=24						
AKTO	Aktyubinsk	17.02	329	P	Pn	03 45 38.4	-0.1
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	FINESS Array B	37.74	326	P	P	03 48 53.5	+0.2
	comp=Z,2.3nm,1.1s,mb3.9,baz=99,slow=9.0,SNR=5.3						
FINES	FINESS Array B	37.74	326	P	P	03 48 53.5	+0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ARCES	ARCESS Array B	41.33	337	P	P	03 49 23.5	+0.4
	comp=Z,0.7nm,0.5s,mb3.8,baz=114,slow=8.4,SNR=18						
ARCES	ARCESS Array B	41.33	337	P	P	03 49 23.5	+0.4
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	NORSAR Array B	44.66	323	P	P	03 49 49.9	0.0
	comp=Z,0.3nm,0.5s,mb3.3,baz=96,slow=7.7,SNR=3.1						
TORD	Torodi Ar. Bea	66.14	269	P	P	03 52 25.8	+1.8
	comp=Z,0.3nm,0.7s,mb3.2,baz=48,slow=5.7,SNR=5.4						
TORD	Torodi Ar. Bea	66.14	269	P	P	03 52 25.8	+1.8

*IDC **01** 03:45:48.5±8.7, 593S×15086E, h61km±63km, mb3.8/3, mb1 4.0/4, mb1mx3.6/14, mbtmp4.0/4, ML2.7/1, Error ellipse: s-maj=98.6km s-min=54.8km az=127.0*
NEIC 01 03:45:47.7±5.0, 620S×15122E, h68km±29km, mb4.2/3, Error ellipse: s-maj=58.7km s-min=38.7km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.13	231	P	Pn	03 47 02.0	+0.1
	1.9nm,0.3s,baz=50,slow=7.9,SNR=4.7						
PMG				S	Sn	03 47 59.7	-0.1
	5.4nm,0.3s,baz=311,slow=21,SNR=7.3						
KAKA	Kakadu	19.61	249	*e*P	Pn	03 50 11.9	-0.5
	6.6nm,0.5s						
WRAB	Tennant Creek	21.33	229	*e*P	P	03 50 29.2	+0.2
	6.7nm,0.7s						
WB2	Warramunga Arr	21.33	229	*e*P	P	03 50 29.0	-0.1
WRA	Warramunga Arr	21.34	229	P	P	03 50 29.2	0.0
	3.6nm,0.8s,baz=54,slow=10,SNR=22						
AS31	Alice Springs	24.06	222	*e*P	P	03 50 56.8	+0.3
AS31				*e*pP	pP	03 51 08.0	-4.5
ASAR	Alice Springs	24.06	222	P	P	03 50 57.8	+1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	3.4nm,0.8s,baz=52,slow=8.5,SNR=14						
ASPA	Alice Springs	24.06	222	eP	P	03 50 57.3	+0.8
FITZ	Fitzroy Crossi	27.62	242	eP	P	03 51 28.1	-0.5
	8.3nm,0.8s						
FITZ	Fitzroy Crossi	27.62	242	P	P	03 51 28.5	-0.1
	3.0nm,0.8s,baz=72,slow=9.0,SNR=8.5						
TORD	Torodi Ar. Bea	149.20	285	PKPbc	PKPbc	04 05 29.9	+1.5
	1.2nm,0.6s,baz=92,slow=2.5,SNR=21						

OTT 01 04:05:10.0±0.3, 6753N×9251W, h18km, MN2.9/4, 160km southwest from Kugaaruk, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QILN	Qililugaq Expl	2.56	107	PN	Pn	04 05 50.5	0.0
QILN				PG	Pg	04 05 55.1	-3.9
QILN				SN	Sn	04 06 20.1	-1.1
QILN				SG	Sg	04 06 26.6	-5.6
QILN				Trac		04 06 33.6	
	comp=Z,19nm,0.1s						
AP3N	Apex site 3 Nu	3.54	53	PN	Pn	04 06 04.0	+0.1
AP3N				PG	Pg	04 06 13.0	-4.7
AP3N				SN	Sn	04 06 43.3	-2.1
AP3N				SG	Sg	04 06 57.7	-5.9
AP3N				Trac		04 07 04.9	
	comp=Z,7.9nm,0.1s						
SRLN	Sarcpa Lake, N	3.60	69	PN	Pn	04 06 04.7	-0.1
SRLN				PG	Pg	04 06 12.2	-6.7
SRLN				SN	Sn	04 06 45.4	-1.4
SRLN				SG	Sg	04 06 56.4	-9.2
SRLN				Trac		04 07 03.9	
	comp=Z,13nm,0.2s						
ILON	Igloolik, Nuna	4.35	60	PN	Pn	04 06 14.6	-0.5
ILON				PG	Pg	04 06 25.4	-7.8
ILON				SN	Sn	04 07 03.5	-1.9
ILON				SG	Sg	04 07 22.4	-7.3
ILON				Trac		04 07 31.0	
	comp=Z,6.4nm,0.1s						
GIFN	Gifford Fjord,	4.66	53	PN	Pn	04 06 18.8	-0.6
GIFN				SN	Sn	04 07 09.2	-3.8
GIFN				SG	Sg	04 07 32.1	-7.4
GIFN				Trac		04 07 34.0	
	comp=Z,6.6nm,0.2s						
YRTN	Rankin Inlet	4.75	178	SG	Sg	04 07 33.4	-8.8
YRTN				Trac		04 07 44.8	
	comp=Z,9.3nm,0.2s						
RES	Resolute Bay	7.23	355	PN	Pn	04 06 53.8	-1.0
RES				SN	Sn	04 08 09.8	-6.6
RES				LG		04 08 49.2	
RES				Trac		04 08 52.1	
	comp=Z,6.1nm,0.6s						
FCC	Fort Churchill	8.83	185	PN	Pn	04 07 15.4	-1.2
FCC				SN	Sn	04 08 47.5	-8.2
FCC				LG		04 09 39.4	
FCC				Trac		04 09 43.4	
	comp=Z,8.1nm,0.6s						
ILKN	Indian Lake	9.81	261	SN	Sn	04 09 08.8	-11
YKW3	Yellowknife Ar	10.54	252	PN	Pn	04 07 37.3	-2.8
YKW3				SN	Sn	04 09 26.9	-11
YKW3				Trac		04 09 29.3	
	comp=Z,2.6nm,0.4s						
YKW3				LG		04 10 27.6	
FRB	Frobisher Bay	10.56	100	PN	Pn	04 07 40.2	-0.1
FRB				SN	Sn	04 09 29.5	-8.6
FRB				LG		04 10 32.5	

IDC 01 04:47:41.1±7.7, 626S×14654E, h138km±73km, mb2.5/1, mb1 2.8/3, mb1mx2.7/12, mbtmp3.1/3, Error ellipse: s-maj=90.4km s-min=55.5km az=130.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.19	169	P	Pn	04 48 30.4	0.0
	4.5nm,0.3s,baz=36,slow=4.4,SNR=12						
PMG				S	Sn	04 49 09.1	+0.7
	4.6nm,0.3s,baz=152,slow=19,SNR=11						
WRA	Warramunga Arr	18.04	220	P	P	04 51 40.9	-0.7
	0.1nm,0.3s,baz=47,slow=12,SNR=8.7						
ASAR	Alice Springs	21.15	214	P	P	04 52 15.9	+0.8
	0.4nm,0.6s,baz=52,slow=8.2,SNR=6.3						
TORD	Torodi Ar. Bea	144.71	284	PKP	PKPdf	05 07 02.0	+0.7
	0.6nm,0.8s,baz=58,slow=2.4,SNR=7.1						

IDC 01 04:58:15.6±8.0, 4969S×10844E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.8/12, mbtmp3.7/3, MS3.7/8, Ms1 3.7/8, ms1mx3.5/19, Error ellipse: s-maj=274.5km s-min=30.0km az=104.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	17.98	25	LR	LR	05 07 04.0	
	comp=Z,77nm,21.9s,baz=26,slow=29						
MAW	Mawson	28.77	215	LR	LR	05 13 01.6	
	comp=Z,118nm,18.3s,baz=238,slow=31						
ASAR	Alice Springs	32.73	47	P	P	05 04 50.4	+0.4
	0.9nm,0.8s,baz=210,slow=8.7,SNR=5.9						
ASAR				LR	LR	05 16 14.2	
	comp=Z,128nm,20.0s,baz=88,slow=33						
VNDA	Vanda	34.27	162	P	P	05 05 02.8	-0.6
	1.1nm,0.7s,baz=296,slow=9.3,SNR=7.2						
VNDA				LR	LR	05 18 18.3	
	comp=Z,141nm,21.8s,baz=310,slow=35						
FITZ	Fitzroy Crossi	34.42	30	LR	LR	05 16 18.7	
	comp=Z,117nm,19.9s,baz=271,slow=32						
WRA	Warramunga Arr	36.15	44	P	P	05 05 19.1	-0.4
	0.6nm,0.7s,baz=207,slow=10,SNR=4.6						
WRA				LR	LR	05 19 12.6	
	comp=Z,123nm,18.1s,baz=170,slow=35						
PSI	Prapat	52.92	348	LR	LR	05 28 52.5	
	comp=Z,64nm,18.6s,baz=350,slow=35						
PLCA	Paso Flores	89.96	181	LR	LR	05 49 52.7	
	comp=Z,146nm,18.4s,baz=180,slow=34						
NVAR	Mina Array Bea	145.10	91	PKPbc	PKPbc	05 17 53.3	-1.1
	1.6nm,0.7s,baz=235,slow=4.9,SNR=6.3						

IDC 01 05:11:25.2±23.0, 221N×11896E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/19, mbtmp4.1/4, MS3.0/1, Ms1 3.0/1, ms1mx1.8/29, Error ellipse: s-maj=439.0km s-min=147.9km az=118.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.23	162	P	P	05 16 12.7	0.0
	1.5nm,0.2s,baz=13,slow=10.0,SNR=15						
JOW	Kunigami	26.06	19	LR	LR	05 26 59.0	
	comp=Z,35nm,19.9s,baz=100,slow=36						
WRA	Warramunga Arr	26.69	146	P	P	05 17 05.9	-0.1
	1.1nm,0.5s,baz=328,slow=8.6,SNR=11						
ASAR	Alice Springs	29.55	151	P	P	05 17 31.9	+0.3
	1.1nm,0.5s,baz=325,slow=8.6,SNR=19						
STKA	Stephens Creek	40.13	149	P	P	05 19 03.6	+0.9
	1.8nm,0.5s,baz=336,slow=9.8,SNR=5.5						

IDC 01 05:18:16.1±3.7, 2101N×14695E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=199.8km s-min=32.7km az=93.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.53	198	P	P	05 26 13.7	+0.4
	0.9nm,0.5s,baz=19,slow=8.1,SNR=15						
FITZ	Fitzroy Crossi	44.13	210	P	P	05 26 26.3	0.0
	2.9nm,1.0s,baz=23,slow=13,SNR=5.7						
ASAR	Alice Springs	46.19	197	P	P	05 26 42.5	-0.1
	0.3nm,0.6s,baz=13,slow=6.6,SNR=6.0						
FINES	FINESS Array B	85.28	336	P	P	05 30 54.7	-0.1
	0.8nm,0.8s,baz=58,slow=5.2,SNR=5.6						

*NEIC **01** 05:24:04.9, 3958N×2125E, h55km, MD3.5(ATH), After ATH.*
*ATH **01** 05:24:04.9, 3958N×2125E, h55km±3km, MD3.5/4*
*ISCJB **01** 05:24:06.3±0.5, 40.14N±0.03×20.82E±0.04, h5km±6km, Error ellipse: s-maj=5.2km s-min=4.2km az=2.0*
*CSEM **01** 05:24:06.6±0.2, 40.18N×20.81E, h0km±2km, ML3.0, Error ellipse: s-maj=4.2km s-min=4.0km az=110.0*
*THE **01** 05:24:06.6, 40.15N×20.81E, h10km, ML3.0*
ISC 01 05:24:06.4±0.5, 4012N±003×2071E±005, h22km±6km, n19, σ1.16/30, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSK	Leskovik	0.09	291	i Pg	Pb	05 24 10.4	-0.1
LSK				i Sg	Sb	05 24 14.9	+1.6
JAN	Janina	0.47	167	eP	Pb	05 24 15.0	-1.0
KBN	Korca	0.51	6	i Sg	Pb	05 24 15.5	-1.1
KBN	Korca	0.51	6	i Pg	Pb	05 24 15.5	-1.1
KBN				i Sg	Sb	05 24 24.2	+0.6
MEV	Metsovon	0.52	130	ePg	Pb	05 24 15.6	-1.2
MEV				eSg	Sb	05 24 22.9	-1.0
TPE	Tepelena	0.57	288	i Pg	Sb	05 24 24.2	-1.0
IGT	Igoumenitsa	0.65	207	ePg	Pb	05 24 19.7	+0.6
KEK	Kerkira	0.81	240	eP	Pb	05 24 25.4	+3.6
KZN	Kozani	0.83	77	eP	Pb	05 24 21.7	-0.4
KZN				eS	Sb	05 24 33.5	+0.6
FNA	Florina	0.84	37	ePg	Pb	05 24 20.9	-1.3
FNA				eSg	Sb	05 24 32.7	-0.3
OHR	Ohrid	0.99	4	ePg	Pb	05 24 25.6	+0.7
OHR	Ohrid	0.99	4	ePn	Pn	05 24 25.6	+0.6
OHR				i Sg	Sb	05 24 39.4	+1.8
OHR	Ohrid	0.99	4	ePg	Pn	05 24 25.6	+0.6
OHR				i Sg	Sb	05 24 39.3	+1.7
BIA	Bitola	1.01	27	ePg	Pb	05 24 23.6	-1.6
BIA				eSg	Sb	05 24 38.0	-0.1
BIA	Bitola	1.01	27	ePn	Pn	05 24 23.7	-1.6
BIA				i Sg	Sb	05 24 39.1	+0.9
LIT	Litokhoron	1.36	90	ePg	Pn	05 24 31.2	+1.1
LIT				eSg	Sn	05 24 49.3	+1.8
GRG	Griva	1.54	56	ePg	Pn	05 24 33.0	+0.5
AGG	Agios Georgios	1.66	131	ePb	Pb	05 24 35.9	-0.3
AGG				eSb	Sb	05 24 58.5	+1.8
KNT	Kendrikon	1.96	57	ePb	Pb	05 24 39.7	-1.7

*ISCJB **01** 06:31:14.2±0.3, 46.21N±0.02×122.19W±0.03, h10km, Error ellipse: s-maj=3.3km s-min=2.6km az=18.4*
*NEIC **01** 06:31:14.1, 46.19N×122.20W, h0km, MD3.3(SEA), After SEA.*
ISC 01 06:31:14.5±0.3, 4622N±002×12220W±003, h10km, n42, σ1.09/55, 13C-14D, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YEL	Yellow Rock	0.01	141	P	Pg	06 31 13.7	-2.5
STD	Studebaker Rid	0.02	318	P	Pg	06 31 14.1	-2.1
SHW	Mount Saint He	0.04	222	P	Pg	06 31 14.6	-1.7
ESD	East Dome	0.04	124	P	Pg	06 31 14.0	-2.4
HSR	South Ridge	0.05	166	P	Pg	06 31 14.8	-1.6
SOSW	Source of Smit	0.05	62	P	Pg	06 31 15.3	-1.1
JLK	June Lake	0.08	156	P	Pg	06 31 15.4	-1.4
FL2	Flat Top 2	0.11	257	P	Pg	06 31 16.4	-0.7
ERK	Elk Rock	0.13	311	P	Pg	06 31 17.5	0.0
TDL	Tradedollar La	0.13	355	P	Pg	06 31 17.6	+0.1
CDFW	Cedar Flats	0.15	134	P	Pg	06 31 16.7	-1.1
MTMW	Mount Mitchell	0.20	182	P	Pg	06 31 18.2	-0.4
LVP	Lakeview Peak	0.21	224	P	Pg	06 31 18.4	-0.4
F04A	Amboy	0.33	208	⇑P	Pg	06 31 20.4	-0.6
	baz=0.3,SNR=8.9						
F04A				⇓S	Sg	06 31 24.7	-0.7
	baz=0.3						
ASR	Mount Adams--S	0.43	99	P	Pg	06 31 22.5	-0.4
LMW	Ladd Mountain	0.45	352	P	Pg	06 31 24.4	+1.1
E05A	Randle	0.46	42	⇓P	Pg	06 31 23.0	-0.3
	baz=0.5,SNR=8.7						
E05A				⇑S	Sg	06 31 29.9	+0.5
	baz=0.5						
E04A	Onalaska	0.52	316	⇑P	Pg	06 31 24.6	+0.1
	baz=0.5,SNR=8.4						
LON	Longmire	0.59	27	P	Pg	06 31 26.0	0.0
F05A	White Salmon	0.62	123	⇑P	Pg	06 31 25.7	-0.7
	baz=0.6,SNR=8.4						
F05A				⇑S	Sg	06 31 34.2	-0.3
	baz=0.6						
RCM	Mount Rainier-	0.69	28	P	Pg	06 31 28.1	+0.2
FMW	Mount Fremont	0.80	27	P	Pg	06 31 29.9	0.0
VLL	Laurance Lake	0.84	154	P	Pg	06 31 30.2	-0.5
D05A	Enumclaw	0.98	8	⇑P	Pg	06 31 33.0	-0.3
	baz=1.0						
D05A				⇑S	Sg	06 31 46.7	+0.6
	baz=1.0						
F03A	Seaside	0.99	253	⇑P	Pg	06 31 32.6	-0.9
	baz=1.0						
F03A				⇓S	Sg	06 31 46.0	-0.3
	baz=1.0						
E03A	Lebam	1.00	290	⇓P	Pg	06 31 33.1	-0.5
	baz=1.0						
E03A				⇑S	Sg	06 31 47.4	+0.8
	baz=1.0						
GSM	Grass Mountain	1.02	16	P	Pg	06 31 33.5	-0.6
G04A	Mulino	1.03	191	⇑P	Pg	06 31 33.8	-0.4
	baz=1.0						
G05A	Wamic	1.16	148	⇑P	Pb	06 31 36.2	-0.4
	baz=1.1						
G05A				⇓S	Sb	06 31 53.3	+1.6
	baz=1.1						
EBG	Ellensburg	1.32	58	P	Pn	06 31 40.2	+1.3
D03A	Wishkah Elem.	1.41	310	⇓P	Pn	06 31 40.9	+0.8
	baz=1.4						
C05A	Tolt Reservoir	1.51	13	⇓P	Pn	06 31 42.4	+0.9
	baz=1.5						
H04A	Detroit Lake	1.54	180	⇓P	Pn	06 31 41.8	-0.2
	baz=1.5,SNR=20						
H04A				⇓S	Sn	06 32 04.2	+2.1
	baz=1.5						
C04A	Brinnon	1.59	341	⇓P	Pn	06 31 43.8	+1.1
	baz=1.6						
C04A				⇓S	Sn	06 32 06.9	+3.7
	baz=1.6						
H05A	Madras	1.71	156	⇑P	Pn	06 31 45.3	+1.0
	baz=1.7						
H05A				⇓S	Sn	06 32 08.3	+2.0
	baz=1.7						
H03A	Soap Creek Ran	1.72	207	⇓P	Pn	06 31 44.7	+0.3
	baz=1.7						
H03A				⇓S	Sn	06 32 09.1	+2.6
	baz=1.7						
COR	Corvallis	1.81	206	ePn	Pn	06 31 45.8	+0.2
COR				eSn	Sg	06 32 15.1	+2.4
HAWA	Hanford	1.86	84	ePg	Pn	06 31 47.1	+0.8
HAWA				eSg	Pg	06 31 59.4	+9.3
B05A	Bryant	2.04	2	⇑S	Sn	06 32 18.0	+3.6
	baz=2.1						
BMO	Blue Mountains	3.70	110	Pn	Pn	06 32 11.0	-0.7
WVOR	Wild Horse Val	4.57	145	ePn	Pn	06 32 24.9	+1.3
PFO	Pinyon Flat Ob	13.34	159	ePn	Pn	06 34 25.0	+1.1
	2.9nm,0.5s						

*NEIC **01** 06:46:29.2±7.8, 484S×14896E, h10km, mb4.6/1, Error ellipse: s-maj=133.0km s-min=43.9km az=73.0*
IDC 01 06:46:14.6±3.8, 321S×14925E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.9/12, mbtmp4.1/3, MS4.0/12, Ms1 4.0/12, ms1mx3.8/18, Error ellipse: s-maj=127.6km s-min=46.6km az=112.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.50	199	LR	LR	06 50 19.5	
	comp=Z,864nm,20.4s,baz=12,slow=38						
PMG	Port Moresby	6.50	199	ePn	Pn	06 47 41.9	-10
CTA	Charters Tower	17.03	190	LR	LR	06 56 19.0	
	comp=Z,115nm,20.3s,baz=11,slow=36						
GUMO	Guam	17.25	345	LR	LR	06 55 24.5	
	comp=Z,560nm,20.7s,baz=192,slow=32						
WRAB	Tennant Creek	22.09	220	eP	P	06 51 10.0	-1.2
	24nm,0.9s						
WRA	Warramunga Arr	22.10	220	P	P	06 51 10.4	-1.0
	10.0nm,0.9s,baz=42,slow=11,SNR=100						
WRA				LR	LR	07 00 20.8	
	comp=Z,412nm,18.6s,baz=40,slow=38						
DZM	Mont Dzumac	25.10	140	LR	LR	07 00 06.5	
	comp=Z,568nm,20.6s,baz=23,slow=33						
AS31	Alice Springs	25.17	215	eP	P	06 51 42.0	+0.4
ASAR	Alice Springs	25.18	215	P	P	06 51 41.5	-0.1
	1.4nm,0.7s,baz=45,slow=9.3,SNR=7.3						
ASAR				LR	LR	07 02 24.5	
	comp=Z,557nm,18.5s,baz=298,slow=38						
FITZ	Fitzroy Crossi	27.46	236	P	P	06 52 04.4	+2.1
	7.1nm,0.9s,baz=11,slow=10,SNR=7.0						
FITZ				LR	LR	07 03 54.7	
	comp=Z,497nm,18.4s,baz=41,slow=39						
STKA	Stephens Creek	29.41	193	LR	LR	07 04 50.2	
	comp=Z,278nm,19.9s,baz=19,slow=38						
MJAR	Matsushiro Arr	40.87	346	LR	LR	07 10 33.7	
	comp=Z,154nm,18.3s,baz=175,slow=36						
SONM	Songino Array	63.12	329	LR	LR	07 23 57.5	
	comp=Z,102nm,19.0s,baz=97,slow=36						
VNDA	Vanda	74.56	177	LR	LR	07 27 54.1	
	comp=Z,198nm,20.7s,baz=218,slow=34						
AKTO	Aktyubinsk	93.24	320	LR	LR	07 41 01.9	
	comp=Z,81nm,19.1s,baz=5.4,slow=35						
TORD	Torodi Ar. Bea	146.45	289	PKPbc	PKPbc	07 05 57.8	+0.1
	1.5nm,0.9s,baz=68,slow=2.5,SNR=3.5						

ISC 01 07:00:29.5±0.8, 3969N±006×2954E±008, h35km, n5, σ1.36/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULDT	Uludag	0.55	326	i P	P	07 00 39.0	-1.6
ULDT				i S	S	07 00 47.5	-1.2
GDZ	Gediz	0.60	184	i P	P	07 00 39.8	-1.7
GDZ				i S	S	07 00 49.5	-0.7
BORA	Eskisehir	0.73	75	i P	P	07 00 43.9	+0.6
ESKT	Eskisehir	1.03	99	i P	P	07 00 49.1	+1.5
ESKT				i S	S	07 01 06.7	+5.7
BTOK	Tokmak	1.16	274	i P	P	07 00 50.9	+1.4
BTOK				i S	S	07 01 06.1	+1.8

CASC 01 07:21:09.5±3.1, 1312N×8919W, h36km±358km, MD3.8, ML3.1, 5C-6D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNET	Serv Nac Est T	0.56	356	⇑eP	x	07 21 20.5	
SNET				eS	x	07 21 29.9	
SNVI	San Vicente	0.60	35	⇓eP	x	07 21 40.0	
SNVI				eS	x	07 21 49.6	
BOQS	Boqueron	0.61	352	⇑iP	x	07 21 40.2	
BOQS				eS	x	07 21 50.2	
SBLS	San Blas	0.82	330	eP	x	07 21 42.6	
SBLS				eS	x	07 21 55.4	
SNJE	San Jose	0.84	332	⇓eP	x	07 21 42.8	
SNJE				eS	x	07 21 54.1	
RTR	El Retiro	0.89	330	⇓eP	x	07 21 43.5	
RTR				eS	x	07 21 55.5	
VSM	San Miguel	0.94	71	⇓eP	x	07 21 45.3	
VSM				eS	x	07 21 59.4	
BLLM	Bellamira	0.98	71	⇑eP	x	07 21 45.9	
BLLM				eS	x	07 22 00.3	
RBDL	Robledal	1.09	334	⇓iP	x	07 21 46.4	
RBDL				eS	x	07 22 02.7	
MTO2	Montecristo 2	1.28	353	⇓iP	x	07 21 49.0	
MTO2				eS	x	07 22 05.4	
CNCH	Conchagua	1.33	83	⇑eP	x	07 21 50.4	
CNCH				eS	x	07 22 08.1	
IXG	Ixpaco	1.61	311	⇑eP	Pn	07 21 34.6	-0.8
IXG				eS	Sn	07 21 54.0	-1.0
FUG	Fuego 3	2.07	310	eS	Sn	07 22 07.7	+1.3
CRIN	San Cristobal	2.13	101	eP	Pn	07 21 43.3	+0.7
CRIN				eS	Sn	07 22 09.0	+1.2
LEON	Leon	2.35	107	eP	Pn	07 21 45.5	-0.1
LEON				eS	Sn	07 22 11.9	-1.3
TP2	Tecpan 2	2.42	313	eP	Pn	07 21 49.5	+2.9
TP2				eS	Sn	07 22 17.9	+3.0
CNGN	Cerro Negro	2.51	104	eP	Pn	07 21 48.6	+0.8
MIRN	Miramar	2.52	105	eP	Pn	07 21 48.1	+0.3
MIRN				eS	Sn	07 22 19.0	+1.8
JAT	Jato	2.65	297	eP	Pn	07 21 50.0	+0.3
COPN	Copaltepe	2.71	110	eP	Pn	07 21 51.0	+0.5
COPN				eS	Sn	07 22 21.4	-0.7
MGAN	Managua	3.04	108	eS	Sn	07 22 29.1	-1.0
MGAN				i		07 22 30.1	
	comp=N,83nm,0.1s						
TICN	Ticuantepe	3.09	110	eP	Pn	07 21 59.2	+3.5
TICN				eS	Sn	07 22 32.6	+1.2

IDC 01 07:51:40.5±2.1, 790S×12255E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, ML3.5/2, Error ellipse: s-maj=302.6km s-min=29.8km az=56.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.54	138	Pn	Pn	07 55 33.5	-0.4
	0.2nm,0.3s,baz=312,slow=13,SNR=11						
ASPA	Alice Springs	19.08	147	eP	Pn	07 56 04.8	-0.5
ASAR	Alice Springs	19.08	146	P	Pn	07 56 05.2	-0.1
	0.2nm,0.3s,baz=330,slow=12,SNR=16						
MKAR	Makanchi Array	65.16	331	P	P	08 02 23.4	+0.1
	0.3nm,0.4s,baz=122,slow=7.4,SNR=4.0						

NNC 01 08:21:15.6±7.1, 5352N×8740E, h0km, mb3.8, mpv3.4, 7C-1D, Error ellipse: s-maj=55.8km s-min=45.9km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURK	Kurchatov	6.09	246	⇑Pn	Pn	08 22 47.4	+0.6
	3.1nm,1.1s						
KURK				⇑Sn	Sn	08 23 55.6	-1.6
	1.9nm,0.8s						
KURK				⇑Lg		08 24 32.5	
	16nm,1.0s						
MK02	Makanchi Array	7.50	208	⇓Pn	Pn	08 23 07.0	+0.7
	1.7nm,0.6s,baz=34,slow=14						
MK02				⇑Sn	Sn	08 24 31.7	-0.3
	5.4nm,0.9s,baz=32,slow=23						
MK02				⇑Lg		08 25 13.7	
	9.2nm,0.9s,baz=40,slow=32						
VOSK	Vostochnaya	9.90	272	⇑Pn	Pn	08 23 39.9	+0.7
	3.1nm,1.4s						
VOSK				⇑Sn	Sn	08 25 26.5	-4.6
	5.8nm,0.9s						

ISC 01 08:39:13.7±0.8, 3964N±005×2934E±008, h35km, n5, σ1.19/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULDT	Uludag	0.53	342	i P	P	08 39 23.6	-1.0
ULDT				i S	S	08 39 31.7	-0.8
GDZ	Gediz	0.56	169	i P	P	08 39 24.4	-0.7
GDZ				i S	S	08 39 32.6	-0.8
BORA	Eskisehir	0.89	74	i P	P	08 39 28.8	-0.9
BORA				i S	S	08 39 42.1	+0.6
BTOK	Tokmak	1.02	277	i P	P	08 39 34.0	+2.4
BTOK				i S	S	08 39 50.0	+5.0
ESKT	Eskisehir	1.17	95	i P	P	08 39 35.4	+1.6
ESKT				i S	S	08 39 53.6	+4.8

*NEIC **01** 08:43:55.2, 3163S×69.16W, h150km, MG2.9(GUC), After GUC.*
GUC 01 08:43:55.2±0.6, 3163S×6916W, h150km, MD3.7, ML2.9, 2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACH	Jahuel	1.61	229	i P	Pn	08 44 26.2	+0.4
CMCH	Combarbala	1.64	286	⇓iP	Pn	08 44 26.5	+0.2
CMCH				i S	Sn	08 44 51.0	+0.9
CMCH				AML	AML	08 44 56.7	
	comp=E,203nm,0.7s						
CMCH	Combarbala	1.64	286	⇓iP	Pn	08 44 26.5	+0.2
CMCH				i S	Sn	08 44 51.0	+0.9
FCH	Farellones	1.94	209	eP	Pn	08 44 30.9	+1.2
FCH				i S	Sn	08 44 58.0	+1.9
ROCH	El Roble	2.06	229	i P	Pn	08 44 31.4	+0.4
ROCH				i S	Sn	08 44 59.1	+0.6
CLCH	Cerro Calan	2.11	213	i S	Sn	08 45 00.6	+1.1
CLCH				AML	AML	08 45 08.0	
	comp=N,41nm,0.5s						
RCDM	Rinconada Maip	2.32	217	eP	Pn	08 44 34.8	+0.7
RCDM				i S	Sn	08 45 04.4	+0.4

*ISCJB **01** 08:48:43.3±0.5, 2.58N±0.08×128.5E±0.1, h142km, mb4.2/17, Error ellipse: s-maj=22.2km s-min=8.8km az=140.6*
*IDC **01** 08:48:43.1±3.4, 2.54N×128.47E, h125km±30km, mb3.7/11,*

mb1 3.8/11, mb1mx3.7/19, mbtmp4.1/11, Error ellipse: s-maj=43.2km s-min=10.2km az=75.0
*MOS **01** 08:48:44.4±0.6, 261N×12843E, h149km, mb4.1/10, Error ellipse: s-maj=54.0km s-min=13.1km az=105.7*
*NEIC **01** 08:48:44.8±5.2, 253N×12845E, h142km±51km, mb4.4/1, Error ellipse: s-maj=36.7km s-min=12.6km az=79.0*
ISC 01 08:48:43.2±3.5**, 258N**±008×**1286E**±02**, h123**km±32km**, n37,** σ0s**74**/38**, mb4.4**/17**, 2C, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.76**	**188**	P	**P**	**08 53 12.6**	**-1.6**
	1.2nm,0.5s,baz=158,slow=19,SNR=16						
WRAB	**Tennant Creek**	**23.08**	**166**	*e*P	**P**	**08 53 39.2**	**+1.2**
WRAB				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.3						
WRAB	**Tennant Creek**	**23.08**	**166**	*e*P	**P**	**08 53 39.2**	**+1.2**
	comp=Z,20nm,1.3s,mb4.3						
WRA	**Warramunga Arr**	**23.09**	**166**	P	**P**	**08 53 38.1**	**+0.1**
	comp=Z,1.7nm,0.4s,mb3.7,baz=345,slow=11,SNR=57						
WRA				S	**S**	**08 57 40.5**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=348,slow=18,SNR=4.0						
WRA	**Warramunga Arr**	**23.09**	**166**	P	**P**	**08 53 38.1**	**0.0**
WRA				S	**S**	**08 57 40.5**	**+0.8**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRA				smax			
	comp=N,1.0nm,0.7s						
ASAR	**Alice Springs**	**26.60**	**169**	P	**P**	**08 54 10.9**	**+1.0**
	comp=N,0.2nm,0.3s,mb3.1,baz=349,slow=7.3,SNR=5.0						
ASAR				PcP	PcP	08 57 31.2	+0.3
	comp=N,0.5nm,0.4s,baz=352,slow=2.0,SNR=11						
ASAR	**Alice Springs**	**26.60**	**169**	P	**P**	**08 54 10.9**	**+1.0**
ASAR						08 57 31.3	
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MJAR	**Matsushiro Arr**	**34.94**	**14**	P	**P**	**08 55 23.2**	**0.0**
	comp=Z,2.3nm,0.7s,mb4.1,baz=184,slow=9.2,SNR=8.3						
MJAR	**Matsushiro Arr**	**34.94**	**14**	P	**P**	**08 55 23.2**	**0.0**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
STKA	**Stephens Creek**	**36.43**	**161**	P	**P**	**08 55 35.0**	**-0.9**
	comp=Z,1.4nm,0.4s,mb4.3,baz=269,slow=13,SNR=3.7						
STKA	**Stephens Creek**	**36.43**	**161**	P	**P**	**08 55 35.0**	**-0.9**
JIRN	**Jiri**	**47.55**	**306**	*e*P	**P**	**08 57 06.8**	**+0.7**
	comp=Z,24nm,0.5s,mb5.3						
GUN	**Gumba**	**47.90**	**306**	*e*P	**P**	**08 57 09.5**	**+0.6**
	comp=Z,27nm,0.5s,mb5.3						
PKI	**Pulchoki**	**48.15**	**305**	*e*P	**P**	**08 57 10.9**	**+0.1**
KKN	**Kakani**	**48.34**	**306**	*e*P	**P**	**08 57 12.3**	**+0.1**
DMN	**Daman**	**48.41**	**305**	*e*P	**P**	**08 57 13.1**	**+0.3**
	comp=Z,12nm,0.6s,mb4.8						
ULN	**Ulaanbaatar**	**48.79**	**341**	*c i*P	**P**	**08 57 16.5**	**+0.8**
GKN	**Gorkha**	**48.94**	**306**	*e*P	**P**	**08 57 16.9**	**0.0**
SONM	**Songino Array**	**48.98**	**340**	P	**P**	**08 57 17.8**	**+0.7**
	comp=Z,1.7nm,0.6s,mb4.2,baz=151,slow=7.8,SNR=8.5						
SONM	**Songino Array**	**48.98**	**340**	P	**P**	**08 57 17.8**	**+0.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KOLN	**Koldanda**	**49.70**	**305**	*e*P	**P**	**08 57 23.2**	**+0.6**
	comp=Z,27nm,0.7s,mb5.3						
YAK	**Yakutsk**	**59.31**	**1**	*i* P	**P**	**08 58 32.7**	**+0.7**
YAK				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
MKAR	**Makanchi Array**	**59.55**	**325**	P	**P**	**08 58 33.7**	**0.0**
	comp=Z,3.2nm,0.5s,mb4.6,baz=119,slow=8.3,SNR=44						
MKAR				PcP	PcP	08 59 19.2	-0.6
	comp=Z,1.1nm,0.7s,baz=111,slow=5.3,SNR=5.8						
MKAR	**Makanchi Array**	**59.55**	**325**	P	**P**	**08 58 33.7**	**0.0**
MKAR						08 59 19.2	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**59.55**	**325**	P	**P**	**08 58 33.7**	**0.0**
MKAR				PcP	PcP	08 59 19.2	-0.6
ZAL	**Zalesovo**	**62.45**	**333**	P	**P**	**08 58 52.8**	**-0.5**
	comp=Z,0.8nm,0.4s,mb4.1,baz=265,slow=6.0,SNR=3.1						
ZAL	**Zalesovo**	**62.45**	**333**	P	**P**	**08 58 52.8**	**-0.5**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**63.70**	**327**	*i* P	**P**	**08 59 01.3**	**-0.2**
TIXI	**Tiksi**	**68.97**	**0**	⇑*e*P	**P**	**08 59 35.0**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
BVAR	**Borovoye Array**	**69.29**	**327**	P	**P**	**08 59 36.4**	**-0.7**
	comp=Z,1.9nm,0.6s,mb4.1,baz=120,slow=8.7,SNR=12						
BVAR	**Borovoye Array**	**69.29**	**327**	P	**P**	**08 59 36.4**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKTK	**Aktyubinsk**	**75.71**	**322**	P	**P**	**09 00 14.2**	**-0.9**
AKTO	**Aktyubinsk**	**75.71**	**322**	P	**P**	**09 00 14.2**	**-0.9**
	comp=Z,1.5nm,0.6s,mb3.9,baz=81,slow=8.2,SNR=7.4						
AKTO	**Aktyubinsk**	**75.71**	**322**	P	**P**	**09 00 14.2**	**-0.9**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
ARCES	**ARCESS Array B**	**92.16**	**340**	P	**P**	**09 01 37.2**	**-1.6**
	comp=Z,1.8nm,0.8s,mb4.4,baz=83,slow=6.9,SNR=10						
ARCES	**ARCESS Array B**	**92.16**	**340**	P	**P**	**09 01 37.2**	**-1.6**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**125.04**	**288**	PKP	PKPdf	09 07 28.9	0.0
	comp=Z,0.2nm,0.5s,baz=123,slow=2.0,SNR=5.8						

*NEIC **01** 09:18:33.2, 1680N×100.14W, h10km, MD4.2(MEX), After MEX.*
MEX 01 09:18:32.9±0.6**, 1678N**×**10015W, h12**km±2km**, MD4.1, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.24**	**69**	*i* P	Pg	09 18 37.5	-0.4
ACX				*i* S	Sg	09 18 41.0	-0.2
CAIG	**El Cayaco**	**0.29**	**336**	*i* P	Pg	09 18 38.6	-0.2
CAIG				*e*S	Sg	09 18 42.6	-0.2
MEIG	**Mezcala**	**1.24**	**24**	*i* P	Pn	09 18 52.1	-3.9
MEIG				*e*S	Sb	09 19 07.7	-4.5
ZIIG	**Zihuatanejo**	**1.50**	**303**	*i* P	Pn	09 18 55.9	-3.8
ZIIG				*i* S	Sn	09 19 13.9	-5.3
ZIIG	**Zihuatanejo**	**1.50**	**303**	*i* P	Pn	09 18 57.6	-2.0
ZIIG				*i* S	Sn	09 19 16.2	-3.0
PLIG	**Platanillo**	**1.71**	**21**	*i* P	Pn	09 18 59.7	-2.9
PLIG				*i* S	Sn	09 19 20.2	-4.2
PLIG	**Platanillo**	**1.71**	**21**	*i* P	Pn	09 19 00.2	-2.3
PLIG				*e*S	Sn	09 19 20.5	-3.9
PNIG	**Pinotepa**	**1.98**	**101**	*i* P	Pn	09 19 03.1	-3.0
PNIG				*i* S	Sn	09 19 28.1	-2.7
YAIG	**Yautepec**	**2.31**	**26**	*e*P	Pn	09 19 06.6	-4.1
YAIG				*i* S	Sn	09 19 35.2	-3.9
YAIG	**Yautepec**	**2.31**	**26**	*e*P	Pn	09 19 06.6	-4.1
YAIG				*i* S	Sn	09 19 37.4	-1.7
UTMO	**Huajuapan**	**2.47**	**65**	*e*P	Pn	09 19 09.9	-3.0
UTMO				*i* S	Sn	09 19 38.1	-4.9
PPM	**Popocatepetl**	**2.69**	**32**	*e*P	Pn	09 19 11.9	-4.1
PPM				*i* S	Sn	09 19 44.6	-4.0
PPM	**Popocatepetl**	**2.69**	**32**	*i* P	Pn	09 19 16.9	+0.9
PPM				*i* S	Sn	09 19 47.4	-1.1
UNM	**Universidad Na**	**2.70**	**20**	*e*P	Pn	09 19 18.5	+2.5
MOIG	**Morelia**	**3.05**	**341**	*i* P	Pn	09 19 18.6	-2.2
MOIG				*i* S	Sn	09 19 53.4	-3.8
MOIG	**Morelia**	**3.05**	**341**	*i* P	Pn	09 19 20.5	-0.4
MOIG				*i* S	Sn	09 19 56.0	-1.2
TPIG	**Tehuac#an**	**3.12**	**58**	*i* P	Pn	09 19 18.2	-3.6
TPIG				*i* S	Sn	09 19 55.3	-3.7
VHO	**Vista Hermosa**	**3.28**	**84**	*i* P	Pn	09 19 21.2	-2.8
VHO				*i* S	Sn	09 19 59.2	-3.8
VHO	**Vista Hermosa**	**3.28**	**84**	*i* P	Pn	09 19 23.3	-0.8
VHO				*i* S	Sn	09 20 00.9	-2.1
OXX	**Oaxaca**	**3.29**	**84**	*e*P	Pn	09 19 22.0	-2.2

*NEIC **01** 09:29:38.3, 1567N×9394W, h36km, MD4.0(MEX), After MEX.*
MEX 01 09:29:38.6±1.1**, 1568N**×**9389W, h35**km**, MD4.1, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.60**	**49**	*i* P	Pn	09 30 04.0	-0.4
SCX				*i* S	Sn	09 30 22.0	-1.8
CMIG	**Matias Romero**	**1.70**	**326**	*i* P	Pn	09 30 03.3	-2.5
CMIG				*i* S	Sn	09 30 24.4	-1.9
CMIG	**Matias Romero**	**1.70**	**326**	*i* P	Pn	09 30 03.5	-2.3
CMIG				*i* S	Sn	09 30 24.3	-2.0
CCIG	**Comitan**	**1.79**	**70**	*e*P	Pn	09 30 05.1	-1.9
CCIG				*i* S	Sn	09 30 26.2	-2.3
CCIG	**Comitan**	**1.79**	**70**	*e*P	Pn	09 30 07.3	+0.3
CCIG				*i* S	Sn	09 30 26.2	-2.3
OXX	**Oaxaca**	**3.06**	**298**	*e*P	Pn	09 30 24.5	+0.1
OXX				*i* S	Sn	09 30 59.0	-0.8
VHO	**Vista Hermosa**	**3.06**	**297**	*e*P	Pn	09 30 23.4	-1.1
VHO				*i* S	Sn	09 30 59.0	-0.8
VHO	**Vista Hermosa**	**3.06**	**297**	*e*P	Pn	09 30 23.4	-1.1
VHO				*i* S	Sn	09 30 54.8	-5.0

WEL 01 09:36:33.3±0.2**, 4049S**×**17683E, h12**km**, ML3.7**/26**, 4C-1D, Error ellipse: s-maj=2.3km s-min=1.0km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.45**	**3**	⇑PG	Pg	09 36 42.3	+0.1
PXZ				SG	Sg	09 36 49.2	+0.9
PXZ				SG	Sg	09 36 49.3	+1.0
BFZ	**Birch Farm**	**0.49**	**246**	⇓PG	Pg	09 36 45.7	+2.8
TIWZ	**Tintock**	**0.78**	**248**	P*	Pb	09 36 50.0	+1.2
TSZ	**Takapari Road**	**0.79**	**302**	P*	Pb	09 36 48.6	-0.4
TSZ				SG	Sg	09 36 59.0	+0.1
TSZ				SG	Sg	09 36 59.2	+0.2
MRZ	**Mangatainoka R**	**0.97**	**259**	⇑P*	Pb	09 36 52.3	+0.2
MRZ				*e*SG	Sg	09 37 04.7	-0.1
MTW	**Mount Morrison**	**1.21**	**236**	*e*P*	Pb	09 36 56.2	0.0
BKZ	**Black Stump Fm**	**1.34**	**349**	⇑PN	Pn	09 36 56.5	-1.4
MOVZ	**Moawhango**	**1.36**	**322**	PN	Pn	09 36 57.5	-0.6
PAWZ	**Paruwai Farm**	**1.39**	**229**	P*	Pb	09 36 57.9	-1.4
CAW	**Cannon Point**	**1.48**	**244**	P*	Pb	09 36 59.0	-1.7
WNVZ	**Wahianoa**	**1.50**	**320**	PN	Pn	09 36 59.7	-0.3
KIW	**Kapiti Island**	**1.51**	**255**	⇑PN	Pn	09 36 59.9	-0.3
TUVZ	**Tukino**	**1.52**	**323**	PN	Pn	09 37 00.8	+0.5
MSWZ	**Moikau Station**	**1.52**	**232**	PN	Pn	09 36 59.5	-0.8
MTVZ	**Mangateitei**	**1.52**	**316**	PN	Pn	09 37 00.9	+0.6
TRVZ	**Turoa**	**1.54**	**320**	*e*PN	Pn	09 37 01.3	+0.7
DRZ	**Dome Shelter**	**1.55**	**321**	*e*PN	Pn	09 37 01.1	+0.3
FWVZ	**Far West T-bar**	**1.57**	**321**	PN	Pn	09 37 01.2	+0.1
WAZ	**Wanganui**	**1.59**	**297**	*e*PN	Pn	09 37 01.0	-0.3
NGZ	**Ngauruhoe**	**1.61**	**324**	PN	Pn	09 37 01.8	+0.2
WPVZ	**Whakapapa**	**1.62**	**322**	PN	Pn	09 37 01.9	+0.3
KRVZ	**Karewarewa**	**1.66**	**326**	*e*PN	Pn	09 37 02.9	+0.6
WTVZ	**West Tongariro**	**1.67**	**325**	*e*PN	Pn	09 37 02.8	+0.4
KATZ	**Kakaramea**	**1.74**	**329**	PN	Pn	09 37 04.2	+0.8
RATZ	**Rangitukua**	**1.81**	**333**	*e*PN	Pn	09 37 04.8	+0.5
SNZO	**South Karori**	**1.81**	**242**	PN	Pn	09 37 03.5	-0.8
TCW	**Tory Channel**	**2.07**	**249**	PN	Pn	09 37 06.9	-1.0
MWZ	**Matawai**	**2.21**	**14**	*e*PN	Pn	09 37 06.6	-3.2
URZ	**Urewera**	**2.23**	**6**	PN	Pn	09 37 07.4	-2.7
TAZ	**Tarawera**	**2.26**	**354**	PN	Pn	09 37 09.4	-1.2
HIZ	**Hauiti**	**2.49**	**322**	*e*PN	Pn	09 37 12.4	-1.2

*IDC **01** 10:01:42.1±1.0, 1307N×9331E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/19, mbtmp3.7/8, Error ellipse: s-maj=44.1km s-min=19.6km az=52.0*
*ISCJB **01** 10:01:45.4±1.0, 132N±02×934E±02, h33km, mb3.7/8, Error ellipse: s-maj=34.4km s-min=16.5km az=113.9*
*NEIC **01** 10:01:45.3±0.8, 1307N×9332E, h20km, Error ellipse: s-maj=29.6km s-min=15.1km az=51.0*
ISC 01 10:01:47.8±1.0**, 132N**±01×**934E**±02**, h35**km**, n11,** σ0s**84**/10**, mb3.7**/8**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.65**	**201**	*e*P	Px	10 01 51.1	
PBA				*e*S	Sx	10 02 13.8	
PBA				*e*x	x	10 02 19.1	
	comp=N,1μm,0.5s						
PBA				*e*x	x	10 02 19.1	
	comp=E,1μm,0.6s						
SHL	**Shillong**	**12.37**	**354**	*e*P	**Pn**	**10 04 40.0**	**-1.4**
SONM	**Songino Array**	**36.20**	**15**	P	**P**	**10 08 46.9**	**-0.1**
	comp=E,0.5nm,0.3s,mb3.9,baz=202,slow=9.6,SNR=4.4						
MJAR	**Matsushiro Arr**	**46.33**	**52**	P	**P**	**10 10 11.8**	**+1.6**
	comp=E,0.8nm,0.8s,mb3.7,baz=280,slow=7.4,SNR=4.5						
WRA	**Warramunga Arr**	**52.07**	**129**	P	**P**	**10 10 53.2**	**-0.9**
	comp=E,0.5nm,0.7s,mb3.6,baz=310,slow=8.2,SNR=14						
WRA				PcP	PcP	10 12 06.4	+0.5
	comp=E,0.4nm,0.6s,baz=324,slow=2.9,SNR=8.9						
ASAR	**Alice Springs**	**53.99**	**133**	P	**P**	**10 11 08.0**	**-0.3**
	comp=E,0.3nm,0.4s,mb3.5,baz=308,slow=6.9,SNR=7.7						
FINES	**FINESS Array B**	**67.67**	**331**	P	**P**	**10 12 41.5**	**+0.2**
	comp=E,0.9nm,0.6s,mb4.0,baz=115,slow=9.0,SNR=6.0						
ARCES	**ARCESS Array B**	**70.02**	**340**	P	**P**	**10 12 56.6**	**+0.7**
	comp=E,0.9nm,0.8s,mb3.7,baz=101,slow=6.3,SNR=4.9						
GERES	**GERESS Array B**	**73.38**	**317**	P	**P**	**10 13 16.8**	**+0.6**
	comp=E,0.2nm,0.3s,mb3.5,baz=99,slow=6.1,SNR=6.1						
NB2	**NORSAR Subarra**	**74.74**	**330**	P	**P**	**10 13 23.7**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=89,slow=5.9						
NOA	**NORSAR Array B**	**74.74**	**330**	P	**P**	**10 13 24.1**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=90,slow=5.9,SNR=4.0						

*ISCJB **01** 10:36:37.1±0.7, 24.17S±005×6683W±008, h186km±8km, mb4.0/8, Error ellipse: s-maj=11.8km s-min=7.4km az=8.3*
*NEIC **01** 10:36:37.9±0.6, 24.16S×6681W, h182km±6km, mb4.3/4, Error ellipse: s-maj=10.9km s-min=7.3km az=96.0*
*IDC **01** 10:36:38.5±1.1, 2406S×6679W, h186km±11km, mb3.8/5, mb1 4.0/10, mb1mx3.8/17, mbtmp4.4/10, Error ellipse: s-maj=17.2km s-min=14.2km az=89.0*
*GUC **01** 10:36:40.5±0.6, 2429S×6736W, h220km, ML4.9*
ISC 01 10:36:38.2±0.7**, 2418S**±005×**6685W**±008**, h183**km±7km**, n30,** σ1s**19**/35**, mb4.0**/8**, 4C-1D, Salta Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.45**	**309**	P	**Pn**	**10 37 22.4**	**+2.0**
	72nm,0.3s,baz=129,slow=6.5,SNR=635						
LVC				S	**Sn**	**10 37 54.2**	**+1.0**
	194nm,0.3s,baz=354,slow=19,SNR=54						
CEN1	**Los Morros**	**3.17**	**284**	⇓*i*P	**Pn**	**10 37 31.1**	**+2.2**
CEN1				*i* S	**Sn**	**10 38 09.4**	**+0.9**
CEN1				AML	AML	10 38 12.0	
	comp=N,1μm,0.5s						
CPN1	**Cerro Paranal**	**3.27**	**261**	⇑*i*P	**Pn**	**10 37 31.3**	**+1.1**
CPN1				*i* S	**Sn**	**10 38 10.1**	**-0.7**
CPN1				AML	AML	10 38 11.0	
	comp=E,1μm,0.4s						
ANCH	**Antofagasta**	**3.29**	**278**	⇑*i*P	**Pn**	**10 37 29.4**	**-1.0**
ANCH				*i* S	**Sn**	**10 38 07.7**	**-3.6**
ANCH				AML	AML	10 38 10.4	
	comp=N,4μm,0.2s						
ANCH	**Antofagasta**	**3.29**	**278**	⇑*i*P	**Pn**	**10 37 29.4**	**-1.0**
ANCH				*i* S	**Sn**	**10 38 07.7**	**-3.6**
CRCH	**Chaqaral**	**4.04**	**237**	*e*P	**Pn**	**10 37 40.0**	**+0.2**
CRCH				*i* S	**Sn**	**10 38 26.0**	**-2.1**
CDCH	**Caldera**	**4.61**	**230**	⇑*i*P	**Pn**	**10 37 46.1**	**-0.9**
CDCH				*i* S	**Sn**	**10 38 36.8**	**-4.3**
CFAA	**Coronel Fontan**	**7.50**	**189**	P	**Pn**	**10 38 25.2**	**+0.4**
	comp=N,0.2nm,0.3s,baz=7.5,slow=13,SNR=28						
CFAA				S	**Sn**	**10 39 45.0**	**-4.3**
	comp=N,0.7nm,0.3s,baz=265,slow=21,SNR=15						
LPAZ	**La Paz**	**7.94**	**351**	P	**Pn**	**10 38 31.5**	**+0.9**
	comp=N,1.3nm,0.3s,baz=163,slow=10.0,SNR=51						
LPAZ				S	**Sn**	**10 39 56.3**	**-3.4**
	comp=N,0.1nm,0.3s,baz=2.5,slow=22,SNR=2.4						
SIV	**San Ignacio**	**9.79**	**35**	P	**Pn**	**10 38 53.2**	**-1.5**
	comp=N,2.4nm,0.3s,baz=217,slow=13,SNR=81						
SIV				S	**Sn**	**10 40 32.9**	**-11**
	baz=244,slow=15,SNR=5.1						
TRQA	**Tornquist**	**14.45**	**164**	*e*Pn	**Pn**	**10 39 53.9**	**-0.3**
	comp=N,20nm,1.4s						
PLCA	**Paso Flores**	**16.80**	**190**	P	**Pn**	**10 40 22.9**	**+0.1**
	comp=N,0.2nm,0.3s,baz=6.3,slow=15,SNR=6.2						
BDFB	**Brasilia**	**19.63**	**68**	P	**P**	**10 40 52.9**	**+0.3**
	comp=N,2.6nm,0.3s,baz=248,slow=11,SNR=54						
VNA1	**Neumayer--Stat**	**57.14**	**160**	*e*	**P**	**10 46 06.9**	**+1.3**
VNA1				*e*		10 46 08.2	
CCUT	**Cedar City**	**75.38**	**323**	*e*P	**P**	**10 48 01.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**76.51**	**69**	P	**P**	**10 48 07.3**	**-0.6**
	comp=N,1.1nm,0.5s,mb3.8,baz=258,slow=5.3,SNR=31						
TPNV	**Topopah Spring**	**76.56**	**321**	*e*P	**P**	**10 48 04.5**	**-3.7**
	comp=N,2.1nm,0.4s,mb4.1						
PDAR	**Pinedale Array**	**77.37**	**329**	P	**P**	**10 48 13.0**	**+0.3**
	comp=N,0.6nm,0.6s,mb3.4,baz=129,slow=8.7,SNR=6.9						
ULM	**Lac du Bonnet**	**78.44**	**341**	P	**P**	**10 48 17.1**	**-1.4**
	comp=N,1.6nm,0.5s,mb3.9,baz=164,slow=7.6,SNR=5.5						
LOHW	**Long Hollow**	**78.50**	**329**	*e*P	**P**	**10 48 19.8**	**+0.9**
	comp=N,1.3nm,0.6s,mb3.7						
HLID	**Hailey**	**80.31**	**327**	*e*P	**P**	**10 48 29.5**	**+0.8**
	comp=N,14nm,1.6s,mb4.3						
MAW	**Mawson**	**81.23**	**163**	P	**P**	**10 48 34.4**	**+0.8**
	comp=N,4.6nm,0.6s,mb4.3,baz=236,slow=6.8,SNR=9.7						
EDM	**Edmonton**	**86.98**	**334**	*e*P	**P**	**10 49 01.9**	**-0.7**
YKA	**Yellowknife Ar**	**94.33**	**340**	P	**P**	**10 49 36.0**	**-0.8**
	comp=N,0.9nm,0.5s,mb4.1,baz=132,slow=4.4,SNR=4.1						
YKA	**Yellowknife Ar**	**94.33**	**340**	P	**P**	**10 49 36.0**	**-0.8**
ASAR	**Alice Springs**	**128.35**	**204**	PKP	PKPdf	10 55 23.5	+0.7
	comp=N,1.3nm,0.7s,baz=131,slow=2.1,SNR=12						
WRA	**Warramunga Arr**	**131.53**	**207**	PKP	PKPdf	10 55 29.1	+0.2
	comp=N,1.1nm,0.5s,baz=158,slow=1.8,SNR=32						
ZRNK	**Zerenda**	**136.12**	**37**	*e*PKPdf	PKPdf	10 55 38.2	+0.8
MKAR	**Makanchi Array**	**146.57**	**40**	PKPbc	PKPbc	10 55 56.7	-1.2
	comp=N,2.3nm,0.6s,baz=354,slow=2.4,SNR=19						
MKAR	**Makanchi Array**	**146.57**	**40**	PKPbc	PKPbc	10 55 56.7	-1.2

*ISCJB **01** 10:42:18.8±0.8, 32.19N±005×1422E±0.1, h33km, mb3.7/2, Error ellipse: s-maj=13.7km s-min=5.8km az=149.5*
*JMA **01** 10:42:19.1±0.3, 32.14N×142.12E, h38km, M3.4*
*IDC **01** 10:42:21.6±2.6, 3158N×14069E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.4/20, mbtmp3.6/4, ML3.3/2, MS2.5/1, Ms1 2.5/1, ms1mx2.0/35, Error ellipse: s-maj=114.0km s-min=18.6km az=71.0*
ISC 01 10:42:21.2±0.9**, 3217N**±005×**1421E**±01**, h35**km**, n14,** σ0s**77**/19**, mb3.7**/2**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.13**	**297**	P	**Pn**	**10 42 54.0**	**-0.3**
JHJ2				*e*S	**Sn**	**10 43 19.6**	**+0.1**
JHJ	**Hachijo jima 2**	**2.16**	**297**	Pn	**Pn**	**10 42 53.4**	**-1.3**
	8.9nm,0.3s,baz=90,slow=21,SNR=9.9						
BSO1	**Boso 1**	**2.65**	**340**	P	**Pn**	**10 43 01.2**	**-0.2**
JHU	**Hanno**	**4.35**	**328**	P	**Pn**	**10 43 26.1**	**+1.3**
JHU				S	**Sn**	**10 44 13.6**	**-0.7**
JHO	**Hitachi**	**4.61**	**345**	P	**Pn**	**10 43 28.0**	**-0.4**
JHO				S	**Sn**	**10 44 20.8**	**+0.2**
JRY	**Ryogami san**	**4.66**	**326**	P	**Pn**	**10 43 30.1**	**+1.0**
JAG	**Ashikaga**	**4.77**	**334**	P	**Pn**	**10 43 30.8**	**+0.2**
JAG				S	**Sn**	**10 44 25.0**	**+0.3**
CBIJ	**Chichi jima**	**5.05**	**179**	Pn	**Pn**	**10 43 33.9**	**-0.6**
	4.8nm,0.3s,baz=288,slow=19,SNR=11						
CBIJ				Sn	**Sn**	**10 44 27.2**	**-4.4**
	3.0nm,0.3s,baz=312,slow=23,SNR=3.1						
CBIJ	**Chichi jima**	**5.05**	**179**	P	**Pn**	**10 43 34.0**	**-0.5**
MJAR	**Matsushiro Arr**	**5.41**	**325**	Pn	**Pn**	**10 43 40.3**	**+0.9**
	0.4nm,0.3s,baz=156,slow=12,SNR=6.2						
JMM	**Marumori**	**5.79**	**350**	P	**Pn**	**10 43 44.6**	**+0.1**
JMM				S	**Sn**	**10 44 48.2**	**-1.5**
ASAJ	**Asahikawa**	**11.94**	**2**	LR	LR	10 49 32.5	
	comp=Z,22nm,20.9s,baz=312,slow=34						
MKAR	**Makanchi Array**	**47.30**	**306**	P	**P**	**10 50 52.2**	**+1.0**
	0.3nm,0.3s,mb3.7,baz=88,slow=9.4,SNR=4.4						
WRA	**Warramunga Arr**	**52.34**	**189**	P	**P**	**10 51 29.6**	**+0.1**
	0.5nm,0.5s,mb3.7,baz=5.0,slow=7.7,SNR=12						

*ISCJB **01** 11:07:37.3±1.0, 2984N±005×36.19E±007, h10km, Error ellipse: s-maj=9.1km s-min=6.0km az=66.0*
*GII **01** 11:07:37.1±1.7, 2989N×36.17E, h0km, ML2.0/1*
*HLW **01** 11:07:40.4, 2952N×36.18E, h11km, Mb3.2*
ISC 01 11:07:37.5±1.0**, 2982N**±005×**3621E**±007**, h10**km**, n20,** σ0s**99**/24**, 2C, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.01**	**265**	Pg	**Pg**	**11 07 56.5**	**-0.5**
HRFI	**Mount Harif**	**1.04**	**282**	Pg	**Pg**	**11 07 56.5**	**-1.1**
HRFI				Sg	**Sg**	**11 08 12.4**	**+1.3**
EIL	**Elat**	**1.10**	**263**	Pg	**Pg**	**11 07 58.6**	**-0.1**
MBH	**Mount Berech**	**1.13**	**269**	Pg	**Pg**	**11 07 58.6**	**-0.6**
ZFRI	**Zfri**	**1.16**	**310**	Pg	**Pg**	**11 07 57.7**	**-2.0**
PRNI	**Paran**	**1.17**	**297**	Pg	**Pg**	**11 07 58.4**	**-1.6**
PRNI				Sg	**Sg**	**11 08 15.5**	**+0.2**
HBST	**Basata**	**1.42**	**245**	⇑P	**Pn**	**11 08 04.4**	**+1.0**
HBST				S	**Sn**	**11 08 22.4**	**+0.3**
MZDA	**Masada**	**1.66**	**334**	Pn	**Pn**	**11 08 06.1**	**-0.6**
MASH	**Mash'abbe Sade**	**1.70**	**314**	Pn	**Pn**	**11 08 07.3**	**+0.1**
HDHB	**Dhahab**	**1.77**	**232**	⇑P	**Pn**	**11 08 08.3**	**+0.2**
MKRJ	**Makawir**	**1.80**	**344**	Pn	**Pn**	**11 08 07.7**	**-0.9**
DRGI	**Dragot**	**1.91**	**339**	Pn	**Pn**	**11 08 09.8**	**-0.3**
KZIT	**Kziot**	**1.91**	**305**	Pn	**Pn**	**11 08 10.3**	**+0.2**
AMAZ	**Amatzia**	**2.04**	**327**	Pn	**Pn**	**11 08 11.9**	**0.0**
AMAZ	**Amatzia**	**2.04**	**327**	Pn	**Pn**	**11 08 11.9**	**0.0**
HMDT	**Nahal Hemdat**	**2.50**	**347**	Pn	**Pn**	**11 08 19.9**	**+1.8**
HMDT	**Nahal Hemdat**	**2.50**	**347**	Pn	**Pn**	**11 08 19.9**	**+1.7**
TR2		**2.60**	**237**	P	**Pn**	**11 08 20.1**	**+0.5**
SLTI	**Sal'it**	**2.62**	**338**	Pn	**Pn**	**11 08 19.4**	**-0.4**
SLTI				Sn	**Sn**	**11 08 53.8**	**+2.2**
AMAG	**Maghara**	**2.73**	**288**	P	**Pn**	**11 08 25.0**	**+3.7**

*ISK **01** 11:25:32.3, 3496N×3059E, h87km, ML4.7*
*SZGRF **01** 11:26:09.3, 33.18N×3172E, h33km, mb4.2, Eastern Mediterranean Sea*
*BJI **01** 11:26:26.8, 3549N×3093E, h29km, mB4.7, mb4.6, Ms4.6, Msz4.3*
*CSEM **01** 11:26:30.4±0.0, 3487N×3058E, h50km, mb4.2/18, Mw3.7, Error ellipse: s-maj=1.7km s-min=0.9km az=48.0*
*MOS **01** 11:26:31.3±1.1, 3490N×3061E, h63km, mb4.2/30, Error ellipse: s-maj=7.2km s-min=4.3km az=117.7*
*ISCJB **01** 11:26:31.2±0.2, 3487N±001×3064E±002, h70km±3km, mb4.0/37, Error ellipse: s-maj=2.8km s-min=2.1km az=113.6*
*IDC **01** 11:26:31.7±0.8, 3497N×3059E, h53km±7km, mb3.8/11, mb1 3.9/18, mb1mx3.8/27, mbtmp4.1/18, MS3.1/3, Ms1 3.1/3, ms1mx2.4/40, Error ellipse: s-maj=11.7km s-min=8.2km az=20.0*
*HLW **01** 11:26:32.3, 3500N×3066E, h33km, Mb4.9*
*NEIC **01** 11:26:32.1±0.2, 3491N×3060E, mb4.1/30, Error ellipse: s-maj=5.5km s-min=2.9km az=35.0*
*GRAL **01** 11:26:33.0±1.7, 3490N×3089E, h0km±139km, MD4.0*
*NIC **01** 11:26:35.0±0.3, 3496N×3070E, h25km, mb4.0, ML3.7, MW3.7*
ISC 01 11:26:32.9±0.1**, 3489N**±001×**3064E**±002**, h68**km±3km**, h55**km±3.5km**:pP-P, n304,** σ0s**95**/330**, mb4.0**/37**, 19C-22D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**1.40**	**90**	⇑P	**Pn**	**11 26 56.6**	**+0.2**
ALFC	**Alevga**	**1.63**	**80**	⇑P	**Pn**	**11 26 59.5**	**0.0**
ALFC				S	**Sn**	**11 27 19.0**	**-0.6**
SZAC	**Souni-Zanaja**	**1.85**	**94**	P	**Pn**	**11 27 03.0**	**+0.6**
ELL	**Elmali**	**1.95**	**342**	*i* PN	**Pn**	**11 27 04.5**	**+0.8**
ELL				*i* SN	**Sn**	**11 27 26.5**	**-0.7**
ELL	**Elmali**	**1.95**	**342**	Pn	**Pn**	**11 27 04.5**	**+0.8**
ANTB	**Antalya**	**2.00**	**0**	*i* PN	**Pn**	**11 27 05.3**	**+0.8**
MAMC	**Mammari**	**2.13**	**82**	P	**Pn**	**11 27 06.9**	**+0.6**
FETY	**Fethiye**	**2.15**	**324**	*i* PN	**Pn**	**11 27 06.7**	**+0.2**
FETY				*i* SN	**Sn**	**11 27 31.2**	**-1.0**
FETY	**Fethiye**	**2.15**	**324**	Pn	**Pn**	**11 27 06.7**	**+0.2**
CSS	**Prodhromos**	**2.21**	**87**	P	**Pn**	**11 27 07.5**	**+0.2**
	32nm,0.2s						
CSS				S	**Sn**	**11 27 33.7**	**+0.1**
CSS	**Prodhromos**	**2.21**	**87**	*e*Pn	**Pn**	**11 27 07.3**	**0.0**
CSS				*e*Sn	**Sn**	**11 27 33.4**	**-0.2**
CSS	**Prodhromos**	**2.21**	**87**	*e*Pn	**Pn**	**11 27 07.3**	**0.0**
CSS				*e*Sn	**Sn**	**11 27 33.4**	**-0.2**
ARG	**Arkhangelos**	**2.44**	**304**	*e*P	**Pn**	**11 27 10.0**	**-0.4**
DALT	**Dalyan (Mudla)**	**2.48**	**320**	PN	**Pn**	**11 27 11.1**	**+0.1**
ERMK	**Ermenek**	**2.54**	**46**	*i* P	**Pn**	**11 27 13.7**	**+1.9**
BCK	**Bucak**	**2.56**	**359**	PN	**Pn**	**11 27 12.8**	**+0.7**
PHNC	**Paralimni**	**2.79**	**87**	P	**Pn**	**11 27 16.4**	**+1.3**
IKL	**Isikli**	**2.82**	**61**	PN	**Pn**	**11 27 16.4**	**+0.8**
IKL				SN	**Sn**	**11 27 49.1**	**+0.6**
IKL	**Isikli**	**2.82**	**61**	*e*P	**Pn**	**11 27 16.0**	**+0.4**
KARP	**Karpathos**	**2.92**	**284**	*e*P	**Pn**	**11 27 17.5**	**+0.5**
YER	**Yerkesik**	**2.94**	**320**	PN	**Pn**	**11 27 18.2**	**+0.9**
DNZL	**Cakiroluk**	**3.08**	**336**	*i* P	**Pn**	**11 27 20.2**	**+1.2**
DAT	**Datca**	**3.09**	**307**	PN	**Pn**	**11 27 19.5**	**+0.2**
DENT	**Denizli**	**3.14**	**336**	PN	**Pn**	**11 27 19.9**	**0.0**
TKTP	**Tekketepe**	**3.15**	**355**	*i* P	**Pn**	**11 27 21.8**	**+1.7**
MEST	**Erdemli**	**3.31**	**58**	*i* P	**Pn**	**11 27 23.4**	**+1.1**
MLSB	**Milas**	**3.34**	**317**	PN	**Pn**	**11 27 22.8**	**+0.2**

KONT Konya--Tatoy 3.35 24 PN **Pn** 11 27 23.7 +0.9
BODT Bodrum 3.46 310 PN **Pn** 11 27 24.1 -0.2
AYDN Tasoluk 3.55 322 *i* P **Pn** 11 27 25.9 +0.3
MERS Mersin 3.72 57 PN **Pn** 11 27 29.1 +1.3
XRY Khrisi 4.07 271 *eP* **Pn** 11 27 32.5 -0.1
KIZT Kizilcal 4.10 14 PN **Pn** 11 27 32.9 -0.2
MATL Matirih 4.13 108 *eS* **Sn** 11 28 17.9 -2.6
NPS Neapolis 4.14 277 *eP* **Pn** 11 27 34.5 +0.9
SMG Samos 4.17 314 *eP* **Pn** 11 27 32.0 -1.9
HNTI Hanita 4.17 114 Pn **Pn** 11 27 33.4 -0.7
HNTI S **Sn** 11 28 18.5 -3.1
BHL Bhannes 4.26 102 *eP* **Pn** 11 27 34.4 -0.8
BHL *eS* **Sn** 11 28 19.6 -4.0
OFRI 'Ofer 4.27 121 Pn **Pn** 11 27 34.5 -0.8
KARA Karaisali 4.29 55 PN **Pn** 11 27 36.9 +1.3
GDZ Gediz 4.29 348 *i* P **Pn** 11 27 36.2 +0.6
HBRG Burj al 'Arab 4.36 189 ⇑P **Pn** 11 27 37.9 +1.4
HBRG S **Sn** 11 28 24.1 -1.9
MMAI Mount Meron Ar 4.38 114 P **Pn** 11 27 37.0 +0.2
40nm,0.3s,baz=302,slow=13,SNR=155
MMAI Pg **Pn** 11 27 47.0 +10
44nm,0.3s,baz=316,slow=14,SNR=15
MMAI S **Sn** 11 28 26.4 -0.1
177nm,0.3s,baz=312,slow=24,SNR=21
HWQ Hawqa 4.42 96 *eP* **Pn** 11 27 37.4 -0.1
HWQ *eS* **Sn** 11 28 24.9 -2.7
HWQ Hawqa 4.42 96 *eP* **Pn** 11 27 37.3 -0.1
HWQ *eS* **Sn** 11 28 24.9 -2.7
IZM Izmir 4.43 323 PN **Pn** 11 27 36.7 -0.9
KDAG Bornova 4.43 323 *i* P **Pn** 11 27 37.8 +0.2
KSDI Kefar Szold 4.50 111 Pn **Pn** 11 27 38.2 -0.3
RCY Rachaya 4.51 107 *eP* **Pn** 11 27 38.7 0.0
RCY *eS* **Sn** 11 28 28.3 -1.6
SLTI Sal'it 4.53 125 Pn **Pn** 11 27 38.8 0.0
SLTI S **Sn** 11 28 27.5 -2.6
BLCB Balcova 4.53 321 *e*PN **Pn** 11 27 37.9 -1.0
AKS Akhisar 4.58 331 *e*PN **Pn** 11 27 39.0 -0.6
ESKT Eskisehir 4.62 2 *i* P **Pn** 11 27 40.7 +0.5
SEYT Eskypehyr 4.62 2 *i* P **Pn** 11 27 40.7 +0.5
AANS 4.63 172 ⇑P **Pn** 11 27 41.5 +1.2
HTY Hatay 4.65 73 *e*PN **Pn** 11 27 41.2 +0.7
CEYT Ceyhan 4.65 61 *e*PN **Pn** 11 27 40.6 0.0
MMLI Mount Malkishu 4.68 120 Pn **Pn** 11 27 40.6 -0.3
APE Apeiranthos 4.68 299 *i* P **Pn** 11 27 40.9 -0.1
IDI Anoyia 4.73 276 P **Pn** 11 27 41.5 -0.2
11nm,0.3s,baz=84,slow=12,SNR=31
IDI Pg **Pn** 11 27 53.5 +12
26nm,0.3s,baz=86,slow=15,SNR=31
IDI S **Sn** 11 28 32.3 -3.0
62nm,0.3s,baz=215,slow=22,SNR=16
AMAG Maghara 4.76 152 ⇓P **Pn** 11 27 42.1 +0.1
HMAT Matruh 4.82 219 ⇓P **Pn** 11 27 43.6 +0.8
COBT Iskenderun 4.85 69 *i* P **Pn** 11 27 44.0 +0.8
HMDT Nahal Hemdat 4.85 121 Pn **Pn** 11 27 43.1 -0.2
KOZT Kozan 4.93 57 *e*PN **Pn** 11 27 44.7 +0.4
SQR 5.02 174 ⇑P **Pn** 11 27 46.5 +0.9
KOT Kottamia 5.05 168 ⇓P **Pn** 11 27 46.4 +0.3
HHAG Hagoal 5.08 166 ⇑P **Pn** 11 27 47.1 +0.7
KZIT Kziot 5.08 140 Pn **Pn** 11 27 46.6 +0.2
KZIT S **Sn** 11 28 40.3 -3.3
HMYD Mayadein 5.08 178 ⇓P **Pn** 11 27 47.7 +1.2
KAMT Kaman 5.10 28 *e*PN **Pn** 11 27 46.4 -0.3
RTMM Retamin 5.12 137 Pn **Pn** 11 27 46.6 -0.4
DRGI Dragot 5.16 128 Pn **Pn** 11 27 47.0 -0.6
AYT Al 'Ayyat 5.19 175 ⇓P **Pn** 11 27 48.9 +1.0
FYM Al Fayyum 5.20 176 ⇓P **Pn** 11 27 49.2 +1.2
MASH Mash'abbe Sade 5.22 137 Pn **Pn** 11 27 48.2 -0.1
BALB Balikesir 5.23 336 *e*PN **Pn** 11 27 48.3 -0.1
HNAT Natroun 5.24 180 ⇑P **Pn** 11 27 49.8 +1.1
HNAT Natroun 5.24 180 P **Pn** 11 27 49.8 +1.1
70µm,0.2s
ANTO Ankara 5.26 18 *e*PN **Pn** 11 27 47.9 -0.9
ANTO Ankara 5.26 18 *e*P **Pn** 11 27 47.8 -1.0
ANTO pmax pmax
comp=Z,14nm,0.6s
ANTO Ankara 5.26 18 *e*Pn **Pn** 11 27 47.8 -1.0
comp=Z,14nm,0.6s
ANTO Ankara 5.26 18 *e*Pn **Pn** 11 27 47.8 -1.0
comp=Z,14nm,0.6s
VAM Vamos 5.30 277 *e*P **Pn** 11 27 50.5 +1.0
HSAF As Saff 5.31 171 ⇓P **Pn** 11 27 50.4 +0.7
HSAF S **Sn** 11 28 45.9 -3.6
MZDA Masada 5.33 131 Pn **Pn** 11 27 50.1 +0.2
MZDA S **Sn** 11 28 48.5 -1.5
SUZ 5.37 159 ⇓P **Pn** 11 27 50.5 +0.2
GLL Jalalah 5.38 170 ⇓P **Pn** 11 27 51.0 +0.5
ULDT Uludag 5.38 348 *i* P **Pn** 11 27 51.0 +0.5
BR131 Keskin Array S 5.38 25 *e*Pn **Pn** 11 27 50.9 +0.3
comp=Z,22nm,0.3s
BR131 Keskin Array S 5.38 25 *e*Pn **Pn** 11 27 50.9 +0.3
comp=Z,22nm,0.3s
BRTR Keskin Array B 5.38 25 P **Pn** 11 27 50.8 +0.2
comp=Z,8.4nm,0.3s,baz=213,slow=13,SNR=232
BRTR S **Sn** 11 28 49.8 -1.4
comp=Z,1.2nm,0.3s,baz=184,slow=17,SNR=3.6
BRTR Keskin Array B 5.38 25 P **Pn** 11 27 50.8 +0.2
BRTR S **Sn** 11 28 49.8 -1.4
BRTR pmax pmax
comp=Z,8.0nm,0.3s
BRTR smax
comp=N,1.0nm,0.3s
GVD Gavdhos 5.39 271 *e*Pn **Pn** 11 27 49.9 -0.8
comp=N,69nm,0.4s
GVD *e*Sn **Sn** 11 28 43.9 -7.4
GVD Gavdhos 5.39 271 *e*Pn **Pn** 11 27 49.9 -0.8
comp=N,69nm,0.4s
GVD *e*Sn **Sn** 11 28 43.9 -7.4
GPA Golpazari 5.39 357 *e*PN **Pn** 11 27 51.1 +0.4
ADVT Abdulvahap 5.58 353 *e*PN **Pn** 11 27 52.2 -1.1
MDU Mudurnu 5.58 5 *e*PN **Pn** 11 27 52.7 -0.6
KCT Karacabey 5.66 342 *e*PN **Pn** 11 27 53.1 -1.3
SLUM 5.67 235 P **Pn** 11 27 54.0 -0.6
HNKL Nakhl 5.70 149 ⇓P **Pn** 11 27 54.6 -0.2
BNN Bunyan 5.75 45 *e*PN **Pn** 11 27 55.6 0.0
YLV Yalova 5.75 350 *e*PN **Pn** 11 27 55.3 -0.4
ZFRI Zfri 5.77 137 Pn **Pn** 11 27 55.2 -0.7
SGKT Sivrigoynuk 5.78 11 *i* P **Pn** 11 27 56.7 +0.7
GAZ Gaziantep 5.79 65 *e*PN **Pn** 11 27 56.2 +0.1
ZNM 5.82 160 P **Pn** 11 27 56.7 +0.2
ZAF 5.82 163 ⇑P **Pn** 11 27 56.4 -0.2
PRNI Paran 5.83 140 P **Pn** 11 27 56.4 -0.3
PRNI S **Sn** 11 28 25.1 -3.7
CANB Canakkale 5.86 332 *e*PN **Pn** 11 27 55.6 -1.4
BNT Bandirma 5.87 339 *e*PN **Pn** 11 27 57.1 -0.1
ASF Jabal al Asfar 5.89 116 P **Pn** 11 27 58.5 +1.0
comp=N,2.3nm,0.3s,baz=180,slow=6.1,SNR=20
ASF S **Sn** 11 29 05.3 +1.8
comp=N,4.3nm,0.3s,baz=190,slow=19,SNR=3.3
ASF Jabal al Asfar 5.89 116 P **Pn** 11 27 58.5 +1.1
ASF S **Sn** 11 29 05.3 +1.8
ASF pmax pmax
comp=Z,2.0nm,0.3s
ASF smax
comp=N,4.0nm,0.3s
HBNS Bani Suwayf 5.94 175 ⇑P **Pn** 11 27 59.0 +0.8
HBNS Bani Suwayf 5.94 175 P **Pn** 11 27 59.0 +0.8
comp=N,34µm,0.1s
HRT Hereke 5.97 353 *e*PN **Pn** 11 27 58.5 -0.1
GZT Gaziantep 6.12 64 *i* P **Pn** 11 28 01.8 +1.2
CORM Corum 6.16 30 *e*PN **Pn** 11 28 00.9 -0.2
CANT Cankiri 6.17 22 *e*PN **Pn** 11 28 00.7 -0.7
MBH Mount Berech 6.24 143 Pn **Pn** 11 28 02.1 -0.2
KYTH Kithira 6.35 285 *eP* **Pn** 11 28 02.5 -1.3
EIL Elat 6.36 144 Pn **Pn** 11 28 03.6 -0.3
RKY Sarkoy-Tekirda 6.40 336 *e*PN **Pn** 11 28 04.5 0.0
MFT Murefte 6.46 337 *e*PN **Pn** 11 28 05.0 -0.3
VLI Veliai 6.52 288 *eP* **Pn** 11 28 04.5 -1.6
HRDS Abu Rudays 6.56 159 ⇓P **Pn** 11 28 06.8 +0.1
HBST Basata 6.64 147 ⇓P **Pn** 11 28 07.5 -0.2
TOS Tosya 6.69 23 *e*PN **Pn** 11 28 07.5 -1.0
AWBH 6.71 193 ⇑P **Pn** 11 28 08.7 -0.1
ENEZ Enez 6.83 330 *e*PN **Pn** 11 28 10.2 -0.2
GRB Gharib 6.85 164 ⇑P **Pn** 11 28 10.8 +0.2
HKAT Jabal Katrina 6.96 155 ⇑P **Pn** 11 28 12.0 -0.2
TR2 7.00 157 ⇑P **Pn** 11 28 12.1 -0.5
SWA1 7.00 218 ⇑P **Pn** 11 28 12.3 -0.4
SWA1 S **Sn** 11 29 26.2 -4.6
HDHB Dhahab 7.02 150 ⇓P **Pn** 11 28 12.9 0.0
URFA Urfa 7.09 67 *e*PN **Pn** 11 28 14.0 +0.1
SVSK Karacayir 7.12 43 *e*PN **Pn** 11 28 14.4 0.0
MALT Malatya 7.13 59 *eP* **Pn** 11 28 14.2 -0.3
MALT *e* 11 29 30.5
MALT pmax pmax
comp=Z,19nm,0.6s
MALT Malatya 7.13 59 *e*Pn **Pn** 11 28 14.2 -0.3
comp=Z,19nm,0.6s
MALT *e*Sn **Sn** 11 29 30.5 -3.5
MYA Malataya 7.14 59 *e*PN **Pn** 11 28 14.3 -0.3
SWA2 7.14 219 ⇓P **Pn** 11 28 13.9 -0.8
TR1 7.42 157 ⇓P **Pn** 11 28 18.4 0.0
ASUT 7.51 174 ⇓P **Pn** 11 28 20.3 +0.6
EDRB Edirne 7.59 337 *e*PN **Pn** 11 28 19.7 -1.0
HHRG Al Ghardaqah 8.05 161 ⇑P **Pn** 11 28 26.9 -0.2
HSFG 8.77 160 ⇑P **Pn** 11 28 36.7 -0.1
GTR Jabal at Tayr 9.35 180 ⇓P **Pn** 11 28 44.5 -0.3
AKRG Al Kharijah 9.36 181 ⇑P **Pn** 11 28 44.5 -0.4
HDK1 Dakhla 9.38 187 ⇓P **Pn** 11 28 45.1 -0.1
HQSR 9.66 159 P **Pn** 11 28 48.8 -0.3
HEDF Idfu 10.01 167 ⇓P **Pn** 11 28 53.9 +0.1
EMRS Mersa Alam 10.49 159 ⇓P **Pn** 11 29 00.7 +0.3
SOC Sochi 11.17 36 ⇓*i*P **Pn** 11 29 10.3 +0.7
SOC *e* 11 31 17.1
SOC pmax pmax
comp=Z,24nm,1.0s
MLR Muntele Rosu 11.18 343 P **Pn** 11 29 09.0 -0.7
comp=Z,0.2nm,0.3s,baz=101,slow=6.6,SNR=3.1
HKFR Khafra 12.27 177 ⇑P **Pn** 11 29 24.7 0.0
GNI Garni 12.36 61 P **Pn** 11 29 27.9 +2.1
comp=Z,0.9nm,0.3s,baz=169,slow=16,SNR=3.8
KIV Kislovodsk 12.97 42 ⇓*e*P **Pn** 11 29 37.0 +2.8
KIV pmax pmax
comp=Z,21nm,1.2s
KIV Kislovodsk 12.97 42 *e*Pn **Pn** 11 29 32.3 -1.9
comp=Z,9.7nm,0.8s
KIV Kislovodsk 12.97 42 *e*Pn **Pn** 11 29 32.3 -1.9
comp=Z,9.7nm,0.8s
ZEI Tsey 12.98 49 *e*P **Pn** 11 29 36.7 +2.4
AKASG Malin Array Be 15.84 357 P **Pn** 11 30 10.0 -1.5
comp=Z,0.7nm,0.3s,baz=181,slow=10,SNR=7.3
AKASG Malin Array Be 15.84 357 *i* P **Pn** 11 30 13.3 +1.8
AKASG pmax pmax
comp=Z,2.0nm,0.5s
VRHR Novokhopersk 18.05 23 *e*P **Pn** 11 30 39.7 +0.8
VRHR pmax pmax
comp=Z,20nm,0.5s
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.5s
DPC Dobruska-Polom 18.65 330 *e*P **Pn** 11 30 40.9 -5.2
DPC *e*pP pP 11 30 50.4 -8.8
DPC Dobruska-Polom 18.65 330 *e*P **Pn** 11 30 50.4 +4.3
comp=E,13nm,0.4s
GERES GERESS Array B 18.74 323 P **Pn** 11 30 46.5 -0.8
comp=E,0.6nm,0.3s,baz=129,slow=7.7,SNR=19
GERES GERESS Array B 18.74 323 P **Pn** 11 30 46.5 -0.8
GERES pmax pmax
comp=Z,1.0nm,0.3s
KHC Kasperske Hory 18.99 324 *e*P **Pn** 11 30 49.5 -0.8
KHC *e*pP pP 11 30 58.0 -5.0
PVCC Panska Ves 19.52 328 *e*P **Pn** 11 30 55.6 -0.9
DAVOX Davos 19.63 314 LR LR 11 39 03.5
comp=Z,45nm,19.4s,baz=262,slow=38
SBF Sospel 20.00 304 *e*P **P** 11 31 01.2 +1.4
comp=Z,40nm,1.1s
SBF Sospel 20.00 304 *e*P **P** 11 31 01.2 +1.4
SBF pmax pmax
comp=Z,20nm,1.1s
SBF Sospel 20.00 304 *e*P **P** 11 31 01.2 +1.4
comp=Z,20nm,1.1s
BRG Berggiesshubel 20.05 328 *e*P **P** 11 31 00.7 +0.4
comp=Z,1.9nm,0.7s
BRG *e* 11 31 12.3
comp=Z,2.0nm,0.8s
BRG Berggiesshubel 20.05 328 *e*P **P** 11 31 00.7 +0.4
BRG pmax pmax
comp=Z,2.0nm,0.7s
BRG pmax pmax
comp=Z,2.0nm,0.8s
NKC Novy Kostel 20.28 325 *e*P **P** 11 31 03.1 +0.2
FRF La Foret Royal 20.45 302 *e*P **P** 11 31 06.9 +2.2
comp=Z,20nm,0.9s
FRF La Foret Royal 20.45 302 *e*P **P** 11 31 06.9 +2.2
FRF pmax pmax
comp=Z,10.0nm,0.9s
FRF La Foret Royal 20.45 302 *e*P **P** 11 31 06.9 +2.2
comp=Z,10nm,0.9s
LMR La Mourre 20.48 302 *e*P **P** 11 31 07.0 +1.9
comp=Z,7.6nm,0.7s
LMR La Mourre 20.48 302 *e*P **P** 11 31 07.0 +1.9
LMR pmax pmax
comp=Z,4.0nm,0.7s
LMR La Mourre 20.48 302 *e*P **P** 11 31 07.0 +1.9
comp=Z,3.8nm,0.7s
GRA1 Grafenberg Arr 20.53 322 *e*P **P** 11 31 05.4 -0.2
comp=Z,10.0nm,1.3s
GRF Grafenberg Arr 20.53 322 *e*P **P** 11 31 05.4 -0.2
comp=Z,10.0nm,1.3s
GRF Grafenberg Arr 20.53 322 *e*P **P** 11 31 05.4 -0.2
GRF pmax pmax
comp=Z,10.0nm,1.3s
GRF Grafenberg Arr 20.53 322 *e*P **P** 11 31 05.4 -0.2
GRF pmax pmax
comp=Z,10.0nm,1.3s
OBN Obninsk 20.64 10 *e*P **P** 11 31 09.0 +2.3
OBN pmax pmax
comp=Z,6.0nm,0.6s
MBDF Montbardon 20.74 305 *e*P **P** 11 31 07.8 0.0
comp=Z,10nm,0.5s
MBDF Montbardon 20.74 305 *e*P **P** 11 31 07.8 0.0
MBDF pmax pmax
comp=Z,5.0nm,0.5s
MBDF Montbardon 20.74 305 *e*P **P** 11 31 07.8 0.0
comp=Z,5.2nm,0.5s
CLL Collm 20.77 328 P **P** 11 31 10.3 +2.1
comp=Z,logA/T=0.8
CLL *i* *PP 11 31 22.2
CLL Collm 20.77 328 *i* (P) **P** 11 31 10.3 +2.1
comp=Z,6.0nm,1.0s
CLL *i* pP 11 31 22.2
CLL Collm 20.77 328 *i* P **P** 11 31 10.3 +2.1
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 20.77 328 *i* P **P** 11 31 10.3 +2.1
comp=Z,6.0nm,1.0s
CLL *i* pP 11 31 22.2
BNI Bardonecchia 20.91 306 *e*P **P** 11 31 07.0 -2.7
BNI pmax pmax
comp=Z,11nm,0.8s
BNI Bardonecchia 20.91 306 *e*P **P** 11 31 07.0 -2.7
comp=Z,11nm,0.8s
MOX Moxa 20.95 325 *e*P **P** 11 31 10.7 +0.6
comp=Z,14nm,0.8s
MOX *e* 11 31 22.4
LPG La Plagne 21.03 307 *e*P **P** 11 31 12.5 +1.6
comp=Z,37nm,0.6s,mb4.6
LPG La Plagne 21.03 307 *e*P **P** 11 31 12.5 +1.6
LPG pmax pmax
comp=Z,18nm,0.6s,mb4.6
LPG La Plagne 21.03 307 *e*P **P** 11 31 12.5 +1.6
comp=Z,18nm,0.6s,mb4.6
LPL La Plagne 21.05 307 *e*P **P** 11 31 12.6 +1.5
comp=Z,80nm,0.7s,mb4.8
LPL La Plagne 21.05 307 *e*P **P** 11 31 12.6 +1.5
LPL pmax pmax
comp=Z,40nm,0.7s,mb4.9
LPL La Plagne 21.05 307 *e*P **P** 11 31 12.6 +1.5
comp=Z,40nm,0.7s,mb4.8
ORIF Oris-en-Rattie 21.40 305 *e*P **P** 11 31 15.5 +0.6
CABF La Chapelle 21.88 310 *e*P **P** 11 31 20.8 +0.7
comp=Z,18nm,0.6s,mb4.3
CABF La Chapelle 21.88 310 *e*P **P** 11 31 20.8 +0.7
CABF pmax pmax
comp=Z,9.0nm,0.6s,mb4.3
CABF La Chapelle 21.88 310 *e*P **P** 11 31 20.8 +0.7
comp=Z,8.9nm,0.6s,mb4.3
HINF Hinteralfeld 21.93 313 *e*P **P** 11 31 20.7 +0.1
CDF Champ du Feu 21.96 315 *e*P **P** 11 31 20.9 0.0
VIVF Saint-Julien-l 22.19 304 *e*P **P** 11 31 22.7 -0.7
comp=Z,9.0nm,0.8s,mb3.8
VIVF Saint-Julien-l 22.19 304 *e*P **P** 11 31 22.7 -0.7
VIVF pmax pmax
comp=Z,5.0nm,0.8s,mb3.9
VIVF Saint-Julien-l 22.19 304 *e*P **P** 11 31 22.7 -0.7
comp=Z,4.5nm,0.8s,mb3.8
LASF Ste Croix 22.54 302 *e*P **P** 11 31 27.0 0.0
comp=Z,10nm,1.0s,mb3.8
LASF Ste Croix 22.54 302 *e*P **P** 11 31 27.0 0.0
comp=Z,5.2nm,1.0s,mb3.8
SMF Signal de Mont 23.33 308 *e*P **P** 11 31 34.5 -0.5
comp=Z,8.5nm,0.7s,mb3.9
SMF Signal de Mont 23.33 308 *e*P **P** 11 31 34.5 -0.5
SMF pmax pmax
comp=Z,4.0nm,0.7s,mb3.9
SMF Signal de Mont 23.33 308 *e*P **P** 11 31 34.5 -0.5
comp=Z,12nm,0.7s,mb3.9
MTLF Montolieu 23.53 300 *e*P **P** 11 31 36.7 -0.1
comp=Z,8.3nm,1.1s,mb3.7
MTLF Montolieu 23.53 300 *e*P **P** 11 31 36.7 -0.1
MTLF pmax pmax
comp=Z,4.0nm,1.1s,mb3.7
MTLF Montolieu 23.53 300 *e*P **P** 11 31 36.7 -0.1
comp=Z,4.2nm,1.1s,mb3.7
LOR Lormes 23.55 310 *e*P **P** 11 31 36.6 -0.4
comp=Z,7.8nm,0.6s,mb3.9
LOR Lormes 23.55 310 *e*P **P** 11 31 36.6 -0.4
LOR pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
LOR Lormes 23.55 310 *e*P **P** 11 31 36.6 -0.4
comp=Z,3.9nm,0.6s,mb3.9
SSF Saint Saulge 23.69 309 *e*P **P** 11 31 38.1 -0.2
comp=Z,23nm,0.8s,mb4.2
SSF Saint Saulge 23.69 309 *e*P **P** 11 31 38.1 -0.2
SSF pmax pmax
comp=Z,12nm,0.8s,mb4.3
SSF Saint Saulge 23.69 309 *e*P **P** 11 31 38.1 -0.2
comp=Z,12nm,0.8s,mb4.2
AVF Avril sur Loir 23.70 308 *e*P **P** 11 31 37.9 -0.4
comp=Z,4.3nm,0.5s,mb3.8
AVF Avril sur Loir 23.70 308 *e*P **P** 11 31 37.9 -0.4
AVF pmax pmax
comp=Z,2.0nm,0.5s,mb3.7
AVF Avril sur Loir 23.70 308 *e*P **P** 11 31 37.9 -0.4
comp=Z,2.2nm,0.5s,mb3.8
BGF Bois d'Agland 23.95 308 *e*P **P** 11 31 40.7 +0.1
comp=Z,6.9nm,0.6s,mb3.9
BGF Bois d'Agland 23.95 308 *e*P **P** 11 31 40.7 +0.1
BGF pmax pmax
comp=Z,3.0nm,0.6s,mb3.8
BGF Bois d'Agland 23.95 308 *e*P **P** 11 31 40.7 +0.1
comp=Z,3.5nm,0.6s,mb3.9
CAF Calviac 23.99 303 *e*P **P** 11 31 41.6 +0.5
GIVF Givet 24.19 317 *e*P **P** 11 31 42.7 -0.2
TCF Toulx Ste Croi 24.28 307 *e*P **P** 11 31 44.0 +0.3
comp=Z,16nm,0.8s,mb4.1
TCF Toulx Ste Croi 24.28 307 *e*P **P** 11 31 44.0 +0.3
TCF pmax pmax
comp=Z,8.0nm,0.8s,mb4.1
TCF Toulx Ste Croi 24.28 307 *e*P **P** 11 31 44.0 +0.3
comp=Z,7.8nm,0.8s,mb4.1
DOU Dourbes 24.32 317 ⇑P **P** 11 31 40.4 -3.6
RJF Les Rejaudoux 24.46 304 *e*P **P** 11 31 45.9 +0.5
comp=Z,6.4nm,0.5s,mb3.9
RJF Les Rejaudoux 24.46 304 *e*P **P** 11 31 45.9 +0.5
RJF pmax pmax
comp=Z,3.0nm,0.5s,mb3.9
RJF Les Rejaudoux 24.46 304 *e*P **P** 11 31 45.9 +0.5
comp=Z,3.2nm,0.5s,mb3.9
BAIF Baives 24.52 316 *e*P **P** 11 31 45.9 0.0
comp=Z,15nm,0.9s,mb4.1
BAIF Baives 24.52 316 *e*P **P** 11 31 45.9 0.0
BAIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.1
BAIF Baives 24.52 316 *e*P **P** 11 31 45.9 0.0
comp=Z,7.4nm,0.9s,mb4.1
EPF Esparros 24.82 298 *e*P **P** 11 31 49.3 +0.7
LFF La Fresiale 24.91 303 *e*P **P** 11 31 49.4 0.0
AKTK Aktyubinsk 25.23 44 P **P** 11 31 52.6 +0.3
AKTO Aktyubinsk 25.23 44 P **P** 11 31 52.6 +0.3
comp=Z,2.3nm,0.5s,mb3.9,baz=244,slow=8.8,SNR=6.7
AKTO Aktyubinsk 25.23 44 P **P** 11 31 52.6 +0.3
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb3.8
ETSF Etsaut 25.46 298 *e*P **P** 11 31 55.0 +0.6
MFF Saint Martin d 25.93 306 *e*P **P** 11 31 58.7 +0.1
comp=Z,8.3nm,0.6s,mb4.1
MFF Saint Martin d 25.93 306 *e*P **P** 11 31 58.7 +0.1
MFF pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
MFF Saint Martin d 25.93 306 *e*P **P** 11 31 58.7 +0.1
comp=Z,4.2nm,0.6s,mb4.1
SJPF Ste Jean 25.97 298 *e*P **P** 11 31 59.2 +0.2
comp=Z,12nm,1.0s,mb4.0
SJPF Ste Jean 25.97 298 *e*P **P** 11 31 59.2 +0.2
SJPF pmax pmax
comp=Z,6.0nm,1.0s,mb4.0
SJPF Ste Jean 25.97 298 *e*P **P** 11 31 59.2 +0.2
comp=Z,6.2nm,1.0s,mb4.0
LDF La Druitiere 26.52 310 *e*P **P** 11 32 02.9 -1.1
comp=Z,2.1nm,0.4s,mb3.7
LDF La Druitiere 26.52 310 *e*P **P** 11 32 02.9 -1.1
LDF pmax pmax
comp=Z,1.0nm,0.4s,mb3.7
LDF La Druitiere 26.52 310 *e*P **P** 11 32 02.9 -1.1
comp=Z,1.0nm,0.4s,mb3.7
FINES FINESS Array B 26.73 355 P **P** 11 32 03.8 -2.0
comp=Z,1.2nm,0.4s,mb3.8,baz=157,slow=13,SNR=16
FINES pP pP 11 32 18.5 -3.6
comp=Z,1.7nm,0.4s,baz=167,slow=12,SNR=6.0
FINES PcP PcP 11 35 27.2 -0.4
comp=Z,0.5nm,0.4s,baz=170,slow=2.6,SNR=4.7
FINES LR LR 11 43 29.8
comp=Z,36nm,18.2s,baz=357,slow=38
FINES FINESS Array B 26.73 355 P **P** 11 32 03.8 -2.1
FINES *PP pP 11 32 18.5 -3.6
FINES 11 35 27.2
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES MLR MLR
comp=Z,36nm,18.2s
FINES FINESS Array B 26.73 355 P **P** 11 32 03.8 -2.0
FINES pP pP 11 32 18.5 -3.6
FINES PcP PcP 11 35 27.2 -0.4
FINES FINESS Array B 26.73 355 pP pP 11 32 18.5 -3.6
FLN La Foliniere 26.80 311 *eP* **P** 11 32 05.0 -1.5
GRR Gorron 26.91 310 *eP* **P** 11 32 08.3 +0.8
KAF Kangasniemi 27.38 356 *ep* **P** 11 32 10.6 -1.1
comp=Z,0.7nm,0.3s,mb3.7
KAF Kangasniemi 27.38 356 *eP* **P** 11 32 10.6 -1.1
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb3.8
HFS Hagfors 27.56 342 P **P** 11 32 12.2 -1.1
comp=Z,0.4nm,0.3s,mb3.4,baz=228,slow=42,SNR=3.7
ESDC Sonseca Array 27.84 290 P **P** 11 32 15.1 -0.7
comp=Z,1.9nm,0.8s,mb3.7,baz=88,slow=9.1,SNR=10
SGMF Saint Gilles 27.96 309 *eP* **P** 11 32 17.2 +0.4
JOF Joensuu 28.05 1 *ep* **P** 11 32 16.0 -1.7
comp=Z,0.6nm,0.3s,mb3.6
JOF Joensuu 28.05 1 *eP* **P** 11 32 16.0 -1.7
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb3.8
ROSF Rostrenen 28.44 309 *eP* **P** 11 32 20.0 -1.1
ARU Arti 28.72 33 *eP* **P** 11 32 23.2 -0.4
ARU *e* 11 33 14.2
ARU *e* 11 35 27.7
ARU *e*S **S** 11 37 07.6 -0.3
ARU *e*SS SS 11 38 33.4 -38
ARU Arti 28.72 33 *eP* **P** 11 32 19.0 -4.6
comp=Z,3.6nm,0.3s,mb4.5
NB2 NORSAR Subarra 28.98 340 P **P** 11 32 33.6 +7.6
comp=Z,0.7nm,0.6s,mb3.5,baz=143,slow=10
NOA NORSAR Array B 28.98 340 P **P** 11 32 25.2 -0.8
comp=Z,0.2nm,0.7s,baz=140,slow=9.0,SNR=2.2
MDT Midelt 29.26 276 P **P** 11 32 30.0 +1.5
comp=Z,1.7nm,0.8s,mb3.7,baz=69,slow=9.9,SNR=6.5
APA Apatity 32.76 2 *eP* **P** 11 33 02.5 +3.3
BVAR Borovoye Array 33.32 45 LR LR 11 49 48.6
comp=Z,28nm,18.1s,baz=324,slow=42
TORD Torodi Ar. Bea 33.96 238 P **P** 11 33 10.1 +0.4
comp=Z,1.9nm,0.7s,mb4.0,baz=37,slow=7.8,SNR=12
TORD PcP PcP 11 35 46.8 +0.3
comp=Z,0.2nm,0.5s,baz=26,slow=2.7,SNR=4.3
TORD Torodi Ar. Bea 33.96 238 P **P** 11 33 10.1 +0.4
TORD PcP PcP 11 35 46.8 +0.3
AAK Ala-Archa 34.74 64 *eP* **P** 11 33 17.2 +0.8
AAK *e*PP pP 11 33 30.5 -2.5
AAK pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
AAK Ala-Archa 34.74 64 *eP* **P** 11 33 17.2 +0.7
comp=Z,2.3nm,0.5s,mb4.3

AAK ePP pP 11 33 30.5 -2.5
AAK Ala-Archa 34.74 64 eP P 11 33 17.2 +0.8
comp=Z,2.3nm,0.5s,mb4.3
AAK epP pP 11 33 30.5 -2.5
ARCES ARCESS Array B 34.81 357 P P 11 33 15.6 -1.4
comp=Z,1.1nm,0.5s,mb3.9,baz=161,slow=7.7,SNR=21
ARCES pP pP 11 33 29.1 -4.5
comp=Z,1.2nm,0.5s,baz=161,slow=7.7,SNR=4.3
ARCES ARCESS Array B 34.81 357 P P 11 33 15.6 -1.5
ARCES *PP pP 11 33 29.1 -4.5
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 34.81 357 pP pP 11 33 29.1 -4.5
MKAR Makanchi Array 40.17 57 P P 11 34 02.8 +0.6
comp=Z,0.9nm,0.6s,mb3.8,baz=276,slow=6.7,SNR=12
MKAR pP pP 11 34 16.6 -2.5
comp=Z,6.5nm,0.6s,baz=281,slow=6.6,SNR=36
MKAR Makanchi Array 40.17 57 P P 11 34 02.8 +0.5
MKAR *PP pP 11 34 16.6 -2.5
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR pmax pmax
comp=Z,7.0nm,0.6s
WMQ Urumqi 44.23 61 P P 11 34 34.2 -1.1
WMQ PP PP 11 36 20.2 +0.7
WMQ AMB AMB
comp=Z,4.0nm,1.1s,mb4.1
WMQ AMB AMB
comp=Z,31nm,3.9s
WMQ LR LR
comp=N,72nm,10.3s
WMQ LR LR
comp=E,54nm,9.2s
WMQ LR LR
comp=Z,70nm,10.8s
TLY Talaya 53.47 48 eP P 11 35 47.0 +0.9
TLY e 11 43 34.1
TLY pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
TLY MLR MLR
comp=Z,171nm,20.0s
SONM Songino Array 56.15 52 pP pP 11 36 20.6 -2.4
comp=Z,1.7nm,0.6s,baz=264,slow=7.4,SNR=3.5
LZH Lanzhou 58.24 66 eP P 11 36 16.0 -4.2
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,53nm,4.4s
CD2 Chengdu 60.25 71 eP P 11 36 29.0 -5.0
KMI Kunming 62.00 78 P P 11 36 46.5 +0.6
KMI AMB AMB
comp=Z,6.0nm,1.1s,mb4.5
BOSA Boshof 63.37 185 P P 11 36 56.4 +1.5
comp=Z,2.5nm,0.6s,mb4.3,baz=355,slow=5.7,SNR=7.7
BOSA Boshof 63.37 185 P P 11 36 56.4 +1.5
BOSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
SCHQ Schefferville 66.26 321 P P 11 37 12.9 -0.8
comp=Z,2.6nm,0.5s,mb4.3,baz=238,slow=19,SNR=8.2
CN2 Changchun 69.95 50 eP P 11 37 34.9 -2.0
CN2 eS S 11 46 35.1 -6.6
NJ2 Nanjing 71.19 64 eP P 11 37 46.8 +2.4
NJ2 PP PP 11 40 20.4 -2.5
MDJ Mudanjiang 72.11 48 P P 11 37 45.6 -4.3
MDJ AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
MDJ AMB AMB
comp=Z,35nm,4.3s
CPCT Cooper Cave 87.51 312 eP P 11 39 12.1 -1.1
HBAR Harrisburg 91.06 316 eP P 11 39 27.9 -1.9

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*IDC **01** 11:38:02.6±0.5, 17.99N×121.11E, h0km, mb4.4/25, mb1 4.5/26, mb1mx4.5/30, mbtmp4.5/26, ML4.2/1, MS3.9/16, Ms1 3.9/16, ms1mx3.7/30, Error ellipse: s-maj=18.7km s-min=13.4km az=63.0*
*MOS **01** 11:38:07.5±0.9, 17.98N×121.11E, h48km, mb4.9/26, MS4.0/6, Error ellipse: s-maj=13.9km s-min=6.5km az=108.7*
*NEIC **01** 11:38:08.0±0.3, 18.04N×121.14E, mb4.7/22, MS4.1/1, Error ellipse: s-maj=8.8km s-min=6.6km az=99.0*
NEIC Felt [II PIVS] at Pasuquin, Sanchez Mira, Santa, Santa Domingo and Sinait.
*ISCJB **01** 11:38:08.3±0.2, 18.29N±0.02×120.97E±0.04, h34km, mb4.6/66, MS3.9/29, Error ellipse: s-maj=5.0km s-min=2.7km az=170.2*
*MAN **01** 11:38:08.5, 18.25N×120.88E, h17km, mb4.5, ML5.3, MS2.0*
MAN F INTENSITY II - PASUQUIN & PAOAY.
*BJI **01** 11:38:08.0, 18.23N×121.07E, h24km, mB4.8, mb4.5, ML4.2, Ms4.1, Msz3.9*
ISC 01 11:38:09.8±0.2, **18.22N**±0.02×**121.01E**±0.03, **h35km**, **h35km**±1.4km**: pP-P, n182, σ1.44**/200, **mb4.6**/66, **MS3.9**/29, **7C-11D, Luzon**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
APYP Conner 0.42 148 eP Pn 11 38 19.1 -0.3
APYP eS Sn 11 38 26.4 +0.5
ABRA Dolores 0.64 206 eP Pn 11 38 20.6 -1.7
ABRA eS Sn 11 38 30.1 -1.0
CVP Callao Caves 0.93 124⇓iP Pn 11 38 26.5 +0.2
CVP i S Sn 11 38 43.0 +4.6
SGCP Mt. Cagua 0.99 89 eP Pn 11 38 27.6 +0.5
CAUP Cauayan 1.49 148 eP Pn 11 38 37.0 +2.9
PALP Palanan 1.77 130⇑iP Pn 11 38 40.9 +2.9
PALP i S Sn 11 39 10.7 +11
PALP Palanan 1.77 130 eP Pn 11 38 41.0 +3.0
BCPH Baguio City Da 1.88 193⇓eP Pn 11 38 38.9 -0.5
BCPH i S Sn 11 39 04.5 +2.7
BOLP Bolinao 2.11 210 eP Pn 11 38 43.5 +1.0
BALP Baler 2.52 168 eP Pn 11 38 49.5 +1.2
PCPH Palayan 2.65 178⇓eP Pn 11 38 51.6 +1.7
PCPH i S Sn 11 39 28.5 +7.8
SCZP Santa Cruz 2.65 204 eP Pn 11 38 51.3 +1.3
POLP Polilio Island 3.59 165 eP Pn 11 39 05.2 +2.3
TGY Tagaytay City 4.10 181 Pn Pn 11 39 12.3 +2.5
59nm,0.3s,baz=309,slow=5.0,SNR=4.6
GQP Guinayangan 4.51 162⇑eP Pn 11 39 18.3 +2.7
GQP i S Sn 11 40 11.8 +5.0
LUBP Lubang 4.52 189 eP Pn 11 39 15.2 -0.5
BOAC Boac 4.80 170 eP Pn 11 39 23.7 +4.1
AUQP San Andres 5.13 162 eP Pn 11 39 34.2 +10
PVCP Virac 5.50 146⇓iP Pn 11 39 28.9 -0.3
PVCP i S Sn 11 40 53.9 +23
PVCP Virac 5.50 146 eP Pn 11 39 30.4 +1.2
OTRP Odiongan 5.91 170 eP Pn 11 39 36.8 +2.1
NACB Ninganchiao 5.95 5 ePn Pn 11 39 36.2 +0.9
NACB eSn Sn 11 40 43.0 +0.8
BUSP Coron 6.23 187 eP Pn 11 39 39.6 +0.4
YHNB Yeheng 6.43 3 ePn Pn 11 39 44.6 +2.7
YHNB eSn Sn 11 40 56.2 +2.3
TATO Taipei 6.74 4 ePn Pn 11 39 48.7 +2.6
QZH Quanzhou 7.06 342 P Pn 11 39 46.2 -4.3
QZH S Sn 11 41 03.8 -5.7
QZH Smax
comp=N,70nm,0.8s
QZH Smax
comp=E,140nm,0.9s
QZH LR LR
comp=N,1μm,15.2s
QZH LR LR
comp=E,700nm,12.6s
QZH LR LR
comp=Z,1μm,17.6s
ENPP El Nido 7.14 193 eP Pn 11 39 51.7 +0.1
QIZ Qiongzhong 10.62 276 ePn Pn 11 40 37.1 -2.3
comp=Z,33nm,0.7s
JOW Kunigami 10.88 37 Pn Pn 11 40 41.6 -1.4
comp=Z,3.5nm,0.3s,baz=226,slow=10,SNR=16
JOW LR LR 11 44 47.4
comp=Z,336nm,21.1s,baz=244,slow=37
SSE Sheshan 12.82 1 P Pn 11 41 12.9 +3.5
SSE XP 11 41 25.2
SSE S Sn 11 43 37.4 +6.6
SSE AMB AMB
comp=Z,20nm,0.9s
SSE AMB AMB
comp=Z,79nm,4.2s
SSE LR LR
comp=N,79nm,18.7s
SSE LR LR
comp=E,238nm,18.6s
SSE LR LR
comp=Z,177nm,17.1s
NJ2 Nanjing 13.91 352 eP Pn 11 41 27.8 +3.5
NJ2 AP 11 41 35.1
NJ2 PP 11 41 40.1
NJ2 S Sn 11 44 05.0 +7.6
NJ2 AMB AMB
comp=Z,10.0nm,0.8s
NJ2 AMB AMB
comp=Z,70nm,3.9s
NJ2 LR LR
comp=N,800nm,14.9s
NJ2 LR LR
comp=E,470nm,9.6s
NJ2 LR LR
comp=Z,3μm,15.6s
GYA Guiyang 15.59 304 eP Pn 11 41 46.9 +0.1
GYA AP pP 11 41 54.5 -5.3
GYA XP sP 11 41 59.2 -5.1
GYA S S 11 44 50.8 -2.0
GYA SS 11 44 57.4
GYA AMB AMB
comp=Z,10.0nm,0.6s
GYA AMB AMB
comp=Z,90nm,3.2s
GYA LR LR
comp=N,420nm,15.4s
GYA LR LR
comp=E,480nm,15.2s
GYA LR LR
comp=Z,460nm,15.0s
TIA Tai'an 18.25 350 eP Pn 11 42 23.8 +3.7
KMI Kunming 18.30 295 P Pn 11 42 24.7 +3.9
KMI AP pP 11 42 34.5 +4.6
KMI XP sP 11 42 38.6 +4.2
KMI PP 11 42 41.9
KMI S S 11 45 46.4 -1.7
KMI SS 11 46 12.3
KMI AMB AMB
comp=Z,6.0nm,1.5s
KMI AMB AMB
comp=Z,210nm,5.4s
KMI LR LR
comp=N,241nm,15.2s
KMI LR LR
comp=E,629nm,16.7s
KMI LR LR
comp=Z,787nm,16.7s
XAN Xi'an 19.10 328 P Pn 11 42 30.8 +0.4
XAN AMB AMB
comp=Z,18nm,1.4s
KSM Kuching 19.68 213 eP Pn 11 42 35.7 -1.6
KS15 Wonju Array Si 20.08 16 ePn P 11 42 41.5 +1.4
CD2 Chengdu 20.11 312 P P 11 42 42.0 +1.6
CD2 AP 11 42 51.4
CD2 XP sP 11 42 55.3 +1.1
CD2 PP 11 43 00.1
CD2 S S 11 46 22.7 -1.6
CD2 XS sS 11 46 34.8 -4.3
CD2 SS 11 46 56.1
CD2 AMB AMB
comp=Z,10.0nm,0.6s
CD2 AMB AMB
comp=Z,80nm,5.1s
CD2 LR LR
comp=N,360nm,17.4s
CD2 LR LR
comp=Z,440nm,17.4s,MS3.9
NST Nakhon Sawan 20.13 266 P P 11 42 44.0 +3.4
CHRT Chiangrai 20.13 278 ⇓P P 11 42 43.0 +2.3
comp=Z,566nm,0.8s
DL2 Dalian 20.62 1 P P 11 42 47.5 +1.6
DL2 S S 11 46 35.8 +1.4
DL2 AMB AMB
comp=Z,20nm,0.9s
DL2 AMB AMB
comp=Z,180nm,6.8s
DL2 LR LR
comp=N,160nm,15.9s,MS3.6
DL2 LR LR
comp=E,120nm,14.4s,MS3.6
DL2 LR LR
comp=Z,140nm,15.9s,MS3.4
CM31 Chiang Mai Arr 20.95 274 ePn P 11 42 51.9 +2.4
comp=Z,7.0nm,0.7s
CBIJ Chichi jima 21.42 62 P P 11 42 52.9 -1.7
comp=Z,43nm,0.9s,mb4.8,baz=358,slow=4.0,SNR=7.4
CBIJ LR LR 11 49 33.2
comp=Z,137nm,18.8s,MS3.4,baz=266,slow=32
BJT Baijiatuau 22.12 350 eP P 11 43 04.2 +2.1
BJT pmax pmax
comp=Z,25nm,0.9s
BJT Baijiatuau 22.12 350 eP P 11 43 04.2 +2.2
comp=Z,25nm,0.9s,mb4.6
BJI Beijing 22.14 350 P P 11 43 06.2 +3.9
BJI S S 11 46 56.7 -7.6
BJI AMB AMB
comp=Z,23nm,0.9s,mb4.6
BJI AMB AMB
comp=Z,135nm,2.6s,mb4.9
BJI LR LR
comp=N,419nm,16.2s,MS4.0
BJI LR LR
comp=E,157nm,13.5s,MS4.0
BJI LR LR
comp=Z,211nm,18.7s
JHJ Hachijo jima 2 22.45 45 LR LR 11 50 52.7
comp=Z,368nm,21.2s,MS3.8,baz=85,slow=34
LZH Lanzhou 23.39 323 eP P 11 43 17.2 +1.8
LZH PP 11 43 50.0
LZH PCP PcP 11 47 03.0 +1.9
LZH eS S 11 47 26.4 +0.7
LZH XS sS 11 47 42.0 -0.2
LZH SS 11 48 16.0
LZH AMB AMB
comp=Z,69nm,1.5s,mb4.9
LZH AMB AMB
comp=Z,180nm,4.3s
LZH LR LR
comp=N,890nm,13.5s
LZH LR LR
comp=Z,1μm,14.7s,MS4.5
GUMO Guam 23.40 98 LR LR 11 50 43.7
comp=Z,226nm,18.4s,MS3.7,baz=298,slow=33
SNY Shenyang 23.63 5 P P 11 43 17.2 -0.5
SNY S S 11 47 27.4 -2.2
SNY AMB AMB
comp=Z,103nm,3.5s
SNY LR LR
comp=E,189nm,12.3s
SNY LR LR
comp=Z,132nm,12.0s,MS3.6
KULM Kulim 23.68 240 eP P 11 43 18.6 +0.5
MAT Matsushiro 23.73 36 P P 11 43 17.4 -1.2
MAT S S 11 47 27.6 -3.6
MAT Matsushiro 23.73 36 eP P 11 43 17.0 -1.6
MAT eS S 11 47 28.0 -3.2
MJAR Matsushiro Arr 23.73 36 P P 11 43 16.6 -2.0
comp=Z,2.5nm,0.7s,mb3.8,baz=231,slow=9.3,SNR=11
BTO Baotou 24.23 339 eP P 11 43 23.9 +0.7
VLA Vladivostok 26.48 18 i P P 11 43 46.4 +2.8
PSI Prapat 26.52 237 LR LR 11 53 32.3
comp=Z,214nm,20.2s,MS3.7,baz=50,slow=35
MDJ Mudanjiang 27.28 13 P P 11 43 51.8 +1.0
MDJ AP pP 11 44 00.5 -0.4
MDJ XP sP 11 44 04.4 -0.8
MDJ PCP PcP 11 47 09.6 -0.2
MDJ S S 11 48 30.8 +3.0
MDJ XS sS 11 48 45.5 +1.0
MDJ SCP ScP 11 50 48.0 +0.5
MDJ PCS PcS 11 50 51.7 +0.2
MDJ AMB AMB
comp=Z,5.0nm,1.1s,mb4.0
MDJ AMB AMB
comp=Z,20nm,5.3s
MDJ LR LR
comp=N,67nm,26.5s,MS3.6
MDJ LR LR
comp=E,193nm,26.2s,MS3.6
MDJ LR LR
comp=Z,155nm,20.9s
GTA Gaotai 27.99 323 eP P 11 43 58.5 +1.4
GTA AP pP 11 44 07.9 +0.7
GTA XP sP 11 44 11.7 +0.2
GTA PP PP 11 44 50.4 -10
GTA S S 11 48 41.6 +2.7
GTA XS sS 11 48 57.9 +2.3
GTA SS 11 50 05.6
GTA AMB AMB
comp=Z,3.0nm,0.9s,mb3.9
GTA AMB AMB
comp=Z,126nm,4.9s
GTA LR LR
comp=N,179nm,20.5s,MS3.8
GTA LR LR
comp=E,191nm,19.4s,MS3.8
GTA LR LR
comp=Z,269nm,21.7s,MS3.8
LSA Lhasa 29.50 298 eP P 11 44 13.2 +2.7
LSA pmax pmax
comp=Z,15nm,0.6s,mb4.9
LSA Lhasa 29.50 298 eP P 11 44 13.2 +2.7
comp=Z,15nm,0.6s,mb4.9
ASAJ Asahikawa 31.55 30 P P 11 44 29.1 +0.4
comp=Z,1.6nm,0.5s,mb4.1,baz=285,slow=32,SNR=3.5
ULN Ulaanbaatar 31.69 342⇑eP P 11 44 31.5 +1.6
ULN Ulaanbaatar 31.69 342 eP P 11 44 30.6 +0.7
SONM Songino Array 31.86 341 P P 11 44 32.1 +0.8
comp=Z,5.9nm,1.0s,mb4.4,baz=162,slow=9.0,SNR=14
SONM LR LR 11 58 21.9
comp=Z,211nm,20.4s,MS3.8,baz=137,slow=38
KLR Kul'dur 32.13 13 eP P 11 44 28.0 -5.7
JIRN Jiri 33.32 293 eP P 11 44 45.7 +1.6
comp=Z,136nm,1.4s,mb5.7
GUN Gumba 33.63 293 eP P 11 44 48.2 +1.4
comp=Z,38nm,0.6s,mb5.5
YSS Yuzh-Sakhalins 33.78 27 eP P 11 44 50.0 +1.9
YSS Yuzh-Sakhalins 33.78 27 eP P 11 44 47.5 -0.6
comp=Z,21nm,1.1s,mb5.0
PKI Pulchoki 33.99 292 eP P 11 44 50.7 +0.7
comp=Z,13nm,0.7s,mb5.0
KKN Kakani 34.13 293 eP P 11 44 51.6 +0.4
comp=Z,64nm,1.4s,mb5.4
DMN Daman 34.26 292 eP P 11 44 53.1 +0.8
comp=Z,257nm,1.8s
GKN Gorkha 34.73 293 eP P 11 44 56.7 +0.3
comp=Z,21nm,0.7s,mb5.2
ZAK Zakamensk 35.08 340 eP P 11 44 59.3 -0.1
ZAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
KOLN Koldanda 35.60 292 eP P 11 45 03.1 -0.8
comp=Z,32nm,0.9s,mb5.2
TLY Talaya 36.10 342 eP P 11 45 09.8 +1.7
TLY eSS SS 11 53 39.2 +16
TLY pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
TLY MLR MLR
comp=Z,171nm,20.0s,MS3.8
FITZ Fitzroy Crossi 36.38 173 eP P 11 45 08.1 -2.5
comp=Z,6.6nm,0.9s,mb4.6
IRK Irkutsk 36.41 343 eP P 11 45 12.0 +1.2
IRK pmax pmax
comp=Z,19nm,1.0s,mb5.0
WMQ Urumqi 37.87 320 P P 11 45 26.0 +2.8
WMQ AP pP 11 45 35.8 +2.3
WMQ XP sP 11 45 39.7 +1.9
WMQ PP PP 11 46 56.7 +6.6
WMQ PCP PcP 11 47 41.2 +2.2
WMQ S S 11 51 16.3 +4.1
WMQ SCP ScP 11 51 25.0 +1.3
WMQ XS sS 11 51 32.4 +3.3
WMQ AMB AMB
comp=Z,22nm,1.3s,mb4.7
WMQ AMB AMB
comp=Z,124nm,4.6s
WMQ LR LR
comp=N,1μm,17.6s,MS4.8
WMQ LR LR
comp=E,766nm,16.5s,MS4.8
WMQ LR LR
comp=Z,1μm,18.1s,MS4.7
WRA Warramunga Arr 40.12 160 P P 11 45 38.5 -3.5
comp=Z,1.3nm,0.4s,mb4.0,baz=342,slow=9.1,SNR=55
WRA PcP PcP 11 47 42.6 -3.4
comp=Z,1.0nm,0.8s,baz=340,slow=3.9,SNR=4.3
WB2 Warramunga Arr 40.12 160 eP P 11 45 39.3 -2.7
MKAR Makanchi Array 42.66 321 P P 11 46 04.3 +1.4
comp=Z,17nm,0.8s,mb4.8,baz=114,slow=9.5,SNR=131
MKAR PcP PcP 11 47 53.7 -0.7
comp=Z,2.9nm,0.8s,baz=104,slow=3.9,SNR=3.5
MKAR Makanchi Array 42.66 321⇑eP P 11 46 04.3 +1.4
SKR Severo-Kuril's 42.74 33 eP P 11 46 02.0 -1.5
AS31 Alice Springs 43.49 163 eP P 11 46 06.8 -2.8
ASAR Alice Springs 43.49 163 P P 11 46 07.0 -2.6
comp=Z,2.5nm,0.3s,mb4.4,baz=338,slow=7.1,SNR=29
ASAR LR LR 12 03 04.9
comp=Z,105nm,20.4s,MS3.7,baz=356,slow=35
ASPA Alice Springs 43.49 163 eP P 11 46 06.8 -2.8
YAK Yakutsk 44.19 6⇓eP P 11 46 14.4 -0.8
YAK pmax pmax
comp=Z,15nm,0.9s,mb4.7
YAK MLR MLR
comp=Z,100nm,14.0s,MS3.9
ZAL Zalesovo 45.24 331 P P 11 46 24.1 +0.6
comp=Z,3.0nm,0.6s,mb4.3,baz=354,slow=8.1,SNR=16
ZAL LR LR 12 06 50.1
comp=Z,170nm,19.7s,MS4.0,baz=333,slow=38
NVS Novosibirsk 46.52 331 i P P 11 46 33.3 -0.3
KURK Kurchatov 46.67 324 eP P 11 46 35.6 +0.8
KURK e*PP pP 11 46 45.6 +0.3
BVAR Borovoye Array 52.27 324 P P 11 47 17.2 -0.4
comp=Z,2.1nm,0.6s,mb4.3,baz=115,slow=7.0,SNR=13
BVAR PcP PcP 11 48 26.9 -1.6
comp=Z,1.7nm,0.6s,baz=90,slow=4.4,SNR=3.9
ZRNK Zerenda 53.02 323 eP P 11 47 23.7 +0.6
ZRNK e*PP pP 11 47 32.9 -0.8
ZRNK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ZRNK Zerenda 53.02 323 eP P 11 47 23.7 +0.6
comp=Z,5.7nm,0.7s,mb4.6
ZRNK epP pP 11 47 32.9 -0.8
STKA Stephens Creek 53.58 158 P P 11 47 22.8 -4.4
comp=Z,1.9nm,0.6s,mb4.2,baz=333,slow=9.0,SNR=3.9
STKA LR LR 12 09 01.9
comp=Z,148nm,21.2s,MS4.0,baz=25,slow=35
TIXI Tiksi 53.63 3 eP P 11 47 26.6 -0.9
BILL Bilibino 57.34 19⇑eP P 11 47 53.3 -0.9
BILL pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
BILL MLR MLR
comp=Z,100nm,19.0s,MS3.9
SVE Sverdlovsk 58.81 326⇓eP P 11 48 03.7 -0.8
SVE pmax pmax
comp=Z,16nm,1.0s,mb5.0
SVE MLR MLR
comp=N,100nm,13.0s,MS4.3
SVE MLR MLR
comp=E,100nm,13.0s,MS4.3
SVE MLR MLR
comp=Z,200nm,13.0s,MS4.4
AKTK Aktyubinsk 59.01 318 P P 11 48 05.9 +0.1
AKTO Aktyubinsk 59.01 318 P P 11 48 05.9 +0.1
comp=Z,5.1nm,0.6s,mb4.7,baz=98,slow=8.4,SNR=22
ARU Arti 59.82 325⇓iP P 11 48 10.9 -0.6
ARU e 11 50 21.1
ARU ePPP 11 51 47.1
ARU eS S 11 56 22.6 +2.1
ARU eSS SS 12 00 17.3 +0.4
ARU pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
ARU Arti 59.82 325 eP P 11 48 11.1 -0.4
comp=Z,8.8nm,0.6s,mb5.0
KIV Kislovodsk 69.27 311⇑eP P 11 49 14.1 +0.9
KIV pmax pmax
comp=Z,12nm,0.7s,mb4.9
KIV MLR MLR
comp=Z,100nm,19.0s,MS4.1
KIV Kislovodsk 69.27 311 eP P 11 49 14.1 +0.9
OBN Obninsk 72.10 323 eP P 11 49 28.9 -1.6
OBN pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KDAK Kodiak Island 72.88 34 P P 11 49 34.5 -0.5
comp=Z,5.6nm,0.7s,mb4.6,baz=187,slow=2.5,SNR=6.8
MALT Malatya 73.24 305 eP P 11 49 36.5 -0.7
MALT e*PP pP 11 49 47.7 -0.5
JOF Joensuu 73.82 332 ep P 11 49 39.7 -0.9
comp=Z,1.2nm,0.4s,mb4.2
JOF Joensuu 73.82 332 eP P 11 49 39.7 -0.9
JOF pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.0nm,0.4s,mb4.1						
PMR	**Palmer**	**74.09**	**30**	eP	**P**	**11 49 41.3**	**-0.9**
PMR				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
PMR	**Palmer**	**74.09**	**30**	eP	**P**	**11 49 41.2**	**-1.0**
	comp=Z,23nm,1.3s,mb4.9						
COLA	**College**	**74.16**	**26**	i P	**P**	**11 49 41.9**	**-0.7**
COLA	**College**	**74.16**	**26**	eP	**P**	**11 49 41.6**	**-1.0**
	comp=Z,3.7nm,0.8s,mb4.4						
ARCES	**ARCESS Array B**	**75.00**	**339**	P	**P**	**11 49 47.4**	**0.0**
	comp=Z,1.3nm,0.6s,mb4.0,baz=77,slow=8.4,SNR=7.1						
ARCES				LR	LR	12 26 36.3	
	comp=Z,59nm,18.3s,MS3.9,baz=102,slow=39						
ARCES	**ARCESS Array B**	**75.00**	**339**	P	**P**	**11 49 47.4**	**0.0**
ARCES				LR	LR	12 26 36.3	
ASF	**Jabal al Asfar**	**75.68**	**299**	P	**P**	**11 49 52.1**	**+0.8**
	comp=Z,3.6nm,0.6s,mb4.5,baz=340,slow=4.7,SNR=6.2						
KAF	**Kangasniemi**	**76.25**	**331**	ep	**P**	**11 49 54.1**	**-0.5**
	comp=Z,3.8nm,0.7s,mb4.4,baz=75,slow=5.3						
KAF	**Kangasniemi**	**76.25**	**331**	eP	**P**	**11 49 54.1**	**-0.5**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**76.51**	**331**	P	**P**	**11 49 55.0**	**-1.1**
	comp=Z,3.2nm,0.8s,mb4.3,baz=66,slow=4.8,SNR=13						
FINES				LR	LR	12 26 54.3	
	comp=Z,82nm,19.4s,MS4.0,baz=348,slow=38						
FINES	**FINESS Array B**	**76.51**	**331**	i P	**P**	**11 49 55.5**	**-0.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**76.51**	**331**	P	**P**	**11 49 55.0**	**-1.1**
FINES				LR	LR	12 26 54.4	
BRTR	**Keskin Array B**	**76.62**	**308**	P	**P**	**11 49 56.3**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.6,baz=22,slow=4.0,SNR=3.5						
BRTR				LR	LR	12 27 31.9	
	comp=Z,57nm,19.2s,MS3.9,baz=240,slow=39						
AKASG	**Malin Array Be**	**77.23**	**319**	P	**P**	**11 49 58.9**	**-1.2**
	comp=Z,3.0nm,0.6s,mb4.4,baz=69,slow=5.4,SNR=9.1						
AKASG	**Malin Array Be**	**77.23**	**319**	i P	**P**	**11 49 59.2**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	**Malin Array Be**	**77.23**	**319**	P	**P**	**11 49 58.9**	**-1.2**
DAWY	**Dawson**	**77.91**	**26**	eP	**P**	**11 50 04.2**	**+0.2**
INK	**Inuvik**	**78.80**	**21**	P	**P**	**11 50 06.8**	**-2.0**
	comp=Z,4.1nm,0.8s,mb4.4,baz=282,slow=8.8,SNR=6.2						
INK				LR	LR	12 28 41.0	
	comp=Z,48nm,18.1s,MS3.9,baz=141,slow=38						
INK	**Inuvik**	**78.80**	**21**	P	**P**	**11 50 06.8**	**-2.0**
INK				LR	LR	12 28 41.0	
MLR	**Muntele Rosu**	**80.68**	**315**	P	**P**	**11 50 19.0**	**-0.1**
	comp=Z,4.5nm,0.6s,mb4.6,baz=185,slow=4.2,SNR=11						
DAG	**Danmarks Havn**	**82.21**	**351**	⇓iP	**P**	**11 50 26.8**	**-0.3**
	comp=Z,2.8nm,0.5s,mb4.5						
DAG	**Danmarks Havn**	**82.21**	**351**	⇓eP	**P**	**11 50 26.8**	**-0.3**
DAG				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
DAG	**Danmarks Havn**	**82.21**	**351**	⇓eP	**P**	**11 50 26.8**	**-0.3**
	comp=Z,2.8nm,0.5s,mb4.5						
HFS	**Hagfors**	**82.68**	**331**	P	**P**	**11 50 28.7**	**-0.9**
	comp=Z,5.9nm,0.7s,mb4.7,baz=90,slow=5.9,SNR=15						
OJC	**Ojcow**	**83.14**	**321**	eP	**P**	**11 50 31.9**	**-0.1**
KECS	**Kecovo**	**83.31**	**319**	eP	**P**	**11 50 28.7**	**-4.2**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
KECS	**Kecovo**	**83.31**	**319**	eP	**P**	**11 50 28.7**	**-4.2**
	comp=Z,2.2nm,0.8s,mb4.2						
NB2	**NORSAR Subarra**	**83.41**	**333**	P	**P**	**11 50 32.0**	**-1.4**
	comp=Z,3.1nm,0.6s,mb4.5,baz=61,slow=5.3						
NOA	**NORSAR Array B**	**83.41**	**333**	P	**P**	**11 50 32.3**	**-1.1**
	comp=Z,3.4nm,0.7s,mb4.5,baz=64,slow=4.9,SNR=24						
NOA				LR	LR	12 30 29.8	
	comp=Z,92nm,20.0s,MS4.2,baz=270,slow=38						
DLBC	**Dease Lake**	**84.15**	**30**	P	**P**	**11 50 37.2**	**0.0**
	comp=Z,2.8nm,0.8s,mb4.5,baz=239,slow=6.1,SNR=5.9						
DLBC	**Dease Lake**	**84.15**	**30**	P	**P**	**11 50 37.2**	**0.0**
VYHS	**Vyhne**	**84.33**	**319**	eP	**P**	**11 50 33.3**	**-4.8**
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.4						
VYHS	**Vyhne**	**84.33**	**319**	eP	**P**	**11 50 33.3**	**-4.8**
	comp=Z,4.0nm,1.4s,mb4.4						
KMBO	**Kilima Mbogo**	**84.42**	**267**	LR	LR	12 25 23.5	
	comp=Z,74nm,18.8s,MS4.1,baz=271,slow=34						
BRG	**Berggiesshubel**	**86.35**	**323**	eP	**P**	**11 50 48.5**	**+0.3**
	comp=Z,4.0nm,1.2s,mb4.5						
BRG	**Berggiesshubel**	**86.35**	**323**	eP	**P**	**11 50 48.5**	**+0.3**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.5						
CLL	**Collm**	**86.70**	**323**	e(P)	**P**	**11 50 53.0**	**+3.1**
GERES	**GERESS Array B**	**87.33**	**321**	P	**P**	**11 50 52.4**	**-0.6**
	comp=Z,0.9nm,0.7s,mb4.1,baz=66,slow=3.3,SNR=6.5						
SUMG	**Summit**	**88.39**	**354**	eP	**P**	**11 50 56.4**	**-1.5**
	comp=Z,11nm,1.2s,mb5.0						
SUMG				epP	pP	11 51 08.0	-1.2
YKA	**Yellowknife Ar**	**88.51**	**23**	P	**P**	**11 50 58.4**	**-0.2**
	comp=Z,3.5nm,0.7s,mb4.8,baz=309,slow=4.7,SNR=7.6						
YKA	**Yellowknife Ar**	**88.51**	**23**	⇑eP	**P**	**11 50 58.4**	**-0.2**
DAVOX	**Davos**	**90.56**	**320**	P	**P**	**11 51 08.8**	**+0.7**
	comp=Z,2.2nm,0.6s,mb4.7,baz=182,slow=22,SNR=3.9						
CDF	**Champ du Feu**	**91.32**	**322**	eP	**P**	**11 51 10.1**	**-1.6**
CABF	**La Chapelle**	**92.92**	**321**	eP	**P**	**11 51 17.4**	**-1.7**
	comp=Z,5.9nm,0.7s,mb4.8						
CABF	**La Chapelle**	**92.92**	**321**	eP	**P**	**11 51 17.4**	**-1.7**
CABF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.8						
CABF	**La Chapelle**	**92.92**	**321**	eP	**P**	**11 51 17.4**	**-1.7**
	comp=Z,3.0nm,0.7s,mb4.8						
LPG	**La Plagne**	**93.08**	**320**	eP	**P**	**11 51 18.6**	**-1.2**
	comp=Z,5.1nm,0.7s,mb4.8						
LPG	**La Plagne**	**93.08**	**320**	eP	**P**	**11 51 18.6**	**-1.2**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.8						
LPG	**La Plagne**	**93.08**	**320**	eP	**P**	**11 51 18.6**	**-1.2**
	comp=Z,2.5nm,0.7s,mb4.8						
LPL	**La Plagne**	**93.08**	**320**	eP	**P**	**11 51 18.6**	**-1.2**
	comp=Z,7.5nm,0.7s,mb4.9						
LPL	**La Plagne**	**93.08**	**320**	eP	**P**	**11 51 18.6**	**-1.2**
LPL				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb5.0						
LPL	**La Plagne**	**93.08**	**320**	eP	**P**	**11 51 18.6**	**-1.2**
	comp=Z,3.8nm,0.7s,mb4.9						
PGF	**Pioggiola**	**93.09**	**317**	eP	**P**	**11 51 18.3**	**-1.6**
MBDF	**Montbardon**	**93.45**	**319**	eP	**P**	**11 51 20.1**	**-1.4**
LOR	**Lormes**	**93.89**	**323**	eP	**P**	**11 51 21.5**	**-2.0**
	comp=Z,1.7nm,0.3s,mb4.6						
LOR				eR			
	comp=Z,74nm,19.0s						
LOR	**Lormes**	**93.89**	**323**	eP	**P**	**11 51 21.5**	**-2.0**
LOR				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.7						
LOR				MLR	MLR		
	comp=Z,70nm,19.0s,MS4.1						
LOR	**Lormes**	**93.89**	**323**	eP	**P**	**11 51 21.5**	**-2.0**
	comp=Z,0.9nm,0.3s,mb4.7						
LOR				LR	LR		
	comp=Z,70nm,19.0s,MS4.1						
SSF	**Saint Saulge**	**94.20**	**323**	eP	**P**	**11 51 22.9**	**-2.1**
LMR	**La Mourre**	**94.31**	**318**	eP	**P**	**11 51 23.7**	**-1.8**
	comp=Z,14nm,1.0s,mb5.0						
LMR	**La Mourre**	**94.31**	**318**	eP	**P**	**11 51 23.7**	**-1.8**
LMR				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb5.0						
LMR	**La Mourre**	**94.31**	**318**	eP	**P**	**11 51 23.7**	**-1.8**
	comp=Z,7.2nm,1.0s,mb5.1						
SMRF	**Simiane la Rot**	**94.57**	**319**	eP	**P**	**11 51 24.6**	**-2.1**
VIVF	**Saint-Julien-l**	**94.67**	**320**	eP	**P**	**11 51 25.4**	**-1.7**
	comp=Z,3.5nm,0.7s,mb4.6						
VIVF	**Saint-Julien-l**	**94.67**	**320**	eP	**P**	**11 51 25.4**	**-1.7**
VIVF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.7						
VIVF	**Saint-Julien-l**	**94.67**	**320**	eP	**P**	**11 51 25.4**	**-1.7**
	comp=Z,1.8nm,0.7s,mb4.6						
PPT	**Papeete**	**94.82**	**107**	LR	LR	12 33 07.4	
	comp=Z,120nm,18.9s,MS4.4,baz=312,slow=35						
FLN	**La Foliniere**	**95.48**	**325**	eP	**P**	**11 51 28.8**	**-2.0**
MTLF	**Montolieu**	**96.97**	**320**	eP	**P**	**11 51 35.6**	**-2.0**
	comp=Z,11nm,1.2s,mb4.9						
MTLF	**Montolieu**	**96.97**	**320**	eP	**P**	**11 51 35.6**	**-2.0**
MTLF				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.8						
MTLF	**Montolieu**	**96.97**	**320**	eP	**P**	**11 51 35.6**	**-2.0**
	comp=Z,5.3nm,1.2s,mb4.8						
WVT	**Waverly**	**119.45**	**27**	ePKIKP	PKPdf	11 56 55.5	0.0
SDV	**Santo Domingo**	**150.72**	**24**	ePKPbc	PKPbc	11 57 59.4	+1.3

*ISCJB **01** 11:43:10.7±0.7,4796N±003×1610E±004,h0km±7km, Error ellipse: s-maj=5.7km s-min=3.6km az=90.0*

*CSEM **01** 11:43:12.4±0.2,4789N×1622E,h5km,ML3.0/5,Error ellipse: s-maj=5.1km s-min=2.6km az=154.0*

*VIE **01** 11:43:12.6±0.5,4786N×1624E,h8km,mb1.6/3,ML2.7/3, Error ellipse: s-maj=4.7km s-min=3.4km az=125.0 5 km N of Wiener Neustadt*

*IPEC **01** 11:43:12.5±0.2,4789N×1630E,h12km±2km,ML2.1/3, Error ellipse: s-maj=1.9km s-min=1.0km az=146.0*

*PRU **01** 11:43:13.0,4797N×1620E,h0km*

ISC 01 11:43:12.3±0.6**,4793N**±003×**1619E**±004**,h13**km±6km**,n22, σ1**^{s}**23**/36**,10C,Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONA	**Conrad Observa**	**0.22**	**270**	⇑ePg	**Pg**	**11 43 18.0**	**+0.9**
	30nm,0.2s						
CONA				⇑iSg	**Sg**	**11 43 23.3**	**+2.8**
	68nm,0.1s						
VKA	**Vienna**	**0.35**	**14**	i Pg	**Pg**	**11 43 22.0**	**+2.7**
VKA				i Sg	**Sg**	**11 43 28.5**	**+4.4**
ZST	**Bratislava**	**0.67**	**66**	ePG	**Pg**	**11 43 24.9**	**-0.4**
ZST				eSG	**Sg**	**11 43 34.0**	**-0.1**
ZST	**Bratislava**	**0.67**	**66**	ePg	**Pg**	**11 43 25.0**	**-0.3**
ZST				eSg	**Sg**	**11 43 34.1**	**0.0**
SMOL	**Smolenice**	**1.01**	**54**	ePN	**Pn**	**11 43 32.5**	**+0.4**
SMOL				eSN	**Sn**	**11 43 47.0**	**+0.8**
KRUC	**Moravsky**	**1.14**	**7**	ePg	**Pg**	**11 43 34.4**	**+0.1**
KRUC				eSg	**Sg**	**11 43 50.0**	**+0.8**
	43nm,0.2s						
MOA	**Molln**	**1.30**	**267**	⇑iPg	**Pg**	**11 43 37.6**	**+0.4**
	0.8nm,0.1s						
MOA				⇑iSg	**Sg**	**11 43 55.7**	**+1.5**
	8.7nm,0.1s						
MOA	**Molln**	**1.30**	**267**	Pg	**Pg**	**11 43 37.6**	**+0.3**
	0.8nm,0.1s						
MOA				eSg	**Sg**	**11 43 55.4**	**+1.2**
VRAC	**Vranov**	**1.41**	**11**	ePg	**Pg**	**11 43 38.3**	**-1.0**
VRAC				eSg	**Sg**	**11 43 56.6**	**-1.0**
	26nm,0.3s						
TREC	**Trest**	**1.45**	**341**	eSG	**Sg**	**11 43 59.1**	**+0.3**
OBKA	**Obir**	**1.81**	**219**	⇑iPn	**Pn**	**11 43 42.1**	**-1.0**
	0.4nm,0.1s						
OBKA				⇑eSg	**Sg**	**11 44 08.7**	**-1.8**
	1.8nm,0.2s						
VYHS	**Vyhne**	**1.86**	**71**	ePN	**Pn**	**11 43 42.6**	**-1.1**
VYHS				e		11 43 50.0	
VYHS				e		11 44 04.6	
VYHS	**Vyhne**	**1.86**	**71**	eSN	**Sn**	**11 44 11.1**	**+4.1**
VYHS	**Vyhne**	**1.86**	**71**	ePn	**Pn**	**11 43 42.7**	**-1.0**
MORC	**Moravsky Berou**	**2.05**	**25**	ePn	**Pn**	**11 43 47.7**	**+1.2**
KBA	**Koelnbreinsper**	**2.11**	**247**	⇑iPg	**Pg**	**11 43 52.1**	**-0.7**
	1.3nm,0.2s						
KBA				⇑iSg	**Sg**	**11 44 18.8**	**-1.3**
	2.4nm,0.2s						
KHC	**Kasperske Hory**	**2.11**	**306**	ePG	**Pg**	**11 43 51.1**	**-1.7**
KHC				eSG	**Sg**	**11 44 16.9**	**-3.3**
	17nm,0.2s						
DPC	**Dobruska-Polom**	**2.42**	**2**	eSG	**Sg**	**11 44 28.7**	**-1.5**
	13nm,0.4s						
WTTA	**Wattenberg**	**3.15**	**260**	⇑ePn	**Pn**	**11 44 04.1**	**+2.6**
WTTA				⇑Sg	**Sg**	**11 44 54.6**	**+1.0**
	3.8nm,0.3s						
BRG	**Berggiesshubel**	**3.29**	**334**	PG	**Pg**	**11 44 16.6**	**+1.2**
BRG				SG	**Sg**	**11 44 57.0**	**-1.1**
	5.7nm,0.3s						
NKC	**Novy Kostel**	**3.37**	**315**	eSG	**Sg**	**11 45 00.1**	**-0.5**
CLL	**Collm**	**3.97**	**330**	i Sg	**Sg**	**11 45 19.9**	**+0.2**
	comp=Z,10.0nm,0.5s						

*IDC **01** 12:08:14.5±1.4,5227N×17015W,h0km,mb3.8/7, mb1 4.0/7,mb1mx3.7/22,mbtmp3.8/7,Error ellipse: s-maj=39.4km s-min=30.0km az=145.0*

*ISCJB **01** 12:08:17.6±1.4,520N±01×1697W±01,h47km±10km, mb3.7/7,Error ellipse: s-maj=24.0km s-min=6.9km az=138.2*

*NEIC **01** 12:08:18.5,5204N×16974W,h42km,ML3.4(AEIC),After AEIC.*

ISC 01 12:08:19.4±1.2**,521N**±01×**1697W**±01**,h46**km±10km**,n22, σ0**^{s}**92**/25**,mb3.7**/7**,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.05**	**29**	P	**Pn**	**12 08 36.3**	**-1.5**
NIKO				S	**Sn**	**12 08 51.7**	**+0.4**
OKCE	**Okmok Cone E**	**1.66**	**33**	P	**Pn**	**12 08 46.0**	**0.0**
OKCD	**Okmok Cone D**	**1.68**	**34**	P	**Pn**	**12 08 46.6**	**+0.3**
UNV	**Unalaska Valle**	**2.64**	**46**	P	**Pn**	**12 08 59.1**	**-0.3**
UNV				S	**Sn**	**12 09 29.7**	**-0.4**
ATKA	**Atka Island**	**2.78**	**275**	P	**Pn**	**12 09 01.0**	**-0.4**
ATKA				S	**Sn**	**12 09 33.4**	**-0.3**
AKUT	**Akutan**	**3.15**	**47**	ePn	**Pn**	**12 09 07.3**	**+0.9**
FALS	**False Pass**	**4.69**	**51**	P	**Pn**	**12 09 28.6**	**+1.0**
SPIA	**Saint Paul Isl**	**5.15**	**357**	P	**Pn**	**12 09 36.1**	**+2.2**
SDPT	**Sand Point**	**6.39**	**55**	P	**Pn**	**12 09 51.1**	**+0.1**
AMKA	**Amchitka**	**6.88**	**269**	P	**Pn**	**12 09 57.8**	**+0.2**
KDAK	**Kodiak Island**	**11.38**	**53**	Pn	**Pn**	**12 10 57.9**	**-1.4**
	0.5nm,0.3s,baz=221,slow=6.3,SNR=4.1						
DAWY	**Dawson**	**19.80**	**41**	eP	**Pn**	**12 12 44.0**	**-3.7**
INK	**Inuvik**	**23.72**	**33**	P	**P**	**12 13 26.0**	**-1.2**
	1.0nm,0.5s,mb3.5,baz=268,slow=5.3,SNR=7.2						
INK	**Inuvik**	**23.72**	**33**	P	**P**	**12 13 26.0**	**-1.2**
YKA	**Yellowknife Ar**	**30.60**	**48**	P	**P**	**12 14 29.8**	**+0.9**
	0.4nm,0.4s,mb3.6,baz=277,slow=7.0,SNR=4.5						
PDAR	**Pinedale Array**	**40.66**	**79**	P	**P**	**12 15 59.1**	**+4.1**
	0.4nm,0.6s,mb3.2,baz=298,slow=3.2,SNR=5.0						
ARCES	**ARCESS Array B**	**58.22**	**354**	P	**P**	**12 18 07.7**	**-1.2**
	1.4nm,0.9s,mb4.0,baz=22,slow=7.0,SNR=4.7						
ARCES	**ARCESS Array B**	**58.22**	**354**	P	**P**	**12 18 07.7**	**-1.2**
FINES	**FINESS Array B**	**66.16**	**352**	P	**P**	**12 19 02.2**	**+0.1**
	0.4nm,0.4s,mb3.8,baz=15,slow=7.6,SNR=6.8						
FINES	**FINESS Array B**	**66.16**	**352**	P	**P**	**12 19 02.2**	**+0.1**
NOA	**NORSAR Array B**	**67.26**	**360**	P	**P**	**12 19 09.5**	**+0.4**
	0.6nm,0.7s,mb3.8,baz=0.9,slow=6.3,SNR=3.6						
ASAR	**Alice Springs**	**90.04**	**230**	P	**P**	**12 21 14.9**	**+0.8**
	0.7nm,0.7s,mb4.1,baz=26,slow=4.5,SNR=8.5						

IDC 01 12:10:12.7±3.3**,1104N**×**14041E,h0**km**,mb3.8**/4**, mb1 3.9**/4**,mb1mx3.6**/18**,mbtmp3.8**/4**,Error ellipse: s-maj=254.6km s-min=28.4km az=89.0,Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.36**	**191**	P	P	12 16 34.3	-0.7
	0.7nm,0.9s,baz=13,slow=9.8,SNR=3.3						
ASAR	**Alice Springs**	**35.07**	**190**	P	P	12 17 08.9	+1.5
	0.2nm,0.5s,baz=22,slow=13,SNR=4.2						
ARCES	**ARCESS Array B**	**88.13**	**341**	P	P	12 23 05.5	+0.2
	1.0nm,0.8s,baz=60,slow=7.3,SNR=5.9						
FINES	**FINESS Array B**	**91.58**	**334**	P	P	12 23 20.7	-0.8
	1.1nm,0.8s,baz=85,slow=4.0,SNR=4.5						

*BJI **01** 12:27:10.3,197S×13867E,h43km,mB5.1,mb4.7,Ms4.3, Msz4.0*

*MOS **01** 12:27:16.1±1.1,110S×13790E,h33km,mb4.5/14,Error ellipse: s-maj=20.0km s-min=9.3km az=101.8*

*IDC **01** 12:27:16.6±4.2,116S×13796E,h21km±27km,mb4.3/12, mb1 4.5/12,mb1mx4.4/15,mbtmp4.5/12,ML5.1/1,MS3.8/10, Ms1 3.8/10,ms1mx3.5/30,Error ellipse: s-maj=29.8km s-min=13.1km az=81.0*

*ISCJB **01** 12:27:18.4±1.9,121S±005×13801E±009,h49km±17km, mb4.6/30,MS3.8/12,Error ellipse: s-maj=15.3km s-min=8.0km az=167.8*

*NEIC **01** 12:27:18.2±4.3,114S×13787E,h34km±31km,mb4.6/18, Error ellipse: s-maj=13.8km s-min=9.7km az=82.0*

ISC 01 12:27:21.2±1.4**,127S**±005×**13792E**±008**,h53**km±13km**, n76,σ1**^{s}**41**/85**,mb4.6**/30**,MS3.8**/12**,Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**12.24**	**132**	P	**Pn**	**12 30 13.9**	**+1.2**
KAKA	**Kakadu**	**12.60**	**205**	eP	**Pn**	**12 30 13.9**	**-3.7**
	31nm,0.6s						
KAKA				eS	**Sn**	**12 32 33.3**	**-3.0**
WRAB	**Tennant Creek**	**18.88**	**190**	eP	**Pn**	**12 31 37.0**	**-1.1**
WRAB				eS	**S**	**12 34 55.9**	**-13**
WRAB				pmax	pmax		
	comp=Z,116nm,0.6s						
WRAB	**Tennant Creek**	**18.88**	**190**	eP	**Pn**	**12 31 37.0**	**-1.1**
	comp=Z,116nm,0.6s						
WRAB				eS	**S**	**12 34 55.9**	**-13**
WB2	**Warramunga Arr**	**18.88**	**190**	eP	**Pn**	**12 31 37.1**	**-1.0**
WB2				eS	**S**	**12 34 58.9**	**-10**
WRA	**Warramunga Arr**	**18.89**	**190**	P	**Pn**	**12 31 38.0**	**-0.2**
	comp=Z,5.8nm,0.3s,baz=14,slow=11,SNR=328						
WRA				S	**S**	**12 34 57.8**	**-11**
	comp=Z,0.3nm,0.3s,baz=7.2,slow=22,SNR=4.9						
WRA	**Warramunga Arr**	**18.89**	**190**	P	**Pn**	**12 31 38.0**	**-0.2**
WRA				S	**S**	**12 34 57.8**	**-11**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.3s						
CTA	**Charters Tower**	**20.40**	**157**	eP	**P**	**12 31 54.2**	**+0.6**
	comp=Z,7.5nm,0.6s						
CTA	**Charters Tower**	**20.40**	**157**	P	**P**	**12 31 54.3**	**+0.7**
	comp=Z,14nm,0.7s,baz=346,slow=11,SNR=16						
CTA				LR	LR	12 40 44.9	
	comp=Z,281nm,18.9s,MS3.6,baz=277,slow=39						
CTA	**Charters Tower**	**20.40**	**157**	P	**P**	**12 31 54.3**	**+0.7**
CTA				pmax	pmax		
	comp=Z,14nm,0.7s						
CTA				MLR	MLR		
	comp=Z,281nm,18.9s						
CTAO	**Charters Tower**	**20.40**	**157**	eP	**P**	**12 31 54.1**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,12nm,0.7s						
CTAO	**Charters Tower**	**20.40**	**157**	eP	**P**	**12 31 54.1**	**+0.5**
	comp=Z,12nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.62**	**215**	eP	**P**	**12 31 56.5**	**+0.5**
	comp=Z,18nm,0.7s						
FITZ				eS	**S**	**12 35 40.6**	**-3.0**
FITZ	**Fitzroy Crossi**	**20.62**	**215**	P	**P**	**12 31 57.0**	**+0.9**
	comp=Z,7.8nm,0.8s,baz=50,slow=9.3,SNR=12						
FITZ				LR	LR	12 40 55.8	
	comp=Z,129nm,20.0s,MS3.3,baz=205,slow=40						
AS31	**Alice Springs**	**22.60**	**190**	eP	**P**	**12 32 17.6**	**+0.4**
AS31				eS	**S**	**12 36 21.8**	**+0.4**
ASAR	**Alice Springs**	**22.60**	**190**	P	**P**	**12 32 17.8**	**+0.6**
	comp=Z,51nm,0.7s,mb5.1,baz=23,slow=11,SNR=496						
ASAR				S	**S**	**12 36 26.0**	**+4.6**
	comp=Z,4.2nm,0.9s,baz=11,slow=25,SNR=7.5						
ASAR				LR	LR	12 41 54.1	
	comp=Z,388nm,20.3s,MS3.8,baz=14,slow=39						
ASAR	**Alice Springs**	**22.60**	**190**	P	**P**	**12 32 17.8**	**+0.6**
ASAR				S	**S**	**12 36 26.0**	**+4.6**
ASAR				pmax	pmax		
	comp=Z,51nm,0.7s						
ASAR				smax			
	comp=N,4.0nm,0.9s						
ASAR				MLR	MLR		
	comp=Z,388nm,20.3s						
ASPA	**Alice Springs**	**22.60**	**190**	eP	**P**	**12 32 17.6**	**+0.4**
ASPA				eS	**S**	**12 36 27.0**	**+5.6**
MBWA	**Marble Bar**	**26.56**	**221**	eP	**P**	**12 32 54.9**	**+0.8**
	comp=Z,20nm,1.0s,mb4.6						
KSM	**Kuching**	**27.75**	**276**	P	**P**	**12 33 05.2**	**+0.5**
CBIJ	**Chichi jima**	**28.50**	**8**	LR	LR	12 42 15.1	
	comp=Z,56nm,18.3s,MS3.2,baz=325,slow=32						
STKA	**Stephens Creek**	**30.64**	**174**	eP	**P**	**12 33 28.3**	**-2.1**
	comp=Z,6.9nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**30.64**	**174**	P	**P**	**12 33 28.8**	**-1.6**
	comp=Z,10nm,0.6s,mb4.8,baz=354,slow=9.5,SNR=15						
STKA				LR	LR	12 47 37.2	
	comp=Z,239nm,22.0s,MS3.8,baz=16,slow=40						
STKA	**Stephens Creek**	**30.64**	**174**	eP	**P**	**12 33 28.1**	**-2.3**
FORT	**Forrest**	**30.80**	**197**	eP	**P**	**12 33 32.9**	**+1.1**
	comp=Z,19nm,0.6s,mb5.1						
ARMA	**Armidale**	**31.78**	**157**	eP	**P**	**12 33 42.0**	**+1.6**
CNB	**Canberra Magne**	**35.51**	**164**	eP	**P**	**12 34 14.1**	**+1.3**
	comp=Z,12nm,0.8s,mb4.9						
KLBR	**Kellerberrin**	**35.67**	**210**	eP	**P**	**12 34 14.7**	**+0.5**
	comp=Z,20nm,0.8s,mb5.1						
NWAO	**Narrogin (SRO)**	**37.01**	**210**	LR	LR	12 51 13.4	
	comp=Z,250nm,18.1s,MS4.0,baz=177,slow=39						
NWAO	**Narrogin (SRO)**	**37.01**	**210**	eP	**P**	**12 34 24.5**	**-1.1**
NWAO				pmax	pmax		
	comp=Z,32nm,1.3s						
NWAO	**Narrogin (SRO)**	**37.01**	**210**	eP	**P**	**12 34 24.5**	**-1.1**
	comp=Z,32nm,1.3s,mb5.0						
MJAR	**Matsushiro Arr**	**37.62**	**0**	P	**P**	**12 34 29.6**	**-1.2**
	comp=Z,1.7nm,0.8s,mb3.8,baz=182,slow=7.8,SNR=5.3						
MJAR	**Matsushiro Arr**	**37.62**	**0**	P	**P**	**12 34 29.6**	**-1.2**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MAJO	**Matsushiro**	**37.62**	**0**	P	**P**	**12 34 28.1**	**-2.7**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
MAJO	**Matsushiro**	**37.62**	**0**	P	**P**	**12 34 28.1**	**-2.7**
	comp=Z,3.1nm,0.7s,mb4.2						
PSI	**Prapat**	**39.20**	**276**	P	**P**	**12 34 42.9**	**-1.1**
	comp=Z,11nm,1.0s,mb4.5,baz=106,slow=5.2,SNR=5.4						
PSI	**Prapat**	**39.20**	**276**	P	**P**	**12 34 42.9**	**-1.1**
PSI				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
KMI	**Kunming**	**42.99**	**310**	P	**P**	**12 35 17.6**	**+2.4**
KMI				PP	PP	12 36 58.3	+2.5
KMI				S	**S**	**12 41 38.1**	**+1.3**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
KMI				AMB	AMB		
	comp=Z,99nm,4.6s						
KMI				LR	LR		
	comp=N,90nm,11.5s,MS4.1						
KMI				LR	LR		
	comp=E,102nm,11.1s,MS4.1						
KMI				LR	LR		
	comp=Z,114nm,12.8s,MS4.0						
CD2	**Chengdu**	**45.59**	**317**	eP	**P**	**12 35 35.2**	**-0.8**
CD2				PP	PP	12 37 21.4	-2.0
CD2				S	**S**	**12 42 13.0**	**-1.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
YSS	**Yuzh-Sakhalins**	**48.21**	**4**	P	**P**	**12 35 51.8**	**-4.6**
YSS				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
YSS	**Yuzh-Sakhalins**	**48.21**	**4**	P	**P**	**12 35 51.8**	**-4.6**
	comp=Z,3.8nm,0.6s,mb4.6						
HHC	**Hu-ho-hao-te**	**48.30**	**333**	eP	**P**	**12 35 58.1**	**+1.0**
HHC				PP	PP	12 37 52.0	+2.1
HHC				S	**S**	**12 42 51.7**	**-1.4**
HHC				SCS	ScS	12 45 40.7	-4.5
HHC				AMB	AMB		
	comp=Z,14nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,140nm,5.1s						
HHC				LR	LR		
	comp=N,130nm,24.4s,MS4.0						
HHC				LR	LR		
	comp=E,166nm,22.6s,MS4.0						
HHC				LR	LR		
	comp=Z,96nm,22.0s,MS3.7						
KLR	**Kul'dur**	**50.58**	**355**	eP	**P**	**12 36 11.2**	**-3.3**
RPZ	**Rata Peaks**	**51.52**	**150**	P	**P**	**12 36 20.6**	**-1.0**
	comp=Z,16nm,1.0s,mb4.9,baz=31,slow=3.5,SNR=5.3						
ULN	**Ulaanbaatar**	**55.84**	**335**	P	**P**	**12 36 46.2**	**-6.9**
SONM	**Songino Array**	**56.09**	**335**	P	**P**	**12 36 53.3**	**-1.6**
	comp=Z,0.7nm,0.5s,mb3.9,baz=158,slow=6.7,SNR=4.4						
SONM				LR	LR	13 01 15.9	
	comp=Z,51nm,18.1s,MS3.6,baz=246,slow=36						
SONM	**Songino Array**	**56.09**	**335**	P	**P**	**12 36 53.3**	**-1.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,51nm,18.1s						
JIRN	**Jiri**	**57.38**	**304**	eP	**P**	**12 37 06.7**	**+2.7**
GUN	**Gumba**	**57.73**	**304**	eP	**P**	**12 37 08.6**	**+2.1**
PKI	**Pulchoki**	**57.99**	**304**	eP	**P**	**12 37 09.7**	**+1.3**
KKN	**Kakani**	**58.18**	**304**	eP	**P**	**12 37 11.5**	**+1.8**
	comp=Z,15nm,0.9s,mb5.0						
DMN	**Daman**	**58.26**	**304**	eP	**P**	**12 37 12.5**	**+2.3**
	comp=Z,14nm,0.8s,mb5.0						
GKN	**Gorkha**	**58.79**	**304**	eP	**P**	**12 37 15.5**	**+1.6**
	comp=Z,20nm,0.8s,mb5.2						
ZAK	**Zakamensk**	**59.36**	**335**	eP	**P**	**12 37 15.5**	**-2.3**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.3						
KOLN	**Koldanda**	**59.57**	**303**	eP	**P**	**12 37 20.1**	**+0.8**
	comp=Z,18nm,1.1s,mb5.0						
WMQ	**Urumqi**	**63.40**	**322**	P	**P**	**12 37 46.0**	**+0.9**
CASY	**Casey**	**67.71**	**192**	P	**P**	**12 38 11.7**	**-1.2**
	comp=Z,5.5nm,0.9s,mb4.6						
MKAR	**Makanchi Array**	**68.17**	**322**	P	**P**	**12 38 15.4**	**-0.5**
	comp=Z,1.1nm,0.6s,mb4.1,baz=112,slow=8.1,SNR=11						
MKAR	**Makanchi Array**	**68.17**	**322**	P	**P**	**12 38 15.4**	**-0.5**
MKAR				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**72.09**	**325**	*e*P	**P**	**12 38 38.6**	**-1.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
KURK	**Kurchatov**	**72.09**	**325**	*e*P	**P**	**12 38 38.6**	**-1.2**
	comp=Z,1.7nm,0.7s,mb4.1						
VNDA	**Vanda**	**77.28**	**175**	P	**P**	**12 39 09.7**	**-0.2**
	comp=Z,1.4nm,0.5s,mb4.1,baz=312,slow=5.3,SNR=16						
VNDA				LR	LR	13 11 37.6	
	comp=Z,113nm,20.4s,MS4.2,baz=317,slow=34						
VNDA	**Vanda**	**77.28**	**175**	*e*P	**P**	**12 39 09.8**	**0.0**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
VNDA	**Vanda**	**77.28**	**175**	*e*P	**P**	**12 39 09.8**	**-0.1**
	comp=Z,1.9nm,0.7s,mb4.1						
BRVK	**Borovoye**	**77.76**	**325**	*e*P	**P**	**12 39 11.7**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
BRVK	**Borovoye**	**77.76**	**325**	*e*P	**P**	**12 39 11.7**	**-0.8**
	comp=Z,4.1nm,1.1s,mb4.3						
ZRNK	**Zerenda**	**78.46**	**325**	*e*P	**P**	**12 39 16.5**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**78.46**	**325**	*e*P	**P**	**12 39 16.5**	**+0.1**
	comp=Z,3.5nm,0.8s,mb4.3						
MAW	**Mawson**	**83.16**	**202**	P	**P**	**12 39 42.1**	**+0.6**
	comp=Z,3.2nm,0.6s,mb4.5,baz=85,slow=5.0,SNR=4.9						
MAW				LR	LR	13 12 13.7	
	comp=Z,105nm,18.8s,MS4.2,baz=157,slow=32						
MAW	**Mawson**	**83.16**	**202**	*e*P	**P**	**12 39 39.4**	**-2.0**
	comp=Z,4.4nm,0.7s,mb4.6						
QSPA	**South Pole Qui**	**88.67**	**180**	*e*P	**P**	**12 40 10.6**	**+1.9**
	comp=Z,8.4nm,1.1s,mb5.0						
YBH	**Yreka Blue Hor**	**97.84**	**48**	LR	LR	13 18 34.9	
	comp=Z,26nm,20.1s,MS3.7,baz=324,slow=32						
ARCES	**ARCESS Array B**	**98.90**	**341**	P	**P**	**12 40 52.6**	**-3.0**
	comp=Z,1.4nm,0.9s,mb4.5,baz=64,slow=5.5,SNR=4.2						
ARCES	**ARCESS Array B**	**98.90**	**341**	P	**P**	**12 40 52.7**	**-2.9**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**135.09**	**287**	PKP	PKPdf	12 46 36.6	+2.1
	comp=Z,1.1nm,0.8s,baz=85,slow=0.5,SNR=5.7						
LPAZ	**La Paz**	**148.92**	**125**	PKPbc	PKPbc	12 47 05.3	+2.3
	comp=Z,1.0nm,0.6s,baz=230,slow=7.5,SNR=3.6						

*ISCJB **01** 12:33:22.6±1.0,3835N±004×2052E±008,h2^{km},Error ellipse: s-maj=9.2km s-min=5.4km az=145.2*
*CSEM **01** 12:33:22.6±0.3,3832N×2046E,h2^{km},ML2.6,Error ellipse: s-maj=7.0km s-min=3.4km az=71.0*
*NEIC **01** 12:33:22.8,3827N×2047E,h2^{km},MD3.3(ATH),After ATH.*
*ATH **01** 12:33:22.8,3827N×2047E,h2^{km},MD3.4/5*
*THE **01** 12:33:25.1,3846N×2049E,h10^{km},ML2.6*
ISC 01 12:33:22.7±1.0,**3833N**±004×**2048E**±008,**h2**^{km},**n9,** σ**0**^{s}**60**/12,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.17**	**151**	*e*PG	**Pg**	**12 33 26.0**	**0.0**
LKD	**Levkas**	**0.40**	**19**	*e*Pg	**Pg**	**12 33 29.7**	**-0.6**
LKD				*e*Sg	**Sg**	**12 33 35.3**	**-0.3**
RLS	**Riolos of Patr**	**0.82**	**109**	*e*PG	**Pg**	**12 33 37.7**	**-0.7**
EVR	**Evrytania**	**1.19**	**60**	*e*PB	**Pb**	**12 33 46.5**	**+0.5**
IGT	**Igoumenitsa**	**1.21**	**354**	*e*Pg	**Pg**	**12 33 45.4**	**-0.4**
IGT				*e*Sg	**Sg**	**12 34 00.9**	**-0.6**
KEK	**Kerkira**	**1.48**	**339**	*e*PB	**Pb**	**12 33 51.7**	**+0.8**
AGG	**Agios Georgios**	**1.60**	**64**	*e*Pg	**Pg**	**12 33 53.1**	**-0.3**
AGG				*e*Sg	**Sg**	**12 34 14.8**	**+0.6**
ITM	**Ithomi**	**1.62**	**135**	*e*PB	**Pb**	**12 33 53.1**	**-0.2**
FNA	**Florina**	**2.55**	**15**	*e*Pn	**Pn**	**12 34 06.2**	**+1.2**

*NIED **01** 12:39:00,2400N×12220E,h11^{km},Mw3.8 Best double couple: M$_0$5.85000×10^{14} NP1:φ$_s$82.00000°,δ85.00000°,λ130.00000°. NP2:φ$_s$178.00000°,δ40.00000°,λ8.00000°.*
JMA 01 12:39:10.1±0.1,**2403N**×**12219E**,**h26**^{km}±4^{km},**M4.2, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.86**	**60**	P	Pb	12 39 25.9	-0.5
YOJ				*e*S	Sb	12 39 37.5	-0.1
IRIF	**Iriomote-Funau**	**1.44**	**78**	P	Pn	12 39 35.0	+0.5
IRIF				*e*S	Sn	12 39 52.8	+0.3
HATJ	**Hateruma jima**	**1.48**	**89**	P	Pn	12 39 35.4	+0.4
HATJ				*e*S	Sn	12 39 53.3	-0.1
JKRS	**Kuro-shima**	**1.68**	**83**	P	Pn	12 39 38.4	+0.7
JKRS				*e*S	Sn	12 39 59.9	+1.6
JIJ	**Ishigaki jima**	**1.81**	**79**	P	Pn	12 39 40.5	+0.9
JIJ				S	Sn	12 40 02.1	+0.3
JTJ	**Tarama**	**2.37**	**75**	P	Pn	12 39 48.5	+1.2
JTJ				*e*S	Sn	12 40 16.1	+0.6
JMJ	**Miyako jima 2**	**2.94**	**74**	P	Pn	12 39 56.8	+1.8
JMJ				*e*S	Sn	12 40 30.5	+1.1
JOGS	**Gusukube**	**3.02**	**75**	P	Pn	12 39 58.1	+1.9
JOGS				*e*S	Sn	12 40 33.2	+1.6
JKE	**Kume jima 2**	**4.75**	**60**	P	Pn	12 40 22.3	+2.3
JOW	**Kunigami**	**6.17**	**62**	P	Pn	12 40 38.7	-0.8
JTK	**Tokunoshima**	**7.14**	**57**	P	Pn	12 40 51.7	-1.2

*ISCJB **01** 12:39:53.7±2.6,3031N±008×9490E±006,h1^{km}±18^{km},mb4.0/16,MS3.7/1,Error ellipse: s-maj=12.7km s-min=8.4km az=163.2*
*IDC **01** 12:39:54.9±0.9,3021N×9469E,h0^{km},mb3.8/7,mb1 3.9/9,mb1mx3.7/22,mbtmp3.8/9,ML3.5/2,Error ellipse: s-maj=49.6km s-min=17.3km az=57.0*
*MOS **01** 12:39:58.5±1.1,3033N×9496E,h33^{km},mb4.2/13,Error ellipse: s-maj=15.8km s-min=9.8km az=107.4*
*BJI **01** 12:40:00.8,3036N×9483E,h48^{km},mB4.3,mb4.1,ML3.7,Ms4.0*
*NEIC **01** 12:40:01.6±1.7,3033N×9483E,h46^{km}±17^{km},mb3.9/6,Error ellipse: s-maj=13.0km s-min=11.1km az=52.0*
ISC 01 12:39:56.9±2.8,**3041N**±007×**9490E**±006,**h6**^{km}±19^{km},**n45,** σ**0**^{s}**98**/47,**mb4.0**/15,**MS3.7**/1,**4C-1D,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.33**	**259**	P	**Pn**	**12 40 52.0**	**+2.5**
LSA	**Lhasa**	**3.33**	**259**	*e*Pn	**Pn**	**12 40 50.8**	**+1.3**
JIRN	**Jiri**	**8.10**	**252**	*e*P	**Pn**	**12 41 56.2**	**+1.1**
GUN	**Gumba**	**8.27**	**255**	*e*P	**Pn**	**12 41 57.5**	**+0.1**
	46nm,0.8s						
PKI	**Pulchoki**	**8.78**	**254**	*e*P	**Pn**	**12 42 03.9**	**-0.5**
	24nm,1.0s						
KKN	**Kakani**	**8.81**	**255**	*e*P	**Pn**	**12 42 05.1**	**+0.3**
	36nm,1.0s						
DMN	**Daman**	**9.02**	**254**	*e*P	**Pn**	**12 42 08.2**	**+0.5**
	46nm,1.2s						
GKN	**Gorkha**	**9.28**	**258**	*e*P	**Pn**	**12 42 10.2**	**-1.1**
	31nm,0.9s						
KOLN	**Koldanda**	**10.23**	**258**	*e*P	**Pn**	**12 42 21.5**	**-2.8**
	37nm,1.0s						
GYA	**Guiyang**	**11.07**	**108**	*e*P	**Pn**	**12 42 37.0**	**+1.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
MKAR	**Makanchi Array**	**19.06**	**333**	P	**Pn**	**12 44 18.9**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=143,slow=14,SNR=7.1						
SONM	**Songino Array**	**19.52**	**24**	P	**Pn**	**12 44 26.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=213,slow=11,SNR=16						
ULN	**Ulaanbaatar**	**19.78**	**25**⇑	*e*P	**Pn**	**12 44 29.0**	**-0.2**
ULN	**Ulaanbaatar**	**19.78**	**25**	*e*P	**Pn**	**12 44 28.6**	**-0.6**
	comp=Z,4.7nm,1.0s						
AAK	**Ala-Archa**	**20.38**	**312**	*e*P	**P**	**12 44 34.8**	**+0.4**
AAK				pmax	pmax		
	comp=Z,15nm,1.3s						
AAK	**Ala-Archa**	**20.38**	**312**	*e*P	**P**	**12 44 34.8**	**+0.4**
	comp=Z,15nm,1.3s						
NJ2	**Nanjing**	**20.54**	**79**	*e*P	**P**	**12 44 36.2**	**+0.1**
NJ2				AP		12 44 45.0	
NJ2				PP		12 44 57.4	
NJ2				S	**S**	**12 48 18.0**	**-8.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,100nm,6.2s						
NJ2				LR	LR		
	comp=N,180nm,9.0s						
NJ2				LR	LR		
	comp=E,120nm,10.2s						
ZAK	**Zakamensk**	**20.92**	**15**	*e*P	**P**	**12 44 40.6**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.4s						
KURK	**Kurchatov**	**23.66**	**334**⇑	*e*P	**P**	**12 45 09.1**	**-0.2**
KURK	**Kurchatov**	**23.66**	**334**	*e*P	**P**	**12 45 07.8**	**-1.5**
	comp=Z,5.5nm,1.1s,mb3.9						
ZAL	**Zalesovo**	**24.63**	**346**	P	**P**	**12 45 18.7**	**+0.6**
	comp=Z,1.0nm,0.3s,mb3.8,baz=292,slow=9.6,SNR=5.9						
ZAL	**Zalesovo**	**24.63**	**346**	P	**P**	**12 45 18.7**	**+0.6**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**28.82**	**329**	P	**P**	**12 45 55.1**	**-0.7**
	comp=Z,2.0nm,1.1s,mb3.8,baz=131,slow=10,SNR=5.8						
BVAR	**Borovoye Array**	**28.82**	**329**	P	**P**	**12 45 55.1**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BRVK	**Borovoye**	**28.89**	**329**	*e*P	**P**	**12 45 57.3**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
BRVK	**Borovoye**	**28.89**	**329**	*e*P	**P**	**12 45 57.3**	**+0.9**
	comp=Z,1.9nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**29.40**	**327**	*e*P	**P**	**12 46 01.2**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.7						
ZRNK	**Zerenda**	**29.40**	**327**	*e*P	**P**	**12 46 01.2**	**+0.2**
	comp=Z,2.1nm,1.2s,mb3.7						
ARU	**Arti**	**36.36**	**326**⇓	*i*P	**P**	**12 47 02.2**	**+0.5**
ARU				*e*		12 48 28.0	
ARU				*e*S	**S**	**12 52 44.4**	**+1.2**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
ARU	**Arti**	**36.36**	**326**	P	**P**	**12 47 02.0**	**+0.3**
	comp=Z,4.6nm,1.0s,mb4.4						
YAK	**Yakutsk**	**38.86**	**25**⇑	*e*P	**P**	**12 47 22.3**	**-0.7**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
YAK				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.7						
YSS	**Yuzh-Sakhalins**	**40.18**	**52**⇑	*e*P	**P**	**12 47 35.0**	**+1.0**
YSS				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.2						
YSS	**Yuzh-Sakhalins**	**40.18**	**52**	*e*P	**P**	**12 47 34.4**	**+0.4**
KIV	**Kislovodsk**	**43.06**	**303**	*e*P	**P**	**12 47 59.4**	**+1.8**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
OBN	**Obninsk**	**47.72**	**319**	*i* P	**P**	**12 48 35.3**	**+0.8**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
AKASG	**Malin Array Be**	**52.05**	**313**	P	**P**	**12 49 06.1**	**-1.4**
	comp=Z,0.3nm,0.2s,mb3.8,baz=81,slow=6.6,SNR=7.0						
AKASG	**Malin Array Be**	**52.05**	**313**	*i* P	**P**	**12 49 06.9**	**-0.6**
AKASG	**Malin Array Be**	**52.05**	**313**	P	**P**	**12 49 06.1**	**-1.4**
FINES	**FINESS Array B**	**53.73**	**326**	P	**P**	**12 49 19.3**	**-0.6**
	comp=Z,0.5nm,0.5s,mb3.8,baz=106,slow=6.8,SNR=6.9						
FINES	**FINESS Array B**	**53.73**	**326**	*i* P	**P**	**12 49 19.7**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**53.73**	**326**	P	**P**	**12 49 19.3**	**-0.6**
NOA	**NORSAR Array B**	**60.91**	**326**	P	**P**	**12 50 09.6**	**-1.0**
	comp=Z,0.3nm,0.5s,mb3.7,baz=90,slow=4.5,SNR=2.8						
WRA	**Warramunga Arr**	**62.81**	**138**	P	**P**	**12 50 21.7**	**-1.6**
	comp=Z,0.8nm,0.9s,mb3.8,baz=329,slow=7.7,SNR=6.5						
WRA	**Warramunga Arr**	**62.81**	**138**	P	**P**	**12 50 21.7**	**-1.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**65.50**	**141**	P	**P**	**12 50 40.5**	**-0.5**
	comp=Z,0.2nm,0.4s,mb3.5,baz=324,slow=6.4,SNR=11						

MEX 01 12:46:31.1±0.8,**1691N**×**10009W**,**h14**^{km}±4^{km},**MD4.1, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.17**	**106**	*i* P	Pg	12 46 34.0	-1.1
ACX				*i* S	Sg	12 46 38.0	+0.1
CAIG	**El Cayaco**	**0.22**	**308**	*i* P	Pg	12 46 35.0	-0.9
CAIG				*e*S	Sg	12 46 39.1	-0.1
MEIG	**Mezcala**	**1.10**	**24**	*i* P	Pb	12 46 48.5	-3.5
MEIG				*e*S	Sb	12 47 01.6	-4.6
ZIIG	**Zihuatanejo**	**1.49**	**298**	*i* P	Pn	12 46 54.8	-2.7
ZIIG				*i* S	Sn	12 47 11.8	-4.9
PLIG	**Platanillo**	**1.57**	**21**	*i* P	Pn	12 46 56.1	-2.5
PLIG				*i* S	Sn	12 47 14.5	-4.3
PNIG	**Pinotepa**	**1.95**	**105**	*i* P	Pn	12 47 00.3	-3.5
PNIG				*e*S	Sn	12 47 22.6	-5.4
YAIG	**Yautepec**	**2.17**	**26**	*i* P	Pn	12 47 03.4	-3.4
YAIG				*i* S	Sn	12 47 27.7	-5.8
UTMO	**Huajuapan**	**2.36**	**67**	*i* P	Pn	12 47 06.8	-2.7
UTMO				*i* S	Sn	12 47 34.8	-3.5
PPM	**Popocatepetl**	**2.55**	**33**	*i* P	Pn	12 47 09.7	-2.4
PPM				*i* S	Sn	12 47 40.4	-2.6
MOIG	**Morelia**	**2.94**	**339**	*i* P	Pn	12 47 16.2	-1.3
MOIG				*i* S	Sn	12 47 48.6	-4.0
TPIG	**Tehuac#an**	**3.00**	**60**	*i* P	Pn	12 47 17.4	-0.8
TPIG				*i* S	Sn	12 47 49.1	-4.9
VHO	**Vista Hermosa**	**3.21**	**87**	*i* P	Pn	12 47 20.6	-0.6
VHO				*e*S	Sn	12 47 54.4	-4.9
OXX	**Oaxaca**	**3.22**	**87**	*e*P	Pn	12 47 23.0	+1.7
CMIG	**Matias Romero**	**4.98**	**87**	*i* P	Pn	12 47 44.3	-1.2
CMIG				*i* S	Sn	12 48 39.4	-3.5

*IDC **01** 13:12:14.8±1.7,048N×12586E,h0^{km},mb3.8/4,mb1 4.0/4,mb1mx3.7/16,mbtmp3.8/4,Error ellipse: s-maj=163.6km s-min=24.0km az=64.0*
*ISCJB **01** 13:12:15.6±0.7,077N±009×1260E±02,h33^{km},mb4.0/6,Error ellipse: s-maj=27.9km s-min=9.7km az=141.5*
*NEIC **01** 13:12:15.3±0.6,062N×12599E,h10^{km},mb4.3/2,Error ellipse: s-maj=26.9km s-min=10.6km az=68.0*
ISC 01 13:12:17.9±0.7,**074N**±009×**1260E**±02,**h35**^{km},**n13,** σ**1**^{s}**11**/13,**mb4.0**/6,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**12.93**	**345**	*e*P	**Pn**	**13 15 16.8**	**-2.2**
BOAC	**Boac**	**13.29**	**342**	*e*P	**Pn**	**13 15 24.2**	**+0.2**
WRAB	**Tennant Creek**	**22.11**	**159**	*e*P	**P**	**13 17 09.1**	**-1.1**
	4.3nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**22.12**	**159**	P	**P**	**13 17 10.1**	**-0.1**
	0.8nm,0.4s,mb3.5,baz=336,slow=11,SNR=17						
WB2	**Warramunga Arr**	**22.12**	**159**	*e*P	**P**	**13 17 10.0**	**-0.3**
MBWA	**Marble Bar**	**22.62**	**195**	P	**P**	**13 17 14.3**	**-1.2**
AS31	**Alice Springs**	**25.45**	**163**	*e*P	**P**	**13 17 43.6**	**+1.3**
ASAR	**Alice Springs**	**25.45**	**163**	P	**P**	**13 17 43.5**	**+1.1**
	1.0nm,0.3s,mb3.8,baz=342,slow=7.7,SNR=22						
KULM	**Kulim**	**25.72**	**281**	P	**P**	**13 17 45.3**	**+0.5**
STKA	**Stephens Creek**	**35.64**	**157**	P	**P**	**13 19 12.0**	**-0.4**
	2.1nm,0.6s,mb4.2,baz=314,slow=12,SNR=6.3						
MKAR	**Makanchi Array**	**59.61**	**327**	P	**P**	**13 22 21.5**	**+3.3**
	0.4nm,0.3s,mb3.9,baz=127,slow=8.6,SNR=5.8						
MA2	**Magadan**	**61.76**	**14**	P	**P**	**13 22 33.4**	**+0.6**
CASY	**Casey**	**67.78**	**187**	P	**P**	**13 23 16.7**	**+4.6**
	1.9nm,0.5s,mb4.4						

*MOS **01** 13:12:37.0±1.2,5174N×17729W,h33^{km},mb4.5/14,Error ellipse: s-maj=17.4km s-min=12.2km az=62.2*
*BJI **01** 13:12:38.1,5150N×17740W,h61^{km},mB4.8,mb4.8,Ms4.3,Msz4.0*
*IDC **01** 13:12:39.5±0.9,5162N×17730W,h42^{km}±7^{km},mb3.9/16,mb1 4.1/17,mb1mx3.9/28,mbtmp4.1/17,ML4.6/1,Error ellipse: s-maj=19.8km s-min=12.7km az=165.0*
*NEIC **01** 13:12:39.2±0.4,5145N×17736W,mb4.4/11,ML4.1(AEIC),Error ellipse: s-maj=14.8km s-min=6.5km az=166.0*
*ISCJB **01** 13:12:40.5±0.7,5177N±010×17734W±005,h66^{km}±6^{km},mb4.2/34,Error ellipse: s-maj=16.1km s-min=4.9km az=160.1*
ISC 01 13:12:41.6±0.6,**5173N**±010×**17732W**±005,**h63**^{km}±5^{km},**h53**^{km}±5.4^{km}**:pP-P,n87,**σ**1**^{s}**18**/84,**mb4.3**/34,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.99**	**75**	P	**Pn**	**13 13 11.6**	**-1.3**
ATKA				S	**Sn**	**13 13 36.0**	**-0.8**
AMKA	**Amchitka**	**2.14**	**262**	P	**Pn**	**13 13 14.0**	**-0.9**
AMKA				S	**Sn**	**13 13 41.3**	**+0.9**
NIKO	**Nikolski**	**5.34**	**73**	*e*Pn	**Pn**	**13 13 55.0**	**-3.7**
NIKO				P		13 13 58.7	
NIKO				*e*Sn	**Sn**	**13 14 55.9**	**-2.8**
SMY	**Shemya**	**5.37**	**284**	P	**Pn**	**13 13 59.1**	**0.0**
SPIA	**Saint Paul Isl**	**6.84**	**34**	P	**Pn**	**13 14 23.1**	**+3.8**
UNV	**Unalaska Valle**	**6.90**	**68**	P	**Pn**	**13 14 20.8**	**+0.8**
AKUT	**Akutan**	**7.39**	**66**	*e*Pn	**Pn**	**13 14 27.1**	**+0.4**
FALS	**False Pass**	**8.90**	**64**	*e*Pn	**Pn**	**13 14 49.8**	**+2.4**
SDPT	**Sand Point**	**10.66**	**64**	*e*Pn	**Pn**	**13 15 11.4**	**0.0**
SVW2	**Sparrevohn**	**15.18**	**43**	*e*P	**Pn**	**13 16 16.1**	**+4.0**
KDAK	**Kodiak Island**	**15.46**	**57**	P	**Pn**	**13 16 12.9**	**-2.8**
	2.3nm,0.3s,baz=282,slow=8.8,SNR=12						
KDAK	**Kodiak Island**	**15.46**	**57**	*e*Pn	**Pn**	**13 16 12.6**	**-3.1**
	17nm,0.4s						
SLKM	**Skilak Lake**	**17.36**	**49**	*e*P	**Pn**	**13 16 39.6**	**+0.1**
PMR	**Palmer**	**18.22**	**46**	P	**Pn**	**13 16 46.0**	**-3.9**
PMR				*e*P		13 16 52.3	
SML	**Sawmill**	**18.65**	**46**	*e*P	**Pn**	**13 16 54.9**	**-0.3**
INK	**Inuvik**	**26.64**	**35**	P	**P**	**13 18 14.4**	**+0.1**
	0.5nm,0.5s,mb3.4,baz=240,slow=8.1,SNR=4.6						
INK				PcP	PcP	13 21 35.8	-0.9
	1.5nm,0.5s,baz=260,slow=6.2,SNR=4.1						
INK	**Inuvik**	**26.64**	**35**	P	**P**	**13 18 14.4**	**+0.2**
INK						13 21 35.8	
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAJ	**Asahikawa**	**27.63**	**270**	P	**P**	**13 18 22.7**	**-0.4**
	comp=Z,3.9nm,0.9s,mb4.0,baz=90,slow=6.4,SNR=5.9						
ASAJ	**Asahikawa**	**27.63**	**270**	P	**P**	**13 18 22.7**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YKA	**Yellowknife Ar**	**34.32**	**47**	P	**P**	**13 19 20.3**	**-1.6**
	comp=Z,0.6nm,0.7s,mb3.7,baz=268,slow=7.4,SNR=3.3						
YKA				PcP	PcP	13 21 57.5	+0.7
	comp=Z,1.5nm,0.7s,baz=282,slow=2.9,SNR=5.4						
YKA	**Yellowknife Ar**	**34.32**	**47**	P	**P**	**13 19 20.3**	**-1.6**
YKA						13 21 57.5	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**34.32**	**47**	P	**P**	**13 19 20.3**	**-1.6**
YKA				PcP	PcP	13 21 57.5	+0.7
MJAR	**Matsushiro Arr**	**34.75**	**262**	P	**P**	**13 19 26.3**	**+0.6**
	comp=Z,1.1nm,0.6s,mb4.0,baz=51,slow=8.2,SNR=5.9						
MJAR	**Matsushiro Arr**	**34.75**	**262**	P	**P**	**13 19 26.3**	**+0.7**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MDJ	**Mudanjiang**	**35.42**	**280**	P	**P**	**13 19 30.6**	**-0.8**
MDJ				AP	pP	13 19 45.4	-1.7
MDJ				XP	sP	13 19 52.8	-1.7
MDJ				PP	PP	13 20 51.4	-1.4
MDJ				PCP	PcP	13 21 59.3	-0.7
MDJ				S	**S**	**13 25 00.4**	**-1.3**
MDJ				XS	sS	13 25 26.7	-1.7
MDJ				SCP	ScP	13 25 40.4	+0.1
MDJ				PCS	PcS	13 25 47.2	+0.1
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,89nm,5.9s						
MDJ				LR	LR		
	comp=N,39nm,8.2s						
MDJ				LR	LR		
	comp=E,34nm,6.2s						
MDJ				LR	LR		
	comp=Z,56nm,5.0s						
HAWA	**Hanford**	**37.38**	**75**	*e*P	**P**	**13 19 49.1**	**+1.0**
	comp=Z,0.4nm,0.7s,mb3.4						
NEW	**Newport**	**37.90**	**71**	P	**P**	**13 19 53.1**	**+0.7**
	comp=Z,5.3nm,0.7s,mb4.4,baz=281,slow=8.2,SNR=6.9						
NEW				pP	pP	13 20 03.6	-4.6
	comp=Z,4.2nm,0.9s,baz=288,slow=8.2,SNR=3.2						
NEW	**Newport**	**37.90**	**71**	P	**P**	**13 19 53.2**	**+0.7**
NEW				*PP	pP	13 20 03.7	-4.5
NEW				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NEW				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NEW	**Newport**	**37.90**	**71**	*e*P	**P**	**13 19 53.2**	**+0.7**
	comp=Z,6.3nm,0.9s,mb4.3						
CN2	**Changchun**	**38.39**	**281**	*e*P	**P**	**13 19 51.6**	**-5.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
MSO	**Missoula**	**40.48**	**71**	*e*P	**P**	**13 20 14.3**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.0						
HRY	**Holter Researc**	**41.78**	**70**	*e*P	**P**	**13 20 25.0**	**+0.3**
HLID	**Hailey**	**41.96**	**75**	*e*P	**P**	**13 20 26.9**	**+0.7**
	comp=Z,2.6nm,0.9s,mb3.9						
MCMT	**McKenzie Canyo**	**42.19**	**73**	*e*P	**P**	**13 20 28.6**	**+0.5**
BOZ	**Bozeman (W)**	**42.47**	**71**	*e*P	**P**	**13 20 30.9**	**+0.6**
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
BOZ	**Bozeman (W)**	**42.47**	**71**	*e*P	**P**	**13 20 30.9**	**+0.6**
	comp=Z,4.7nm,0.6s,mb4.3						
NVAR	**Mina Array Bea**	**42.60**	**84**	P	**P**	**13 20 32.2**	**+0.9**
	comp=Z,0.5nm,0.5s,mb3.5,baz=295,slow=7.6,SNR=6.3						
NVAR	**Mina Array Bea**	**42.60**	**84**	P	**P**	**13 20 32.2**	**+0.8**
DUG	**Dugway**	**44.89**	**78**	*e*P	**P**	**13 20 50.6**	**+0.8**
DUG				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.4						
DUG	**Dugway**	**44.89**	**78**	*e*P	**P**	**13 20 50.6**	**+0.8**
	comp=Z,7.5nm,1.4s,mb4.3						
PDAR	**Pinedale Array**	**45.33**	**73**	P	**P**	**13 20 54.0**	**+0.9**
	comp=Z,3.5nm,0.6s,mb4.4,baz=313,slow=5.0,SNR=28						
PDAR				pP	pP	13 21 05.1	-4.2
	comp=Z,2.9nm,0.8s,baz=318,slow=4.2,SNR=7.0						
BJI	**Beijing**	**46.20**	**283**	P	**P**	**13 20 57.0**	**-3.1**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.8						
SONM	**Songino Array**	**47.31**	**297**	P	**P**	**13 21 09.5**	**+0.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=43,slow=10,SNR=4.3						
SONM				PcP	PcP	13 22 39.6	+0.8
	comp=Z,1.5nm,0.7s,baz=63,slow=2.3,SNR=8.1						
SONM				pPcP		13 22 50.9	
	comp=Z,1.5nm,0.9s,baz=84,slow=3.3,SNR=4.2						
SONM	**Songino Array**	**47.31**	**297**	P	**P**	**13 21 09.5**	**+0.7**
SONM						13 22 39.6	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**48.48**	**287**	*e*P	**P**	**13 21 16.5**	**-1.3**
HHC				AP	pP	13 21 35.1	+1.0
HHC				XP	sP	13 21 44.0	+2.7
HHC				PP	PP	13 23 09.4	-1.5
HHC				S	**S**	**13 28 10.8**	**-3.3**
HHC				XS	sS	13 28 42.7	+1.0
HHC				SCS	ScS	13 30 59.3	-5.2
HHC				SS	SS	13 31 34.9	-10
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,101nm,6.0s						
HHC				LR	LR		
	comp=N,134nm,23.2s						
HHC				LR	LR		
	comp=E,135nm,23.8s						
HHC				LR	LR		
	comp=Z,204nm,26.8s						
PV01	**Paradox Valley**	**48.76**	**78**	*e*P	**P**	**13 21 20.3**	**+0.4**
NJ2	**Nanjing**	**49.72**	**273**	*e*P	**P**	**13 21 30.1**	**+2.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
LZH	**Lanzhou**	**56.17**	**287**	*e*P	**P**	**13 22 17.5**	**+2.8**
LZH				AP	pP	13 22 35.5	+4.1
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,60nm,4.3s						
ARCES	**ARCESS Array B**	**57.90**	**351**	P	**P**	**13 22 27.1**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.8,baz=25,slow=7.8,SNR=9.4						
ARCES	**ARCESS Array B**	**57.90**	**351**	P	**P**	**13 22 27.2**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CD2	**Chengdu**	**59.80**	**283**	*e*P	**P**	**13 22 38.5**	**-1.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
WMQ	**Urumqi**	**59.92**	**304**	P	**P**	**13 22 43.5**	**+2.5**
MIAR	**Mount Ida**	**60.14**	**71**	*e*P	**P**	**13 22 42.3**	**-0.2**
MIAR				*e*		13 22 53.1	
MIAR				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
MIAR	**Mount Ida**	**60.14**	**71**	*e*P	**P**	**13 22 42.3**	**-0.1**
	comp=Z,5.8nm,1.1s,mb4.5						
MIAR				*e*		13 22 53.1	
BVAR	**Borovoye Array**	**61.21**	**320**	P	**P**	**13 22 50.1**	**+0.4**
	comp=Z,1.8nm,0.4s,mb4.6,baz=58,slow=6.2,SNR=20						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BVAR				PcP	PcP	13 23 32.1	+0.2
	comp=Z,1.0nm,0.5s,baz=80,slow=3.3,SNR=4.4						
BVAR				pPcP		13 23 40.9	
	comp=Z,0.8nm,0.4s,baz=52,slow=5.5,SNR=4.6						
BVAR	Borovoye Array	61.21	320	P	P	13 22 50.1	+0.3
BVAR						13 23 32.1	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	Borovoye	61.23	320	eP	P	13 22 49.9	0.0
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
BRVK	Borovoye	61.23	320	eP	P	13 22 49.9	+0.1
	comp=Z,1.1nm,0.5s,mb4.2						
ZRNK	Zerenda	61.82	321	eP	P	13 22 53.7	-0.1
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.8						
ZRNK	Zerenda	61.82	321	eP	P	13 22 53.7	-0.1
	comp=Z,2.6nm,0.4s,mb4.7						
ARU	Arti	62.79	329	eP	P	13 22 59.6	-0.7
ARU				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
ARU	Arti	62.79	329	eP	P	13 22 59.6	-0.7
	comp=Z,1.8nm,0.4s,mb4.5						
PLAL	Pickwick Lake	63.02	67	eP	P	13 23 01.4	-0.5
	comp=Z,1.4nm,0.6s,mb4.3						
KMI	Kunming	64.59	279	P	P	13 23 14.5	+2.3
KMI				AP	pP	13 23 30.3	+1.2
KMI				XP	sP	13 23 38.9	+2.7
KMI				PP	PP	13 25 33.4	-1.4
KMI				S	S	13 31 45.0	-1.9
KMI				XS	sS	13 32 16.0	+0.4
KMI				SS	SS	13 35 51.6	-6.8
KMI				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.5						
KMI				AMB	AMB		
	comp=Z,81nm,5.0s						
KMI				LR	LR		
	comp=Z,22nm,40.4s						
FINES	FINESS Array B	65.64	348	P	P	13 23 18.8	-0.2
	comp=Z,0.4nm,0.6s,mb3.6,baz=0.0,slow=7.4,SNR=3.8						
GOGA	Godfrey	66.79	65	eP	P	13 23 25.8	-0.5
GOGA				pmax	pmax		
	comp=Z,117nm,1.1s						
GOGA	Godfrey	66.79	65	eP	P	13 23 25.8	-0.5
	comp=Z,117nm,1.1s						
AKTK	Aktyubinsk	67.93	325	P	P	13 23 34.2	+0.6
AKTK				pP	pP	13 23 46.9	-3.7
AKTO	Aktyubinsk	67.93	325	P	P	13 23 34.2	+0.6
	comp=Z,1.9nm,0.5s,mb4.4,baz=38,slow=4.7,SNR=9.1						
AKTO				pP	pP	13 23 46.9	-3.7
	comp=Z,1.1nm,0.6s,baz=56,slow=6.2,SNR=3.1						
AKTO	Aktyubinsk	67.93	325	P	P	13 23 34.2	+0.7
AKTO				*PP	pP	13 23 46.9	-3.7
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
KSH	Kashi	69.03	307	eP	P	13 23 37.3	-3.1
KSH				ePCP	PcP	13 24 03.8	-0.4
KSH				eSCP		13 28 04.2	
KSH				ePCS		13 28 11.9	
KSH				eS	S	13 32 31.2	-9.3
KSH				eSCS	ScS	13 33 29.2	-6.3
KSH				AMB	AMB		
	comp=Z,161nm,4.2s						
KSH				LR	LR		
	comp=Z,249nm,9.8s						
WRA	Warramunga Arr	82.91	225	P	P	13 24 58.1	-1.3
	comp=Z,0.8nm,0.7s,mb3.9,baz=33,slow=6.0,SNR=7.2						
WRA	Warramunga Arr	82.91	225	P	P	13 24 58.1	-1.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FITZ	Fitzroy Crossi	85.41	233	P	P	13 25 12.5	+0.4
	comp=Z,1.3nm,0.5s,mb4.3,baz=72,slow=8.3,SNR=8.1						
ASAR	Alice Springs	86.37	224	P	P	13 25 16.8	-0.1
	comp=Z,1.4nm,0.8s,mb4.3,baz=21,slow=5.1,SNR=18						
ASAR	Alice Springs	86.37	224	P	P	13 25 16.8	0.0
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
STKA	Stephens Creek	90.72	214	P	P	13 25 35.5	-2.0
	comp=Z,2.1nm,0.6s,mb4.7,baz=328,slow=9.7,SNR=4.9						
STKA	Stephens Creek	90.72	214	P	P	13 25 35.5	-2.0
TORD	Torodi Ar. Bea	115.39	1	PKP	PKPdf	13 31 15.5	-0.5
	comp=Z,0.4nm,0.4s,baz=354,slow=2.0,SNR=5.6						
TSUM	Tsumeb	145.49	335	PKPbc	PKPbc	13 32 13.4	+0.9
	comp=Z,0.8nm,0.6s,baz=18,slow=1.9,SNR=7.5						
MAW	Mawson	147.32	218	PKPbc	PKPbc	13 32 15.7	-2.2
	comp=Z,3.0nm,0.8s,baz=78,slow=4.7,SNR=3.9						
MAW	Mawson	147.32	218	PKP2	PKPbc	13 32 15.7	-2.2
MAW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LBTB	Lobatse	148.11	318	PKPbc	PKPbc	13 32 20.3	+0.3
	comp=Z,5.0nm,0.7s,baz=43,slow=2.0,SNR=9.6						
LBTB	Lobatse	148.11	318	PKP2	PKPbc	13 32 20.3	+0.3
LBTB				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LBTB	Lobatse	148.11	318	PKPbc	PKPbc	13 32 20.3	+0.2
BOSA	Boshof	151.40	315	PKPbc	PKPbc	13 32 28.4	+0.3
	comp=Z,5.2nm,0.6s,baz=32,slow=3.6,SNR=16						
BOSA	Boshof	151.40	315	PKIKP	PKPbc	13 32 28.4	+0.3
BOSA				pmax	pmax		
	comp=Z,5.0nm,0.6s						

MAN 01 13:14:40.7, 1397N×12442E, h30^{km}, mb2.8, ML4.2, MS3.6, 2D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVCP	Virac	0.45	215	⇓iP	Pb	13 14 51.0	+0.7
PVCP				i S	Sb	13 14 59.6	+2.7
PVCP	Virac	0.45	215	eP	Pb	13 14 51.1	+0.7
GQP	Guinayangan	1.92	268	⇓eP	Pn	13 15 17.5	+6.2
GQP				eS	Sn	13 15 47.1	+13
POLP	Polilio Island	2.52	288	eP	Pn	13 15 24.0	+4.4
BALP	Baler	3.27	303	eP	Pn	13 15 30.9	+1.0
CAUP	Cauayan	3.88	320	eP	Pn	13 15 39.6	+1.4

*IDC **01** 13:15:58.9±1.3, 758S×10608E, h0^{km}, mb3.9/10, mb1 4.0/10, mb1mx3.9/20, mbtmp3.9/10, Error ellipse: s-maj=71.1km s-min=16.0km az=48.0*
*NEIC **01** 13:16:00.4±0.5, 751S×10613E, h10^{km}, mb4.5/6, Error ellipse: s-maj=23.0km s-min=8.8km az=50.0*
*ISCJB **01** 13:16:02.1±0.6, 74S±01×1063E±02, h33^{km}, mb4.0/16, Error ellipse: s-maj=27.9km s-min=10.6km az=100.1*
ISC 01 13:16:04.4±0.6**, 75S**±01×**1062E**±02**, h35^{km}, n18,** σ0^s**87**/18**, mb4.0**/16**, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.70	121	P	P	13 20 52.3	0.0
	1.9nm,0.9s,mb3.5,baz=308,slow=12,SNR=2.7						
WRA	Warramunga Arr	29.98	117	P	P	13 22 09.9	+0.5
	0.5nm,0.5s,mb3.5,baz=290,slow=10,SNR=6.8						
WRA				PcP	PcP	13 25 12.1	+0.9
	0.5nm,0.9s,baz=305,slow=2.0,SNR=5.0						
WRAB	Tennant Creek	29.98	117	eP	P	13 22 10.2	+0.7
	8.2nm,1.1s,mb4.4						
ASAR	Alice Springs	31.09	124	P	P	13 22 20.1	+0.8
	0.2nm,0.5s,mb3.2,baz=306,slow=8.5,SNR=5.9						
STKA	Stephens Creek	40.94	131	P	P	13 23 42.5	-1.0
	1.8nm,0.9s,mb3.7,baz=294,slow=10.0,SNR=3.4						
STKA	Stephens Creek	40.94	131	eP	P	13 23 41.2	-2.3
SONM	Songino Array	55.05	0	P	P	13 25 33.5	+0.9
	0.5nm,0.4s,mb3.9,baz=181,slow=11,SNR=4.1						
MKAR	Makanchi Array	58.05	341	P	P	13 25 54.1	+0.2
	0.6nm,0.4s,mb4.0,baz=152,slow=8.2,SNR=6.4						
TLY	Talaya	58.94	358	eP	P	13 25 59.5	-0.7
	11nm,0.9s,mb4.9						
KURK	Kurchatov	62.66	341	eP	P	13 26 24.4	-0.9
	1.9nm,0.7s,mb4.3						
ZAL	Zalesovo	63.77	346	P	P	13 26 33.0	+0.3
	1.3nm,0.4s,mb4.3,baz=321,slow=4.8,SNR=3.4						
BVAR	Borovoye Array	67.47	338	P	P	13 26 56.7	+0.1
	0.8nm,0.5s,mb4.0,baz=140,slow=8.2,SNR=5.1						
BRVK	Borovoye	67.54	337	P	P	13 26 56.7	-0.4
ZRNK	Zerenda	67.95	337	P	P	13 26 58.4	-1.3
	1.4nm,0.6s,mb4.2						
VNDA	Vanda	75.67	169	P	P	13 27 44.5	-1.5
	4.9nm,1.5s,mb4.2						
BRTR	Keskin Array B	81.53	312	P	P	13 28 18.9	+0.6
	0.8nm,0.6s,mb3.9,baz=142,slow=6.8,SNR=4.1						
SUR	Sutherland	82.16	238	P	P	13 28 22.6	+1.0
	7.1nm,0.9s,mb4.6						
MLR	Muntele Rosu	88.47	316	P	P	13 28 54.3	+1.2
	0.9nm,0.5s,mb4.3,baz=217,slow=4.8,SNR=3.0						

*IDC **01** 13:19:26.9±0.7, 2684N×5587E, h0^{km}, mb3.9/18, mb1 3.9/20, mb1mx3.8/30, mbtmp3.9/20, ML4.0/1, MS2.9/2, Ms1 3.0/2, ms1mx2.5/30, Error ellipse: s-maj=19.2km s-min=13.4km az=91.0*
*MOS **01** 13:19:27.8±1.1, 2680N×5588E, h18^{km}, mb4.2/10, Error ellipse: s-maj=22.3km s-min=12.0km az=99.1*
*ISCJB **01** 13:19:27.7±0.3, 2685N±003×5577E±005, h10^{km}, mb3.9/21, MS3.1/1, Error ellipse: s-maj=6.7km s-min=3.7km az=123.1*
*NEIC **01** 13:19:28.8±0.4, 2685N×5583E, h10^{km}, mb3.8/5, ML3.7(THR), Error ellipse: s-maj=10.1km s-min=7.3km az=109.0*
*CSEM **01** 13:19:29.0±0.1, 2688N×5583E, h10^{km}, mb3.8/5, Error ellipse: s-maj=3.0km s-min=1.3km az=70.0*
*THR **01** 13:19:30.7±0.3, 2699N×5595E, h8^{km}±3^{km}, ML3.7*
*KISR **01** 13:19:32.6±1.6, 2721N×5554E, h45^{km}±999^{km}, ML4.0*
*TEH **01** 13:19:32.5, 2698N×5585E, h7^{km}, Mn3.9*
*CRAAG **01** 13:27:14.0, 3663N×720E, Ml2.0*
ISC 01 13:19:29.5±0.3**, 2687N**±003×**5586E**±005**, h10^{km}, n73,** σ1^s**11**/82**, mb3.9**/21**, MS3.1**/1**, 2C-4D, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.60	28	ePG	Pg	13 19 39.7	-1.4
BNDS				AML	AML	13 19 55.1	
	comp=E,6μm,0.4s						
BNDS				AML	AML	13 19 58.1	
	comp=N,5μm,0.5s						
BNDS	Bandar-Abbas	0.60	28	Pg	Pg	13 19 39.0	-2.1
BANOM	Banah	1.02	157	⇓P	Pg	13 19 48.8	-0.3
	SNR=1749						
BANOM				⇓S	Sg	13 20 03.0	+0.7
ASHO	Ashiyiah	2.18	175	P	Pn	13 20 07.0	+1.2
	SNR=18						
GHIR	Ghir-Karzin	2.91	300	ePN	Pn	13 20 19.6	+3.8
GHIR				Sn	Sn	13 20 55.3	+4.5
GHIR				AML	AML	13 21 13.4	
	comp=E,350nm,0.5s						
GHIR				AML	AML	13 21 19.2	
	comp=N,278nm,0.4s						
GHIR	Ghir-Karzin	2.91	300	Pn	Pn	13 20 19.0	+3.2
GHIR				Sn	Sn	13 20 55.3	+4.4
	SNR=47						
KRBR	Kerman	3.21	14	ePN	Pn	13 20 21.7	+1.8
KRBR				AML	AML	13 21 12.1	
	comp=E,214nm,0.4s						
KRBR				AML	AML	13 21 15.2	
	comp=N,224nm,0.6s						
KRBR	Kerman	3.21	14	Pn	Pn	13 20 21.0	+1.2
ISRV	Sarvestan	3.48	317	ePn	Pn	13 20 25.8	+2.1
HOQ	Hoqain	3.52	158	⇓P	Pn	13 20 23.0	-1.3
ARQ	Araqi	3.57	170	⇑P	Pn	13 20 26.1	+1.3
	SNR=9.3						
SMDO	Samad	4.28	152	P	Pn	13 20 36.2	+1.6
	SNR=11						
WSAR	Wadi Sarin	4.40	145	Pn	Pn	13 20 36.4	+0.1
	comp=N,7.2nm,0.3s,baz=331,slow=12,SNR=91						
WSAR				Sn	Sn	13 21 26.9	-0.8
	comp=N,7.4nm,0.3s,baz=343,slow=7.3,SNR=4.5						
WSAR				LR	LR	13 22 16.3	
	comp=N,85nm,18.1s,baz=240,slow=39						
IMEH	Mehriz	4.64	347	ePn	Pn	13 20 41.0	+1.5
IBAF	Bafgh	4.71	357	ePn	Pn	13 20 41.6	+1.0
JMDO	Jabal Madar	4.92	155	⇓P	Pn	13 20 45.2	+1.8
	SNR=7.8						
WBK	Wadi Bani Khal	5.10	146	⇑P	Pn	13 20 45.9	0.0
ZHSF	Zahedan	5.13	57	ePN	Pn	13 20 48.1	+1.8
ZHSF	Zahedan	5.13	57	Pn	Pn	13 20 48.0	+1.7
ICHK	Chekchek	5.51	347	ePn	Pn	13 20 52.9	+1.4
IZEF	Zefreh	6.74	334	ePn	Pn	13 21 09.3	+0.8
IZEF				eSn	Sn	13 22 21.5	-3.8
IPIR	Pirpir	7.23	325	ePn	Pn	13 21 15.9	+0.8
QRN	Al-Qurain	7.28	287	eP	Pn	13 21 15.9	+0.2
QRN				eS	Sn	13 22 32.6	-5.8
QRN				AML	AML	13 22 36.1	
	comp=Z,31nm,0.3s						
RDF	Al-Radifah	7.63	288	eP	Pn	13 21 19.9	-0.7
RDF				eS	Sn	13 22 42.0	-5.1
RDF				AML	AML	13 22 43.1	
	comp=Z,12nm,0.4s						
UMR	Umm Al-Rimmam	7.66	292	eP	Pn	13 21 20.8	-0.3
UMR				AML	AML	13 22 42.3	
	comp=Z,24nm,0.3s						
NAY	Al-Naaiem	7.97	289	eP	Pn	13 21 25.6	+0.3
NAY				eS	Sn	13 22 50.9	-4.6
NAY				AML	AML	13 22 53.0	
	comp=Z,26nm,0.5s						
MIB	Mutribah	8.05	293	eP	Pn	13 21 26.9	+0.4
MIB				eS	Sn	13 22 51.2	-6.4
MIB				AML	AML	13 22 53.7	
	comp=Z,22nm,0.4s						
GNI	Garni	16.15	328	P	Pn	13 23 27.0	+11
MALT	Malatya	18.57	312	eP	Pn	13 23 51.4	+4.8
MALT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MALT	Malatya	18.57	312	eP	Pn	13 23 51.4	+4.8
	comp=Z,5.2nm,0.8s						
MMAI	Mount Meron Ar	18.74	294	P	Pn	13 23 49.1	+0.3
	baz=99,slow=18,SNR=2.5						
KIV	Kislovodsk	20.10	331	eP	P	13 24 10.0	+6.7
KIV				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BR131	Keskin Array S	22.50	310	eP	P	13 24 34.6	+5.6
	comp=Z,1.9nm,0.6s,mb3.7						
BRTR	Keskin Array B	22.50	310	P	P	13 24 29.9	+0.9
	comp=Z,0.6nm,0.7s,mb3.1,baz=113,slow=14,SNR=3.9						
BRTR	Keskin Array B	22.50	310	P	P	13 24 29.9	+0.9
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKTK	Aktyubinsk	23.59	3	P	P	13 24 40.1	-0.4
AKTO	Aktyubinsk	23.59	3	P	P	13 24 40.1	-0.4
	comp=Z,1.2nm,0.4s,mb3.6,baz=172,slow=14,SNR=2.4						
AKTO	Aktyubinsk	23.59	3	P	P	13 24 40.1	-0.4
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
ZRNK	Zerenda	27.85	17	P	P	13 25 19.3	+0.2
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
ZRNK	Zerenda	27.85	17	P	P	13 25 19.3	+0.3
	comp=Z,0.7nm,0.6s,mb3.5						
BVAR	Borovoye Array	28.29	19	P	P	13 25 21.8	-1.2
	comp=Z,1.6nm,0.7s,mb3.7,baz=220,slow=8.8,SNR=6.0						
BVAR	Borovoye Array	28.29	19	P	P	13 25 21.8	-1.2
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	Kurchatov	29.47	30	eP	P	13 25 41.3	+7.8
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
KURK	Kurchatov	29.47	30	eP	P	13 25 41.3	+7.8
	comp=Z,1.4nm,0.6s,mb3.9						
AKASG	Malin Array Be	31.27	327	P	P	13 25 48.3	-1.1
	comp=Z,0.4nm,0.3s,mb3.7,baz=135,slow=8.1,SNR=4.3						
ZAL	Zalesovo	34.44	30	P	P	13 26 15.8	-1.3
	comp=Z,1.8nm,0.3s,mb4.4,baz=198,slow=5.8,SNR=4.0						
ZAL	Zalesovo	34.44	30	P	P	13 26 15.8	-1.3
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MORC	Moravsky Berou	37.19	318	P	P	13 26 42.3	+1.6
FINES	FINESS Array B	39.94	338	P	P	13 27 02.5	-1.3
	comp=Z,0.4nm,0.4s,mb3.5,baz=140,slow=12,SNR=6.8						
VSL	Villasalto	40.47	300	eP	P	13 27 11.0	+2.8
	comp=Z,6.3nm,0.8s,mb4.4						
ABSA	Djebel Ababsia	41.91	295	P	P	13 27 24.5	+4.5
CMAH	Djebel Manchou	41.95	296	P	P	13 27 19.0	-1.4
CGMA	Guelma	41.96	296	P	P	13 27 20.0	-0.4
HFS	Hagfors	43.90	331	P	P	13 27 34.6	-1.6
	comp=Z,0.4nm,0.4s,mb3.5,baz=105,slow=11,SNR=3.4						
NOA	NORSAR Array B	45.41	331	P	P	13 27 47.6	-0.6
	comp=Z,0.3nm,0.6s,mb3.3,baz=122,slow=7.8,SNR=2.2						
NOA				LR	LR	13 49 50.1	
	comp=Z,23nm,19.4s,MS3.1,baz=100,slow=40						
ARCES	ARCESS Array B	46.22	346	P	P	13 27 53.4	-1.2
	comp=Z,0.6nm,0.7s,mb3.6,baz=134,slow=8.7,SNR=4.3						
ARCES	ARCESS Array B	46.22	346	P	P	13 27 53.4	-1.2
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	ARCESS Array B	46.22	346	P	P	13 27 53.4	-1.2
TORD	Torodi Ar. Bea	52.33	266	P	P	13 28 40.2	-1.1
	comp=Z,5.9nm,0.4s,mb4.8,baz=64,slow=7.3,SNR=120						
MATP	Matopo	53.97	212	P	P	13 28 53.0	-0.5
	comp=Z,1.4nm,0.5s,mb4.2,baz=34,slow=8.1,SNR=5.7						
MATP	Matopo	53.97	212	P	P	13 28 53.0	-0.5
TSUM	Tsumeb	58.95	223	P	P	13 29 28.2	-0.7
	comp=Z,0.6nm,0.7s,mb3.7,baz=16,slow=7.4,SNR=3.6						
LBTB	Lobatse	59.27	212	P	P	13 29 30.9	-0.3
	comp=Z,1.7nm,0.4s,mb4.4,baz=32,slow=8.0,SNR=10						
LBTB	Lobatse	59.27	212	P	P	13 29 30.9	-0.2
LBTB				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
DBIC	Dimbokro	60.93	262	P	P	13 29 41.5	-1.0
	comp=Z,2.2nm,0.8s,mb4.4,baz=45,slow=7.1,SNR=3.0						
DBIC	Dimbokro	60.93	262	P	P	13 29 41.6	-0.9
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BOSA	Boshof	62.49	210	P	P	13 29 52.2	-0.9
	comp=Z,1.2nm,0.5s,mb4.3,baz=44,slow=9.5,SNR=8.6						
BOSA	Boshof	62.49	210	P	P	13 29 52.2	-0.9
BOSA				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
INK	Inuvik	84.86	3	P	P	13 32 03.9	-0.4
	comp=Z,0.5nm,0.5s,mb3.9,baz=356,slow=13,SNR=5.1						
INK	Inuvik	84.86	3	P	P	13 32 03.9	-0.5
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	84.86	3	P	P	13 32 03.9	-0.4
WRA	Warramunga Arr	89.12	113	P	P	13 32 24.5	-0.5
	comp=Z,0.2nm,0.7s,mb3.6,baz=309,slow=4.1,SNR=4.5						
ASAR	Alice Springs	90.56	116	P	P	13 32 30.8	-1.0
	comp=Z,0.2nm,0.7s,mb3.6,baz=299,slow=4.5,SNR=4.7						

*ISCJB **01** 13:19:43.0±0.2, 3443N±002×3203E±002, h33^{km}, mb3.6/2, Error ellipse: s-maj=2.9km s-min=2.3km az=141.0*
*CSEM **01** 13:19:42.7±0.1, 3443N×3202E, h40^{km}, Mw3.3, Error ellipse: s-maj=1.4km s-min=1.2km az=86.0*
*ISK **01** 13:19:42.2, 3438N×3206E, h31^{km}, MD3.8, ML3.8*
*NEIC **01** 13:19:43.9, 3447N×3202E, h25^{km}, ML3.6(NIC), ML3.7(ISK), After NIC.*
*NIC **01** 13:19:43.9±0.1, 3447N×3202E, h25^{km}, ML3.6, MW3.4*
*IDC **01** 13:19:44.1±1.2, 3434N×3204E, h48^{km}±29^{km}, mb3.6/2, mb1 3.4/8, mb1mx3.2/23, mbtmp3.4/8, ML3.6/5, Error ellipse: s-maj=35.0km s-min=10.2km az=21.0*
*HLW **01** 13:19:44.9, 3441N×3198E, h33^{km}, Mb3.7*
*GII **01** 13:19:47.2±0.7, 3438N×3250E, h9^{km}±2^{km}, ML3.0/5, Mw3.3/8*
ISC 01 13:19:45.0±0.2**, 3446N**±002×**3209E**±003**, h35^{km}, n74,** σ1^s**06**/102**, mb3.6**/2**, 9C-9D, Cyprus region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPCY	Paphos	0.48	26	⇑iP	Pn	13 19 53.5	-1.8
SZAC	Souni-Zanaja	0.72	65	P	Pn	13 19 57.2	-1.4
SZAC				S	Sn	13 20 07.6	-0.8
ALFC	Alevga	0.81	31	P	Pn	13 19 58.5	-1.4
	54nm,0.2s						
ALFC				S	Sn	13 20 09.6	-1.2
LEF	Lefka	0.93	45	PG	Pn	13 20 00.0	-1.6
LEF	Lefka	0.93	45	Pg	Pn	13 20 00.6	-1.0
CSS	Prodhromos	1.14	63	P	Pn	13 20 03.3	-1.1
	28nm,0.3s						
CSS				S	Sn	13 20 18.6	-0.2
CSS	Prodhromos	1.14	63	ePn	Pn	13 20 03.1	-1.3
CSS				eS	Sn	13 20 16.8	-2.1
CSS	Prodhromos	1.14	63	ePn	Pn	13 20 03.1	-1.3
CSS	Prodhromos	1.14	63	P	Pn	13 20 03.3	-1.1
	28nm,0.3s						
CSS				S	Sn	13 20 18.6	-0.2
MAMC	Mammari	1.17	52	P	Pn	13 20 04.2	-0.6
PHNC	Paralimni	1.69	71	P	Pn	13 20 12.7	+0.7
IKL	Isikli	2.21	36	PN	Pn	13 20 19.1	0.0
IKL				SN	Sn	13 20 45.2	+0.1
IKL	Isikli	2.21	36	Pn	Pn	13 20 19.2	+0.1
IKL				Sg	Sn	13 20 45.2	+0.1
MEST	Erdemli	2.71	38	i P	Pn	13 20 27.3	+1.3
MEST				i S	Sn	13 20 59.4	+1.9
HNTI	Hanita	2.91	117	Pn	Pn	13 20 28.8	0.0
HNTI				Sn	Sn	13 21 00.2	-2.4
OFRI	‘Ofer	3.04	126	Pn	Pn	13 20 30.4	-0.1
MMA0B	Mount Meron ar	3.12	117	Pn	Pn	13 20 30.8	-0.7
MMAI	Mount Meron Ar	3.12	117	P	Pn	13 20 30.9	-0.7
	6.9nm,0.3s,baz=306,slow=13,SNR=47						
MMAI				S	Sn	13 21 05.0	-2.5
	30nm,0.3s,baz=284,slow=19,SNR=15						
MERS	Mersin	3.12	39	PN	Pn	13 20 31.2	-0.4
MERS				SN	Sn	13 21 08.1	+0.5
KSDI	Kefar Szold	3.23	112	Pn	Pn	13 20 32.5	-0.7
FETY	Fethiye	3.27	312	PN	Pn	13 20 33.1	-0.7
FETY				SN	Sn	13 21 10.4	-1.1
FETY	Fethiye	3.27	312	Pn	Pn	13 20 33.1	-0.6
FETY				Sg	Sn	13 21 09.1	-2.3
FETY	Fethiye	3.27	312	ePn	Pn	13 20 33.1	-0.7
FETY				Sg	Sn	13 21 09.1	-2.4
FETY				eSn	Sn	13 21 10.4	-1.1
MMLI	Mount Malkishu	3.44	125	Pn	Pn	13 20 35.9	-0.1
KONT	Konya--Tatoy	3.49	4	PN	Pn	13 20 37.0	+0.3
HMDT	Nahal Hemdat	3.62	126	Pn	Pn	13 20 38.9	+0.4
DALT	Dalyan (Mudla)	3.64	310	ePN	Pn	13 20 38.9	+0.2
KARA	Karaisali	3.69	40	ePN	Pn	13 20 39.7	+0.2
TKTP	Tekketepe	3.85	339	i P	Pn	13 20 44.5	+2.9
TKTP				i S	Sn	13 21 28.5	+2.8
AMAG	Maghara	3.92	166	⇓P	Pn	13 20 43.0	+0.4
COBT	Iskenderun	3.98	58	i P	Pn	13 20 44.8	+1.4
COBT				i S	Sn	13 21 28.8	+0.1
DRGI	Dragot	3.98	135	Pn	Pn	13 20 44.1	+0.6
KZIT	Kziot	4.04	151	Pn	Pn	13 20 45.5	+1.2
KZIT				Sn	Sn	13 21 30.2	-0.2
DNZL	Cakiroluk	4.06	324	i P	Pn	13 20 46.6	+2.0
DNZL				i S	Sn	13 21 29.5	-1.3
YER	Yerkesik	4.09	312	ePN	Pn	13 20 45.4	+0.5
YER	Yerkesik	4.09	312	Pn	Pn	13 20 45.4	+0.5
MKRJ	Makawir	4.16	133	Pn	Pn	13 20 46.6	+0.7
MZDA	Masada	4.18	138	Pn	Pn	13 20 46.9	+0.8
KOZT	Kozan	4.28	44	ePN	Pn	13 20 48.2	+0.7
HBRG	Burj al ‘Arab	4.31	207	⇑P	Pn	13 20 46.8	-1.2
DAT	Datca	4.32	303	ePN	Pn	13 20 48.2	+0.1
KIZT	Kizilcal	4.42	358	ePN	Pn	13 20 50.8	+1.3
HHAG	Hagoal	4.49	180	⇓P	Pn	13 20 50.0	-0.5
MLSB	Milas	4.50	310	ePN	Pn	13 20 51.4	+0.8
KOT	Kottamia	4.52	183	⇓P	Pn	13 20 50.2	-0.6
KOT				S	Sn	13 21 38.4	-3.8
KOT	Kottamia	4.52	183	P	Pn	13 20 50.2	-0.7
KOT				S	Sn	13 21 38.4	-3.8
ASF	Jabal al Asfar	4.63	118	P	Pn	13 20 52.2	-0.1
	0.5nm,0.3s,baz=311,slow=4.4,SNR=3.1						
ASF				S	Sn	13 21 48.4	+3.6
	1.1nm,0.3s,baz=263,slow=22,SNR=6.4						
SUZ		4.65	172	⇓P	Pn	13 20 53.2	+0.6
AYDN	Tasoluk	4.67	314	i P	Pn	13 20 54.4	+1.4
AYDN				i S	Sn	13 21 35.3	-11
BODT	Bodrum	4.67	305	ePN	Pn	13 20 53.7	+0.7
PRNI	Paran	4.78	148	Pn	Pn	13 20 56.0	+1.6
PRNI				Sn	Sn	13 21 48.7	+0.1
HNKL	Nakhl	4.79	160	⇓P	Pn	13 20 54.6	0.0
HSAF	As Saff	4.84	186	⇑P	Pn	13 20 54.9	-0.4
GLL	Jalalah	4.88	184	⇑P	Pn	13 20 55.5	-0.3
HRFI	Mount Harif	5.07	150	Pn	Pn	13 20 59.9	+1.5
HRFI				Sn	Sn	13 21 57.0	+1.3
ZAF		5.17	176	⇑P	Pn	13 20 59.6	-0.3
EIL	Elat	5.36	152	Pn	Pn	13 21 04.5	+2.1
HMAT	Matruh	5.38	233	⇓P	Pn	13 21 01.7	-0.9
HMAT				S	Sn	13 21 57.6	-5.7
BRTR	Keskin Array B	5.40	13	P	Pn	13 21 04.8	+1.8
	0.1nm,0.3s,baz=188,slow=15,SNR=2.4						
IZM	Izmir	5.53	317	ePN	Pn	13 21 05.4	+0.6
HBST	Basata	5.69	156	⇑P	Pn	13 21 07.1	+0.2
IDI	Anoyia	5.97	280	P	Pn	13 21 10.4	-0.5
	0.7nm,0.3s,baz=58,slow=9.5,SNR=3.6						
IDI				S	Sn	13 22 17.1	-1.0
	1.5nm,0.3s,baz=188,slow=22,SNR=6.4						
HDHB	Dhahab	6.11	159	⇑P	Pn	13 21 12.9	+0.1
HKAT	Jabal Katrina	6.13	164	⇑P	Pn	13 21 13.6	+0.5
TR2		6.21	167	⇑P	Pn	13 21 14.3	+0.2
HHRG	Al Ghardaqah	7.33	170	⇓P	Pn	13 21 29.3	-0.2
SWA1		7.50	228	⇓P	Pn	13 21 31.1	-0.6
SWA1				S	Sn	13 22 49.1	-6.5
SWA2		7.67	229	⇓P	Pn	13 21 33.4	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKASG	Malin Array Be	16.37	354	P	Pn	13 23 31.7	-0.2
	0.9nm,0.3s,baz=178,slow=10,SNR=4.9						
GERES	GERESS Array B	19.81	322	P	Pn	13 24 10.5	-3.6
	0.2nm,0.3s,baz=143,slow=8.3,SNR=4.1						
GERES	GERESS Array B	19.81	322	P	Pn	13 24 10.5	-3.6
FINES	FINESS Array B	27.28	354	P	P	13 25 24.8	-1.2
	0.6nm,0.5s,mb3.4,baz=182,slow=8.3,SNR=10						
ARCES	ARCESS Array B	35.32	356	P	P	13 26 35.0	-1.7
	1.1nm,0.8s,mb3.9,baz=158,slow=7.5,SNR=4.8						
ARCES	ARCESS Array B	35.32	356	P	P	13 26 35.0	-1.7

MEX 01 13:23:14.1±1.3**,1713N×9992W,h25**^{km}±37^{km}**,MD3.6, 1C-1D,Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.26	178	i P	Pb	13 23 20.0	-0.6
ACX				i S	Sb	13 23 23.0	-2.0
CAIG	El Cayaco	0.34	256	⇑iP	Pb	13 23 19.6	-2.0
CAIG				i S	Sb	13 23 26.2	-0.7
MEIG	Mezcala	0.84	20	⇓iP	Pb	13 23 27.3	-2.8
MEIG				i S	Sb	13 23 37.5	-3.4
PLIG	Platanillo	1.32	18	i P	Pn	13 23 35.1	-1.8
PLIG				i S	Sn	13 23 52.0	-1.7
UTMO	Huajuapan	2.14	71	eP	Pn	13 23 44.6	-3.6
UTMO				i S	Sn	13 24 12.6	-1.3

*IDC **01** 13:34:35.7±4.1, 17.10S×175.31W, h231^{km}±53^{km}, mb3.6/4, mb1 3.7/5, mb1mx3.4/15, mbtmp4.2/5, MS3.5/1, Ms1 3.5/1, ms1mx2.8/17, Error ellipse: s-maj=114.8km s-min=42.1km az=153.0*
*ISCJB **01** 13:34:37.7±2.5, 16.6S±0.4×175.4W±0.3, h275^{km}±40^{km}, mb3.8/5, Error ellipse: s-maj=70.5km s-min=39.3km az=156.9*
*NEIC **01** 13:34:38.7±2.2, 16.68S×175.39W, h271^{km}±36^{km}, mb4.2/1, Error ellipse: s-maj=58.4km s-min=33.7km az=175.0*
ISC 01 13:34:38.7±2.5**,167S**±04×**1753W**±03**,h274**^{km}±41^{km}**,n9,** σ**0^{s}86**/11**,mb3.8**/5**,Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.35	51	P	Pn	13 35 48.7	+1.2
	10nm,0.3s,baz=216,slow=8.7,SNR=29						
AFI				S	S	13 36 42.5	0.0
	38nm,0.3s,baz=34,slow=21,SNR=16						
AFI	Afiamalu	4.35	51	P	Pn	13 35 48.7	+1.2
AFI				eS	S	13 36 40.8	-1.8
CTA	Charters Tower	36.62	259	P	P	13 41 18.8	-0.3
	1.6nm,0.7s,mb3.6,baz=112,slow=16,SNR=2.9						
CTA				LR	LR	13 54 34.5	
	comp=Z,70nm,19.1s,baz=191,slow=33						
STKA	Stephens Creek	41.85	241	P	P	13 42 00.4	-1.7
	2.3nm,0.7s,mb3.5,baz=105,slow=14,SNR=4.4						
WRA	Warramunga Arr	47.81	258	P	P	13 42 49.5	+0.6
	1.1nm,0.5s,mb3.4,baz=95,slow=7.2,SNR=36						
AS31	Alice Springs	48.02	253	eP	P	13 42 50.7	+0.2
ASAR	Alice Springs	48.02	253	P	P	13 42 51.1	+0.7
	6.7nm,0.6s,mb4.2,baz=87,slow=8.6,SNR=148						
ASAR				PcP	PcP	13 44 15.5	+1.7
	0.2nm,0.5s,baz=101,slow=4.3,SNR=4.6						
KULM	Kulim	85.86	277	P	P	13 46 47.4	-0.2
MAW	Mawson	86.01	199	eP	P	13 46 48.5	+0.2
	2.7nm,0.7s,mb4.2						

*NEIC **01** 13:36:57.2, 36.99S×177.54E, h147^{km}, MG4.0(WEL), After WEL.*
WEL 01 13:36:57.2±0.2**,3701S×17753E,h148**^{km}±1^{km}**,ML3.8**/5**, 2C-1D,Error ellipse: s-maj=1.1km s-min=1.0km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.59	207	PN	Pn	13 37 18.6	-0.1
WIZ	White Island	0.59	207	P	Pn	13 37 18.6	-0.1
MXZ	Matakaoa Point	0.83	132	PN	Pn	13 37 20.3	-0.1
MXZ				SN	Sn	13 37 38.4	+0.4
MXZ	Matakaoa Point	0.83	132	P	Pn	13 37 20.4	0.0
MXZ				S	Sn	13 37 38.5	+0.5
PUZ	Puketiti	1.21	152	PN	Pn	13 37 23.6	0.0
PUZ				SN	Sn	13 37 43.5	-0.4
PUZ	Puketiti	1.21	152	P	Pn	13 37 23.7	+0.1
PUZ				S	Sn	13 37 43.5	-0.3
URZ	Urewera	1.29	195	⇑PN	Pn	13 37 24.6	+0.2
URZ				SN	Sn	13 37 45.4	+0.2
URZ	Urewera	1.29	195	P	Pn	13 37 24.6	+0.2
MWZ	Matawai	1.33	180	⇑PN	Pn	13 37 25.0	+0.2
MWZ				SN	Sn	13 37 45.8	0.0
MWZ	Matawai	1.33	180	P	Pn	13 37 25.0	+0.3
MWZ				S	Sn	13 37 46.0	+0.2
TAZ	Tarawera	1.47	213	PN	Pn	13 37 27.4	+1.3
TAZ	Tarawera	1.47	213	P	Pn	13 37 27.5	+1.3
KUZ	Kuaotunu	1.47	280	⇓PN	Pn	13 37 26.2	0.0
KUZ	Kuaotunu	1.47	280	P	Pn	13 37 26.2	0.0
KNZ	Kokohu	2.02	177	PN	Pn	13 37 32.2	-0.1
KNZ				SN	Sn	13 37 58.4	-0.9
KNZ	Kokohu	2.02	177	P	Pn	13 37 32.2	-0.1
OTAZ	Otara	2.08	271	PN	Pn	13 37 34.3	+1.2
OTAZ	Otara	2.08	271	P	Pn	13 37 34.5	+1.4
MTAZ	Motutapu	2.11	275	PN	Pn	13 37 34.4	+1.0
MTAZ	Motutapu	2.11	275	P	Pn	13 37 33.9	+0.5
BKZ	Black Stump Fm	2.31	200	PN	Pn	13 37 35.0	-0.7
BKZ				SN	Sn	13 38 05.3	-0.2
BKZ	Black Stump Fm	2.31	200	P	Pn	13 37 35.0	-0.8
KATZ	Kakaramea	2.44	216	ePN	Pn	13 37 38.1	+0.7
KATZ	Kakaramea	2.44	216	eP	Pn	13 37 38.1	+0.7
KRVZ	Karewarewa	2.56	215	PN	Pn	13 37 39.3	+0.4
HIZ	Hauiti	2.60	234	PN	Pn	13 37 41.0	+1.7
HIZ	Hauiti	2.60	234	eP	Pn	13 37 41.1	+1.8
WTVZ	West Tongariro	2.60	215	PN	Pn	13 37 39.9	+0.5
WTVZ	West Tongariro	2.60	215	P	Pn	13 37 39.9	+0.5
TWVZ	Taurewa	2.64	218	PN	Pn	13 37 40.3	+0.5
TWVZ	Taurewa	2.64	218	P	Pn	13 37 40.3	+0.4
NGZ	Ngauruhoe	2.65	214	PN	Pn	13 37 40.5	+0.6
NGZ	Ngauruhoe	2.65	214	P	Pn	13 37 40.5	+0.5
WPVZ	Whakapapa	2.69	215	PN	Pn	13 37 41.3	+0.7
WPVZ	Whakapapa	2.69	215	P	Pn	13 37 41.3	+0.7
TUVZ	Tukino	2.70	213	ePN	Pn	13 37 40.4	-0.2
TUVZ	Tukino	2.70	213	P	Pn	13 37 40.6	0.0
FWVZ	Far West T-bar	2.73	214	PN	Pn	13 37 41.2	+0.2
FWVZ	Far West T-bar	2.73	214	P	Pn	13 37 41.4	+0.4
TRVZ	Turoa	2.77	214	PN	Pn	13 37 41.5	0.0
WNVZ	Wahianoa	2.77	213	P	Pn	13 37 41.5	0.0
MOVZ	Moawhango	2.77	210	P	Pn	13 37 40.9	-0.7
VRZ	Vera Road	3.04	225	eP	Pn	13 37 46.5	+1.6
TSZ	Takapari Road	3.29	201	PN	Pn	13 37 46.2	-1.9
TSZ	Takapari Road	3.29	201	P	Pn	13 37 46.2	-1.9
WAZ	Wanganui	3.39	215	P	Pn	13 37 49.1	-0.4
BFZ	Birch Farm	3.80	195	P	Pn	13 37 52.4	-2.4
MRZ	Mangatainoka R	3.95	202	P	Pn	13 37 53.9	-2.8
KIW	Kapiti Island	4.36	207	P	Pn	13 37 59.1	-2.9
MTW	Mount Morrison	4.43	200	P	Pn	13 37 59.8	-3.2
CAW	Cannon Point	4.52	204	P	Pn	13 38 00.8	-3.4
PAWZ	Paruwai Farm	4.66	200	P	Pn	13 38 02.4	-3.7
MSWZ	Moikau Station	4.74	201	P	Pn	13 38 03.7	-3.4
MRW	Makara Radio	4.75	207	P	Pn	13 38 03.8	-3.5
WEL	Wellington	4.78	206	P	Pn	13 38 04.1	-3.5
SNZO	South Karori	4.82	206	P	Pn	13 38 04.6	-3.6
BHW	Baring Head	4.86	204	P	Pn	13 38 04.7	-3.9
TCW	Tory Channel	4.90	210	P	Pn	13 38 05.6	-3.6
NNZ	Nelson	5.30	216	eP	Pn	13 38 11.0	-3.5
QRZ	Quartz Range	5.45	224	eP	Pn	13 38 13.2	-3.3
THZ	Tophouse	5.95	216	eP	Pn	13 38 19.6	-3.5
KHZ	Kahutara	6.22	208	eP	Pn	13 38 22.4	-4.3
DSZ	Denniston Nort	6.48	221	eP	Pn	13 38 26.0	-4.3
LTZ	Lake Taylor	7.04	213	eP	Pn	13 38 33.0	-4.7
MQZ	McQueen's Vall	7.66	208	eP	Pn	13 38 40.0	-5.9

IDC 01 13:39:48.6±7.4**,4763S×10094E,h0**^{km}**,mb3.7**/4**, mb1 3.9**/4**,mb1mx3.8**/12**,mbtmp3.7**/4**,MS3.8**/1**,Ms1 3.8**/1**, ms1mx2.7**/17**,Error ellipse: s-maj=187.6km s-min=32.2km az=111.0,Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.55	78	P	P	13 46 38.6	-0.1
	3.5nm,1.0s,baz=241,slow=10,SNR=2.3						
ASAR	Alice Springs	35.48	59	P	P	13 46 46.8	0.0
	0.6nm,0.9s,baz=228,slow=7.0,SNR=5.5						
VNDA	Vanda	37.78	162	P	P	13 47 05.7	-0.7
	0.9nm,1.0s,baz=291,slow=8.9,SNR=5.1						
VNDA				LR	LR	14 01 42.8	
	comp=Z,143nm,20.9s,baz=205,slow=35						
WRA	Warramunga Arr	38.65	56	P	P	13 47 13.8	0.0
	0.5nm,0.6s,baz=218,slow=9.4,SNR=7.0						

*IDC **01** 13:49:13.8±2.8, 39.58N×75.91E, h0^{km}, mb3.7/5, mb1 3.7/9, mb1mx3.5/24, mbtmp3.7/9, ML3.2/4, MS2.8/1, Ms1 2.8/1, ms1mx2.1/36, Error ellipse: s-maj=49.6km s-min=23.1km az=139.0*
*NEIC **01** 13:49:14.6±1.3, 39.70N×76.07E, h10^{km}, mb3.7/2, Error ellipse: s-maj=19.9km s-min=15.7km az=159.0*
*ISCJB **01** 13:49:17.1±0.6, 39.89N±0.05×75.43E±0.06, h10^{km}, mb3.6/6, Error ellipse: s-maj=8.4km s-min=4.7km az=98.1*
*NNC **01** 13:49:19.9±3.4, 39.96N×75.66E, h0^{km}, mb4.3, mpv3.9, Error ellipse: s-maj=30.3km s-min=15.2km az=179.0*
*BJI **01** 13:49:22.0, 39.89N×76.09E, h16^{km}, ML3.3*
*MOS **01** 13:49:24.1±1.3, 40.16N×75.86E, h86^{km}, mb3.7/5, Error ellipse: s-maj=24.3km s-min=11.8km az=100.2*
ISC 01 13:49:18.3±0.5**,3997N**±005×**7554E**±008**,h10**^{km}**,n40,** σ**1^{s}23**/44**,mb3.6**/6**,7C-4D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	Kashi	0.56	144	⇓iPG	Pg	13 49 28.5	-0.6
KSH				SG	Sg	13 49 36.8	+0.4
KSH				Smax			
	comp=N,5μm,0.5s						
KSH				Smax			
	comp=E,4μm,0.5s						
KZA	Kyzart	2.12	354	P	Pb	13 49 59.0	+2.3
	SNR=88						
ULHL	Ulahol	2.34	13	P	Pb	13 50 00.6	+0.2
	SNR=150						
UCH	Uchtor	2.39	341	P	Pb	13 50 02.5	+1.2
	SNR=140						
AML	Almayashu	2.58	328	P	Pb	13 50 05.2	+0.7
	SNR=119						
KBK	Karagaybulak	2.72	351	P	Pb	13 50 07.2	+0.2
	SNR=25						
AAK	Ala-Archa	2.78	344	P	Pb	13 50 08.1	+0.1
	SNR=60						
AAK	Ala-Archa	2.78	344	ePn	Pb	13 50 06.6	-1.4
AAK				eSn	Sn	13 50 39.7	+3.3
TKM2	Tokmak 2	2.95	1	P	Pb	13 50 09.7	-1.3
	SNR=50						
TKM2	Tokmak 2	2.95	1	⇑P	Pb	13 50 09.6	-1.3
	comp=E,7.0nm,0.7s						
TKM2				⇑S	Sn	13 50 48.9	+8.2
	comp=E,34nm,0.8s						
EKS2	Erkin-Say	3.00	334	P	Pb	13 50 11.4	-0.4
	SNR=6.5						
CHMS	Chumysh	3.09	349	P	Pb	13 50 12.4	-0.9
	SNR=12						
USP	Ospenovka	3.39	347	P	Pb	13 50 16.0	-2.4
	SNR=17						
KNDC	Almaty	3.42	18	⇓Pn	Pb	13 50 14.8	-4.1
	comp=E,38nm,0.5s						
KNDC				⇓Lg		13 51 04.0	
	comp=E,329nm,0.9s						
KK31	Karatay Array	4.91	311	⇑Pn	Pn	13 50 37.2	+5.1
	comp=E,26nm,0.7s,baz=126,slow=12,SNR=31						
KK31				⇑Pg	Pg	13 50 49.9	-2.4
	comp=E,34nm,0.6s,baz=129,slow=15,SNR=36						
KK31				⇑Lg		13 51 57.0	
	comp=E,67nm,1.1s,baz=126,slow=28,SNR=6.8						
MK02	Makanchi Array	8.39	34	⇑Pn	Pn	13 51 20.6	+0.6
	comp=E,1.3nm,0.6s,baz=214,slow=13						
MK02				⇓Lg		13 53 45.0	
	comp=E,7.0nm,1.1s,baz=225,slow=24						
MKAR	Makanchi Array	8.40	34	Pn	Pn	13 51 21.1	+1.0
	comp=E,0.3nm,0.3s,baz=206,slow=14,SNR=11						
WMQ	Urumqi	9.84	63	P	Pn	13 51 44.6	+4.8
WMQ				S	Sn	13 53 37.4	+7.0
WMQ				Smax			
	comp=N,13nm,1.3s						
WMQ				Smax			
	comp=E,19nm,1.3s						
KURK	Kurchatov	10.96	10	⇑Lg		13 54 59.4	
	comp=E,27nm,1.6s						
BVAR	Borovoye Array	13.53	347	Pn	Pn	13 52 30.4	+0.2
	comp=E,0.1nm,0.3s,baz=156,slow=12,SNR=6.4						
BRVK	Borovoye	13.58	346	eP	Pn	13 52 38.7	+7.8
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRVK	Borovoye	13.58	346	ePn	Pn	13 52 38.7	+7.7
	comp=Z,4.7nm,0.8s						
BRVK				e		13 52 49.1	
ZRNK	Zerenda	13.74	343	eP	Pn	13 52 42.8	+10
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZRNK	Zerenda	13.74	343	eP	Pn	13 52 42.8	+10
	comp=Z,2.7nm,0.9s						
ZRNK				e		13 52 51.0	
ZAL	Zalesovo	15.32	21	Pn	Pn	13 52 52.7	-1.8
	comp=Z,0.2nm,0.3s,baz=262,slow=9.0,SNR=2.7						
ZAL				LR	LR	13 59 18.0	
	comp=Z,35nm,18.1s,baz=319,slow=39						
AKTK	Aktyubinsk	16.15	316	Pn	Pn	13 53 06.7	+1.4
AKTO	Aktyubinsk	16.15	316	Pn	Pn	13 53 06.7	+1.4
	comp=Z,0.1nm,0.3s,baz=130,slow=3.5,SNR=3.9						
ARU	Arti	19.89	332	P	Pn	13 53 49.2	-2.2
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	Arti	19.89	332	P	Pn	13 53 49.2	-2.2
	comp=Z,3.0nm,0.8s						
ULN	Ulaanbaatar	23.91	60	P	P	13 54 26.2	-6.0
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.4						
ULN	Ulaanbaatar	23.91	60	P	P	13 54 26.2	-6.0
	comp=Z,1.4nm,0.7s,mb3.5						
BRTR	Keskin Array B	31.96	283	P	P	13 55 45.5	+1.2
	comp=Z,0.6nm,0.6s,mb3.6,baz=80,slow=13,SNR=3.5						
BRTR	Keskin Array B	31.96	283	P	P	13 55 45.5	+1.2
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	36.77	322	P	P	13 56 26.1	+0.2
	comp=Z,0.9nm,0.6s,mb3.8,baz=114,slow=9.2,SNR=6.1						
FINES	FINESS Array B	36.77	322	P	P	13 56 26.1	+0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	ARCESS Array B	39.42	335	P	P	13 56 47.9	-0.4
	comp=Z,0.5nm,0.6s,mb3.4,baz=115,slow=8.6,SNR=5.2						
ARCES	ARCESS Array B	39.42	335	P	P	13 56 47.9	-0.4
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	43.87	321	P	P	13 57 24.2	-0.5
	comp=Z,0.7nm,0.7s,mb3.5,baz=89,slow=8.0,SNR=3.8						
NOA	NORSAR Array B	43.87	321	P	P	13 57 24.2	-0.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TORD	Torodi Ar. Bea	69.34	270	P	P	14 00 25.6	-0.3
	comp=Z,0.9nm,0.6s,mb3.9,baz=44,slow=5.5,SNR=3.8						

*ISCJB **01** 13:58:50.7±0.4, 33.99N±0.02×6.28W±0.03, h10^{km}, Error ellipse: s-maj=4.0km s-min=2.9km az=173.6*
*CSEM **01** 13:58:52.9±0.2, 33.96N×6.32W, h35^{km}, MD3.4, Error ellipse: s-maj=5.7km s-min=3.5km az=97.0*
*NEIC **01** 13:58:53.4, 33.80N×6.43W, h32^{km}, MG3.2(MDD), After MDD.*
*CNRM **01** 13:58:54.3, 33.86N×6.26W, h18^{km}, MD3.4*
*MDD **01** 13:58:54.1±0.7, 33.89N×6.33W, h21^{km}±7^{km}, mb3.5/3, Error ellipse: s-maj=6.6km s-min=4.4km az=95.0, PRXIMO*
ISC 01 13:58:51.8±0.4**,3395N**±002×**626W**±003**,h10**^{km}**,n44,** σ**1^{s}40**/79**,Morocco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RTC	Rabat Centre	0.50	274	i P	Pg	13 59 02.0	+0.5
RTC				eS	Sg	13 59 10.0	+1.9
TGT	Taghat	1.00	83	i P	Pg	13 59 14.0	+2.9
TGT				i S	Sg	13 59 25.0	+0.8
MIF	Mishlifen	1.01	122	i P	Pg	13 59 13.0	+1.7
MIF				i S	Sg	13 59 24.0	-0.5
CZD	Col de Zad	1.37	132	i P	Pn	13 59 18.0	+1.1
CZD				i S	Sb	13 59 33.0	-2.0
KIB	El Ksiba	1.39	172	i P	Pn	13 59 16.0	-1.1
KIB				i S	Sb	13 59 32.0	-3.5
TZK	Tazeka	1.73	85	i P	Pn	13 59 22.0	+0.2
TZK				i S	Sn	13 59 42.0	-1.9
TZC	Tazercounte	1.81	186	i P	Pn	13 59 23.0	0.0
TZC				i S	Sn	13 59 44.0	-2.0
ZFT	Errachidia	2.50	140	P	Pn	13 59 32.0	-0.4
ZFT				S	Sn	13 59 58.0	-4.9
ZFT	Errachidia	2.50	140	eP	Pn	13 59 32.0	-0.4
EMIJ	Mijas	2.87	25	P	Pn	13 59 38.3	+0.7
	0.4nm,0.1s,SNR=8.2						
EMIJ				S	Sn	14 00 13.0	+0.7
	3.2nm,0.2s,SNR=7.9						
ESPR	Espera	2.93	6	P	Pn	13 59 39.8	+1.5
	1.1nm,0.3s,SNR=4.0						
ESPR				S	Sn	14 00 13.3	-0.2
	4.6nm,0.2s,SNR=7.9						
ESPR	Espera	2.93	6	P	Pn	13 59 39.8	+1.5
	1.1nm,0.3s,SNR=4.0						
ESPR				S	Sn	14 00 13.3	-0.2
	4.6nm,0.2s,SNR=7.9						
OUK	Oukaimeden	3.06	207	P	Pn	13 59 40.0	-0.1
OUK				S	Sn	14 00 11.0	-5.7
OUK	Oukaimeden	3.06	207	eP	Pn	13 59 40.0	-0.1
CIA	Chichaoua	3.18	222	P	Pn	13 59 42.0	+0.2
CIA				S	Sn	14 00 15.0	-4.8
CIA	Chichaoua	3.18	222	i P	Pn	13 59 42.0	+0.2
EALB	Alboran	3.31	52	P	Pn	13 59 45.1	+1.5
EALB				S	Sn	14 00 22.2	-0.7
EALB	Alboran	3.31	52	P	Pn	13 59 45.1	+1.5
EALB				S	Sn	14 00 24.1	+1.2
	1.4nm,0.1s,SNR=4.0						
EGUA	Guajares	3.62	37	S	Sn	14 00 30.4	-0.1
	0.4nm,0.2s,SNR=7.9						
EGUA	Guajares	3.62	37	S	Sn	14 00 30.4	-0.2
	0.4nm,0.2s,SNR=7.9						
EGRO	El Granado	3.71	345	P	Pn	13 59 49.2	+0.1
	1.1nm,0.2s,SNR=23						
EGRO				S	Sn	14 00 30.5	-2.3
	3.3nm,0.3s,SNR=6.5						
EGRO	El Granado	3.71	345	P	Pn	13 59 49.2	+0.1
	1.1nm,0.2s,SNR=23						
EGRO				S	Sn	14 00 30.5	-2.3
	3.3nm,0.3s,SNR=6.5						
EMIN	Mina Concepcio	3.82	355	P	Pn	13 59 50.8	+0.2
	0.6nm,0.4s,SNR=7.9						
EMIN				S	Sn	14 00 32.8	-2.8
	1.3nm,0.1s						
EMIN	Mina Concepcio	3.82	355	P	Pn	13 59 50.8	+0.2
	0.6nm,0.4s,SNR=7.9						
EMIN				S	Sn	14 00 32.8	-2.8
	0.7nm,0.2s						
EQUE	Quentar	3.97	34	S	Sn	14 00 40.4	+1.0
	1.6nm,0.3s,SNR=4.0						
EBER	Berja	4.02	42	P	Pn	13 59 54.6	+1.2
	0.3nm,0.1s,SNR=7.9						
EBER				S	Sn	14 00 40.6	0.0
	0.5nm,0.2s,SNR=7.9						
EBER	Berja	4.02	42	P	Pn	13 59 54.6	+1.2
	0.3nm,0.1s,SNR=7.9						
EBER				S	Sn	14 00 40.6	0.0
	0.5nm,0.2s,SNR=7.9						
PTEO	Sao Teotonio	4.11	331	ePn	Pn	13 59 55.2	+0.6
PTEO				eSn	Sn	14 00 39.8	-2.9
PTEO							
	4.3nm,0.2s						
PTEO	Sao Teotonio	4.11	331	ePn	Pn	13 59 55.2	+0.6
PTEO				eSn	Sn	14 00 39.8	-2.9
	4.3nm,0.2s						
PBEJ	Beja	4.27	343	eSn	Sn	14 00 44.7	-1.9
PBEJ							
	3.0nm,0.1s						
PBEJ	Beja	4.27	343	eSn	Sn	14 00 44.7	-1.9
	3.0nm,0.1s						
EADA	Adamuz	4.42	17	P	Pn	13 59 59.4	+0.6
	0.6nm,0.4s,SNR=13						
EADA				S	Sn	14 00 48.8	-1.6
	1.2nm,0.3s,SNR=9.1						
EADA	Adamuz	4.42	17	P	Pn	13 59 59.4	+0.5
	0.6nm,0.4s,SNR=13						
EADA				S	Sn	14 00 48.8	-1.6
	1.2nm,0.3s,SNR=9.1						
EQES	Quesada	4.63	33	P	Pn	14 00 04.1	+2.3
	0.4nm,0.2s,SNR=7.9						
EQES				S	Sn	14 00 54.6	-0.9
	0.8nm,0.1s,SNR=7.9						
EQES	Quesada	4.63	33	P	Pn	14 00 04.1	+2.3
	0.4nm,0.2s,SNR=7.9						
EQES				S	Sn	14 00 54.6	-1.0
	0.8nm,0.1s,SNR=7.9						
EBAN	Banos Encina	4.65	25	P	Pn	14 00 04.2	+2.1
	1.4nm,0.2s,SNR=6.6						
EBAN				S	Sn	14 00 55.5	-0.7
	1.6nm,0.1s						
EBAN	Banos Encina	4.65	25	P	Pn	14 00 04.2	+2.1
EBAN				S	Sn	14 00 54.6	-1.5
EBAN	Banos Encina	4.65	25	P	Pn	14 00 04.2	+2.1
	1.4nm,0.2s,SNR=6.6						
EBAN				S	Sn	14 00 54.6	-1.5
	2.2nm,0.5s						
EBAD	Badajoz	4.83	353	P	Pn	14 00 05.1	+0.6
	0.9nm,0.4s,SNR=7.5						
EBAD				S	Sn	14 00 57.4	-3.1
	2.5nm,0.1s						
EBAD	Badajoz	4.83	353	P	Pn	14 00 05.1	+0.6
	0.9nm,0.4s,SNR=7.5						
EBAD				S	Sn	14 00 57.4	-3.1
	1.1nm,0.3s						
EVIA	Vianos	5.57	32	P	Pn	14 00 16.2	+1.5
	0.6nm,0.1s,SNR=7.9						
EVIA				S	Sn	14 01 16.1	-2.6
	0.8nm,0.1s,SNR=7.9						
PCBR	Castelo Branco	5.96	351	ePn	Pn	14 00 20.6	+0.6
PCBR				eSn	Sn	14 01 24.0	-4.2
ETOB	Tobarra	6.03	38	S	Sn	14 01 28.5	-1.6
	0.4nm,0.2s,SNR=7.9						
ETOB	Tobarra	6.03	38	P	Pn	14 00 23.0	+2.0
ETOB				S	Sn	14 01 28.5	-1.6

*IDC **01** 14:13:46.1±1.2, 9.84N×126.66E, h0^{km}, mb3.9/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=120.0km s-min=18.3km az=71.0*
*ISCJB **01** 14:13:49.5±0.8, 9.70N±0.04×126.45E±0.05, h10^{km}, mb3.9/8, Error ellipse: s-maj=8.3km s-min=5.1km az=118.3*
*MAN **01** 14:13:55.1, 9.65N×126.13E, h20^{km}, mb3.3, ML4.5, MS1.9*
ISC 01 14:13:50.8±0.7**,967N**±004×**12638E**±004**,h10**^{km}**,n26,** σ**1^{s}40**/32**,mb3.9**/8**,2D,Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.88	277	eP	Pg	14 14 08.1	+0.3
SCPH				eS	Sg	14 14 18.7	-0.6
BUTP	Butuan	1.02	227	eP	Pg	14 14 10.9	+0.4
BUTP				eS	Sg	14 14 22.6	-1.2
BIPH	Bislig	1.48	181	⇓eP	Pn	14 14 18.8	+1.3
BIPH				eS	Sn	14 14 36.8	0.0
MSLP	Maasin	1.57	287	eP	Pn	14 14 19.0	+0.4
PLP	Palo	2.02	317	eP	Pn	14 14 25.8	+0.8
PLP				eS	Sn	14 14 50.0	-0.3
CGP	Cagayan de Oro	2.06	234	eS	Sn	14 14 44.6	-6.5
BUKP	Musuan	2.21	216	eP	Pn	14 14 29.5	+2.0
OCLP	Ormoc	2.21	308	eP	Pn	14 14 29.5	+1.9
LLP	Lapu-Lapu	2.46	285	⇓eP	Pn	14 14 31.5	+0.5
LLP				eS	Sn	14 14 59.6	-1.4
TBP	Tagbilaran	2.48	271	eP	Pg	14 14 42.1	+3.8
TBP				eS	Sg	14 15 09.6	-0.9
MATI	Mati	2.71	183	eP	Pn	14 14 37.7	+3.3
PAGZ	Pagadian	3.47	239	eP	Pn	14 14 46.0	+1.1
GUIM	Jordan	3.85	285	eP	Pn	14 14 50.5	+0.5
IPIL	Ipil	4.20	244	eP	Pn	14 14 56.8	+1.8
PVCP	Virac	4.47	331	eP	Pn	14 15 02.2	+3.7
KAKA	Kakadu	23.04	165	eP	P	14 18 57.1	+1.0
	7.1nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	27.61	182	eP	P	14 19 37.4	-0.8
	8.0nm,2.0s,mb4.0						
FITZ	Fitzroy Crossi	27.61	182	P	P	14 19 37.2	-1.0
	1.9nm,0.8s,mb3.8,baz=341,slow=23,SNR=6.5						
WRA	Warramunga Arr	30.45	165	P	P	14 20 01.1	-2.4
	0.3nm,0.3s,mb3.5,baz=342,slow=8.4,SNR=20						
ASAR	Alice Springs	33.94	168	P	P	14 20 32.9	-1.3
	0.6nm,0.4s,mb3.9,baz=350,slow=7.4,SNR=28						
ASAR				PcP	PcP	14 23 09.1	-3.3
	0.3nm,0.6s,baz=354,slow=1.9,SNR=4.4						
ASPA	Alice Springs	33.94	168	eP	P	14 20 33.2	-0.9
STKA	Stephens Creek	43.80	161	eP	P	14 21 53.5	-3.3
	4.3nm,1.5s,mb4.0						
STKA	Stephens Creek	43.80	161	P	P	14 21 54.0	-2.7

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	1.5nm,0.5s,mb3.9,baz=322,slow=12,SNR=5.1						
MKAR	Makanchi Array	52.56	323	P	P	14 23 01.3	-3.1
	0.7nm,0.7s,mb3.7,baz=123,slow=8.6,SNR=6.2						
ARCES	ARCESS Array B	84.79	340	P	P	14 26 22.7	-2.7
	0.7nm,0.6s,mb4.0,baz=68,slow=6.3,SNR=9.9						
FINES	FINESS Array B	86.47	332	P	P	14 26 30.1	-3.5
	1.1nm,0.8s,mb4.1,baz=83,slow=4.6,SNR=4.5						

*NEIC **01** 14:34:08.5,3173S×7201W,h29km,ML3.0(GUC),After GUC.*

GUC 01 14:34:08.5±0.8**,3173S×7201W,h29**km±3km**,MD4.0, ML3.0,1D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.46	109	⇓iP	Pb	14 34 18.0	-0.2
CHNG				iS	Sb	14 34 24.8	0.0
CHNG				AML	AML	14 34 28.5	
	comp=E,387nm,0.3s						
CMCH	Combarbala	1.03	57	eP	Pn	14 34 26.8	-0.2
CMCH				iS	Sn	14 34 40.5	+0.1
CMCH				AML	AML	14 34 49.4	
	comp=E,1μm,0.7s						
CMCH	Combarbala	1.03	57	eP	Pn	14 34 26.8	-0.2
CMCH				iS	Sn	14 34 40.5	+0.1
ROCH	El Roble	1.50	146	iP	Pn	14 34 34.8	+1.3
JACH	Jahuel	1.53	129	iP	Pn	14 34 35.2	+1.4
JACH				iS	Sn	14 34 55.2	+2.4
LCCH	Las Cruces	1.78	168	iP	Pn	14 34 38.1	+0.9
PEL	Peldehue	1.80	142	eP	Pn	14 34 39.1	+1.6
PEL				iS	Sn	14 35 02.5	+3.1
PEL				AML	AML	14 35 12.1	
	comp=N,414nm,0.3s						
PEL	Peldehue	1.80	142	eP	Pn	14 34 39.1	+1.6
PEL				iS	Sn	14 35 02.5	+3.1
TLL	Tololo Astrono	1.87	34	eP	Pn	14 34 40.6	+2.0
TLL				iS	Sn	14 35 05.2	+3.9
TLL				AML	AML	14 35 09.1	
	comp=N,456nm,0.8s						
TLL	Tololo Astrono	1.87	34	eP	Pn	14 34 40.6	+2.0
TLL				iS	Sn	14 35 05.2	+3.9
CLCH	Cerro Calan	2.07	144	eP	Pn	14 34 42.6	+1.2
CLCH				iS	Sn	14 35 08.6	+2.4
TACH	Talagante	2.12	155	iP	Pn	14 34 44.1	+2.1
FCH	Farellones	2.15	138	eP	Pn	14 34 44.5	+2.1
FCH				iS	Sn	14 35 11.9	+3.7
FCH				AML	AML	14 35 19.6	
	comp=E,102nm,0.3s						
PCH	Pirque	2.27	147	eP	Pn	14 34 45.2	+1.2
LMEL	Las Melosas	2.60	145	eP	Pn	14 34 51.0	+2.4
CACH	El Canelo	2.66	154	eP	Pn	14 34 51.8	+2.4
LCO	Las Campanas	2.94	23	iP	Pn	14 34 53.0	-0.3
LCO				iS	Sn	14 35 30.6	+3.0
SFDO	San Fernando	2.99	164	eP	Pn	14 34 55.3	+1.3

KRSC 01 14:34:11,5317N×15990E,h62km,ML3.7,Near east coast of Kamchatka Peninsula

*ISCJB **01** 14:36:48.2±0.7,3874N±003×2350E±004,h12km±5km, Error ellipse: s-maj=5.8km s-min=5.4km az=66.0*
*CSEM **01** 14:36:48.7±0.1,3872N×2352E,h10km,ML4.0,Error ellipse: s-maj=2.6km s-min=2.0km az=84.0*
*THE **01** 14:36:48.9,3873N×2346E,h7km,ML3.4*
*NEIC **01** 14:36:48.2,3873N×2353E,h30km,ML4.0(ATH),After ATH.*
*ATH **01** 14:36:48.2,3873N×2353E,h30km,MD3.7/11,ML4.0*
ISC 01 14:36:48.5±0.8**,3873N**±003×**2353E**±004**,h6**km±6km**,n47, σ0§97**/48**,6C,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKR	Lokris	0.42	259	ePB	Pg	14 36 57.5	+0.9
AOS	Alonnisos	0.52	32	ePg	Pg	14 36 59.6	+1.2
NEO	Neokhori	0.62	338	ePN	Pg	14 37 00.9	+0.5
XOR	Xorichti	0.69	338	ePg	Pg	14 37 01.9	+0.3
ATH	Athens Observa	0.77	169	ePN	Pg	14 37 03.6	+0.3
AGG	Agios Georgios	0.98	288	ePg	Pg	14 37 06.1	-1.2
AGG				eSg	Sg	14 37 19.5	-0.4
EVR	Evrytania	1.35	278	ePN	Pn	14 37 13.1	-0.9
LIT	Litokhoron	1.59	330	ePg	Pg	14 37 16.1	-2.8
LIT	Litokhoron	1.59	330	ePg	Pg	14 37 16.1	-2.8
PLG	Polygyros	1.64	358	ePB	Pb	14 37 16.7	-2.5
LIA	Limnos Island	1.73	47	ePN	Pn	14 37 18.2	-1.0
RLS	Riolos of Patr	1.75	248	ePN	Pn	14 37 18.7	-0.7
THE	Thessaloniki	1.95	347	ePb	Pn	14 37 21.2	-1.0
ITM	Ithomi	2.00	220	ePN	Pn	14 37 22.0	-0.8
CHOS	Chios island	2.01	99	ePn	Pn	14 37 23.4	+0.4
VLI	Veliai	2.06	193	ePN	Pn	14 37 22.9	-0.8
SOH	Sokhos	2.09	356	ePn	Pn	14 37 23.9	-0.2
LKD	Levkas	2.25	270	ePn	Pn	14 37 26.9	+0.6
APE	Apeiranthos	2.29	136	ePn	Pn	14 37 26.9	+0.1
VLS	Valsamata	2.37	257	ePN	Pn	14 37 27.6	-0.3
SRS	Serrai	2.38	1	ePn	Pn	14 37 27.6	-0.5
GRG	Griva	2.39	339	ePn	Pn	14 37 27.4	-0.7
KNT	Kendrikon	2.48	349	ePn	Pn	14 37 29.4	0.0
NVR	Nevrokopi	2.63	6	ePN	Pn	14 37 30.9	-0.6
FNA	Florina	2.64	322	ePn	Pn	14 37 31.9	+0.4
VAY	Valandovo	2.69	344	ePn	Pn	14 37 31.9	-0.5
VAY	Valandovo	2.69	344	iPn	Pn	14 37 31.9	-0.5
BIA	Bitola	2.84	324	ePn	Pb	14 37 40.5	+0.8
ALN	Alexandroupoli	2.91	41	ePn	Pn	14 37 34.6	-0.7
OHR	Ohrid	3.17	319	ePn	Pn	14 37 42.0	+3.0
OHR	Ohrid	3.17	319	ePn	Pn	14 37 41.9	+3.0
KARN	Karanos	3.34	175	ePn	Pn	14 37 41.3	+0.1
VTS	Vitosha	3.86	357	⇑iP	Pn	14 37 49.2	+0.7
VTS	Vitosha	3.86	357	⇑P	Pn	14 37 49.2	+0.7
TIP	Timpagrande	5.29	277	ePn	Pn	14 38 07.6	-0.5
TIP	Timpagrande	5.29	277	ePn	Pn	14 38 07.6	-0.5
CUC	Castrocucco	6.11	284	Pn	Pn	14 38 21.1	+1.8
	19nm,0.5s						
MGR	Morigerati	6.33	285	Pn	Pn	14 38 23.3	+0.9
	14nm,0.6s						
FGMS	Monte Sant'Ang	6.51	300	Pn	Pn	14 38 24.7	-0.2
SGO	Sicignano	6.60	289	Pn	Pn	14 38 26.4	+0.3
	14nm,0.6s						
RGNG	Rignano Grg	6.75	298	Pn	Pn	14 38 24.7	-3.4
VOIR		6.80	9	⇑iP	Pn	14 38 29.6	+0.8
VOIR		6.80	9	⇑P	Pn	14 38 29.6	+0.9
CSSN	Cassano Irpino	6.88	291	Pn	Pn	14 38 30.9	+0.9
	9.1nm,0.6s						
MLR	Muntele Rosu	6.99	14	⇑iP	Pn	14 38 32.9	+1.5
MLR	Muntele Rosu	6.99	14	⇑P	Pn	14 38 32.9	+1.5
SDI	San Donato	8.01	295	Pn	Pn	14 38 46.6	+1.2
	5.7nm,0.3s						

*NEIC **01** 14:39:22.3,1654N×9942W,h16km,MD3.7(MEX),After MEX.*
MEX 01 14:39:22.3±1.2**,1658N×9940W,h18**km±465km**,MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	Acapulco	0.57	300	iP	Pg	14 39 31.0	-2.6
ACX				iS	Sg	14 39 39.0	-2.2
CAIG	El Cayaco	0.95	299	iP	Pb	14 39 38.5	-1.7
CAIG				iS	Sb	14 39 48.2	-4.3
MEIG	Mezcala	1.35	351	iP	Pn	14 39 43.7	-2.6
MEIG				iS	Sn	14 39 58.8	-5.0
PLIG	Platanillo	1.80	357	eP	Pn	14 39 50.8	-1.7
PLIG				iS	Sn	14 40 12.3	-2.6
PLIG	Platanillo	1.80	357	eP	Pn	14 39 52.0	-0.5
PLIG				iS	Sn	14 40 12.9	-2.0
UTMO	Huajuapan	1.97	51	iP	Pn	14 39 51.2	-3.6
UTMO				iS	Sn	14 40 15.5	-3.5
PPM	Popocatepetl	2.58	17	iP	Pn	14 40 00.7	-2.5
PPM				iS	Sn	14 40 32.2	-1.9
PPM	Popocatepetl	2.58	17	eP	Pn	14 40 03.2	0.0
PPM				iS	Sn	14 40 32.2	-1.9
VHO	Vista Hermosa	2.60	79	iP	Pn	14 40 01.7	-1.8
VHO				iS	Sn	14 40 31.1	-3.6
VHO	Vista Hermosa	2.60	79	eP	Pn	14 40 06.9	+3.4
VHO				iS	Sn	14 40 36.1	+1.4
OXX	Oaxaca	2.61	79	eP	Pn	14 40 03.0	-0.7

MAN 01 15:09:45.8,1087N×12488E,h0km,MS8.5,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLP	Palo	0.30	18	eP	Pg	15 09 52.6	+0.9
PLP				iS	Sg	15 09 57.8	+2.2
OCLP	Ormoc	0.32	303	eP	Pg	15 09 52.1	+0.1
MSLP	Maasin	0.73	182	eP	Pg	15 10 01.1	+1.2
BESP	Borongan	0.91	37	eP	Pg	15 10 03.2	0.0

*NEIC **01** 15:13:39.4,3178S×6927W,h136km,MG3.6(GUC),After GUC.*
GUC 01 15:13:39.4±0.7**,3178S×6927W,h136**km±12km**,MD3.7, ML3.6,3C-7D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACH	Jahuel	1.44	231	iP	Pn	15 14 08.0	+0.8
JACH				iS	Sn	15 14 29.4	+0.9
CMCH	Combarbala	1.60	292	⇓iP	Pn	15 14 09.8	+0.7
CMCH				iS	Sn	15 14 32.6	+0.9
CMCH				AML	AML	15 14 35.3	
	comp=N,2μm,0.6s						
CMCH	Combarbala	1.60	292	⇓iP	Pn	15 14 09.8	+0.7
CMCH				iS	Sn	15 14 32.6	+0.9
FCH	Farellones	1.77	209	eP	Pn	15 14 12.2	+1.2
FCH				iS	Sn	15 14 36.9	+1.8
FCH				AML	AML	15 14 40.9	
	comp=E,188nm,0.3s						
PEL	Peldehue	1.81	221	⇓eP	Pn	15 14 12.1	+0.6
PEL				iS	Sn	15 14 36.4	+0.4
PEL				AML	AML	15 14 38.0	
	comp=E,580nm,0.6s						
PEL	Peldehue	1.81	221	⇓eP	Pn	15 14 12.1	+0.6
PEL				iS	Sn	15 14 36.4	+0.4
ROCH	El Roble	1.89	231	eP	Pn	15 14 12.8	+0.4
CHNG	Los Chungos	1.90	266	eP	Pn	15 14 11.6	-0.9
CHNG				iS	Sn	15 14 37.4	-0.5
CLCH	Cerro Calan	1.94	213	⇑eP	Pn	15 14 13.6	+0.7
CLCH				iS	Sn	15 14 39.4	+0.8
CLCH				AML	AML	15 14 42.2	
	comp=E,628nm,0.5s						
TLL	Tololo Astrono	2.08	320	⇑eP	Pn	15 14 15.9	+1.2
TLL				iS	Sn	15 14 42.7	+1.0
TLL				AML	AML	15 14 46.5	
	comp=N,357nm,0.6s						
TLL	Tololo Astrono	2.08	320	⇑eP	Pn	15 14 15.9	+1.2
TLL				iS	Sn	15 14 42.7	+1.0
LMEL	Las Melosas	2.21	201	eP	Pn	15 14 17.2	+1.0
TACH	Talagante	2.34	217	iP	Pn	15 14 18.1	+0.3
TACH				iS	Sn	15 14 47.9	+0.5
CHCH	Chadas Angostu	2.44	208	⇓iP	Pn	15 14 19.7	+0.5
CHCH				iS	Sn	15 14 50.1	+0.4
LCCH	Las Cruces	2.57	228	⇓iP	Pn	15 14 21.0	+0.2
CACH	El Canelo	2.59	205	⇓iP	Pn	15 14 22.2	+1.3
CACH				iS	Sn	15 14 54.5	+1.6
CICH	Cipreses	2.71	201	iP	Pn	15 14 23.2	+0.7
LNV	Longovilo	2.82	219	iP	Pn	15 14 23.1	-0.8
TRQA	Tornquist	8.66	138	ePn	Pn	15 15 39.9	-1.8
	comp=N,3.9nm,0.5s						

ISC 01 15:17:41.3±2.4**,218N**±02×**711W**±01**,h40**km±27km**,n7, σ1§01**/12**,Bahama Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MASC	Masc	3.32	242	eP	P	15 18 29.8	-2.3
	baz=123						
MASC				eS	S	15 19 11.1	+0.3
	comp=N,2.7nm,0.1s						
MASC				e			
	comp=E,3.6nm,0.1s						
MOAC	Moa	3.76	254	eP	P	15 18 40.0	+1.7
	baz=90						
MOAC				eS	S	15 19 27.5	+5.7
	comp=N,4.1nm,0.2s						
MOAC				e			
	comp=E,3.8nm,0.3s						
RCC	Rio Carpintero	4.64	248	eP	P	15 18 52.2	+1.4
	baz=95						
RCC				eS	S	15 19 44.0	0.0
	comp=N,47nm,0.6s						
RCC				e			
	comp=E,40nm,0.3s						
LMGC	Las Mercedes	5.76	254	eP	P	15 19 05.7	-0.8
	baz=96						
LMGC				eS	S	15 20 12.1	-0.3
	comp=N,15nm,0.3s						
LMGC				e			
	comp=E,22nm,0.3s						
CCCC	Cccc	6.22	266	eP	P	15 19 12.4	-0.6
	baz=107						
CCCC				eS	S	15 20 23.8	0.0
	comp=N,0.3nm,0.0s						
CCCC				e			
	comp=E,0.3nm,0.0s						
KARA	Karaisali	89.09	50	ePG	P	15 30 33.9	+0.1
KOZT	Kozan	89.54	50	ePG	P	15 30 28.1	-7.9
KOZT				eSG		15 30 36.1	

*NEIC **01** 15:19:41.6,1570N×96.15W,h20km,MD3.7(MEX),After MEX.*
MEX 01 15:19:41.6±1.2**,1570N×9614W,h20**km±9km**,MD3.7,2C, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.07	22	⇑iP	Pb	15 19 44.4	-1.0
HUIG				iS	Sb	15 19 46.9	-0.9
HUIG	Huatulco	0.07	22	⇑iP	Pb	15 19 44.4	-1.0
HUIG				iS	Sb	15 19 46.8	-1.1
VHO	Vista Hermosa	1.48	337	iP	Pn	15 20 04.4	-2.6
VHO				iS	Sn	15 20 20.8	-5.0
OXX	Oaxaca	1.48	338	iP	Pn	15 20 05.0	-2.1
OXX				iS	Sn	15 20 24.0	-1.9
CMIG	Matias Romero	1.83	41	eP	Pn	15 20 08.1	-3.8
CMIG				iS	Sn	15 20 31.8	-2.8
UTMO	Huajuapan	2.65	323	iP	Pn	15 20 22.0	-1.2
UTMO				iS	Sn	15 20 51.0	-3.7

*ISCJB **01** 15:26:20.8±0.6,4394N±009×2839W±008,h10km, mb4.3/47,MS3.4/22,Error ellipse: s-maj=13.2km s-min=7.0km az=34.6*
*IDC **01** 15:26:20.9±1.3,4393N×2837W,h0km,mb3.9/11, mb1 3.9/13,mb1mx3.8/27,mbtmp3.8/13,ML3.5/1,MS3.4/19, Ms1 3.4/19,ms1mx3.3/43,Error ellipse: s-maj=30.3km s-min=22.6km az=26.0*
*BJI **01** 15:26:20.0,4390N×2840W,h10km,mB5.0,mb4.5,Ms4.7, Msz4.2*
*CSEM **01** 15:26:21.0±0.1,4398N×2846W,h15km,mb4.5/30,Ms3.2, Error ellipse: s-maj=4.5km s-min=2.3km az=14.0*
*MOS **01** 15:26:21.0±0.6,4395N×2835W,h10km,mb4.7/26,Error ellipse: s-maj=16.0km s-min=5.5km az=149.3*
*NEIC **01** 15:26:22.4±0.4,4392N×2839W,h10km,mb4.5/33,Error ellipse: s-maj=8.3km s-min=4.5km az=199.0*
ISC 01 15:26:22.7±0.6**,4400N**±009×**2833W**±007**,h10**km**,n173, σ0§61**/161**,mb4.3**/47**,MS3.4**/22**,3D,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSF	Rostrenen	17.86	67	eP	Pn	15 30 31.8	+0.5
QUIF	Quistinic	17.90	69	eP	Pn	15 30 32.3	+0.5
SGMF	Saint Gilles	18.33	68	eP	Pn	15 30 37.6	+0.5
ESDC	Sonseca Array	18.64	95	P	Pn	15 30 39.3	-1.6
	baz=300,slow=11,SNR=6.5						
ESDC				LR	LR	15 36 38.9	
	comp=Z,77nm,18.1s,baz=325,slow=33						
ESLA	Sonseca Array	18.64	95	P	Pn	15 30 36.3	-4.5
GRR	Gorron	19.47	67	eP	Pn	15 30 51.0	+0.1
SJPF	Ste Jean	19.64	83	eP	Pn	15 30 52.4	-0.5
	13nm,1.1s						
SJPF	Ste Jean	19.64	83	eP	Pn	15 30 52.4	-0.5
SJPF				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SJPF	Ste Jean	19.64	83	eP	Pn	15 30 52.4	-0.5
	comp=Z,6.7nm,1.1s						
EKA	Eskdalemuir Ar	19.73	46	P	Pn	15 30 52.5	-1.5
	comp=Z,0.1nm,0.3s,baz=253,slow=8.4,SNR=5.7						
FLN	La Foliniere	19.74	66	eP	Pn	15 30 54.1	0.0
	comp=Z,48nm,1.5s						
FLN	La Foliniere	19.74	66	eP	Pn	15 30 54.1	0.0
FLN				pmax	pmax		
	comp=Z,24nm,1.5s						
FLN	La Foliniere	19.74	66	eP	Pn	15 30 54.1	0.0
	comp=Z,24nm,1.5s						
MFF	Saint Martin d	19.96	73	eP	Pn	15 30 56.2	-0.4
LDF	La Druitiere	19.97	67	eP	Pn	15 30 56.5	-0.3
	comp=Z,64nm,1.5s						
LDF	La Druitiere	19.97	67	eP	Pn	15 30 56.5	-0.3
LDF				pmax	pmax		
	comp=Z,32nm,1.5s						
LDF	La Druitiere	19.97	67	eP	Pn	15 30 56.5	-0.3
	comp=Z,32nm,1.5s						
ETSF	Etsaut	20.16	83	eP	P	15 30 58.1	+0.9
	comp=Z,7.5nm,0.8s						
ETSF	Etsaut	20.16	83	eP	P	15 30 58.1	+0.9
ETSF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ETSF	Etsaut	20.16	83	eP	P	15 30 58.1	+0.9
	comp=Z,3.8nm,0.8s						
LFF	La Frestale	20.73	77	eP	P	15 31 04.3	+1.0
EPF	Esparros	20.78	83	eP	P	15 31 05.3	+1.4
	comp=Z,48nm,1.3s						
EPF	Esparros	20.78	83	eP	P	15 31 05.3	+1.4
EPF				pmax	pmax		
	comp=Z,24nm,1.3s						
EPF	Esparros	20.78	83	eP	P	15 31 05.3	+1.4
	comp=Z,24nm,1.3s						
BORG	Borgarnes	21.16	8	P	P	15 31 08.1	+0.1
	comp=Z,31nm,1.1s,mb4.5						
BORG	Borgarnes	21.16	8	P	P	15 31 08.1	+0.1
	comp=Z,31nm,1.1s,mb4.5						
RJF	Les Rejaudoux	21.22	76	eP	P	15 31 09.7	+1.0
RJF				eR			
	comp=Z,83nm,17.0s						
RJF	Les Rejaudoux	21.22	76	eP	P	15 31 09.7	+1.0
RJF				LR	LR		
	comp=Z,80nm,17.0s,MS3.2						
TCF	Toulx Ste Croi	21.60	73	eP	P	15 31 13.4	+0.6
	comp=Z,54nm,1.4s,mb4.5						
TCF	Toulx Ste Croi	21.60	73	eP	P	15 31 13.4	+0.6
TCF				pmax	pmax		
	comp=Z,27nm,1.4s,mb4.5						
TCF	Toulx Ste Croi	21.60	73	eP	P	15 31 13.4	+0.6
	comp=Z,27nm,1.4s,mb4.5						
MDT	Midelt	21.61	113	P	P	15 31 13.5	+0.7
	comp=Z,4.0nm,1.0s,mb3.8,baz=302,slow=11,SNR=5.4						
MDT				LR	LR	15 37 45.6	
	comp=Z,63nm,18.9s,MS3.0,baz=332,slow=32						
CAF	Calviac	21.66	77	eP	P	15 31 13.8	+0.4
BGF	Bois d'Agland	22.02	72	eP	P	15 31 16.9	-0.3
	comp=Z,51nm,1.2s,mb4.5						
BGF	Bois d'Agland	22.02	72	eP	P	15 31 16.9	-0.3
BGF				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.5						
BGF	Bois d'Agland	22.02	72	eP	P	15 31 16.9	-0.3
	comp=Z,26nm,1.2s,mb4.5						
MTLF	Montolieu	22.05	81	eP	P	15 31 18.2	+0.6
	comp=Z,87nm,1.2s,mb4.8						
MTLF	Montolieu	22.05	81	eP	P	15 31 18.2	+0.6
MTLF				pmax	pmax		
	comp=Z,44nm,1.2s,mb4.8						
MTLF	Montolieu	22.05	81	eP	P	15 31 18.2	+0.6
	comp=Z,44nm,1.2s,mb4.8						
AVF	Avril sur Loir	22.35	72	eP	P	15 31 21.1	+0.4
	comp=Z,46nm,1.4s,mb4.4						
AVF	Avril sur Loir	22.35	72	eP	P	15 31 21.1	+0.4
AVF				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.4						
AVF	Avril sur Loir	22.35	72	eP	P	15 31 21.1	+0.4
	comp=Z,23nm,1.4s,mb4.4						
SSF	Saint Saulge	22.43	71	eP	P	15 31 21.9	+0.3
	comp=Z,73nm,1.4s,mb4.6						
SSF	Saint Saulge	22.43	71	eP	P	15 31 21.9	+0.3
SSF				pmax	pmax		
	comp=Z,37nm,1.4s,mb4.6						
SSF	Saint Saulge	22.43	71	eP	P	15 31 21.9	+0.3
	comp=Z,36nm,1.4s,mb4.6						
LOR	Lormes	22.66	70	eP	P	15 31 24.0	0.0
	comp=Z,72nm,1.4s,mb4.6						
LOR				eR			
	comp=Z,198nm,17.5s						
LOR	Lormes	22.66	70	eP	P	15 31 24.0	0.0
LOR				pmax	pmax		
	comp=Z,36nm,1.4s,mb4.6						
LOR				MLR	MLR		
	comp=Z,200nm,17.5s,MS3.6						
LOR	Lormes	22.66	70	eP	P	15 31 24.0	0.0
	comp=Z,36nm,1.4s,mb4.6						
LOR				LR	LR		
	comp=Z,200nm,17.5s,MS3.6						
SMF	Signal de Mont	22.70	72	eP	P	15 31 24.4	0.0
	comp=Z,38nm,1.4s,mb4.3						
SMF	Signal de Mont	22.70	72	eP	P	15 31 24.4	0.0
SMF				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.3						
SMF	Signal de Mont	22.70	72	eP	P	15 31 24.4	0.0
	comp=Z,19nm,1.4s,mb4.3						
BAIF	Baives	22.87	63	eP	P	15 31 26.0	-0.3
	comp=Z,53nm,1.3s,mb4.5						
BAIF	Baives	22.87	63	eP	P	15 31 26.0	-0.3
BAIF				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.5						
BAIF	Baives	22.87	63	eP	P	15 31 26.0	-0.3
	comp=Z,26nm,1.3s,mb4.5						
SNF	Seneffe	22.95	62	P	P	15 31 26.7	-0.4
SNF	Seneffe	22.95	62	P	P	15 31 26.6	-0.5
UCC	Uccle	23.02	61	P	P	15 31 27.6	-0.2
LASF	Ste Croix	23.07	79	eP	P	15 31 27.8	-0.6
	comp=Z,78nm,1.3s,mb4.7						
LASF	Ste Croix	23.07	79	eP	P	15 31 27.8	-0.6
	comp=Z,39nm,1.3s,mb4.7						
DOU	Dourbes	23.12	63	P	P	15 31 28.8	-0.2
	comp=Z,4.0nm,1.3s,mb3.7						
DOU	Dourbes	23.12	63	P	P	15 31 28.7	-0.2
	comp=Z,4.0nm,1.3s,mb3.7						
GIVF	Givet	23.27	63	eP	P	15 31 30.0	-0.5
MEZF	Maizieres J'vi	23.41	67	eP	P	15 31 31.4	-0.5
	comp=Z,76nm,1.3s,mb4.7						
MEZF	Maizieres J'vi	23.41	67	eP	P	15 31 31.4	-0.5
	comp=Z,38nm,1.3s,mb4.7						
VIVF	Saint-Julien-l	23.50	76	eP	P	15 31 32.2	-0.7
	comp=Z,46nm,1.5s,mb4.4						
VIVF	Saint-Julien-l	23.50	76	eP	P	15 31 32.2	-0.7
VIVF				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.4						
VIVF	Saint-Julien-l	23.50	76	eP	P	15 31 32.2	-0.7
	comp=Z,23nm,1.5s,mb4.4						
BCLA	Clavier	23.59	62	P	P	15 31 33.5	-0.3
	comp=Z,4.5nm,1.4s,mb3.7						
BCLA	Clavier	23.59	62	P	P	15 31 33.4	-0.4
	comp=Z,4.5nm,1.4s,mb3.7						
MEM	Membach	24.05	62	P	P	15 31 38.1	+0.2
WLF	Walferdange	24.12	64	P	P	15 31 38.6	0.0
CABF	La Chapelle	24.24	72	eP	P	15 31 39.6	-0.1
	comp=Z,15nm,1.0s,mb4.1						
CABF	La Chapelle	24.24	72	eP	P	15 31 39.6	-0.1
CABF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
CABF	La Chapelle	24.24	72	eP	P	15 31 39.6	-0.1
	comp=Z,7.4nm,1.0s,mb4.1						
HAU	Haudompre	24.29	68	eP	P	15 31 39.9	-0.3
HAU				eR			
	comp=Z,131nm,17.8s						
HAU	Haudompre	24.29	68	eP	P	15 31 39.9	-0.3
HAU				LR	LR		
	comp=Z,130nm,17.8s,MS3.5						
SMRF	Simiane la Rot	24.30	78	eP	P	15 31 40.0	-0.3
	comp=Z,58nm,1.4s,mb4.5						
SMRF	Simiane la Rot	24.30	78	eP	P	15 31 40.0	-0.3
	comp=Z,29nm,1.4s,mb4.5						
ORIF	Oris-en-Rattie	24.34	76	eP	P	15 31 40.3	-0.3
ORIF				eR			
	comp=Z,114nm,18.5s						
HINF	Hinteralfeld	24.65	69	eP	P	15 31 43.5	+0.1
	comp=Z,20nm,1.3s,mb4.2						
HINF	Hinteralfeld	24.65	69	eP	P	15 31 43.5	+0.1
HINF				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.2						
HINF	Hinteralfeld	24.65	69	eP	P	15 31 43.5	+0.1
	comp=Z,10nm,1.3s,mb4.2						
LPL	La Plagne	24.83	74	eP	P	15 31 45.0	-0.1
LPG	La Plagne	24.85	74	eP	P	15 31 45.2	-0.1
CDF	Champ du Feu	24.89	67	eP	P	15 31 46.0	+0.4
	comp=Z,41nm,1.3s,mb4.5						
CDF	Champ du Feu	24.89	67	eP	P	15 31 46.0	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CDF				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.5						
CDF	Champ du Feu	24.89	67	eP	P	15 31 46.0	+0.4
	comp=Z,20nm,1.3s,mb4.5						
MBDF	Montbardon	25.00	76	eP	P	15 31 46.8	+0.2
LMR	La Mourre	25.11	79	eP	P	15 31 47.3	-0.3
FRF	La Foret Royal	25.15	79	eP	P	15 31 47.9	-0.1
	comp=Z,41nm,1.2s,mb4.5						
FRF	La Foret Royal	25.15	79	eP	P	15 31 47.9	-0.1
FRF				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.5						
FRF	La Foret Royal	25.15	79	eP	P	15 31 47.9	-0.1
	comp=Z,21nm,1.2s,mb4.5						
SBF	Sospel	25.64	78	eP	P	15 31 52.2	-0.3
	comp=Z,23nm,0.9s,mb4.4						
SBF	Sospel	25.64	78	eP	P	15 31 52.2	-0.3
SBF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.4						
SBF	Sospel	25.64	78	eP	P	15 31 52.2	-0.3
	comp=Z,11nm,0.9s,mb4.4						
DAVOX	Davos	26.81	71	LR	LR	15 41 49.5	
	comp=Z,106nm,18.2s,MS3.4,baz=260,slow=35						
SCHQ	Schefferville	26.95	307	LR	LR	15 41 14.8	
	comp=Z,61nm,18.1s,MS3.2,baz=109,slow=33						
PGF	Pioggiola	27.07	80	eP	P	15 32 05.7	+0.3
	comp=Z,44nm,1.4s,mb4.5						
PGF	Pioggiola	27.07	80	eP	P	15 32 05.7	+0.3
PGF				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.5						
PGF	Pioggiola	27.07	80	eP	P	15 32 05.7	+0.3
	comp=Z,22nm,1.4s,mb4.5						
MOX	Moxa	27.62	62	eP	P	15 32 11.0	+0.7
	comp=Z,8.0nm,1.5s,mb4.1						
MOX	Moxa	27.62	62	eP	P	15 32 11.0	+0.7
MOX				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.4						
NOA	NORSAR Array B	28.89	40	LR	LR	15 41 58.7	
	comp=Z,18nm,20.8s,MS2.7,baz=280,slow=32						
KHC	Kasperske Hory	28.99	65	eP	P	15 32 22.3	-0.2
KHC	Kasperske Hory	28.99	65	d iP	P	15 32 22.6	+0.1
SUMG	Summit	29.06	354	eP	P	15 32 22.4	-0.8
	comp=Z,3.1nm,0.9s,mb4.0						
SUMG	Summit	29.06	354	eP	P	15 32 22.4	-0.8
	comp=Z,3.1nm,0.9s,mb4.0						
GERES	GERESS Array B	29.10	65	P	P	15 32 23.6	+0.1
	comp=Z,0.8nm,0.9s,mb3.5,baz=285,slow=6.8,SNR=9.7						
GERES				LR	LR	15 43 21.5	
	comp=Z,70nm,18.5s,MS3.3,baz=88,slow=35						
HFS	Hagfors	29.82	42	LR	LR	15 42 30.3	
	comp=Z,58nm,18.0s,MS3.3,baz=262,slow=32						
TREC	Trest	30.21	64	eP	P	15 32 34.0	+0.6
AQU	L'Aquila	30.25	78	P	P	15 32 33.1	-0.6
UPC	Upice	30.43	62	eP	P	15 32 35.8	+0.5
DPC	Dobruska-Polom	30.64	62	eP	P	15 32 36.6	-0.5
VRAC	Vranov	30.93	64	LR	LR	15 44 20.9	
	comp=Z,90nm,18.9s,MS3.5,baz=261,slow=35						
MORC	Moravsky Berou	31.48	63	eP	P	15 32 44.6	0.0
MORC				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.2						
MORC	Moravsky Berou	31.48	63	eP	P	15 32 44.6	0.0
	comp=Z,5.1nm,1.2s,mb4.2						
MORC	Moravsky Berou	31.48	63	eP	P	15 32 44.6	0.0
	comp=Z,5.1nm,1.2s,mb4.2						
FINES	FINESS Array B	36.01	42	P	P	15 33 23.7	-0.3
	comp=Z,4.6nm,1.1s,mb4.3,baz=231,slow=8.5,SNR=9.1						
FINES				LR	LR	15 46 10.3	
	comp=Z,41nm,20.7s,MS3.2,baz=2.8,slow=33						
ARCES	ARCESS Array B	37.08	28	LR	LR	15 45 41.7	
	comp=Z,27nm,20.9s,MS3.0,baz=316,slow=31						
MLR	Muntele Rosu	37.96	68	LR	LR	15 48 57.1	
	comp=Z,83nm,19.6s,MS3.5,baz=141,slow=36						
AKASG	Malin Array Be	38.70	59	P	P	15 33 46.1	-0.7
	comp=Z,2.2nm,0.7s,mb4.0,baz=277,slow=8.5,SNR=11						
AKASG	Malin Array Be	38.70	59	iP	P	15 33 46.4	-0.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TORD	Torodi Ar. Bea	40.08	131	P	P	15 33 57.4	-0.9
	comp=Z,2.9nm,1.0s,mb4.0,baz=330,slow=6.2,SNR=9.3						
TORD				LR	LR	15 49 38.4	
	comp=Z,113nm,18.1s,MS3.8,baz=310,slow=35						
TORD	Torodi Ar. Bea	40.08	131	P	P	15 33 57.4	-0.9
TORD				LR	LR	15 49 38.4	
IDI	Anoyia	41.27	83	LR	LR	15 49 47.0	
	comp=Z,33nm,20.4s,MS3.2,baz=94,slow=34						
OBN	Obninsk	42.06	51	⇓eP	P	15 34 15.3	+0.7
OBN				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.6						
OBN	Obninsk	42.06	51	eP	P	15 34 14.6	0.0
OBN	Obninsk	42.06	51	eP	P	15 34 14.6	0.0
DBIC	Dimbokro	42.49	144	LR	LR	15 49 15.0	
	comp=Z,74nm,18.8s,MS3.6,baz=326,slow=32						
DBIC	Dimbokro	42.49	144	eP	P	15 34 17.4	-0.7
DBIC				pmax	pmax		
	comp=Z,12nm,1.2s						
DBIC	Dimbokro	42.49	144	eP	P	15 34 17.4	-0.6
	comp=Z,12nm,1.2s,mb4.4						
DBIC	Dimbokro	42.49	144	eP	P	15 34 17.4	-0.7
	comp=Z,12nm,1.2s,mb4.4						
BRTR	Keskin Array B	45.40	73	P	P	15 34 42.4	+1.0
	comp=Z,1.0nm,0.8s,mb3.7,baz=286,slow=6.3,SNR=6.7						
BRTR				LR	LR	15 52 08.8	
	comp=Z,37nm,21.9s,MS3.3,baz=41,slow=34						
BRTR	Keskin Array B	45.40	73	iP	P	15 34 42.4	+1.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	50.59	323	LR	LR	15 53 56.3	
	comp=Z,33nm,19.3s,MS3.4,baz=85,slow=33						
GNI	Garni	52.73	67	LR	LR	15 58 50.0	
	comp=Z,32nm,19.0s,MS3.4,baz=323,slow=37						
ARU	Arti	53.33	44	⇓iP	P	15 35 41.7	-0.3
ARU				e		15 36 46.7	
ARU				e		15 37 38.6	
ARU				eS	S	15 43 11.9	-1.8
ARU				eSS	SS	15 46 52.7	-0.7
ARU				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
ARU	Arti	53.33	44	eP	P	15 35 41.9	-0.1
	comp=Z,9.6nm,1.3s,mb4.6						
ARU	Arti	53.33	44	eP	P	15 35 41.9	-0.1
	comp=Z,9.6nm,1.3s,mb4.6						
INK	Inuvik	55.09	334	eP	P	15 35 54.4	-0.5
AKTK	Aktyubinsk	55.84	50	P	P	15 36 00.2	-0.1
AKTK	Aktyubinsk	55.84	50	P	P	15 36 00.2	-0.1
AKTO	Aktyubinsk	55.84	50	P	P	15 36 00.2	-0.1
	comp=Z,0.8nm,0.5s,mb4.0,baz=294,slow=11,SNR=5.1						
WALA	Waterton Lakes	56.09	308	P	P	15 36 02.2	+0.2
	comp=Z,3.9nm,1.0s,mb4.4						
WALA	Waterton Lakes	56.09	308	P	P	15 36 02.2	+0.2
	comp=Z,3.9nm,1.0s,mb4.4						
PDAR	Pinedale Array	56.67	299	P	P	15 36 06.2	0.0
	comp=Z,0.3nm,0.7s,mb3.4,baz=84,slow=8.5,SNR=3.2						
DAWY	Dawson	59.49	332	eP	P	15 36 26.0	0.0
DAWY	Dawson	59.49	332	eP	P	15 36 26.0	0.0
ZRNK	Zerenda	60.31	44	P	P	15 36 31.7	+0.1
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.4						
ZRNK	Zerenda	60.31	44	P	P	15 36 31.7	+0.2
	comp=Z,5.7nm,1.5s,mb4.4						
ZRNK	Zerenda	60.31	44	P	P	15 36 31.7	+0.1
	comp=Z,5.7nm,1.5s,mb4.4						
BRVK	Borovoye	60.88	43	eP	P	15 36 35.5	0.0
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb4.0						
BRVK	Borovoye	60.88	43	eP	P	15 36 35.5	0.0
	comp=Z,1.4nm,0.9s,mb4.1						
BRVK	Borovoye	60.88	43	eP	P	15 36 35.5	0.0
	comp=Z,1.4nm,0.9s,mb4.1						
BVAR	Borovoye Array	60.95	43	P	P	15 36 36.3	+0.4
	comp=Z,1.3nm,1.0s,mb4.0,baz=293,slow=4.5,SNR=8.7						
BVAR				LR	LR	16 00 30.6	
	comp=Z,37nm,19.0s,MS3.6,baz=314,slow=34						
COLA	College	61.70	335	P	P	15 36 41.9	+0.9
TIXI	Tiksi	63.52	8	iP	P	15 36 54.9	+1.7
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
YBH	Yreka Blue Hor	65.30	305	LR	LR	16 04 31.6	
	comp=Z,46nm,18.3s,MS3.7,baz=63,slow=35						
KURK	Kurchatov	66.39	42	eP	P	15 37 11.5	-0.4
KURK	Kurchatov	66.39	42	eP	P	15 37 11.3	-0.5
	comp=Z,2.7nm,0.9s,mb4.3						
KURK	Kurchatov	66.39	42	eP	P	15 37 11.3	-0.6
	comp=Z,2.7nm,0.9s,mb4.3						
AAK	Ala-Archa	69.58	50	P	P	15 37 26.2	-5.7
MKAR	Makanchi Array	70.84	43	P	P	15 37 39.5	-0.2
	comp=Z,0.6nm,0.8s,mb3.6,baz=308,slow=6.0,SNR=5.1						
YAK	Yakutsk	72.85	11	iP	P	15 37 51.5	-0.2
YAK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
WMQ	Urumqi	75.62	42	P	P	15 38 09.6	+1.7
SONM	Songino Array	80.25	29	P	P	15 38 33.7	+0.1
	comp=Z,1.0nm,1.1s,mb3.7,baz=316,slow=4.1,SNR=4.4						
ULN	Ulaanbaatar	80.46	29	iP	P	15 38 35.2	+0.5
ULN	Ulaanbaatar	80.46	29	P	P	15 38 35.0	+0.3
	comp=Z,2.9nm,1.2s,mb4.1						
HHC	Hu-ho-hao-te	88.15	29	eP	P	15 39 12.4	-1.4
HHC				XP	sP	15 39 18.2	-0.1
HHC				PP	PP	15 42 41.0	+0.4
HHC				S		15 49 52.7	
HHC				SS	SS	15 55 43.5	-3.0
HHC				AMB	AMB		
	comp=Z,60nm,5.5s						
HHC				LR	LR		
	comp=N,125nm,16.6s,MS4.5						
HHC				LR	LR		
	comp=E,104nm,19.0s,MS4.5						
HHC				LR	LR		
	comp=Z,76nm,19.6s,MS4.1						
CD2	Chengdu	93.55	40	eP	P	15 39 37.8	-1.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
KMI	Kunming	97.91	44	P	P	15 39 59.2	+0.4
KMI				AP	pP	15 40 04.0	+1.9
KMI				XP	sP	15 40 05.7	+2.4
KMI				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb5.2						
NJ2	Nanjing	98.60	28	eP	P	15 40 02.1	+0.2
NJ2				AP	pP	15 40 12.9	+7.7
NJ2				PP	PP	15 44 05.1	+2.6
NJ2				S		15 51 25.0	
NJ2				XS	sS	15 51 43.0	+6.4
NJ2				AMB	AMB		
	comp=Z,50nm,3.9s						
SSE	Sheshan	100.24	26	P	Pdif	15 40 06.8	-2.4
SSE				AMB	AMB		
	comp=Z,29nm,7.1s						

ISCJB ***01*** *15:35:27.9±0.3, 3483N±003×7315E±006, h10km, mb4.0/10, MS3.5/1, Error ellipse: s-maj=6.9km s-min=3.6km az=136.4*
IDC ***01*** *15:35:27.4±0.9, 3472N×7298E, h0km, mb4.0/9, mb1 4.1/12, mb1mx3.8/24, mbtmp4.0/12, ML3.9/3, MS3.5/1, Ms1 3.5/1, ms1mx2.3/42, Error ellipse: s-maj=22.7km s-min=20.1km az=75.0*
NEIC ***01*** *15:35:29.0±0.8, 3473N×7298E, h10km, mb3.3/4, Error ellipse: s-maj=15.5km s-min=11.9km az=108.0*
MOS ***01*** *15:35:30.8±1.2, 3481N×7299E, h33km, mb4.2/9, Error ellipse: s-maj=24.4km s-min=8.6km az=93.2*
NDI ***01*** *15:35:31.3±2.6, 3462N×7285E, h10km, ML3.4, mb3.3(NEIC)*
NNC ***01*** *15:35:33.6±4.1, 3506N×7274E, h0km, mb3.3, mpv3.3, Error ellipse: s-maj=49.6km s-min=40.1km az=109.0*
ISC 01 15:35:29.7±0.3**, 3481N**±003×**7302E**±006**, h10**km**, n56,** σ**1s28**/62**, mb4.0**/10**, MS3.5**/1**, 7C-1D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	1.17	170	P	Pb	15 35 49.7	-2.2
CEP	Cherat	1.35	223	P	Pn	15 35 53.6	-1.0
SARP	Sargodha	2.90	186	P	Pn	15 36 18.0	+2.2
SARP				S	Sn	15 36 56.0	+5.3
SBDP	Sheikh Budin	3.11	217	P	Pn	15 36 19.6	+0.8
DLH	Dalhousie	3.34	132	eP	Pn	15 36 24.0	+2.1
DLH				ex	x	15 37 06.0	
PONG	Pong	3.76	139	eP	Pn	15 36 30.0	+2.3
PONG				eS	Sg	15 37 31.0	+0.7
DRP	Derazinda	3.87	218	P	Pn	15 36 30.7	+1.6
SDNR	Sundarnagar	4.67	134	eP	Pn	15 36 40.5	+0.2
SDNR				eP		15 36 40.5	
SDNR				eS	Sn	15 37 32.0	-2.6
KLP	Kalpa	5.47	125	eP	Pn	15 36 53.9	+2.8
KLP				eS	Sn	15 37 53.1	-1.0
KHET	Khetri	7.12	160	eS	Sn	15 38 28.6	-6.3
KHET				AML	AML	15 38 31.1	
	comp=E,31nm,0.3s						
KHET				AML	AML	15 38 31.5	
	comp=N,28nm,0.3s						
SONA	Sohna	7.40	151	eP	Pn	15 37 16.1	-1.6
SONA				eS	Sn	15 38 35.4	-6.4
PTH	Pithoragarh	8.04	129	ex	Pn	15 37 31.0	+4.5
TKM2	Tokmak 2	8.34	13	⇑P	Pn	15 37 34.2	+3.6
	comp=N,0.1nm,0.5s						
TKM2				⇑S	Sn	15 39 04.3	-0.6
	comp=N,0.6nm,0.7s						
KK31	Karatay Array	8.51	347	⇑P	Pn	15 37 35.4	+2.5
	comp=N,4.9nm,0.5s,baz=160,slow=12,SNR=143						
KK31				⇓S	Sn	15 39 08.5	-0.4
	comp=N,1.7nm,0.3s						
MKAR	Makanchi Array	13.86	28	Pn	Pn	15 38 47.7	+1.5
	comp=N,0.1nm,0.3s,baz=208,slow=18,SNR=3.8						
KURK	Kurchatov	16.41	13	P	Pn	15 39 19.1	-0.9
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	Kurchatov	16.41	13	Pn	Pn	15 39 19.1	-0.9
	comp=Z,1.2nm,0.7s						
AB31	Akbulak array	17.36	330	⇑P	Pn	15 39 31.6	-0.4
	comp=Z,0.5nm,0.3s,baz=138,slow=12,SNR=36						
VOSK	Vostochnaya	17.97	356	⇑P	Pn	15 39 40.2	+0.7
	comp=Z,0.8nm,0.6s						
BVA0	Borovoye Array	18.30	355	P	Pn	15 39 44.7	+1.1
	comp=Z,0.3nm,0.8s,baz=157,slow=9.5,SNR=11						
BVAR	Borovoye Array	18.30	355	P	Pn	15 39 44.7	+1.0
	comp=Z,0.8nm,0.3s,baz=159,slow=9.9,SNR=12						
BVAR	Borovoye Array	18.30	355	P	Pn	15 39 44.7	+1.0
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	Borovoye	18.34	355	eP	Pn	15 39 42.1	-2.1
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	Borovoye	18.34	355	eP	Pn	15 39 42.1	-2.1
	comp=Z,1.1nm,0.6s						
ZRNK	Zerenda	18.36	352	⇑P	Pn	15 39 44.3	-0.1
	comp=Z,1.7nm,0.8s						
ZRNK	Zerenda	18.36	352	eP	Pn	15 39 44.3	0.0
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZRNK	Zerenda	18.36	352	eP	Pn	15 39 44.2	-0.1
	comp=Z,2.1nm,0.6s						
AKTK	Aktyubinsk	19.07	330	P	Pn	15 39 53.2	+0.3
AKTO	Aktyubinsk	19.07	330	⇑P	Pn	15 39 53.0	+0.1
	comp=Z,0.1nm,0.5s						
AKTO	Aktyubinsk	19.07	330	P	Pn	15 39 53.2	+0.3
	comp=Z,1.4nm,0.3s,baz=133,slow=11,SNR=26						
AKTO	Aktyubinsk	19.07	330	P	Pn	15 39 53.3	+0.4
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	Zalesovo	20.84	20	P	P	15 40 10.1	-1.4
	comp=Z,2.3nm,0.3s,baz=264,slow=6.5,SNR=6.9						
ZAL	Zalesovo	20.84	20	P	P	15 40 10.1	-1.4
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ARU	Arti	23.77	340	P	P	15 40 42.9	+0.5
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
ARU	Arti	23.77	340	P	P	15 40 42.9	+0.6
	comp=Z,4.9nm,0.8s,mb4.0						
JOF	Joensuu	38.15	330	ep	P	15 42 49.1	+0.1
	comp=Z,3.9nm,0.4s,mb4.5						
JOF	Joensuu	38.15	330	eP	P	15 42 49.1	+0.1
JOF				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.5						
FINES	FINESS Array B	39.80	327	P	P	15 43 01.1	-1.7
	comp=Z,1.2nm,0.8s,mb3.7,baz=134,slow=16,SNR=5.7						
FINES	FINESS Array B	39.80	327	P	P	15 43 01.1	-1.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	ARCESS Array B	43.33	338	P	P	15 43 31.7	-0.1
	comp=Z,2.1nm,0.6s,mb4.1,baz=116,slow=8.4,SNR=40						
ARCES	ARCESS Array B	43.33	338	P	P	15 43 31.7	-0.1
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS	Hagfors	45.41	323	P	P	15 43 47.6	-0.9
	comp=Z,2.2nm,0.5s,mb4.2,baz=112,slow=9.8,SNR=13						
HFS	Hagfors	45.41	323	P	P	15 43 47.6	-0.8
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	NORSAR Subarra	46.72	324	P	P	15 43 57.8	-0.9
	comp=Z,0.5nm,0.5s,mb3.7,baz=97,slow=7.9						
NOA	NORSAR Array B	46.72	324	P	P	15 43 57.7	-1.1
	comp=Z,0.8nm,0.7s,mb3.8,baz=77,slow=7.8,SNR=4.1						
NOA	NORSAR Array B	46.72	324	P	P	15 43 57.7	-1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	46.72	324	P	P	15 43 57.7	-1.1
DAVOX	Davos	48.07	304	LR	LR	16 04 51.9	
	comp=Z,55nm,19.2s,MS3.5,baz=265,slow=37						
MJAR	Matsushiro Arr	52.05	68	P	P	15 44 40.2	+0.7
	comp=Z,0.6nm,0.6s,mb3.7,baz=292,slow=10,SNR=5.4						
MJAR	Matsushiro Arr	52.05	68	P	P	15 44 40.2	+0.7
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TORD	Torodi Ar. Bea	67.35	271	P	P	15 46 24.4	-0.6
	comp=Z,1.5nm,0.5s,mb4.3,baz=46,slow=5.8,SNR=19						
BOSA	Boshof	77.55	222	P	P	15 47 25.2	-0.6
	comp=Z,2.1nm,0.6s,mb4.2,baz=106,slow=4.3,SNR=7.6						
BOSA	Boshof	77.55	222	P	P	15 47 25.2	-0.6
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BOSA	Boshof	77.55	222	P	P	15 47 25.2	-0.6
WRA	Warramunga Arr	79.70	123	P	P	15 47 36.8	-0.7
	comp=Z,0.6nm,0.7s,mb3.6,baz=329,slow=5.2,SNR=4.3						
WRA	Warramunga Arr	79.70	123	P	P	15 47 36.8	-0.8
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

ISCJB ***01*** *15:51:47.8±0.7, 2429S±004×6682W±010, h186km±14km, mb3.6/2, Error ellipse: s-maj=14.7km s-min=7.0km az=13.5*
IDC ***01*** *15:51:49.0±1.2, 2425S×6679W, h177km±16km, mb3.4/1, mb1 3.5/5, mb1mx3.4/16, mbtmp4.0/5, Error ellipse: s-maj=23.2km s-min=13.6km az=90.0*
GUC ***01*** *15:51:51.9±0.9, 2434S×6730W, h220km, MD3.9, ML4.2*
NEIC ***01*** *15:51:51.9, 2434S×6730W, h220km, mb3.8/4, After GUC.*
ISC 01 15:51:48.9±0.7**, 2433S**±005×**6682W**±010**, h178**km±13km**, n20,** σ**1s34**/31**, mb3.6**/2**, 3C-1D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.57	311	P	Pn	15 52 34.1	+1.9
	32nm,0.3s,baz=128,slow=7.8,SNR=437						
LVC				S	Sn	15 53 06.2	+0.3
	23nm,0.3s,baz=280,slow=20,SNR=31						
LVC	Limon Verde	2.57	311	P	Pn	15 52 34.1	+1.9
LVC				eS	Sn	15 53 05.8	-0.1
LVC				S	Sn	15 53 06.2	+0.3
CEN1	Los Morros	3.23	286	⇓iP	Pn	15 52 42.6	+2.4
CEN1				iS	Sn	15 53 20.6	+0.3
CEN1				AML	AML	15 53 22.0	
	comp=N,266nm,0.4s						
CPN1	Cerro Paranal	3.28	264	⇑iP	Pn	15 52 42.4	+1.6
CPN1				iS	Sn	15 53 20.7	-0.7
CPN1				AML	AML	15 53 24.2	
	comp=N,258nm,0.6s						
ANCH	Antofagasta	3.35	280	⇑iP	Pn	15 52 40.6	-1.0
ANCH				iS	Sn	15 53 19.5	-3.3
ANCH				AML	AML	15 53 22.1	
	comp=N,476nm,0.3s						
ANCH	Antofagasta	3.35	280	⇑iP	Pn	15 52 40.6	-1.0
ANCH				iS	Sn	15 53 19.5	-3.3
CRCH	Chaqaral	3.99	239	eP	Pn	15 52 50.9	+1.2
CRCH				iS	Sn	15 53 36.4	-0.8
CDCH	Caldera	4.54	232	eP	Pn	15 52 57.0	+0.2
CDCH				iS	Sn	15 53 46.9	-3.0
CFAA	Coronel Fontan	7.36	190	P	Pn	15 53 35.8	+2.1
	comp=N,0.1nm,0.3s,baz=3.3,slow=10,SNR=9.3						
CFAA				S	Sn	15 54 56.1	-0.4
	comp=N,0.3nm,0.3s,baz=241,slow=16,SNR=11						
LPAZ	La Paz	8.09	351	P	Pn	15 53 43.5	+0.2
	comp=N,0.6nm,0.3s,baz=157,slow=9.5,SNR=15						
LPAZ				S	Sn	15 55 09.7	-4.2
	comp=N,0.1nm,0.3s,baz=0.0,slow=14,SNR=3.8						
LPAZ	La Paz	8.09	351	ePn	Pn	15 53 42.6	-0.6
LPAZ				eS	Sn	15 55 09.2	-4.7
LPAZ				S	Sn	15 55 09.7	-4.2
SIV	San Ignacio	9.89	34	P	Pn	15 54 05.5	-1.3
	comp=N,0.5nm,0.3s,baz=228,slow=10,SNR=13						
TRQA	Tornquist	14.30	164	eP	Pn	15 55 02.1	-1.1
	comp=N,3.5nm,0.9s						
SAML	Samuel	15.68	13	P	Pn	15 55 17.8	-2.5
	comp=N,0.9nm,0.8s						
BDFB	Brasilia	19.65	67	P	P	15 56 04.9	+1.0
	comp=N,1.2nm,0.3s,baz=238,slow=9.8,SNR=12						
BDFB	Brasilia	19.65	67	eP	P	15 56 04.3	+0.4
	comp=N,17nm,0.8s						
TORD	Torodi Ar. Bea	76.53	69	P	P	16 03 19.4	+0.1
	comp=N,0.6nm,0.5s,mb3.5,baz=240,slow=7.9,SNR=7.7						
HLID	Hailey	80.45	327	eP	P	16 03 41.3	+0.6
	comp=N,1.6nm,0.8s,mb3.7						
WRA	Warramunga Arr	131.41	207	PKP	PKPdf	16 10 40.8	+0.8
	comp=N,0.2nm,0.4s,baz=160,slow=1.7,SNR=9.2						
MKAR	Makanchi Array	146.67	40	PKPbc	PKPbc	16 11 09.2	-0.3
	comp=N,0.3nm,0.4s,baz=311,slow=3.0,SNR=7.9						

CASC ***01*** *15:55:28.5±3.1, 1285N×9022W, h68km, MD4.5, mb4.6(NEIC)*
MOS ***01*** *15:55:30.9±0.9, 1329N×8974W, h52km, mb4.8/23, Error ellipse: s-maj=15.0km s-min=5.9km az=117.9*
ISCJB ***01*** *15:55:31.8±0.4, 1331N±006×8973W±004, h56km±4km, mb4.5/66, MS4.2/21, Error ellipse: s-maj=11.0km s-min=3.6km az=64.9*
BJI ***01*** *15:55:31.2, 1310N×8980W, h67km, mB5.1, Ms5.2, Msz4.6*
NEIC ***01*** *15:55:33.2±0.7, 1315N×8978W, h68km±6km, mb4.6/57, Error ellipse: s-maj=8.5km s-min=4.6km az=219.0*
IDC ***01*** *15:55:33.1±2.6, 1336N×8964W, h56km±23km, mb4.1/19, mb1 4.2/22, mb1mx4.1/26, mbtmp4.4/22, ML3.8/2, MS4.1/17, Ms1 4.1/17, ms1mx3.9/25, Error ellipse: s-maj=25.1km s-min=11.0km az=53.0*
ISC 01 15:55:33.5±0.4**, 1338N**±005×**8968W**±004**, h50**km±4km**, n296,** σ**0s95**/282**, mb4.5**/66**, MS4.2**/21**, 58C-50D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOQS	Boqueron	0.53	48	⇑eP	x	15 56 11.4	
BOQS				eS	x	15 56 29.8	
SNET	Serv Nac Est T	0.54	55	eP	x	15 55 49.7	
SNET				eS	x	15 56 07.5	
LFU	La Fuente	0.67	56	⇓eP	x	15 56 13.6	
LFU				eS	x	15 56 35.3	
RBDL	Robledal	0.73	360	⇓iP	x	15 56 13.1	
RBDL				eS	x	15 56 32.9	
MTO2	Montecristo 2	1.06	17	⇓eP	x	15 56 18.9	
MTO2				eS	x	15 56 42.5	
IXG	Ixpaco	1.09	317	⇑eP	Pn	15 55 50.8	-1.6
TER	Terranova	1.34	313	⇑eP	Pn	15 55 53.9	-1.8
PCG	Pacaya	1.35	318	eP	Pn	15 55 56.3	+0.4
BLLM	Bellamira	1.41	87	⇑eP	x	15 56 21.8	
BLLM				eS	x	15 56 47.8	
FUG	Fuego 3	1.55	314	⇓eP	Pn	15 55 56.9	-1.6
TP2	Tecpan 2	1.91	317	eP	Pn	15 56 02.2	-1.2
JAT	Jato	2.11	296	eP	Pn	15 56 03.1	-3.2
CRIN	San Cristobal	2.66	104	eP	Pn	15 56 14.8	+1.1
LEON	Leon	2.89	109	eP	Pn	15 56 16.6	-0.3
CNGN	Cerro Negro	3.04	106	eP	Pn	15 56 19.3	+0.3
MIRN	Miramar	3.04	108	eP	Pn	15 56 19.4	+0.3
COPN	Copaltepe	3.24	111	eP	Pn	15 56 21.1	-0.7
APYN	Apoyeque	3.45	109	eP	Pn	15 56 25.2	+0.6
XAVN	Gruta Xavier	3.50	110	eP	Pn	15 56 25.9	+0.6
TISN	Laguna Tiscapa	3.55	110	eP	Pn	15 56 26.1	+0.1
MGAN	Managua	3.57	110	eP	Pn	15 56 26.4	+0.1
TICN	Ticuantepe	3.62	111	eP	Pn	15 56 27.1	0.0
PYTN	Playitas	3.63	103	eP	Pn	15 56 26.7	-0.4
CCIG	Comitan	3.73	321	iP	Pn	15 56 29.1	+0.6
CCIG				iS	Sn	15 57 08.4	-2.8
APON	Apoyo	3.82	112	eP	Pn	15 56 31.2	+1.5
APON				eS	Sn	15 57 19.9	+6.6
LIM1	Limonal	5.09	121	⇓eP	Pn	15 56 47.9	+0.8
JTS	JuntasAbangare	5.56	123	P	Pn	15 56 53.4	-0.1
	13nm,0.3s,baz=302,slow=20,SNR=24						
JTS				S	Sn	15 57 53.1	-3.0
	baz=41,slow=20,SNR=2.0						
JTS				LR	LR	15 59 26.1	
	comp=Z,2μm,20.7s,baz=327,slow=42						
JTS	JuntasAbangare	5.56	123	eP	Pn	15 56 53.2	-0.4
JTS				pmax	pmax		
	comp=Z,64nm,0.6s						
JTS	JuntasAbangare	5.56	123	ePn	Pn	15 56 53.2	-0.4
	comp=Z,64nm,0.6s						

CMIG Matias Romero 6.23 307 P Pn 15 56 59.1 -3.7
comp=Z,3.8nm,0.3s,baz=103,slow=9.6,SNR=24
CMIG S Sn 15 58 19.2 +6.6
comp=Z,4.1nm,0.3s,baz=79,slow=21,SNR=5.3
CMIG Matias Romero 6.23 307 P Pn 15 56 59.1 -3.7
CMIG *i* P 15 57 03.2
CMIG *i* S **Sn 15 58 04.2 -8.5**
CMIG S **Sn 15 58 19.2 +6.6**
URSC Urasca 6.77 121 *eP* **Pn 15 57 11.5 +1.3**
TEIG Tepich 6.94 111 ⇑*i*P/Pn **Pn 15 57 18.0 +5.5**
comp=Z,81nm,0.9s
BUS Buena Vista 6.94 123 *eP* **Pn 15 57 14.1 +1.5**
OXX Oaxaca 7.73 299 *eP* **Pn 15 57 20.0 -3.3**
VHO Vista Hermosa 7.73 299 *i* P **Pn 15 57 21.9 -1.4**
VHO *i* S **Sn 15 58 41.7 -7.8**
PPM Popocatepetl 10.28 305 *eP* **Pn 15 57 57.4 -0.9**
PPM *i* S **Sn 15 59 46.4 -5.6**
PLIG Platanillo 10.68 299 *i* P **Pn 15 58 04.3 +0.6**
PLIG *i* S **Sn 15 59 58.8 -2.9**
SOR Soroa 11.31 33 *eP* **Pn 15 58 21.3 +9.0**
MOIG Morelia 12.68 301 ⇑*i*P **Pn 15 58 30.2 -0.9**
MOIG *i* Pg **Pn 15 58 33.5 +2.4**
DWPF Disney 16.55 26 P **Pn 15 59 28.3 +6.2**
comp=Z,20nm,0.9s
OTAV Otavalo 17.16 139 *eP* **Pn 15 59 23.5 -6.1**
ROSC El Rosal 17.35 118 P **Pn 15 59 32.6 +0.6**
comp=Z,2.3nm,0.3s,baz=91,slow=19,SNR=6.6
HKT Hockley 17.44 342 *eP* **Pn 15 59 35.7 +2.6**
HKT pmax pmax
comp=Z,10.0nm,1.0s
HKT Hockley 17.44 342 *eP* **Pn 15 59 35.6 +2.5**
comp=Z,9.6nm,1.0s
NATX Nacogdoches 18.86 347 *eP* **Pn 15 59 50.9 +0.6**
comp=Z,32nm,0.6s
SDV Santo Domingo 19.21 101 P **Pn 15 59 53.9 -0.7**
baz=180,slow=0.0
SDV Santo Domingo 19.21 101 *eP* **Pn 15 59 53.2 -1.4**
comp=Z,23nm,0.8s
JCT Junction City 19.41 333 *eP* **Pn 15 59 54.6 -2.4**
JCT pmax pmax
comp=Z,11nm,0.9s
JCT Junction City 19.41 333 *eP* **Pn 15 59 54.6 -2.4**
comp=Z,11nm,0.9s
LRAL Lakeview Retre 19.72 7 *eP* **Pn 16 00 02.6 +2.0**
comp=Z,13nm,0.8s
LTX Lajitas 20.50 323 *eP* **P 16 00 08.3 +1.1**
LTX pmax pmax
comp=Z,21nm,0.9s
LTX Lajitas 20.50 323 *eP* **P 16 00 08.3 +1.0**
comp=Z,21nm,0.9s
MIAR Mount Ida 21.36 351 *eP* **P 16 00 16.5 -0.1**
MIAR pmax pmax
comp=Z,21nm,1.0s,mb4.4
MIAR Mount Ida 21.36 351 *eP* **P 16 00 16.5 0.0**
comp=Z,21nm,1.0s,mb4.4
UALR University of 21.44 354 *eP* **P 16 00 17.9 +0.6**
comp=Z,11nm,0.6s,mb4.4
PLAL Pickwick Lake 21.56 4 *eP* **P 16 00 20.7 +2.1**
comp=Z,15nm,0.8s,mb4.5
LPIG La Paz 22.22 302 LR LR 16 11 08.7
comp=Z,395nm,18.0s,MS3.9,baz=16,slow=42
CPCT Cooper Cave 22.46 11 *eP* **P 16 00 29.1 +0.8**
WVT Waverly 22.71 4 *eP* **P 16 00 32.1 +1.2**
WVT pmax pmax
comp=Z,30nm,1.0s,mb4.7
WVT Waverly 22.71 4 *eP* **P 16 00 32.1 +1.2**
comp=Z,30nm,1.0s,mb4.7
ATAH Atahualpa 23.14 150 P **P 16 00 37.0 +1.5**
comp=Z,3.4nm,0.3s,mb4.2,baz=301,slow=12,SNR=2.6
ATAH LR LR 16 07 44.0
comp=Z,326nm,21.3s,MS3.8,baz=194,slow=32
AMTX Amarillo 24.00 335 *eP* **P 16 00 43.0 -0.5**
comp=Z,9.3nm,0.5s,mb4.5
SIUC Southern Illin 24.24 1 *eP* **P 16 00 45.3 -0.3**
comp=Z,37nm,0.9s,mb4.8
USIN University of 24.55 4 *eP* **P 16 00 49.7 +1.3**
comp=Z,21nm,0.3s,mb5.1
CCM Cathedral Cave 24.61 357 *eP* **P 16 00 49.1 +0.1**
CCM pmax pmax
comp=Z,21nm,1.0s,mb4.6
CCM Cathedral Cave 24.61 357 *eP* **P 16 00 49.1 +0.1**
comp=Z,21nm,1.0s,mb4.6
WCI Wyandotte Cave 24.93 6 *eP* **P 16 00 52.7 +0.8**
WCI pmax pmax
comp=Z,27nm,0.8s,mb4.8
WCI Wyandotte Cave 24.93 6 *eP* **P 16 00 52.7 +0.8**
comp=Z,27nm,0.8s,mb4.8
Y22C IRIS PASSCAL I 25.87 326 ⇓P **P 16 01 01.1 +0.7**
baz=26
ANMO Albuquerque 26.29 328 P **P 16 01 04.8 +0.6**
comp=Z,1.9nm,0.7s,mb3.8,baz=142,slow=12,SNR=6.8
ANMO Albuquerque 26.29 328 *eP* **P 16 01 04.0 -0.2**
ANMO pmax pmax
comp=Z,2.0nm,0.6s
ANMO Albuquerque 26.29 328 *eP* **P 16 01 04.0 -0.2**
comp=Z,1.5nm,0.6s,mb3.7
TUC Tucson 26.98 318 *eP* **P 16 01 11.1 +0.7**
TUC pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
TUC Tucson 26.98 318 *eP* **P 16 01 11.1 +0.7**
comp=Z,5.4nm,0.8s,mb4.1
ACSO Alum Creek Sta 27.39 11 P **P 16 01 14.3 +0.3**
116A Eloy 27.74 317 ⇓P **P 16 01 17.5 +0.3**
baz=28
115A Sonoran Desert 28.18 317 ⇑P **P 16 01 21.2 +0.1**
baz=28
Z14A Wintersburg 29.06 317 ⇑P **P 16 01 29.1 +0.2**
baz=29
MVCO Mesa Verde 29.08 328 *eP* **P 16 01 29.5 +0.3**
X15A Humboldt 29.31 320 ⇑P **P 16 01 31.7 +0.5**
baz=30
Y14A Wickenburg 29.45 318 ⇑P **P 16 01 32.8 +0.4**
baz=30
WUAZ Wupatki 29.46 322 *eP* **P 16 01 33.1 +0.6**
comp=Z,16nm,1.0s,mb4.7
X14A Yava 29.71 319 ⇓P **P 16 01 35.5 +0.7**
baz=30
W15A Williams 29.78 321 ⇑P **P 16 01 36.1 +0.8**
baz=30
PV01 Paradox Valley 29.83 329 P **P 16 01 34.2 -1.5**
SMCO Snowmass 29.90 332 *eP* **P 16 01 36.1 -0.3**
comp=Z,2.6nm,0.8s,mb4.0
GLA Glamis 30.15 315 ⇑P **P 16 01 38.6 0.0**
baz=30
PV10 Paradox Valley 30.25 329 *eP* **P 16 01 39.5 0.0**
W14A Seligman 30.30 320 ⇑P **P 16 01 40.5 +0.6**
baz=30,SNR=5.8
Y12C Blythe 30.34 316 ⇓P **P 16 01 40.7 +0.4**
baz=30
X13A Yucca 30.39 318 ⇑P **P 16 01 41.1 +0.3**
baz=30
W13A Hualapai Mount 30.75 319 ⇓P **P 16 01 44.7 +0.8**
baz=31,SNR=5.9
ECSD EROS,Sioux Fal 30.83 350 *eP* **P 16 01 43.8 -0.8**
BINY Binghamton 31.08 20 *eP* **P 16 01 48.0 +1.2**
comp=Z,11nm,0.9s,mb4.7
W12A Cal Nev Ari 31.50 318 ⇑P **P 16 01 51.0 +0.5**
baz=32
SRU San Rafael 31.56 328 *eP* **P 16 01 51.5 +0.5**
SRU pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
SRU San Rafael 31.56 328 *eP* **P 16 01 51.5 +0.5**
comp=Z,2.7nm,0.6s,mb4.2
PFO Pinyon Flat Ob 31.59 314 ⇑P **P 16 01 51.6 +0.3**
baz=32
V12A Nelson 31.75 319 ⇑P **P 16 01 53.4 +0.6**
baz=32,SNR=13
U12A Valley of Fire 31.99 320 ⇓P **P 16 01 55.6 +0.7**
baz=32
MSU Marysvale 32.01 326 *eP* **P 16 01 55.6 +0.6**
CCUT Cedar City 32.01 323 *eP* **P 16 01 55.9 +0.9**
CCUT *e*PcP PcP 16 04 43.8 -0.1
RWWY Rawlins 32.07 335 *eP* **P 16 01 55.1 -0.4**
comp=Z,6.9nm,0.6s,mb4.7
ARUT Antelope Range 32.22 323 *eP* **P 16 01 57.8 +1.0**
TUQ Turquoise Mtn. 32.27 317 ⇓P **P 16 01 57.9 +0.6**
baz=32,SNR=5.4
SADO Sadowa 32.55 14 P **P 16 01 59.5 -0.2**
comp=Z,4.8nm,0.7s,mb4.5,baz=210,slow=9.8,SNR=4.2
GSC Goldstone 32.78 316 ⇓P **P 16 02 02.3 +0.6**
baz=33
DAU Daniels Canyon 32.91 329 *eP* **P 16 02 01.9 -1.0**
RSSD Black Hills 33.01 341 *eP* **P 16 02 04.2 +0.4**
RSSD pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
RSSD Black Hills 33.01 341 *eP* **P 16 02 04.2 +0.4**
comp=Z,5.4nm,0.7s,mb4.6
U10A Ash Meadows, A 33.12 319 ⇑P **P 16 02 05.5 +0.8**
baz=33
TPNV Topopah Spring 33.39 319 *eP* **P 16 02 07.3 +0.3**
TPNV *e* 16 04 46.7
TPNV pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TPNV Topopah Spring 33.39 319 *eP* **P 16 02 07.3 +0.2**
comp=Z,6.9nm,1.0s,mb4.5
TPNV *e*PcP PcP 16 04 46.7 -1.0
DUG Dugway 33.55 327 *eP* **P 16 02 08.0 -0.5**
DUG pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
DUG Dugway 33.55 327 *eP* **P 16 02 08.0 -0.5**
comp=Z,5.0nm,1.2s,mb4.3
OSI Osito Adit 33.72 314 ⇑P **P 16 02 10.3 +0.4**
baz=34
Q12A Willow Creek R 33.87 324 ⇑P **P 16 02 11.9 +0.6**
baz=34
PDAR Pinedale Array 33.95 333 P **P 16 02 11.7 -0.3**
comp=Z,1.0nm,0.7s,mb3.9,baz=125,slow=10,SNR=10
PDAR PcP PcP 16 04 48.5 -0.8
comp=Z,1.2nm,0.8s,baz=128,slow=2.4,SNR=6.8
PDAR LR LR 16 18 39.1
comp=Z,201nm,19.9s,MS3.9,baz=46,slow=41
HWUT Hardware Ranch 33.97 330 *eP* **P 16 02 12.2 +0.1**
comp=Z,5.9nm,1.0s,mb4.5
HWUT *e*PcP PcP 16 04 49.1 -0.2
ISA Isabella 34.11 316 ⇓P **P 16 02 14.2 +0.9**
baz=34
BGU Big Grassy Mou 34.20 328 *eP* **P 16 02 14.3 +0.3**
P12A McGill 34.20 324 ⇑P **P 16 02 15.0 +0.9**
baz=34,SNR=9.8
Q11A Duckwater 34.22 323 P **P 16 02 15.4 +1.2**
baz=34,SNR=18
R10A Warm Springs 34.25 321 ⇓P **P 16 02 15.9 +1.3**
baz=34,SNR=7.2
CWC Cottonwood Cre 34.28 317 ⇑P **P 16 02 15.5 +0.8**
baz=34
SAML Samuel 34.42 129 *eP* **P 16 02 13.0 -2.9**
comp=Z,8.7nm,0.8s,mb4.7
S09A Goldfield 34.47 320 ⇑P **P 16 02 17.0 +0.6**
baz=35,SNR=10
EYMN Ely 34.49 358 *eP* **P 16 02 14.8 -1.9**
comp=Z,9.5nm,0.6s,mb4.9
TPH Tonopah 34.69 320 P **P 16 02 18.6 +0.3**
R09A Tonopah 34.70 320 ⇓P **P 16 02 19.1 +0.8**
baz=35,SNR=6.1
P11A Circle Ranch, **34.74 323** ⇓P **P 16 02 19.6 +0.8**
baz=35
N13A Wendover, West 34.77 326 ⇓P **P 16 02 19.7 +0.7**
baz=35
REDW Red Top Meadow 34.99 333 *eP* **P 16 02 20.7 -0.3**
comp=Z,8.4nm,0.7s,mb4.8
SNOW Snow King Moun 35.03 333 *eP* **P 16 02 21.1 -0.1**
comp=Z,16nm,0.7s,mb5.1
O11A Cowboy Ranch, **35.07 324** ⇑P **P 16 02 22.4 +0.7**
baz=35,SNR=6.6
LOHW Long Hollow 35.08 333 *eP* **P 16 02 21.6 -0.2**
comp=Z,4.0nm,0.6s,mb4.5
M13A Montello 35.10 327 ⇑P **P 16 02 22.4 +0.5**
baz=35
Q09A Carvers 35.13 321 ⇑P **P 16 02 23.0 +0.9**
baz=35
TPAW Teton Pass 35.14 333 *eP* **P 16 02 22.1 -0.1**
comp=Z,7.2nm,0.8s,mb4.7
V05C Boulder Hill, **35.20 315** ⇑P **P 16 02 23.5 +0.8**
baz=35
P10A Eureka 35.20 323 ⇓P **P 16 02 23.8 +1.1**
baz=35
N12A Clover Valley, **35.22 326** ⇓P **P 16 02 23.6 +0.7**
baz=35
MOOW Moose Ponds 35.25 333 *eP* **P 16 02 22.5 -0.7**
comp=Z,1.4nm,0.6s,mb4.1
ELK Elko 35.26 325 *eP* **P 16 02 23.4 +0.2**
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 35.26 325 *eP* **P 16 02 23.4 +0.2**
comp=Z,4.1nm,0.8s,mb4.4
MNV Mina 35.49 320 *eP* **P 16 02 26.1 +0.9**
MNV pmax pmax
comp=Z,22nm,1.2s,mb5.0
MNV Mina 35.49 320 *eP* **P 16 02 26.1 +0.9**
comp=Z,22nm,1.2s,mb5.0
M12A Wells 35.54 327 ⇓P **P 16 02 25.8 +0.1**
baz=36,SNR=5.9
NVAR Mina Array Bea 35.58 320 P **P 16 02 26.9 +0.9**
comp=Z,14nm,0.8s,mb4.9,baz=137,slow=8.4,SNR=16
N11A Elko Archery C 35.58 325 ⇑P **P 16 02 26.7 +0.7**
baz=36
KCC Kaiser Creek 35.59 317 ⇑P **P 16 02 26.8 +0.7**
baz=36
Q08A Gabbs 35.61 321 ⇑P **P 16 02 26.9 +0.7**
baz=36,SNR=8.4
O09A Fish Creek Ran 35.98 323 ⇓P **P 16 02 30.2 +0.7**
baz=36,SNR=10
M11A Holland Ranch, **36.03 326** ⇑P **P 16 02 30.3 +0.5**
baz=36,SNR=6.3
U04C Hernandez Rese 36.06 315 ⇑P **P 16 02 30.6 +0.5**
baz=36
BMN Battle Mountai 36.17 323 *eP* **P 16 02 31.7 +0.7**
BMN pmax pmax
comp=Z,14nm,1.1s,mb4.8
BMN Battle Mountai 36.17 323 *eP* **P 16 02 31.7 +0.7**
comp=Z,14nm,1.1s,mb4.8
S05C Merced 36.28 317 ⇓P **P 16 02 32.5 +0.6**
baz=36
R06C Coleville 36.36 319 ⇓P **P 16 02 33.7 +1.0**
baz=36
LPAZ La Paz 36.37 143 P **P 16 02 33.6 +0.9**
comp=Z,1.0nm,0.9s,mb3.8,baz=7.2,slow=10.0,SNR=3.9
LPAZ LR LR 16 17 20.4
comp=Z,193nm,18.5s,MS3.9,baz=180,slow=36
LPAZ La Paz 36.37 143 P **P 16 02 31.5 -1.2**
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 36.37 143 P **P 16 02 31.5 -1.2**
comp=Z,2.0nm,0.9s,mb4.0
QLMT Earthquake Lak 36.41 334 *eP* **P 16 02 34.2 +1.2**
GCMT Greycliff 36.47 336 *eP* **P 16 02 32.8 -0.7**
GCMT *e*PcP PcP 16 04 57.1 +0.5
M10A I.L. Ranch, Tu 36.50 325 ⇑P **P 16 02 34.4 +0.5**
baz=37
HAST UC Hastings Re 36.61 314 ⇓P **P 16 02 35.2 +0.4**
baz=37
N09A Rock Creek Ran 36.62 324 ⇑P **P 16 02 35.5 +0.6**
baz=37
CMB Columbia Colle 36.69 318 *eP* **P 16 02 35.5 0.0**
CMB pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
CMB Columbia Colle 36.69 318 *eP* **P 16 02 35.5 0.0**
comp=Z,6.3nm,1.0s,mb4.4
CMB Columbia Colle 36.69 318 ⇓P **P 16 02 35.5 +0.1**
comp=Z,37nm,0.9s,SNR=5.3
PACP Pacheco Peak 36.74 315 ⇓P **P 16 02 36.4 +0.5**
baz=37
HLID Hailey 36.82 330 *eP* **P 16 02 35.9 -0.7**
comp=Z,4.7nm,1.3s,mb4.2
R05C Kirkwood Meado 36.87 319 ⇓P **P 16 02 37.9 +0.9**
baz=37,SNR=7.1
N08A GE Springer Mi 36.92 323 ⇓P **P 16 02 37.8 +0.3**
baz=37,SNR=5.5
M09A Marrel Ranch, **36.95 324** ⇓P **P 16 02 38.1 +0.4**
baz=37
O07A Toulon 36.98 322 ⇑P **P 16 02 38.4 +0.4**
baz=37,SNR=7.3
WCN Washoe City 37.01 320 ⇓P **P 16 02 39.0 +0.8**
baz=37
PAHR Pah Rah Range 37.02 321 *eP* **P 16 02 38.7 +0.4**
comp=Z,7.9nm,1.0s,mb4.5
S04C Ingram Canyon, **37.03 316** ⇓P **P 16 02 38.8 +0.4**
baz=37
MCMT McKenzie Canyo 37.04 332 *eP* **P 16 02 39.3 +0.9**
ULM Lac du Bonnet 37.11 353 P **P 16 02 38.0 -1.1**
comp=Z,14nm,0.8s,mb4.8,baz=167,slow=9.8,SNR=17
ULM LR LR 16 21 12.1
comp=Z,320nm,18.3s,MS4.2,baz=193,slow=41
ULM Lac du Bonnet 37.11 353 *eP* **P 16 02 37.2 -1.9**
comp=Z,15nm,0.9s,mb4.8
BOZ Bozeman (W) 37.15 334 *eP* **P 16 02 38.9 -0.5**
BOZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
BOZ Bozeman (W) 37.15 334 *eP* **P 16 02 38.9 -0.5**
comp=Z,3.4nm,0.8s,mb4.2
R04C Big Horse Ranc 37.18 317 ⇑P **P 16 02 40.5 +0.8**
baz=37
P06A Stead Airport, **37.32 320** ⇓P **P 16 02 41.7 +0.9**
baz=38
LAVA Lava Cap Winer 37.33 318 ⇓P **P 16 02 41.5 +0.6**
baz=38
L09A Wilkinson Ranc 37.47 325 ⇑P **P 16 02 42.2 +0.2**
baz=38
M08A Happy Creek Ra 37.50 324 ⇓P **P 16 02 42.4 +0.1**
baz=38,SNR=7.4
P05C Yuba Gap, Truc 37.55 319 ⇑P **P 16 02 43.7 +1.0**
baz=38
O06A Flanigan 37.56 321 P **P 16 02 43.6 +0.7**
baz=38,SNR=15
Q04C Lincoln 37.79 318 ⇑P **P 16 02 45.4 +0.6**
baz=38
M07A Soldier Meadow 37.92 323 ⇑P **P 16 02 45.6 -0.3**
baz=38
O05C Quincy 38.12 320 ⇑P **P 16 02 48.4 +0.8**
baz=38
OHCM Honcut 38.13 319 *eP* **P 16 02 47.6 0.0**
CVS Carmenet Viney 38.23 317 ⇑P **P 16 02 48.9 +0.4**
baz=38
ORV Oroville 38.26 319 ⇓P **P 16 02 49.1 +0.4**
baz=38
SUTB Sutter Butte 38.27 318 ⇑P **P 16 02 48.9 +0.1**
baz=38
WVOR Wild Horse Val 38.28 325 *eP* **P 16 02 48.3 -0.6**
WVOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
WVOR Wild Horse Val 38.28 325 *eP* **P 16 02 48.3 -0.6**
comp=Z,6.7nm,0.9s,mb4.4
L07A Adell 38.41 324 P **P 16 02 50.2 +0.2**
baz=39,SNR=15
O04C Chester 38.44 320 ⇑P **P 16 02 50.8 +0.6**
baz=39
MNRC McLaughlin Nat 38.51 317 ⇑P **P 16 02 51.1 +0.3**
baz=39
M06C Likely Place G 38.58 322 ⇓P **P 16 02 51.5 0.0**
baz=39
K07A Rock Creek Ran 38.79 324 P **P 16 02 53.4 +0.2**
baz=39,SNR=23
J08A Circle Bar Ran 38.79 326 ⇓P **P 16 02 53.1 -0.1**
baz=39,SNR=5.6
HATC Hat Creek Radi 38.96 321 ⇓P **P 16 02 54.8 +0.2**
baz=39
M05C Lookout 39.08 321 ⇑P **P 16 02 55.5 -0.2**
baz=39
GASB Alder Springs 39.10 318 ⇑P **P 16 02 56.6 +0.8**
baz=39
BMO Blue Mountains 39.20 329 *eP* **P 16 02 54.5 -2.1**
comp=Z,2.4nm,1.0s,mb3.9
J07A Hines 39.26 325 ⇑P **P 16 02 56.7 -0.4**
baz=40
L05A Lakeview 39.30 323 ⇓P **P 16 02 57.1 -0.4**
baz=40
K06A Valley Falls 39.43 324 ⇓P **P 16 02 58.0 -0.6**
baz=40
O02C Red Bluff 39.43 319 ⇓P **P 16 02 58.0 -0.6**
baz=40
J06A Christmas Vall 39.66 325 ⇓P **P 16 02 59.4 -1.0**
baz=40
M04C Macdoel 39.75 321 P **P 16 03 01.1 -0.1**
baz=40,SNR=6.6
L04A Klamath Falls 40.01 322 ⇓P **P 16 03 02.8 -0.6**
baz=40
O01C Eel River Cons 40.08 318 ⇓P **P 16 03 03.6 -0.3**
baz=40
N02C Big Bar 40.12 319 ⇑P **P 16 03 03.9 -0.4**
baz=40
I06A Prineville 40.13 325 ⇑P **P 16 03 03.7 -0.6**
baz=40
M02C Callahan 40.14 320 ⇑P **P 16 03 03.5 -1.0**
baz=40
YBH Yreka Blue Hor 40.25 321 P **P 16 03 03.9 -1.5**
comp=Z,2.7nm,0.7s,mb4.1,baz=105,slow=5.4,SNR=6.4
YBH Yreka Blue Hor 40.25 321 ⇓P **P 16 03 03.9 -1.4**
baz=40
KHMM Horse Mountain 40.41 319 *eP* **P 16 03 05.9 -0.8**
SIV San Ignacio 40.64 135 P **P 16 03 06.6 -2.0**
comp=Z,4.8nm,0.7s,mb4.3,baz=309,slow=8.7,SNR=37
WALA Waterton Lakes 40.80 336 *eP* **P 16 03 09.4 -0.5**
comp=Z,2.0nm,0.7s,mb3.9
KRMB Red Mountain 40.88 320 *eP* **P 16 03 07.3 -3.2**
K02A Glendale 41.32 322 ⇓P **P 16 03 14.5 +0.4**
baz=42
J03A Ideyld Park 41.35 323 ⇑P **P 16 03 15.2 +0.8**
baz=42
G05A Wamic 41.57 326 ⇑P **P 16 03 15.4 -0.8**
baz=42
H04A Detroit Lake 41.70 325 ⇑P **P 16 03 16.2 -1.1**
baz=42
J02A Umpqua 41.71 322 ⇓P **P 16 03 16.5 -0.9**
baz=42
I03A Eugene 41.89 323 ⇓P **P 16 03 18.0 -0.9**
baz=42
K01A Sixes 41.94 321 ⇑P **P 16 03 19.2 0.0**
baz=42
H03A Soap Creek Ran 42.32 324 ⇑P **P 16 03 21.8 -0.6**
baz=42
FFC Flin Flon 42.36 349 *eP* **P 16 03 21.9 -0.8**
FFC pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
FFC Flin Flon 42.36 349 *eP* **P 16 03 21.9 -0.7**
comp=Z,5.0nm,0.5s,mb4.4
E05A Randle 42.66 327 ⇓P **P 16 03 24.2 -0.8**
baz=43
H02A Toledo 42.73 324 ⇑P **P 16 03 24.8 -0.9**
baz=43
EDM Edmonton 43.97 340 *eP* **P 16 03 34.2 -1.5**
SCHQ Schefferville 45.06 19 P **P 16 03 43.9 -0.4**
comp=Z,19nm,0.7s,mb5.1,baz=215,slow=6.5,SNR=31
SCHQ PcP PcP 16 05 23.7 -0.8
comp=Z,3.3nm,0.6s,baz=227,slow=5.2,SNR=3.6
SCHQ LR LR 16 25 37.7
comp=Z,298nm,18.1s,MS4.3,baz=262,slow=40
SCHQ Schefferville 45.06 19 *eP* **P 16 03 43.7 -0.6**
comp=Z,36nm,1.1s,mb5.1
FCC Fort Churchill 45.42 357 *eP* **P 16 03 45.9 -1.3**
FCC pmax pmax
comp=Z,12nm,0.8s,mb4.8
FCC Fort Churchill 45.42 357 *eP* **P 16 03 45.9 -1.3**
comp=Z,12nm,0.8s,mb4.8
BDFB Brasilia 50.30 124 P **P 16 04 25.6 +0.6**
comp=Z,5.3nm,0.8s,mb4.6,baz=288,slow=7.7,SNR=5.0
BDFB LR LR 16 27 38.5
comp=Z,191nm,18.7s,MS4.1,baz=310,slow=38
YKA Yellowknife Ar 52.16 346 P **P 16 04 37.5 -1.4**
comp=Z,7.2nm,0.7s,mb4.7,baz=146,slow=7.8,SNR=18
YKA LR LR 16 30 44.8
comp=Z,144nm,18.6s,MS4.0,baz=160,slow=40
YKA Yellowknife Ar 52.16 346 P **P 16 04 37.5 -1.4**
YKA LR LR 16 30 44.8
DLBC Dease Lake 54.15 335 *eP* **P 16 04 53.4 -0.1**
PLCA Paso Flores 56.68 163 LR LR 16 25 30.6
comp=Z,15nm,18.6s,MS4.2,baz=114,slow=32
RCBR Riachuelo 56.71 106 *eP* **P 16 05 12.5 +0.6**
RES Resolute Bay 61.37 358 *eP* **P 16 05 42.3 -1.8**
RES pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
RES Resolute Bay 61.37 358 *eP* **P 16 05 42.3 -1.9**
comp=Z,5.8nm,0.6s,mb4.9
INK Inuvik 61.68 343 LR LR 16 38 55.4
comp=Z,339nm,18.0s,MS4.5,baz=304,slow=42
INK Inuvik 61.68 343 *eP* **P 16 05 44.7 -1.6**
INK pmax pmax
comp=Z,14nm,0.7s
INK Inuvik 61.68 343 *eP* **P 16 05 44.6 -1.6**
comp=Z,14nm,0.7s,mb5.2
SUMG Summit 66.24 15 *eP* **P 16 06 14.8 -1.4**
comp=Z,5.8nm,0.8s,mb4.7
PPT Papeete 66.63 244 LR LR 16 29 08.0
comp=Z,208nm,18.2s,MS4.4,baz=14,slow=30
FALS False Pass 69.80 324 *eP* **P 16 06 36.7 -1.9**
UNV Unalaska Valle 71.53 323 *eP* **P 16 06 47.8 -1.3**
comp=Z,25nm,0.9s,mb5.2
ESK Eskdalemuir 77.12 36 *eP* **P 16 07 15.5 -6.1**
ESK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ESK Eskdalemuir 77.12 36 *eP* **P 16 07 15.5 -6.1**
comp=Z,7.8nm,0.8s,mb4.7
ESLA Sonseca Array 78.33 52 *eP* **P 16 07 25.2 -3.1**
comp=Z,2.3nm,1.3s,mb4.0
AMKA Amchitka 80.31 321 *eP* **P 16 07 37.7 -1.4**
BILL Bilibino 82.86 338 *eP* **P 16 07 51.3 -1.3**
BILL pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
BILL MLR MLR
comp=Z,100nm,24.0s,MS4.1
DBIC Dimbokro 83.47 85 P **P 16 07 56.5 +0.7**
comp=Z,6.2nm,1.0s,mb4.6,baz=226,slow=15,SNR=4.7

DBIC				LR	LR	16 41 19.4	
	comp=Z,89nm,18.2s,MS4.2,baz=309,slow=33						
DBIC	Dimbokro	83.47	85	eP	P	16 07 53.1	-2.6
DBIC				pmax	pmax		
	comp=Z,55nm,1.6s						
DBIC	Dimbokro	83.47	85	eP	P	16 07 53.1	-2.7
	comp=Z,55nm,1.6s,mb5.3						
DBIC				LR	LR	16 41 19.4	
NB2	NORSAR Subarra	83.61	29	P	P	16 07 55.8	-0.6
	comp=Z,1.0nm,0.7s,mb4.0,baz=287,slow=5.1						
NOA	NORSAR Array B	83.61	29	P	P	16 07 55.6	-0.9
	comp=Z,1.7nm,0.8s,mb4.2,baz=288,slow=5.0,SNR=8.6						
NOA				LR	LR	16 42 11.9	
	comp=Z,91nm,21.2s,MS4.1,baz=290,slow=34						
HFS	Hagfors	85.05	29	P	P	16 08 02.8	-1.0
	comp=Z,3.3nm,0.8s,mb4.5,baz=291,slow=4.1,SNR=9.8						
ARCES	ARCESS Array B	86.01	19	P	P	16 08 07.1	-1.4
	comp=Z,1.0nm,0.7s,mb4.2,baz=283,slow=4.2,SNR=9.8						
ARCES				LR	LR	16 48 15.8	
	comp=Z,82nm,19.3s,MS4.1,baz=159,slow=37						
CLL	Collm	87.43	38	P	P	16 08 14.9	-0.5
	comp=Z,logA/T=0.8,mb4.8						
CLL				i	pP	16 08 24.2	-5.8
CLL	Collm	87.43	38	i P	P	16 08 14.9	-0.5
	comp=Z,5.0nm,0.8s,mb4.8						
CLL				i x	x	16 08 24.2	
CLL	Collm	87.43	38	i P	P	16 08 14.9	-0.5
CLL				i *PP	pP	16 08 37.4	+7.4
CLL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
CLL	Collm	87.43	38	i P	P	16 08 14.9	-0.5
	comp=Z,5.0nm,0.8s,mb4.8						
CLL				i pP	pP	16 08 37.4	+7.4
TORD	Torodi Ar. Bea	88.33	77	P	P	16 08 18.1	-1.6
	comp=Z,0.6nm,0.6s,mb4.0,baz=280,slow=5.8,SNR=6.5						
KHC	Kasperske Hory	88.47	40	i P	P	16 08 19.2	-1.2
GERES	GERESS Array B	88.64	40	P	P	16 08 19.4	-1.8
	comp=Z,0.6nm,0.8s,mb4.0,baz=247,slow=6.9,SNR=5.4						
GERES				LR	LR	16 48 22.7	
	comp=Z,82nm,19.6s,MS4.2,baz=101,slow=36						
FINES	FINESS Array B	90.09	26	P	P	16 08 25.9	-2.1
	comp=Z,0.9nm,0.8s,mb4.2,baz=338,slow=4.5,SNR=4.2						
FINES				LR	LR	16 53 29.8	
	comp=Z,59nm,18.9s,MS4.0,baz=170,slow=39						
TIXI	Tiksi	91.32	349⇑	eP	P	16 08 31.6	-2.1
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.6						
PUL	Pulkovo	92.75	26	i P	P	16 08 40.5	+0.2
CN2	Changchun	114.69	333	ePKP	PKiKP	16 14 05.3	-2.9
SONM	Songino Array	117.40	348	PKP	PKPdf	16 14 12.8	-0.6
	comp=Z,0.6nm,0.7s,baz=294,slow=1.8,SNR=5.5						
BOSA	Boshof	118.06	115	PKP	PKPdf	16 14 15.9	+1.3
	comp=Z,2.9nm,1.0s,baz=179,slow=4.3,SNR=3.4						
MKAR	Makanchi Array	119.67	6	PKP	PKPdf	16 14 16.5	-1.3
	comp=Z,0.1nm,0.4s,baz=338,slow=2.8,SNR=4.6						
BJI	Beijing	121.67	337	PKP	PKPdf	16 14 18.1	-3.5
HHC	Hu-ho-hao-te	122.57	341	ePKP	PKPdf	16 14 19.1	-4.3
HHC				PP	PP	16 16 01.8	+1.1
HHC				PKS		16 17 54.8	
HHC				SKS	SKSdf	16 21 19.9	-11
HHC				SKKS	SKKSac	16 22 43.1	-12
HHC				LR	LR		
	comp=N,115nm,16.1s,MS4.8						
HHC				LR	LR		
	comp=E,123nm,16.1s,MS4.8						
HHC				LR	LR		
	comp=Z,113nm,18.4s,MS4.5						
WMQ	Urumqi	123.03	2	PKP	PKPdf	16 14 21.1	-3.1
NJ2	Nanjing	127.20	329	ePKP	PKPdf	16 14 29.6	-2.6
NJ2				PP	PP	16 16 35.0	+3.4
NJ2				PKS		16 18 05.0	
NJ2				SKS	SKSdf	16 21 30.0	-10
NJ2				SKKS	SKKSac	16 23 12.0	-13
NJ2				PP	PP		
	comp=Z,200nm,8.4s						
NJ2				LR	LR		
	comp=N,110nm,23.0s,MS4.9						
NJ2				LR	LR		
	comp=E,240nm,20.5s,MS4.9						
LZH	Lanzhou	129.17	346	ePKP	PKPdf	16 14 31.5	-4.5
CD2	Chengdu	134.11	344	ePKP	PKPdf	16 14 39.2	-6.1
WRA	Warramunga Arr	137.42	255	PKP	PKPdf	16 14 49.8	-1.7
	comp=E,0.5nm,0.8s,baz=76,slow=1.8,SNR=4.5						
ASAR	Alice Springs	137.57	250	PKP	PKPdf	16 14 50.1	-1.7
	comp=E,0.4nm,0.6s,baz=106,slow=4.1,SNR=4.9						
KMI	Kunming	139.86	342	PKP	PKPdf	16 14 51.2	-4.7
KMI				PP	PP	16 17 54.8	+2.5
KMI				SS	SS	16 36 04.4	-5.3
KMI				PP	PP		
	comp=Z,75nm,4.7s						
KMI				LR	LR		
	comp=Z,42nm,19.8s,MS4.2						
FITZ	Fitzroy Crossi	145.71	257	PKPbc	PKPbc	16 15 05.1	-1.7
	comp=Z,1.3nm,0.6s,baz=341,slow=16,SNR=6.4						

MAN 01 15:56:30.9, 1037N×12622E, h105km, MS4.5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OCLP	Ormoc	1.72	293	eP	Pn	15 57 01.0	+0.9
BUKP	Musuan	2.73	205	eP	Pn	15 57 14.0	+0.9
GUIM	Jordan	3.58	274	eP	Pn	15 57 25.4	+0.9
PAGZ	Pagadian	3.76	228	eP	Pn	15 57 28.4	+1.5
PVCP	Virac	3.79	328	eP	Pn	15 57 28.6	+1.3
APYP	Conner	8.87	328	eP	Pn	15 58 41.3	+5.1

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*ISCJB **01** 16:22:01.4±0.8, 5009N±006×1567E±0.1, h51km±5km, mb4.3/28, MS3.5/2, Error ellipse: s-maj=13.9km s-min=5.7km az=84.0*
*KRSC **01** 16:22:01, 4996N×15728E, h17km, ML4.7*
*MOS **01** 16:22:01.3±0.8, 5008N×15659E, h49km, mb4.7/19, Error ellipse: s-maj=13.0km s-min=5.9km az=84.5*
MOS Felt (I-II) at Severo-Kuril'sk.
*IDC **01** 16:22:06.7±5.1, 5022N×15637E, h87km±47km, mb3.5/8, mb1 3.7/10, mb1mx3.5/21, mbtmp3.9/10, ML4.1/2, MS3.2/3, Ms1 3.2/3, ms1mx2.6/29, Error ellipse: s-maj=30.4km s-min=23.1km az=97.0*
*NEIC **01** 16:22:07.7±1.4, 5020N×15644E, h90km±10km, mb4.4/22, Error ellipse: s-maj=15.6km s-min=7.8km az=118.0*
NEIC Felt [II] at Severo-Kuril'sk.
ISC 01 16:22:03.4±0.8**, 5015N**±006×**1566E**±01**, h56**km±5km**, n110,** σ0.91/114**, mb4.3**/28**, MS3.5**/2**, 2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.61	331⇓	i PN	Pn	16 22 14.0	-2.4
SKR				i S	Sn	16 22 25.5	-0.3
SKR				pmax	pmax		
	comp=Z,10µm,0.6s						
SKR				pmax	pmax		
	comp=N,4µm,0.4s						
SKR				pmax	pmax		
	comp=E,300nm,0.4s						
SKR				smax			
	comp=N,25µm,0.8s						
SKR				smax			
	comp=E,21µm,0.8s						
RUS	Russkaya	2.59	27	P	Pn	16 22 42.9	+0.1
RUS				S	Sn	16 23 12.8	-0.3
PET	Petropavlovsk	3.15	23	P	Pn	16 22 51.8	+1.2
PET				S	Sn	16 23 27.8	+0.8
SPN	Mys Shipunski	3.65	35	P	Pn	16 22 57.5	+0.1
SPN				S	Sn	16 23 37.7	-1.4
MKZ	Mys Kozlova	5.42	34	P	Pn	16 23 20.6	-1.1
MKZ				S	Sn	16 24 17.8	-4.9
KOZ	Kozyrevsk	6.24	17	P	Pn	16 23 36.7	+3.8
KOZR	Kozyr	6.25	17	PN	Pn	16 23 36.7	+3.7
KBTR	Krutoberegovo	7.13	29	P	Pn	16 23 45.1	0.0
KUR	Kuril'sk	7.67	233	ePN	Pn	16 23 52.0	-0.4
KUR				pmax	pmax		
	comp=Z,90nm,0.8s						
YUK	Yuzh-Kuril'sk	9.53	234	PN	Pn	16 24 19.2	+1.3
YUK				pmax	pmax		
	comp=E,140nm,0.5s						
YUK				pmax	pmax		
	comp=Z,120nm,0.5s						
YSS	Yuzh-Sakhalins	9.71	256	ePN	Pn	16 24 25.0	+4.6
YSS	Yuzh-Sakhalins	9.71	256	ePn	Pn	16 24 25.4	+4.9
	comp=Z,8.8nm,0.4s						
MA2	Magadan	10.02	343	ePN	Pn	16 24 27.3	+2.7
MA2				pmax	pmax		
	comp=N,8.0nm,0.2s						
MA2				pmax	pmax		
	comp=Z,10.0nm,0.2s						
MA2	Magadan	10.02	343	ePn	Pn	16 24 26.3	+1.8
	comp=Z,15nm,0.3s						
ASAJ	Asahikawa	11.27	243	P	Pn	16 24 43.5	+1.7
	comp=Z,1.9nm,0.3s,baz=65,slow=8.9,SNR=23						
ASAJ				LR	LR	16 28 46.4	
	comp=Z,71nm,18.1s,baz=356,slow=36						
ASAJ	Asahikawa	11.27	243	PN	Pn	16 24 43.5	+1.8
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,71nm,18.1s						
BILL	Bilibino	18.57	11	eP	Pn	16 26 17.4	+0.9
BILL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BILL	Bilibino	18.57	11	P	Pn	16 26 17.4	+0.9
	comp=Z,5.7nm,0.9s						
YAK	Yakutsk	18.98	319⇓	eP	Pn	16 26 20.6	-0.8
YAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
YAK				MLR	MLR		
	comp=Z,100nm,18.0s						
YAK	Yakutsk	18.98	319	eP	Pn	16 26 20.5	-0.9
	comp=Z,14nm,0.6s						
MAJO	Matsushiro	19.00	231	eP	Pn	16 26 20.5	-1.1
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MAJO	Matsushiro	19.00	231	eP	Pn	16 26 20.5	-1.1
	comp=Z,5.1nm,0.6s						
MAT	Matsushiro	19.00	231	P	Pn	16 26 20.5	-1.1
MAT	Matsushiro	19.00	231	eP	Pn	16 26 26.0	+4.4
MJAR	Matsushiro Arr	19.00	231	P	Pn	16 26 20.8	-0.8
	comp=Z,0.3nm,0.3s,baz=33,slow=9.0,SNR=11						
MJAR				LR	LR	16 34 01.6	
	comp=Z,74nm,19.9s,baz=25,slow=38						
TIXI	Tiksi	24.96	340	i P	P	16 27 22.7	+1.1
TIXI				MLR	MLR		
	comp=Z,300nm,20.0s,MS3.8						
ULN	Ulaanbaatar	32.09	285	i P	P	16 28 27.5	+2.4
SONM	Songino Array	32.51	286	LR	LR	16 41 46.0	
	comp=Z,59nm,19.0s,MS3.3,baz=357,slow=36						
TLY	Talaya	32.81	294	eP	P	16 28 32.5	+1.1
TLY				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
TLY	Talaya	32.81	294	eP	P	16 28 32.3	+0.9
	comp=Z,2.4nm,1.0s,mb4.1						
KURK	Kurchatov	47.45	302	eP	P	16 30 32.2	-0.2
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
KURK	Kurchatov	47.45	302	eP	P	16 30 32.2	-0.2
	comp=Z,3.3nm,0.7s,mb4.4						
MKAR	Makanchi Array	47.47	296	P	P	16 30 32.0	-0.6
	comp=Z,1.1nm,0.3s,mb4.2,baz=49,slow=5.4,SNR=39						
MKAR	Makanchi Array	47.47	296	i P	P	16 30 33.0	+0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZRNK	Zerenda	51.24	309	eP	P	16 30 59.9	-1.5
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
ZRNK	Zerenda	51.24	309	eP	P	16 30 59.9	-1.5
	comp=Z,2.1nm,0.4s,mb4.4						
ARU	Arti	54.08	317	P	P	16 31 21.6	-0.7
ARU				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
ARU	Arti	54.08	317	P	P	16 31 21.6	-0.7
	comp=Z,5.6nm,1.4s,mb4.3						
ARCES	ARCESS Array B	55.39	341	P	P	16 31 29.7	-2.1
	comp=Z,0.9nm,0.8s,mb3.9,baz=43,slow=7.4,SNR=8.5						
ARCES	ARCESS Array B	55.39	341	P	P	16 31 29.7	-2.1
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	ARCESS Array B	55.39	341	P	P	16 31 29.7	-2.1
SUMG	Summit	57.12	5	eP	P	16 31 44.1	-0.1
	comp=Z,5.4nm,0.8s,mb4.6						
PDAR	Pinedale Array	60.92	57	P	P	16 32 11.7	+1.3
	comp=Z,0.6nm,0.9s,mb3.7,baz=348,slow=3.6,SNR=5.6						
FINES	FINESS Array B	61.92	336	P	P	16 32 14.6	-2.6
	comp=Z,0.5nm,0.8s,mb3.7,baz=46,slow=11,SNR=4.0						
FINES	FINESS Array B	61.92	336	i P	P	16 32 17.8	+0.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	FINESS Array B	61.92	336	P	P	16 32 14.6	-2.7
NOA	NORSAR Array B	65.72	342	P	P	16 32 40.6	-1.6
	comp=Z,0.6nm,0.7s,mb3.7,baz=27,slow=6.6,SNR=3.6						
NOA	NORSAR Array B	65.72	342	P	P	16 32 40.6	-1.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	Malin Array Be	69.96	327	P	P	16 33 07.0	-1.8
	comp=Z,1.2nm,0.4s,mb4.2,baz=32,slow=6.5,SNR=7.7						
AKASG	Malin Array Be	69.96	327	i P	P	16 33 08.1	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	Warramunga Arr	72.51	202	P	P	16 33 23.5	-0.7
	comp=Z,2.0nm,1.0s,mb4.0,baz=20,slow=6.3,SNR=8.1						
WRA	Warramunga Arr	72.51	202	P	P	16 33 23.5	-0.7
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BRTR	Keskin Array B	77.44	318	P	P	16 33 53.5	+0.9
	comp=Z,0.8nm,0.8s,mb3.7,baz=23,slow=8.0,SNR=4.2						
BRTR	Keskin Array B	77.44	318	P	P	16 33 53.5	+0.9
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CDF	Champ du Feu	78.33	340	eP	P	16 33 57.7	+0.1
	comp=Z,2.8nm,0.6s,mb4.1						
CDF	Champ du Feu	78.33	340	eP	P	16 33 57.7	+0.1
CDF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
CDF	Champ du Feu	78.33	340	eP	P	16 33 57.7	+0.1
	comp=Z,1.4nm,0.6s,mb4.1						
HINF	Hinteralfeld	78.98	340	eP	P	16 34 01.2	0.0
FLN	La Foliniere	79.51	345	eP	P	16 34 03.8	-0.3
LDF	La Druitiere	79.61	345	eP	P	16 34 04.3	-0.3
GRR	Gorron	79.94	345	eP	P	16 34 06.5	+0.1
	comp=Z,18nm,0.8s,mb4.7						
GRR	Gorron	79.94	345	eP	P	16 34 06.5	+0.1
GRR				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
GRR	Gorron	79.94	345	eP	P	16 34 06.5	+0.1
	comp=Z,9.1nm,0.8s,mb4.8						
LOR	Lormes	80.14	342	eP	P	16 34 07.6	+0.1
SGMF	Saint Gilles	80.34	346	eP	P	16 34 08.7	+0.1
	comp=Z,11nm,0.8s,mb4.5						
SGMF	Saint Gilles	80.34	346	eP	P	16 34 08.7	+0.1
SGMF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
SGMF	Saint Gilles	80.34	346	eP	P	16 34 08.7	+0.1
	comp=Z,5.6nm,0.8s,mb4.5						
ROSF	Rostrenen	80.37	347	eP	P	16 34 08.5	-0.2
	comp=Z,20nm,0.9s,mb4.7						
ROSF	Rostrenen	80.37	347	eP	P	16 34 08.5	-0.2
ROSF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ROSF	Rostrenen	80.37	347	eP	P	16 34 08.5	-0.2
	comp=Z,10nm,0.9s,mb4.8						
SSF	Saint Saulge	80.41	342	eP	P	16 34 08.9	0.0
AVF	Avril sur Loir	80.70	342	eP	P	16 34 10.3	-0.2
	comp=Z,4.2nm,0.5s,mb4.3						
AVF	Avril sur Loir	80.70	342	eP	P	16 34 10.3	-0.2
AVF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
AVF	Avril sur Loir	80.70	342	eP	P	16 34 10.3	-0.2
	comp=Z,2.1nm,0.5s,mb4.3						
SMF	Signal de Mont	80.74	341	eP	P	16 34 10.7	0.0
QUIF	Quistinic	80.77	346	eP	P	16 34 10.7	-0.1
	comp=Z,24nm,1.1s,mb4.8						
QUIF	Quistinic	80.77	346	eP	P	16 34 10.7	-0.1
QUIF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
QUIF	Quistinic	80.77	346	eP	P	16 34 10.7	-0.1
	comp=Z,12nm,1.1s,mb4.7						
LPL	La Plagne	81.18	339	eP	P	16 34 13.6	+0.6
	comp=Z,8.6nm,0.6s,mb4.6						
LPL	La Plagne	81.18	339	eP	P	16 34 13.6	+0.6
LPL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LPL	La Plagne	81.18	339	eP	P	16 34 13.6	+0.6
	comp=Z,4.3nm,0.6s,mb4.6						
LPG	La Plagne	81.20	339	eP	P	16 34 13.7	+0.6
	comp=Z,10nm,0.6s,mb4.6						
LPG	La Plagne	81.20	339	eP	P	16 34 13.7	+0.6
LPG				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
LPG	La Plagne	81.20	339	eP	P	16 34 13.7	+0.6
	comp=Z,5.1nm,0.6s,mb4.6						
TCF	Toulx Ste Croi	81.41	342	eP	P	16 34 14.6	+0.4
	comp=Z,2.3nm,0.4s,mb4.2						
TCF	Toulx Ste Croi	81.41	342	eP	P	16 34 14.6	+0.4
TCF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
TCF	Toulx Ste Croi	81.41	342	eP	P	16 34 14.6	+0.4
	comp=Z,1.1nm,0.4s,mb4.1						
MFF	Saint Martin d	81.54	344	eP	P	16 34 15.1	+0.1
	comp=Z,3.6nm,0.5s,mb4.3						
MFF	Saint Martin d	81.54	344	eP	P	16 34 15.1	+0.1
MFF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
MFF	Saint Martin d	81.54	344	eP	P	16 34 15.1	+0.1
	comp=Z,1.8nm,0.5s,mb4.3						
MBDF	Montbardon	81.92	339	eP	P	16 34 17.2	+0.3
	comp=Z,2.5nm,0.4s,mb4.2						
MBDF	Montbardon	81.92	339	eP	P	16 34 17.2	+0.3
MBDF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
MBDF	Montbardon	81.92	339	eP	P	16 34 17.2	+0.3
	comp=Z,1.3nm,0.4s,mb4.2						
ORIF	Oris-en-Rattie	81.94	339	eP	P	16 34 17.2	+0.1
	comp=Z,5.2nm,0.7s,mb4.3						
ORIF	Oris-en-Rattie	81.94	339	eP	P	16 34 17.2	+0.1
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
ORIF	Oris-en-Rattie	81.94	339	eP	P	16 34 17.2	+0.1
	comp=Z,2.6nm,0.7s,mb4.3						
VIVF	Saint-Julien-l	82.27	340	eP	P	16 34 18.7	-0.1
RJF	Les Rejaudoux	82.49	343	eP	P	16 34 19.9	0.0
CAF	Calviac	82.75	342	eP	P	16 34 21.4	+0.2
SMRF	Simiane la Rot	82.91	339	eP	P	16 34 22.3	+0.2
LASF	Ste Croix	83.19	341	eP	P	16 34 23.6	+0.1
LMR	La Mourre	83.30	338	eP	P	16 34 24.3	+0.2
	comp=Z,16nm,0.8s,mb4.8						
LMR	La Mourre	83.30	338	eP	P	16 34 24.3	+0.2
LMR				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
LMR	La Mourre	83.30	338	eP	P	16 34 24.3	+0.2
	comp=Z,7.9nm,0.8s,mb4.8						
PGF	Pioggiola	83.42	336	eP	P	16 34 24.7	-0.1
	comp=Z,18nm,1.0s,mb4.7						
PGF	Pioggiola	83.42	336	eP	P	16 34 24.7	-0.1
PGF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
PGF	Pioggiola	83.42	336	eP	P	16 34 24.7	-0.1
	comp=Z,8.8nm,1.0s,mb4.7						
MTLF	Montolieu	84.23	342	eP	P	16 34 29.0	+0.1
EPF	Esparros	84.91	343	eP	P	16 34 32.1	-0.2
EVO	Evora	90.66	348	eP	P	16 35 00.7	+0.8
	comp=Z,2.9nm,0.7s,mb4.4						

IDC 01 16:36:49.2±2.0**, 068N**×**12692E, h0**km**, mb3.2**/3**, mb1 3.4**/3**, mb1mx3.3**/15**, mbtmp3.2**/3**, Error ellipse: s-maj=168.2km s-min=25.3km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.75	161	P	P	16 41 42.1	-0.1
	0.4nm,0.5s,baz=340,slow=11,SNR=13						
ASAR	Alice Springs	25.13	165	P	P	16 42 16.4	+0.6
	0.1nm,0.4s,baz=344,slow=9.6,SNR=3.7						
MKAR	Makanchi Array	60.17	326	P	P	16 46 58.8	+0.1
	0.2nm,0.4s,baz=119,slow=7.4,SNR=6.9						

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*ISCJB **01** 17:24:07.2±0.9, 8.10N±003×6429W±002, h7km±6km, mb4.2/20, MS3.5/6, Error ellipse: s-maj=4.9km s-min=3.7km az=172.1*
*IDC **01** 17:24:08.1±0.6, 807N×6437W, h0km, mb4.2/14, mb1 4.3/17, mb1mx4.2/26, mbtmp4.2/17, ML3.5/3, MS3.5/8, Ms1 3.5/8, ms1mx3.2/24, Error ellipse: s-maj=14.3km s-min=12.0km az=97.0*
*FUNV **01** 17:24:08.9, 8.10N×6422W, h4km, MW4.6*
*NEIC **01** 17:24:09.1, 8.10N×6420W, h6km, mb4.3/12, MW4.4(CAR), After CAR.*
*TRN **01** 17:24:09.1, 800N×64.16W, h96km, MD4.8*
ISC 01 17:24:07.9±0.8**, 812N**±003×**6426W**±002**, h0**km±5km**, n107,** σ1.22/125**, mb4.3**/20**, MS3.5**/6**, 8C-4D, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRGV	PARIAGUAN	0.75	329⇓	eP	Pg	17 24 23.4	+1.2
PRGV				eS	Sg	17 24 34.2	+2.3
GURV	El Guri	1.22	107⇑	eP	Pg	17 24 30.8	-0.5
GURV				eS	Sg	17 24 45.6	-1.4
GURV	El Guri	1.22	107	eP	Pg	17 24 30.7	-0.5
GURV				eS	Sg	17 24 45.6	-1.4
GURV	El Guri	1.22	107	eP	Pg	17 24 30.7	-0.5
GURV				eS	Sg	17 24 45.6	-1.4
ORIV	Oritupano	1.27	42⇑	eP	Pg	17 24 32.8	+0.5
ORIV				eS	Sg	17 24 49.8	+1.1
ORIV	Oritupano	1.27	42	eP	Pg	17 24 32.7	+0.5
ORIV				eS	Sg	17 24 49.1	+0.4
ORIV	Oritupano	1.27	42	eP	Pg	17 24 30.3	-1.9
ORIV				eS	Sg	17 24 49.1	+0.4
PCRV	Puerto La Cruz	2.08	350	Pn	Pn	17 24 43.7	-0.3
	24nm,0.3s,baz=180,slow=5.6,SNR=45						
PCRV				Lg		17 25 16.5	
	101nm,0.3s,baz=268,slow=16,SNR=6.4						
PCRV				LR	LR	17 25 49.8	
	comp=Z,1µm,18.9s,baz=13,slow=49						
PCRV	Puerto La Cruz	2.08	350⇓	eP	Pn	17 24 43.6	-0.4
PCRV	Puerto La Cruz	2.08	350	eP	Pn	17 24 43.8	-0.2
PCRV	Puerto La Cruz	2.08	350	eP	Pn	17 24 43.8	-0.2
CAOV	Caicara del Or	2.19	249⇑	eP	Pn	17 24 44.9	-0.6
CAOV				eS	Sn	17 25 13.8	+0.5
MERV	Las Mercedes	2.31	299⇑	eP	Pn	17 24 46.9	-0.2
MERV				eS	Sn	17 25 16.8	+0.6
MERV	Las Mercedes	2.31	299	eP	Pn	17 24 47.1	0.0
MERV				eS	Sn	17 25 16.8	+0.6
MERV	Las Mercedes	2.31	299	eP	Pn	17 24 47.1	0.0
CAIV	Caiguire	2.34	2	eP	Pn	17 24 45.6	-2.0
CAIV				eS	Sn	17 25 13.8	-3.2
CAIV	Caiguire	2.34	2	eP	Pn	17 24 45.6	-2.0
CAIV				eS	Sn	17 25 12.1	-4.9
GUNV	Guanoco	2.42	33⇓	eP	Pn	17 24 49.1	+0.6
GUNV				eS	Sn	17 25 16.3	-2.5
GUNV	Guanoco	2.42	33	eP	Pn	17 24 48.2	-0.4
GUNV				eS	Sn	17 25 16.2	-2.6
GUNV	Guanoco	2.42	33	eP	Pn	17 24 49.3	+0.7
GUNV				eS	Sn	17 25 16.2	-2.6
CUPV	Cœpira	2.45	322	eP	Pn	17 24 49.2	+0.2
CUPV				eS	Sn	17 25 20.1	+0.5
CUPV	Cœpira	2.45	322	eP	Pn	17 24 49.2	+0.1
CUPV				eS	Sn	17 25 20.1	+0.4
CRUV	Carupano	2.74	22	eP	Pn	17 24 52.9	-0.1
CRUV				eS	Sn	17 25 24.2	-2.6
CRUV	Carupano	2.74	22	eP	Pn	17 24 52.9	-0.1
CRUV				eS	Sn	17 25 24.2	-2.6
BIRV	Birongo	3.07	320	eP	Pn	17 24 58.2	+0.6
BIRV				eS	Sn	17 25 34.6	-0.4
BIRV	Birongo	3.07	320	eP	Pn	17 24 58.2	+0.6
BIRV				eS	Sn	17 25 34.6	-0.4
GUIV	Guiria	3.22	38	eP	Pn	17 24 59.3	-0.3
GUIV	Guiria	3.22	38	eP	Pn	17 24 59.3	-0.4
BUAY	Buenos Aires	3.22	52	eP	Pn	17 25 02.0	+2.3
ITEV	Isla Los Testi	3.41	19	eP	Pn	17 25 01.0	-1.2
TPP	Pointe-a-Pierr	3.53	52	eP	Pn	17 25 09.2	+5.3
TCE	Chacachacare	3.56	44	eP	Pn	17 25 09.3	+4.9
LUEV	Luepa	3.58	129	eP	Pn	17 25 04.2	-0.5
LUEV	Luepa	3.58	129	eP	Pn	17 25 04.2	-0.4
LUEV	Luepa	3.58	129	eP	Pn	17 25 04.7	+0.1
IBAV	Isla La Blanqu	3.70	355⇓	eP	Pn	17 25 05.2	-1.0
IBAV	Isla La Blanqu	3.70	355	eP	Pn	17 25 05.2	-1.0
TRN	Trinidad (W)	3.78	48	eP	Pn	17 25 05.6	-1.8
TRN				eS	Sn	17 25 46.6	-5.9
BAUV	El Baul	3.83	283⇑	eP	Pn	17 25 07.6	-0.4
BAUV	El Baul	3.83	283	eP	Pn	17 25 07.6	-0.4
TBH	Brigand Hill	3.93	53	eP	Pn	17 25 08.5	-1.0
ORCV	Isla La Orchil	4.14	333	eP	Pn	17 25 11.4	-0.9
ORCV	Isla La Orchil	4.14	333	eP	Pn	17 25 11.4	-0.9
TURV	Turiamo	4.23	304	eP	Pn	17 25 14.1	+0.6
TURV	Turiamo	4.23	304	eP	Pn	17 25 14.1	+0.6
TEPV	Terepaima	5.21	291	eP	Pn	17 25 27.7	+0.8
ELOV	Elorza	5.29	258	eP	Pn	17 25 28.0	-0.1
ELOV	Elorza	5.29	258	eP	Pn	17 25 28.0	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JACV	**Jacura**	**5.39**	**304**	*e*P	**Pn**	**17 25 28.5**	**-0.9**
CURV	**Curarigua**	**5.94**	**289**⇑	*e*P	**Pn**	**17 25 36.4**	**-0.6**
CURV	**Curarigua**	**5.94**	**289**	*e*P	**Pn**	**17 25 36.4**	**-0.6**
SIQV	**Siquisique**	**6.03**	**295**	*e*P	**Pn**	**17 25 37.8**	**-0.4**
SIQV	**Siquisique**	**6.03**	**295**	*e*P	**Pn**	**17 25 37.8**	**-0.4**
SDV	**Santo Domingo**	**6.35**	**277**	Pn	**Pn**	**17 25 41.0**	**-1.6**
	6.5nm,0.3s,baz=119,slow=7.2,SNR=17						
SDV				Sn	**Sn**	**17 26 54.2**	**-1.6**
	18nm,0.3s,baz=61,slow=5.9,SNR=4.9						
SDV				Lg		17 27 24.8	
	25nm,0.3s,baz=29,slow=16,SNR=3.6						
SDV	**Santo Domingo**	**6.35**	**277**	*e*Pn	**Pn**	**17 25 40.6**	**-2.0**
	44nm,0.4s						
QARV	**Quebrada Arrib**	**6.52**	**289**	*e*P	**Pn**	**17 25 44.0**	**-1.1**
QARV	**Quebrada Arrib**	**6.52**	**289**	*e*P	**Pn**	**17 25 44.0**	**-1.1**
SOCV	**Socops**	**6.53**	**272**⇑	*e*P	**Pn**	**17 25 43.9**	**-1.3**
SOCV	**Socops**	**6.53**	**272**	*e*P	**Pn**	**17 25 43.9**	**-1.3**
MONV	**Montecano**	**6.79**	**305**	*e*P	**Pn**	**17 25 48.2**	**-0.6**
MONV	**Montecano**	**6.79**	**305**	*e*P	**Pn**	**17 25 48.2**	**-0.6**
DABV	**Dabajuro**	**6.88**	**294**	*e*P	**Pn**	**17 25 48.9**	**-1.0**
DABV	**Dabajuro**	**6.88**	**294**	*e*P	**Pn**	**17 25 48.9**	**-1.0**
VIGV	**El Vigia**	**7.06**	**276**	*e*P	**Pn**	**17 25 52.3**	**-0.1**
VIGV	**El Vigia**	**7.06**	**276**	*e*P	**Pn**	**17 25 53.3**	**+0.8**
MVM	**Montagne Vaucl**	**7.20**	**27**	*e*P	**Pn**	**17 25 57.0**	**+2.6**
FDF	**Fort de France**	**7.25**	**25**	*e*P	**Pn**	**17 25 56.5**	**+1.4**
CRM	**Caravelle**	**7.37**	**26**	*e*P	**Pn**	**17 25 59.6**	**+3.0**
CAPV	**Capacho**	**7.98**	**269**	*e*P	**Pn**	**17 26 04.3**	**-0.8**
CAPV	**Capacho**	**7.98**	**269**	*e*P	**Pn**	**17 26 04.3**	**-0.7**
VIRV	**Villa del Rosa**	**8.38**	**287**⇑	*e*P	**Pn**	**17 26 08.6**	**-2.0**
SJG	**San Juan**	**10.11**	**350**	LR	LR	17 30 32.4	
	comp=Z,251nm,21.1s,baz=260,slow=38						
ROSC	**El Rosal**	**10.52**	**253**	Pn	**Pn**	**17 26 40.0**	**+0.2**
	1.8nm,0.3s,baz=87,slow=10.0,SNR=2.8						
ROSC				Lg		17 29 38.8	
	5.4nm,0.3s,baz=90,slow=20,SNR=2.6						
OTAV	**Otavalo**	**16.16**	**242**	*e*Pn	**Pn**	**17 28 01.4**	**+5.0**
	17nm,1.5s						
SAML	**Samuel**	**16.98**	**176**	*e*Pn	**Pn**	**17 28 01.9**	**-4.9**
	10nm,0.3s						
SAML				*e*Sn	**Sn**	**17 30 59.1**	**-17**
JTS	**JuntasAbangare**	**20.54**	**278**	P	**P**	**17 28 37.3**	**-10**
ATAH	**Atahualpa**	**20.59**	**224**	P	**P**	**17 28 50.2**	**+1.9**
	6.6nm,0.4s,baz=243,slow=9.1,SNR=4.2						
SIV	**San Ignacio**	**24.16**	**172**	P	**P**	**17 29 24.7**	**-0.9**
	3.7nm,0.7s,mb4.0,baz=20,slow=11,SNR=21						
LPAZ	**La Paz**	**24.55**	**189**	P	**P**	**17 29 30.2**	**+1.1**
	4.0nm,0.8s,mb4.2,baz=349,slow=8.9,SNR=13						
LPAZ				LR	LR	17 39 32.7	
	comp=Z,102nm,19.2s,MS3.3,baz=96,slow=38						
LPAZ	**La Paz**	**24.55**	**189**	*e*P	**P**	**17 29 30.2**	**+1.1**
	4.3nm,0.8s,mb4.2						
TEIG	**Tepich**	**26.17**	**300**	P	**P**	**17 29 48.8**	**+5.0**
	3.2nm,0.7s,mb4.1						
BDFB	**Brasilia**	**28.57**	**146**	LR	LR	17 41 04.0	
	comp=Z,123nm,18.8s,MS3.5,baz=151,slow=36						
LVC	**Limon Verde**	**30.88**	**188**	*e*P	**P**	**17 30 25.2**	**-0.6**
	4.2nm,0.7s,mb4.5						
RCBR	**Riachuelo**	**31.49**	**115**	*e*P	**P**	**17 30 34.6**	**+3.3**
	9.6nm,0.8s,mb4.8						
TZTN	**Tazewell**	**33.31**	**331**	P	**P**	**17 30 47.3**	**+0.1**
MIAR	**Mount Ida**	**37.65**	**319**	*e*P	**P**	**17 31 25.5**	**+1.0**
	3.5nm,0.6s,mb4.3						
SCHQ	**Schefferville**	**46.63**	**358**	P	**P**	**17 32 38.3**	**+0.5**
	7.0nm,0.7s,mb4.9,baz=171,slow=4.8,SNR=9.4						
SCHQ	**Schefferville**	**46.63**	**358**	*e*P	**P**	**17 32 37.6**	**-0.3**
	11nm,0.8s,mb5.0						
PLCA	**Paso Flores**	**48.95**	**186**	LR	LR	17 55 09.5	
	comp=Z,61nm,18.3s,MS3.6,baz=1.5,slow=38						
SMCO	**Snowmass**	**49.18**	**316**	*e*P	**P**	**17 32 60.0**	**+2.4**
	1.9nm,0.8s,mb4.2						
ULM	**Lac du Bonnet**	**49.55**	**334**	P	**P**	**17 32 59.8**	**-0.6**
	4.5nm,0.8s,mb4.5,baz=139,slow=9.1,SNR=6.6						
ULM				LR	LR	17 56 13.8	
	comp=Z,33nm,18.1s,MS3.4,baz=182,slow=39						
PV01	**Paradox Valley**	**49.84**	**314**	*e*P	**P**	**17 33 04.8**	**+2.2**
PDAR	**Pinedale Array**	**52.57**	**319**	P	**P**	**17 33 24.2**	**+1.0**
	1.2nm,0.8s,mb3.9,baz=110,slow=8.7,SNR=10						
HWUT	**Hardware Ranch**	**53.40**	**317**	P	**P**	**17 33 29.3**	**+0.1**
	1.9nm,0.8s,mb4.1						
FRB	**Frobisher Bay**	**55.62**	**358**	P	**P**	**17 33 45.1**	**-0.3**
	9.4nm,0.8s,mb4.8,baz=175,slow=7.0,SNR=5.5						
HLID	**Hailey**	**56.12**	**318**	*e*P	**P**	**17 33 50.7**	**+1.8**
	3.1nm,1.0s,mb4.3						
DBIC	**Dimbokro**	**58.88**	**87**	P	**P**	**17 34 10.9**	**+2.4**
	3.8nm,0.8s,mb4.5,baz=258,slow=6.4,SNR=4.1						
DBIC	**Dimbokro**	**58.88**	**87**	P	**P**	**17 34 11.3**	**+2.8**
	4.7nm,0.8s,mb4.6						
ESDC	**Sonseca Array**	**62.11**	**49**	P	**P**	**17 34 32.2**	**+1.7**
	1.0nm,0.6s,mb4.2,baz=261,slow=6.6,SNR=8.8						
TORD	**Torodi Ar. Bea**	**64.87**	**79**	P	**P**	**17 34 50.8**	**+2.0**
	0.9nm,0.4s,mb4.3,baz=294,slow=6.6,SNR=18						
YKA	**Yellowknife Ar**	**65.32**	**337**	LR	LR	18 01 29.7	
	comp=Z,28nm,21.7s,MS3.4,baz=180,slow=34						
INK	**Inuvik**	**74.90**	**339**	P	**P**	**17 35 50.5**	**+0.1**
	1.2nm,0.6s,mb4.1,baz=264,slow=7.2,SNR=6.1						
GERES	**GERESS Array B**	**76.01**	**42**	P	**P**	**17 35 57.4**	**+0.5**
	0.8nm,0.7s,mb4.0,baz=262,slow=4.0,SNR=8.6						
ARCES	**ARCESS Array B**	**82.38**	**21**	P	**P**	**17 36 30.4**	**-1.2**
	1.2nm,0.7s,mb4.1,baz=319,slow=4.8,SNR=6.0						
FINES	**FINESS Array B**	**83.10**	**29**	P	**P**	**17 36 36.1**	**+0.7**
	0.8nm,0.7s,mb4.1,baz=0.0,slow=0.4,SNR=6.0						
FINES				LR	LR	18 10 27.0	
	comp=Z,24nm,18.8s,MS3.6,baz=131,slow=33						
ASAR	**Alice Springs**	**156.72**	**226**	PKPab	PKPab	17 44 35.1	+0.9
	0.6nm,0.6s,baz=133,slow=3.8,SNR=8.3						
WRA	**Warramunga Arr**	**158.49**	**235**	PKPab	PKPab	17 44 43.6	+1.7
	0.5nm,0.8s,baz=111,slow=3.9,SNR=7.2						

IDC 01 17:32:28.6±2.0**, 2416S**×**6974E, h0**km**, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.6**/20**, mbtmp3.7**/4**, MS3.6**/1**, Ms1 3.5**/1**, ms1mx2.9**/18**, Error ellipse: s-maj=60.5km s-min=37.3km az=77.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**39.93**	**254**	LR	LR	17 53 36.8	
	comp=Z,78nm,19.8s,baz=348,slow=32						
ASAR	**Alice Springs**	**58.17**	**104**	P	P	17 42 24.6	+0.4
	0.6nm,0.7s,baz=253,slow=6.1,SNR=7.7						
WRA	**Warramunga Arr**	**59.56**	**100**	P	P	17 42 34.4	+0.5
	0.7nm,0.9s,baz=256,slow=6.8,SNR=5.4						
VNDA	**Vanda**	**67.05**	**166**	P	P	17 43 23.1	-0.4
	1.0nm,1.0s,baz=268,slow=8.0,SNR=4.7						
MKAR	**Makanchi Array**	**71.52**	**9**	P	P	17 43 51.2	0.0
	0.3nm,0.6s,baz=189,slow=6.0,SNR=4.5						

MAN 01 18:16:33.1, 955N×12535E, h1km, mb2.1, ML3.8, MS4.6, Mindanao

*ISCJB **01** 18:22:29.1±0.3, 4837N±002×771E±002, h8km±3km, Error ellipse: s-maj=3.7km s-min=2.1km az=166.5*
*LDG **01** 18:22:30.7±0.0, 4836N×772E, h5km, Md2.4/3, Ml2.4/13, Error ellipse: s-maj=0.9km s-min=0.6km az=177.0*
*BGR **01** 18:22:30.6±0.3, 4837N×775E, h10km, ML1.9/4, Error ellipse: s-maj=4.4km s-min=2.2km az=141.0*
*STR **01** 18:22:30.7±0.2, 4834N×770E, h10km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LEDBW **01** 18:22:31.0±0.3, 4832N±002×772E±001, h8km±4km, ML2.0, Error ellipse: s-maj=7.2km s-min=2.6km az=21.0*
ISC 01 18:22:29.8±0.3**, 4836N**±002×**771E**±002**, h15**km±3km**, n46,** σ**0.85**/74**, 2C-2D, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIBD	**Limburg**	**0.23**	**199**	⇑P*	**Pg**	**18 22 35.3**	**+0.4**
LIBD				S*	**Sg**	**18 22 39.1**	**+0.8**
LIBD	**Limburg**	**0.23**	**199**	⇑Pg	**Pg**	**18 22 35.3**	**+0.4**
LIBD				Sx	Sx	18 22 39.1	
CDF	**Champ du Feu**	**0.30**	**280**	*e*Pg	**Pg**	**18 22 36.8**	**+0.7**
CDF				*e*Sg	**Sg**	**18 22 40.9**	**+0.6**
	14nm,0.2s						
ECH	**Echery**	**0.40**	**248**⇑	*i*P*	**Pg**	**18 22 38.5**	**+0.5**
ECH				*i* S*	**Sg**	**18 22 44.2**	**+0.8**
ECH	**Echery**	**0.40**	**248**	Pg	**Pg**	**18 22 38.4**	**+0.5**
ECH				Sg	**Sg**	**18 22 44.2**	**+0.8**
ECH	**Echery**	**0.40**	**248**⇑	*i*Pg	**Pg**	**18 22 38.5**	**+0.5**
ECH				*i* Sg	**Sg**	**18 22 44.2**	**+0.8**
BFO	**Black Forest**	**0.41**	**94**	*e*Pg	**Pg**	**18 22 38.3**	**+0.1**
	SNR=7.1						
BFO				*e*Sg	**Sg**	**18 22 43.4**	**-0.4**
KIZ	**Kirchzarten**	**0.43**	**161**⇓	*i*P*	**Pg**	**18 22 38.5**	**0.0**
KIZ				*i* S*	**Sg**	**18 22 44.0**	**-0.4**
FELD	**Feldberg im Sc**	**0.53**	**158**⇓	*i*P*	**Pb**	**18 22 40.3**	**-0.4**
FELD				SmS		18 22 51.4	
MOF	**Molkenrain**	**0.64**	**217**	P*	**Pb**	**18 22 42.9**	**+0.2**
MOF				PmP		18 22 43.9	
MOF				SmS		18 22 54.1	
HINF	**Hinteralfeld**	**0.80**	**227**	*e*Pg	**Pg**	**18 22 45.6**	**+0.3**
HINF	**Hinteralfeld**	**0.80**	**227**	*e*Pn	**Pn**	**18 22 47.1**	**+0.7**
HINF				*e*Sg	**Sg**	**18 22 56.5**	**+0.7**
	32nm,0.3s						
BHBD	**Braunhartsberg**	**0.87**	**97**	*e*Pg	**Pg**	**18 22 46.3**	**-0.4**
BHBD	**Braunhartsberg**	**0.87**	**97**	*e*PmP		18 22 47.9	
BHBD				Sg	**Sg**	**18 22 58.2**	**0.0**
BHBD				*e*SmS		18 23 00.2	
HAU	**Haudompre**	**0.98**	**249**	*e*Pg	**Pg**	**18 22 49.1**	**+0.3**
HAU	**Haudompre**	**0.98**	**249**	*e*Pn	**Pn**	**18 22 49.9**	**+0.9**
HAU				*e*Sg	**Sg**	**18 23 02.2**	**+0.5**
	13nm,0.2s						
GUT	**Gutenstein**	**0.98**	**107**	P	**Pn**	**18 22 49.1**	**+0.1**
GUT				Pg	**Pg**	**18 22 49.5**	**+0.6**
GUT				S	**Sb**	**18 23 01.7**	**+0.4**
GUT				Sg	**Sg**	**18 23 03.0**	**+1.3**
GUT	**Gutenstein**	**0.98**	**107**	Pn	**Pn**	**18 22 49.1**	**+0.1**
GUT				Sn	**Sb**	**18 23 01.7**	**+0.4**
GUT	**Gutenstein**	**0.98**	**107**	P	**Pg**	**18 22 49.5**	**+0.6**
GUT				Sx	Sx	18 23 03.0	
STU	**Stuttgart**	**1.07**	**67**	*e*Sg	**Sg**	**18 23 04.9**	**+0.5**
SISB	**Singen-Schiene**	**1.08**	**128**	Pg	**Pg**	**18 22 51.4**	**+0.7**
SISB				Sg	**Sg**	**18 23 06.0**	**+1.2**
SISB	**Singen-Schiene**	**1.08**	**128**	Px	Px	18 22 51.4	
SISB				S	**Sg**	**18 23 06.0**	**+1.2**
BUCH	**Bad Urach**	**1.10**	**85**	Pg	**Pg**	**18 22 51.1**	**+0.1**
BUCH				S	**Sb**	**18 23 05.1**	**+0.6**
BUCH				Sg	**Sg**	**18 23 06.3**	**+0.9**
LOMF	**Lomont**	**1.18**	**211**	Pg	**Pg**	**18 22 52.7**	**+0.1**
LOMF				Sg	**Sg**	**18 23 09.2**	**+1.3**
LOMF	**Lomont**	**1.18**	**211**	Px	Px	18 22 52.7	
LOMF				Sx	Sx	18 23 09.2	
SWS	**Schriesheim-Wi**	**1.30**	**30**	Sg	**Sg**	**18 23 13.0**	**+1.2**
RUP	**Ruppelstein**	**1.41**	**342**	*e*Pg	**Pg**	**18 22 57.5**	**+0.5**
	SNR=3.9						
RFYF	**Reffroy**	**1.51**	**281**	*e*Pn	**Pn**	**18 22 56.7**	**+0.4**
RFYF	**Reffroy**	**1.51**	**281**	*e*Pg	**Pg**	**18 22 59.7**	**+0.8**
RFYF				*e*Sn	**Sn**	**18 23 16.2**	**+0.5**
RFYF				*e*Sg	**Sg**	**18 23 18.8**	**+0.2**
	8.2nm,0.2s						
HDH	**Heidenheim-Cha**	**1.67**	**81**	Pg	**Pg**	**18 23 02.0**	**0.0**
HDH				Sg	**Sg**	**18 23 23.1**	**-0.7**
UBR	**Ueberruh**	**1.75**	**112**	Sg	**Sg**	**18 23 26.1**	**0.0**
MEZF	**Maizieres J'vi**	**1.78**	**275**	*e*Pn	**Pn**	**18 23 00.0**	**0.0**
MEZF				*e*Sg	**Sg**	**18 23 27.1**	**0.0**
	6.7nm,0.4s						
SFTF	**Sexfontaines**	**1.79**	**266**	*e*Pn	**Pn**	**18 23 00.5**	**+0.3**
SFTF	**Sexfontaines**	**1.79**	**266**	*e*Pg	**Pg**	**18 23 04.4**	**+0.1**
SFTF				*e*Sg	**Sg**	**18 23 27.6**	**0.0**
	6.4nm,0.2s						
TNS	**Taunus Mts**	**1.92**	**14**	*e*Sg	**Sg**	**18 23 31.8**	**+0.1**
CABF	**La Chapelle**	**2.07**	**213**	*e*Pn	**Pn**	**18 23 03.3**	**-0.7**
CABF				*e*Sg	**Sg**	**18 23 36.0**	**-0.5**
	2.8nm,0.3s						
GRF	**Grafenberg Arr**	**2.66**	**59**	*e*Sg	**Sg**	**18 23 53.4**	**-2.1**
LPL	**La Plagne**	**2.93**	**194**	*e*Pn	**Pn**	**18 23 16.6**	**+0.8**
LPL				*e*Sg	**Sg**	**18 24 02.9**	**-1.0**
	0.7nm,0.3s						
LPG	**La Plagne**	**2.94**	**193**	*e*Pn	**Pn**	**18 23 16.8**	**+0.8**
LPG				*e*Sg	**Sg**	**18 24 03.4**	**-1.0**
	2.5nm,0.4s						
SSF	**Saint Saulge**	**3.12**	**247**	*e*Pg	**Pg**	**18 23 28.8**	**-0.9**
SSF				*e*Sg	**Sg**	**18 24 08.9**	**-1.3**
	1.8nm,0.3s						
SMF	**Signal de Mont**	**3.14**	**238**	*e*Pg	**Pg**	**18 23 29.2**	**-0.8**
SMF				*e*Sg	**Sg**	**18 24 09.2**	**-1.4**
	2.7nm,0.3s						
AVF	**Avril sur Loir**	**3.34**	**244**	*e*Pg	**Pg**	**18 23 32.7**	**-1.2**
AVF				*e*Sg	**Sg**	**18 24 15.8**	**-1.5**
	0.6nm,0.2s						
WET	**Wettzell**	**3.50**	**75**	*e*Sg	**Sg**	**18 24 20.3**	**-2.1**
WERD	**Werda**	**3.65**	**53**	*e*Pg	**Pg**	**18 23 39.0**	**-0.9**
	SNR=1.2						
WERD				*e*Sg	**Sg**	**18 24 24.4**	**-2.8**
GEC2	**GERESS Array S**	**4.00**	**81**	*e*Sg	**Sg**	**18 24 37.5**	**-0.8**
TCF	**Toulx Ste Croi**	**4.28**	**243**	*e*Sg	**Sg**	**18 24 44.8**	**-2.5**
	0.9nm,0.2s						

*IDC **01** 18:31:38.9±0.7, 503S×13034E, h0km, mb4.2/8, mb1 4.4/11, mb1mx4.3/17, mbtmp4.3/11, ML4.5/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/20, Error ellipse: s-maj=38.8km s-min=15.1km az=65.0*
*MOS **01** 18:31:41.7±1.5, 521S×13035E, h44km, mb4.4/13, Error ellipse: s-maj=23.2km s-min=10.0km az=112.4*
*NEIC **01** 18:31:41.1±8.0, 502S×13043E, h17km±52km, mb4.5/11, Error ellipse: s-maj=14.3km s-min=11.7km az=122.0*
*BJI **01** 18:31:41.1, 500S×13040E, h17km, mB4.5, mb4.8*
*ISCJB **01** 18:31:42.9±1.5, 522S±004×13053E±009, h52km±14km, mb4.3/20, Error ellipse: s-maj=14.9km s-min=6.2km az=156.9*
ISC 01 18:31:44.0±1.6**, 515S**±007×**13051E**±009**, h41**km±18km**, n60,** σ**1.31**/68**, mb4.3**/20**, 1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.75**	**166**	*e*P	**Pn**	**18 33 35.5**	**+1.3**
	88nm,0.4s						
KAKA				*e*S	**Sn**	**18 35 01.4**	**+0.8**
FITZ	**Fitzroy Crossi**	**13.72**	**200**	*e*P	**Pn**	**18 34 54.9**	**-1.0**
	21nm,0.3s						
FITZ				*e*S	**Sn**	**18 37 23.6**	**-3.4**
FITZ	**Fitzroy Crossi**	**13.72**	**200**	Pn	**Pn**	**18 34 54.9**	**-1.1**
	4.8nm,0.3s,baz=36,slow=13,SNR=65						
FITZ				Sn	**Sn**	**18 37 26.3**	**-0.6**
	1.8nm,0.3s,baz=240,slow=22,SNR=4.7						
FITZ				LR	LR	18 40 56.1	
	comp=Z,83nm,19.1s,baz=159,slow=40						
WRAB	**Tennant Creek**	**15.16**	**166**	*e*P	**Pn**	**18 35 11.9**	**-3.3**
WRAB				*e*		18 37 51.4	
WRAB				pmax	pmax		
	comp=Z,33nm,0.6s						
WRAB	**Tennant Creek**	**15.16**	**166**	*e*Pn	**Pn**	**18 35 11.9**	**-3.3**
	comp=Z,34nm,0.6s						
WRAB				*e*Sn	**Sn**	**18 37 51.4**	**-10**
WRA	**Warramunga Arr**	**15.17**	**166**	Pn	**Pn**	**18 35 12.4**	**-2.9**
	comp=Z,3.4nm,0.3s,baz=338,slow=14,SNR=88						
WRA				Sn	**Sn**	**18 37 55.5**	**-6.6**
	comp=Z,6.0nm,0.3s,baz=348,slow=24,SNR=16						
WRA	**Warramunga Arr**	**15.17**	**166**	P	**Pn**	**18 35 12.4**	**-2.9**
WRA						18 37 55.5	
WRA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
WRA				smax			
	comp=N,6.0nm,0.3s						
WB2	**Warramunga Arr**	**15.17**	**166**	*e*Pn	**Pn**	**18 35 12.0**	**-3.3**
WB2				*e*Sn	**Sn**	**18 37 55.0**	**-7.2**
PMG	**Port Moresby**	**17.04**	**105**	P	**Pn**	**18 35 40.8**	**+1.6**
	comp=N,1.5nm,0.3s,baz=284,slow=11,SNR=8.5						
PMG	**Port Moresby**	**17.04**	**105**	P	**Pn**	**18 35 40.8**	**+1.6**
PMG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PMG	**Port Moresby**	**17.04**	**105**	*e*Pn	**Pn**	**18 35 41.3**	**+2.1**
KKM	**Kota Kinabalu**	**18.09**	**308**	Pn	**Pn**	**18 35 53.9**	**+1.7**
AS31	**Alice Springs**	**18.69**	**170**	*e*P	**Pn**	**18 35 60.0**	**+0.5**
AS31				*e*Sn	**Sn**	**18 39 19.0**	**-8.5**
ASAR	**Alice Springs**	**18.70**	**170**	P	**Pn**	**18 36 00.0**	**+0.5**
	comp=Z,3.3nm,0.3s,baz=348,slow=11,SNR=113						
ASAR				S	**S**	**18 39 21.3**	**-7.5**
	comp=Z,1.2nm,0.3s,baz=350,slow=24,SNR=9.1						
ASAR	**Alice Springs**	**18.70**	**170**	P	**Pn**	**18 36 00.0**	**+0.5**
ASAR				S	**S**	**18 39 21.3**	**-7.5**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAR				smax			
	comp=N,1.0nm,0.3s						
ASPA	**Alice Springs**	**18.70**	**170**	*e*P	**Pn**	**18 35 59.9**	**+0.4**
ASPA				*e*S	**S**	**18 39 21.3**	**-7.5**
MBWA	**Marble Bar**	**19.04**	**212**	*e*P	**Pn**	**18 36 04.9**	**+1.2**
	comp=N,6.1nm,0.7s						
CTA	**Charters Tower**	**21.33**	**135**	*e*P	**P**	**18 36 28.0**	**+0.6**
	comp=N,9.1nm,0.8s,mb4.2						
CTA	**Charters Tower**	**21.33**	**135**	P	**P**	**18 36 30.4**	**+3.0**
	comp=N,7.9nm,0.6s,mb4.2,baz=315,slow=12,SNR=12						
CTA	**Charters Tower**	**21.33**	**135**	*e*P	**P**	**18 36 28.0**	**+0.6**
CTA				*e*S	S	18 41 04.5	+43
CTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CTAO	**Charters Tower**	**21.33**	**135**	*e*P	**P**	**18 36 30.7**	**+3.3**
CTAO				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.4						
CTAO	**Charters Tower**	**21.33**	**135**	*e*P	**P**	**18 36 30.7**	**+3.3**
	comp=Z,18nm,1.0s,mb4.4						
FORT	**Forrest**	**25.60**	**185**	*e*P	**P**	**18 37 13.5**	**+4.2**
	comp=Z,14nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**28.54**	**160**	*e*P	**P**	**18 37 36.3**	**+0.5**
	comp=Z,2.0nm,0.3s,mb4.3						
STKA	**Stephens Creek**	**28.54**	**160**	P	**P**	**18 37 36.3**	**+0.5**
	comp=Z,2.6nm,0.3s,mb4.4,baz=323,slow=8.9,SNR=13						
STKA	**Stephens Creek**	**28.54**	**160**	*e*P	**P**	**18 37 36.1**	**+0.3**
KLBR	**Kellerberrin**	**28.90**	**203**	*e*P	**P**	**18 37 40.9**	**+2.0**
KMI	**Kunming**	**40.43**	**319**	P	**P**	**18 39 17.4**	**-0.9**
KMI				AP	pP	18 39 29.1	-0.6
KMI				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.2						
MJAR	**Matsushiro Arr**	**42.10**	**9**	P	**P**	**18 39 31.0**	**-1.0**
	comp=Z,1.7nm,0.8s,mb3.8,baz=183,slow=9.5,SNR=8.4						
MJAR	**Matsushiro Arr**	**42.10**	**9**	P	**P**	**18 39 31.0**	**-1.0**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MAJO	**Matsushiro**	**42.10**	**9**	*e*P	**P**	**18 39 30.9**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
MAJO	**Matsushiro**	**42.10**	**9**	*e*P	**P**	**18 39 30.9**	**-1.1**
	comp=Z,5.9nm,1.0s,mb4.2						
CD2	**Chengdu**	**44.04**	**326**	*e*P	**P**	**18 39 48.8**	**+1.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
HHC	**Hu-ho-hao-te**	**48.97**	**341**	*e*P	**P**	**18 40 30.2**	**+3.9**
HHC				PP	PP	18 42 24.8	+4.9
HHC				S	**S**	**18 47 27.5**	**-0.1**
HHC				SS	SS	18 50 55.6	-3.1
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,88nm,4.3s						
YSS	**Yuzh-Sakhalins**	**53.00**	**10**	P	**P**	**18 40 55.2**	**-1.4**
YSS				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
YSS	**Yuzh-Sakhalins**	**53.00**	**10**	P	**P**	**18 40 55.2**	**-1.4**
	comp=Z,5.0nm,0.5s,mb4.7						
SONM	**Songino Array**	**56.87**	**341**	P	**P**	**18 41 24.6**	**0.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=158,slow=6.8,SNR=10						
SONM	**Songino Array**	**56.87**	**341**	P	**P**	**18 41 24.6**	**0.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAK	**Zakamensk**	**60.10**	**340**	*e*P	**P**	**18 41 40.6**	**-6.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,2.2s,mb4.1						
WMQ	**Urumqi**	**62.14**	**326**	P	**P**	**18 42 02.5**	**+1.6**
MKAR	**Makanchi Array**	**66.97**	**326**	P	**P**	**18 42 32.9**	**+0.4**
	comp=Z,3.5nm,0.6s,mb4.5,baz=120,slow=7.4,SNR=42						
MKAR	**Makanchi Array**	**66.97**	**326**	P	**P**	**18 42 32.9**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
YAK	**Yakutsk**	**66.99**	**360**	*i* P	**P**	**18 42 32.4**	**-0.2**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
YAK	**Yakutsk**	**66.99**	**360**	*e*P	**P**	**18 42 31.9**	**-0.7**
	comp=Z,5.7nm,0.6s,mb4.8						
ZAL	**Zalesovo**	**70.17**	**333**	P	**P**	**18 42 51.1**	**-1.3**
	comp=Z,1.2nm,0.4s,mb4.2,baz=332,slow=4.6,SNR=5.9						
ZAL	**Zalesovo**	**70.17**	**333**	P	**P**	**18 42 51.1**	**-1.3**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**71.22**	**328***d*	*i*P	**P**	**18 42 59.0**	**+0.2**
KURK	**Kurchatov**	**71.22**	**328**	*e*P	**P**	**18 42 58.4**	**-0.4**
	comp=Z,5.7nm,0.9s,mb4.5						
VNDA	**Vanda**	**74.21**	**173**	P	**P**	**18 43 10.7**	**-5.8**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VNDA	**Vanda**	**74.21**	**173**	P	**P**	**18 43 10.7**	**-5.9**
	comp=Z,1.2nm,0.9s,mb3.8						
TIXI	**Tiksi**	**76.66**	**359**	*i* P	**P**	**18 43 35.4**	**+4.8**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
BVAR	**Borovoye Array**	**76.78**	**327**	P	**P**	**18 43 30.8**	**-0.5**
	comp=Z,0.9nm,0.5s,mb4.0,baz=140,slow=7.8,SNR=10						
BVAR	**Borovoye Array**	**76.78**	**327**	P	**P**	**18 43 30.8**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZRNK	**Zerenda**	**77.50**	**327**	*e*P	**P**	**18 43 34.7**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**77.50**	**327**	*e*P	**P**	**18 43 34.7**	**-0.6**
	comp=Z,1.7nm,0.6s,mb4.2						
AKTO	**Aktyubinsk**	**82.93**	**322**	P	**P**	**18 44 05.2**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.9,baz=68,slow=14,SNR=5.7						
AKTO	**Aktyubinsk**	**82.93**	**322**	P	**P**	**18 44 05.2**	**+0.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
LVC	**Limon Verde**	**146.50**	**146**	PKPbc	PKPbc	18 51 25.3	+4.6
	comp=Z,1.3nm,0.3s,baz=310,slow=4.0,SNR=5.6						
LPAZ	**La Paz**	**151.82**	**139**	PKPbc	PKPbc	18 51 38.5	+4.2
	comp=Z,0.7nm,0.4s,baz=2.4,slow=4.1,SNR=4.9						
LPAZ	**La Paz**	**151.82**	**139**	PKIKP	PKPbc	18 51 38.5	+4.2
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						

IDC 01 18:44:35.0±0.7**, 657N**×**7280W, h163**km±7km**, mb3.3**/2**, mb1 3.4**/4**, mb1mx3.1**/20**, mbtmp3.8**/4**, Error ellipse: s-maj=48.6km s-min=7.7km az=132.0, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.28**	**222**	P	Pn	18 45 16.7	+2.5
	34nm,0.3s,baz=91,slow=23,SNR=23						
ROSC				S	Sn	18 45 45.3	+0.8
	52nm,0.3s,baz=74,slow=19,SNR=9.8						
SDV	**Santo Domingo**	**3.15**	**43**	P	Pn	18 45 26.1	+1.5
	9.4nm,0.3s,baz=245,slow=4.3,SNR=50						
SDV				S	Sn	18 46 03.6	+0.3
	23nm,0.3s,baz=266,slow=13,SNR=30						
SCHQ	**Schefferville**	**48.36**	**5**	P	P	18 53 00.2	+0.1
	1.7nm,0.5s,baz=221,slow=11,SNR=4.4						
TORD	**Torodi Ar. Bea**	**73.48**	**78**	P	P	18 55 50.4	+0.9
	0.2nm,0.4s,baz=285,slow=6.3,SNR=5.6						
MKAR	**Makanchi Array**	**122.45**	**20**	PKP	PKPdf	19 03 10.7	0.0
	0.2nm,0.3s,baz=324,slow=3.2,SNR=6.6						
WRA	**Warramunga Arr**	**150.49**	**241**	PKPbc	PKPbc	19 04 07.5	+0.4
	0.4nm,0.6s,baz=108,slow=2.5,SNR=10.0						

*ISCJB **01** 18:51:05.7±1.0, 3869N±004×2345E±006, h9km±9km, Error ellipse: s-maj=7.8km s-min=7.4km az=166.7*
*ATH **01** 18:51:06.8, 3869N×2342E, h21km±3km, MD3.3/8, ML3.4*
*THE **01** 18:51:07.1, 3871N×2343E, h7km, ML2.8*
*CSEM **01** 18:51:07.1±0.1, 3870N×2345E, h8km, ML3.4, Error ellipse: s-maj=2.1km s-min=1.5km az=67.0*
*NEIC **01** 18:51:07.0, 3869N×2344E, h14km, ML3.4(ATH), After ATH.*
ISC 01 18:51:06.6±0.6**, 3870N**±003×**2345E**±006**, h11**km±6km**, n20,** σ**1.02**/22**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.35**	**262**	*e*PB	**Pg**	**18 51 14.0**	**+0.3**
AOS	**Alonnisos**	**0.58**	**36**	*e*Pg	**Pg**	**18 51 17.9**	**0.0**
NEO	**Neokhori**	**0.63**	**344**	*e*PN	**Pg**	**18 51 19.2**	**+0.4**
XOR	**Xorichti**	**0.69**	**343**	*e*Pg	**Pg**	**18 51 20.3**	**+0.3**
ATH	**Athens Observa**	**0.76**	**164**	*e*PN	**Pn**	**18 51 21.4**	**-1.9**
ATH				*e*SN	**Sg**	**18 51 31.7**	**+0.5**
AGG	**Agios Georgios**	**0.93**	**290**	*e*Pg	**Pg**	**18 51 24.3**	**-0.3**
AGG				*e*Sg	**Sg**	**18 51 37.5**	**+0.9**
NAIG	**Nisos Aigina**	**0.94**	**178**	*e*PN	**Pn**	**18 51 24.5**	**-1.3**
EVR	**Evrytania**	**1.30**	**280**	*e*PN	**Pn**	**18 51 31.4**	**+0.7**
LIT	**Litokhoron**	**1.58**	**332**	*e*Pg	**Pg**	**18 51 34.4**	**-2.6**
PLG	**Polygyros**	**1.67**	**360**	*e*PB	**Pb**	**18 51 35.3**	**-2.1**
PLG	**Polygyros**	**1.67**	**360**	*e*Pg	**Pg**	**18 51 38.3**	**-0.4**
LIA	**Limnos Island**	**1.80**	**48**	*e*PN	**Pn**	**18 51 39.7**	**+2.1**
VLI	**Veliai**	**2.02**	**192**	*e*PN	**Pn**	**18 51 41.5**	**+0.9**
VLI	**Veliai**	**2.02**	**192**	*e*Pn	**Pn**	**18 51 40.1**	**-0.5**
CHOS	**Chios island**	**2.07**	**98**	*e*Pn	**Pn**	**18 51 41.8**	**+0.5**
APE	**Apeiranthos**	**2.32**	**134**	*e*Pn	**Pn**	**18 51 45.2**	**+0.5**
GRG	**Griva**	**2.39**	**341**	*e*Pn	**Pn**	**18 51 46.0**	**+0.3**
GRG	**Griva**	**2.39**	**341**	*e*Pn	**Pn**	**18 51 46.0**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SRS	**Serrai**	**2.42**	**3**	*e*Pn	**Pn**	**18 51 45.9**	**-0.1**
KNT	**Kendrikon**	**2.49**	**350**	*e*Pn	**Pn**	**18 51 47.8**	**+0.7**

JMA 01 19:13:02.0,3208N×12989E,h10^{km}±2^{km},M1.3,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.43**	**200**	P	Pg	19 13 10.4	0.0
JSJ				S	Sg	19 13 16.3	+0.3
JHD	**Hondo**	**0.44**	**29**	P	Pg	19 13 10.9	+0.3
JHD				S	Sg	19 13 16.8	+0.5
NGSJ	**Nagasakinomoza**	**0.56**	**352**	P	Pg	19 13 12.5	-0.3
JZO	**Okuchi**	**0.60**	**84**	S	Sg	19 13 21.8	+0.2

*NIED **01** 19:13:00,32.10N×129.90E,h5^{km},Mw3.8 Best double couple: M₀5.38000×10^{14} NP1:φₛ283.00000°,δ80.00000°, λ-27.00000°. NP2:φₛ18.00000°,δ64.00000°, λ-169.00000°.*

JMA 01 19:13:16.0,3209N×12988E,h10^{km}±1^{km},M3.9,4C-3D Broadband fault plane solution: P waves. NP1: φₛ25.00000°,δ64.00000°,λ-170.00000°. NP2: φₛ290.00000°,δ81.00000°,λ-26.00000°. Principal axes: T Plg11.0000°, Azm340.0000°; N Plg62.0000°, Azm92.0000°; P Plg25.0000°, Azm245.0000°; Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHD	**Hondo**	**0.43**	**30**	⇓P	Pg	19 13 24.8	+0.3
JHD				S	Sg	19 13 31.3	+1.1
JSJ	**Shimokoshiki**	**0.43**	**199**	⇑P	Pg	19 13 24.4	-0.1
JSJ				S	Sg	19 13 30.4	+0.2
NGSJ	**Nagasakinomoza**	**0.55**	**353**	⇑P	Pg	19 13 26.6	0.0
NGSJ				S	Sg	19 13 34.8	+1.0
JZO	**Okuchi**	**0.61**	**85**	⇓P	Pg	19 13 28.0	+0.1
JZO				S	Sg	19 13 36.1	+0.2
JSU	**Suzuyama**	**0.76**	**140**	⇑P	Pg	19 13 30.3	-0.4
JIU2	**Izumi 2**	**0.91**	**60**	P	Pg	19 13 32.7	-0.9
JIU2				S	Sg	19 13 45.4	0.0
JTA	**Tamana**	**1.03**	**32**	P	Pg	19 13 36.6	+0.8
JTZ	**Takazaki**	**1.04**	**100**	⇓P	Pg	19 13 36.4	+0.3
JFU	**Fukue jima 2**	**1.11**	**301**	⇑P	Pb	19 13 36.9	-0.4

IGQ 01 19:15:54.0,328S×8106W,h25^{km}±48^{km},Mb4.4,Ms4.2, 7C-6D Error ellipse: s-maj=41.0km s-min=10.8km az=133.8,Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**3.00**	**54**	P	Pn	19 16 42.1	+2.1
IGUA				S	Sn	19 17 14.6	-0.6
ARRY	**Arrayan**	**3.14**	**56**	P	Pn	19 16 44.2	+2.3
ARRY				S	Sn	19 17 18.0	-0.6
CUSU	**Cusua**	**3.16**	**55**	⇓P	Pn	19 16 45.3	+3.1
PATA	**Patacocha**	**3.16**	**56**	⇑P	Pn	19 16 45.0	+2.8
PATA				S	Sn	19 17 19.7	+0.6
RETU	**Refugio**	**3.18**	**55**	⇑P	Pn	19 16 45.7	+3.3
RETU				S	Sn	19 17 21.7	+2.1
JUIV	**Juive**	**3.18**	**55**	P	Pn	19 16 44.7	+2.2
ULBA	**Ulba**	**3.21**	**56**	⇑P	Pn	19 16 46.1	+3.2
ULBA				S	Sn	19 17 23.4	+3.0
QIL1	**Quilotoa**	**3.22**	**41**	P	Pn	19 16 43.7	+0.7
QIL1				S	Sn	19 17 19.2	-1.4
RUN5	**Runtun**	**3.22**	**55**	⇓P	Pn	19 16 45.8	+2.8
RUN5				S	Sn	19 17 23.2	+2.7
MAG1	**Magdalena**	**3.44**	**22**	P	Pn	19 16 46.4	+0.4
PISA	**Pisayambo**	**3.47**	**51**	⇓P	Pn	19 16 49.9	+3.5
PISA				S	Sn	19 17 28.8	+2.2
CAMI	**Rancho Maria**	**3.63**	**45**	⇑P	Pn	19 16 52.8	+4.1
CAMI				S	Sn	19 17 34.7	+4.0
NAS1	**Nasa**	**3.68**	**45**	⇑P	Pn	19 16 53.6	+4.2
NAS1				S	Sn	19 17 35.2	+3.3
TAMB	**Tambo**	**3.72**	**46**	⇓P	Pn	19 16 53.4	+3.6
VC1	**Cotopaxi 1**	**3.73**	**45**	⇓P	Pn	19 16 53.7	+3.7
TERV	**Terraza Guagua**	**3.94**	**39**	⇑P	Pn	19 16 55.0	+2.1
TERV				S	Sn	19 17 40.2	+1.8
GGP	**Refugio Guagua**	**3.95**	**39**	P	Pn	19 16 54.9	+1.8
GGP				S	Sn	19 17 41.6	+3.1
PINO	**Pino**	**3.95**	**38**	⇑P	Pn	19 16 54.8	+1.7
PINO				S	Sn	19 17 39.8	+1.2
YANA	**Yana**	**4.01**	**38**	⇓P	Pn	19 16 55.5	+1.7
YANA				S	Sn	19 17 41.3	+1.4
ANTI	**Antisana**	**4.04**	**46**	P	Pn	19 16 58.0	+3.7
CAYR	**Refugio Cayamb**	**4.47**	**43**	P	Pn	19 17 03.6	+3.3
COTA	**Cotacachi**	**4.50**	**37**	P	Pn	19 17 03.7	+3.0
COTA				S	Sn	19 17 53.0	+0.7

*BJI **01** 19:26:55.0,5270N×3490W,h10^{km},mB4.9,mb4.8,Ms5.1, Msz4.9*

*ISCJB **01** 19:26:56.4±0.5,5268N±0.10×3493W±0.09,h10^{km}, mb4.0/36,MS4.1/2,Error ellipse: s-maj=14.4km s-min=6.8km az=30.5*

*IDC **01** 19:26:56.2±0.8,5270N×3499W,h0^{km},mb3.8/11, mb1 4.0/14,mb1mx3.9/25,mbtmp3.9/14,ML3.4/3,MS3.2/3, Ms1 3.1/3,ms1mx2.8/39,Error ellipse: s-maj=22.6km s-min=17.1km az=179.0*

*CSEM **01** 19:26:58.2±0.1,5269N×3504W,h30^{km},mb4.1/15,Error ellipse: s-maj=8.6km s-min=2.5km az=7.0*

*NEIC **01** 19:26:58.1±0.5,5267N×3492W,h10^{km},mb4.3/25,Error ellipse: s-maj=14.5km s-min=5.8km az=195.0*

ISC 01 19:26:58.0±0.5,**5272N**±010×**3491W**±009,**h10**^{km}**,n82,** σ**0.89**/77,**mb4.0**/36,**MS4.1**/2,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**16.27**	**338**	Pn	**Pn**	**19 30 47.2**	**+0.7**
	0.3nm,0.3s,baz=115,slow=9.8,SNR=4.3						
SFJD	**Kangerlussuaq**	**16.27**	**338**	P	**Pn**	**19 30 47.2**	**+0.7**
EKA	**Eskdalemuir Ar**	**18.75**	**69**	P	**Pn**	**19 31 18.0**	**+0.6**
	0.2nm,0.3s,baz=266,slow=9.6,SNR=6.7						
SCHQ	**Schefferville**	**18.90**	**289**	P	**Pn**	**19 31 17.9**	**-1.4**
	0.4nm,0.3s,baz=70,slow=5.7,SNR=7.7						
SCHQ				LR	LR	19 37 31.8	
	comp=Z,49nm,20.8s,baz=116,slow=34						
SCHQ	**Schefferville**	**18.90**	**289**	*e*P	**Pn**	**19 31 17.0**	**-2.2**
	23nm,1.2s						
SCHQ	**Schefferville**	**18.90**	**289**	*e*P	**Pn**	**19 31 17.0**	**-2.2**
	23nm,1.2s						
ROSF	**Rostrenen**	**20.49**	**90**	*e*P	**P**	**19 31 36.5**	**+0.6**
	63nm,1.5s						
ROSF	**Rostrenen**	**20.49**	**90**	*e*P	**P**	**19 31 36.5**	**+0.6**
	31nm,1.5s						
QUIF	**Quistinic**	**20.73**	**91**	*e*P	**P**	**19 31 39.4**	**+0.8**
SGMF	**Saint Gilles**	**20.96**	**89**	*e*P	**P**	**19 31 41.2**	**+0.2**
	14nm,0.9s						
SGMF	**Saint Gilles**	**20.96**	**89**	*e*P	**P**	**19 31 41.2**	**+0.2**
	7.2nm,0.9s						
GRR	**Gorron**	**21.93**	**88**	*e*P	**P**	**19 31 51.7**	**+0.2**
FLN	**La Foliniere**	**22.01**	**86**	*e*P	**P**	**19 31 52.2**	**-0.2**
	11nm,0.7s,mb4.1						
FLN	**La Foliniere**	**22.01**	**86**	*e*P	**P**	**19 31 52.2**	**-0.2**
	5.3nm,0.7s,mb4.1						
LDF	**La Druitiere**	**22.30**	**87**	*e*P	**P**	**19 31 55.3**	**-0.1**
MFF	**Saint Martin d**	**23.16**	**91**	*e*P	**P**	**19 32 03.4**	**-1.1**
BAIF	**Baives**	**24.35**	**80**	*e*P	**P**	**19 32 15.2**	**-0.8**
	8.9nm,0.8s,mb4.0						
BAIF	**Baives**	**24.35**	**80**	*e*P	**P**	**19 32 15.2**	**-0.8**
	4.4nm,0.8s,mb4.0						
TCF	**Toulx Ste Croi**	**24.74**	**90**	*e*P	**P**	**19 32 19.2**	**-0.3**
	8.1nm,1.0s,mb3.9						
TCF	**Toulx Ste Croi**	**24.74**	**90**	*e*P	**P**	**19 32 19.2**	**-0.3**
	4.1nm,1.0s,mb3.9						
RJF	**Les Rejaudoux**	**24.80**	**93**	*e*P	**P**	**19 32 19.8**	**-0.3**
ESDC	**Sonseca Array**	**24.86**	**109**	P	**P**	**19 32 20.9**	**+0.4**
	1.5nm,0.8s,mb3.6,baz=308,slow=8.2,SNR=13						
ESLA	**Sonseca Array**	**24.86**	**109**	P	**P**	**19 32 21.0**	**+0.4**
	0.4nm,0.8s,mb3.0						
ESLA	**Sonseca Array**	**24.86**	**109**	P	**P**	**19 32 21.0**	**+0.4**
	0.4nm,0.8s,mb3.0						
BGF	**Bois d'Agland**	**25.00**	**89**	*e*P	**P**	**19 32 21.3**	**-0.6**
	4.3nm,0.4s,mb4.0						
BGF	**Bois d'Agland**	**25.00**	**89**	*e*P	**P**	**19 32 21.3**	**-0.6**
	2.2nm,0.4s,mb4.0						
SSF	**Saint Saulge**	**25.16**	**87**	*e*P	**P**	**19 32 23.3**	**-0.1**
	7.1nm,0.8s,mb4.0						
SSF	**Saint Saulge**	**25.16**	**87**	*e*P	**P**	**19 32 23.3**	**-0.1**
	3.5nm,0.8s,mb3.9						
AVF	**Avril sur Loir**	**25.20**	**88**	*e*P	**P**	**19 32 23.5**	**-0.2**
	6.4nm,0.7s,mb3.9						
AVF	**Avril sur Loir**	**25.20**	**88**	*e*P	**P**	**19 32 23.5**	**-0.2**
	3.2nm,0.7s,mb3.9						
LOR	**Lormes**	**25.29**	**87**	*e*P	**P**	**19 32 24.0**	**-0.5**
	6.9nm,0.6s,mb4.1						
LOR	**Lormes**	**25.29**	**87**	*e*P	**P**	**19 32 24.0**	**-0.5**
	3.5nm,0.6s,mb4.1						
MEZF	**Maizieres J'vi**	**25.47**	**83**	*e*P	**P**	**19 32 26.2**	**0.0**
	13nm,0.7s,mb4.3						
MEZF	**Maizieres J'vi**	**25.47**	**83**	*e*P	**P**	**19 32 26.2**	**0.0**
	6.4nm,0.7s,mb4.3						
SMF	**Signal de Mont**	**25.56**	**88**	*e*P	**P**	**19 32 27.0**	**0.0**
NOA	**NORSAR Array B**	**26.04**	**53**	P	**P**	**19 32 31.2**	**0.0**
	1.0nm,1.0s,mb3.3,baz=271,slow=9.1,SNR=2.5						
NOA				LR	LR	19 40 40.2	
	comp=Z,42nm,20.0s,baz=300,slow=32						
MTLF	**Montolieu**	**26.28**	**96**	*e*P	**P**	**19 32 33.6**	**+0.1**
	1.6nm,0.6s,mb3.4						
MTLF	**Montolieu**	**26.28**	**96**	*e*P	**P**	**19 32 33.6**	**+0.1**
	0.8nm,0.6s,mb3.4						
HAU	**Haudompre**	**26.47**	**84**	*e*P	**P**	**19 32 35.4**	**+0.2**
CABF	**La Chapelle**	**26.94**	**86**	*e*P	**P**	**19 32 39.8**	**+0.3**
	21nm,1.3s,mb4.2						
CABF	**La Chapelle**	**26.94**	**86**	*e*P	**P**	**19 32 39.8**	**+0.3**
	10nm,1.3s,mb4.2						
VIVF	**Saint-Julien-l**	**26.95**	**91**	*e*P	**P**	**19 32 39.7**	**+0.1**
SMRF	**Simiane la Rot**	**27.97**	**92**	*e*P	**P**	**19 32 49.0**	**+0.4**
	5.8nm,1.0s,mb3.9						
SMRF	**Simiane la Rot**	**27.97**	**92**	*e*P	**P**	**19 32 49.0**	**+0.4**
	2.9nm,1.0s,mb3.9						
LMR	**La Mourre**	**28.89**	**92**	*e*P	**P**	**19 32 57.1**	**+0.3**
CLL	**Collm**	**29.10**	**73**	P	**P**	**19 32 59.2**	**+0.5**
	logA/T=1.0,mb4.5						
CLL	**Collm**	**29.10**	**73**	*i* P	**P**	**19 32 59.2**	**+0.5**
	comp=Z,22nm,2.2s,mb4.5						
SADO	**Sadowa**	**29.83**	**273**	LR	LR	19 44 12.9	
	comp=Z,67nm,21.0s,MS3.2,baz=265,slow=35						
GERES	**GERESS Array B**	**30.51**	**77**	P	**P**	**19 33 11.5**	**+0.3**
	comp=Z,1.3nm,0.8s,mb3.8,baz=300,slow=8.6,SNR=13						
PGF	**Pioggiola**	**30.84**	**91**	*e*P	**P**	**19 33 14.9**	**+0.8**
	comp=Z,37nm,1.5s,mb4.7						
PGF	**Pioggiola**	**30.84**	**91**	*e*P	**P**	**19 33 14.9**	**+0.8**
	comp=Z,18nm,1.5s,mb4.7						
FINES	**FINESS Array B**	**33.09**	**50**	P	**P**	**19 33 33.0**	**-0.9**
	comp=Z,1.3nm,0.7s,mb3.9,baz=268,slow=5.5,SNR=7.4						
ULM	**Lac du Bonnet**	**37.05**	**291**	*e*P	**P**	**19 34 13.0**	**+4.9**
	comp=Z,3.3nm,0.8s,mb4.2						
AKASG	**Malin Array Be**	**38.62**	**66**	P	**P**	**19 34 20.1**	**-1.2**
	comp=Z,0.2nm,0.3s,mb3.4,baz=298,slow=8.4,SNR=9.9						
BR131	**Keskin Array S**	**47.41**	**77**	*e*P	**P**	**19 35 33.6**	**+1.1**
	comp=Z,1.8nm,0.8s,mb4.0						
BR131	**Keskin Array S**	**47.41**	**77**	*e*P	**P**	**19 35 33.6**	**+1.2**
	comp=Z,1.8nm,0.8s,mb4.0						
BRTR	**Keskin Array B**	**47.41**	**77**	P	**P**	**19 35 33.4**	**+1.0**
	comp=Z,2.4nm,0.8s,mb4.2,baz=308,slow=5.1,SNR=14						
WALA	**Waterton Lakes**	**47.62**	**299**	*e*P	**P**	**19 35 39.6**	**+5.5**
	comp=Z,8.6nm,1.1s,mb4.7						
PDAR	**Pinedale Array**	**49.04**	**290**	P	**P**	**19 35 44.0**	**-1.0**
	comp=Z,0.7nm,0.8s,mb3.7,baz=51,slow=5.9,SNR=6.2						
PDAR	**Pinedale Array**	**49.04**	**290**	P	**P**	**19 35 44.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**49.07**	**130**	P	**P**	**19 35 43.9**	**-1.4**
	comp=Z,0.8nm,0.9s,mb3.7,baz=334,slow=9.6,SNR=3.5						
HWUT	**Hardware Ranch**	**50.93**	**290**	*e*P	**P**	**19 35 58.7**	**-0.7**
	comp=Z,7.0nm,0.9s,mb4.6						
HWUT				*e*		19 36 05.5	
HWUT	**Hardware Ranch**	**50.93**	**290**	*e*P	**P**	**19 35 58.7**	**-0.7**
HLID	**Hailey**	**51.28**	**294**	*e*P	**P**	**19 36 08.6**	**+6.6**
	comp=Z,1.9nm,0.8s,mb4.1						
PV10	**Paradox Valley**	**51.58**	**285**	P	**P**	**19 36 06.5**	**+2.2**
WVOR	**Wild Horse Val**	**54.36**	**295**	*e*P	**P**	**19 36 31.5**	**+6.7**
	comp=Z,3.7nm,0.9s,mb4.3						
MNV	**Mina**	**56.80**	**291**	P	**P**	**19 36 45.0**	**+2.7**
	comp=Z,2.1nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**57.09**	**44**	P	**P**	**19 36 45.1**	**+0.7**
	comp=Z,3.8nm,1.4s,mb4.2						
BRVK	**Borovoye**	**57.55**	**44**	P	**P**	**19 36 47.6**	**0.0**
	comp=Z,3.5nm,1.2s,mb4.3						
BRVK				*e*		19 36 54.3	
KURK	**Kurchatov**	**62.73**	**41**	P	**P**	**19 37 20.9**	**-2.3**
	comp=Z,5.3nm,1.4s,mb4.5						
MKAR	**Makanchi Array**	**67.32**	**41**	P	**P**	**19 37 52.6**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.8,baz=335,slow=5.4,SNR=7.5						
BDFB	**Brasilia**	**69.01**	**194**	P	**P**	**19 38 03.8**	**+0.2**
	comp=Z,2.0nm,0.7s,mb4.2,baz=42,slow=4.0,SNR=2.5						
WMQ	**Urumqi**	**71.92**	**40**	P	**P**	**19 38 24.1**	**+2.7**
SONM	**Songino Array**	**74.54**	**26**	P	**P**	**19 38 36.9**	**0.0**
	comp=Z,1.6nm,0.9s,mb4.0,baz=338,slow=6.8,SNR=14						
ULN	**Ulaanbaatar**	**74.69**	**25**	*e*P	**P**	**19 38 38.4**	**+0.7**
	comp=Z,3.4nm,1.1s,mb4.2						
HHC	**Hu-ho-hao-te**	**82.39**	**25**	*e*P	**P**	**19 39 19.8**	**-0.4**
HHC				XP	sP	19 39 25.0	+0.3
HHC				PP	PP	19 42 28.7	-0.3
HHC				AMB	AMB		
	comp=Z,13nm,0.4s						
HHC				AMB	AMB		
	comp=Z,103nm,5.2s						
HHC				LR	LR		
	comp=N,234nm,15.5s,MS4.9						
HHC				LR	LR		
	comp=E,302nm,15.5s,MS4.9						
HHC				LR	LR		
	comp=Z,424nm,14.9s,MS4.9						
CD2	**Chengdu**	**89.25**	**35**	*e*P	**P**	**19 39 52.8**	**-1.4**
KMI	**Kunming**	**94.16**	**38**	P	**P**	**19 40 15.9**	**-1.0**
KMI				AP	pP	19 40 24.5	+4.2
KMI				XP	sP	19 40 28.3	+6.9
KMI				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.8						
WRA	**Warramunga Arr**	**146.24**	**18**	PKPbc	PKPbc	19 46 38.3	-0.3
	comp=Z,2.2nm,0.8s,baz=337,slow=3.0,SNR=16						
ASAR	**Alice Springs**	**149.77**	**21**	PKPbc	PKPbc	19 46 47.5	-0.6
	comp=Z,1.1nm,0.8s,baz=345,slow=1.7,SNR=11						
ASAR				PKPab	PKPab	19 46 52.8	-0.6
	comp=Z,1.3nm,0.8s,baz=1.6,slow=2.4,SNR=8.9						
STKA	**Stephens Creek**	**159.02**	**8**	*e*P	PKPab	19 47 30.8	-1.9
	comp=Z,14nm,0.9s						
STKA	**Stephens Creek**	**159.02**	**8**	PKPab	PKPab	19 47 30.9	-1.7
	comp=Z,9.5nm,0.9s,baz=349,slow=2.6,SNR=6.8						

*MOS **01** 19:34:36.9±0.9,51.15N×179.27W,h30^{km},mb5.4/146, MS5.0/92,Error ellipse: s-maj=7.1km s-min=3.7km az=94.4*

*BJI **01** 19:34:37.3,5127N×179.75W,h22^{km},mB5.4,mb5.1,Ms5.2, Msz5.0*

*ISCJB **01** 19:34:37.0±0.9,51.11N±0.03×179.33W±0.02,h30^{km}±6^{km}, mb5.2/298,MS5.1/199,Error ellipse: s-maj=5.8km s-min=2.4km az=17.4*

*IDC **01** 19:34:37.5±2.7,51.16N×179.27W,h24^{km}±16^{km},mb4.8/33, mb1 4.9/34,mb1mx4.9/36,mbtmp5.0/34,ML5.3/1,MS5.0/23, Ms1 5.0/23,ms1mx4.7/35,Error ellipse: s-maj=16.4km s-min=10.3km az=157.0*

*HRVD **01** 19:34:39.6±0.2,50.98N×179.24W,h21^{km},MW5.5/96, Centroid moment Tensor Solution. LP body waves: s85,c162;Mantle waves: s96,c209; Half duration: 1.4s Moment tensor: Scale 10^{17}Nm; M$_{rr}$1.57±.03; M$_{\theta\theta}$-1.62±.03; M$_{\phi\phi}$0.04±.02; M$_{r\theta}$1.30±.06; M$_{\theta\phi}$-0.45±.02; M$_{\phi r}$0.77±.05; Best double couple: M₀2.24200×10^{17} NP1:φₛ268.00000°,δ25.00000°,λ112.00000°. NP2: φₛ64.00000°,δ67.00000°,λ80.00000°. Principal axes: T 2.1960, Plg67.0000°, Azm316.0000°; N 0.0880, Plg9.0000°, Azm68.0000°; P -2.2880, Plg21.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **01** 19:34:39.6±0.5,51.06N×179.31W,h42^{km}±3^{km},mb5.2/208, MS5.1/145,MW5.3,ML5.5(AEIC) Error ellipse: s-maj=4.4km s-min=2.2km az=188.0,Moment Tensor Solution. s22 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.00; M$_{\theta\theta}$0.00; M$_{\phi\phi}$0.00; M$_{r\theta}$0.00; M$_{\theta\phi}$0.00; M$_{\phi r}$0.00; Best double couple: M₀1.30000×10^{17} NP1:φₛ59.00000°, δ67.00000°,λ74.00000°. NP2:φₛ276.00000°,δ28.00000°, λ124.00000°. Principal axes: T 1.3200, Plg64.0000°, Azm302.0000°; N -0.0500, Plg15.0000°, Azm66.0000°; P -1.2700, Plg21.0000°, Azm161.0000°;*

*SZGRF **01** 19:34:44.2,5168N×179.17E,h33^{km},mb5.4,MS4.9,Rat Islands, Aleutian Islands, United States*

ISC 01 19:34:40.4±0.5,**5118N**±003×**17935W**±002,**h45**^{km}±4^{km}**, h46**^{km}±1.9^{km}**:pP-P,n992,**σ**0.83**/943,**mb5.2**/298,**MS5.1**/199, **318C-74D,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.87**	**284**	P	**Pn**	**19 34 55.0**	**-1.3**
AMKA				S	**Sn**	**19 35 08.0**	**+0.2**
SMY	**Shemya**	**4.34**	**294**	*e*P	**Pn**	**19 35 42.3**	**-1.5**
NIKO	**Nikolski**	**6.72**	**70**	P	**Pn**	**19 36 16.4**	**0.0**
OKCE	**Okmok Cone E**	**7.22**	**67**	P	**Pn**	**19 36 25.0**	**+1.7**
OKCD	**Okmok Cone D**	**7.25**	**67**	P	**Pn**	**19 36 25.6**	**+1.9**
SPIA	**Saint Paul Isl**	**8.04**	**38**	P	**Pn**	**19 36 37.2**	**+2.7**
UNV	**Unalaska Valle**	**8.28**	**66**	P	**Pn**	**19 36 38.5**	**+0.6**
AKUT	**Akutan**	**8.77**	**65**	*e*P	**Pn**	**19 36 45.6**	**+1.0**
FALS	**False Pass**	**10.28**	**63**	*e*Pn	**Pn**	**19 37 04.7**	**-0.6**
SDPT	**Sand Point**	**12.04**	**62**	*e*P	**Pn**	**19 37 28.5**	**-0.8**
	64nm,0.3s						
CHGN	**Chignik**	**13.39**	**59**	*e*P	**Pn**	**19 37 46.4**	**-1.3**
PET	**Petropavlovsk**	**13.64**	**286**	*c i*P	**Pn**	**19 37 50.9**	**-0.2**
PET				*e*S	**Sn**	**19 40 25.1**	**+3.9**
PET				pmax	pmax		
	comp=Z,1µm,12.0s						
PET				pmax	pmax		
	comp=Z,1µm,6.4s						
PET				pmax	pmax		
	comp=E,1µm,7.0s						
PET				pmax	pmax		
	comp=Z,76nm,0.9s						
PET				smax			
	comp=N,4µm,25.6s						
PET				smax			
	comp=N,2µm,22.0s						
PET				MLR	MLR		
	comp=Z,5µm,20.0s						
PET				MLR	MLR		
	comp=Z,4µm,19.0s						
PET	**Petropavlovsk**	**13.64**	**286**	*i* P	**Pn**	**19 37 50.3**	**-0.8**
SKR	**Severo-Kuril's**	**15.46**	**278**	*e*P	**Pn**	**19 38 10.0**	**-5.3**
SKR				*e*S	**S**	**19 41 13.0**	**-6.6**
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
SKR				pmax	pmax		
	comp=N,1µm,10.0s						
SKR				pmax	pmax		
	comp=E,2µm,10.0s						
SKR				pmax	pmax		
	comp=Z,2µm,10.0s						
SKR				smax			
	comp=N,2µm,12.0s						
SKR				MLR	MLR		
	comp=N,2µm,18.0s						
SKR				MLR	MLR		
	comp=E,3µm,18.0s						
SKR				MLR	MLR		
	comp=Z,3µm,18.0s						
SVW2	**Sparrevohn**	**16.46**	**44**	*e*P	**Pn**	**19 38 28.7**	**+0.7**
KDAK	**Kodiak Island**	**16.82**	**56**	Pn	**Pn**	**19 38 28.0**	**-4.6**
	comp=Z,353nm,0.7s,SNR=42						
KDAK	**Kodiak Island**	**16.82**	**56**	Pn	**Pn**	**19 38 28.4**	**-4.2**
	comp=Z,10nm,0.3s,baz=256,slow=5.5,SNR=28						
KDAK	**Kodiak Island**	**16.82**	**56**	*e*Pn	**Pn**	**19 38 28.1**	**-4.5**
	comp=Z,51nm,0.4s						
TTA	**Tatalina**	**17.18**	**38**	*e*P	**Pn**	**19 38 32.9**	**-4.2**
TTA				pmax	pmax		
	comp=Z,241nm,1.3s						
TTA	**Tatalina**	**17.18**	**38**	*e*Pn	**Pn**	**19 38 32.9**	**-4.2**
	comp=Z,241nm,1.3s						
BILL	**Bilibino**	**18.32**	**343**	⇑*i*P	**Pn**	**19 38 52.6**	**+1.5**
BILL				pmax	pmax		
	comp=Z,125nm,1.6s						
BILL				MLR	MLR		
	comp=Z,6µm,16.0s						
BILL	**Bilibino**	**18.32**	**343**	⇑*i*P	**Pn**	**19 38 52.4**	**+1.4**
	comp=Z,290nm,1.4s						
SLKM	**Skilak Lake**	**18.68**	**49**	*e*P	**Pn**	**19 38 53.5**	**-2.0**
SLKM				*e*Sn	**Sn**	**19 42 11.3**	**-12**
MA2	**Magadan**	**18.80**	**308**	*c i*P	**Pn**	**19 38 56.2**	**-0.7**
MA2				*e*S	**S**	**19 42 20.7**	**-6.7**
MA2				pmax	pmax		
	comp=Z,20nm,0.9s						
MA2				MLR	MLR		
	comp=Z,3µm,16.0s						
MA2	**Magadan**	**18.80**	**308**	*e*P	**Pn**	**19 38 57.8**	**+0.9**
	comp=Z,11nm,0.8s						
PMR	**Palmer**	**19.52**	**46**	*e*P	**Pn**	**19 39 02.3**	**-3.1**
PMR				pmax	pmax		
	comp=Z,31nm,0.7s						
PMR	**Palmer**	**19.52**	**46**	*e*P	**Pn**	**19 39 02.3**	**-3.1**
	comp=Z,31nm,0.7s						
SML	**Sawmill**	**19.95**	**46**	*e*P	**Pn**	**19 39 06.5**	**-4.0**
MID	**Middleton Isla**	**20.34**	**53**	*e*P	**P**	**19 39 14.0**	**+1.2**
EYAK	**Cordova Ski Ar**	**20.84**	**50**	*e*P	**P**	**19 39 17.3**	**-0.9**
COLA	**College**	**21.28**	**38**	*e*P	**P**	**19 39 22.7**	**-0.3**
COLA				pmax	pmax		
	comp=Z,139nm,0.9s,mb5.3						
COLA				MLR	MLR		
	comp=Z,2µm,20.0s,MS4.5						
COLA	**College**	**21.28**	**38**	*e*P	**P**	**19 39 22.7**	**-0.3**
	comp=Z,139nm,0.9s,mb5.3						
COLA				LR	LR		
	comp=Z,2µm,20.0s,MS4.5						
MENT	**Mentasta**	**22.33**	**45**	*e*P	**P**	**19 39 34.5**	**+0.3**
MIDW	**Midway**	**22.98**	**176**	*e*P	**P**	**19 39 38.5**	**-2.6**
	comp=Z,122nm,1.1s,mb5.2						
MIDW				LR	LR		
	comp=Z,4µm,20.0s,MS4.9						
YUK	**Yuzh-Kuril'sk**	**24.34**	**267**	P	**P**	**19 39 53.0**	**-0.9**
YUK				pmax	pmax		
	comp=Z,2µm,4.0s						
YUK				pmax	pmax		
	comp=E,3µm,3.0s						
DAWY	**Dawson**	**24.49**	**43**	*e*P	**P**	**19 39 53.7**	**-1.5**
YSS	**Yuzh-Sakhalins**	**25.00**	**275**	*ce*P	**P**	**19 40 04.0**	**+4.2**
YSS				*e**PP		19 40 10.0	
YSS				*i* *SP	sP	19 40 17.0	-0.2
YSS				*e*		19 40 37.0	
YSS				*e*S	**S**	**19 44 18.0**	**-2.6**
YSS				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.2						
YSS				pmax	pmax		
	comp=Z,1µm,7.0s						
YSS				MLR	MLR		
	comp=Z,3µm,20.0s,MS4.8						
YSS				MLR	MLR		
	comp=N,2µm,16.0s,MS4.8						
YSS				MLR	MLR		
	comp=E,2µm,20.0s,MS4.8						
YSS	**Yuzh-Sakhalins**	**25.00**	**275**	*e*P	**P**	**19 40 00.3**	**+0.5**
	comp=E,80nm,1.0s,mb5.2						
YSS				LR	LR		
	comp=Z,4µm,20.0s,MS4.9						
SKAG	**Skagway**	**25.95**	**54**	*e*P	**P**	**19 40 02.1**	**-6.3**
SIT	**Sitka**	**26.09**	**60**	PFAKE		19 40 20.0	+10
SIT				LR	LR		
	comp=Z,5µm,20.0s,MS5.1						
ASAJ	**Asahikawa**	**26.36**	**269**	P	**P**	**19 40 12.3**	**+0.2**
	comp=Z,51nm,1.1s,mb5.0,baz=27,slow=4.1,SNR=18						
ASAJ				LR	LR	19 48 42.7	
	comp=Z,2µm,20.5s,MS4.7,baz=74,slow=32						
ASAJ	**Asahikawa**	**26.36**	**269**	P	**P**	**19 40 12.4**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,51nm,1.1s						
ASAJ				MLR	MLR		
	comp=Z,2µm,20.5s						
INK	**Inuvik**	**27.82**	**35**	P	**P**	**19 40 24.6**	**-0.7**
	comp=Z,27nm,0.8s,mb4.9,baz=232,slow=8.1,SNR=10.0						
INK	**Inuvik**	**27.82**	**35**	P	**P**	**19 40 24.6**	**-0.7**
INK				pmax	pmax		
	comp=Z,27nm,0.8s						
INK	**Inuvik**	**27.82**	**35**	*e*P	**P**	**19 40 24.1**	**-1.2**
	comp=Z,32nm,0.9s,mb5.0						
DLBC	**Dease Lake**	**28.76**	**56**	P	**P**	**19 40 34.5**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=267,slow=6.4,SNR=5.1						
DLBC	**Dease Lake**	**28.76**	**56**	P	**P**	**19 40 34.5**	**+0.8**
HABR	**Khabarovsk**	**29.18**	**283**	⇑*i*P	**P**	**19 40 38.0**	**+0.6**
HABR				*e*		19 41 36.5	
HABR				*e*S	**S**	**19 45 29.5**	**+2.9**
HABR				*e*		19 47 14.7	
HABR				pmax	pmax		
	comp=Z,50nm,1.6s,mb5.0						
HABR				MLR	MLR		
	comp=Z,890nm,17.1s,MS4.5						
YAK	**Yakutsk**	**29.29**	**312**	*e*P	**P**	**19 40 37.3**	**-1.1**
YAK				*e*		19 41 31.3	
YAK				*e*		19 43 43.4	
YAK				*e*S	**S**	**19 45 29.2**	**+0.8**
YAK				*e*SS	SS	19 46 57.5	-36
YAK				*e*		19 51 17.1	
YAK				pmax	pmax		
	comp=Z,26nm,1.1s,mb4.9						

YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,16nm,1.2s
YAK pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK smax
comp=N,20nm,1.5s
YAK smax
comp=E,17nm,1.4s
YAK MLR MLR
comp=N,624nm,16.0s,MS4.6
YAK MLR MLR
comp=Z,1µm,16.0s,MS4.7
YAK MLR MLR
comp=E,1µm,15.0s,MS4.6
YAK Yakutsk 29.29 312 *eP* **P 19 40 37.4 -1.0**
comp=E,31nm,0.8s,mb5.1
YAK LR LR
comp=Z,3µm,21.0s,MS4.9
TIXI Tiki 30.64 331 *eP* **P 19 40 50.8 +0.4**
TIXI *eS* **S 19 45 48.6 -1.0**
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
TIXI MLR MLR
comp=Z,6µm,17.0s,MS5.3
TIXI Tiki 30.64 331⇑ *eP* **P 19 40 51.9 +1.5**
TIXI LR LR
comp=Z,3µm,19.0s,MS5.0
KLR Kul'dur 30.90 286⇓ *iP* **P 19 40 49.0 -3.6**
KLR pmax pmax
comp=E,85nm,1.6s
KLR pmax pmax
comp=Z,140nm,1.6s,mb5.5
KLR MLR MLR
comp=Z,2µm,15.0s,MS4.8
CLNS Chul'man 32.46 302 *eP* **P 19 41 04.3 -2.0**
CLNS *e**PP pP 19 41 09.3 -9.0
CLNS *e*PPP 19 42 15.9
CLNS *e* 19 43 52.0
CLNS *eS* **S 19 46 13.4 -4.4**
CLNS *eSS* SS 19 48 37.8 -0.7
CLNS pmax pmax
comp=Z,21nm,1.1s,mb4.9
CLNS pmax pmax
comp=N,18nm,0.9s
CLNS pmax pmax
comp=E,21nm,0.9s
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS smax
comp=E,403nm,13.9s
CLNS smax
comp=Z,213nm,13.7s
CLNS smax
comp=N,107nm,11.5s
CLNS MLR MLR
comp=Z,3µm,18.0s,MS5.1
CLNS MLR MLR
comp=N,4µm,16.0s,MS5.2
CLNS MLR MLR
comp=E,2µm,17.0s,MS5.2
MJAR Matsushiro Arr 33.41 261 P **P 19 41 14.5 -0.1**
comp=E,3.6nm,0.8s,mb4.4,baz=53,slow=7.9,SNR=15
MJAR ScP ScP 19 47 37.8 +1.8
comp=E,3.8nm,1.1s,baz=336,slow=2.7,SNR=6.4
MJAR LR LR 19 53 06.8
comp=E,2µm,19.6s,MS4.9,baz=65,slow=33
MJAR Matsushiro Arr 33.41 261 P **P 19 41 14.5 -0.1**
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJAR pmax pmax
comp=N,4.0nm,1.1s
MJAR MLR MLR
comp=Z,2µm,19.6s
MAJO Matsushiro 33.41 261 *eP* **P 19 41 11.6 -3.0**
MAJO pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MAJO MLR MLR
comp=Z,2µm,19.0s,MS4.9
MAJO Matsushiro 33.41 261 *eP* **P 19 41 11.6 -3.0**
comp=Z,10nm,0.8s,mb4.8
MAJO LR LR
comp=Z,2µm,19.0s,MS4.9
MAT Matsushiro 33.41 261 P **P 19 41 14.7 +0.1**
MAT S **S 19 46 36.0 +3.3**
MAT Matsushiro 33.41 261 *eP* **P 19 41 15.0 +0.4**
MAT *eS* **S 19 46 36.0 +3.3**
MAT pmax pmax
comp=Z,22nm,1.2s,mb5.0
MAT MLR MLR
comp=Z,2µm,20.0s,MS4.9
MAT Matsushiro 33.41 261 *eP* **P 19 41 15.0 +0.4**
comp=Z,22nm,1.2s,mb5.0
MAT *eS* **S 19 46 36.0 +3.3**
MAT LR LR
comp=Z,2µm,20.0s,MS4.9
VLA Vladivostok 33.59 276⇓ *eP* **P 19 41 16.5 +0.4**
VLA pmax pmax
comp=Z,41nm,1.0s,mb5.3
WAKE Wake Island 33.69 204 PFAKE 19 41 30.0 +13
WAKE LR LR
comp=Z,2µm,20.0s,MS4.8
KIP Kipapa 34.06 143 PFAKE 19 41 30.0 +10
KIP LR LR
comp=Z,4µm,20.0s,MS5.1
MDJ Mudanjiang 34.27 279 P **P 19 41 20.9 -1.1**
MDJ AP pP 19 41 31.9 -2.3
MDJ XP sP 19 41 37.0 -2.5
MDJ PP PP 19 42 38.6 -1.6
MDJ PCP PcP 19 43 57.1 -0.6
MDJ S **S 19 46 44.9 -1.0**
MDJ XS sS 19 47 03.7 -2.5
MDJ SCP ScP 19 47 38.8 -0.2
MDJ PCS PcS 19 47 43.4 -0.6
MDJ SCS ScS 19 51 41.2 -0.2
MDJ AMB AMB
comp=Z,11nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,270nm,9.0s
MDJ LR LR
comp=N,1µm,23.8s,MS4.7
MDJ LR LR
comp=E,1µm,26.3s,MS4.7
MDJ LR LR
comp=Z,3µm,22.1s,MS5.0
JHJ Hachijo jima 2 34.71 255 LR LR 19 54 04.5
comp=Z,851nm,18.7s,MS4.5,baz=82,slow=34
C03A Quillayute Air 34.99 73⇑ **P 19 41 29.3 +1.0**
baz=35,SNR=5.3
PGC Sidney 35.35 72 *eP* **P 19 41 30.6 -0.8**
comp=Z,47nm,0.8s,mb5.5
B04A Port Angeles 35.58 73⇓ **P 19 41 34.4 +1.0**
baz=36
YKA Yellowknife Ar 35.62 46 P **P 19 41 33.0 -0.7**
comp=Z,21nm,0.7s,mb5.2,baz=283,slow=8.6,SNR=54
YKA PP PP 19 42 50.2 -5.0
comp=Z,3.6nm,0.8s,baz=284,slow=8.2,SNR=1.9
YKA PcP PcP 19 44 00.7 -0.9
comp=Z,3.7nm,0.9s,baz=281,slow=2.9,SNR=4.9
YKA ScP ScP 19 47 44.7 +0.9
comp=Z,3.9nm,0.8s,baz=298,slow=3.2,SNR=7.7
YKA LR LR 19 58 05.0
comp=Z,5µm,19.1s,MS5.3,baz=285,slow=40
YKA Yellowknife Ar 35.62 46 P **P 19 41 33.0 -0.7**
YKA 19 42 50.2
YKA 19 44 00.7
YKA pmax pmax
comp=Z,21nm,0.7s
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA pmax pmax
comp=N,4.0nm,0.8s
YKA MLR MLR
comp=Z,5µm,19.1s
YKA Yellowknife Ar 35.62 46 P **P 19 41 33.0 -0.7**

YKA PP PP 19 42 50.2 -5.0
YKA PcP PcP 19 44 00.8 -0.9
YKA ScP ScP 19 47 44.7 +0.9
YKA LR LR 19 58 05.0
A04A Legoe Bay, Lum 35.76 71⇑ **P P 19 41 36.0 +1.0**
baz=36
D03A Wishkah Elem. 35.84 74⇑ **P P 19 41 37.3 +1.6**
baz=36
VDB Vedder Mountai 35.99 70 P **P 19 41 37.3 +0.4**
A05A Maple Falls 36.01 70⇓ **P P 19 41 37.5 +0.5**
baz=36,SNR=7.7
MBW Mount Baker 36.22 71 P **P 19 41 39.7 +0.8**
E03A Lebam 36.24 75⇑ **P P 19 41 40.1 +1.0**
baz=36,SNR=21
B05A Bryant 36.33 72⇓ **P P 19 41 40.7 +0.9**
baz=36,SNR=15
D04A Dobbs Creek Ra 36.44 74⇓ **P P 19 41 41.9 +1.2**
baz=36
POHA Pohakuloa 36.53 140 PFAKE 19 41 50.0 +8.5
POHA LR LR
comp=Z,4µm,20.0s,MS5.2
F03A Seaside 36.54 76⇓ **P P 19 41 42.3 +0.7**
baz=36
E04A Onalaska 36.73 74⇑ **P P 19 41 44.2 +1.0**
baz=37
C05A Tolt Reservoir 36.84 72⇓ **P P 19 41 44.6 +0.5**
baz=37,SNR=10
H02A Toledo 36.89 78⇓ **P P 19 41 45.8 +1.2**
baz=37
D05A Enumclaw 36.89 73⇓ **P P 19 41 45.5 +1.0**
baz=37,SNR=19
F04A Amboy 37.23 75⇑ **P P 19 41 48.0 +0.5**
baz=37,SNR=10
CN2 Changchun 37.25 281 *eP* **P 19 41 47.1 -0.5**
CN2 *eA*P pP 19 41 59.3 -0.5
CN2 PP PP 19 43 15.1 +2.0
CN2 *eS* **S 19 47 30.3 -1.3**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.9
CN2 AMB AMB
comp=Z,380nm,10.0s
CN2 LR LR
comp=N,2µm,19.0s,MS5.0
CN2 LR LR
comp=E,2µm,19.0s,MS5.0
CN2 LR LR
comp=Z,3µm,19.0s,MS5.1
H03A Soap Creek Ran 37.32 77⇓ **P P 19 41 49.1 +0.9**
baz=37
E05A Randle 37.33 74⇑ **P P 19 41 48.4 +0.1**
baz=37,SNR=19
I02A Mapleton 37.34 79⇓ **P P 19 41 48.7 +0.4**
baz=37
COR Corvallis 37.36 78 *eP* **P 19 41 48.7 +0.1**
COR pmax pmax
comp=Z,28nm,0.6s,mb5.3
COR MLR MLR
comp=Z,2µm,19.0s,MS5.0
COR Corvallis 37.36 78 *eP* **P 19 41 48.7 +0.1**
comp=Z,28nm,0.6s,mb5.3
COR LR LR
comp=Z,2µm,19.0s,MS5.0
G04A Mulino 37.55 76⇓ **P P 19 41 50.2 0.0**
baz=37
TWW Teanaway 37.59 73 P **P 19 41 51.8 +1.4**
CBIJ Chichi jima 37.68 245 P **P 19 41 51.6 +0.3**
comp=Z,29nm,0.7s,mb5.1,baz=166,slow=19,SNR=5.3
CBIJ LR LR 19 55 00.9
comp=Z,1µm,21.8s,MS4.6,baz=46,slow=32
I03A Eugene 37.69 78⇓ **P P 19 41 51.9 +0.6**
baz=38
BOD Bodaibo 37.82 307 *eP* **P 19 41 51.8 -0.7**
BOD pmax pmax
comp=Z,71nm,1.1s,mb5.3
F05A White Salmon 37.84 75⇓ **P P 19 41 53.0 +0.4**
baz=38
EBG Ellensburg 37.88 73 P **P 19 41 53.9 +0.9**
H04A Detroit Lake 38.00 77⇑ **P P 19 41 54.6 +0.6**
baz=38
BROR Big Rock Looko 38.05 78 P **P 19 41 55.8 +1.4**
J03A Ideyld Park 38.21 79⇑ **P P 19 41 56.3 +0.6**
baz=38,SNR=15
G05A Wamic 38.24 76⇓ **P P 19 41 55.5 -0.5**
baz=38,SNR=9.5
M01C Crescent City 38.31 82⇑ **P P 19 41 57.4 +0.8**
baz=38
L02A Cave Junction 38.46 81⇓ **P P 19 41 58.7 +0.8**
baz=38
H05A Madras 38.60 76⇓ **P P 19 41 57.8 -1.2**
baz=38
HUMO Hull Mountain 38.62 80 *eP* **P 19 42 00.0 +0.9**
comp=Z,27nm,1.2s,mb4.9
HUMO LR LR
comp=Z,2µm,20.0s,MS5.0
HUMO Hull Mountain 38.62 80⇓ **P P 19 41 59.0 -0.2**
baz=38,SNR=5.6
HAWA Hanford 38.75 73 *eP* **P 19 42 00.6 +0.3**
comp=Z,3.6nm,0.8s,mb4.2
HAWA LR LR
comp=Z,175nm,22.0s
OD2 Odessa Site #2 38.76 71 P **P 19 42 00.3 0.0**
I05A Bend 38.83 77⇑ **P P 19 42 01.9 +0.9**
baz=39
JCC Jacoby Creek 38.94 83⇑ **P P 19 42 02.9 +1.0**
baz=39
KHMM Horse Mountain 39.10 83 *eP* **P 19 42 03.2 0.0**
EDM Edmonton 39.21 60 *eP* **P 19 42 01.5 -2.6**
YBH Yreka Blue Hor 39.25 81 P **P 19 42 05.2 +0.7**
comp=Z,21nm,1.0s,mb4.8,baz=308,slow=4.7,SNR=29
YBH LR LR 19 56 33.9
comp=Z,2µm,19.8s,MS5.0,baz=303,slow=34
YBH Yreka Blue Hor 39.25 81 *eP* **P 19 42 05.4 +0.9**
YBH pmax pmax
comp=Z,17nm,0.9s
YBH MLR MLR
comp=Z,2µm,20.0s
YBH Yreka Blue Hor 39.25 81 *eP* **P 19 42 05.4 +0.9**
comp=Z,17nm,0.9s,mb4.8
YBH LR LR
comp=Z,2µm,20.0s,MS5.0
YBH Yreka Blue Hor 39.25 81⇑ **P P 19 42 05.6 +1.2**
baz=39,SNR=14
NEW Newport 39.28 69 *eP* **P 19 42 04.4 -0.3**
NEW pmax pmax
comp=Z,51nm,0.9s
NEW MLR MLR
comp=Z,2µm,22.0s
NEW Newport 39.28 69 *eP* **P 19 42 04.4 -0.2**
comp=Z,51nm,0.9s,mb5.2
NEW LR LR
comp=Z,2µm,22.0s,MS4.9
KS15 Wonju Array Si 39.33 271 *eP* **P 19 42 05.0 -0.1**
M02C Callahan 39.36 82⇑ **P P 19 42 06.5 +1.2**
baz=39
K04A Chilquin 39.38 79⇑ **P P 19 42 06.2 +0.7**
baz=39
N02C Big Bar 39.39 83⇓ **P P 19 42 06.2 +0.6**
baz=39,SNR=9.3
SNY Shenyang 39.47 279⇑ **P P 19 42 06.4 +0.1**
SNY PP PP 19 43 39.4 +2.0
SNY S **S 19 47 58.6 -6.5**
SNY AMB AMB
comp=Z,42nm,1.6s,mb4.9
SNY AMB AMB
comp=Z,1µm,3.6s
SNY LR LR
comp=N,2µm,18.6s,MS5.0
SNY LR LR
comp=E,1µm,20.1s,MS5.0
SNY LR LR
comp=Z,2µm,20.7s,MS5.0
L04A Klamath Falls 39.52 80⇓ **P P 19 42 07.5 +0.8**
baz=39
I06A Prineville 39.60 77⇑ **P P 19 42 07.8 +0.5**
baz=40,SNR=11
M04C Macdoel 39.77 80⇑ **P P 19 42 09.6 +0.9**
baz=40,SNR=13
J06A Christmas Vall 40.00 78⇓ **P P 19 42 11.1 +0.4**
baz=40,SNR=48
WDC Whiskeytown Da 40.01 83 *eP* **P 19 42 10.7 0.0**
WDC pmax pmax
comp=Z,16nm,1.0s,mb4.7
WDC MLR MLR
comp=Z,771nm,19.0s,MS4.6
WDC Whiskeytown Da 40.01 83 *eP* **P 19 42 10.7 -0.1**
comp=Z,16nm,1.0s,mb4.7
WDC LR LR
comp=Z,771nm,19.0s,MS4.6
WDC Whiskeytown Da 40.01 83⇓ **P P 19 42 12.0 +1.2**
baz=40
O02C Red Bluff 40.08 83 P **P 19 42 12.8 +1.4**
baz=40,SNR=6.2
INCN Inchon 40.09 272 *eP* **P 19 42 11.4 0.0**
comp=Z,84nm,1.1s,mb5.4
INCN LR LR
comp=Z,785nm,20.0s,MS4.5
P01C Double 8 Ranch 40.15 84⇓ **P P 19 42 13.0 +1.1**
baz=40
K06A Valley Falls 40.19 78⇓ **P P 19 42 13.2 +1.0**
baz=40,SNR=28
L05A Lakeview 40.24 79⇓ **P P 19 42 13.6 +0.9**
baz=40
M05C Lookout 40.43 81⇑ **P P 19 42 14.8 +0.6**
baz=40,SNR=12
GASB Alder Springs 40.43 84⇓ **P P 19 42 15.4 +1.1**
baz=40
J07A Hines 40.45 77⇑ **P P 19 42 15.2 +0.7**
baz=40,SNR=17
HATC Hat Creek Radi 40.54 81⇓ **P P 19 42 15.6 +0.4**
baz=40,SNR=6.2
HOPS Hopland 40.60 85 PFAKE 19 42 30.0 +14
HOPS LR LR
comp=Z,2µm,19.0s,MS5.0
HOPS Hopland 40.60 85⇑ **P P 19 42 15.8 +0.2**
baz=40
O03C Acorn Hollow, 40.66 83⇑ **P P 19 42 16.7 +0.5**
baz=40
WALA Waterton Lakes 40.77 66 *eP* **P 19 42 16.7 -0.3**
comp=Z,56nm,1.0s,mb5.2
K07A Rock Creek Ran 40.86 78⇑ **P P 19 42 18.5 +0.7**
baz=41,SNR=58
BMO Blue Mountains 40.88 74 *eP* **P 19 42 17.4 -0.6**
comp=Z,23nm,1.0s,mb4.8
BMO LR LR
comp=Z,2µm,20.0s,MS4.9
M06C Likely Place G 40.94 80⇓ **P P 19 42 19.2 +0.8**
baz=41
J08A Circle Bar Ran 40.97 76⇓ **P P 19 42 19.2 +0.4**
baz=41,SNR=12
O04C Chester 41.06 82⇑ **P P 19 42 20.1 +0.7**
baz=41
MNRC McLaughlin Nat 41.06 85⇑ **P P 19 42 19.8 +0.3**
baz=41
ELFS Eagle Lake Fie 41.11 81⇑ **P P 19 42 20.3 +0.4**
baz=41
L07A Adell 41.18 79⇑ **P P 19 42 21.5 +1.1**
baz=41,SNR=30
ORV Oroville 41.25 83⇑ **P P 19 42 20.5 -0.5**
baz=41
SUTB Sutter Butte 41.26 84⇑ **P P 19 42 20.4 -0.7**
baz=41
O05C Quincy 41.38 82⇑ **P P 19 42 22.5 +0.5**
baz=41,SNR=6.5
WVOR Wild Horse Val 41.38 78 *eP* **P 19 42 22.1 0.0**
WVOR pmax pmax
comp=Z,30nm,0.8s,mb5.0
WVOR MLR MLR
comp=Z,3µm,22.0s,MS5.1
WVOR Wild Horse Val 41.38 78 *eP* **P 19 42 22.1 0.0**
comp=Z,30nm,0.8s,mb5.0
WVOR LR LR
comp=Z,3µm,22.0s,MS5.1
OHCM Honcut 41.39 83 *eP* **P 19 42 21.6 -0.5**
FARB Farallon Islan 41.42 86⇑ **P P 19 42 21.5 -0.9**
baz=41
Q03C Winters 41.48 85⇑ **P P 19 42 23.0 +0.1**
baz=41
M07A Soldier Meadow 41.64 79⇓ **P P 19 42 24.6 +0.4**
baz=42,SNR=56
MSO Missoula 41.86 69 *eP* **P 19 42 25.7 -0.3**
comp=Z,32nm,0.9s,mb5.0
MSO LR LR
comp=Z,598nm,22.0s,MS4.4
O06A Flanigan 41.94 81⇓ **P P 19 42 26.9 +0.3**
baz=42,SNR=12
P05C Yuba Gap, Truc 41.96 83⇑ **P P 19 42 26.9 +0.1**
baz=42
M08A Happy Creek Ra 42.09 79⇓ **P P 19 42 28.0 +0.1**
baz=42,SNR=25
P06A Stead Airport, 42.18 82⇑ **P P 19 42 28.2 -0.4**
baz=42
LAVA Lava Cap Winer 42.20 83⇑ **P P 19 42 27.8 -1.0**
baz=42
L09A Wilkinson Ranc 42.21 78⇓ **P P 19 42 28.6 -0.2**
baz=42
CHMT Chamberlain Mo 42.22 69 *eP* **P 19 42 28.2 -0.7**
WENL Wente Brothers 42.25 86⇓ **P P 19 42 28.6 -0.6**
baz=42
DL2 Dalian 42.37 277⇑ *iP* **P 19 42 30.0 -0.1**
DL2 PP PP 19 44 11.1 +2.2
DL2 S **S 19 48 48.3 +0.1**
DL2 XS sS 19 49 03.2 -5.7
DL2 SCS ScS 19 52 30.5 +2.5
DL2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.3
DL2 AMB AMB
comp=Z,190nm,9.0s
DL2 LR LR
comp=N,380nm,15.6s,MS4.5
DL2 LR LR
comp=E,440nm,17.2s,MS4.5
DL2 LR LR
comp=Z,630nm,16.4s,MS4.6
PAHR Pah Rah Range 42.48 81 *eP* **P 19 42 30.7 -0.4**
comp=Z,40nm,1.1s,mb5.0
WCN Washoe City 42.49 82⇓ **P P 19 42 31.3 +0.2**
baz=42
O07A Toulon 42.53 81⇓ **P P 19 42 32.0 +0.5**
baz=42,SNR=24
S04C Ingram Canyon, 42.59 85⇓ **P P 19 42 32.1 +0.1**
baz=42
N08A GE Springer Mi 42.63 79 P **P 19 42 32.6 +0.3**
baz=42,SNR=16
R05C Kirkwood Meado 42.65 83⇑ **P P 19 42 32.4 0.0**
baz=42
M09A Marrel Ranch, 42.69 78⇓ **P P 19 42 32.7 0.0**
baz=42
CMB Columbia Colle 42.86 84 *eP* **P 19 42 34.0 -0.1**
CMB pmax pmax
comp=Z,12nm,1.0s,mb4.6
CMB MLR MLR
comp=Z,2µm,19.0s,MS4.9
CMB Columbia Colle 42.86 84 *eP* **P 19 42 34.0 -0.1**
comp=Z,12nm,1.0s,mb4.6
CMB LR LR
comp=Z,2µm,19.0s,MS4.9
CMB Columbia Colle 42.86 84⇑ **P P 19 42 34.2 +0.1**
baz=43
ALE Alert 42.88 10 P **P 19 42 33.3 -1.0**
comp=Z,119nm,1.1s,mb5.5,SNR=17
PACP Pacheco Peak 42.92 86⇓ **P P 19 42 34.9 +0.2**
baz=43
N09A Rock Creek Ran 42.97 79⇑ **P P 19 42 35.2 +0.2**
baz=43,SNR=12
SAO San Andreas Ge 42.98 86 PFAKE 19 42 50.0 +15
SAO LR LR
comp=Z,1µm,19.0s,MS4.8
HAST UC Hastings Re 43.14 87⇑ **P P 19 42 36.3 -0.1**
baz=43
R06C Coleville 43.15 83⇑ **P P 19 42 37.2 +0.7**
baz=43
HRY Holter Researc 43.16 68 *eP* **P 19 42 36.2 -0.3**
M10A I.L. Ranch, Tu 43.19 77⇑ **P P 19 42 37.0 +0.2**
baz=43,SNR=11
P08A Dixie Valley 43.30 81⇓ **P P 19 42 37.9 +0.2**
baz=43
S05C Merced 43.31 85⇑ **P P 19 42 36.1 -1.7**
baz=43
HLID Hailey 43.33 74 *eP* **P 19 42 37.9 0.0**
comp=Z,37nm,1.0s,mb5.1
HLID *eS*cP ScP 19 48 22.4 +8.7
HLID LR LR
comp=Z,2µm,22.0s,MS5.1
T05C Eagle Field, D 43.38 86⇓ **P P 19 42 38.2 -0.1**
baz=43
BMN Battle Mountai 43.40 79 *eP* **P 19 42 38.4 -0.1**
BMN pmax pmax
comp=Z,17nm,0.8s,mb4.8
BMN MLR MLR
comp=Z,2µm,20.0s,MS5.0
BMN Battle Mountai 43.40 79 *eP* **P 19 42 38.4 -0.1**
comp=Z,17nm,0.8s,mb4.8
BMN LR LR
comp=Z,2µm,20.0s,MS5.0
DLMT Dillon 43.43 70 *eP* **P 19 42 38.0 -0.8**

comp=Z,25nm,1.0s,mb4.9
DLMT eScP ScP 19 48 14.7 +0.6
MCMT McKenzie Canyo 43.57 71 eP P 19 42 39.6 -0.3
O09A Fish Creek Ran 43.57 79 ⇓P P 19 42 40.3 +0.4
baz=43,SNR=14
R07C Lee Vining 43.66 83 ⇓P P 19 42 41.0 +0.4
baz=44
EGMT Eagleton 43.68 66 eP P 19 42 39.4 -1.3
comp=Z,21nm,0.7s,mb5.0
EGMT LR LR
comp=Z,906nm,19.0s,MS4.7
M11A Holland Ranch, 43.70 77 ⇓P P 19 42 41.3 +0.5
baz=44,SNR=21
BOZ Bozeman (W) 43.85 70 eP P 19 42 41.9 -0.2
BOZ pmax pmax
comp=Z,32nm,0.6s,mb5.2
BOZ MLR MLR
comp=Z,814nm,22.0s,MS4.6
BOZ Bozeman (W) 43.85 70 eP P 19 42 41.9 -0.2
comp=Z,32nm,0.6s,mb5.2
BOZ LR LR
comp=Z,814nm,22.0s,MS4.6
Q08A Gabbs 43.89 81 ⇓P P 19 42 42.8 +0.4
baz=44,SNR=12
T06C Millerton Lake 43.91 85 ⇑P P 19 42 42.7 +0.1
baz=44
O10A Cortez Mining, 43.93 79 ⇓P P 19 42 43.3 +0.5
baz=44
P09A Austin 43.97 80 ⇓P P 19 42 43.6 +0.5
baz=44
MNV Mina 44.01 82 eP P 19 42 43.1 -0.3
MNV pmax pmax
comp=Z,13nm,0.9s,mb4.7
MNV MLR MLR
comp=Z,931nm,20.0s,MS4.7
MNV Mina 44.01 82 eP P 19 42 43.1 -0.3
comp=Z,13nm,0.9s,mb4.7
MNV LR LR
comp=Z,931nm,20.0s,MS4.7
N11A Elko Archery C 44.09 78 ⇑P P 19 42 44.1 +0.1
baz=44
M12A Wells 44.24 77 ⇑P P 19 42 45.6 +0.4
baz=44,SNR=15
P10A Eureka 44.35 80 ⇓P P 19 42 46.7 +0.6
baz=44
Q09A Carvers 44.38 81 ⇓P P 19 42 42.8 -3.5
baz=44,SNR=5.3
QLMT Earthquake Lak 44.41 70 eP P 19 42 46.4 -0.2
MTUM Tungsten Hills 44.42 84 eP P 19 42 47.2 +0.6
N12A Clover Valley, 44.50 77 ⇑P P 19 42 47.7 +0.4
baz=44,SNR=35
V05C Boulder Hill, 44.51 86 ⇑P P 19 42 47.0 -0.4
baz=44
FFC Flin Flon 44.54 54 PFAKE 19 43 00.0 +12
FFC LR LR
comp=Z,3μm,21.0s,MS5.2
O11A Cowboy Ranch, 44.54 78 ⇑P P 19 42 48.1 +0.5
baz=44
HELL Mitchell Peak, 44.55 85 ⇑P P 19 42 47.3 -0.4
baz=44
M13A Montello 44.73 76 ⇓P P 19 42 49.5 +0.4
baz=45,SNR=24
R09A Tonopah 44.80 82 ⇑P P 19 42 49.8 0.0
baz=45,SNR=30
TPH Tonopah 44.81 82 eP P 19 42 50.2 +0.4
TPH pmax pmax
comp=Z,41nm,1.1s,mb5.2
TPH MLR MLR
comp=Z,873nm,19.0s,MS4.7
TPH Tonopah 44.81 82 eP P 19 42 50.2 +0.4
comp=Z,41nm,1.1s,mb5.2
TPH LR LR
comp=Z,873nm,19.0s,MS4.7
P11A Circle Ranch, 44.83 79 ⇑P P 19 42 50.1 +0.2
baz=45
GCMT Greycliff 44.92 68 eP P 19 42 50.7 +0.1
YFT Old Faithful 44.98 71 eP P 19 42 52.1 +1.1
N13A Wendover, West 45.01 77 ⇑P P 19 42 51.7 +0.4
baz=45
S09A Goldfield 45.03 82 ⇑P P 19 42 51.2 -0.3
baz=45,SNR=11
BJI Beijing 45.08 282 P P 19 42 52.2 +0.3
BJI S S 19 49 26.3 -1.5
BJI AMB AMB
comp=Z,19nm,1.2s,mb4.8
BJI AMB AMB
comp=Z,522nm,3.7s
BJI LR LR
comp=N,2μm,19.3s,MS5.1
BJI LR LR
comp=E,2μm,17.9s,MS5.1
BJI LR LR
comp=Z,2μm,22.7s,MS5.0
LKWY Lake 45.17 70 eP P 19 42 51.5 -1.1
LKWY pmax pmax
comp=Z,57nm,0.9s,mb5.4
LKWY MLR MLR
comp=Z,1μm,19.0s,MS4.8
LKWY Lake 45.17 70 eP P 19 42 51.5 -1.2
comp=Z,57nm,0.9s,mb5.4
LKWY LR LR
comp=Z,1μm,19.0s,MS4.8
R10A Warm Springs 45.25 81 ⇑P P 19 42 53.0 -0.2
baz=45,SNR=10
IRK Irkutsk 45.26 303 eP P 19 42 53.2 -0.1
IRK e 19 43 10.6
IRK e 19 44 47.1
IRK pmax pmax
comp=Z,95nm,1.2s,mb5.5
RRI2 Red Ridge 45.31 72⇑ iP P 19 43 03.2 +9.4
comp=Z,28nm,0.8s,mb5.1
Q11A Duckwater 45.31 80 ⇓P P 19 42 53.6 -0.2
baz=45,SNR=13
HVU Hansel Valley 45.34 75 eP P 19 42 54.2 +0.2
HVU pmax pmax
comp=Z,20nm,0.6s,mb5.1
HVU Hansel Valley 45.34 75 eP P 19 42 54.2 +0.3
comp=Z,20nm,0.6s,mb5.1
P12A McGill 45.40 79 ⇑P P 19 42 54.6 +0.2
baz=45
MOOW Moose Ponds 45.43 71 eP P 19 42 54.8 +0.1
comp=Z,16nm,1.1s,mb4.8
TPAW Teton Pass 45.45 72 eP P 19 42 55.2 +0.3
comp=Z,16nm,0.7s,mb5.0
ISA Isabella 45.53 85 PFAKE 19 43 10.0 +14
ISA LR LR
comp=Z,248nm,19.0s,MS4.2
SBC Santa Barbara 45.54 88 ⇑P P 19 42 56.0 +0.5
baz=45
REDW Red Top Meadow 45.58 72 eP P 19 42 56.1 +0.3
comp=Z,29nm,1.0s,mb5.2
SNOW Snow King Moun 45.58 72 eP P 19 42 56.2 +0.3
comp=Z,19nm,0.9s,mb5.0
LOHW Long Hollow 45.59 71 eP P 19 42 55.7 -0.3
comp=Z,15nm,0.8s,mb5.0
BGU Big Grassy Mou 45.68 76 eP P 19 42 56.6 -0.1
DAC Darwin (Calif) 45.70 84 eP P 19 42 56.1 -0.7
DAC pmax pmax
comp=Z,24nm,1.3s,mb5.0
DAC MLR MLR
comp=Z,1μm,19.0s,MS4.9
DAC Darwin (Calif) 45.70 84 eP P 19 42 56.1 -0.7
comp=Z,24nm,1.3s,mb5.0
DAC LR LR
comp=Z,1μm,19.0s,MS4.9
Q12A Willow Creek R 45.71 79 ⇓P P 19 42 57.0 +0.1
baz=46,SNR=6.0
AHID Auburn Hatcher 45.78 73 eP P 19 42 58.3 +0.9
comp=Z,31nm,0.8s,mb5.3
AHID LR LR
comp=Z,2μm,21.0s,MS5.1
SPUT South Promonto 45.81 75 eP P 19 42 57.5 -0.2
TLY Talaya 45.88 302 P P 19 42 59.5 +1.2
comp=Z,217nm,1.0s,mb6.0,SNR=9.2
TLY Talaya 45.88 302 P P 19 42 59.3 +1.1
SNR=24
TLY Talaya 45.88 302 c iP P 19 42 59.0 +0.8
TLY e 19 44 48.5
TLY eS S 19 49 44.9 +5.6
TLY pmax pmax
comp=Z,39nm,0.9s,mb5.3
TLY MLR MLR
comp=Z,3μm,21.0s,MS5.3
TLY Talaya 45.88 302 eP P 19 42 58.7 +0.4
comp=Z,37nm,0.9s,mb5.3
TLY LR LR
comp=Z,4μm,21.0s,MS5.3

ULN Ulaanbaatar 46.04 296 P P 19 43 00.5 +1.0
SNR=15
ULN Ulaanbaatar 46.04 296 eP P 19 43 00.0 +0.5
ULN pmax pmax
comp=Z,24nm,0.9s,mb5.1
ULN MLR MLR
comp=Z,5μm,20.0s,MS5.5
ULN Ulaanbaatar 46.04 296 eP P 19 43 00.0 +0.5
comp=Z,24nm,0.9s,mb5.1
ULN LR LR
comp=Z,5μm,20.0s,MS5.5
TPNV Topopah Spring 46.12 82 eP P 19 42 59.9 -0.2
TPNV pmax pmax
comp=Z,43nm,0.9s,mb5.4
TPNV MLR MLR
comp=Z,1μm,22.0s,MS4.8
TPNV Topopah Spring 46.12 82 eP P 19 42 59.9 -0.2
comp=Z,43nm,0.9s,mb5.4
TPNV LR LR
comp=Z,1μm,22.0s,MS4.8
HWUT Hardware Ranch 46.17 74⇑ eP P 19 43 00.7 +0.1
comp=Z,16nm,0.7s,mb5.1
HWUT LR LR
comp=Z,1μm,21.0s,MS4.9
JOW Kunigami 46.19 259 LR LR 19 59 07.4
comp=Z,559nm,21.4s,MS4.5,baz=94,slow=32
DUG Dugway 46.25 77 eP P 19 43 01.0 -0.2
DUG pmax pmax
comp=Z,52nm,0.9s,mb5.5
DUG MLR MLR
comp=Z,2μm,19.0s,MS5.0
DUG Dugway 46.25 77 eP P 19 43 01.0 -0.2
comp=Z,52nm,0.9s,mb5.5
DUG LR LR
comp=Z,2μm,19.0s,MS5.0
FCC Fort Churchill 46.35 46 eP P 19 43 00.1 -1.8
FCC pmax pmax
comp=Z,15nm,0.8s,mb5.0
FCC Fort Churchill 46.35 46 eP P 19 43 00.1 -1.8
comp=Z,15nm,0.8s,mb5.0
U10A Ash Meadows, A 46.40 83 ⇑P P 19 43 02.4 0.0
baz=46
NOQ North Oquirrh 46.40 76 eP P 19 43 02.2 -0.1
comp=Z,56nm,1.0s,mb5.5
LAO LASA Array 46.42 65⇑ iP P 19 43 02.3 -0.2
comp=Z,66nm,0.8s,mb5.6
LAO LR LR
comp=Z,1μm,19.0s,MS4.8
SONM Songino Array 46.43 296 P P 19 43 03.6 +1.0
comp=Z,22nm,0.8s,mb5.1,baz=59,slow=7.8,SNR=133
SONM ScP ScP 19 48 27.8 +1.5
comp=Z,3.2nm,1.1s,baz=84,slow=2.5,SNR=6.6
SONM LR LR 20 03 59.8
comp=Z,6μm,18.8s,MS5.5,baz=58,slow=38
SONM Songino Array 46.43 296 P P 19 43 03.6 +1.0
SONM pmax pmax
comp=Z,22nm,0.8s
SONM pmax pmax
comp=N,3.0nm,1.1s
SONM MLR MLR
comp=Z,6μm,18.8s
SNCC San Nicolas Is 46.44 89 PFAKE 19 43 10.0 +7.4
SNCC LR LR
comp=Z,1μm,20.0s,MS4.8
TCUT Toone Canyon 46.56 75⇑ iP P 19 43 03.6 +0.1
CTU Camp Tracy 46.60 75 eP P 19 43 03.8 -0.1
comp=Z,20nm,0.7s,mb5.2
BW06 Boulder Array 46.70 72 PFAKE 19 43 20.0 +15
BW06 LR LR
comp=Z,2μm,21.0s,MS5.0
PDAR Pinedale Array 46.70 72 P P 19 43 04.5 -0.1
comp=Z,73nm,1.0s,mb5.6,baz=308,slow=4.9,SNR=229
PDAR LR LR 20 00 15.1
comp=Z,2μm,20.8s,MS4.9,baz=311,slow=33
ZAK Zakamensk 46.76 301 eP P 19 43 05.6 +0.4
ZAK e 19 49 57.5
ZAK pmax pmax
comp=Z,114nm,1.4s,mb5.6
ZAK pmax pmax
comp=Z,8.0nm,1.8s,mb4.3
GSC Goldstone 46.81 85 ⇑P P 19 43 05.0 -0.5
baz=47,SNR=9.2
TIA Tai'an 46.85 277 eP P 19 43 05.8 0.0
TIA eS S 19 49 50.0 -3.1
TIA LR LR
comp=E,924nm,15.0s
NLU North Lily Min 46.85 76 eP P 19 43 05.9 +0.1
DAU Daniels Canyon 47.07 75⇑ eP P 19 43 08.2 +0.6
MPU Maple Canyon 47.08 76⇑ eP P 19 43 07.7 +0.1
comp=E,15nm,0.6s,mb5.1
MPU LR LR
comp=Z,2μm,20.0s,MS5.1
TUQ Turquoise Mtn. 47.28 84 ⇓P P 19 43 08.7 -0.5
baz=47
MOY Mondy 47.29 304 eP P 19 43 10.1 +0.8
MOY pmax pmax
comp=Z,97nm,1.4s,mb5.5
GUMO Guam 47.32 231 PFAKE 19 43 20.0 +11
GUMO LR LR
comp=Z,2.0nm,22.0s
V11A Goodsprings 47.33 83 ⇑P P 19 43 08.9 -0.6
baz=47
ARUT Antelope Range 47.34 80 eP P 19 43 09.3 -0.4
HHC Hu-ho-hao-te 47.41 286 eP P 19 43 10.6 +0.4
HHC AP pP 19 43 23.0 +0.2
HHC PCP PcP 19 44 40.9 +0.7
HHC PP PP 19 45 01.1 -0.6
HHC AMB AMB
comp=Z,27nm,1.6s,mb4.9
HHC LR LR
comp=N,815nm,19.0s,MS5.0
HHC LR LR
comp=E,2μm,21.4s,MS5.0
HHC LR LR
comp=Z,2μm,23.2s,MS5.0
U12A Valley of Fire 47.51 82 ⇑P P 19 43 11.1 +0.1
baz=47
CCUT Cedar City 47.53 80 eP P 19 43 10.7 -0.4
SSE Sheshan 47.65 269 P P 19 43 11.9 -0.2
SSE AP pP 19 43 24.9 +0.3
SSE PCP PcP 19 44 41.6 +0.6
SSE PP PP 19 45 02.1 -1.8
SSE S S 19 50 02.7 -1.9
SSE SCS ScS 19 53 00.7 -1.0
SSE AMB AMB
comp=Z,42nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,368nm,8.7s
SSE LR LR
comp=N,432nm,13.9s,MS4.7
SSE LR LR
comp=E,380nm,13.9s,MS4.7
SSE LR LR
comp=Z,846nm,20.3s
MVU Marysvale 47.65 78 PFAKE 19 43 20.0 +7.9
MVU LR LR
comp=Z,2μm,19.0s,MS5.1
MSU Marysvale 47.67 78 eP P 19 43 12.5 +0.3
V12A Nelson 47.76 83 ⇓P P 19 43 12.7 -0.2
baz=48
TMUT Trail Mountain 47.78 77 eP P 19 43 13.1 +0.1
W12A Cal Nev Ari 48.02 83 ⇑P P 19 43 14.7 -0.3
baz=48
PFO Pinyon Flat Ob 48.13 86 eP P 19 43 15.3 -0.5
PFO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
PFO MLR MLR
comp=Z,564nm,19.0s,MS4.6
PFO Pinyon Flat Ob 48.13 86 eP P 19 43 15.3 -0.5
comp=Z,9.9nm,0.9s,mb4.8
PFO LR LR
comp=Z,564nm,19.0s,MS4.6
PFO Pinyon Flat Ob 48.13 86 ⇑P P 19 43 15.4 -0.4
baz=48
109C Camp Elliot, M 48.19 87 ⇑P P 19 43 15.9 -0.4
baz=48
SRU San Rafael 48.31 76⇑ eP P 19 43 16.9 -0.3
SRU pmax pmax
comp=Z,37nm,0.6s,mb5.6
SRU San Rafael 48.31 76⇑ eP P 19 43 16.9 -0.3
comp=Z,37nm,0.6s,mb5.6
SRU ePP PP 19 45 24.1 +14
NJ2 Nanjing 48.47 272 eP P 19 43 18.3 -0.1
NJ2 AP pP 19 43 30.8 -0.2
NJ2 PP PP 19 45 11.0 -0.4
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
NJ2 AMB AMB
comp=Z,170nm,7.9s
NJ2 LR LR
comp=N,2μm,18.9s,MS5.2
NJ2 LR LR
comp=E,2μm,20.0s,MS5.2
NJ2 LR LR
comp=Z,10μm,24.5s,MS5.7
BTO Baotou 48.49 286 eP P 19 43 19.5 +0.9
RWWY Rawlins 48.74 71⇑ eP P 19 43 19.8 -0.7
comp=Z,30nm,0.8s,mb5.4
W13A Hualapai Mount 48.77 83 ⇑P P 19 43 20.1 -0.6
baz=49,SNR=12
KRAR Krasnoyarsk 48.96 312⇓ eP P 19 43 21.0 -1.2
KRAR pmax pmax
comp=Z,20nm,0.6s,mb5.3
KRAR MLR MLR
comp=Z,2μm,22.0s,MS5.0
X13A Yucca 49.13 83 ⇓P P 19 43 22.9 -0.6
baz=49
RSSD Black Hills 49.16 67⇑ iP P 19 43 23.0 -0.7
RSSD pmax pmax
comp=Z,15nm,0.6s,mb5.2
RSSD MLR MLR
comp=Z,1μm,19.0s,MS4.9
RSSD Black Hills 49.16 67⇑ iP P 19 43 23.0 -0.7
comp=Z,15nm,0.6s,mb5.2
RSSD LR LR
comp=Z,1μm,19.0s,MS4.9
W14A Seligman 49.20 82 P P 19 43 24.0 0.0
baz=49,SNR=16
Y12C Blythe 49.25 84 ⇓P P 19 43 23.8 -0.6
baz=49
GLA Glamis 49.52 85 ⇓P P 19 43 26.1 -0.3
baz=49,SNR=13
PV10 Paradox Valley 49.68 76 eP P 19 43 27.5 -0.1
W15A Williams 49.72 81 ⇑P P 19 43 28.3 +0.3
baz=50
X14A Yava 49.80 83 ⇓P P 19 43 28.5 -0.1
baz=50,SNR=23
KBS Kingsbay 49.98 357 eP P 19 43 30.7 +0.7
KBS eS S 19 50 39.4 +2.0
KBS AMS AMS 20 05 49.6
comp=Z,362nm,16.0s,MS4.5
KBS Kingsbay 49.98 357⇑ iP P 19 43 30.0 0.0
KBS e 19 43 35.4
KBS pmax pmax
comp=Z,67nm,0.8s,mb5.7
KBS MLR MLR
comp=Z,712nm,19.0s,MS4.7
KBS Kingsbay 49.98 357⇑ iP P 19 43 30.0 0.0
comp=Z,66nm,0.8s,mb5.7
KBS e 19 43 35.4
KBS LR LR
comp=Z,712nm,19.0s,MS4.7
PHWY Pilot Hill 50.02 71 eP P 19 43 29.9 -0.4
WUAZ Wupatki 50.06 81⇑ iP P 19 43 30.6 0.0
comp=Z,27nm,0.9s,mb5.3
WUAZ LR LR
comp=Z,2μm,19.0s,MS5.1
Y14A Wickenburg 50.08 83 ⇓P P 19 43 30.0 -0.7
baz=50,SNR=11
ULM Lac du Bonnet 50.08 56 P P 19 43 28.8 -2.0
comp=Z,7.4nm,1.0s,mb4.7,baz=303,slow=8.4,SNR=5.8
ULM LR LR 20 06 04.2
comp=Z,2μm,18.7s,MS5.0,baz=81,slow=38
ULM Lac du Bonnet 50.08 56 eP P 19 43 28.8 -1.9
comp=Z,14nm,1.1s,mb4.9
ULM LR LR
comp=Z,2μm,19.0s,MS5.2
PV01 Paradox Valley 50.12 76 eP P 19 43 30.8 -0.2
X15A Humboldt 50.19 82 ⇓P P 19 43 31.5 -0.1
baz=50,SNR=17
SMCO Snowmass 50.43 74 eP P 19 43 31.2 -2.1
comp=Z,9.7nm,0.6s,mb5.0
Z14A Wintersburg 50.49 84 ⇓P P 19 43 32.9 -0.9
baz=50
SPB4 Spitsbergen Ar 50.55 356⇑ eP P 19 43 33.4 -0.8
MVCO Mesa Verde 50.75 77 eP P 19 43 35.6 -0.1
ISCO Idaho Springs 50.86 72⇑ iP P 19 43 36.8 +0.2
ISCO MLR MLR
comp=Z,2μm,22.0s,MS5.2
115A Sonoran Desert 51.38 84 ⇓P P 19 43 40.4 -0.1
baz=51,SNR=13
DAG Danmarks Havn 51.73 6j iP P 19 43 42.0 -1.1
comp=Z,2.7nm,0.7s,mb4.3
DAG pmax pmax
comp=Z,2μm,23.0s
DAG Danmarks Havn 51.73 6j iP P 19 43 42.0 -1.1
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
DAG MLR MLR
comp=Z,2μm,23.0s,MS5.1
DAG MLR MLR
comp=N,2μm,22.0s,MS5.1
DAG MLR MLR
comp=E,310nm,24.0s,MS5.1
TATO Taipei 51.75 263 PFAKE 19 44 00.0 +17
TATO LR LR
comp=Z,2μm,22.0s,MS5.0
116A Eloy 51.81 84 ⇑P P 19 43 43.1 -0.6
baz=52
SDCO Great Sand Dun 52.23 74 PFAKE 19 44 00.0 +13
SDCO LR LR
comp=Z,1μm,21.0s,MS4.9
WHN Wuhan 52.33 274 eP P 19 43 47.0 -0.5
TUC Tucson 52.55 83⇑ iP P 19 43 47.8 -1.4
TUC pmax pmax
comp=Z,18nm,1.0s,mb5.0
TUC MLR MLR
comp=Z,612nm,20.0s,MS4.6
TUC Tucson 52.55 83⇑ iP P 19 43 47.8 -1.4
comp=Z,18nm,1.0s,mb5.0
TUC LR LR
comp=Z,612nm,20.0s,MS4.6
XAN Xi'an 53.36 281 P P 19 43 54.7 -0.5
XAN S S 19 51 20.1 -3.7
XAN AMB AMB
comp=Z,12nm,1.4s,mb4.6
XAN LR LR
comp=N,455nm,19.5s,MS4.9
XAN LR LR
comp=E,1μm,21.6s,MS4.9
XAN LR LR
comp=Z,2μm,20.8s,MS5.1
FRB Frobisher Bay 53.38 31 P P 19 43 53.3 -2.0
comp=Z,93nm,1.0s,mb5.7,baz=316,slow=7.9,SNR=28
FRB Frobisher Bay 53.38 31 P P 19 43 53.3 -2.0
FRB pmax pmax
comp=Z,93nm,1.0s
LAZ Ladron 53.41 79 eP P 19 43 55.6 0.0
ANMO Albuquerque 53.47 78⇑ eP P 19 43 54.8 -1.2
ANMO pmax pmax
comp=Z,8.0nm,0.9s
ANMO MLR MLR
comp=Z,2μm,19.0s
ANMO Albuquerque 53.47 78⇑ eP P 19 43 54.8 -1.2
comp=Z,8.0nm,0.9s,mb4.7
ANMO LR LR
comp=Z,2μm,19.0s,MS5.1
QZH Quanzhou 53.59 265⇑ iP P 19 43 57.4 +0.6
QZH S S 19 51 30.3 +3.4
QZH AMB AMB
comp=Z,80nm,1.0s,mb5.6
QZH AMB AMB
comp=Z,720nm,4.4s
QZH LR LR
comp=N,4μm,29.8s,MS5.4
QZH LR LR
comp=E,3μm,27.0s,MS5.4
QZH LR LR
comp=Z,1μm,21.7s
ECSD EROS,Sioux Fal 53.63 63⇑ eP P 19 43 55.3 -1.9
LENM Lemitar 53.67 79 eP P 19 43 59.4 +1.9
EYMN Ely 53.77 56⇑ iP P 19 43 56.5 -1.7
comp=Z,35nm,1.0s,mb5.2
EYMN LR LR
comp=Z,1μm,20.0s,MS4.9
Y22C IRIS PASSCAL I 53.77 79 ⇓P P 19 43 57.1 -1.1
baz=54
LPM Los Pinos Moun 53.79 78 eP P 19 43 57.3 -1.0
BNM Barren Site 53.90 79 eP P 19 43 58.0 -1.1
ZAL Zalesovo 53.94 313 P P 19 43 58.9 -0.5
comp=Z,3.7nm,0.7s,mb4.4,baz=62,slow=8.0,SNR=14
ZAL LR LR 20 09 17.2
comp=Z,2μm,19.0s,MS5.2,baz=57,slow=38

ZAL Zalesovo 53.94 313 P P 19 43 58.9 -0.5
ZAL pmax pmax
comp=Z,4.0nm,0.7s
ZAL MLR MLR
comp=Z,2µm,19.0s
ZAL Zalesovo 53.94 313 P P 19 43 58.9 -0.5
ZAL LR LR 20 09 17.2
NVS Novosibirsk 54.07 315 *i* P **P 19 43 59.6 -0.8**
NVS *i* S ScS 19 53 47.4 +1.6
NVS pmax pmax
comp=Z,19nm,1.2s,mb4.9
NVS pmax pmax
comp=N,5.0nm,0.9s
NVS pmax pmax
comp=E,16nm,1.4s
NVS smax
comp=N,26nm,2.2s
NVS smax
comp=E,49nm,2.8s
LZH Lanzhou 55.11 286 *e*P **P 19 44 08.8 +0.9**
LZH AP pP 19 44 20.0 -0.6
LZH XP sP 19 44 24.9 -1.0
LZH PCP PcP 19 45 10.2 +1.4
LZH PP PP 19 46 13.3 +1.9
LZH SCP ScP 19 49 05.6 +1.9
LZH AMB AMB
comp=Z,72nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,250nm,4.2s
LZH LR LR
comp=E,2µm,16.7s
LZH LR LR
comp=Z,3µm,18.0s,MS5.4
GTA Gaotai 55.32 292 ⇑P **P 19 44 10.3 +0.9**
GTA AP pP 19 44 21.4 -0.8
GTA XP sP 19 44 26.0 -1.4
GTA PCP PcP 19 45 11.2 +1.6
GTA PP PP 19 46 14.9 +1.5
GTA S **S 19 51 49.5 -0.7**
GTA XS sS 19 52 07.0 -4.5
GTA SS SS 19 55 34.2 -0.8
GTA AMB AMB
comp=Z,29nm,1.1s,mb5.2
GTA AMB AMB
comp=Z,418nm,9.1s
GTA LR LR
comp=N,710nm,20.9s,MS5.0
GTA LR LR
comp=E,907nm,18.2s,MS5.0
GTA LR LR
comp=Z,934nm,22.4s,MS4.8
SFJD Kangerlussuaq 55.97 22 P **P 19 44 11.8 -2.3**
comp=Z,12nm,0.8s,mb5.0,baz=308,slow=7.4,SNR=5.5
SFJD Kangerlussuaq 55.97 22 *i* P **P 19 44 12.8 -1.2**
comp=Z,18nm,1.0s,mb5.1
SFJD Kangerlussuaq 55.97 22 *i* P **P 19 44 12.8 -1.2**
SFJD pmax pmax
comp=Z,18nm,1.0s,mb5.1
AMTX Amarillo 56.43 75⇑ *e*P **P 19 44 16.8 -0.6**
comp=Z,14nm,0.6s,mb5.2
AMTX LR LR
comp=Z,1µm,22.0s,MS5.0
KEV Kevo 57.85 349 *e*P **P 19 44 27.4 0.0**
comp=Z,1.8nm,0.4s,mb4.5
KEV LR LR
comp=Z,938nm,19.0s,MS4.9
JMIC Jan Mayen 57.97 4 *e* **P 19 44 17.6 -11**
ARCES ARCESS Array B 58.23 350 P **P 19 44 29.0 -1.0**
comp=Z,16nm,0.8s,mb5.1,baz=27,slow=7.4,SNR=83
ARCES LR LR 20 14 29.4
comp=Z,953nm,19.0s,MS4.9,baz=22,slow=41
ARCES ARCESS Array B 58.23 350 P **P 19 44 29.0 -1.1**
ARCES pmax pmax
comp=Z,16nm,0.8s
ARCES MLR MLR
comp=Z,953nm,19.0s
ARCES ARCESS Array B 58.23 350 P **P 19 44 29.0 -1.0**
ARCES LR LR 20 14 29.4
CD2 Chengdu 58.68 282 P **P 19 44 33.1 -0.1**
CD2 AP pP 19 44 45.7 -0.3
CD2 XP sP 19 44 51.1 -0.1
CD2 PCP PcP 19 45 22.7 0.0
CD2 PP PP 19 46 44.9 +1.7
CD2 SCP ScP 19 49 17.8 -1.6
CD2 PCS PcS 19 49 22.9 -1.6
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CD2 AMB AMB
comp=Z,210nm,10.5s
CD2 LR LR
comp=N,540nm,16.8s
CD2 LR LR
comp=Z,760nm,20.4s,MS4.8
TRO Tromso 58.76 353⇑ *i*P **P 19 44 32.1 -1.7**
TRO AMb AMB 19 44 38.4
comp=Z,22nm,1.0s,mb5.1
TRO *e*PP PP 19 46 43.4 -0.6
TRO *e*S **S 19 52 33.1 -2.5**
TRO Tromso 58.76 353 *e*P **P 19 44 32.6 -1.2**
KURK Kurchatov 58.91 313 P **P 19 44 34.3 -0.5**
comp=Z,271nm,0.9s,SNR=42
KURK Kurchatov 58.91 313 P **P 19 44 34.6 -0.2**
SNR=23
KURK Kurchatov 58.91 313⇑ *e*P **P 19 44 34.0 -0.8**
KURK pmax pmax
comp=Z,36nm,0.8s,mb5.5
KURK MLR MLR
comp=Z,2µm,19.0s,MS5.3
KURK Kurchatov 58.91 313⇑ *e*P **P 19 44 34.0 -0.8**
comp=Z,36nm,0.8s,mb5.5
KURK LR LR
comp=Z,2µm,19.0s,MS5.3
KTK1 Kautokeino 58.97 351 *e*P **P 19 44 35.1 -0.1**
LTX Lajitas 59.03 81 PFAKE 19 44 50.0 +14
LTX LR LR
comp=Z,798nm,20.0s,MS4.8
APA Apatity 59.05 346⇑ *i*P **P 19 44 34.5 -1.2**
APA *i* 19 45 24.5
APA *i* S **S 19 52 42.0 +2.8**
APA *i* 19 54 26.0
APA pmax pmax
comp=Z,30nm,1.3s,mb5.2
APA MLR MLR
comp=Z,1µm,20.0s,MS5.0
WMQ Urumqi 59.16 303 P **P 19 44 38.7 +2.2**
WMQ AP pP 19 44 51.4 +2.0
WMQ PCP PcP 19 45 26.5 +1.8
WMQ PP PP 19 46 51.5 +4.0
WMQ SCP ScP 19 49 21.9 +0.3
WMQ AMB AMB
comp=Z,136nm,2.1s,mb5.6
WMQ AMB AMB
comp=Z,469nm,5.5s
WMQ LR LR
comp=N,2µm,21.2s,MS5.4
WMQ LR LR
comp=E,2µm,20.1s,MS5.4
WMQ LR LR
comp=Z,2µm,21.7s,MS5.3
FUNA Funafuti 59.47 182 PFAKE 19 44 50.0 +11
FUNA LR LR
comp=Z,8µm,19.0s,MS5.9
MKAR Makanchi Array 59.89 308 P **P 19 44 41.3 -0.2**
comp=Z,17nm,0.6s,mb5.3,baz=48,slow=7.3,SNR=187
MKAR Makanchi Array 59.89 308 *i* P **P 19 44 41.2 -0.3**
MKAR pmax pmax
comp=Z,17nm,0.6s
GYA Guiyang 60.00 276⇑ *i*P **P 19 44 42.2 -0.1**
GYA PP PP 19 46 58.6 +3.7
GYA S **S 19 52 52.9 +1.4**
GYA AMB AMB
comp=Z,40nm,1.1s,mb5.4
GYA AMB AMB
comp=Z,260nm,9.6s
GYA LR LR
comp=N,670nm,18.6s,MS5.0
GYA LR LR
comp=E,840nm,18.4s,MS5.0
GYA LR LR
comp=Z,940nm,18.0s,MS5.0
SCHQ Schefferville 60.38 38 P **P 19 44 43.3 -1.6**
comp=Z,40nm,1.0s,mb5.4,baz=322,slow=7.0,SNR=20
SCHQ LR LR 20 12 49.4
comp=Z,2µm,18.2s,MS5.4,baz=198,slow=38
SCHQ Schefferville 60.38 38⇑ *e*P **P 19 44 43.2 -1.7**
comp=Z,39nm,0.9s,mb5.4
SCHQ LR LR
comp=Z,3µm,19.0s,MS5.4
CCM Cathedral Cave 60.44 65 PFAKE 19 45 00.0 +15
CCM LR LR
comp=Z,889nm,22.0s,MS4.9
JCT Junction City 60.61 77 *e*P **P 19 44 45.5 -1.0**
JCT pmax pmax
comp=Z,25nm,0.7s,mb5.5
JCT MLR MLR
comp=Z,2µm,19.0s,MS5.2
JCT Junction City 60.61 77 *e*P **P 19 44 45.5 -0.9**
comp=Z,25nm,0.7s,mb5.5
JCT LR LR
comp=Z,2µm,19.0s,MS5.2
SOKR Solikamsk 60.64 331 *e*P **P 19 44 45.5 -1.2**
SOKR PPP 19 48 36.7
SOKR S **S 19 53 11.9 +12**
SOKR SS SS 19 57 01.0 +2.3
SOKR pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
SOKR MLR MLR
comp=Z,1µm,18.0s,MS5.2
BVAR Borovoye Array 60.82 320 P **P 19 44 47.4 -0.5**
comp=Z,7.5nm,0.6s,mb5.0,baz=52,slow=7.4,SNR=56
BVAR Borovoye Array 60.82 320 P **P 19 44 47.4 -0.5**
BVAR pmax pmax
comp=Z,8.0nm,0.6s
BRVK Borovoye 60.84 320 P **P 19 44 47.3 -0.7**
comp=Z,129nm,1.1s,mb6.0,SNR=16
BRVK Borovoye 60.84 320 P **P 19 44 47.5 -0.5**
SNR=21
BRVK Borovoye 60.84 320⇑ *i*P **P 19 44 47.3 -0.7**
BRVK *e* 19 45 31.6
BRVK pmax pmax
comp=Z,31nm,1.3s,mb5.3
BRVK MLR MLR
comp=Z,2µm,22.0s,MS5.1
BRVK Borovoye 60.84 320⇑ *i*P **P 19 44 47.3 -0.7**
comp=Z,31nm,1.3s,mb5.3
BRVK *e*PcP PcP 19 45 31.6 +0.2
BRVK LR LR
comp=Z,2µm,22.0s,MS5.1
FVM French Village 60.95 65⇑ *e*P **P 19 44 47.6 -1.2**
FVM pmax pmax
comp=Z,12nm,0.6s,mb5.2
FVM French Village 60.95 65⇑ *e*P **P 19 44 47.6 -1.2**
comp=Z,12nm,0.6s,mb5.2
ZRNK Zerenda 61.44 320⇑ *e*P **P 19 44 51.3 -0.8**
ZRNK *e* 19 45 33.1
ZRNK pmax pmax
comp=Z,60nm,1.4s,mb5.5
ZRNK Zerenda 61.44 320⇑ *e*P **P 19 44 51.3 -0.8**
comp=Z,60nm,1.4s,mb5.5
ZRNK *e*PcP PcP 19 45 33.1 -0.7
MIAR Mount Ida 61.52 69⇑ *e*P **P 19 44 51.9 -0.7**
MIAR pmax pmax
comp=Z,28nm,0.9s,mb5.4
MIAR MLR MLR
comp=Z,899nm,19.0s,MS4.9
MIAR Mount Ida 61.52 69⇑ *e*P **P 19 44 51.9 -0.7**
comp=Z,28nm,0.9s,mb5.4
MIAR LR LR
comp=Z,899nm,19.0s,MS4.9
SVE Sverdlovsk 61.58 327⇑ *e*P **P 19 44 52.2 -0.8**
SVE *e* 19 45 35.0
SVE *e*S S 19 53 36.0 +24
SVE pmax pmax
comp=Z,24nm,1.3s,mb5.2
SVE MLR MLR
comp=N,1µm,18.0s,MS5.2
SVE MLR MLR
comp=E,600nm,18.0s,MS5.2
SVE MLR MLR
comp=Z,2µm,18.0s,MS5.4
AAM Ann Arbor 61.66 57 PFAKE 19 45 10.0 +16
AAM LR LR
comp=Z,1µm,19.0s,MS5.1
SADO Sadowa 62.23 52 P **P 19 44 56.2 -1.2**
comp=Z,20nm,1.0s,mb5.2,baz=327,slow=6.6,SNR=8.7
PARMO Parma 62.26 65 P **P 19 44 56.2 -1.3**
BLO Bloomington 62.31 61⇑ *i*P **P 19 44 57.2 -0.7**
BLO pmax pmax
comp=Z,102nm,1.1s,mb5.9
BLO Bloomington 62.31 61⇑ *i*P **P 19 44 57.2 -0.8**
comp=Z,102nm,1.1s,mb5.9
MOR8 Moi Rana 62.51 354 *e*P **P 19 44 57.2 -2.1**
MOR8 AMb AMB 19 45 03.5
comp=Z,18nm,0.9s,mb5.2
HBAR Harrisburg 62.52 67 P **P 19 44 56.2 -3.1**
USIN University of 62.52 63 *e*P **P 19 44 58.5 -0.8**
comp=Z,140nm,1.0s,mb6.0
ARU Arti 62.59 328 P **P 19 44 59.1 -0.7**
comp=Z,74nm,0.7s,mb5.9,SNR=5.4
ARU Arti 62.59 328⇓ *i*P **P 19 44 59.0 -0.8**
ARU *e* 19 45 37.4
ARU *e* 19 47 16.2
ARU *e*S **S 19 53 25.6 +1.1**
ARU *e*SS SS 19 57 39.3 +10
ARU pmax pmax
comp=Z,12nm,0.9s,mb5.0
ARU MLR MLR
comp=N,1µm,18.0s,MS5.1
ARU MLR MLR
comp=Z,2µm,18.0s,MS5.2
ARU MLR MLR
comp=E,700nm,19.0s,MS5.1
ARU Arti 62.59 328⇑ *i*P **P 19 44 59.2 -0.6**
comp=E,2.2nm,1.3s,mb4.1
ARU LR LR
comp=Z,2µm,19.0s,MS5.2
GLAT Glass 62.80 65 *e*P **P 19 45 00.8 -0.4**
NATX Nacogdoches 62.83 72 PFAKE 19 45 10.0 +8.6
NATX LR LR
comp=Z,2µm,21.0s,MS5.3
HNR Honiara 62.97 203 PFAKE 19 45 10.0 +7.7
HNR LR LR
comp=Z,1µm,20.0s,MS5.1
UTMT University of 62.99 65 *e*P **P 19 45 02.9 +0.4**
comp=Z,87nm,0.4s,mb6.2
DAV Davao City (W) 63.08 246 PFAKE 19 45 10.0 +6.9
DAV LR LR
comp=Z,1µm,20.0s,MS5.1
WCI Wyandotte Cave 63.10 62⇑ *i*P **P 19 45 02.6 -0.6**
WCI pmax pmax
comp=Z,38nm,0.8s,mb5.6
WCI MLR MLR
comp=Z,1µm,19.0s,MS5.2
WCI Wyandotte Cave 63.10 62⇑ *i*P **P 19 45 02.5 -0.7**
comp=Z,38nm,0.8s,mb5.6
WCI LR LR
comp=Z,1µm,19.0s,MS5.2
BORG Borgarnes 63.16 10 PFAKE 19 45 20.0 +16
BORG LR LR
comp=Z,789nm,19.0s,MS4.9
HKT Hockley 63.41 75 *e*P **P 19 45 04.7 -0.5**
HKT pmax pmax
comp=Z,17nm,1.1s,mb5.1
HKT MLR MLR
comp=Z,1µm,22.0s,MS5.1
HKT Hockley 63.41 75 *e*P **P 19 45 04.7 -0.5**
comp=Z,17nm,1.1s,mb5.1
HKT LR LR
comp=Z,1µm,22.0s,MS5.1
QIZ Qiongzhong 63.41 268 *e*P **P 19 45 06.2 +0.9**
QIZ AP pP 19 45 20.2 +2.0
QIZ PP PP 19 47 26.6 +1.6
QIZ S **S 19 53 34.7 0.0**
QIZ SCS ScS 19 54 54.9 +0.2
QIZ AMB AMB
comp=Z,22nm,1.9s,mb5.0
QIZ AMB AMB
comp=Z,273nm,6.7s
QIZ LR LR
comp=N,467nm,20.9s
KMI Kunming 63.41 278 P **P 19 45 05.5 +0.2**
KMI AP pP 19 45 20.1 +1.9
KMI PP PP 19 47 26.2 +1.2
KMI AMB AMB
comp=Z,14nm,1.1s,mb5.0
KMI AMB AMB
comp=Z,202nm,5.4s
KMI LR LR
comp=N,726nm,17.3s,MS5.0
KMI LR LR
comp=E,482nm,18.3s,MS5.0
KMI LR LR
comp=Z,614nm,27.9s
ACSO Alum Creek Sta 63.48 58 *e*P **P 19 45 05.7 -0.1**
comp=Z,11nm,0.8s,mb5.0
ACSO LR LR
comp=Z,687nm,19.0s,MS4.8
JOF Joensuu 63.70 345 *e*p **P 19 45 06.5 -0.7**
comp=Z,17nm,0.5s,mb5.3
JOF Joensuu 63.70 345 *e*P **P 19 45 06.5 -0.7**
JOF pmax pmax
comp=Z,17nm,0.5s,mb5.3
ERPA Erie 63.70 55 *e*P **P 19 45 06.8 -0.4**
comp=Z,31nm,0.8s,mb5.4
ERPA LR LR
comp=Z,1µm,19.0s,MS5.2
WVT Waverly 63.73 64 *e*P **P 19 45 06.5 -0.9**
WVT pmax pmax
comp=Z,29nm,1.0s,mb5.3
WVT MLR MLR
comp=Z,1µm,19.0s,MS5.1
WVT Waverly 63.73 64 *e*P **P 19 45 06.5 -0.9**
comp=Z,29nm,1.0s,mb5.3
WVT LR LR
comp=Z,1µm,19.0s,MS5.1
ALLY Alegheny Colle 63.96 55 *e*P **P 19 45 08.3 -0.6**
OXF Oxford 63.98 67 *e*P **P 19 45 08.0 -1.0**
OXF pmax pmax
comp=Z,107nm,0.9s,mb5.9
OXF MLR MLR
comp=Z,715nm,21.0s,MS4.8
OXF Oxford 63.98 67 *e*P **P 19 45 08.0 -1.0**
comp=Z,107nm,0.9s,mb5.9
OXF LR LR
comp=Z,715nm,21.0s,MS4.8
KLMR Klimovskoe 64.05 340 *c i*P **P 19 45 08.8 -0.7**
KLMR *e*S **S 19 53 44.9 +2.3**
KLMR pmax pmax
comp=Z,80nm,1.3s,mb5.6
KLMR pmax pmax
comp=Z,160nm,11.7s
KLMR MLR MLR
comp=Z,2µm,15.0s,MS5.5
PLAL Pickwick Lake 64.41 66 *e*P **P 19 45 10.8 -1.0**
comp=Z,30nm,0.6s,mb5.5
PLAL LR LR
comp=Z,852nm,19.0s,MS5.0
NCB Newcomb 65.23 50 PFAKE 19 45 30.0 +13
NCB LR LR
comp=Z,2µm,19.0s,MS5.3
KAF Kangasniemi 65.23 347 *e*p **P 19 45 16.4 -0.8**
comp=Z,14nm,0.4s,mb5.4,baz=14,slow=6.0
KAF Kangasniemi 65.23 347 *e*P **P 19 45 16.4 -0.8**
KAF pmax pmax
comp=Z,15nm,0.4s,mb5.4
MCWV Mont Chateau 65.56 57 PFAKE 19 45 30.0 +11
MCWV LR LR
comp=Z,3µm,19.0s,MS5.5
BINY Binghamton 65.68 53 *e*P **P 19 45 19.3 -0.8**
comp=Z,43nm,1.1s,mb5.4
BINY LR LR
comp=Z,2µm,20.0s,MS5.2
TZTN Tazewell 65.83 61 *e*P **P 19 45 21.0 -0.1**
SSPA Standing Stone 65.87 55 *e*P **P 19 45 20.5 -0.8**
comp=Z,23nm,0.8s,mb5.3
SSPA LR LR
comp=Z,2µm,19.0s,MS5.2
FINES FINESS Array B 65.91 347 P **P 19 45 20.4 -1.2**
comp=Z,17nm,0.6s,mb5.2,baz=22,slow=4.9,SNR=118
FINES LR LR 20 19 52.0
comp=Z,2µm,18.1s,MS5.2,baz=188,slow=41
FINES FINESS Array B 65.91 347 *i* P **P 19 45 20.3 -1.2**
FINES pmax pmax
comp=Z,17nm,0.6s
ACCN Adirondack Com 65.94 50 *e*P **P 19 45 20.6 -1.1**
TKM2 Tokmak 2 65.98 309 P **P 19 45 23.7 +1.7**
SNR=30
CPCT Cooper Cave 66.08 63 *e*P **P 19 45 22.0 -0.7**
LBNH Lisbon 66.12 49 *e*P **P 19 45 20.8 -2.1**
LBNH pmax pmax
comp=Z,21nm,1.0s,mb5.1
LBNH MLR MLR
comp=Z,2µm,20.0s,MS5.3
LBNH Lisbon 66.12 49 *e*P **P 19 45 20.8 -2.1**
comp=Z,21nm,1.0s,mb5.1
LBNH LR LR
comp=Z,2µm,20.0s,MS5.3
ULHL Ulahol 66.16 308 P **P 19 45 24.5 +1.3**
SNR=7.9
USP Ospenovka 66.25 310 P **P 19 45 24.4 +0.7**
SNR=42
CHMS Chumysh 66.33 310 P **P 19 45 25.9 +1.7**
SNR=14
HNH Hanover 66.36 49 *e*P **P 19 45 21.4 -3.0**
comp=Z,1.4nm,0.9s
LRAL Lakeview Retre 66.43 66 *e*P **P 19 45 23.6 -1.3**
comp=Z,23nm,0.7s,mb5.3
LRAL LR LR
comp=Z,835nm,21.0s,MS4.9
KBK Karagaybulak 66.49 309 P **P 19 45 26.9 +1.6**
SNR=7.4
FRU Bishkek 66.52 310 *e*P **P 19 45 26.0 +0.5**
FRU pmax pmax
comp=Z,120nm,1.6s,mb5.7
FRU MLR MLR
comp=Z,2µm,18.0s,MS5.2
FWV Forest Hill 66.57 59 *e*P **P 19 45 25.4 -0.4**
AAK Ala-Archa 66.73 310 P **P 19 45 28.7 +1.9**
SNR=22
AAK Ala-Archa 66.73 310 P **P 19 45 27.5 +0.7**
comp=Z,256nm,0.8s,SNR=17
AAK Ala-Archa 66.73 310 P **P 19 45 27.1 +0.3**
SNR=32
AAK Ala-Archa 66.73 310 *e*P **P 19 45 26.5 -0.3**
AAK pmax pmax
comp=Z,34nm,0.8s,mb5.4
AAK MLR MLR
comp=Z,1µm,19.0s,MS5.2
AAK Ala-Archa 66.73 310 *e*P **P 19 45 26.5 -0.3**
comp=Z,34nm,0.8s,mb5.4
AAK LR LR
comp=Z,1µm,19.0s,MS5.2
KZA Kyzart 66.78 309 P **P 19 45 28.6 +1.5**
SNR=9.2
ELN Prospectdale 66.86 59 *e*P **P 19 45 26.9 -0.7**
PMG Port Moresby 66.93 216 PFAKE 19 45 40.0 +12
PMG LR LR
comp=Z,1µm,19.0s,MS5.1
PECR Pechory 67.01 335 *i* P **P 19 45 27.5 -1.1**
PECR *e*S S 19 54 28.0 +9.2
PECR pmax pmax
comp=Z,500nm,1.2s
PECR MLR MLR
comp=Z,2µm,20.0s,MS5.3
UCH Uchtor 67.03 309 P **P 19 45 30.1 +1.4**
SNR=22
BLA Blacksburg 67.05 59 *e*P **P 19 45 28.2 -0.6**
BLA pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BLA MLR MLR
comp=Z,89nm,20.0s,MS4.0
BLA Blacksburg 67.05 59 *e*P **P 19 45 28.2 -0.6**
comp=Z,1.9nm,0.9s,mb4.1
BLA LR LR
comp=Z,89nm,20.0s,MS4.0
EKS2 Erkin-Say 67.06 310 P **P 19 45 29.9 +1.0**
SNR=65
LSA Lhasa 67.18 289 P **P 19 45 31.8 +2.1**
AML Almayashu 67.50 310 P **P 19 45 33.9 +2.3**
SNR=9.0
HRV Harvard--Oak R 67.61 50 PFAKE 19 45 40.0 +7.6
HRV LR LR
comp=Z,2µm,20.0s,MS5.2
AKTK Aktyubinsk 67.65 324 P **P 19 45 32.3 -0.3**
AKTO Aktyubinsk 67.65 324 P **P 19 45 32.3 -0.4**
comp=Z,4.3nm,0.5s,mb4.8,baz=45,slow=6.4,SNR=19
AKTO Aktyubinsk 67.65 324 P **P 19 45 32.3 -0.3**
AKTO pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
NB2 NORSAR Subarra 67.82 354 P **P 19 45 32.8 -0.9**
comp=Z,42nm,1.2s,mb5.3,baz=4.7,slow=6.2
NOA NORSAR Array B 67.82 354 P **P 19 45 33.0 -0.6**
comp=Z,20nm,1.0s,mb5.1,baz=6.1,slow=6.3,SNR=36
NOA LR LR 20 16 05.5
comp=Z,650nm,21.1s,MS4.8,baz=0.0,slow=37
NOA NORSAR Array B 67.82 354 P **P 19 45 33.1 -0.6**
NOA pmax pmax
comp=Z,21nm,1.0s

NOA MLR MLR
comp=Z,650nm,21.1s
WES Weston 67.82 50 *e*P **P 19 45 31.8 -1.9**
WES pmax pmax
comp=Z,24nm,0.8s,mb5.3
WES MLR MLR
comp=Z,2µm,21.0s,MS5.2
WES Weston 67.82 50 *e*P **P 19 45 31.8 -1.9**
comp=Z,24nm,0.8s,mb5.3
WES LR LR
comp=Z,2µm,21.0s,MS5.2
CBN Corbin 67.94 56 PFAKE 19 45 50.0 +16
CBN LR LR
comp=Z,4µm,20.0s,MS5.6
NAO01 NORSAR Array S 68.03 355 *e*P **P 19 45 33.2 -1.8**
comp=Z,1.7nm,0.4s,mb4.4
NAO01 LR LR
comp=Z,1µm,20.0s,MS5.1
GOGA Godfrey 68.17 64 PFAKE 19 45 50.0 +14
GOGA LR LR
comp=Z,12µm,21.0s,MS6.1
KSH Kashi 68.34 306 ⇑P **P 19 45 38.8 +1.8**
KSH *e*AP pP 19 45 49.2 -0.9
KSH *e*PCP PcP 19 46 04.2 +1.9
KSH *e*PP PP 19 48 12.1 +4.0
KSH *e*SCP 19 50 02.4
KSH *e*PCS 19 50 11.6
KSH *e*S S 19 54 35.8 +1.0
KSH *e*SCS ScS 19 55 31.0 -1.8
KSH *e*SS SS 19 59 01.0 +2.4
KSH AMB AMB
comp=Z,883nm,3.6s
KSH LR LR
comp=N,3µm,16.0s,MS5.7
KSH LR LR
comp=E,3µm,17.8s,MS5.7
KSH LR LR
comp=Z,2µm,16.0s,MS5.4
HFS Hagfors 68.55 353 P **P 19 45 37.3 -0.9**
comp=Z,7.4nm,0.3s,mb5.1,baz=24,slow=8.1,SNR=74
HFS Hagfors 68.55 353 P **P 19 45 37.3 -0.9**
HFS pmax pmax
comp=Z,7.0nm,0.3s
VSU Vasula 68.66 346 ⇑*i*P **P 19 45 38.2 -0.8**
TAOE Nuku Hiva Isla 68.70 138 *e*LR LR 20 06 21.8
comp=Z,8µm,22.8s,baz=341
BER Bergen 68.73 358 *e*P **P 19 45 41.2 +1.8**
BER *e*S S 19 54 41.2 +1.8
KONO Kongsberg 69.29 355 *e*P **P 19 45 41.5 -1.4**
KONO *e*S S 19 54 41.4 -4.6
KONO *e*SS SS 19 59 13.1 -0.2
KONO Kongsberg 69.29 355 *e*P **P 19 45 42.0 -0.9**
KONO pmax pmax
comp=Z,36nm,1.0s,mb5.3
KONO MLR MLR
comp=Z,827nm,21.0s,MS5.0
KONO Kongsberg 69.29 355 *e*P **P 19 45 42.0 -0.9**
comp=Z,36nm,1.0s,mb5.3
KONO LR LR
comp=Z,827nm,21.0s,MS5.0
OBN Obninsk 69.94 339 P **P 19 45 46.5 -0.3**
comp=Z,514nm,1.0s,SNR=8.7
OBN Obninsk 69.94 339*c i*P **P 19 45 46.3 -0.5**
OBN *i* *PP pP 19 46 00.4 +0.4
OBN *i* 19 46 05.0
OBN *e*S S 19 55 00.2 +6.6
OBN pmax pmax
comp=Z,81nm,1.0s,mb5.6
OBN MLR MLR
comp=Z,3µm,24.0s,MS5.5
OBN Obninsk 69.94 339 *e*P **P 19 45 45.4 -1.5**
comp=Z,79nm,0.9s,mb5.6
OBN LR LR
comp=Z,3µm,19.0s,MS5.5
CM31 Chiang Mai Arr 70.69 276 PFAKE 19 46 00.0 +8.5
CM31 LR LR
comp=Z,610nm,19.0s,MS4.9
VRHR Novokhopersk 72.34 334 *e*P **P 19 45 59.6 -1.8**
VRHR pmax pmax
comp=N,30nm,1.3s
VRHR pmax pmax
comp=E,40nm,1.7s
VRHR pmax pmax
comp=Z,20nm,1.2s,mb4.9
MUD Monsted U'grnd 72.50 355 ⇑*i*P **P 19 46 02.5 +0.1**
comp=Z,42nm,1.1s,mb5.3
MUD *i* S S 19 55 31.1 +7.8
MUD
comp=Z,610nm,20.0s
MUD Monsted U'grnd 72.50 355 ⇑*i*P **P 19 46 02.5 +0.1**
MUD *i* S S 19 55 31.1 +7.8
MUD pmax pmax
comp=Z,42nm,1.1s,mb5.3
MUD MLR MLR
comp=Z,620nm,20.0s,MS4.9
MUD Monsted U'grnd 72.50 355 ⇑*i*P **P 19 46 02.5 +0.1**
comp=Z,42nm,1.1s,mb5.3
MUD *i* S S 19 55 31.1 +7.8
VRSR Storozhevoye 72.88 336 *e*P **P 19 46 03.6 -1.0**
VRSR pmax pmax
comp=Z,30nm,1.1s,mb5.1
VRSR pmax pmax
comp=N,30nm,1.3s
VRSR pmax pmax
comp=E,20nm,1.2s
PPT Papeete 73.25 150 *e*S S 19 55 30.1 -1.7
comp=E,3µm,27.8s
PPT *e*SS SS 20 00 11.3 -2.7
comp=E,392nm,23.8s
PPT *e*LR LR 20 08 15.5
comp=E,2µm,27.5s,baz=346
PPT Papeete 73.25 150 LR LR 20 12 02.3
comp=E,919nm,18.6s,MS5.1,baz=334,slow=31
DWPF Disney 73.29 66 *e*P **P 19 46 03.8 -3.2**
comp=E,24nm,0.7s,mb5.2
DWPF LR LR
comp=Z,823nm,19.0s,MS5.0
BSD Bornholm Skovb 73.42 352 ⇑*i*P **P 19 46 07.0 -0.8**
comp=Z,17nm,0.5s,mb5.2
BSD *i* S S 19 55 34.2 +0.6
BSD
comp=Z,820nm,20.0s
BSD Bornholm Skovb 73.42 352 ⇑*i*P **P 19 46 07.0 -0.8**
BSD *i* S S 19 55 34.2 +0.6
BSD pmax pmax
comp=Z,17nm,0.5s,mb5.2
BSD MLR MLR
comp=Z,820nm,20.0s,MS5.0
BSD Bornholm Skovb 73.42 352 ⇑*i*P **P 19 46 07.0 -0.8**
comp=Z,17nm,0.5s,mb5.2
BSD *i* S S 19 55 34.2 +0.6
SUW Suwalki 73.50 346 *e*P **P 19 46 07.1 -1.1**
comp=Z,0.1nm,1.1s
SUW L 20 24 03.1
comp=Z,1.2nm,16.7s
SUW Suwalki 73.50 346⇑*e*P **P 19 46 07.1 -1.1**
SUW pmax pmax
comp=Z,100nm,1.1s,mb5.7
SUW MLR MLR
comp=Z,1µm,16.7s,MS5.2
LGTI Lohaghat 73.69 297 *i* P **P 19 46 11.5 +2.2**
EKA Eskdalemuir Ar 73.81 2 P **P 19 46 09.8 -0.2**
comp=Z,12nm,0.9s,mb4.8,baz=3.3,slow=6.3,SNR=19
EKA Eskdalemuir Ar 73.81 2 P **P 19 46 09.9 -0.2**
EKA pmax pmax
comp=Z,12nm,0.9s
ESK Eskdalemuir 73.83 2 *e*P **P 19 46 09.8 -0.4**
ESK pmax pmax
comp=Z,19nm,1.0s,mb5.0
ESK MLR MLR
comp=Z,747nm,21.0s,MS5.0
ESK Eskdalemuir 73.83 2 *e*P **P 19 46 09.8 -0.4**
comp=Z,19nm,1.0s,mb5.0
ESK LR LR
comp=Z,747nm,21.0s,MS5.0
RGN Rugen 74.12 352 *e*P **P 19 46 12.3 +0.4**
comp=Z,140nm,1.0s,mb5.8
NIL Nilore 74.25 304 P **P 19 46 14.4 +1.8**
comp=Z,276nm,0.8s,mb6.2,SNR=8.2
GKP Gorka Klasztor 75.00 350 *e*P **P 19 46 16.5 -0.5**
GKP L 20 24 10.3
comp=Z,1.4nm,20.3s
DMUB Kingscourt 75.11 5 *e*P **P 19 46 14.2 -3.4**
TEIG Tepich 75.17 76 PFAKE 19 46 30.0 +12
TEIG LR LR
comp=Z,230nm,22.0s,MS4.4

WAR Warsaw 75.53 347 *e*P **P 19 46 20.5 +0.5**
WAR *e*SKS 19 56 41.0
WAR L 20 23 39.2
comp=Z,1.2nm,21.4s
WAR Warsaw 75.53 347 *e*P **P 19 46 20.5 +0.5**
WAR *e* 19 56 41.0
WAR MLR MLR
comp=Z,1µm,21.4s,MS5.2
AKASG Malin Array Be 75.63 342 P **P 19 46 20.1 -0.5**
comp=Z,29nm,0.3s,mb5.7,baz=21,slow=6.0,SNR=146
AKASG LR LR 20 24 11.8
comp=Z,616nm,18.3s,MS5.0,baz=20,slow=39
AKASG Malin Array Be 75.63 342 P **P 19 46 20.1 -0.5**
AKASG pmax pmax
comp=Z,29nm,0.3s
AKASG MLR MLR
comp=Z,616nm,18.3s
DCN Croghan 75.64 5 *e*P **P 19 46 16.9 -3.8**
DLF Lyons Farm 75.73 4 *e*P **P 19 46 17.6 -3.6**
DSB Dublin 75.78 4 *e*P **P 19 46 21.2 -0.3**
comp=Z,15nm,0.8s,mb5.0
NDI New Delhi 75.97 298 *e*P **P 19 46 22.0 -0.5**
RUE Ruedersdorf 76.13 352 *e*P **P 19 46 23.1 -0.3**
comp=Z,38nm,0.9s,mb5.3
KAKA Kakadu 76.15 229 *e*P **P 19 46 22.2 -1.4**
comp=Z,15nm,0.8s,mb5.0
WIT Witteveen 76.26 356⇑*i*P **P 19 46 25.5 +1.3**
comp=Z,218nm,1.2s,mb6.0
IBBN Ibbenburen 76.72 356 *e*P **P 19 46 27.0 +0.2**
CLZ Clausthal 77.03 354 *e*P **P 19 46 28.8 +0.3**
comp=Z,74nm,1.3s,mb5.5
CLZ Clausthal 77.03 354 *e*P **P 19 46 28.8 +0.3**
CLZ pmax pmax
comp=Z,74nm,1.3s,mb5.5
WTSB Winterswijk 77.10 356⇑*i*P **P 19 46 28.9 -0.1**
comp=Z,41nm,1.2s,mb5.2
CTA Charters Tower 77.12 213 *e*P **P 19 46 27.6 -1.5**
comp=Z,8.2nm,1.0s,mb4.6
CTA Charters Tower 77.12 213 P **P 19 46 27.9 -1.2**
comp=Z,4.3nm,0.9s,mb4.4,baz=32,slow=6.7,SNR=3.3
CTA Charters Tower 77.12 213 P **P 19 46 27.9 -1.2**
CTA pmax pmax
comp=Z,4.0nm,0.9s
CTAO Charters Tower 77.12 213 *e*P **P 19 46 25.7 -3.4**
CTAO pmax pmax
comp=Z,32nm,1.4s,mb5.1
CTAO MLR MLR
comp=Z,1µm,22.0s,MS5.1
CTAO Charters Tower 77.12 213 *e*P **P 19 46 25.7 -3.3**
comp=Z,32nm,1.4s,mb5.1
CTAO LR LR
comp=Z,1µm,22.0s,MS5.1
GTTG Gyttingen 77.35 354 *e*P **P 19 46 30.4 +0.1**
CLL Collm 77.36 352⇑*i*P **P 19 46 29.8 -0.6**
comp=Z,20nm,0.9s,mb5.0
CLL *e*PP PP 19 49 20.7 -4.3
CLL *e*PPP 19 51 15.5
CLL *e*S S 19 56 25.3 +8.0
CLL *e*PPS 19 57 09.4
CLL *e*SS SS 20 01 34.2 +18
CLL *e*SSSS 20 07 05.5
CLL *e*LR LR 20 12 01.8
CLL *e*L 20 28 33.0
comp=Z,1µm,18.0s
CLL Collm 77.36 352 ⇑P **P 19 46 29.9 -0.5**
comp=Z,logA/T=1.3,mb5.0
CLL *i* 19 46 35.3
CLL *e*PP PP 19 49 24.0 -1.0
CLL *e*PPP 19 51 12.0
CLL *e*S S 19 56 19.0 +1.7
CLL *e*PPS 19 57 18.0
CLL *e*SS SS 20 01 24.0 +7.7
CLL *e* 20 07 00.0
CLL Collm 77.36 352⇑*i*P **P 19 46 29.9 -0.5**
comp=Z,19nm,0.9s,mb5.0
CLL *i* x x 19 46 35.3
CLL *e*PP PP 19 49 24.0 -1.0
CLL *e*PPP 19 51 12.0
CLL *e*S S 19 56 19.0 +1.7
CLL *e*PPS 19 57 18.0
CLL *e*SS SS 20 01 24.0 +7.7
CLL *e*x x 20 06 18.0
CLL *e*SSSS 20 07 00.0
CLL Collm 77.36 352⇑*i*P **P 19 46 29.9 -0.5**
CLL *e*S S 19 56 19.0 +1.7
CLL pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CLL MLR MLR
comp=Z,1µm,17.0s,MS5.2
CLL Collm 77.36 352⇑*i*P **P 19 46 29.9 -0.5**
comp=Z,19nm,0.9s,mb5.0
CLL *e*S S 19 56 19.0 +1.7
CLL LR LR
comp=Z,1µm,17.0s,MS5.2
GOF Gofitskoye 77.38 331 *e*P **P 19 46 29.7 -0.8**
GOF pmax pmax
comp=Z,130nm,1.3s,mb5.7
LVV L'vov 77.43 345 *i* P **P 19 46 21.3 -9.5**
KSP Ksiaz 77.49 350 *e*P **P 19 46 30.8 -0.3**
KSP *e*SKS 19 57 09.6
KSP L 20 26 08.1
comp=Z,2.6nm,20.4s
KSP Ksiaz 77.49 350 *e*P **P 19 46 30.5 -0.6**
KSP *e*S S 19 56 19.0 +0.2
KSP LR LR
comp=Z,3µm,20.4s,MS5.6
BUG Bochum--Univer 77.61 356 *e*P **P 19 46 31.4 -0.4**
comp=Z,37nm,1.1s,mb5.2
OJC Ojcow 77.67 348 *i* P **P 19 46 32.1 0.0**
OJC *e*PcP PcP 19 46 43.4 +1.3
OJC *e*S S 19 56 19.5 -1.2
OJC L 20 26 01.2
comp=Z,6.1nm,19.6s
BRG Berggiesshubel 77.70 351 *e*P **P 19 46 31.7 -0.6**
comp=Z,23nm,1.0s,mb5.1
BRG Berggiesshubel 77.70 351 *e*P **P 19 46 31.9 -0.4**
comp=Z,14nm,1.0s,mb4.8
BRG S S 19 56 30.0 +9.0
BRG SS SS 20 01 27.0 +5.5
BRG
comp=N,402nm,20.6s
BRG
comp=E,323nm,19.3s
BRG
comp=Z,464nm,18.6s
BRG Berggiesshubel 77.70 351 *e*P **P 19 46 31.9 -0.4**
BRG S S 19 56 30.0 +9.0
BRG SS SS 20 01 27.0 +5.5
BRG pmax pmax
comp=Z,14nm,1.0s,mb4.8
BRG MLR MLR
comp=N,402nm,20.6s,MS4.8
BRG MLR MLR
comp=E,323nm,19.3s,MS4.8
BRG MLR MLR
comp=Z,464nm,18.6s,MS4.8
MAK Makhachkala 77.78 327 *e*P **P 19 46 31.8 -1.0**
MAK *e* 19 49 30.7
MAK *e*PPP 19 51 17.5
MAK *e*S S 19 56 23.4 +1.5
MAK *e* 19 56 47.4
MAK pmax pmax
comp=Z,87nm,1.3s,mb5.5
MAK MLR MLR
comp=Z,3µm,16.0s,MS5.7
KWP Kalwaria 77.82 346 *e*P **P 19 46 33.6 +0.6**
comp=Z,0.3nm,1.1s
KWP *e*PcP PcP 19 46 39.2 -3.6
KWP L 20 27 27.2
comp=Z,2.2nm,18.3s
KWP Kalwaria 77.82 346⇑*e*P **P 19 46 33.6 +0.6**
KWP *e* 19 46 39.2
KWP pmax pmax
comp=Z,300nm,1.1s,mb6.1
KWP MLR MLR
comp=Z,2µm,18.3s,MS5.5
KWP Kalwaria 77.82 346⇑*e*P **P 19 46 33.6 +0.6**
KWP *e*PcP PcP 19 46 39.2 -3.6
UPC Upice 77.85 350⇑*i*P **P 19 46 32.5 -0.7**
DPC Dobruska-Polom 77.97 350⇑*i*P **P 19 46 33.8 0.0**
DPC *e*S S 19 56 24.3 +0.3
DPC AMS AMS 20 27 30.0
comp=Z,2µm,18.1s
PVCC Panska Ves 77.98 351⇑*i*P **P 19 46 33.6 -0.3**
PVCC AMS AMS 20 27 10.0

comp=Z,1µm,17.8s
UBBA Unterbreizbach 78.07 354 *e*P **P 19 46 33.8 -0.6**
MOX Moxa 78.13 353 *e*P **P 19 46 34.4 -0.3**
comp=Z,24nm,1.0s,mb5.1
MOX Moxa 78.13 353 *e*P **P 19 46 34.5 -0.2**
comp=Z,32nm,1.3s,mb5.1
MOX
comp=Z,600nm,20.0s
MOX Moxa 78.13 353 *e*P **P 19 46 34.5 -0.2**
MOX pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
MOX MLR MLR
comp=Z,32µm,20.0s
STHS Stebnicka Huta 78.25 346 *i* P **P 19 46 36.0 +0.6**
STHS pmax pmax
comp=Z,36nm,0.9s,mb5.3
STHS Stebnicka Huta 78.25 346 *i* P **P 19 46 36.0 +0.6**
comp=Z,36nm,0.9s,mb5.3
OKC Ostrava-Krasne 78.26 349⇑*i*P **P 19 46 35.4 0.0**
OKC *ex* x 19 56 57.5
OKC AMS AMS 20 26 40.0
comp=Z,1µm,18.2s
OKC Ostrava-Krasne 78.26 349⇑*i*P **P 19 46 35.4 0.0**
OKC *e*S ScS 19 56 57.5 +5.5
TANN Tannenbergstha 78.29 352 *e*P **P 19 46 35.4 -0.2**
BEBN Eben Emael 78.31 357 P **P 19 46 35.4 -0.3**
HGN Heimansgroeve 78.34 357⇑*i*P **P 19 46 35.8 -0.1**
comp=Z,50nm,1.0s,mb5.4
HGN *e*S S 19 56 29.4 +1.5
HGN *e*SS SS 20 01 58.7 +28
UCC Uccle 78.36 358 P **P 19 46 35.3 -0.7**
NIE Niedzica 78.39 347 *e*P **P 19 46 36.5 +0.4**
MORC Moravsky Berou 78.40 349‖*i*P **P 19 46 36.0 -0.2**
MORC Moravsky Berou 78.40 349 P **P 19 46 36.2 0.0**
NKC Novy Kostel 78.47 352⇑*i*P **P 19 46 36.5 -0.1**
KIV Kislovodsk 78.48 330 P **P 19 46 37.4 +0.8**
comp=Z,141nm,1.3s,mb5.7,SNR=5.8
KIV Kislovodsk 78.48 330 P **P 19 46 37.4 +0.8**
SNR=9.1
KIV Kislovodsk 78.48 330⇑*i*P **P 19 46 37.0 +0.4**
KIV *e* 19 46 42.1
KIV *e*S S 19 56 36.1 +6.8
KIV pmax pmax
comp=Z,41nm,1.3s,mb5.2
KIV MLR MLR
comp=Z,2µm,25.0s,MS5.2
KIV Kislovodsk 78.48 330 *e*P **P 19 46 35.7 -0.9**
comp=Z,32nm,1.1s,mb5.2
KIV LR LR
comp=Z,1µm,22.0s,MS5.2
MEM Membach 78.49 357 P **P 19 46 36.5 -0.2**
comp=Z,25nm,0.9s,mb5.1
KOLS Kolonicke sedl 78.57 346 *e*P **P 19 46 37.4 +0.3**
KOLS pmax pmax
comp=Z,41nm,0.9s,mb5.4
KOLS Kolonicke sedl 78.57 346 *e*P **P 19 46 37.4 +0.3**
comp=Z,41nm,0.9s,mb5.4
MENF Mencas 78.64 359⇑*e*P **P 19 46 37.3 -0.2**
SNF Seneffe 78.65 358 P **P 19 46 37.5 0.0**
comp=Z,12nm,0.9s,mb4.8
BCLA Clavier 78.70 357 P **P 19 46 37.8 -0.1**
comp=Z,15nm,9.0s
CRVS Cervenica-Dubn 78.72 346 *e*P **P 19 46 38.4 +0.4**
CRVS pmax pmax
comp=Z,12nm,0.8s,mb4.9
CRVS Cervenica-Dubn 78.72 346 *e*P **P 19 46 38.4 +0.4**
comp=Z,12nm,0.8s,mb4.9
TBI Tubuai 78.73 152 *e*S S 19 56 30.6 -1.5
comp=Z,1µm,30.8s
TBI *e*SS SS 20 01 35.9 -1.1
comp=Z,266nm,24.5s
TBI *e*LR LR 20 10 51.2
comp=Z,2µm,22.0s,baz=338
MANZ Manzenberg 78.74 352 *e*P **P 19 46 37.9 -0.2**
BBSR BB Station 78.94 52 PFAKE 19 46 50.0 +11
BBSR LR LR
comp=Z,733nm,19.0s,MS5.0
ROTZ Rotzenmuhle 78.95 352 *e*P **P 19 46 39.3 +0.1**
VRAC Vranov 78.97 349⇑*i*P **P 19 46 39.7 +0.4**
VRAC Vranov 78.97 349 P **P 19 46 39.7 +0.4**
GIVF Givet 79.04 357⇑*i*P **P 19 46 39.5 -0.2**
comp=Z,43nm,1.0s,mb5.0
GIVF Givet 79.04 357⇑*i*P **P 19 46 39.5 -0.2**
GIVF pmax pmax
comp=Z,21nm,1.0s,mb5.0
GIVF Givet 79.04 357⇑*i*P **P 19 46 39.5 -0.2**
comp=Z,21nm,1.0s,mb5.0
DOU Dourbes 79.05 357 P **P 19 46 39.3 -0.4**
comp=Z,11nm,0.9s,mb4.8
BAIF Baives 79.10 358⇑*i*P **P 19 46 40.2 +0.2**
comp=Z,69nm,0.9s,mb5.3
BAIF Baives 79.10 358⇑*i*P **P 19 46 40.2 +0.2**
BAIF pmax pmax
comp=Z,35nm,0.9s,mb5.3
BAIF Baives 79.10 358⇑*i*P **P 19 46 40.2 +0.2**
comp=Z,34nm,0.9s,mb5.3
GRA1 Grafenberg Arr 79.11 353 *e*P **P 19 46 40.3 +0.2**
comp=Z,47nm,1.0s,mb5.4
GRA1 *e*S S 19 56 47.4 +11
GRA1 *e*SS SS 20 01 45.1 +2.5
GRA1 LR LR
comp=Z,600nm,21.4s,MS4.9
GRF Grafenberg Arr 79.11 353 *e*P **P 19 46 40.3 +0.2**
comp=Z,47nm,1.0s,mb5.4
GRF *e*S S 19 56 47.4 +11
GRF *e*SS SS 20 01 45.1 +2.5
GRF *e*L 20 24 19.9
comp=Z,562nm,21.4s
GRF Grafenberg Arr 79.11 353 *e*P **P 19 46 40.3 +0.2**
GRF *e*S S 19 56 47.4 +11
GRF *e*SS SS 20 01 45.1 +2.5
GRF pmax pmax
comp=Z,47nm,1.0s,mb5.4
GRF MLR MLR
comp=Z,600nm,21.4s,MS4.9
GRF Grafenberg Arr 79.11 353 *e*P **P 19 46 40.3 +0.2**
GRF *e*S S 19 56 47.4 +11
GRF *e*SS SS 20 01 45.1 +2.5
GRF pmax pmax
comp=Z,47nm,1.0s,mb5.4
GRF MLR MLR
comp=Z,600nm,21.4s,MS4.9
TREC Trest 79.11 350⇑*i*P **P 19 46 39.7 -0.4**
TREC AMS AMS 20 28 30.0
comp=Z,2µm,17.4s
ABH Alteburg 79.15 355⇑*e*P **P 19 46 39.9 -0.4**
ZEI Tsey 79.16 329 *e*P **P 19 46 40.3 0.0**
ZEI *e**PP pP 19 46 50.6 -3.1
ZEI pmax pmax
comp=Z,59nm,1.3s,mb5.4
ANN Anapa 79.24 334 *e*P **P 19 46 38.8 -2.0**
ANN *e* pP 19 46 47.1 -7.0
ANN *i* *PP pP 19 46 53.1 -1.0
ANN *e* 19 49 38.6
ANN *e*S S 19 56 35.5 -2.0
ANN *e*SS SS 20 01 43.1 -1.5
ANN pmax pmax
comp=Z,41nm,1.4s,mb5.2
KIS Kishinev 79.25 341 *e*P **P 19 46 38.0 -2.8**
KIS *e*S S 19 56 34.0 -3.5
KIS *e*PS 19 56 54.0
KIS MLR MLR
comp=N,2µm,17.0s,MS5.6
KIS MLR MLR
comp=Z,3µm,17.0s,MS5.7
KIS MLR MLR
comp=E,1µm,16.0s,MS5.6
KIS MLR MLR
comp=Z,3µm,16.0s
KECS Kecovo 79.28 347 *i* P **P 19 46 41.2 +0.2**
KECS pmax pmax
comp=Z,20nm,0.9s,mb5.0
KECS Kecovo 79.28 347 *i* P **P 19 46 41.2 +0.2**
comp=Z,20nm,0.9s,mb5.0
IAS Iasi 79.31 342⇑*i*P **P 19 46 41.3 +0.1**
IAS Iasi 79.31 342 P **P 19 46 41.5 +0.3**
BURAR Bucovina Array 79.35 343⇑*i*P **P 19 46 42.0 +0.6**
BURAR Bucovina Array 79.35 343⇑P **P 19 46 42.0 +0.6**
RUP Ruppelstein 79.35 356⇑*e*P **P 19 46 41.2 -0.2**
TOD Tromm 79.36 355⇑*e*P **P 19 46 41.0 -0.4**
WLF Walferdange 79.43 356 *e*P **P 19 46 42.0 +0.2**
WLF Walferdange 79.43 356 P **P 19 46 41.3 -0.5**
comp=Z,14nm,0.9s,mb4.9
KHC Kasperske Hory 79.46 351⇑*i*P **P 19 46 42.0 0.0**
KHC *e*S S 19 56 47.9 +8.1

KHC AMS AMS 20 23 50.0
comp=Z,900nm,21.7s
VYHS Vyhne 79.49 348 *i* P **P 19 46 42.3 +0.1**
comp=Z,16nm,1.1s,mb4.9
VYHS LR LR
comp=Z,500nm,19.6s,MS4.9
WET Wettzell 79.51 352 *e*P **P 19 46 42.2 -0.1**
SMOL Smolenice 79.65 349 *e*P **P 19 46 43.4 +0.4**
SOC Sochi 79.71 332 *c* P **P 19 46 45.5 -1.2**
SOC *e**PP pP 19 46 55.5 -1.2
SOC *e*S S 19 56 40.8 -1.7
SOC pmax pmax
comp=Z,29nm,1.0s,mb5.2
SOC MLR MLR
comp=Z,2µm,20.0s,MS5.5
GEC2 GERESS Array S 79.73 351 *e*P **P 19 46 43.2 -0.3**
comp=Z,13nm,0.9s,mb4.9
GEC2 GERESS Array S 79.73 351 *e*P **P 19 46 43.2 -0.3**
GEC2 pmax pmax
comp=Z,13nm,0.9s,mb4.9
GERES GERESS Array B 79.73 351 P **P 19 46 43.3 -0.2**
comp=Z,7.5nm,0.7s,mb4.7,baz=21,slow=5.2,SNR=73
GERES LR LR 20 26 11.3
comp=Z,616nm,20.7s,MS4.9,baz=11,slow=39
GERES GERESS Array B 79.73 351 P **P 19 46 43.3 -0.2**
GERES pmax pmax
comp=Z,8.0nm,0.7s
GERES MLR MLR
comp=Z,616nm,20.7s
PSZ Piszkesteto 79.91 347⇑ *e*P **P 19 46 45.2 +0.8**
PSZ Piszkesteto 79.91 347⇓ *i*P **P 19 46 45.4 +1.0**
PSZ Piszkesteto 79.91 347 P **P 19 46 45.4 +0.9**
SIM Simferopol' 79.97 337 P **P 19 46 43.7 -1.0**
SIM *e*S S 19 56 50.6 +5.4
SIM pmax pmax
comp=Z,11nm,1.0s,mb4.7
SIM MLR MLR
comp=Z,2µm,19.0s,MS5.6
ZST Bratislava 80.01 349 *e*P **P 19 46 45.5 +0.6**
comp=Z,40nm,1.0s,mb5.3
ZST LR LR
comp=Z,400nm,18.9s,MS4.8
STU Stuttgart 80.16 354 *e*P **P 19 46 45.5 -0.3**
CONA Conrad Observa 80.42 350⇑ *i*P **P 19 46 47.8 +0.7**
comp=Z,29nm,1.0s,mb5.2,SNR=35
FLN La Foliniere 80.44 1⇑ *i*P **P 19 46 46.8 -0.5**
comp=Z,99nm,1.1s,mb5.4
FLN *e*R
comp=Z,961nm,19.5s
FLN La Foliniere 80.44 1⇑ *i*P **P 19 46 46.8 -0.5**
FLN pmax pmax
comp=Z,49nm,1.1s,mb5.3
FLN MLR MLR
comp=Z,960nm,19.5s,MS5.2
FLN La Foliniere 80.44 1⇑ *i*P **P 19 46 46.8 -0.5**
comp=Z,49nm,1.1s,mb5.3
FLN LR LR
comp=Z,960nm,19.5s,MS5.2
BUD Budapest 80.46 347⇑ *e*P **P 19 46 48.1 +0.7**
DRGR 80.58 345⇑ *i*P **P 19 46 48.3 +0.3**
DRGR 80.58 345 P **P 19 46 48.4 +0.3**
LDF La Druitiere 80.61 1⇑ *i*P **P 19 46 47.6 -0.6**
comp=Z,64nm,0.9s,mb5.3
LDF La Druitiere 80.61 1⇑ *i*P **P 19 46 47.6 -0.6**
LDF pmax pmax
comp=Z,32nm,0.9s,mb5.2
LDF La Druitiere 80.61 1⇑ *i*P **P 19 46 47.6 -0.6**
comp=Z,32nm,0.9s,mb5.2
FUR Furstenfeldbru 80.62 353 *e*P **P 19 46 48.1 -0.1**
comp=Z,32nm,1.0s,mb5.2
FUR Furstenfeldbru 80.62 353 *e*P **P 19 46 48.1 -0.1**
FUR pmax pmax
comp=Z,32nm,1.0s,mb5.2
CDF Champ du Feu 80.63 356⇑ *i*P **P 19 46 48.1 -0.2**
comp=Z,24nm,0.9s,mb4.8
CDF Champ du Feu 80.63 356⇑ *i*P **P 19 46 48.1 -0.2**
CDF pmax pmax
comp=Z,12nm,0.9s,mb4.8
CDF Champ du Feu 80.63 356⇑ *i*P **P 19 46 48.1 -0.2**
comp=Z,12nm,0.9s,mb4.8
MEZF Maizieres J'vi 80.63 357⇑ *i*P **P 19 46 48.4 +0.1**
comp=Z,79nm,1.1s,mb5.3
MEZF Maizieres J'vi 80.63 357⇑ *i*P **P 19 46 48.4 +0.1**
comp=Z,79nm,1.1s,mb5.6
BFO Black Forest 80.66 355 P **P 19 46 48.0 -0.4**
comp=Z,90nm,0.9s,mb5.7,SNR=8.8
BFO Black Forest 80.66 355 *e*P **P 19 46 48.2 -0.2**
MOA Molln 80.66 351⇑ *i*P **P 19 46 48.5 0.0**
comp=Z,12nm,0.9s,mb4.8,SNR=13
VRI Vrincioaia 80.75 342⇑ *i*P **P 19 46 49.5 +0.6**
VRI Vrincioaia 80.75 342 P **P 19 46 49.9 +0.9**
PLOR Plostina 80.78 342⇓ *i*P **P 19 46 49.8 +0.7**
GRR Gorron 80.81 1⇑ *i*P **P 19 46 49.0 -0.2**
comp=Z,65nm,0.9s,mb5.3
GRR Gorron 80.81 1⇑ *i*P **P 19 46 49.0 -0.2**
GRR pmax pmax
comp=Z,33nm,0.9s,mb5.3
GRR Gorron 80.81 1⇑ *i*P **P 19 46 49.0 -0.2**
comp=Z,32nm,0.9s,mb5.3
ROSF Rostrenen 80.81 3⇑ *i*P **P 19 46 49.1 -0.2**
comp=Z,132nm,1.3s,mb5.4
ROSF Rostrenen 80.81 3⇑ *i*P **P 19 46 49.1 -0.2**
ROSF pmax pmax
comp=Z,66nm,1.3s,mb5.4
ROSF Rostrenen 80.81 3⇑ *i*P **P 19 46 49.1 -0.2**
comp=Z,66nm,1.3s,mb5.4
ECH Echery 80.83 356⇑ *e*P **P 19 46 49.2 -0.2**
SGMF Saint Gilles 80.91 2⇑ *i*P **P 19 46 49.7 -0.1**
comp=Z,79nm,0.9s,mb5.3
SGMF Saint Gilles 80.91 2⇑ *i*P **P 19 46 49.7 -0.1**
SGMF pmax pmax
comp=Z,40nm,0.9s,mb5.3
SGMF Saint Gilles 80.91 2⇑ *i*P **P 19 46 49.7 -0.1**
comp=Z,40nm,0.9s,mb5.3
HAU Haudompre 81.08 356⇑ *i*P **P 19 46 50.5 -0.2**
comp=Z,28nm,0.8s,mb4.9
HAU *e*R
comp=Z,1µm,22.2s
HAU Haudompre 81.08 356⇑ *i*P **P 19 46 50.5 -0.2**
HAU pmax pmax
comp=Z,14nm,0.8s,mb4.9
HAU MLR MLR
comp=Z,1µm,22.3s,MS5.2
HAU Haudompre 81.08 356⇑ *i*P **P 19 46 50.5 -0.2**
comp=Z,14nm,0.8s,mb4.9
HAU LR LR
comp=Z,1µm,22.3s,MS5.2
CFR Carcaliu 81.12 341⇑ *i*P **P 19 46 51.3 +0.4**
CFR Carcaliu 81.12 341 ⇑P **P 19 46 51.3 +0.3**
FELD Feldberg im Sc 81.13 355 *e*P **P 19 46 50.8 -0.1**
MOF Molkenrain 81.20 356⇑ *e*P **P 19 46 51.0 -0.3**
GNI Garni 81.23 327 P **P 19 46 52.7 +1.2**
comp=Z,1.7nm,0.3s,mb4.4,baz=217,slow=2.7,SNR=6.5
GNI Garni 81.23 327 *c i*P **P 19 46 52.9 +1.4**
GNI pmax pmax
comp=Z,33nm,1.9s
GNI Garni 81.23 327 *e*P **P 19 46 52.4 +0.9**
comp=Z,18nm,1.0s,mb5.0
QUIF Quistinic 81.23 3⇑ *i*P **P 19 46 51.3 -0.2**
comp=Z,96nm,1.2s,mb5.3
QUIF Quistinic 81.23 3⇑ *i*P **P 19 46 51.3 -0.2**
QUIF pmax pmax
comp=Z,48nm,1.2s,mb5.3
QUIF Quistinic 81.23 3⇑ *i*P **P 19 46 51.3 -0.2**
comp=Z,48nm,1.2s,mb5.3
HINF Hinteralfeld 81.24 356⇑ *i*P **P 19 46 51.1 -0.5**
comp=Z,16nm,0.8s,mb4.7
HINF Hinteralfeld 81.24 356⇑ *i*P **P 19 46 51.1 -0.5**
HINF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
HINF Hinteralfeld 81.24 356⇑ *i*P **P 19 46 51.1 -0.5**
comp=Z,7.8nm,0.8s,mb4.7
MLR Muntele Rosu 81.26 342⇑ *i*P **P 19 46 53.5 +1.8**
MLR Muntele Rosu 81.26 342 P **P 19 46 53.4 +1.8**
WATA Walderalm 81.42 353⇑ *i*P **P 19 46 52.7 +0.2**
comp=Z,49nm,1.1s,mb5.3,SNR=16
WATA Walderalm 81.42 353⇑ *i*P **P 19 46 52.7 +0.2**
WATA pmax pmax
comp=Z,49nm,1.1s,mb5.3
MOTA Moosalm 81.45 353⇑ *i*P **P 19 46 52.7 0.0**
comp=Z,30nm,0.9s,mb5.2,SNR=16
MOTA Moosalm 81.45 353⇑ *i*P **P 19 46 52.7 0.0**
MOTA pmax pmax
comp=Z,30nm,0.9s,mb5.2
VOIR 81.48 343⇑ *i*P **P 19 46 54.0 +1.2**
VOIR 81.48 343 ⇑P **P 19 46 54.0 +1.2**

WTTA Wattenberg 81.49 352⇑ *i*P **P 19 46 53.3 +0.5**
comp=Z,47nm,1.0s,mb5.4,SNR=16
WTTA Wattenberg 81.49 352⇑ *i*P **P 19 46 53.3 +0.4**
WTTA pmax pmax
comp=Z,47nm,1.0s,mb5.4
KBA Koelnbreinsper 81.52 351 *i* P **P 19 46 53.9 +0.9**
comp=Z,120nm,0.8s,mb5.8,SNR=44
KBA Koelnbreinsper 81.52 351 *i* P **P 19 46 53.9 +0.9**
KBA pmax pmax
comp=Z,120nm,0.8s,mb5.9
BBS Basel-Blauen 81.56 355⇑ *e*P **P 19 46 52.7 -0.6**
SQTA Sankt Quirin 81.56 353⇑ *i*P **P 19 46 53.7 +0.4**
comp=Z,22nm,0.9s,mb5.1,SNR=15
SQTA Sankt Quirin 81.56 353⇑ *i*P **P 19 46 53.7 +0.4**
SQTA pmax pmax
comp=Z,22nm,0.9s,mb5.1
DAVA Damuels 81.60 354⇑ *i*P **P 19 46 54.6 +1.2**
comp=Z,17nm,1.2s,mb4.9
WRAB Tennant Creek 81.61 223 *i* P **P 19 46 45.4 -8.1**
WRAB Tennant Creek 81.61 223 PFAKE 19 47 00.0 +6.5
WRAB LR LR
comp=Z,985nm,20.0s,MS5.2
WRA Warramunga Arr 81.63 223 P **P 19 46 52.0 -1.6**
comp=Z,4.7nm,0.8s,mb4.5,baz=33,slow=6.1,SNR=21
WRA LR LR 20 23 18.6
comp=Z,628nm,18.5s,MS5.0,baz=35,slow=36
WRA Warramunga Arr 81.63 223 P **P 19 46 52.0 -1.6**
WRA pmax pmax
comp=Z,5.0nm,0.8s
WRA MLR MLR
comp=Z,628nm,18.5s
MTUR Matau 81.68 343 P **P 19 46 55.8 +1.9**
LOMF Lomont 81.71 356⇑ *e*P **P 19 46 54.0 0.0**
PKSM Moragy 81.76 347⇑ *i*P **P 19 46 54.1 -0.2**
PKSM Moragy 81.76 347 P **P 19 46 54.4 +0.1**
PERS Pernice 81.77 350 *e*P **P 19 46 54.7 +0.3**
LOR Lormes 81.90 358⇑ *i*P **P 19 46 54.6 -0.4**
comp=Z,48nm,0.9s,mb5.1
LOR *e*R
comp=Z,1µm,19.2s
LOR Lormes 81.90 358⇑ *i*P **P 19 46 54.6 -0.4**
LOR pmax pmax
comp=Z,24nm,0.9s,mb5.1
LOR MLR MLR
comp=Z,1µm,19.3s,MS5.3
LOR Lormes 81.90 358⇑ *i*P **P 19 46 54.6 -0.4**
comp=Z,24nm,0.9s,mb5.1
LOR LR LR
comp=Z,1µm,19.3s,MS5.3
BZS Buzias 81.90 345⇑ *i*P **P 19 46 55.3 +0.3**
BZS Buzias 81.90 345 P **P 19 46 55.5 +0.4**
GZR Gura Zlata 81.93 344⇓ *i*P **P 19 46 56.0 +0.8**
GZR Gura Zlata 81.93 344⇓ P **P 19 46 56.0 +0.8**
OBKA Obir 81.96 350 *i* P **P 19 46 55.8 +0.5**
comp=Z,49nm,1.0s,mb5.4,SNR=12
BRES Bressanone 82.04 352 P **P 19 46 56.2 +0.4**
FVI Forni Avoltri 82.05 352 P **P 19 46 55.4 -0.4**
FVI pmax pmax
comp=Z,13nm,0.9s,mb4.9
FVI Forni Avoltri 82.05 352 P **P 19 46 55.4 -0.4**
comp=Z,13nm,0.9s,mb4.9
DAVOX Davos 82.10 354 P **P 19 46 56.4 +0.3**
comp=Z,19nm,0.9s,mb5.0,baz=25,slow=3.9,SNR=15
SSF Saint Saulge 82.11 358⇑ *i*P **P 19 46 56.1 0.0**
comp=Z,38nm,1.0s,mb5.0
SSF Saint Saulge 82.11 358⇑ *i*P **P 19 46 56.1 0.0**
SSF pmax pmax
comp=Z,19nm,1.0s,mb5.0
SSF Saint Saulge 82.11 358⇑ *i*P **P 19 46 56.1 0.0**
comp=Z,19nm,1.0s,mb5.0
PTCC Patocco-Chiusa 82.18 351 P **P 19 46 56.1 -0.4**
comp=Z,17nm,0.8s,mb5.0
GORS Gorjuse 82.21 351 *i* P **P 19 46 57.8 +1.1**
CADS Cadrg 82.32 351 *e*P **P 19 46 56.5 -0.8**
GMNA Gemona 82.32 351 P **P 19 46 56.7 -0.6**
comp=Z,234nm,1.0s,mb6.1
BUC1 Bucharest 82.34 342 P **P 19 46 57.5 +0.1**
BRMO Bormio 82.37 353 P **P 19 46 58.2 +0.7**
AVF Avril sur Loir 82.39 358⇑ *i*P **P 19 46 57.4 -0.2**
comp=Z,59nm,1.0s,mb5.2
AVF Avril sur Loir 82.39 358⇑ *i*P **P 19 46 57.4 -0.2**
comp=Z,30nm,1.0s,mb5.2
LJU Ljubljana 82.42 350 *e*P **P 19 46 57.5 -0.3**
TUE Stuetta 82.44 354 P **P 19 46 58.6 +0.7**
CABF La Chapelle 82.48 356⇑ *i*P **P 19 46 58.3 +0.2**
comp=Z,36nm,1.0s,mb5.0
CABF La Chapelle 82.48 356⇑ *i*P **P 19 46 58.3 +0.2**
CABF pmax pmax
comp=Z,18nm,1.0s,mb5.0
CABF La Chapelle 82.48 356⇑ *i*P **P 19 46 58.3 +0.2**
comp=Z,18nm,1.0s,mb5.0
SMF Signal de Mont 82.52 358⇑ *i*P **P 19 46 58.1 -0.2**
comp=Z,88nm,1.1s,mb5.4
SMF Signal de Mont 82.52 358⇑ *i*P **P 19 46 58.1 -0.2**
SMF pmax pmax
comp=Z,44nm,1.1s,mb5.4
SMF Signal de Mont 82.52 358⇑ *i*P **P 19 46 58.1 -0.2**
comp=Z,44nm,1.1s,mb5.4
LCHF La Chataignera 82.53 1⇑ *e*P **P 19 46 59.5 +1.2**
CRES Cresnjev 82.54 350 *e*P **P 19 46 58.3 -0.1**
MFF Saint Martin d 82.60 1⇑ *i*P **P 19 46 58.7 0.0**
comp=Z,66nm,1.1s,mb5.3
MFF Saint Martin d 82.60 1⇑ *i*P **P 19 46 58.7 0.0**
MFF pmax pmax
comp=Z,33nm,1.1s,mb5.3
MFF Saint Martin d 82.60 1⇑ *i*P **P 19 46 58.7 0.0**
comp=Z,33nm,1.1s,mb5.3
BGF Bois d'Agland 82.63 358⇑ *i*P **P 19 46 58.8 0.0**
comp=Z,37nm,1.0s,mb5.1
BGF Bois d'Agland 82.63 358⇑ *i*P **P 19 46 58.8 0.0**
BGF pmax pmax
comp=Z,19nm,1.0s,mb5.1
BGF Bois d'Agland 82.63 358⇑ *i*P **P 19 46 58.8 0.0**
comp=Z,19nm,1.0s,mb5.1
CTI Castel Tesino 82.69 352 P **P 19 46 59.0 -0.2**
CTI pmax pmax
comp=Z,22nm,1.0s,mb5.1
CTI Castel Tesino 82.69 352 P **P 19 46 59.0 -0.2**
comp=Z,22nm,1.0s,mb5.2
MABI Malga Bissina 82.78 353 P **P 19 46 59.6 0.0**
BEO Belgrade 82.86 346⇑ *i*P **P 19 47 00.8 +0.7**
BOJS Bojanci 82.88 350 *e*P **P 19 47 00.1 -0.1**
TCF Toulx Ste Croi 82.91 359⇑ *i*P **P 19 47 00.1 -0.2**
comp=Z,31nm,1.0s,mb5.0
TCF Toulx Ste Croi 82.91 359⇑ *i*P **P 19 47 00.1 -0.2**
TCF pmax pmax
comp=Z,16nm,1.0s,mb5.0
TCF Toulx Ste Croi 82.91 359⇑ *i*P **P 19 47 00.1 -0.2**
comp=Z,16nm,1.0s,mb5.0
MCGN Macugnaga 83.04 355 P **P 19 47 01.9 +0.9**
comp=Z,9.9nm,0.7s,mb5.0
BOYT Boyabat 83.06 335 *i* P **P 19 47 01.7 +0.6**
OG05 Jujurieux 83.08 357⇑ *e*P **P 19 47 01.3 +0.1**
VAI Varese 83.08 354 P **P 19 47 01.1 -0.1**
VAI pmax pmax
comp=Z,25nm,0.9s,mb5.2
VAI Varese 83.08 354 P **P 19 47 01.1 -0.1**
comp=Z,25nm,0.9s,mb5.2
AGO Saint Agoulin 83.13 358⇑ *e*P **P 19 47 01.8 +0.4**
PRD Provadia 83.17 341 *i* P **P 19 47 02.4 +0.8**
PLDF La Plantade 83.20 358⇑ *e*P **P 19 47 02.3 +0.5**
SVIS Svilajnac 83.25 345⇑ *i*P **P 19 47 02.6 +0.5**
SZH Strazhica 83.40 342 *i* P **P 19 47 03.0 +0.2**
BNGL BINGOL 83.50 329 *i* P **P 19 47 03.3 0.0**
LPL La Plagne 83.55 356⇑ *i*P **P 19 47 04.7 +1.1**
comp=Z,15nm,0.8s,mb4.8
LPL La Plagne 83.55 356⇑ *i*P **P 19 47 04.7 +1.1**
LPL pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
LPL La Plagne 83.55 356⇑ *i*P **P 19 47 04.7 +1.1**
comp=Z,7.5nm,0.8s,mb4.9
LPG La Plagne 83.56 356⇑ *i*P **P 19 47 04.9 +1.2**
comp=Z,33nm,1.0s,mb5.1
LPG La Plagne 83.56 356⇑ *i*P **P 19 47 04.9 +1.2**
LPG pmax pmax
comp=Z,16nm,1.0s,mb5.1
LPG La Plagne 83.56 356⇑ *i*P **P 19 47 04.9 +1.2**
comp=Z,16nm,1.0s,mb5.1
DIVS Divcibare 83.63 346⇑ *i*P **P 19 47 04.2 +0.2**
RKT Rikitea 83.63 140 *e*LR LR 20 13 13.6
comp=Z,1µm,24.5s
COLF Collangettes 83.65 358⇑ *e*P **P 19 47 04.4 +0.3**
GRUS Gruza 83.73 346⇑ *i*P **P 19 47 04.8 +0.3**
RJF Les Rejaudoux 83.90 359⇑ *i*P **P 19 47 05.2 -0.2**
comp=Z,60nm,1.3s,mb5.3

RJF *e*R
comp=Z,1µm,20.8s
RJF Les Rejaudoux 83.90 359⇑ *i*P **P 19 47 05.2 -0.2**
RJF pmax pmax
comp=Z,30nm,1.3s,mb5.3
RJF MLR MLR
comp=Z,1µm,20.8s,MS5.3
RJF Les Rejaudoux 83.90 359⇑ *i*P **P 19 47 05.2 -0.2**
comp=Z,30nm,1.3s,mb5.3
RJF LR LR
comp=Z,1µm,20.8s,MS5.3
BBLS Bajina Basta - 83.95 346⇑ *i*P **P 19 47 07.3 +1.7**
LBL Lubilhac 83.95 358 *e*P **P 19 47 06.2 +0.6**
HYB Hyderabad 83.96 290 *i* P **P 19 47 05.0 -0.7**
HYB Hyderabad 83.96 290 *e*P **P 19 47 05.0 -0.7**
BNI Bardonecchia 84.01 356 *e*P **P 19 47 06.8 +0.8**
BNI pmax pmax
comp=Z,39nm,1.0s,mb5.5
BNI Bardonecchia 84.01 356 *e*P **P 19 47 06.8 +0.9**
comp=Z,39nm,1.0s,mb5.5
JMB Yambol 84.04 341 *i* P **P 19 47 05.7 -0.4**
FITZ Fitzroy Crossi 84.07 232 *e*P **P 19 47 05.7 -0.5**
comp=Z,19nm,0.6s,mb5.4
FITZ *e*pP pP 19 47 20.9 +1.2
FITZ Fitzroy Crossi 84.07 232 LR LR 20 25 36.3
comp=Z,576nm,18.6s,MS5.0,baz=23,slow=36
BOB Bobbio (Coli) 84.14 354 P **P 19 47 06.4 -0.2**
ORIF Oris-en-Rattie 84.18 356⇑ *i*P **P 19 47 07.6 +0.8**
comp=Z,26nm,0.9s,mb5.1
ORIF *e*R
comp=Z,913nm,20.0s
ORIF Oris-en-Rattie 84.18 356⇑ *i*P **P 19 47 07.6 +0.8**
ORIF pmax pmax
comp=Z,13nm,0.9s,mb5.1
ORIF Oris-en-Rattie 84.18 356⇑ *i*P **P 19 47 07.6 +0.8**
comp=Z,13nm,0.9s,mb5.1
LFF La Frestale 84.27 360⇑ *i*P **P 19 47 07.4 +0.1**
comp=Z,117nm,1.1s,mb5.6
LFF La Frestale 84.27 360⇑ *i*P **P 19 47 07.4 +0.1**
LFF pmax pmax
comp=Z,58nm,1.1s,mb5.6
LFF La Frestale 84.27 360⇑ *i*P **P 19 47 07.4 +0.1**
comp=Z,58nm,1.1s,mb5.6
CAF Calviac 84.27 359⇑ *i*P **P 19 47 07.6 +0.3**
comp=Z,50nm,1.0s,mb5.3
CAF Calviac 84.27 359⇑ *i*P **P 19 47 07.6 +0.3**
CAF pmax pmax
comp=Z,25nm,1.0s,mb5.3
CAF Calviac 84.27 359⇑ *i*P **P 19 47 07.6 +0.3**
comp=Z,25nm,1.0s,mb5.3
VIVF Saint-Julien-l 84.29 357⇑ *i*P **P 19 47 07.7 +0.3**
comp=Z,42nm,1.2s,mb5.2
VIVF Saint-Julien-l 84.29 357⇑ *i*P **P 19 47 07.7 +0.3**
VIVF pmax pmax
comp=Z,21nm,1.2s,mb5.1
VIVF Saint-Julien-l 84.29 357⇑ *i*P **P 19 47 07.7 +0.3**
comp=Z,21nm,1.2s,mb5.2
ELDT Eldivan 84.33 335 *i* P **P 19 47 08.3 +0.8**
MBDF Montbardon 84.33 356⇑ *i*P **P 19 47 08.3 +0.7**
comp=Z,28nm,0.9s,mb5.1
MBDF Montbardon 84.33 356⇑ *i*P **P 19 47 08.3 +0.7**
MBDF pmax pmax
comp=Z,14nm,0.9s,mb5.1
MBDF Montbardon 84.33 356⇑ *i*P **P 19 47 08.3 +0.7**
comp=Z,14nm,0.9s,mb5.1
ZCCA Zocca 84.43 353 P **P 19 47 09.2 +1.1**
PGB Panagyurishte 84.44 343 *i* P **P 19 47 08.1 0.0**
VTS Vitosha 84.57 343 *i* P **P 19 47 07.4 -1.4**
ELZG Elazig 84.59 331 *i* P **P 19 47 10.0 +1.1**
SGKT Sivrigoynuk 84.60 337 *i* P **P 19 47 09.4 +0.5**
FNVD Fontana Vidola 84.60 352 P **P 19 47 10.3 +1.3**
HENT Hendek 84.65 337 *i* P **P 19 47 08.8 -0.4**
DIM Dimitrovgrad 84.65 342 *i* P **P 19 47 10.1 +0.9**
OG25 Le Caire 84.72 356⇑ *e*P **P 19 47 07.7 -1.8**
RSM Repubblica di 84.72 351 P **P 19 47 10.4 +0.8**
RSM pmax pmax
comp=Z,41nm,0.9s,mb5.6
RSM Repubblica di 84.72 351 P **P 19 47 10.4 +0.8**
comp=Z,41nm,0.9s,mb5.6
FIN Finale Ligure 84.77 355 P **P 19 47 08.6 -1.2**
FIN pmax pmax
comp=Z,23nm,0.9s,mb5.3
FIN Finale Ligure 84.77 355 P **P 19 47 08.6 -1.2**
comp=Z,23nm,0.9s,mb5.3
VMG Vicchio 84.77 352 P **P 19 47 11.3 +1.5**
comp=Z,87nm,0.8s,mb5.9
SFI Santa Sofia 84.80 352 P **P 19 47 11.0 +1.0**
SFI pmax pmax
comp=Z,40nm,0.9s,mb5.5
SFI Santa Sofia 84.80 352 P **P 19 47 11.0 +1.0**
comp=Z,40nm,0.9s,mb5.5
JTS JuntasAbangare 84.81 80 PFAKE 19 47 20.0 +10
JTS LR LR
comp=Z,579nm,22.0s,MS4.9
FSSB Fossombrone 84.93 351 P **P 19 47 11.0 +0.4**
MALT Malatya 84.93 331⇑ *i*P **P 19 47 12.0 +1.4**
MALT Malatya 84.93 331 P **P 19 47 11.7 +1.1**
BR131 Keskin Array S 84.99 335 *e*P **P 19 47 10.9 0.0**
comp=Z,14nm,0.8s,mb5.1
BR131 LR LR
comp=Z,654nm,19.0s,MS5.0
BRTR Keskin Array B 84.99 335 P **P 19 47 11.4 +0.5**
comp=Z,18nm,0.8s,mb5.2,baz=46,slow=3.5,SNR=65
BRTR LR LR 20 27 34.6
comp=Z,434nm,21.2s,MS4.8,baz=170,slow=37
BRTR Keskin Array B 84.99 335 P **P 19 47 11.4 +0.5**
BRTR pmax pmax
comp=Z,18nm,0.8s
BRTR MLR MLR
comp=Z,434nm,21.2s
TOUF Mont Tournerai 85.02 355⇑ *e*P **P 19 47 11.3 +0.3**
AUTN L'Aution 85.03 355⇑ *e*P **P 19 47 11.5 +0.4**
SAOF Saorge 85.03 355⇑ *e*P **P 19 47 11.0 -0.1**
ANTO Ankara 85.07 336 P **P 19 47 12.2 +0.8**
SNR=8.3
ANTO Ankara 85.07 336 *e*P **P 19 47 09.5 -1.8**
ANTO pmax pmax
comp=Z,22nm,0.9s,mb5.3
ANTO MLR MLR
comp=Z,1µm,22.0s,MS5.2
ANTO Ankara 85.07 336 *e*P **P 19 47 09.5 -1.9**
comp=Z,22nm,0.9s,mb5.3
ANTO LR LR
comp=Z,1µm,22.0s,MS5.2
CRE Caprese Michel 85.08 352 P **P 19 47 11.9 +0.6**
CRE pmax pmax
comp=Z,18nm,0.8s,mb5.2
CRE Caprese Michel 85.08 352 P **P 19 47 11.9 +0.6**
comp=Z,18nm,0.8s,mb5.2
IMI Imperia 85.09 355 P **P 19 47 11.4 0.0**
comp=Z,30nm,0.9s,mb5.4
LASF Ste Croix 85.09 358⇑ *i*P **P 19 47 11.8 +0.4**
comp=Z,27nm,1.0s,mb5.0
PII Pisa 85.09 353 P **P 19 47 10.8 -0.6**
PII pmax pmax
comp=Z,64nm,1.1s,mb5.7
PII Pisa 85.09 353 P **P 19 47 10.8 -0.6**
comp=Z,64nm,1.1s,mb5.7
STOF St-Etienne Org 85.10 356⇑ *e*P **P 19 47 12.2 +0.8**
AS31 Alice Springs 85.10 222 *e*P **P 19 47 11.6 +0.1**
ARV Arcevia 85.10 351 P **P 19 47 12.0 +0.5**
comp=Z,33nm,0.9s,mb5.5
ASAR Alice Springs 85.10 222 P **P 19 47 10.8 -0.6**
comp=Z,3.0nm,0.8s,mb4.5,baz=26,slow=5.5,SNR=22
ASAR LR LR 20 22 41.9
comp=Z,791nm,20.6s,MS5.1,baz=30,slow=34
ASAR Alice Springs 85.10 222 P **P 19 47 10.9 -0.6**
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR MLR MLR
comp=Z,791nm,20.6s
ASPA Alice Springs 85.11 222 *e*P **P 19 47 11.6 +0.1**
MARD Mardin 85.11 329 *i* P **P 19 47 11.5 0.0**
SMRF Simiane la Rot 85.13 356⇑ *i*P **P 19 47 12.5 +0.9**
comp=Z,57nm,0.9s,mb5.4
SMRF Simiane la Rot 85.13 356⇑ *i*P **P 19 47 12.5 +0.9**
comp=Z,57nm,0.9s,mb5.7
LUCF Luceram 85.13 355⇑ *e*P **P 19 47 11.8 +0.2**
MVIF Mont Vial 85.14 355⇑ *e*P **P 19 47 11.7 0.0**
SBF Sospel 85.16 355⇑ *i*P **P 19 47 11.7 0.0**
comp=Z,93nm,0.8s,mb5.6
SBF Sospel 85.16 355⇑ *i*P **P 19 47 11.7 0.0**
SBF pmax pmax
comp=Z,47nm,0.8s,mb5.7
SBF Sospel 85.16 355⇑ *i*P **P 19 47 11.7 0.0**
comp=Z,47nm,0.8s,mb5.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
RZN	Rozhen	85.16	342	iP	P	19 47 11.5	-0.3
ARMA	Armidale	85.18	205	eP	P	19 47 12.3	+0.5
CING	Cingoli	85.20	351	P	P	19 47 12.5	+0.5
REVF	Revere	85.28	355⇑	eP	P	19 47 12.3	-0.1
KKB	Krupnik	85.30	343	iP	P	19 47 17.5	+5.1
PRAF	Pradon	85.32	357⇑	eP	P	19 47 13.5	+0.9
MURB	Monte Urbino	85.38	351	P	P	19 47 13.5	+0.7
TAVF	Tavernes	85.47	356⇑	eP	P	19 47 14.1	+0.8
TREF	Trevaresse	85.49	357⇑	eP	P	19 47 14.3	+0.9
FRF	La Foret Royal	85.50	356⇑	iP	P	19 47 13.3	-0.2
	comp=Z,44nm,1.0s,mb5.4						
FRF	La Foret Royal	85.50	356⇑	iP	P	19 47 13.3	-0.2
FRF				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.3						
FRF	La Foret Royal	85.50	356⇑	iP	P	19 47 13.3	-0.2
	comp=Z,22nm,1.0s,mb5.3						
PUYF	Puyloubier	85.57	356⇑	eP	P	19 47 14.6	+0.8
EPON	Pontenova	85.63	6	P	P	19 47 16.2	+2.1
	comp=Z,13nm,0.9s,mb5.2						
ULDT	Uludag	85.71	338	iP	P	19 47 14.7	+0.2
GELF	Grande-Etoile	85.73	357⇑	eP	P	19 47 15.4	+0.8
LMR	La Mourre	85.73	356⇑	iP	P	19 47 14.7	+0.1
	comp=Z,61nm,1.2s,mb5.4						
LMR	La Mourre	85.73	356⇑	iP	P	19 47 14.7	+0.1
LMR				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.4						
LMR	La Mourre	85.73	356⇑	iP	P	19 47 14.7	+0.1
	comp=Z,30nm,1.2s,mb5.4						
EARI	Arriondas	85.77	4	P	P	19 47 14.8	0.0
	comp=Z,12nm,1.0s,mb5.1						
BERF	Bertagne	85.79	356⇑	eP	P	19 47 15.9	+1.0
MTLF	Montolieu	85.85	359⇑	iP	P	19 47 15.5	+0.3
	comp=Z,37nm,1.0s,mb5.2						
MTLF	Montolieu	85.85	359⇑	iP	P	19 47 15.5	+0.3
MTLF				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.3						
MTLF	Montolieu	85.85	359⇑	iP	P	19 47 15.5	+0.3
	comp=Z,19nm,1.0s,mb5.3						
EMAZ	Mazaricos	85.88	7	P	P	19 47 15.5	+0.1
	comp=Z,71nm,1.6s,mb5.7						
TERO	Teramo	85.90	350	P	P	19 47 16.0	+0.6
ELAN	Lanestosa	85.91	3	P	P	19 47 16.2	+0.7
	comp=Z,27nm,0.8s,mb5.5						
EALK	Alkurruntz	85.97	2	P	P	19 47 17.2	+1.4
	comp=Z,6.2nm,0.5s,mb5.1						
STS	Santiago	85.98	7	P	P	19 47 15.3	-0.5
STS				pmax	pmax		
	comp=Z,36nm,1.6s,mb5.3						
STS	Santiago	85.98	7	P	P	19 47 15.3	-0.5
	comp=Z,36nm,1.6s,mb5.3						
SJPF	Ste Jean	86.08	1⇑	iP	P	19 47 17.0	+0.7
	comp=Z,16nm,0.7s,mb5.0						
SJPF	Ste Jean	86.08	1⇑	iP	P	19 47 17.0	+0.7
SJPF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.1						
SJPF	Ste Jean	86.08	1⇑	iP	P	19 47 17.0	+0.7
	comp=Z,8.3nm,0.7s,mb5.1						
GZT	Gaziantep	86.08	331	iP	P	19 47 16.8	+0.5
EPF	Esparros	86.17	0	eP	P	19 47 16.3	-0.5
	comp=Z,19nm,0.9s,mb5.0						
EPF	Esparros	86.17	0	eP	P	19 47 16.3	-0.5
EPF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.0						
EPF	Esparros	86.17	0	eP	P	19 47 16.3	-0.5
	comp=Z,9.4nm,0.9s,mb5.0						
AQU	L'Aquila	86.19	351⇓	iP	P	19 47 17.8	+0.9
AQU	L'Aquila	86.19	351	eP	P	19 47 15.3	-1.6
AQU				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.7						
AQU	L'Aquila	86.19	351	eP	P	19 47 15.3	-1.6
	comp=Z,50nm,0.9s,mb5.8						
MNS	Montasola	86.23	351	P	P	19 47 16.5	-0.6
MLS	Moulis	86.25	360	eP	P	19 47 17.0	-0.1
LRDF	Laroque-de-Fa	86.25	359⇑	eP	P	19 47 17.2	0.0
ETSF	Etsaut	86.30	1⇑	iP	P	19 47 17.9	+0.5
	comp=Z,37nm,0.9s,mb5.3						
ETSF	Etsaut	86.30	1⇑	iP	P	19 47 17.9	+0.5
ETSF				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.3						
ETSF	Etsaut	86.30	1⇑	iP	P	19 47 17.9	+0.5
	comp=Z,19nm,0.9s,mb5.3						
PGF	Pioggiola	86.37	354⇑	iP	P	19 47 17.8	0.0
	comp=Z,85nm,0.8s,mb5.7						
PGF	Pioggiola	86.37	354⇑	iP	P	19 47 17.8	0.0
PGF				pmax	pmax		
	comp=Z,43nm,0.8s,mb5.7						
PGF	Pioggiola	86.37	354⇑	iP	P	19 47 17.8	0.0
	comp=Z,42nm,0.8s,mb5.7						
RESF	Ens	86.40	0	eP	P	19 47 18.3	+0.4
EBIE	Bielsa	86.52	0	P	P	19 47 19.2	+0.8
	comp=Z,16nm,0.8s,mb5.3						
CERT	Cerreto	86.63	351	P	P	19 47 18.1	-0.9
VVLD	Villa Vallelon	86.64	350	P	P	19 47 18.8	-0.3
EGRA	Graus	87.01	0	P	P	19 47 23.1	+2.3
	comp=Z,9.8nm,0.8s,mb5.1						
PBRG	Braganca	87.17	6	eP	P	19 47 20.9	-0.8
	comp=Z,26nm,2.0s,mb5.1						
PCAB	Cabril	87.19	6	eP	P	19 47 21.2	-0.5
	comp=Z,32nm,1.4s,mb5.3						
ESAC	San Caprasio	87.48	1	P	P	19 47 22.7	-0.5
	comp=Z,15nm,0.5s,mb5.5						
PVRL	Vila Real	87.64	6	eP	P	19 47 23.8	-0.1
	comp=Z,26nm,1.5s,mb5.2						
PVIS	Viseu	88.18	6	eP	P	19 47 26.4	-0.1
	comp=Z,26nm,1.4s,mb5.3						
ERTA	Horta de San J	88.25	0	P	P	19 47 27.6	+0.8
	comp=Z,25nm,1.7s,mb5.2						
GUD	Guadarrama	88.46	4	P	P	19 47 27.3	-0.5
GUD				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.1						
GUD	Guadarrama	88.46	4	P	P	19 47 27.3	-0.5
	comp=Z,11nm,0.9s,mb5.1						
MTE	Manteigas	88.52	6	eP	P	19 47 27.9	-0.2
	comp=Z,21nm,1.1s,mb5.4						
MTE	Manteigas	88.52	6	eS		19 58 11.8	
MTE	Manteigas	88.52	6	eP	P	19 47 26.9	-1.1
	comp=Z,15nm,0.9s,mb5.3						
PCBR	Castelo Branco	89.08	6	eP	P	19 47 29.9	-0.8
	comp=Z,16nm,1.1s,mb5.2						
PTOM	Tomar	89.24	7	eP	P	19 47 31.2	-0.3
	comp=Z,32nm,1.2s,mb5.5						
ESDC	Sonseca Array	89.44	4	P	P	19 47 31.6	-0.8
	comp=Z,6.4nm,0.9s,mb5.0,baz=356,slow=4.2,SNR=31						
ESDC	Sonseca Array	89.44	4	P	P	19 47 31.2	-1.2
	comp=Z,3.9nm,0.8s,mb4.8						
ESLA	Sonseca Array	89.44	4	eP	P	19 47 31.6	-0.8
	comp=Z,4.3nm,1.1s,mb4.7						
ESLA				LR	LR		
	comp=Z,5µm,21.0s,MS5.9						
MIB	Mutribah	89.49	321	eP	P	19 47 32.4	-0.3
MIB				AMb	AMB	19 47 34.7	
	comp=Z,50nm,0.9s,mb5.9						
UMR	Umm Al-Rimmam	89.56	320	eP	P	19 47 32.4	-0.6
UMR				AMb	AMB	19 47 34.5	
	comp=Z,28nm,0.8s,mb5.6						
STKA	Stephens Creek	89.57	212	LR	LR	20 25 45.8	
	comp=Z,1µm,18.7s,MS5.4,baz=16,slow=34						
MBWA	Marble Bar	89.61	235	PFAKE		19 47 40.0	+6.8
MBWA				LR	LR		
	comp=Z,600nm,19.0s,MS5.0						
SJG	San Juan	89.76	61	PFAKE		19 47 50.0	+16
SJG				LR	LR		
	comp=Z,931nm,20.0s,MS5.2						
PAYG	Puerto Ayora	89.93	91	PFAKE		19 47 50.0	+15
PAYG				LR	LR		
	comp=Z,731nm,20.0s,MS5.1						
NAY	Al-Naaiem	90.02	321	eP	P	19 47 34.0	-1.1
NAY				AMb	AMB	19 47 36.6	
	comp=Z,18nm,1.1s,mb5.3						
RDF	Al-Radifah	90.18	320	eP	P	19 47 36.0	+0.2
RDF				AMb	AMB	19 47 39.2	
	comp=Z,34nm,0.8s,mb5.7						
EBAD	Badajoz	90.19	6	P	P	19 47 35.3	-0.6
	comp=Z,6.9nm,1.1s,mb4.9						
EVO	Evora	90.35	7	eP	P	19 47 35.3	-1.3
EVO				eR			
	comp=Z,540nm,21.9s						
EBEN	Beniarda	90.49	1	P	P	19 47 38.3	+0.9
	comp=Z,34nm,1.4s,mb5.5						
EVIA	Vianos	90.52	2	P	P	19 47 37.4	0.0
EVIA				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb5.0						
EVIA	Vianos	90.52	2	P	P	19 47 37.4	0.0
	comp=Z,6.2nm,0.7s,mb5.0						
ETOB	Tobarra	90.53	2	P	P	19 47 37.3	-0.3
	comp=Z,5.7nm,0.8s,mb5.0						
PALK	Pallekele	90.58	282	PFAKE		19 47 50.0	+12
PALK				LR	LR		
	comp=Z,722nm,20.0s,MS5.1						
PBEJ	Beja	90.86	7	eP	P	19 47 38.4	-0.6
	comp=Z,13nm,1.1s,mb5.2						
EADA	Adamuz	90.91	4	P	P	19 47 39.4	+0.1
	comp=Z,7.2nm,1.0s,mb5.0						
EBAN	Banos Encina	90.95	3	P	P	19 47 41.1	+1.6
EBAN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0						
EBAN	Banos Encina	90.95	3	P	P	19 47 41.1	+1.6
	comp=Z,5.9nm,0.8s,mb5.0						
EMIN	Mina Concepcio	91.20	6	P	P	19 47 40.5	-0.1
	comp=Z,11nm,1.1s,mb5.1						
EQES	Quesada	91.34	3	P	P	19 47 40.2	-1.0
	comp=Z,2.2nm,0.7s,mb4.6						
ELOJ	Sierra Loja	91.95	4	P	P	19 47 43.4	-0.7
ELOJ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.8						
ELOJ	Sierra Loja	91.95	4	P	P	19 47 43.4	-0.7
	comp=Z,3.4nm,0.6s,mb4.8						
ESPR	Espera	92.14	5	P	P	19 47 46.4	+1.4
	comp=Z,9.8nm,0.9s,mb5.1						
EBER	Berja	92.25	3	P	P	19 47 46.6	+1.1
	comp=Z,8.8nm,1.1s,mb5.0						
SNZO	South Karori	92.25	184	PFAKE		19 48 00.0	+15
SNZO				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
EMIJ	Mijas	92.50	4	P	P	19 47 47.9	+1.2
	comp=Z,9.8nm,0.8s,mb5.3						
SDV	Santo Domingo	94.61	70	PFAKE		19 48 10.0	+14
SDV				LR	LR		
	comp=Z,246nm,20.0s,MS4.7						
MDT	Midelt	96.24	4	P	P	19 48 03.8	0.0
	comp=Z,2.0nm,0.6s,mb4.7,baz=18,slow=5.3,SNR=6.0						
OTAV	Otavalo	96.65	81	PFAKE		19 48 20.0	+14
OTAV				LR	LR		
	comp=Z,225nm,20.0s,MS4.7						
NWAO	Narrogin (SRO)	100.57	230	PFAKE		19 48 30.0	+6.8
NWAO				LR	LR		
	comp=Z,589nm,19.0s,MS5.1						
NNA	Nana	107.08	88	PFAKE		19 53 10.0	+8.7
NNA				LR	LR		
	comp=Z,587nm,21.0s,MS5.1						
SAML	Samuel	113.22	75	PFAKE		19 53 20.0	+7.1
SAML				LR	LR		
	comp=Z,564nm,19.0s,MS5.2						
LPAZ	La Paz	115.81	84	PFAKE		19 53 30.0	+12
LPAZ				LR	LR		
	comp=Z,436nm,21.0s,MS5.0						
TORD	Torodi Ar. Bea	115.94	359	PKP	PKPdf	19 53 17.1	-1.0
	comp=Z,0.3nm,0.4s,baz=346,slow=2.5,SNR=14						
TORD				PKKPbc	PKKPbc	20 03 45.8	-3.1
	comp=Z,0.8nm,1.0s,baz=163,slow=1.7,SNR=7.3						
KMBO	Kilima Mbogo	121.36	316	PFAKE		19 53 40.0	+11
KMBO				LR	LR		
	comp=Z,439nm,21.0s,MS5.1						
DRV	Dumont d'Urvil	121.50	198	SS	SS	20 11 33.0	+0.4
DBIC	Dimbokro	122.19	6	PKP	PKPdf	19 53 30.2	0.0
	comp=Z,3.3nm,0.5s,baz=99,slow=5.4,SNR=7.7						
DBIC	Dimbokro	122.19	6	PKP	PKPdf	19 53 30.2	0.0
DBIC				LR	LR		
	comp=Z,654nm,20.0s,MS5.3						
LIC	Lamto	122.62	7	ePKIKP	PKPdf	19 53 27.7	-3.3
	comp=Z,70nm,1.4s						
LIC				eR			
	comp=Z,985nm,22.5s						
LIC	Lamto	122.62	7	ePKPdf	PKPdf	19 53 27.7	-3.3
LIC				LR	LR		
	comp=Z,490nm,22.5s,MS5.1						
RCBR	Riachuelo	125.55	47	PFAKE		19 53 50.0	+13
RCBR				LR	LR		
	comp=Z,635nm,20.0s,MS5.3						
BDFB	Brasilia	127.50	66	PFAKE		19 53 50.0	+10
BDFB				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
VNDA	Vanda	128.96	185	PFAKE		19 53 50.0	+6.9
VNDA				LR	LR		
	comp=Z,324nm,19.0s,MS5.0						
PLCA	Paso Flores	131.24	107	PKP	PKPdf	19 53 47.5	+0.1
	comp=Z,8.2nm,1.1s,baz=279,slow=6.1,SNR=4.3						
PLCA	Paso Flores	131.24	107	PKP	PKPdf	19 53 47.5	+0.1
PLCA				LR	LR		
	comp=Z,890nm,21.0s,MS5.4						
TRQA	Tornquist	134.86	98	PFAKE		19 54 10.0	+16
TRQA				LR	LR		
	comp=Z,510nm,21.0s,MS5.2						
LSZ	Lusaka	137.91	318	PFAKE		19 54 10.0	+10
LSZ				LR	LR		
	comp=Z,645nm,20.0s,MS5.4						
QSPA	South Pole Qui	140.93	180	eP	PKPdf	19 53 59.9	-5.5
QSPA				LR	LR		
	comp=Z,567nm,20.0s,MS5.3						
EFI	East Falkland	144.25	114	ePKHKP		19 54 05.2	
EFI				MLR	MLR		
	comp=Z,865nm,19.0s,MS5.5						
TSUM	Tsumeb	145.40	331	PKPbc	PKPbc	19 54 13.8	+0.5
	comp=Z,50nm,1.1s,baz=355,slow=5.3,SNR=88						
TSUM	Tsumeb	145.40	331	ePKPdf	PKPdf	19 54 13.5	+0.2
TSUM				LR	LR		
	comp=Z,563nm,20.0s,MS5.3						
MAW	Mawson	146.11	217	eP	PKPdf	19 54 13.5	-1.0
	comp=Z,15nm,1.5s						
MAW	Mawson	146.11	217	PKPbc	PKPbc	19 54 13.4	-2.0
	comp=Z,9.3nm,1.0s,baz=92,slow=3.2,SNR=8.6						
MAW	Mawson	146.11	217	PKP2	PKPab	19 54 13.4	-2.7
MAW				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MAW	Mawson	146.11	217	eP	PKPdf	19 54 13.5	-1.0
MAW				LR	LR		
	comp=Z,667nm,20.0s,MS5.4						
LBTB	Lobatse	147.63	314	ePKIKP	PKPdf	19 54 16.6	-0.4
LBTB				e		19 54 19.9	
LBTB				MLR	MLR		
	comp=Z,530nm,21.0s,MS5.3						
BOSA	Boshof	150.85	311	PKPbc	PKPbc	19 54 28.1	+0.2
	comp=Z,11nm,0.9s,baz=103,slow=1.4,SNR=16						
BOSA	Boshof	150.85	311	ePKPbc	PKPbc	19 54 27.8	-0.1
BOSA				LR	LR		
	comp=Z,754nm,20.0s,MS5.5						
SYO	Syowa Base	154.32	212⇑	ePKPbc	PKPbc	19 54 33.3	-2.3
SUR	Sutherland	156.08	314	PFAKE		19 54 40.0	+10
SUR				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						

*IDC **01** 19:42:49.9±0.9, 21.42N×146.14E, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.1/23, mbtmp4.1/14, ML4.0/2, Error ellipse: s-maj=37.6km s-min=17.8km az=78.0*
*ISCJB **01** 19:42:53.8±2.4, 21.36N±0.05×146.0E±0.1, h33km±17km, mb4.3/25, Error ellipse: s-maj=18.1km s-min=8.4km az=166.4*
*BJI **01** 19:42:53.9, 21.09N×146.05E, h43km, mB4.8, mb4.6, Ms4.7, Msz4.4*
*MOS **01** 19:42:53.2±0.7, 21.38N×146.14E, h33km, mb4.8/7, Error ellipse: s-maj=27.5km s-min=11.7km az=110.9*
*NEIC **01** 19:42:55.4±0.5, 21.41N×146.10E, h35km, mb4.5/6, Error ellipse: s-maj=19.6km s-min=9.4km az=80.0*
ISC 01 19:42:56.6±1.4**, 21.40N**±0.06×**146.0E**±0.1**, h43km**±12km**, n47, σ0.94**/49**, mb4.3**/25**, 2C-2D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	6.66	329	Pn	Pn	19 44 30.0	-1.8
	14nm,0.3s,baz=294,slow=22,SNR=19						
CBIJ				Sn	Sn	19 45 41.2	-5.1
	13nm,0.3s,baz=291,slow=23,SNR=8.6						
GUMO	Guam	7.84	188	Sn	Sn	19 46 15.3	-0.2
	2.5nm,0.3s,baz=343,slow=24,SNR=1.7						
MJAR	Matsushiro Arr	16.55	337	Pn	Pn	19 46 41.6	-3.9
	0.2nm,0.3s,baz=182,slow=35,SNR=4.0						
KS15	Wonju Array Si	22.41	319	P	P	19 47 53.2	+2.0
NJ2	Nanjing	26.41	299	eP	P	19 48 28.9	-0.1
NJ2				AP	pP	19 48 38.5	-2.0
NJ2				XP	sP	19 48 42.1	-3.6
NJ2				PP		19 49 13.1	
NJ2				S	S	19 52 58.0	-1.4
NJ2				XS	sS	19 53 14.0	-4.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,140nm,3.9s						
NJ2				LR	LR		
	comp=N,2µm,20.0s						
NJ2				LR	LR		
	comp=E,750nm,19.7s						
HHC	Hu-ho-hao-te	34.98	312	eP	P	19 49 48.1	+3.5
HHC				PP	PP	19 51 08.2	+3.7
HHC				S	S	19 55 12.0	-1.5
HHC				SS	SS	19 57 33.2	-13
HHC				AMB	AMB		
	comp=Z,18nm,0.7s,mb5.1						
HHC				AMB	AMB		
	comp=Z,155nm,6.0s						
CD2	Chengdu	38.90	293	eP	P	19 50 16.6	-1.3
CD2				XP	sP	19 50 30.4	-4.5
CD2				PP	PP	19 51 50.7	+3.2
CD2				S	S	19 56 12.6	-0.5
CD2				SS	SS	19 58 57.7	-8.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,30nm,6.2s						
LZH	Lanzhou	39.45	301	eP	P	19 50 24.1	+1.6
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.7						
KMI	Kunming	39.81	284	P	P	19 50 25.6	+0.2
KMI				AP	pP	19 50 36.8	-0.5
KMI				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.2						
ULN	Ulaanbaatar	40.88	320⇑	eP	P	19 50 36.1	+1.8
ULN	Ulaanbaatar	40.88	320	eP	P	19 50 34.8	+0.5
	comp=Z,3.4nm,1.0s,mb3.9						
SONM	Songino Array	41.26	319	P	P	19 50 38.4	+1.0
	comp=Z,0.6nm,0.5s,mb3.5,baz=135,slow=8.8,SNR=9.7						
YAK	Yakutsk	42.14	349	iP	P	19 50 44.2	-0.4
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
WRAB	Tennant Creek	42.63	196	eP	P	19 50 48.6	-0.1
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
WRAB	Tennant Creek	42.63	196	eP	P	19 50 48.6	-0.1
	comp=Z,5.8nm,0.6s,mb4.5						
WRA	Warramunga Arr	42.65	196	P	P	19 50 48.7	0.0
	comp=Z,3.3nm,0.7s,mb4.2,baz=17,slow=8.8,SNR=21						
WRA	Warramunga Arr	42.65	196	iP	P	19 50 49.2	+0.4
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AS31	Alice Springs	46.32	195	eP	P	19 51 18.0	-0.1
ASAR	Alice Springs	46.32	195	P	P	19 51 17.8	-0.3
	comp=Z,1.6nm,0.7s,mb4.0,baz=12,slow=7.6,SNR=13						
WMQ	Urumqi	52.80	309	P	P	19 52 10.2	+2.7
ZAL	Zalesovo	56.09	321	P	P	19 52 31.0	-0.3
	comp=Z,1.4nm,0.5s,mb4.2,baz=349,slow=7.1,SNR=7.1						
ZAL	Zalesovo	56.09	321	P	P	19 52 31.0	-0.3
MKAR	Makanchi Array	56.84	313	P	P	19 52 36.9	+0.3
	comp=Z,0.8nm,0.7s,mb3.9,baz=87,slow=9.4,SNR=7.4						
MKAR	Makanchi Array	56.84	313⇑	eP	P	19 52 37.5	+0.9
KURK	Kurchatov	59.48	317⇓	eP	P	19 52 55.9	+0.7
KURK	Kurchatov	59.48	317	eP	P	19 52 55.2	0.0
	comp=Z,3.0nm,0.7s,mb4.4						
SML	Sawmill	59.89	30	eP	P	19 52 57.9	0.0
BVAR	Borovoye Array	64.61	320	P	P	19 53 30.4	+0.9
	comp=Z,5.6nm,0.6s,mb4.8,baz=89,slow=7.5,SNR=33						
BRVK	Borovoye	64.67	320	eP	P	19 53 30.3	+0.4
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
BRVK	Borovoye	64.67	320	eP	P	19 53 30.3	+0.4
	comp=Z,5.3nm,1.2s,mb4.5						
ZRNK	Zerenda	65.44	320	eP	P	19 53 35.2	+0.2
ARU	Arti	71.06	324⇓	iP	P	19 54 10.3	+0.2
ARU				e		19 56 46.2	
ARU				eS	S	20 03 26.2	+3.0
ARU				eSS	SS	20 08 03.5	+6.6
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ARU	Arti	71.06	324	eP	P	19 54 10.2	+0.1
	comp=Z,3.9nm,0.8s,mb4.4						
ARCES	ARCESS Array B	80.03	342	P	P	19 55 00.5	-1.0
	comp=Z,1.4nm,0.8s,mb4.0,baz=56,slow=7.5,SNR=11						
JOF	Joensuu	81.70	335	ep	P	19 55 10.5	+0.1
	comp=Z,5.2nm,0.5s,mb4.7						
JOF	Joensuu	81.70	335	eP	P	19 55 10.5	+0.1
JOF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
KAF	Kangasniemi	84.09	336	ep	P	19 55 22.2	-0.6
	comp=Z,2.9nm,0.5s,mb4.7,baz=54,slow=4.7						
KAF	Kangasniemi	84.09	336	eP	P	19 55 22.2	-0.6
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.7						
FINES	FINESS Array B	84.57	335	P	P	19 55 24.6	-0.5
	comp=Z,2.1nm,0.4s,mb4.6,baz=73,slow=5.1,SNR=43						
PDAR	Pinedale Array	85.73	46	P	P	19 55 31.6	+0.5
	comp=Z,0.2nm,0.4s,mb3.7,baz=214,slow=1.6,SNR=3.8						
AKASG	Malin Array Be	89.26	325	P	P	19 55 47.2	-0.8
	comp=Z,1.3nm,0.6s,mb4.4,baz=54,slow=4.6,SNR=8.5						
HFS	Hagfors	90.00	338	P	P	19 55 50.4	-1.0
	comp=Z,0.9nm,0.6s,mb4.3,baz=83,slow=4.8,SNR=8.8						
NB2	NORSAR Subarra	90.15	340	P	P	19 55 51.3	-0.9
	comp=Z,0.1nm,0.7s,mb3.2,baz=50,slow=5.1						
NOA	NORSAR Array B	90.15	340	P	P	19 55 51.7	-0.5
	comp=Z,0.9nm,0.8s,mb4.2,baz=47,slow=4.5,SNR=5.2						
NOA	NORSAR Array B	90.15	340	P	P	19 55 51.7	-0.5
LPAZ	La Paz	147.33	87	PKPbc	PKPbc	20 02 36.9	+1.5
	comp=Z,0.9nm,0.6s,baz=312,slow=3.7,SNR=5.6						
LPAZ	La Paz	147.33	87	PKPbc	PKPbc	20 02 36.9	+1.5

*ISCJB **01** 20:03:01.4±0.6, 51.2N±0.1×179.08W±0.06, h33km, mb4.3/27, MS4.1/2, Error ellipse: s-maj=16.2km s-min=5.2km az=173.1*
*IDC **01** 20:03:04.2±6.5, 51.36N×179.16W, h39km±59km, mb3.9/12, mb1 4.1/13, mb1mx3.9/23, mbtmp4.2/13, ML4.5/1, Error ellipse: s-maj=33.1km s-min=19.3km az=163.0*
*NEIC **01** 20:03:04.4±1.0, 51.05N×179.30W, h54km±6km, mb4.5/9, ML4.1(AEIC), Error ellipse: s-maj=16.6km s-min=7.0km az=175.0*
*BJI **01** 20:03:04.3, 51.10N×179.30W, h54km, mB4.1, mb4.6, Ms4.3, Msz4.2*
*MOS **01** 20:03:06.8±0.6, 51.74N×179.30W, h58km, mb4.4/19, Error ellipse: s-maj=19.1km s-min=9.1km az=92.8*
ISC 01 20:03:04.2±0.8**, 51.5N**±0.2×**179.18W**±0.09**, h35km, n90, σ1.01**/93**, mb4.3**/27**, MS4.1**/2**, 3C, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	Amchitka	0.96	264	ePn	Pn	20 03 18.4	-2.7
AMKA				eSn	Sn	20 03 33.0	-0.5
SMY	Shemya	4.33	289	ePn	Pn	20 04 10.5	+3.0
SMY				eSn	Sn	20 05 03.1	+6.5
NIKO	Nikolski	6.51	73	P	Pn	20 04 40.3	+2.7
SPIA	Saint Paul Isl	7.72	39	P	Pn	20 05 01.3	+7.2
UNV	Unalaska Valle	8.06	68	P	Pn	20 05 01.8	+3.0
SVW2	Sparrevohn	16.16	44	ePn	Pn	20 06 52.6	+4.1
KDAK	Kodiak Island	16.56	57	Pn	Pn	20 06 51.5	-2.2
	1.7nm,0.3s,baz=245,slow=6.4,SNR=11						
KDAK	Kodiak Island	16.56	57	Pn	Pn	20 06 51.5	-2.2
BILL	Bilibino	18.05	342⇑	eP	Pn	20 07 18.1	+5.9
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BILL	Bilibino	18.05	342	P	Pn	20 07 18.0	+5.8
	comp=Z,1.5nm,0.5s						
SLKM	Skilak Lake	18.39	49	eP	Pn	20 07 18.0	+1.6
SML	Sawmill	19.65	46	eP	Pn	20 07 32.0	+0.5
ASAJ	Asahikawa	26.47	269	P	P	20 08 39.2	+1.3
	comp=Z,1.2nm,0.5s,mb3.7,baz=83,slow=6.7,SNR=4.5						
ASAJ	Asahikawa	26.47	269	P	P	20 08 39.3	+1.3
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KLR	Kul'dur	30.92	285	eP	P	20 09 13.6	-4.0
MDJ	Mudanjiang	34.32	279	P	P	20 09 47.2	-0.1
MDJ				PP	PP	20 11 04.4	-1.0
MDJ				PCP	PcP	20 12 23.9	+1.0
MDJ				S	S	20 15 13.0	+0.6
MDJ				SCP	ScP	20 16 05.0	-0.2
MDJ				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,400nm,12.1s						
MDJ				LR	LR		
	comp=N,191nm,14.8s,MS4.1						
MDJ				LR	LR		
	comp=E,206nm,18.3s,MS4.1						
MDJ				LR	LR		
	comp=Z,251nm,11.9s						
YKA	Yellowknife Ar	35.33	46	P	P	20 09 56.4	+0.4
	comp=Z,1.3nm,0.5s,mb4.1,baz=283,slow=7.7,SNR=6.1						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time	Res
YKA	Yellowknife Ar	35.33	46	P	P	20 09 56.4	+0.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CN2	Changchun	37.30	280	eP	P	20 10 15.0	+2.2
BJI	Beijing	45.12	282	P	P	20 11 18.0	+0.9
ULN	Ulaanbaatar	46.00	296⇑	eP	P	20 11 24.1	+0.1
SONM	Songino Array	46.38	296	P	P	20 11 27.5	+0.4
	comp=Z,1.2nm,0.6s,mb4.0,baz=64,slow=8.0,SNR=15						
SONM	Songino Array	46.38	296	P	P	20 11 27.5	+0.4
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	Pinedale Array	46.50	72	P	P	20 11 28.6	+0.6
	comp=Z,2.6nm,0.8s,mb4.2,baz=312,slow=4.7,SNR=13						
ZAK	Zakamensk	46.69	301	eP	P	20 11 28.8	-0.7
ZAK				pmax	pmax		
	comp=Z,5.0nm,2.0s,mb4.1						
NJ2	Nanjing	48.57	271	eP	P	20 11 45.9	+1.8
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
SPB4	Spitsbergen Ar	50.25	356	P	P	20 12 01.5	+4.6
BNM	Barren Site	53.73	79	eP	P	20 12 21.5	-1.3
LZH	Lanzhou	55.13	286	eP	P	20 12 37.7	+4.8
LZH				AP	pP	20 12 43.5	0.0
LZH				AMB	AMB		
	comp=Z,21nm,1.0s,mb5.1						
ARCES	ARCESS Array B	57.94	350	P	P	20 12 51.6	-1.4
	comp=Z,1.2nm,0.6s,mb4.1,baz=25,slow=7.5,SNR=16						
ARCES	ARCESS Array B	57.94	350	P	P	20 12 51.6	-1.3
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	Kurchatov	58.77	313	i P	P	20 12 59.1	+0.4
MKAR	Makanchi Array	59.78	308	P	P	20 13 05.2	-0.6
	comp=Z,2.0nm,0.5s,mb4.4,baz=44,slow=7.1,SNR=40						
MKAR	Makanchi Array	59.78	308	P	P	20 13 05.2	-0.5
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
JOF	Joensuu	63.43	345	ep	P	20 13 29.5	-0.8
	comp=Z,1.3nm,0.3s,mb4.5						
JOF	Joensuu	63.43	345	eP	P	20 13 29.5	-0.8
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.4						
KMI	Kunming	63.48	278	P	P	20 13 32.6	+2.0
KMI				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.4						
KMI				LR	LR		
	comp=Z,111nm,15.8s,MS4.1						
KAF	Kangasniemi	64.95	347	ep	P	20 13 39.8	-0.5
	comp=Z,1.7nm,0.3s,mb4.5						
KAF	Kangasniemi	64.95	347	eP	P	20 13 39.8	-0.5
KAF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
FINES	FINESS Array B	65.62	347	P	P	20 13 44.1	-0.6
	comp=Z,1.3nm,0.5s,mb4.2,baz=16,slow=7.2,SNR=25						
FINES	FINESS Array B	65.62	347	P	P	20 13 44.1	-0.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	NORSAR Subarra	67.51	355	P	P	20 13 56.7	0.0
	comp=Z,0.7nm,0.6s,mb3.9,baz=3.5,slow=6.2						
NOA	NORSAR Array B	67.51	355	P	P	20 13 56.8	+0.1
	comp=Z,0.5nm,0.5s,mb3.8,baz=3.3,slow=6.0,SNR=4.3						
NOA	NORSAR Array B	67.51	355	P	P	20 13 56.8	+0.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	75.37	342	P	P	20 14 43.8	-0.3
	comp=Z,6.2nm,0.3s,mb5.0,baz=19,slow=5.7,SNR=17						
AKASG	Malin Array Be	75.37	342	P	P	20 14 43.8	-0.3
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.4s						
BAIF	Baives	78.79	358	eP	P	20 15 03.2	-0.1
	comp=Z,3.6nm,0.6s,mb4.2						
BAIF	Baives	78.79	358	eP	P	20 15 03.2	-0.1
BAIF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BAIF	Baives	78.79	358	eP	P	20 15 03.2	-0.1
	comp=Z,1.8nm,0.6s,mb4.2						
BURAR	Bucovina Array	79.08	343⇑	iP	P	20 15 05.4	+0.5
GERES	GERESS Array B	79.44	351	P	P	20 15 07.1	+0.2
	comp=Z,0.8nm,0.5s,mb3.9,baz=26,slow=5.8,SNR=12						
GERES	GERESS Array B	79.44	351	P	P	20 15 07.1	+0.2
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FLN	La Foliniere	80.12	1	eP	P	20 15 10.1	-0.5
LDF	La Druitiere	80.29	1	eP	P	20 15 10.8	-0.7
	comp=Z,6.5nm,0.5s,mb4.5						
LDF	La Druitiere	80.29	1	eP	P	20 15 10.8	-0.7
LDF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
LDF	La Druitiere	80.29	1	eP	P	20 15 10.8	-0.7
	comp=Z,3.3nm,0.5s,mb4.5						
CDF	Champ du Feu	80.32	356	eP	P	20 15 11.1	-0.5
GRR	Gorron	80.49	1	eP	P	20 15 12.1	-0.4
ROSF	Rostrenen	80.49	3	eP	P	20 15 12.1	-0.4
SGMF	Saint Gilles	80.59	2	eP	P	20 15 12.8	-0.3
	comp=Z,5.2nm,0.5s,mb4.4						
SGMF	Saint Gilles	80.59	2	eP	P	20 15 12.8	-0.3
SGMF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
SGMF	Saint Gilles	80.59	2	eP	P	20 15 12.8	-0.3
	comp=Z,2.6nm,0.5s,mb4.4						
QUIF	Quistinic	80.91	3	eP	P	20 15 14.3	-0.5
AVF	Avril sur Loir	82.08	358	eP	P	20 15 20.5	-0.4
CABF	La Chapelle	82.17	356	eP	P	20 15 21.3	-0.2
	comp=Z,11nm,1.0s,mb4.5						
CABF	La Chapelle	82.17	356	eP	P	20 15 21.3	-0.2
CABF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
CABF	La Chapelle	82.17	356	eP	P	20 15 21.3	-0.2
	comp=Z,5.6nm,1.0s,mb4.5						
SMF	Signal de Mont	82.21	358	eP	P	20 15 21.2	-0.5
MFF	Saint Martin d	82.28	1	eP	P	20 15 21.9	-0.1
TCF	Toulx Ste Croi	82.59	359	eP	P	20 15 23.2	-0.5
ORIF	Oris-en-Rattie	83.87	356	eP	P	20 15 30.8	+0.5
CAF	Calviac	83.96	359	eP	P	20 15 30.7	0.0
MBDF	Montbardon	84.03	356	eP	P	20 15 31.5	+0.5
FITZ	Fitzroy Crossi	84.35	232	P	P	20 15 30.0	-2.6
	comp=Z,1.7nm,1.0s,mb4.1,baz=18,slow=13						
BRTR	Keskin Array B	84.75	335	P	P	20 15 35.3	+0.6
	comp=Z,1.3nm,0.8s,mb4.1,baz=42,slow=5.0,SNR=7.0						
BRTR	Keskin Array B	84.75	335	P	P	20 15 35.3	+0.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SMRF	Simiane la Rot	84.83	357	eP	P	20 15 35.7	+0.6
	comp=Z,14nm,1.1s,mb4.7						
SMRF	Simiane la Rot	84.83	357	eP	P	20 15 35.7	+0.6
	comp=Z,14nm,1.1s,mb5.0						
FRF	La Foret Royal	85.19	356	eP	P	20 15 36.3	-0.6
	comp=Z,6.8nm,0.8s,mb4.5						
FRF	La Foret Royal	85.19	356	eP	P	20 15 36.3	-0.6
FRF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
FRF	La Foret Royal	85.19	356	eP	P	20 15 36.3	-0.6
	comp=Z,3.4nm,0.8s,mb4.5						
LMR	La Mourre	85.43	356	eP	P	20 15 37.9	-0.2
	comp=Z,3.8nm,0.7s,mb4.3						
LMR	La Mourre	85.43	356	eP	P	20 15 37.9	-0.2
LMR				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
LMR	La Mourre	85.43	356	eP	P	20 15 37.9	-0.2
	comp=Z,1.9nm,0.7s,mb4.3						
MTLF	Montolieu	85.54	359	eP	P	20 15 38.6	-0.1
SJPF	Ste Jean	85.76	2	eP	P	20 15 40.0	+0.3
ETSF	Etsaut	85.98	1	eP	P	20 15 41.1	+0.2
	comp=Z,3.8nm,0.8s,mb4.4						
ETSF	Etsaut	85.98	1	eP	P	20 15 41.1	+0.2
ETSF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.4						
ETSF	Etsaut	85.98	1	eP	P	20 15 41.1	+0.2
	comp=Z,1.9nm,0.8s,mb4.4						
PGF	Pioggiola	86.07	354	eP	P	20 15 41.0	-0.3

*ISCJB **01** 20:12:01.6±0.4, 56.29S±0.07×25.0W±0.1, h10km, mb4.8/22, MS4.5/9, Error ellipse: s-maj=11.3km s-min=7.1km az=82.3*
*MOS **01** 20:12:05.4±0.9, 56.33S×24.91W, h33km, mb5.1/6, Error ellipse: s-maj=26.9km s-min=13.8km az=103.0*
*IDC **01** 20:12:06.9±8.2, 56.32S×24.96W, h33km±62km, mb4.4/12, mb1 4.4/12, mb1mx4.3/16, mbtmp4.6/12, MS4.3/6, Ms1 4.3/6, ms1mx4.0/18, Error ellipse: s-maj=18.7km s-min=16.5km az=41.0*
*HRVD **01** 20:12:08.6±0.5, 56.69S×24.75W, h63km±9km, MW5.0/31, Centroid moment Tensor Solution. LP body waves: s6,c7;Mantle waves: s31,c33; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.30±.45; $M_{\theta\theta}$-0.87±.37; $M_{\phi\phi}$-0.43±.33; $M_{r\theta}$-3.27±.46; $M_{\theta\phi}$-2.95±.22; $M_{\phi r}$0.45±.26; Best double couple: $M_0$4.57300×10^{16} NP1:ϕ_s9.00000°, δ42.00000°, λ17.00000°. NP2:ϕ_s266.00000°, δ79.00000°, λ131.00000°. Principal axes: T 4.6360, Plg42.0000°, Azm214.0000°; N -0.1300, Plg40.0000°, Azm77.0000°; P -4.5090, Plg23.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **01** 20:12:08.6, 56.30S×25.00W, h51km, mB5.1, Ms5.1, Msz5.0*
*NEIC **01** 20:12:08.6±0.2, 56.33S×25.00W, mb4.9/16, Error ellipse: s-maj=9.1km s-min=6.3km az=206.0*
ISC 01 20:12:03.3±0.4**, 56.34S**±0.07×**25.0W**±0.1**, h10**km**,** **(h48**km±2.1km**:pP-P), n77, σ0.84**/45**, mb4.8**/22**, MS4.5**/9**,** **1C-3D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	Hope Point	6.89	283	ePn	Pn	20 13 44.1	-0.2
HOPE				eSn	Sn	20 14 57.5	-5.3
VNA1	Neumayer--Stat	16.08	160	ePn	Pn	20 15 49.5	+0.1
VNA1				e		20 15 51.0	
VNA1				e		20 15 52.8	
VNA1				e		20 15 55.9	
VNA1				e		20 16 08.0	
VNA1				e		20 16 10.5	
VNA1				e		20 16 19.4	
VNA1				e		20 16 34.7	
VNA1				e		20 16 48.1	
SNAA	Sanae	17.98	157	ePn	Pn	20 16 13.7	+0.4
SNAA				e		20 16 15.8	
SNAA				e		20 16 18.4	
SNAA				e		20 16 22.3	
SNAA				e		20 16 25.1	
SNAA				e		20 16 31.1	
SNAA				e		20 16 36.0	
SNAA				e		20 16 37.5	
SNAA				e		20 16 48.1	
SNAA				e		20 16 56.4	
SNAA	Sanae	17.98	157	eP	Pn	20 16 14.1	+0.8
SNAA				pmax	pmax		
	comp=Z,11nm,0.5s						
SNAA	Sanae	17.98	157	eP	Pn	20 16 14.1	+0.7
	comp=Z,11nm,0.5s						
EFI	East Falkland	19.88	270	eP	Pn	20 16 34.6	-1.6
EFI				pmax	pmax		
	comp=Z,56nm,0.9s						
EFI	East Falkland	19.88	270	eP	Pn	20 16 34.6	-1.6
	comp=Z,56nm,0.9s						
NVL	N'lazarevskaya	21.34	147d	iP	P	20 16 49.9	-0.6
NVL				pmax	pmax		
	comp=Z,60nm,1.6s,mb4.7						
NVL				pmax	pmax		
	comp=N,26nm,1.3s						
NVL				pmax	pmax		
	comp=E,54nm,1.6s						
NVL				pmax	pmax		
	comp=Z,1μm,21.3s						
SYO	Syowa Base	30.57	140⇓	eP	P	20 18 16.0	-1.1
TRQA	Tornquist	30.58	291	eP	P	20 18 16.7	-0.4
	comp=Z,6.3nm,0.6s,mb4.6						
TRQA				epP	pP	20 18 30.5	+10
PLCA	Paso Flores	33.27	278	P	P	20 18 39.1	-1.7
	comp=Z,2.4nm,0.7s,mb4.2,baz=120,slow=4.3,SNR=5.5						
PLCA	Paso Flores	33.27	278	eP	P	20 18 41.4	+0.6
PLCA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PLCA	Paso Flores	33.27	278	eP	P	20 18 41.4	+0.6
	comp=Z,3.6nm,0.8s,mb4.3						
QSPA	South Pole Qui	33.91	180	eP	P	20 18 47.2	+0.8
	comp=Z,43nm,0.5s,mb5.6						
MAW	Mawson	39.17	143	P	P	20 19 31.0	-0.2
	comp=Z,6.6nm,0.9s,mb4.4,baz=243,slow=7.2,SNR=8.3						
MAW				LR	LR	20 34 17.6	
	comp=Z,225nm,18.7s,MS4.0,baz=41,slow=34						
SUR	Sutherland	39.53	72	P	P	20 19 35.6	+1.4
	comp=Z,3.8nm,0.8s,mb4.2,baz=200,slow=15,SNR=3.3						
BDFB	Brasilia	44.26	327	P	P	20 20 13.8	+1.0
	comp=Z,1.3nm,0.6s,mb3.9,baz=188,slow=7.1,SNR=2.3						
BOSA	Boshof	44.85	73	P	P	20 20 17.5	-0.1
	comp=Z,7.5nm,1.0s,mb4.5,baz=228,slow=8.0,SNR=6.8						
BOSA				LR	LR	20 34 35.7	
	comp=Z,432nm,21.4s,MS4.3,baz=288,slow=30						
BOSA	Boshof	44.85	73	eP	P	20 20 17.2	-0.4
BOSA				e*PP	pP	20 20 29.8	+9.0
BOSA				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.7						
BOSA	Boshof	44.85	73	eP	P	20 20 17.2	-0.4
	comp=Z,15nm,1.2s,mb4.7						
BOSA				epP	pP	20 20 29.8	+9.1
VNDA	Vanda	46.34	182	P	P	20 20 30.1	+0.7
	comp=Z,7.7nm,0.7s,mb4.8,baz=189,slow=6.3,SNR=43						
VNDA				LR	LR	20 40 15.1	
	comp=Z,352nm,20.1s,MS4.3,baz=70,slow=36						
VNDA	Vanda	46.34	182	eP	P	20 20 29.6	+0.2
VNDA				e*PP	pP	20 20 44.3	+12
VNDA				pmax	pmax		
	comp=Z,15nm,1.1s						
VNDA	Vanda	46.34	182	eP	P	20 20 29.6	+0.2
	comp=Z,15nm,1.1s,mb4.8						
VNDA				epP	pP	20 20 44.3	+12
LVC	Limon Verde	46.52	298	eP	P	20 20 31.5	+0.6
	comp=Z,22nm,0.5s,mb5.3						
LBTB	Lobatse	47.92	71	P	P	20 20 41.4	-0.3
	comp=Z,11nm,0.8s,mb4.9,baz=223,slow=8.8,SNR=20						
LBTB	Lobatse	47.92	71	eP	P	20 20 41.0	-0.7
LBTB				e*PP	pP	20 20 54.1	+9.2
LBTB				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
LBTB	Lobatse	47.92	71	eP	P	20 20 41.0	-0.7
	comp=Z,19nm,1.0s,mb5.1						
LBTB				epP	pP	20 20 54.1	+9.2
MIR	Mirnyy	48.96	152c	iP	P	20 20 51.0	+1.3
MIR				pmax	pmax		
	comp=Z,210nm,1.5s						
LPAZ	La Paz	51.57	303	P	P	20 21 11.3	+1.8
	comp=Z,17nm,0.7s,mb5.1,baz=116,slow=6.2,SNR=70						
LPAZ	La Paz	51.57	303	eP	P	20 21 11.1	+1.6
LPAZ				pmax	pmax		
	comp=Z,24nm,0.8s						
LPAZ	La Paz	51.57	303	eP	P	20 21 11.1	+1.6
	comp=Z,24nm,0.8s,mb5.2						
CASY	Casey	53.21	159	eP	P	20 21 22.3	+0.6
	comp=Z,22nm,0.9s,mb5.1						
CASY				epP	pP	20 21 36.5	+12
SAML	Samuel	55.90	312	eP	P	20 21 40.9	-0.3
	comp=Z,18nm,1.2s,mb5.0						
SAML				epP	pP	20 21 55.3	+11
LSZ	Lusaka	57.34	67	eP	P	20 21 50.9	-0.6
LSZ				e*PP	pP	20 22 04.1	+9.4
LSZ				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.0						
LSZ	Lusaka	57.34	67	eP	P	20 21 50.9	-0.5
	comp=Z,22nm,1.3s,mb5.0						
LSZ				epP	pP	20 22 04.1	+9.4
NNA	Nana	59.48	297	eP	P	20 22 06.1	-0.3
	comp=Z,39nm,1.1s,mb5.3						
DBIC	Dimbokro	64.94	22	P	P	20 22 42.8	-0.3
	comp=Z,7.8nm,0.9s,mb4.7,baz=184,slow=9.0,SNR=3.7						
OTAV	Otavalo	70.86	302	eP	P	20 23 21.2	+1.0
	comp=Z,14nm,1.1s,mb4.8						
TORD	Torodi Ar. Bea	72.72	27	P	P	20 23 30.8	-0.7
	comp=Z,2.4nm,0.4s,mb4.5,baz=200,slow=6.3,SNR=118						
TORD	Torodi Ar. Bea	72.72	27	P	P	20 23 30.8	-0.7
SDV	Santo Domingo	75.10	313	eP	P	20 23 45.5	+0.1
	comp=Z,5.9nm,0.8s,mb4.6						
STKA	Stephens Creek	91.39	169	P	P	20 25 08.2	-1.3
	comp=Z,5.2nm,1.0s,mb4.8,baz=138,slow=6.7,SNR=3.8						
STKA				LR	LR	21 07 46.3	
	comp=Z,248nm,18.7s,MS4.7,baz=204,slow=36						
STKA	Stephens Creek	91.39	169	eP	P	20 25 07.6	-1.9
PPT	Papeete	93.01	232	LR	LR	20 59 06.2	
	comp=Z,149nm,19.6s,MS4.5,baz=145,slow=30						
ASAR	Alice Springs	98.32	160	P	P	20 25 40.6	-0.5
	comp=Z,1.4nm,0.9s,mb4.5,baz=192,slow=4.2,SNR=10.0						
ASAR				LR	LR	21 07 25.9	
	comp=Z,157nm,20.4s,MS4.5,baz=181,slow=34						
WRA	Warramunga Arr	102.03	160	P	Pdif	20 25 56.3	-1.4
	comp=Z,0.2nm,0.4s,baz=320,slow=2.6,SNR=7.0						
WVT	Waverly	106.38	311	ePKP	PKiKP	20 30 27.0	-1.2
JCT	Junction City	107.06	299	ePKP	PKiKP	20 30 27.4	-2.1
LOHW	Long Hollow	122.69	301	ePKPdf	PKPdf	20 30 58.5	-0.8
MOOW	Moose Ponds	122.86	301	ePKPdf	PKPdf	20 30 58.9	-0.7
FINES	FINESS Array B	124.07	27	PKP	PKPdf	20 30 59.8	-2.1
	comp=Z,0.5nm,0.5s,baz=145,slow=4.7,SNR=10						
AAK	Ala-Archa	128.91	69	ePKIKP	PKPdf	20 31 09.5	-1.7
ARCES	ARCESS Array B	130.76	21	PKP	PKPdf	20 31 12.6	-2.0
	comp=Z,2.6nm,1.1s,baz=210,slow=1.0,SNR=9.9						
ARU	Arti	130.98	47	ePKIKP	PKPdf	20 31 13.3	-1.8
ARU	Arti	130.98	47	ePKPdf	PKPdf	20 31 13.3	-1.8
KMI	Kunming	131.26	107	PKP	PKPdf	20 31 15.6	0.0
ZRNK	Zerenda	133.21	56	ePKIKP	PKPdf	20 31 17.3	-2.0
GYA	Guiyang	134.41	110	ePKP	PKPdf	20 31 16.7	-4.8
GYA				PKS		20 34 51.7	
GYA				PP	PP		
	comp=Z,120nm,8.1s						
GYA				LR	LR		
	comp=N,140nm,20.9s,MS4.9						
GYA				LR	LR		
	comp=E,180nm,21.4s,MS4.9						
GYA				LR	LR		
	comp=Z,160nm,21.6s,MS4.7						
MKAR	Makanchi Array	135.81	70	PKP	PKPdf	20 31 22.1	-2.0
	comp=Z,0.5nm,0.9s,baz=326,slow=0.4,SNR=4.1						
CD2	Chengdu	136.39	104	ePKP	PKPdf	20 31 20.5	-4.7
CD2				XPKP		20 31 45.5	
CD2				PP	PP	20 34 06.5	+0.5
CD2				PKS		20 34 55.3	
CD2				SS	SS	20 51 59.5	-8.1
CD2				PP	PP		
	comp=Z,80nm,10.2s						
CD2				LR	LR		
	comp=E,50nm,22.8s						
CD2				LR	LR		
	comp=Z,80nm,19.2s,MS4.5						
WMQ	Urumqi	136.75	77	PKP	PKPdf	20 31 25.5	-0.4
YKA	Yellowknife Ar	137.22	317	PKP	PKPdf	20 31 25.1	-1.6
	comp=Z,6.0nm,1.1s,baz=117,slow=2.5,SNR=5.4						
LZH	Lanzhou	140.34	99	ePKP	PKPdf	20 31 35.7	+3.2
LZH				XPKP		20 31 56.6	
LZH				PP	PP		
	comp=Z,110nm,6.7s						
LZH				LR	LR		
	comp=E,165nm,18.5s						
LZH				LR	LR		
	comp=Z,238nm,19.7s,MS5.0						
JOW	Kunigami	144.81	136	PKP	PKPdf	20 31 39.5	-0.9
	comp=Z,39nm,0.9s,baz=249,slow=3.9,SNR=7.0						
SSE	Sheshan	145.45	123	PKP	PKPdf	20 31 42.8	+1.3
INK	Inuvik	146.82	320	PKPbc	PKPbc	20 31 43.5	-2.1
	comp=Z,6.3nm,0.8s,baz=68,slow=3.7,SNR=10						
BTO	Baotou	146.96	99	ePKP	PKPdf	20 31 44.5	+0.4
HHC	Hu-ho-hao-te	147.97	100	ePKP	PKPdf	20 31 46.9	+1.1
HHC				APKP		20 32 03.4	
HHC				XPKP		20 32 08.8	
HHC				PKS		20 35 20.8	
HHC				PP	PP	20 35 23.8	+7.5
HHC				SKS	SKSdf	20 38 49.0	-5.3
HHC				PP	PP		
	comp=Z,213nm,16.0s						
ZAK	Zakamensk	149.18	79	ePKP2	PKPdf	20 31 49.5	+1.8
ZAK				pmax	pmax		
	comp=Z,17nm,1.9s						
SONM	Songino Array	149.51	85	PKP	PKPdf	20 31 45.7	-2.5
	comp=Z,0.7nm,1.0s,baz=255,slow=5.7,SNR=4.7						
SONM				PKPbc	PKPbc	20 31 51.4	-1.4
	comp=Z,1.6nm,0.5s,baz=216,slow=3.2,SNR=18						
ULN	Ulaanbaatar	149.89	86d	iPKP2	PKPbc	20 31 51.6	-2.1
ULN	Ulaanbaatar	149.89	86	ePKPbc	PKPbc	20 31 51.3	-2.4
BJI	Beijing	149.90	106	PKP	PKPbc	20 31 52.9	-0.8
TLY	Talaya	150.04	77	ePKIKP	PKPbc	20 31 52.9	-1.2
TLY				e		20 31 59.5	
TLY				pmax	pmax		
	comp=Z,11nm,1.5s						
MJAR	Matsushiro Arr	157.17	143	PKPab	PKPab	20 32 29.5	-0.5
	comp=Z,1.4nm,0.9s,baz=214,slow=11,SNR=4.3						
CN2	Changchun	157.45	111	ePKP	PKPdf	20 31 53.2	-6.4
MDJ	Mudanjiang	160.14	115	PKP	PKPdf	20 32 02.2	-0.6

*IDC **01** 20:17:26.9±6.8, 0.29N×122.70E, h222km±71km, mb3.3/6, mb1 3.4/7, mb1mx3.3/17, mbtmp3.9/7, Error ellipse: s-maj=43.6km s-min=15.7km az=74.0*
*ISCJB **01** 20:17:28.2±2.2, 0.2N±0.1×122.5E±0.2, h259km±25km, mb3.5/8, Error ellipse: s-maj=28.6km s-min=11.4km az=127.7*
*NEIC **01** 20:17:28.9±1.7, 0.20N×122.48E, h252km±20km, mb3.9/2, Error ellipse: s-maj=20.4km s-min=8.3km az=64.0*
ISC 01 20:17:29.2±2.2**, 0.20N**±0.10×**122.5E**±0.2**, h253**km±25km**, n15,** **σ0.72**/15**, mb3.6**/8**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	8.53	313	ePn	Pn	20 19 29.7	+0.5
KSM	Kuching	12.24	276	Pn	Pn	20 20 14.9	-0.7
FITZ	Fitzroy Crossi	18.45	170	P	P	20 21 26.2	-0.3
	0.5nm,0.3s,baz=1.6,slow=9.3,SNR=24						
MBWA	Marble Bar	21.40	187	eP	P	20 21 57.0	-0.5
KULM	Kulim	22.38	283	P	P	20 22 06.5	+0.2
WRAB	Tennant Creek	23.14	151	eP	P	20 22 13.6	+0.2
	2.6nm,0.8s,mb3.8						
WRA	Warramunga Arr	23.15	151	P	P	20 22 13.9	+0.5
	1.3nm,0.7s,mb3.6,baz=340,slow=9.4,SNR=56						
WRA				pP		20 22 46.3	
	0.7nm,0.6s,baz=334,slow=10,SNR=4.0						
ASAR	Alice Springs	26.19	156	P	P	20 22 41.8	+0.9
	0.4nm,0.5s,mb3.3,baz=343,slow=14,SNR=13						
ASAR				pP	pP	20 23 17.9	-12
	0.6nm,0.6s,baz=329,slow=8.2,SNR=6.4						
STKA	Stephens Creek	36.68	152	P	P	20 24 11.6	-0.5
	0.8nm,0.3s,mb3.7,baz=334,slow=12,SNR=3.1						
STKA	Stephens Creek	36.68	152	eP	P	20 24 11.1	-0.9
MJAR	Matsushiro Arr	38.99	20	P	P	20 24 30.0	-1.3
	1.3nm,0.8s,mb3.5,baz=184,slow=8.2,SNR=6.1						
SONM	Songino Array	49.46	346	P	P	20 25 54.9	+0.9
	1.3nm,0.7s,mb3.4,baz=169,slow=8.2,SNR=10.0						
SONM				PcP	PcP	20 27 13.2	+1.2
	0.2nm,0.4s,baz=158,slow=4.0,SNR=4.1						
MKAR	Makanchi Array	58.17	329	P	P	20 26 57.7	+0.9
	0.8nm,0.3s,mb3.8,baz=122,slow=7.9,SNR=34						
MKAR				PcP	PcP	20 27 45.8	+0.5
	0.6nm,0.6s,baz=150,slow=2.8,SNR=5.1						
MKAR	Makanchi Array	58.17	329	P	P	20 26 57.7	+0.9
MKAR				PcP	PcP	20 27 45.8	+0.5
KURK	Kurchatov	62.54	330	eP	P	20 27 25.5	-0.9
	3.0nm,0.8s,mb4.0						

*IDC **01** 20:36:31.3±4.2, 51.80N×174.32W, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/22, mbtmp3.7/7, Error ellipse: s-maj=106.9km s-min=51.1km az=164.0*
*ISCJB **01** 20:36:34.1±1.8, 51.4N±0.1×174.3W±0.1, h52km±14km, mb3.7/7, Error ellipse: s-maj=26.2km s-min=11.2km az=127.0*
*NEIC **01** 20:36:34.9±2.3, 51.18N×174.37W, h35km, ML3.4(AEIC), Error ellipse: s-maj=50.1km s-min=13.1km az=160.0*
ISC 01 20:36:35.8±1.7**, 51.3N**±0.1×**174.3W**±0.2**, h56**km±13km**, n10,** **σ0.81**/12**, mb3.7**/7**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	Amchitka	4.02	273	P	Pn	20 37 33.9	-0.9
UNV	Unalaska Valle	5.38	59	ePn	Pn	20 37 54.4	+0.9
	35nm,0.7s						
UNV				eSn	Sn	20 38 53.0	-1.0
SPIA	Saint Paul Isl	6.32	20	ePn	Pn	20 38 07.8	+1.3
SPIA				eSn	Sn	20 39 17.0	-0.3
SONM	Songino Array	49.17	299	P	P	20 45 18.7	+0.5
	0.2nm,0.5s,mb3.4,baz=51,slow=8.3,SNR=4.1						
ARCES	ARCESS Array B	58.58	352	P	P	20 46 26.1	-0.7
	0.7nm,0.5s,mb4.0,baz=19,slow=7.3,SNR=9.2						
ARCES				PcP	PcP	20 47 17.3	+0.7
	1.1nm,0.7s,baz=18,slow=5.1,SNR=5.0						
MKAR	Makanchi Array	62.24	311	P	P	20 46 52.0	+0.3
	0.2nm,0.3s,mb3.7,baz=44,slow=6.6,SNR=9.1						
BVAR	Borovoye Array	62.71	322	P	P	20 46 54.8	-0.1
	1.1nm,0.6s,mb4.2,baz=59,slow=5.7,SNR=6.4						
BVAR				PcP	PcP	20 47 34.8	+1.6
	1.0nm,0.6s,baz=46,slow=4.3,SNR=5.6						
FINES	FINESS Array B	66.41	349	P	P	20 47 17.9	-1.1
	0.3nm,0.7s,mb3.4,baz=4.2,slow=10,SNR=3.4						
FINES				PcP	PcP	20 47 48.9	+0.5
	0.6nm,0.6s,baz=247,slow=1.5,SNR=4.0						
AKTO	Aktyubinsk	69.31	327	P	P	20 47 38.3	+1.0
	1.3nm,0.7s,mb4.0,baz=56,slow=7.0,SNR=7.2						
GERES	GERESS Array B	79.97	355	P	P	20 48 39.2	+0.1
	0.3nm,0.7s,mb3.4,baz=17,slow=7.2,SNR=5.3						

*IDC **01** 20:42:50.2±4.6, 5162N×17937W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/20, mbtmp3.8/4, MS4.1/1, Ms1 4.1/1, ms1mx2.9/43, Error ellipse: s-maj=146.3km s-min=33.9km az=12.0*
*ISCJB **01** 20:42:51.3±3.3, 509N±05×1792W±02, h44km±16km, mb3.8/4, MS4.1/1, Error ellipse: s-maj=80.2km s-min=12.8km az=15.4*
*NEIC **01** 20:42:53.9±2.9, 51.18N×17932W, h35km, ML3.3(AEIC), Error ellipse: s-maj=88.3km s-min=12.8km az=180.0*
ISC 01 20:42:54.2±3.5, **511N**±06×**1793W**±02, **h48**km±15km, **n8**, σ**1s20**/9, **mb3.8**/4, **MS4.1**/1, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.93**	**289**	P	**Pn**	**20 43 09.0**	**-1.9**
AMKA				S	**Sn**	**20 43 23.4**	**+0.1**
SMY	**Shemya**	**4.41**	**294**	*e*Pn	**Pn**	**20 43 59.6**	**+1.1**
SMY				*e*Sn	**Sn**	**20 44 52.5**	**+3.9**
UNV	**Unalaska Valle**	**8.28**	**66**	*e*Pn	**Pn**	**20 44 51.5**	**-0.1**
	17nm,0.8s						
PDAR	**Pinedale Array**	**46.69**	**72**	P	**P**	**20 51 19.7**	**+1.6**
	0.2nm,0.4s,mb3.4,baz=318,slow=5.0,SNR=3.4						
LPIG	**La Paz**	**58.54**	**90**	LR	LR	21 12 20.7	
	comp=Z,152nm,19.1s,MS4.1,baz=308,slow=30						
MKAR	**Makanchi Array**	**59.98**	**308**	P	**P**	**20 52 55.5**	**-0.1**
	0.4nm,0.5s,mb3.7,baz=45,slow=5.8,SNR=7.6						
FINES	**FINESS Array B**	**66.00**	**347**	P	**P**	**20 53 34.4**	**-1.2**
	0.6nm,0.6s,mb3.8,baz=23,slow=6.2,SNR=5.8						
AKASG	**Malin Array Be**	**75.73**	**342**	P	**P**	**20 54 34.2**	**-0.4**
	1.2nm,0.3s,mb4.2,baz=19,slow=6.3,SNR=4.4						

IDC 01 20:46:00.5±3.7, **5168N**×**17923W**, **h0**km, **mb3.7**/5, **mb1 3.8**/5, **mb1mx3.5**/20, **mbtmp3.7**/5, **Error ellipse: s-maj=117.0km s-min=31.7km az=6.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	**Songino Array**	**46.27**	**296**	P	P	20 54 28.1	+0.5
	0.5nm,0.9s,baz=68,slow=11,SNR=3.9						
PDAR	**Pinedale Array**	**46.47**	**72**	P	P	20 54 29.2	0.0
	0.6nm,0.8s,baz=316,slow=4.1,SNR=4.9						
MKAR	**Makanchi Array**	**59.63**	**308**	P	P	20 56 05.4	-0.9
	0.3nm,0.4s,baz=45,slow=7.3,SNR=8.5						
FINES	**FINESS Array B**	**65.43**	**347**	P	P	20 56 44.8	-0.2
	0.3nm,0.4s,baz=11,slow=8.5,SNR=4.9						
AKASG	**Malin Array Be**	**75.18**	**342**	P	P	20 57 44.0	-0.7
	1.2nm,0.3s,baz=21,slow=6.9,SNR=6.2						

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*ISCJB **01** 20:46:35.8±3.1, 315S±03×1795W±05, h499km±42km, mb3.5/4, Error ellipse: s-maj=64.3km s-min=44.5km az=26.9*
*NEIC **01** 20:46:38.8±3.3, 3140S×17988E, h462km±42km, mb3.9/1, Error ellipse: s-maj=52.1km s-min=33.2km az=181.0*
*IDC **01** 20:46:41.1±7.4, 3147S×17972E, h477km±95km, mb3.0/3, mb1 3.2/3, mb1mx3.0/10, mbtmp3.9/3, Error ellipse: s-maj=103.1km s-min=36.8km az=6.0*
ISC 01 20:46:38.8±3.0, **315S**±04×**1799W**±06, **h485**km±60km, **n25**, σ**0s81**/26, **mb3.5**/4, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**6.72**	**193**	*e*PN	**P**	**20 48 22.5**	**+0.9**
PUZ	**Puketiti**	**6.72**	**193**	*e*P	**P**	**20 48 22.5**	**+0.9**
MWZ	**Matawai**	**7.13**	**197**	*e*PN	**P**	**20 48 25.9**	**+0.1**
MWZ	**Matawai**	**7.13**	**197**	*e*P	**P**	**20 48 25.9**	**+0.1**
URZ	**Urewera**	**7.17**	**200**	P	**P**	**20 48 28.1**	**+1.9**
	26nm,0.3s,baz=26,slow=3.1,SNR=121						
URZ				S	**S**	**20 49 54.3**	**+0.1**
	3.1nm,0.3s,baz=348,slow=20,SNR=5.3						
URZ	**Urewera**	**7.17**	**200**	*e*PN	**P**	**20 48 24.9**	**-1.3**
URZ	**Urewera**	**7.17**	**200**	*e*P	**P**	**20 48 24.9**	**-1.3**
URZ				S	**S**	**20 49 54.3**	**+0.1**
BKZ	**Black Stump Fm**	**8.19**	**200**	*e*PN	**P**	**20 48 36.6**	**-0.2**
BKZ	**Black Stump Fm**	**8.19**	**200**	*e*P	**P**	**20 48 36.6**	**-0.2**
PXZ	**Pawanui**	**8.90**	**197**	*e*PN	**P**	**20 48 43.1**	**-1.2**
BFZ	**Birch Farm**	**9.67**	**198**	*e*PN	**P**	**20 48 53.7**	**+1.2**
BFZ	**Birch Farm**	**9.67**	**198**	*e*P	**P**	**20 48 53.7**	**+1.3**
MRZ	**Mangatainoka R**	**9.84**	**201**	*e*PN	**P**	**20 48 52.1**	**-2.2**
TUWZ	**Tuamarina**	**11.08**	**205**	PN	**P**	**20 49 07.5**	**0.0**
QRZ	**Quartz Range**	**11.14**	**211**	*e*PN	**P**	**20 49 08.1**	**0.0**
QRZ	**Quartz Range**	**11.14**	**211**	*e*P	**P**	**20 49 08.1**	**0.0**
THZ	**Tophouse**	**11.76**	**208**	*e*PN	**P**	**20 49 14.9**	**+0.1**
THZ	**Tophouse**	**11.76**	**208**	*e*P	**P**	**20 49 14.9**	**+0.2**
KHZ	**Kahutara**	**12.09**	**204**	*e*PN	**P**	**20 49 19.1**	**+0.9**
KHZ	**Kahutara**	**12.09**	**204**	*e*P	**P**	**20 49 19.1**	**+0.8**
STKA	**Stephens Creek**	**32.69**	**259**	P	**P**	**20 52 30.1**	**+0.1**
	1.2nm,0.7s,mb3.4,baz=96,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**41.48**	**269**	P	**P**	**20 53 42.5**	**+0.1**
	0.4nm,0.4s,mb3.2,baz=108,slow=7.5,SNR=7.6						
WRAB	**Tennant Creek**	**42.57**	**274**	*e*P	**P**	**20 53 51.0**	**0.0**
	1.7nm,0.3s,mb4.0						
WRA	**Warramunga Arr**	**42.58**	**274**	P	**P**	**20 53 51.0**	**0.0**
	0.8nm,0.3s,mb3.6,baz=111,slow=8.0,SNR=57						
FINES	**FINESS Array B**	**145.62**	**338**	PKPbc	PKPbc	21 05 23.5	+0.9
	0.4nm,0.5s,baz=64,slow=4.4,SNR=9.2						

IDC 01 21:06:08.4±5.2, **2247N**×**14436E**, **h159**km±41km, **mb3.0**/3, **mb1 3.2**/4, **mb1mx3.0**/18, **mbtmp3.6**/4, **Error ellipse: s-maj=231.5km s-min=24.2km az=74.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.01**	**337**	P	Pn	21 07 24.0	+2.0
	6.3nm,0.3s,baz=116,slow=23,SNR=4.6						
CBIJ				S	Sn	21 08 19.0	-0.5
	18nm,0.3s,baz=306,slow=21,SNR=11						
WRA	**Warramunga Arr**	**43.28**	**194**	P	P	21 13 54.4	+0.3
	0.5nm,0.3s,baz=17,slow=9.2,SNR=40						
ASAR	**Alice Springs**	**46.98**	**193**	P	P	21 14 22.9	-0.3
	0.2nm,0.3s,baz=10,slow=6.6,SNR=7.3						
MKAR	**Makanchi Array**	**54.98**	**312**	P	P	21 15 23.2	+0.2
	0.2nm,0.5s,baz=76,slow=9.1,SNR=4.1						

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*THR **01** 21:06:22.8±0.7, 37.14N×4458E, h17km±14km, ML3.0*
*ISK **01** 21:06:23.2, 3673N×4498E, h24km, MD3.9*
*CSEM **01** 21:06:24.4±0.1, 37.18N×4490E, h2km, ML4.0, Error ellipse: s-maj=2.8km s-min=1.6km az=2.0*
*ISCJB **01** 21:06:25.3±1.1, 37.16N±003×4497E±003, h14km±9km, mb3.1/3, Error ellipse: s-maj=6.1km s-min=4.2km az=42.8*
*IDC **01** 21:06:25.6±1.4, 3732N×4498E, h0km, mb3.3/3, mb1 3.5/9, mb1mx3.3/24, mbtmp3.4/9, ML3.4/6, Error ellipse: s-maj=28.5km s-min=19.2km az=158.0*
*NEIC **01** 21:06:27.6±1.2, 3743N×4507E, h16km±9km, MN4.0(TEH), Error ellipse: s-maj=8.9km s-min=6.9km az=217.0*
*TEH **01** 21:06:28.7, 3755N×4499E, h33km, Mn4.0*
ISC 01 21:06:27.1±1.4, **3729N**±003×**4498E**±003, **h12**km±10km, **n64**, σ**1s51**/73, **mb3.1**/3, **Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IAZR	**Azarshahr**	**0.89**	**64**	*e*Pg	**Pg**	**21 06 44.5**	**+0.2**
IAZR	**Azarshahr**	**0.89**	**64**	Pg	**Pg**	**21 06 44.4**	**+0.1**
HAKT	**HAKKARI**	**1.05**	**285**	*i* P	**Pb**	**21 06 43.6**	**-3.6**
HAKT				*i* S	**Sb**	**21 06 57.1**	**-3.8**
CUKT	**Cukurca**	**1.09**	**268**	*i* PN	**Pn**	**21 06 44.8**	**-3.5**
CUKT				*i* SN	**Sn**	**21 07 01.2**	**-2.1**
ISHB	**Shabestar**	**1.12**	**27**	*e*Pg	**Pb**	**21 06 47.3**	**-1.1**
ISHB	**Shabestar**	**1.12**	**27**	Pg	**Pb**	**21 06 47.2**	**-1.2**
ITBZ	**Tabriz**	**1.32**	**44**	*e*Pg	**Pn**	**21 06 49.1**	**-2.4**
ITBZ	**Tabriz**	**1.32**	**44**	Pg	**Pn**	**21 06 49.0**	**-2.5**
IMRD	**Marand**	**1.54**	**22**	*e*Pg	**Pn**	**21 06 52.8**	**-1.6**
IMRD	**Marand**	**1.54**	**22**	Pg	**Pn**	**21 06 52.7**	**-1.7**
IBST	**Bostanabad**	**1.58**	**74**	*e*Pn	**Pn**	**21 06 54.0**	**-1.0**
VANT	**Van**	**1.71**	**313**	*i* PN	**Pn**	**21 06 59.0**	**+2.3**
TVAN	**Van**	**1.76**	**315**	*i* P	**Pn**	**21 06 58.7**	**+1.3**
TVAN				*i* S	**Sn**	**21 07 25.8**	**+6.1**
MSL	**Mosul**	**1.81**	**237**	*i* x	x	21 06 54.0	
MSL				*i* x	x	21 06 56.0	
MSL				*i* x	x	21 07 16.5	
MSL				*i* x	x	21 07 17.5	
MSL				*i* x	x	21 07 20.0	
VANB	**Van**	**1.81**	**317**	PN	**Pn**	**21 06 59.3**	**+1.1**
CLDR	**Caldiran**	**2.03**	**336**	PN	**Pn**	**21 07 04.4**	**+3.2**
IHSH	**Hashtroud**	**2.08**	**60**	*e*Pn	**Pn**	**21 06 57.8**	**-4.0**
IHSH	**Hashtroud**	**2.08**	**60**	Pn	**Pn**	**21 06 57.7**	**-4.1**
MAKU	**Maku**	**2.08**	**354**	*e*Pg	**Pn**	**21 07 03.0**	**+1.2**
MAKU				AML	AML	21 07 40.7	
	comp=E,55nm,0.5s						
MAKU				AML	AML	21 07 47.0	
	comp=N,51nm,0.7s						
MAKU	**Maku**	**2.08**	**354**	*e*Pg	**Pn**	**21 07 03.0**	**+1.2**
	SNR=91						
GRMI	**Germi**	**2.76**	**56**	*e*Pn	**Pn**	**21 07 13.3**	**+2.1**
GRMI				*e*Sg	**Sg**	**21 07 59.7**	**+3.9**
GRMI				AML	AML	21 08 01.4	
	comp=E,69nm,0.8s						
GRMI				AML	AML	21 08 01.6	
	comp=N,77nm,0.7s						
GRMI	**Germi**	**2.76**	**56**	*e*Pn	**Pn**	**21 07 13.3**	**+2.1**
	SNR=52						
GRMI				*e*Sg	**Sg**	**21 07 59.7**	**+3.9**
	SNR=90						
IDHR	**Dehrash**	**2.82**	**156**	*e*Sn	**Sn**	**21 07 48.3**	**+2.3**
ILIN	**Laeen**	**2.86**	**145**	*e*Pn	**Pn**	**21 07 14.4**	**+1.9**
BTMT	**Batman**	**2.91**	**289**	PN	**Pn**	**21 07 14.7**	**+1.4**
BEST	**Besiri**	**3.01**	**283**	*e*P	**Pn**	**21 07 16.2**	**+1.6**
BEST				*i* S	**Sn**	**21 07 51.0**	**+0.5**
IGHG	**Ghaleghazi**	**3.22**	**156**	*e*Pn	**Pn**	**21 07 19.6**	**+2.1**
IGHG	**Ghaleghazi**	**3.22**	**156**	Pn	**Pn**	**21 07 19.5**	**+2.0**
MARD	**Mardin**	**3.35**	**272**	*i* P	**Pn**	**21 07 18.3**	**-1.0**
MARD				*i* S	**Sn**	**21 07 56.5**	**-2.4**
IKOM	**Komasi**	**3.73**	**146**	*e*Pn	**Pn**	**21 07 26.7**	**+2.2**
DIY	**Diyarbakir**	**3.82**	**281**	*e*PN	**Pn**	**21 07 24.4**	**-1.4**
EZM	**Erzurum**	**3.85**	**314**	*e*PN	**Pn**	**21 07 28.6**	**+2.4**
BINT	**Bingol**	**3.88**	**296**	*e*PN	**Pn**	**21 07 27.1**	**+0.5**
IRAZ	**Razeghan**	**4.42**	**114**	*e*Pn	**Pn**	**21 07 34.0**	**0.0**
IRAZ	**Razeghan**	**4.42**	**114**	Pn	**Pn**	**21 07 33.9**	**-0.1**
ELZG	**Elazig**	**4.89**	**286**	*i* P	**Pb**	**21 07 57.3**	**+4.6**
ELZG				*i* S	**Sb**	**21 08 50.5**	**-1.1**
URFA	**Urfa**	**4.91**	**274**	*e*PN	**Pn**	**21 07 38.8**	**-1.9**
ASAO	**Ashtian**	**4.92**	**122**	*e*Pn	**Pn**	**21 07 41.5**	**+0.6**
CHTH	**Charan**	**5.13**	**104**	*e*Pn	**Pn**	**21 07 44.8**	**+0.9**
MALT	**Malatya**	**5.29**	**283**	*e*Pn	**Pn**	**21 07 46.5**	**+0.5**
	comp=N,8.5nm,0.6s						
MALT				*e*Sn	**Sn**	**21 08 49.1**	**+2.3**
MALT	**Malatya**	**5.29**	**283**	*e*Pn	**Pn**	**21 07 46.5**	**+0.6**
MALT				*e*Sn	**Sn**	**21 08 49.1**	**+2.3**
IDMV	**Damavand**	**5.94**	**105**	*e*Pn	**Pn**	**21 07 53.4**	**-1.5**
IDMV	**Damavand**	**5.94**	**105**	Pn	**Pn**	**21 07 53.3**	**-1.6**
IPIR	**Pirpir**	**6.68**	**132**	*e*Pn	**Pn**	**21 08 05.8**	**+0.7**
IPIR	**Pirpir**	**6.68**	**132**	Pn	**Pn**	**21 08 05.7**	**+0.6**
MIB	**Mutribah**	**7.72**	**165**	*e*P	**Pn**	**21 08 17.7**	**-1.6**
MIB				AML	AML	21 09 41.9	
	comp=Z,4.9nm,0.6s						
UMR	**Umm Al-Rimmam**	**8.04**	**163**	*e*P	**Pn**	**21 08 22.4**	**-1.4**
NAY	**Al-Naaiem**	**8.24**	**166**	*e*P	**Pn**	**21 08 24.2**	**-2.2**
NAY				AML	AML	21 09 56.4	
	comp=Z,3.1nm,0.5s						
ASF	**Jabal al Asfar**	**8.38**	**235**	Pn	**Pn**	**21 08 30.6**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=254,slow=3.6,SNR=2.5						
RDF	**Al-Radifah**	**8.61**	**165**	*e*P	**Pn**	**21 08 29.2**	**-2.4**
RDF				AML	AML	21 10 05.2	
	comp=Z,4.1nm,0.5s						
QRN	**Al-Qurain**	**8.87**	**163**	*e*P	**Pn**	**21 08 33.2**	**-1.9**
MMAI	**Mount Meron Ar**	**8.92**	**244**	Pn	**Pn**	**21 08 35.6**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=38,slow=16,SNR=5.1						
BRTR	**Keskin Array B**	**9.21**	**289**	Pn	**Pn**	**21 08 39.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=84,slow=15,SNR=2.4						
AKTK	**Aktyubinsk**	**16.13**	**31**	Pn	**Pn**	**21 10 13.4**	**-0.2**
AKTK	**Aktyubinsk**	**16.13**	**31**	Pn	**Pn**	**21 10 13.4**	**-0.3**
AKTO	**Aktyubinsk**	**16.13**	**31**	Pn	**Pn**	**21 10 13.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=237,slow=11,SNR=6.9						
AKASG	**Malin Array Be**	**17.51**	**325**	P	**Pn**	**21 10 30.6**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=134,slow=11,SNR=4.8						
AKASG	**Malin Array Be**	**17.51**	**325**	P	**Pn**	**21 10 30.5**	**-0.6**
WSAR	**Wadi Sarin**	**18.27**	**136**	P	**Pn**	**21 10 40.4**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=272,slow=3.7,SNR=10						
WSAR	**Wadi Sarin**	**18.27**	**136**	P	**Pn**	**21 10 40.4**	**-0.1**
BVAR	**Borovoye Array**	**23.67**	**40**	P	**P**	**21 11 36.6**	**-2.0**
	comp=Z,0.8nm,0.7s,mb3.2,baz=243,slow=9.8,SNR=4.2						
GERES	**GERESS Array B**	**25.42**	**307**	P	**P**	**21 11 54.3**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.0,baz=107,slow=8.9,SNR=5.3						
MKAR	**Makanchi Array**	**29.06**	**59**	P	**P**	**21 12 27.6**	**+0.4**
	comp=Z,0.2nm,0.5s,mb3.1,baz=261,slow=7.0,SNR=3.7						
MKAR	**Makanchi Array**	**29.06**	**59**	P	**P**	**21 12 27.6**	**+0.3**

IDC 01 21:12:05.8±3.7, **355S**×**14931E**, **h0**km, **mb3.8**/3, **mb1 4.0**/3, **mb1mx3.6**/12, **mbtmp3.8**/3, **MS3.1**/1, **Ms1 3.1**/1, **ms1mx2.1**/28, **Error ellipse: s-maj=120.4km s-min=46.6km az=112.0, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.20**	**200**	LR	LR	21 15 56.1	
	comp=Z,184nm,20.8s,baz=138,slow=37						
WRA	**Warramunga Arr**	**21.88**	**221**	P	P	21 17 00.1	-0.2
	2.0nm,0.7s,baz=44,slow=10,SNR=22						
ASAR	**Alice Springs**	**24.93**	**215**	P	P	21 17 30.6	-0.1
	1.2nm,0.7s,baz=48,slow=8.0,SNR=25						
FITZ	**Fitzroy Crossi**	**27.32**	**236**	*e*P	P	21 17 55.6	+3.3
	10nm,1.4s						
FITZ	**Fitzroy Crossi**	**27.32**	**236**	P	P	21 17 53.6	+1.3
	1.5nm,0.7s,baz=47,slow=9.6,SNR=8.8						
TORD	**Torodi Ar. Bea**	**146.62**	**289**	PKPbc	PKPbc	21 31 49.5	+0.3
	0.9nm,0.9s,baz=74,slow=2.9,SNR=3.6						

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*IDC **01** 21:12:56.2±3.6, 1357N×11967E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/18, mbtmp3.7/5, Error ellipse: s-maj=88.5km s-min=15.5km az=172.0*
*NEIC **01** 21:12:59.8±2.9, 1338N×11971E, h35km, mb3.9/2, Error ellipse: s-maj=66.7km s-min=16.6km az=170.0*
*ISCJB **01** 21:13:04.2±0.6, 1400N±003×12000E±008, h57km±7km, mb3.7/6, Error ellipse: s-maj=13.3km s-min=5.6km az=10.2*
*MAN **01** 21:13:04.3, 1399N×12004E, h32km, mb2.3, ML3.9, MS3.4*
ISC 01 21:13:05.2±0.6, **1399N**±003×**12002E**±008, **h52**km±8km, **n27**, σ**0s81**/31, **mb3.7**/6, **2C, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.34**	**139**	*e*P	**Pn**	**21 13 14.6**	**-0.3**
LUBP				*e*S	**Sn**	**21 13 21.4**	**-0.4**
TGY	**Tagaytay City**	**0.90**	**83**	Pg	**Pn**	**21 13 22.2**	**+0.6**
	270nm,0.3s,baz=256,slow=4.0,SNR=24						
TGY				Lg		21 13 39.1	
	771nm,0.3s,baz=270,slow=19,SNR=19						
PGP	**Puerto Galera**	**1.03**	**118**	*e*P	**Pn**	**21 13 23.2**	**-0.3**
SCZP	**Santa Cruz**	**1.77**	**357**	*e*P	**Pn**	**21 13 33.0**	**-0.4**
BOAC	**Boac**	**1.85**	**106**	*e*P	**Pn**	**21 13 33.4**	**-1.2**
PCPH	**Palayan**	**1.88**	**34**⥣	*i*P	**Pn**	**21 13 34.0**	**-0.9**
PCPH				*e*S	**Sn**	**21 13 55.6**	**-1.7**
BUSP	**Coron**	**1.99**	**175**	*e*P	**Pn**	**21 13 36.7**	**+0.4**
BUSP				*e*S	**Sn**	**21 13 59.7**	**-0.3**
POLP	**Polilio Island**	**2.00**	**68**	*e*P	**Pn**	**21 13 36.6**	**0.0**
BALP	**Baler**	**2.30**	**41**	*e*P	**Pn**	**21 13 40.6**	**-0.1**
BOLP	**Bolinao**	**2.38**	**358**	*e*P	**Pn**	**21 13 41.4**	**-0.3**
BCPH	**Baguio City Da**	**2.44**	**13**⥣	*e*P	**Pn**	**21 13 42.9**	**+0.4**
BCPH				*i* S	**Sn**	**21 14 12.0**	**+0.9**
OTRP	**Odiongan**	**2.54**	**129**	*e*P	**Pn**	**21 13 45.4**	**+1.4**
ENPP	**El Nido**	**2.83**	**192**	*e*P	**Pn**	**21 13 48.5**	**+0.6**
CUYO	**Cuyo Island**	**3.27**	**162**	*e*P	**Pn**	**21 13 53.8**	**-0.2**
CAUP	**Cauayan**	**3.41**	**30**	*e*P	**Pn**	**21 13 57.0**	**+1.1**
APYP	**Conner**	**4.02**	**17**	*e*P	**Pn**	**21 14 05.3**	**+1.0**
PVCP	**Virac**	**4.04**	**95**	*e*P	**Pn**	**21 14 05.0**	**+0.5**
CM31	**Chiang Mai Arr**	**20.71**	**285**	P	**P**	**21 17 34.1**	**-7.0**
	2.0nm,0.7s						
KS15	**Wonju Array Si**	**24.38**	**15**	*e*P	**P**	**21 18 20.4**	**+1.9**
SONM	**Songino Array**	**35.59**	**344**	P	**P**	**21 19 57.7**	**0.0**
	0.4nm,0.7s,mb3.5,baz=164,slow=9.0,SNR=3.6						
MKAR	**Makanchi Array**	**45.40**	**324**	P	**P**	**21 21 18.9**	**+0.2**
	0.4nm,0.8s,mb3.3,baz=129,slow=9.7,SNR=4.5						
KURK	**Kurchatov**	**49.58**	**326**	*e*P	**P**	**21 21 50.4**	**-0.6**
	2.0nm,0.8s,mb4.2						
ARCES	**ARCESS Array B**	**78.58**	**339**	P	**P**	**21 25 00.8**	**-0.4**
	0.4nm,0.5s,mb3.6,baz=79,slow=7.5,SNR=12						
ARCES	**ARCESS Array B**	**78.58**	**339**	P	**P**	**21 25 00.8**	**-0.4**
FINES	**FINESS Array B**	**79.71**	**331**	P	**P**	**21 25 07.2**	**-0.1**
	0.9nm,1.0s,mb3.7,baz=75,slow=8.1,SNR=5.6						
NB2	**NORSAR Subarra**	**86.70**	**333**	P	**P**	**21 25 41.6**	**-1.8**
	comp=Z,0.8nm,0.7s,mb4.1,baz=66,slow=4.8						
NOA	**NORSAR Array B**	**86.70**	**333**	P	**P**	**21 25 41.9**	**-1.5**
	comp=Z,0.8nm,0.6s,mb4.1,baz=69,slow=4.6,SNR=6.9						

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*ISCJB **01** 21:15:25.6±0.5, 5096N±009×179.17W±006, h10km, mb4.4/41, MS3.6/5, Error ellipse: s-maj=13.4km s-min=5.4km az=171.8*
*BJI **01** 21:15:25.5, 5127N×17884W, h20km, mB4.7, mb4.7, Ms4.4, Msz4.0*
*IDC **01** 21:15:25.6±1.0, 5108N×17931W, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.2/27, mbtmp4.2/18, ML4.6/1, MS3.7/4, Ms1 3.7/4, ms1mx3.1/39, Error ellipse: s-maj=27.9km s-min=17.3km az=159.0*
*NEIC **01** 21:15:29.9, 5103N×17927W, h12km, mb4.5/17, ML4.2(AEIC), After AEIC.*
*MOS **01** 21:15:31.3±0.9, 5100N×17927W, h55km, mb4.5/27, Error ellipse: s-maj=16.8km s-min=8.0km az=99.7*
ISC 01 21:15:27.2±0.5, **511N**±01×**17916W**±006, **h10**km, **n119**, σ**1s10**/113, **mb4.4**/41, **MS3.6**/5, **2C-1D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.00**	**286**	P	**Pg**	**21 15 46.8**	**+0.4**
AMKA				S	**Sg**	**21 16 00.6**	**+1.2**
SMY	**Shemya**	**4.47**	**294**	P	**Pn**	**21 16 38.6**	**+3.6**
NIKO	**Nikolski**	**6.63**	**70**	P	**Pn**	**21 17 08.5**	**+3.9**
SPIA	**Saint Paul Isl**	**8.01**	**37**	P	**Pn**	**21 17 29.2**	**+5.6**
UNV	**Unalaska Valle**	**8.20**	**66**	*e*Pn	**Pn**	**21 17 29.9**	**+3.8**
	36nm,0.5s						
SVW2	**Sparrevohn**	**16.42**	**43**	*e*Pn	**Pn**	**21 19 21.8**	**+4.1**
KDAK	**Kodiak Island**	**16.76**	**56**	Pn	**Pn**	**21 19 21.4**	**-0.6**
	2.0nm,0.3s,baz=280,slow=9.7,SNR=9.9						
BILL	**Bilibino**	**18.41**	**343**	*e*P	**Pn**	**21 19 46.3**	**+3.8**
BILL				pmax	pmax		
	comp=Z,15nm,1.4s						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s						
BILL	**Bilibino**	**18.41**	**343**	*e*P	**Pn**	**21 19 46.0**	**+3.5**
	comp=Z,17nm,1.3s						
SML	**Sawmill**	**19.91**	**46**	*e*P	**Pn**	**21 20 03.0**	**+2.5**
COLA	**College**	**21.26**	**38**	*i* P	**P**	**21 20 20.3**	**+6.8**
DAWY	**Dawson**	**24.45**	**43**	*e*P	**P**	**21 20 46.2**	**+0.1**
YSS	**Yuzh-Sakhalins**	**25.12**	**275**	*e*P	**P**	**21 20 52.7**	**+0.5**
ASAJ	**Asahikawa**	**26.48**	**270**	P	**P**	**21 21 02.0**	**-2.5**
	comp=Z,1.5nm,0.6s,mb3.7,baz=24,slow=12,SNR=2.4						
ASAJ	**Asahikawa**	**26.48**	**270**	P	**P**	**21 21 02.0**	**-2.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DLBC	**Dease Lake**	**28.69**	**56**	LR	LR	21 32 19.3	
	comp=Z,129nm,18.4s,MS3.6,baz=88,slow=35						
KLR	**Kul'dur**	**31.03**	**286**	*e*P	**P**	**21 21 41.8**	**-3.3**
KLR				*e*		21 22 47.2	
MDJ	**Mudanjiang**	**34.39**	**280**	P	**P**	**21 22 16.1**	**+1.7**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,57nm,4.7s						
YKA	**Yellowknife Ar**	**35.58**	**46**	P	**P**	**21 22 25.2**	**+0.6**
	comp=Z,1.5nm,0.5s,mb4.2,baz=281,slow=7.9,SNR=5.6						
CN2	**Changchun**	**37.37**	**281**	*e*P	**P**	**21 22 42.7**	**+2.7**
YBH	**Yreka Blue Hor**	**39.15**	**81**	LR	LR	21 37 34.9	
	comp=Z,51nm,18.3s,MS3.4,baz=243,slow=34						
BOZ	**Bozeman (W)**	**43.76**	**70**	*e*P	**P**	**21 23 34.2**	**+1.4**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
BOZ	**Bozeman (W)**	**43.76**	**70**	*e*P	**P**	**21 23 34.2**	**+1.4**
	comp=Z,1.8nm,0.6s,mb4.0						
BJI	**Beijing**	**45.20**	**282**	P	**P**	**21 23 46.0**	**+1.6**
DUG	**Dugway**	**46.15**	**77**	*e*P	**P**	**21 23 53.9**	**+2.1**
DUG				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.5						
DUG	**Dugway**	**46.15**	**77**	*e*P	**P**	**21 23 53.9**	**+2.1**
	comp=Z,11nm,1.7s,mb4.5						
ULN	**Ulaanbaatar**	**46.17**	**296**c	*i*P	**P**	**21 23 52.6**	**+0.6**
SONM	**Songino Array**	**46.56**	**297**	P	**P**	**21 23 55.9**	**+0.8**
	comp=Z,1.5nm,0.6s,mb4.1,baz=68,slow=8.4,SNR=15						
SONM	**Songino Array**	**46.56**	**297**	P	**P**	**21 23 55.9**	**+0.9**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PDAR	**Pinedale Array**	**46.61**	**72**	P	**P**	**21 23 57.0**	**+1.5**
	comp=Z,3.1nm,0.8s,mb4.3,baz=314,slow=4.1,SNR=24						
ZAK	**Zakamensk**	**46.89**	**301**	*e*P	**P**	**21 23 58.4**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.2						
SSE	**Sheshan**	**47.76**	**269**	P	**P**	**21 24 01.9**	**-2.5**
SSE				AMB	AMB		
	comp=Z,13nm,0.6s,mb5.1						
SSE				AMB	AMB		
	comp=Z,15nm,4.1s						
NJ2	**Nanjing**	**48.59**	**272**	*e*P	**P**	**21 24 11.1**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
SPB4	**Spitsbergen Ar**	**50.62**	**356**	*e*P	**P**	**21 24 29.8**	**+3.5**
FRB	**Frobisher Bay**	**53.37**	**31**	P	**P**	**21 24 46.0**	**-0.8**
	comp=Z,1.5nm,0.4s,mb4.3,baz=262,slow=6.1,SNR=3.1						
FRB	**Frobisher Bay**	**53.37**	**31**	P	**P**	**21 24 46.0**	**-0.8**
FRB				pmax	pmax		
	comp=Z,2.0nm,0.4s						
LZH	**Lanzhou**	**55.24**	**286**	*e*P	**P**	**21 25 05.0**	**+4.6**
LZH				AP	pP	21 25 08.0	+4.4
LZH				XP	sP	21 25 09.7	+4.9
LZH				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,63nm,5.0s						
ARCES	**ARCESS Array B**	**58.31**	**350**	P	**P**	**21 25 21.4**	**-0.8**
	comp=Z,1.4nm,0.7s,mb4.1,baz=28,slow=7.0,SNR=8.3						
ARCES	**ARCESS Array B**	**58.31**	**350**	P	**P**	**21 25 21.4**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**59.04**	**314**	*e*P	**P**	**21 25 26.6**	**-0.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**59.04**	**314**	*e*P	**P**	**21 25 26.6**	**-0.7**
	comp=Z,4.7nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**60.02**	**308**	P	**P**	**21 25 33.8**	**-0.3**
	comp=Z,2.3nm,0.5s,mb4.5,baz=46,slow=6.9,SNR=27						
MKAR	**Makanchi Array**	**60.02**	**308**⥣	*e*P	**P**	**21 25 33.7**	**-0.3**
BVAR	**Borovoye Array**	**60.94**	**320**	P	**P**	**21 25 40.2**	**-0.2**
	comp=Z,0.5nm,0.3s,mb4.1,baz=60,slow=8.8,SNR=3.8						
BVAR	**Borovoye Array**	**60.94**	**320**	P	**P**	**21 25 40.2**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZRNK	**Zerenda**	**61.56**	**320**	*e*P	**P**	**21 25 45.0**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
ZRNK	**Zerenda**	**61.56**	**320**	*e*P	**P**	**21 25 45.0**	**+0.5**
	comp=Z,1.8nm,0.7s,mb4.3						
GNAR	**Gosnell**	**62.51**	**66**	*e*P	**P**	**21 25 53.4**	**+2.5**
	comp=Z,349nm,0.7s						
KMI	**Kunming**	**63.53**	**278**	P	**P**	**21 26 00.1**	**+2.4**
KMI				AP	pP	21 26 07.0	+6.0
KMI				XP	sP	21 26 09.3	+7.1
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.4						
KMI				AMB	AMB		
	comp=Z,99nm,5.1s						
KMI				LR	LR		
	comp=Z,47nm,25.1s,MS3.6						
JOF	**Joensuu**	**63.79**	**345**	*e*p	**P**	**21 25 58.4**	**-1.0**
	comp=Z,2.2nm,0.6s,mb4.4						
JOF	**Joensuu**	**63.79**	**345**	*e*P	**P**	**21 25 58.4**	**-1.0**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
AFI	**Afiamalu**	**65.07**	**172**	LR	LR	21 49 20.4	
	comp=Z,97nm,20.2s,MS4.0,baz=27,slow=31						
KAF	**Kangasniemi**	**65.31**	**347**	*e*p	**P**	**21 26 08.7**	**-0.7**
	comp=Z,1.6nm,0.4s,mb4.4,baz=15,slow=5.8						
KAF	**Kangasniemi**	**65.31**	**347**	*e*P	**P**	**21 26 08.7**	**-0.7**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
FINES	**FINESS Array B**	**65.99**	**347**	P	**P**	**21 26 12.7**	**-1.0**
	comp=Z,1.3nm,0.5s,mb4.2,baz=17,slow=6.7,SNR=17						
FINES	**FINESS Array B**	**65.99**	**347**	P	**P**	**21 26 12.7**	**-1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AAK	**Ala-Archa**	**66.86**	**310**⥥	*e*P	**P**	**21 26 19.5**	**+0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
NB2	**NORSAR Subarra**	**67.89**	**355**	P	**P**	**21 26 25.2**	**-0.6**
	comp=Z,1.5nm,0.8s,mb4.1,baz=7.1,slow=6.5						
NOA	**NORSAR Array B**	**67.89**	**355**	P	**P**	**21 26 25.4**	**-0.4**
	comp=Z,1.0nm,0.6s,mb4.0,baz=7.2,slow=6.3,SNR=5.9						
NOA	**NORSAR Array B**	**67.89**	**355**	P	**P**	**21 26 25.4**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**68.62**	**353**	P	**P**	**21 26 29.7**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,1.1nm,0.4s,mb4.1,baz=5.7,slow=3.0,SNR=13						
HFS	Hagfors	68.62	353	P	P	21 26 29.7	-0.7
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	75.73	342	P	P	21 27 12.4	-0.5
	comp=Z,5.2nm,0.5s,mb4.8,baz=20,slow=6.5,SNR=14						
AKASG				LR	LR	22 06 55.8	
	comp=Z,32nm,18.2s,MS3.7,baz=220,slow=41						
AKASG	Malin Array Be	75.73	342	P	P	21 27 12.5	-0.4
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.5s						
AKASG				MLR	MLR		
	comp=Z,32nm,18.2s						
VRAC	Vranov	79.05	350	P	P	21 27 31.9	+0.3
	comp=Z,1.2nm,0.5s,mb4.1,baz=143,slow=3.3,SNR=3.1						
VRAC	Vranov	79.05	350	P	P	21 27 31.9	+0.3
VRAC				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BAIF	Baives	79.16	358	*e*P	P	21 27 31.9	-0.3
	comp=Z,3.8nm,0.7s,mb4.2						
BAIF	Baives	79.16	358	*e*P	P	21 27 31.9	-0.3
BAIF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BAIF	Baives	79.16	358	*e*P	P	21 27 31.9	-0.3
	comp=Z,1.9nm,0.7s,mb4.1						
GERES	GERESS Array B	79.81	351	P	P	21 27 35.7	0.0
	comp=Z,0.7nm,0.5s,mb3.8,baz=28,slow=5.8,SNR=11						
GERES	GERESS Array B	79.81	351	P	P	21 27 35.7	0.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
RAO	Raoul Island	80.02	179	LR	LR	21 55 27.7	
	comp=Z,1μm,19.6s,baz=213,slow=30						
LDF	La Druitiere	80.67	1	*e*P	P	21 27 39.5	-0.8
	comp=Z,3.9nm,0.5s,mb4.3						
LDF	La Druitiere	80.67	1	*e*P	P	21 27 39.5	-0.8
LDF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
LDF	La Druitiere	80.67	1	*e*P	P	21 27 39.5	-0.8
	comp=Z,2.0nm,0.5s,mb4.3						
MEZF	Maizieres J'vi	80.69	357	*e*P	P	21 27 40.1	-0.4
CDF	Champ du Feu	80.70	356	*e*P	P	21 27 39.9	-0.6
ROSF	Rostrenen	80.86	3	*e*P	P	21 27 41.3	-0.1
	comp=Z,24nm,1.2s,mb4.7						
ROSF	Rostrenen	80.86	3	*e*P	P	21 27 41.3	-0.1
ROSF				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
ROSF	Rostrenen	80.86	3	*e*P	P	21 27 41.3	-0.1
	comp=Z,12nm,1.2s,mb4.7						
GRR	Gorron	80.86	1	*e*P	P	21 27 40.7	-0.7
SGMF	Saint Gilles	80.97	2	*e*P	P	21 27 41.7	-0.2
	comp=Z,10nm,0.8s,mb4.5						
SGMF	Saint Gilles	80.97	2	*e*P	P	21 27 41.7	-0.2
SGMF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
SGMF	Saint Gilles	80.97	2	*e*P	P	21 27 41.7	-0.2
	comp=Z,5.2nm,0.8s,mb4.5						
HAU	Haudompre	81.14	356	*e*P	P	21 27 42.6	-0.3
	comp=Z,2.0nm,0.3s,mb4.2						
HAU	Haudompre	81.14	356	*e*P	P	21 27 42.6	-0.3
HAU				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
HAU	Haudompre	81.14	356	*e*P	P	21 27 42.6	-0.3
	comp=Z,1.0nm,0.3s,mb4.2						
LOR	Lormes	81.96	358	*e*P	P	21 27 46.6	-0.6
	comp=Z,3.9nm,0.8s,mb4.1						
LOR	Lormes	81.96	358	*e*P	P	21 27 46.6	-0.6
LOR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
LOR	Lormes	81.96	358	*e*P	P	21 27 46.6	-0.6
	comp=Z,2.0nm,0.8s,mb4.1						
AVF	Avril sur Loir	82.45	358	*e*P	P	21 27 49.2	-0.5
CABF	La Chapelle	82.55	356	*e*P	P	21 27 50.1	-0.2
	comp=Z,14nm,1.1s,mb4.6						
CABF	La Chapelle	82.55	356	*e*P	P	21 27 50.1	-0.2
CABF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
CABF	La Chapelle	82.55	356	*e*P	P	21 27 50.1	-0.2
	comp=Z,6.8nm,1.1s,mb4.6						
SMF	Signal de Mont	82.58	358	*e*P	P	21 27 49.9	-0.5
MFF	Saint Martin d	82.66	1	*e*P	P	21 27 50.4	-0.4
TCF	Toulx Ste Croi	82.97	359	*e*P	P	21 27 52.1	-0.3
RJF	Les Rejaudoux	83.96	360	*e*P	P	21 27 57.0	-0.5
FITZ	Fitzroy Crossi	84.12	232	P	P	21 27 58.4	0.0
	comp=Z,3.2nm,0.7s,mb4.6,baz=5.7,slow=5.9,SNR=8.2						
LFF	La Frestale	84.32	0	*e*P	P	21 27 58.8	-0.6
	comp=Z,6.6nm,0.7s,mb4.6						
LFF	La Frestale	84.32	0	*e*P	P	21 27 58.8	-0.6
LFF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
LFF	La Frestale	84.32	0	*e*P	P	21 27 58.8	-0.6
	comp=Z,3.3nm,0.7s,mb4.6						
CAF	Calviac	84.33	359	*e*P	P	21 27 58.8	-0.6
BRTR	Keskin Array B	85.09	335	P	P	21 28 03.1	-0.1
	comp=Z,1.4nm,0.8s,mb4.2,baz=36,slow=3.4,SNR=9.2						
BRTR	Keskin Array B	85.09	335	P	P	21 28 03.2	-0.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SMRF	Simiane la Rot	85.20	357	*e*P	P	21 28 03.5	-0.3
	comp=Z,12nm,1.1s,mb4.6						
SMRF	Simiane la Rot	85.20	357	*e*P	P	21 28 03.5	-0.3
	comp=Z,12nm,1.1s,mb4.9						
SBF	Sospel	85.23	355	*e*P	P	21 28 04.2	+0.3
	comp=Z,20nm,0.9s,mb4.9						
SBF	Sospel	85.23	355	*e*P	P	21 28 04.2	+0.3
SBF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
SBF	Sospel	85.23	355	*e*P	P	21 28 04.2	+0.3
	comp=Z,10nm,0.9s,mb5.0						
FRF	La Foret Royal	85.57	356	*e*P	P	21 28 05.0	-0.6
	comp=Z,3.1nm,0.7s,mb4.4						
FRF	La Foret Royal	85.57	356	*e*P	P	21 28 05.0	-0.6
FRF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.5						
FRF	La Foret Royal	85.57	356	*e*P	P	21 28 05.0	-0.6
	comp=Z,1.5nm,0.6s,mb4.4						
MTLF	Montolieu	85.92	359	*e*P	P	21 28 07.2	-0.2
EPF	Esparros	86.23	0	*e*P	P	21 28 08.2	-0.7
STKA	Stephens Creek	89.58	213	P	P	21 28 22.8	-2.2
	comp=Z,1.4nm,0.6s,mb4.5,baz=78,slow=9.3,SNR=3.2						
LBTB	Lobatse	147.75	315	PKPbc	PKPbc	21 35 11.6	-0.6
	comp=Z,2.3nm,0.7s,baz=336,slow=1.7,SNR=6.2						
LBTB	Lobatse	147.75	315	PKP2	PKPbc	21 35 11.6	-0.6
LBTB				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LBTB	Lobatse	147.75	315	PKPbc	PKPbc	21 35 11.6	-0.6

*ISCJB **01** 21:16:31.3±7.4, 50.7N±0.5×179.1W±0.1, h21^{km}±35^{km}, mb4.2/11, MS3.8/4, Error ellipse: s-maj=78.7km s-min=13.5km az=168.2*
*IDC **01** 21:16:33.4±3.3, 51.33N×179.22W, h0^{km}, mb4.2/11, mb1 4.2/12, mb1mx4.1/23, mbtmp4.2/12, MS3.8/4, Ms1 3.8/4, ms1mx3.1/40, Error ellipse: s-maj=86.2km s-min=24.8km az=169.0*
*NEIC **01** 21:16:37.1±6.2, 51.18N×179.31W, h27^{km}±33^{km}, ML4.0(AEIC), Error ellipse: s-maj=66.4km s-min=14.9km az=168.0*
ISC 01 21:16:34.1±4.3**, 51.5N**±0.6×**179.1W**±0.2**, h1**^{km}±26^{km}**, n24,** $\sigma 0^{s}$**66**/22**, mb4.3**/11**, MS3.8**/4**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	1.01	262	P	Pb	21 16 53.8	-0.6
AMKA				S	Sb	21 17 08.1	0.0
SMY	Shemya	4.35	289	*e*Pn	Pn	21 17 40.6	-0.8
SPIA	Saint Paul Isl	7.66	39	P	Pn	21 18 35.5	+8.7
KDAK	Kodiak Island	16.50	57	Pn	Pn	21 20 26.8	0.0
	baz=240,slow=8.1,SNR=1.7						
KDAK	Kodiak Island	16.50	57	Pn	Pn	21 20 26.8	0.0
BBB	Bella Bella	30.97	68	LR	LR	21 33 29.8	
	comp=Z,110nm,19.2s,MS3.5,baz=78,slow=33						
YKA	Yellowknife Ar	35.27	47	P	P	21 23 31.7	+1.4
	1.5nm,0.5s,mb4.1,baz=283,slow=7.8,SNR=6.7						
YKA				LR	LR	21 38 48.4	
	comp=Z,72nm,21.2s,MS3.4,baz=195,slow=38						
YKA	Yellowknife Ar	35.27	47	P	P	21 23 31.7	+1.4
YKA				LR	LR	21 38 48.4	
SONM	Songino Array	46.41	296	P	P	21 25 02.2	0.0
	1.4nm,0.5s,mb4.2,baz=65,slow=7.4,SNR=8.6						
ARCES	ARCESS Array B	57.91	350	P	P	21 26 28.9	+1.2
	2.0nm,0.9s,mb4.2,baz=28,slow=7.2,SNR=6.1						
MKAR	Makanchi Array	59.79	308	P	P	21 26 40.1	-0.7
	2.2nm,0.4s,mb4.6,baz=45,slow=6.9,SNR=16						
BVAR	Borovoye Array	60.65	320	P	P	21 26 47.3	+0.6
	0.8nm,0.5s,mb4.1,baz=43,slow=5.3,SNR=3.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BVAR				LR	LR	21 54 44.1	
	comp=Z,75nm,19.3s,MS3.9,baz=324,slow=38						
JOF	Joensuu	63.40	345	*e*p	P	21 27 04.6	-0.6
KAF	Kangasniemi	64.92	347	*e*p	P	21 27 14.8	-0.4
FINES	FINESS Array B	65.59	347	P	P	21 27 19.2	-0.3
	0.9nm,0.3s,mb4.4,baz=15,slow=7.2,SNR=11						
NB2	NORSAR Subarra	67.47	355	P	P	21 27 31.6	0.0
	comp=Z,0.6nm,0.5s,mb4.1,baz=6.5,slow=6.5						
NOA	NORSAR Array B	67.47	355	P	P	21 27 31.2	-0.4
	comp=Z,0.8nm,0.6s,mb4.2,baz=5.9,slow=6.2,SNR=4.8						
NOA	NORSAR Array B	67.47	355	P	P	21 27 31.2	-0.4
HFS	Hagfors	68.21	353	P	P	21 27 36.1	-0.2
	comp=Z,1.0nm,0.5s,mb4.3,baz=2.9,slow=3.0,SNR=7.2						
AKASG	Malin Array Be	75.34	342	P	P	21 28 18.8	-0.4
	comp=Z,5.2nm,0.4s,mb4.9,baz=20,slow=6.4,SNR=12						
GERES	GERESS Array B	79.40	351	P	P	21 28 41.9	0.0
	comp=Z,0.7nm,0.5s,mb3.9,baz=27,slow=5.4,SNR=9.9						
BRTR	Keskin Array B	84.72	335	P	P	21 29 09.8	-0.1
	comp=Z,1.2nm,0.8s,mb4.2,baz=62,slow=2.5,SNR=5.7						
ASAR	Alice Springs	85.47	222	LR	LR	22 05 51.7	
	comp=Z,192nm,21.7s,MS4.5,baz=185,slow=35						
LBTB	Lobatse	147.48	315	PKPbc	PKPbc	21 36 18.9	-1.0
	comp=Z,1.3nm,0.6s,baz=42,slow=20,SNR=4.4						

*MOS **01** 21:42:02.4±0.5, 1.60N×127.13E, h44^{km}, mb4.8/5, Error ellipse: s-maj=34.7km s-min=11.3km az=101.5*
*NEIC **01** 21:42:02.5±0.3, 1.62N×127.31E, h30^{km}, mb4.6/10, Error ellipse: s-maj=12.9km s-min=5.6km az=76.0*
*ISCJB **01** 21:42:04.5±3.7, 1.59N±0.07×127.2E±0.1, h64^{km}±33^{km}, mb4.5/24, Error ellipse: s-maj=21.2km s-min=9.3km az=133.4*
*IDC **01** 21:42:07.8±6.9, 1.59N×127.47E, h82^{km}±67^{km}, mb4.0/12, mb1 4.1/13, mb1mx4.0/18, mbtmp4.3/13, ML4.1/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/22, Error ellipse: s-maj=43.5km s-min=13.4km az=80.0*
ISC 01 21:42:05.7±3.0**, 1.58N**±0.07×**127.3E**±0.1**, h58**^{km}±28^{km}**, n45,** $\sigma 0^{s}$**67**/44**, mb4.5**/24**, MS3.5**/1**, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	15.10	160	*e*P	Pn	21 45 41.2	+5.8
	12nm,0.7s						
KSM	Kuching	16.95	270	*e*Pn	Pn	21 45 58.9	0.0
FITZ	Fitzroy Crossi	19.63	185	P	Pn	21 46 29.8	-1.4
	0.5nm,0.3s,baz=58,slow=3.4,SNR=5.7						
WRAB	Tennant Creek	22.48	162	*e*P	P	21 47 00.4	+0.3
WRAB				pmax	pmax		
	comp=Z,34nm,0.8s,mb4.8						
WRAB	Tennant Creek	22.48	162	*e*Pn	P	21 47 00.4	+0.3
	comp=Z,34nm,0.8s,mb4.8						
WRA	Warramunga Arr	22.49	162	P	P	21 47 00.4	+0.2
	comp=Z,24nm,0.8s,mb4.7,baz=342,slow=11,SNR=70						
WB2	Warramunga Arr	22.49	162	*e*Pn	P	21 47 00.4	+0.2
MBWA	Marble Bar	23.77	198	*e*P	P	21 47 13.4	+0.6
	comp=Z,6.6nm,0.8s,mb4.1						
AS31	Alice Springs	25.91	166	*e*P	P	21 47 32.7	+0.4
ASAR	Alice Springs	25.91	166	P	P	21 47 32.5	+0.2
	comp=Z,4.2nm,0.9s,mb4.0,baz=350,slow=7.3,SNR=36						
ASPA	Alice Springs	25.91	166	*e*P	P	21 47 32.7	+0.4
FORT	Forrest	32.19	179	*e*P	P	21 48 27.9	-0.2
	comp=Z,9.6nm,0.7s,mb4.7						
KLBR	Kellerberrin	34.21	195	*e*P	P	21 48 45.9	+0.3
	comp=Z,22nm,1.1s,mb5.0						
MUN	Mundaring	34.99	197	*e*P	P	21 48 52.2	-0.2
NWAO	Narrogin (SRO)	35.61	195	P	P	21 48 58.1	+0.4
	comp=Z,4.3nm,0.6s,mb4.5,baz=21,slow=9.5,SNR=5.4						
NWAO	Narrogin (SRO)	35.61	195	*e*P	P	21 48 57.7	0.0
NWAO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NWAO	Narrogin (SRO)	35.61	195	*e*P	P	21 48 57.7	0.0
	comp=Z,3.9nm,0.8s,mb4.4						
STKA	Stephens Creek	35.95	159	*e*P	P	21 48 58.7	-1.9
	comp=Z,6.2nm,0.8s,mb4.6						
STKA	Stephens Creek	35.95	159	P	P	21 48 59.0	-1.6
	comp=Z,6.9nm,0.6s,mb4.8,baz=340,slow=9.0,SNR=17						
MJAR	Matsushiro Arr	36.23	15	P	P	21 49 02.8	-0.2
	comp=Z,1.1nm,0.5s,mb4.0,baz=186,slow=8.7,SNR=6.4						
ARMA	Armidale	39.40	146	*e*P	P	21 49 31.4	+1.7
ASAJ	Asahikawa	44.49	16	LR	LR	22 09 46.2	
	comp=Z,55nm,18.8s,MS3.5,baz=15,slow=37						
ULN	Ulaanbaatar	49.31	342	*e*P	P	21 50 49.6	+0.7
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ULN	Ulaanbaatar	49.31	342	*e*P	P	21 50 49.6	+0.7
	comp=Z,1.7nm,0.8s,mb4.1						
SONM	Songino Array	49.49	342	P	P	21 50 50.5	+0.3
	comp=Z,1.0nm,0.6s,mb4.0,baz=152,slow=8.5,SNR=8.1						
MKAR	Makanchi Array	59.62	326	P	P	21 52 04.0	+0.4
	comp=Z,5.9nm,0.6s,mb4.8,baz=126,slow=8.7,SNR=64						
MKAR	Makanchi Array	59.62	326	P	P	21 52 04.0	+0.3
ZAL	Zalesovo	62.73	333	P	P	21 52 24.9	+0.2
	comp=Z,1.2nm,0.3s,mb4.5,baz=27,slow=4.8,SNR=5.3						
ZAL	Zalesovo	62.73	333	P	P	21 52 24.9	+0.2
KURK	Kurchatov	63.83	328	*e*P	P	21 52 31.8	-0.2
KURK				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.2						
KURK	Kurchatov	63.83	328	*e*P	P	21 52 31.8	-0.1
	comp=Z,18nm,0.7s,mb5.2						
NVS	Novosibirsk	64.02	333	*i* P	P	21 52 32.4	-0.8
BVAR	Borovoye Array	69.40	327	P	P	21 53 07.8	+0.3
	comp=Z,2.0nm,0.8s,mb4.1,baz=153,slow=10.0,SNR=12						
ZRNK	Zerenda	70.12	327	*e*P	P	21 53 11.3	-0.6
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ZRNK	Zerenda	70.12	327	*e*P	P	21 53 11.3	-0.6
	comp=Z,3.1nm,0.6s,mb4.4						
QRN	Al-Qurain	79.90	299	*e*P	P	21 54 08.8	+0.5
QRN				AMb	AMB	21 54 10.5	
	comp=Z,7.2nm,0.3s,mb5.1						
RDF	Al-Radifah	80.23	299	*e*P	P	21 54 10.5	+0.4
RDF				AMb	AMB	21 54 13.6	
	comp=Z,15nm,1.0s,mb4.9						
MIB	Mutribah	80.47	300	*e*P	P	21 54 11.8	+0.5
MIB				AMb	AMB	21 54 13.0	
	comp=Z,22nm,0.8s,mb5.1						
NAY	Al-Naaiem	80.52	299	*e*P	P	21 54 11.5	-0.1
NAY				AMb	AMB	21 54 12.9	
	comp=Z,12nm,0.9s,mb4.8						
RST	Umm Al-Ruwaisa	80.75	299	*e*P	P	21 54 13.1	+0.3
RST				AMb	AMB	21 54 18.0	
	comp=Z,12nm,1.1s,mb4.7						
VNDA	Vanda	81.24	173	P	P	21 54 14.8	-0.6
	comp=Z,0.8nm,0.6s,mb3.8,baz=314,slow=5.8,SNR=8.1						
VNDA	Vanda	81.24	173	P	P	21 54 14.8	-0.6
MAW	Mawson	81.94	200	P	P	21 54 18.8	-0.3
	comp=Z,2.5nm,0.6s,mb4.3,baz=71,slow=3.7,SNR=4.6						
SML	Sawmill	85.96	28	*e*P	P	21 54 39.5	-0.1
ARCES	ARCESS Array B	92.64	340	P	P	21 55 09.2	-1.9
	comp=Z,1.2nm,0.9s,mb4.3,baz=33,slow=17,SNR=2.9						

*IDC **01** 21:42:42.1±16.0, 24.73S×176.53W, h76^{km}±101^{km}, mb3.7/3, mb1 4.1/4, mb1mx3.7/15, mbtmp4.3/4, ML3.3/1, Error ellipse: s-maj=253.4km s-min=26.5km az=150.0*
NEIC 01 21:42:35.0±1.3**, 25.42S**×**176.08W, h35**^{km}**, mb4.5**/3**, Error ellipse: s-maj=43.4km s-min=13.2km az=140.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	12.14	20	P	Pn	21 45 25.7	+0.3
	10nm,0.3s,baz=176,slow=4.3,SNR=8.2						
CTA	Charters Tower	35.06	271	*e*P	P	21 49 25.1	+0.7
	4.2nm,0.6s						
CTA	Charters Tower	35.06	271	P	P	21 49 25.2	+0.8
	2.3nm,0.3s,baz=91,slow=8.4,SNR=9.2						
CTAO	Charters Tower	35.06	271	*e*P	P	21 49 25.1	+0.7
	4.2nm,0.6s						
ASAR	Alice Springs	45.32	261	P	P	21 50 50.7	+1.3
	0.6nm,0.3s,baz=94,slow=6.5,SNR=8.7						
WRAB	Tennant Creek	45.86	266	*e*P	P	21 50 53.5	-0.1
	1.9nm,0.4s						
WRA	Warramunga Arr	45.87	266	P	P	21 50 53.1	-0.7
	0.7nm,0.3s,baz=90,slow=6.1,SNR=17						
BVAR	Borovoye Array	123.94	318	PKP	PKPdf	22 01 29.9	+0.5
	0.5nm,0.4s,baz=116,slow=3.4,SNR=7.1						
ARCES	ARCESS Array B	134.06	350	PKP	PKPdf	22 01 47.5	-1.1
	2.3nm,1.0s,baz=40,slow=2.1,SNR=6.3						
AKASG	Malin Array Be	148.14	329	PKPbc	PKPbc	22 02 15.9	-1.1
	0.8nm,0.3s,baz=46,slow=4.0,SNR=14						
BRTR	Keskin Array B	151.33	307	PKPbc	PKPbc	22 02 25.6	+0.9
	0.7nm,0.6s,baz=88,slow=3.3,SNR=4.8						
CLL	Collm	153.23	347	*e*PKP1	PKPbc	22 02 30.0	+0.9

*IDC **01** 21:53:16.9±0.7, 51.06N×179.30W, h0^{km}, mb4.3/18, mb1 4.4/19, mb1mx4.3/25, mbtmp4.3/19, ML4.5/1, MS3.8/11, Ms1 3.8/11, ms1mx3.6/34, Error ellipse: s-maj=22.2km s-min=15.3km az=155.0*
*BJI **01** 21:53:17.8, 51.62N×179.07W, h14^{km}, mB5.1, mb4.6, Ms4.5, Msz4.1*
*NEIC **01** 21:53:19.9, 50.99N×179.24W, h5^{km}, mb4.5/45, ML4.5(AEIC), After AEIC.*
*ISCJB **01** 21:53:21.6±0.9, 51.03N±0.08×179.23W±0.05, h41^{km}±6^{km}, mb4.4/71, MS3.9/16, Error ellipse: s-maj=13.1km s-min=4.9km az=175.2*
*MOS **01** 21:53:22.3±0.7, 51.04N×179.31W, h47^{km}, mb4.6/50, Error ellipse: s-maj=13.6km s-min=6.4km az=95.9*
ISC 01 21:53:24.0±0.8**, 51.07N**±0.08×**179.30W**±0.05**, h51**^{km}±5^{km}**, h6**^{km}±6.7^{km}**:pP-P, n207,** $\sigma 0^{s}$**80**/204**, mb4.4**/71**, MS3.9**/16**, 7C-14D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.93	290	P	Pn	21 53 38.3	-2.5
AMKA				S	Sn	21 53 53.1	0.0
SMY	Shemya	4.41	295	P	Pn	21 54 28.9	+0.5
NIKO	Nikolski	6.72	69	P	Pn	21 54 59.8	-0.3
OKCE	Okmok Cone E	7.23	67	P	Pn	21 55 07.6	+0.6
OKCD	Okmok Cone D	7.26	67	P	Pn	21 55 08.5	+1.0
SPIA	Saint Paul Isl	8.10	37	P	Pn	21 55 20.1	+1.2
UNV	Unalaska Valle	8.30	65	P	Pn	21 55 21.1	-0.5
AKUT	Akutan	8.79	64	*e*Pn	Pn	21 55 29.2	+0.9
AKUT				*e*Sn	Sn	21 57 05.0	-1.0
TNA	Tin City	15.67	18	Pn	Pn	21 57 01.9	+0.6
	40nm,1.1s						
KDAK	Kodiak Island	16.86	56	Pn	Pn	21 57 11.8	-4.6
	1.6nm,0.3s,baz=233,slow=3.4,SNR=10.0						
KDAK	Kodiak Island	16.86	56	Pn	Pn	21 57 11.8	-4.6
BILL	Bilibino	18.43	343	*e*P	Pn	21 57 37.5	+1.8
BILL				pmax	pmax		
	comp=Z,48nm,1.4s						
BILL	Bilibino	18.43	343	*e*P	Pn	21 57 37.5	+1.9
	comp=Z,48nm,1.4s						
SML	Sawmill	20.00	46	*e*P	Pn	21 57 51.9	-2.5
COLA	College	21.35	38	*i* P	P	21 58 07.6	+0.8
DAWY	Dawson	24.55	43	*e*P	P	21 58 37.1	-1.7
YSS	Yuzh-Sakhalins	25.04	275	*e*P	P	21 58 42.8	-0.5
ASAJ	Asahikawa	26.39	270	P	P	21 58 54.5	-1.0
	comp=Z,6.7nm,1.0s,mb4.1,baz=324,slow=3.4,SNR=4.9						
ASAJ	Asahikawa	26.39	270	P	P	21 58 54.6	-0.9
ASAJ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
INK	Inuvik	27.89	35	LR	LR	22 12 52.0	
	comp=Z,205nm,18.6s,MS3.7,baz=132,slow=42						
KLR	Kul'dur	30.96	286	*e*P	P	21 59 32.8	-3.4
BBB	Bella Bella	31.26	68	LR	LR	22 09 43.5	
	comp=Z,128nm,21.6s,MS3.5,baz=326,slow=32						
MDJ	Mudanjiang	34.31	280	P	P	22 00 05.8	+0.3
MDJ				AP	pP	22 00 08.8	-10
MDJ				PP	PP	22 01 23.4	-0.5
MDJ				PCP	PcP	22 02 42.4	+1.7
MDJ				S	S	22 05 33.5	+4.2
MDJ				SCP	ScP	22 06 27.0	+5.5
MDJ				PCS	PcS	22 06 28.3	+1.2
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,32nm,2.8s,mb4.8						
MDJ				LR	LR		
	comp=N,51nm,16.5s,MS3.6						
MDJ				LR	LR		
	comp=E,78nm,19.9s,MS3.6						
MDJ				LR	LR		
	comp=Z,82nm,18.0s,MS3.5						
YKA	Yellowknife Ar	35.67	46	P	P	22 00 16.4	-0.8
	comp=Z,2.6nm,0.5s,mb4.4,baz=282,slow=7.7,SNR=17						
YKA				LR	LR	22 16 48.1	
	comp=Z,125nm,18.2s,MS3.7,baz=300,slow=40						
YKA	Yellowknife Ar	35.67	46	P	P	22 00 16.4	-0.8
YKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YKA				MLR	MLR		
	comp=Z,125nm,18.2s						
CN2	Changchun	37.30	281	*e*P	P	22 00 34.5	+3.4
HAWA	Hanford	38.75	73	*e*P	P	22 00 43.7	+0.3
	comp=Z,0.6nm,0.9s,mb3.3						
NEW	Newport	39.29	69	P	P	22 00 48.2	+0.4
	comp=Z,2.2nm,0.5s,mb4.2,baz=304,slow=7.7,SNR=4.0						
NEW	Newport	39.29	69	P	P	22 00 48.2	+0.4
NEW				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NEW	Newport	39.29	69	P	P	22 00 48.2	+0.4
BMO	Blue Mountains	40.88	74	*e*P	P	22 01 01.4	+0.4
	comp=Z,1.8nm,0.9s,mb3.7						
BMO				*e*pP	pP	22 01 13.2	-1.1
MSO	Missoula	41.87	69	*e*P	P	22 01 09.4	+0.3
	comp=Z,8.4nm,1.3s,mb4.2						
HLID	Hailey	43.33	74	*e*P	P	22 01 21.6	+0.6
	comp=Z,3.3nm,0.9s,mb4.1						
BOZ	Bozeman (W)	43.86	69	*e*P	P	22 01 25.1	-0.1
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
BOZ	Bozeman (W)	43.86	69	*e*P	P	22 01 25.1	-0.1
	comp=Z,3.0nm,0.6s,mb4.2						
ELK	Elko	44.43	77	*e*P	P	22 01 31.0	+1.2
ELK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ELK	Elko	44.43	77	*e*P	P	22 01 30.9	+1.2
	comp=Z,3.7nm,0.9s,mb4.1						
BJI	Beijing	45.13	282	P	P	22 01 40.0	+4.6
TLY	Talaya	45.97	302	*e*P	P	22 01 42.4	+0.5
TLY				*e*S	S	22 08 14.6	-8.5
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
TLY				MLR	MLR		
	comp=Z,193nm,18.0s,MS4.1						
TLY	Talaya	45.97	302	*e*P	P	22 01 41.3	-0.6
	comp=Z,2.8nm,0.6s,mb4.4						
TPNV	Topopah Spring	46.10	82	*e*P	P	22 01 42.7	-0.3
TPNV				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TPNV	Topopah Spring	46.10	82	*e*P	P	22 01 42.7	-0.3
	comp=Z,3.3nm,0.8s,mb4.3						
ULN	Ulaanbaatar	46.12	296*c*	*i*P	P	22 01 43.8	+0.7
DUG	Dugway	46.25	77	*e*P	P	22 01 45.1	+0.9
DUG				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
DUG	Dugway	46.25	77	*e*P	P	22 01 45.1	+1.0
	comp=Z,6.4nm,1.1s,mb4.5						
SONM	Songino Array	46.51	297	P	P	22 01 47.2	+1.0
	comp=Z,1.8nm,0.7s,mb4.1,baz=66,slow=7.3,SNR=19						
SONM				LR	LR	22 22 43.5	
	comp=Z,199nm,18.3s,MS4.1,baz=20,slow=38						
SONM	Songino Array	46.51	297	P	P	22 01 47.2	+1.0
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,199nm,18.3s						
PDAR	Pinedale Array	46.70	72	P	P	22 01 48.2	+0.5
	comp=Z,4.8nm,0.7s,mb4.5,baz=316,slow=4.1,SNR=32						
ZAK	Zakamensk	46.84	301	*e*P	P	22 01 49.0	+0.1
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
SSE	Sheshan	47.68	269	P	P	22 01 53.4	-1.9
SSE				AMB	AMB		
	comp=Z,21nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,30nm,3.9s						
SRU	San Rafael	48.31	76	*e*P	P	22 02 02.1	+1.9
SRU				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
SRU	San Rafael	48.31	76	*e*P	P	22 02 02.1	+1.9
	comp=Z,3.7nm,0.5s,mb4.7						
NJ2	Nanjing	48.51	272	*e*P	P	22 02 03.4	+1.7
NJ2				AP	pP	22 02 15.9	+0.5
NJ2				PP	PP	22 03 57.2	+2.4
NJ2				S	S	22 09 01.0	+1.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,220nm,4.6s						
NJ2				LR	LR		
	comp=N,250nm,15.2s,MS4.5						
NJ2				LR	LR		
	comp=E,210nm,13.6s,MS4.5						
PV01	Paradox Valley	50.11	76	*e*P	P	22 02 13.2	-0.8
ZAL	Zalesovo	54.03	313	LR	LR	22 26 40.5	

comp=E,126nm,19.4s,MS4.0,baz=230,slow=37
GTA Gaotai 55.39 292 *e*P P **22 02 54.3 +1.4**
GTA AP pP 22 02 58.3 -8.5
GTA XP sP 22 03 01.4 -11
GTA PP PP 22 04 58.5 +1.5
GTA S **S** **22 10 34.6 +0.9**
GTA SS SS 22 14 18.2 -0.6
GTA AMB AMB
comp=E,6.0nm,1.0s,mb4.6
GTA AMB AMB
comp=E,115nm,6.5s
GTA LR LR
comp=N,126nm,14.4s,MS4.3
GTA LR LR
comp=E,136nm,15.2s,MS4.3
GTA LR LR
comp=Z,153nm,16.7s,MS4.2
ARCES ARCESS Array B 58.34 350 P P **22 03 13.1 -0.8**
comp=Z,21nm,0.7s,mb4.3,baz=28,slow=7.4,SNR=11
ARCES ARCESS Array B 58.34 350 P P **22 03 13.1 -0.7**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
KURK Kurchatov 59.01 314⇓ *e*P P **22 03 18.4 -0.1**
KURK Kurchatov 59.01 314 *e*P P **22 03 18.1 -0.3**
comp=Z,5.4nm,0.6s,mb4.8
MKAR Makanchi Array 59.98 308 P P **22 03 25.1 0.0**
comp=Z,3.2nm,0.6s,mb4.6,baz=45,slow=6.5,SNR=42
MKAR Makanchi Array 59.98 308 P P **22 03 25.1 -0.1**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
SCHQ Schefferville 60.44 38 P P **22 03 27.6 -0.8**
comp=Z,2.8nm,0.6s,mb4.4,baz=356,slow=4.6,SNR=4.1
BVAR Borovoye Array 60.92 320 P P **22 03 31.2 -0.4**
comp=Z,0.9nm,0.4s,mb4.2,baz=45,slow=6.7,SNR=9.5
BVAR Borovoye Array 60.92 320 P P **22 03 31.2 -0.4**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
ZRNK Zerenda 61.54 320 *e*P P **22 03 35.2 -0.6**
ZRNK pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
ZRNK Zerenda 61.54 320 *e*P P **22 03 35.2 -0.6**
comp=Z,3.6nm,1.0s,mb4.5
KMI Kunming 63.46 278 P P **22 03 52.5 +3.9**
KMI AP pP 22 03 56.4 -6.3
KMI XP sP 22 03 58.3 -10
KMI PP PP 22 06 15.4 +6.9
KMI S **S** **22 12 18.5 +0.7**
KMI SS SS 22 16 30.5 +5.1
KMI AMB AMB
comp=Z,3.0nm,1.2s,mb4.3
KMI AMB AMB
comp=Z,136nm,4.3s
KMI LR LR
comp=Z,44nm,22.1s,MS3.6
WVT Waverly 63.75 64 *e*P P **22 03 50.5 0.0**
WVT pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
WVT Waverly 63.75 64 *e*P P **22 03 50.5 0.0**
comp=Z,4.6nm,0.9s,mb4.5
JOF Joensuu 63.81 345 *e*p P **22 03 50.0 -0.9**
comp=Z,2.9nm,0.6s,mb4.5
JOF Joensuu 63.81 345 *e*P P **22 03 50.0 -0.9**
JOF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
PLAL Pickwick Lake 64.42 66 *e*P P **22 03 54.3 -0.6**
comp=Z,3.5nm,0.6s,mb4.6
KAF Kangasniemi 65.34 347 *e*p P **22 03 59.9 -1.0**
comp=Z,2.3nm,0.4s,mb4.6,baz=14,slow=5.8
KAF Kangasniemi 65.34 347 *e*P P **22 03 59.9 -1.0**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
FINES FINESS Array B 66.02 347 P P **22 04 04.1 -1.1**
comp=Z,2.3nm,0.6s,mb4.4,baz=24,slow=8.4,SNR=22
FINES LR LR 22 38 35.7
comp=Z,71nm,18.2s,MS3.9,baz=156,slow=41
FINES FINESS Array B 66.02 347 P P **22 04 04.1 -1.1**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES MLR MLR
comp=Z,71nm,18.2s
AAK Ala-Archa 66.82 310⇑ *e*P P **22 04 11.0 +0.6**
AAK pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
NB2 NORSAR Subarra 67.92 355 P P **22 04 16.3 -1.1**
comp=Z,1.1nm,0.6s,mb4.1,baz=6.3,slow=6.2
NOA NORSAR Array B 67.92 355 P P **22 04 16.5 -0.8**
comp=Z,1.1nm,0.6s,mb4.1,baz=342,slow=4.6,SNR=11
NOA LR LR 22 35 12.9
comp=Z,36nm,19.5s,MS3.6,baz=0.0,slow=37
NOA NORSAR Array B 67.92 355 P P **22 04 16.5 -0.8**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA MLR MLR
comp=Z,36nm,19.5s
OBN Obninsk 70.05 339 *e*P P **22 04 30.4 -0.1**
OBN pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
RAR Rarotonga 73.99 161 LR LR 22 34 49.4
comp=Z,110nm,19.4s,MS4.2,baz=32,slow=34
AKASG Malin Array Be 75.75 342 P P **22 05 03.8 -0.4**
comp=Z,7.5nm,0.4s,mb5.0,baz=20,slow=6.5,SNR=29
AKASG LR LR 22 45 53.2
comp=Z,28nm,18.6s,MS3.6,baz=30,slow=42
AKASG Malin Array Be 75.75 342 P P **22 05 03.8 -0.4**
AKASG pmax pmax
comp=Z,8.0nm,0.4s
AKASG MLR MLR
comp=Z,28nm,18.6s
OJC Ojcow 77.78 348 *e*P P **22 05 16.3 +0.6**
KWP Kalwaria 77.93 346 *e*P P **22 05 16.9 +0.3**
KWP pmax pmax
comp=Z,24nm,0.6s,mb5.3
KWP Kalwaria 77.93 346 *e*P P **22 05 16.9 +0.3**
comp=Z,24nm,0.6s,mb5.3
DPC Dobruska-Polom 78.09 350 *e*P P **22 05 17.3 -0.1**
STHS Stebnicka Huta 78.36 346 *e*P P **22 05 19.2 +0.2**
STHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
STHS Stebnicka Huta 78.36 346 *e*P P **22 05 19.2 +0.2**
comp=Z,2.5nm,0.9s,mb4.1
NKC Novy Kostel 78.58 352 *e*P P **22 05 20.0 -0.1**
KOLS Kolonicke sedl 78.68 346 *e*P P **22 05 21.1 +0.4**
KOLS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KOLS Kolonicke sedl 78.68 346 *e*P P **22 05 21.1 +0.4**
comp=Z,4.5nm,0.9s,mb4.4
CRVS Cervenica-Dubn 78.83 346 *e*P P **22 05 22.0 +0.5**
CRVS Cervenica-Dubn 78.83 346 *e*P P **22 05 22.1 +0.6**
BAIF Baives 79.21 358 *e*P P **22 05 23.3 -0.3**
comp=Z,7.2nm,0.7s,mb4.4
BAIF Baives 79.21 358 *e*P P **22 05 23.3 -0.3**
BAIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BAIF Baives 79.21 358 *e*P P **22 05 23.3 -0.3**
comp=Z,3.6nm,0.7s,mb4.4
BURAR Bucovina Array 79.46 343⇑ *i*P P **22 05 25.1 +0.1**
BURAR Bucovina Array 79.46 343 ⇓P P **22 05 25.1 +0.1**
KHC Kasperske Hory 79.57 351 *e*P P **22 05 25.1 -0.5**
KHC Kasperske Hory 79.57 351⇓ *e*P P **22 05 25.8 +0.2**
GERES GERESS Array B 79.84 351 P P **22 05 27.0 -0.1**
comp=Z,1.1nm,0.5s,mb4.0,baz=25,slow=5.6,SNR=17
GERES GERESS Array B 79.84 351 P P **22 05 27.0 0.0**
GERES pmax pmax
comp=Z,1.0nm,0.5s
CONA Conrad Observa 80.53 350⇓ *i*P P **22 05 31.4 +0.7**
comp=Z,4.8nm,1.4s,mb4.2
FLN La Foliniere 80.54 1 *e*P P **22 05 30.1 -0.7**
comp=Z,12nm,0.8s,mb4.6
FLN La Foliniere 80.54 1 *e*P P **22 05 30.1 -0.7**
FLN pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
FLN La Foliniere 80.54 1 *e*P P **22 05 30.1 -0.7**
comp=Z,5.9nm,0.8s,mb4.6
LDF La Druitiere 80.72 1 *e*P P **22 05 30.8 -0.9**
comp=Z,7.7nm,0.7s,mb4.5
LDF La Druitiere 80.72 1 *e*P P **22 05 30.8 -0.9**
LDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
LDF La Druitiere 80.72 1 *e*P P **22 05 30.8 -0.9**
comp=Z,3.8nm,0.7s,mb4.4
CDF Champ du Feu 80.74 356 *e*P P **22 05 31.2 -0.6**
comp=Z,3.0nm,0.6s,mb4.1
CDF Champ du Feu 80.74 356 *e*P P **22 05 31.2 -0.6**
CDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
CDF Champ du Feu 80.74 356 *e*P P **22 05 31.2 -0.6**
comp=Z,1.5nm,0.6s,mb4.1
MEZF Maizieres J'vi 80.74 357 *e*P P **22 05 31.5 -0.4**
GRR Gorron 80.91 1 *e*P P **22 05 32.1 -0.7**
comp=Z,11nm,0.9s,mb4.5
GRR Gorron 80.91 1 *e*P P **22 05 32.1 -0.7**
GRR pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
GRR Gorron 80.91 1 *e*P P **22 05 32.1 -0.7**
comp=Z,5.6nm,0.9s,mb4.5
ROSF Rostrenen 80.92 3 *e*P P **22 05 32.3 -0.5**
SGMF Saint Gilles 81.02 2 *e*P P **22 05 32.9 -0.4**
comp=Z,15nm,0.8s,mb4.7
SGMF Saint Gilles 81.02 2 *e*P P **22 05 32.9 -0.4**
SGMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
SGMF Saint Gilles 81.02 2 *e*P P **22 05 32.9 -0.4**
comp=Z,7.3nm,0.8s,mb4.7
QUIF Quistinic 81.34 3 *e*P P **22 05 34.6 -0.4**
MLR Muntele Rosu 81.37 342⇑ *i*P P **22 05 37.1 +1.9**
MLR Muntele Rosu 81.37 342 ⇑P P **22 05 37.1 +1.9**
WATA Walderalm 81.53 353⇓ *i*P P **22 05 37.5 +1.4**
comp=Z,3.7nm,0.6s,mb4.5
WATA Walderalm 81.53 353⇓ *i*P P **22 05 37.5 +1.4**
WATA pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
MOTA Moosalm 81.56 353⇓ *i*P P **22 05 36.5 +0.3**
comp=Z,1.5nm,0.6s,mb4.1
MOTA Moosalm 81.56 353⇓ *i*P P **22 05 36.5 +0.3**
MOTA pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
WRA Warramunga Arr 81.57 223 P P **22 05 36.0 -0.3**
comp=Z,1.2nm,0.6s,mb4.0,baz=32,slow=6.0,SNR=16
WRA Warramunga Arr 81.57 223 P P **22 05 36.0 -0.3**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WTTA Wattenberg 81.60 352⇓ *i*P P **22 05 37.1 +0.7**
comp=Z,6.4nm,0.8s,mb4.6
WTTA Wattenberg 81.60 352⇓ *i*P P **22 05 37.1 +0.7**
WTTA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KBA Koelnbreinsper 81.63 351⇓ *i*P P **22 05 37.7 +1.2**
comp=Z,7.9nm,0.7s,mb4.8
KBA Koelnbreinsper 81.63 351⇓ *i*P P **22 05 37.7 +1.1**
KBA pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SQTA Sankt Quirin 81.67 353⇓ *i*P P **22 05 36.8 0.0**
comp=Z,0.9nm,0.4s,mb4.0
SQTA Sankt Quirin 81.67 353⇓ *i*P P **22 05 36.8 0.0**
SQTA pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
LOR Lormes 82.01 358 *e*P P **22 05 38.1 -0.5**
comp=Z,4.1nm,0.8s,mb4.1
LOR Lormes 82.01 358 *e*P P **22 05 38.1 -0.5**
LOR pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
LOR Lormes 82.01 358 *e*P P **22 05 38.1 -0.5**
comp=Z,2.0nm,0.8s,mb4.1
BZS Buzias 82.01 345⇑ *i*P P **22 05 38.2 -0.4**
BZS Buzias 82.01 345 ⇑P P **22 05 38.2 -0.3**
SSF Saint Saulge 82.22 358 *e*P P **22 05 39.3 -0.4**
comp=Z,4.2nm,0.7s,mb4.2
SSF Saint Saulge 82.22 358 *e*P P **22 05 39.3 -0.4**
SSF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
SSF Saint Saulge 82.22 358 *e*P P **22 05 39.3 -0.4**
comp=Z,2.1nm,0.7s,mb4.2
AVF Avril sur Loir 82.49 358 *e*P P **22 05 40.7 -0.4**
comp=Z,7.9nm,1.0s,mb4.3
AVF Avril sur Loir 82.49 358 *e*P P **22 05 40.7 -0.4**
AVF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
AVF Avril sur Loir 82.49 358 *e*P P **22 05 40.7 -0.4**
comp=Z,4.0nm,1.0s,mb4.3
CABF La Chapelle 82.59 356 *e*P P **22 05 41.3 -0.3**
SMF Signal de Mont 82.63 358 *e*P P **22 05 41.3 -0.5**
comp=Z,10nm,0.8s,mb4.6
SMF Signal de Mont 82.63 358 *e*P P **22 05 41.3 -0.5**
SMF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
SMF Signal de Mont 82.63 358 *e*P P **22 05 41.3 -0.5**
comp=Z,5.1nm,0.8s,mb4.6
MFF Saint Martin d 82.71 1 *e*P P **22 05 41.7 -0.5**
comp=Z,6.8nm,0.8s,mb4.4
MFF Saint Martin d 82.71 1 *e*P P **22 05 41.7 -0.5**
MFF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
MFF Saint Martin d 82.71 1 *e*P P **22 05 41.7 -0.5**
comp=Z,3.4nm,0.8s,mb4.4
BGF Bois d'Agland 82.74 359 *e*P P **22 05 42.3 -0.1**
TCF Toulx Ste Croi 83.02 359 *e*P P **22 05 43.6 -0.2**
LPL La Plagne 83.65 356 *e*P P **22 05 47.7 +0.6**
LPG La Plagne 83.67 356 *e*P P **22 05 48.2 +1.0**
RJF Les Rejaudoux 84.00 359 *e*P P **22 05 48.7 -0.2**
comp=Z,3.4nm,0.7s,mb4.3
RJF Les Rejaudoux 84.00 359 *e*P P **22 05 48.7 -0.2**
RJF pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
RJF Les Rejaudoux 84.00 359 *e*P P **22 05 48.7 -0.2**
comp=Z,1.7nm,0.7s,mb4.3
ORIF Oris-en-Rattie 84.29 356 *e*P P **22 05 50.5 +0.2**
LFF La Frestale 84.37 360 *e*P P **22 05 50.5 -0.3**
comp=Z,6.1nm,0.7s,mb4.6
LFF La Frestale 84.37 360 *e*P P **22 05 50.5 -0.3**
LFF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
LFF La Frestale 84.37 360 *e*P P **22 05 50.5 -0.3**
comp=Z,3.0nm,0.6s,mb4.6
CAF Calviac 84.38 359 *e*P P **22 05 50.8 0.0**
VIVF Saint-Julien-l 84.39 357 *e*P P **22 05 50.9 0.0**
MBDF Montbardon 84.44 356 *e*P P **22 05 51.5 +0.4**
comp=Z,5.1nm,0.7s,mb4.5
MBDF Montbardon 84.44 356 *e*P P **22 05 51.5 +0.4**
MBDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
MBDF Montbardon 84.44 356 *e*P P **22 05 51.5 +0.4**
comp=Z,2.5nm,0.7s,mb4.5
ASAR Alice Springs 85.05 222 P P **22 05 54.4 +0.2**
comp=Z,0.8nm,0.6s,mb4.0,baz=27,slow=5.7,SNR=12
ASAR Alice Springs 85.05 222 P P **22 05 54.4 +0.3**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 85.05 222 P P **22 05 54.4 +0.2**
BR131 Keskin Array S 85.10 335 *e*P P **22 05 54.9 +0.5**
comp=Z,1.4nm,0.7s,mb4.2
BRTR Keskin Array B 85.10 335 P P **22 05 54.8 +0.4**
comp=Z,2.0nm,0.7s,mb4.3,baz=38,slow=3.4,SNR=14
BRTR LR LR 22 46 41.4
comp=Z,34nm,19.7s,MS3.7,baz=172,slow=38
BRTR Keskin Array B 85.10 335 P P **22 05 54.8 +0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR MLR MLR
comp=Z,34nm,19.7s
LASF Ste Croix 85.20 358 *e*P P **22 05 54.8 -0.1**
SMRF Simiane la Rot 85.24 356 *e*P P **22 05 55.6 +0.5**
comp=Z,8.8nm,0.9s,mb4.6
SMRF Simiane la Rot 85.24 356 *e*P P **22 05 55.6 +0.5**
comp=Z,8.8nm,0.9s,mb4.9
SBF Sospel 85.27 355 *e*P P **22 05 54.8 -0.5**
comp=Z,20nm,0.9s,mb4.9
SBF Sospel 85.27 355 *e*P P **22 05 54.8 -0.5**
SBF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
SBF Sospel 85.27 355 *e*P P **22 05 54.8 -0.5**
comp=Z,10nm,0.9s,mb5.0
FRF La Foret Royal 85.61 356 *e*P P **22 05 56.6 -0.4**
comp=Z,3.8nm,0.7s,mb4.5
FRF La Foret Royal 85.61 356 *e*P P **22 05 56.6 -0.4**
FRF pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
FRF La Foret Royal 85.61 356 *e*P P **22 05 56.6 -0.4**
comp=Z,1.9nm,0.6s,mb4.5
LMR La Mourre 85.84 356 *e*P P **22 05 57.9 -0.2**
comp=Z,4.9nm,0.7s,mb4.5
LMR La Mourre 85.84 356 *e*P P **22 05 57.9 -0.2**
LMR pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
LMR La Mourre 85.84 356 *e*P P **22 05 57.9 -0.2**
comp=Z,2.5nm,0.7s,mb4.5
MTLF Montolieu 85.96 359 *e*P P **22 05 58.7 0.0**
SJPF Ste Jean 86.18 1 *e*P P **22 06 00.1 +0.3**
EPF Esparros 86.28 0 *e*P P **22 05 59.6 -0.7**
ETSF Etsaut 86.41 1 *e*P P **22 06 01.1 +0.2**
comp=Z,5.5nm,0.7s,mb4.6
ETSF Etsaut 86.41 1 *e*P P **22 06 01.1 +0.2**
ETSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
ETSF Etsaut 86.41 1 *e*P P **22 06 01.1 +0.2**
comp=Z,2.8nm,0.7s,mb4.6
PGF Pioggiola 86.48 354 *e*P P **22 06 01.0 -0.3**
comp=Z,12nm,0.9s,mb4.8
PGF Pioggiola 86.48 354 *e*P P **22 06 01.0 -0.3**
PGF pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
PGF Pioggiola 86.48 354 *e*P P **22 06 01.0 -0.3**
comp=Z,5.9nm,0.9s,mb4.8
STKA Stephens Creek 89.50 212 P P **22 06 13.9 -1.7**
comp=Z,5.2nm,1.0s,mb4.8,baz=8.2,slow=6.7,SNR=4.1
ESDC Sonseca Array 89.54 4 P P **22 06 15.5 -0.3**
comp=Z,0.3nm,0.6s,mb3.8,baz=347,slow=4.6,SNR=5.4
PCRV Puerto La Cruz 97.07 64 LR LR 22 48 53.1
comp=Z,60nm,20.7s,MS4.1,baz=39,slow=34
LBTB Lobatse 147.72 314 PKPbc PKPbc 22 13 03.0 +0.1
comp=Z,2.7nm,0.6s,baz=349,slow=2.6,SNR=8.6
LBTB Lobatse 147.72 314 PKP2 PKPbc 22 13 03.1 +0.1
LBTB pmax pmax
comp=Z,3.0nm,0.6s
LBTB Lobatse 147.72 314 *e*PKPbc PKPbc 22 13 03.8 +0.8
BOSA Boshof 150.95 311 PKPbc PKPbc 22 13 12.2 +1.1
comp=Z,1.3nm,0.6s,baz=112,slow=4.8,SNR=6.4
BOSA Boshof 150.95 311 PKIKP PKPbc 22 13 12.2 +1.2
BOSA pmax pmax
comp=Z,1.0nm,0.6s

PGC 01 21:57:13.9, 4752N×12894W, h10km, MLSn3.1/1, Mw3.7/1, 3D, 288km southwest of Tofino, Bc Northern Juan de Fuca ridge., Off coast of Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETB	**Estevan Point**	**2.45**	**40**	Pn	Pn	21 57 53.0	-0.9
EDB	**Eliza Dome**	**2.65**	**26**	Pn	Pn	21 57 54.6	-2.1
OZB	**Mount Ozzard**	**2.72**	**57**	Pn	Pn	21 57 56.1	-1.5
OZB				Sn	Sn	21 58 27.4	-3.2
OZB				Trac		21 58 42.1	
BPBC	**Brooks Peninsu**	**2.75**	**16**	Pn	Pn	21 57 56.0	-2.0
GDR	**Gold River**	**2.98**	**39**	Pn	Pn	21 57 60.0	-1.1
GDR				Trac		21 58 35.5	
BTB	**Buttle Lake**	**3.00**	**48**	Pn	Pn	21 58 00.1	-1.3
BTB				Sn	Sn	21 58 33.7	-3.7
BTB				Trac		21 58 36.8	
WOSB	**Woss**	**3.07**	**30**	⇓Pn	Pn	21 58 01.3	-1.2
MAYB	**Maynard**	**3.11**	**21**	⇓Pn	Pn	21 58 01.6	-1.4
MAYB				Trac		21 58 43.5	
HOLB	**Holberg**	**3.17**	**9**	Pn	Pn	21 58 02.8	-1.0
PFB	**Port Renfrew**	**3.20**	**69**	Pn	Pn	21 58 02.7	-1.5
PFB				Sn	Sn	21 58 38.5	-3.9
PFB				Trac		21 58 40.4	
MGB	**Mount Grey**	**3.20**	**61**	Pn	Pn	21 58 02.9	-1.4
MGB				Sn	Sn	21 58 39.6	-2.9
MGB				Trac		21 58 45.9	
ALB	**Alberni**	**3.25**	**56**	Pn	Pn	21 58 03.1	-1.8
ALB				Sn	Sn	21 58 39.3	-4.4
ALB				Trac		21 58 42.7	
CBB	**Campbell River**	**3.45**	**42**	⇑Pn	Pn	21 58 07.1	-0.6
CBB				Sn	Sn	21 58 45.6	-3.0
CBB				Trac		21 58 48.5	
NCRB	**Newcastle Ridg**	**3.46**	**32**	⇓Pn	Pn	21 58 07.3	-0.4
NCRB				Trac		21 59 02.4	
LZB	**Mount Lazard**	**3.60**	**70**	Pn	Pn	21 58 08.6	-1.2
LZB				Sn	Sn	21 58 49.0	-3.4
LZB				Trac		21 59 00.6	
TXB	**Texada**	**3.70**	**52**	Pn	Pn	21 58 10.5	-0.6
TXB				Sn	Sn	21 58 52.5	-2.2
TXB				Trac		21 58 55.3	
NLLB	**Nanaimo Lost L**	**3.72**	**61**	Pn	Pn	21 58 11.2	-0.2
NLLB				Sn	Sn	21 58 53.8	-1.4
NLLB				Trac		21 58 54.6	
PGC	**Sidney**	**3.85**	**71**	Pn	Pn	21 58 12.3	-0.8
VGZ	**Gonzales**	**3.88**	**75**	Pn	Pn	21 58 12.7	-0.9
SHB	**Sechelt**	**3.96**	**56**	Pn	Pn	21 58 14.6	0.0
SNB	**Saturna Island**	**4.06**	**70**	Pn	Pn	21 58 14.3	-1.8
BIB	**Bowen Island**	**4.20**	**61**	Pn	Pn	21 58 17.7	-0.3
BIB				Trac		21 59 15.5	
WPB	**Watts Point**	**4.37**	**59**	Pn	Pn	21 58 20.0	-0.2
HNB	**Haney**	**4.59**	**65**	Pn	Pn	21 58 22.8	-0.5
BBB	**Bella Bella**	**4.70**	**6**	⇑Pn	Pn	21 58 24.9	+0.1
BBB				Trac		21 59 42.1	
VDB	**Vedder Mountai**	**4.81**	**69**	Pn	Pn	21 58 25.4	-1.0
LLLB	**Lillooet**	**5.58**	**54**	Pn	Pn	21 58 37.4	+0.5

MAN 01 21:58:19.9, 1625N×12237E, h17km, mb1.7, ML3.5, MS5.0, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAUP	**Cauayan**	**0.86**	**323**	*e*S	Sb	21 58 49.9	+2.1
BALP	**Baler**	**0.91**	**236**	*e*S	Sb	21 58 49.1	0.0
PCPH	**Palayan**	**1.40**	**241**⇓	*e*P	Pn	21 58 43.5	-1.1
PCPH				*i* S	Sn	21 59 03.2	+0.5
BCPH	**Baguio City Da**	**1.72**	**275**⇓	*e*P	Pn	21 58 48.8	-0.2
BCPH				*i* S	Sn	21 59 13.3	+2.7
APYP	**Conner**	**1.93**	**326**	*e*P	Pn	21 58 51.5	-0.5
BOLP	**Bolinao**	**2.36**	**274**	*e*P	Pn	21 58 60.0	+2.1

IDC 01 22:12:20.2±10.0, 680S×13260E, h60km±86km, mb3.6/1, mb1 4.1/3, mb1mx3.5/11, mbtmp4.2/3, ML4.5/2, Error ellipse: s-maj=246.2km s-min=67.8km az=88.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.18**	**173**	P	Pn	22 15 24.9	+0.5
	2.4nm,0.3s,baz=343,slow=13,SNR=93						
WRA				S	Sn	22 17 50.4	+1.2
	2.0nm,0.3s,baz=336,slow=22,SNR=7.1						
ASAR	**Alice Springs**	**16.82**	**176**	P	Pn	22 16 11.3	-0.3
	1.6nm,0.3s,baz=336,slow=9.1,SNR=36						
ASAR				S	S	22 19 18.7	-6.6
	0.5nm,0.3s,baz=358,slow=28,SNR=6.6						
STKA	**Stephens Creek**	**26.33**	**163**	P	P	22 17 50.6	+0.3
	0.6nm,0.3s,baz=336,slow=9.8,SNR=5.5						

*HLW **01** 22:19:31.2, 35.10N×237E, h33km, Mb3.1*
*ISCJB **01** 22:19:33.6±0.9, 349N±0.1×237E±0.2, h57km±29km, Error ellipse: s-maj=37.7km s-min=9.8km az=125.7*
*CSEM **01** 22:19:33.9±0.1, 3483N×2364E, h40km, ML3.1, Error ellipse: s-maj=13.3km s-min=2.2km az=67.0*
*ATH **01** 22:19:34.8, 3508N×2373E, h33km, MD3.4/4*

ISC 01 22:19:35.0±0.9, 3495N±009×237E±02, h43km±35km, n8, σ0s69/10, 1C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.32**	**110**	*e*PB	Pn	22 19 44.0	+0.3
VAM	**Vamos**	**0.60**	**40**	*e*PN	Pn	22 19 46.0	-1.1
KYTH	**Kithira**	**1.44**	**337**	*e*PN	Pn	22 19 59.0	+0.4
VLI	**Veliai**	**1.88**	**340**	*e*PN	Pn	22 20 04.6	+0.1
SLUM		**3.67**	**160**	⇑P	Pn	22 20 29.4	+0.3
HMAT	**Matruh**	**4.77**	**143**	⇓P	Pn	22 20 44.7	+0.4
HMAT				S	Sn	22 21 39.3	+0.9
SWA2		**5.88**	**165**	⇓P	Pn	22 20 59.6	+0.1
SWA1		**5.91**	**163**	⇓P	Pn	22 20 59.9	0.0
SWA1				S	Sn	22 22 04.9	-1.5

IDC 01 22:30:57.5±66.0, 1802S×17957W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/12, mbtmp3.9/3, Error ellipse: s-maj=1195.0km s-min=165.6km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.61	241	P	P	22 38 14.3	+0.5
	1.7nm,0.6s,baz=104,slow=12,SNR=2.8						
WRA	Warramunga Arr	43.53	260	P	P	22 39 03.0	+0.2
	0.3nm,0.5s,baz=96,slow=7.6,SNR=8.8						
ASAR	Alice Springs	43.70	254	P	P	22 39 04.5	+0.3
	3.0nm,0.6s,baz=89,slow=8.1,SNR=51						

*ISCJB **01** 22:36:21.0±0.2, 4385N±001×318E±002, h10km, Error ellipse: s-maj=1.9km s-min=1.4km az=75.5*
*STR **01** 22:36:23.9±0.3, 4375N×308E, h10km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **01** 22:36:23.9±0.1, 4378N×3.15E, h10km, ML2.7/38, Error ellipse: s-maj=1.5km s-min=1.1km az=121.0*
*LDG **01** 22:36:23.5±0.1, 4378N×3.16E, h3km, Md2.6/3, Ml2.7/40, Error ellipse: s-maj=1.1km s-min=0.9km az=143.0*
*NEIC **01** 22:36:23.8, 4376N×3.10E, h5km, ML2.7(STR), ML2.7(LDG), After STR.*
*MDD **01** 22:36:24.1±0.4, 4379N×3.16E, h10km±2km, mbLg2.2/32, Error ellipse: s-maj=3.1km s-min=2.1km az=140.0, PRXIMO*

ISC 01 22:36:22.2±0.2, **4383N**±001×**315E**±002, **h6**km±2km, **n154**, σ1§**16**/338, **Near south coast of France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LASF	Ste Croix	0.57	64	ePg	Pg	22 36 35.4	+2.2
	SNR=1.0						
LASF				eSg	Sg	22 36 42.3	+1.6
	33nm,0.2s,SNR=1.0						
LASF	Ste Croix	0.57	64	ePg	Pg	22 36 35.4	+2.2
	SNR=1.0						
LASF				eSg	Sg	22 36 42.3	+1.6
	16nm,0.2s,SNR=1.0						
MTLF	Montolieu	0.83	234	ePg	Pg	22 36 38.6	+0.4
	SNR=1.0						
MTLF				eSg	Sg	22 36 49.0	0.0
	80nm,0.3s,SNR=1.0						
MTLF	Montolieu	0.83	234	ePg	Pg	22 36 38.6	+0.4
	SNR=1.0						
MTLF				eSg	Sg	22 36 49.0	0.0
	40nm,0.3s,SNR=1.0						
LRDF	Laroque-de-Fa	0.99	207	Pg	Pg	22 36 42.0	+0.7
LRDF				Sg	Sg	22 36 53.9	-0.3
LRDF	Laroque-de-Fa	0.99	207	P	Pg	22 36 41.6	+0.2
LRDF				S	Sg	22 36 54.2	0.0
LPEF	Le Peyrat	1.26	226	P	Pn	22 36 46.8	+0.4
LPEF				S	Sg	22 37 02.9	+0.2
FILF	Fillols	1.34	199	Pg	Pg	22 36 48.4	+0.5
FILF				Sg	Sg	22 37 05.6	+0.4
FILF	Fillols	1.34	199	P	Pn	22 36 48.6	+1.1
FILF				S	Sb	22 37 05.5	+0.4
CAF	Calviac	1.34	325	ePg	Pg	22 36 49.3	+1.3
	SNR=1.0						
CAF				eSg	Sg	22 37 07.8	+2.4
	17nm,0.2s,SNR=1.0						
CAF	Calviac	1.34	325	Pn	Pn	22 36 48.3	+0.8
CAF				Pg	Pg	22 36 49.3	+1.3
CAF				Lg		22 37 07.8	
	8.6nm,0.2s						
CAF	Calviac	1.34	325	ePn	Pn	22 36 48.3	+0.8
CAF				ePg	Pg	22 36 49.3	+1.3
CAF				eSg	Sg	22 37 07.8	+2.4
CAF	Calviac	1.34	325	ePg	Pg	22 36 49.3	+1.3
	SNR=1.0						
CAF				eSg	Sg	22 37 07.8	+2.4
	8.6nm,0.2s,SNR=1.0						
CARF	Carcanieres	1.35	215	Pg	Pg	22 36 48.2	+0.1
CARF				Sg	Sg	22 37 05.2	-0.3
CARF	Carcanieres	1.35	215	P	Pn	22 36 48.3	+0.7
CARF				S	Sb	22 37 05.2	-0.1
SJAF	Saint Jean de	1.36	188	Pg	Pg	22 36 47.7	-0.6
SJAF				Sg	Sg	22 37 04.5	-1.4
SJAF	Saint Jean de	1.36	188	P	Pn	22 36 47.7	0.0
SJAF				S	Sb	22 37 04.7	-1.0
EJON	La Jonquera	1.39	188	Pg	Pg	22 36 48.5	-0.5
	1.0nm,0.1s,SNR=11						
EJON				Sn	Sn	22 37 03.8	-3.1
	1.5nm,0.1s,SNR=7.9						
EJON				Lg		22 37 05.8	
	6.8nm,0.1s,SNR=18						
EJON	La Jonquera	1.39	188	Pg	Pg	22 36 48.5	-0.4
EJON				Lg		22 37 05.6	
EJON	La Jonquera	1.39	188	Pg	Pg	22 36 48.5	-0.4
	SNR=11						
LBL	Lubilhac	1.41	3	Pg	Pg	22 36 52.4	+3.2
LBL				Sg	Sg	22 37 11.1	+3.7
VIVF	Saint-Julien-l	1.50	46	ePg	Pg	22 36 52.6	+1.5
	SNR=1.0						
VIVF				eSg	Sg	22 37 12.8	+2.3
	23nm,0.2s						
VIVF	Saint-Julien-l	1.50	46	Pn	Pn	22 36 49.9	+0.2
VIVF				Pg	Pg	22 36 52.6	+1.5
VIVF				Lg		22 37 12.8	
	11nm,0.2s						
VIVF	Saint-Julien-l	1.50	46	ePn	Pn	22 36 49.9	+0.2
VIVF				ePg	Pg	22 36 52.6	+1.5
VIVF				eSg	Sg	22 37 12.8	+2.3
VIVF	Saint-Julien-l	1.50	46	ePg	Pg	22 36 52.6	+1.5
	SNR=1.0						
VIVF				eSg	Sg	22 37 12.8	+2.3
	11nm,0.2s						
GRBF	Gourbit	1.53	230	P	Pn	22 36 51.6	+1.5
VALF	Valcebollere	1.65	210	Pg	Pg	22 36 53.7	-0.1
VALF				Sg	Sg	22 37 14.3	-0.9
MLS	Moulis	1.73	240	Pg	Pg	22 36 55.6	+0.2
COLF	Collangettes	1.73	13	Pn	Pn	22 36 53.5	+0.6
PAND	Andorre	1.75	222	S	Sn	22 37 17.5	+1.7
SMRF	Simiane la Rot	1.76	84	ePg	Pg	22 36 57.4	+1.4
SMRF				eSn	Sn	22 37 14.8	-1.2
	8.5nm,0.3s,SNR=1.0						
SMRF				eSg	Sg	22 37 21.4	+2.5
	8.8nm,0.3s						
SMRF	Simiane la Rot	1.76	84	Pn	Pn	22 36 53.3	0.0
SMRF				Pg	Pg	22 36 57.4	+1.4
SMRF				Sn	Sn	22 37 14.8	-1.2
	8.5nm,0.3s						
SMRF				Lg		22 37 21.4	
	8.8nm,0.3s						
SMRF	Simiane la Rot	1.76	84	ePn	Pn	22 36 53.3	0.0
SMRF				ePg	Pg	22 36 57.4	+1.4
SMRF				eSn	Sn	22 37 14.8	-1.2
SMRF				eSg	Sg	22 37 21.4	+2.5
SMRF	Simiane la Rot	1.76	84	ePg	Pg	22 36 57.4	+1.4
SMRF				eSn	Sn	22 37 14.8	-1.2
	4.2nm,0.3s,SNR=1.0						
SMRF				eSg	Sg	22 37 21.4	+2.5
	4.4nm,0.3s						
SALF	Salau	1.78	234	Pg	Pg	22 36 56.0	-0.4
SALF				Sg	Sg	22 37 18.5	-1.0
SALF	Salau	1.78	234	P	Pn	22 36 56.1	+2.6
SALF				S	Sn	22 37 18.4	+1.9
RJF	Les Rejaudoux	1.88	322	ePg	Pg	22 36 59.3	+1.0
RJF				eSg	Sg	22 37 23.8	+1.2
	20nm,0.2s						
RJF	Les Rejaudoux	1.88	322	Pn	Pn	22 36 55.5	+0.6
RJF				Pg	Pg	22 36 59.3	+1.0
RJF				Lg		22 37 23.8	
	9.9nm,0.2s						
RJF	Les Rejaudoux	1.88	322	ePn	Pn	22 36 55.5	+0.6
RJF				ePg	Pg	22 36 59.3	+1.0
RJF				eSg	Sg	22 37 23.8	+1.2
RJF	Les Rejaudoux	1.88	322	ePg	Pg	22 36 59.3	+1.0
RJF				eSg	Sg	22 37 23.8	+1.2
	9.9nm,0.2s						
LFF	La Frestale	2.05	304	ePg	Pg	22 37 02.8	+1.2
LFF				eSn	Sn	22 37 21.5	-1.7
	SNR=1.0						
LFF				eSg	Sg	22 37 29.3	+1.2
	48nm,0.3s,SNR=1.0						
LFF	La Frestale	2.05	304	Pn	Pn	22 36 57.9	+0.6
LFF				Pg	Pg	22 37 02.8	+1.2
LFF				Sn	Sn	22 37 21.5	-1.7
LFF				Lg		22 37 29.3	
	0.0nm,0.3s						
LFF	La Frestale	2.05	304	ePn	Pn	22 36 57.9	+0.6
LFF				ePg	Pg	22 37 02.8	+1.2
LFF				eSn	Sn	22 37 21.5	-1.7
LFF				eSg	Sg	22 37 29.3	+1.2
LFF	La Frestale	2.05	304	ePg	Pg	22 37 02.8	+1.2
LFF				eSn	Sn	22 37 21.5	-1.7
	SNR=1.0						
LFF				eSg	Sg	22 37 29.3	+1.2
	24nm,0.3s,SNR=1.0						
PLDF	La Plantade	2.17	9	Pn	Pn	22 36 59.6	+0.7
EPF	Esparros	2.19	250	ePn	Pn	22 36 59.4	+0.2
	SNR=1.0						
EPF				eSg	Sg	22 37 32.1	-0.6
	36nm,0.2s,SNR=1.0						
EPF	Esparros	2.19	250	ePn	Pn	22 36 59.4	+0.2
	SNR=1.0						
EPF				eSg	Sg	22 37 32.1	-0.6
	18nm,0.2s,SNR=1.0						
AGO	Saint Agoulin	2.22	360	Pn	Pn	22 37 02.3	+2.7
ORIF	Oris-en-Rattie	2.24	60	ePg	Pg	22 37 07.2	+1.9
	SNR=1.0						
ORIF				eSg	Sg	22 37 34.6	+0.3
	2.2nm,0.3s,SNR=1.0						
ORIF	Oris-en-Rattie	2.24	60	Pn	Pn	22 37 00.7	+0.8
ORIF				Pg	Pg	22 37 07.2	+1.9
ORIF				Lg		22 37 34.6	
	1.1nm,0.3s						
ORIF	Oris-en-Rattie	2.24	60	ePn	Pn	22 37 00.7	+0.8
ORIF				ePg	Pg	22 37 07.2	+1.9
ORIF				eSg	Sg	22 37 34.6	+0.3
ORIF	Oris-en-Rattie	2.24	60	ePg	Pg	22 37 07.2	+1.9
	SNR=1.0						
ORIF				eSg	Sg	22 37 34.6	+0.3
	1.1nm,0.3s,SNR=1.0						
EMIR	Miracle	2.25	212	Pn	Pn	22 37 01.7	+1.6
	0.1nm,0.1s,SNR=7.9						
EMIR				Lg		22 37 34.0	
	9.7nm,0.1s,SNR=7.9						
EMIR	Miracle	2.25	212	Pn	Pn	22 37 01.6	+1.6
EMIR				Pg	Pg	22 37 05.6	+0.1
EMIR				Lg		22 37 34.0	
EMIR	Miracle	2.25	212	Pn	Pn	22 37 01.6	+1.6
EMIR	Miracle	2.25	212	Pg	Pg	22 37 05.6	+0.2
	2.9nm,0.5s,SNR=7.6						
LABF	Labassere	2.37	252	P	Pn	22 37 00.7	-0.9
EBIE	Bielsa	2.47	244	Pn	Pn	22 37 02.9	-0.1
	0.7nm,0.1s,SNR=14						
EBIE				Pg	Pg	22 37 06.6	-3.0
	1.3nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	22 37 35.5	+2.0
	1.1nm,0.1s,SNR=8.6						
EBIE				Lg		22 37 41.4	
	3.8nm,0.2s,SNR=7.9						
EBIE	Bielsa	2.47	244	Pn	Pn	22 37 06.5	+3.4
EBIE				Sn	Sn	22 37 36.1	+2.6
EBIE				Lg		22 37 41.1	
EBIE	Bielsa	2.47	244	Pn	Pn	22 37 06.5	+3.4
	1.6nm,0.3s,SNR=14						
EBIE				Sn	Sn	22 37 36.1	+2.5
	2.9nm,0.3s,SNR=8.6						
LMR	La Mourre	2.49	100	ePg	Pg	22 37 09.0	-1.1
	SNR=1.0						
LMR				eSn	Sn	22 37 31.0	-3.1
	SNR=1.0						
LMR				eSg	Sg	22 37 42.0	-0.4
	8.2nm,0.2s,SNR=1.0						
LMR	La Mourre	2.49	100	Pn	Pn	22 37 02.4	-1.0
LMR				Pg	Pg	22 37 09.0	-1.1
LMR				Sn	Sn	22 37 31.0	-3.1
LMR				Lg		22 37 42.0	
	4.1nm,0.2s						
LMR	La Mourre	2.49	100	ePn	Pn	22 37 02.4	-1.0
LMR				ePg	Pg	22 37 09.0	-1.1
LMR				eSn	Sn	22 37 31.0	-3.1
LMR				eSg	Sg	22 37 42.0	-0.4
LMR	La Mourre	2.49	100	ePg	Pg	22 37 09.0	-1.1
	SNR=1.0						
LMR				eSg	Sg	22 37 42.0	-0.4
	4.1nm,0.2s,SNR=1.0						
TCF	Toulx Ste Croi	2.55	345	ePg	Pg	22 37 12.9	+1.8
	SNR=1.0						
TCF				eSg	Sg	22 37 47.1	+3.0
	9.3nm,0.4s,SNR=1.0						
TCF	Toulx Ste Croi	2.55	345	Pn	Pn	22 37 04.5	+0.4
TCF				Pg	Pg	22 37 12.9	+1.8
TCF				Lg		22 37 47.1	
	4.7nm,0.4s						
TCF	Toulx Ste Croi	2.55	345	ePn	Pn	22 37 04.5	+0.4
TCF				ePg	Pg	22 37 12.9	+1.8
TCF				eSg	Sg	22 37 47.1	+3.0
TCF	Toulx Ste Croi	2.55	345	ePg	Pg	22 37 12.9	+1.8
	SNR=1.0						
TCF				eSg	Sg	22 37 47.1	+3.0
	4.7nm,0.4s,SNR=1.0						
FRF	La Foret Royal	2.55	95	ePn	Pn	22 37 03.4	-0.8
	SNR=1.0						
FRF				eSn	Sn	22 37 33.3	-2.3
FRF				eSg	Sg	22 37 44.1	-0.2
	6.0nm,0.3s,SNR=1.0						
FRF	La Foret Royal	2.55	95	ePn	Pn	22 37 03.4	-0.8
	SNR=1.0						
FRF				eSn	Sn	22 37 33.3	-2.3
FRF				eSg	Sg	22 37 44.1	-0.2
	3.0nm,0.3s,SNR=1.0						
EGRA	Graus	2.64	233	Pn	Pn	22 37 08.0	+2.7
	0.2nm,0.3s,SNR=4.0						
EGRA				Pg	Pg	22 37 12.6	-0.2
	1.0nm,0.2s,SNR=7.9						
EGRA				Lg		22 37 47.8	
	SNR=7.9						
EGRA	Graus	2.64	233	Pn	Pn	22 37 08.0	+2.7
EGRA				Pg	Pg	22 37 13.4	+0.6
EGRA				Sn	Sn	22 37 37.6	-0.1
EGRA				Lg		22 37 47.8	
EGRA	Graus	2.64	233	Pg	Pg	22 37 13.4	+0.6
	SNR=7.9						
EGRA				Sn	Sn	22 37 37.6	-0.1
	8.2nm,0.6s,SNR=4.6						
BGF	Bois d'Agland	2.74	356	ePg	Pg	22 37 15.7	+1.0
BGF				eSg	Sg	22 37 51.1	+0.9
	18nm,0.2s,SNR=1.0						
BGF	Bois d'Agland	2.74	356	Pn	Pn	22 37 07.5	+0.8
BGF				Pg	Pg	22 37 15.7	+1.0
BGF				Lg		22 37 51.1	
	9.1nm,0.2s						
BGF	Bois d'Agland	2.74	356	ePn	Pn	22 37 07.5	+0.8
BGF				ePg	Pg	22 37 15.7	+1.0
BGF				eSg	Sg	22 37 51.1	+0.9
BGF	Bois d'Agland	2.74	356	ePg	Pg	22 37 15.7	+1.0
BGF				eSg	Sg	22 37 51.1	+0.9
	9.1nm,0.2s,SNR=1.0						
MBDF	Montbardon	2.75	70	ePg	Pg	22 37 14.5	-0.6
MBDF				eSg	Sg	22 37 50.4	-0.4
	1.1nm,0.3s						
MBDF	Montbardon	2.75	70	ePg	Pg	22 37 14.5	-0.6
MBDF				eSg	Sg	22 37 50.4	-0.4
	0.6nm,0.3s						
ETSF	Etsaut	2.86	252	ePg	Pg	22 37 16.2	-0.8
ETSF				eSn	Sn	22 37 40.7	-2.3
	SNR=1.0						
ETSF				eSg	Sg	22 37 52.9	-1.1
	7.8nm,0.3s,SNR=1.0						
ETSF	Etsaut	2.86	252	Pn	Pn	22 37 08.1	-0.2
ETSF				Pg	Pg	22 37 16.2	-0.8
ETSF				Sn	Sn	22 37 40.7	-2.3
ETSF				Lg		22 37 52.9	
	3.9nm,0.3s						
ETSF	Etsaut	2.86	252	ePn	Pn	22 37 08.1	-0.2
ETSF				ePg	Pg	22 37 16.2	-0.8
ETSF				eSn	Sn	22 37 40.7	-2.3
ETSF				eSg	Sg	22 37 52.9	-1.1
ETSF	Etsaut	2.86	252	ePg	Pg	22 37 16.2	-0.8
ETSF				eSn	Sn	22 37 40.7	-2.3
	SNR=1.0						
ETSF				eSg	Sg	22 37 52.9	-1.1
	3.9nm,0.3s,SNR=1.0						
SMF	Signal de Mont	2.86	10	ePg	Pg	22 37 17.2	+0.1
	SNR=1.0						
SMF				eSn	Sn	22 37 41.8	-1.3
	SNR=1.0						
SMF				eSg	Sg	22 37 53.6	-0.5
	6.5nm,0.2s,SNR=1.0						
SMF	Signal de Mont	2.86	10	Pn	Pn	22 37 08.5	+0.1
SMF				Pg	Pg	22 37 17.2	+0.1
SMF				Sn	Sn	22 37 41.8	-1.3
SMF				Lg		22 37 53.6	
	3.2nm,0.2s						
SMF	Signal de Mont	2.86	10	ePn	Pn	22 37 08.5	+0.1
SMF				ePg	Pg	22 37 17.2	+0.1
SMF				eSn	Sn	22 37 41.8	-1.3
SMF				eSg	Sg	22 37 53.6	-0.5
SMF	Signal de Mont	2.86	10	ePg	Pg	22 37 17.2	+0.1
	SNR=1.0						
SMF				eSn	Sn	22 37 41.8	-1.3
	SNR=1.0						
SMF				eSg	Sg	22 37 53.6	-0.5
	3.2nm,0.2s,SNR=1.0						
AVF	Avril sur Loir	2.97	3	ePg	Pg	22 37 18.0	-1.1
	SNR=1.0						
AVF				eSn	Sn	22 37 44.6	-1.1
AVF				eSg	Sg	22 37 57.1	-0.4
	4.5nm,0.2s,SNR=1.0						
AVF	Avril sur Loir	2.97	3	Pn	Pn	22 37 10.9	+1.1
AVF				Pg	Pg	22 37 18.0	-1.1
AVF				Sn	Sn	22 37 44.6	-1.1
AVF				Lg		22 37 57.1	
	2.2nm,0.2s						
AVF	Avril sur Loir	2.97	3	ePn	Pn	22 37 10.9	+1.1
AVF				ePg	Pg	22 37 18.0	-1.1
AVF				eSn	Sn	22 37 44.6	-1.1
AVF				eSg	Sg	22 37 57.1	-0.4
AVF	Avril sur Loir	2.97	3	ePg	Pg	22 37 18.0	-1.1
	SNR=1.0						
AVF				eSn	Sn	22 37 44.6	-1.1
AVF				eSg	Sg	22 37 57.1	-0.4
	2.2nm,0.2s,SNR=1.0						
LPL	La Plagne	3.07	55	ePg	Pg	22 37 20.3	-0.7
LPL				eSg	Sg	22 38 00.1	-0.6
	1.5nm,0.3s						
LPL	La Plagne	3.07	55	Pg	Pg	22 37 20.3	-0.7
LPL				Lg		22 38 00.1	
	0.8nm,0.3s						
LPG	La Plagne	3.07	56	ePg	Pg	22 37 20.1	-0.9
LPG				eSg	Sg	22 38 00.6	-0.2
	2.1nm,0.4s						
LPG	La Plagne	3.07	56	Pn	Pn	22 37 13.4	+2.2
LPG				Pg	Pg	22 37 20.1	-0.9
LPG				Lg		22 38 00.6	
	1.1nm,0.4s						
LPG	La Plagne	3.07	56	ePn	Pn	22 37 13.4	+2.2
LPG				ePg	Pg	22 37 20.1	-0.9
LPG				eSg	Sg	22 38 00.6	-0.2
LPG	La Plagne	3.07	56	ePg	Pg	22 37 20.1	-0.9
LPG				eSg	Sg	22 38 00.6	-0.2
	1.0nm,0.4s						
SBF	Sospel	3.10	88	ePn	Pn	22 37 11.4	-0.3
	SNR=1.0						
SBF				eSn	Sn	22 37 46.6	-2.6
	SNR=1.0						
SBF				eSg	Sg	22 38 03.1	+1.1
	12nm,0.6s,SNR=1.0						
SBF	Sospel	3.10	88	ePn	Pn	22 37 11.4	-0.3
	SNR=1.0						
SBF				eSn	Sn	22 37 46.6	-2.6
	SNR=1.0						
SBF				eSg	Sg	22 38 03.1	+1.1
	6.1nm,0.6s,SNR=1.0						
SSF	Saint Saulge	3.24	4	ePg	Pg	22 37 24.5	+0.1
	SNR=1.0						
SSF				eSg	Sg	22 38 06.5	+0.1
	6.7nm,0.6s,SNR=1.0						
SSF	Saint Saulge	3.24	4	Pn	Pn	22 37 13.5	-0.2
SSF				Pg	Pg	22 37 24.5	+0.1
SSF				Lg		22 38 06.5	
	3.3nm,0.6s						
SSF	Saint Saulge	3.24	4	ePn	Pn	22 37 13.5	-0.2
SSF				ePg	Pg	22 37 24.5	+0.1
SSF				eSg	Sg	22 38 06.5	+0.1
SSF	Saint Saulge	3.24	4	ePg	Pg	22 37 24.5	+0.1
	SNR=1.0						
SSF				eSg	Sg	22 38 06.5	+0.1
	3.3nm,0.6s,SNR=1.0						
SJPF	Ste Jean	3.26	259	ePg	Pg	22 37 23.8	-0.9
SJPF				eSn	Sn	22 37 49.2	-3.8
	3.0nm,0.4s,SNR=1.0						
SJPF				eSg	Sg	22 38 05.7	-1.3
	1.6nm,0.2s						
SJPF	Ste Jean	3.26	259	Pn	Pn	22 37 13.8	-0.1
SJPF				Pg	Pg	22 37 23.8	-0.9
SJPF				Sn	Sn	22 37 49.2	-3.8
	0.0nm,0.4s						
SJPF				Lg		22 38 05.7	
	0.8nm,0.2s						
SJPF	Ste Jean	3.26	259	ePn	Pn	22 37 13.8	-0.1
SJPF				ePg	Pg	22 37 23.8	-0.9
SJPF				eSn	Sn	22 37 49.2	-3.8
SJPF				eSg	Sg	22 38 05.7	-1.3
SJPF	Ste Jean	3.26	259	ePg	Pg	22 37 23.8	-0.9
SJPF				eSg	Sg	22 38 05.7	-1.3
	0.8nm,0.2s						
ESAC	San Caprasio	3.39	233	Pg	Pg	22 37 25.9	-1.4
	4.4nm,0.2s,SNR=7.9						
ESAC				Lg		22 38 10.7	
	13nm,0.2s,SNR=7.9						
ESAC	San Caprasio	3.39	233	Pg	Pg	22 37 25.9	-1.4
	SNR=7.9						
EALK	Alkurruntz	3.44	261	Pn	Pn	22 37 19.4	+3.1
	0.2nm,0.1s,SNR=4.0						
EALK				Pg	Pg	22 37 27.2	-0.9
	0.4nm,0.2s,SNR=4.0						
EALK				Sn	Sn	22 37 56.6	-0.7
	0.6nm,0.3s,SNR=7.9						
EALK				Lg		22 38 11.2	
	1.4nm,0.2s,SNR=7.9						
EALK	Alkurruntz	3.44	261	Pn	Pn	22 37 19.4	+3.1
EALK				Pg	Pg	22 37 27.7	-0.4
HYF	Humbligny	3.46	354	ePn	Pn	22 37 16.7	+0.1
HYF				ePg	Pg	22 37 28.5	0.0
HYF				eSg	Sg	22 38 13.2	-0.1
ELIZ	Elizondo	3.46	261	Pn	Pn	22 37 20.8	+4.1
ELIZ				Sn	Sn	22 38 04.0	+5.9
CABF	La Chapelle	3.47	36	ePg	Pg	22 37 28.3	-0.5
	SNR=1.0						
CABF				eSg	Sg	22 38 12.8	-1.0
	17nm,0.7s,SNR=1.0						
CABF	La Chapelle	3.47	36	Pn	Pn	22 37 17.6	+0.8
CABF				Pg	Pg	22 37 28.3	-0.5
CABF				Lg		22 38 12.8	
	8.4nm,0.7s						
CABF	La Chapelle	3.47	36	ePn	Pn	22 37 17.6	+0.8
CABF				ePg	Pg	22 37 28.3	-0.5
CABF				eSg	Sg	22 38 12.8	-1.0
CABF	La Chapelle	3.47	36	ePg	Pg	22 37 28.3	-0.5
	SNR=1.0						
CABF				eSg	Sg	22 38 12.8	-1.0
	8.4nm,0.7s,SNR=1.0						
LOR	Lormes	3.48	8	ePg	Pg	22 37 28.5	-0.4
	baz=184,SNR=1.0						
LOR				eSg	Sg	22 38 13.9	0.0
	3.3nm,0.3s,SNR=1.0						
LOR	Lormes	3.48	8	Pn	Pn	22 37 17.2	+0.3
LOR				Pg	Pg	22 37 28.5	-0.4
LOR				Lg		22 38 13.9	
	1.6nm,0.3s						
LOR	Lormes	3.48	8	ePn	Pn	22 37 17.2	+0.3
LOR				ePg	Pg	22 37 28.5	-0.4
LOR				eSg	Sg	22 38 13.9	0.0
LOR	Lormes	3.48	8	ePg	Pg	22 37 28.5	-0.4
	SNR=1.0						
LOR				eSg	Sg	22 38 13.9	0.0
	1.6nm,0.3s,SNR=1.0						
ERTA	Horta de San J	3.54	217	Pg	Pg	22 37 29.8	-0.4
	0.3nm,0.1s,SNR=7.9						
ERTA				Lg		22 38 14.1	
	3.5nm,0.2s,SNR=7.9						
ERTA	Horta de San J	3.54	217	Pg	Pg	22 37 29.8	-0.4
	SNR=7.9						
MFF	Saint Martin d	3.62	321	ePg	Pg	22 37 32.4	+0.8
	SNR=1.0						
MFF				eSg	Sg	22 38 18.0	-0.5
	5.9nm,0.4s						
MFF	Saint Martin d	3.62	321	Pn	Pn	22 37 20.4	+1.6
MFF				Pg	Pg	22 37 32.4	+0.8
MFF				Lg		22 38 18.0	
	3.0nm,0.4s						
MFF	Saint Martin d	3.62	321	ePn	Pn	22 37 20.4	+1.6
MFF				ePg	Pg	22 37 32.4	+0.8
MFF				eSg	Sg	22 38 18.0	-0.5
MFF	Saint Martin d	3.62	321	ePg	Pg	22 37 32.4	+0.8
	SNR=1.0						
MFF				eSg	Sg	22 38 18.0	-0.5
	3.0nm,0.4s						
EMOS	Mosqueruela	4.38	219	Lg		22 38 41.0	
	1.1nm,0.4s,SNR=7.9						
PGF	Pioggiola	4.47	105	ePn	Pn	22 37 30.0	-0.5

	SNR=1.0						
PGF				eSn	Sn	22 38 19.2	-3.6
	4.8nm,0.8s,SNR=1.0						
PGF	Pioggiola	4.47	105	ePn	Pn	22 37 30.0	-0.5
	SNR=1.0						
PGF				eSn	Sn	22 38 19.2	-3.6
	2.4nm,0.8s,SNR=1.0						
HAU	Haudompre	4.74	27	ePn	Pn	22 37 34.3	+0.1
HAU				eSg	Sg	22 38 53.4	-1.0
	1.9nm,0.2s						
HAU	Haudompre	4.74	27	ePn	Pn	22 37 34.3	+0.1
HAU				eSg	Sg	22 38 53.4	-1.0
	0.9nm,0.2s						
HINF	Hinteralfeld	4.76	32	ePn	Pn	22 37 34.2	-0.3
HINF				eSg	Sg	22 38 53.8	-1.2
	4.5nm,0.4s						
HINF	Hinteralfeld	4.76	32	ePn	Pn	22 37 34.2	-0.3
HINF				eSg	Sg	22 38 53.8	-1.2
	2.2nm,0.4s						
MEZF	Maizieres J'vi	4.86	15	ePn	Pn	22 37 35.8	-0.1
	baz=204						
MEZF				eSg	Sg	22 38 57.2	-1.1
	8.3nm,0.5s						
MEZF	Maizieres J'vi	4.86	15	ePn	Pn	22 37 35.8	-0.1
MEZF				eSg	Sg	22 38 57.2	-1.1
	4.2nm,0.5s						
LDF	La Druitiere	5.28	336	ePn	Pn	22 37 42.1	+0.5
LDF				eSg	Sg	22 39 09.6	-2.1
	0.4nm,0.2s						
LDF	La Druitiere	5.28	336	ePn	Pn	22 37 42.1	+0.5
LDF				eSg	Sg	22 39 09.6	-2.1
	0.2nm,0.2s						
GRR	Gorron	5.34	330	ePn	Pn	22 37 42.8	+0.3
	SNR=1.0						
GRR				eSg	Sg	22 39 11.8	-2.0
	1.3nm,0.4s						
GRR	Gorron	5.34	330	ePn	Pn	22 37 42.8	+0.3
	SNR=1.0						
GRR				eSg	Sg	22 39 11.8	-2.0
	0.6nm,0.4s						
CDF	Champ du Feu	5.41	31	ePn	Pn	22 37 42.8	-0.6
CDF				eSg	Sg	22 39 14.5	-1.5
	2.2nm,0.5s						
CDF	Champ du Feu	5.41	31	ePn	Pn	22 37 42.8	-0.6
CDF				eSg	Sg	22 39 14.5	-1.5
	1.1nm,0.5s						
FLN	La Foliniere	5.54	334	eSg	Sg	22 39 18.2	-1.9
	1.7nm,0.4s						
FLN	La Foliniere	5.54	334	eSg	Sg	22 39 18.2	-1.9
	0.9nm,0.4s						
SGMF	Saint Gilles	5.94	320	ePn	Pn	22 37 50.7	-0.1
SGMF				eSg	Sg	22 39 30.8	-2.3
	1.5nm,0.4s						
SGMF	Saint Gilles	5.94	320	ePn	Pn	22 37 50.7	-0.1
SGMF				eSg	Sg	22 39 30.8	-2.3
	0.8nm,0.4s						
QUIF	Quistinic	6.01	315	ePn	Pn	22 37 51.8	+0.1
QUIF				eSg	Sg	22 39 32.5	-2.7
	0.8nm,0.3s						
QUIF	Quistinic	6.01	315	ePn	Pn	22 37 51.8	+0.1
QUIF				eSg	Sg	22 39 32.5	-2.7
	0.4nm,0.3s						
BAIF	Baives	6.28	6	eSg	Sg	22 39 38.9	-4.8
	0.9nm,0.4s						
BAIF	Baives	6.28	6	Lg		22 39 38.9	
	0.4nm,0.4s						
ROSF	Rostrenen	6.34	318	ePn	Pn	22 37 56.2	-0.1
ROSF				eSn	Sn	22 39 05.0	-4.0
ROSF				eSg	Sg	22 39 42.3	-3.6
	2.3nm,0.4s						
ROSF	Rostrenen	6.34	318	ePn	Pn	22 37 56.2	-0.1
ROSF				eSn	Sn	22 39 05.0	-4.0
ROSF				eSg	Sg	22 39 42.3	-3.6
	1.1nm,0.4s						
GIVF	Givet	6.38	10	ePn	Pn	22 37 56.3	-0.5
GIVF				eSg	Sg	22 39 45.1	-2.0
	3.4nm,0.2s						
GIVF	Givet	6.38	10	ePn	Pn	22 37 56.3	-0.5
GIVF				eSg	Sg	22 39 45.1	-2.0
	1.7nm,0.2s						

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*IDC **01** 22:40:20.1±1.2, 27.52S×65.64W, h0^{km}, mb3.6/2, mb1 3.7/6, mb1mx3.6/17, mbtmp3.6/6, ML3.6/4, MS3.4/2, Ms1 3.4/2, ms1mx2.7/27, Error ellipse: s-maj=36.1km s-min=19.2km az=116.0*

*NEIC **01** 22:40:22.8±1.0, 27.45S×65.77W, h10^{km}, Error ellipse: s-maj=20.1km s-min=12.2km az=107.0*

NEIC Felt [III] at Catamarca, Santiago del Estero and Tucuman.

*ISCJB **01** 22:40:23.3±2.4, 27.43S±0.10×65.8W±0.3, h42^{km}±40^{km}, mb3.6/1, Error ellipse: s-maj=41.3km s-min=15.8km az=11.2*

ISC 01 22:40:25.9±1.6**, 27.5S**±0.1×**65.8W**±0.2**, h48**^{km}±30^{km}**, n10,** σ1^s**21**/8**, mb3.6**/1**, Tucuman Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.64	206	Pn	Pn	22 41 33.5	+0.1
	0.3nm,0.3s,baz=26,slow=15,SNR=22						
CFAA				Lg		22 42 47.3	
	3.1nm,0.3s,baz=199,slow=21,SNR=7.5						
CFAA	Coronel Fontan	4.64	206	Pn	Pn	22 41 33.5	+0.1
CFAA				Lg		22 42 47.3	
LVC	Limon Verde	5.57	329	Pn	Pn	22 41 45.4	-0.7
	0.5nm,0.3s,baz=138,slow=7.6,SNR=6.2						
LPAZ	La Paz	11.31	349	Pn	Pn	22 43 06.3	+1.5
	0.1nm,0.3s,baz=151,slow=10,SNR=6.3						
LPAZ	La Paz	11.31	349	Pn	Pn	22 43 06.3	+1.5
SIV	San Ignacio	12.23	22	Pn	Pn	22 43 16.4	-1.0
	0.7nm,0.3s,baz=222,slow=13,SNR=9.7						
PLCA	Paso Flores	13.81	195	LR	LR	22 49 24.5	
	comp=Z,67nm,21.5s,baz=3.5,slow=40						
BDFB	Brasilia	20.29	58	P	P	22 44 58.3	+0.7
	10nm,1.3s,baz=250,slow=8.6,SNR=4.6						
TORD	Torodi Ar. Bea	76.87	68	P	P	22 52 12.4	-0.5
	0.5nm,0.6s,mb3.6,baz=255,slow=4.8,SNR=6.2						
MKAR	Makanchi Array	148.40	44	PKPbc	PKPbc	23 00 07.8	+0.7
	0.9nm,0.7s,baz=298,slow=2.6,SNR=10						

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*ISCJB **01** 22:48:45.8±2.6, 44.0N±0.2×29.1W±0.4, h10^{km}, mb3.9/18, MS3.4/7, Error ellipse: s-maj=40.9km s-min=21.9km az=2.2*

*IDC **01** 22:48:45.6±5.2, 44.10N×28.98W, h0^{km}, mb3.4/6, mb1 3.5/7, mb1mx3.4/25, mbtmp3.3/7, ML4.0/1, MS3.4/7, Ms1 3.4/7, ms1mx3.0/31, Error ellipse: s-maj=97.7km s-min=33.5km az=83.0*

*NEIC **01** 22:48:45.8±1.8, 43.99N×29.30W, h10^{km}, mb4.3/15, Error ellipse: s-maj=27.0km s-min=15.3km az=89.0*

*CSEM **01** 22:48:55.2±0.4, 43.92N×27.69W, h10^{km}, mb4.2/10, Ms3.0, Error ellipse: s-maj=12.1km s-min=5.3km az=85.0*

ISC 01 22:48:46.5±2.4**, 44.0N**±0.1×**29.2W**±0.3**, h10**^{km}**, n57,** σ**0**^{s}**76**/53**, mb3.9**/18**, MS3.4**/7**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSF	Rostrenen	18.42	67	eP	Pn	22 53 00.6	-1.3
	32nm,1.3s						
ROSF	Rostrenen	18.42	67	eP	Pn	22 53 00.6	-1.3
	16nm,1.3s						
ESDC	Sonseca Array	19.27	94	P	Pn	22 53 09.5	-2.7
	0.1nm,0.3s,baz=289,slow=9.5,SNR=7.6						
ESDC				LR	LR	22 58 37.4	
	comp=Z,73nm,19.9s,baz=215,slow=31						
GRR	Gorron	20.03	67	eP	P	22 53 20.2	+0.7
	28nm,1.2s						
GRR	Gorron	20.03	67	eP	P	22 53 20.2	+0.7
	14nm,1.2s						
SJPF	Ste Jean	20.25	83	eP	P	22 53 21.2	-0.8
	38nm,1.4s						
SJPF	Ste Jean	20.25	83	eP	P	22 53 21.2	-0.8
	19nm,1.4s						
FLN	La Foliniere	20.30	66	eP	P	22 53 22.1	-0.3
LDF	La Druitiere	20.53	67	eP	P	22 53 25.6	+0.7
	56nm,1.5s						
LDF	La Druitiere	20.53	67	eP	P	22 53 25.6	+0.7
	28nm,1.5s						
MFF	Saint Martin d	20.54	73	eP	P	22 53 25.8	+0.7
LFF	La Frestale	21.32	77	eP	P	22 53 34.0	+0.4
EPF	Esparros	21.39	82	eP	P	22 53 34.6	+0.3
	14nm,1.2s,mb3.9						
EPF	Esparros	21.39	82	eP	P	22 53 34.6	+0.3
	7.0nm,1.2s,mb3.9						
RJF	Les Rejaudoux	21.82	76	eP	P	22 53 39.1	+0.2
	9.7nm,1.2s,mb3.8						
RJF				eR			
	133nm,20.0s						
RJF	Les Rejaudoux	21.82	76	eP	P	22 53 39.1	+0.2
	4.8nm,1.2s,mb3.8						
TCF	Toulx Ste Croi	22.19	73	eP	P	22 53 42.7	-0.1
	33nm,1.3s,mb4.3						
TCF	Toulx Ste Croi	22.19	73	eP	P	22 53 42.7	-0.1
	16nm,1.3s,mb4.3						
MDT	Midelt	22.20	112	P	P	22 53 43.0	+0.1
	0.8nm,0.8s,mb3.2,baz=340,slow=10,SNR=3.7						
BGF	Bois d'Agland	22.60	72	eP	P	22 53 47.3	+0.1
MTLF	Montolieu	22.66	81	eP	P	22 53 47.5	-0.3
	46nm,1.3s,mb4.5						
MTLF	Montolieu	22.66	81	eP	P	22 53 47.5	-0.3
	23nm,1.3s,mb4.4						
AVF	Avril sur Loir	22.93	72	eP	P	22 53 50.9	+0.2
	17nm,1.3s,mb4.0						
AVF	Avril sur Loir	22.93	72	eP	P	22 53 50.9	+0.2
	8.4nm,1.3s,mb4.0						
SSF	Saint Saulge	23.01	71	eP	P	22 53 51.7	+0.2
	15nm,1.2s,mb4.0						
SSF	Saint Saulge	23.01	71	eP	P	22 53 51.7	+0.2
	7.3nm,1.2s,mb4.0						
LOR	Lormes	23.23	70	eP	P	22 53 54.1	+0.2
LOR				eR			
	122nm,17.5s						
LOR	Lormes	23.23	70	eP	P	22 53 54.1	+0.2
LOR				LR	LR		
	comp=Z,120nm,17.5s,MS3.4						
SMF	Signal de Mont	23.27	72	eP	P	22 53 54.1	-0.2
BAIF	Baives	23.41	63	eP	P	22 53 55.4	-0.3
	comp=Z,18nm,1.3s,mb4.0						
BAIF	Baives	23.41	63	eP	P	22 53 55.4	-0.3
	comp=Z,8.9nm,1.3s,mb4.0						
LASF	Ste Croix	23.67	78	eP	P	22 53 57.8	-0.5
	comp=Z,20nm,1.2s,mb4.1						
LASF	Ste Croix	23.67	78	eP	P	22 53 57.8	-0.5
	comp=Z,9.9nm,1.2s,mb4.1						
MEZF	Maizieres J'vi	23.96	67	eP	P	22 54 01.4	+0.4
	comp=Z,28nm,1.3s,mb4.2						
MEZF	Maizieres J'vi	23.96	67	eP	P	22 54 01.4	+0.4
	comp=Z,14nm,1.3s,mb4.2						
VIVF	Saint-Julien-l	24.10	76	eP	P	22 54 01.8	-0.4
HAU	Haudompre	24.86	68	eP	P	22 54 09.9	+0.8
HAU				eR			
	comp=Z,94nm,18.0s						
SMRF	Simiane la Rot	24.90	78	eP	P	22 54 09.6	0.0
	comp=Z,11nm,1.2s,mb4.0						
SMRF	Simiane la Rot	24.90	78	eP	P	22 54 09.6	0.0
	comp=Z,5.3nm,1.2s,mb4.0						
ORIF	Oris-en-Rattie	24.93	76	eP	P	22 54 10.2	+0.4
ORIF				eR			
	comp=Z,94nm,20.5s						
LPG	La Plagne	25.44	74	eP	P	22 54 15.4	+1.0
CDF	Champ du Feu	25.45	67	eP	P	22 54 15.9	+1.4
LMR	La Mourre	25.71	79	eP	P	22 54 17.5	+0.6
	comp=Z,32nm,1.5s,mb4.3						
LMR	La Mourre	25.71	79	eP	P	22 54 17.5	+0.6
	comp=Z,16nm,1.5s,mb4.3						
SCHQ	Schefferville	26.43	307	LR	LR	23 02 38.9	
	comp=Z,50nm,18.9s,MS3.1,baz=341,slow=31						
DAVOX	Davos	27.38	70	LR	LR	23 03 48.9	
	comp=Z,72nm,18.4s,MS3.3,baz=262,slow=33						
PGF	Pioggiola	27.68	80	eP	P	22 54 36.0	+1.4
	comp=Z,28nm,1.3s,mb4.4						
PGF	Pioggiola	27.68	80	eP	P	22 54 36.0	+1.4
	comp=Z,14nm,1.3s,mb4.4						
GERES	GERESS Array B	29.65	65	P	P	22 54 51.2	-0.9
	comp=Z,0.3nm,0.8s,mb3.1,baz=316,slow=7.5,SNR=4.5						
GERES				LR	LR	23 05 00.0	
	comp=Z,62nm,18.3s,MS3.3,baz=98,slow=33						
SADO	Sadowa	35.24	289	LR	LR	23 09 45.9	
	comp=Z,89nm,18.3s,MS3.5,baz=251,slow=36						
FINES	FINESS Array B	36.40	42	P	P	22 55 50.2	-0.9
	comp=Z,0.7nm,0.8s,mb3.6,baz=155,slow=23,SNR=3.4						
FINES	FINESS Array B	36.40	42	P	P	22 55 50.2	-0.9
AKASG	Malin Array Be	39.22	59	P	P	22 56 13.3	-1.6
	comp=Z,0.2nm,0.3s,mb3.4,baz=278,slow=8.3,SNR=5.7						
TORD	Torodi Ar. Bea	40.58	130	P	P	22 56 26.0	-0.2
	comp=Z,0.7nm,0.9s,mb3.3,baz=345,slow=9.1,SNR=4.1						
TORD				LR	LR	23 11 30.4	
	comp=Z,65nm,19.1s,MS3.5,baz=75,slow=34						
TORD	Torodi Ar. Bea	40.58	130	P	P	22 56 26.0	-0.2
TORD				LR	LR	23 11 30.4	
BRTR	Keskin Array B	45.98	73	P	P	22 57 09.5	-0.4
	comp=Z,0.4nm,0.8s,mb3.4,baz=318,slow=6.2,SNR=2.3						
CMIG	Matias Romero	60.90	266	LR	LR	23 23 34.7	
	comp=Z,54nm,20.9s,MS3.7,baz=201,slow=34						

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*IDC **01** 22:57:03.4±0.8, 51.25N×179.28W, h0^{km}, mb4.4/22, mb1 4.5/23, mb1mx4.4/28, mbtmp4.4/23, ML4.3/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/43, Error ellipse: s-maj=23.7km s-min=14.3km az=157.0*

*NEIC **01** 22:57:06.0, 50.98N×179.32W, h10^{km}, mb4.6/47, MS4.2/1, ML4.4(AEIC), After AEIC.*

*BJI **01** 22:57:06.2, 51.64N×179.87W, h10^{km}, mB4.8, mb4.7, Ms4.5, Msz4.3*

*ISCJB **01** 22:57:07.1±0.4, 51.20N±0.09×179.26W±0.05, h33^{km}, mb4.5/79, MS3.8/9, Error ellipse: s-maj=12.6km s-min=4.4km az=168.3*

*MOS **01** 22:57:08.8±0.8, 51.24N×179.28W, h47^{km}, mb4.8/54, Error ellipse: s-maj=12.7km s-min=5.9km az=94.8*

*SZGRF **01** 22:57:12.4, 51.59N×179.67E, h33^{km}, mb4.8, Rat Islands, Aleutian Islands, United States*

ISC 01 22:57:09.0±0.4**, 51.31N**±0.09×**179.30W**±0.05**, h35**^{km}**, (h8**^{km}±5.6^{km}**: pP-P), n238,** σ**0**^{s}**80**/239**, mb4.5**/79**, MS3.8**/9**, 16C-9D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	Amchitka	0.88	275	P	Pn	22 57 23.7	-1.1
AMKA				S	Sn	22 57 37.8	+1.4
SMY	Shemya	4.32	292	P	Pn	22 58 15.6	+3.5
SPIA	Saint Paul Isl	7.91	39	P	Pn	22 59 06.7	+5.2
UNV	Unalaska Valle	8.20	67	ePn	Pn	22 59 07.8	+2.4
	56nm,0.5s						
PET	Petropavlovsk	13.63	286	eP	Pn	23 00 25.7	+6.0
PET				MLR	MLR		
	comp=Z,200nm,19.0s						
SVW2	Sparrevohn	16.34	44	ePn	Pn	23 00 58.6	+3.1
KDAK	Kodiak Island	16.72	57	Pn	Pn	23 00 57.7	-2.7
	comp=Z,1.1nm,0.3s,baz=294,slow=12,SNR=7.2						
KDAK	Kodiak Island	16.72	57	ePn	Pn	23 01 00.5	+0.1
	comp=Z,6.9nm,0.6s						
SLKM	Skilak Lake	18.57	49	eP	Pn	23 01 24.3	+1.1
COLA	College	21.16	38⇑	eP	P	23 01 52.7	+1.7
COLA	College	21.16	38	eP	P	23 01 51.0	+0.1
	comp=Z,11nm,1.0s,mb4.1						
DAWY	Dawson	24.37	43	eP	P	23 02 22.9	-0.8
YSS	Yuzh-Sakhalins	25.01	275c	iP	P	23 02 30.1	+0.6
YSS				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.6						
ASAJ	Asahikawa	26.39	269	P	P	23 02 42.1	+0.2
	comp=Z,6.9nm,0.8s,mb4.2,baz=79,slow=10.0,SNR=8.5						
ASAJ				LR	LR	23 12 48.6	
	comp=Z,69nm,18.1s,MS3.2,baz=6.5,slow=36						
ASAJ	Asahikawa	26.39	269	P	P	23 02 42.2	+0.2
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,69nm,18.1s						
INK	Inuvik	27.69	35	P	P	23 02 53.6	-0.1
	comp=Z,3.6nm,0.8s,mb4.0,baz=283,slow=14,SNR=2.6						
INK	Inuvik	27.69	35	P	P	23 02 53.6	-0.1
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HABR	Khabarovsk	29.18	283	P	P	23 03 05.8	-1.1
HABR				eS	S	23 07 56.0	-0.9
KLR	Kul'dur	30.89	286	eP	P	23 03 18.7	-3.4
BBB	Bella Bella	31.17	68	LR	LR	23 14 05.6	
	comp=Z,60nm,18.1s,MS3.3,baz=282,slow=33						
MDJ	Mudanjiang	34.27	279	P	P	23 03 52.6	+0.9
MDJ				AP	pP	23 03 55.6	-6.2
MDJ				XP	sP	23 03 57.0	-9.0
MDJ				PCP	PcP	23 06 29.0	+1.5
MDJ				S	S	23 09 20.2	+3.9
MDJ				SCP	ScP	23 10 13.8	+4.0
MDJ				PCS	PcS	23 10 15.4	+1.6
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,22nm,3.8s						
MDJ				LR	LR		
	comp=N,53nm,18.8s,MS3.4						
MDJ				LR	LR		
	comp=E,56nm,21.7s,MS3.4						
MDJ				LR	LR		
	comp=Z,87nm,19.5s,MS3.5						
YKA	Yellowknife Ar	35.51	46	P	P	23 04 01.8	-0.4
	comp=Z,3.0nm,0.5s,mb4.5,baz=282,slow=7.6,SNR=23						
YKA				LR	LR	23 20 34.4	
	comp=Z,92nm,19.2s,MS3.6,baz=270,slow=40						
YKA	Yellowknife Ar	35.51	46	P	P	23 04 01.9	-0.4
YKA				LR	LR	23 20 34.4	
CN2	Changchun	37.25	281	eP	P	23 04 18.8	+1.6
CN2				eXP	sP	23 04 25.8	-5.8
CN2				eS	S	23 10 03.3	+1.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
HAWA	Hanford	38.68	73	eP	P	23 04 29.9	+0.6
	comp=Z,0.2nm,0.6s						
EDM	Edmonton	39.12	60	eP	P	23 04 33.3	+0.4
NEW	Newport	39.20	69	P	P	23 04 33.2	-0.4
	comp=Z,2.8nm,0.9s,mb4.0,baz=7.8,slow=4.7,SNR=3.6						
NEW	Newport	39.20	69	P	P	23 04 33.2	-0.4
NEW				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NEW	Newport	39.20	69	P	P	23 04 33.2	-0.4
WVOR	Wild Horse Val	41.32	78	eP	P	23 04 50.3	-0.9
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
WVOR	Wild Horse Val	41.32	78	eP	P	23 04 50.3	-0.9
	comp=Z,2.5nm,0.6s,mb4.0						
HLID	Hailey	43.26	74	eP	P	23 05 08.3	+1.4
	comp=Z,3.0nm,0.9s,mb4.0						
TLY	Talaya	45.83	302	eP	P	23 05 27.9	+0.4
TLY				eS	S	23 12 00.7	-8.3
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
TLY				MLR	MLR		
	comp=Z,82nm,17.0s,MS3.7						
ULN	Ulaanbaatar	46.01	296	eP	P	23 05 28.8	-0.1
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ULN	Ulaanbaatar	46.01	296	eP	P	23 05 28.8	-0.1
	comp=Z,3.4nm,0.6s,mb4.5						
TPNV	Topopah Spring	46.07	83	eP	P	23 05 28.1	-1.2
TPNV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
TPNV	Topopah Spring	46.07	83	eP	P	23 05 28.1	-1.2
	comp=Z,4.6nm,0.8s,mb4.5						
DUG	Dugway	46.19	77	eP	P	23 05 30.3	0.0
DUG				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
DUG	Dugway	46.19	77	eP	P	23 05 30.3	0.0
	comp=Z,7.5nm,1.1s,mb4.5						
SONM	Songino Array	46.39	296	P	P	23 05 32.6	+0.7
	comp=Z,3.4nm,0.6s,mb4.5,baz=63,slow=8.2,SNR=36						
SONM				PcP	PcP	23 07 05.3	-1.1
	comp=Z,0.9nm,0.6s,baz=74,slow=2.1,SNR=3.9						
SONM	Songino Array	46.39	296	P	P	23 05 32.6	+0.7
SONM						23 07 05.3	
SONM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	Pinedale Array	46.63	72	P	P	23 05 34.0	+0.3
	comp=Z,6.0nm,0.7s,mb4.6,baz=316,slow=4.7,SNR=33						
ZAK	Zakamensk	46.72	301	eP	P	23 05 34.8	+0.4
ZAK				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7						
SSE	Sheshan	47.68	269	P	P	23 05 39.6	-2.3
SSE				AMB	AMB		
	comp=Z,40nm,0.7s						
SSE				AMB	AMB		
	comp=Z,52nm,4.0s						
NJ2	Nanjing	48.50	271	eP	P	23 05 48.5	+0.2
NJ2				S	S	23 12 46.0	-1.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,240nm,6.1s						
NJ2				LR	LR		
	comp=N,2μm,22.1s						
NJ2				LR	LR		
	comp=E,2μm,17.8s						
NJ2				LR	LR		
	comp=Z,970nm,17.0s,MS4.8						
ULM	Lac du Bonnet	49.98	56	LR	LR	23 29 11.2	
	comp=Z,40nm,20.2s,MS3.4,baz=240,slow=39						
PV01	Paradox Valley	50.05	76	eP	P	23 06 00.3	+0.1
SMCO	Snowmass	50.37	74	eP	P	23 06 02.7	+0.2
	comp=Z,1.4nm,0.5s,mb4.2						
FRB	Frobisher Bay	53.25	31	P	P	23 06 23.3	-0.7
	comp=Z,6.1nm,0.5s,mb4.8,baz=309,slow=8.4,SNR=6.6						
FRB	Frobisher Bay	53.25	31	P	P	23 06 23.3	-0.7
FRB				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ANMO	Albuquerque	53.41	78⇑	eP	P	23 06 27.3	+2.1
ZAL	Zalesovo	53.86	313	P	P	23 06 28.1	-0.4
	comp=Z,0.7nm,0.5s,mb3.9,baz=64,slow=7.0,SNR=3.8						
ZAL				PcP	PcP	23 07 34.4	+0.6
	comp=Z,1.2nm,0.8s,baz=78,slow=4.5,SNR=5.4						
ZAL	Zalesovo	53.86	313	P	P	23 06 28.1	-0.4
ZAL						23 07 34.4	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GTA	Gaotai	55.30	291	eP	P	23 06 39.3	+0.4
GTA				AP	pP	23 06 44.0	-5.5
GTA				XP	sP	23 06 46.3	-7.3
GTA				PCP	PcP	23 07 41.7	+2.4
GTA				PP	PP	23 08 43.6	+0.9
GTA				S	S	23 14 19.3	-1.1
GTA				XS	sS	23 14 26.5	-11
GTA				SS	SS	23 18 02.9	-2.1
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,67nm,5.0s						
GTA				LR	LR		
	comp=N,245nm,17.1s,MS4.5						
GTA				LR	LR		
	comp=E,194nm,16.3s,MS4.5						
GTA				LR	LR		
	comp=Z,226nm,16.0s,MS4.3						
ARCES	ARCESS Array B	58.10	350	P	P	23 06 58.1	-0.7
	comp=Z,3.0nm,0.7s,mb4.4,baz=21,slow=7.9,SNR=12						
ARCES	ARCESS Array B	58.10	350	P	P	23 06 58.1	-0.7
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	Kurchatov	58.84	313d	iP	P	23 07 04.0	+0.1
KURK	Kurchatov	58.84	313	eP	P	23 07 03.4	-0.6
	comp=Z,9.8nm,0.8s,mb4.9						
MKAR	Makanchi Array	59.83	308	P	P	23 07 10.4	-0.4
	comp=Z,5.5nm,0.5s,mb4.8,baz=44,slow=6.6,SNR=81						
MKAR	Makanchi Array	59.83	308	P	P	23 07 10.4	-0.4
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SCHQ	Schefferville	60.25	38	P	P	23 07 12.5	-1.2
	comp=Z,3.0nm,0.7s,mb4.5,baz=323,slow=3.1,SNR=4.2						
ZRNK	Zerenda	61.35	320	eP	P	23 07 20.0	-1.2
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ZRNK	Zerenda	61.35	320	eP	P	23 07 20.0	-1.2
	comp=Z,4.2nm,0.9s,mb4.6						
KMI	Kunming	63.42	278	P	P	23 07 37.6	+2.6
KMI				AP	pP	23 07 42.3	-3.4
KMI				XP	sP	23 07 44.1	-5.7
KMI				PP	PP	23 09 58.8	+4.1
KMI				S	S	23 16 06.4	+1.0
KMI				XS	sS	23 16 15.2	-7.8
KMI				SS	SS	23 20 14.7	+2.2
KMI				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.5						
KMI				AMB	AMB		
	comp=Z,46nm,4.4s						
JOF	Joensuu	63.58	345	ep	P	23 07 35.2	-0.9
	comp=Z,7.9nm,0.7s,mb4.8						
JOF	Joensuu	63.58	345	eP	P	23 07 35.2	-0.9
JOF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
KAF	Kangasniemi	65.10	347	ep	P	23 07 45.1	-0.9
	comp=Z,2.4nm,0.4s,mb4.6,baz=14,slow=5.8						
KAF	Kangasniemi	65.10	347	eP	P	23 07 45.1	-0.9

KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
FINES FINESS Array B 65.78 347 P **P** **23 07 49.4 -1.0**
comp=Z,5.4nm,0.7s,mb4.7,baz=21,slow=8.2,SNR=35
FINES FINESS Array B 65.78 347 P **P** **23 07 49.4 -1.0**
FINES pmax pmax
comp=Z,5.0nm,0.7s
CPCT Cooper Cave 66.00 63 *eP* **P** **23 07 51.3 -0.5**
AAK Ala-Archa 66.66 309 *c iP* **P** **23 07 56.2 +0.1**
AAK Ala-Archa 66.66 309 *eP* **P** **23 07 56.1 +0.1**
comp=Z,6.7nm,0.8s,mb4.7
PMG Port Moresby 67.06 216 LR LR 23 31 32.1
comp=Z,3µm,20.3s,baz=57,slow=31
LSA Lhasa 67.17 289 *eP* **P** **23 08 00.3 +1.0**
LSA pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
LSA Lhasa 67.17 289 *eP* **P** **23 08 00.3 +1.1**
comp=Z,5.3nm,0.8s,mb4.6
NB2 NORSAR Subarra 67.68 354 P **P** **23 08 01.8 -0.7**
comp=Z,1.1nm,0.6s,mb4.1,baz=5.5,slow=6.2
NOA NORSAR Array B 67.68 354 P **P** **23 08 01.9 -0.6**
comp=Z,2.1nm,0.7s,mb4.2,baz=6.0,slow=6.2,SNR=12
NOA NORSAR Array B 67.68 354 P **P** **23 08 02.0 -0.5**
NOA pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 68.41 353 P **P** **23 08 06.3 -0.8**
comp=Z,2.6nm,0.5s,mb4.5,baz=29,slow=3.4,SNR=23
HFS Hagfors 68.41 353 P **P** **23 08 06.3 -0.8**
HFS pmax pmax
comp=Z,3.0nm,0.5s
OBN Obninsk 69.82 339 *i iP* **P** **23 08 15.6 -0.2**
OBN pmax pmax
comp=Z,15nm,0.9s,mb4.9
EKA Eskdalemuir Ar 73.67 2 P **P** **23 08 39.0 -0.1**
comp=Z,1.4nm,0.5s,mb4.1,baz=355,slow=5.0,SNR=11
EKA Eskdalemuir Ar 73.67 2 P **P** **23 08 39.0 0.0**
EKA pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 75.51 342 P **P** **23 08 49.1 -0.6**
comp=Z,9.3nm,0.4s,mb5.1,baz=19,slow=5.7,SNR=40
AKASG Malin Array Be 75.51 342 P **P** **23 08 49.1 -0.6**
AKASG pmax pmax
comp=Z,9.0nm,0.4s
CLL Collm 77.22 352 P **P** **23 08 58.5 -0.9**
comp=Z,logA/T=0.8,mb4.5
CLL Collm 77.22 352 *i* (P) **P** **23 08 58.5 -0.9**
comp=Z,6.0nm,1.0s,mb4.5
OJC Ojcow 77.55 348 *eP* **P** **23 09 00.7 -0.5**
BRG Berggiesshubel 77.57 351 *eP* **P** **23 09 00.5 -0.8**
comp=Z,1.9nm,0.7s,mb4.1
BRG *e* 23 09 05.0
comp=Z,1.6nm,1.0s
BRG
comp=N,95nm,22.4s
BRG
comp=E,126nm,28.3s
BRG
comp=Z,124nm,19.0s
BRG Berggiesshubel 77.57 351 *eP* **P** **23 09 00.5 -0.8**
BRG *e* 23 09 05.0
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BRG pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
BRG MLR MLR
comp=N,95nm,22.4s
BRG MLR MLR
comp=E,126nm,28.3s
BRG MLR MLR
comp=Z,124nm,19.0s,MS4.2
BRG Berggiesshubel 77.57 351 *eP* **P** **23 09 00.5 -0.8**
comp=Z,1.9nm,0.7s,mb4.1
BRG *e* 23 09 05.0
BRG LR LR
comp=Z,120nm,19.0s,MS4.2
KWP Kalwaria 77.70 346 *eP* **P** **23 09 02.5 +0.5**
UPC Upice 77.72 350 *eP* **P** **23 09 01.9 -0.3**
DPC Dobruska-Polom 77.84 350 *eP* **P** **23 09 03.0 +0.2**
PVCC Panska Ves 77.85 351 *eP* **P** **23 09 02.3 -0.6**
MOX Moxa 78.00 353 *e*(P) **P** **23 09 03.2 -0.5**
comp=Z,4.0nm,0.9s,mb4.3
MOX Moxa 78.00 353 *eP* **P** **23 09 03.2 -0.5**
MOX pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
STHS Stebnicka Huta 78.13 346 *eP* **P** **23 09 04.6 +0.2**
STHS pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
STHS Stebnicka Huta 78.13 346 *eP* **P** **23 09 04.6 +0.2**
comp=Z,5.2nm,0.7s,mb4.6
OKC Ostrava-Krasne 78.14 349 *eP* **P** **23 09 03.5 -0.9**
HGN Heimansgroeve 78.20 357 *eP* **P** **23 09 05.0 +0.2**
comp=Z,9.2nm,1.1s,mb4.6
NIE Niedzica 78.26 347 *eP* **P** **23 09 05.5 +0.4**
MORC Moravsky Berou 78.27 349 *i iP* **P** **23 09 05.1 -0.1**
NKC Novy Kostel 78.34 352 *eP* **P** **23 09 05.1 -0.5**
MEM Membach 78.36 357 P **P** **23 09 05.1 -0.6**
KOLS Kolonicke sedl 78.44 346 *eP* **P** **23 09 05.8 -0.3**
KOLS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
KOLS Kolonicke sedl 78.44 346 *eP* **P** **23 09 05.8 -0.3**
comp=Z,5.5nm,1.0s,mb4.4
BCLA Clavier 78.57 357 P **P** **23 09 05.8 -1.0**
CRVS Cervenica-Dubn 78.60 346 *eP* **P** **23 09 06.4 -0.6**
VRAC Vranov 78.84 349 *i iP* **P** **23 09 08.4 +0.1**
VRAC Vranov 78.84 349 *i iP* **P** **23 09 08.4 0.0**
DOU Dourbes 78.92 357 P **P** **23 09 07.8 -0.9**
BAIF Baives 78.96 358 *eP* **P** **23 09 09.1 +0.1**
comp=Z,14nm,0.9s,mb4.6
BAIF Baives 78.96 358 *eP* **P** **23 09 09.1 +0.1**
BAIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BAIF Baives 78.96 358 *eP* **P** **23 09 09.1 +0.1**
comp=Z,6.9nm,0.9s,mb4.6
GRA1 Grafenberg Arr 78.97 353 *eP* **P** **23 09 09.3 +0.2**
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 78.97 353 *eP* **P** **23 09 09.3 +0.2**
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 78.97 353 *eP* **P** **23 09 09.3 +0.2**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 78.97 353 *eP* **P** **23 09 09.3 +0.2**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ANN Anapa 79.13 334 *eP* **P** **23 09 16.5 +6.6**
ANN *e*PP pP 23 09 29.8 +8.9
ANN *e*S S 23 19 20.6 +14
ANN pmax pmax
comp=Z,38nm,0.9s,mb5.3
BURAR Bucovina Array 79.23 343 *i iP* **P** **23 09 11.0 +0.6**
BURAR Bucovina Array 79.23 343 *i iP* **P** **23 09 11.0 +0.6**
KHC Kasperske Hory 79.33 351 *eP* **P** **23 09 11.0 0.0**
KHC Kasperske Hory 79.33 351 *c iP* **P** **23 09 11.1 +0.1**
VYHS Vyhne 79.37 348 *eP* **P** **23 09 10.9 -0.3**
VYHS pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
VYHS Vyhne 79.37 348 *eP* **P** **23 09 10.9 -0.3**
comp=Z,3.4nm,1.2s,mb4.2
GERES GERESS Array B 79.60 351 P **P** **23 09 12.4 -0.1**
comp=Z,1.9nm,0.5s,mb4.2,baz=25,slow=5.5,SNR=32
GERES GERESS Array B 79.60 351 P **P** **23 09 12.4 -0.1**
GERES pmax pmax
comp=Z,2.0nm,0.5s
FLN La Foliniere 80.30 1 *eP* **P** **23 09 15.8 -0.5**
DRGR 80.45 345 *i iP* **P** **23 09 17.3 +0.2**
DRGR 80.45 345 *i iP* **P** **23 09 17.2 +0.2**
LDF La Druitiere 80.47 1 *eP* **P** **23 09 16.6 -0.6**
comp=Z,16nm,0.8s,mb4.7
LDF La Druitiere 80.47 1 *eP* **P** **23 09 16.6 -0.6**
LDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LDF La Druitiere 80.47 1 *eP* **P** **23 09 16.6 -0.6**
comp=Z,7.8nm,0.8s,mb4.7
CDF Champ du Feu 80.50 356 *eP* **P** **23 09 17.1 -0.2**
comp=Z,4.5nm,0.8s,mb4.1
CDF Champ du Feu 80.50 356 *eP* **P** **23 09 17.1 -0.2**
CDF pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
CDF Champ du Feu 80.50 356 *eP* **P** **23 09 17.1 -0.2**
comp=Z,2.3nm,0.8s,mb4.2
MEZF Maizieres J'vi 80.50 357 *eP* **P** **23 09 17.4 +0.1**
comp=Z,5.6nm,0.7s,mb4.3
MEZF Maizieres J'vi 80.50 357 *eP* **P** **23 09 17.4 +0.1**
comp=Z,5.6nm,0.7s,mb4.6
PLOR Plostina 80.66 342 *i iP* **P** **23 09 18.9 +0.7**
GRR Gorron 80.67 1 *eP* **P** **23 09 18.0 -0.2**
comp=Z,18nm,0.8s,mb4.7
GRR Gorron 80.67 1 *eP* **P** **23 09 18.0 -0.2**
GRR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRR Gorron 80.67 1 *eP* **P** **23 09 18.0 -0.2**
comp=Z,9.2nm,0.8s,mb4.8
ROSF Rostrenen 80.67 3 *eP* **P** **23 09 18.1 -0.2**
comp=Z,2.1nm,0.5s,mb4.1
ROSF Rostrenen 80.67 3 *eP* **P** **23 09 18.1 -0.2**
ROSF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ROSF Rostrenen 80.67 3 *eP* **P** **23 09 18.1 -0.2**
comp=Z,1.0nm,0.5s,mb4.0
SGMF Saint Gilles 80.77 2 *eP* **P** **23 09 18.7 -0.1**
comp=Z,16nm,0.6s,mb4.8
SGMF Saint Gilles 80.77 2 *eP* **P** **23 09 18.7 -0.1**
SGMF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
SGMF Saint Gilles 80.77 2 *eP* **P** **23 09 18.7 -0.1**
comp=Z,8.3nm,0.6s,mb4.8
HAU Haudompre 80.94 356 *eP* **P** **23 09 20.4 +0.7**
QUIF Quistinic 81.09 3 *eP* **P** **23 09 21.5 +1.0**
comp=Z,17nm,1.0s,mb4.6
QUIF Quistinic 81.09 3 *eP* **P** **23 09 21.5 +1.0**
QUIF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
QUIF Quistinic 81.09 3 *eP* **P** **23 09 21.5 +1.0**
comp=Z,8.3nm,1.0s,mb4.6
MLR Muntele Rosu 81.14 342 *i iP* **P** **23 09 22.0 +1.2**
MLR Muntele Rosu 81.14 342 *i iP* **P** **23 09 21.9 +1.2**
VOIR 81.36 343 *i iP* **P** **23 09 23.3 +1.4**
VOIR 81.36 343 *i iP* **P** **23 09 23.3 +1.4**
PKSM Moragy 81.63 348 *i iP* **P** **23 09 23.5 +0.1**
PKSM Moragy 81.63 348 *i iP* **P** **23 09 23.4 +0.1**
WRA Warramunga Arr 81.75 223 P **P** **23 09 22.3 -1.6**
comp=Z,0.8nm,0.7s,mb3.8,baz=32,slow=5.9,SNR=9.5
WRA Warramunga Arr 81.75 223 P **P** **23 09 22.3 -1.7**
WRA pmax pmax
comp=Z,1.0nm,0.7s
LOR Lormes 81.76 358 *eP* **P** **23 09 23.7 -0.3**
comp=Z,5.4nm,0.8s,mb4.2
LOR Lormes 81.76 358 *eP* **P** **23 09 23.7 -0.3**
LOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LOR Lormes 81.76 358 *eP* **P** **23 09 23.7 -0.3**
comp=Z,2.7nm,0.8s,mb4.2
BZS Buzias 81.77 345 *i iP* **P** **23 09 24.1 0.0**
BZS Buzias 81.77 345 *i iP* **P** **23 09 24.1 0.0**
DAVOX Davos 81.97 354 P **P** **23 09 25.9 +0.8**
comp=Z,2.1nm,0.5s,mb4.3,baz=332,slow=5.7,SNR=7.0
SSF Saint Saulge 81.98 358 *eP* **P** **23 09 25.1 -0.1**
comp=Z,8.2nm,0.9s,mb4.3
SSF Saint Saulge 81.98 358 *eP* **P** **23 09 25.1 -0.1**
SSF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
SSF Saint Saulge 81.98 358 *eP* **P** **23 09 25.1 -0.1**
comp=Z,4.1nm,0.9s,mb4.4
AVF Avril sur Loir 82.25 358 *eP* **P** **23 09 26.4 -0.2**
comp=Z,11nm,1.0s,mb4.4
AVF Avril sur Loir 82.25 358 *eP* **P** **23 09 26.4 -0.2**
AVF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
AVF Avril sur Loir 82.25 358 *eP* **P** **23 09 26.4 -0.2**
comp=Z,5.7nm,1.0s,mb4.5
CABF La Chapelle 82.35 356 *eP* **P** **23 09 27.2 +0.1**
comp=Z,14nm,1.1s,mb4.5
CABF La Chapelle 82.35 356 *eP* **P** **23 09 27.2 +0.1**
CABF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
CABF La Chapelle 82.35 356 *eP* **P** **23 09 27.2 +0.1**
comp=Z,6.8nm,1.1s,mb4.5
SMF Signal de Mont 82.39 358 *eP* **P** **23 09 27.1 -0.2**
comp=Z,5.3nm,0.6s,mb4.4
SMF Signal de Mont 82.39 358 *eP* **P** **23 09 27.1 -0.2**
SMF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
SMF Signal de Mont 82.39 358 *eP* **P** **23 09 27.1 -0.2**
comp=Z,2.7nm,0.6s,mb4.3
MFF Saint Martin d 82.46 1 *eP* **P** **23 09 27.8 +0.1**
comp=Z,10nm,0.8s,mb4.5
MFF Saint Martin d 82.46 1 *eP* **P** **23 09 27.8 +0.1**
MFF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MFF Saint Martin d 82.46 1 *eP* **P** **23 09 27.8 +0.1**
comp=Z,5.2nm,0.8s,mb4.5
BGF Bois d'Agland 82.49 359 *eP* **P** **23 09 27.8 -0.1**
TCF Toulx Ste Croi 82.77 359 *eP* **P** **23 09 29.2 -0.1**
comp=Z,6.1nm,0.8s,mb4.4
TCF Toulx Ste Croi 82.77 359 *eP* **P** **23 09 29.2 -0.1**
TCF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
TCF Toulx Ste Croi 82.77 359 *eP* **P** **23 09 29.2 -0.1**
comp=Z,3.0nm,0.8s,mb4.4
LPL La Plagne 83.41 356 *eP* **P** **23 09 33.6 +1.0**
LPG La Plagne 83.43 356 *eP* **P** **23 09 33.8 +1.1**
RJF Les Rejaudoux 83.76 359 *eP* **P** **23 09 34.1 -0.3**
ORIF Oris-en-Rattie 84.05 356 *eP* **P** **23 09 36.7 +0.8**
LFF La Frestale 84.13 360 *eP* **P** **23 09 36.4 +0.1**
comp=Z,7.8nm,0.6s,mb4.7
LFF La Frestale 84.13 360 *eP* **P** **23 09 36.4 +0.1**
LFF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
LFF La Frestale 84.13 360 *eP* **P** **23 09 36.4 +0.1**
comp=Z,3.9nm,0.6s,mb4.7
CAF Calviac 84.14 359 *eP* **P** **23 09 36.5 +0.2**
comp=Z,15nm,1.1s,mb4.8
CAF Calviac 84.14 359 *eP* **P** **23 09 36.5 +0.2**
CAF pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
CAF Calviac 84.14 359 *eP* **P** **23 09 36.5 +0.2**
comp=Z,7.6nm,1.1s,mb4.7
VIVF Saint-Julien-l 84.15 357 *eP* **P** **23 09 36.7 +0.3**
comp=Z,4.8nm,0.8s,mb4.4
VIVF Saint-Julien-l 84.15 357 *eP* **P** **23 09 36.7 +0.3**
VIVF pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
VIVF Saint-Julien-l 84.15 357 *eP* **P** **23 09 36.7 +0.3**
comp=Z,2.4nm,0.8s,mb4.4
MBDF Montbardon 84.20 356 *eP* **P** **23 09 37.3 +0.6**
comp=Z,4.7nm,0.6s,mb4.5
MBDF Montbardon 84.20 356 *eP* **P** **23 09 37.3 +0.6**
MBDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
MBDF Montbardon 84.20 356 *eP* **P** **23 09 37.3 +0.6**
comp=Z,2.3nm,0.6s,mb4.5
MALT Malatya 84.83 331 *i iP* **P** **23 09 40.9 +1.1**
MALT Malatya 84.83 331 *i iP* **P** **23 09 40.9 +1.1**
BR131 Keskin Array S 84.87 335 *eP* **P** **23 09 39.7 -0.3**
comp=Z,3.0nm,0.8s,mb4.5
BRTR Keskin Array B 84.87 335 P **P** **23 09 40.2 +0.1**
comp=Z,3.3nm,0.8s,mb4.5,baz=41,slow=3.4,SNR=23
BRTR Keskin Array B 84.87 335 P **P** **23 09 40.2 +0.1**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
LASF Ste Croix 84.95 358 *eP* **P** **23 09 40.8 +0.3**
SMRF Simiane la Rot 85.00 356 *eP* **P** **23 09 41.6 +0.9**
comp=Z,6.5nm,0.8s,mb4.5
SMRF Simiane la Rot 85.00 356 *eP* **P** **23 09 41.6 +0.9**
comp=Z,6.5nm,0.8s,mb4.8
SBF Sospel 85.03 355 *eP* **P** **23 09 40.7 -0.1**
comp=Z,20nm,0.8s,mb5.0
SBF Sospel 85.03 355 *eP* **P** **23 09 40.7 -0.1**
SBF pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
SBF Sospel 85.03 355 *eP* **P** **23 09 40.7 -0.1**
comp=Z,10nm,0.8s,mb5.0
ASAR Alice Springs 85.22 222 P **P** **23 09 41.1 -0.7**
comp=Z,0.7nm,0.8s,mb3.9,baz=24,slow=5.4,SNR=7.4
ASAR Alice Springs 85.22 222 P **P** **23 09 41.2 -0.6**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
FRF La Foret Royal 85.37 356 *eP* **P** **23 09 42.4 -0.1**
comp=Z,6.4nm,0.7s,mb4.6
FRF La Foret Royal 85.37 356 *eP* **P** **23 09 42.4 -0.1**
FRF pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
FRF La Foret Royal 85.37 356 *eP* **P** **23 09 42.4 -0.1**
comp=Z,3.2nm,0.7s,mb4.6
LMR La Mourre 85.60 356 *eP* **P** **23 09 43.7 0.0**
comp=Z,9.2nm,0.9s,mb4.7
LMR La Mourre 85.60 356 *eP* **P** **23 09 43.7 0.0**
LMR pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
LMR La Mourre 85.60 356 *eP* **P** **23 09 43.7 0.0**
comp=Z,4.6nm,0.9s,mb4.7
MTLF Montolieu 85.72 359 *eP* **P** **23 09 44.5 +0.2**
comp=Z,6.2nm,0.8s,mb4.6
MTLF Montolieu 85.72 359 *eP* **P** **23 09 44.5 +0.2**
MTLF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
MTLF Montolieu 85.72 359 *eP* **P** **23 09 44.5 +0.2**
comp=Z,3.1nm,0.8s,mb4.6
SJPF Ste Jean 85.94 1 *eP* **P** **23 09 46.0 +0.6**
EPF Esparros 86.04 0 *eP* **P** **23 09 45.3 -0.6**
ETSF Etsaut 86.16 1 *eP* **P** **23 09 46.9 +0.4**
comp=Z,7.5nm,0.7s,mb4.7
ETSF Etsaut 86.16 1 *eP* **P** **23 09 46.9 +0.4**
ETSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
ETSF Etsaut 86.16 1 *eP* **P** **23 09 46.9 +0.4**
comp=Z,3.8nm,0.7s,mb4.7
PGF Pioggiola 86.24 354 *eP* **P** **23 09 46.9 0.0**
comp=Z,12nm,0.7s,mb4.9
PGF Pioggiola 86.24 354 *eP* **P** **23 09 46.9 0.0**
PGF pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
PGF Pioggiola 86.24 354 *eP* **P** **23 09 46.9 0.0**
comp=Z,5.8nm,0.7s,mb4.9
ESDC Sonseca Array 89.30 4 P **P** **23 10 00.5 -1.0**
comp=Z,1.0nm,0.8s,mb4.2,baz=359,slow=4.0,SNR=7.2
LBTB Lobatse 147.55 315 PKPbc PKPbc 23 16 49.1 -0.3
comp=Z,5.3nm,1.0s,baz=236,slow=0.4,SNR=7.0
LBTB Lobatse 147.55 315 PKP2 PKPbc 23 16 49.1 -0.3
LBTB pmax pmax
comp=Z,5.0nm,1.0s
BOSA Boshof 150.78 312 PKP PKPdf 23 16 52.1 +0.2
comp=Z,1.0nm,0.4s,baz=325,slow=4.9,SNR=7.2
BOSA PKPbc PKPbc 23 16 58.6 +1.1
comp=Z,1.5nm,0.5s,baz=100,slow=0.9,SNR=8.9
BOSA Boshof 150.78 312 PKIKP PKPdf 23 16 52.1 +0.2
BOSA pmax pmax
comp=Z,1.0nm,0.4s
BOSA pmax pmax
comp=Z,2.0nm,0.5s

IDC ***01*** *23:09:02.9±2.5, 5155N×179.31W, h0km, mb4.0/10, mb1 4.1/10, mb1mx4.0/21, mbtmp4.0/10, Error ellipse: s-maj=71.6km s-min=23.2km az=180.0*
NEIC ***01*** *23:09:03.3, 5097N×179.29W, h5km, ML3.4(AEIC), After AEIC.*
ISCJB ***01*** *23:09:04.2±0.7, 517N±0.1×179.32W±0.08, h10km, mb4.0/10, Error ellipse: s-maj=16.3km s-min=6.0km az=154.1*
ISC 01 23:09:03.6±1.1, 513N±02×17921W±006, h10km, n17, σ1°05/18, mb4.0/10, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.94**	**273**	P	**Pg**	**23 09 21.6**	**0.0**
AMKA				S	**Sg**	**23 09 34.8**	**+1.0**
SMY	**Shemya**	**4.36**	**291**	*e*Pn	**Pn**	**23 10 12.5**	**+2.6**
SMY				*e*Sg	**Sg**	**23 11 22.8**	**-0.8**
TNA	**Tin City**	**15.39**	**18**	*e*Pn	**Pn**	**23 12 43.5**	**+2.8**
	12nm,0.5s						
KDAK	**Kodiak Island**	**16.66**	**57**	Pn	**Pn**	**23 12 58.6**	**+1.5**
	0.6nm,0.3s,baz=270,slow=5.1,SNR=3.8						
DAWY	**Dawson**	**24.31**	**43**	*e*P	**P**	**23 14 21.0**	**-0.2**
YKA	**Yellowknife Ar**	**35.44**	**46**	P	**P**	**23 16 00.1**	**+0.2**
	0.9nm,0.5s,mb4.0,baz=283,slow=7.5,SNR=7.2						
YKA	**Yellowknife Ar**	**35.44**	**46**	P	**P**	**23 16 00.1**	**+0.2**
SONM	**Songino Array**	**46.43**	**296**	P	**P**	**23 17 30.7**	**+0.2**
	0.8nm,0.6s,mb3.8,baz=59,slow=7.3,SNR=6.9						
PDAR	**Pinedale Array**	**46.56**	**72**	P	**P**	**23 17 32.0**	**+0.5**
	1.2nm,0.8s,mb3.9,baz=315,slow=4.4,SNR=12						
FRB	**Frobisher Bay**	**53.19**	**31**	P	**P**	**23 18 20.9**	**-1.0**
	4.5nm,0.8s,mb4.5,baz=2.8,slow=7.4,SNR=3.3						
MKAR	**Makanchi Array**	**59.86**	**308**	P	**P**	**23 19 08.3**	**-1.0**
	1.3nm,0.5s,mb4.2,baz=45,slow=6.7,SNR=27						
FINES	**FINESS Array B**	**65.76**	**347**	P	**P**	**23 19 47.6**	**-1.1**
	0.8nm,0.5s,mb4.0,baz=20,slow=7.4,SNR=14						
NOA	**NORSAR Array B**	**67.66**	**355**	P	**P**	**23 20 00.4**	**-0.4**
	0.4nm,0.7s,mb3.6,baz=157,slow=8.1,SNR=3.2						
AKASG	**Malin Array Be**	**75.50**	**342**	P	**P**	**23 20 47.0**	**-1.1**
	2.9nm,0.4s,mb4.6,baz=21,slow=6.7,SNR=12						
GERES	**GERESS Array B**	**79.58**	**351**	P	**P**	**23 21 10.3**	**-0.6**
	0.4nm,0.5s,mb3.6,baz=24,slow=6.5,SNR=8.1						
BRTR	**Keskin Array B**	**84.87**	**335**	P	**P**	**23 21 38.2**	**-0.3**
	0.6nm,0.7s,mb3.8,baz=64,slow=2.9,SNR=3.8						
TSUM	**Tsumeb**	**145.30**	**331**	PKPbc	PKPbc	23 28 41.4	0.0
	1.5nm,0.8s,baz=338,slow=6.0,SNR=6.9						

IDC ***01*** *23:10:14.8±2.4, 5151N×179.32W, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.1/21, mbtmp4.1/11, ML4.2/1, Error ellipse: s-maj=67.6km s-min=21.5km az=178.0*
ISCJB ***01*** *23:10:16.0±3.7, 518N±02×179.3W±0.1, h7km±24km, mb4.1/21, Error ellipse: s-maj=29.2km s-min=8.6km az=130.2*
NEIC ***01*** *23:10:17.3±1.8, 5145N×179.25W, h19km±12km, mb4.3/9, ML4.1(AEIC), Error ellipse: s-maj=22.4km s-min=5.8km az=173.0*
MOS ***01*** *23:10:22.0±0.6, 5198N×179.55W, h43km, mb4.3/17, Error ellipse: s-maj=27.8km s-min=10.8km az=97.6*
ISC 01 23:10:17.2±3.5, 516N±03×1793W±01, h14km±24km, n63, σ0°50/63, mb4.1/21, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.93**	**255**	P	**Pg**	**23 10 34.4**	**-0.7**
AMKA				S	**Sb**	**23 10 47.8**	**+0.4**
SMY	**Shemya**	**4.23**	**288**	*e*P	**Pn**	**23 11 21.6**	**+0.4**
SPIA	**Saint Paul Isl**	**7.65**	**40**	P	**Pn**	**23 12 16.8**	**+8.6**
KDAK	**Kodiak Island**	**16.53**	**58**	Pn	**Pn**	**23 14 08.9**	**+0.4**
	0.9nm,0.3s,baz=271,slow=10,SNR=6.4						
DAWY	**Dawson**	**24.12**	**44**	*e*P	**P**	**23 15 32.7**	**+0.2**
YKA	**Yellowknife Ar**	**35.27**	**47**	P	**P**	**23 17 12.1**	**+0.7**
	1.1nm,0.5s,mb4.0,baz=283,slow=7.8,SNR=7.8						
YKA	**Yellowknife Ar**	**35.27**	**47**	P	**P**	**23 17 12.1**	**+0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**46.28**	**296**	P	**P**	**23 18 42.9**	**+0.7**
	comp=Z,1.0nm,0.6s,mb4.0,baz=64,slow=8.2,SNR=9.5						
SONM	**Songino Array**	**46.28**	**296**	P	**P**	**23 18 42.9**	**+0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**46.51**	**72**	P	**P**	**23 18 43.9**	**-0.1**
	comp=Z,1.7nm,0.7s,mb4.1,baz=315,slow=4.9,SNR=9.2						
ZAK	**Zakamensk**	**46.58**	**301**	*e*P	**P**	**23 18 43.7**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
ARCES	**ARCESS Array B**	**57.80**	**350**	P	**P**	**23 20 07.7**	**-0.3**
	comp=Z,1.6nm,0.8s,mb4.1,baz=34,slow=9.5,SNR=5.0						
ARCES	**ARCESS Array B**	**57.80**	**350**	P	**P**	**23 20 07.7**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**59.65**	**308**	P	**P**	**23 20 20.6**	**-0.3**
	comp=Z,1.8nm,0.5s,mb4.3,baz=44,slow=6.7,SNR=18						
MKAR	**Makanchi Array**	**59.65**	**308**	P	**P**	**23 20 20.6**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KAF	**Kangasniemi**	**64.80**	**347**	*e*p	**P**	**23 20 55.4**	**0.0**
	comp=Z,0.9nm,0.4s,mb4.2						
KAF	**Kangasniemi**	**64.80**	**347**	*e*P	**P**	**23 20 55.4**	**0.0**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**65.48**	**347**	P	**P**	**23 20 59.7**	**-0.1**
	comp=Z,1.2nm,0.6s,mb4.1,baz=29,slow=7.1,SNR=10.0						
FINES	**FINESS Array B**	**65.48**	**347**	P	**P**	**23 20 59.7**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**65.48**	**347**	P	**P**	**23 20 59.7**	**-0.1**
NB2	**NORSAR Subarra**	**67.37**	**354**	P	**P**	**23 21 12.1**	**+0.2**
	comp=Z,0.1nm,0.6s,mb3.0,baz=11,slow=6.2						
NOA	**NORSAR Array B**	**67.37**	**354**	P	**P**	**23 21 12.1**	**+0.2**
	comp=Z,1.3nm,1.0s,mb3.9,baz=7.4,slow=6.3,SNR=4.0						
NOA	**NORSAR Array B**	**67.37**	**354**	P	**P**	**23 21 12.1**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AKASG	**Malin Array Be**	**75.22**	**342**	P	**P**	**23 21 59.0**	**-0.3**
	comp=Z,4.6nm,0.4s,mb4.8,baz=20,slow=6.6,SNR=18						
AKASG	**Malin Array Be**	**75.22**	**342**	P	**P**	**23 21 59.1**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BAIF	**Baives**	**78.65**	**358**	*e*P	**P**	**23 22 18.6**	**-0.1**
	comp=Z,3.3nm,0.7s,mb4.1						
BAIF	**Baives**	**78.65**	**358**	*e*P	**P**	**23 22 18.6**	**-0.1**
BAIF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BAIF	**Baives**	**78.65**	**358**	*e*P	**P**	**23 22 18.6**	**-0.1**
	comp=Z,1.6nm,0.7s,mb4.1						
GERES	**GERESS Array B**	**79.30**	**351**	P	**P**	**23 22 22.5**	**+0.2**

	comp=Z,0.7nm,0.5s,mb3.8,baz=15,slow=5.4,SNR=10.0						
GERES	**GERESS Array B**	**79.30**	**351**	P	**P**	**23 22 22.5**	**+0.3**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FLN	**La Foliniere**	**79.98**	**1**	*e*P	**P**	**23 22 25.4**	**-0.6**
LDF	**La Druitiere**	**80.16**	**1**	*e*P	**P**	**23 22 26.2**	**-0.7**
	comp=Z,5.2nm,0.7s,mb4.3						
LDF	**La Druitiere**	**80.16**	**1**	*e*P	**P**	**23 22 26.2**	**-0.7**
LDF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
LDF	**La Druitiere**	**80.16**	**1**	*e*P	**P**	**23 22 26.2**	**-0.7**
	comp=Z,2.6nm,0.7s,mb4.3						
CDF	**Champ du Feu**	**80.18**	**356**	*e*P	**P**	**23 22 26.6**	**-0.5**
	comp=Z,1.2nm,0.5s,mb3.8						
CDF	**Champ du Feu**	**80.18**	**356**	*e*P	**P**	**23 22 26.6**	**-0.5**
CDF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
CDF	**Champ du Feu**	**80.18**	**356**	*e*P	**P**	**23 22 26.6**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.8						
GRR	**Gorron**	**80.36**	**1**	*e*P	**P**	**23 22 27.7**	**-0.3**
SGMF	**Saint Gilles**	**80.46**	**2**	*e*P	**P**	**23 22 28.2**	**-0.3**
	comp=Z,4.3nm,0.6s,mb4.3						
SGMF	**Saint Gilles**	**80.46**	**2**	*e*P	**P**	**23 22 28.2**	**-0.3**
SGMF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
SGMF	**Saint Gilles**	**80.46**	**2**	*e*P	**P**	**23 22 28.2**	**-0.3**
	comp=Z,2.2nm,0.6s,mb4.3						
HAU	**Haudompre**	**80.63**	**356**	*e*P	**P**	**23 22 30.0**	**+0.5**
	comp=Z,2.3nm,0.5s,mb4.1						
HAU	**Haudompre**	**80.63**	**356**	*e*P	**P**	**23 22 30.0**	**+0.5**
HAU				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
HAU	**Haudompre**	**80.63**	**356**	*e*P	**P**	**23 22 30.0**	**+0.5**
	comp=Z,1.1nm,0.5s,mb4.0						
SSF	**Saint Saulge**	**81.66**	**358**	*e*P	**P**	**23 22 34.7**	**-0.3**
AVF	**Avril sur Loir**	**81.94**	**358**	*e*P	**P**	**23 22 36.9**	**+0.5**
CABF	**La Chapelle**	**82.03**	**356**	*e*P	**P**	**23 22 37.7**	**+0.8**
	comp=Z,24nm,1.2s,mb4.7						
CABF	**La Chapelle**	**82.03**	**356**	*e*P	**P**	**23 22 37.7**	**+0.8**
CABF				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
CABF	**La Chapelle**	**82.03**	**356**	*e*P	**P**	**23 22 37.7**	**+0.8**
	comp=Z,12nm,1.2s,mb4.7						
SMF	**Signal de Mont**	**82.07**	**358**	*e*P	**P**	**23 22 36.7**	**-0.4**
MFF	**Saint Martin d**	**82.15**	**1**	*e*P	**P**	**23 22 37.1**	**-0.4**
TCF	**Toulx Ste Croi**	**82.46**	**359**	*e*P	**P**	**23 22 38.8**	**-0.3**
	comp=Z,1.2nm,0.5s,mb3.8						
TCF	**Toulx Ste Croi**	**82.46**	**359**	*e*P	**P**	**23 22 38.8**	**-0.3**
TCF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
TCF	**Toulx Ste Croi**	**82.46**	**359**	*e*P	**P**	**23 22 38.8**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.8						
ORIF	**Oris-en-Rattie**	**83.73**	**356**	*e*P	**P**	**23 22 46.2**	**+0.5**
VIVF	**Saint-Julien-l**	**83.84**	**357**	*e*P	**P**	**23 22 46.4**	**+0.1**
MBDF	**Montbardon**	**83.89**	**356**	*e*P	**P**	**23 22 46.9**	**+0.4**
	comp=Z,2.5nm,0.6s,mb4.2						
MBDF	**Montbardon**	**83.89**	**356**	*e*P	**P**	**23 22 46.9**	**+0.4**
MBDF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
MBDF	**Montbardon**	**83.89**	**356**	*e*P	**P**	**23 22 46.9**	**+0.4**
	comp=Z,1.3nm,0.6s,mb4.2						
BRTR	**Keskin Array B**	**84.60**	**335**	P	**P**	**23 22 50.6**	**+0.5**
	comp=Z,1.0nm,0.7s,mb4.0,baz=55,slow=2.8,SNR=6.7						
BRTR	**Keskin Array B**	**84.60**	**335**	P	**P**	**23 22 50.6**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LASF	**Ste Croix**	**84.64**	**358**	*e*P	**P**	**23 22 50.2**	**-0.1**
	comp=Z,9.9nm,1.2s,mb4.5						
TSUM	**Tsumeb**	**145.03**	**331**	PKPbc	PKPbc	23 29 52.9	-0.5
	comp=Z,1.0nm,0.9s,baz=346,slow=6.2,SNR=8.0						

*MOS **01** 23:15:07.7±0.9, 093N×12690E, h44km, mb5.3/48, MS4.5/9, Error ellipse: s-maj=11.0km s-min=5.5km az=107.7*

*BJI **01** 23:15:08.4, 066N×12701E, h72km, mB5.2, mb5.2, Ms4.7, Msz4.5*

*ISCJB **01** 23:15:09.2±0.2, 091N±002×12690E±003, h59km, mb5.2/110, MS4.5/32, Error ellipse: s-maj=5.0km s-min=2.9km az=147.6*

*HRVD **01** 23:15:10.1±0.1, 102N×12687E, h41km±1km, MW5.5/79, Centroid moment Tensor Solution. LP body waves: s74,c126;Mantle waves: s79,c128; Half duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr-0.11±.03; Mθθ1.86±.03; Mφφ-1.75±.04; Mrθ0.39±.04; Mθφ-0.20±.03; Mφr0.32±.04; Best double couple: Mo1.88500×10^17 NP1:φs138.00000°,δ74.00000°,λ-1.00000°. NP2: φs228.00000°,δ89.00000°,λ-164.00000°. Principal axes: T 1.9400, Plg10.0000°, Azm2.0000°; N -0.1090, Plg74.0000°, Azm231.0000°; P -1.8310, Plg12.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **01** 23:15:10.2±0.7, 085N×12692E, h56km±6km, mb5.3/40 Error ellipse: s-maj=5.8km s-min=3.5km az=71.0*

NEIC Felt [IV] on Ternate, Indonesia.

*IDC **01** 23:15:10.1±2.5, 083N×12695E, h53km±22km, mb4.6/31, mb1 4.6/32, mb1mx4.6/33, mbtmp4.8/32, ML5.1/2, MS4.4/6, Ms1 4.4/6, ms1mx4.0/24, Error ellipse: s-maj=15.3km s-min=7.6km az=73.0*

ISC 01 23:15:11.1±0.2**, 089N**±002×**12694E**±003**, h61**km**, h61**km±1.8km**: pP-P, n336, σ1s07**/305**, mb5.2**/110**, 13C-10D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SWI	**Sorong**	**4.65**	**112**	P	**Pn**	**23 16 18.0**	**-0.8**
	247nm,0.7s						
AAI	**Ambon**	**4.71**	**165**	P	**Pn**	**23 16 20.0**	**+0.4**
	1μm,1.0s						
MATI	**Mati**	**6.05**	**354**	*e*P	**Pn**	**23 16 37.0**	**-0.9**
DAV	**Davao City (W)**	**6.29**	**348**	*e*P	**Pn**	**23 16 41.0**	**-0.1**
DAV	**Davao City (W)**	**6.29**	**348**	P	**Pn**	**23 16 41.3**	**+0.2**
	SNR=39						
DAV	**Davao City (W)**	**6.29**	**348**	*e*Pn	**Pn**	**23 16 41.1**	**0.0**
	816nm,0.6s						
KCP	**Kidapawan**	**6.35**	**343**	⇓*e*P	**Pn**	**23 16 42.0**	**0.0**
CTBH	**Cotabato--PC H**	**6.84**	**337**	*e*P	**Pn**	**23 16 47.9**	**-0.8**
BUKP	**Musuan**	**7.19**	**345**	*e*P	**Pn**	**23 16 53.3**	**-0.3**
PCI	**Palu**	**7.33**	**256**	P	**Pn**	**23 16 54.5**	**-0.9**
	327nm,1.1s						
PAGZ	**Pagadian**	**7.77**	**333**	*e*P	**Pn**	**23 17 00.2**	**-1.2**
IPIL	**Ipil**	**8.12**	**328**	*e*P	**Pn**	**23 17 04.8**	**-1.5**
BUTP	**Butuan**	**8.13**	**351**	*e*P	**Pn**	**23 17 06.0**	**-0.4**
DCPH	**Dipolog City**	**8.44**	**335**	*e*P	**Pn**	**23 17 09.1**	**-1.5**
TLE	**Tual**	**8.69**	**138**	P	**Pn**	**23 17 16.4**	**+2.4**
	408nm,0.9s						
SCPH	**Surigao**	**8.95**	**351**	*e*P	**Pn**	**23 17 16.7**	**-0.9**
SNPH	**Sibulan**	**9.17**	**336**	*e*P	**Pn**	**23 17 21.5**	**+0.9**
TBP	**Tagbilaran**	**9.27**	**341**	*e*P	**Pn**	**23 17 29.2**	**+7.3**
MSLP	**Maasin**	**9.41**	**347**	*e*P	**Pn**	**23 17 22.0**	**-1.9**
TARAI	**Tarakan**	**9.67**	**285**	P	**Pn**	**23 17 27.7**	**+0.2**
	532nm,1.1s						
LLP	**Lapu-Lapu**	**9.82**	**343**	⇓*e*P	**Pn**	**23 17 28.2**	**-1.2**
GUIM	**Jordan**	**10.60**	**336**	*e*P	**Pn**	**23 17 39.3**	**-0.8**
RCP	**Roxas**	**11.39**	**339**	⇓*e*P	**Pn**	**23 17 50.8**	**-0.1**
CUYO	**Cuyo Island**	**11.51**	**329**	*e*P	**Pn**	**23 17 51.5**	**-1.1**
KKM	**Kota Kinabalu**	**11.87**	**296**	P	**Pn**	**23 18 01.9**	**+4.5**
KKM	**Kota Kinabalu**	**11.87**	**296**	*e*Pn	**Pn**	**23 17 58.4**	**+1.0**
BATP	**Bataraza**	**12.02**	**311**	*e*P	**Pn**	**23 17 59.6**	**+0.1**
OTRP	**Odiongan**	**12.40**	**337**	*e*P	**Pn**	**23 18 03.8**	**-0.9**
BUSP	**Coron**	**12.91**	**329**	*e*P	**Pn**	**23 18 12.6**	**+1.0**
PVCP	**Virac**	**12.92**	**348**	*e*P	**Pn**	**23 18 10.5**	**-1.3**
LUBP	**Lubang**	**14.38**	**333**	*e*P	**Pn**	**23 18 28.6**	**-2.7**
TGY	**Tagaytay City**	**14.41**	**336**	P	**Pn**	**23 18 30.6**	**-1.1**
	28nm,0.3s,baz=209,slow=4.1,SNR=14						
TGY	**Tagaytay City**	**14.41**	**336**	P	**Pn**	**23 18 30.6**	**-1.1**
TGY				pmax	pmax		
	comp=Z,28nm,0.3s						
KAKA	**Kakadu**	**14.57**	**158**	*e*P	**Pn**	**23 18 30.8**	**-3.0**
	comp=Z,139nm,0.6s						
BALP	**Baler**	**15.68**	**341**	*e*P	**Pn**	**23 18 45.1**	**-3.0**
PCPH	**Palayan**	**15.68**	**339**	⇑*e*P	**Pn**	**23 18 47.0**	**-1.1**
KSM	**Kuching**	**16.64**	**272**	*e*P	**Pn**	**23 18 59.0**	**-1.2**
CAUP	**Cauayan**	**16.73**	**343**	*e*P	**Pn**	**23 18 58.6**	**-2.7**
APYP	**Conner**	**17.77**	**342**	*e*P	**Pn**	**23 19 11.8**	**-2.4**
FITZ	**Fitzroy Crossi**	**18.92**	**184**	*e*P	**Pn**	**23 19 25.0**	**-3.0**
	comp=Z,67nm,0.6s						
FITZ				*e*S	**S**	**23 23 11.0**	**+13**
FITZ	**Fitzroy Crossi**	**18.92**	**184**	P	**Pn**	**23 19 25.7**	**-2.2**
	comp=Z,2.1nm,0.3s,baz=14,slow=15,SNR=54						
BJII	**Banjamegara**	**19.03**	**244**	P	**Pn**	**23 19 29.3**	**-0.1**
	comp=Z,346nm,1.8s						
JCJI	**Jatiwangi**	**20.03**	**248**	P	**P**	**23 19 39.3**	**+0.4**
	comp=Z,244nm,1.0s						
LEM	**Lembang**	**20.75**	**248**	P	**P**	**23 19 45.7**	**-1.0**
	comp=Z,121nm,0.9s						
GUMO	**Guam**	**21.77**	**54**	P	**P**	**23 19 59.0**	**+1.3**
	comp=Z,80nm,0.8s,mb5.2,baz=337,slow=0.7,SNR=4.4						
GUMO	**Guam**	**21.77**	**54**	P	**P**	**23 19 59.0**	**+1.3**
GUMO				pmax	pmax		
	comp=Z,81nm,0.9s,mb5.2						
WRAB	**Tennant Creek**	**21.93**	**161**	P	**P**	**23 19 58.0**	**-1.4**
	comp=Z,517nm,0.4s						
WRAB	**Tennant Creek**	**21.93**	**161**	*e*P	**P**	**23 19 58.3**	**-1.1**
WRAB				*e*		23 23 57.4	
WRAB				pmax	pmax		
	comp=Z,294nm,0.9s,mb5.7						
WRAB	**Tennant Creek**	**21.93**	**161**	*e*P	**P**	**23 19 58.3**	**-1.1**
	comp=Z,294nm,0.9s,mb5.7						
WRAB				*e*PcP	PcP	23 23 57.4	+1.1
WRA	**Warramunga Arr**	**21.94**	**161**	P	**P**	**23 19 58.3**	**-1.2**
	comp=Z,24nm,0.3s,mb5.1,baz=330,slow=11,SNR=362						
WRA				S	**S**	**23 23 56.3**	**-1.8**
	comp=Z,9.1nm,0.8s,baz=346,slow=19,SNR=8.3						
WRA	**Warramunga Arr**	**21.94**	**161**	P	**P**	**23 19 58.3**	**-1.1**
WRA				S	**S**	**23 23 56.3**	**-1.8**
WRA				pmax	pmax		
	comp=Z,24nm,0.3s						
WRA				smax			
	comp=N,9.0nm,0.8s						
PMG	**Port Moresby**	**22.58**	**117**	P	**P**	**23 20 08.2**	**+2.0**
	comp=N,11nm,0.8s,mb4.3,baz=152,slow=6.4,SNR=2.1						
PMG	**Port Moresby**	**22.58**	**117**	P	**P**	**23 20 08.2**	**+1.9**
PMG				pmax	pmax		
	comp=Z,11nm,0.8s						
PMG	**Port Moresby**	**22.58**	**117**	P	**P**	**23 20 06.5**	**+0.3**
	comp=Z,59nm,1.0s,mb5.0						
MBWA	**Marble Bar**	**23.02**	**197**	P	**P**	**23 20 16.4**	**+5.5**
	SNR=7.9						
MBWA	**Marble Bar**	**23.02**	**197**	*e*P	**P**	**23 20 09.1**	**-1.8**
	comp=Z,137nm,0.8s,mb5.4						
MBWA				*e*pP		23 20 19.6	
KGM	**Kluang**	**23.64**	**273**	P	**P**	**23 20 16.1**	**-0.6**
YHNB	**Yeheng**	**24.25**	**348**	*e*P	**P**	**23 20 22.0**	**-0.3**
QIZ	**Qiongzhong**	**24.62**	**318**	P	**P**	**23 20 25.4**	**-0.3**
QIZ				AP		23 20 41.2	
QIZ				XP	sP	23 20 47.0	-0.6
QIZ				PP		23 21 05.7	
QIZ				S	**S**	**23 24 44.6**	**+2.0**
QIZ				XS	sS	23 25 09.4	+1.6
QIZ				AMB	AMB		
	comp=Z,34nm,1.7s,mb4.6						
QIZ				AMB	AMB		
	comp=Z,208nm,2.6s,mb5.2						
QIZ				LR	LR		
	comp=N,2μm,21.6s						
QIZ				LR	LR		
	comp=E,1μm,21.6s						
QIZ				LR	LR		
	comp=Z,972nm,21.0s						
QIZ	**Qiongzhong**	**24.62**	**318**	*e*P	**P**	**23 20 25.1**	**-0.6**
	comp=Z,34nm,0.9s,mb4.9						
KSI	**Kapahiang**	**24.75**	**259**	P	**P**	**23 20 29.8**	**+2.9**
	comp=Z,66nm,0.5s,mb5.4						
QZH	**Quanzhou**	**25.24**	**342**	⇑*i*P	**P**	**23 20 30.3**	**-1.0**
QZH				XP	sP	23 20 52.1	-1.1
QZH				S	**S**	**23 24 50.2**	**-2.3**
QZH				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.2						
QZH				AMB	AMB		
	comp=Z,780nm,5.4s						
QZH				LR	LR		
	comp=N,2μm,21.2s						
QZH				LR	LR		
	comp=E,870nm,16.1s						
QZH				LR	LR		
	comp=Z,2μm,27.6s						
AS31	**Alice Springs**	**25.33**	**165**	*e*P	**P**	**23 20 31.9**	**-0.2**
AS31				*e*S	**S**	**23 24 52.8**	**-1.1**
ASPA	**Alice Springs**	**25.33**	**165**	*e*P	**P**	**23 20 31.9**	**-0.2**
ASPA				*e*S	**S**	**23 24 52.8**	**-1.1**
ASAR	**Alice Springs**	**25.33**	**165**	P	**P**	**23 20 31.6**	**-0.6**
	comp=Z,11nm,0.4s,mb4.8,baz=322,slow=4.0,SNR=42						
ASAR				S	**S**	**23 24 53.3**	**-0.7**
	comp=Z,8.6nm,0.9s,baz=351,slow=23,SNR=5.0						
ASAR	**Alice Springs**	**25.33**	**165**	P	**P**	**23 20 31.6**	**-0.5**
ASAR				S	**S**	**23 24 53.3**	**-0.6**
ASAR				pmax	pmax		
	comp=Z,11nm,0.4s						
ASAR				smax			
	comp=N,9.0nm,0.9s						
GZH	**Guangzhou**	**25.72**	**330**	P	**P**	**23 20 34.5**	**-1.1**
GZH				S	**S**	**23 25 01.6**	**+1.6**
GZH				LR	LR		
	comp=N,688nm,19.6s						
GZH				LR	LR		
	comp=E,588nm,17.4s						
GZH				LR	LR		
	comp=Z,897nm,25.5s						
JOW	**Kunigami**	**25.82**	**3**	P	**P**	**23 20 38.0**	**+1.4**
	comp=Z,68nm,0.7s,mb5.3,baz=186,slow=6.9,SNR=23						
IPM	**Ipoh**	**26.13**	**278**	P	**P**	**23 20 38.6**	**-0.8**
PPI	**Padang Panjang**	**26.58**	**267**	P	**P**	**23 20 43.9**	**+0.5**
	comp=Z,88nm,1.4s,mb5.1						
KULM	**Kulim**	**26.61**	**280**	*e*P	**P**	**23 20 42.3**	**-1.4**
PSI	**Prapat**	**28.07**	**274**	P	**P**	**23 20 57.3**	**+0.6**
	comp=Z,13nm,0.8s,mb4.6,baz=115,slow=7.4,SNR=7.0						
PSI	**Prapat**	**28.07**	**274**	P	**P**	**23 20 57.3**	**+0.6**
PSI				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.6						
CTA	**Charters Tower**	**28.16**	**139**	*e*P	pP	23 21 11.1	-1.3
	comp=Z,38nm,1.8s						
CTA	**Charters Tower**	**28.16**	**139**	P	**P**	**23 20 58.8**	**+1.3**
	comp=Z,1.3nm,0.4s,baz=267,slow=5.4,SNR=3.5						
CTA	**Charters Tower**	**28.16**	**139**	P	**P**	**23 20 58.8**	**+1.3**
CTA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CTAO	**Charters Tower**	**28.16**	**139**	*e*P	**P**	**23 20 57.8**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,97nm,1.5s,mb5.2						
CTAO	**Charters Tower**	**28.16**	**139**	*e*P	**P**	**23 20 57.8**	**+0.3**
	comp=Z,97nm,1.5s,mb5.2						
KKTK	**Khon Kaen**	**28.30**	**304**	P	**P**	**23 20 58.0**	**-0.8**
	comp=Z,370nm,0.8s,mb6.1						
CBIJ	**Chichi jima**	**29.89**	**28**	P	**P**	**23 21 11.7**	**-1.2**
	comp=Z,27nm,0.4s,mb5.3,baz=295,slow=13,SNR=13						
CBIJ				LR	LR	23 31 00.4	
	comp=Z,622nm,19.9s,baz=207,slow=32						
SSE	**Sheshan**	**30.53**	**350**	P	**P**	**23 21 19.1**	**+0.5**
SSE				AP	pP	23 21 34.1	+0.6
SSE				XP	sP	23 21 41.2	+0.5
SSE				S	**S**	**23 26 17.0**	**+1.2**
SSE				XS	sS	23 26 42.4	+1.1
SSE				AMB	AMB		
	comp=Z,39nm,0.9s,mb5.2						
SSE				AMB	AMB		
	comp=Z,127nm,6.8s						
SSE				LR	LR		
	comp=N,215nm,20.9s						
SSE				LR	LR		
	comp=E,543nm,20.8s						
SSE				LR	LR		
	comp=Z,364nm,19.0s						
NANT	**Nan**	**31.30**	**306**	⇓P	**P**	**23 21 22.0**	**-3.3**
	comp=Z,369nm,1.0s,mb6.2						
FORT	**Forrest**	**31.51**	**178**	*e*P	**P**	**23 21 27.0**	**-0.2**
	comp=Z,28nm,0.6s,mb5.3						
FORT				*e*pP	pP	23 21 37.2	-5.0
NJ2	**Nanjing**	**31.92**	**347**	*e*P	**P**	**23 21 33.0**	**+2.2**
NJ2				AP	pP	23 21 50.9	+5.1
NJ2				XP	sP	23 22 00.4	+7.5
NJ2				PP	PP	23 22 41.5	-2.3
NJ2				S	**S**	**23 26 39.0**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,232nm,4.0s						
NJ2				LR	LR		
	comp=N,1μm,18.1s						
NJ2				LR	LR		
	comp=E,1μm,23.3s						
NJ2				LR	LR		
	comp=Z,2μm,21.1s						
GYA	**Guiyang**	**32.05**	**324**	P	**P**	**23 21 32.2**	**+0.3**
GYA				PP	PP	23 22 38.6	-6.6
GYA				S	**S**	**23 26 38.2**	**-1.3**
GYA				SCP	ScP	23 27 59.9	+1.4
GYA				SCS	ScS	23 31 57.8	+0.6
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
GYA				AMB	AMB		
	comp=Z,160nm,5.2s						
GYA				LR	LR		
	comp=N,540nm,17.8s						
GYA				LR	LR		
	comp=E,490nm,18.0s						
GYA				LR	LR		
	comp=Z,510nm,17.6s						
CM31	**Chiang Mai Arr**	**32.56**	**304**	*e*P	**P**	**23 21 36.5**	**+0.2**
CHRT	**Chiangrai**	**32.59**	**307**	⇑P	**P**	**23 21 37.0**	**+0.3**
	comp=Z,158nm,0.9s,mb5.9						
KLBR	**Kellerberrin**	**33.46**	**194**	*e*P	**P**	**23 21 43.4**	**-0.8**
	comp=Z,79nm,1.0s,mb5.6						
KMI	**Kunming**	**33.57**	**318**	P	**P**	**23 21 48.7**	**+3.5**
KMI				AP	pP	23 22 03.1	+2.9
KMI				XP	sP	23 22 11.0	+3.7
KMI				PP	PP	23 23 04.1	+2.1
KMI				S	**S**	**23 27 02.3**	**-0.8**
KMI				XS	sS	23 27 31.8	+3.1
KMI				SS	SS	23 29 14.1	-16
KMI				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.4						
KMI				AMB	AMB		
	comp=Z,90nm,5.2s						
KMI				LR	LR		
	comp=N,1μm,20.8s						
KMI				LR	LR		
	comp=E,1μm,20.8s						
KMI				LR	LR		
	comp=Z,811nm,18.3s						
MUN	**Mundaring**	**34.23**	**196**	*e*P	**P**	**23 21 51.5**	**+0.5**
NWAO	**Narrogin (SRO)**	**34.86**	**194**	P	**P**	**23 21 56.9**	**+0.5**
	comp=Z,5.0nm,0.3s,mb4.9,baz=18,slow=7.4,SNR=21						
NWAO	**Narrogin (SRO)**	**34.86**	**194**	P	**P**	**23 21 56.9**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.3s						
NWAO	**Narrogin (SRO)**	**34.86**	**194**	*e*P	**P**	**23 21 56.9**	**+0.5**
	comp=Z,31nm,0.8s,mb5.3						
STKA	**Stephens Creek**	**35.42**	**158**	*e*P	**P**	**23 21 58.5**	**-2.7**
	comp=Z,24nm,0.6s,mb5.3						
STKA				*e*S	**S**	**23 27 29.6**	**-2.1**
STKA	**Stephens Creek**	**35.42**	**158**	P	**P**	**23 21 59.0**	**-2.2**
	comp=Z,14nm,0.2s,mb5.5,baz=331,slow=8.5,SNR=120						
STKA	**Stephens Creek**	**35.42**	**158**	*e*P	**P**	**23 21 59.0**	**-2.2**
STKA	**Stephens Creek**	**35.42**	**158**	*e*P	**P**	**23 21 58.5**	**-2.7**
	comp=Z,24nm,0.6s,mb5.3						
STKA				*e*S	**S**	**23 27 29.6**	**-2.1**
TIA	**Tai'an**	**36.30**	**347**	*e*P	**P**	**23 22 09.0**	**+0.2**
KS15	**Wonju Array Si**	**36.38**	**1**	*e*P	**P**	**23 22 10.2**	**+0.8**
MAJO	**Matsushiro**	**36.98**	**15**	*e*P	**P**	**23 22 13.0**	**-1.5**
MAJO				*e**PP	pP	23 22 27.6	-2.1
MAJO				pmax	pmax		
	comp=Z,59nm,1.1s,mb5.3						
MAJO	**Matsushiro**	**36.98**	**15**	*e*P	**P**	**23 22 13.0**	**-1.5**
	comp=Z,59nm,1.1s,mb5.3						
MAJO				*e*pP	pP	23 22 27.6	-2.1
MAT	**Matsushiro**	**36.98**	**15**	P	**P**	**23 22 12.9**	**-1.6**
MAT				S	**S**	**23 27 53.0**	**-2.4**
MAT	**Matsushiro**	**36.98**	**15**	*e*P	**P**	**23 22 13.0**	**-1.5**
MAT				*e*S	**S**	**23 27 53.0**	**-2.4**
MAT				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.2						
MAT	**Matsushiro**	**36.98**	**15**	*e*P	**P**	**23 22 13.0**	**-1.5**
	comp=Z,40nm,1.0s,mb5.2						
MAT				*e*S	**S**	**23 27 53.0**	**-2.4**
MJAR	**Matsushiro Arr**	**36.98**	**15**	P	**P**	**23 22 13.3**	**-1.1**
	comp=Z,18nm,0.6s,mb5.1,baz=190,slow=8.8,SNR=55						
MJAR	**Matsushiro Arr**	**36.98**	**15**	P	**P**	**23 22 13.4**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,18nm,0.6s						
XAN	**Xi'an**	**37.05**	**335**	P	**P**	**23 22 15.6**	**+0.6**
XAN				S	**S**	**23 28 00.6**	**+4.1**
XAN				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.8						
XAN				LR	LR		
	comp=N,328nm,23.2s						
XAN				LR	LR		
	comp=E,315nm,21.1s						
XAN				LR	LR		
	comp=Z,626nm,23.2s						
CD2	**Chengdu**	**37.07**	**326**	P	**P**	**23 22 14.9**	**-0.4**
CD2				AP	pP	23 22 29.9	-0.6
CD2				XP	sP	23 22 37.3	-0.2
CD2				PP	PP	23 23 43.5	+2.8
CD2				PCP	PcP	23 24 34.2	-0.6
CD2				S	**S**	**23 27 53.0**	**-3.9**
CD2				SCP	ScP	23 28 14.8	-1.7
CD2				SS	SS	23 30 30.4	-11
CD2				SCS	ScS	23 32 21.2	-2.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
CD2				AMB	AMB		
	comp=Z,120nm,5.4s						
CD2				LR	LR		
	comp=N,450nm,22.8s						
CD2				LR	LR		
	comp=Z,340nm,20.3s						
DL2	**Dalian**	**38.15**	**353**	P	**P**	**23 22 24.0**	**-0.3**
DL2				AP	pP	23 22 41.1	+1.5
DL2				XP	sP	23 22 51.9	+5.3
DL2				S	**S**	**23 28 15.7**	**+2.6**
DL2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
DL2				AMB	AMB		
	comp=Z,100nm,4.8s						
DL2				LR	LR		
	comp=N,330nm,15.7s						
DL2				LR	LR		
	comp=E,180nm,13.2s						
DL2				LR	LR		
	comp=Z,530nm,16.3s						
ARMA	**Armidale**	**39.01**	**145**	*e*P	**P**	**23 22 32.3**	**+0.7**
ARMA				*e*pP	PP	23 23 49.6	-12
BJT	**Baijiatuau**	**40.16**	**347**	*e*P	**P**	**23 22 41.0**	**-0.2**
BJT				pmax	pmax		
	comp=Z,62nm,0.8s						
BJT	**Baijiatuau**	**40.16**	**347**	*e*P	**P**	**23 22 41.0**	**-0.2**
	comp=Z,62nm,0.8s,mb5.4						
BJI	**Beijing**	**40.18**	**347**	P	**P**	**23 22 41.4**	**+0.1**
BJI				S	**S**	**23 28 35.8**	**-7.9**
BJI				AMB	AMB		
	comp=Z,87nm,1.2s,mb5.4						
BJI				LR	LR		
	comp=N,271nm,15.9s						
BJI				LR	LR		
	comp=E,372nm,20.2s						
BJI				LR	LR		
	comp=Z,450nm,38.5s						
SNY	**Shenyang**	**40.86**	**356**	⇑P	**P**	**23 22 47.6**	**+0.6**
SNY				AP	pP	23 23 08.5	+6.2
SNY				SS	SS	23 31 54.5	-2.6
SNY				AMB	AMB		
	comp=Z,37nm,0.5s,mb5.3						
SNY				AMB	AMB		
	comp=Z,1μm,5.2s						
SNY				LR	LR		
	comp=E,316nm,17.1s						
SNY				LR	LR		
	comp=Z,279nm,18.6s						
LZH	**Lanzhou**	**41.06**	**331**	*e*P	**P**	**23 22 50.5**	**+1.9**
LZH				AP	pP	23 23 07.5	+3.6
LZH				XP	sP	23 23 14.0	+3.0
LZH				PP	PP	23 24 31.0	+6.8
LZH				PCP	PcP	23 24 50.0	+2.7
LZH				SCP	ScP	23 28 33.5	+1.7
LZH				S	**S**	**23 28 56.0**	**-0.8**
LZH				XS	sS	23 29 26.2	+3.4
LZH				SS	SS	23 31 56.2	-4.8
LZH				AMB	AMB		
	comp=Z,54nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,190nm,4.7s						
LZH				LR	LR		
	comp=N,829nm,16.9s						
LZH				LR	LR		
	comp=Z,1μm,18.2s						
CNB	**Canberra Magne**	**41.67**	**152**	*e*P	**P**	**23 22 54.7**	**+1.2**
	comp=Z,14nm,0.9s,mb4.6						
TOO	**Toolangi**	**41.94**	**158**	*e*P	**P**	**23 23 04.4**	**+8.6**
	comp=Z,20nm,1.2s,mb4.6						
HHC	**Hu-ho-hao-te**	**42.15**	**343**	*e*P	**P**	**23 22 59.0**	**+1.5**
HHC				AP	pP	23 23 14.5	+1.6

HHC XP sP 23 23 20.6 +0.7
HHC PP PP 23 24 41.1 +5.1
HHC PCP PcP 23 24 52.4 +1.5
HHC S **S** **23 29 12.3 -0.6**
HHC XS sS 23 29 41.9 +2.9
HHC SS SS 23 32 20.3 -2.2
HHC SCS ScS 23 32 52.8 -1.2
HHC AMB AMB
comp=Z,45nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,256nm,3.9s
HHC LR LR
comp=N,310nm,23.8s
HHC LR LR
comp=E,414nm,28.0s
HHC LR LR
comp=Z,672nm,33.9s
BTO Baotou 42.41 341 *e*P **P** **23 22 59.6 0.0**
CN2 Changchun 42.74 358 *e*P **P** **23 23 02.5 +0.2**
CN2 *e*AP pP 23 23 18.0 +0.2
CN2 *e*XP sP 23 23 25.1 +0.3
CN2 *e*S **S** **23 29 29.1 +7.4**
CN2 SS SS 23 32 30.0 -4.2
CN2 AMB AMB
comp=Z,20nm,0.5s,mb5.1
CN2 AMB AMB
comp=Z,120nm,4.0s
CN2 LR LR
comp=N,310nm,20.0s
CN2 LR LR
comp=E,320nm,20.0s
CN2 LR LR
comp=Z,270nm,19.0s
MDJ Mudanjiang 43.60 3 P **P** **23 23 09.7 +0.5**
MDJ AP pP 23 23 25.0 +0.3
MDJ XP sP 23 23 32.5 +0.8
MDJ PP PP 23 24 52.4 +0.8
MDJ PCP PcP 23 24 55.8 0.0
MDJ SCP ScP 23 28 41.7 -0.3
MDJ PCS PcS 23 28 49.0 +0.4
MDJ S **S** **23 29 35.9 +1.7**
MDJ AMB AMB
comp=Z,34nm,1.2s,mb5.0
MDJ AMB AMB
comp=Z,63nm,3.6s
MDJ LR LR
comp=N,386nm,34.8s
MDJ LR LR
comp=E,414nm,33.0s
MDJ LR LR
comp=Z,412nm,28.1s
MDJ Mudanjiang 43.60 3 *e*P **P** **23 23 09.2 0.0**
comp=Z,48nm,1.0s,mb5.2
LSA Lhasa 44.50 313 P **P** **23 23 17.0 +0.6**
LSA Lhasa 44.50 313 *e*P **P** **23 23 17.5 +1.1**
LSA pmax pmax
comp=Z,33nm,0.6s,mb5.2
LSA Lhasa 44.50 313 *e*P **P** **23 23 17.5 +1.1**
comp=Z,33nm,0.6s,mb5.2
DZM Mont Dzumac 44.77 123 P **P** **23 23 18.8 +0.2**
comp=Z,4.1nm,0.9s,mb4.2,baz=274,slow=13,SNR=4.3
ASAJ Asahikawa 45.24 16 P **P** **23 23 22.7 +0.4**
comp=Z,15nm,0.4s,mb5.2,baz=238,slow=14,SNR=39
ASAJ Asahikawa 45.24 16 P **P** **23 23 22.7 +0.4**
ASAJ pmax pmax
comp=Z,15nm,0.4s
GTA Gaotai 45.64 330 P **P** **23 23 25.9 +0.4**
GTA AP pP 23 23 41.1 +0.1
GTA XP sP 23 23 48.4 +0.4
GTA PCP PcP 23 25 04.6 +1.8
GTA PP PP 23 25 13.2 0.0
GTA S **S** **23 30 02.2 -1.5**
GTA SCS ScS 23 33 15.4 -0.6
GTA SS SS 23 33 17.6 -11
GTA AMB AMB
comp=Z,15nm,1.2s,mb4.8
GTA AMB AMB
comp=Z,119nm,6.5s
GTA LR LR
comp=N,575nm,24.0s
GTA LR LR
comp=E,443nm,19.0s
GTA LR LR
comp=Z,476nm,18.3s
YSS Yuzh-Sakhalins 47.91 15⇑ *e*P **P** **23 23 42.8 -0.4**
YSS *e*S **S** **23 30 36.0 -0.1**
YSS *e* 23 30 46.0
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS MLR MLR
comp=Z,400nm,19.0s
YSS Yuzh-Sakhalins 47.91 15 *e*P **P** **23 23 43.2 0.0**
comp=Z,22nm,0.5s,mb5.4
HABR Khabarovsk 47.91 7⇑ *i*P **P** **23 23 44.2 +1.0**
HABR *e*S **S** **23 30 40.0 +3.8**
HABR pmax pmax
comp=Z,85nm,1.6s,mb5.5
KLR Kul'dur 48.33 4 *e*P **P** **23 23 43.0 -3.4**
KLR *e* 23 25 40.5
KLR *e*S **S** **23 30 34.0 -8.1**
HIA Hailar 48.59 354 *e*P **P** **23 23 49.3 +0.9**
HIA pmax pmax
comp=Z,72nm,1.4s
HIA Hailar 48.59 354 *e*P **P** **23 23 49.3 +0.9**
comp=Z,72nm,1.4s,mb5.5
ULN Ulaanbaatar 49.87 343 P **P** **23 23 59.5 +1.3**
SNR=28
ULN Ulaanbaatar 49.87 343 *c i*P **P** **23 23 59.0 +0.8**
ULN Ulaanbaatar 49.87 343 *e*P **P** **23 23 58.5 +0.4**
comp=Z,22nm,0.8s,mb5.2
SONM Songino Array 50.04 342 P **P** **23 24 00.1 +0.6**
comp=Z,17nm,0.6s,mb5.2,baz=159,slow=7.8,SNR=80
SONM Songino Array 50.04 342 P **P** **23 24 00.1 +0.6**
SONM pmax pmax
comp=Z,17nm,0.6s
HYB Hyderabad 50.32 292 *i* P **P** **23 24 01.0 -0.6**
HYB Hyderabad 50.32 292 *e*P **P** **23 24 01.0 -0.6**
ZAK Zakamensk 53.26 341 *e*P **P** **23 24 23.7 +0.2**
ZAK pmax pmax
comp=Z,33nm,1.7s,mb5.0
TLY Talaya 54.28 342 P **P** **23 24 32.2 +1.3**
comp=Z,93nm,0.8s,mb5.8,SNR=9.5
TLY Talaya 54.28 342 P **P** **23 24 32.5 +1.6**
SNR=17
TLY Talaya 54.28 342 *e*P **P** **23 24 31.7 +0.8**
TLY *e*S **S** **23 32 03.7 -0.3**
TLY *e*SS SS 23 35 45.1 -1.5
TLY *e*SSS 23 37 36.8
TLY pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
TLY MLR MLR
comp=Z,293nm,20.0s
TLY Talaya 54.28 342 *e*P **P** **23 24 31.6 +0.7**
comp=Z,11nm,0.6s,mb5.0
IRK Irkutsk 54.59 343 *e*P **P** **23 24 34.2 +1.0**
IRK *e* pP 23 24 48.7 -0.4
IRK pmax pmax
comp=Z,83nm,1.0s,mb5.7
MOY Mondy 55.11 341 *e*P **P** **23 24 38.6 +1.7**
MOY pmax pmax
comp=Z,81nm,2.5s,mb5.3
WMQ Urumqi 55.17 326 P **P** **23 24 39.5 +2.1**
WMQ AP pP 23 24 55.4 +2.0
WMQ XP sP 23 25 02.4 +2.1
WMQ PCP PcP 23 25 39.7 +1.8
WMQ PP PP 23 26 45.0 +3.8
WMQ SCP ScP 23 29 31.7 +0.4
WMQ S **S** **23 32 16.5 +0.5**
WMQ XS sS 23 32 43.7 +0.7
WMQ AMB AMB
comp=Z,90nm,1.7s,mb5.5
WMQ AMB AMB
comp=Z,305nm,4.6s
WMQ LR LR
comp=N,2μm,18.7s
WMQ LR LR
comp=E,1μm,17.6s
WMQ LR LR
comp=Z,2μm,19.2s
NRGR Nerungri 55.62 359 *e*P **P** **23 24 30.0 -11**
NRGR S **S** **23 32 22.0 -0.1**
NRGR smax
comp=N,19nm,0.4s
CLNS Chul'man 55.80 359 *e*P **P** **23 24 42.5 +0.6**
CLNS pmax pmax
comp=Z,21nm,0.7s,mb5.3
CLNS pmax pmax
comp=N,13nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.8s
BOD Bodaibo 57.69 352 *e*P **P** **23 24 55.2 -0.1**
BOD pmax pmax
comp=Z,20nm,1.4s,mb5.0
PET Petropavlovsk 58.26 22*c i*P **P** **23 24 59.6 +0.4**
PET *e*S **S** **23 32 58.4 +1.7**
PET *e*SS SS 23 36 51.4 +2.2
PET pmax pmax
comp=Z,42nm,1.3s,mb5.3
PET pmax pmax
comp=Z,200nm,10.6s
PET pmax pmax
comp=Z,100nm,9.7s
PET smax
comp=E,300nm,11.7s
PET smax
comp=E,300nm,18.4s
PET MLR MLR
comp=Z,300nm,21.0s
PET MLR MLR
comp=Z,300nm,17.0s
MKAR Makanchi Array 60.01 326 P **P** **23 25 11.8 +0.5**
comp=Z,12nm,0.4s,mb5.3,baz=115,slow=7.4,SNR=214
MKAR PKPPKP 23 54 32.6
comp=Z,0.2nm,0.7s,baz=279,slow=2.8,SNR=3.8
KSH Kashi 60.21 316 *e*P **P** **23 25 15.2 +2.5**
KSH *e*AP pP 23 25 31.1 +2.2
KSH *e*XP sP 23 25 38.1 +2.3
KSH *e*PCP PcP 23 25 58.8 +1.1
KSH *e*PP PP 23 27 30.3 +4.3
KSH *e*SCP ScP 23 29 52.7 -0.8
KSH *e*S **S** **23 33 22.4 +0.4**
KSH *e*SCS ScS 23 34 56.0 -1.9
KSH *e*SS SS 23 37 23.0 +3.1
KSH AMB AMB
comp=Z,230nm,5.8s
KSH LR LR
comp=N,598nm,7.2s
KSH LR LR
comp=E,513nm,5.2s
KSH LR LR
comp=Z,322nm,15.6s
YAK Yakutsk 61.02 1 *e*P **P** **23 25 18.1 -0.2**
YAK *e* 23 25 58.5
YAK *e* 23 27 36.3
YAK *e*PPP 23 29 00.0
YAK *e*S **S** **23 33 33.3 +1.0**
YAK *e* 23 35 04.4
YAK *e*SS SS 23 37 38.3 +5.7
YAK pmax pmax
comp=Z,23nm,0.7s,mb5.4
YAK pmax pmax
comp=N,14nm,1.8s
YAK pmax pmax
comp=E,1.0nm,0.7s
YAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,1.0nm,0.8s
YAK smax
comp=N,9.0nm,1.3s
YAK smax
comp=E,9.0nm,1.4s
YAK Yakutsk 61.02 1 *e*P **P** **23 25 17.6 -0.7**
comp=E,76nm,0.7s,mb5.9
MA2 Magadan 61.39 14*c i*P **P** **23 25 21.5 +0.7**
MA2 *e* 23 26 02.5
MA2 *e* 23 27 37.9
MA2 *e*S **S** **23 33 38.3 +1.3**
MA2 *e*SS SS 23 37 43.0 +4.6
MA2 pmax pmax
comp=Z,70nm,1.0s,mb5.8
MA2 MLR MLR
comp=Z,4μm,25.0s
MA2 Magadan 61.39 14 *e*P **P** **23 25 21.1 +0.3**
comp=Z,44nm,0.9s,mb5.6
KRAR Krasnoyarsk 61.45 339 *i* P **P** **23 25 24.3 +3.1**
KZA Kyzart 61.85 319 P **P** **23 25 25.8 +1.9**
SNR=13
TKM2 Tokmak 2 62.02 319 P **P** **23 25 26.1 +1.2**
SNR=28
KBK Karagaybulak 62.32 319 P **P** **23 25 29.1 +2.1**
SNR=9.3
UCH Uchtor 62.41 318 P **P** **23 25 29.5 +1.9**
SNR=34
CHMS Chumysh 62.60 319 P **P** **23 25 30.3 +1.4**
SNR=8.8
AAK Ala-Archa 62.60 319 P **P** **23 25 31.1 +2.2**
SNR=6.2
AAK Ala-Archa 62.60 319 P **P** **23 25 30.3 +1.4**
SNR=9.3
AAK Ala-Archa 62.60 319*c i*P **P** **23 25 29.8 +0.9**
AAK pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
AAK MLR MLR
comp=Z,300nm,21.0s
AAK Ala-Archa 62.60 319 *e*P **P** **23 25 29.5 +0.6**
comp=Z,23nm,1.1s,mb5.2
FRU Bishkek 62.61 319 *e*P **P** **23 25 28.0 -1.0**
FRU *e* pP 23 25 42.0 -3.3
USP Ospenovka 62.89 319 P **P** **23 25 31.6 +0.8**
SNR=28
EKS2 Erkin-Say 63.09 319 P **P** **23 25 33.6 +1.5**
SNR=23
ZAL Zalesovo 63.20 334 P **P** **23 25 32.8 -0.1**
comp=Z,6.4nm,0.5s,mb5.0,baz=358,slow=6.9,SNR=40
ZAL LR LR 23 53 51.8
comp=Z,259nm,19.3s,baz=338,slow=37
ZAL Zalesovo 63.20 334 P **P** **23 25 32.8 -0.1**
ZAL pmax pmax
comp=Z,6.0nm,0.5s
ZAL MLR MLR
comp=Z,259nm,19.3s
KURK Kurchatov 64.24 328 P **P** **23 25 39.5 -0.2**
comp=Z,643nm,0.5s,SNR=93
KURK Kurchatov 64.24 328 P **P** **23 25 40.3 +0.6**
SNR=51
KURK Kurchatov 64.24 328*d i*P **P** **23 25 39.6 -0.1**
KURK Kurchatov 64.24 328 *e*P **P** **23 25 39.6 -0.1**
comp=Z,192nm,1.0s,mb6.1
KURK *e*pP pP 23 25 54.2 -1.8
NVS Novosibirsk 64.49 334 *i* P **P** **23 25 41.0 -0.3**
NVS *i* S **S** **23 34 14.3 -1.5**
NVS pmax pmax
comp=Z,44nm,1.2s,mb5.4
NVS pmax pmax
comp=N,19nm,0.9s
NVS pmax pmax
comp=E,23nm,0.9s
NVS smax
comp=N,54nm,2.6s
NVS smax
comp=E,39nm,2.2s
KK31 Karatay Array 65.45 318 *i* P **P** **23 25 48.1 +0.5**
KK31 pmax pmax
comp=Z,25nm,0.7s,mb5.3
WSAR Wadi Sarin 69.76 294 P **P** **23 26 15.1 +0.4**
comp=Z,6.2nm,0.5s,mb4.8,baz=87,slow=8.1,SNR=16
BVAR Borovoye Array 69.81 328 P **P** **23 26 15.1 +0.1**
comp=Z,21nm,0.9s,mb5.0,baz=128,slow=7.7,SNR=12
BVAR Borovoye Array 69.81 328 P **P** **23 26 15.1 +0.1**
BVAR pmax pmax
comp=Z,21nm,1.0s
BRVK Borovoye 69.88 328 P **P** **23 26 15.7 +0.2**
comp=Z,249nm,0.8s,mb6.2,SNR=13
BRVK Borovoye 69.88 328 P **P** **23 26 16.3 +0.9**
SNR=27
BRVK Borovoye 69.88 328 *e*P **P** **23 26 15.0 -0.5**
BRVK pmax pmax
comp=Z,40nm,0.9s,mb5.3
BRVK Borovoye 69.88 328 *e*P **P** **23 26 15.0 -0.5**
comp=Z,40nm,0.9s,mb5.3
BIDO Bidbid 70.26 295 P **P** **23 26 18.2 +0.4**
SNR=8.0
ZRNK Zerenda 70.52 327 *e*P **P** **23 26 18.8 -0.6**
ZRNK pmax pmax
comp=Z,48nm,0.6s,mb5.6
ZRNK Zerenda 70.52 327 *e*P **P** **23 26 18.8 -0.6**
comp=Z,48nm,0.6s,mb5.6
TIXI Tiksi 70.66 1⇑ *e*P **P** **23 26 19.0 -1.2**
TIXI pmax pmax
comp=Z,31nm,1.6s,mb5.0
TIXI MLR MLR
comp=Z,500nm,21.0s
MIR Mirnyy 71.47 194 *e*P **P** **23 26 27.5 +2.4**
MIR pmax pmax
comp=Z,320nm,1.0s,mb6.2
ARQ Araqi 71.70 294 P **P** **23 26 27.6 +1.2**
SNR=12
ABKT Ailbek 72.84 309 P **P** **23 26 34.1 +0.8**
comp=Z,132nm,1.1s,mb5.8,SNR=14
WHFO Wadi Hawf 73.72 288 P **P** **23 26 39.1 +0.6**
SNR=5.5
AKTK Aktyubinsk 76.01 322 P **P** **23 26 51.6 0.0**
AKTO Aktyubinsk 76.01 322 P **P** **23 26 51.6 0.0**
comp=Z,14nm,0.6s,mb5.1,baz=106,slow=9.3,SNR=57
AKTO Aktyubinsk 76.01 322 P **P** **23 26 51.7 0.0**
AKTO pmax pmax
comp=Z,14nm,0.6s,mb5.1
AKUT Akutan 76.13 34 *e*P **P** **23 26 52.4 0.0**
SVE Sverdlovsk 76.48 329⇑ *i*P **P** **23 26 54.9 +0.5**
SVE *e* 23 27 17.0
SVE *e*S S 23 36 52.0 +17
SVE pmax pmax
comp=Z,28nm,1.2s,mb5.1
SVE MLR MLR
comp=N,100nm,15.0s
SVE MLR MLR
comp=E,200nm,15.0s
SVE MLR MLR
comp=Z,300nm,15.0s
ARU Arti 77.44 328 P **P** **23 26 59.5 -0.3**
comp=Z,87nm,0.9s,mb5.7,SNR=7.2
ARU Arti 77.44 328⇓ *i*P **P** **23 26 59.0 -0.8**
ARU *e* 23 29 53.8
ARU *e*PPP 23 31 39.6
ARU *e*S S 23 36 47.6 +1.8
ARU *e*SS SS 23 41 45.7 +0.2
ARU pmax pmax
comp=Z,15nm,1.2s,mb4.8
ARU Arti 77.44 328 *e*P **P** **23 26 59.0 -0.8**
comp=Z,18nm,0.7s,mb5.1
SOKR Solikamsk 79.28 331 *e*P **P** **23 27 10.5 +0.6**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SDPT Sand Point 79.42 34 *e*P **P** **23 27 10.2 -0.5**
QRN Al-Qurain 79.95 299 *e*P **P** **23 27 13.2 -0.3**
QRN AMb AMB 23 27 16.1
comp=Z,150nm,0.7s,mb6.0
KBD Kabd 80.18 299 *e*P **P** **23 27 15.5 +0.7**
KBD AMb AMB 23 27 20.3
comp=Z,154nm,1.5s,mb5.7
UMR Umm Al-Rimmam 80.19 300 *e*P **P** **23 27 15.5 +0.7**
UMR AMb AMB 23 27 17.1
comp=Z,95nm,0.8s,mb5.8
MIB Mutribah 80.53 300 *e*P **P** **23 27 17.2 +0.5**
MIB AMb AMB 23 27 19.3
comp=Z,169nm,0.7s,mb6.1
NAY Al-Naaiem 80.58 299 *e*P **P** **23 27 16.5 -0.4**
NAY AMb AMB 23 27 19.5
comp=Z,56nm,0.8s,mb5.5
VNDA Vanda 80.60 173 P **P** **23 27 15.9 -1.1**
comp=Z,2.3nm,0.5s,mb4.3,baz=317,slow=5.9,SNR=23
VNDA LR LR 23 58 36.8
comp=Z,239nm,20.1s,baz=333,slow=32
VNDA Vanda 80.60 173 P **P** **23 27 16.0 -1.0**
VNDA pmax pmax
comp=Z,2.0nm,0.5s
VNDA MLR MLR
comp=Z,239nm,20.1s
VNDA Vanda 80.60 173 *e*P **P** **23 27 16.0 -1.0**
comp=Z,8.2nm,0.8s,mb4.7
RST Umm Al-Ruwaisa 80.81 300 *e*P **P** **23 27 18.3 +0.2**
RST AMb AMB 23 27 20.5
comp=Z,175nm,0.7s,mb6.1
MAW Mawson 81.18 200 P **P** **23 27 20.4 +0.2**
comp=Z,2.6nm,0.4s,mb4.5,baz=62,slow=4.5,SNR=5.2
MAW LR LR 00 01 22.2
comp=Z,274nm,19.1s,baz=216,slow=34
SVW2 Sparrevohn 83.17 29 *e*P **P** **23 27 31.0 +0.5**
TTA Tatalina 83.32 27 *e*P **P** **23 27 31.6 +0.3**
TTA pmax pmax
comp=Z,63nm,1.4s,mb5.5
TTA Tatalina 83.32 27 *e*P **P** **23 27 31.6 +0.2**
comp=Z,63nm,1.4s,mb5.5
GNI Garni 83.46 310 P **P** **23 27 36.2 +4.2**
comp=Z,1.8nm,0.5s,mb4.3,baz=80,slow=6.1,SNR=2.6
GNI Garni 83.46 310 *e*P **P** **23 27 31.5 -0.5**
comp=Z,25nm,1.0s,mb5.2
PPT Papeete 84.05 108 *e*S 23 38 00.4
comp=Z,114nm,22.0s
PPT *e*SS SS 23 43 43.2 +19
comp=Z,144nm,25.2s
PPT *e*LR LR 23 54 12.9
comp=Z,300nm,25.5s
KDAK Kodiak Island 84.16 32 P **P** **23 27 36.1 +0.5**
comp=Z,3.8nm,0.5s,mb4.8,baz=275,slow=3.3,SNR=5.8
KDAK Kodiak Island 84.16 32 *e*P **P** **23 27 35.8 +0.2**
comp=Z,18nm,0.8s,mb5.2
ZEI Tsey 84.28 313 *e*P **P** **23 27 37.4 +1.2**
ZEI *e**PP pP 23 27 47.7 -5.5
ZEI pmax pmax
comp=Z,11nm,0.6s,mb5.2
TBI Tubuai 84.47 113 *e*LR LR 23 54 27.3
comp=Z,291nm,24.8s
GOF Gofitskoye 85.06 315 *e*P **P** **23 27 35.3 -4.8**
KIV Kislovodsk 85.24 314 *e*P **P** **23 27 41.9 +0.8**
KIV pmax pmax
comp=Z,17nm,1.7s,mb4.9
KIV Kislovodsk 85.24 314 *e*P **P** **23 27 40.0 -1.1**
comp=Z,15nm,0.9s,mb5.1
SLKM Skilak Lake 85.69 29 *e*P **P** **23 27 42.4 -0.9**
VRHR Novokhopersk 86.36 321 *e*P **P** **23 27 46.2 -0.4**
VRHR pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,8.0nm,0.5s
SML Sawmill 86.72 28 *e*P **P** **23 27 48.3 0.0**
VOR Voronezh 87.90 322 P **P** **23 27 55.0 +1.0**
VOR pmax pmax
comp=Z,30nm,1.4s,mb5.3
KLMR Klimovskoe 87.97 331 *e*P **P** **23 27 52.6 -1.8**
KLMR pmax pmax
comp=Z,30nm,1.2s,mb5.4
MALT Malatya 88.29 308 *e*P **P** **23 27 57.0 +1.1**
OBN Obninsk 89.49 325 *i* P **P** **23 28 00.7 -0.8**
OBN *i* pP 23 28 17.1 -1.5
OBN pmax pmax
comp=Z,11nm,1.5s,mb5.0
ASF Jabal al Asfar 89.57 302 P **P** **23 28 02.5 +0.6**
comp=Z,5.8nm,0.9s,mb4.9,baz=266,slow=0.2,SNR=8.5
ASF Jabal al Asfar 89.57 302 P **P** **23 28 02.5 +0.6**
ASF pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 89.71 269 P **P** **23 28 04.3 +1.8**
comp=Z,2.5nm,0.8s,mb4.6,baz=72,slow=6.2,SNR=5.3
KMBO Kilima Mbogo 89.71 269 *e*P **P** **23 28 04.7 +2.2**
KMBO pmax pmax
comp=Z,16nm,1.4s
KMBO Kilima Mbogo 89.71 269 *e*P **P** **23 28 04.7 +2.2**
comp=Z,16nm,1.4s,mb5.2
SYO Syowa Base 89.87 201⇓ *e*P **P** **23 28 02.7 -0.6**
SYO Syowa Base 89.87 201⇑ *e*pP pP 23 28 18.4 -2.0
APA Apatity 90.54 337 *e*P **P** **23 28 14.0 +7.6**
APA MLR MLR
comp=Z,500nm,20.0s
MMAI Mount Meron Ar 90.81 303 P **P** **23 28 09.1 +1.4**
comp=Z,0.4nm,0.3s,mb4.2,baz=345,slow=16,SNR=4.4
QSPA South Pole Qui 90.81 180 *e*P **P** **23 28 07.5 -0.2**
comp=Z,11nm,0.9s,mb5.2
DAWY Dawson 90.82 26 *e*P **P** **23 28 07.3 -0.4**
EIL Elat 91.30 300 *e*P **P** **23 28 10.3 +0.3**
comp=Z,74nm,0.8s,mb6.1
JOF Joensuu 91.79 333 *e*p **P** **23 28 10.9 -1.3**
comp=Z,1.5nm,0.4s,mb4.7
JOF Joensuu 91.79 333 *e*P **P** **23 28 10.9 -1.3**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.8
BR131 Keskin Array S 91.98 310 *e*P **P** **23 28 12.9 -0.2**
comp=Z,6.9nm,1.0s,mb4.9
BRTR Keskin Array B 91.98 310 P **P** **23 28 12.5 -0.6**
comp=Z,1.5nm,0.8s,mb4.3,baz=134,slow=7.1,SNR=5.2
BRTR Keskin Array B 91.98 310 P **P** **23 28 12.5 -0.6**
BRTR pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.0nm,0.9s						
CSS	Prodhromos	92.46	305	eP	P	23 28 15.9	+0.6
	comp=Z,9.6nm,0.9s,mb5.1						
KEV	Kevo	92.61	340	ep	P	23 28 15.6	-0.4
	comp=Z,1.0nm,0.4s,mb4.6						
KEV	Kevo	92.61	340	eP	P	23 28 15.6	-0.4
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.6						
INK	Inuvik	92.71	22	P	P	23 28 15.4	-1.1
	comp=Z,3.0nm,0.7s,mb4.8,baz=161,slow=7.9,SNR=4.8						
INK	Inuvik	92.71	22	P	P	23 28 15.4	-1.1
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	Inuvik	92.71	22	eP	P	23 28 15.0	-1.5
	comp=Z,7.0nm,0.9s,mb5.1						
TAOE	Nuku Hiva Isla	93.01	99	eLR	LR	23 58 34.5	
	comp=Z,1μm,26.4s						
ARCES	ARCESS Array B	93.17	340	P	P	23 28 16.9	-1.7
	comp=Z,2.5nm,0.4s,mb5.0,baz=80,slow=6.2,SNR=58						
ARCES				PKiKP	PKiKP	23 33 04.8	-0.4
	comp=Z,0.8nm,0.6s,baz=51,slow=0.3,SNR=6.1						
ARCES				PKKPbc	PKKPbc	23 45 27.6	+1.1
	comp=Z,1.1nm,0.9s,baz=250,slow=3.6,SNR=3.6						
ARCES	ARCESS Array B	93.17	340	P	P	23 28 16.9	-1.7
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KAF	Kangasniemi	94.20	332	ep	P	23 28 22.3	-1.0
	comp=Z,1.8nm,0.4s,mb4.8,baz=78,slow=4.9						
KAF	Kangasniemi	94.20	332	eP	P	23 28 22.3	-1.0
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.9						
AKASG	Malin Array Be	94.22	321	P	P	23 28 24.1	+0.7
	comp=Z,0.2nm,0.3s,mb4.1,baz=72,slow=4.3,SNR=3.8						
AKASG				LR	LR	00 16 57.2	
	comp=Z,204nm,21.7s,baz=95,slow=39						
FINES	FINESS Array B	94.42	332	P	P	23 28 23.1	-1.2
	comp=Z,0.6nm,0.5s,mb4.3,baz=69,slow=6.3,SNR=13						
FINES				PKiKP	PKiKP	23 33 06.9	-0.5
	comp=Z,0.4nm,0.5s,baz=98,slow=3.3,SNR=4.6						
FINES				LR	LR	00 15 31.1	
	comp=Z,166nm,20.8s,baz=258,slow=38						
MLR	Muntele Rosu	97.08	316	P	P	23 28 36.9	+0.5
	comp=Z,1.6nm,0.9s,mb4.5,baz=194,slow=8.3,SNR=3.0						
MLR	Muntele Rosu	97.08	316	P	P	23 28 36.9	+0.5
MLR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LSZ	Lusaka	98.68	255	eP	P	23 28 43.5	-0.1
LSZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb5.0						
LSZ	Lusaka	98.68	255	eP	P	23 28 43.5	-0.1
	comp=Z,3.7nm,0.9s,mb4.9						
IDI	Anoyia	99.32	306	P	P	23 28 46.4	-0.1
	comp=Z,1.9nm,0.5s,mb4.8,baz=99,slow=23,SNR=2.1						
DAG	Danmarks Havn	100.08	352⇓	iP	Pdif	23 28 48.7	-1.1
	comp=Z,1.4nm,0.7s						
DAG	Danmarks Havn	100.08	352⇓	eP	Pdif	23 28 48.7	-1.1
DAG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DAG	Danmarks Havn	100.08	352⇓	eP	Pdif	23 28 48.7	-1.1
	comp=Z,1.4nm,0.7s						
OJC	Ojcow	100.22	321	eP	Pdif	23 28 58.3	+7.8
NB2	NORSAR Subarra	101.41	333	Pdif	Pdif	23 28 54.0	-1.8
	comp=Z,1.7nm,1.0s,baz=66,slow=4.4						
NOA	NORSAR Array B	101.41	333	P	Pdif	23 28 54.2	-1.5
	comp=Z,1.2nm,0.9s,baz=69,slow=4.6,SNR=4.4						
NOA				PP	PP	23 33 01.9	-3.9
	comp=Z,0.6nm,0.7s,baz=65,slow=8.0,SNR=3.8						
NOA	NORSAR Array B	101.41	333	P	Pdif	23 28 54.3	-1.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SNAA	Sanae	102.54	194	eP	Pdif	23 29 00.6	-0.2
BRG	Berggiesshubel	103.63	323	e(P)	Pdif	23 28 58.1	-7.6
	comp=Z,1.2nm,0.9s						
BRG				e		23 29 07.2	
	comp=Z,1.8nm,0.9s						
BRG	Berggiesshubel	103.63	323	eP	Pdif	23 28 58.1	-7.5
BRG				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRG				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CLL	Collm	104.04	324	i		23 29 19.7	
CLL				i		23 29 31.9	
CLL				ePP	PP	23 33 34.0	+8.4
CLL				e		23 34 11.0	
CLL	Collm	104.04	324	i (pPdif)		23 29 19.7	
CLL				i x	x	23 29 31.9	
CLL				e(PP)		23 33 34.0	
CLL				ex	x	23 34 11.0	
CLL				LmV		00 21 00.0	
	comp=Z,300nm,18.2s						
GERES	GERESS Array B	104.42	321	Pdiff	Pdif	23 29 16.8	+7.6
	comp=Z,0.2nm,0.5s,baz=210,slow=5.7,SNR=3.4						
GERES				PKiKP	PKiKP	23 33 26.5	+1.3
	comp=Z,0.2nm,0.3s,baz=80,slow=1.9,SNR=6.8						
GERES	GERESS Array B	104.42	321	P	Pdif	23 29 16.8	+7.6
GERES				i		23 33 26.5	
CDF	Champ du Feu	108.56	322	eP	PP	23 34 02.0	+3.2
PGF	Pioggiola	109.62	316	eP	PP	23 33 55.7	-11
	comp=Z,15nm,1.0s						
PGF	Pioggiola	109.62	316	eP	PP	23 33 55.7	-11
	comp=Z,7.4nm,1.0s						
BAIF	Baives	109.68	325	eP	PP	23 34 18.3	+11
CABF	La Chapelle	110.02	321	eP	PP	23 34 09.7	+0.3
	comp=Z,32nm,1.5s						
CABF	La Chapelle	110.02	321	eP	PP	23 34 09.7	+0.3
	comp=Z,16nm,1.5s						
LPG	La Plagne	110.04	320	eP	PP	23 34 06.7	-2.8
	comp=Z,3.4nm,0.6s						
LPG	La Plagne	110.04	320	eP	PP	23 34 06.7	-2.8
	comp=Z,1.7nm,0.6s						
LPL	La Plagne	110.05	320	eP	PP	23 34 06.8	-2.8
	comp=Z,10nm,0.9s						
LPL	La Plagne	110.05	320	eP	PP	23 34 06.8	-2.8
	comp=Z,5.1nm,0.9s						
SBF	Sospel	110.22	318	eP	PP	23 34 04.4	-6.4
	comp=Z,17nm,0.9s						
SBF	Sospel	110.22	318	eP	PP	23 34 04.4	-6.4
	comp=Z,8.6nm,0.9s						
MBDF	Montbardon	110.33	319	eP	PP	23 34 07.3	-4.3
	comp=Z,7.1nm,0.9s						
MBDF	Montbardon	110.33	319	eP	PP	23 34 07.3	-4.3
	comp=Z,3.5nm,0.9s						
ORIF	Oris-en-Rattie	110.84	319	eP	PP	23 34 12.5	-2.8
	comp=Z,13nm,1.3s						
ORIF	Oris-en-Rattie	110.84	319	eP	PP	23 34 12.5	-2.8
	comp=Z,6.5nm,1.3s						
FRF	La Foret Royal	110.86	318	eP	PP	23 34 09.5	-5.9
LMR	La Mourre	111.04	318	eP	PP	23 34 10.2	-6.5
LOR	Lormes	111.13	322	eP	PP	23 34 21.9	+4.6
SSF	Saint Saulge	111.43	322	eP	PP	23 34 23.9	+4.4
VIVF	Saint-Julien-l	111.64	320	eP	PP	23 34 19.3	-1.8
HWUT	Hardware Ranch	112.43	44	ePKP	PKiKP	23 33 40.1	0.0
LASF	Ste Croix	112.50	319	eP	PP	23 34 25.3	-1.9
	comp=Z,11nm,1.1s						
LASF	Ste Croix	112.50	319	eP	PP	23 34 25.3	-1.9
	comp=Z,5.3nm,1.1s						
PDAR	Pinedale Array	113.33	42	PKKPbc	PKKPbc	23 44 32.0	+5.3
	comp=Z,0.3nm,0.4s,baz=124,slow=6.1,SNR=3.8						
ANMO	Albuquerque	118.74	49	ePKIKP	PKPdf	23 33 52.3	0.0
ESDC	Sonseca Array	119.70	318	PKP	PKPdf	23 33 53.5	-0.6
	comp=Z,0.1nm,0.4s,baz=18,slow=2.3,SNR=4.0						
ESDC				PP	PP	23 35 19.8	+2.2
	comp=Z,0.6nm,0.7s,baz=48,slow=7.7,SNR=6.4						
ESDC	Sonseca Array	119.70	318	PKP	PKPdf	23 33 53.5	-0.6
ESDC				PP	PP	23 35 19.8	+2.2
PVRL	Vila Real	121.31	321	ePKPdf	PKPdf	23 33 57.8	+0.6
MTE	Manteigas	121.68	320	ePKPdf	PKPdf	23 33 58.8	+0.9
PVIS	Viseu	121.73	321	ePKPdf	PKPdf	23 33 57.9	-0.1
PCBR	Castelo Branco	121.94	320	ePKPdf	PKPdf	23 33 59.5	+1.1
SCHQ	Schefferville	123.32	9	PKP	PKPdf	23 34 01.4	+0.3
	comp=Z,3.2nm,0.8s,baz=212,slow=5.6,SNR=8.2						
TORD	Torodi Ar. Bea	123.96	286	PKP	PKPdf	23 34 03.1	+0.8
	comp=Z,2.3nm,0.3s,baz=73,slow=1.7,SNR=108						
TORD				PKKPbc	PKKPbc	23 43 49.8	+1.8
	comp=Z,0.9nm,0.7s,baz=239,slow=2.6,SNR=18						
JCT	Junction City	125.71	51	ePKIKP	PKPdf	23 34 06.1	+0.4
WVT	Waverly	130.98	38	ePKIKP	PKPdf	23 34 15.7	0.0
DBIC	Dimbokro	131.32	280	PKP	PKPdf	23 34 17.5	+1.2
	comp=Z,3.0nm,0.8s,baz=170,slow=8.1,SNR=7.0						
DBIC	Dimbokro	131.32	280	ePKPdf	PKPdf	23 34 16.4	0.0
PLCA	Paso Flores	137.28	160	PKP	PKPdf	23 34 29.2	+1.7
	comp=Z,1.6nm,0.7s,baz=7.5,slow=14,SNR=4.2						
PLCA	Paso Flores	137.28	160	PKIKP	PKPdf	23 34 29.3	+1.8
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CFAA	Coronel Fontan	146.25	156	PKPbc	PKPbc	23 34 45.2	+0.6
	comp=Z,0.4nm,0.5s,baz=202,slow=3.6,SNR=8.8						
LVC	Limon Verde	153.47	146	PKPbc	PKPbc	23 35 04.8	+2.3
	comp=Z,2.3nm,0.6s,baz=225,slow=11,SNR=3.5						
ATAH	Atahualpa	154.01	104	PKPbc	PKPbc	23 35 07.5	+3.8
	comp=Z,2.7nm,0.5s,baz=80,slow=5.5,SNR=4.0						
OTAV	Otavalo	154.58	88	ePKPab	PKPab	23 35 21.2	+1.5
LPAZ	La Paz	158.67	137	PKP	PKPdf	23 35 03.2	+1.5
	comp=Z,2.3nm,0.3s,baz=284,slow=7.9,SNR=28						
LPAZ	La Paz	158.67	137	PKIKP	PKPdf	23 35 03.2	+1.5
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SDV	Santo Domingo	159.97	61	PKP	PKPdf	23 35 04.9	+1.7
	comp=Z,2.9nm,0.6s,baz=282,slow=14,SNR=2.6						
SDV				PKPab	PKPab	23 35 44.6	+1.6
	comp=Z,3.3nm,0.6s,baz=88,slow=2.9,SNR=3.8						
SDV	Santo Domingo	159.97	61	ePKPdf	PKPdf	23 35 03.8	+0.6
SIV	San Ignacio	163.04	153	PKP	PKPdf	23 35 07.5	+1.1
	comp=Z,1.2nm,1.0s,baz=315,slow=2.9,SNR=3.4						
SIV				PKPab	PKPab	23 35 58.6	+2.2
	comp=Z,1.0nm,0.6s,baz=193,slow=10,SNR=3.9						
BDFB	Brasilia	164.52	198	PKP	PKPdf	23 35 10.2	+2.4
	comp=Z,1.6nm,0.8s,baz=21,slow=17,SNR=1.9						
BDFB				PKPab	PKPab	23 36 01.8	-1.1
	comp=Z,0.9nm,0.4s,baz=51,slow=11,SNR=3.1						
SAML	Samuel	167.13	129	ePKPdf	PKPdf	23 35 09.9	0.0
SAML				ePKPab	PKPab	23 36 13.9	-0.5

ISC 01 23:25:58.3±3.7**, 34N**±1×**63E**±**, h0^{km}, n16,** σ**0^{s}53**/16**, 1D, Northwestern Afghanistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRD	Trivandrum	28.45	150⇓	eP	P	23 31 57.0	-0.1
TRD				eS		23 40 05.0	
TCF	Toulx Ste Croi	46.95	304	eP	P	23 34 32.1	-0.4
	11nm,1.2s						
TCF	Toulx Ste Croi	46.95	304	eP	P	23 34 32.1	-0.4
	5.6nm,1.2s						
CAF	Calviac	47.25	302	eP	P	23 34 34.7	-0.1
	10nm,1.1s						
CAF	Calviac	47.25	302	eP	P	23 34 34.7	-0.1
	5.1nm,1.1s						
MTLF	Montolieu	47.40	300	eP	P	23 34 36.0	0.0
RJF	Les Rejaudoux	47.57	303	eP	P	23 34 37.0	-0.4
	5.1nm,0.8s						
RJF	Les Rejaudoux	47.57	303	eP	P	23 34 37.0	-0.4
	2.5nm,0.8s						
LDF	La Druitiere	48.24	307	eP	P	23 34 42.2	-0.4
	7.1nm,0.8s						
LDF	La Druitiere	48.24	307	eP	P	23 34 42.2	-0.4
	3.5nm,0.8s						
FLN	La Foliniere	48.46	308	eP	P	23 34 44.4	+0.2
MFF	Saint Martin d	48.52	305	eP	P	23 34 45.1	+0.3
GRR	Gorron	48.76	307	eP	P	23 34 46.9	+0.4
	26nm,1.2s						
GRR	Gorron	48.76	307	eP	P	23 34 46.9	+0.4
	13nm,1.2s						
EVO	Evora	56.10	297	eP	P	23 35 46.4	+4.9
	8.9nm,1.0s						
EVOP	Sao Brissos	56.18	297	eP	P	23 35 46.4	+4.3
	4.4nm,1.0s						

*NEIC **01** 23:29:18.0, 1740N×10139W, h11^{km}, MD3.9(MEX), After MEX.*

MEX 01 23:29:18.0±0.7**, 1740N**×**10139W, h11**^{km}±18^{km}**, MD4.0, 1C, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.22	340⇑	iP	Pg	23 29 22.1	-0.6
ZIIG				i S	Sg	23 29 26.0	+0.2
CAIG	El Cayaco	1.12	108	i P	Pb	23 29 35.5	-3.9
CAIG				i S	Sb	23 29 49.1	-4.9
ACX	Acapulco	1.50	110	i P	Pn	23 29 42.0	-2.8
ACX				i S	Sn	23 30 00.0	-4.3
MEIG	Mezcala	1.76	72	eP	Pn	23 29 44.5	-3.9
MEIG				i S	Sn	23 30 06.4	-4.4
PLIG	Platanillo	2.05	61	eP	Pn	23 29 49.6	-2.7
PLIG				i S	Sn	23 30 12.8	-5.1
MOIG	Morelia	2.28	5	eP	Pn	23 29 52.5	-3.0
MOIG				i S	Sn	23 30 19.6	-3.9
PPM	Popocatepetl	3.10	57	eP	Pn	23 30 03.8	-3.0
PPM				i S	Sn	23 30 41.6	-2.3
UTMO	Huajuapan	3.44	82	i P	Pn	23 30 10.0	-1.5
UTMO				i S	Sn	23 30 49.5	-2.7

IDC 01 23:44:50.7±1.2**, 1890N**×**4613W, h0**^{km}**, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.6**/21**, mbtmp3.8**/4**, Error ellipse: s-maj=39.4km s-min=29.0km az=165.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	41.12	213	P	P	23 52 37.3	+0.9
	0.9nm,0.7s,baz=20,slow=7.9,SNR=5.6						
TORD	Torodi Ar. Bea	46.22	90	P	P	23 53 17.9	+0.5
	1.4nm,1.0s,baz=280,slow=7.8,SNR=5.2						
PDAR	Pinedale Array	58.02	309	P	P	23 54 45.8	+0.5
	1.0nm,0.9s,baz=96,slow=7.5,SNR=9.1						
BRTR	Keskin Array B	70.45	54	P	P	23 56 07.2	+0.4
	0.6nm,0.8s,baz=267,slow=6.6,SNR=3.9						

*ISCJB **02** 00:07:20.1±0.8, 192N±02×6901W±008, h33^{km}, Error ellipse: s-maj=30.1km s-min=5.0km az=39.4*
*RSPR **02** 00:07:22.7, 1925N×6895W, h15^{km}±30^{km}, MD3.8/7, MD3.8/7*
*NEIC **02** 00:07:22.7, 1925N×6895W, h15^{km}, MD3.8(RSPR), After RSPR.*

ISC 02 00:07:22.0±0.8**, 192N**±02×**6902W**±009**, h35**^{km}**, n10,** σ**0^{s}51**/20**, 9C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSP	Las Mesas	2.07	118⇑	eP	Pn	00 07 54.9	+0.7
LSP				eS	Sn	00 08 18.5	-0.3
CRPR	Cabo Rojo, PR	2.14	122⇑	eP	Pn	00 07 54.1	-1.0
CRPR				eS	Sn	00 08 20.8	+0.4
MGP	Maguayo	2.15	122⇑	eP	Pn	00 07 55.0	-0.4
MGP				eS	Sn	00 08 21.3	+0.5
CELP	Cerrillos	2.55	115⇑	eP	Pn	00 08 00.7	-0.1
CELP				eS	Sn	00 08 30.6	0.0
ICM	Isla Caja Muer	2.68	117⇑	eP	Pn	00 08 02.2	-0.4
ICM				eS	Sn	00 08 33.5	-0.3
SJG	San Juan	2.91	110⇑	eP	Pn	00 08 06.2	+0.4
SJG				eS	Sn	00 08 39.8	+0.4
CBYP	Canovanas	3.12	106⇑	eP	Pn	00 08 09.0	+0.3
CBYP				eS	Sn	00 08 44.4	-0.3
CPD	Cerro la Pandu	3.14	110⇑	eP	Pn	00 08 09.2	+0.2
CPD				eS	Sn	00 08 45.6	+0.3
MTP	Monte Pirata	3.44	107⇑	eP	Pn	00 08 12.9	-0.2
MTP				eS	Sn	00 08 52.0	-0.7
MASC	Masc	5.02	283	eP	Pn	00 08 35.9	+1.2
	baz=90						
MASC				eS	Sn	00 09 30.7	-0.8
	comp=N,1.6nm,0.1s						
MASC				e			
	comp=E,1.3nm,0.1s						

*ISCJB **02** 00:09:43.4±2.4, 283S±009×1274E±02, h6^{km}±15^{km}, mb3.9/5, Error ellipse: s-maj=35.8km s-min=10.6km az=147.1*
*NEIC **02** 00:09:54.8±2.7, 296S×12763E, h97^{km}±28^{km}, mb3.8/3, Error ellipse: s-maj=28.8km s-min=14.6km az=81.0*
*IDC **02** 00:09:55.3±4.0, 296S×12775E, h103^{km}±39^{km}, mb3.6/5, mb1 3.8/7, mb1mx3.6/17, mbtmp4.0/7, Error ellipse: s-maj=59.2km s-min=10.2km az=74.0*

ISC 02 00:09:53.6±1.9**, 294S**±009×**1276E**±02**, h82**^{km}±20^{km}**, n16,** σ**1^{s}29**/20**, mb3.8**/5**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	10.82	154	eP	Pn	00 12 25.6	0.0
	7.8nm,0.6s						
FITZ	Fitzroy Crossi	15.19	187	eP	Pn	00 13 24.1	+0.6
	5.8nm,1.0s						
FITZ	Fitzroy Crossi	15.19	187	P	Pn	00 13 25.4	+1.9
	0.2nm,0.3s,baz=312,slow=6.6,SNR=6.9						
WRAB	Tennant Creek	18.13	159	eP	Pn	00 13 59.5	-0.3
	32nm,1.3s						
WRA	Warramunga Arr	18.13	159	P	Pn	00 13 59.2	-0.7
	0.8nm,0.3s,baz=340,slow=12,SNR=46						
WRA				S	S	00 17 21.5	-0.7
	0.1nm,0.3s,baz=341,slow=28,SNR=3.1						
WB2	Warramunga Arr	18.14	159	eP	Pn	00 13 59.5	-0.4
MBWA	Marble Bar	19.66	202	eP	Pn	00 14 15.5	-2.6
	1.6nm,0.6s						
AS31	Alice Springs	21.48	164	eP	P	00 14 37.9	+2.4
AS31				eS	S	00 18 32.6	+3.6
ASAR	Alice Springs	21.48	164	P	P	00 14 35.5	0.0
	2.8nm,0.5s,mb3.8,baz=345,slow=12,SNR=38						
ASAR				S	S	00 18 28.6	-0.4
	2.8nm,1.1s,baz=346,slow=22,SNR=11						
ASPA	Alice Springs	21.48	164	eP	P	00 14 37.9	+2.4
ASPA				eS	S	00 18 32.6	+3.6
STKA	Stephens Creek	31.65	157	P	P	00 16 06.6	-2.4
	2.0nm,0.7s,mb3.9,baz=327,slow=8.5,SNR=2.9						
STKA	Stephens Creek	31.65	157	P	P	00 16 06.6	-2.4
MJAR	Matsushiro Arr	40.51	13	P	P	00 17 24.3	-0.2
	1.1nm,0.6s,mb3.9,baz=194,slow=9.1,SNR=5.4						
MJAR	Matsushiro Arr	40.51	13	P	P	00 17 24.3	-0.2
SONM	Songino Array	53.87	342	P	P	00 19 08.6	+0.3
	1.5nm,0.9s,mb4.0,baz=156,slow=10,SNR=9.3						
MKAR	Makanchi Array	63.55	327	P	P	00 20 15.2	-0.2
	0.6nm,0.7s,mb3.5,baz=111,slow=6.8,SNR=6.2						

*STR **02** 00:12:41.9±0.5, 4373N×841E, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **02** 00:12:43.4±0.1, 4346N×813E, h5^{km}, Md2.1/3, Ml1.8/3, Error ellipse: s-maj=4.3km s-min=1.7km az=32.0*
*ROM **02** 00:12:44.5±0.3, 4414N×778E, h10^{km}, Md1.8/4, Ml1.0/1, Error ellipse: s-maj=3.6km s-min=3.4km az=177.0*

ISC 02 00:12:40.1±1.7**, 4368N**±008×**848E**±009**, h5**^{km}±23^{km}**, n12,** σ**0^{s}88**/23**, Corsica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMI	Imperia	0.49	299	Pg	Pg	00 12 49.9	+0.5
IMI				Sg	Sg	00 12 55.2	-0.6
	3.0nm,0.1s						
FIN	Finale Ligure	0.57	340	Pg	Pg	00 12 51.1	+0.2
FIN				Sg	Sg	00 12 56.7	-1.6
	5.0nm,0.1s						
QLNO	Quiliano	0.65	352	Pg	Pg	00 12 53.3	+0.7
QLNO				Sg	Sg	00 13 01.2	+0.1
	9.0nm,0.3s						
SBF	Sospel	0.78	284	ePg	Pg	00 12 55.7	+0.7
SBF				eSg	Sg	00 13 04.6	-0.5
	17nm,0.2s						
REVF	Revere	0.81	275	Pg	Pg	00 12 55.9	+0.3
REVF				Sg	Sg	00 13 06.8	+0.7
AUTN	L'Aution	0.82	293	Pg	Pg	00 12 56.5	+0.6
AUTN				Sg	Sg	00 13 06.3	-0.3
LUCF	Luceram	0.85	285	Pg	Pg	00 12 57.0	+0.6
LUCF				Sg	Sg	00 13 07.9	+0.5
TOUF	Mont Tournerai	0.95	291	Pg	Pg	00 12 58.6	+0.3
TOUF				Sg	Sg	00 13 11.3	+0.6
PGF	Pioggiola	1.19	161	ePn	Pn	00 13 04.1	+0.7
PGF				eSn	Sn	00 13 19.4	-0.5
	0.9nm,0.2s						
DOI	San Damiano	1.21	313	Pg	Pg	00 12 55.3	-8.0
	25nm,0.2s						
FRF	La Foret Royal	1.34	266	ePg	Pg	00 13 03.6	-2.1
FRF				eSg	Sg	00 13 18.0	-5.0
	2.5nm,0.2s						
LMR	La Mourre	1.48	257	ePg	Pg	00 13 05.4	-2.9
LMR				eSg	Sg	00 13 20.9	-6.6
	1.2nm,0.2s						

*ISCJB **02** 00:35:54.0±2.0, 607S±008×1477E±0.1, h49^{km}±19^{km}, mb4.2/13, MS3.5/4, Error ellipse: s-maj=22.8km s-min=11.9km az=36.9*
*NEIC **02** 00:35:54.3±0.5, 603S×14773E, h35^{km}, mb4.5/9, Error ellipse: s-maj=15.0km s-min=7.9km az=107.0*
*IDC **02** 00:35:56.2±2.2, 610S×14748E, h46^{km}±20^{km}, mb3.9/8, mb1 4.1/10, mb1mx4.0/13, mbtmp4.1/10, ML3.8/2, MS3.5/7, Ms1 3.5/7, ms1mx3.2/17, Error ellipse: s-maj=22.9km s-min=12.2km az=110.0*

ISC 02 00:35:57.6±1.6**, 614S**±008×**1477E**±01**, h63**^{km}±14^{km}**, n30,** σ**0^{s}96**/25**, mb4.2**/13**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.28	188	P	Pn	00 36 46.4	-0.2
	15nm,0.3s,baz=254,slow=16,SNR=22						
PMG				S	Sn	00 37 24.2	-0.1
	18nm,0.3s,baz=209,slow=16,SNR=3.5						
HNR	Honiara	12.62	106	LR	LR	00 43 08.1	
	comp=Z,87nm,19.9s,baz=357,slow=34						
KAKA	Kakadu	16.35	245	eP	Pn	00 39 44.4	+1.3
	10nm,0.4s						
WRAB	Tennant Creek	18.84	222	eP	Pn	00 40 13.1	-0.4
	15nm,0.6s						
WB2	Warramunga Arr	18.84	222	eP	Pn	00 40 12.5	-1.1
WRA	Warramunga Arr	18.85	222	P	Pn	00 40 12.3	-1.4
	0.9nm,0.3s,baz=49,slow=11,SNR=29						
WRA				S	S	00 43 41.4	-2.1
	0.1nm,0.3s,baz=52,slow=23,SNR=3.9						
WRA				PcP	PcP	00 44 39.0	+2.1
	baz=24,slow=1.9,SNR=5.3						
WRA				LR	LR	00 48 01.1	
	comp=Z,112nm,20.6s,baz=225,slow=39						
GUMO	Guam	19.79	352	LR	LR	00 46 42.1	
	comp=Z,128nm,19.9s,baz=98,slow=33						
AS31	Alice Springs	21.87	216	eP	P	00 40 46.0	+0.8
ASAR	Alice Springs	21.87	216	P	P	00 40 45.6	+0.5
	5.6nm,0.6s,mb4.2,baz=54,slow=8.9,SNR=28						
ASAR				S	S	00 44 44.9	+1.6
	3.3nm,1.0s,baz=33,slow=16,SNR=7.7						
ASAR				LR	LR	00 50 06.8	
	comp=Z,138nm,18.1s,baz=24,slow=39						
ASPA	Alice Springs	21.88	216	eP	P	00 40 46.0	+0.8
FITZ	Fitzroy Crossi	24.54	239	eP	P	00 41 12.3	+0.9
	27nm,0.7s,mb4.9						
FITZ	Fitzroy Crossi	24.54	239	P	P	00 41 12.2	+0.9
	11nm,0.6s,mb4.6,baz=76,slow=9.6,SNR=41						
FITZ				LR	LR	00 51 54.0	
	comp=Z,120nm,20.3s,baz=197,slow=39						
STKA	Stephens Creek	26.22	192	eP	P	00 41 24.9	-1.7
	4.5nm,0.9s,mb4.0						
STKA	Stephens Creek	26.22	192	P	P	00 41 25.0	-1.6
	4.7nm,0.8s,mb4.0,baz=25,slow=12,SNR=6.4						
STKA				LR	LR	00 50 27.3	
	comp=Z,154nm,20.9s,baz=23,slow=33						
FORT	Forrest	30.64	214	eP	P	00 42 06.6	+0.7
	6.0nm,0.5s,mb4.7						
MBWA	Marble Bar	30.88	238	eP	P	00 42 08.9	+0.9
	2.9nm,0.7s,mb4.2						
KLBR	Kellerberrin	37.72	224	eP	P	00 43 07.5	+0.4
	31nm,1.4s,mb4.8						
MJAR	Matsushiro Arr	43.37	349	P	P	00 43 53.8	+0.1
	3.7nm,0.8s,mb4.1,baz=176,slow=10,SNR=6.5						
ULN	Ulaanbaatar	64.54	331	eP	P	00 46 27.2	-0.8
	2.0nm,0.8s,mb4.2						
SONM	Songino Array	64.84	331	P	P	00 46 30.4	+0.4
	1.5nm,0.9s,mb4.0,baz=150,slow=7.4,SNR=9.2						
SONM				LR	LR	01 14 14.8	
	comp=Z,46nm,19.9s,baz=336,slow=36						
VNDA	Vanda	71.73	177	P	P	00 47 14.0	+0.9
	0.9nm,0.8s,mb3.7,baz=319,slow=7.0,SNR=6.2						
MKAR	Makanchi Array	78.01	320	P	P	00 47 49.0	-0.3
	0.4nm,0.5s,mb3.6,baz=89,slow=7.4,SNR=5.5						
ZAL	Zalesovo	79.48	328	P	P	00 47 55.8	-1.5
	0.9nm,0.6s,mb3.9,baz=356,slow=6.3						
QSPA	South Pole Qui	83.83	180	eP	P	00 48 20.7	+0.4
	7.3nm,0.7s,mb4.9						
GERES	GERESS Array B	122.39	326	PKP	PKPdf	00 54 45.6	-0.1
	0.4nm,0.4s,baz=68,slow=2.7,SNR=7.6						
LPAZ	La Paz	138.17	123	PKP	PKPdf	00 55 16.9	+1.4
	3.1nm,1.2s,baz=75,slow=2.1,SNR=4.4						
TORD	Torodi Ar. Bea	145.75	284	PKPbc	PKPbc	00 55 30.5	+1.0
	5.7nm,0.7s,baz=79,slow=3.8,SNR=59						
SAML	Samuel	145.81	116	ePKPdf	PKPdf	00 55 31.9	+2.8
DBIC	Dimbokro	152.67	273	PKPbc	PKPbc	00 55 48.4	+1.2
	3.6nm,0.8s,baz=115,slow=5.0,SNR=5.2						
BDFB	Brasilia	153.38	145	PKPbc	PKPbc	00 55 50.1	+1.4
	4.2nm,0.7s,baz=134,slow=3.9,SNR=5.5						

CASC 02 01:10:43.9±2.4, 13.06N×89.44W, h35km±62km, MD3.6, 10C-4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNET	Serv Nac Est T	0.65	18	⇓iP	x	01 10 57.0	
LFRS	El Faro	0.67	33	⇑iP	x	01 11 23.2	
LFRS				eS	x	01 11 33.9	
BOQS	Boqueron	0.69	13	⇓eP	x	01 11 23.7	
BOQS				eS	x	01 11 33.5	
LCBS	La Ceiba	0.74	37	⇑iP	x	01 11 23.9	
LCBS				eS	x	01 11 35.0	
LFU	La Fuente	0.75	25	⇓eP	x	01 11 24.6	
LFU				eS	x	01 11 36.5	
LBRS	Las Brisas	0.77	29	⇑eP	x	01 11 24.7	
LBRS				eS	x	01 11 35.6	
SBLS	San Blas	0.80	347	⇑eP	x	01 11 24.9	
SBLS				eS	x	01 11 37.1	
SNVI	San Vicente	0.80	47	⇑eP	x	01 11 24.7	
SNVI				eS	x	01 11 36.1	
SNJE	San Jose	0.82	348	⇑eP	x	01 11 25.2	
SNJE				eS	x	01 11 36.8	
RBDL	Robledal	1.07	347	⇑eP	x	01 11 28.9	
RBDL				eS	x	01 11 44.7	
VSM	San Miguel	1.19	72	eP	x	01 11 30.6	
VSM				eS	x	01 11 46.4	
BLLM	Bellamira	1.23	72	⇑iP	x	01 11 31.0	
BLLM				eS	x	01 11 47.4	
MTO2	Montecristo 2	1.33	3	⇑eP	x	01 11 32.2	
MTO2				eS	x	01 11 48.0	
IXG	Ixpaco	1.49	318	⇑eP	Pn	01 11 07.9	-0.2
IXG				eS	Sn	01 11 26.6	+0.4
CNCH	Conchagua	1.57	82	⇓eP	x	01 11 35.4	
CNCH				eS	x	01 11 55.4	
TP2	Tecpan 2	2.30	318	eS	Sn	01 11 49.7	+3.3

NEIC 02 01:24:12.5, 29.32S×71.54W, h47km, MG3.5(GUC), After GUC.
GUC 02 01:24:12.5±1.0, 29.32S×71.54W, h47km±7km, MD3.7, ML3.5, 3C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	Vallenar	1.01	43	⇓iP	Pn	01 24 31.0	+0.7
VACH				iS	Sn	01 24 44.5	+1.1
VACH				AML	AML	01 24 46.5	
	comp=N,4μm,0.1s						
VACH	Vallenar	1.01	43	⇓iP	Pn	01 24 31.0	+0.7
VACH				iS	Sn	01 24 44.5	+1.1
TLL	Tololo Astrono	1.06	143	⇓iP	Pn	01 24 32.6	+1.6
TLL				iS	Sn	01 24 46.9	+2.2
TLL				AML	AML	01 24 54.0	
	comp=N,547nm,0.5s						
TLL	Tololo Astrono	1.06	143	⇓iP	Pn	01 24 32.6	+1.6
TLL				iS	Sn	01 24 46.9	+2.2
OVCH	Ovalle	1.32	167	⇓iP	Pn	01 24 34.9	+0.5
OVCH				iS	Sn	01 24 51.7	+0.9
OVCH				AML	AML	01 24 53.2	
	comp=N,478nm,0.4s						
OVCH	Ovalle	1.32	167	⇓iP	Pn	01 24 34.9	+0.5
OVCH				iS	Sn	01 24 51.7	+0.9
CMCH	Combarbala	1.91	166	⇑iP	Pn	01 24 43.2	+0.7
CMCH				iS	Sn	01 25 06.6	+1.3
CMCH				AML	AML	01 25 08.9	
	comp=E,814nm,1.1s						
CMCH	Combarbala	1.91	166	⇑iP	Pn	01 24 43.2	+0.7
CMCH				iS	Sn	01 25 06.6	+1.3
CPCH	Copiapo	2.22	29	iS	Sn	01 25 14.1	+1.1
CPCH				AML	AML	01 25 15.8	
	comp=E,2μm,0.0s						
CHNG	Los Chungos	2.56	179	⇑iP	Pn	01 24 51.4	0.0
CHNG				iS	Sn	01 25 20.5	-0.8
CHNG				AML	AML	01 25 20.9	
	comp=E,44nm,0.1s						
FCH	Farellones	4.14	165	eP	Pn	01 25 15.3	+2.2
RCDM	Rinconada Maip	4.20	172	iS	Sn	01 26 01.8	0.0
RCDM				AML	AML	01 26 04.6	
	comp=E,104nm,0.1s						
LMEL	Las Melosas	4.66	166	eP	Pn	01 25 21.7	+1.5

IDC 02 02:02:04.6±4.6, 25.62N×65.56E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/22, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=96.1km s-min=34.0km az=144.0
ISCJB 02 02:02:09.6±2.5, 25.8N±0.2×65.0E±0.2, h33km, mb3.4/4, Error ellipse: s-maj=43.0km s-min=13.8km az=107.9
ISC 02 02:02:14.1±2.8, 26.0N±0.2×64.8E±0.2, h35km, n8, σ0.96/9, mb3.4/4, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	6.22	246	Pn	Pn	02 03 44.6	+1.1
	3.6nm,0.3s,baz=73,slow=9.0,SNR=94						
WSAR				Sn	Sn	02 04 52.1	-1.2
	1.0nm,0.3s,baz=53,slow=9.0,SNR=2.7						
NAY	Al-Naaiem	15.90	286	eP	Pn	02 05 56.2	+1.1
NAY				AMb	AMB	02 05 56.8	
	comp=Z,17nm,0.5s						
MIB	Mutribah	15.90	288	eP	Pn	02 05 55.2	0.0
MIB				AMb	AMB	02 05 56.0	
	comp=Z,12nm,0.5s						
RST	Umm Al-Ruwaisa	16.15	287	eP	Pn	02 05 58.4	0.0
RST				AMb	AMB	02 05 59.4	
	comp=Z,9.0nm,0.4s						
AKTO	Aktyubinsk	25.00	350	P	P	02 07 33.2	-1.3
	comp=Z,0.7nm,0.5s,mb3.4,baz=184,slow=11,SNR=2.6						
MKAR	Makanchi Array	25.02	29	P	P	02 07 29.7	-5.0
	comp=Z,0.2nm,0.3s,mb3.1,baz=215,slow=9.8,SNR=3.2						
FINES	FINESS Array B	44.01	334	P	P	02 10 18.3	+0.1
	comp=Z,0.5nm,0.8s,mb3.3,baz=141,slow=9.0,SNR=3.6						
ARCES	ARCESS Array B	49.27	343	P	P	02 10 59.7	+0.4
	comp=Z,1.0nm,0.8s,mb3.9,baz=140,slow=7.8,SNR=4.6						

ISCJB 02 02:09:11.7±1.0, 1.8N±0.1×97.6E±0.1, h33km, mb3.8/7, Error ellipse: s-maj=19.3km s-min=17.1km az=105.2
NEIC 02 02:09:13.3±0.8, 1.84N×97.61E, h30km, mb3.9/1, Error ellipse: s-maj=15.9km s-min=13.5km az=48.0
IDC 02 02:09:18.0±8.2, 1.97N×97.89E, h65km±62km, mb3.5/6, mb1 3.6/6, mb1mx3.3/18, mbtmp3.8/6, Error ellipse: s-maj=112.1km s-min=20.4km az=59.0
ISC 02 02:09:14.4±1.0, 1.9N±0.1×97.7E±0.1, h35km, n12, σ0.51/11, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	1.57	54	P	Pn	02 09 39.5	-0.1
	21nm,0.3s,baz=245,slow=7.9,SNR=62						
KULM	Kulim	4.52	41	ePn	Pn	02 10 20.5	+0.2
ASAR	Alice Springs	43.45	128	P	P	02 17 14.3	+0.4
	0.8nm,0.5s,mb3.7,baz=298,slow=7.7,SNR=6.3						
SONM	Songino Array	46.39	8	P	P	02 17 37.1	-0.2
	0.7nm,0.5s,mb3.9,baz=191,slow=9.6,SNR=5.5						
MKAR	Makanchi Array	46.69	346	P	P	02 17 40.0	+0.4
	0.4nm,0.4s,mb3.7,baz=149,slow=9.6,SNR=5.6						
STKA	Stephens Creek	53.48	133	eP	P	02 18 30.8	-0.3
	1.7nm,0.6s,mb4.2						
STKA	Stephens Creek	53.48	133	P	P	02 18 30.5	-0.6
	1.3nm,0.4s,mb4.2,baz=292,slow=5.4,SNR=3.8						
STKA	Stephens Creek	53.48	133	eP	P	02 18 30.7	-0.4
BVAR	Borovoye Array	55.76	340	P	P	02 18 47.7	+0.1
	0.8nm,0.6s,mb4.0,baz=139,slow=9.2,SNR=7.2						
BRVK	Borovoye	55.82	340	P	P	02 18 47.0	-1.1
	0.9nm,0.7s,mb3.9						
FINES	FINESS Array B	79.60	332	P	P	02 21 18.6	+0.8
	0.5nm,0.7s,mb3.5,baz=126,slow=8.8,SNR=3.8						
ARCES	ARCESS Array B	82.05	340	pP	pP	02 21 46.9	+4.9
	1.2nm,0.9s,baz=102,slow=5.1,SNR=2.3						

ISCJB 02 02:36:52.0±1.0, 43.31N±0.03×45.16E±0.06, h3km±5km, Error ellipse: s-maj=7.6km s-min=5.1km az=153.5
TIF 02 02:36:52.5, 43.48N×44.96E, h20km±5km
MOS 02 02:36:52.0±0.5, 43.28N×45.09E, h10km, mb3.7/1, Error ellipse: s-maj=12.8km s-min=9.6km az=8.4
ISC 02 02:36:52.9±1.0, 43.31N±0.03×45.14E±0.06, h4km±5km, n15, σ0.94/30, 5C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNJR	Sundja	0.34	225	⇑iPG	Pg	02 36 59.5	+0.1
SNJR				iS	Sg	02 37 05.2	+1.4
VLKR	Vladikavkaz	0.43	233	⇑iPG	Pg	02 37 00.9	-0.2
VLKR				iS	Sg	02 37 07.7	+1.0
BTKR	Batakoyurt	0.44	279	⇓iPG	Pg	02 37 01.1	-0.3
BTKR				iS	Sg	02 37 08.1	+1.0
TRKR	Terskaya	0.51	325	⇓iPG	Pg	02 37 03.0	+0.2
TRKR				iS	Sg	02 37 11.2	+1.8
KMSR	Komsomolskaya	0.62	276	⇓iPG	Pg	02 37 04.2	-0.7
KMSR				iS	Sg	02 37 13.4	+0.5
ARNR	Ardon	0.64	260	⇑iPG	Pg	02 37 04.4	-0.8
ARNR				iS	Sg	02 37 13.8	+0.3
PRTR	Priterechnaya	0.77	306	⇑iPG	Pg	02 37 07.0	-0.6
PRTR				iS	Sg	02 37 18.2	+0.6
KORR	Kora	0.81	255	⇑iPG	Pg	02 37 07.4	-1.1
KORR				iS	Sg	02 37 19.0	-0.1
ZEI	Tsey	1.06	240	⇓iPG	Pg	02 37 11.4	-1.8
ZEI				iS	Sg	02 37 25.8	-1.1
KUBR	Kubataba	1.35	292	ePG	Pg	02 37 17.9	-0.9
KUBR				eS	Sg	02 37 36.6	+0.3
ONI	Oni	1.44	240	P	Pn	02 37 18.8	-0.9
ONI				S	Sb	02 37 38.2	-0.6
MTA	Mtatsminda	1.63	189	P	Pn	02 37 23.8	+1.5
MTA				S	Sn	02 37 47.2	+3.4
SHAR	Shatzhatmas	1.85	284	ePN	Pn	02 37 24.7	-0.6
SHAR				eS	Sn	02 37 49.9	+0.8
DGRG	David-gareji	1.86	175	P	Pg	02 37 29.3	+0.7
DGRG				S	Sg	02 37 59.4	+6.6
KIV0	Kislovodsk Arr	1.89	291	ePN	Pn	02 37 24.7	-1.2
KIV0				eS	Sn	02 37 50.2	+0.1

IDC 02 02:46:15.4±2.0, 2.41N×95.69E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.5/19, mbtmp3.6/6, ML3.0/1, MS3.7/1, Ms1 3.7/1, ms1mx2.6/26, Error ellipse: s-maj=62.5km s-min=24.5km az=44.0
ISCJB 02 02:46:18.8±1.4, 2.5N±0.2×95.8E±0.1, h33km, mb3.7/6, MS3.7/1, Error ellipse: s-maj=31.5km s-min=15.4km az=43.0
NEIC 02 02:46:20.1±1.1, 2.46N×95.76E, h30km, mb4.0/1, Error ellipse: s-maj=23.8km s-min=11.6km az=203.0
ISC 02 02:46:21.1±1.4, 2.5N±0.2×95.8E±0.1, h35km, n9, σ0.30/8, mb3.7/6, MS3.7/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	3.15	84	Pn	Pn	02 47 08.4	+0.2
	1.6nm,0.3s,baz=296,slow=14,SNR=7.2						
KULM	Kulim	5.59	60	ePn	Pn	02 47 41.6	-0.2
WRA	Warramunga Arr	43.92	122	P	P	02 54 24.3	-0.1
	0.3nm,0.8s,mb3.1,baz=301,slow=9.0,SNR=2.9						
MKAR	Makanchi Array	45.66	347	P	P	02 54 38.7	+0.5
	0.9nm,0.6s,mb3.9,baz=160,slow=7.4,SNR=9.2						
SONM	Songino Array	46.09	10	P	P	02 54 41.6	0.0
	1.0nm,0.7s,mb3.8,baz=191,slow=8.3,SNR=7.7						
BVAR	Borovoye Array	54.57	341	P	P	02 55 45.3	-0.4
	0.5nm,0.5s,mb3.8,baz=104,slow=6.3,SNR=3.7						
ZRNK	Zerenda	54.96	341	eP	P	02 55 48.3	-0.2
	1.0nm,0.6s,mb4.0						
KMBO	Kilima Mbogo	58.62	267	LR	LR	03 16 27.0	
	comp=Z,60nm,19.0s,MS3.7,baz=282,slow=31						
ARCES	ARCESS Array B	80.84	340	P	P	02 58 31.6	+0.3
	1.0nm,0.9s,mb3.8,baz=116,slow=8.4,SNR=3.1						

IDC 02 02:57:29.6±0.7, 20.40S×176.18W, h0km, mb4.6/10, mb1 4.8/10, mb1mx4.6/14, mbtmp4.6/10, MS4.2/14, Ms1 4.2/14, ms1mx4.0/26, Error ellipse: s-maj=27.5km s-min=18.2km az=168.0
ISCJB 02 02:57:30.8±0.3, 20.67S±0.09×176.19W±0.06, h16km, mb4.8/52, MS4.4/19, Error ellipse: s-maj=13.4km s-min=6.4km az=141.9
MOS 02 02:57:35.9±3.0, 20.57S×176.09W, h33km, mb5.0/22, MS5.4/4, Error ellipse: s-maj=16.7km s-min=10.8km az=145.8
NEIC 02 02:57:45.0±3.9, 20.49S×176.42W, h121km±33km, mb4.6/37, Error ellipse: s-maj=14.6km s-min=8.2km az=148.0
BJI 02 02:57:44.9, 20.50S×176.40W, h120km, mB5.1, mb4.8
HRVD 02 02:57:45.0±0.4, 20.69S×176.00W, h26km±1km, MW5.0/66, Centroid moment Tensor Solution. LP body waves: s23,c26;Mantle waves: s66,c89; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.70±.21; $M_{\theta\theta}$-3.49±.15; $M_{\phi\phi}$4.19±.18; $M_{r\theta}$-1.40±.36; $M_{\theta\phi}$0.92±.16; $M_{\phi r}$1.39±.35; Best double couple: $M_0$4.44900×10^{16} NP1:ϕ_s50.00000°,δ63.00000°,λ-8.00000°. NP2: ϕ_s144.00000°,δ83.00000°,λ-152.00000°. Principal axes: T 4.5950, Plg14.0000°, Azm274.0000°; N -0.2940, Plg62.0000°, Azm157.0000°; P -4.3030, Plg24.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
ORF 02 02:57:51.4, 15.69S×176.87E, h30km, mb5.5
ISC 02 02:57:32.7±0.3, 20.64S±0.09×176.14W±0.06, h17km, h17km±.8km:pP-P, n228, σ1.23/103, mb4.8/52, MS4.4/19, 21C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	8.73	190	LR	LR	03 02 01.0	
	comp=Z,424nm,21.2s,baz=3.5,slow=30						
RAR	Rarotonga	15.31	95	LR	LR	03 05 30.6	
	comp=Z,1μm,18.8s,baz=272,slow=31						
DZM	Mont Dzumac	16.29	262	eP	Pn	03 01 22.9	+2.3
DZM	Mont Dzumac	16.29	262	Pn	Pn	03 01 26.6	+6.0
	0.4nm,0.3s,baz=96,slow=13,SNR=16						
DZM				LR	LR	03 05 13.5	
	comp=Z,155nm,19.7s,baz=78,slow=28						
URZ	Urewera	18.51	197	P	Pn	03 01 42.9	-5.4
	0.3nm,0.3s,baz=9.5,slow=6.1,SNR=4.3						
URZ				LR	LR	03 07 47.2	
	comp=Z,2μm,21.8s,baz=326,slow=33						
PAE	Paea	25.26	88	eP	P	03 02 58.0	+0.1
	169nm,1.1s,mb5.5						
PPT	Papeete	25.28	88	eS	S	03 07 20.4	-2.8
	161nm,23.8s						
PPT				eLR	LR	03 08 59.8	
	2μm,28.2s,baz=255						
PPT	Papeete	25.28	88	P	P	03 02 57.0	-1.1
	51nm,0.9s,mb5.1,baz=252,slow=13,SNR=4.2						
PPT				LR	LR	03 10 08.1	
	comp=Z,598nm,18.2s,MS4.1,baz=282,slow=30						
HNR	Honiara	25.60	292	LR	LR	03 11 23.9	
	comp=Z,317nm,20.2s,MS3.8,baz=176,slow=33						
PMOR	Pomariorio Ree	27.45	83	eP	P	03 03 16.2	-1.5
	81nm,1.0s,mb5.2						
CTA	Charters Tower	35.21	264	eP	P	03 04 26.8	+0.9
	24nm,1.0s,mb5.1						
CTA	Charters Tower	35.21	264	P	P	03 04 26.1	+0.2
	42nm,1.1s,mb5.3,baz=89,slow=11,SNR=17						
CTA				LR	LR	03 17 00.6	
	comp=Z,834nm,21.8s,MS4.5,baz=73,slow=33						
CTA	Charters Tower	35.21	264	eP	P	03 04 26.8	+0.9
CTA				pmax	pmax		
	comp=Z,24nm,1.0s						
CTAO	Charters Tower	35.21	264	eP	P	03 04 26.5	+0.6
CTAO				pmax	pmax		
	comp=Z,76nm,1.3s,mb5.5						
CTAO	Charters Tower	35.21	264	eP	P	03 04 26.5	+0.6
	comp=Z,76nm,1.3s,mb5.5						
PMG	Port Moresby	37.07	282	P	P	03 04 41.6	-0.2
	comp=Z,31nm,1.1s,mb5.1,baz=105,slow=7.8,SNR=5.8						
PMG				LR	LR	03 18 25.8	
	comp=Z,435nm,18.6s,MS4.3,baz=252,slow=34						
PMG	Port Moresby	37.07	282	P	P	03 04 41.6	-0.3
PMG				pmax	pmax		
	comp=Z,31nm,1.1s						
PMG	Port Moresby	37.07	282	eP	P	03 04 41.5	-0.3
	comp=Z,42nm,1.1s,mb5.2						
STKA	Stephens Creek	39.30	245	eP	P	03 04 57.7	-2.9
	comp=Z,5.8nm,1.0s,mb4.3						
STKA	Stephens Creek	39.30	245	P	P	03 04 57.5	-3.1
	comp=Z,2.8nm,0.9s,mb4.0,baz=115,slow=4.2,SNR=3.7						
STKA				LR	LR	03 19 15.5	
	comp=Z,494nm,18.9s,MS4.4,baz=50,slow=33						
AS31	Alice Springs	46.18	257	eP	P	03 05 56.7	+0.2
ASAR	Alice Springs	46.18	257	P	P	03 05 55.8	-0.7
	comp=Z,3.6nm,0.7s,mb4.4,baz=88,slow=7.9,SNR=34						
ASAR				PcP	PcP	03 07 30.8	-1.4
	comp=Z,1.2nm,0.8s,baz=104,slow=5.0,SNR=2.0						
ASAR				LR	LR	03 23 48.5	
	comp=Z,370nm,21.0s,MS4.3,baz=115,slow=34						
ASAR	Alice Springs	46.18	257	P	P	03 05 55.8	-0.7
ASAR						03 07 30.8	
ASPA	Alice Springs	46.18	257	eP	P	03 05 56.7	+0.2
WB2	Warramunga Arr	46.29	262	eP	P	03 05 56.6	-0.8
WRAB	Tennant Creek	46.29	262	eP	P	03 05 56.4	-1.0
WRAB				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.0						
WRAB	Tennant Creek	46.29	262	eP	P	03 05 56.4	-1.0
	comp=Z,22nm,1.1s,mb5.0						
WRA	Warramunga Arr	46.30	262	P	P	03 05 56.3	-1.1
	comp=Z,8.9nm,0.9s,mb4.7,baz=96,slow=7.6,SNR=44						
WRA				LR	LR	03 24 25.4	
	comp=Z,496nm,19.0s,MS4.5,baz=85,slow=35						
KAKA	Kakadu	49.71	271	eP	P	03 06 23.5	-0.3
	comp=Z,12nm,0.9s,mb4.9						
FITZ	Fitzroy Crossi	54.73	262	eP	P	03 07 04.8	+3.7
	comp=Z,16nm,1.0s,mb5.0						
FITZ	Fitzroy Crossi	54.73	262	P	P	03 07 02.1	+1.0
	comp=Z,3.9nm,1.0s,mb4.4,baz=93,slow=4.3,SNR=4.7						
FITZ				LR	LR	03 29 30.5	
	comp=Z,359nm,19.4s,MS4.5,baz=92,slow=35						
VNDA	Vanda	57.94	186	P	P	03 07 25.3	+1.3
	comp=Z,3.0nm,0.8s,mb4.3,baz=8.9,slow=8.6,SNR=13						
VNDA				LR	LR	03 25 56.7	
	comp=Z,168nm,21.6s,MS4.1,baz=179,slow=29						
VNDA	Vanda	57.94	186	eP	P	03 07 25.4	+1.4
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VNDA	Vanda	57.94	186	eP	P	03 07 25.4	+1.5
	comp=Z,3.4nm,0.9s,mb4.4						
MBWA	Marble Bar	59.52	257	eP	P	03 07 34.0	-1.0
	comp=Z,6.2nm,0.7s,mb4.8						
CASY	Casey	64.59	205	eP	P	03 08 09.4	+0.4
	comp=Z,21nm,0.9s,mb5.2						
QSPA	South Pole Qui	69.44	180	eP	P	03 08 39.5	-0.4
	comp=Z,18nm,1.0s,mb5.0						
SSE	Sheshan	79.11	309	P	P	03 09 35.8	-0.5
SSE				XP	sP	03 10 22.0	+38
SSE				PP	PP	03 12 36.1	+0.6
SSE				S	S	03 19 24.3	-11
SSE				XS	sS	03 20 20.7	+36
SSE				AMB	AMB		
	comp=Z,15nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,85nm,4.5s						
SSE				LR	LR		
	comp=N,70nm,26.4s,MS4.1						
SSE				LR	LR		
	comp=E,82nm,26.4s,MS4.1						
SSE				LR	LR		
	comp=Z,52nm,23.4s,MS3.8						
MTUM	Tungsten Hills	79.14	43	eP	P	03 09 38.1	+1.7
YBH	Yreka Blue Hor	79.32	38	eP	P	03 09 36.6	-0.8
YBH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
YBH	Yreka Blue Hor	79.32	38	eP	P	03 09 36.6	-0.8
	comp=Z,5.4nm,1.1s,mb4.4						
MNV	Mina	80.03	43	eP	P	03 09 40.7	-0.6
MNV				e*PP	pP	03 09 45.9	-1.0
MNV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
MNV	Mina	80.03	43	eP	P	03 09 40.7	-0.5
	comp=Z,6.1nm,0.9s,mb4.5						
MNV				epP	pP	03 09 45.9	-1.0
TPNV	Topopah Spring	80.41	45	eP	P	03 09 43.2	-0.1
TPNV				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
TPNV	Topopah Spring	80.41	45	eP	P	03 09 43.2	-0.1
	comp=Z,4.9nm,0.9s,mb4.4						
NJ2	Nanjing	81.31	309	eP	P	03 09 48.6	+0.5
NJ2				AP	pP	03 10 19.5	+26
NJ2				XP	sP	03 10 36.1	+40
NJ2				PP	PP	03 12 57.8	+4.0
NJ2				S	S	03 19 45.0	-13
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,170nm,7.9s						
NJ2				LR	LR		
	comp=N,110nm,19.2s						
NJ2				LR	LR		
	comp=E,180nm,24.7s						
NJ2				LR	LR		
	comp=Z,70nm,20.5s,MS4.0						
MDJ	Mudanjiang	81.64	324	P	P	03 09 50.8	+1.0
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,67nm,5.2s						
MDJ				LR	LR		
	comp=N,15nm,26.2s,MS3.8						
MDJ				LR	LR		
	comp=E,49nm,22.8s,MS3.8						
MDJ				LR	LR		
	comp=Z,84nm,20.5s,MS4.1						
MAW	Mawson	82.02	199	P	P	03 09 52.5	+0.6
	comp=Z,7.4nm,0.7s,mb4.7,baz=132,slow=6.5,SNR=7.2						
WVOR	Wild Horse Val	82.13	39	eP	P	03 09 50.8	-1.6
WVOR				e*PP	pP	03 09 57.1	-1.0
WVOR				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
WVOR	Wild Horse Val	82.13	39	eP	P	03 09 50.8	-1.6
	comp=Z,12nm,1.1s,mb4.7						
WVOR				epP	pP	03 09 57.1	-1.0
CCUT	Cedar City	82.65	45	eP	P	03 09 57.3	+2.2
WUAZ	Wupatki	82.93	48	eP	P	03 09 58.7	+2.1
	comp=Z,18nm,1.2s,mb5.0						
ELK	Elko	83.21	42	eP	P	03 09 59.4	+1.4
ELK				pmax	pmax		
	comp=Z,11nm,1.2s						
ELK	Elko	83.21	42	eP	P	03 09 59.4	+1.4
	comp=Z,11nm,1.2s,mb4.8						
CN2	Changchun	83.47	322	eP	P	03 10 01.5	+2.1
CN2				eS	S	03 20 11.5	-8.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
MSU	Marysvale	83.96	45	eP	P	03 10 04.2	+2.3
HAWA	Hanford	84.04	36	eP	P	03 10 01.6	-0.7
	comp=Z,1.0nm,1.1s,mb3.9						
HAWA				epP	pP	03 10 06.5	-1.4
BMO	Blue Mountains	84.35	38	eP	P	03 10 03.2	-0.7
BMO				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
BMO	Blue Mountains	84.35	38	eP	P	03 10 03.2	-0.7
	comp=Z,4.8nm,0.9s,mb4.6						
BMO				epP	pP	03 10 07.8	-1.7
DUG	Dugway	84.44	43	eP	P	03 10 05.6	+1.2
DUG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
DUG	Dugway	84.44	43	eP	P	03 10 05.6	+1.3
	comp=Z,2.8nm,0.8s,mb4.4						
TMUT	Trail Mountain	85.02	45	eP	P	03 10 08.7	+1.5
TMUT				epP	pP	03 10 12.8	-0.2
HLID	Hailey	85.30	40	eP	P	03 10 08.8	+0.1
	comp=Z,5.9nm,0.8s,mb4.8						
HLID				epP	pP	03 10 13.3	-1.0
SRU	San Rafael	85.37	45	eP	P	03 10 09.1	+0.1
SRU				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.1						
SRU	San Rafael	85.37	45	eP	P	03 10 09.1	+0.1
	comp=Z,18nm,1.2s,mb5.1						
SRU				epP	pP	03 10 13.8	-0.9
DAU	Daniels Canyon	85.57	44	eP	P	03 10 07.9	-2.1
BNM	Barren Site	85.64	51	eP	P	03 10 13.8	+3.5
LTX	Lajitas	85.67	57	eP	P	03 10 08.3	-2.2
LTX				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.9						
LTX	Lajitas	85.67	57	eP	P	03 10 08.3	-2.2
	comp=Z,11nm,1.3s,mb4.9						
LPM	Los Pinos Moun	85.71	51	eP	P	03 10 12.5	+1.8
TCUT	Toone Canyon	85.84	43	eP	P	03 10 12.9	+1.6
ANMO	Albuquerque	86.14	51	eP	P	03 10 13.0	+0.2
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ANMO	Albuquerque	86.14	51	eP	P	03 10 13.0	+0.2
	comp=Z,6.5nm,1.1s,mb4.8						
PV01	Paradox Valley	86.20	47	eP	P	03 10 14.2	+1.1
NEW	Newport	86.47	35	eP	P	03 10 13.2	-1.3
NEW				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NEW	Newport	86.47	35	eP	P	03 10 13.2	-1.3
	comp=Z,1.5nm,0.6s,mb4.4						
SYO	Syowa Base	86.97	192	⇓ePcP	PcP	03 10 18.8	-0.3
TPAW	Teton Pass	87.38	41	eP	P	03 10 19.0	+0.1
	comp=Z,1.8nm,0.7s,mb4.4						

SMCO Snowmass 87.80 47 eP P 03 10 23.5 +2.6
comp=Z,9.5nm,1.2s,mb4.9
SNAA Sanae 87.82 178 eP P 03 10 22.7 +1.7
SNAA e 03 10 24.0
SNAA e pP 03 10 28.7 +2.0
SNAA e 03 10 38.3
SNAA Sanae 87.82 178 eP P 03 10 19.8 -1.2
SNAA pmax pmax
comp=Z,2.0nm,0.9s
SNAA Sanae 87.82 178 eP P 03 10 19.8 -1.2
comp=Z,2.4nm,0.9s,mb4.4
BW06 Boulder Array 87.88 43 eP P 03 10 20.2 -1.1
comp=Z,1.2nm,0.8s,mb4.2
PDAR Pinedale Array 87.88 43 P P 03 10 20.4 -0.9
comp=Z,1.2nm,0.8s,mb4.2,baz=195,slow=6.5,SNR=4.8
PLCA Paso Flores 87.91 133 LR LR 03 39 45.6
comp=Z,102nm,22.0s,MS4.2,baz=187,slow=29
COLA College 87.98 12 eP P 03 10 19.9 -1.8
COLA pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
COLA College 87.98 12 eP P 03 10 19.9 -1.9
comp=Z,4.9nm,0.8s,mb4.8
COLA epP pP 03 10 24.5 -3.0
BOZ Bozeman (W) 88.11 39 eP P 03 10 21.9 -0.5
BOZ pmax pmax
comp=Z,5.0nm,1.3s,mb4.6
BOZ Bozeman (W) 88.11 39 eP P 03 10 21.9 -0.5
comp=Z,4.7nm,1.3s,mb4.6
VNA1 Neumayer--Stat 88.56 176 eP P 03 10 28.1 +3.6
VNA1 e 03 10 29.4
VNA1 e pP 03 10 34.1 +3.9
VNA1 e 03 10 44.3
WALA Waterton Lakes 88.67 36 eP P 03 10 26.6 +1.6
comp=Z,1.7nm,0.6s,mb4.5
DAWY Dawson 89.12 15 eP P 03 10 26.2 -0.9
DAWY epP pP 03 10 31.3 -1.5
AMTX Amarillo 89.61 52 eP P 03 10 29.2 -0.2
comp=Z,3.3nm,0.8s,mb4.7
HHC Hu-ho-hao-te 90.70 314 eP P 03 10 35.4 +0.9
HHC PP PP 03 14 13.2 +3.4
HHC AMB AMB
comp=Z,18nm,0.4s,mb5.8
HHC AMB AMB
comp=Z,102nm,5.6s
HHC LR LR
comp=N,103nm,14.9s,MS4.5
HHC LR LR
comp=E,92nm,16.6s,MS4.5
HHC LR LR
comp=Z,123nm,19.0s,MS4.4
KMI Kunming 90.96 296 P P 03 10 35.6 -0.1
KMI AP pP 03 11 11.1 +30
KMI XP sP 03 11 23.0 +40
KMI PP PP 03 14 12.7 +0.8
KMI S 03 21 21.0
KMI XS sS 03 22 15.4 +34
KMI SS SS 03 27 28.0 -7.4
KMI AMB AMB
comp=Z,6.0nm,0.7s,mb5.0
KMI AMB AMB
comp=Z,101nm,4.9s
KMI LR LR
comp=N,132nm,18.1s,MS4.6
KMI LR LR
comp=E,145nm,19.6s,MS4.6
KMI LR LR
comp=Z,135nm,17.0s,MS4.5
RSSD Black Hills 92.05 43 eP P 03 10 39.2 -1.6
RSSD e*PP pP 03 10 45.2 -1.3
RSSD pmax pmax
comp=Z,16nm,1.3s,mb5.2
RSSD Black Hills 92.05 43 eP P 03 10 39.2 -1.6
comp=Z,16nm,1.3s,mb5.2
RSSD epP pP 03 10 45.2 -1.3
HKT Hockley 92.13 59 eP P 03 10 41.8 +0.6
HKT pmax pmax
comp=Z,11nm,1.5s,mb5.0
HKT Hockley 92.13 59 eP P 03 10 41.8 +0.6
comp=Z,11nm,1.5s,mb5.0
CD2 Chengdu 92.33 302 eP P 03 10 41.0 -1.1
CD2 PP PP 03 14 24.0 +1.3
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.2
CD2 AMB AMB
comp=Z,60nm,5.9s
CD2 LR LR
comp=E,70nm,12.0s
CD2 LR LR
comp=Z,60nm,15.6s,MS4.2
INK Inuvik 93.96 15 eP P 03 10 47.3 -2.3
INK pmax pmax
comp=Z,6.0nm,1.1s
INK Inuvik 93.96 15 eP P 03 10 47.3 -2.2
comp=Z,5.7nm,1.1s,mb4.9
LZH Lanzhou 94.24 307 eP P 03 10 51.4 +0.5
LZH AP pP 03 11 24.1 +28
LZH XP sP 03 11 37.4 +39
LZH PP PP 03 14 42.2 +4.6
LZH AMB AMB
comp=Z,22nm,1.3s,mb5.4
JTS JuntasAbangare 94.67 81 eP P 03 10 53.6 +0.8
JTS pmax pmax
comp=Z,9.0nm,0.9s
JTS JuntasAbangare 94.67 81 eP P 03 10 53.5 +0.7
comp=Z,9.2nm,0.9s,mb5.2
YKA Yellowknife Ar 95.91 24 P P 03 10 57.0 -1.5
comp=Z,0.5nm,0.7s,mb4.1,baz=242,slow=3.8,SNR=2.7
YKA Yellowknife Ar 95.91 24 P P 03 10 57.0 -1.5
ECSD EROS,Sioux Fal 96.78 46 eP P 03 11 02.4 0.0
WMQ Urumqi 108.33 311 PDIF Pdif 03 11 54.1 +0.2
WMQ PP PP 03 16 27.0 +3.0
WMQ PP PP
comp=Z,65nm,9.8s
WMQ LR LR
comp=N,327nm,25.0s,MS4.9
WMQ LR LR
comp=E,245nm,23.9s,MS4.9
WMQ LR LR
comp=Z,335nm,25.5s,MS4.8
MKAR Makanchi Array 112.56 313 PKiKP PKiKP 03 16 09.9 +1.9
comp=Z,0.6nm,0.4s,baz=79,slow=2.6,SNR=4.6
MKAR PKKPbc PKKPbc 03 26 58.2 +1.4
comp=Z,1.6nm,0.9s,baz=125,slow=3.4,SNR=8.1
KURK Kurchatov 115.27 317 ePKIKP PKiKP 03 16 10.7 -2.5
BRVK Borovoye 120.36 320 ePKIKP PKPdf 03 16 21.1 -1.9
ZRNK Zerenda 121.14 320 ePKIKP PKPdf 03 16 21.8 -2.7
ARU Arti 126.29 326 ePKIKP PKPdf 03 16 32.0 -2.4
ARU Arti 126.29 326 ePKPdf PKPdf 03 16 32.0 -2.4
NB2 NORSAR Subarra 139.30 355 PKPdf PKPdf 03 16 53.2 -5.6
comp=Z,1.2nm,0.9s,baz=11,slow=1.9
NOA NORSAR Array B 139.30 355 PKhKP 03 16 53.4
comp=Z,0.5nm,0.7s,baz=326,slow=3.2,SNR=3.9
AKASG Malin Array Be 143.96 332 PKhKP 03 17 02.0
comp=Z,2.7nm,0.8s,baz=44,slow=4.5,SNR=4.9
AKASG PKP PKPdf 03 17 07.3 +0.1
comp=Z,1.1nm,0.6s,baz=42,slow=4.3,SNR=10
MUD Monsted U'grnd 144.01 355 i P PKPdf 03 17 09.0 +1.7
comp=Z,11nm,1.0s
MUD Monsted U'grnd 144.01 355 ePKIKP PKPdf 03 17 09.0 +1.7
MUD pmax pmax
comp=Z,11nm,1.0s
ESK Eskdalemuir 144.97 7 ePKHKP PKPdf 03 17 06.6 -2.3
MALT Malatya 145.39 308 ePKP2 PKPab 03 17 08.9 -0.8
DMUB Kingscourt 145.79 11⇑iP PKiKP 03 17 15.1 +0.7
GKP Gorka Klasztor 145.83 346 ePKP PKPdf 03 17 09.2 -1.2
DCN Croghan 146.24 12 eP PKPbc 03 17 14.9 +2.7
BSEG Bad Segeberg 146.39 353 ePKPbc PKPbc 03 17 09.7 -2.9
DLF Lyons Farm 146.43 11⇑iP PKPbc 03 17 15.6 +2.9
KIS Kishinev 146.78 328 ePKP2 PKPab 03 17 22.0 +7.0
RUE Ruedersdorf 147.29 349 ePKPbc PKPbc 03 17 14.1 -1.1
KWP Kalwaria 147.41 337 ePKP PKPdf 03 17 14.1 +1.0
WIT Witteveen 147.81 357 ePKP PKPdf 03 17 19.9 +6.2
OJC Ojcow 147.89 341 ePKP PKPdf 03 17 15.3 +1.4
BURAR Bucovina Array 148.01 332⇓iP PKPbc 03 17 20.3 +3.1
BURAR Bucovina Array 148.01 332 ⇓P PKPbc 03 17 20.3 +3.2
STHS Stebnicka Huta 148.11 338 ePKP PKPdf 03 17 16.1 +1.9
KOLS Kolonicke sedl 148.15 337 ePKIKP PKPdf 03 17 17.1 +2.8
KOLS MLR MLR
comp=Z,2μm,29.5s
IBBN Ibbenburen 148.24 355 ePKPbc PKPbc 03 17 16.2 -1.6
KSP Ksiaz 148.30 345 ePKIKP PKPdf 03 17 17.5 +3.0
KSP e 03 17 22.2
CLZ Clausthal 148.44 352 ePKPbc PKPbc 03 17 15.8 -2.5
CRVS Cervenica-Dubn 148.47 338 ePKIKP PKPdf 03 17 15.6 +0.8
CRVS MLR MLR
comp=Z,2μm,21.8s
CLL Collm 148.56 349 ePKPbc PKPbc 03 17 15.7 -2.9
CLL Collm 148.56 349⇑iPKPbc PKPbc 03 17 17.2 -1.4
comp=Z,10.0nm,1.0s
CLL ⇓iPKPab PKPab 03 17 20.3 -1.8
comp=Z,11nm,0.9s
CLL i PKPbc(2) 03 17 22.5
comp=Z,27nm,1.0s
CLL i PKPab(2) 03 17 25.6
comp=Z,21nm,0.8s
CLL Collm 148.56 349⇑iPKP PKPbc 03 17 17.2 -1.4
CLL ⇓iPKP PKPab 03 17 20.3 -1.8
CLL i pPKP pPKPdf 03 17 22.5 +1.7
WTSB Winterswijk 148.65 356 ePKP PKPdf 03 17 17.2 +2.1
comp=Z,18nm,1.0s
UPC Upice 148.68 345⇑ePKP PKPdf 03 17 17.9 +2.8
UPC ePKPAB PKPab 03 17 21.8 -0.8
ANTO Ankara 148.71 314 ePKIKP PKPbc 03 17 18.3 -0.7
OKC Ostrava-Krasne 148.72 342⇑ePKP PKPdf 03 17 18.1 +2.9
OKC ePKPAB PKPab 03 17 22.1 -0.6
DPC Dobruska-Polom 148.75 345⇑ePKP PKPbc 03 17 18.5 -0.6
DPC ePKPAB PKPab 03 17 23.0 +0.2
BRG Berggiesshubel 148.79 348 ePKPbc PKPbc 03 17 16.4 -2.8
BRG Berggiesshubel 148.79 348 i PKP PKPdf 03 17 17.8 +2.5
comp=Z,4.0nm,1.0s
BRG i 03 17 22.8
comp=Z,7.6nm,0.9s
BRG i 03 17 26.4
comp=Z,7.8nm,1.1s
BRG i 03 17 39.8
comp=Z,4.7nm,0.9s
BRG Berggiesshubel 148.79 348 i PKIKP PKPdf 03 17 17.8 +2.5
BRG i 03 17 22.8
BRG i 03 17 26.4
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG pmax pmax
comp=Z,5.0nm,0.9s
MORC Moravsky Berou 148.95 343⇑iP PKPbc 03 17 19.1 -0.5
MORC Moravsky Berou 148.95 343 ePKPbc PKPbc 03 17 18.5 -1.1
PVCC Panska Ves 148.99 347⇑ePKP PKPbc 03 17 19.0 -0.7
PVCC ePKPAB PKPab 03 17 23.4 -0.4
BUG Bochum--Univer 149.14 356 ePKPbc PKPbc 03 17 19.0 -1.1
KECS Kecovo 149.17 338 ePKP PKPdf 03 17 18.7 +2.8
KECS e 03 17 24.3
MLR Muntele Rosu 149.26 329⇑iP PKPab 03 17 24.8 -0.1
MLR Muntele Rosu 149.26 329 ⇑P PKPab 03 17 24.8 -0.1
MOX Moxa 149.43 350 ePKPbc PKPbc 03 17 18.1 -2.7
MOX Moxa 149.43 350 ePKP PKPbc 03 17 22.0 +1.2
comp=Z,15nm,1.3s
UBBA Unterbreizbach 149.49 352 ePKPbc PKPbc 03 17 18.0 -3.0
TANN Tannenbergstha 149.51 349 ePKPbc PKPbc 03 17 19.1 -1.9
NKC Novy Kostel 149.69 349⇑ePKP PKPdf 03 17 19.8 +3.0
NKC ePKPAB PKPab 03 17 24.8 -1.9
VYHS Vyhne 149.71 340 i PKP PKPbc 03 17 20.2 -1.3
VYHS e 03 17 25.7
VYHS Vyhne 149.71 340 i PKP PKPbc 03 17 20.2 -1.3
VYHS e 03 17 25.7
VYHS LR LR
comp=Z,700nm,21.6s,MS5.4
PSZ Piszkesteto 149.85 338 ePKP PKPbc 03 17 21.0 -0.8
PSZ Piszkesteto 149.85 338 ePKPbc PKPbc 03 17 20.8 -1.1
PSZ ePKPab PKPab 03 17 25.7 -1.7
HGN Heimansgroeve 149.89 357 ePKP PKPdf 03 17 22.0 +4.9
comp=Z,14nm,1.9s
UCC Uccle 149.90 359 PKPbc PKPbc 03 17 20.5 -1.4
UCC PKPab PKPab 03 17 25.6 -2.0
UCC E 03 17 38.4
TREC Trest 149.93 345⇑ePKP PKPbc 03 17 20.7 -1.3
TREC ePKPAB PKPab 03 17 25.8 -1.9
MANZ Manzenberg 149.99 349 ePKPbc PKPbc 03 17 21.0 -1.2
MEM Membach 150.04 357 PKPbc PKPbc 03 17 20.7 -1.6
MEM PKPab PKPab 03 17 26.0 -2.1
SMOL Smolenice 150.12 342 ePKP PKPbc 03 17 21.4 -1.1
SMOL e 03 17 27.1
SMOL Smolenice 150.12 342 ePKP PKPbc 03 17 21.5 -1.0
SMOL e 03 17 27.1
TNS Taunus Mts 150.25 354 ePKPbc PKPbc 03 17 21.4 -1.4
GRA1 Grafenberg Arr 150.42 350 ePKPbc PKPbc 03 17 22.4 -0.8
GRF Grafenberg Arr 150.42 350 ePKPbc PKPbc 03 17 22.4 -0.8
ZST Bratislava 150.50 342 ePKIKP PKiKP 03 17 27.0 +2.9
ZST MLR MLR
comp=Z,600nm,20.8s,MS5.4
KHC Kasperske Hory 150.52 347⇑ePKP PKPbc 03 17 22.0 -1.5
KHC ePKPAB PKPab 03 17 27.7 -2.4
GIVF Givet 150.59 359 ePKP1 PKPbc 03 17 22.3 -1.3
comp=Z,35nm,0.8s
DOU Dourbes 150.60 359 PKPbc PKPbc 03 17 22.2 -1.4
DOU PKPab PKPab 03 17 27.5 -2.9
BAIF Baives 150.64 360 ePKP1 PKPbc 03 17 22.6 -1.1
comp=Z,33nm,0.9s
WET Wettzell 150.65 348 ePKPbc PKPbc 03 17 21.3 -2.5
GEC2 GERESS Array S 150.77 347 ePKPbc PKPbc 03 17 21.4 -2.6
GERES GERESS Array B 150.77 347 PKPbc PKPbc 03 17 22.3 -1.7
comp=Z,2.7nm,0.9s,baz=48,slow=2.0,SNR=19
WLF Walferdange 150.98 357 PKPbc PKPbc 03 17 23.9 -0.6
WLF PKPab PKPab 03 17 28.7 -3.2
WLF Walferdange 150.98 357 ePKPbc PKPbc 03 17 23.9 -0.6
WLF ePKPab PKPab 03 17 28.6 -3.3
CONA Conrad Observa 151.09 343⇓iPKPbc PKPbc 03 17 23.0 -1.8
comp=Z,15nm,0.9s
BZS Buzias 151.12 334⇓iP PKPbc 03 17 23.6 -1.2
BZS Buzias 151.12 334 ⇓P PKPbc 03 17 23.6 -1.2
MOA Molln 151.57 345⇑eP PKPbc 03 17 25.3 -0.6
comp=Z,4.8nm,0.8s
STU Stuttgart 151.60 353 ePKPbc PKPbc 03 17 25.2 -0.8
STU Stuttgart 151.60 353 ePKPbc PKPbc 03 17 24.7 -1.3
FLN La Foliniere 151.72 6 ePKP1 PKPbc 03 17 24.5 -1.7
comp=Z,28nm,0.7s
ROSF Rostrenen 151.77 10 ePKP1 PKPbc 03 17 25.1 -1.3
comp=Z,14nm,0.8s
FUR Furstenfeldbru 151.89 349 ePKPbc PKPbc 03 17 25.2 -1.4
LDF La Druitiere 151.92 6 ePKP1 PKPbc 03 17 24.9 -1.8
comp=Z,20nm,0.9s
SGMF Saint Gilles 151.97 9 ePKP1 PKPbc 03 17 25.6 -1.2
comp=Z,50nm,1.0s
GRR Gorron 152.05 7 ePKP1 PKPbc 03 17 25.4 -1.6
comp=Z,33nm,0.7s
BFO Black Forest 152.14 354 ePKPbc PKPbc 03 17 26.7 -0.5
CDF Champ du Feu 152.15 355 ePKP1 PKPbc 03 17 25.8 -1.4
comp=Z,14nm,0.8s
MEZF Maizieres J'vi 152.18 358 ePKP1 PKPbc 03 17 26.3 -1.0
comp=Z,24nm,0.9s
QUIF Quistinic 152.20 10 ePKP1 PKPbc 03 17 26.1 -1.2
comp=Z,16nm,0.9s
PERS Pernice 152.48 343 i PKPdf pPKPdf 03 17 31.9 +5.0
KBA Koelnbreinsper 152.51 346⇑iP pPKPdf 03 17 31.4 +4.4
comp=Z,4.9nm,0.6s
HAU Haudompre 152.62 356 ePKP1 PKPbc 03 17 27.8 -0.5
comp=Z,10nm,0.7s
WATA Walderalm 152.64 349⇑iP PKPbc 03 17 27.8 -0.5
comp=Z,5.0nm,0.9s
WATA Walderalm 152.64 349⇑iP PKPbc 03 17 27.8 -0.5
WTTA Wattenberg 152.69 348⇑iP PKPbc 03 17 30.7 +2.3
comp=Z,13nm,1.2s
MOTA Moosalm 152.71 349⇑iP PKPbc 03 17 26.6 -1.9
comp=Z,6.7nm,0.9s
HINF Hinteralfeld 152.78 356 ePKP1 PKPbc 03 17 26.9 -1.7
comp=Z,6.5nm,0.7s
SQTA Sankt Quirin 152.81 349⇓eP pPKPdf 03 17 32.2 +4.8
comp=Z,4.3nm,0.8s
DAVA Damuels 152.97 351⇑iP PKPbc 03 17 28.6 -0.4
comp=Z,13nm,1.2s
LJU Ljubljana 153.19 343 ePKPdf pPKPdf 03 17 33.7 +5.8
LOR Lormes 153.43 360 ePKP1 PKPbc 03 17 28.5 -1.6
comp=Z,13nm,1.0s
BOJS Bojanci 153.48 342 ePKPdf PKPbc 03 17 34.1 +3.9
SSF Saint Saulge 153.64 1 ePKP1 PKPbc 03 17 29.3 -1.2
comp=Z,12nm,0.9s
MFF Saint Martin d 153.89 6 ePKP1 PKPbc 03 17 29.4 -1.7
comp=Z,15nm,0.9s
AVF Avril sur Loir 153.91 1 ePKP1 PKPbc 03 17 30.2 -0.9
comp=Z,9.8nm,1.1s
CABF La Chapelle 154.03 356 ePKP1 PKPbc 03 17 30.6 -0.7
comp=Z,38nm,1.4s
SMF Signal de Mont 154.06 0 ePKP1 PKPbc 03 17 30.7 -0.7
BGF Bois d'Agland 154.13 2 ePKP1 PKPbc 03 17 30.9 -0.7
comp=Z,11nm,0.8s
TCF Toulx Ste Croi 154.38 3 ePKP1 PKPbc 03 17 31.2 -0.9
comp=Z,9.1nm,1.0s
RJF Les Rejaudoux 155.32 4 ePKP1 PKPdf 03 17 32.5 +7.4
BNI Bardonecchia 155.54 355 ePKP2 PKPab 03 17 50.4 -0.8
LFF La Frestale 155.62 5 ePKP1 PKPdf 03 17 32.6 +7.1
ESDC Sonseca Array 159.87 18 PKPab PKPab 03 18 09.3 -0.6
comp=Z,1.1nm,0.7s,baz=334,slow=6.6,SNR=3.2
TORD Torodi Ar. Bea 172.27 164 PKP PKPdf 03 17 43.0 +2.4
comp=Z,2.1nm,1.1s,baz=337,slow=1.2,SNR=5.2
TORD PKPab PKPab 03 19 05.6 +0.9
comp=Z,1.7nm,1.0s,baz=221,slow=4.2,SNR=6.7

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*NEIC **02** 03:45:54.6, 1633N×9843W, h10km, MD4.1(MEX), After MEX.*
MEX 02 03:45:53.6±0.8**, 1622N×9844W, h22**km±17km**, MD4.1, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.34**	**60**	i P	Pb	03 46 00.3	-0.9
PNIG				i S	Sb	03 46 04.3	-1.9
ACX	**Acapulco**	**1.56**	**295**	i P	Pn	03 46 16.5	-3.4
ACX				i S	Sn	03 46 37.0	-2.4
UTMO	**Huajuapan**	**1.71**	**21**	eP	Pn	03 46 20.8	-1.3
UTMO				i S	Sn	03 46 39.6	-3.6
VHO	**Vista Hermosa**	**1.84**	**62**	i P	Pn	03 46 22.7	-1.2
VHO				i S	Sn	03 46 42.4	-4.1
VHO	**Vista Hermosa**	**1.84**	**62**	i P	Pn	03 46 23.5	-0.3
VHO				i S	Sn	03 46 42.4	-4.1
OXX	**Oaxaca**	**1.85**	**62**	i P	Pn	03 46 24.0	0.0
CAIG	**El Cayaco**	**1.94**	**295**	eP	Pn	03 46 22.2	-2.9
CAIG				i S	Sn	03 46 43.4	-5.4
CAIG	**El Cayaco**	**1.94**	**295**	eP	Pn	03 46 25.3	+0.2
CAIG				i S	Sn	03 46 48.2	-0.6
MEIG	**Mezcala**	**2.04**	**326**	eP	Pn	03 46 25.0	-1.5
MEIG				i S	Sn	03 46 47.8	-3.4
HUIG	**Huatulco**	**2.29**	**101**	eP	Pn	03 46 29.6	-0.4
HUIG				i S	Sn	03 46 53.5	-3.9
HUIG	**Huatulco**	**2.29**	**101**	eP	Pn	03 46 30.5	+0.6
HUIG				i S	Sn	03 46 56.3	-1.1
PLIG	**Platanillo**	**2.38**	**335**	i P	Pn	03 46 30.3	-1.0
PLIG				i S	Sn	03 46 57.8	-2.0
YAIG	**Yautepec**	**2.69**	**347**	eP	Pn	03 46 32.6	-2.9
YAIG				i S	Sn	03 47 04.9	-2.5
YAIG	**Yautepec**	**2.69**	**347**	eP	Pn	03 46 36.5	+1.0
YAIG				i S	Sn	03 47 04.9	-2.5
PPM	**Popocatepetl**	**2.83**	**356**	eP	Pn	03 46 37.8	+0.3
PPM				i S	Sn	03 47 08.2	-2.8
PPM	**Popocatepetl**	**2.83**	**356**	eP	Pn	03 46 38.9	+1.4
PPM				i S	Sn	03 47 08.2	-2.8
UNM	**Universidad Na**	**3.17**	**347**	i P	Pn	03 46 39.1	-3.0
UNM				i P		03 46 40.9	
UNM				i S	Sn	03 47 16.0	-3.2
UNM				i S	Sn	03 47 16.0	-3.2
UNM				i S	Sn	03 47 16.8	-2.4
UNM	**Universidad Na**	**3.17**	**347**	eP	Pn	03 46 48.9	+6.8
UNM				i S	Sn	03 47 18.9	-0.3
ZIIG	**Zihuatanejo**	**3.21**	**296**	i S	Sn	03 47 14.9	-5.2
CMIG	**Matias Romero**	**3.52**	**75**	eP	Pn	03 46 46.2	-0.7
CMIG				i S	Sn	03 47 23.7	-4.0
CMIG	**Matias Romero**	**3.52**	**75**	eP	Pn	03 46 47.9	+1.0
CMIG				i S	Sn	03 47 26.5	-1.2
MOIG	**Morelia**	**4.32**	**323**	i P	Pn	03 46 58.6	+0.7
MOIG				i S	Sn	03 47 46.1	-1.5
MOIG	**Morelia**	**4.32**	**323**	eP	Pn	03 47 00.2	+2.3
MOIG				i S	Sn	03 47 48.6	+1.0
CCIG	**Comitan**	**6.05**	**89**	eP	Pn	03 47 51.3	+30
CCIG				i S	Sn	03 48 27.3	-3.0

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*ISCJB **02** 03:53:56.4±0.1, 5185N±003×177.12E±002, h17km, mb5.3/307, MS5.3/187, Error ellipse: s-maj=4.3km s-min=1.8km az=6.3*
*NEIC **02** 03:53:56.5, 5171N×17693E, h9km, mb5.5/218, MS5.3/151, MW5.8, ML5.3(AEIC), Moment Tensor Solution. s20 Moment tensor: Scale 10^17Nm; Mrr0.87; Mθθ-5.63; Mφφ4.76; Mrθ-0.26; Mθφ1.82; Mφr0.35; Best double couple: Mo5.50000×10^17 NP1:φs325.00000°, δ89.00000°, λ175.00000°. NP2:φs55.00000°, δ85.00000°, λ1.00000°. Principal axes: T 5.0900, Plg4.0000°, Azm280.0000°; N 0.8700, Plg85.0000°, Azm133.0000°; P -5.9600, Plg3.0000°, Azm10.0000°; After AEIC.*
*HRVD **02** 03:53:56.5±0.1, 5201N×17703E, h19km, MW5.7/111, Centroid moment Tensor Solution. LP body waves: s90,c184; Mantle waves: s111,c328; Half duration: 1s8 Moment tensor: Scale 10^17Nm; Mrr-0.10±.04; Mθθ-4.41±.04; Mφφ4.52±.04; Mrθ-0.22±.10; Mθφ1.59±.04; Mφr0.34±.09; Best double couple: Mo4.75700×10^17 NP1:φs55.00000°, δ85.00000°, λ0.00000°. NP2: φs145.00000°, δ90.00000°, λ-175.00000°. Principal axes: T 4.8130, Plg3.0000°, Azm280.0000°; N -0.1030, Plg85.0000°, Azm145.0000°; P -4.7020, Plg3.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BJI **02** 03:53:57.4, 5231N×17647E, h8km, mB5.7, mb5.2, Ms5.7, Msz5.4*
*MOS **02** 03:53:58.8±1.0, 5190N×177.11E, h32km, mb5.6/147, MS5.2/106, Error ellipse: s-maj=6.9km s-min=4.7km az=89.2*
*IDC **02** 03:53:59.0±4.4, 5207N×17703E, h20km±27km, mb4.6/22, mb1 4.7/23, mb1mx4.6/27, mbtmp4.7/23, ML4.9/1, Error ellipse: s-maj=16.4km s-min=11.0km az=145.0*
*SZGRF **02** 03:54:12.1, 5262N×17636E, h33km, mb5.3, MS5.2, Rat Islands, Aleutian Islands, United States*
ISC 02 03:53:58.1±0.1**, 5189N**±003×**17710E**±002**, h18**km**, h18**km±.9km**: pP-P, n1055, σ0s95**/1014**, mb5.3**/307**, MS5.3**/187**, 110C-112D, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.46**	**110**	P	**Pn**	**03 54 23.0**	**-0.7**
AMKA				S	**Sn**	**03 54 43.0**	**+0.6**
SMY	**Shemya**	**2.02**	**296**	P	**Pn**	**03 54 30.3**	**-1.1**
SMY				S	**Sn**	**03 54 56.1**	**-0.1**
NIKO	**Nikolski**	**8.65**	**77**	P	**Pn**	**03 56 05.4**	**+2.9**
SPIA	**Saint Paul Isl**	**9.06**	**49**	P	**Pn**	**03 56 09.3**	**+1.3**
OKCE	**Okmok Cone E**	**9.09**	**74**	P	**Pn**	**03 56 10.8**	**+2.4**
OKCD	**Okmok Cone D**	**9.12**	**74**	P	**Pn**	**03 56 11.9**	**+3.0**
UNV	**Unalaska Valle**	**10.11**	**72**	ePn	**Pn**	**03 56 24.0**	**+1.6**
	4μm,1.4s						
AKUT	**Akutan**	**10.56**	**71**	eP	**Pn**	**03 56 30.8**	**+2.2**
	96nm,0.3s						
PET	**Petropavlovsk**	**11.31**	**283**j	iP	**Pn**	**03 56 39.1**	**+0.2**
PET				eS	**Sn**	**03 58 45.5**	**+0.6**
PET				pmax	pmax		
	comp=Z,3μm,6.3s						
PET				pmax	pmax		
	comp=Z,2μm,14.9s						
PET				pmax	pmax		
	comp=Z,235nm,1.0s						
PET				smax			
	comp=N,1μm,14.3s						
PET				smax			
	comp=E,1μm,4.9s						
PET				smax			
	comp=E,277nm,1.0s						
PET				smax			
	comp=E,700nm,11.2s						
PET				MLR	MLR		
	comp=Z,11μm,17.0s						
PET				MLR	MLR		
	comp=Z,11μm,15.0s						
PET				smax			
	comp=N,32nm,0.9s						
PET				smax			
	comp=E,28nm,0.8s						
FALS	**False Pass**	**12.00**	**68**	ePn	**Pn**	**03 56 50.0**	**+1.7**
SKR	**Severo-Kuril's**	**13.19**	**273**	eP	**Pn**	**03 57 01.2**	**-3.3**
SKR				pmax	pmax		
	comp=Z,140nm,0.5s						
SKR				pmax	pmax		
	comp=N,160nm,0.9s						
SKR				pmax	pmax		
	comp=E,160nm,0.9s						
SKR				pmax	pmax		
	comp=N,2μm,6.0s						
SKR				pmax	pmax		
	comp=E,6μm,6.0s						
SKR				pmax	pmax		
	comp=Z,5μm,6.0s						

SKR MLR MLR
comp=E,11µm,16.0s
SKR MLR MLR
comp=Z,9µm,16.0s
SKR MLR MLR
comp=N,11µm,12.0s
GAMB Gambell 13.29 22 *e*Pn **Pn 03 57 06.8 +0.9**
SDPT Sand Point 13.73 67 *e*P **Pn 03 57 13.9 +2.0**
comp=N,51nm,0.3s
CHGN Chignik 14.99 63 *e*P **Pn 03 57 30.6 +1.5**
TNA Tin City 15.69 23 *e*Pn **Pn 03 57 39.7 +1.5**
comp=N,965nm,2.0s
MA2 Magadan 16.61 308 *e*P **Pn 03 57 50.4 +0.3**
MA2 *e*S **Sn 04 00 54.4 +0.3**
MA2 pmax pmax
comp=Z,100nm,1.1s
MA2 MLR MLR
comp=Z,13µm,14.5s
MA2 Magadan 16.61 308 *e*P **Pn 03 57 53.4 +3.3**
comp=Z,352nm,1.5s
BILL Bilibino 17.03 346⇓ *i*P **Pn 03 57 56.3 +0.9**
BILL pmax pmax
comp=Z,771nm,1.3s
BILL Bilibino 17.03 346⇓ *i*Pn **Pn 03 57 56.3 +0.9**
comp=Z,771nm,1.3s
BILL *e*S **Sn 04 01 15.0 +11**
SVW2 Sparrevohn 17.55 48 *e*P **Pn 03 58 03.0 +1.2**
TTA Tatalina 18.06 42 *e*P **Pn 03 58 09.6 +1.5**
KDAK Kodiak Island 18.32 59 P **Pn 03 58 10.9 -0.4**
comp=Z,4.2nm,0.3s,baz=258,slow=5.6,SNR=31
KDAK Kodiak Island 18.32 59 *e*Pn **Pn 03 58 11.7 +0.4**
comp=Z,1µm,1.6s
SLKM Skilak Lake 19.93 52 *e*P **Pn 03 58 30.1 -0.5**
PMR Palmer 20.67 49 *e*P **P 03 58 37.0 0.0**
PMR pmax pmax
comp=Z,19nm,1.0s
PMR MLR MLR
comp=Z,22µm,19.0s,MS5.5
PMR Palmer 20.67 49 *e*P **P 03 58 37.0 0.0**
comp=Z,19nm,1.0s
PMR LR LR
comp=Z,22µm,19.0s,MS5.5
SML Sawmill 21.09 48 *e*P **P 03 58 41.6 +0.1**
MID Middleton Isla 21.72 55 *e*P **P 03 58 49.2 +0.9**
EYAK Cordova Ski Ar 22.12 52 *e*P **P 03 58 53.3 +0.7**
COLA College 22.13 41 *e*P **P 03 58 53.5 +0.8**
COLA pmax pmax
comp=Z,341nm,1.4s,mb5.6
COLA MLR MLR
comp=Z,8µm,19.0s,MS5.2
COLA College 22.13 41 *e*P **P 03 58 53.5 +0.8**
comp=Z,341nm,1.4s,mb5.6
COLA LR LR
comp=Z,8µm,19.0s,MS5.2
YUK Yuzh-Kuril'sk 22.21 262 *e*P **P 03 58 54.0 +0.4**
YUK *i* 03 59 03.0
YUK *e*S **S 04 02 59.0 +1.5**
YUK pmax pmax
comp=E,5µm,3.0s
YUK pmax pmax
comp=Z,4µm,3.0s
YUK pmax pmax
comp=Z,140nm,0.6s,mb5.6
YUK pmax pmax
comp=N,130nm,0.5s
YUK smax
comp=N,10µm,3.5s
YUK MLR MLR
comp=Z,9µm,19.0s,MS5.2
YUK MLR MLR
comp=N,3µm,12.0s
YUK MLR MLR
comp=E,7µm,17.0s
YSS Yuzh-Sakhalins 22.74 271*j* *i*P **P 03 59 00.0 +0.8**
YSS *i* *SP sP 03 59 06.0 -0.6
YSS *e* 03 59 11.0
YSS *e* 03 59 34.0
YSS *e*S **S 04 03 05.0 -2.4**
YSS *e* 04 03 17.0
YSS pmax pmax
comp=Z,150nm,1.3s,mb5.3
YSS pmax pmax
comp=Z,1µm,5.0s
YSS smax
comp=E,2µm,8.0s
YSS MLR MLR
comp=Z,6µm,16.0s,MS5.1
YSS MLR MLR
comp=N,3µm,15.0s,MS5.2
YSS MLR MLR
comp=E,6µm,17.0s,MS5.2
YSS Yuzh-Sakhalins 22.74 271 *e*P **P 03 58 59.9 +0.6**
comp=E,175nm,1.0s,mb5.4
YSS LR LR
comp=Z,5µm,19.0s,MS5.0
MENT Mentasta 23.41 47 *e*P **P 03 59 07.1 +0.8**
MIDW Midway 24.01 168 *e*P **P 03 59 12.1 +0.2**
comp=Z,308nm,1.3s,mb5.6
MIDW LR LR
comp=Z,3µm,19.0s,MS4.8
ASAJ Asahikawa 24.18 265 P **P 03 59 13.8 +0.4**
comp=Z,92nm,0.9s,mb5.2,baz=60,slow=5.8,SNR=69
ASAJ Asahikawa 24.18 265 P **P 03 59 13.9 +0.5**
ASAJ pmax pmax
comp=Z,92nm,0.9s
ERM Erimo 24.98 260 P **P 03 59 24.7 +4.0**
comp=Z,1µm,1.2s,mb6.4,SNR=13
HABR Khabarovsk 26.87 280⇑ *i*P **P 03 59 38.4 +0.6**
HABR *e* 04 00 20.2
HABR *e*S **S 04 04 17.5 +3.9**
HABR pmax pmax
comp=Z,109nm,1.5s,mb5.2
HABR MLR MLR
comp=Z,2µm,18.7s,MS4.8
YAK Yakutsk 27.15 310 *e*P **P 03 59 43.8 +3.5**
YAK *e* 04 00 29.2
YAK *e*PPP 04 00 40.4
YAK *e* 04 02 59.5
YAK *e*S **S 04 04 24.9 +6.9**
YAK *e*SS 04 05 37.3
YAK *e* 04 10 29.2
YAK pmax pmax
comp=Z,99nm,0.9s,mb5.3
YAK pmax pmax
comp=N,32nm,1.3s
YAK pmax pmax
comp=E,86nm,1.7s
YAK pmax pmax
comp=Z,54nm,0.9s,mb5.1
YAK pmax pmax
comp=N,15nm,0.8s
YAK pmax pmax
comp=E,69nm,1.2s
YAK smax
comp=N,51nm,1.3s
YAK smax
comp=Z,15nm,1.2s
YAK smax
comp=E,87nm,1.6s
YAK MLR MLR
comp=Z,5µm,16.0s,MS5.2
YAK MLR MLR
comp=N,3µm,14.0s,MS5.2
YAK MLR MLR
comp=E,4µm,13.0s,MS5.2
YAK Yakutsk 27.15 310 *e*P **P 03 59 38.9 -1.5**
comp=E,140nm,0.8s,mb5.5
YAK LR LR
comp=Z,5µm,20.0s,MS5.1
SKAG Skagway 27.34 55 *e*P **P 03 59 43.9 +1.9**
comp=Z,11nm,0.8s,mb4.5
SIT Sitka 27.65 60 *e*P **P 03 59 44.2 -0.7**
SIT pmax pmax
comp=Z,74nm,1.5s,mb5.1
SIT Sitka 27.65 60 *e*P **P 03 59 44.2 -0.7**
comp=Z,74nm,1.5s,mb5.1
INK Inuvik 28.53 36 P **P 03 59 53.2 +0.5**
comp=Z,17nm,0.9s,mb4.8,baz=260,slow=8.2,SNR=19
KLR Kul'dur 28.58 283 *e*P **P 03 59 49.0 -4.1**
KLR *e* 04 03 10.0
KLR *e*S **S 04 04 37.5 -3.0**
KLR pmax pmax
comp=E,92nm,1.8s
KLR pmax pmax
comp=Z,140nm,1.8s,mb5.4
KLR MLR MLR
comp=Z,4µm,13.5s,MS5.2
TIXI Tiksi 28.94 331 *e*P **P 03 59 50.6 -5.7**
TIXI *e*S **S 04 04 38.3 -7.8**
TIXI pmax pmax
comp=Z,16nm,0.7s,mb4.9
TIXI MLR MLR
comp=Z,3µm,13.0s,MS5.0
TIXI Tiksi 28.94 331 PFAKE 04 00 10.0 +14
TIXI LR LR
comp=Z,4µm,19.0s,MS5.1
CRAG Craig 29.18 63 *e*P **P 03 59 57.2 -1.3**
CLNS Chul'man 30.19 300 *e*P **P 04 00 07.1 -0.3**
CLNS *e**PP pP 04 00 15.4 +2.6
CLNS *e* 04 01 02.6
CLNS *e*PPP 04 01 14.2
CLNS *e*S **S 04 05 09.7 +3.9**
CLNS *e*SS SS 04 07 04.4 -10
CLNS pmax pmax
comp=Z,20nm,1.2s,mb4.7
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,19nm,0.9s
CLNS pmax pmax
comp=Z,33nm,1.2s,mb4.9
CLNS pmax pmax
comp=N,23nm,0.9s
CLNS pmax pmax
comp=E,27nm,1.0s
CLNS smax
comp=E,791nm,11.7s
CLNS smax
comp=Z,267nm,12.0s
CLNS smax
comp=N,633nm,13.4s
CLNS MLR MLR
comp=Z,8µm,16.0s,MS5.5
CLNS MLR MLR
comp=N,14µm,17.0s,MS5.7
CLNS MLR MLR
comp=E,7µm,18.0s,MS5.7
DLBC Dease Lake 30.20 56 *e*P **P 04 00 09.7 +2.2**
VLA Vladivostok 31.33 272*d* *i*P **P 04 00 18.1 +0.7**
VLA pmax pmax
comp=Z,89nm,1.5s,mb5.4
VLA MLR MLR
comp=Z,4µm,24.0s,MS5.0
MAJO Matsushiro 31.38 256 *e*P **P 04 00 18.5 +0.6**
MAJO pmax pmax
comp=Z,113nm,1.2s,mb5.6
MAJO MLR MLR
comp=Z,5µm,22.0s,MS5.2
MAJO Matsushiro 31.38 256 *e*P **P 04 00 18.5 +0.5**
comp=Z,113nm,1.2s,mb5.6
MAJO LR LR
comp=Z,5µm,22.0s,MS5.2
MAT Matsushiro 31.38 256 P **P 04 00 16.6 -1.3**
MAT S **S 04 05 24.0 -0.5**
MAT Matsushiro 31.38 256 P **P 04 00 17.0 -0.9**
MAT *e*S **S 04 05 24.0 -0.5**
MAT pmax pmax
comp=Z,16nm,1.1s,mb4.8
MAT MLR MLR
comp=Z,6µm,22.0s,MS5.2
MAT Matsushiro 31.38 256 P **P 04 00 17.0 -0.9**
comp=Z,16nm,1.1s,mb4.8
MAT *e*S **S 04 05 24.0 -0.5**
MAT LR LR
comp=Z,6µm,22.0s,MS5.2
MJAR Matsushiro Arr 31.38 256 P **P 04 00 18.8 +0.9**
comp=Z,8.4nm,1.0s,mb4.5,baz=41,slow=7.6,SNR=11
MDJ Mudanjiang 31.97 276 P **P 04 00 22.0 -1.1**
MDJ AP pP 04 00 25.0 -3.5
MDJ XP sP 04 00 26.3 -4.4
MDJ S **S 04 05 34.3 +0.6**
MDJ XS sS 04 05 37.7 -4.9
MDJ SCP ScP 04 06 55.2 -0.3
MDJ AMB AMB
comp=Z,11nm,1.0s,mb4.6
MDJ AMB AMB
comp=Z,261nm,7.6s
MDJ LR LR
comp=N,5µm,18.3s,MS5.4
MDJ LR LR
comp=E,4µm,18.3s,MS5.4
MDJ LR LR
comp=Z,4µm,16.5s,MS5.2
MDJ Mudanjiang 31.97 276 *e*P **P 04 00 21.8 -1.4**
comp=Z,33nm,1.0s,mb5.1
MDJ LR LR
comp=Z,5µm,20.0s,MS5.2
WAKE Wake Island 33.56 198 PFAKE 04 00 50.0 +13
WAKE LR LR
comp=Z,2µm,20.0s,MS4.9
CN2 Changchun 34.95 278 *e*P **P 04 00 49.2 +0.2**
CN2 *e*XP sP 04 00 56.2 -0.5
CN2 PP PP 04 02 06.6 -1.7
CN2 *e*S **S 04 06 18.5 -1.3**
CN2 AMB AMB
comp=Z,40nm,1.5s,mb5.1
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,5µm,20.0s,MS5.4
CN2 LR LR
comp=E,5µm,20.0s,MS5.4
CN2 LR LR
comp=Z,5µm,18.0s,MS5.3
BOD Bodaibo 35.61 305 *e*P **P 04 00 52.9 -1.8**
BOD *e* 04 06 30.8
BOD pmax pmax
comp=Z,88nm,1.2s,mb5.6
HIA Hailar 35.71 289 *e*P **P 04 00 54.2 -1.4**
HIA pmax pmax
comp=Z,213nm,1.4s
HIA MLR MLR
comp=Z,2µm,22.0s
HIA Hailar 35.71 289 *e*P **P 04 00 54.1 -1.5**
comp=Z,213nm,1.4s,mb5.9
HIA LR LR
comp=Z,2µm,22.0s,MS4.9
KIP Kipapa 36.02 138 *e*P **P 04 00 58.5 +0.2**
KIP pmax pmax
comp=Z,159nm,1.0s,mb5.9
KIP MLR MLR
comp=Z,3µm,19.0s,MS5.1
KIP Kipapa 36.02 138 *e*P **P 04 00 58.5 +0.2**
comp=Z,159nm,1.0s,mb5.9
KIP LR LR
comp=Z,3µm,19.0s,MS5.1
YKA Yellowknife Ar 36.72 46 P **P 04 01 03.9 -0.3**
comp=Z,7.0nm,0.7s,mb4.6,baz=286,slow=8.3,SNR=51
YKA PcP PcP 04 03 26.5 0.0
comp=Z,1.5nm,0.6s,baz=290,slow=3.0,SNR=3.9
YKA ScP ScP 04 07 10.9 -1.6
comp=Z,1.2nm,0.8s,baz=287,slow=3.2,SNR=4.3
YKA Yellowknife Ar 36.72 46 P **P 04 01 03.9 -0.4**
YKA PCP PcP 04 03 26.5 -0.1
YKA pmax pmax
comp=Z,7µm,0.7s
KS15 Wonju Array Si 37.13 267 *e*P **P 04 01 08.3 +0.6**
OBC Olympics--Boni 37.14 72 P **P 04 01 14.3 +6.5**
SNY Shenyang 37.18 276⇑ P **P 04 01 06.9 -1.2**
SNY AP pP 04 01 11.4 -2.2
SNY XP sP 04 01 13.5 -2.3
SNY S **S 04 06 50.9 -3.0**
SNY XS sS 04 06 57.3 -5.6
SNY SS SS 04 09 15.6 -21
SNY AMB AMB
comp=Z,29nm,2.2s,mb4.7
SNY AMB AMB
comp=Z,784nm,5.5s
SNY LR LR
comp=N,4µm,18.6s,MS5.3
SNY LR LR
comp=E,2µm,17.7s,MS5.3
SNY LR LR
comp=Z,3µm,17.6s,MS5.1
A04A Legoe Bay, Lum 37.62 70⇑ P **P 04 01 11.2 -0.7**
baz=38
D03A Wishkah Elem. 37.77 73⇓ P **P 04 01 13.2 0.0**
baz=38
A05A Maple Falls 37.85 70⇓ P **P 04 01 12.8 -1.1**
baz=38
INCN Inchon 37.88 268 *e*P **P 04 01 14.6 +0.6**
comp=Z,68nm,0.9s,mb5.4
INCN LR LR
comp=Z,2µm,20.0s,MS4.9
C04A Brinnon 37.95 72⇑ P **P 04 01 14.2 -0.5**
baz=38
E03A Lebam 38.18 74⇓ P **P 04 01 16.1 -0.6**
baz=38,SNR=6.1
B05A Bryant 38.20 71⇑ P **P 04 01 16.2 -0.5**
baz=38,SNR=7.4
D04A Dobbs Creek Ra 38.35 73⇓ P **P 04 01 18.0 0.0**
baz=38
POHA Pohakuloa 38.55 136 PFAKE 04 01 30.0 +10
POHA LR LR
comp=Z,3µm,19.0s,MS5.1
E04A Onalaska 38.66 73⇑ P **P 04 01 20.3 -0.3**
baz=39
C05A Tolt Reservoir 38.71 71⇓ P **P 04 01 20.5 -0.6**
baz=39
D05A Enumclaw 38.79 72⇓ P **P 04 01 21.6 -0.1**
baz=39
RCM Mount Rainier- 39.12 72 P **P 04 01 31.0 +6.5**
F04A Amboy 39.18 74⇑ P **P 04 01 24.1 -0.9**
baz=39
E05A Randle 39.24 73⇑ P **P 04 01 24.7 -0.9**
baz=39
I02A Mapleton 39.36 77⇑ P **P 04 01 26.2 -0.2**
baz=39
COR Corvallis 39.36 76 *e*P **P 04 01 26.7 +0.2**
COR pmax pmax
comp=Z,29nm,0.8s,mb5.1
COR MLR MLR
comp=Z,4µm,22.0s,MS5.2
COR Corvallis 39.36 76 *e*P **P 04 01 26.7 +0.2**
comp=Z,29nm,0.8s,mb5.1
COR LR LR
comp=Z,4µm,22.0s,MS5.2
G04A Mulino 39.52 75⇑ P **P 04 01 27.3 -0.6**
baz=40
TBM Table Mountain 39.62 71 P **P 04 01 28.5 -0.2**
K01A Sixes 39.63 79⇓ P **P 04 01 28.0 -0.7**
baz=40
I03A Eugene 39.71 77⇑ P **P 04 01 28.2 -1.2**
baz=40
EBG Ellensburg 39.77 72 P **P 04 01 30.1 +0.2**
F05A White Salmon 39.77 74⇓ P **P 04 01 29.1 -0.9**
baz=40
J02A Umpqua 39.86 78⇑ P **P 04 01 30.6 0.0**
baz=40
H04A Detroit Lake 39.98 76⇓ P **P 04 01 31.3 -0.4**
baz=40
DL2 Dalian 40.10 274⇑ P **P 04 01 33.1 +0.5**
DL2 PP PP 04 03 11.4 +6.5
DL2 S **S 04 07 37.3 -0.7**
DL2 AMB AMB
comp=Z,40nm,1.0s,mb5.1
DL2 AMB AMB
comp=Z,270nm,3.8s
DL2 LR LR
comp=N,2µm,17.6s,MS5.1
DL2 LR LR
comp=E,1µm,18.4s,MS5.1
DL2 LR LR
comp=Z,1µm,16.7s,MS4.9
G05A Wamic 40.20 74⇓ P **P 04 01 32.9 -0.6**
baz=40
J03A Ideyld Park 40.23 78⇑ P **P 04 01 32.5 -1.2**
baz=40
K02A Glendale 40.25 79⇑ P **P 04 01 31.6 -2.3**
baz=40
RES Resolute Bay 40.33 24 *e*P **P 04 01 36.1 +1.6**
RES pmax pmax
comp=Z,149nm,1.4s,mb5.5
RES Resolute Bay 40.33 24 *e*P **P 04 01 36.1 +1.5**
comp=Z,149nm,1.4s,mb5.5
M01C Crescent City 40.39 80⇑ P **P 04 01 34.6 -0.5**
baz=40
L02A Cave Junction 40.53 80⇓ P **P 04 01 35.9 -0.3**
baz=40,SNR=9.6
H05A Madras 40.58 75⇑ P **P 04 01 36.1 -0.5**
baz=41
HAWA Hanford 40.65 72 *e*P **P 04 01 36.5 -0.7**
comp=Z,4.8nm,1.2s
HAWA LR LR
comp=Z,357nm,22.0s
HUMO Hull Mountain 40.66 79 *e*P **P 04 01 37.9 +0.5**
comp=Z,82nm,1.7s,mb5.1
HUMO LR LR
comp=Z,4µm,22.0s,MS5.3
HUMO Hull Mountain 40.66 79⇑ P **P 04 01 37.1 -0.2**
baz=41,SNR=8.6
KRMB Red Mountain 40.71 81 *e*P **P 04 01 39.4 +1.7**
H2OWA Water 40.71 72 P **P 04 01 37.4 -0.3**
EDM Edmonton 40.77 60 *e*P **P 04 01 37.6 -0.6**
I05A Bend 40.82 76⇑ P **P 04 01 37.9 -0.6**
baz=41
JCC Jacoby Creek 41.05 82⇑ P **P 04 01 39.8 -0.6**
baz=41
NEW Newport 41.08 68 *e*P **P 04 01 39.9 -0.8**
NEW pmax pmax
comp=Z,56nm,1.1s
NEW MLR MLR
comp=Z,4µm,22.0s
NEW Newport 41.08 68 *e*P **P 04 01 39.9 -0.8**
comp=Z,56nm,1.1s,mb5.1
NEW LR LR
comp=Z,4µm,22.0s,MS5.3
KHMM Horse Mountain 41.20 81 *e*P **P 04 01 43.2 +1.5**
YBH Yreka Blue Hor 41.32 80 P **P 04 01 43.2 +0.5**
comp=Z,18nm,1.0s,mb4.6,baz=327,slow=1.8,SNR=9.9
YBH Yreka Blue Hor 41.32 80 *e*P **P 04 01 44.0 +1.3**
YBH pmax pmax
comp=Z,51nm,1.1s
YBH MLR MLR
comp=Z,3µm,20.0s
YBH Yreka Blue Hor 41.32 80 *e*P **P 04 01 44.0 +1.3**
comp=Z,51nm,1.1s,mb5.1
YBH LR LR
comp=Z,3µm,20.0s,MS5.2
YBH Yreka Blue Hor 41.32 80⇓ P **P 04 01 42.0 -0.7**
baz=41,SNR=14
K04A Chilquin 41.41 78⇑ P **P 04 01 43.6 +0.2**
baz=41
M02C Callahan 41.43 80⇓ P **P 04 01 43.9 +0.3**
baz=41,SNR=11
L04A Klamath Falls 41.56 79⇑ P **P 04 01 45.3 +0.6**
baz=42,SNR=8.1
I06A Prineville 41.57 75⇓ P **P 04 01 44.8 0.0**
baz=42
O01C Eel River Cons 41.58 82⇓ P **P 04 01 45.3 +0.5**
baz=42
M04C Macdoel 41.82 79⇓ P **P 04 01 47.3 +0.5**
baz=42,SNR=8.2
KIPM Iron Peak 41.98 82 *e*P **P 04 01 48.1 -0.1**
J06A Christmas Vall 42.00 76 P **P 04 01 48.4 +0.2**
baz=42,SNR=12
WDC Whiskeytown Da 42.10 81 *e*P **P 04 01 50.0 +0.9**
WDC pmax pmax
comp=Z,54nm,1.2s,mb5.0
WDC MLR MLR
comp=Z,2µm,20.0s,MS5.0
WDC Whiskeytown Da 42.10 81 *e*P **P 04 01 50.0 +0.9**
comp=Z,54nm,1.2s,mb5.0
WDC LR LR
comp=Z,2µm,20.0s,MS5.0
WDC Whiskeytown Da 42.10 81⇓ P **P 04 01 49.5 +0.5**
baz=42,SNR=12
O02C Red Bluff 42.19 82⇑ P **P 04 01 50.7 +0.9**
baz=42,SNR=9.8
K06A Valley Falls 42.19 77 P **P 04 01 50.5 +0.7**
baz=42,SNR=18
L05A Lakeview 42.28 78 P **P 04 01 51.4 +0.9**
baz=42,SNR=6.2
P01C Double 8 Ranch 42.28 83⇓ P **P 04 01 51.3 +0.7**
baz=42,SNR=6.7
J07A Hines 42.43 75⇑ P **P 04 01 51.7 -0.1**
baz=42
M05C Lookout 42.49 79⇓ P **P 04 01 52.3 0.0**
baz=42
WALA Waterton Lakes 42.50 65 *e*P **P 04 01 51.2 -1.1**
comp=Z,50nm,0.9s,mb5.2
GASB Alder Springs 42.55 82⇑ P **P 04 01 53.9 +1.2**
baz=42,SNR=8.9
ALE Alert 42.55 10 P **P 04 01 52.0 -0.8**
comp=Z,503nm,1.7s,mb6.0,SNR=18
HATC Hat Creek Radi 42.62 80⇓ P **P 04 01 53.5 +0.2**
baz=43,SNR=10.0
BSMT Bassoo Peak 42.63 67 P **P 04 01 52.9 -0.6**
LBCM Butte Creek Ri 42.67 80 P **P 04 01 54.2 +0.5**

HOPS Hopland 42.73 83 eP P 04 01 55.0 +0.8
comp=Z,123nm,1.3s,mb5.5
HOPS LR LR
comp=Z,3µm,19.0s,MS5.2
HOPS Hopland 42.73 83 ⇑P P 04 01 55.1 +0.9
baz=43,SNR=6.7
O03C Acorn Hollow, 42.76 81 ⇓P P 04 01 54.6 +0.2
baz=43
BJI Beijing 42.77 279 eP P 04 01 54.2 -0.4
BJI PP PP 04 03 36.8 +3.0
BJI SCS ScS 04 11 51.5 -3.4
BJI AMB AMB
comp=Z,38nm,0.9s,mb5.1
BJI AMB AMB
comp=Z,446nm,3.7s
BJI LR LR
comp=N,8µm,20.3s,MS5.7
BJI LR LR
comp=E,5µm,22.4s,MS5.7
BJI LR LR
comp=Z,4µm,33.6s
BJT Baijiatuau 42.79 279 eP P 04 01 54.0 -0.7
BJT pmax pmax
comp=Z,96nm,0.9s
BJT MLR MLR
comp=Z,3µm,19.0s
BJT Baijiatuau 42.79 279 eP P 04 01 54.0 -0.7
comp=Z,96nm,0.9s,mb5.5
BJT LR LR
comp=Z,3µm,19.0s,MS5.2
BMO Blue Mountains 42.79 72 eP P 04 01 54.3 -0.4
comp=Z,35nm,1.1s,mb5.0
BMO LR LR
comp=Z,4µm,22.0s,MS5.3
K07A Rock Creek Ran 42.86 76 ⇑P P 04 01 55.3 0.0
baz=43,SNR=27
J08A Circle Bar Ran 42.94 75 ⇓P P 04 01 56.1 +0.2
baz=43
M06C Likely Place G 42.99 79 ⇓P P 04 01 56.3 0.0
baz=43
IRK Irkutsk 42.99 301 eP P 04 01 56.1 -0.3
IRK e 04 03 53.0
IRK pmax pmax
comp=Z,117nm,2.6s,mb5.2
O04C Chester 43.14 80 ⇑P P 04 01 58.1 +0.6
baz=43,SNR=9.4
ELFS Eagle Lake Fie 43.18 80 ⇓P P 04 01 58.2 +0.3
baz=43
MNRC McLaughlin Nat 43.19 83 ⇑P P 04 01 59.1 +1.1
baz=43,SNR=7.5
L07A Adell 43.20 77 P P 04 01 58.6 +0.6
baz=43,SNR=14
NSHM Saint Helena R 43.31 83 eP P 04 01 59.3 +0.4
ORV Oroville 43.35 81 ⇑P P 04 01 58.6 -0.7
baz=43,SNR=8.3
SUTB Sutter Butte 43.38 82 ⇓P P 04 01 58.6 -0.8
baz=43
WVOR Wild Horse Val 43.38 76 eP P 04 01 58.9 -0.6
WVOR pmax pmax
comp=Z,45nm,1.1s,mb5.1
WVOR MLR MLR
comp=Z,4µm,21.0s,MS5.2
WVOR Wild Horse Val 43.38 76 eP P 04 01 58.9 -0.6
comp=Z,45nm,1.1s,mb5.1
WVOR LR LR
comp=Z,4µm,21.0s,MS5.2
O05C Quincy 43.46 81 ⇓P P 04 02 00.4 +0.3
baz=44,SNR=7.3
OHCM Honcut 43.50 82 eP P 04 01 60.0 -0.4
CVS Carmenet Viney 43.51 83 ⇓P P 04 02 00.1 -0.4
baz=44
FARB Farallon Islan 43.58 85 ⇑P P 04 02 01.5 +0.4
baz=44
Q03C Winters 43.60 83 ⇓P P 04 02 01.3 0.0
baz=44
TLY Talaya 43.61 300 P P 04 02 00.1 -1.3
comp=Z,70nm,0.6s,mb5.6,SNR=15
TLY Talaya 43.61 300 P P 04 02 01.1 -0.3
SNR=61
TLY Talaya 43.61 300 eP P 04 02 00.7 -0.7
TLY e 04 03 44.7
TLY eS S 04 08 27.7 -2.3
TLY eSS SS 04 11 43.0 -2.1
TLY pmax pmax
comp=Z,72nm,1.6s,mb5.2
TLY MLR MLR
comp=Z,4µm,18.0s,MS5.4
TLY Talaya 43.61 300 eP P 04 02 00.7 -0.7
comp=Z,81nm,1.4s,mb5.3
TLY LR LR
comp=Z,5µm,22.0s,MS5.4
MSO Missoula 43.67 68 eP P 04 02 00.6 -1.3
comp=Z,39nm,1.1s,mb5.0
MSO LR LR
comp=Z,1µm,19.0s,MS4.9
M07A Soldier Meadow 43.67 78 ⇑P P 04 02 02.0 +0.1
baz=44,SNR=22
ULN Ulaanbaatar 43.73 294 P P 04 02 02.4 +0.1
SNR=57
ULN Ulaanbaatar 43.73 294 eP P 04 02 02.2 -0.1
ULN pmax pmax
comp=Z,199nm,1.5s,mb5.6
ULN MLR MLR
comp=Z,3µm,19.0s,MS5.2
ULN Ulaanbaatar 43.73 294 eP P 04 02 02.2 -0.1
comp=Z,199nm,1.5s,mb5.6
ULN LR LR
comp=Z,3µm,19.0s,MS5.2
Q04C Lincoln 43.87 82 ⇑P P 04 02 02.7 -0.7
baz=44
O06A Flanigan 44.00 80 ⇑P P 04 02 04.6 +0.1
baz=44,SNR=13
CHMT Chamberlain Mo 44.02 68 eP P 04 02 03.5 -1.1
P05C Yuba Gap, Truc 44.05 81 ⇓P P 04 02 05.3 +0.4
baz=44,SNR=12
M08A Happy Creek Ra 44.11 77 ⇓P P 04 02 05.4 0.0
baz=44,SNR=7.6
BDM Black Diamond 44.12 83 ⇓P P 04 02 05.7 +0.3
baz=44
SONM Songino Array 44.12 294 P P 04 02 05.1 -0.3
comp=Z,11nm,0.8s,mb4.6,baz=60,slow=9.2,SNR=77
L09A Wilkinson Ranc 44.20 76 ⇑P P 04 02 06.1 -0.1
baz=44
JRSC Jasper Ridge 44.23 84 ⇓P P 04 02 05.1 -1.3
baz=44
P06A Stead Airport, 44.26 80 ⇓P P 04 02 06.4 -0.2
baz=44,SNR=11
LAVA Lava Cap Winer 44.31 82 ⇓P P 04 02 06.9 0.0
baz=44,SNR=17
WENL Wente Brothers 44.39 84 ⇓P P 04 02 06.9 -0.7
baz=44
BNLO Ben Lomond (Sa 44.45 85 ⇑P P 04 02 07.6 -0.4
baz=44
ZAK Zakamensk 44.48 299 eP P 04 02 08.7 +0.3
ZAK e 04 03 55.5
ZAK pmax pmax
comp=Z,148nm,1.6s,mb5.5
ZAK pmax pmax
comp=Z,71nm,1.8s,mb5.1
ZAK pmax pmax
comp=Z,32nm,2.0s,mb4.7
R04C Big Horse Ranc 44.50 82 ⇑P P 04 02 07.5 -1.0
baz=44
PAHR Pah Rah Range 44.55 80 eP P 04 02 07.9 -1.0
comp=Z,63nm,1.1s,mb5.4
TIA Tai'an 44.57 274 ⇑P P 04 02 09.6 +0.5
TIA eS S 04 08 43.5 -0.5
TIA LR LR
comp=N,3µm,15.0s,MS5.5
TIA LR LR
comp=E,3µm,15.0s,MS5.5
WCN Washoe City 44.57 81 ⇑P P 04 02 08.9 -0.2
baz=45
O07A Toulon 44.59 79 P P 04 02 09.6 +0.5
baz=45,SNR=18
N08A GE Springer Mi 44.66 78 ⇑P P 04 02 09.3 -0.5
baz=45,SNR=9.8
M09A Marrel Ranch, 44.69 77 ⇓P P 04 02 09.5 -0.5
baz=45
S04C Ingram Canyon, 44.73 84 ⇑P P 04 02 10.9 +0.5
baz=45
R05C Kirkwood Meado 44.75 81 ⇓P P 04 02 10.6 +0.1
baz=45,SNR=8.8
HRY Holter Researc 44.94 67 eP P 04 02 11.0 -1.0
O08A Rochester Mine 44.95 78 ⇑P P 04 02 11.8 -0.2
baz=45
P07A Fallon 44.96 80 P P 04 02 12.4 +0.2
baz=45
CMB Columbia Colle 44.98 82 eP P 04 02 12.4 +0.1
CMB pmax pmax
comp=Z,83nm,1.4s,mb5.4
CMB MLR MLR
comp=Z,2µm,19.0s,MS5.2
CMB Columbia Colle 44.98 82 eP P 04 02 12.3 +0.1
comp=Z,83nm,1.4s,mb5.4
CMB LR LR
comp=Z,2µm,19.0s,MS5.2
CMB Columbia Colle 44.98 82 ⇑P P 04 02 12.4 +0.1
baz=45,SNR=9.9
N09A Rock Creek Ran 44.99 77 ⇑P P 04 02 12.2 -0.2
baz=45
MOY Mondy 45.03 301 eP P 04 02 12.9 +0.2
MOY e pP 04 02 18.8 +0.5
MOY pmax pmax
comp=Z,116nm,2.0s,mb5.4
PACP Pacheco Peak 45.07 84 ⇓P P 04 02 13.3 +0.3
baz=45,SNR=6.4
HHC Hu-ho-hao-te 45.09 283 eP P 04 02 13.6 +0.4
HHC AP pP 04 02 17.0 -1.7
HHC XP sP 04 02 19.7 -1.2
HHC PCS PcS 04 07 48.6 +1.2
HHC S S 04 08 50.6 -0.9
HHC SS SS 04 12 01.5 -12
HHC SCS ScS 04 12 08.4 -1.1
HHC AMB AMB
comp=Z,114nm,1.3s,mb5.5
HHC AMB AMB
comp=Z,1µm,4.2s
HHC LR LR
comp=N,10µm,20.2s,MS5.8
HHC LR LR
comp=E,7µm,19.0s,MS5.8
HHC LR LR
comp=Z,3µm,16.7s,MS5.3
SAO San Andreas Ge 45.13 84 eP P 04 02 14.4 +0.9
SAO pmax pmax
comp=Z,51nm,1.1s,mb5.3
SAO MLR MLR
comp=Z,3µm,19.0s,MS5.2
SAO San Andreas Ge 45.13 84 eP P 04 02 14.4 +0.9
comp=Z,51nm,1.1s,mb5.3
SAO LR LR
comp=Z,3µm,19.0s,MS5.2
M10A I.L. Ranch, Tu 45.18 76 ⇓P P 04 02 13.6 -0.3
baz=45
HLID Hailey 45.24 72 eP P 04 02 14.0 -0.4
comp=Z,37nm,1.1s,mb5.1
HLID LR LR
comp=Z,4µm,22.0s,MS5.3
R06C Coleville 45.24 81 ⇓P P 04 02 14.9 +0.5
baz=45,SNR=7.8
DLMT Dillon 45.26 69 eP P 04 02 15.3 +0.8
comp=Z,26nm,1.2s,mb4.9
HAST UC Hastings Re 45.30 85 ⇓P P 04 02 14.5 -0.4
baz=45,SNR=6.6
P08A Dixie Valley 45.35 79 ⇓P P 04 02 15.1 -0.2
baz=45
EGMT Eagleton 45.38 64 eP P 04 02 14.3 -1.2
comp=Z,63nm,1.4s,mb5.2
EGMT LR LR
comp=Z,3µm,20.0s,MS5.3
MCMT McKenzie Canyo 45.42 70 eP P 04 02 14.8 -1.0
BMN Battle Mountai 45.42 78 eP P 04 02 15.7 -0.1
BMN pmax pmax
comp=Z,27nm,1.0s,mb5.0
BMN MLR MLR
comp=Z,3µm,22.0s,MS5.2
BMN Battle Mountai 45.42 78 eP P 04 02 15.7 -0.1
comp=Z,27nm,1.0s,mb5.0
BMN LR LR
comp=Z,3µm,22.0s,MS5.2
S05C Merced 45.45 83 ⇓P P 04 02 15.3 -0.7
baz=45,SNR=9.7
SSE Sheshan 45.47 265 P P 04 02 14.6 -1.6
SSE AP pP 04 02 17.5 -4.3
SSE S S 04 08 54.9 -2.1
SSE XS sS 04 09 00.5 -5.6
SSE AMB AMB
comp=Z,45nm,1.2s,mb5.2
SSE AMB AMB
comp=Z,458nm,7.5s
SSE LR LR
comp=N,3µm,17.5s,MS5.3
SSE LR LR
comp=E,2µm,17.5s,MS5.3
SSE LR LR
comp=Z,3µm,28.6s
T05C Eagle Field, D 45.52 84 ⇑P P 04 02 16.7 +0.1
baz=46
O09A Fish Creek Ran 45.60 78 ⇓P P 04 02 17.4 +0.1
baz=46
LRV Little Rabbit 45.61 85 eP P 04 02 17.6 +0.3
BOZ Bozeman (W) 45.66 68 eP P 04 02 16.8 -0.9
BOZ pmax pmax
comp=Z,109nm,1.5s,mb5.6
BOZ MLR MLR
comp=Z,3µm,19.0s,MS5.2
BOZ Bozeman (W) 45.66 68 eP P 04 02 16.8 -0.9
comp=Z,109nm,1.5s,mb5.6
BOZ LR LR
comp=Z,3µm,19.0s,MS5.2
N10A Dunphy 45.68 77 ⇓P P 04 02 17.7 -0.2
baz=46
M11A Holland Ranch, 45.68 76 ⇓P P 04 02 17.7 -0.2
baz=46,SNR=12
V03C Hunter Liggett 45.73 85 ⇓P P 04 02 18.7 +0.4
baz=46
R07C Lee Vining 45.76 81 ⇑P P 04 02 18.7 +0.2
baz=46
U04C Hernandez Rese 45.79 84 ⇓P P 04 02 18.6 -0.2
baz=46
FFC Flin Flon 45.89 53 eP P 04 02 21.4 +1.9
FFC pmax pmax
comp=Z,15nm,0.8s,mb5.0
FFC MLR MLR
comp=Z,9µm,19.0s,MS5.7
FFC Flin Flon 45.89 53 eP P 04 02 21.4 +1.9
comp=Z,16nm,0.8s,mb5.0
FFC LR LR
comp=Z,9µm,19.0s,MS5.7
Q08A Gabbs 45.96 80 ⇑P P 04 02 19.9 -0.2
baz=46,SNR=8.5
NVAR Mina Array Bea 46.00 80 P P 04 02 20.8 +0.3
comp=Z,3.2nm,0.7s,mb4.4,baz=293,slow=7.6,SNR=18
P09A Austin 46.01 78 ⇓P P 04 02 20.3 -0.2
baz=46
T06C Millerton Lake 46.04 83 ⇓P P 04 02 20.3 -0.5
baz=46
KCC Kaiser Creek 46.08 82 ⇓P P 04 02 20.0 -1.0
baz=46
N11A Elko Archery C 46.09 76 ⇓P P 04 02 21.0 -0.1
baz=46
MNV Mina 46.09 80 eP P 04 02 20.4 -0.7
MNV pmax pmax
comp=Z,25nm,1.2s,mb5.0
MNV MLR MLR
comp=Z,2µm,21.0s,MS5.0
MNV Mina 46.09 80 eP P 04 02 20.4 -0.7
comp=Z,25nm,1.2s,mb5.0
MNV LR LR
comp=Z,2µm,21.0s,MS5.0
BTO Baotou 46.17 284 eP P 04 02 22.8 +1.1
BTO S S 04 09 02.3 -4.7
BTO AMB AMB
comp=Z,7.0nm,1.4s,mb4.4
MLAC Mammoth Lakes 46.18 82 ⇑P P 04 02 22.3 +0.5
baz=46
V04C Ramage Ranch, 46.21 85 ⇑P P 04 02 22.3 +0.2
baz=46
PKD Parkfield 46.21 85 ⇓P P 04 02 22.4 +0.4
baz=46,SNR=5.7
M12A Wells 46.22 75 ⇑P P 04 02 22.0 -0.1
baz=46
U05C Westside ANR, 46.22 84 ⇓P P 04 02 22.6 +0.4
baz=46
QLMT Earthquake Lak 46.24 69 eP P 04 02 21.5 -0.8
NJ2 Nanjing 46.26 268 eP P 04 02 22.4 0.0
NJ2 AP pP 04 02 26.6 -1.4
NJ2 XP sP 04 02 30.3 +0.1
NJ2 PP PP 04 04 11.5 +0.5
NJ2 S S 04 09 07.0 -1.3
NJ2 XS sS 04 09 14.0 -3.5
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
NJ2 AMB AMB
comp=Z,270nm,5.2s
NJ2 LR LR
comp=N,9µm,18.7s,MS5.8
NJ2 LR LR
comp=E,4µm,19.8s,MS5.8
NJ2 LR LR
comp=Z,14µm,20.4s,MS5.9
P10A Eureka 46.38 78 ⇑P P 04 02 23.6 +0.2
baz=46
ELK Elko 46.43 76 eP P 04 02 23.4 -0.4
ELK pmax pmax
comp=Z,24nm,1.0s
ELK MLR MLR
comp=Z,4µm,19.0s
ELK Elko 46.43 76 eP P 04 02 23.4 -0.4
comp=Z,24nm,1.0s,mb5.1
ELK LR LR
comp=Z,4µm,19.0s,MS5.4
Q09A Carvers 46.44 79 ⇑P P 04 02 24.0 +0.2
baz=46
N12A Clover Valley, 46.48 76 ⇑P P 04 02 23.7 -0.5
baz=46
MTUM Tungsten Hills 46.52 82 eP P 04 02 24.9 +0.4
O11A Cowboy Ranch, 46.55 77 ⇑P P 04 02 24.3 -0.4
baz=46
PTRM Twissleman Ran 46.60 85 eP P 04 02 27.1 +2.0
V05C Boulder Hill, 46.66 84 ⇑P P 04 02 26.1 +0.5
baz=47
HELL Mitchell Peak, 46.67 83 ⇑P P 04 02 25.8 +0.1
baz=47
M13A Montello 46.70 75 P P 04 02 25.6 -0.3
baz=47,SNR=16
GCMT Greycliff 46.70 67 eP P 04 02 28.2 +2.3
YFT Old Faithful 46.81 69 eP P 04 02 27.6 +0.8
KRAR Krasnoyarsk 46.81 310 i P P 04 02 26.8 0.0
KRAR MLR MLR
comp=Z,4µm,19.0s,MS5.4
P11A Circle Ranch, 46.85 78 ⇑P P 04 02 27.0 -0.1
baz=47
R09A Tonopah 46.88 80 ⇓P P 04 02 27.1 -0.1
baz=47
TPH Tonopah 46.89 80 eP P 04 02 28.5 +1.1
TPH pmax pmax
comp=Z,56nm,1.1s,mb5.4
TPH MLR MLR
comp=Z,2µm,20.0s,MS5.0
TPH Tonopah 46.89 80 eP P 04 02 28.5 +1.1
comp=Z,56nm,1.1s,mb5.4
TPH LR LR
comp=Z,2µm,20.0s,MS5.0
TIN Tinemaha 46.92 82 ⇑P P 04 02 27.3 -0.4
baz=47
N13A Wendover, West 46.98 75 ⇑P P 04 02 27.6 -0.5
baz=47
LKWY Lake 46.99 69 PFAKE 04 02 40.0 +12
LKWY LR LR
comp=Z,4µm,19.0s,MS5.4
S09A Goldfield 47.11 80 ⇓P P 04 02 29.0 -0.1
baz=47,SNR=12
RRI2 Red Ridge 47.18 71 eP P 04 02 34.2 +4.5
comp=Z,28nm,0.9s,mb5.2
HVU Hansel Valley 47.27 73 eP P 04 02 29.8 -0.6
HVU pmax pmax
comp=Z,31nm,0.9s,mb5.2
HVU Hansel Valley 47.27 73 eP P 04 02 29.8 -0.5
comp=Z,31nm,0.9s,mb5.2
MOOW Moose Ponds 47.28 70 eP P 04 02 29.6 -0.8
comp=Z,15nm,1.3s,mb4.8
TPAW Teton Pass 47.31 70 eP P 04 02 30.8 +0.1
comp=Z,18nm,1.0s,mb5.0
R10A Warm Springs 47.31 79 ⇑P P 04 02 30.3 -0.4
baz=47
Q11A Duckwater 47.36 78 ⇑P P 04 02 31.1 +0.1
baz=47,SNR=7.1
CWC Cottonwood Cre 47.41 82 ⇓P P 04 02 31.0 -0.4
baz=47
P12A McGill 47.41 77 ⇑P P 04 02 30.8 -0.7
baz=47
FCC Fort Churchill 47.43 45 eP P 04 02 31.4 -0.2
FCC pmax pmax
comp=Z,94nm,1.2s,mb5.6
FCC Fort Churchill 47.43 45 eP P 04 02 31.4 -0.2
comp=Z,94nm,1.2s,mb5.6
LOHW Long Hollow 47.44 70 eP P 04 02 32.0 +0.3
comp=Z,24nm,1.3s,mb5.0
SNOW Snow King Moun 47.44 70 eP P 04 02 32.1 +0.4
comp=Z,42nm,1.4s,mb5.2
REDW Red Top Meadow 47.45 70 eP P 04 02 33.3 +1.6
comp=Z,54nm,1.4s,mb5.3
BGU Big Grassy Mou 47.64 74 eP P 04 02 33.2 0.0
AHID Auburn Hatcher 47.66 71 PFAKE 04 02 50.0 +17
AHID LR LR
comp=Z,5µm,21.0s,MS5.5
ISA Isabella 47.67 83 PFAKE 04 02 50.0 +17
ISA LR LR
comp=Z,793nm,20.0s,MS4.7
ISA Isabella 47.67 83 ⇑P P 04 02 32.8 -0.6
baz=48
SBC Santa Barbara 47.71 86 ⇑P P 04 02 32.9 -0.9
baz=48
Q12A Willow Creek R 47.73 77 ⇓P P 04 02 33.6 -0.4
baz=48
SPUT South Promonto 47.75 74 eP P 04 02 35.7 +1.6
DAC Darwin (Calif) 47.81 82 eP P 04 02 34.9 +0.3
DAC pmax pmax
comp=Z,20nm,0.9s,mb5.2
DAC MLR MLR
comp=Z,3µm,20.0s,MS5.2
DAC Darwin (Calif) 47.81 82 eP P 04 02 34.9 +0.3
comp=Z,20nm,0.9s,mb5.1
DAC LR LR
comp=Z,3µm,20.0s,MS5.2
HWUT Hardware Ranch 48.09 73 eP P 04 02 36.0 -0.7
comp=Z,34nm,1.2s,mb5.3
HWUT LR LR
comp=Z,3µm,19.0s,MS5.3
LAO LASA Array 48.12 64 PFAKE 04 02 50.0 +13
LAO LR LR
comp=Z,4µm,21.0s,MS5.4
TPNV Topopah Spring 48.20 81 eP P 04 02 37.6 0.0
TPNV pmax pmax
comp=Z,57nm,0.8s,mb5.7
TPNV MLR MLR
comp=Z,4µm,20.0s,MS5.4
TPNV Topopah Spring 48.20 81 eP P 04 02 37.5 0.0
comp=Z,57nm,0.8s,mb5.7
TPNV LR LR
comp=Z,4µm,20.0s,MS5.4
OSI Osito Adit 48.21 85 ⇓P P 04 02 37.8 +0.2
baz=48
DUG Dugway 48.22 75 eP P 04 02 37.4 -0.3
DUG pmax pmax
comp=Z,70nm,1.1s,mb5.6
DUG MLR MLR
comp=Z,3µm,20.0s,MS5.2
DUG Dugway 48.22 75 eP P 04 02 37.4 -0.4
comp=Z,70nm,1.1s,mb5.6
DUG LR LR
comp=Z,3µm,20.0s,MS5.2
NOQ North Oquirrh 48.35 74 eP P 04 02 39.1 +0.3
comp=Z,44nm,1.0s,mb5.4
TCUT Toone Canyon 48.49 73 eP P 04 02 41.2 +1.4
U10A Ash Meadows, A 48.49 81 ⇓P P 04 02 39.6 -0.2
baz=48,SNR=9.8
CTU Camp Tracy 48.55 74 eP P 04 02 41.7 +1.4
comp=Z,47nm,1.2s,mb5.4
BW06 Boulder Array 48.56 70 PFAKE 04 02 50.0 +10
BW06 LR LR
comp=Z,4µm,21.0s,MS5.3
PDAR Pinedale Array 48.56 70 P P 04 02 39.5 -0.9
comp=Z,4.2nm,0.7s,mb4.6,baz=305,slow=3.4,SNR=24
SNCC San Nicolas Is 48.62 87 PFAKE 04 02 50.0 +9.2
SNCC LR LR
comp=Z,2µm,19.0s,MS5.2
NLU North Lily Min 48.82 75 eP P 04 02 43.8 +1.5
GSC Goldstone 48.93 83 ⇓P P 04 02 42.8 -0.5
baz=49,SNR=17
DAU Daniels Canyon 49.02 74 eP P 04 02 44.1 +0.3
MPU Maple Canyon 49.04 74 eP P 04 02 45.2 +1.2
comp=Z,8.1nm,0.7s,mb4.9
MPU LR LR
comp=Z,4µm,19.0s,MS5.5
U11A Corn Creek 49.07 81 ⇑P P 04 02 43.9 -0.4
baz=49
FMP Fort Macarthur 49.08 85 ⇓P P 04 02 43.6 -0.7
baz=49

KBS **Kingsbay** **49.14** **356** *e*P **P** **04 02 45.9 +1.1**
KBS AMb AMB 04 02 56.7
comp=Z,62nm,1.7s,mb5.4
KBS *e*PP PP 04 04 42.5 +4.0
KBS *e*S **S** **04 09 53.1 +3.8**
KBS **Kingsbay** **49.14** **356** *e*P **P** **04 02 45.4 +0.6**
KBS pmax pmax
comp=Z,28nm,0.8s,mb5.3
KBS MLR MLR
comp=Z,1µm,19.0s,MS5.0
KBS **Kingsbay** **49.14** **356** *e*P **P** **04 02 45.4 +0.6**
comp=Z,28nm,0.8s,mb5.3
KBS LR LR
comp=Z,1µm,19.0s,MS5.0
ARUT **Antelope Range** **49.37** **78** *e*P **P** **04 02 47.2 +0.6**
TUQ **Turquoise Mtn.** **49.39** **82** ⇑P **P** **04 02 46.6 -0.1**
baz=49,SNR=9.5
V11A **Goodsprings** **49.42** **81** ⇓P **P** **04 02 46.9 -0.1**
baz=49,SNR=10.0
CCUT **Cedar City** **49.57** **78** *e*P **P** **04 02 47.9 -0.2**
U12A **Valley of Fire** **49.58** **80** ⇑P **P** **04 02 48.2 0.0**
baz=50,SNR=7.2
MVU **Marysvale** **49.65** **76** PFAKE 04 03 00.0 +11
MVU LR LR
comp=Z,4µm,20.0s,MS5.4
SPB4 **Spitsbergen Ar** **49.66** **355** *e*P **P** **04 02 48.8 0.0**
MSU **Marysvale** **49.67** **76** *e*P **P** **04 02 48.9 +0.1**
TATO **Taipei** **49.67** **259** PFAKE 04 03 00.0 +11
TATO LR LR
comp=Z,2µm,19.0s,MS5.1
TMUT **Trail Mountain** **49.75** **75** *e*P **P** **04 02 49.6 +0.2**
V12A **Nelson** **49.85** **81** ⇓P **P** **04 02 50.0 -0.2**
baz=50
YHNB **Yeheng** **49.97** **259** *e*P **P** **04 02 50.8 -0.3**
WHN **Wuhan** **50.09** **270** ⇓P **P** **04 02 52.2 +0.2**
WHN LR LR
comp=Z,3µm,28.6s,MS5.2
W12A **Cal Nev Ari** **50.12** **81** ⇑P **P** **04 02 52.1 -0.2**
baz=50
NACB **Ninganchiao** **50.20** **258** *e*P **P** **04 02 53.9 +1.0**
PFO **Pinyon Flat Ob** **50.28** **84** *e*P **P** **04 02 53.9 +0.5**
PFO pmax pmax
comp=Z,59nm,1.5s,mb5.4
PFO MLR MLR
comp=Z,3µm,19.0s,MS5.4
PFO **Pinyon Flat Ob** **50.28** **84** *e*P **P** **04 02 53.9 +0.5**
comp=Z,59nm,1.5s,mb5.4
PFO LR LR
comp=Z,3µm,19.0s,MS5.4
PFO **Pinyon Flat Ob** **50.28** **84** ⇓P **P** **04 02 53.2 -0.3**
baz=50
SRU **San Rafael** **50.28** **75** *e*P **P** **04 02 53.2 -0.3**
SRU pmax pmax
comp=Z,50nm,0.9s,mb5.5
SRU **San Rafael** **50.28** **75** *e*P **P** **04 02 53.2 -0.2**
comp=Z,50nm,0.9s,mb5.5
109C **Camp Elliot, M** **50.36** **85** ⇓P **P** **04 02 53.6 -0.5**
baz=50,SNR=7.0
RWWY **Rawlins** **50.60** **70** *e*P **P** **04 02 55.1 -0.8**
comp=Z,72nm,1.4s,mb5.4
RSSD **Black Hills** **50.90** **66** *e*P **P** **04 02 58.6 +0.5**
RSSD pmax pmax
comp=Z,27nm,1.3s,mb5.0
RSSD MLR MLR
comp=Z,5µm,20.0s,MS5.5
RSSD **Black Hills** **50.90** **66** *e*P **P** **04 02 58.6 +0.4**
comp=Z,27nm,1.3s,mb5.0
RSSD LR LR
comp=Z,5µm,20.0s,MS5.5
XAN **Xi'an** **51.06** **278** P **P** **04 02 59.7 +0.4**
XAN AMB AMB
comp=Z,22nm,1.5s,mb4.9
XAN AMB AMB
comp=Z,399nm,11.5s
XAN LR LR
comp=N,986nm,17.2s,MS5.4
XAN LR LR
comp=E,3µm,16.7s,MS5.4
XAN LR LR
comp=Z,3µm,16.4s,MS5.5
DAG **Danmarks Havn** **51.22** **5**κ *i*P **P** **04 03 00.6 +0.1**
comp=Z,22nm,0.8s,mb5.2
DAG
comp=Z,2µm,20.0s
DAG **Danmarks Havn** **51.22** **5**κ*e*P **P** **04 03 00.6 +0.1**
DAG pmax pmax
comp=Z,22nm,0.8s,mb5.1
DAG MLR MLR
comp=Z,2µm,20.0s,MS5.1
DAG MLR MLR
comp=N,2µm,22.0s,MS5.3
DAG MLR MLR
comp=E,2µm,18.0s,MS5.3
DAG **Danmarks Havn** **51.22** **5** *e*P **P** **04 03 00.6 +0.1**
comp=E,22nm,0.8s,mb5.2
DAG LR LR
comp=Z,2µm,20.0s,MS5.1
X13A **Yucca** **51.23** **81** ⇓P **P** **04 02 59.8 -0.8**
baz=51,SNR=12
W14A **Seligman** **51.27** **80** P **P** **04 03 01.2 +0.3**
baz=51,SNR=15
Y12C **Blythe** **51.37** **83** ⇓P **P** **04 03 01.4 -0.2**
baz=51,SNR=7.5
QZH **Quanzhou** **51.46** **262** P **P** **04 03 04.0 +1.6**
QZH PP PP 04 05 01.0 +1.4
QZH S **S** **04 10 22.2 +0.6**
QZH AMB AMB
comp=Z,260nm,1.1s,mb6.1
QZH LR LR
comp=N,3µm,17.7s,MS5.6
QZH LR LR
comp=E,5µm,21.2s,MS5.6
QZH LR LR
comp=Z,3µm,20.5s,MS5.3
ULM **Lac du Bonnet** **51.51** **55** P **P** **04 03 01.4 -1.3**
comp=Z,3.9nm,0.4s,mb4.7,baz=285,slow=7.5,SNR=6.7
ULM **Lac du Bonnet** **51.51** **55** *e*P **P** **04 03 01.4 -1.3**
comp=Z,43nm,1.1s,mb5.3
ULM LR LR
comp=Z,6µm,19.0s,MS5.6
GLA **Glamis** **51.66** **83** ⇑P **P** **04 03 03.7 -0.1**
baz=52,SNR=14
W15A **Williams** **51.79** **80** ⇓P **P** **04 03 05.0 +0.2**
baz=52
X14A **Yava** **51.89** **81** ⇓P **P** **04 03 05.7 +0.2**
baz=52,SNR=10
NVS **Novosibirsk** **51.97** **313** *e*P **P** **04 03 05.1 -1.1**
NVS *i* S **S** **04 10 32.7 +4.1**
NVS pmax pmax
comp=Z,133nm,2.1s,mb5.5
NVS pmax pmax
comp=N,66nm,1.9s
NVS pmax pmax
comp=E,101nm,1.9s
NVS smax
comp=N,26nm,2.1s
NVS smax
comp=E,65nm,1.9s
WUAZ **Wupatki** **52.11** **79** *e*P **P** **04 03 07.0 -0.3**
comp=E,37nm,0.9s,mb5.3
WUAZ LR LR
comp=Z,3µm,19.0s,MS5.4
Y14A **Wickenburg** **52.17** **81** ⇑P **P** **04 03 07.3 -0.4**
baz=52,SNR=12
X15A **Humboldt** **52.28** **80** ⇓P **P** **04 03 08.5 0.0**
baz=52,SNR=10
SMCO **Snowmass** **52.34** **72** *e*P **P** **04 03 08.4 -0.5**
comp=Z,7.4nm,0.8s,mb4.7
Z14A **Wintersburg** **52.60** **82** ⇓P **P** **04 03 10.4 -0.4**
baz=53
MVCO **Mesa Verde** **52.73** **75** *e*P **P** **04 03 11.1 -0.7**
ISCO **Idaho Springs** **52.74** **71** *e*P **P** **04 03 11.9 0.0**
ISCO pmax pmax
comp=Z,21nm,1.1s,mb5.0
ISCO MLR MLR
comp=Z,5µm,21.0s,MS5.5
ISCO **Idaho Springs** **52.74** **71** *e*P **P** **04 03 11.9 +0.1**
comp=Z,21nm,1.1s,mb5.0
ISCO LR LR
comp=Z,5µm,21.0s,MS5.5
LZH **Lanzhou** **52.78** **283** P **P** **04 03 13.2 +1.0**
LZH AP pP 04 03 19.0 +1.2
LZH XP sP 04 03 21.9 +1.9
LZH PP PP 04 05 14.0 +2.4
LZH S **S** **04 10 39.3 -0.4**
LZH XS sS 04 10 50.0 +1.1
LZH SS SS 04 14 16.3 -2.1
LZH AMB AMB
comp=Z,90nm,1.2s,mb5.6
LZH AMB AMB
comp=Z,490nm,4.4s
LZH LR LR
comp=N,5µm,16.3s
LZH LR LR
comp=Z,7µm,17.4s,MS5.8
GTA **Gaotai** **52.99** **289** ⇑ *i*P **P** **04 03 14.2 +0.5**
GTA AP pP 04 03 18.4 -1.0
GTA XP sP 04 03 20.8 -0.7
GTA PCP PcP 04 04 24.8 +2.5
GTA PP PP 04 05 14.6 +1.1
GTA SCP ScP 04 08 18.8 -0.2
GTA S **S** **04 10 39.4 -3.1**
GTA XS sS 04 10 46.2 -5.6
GTA SCS ScS 04 13 00.8 -1.8
GTA SS SS 04 14 16.5 -5.2
GTA AMB AMB
comp=Z,48nm,0.8s,mb5.5
GTA AMB AMB
comp=Z,990nm,6.5s
GTA LR LR
comp=N,7µm,17.5s,MS5.8
GTA LR LR
comp=E,4µm,16.7s,MS5.8
GTA LR LR
comp=Z,4µm,16.0s,MS5.6
SUMG **Summit** **53.38** **13** *e*P **P** **04 03 16.5 -0.1**
comp=Z,627nm,1.9s,mb6.2
115A **Sonoran Desert** **53.49** **82** ⇑P **P** **04 03 17.6 +0.2**
baz=54,SNR=18
116A **Eloy** **53.91** **82** ⇓P **P** **04 03 20.2 -0.3**
baz=54
SDCO **Great Sand Dun** **54.15** **73** PFAKE 04 03 40.0 +18
SDCO LR LR
comp=Z,2µm,20.0s,MS5.2
EYMN **Ely** **55.20** **55** *e*P **P** **04 03 29.2 -0.6**
comp=Z,81nm,1.1s,mb5.7
EYMN LR LR
comp=Z,5µm,19.0s,MS5.6
ECSD **EROS,Sioux Fal** **55.27** **62** *e*P **P** **04 03 28.8 -1.5**
LAZ **Ladron** **55.43** **77** *e*P **P** **04 03 32.2 +0.7**
ANMO **Albuquerque** **55.46** **76** *e*P **P** **04 03 31.2 -0.5**
ANMO pmax pmax
comp=Z,19nm,1.3s
ANMO MLR MLR
comp=Z,2µm,19.0s
ANMO **Albuquerque** **55.46** **76** *e*P **P** **04 03 31.2 -0.5**
comp=Z,19nm,1.3s,mb5.0
ANMO LR LR
comp=Z,2µm,19.0s,MS5.2
LENM **Lemitar** **55.69** **77** *e*P **P** **04 03 34.6 +1.3**
Y22C **IRIS PASSCAL I** **55.78** **77** ⇓P **P** **04 03 33.9 -0.2**
baz=56
LPM **Los Pinos Moun** **55.80** **76** *e*P **P** **04 03 34.1 0.0**
BNM **Barren Site** **55.91** **77** *e*P **P** **04 03 35.4 +0.5**
SFJD **Kangerlussuaq** **56.09** **21** *e*P **P** **04 03 35.8 -0.5**
SFJD **Kangerlussuaq** **56.09** **21** *e*P **P** **04 03 35.8 -0.4**
SFJD LR LR
comp=Z,1µm,18.0s,MS5.0
CD2 **Chengdu** **56.37** **279** ⇓ *i*P **P** **04 03 38.1 -0.1**
CD2 AP pP 04 03 42.1 -1.8
CD2 XP sP 04 03 45.1 -1.0
CD2 PCP PcP 04 04 35.3 0.0
CD2 PP PP 04 05 44.9 +1.1
CD2 PCS PcS 04 08 34.5 -1.4
CD2 S **S** **04 11 25.4 -2.5**
CD2 XS sS 04 11 33.1 -4.2
CD2 SCS ScS 04 13 23.3 -3.4
CD2 SS SS 04 15 12.1 -2.8
CD2 AMB AMB
comp=Z,50nm,1.1s,mb5.5
CD2 AMB AMB
comp=Z,250nm,5.2s
CD2 LR LR
comp=N,2µm,22.8s
CD2 LR LR
comp=Z,2µm,14.4s
KEV **Kevo** **56.72** **348** *e*p **P** **04 03 44.7 +4.0**
KEV **Kevo** **56.72** **348** *e*P **P** **04 03 41.4 +0.7**
KEV pmax pmax
comp=Z,40nm,1.4s,mb5.3
KEV MLR MLR
comp=Z,2µm,20.0s,MS5.1
KEV **Kevo** **56.72** **348** *e*P **P** **04 03 41.4 +0.7**
comp=Z,40nm,1.4s,mb5.3
KEV LR LR
comp=Z,2µm,20.0s,MS5.1
KURK **Kurchatov** **56.79** **311** P **P** **04 03 40.5 -0.7**
comp=Z,661nm,1.5s,mb6.4,SNR=31
KURK **Kurchatov** **56.79** **311** P **P** **04 03 40.9 -0.3**
SNR=83
KURK **Kurchatov** **56.79** **311** *e*P **P** **04 03 40.2 -1.0**
KURK pmax pmax
comp=Z,136nm,1.0s,mb5.9
KURK MLR MLR
comp=Z,3µm,19.0s,MS5.4
KURK **Kurchatov** **56.79** **311** *e*P **P** **04 03 40.2 -1.0**
comp=Z,136nm,1.0s,mb5.9
KURK LR LR
comp=Z,3µm,19.0s,MS5.4
WMQ **Urumqi** **56.90** **300** P **P** **04 03 43.0 +1.0**
WMQ AP pP 04 03 46.0 -1.6
WMQ XP sP 04 03 47.7 -2.1
WMQ PCP PcP 04 04 38.2 +0.9
WMQ PP PP 04 05 51.0 +2.6
WMQ S **S** **04 11 34.5 -0.4**
WMQ XS sS 04 11 42.5 -1.7
WMQ AMB AMB
comp=Z,101nm,1.2s,mb5.7
WMQ AMB AMB
comp=Z,739nm,4.0s
WMQ LR LR
comp=N,19µm,22.0s,MS6.2
WMQ LR LR
comp=E,10µm,22.0s,MS6.2
WMQ LR LR
comp=Z,4µm,22.1s,MS5.4
ARCES **ARCESS Array B** **57.11** **349** P **P** **04 03 40.9 -2.6**
comp=Z,1.7nm,0.8s,baz=33,slow=7.2,SNR=10
ARCES **ARCESS Array B** **57.11** **349** P **P** **04 03 40.9 -2.6**
ARE0 **ARCESS Array S** **57.12** **349** *e*P **P** **04 03 44.4 +0.9**
JMIC **Jan Mayen** **57.36** **2** *e*P **P** **04 03 49.1 +3.8**
JMIC *e*S **S** **04 11 46.1 +5.1**
MKAR **Makanchi Array** **57.69** **306** P **P** **04 03 46.1 -1.5**
comp=Z,4.3nm,0.5s,mb4.7,baz=51,slow=7.9,SNR=29
MKAR **Makanchi Array** **57.69** **306** *i* P **P** **04 03 46.0 -1.6**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
GYA **Guiyang** **57.74** **273** P **P** **04 03 48.8 +0.9**
GYA AP pP 04 03 52.9 -0.7
GYA XP sP 04 03 56.4 +0.7
GYA PP PP 04 06 01.6 +5.7
GYA S **S** **04 11 52.8 +6.8**
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.3
GYA AMB AMB
comp=Z,350nm,3.2s
GYA LR LR
comp=N,4µm,19.1s
GYA LR LR
comp=E,2µm,25.1s
GYA LR LR
comp=Z,2µm,21.5s,MS5.1
TRO **Tromso** **57.74** **351** *e*pP pP 04 03 51.8 -1.8
TRO *e*S **S** **04 11 48.5 +2.5**
TRO *e*SS SS 04 15 45.4 +8.9
TRO **Tromso** **57.74** **351** *e*P **P** **04 03 46.8 -1.1**
APA **Apatity** **57.79** **344** ⇑ *i*P **P** **04 03 46.0 -2.3**
APA *i* 04 06 00.0
APA *i* PPP 04 07 20.0
APA *i* S **S** **04 11 42.0 -4.6**
APA *i* SS SS 04 15 40.0 +2.8
APA pmax pmax
comp=Z,64nm,1.5s,mb5.4
APA MLR MLR
comp=Z,2µm,20.0s,MS5.1
SCIA **State Center** **58.34** **61** *e*P **P** **04 03 50.7 -1.5**
AMTX **Amarillo** **58.36** **73** *e*P **P** **04 03 52.9 +0.7**
comp=Z,22nm,1.0s,mb5.2
AMTX LR LR
comp=Z,2µm,19.0s,MS5.2
BRVK **Borovoye** **58.84** **318** P **P** **04 03 55.4 -0.2**
comp=Z,302nm,0.5s,SNR=11
BRVK **Borovoye** **58.84** **318** P **P** **04 03 55.2 -0.4**
SNR=7.6
BRVK **Borovoye** **58.84** **318** *e*P **P** **04 03 54.7 -0.9**
BRVK pmax pmax
comp=Z,37nm,0.9s,mb5.4
BRVK MLR MLR
comp=Z,2µm,19.0s,MS5.3
BRVK **Borovoye** **58.84** **318** *e*P **P** **04 03 54.7 -0.9**
comp=Z,37nm,0.9s,mb5.4
BRVK LR LR
comp=Z,2µm,19.0s,MS5.3
SOKR **Solikamsk** **58.91** **329***c* *i*P **P** **04 04 01.7 +5.6**
SOKR 04 04 52.5
SOKR 04 06 13.7
SOKR PPP 04 07 31.3
SOKR S **S** **04 11 59.7 -1.6**
SOKR PS 04 12 20.4
SOKR SS SS 04 15 49.6 -5.3
SOKR pmax pmax
comp=Z,70nm,1.1s,mb5.6
SOKR MLR MLR
comp=Z,3µm,17.0s,MS5.5
MSLP **Maasin** **59.28** **245** *e*P **P** **04 04 05.9 +7.2**
ZRNK **Zerenda** **59.45** **318** *e*P **P** **04 03 58.8 -1.0**
ZRNK pmax pmax
comp=Z,146nm,1.3s,mb5.8
ZRNK **Zerenda** **59.45** **318** *e*P **P** **04 03 58.8 -1.0**
comp=Z,146nm,1.3s,mb5.8
LOF **Lofoten** **59.67** **353** *e*sP sP 04 04 06.2 -3.0
LOF AMb AMB 04 04 11.5
comp=Z,72nm,1.6s,mb5.4
SVE **Sverdlovsk** **59.75** **325** *e*P **P** **04 04 02.1 +0.2**
SVE *e* 04 06 15.0
SVE *e*S **S** **04 12 10.0 -2.1**
SVE *e*SSS 04 18 42.0
SVE pmax pmax
comp=Z,140nm,2.0s,mb5.7
SVE MLR MLR
comp=N,4µm,18.0s,MS5.6
SVE MLR MLR
comp=E,1µm,18.0s,MS5.6
SVE MLR MLR
comp=Z,4µm,18.0s,MS5.6
BUTP **Butuan** **59.81** **243** *e*P **P** **04 04 08.0 +5.6**
GUIM **Jordan** **60.17** **247** *e*P **P** **04 04 05.2 +0.4**
BUSP **Coron** **60.45** **250** *e*P **P** **04 04 07.7 +1.0**
ARU **Arti** **60.78** **326** P **P** **04 04 08.5 -0.5**
comp=Z,216nm,1.5s,mb6.1,SNR=7.9
ARU **Arti** **60.78** **326** *e*P **P** **04 04 08.7 -0.3**
ARU *e* 04 06 24.2
ARU *e*S **S** **04 12 27.5 +2.1**
ARU *e* 04 13 57.5
ARU *e*SS SS 04 16 26.0 +1.7
ARU MLR MLR
comp=N,2µm,18.0s,MS5.3
ARU MLR MLR
comp=Z,2µm,18.0s,MS5.4
ARU MLR MLR
comp=E,1µm,16.0s,MS5.3
ARU **Arti** **60.78** **326** *e*P **P** **04 04 08.4 -0.6**
comp=E,34nm,0.8s,mb5.5
ARU LR LR
comp=Z,2µm,19.0s,MS5.3
BUKP **Musuan** **61.02** **243** *e*P **P** **04 04 17.6 +7.0**
LTX **Lajitas** **61.08** **79** *e*P **P** **04 04 10.3 -0.7**
LTX pmax pmax
comp=Z,34nm,1.0s,mb5.4
LTX MLR MLR
comp=Z,2µm,19.0s,MS5.3
LTX **Lajitas** **61.08** **79** *e*P **P** **04 04 10.3 -0.7**
comp=Z,34nm,1.0s,mb5.4
LTX LR LR
comp=Z,2µm,19.0s,MS5.3
KMI **Kunming** **61.13** **275** P **P** **04 04 12.3 +0.9**
KMI AP pP 04 04 20.1 +3.0
KMI XP sP 04 04 23.3 +4.1
KMI PCP PcP 04 04 56.0 +1.8
KMI PP PP 04 06 23.3 -2.7
KMI S **S** **04 12 28.7 -1.1**
KMI XS sS 04 12 41.3 +2.1
KMI SS SS 04 16 30.3 +0.6
KMI AMB AMB
comp=Z,16nm,1.4s,mb5.0
KMI AMB AMB
comp=Z,390nm,4.9s
KMI LR LR
comp=N,2µm,20.0s,MS5.5
KMI LR LR
comp=E,2µm,20.0s,MS5.5
KMI LR LR
comp=Z,2µm,21.5s,MS5.2
SCHQ **Schefferville** **61.15** **36** P **P** **04 04 11.3 -0.1**
comp=Z,26nm,0.9s,mb5.3,baz=336,slow=5.8,SNR=16
SCHQ **Schefferville** **61.15** **36** *e*P **P** **04 04 10.9 -0.5**
comp=Z,224nm,1.6s,mb6.0
SCHQ LR LR
comp=Z,4µm,22.0s,MS5.5
QIZ **Qiongzhong** **61.25** **264** P **P** **04 04 12.2 0.0**
QIZ PP PP 04 06 29.7 +2.7
QIZ S **S** **04 12 32.4 +1.1**
QIZ XS sS 04 12 37.5 -3.2
QIZ SCS ScS 04 14 02.6 -0.1
QIZ SS SS 04 16 31.0 -0.6
QIZ AMB AMB
comp=Z,23nm,1.6s,mb5.1
QIZ AMB AMB
comp=Z,372nm,6.8s
QIZ LR LR
comp=E,2µm,17.7s
QIZ LR LR
comp=Z,2µm,15.9s,MS5.3
QIZ **Qiongzhong** **61.25** **264** PFAKE 04 04 20.0 +7.8
QIZ LR LR
comp=Z,997nm,20.0s,MS5.0
DAV **Davao City (W)** **61.40** **242** PFAKE 04 04 20.0 +6.8
DAV LR LR
comp=Z,2µm,19.0s,MS5.3
MOR8 **Moi Rana** **61.52** **352** *e*P **P** **04 04 11.8 -2.2**
MOR8 **Moi Rana** **61.52** **352** *e*P **P** **04 04 15.5 +1.5**
CCM **Cathedral Cave** **62.12** **63** *e*P **P** **04 04 18.7 +0.7**
CCM pmax pmax
comp=Z,43nm,1.4s,mb5.4
CCM MLR MLR
comp=Z,2µm,19.0s,MS5.4
CCM **Cathedral Cave** **62.12** **63** *e*P **P** **04 04 18.7 +0.7**
comp=Z,43nm,1.4s,mb5.4
CCM LR LR
comp=Z,2µm,19.0s,MS5.4
JOF **Joensuu** **62.40** **343** *e*p **P** **04 04 18.1 -1.8**
JCT **Junction City** **62.59** **75** *e*P **P** **04 04 19.9 -1.2**
JCT pmax pmax
comp=Z,53nm,1.1s,mb5.6
JCT MLR MLR
comp=Z,2µm,20.0s,MS5.3
JCT **Junction City** **62.59** **75** *e*P **P** **04 04 19.9 -1.3**
comp=Z,53nm,1.1s,mb5.6
JCT LR LR
comp=Z,2µm,20.0s,MS5.3
KLMR **Klimovskoe** **62.59** **338***c* *i*P **P** **04 04 24.4 +3.2**
KLMR *e*S **S** **04 12 46.7 -1.6**
KLMR *e*SSS 04 19 35.4
KLMR pmax pmax
comp=Z,90nm,1.3s,mb5.7
KLMR pmax pmax
comp=Z,90nm,7.1s
KLMR MLR MLR
comp=Z,4µm,19.0s,MS5.5
FVM **French Village** **62.62** **63** *e*P **P** **04 04 21.0 -0.4**
FVM pmax pmax
comp=Z,24nm,1.1s,mb5.2
FVM **French Village** **62.62** **63** *e*P **P** **04 04 21.0 -0.4**
comp=Z,24nm,1.1s,mb5.2
BORG **Borgarnes** **62.82** **9** *e*P **P** **04 04 21.8 -1.0**
comp=Z,26nm,0.8s,mb5.4
BORG LR LR
comp=Z,1µm,19.0s,MS5.2
HNR **Honiara** **62.84** **199** PFAKE 04 04 30.0 +7.2
HNR LR LR
comp=Z,2µm,22.0s,MS5.1
AAM **Ann Arbor** **63.10** **55** PFAKE 04 04 40.0 +15
AAM LR LR
comp=Z,4µm,19.0s,MS5.6
MIAR **Mount Ida** **63.32** **67** *e*P **P** **04 04 24.8 -1.2**
MIAR pmax pmax
comp=Z,71nm,1.2s,mb5.7

MIAR MLR MLR
comp=Z,3µm,21.0s,MS5.5
MIAR Mount Ida 63.32 67 *eP* **P 04 04 24.8 -1.2**
comp=Z,71nm,1.2s,mb5.7
MIAR LR LR
comp=Z,3µm,21.0s,MS5.5
TKM2 Tokmak 2 63.79 307 P **P 04 04 29.3 +0.2**
SNR=11
UALR University of 63.85 66 *eP* **P 04 04 28.9 -0.7**
comp=Z,11nm,0.9s,mb4.9
BLO Bloomington 63.88 59 *eP* **P 04 04 29.2 -0.5**
BLO pmax pmax
comp=Z,31nm,1.0s,mb5.3
BLO Bloomington 63.88 59 *eP* **P 04 04 29.2 -0.5**
comp=Z,31nm,1.0s,mb5.3
ULHL Ulahol 63.96 306 P **P 04 04 36.7 +6.4**
SNR=8.2
KAF Kangasniemi 64.00 345 *ep* **P 04 04 28.3 -2.2**
comp=Z,29nm,0.8s,mb5.4,baz=16,slow=5.8
KAF Kangasniemi 64.00 345 *eP* **P 04 04 28.3 -2.2**
KAF pmax pmax
comp=Z,29nm,0.8s,mb5.4
USP Ospenovka 64.07 308 P **P 04 04 31.1 +0.1**
SNR=13
USIN University of 64.14 61 *eP* **P 04 04 29.8 -1.7**
comp=Z,29nm,0.7s,mb5.4
CHMS Chumysh 64.15 307 P **P 04 04 37.8 +6.3**
SNR=10.0
KBK Karagaybulak 64.30 307 P **P 04 04 39.0 +6.4**
SNR=9.1
FRU Bishkek 64.34 307⇑ *i* P **P 04 04 38.0 +5.3**
FRU *e* 04 08 28.0
FRU *eS* **S 04 13 10.0 0.0**
FRU pmax pmax
comp=Z,170nm,1.5s,mb5.8
FRU MLR MLR
comp=Z,2µm,16.0s,MS5.4
GLAT Glass 64.49 63 *eP* **P 04 04 33.5 -0.3**
AAK Ala-Archa 64.55 307 P **P 04 04 34.2 +0.2**
SNR=6.9
AAK Ala-Archa 64.55 307 P **P 04 04 33.4 -0.7**
comp=Z,392nm,0.8s,SNR=8.8
AAK Ala-Archa 64.55 307 P **P 04 04 33.5 -0.6**
SNR=13
AAK P 04 04 33.7
SNR=36
AAK Ala-Archa 64.55 307 *d i* P **P 04 04 33.2 -0.9**
AAK pmax pmax
comp=Z,21nm,1.5s,mb5.0
AAK Ala-Archa 64.55 307 *eP* **P 04 04 33.0 -1.1**
comp=Z,86nm,1.1s,mb5.7
AAK LR LR
comp=Z,2µm,21.0s,MS5.3
KZA Kyzart 64.58 306 P **P 04 04 35.1 +0.8**
SNR=5.6
UTMT University of 64.67 63 *eP* **P 04 04 34.8 -0.1**
comp=Z,137nm,1.1s,mb5.9
FINES FINESS Array B 64.67 345 P **P 04 04 33.0 -2.0**
comp=Z,2.7nm,0.7s,mb4.4,baz=34,slow=7.6,SNR=17
FINES PKPPKP 04 33 16.0
comp=Z,1.3nm,0.9s,baz=245,slow=4.0,SNR=4.1
FINES FINESS Array B 64.67 345 *i* P **P 04 04 33.4 -1.5**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 64.67 345 P **P 04 04 33.0 -2.0**
FINES P'P' 04 33 16.0
WCI Wyandotte Cave 64.69 60 *eP* **P 04 04 33.5 -1.5**
WCI pmax pmax
comp=Z,18nm,0.8s,mb5.2
WCI MLR MLR
comp=Z,3µm,20.0s,MS5.5
WCI Wyandotte Cave 64.69 60 *eP* **P 04 04 33.5 -1.5**
comp=Z,18nm,0.8s,mb5.2
WCI LR LR
comp=Z,3µm,20.0s,MS5.5
NATX Nacogdoches 64.70 70 *eP* **P 04 04 36.3 +1.1**
comp=Z,114nm,1.5s,mb5.7
NATX LR LR
comp=Z,3µm,19.0s,MS5.4
HALT Halls 64.72 64 *eP* **P 04 04 33.6 -1.6**
UCH Uchtor 64.84 307 P **P 04 04 37.5 +1.5**
SNR=6.3
LSA Lhasa 64.85 287 *eP* **P 04 04 37.4 +1.3**
LSA pmax pmax
comp=Z,53nm,0.8s,mb5.6
LSA MLR MLR
comp=Z,2µm,20.0s,MS5.3
LSA Lhasa 64.85 287 *eP* **P 04 04 37.4 +1.3**
comp=Z,53nm,0.8s,mb5.6
LSA LR LR
comp=Z,2µm,20.0s,MS5.3
EKS2 Erkin-Say 64.88 308 P **P 04 04 36.4 +0.1**
SNR=17
ACSO Alum Creek Sta 64.96 56 *eP* **P 04 04 36.1 -0.7**
comp=Z,16nm,0.9s,mb5.0
ACSO LR LR
comp=Z,2µm,19.0s,MS5.3
ERPA Erie 65.08 53 *eP* **P 04 04 36.7 -0.9**
comp=Z,154nm,1.3s,mb5.9
ERPA LR LR
comp=Z,6µm,20.0s,MS5.8
HKT Hockley 65.33 73 *eP* **P 04 04 39.0 -0.2**
HKT pmax pmax
comp=Z,63nm,1.5s,mb5.4
HKT MLR MLR
comp=Z,2µm,20.0s,MS5.3
HKT Hockley 65.33 73 *eP* **P 04 04 39.0 -0.2**
comp=Z,63nm,1.5s,mb5.4
HKT LR LR
comp=Z,2µm,20.0s,MS5.3
ALLY Alegheny Colle 65.35 54 *eP* **P 04 04 39.1 -0.2**
WVT Waverly 65.39 62 PFAKE 04 04 50.0 +10
WVT LR LR
comp=Z,2µm,22.0s,MS5.3
PECR Pechory 65.41 333 *i* P **P 04 04 42.6 +2.9**
PECR *eS* S 04 13 57.0 +34
PECR *e* 04 14 36.0
PECR pmax pmax
comp=Z,190nm,2.0s,mb5.8
PECR pmax pmax
comp=Z,400nm,5.0s
PECR MLR MLR
comp=Z,3µm,19.0s,MS5.5
PUL Pulkovo 65.51 342⇑ *eP* **P 04 04 44.4 +4.0**
PUL pmax pmax
comp=Z,86nm,0.9s,mb5.8
OXF Oxford 65.70 65 *eP* **P 04 04 40.8 -0.8**
OXF pmax pmax
comp=Z,164nm,1.2s,mb5.9
OXF MLR MLR
comp=Z,3µm,20.0s,MS5.5
OXF Oxford 65.70 65 *eP* **P 04 04 40.8 -0.8**
comp=Z,164nm,1.2s,mb5.9
OXF LR LR
comp=Z,3µm,20.0s,MS5.5
AKTO Aktyubinsk 65.75 322 *i* P **P 04 04 41.6 -0.3**
AKTO pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
LONY Lake Ozonia 65.78 48 *eP* **P 04 04 41.7 -0.3**
FRNY Flat Rock 66.07 47 *eP* **P 04 04 43.8 -0.2**
PLAL Pickwick Lake 66.10 64 *eP* **P 04 04 42.8 -1.4**
comp=Z,86nm,1.5s,mb5.6
PLAL LR LR
comp=Z,2µm,20.0s,MS5.4
KSH Kashi 66.12 304 *eP* **P 04 04 43.5 -0.8**
KSH *eAP* pP 04 04 49.8 -0.2
KSH *eXP* sP 04 04 52.3 +0.1
KSH *ePCP* PcP 04 05 11.6 -3.0
KSH *ePP* PP 04 07 14.2 +4.4
KSH *eSCP* 04 09 14.1
KSH *ePCS* 04 09 21.2
KSH *eS* S 04 13 28.4 -3.5
KSH *eXS* sS 04 13 36.5 -4.9
KSH *eSCS* ScS 04 14 35.7 -4.1
KSH AMB AMB
comp=Z,293nm,2.8s,mb5.8
KSH LR LR
comp=N,12µm,17.3s,MS6.3
KSH LR LR
comp=E,11µm,15.2s,MS6.3
KSH LR LR
comp=Z,3µm,18.2s,MS5.5
KK31 Karatay Array 66.12 310 *i* P **P 04 04 43.8 -0.5**
KK31 pmax pmax
comp=Z,39nm,0.8s,mb5.5
PMG Port Moresby 66.27 213 *eP* **P 04 04 46.4 +1.2**
PMG pmax pmax
comp=Z,101nm,1.3s
PMG MLR MLR
comp=Z,2µm,21.0s
PMG Port Moresby 66.27 213 *eP* **P 04 04 46.4 +1.1**
comp=Z,101nm,1.3s,mb5.7
PMG LR LR
comp=Z,2µm,21.0s,MS5.3
NCB Newcomb 66.44 48 *eP* **P 04 04 46.3 0.0**
comp=Z,34nm,1.3s,mb5.2
NCB LR LR
comp=Z,4µm,19.0s,MS5.7
CHRT Chiangrai 66.84 273⇑ P **P 04 04 49.0 +0.1**
comp=Z,250nm,1.0s,mb6.2
NB2 NORSAR Subarra 66.85 353 P **P 04 04 47.6 -1.4**
comp=Z,35nm,1.0s,mb5.3,baz=9.5,slow=6.5
NOA NORSAR Array B 66.85 353 P **P 04 04 47.7 -1.3**
comp=Z,3.2nm,0.7s,mb4.5,baz=10,slow=6.3,SNR=15
NOA PKPPKP 04 33 18.1
comp=Z,1.1nm,0.9s,baz=193,slow=4.4,SNR=3.2
BINY Binghamton 66.97 51 *eP* **P 04 04 49.2 -0.5**
comp=Z,92nm,1.3s,mb5.7
BINY LR LR
comp=Z,3µm,20.0s,MS5.6
MCWV Mont Chateau 66.99 55 *eP* **P 04 04 49.4 -0.5**
comp=Z,47nm,1.4s,mb5.3
MCWV LR LR
comp=Z,5µm,19.0s,MS5.7
NAO01 NORSAR Array S 67.07 353 *eP* **P 04 04 50.1 -0.2**
comp=Z,8.9nm,0.8s,mb4.8
NAO01 LR LR
comp=Z,2µm,21.0s,MS5.3
NANT Nan 67.08 271⇓ P **P 04 04 51.0 +0.6**
comp=Z,250nm,1.0s,mb6.2
ACCN Adirondack Com 67.15 48 *eP* **P 04 04 49.1 -1.8**
SSPA Standing Stone 67.23 53 *eP* **P 04 04 50.2 -1.2**
comp=Z,83nm,1.3s,mb5.6
SSPA LR LR
comp=Z,5µm,19.0s,MS5.7
LBNH Lisbon 67.28 47 *eP* **P 04 04 51.1 -0.6**
LBNH pmax pmax
comp=Z,31nm,1.1s,mb5.2
LBNH MLR MLR
comp=Z,5µm,20.0s,MS5.7
LBNH Lisbon 67.28 47 *eP* **P 04 04 51.1 -0.6**
comp=Z,31nm,1.1s,mb5.2
LBNH LR LR
comp=Z,5µm,20.0s,MS5.7
TZTN Tazewell 67.41 59 *eP* **P 04 04 51.7 -0.7**
SHL Shillong 67.45 283 *ex* x 04 04 14.7
HFS Hagfors 67.53 351 PKPPKP 04 33 17.4
comp=Z,1.7nm,0.9s,baz=326,slow=7.0,SNR=3.4
KKM Kota Kinabalu 67.55 250 *eP* **P 04 04 51.8 -1.6**
KKTK Khon Kaen 67.63 268 PG **P 04 04 54.0 +0.1**
CPCT Cooper Cave 67.70 61 *eP* **P 04 04 52.9 -1.4**
BER Bergen 67.88 356 *eS* S 04 13 53.3 +0.1
BER *eSS* SS 04 18 18.2 +3.3
BER Bergen 67.88 356 *eP* **P 04 05 10.0 +15**
FWV Forest Hill 68.07 57 *eP* **P 04 04 56.6 0.0**
LRAL Lakeview Retre 68.14 64 *eP* **P 04 04 57.5 +0.4**
comp=Z,9.1nm,0.8s,mb4.9
LRAL LR LR
comp=Z,3µm,21.0s,MS5.5
KONO Kongsberg 68.36 353 *eP* **P 04 05 00.1 +1.6**
KONO *eS* S 04 14 02.3 +3.5
KONO *eSS* SS 04 18 29.9 +7.6
KONO Kongsberg 68.36 353 *eP* **P 04 04 57.6 -0.9**
KONO pmax pmax
comp=Z,83nm,1.3s,mb5.6
KONO MLR MLR
comp=Z,2µm,19.0s,MS5.3
KONO Kongsberg 68.36 353 *eP* **P 04 04 57.6 -0.8**
comp=Z,83nm,1.3s,mb5.6
KONO LR LR
comp=Z,2µm,19.0s,MS5.3
ELN Prospectdale 68.36 57 *eP* **P 04 04 57.9 -0.7**
CM31 Chiang Mai Arr 68.43 273 PFAKE 04 05 10.0 +11
CM31 LR LR
comp=Z,1µm,19.0s,MS5.2
OBN Obninsk 68.44 337 P **P 04 05 04.4 +5.4**
comp=Z,199nm,0.7s,mb6.2,SNR=6.1
OBN Obninsk 68.44 337⇓ *eP* **P 04 04 58.7 -0.3**
OBN *e* 04 07 35.2
OBN *i S* S 04 14 16.9 +17
OBN pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
OBN MLR MLR
comp=Z,4µm,24.0s,MS5.6
OBN Obninsk 68.44 337 *eP* **P 04 04 58.8 -0.2**
comp=Z,77nm,1.2s,mb5.6
OBN LR LR
comp=Z,3µm,21.0s,MS5.4
MVL Millersville 68.48 52 *eP* **P 04 04 58.6 -0.6**
BLA Blacksburg 68.55 57 *eP* **P 04 04 59.7 0.0**
BLA pmax pmax
comp=Z,4.0nm,1.3s
BLA MLR MLR
comp=Z,137nm,20.0s
BLA Blacksburg 68.55 57 *eP* **P 04 04 59.7 0.0**
comp=Z,4.4nm,1.3s
BLA LR LR
comp=Z,137nm,20.0s
HRV Harvard--Oak R 68.80 48 PFAKE 04 05 10.0 +8.7
HRV LR LR
comp=Z,3µm,20.0s,MS5.5
PAL Palisades 68.88 50 *eP* **P 04 04 59.9 -1.8**
PAL pmax pmax
comp=Z,64nm,1.3s,mb5.4
PAL Palisades 68.88 50 *eP* **P 04 04 59.9 -1.8**
comp=Z,64nm,1.3s,mb5.4
WES Weston 69.01 48 *eP* **P 04 05 02.9 +0.4**
WES pmax pmax
comp=Z,92nm,1.3s,mb5.5
WES MLR MLR
comp=Z,1µm,20.0s,MS5.2
WES Weston 69.01 48 *eP* **P 04 05 02.9 +0.3**
comp=Z,92nm,1.3s,mb5.5
WES LR LR
comp=Z,1µm,20.0s,MS5.2
CPNY Central Park 69.02 50 *eP* **P 04 05 00.3 -2.3**
CBN Corbin 69.35 54 PFAKE 04 05 20.0 +15
CBN LR LR
comp=Z,10µm,20.0s,MS6.1
NST Nakhon Sawan 69.80 270 P **P 04 05 08.0 +0.6**
VRHR Novokhopersk 70.70 332 *eP* **P 04 05 04.0 -8.9**
VRHR pmax pmax
comp=Z,10.0nm,0.4s,mb5.1
VRHR pmax pmax
comp=N,7.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,1.0s
VRHR MLR MLR
comp=Z,1µm,15.0s,MS5.2
VRHR MLR MLR
comp=N,12µm,18.0s,MS6.2
VRHR MLR MLR
comp=E,440nm,13.0s,MS6.2
TAOE Nuku Hiva Isla 70.75 135 *eLQ* 04 23 20.2
comp=E,12µm,31.8s
TAOE *eLR* LR 04 26 40.6
comp=E,4µm,20.5s,baz=343
KLP Kalpa 70.91 297 *eP* **P 04 05 14.2 0.0**
KLP AMb AMB 04 05 23.5
comp=Z,87nm,1.0s,mb5.6
JOSI Joshimath 70.92 295 *ex* x 04 05 10.1
VRSR Storozhevoye 71.28 334 *eP* **P 04 05 13.8 -2.7**
VRSR pmax pmax
comp=Z,30nm,1.1s,mb5.1
VRSR pmax pmax
comp=N,20nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.6s
MUD Monsted U'grnd 71.56 353⇑ *iP* **P 04 05 23.5 +5.3**
comp=E,39nm,1.2s,mb5.2
MUD *i* 04 14 52.2
MUD
comp=Z,1µm,18.0s
MUD Monsted U'grnd 71.56 353⇑ *iP* **P 04 05 23.5 +5.3**
MUD pmax pmax
comp=Z,39nm,1.2s,mb5.2
MUD MLR MLR
comp=Z,1µm,18.0s,MS5.2
MUD Monsted U'grnd 71.56 353⇑ *iP* **P 04 05 23.5 +5.3**
comp=Z,39nm,1.2s,mb5.2
MUD *i* 04 14 52.2
CAL Calcutta 71.86 283 *ex* x 04 06 05.3
NIL Nilore 72.00 302 P **P 04 05 28.4 +7.6**
comp=Z,165nm,1.1s,mb5.9,SNR=5.6
SUW Suwalki 72.24 344 *eP* **P 04 05 22.7 +0.5**
SUW pmax pmax
comp=Z,103nm,1.1s,mb5.7
SUW Suwalki 72.24 344 *eP* **P 04 05 22.7 +0.5**
comp=Z,103nm,1.1s,mb5.7
BOK Bokaro 72.37 286 *eP* **P 04 05 22.9 -0.1**
BOK AMb AMB 04 05 46.3
comp=Z,146nm,1.5s,mb5.7
KKR Kurukshetra 72.90 297 *ex* x 04 05 31.8
ESK Eskdalemuir 73.16 0 P **P 04 05 31.2 +3.5**
comp=Z,256nm,1.1s,mb6.1,SNR=6.5
ESK Eskdalemuir 73.16 0 *eP* **P 04 05 27.7 0.0**
ESK pmax pmax
comp=Z,45nm,1.0s,mb5.3
ESK MLR MLR
comp=Z,1µm,19.0s,MS5.1
ESK Eskdalemuir 73.16 0 *eP* **P 04 05 27.6 -0.1**
comp=Z,45nm,1.0s,mb5.3
ESK LR LR
comp=Z,1µm,19.0s,MS5.1
ASOR Ausora 73.30 295 *ex* x 04 05 24.6
BISR Bishrakh 73.63 295 *eP* **P 04 05 30.1 -0.3**
BISR AMb AMB 04 05 37.9
comp=Z,2.5nm,0.8s
NDI New Delhi 73.67 296 *eP* **P 04 05 29.0 -1.7**
AYAN Aya Nagar 73.87 296 *eP* **P 04 05 31.9 0.0**
AYAN AMb AMB 04 05 40.8
comp=Z,60nm,1.3s,mb5.4
BSEG Bad Segeberg 73.97 352 *eP* **P 04 05 37.8 +5.4**
comp=Z,58nm,1.2s,mb5.4
SONA Sohna 74.07 295 *eP* **P 04 05 32.0 -1.0**
SONA AMb AMB 04 05 33.5
comp=Z,34nm,0.4s,mb5.6
AKASG Malin Array Be 74.22 339 P **P 04 05 32.9 -1.1**
comp=Z,2.8nm,0.5s,mb4.4,baz=22,slow=6.3,SNR=6.0
DZM Mont Dzumac 74.23 190 *eP* **P 04 05 37.4 +3.4**
DZM Mont Dzumac 74.23 190 P **P 04 05 36.1 +2.1**
comp=Z,18nm,1.1s,mb4.9,baz=46,slow=11,SNR=5.6
AGRA Agra 74.37 294 *eP* **P 04 05 34.5 -0.3**
AGRA AMb AMB 04 05 46.5
comp=Z,84nm,0.1s
KUDL Kundal 74.49 296 *eP* **P 04 05 35.3 -0.2**
KUDL AML AML 04 05 42.6
comp=N,19nm,0.6s
KSM Kuching 74.68 252 *eP* **P 04 05 36.4 -0.3**
KHET Khetri 74.92 296 *i* P **P 04 05 37.4 -0.6**
KHET AMb AMB 04 05 47.8
comp=Z,92nm,1.3s,mb5.6
DWPF Disney 74.99 64 PFAKE 04 05 50.0 +12
DWPF LR LR
comp=Z,2µm,20.0s,MS5.5
PPT Papeete 75.02 147 *eS* S 04 15 13.1 -2.5
comp=Z,2µm,26.5s
PPT *eSS* SS 04 20 03.1 -1.2
comp=Z,210nm,22.5s
PPT *eLQ* 04 24 57.8
comp=Z,7µm,30.5s
PPT *eLR* LR 04 28 36.9
comp=Z,1µm,19.8s,baz=342
KAKA Kakadu 75.02 225 *eP* **P 04 05 38.8 +0.2**
comp=Z,158nm,0.9s,mb5.9
DCN Croghan 75.07 3 *eP* **P 04 05 39.0 +0.1**
DSB Dublin 75.19 2 *eP* **P 04 05 38.7 -0.9**
comp=Z,38nm,1.0s,mb5.3
WIT Witteveen 75.36 354 *eP* **P 04 05 47.2 +6.6**
comp=Z,28nm,0.2s,mb5.9
GOF Gofitskoye 75.63 328 *eP* **P 04 05 44.9 +2.8**
GOF pmax pmax
comp=Z,190nm,1.1s,mb5.9
IBBN Ibbenburen 75.79 353 *eP* **P 04 05 48.4 +5.4**
ABKT Ailbek 75.94 315 P **P 04 05 44.2 +0.4**
comp=Z,194nm,1.0s,mb6.0,SNR=6.4
MAK Makhachkala 75.94 324 *eP* **P 04 05 43.4 -0.4**
MAK *eS* S 04 15 26.4 +0.6
MAK pmax pmax
comp=Z,168nm,1.8s,mb5.7
CLZ Clausthal 76.04 352 *eP* **P 04 05 49.8 +5.4**
comp=Z,63nm,1.4s,mb5.3
CLZ Clausthal 76.04 352 *eP* **P 04 05 49.8 +5.4**
CLZ pmax pmax
comp=Z,63nm,1.4s,mb5.3
SNG Songkhla 76.05 264 P **P 04 05 46.0 +1.5**
LVV L'vov 76.11 342 *eP* **P 04 05 51.1 +6.3**
LVV *e* 04 08 42.3
LVV *e* 04 10 26.9
LVV *eS* S 04 15 29.3 +1.6
LVV *eSS* SS 04 20 18.5 -2.4
LVV MLR MLR
comp=N,700nm,18.0s,MS5.2
LVV MLR MLR
comp=Z,800nm,18.0s,MS5.1
LVV MLR MLR
comp=E,700nm,17.0s,MS5.2
WTSB Winterswijk 76.19 354 *eP* **P 04 05 51.3 +6.0**
comp=E,28nm,1.6s,mb4.9
CLL Collm 76.30 350 *eP* **P 04 05 51.3 +5.4**
comp=Z,33nm,1.4s,mb5.1
CLL *eS* S 04 15 34.8 +5.0
CLL *ePS* 04 16 11.2
CLL *eSS* SS 04 20 20.3 -3.5
CLL *eSSS* 04 23 47.7
CLL *eSSSS* 04 25 59.0
CLL *eLR* LR 04 30 31.8
CLL *eL* 04 47 48.9
comp=Z,1µm,20.0s
CLL Collm 76.30 350⇓ P **P 04 05 51.6 +5.7**
comp=Z,logA/T=1.2,mb4.9
CLL *i* pP 04 05 56.9 +5.2
CLL *i* 04 06 02.1
CLL *eS* S 04 15 34.0 +4.2
CLL *ePS* 04 16 07.0
CLL *eSS* SS 04 20 26.0 +2.2
CLL *eSSS* 04 23 47.0
CLL Collm 76.30 350⇓ *iP* **P 04 05 51.6 +5.7**
comp=Z,25nm,1.7s,mb4.9
CLL *i* x x 04 05 56.9
comp=Z,33nm,1.4s
CLL *i* x x 04 06 02.1
comp=Z,42nm,1.5s
CLL *eS* S 04 15 34.0 +4.2
CLL *ePS* 04 16 07.0
CLL *eSS* SS 04 20 26.0 +2.2
CLL *eSSS* 04 23 47.0
CLL *eSSSS* 04 26 12.0
CLL Collm 76.30 350⇓ *iP* **P 04 05 51.6 +5.7**
CLL *i* pP 04 05 56.9 +5.2
CLL *i* 04 06 02.1
CLL *eS* S 04 15 34.0 +4.2
CLL pmax pmax
comp=Z,25nm,1.7s,mb4.9
CLL MLR MLR
comp=Z,2µm,17.0s,MS5.4
CLL Collm 76.30 350⇓ *iP* **P 04 05 51.6 +5.7**
comp=Z,25nm,1.7s,mb4.9
CLL *i* pP 04 05 56.9 +5.2
CLL *i* 04 06 02.1
CLL *eS* S 04 15 34.0 +4.2
CLL LR LR
comp=Z,2µm,17.0s,MS5.4
KSP Ksiaz 76.36 348 *eP* **P 04 05 51.6 +5.4**
KSP *eS* S 04 15 27.0 -3.4
KSP *eSS* SS 04 20 22.0 -2.7
KSP MLR MLR
comp=Z,3µm,24.0s,MS5.5
OJC Ojcow 76.46 345 *eP* **P 04 05 52.5 +5.7**
OJC *eS* S 04 15 39.4 +7.9
OJC L 04 37 48.7
comp=Z,7.3nm,22.6s
KWP Kalwaria 76.53 343 *eP* **P 04 05 47.4 +0.2**
KWP *ePcP* PcP 04 05 54.1 -4.7
KWP L 04 39 06.2
comp=Z,1.9nm,22.7s
KWP Kalwaria 76.53 343 *eP* **P 04 05 47.4 +0.2**
KWP *ePcP* PcP 04 05 54.1 -4.7
CTA Charters Tower 76.58 210 *eP* **P 04 05 48.5 +1.0**
comp=Z,38nm,0.8s,mb5.4
CTA Charters Tower 76.58 210 P **P 04 05 48.7 +1.2**
comp=Z,19nm,0.8s,mb5.1,baz=14,slow=6.7,SNR=23
CTA Charters Tower 76.58 210 *eP* **P 04 05 48.5 +1.0**
CTA pmax pmax
comp=Z,38nm,0.8s
CTAO Charters Tower 76.58 210 *eP* **P 04 05 47.6 +0.1**
CTAO *e* 04 08 43.0

CTAO pmax pmax
comp=Z,47nm,0.8s,mb5.5
CTAO MLR MLR
comp=Z,1μm,20.0s,MS5.2
CTAO Charters Tower 76.58 210 *eP* **P 04 05 47.5 +0.1**
comp=Z,47nm,0.8s,mb5.5
CTAO *e*PP PP 04 08 43.0 +3.3
CTAO LR LR
comp=Z,1μm,20.0s,MS5.2
BRG Berggiesshubel 76.62 349 *eP* **P 04 05 52.5 +4.8**
comp=Z,34nm,1.5s,mb5.1
BRG Berggiesshubel 76.62 349 *eP* **P 04 05 52.8 +5.1**
comp=Z,12nm,1.7s,mb4.6
BRG *e* pP 04 05 58.8 +5.3
comp=Z,20nm,1.5s
BRG
comp=N,880nm,21.6s
BRG
comp=E,2μm,20.7s
BRG
comp=Z,839nm,18.4s
BRG Berggiesshubel 76.62 349 *eP* **P 04 05 52.8 +5.1**
BRG *e* pP 04 05 58.8 +5.3
BRG pmax pmax
comp=Z,13nm,1.7s,mb4.6
BRG pmax pmax
comp=Z,20nm,1.5s,mb4.8
BRG MLR MLR
comp=N,880nm,21.6s,MS5.4
BRG MLR MLR
comp=E,2μm,20.7s,MS5.4
BRG MLR MLR
comp=Z,839nm,18.5s,MS5.1
BRG Berggiesshubel 76.62 349 *eP* **P 04 05 52.8 +5.1**
comp=Z,12nm,1.7s,mb4.6
BRG *e* pP 04 05 58.8 +5.3
BRG LR LR
comp=Z,840nm,18.4s,MS5.1
BUG Bochum--Univer 76.69 353 *eP* **P 04 05 53.2 +5.1**
UPC Upice 76.72 348 *eP* **P 04 05 54.4 +6.1**
UPC *ep*P pP 04 05 58.9 +4.8
KIV Kislovodsk 76.73 328 P **P 04 05 53.8 +5.5**
SNR=10.0
KIV Kislovodsk 76.73 328 *eP* **P 04 05 51.9 +3.6**
KIV *e* 04 06 04.3
KIV *eS* S 04 15 39.6 +5.1
KIV pmax pmax
comp=Z,28nm,1.2s,mb5.1
KIV MLR MLR
comp=Z,2μm,20.0s,MS5.3
KIV Kislovodsk 76.73 328 *eP* **P 04 05 50.2 +1.9**
comp=Z,49nm,1.1s,mb5.3
KIV LR LR
comp=Z,2μm,19.0s,MS5.5
AJM Ajmer 76.81 296 *ex* x 04 05 13.0
DPC Dobruska-Polom 76.84 347 *eP* **P 04 05 51.5 +2.6**
DPC *ep*P pP 04 05 55.8 +1.0
DPC *eS* S 04 15 40.7 +5.0
DPC AMS AMS 04 42 50.0
comp=Z,2μm,20.5s
PVCC Panska Ves 76.89 349 *eP* **P 04 05 55.0 +5.8**
PVCC AMS AMS 04 42 40.0
comp=Z,2μm,20.5s
STHS Stebnicka Huta 77.00 344 *eP* **P 04 05 54.2 +4.4**
STHS *e* 04 05 57.3
STHS *e* 04 08 52.0
STHS pmax pmax
comp=Z,45nm,1.1s,mb5.3
STHS Stebnicka Huta 77.00 344 *eP* **P 04 05 54.2 +4.4**
comp=Z,45nm,1.1s,mb5.3
STHS *e* 04 05 57.3
STHS *e*PP PP 04 08 52.0 +8.9
OKC Ostrava-Krasne 77.08 346 *eP* **P 04 05 55.7 +5.4**
OKC *eS* S 04 15 46.7 +8.4
OKC AMS AMS 04 47 50.0
comp=Z,2μm,16.1s
OKC Ostrava-Krasne 77.08 346 *eP* **P 04 05 55.7 +5.4**
OKC *eS* S 04 15 46.7 +8.4
OKC *eS* S 04 15 47.1 +8.8
UBBA Unterbreizbach 77.08 352 *eP* **P 04 05 55.4 +5.1**
MOX Moxa 77.10 351 *eP* **P 04 05 55.5 +5.1**
comp=Z,45nm,1.7s,mb5.1
MOX
comp=Z,800nm,21.0s
MOX Moxa 77.10 351 *eP* **P 04 05 55.5 +5.1**
MOX pmax pmax
comp=Z,45nm,1.7s,mb5.1
MOX MLR MLR
comp=Z,800nm,21.0s,MS5.0
TEIG Tepich 77.12 74 PFAKE 04 06 00.0 +9.4
TEIG LR LR
comp=Z,526nm,20.0s,MS4.8
NIE Niedzica 77.15 345 *eP* **P 04 05 57.1 +6.4**
MORC Moravsky Berou 77.23 347 *i*P **P 04 05 53.7 +2.6**
MORC Moravsky Berou 77.23 347 *eP* **P 04 05 53.6 +2.5**
MORC pmax pmax
comp=Z,23nm,1.3s,mb5.0
MORC Moravsky Berou 77.23 347 *eP* **P 04 05 53.6 +2.5**
comp=Z,23nm,1.3s,mb5.0
TANN Tannenbergstha 77.24 350 *eP* **P 04 05 56.5 +5.3**
KOLS Kolonicke sedl 77.28 343 *eP* **P 04 05 52.1 +0.7**
KOLS *e* 04 05 59.7
KOLS Kolonicke sedl 77.28 343 *eP* **P 04 05 52.1 +0.7**
KOLS *e* 04 05 59.7
KOLS pmax pmax
comp=Z,32nm,1.3s,mb5.1
KOLS MLR MLR
comp=Z,2μm,29.5s,MS5.2
KOLS Kolonicke sedl 77.28 343 *eP* **P 04 05 52.1 +0.7**
comp=Z,32nm,1.3s,mb5.1
KOLS *e* 04 05 59.7
KOLS LR LR
comp=Z,2μm,29.5s,MS5.2
ZEI Tsey 77.37 327 *eP* **P 04 05 55.9 +4.0**
ZEI *e**PP pP 04 05 58.9 +1.1
ZEI pmax pmax
comp=Z,10.0nm,0.4s,mb5.1
NKC Novy Kostel 77.42 350 *eP* **P 04 05 58.2 +6.0**
NKC *ep*P pP 04 06 02.6 +4.6
BEBN Eben Emael 77.43 354 P **P 04 05 57.6 +5.3**
HGN Heimansgroeve 77.45 354 *eP* **P 04 05 57.7 +5.3**
comp=Z,31nm,1.6s,mb5.0
HGN *eS* S 04 15 25.3 -17
HGN *eSS* SS 04 21 01.0 +20
HGN *eSSS* 04 24 17.7
HGN *ex* x 04 26 32.2
CRVS Cervenica-Dubn 77.46 344 *eP* **P 04 05 53.2 +0.8**
CRVS *e* 04 06 01.7
CRVS Cervenica-Dubn 77.46 344 *eP* **P 04 05 53.2 +0.8**
CRVS *e* 04 06 01.7
CRVS pmax pmax
comp=Z,29nm,1.4s,mb5.0
CRVS MLR MLR
comp=Z,2μm,21.8s,MS5.3
CRVS Cervenica-Dubn 77.46 344 *eP* **P 04 05 53.2 +0.8**
comp=Z,29nm,1.4s,mb5.0
CRVS *e* 04 06 01.7
CRVS LR LR
comp=Z,2μm,21.8s,MS5.3
KULM Kulim 77.50 263 *eP* **P 04 05 53.8 +1.1**
UCC Uccle 77.50 355 P **P 04 05 57.8 +5.1**
UCC PCP PcP 04 06 04.3 +1.4
UCC PP PP 04 08 45.2 -2.2
ANN Anapa 77.60 332 *eP* **P 04 05 50.0 -3.2**
ANN *eS* S 04 15 43.7 -0.2
ANN pmax pmax
comp=Z,202nm,6.4s
ANN MLR MLR
comp=Z,2μm,20.0s,MS5.4
MEM Membach 77.60 354 P **P 04 05 56.5 +3.3**
MEM Membach 77.60 354 E 04 05 60.0
MEM PCP PcP 04 06 03.7 +0.3
ONI Oni 77.69 327 P **P 04 06 00.4 +6.6**
ONI S S 04 15 47.8 +2.8
MANZ Manzenberg 77.70 350 *eP* **P 04 05 59.0 +5.2**
BHPL Bhopal 77.75 292 *eP* **P 04 05 53.1 -0.9**
BHPL AMb AMB 04 06 06.2
comp=Z,137nm,1.1s,mb5.8
SNF Seneffe 77.80 355 P **P 04 05 57.5 +3.2**
SNF PCP PcP 04 06 06.9 +2.7
TNS Taunus Mts 77.81 353 *eP* **P 04 05 59.6 +5.2**
VRAC Vranov 77.82 347 *i*P **P 04 05 59.8 +5.4**
VRAC Vranov 77.82 347 P **P 04 06 01.2 +6.7**
BCLA Clavier 77.83 355 P **P 04 06 00.5 +6.0**

MENF Mencas 77.84 357 *eP* **P 04 06 00.1 +5.6**
TREC Trest 77.98 348 *eP* **P 04 06 01.0 +5.7**
TREC AMS AMS 04 43 30.0
comp=Z,2μm,18.5s
BURAR Bucovina Array 77.99 341 *i*P **P 04 05 55.4 0.0**
BURAR Bucovina Array 77.99 341 P **P 04 05 55.4 0.0**
TBLG Delisi 78.00 326 P **P 04 05 57.4 +1.9**
SOC Sochi 78.01 330 *ci*P **P 04 06 01.3 +5.8**
SOC *e* 04 08 47.4
SOC *e*PPP 04 10 44.3
SOC *eS* S 04 15 58.5 +10
SOC pmax pmax
comp=Z,16nm,1.0s,mb4.9
SOC MLR MLR
comp=Z,3μm,22.0s,MS5.6
MTA Mtatsminda 78.02 326 P **P 04 05 58.9 +3.3**
MTA S S 04 15 48.9 +0.4
DGRG David-gareji 78.03 325 P **P 04 06 01.8 +6.2**
DGRG S S 04 15 51.0 +2.5
KECS Kecovo 78.03 344 *eP* **P 04 05 55.5 -0.1**
KECS *e* pP 04 06 01.5 +0.1
KECS *e* 04 08 57.0
KECS pmax pmax
comp=Z,15nm,1.1s,mb4.8
KECS Kecovo 78.03 344 *eP* **P 04 05 55.5 -0.1**
comp=Z,15nm,1.1s,mb4.8
KECS *e* pP 04 06 01.5 +0.1
KECS *e*PP PP 04 08 57.0 +5.2
GRA1 Grafenberg Arr 78.08 351 *eP* **P 04 06 01.5 +5.6**
comp=Z,57nm,1.3s,mb5.3
GRA1 *eS* S 04 15 52.1 +2.9
GRA1 *eSS* SS 04 21 01.9 +11
GRA1 LR LR
comp=Z,1μm,21.1s,MS5.2
GRF Grafenberg Arr 78.08 351 *eP* **P 04 06 01.5 +5.6**
comp=Z,57nm,1.3s,mb5.3
GRF *eS* S 04 15 52.1 +2.9
GRF *eSS* SS 04 21 01.9 +11
GRF *eL* 04 42 00.4
comp=Z,1μm,21.1s
GRF Grafenberg Arr 78.08 351 *eP* **P 04 06 01.5 +5.6**
GRF *eS* S 04 15 52.1 +2.9
GRF pmax pmax
comp=Z,57nm,1.3s,mb5.3
GRF MLR MLR
comp=Z,1μm,21.1s,MS5.2
GRF Grafenberg Arr 78.08 351 *eP* **P 04 06 01.5 +5.6**
GRF *eS* S 04 15 52.1 +2.9
GRF pmax pmax
comp=Z,57nm,1.3s,mb5.3
GRF MLR MLR
comp=Z,1μm,21.1s,MS5.2
GIVF Givet 78.17 355 *eP* **P 04 05 55.9 -0.5**
DOU Dourbes 78.19 355 P **P 04 06 01.8 +5.3**
comp=Z,6.4nm,1.2s,mb4.4
DOU PCP PcP 04 06 07.0 +1.0
ABH Alteburg 78.22 353 *eP* **P 04 06 02.5 +5.9**
BAIF Baives 78.25 355 *eP* **P 04 05 56.5 -0.3**
comp=Z,112nm,1.2s,mb5.3
BAIF Baives 78.25 355 *eP* **P 04 05 56.5 -0.3**
BAIF pmax pmax
comp=Z,56nm,1.2s,mb5.4
BAIF Baives 78.25 355 *eP* **P 04 05 56.5 -0.3**
comp=Z,56nm,1.2s,mb5.4
VYHS Vyhne 78.28 345 *eP* **P 04 05 57.6 +0.6**
VYHS pmax pmax
comp=Z,28nm,1.4s,mb5.0
VYHS MLR MLR
comp=Z,600nm,26.4s,MS4.8
VYHS Vyhne 78.28 345 *eP* **P 04 05 57.6 +0.6**
comp=Z,28nm,1.4s,mb5.0
VYHS LR LR
comp=Z,600nm,26.4s,MS4.8
KHC Kasperske Hory 78.38 349 *eP* **P 04 06 03.5 +6.0**
KHC *eS* S 04 15 50.4 -2.0
KHC AMS AMS 04 42 40.0
comp=Z,1μm,18.9s
TOD Tromm 78.39 352 *eP* **P 04 06 03.3 +5.7**
SIM Simferopol' 78.39 334 P **P 04 06 05.0 +7.4**
SIM S S 04 16 07.9 +15
SIM pmax pmax
comp=Z,25nm,1.3s,mb5.0
SIM MLR MLR
comp=Z,3μm,18.0s,MS5.6
RUP Ruppelstein 78.43 353 *eP* **P 04 06 03.7 +5.9**
NGP Nagpur 78.44 289 *eP* **P 04 05 56.2 -1.7**
NGP AMb AMB 04 06 07.3
comp=Z,83nm,1.2s,mb5.5
WET Wettzell 78.45 350 *eP* **P 04 06 03.4 +5.5**
comp=Z,36nm,1.5s,mb5.1
WET Wettzell 78.45 350 *eP* **P 04 06 03.4 +5.5**
WET pmax pmax
comp=Z,36nm,1.5s,mb5.1
SMOL Smolenice 78.48 346 *eP* **P 04 05 59.2 +1.1**
SMOL *e* pP 04 06 05.2 +1.3
JASL Jaisalmer 78.52 299 *eP* **P 04 05 57.5 -0.8**
JASL AMb AMB 04 06 05.5
comp=Z,98nm,1.0s,mb5.7
WLF Walferdange 78.53 354 P **P 04 06 04.4 +6.0**
WLF Walferdange 78.53 354 *eP* **P 04 05 58.3 -0.1**
WLF pmax pmax
comp=Z,76nm,1.7s,mb5.3
WLF Walferdange 78.53 354 *eP* **P 04 05 58.3 -0.1**
comp=Z,76nm,1.7s,mb5.3
GEC2 GERESS Array S 78.65 349 *eP* **P 04 06 04.3 +5.3**
comp=Z,34nm,1.5s,mb5.1
GEC2 GERESS Array S 78.65 349 *eP* **P 04 06 04.3 +5.3**
GEC2 pmax pmax
comp=Z,34nm,1.5s,mb5.1
GERES GERESS Array B 78.65 349 P **P 04 05 58.4 -0.7**
comp=Z,0.5nm,0.7s,baz=30,slow=4.5,SNR=5.4
GERES PKPPKP
comp=Z,0.3nm,0.7s,baz=36,slow=7.1,SNR=3.7
PSZ Piszkesteto 78.67 345 *e*PcP PcP 04 06 06.4 -1.7
PSZ Piszkesteto 78.67 345 *i*P **P 04 06 06.6 +7.4**
PSZ Piszkesteto 78.67 345 *eP* **P 04 05 59.3 +0.1**
PSZ pmax pmax
comp=Z,47nm,1.3s,mb5.3
PSZ Piszkesteto 78.67 345 *eP* **P 04 05 59.3 +0.1**
comp=Z,47nm,1.3s,mb5.3
AKH Akhalkalaki 78.72 326 P **P 04 05 58.4 -1.0**
ZST Bratislava 78.83 347 *eP* **P 04 06 03.8 +3.7**
ZST pmax pmax
comp=Z,36nm,1.2s,mb5.2
ZST MLR MLR
comp=Z,600nm,20.8s,MS4.9
ZST Bratislava 78.83 347 *eP* **P 04 06 03.8 +3.7**
comp=Z,36nm,1.2s,mb5.2
ZST LR LR
comp=Z,600nm,20.8s,MS4.9
STU Stuttgart 79.19 352 *eP* **P 04 06 07.0 +5.0**
STU Stuttgart 79.19 352 *eP* **P 04 06 01.9 -0.1**
STU pmax pmax
comp=Z,48nm,1.3s,mb5.3
STU Stuttgart 79.19 352 *eP* **P 04 06 01.9 -0.1**
comp=Z,48nm,1.3s,mb5.3
BUD Budapest 79.24 345 *e*PcP PcP 04 06 09.3 -1.2
DRGR 79.27 342 *i*P **P 04 06 02.2 -0.2**
DRGR 79.27 342 P **P 04 06 02.2 -0.2**
CONA Conrad Observa 79.27 347 *i*P **P 04 06 02.8 +0.3**
comp=Z,1.9nm,0.7s,SNR=14
VRI Vrincioaia 79.34 339 *i*P **P 04 06 09.9 +7.1**
VRI Vrincioaia 79.34 339 P **P 04 06 09.9 +7.1**
PLOR Plostina 79.37 339 *i*P **P 04 06 08.3 +5.3**
GNI Garni 79.40 325 P **P 04 06 10.9 +7.7**
SNR=11
GNI Garni 79.40 325 *eP* **P 04 06 04.4 +1.3**
GNI pmax pmax
comp=Z,84nm,1.3s
GNI MLR MLR
comp=Z,3μm,22.0s
GNI Garni 79.40 325 *eP* **P 04 06 04.4 +1.3**
comp=Z,84nm,1.3s,mb5.5
GNI LR LR
comp=Z,3μm,22.0s,MS5.7
MOA Molln 79.56 348 *i* **P 04 06 16.0 +12**
comp=Z,14nm,1.0s,mb4.8
MOA Molln 79.56 348 **P 04 06 16.0 +12**
comp=Z,14nm,1.0s,mb4.8
MOA Molln 79.56 348 *eP* **P 04 06 09.8 +5.8**
comp=Z,5.2nm,1.5s
MOA *i* pP 04 06 16.0 +6.1
FUR Furstenfeldbru 79.59 350 *eP* **P 04 06 09.5 +5.3**
comp=Z,49nm,1.4s,mb5.2
FUR Furstenfeldbru 79.59 350 *eP* **P 04 06 09.5 +5.3**

FUR pmax pmax
comp=Z,49nm,1.4s,mb5.2
DIGO Kars 79.64 326 *i* P **P 04 06 10.5 +6.0**
BFO Black Forest 79.70 352 P **P 04 06 11.5 +6.7**
comp=Z,70nm,1.3s,mb5.4,SNR=5.8
BFO Black Forest 79.70 352 *eP* **P 04 06 10.0 +5.2**
comp=Z,33nm,1.3s,mb5.1
BFO Black Forest 79.70 352 *eP* **P 04 06 05.3 +0.5**
CDF Champ du Feu 79.70 353 *eP* **P 04 06 04.2 -0.6**
comp=Z,53nm,1.4s,mb5.0
CDF Champ du Feu 79.70 353 *eP* **P 04 06 04.2 -0.6**
CDF pmax pmax
comp=Z,26nm,1.4s,mb5.0
CDF Champ du Feu 79.70 353 *eP* **P 04 06 04.2 -0.6**
comp=Z,26nm,1.4s,mb5.0
FLN La Foliniere 79.70 358 *eP* **P 04 06 04.0 -0.8**
comp=Z,104nm,1.1s,mb5.4
FLN *eR*
comp=Z,1μm,23.0s
FLN La Foliniere 79.70 358 *eP* **P 04 06 04.0 -0.8**
FLN pmax pmax
comp=Z,52nm,1.1s,mb5.4
FLN MLR MLR
comp=Z,1μm,23.0s,MS5.3
FLN La Foliniere 79.70 358 *eP* **P 04 06 04.0 -0.8**
comp=Z,52nm,1.1s,mb5.4
FLN LR LR
comp=Z,1μm,23.0s,MS5.3
MEZF Maizieres J'vi 79.75 355 *eP* **P 04 06 04.8 -0.3**
comp=Z,96nm,1.4s,mb5.2
MEZF Maizieres J'vi 79.75 355 *eP* **P 04 06 04.8 -0.3**
comp=Z,96nm,1.4s,mb5.5
MLR Muntele Rosu 79.86 340 *i*P **P 04 06 06.8 +1.1**
MLR Muntele Rosu 79.86 340 P **P 04 06 06.8 +1.1**
LDF La Druitiere 79.86 358 *eP* **P 04 06 04.8 -0.9**
comp=Z,46nm,0.9s,mb5.1
LDF La Druitiere 79.86 358 *eP* **P 04 06 04.8 -0.9**
LDF pmax pmax
comp=Z,23nm,0.9s,mb5.1
LDF La Druitiere 79.86 358 *eP* **P 04 06 04.8 -0.9**
comp=Z,23nm,0.9s,mb5.1
SPAK Spaichingen-Ko 79.89 352 *eP* **P 04 06 11.8 +6.0**
ECH Echery 79.90 353 *eP* **P 04 06 11.5 +5.6**
AKL Akola 79.97 291 *ex* x 04 06 20.6
AKL AMb AMB 04 06 22.7
comp=Z,78nm,1.2s,mb5.5
GRR Gorron 80.08 359 *eP* **P 04 06 06.3 -0.6**
comp=Z,92nm,1.0s,mb5.3
GRR Gorron 80.08 359 *eP* **P 04 06 06.3 -0.6**
GRR pmax pmax
comp=Z,46nm,1.0s,mb5.4
GRR Gorron 80.08 359 *eP* **P 04 06 06.3 -0.6**
comp=Z,46nm,1.0s,mb5.4
VOIR 80.10 340 *i*P **P 04 06 11.6 +4.6**
VOIR 80.10 340 P **P 04 06 11.7 +4.7**
ROSF Rostrenen 80.15 0 *eP* **P 04 06 06.7 -0.5**
comp=Z,335nm,1.8s,mb5.7
ROSF Rostrenen 80.15 0 *eP* **P 04 06 06.7 -0.5**
comp=Z,168nm,1.8s,mb5.7
HAU Haudompre 80.17 354 *eP* **P 04 06 07.7 +0.4**
HAU *eR*
comp=Z,2μm,21.8s
HAU Haudompre 80.17 354 *eP* **P 04 06 07.7 +0.4**
HAU LR LR
comp=Z,2μm,21.8s,MS5.5
FELD Feldberg im Sc 80.17 353 *eP* **P 04 06 12.8 +5.5**
BBSR BB Station 80.19 49 PFAKE 04 06 20.0 +13
BBSR LR LR
comp=Z,1μm,20.0s,MS5.2
SGMF Saint Gilles 80.23 360 *eP* **P 04 06 07.2 -0.5**
comp=Z,274nm,1.6s,mb5.6
SGMF Saint Gilles 80.23 360 *eP* **P 04 06 07.2 -0.5**
SGMF pmax pmax
comp=Z,137nm,1.6s,mb5.6
SGMF Saint Gilles 80.23 360 *eP* **P 04 06 07.2 -0.5**
comp=Z,137nm,1.6s,mb5.6
MOF Molkenrain 80.27 353 *eP* **P 04 06 13.7 +5.9**
MTUR Matau 80.30 340 *i*P **P 04 06 15.9 +7.9**
MTUR Matau 80.30 340 P **P 04 06 15.9 +7.9**
HINF Hinteralfeld 80.32 353 *eP* **P 04 06 07.4 -0.7**
comp=Z,20nm,0.9s,mb4.8
HINF Hinteralfeld 80.32 353 *eP* **P 04 06 07.4 -0.7**
HINF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
HINF Hinteralfeld 80.32 353 *eP* **P 04 06 07.4 -0.7**
comp=Z,10nm,0.9s,mb4.8
WATA Walderalm 80.38 350 *i* **P 04 06 16.8 +8.3**
comp=Z,23nm,1.0s,mb5.1
WATA Walderalm 80.38 350 **P 04 06 16.8 +8.3**
comp=Z,23nm,1.0s,mb5.1
WATA Walderalm 80.38 350 *i*P **P 04 06 08.8 +0.4**
WATA *i* 04 06 16.8
WATA pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
WATA Walderalm 80.38 350 *i*P **P 04 06 08.8 +0.4**
comp=Z,4.0nm,0.9s,mb4.3
WATA *i* 04 06 16.8
MOTA Moosalm 80.42 350 *i* **P 04 06 12.6 +4.0**
comp=Z,5.4nm,1.1s,mb4.4
MOTA Moosalm 80.42 350 *i* **P 04 06 16.9 +8.2**
comp=Z,33nm,1.1s,mb5.2
MOTA Moosalm 80.42 350 **P 04 06 12.6 +4.0**
comp=Z,5.4nm,1.1s,mb4.4
MOTA pP 04 06 16.9 +2.4
comp=Z,33nm,1.1s
MOTA Moosalm 80.42 350 *i*P **P 04 06 09.1 +0.5**
MOTA *i* pP 04 06 12.6 -1.9
MOTA *i* 04 06 16.9
KBA Koelnbreinsper 80.43 349 *i* **P 04 06 16.5 +7.8**
comp=Z,68nm,1.2s,mb5.5
KBA Koelnbreinsper 80.43 349 **P 04 06 16.5 +7.8**
comp=Z,68nm,1.2s,mb5.5
KBA Koelnbreinsper 80.43 349 *i*P **P 04 06 09.4 +0.7**
KBA *i* pP 04 06 16.5 +1.9
KBA pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KBA Koelnbreinsper 80.43 349 *i*P **P 04 06 09.4 +0.7**
comp=Z,4.3nm,0.6s,mb4.6
KBA *i* pP 04 06 16.5 +1.9
WTTA Wattenberg 80.44 350 *i* **P 04 06 17.0 +8.2**
comp=Z,46nm,1.2s,mb5.3
WTTA Wattenberg 80.44 350 **P 04 06 17.0 +8.2**
comp=Z,46nm,1.2s,mb5.3
WTTA Wattenberg 80.44 350 *i*P **P 04 06 09.0 +0.2**
WTTA *i* 04 06 17.0
WTTA pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
WTTA Wattenberg 80.44 350 *i*P **P 04 06 09.0 +0.2**
comp=Z,2.2nm,0.5s,mb4.3
WTTA *i* 04 06 17.0
TBI Tubuai 80.44 149 *eS* S 04 16 11.6 -2.7
comp=Z,908nm,31.2s
TBI *eSS* SS 04 21 25.3 -0.8
comp=Z,284nm,27.2s
TBI *eLQ* 04 26 55.8
comp=Z,4μm,33.2s
TBI *eLR* LR 04 31 08.6
comp=Z,2μm,28.5s,baz=337
SQTA Sankt Quirin 80.53 350 *i* **P 04 06 12.9 +3.6**
comp=Z,1.8nm,0.6s,SNR=9.6
SQTA Sankt Quirin 80.53 350 *i* **P 04 06 17.6 +8.4**
comp=Z,33nm,1.1s,mb5.2
SQTA Sankt Quirin 80.53 350 **P 04 06 12.9 +3.6**
comp=Z,1.8nm,0.6s,SNR=9.6
SQTA pP 04 06 17.6 +2.5
comp=Z,33nm,1.1s
SQTA Sankt Quirin 80.53 350 *i* P **P 04 06 12.9 +3.6**
SQTA *i* pP 04 06 17.6 +2.5
PKSM Moragy 80.53 345 *i*P **P 04 06 12.7 +3.4**
PKSM Moragy 80.53 345 P **P 04 06 15.3 +6.0**
QUIF Quistinic 80.57 0 *eP* **P 04 06 08.8 -0.7**
comp=Z,276nm,1.7s,mb5.6
QUIF Quistinic 80.57 0 *eP* **P 04 06 08.8 -0.7**
QUIF pmax pmax
comp=Z,138nm,1.7s,mb5.6
QUIF Quistinic 80.57 0 *eP* **P 04 06 08.8 -0.7**
comp=Z,138nm,1.7s,mb5.6
DAVA Damuels 80.59 351 *i* **P 04 06 16.3 +6.7**
comp=Z,20nm,1.2s,mb4.9,SNR=9.6
DAVA Damuels 80.59 351 **P 04 06 16.3 +6.7**
comp=Z,20nm,1.2s,mb4.9,SNR=9.6
GZR Gura Zlata 80.60 342 *i*P **P 04 06 10.1 +0.5**
GZR Gura Zlata 80.60 342 P **P 04 06 10.1 +0.4**
BZS Buzias 80.60 343 *i*P **P 04 06 09.5 -0.1**
BZS Buzias 80.60 343 P **P 04 06 09.5 -0.2**
PERS Pernice 80.64 348 *eP* **P 04 06 10.1 +0.2**

PERS *i* pP 04 06 16.4 +0.7
PERS *e* 04 06 22.5
PERS Pernice 80.64 348 *eP* **P 04 06 10.1 +0.2**
PERS *i* pP 04 06 16.4 +0.7
WRAB Tennant Creek 80.67 220 P **P 04 06 10.0 0.0**
comp=Z,327nm,1.0s,mb6.2,SNR=9.8
WRAB Tennant Creek 80.67 220 *eP* **P 04 06 10.2 +0.2**
WRAB pmax pmax
comp=Z,85nm,1.0s,mb5.6
WRAB MLR MLR
comp=Z,1μm,21.0s,MS5.2
WRAB Tennant Creek 80.67 220 *eP* **P 04 06 10.2 +0.2**
comp=Z,85nm,1.0s,mb5.6
WRAB LR LR
comp=Z,1μm,21.0s,MS5.2
WB2 Warramunga Arr 80.68 220 *eP* **P 04 06 09.6 -0.4**
WRA Warramunga Arr 80.68 220 P **P 04 06 10.4 +0.4**
comp=Z,16nm,0.7s,mb5.1,baz=32,slow=6.2,SNR=98
WRA PKKPbc PKKPbc 04 24 49.3 -0.2
comp=Z,0.4nm,0.5s,baz=226,slow=2.3,SNR=8.0
WRA Warramunga Arr 80.68 220 *i* P **P 04 06 10.3 +0.2**
WRA pmax pmax
comp=Z,16nm,0.7s
LOMF Lomont 80.79 353 *eP* **P 04 06 13.3 +2.7**
ERZM Erzurum 80.79 327 *i* P **P 04 06 15.6 +4.9**
OBKA Obir 80.84 348 ⇑ *i* **P 04 06 18.2 +7.3**
comp=Z,37nm,1.0s,mb5.2
OBKA Obir 80.84 348 **P 04 06 18.2 +7.3**
comp=Z,37nm,1.0s,mb5.2
OBKA Obir 80.84 348 ⇓ *eP* **P 04 06 11.1 +0.2**
comp=Z,9.2nm,1.0s,mb4.7
OBKA *i* pP 04 06 18.2 +1.5
BRES Bressanone 80.99 350 P **P 04 06 18.1 +6.4**
LOR Lormes 81.05 355 *eP* **P 04 06 11.2 -0.8**
comp=Z,112nm,1.4s,mb5.3
LOR *eR*
comp=Z,2μm,21.5s
LOR Lormes 81.05 355 *eP* **P 04 06 11.2 -0.8**
LOR pmax pmax
comp=Z,56nm,1.4s,mb5.3
LOR MLR MLR
comp=Z,2μm,21.5s,MS5.4
LOR Lormes 81.05 355 *eP* **P 04 06 11.2 -0.8**
comp=Z,56nm,1.4s,mb5.3
LOR LR LR
comp=Z,2μm,21.5s,MS5.4
DOBS Dobrina 81.07 347 *eP* **P 04 06 11.6 -0.5**
DOBS *e* 04 06 22.1
HYF Humbligny 81.11 356 *eP* **P 04 06 12.2 -0.1**
APPI Appiano 81.26 350 P **P 04 06 19.3 +6.1**
SSF Saint Saulge 81.27 356 *eP* **P 04 06 12.8 -0.4**
comp=Z,39nm,1.0s,mb5.0
SSF Saint Saulge 81.27 356 *eP* **P 04 06 12.8 -0.4**
SSF pmax pmax
comp=Z,19nm,1.0s,mb5.0
SSF Saint Saulge 81.27 356 *eP* **P 04 06 12.8 -0.4**
comp=Z,19nm,1.0s,mb5.0
BRMO Bormio 81.35 351 P **P 04 06 19.7 +6.1**
TUE Stuetta 81.45 351 P **P 04 06 20.4 +6.2**
AVF Avril sur Loir 81.55 356 *eP* **P 04 06 14.1 -0.6**
comp=Z,164nm,1.6s,mb5.4
AVF Avril sur Loir 81.55 356 *eP* **P 04 06 14.1 -0.6**
AVF pmax pmax
comp=Z,82nm,1.6s,mb5.4
AVF Avril sur Loir 81.55 356 *eP* **P 04 06 14.1 -0.6**
comp=Z,82nm,1.6s,mb5.4
CABF La Chapelle 81.57 354 *eP* **P 04 06 14.7 -0.1**
comp=Z,192nm,1.8s,mb5.4
CABF La Chapelle 81.57 354 *eP* **P 04 06 14.7 -0.1**
CABF pmax pmax
comp=Z,96nm,1.8s,mb5.4
CABF La Chapelle 81.57 354 *eP* **P 04 06 14.7 -0.1**
comp=Z,96nm,1.8s,mb5.4
BEO Belgrade 81.58 343 *i* P **P 04 06 22.2 +7.4**
SMF Signal de Mont 81.67 355 *eP* **P 04 06 14.7 -0.6**
comp=Z,256nm,1.7s,mb5.6
SMF Signal de Mont 81.67 355 *eP* **P 04 06 14.7 -0.6**
SMF pmax pmax
comp=Z,128nm,1.7s,mb5.6
SMF Signal de Mont 81.67 355 *eP* **P 04 06 14.7 -0.6**
comp=Z,128nm,1.7s,mb5.6
BNGL BINGOL 81.72 327 *i* P **P 04 06 22.1 +6.5**
BOJS Bojanci 81.73 347 *eP* **P 04 06 14.3 -1.4**
BOJS *e* pP 04 06 19.9 -1.6
BOJS *i* 04 06 27.9
MABI Malga Bissina 81.75 351 P **P 04 06 21.9 +6.1**
LCHF La Chataignera 81.80 358 *eP* **P 04 06 23.2 +7.2**
BGF Bois d'Agland 81.81 356 *eP* **P 04 06 15.6 -0.4**
comp=Z,192nm,1.8s,mb5.4
BGF Bois d'Agland 81.81 356 *eP* **P 04 06 15.6 -0.4**
BGF pmax pmax
comp=Z,96nm,1.8s,mb5.4
BGF Bois d'Agland 81.81 356 *eP* **P 04 06 15.6 -0.4**
comp=Z,96nm,1.8s,mb5.4
MFF Saint Martin d 81.86 358 *eP* **P 04 06 16.0 -0.3**
comp=Z,272nm,1.8s,mb5.6
MFF Saint Martin d 81.86 358 *eP* **P 04 06 16.0 -0.3**
MFF pmax pmax
comp=Z,136nm,1.8s,mb5.6
MFF Saint Martin d 81.86 358 *eP* **P 04 06 16.0 -0.3**
comp=Z,136nm,1.8s,mb5.6
HAKT HAKKARI 82.07 324 *i* P **P 04 06 22.2 +4.8**
MCGN Macugnaga 82.08 352 P **P 04 06 24.5 +7.0**
comp=Z,22nm,0.9s,mb5.1
TCF Toulx Ste Croi 82.10 356 *eP* **P 04 06 17.1 -0.5**
comp=Z,44nm,1.3s,mb4.9
TCF Toulx Ste Croi 82.10 356 *eP* **P 04 06 17.1 -0.5**
TCF pmax pmax
comp=Z,22nm,1.3s,mb4.9
TCF Toulx Ste Croi 82.10 356 *eP* **P 04 06 17.1 -0.5**
comp=Z,22nm,1.3s,mb4.9
VAI Varese 82.10 352 P **P 04 06 23.4 +5.8**
VAI pmax pmax
comp=Z,47nm,1.1s,mb5.3
VAI Varese 82.10 352 P **P 04 06 23.4 +5.8**
comp=Z,47nm,1.1s,mb5.3
AGO Saint Agoulin 82.30 356 *eP* **P 04 06 25.2 +6.6**
PLDF La Plantade 82.36 355 *eP* **P 04 06 18.5 -0.4**
DIVS Divcibare 82.36 344 *i* P **P 04 06 25.2 +6.3**
ORO Oropa 82.41 352 P **P 04 06 26.9 +7.7**
ORO pmax pmax
comp=Z,15nm,0.8s,mb5.0
ORO Oropa 82.41 352 P **P 04 06 26.9 +7.7**
comp=Z,15nm,0.8s,mb5.0
GRUS Gruza 82.44 343 *i* P **P 04 06 24.9 +5.6**
LPL La Plagne 82.62 353 *eP* **P 04 06 21.1 +0.8**
comp=Z,46nm,1.1s,mb5.1
LPL La Plagne 82.62 353 *eP* **P 04 06 21.1 +0.8**
LPL pmax pmax
comp=Z,23nm,1.1s,mb5.1
LPL La Plagne 82.62 353 *eP* **P 04 06 21.1 +0.8**
comp=Z,23nm,1.1s,mb5.1
LPG La Plagne 82.64 353 *eP* **P 04 06 21.2 +0.8**
comp=Z,70nm,1.1s,mb5.3
LPG La Plagne 82.64 353 *eP* **P 04 06 21.2 +0.8**
LPG pmax pmax
comp=Z,35nm,1.1s,mb5.3
LPG La Plagne 82.64 353 *eP* **P 04 06 21.2 +0.8**
comp=Z,35nm,1.1s,mb5.3
ELDT Eldivan 82.71 333 *i* P **P 04 06 14.6 -6.2**
COLF Collangettes 82.80 355 *eP* **P 04 06 26.9 +5.6**
FITZ Fitzroy Crossi 82.83 229 *eP* **P 04 06 22.1 +0.7**
comp=Z,122nm,1.0s,mb5.9
FITZ Fitzroy Crossi 82.83 229 P **P 04 06 22.4 +1.0**
comp=Z,24nm,0.7s,mb5.3,baz=40,slow=4.0,SNR=46
GRN Grenoble 82.96 354 *eP* **P 04 06 28.9 +6.8**
SGKT Sivrigoynuk 83.02 334 *i* P **P 04 06 25.7 +3.3**
BNI Bardonecchia 83.08 353 *eP* **P 04 06 23.5 +0.8**
BNI pmax pmax
comp=Z,51nm,1.1s,mb5.5
BNI Bardonecchia 83.08 353 *eP* **P 04 06 23.5 +0.8**
comp=Z,51nm,1.1s,mb5.5
HENT Hendek 83.09 335 *i* P **P 04 06 25.6 +2.9**
RJF Les Rejaudoux 83.11 357 *eP* **P 04 06 22.4 -0.4**
comp=Z,148nm,1.8s,mb5.4
RJF *eR*
comp=Z,2μm,20.5s
RJF Les Rejaudoux 83.11 357 *eP* **P 04 06 22.4 -0.4**
RJF pmax pmax
comp=Z,74nm,1.8s,mb5.4
RJF MLR MLR
comp=Z,2μm,20.5s,MS5.5
RJF Les Rejaudoux 83.11 357 *eP* **P 04 06 22.4 -0.4**
comp=Z,74nm,1.8s,mb5.4
RJF LR LR
comp=Z,2μm,20.5s,MS5.5

MALT Malatya 83.20 328 ⇓ *i* P **P 04 06 29.0 +5.7**
MALT Malatya 83.20 328 *eP* **P 04 06 24.9 +1.6**
MALT pmax pmax
comp=Z,74nm,1.6s,mb5.5
MALT Malatya 83.20 328 *eP* **P 04 06 24.9 +1.6**
comp=Z,74nm,1.6s,mb5.5
CDAG Cicekdag 83.25 332 *i* P **P 04 06 19.7 -3.9**
ORIF Oris-en-Rattie 83.27 354 *eP* **P 04 06 24.2 +0.5**
comp=Z,95nm,1.4s,mb5.3
ORIF *eR*
comp=Z,2μm,20.8s
ORIF Oris-en-Rattie 83.27 354 *eP* **P 04 06 24.2 +0.5**
ORIF pmax pmax
comp=Z,48nm,1.4s,mb5.3
ORIF Oris-en-Rattie 83.27 354 *eP* **P 04 06 24.2 +0.5**
comp=Z,48nm,1.4s,mb5.3
MARD Mardin 83.32 326 *i* P **P 04 06 27.6 +3.7**
MBDF Montbardon 83.40 353 *eP* **P 04 06 24.6 +0.3**
comp=Z,20nm,0.7s,mb4.9
MBDF Montbardon 83.40 353 *eP* **P 04 06 24.6 +0.3**
MBDF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
MBDF Montbardon 83.40 353 *eP* **P 04 06 24.6 +0.3**
comp=Z,10nm,0.7s,mb5.0
VIVF Saint-Julien-l 83.41 355 *eP* **P 04 06 24.5 +0.1**
comp=Z,104nm,1.6s,mb5.3
VIVF Saint-Julien-l 83.41 355 *eP* **P 04 06 24.5 +0.1**
VIVF pmax pmax
comp=Z,52nm,1.6s,mb5.3
VIVF Saint-Julien-l 83.41 355 *eP* **P 04 06 24.5 +0.1**
comp=Z,52nm,1.6s,mb5.3
MSL Mosul 83.42 324 *ex* x 04 06 25.0
MSL *ex* x 04 09 41.5
MSL *ex* x 04 16 49.0
GSCL Gusciola 83.43 350 P **P 04 06 33.8 +9.3**
comp=Z,19nm,0.9s,mb5.1
CAF Calviac 83.47 356 *eP* **P 04 06 24.8 +0.1**
comp=Z,255nm,1.9s,mb5.6
CAF Calviac 83.47 356 *eP* **P 04 06 24.8 +0.1**
CAF pmax pmax
comp=Z,128nm,1.9s,mb5.6
CAF Calviac 83.47 356 *eP* **P 04 06 24.8 +0.1**
comp=Z,128nm,1.9s,mb5.6
ANTO Ankara 83.47 333 ⇑ *i* P **P 04 06 32.0 +7.3**
ANTO Ankara 83.47 333 P **P 04 06 31.9 +7.2**
SNR=14
ANTO Ankara 83.47 333 *eP* **P 04 06 25.4 +0.7**
ANTO pmax pmax
comp=Z,31nm,1.1s,mb5.2
ANTO MLR MLR
comp=Z,1μm,21.0s,MS5.3
ANTO Ankara 83.47 333 *eP* **P 04 06 25.4 +0.7**
comp=Z,31nm,1.1s,mb5.2
ANTO LR LR
comp=Z,1μm,21.0s,MS5.3
LFF La Frestale 83.50 357 *eP* **P 04 06 24.6 -0.3**
DOI San Damiano 83.58 353 P **P 04 06 31.6 +6.3**
SURF Saint Ours 83.64 353 *eP* **P 04 06 33.0 +7.4**
VLC Villacollemand 83.64 350 P **P 04 06 32.3 +6.7**
VMG Vicchio 83.71 350 P **P 04 06 33.2 +7.2**
comp=Z,187nm,1.3s,mb6.1
BDI Bagni Di Lucca 83.72 350 P **P 04 06 33.9 +7.9**
FIN Finale Ligure 83.80 352 P **P 04 06 33.2 +6.8**
FIN pmax pmax
comp=Z,116nm,2.1s,mb5.6
FIN Finale Ligure 83.80 352 P **P 04 06 33.2 +6.8**
comp=Z,116nm,2.1s,mb5.6
OG25 Le Caire 83.81 354 *eP* **P 04 06 30.5 +4.1**
FSSB Fossombrone 83.83 349 P **P 04 06 33.4 +6.8**
AVNT Avonos 83.88 331 *i* P **P 04 06 31.1 +4.2**
STON Ston 83.94 345 *i* P **P 04 06 32.7 +5.6**
ARV Arcevia 84.00 348 P **P 04 06 34.4 +7.0**
comp=Z,72nm,1.2s,mb5.7
ATAB Bozova 84.01 328 *i* P **P 04 06 23.7 -3.7**
PII Pisa 84.06 350 P **P 04 06 33.9 +6.2**
PII pmax pmax
comp=Z,129nm,1.9s,mb5.7
PII Pisa 84.06 350 P **P 04 06 33.9 +6.2**
comp=Z,128nm,1.9s,mb5.7
TOUF Mont Tournerai 84.07 353 *eP* **P 04 06 34.2 +6.4**
AUTN L'Aution 84.08 353 *eP* **P 04 06 34.3 +6.5**
BORA Eskisehir 84.09 335 *i* P **P 04 06 31.7 +3.8**
IMI Imperia 84.12 352 P **P 04 06 34.6 +6.6**
comp=Z,11nm,0.6s,mb5.2
LUCF Luceram 84.19 353 *eP* **P 04 06 34.2 +5.8**
ULDT Uludag 84.19 336 *i* P **P 04 06 27.8 -0.6**
MVIF Mont Vial 84.20 353 *eP* **P 04 06 34.5 +6.1**
AS31 Alice Springs 84.20 219 *eP* **P 04 06 29.3 +0.8**
ASAR Alice Springs 84.21 219 P **P 04 06 29.4 +0.9**
comp=Z,11nm,0.7s,mb5.1,baz=22,slow=5.4,SNR=95
ASAR PKPPKP 04 32 44.6
comp=Z,0.3nm,1.0s,baz=177,slow=38,SNR=3.4
ASPA Alice Springs 84.21 219 *eP* **P 04 06 29.3 +0.8**
SBF Sospel 84.21 353 *eP* **P 04 06 28.1 -0.4**
comp=Z,44nm,0.8s,mb5.4
SBF Sospel 84.21 353 *eP* **P 04 06 28.1 -0.4**
SBF pmax pmax
comp=Z,22nm,0.8s,mb5.3
SBF Sospel 84.21 353 *eP* **P 04 06 28.1 -0.4**
comp=Z,22nm,0.8s,mb5.3
SMRF Simiane la Rot 84.23 354 *eP* **P 04 06 29.2 +0.6**
comp=Z,253nm,1.9s,mb5.7
SMRF Simiane la Rot 84.23 354 *eP* **P 04 06 29.2 +0.6**
comp=Z,253nm,1.9s,mb6.0
LASF Ste Croix 84.23 355 *eP* **P 04 06 28.9 +0.3**
comp=Z,103nm,1.6s,mb5.4
SNTG Esanatoglia 84.24 348 P **P 04 06 35.0 +6.3**
comp=Z,82nm,1.2s,mb5.7
KAD Karad 84.28 291 *eP* **P 04 06 28.9 +0.1**
KAD AMb AMB 04 06 36.0
comp=Z,76nm,1.5s,mb5.6
ESKT Eskisehir 84.33 334 *i* P **P 04 06 29.5 +0.5**
REVF Revere 84.33 353 *eP* **P 04 06 35.3 +6.2**
GZT Gaziantep 84.35 329 *i* P **P 04 06 27.6 -1.6**
PRAF Pradon 84.43 354 *eP* **P 04 06 36.9 +7.3**
TAVF Tavernes 84.56 353 *eP* **P 04 06 37.4 +7.2**
VAY Valandovo 84.56 341 *i* P **P 04 06 36.1 +5.8**
FRF La Foret Royal 84.57 353 *eP* **P 04 06 30.1 -0.2**
comp=Z,147nm,1.8s,mb5.5
FRF La Foret Royal 84.57 353 *eP* **P 04 06 30.1 -0.2**
FRF pmax pmax
comp=Z,73nm,1.8s,mb5.5
FRF La Foret Royal 84.57 353 *eP* **P 04 06 30.1 -0.2**
comp=Z,73nm,1.8s,mb5.5
TREF Trevaresse 84.59 354 *eP* **P 04 06 38.9 +8.5**
PUYF Puyloubier 84.66 354 *eP* **P 04 06 37.8 +7.0**
TERO Teramo 84.78 348 P **P 04 06 37.3 +5.9**
LMR La Mourre 84.80 353 *eP* **P 04 06 31.4 -0.1**
comp=Z,169nm,1.6s,mb5.6
LMR La Mourre 84.80 353 *eP* **P 04 06 31.4 -0.1**
LMR pmax pmax
comp=Z,84nm,1.6s,mb5.6
LMR La Mourre 84.80 353 *eP* **P 04 06 31.4 -0.1**
comp=Z,84nm,1.6s,mb5.6
GELF Grande-Etoile 84.83 354 *eP* **P 04 06 38.7 +7.1**
BERF Bertagne 84.88 354 *eP* **P 04 06 39.3 +7.4**
ARMA Armidale 84.96 202 *eP* **P 04 06 35.3 +3.0**
MTLF Montolieu 85.04 356 *eP* **P 04 06 32.8 +0.1**
comp=Z,94nm,1.3s,mb5.5
MTLF Montolieu 85.04 356 *eP* **P 04 06 32.8 +0.1**
MTLF pmax pmax
comp=Z,47nm,1.3s,mb5.5
MTLF Montolieu 85.04 356 *eP* **P 04 06 32.8 +0.1**
comp=Z,47nm,1.3s,mb5.5
AQU L'Aquila 85.07 348 ⇑ *i* P **P 04 06 41.5 +8.7**
AQU L'Aquila 85.07 348 *eP* **P 04 06 33.5 +0.7**
AQU pmax pmax
comp=Z,134nm,1.2s,mb6.0
AQU L'Aquila 85.07 348 *eP* **P 04 06 33.5 +0.7**
comp=Z,134nm,1.2s,mb6.0
EPON Pontenova 85.09 3 P **P 04 06 39.2 +6.2**
comp=Z,174nm,1.5s,mb6.0
GDZ Gediz 85.09 335 *i* P **P 04 06 33.5 +0.6**
BIA Bitola 85.10 342 *i* P **P 04 06 41.5 +8.5**
OHR Ohrid 85.11 342 *i* P **P 04 06 37.9 +4.9**
EARI Arriondas 85.17 2 P **P 04 06 37.9 +4.6**
comp=Z,214nm,1.7s,mb6.0
ELAN Lanestosa 85.25 0 P **P 04 06 40.6 +6.9**
comp=Z,316nm,2.2s,mb6.1
EALK Alkurruntz 85.26 359 P **P 04 06 41.2 +7.4**
comp=Z,215nm,1.8s,mb6.0
ELIZ Elizondo 85.32 359 P **P 04 06 40.3 +6.2**
ELIZ pmax pmax
comp=Z,17nm,1.1s,mb5.1
ELIZ Elizondo 85.32 359 P **P 04 06 40.3 +6.3**
comp=Z,17nm,1.1s,mb5.1
SJPF Ste Jean 85.36 359 *eP* **P 04 06 34.0 -0.3**
PGF Pioggiola 85.37 351 *eP* **P 04 06 34.3 -0.1**
comp=Z,248nm,1.5s,mb5.8
PGF Pioggiola 85.37 351 *eP* **P 04 06 34.3 -0.1**
PGF pmax pmax
comp=Z,124nm,1.5s,mb5.8
PGF Pioggiola 85.37 351 *eP* **P 04 06 34.3 -0.1**
comp=Z,124nm,1.5s,mb5.8
EMAZ Mazaricos 85.39 4 P **P 04 06 44.5 +10**
comp=Z,285nm,2.2s,mb6.0
EPF Esparros 85.42 358 *eP* **P 04 06 33.7 -0.9**
comp=Z,91nm,1.6s,mb5.3
EPF Esparros 85.42 358 *eP* **P 04 06 33.7 -0.9**
EPF pmax pmax
comp=Z,46nm,1.6s,mb5.4
EPF Esparros 85.42 358 *eP* **P 04 06 33.7 -0.9**
comp=Z,46nm,1.6s,mb5.4
LRDF Laroque-de-Fa 85.43 356 *eP* **P 04 06 40.0 +5.4**
MLS Moulis 85.47 357 *eP* **P 04 06 41.3 +6.5**
STS Santiago 85.47 4 P **P 04 06 37.3 +2.4**
STS pmax pmax
comp=Z,51nm,1.4s,mb5.5
STS Santiago 85.47 4 P **P 04 06 37.3 +2.5**
comp=Z,51nm,1.4s,mb5.5
VVLD Villa Vallelon 85.52 348 P **P 04 06 41.0 +5.9**
CERT Cerreto 85.53 348 P **P 04 06 41.3 +6.2**
TOLF Tolfa 85.53 349 P **P 04 06 40.8 +5.7**
COBT Iskenderun 85.53 329 *i* P **P 04 06 30.2 -5.0**
ETSF Etsaut 85.57 358 *eP* **P 04 06 35.6 +0.3**
comp=Z,283nm,1.8s,mb5.9
ETSF Etsaut 85.57 358 *eP* **P 04 06 35.6 +0.3**
ETSF pmax pmax
comp=Z,141nm,1.8s,mb5.9
ETSF Etsaut 85.57 358 *eP* **P 04 06 35.6 +0.3**
comp=Z,141nm,1.8s,mb5.9
VIEF Viey 85.57 358 *eP* **P 04 06 41.4 +6.1**
BHD Baghdad 85.62 322 *ex* x 04 06 37.0
RESF Ens 85.64 358 *eP* **P 04 06 42.5 +6.8**
RKT Rikitea 85.65 137 *e*SS SS 04 22 42.5 -0.8
comp=Z,457nm,25.8s
RKT *e*LQ 04 29 42.5
comp=Z,3μm,30.5s
CARF Carcanieres 85.67 356 *eP* **P 04 06 42.1 +6.3**
RDP Rocca di Papa 85.75 348 P **P 04 06 42.2 +6.0**
EBIE Bielsa 85.77 358 P **P 04 06 39.8 +3.5**
comp=Z,108nm,1.9s,mb5.8
EJON La Jonquera 85.91 356 P **P 04 06 40.2 +3.2**
comp=Z,129nm,1.9s,mb5.8
VALF Valcebollere 85.99 356 *eP* **P 04 06 42.7 +5.3**
EGRA Graus 86.25 358 P **P 04 06 44.5 +5.8**
comp=Z,16nm,0.9s,mb5.2
ECAL Calabor 86.49 3 P **P 04 06 41.2 +1.4**
comp=Z,156nm,1.9s,mb5.9
EMIR Miracle 86.49 357 P **P 04 06 49.0 +9.1**
comp=Z,177nm,2.2s,mb5.9
ELOB Lobios 86.51 4 P **P 04 06 42.8 +2.8**
comp=Z,164nm,2.8s,mb5.8
DNZL Cakiroluk 86.52 335 *i* P **P 04 06 43.6 +3.6**
PBRG Braganca 86.62 3 *e*pP **P 04 06 41.6 +1.1**
PBRG *e*pP pP 04 06 46.1 -0.3
PCAB Cabril 86.67 4 *eP* **P 04 06 40.0 -0.8**
comp=Z,12nm,1.4s,mb5.0
BANOM Banah 86.82 309 ⇑ P **P 04 06 47.5 +6.0**
JTS JuntasAbangare 86.85 77 *eP* **P 04 06 41.4 -0.2**
JTS pmax pmax
comp=Z,6.0nm,0.7s
JTS MLR MLR
comp=Z,1μm,21.0s
JTS JuntasAbangare 86.85 77 *eP* **P 04 06 41.4 -0.2**
comp=Z,5.5nm,0.7s,mb4.9
JTS LR LR
comp=Z,1μm,21.0s,MS5.3
PVRL Vila Real 87.12 4 *eP* **P 04 06 42.7 -0.2**
MNGI Mangalore 87.36 288 *ex* x 04 06 12.8
MIB Mutribah 87.50 318 *eP* **P 04 06 49.7 +4.9**
MIB AMb AMB 04 06 52.6
comp=Z,154nm,1.0s,mb6.2
PVIS Viseu 87.67 4 *eP* **P 04 06 44.6 -1.0**
comp=Z,13nm,1.0s,mb5.1
TIP Timpagrande 87.70 345 *eP* **P 04 06 45.7 0.0**
GUD Guadarrama 87.84 1 P **P 04 06 54.3 +7.9**
GUD pmax pmax
comp=Z,10.0nm,1.3s,mb4.9
GUD Guadarrama 87.84 1 P **P 04 06 54.3 +7.9**
comp=Z,10nm,1.3s,mb4.9
CSS Prodhromos 87.87 331 *eP* **P 04 06 45.9 -0.7**
comp=Z,29nm,1.0s,mb5.5
KBD Kabd 87.90 317 *eP* **P 04 06 51.1 +4.4**
KBD AMb AMB 04 06 58.2
comp=Z,335nm,1.3s,mb6.4
RST Umm Al-Ruwaisa 87.91 318 *eP* **P 04 06 52.1 +5.3**
RST AMb AMB 04 07 04.5
comp=Z,87nm,1.0s,mb5.9
ASHO Ashiyiah 87.98 309 P **P 04 06 53.5 +6.4**
SNR=5.1
MTE Manteigas 88.00 4 *eP* **P 04 06 46.0 -1.2**
comp=Z,16nm,1.7s,mb5.0
MTE *e*pP pP 04 06 53.0 -0.1
MTE Manteigas 88.00 4 *e*S S 04 17 22.4 -7.5
MTE *e*SS SS 04 23 38.7 +21
MTE Manteigas 88.00 4 *e*LR LR 04 35 52.1
comp=Z,1μm,21.5s
MTE *e*LQ 04 36 08.9
MTE Manteigas 88.00 4 *eP* **P 04 06 46.0 -1.2**
comp=Z,32nm,1.3s,mb5.4
NAY Al-Naaiem 88.03 318 *eP* **P 04 06 52.2 +4.8**
NAY AMb AMB 04 07 05.2
comp=Z,51nm,1.0s,mb5.7
MBWA Marble Bar 88.27 232 *eP* **P 04 06 48.1 -0.3**
comp=Z,53nm,1.1s,mb5.7
MBWA LR LR
comp=Z,506nm,20.0s,MS4.9
PALK Pallekele 88.27 279 PFAKE 04 07 00.0 +12
PALK LR LR
comp=Z,1μm,20.0s,MS5.3
PCBR Castelo Branco 88.56 4 *eP* **P 04 06 49.0 -0.8**
PCBR *e*pP pP 04 06 55.4 -0.3
PTOM Tomar 88.74 4 *eP* **P 04 06 50.0 -0.7**
PTOM *e*pP pP 04 06 56.2 -0.4
ESDC Sonseca Array 88.81 1 P **P 04 06 55.2 +4.2**
comp=Z,0.3nm,0.6s
ESLA Sonseca Array 88.81 1 *eP* **P 04 06 51.3 +0.3**
comp=Z,3.1nm,1.3s,mb4.5
STKA Stephens Creek 89.04 210 *eP* **P 04 06 50.7 -1.4**
comp=Z,19nm,0.9s,mb5.4
STKA Stephens Creek 89.04 210 P **P 04 06 50.8 -1.3**
comp=Z,8.0nm,0.8s,mb5.1,baz=355,slow=6.9,SNR=11
EBAD Badajoz 89.66 3 P **P 04 06 55.9 +0.9**
comp=Z,52nm,1.8s,mb5.6
ETOB Tobarra 89.83 359 P **P 04 07 00.3 +4.5**
comp=Z,76nm,2.0s,mb5.7
EVO Evora 89.84 4 *eP* **P 04 06 54.8 -1.0**
comp=Z,58nm,1.6s,mb5.3
EVO *eR*
comp=Z,2μm,20.5s
CNB Canberra Magne 90.18 202 *eP* **P 04 07 00.1 +2.7**
comp=Z,21nm,1.1s,mb5.4
EADA Adamuz 90.30 1 P **P 04 07 02.6 +4.6**
comp=Z,62nm,1.3s,mb5.8
GVD Gavdhos 90.45 338 *eP* **P 04 06 57.6 -1.1**
EMIN Mina Concepcio 90.65 3 P **P 04 07 02.2 +2.6**
comp=Z,35nm,1.4s,mb5.5
EQES Quesada 90.68 0 P **P 04 07 06.2 +6.5**
comp=Z,34nm,1.5s,mb5.5
EGRO El Granado 90.86 4 P **P 04 07 04.7 +4.1**
comp=Z,84nm,1.9s,mb5.8
SJG San Juan 91.31 58 PFAKE 04 07 10.0 +7.3
SJG LR LR
comp=Z,2μm,19.0s,MS5.6
ELOJ Sierra Loja 91.33 1 P **P 04 07 07.5 +4.7**
ELOJ pmax pmax
comp=Z,17nm,1.5s,mb5.2
ELOJ Sierra Loja 91.33 1 P **P 04 07 07.5 +4.7**
comp=Z,17nm,1.5s,mb5.2
PAYG Puerto Ayora 92.14 88 PFAKE 04 07 20.0 +13
PAYG LR LR
comp=Z,1μm,20.0s,MS5.4
SNZO South Karori 92.85 182 PFAKE 04 07 20.0 +10
SNZO LR LR
comp=Z,2μm,19.0s,MS5.5
FORT Forrest 92.87 221 *eP* **P 04 07 10.5 +0.6**
comp=Z,38nm,0.9s,mb5.8
SDV Santo Domingo 96.41 67 PFAKE 04 07 40.0 +14
SDV LR LR
comp=Z,644nm,19.0s,MS5.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
OTAV	Otavalo	98.71	78	PFAKE		04 07 50.0	+14
OTAV				LR	LR		
	comp=Z,647nm,21.0s,MS5.1						
NWAO	Narrogin (SRO)	99.38	227	PFAKE		04 07 50.0	+11
NWAO				LR	LR		
	comp=Z,865nm,22.0s,MS5.2						
NNA	Nana	109.25	85	PFAKE		04 12 40.0	+13
NNA				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
TORD	Torodi Ar. Bea	115.11	355	PKP	PKiKP	04 12 37.5	-0.7
	comp=Z,0.6nm,0.5s,baz=351,slow=2.4,SNR=25						
SAML	Samuel	115.14	71	PFAKE		04 12 50.0	+12
SAML				LR	LR		
	comp=Z,1μm,20.0s,MS5.6						
LPAZ	La Paz	117.91	81	PFAKE		04 13 00.0	+16
LPAZ				LR	LR		
	comp=Z,950nm,21.0s,MS5.4						
KMBO	Kilima Mbogo	119.27	312	*e*PKPdf	PKPdf	04 12 45.2	-1.0
KMBO				LR	LR		
	comp=Z,709nm,20.0s,MS5.3						
DRV	Dumont d'Urvil	121.53	196	SS	SS	04 31 23.0	+26
DBIC	Dimbokro	121.64	2	PKP	PKPdf	04 12 50.4	-0.5
	comp=Z,5.3nm,0.8s,baz=31,slow=4.8,SNR=8.9						
DBIC	Dimbokro	121.64	2	*e*PKPdf	PKPdf	04 12 50.2	-0.6
DBIC				LR	LR		
	comp=Z,1μm,20.0s,MS5.6						
LIC	Lamto	122.08	2	*e*PKIKP	PKPdf	04 12 51.5	-0.1
	comp=Z,46nm,1.2s						
LIC				*e*R			
	comp=Z,2μm,20.0s						
LIC	Lamto	122.08	2	*e*PKPdf	PKPdf	04 12 51.5	-0.1
LIC				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
LVC	Limon Verde	122.20	86	PFAKE		04 13 00.0	+8.1
LVC				LR	LR		
	comp=Z,793nm,21.0s,MS5.3						
RCBR	Riachuelo	126.60	42	PFAKE		04 13 10.0	+10
RCBR				LR	LR		
	comp=Z,1μm,19.0s,MS5.5						
CASY	Casey	128.17	208	PFAKE		04 13 10.0	+6.7
CASY				LR	LR		
	comp=Z,1μm,22.0s,MS5.6						
BDFB	Brasilia	129.17	62	PKP	PKPdf	04 13 05.8	+0.6
	comp=Z,2.3nm,0.7s,baz=236,slow=15,SNR=2.2						
BDFB	Brasilia	129.17	62	PKP	PKPdf	04 13 05.8	+0.6
BDFB				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
VNDA	Vanda	129.49	184	PFAKE		04 13 20.0	+14
VNDA				LR	LR		
	comp=Z,813nm,20.0s,MS5.4						
PLCA	Paso Flores	133.57	104	PKP	PKPdf	04 13 13.5	0.0
	comp=Z,2.4nm,0.6s,baz=253,slow=10.0,SNR=6.4						
PLCA	Paso Flores	133.57	104	*e*PKPdf	PKPdf	04 13 13.5	0.0
PLCA				LR	LR		
	comp=Z,1μm,20.0s,MS5.6						
ASCN	Ascension	135.17	16	PFAKE		04 13 30.0	+13
ASCN				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
LSZ	Lusaka	135.87	314	*e*PKIKP	PKPdf	04 13 17.7	-0.1
LSZ				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.6						
TRQA	Tornquist	137.15	95	*e*PKPdf	PKPdf	04 13 19.6	-0.6
TRQA				LR	LR		
	comp=Z,935nm,20.0s,MS5.5						
QSPA	South Pole Qui	141.64	180	*e*PKPpre		04 13 22.8	
QSPA				LR	LR		
	comp=Z,800nm,20.0s,MS5.5						
TSUM	Tsumeb	143.63	326	*e*PKPdf	PKPdf	04 13 29.9	-2.0
TSUM				LR	LR		
	comp=Z,859nm,20.0s,MS5.5						
MAW	Mawson	145.32	218	PKPbc	PKPbc	04 13 33.9	-0.7
	comp=Z,6.1nm,0.6s,baz=83,slow=6.0,SNR=8.5						
MAW	Mawson	145.32	218	PKPbc	PKPbc	04 13 33.9	-0.7
MAW				LR	LR		
	comp=Z,746nm,20.0s,MS5.5						
LBTB	Lobatse	145.50	310	*e*PKP2	PKPab	04 13 35.7	+0.2
LBTB				MLR	MLR		
	comp=Z,724nm,20.0s,MS5.5						
EFI	East Falkland	146.57	112	*e*PKP2	PKPab	04 13 38.1	-1.4
EFI				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.8						
BOSA	Boshof	148.68	307	PKPbc	PKPbc	04 13 44.5	+0.2
	comp=Z,3.3nm,0.5s,baz=38,slow=3.7,SNR=20						
BOSA	Boshof	148.68	307	*e*PKPbc	PKPbc	04 13 44.4	+0.2
BOSA				*e*PKPab	PKPab	04 13 48.2	+0.3
BOSA				LR	LR		
	comp=Z,1μm,19.0s,MS5.7						
SYO	Syowa Base	153.74	213⇓	*e*pPKiKP		04 13 47.2	
SUR	Sutherland	153.95	309	PFAKE		04 14 00.0	+12
SUR				LR	LR		
	comp=Z,1μm,19.0s,MS5.8						

*ISCJB **02** 03:54:01.8±0.5, 52.1N±0.1×177.0E±02, h10^{km}, mb5.1/19, Error ellipse: s-maj=17.0km s-min=12.6km az=110.3*
*IDC **02** 03:54:02.2±0.5, 52.09N×176.98E, h0^{km}, mb5.1/18, mb1 5.3/18, mb1mx5.2/23, mbtmp5.1/18, Error ellipse: s-maj=19.2km s-min=14.5km az=140.0*
ISC 02 03:54:03.3±0.5**, 52.1N**±01×**177.0E**±02**, h10**^{km}**, n31, σ0^{s}64**/20**, mb5.1**/19**, 1D, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	24.11	264	ScP	ScP	04 06 41.5	+2.9
	10nm,1.1s,baz=340,slow=5.1,SNR=4.4						
INK	Inuvik	28.42	36	P	P	03 59 59.1	+1.1
	30nm,0.9s,mb4.9,baz=234,slow=7.2,SNR=18						
INK				ScP	ScP	04 06 52.6	+1.3
	4.8nm,0.8s,baz=152,slow=12,SNR=3.6						
INK	Inuvik	28.42	36	P	P	03 59 59.1	+1.1
INK				pmax	pmax		
	comp=Z,30nm,0.9s						
INK				pmax	pmax		
	comp=N,5.0nm,0.9s						
MJAR	Matsushiro Arr	31.34	256	ScP	ScP	04 07 04.0	+3.3
	comp=N,4.5nm,1.2s,baz=26,slow=5.0,SNR=7.1						
YKA	Yellowknife Ar	36.65	46	P	P	04 01 11.4	+1.5
	comp=N,33nm,0.8s,mb5.2,baz=285,slow=8.5,SNR=33						
YKA				ScP	ScP	04 07 21.8	+2.3
	comp=N,0.3nm,0.6s,baz=100,slow=24,SNR=4.2						
YKA				P3KPbc		04 31 39.5	
	comp=N,0.6nm,0.9s,baz=104,slow=4.8,SNR=4.6						
YBH	Yreka Blue Hor	41.37	80	P	P	04 01 49.8	+0.2
	comp=N,19nm,0.9s,mb4.7,baz=334,slow=2.4,SNR=20						
TLY	Talaya	43.43	300	*e*PcP	PcP	04 03 56.6	+2.1
SONM	Songino Array	43.95	294	P	P	04 02 11.0	+0.5
	comp=N,44nm,0.9s,mb5.2,baz=56,slow=10,SNR=45						
SONM				PcP	PcP	04 03 57.7	+1.5
	comp=N,7.5nm,0.6s,baz=64,slow=1.8,SNR=3.7						
SONM				ScP	ScP	04 07 50.1	+2.1
	comp=N,3.3nm,1.0s,baz=29,slow=3.4,SNR=4.5						
NVAR	Mina Array Bea	46.06	81	P	P	04 02 26.5	-0.7
	comp=N,22nm,0.8s,mb5.1,baz=294,slow=5.3,SNR=27						
PDAR	Pinedale Array	48.58	70	P	P	04 02 45.5	-1.4
	comp=N,6.1nm,0.7s,mb4.8,baz=305,slow=5.2,SNR=26						
SFJD	Kangerlussuaq	55.94	20⇓	*i*P	P	04 03 41.8	+0.3
	comp=N,42nm,1.2s,mb5.3						
SFJD							
	comp=Z,1μm,18.0s						
ARCES	ARCESS Array B	56.90	348	P	P	04 03 48.0	-0.3
	comp=Z,20nm,1.0s,mb5.1,baz=21,slow=7.0,SNR=23						
MKAR	Makanchi Array	57.49	306	P	P	04 03 51.8	-0.8
	comp=Z,8.2nm,0.4s,mb5.1,baz=50,slow=5.2,SNR=29						
SCHQ	Schefferville	61.04	36	P	P	04 04 16.9	-0.2
	comp=Z,29nm,0.8s,mb5.4,baz=342,slow=6.2,SNR=16						
FINES	FINESS Array B	64.45	345	P	P	04 04 39.3	-0.5
	comp=Z,10.0nm,0.7s,mb5.0,baz=28,slow=6.3,SNR=20						
PMG	Port Moresby	66.39	212	P	P	04 04 52.3	-0.1
	comp=Z,81nm,1.2s,mb5.6,baz=314,slow=3.5,SNR=4.4						
NOA	NORSAR Array B	66.64	352	P	P	04 04 53.9	-0.2
	comp=Z,15nm,0.8s,mb5.1,baz=11,slow=6.4,SNR=23						
HFS	Hagfors	67.31	351	PKPPKP		04 33 24.0	
	comp=Z,6.4nm,1.1s,baz=199,slow=8.8,SNR=5.4						
AKASG	Malin Array Be	74.00	339	P	P	04 05 38.8	-0.3
	comp=Z,8.2nm,0.4s,mb5.0,baz=22,slow=5.7,SNR=37						
CTA	Charters Tower	76.71	210	P	P	04 05 54.7	0.0
	comp=Z,50nm,0.8s,mb5.5,baz=21,slow=6.6,SNR=28						
CTA				PP	PP	04 08 44.9	-2.2
	comp=Z,3.6nm,1.0s,baz=51,slow=12,SNR=3.1						
GERES	GERESS Array B	78.43	349	P	P	04 06 04.6	+0.4
	comp=Z,3.8nm,1.0s,mb4.3,baz=26,slow=3.4,SNR=16						
GERES				PKPPKP		04 33 08.9	
	comp=Z,0.5nm,0.7s,baz=144,slow=2.5,SNR=5.0						
WRA	Warramunga Arr	80.78	220	P	P	04 06 17.5	+0.5
	comp=Z,39nm,0.9s,mb5.3,baz=36,slow=6.2,SNR=28						
WRA				PKKPbc	PKKPbc	04 24 56.5	+0.8
	comp=Z,0.6nm,0.5s,baz=300,slow=12,SNR=9.0						
FITZ	Fitzroy Crossi	82.89	228	P	P	04 06 28.6	+0.4
	comp=Z,113nm,1.1s,mb5.8,baz=26,slow=6.1,SNR=26						
ASAR	Alice Springs	84.30	219	PKPPKP		04 32 53.6	
	comp=Z,1.1nm,1.0s,baz=174,slow=3.9,SNR=4.9						
ESDC	Sonseca Array	88.60	1	P	P	04 06 56.1	-0.4
	comp=Z,1.9nm,0.7s,mb4.5,baz=352,slow=3.5,SNR=9.7						
ESDC				PKPPKP		04 32 43.5	
	comp=Z,0.1nm,0.3s,baz=178,slow=2.1,SNR=4.1						
TORD	Torodi Ar. Bea	114.90	355	PP	PP	04 13 41.5	-1.4
	comp=Z,4.4nm,1.2s,baz=356,slow=5.8,SNR=6.8						
TORD				PKKPbc	PKKPbc	04 23 18.6	-2.0
	comp=Z,2.0nm,1.0s,baz=197,slow=1.9,SNR=8.4						
KMBO	Kilima Mbogo	119.06	312	PKP	PKPdf	04 12 54.0	+1.7
	comp=Z,4.2nm,1.1s,baz=340,slow=3.9,SNR=4.5						
DBIC	Dimbokro	121.44	2	PKP	PKPdf	04 12 57.8	+0.9
	comp=Z,2.5nm,0.4s,baz=252,slow=4.3,SNR=10						
MAW	Mawson	145.43	218	PKPbc	PKPbc	04 13 40.4	-1.1
	comp=Z,22nm,0.5s,baz=79,slow=4.0,SNR=23						
BOSA	Boshof	148.49	307	PKPbc	PKPbc	04 13 51.1	+0.9
	comp=Z,12nm,0.5s,baz=21,slow=2.8,SNR=25						

*ISCJB **02** 03:54:45.5±1.7, 23.78S±0.08×179.8W±0.1, h508^{km}±25^{km}, mb4.4/17, Error ellipse: s-maj=18.2km s-min=12.3km az=160.8*
*NEIC **02** 03:54:45.8±1.2, 23.72S×179.82W, h497^{km}±14^{km}, mb4.6/13, Error ellipse: s-maj=13.7km s-min=11.6km az=137.0*
*IDC **02** 03:54:47.3±2.0, 23.74S×179.93W, h507^{km}±15^{km}, mb3.8/9, mb1 3.9/10, mb1mx3.7/16, mbtmp4.7/10, Error ellipse: s-maj=22.3km s-min=20.1km az=46.0*
ISC 02 03:54:46.3±1.5**, 23.8S**±01×**179.8W**±01**, h503**^{km}±24^{km}**, n45, σ0^{s}91**/36**, mb4.4**/17**, 1C-5D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	12.39	39	P	P	03 57 29.2	+0.3
	2.4nm,0.3s,baz=205,slow=14,SNR=3.2						
AFI				S	S	03 59 33.7	-9.2
	2.9nm,0.3s,baz=184,slow=19,SNR=4.1						
URZ	Urewera	14.68	190	P	P	03 57 50.2	-2.8
	0.6nm,0.3s,baz=45,slow=5.7,SNR=3.0						
URZ				S	S	04 00 22.2	-4.9
	0.5nm,0.3s,baz=257,slow=22,SNR=3.6						
RPZ	Rata Peaks	21.27	199	P	P	03 58 56.8	+0.6
	5.2nm,0.4s,mb4.4,baz=317,slow=12,SNR=5.4						
ARMA	Armidale	26.25	249	*e*P	P	03 59 42.4	+1.8
CNB	Canberra Magne	29.09	240	*e*P	P	04 00 07.0	+1.6
	22nm,0.9s,mb4.6						
CTA	Charters Tower	31.68	270⇓	*i*P	P	04 00 28.7	+0.9
	24nm,0.6s,mb4.8						
CTA	Charters Tower	31.68	270	P	P	04 00 28.4	+0.6
	26nm,0.5s,mb5.0,baz=96,slow=11,SNR=61						
CTAO	Charters Tower	31.68	270	*e*P	P	04 00 28.5	+0.7
	27nm,0.6s,mb4.9						
TOO	Toolangi	32.69	237	*e*P	P	04 00 37.4	+1.0
	9.3nm,0.6s,mb4.4						
PMG	Port Moresby	34.64	289	P	P	04 00 52.9	+0.1
	25nm,0.8s,mb4.7,baz=121,slow=5.3,SNR=6.8						
PMG	Port Moresby	34.64	289	*e*P	P	04 00 52.8	-0.1
	23nm,0.8s,mb4.7						
STKA	Stephens Creek	34.96	248⇓	*i*P	P	04 00 54.1	-1.4
	4.3nm,0.6s,mb4.1						
STKA	Stephens Creek	34.96	248	P	P	04 00 53.8	-1.7
	6.6nm,0.7s,mb4.2,baz=96,slow=8.4,SNR=14						
STKA				PcP	PcP	04 03 12.3	-1.6
	1.3nm,0.8s,baz=265,slow=13,SNR=3.1						
AS31	Alice Springs	42.25	260⇓	*i*P	P	04 01 55.0	+0.2
ASAR	Alice Springs	42.25	260	P	P	04 01 54.9	+0.1
	15nm,0.8s,mb4.5,baz=96,slow=7.9,SNR=122						
ASPA	Alice Springs	42.26	260⇓	*i*P	P	04 01 55.0	+0.2
WB2	Warramunga Arr	42.60	266	*e*P	P	04 01 57.2	-0.3
WRAB	Tennant Creek	42.61	266	*e*P	P	04 01 57.0	-0.6
	41nm,1.1s,mb4.8						
WRA	Warramunga Arr	42.62	266	P	P	04 01 57.3	-0.3
	18nm,0.7s,mb4.6,baz=103,slow=8.1,SNR=159						
WRA				PcP	PcP	04 03 38.6	+0.2
	1.7nm,0.9s,baz=96,slow=3.4,SNR=4.6						
KAKA	Kakadu	46.50	275⇓	*i*P	P	04 02 27.1	-0.5
	13nm,0.7s,mb4.5						
FORT	Forrest	46.54	249	*e*P	P	04 02 27.3	-0.6
	68nm,0.6s,mb5.2						
FITZ	Fitzroy Crossi	51.04	265	*e*P	P	04 03 01.9	+0.5
	16nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	51.04	265	P	P	04 03 01.9	+0.6
	7.7nm,0.6s,mb4.2,baz=117,slow=9.7,SNR=28						
VNDA	Vanda	54.52	185	P	P	04 03 27.5	+1.2
	0.7nm,0.7s,mb3.1,baz=36,slow=10,SNR=5.0						
VNDA	Vanda	54.52	185	*e*P	P	04 03 27.9	+1.7
	0.6nm,0.6s,mb3.1						
KLBR	Kellerberrin	55.22	247	*e*P	P	04 03 31.0	-0.2
	12nm,0.7s,mb4.3						
NWAO	Narrogin (SRO)	55.47	245	P	P	04 03 32.5	-0.4
	2.8nm,0.5s,mb3.8,baz=124,slow=11,SNR=6.4						
MBWA	Marble Bar	55.59	260	*e*P	P	04 03 33.2	-0.6
	9.7nm,0.9s,mb4.1						
MUN	Mundaring	56.47	246	*e*P	P	04 03 39.9	+0.1
CASY	Casey	60.31	206	*e*P	P	04 04 05.0	-0.8
QSPA	South Pole Qui	66.31	180	*e*P	P	04 04 45.5	+1.2
	4.6nm,1.0s,mb4.1						
KKM	Kota Kinabalu	69.06	287	*e*P	P	04 05 00.9	-0.3
KSM	Kuching	72.28	280	*e*P	P	04 05 20.0	-0.2
SYO	Syowa Base	83.18	193⇑	*e*P	P	04 06 17.9	-1.3
ZRNK	Zerenda	121.32	319	*e*PKPdf	PKPdf	04 12 40.6	-1.3
ARCES	ARCESS Array B	131.81	348	PKP	PKPdf	04 13 00.2	-1.6
	0.6nm,0.6s,baz=126,slow=1.6,SNR=5.0						
ARCES				SKPbc	SKPbc	04 15 38.2	-2.2
	1.6nm,0.8s,baz=12,slow=7.4,SNR=3.9						
ARCES	ARCESS Array B	131.81	348	PKP	PKPdf	04 13 00.2	-1.6
ARCES				SKPbc	SKPbc	04 15 38.2	-2.2
FINES	FINESS Array B	138.39	342	PKP	PKPdf	04 13 13.8	-0.3
	0.5nm,0.7s,baz=96,slow=3.8,SNR=3.7						
FINES				SKPbc	SKPbc	04 15 59.6	-1.3
	1.6nm,0.6s,baz=74,slow=3.4,SNR=12						
NOA	NORSAR Array B	141.99	351	SKPbc	SKPbc	04 16 09.1	-1.2
	0.7nm,0.7s,baz=16,slow=4.2,SNR=4.6						
HFS	Hagfors	142.46	349	PKhKP		04 13 17.0	
	1.7nm,0.4s,baz=62,slow=3.5,SNR=23						
AKASG	Malin Array Be	144.97	328	PKP	PKPdf	04 13 24.9	-0.9
	2.2nm,0.5s,baz=43,slow=3.9,SNR=12						
AKASG				SKPbc	SKPbc	04 16 16.4	-1.0
	1.6nm,0.6s,baz=42,slow=2.5,SNR=6.0						
ASF	Jabal al Asfar	146.67	293	PKPbc	PKPbc	04 13 31.9	+0.7
	4.5nm,0.8s,baz=293,slow=1.7,SNR=5.1						
MMAI	Mount Meron Ar	147.83	295	PKPbc	PKPbc	04 13 35.4	+1.1
	4.2nm,0.5s,baz=62,slow=3.9,SNR=8.4						
EIL	Elat	148.51	288	*e*PKPdf	PKPdf	04 13 33.5	+1.8
EIL				*e*PKPbc	PKPbc	04 13 36.2	+0.2
EIL				*e*PKPab	PKPab	04 13 42.4	+1.1
CLL	Collm	150.79	343	*e*PKPbc	PKPbc	04 13 41.0	-0.4
	comp=Z,5.0nm,0.9s						

IDC 02 04:11:11.5±1.9**, 44.14N**×**28.23W, h0**^{km}**, mb3.6**/3**, mb1 3.7**/5**, mb1mx3.5**/23**, mbtmp3.5**/5**, ML3.4**/1**, Error ellipse: s-maj=47.8km s-min=28.7km az=34.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	18.58	95	P	Pn	04 15 30.4	+0.2
	baz=300,slow=13,SNR=5.3						
EKA	Eskdalemuir Ar	19.58	46	P	Pn	04 15 40.6	-1.6
	0.1nm,0.3s,baz=264,slow=12,SNR=2.8						
AKASG	Malin Array Be	38.57	59	P	P	04 18 35.9	0.0
	0.2nm,0.4s,baz=283,slow=7.8,SNR=4.1						
TORD	Torodi Ar. Bea	40.12	131	P	P	04 18 48.4	-0.5
	1.1nm,0.8s,baz=331,slow=5.7,SNR=3.7						
YKA	Yellowknife Ar	50.52	323	P	P	04 20 10.9	-0.5
	0.9nm,0.8s,baz=64,slow=7.3,SNR=7.0						

CASC 02 04:14:15.0±3.3**, 13.52N**×**90.54W, h24**^{km}±10^{km}**, MD3.9, 4C-9D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.65	7⇓	*e*P	Pb	04 14 27.8	0.0
IXG				*e*S	Sb	04 14 38.2	+1.8
SBLS	San Blas	0.94	70	*e*P	x	04 14 58.3	
SBLS				*e*S	x	04 15 11.2	
RTR	El Retiro	0.94	67⇓	*e*P	x	04 14 58.7	
RTR				*e*S	x	04 15 10.2	
FUG	Fuego 3	0.96	342⇓	*e*P	Pb	04 14 32.9	-0.1
SNJE	San Jose	0.97	69⇓	*e*P	x	04 14 58.8	
SNJE				*e*S	x	04 15 11.0	
RBDL	Robledal	1.01	55	*e*P	x	04 14 59.6	
RBDL				*e*S	x	04 15 15.4	
BOQS	Boqueron	1.24	80⇓	*e*P	x	04 15 02.9	
BOQS				*e*S	x	04 15 18.5	
SNET	Serv Nac Est T	1.28	83⇓	*i*P	x	04 14 36.6	
JAT	Jato	1.33	307⇓	*e*P	Pn	04 14 38.1	+0.1
TP2	Tecpan 2	1.34	340	*e*P	Pn	04 14 38.1	-0.1
TP2				*e*S	Sn	04 14 55.9	+0.7
LFU	La Fuente	1.40	81⇑	*e*P	x	04 15 05.6	
LFU				*e*S	x	04 15 24.4	
LBRS	Las Brisas	1.47	81⇑	*e*P	x	04 15 06.0	
LBRS				*e*S	x	04 15 26.5	
LCBS	La Ceiba	1.52	85⇓	*e*P	x	04 15 06.5	
LCBS				*e*S	x	04 15 26.3	
SNVI	San Vicente	1.66	87⇑	*e*P	x	04 15 08.8	
SNVI				*e*S	x	04 15 31.2	
VSM	San Miguel	2.21	92	*e*P	x	04 15 16.7	
VSM				*e*S	x	04 15 45.8	
CNCH	Conchagua	2.64	95⇓	*e*P	x	04 15 22.3	
CNCH				*e*S	x	04 15 55.8	
LEON	Leon	3.72	107	*e*P	Pn	04 15 11.4	+0.5
MIRN	Miramar	3.88	106⇑	*e*P	Pn	04 15 13.8	+0.6
COPN	Copaltepe	4.07	109	*e*P	Pn	04 15 15.5	-0.4

*IDC **02** 04:17:50.6±0.9, 60.28N×60.06E, h0^{km}, mb3.5/5, mb1 3.7/11, mb1mx3.6/21, mbtmp3.6/11, ML3.7/4, Error ellipse: s-maj=19.3km s-min=10.1km az=53.0*
*ISCJB **02** 04:17:50.3±0.5, 60.17N±0.05×59.85E±0.08, h33^{km}, mb3.5/6, Error ellipse: s-maj=7.2km s-min=4.5km az=68.2*
*NEIC **02** 04:17:51.6±5.7, 60.14N×59.92E, h8^{km}±41^{km}, mb4.1/2, Error ellipse: s-maj=12.3km s-min=8.3km az=201.0*
*MOS **02** 04:17:51.1±2.1, 60.25N×59.92E, h33^{km}, mb4.5/1, Error ellipse: s-maj=16.5km s-min=8.0km az=115.4*
*CSEM **02** 04:17:54.8±0.6, 60.19N×60.10E, h20^{km}, mb4.1/2, Error ellipse: s-maj=14.2km s-min=6.2km az=174.0*
*NNC **02** 04:18:01.3±3.5, 59.66N×60.80E, h28^{km}±32^{km}, mb3.8, mpv3.8, Error ellipse: s-maj=31.1km s-min=17.1km az=144.0*
*NAO **02** 04:18:21.1, 59.66N×54.10E, h33^{km}, mb3.2*
ISC 02 04:17:53.5±0.5**, 60.19N**±004×**59.83E**±007**, h35**^{km}**, n48, σ1^{s}39**/72**, mb3.5**/6**, 12C-3D, Ural Mountains region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARU	Arti	3.83	191	*e*P	Pn	04 18 52.0	+2.1
ARU				*e*S	Sn	04 19 41.2	+7.4
ARU	Arti	3.83	191	*e*Pn	Pn	04 18 51.0	+1.1
ARU				*e*Sg	Sn	04 19 49.3	+16
ARU	Arti	3.83	191	*e*Pn	Pn	04 18 51.0	+1.1
ZRNK	Zerenda	8.84	141	⇑Pn	Pn	04 19 58.0	-0.7
	2.5nm,0.5s						
ZRNK				⇑Sn	Sn	04 21 30.4	-6.7
	9.9nm,1.1s						
ZRNK	Zerenda	8.84	141	*e*P	Pn	04 19 57.7	-1.0
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ZRNK	Zerenda	8.84	141	*e*Pn	Pn	04 19 57.7	-1.0
	comp=Z,5.2nm,0.4s						
ZRNK				*e*Sn	Sn	04 21 29.1	-8.0
BRVK	Borovoye	9.17	137	*e*P	Pn	04 20 02.3	-1.0
BRVK				*e*		04 21 38.5	
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BRVK	Borovoye	9.17	137	*e*Pn	Pn	04 20 02.2	-1.0
	comp=Z,4.1nm,0.5s						
BRVK				*e*Sn	Sn	04 21 38.5	-6.7
BRVK	Borovoye	9.17	137	*e*Pn	Pn	04 20 02.2	-1.1
	comp=Z,4.1nm,0.5s						
BRVK				*e*Sn	Sn	04 21 38.5	-6.7
BVA0	Borovoye Array	9.24	136	⇑Pn	Pn	04 20 03.6	-0.5
	comp=Z,1.5nm,0.5s,baz=325,slow=14,SNR=102						
BVA0				⇓Sn	Sn	04 21 38.2	-8.6
	comp=Z,3.7nm,0.9s,baz=331,slow=24,SNR=10						
BVAR	Borovoye Array	9.24	136	Pn	Pn	04 20 03.5	-0.6
	comp=Z,2.6nm,0.3s,baz=323,slow=15,SNR=44						
BVAR				Sn	Sn	04 21 40.2	-6.6
	comp=Z,2.6nm,0.3s,baz=323,slow=24,SNR=8.8						
BVAR	Borovoye Array	9.24	136	Pn	Pn	04 20 03.6	-0.5
	comp=Z,1.5nm,0.5s,SNR=102						
BVAR				Sn	Sn	04 21 38.2	-8.6
	SNR=10						
VOSK	Vostochnaya	9.69	136	⇑Pn	Pn	04 20 09.6	-0.8
	comp=Z,2.7nm,0.6s						
VOSK				⇓Sn	Sn	04 21 47.9	-10
	comp=Z,7.2nm,0.7s						
AKTK	Aktyubinsk	9.84	187	Pn	Pn	04 20 12.5	+0.2
AKTK				Sn	Sn	04 22 01.3	-0.2
AKTK	Aktyubinsk	9.84	187	Pn	Pn	04 20 12.5	+0.2
AKTO	Aktyubinsk	9.84	187	⇑Pn	Pn	04 20 12.5	+0.2
	comp=Z,0.1nm,0.9s						
AKTO				⇑Sn	Sn	04 22 01.6	+0.1
	comp=Z,0.1nm,0.6s						
AKTO				⇑Lg		04 22 56.8	
	comp=Z,0.2nm,0.8s						
AKTO	Aktyubinsk	9.84	187	Pn	Pn	04 20 12.5	+0.2
	comp=Z,0.3nm,0.3s,baz=351,slow=7.9,SNR=4.2						
AKTO				Sn	Sn	04 22 01.3	-0.2
	comp=Z,0.3nm,0.3s,baz=92,slow=23,SNR=2.8						
AKTO	Aktyubinsk	9.84	187	Pn	Pn	04 20 12.5	+0.2
	comp=Z,0.1nm,0.9s						
AKTO				Sn	Sn	04 22 01.6	+0.1
	comp=Z,0.1nm,0.6s						
KLMR	Klimovskoe	10.03	283	*e*P	Pn	04 20 15.3	+0.3
KLMR				*e*		04 22 04.7	
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.6s						
AB31	Akbulak array	10.96	180	⇑Pn	Pn	04 20 27.9	+0.2
	comp=Z,2.1nm,0.6s,baz=13,slow=12,SNR=39						
AB31				⇑Sn	Sn	04 22 24.2	-4.9
	comp=Z,0.8nm,0.4s,baz=20,slow=19,SNR=4.3						
AB31				⇑Lg		04 23 33.3	
	comp=Z,11nm,0.8s,baz=1.2,slow=26,SNR=5.0						
AB31	Akbulak array	10.96	180	Pn	Pn	04 20 27.9	+0.1
	comp=Z,2.1nm,0.6s,SNR=39						
AB31				Sn	Sn	04 22 24.2	-4.9
	SNR=4.3						
OBN	Obninsk	13.41	258⇑	*e*P	Pn	04 21 00.9	-0.4
OBN				*i* S	Sn	04 23 28.2	-0.9
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,300nm,17.0s						
JOF	Joensuu	13.80	294	*e*p	Pn	04 21 04.1	-2.5
KURK	Kurchatov	14.22	124	⇑Pn	Pn	04 21 07.7	-4.5
	comp=Z,1.7nm,0.8s						
KURK				⇓Sn	Sn	04 23 36.7	-12
	comp=Z,5.3nm,1.2s						
KURK	Kurchatov	14.22	124	*e*P	Pn	04 21 08.3	-4.0
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURK	Kurchatov	14.22	124	*e*Pn	Pn	04 21 08.2	-4.0
	comp=Z,3.4nm,0.6s						
KURK				*e*Sn	Sn	04 23 37.0	-12
KURK	Kurchatov	14.22	124	*e*Pn	Pn	04 21 08.2	-4.1
	comp=Z,3.4nm,0.6s						
KURK				*e*Sn	Sn	04 23 37.0	-12
ZAL	Zalesovo	14.89	104	Pn	Pn	04 21 23.0	+1.6
	comp=Z,0.5nm,0.3s,baz=171,slow=15,SNR=7.1						
ZAL				Sn	Sn	04 24 04.8	-0.4
	comp=Z,1.7nm,0.3s,baz=27,slow=23,SNR=14						
KAF	Kangasniemi	16.19	291	*e*p	Pn	04 21 36.6	-1.6
	comp=Z,3.7nm,0.4s,baz=80,slow=12						
KAF	Kangasniemi	16.19	291	*e*P	Pn	04 21 36.6	-1.6
KAF				pmax	pmax		
	comp=Z,4.0nm,0.4s						
FINES	FINESS Array B	16.40	289	Pn	Pn	04 21 37.9	-3.1
	comp=Z,0.3nm,0.3s,baz=97,slow=13,SNR=19						
FINES				Sn	Sn	04 24 29.6	-12
	comp=Z,0.3nm,0.3s,baz=74,slow=28,SNR=6.8						
KEV	Kevo	16.62	319	*e*p	Pn	04 21 40.4	-3.3
ARCES	ARCESS Array B	17.05	317	Pn	Pn	04 21 45.6	-3.5
	comp=Z,0.4nm,0.3s,baz=102,slow=12,SNR=20						
ARCES				Sn	Sn	04 24 46.4	-11
	comp=Z,0.1nm,0.3s,baz=106,slow=28,SNR=2.9						
ARE0	ARCESS Array S	17.05	317	*e*P	Pn	04 21 51.4	+2.3
ARE0	ARCESS Array S	17.05	317	*e*P	Pn	04 21 51.4	+2.3
KKAR	Karatay Array	18.31	154	*e*P	Pn	04 22 05.0	+0.4
MKAR	Makanchi Array	18.80	125	P	Pn	04 22 10.8	+0.2
	comp=Z,0.3nm,0.3s,baz=336,slow=8.5,SNR=4.7						
MKAR				S	S	04 25 30.4	-11
	comp=Z,0.1nm,0.3s,baz=104,slow=41,SNR=5.4						
AKASG	Malin Array Be	19.61	255	P	Pn	04 22 19.9	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.0nm,0.3s,baz=44,slow=10,SNR=11						
AKASG	Malin Array Be	19.61	255	iP	Pn	04 22 20.3	0.0
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	Hagfors	22.60	290	P	P	04 22 52.2	+1.3
	comp=Z,0.7nm,0.4s,mb3.4,baz=48,slow=8.6,SNR=6.8						
NB2	NORSAR Subarra	23.44	293	P	P	04 23 01.2	+1.5
	comp=Z,1.0nm,0.6s,mb3.4,baz=75,slow=11						
NOA	NORSAR Array B	23.44	293	P	P	04 23 01.1	+1.4
	comp=Z,1.3nm,0.7s,mb3.4,baz=71,slow=11,SNR=7.6						
CLL	Collm	27.27	272	eP	P	04 23 36.0	+1.6
GERES	GERESS Array B	28.47	267	P	P	04 23 48.0	+2.8
	comp=Z,0.5nm,0.8s,mb3.2,baz=50,slow=12,SNR=4.2						
BNI	Bardonecchia	34.57	268	eP	P	04 24 41.8	+3.0
BNI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BNI	Bardonecchia	34.57	268	eP	P	04 24 41.8	+3.0
	comp=Z,2.7nm,0.6s,mb4.3						
ESDC	Sonseca Array	43.85	272	P	P	04 25 58.8	+2.6
	comp=Z,0.1nm,0.3s,mb3.0,baz=41,slow=7.8,SNR=4.0						
YKA	Yellowknife Ar	57.56	357	P	P	04 27 40.6	+1.0
	comp=Z,0.4nm,0.7s,mb3.6,baz=0.3,slow=7.2,SNR=8.6						

JMA 02 04:29:12.6±0.1, 4325N×14627E, h46km±1km, M3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.40	287	P	Pn	04 29 22.4	0.0
NEM2				eS	Sn	04 29 29.4	0.0
JRA	Rausu	1.08	310	P	Pn	04 29 31.6	+0.3
JRA				eS	Sn	04 29 45.6	+0.5
JNK	Nakash	1.18	287	P	Pn	04 29 32.7	+0.1
JNK				eS	Sn	04 29 46.9	-0.6
JAK	Akkeshi	1.18	258	P	Pn	04 29 32.8	+0.1
JAK				eS	Sn	04 29 47.9	+0.3
JOB	Onbets	1.82	260	P	Pn	04 29 42.1	+0.7
JOB				eS	Sn	04 30 04.2	+1.0
JAR	Ashorobuto	1.83	272	P	Pn	04 29 42.3	+0.8
JAR				eS	Sn	04 30 04.3	+0.9
JTKR	Abashiri--Toko	1.86	294	P	Pn	04 29 43.4	+1.4

IDC 02 04:36:07.8±3.5, 1831S×17657W, h0km, mb4.3/3, mb1 4.4/4, mb1mx4.0/13, mbtmp4.3/4, ML2.1/1, Error ellipse: s-maj=183.2km s-min=31.8km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.36	47	Pn	Pn	04 37 42.9	+0.2
	2.7nm,0.3s,baz=218,slow=22,SNR=3.6						
AFI				Sn	Sn	04 38 40.5	-16
	7.3nm,0.3s,baz=29,slow=21,SNR=9.0						
STKA	Stephens Creek	39.97	242	P	P	04 43 44.5	+0.5
	1.5nm,0.9s,baz=79,slow=5.2,SNR=3.7						
WRA	Warramunga Arr	46.28	260	P	P	04 44 35.1	+0.1
	1.3nm,0.4s,baz=97,slow=7.3,SNR=59						
ASAR	Alice Springs	46.36	255	P	P	04 44 36.0	+0.4
	8.1nm,0.5s,baz=91,slow=8.0,SNR=223						
ASPA	Alice Springs	46.37	255	eP	P	04 44 35.8	+0.1

NEIC 02 05:17:18.1±6.7, 3192N×14356E, h10km, mb4.0/1, Error ellipse: s-maj=246.0km s-min=13.3km az=66.0
ISCJB 02 05:17:25.6±1.3, 313N±0.1×1416E±03, h33km, mb3.7/5, Error ellipse: s-maj=43.9km s-min=6.1km az=139.0
IDC 02 05:17:25.3±3.3, 31.10N×141.16E, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.5/19, mbtmp3.6/7, ML3.6/3, Error ellipse: s-maj=137.1km s-min=17.0km az=70.0
ISC 02 05:17:28.1±1.4, 313N±01×1415E±04, h35km, n11, σ0s99/15, mb3.7/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.28	321	Pn	Pn	05 18 04.5	+1.2
	13nm,0.3s,baz=88,slow=17,SNR=3.1						
JHJ				Sn	Sn	05 18 29.8	-0.4
	19nm,0.3s,baz=246,slow=24,SNR=2.8						
CBIJ	Chichi jima	4.28	172	Pn	Pn	05 18 30.5	-0.2
	13nm,0.3s,baz=278,slow=23,SNR=29						
CBIJ				Sn	Sn	05 19 18.4	-1.0
	7.9nm,0.3s,baz=303,slow=22,SNR=4.0						
MJAR	Matsushiro Arr	5.86	333	Pn	Pn	05 18 52.9	+0.5
	1.0nm,0.3s,baz=150,slow=11,SNR=12						
MAJO	Matsushiro	5.86	333	ePn	Pn	05 18 53.2	+0.8
MAT	Matsushiro	5.86	333	P	Pn	05 18 51.3	-1.1
MAT				eS	Sn	05 19 56.2	-2.1
MAT	Matsushiro	5.86	333	P	Pn	05 18 51.0	-1.4
MAT				S	Sn	05 19 56.0	-2.3
SONM	Songino Array	31.33	312	P	P	05 23 48.8	+3.7
	0.5nm,0.6s,mb3.5,baz=123,slow=7.3,SNR=3.7						
MKAR	Makanchi Array	47.38	307	P	P	05 25 59.8	+1.1
	0.4nm,0.4s,mb3.7,baz=89,slow=9.2,SNR=3.1						
KURK	Kurchatov	49.64	312	eP	P	05 26 16.4	+0.3
	1.0nm,0.6s,mb4.0						
WRA	Warramunga Arr	51.45	189	P	P	05 26 29.7	-0.1
	0.6nm,0.6s,mb3.7,baz=4.6,slow=7.6,SNR=16						
ASAR	Alice Springs	55.17	188	P	P	05 26 57.6	+0.4
	0.4nm,0.6s,mb3.6,baz=4.5,slow=6.3,SNR=8.6						

INMG 02 05:30:55.8±0.6, 3669N×828W, h11km±2km, ML1.9, Error ellipse: s-maj=3.3km s-min=1.4km az=52.0
IGIL 02 05:30:56.2, 3669N×828W, h2km, ML2.2
MDD 02 05:30:55.8±1.4, 3670N×828W, h16km±11km, mbLg2.2/6, 3C, Error ellipse: s-maj=18.2km s-min=7.3km az=49.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MORF	Marmelete	0.68	334	eP	Pg	05 31 08.4	-0.7
MORF				eS	Sg	05 31 17.4	-0.8
MORF				eS	Sg	05 31 17.4	-0.8
MORF				AML	AML	05 31 19.9	
	comp=E,90nm,0.2s						
MORF	Marmelete	0.68	334	eP	Pg	05 31 08.4	-0.7
MORF				eS	Sg	05 31 17.4	-0.7
PTEO	Sao Teotonio	0.92	337	eP	Pb	05 31 12.1	-1.3
PTEO				eS	Sb	05 31 24.9	-0.4
PTEO							
	comp=E,11nm,0.1s						
EGRO	El Granado	1.05	37	⇑P	Pb	05 31 14.9	-0.7
	comp=E,3.0nm,0.1s,SNR=18						
EGRO				S	Sb	05 31 28.7	-0.4
	comp=E,12nm,0.1s,SNR=26						
PBEJ	Beja	1.37	14	eS	Sn	05 31 37.0	-1.0
PBEJ							
	comp=E,7.9nm,0.1s						
PBEJ	Beja	1.37	14	S	Sn	05 31 37.0	-1.0
	comp=E,4.0nm,0.1s						
EMIN	Mina Concepcio	1.67	50	P	Pn	05 31 23.2	-1.1
	comp=E,0.2nm,0.1s,SNR=6.9						
EMIN				S	Sn	05 31 43.2	-2.2
	comp=E,1.8nm,0.1s,SNR=6.7						
ESPR	Espera	1.95	84	⇑P	Pn	05 31 27.2	-1.0
	comp=E,11nm,0.1s,SNR=18						
ESPR				S	Sn	05 31 50.5	-1.9
	comp=E,19nm,0.2s,SNR=4.9						
EBAD	Badajoz	2.29	26	P	Pn	05 31 31.9	-1.0
	comp=E,0.5nm,0.1s,SNR=4.6						
EBAD				S	Sn	05 31 59.4	-1.2
	comp=E,1.3nm,0.1s,SNR=7.3						
PLOU	Loures	2.29	343	ePn	Pn	05 31 31.9	-1.0
PTOM	Tomar	2.92	358	ePn	Pn	05 31 40.3	-1.2
PTOM				eSn	Sn	05 32 13.8	-2.4
PTOM							
	comp=E,5.0nm,0.1s						
PCBR	Castelo Branco	3.20	11	ePn	Pn	05 31 44.1	-1.3
PCBR				eSn	Sn	05 32 20.6	-2.6
PCBR							
	comp=E,3.8nm,0.3s						
EADA	Adamuz	3.29	62	P	Pn	05 31 45.6	-1.0
	comp=E,1.5nm,0.1s,SNR=23						
EADA				S	Sn	05 32 21.8	-3.6
	comp=E,0.4nm,0.0s,SNR=7.9						
MTE	Manteigas	3.74	9	eSn	Sn	05 32 33.2	-3.4
MTE							
	comp=E,1.6nm,0.2s						
MTE	Manteigas	3.74	9	Sn	Sn	05 32 33.2	-3.4
	comp=E,0.8nm,0.2s						
EBAN	Banos Encina	3.86	66	⇑P	Pn	05 31 53.1	-1.4
	comp=E,2.2nm,0.1s,SNR=18						
EBAN				S	Sn	05 32 34.6	-4.9
	comp=E,0.6nm,0.1s,SNR=7.9						
EQUE	Quentar	3.91	81	P	Pn	05 31 54.9	-0.3
	comp=E,0.4nm,0.1s,SNR=7.9						
PVIS	Viseu	4.03	4	eSn	Sn	05 32 40.0	-3.5

IDC 02 05:43:16.9±68.0, 1827S×17663E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/12, mbtmp4.1/3, Error ellipse: s-maj=1206.0km s-min=136.5km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.34	240	P	P	05 50 05.9	+0.7
	1.2nm,0.3s,baz=83,slow=4.6,SNR=7.1						
WRA	Warramunga Arr	39.92	261	P	P	05 50 52.8	+0.1
	0.3nm,0.2s,baz=96,slow=7.9,SNR=21						
ASAR	Alice Springs	40.15	255	P	P	05 50 54.7	+0.2
	2.7nm,0.3s,baz=89,slow=8.0,SNR=64						

IDC 02 05:43:31.2±4.2, 761N×9213E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.7/4, Error ellipse: s-maj=158.7km s-min=25.6km az=64.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	39.95	349	P	P	05 51 07.0	-0.1
	0.6nm,0.6s,baz=147,slow=6.8,SNR=4.4						
SONM	Songino Array	41.88	14	P	P	05 51 23.4	+0.2
	0.3nm,0.4s,baz=203,slow=6.4,SNR=4.5						
WRA	Warramunga Arr	49.74	124	P	P	05 52 25.3	+0.1
	0.4nm,0.7s,baz=303,slow=8.6,SNR=6.6						
ASAR	Alice Springs	51.29	128	P	P	05 52 37.6	+0.7
	0.6nm,0.8s,baz=301,slow=7.4,SNR=7.5						

IDC 02 05:49:07.2±1.5, 1596N×9256W, h183km±20km, mb3.5/5, mb1 3.8/7, mb1mx3.4/22, mbtmp4.0/7, Error ellipse: s-maj=56.5km s-min=11.7km az=50.0
ISCJB 02 05:49:09.5±0.4, 1593N±006×9278W±004, h205km±3km, mb3.7/9, Error ellipse: s-maj=10.5km s-min=4.8km az=60.1
MEX 02 05:49:11.8±1.3, 1588N×9285W, h198km±14km, MD4.1
CASC 02 05:49:11.2±1.7, 1600N×9247W, h199km, MD4.1, mb4.1(NEIC)
NEIC 02 05:49:12.0, 1594N×9287W, h199km, mb4.1/14, MD4.1(MEX), After MEX.
ISC 02 05:49:10.5±0.4, 1593N±005×9278W±004, h200km±3km, n41, σ1s31/57, mb3.7/9, 3C-4D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCIG	Comitan	0.71	61	⇓iP	Pn	05 49 38.4	-0.1
CCIG				iS	Sn	05 50 00.4	+0.2
SCX	San Cristobal	0.81	10	iP	Pn	05 49 39.0	0.0
SCX				iS	Sn	05 50 02.0	+0.9
JAT	Jato	1.95	145	⇑eP	Pn	05 49 49.7	+1.3
JAT				eS	Sn	05 50 16.9	-1.1
TP2	Tecpan 2	2.05	124	⇓eP	Pn	05 49 48.9	-0.5
TP2				eS	Sn	05 50 20.5	+0.8
CMIG	Matias Romero	2.32	300	P	Pn	05 49 51.7	-0.7
	43nm,0.3s,baz=104,slow=7.8,SNR=566						
CMIG				S	Sn	05 50 23.1	-1.9
	34nm,0.3s,baz=294,slow=23,SNR=15						
CMIG	Matias Romero	2.32	300	iP	Pn	05 49 51.8	-0.5
CMIG				iS	Sn	05 50 21.7	-3.3
CMIG	Matias Romero	2.32	300	P	Pn	05 49 51.7	-0.7
CMIG				S	Sn	05 50 23.1	-1.9
FUG	Fuego 3	2.38	128	⇓eP	Pn	05 49 53.1	+0.1
TUIG	Tuzandepetl	2.62	323	iP	Pn	05 49 55.1	-0.5
TUIG				iS	Sn	05 50 30.6	-0.2
IXG	Ixpaco	2.85	127	⇓eP	Pn	05 49 58.3	0.0
HUIG	Huatulco	3.20	268	⇑iP	Pn	05 50 01.6	-0.8
HUIG				iS	Sn	05 50 41.2	-2.0
OXX	Oaxaca	3.95	287	iP	Pn	05 50 13.0	+1.4
VHO	Vista Hermosa	3.96	287	⇑iP	Pn	05 50 13.0	+1.3
VHO				iS	Sn	05 50 58.4	-1.3
UTMO	Huajuapan	5.16	292	iP	Pn	05 50 28.3	+1.4
TEIG	Tepich	6.05	44	eP	Pn	05 50 34.2	-4.1
	12nm,0.5s						
PPM	Popocatepetl	6.39	300	iP	Pn	05 50 45.6	+2.9
PPM				iS	Sn	05 51 55.5	-0.2
PPM	Popocatepetl	6.39	300	iP	Pn	05 50 45.6	+2.9
PPM				iS	Sn	05 52 01.0	+5.2
YAIG	Yautepec	6.67	297	eP	Pn	05 50 47.9	+1.6
YAIG				iS	Sn	05 52 01.9	-0.4
MEIG	Mezcala	6.84	288	iP	Pn	05 50 50.1	+1.6
MEIG				iS	Sn	05 52 02.8	-3.5
PLIG	Platanillo	6.87	292	eP	Pn	05 50 51.2	+2.2
JTS	JuntasAbangare	9.46	125	P	Pn	05 51 19.8	-2.9
	1.7nm,0.3s,baz=304,slow=23,SNR=12						
JTS				S	Sn	05 53 01.3	-7.3
	0.3nm,0.3s,baz=294,slow=21,SNR=3.3						
JTS	JuntasAbangare	9.46	125	eP	Pn	05 51 19.9	-2.8
	7.8nm,0.5s						
JTS				S	Sn	05 53 01.3	-7.3
JCT	Junction City	15.85	337	eP	Pn	05 52 43.3	+0.4
	6.2nm,0.6s						
JCT				e		05 52 55.2	
LTX	Lajitas	16.68	325	eP	Pn	05 52 53.0	+0.1
	11nm,1.3s						
LRAL	Lakeview Retre	17.82	16	eP	Pn	05 53 04.6	-1.7
	8.2nm,0.8s						
MIAR	Mount Ida	18.55	358	eP	P	05 53 09.9	-2.3
	5.7nm,0.9s						
AMTX	Amarillo	20.49	339	eP	P	05 53 30.9	-2.1
	12nm,0.8s						
WVT	Waverly	20.60	11	eP	P	05 53 35.6	+1.5
	3.1nm,0.6s						
OTAV	Otavalo	21.05	136	eP	P	05 53 40.7	+1.7
	6.5nm,1.2s,mb4.0						
BNM	Barren Site	22.01	328	eP	P	05 53 49.6	+0.9
ANMO	Albuquerque	22.57	330	P	P	05 53 53.6	-0.1
	0.5nm,0.5s,mb3.3,baz=146,slow=11,SNR=7.7						
ANMO	Albuquerque	22.57	330	eP	P	05 53 53.6	-0.2
	1.6nm,0.8s,mb3.6						
CCUT	Cedar City	28.19	324	eP	P	05 54 45.7	+1.4
SNOW	Snow King Moun	31.43	334	eP	P	05 55 12.4	-0.5
	3.6nm,0.7s,mb4.1						
NVAR	Mina Array Bea	31.71	320	P	P	05 55 16.4	+1.0
	2.5nm,0.7s,mb3.9,baz=130,slow=9.2,SNR=15						
WVOR	Wild Horse Val	34.48	325	eP	P	05 55 39.2	-0.1
	2.9nm,1.0s,mb3.8						
SAML	Samuel	38.34	128	eP	P	05 56 06.8	-5.2
	1.1nm,0.6s,mb3.6						
LPAZ	La Paz	40.21	142	P	P	05 56 26.1	-1.3
	2.1nm,0.6s,mb3.7,baz=318,slow=5.1,SNR=24						
LPAZ	La Paz	40.21	142	eP	P	05 56 26.4	-1.0
	2.0nm,0.6s,mb3.7						
SIV	San Ignacio	44.56	134	P	P	05 56 59.1	-3.4
	0.8nm,0.5s,mb3.3,baz=295,slow=7.8,SNR=12						
YKA	Yellowknife Ar	48.98	347	P	P	05 57 33.8	-2.9
	2.2nm,0.6s,mb3.7,baz=148,slow=7.4,SNR=45						

IDC 02 06:11:21.9±1.9, 024S×12903E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/15, mbtmp3.9/5, ML3.2/1, Error ellipse: s-maj=106.3km s-min=24.5km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.06	190	P	Pn	06 15 35.9	+1.7
	0.1nm,0.3s,baz=42,slow=15,SNR=2.4						
WRA	Warramunga Arr	20.25	165	P	P	06 15 58.3	-0.4
	0.8nm,0.4s,baz=344,slow=12,SNR=16						
ASAR	Alice Springs	23.76	169	P	P	06 16 37.0	+1.1
	8.3nm,1.0s,baz=343,slow=8.5,SNR=36						
STKA	Stephens Creek	33.63	160	P	P	06 18 03.1	-1.0
	2.3nm,0.8s,baz=339,slow=7.6,SNR=4.5						
MKAR	Makanchi Array	62.11	326	P	P	06 21 44.8	+0.3
	0.6nm,0.6s,baz=118,slow=9.0,SNR=4.8						

MOS 02 06:55:27.9±1.5, 3587N×2824E, h10km, mb4.4/29, Error ellipse: s-maj=6.4km s-min=3.1km az=123.1
IDC 02 06:55:28.1±0.8, 36.13N×28.16E, h0km, mb4.0/13, mb1 4.1/16, mb1mx4.0/24, mbtmp4.0/16, ML4.0/3, MS3.2/3, Ms1 3.2/3, ms1mx2.5/41, Error ellipse: s-maj=17.5km s-min=15.1km az=142.0
CSEM 02 06:55:29.5±0.0, 3597N×2821E, h8km, mb4.3/16, Mw3.4, Error ellipse: s-maj=1.1km s-min=0.9km az=179.0
ISCJB 02 06:55:29.9±0.1, 3592N±001×2821E±002, h20km, mb4.2/65, MS3.7/2, Error ellipse: s-maj=2.0km s-min=1.7km az=72.3
BJI 02 06:55:29.6, 3656N×2735E, h40km, mB4.8, mb4.7, Ms4.3, Msz4.0
NEIC 02 06:55:30.6, 36.10N×28.13E, h20km, mb4.2/78, MD4.1(ATH), ML4.1(ISK), After ATH.
ATH 02 06:55:30.6, 36.10N×28.13E, h19km, MD4.1/15
HLW 02 06:55:31.9, 3603N×2834E, h21km, Mb4.0
ISK 02 06:55:31.6, 3599N×28.17E, h32km, MD4.0, ML4.2
NIC 02 06:55:32.0±0.2, 36.14N×28.17E, h55km, mb4.2, ML3.8, MW3.4
THE 02 06:55:35.1, 3609N×2805E, h19km, ML3.7
SZGRF 02 06:55:50.9, 3729N×2740E, h33km, mb4.0, Turkey
ISC 02 06:55:31.2±0.5, 3598N±001×2818E±002, h16km±3km, h36km±.9km:pP-P, n421, σ1s28/454, mb4.2/65, MS3.7/2, 108C-14D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.24	349	⇓iPB	Pg	06 55 34.7	-1.9
ARG				eSB	Sg	06 55 37.8	-2.4
DALT	Dalyan (Mudla)	0.87	25	PG	Pg	06 55 47.0	-1.1
DALT				SG	Sg	06 55 59.4	-0.2
DALT	Dalyan (Mudla)	0.87	25	Pg	Pg	06 55 46.7	-1.5
DAT	Datca	0.89	327	PG	Pg	06 55 47.6	-1.0
DAT				SG	Sg	06 55 59.4	-0.9
KAP	Karpathos	0.93	243	ePn	Pb	06 55 48.5	-0.4
KAP				eSn	Sb	06 56 02.3	+1.3
KARP	Karpathos	0.94	243	ePN	Pb	06 55 48.5	-0.6
KARP				eSN	Sb	06 56 02.3	+1.0
FETY	Fethiye	0.98	48	PG	Pg	06 55 48.7	-1.5
FETY				SG	Sb	06 56 02.6	+0.1
FETY	Fethiye	0.98	48	Pg	Pg	06 55 49.1	-1.1
FETY	Fethiye	0.98	48	Pg	Pb	06 55 49.1	-0.7
FETY				eSg	Sb	06 56 02.6	+0.1
NISR	Nisiros	1.06	307	ePN	Pn	06 55 49.5	-2.0
KSL	Kastellorizon	1.15	81	ePN	Pn	06 55 53.0	+0.4
YER	Yerkesik	1.16	4	PN	Pn	06 55 51.7	-1.1
YER	Yerkesik	1.16	4	Pg	Pn	06 55 51.8	-1.0
BODT	Bodrum	1.29	327	PN	Pn	06 55 53.7	-0.9
BODT				SN	Sn	06 56 09.5	-2.0
BODT	Bodrum	1.29	327	Pn	Pn	06 55 53.9	-0.7
BODT	Bodrum	1.29	327	Pn	Pn	06 55 53.9	-0.7
BODT				eSn	Sn	06 56 09.5	-2.0
MLSB	Milas	1.35	346	PN	Pn	06 55 54.9	-0.6
MLSB	Milas	1.35	346	Pn	Pn	06 55 55.3	-0.2
MLSB	Milas	1.35	346	Pn	Pn	06 55 55.3	-0.2
ELL	Elmali	1.59	61	Pn	Pn	06 56 00.9	+2.2
AYDN	Tasoluk	1.70	352	iP	Pn	06 56 00.5	+0.3
AYDN				iS	Sg	06 56 26.0	+0.1
ZKR	Zakros	1.82	242	ePb	Pb	06 56 03.2	-1.0
ZKR				eSb	Sb	06 56 25.6	-1.2
DNZL	Cakiroluk	1.84	22	iP	Pn	06 56 03.7	+1.5
DNZL				iS	Sn	06 56 27.6	+2.4
DENT	Denizli	1.90	21	PN	Pn	06 56 03.1	+0.1
DENT	Denizli	1.90	21	Pn	Pn	06 56 04.4	+1.4
SMG	Samos	2.04	328	⇓iPN	Pn	06 56 04.2	-0.7
NPS	Neapolis	2.21	252	⇑iPB	Pn	06 56 08.2	+0.9
NPS				eSN	Sn	06 56 35.0	+0.7
SANT	Santorini	2.24	281	ePn	Pn	06 56 08.0	+0.3
SANT	Santorini	2.24	281	ePn	Pn	06 56 07.4	-0.3
SANT				eSn	Sn	06 56 37.8	+2.8
SANT	Santorini	2.24	281	ePn	Pn	06 56 07.4	-0.3
XRY	Khrisi	2.31	242	ePB	Pn	06 56 11.5	+2.8
LAST	Lasithi	2.35	250	ePn	Pn	06 56 10.6	+1.4
LAST				eSn	Sn	06 56 37.8	+0.1
APE	Apeiranthos	2.40	298	ePn	Pn	06 56 09.8	-0.1
APE	Apeiranthos	2.40	298	eP	Pn	06 56 10.2	+0.3
APE	Apeiranthos	2.40	298	ePn	Pn	06 56 10.0	+0.1
BCK	Bucak	2.43	52	PN	Pn	06 56 10.8	+0.5
BCK	Bucak	2.43	52	Pn	Pn	06 56 13.0	+2.6
IZM	Izmir	2.52	343	PN	Pn	06 56 10.8	-0.8
IZM	Izmir	2.52	343	Pn	Pn	06 56 13.1	+1.5
IZM	Izmir	2.52	343	Pn	Pn	06 56 13.1	+1.5
MANT	Manisa	2.52	7	iP	Pn	06 56 12.5	+0.9
MANT				iS	Sn	06 56 40.0	-2.1
KDAG	Bornova	2.53	343	iP	Pn	06 56 12.7	+1.0
KDAG				iS	Sn	06 56 39.3	-2.8
KDAG	Bornova	2.53	343	iP	Pn	06 56 12.6	+1.0
KDAG				iS	Sn	06 56 39.3	-2.8
BLCB	Balcova	2.57	340	PN	Pn	06 56 12.0	-0.2
BLCB	Balcova	2.57	340	Pn	Pn	06 56 12.1	-0.1
TKTP	Tekketepe	2.67	39	iP	Pn	06 56 15.1	+1.4
TKTP				iS	Sg	06 57 01.3	+4.1
URLA	Izmir	2.69	332	iP	Pn	06 56 14.2	+0.3
URLA				iS	Sg	06 56 56.1	-1.7
IDI	Anoyia	2.77	257	Pn	Pn	06 56 15.4	+0.4
	16nm,0.3s,baz=64,slow=17,SNR=114						
IDI				Sn	Sn	06 56 48.1	+0.1
	104nm,0.3s,baz=173,slow=17,SNR=12						
AKS	Akhisar	2.91	354	PN	Pn	06 56 16.6	-0.3
AKS	Akhisar	2.91	354	Pn	Pn	06 56 18.7	+1.8
AKS	Akhisar	2.91	354	Pn	Pn	06 56 18.7	+1.8
CHOS	Chios island	2.94	325	ePn	Pn	06 56 17.1	-0.3
CHOS				eSn	Sn	06 56 50.5	-1.9
GDZ	Gediz	3.27	18	iP	Pn	06 56 22.4	+0.6
GDZ				iS	Sg	06 57 16.3	0.0
VAM	Vamos	3.29	261	ePN	Pn	06 56 23.5	+1.3
VAM				eSN	Sn	06 57 00.5	-0.5
KARN	Karanos	3.52	262	ePn	Pn	06 56 26.6	+1.4
KARN				eSn	Sn	06 57 06.3	-0.3
GVD	Gavdhos	3.53	252	ePn	Pn	06 56 28.4	+2.9
GVD	Gavdhos	3.53	252	ePn	Pn	06 56 28.4	+2.9
PPCY	Paphos	3.57	107	P	Pn	06 56 26.4	+0.4
PRK	Paraskevi	3.60	336	ePN	Pn	06 56 26.0	-0.3
BALB	Balikesir	3.66	356	PN	Pn	06 56 28.3	+1.1
BALB	Balikesir	3.66	356	Pn	Pn	06 56 29.3	+2.1
ALFC	Alevga	3.69	102	P	Pn	06 56 28.1	+0.5
	5.8nm,0.3s						
ALFC				S	Sn	06 57 11.6	+0.8
KONT	Konya--Tatoy	3.88	58	PN	Pn	06 56 30.2	0.0
KONT	Konya--Tatoy	3.88	58	Pn	Pn	06 56 33.1	+2.9
PTL	Penteli	4.03	302	ePb	Pn	06 56 35.5	+3.3
SZAC	Souni-Zanaja	4.03	106	P	Pn	06 56 32.9	+0.6
	9.1nm,0.3s						
SZAC				S	Sn	06 57 20.5	+1.3
CANB	Canakkale	4.13	348	ePN	Pn	06 56 34.7	+1.1
KYTH	Kithira	4.18	276	ePN	Pn	06 56 35.5	+1.2
MAMC	Mammari	4.18	100	P	Pn	06 56 34.7	+0.3
ULDT	Uludag	4.22	10	iP	Pn	06 56 35.8	+0.8
ULDT				iS	Sb	06 57 39.9	+4.0
BORA	Eskisehir	4.29	24	iP	Pn	06 56 38.4	+2.6
BORA				iS	Sb	06 57 42.7	+4.9
VLI	Veliai	4.30	281	ePN	Pn	06 56 37.5	+1.5
CSS	Prodhromos	4.32	102	ePn	Pn	06 56 35.8	-0.5
CSS				eSn	Sn	06 57 25.6	-0.7
CSS	Prodhromos	4.32	102	ePn	Pn	06 56 35.8	-0.5
CSS	Prodhromos	4.32	102	P	Pn	06 56 36.6	+0.3
	1.9nm,0.4s						
CSS				eSn	Sn	06 57 25.6	-0.8
CSS				S	Sn	06 57 28.0	+1.6
BNT	Bandirma	4.38	357	ePN	Pn	06 56 38.0	+1.0
IKL	Isikli	4.46	85	ePN	Pn	06 56 39.4	+1.2
IKL	Isikli	4.46	85	Pn	Pn	06 56 39.5	+1.3
YLV	Yalova	4.67	11	ePN	Pn	06 56 41.9	+0.7
YLV	Yalova	4.67	11	Pn	Pn	06 56 42.9	+1.7
RKY	Sarkoy-Tekirda	4.77	351	ePN	Pn	06 56 43.5	+1.1
MEST	Erdemli	4.85	81	iP	Pn	06 56 43.4	-0.3
MEST				iS	Sn	06 57 34.7	-4.8
MEST	Erdemli	4.85	81	iP	Pn	06 56 43.3	-0.3
MEST				iS	Sn	06 57 34.7	-4.8
PHNC	Paralimni	4.87	100	P	Pn	06 56 47.3	+3.5
HMAT	Matruh	4.96	191	P	Pn	06 56 46.0	+1.0
HMAT				S	Sn	06 57 39.4	-2.6
ENEZ	Enez	5.01	342	ePN	Pn	06 56 46.6	+0.8
SLUM		5.11	210	⇓P	Pn	06 56 48.3	+1.1
SLUM				S	Sn	06 57 44.0	-1.9
ITM	Ithomi	5.18	285	ePN	Pn	06 56 50.5	+2.5
ITM	Ithomi	5.18	285	ePb		06 56 53.0	
MERS	Mersin	5.19	78	ePN	Pn	06 56 49.5	+1.3
ALN	Alexandroupoli	5.19	342	ePn	Pn	06 56 48.8	+0.6
ALN	Alexandroupoli	5.19	342	P	Pn	06 56 49.8	+1.6
ANTO	Ankara	5.33	42	ePN	Pn	06 56 51.7	+1.6
ANTO	Ankara	5.33	42	eP	Pn	06 56 51.6	+1.5
ANTO				pmax	pmax		
	comp=Z,21nm,0.6s						
ANTO	Ankara	5.33	42	ePn	Pn	06 56 51.6	+1.5

comp=Z,21nm,0.6s
ANTO Ankara 5.33 42 *e*Pn **Pn 06 56 51.6 +1.5**
comp=Z,21nm,0.6s
ANTO Ankara 5.33 42 ⇑*i*P **Pn 06 56 52.0 +1.9**
KAMT Kaman 5.54 51 *e*PN **Pn 06 56 54.4 +1.4**
KAMT Kaman 5.54 51 Pn **Pn 06 56 55.6 +2.6**
AGG Agios Georgios 5.56 305 P **Pn 06 56 57.7 +4.4**
RDO Rodhopi 5.56 339 *e*PN **Pn 06 56 54.5 +1.2**
HBRG Burj al 'Arab 5.56 165 ⇓P **Pn 06 56 53.5 +0.1**
KARA Karaisali 5.67 75 *e*PN **Pn 06 56 56.0 +1.1**
EVR Evrytania 5.86 302 *e*PN **Pn 06 56 59.5 +2.1**
EVR Evrytania 5.86 302 *e*Pb 06 57 02.5
KDZ Kurdzhali 6.06 340 P **Pn 06 57 01.0 +0.8**
RZN Rozhen 6.31 336 P **Pn 06 57 05.0 +1.4**
KOZT Kozan 6.32 74 *e*PN **Pn 06 57 05.8 +2.1**
BHL Bhannes 6.47 106 Sn **Sn 06 58 13.9 -5.5**
HMYD Mayadein 6.55 160 P **Pn 06 57 06.8 0.0**
HWQ Hawqa 6.58 103 *e*Pn **Pn 06 57 07.1 -0.3**
HWQ Sn **Sn 06 58 19.4 -2.7**
MMB Musomiste 6.59 330 *i* P **Pn 06 57 08.4 +0.9**
HNAT Natroun 6.65 161 ⇓P **Pn 06 57 08.2 -0.1**
MMAI Mount Meron Ar 6.65 114 Pn **Pn 06 57 07.2 -1.1**
comp=Z,11nm,0.3s,baz=307,slow=11,SNR=24
MMAI Sn **Sn 06 58 20.5 -3.3**
comp=Z,15nm,0.3s,baz=303,slow=22,SNR=8.7
FYM Al Fayyum 6.71 158 ⇓P **Pn 06 57 09.8 +0.6**
RCY Rachaya 6.76 109 Sn **Sn 06 58 25.3 -1.2**
KSDI Kefar Szold 6.76 112 P **Pn 06 57 13.7 +3.9**
KOT Kottamia 6.77 152 ⇑P **Pn 06 57 09.2 -0.7**
AMAG Maghara 6.78 140 ⇑P **Pn 06 57 09.4 -0.7**
HHAG Hagoal 6.85 150 ⇑P **Pn 06 57 10.6 -0.5**
HSAF As Saff 6.95 155 ⇑P **Pn 06 57 11.8 -0.6**
SWA1 7.01 198 ⇑P **Pn 06 57 14.2 +0.9**
SWA1 S **Sn 06 58 29.2 -3.5**
GLL Jalalah 7.04 154 ⇓P **Pn 06 57 12.7 -0.9**
SWA2 7.10 200 ⇓P **Pn 06 57 15.9 +1.4**
SUZ 7.26 146 ⇑P **Pn 06 57 17.2 +0.5**
HBNS Bani Suwayf 7.46 159 ⇑P **Pn 06 57 19.2 -0.2**
ZAF 7.62 150 ⇑P **Pn 06 57 21.6 -0.1**
AWBH 7.66 175 P **Pn 06 57 22.6 +0.4**
ZNM 7.68 148 P **Pn 06 57 22.3 -0.1**
HNKL Nakhl 7.75 139 ⇑P **Pn 06 57 22.2 -1.2**
HNKL Nakhl 7.75 139 P **Pn 06 57 22.2 -1.2**
ASF Jabal al Asfar 8.16 115 Pn **Pn 06 57 28.0 -1.1**
comp=Z,0.9nm,0.3s,baz=166,slow=8.2,SNR=4.1
MALT Malatya 8.51 71 *e*P **Pn 06 57 31.4 -2.3**
GRB Gharib 8.62 152 ⇑P **Pn 06 57 35.1 -0.2**
HBST Basata 8.71 139 ⇓P **Pn 06 57 36.3 -0.4**
TR2 8.91 147 ⇓P **Pn 06 57 38.8 -0.5**
HKAT Jabal Katrina 8.91 145 ⇑P **Pn 06 57 39.2 -0.2**
HDHB Dhahab 9.05 141 ⇓P **Pn 06 57 41.4 +0.2**
TR1 9.33 147 ⇓P **Pn 06 57 44.9 -0.2**
SHRM 9.51 146 P **Pn 06 57 47.3 -0.2**
TIP Timpagrande 9.62 293 *e*Pn **Pn 06 57 50.5 +1.5**
TIP *e*Sn **Sn 06 59 28.6 -8.0**
TIP Timpagrande 9.62 293 *e*Pn **Pn 06 57 50.5 +1.5**
MLR Muntele Rosu 9.65 351 Pn **Pn 06 57 51.6 +2.1**
comp=Z,0.4nm,0.3s,baz=246,slow=3.6,SNR=13
MLR Muntele Rosu 9.65 351 ⇓*i*P **Pn 06 57 52.6 +3.1**
HHRG Al Ghardaqah 9.86 151 P **Pn 06 57 52.1 -0.3**
DIVS Divcibare 10.25 325 *i* Pn **Pn 06 58 01.6 +3.9**
HDK1 Dakhla 10.46 174 ⇑P **Pn 06 58 01.8 +1.3**
CUC Castrocucco 10.55 296 P **Pn 06 58 06.2 +4.4**
AKRG Al Kharijah 10.63 169 ⇑P **Pn 06 58 03.5 +0.6**
BZS Buzias 10.83 335 ⇓*i*P **Pn 06 58 07.5 +1.9**
BOJS Bojanci 13.65 318 *e*Pn **Pn 06 58 50.4 +6.3**
GNI Garni 13.69 67 LR LR 07 04 54.7
comp=Z,102nm,18.2s,baz=198,slow=42
GNI Garni 13.69 67 *i* P **Pn 06 58 43.0 -1.7**
CRVS Cervenica-Dubn 13.83 341 *e* **Pn 06 58 55.4 +8.8**
DOBS Dobrina 13.95 321 *e*Pn **Pn 06 58 54.2 +5.9**
VISS Visnje 14.06 318 *e*Pn **Pn 06 58 54.8 +5.1**
VYHS Vyhne 14.28 334 *e*P **Pn 06 58 59.2 +6.5**
STHS Stebnicka Huta 14.36 341 *e* pP 06 59 05.5 +0.3
PERS Pernice 14.46 321 *e*Pn **Pn 06 59 01.2 +5.9**
CONA Conrad Observa 15.03 326⇑*i*P **Pn 06 59 09.8 +6.9**
comp=Z,5.9nm,1.5s
OKC Ostrava-Krasne 15.66 335 AMS AMS 07 06 30.0
comp=Z,200nm,10.5s
KBA Koelnbreinsper 15.67 320⇑*i*P **Pn 06 59 15.6 +4.3**
comp=Z,11nm,0.6s
KBA Koelnbreinsper 15.67 320⇑*i*P **Pn 06 59 15.6 +4.3**
KBA pmax pmax
comp=Z,11nm,0.6s
MOA Molln 15.72 323⇑*i*P **Pn 06 59 15.4 +3.5**
comp=Z,6.9nm,1.0s
VRAC Vranov 15.79 331 Pn **Pn 06 59 17.6 +4.7**
comp=Z,0.4nm,0.3s,baz=153,slow=11,SNR=10.0
MORC Moravsky Berou 15.82 334 *e*P **Pn 06 59 17.0 +3.7**
MORC pmax pmax
comp=Z,3.0nm,0.6s
MORC Moravsky Berou 15.82 334 *e*P **Pn 06 59 17.0 +3.7**
comp=Z,3.2nm,0.6s
PGF Pioggiola 16.23 300⇑*i*P **Pn 06 59 20.9 +2.4**
comp=Z,8.0nm,0.6s
PGF Pioggiola 16.23 300⇑*i*P **Pn 06 59 20.9 +2.4**
PGF pmax pmax
comp=Z,4.0nm,0.6s
PGF Pioggiola 16.23 300⇑*i*P **Pn 06 59 20.9 +2.4**
comp=Z,4.0nm,0.6s
GEC2 GERESS Array S 16.68 325 *e*P **Pn 06 59 27.7 +3.4**
GERES GERESS Array B 16.68 325 Pn **Pn 06 59 26.1 +1.7**
comp=Z,0.4nm,0.3s,baz=144,slow=12,SNR=17
WTTA Wattenberg 16.70 318⇑*i*P **Pn 06 59 27.6 +3.1**
comp=Z,8.8nm,0.7s
WTTA Wattenberg 16.70 318⇑*i*P **Pn 06 59 27.6 +3.0**
WTTA pmax pmax
comp=Z,9.0nm,0.7s
DPC Dobruska-Polom 16.74 333 *e*P **Pn 06 59 27.0 +2.0**
DPC AMS AMS 07 07 00.0
comp=Z,100nm,9.9s
WATA Walderalm 16.78 318⇑*i*P **Pn 06 59 28.5 +3.0**
comp=Z,15nm,0.9s
WATA Walderalm 16.78 318⇑*i*P **Pn 06 59 28.5 +3.0**
WATA pmax pmax
comp=Z,15nm,0.9s
SQTA Sankt Quirin 16.91 317⇑*i*P **Pn 06 59 30.8 +3.6**
comp=Z,8.3nm,0.5s
SQTA Sankt Quirin 16.91 317⇑*i*P **Pn 06 59 30.8 +3.6**
SQTA pmax pmax
comp=Z,8.0nm,0.5s
KHC Kasperske Hory 16.95 325 *e*P **Pn 06 59 25.3 -2.3**
UPC Upice 16.98 333 *e*P **Pn 06 59 27.8 -0.3**
MOTA Moosalm 17.04 317⇑*i*P **Pn 06 59 31.8 +2.9**
comp=Z,9.8nm,0.8s
MOTA Moosalm 17.04 317⇑*i*P **Pn 06 59 31.8 +3.0**
MOTA pmax pmax
comp=Z,10.0nm,0.8s
WET Wettzell 17.28 324 *e*P **Pn 06 59 34.4 +2.6**
DAVOX Davos 17.43 314 P **Pn 06 59 36.7 +3.1**
comp=Z,0.4nm,0.3s,baz=138,slow=12,SNR=8.3
DAVOX LR LR 07 05 20.7
comp=Z,37nm,21.9s,baz=18,slow=34
DAVOX Davos 17.43 314 P **Pn 06 59 36.7 +3.1**
FUR Furstenfeldbru 17.44 319 *e*P **Pn 06 59 35.5 +1.7**
DAVA Damuels 17.70 315⇑*i*P **Pn 06 59 38.8 +1.8**
comp=Z,5.9nm,0.5s
SBF Sospel 17.73 303⇑*i*P **Pn 06 59 37.1 -0.3**
comp=Z,27nm,0.8s
SBF Sospel 17.73 303⇑*i*P **Pn 06 59 37.1 -0.3**
SBF pmax pmax
comp=Z,13nm,0.8s
SBF Sospel 17.73 303⇑*i*P **Pn 06 59 37.1 -0.3**
comp=Z,13nm,0.8s
BRG Berggiesshubel 18.08 330 *e*P **Pn 06 59 42.4 +0.7**
comp=Z,9.0nm,0.9s
BRG Berggiesshubel 18.08 330 *e*P **Pn 06 59 42.9 +1.2**
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 18.08 330 *e*P **Pn 06 59 42.9 +1.2**
comp=Z,5.1nm,0.9s
FRF La Foret Royal 18.18 301⇑*i*P **Pn 06 59 42.6 -0.3**
comp=Z,7.4nm,0.7s
FRF La Foret Royal 18.18 301⇑*i*P **Pn 06 59 42.6 -0.3**
FRF pmax pmax
comp=Z,4.0nm,0.7s
FRF La Foret Royal 18.18 301⇑*i*P **Pn 06 59 42.6 -0.3**
comp=Z,3.7nm,0.7s
LMR La Mourre 18.20 300⇑*i*P **Pn 06 59 42.7 -0.5**
comp=Z,16nm,1.1s
LMR La Mourre 18.20 300⇑*i*P **Pn 06 59 42.7 -0.5**
LMR pmax pmax
comp=Z,8.0nm,1.1s
LMR La Mourre 18.20 300⇑*i*P **Pn 06 59 42.7 -0.5**
comp=Z,7.9nm,1.1s
MANZ Manzenberg 18.23 325 *e*P **Pn 06 59 43.9 +0.4**
NKC Novy Kostel 18.25 326 *e*P **Pn 06 59 39.2 -4.6**
TANN Tannenbergstha 18.37 327 *e*P **Pn 06 59 44.9 -0.4**
GRA1 Grafenberg Arr 18.45 323 *e*P **Pn 06 59 48.3 +2.1**
comp=Z,12nm,0.8s
GRF Grafenberg Arr 18.45 323 *e*P **Pn 06 59 48.3 +2.1**
comp=Z,12nm,0.8s
GRF Grafenberg Arr 18.45 323 *e*P **Pn 06 59 48.3 +2.1**
GRF pmax pmax
comp=Z,12nm,0.8s
GRF Grafenberg Arr 18.45 323 *e*P **Pn 06 59 48.3 +2.1**
GRF pmax pmax
comp=Z,12nm,0.8s
MBDF Montbardon 18.47 305 *e*P **Pn 06 59 44.8 -1.7**
comp=Z,16nm,0.6s
MBDF Montbardon 18.47 305 *e*P **Pn 06 59 44.8 -1.7**
MBDF pmax pmax
comp=Z,8.0nm,0.6s
MBDF Montbardon 18.47 305 *e*P **Pn 06 59 44.8 -1.7**
comp=Z,8.2nm,0.6s
BNI Bardonecchia 18.65 306 *e*P **Pn 06 59 49.3 +0.6**
BNI pmax pmax
comp=Z,3.0nm,0.6s
BNI Bardonecchia 18.65 306 *e*P **Pn 06 59 49.3 +0.7**
comp=Z,3.2nm,0.6s
BNI Bardonecchia 18.65 306 *e*P **Pn 06 59 49.3 +0.6**
comp=Z,3.2nm,0.6s
LPG La Plagne 18.77 307⇑*i*P **Pn 06 59 50.5 +0.3**
comp=Z,20nm,0.7s
LPG La Plagne 18.77 307⇑*i*P **Pn 06 59 50.5 +0.3**
LPG pmax pmax
comp=Z,10.0nm,0.7s
LPG La Plagne 18.77 307⇑*i*P **Pn 06 59 50.5 +0.3**
comp=Z,10nm,0.7s
LPL La Plagne 18.79 307⇑*i*P **Pn 06 59 50.6 +0.2**
comp=Z,27nm,0.8s
LPL La Plagne 18.79 307⇑*i*P **Pn 06 59 50.6 +0.2**
LPL pmax pmax
comp=Z,13nm,0.8s
LPL La Plagne 18.79 307⇑*i*P **Pn 06 59 50.6 +0.2**
comp=Z,13nm,0.8s
CLL Collm 18.79 329 *e*P **Pn 06 59 50.1 -0.3**
comp=Z,14nm,0.9s
CLL Collm 18.79 329⇑*i**SP sP 06 59 50.4 -6.0
CLL *i* 06 59 55.0
CLL *i* 07 00 14.5
CLL Collm 18.79 329⇑*i*(sP) sP 06 59 50.4 -6.0
comp=Z,14nm,0.9s
CLL *i* x x 06 59 55.0
CLL *i* x x 07 00 14.5
CLL Collm 18.79 329⇑*i*P **Pn 06 59 50.4 0.0**
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 18.79 329 *i* P **Pn 06 59 55.0 +4.6**
comp=Z,14nm,0.9s
MOX Moxa 18.91 326 *e*P **Pn 06 59 51.7 -0.2**
comp=Z,9.0nm,1.3s
MOX Moxa 18.91 326 *e*P **Pn 06 59 52.4 +0.5**
MOX pmax pmax
comp=Z,15nm,1.1s
MOX Moxa 18.91 326 *e*P **Pn 06 59 52.4 +0.5**
comp=Z,15nm,1.1s
STU Stuttgart 18.91 318 *e*P **Pn 06 59 51.8 -0.1**
STU Stuttgart 18.91 318 *e*P **Pn 06 59 52.0 +0.1**
STU pmax pmax
comp=Z,11nm,0.7s
STU Stuttgart 18.91 318 *e*P **Pn 06 59 52.0 +0.1**
comp=Z,11nm,0.7s
STU Stuttgart 18.91 318 *e*P **Pn 06 59 52.0 +0.1**
comp=Z,11nm,0.7s
SMRF Simiane la Rot 19.04 302 *e*P **Pn 06 59 51.7 -1.7**
comp=Z,6.4nm,0.7s
SMRF Simiane la Rot 19.04 302 *e*P **Pn 06 59 51.7 -1.7**
comp=Z,3.2nm,0.7s
FELD Feldberg im Sc 19.09 315 *e*P **Pn 06 59 55.1 +1.1**
ORIF Oris-en-Rattie 19.13 305⇑*i*P **Pn 06 59 53.0 -1.5**
comp=Z,10nm,0.7s
ORIF Oris-en-Rattie 19.13 305⇑*i*P **Pn 06 59 53.0 -1.5**
ORIF pmax pmax
comp=Z,5.0nm,0.7s
ORIF Oris-en-Rattie 19.13 305⇑*i*P **Pn 06 59 53.0 -1.5**
comp=Z,5.1nm,0.7s
BFO Black Forest 19.14 316 *e*P **Pn 06 59 55.2 +0.6**
comp=Z,7.0nm,0.7s
BFO Black Forest 19.14 316 *e*P **Pn 06 59 55.2 +0.6**
BFO pmax pmax
comp=Z,7.0nm,0.7s
BBS Basel-Blauen 19.17 313 *e*P **Pn 06 59 56.2 +1.3**
LOMF Lomont 19.52 312 *e*P **Pn 06 59 59.2 0.0**
MOF Molkenrain 19.58 314 *e*P **Pn 06 59 59.4 -0.5**
MOF Molkenrain 19.58 314 *e*P **Pn 07 00 04.2 +4.3**
TOD Tromm 19.61 320 *e*P **Pn 06 59 59.6 -0.7**
CABF La Chapelle 19.64 310⇑*i*P **Pn 06 59 58.7 -2.0**
comp=Z,50nm,0.7s
CABF La Chapelle 19.64 310⇑*i*P **Pn 06 59 58.7 -2.0**
CABF pmax pmax
comp=Z,25nm,0.7s
CABF La Chapelle 19.64 310⇑*i*P **Pn 06 59 58.7 -2.0**
comp=Z,25nm,0.7s
HINF Hinteralfeld 19.73 313 *e*P **Pn 07 00 01.2 -0.4**
comp=Z,5.3nm,0.6s
HINF Hinteralfeld 19.73 313 *e*P **Pn 07 00 01.2 -0.4**
HINF pmax pmax
comp=Z,3.0nm,0.6s
HINF Hinteralfeld 19.73 313 *e*P **Pn 07 00 01.2 -0.4**
comp=Z,2.7nm,0.6s
ECH Echery 19.75 315 *e*P **Pn 07 00 01.6 -0.3**
CDF Champ du Feu 19.78 315⇑*i*P **Pn 07 00 01.4 -0.9**
comp=Z,42nm,0.9s
CDF Champ du Feu 19.78 315⇑*i*P **Pn 07 00 01.4 -0.9**
CDF pmax pmax
comp=Z,21nm,0.9s
CDF Champ du Feu 19.78 315⇑*i*P **Pn 07 00 01.4 -0.9**
comp=Z,21nm,0.9s
VIVF Saint-Julien-l 19.92 304⇑*i*P **Pn 07 00 02.0 -1.9**
comp=Z,25nm,0.9s
VIVF Saint-Julien-l 19.92 304⇑*i*P **Pn 07 00 02.0 -1.9**
VIVF pmax pmax
comp=Z,12nm,0.9s
VIVF Saint-Julien-l 19.92 304⇑*i*P **Pn 07 00 02.0 -1.9**
comp=Z,12nm,0.9s
HAU Haudompre 20.11 313 *e*P **P 07 00 05.9 +1.5**
comp=Z,26nm,0.8s
HAU Haudompre 20.11 313 *e*P **P 07 00 05.9 +1.5**
HAU pmax pmax
comp=Z,13nm,0.8s
HAU Haudompre 20.11 313 *e*P **P 07 00 05.9 +1.5**
comp=Z,13nm,0.8s
TNS Taunus Mts 20.17 321 *e*P **P 07 00 05.1 +0.2**
LASF Ste Croix 20.26 301 *e*P **P 07 00 04.6 -1.3**
comp=Z,7.9nm,0.8s
LASF Ste Croix 20.26 301 *e*P **P 07 00 04.6 -1.3**
comp=Z,4.0nm,0.8s
ETOS Mallorca 20.36 288 P **P 07 00 06.1 -0.9**
comp=Z,11nm,0.8s
THEF They Montfort 20.43 314 *e*P **P 07 00 07.4 -0.4**
PLDF La Plantade 20.98 306 *e*P **P 07 00 13.0 -0.8**
WLF Walferdange 21.07 317 *e*P **P 07 00 14.6 -0.1**
WLF pmax pmax
comp=Z,6.0nm,0.8s,mb4.0
WLF Walferdange 21.07 317 *e*P **P 07 00 14.6 0.0**
comp=Z,5.5nm,0.8s,mb3.9
WLF Walferdange 21.07 317 *e*P **P 07 00 14.6 -0.1**
comp=Z,5.5nm,0.8s,mb3.9
SMF Signal de Mont 21.08 308⇑*i*P **P 07 00 14.1 -0.7**
comp=Z,28nm,0.8s,mb4.3
SMF Signal de Mont 21.08 308⇑*i*P **P 07 00 14.1 -0.7**
SMF pmax pmax
comp=Z,14nm,0.8s,mb4.3
SMF Signal de Mont 21.08 308⇑*i*P **P 07 00 14.1 -0.7**
comp=Z,14nm,0.8s,mb4.3
MEZF Maizieres J'vi 21.11 314⇑*i*P **P 07 00 17.8 +2.6**
comp=Z,17nm,0.6s,mb4.3
MEZF Maizieres J'vi 21.11 314⇑*i*P **P 07 00 17.8 +2.6**
comp=Z,8.6nm,0.6s,mb4.3
MTLF Montolieu 21.25 298⇑*i*P **P 07 00 15.6 -1.0**
comp=Z,5.8nm,0.8s,mb3.7
MTLF Montolieu 21.25 298⇑*i*P **P 07 00 15.6 -1.0**
MTLF pmax pmax
comp=Z,3.0nm,0.8s,mb3.7
MTLF Montolieu 21.25 298⇑*i*P **P 07 00 15.6 -1.0**
comp=Z,2.9nm,0.8s,mb3.7
LOR Lormes 21.31 309⇑*i*P **P 07 00 16.3 -1.0**
comp=Z,8.6nm,0.7s,mb3.9
LOR Lormes 21.31 309⇑*i*P **P 07 00 16.3 -1.0**
LOR pmax pmax
comp=Z,4.0nm,0.7s,mb3.9
LOR Lormes 21.31 309⇑*i*P **P 07 00 16.3 -1.0**
comp=Z,4.3nm,0.7s,mb3.9
AVF Avril sur Loir 21.45 308 *e*P **P 07 00 17.6 -1.2**
comp=Z,16nm,0.7s,mb4.1
AVF Avril sur Loir 21.45 308 *e*P **P 07 00 17.6 -1.2**
AVF pmax pmax
comp=Z,8.0nm,0.7s,mb4.2
AVF Avril sur Loir 21.45 308 *e*P **P 07 00 17.6 -1.2**
comp=Z,8.0nm,0.7s,mb4.1
SSF Saint Saulge 21.45 309⇑*i*P **P 07 00 18.2 -0.6**
comp=Z,24nm,0.8s,mb4.3
SSF Saint Saulge 21.45 309⇑*i*P **P 07 00 18.2 -0.6**
SSF pmax pmax
comp=Z,12nm,0.8s,mb4.3
SSF Saint Saulge 21.45 309⇑*i*P **P 07 00 18.2 -0.6**
comp=Z,12nm,0.8s,mb4.3
EMIR Miracle 21.52 294 P **P 07 00 17.3 -2.2**
comp=Z,26nm,1.3s,mb4.5
EMIR Miracle 21.52 294 P **P 07 00 17.3 -2.2**
comp=Z,26nm,1.3s,mb4.5
BGF Bois d'Agland 21.69 307⇑*i*P **P 07 00 21.4 0.0**
comp=Z,9.9nm,0.5s,mb4.2
BGF Bois d'Agland 21.69 307⇑*i*P **P 07 00 21.4 0.0**
BGF pmax pmax
comp=Z,5.0nm,0.5s,mb4.2
BGF Bois d'Agland 21.69 307⇑*i*P **P 07 00 21.4 0.0**
comp=Z,4.9nm,0.5s,mb4.2
CAF Calviac 21.72 302 *e*P **P 07 00 21.3 -0.4**
comp=Z,16nm,1.0s,mb4.1
CAF Calviac 21.72 302 *e*P **P 07 00 21.3 -0.4**
CAF pmax pmax
comp=Z,8.0nm,1.0s,mb4.1
CAF Calviac 21.72 302 *e*P **P 07 00 21.3 -0.4**
comp=Z,7.8nm,1.0s,mb4.1
BSEG Bad Segeberg 21.85 331 *e*P **P 07 00 22.7 -0.4**
comp=Z,7.7nm,1.6s,mb4.3
TCF Toulx Ste Croi 22.02 306⇑*i*P **P 07 00 24.1 -0.8**
comp=Z,16nm,0.8s,mb4.2
TCF Toulx Ste Croi 22.02 306⇑*i*P **P 07 00 24.1 -0.8**
TCF pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
TCF Toulx Ste Croi 22.02 306⇑*i*P **P 07 00 24.1 -0.8**
comp=Z,7.9nm,0.8s,mb4.2
GIVF Givet 22.03 317⇑*i*P **P 07 00 28.4 +3.4**
comp=Z,21nm,0.9s,mb4.3
GIVF Givet 22.03 317⇑*i*P **P 07 00 28.4 +3.4**
GIVF pmax pmax
comp=Z,11nm,0.9s,mb4.3
GIVF Givet 22.03 317⇑*i*P **P 07 00 28.4 +3.4**
comp=Z,11nm,0.9s,mb4.3
RJF Les Rejaudoux 22.19 303 *e*P **P 07 00 26.2 -0.5**
comp=Z,7.7nm,0.7s,mb4.0
RJF Les Rejaudoux 22.19 303 *e*P **P 07 00 26.2 -0.5**
RJF pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
RJF Les Rejaudoux 22.19 303 *e*P **P 07 00 26.2 -0.5**
comp=Z,3.8nm,0.7s,mb4.0
ERTA Horta de San J 22.32 291 P **P 07 00 25.0 -3.1**
comp=Z,17nm,1.2s,mb4.3
BAIF Baives 22.35 316 *e*P **P 07 00 27.5 -0.9**
comp=Z,7.9nm,0.7s,mb4.0
BAIF Baives 22.35 316 *e*P **P 07 00 27.5 -0.9**
BAIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
BAIF Baives 22.35 316 *e*P **P 07 00 27.5 -0.9**
comp=Z,4.0nm,0.7s,mb4.0
EGRA Graus 22.45 295 P **P 07 00 25.8 -3.7**
EPF Esparros 22.54 297⇑*i*P **P 07 00 30.5 0.0**
comp=Z,3.4nm,0.8s,mb3.5
EPF Esparros 22.54 297⇑*i*P **P 07 00 30.5 0.0**
EPF pmax pmax
comp=Z,2.0nm,0.8s,mb3.6
EPF Esparros 22.54 297⇑*i*P **P 07 00 30.5 0.0**
comp=Z,1.7nm,0.8s,mb3.5
EBIE Bielsa 22.64 296 P **P 07 00 27.6 -3.8**
comp=Z,11nm,1.5s,mb4.0
ETSF Etsaut 23.18 296 *e*P **P 07 00 36.1 -1.1**
comp=Z,2.3nm,0.4s,mb3.7
ETSF Etsaut 23.18 296 *e*P **P 07 00 36.1 -1.1**
ETSF pmax pmax
comp=Z,1.0nm,0.4s,mb3.6
ETSF Etsaut 23.18 296 *e*P **P 07 00 36.1 -1.1**
comp=Z,1.1nm,0.4s,mb3.6
MFF Saint Martin d 23.66 305⇑*i*P **P 07 00 41.7 -0.4**
comp=Z,16nm,0.7s,mb4.2
MFF Saint Martin d 23.66 305⇑*i*P **P 07 00 41.7 -0.4**
MFF pmax pmax
comp=Z,8.0nm,0.7s,mb4.3
MFF Saint Martin d 23.66 305⇑*i*P **P 07 00 41.7 -0.4**
comp=Z,8.1nm,0.7s,mb4.2
SJPF Ste Jean 23.69 296⇑*i*P **P 07 00 42.7 +0.4**
comp=Z,14nm,1.0s,mb4.0
SJPF Ste Jean 23.69 296⇑*i*P **P 07 00 42.7 +0.4**
SJPF pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
SJPF Ste Jean 23.69 296⇑*i*P **P 07 00 42.7 +0.4**
comp=Z,7.1nm,1.0s,mb4.0
LDF La Druitiere 24.29 310 *e*P **P 07 00 45.5 -2.3**
comp=Z,18nm,0.5s,mb4.4
LDF La Druitiere 24.29 310 *e*P **P 07 00 45.5 -2.3**
LDF pmax pmax
comp=Z,9.0nm,0.5s,mb4.5
LDF La Druitiere 24.29 310 *e*P **P 07 00 45.5 -2.3**
comp=Z,8.8nm,0.5s,mb4.4
ENIJ Nijar 24.41 281 P **P 07 00 49.5 +0.6**
ENIJ pmax pmax
comp=Z,4.0nm,0.5s,mb4.1
ENIJ Nijar 24.41 281 P **P 07 00 49.5 +0.6**
comp=Z,4.1nm,0.5s,mb4.1
ENIJ Nijar 24.41 281 P **P 07 00 49.5 +0.6**
comp=Z,4.1nm,0.5s,mb4.1
EVIA Vianos 24.50 285 P **P 07 00 49.9 +0.2**
EVIA pmax pmax
comp=Z,6.0nm,0.6s,mb4.2
EVIA Vianos 24.50 285 P **P 07 00 49.9 +0.2**
comp=Z,5.5nm,0.6s,mb4.2
EVIA Vianos 24.50 285 P **P 07 00 49.9 +0.2**
comp=Z,5.5nm,0.6s,mb4.2
FLN La Foliniere 24.57 310⇑*i*P **P 07 00 48.8 -1.6**
comp=Z,31nm,0.6s,mb4.8
FLN La Foliniere 24.57 310⇑*i*P **P 07 00 48.8 -1.6**
FLN pmax pmax
comp=Z,16nm,0.6s,mb4.7
FLN La Foliniere 24.57 310⇑*i*P **P 07 00 48.8 -1.6**
comp=Z,16nm,0.6s,mb4.8
GRR Gorron 24.68 309⇑*i*P **P 07 00 49.8 -1.5**
comp=Z,44nm,0.7s,mb4.8
GRR Gorron 24.68 309⇑*i*P **P 07 00 49.8 -1.5**
GRR pmax pmax
comp=Z,22nm,0.7s,mb4.8
GRR Gorron 24.68 309⇑*i*P **P 07 00 49.8 -1.5**
comp=Z,22nm,0.7s,mb4.8
EBER Berja 24.96 281 P **P 07 00 54.7 +0.8**
comp=Z,7.4nm,0.8s,mb4.3
EBER Berja 24.96 281 P **P 07 00 54.7 +0.7**
comp=Z,7.4nm,0.8s,mb4.3
EQES Quesada 25.01 284 P **P 07 00 53.6 -0.7**
comp=Z,8.1nm,0.6s,mb4.4
EQES Quesada 25.01 284 P **P 07 00 53.6 -0.8**
comp=Z,8.1nm,0.6s,mb4.4
FINES FINESS Array B 25.52 358 P **P 07 00 56.6 -2.4**
comp=Z,1.6nm,0.8s,mb3.6,baz=148,slow=15,SNR=9.4
EBAN Banos Encina 25.54 285 P **P 07 00 58.9 -0.3**
EBAN pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
EBAN Banos Encina 25.54 285 P **P 07 00 58.9 -0.2**
comp=Z,5.2nm,0.7s,mb4.2
EBAN Banos Encina 25.54 285 P **P 07 00 58.9 -0.3**
comp=Z,5.2nm,0.7s,mb4.2
ESDC Sonseca Array 25.58 288 P **P 07 00 59.0 -0.6**
comp=Z,3.5nm,0.5s,mb4.1,baz=82,slow=9.7,SNR=39
ESDC Sonseca Array 25.58 288 P **P 07 00 59.5 0.0**
comp=Z,6.1nm,0.6s,mb4.3
ESDC Sonseca Array 25.58 288 P **P 07 00 59.5 -0.1**
comp=Z,6.1nm,0.6s,mb4.3
ESLA Sonseca Array 25.58 288 *e*P **P 07 00 59.2 -0.4**
comp=Z,0.9nm,0.6s,mb3.5
ESLA Sonseca Array 25.58 288 *e*P **P 07 00 59.2 -0.4**
comp=Z,0.9nm,0.6s,mb3.5
ERON Agron 25.68 282 P **P 07 01 00.8 +0.4**
ERON Agron 25.68 282 P **P 07 01 00.8 +0.4**
SGMF Saint Gilles 25.71 308⇑*i*P **P 07 00 59.1 -1.6**
comp=Z,14nm,0.7s,mb4.3
SGMF Saint Gilles 25.71 308⇑*i*P **P 07 00 59.1 -1.6**
SGMF pmax pmax

comp=Z,7.0nm,0.6s,mb4.4
SGMF Saint Gilles 25.71 308⇑iP P 07 00 59.1 -1.6
comp=Z,7.2nm,0.7s,mb4.3
GUD Guadarrama 25.71 290 P P 07 01 00.4 -0.4
GUD pmax pmax
comp=Z,2.0nm,0.4s,mb4.0
GUD Guadarrama 25.71 290 P P 07 01 00.4 -0.4
comp=Z,1.8nm,0.4s,mb4.0
AKTK Aktyubinsk 25.89 47 P P 07 01 01.5 -0.8
AKTK Aktyubinsk 25.89 47 P P 07 01 01.5 -0.9
AKTO Aktyubinsk 25.89 47 P P 07 01 01.5 -0.8
comp=Z,0.8nm,0.4s,mb3.6,baz=228,slow=9.5,SNR=5.1
HFS Hagfors 25.92 343 P P 07 01 00.5 -2.1
comp=Z,2.0nm,0.6s,mb3.8,baz=151,slow=10,SNR=8.5
ELOJ Sierra Loja 25.94 282 P P 07 01 03.6 +0.8
ELOJ pmax pmax
comp=Z,2.0nm,0.6s,mb3.8
ELOJ Sierra Loja 25.94 282 P P 07 01 03.6 +0.8
comp=Z,1.8nm,0.6s,mb3.8
ELOJ Sierra Loja 25.94 282 P P 07 01 03.6 +0.8
comp=Z,1.8nm,0.6s,mb3.8
QUIF Quistinic 26.01 307⇑iP P 07 01 01.9 -1.5
comp=Z,20nm,0.7s,mb4.4
QUIF Quistinic 26.01 307⇑iP P 07 01 01.9 -1.5
QUIF pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
QUIF Quistinic 26.01 307⇑iP P 07 01 01.9 -1.5
comp=Z,9.9nm,0.7s,mb4.4
EADA Adamuz 26.16 285 P P 07 01 03.6 -1.2
comp=Z,1.8nm,0.9s,mb3.6
EADA Adamuz 26.16 285 P P 07 01 03.6 -1.2
comp=Z,1.8nm,0.9s,mb3.6
ROSF Rostrenen 26.19 308⇑iP P 07 01 03.3 -1.8
comp=Z,16nm,0.7s,mb4.3
ROSF Rostrenen 26.19 308⇑iP P 07 01 03.3 -1.8
ROSF pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
ROSF Rostrenen 26.19 308⇑iP P 07 01 03.3 -1.8
comp=Z,8.1nm,0.7s,mb4.3
EMIJ Mijas 26.51 281 P P 07 01 08.0 0.0
comp=Z,9.3nm,0.9s,mb4.3
EMIJ Mijas 26.51 281 P P 07 01 08.0 0.0
comp=Z,9.3nm,0.9s,mb4.3
MDT Midelt 27.18 273 P P 07 01 16.8 +2.8
comp=Z,3.3nm,0.8s,mb3.9,baz=85,slow=11,SNR=12
NAO01 NORSAR Array S 27.23 341 eP P 07 01 12.0 -2.4
comp=Z,3.0nm,0.7s,mb3.9
NAO01 NORSAR Array S 27.23 341 eP P 07 01 12.0 -2.4
comp=Z,3.0nm,0.7s,mb3.9
NB2 NORSAR Subarra 27.31 342 P P 07 01 13.1 -2.1
comp=Z,0.6nm,0.6s,mb3.3,baz=144,slow=10
NOA NORSAR Array B 27.31 342 P P 07 01 13.2 -2.0
comp=Z,1.6nm,0.8s,mb3.6,baz=155,slow=10,SNR=4.9
EMIN Mina Concepcio 27.85 284 P P 07 01 19.8 -0.2
comp=Z,7.9nm,0.7s,mb4.5
EMIN Mina Concepcio 27.85 284 P P 07 01 19.8 -0.2
comp=Z,7.9nm,0.7s,mb4.5
EBAD Badajoz 28.01 286 P P 07 01 19.7 -1.7
comp=Z,8.7nm,1.1s,mb4.3
EBAD Badajoz 28.01 286 P P 07 01 19.7 -1.7
comp=Z,8.7nm,1.1s,mb4.3
EGRO El Granado 28.52 284 P P 07 01 27.6 +1.7
comp=Z,7.6nm,0.9s,mb4.4
EKA Eskdalemuir Ar 28.86 322 P P 07 01 26.9 -2.1
comp=Z,0.4nm,0.7s,mb3.3,baz=116,slow=13,SNR=3.7
WSAR Wadi Sarin 29.23 107 LR LR 07 15 40.0
comp=Z,73nm,20.7s,MS3.3,baz=165,slow=41
TORD Torodi Ar. Bea 32.93 233 P P 07 02 05.0 +0.1
comp=Z,3.1nm,0.7s,mb4.4,baz=35,slow=8.5,SNR=30
ZRNK Zerenda 33.17 46 eP P 07 02 06.4 -0.6
ZRNK pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
ZRNK Zerenda 33.17 46 eP P 07 02 06.3 -0.6
comp=Z,5.4nm,1.4s,mb4.3
ZRNK Zerenda 33.17 46 eP P 07 02 06.3 -0.7
comp=Z,5.4nm,1.4s,mb4.3
ARCES ARCESS Array B 33.65 358 P P 07 02 08.5 -2.6
comp=Z,1.7nm,0.8s,mb4.0,baz=185,slow=12,SNR=7.1
ARCES ARCESS Array B 33.65 358 P P 07 02 08.5 -2.6
BRVK Borovoye 33.94 46 P P 07 02 17.1 +3.4
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BRVK Borovoye 33.94 46 P P 07 02 17.1 +3.3
comp=Z,1.9nm,0.8s,mb4.1
KURK Kurchatov 38.75 52 i P P 07 02 51.5 -3.3
KURK Kurchatov 38.75 52 eP P 07 02 54.6 -0.1
comp=Z,3.8nm,0.8s,mb4.2
KURK Kurchatov 38.75 52 eP P 07 02 54.6 -0.2
comp=Z,3.8nm,0.8s,mb4.2
MKAR Makanchi Array 41.26 58 P P 07 03 14.9 -0.7
comp=Z,1.6nm,0.6s,mb3.8,baz=289,slow=7.6,SNR=12
DBIC Dimbokro 42.02 234 P P 07 03 21.9 +0.1
comp=Z,1.9nm,0.7s,mb3.8,baz=31,slow=11,SNR=2.9
DBIC Dimbokro 42.02 234 P P 07 03 21.9 +0.1
LIC Lamto 42.47 234 eP P 07 03 25.8 +0.3
comp=Z,29nm,1.1s,mb4.5
LIC Lamto 42.47 234 eP P 07 03 25.8 +0.3
comp=Z,15nm,1.1s,mb4.5
WMQ Urumqi 45.46 61 P P 07 03 50.7 +1.2
SUMG Summit 49.11 339 eP P 07 04 16.9 -1.1
comp=Z,3.6nm,0.7s,mb4.5
SUMG Summit 49.11 339 eP P 07 04 16.9 -1.1
comp=Z,3.5nm,0.7s,mb4.5
LZH Lanzhou 59.62 65 eP P 07 05 35.6 +1.2
LZH AP pP 07 05 45.7 +6.2
LZH XP sP 07 05 49.6 +8.2
LZH PP PP 07 07 48.6 +2.6
LZH AMB AMB
comp=Z,21nm,1.3s,mb5.0
LBTB Lobatse 60.71 183 P P 07 05 43.2 +1.3
LBTB pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
LBTB Lobatse 60.71 183 P P 07 05 43.2 +1.3
comp=Z,4.6nm,0.7s,mb4.7
LBTB Lobatse 60.71 183 P P 07 05 43.2 +1.3
comp=Z,4.6nm,0.7s,mb4.7
HHC Hu-ho-hao-te 63.13 58 eP P 07 05 58.1 -0.1
HHC AP pP 07 06 08.4 +5.1
HHC XP sP 07 06 11.5 +6.3
HHC PCP PcP 07 06 37.0 +1.3
HHC PP PP 07 08 18.1 +1.1
HHC S S 07 14 23.4 -5.2
HHC SCS ScS 07 15 43.8 -6.7
HHC AMB AMB
comp=Z,113nm,6.4s
HHC LR LR
comp=N,111nm,20.2s,MS4.2
HHC LR LR
comp=E,107nm,20.8s,MS4.2
HHC LR LR
comp=Z,114nm,20.8s,MS4.0
KMI Kunming 63.72 77 P P 07 06 01.4 -0.7
KMI AP pP 07 06 12.5 +5.3
KMI AMB AMB
comp=Z,9.0nm,0.9s,mb4.8
SCHQ Schefferville 64.15 320 P P 07 06 02.6 -2.3
comp=Z,3.2nm,0.8s,mb4.4,baz=186,slow=4.3,SNR=6.3
BOSA Boshof 64.31 183 P P 07 06 06.9 +1.0
comp=Z,2.3nm,0.8s,mb4.3,baz=341,slow=10,SNR=4.8
CN2 Changchun 70.78 50 eP P 07 06 46.6 -0.3
NJ2 Nanjing 72.49 63 eP P 07 06 54.6 -2.6
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
MDJ Mudanjiang 72.85 47 P P 07 06 58.0 -1.3
MDJ AMB AMB
comp=Z,5.0nm,1.5s,mb4.2
MDJ AMB AMB
comp=Z,38nm,7.1s
SSE Sheshan 74.69 63 P P 07 07 08.5 -1.5
SSE AMB AMB
comp=Z,69nm,5.5s
DAWY Dawson 79.81 354 eP P 07 07 37.4 -1.4
DAWY Dawson 79.81 354 eP P 07 07 37.4 -1.4
ULM Lac du Bonnet 80.98 327 P P 07 07 42.2 -2.8
comp=Z,2.1nm,0.8s,mb4.1,baz=48,slow=6.0,SNR=4.2
ULM Lac du Bonnet 80.98 327 P P 07 07 42.2 -2.9

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*INMG **02** 07:17:40.8±1.3, 3955N×796W, h5km, ML1.3, Error ellipse: s-maj=3.7km s-min=2.1km az=105.0*
MDD 02 07:17:40.3±0.4**, 3953N×795W, h0km, mbLg1.6**/9**, Error ellipse: s-maj=3.6km s-min=2.9km az=165.0, PRXIMO, Portugal**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PTOM Tomar 0.37 285 i Pg Pg 07 17 47.2 -0.2
PTOM eSg Sg 07 17 52.1 -0.1
PTOM
19nm,0.1s
PCBR Castelo Branco 0.48 49 ePg Pg 07 17 49.5 0.0
PCBR eSg Sg 07 17 55.8 +0.1
PCBR
18nm,0.2s
MTE Manteigas 0.93 19 eP Pg 07 17 57.2 -0.9
MTE eS Sg 07 18 09.7 -0.4
MTE
8.1nm,0.4s
EBAD Badajoz 1.06 136 Pg Pg 07 17 60.0 -0.6
1.4nm,0.6s,SNR=5.2
EBAD Lg 07 18 13.9
6.0nm,0.1s,SNR=24
PLOU Loures 1.14 236 eS Sg 07 18 17.2 +0.4
PLOU
8.5nm,0.4s
PLOU Loures 1.14 236 S Sg 07 18 17.2 +0.4
4.2nm,0.4s
PVIS Viseu 1.19 2 eP Pg 07 18 02.4 -0.7
PVIS eS Sg 07 18 18.3 -0.2
PVIS
8.8nm,0.1s
PBEJ Beja 1.50 178 ePn Pn 07 18 07.5 -0.9
PBEJ eSn Sn 07 18 27.0 -1.7
PBEJ
2.4nm,0.1s
PVRL Vila Real 1.76 6 eSg Sg 07 18 35.0 -1.8
PVRL
2.2nm,0.2s
PVRL Vila Real 1.76 6 Lg 07 18 35.0
1.1nm,0.2s
EMIN Mina Concepcio 2.02 150 Pn Pn 07 18 14.6 -1.0
0.4nm,0.3s,SNR=4.0
EMIN Sn Sn 07 18 38.3 -3.2
0.2nm,0.1s,SNR=7.9
EMIN Lg 07 18 43.1
0.8nm,0.1s,SNR=7.9
EGRO El Granado 2.02 170 Lg 07 18 43.6
2.0nm,0.2s,SNR=7.9
PCAB Cabril 2.18 358 eSg Sg 07 18 49.4 -1.1
PCAB
1.5nm,0.1s
PCAB Cabril 2.18 358 Lg 07 18 49.4
0.8nm,0.1s
ELOB Lobios 2.34 358 Pg Pg 07 18 22.7 -2.5
0.3nm,0.1s,SNR=7.9
ELOB Lg 07 18 53.4
0.6nm,0.2s,SNR=7.9
ECAL Calabor 2.58 20 Sn Sn 07 18 53.2 -2.3
0.5nm,0.2s,SNR=4.0
ECAL Lg 07 19 03.2
1.5nm,0.2s,SNR=7.9
EADA Adamuz 2.96 116 Sn Sn 07 19 00.5 -4.2
0.2nm,0.2s,SNR=7.9
EADA Lg 07 19 14.9
1.0nm,0.3s,SNR=7.9

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*ISCJB **02** 07:18:23.8±0.4, 1327S±008×21.19W±007, h10km, mb4.5/69, MS3.8/5, Error ellipse: s-maj=12.7km s-min=7.9km az=126.0*
*IDC **02** 07:18:23.9±0.6, 1324S×2124W, h0km, mb4.3/15, mb1 4.4/15, mb1mx4.3/22, mbtmp4.3/15, MS3.6/4, Ms1 3.5/4, ms1mx3.2/23, Error ellipse: s-maj=22.7km s-min=13.9km az=149.0*
*NEIC **02** 07:18:25.3±0.3, 1337S×21.19W, h10km, mb4.6/56, Error ellipse: s-maj=7.8km s-min=5.0km az=151.0*
*BJI **02** 07:18:25.3, 1340S×2120W, h10km, mB5.0, Ms4.9, Msz4.5*
*SZGRF **02** 07:18:34.7, 1226S×2053W, h33km, mb4.8, South Atlantic Ocean*
ISC 02 07:18:25.8±0.4**, 1332S**±008×**2119W**±006**, h10km, n147, σ0.61**/141**, mb4.5**/69**, MS3.8**/5**, 30C-7D, South Atlantic Ocean**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ASCN Ascension 8.58 52 ePn Pn 07 20 28.7 -1.4
ASCN eSn Sn 07 21 58.5 -8.4
RCBR Riachuelo 16.30 296 ePn Pn 07 22 14.1 -0.6
RCBR eSn Sn 07 24 57.1 -18
LIC Lamto 25.19 41 eP P 07 23 50.8 -0.6
48nm,1.0s,mb4.7
LIC Lamto 25.19 41 eP P 07 23 50.8 -0.6
24nm,1.0s,mb4.7
DBIC Dimbokro 25.64 40 P P 07 23 54.5 -1.0
17nm,0.8s,mb4.6,baz=196,slow=10,SNR=14
DBIC LR LR 07 31 13.2
comp=Z,99nm,20.2s,MS3.3,baz=119,slow=30
DBIC Dimbokro 25.64 40 eP P 07 23 55.1 -0.4
17nm,0.8s,mb4.6
BDFB Brasilia 26.07 262 P P 07 23 58.1 -1.3
8.0nm,0.8s,mb4.3,baz=82,slow=6.5,SNR=8.3
BDFB LR LR 07 33 14.5
comp=Z,103nm,19.7s,MS3.4,baz=92,slow=34
TORD Torodi Ar. Bea 34.72 42 P P 07 25 15.4 -0.5
7.8nm,0.8s,mb4.7,baz=222,slow=7.8,SNR=48
TORD LR LR 07 36 05.9
comp=Z,76nm,18.3s,MS3.5,baz=180,slow=31
TSUM Tsumeb 37.62 104 P P 07 25 41.0 +0.3
4.7nm,0.8s,mb4.2,baz=248,slow=10.0,SNR=10.0
TSUM Tsumeb 37.62 104 eP P 07 25 40.3 -0.4
8.9nm,1.1s,mb4.4
TSUM epP pP 07 25 47.3 +3.5
SIV San Ignacio 38.64 261 P P 07 25 49.8 +0.6
2.7nm,0.7s,mb4.1,baz=110,slow=8.6,SNR=16
LPAZ La Paz 45.41 260 P P 07 26 44.8 +0.3
1.6nm,0.5s,mb4.1,baz=110,slow=6.7,SNR=10
LPAZ La Paz 45.41 260 eP P 07 26 45.0 +0.5
1.8nm,0.6s,mb4.1
BOSA Boshof 45.67 117 P P 07 26 47.5 +0.8
4.9nm,0.7s,mb4.5,baz=265,slow=6.3,SNR=11
BOSA LR LR 07 42 05.2
comp=Z,110nm,19.4s,MS3.8,baz=256,slow=31
CFAA Coronel Fontan 46.74 239 P P 07 26 54.3 -0.8
0.1nm,0.4s,baz=70,slow=9.3,SNR=7.7
LSZ Lusaka 47.81 99 eP P 07 27 02.9 -0.5
12nm,1.0s,mb4.9
ERON Agron 52.67 18 P P 07 27 41.2 +1.0
1.2nm,0.1s,mb4.8
ELOJ Sierra Loja 52.69 17 P P 07 27 41.2 +0.8
0.4nm,0.1s,mb4.3
EBER Berja 52.84 18 P P 07 27 42.2 +0.8
1.6nm,0.5s,mb4.2
ECOG Cogollos-Vega 52.98 18 P P 07 27 42.0 -0.6
1.8nm,0.3s,mb4.5
ENIJ Nijar 53.12 19 P P 07 27 44.2 +0.7
2.8nm,0.3s,mb4.7
EADA Adamuz 53.53 16 P P 07 27 47.1 +0.5
1.7nm,0.5s,mb4.2
SDV Santo Domingo 53.82 292 eP P 07 27 48.2 -0.5
14nm,0.6s,mb5.1
SDV ePP PP 07 29 51.2 +1.5
ESDC Sonseca Array 55.10 16 P P 07 27 57.6 -0.5
1.0nm,0.6s,mb4.0,baz=191,slow=7.8,SNR=12
ESDC Sonseca Array 55.10 16 P P 07 27 59.1 +1.1
2.3nm,0.6s,mb4.4
GUD Guadarrama 55.96 16 P P 07 28 05.5 +1.3
2.7nm,0.6s,mb4.5
EGRA Graus 58.67 19 P P 07 28 23.7 +0.4
3.3nm,0.4s,mb4.7
ETSF Etsaut 59.05 18⇑iP P 07 28 26.7 +0.7
5.8nm,0.8s,mb4.4
ETSF Etsaut 59.05 18⇑iP P 07 28 26.7 +0.7
2.9nm,0.8s,mb4.4
SJPF Ste Jean 59.06 17 eP P 07 28 26.6 +0.6
14nm,0.9s,mb4.7
SJPF Ste Jean 59.06 17 eP P 07 28 26.6 +0.6
6.8nm,0.9s,mb4.7
EBIE Bielsa 59.07 18 P P 07 28 26.1 0.0
4.8nm,0.7s,mb4.6
EPF Esparros 59.44 18 eP P 07 28 29.2 +0.5
MTLF Montolieu 60.31 19⇑iP P 07 28 34.1 -0.6
6.5nm,0.6s,mb4.5
MTLF Montolieu 60.31 19⇑iP P 07 28 34.1 -0.6
3.3nm,0.6s,mb4.5
LFF La Frestale 61.30 18⇑iP P 07 28 41.6 +0.2
15nm,0.6s,mb5.0
LFF La Frestale 61.30 18⇑iP P 07 28 41.6 +0.2
7.4nm,0.6s,mb5.0
LASF Ste Croix 61.51 20 eP P 07 28 42.6 -0.2
7.5nm,0.8s,mb4.5
CAF Calviac 61.69 19⇑iP P 07 28 44.0 0.0
5.8nm,0.6s,mb4.6
CAF Calviac 61.69 19⇑iP P 07 28 44.0 0.0
2.9nm,0.6s,mb4.6
LMR La Mourre 61.81 23⇑iP P 07 28 44.7 -0.1
6.4nm,0.6s,mb4.6
LMR La Mourre 61.81 23⇑iP P 07 28 44.7 -0.1
3.2nm,0.6s,mb4.6
RJF Les Rejaudoux 61.86 18 eP P 07 28 45.2 0.0
9.1nm,0.9s,mb4.6
RJF Les Rejaudoux 61.86 18 eP P 07 28 45.2 0.0
4.6nm,0.9s,mb4.6
SMRF Simiane la Rot 62.02 22 eP P 07 28 46.9 +0.7
6.4nm,0.9s,mb4.5
SMRF Simiane la Rot 62.02 22 eP P 07 28 46.9 +0.7
6.4nm,0.9s,mb4.8
FRF La Foret Royal 62.05 23 eP P 07 28 46.3 -0.2
2.9nm,0.6s,mb4.3
FRF La Foret Royal 62.05 23 eP P 07 28 46.3 -0.2
1.5nm,0.6s,mb4.3
PGF Pioggiola 62.12 25 eP P 07 28 47.2 +0.3
3.6nm,0.6s,mb4.4
PGF Pioggiola 62.12 25 eP P 07 28 47.2 +0.3
1.8nm,0.6s,mb4.4
VIVF Saint-Julien-l 62.47 20 eP P 07 28 49.5 +0.2
6.8nm,0.7s,mb4.6
VIVF Saint-Julien-l 62.47 20 eP P 07 28 49.5 +0.2
3.4nm,0.7s,mb4.6
MFF Saint Martin d 62.57 16 eP P 07 28 49.8 -0.1
SBF Sospel 62.61 23 eP P 07 28 50.3 +0.1
7.0nm,0.6s,mb4.6
SBF Sospel 62.61 23 eP P 07 28 50.3 +0.1
3.5nm,0.6s,mb4.7
ORIF Oris-en-Rattie 62.95 21⇑iP P 07 28 53.2 +0.8
7.0nm,0.6s,mb4.6
ORIF Oris-en-Rattie 62.95 21⇑iP P 07 28 53.2 +0.8
3.5nm,0.6s,mb4.7
TCF Toulx Ste Croi 62.96 18 eP P 07 28 53.0 +0.5
4.7nm,0.9s,mb4.3
TCF Toulx Ste Croi 62.96 18 eP P 07 28 53.0 +0.5
2.3nm,0.9s,mb4.3
MBDF Montbardon 63.10 22⇑iP P 07 28 54.3 +0.8
17nm,1.1s,mb4.8
MBDF Montbardon 63.10 22⇑iP P 07 28 54.3 +0.8
8.3nm,1.0s,mb4.8
BGF Bois d'Agland 63.39 18 eP P 07 28 55.6 +0.2
ROSF Rostrenen 63.41 13 eP P 07 28 55.2 -0.3
118nm,1.9s,mb5.4
ROSF Rostrenen 63.41 13 eP P 07 28 55.2 -0.3
59nm,1.9s,mb5.4
SGMF Saint Gilles 63.50 14 eP P 07 28 55.8 -0.3
AVF Avril sur Loir 63.76 19⇑iP P 07 28 57.8 0.0
7.0nm,0.9s,mb4.4
AVF Avril sur Loir 63.76 19⇑iP P 07 28 57.8 0.0
3.5nm,0.9s,mb4.4
LPG La Plagne 63.76 22⇑iP P 07 28 58.6 +0.8
6.4nm,0.6s,mb4.5
LPG La Plagne 63.76 22⇑iP P 07 28 58.6 +0.8
3.2nm,0.6s,mb4.5
LPL La Plagne 63.77 22⇑iP P 07 28 58.6 +0.7
4.5nm,0.5s,mb4.5
LPL La Plagne 63.77 22⇑iP P 07 28 58.6 +0.7
2.3nm,0.5s,mb4.5
SMF Signal de Mont 63.78 19⇑iP P 07 28 57.9 -0.1
GRR Gorron 64.03 15 eP P 07 28 59.3 -0.3
SSF Saint Saulge 64.05 19 eP P 07 28 59.8 +0.1
15nm,1.2s,mb4.6
SSF Saint Saulge 64.05 19 eP P 07 28 59.8 +0.1
7.6nm,1.2s,mb4.6
LOR Lormes 64.34 19 eP P 07 29 01.2 -0.4
3.4nm,0.8s,mb4.2
LOR Lormes 64.34 19 eP P 07 29 01.2 -0.4
1.7nm,0.8s,mb4.1
FLN La Foliniere 64.47 15 eP P 07 29 01.9 -0.6
9.0nm,0.9s,mb4.5
FLN La Foliniere 64.47 15 eP P 07 29 01.9 -0.6
4.5nm,0.9s,mb4.5
CABF La Chapelle 64.49 20⇑iP P 07 29 02.6 0.0
15nm,0.6s,mb4.9
CABF La Chapelle 64.49 20⇑iP P 07 29 02.6 0.0
7.3nm,0.6s,mb4.9
HAU Haudompre 65.79 20 eP P 07 29 11.8 +0.8
10nm,0.7s,mb4.6
HAU Haudompre 65.79 20 eP P 07 29 11.8 +0.8
5.1nm,0.7s,mb4.7
MEZF Maizieres J'vi 65.81 19 eP P 07 29 11.3 +0.1
DAVOX Davos 66.00 23 P P 07 29 11.9 -0.5
1.7nm,0.4s,mb4.5,baz=214,slow=10.0,SNR=6.1
CDF Champ du Feu 66.45 20⇑iP P 07 29 14.7 -0.6
4.6nm,0.6s,mb4.4
CDF Champ du Feu 66.45 20⇑iP P 07 29 14.7 -0.6
2.3nm,0.6s,mb4.4
BFO Black Forest 66.74 21 eP P 07 29 16.6 -0.6
comp=Z,4.0nm,0.6s,mb4.6
BAIF Baives 66.93 17 eP P 07 29 17.8 -0.6
comp=Z,5.9nm,0.8s,mb4.4
BAIF Baives 66.93 17 eP P 07 29 17.8 -0.6
comp=Z,3.0nm,0.8s,mb4.4
GIVF Givet 67.15 18 eP P 07 29 19.3 -0.5
SYO Syowa Base 67.38 160⇑epP pP 07 29 21.8 -2.6
FUR Furstenfeldbru 67.67 23 eP P 07 29 22.8 -0.3
DIVS Divcibare 68.34 31 i P P 07 29 27.7 +0.4
GRA1 Grafenberg Arr 68.92 22 eP P 07 29 30.7 -0.2
comp=Z,9.0nm,1.1s,mb4.6
GRF Grafenberg Arr 68.92 22 eP P 07 29 30.7 -0.2
comp=Z,9.0nm,1.1s,mb4.6
WET Wettzell 69.09 23 eP P 07 29 31.4 -0.5
GEC2 GERESS Array S 69.17 24 eP P 07 29 31.9 -0.5
comp=Z,8.0nm,1.3s,mb4.5
GERES GERESS Array B 69.17 24 P P 07 29 31.4 -1.0
comp=Z,2.0nm,0.8s,mb4.1,baz=197,slow=4.2,SNR=7.2
PKSM Moragy 69.24 28⇓iP P 07 29 33.1 +0.2
PKSM Moragy 69.24 28 ⇓P P 07 29 33.1 +0.3
KHC Kasperske Hory 69.35 24 eP P 07 29 32.7 -0.8
NKC Novy Kostel 69.81 22 eP P 07 29 36.3 -0.1
MOX Moxa 69.85 22 eP P 07 29 36.4 -0.2
comp=Z,5.0nm,1.3s,mb4.3
TANN Tannenbergstha 69.97 22 eP P 07 29 37.0 -0.4
BZS Buzias 70.23 30⇓iP P 07 29 39.5 +0.5
BZS Buzias 70.23 30 ⇓P P 07 29 39.5 +0.5
CLZ Clausthal 70.42 20 eP P 07 29 40.2 +0.1
comp=Z,23nm,2.4s,mb4.7
PVCC Panska Ves 70.85 23 eP P 07 29 42.8 0.0
BRG Berggiesshubel 70.89 23 e(P) P 07 29 47.0 +4.0
comp=Z,1.8nm,1.2s,mb3.9
VYHS Vyhne 71.03 27 eP P 07 29 43.8 -0.1
comp=Z,4.1nm,0.8s,mb4.4
PSZ Piszkesteto 71.08 28 eP P 07 29 44.4 +0.3
comp=Z,15nm,0.9s,mb4.9
UPC Upice 71.40 24 eP P 07 29 45.7 -0.4
DPC Dobruska-Polom 71.40 24 eP P 07 29 45.6 -0.5
MORC Moravsky Berou 71.45 25⇓iP P 07 29 46.6 +0.2
MORC Moravsky Berou 71.45 25 ⇓P P 07 29 46.6 +0.2
DRGR 71.60 30⇑iP P 07 29 47.4 +0.1
DRGR 71.60 30 ⇑P P 07 29 47.4 +0.1
OKC Ostrava-Krasne 71.75 26 eP P 07 29 48.3 +0.1
KECS Kecovo 71.76 28 eP P 07 29 48.4 +0.1
comp=Z,4.7nm,0.8s,mb4.5
KECS e pP 07 29 53.2 +1.6
BSEG Bad Segeberg 72.17 19 eP P 07 29 50.8 +0.1
comp=Z,8.0nm,0.9s,mb4.7
MLR Muntele Rosu 72.35 33⇑iP P 07 29 52.3 +0.5
MLR Muntele Rosu 72.35 33 ⇑P P 07 29 52.3 +0.5
CRVS Cervenica-Dubn 72.51 28 eP P 07 29 52.4 -0.4
OJC Ojcow 72.74 26 ePX P 07 29 54.2 +0.1
STHS Stebnicka Huta 72.79 27 eP P 07 29 54.6 +0.2
comp=Z,2.1nm,1.0s,mb4.0
KOLS Kolonicke sedl 72.91 28 e sP 07 30 04.3 +4.7
PLOR Plostina 72.96 33⇓iP P 07 29 55.0 -0.4
MALT Malatya 75.76 44 eP P 07 30 11.6 -0.1
comp=Z,4.0nm,0.3s,mb4.8
AKASG Malin Array Be 77.42 30 P P 07 30 20.3 -0.8
comp=Z,2.4nm,0.5s,mb4.4,baz=230,slow=6.7,SNR=19
LRAL Lakeview Retre 77.82 308 eP P 07 30 25.9 +2.5
comp=Z,3.6nm,0.9s,mb4.3
NB2 NORSAR Subarra 78.46 15 P P 07 30 27.1 +0.2
comp=Z,1.9nm,0.6s,mb4.2,baz=213,slow=5.9
NOA NORSAR Array B 78.46 15 P P 07 30 26.5 -0.4
comp=Z,1.5nm,0.7s,mb4.0,baz=210,slow=5.8,SNR=5.9
NOA NORSAR Array B 78.46 15 P P 07 30 26.5 -0.4
WVT Waverly 79.74 311 eP P 07 30 33.1 -0.8
comp=Z,3.2nm,1.1s,mb4.2
FINES FINESS Array B 83.30 21 P P 07 30 52.9 +0.1
comp=Z,1.9nm,0.8s,mb4.2,baz=204,slow=4.2,SNR=8.6
KAF Kangasniemi 83.84 20 ep P 07 30 55.0 -0.5
baz=227,slow=4.8
JOF Joensuu 86.11 21 ep P 07 31 04.3 -2.7
comp=Z,2.0nm,0.6s,mb4.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCT	**Junction City**	**87.11**	**302**	*e*P	**P**	**07 31 11.8**	**-0.1**
	comp=Z,2.0nm,0.7s,mb4.5						
ARCES	**ARCESS Array B**	**88.82**	**15**	P	**P**	**07 31 20.3**	**+0.3**
	comp=Z,1.5nm,0.6s,mb4.5,baz=224,slow=3.3,SNR=6.6						
VNDA	**Vanda**	**89.32**	**181**	P	**P**	**07 31 23.3**	**+1.0**
	comp=Z,0.7nm,0.9s,mb4.0,baz=240,slow=4.1,SNR=5.1						
WMQ	**Urumqi**	**112.70**	**48**	PKP	PKiKP	07 37 02.0	-0.6
KMI	**Kunming**	**126.10**	**69**	PKP	PKPdf	07 37 29.9	+1.6
CD2	**Chengdu**	**126.60**	**61**	*e*PKP	PKPdf	07 37 26.6	-2.7
HHC	**Hu-ho-hao-te**	**130.57**	**47**	*e*PKP	PKPdf	07 37 38.1	+1.3
HHC				PP	PP	07 39 57.9	+6.5
HHC				PKS		07 41 12.8	
HHC				SKS	SKSdf	07 44 48.1	-0.3
HHC				SKKS	SKKSac	07 46 46.6	-1.7
HHC				SS	SS	07 57 20.5	+0.7
HHC				LR	LR		
	comp=N,185nm,25.0s,MS4.8						
HHC				LR	LR		
	comp=E,161nm,21.4s,MS4.8						
CTA	**Charters Tower**	**144.58**	**159**	*e*P	PKPdf	07 38 01.9	-0.6
	comp=E,5.3nm,0.6s						
CTA	**Charters Tower**	**144.58**	**159**	PKP	PKPdf	07 38 02.0	-0.6
	comp=E,6.4nm,0.6s,baz=198,slow=4.3,SNR=15						

ISCJB ***02*** *07:28:50.5±0.5,3734S±004×17721E±006,h163km, mb4.5/7,Error ellipse: s-maj=6.8km s-min=4.7km az=128.6*

IDC ***02*** *07:28:50.1±1.1,3739S×17734E,h174km±7km,mb4.3/4, mb1 4.3/6,mb1mx4.0/13,mbtmp4.6/6,MS3.7/3,Ms1 3.7/3, ms1mx3.1/21,Error ellipse: s-maj=29.7km s-min=18.7km az=37.0*

HRVD ***02*** *07:28:50.8±0.6,37.10S×177.13E,h163km±6km,MW4.9/49, Centroid moment Tensor Solution. LP body waves: s6,c6;Mantle waves: s49,c57; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.43±.19; $M_{\theta\theta}$-2.57±.18; $M_{\phi\phi}$1.14±.18; $M_{r\theta}$0.93±.16; $M_{\theta\phi}$0.12±.18; $M_{\phi r}$2.06±.15; Best double couple: $M_0$3.12800×10^{16} NP1:ϕ_s304.00000°, δ45.00000°,λ152.00000°. NP2:ϕ_s55.00000°,δ70.00000°, λ49.00000°. Principal axes: T 3.4470, Plg47.0000°, Azm281.0000°; N -0.6390, Plg39.0000°, Azm71.0000°; P -2.8090, Plg15.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***02*** *07:28:50.8,3720S×17736E,h164km,mb4.5/5,After WEL.*

NEIC Felt throughout the northeastern part of the North Island.

WEL ***02*** *07:28:50.7±0.2,3720S×17735E,h163km±1km,ML5.6/24, Error ellipse: s-maj=1.9km s-min=1.6km az=0.0,5.*

WEL Felt between Auckland, Wellington and Gisborne, maximum reported intensity MM.

ISC 02 07:28:51.2±0.4,3735S±004×17724E±006,h163km,n167, σ1§45/168,mb4.5/7,17C-12D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.18**	**194**	PN	**Pn**	**07 29 12.2**	**-0.7**
WIZ	**White Island**	**0.18**	**194**	P	**Pn**	**07 29 12.3**	**-0.7**
MARZ	**Manawahe**	**0.78**	**215**	⇑PN	**Pn**	**07 29 16.4**	**+0.9**
MARZ				SN	**Sn**	**07 29 35.9**	**+1.7**
MARZ	**Manawahe**	**0.78**	**215**	⇑P	**Pn**	**07 29 16.4**	**+0.8**
EDRZ	**Edgecumbe**	**0.85**	**208**	PN	**Pn**	**07 29 17.2**	**+1.2**
EDRZ				SN	**Sn**	**07 29 36.5**	**+1.4**
EDRZ	**Edgecumbe**	**0.85**	**208**	P	**Pn**	**07 29 17.2**	**+1.1**
TGRZ	**Tauranga**	**0.87**	**244**	PN	**Pn**	**07 29 16.9**	**+0.7**
TGRZ				*e*SN	**Sn**	**07 29 38.2**	**+2.8**
TGRZ	**Tauranga**	**0.87**	**244**	P	**Pn**	**07 29 16.9**	**+0.7**
MXZ	**Matakaoa Point**	**0.87**	**104**	⇑PN	**Pn**	**07 29 15.4**	**-0.8**
MXZ				SN	**Sn**	**07 29 35.1**	**-0.3**
MXZ	**Matakaoa Point**	**0.87**	**104**	⇑P	**Pn**	**07 29 15.4**	**-0.8**
MXZ				S	**Sn**	**07 29 35.1**	**-0.3**
URZ	**Urewera**	**0.91**	**187**	P	**Pn**	**07 29 17.0**	**+0.5**
	454nm,0.3s,baz=286,slow=2.8,SNR=1283						
URZ				S	**Sn**	**07 29 36.9**	**+1.0**
	2μm,0.3s,baz=182,slow=22,SNR=102						
URZ	**Urewera**	**0.91**	**187**	⇑PN	**Pn**	**07 29 17.0**	**+0.5**
URZ				SN	**Sn**	**07 29 37.5**	**+1.5**
URZ	**Urewera**	**0.91**	**187**	⇑P	**Pn**	**07 29 17.0**	**+0.5**
LIRZ	**Lichensteins R**	**0.94**	**226**	PN	**Pn**	**07 29 17.9**	**+1.2**
LIRZ	**Lichensteins R**	**0.94**	**226**	P	**Pn**	**07 29 17.9**	**+1.2**
MKRZ	**Makatiti**	**1.00**	**218**	PN	**Pn**	**07 29 19.7**	**+2.6**
MKRZ	**Makatiti**	**1.00**	**218**	P	**Pn**	**07 29 19.7**	**+2.5**
MWZ	**Matawai**	**1.01**	**167**	⇑PN	**Pn**	**07 29 17.9**	**+0.7**
MWZ				SN	**Sn**	**07 29 38.7**	**+1.4**
TAZ	**Tarawera**	**1.05**	**213**	PN	**Pn**	**07 29 19.0**	**+1.4**
TAZ	**Tarawera**	**1.05**	**213**	P	**Pn**	**07 29 19.0**	**+1.4**
PUZ	**Puketiti**	**1.08**	**132**	⇑PN	**Pn**	**07 29 18.0**	**+0.1**
PUZ				SN	**Sn**	**07 29 38.6**	**+0.3**
PUZ	**Puketiti**	**1.08**	**132**	⇑P	**Pn**	**07 29 18.0**	**+0.2**
PUZ				S	**Sn**	**07 29 38.6**	**+0.3**
PATZ	**Paeroa**	**1.29**	**217**	PN	**Pn**	**07 29 21.2**	**+1.5**
PATZ	**Paeroa**	**1.29**	**217**	P	**Pn**	**07 29 21.2**	**+1.5**
KUZ	**Kuaotunu**	**1.36**	**296**	⇓*e*PN	**Pn**	**07 29 19.9**	**-0.4**
KUZ	**Kuaotunu**	**1.36**	**296**	⇓*e*P	**Pn**	**07 29 19.9**	**-0.5**
TOZ	**Tahuroa Road**	**1.43**	**254**	⇑PN	**Pn**	**07 29 22.5**	**+1.5**
TOZ	**Tahuroa Road**	**1.43**	**254**	⇑P	**Pn**	**07 29 22.5**	**+1.4**
WHTZ	**Whakaora**	**1.66**	**217**	PN	**Pn**	**07 29 25.4**	**+2.0**
WHTZ	**Whakaora**	**1.66**	**217**	P	**Pn**	**07 29 25.4**	**+2.0**
KNZ	**Kokohu**	**1.70**	**169**	⇑PN	**Pn**	**07 29 24.6**	**+0.8**
KNZ				SN	**Sn**	**07 29 50.2**	**+1.3**
KNZ	**Kokohu**	**1.70**	**169**	⇑P	**Pn**	**07 29 24.6**	**+0.8**
HATZ	**Hinemaiaia**	**1.78**	**210**	PN	**Pn**	**07 29 25.8**	**+1.1**
HATZ				SN	**Sn**	**07 29 53.2**	**+2.7**
HATZ	**Hinemaiaia**	**1.78**	**210**	P	**Pn**	**07 29 25.8**	**+1.1**
WATZ	**Wairara**	**1.80**	**221**	PN	**Pn**	**07 29 26.3**	**+1.4**
WATZ	**Wairara**	**1.80**	**221**	P	**Pn**	**07 29 26.3**	**+1.4**
OTAZ	**Otara**	**1.89**	**282**	⇓PN	**Pn**	**07 29 27.1**	**+1.2**
OTAZ	**Otara**	**1.89**	**282**	⇓P	**Pn**	**07 29 27.1**	**+1.2**
BKZ	**Black Stump Fm**	**1.91**	**198**	PN	**Pn**	**07 29 26.5**	**+0.5**
BKZ				SN	**Sn**	**07 29 54.7**	**+1.8**
BKZ	**Black Stump Fm**	**1.91**	**198**	P	**Pn**	**07 29 26.5**	**+0.5**
RATZ	**Rangitukua**	**1.91**	**217**	PN	**Pn**	**07 29 27.3**	**+1.3**
MTAZ	**Motutapu**	**1.95**	**286**	⇑PN	**Pn**	**07 29 27.3**	**+0.8**
MTAZ	**Motutapu**	**1.95**	**286**	⇑P	**Pn**	**07 29 27.3**	**+0.8**
RITZ	**Rihia Road**	**1.96**	**213**	PN	**Pn**	**07 29 28.1**	**+1.5**
KATZ	**Kakaramea**	**2.03**	**216**	PN	**Pn**	**07 29 29.0**	**+1.6**
KATZ	**Kakaramea**	**2.03**	**216**	P	**Pn**	**07 29 29.0**	**+1.6**
KAAZ	**Kauri Point**	**2.10**	**284**	⇓PN	**Pn**	**07 29 29.2**	**+1.0**
KAAZ	**Kauri Point**	**2.10**	**284**	⇓P	**Pn**	**07 29 29.2**	**+1.0**
KRVZ	**Karewarewa**	**2.15**	**215**	PN	**Pn**	**07 29 29.9**	**+1.1**
WTAZ	**Waiatarua**	**2.17**	**280**	⇓PN	**Pn**	**07 29 30.1**	**+1.1**
WTAZ	**Waiatarua**	**2.17**	**280**	⇓P	**Pn**	**07 29 30.1**	**+1.1**
WTVZ	**West Tongariro**	**2.19**	**216**	PN	**Pn**	**07 29 30.4**	**+1.2**
WTVZ	**West Tongariro**	**2.19**	**216**	P	**Pn**	**07 29 30.4**	**+1.2**
OTVZ	**Oturere**	**2.19**	**214**	PN	**Pn**	**07 29 30.3**	**+1.0**
HIZ	**Hauiti**	**2.21**	**238**	⇓*i*PN	**Pn**	**07 29 31.7**	**+2.2**
HIZ	**Hauiti**	**2.21**	**238**	⇑*i*P	**Pn**	**07 29 31.7**	**+2.2**
TWVZ	**Taurewa**	**2.23**	**219**	PN	**Pn**	**07 29 30.8**	**+1.1**
TWVZ	**Taurewa**	**2.23**	**219**	P	**Pn**	**07 29 30.8**	**+1.1**
NGZ	**Ngauruhoe**	**2.23**	**215**	PN	**Pn**	**07 29 31.1**	**+1.3**
NGZ	**Ngauruhoe**	**2.23**	**215**	P	**Pn**	**07 29 31.1**	**+1.4**
WPVZ	**Whakapapa**	**2.28**	**215**	PN	**Pn**	**07 29 31.6**	**+1.3**
WPVZ	**Whakapapa**	**2.28**	**215**	P	**Pn**	**07 29 31.6**	**+1.3**
TUVZ	**Tukino**	**2.29**	**213**	PN	**Pn**	**07 29 31.2**	**+0.8**
FWVZ	**Far West T-bar**	**2.32**	**214**	PN	**Pn**	**07 29 31.5**	**+0.8**
FWVZ	**Far West T-bar**	**2.32**	**214**	P	**Pn**	**07 29 31.5**	**+0.7**
DRZ	**Dome Shelter**	**2.33**	**214**	*e*PN	**Pn**	**07 29 31.7**	**+0.8**
TRVZ	**Turoa**	**2.36**	**214**	*e*PN	**Pn**	**07 29 32.2**	**+1.0**
WNVZ	**Wahianoa**	**2.36**	**213**	PN	**Pn**	**07 29 31.9**	**+0.6**
WNVZ	**Wahianoa**	**2.36**	**213**	P	**Pn**	**07 29 31.9**	**+0.7**
MOVZ	**Moawhango**	**2.36**	**209**	PN	**Pn**	**07 29 31.4**	**+0.1**
MOVZ	**Moawhango**	**2.36**	**209**	P	**Pn**	**07 29 31.4**	**+0.1**
PKVZ	**Pokaka**	**2.44**	**217**	PN	**Pn**	**07 29 33.1**	**+0.9**
MTVZ	**Mangateitei**	**2.46**	**214**	PN	**Pn**	**07 29 33.1**	**+0.7**
VRZ	**Vera Road**	**2.64**	**227**	PN	**Pn**	**07 29 35.5**	**+1.0**
VRZ	**Vera Road**	**2.64**	**227**	P	**Pn**	**07 29 35.5**	**+0.9**
PXZ	**Pawanui**	**2.69**	**186**	PN	**Pn**	**07 29 34.8**	**-0.4**
WCZ	**Waipu Caves**	**2.72**	**300**	⇓*e*PN	**Pn**	**07 29 35.2**	**-0.4**
WCZ	**Waipu Caves**	**2.72**	**300**	⇓*e*P	**Pn**	**07 29 35.2**	**-0.4**
TSZ	**Takapari Road**	**2.88**	**200**	PN	**Pn**	**07 29 36.7**	**-0.8**
TSZ	**Takapari Road**	**2.88**	**200**	P	**Pn**	**07 29 36.7**	**-0.9**
WAZ	**Wanganui**	**2.98**	**216**	PN	**Pn**	**07 29 39.2**	**+0.5**
WAZ	**Wanganui**	**2.98**	**216**	P	**Pn**	**07 29 39.2**	**+0.4**
PKE	**Pukeiti**	**3.15**	**233**	PN	**Pn**	**07 29 42.8**	**+1.9**
PKE	**Pukeiti**	**3.15**	**233**	P	**Pn**	**07 29 42.8**	**+1.9**
BFZ	**Birch Farm**	**3.41**	**193**	PN	**Pn**	**07 29 43.5**	**-0.7**
BFZ	**Birch Farm**	**3.41**	**193**	P	**Pn**	**07 29 43.5**	**-0.7**
MRZ	**Mangatainoka R**	**3.55**	**201**	PN	**Pn**	**07 29 44.8**	**-1.2**
MRZ	**Mangatainoka R**	**3.55**	**201**	P	**Pn**	**07 29 44.8**	**-1.1**
TIWZ	**Tintock**	**3.58**	**197**	PN	**Pn**	**07 29 45.4**	**-0.9**
OUZ	**Omahuta**	**3.63**	**305**	⇑*e*P	**Pn**	**07 29 46.2**	**-0.8**
KIW	**Kapiti Island**	**3.95**	**207**	PN	**Pn**	**07 29 49.6**	**-1.5**
KIW	**Kapiti Island**	**3.95**	**207**	P	**Pn**	**07 29 49.6**	**-1.4**
MTW	**Mount Morrison**	**4.03**	**199**	PN	**Pn**	**07 29 50.2**	**-1.9**
MTW	**Mount Morrison**	**4.03**	**199**	P	**Pn**	**07 29 50.2**	**-2.0**
CAW	**Cannon Point**	**4.11**	**204**	PN	**Pn**	**07 29 51.4**	**-1.8**
CAW	**Cannon Point**	**4.11**	**204**	P	**Pn**	**07 29 51.4**	**-1.8**
TRWZ	**Traveller**	**4.22**	**196**	PN	**Pn**	**07 29 52.8**	**-1.7**
PAWZ	**Paruwai Farm**	**4.26**	**199**	PN	**Pn**	**07 29 53.1**	**-2.0**
PAWZ	**Paruwai Farm**	**4.26**	**199**	P	**Pn**	**07 29 53.1**	**-2.0**
DUWZ	**D'Urville Isla**	**4.31**	**216**	PN	**Pn**	**07 29 53.8**	**-1.9**
MSWZ	**Moikau Station**	**4.34**	**200**	PN	**Pn**	**07 29 53.9**	**-2.2**
MSWZ	**Moikau Station**	**4.34**	**200**	P	**Pn**	**07 29 53.9**	**-2.2**
MRW	**Makara Radio**	**4.34**	**206**	PN	**Pn**	**07 29 54.2**	**-2.0**
MRW	**Makara Radio**	**4.34**	**206**	P	**Pn**	**07 29 54.2**	**-2.0**
WEL	**Wellington**	**4.37**	**205**	*e*PN	**Pn**	**07 29 54.3**	**-2.2**
SNZO	**South Karori**	**4.41**	**206**	*e*PN	**Pn**	**07 29 54.9**	**-2.2**
SNZO	**South Karori**	**4.41**	**206**	*e*Pn	**Pn**	**07 29 55.2**	**-1.9**
BHW	**Baring Head**	**4.45**	**204**	PN	**Pn**	**07 29 55.2**	**-2.3**
BHW	**Baring Head**	**4.45**	**204**	P	**Pn**	**07 29 55.2**	**-2.3**
TCW	**Tory Channel**	**4.49**	**210**	PN	**Pn**	**07 29 55.7**	**-2.4**
TCW	**Tory Channel**	**4.49**	**210**	P	**Pn**	**07 29 55.7**	**-2.4**
TUWZ	**Tuamarina**	**4.81**	**211**	PN	**Pn**	**07 29 59.9**	**-2.3**
NNZ	**Nelson**	**4.89**	**217**	PN	**Pn**	**07 30 00.8**	**-2.5**
QRZ	**Quartz Range**	**5.05**	**225**	PN	**Pn**	**07 30 03.1**	**-2.2**
BSWZ	**Blackbirch Sta**	**5.07**	**210**	PN	**Pn**	**07 30 03.3**	**-2.4**
THZ	**Tophouse**	**5.53**	**216**	*e*PN	**Pn**	**07 30 09.1**	**-2.7**
KHZ	**Kahutara**	**5.80**	**208**	*e*PN	**Pn**	**07 30 12.3**	**-3.0**
KHZ	**Kahutara**	**5.80**	**208**	*e*P	**Pn**	**07 30 12.3**	**-3.0**
DSZ	**Denniston Nort**	**6.08**	**222**	*e*PN	**Pn**	**07 30 15.2**	**-3.7**
LTZ	**Lake Taylor**	**6.63**	**214**	*e*PN	**Pn**	**07 30 22.6**	**-3.7**
CRLZ	**Canterbury Las**	**7.14**	**208**	*e*PN	**Pn**	**07 30 28.8**	**-4.3**
MQZ	**McQueen's Vall**	**7.25**	**207**	PN	**Pn**	**07 30 30.0**	**-4.4**
MQZ	**McQueen's Vall**	**7.25**	**207**	P	**Pn**	**07 30 30.0**	**-4.4**
WVZ	**Waitaha Valley**	**7.58**	**219**	*e*PN	**Pn**	**07 30 34.7**	**-4.1**
RPZ	**Rata Peaks**	**7.91**	**215**	P	**Pn**	**07 30 40.5**	**-2.7**
	7.1nm,0.3s,baz=25,slow=1.8,SNR=40						
RPZ				S	**Sn**	**07 32 05.6**	**-6.0**
	32nm,0.3s,baz=42,slow=18,SNR=17						
RPZ	**Rata Peaks**	**7.91**	**215**	*e*PN	**Pn**	**07 30 39.7**	**-3.5**
FOZ	**Fox Glacier**	**8.46**	**220**	*e*PN	**Pn**	**07 30 44.6**	**-5.9**
LBZ	**Lake Benmore**	**8.83**	**215**	*e*PN	**Pn**	**07 30 51.7**	**-3.6**
ODZ	**Otahua Downs**	**9.15**	**211**	*e*PN	**Pn**	**07 30 55.7**	**-3.9**
JCZ	**Jackson Bay**	**9.30**	**221**	*e*PN	**Pn**	**07 30 56.3**	**-5.4**
WKZ	**Wanaka**	**9.71**	**217**	*e*PN	**Pn**	**07 31 03.0**	**-4.0**
EAZ	**Earnscleugh**	**9.87**	**215**	*e*PN	**Pn**	**07 31 05.0**	**-4.2**
TUZ	**Tuapeka**	**10.30**	**211**	*e*PN	**Pn**	**07 31 12.3**	**-2.6**
MLZ	**Mavora Lakes**	**10.49**	**218**	*e*PN	**Pn**	**07 31 14.9**	**-2.5**
WHZ	**Wether Hill Ro**	**11.00**	**216**	*e*PN	**Pn**	**07 31 20.0**	**-4.0**
DZM	**Mont Dzumac**	**17.86**	**325**	P	**Pn**	**07 32 47.2**	**-2.3**
	0.2nm,0.3s,baz=122,slow=15,SNR=2.7						
ARMA	**Armidale**	**22.32**	**280**	*e*P	**P**	**07 33 27.2**	**-8.2**
STKA	**Stephens Creek**	**29.72**	**270**	*e*P	**P**	**07 34 41.0**	**-0.9**
	8.6nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**29.72**	**270**	P	**P**	**07 34 40.3**	**-1.6**
	10nm,0.8s,mb4.6,baz=101,slow=10,SNR=16						
CTA	**Charters Tower**	**31.97**	**294**	*e*P	**P**	**07 35 01.9**	**+0.3**
	8.2nm,0.9s,mb4.5						
CTA	**Charters Tower**	**31.97**	**294**	P	**P**	**07 35 01.9**	**+0.3**
	14nm,0.9s,mb4.7,baz=126,slow=9.8,SNR=14						
PPT	**Papeete**	**35.17**	**65**	LR	LR	07 47 04.6	
	comp=Z,77nm,20.2s,baz=329,slow=31						
AS31	**Alice Springs**	**39.42**	**278**	*e*P	**P**	**07 36 04.9**	**-0.1**
ASAR	**Alice Springs**	**39.42**	**278**	P	**P**	**07 36 04.3**	**-0.7**
	13nm,0.9s,mb4.6,baz=118,slow=7.3,SNR=92						
ASAR				PcP	PcP	07 38 07.0	-2.8
	1.1nm,0.5s,baz=120,slow=3.7,SNR=4.1						
ASAR				LR	LR	07 51 47.7	
	comp=Z,128nm,20.6s,baz=255,slow=35						
ASAR	**Alice Springs**	**39.42**	**278**	P	**P**	**07 36 04.3**	**-0.7**
ASAR				PcP	PcP	07 38 07.0	-2.8
ASPA	**Alice Springs**	**39.42**	**278**	*e*P	**P**	**07 36 04.9**	**-0.1**
WB2	**Warramunga Arr**	**41.05**	**283**	*e*P	**P**	**07 36 17.6**	**-0.8**
WRAB	**Tennant Creek**	**41.06**	**283**	*e*P	**P**	**07 36 17.9**	**-0.6**
	18nm,1.1s,mb4.6						
WRA	**Warramunga Arr**	**41.06**	**283**	P	**P**	**07 36 17.1**	**-1.4**
	3.4nm,0.4s,mb4.3,baz=123,slow=7.0,SNR=91						
WRA				ScP	ScP	07 41 44.3	-5.1
	0.8nm,0.8s,baz=130,slow=3.8,SNR=5.8						
FITZ	**Fitzroy Crossi**	**48.90**	**278**	*e*P	**P**	**07 37 19.3**	**-1.1**
	12nm,1.0s,mb4.5						
QSPA	**South Pole Qui**	**52.77**	**180**	*e*P	**P**	**07 37 54.6**	**+5.3**
SYO	**Syowa Base**	**69.43**	**195**	⇓*e*P	**P**	**07 39 40.0**	**-1.5**
SNAA	**Sanae**	**71.28**	**180**	*e*	**P**	**07 39 52.8**	**+0.1**
SNAA				*e*		07 39 55.1	
SNAA				*e*		07 39 59.3	
SNAA	**Sanae**	**71.28**	**180**	*e*P	**P**	**07 39 51.8**	**-0.9**
	4.7nm,1.1s,mb4.1						
VNA1	**Neumayer--Stat**	**72.23**	**178**	*e*	**P**	**07 40 00.1**	**+1.7**
VNA1				*e*		07 40 02.2	
VNA1				*e*		07 40 06.4	
ASAJ	**Asahikawa**	**86.96**	**336**	LR	LR	08 16 50.5	
	comp=Z,39nm,20.1s,baz=222,slow=33						
ARCES	**ARCESS Array B**	**144.33**	**343**	PKP	PKPdf	07 48 02.2	-5.5
	5.7nm,0.6s,baz=43,slow=2.8,SNR=58						
JOF	**Joensuu**	**147.06**	**332**	*e*pkp	PKPdf	07 48 09.8	-2.5
KAF	**Kangasniemi**	**149.40**	**333**	*e*pkp	PKPdf	07 48 15.7	-0.4
	baz=53,slow=2.5						
DBIC	**Dimbokro**	**149.40**	**176**	PKPbc	PKPbc	07 48 19.5	-1.3
	3.6nm,0.5s,baz=108,slow=3.3,SNR=13						
FINES	**FINESS Array B**	**149.91**	**332**	PKPbc	PKPdf	07 48 17.3	+0.3
	2.2nm,0.5s,baz=50,slow=4.2,SNR=30						
FINES	**FINESS Array B**	**149.91**	**332**	PKPbc	PKPdf	07 48 17.3	+0.3
AKASG	**Malin Array Be**	**153.65**	**311**	PKPab	PKPab	07 48 40.7	-3.1
	2.6nm,0.8s,baz=55,slow=3.9,SNR=8.5						
AKASG	**Malin Array Be**	**153.65**	**311**	PKPab	PKPab	07 48 40.7	-3.1
TORD	**Torodi Ar. Bea**	**155.57**	**191**	PKP	PKPdf	07 48 24.4	-0.8
	2.3nm,1.1s,baz=246,slow=2.8,SNR=5.7						
TORD				PKPbc	PKPdf	07 48 32.9	+7.7
	1.3nm,0.4s,baz=167,slow=3.2,SNR=26						
TORD				PKPab	PKPab	07 48 50.2	-1.7
	3.1nm,0.5s,baz=171,slow=3.4,SNR=13						
TORD	**Torodi Ar. Bea**	**155.57**	**191**	PKP	PKPdf	07 48 24.4	-0.8
TORD				PKPbc	PKPdf	07 48 32.9	+7.7
TORD				PKPab	PKPab	07 48 50.2	-1.7
BRG	**Berggiesshubel**	**161.99**	**324**	*e*P	PKPab	07 49 17.3	-2.6
	2.4nm,1.0s						

IDC 02 07:30:03.5±8.3,1072N×9196E,h0km,mb3.6/3,mb1 3.8/3, mb1mx3.5/19,mbtmp3.6/3,Error ellipse: s-maj=429.1km s-min=29.8km az=60.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.21**	**39**	*e*x	x	07 30 15.4	
	comp=E,2μm,0.3s						
PBA				*e*x	x	07 30 15.4	
	comp=N,2μm,0.5s						
MKAR	**Makanchi Array**	**36.88**	**349**	P	P	07 37 13.6	0.0
	comp=N,0.4nm,0.4s,baz=168,slow=7.4,SNR=4.5						
WRA	**Warramunga Arr**	**51.66**	**126**	P	P	07 39 11.9	-0.1
	comp=N,0.5nm,0.3s,baz=305,slow=8.6,SNR=6.3						
ASAR	**Alice Springs**	**53.38**	**130**	P	P	07 39 25.7	+1.0
	comp=N,0.4nm,0.5s,baz=306,slow=6.6,SNR=5.4						

IDC 02 07:37:50.6±1.4,2920S×17801W,h0km,mb3.8/2, mb1 4.1/2,mb1mx3.8/11,mbtmp3.8/2,MS4.0/2,Ms1 4.1/2, ms1mx2.9/25,Error ellipse: s-maj=76.1km s-min=8.1km az=26.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.09**	**123**	Pn	Pg	07 37 59.4	+7.1
	2μm,0.3s,baz=75,slow=20,SNR=25						
RAO				Sn	Sg	07 38 05.0	+11
	2μm,0.3s,baz=52,slow=22,SNR=30						
PPT	**Papeete**	**28.47**	**72**	*e*LR	LR	07 43 59.2	
	82nm,23.8s,baz=244						
ASAR	**Alice Springs**	**43.18**	**266**	P	P	07 45 53.2	+0.1
	0.8nm,0.7s,baz=99,slow=7.6,SNR=11						
WRA	**Warramunga Arr**	**44.06**	**271**	P	P	07 46 00.4	+0.2
	0.9nm,0.5s,baz=110,slow=8.0,SNR=19						
VNDA	**Vanda**	**49.28**	**186**	LR	LR	08 01 55.4	
	comp=Z,115nm,20.9s,baz=141,slow=29						
LPAZ	**La Paz**	**98.64**	**114**	LR	LR	08 27 21.1	
	comp=Z,107nm,21.4s,baz=297,slow=30						
FINES	**FINESS Array B**	**144.02**	**341**	PKP	PKPdf	07 57 25.6	-2.5
	0.8nm,0.7s,baz=70,slow=6.1,SNR=5.4						

CSEM ***02*** *07:40:44.9±1.1,3868N×2856W,h0km±6km,ML1.2,Error ellipse: s-maj=3.4km s-min=2.9km az=176.0,After PDA*

PDA ***02*** *07:40:44.9±1.1,3868N×2856W,h0km±6km,MD2.6,ML1.2, Error ellipse: s-maj=3.4km s-min=2.9km az=176.0*

SVSA 02 07:40:44.9±1.1,3868N×2856W,h0km±6km,MD2.6,ML1.2, Error ellipse: s-maj=3.4km s-min=2.9km az=176.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.12**	**247**	*e*P	Pg	07 40 47.1	-0.1
PCED				*e*S	Sg	07 40 49.3	+0.5
PCED							
	76nm,0.1s						
PCED	**Cedros**	**0.12**	**247**	*e*P	Pg	07 40 47.1	-0.1
PCED				*e*S	Sg	07 40 49.3	+0.5
CALA	**Caldeira**	**0.15**	**230**	*e*P	Pg	07 40 47.7	0.0
CALA				*e*S	Sg	07 40 50.5	+0.9
PICO	**Pico**	**0.20**	**149**	*e*P	Pg	07 40 48.7	-0.1
PICO				*e*S	Sg	07 40 52.0	+0.6
PTCA	**Ponta do Capel**	**0.21**	**244**	*e*S	Sg	07 40 52.1	+0.6
PTCA							
	18nm,0.2s						
PCND	**Candelaria**	**0.22**	**160**	*e*S	Sg	07 40 52.3	+0.4
PCND							
	23nm,0.2s						
PTEI	**Pico do Teixo**	**0.24**	**138**	*e*S	Sg	07 40 53.1	+0.5
PTEI							
	10nm,0.1s						
ROSA	**Rosais**	**0.25**	**80**	*e*P	Pg	07 40 50.0	+0.3
ROSA				*e*S	Sg	07 40 53.5	+0.5
PBOI	**Pico dos Bois**	**0.28**	**149**	*e*rx		07 40 54.0	
PAMA	**Santo Amaro**	**0.30**	**89**	*e*S	Sg	07 40 55.8	+1.4
PAMA							
	14nm,0.1s						
PMAN	**Manadas**	**0.37**	**96**	*e*S	Sg	07 40 56.9	+0.1
PMAN							
	17nm,0.1s						
PID	**Ribeirinha**	**0.42**	**124**	*e*S	Sg	07 40 58.7	+0.4

NIED ***02*** *07:45:00,2930N×12920E,h5km,Mw4.5 Best double couple: $M_0$7.07000×10^{15} NP1:ϕ_s210.00000°,δ71.00000°, λ-107.00000°. NP2:ϕ_s72.00000°,δ25.00000°, λ-50.00000°.*

JMA ***02*** *07:45:19.7±0.6,2930N×129.16E,h12km±5km,M4.1*

JMA Felt III J1.

MOS ***02*** *07:45:19.0±1.4,2934N×12929E,h10km,mb4.5/5,Error ellipse: s-maj=19.0km s-min=10.9km az=103.0*

IDC ***02*** *07:45:19.5±0.8,2934N×12934E,h0km,mb3.9/9, mb1 4.1/12,mb1mx3.9/23,mbtmp3.9/12,ML3.7/3,MS3.8/11, Ms1 3.8/11,ms1mx3.5/30,Error ellipse: s-maj=25.2km s-min=16.7km az=85.0*

BJI ***02*** *07:45:20.5,29.13N×129.64E,h24km,mB4.4,mb4.3,Ms4.3, Msz4.1*

NEIC ***02*** *07:45:21.1±0.5,2932N×12921E,h10km,mb4.4/6,Error ellipse: s-maj=12.8km s-min=9.6km az=80.0*

ISCJB ***02*** *07:45:22.0±0.8,2928N±003×12934E±007,h27km±7km, mb4.1/16,MS4.1/11,Error ellipse: s-maj=10.2km s-min=4.7km az=40.6*

ISC 02 07:45:21.5±1.9,2926N±003×12938E±006,h13km±13km, n46,σ1§02/45,mb4.1/16,MS4.1/11,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.72**	**37**	P	**Pb**	**07 45 35.6**	**-0.3**
JNN				S	**Sb**	**07 45 47.2**	**+1.5**
JAM	**Amami Oshima**	**0.87**	**167**	P	**Pb**	**07 45 37.5**	**-1.0**
JAM				S	**Sb**	**07 45 50.2**	**+0.1**
JZK	**Kikaishima**	**1.08**	**151**	P	**Pb**	**07 45 42.5**	**+0.5**
JKC	**Kuchinoerabu**	**1.39**	**30**	P	**Pn**	**07 45 45.7**	**-0.9**
JTK	**Tokunoshima**	**1.52**	**195**	P	**Pn**	**07 45 47.5**	**-0.9**
JTK				*e*S	**Sn**	**07 46 07.4**	**-0.7**
JTN	**Tanegashima 3**	**1.96**	**45**	P	**Pn**	**07 45 54.2**	**-0.3**
JTN				*e*S	**Sn**	**07 46 18.7**	**-0.3**
JIH	**Iheya**	**2.55**	**210**	P	**Pn**	**07 46 02.7**	**+0.2**
JOW	**Kunigami**	**2.61**	**202**	Pn	**Pn**	**07 46 03.2**	**-0.2**
	22nm,0.3s,baz=71,slow=16,SNR=67						
JOW				LR	LR	07 46 52.0	
	comp=Z,221nm,19.6s,baz=332,slow=35						
JOW	**Kunigami**	**2.61**	**202**	P	**Pn**	**07 46 03.2**	**-0.2**
JKE	**Kume jima 2**	**3.72**	**219**	P	**Pn**	**07 46 20.4**	**+1.7**
MJAR	**Matsushiro Arr**	**10.38**	**43**	Pn	**Pn**	**07 47 50.8**	**+0.8**
	0.7nm,0.3s,baz=246,slow=14,SNR=8.5						
CBIJ	**Chichi jima**	**11.50**	**98**	LR	LR	07 51 54.4	
	comp=Z,187nm,18.6s,baz=298,slow=34						
BJT	**Baijiatuau**	**15.26**	**318**	*e*P	**Pn**	**07 48 52.2**	**-4.4**
BJT				pmax	pmax		
	comp=Z,11nm,0.6s						
BJT	**Baijiatuau**	**15.26**	**318**	*e*P	**Pn**	**07 48 52.2**	**-4.4**
	comp=Z,11nm,0.6s						
ASAJ	**Asahikawa**	**18.19**	**32**	P	**Pn**	**07 49 31.2**	**-2.5**
	comp=Z,0.5nm,0.3s,baz=224,slow=12,SNR=8.8						
ASAJ				LR	LR	07 57 02.5	
	comp=Z,90nm,20.3s,baz=310,slow=39						
ASAJ	**Asahikawa**	**18.19**	**32**	P	**Pn**	**07 49 31.3**	**-2.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,90nm,20.3s						
KLR	**Kul'dur**	**20.02**	**5**	*e*P	**P**	**07 49 55.0**	**+0.9**
GYA	**Guiyang**	**20.27**	**268**	*e*P	**P**	**07 49 59.9**	**+3.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2	**Chengdu**	**22.22**	**281**	P	**P**	**07 50 18.1**	**+0.3**
CD2				AP		07 50 25.8	
CD2				XP	sP	07 50 32.4	+9.4
CD2				PP		07 50 44.6	
CD2				S	**S**	**07 54 13.4**	**-8.8**
CD2				XS	sS	07 54 28.7	+0.7
CD2				SS		07 54 57.5	
CD2				AMB	AMB		
	comp=Z,120nm,6.6s						
CD2				LR	LR		
	comp=N,380nm,9.6s						
CD2				LR	LR		
	comp=Z,550nm,16.8s,MS4.0						
LZH	**Lanzhou**	**22.51**	**294**	*e*P	**P**	**07 50 25.0**	**+4.1**
LZH				AP		07 50 31.0	
LZH				XP	sP	07 50 36.5	+10
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,152nm,4.6s						
LZH				LR	LR		
	comp=E,950nm,10.8s						
LZH				LR	LR		
	comp=Z,1μm,12.4s,MS4.5						
ULN	**Ulaanbaatar**	**25.34**	**323**	*e*P	**P**	**07 50 48.5**	**+0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**25.34**	**323**	*e*P	**P**	**07 50 48.5**	**+0.3**
	comp=Z,3.8nm,0.8s,mb4.0						
SONM	**Songino Array**	**25.67**	**323**	P	**P**	**07 50 49.5**	**-1.6**
	comp=Z,3.6nm,0.8s,mb3.9,baz=140,slow=9.6,SNR=16						
SONM				LR	LR	08 01 42.8	
	comp=Z,358nm,18.7s,MS3.9,baz=320,slow=38						
GTA	**Gaotai**	**26.33**	**300**	*e*P	**P**	**07 50 58.1**	**+1.0**
GTA				AP	pP	07 51 03.2	+2.3
GTA				XP	sP	07 51 06.2	+3.8
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.0						
TLY	**Talaya**	**29.47**	**327**	*e*P	**P**	**07 51 26.3**	**+1.1**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.3						
TLY				MLR	MLR		
	comp=Z,234nm,15.0s,MS3.9						
TLY	**Talaya**	**29.47**	**327**	*e*P	**P**	**07 51 24.8**	**-0.4**
	comp=Z,11nm,1.5s,mb4.4						
MKAR	**Makanchi Array**	**40.35**	**309**	P	**P**	**07 52 58.8**	**-0.1**
	comp=Z,1.6nm,0.7s,mb3.9,baz=97,slow=10.0,SNR=13						
BVAR	**Borovoye Array**	**48.74**	**316**	P	**P**	**07 54 05.7**	**-0.3**
	comp=Z,2.9nm,0.7s,mb4.4,baz=95,slow=9.5,SNR=20						
BVAR				LR	LR	08 16 05.6	
	comp=Z,165nm,18.9s,MS4.0,baz=139,slow=38						
BRVK	**Borovoye**	**48.81**	**317**	*e*P	**P**	**07 54 05.6**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**48.81**	**317**	*e*P	**P**	**07 54 05.6**	**-0.8**
	comp=Z,3.1nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**49.15**	**174**	P	**P**	**07 54 09.0**	**0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,1.6nm,0.7s,mb4.2,baz=354,slow=8.3,SNR=20						
ZRNK	Zerenda	49.57	316	eP	P	07 54 10.7	-1.6
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ZRNK	Zerenda	49.57	316	eP	P	07 54 10.7	-1.6
	comp=Z,4.2nm,0.9s,mb4.5						
ASAR	Alice Springs	52.80	175	P	P	07 54 37.8	+1.3
	comp=Z,0.7nm,0.8s,mb3.7,baz=9.3,slow=13,SNR=9.5						
AKTO	Aktyubinsk	56.47	313	LR	LR	08 20 54.7	
	comp=Z,201nm,18.5s,MS4.2,baz=29,slow=38						
ARCES	ARCESS Array B	67.57	338	LR	LR	08 28 42.3	
	comp=Z,110nm,20.4s,MS4.1,baz=252,slow=39						
FINES	FINESS Array B	70.74	330	LR	LR	08 31 01.4	
	comp=Z,102nm,18.8s,MS4.1,baz=1.2,slow=39						
AKASG	Malin Array Be	73.90	319	LR	LR	08 31 24.5	
	comp=Z,61nm,18.9s,MS3.9,baz=65,slow=38						
YKA	Yellowknife Ar	75.36	26	P	P	07 57 04.1	-0.6
	comp=Z,0.5nm,0.7s,mb3.6,baz=304,slow=5.4,SNR=7.8						
YKA	Yellowknife Ar	75.36	26	P	P	07 57 04.1	-0.6
NOA	NORSAR Array B	77.05	334	P	P	07 57 13.0	-1.4
	comp=Z,0.7nm,0.8s,mb3.7,baz=50,slow=5.5,SNR=3.0						
NOA				LR	LR	08 34 57.9	
	comp=Z,49nm,18.2s,MS3.9,baz=180,slow=39						
GERES	GERESS Array B	83.40	323	LR	LR	08 36 08.3	
	comp=Z,76nm,19.0s,MS4.1,baz=111,slow=37						
NVAR	Mina Array Bea	87.68	47	P	P	07 58 10.9	+1.0
	comp=Z,0.6nm,0.6s,mb4.0,baz=288,slow=6.3,SNR=3.9						
PDAR	Pinedale Array	90.17	39	P	P	07 58 21.9	+0.2
	comp=Z,0.7nm,0.8s,mb4.0,baz=66,slow=1.8,SNR=6.7						
SRU	San Rafael	92.03	42	eP	P	07 58 31.5	+1.3
SRU				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.2						
SRU	San Rafael	92.03	42	eP	P	07 58 31.5	+1.3
	comp=Z,1.5nm,0.8s,mb4.4						

*ISCJB **02** 07:57:32.8±0.4, 4182N±003×2100E±003, h1km±9km, Error ellipse: s-maj=5.9km s-min=2.8km az=80.1*
*SKO **02** 07:57:33.4, 4174N×2098E, h25km, M1.9, ML2.4*
*THE **02** 07:57:33.5, 4180N×2095E, h10km, ML3.0*
*CSEM **02** 07:57:34.0±0.2, 4176N×2101E, h2km, ML3.0, Error ellipse: s-maj=4.6km s-min=3.0km az=32.0*
*PDG **02** 07:57:37.6±0.3, 4192N×2083E, h10km±1km*
*NEIC **02** 07:57:37.6, 4192N×2083E, h10km, MD2.8(PDG), After PDG.*
*TIR **02** 07:57:41.2, 4208N×2043E, h12km*

ISC 02 07:57:33.9±0.4, **4180N**±003×**2101E**±003, **h11**km±7km, **n26**, σ**1.02**/46, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SKO	Skopje	0.36	62	ePg	Pg	07 57 42.6	+1.5
SKO	Skopje	0.36	62	ePg	Pg	07 57 42.5	+1.3
SKO				i Sg	Sg	07 57 48.0	+2.0
SKO				eLg		07 57 48.1	
	comp=E,250nm,0.3s						
SKO				eLg		07 57 48.3	
	comp=N,397nm,0.3s						
SKO	Skopje	0.36	62	ePg	Pg	07 57 42.4	+1.3
SKO				i Sg	Sg	07 57 48.0	+2.0
KKS	Kukesi	0.52	302	i Pg	Pg	07 57 43.5	-0.6
KKS				i Sg	Sg	07 57 52.3	+1.3
OHR	Ohrid	0.71	193	ePg	Pg	07 57 46.9	-0.8
OHR				eSg	Sg	07 57 56.6	-0.3
OHR	Ohrid	0.71	193	i Pg	Pg	07 57 46.8	-0.8
OHR				eLg		07 57 57.6	
	comp=N,109nm,0.6s						
OHR				i Sg	Sg	07 57 57.7	+0.8
OHR				eLg		07 57 57.8	
	comp=E,239nm,0.7s						
OHR	Ohrid	0.71	193	ePg	Pg	07 57 46.8	-0.8
OHR				i Sg	Sg	07 57 57.6	+0.7
BIA	Bitola	0.82	163	ePg	Pg	07 57 48.9	-0.8
BIA				eSg	Sg	07 58 01.4	+1.0
BIA	Bitola	0.82	163	i Pg	Pg	07 57 49.0	-0.7
BIA				i Sg	Sg	07 58 01.1	+0.7
BIA				eLg		07 58 03.3	
	comp=E,160nm,0.2s						
BIA				eLg		07 58 03.9	
	comp=N,121nm,0.2s						
BIA	Bitola	0.82	163	ePg	Pg	07 57 48.9	-0.8
BIA				i Sg	Sg	07 58 01.0	+0.7
FNA	Florina	1.05	165	ePg	Pg	07 57 53.6	-0.6
FNA				eSg	Sg	07 58 09.1	+1.2
PVY	Plav	1.10	316	ePg	Pg	07 57 53.8	-1.4
PVY				eSg	Sg	07 58 09.3	-0.2
VAY	Valandovo	1.27	112	ePg	Pg	07 57 57.5	-0.8
VAY	Valandovo	1.27	112	i Pg	Pn	07 57 57.0	-0.6
VAY				eSg	Sg	07 58 14.1	-0.6
VAY				eLg		07 58 15.1	
	comp=N,28nm,0.3s						
VAY				eLg		07 58 15.9	
	comp=E,40nm,0.5s						
VAY	Valandovo	1.27	112	ePg	Pg	07 57 57.5	-0.7
VAY				eSg	Sg	07 58 14.1	-0.6
ULC	Ulcinj	1.32	278	ePg	Pg	07 57 59.3	-0.1
ULC				eSg	Sg	07 58 17.6	+1.1
GRG	Griva	1.34	128	ePg	Pg	07 57 59.2	-0.5
TTG	Podgorica	1.44	296	ePg	Pn	07 58 00.3	+0.3
TTG				eSg	Sg	07 58 20.9	+0.5
KNT	Kendrikon	1.56	114	ePg	Pn	07 58 01.8	+0.2
BUM	Brajici-Budva	1.65	288	ePg	Pg	07 58 05.3	-0.2
BUM				eSg	Sg	07 58 29.2	+2.2
NKY	Niksic	1.80	305	ePn	Pg	07 58 07.2	-1.2
NKY				eSn	Sg	07 58 33.2	+1.3
NKY	Niksic	1.80	305	ePn	Pn	07 58 07.2	+2.3
HCY	Herceg Novi	1.98	290	ePn	Pg	07 58 10.9	-0.9
HCY				eSn	Sg	07 58 37.3	-0.2
HCY	Herceg Novi	1.98	290	ePn	Pg	07 58 10.9	-0.9
UPM	Unac-Piva	2.09	313	ePn	Pg	07 58 13.2	-0.8
UPM				eSn	Sg	07 58 40.3	-0.8
BRY	Bratogost	2.13	302	ePn	Pg	07 58 13.3	-1.5
BRY				eSn	Sg	07 58 41.6	-0.9

ISC 02 08:08:19.9±1.0, **4003N**±008×**2880E**±006, **h21**km±10km, **n5**, σ**0.74**/10, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ULDT	Uludag	0.28	67	i P	Pb	08 08 25.9	-0.5
ULDT				i S	Sb	08 08 30.4	-0.3
BTOK	Tokmak	0.65	245	i P	Pb	08 08 32.7	+0.2
BTOK				i S	Sb	08 08 41.5	+0.5
GDZ	Gediz	1.08	150	i P	Pb	08 08 38.8	-1.0
GDZ				i S	Sb	08 08 54.5	+1.1
MANT	Manisa	1.55	187	i P	Pn	08 08 47.0	+0.2
MANT				i S	Sn	08 09 05.0	-1.4
ESKT	Eskisehir	1.66	107	i P	Pn	08 08 49.1	+0.7
ESKT				i S	Sn	08 09 09.7	+0.4

IDC 02 08:21:29.0±1.6, **2930S**×**17795W**, **h0**km, **mb3.9**/3, **mb1 4.1**/3, **mb1mx3.8**/12, **mbtmp3.9**/3, **Error ellipse: s-maj=50.3km s-min=8.4km az=135.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
RAO	Raoul Island	0.06	30	Pn	Pg	08 21 37.5	+7.3
	829nm,0.3s,baz=84,slow=10,SNR=25						
RAO				Sn	Sg	08 21 42.2	+11
	2µm,0.3s,baz=253,slow=19,SNR=52						
CTA	Charters Tower	33.68	278	P	P	08 28 13.4	+1.8
	2.4nm,0.8s,baz=114,slow=14,SNR=3.4						
ASAR	Alice Springs	43.22	266	P	P	08 29 30.9	-0.9
	0.9nm,0.7s,baz=103,slow=7.9,SNR=12						
WRA	Warramunga Arr	44.11	271	P	P	08 29 38.7	-0.3
	1.3nm,0.9s,baz=110,slow=8.1,SNR=9.1						
FINES	FINESS Array B	144.13	340	PKP	PKPdf	08 41 03.6	-3.1
	0.6nm,0.5s,baz=64,slow=6.3,SNR=6.4						

CASC 02 08:35:26.3±2.9, **1449N**×**9030W**, **h16**km±30km, **MD3.7**, **9C-1D, Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
IXG	Ixpaco	0.35	205⇑	eP	Pg	08 35 33.9	+0.3
IXG				eS	Sg	08 35 40.1	+1.7
RBDL	Robledal	0.70	122⇑	eP	x	08 36 08.0	
RBDL				eS	x	08 36 19.2	
TP2	Tecpan 2	0.76	293⇑	eP	Pb	08 35 41.2	+0.1
TP2				eS	Sb	08 35 52.2	+1.2
MTO2	Montecristo 2	0.91	95⇑	eP	x	08 36 10.7	
MTO2				eS	x	08 36 23.2	
SNJE	San Jose	0.92	132⇑	eP	x	08 36 11.8	
SNJE				eS	x	08 36 26.0	
SBLS	San Blas	0.92	134⇑	eP	x	08 36 11.9	
SBLS				eS	x	08 36 27.9	
LFU	La Fuente	1.37	122⇑	eP	x	08 36 19.7	
LFU				eS	x	08 36 38.3	
LBRS	Las Brisas	1.43	121⇑	eP	x	08 36 20.4	
LBRS				eS	x	08 36 39.4	
LFRS	El Faro	1.48	125⇑	eP	x	08 36 21.7	
LFRS				eS	x	08 36 41.3	
LCBS	La Ceiba	1.53	123⇓	eP	x	08 36 22.0	
LCBS				eS	x	08 36 42.5	

MOS 02 08:51:40.7±1.8, **4313N**×**4601E**, **h8**km, **mb4.0**/1, **8C-3D, Error ellipse: s-maj=22.2km s-min=6.5km az=15.7, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DLMR	Dylym	0.46	97	i PG	Pg	08 51 52.0	+2.5
DLMR				i S	Sg	08 52 01.8	+6.3
DLMR				pmax	pmax		
	comp=Z,350nm,0.2s						
DBC	Dubki	0.61	100⇓	iPG	Pg	08 51 54.5	+2.1
DBC				i S	Sg	08 52 05.0	+4.6
DBC				pmax	pmax		
	comp=Z,216nm,0.1s						
KRNR	Karanay	0.72	114⇑	iPG	Pg	08 51 53.8	-0.8
KRNR				i S	Sg	08 52 04.8	+0.8
KRNR				pmax	pmax		
	comp=Z,50nm,0.2s						
SNJR	Sundja	0.88	267⇓	iPG	Pg	08 52 00.9	+3.2
SNJR				i S	Sg	08 52 14.0	+4.9
VLKR	Vladikavkaz	0.98	266⇑	iPG	Pg	08 52 01.8	+2.2
VLKR				i S	Sg	08 52 15.6	+3.3
BTKR	Batakoyurt	1.10	283⇑	iPG	Pg	08 52 03.6	+1.7
BTKR				i S	Sg	08 52 18.8	+2.6
TRKR	Terskaya	1.11	303⇑	iPG	Pg	08 52 04.5	+2.5
TRKR				i S	Sg	08 52 20.3	+3.9
ARNR	Ardon	1.27	273⇑	iPG	Pg	08 52 05.2	+0.1
ARNR				i S	Sb	08 52 21.5	+0.1
KMSR	Komsomolskaya	1.28	282⇑	iPG	Pg	08 52 05.6	+0.3
KMSR				i S	Sb	08 52 22.2	+0.5
PRTR	Priterechnaya	1.41	297⇑	iPG	Pg	08 52 07.8	+0.1
PRTR				i S	Sb	08 52 26.0	+0.7
KORR	Kora	1.43	269⇓	iPG	Pg	08 52 06.9	-1.1
KORR				i S	Sn	08 52 24.5	-1.3
ZEI	Tsey	1.59	258	ePG	Pg	08 52 08.6	-2.6
DIGR	Digorskoe uzhe	1.80	264⇑	iPN	Pn	08 52 11.5	-0.5
KUBR	Kubataba	2.01	290	ePN	Pn	08 52 15.3	+0.4
PYA	Pyatigorsk	2.33	294	ePN	Pn	08 52 19.2	-0.1
PYA				eS	Sn	08 52 46.4	-1.7
BEYR	Belyy Ugol+	2.49	292	ePN	Pn	08 52 21.2	-0.3
SHAR	Shatzhatmas	2.51	285	ePN	Pn	08 52 21.4	-0.4
KIV0	Kislovodsk Arr	2.55	290	ePN	Pn	08 52 21.9	-0.5
KIV0				eS	Sn	08 52 51.4	-2.2
KIV	Kislovodsk	2.56	290	ePN	Pn	08 52 22.1	-0.3

GUC 02 09:02:44.1±0.7, **3333S**×**7198W**, **h44**km±2km, **MD3.5**, **ML2.4, 4C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LCCH	Las Cruces	0.37	113⇑	iP	Pn	09 02 53.6	+0.2
LCCH				i S	Sn	09 03 01.0	+1.0
LNV	Longovilo	0.78	143⇑	iP	Pn	09 02 58.9	+0.2
LNV				i S	Sn	09 03 10.0	+0.8
TACH	Talagante	0.92	110⇓	iP	Pn	09 03 01.2	+0.5
TACH				i S	Sn	09 03 14.5	+1.7
RCDM	Rinconada Maip	0.99	99⇓	iP	Pn	09 03 01.9	+0.4
RCDM				i S	Sn	09 03 16.1	+1.7
RCDM				AML	AML	09 03 17.1	
	comp=N,220nm,0.2s						
PEL	Peldehue	1.10	80⇑	iP	Pn	09 03 03.5	+0.5
PEL				i S	Sn	09 03 19.1	+2.0
PEL				AML	AML	09 03 20.5	
	comp=E,139nm,0.3s						
STL	Santa Lucia	1.12	96	i S	Sn	09 03 18.9	+1.3
ANTU	Antumapu	1.15	102	i S	Sn	09 03 19.8	+1.6
CLCH	Cerro Calan	1.21	93	eP	Pn	09 03 05.3	+0.8
CLCH				i S	Sn	09 03 21.8	+2.2
CLCH				AML	AML	09 03 25.2	
	comp=E,152nm,0.6s						
PCH	Pirque	1.25	104	eP	Pn	09 03 06.2	+1.0
PCH				i S	Sn	09 03 23.0	+2.1
CHCH	Chadas Angostu	1.26	119	i S	Sn	09 03 22.8	+1.9
CACH	El Canelo	1.39	125	eP	Pn	09 03 09.1	+2.1
CACH				i S	Sn	09 03 26.7	+2.6
FCH	Farellones	1.41	90⇓	iP	Pn	09 03 08.1	+0.8
FCH				i S	Sn	09 03 26.7	+2.0
FCH				AML	AML	09 03 28.8	
	comp=N,52nm,0.2s						
SFDO	San Fernando	1.51	148	eP	Pn	09 03 09.8	+1.2
SFDO				i S	Sn	09 03 29.0	+2.0
LMEL	Las Melosas	1.57	110⇑	iP	Pn	09 03 10.7	+1.3
LMEL				i S	Sn	09 03 30.9	+2.4
LMEL				AML	AML	09 03 32.5	
	comp=N,183nm,0.2s						

IDC 02 09:09:32.7±1.1, **2006S**×**6881W**, **h121**km±11km, **mb3.3**/2, **mb1 3.4**/5, **mb1mx3.2**/18, **mbtmp3.6**/5, **Error ellipse: s-maj=38.1km s-min=9.3km az=97.0, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LVC	Limon Verde	2.54	182	P	Pn	09 10 13.7	+0.7
	8.7nm,0.3s,baz=3.2,slow=10,SNR=73						
LVC				S	Sn	09 10 45.1	+1.0
	16nm,0.3s,baz=314,slow=23,SNR=17						
LPAZ	La Paz	3.81	10	P	Pn	09 10 30.6	+1.0
	1.8nm,0.3s,baz=198,slow=7.3,SNR=82						
LPAZ				S	Sn	09 11 15.3	+1.6
	baz=202,slow=19,SNR=2.1						
SIV	San Ignacio	8.40	62	P	Pn	09 11 30.9	-0.6
	0.6nm,0.3s,baz=269,slow=10,SNR=21						
TORD	Torodi Ar. Bea	76.79	71	P	P	09 21 11.8	+0.9
	0.3nm,0.4s,baz=254,slow=5.2,SNR=12						
YKA	Yellowknife Ar	89.86	341	P	P	09 22 17.0	-0.8
	0.4nm,0.7s,baz=131,slow=5.0,SNR=6.9						

*ISCJB **02** 09:56:03.9±2.3, 58S±0.1×1494E±0.1, h90km±17km, mb4.4/9, Error ellipse: s-maj=20.8km s-min=17.8km az=134.1*
*IDC **02** 09:56:06.3±3.2, 592S×14941E, h93km±23km, mb4.3/6, mb1 4.4/8, mb1mx4.2/13, mbtmp4.6/8, MS3.1/2, Ms1 3.1/2, ms1mx2.9/15, Error ellipse: s-maj=24.8km s-min=22.6km az=79.0*
*NEIC **02** 09:56:07.5±2.6, 598S×14932E, h106km±19km, mb4.5/7, Error ellipse: s-maj=22.2km s-min=16.0km az=215.0*

ISC 02 09:56:01.5±1.9, **56S**±01×**1495E**±01, **h65**km±12km, **n20**, σ**0.79**/25, **mb4.5**/9, **6C, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PMG	Port Moresby	4.39	211	P	Pn	09 57 06.9	+1.3
	78nm,0.3s,baz=33,slow=6.6,SNR=192						
PMG				S	Sn	09 57 55.4	-0.1
	55nm,0.3s,baz=18,slow=18,SNR=12						
PMG				LR	LR	09 58 28.6	
	comp=Z,185nm,21.0s,baz=238,slow=34						
CTA	Charters Tower	14.71	192	eP	Pn	09 59 26.3	+0.4
	8.8nm,0.9s						
CTA	Charters Tower	14.71	192	P	Pn	09 59 25.0	-0.9
	baz=359,slow=16,SNR=3.7						
KAKA	Kakadu	18.20	246	eP	Pn	10 00 09.3	-0.3
	16nm,0.6s						
WRA	Warramunga Arr	20.46	225	P	P	10 00 33.9	+0.2
	105nm,0.8s,baz=51,slow=11,SNR=270						
WRA				S	S	10 04 12.7	-6.4
	5.1nm,1.0s,baz=37,slow=19,SNR=8.4						
WRA				ScP	ScP	10 08 12.6	-1.6
	2.1nm,0.8s,baz=49,slow=2.6,SNR=14						
DZM	Mont Dzumac	23.19	136	P	P	10 01 03.2	+0.6
	10nm,0.8s,mb4.3,baz=311,slow=13,SNR=8.3						
DZM				LR	LR	10 06 50.7	
	comp=Z,82nm,21.7s,baz=18,slow=28						
AS31	Alice Springs	23.36	218⇑	iP	P	10 01 03.8	-0.5
AS31				eS	S	10 05 12.9	+0.8
ASAR	Alice Springs	23.36	218	P	P	10 01 04.0	-0.3
	16nm,0.6s,mb4.7,baz=55,slow=8.8,SNR=194						
ASAR				S	S	10 05 13.0	+0.8
	3.5nm,0.9s,baz=29,slow=20,SNR=8.0						
ASPA	Alice Springs	23.37	218⇑	iP	P	10 01 03.8	-0.5
ASPA				eS	S	10 05 12.9	+0.7
ARMA	Armidale	24.75	175	eP	P	10 01 16.9	0.0
FITZ	Fitzroy Crossi	26.35	240⇑	iP	P	10 01 31.7	+0.3
	29nm,0.8s,mb4.9						
FITZ				eS	S	10 06 04.8	+5.0
FITZ	Fitzroy Crossi	26.35	240	P	P	10 01 31.7	+0.3
	18nm,0.7s,mb4.7,baz=56,slow=8.7,SNR=65						
STKA	Stephens Creek	27.14	195⇑	iP	P	10 01 34.5	-4.0
	12nm,0.7s,mb4.5						
STKA	Stephens Creek	27.14	195	P	P	10 01 35.4	-3.1
	13nm,0.7s,mb4.6,baz=14,slow=11,SNR=18						
TOO	Toolangi	32.01	186	eP	P	10 02 21.6	0.0
	7.5nm,1.4s,mb4.3						
FORT	Forrest	32.10	216⇑	iP	P	10 02 22.0	-0.4
	31nm,0.6s,mb5.3						
KLBR	Kellerberrin	39.34	225⇑	iP	P	10 03 23.2	-1.2
	5.9nm,0.5s,mb4.6						
SONM	Songino Array	65.29	330	P	P	10 06 40.3	+3.8
	0.9nm,0.8s,mb3.9,baz=149,slow=6.4,SNR=5.7						
VNDA	Vanda	72.16	177	P	P	10 07 19.2	0.0
	1.7nm,0.7s,mb4.1,baz=339,slow=5.9,SNR=13						
TORD	Torodi Ar. Bea	147.35	286	PKPbc	PKPbc	10 15 39.8	+2.0
	0.4nm,0.4s,baz=83,slow=2.8,SNR=12						

IDC 02 10:28:30.1±3.3, **446S**×**15102E**, **h0**km, **mb3.6**/3, **mb1 3.9**/3, **mb1mx3.6**/12, **mbtmp3.7**/3, **Error ellipse: s-maj=115.6km s-min=44.8km az=119.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WRA	Warramunga Arr	22.38	225	P	P	10 33 30.3	+0.4
	0.6nm,0.3s,baz=49,slow=10,SNR=22						
ASAR	Alice Springs	25.25	219	P	P	10 33 57.2	-0.5
	0.5nm,0.5s,baz=61,slow=8.8,SNR=12						
FITZ	Fitzroy Crossi	28.29	239	P	P	10 34 26.1	+1.0
	0.8nm,0.4s,baz=53,slow=10.0,SNR=16						
TORD	Torodi Ar. Bea	148.52	288	PKPbc	PKPbc	10 48 19.6	+0.8
	1.2nm,0.9s,baz=88,slow=2.5,SNR=9.9						

GUC 02 11:06:54.5±0.7, **3500S**×**7044W**, **h15**km±4km, **MD3.5**, **ML1.9, 4C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SFDO	San Fernando	0.61	309⇓	iP	Pg	11 07 06.4	-0.1
CICH	Cipreses	0.68	1⇓	iP	Pg	11 07 07.3	-0.5
CICH				i S	Sg	11 07 16.9	+0.1
CACH	El Canelo	0.89	351⇑	iP	Pb	11 07 11.0	-0.7
CACH				i S	Sb	11 07 23.6	+0.2
TALC	Talca	1.05	248⇓	iP	Pb	11 07 13.8	-0.6
TALC				i S	Sb	11 07 28.2	+0.1
CHCH	Chadas Angostu	1.08	351	eP	Pb	11 07 13.8	-1.0
LMEL	Las Melosas	1.17	10⇓	iP	Pn	11 07 15.9	-0.4
LMEL				AML	AML	11 07 38.2	
	comp=N,26nm,0.1s						
LNV	Longovilo	1.31	322⇑	iP	Pn	11 07 18.5	+0.2
LNV				i S	Sb	11 07 36.6	+1.0
TACH	Talagante	1.41	343⇑	iP	Pn	11 07 20.3	+0.7
RCDM	Rinconada Maip	1.54	349⇑	iP	Pn	11 07 22.6	+1.2
RCDM				AML	AML	11 07 23.8	
	comp=E,62nm,0.1s						
FCH	Farellones	1.67	4⇓	iP	Pn	11 07 25.3	+2.0
FCH				i S	Sn	11 07 48.3	+3.9
FCH				AML	AML	11 07 59.8	
	comp=N,16nm,0.2s						
LCCH	Las Cruces	1.79	328⇓	iP	Pn	11 07 26.4	+1.6
LCCH				i S	Sn	11 07 50.3	+3.0

*ATH **02** 11:13:47.6, 3806N×2193E, h75km±4km, ML3.5*
*ISCJB **02** 11:13:47.9±0.5, 3807N±003×2194E±003, h82km±7km, mb3.2/1, Error ellipse: s-maj=5.1km s-min=3.9km az=82.9*
*NEIC **02** 11:13:47.5, 3808N×2193E, h77km, MG3.5(ATH), After ATH.*
*THE **02** 11:13:48.5, 3802N×2189E, h73km, ML3.4*
*CSEM **02** 11:13:48.0±0.1, 3808N×2192E, h60km, ML3.5, Error ellipse: s-maj=2.3km s-min=1.5km az=23.0*
*SOF **02** 11:14:06.0, 3935N×2275E, h30km, MD3.2*

ISC 02 11:13:48.8±0.5, **3806N**±003×**2193E**±003, **h75**km±8km, **n53**, σ**0.75**/73, **mb3.2**/1, **3C-4D, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
RLS	Riolos of Patr	0.37	269⇑	iP	Pn	11 14 00.4	-0.6
EVR	Evrytania	0.86	353⇓	iP	Pn	11 14 07.2	+1.3
EVR	Evrytania	0.86	353⇓	iP	Pn	11 14 07.6	+1.7
ITM	Ithomi	0.88	180⇓	iP	Pn	11 14 06.4	+0.3
ITM				eS	Sn	11 14 19.1	+0.1
ITM	Ithomi	0.88	180⇓	iP	Pn	11 14 06.4	+0.3
ITM				eS	Sn	11 14 21.0	+2.0
AGG	Agios Georgios	1.01	18	ePg	Pn	11 14 08.2	+0.5
AGG				eSg	Sn	11 14 22.7	+1.0
LKR	Lokris	1.02	55	eP	Pn	11 14 07.6	-0.3
LKR				eS	Sn	11 14 21.8	-0.2
MGER	Gerania Oros	1.05	94	eP	Pn	11 14 07.8	-0.4
MGER				eS	Sn	11 14 22.0	-0.6
VLS	Valsamata	1.07	277	eP	Pn	11 14 07.8	-0.6
LKD	Levkas	1.20	303	ePg	Pn	11 14 09.8	-0.2
LKD				eSg	Sn	11 14 25.3	-0.5
NAIG	Nisos Aigina	1.27	103	eP	Pn	11 14 10.0	-0.9
NAIG				eS	Sn	11 14 26.5	-1.0
ATH	Athens Observa	1.41	93⇑	iP	Pn	11 14 12.8	0.0
ATH				eS	Sn	11 14 30.4	-0.4
KVR	Kavouri	1.47	99	eP	Pn	11 14 13.0	-0.6
KVR				eS	Sn	11 14 32.0	-0.2
PTL	Penteli	1.52	90	eP	Pn	11 14 14.0	-0.3
PTL				eS	Sn	11 14 32.5	-1.0
VLI	Veliai	1.56	149⇑	iP	Pn	11 14 15.1	+0.3
VLI				eS	Sn	11 14 33.9	-0.4
NEO	Neokhori	1.60	39	eP	Pn	11 14 15.7	+0.4
NEO				eS	Sn	11 14 35.1	-0.1
NEO	Neokhori	1.60	39	eP	Pn	11 14 15.7	+0.4
NEO				i S	Sn	11 14 35.1	-0.1
XOR	Xorichti	1.63	37	ePb	Pn	11 14 15.8	+0.1
JAN	Janina	1.80	332	eP	Pn	11 14 18.9	+1.0
JAN	Janina	1.80	332	eP	Pn	11 14 18.5	+0.6
MEV	Metsovon	1.81	343	ePb	Pn	11 14 19.3	+1.3
IGT	Igoumenitsa	1.93	320	ePb	Pn	11 14 19.3	-0.3
KYTH	Kithira	1.98	153	eP	Pn	11 14 22.8	+2.4
LIT	Litokhoron	2.08	12	ePn	Pn	11 14 22.0	+0.3
KZN	Kozani	2.24	357	eP	Pn	11 14 24.4	+0.5
KEK	Kerkira	2.34	315	eP	Pn	11 14 24.6	-0.6
KEK				eS	Sn	11 14 51.7	-1.3
PLG	Polygyros	2.59	27	eP	Pn	11 14 28.7	+0.2
PLG				eS	Sn	11 14 58.7	-0.3
FNA	Florina	2.75	351	ePn	Pn	11 14 31.2	+0.5
SOH	Sokhos	2.97	21	ePn	Pn	11 14 34.5	+0.9
BIA	Bitola	2.99	351	ePn	Pn	11 14 34.0	+0.1
BIA	Bitola	2.99	351	i Pn	Pn	11 14 33.9	-0.1
BIA				i Sn	Sn	11 15 08.7	0.0
BIA	Bitola	2.99	351	ePn	Pn	11 14 34.0	+0.1
BIA				i Sn	Sn	11 15 08.7	0.0
APE	Apeiranthos	3.03	108	ePn	Pn	11 14 34.6	+0.2
APE	Apeiranthos	3.03	108	eP	Pn	11 14 34.7	+0.3
APE	Apeiranthos	3.03	108	eP	Pn	11 14 34.5	+0.1
OHR	Ohrid	3.17	344	i Pn	Pn	11 14 36.2	-0.2
KNT	Kendrikon	3.18	13	ePn	Pn	11 14 37.5	+0.9
VAM	Vamos	3.21	145	eP	Pn	11 14 38.0	+1.0
VAM	Vamos	3.21	145	eP	Pn	11 14 37.2	+0.2
CHOS	Chios island	3.26	83	ePn	Pn	11 14 38.5	+0.9
VAY	Valandovo	3.29	8	i Pn	Pn	11 14 37.9	-0.1
VAY				i Sn	Sn	11 15 15.7	-0.3
VAY	Valandovo	3.29	8	i Pn	Pn	11 14 37.9	-0.1
VAY				i Sn	Sn	11 15 15.6	-0.4
SRS	Serrai	3.31	22	ePn	Pn	11 14 38.6	+0.3
NVR	Nevrokopi	3.60	24	eP	Pn	11 14 43.3	+1.0
MMB	Musomiste	3.78	21	i P	Pn	11 14 43.8	-0.9
KKB	Krupnik	3.90	13	i P	Pn	11 14 46.3	0.0
TIP	Timpagrande	4.20	287	Pn	Pn	11 14 50.4	-0.1
RZN	Rozhen	4.21	30	i P	Pn	11 14 50.2	-0.3
VTS	Vitosha	4.63	12	i P	Pn	11 14 57.0	+0.8

SG1	Sgolgore (BA)	4.92	306	ePn	Pn	11 14 59.2	-1.1
BAI	Bari	4.95	309	ePn	Pn	11 15 01.0	+0.4
STON	Ston	5.79	327	i Pn	Pn	11 15 09.3	-2.8
STON				i Sn	Sn	11 16 11.2	-5.8
NB2	NORSAR Subarra	23.96	347	P	P	11 18 55.1	-1.0
	comp=Z,0.8nm,0.6s,mb3.2,baz=158,slow=11						

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*SKO **02** 11:33:19.5,4136N×2259E,h15^{km},M3.6,ML2.2*
*CSEM **02** 11:33:21.1±0.3,4137N×2258E,h2^{km},ML2.6,Error ellipse: s-maj=7.6km s-min=2.7km az=2.0*
THE 02 11:33:21.1,4136N×2259E,h10^{km},ML2.6,2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VAY	Valandovo	0.04	203	ePg	Pg	11 33 21.6	-1.3
VAY				eSg	Sg	11 33 22.8	-1.5
VAY	Valandovo	0.04	203	i Pg	Pg	11 33 21.5	-1.5
VAY				eLg		11 33 22.9	
	comp=E,2μm,0.2s						
VAY				⇓iSg	Sg	11 33 22.9	-1.4
	comp=N,3μm,0.3s						
VAY	Valandovo	0.04	203	ePg	Pg	11 33 21.6	-1.4
VAY				⇓iSg	Sg	11 33 22.9	-1.4
	comp=N,3μm,0.3s						
KNT	Kendrikon	0.30	130	ePg	Pg	11 33 27.1	-0.1
KNT				eSg	Sg	11 33 31.7	+0.5
SOH	Sokhos	0.79	133	ePg	Pg	11 33 36.0	-0.3
SOH				eSg	Sg	11 33 47.4	+0.8
SRS	Serrai	0.79	107	ePg	Pg	11 33 36.2	-0.2
FNA	Florina	1.08	238	ePg	Pg	11 33 41.4	-0.5

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*CSEM **02** 11:58:49.0±0.1,3552N×374W,h10^{km},MD2.5,Error ellipse: s-maj=2.8km s-min=2.2km az=89.0*
*CNRM **02** 11:58:52.5,3544N×377W,h5^{km},MD2.5*
MDD 02 11:58:50.3±0.5,3552N×378W,h0^{km},mbLg1.9/5,Error ellipse: s-maj=4.9km s-min=3.8km az=84.0,PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPAL	Palemas	0.32	204	i P	Pg	11 58 57.0	+0.5
TOU	Touzarine	0.56	178	P	Pg	11 59 01.0	0.0
TOU				S	Sg	11 59 08.0	-0.2
TOU	Touzarine	0.56	178	i P	Pg	11 59 01.0	0.0
EMEL	Melilla	0.71	108	P	Pg	11 59 02.9	-1.0
	82nm,0.1s,SNR=5.7						
EMEL				S	Sg	11 59 12.3	-0.8
	232nm,0.1s,SNR=6.8						
EMLI	Melilla	0.71	107	P	Pg	11 59 02.9	-1.1
	82nm,0.1s,SNR=5.7						
EMLI				S	Sg	11 59 12.3	-1.0
	232nm,0.1s,SNR=6.8						
EALB	Alboran	0.74	55	P	Pg	11 59 04.2	-0.3
	28nm,0.1s,SNR=7.9						
EALB				S	Sg	11 59 14.3	+0.2
	36nm,0.1s,SNR=7.9						
EALB	Alboran	0.74	55	P	Pg	11 59 04.1	-0.4
	28nm,0.1s,SNR=7.9						
EALB				S	Sg	11 59 14.3	+0.2
	36nm,0.1s,SNR=7.9						
EMIJ	Mijas	1.32	323	P	Pg	11 59 14.0	-1.5
	0.3nm,0.1s,SNR=8.6						
EMIJ				S	Sg	11 59 31.8	-0.8
	4.0nm,0.1s,SNR=9.5						
EGUA	Guajares	1.32	8	P	Pg	11 59 13.6	-2.1
	0.4nm,0.1s,SNR=4.0						
EGUA	Guajares	1.32	8	P	Pg	11 59 13.7	-2.0
	0.4nm,0.1s,SNR=4.0						
TZK	Tazeka	1.46	193	i P	Pn	11 59 17.5	-0.5
TZK				i S	Sg	11 59 34.5	-2.9
EBER	Berja	1.56	27	P	Pn	11 59 16.7	-2.5
	0.2nm,0.1s,SNR=4.6						
EBER				S	Sn	11 59 37.7	-2.4
	1.2nm,0.1s,SNR=7.4						
EBER	Berja	1.56	27	P	Pn	11 59 16.7	-2.5
	0.2nm,0.1s,SNR=4.6						
EBER				S	Sn	11 59 37.7	-2.4
	1.2nm,0.1s,SNR=7.4						
EQES	Quesada	2.35	14	P	Pn	11 59 30.6	+0.5
	1.1nm,0.2s,SNR=7.9						
EQES				S	Sn	12 00 00.4	+0.7
	1.4nm,0.2s,SNR=7.9						
EQES	Quesada	2.35	14	P	Pn	11 59 30.5	+0.3
	1.1nm,0.2s,SNR=7.9						
EQES				S	Sn	12 00 00.4	+0.7
	1.4nm,0.2s,SNR=7.9						
EADA	Adamuz	2.72	347	P	Pn	11 59 34.8	-0.5
	0.2nm,0.1s,SNR=7.9						
EADA				S	Sn	12 00 08.7	-0.1
	0.6nm,0.1s,SNR=4.0						
EADA	Adamuz	2.72	347	P	Pn	11 59 34.8	-0.4
	0.2nm,0.1s,SNR=7.9						
EADA				S	Sn	12 00 12.0	+3.2
	0.3nm,0.1s,SNR=4.0						
EMIN	Mina Concepcio	3.23	315	P	Pn	11 59 41.4	-0.8
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	12 00 17.2	-4.2
	0.2nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	3.23	315	P	Pn	11 59 41.4	-0.9
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	12 00 17.2	-4.2
	0.2nm,0.1s,SNR=7.9						
EGRO	El Granado	3.59	305	P	Pn	11 59 45.7	-1.6
	0.4nm,0.1s,SNR=7.9						
EGRO				S	Sn	12 00 25.9	-4.5
	1.1nm,0.2s,SNR=7.9						
EGRO	El Granado	3.59	305	P	Pn	11 59 45.7	-1.6
	0.4nm,0.1s,SNR=7.9						
EGRO				S	Sn	12 00 25.9	-4.5
	1.1nm,0.2s,SNR=7.9						
ETOB	Tobarra	3.60	29	P	Pn	11 59 47.2	-0.1
	0.6nm,0.2s,SNR=9.8						
ETOB	Tobarra	3.60	29	P	Pn	11 59 47.2	-0.1
	0.6nm,0.2s,SNR=9.8						
EBAD	Badajoz	4.13	322	P	Pn	11 59 54.6	-0.1
	0.2nm,0.1s,SNR=4.0						
EBAD				S	Sn	12 00 38.7	-5.1
	0.4nm,0.1s,SNR=4.0						

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*ISCJB **02** 12:08:35.9±0.7,3952N±003×792W±005,h0^{km}±6^{km},Error ellipse: s-maj=6.0km s-min=4.5km az=21.9*
*CSEM **02** 12:08:37.4±0.3,3958N×796W,h18^{km}±3^{km},ML1.3,Error ellipse: s-maj=7.4km s-min=5.6km az=106.0*
*INMG **02** 12:08:37.4±0.8,3953N×796W,h0^{km},ML1.3,Error ellipse: s-maj=2.1km s-min=1.3km az=85.0*
*MDD **02** 12:08:37.4±0.4,3953N×795W,h0^{km},mbLg1.5/6,Error ellipse: s-maj=3.8km s-min=2.9km az=167.0,PRXIMO*
ISC 02 12:08:36.8±0.6,3952N±003×793W±005,h6^{km}±6^{km},n19, σ0^{s}54/24,Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTOM	Tomar	0.38	284	i Pg	Pg	12 08 44.0	-0.3
PTOM				eSg	Sg	12 08 48.9	-0.4
PTOM							
	14nm,0.1s						
PTOM	Tomar	0.38	284	eSg	Sg	12 08 48.9	-0.4
	14nm,0.1s						
PCBR	Castelo Branco	0.47	48	ePg	Pg	12 08 46.4	+0.5
PCBR				eSg	Sg	12 08 52.7	+0.6
PCBR							
	4.1nm,0.1s						
PCBR	Castelo Branco	0.47	48	ePg	Pg	12 08 46.4	+0.5
PCBR				eSg	Sg	12 08 52.7	+0.6
	4.1nm,0.1s						
MTE	Manteigas	0.92	19	eP	Pg	12 08 54.4	-0.2
MTE				eS	Sg	12 09 06.8	+0.2
MTE							
	4.1nm,0.4s						
MTE	Manteigas	0.92	19	eP	Pg	12 08 54.4	-0.2
MTE				eS	Sg	12 09 06.8	+0.2
	4.1nm,0.4s						
EBAD	Badajoz	1.05	137	Pg	Pg	12 08 56.7	-0.3
	3.9nm,0.1s,SNR=7.9						
EBAD				Lg		12 09 11.3	
	7.0nm,0.1s,SNR=7.9						
EBAD	Badajoz	1.05	137	Pg	Pg	12 08 56.8	-0.1
	3.9nm,0.1s,SNR=7.9						
PLOU	Loures	1.14	237	eS	Sg	12 09 15.0	+1.4
PVIS	Viseu	1.19	1	eP	Pg	12 08 59.3	-0.4
PVIS				eS	Sg	12 09 15.3	+0.2
PVIS							
	8.7nm,0.1s						
PBEJ	Beja	1.50	178	eS	Sn	12 09 23.7	-0.3
PBEJ							
	1.7nm,0.1s						
PBEJ	Beja	1.50	178	S	Sn	12 09 23.7	-0.3
	0.9nm,0.1s						
PVRL	Vila Real	1.76	5	eSn	Sn	12 09 30.5	+0.1
PVRL							
	3.8nm,0.1s						
PVRL	Vila Real	1.76	5	Sn	Sn	12 09 30.5	+0.1
	1.9nm,0.1s						
EMIN	Mina Concepcio	2.01	150	Pg	Pg	12 09 14.8	-0.6
	0.1nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	12 09 37.0	+0.3
	0.1nm,0.1s,SNR=7.9						
EMIN				Lg		12 09 40.8	
	0.4nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	2.01	150	Pg	Pg	12 09 14.2	-1.2
	SNR=7.9						
EGRO	El Granado	2.02	170	Lg		12 09 40.2	
	0.5nm,0.2s,SNR=7.9						
ELOB	Lobios	2.34	358	Pg	Pg	12 09 21.1	-0.6
	0.1nm,0.0s,SNR=4.0						
ELOB				Lg		12 09 49.9	
	0.9nm,0.2s,SNR=7.9						
ECAL	Calabor	2.58	20	Lg		12 10 01.2	
	1.5nm,0.3s,SNR=7.9						

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*IDC **02** 12:08:43.4±0.8,51.18N×179.37W,h0^{km},mb4.1/13, mb1 4.3/14,mb1mx4.1/23,mbtmp4.1/14,ML4.0/1,MS3.6/2, Ms1 3.5/2,ms1mx2.9/25,Error ellipse: s-maj=26.1km s-min=17.2km az=162.0*
*BJI **02** 12:08:47.4,5129N×17967W,h34^{km},mB4.8,mb4.6,Ms4.1, Msz3.9*
*ISCJB **02** 12:08:48.2±1.0,51.13N±009×17929W±005,h42^{km}±7^{km}, mb4.4/42,MS3.7/7,Error ellipse: s-maj=15.3km s-min=5.3km az=166.4*
*NEIC **02** 12:08:50.0±0.9,5104N×17938W,h49^{km}±6^{km},mb4.3/21, ML3.9(AEIC),Error ellipse: s-maj=12.1km s-min=5.8km az=182.0*
*MOS **02** 12:08:49.2±0.9,5106N×17936W,h54^{km},mb4.6/18,Error ellipse: s-maj=14.5km s-min=7.8km az=95.6*
ISC 02 12:08:49.5±0.9,5122N±008×17925W±005,h40^{km}±6^{km}, h42^{km}±3.2^{km}:pP-P,n120,σ1^{s}00/120,mb4.4/42,MS3.7/7, 4C-4D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	Amchitka	0.92	281	P	Pn	12 09 04.0	-2.0
AMKA				S	Sn	12 09 16.9	-1.2
SMY	Shemya	4.38	293	P	Pn	12 09 55.7	+2.2
SPIA	Saint Paul Isl	7.96	38	ePn	Pn	12 10 47.3	+4.6
SPIA				eSn	Sn	12 12 10.8	-0.7
UNV	Unalaska Valle	8.21	66	ePn	Pn	12 10 48.4	+2.4
FALS	False Pass	10.21	63	ePn	Pn	12 11 12.0	-1.4
PET	Petropavlovsk	13.69	286	eP	Pn	12 12 01.3	+0.3
PET				eS	Sn	12 14 33.0	+1.4
PET				pmax	pmax		
	comp=Z,100nm,16.6s						
PET				smax			
	comp=N,100nm,11.7s						
PET				MLR	MLR		
	comp=Z,100nm,16.0s						
KDAK	Kodiak Island	16.75	57	Pn	Pn	12 12 39.3	-1.8
	comp=Z,0.6nm,0.3s,baz=286,slow=8.4,SNR=9.0						
KDAK				Sn	Sn	12 15 43.9	-2.2
	comp=Z,0.1nm,0.3s,baz=8.8,slow=23,SNR=2.3						
TTA	Tatalina	17.11	38	eP	Pn	12 12 49.9	+4.3
BILL	Bilibino	18.30	343	P	Pn	12 13 02.5	+2.3
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BILL	Bilibino	18.30	343	P	Pn	12 13 02.5	+2.2
	comp=Z,7.5nm,0.9s						
COLA	College	21.21	38	eP	P	12 13 33.2	+1.4
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.7						
COLA	College	21.21	38	eP	P	12 13 33.2	+1.4
	comp=Z,3.2nm,0.8s,mb3.7						
YSS	Yuzh-Sakhalins	25.05	275	eP	P	12 14 10.0	0.0
ASAJ	Asahikawa	26.42	269	P	P	12 14 21.8	-0.6
	comp=Z,3.4nm,0.8s,mb3.9,baz=54,slow=6.3,SNR=3.0						
ASAJ	Asahikawa	26.42	269	P	P	12 14 21.8	-0.6
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KLR	Kul'dur	30.95	286	eP	P	12 14 57.9	-4.8
MDJ	Mudanjiang	34.32	279	P	P	12 15 30.1	-2.1
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,44nm,4.5s						
MDJ				LR	LR		
	comp=N,13nm,21.8s,MS3.1						
MDJ				LR	LR		
	comp=E,34nm,19.3s,MS3.1						
MDJ				LR	LR		
	comp=Z,37nm,20.5s,MS3.1						
YKA	Yellowknife Ar	35.55	46	P	P	12 15 41.9	-0.8
	comp=Z,1.5nm,0.7s,mb4.0,baz=282,slow=7.7,SNR=26						
YKA	Yellowknife Ar	35.55	46	P	P	12 15 41.9	-0.8
CN2	Changchun	37.30	281	eP	P	12 15 57.7	0.0
CN2				LR	LR		
	comp=N,90nm,16.0s,MS3.9						
CN2				LR	LR		
	comp=E,130nm,16.0s,MS3.9						
CN2				LR	LR		
	comp=Z,170nm,17.0s,MS3.9						
NEW	Newport	39.20	69	P	P	12 16 13.6	-0.2
	comp=Z,1.3nm,0.5s,mb4.0,baz=226,slow=14,SNR=4.8						
NEW	Newport	39.20	69	P	P	12 16 13.6	-0.1
NEW				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NEW	Newport	39.20	69	eP	P	12 16 13.5	-0.3
	comp=Z,1.5nm,0.7s,mb3.8						
MCMT	McKenzie Canyo	43.50	71	eP	P	12 16 49.1	+0.1
EGMT	Eagleton	43.60	66	eP	P	12 16 49.3	-0.5
	comp=Z,3.0nm,0.8s,mb4.1						
BOZ	Bozeman (W)	43.77	70	eP	P	12 16 51.5	+0.3
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
BOZ	Bozeman (W)	43.77	70	eP	P	12 16 51.5	+0.3
	comp=Z,2.0nm,0.8s,mb3.9						
BJI	Beijing	45.13	282	eP	P	12 17 02.1	+0.1
BJI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.4						
DAC	Darwin (Calif)	45.63	84	eP	P	12 17 00.0	-6.0
DAC				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
DAC	Darwin (Calif)	45.63	84	eP	P	12 17 00.0	-5.9
	comp=Z,6.6nm,0.9s,mb4.6						
TLY	Talaya	45.91	302	eP	P	12 17 08.0	-0.2
TLY				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
TLY				MLR	MLR		
	comp=Z,70nm,20.0s,MS3.6						
TLY	Talaya	45.91	302	eP	P	12 17 08.8	+0.7
TPNV	Topopah Spring	46.05	83	eP	P	12 17 10.6	+1.3
TPNV				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
TPNV	Topopah Spring	46.05	83	eP	P	12 17 10.6	+1.3
	comp=Z,1.4nm,0.7s,mb4.0						
DUG	Dugway	46.18	77	P	P	12 17 10.9	+0.6
DUG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
DUG	Dugway	46.18	77	P	P	12 17 10.9	+0.6
	comp=Z,2.9nm,0.9s,mb4.2						
SONM	Songino Array	46.47	296	LR	LR	12 37 49.0	
	comp=Z,88nm,18.3s,MS3.8,baz=174,slow=38						
BW06	Boulder Array	46.63	72	eP	P	12 17 15.1	+1.3
	comp=Z,2.5nm,0.8s,mb4.2						
PDAR	Pinedale Array	46.63	72	P	P	12 17 14.9	+1.1
	comp=Z,2.8nm,0.7s,mb4.3,baz=316,slow=4.7,SNR=27						
HHC	Hu-ho-hao-te	47.46	286	eP	P	12 17 19.6	-0.7
HHC				AP	pP	12 17 29.6	-2.1
HHC				XP	sP	12 17 33.1	-3.3
HHC				PP	PP	12 19 10.1	-1.7
HHC				PCS	PcS	12 22 43.8	-1.7
HHC				S	S	12 24 09.2	-2.8
HHC				SCS	ScS	12 27 07.3	-3.5
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,72nm,6.0s						
HHC				LR	LR		
	comp=N,146nm,21.4s,MS4.0						
HHC				LR	LR		
	comp=E,114nm,20.8s,MS4.0						
SSE	Sheshan	47.71	269	P	P	12 17 19.0	-3.2
SSE				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,60nm,3.8s						
ULM	Lac du Bonnet	50.01	56	LR	LR	12 40 04.2	
	comp=Z,36nm,18.2s,MS3.4,baz=238,slow=38						
LZH	Lanzhou	55.16	286	eP	P	12 18 18.4	+0.5
LZH				AP	pP	12 18 28.5	-1.0
LZH				XP	sP	12 18 32.4	-1.8
LZH				PP	PP	12 20 23.1	+1.6
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb5.0						
ARCES	ARCESS Array B	58.20	350	P	P	12 18 38.6	-0.9
	comp=Z,2.2nm,0.9s,mb4.2,baz=17,slow=8.9,SNR=5.4						
KURK	Kurchatov	58.93	313	eP	P	12 18 43.8	-0.8
KURK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
KURK	Kurchatov	58.93	313	eP	P	12 18 43.8	-0.8
	comp=Z,3.5nm,0.5s,mb4.7						
WMQ	Urumqi	59.19	303	P	P	12 18 48.4	+2.0
MKAR	Makanchi Array	59.91	308	P	P	12 18 51.0	-0.4
	comp=Z,2.7nm,0.5s,mb4.5,baz=50,slow=6.6,SNR=20						
BVAR	Borovoye Array	60.83	320	P	P	12 18 57.0	-0.7
	comp=Z,1.9nm,0.7s,mb4.3,baz=54,slow=7.5,SNR=13						
BVAR				PcP	PcP	12 19 40.4	-0.7
	comp=Z,0.6nm,0.5s,baz=64,slow=6.8,SNR=5.1						
ZRNK	Zerenda	61.44	320	P	P	12 19 01.9	+0.1
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
ZRNK	Zerenda	61.44	320	P	P	12 19 01.9	0.0
	comp=Z,1.6nm,0.7s,mb4.3						
KMI	Kunming	63.47	278	P	P	12 19 16.0	+0.6
KMI				AP	pP	12 19 27.8	+0.7
KMI				XP	sP	12 19 32.7	+1.0
KMI				PP	PP	12 21 37.3	+2.1
KMI				S	S	12 27 43.9	-1.7
KMI				XS	sS	12 28 03.6	-1.5
KMI				SS	SS	12 31 52.4	-0.6
KMI				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.5						
KMI				AMB	AMB		
	comp=Z,33nm,4.7s						
KMI				LR	LR		
	comp=Z,59nm,16.8s,MS3.8						
JOF	Joensuu	63.68	345	ep	P	12 19 15.3	-1.5
PLAL	Pickwick Lake	64.33	66	eP	P	12 19 21.1	0.0
	comp=Z,3.2nm,0.8s,mb4.4						
KAF	Kangasniemi	65.20	347	ep	P	12 19 25.4	-1.3
	comp=Z,5.6nm,0.7s,mb4.7,baz=13,slow=5.9						
KAF	Kangasniemi	65.20	347	eP	P	12 19 25.4	-1.3
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
FINES	FINESS Array B	65.88	347	P	P	12 19 29.9	-1.2
	comp=Z,4.0nm,0.8s,mb4.5,baz=92,slow=6.5,SNR=17						
NB2	NORSAR Subarra	67.78	355	P	P	12 19 42.7	-0.5
	comp=Z,1.2nm,0.7s,mb4.0,baz=7.3,slow=6.5						
NOA	NORSAR Array B	67.78	355	P	P	12 19 41.8	-1.4
	comp=Z,0.8nm,0.5s,mb4.0,baz=7.7,slow=6.3,SNR=4.5						
KSH	Kashi	68.37	306	eP	P	12 19 46.1	-0.8
KSH				eAP	pP	12 19 58.9	+0.2
KSH				eXP	sP	12 20 03.8	+0.5
KSH				ePCP	PcP	12 20 12.0	-0.2
KSH				ePP	PP	12 22 19.0	+1.0
KSH				eSCP		12 24 10.7	
KSH				ePCS		12 24 20.2	
KSH				eS	S	12 28 41.1	-4.2
KSH				eXS	sS	12 29 02.5	-2.5
KSH				eSCS	ScS	12 29 38.8	-4.5
KSH				eSS	SS	12 33 06.0	-3.1
KSH				AMB	AMB		
	comp=Z,230nm,5.8s						
GUN	Gumba	71.65	292	eP	P	12 20 08.2	+1.2
	comp=Z,22nm,0.5s,mb5.3						
JIRN	Jiri	71.66	291	eP	P	12 20 08.5	+1.4
	comp=Z,20nm,0.7s,mb5.1						
KKN	Kakani	72.09	292	eP	P	12 20 10.7	+1.0
	comp=Z,14nm,0.6s,mb5.0						
GKN	Gorkha	72.31	293	eP	P	12 20 11.7	+0.8
DMN	Daman	72.33	292	eP	P	12 20 11.9	+0.8
KOLN	Koldanda	73.08	293	eP	P	12 20 16.6	+1.0
AKASG	Malin Array Be	75.61	342	P	P	12 20 29.6	-0.7
	comp=Z,4.5nm,0.5s,mb4.7,baz=20,slow=5.8,SNR=16						
CLL	Collm	77.32	352	⇓P	P	12 20 39.5	-0.4
	comp=Z,logA/T=0.7,mb4.4						
CLL				e*PP	pP	12 20 53.0	+1.0
CLL	Collm	77.32	352	⇓iP	P	12 20 39.5	-0.4
	comp=Z,6.0nm,1.3s,mb4.4						
CLL				epP	pP	12 20 53.0	+1.0
CLL	Collm	77.32	352	⇓iP	P	12 20 39.5	-0.4
CLL				e*PP	pP	12 20 53.0	+1.0
CLL				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
VRAC	Vranov	78.94	350	⇑iP	P	12 20 49.1	+0.2
GIVF	Givet	79.00	357	eP	P	12 20 49.1	-0.1
BAIF	Baives	79.06	358	eP	P	12 20 49.7	+0.2
	comp=Z,11nm,0.9s,mb4.5						
BAIF	Baives	79.06	358	eP	P	12 20 49.7	+0.2
BAIF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BAIF	Baives	79.06	358	eP	P	12 20 49.7	+0.2
	comp=Z,5.6nm,0.9s,mb4.5						
BURAR	Bucovina Array	79.33	343	⇑iP	P	12 20 51.3	+0.3
KHC	Kasperske Hory	79.43	351	eP	P	12 20 51.5	-0.1
GERES	GERESS Array B	79.70	351	P	P	12 20 52.4	-0.7
	comp=Z,0.9nm,0.5s,mb3.9,baz=19,slow=5.4,SNR=8.3						
FLN	La Foliniere	80.39	1	eP	P	12 20 57.2	+0.4
DRGR		80.55	345	⇑iP	P	12 20 57.9	+0.2
LDF	La Druitiere	80.56	1	eP	P	12 20 57.3	-0.4
	comp=Z,4.0nm,0.5s,mb4.3						
LDF	La Druitiere	80.56	1	eP	P	12 20 57.3	-0.4
LDF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
LDF	La Druitiere	80.56	1	eP	P	12 20 57.3	-0.4
	comp=Z,2.0nm,0.5s,mb4.3						
CDF	Champ du Feu	80.59	356	eP	P	12 20 57.6	-0.3
GRR	Gorron	80.76	1	eP	P	12 20 59.3	+0.5
ROSF	Rostrenen	80.77	3	eP	P	12 20 58.7	-0.1
SGMF	Saint Gilles	80.87	2	eP	P	12 20 59.3	0.0
	comp=Z,6.2nm,0.7s,mb4.4						
SGMF	Saint Gilles	80.87	2	eP	P	12 20 59.3	0.0
SGMF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
SGMF	Saint Gilles	80.87	2	eP	P	12 20 59.3	0.0
	comp=Z,3.1nm,0.7s,mb4.3						
MLR	Muntele Rosu	81.24	342	⇑iP	P	12 21 03.0	+1.7
WRA	Warramunga Arr	81.70	224	P	P	12 21 01.8	-1.9
	comp=Z,0.4nm,0.7s,mb3.4,baz=32,slow=6.1,SNR=6.0						
LOR	Lormes	81.86	358	eP	P	12 21 05.0	+0.4
BZS	Buzias	81.87	345	⇓iP	P	12 21 04.6	-0.1
SSF	Saint Saulge	82.07	358	eP	P	12 21 05.6	-0.1
AVF	Avril sur Loir	82.35	358	eP	P	12 21 06.9	-0.2
	comp=Z,4.1nm,0.8s,mb4.1						
AVF	Avril sur Loir	82.35	358	eP	P	12 21 06.9	-0.2
AVF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
AVF	Avril sur Loir	82.35	358	eP	P	12 21 06.9	-0.2
	comp=Z,2.0nm,0.8s,mb4.1						
CABF	La Chapelle	82.44	356	eP	P	12 21 09.0	+1.4
	comp=Z,13nm,1.0s,mb4.5						
CABF	La Chapelle	82.44	356	eP	P	12 21 09.0	+1.4
CABF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
CABF	La Chapelle	82.44	356	eP	P	12 21 09.0	+1.4
	comp=Z,6.7nm,1.0s,mb4.5						
SMF	Signal de Mont	82.48	358	eP	P	12 21 07.7	-0.1
	comp=Z,1.8nm,0.5s,mb4.0						
SMF	Signal de Mont	82.48	358	eP	P	12 21 07.7	-0.1
SMF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
SMF	Signal de Mont	82.48	358	eP	P	12 21 07.7	-0.1
	comp=Z,0.9nm,0.4s,mb4.0						
MFF	Saint Martin d	82.56	1	eP	P	12 21 08.3	+0.1
BGF	Bois d'Agland	82.59	359	eP	P	12 21 08.5	+0.1
TCF	Toulx Ste Croi	82.87	359	eP	P	12 21 09.7	-0.1
LFF	La Frestale	84.22	0	eP	P	12 21 16.9	+0.1
CAF	Calviac	84.23	359	eP	P	12 21 17.1	+0.3
VIVF	Saint-Julien-l	84.25	357	eP	P	12 21 17.2	+0.3
MBDF	Montbardon	84.29	356	eP	P	12 21 18.0	+0.8
	comp=Z,3.4nm,0.7s,mb4.3						
MBDF	Montbardon	84.29	356	eP	P	12 21 18.0	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
MBDF	Montbardon	84.29	356	eP	P	12 21 18.0	+0.8
	comp=Z,1.7nm,0.6s,mb4.3						
ASAR	Alice Springs	85.18	222	P	P	12 21 20.4	-1.2
	comp=Z,0.5nm,0.8s,mb3.7,baz=24,slow=5.4,SNR=7.1						
MTLF	Montolieu	85.81	359	eP	P	12 21 25.2	+0.4
EPF	Esparros	86.13	0	eP	P	12 21 26.5	+0.2
ETSF	Etsaut	86.26	1	eP	P	12 21 26.8	-0.2
TSUM	Tsumeb	145.39	331	PKPbc	PKPbc	12 28 23.3	+0.2
	comp=Z,3.8nm,0.9s,baz=352,slow=5.9,SNR=7.1						
LBTB	Lobatse	147.64	315	PKPbc	PKPbc	12 28 30.9	+1.3
	comp=Z,1.7nm,0.6s,baz=294,slow=10.0,SNR=4.3						
BOSA	Boshof	150.87	311	PKPbc	PKPbc	12 28 37.7	0.0
	comp=Z,0.9nm,0.7s,baz=120,slow=3.1,SNR=4.0						
BOSA	Boshof	150.87	311	PKPbc	PKPbc	12 28 37.7	0.0

*ISCJB **02** 12:14:55.8±1.9, 56.36S±0.08×27.4W±0.1, h109km±18km, mb4.4/18, Error ellipse: s-maj=15.1km s-min=10.4km az=78.0*

*BJI **02** 12:14:56.6, 57.17S×27.37W, h111km, mB4.9*

*IDC **02** 12:14:57.5±5.1, 56.38S×27.35W, h111km±44km, mb4.1/11, mb1 4.2/11, mb1mx4.1/16, mbtmp4.4/11, MS3.3/3, Ms1 3.3/3, ms1mx3.1/20, Error ellipse: s-maj=18.5km s-min=15.7km az=10.0*

*NEIC **02** 12:14:57.5±1.1, 56.37S×27.33W, h112km±9km, mb4.7/13, Error ellipse: s-maj=8.3km s-min=6.7km az=209.0*

ISC 02 12:14:57.4±1.7**, 56.38S**±0.08×**27.4W**±0.1**, h109**km±17km**, n64,** σ**0.65**/30**, mb4.4**/18**, 1C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.62	288	ePn	Pn	12 16 18.6	0.0
	120nm,0.6s						
VNA1	Neumayer--Stat	16.52	157	e	Pn	12 18 43.5	+1.0
VNA1				e		12 18 45.9	
VNA1				e		12 18 47.7	
VNA1				e		12 18 51.5	
SNAA	Sanae	18.48	156	e	P	12 19 03.8	-0.9
SNAA				e		12 19 06.3	
SNAA				e		12 19 09.8	
SNAA				e		12 19 10.5	
SNAA				e		12 19 12.7	
SNAA				e		12 19 15.9	
SNAA				e		12 19 21.0	
SNAA				e		12 19 23.8	
SNAA				e		12 19 25.9	
SNAA	Sanae	18.48	156⇑	iP	P	12 19 03.7	-1.0
	28nm,0.6s						
EFI	East Falkland	18.55	272	eP	P	12 19 05.5	-0.1
	9.7nm,0.5s						
PMSA	Palmer Station	19.61	230	P	P	12 19 17.3	+0.2
	39nm,0.6s						
TRQA	Tornquist	29.37	294	eP	P	12 20 49.0	-1.0
	2.7nm,0.6s,mb4.0						
SYO	Syowa Base	31.38	140⇓	eScP	ScP	12 27 29.4	-2.5
PLCA	Paso Flores	31.97	281	P	P	12 21 11.7	-1.3
	1.6nm,0.8s,mb3.8,baz=162,slow=12,SNR=2.8						
PLCA	Paso Flores	31.97	281	eP	P	12 21 11.6	-1.4
QSPA	South Pole Qui	33.87	180	eP	P	12 21 30.1	+0.6
	6.0nm,0.6s,mb4.6						
CPUP	Villa Florida	36.97	312	P	P	12 21 55.1	-0.8
	6.0nm,0.6s,mb4.7,baz=132,slow=6.7,SNR=24						
CPUP	Villa Florida	36.97	312	eP	P	12 21 55.3	-0.7
	28nm,0.6s,mb5.4						
CPUP				ePcP	PcP	12 24 14.5	-0.4
CFAA	Coronel Fontan	37.61	294	LR	LR	12 37 46.8	
	comp=Z,8.8nm,18.5s,baz=155,slow=36						
BDFB	Brasilia	43.61	330	P	P	12 22 51.2	+0.5
	2.8nm,0.6s,mb4.2,baz=157,slow=3.1,SNR=4.7						
BDFB				LR	LR	12 37 06.3	
	comp=Z,72nm,19.9s,baz=159,slow=30						
LVC	Limon Verde	45.39	301	LR	LR	12 40 46.9	
	comp=Z,89nm,19.5s,baz=195,slow=34						
LVC	Limon Verde	45.39	301	eP	P	12 23 05.5	+0.6
	13nm,0.6s,mb4.8						
BOSA	Boshof	46.14	76	P	P	12 23 10.5	-0.3
	2.7nm,1.0s,mb3.9,baz=214,slow=3.6,SNR=3.1						
VNDA	Vanda	46.24	183	P	P	12 23 11.4	-0.1
	5.3nm,0.6s,mb4.4,baz=187,slow=5.9,SNR=61						
LBTB	Lobatse	49.19	73	P	P	12 23 33.9	-0.4
	2.7nm,0.7s,mb4.3,baz=241,slow=11,SNR=5.6						
LBTB	Lobatse	49.19	73	P	P	12 23 33.9	-0.4
TSUM	Tsumeb	49.92	61	P	P	12 23 39.6	-0.3
	0.8nm,0.6s,mb3.8,baz=167,slow=9.3,SNR=6.6						
TSUM	Tsumeb	49.92	61	eP	P	12 23 40.0	+0.1
	4.0nm,1.0s,mb4.3						
LPAZ	La Paz	50.50	306	P	P	12 23 45.3	+1.1
	26nm,0.5s,mb5.5,baz=122,slow=5.5,SNR=350						
LPAZ	La Paz	50.50	306	eP	P	12 23 45.3	+1.1
	26nm,0.5s,mb5.4						
LPAZ				ePcP	PcP	12 25 00.7	-0.1
LSZ	Lusaka	58.58	69	eP	P	12 24 42.4	-0.2
	1.4nm,0.6s,mb4.2						
DBIC	Dimbokro	65.51	25	P	P	12 25 28.8	-0.2
	3.6nm,0.6s,mb4.4,baz=175,slow=7.7,SNR=7.4						
DBIC	Dimbokro	65.51	25	P	P	12 25 28.8	-0.2
OTAV	Otavalo	69.77	304	eP	P	12 25 56.6	+0.9
	16nm,1.2s,mb4.7						
TORD	Torodi Ar. Bea	73.39	30	P	P	12 26 17.7	+0.3
	6.4nm,0.5s,mb4.7,baz=199,slow=6.4,SNR=57						
SDV	Santo Domingo	74.18	315	eP	P	12 26 22.0	-0.1
	5.3nm,0.7s,mb4.4						
ESDC	Sonseca Array	97.72	18	P	P	12 28 20.8	+0.9
	0.2nm,0.5s,mb4.0,baz=176,slow=3.8,SNR=4.9						
ASAR	Alice Springs	98.70	163	P	P	12 28 23.8	-0.6
	1.1nm,0.9s,mb4.4,baz=180,slow=4.0,SNR=18						
WRA	Warramunga Arr	102.42	162	P	Pdif	12 28 40.2	-0.7
	0.3nm,0.7s,baz=194,slow=4.6,SNR=4.8						
ULM	Lac du Bonnet	120.43	316	PKP	PKPdf	12 33 33.3	-2.6
	1.5nm,0.6s,baz=87,slow=5.3,SNR=6.0						
PDAR	Pinedale Array	120.44	302	PKP	PKPdf	12 33 34.0	-1.9
	0.6nm,0.6s,baz=137,slow=4.9,SNR=5.9						
HWUT	Hardware Ranch	120.51	300	ePKPdf	PKPdf	12 33 35.0	-1.1
NOA	NORSAR Array B	120.95	21	PKP	PKPdf	12 33 34.7	-2.2
	0.6nm,0.8s,baz=29,slow=15,SNR=2.8						
NVAR	Mina Array Bea	121.44	293	PKP	PKPdf	12 33 38.0	+0.2
	1.2nm,0.6s,baz=130,slow=3.3,SNR=8.0						
MOOW	Moose Ponds	121.75	302	ePKPdf	PKPdf	12 33 37.4	-1.0
WVOR	Wild Horse Val	124.61	296	ePKPdf	PKPdf	12 33 43.8	-0.1
FINES	FINESS Array B	124.72	28	PKP	PKPdf	12 33 42.0	-2.1
	2.5nm,0.5s,baz=146,slow=2.7,SNR=44						
KAF	Kangasniemi	125.34	28	ep	PKPdf	12 33 41.7	-3.6
MSO	Missoula	125.55	303	ePKPdf	PKPdf	12 33 44.6	-1.1
BMO	Blue Mountains	125.72	299	ePKPdf	PKPdf	12 33 44.8	-1.2
YBH	Yreka Blue Hor	126.16	293	PKP	PKPdf	12 33 45.4	-1.4
	1.4nm,0.7s,baz=134,slow=7.2,SNR=5.8						
JOF	Joensuu	127.33	29	ep	PKPdf	12 33 46.5	-2.6
ARCES	ARCESS Array B	131.28	22	PKP	PKPdf	12 33 54.0	-2.6
	1.4nm,0.6s,baz=190,slow=1.5,SNR=23						
KMI	Kunming	132.50	110	PKP	PKPdf	12 33 58.2	-0.7
BVAR	Borovoye Array	135.03	58	PKP	PKPdf	12 34 01.8	-1.9
	1.1nm,0.5s,baz=270,slow=0.7,SNR=8.6						
YKA	Yellowknife Ar	136.36	318	PKhKP		12 33 49.9	
	0.1nm,0.5s,baz=124,slow=3.9,SNR=5.8						
YKA				PKP	PKPdf	12 34 03.8	-2.3
	1.6nm,0.5s,baz=126,slow=2.4,SNR=47						
CD2	Chengdu	137.66	106	ePKP	PKPdf	12 34 08.0	-0.6
WMQ	Urumqi	138.06	79	PKP	PKPdf	12 34 09.1	-0.2
LZH	Lanzhou	141.63	101	ePKP	PKPdf	12 34 17.0	+1.2
LZH				XPKP		12 34 54.5	
LZH				LR	LR		
	comp=E,236nm,19.6s						
LZH				LR	LR		
	comp=Z,453nm,20.5s						
INK	Inuvik	146.00	320	PKPbc	PKPbc	12 34 22.5	-1.9
	comp=Z,17nm,0.6s,baz=95,slow=2.3,SNR=33						
INK	Inuvik	146.00	320	ePKP	PKPdf	12 34 22.1	-1.4
EYAK	Cordova Ski Ar	148.56	304	ePKPbc	PKPbc	12 34 30.3	-1.1
HHC	Hu-ho-hao-te	149.26	103	ePKP	PKPdf	12 34 30.2	+1.4
HHC				APKP		12 34 56.2	
HHC				XPKP		12 35 05.7	
HHC				PP	PP		
	comp=Z,93nm,20.2s						
HHC				LR	LR		
	comp=N,131nm,39.2s						
HHC				LR	LR		
	comp=E,168nm,30.9s						
HHC				LR	LR		
	comp=Z,103nm,24.4s						
SML	Sawmill	150.15	305	ePKPbc	PKPbc	12 34 34.0	-1.4
PMR	Palmer	150.45	304	ePKPbc	PKPbc	12 34 34.6	-1.4
SLKM	Skilak Lake	150.64	302	ePKPbc	PKPbc	12 34 35.1	-1.4
SONM	Songino Array	150.84	87	PKPbc	PKPbc	12 34 35.4	-1.6
	comp=Z,3.1nm,0.7s,baz=219,slow=3.4,SNR=23						
KDAK	Kodiak Island	150.88	296	PKPbc	PKPbc	12 34 35.8	-1.3
	comp=Z,25nm,0.7s,baz=145,slow=2.4,SNR=16						
KDAK	Kodiak Island	150.88	296	ePKPbc	PKPbc	12 34 35.9	-1.2

*LDG **02** 12:19:56.3±0.8, 42.80N×1.42W, h2km, Md1.9/3, Ml1.9/1, Error ellipse: s-maj=15.3km s-min=7.2km az=49.0*

MDD 02 12:19:56.9±0.2**, 42.80N**×**1.37W, h0**km**, mbLg1.2**/10**, 1D, Error ellipse: s-maj=2.3km s-min=1.0km az=164.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPRE	Itoiz	0.01	58⇓	Pg	Pg	12 19 57.0	-0.1
	13nm,0.0s,SNR=18						
IPRE				Lg		12 19 57.5	
	32nm,0.0s,SNR=7.9						
EARA	Aranguren	0.16	260	Pg	Pg	12 19 59.8	-0.2
	0.8nm,0.0s,SNR=29						
EARA				Lg		12 20 03.7	
	29nm,0.1s,SNR=7.9						
IUSE	Utxeti	0.20	317	Pg	Pg	12 20 00.3	-0.4
	1.6nm,0.2s,SNR=7.9						
IUSE				Lg		12 20 03.7	
	13nm,0.2s,SNR=7.9						
SJPF	Ste Jean	0.33	18	ePg	Pg	12 20 02.9	-0.3
SJPF				eSg	Sg	12 20 07.8	+0.3
	16nm,0.3s						
SJPF	Ste Jean	0.33	18	Pg	Pg	12 20 02.9	-0.3
SJPF				Lg		12 20 07.8	
	7.9nm,0.3s						
LARF	Larrau	0.36	49	P	Pg	12 20 03.9	0.0
LARF				S	Sg	12 20 09.8	+1.2
ELIZ	Elizondo	0.38	342	Pg	Pg	12 20 03.9	-0.4
	1.5nm,0.2s,SNR=12						
ELIZ				Lg		12 20 08.8	
	2.0nm,0.2s,SNR=7.8						
EALK	Alkurruntz	0.43	346	Pg	Pg	12 20 04.5	-0.7
	0.2nm,0.1s,SNR=7.9						
EALK				Lg		12 20 10.2	
	5.1nm,0.3s,SNR=7.9						
ETSF	Etsaut	0.60	80	ePg	Pg	12 20 08.3	-0.1
ETSF				eSg	Sg	12 20 17.5	+1.3
	3.7nm,0.3s						
ETSF	Etsaut	0.60	80	Pg	Pg	12 20 08.3	-0.1
ETSF				Lg		12 20 17.5	
	1.9nm,0.3s						
EBIE	Bielsa	1.12	95	Pg	Pg	12 20 20.8	+2.4
	1.1nm,0.1s,SNR=7.9						
EBIE				Lg		12 20 37.2	
	0.9nm,0.2s,SNR=7.9						
ESAC	San Caprasio	1.27	148	Pg	Pg	12 20 22.1	+0.9
	5.1nm,0.2s,SNR=7.9						
ESAC				Lg		12 20 41.1	
	12nm,0.3s,SNR=7.9						
EPF	Esparros	1.27	79	ePg	Pg	12 20 21.3	0.0
EPF				eSg	Sg	12 20 37.1	-0.8
	2.4nm,0.3s						
EPF	Esparros	1.27	79	Pg	Pg	12 20 21.3	0.0
EPF				Lg		12 20 37.1	
	1.2nm,0.3s						
EGRA	Graus	1.38	115	Pg	Pg	12 20 25.0	+1.5
	0.5nm,0.2s,SNR=7.9						
EGRA				Lg		12 20 44.7	
	1.2nm,0.3s,SNR=7.9						

*LDG **02** 12:21:15.9±0.8, 42.89N×1.62W, h2km, Md1.9/3, Ml1.7/1, Error ellipse: s-maj=14.7km s-min=11.7km az=58.0*

MDD 02 12:21:15.9±0.9**, 42.78N**×**1.34W, h0**km**, mbLg1.0**/7**, Error ellipse: s-maj=5.8km s-min=3.2km az=138.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPRE	Itoiz	0.03	336	Pg	Pg	12 21 15.5	-1.0
	3.7nm,0.1s,SNR=7.9						
IPRE				Lg		12 21 16.8	
	58nm,0.1s,SNR=7.9						
EARA	Aranguren	0.18	268	Pg	Pg	12 21 18.4	-0.9
	1.3nm,0.1s,SNR=4.0						
EARA				Lg		12 21 22.4	
	22nm,0.1s,SNR=7.9						
IUSE	Utxeti	0.23	318	Pg	Pg	12 21 19.6	-0.7
	1.2nm,0.1s,SNR=7.9						
IUSE				Lg		12 21 22.9	
	3.3nm,0.2s,SNR=7.9						
SJPF	Ste Jean	0.34	14	ePg	Pg	12 21 22.8	+0.2
SJPF				eSg	Sg	12 21 27.2	+0.2
	5.1nm,0.3s						
SJPF	Ste Jean	0.34	14	Pg	Pg	12 21 22.8	+0.2
SJPF				Lg		12 21 27.2	
	2.5nm,0.3s						
ELIZ	Elizondo	0.41	340	Pg	Pg	12 21 23.6	-0.2
	0.4nm,0.2s,SNR=7.9						
ELIZ				Lg		12 21 29.8	
	1.1nm,0.2s,SNR=7.9						
EALK	Alkurruntz	0.46	345	Pg	Pg	12 21 24.5	-0.3
	0.1nm,0.1s,SNR=7.9						
EALK				Lg		12 21 30.5	
	2.4nm,0.2s,SNR=7.9						
ETSF	Etsaut	0.59	78	ePg	Pg	12 21 30.1	+2.9
ETSF				eSg	Sg	12 21 40.2	+5.4
	1.5nm,0.2s						
ETSF	Etsaut	0.59	78	Pg	Pg	12 21 30.1	+2.9
ETSF				Lg		12 21 40.2	
	0.8nm,0.2s						
EBIE	Bielsa	1.10	94	Pg	Pg	12 21 40.7	+3.8
	0.7nm,0.2s,SNR=7.9						
EBIE				Lg		12 21 58.2	
	0.2nm,0.3s,SNR=7.9						
ESAC	San Caprasio	1.24	148	Pg	Pg	12 21 42.1	+2.4
	1.5nm,0.2s,SNR=7.9						
ESAC				Lg		12 22 00.2	
	4.8nm,0.2s,SNR=7.9						
EPF	Esparros	1.26	78	ePg	Pg	12 21 43.1	+3.0
EPF				eSg	Sg	12 22 02.0	+5.6
	1.2nm,0.2s						
EPF	Esparros	1.26	78	Pg	Pg	12 21 43.1	+3.0
EPF				Lg		12 22 02.0	
	0.6nm,0.2s						

*IDC **02** 12:29:05.9±0.7, 51.19N×179.42W, h0km, mb4.3/19, mb1 4.5/20, mb1mx4.4/24, mbtmp4.3/20, ML4.4/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/29, Error ellipse: s-maj=21.6km s-min=12.6km az=172.0*

*BJI **02** 12:29:10.3, 51.44N×179.66W, h32km, mB4.8, mb4.7, Ms4.3, Msz3.9*

*ISCJB **02** 12:29:11.7±0.3, 51.22N±0.07×179.34W±0.04, h47km, mb4.6/103, MS3.9/21, Error ellipse: s-maj=9.4km s-min=3.4km az=174.0*

*NEIC **02** 12:29:13.0±0.7, 51.15N×179.43W, h49km±5km, mb4.6/63, ML4.3(AEIC), Error ellipse: s-maj=8.8km s-min=3.9km az=187.0*

*MOS **02** 12:29:12.1±0.8, 51.18N×179.38W, h51km, mb4.8/53, Error ellipse: s-maj=11.7km s-min=6.0km az=100.0*

*SZGRF **02** 12:29:21.6, 52.46N×177.38E, h33km, mb4.8, Rat Islands, Aleutian Islands, United States*

ISC 02 12:29:13.6±0.3**, 51.30N**±0.07×**179.37W**±0.04**, h49**km±2.3km**:pP-P, n258,** σ**0.93**/265**, mb4.6**/103**, MS3.9**/21**, 49C-5D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.83	276	P	Pn	12 29 26.6	-2.5
AMKA				S	Sn	12 29 40.0	-0.4
SMY	Shemya	4.28	292	P	Pn	12 30 18.0	+1.8
NIKO	Nikolski	6.69	71	Pn	Pn	12 30 51.4	+2.2
SPIA	Saint Paul Isl	7.95	39	P	Pn	12 31 09.4	+3.0
UNV	Unalaska Valle	8.24	67	ePn	Pn	12 31 10.7	+0.2
AKUT	Akutan	8.73	66	ePn	Pn	12 31 16.6	-0.6
FALS	False Pass	10.24	63	ePn	Pn	12 31 38.3	+0.5
FALS				eSn	Sn	12 33 30.5	-0.6
PET	Petropavlovsk	13.59	286	eP	Pn	12 32 31.9	+8.3
PET				pmax	pmax		
	comp=Z,20nm,1.1s						
PET				pmax	pmax		
	comp=Z,100nm,6.3s						
PET				MLR	MLR		
	comp=Z,300nm,19.0s						
KDAK	Kodiak Island	16.77	57	Pn	Pn	12 33 01.2	-3.7
	comp=Z,1.3nm,0.3s,baz=204,slow=4.7,SNR=14						
KDAK				Sn	Sn	12 36 06.7	-3.4
	comp=Z,0.1nm,0.3s,baz=162,slow=24,SNR=2.8						
KDAK	Kodiak Island	16.77	57	Pn	Pn	12 33 01.2	-3.7
KDAK				Sn	Sn	12 36 06.7	-3.5
BILL	Bilibino	18.20	343c	eP	Pn	12 33 24.2	+1.7
BILL				pmax	pmax		
	comp=Z,31nm,1.2s						
BILL				MLR	MLR		
	comp=Z,200nm,19.0s						
BILL	Bilibino	18.20	343	eP	Pn	12 33 22.9	+0.4
	comp=Z,16nm,0.9s						
COLA	College	21.19	38	eP	P	12 33 52.4	-2.5
DAWY	Dawson	24.41	43	eP	P	12 34 25.0	-2.3
YSS	Yuzh-Sakhalins	24.97	275⇑	eP	P	12 34 33.1	+0.7
YSS				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.7						
YSS				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.3						
YSS	Yuzh-Sakhalins	24.97	275	eP	P	12 34 32.9	+0.4
	comp=Z,20nm,0.8s,mb4.7						
ASAJ	Asahikawa	26.34	269	P	P	12 34 44.0	-0.8
	comp=Z,7.0nm,0.8s,mb4.2,baz=66,slow=7.9,SNR=6.7						
ASAJ				LR	LR	12 45 09.5	
	comp=Z,76nm,19.1s,MS3.3,baz=3.3,slow=37						
ASAJ	Asahikawa	26.34	269	P	P	12 34 44.1	-0.8
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ASAJ				MLR	MLR		
	comp=Z,76nm,19.1s						
HABR	Khabarovsk	29.14	283	eP	P	12 35 09.8	-0.1
HABR				eS	S	12 40 01.9	+3.4
HABR				pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.6						
TIXI	Tiksi	30.53	331	eP	P	12 35 24.6	+2.5
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,200nm,17.0s,MS3.8						
KLR	Kul'dur	30.86	286	eP	P	12 35 21.2	-3.8
MDJ	Mudanjiang	34.23	279	P	P	12 35 53.4	-1.2
MDJ				AP	pP	12 36 04.4	-3.1
MDJ				XP	sP	12 36 09.5	-3.8
MDJ				PP	PP	12 37 10.3	-2.4
MDJ				S	S	12 41 16.7	-1.1
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,16nm,4.2s						
MDJ				LR	LR		
	comp=N,38nm,21.3s,MS3.3						
MDJ				LR	LR		
	comp=E,54nm,21.3s,MS3.3						
MDJ				LR	LR		
	comp=Z,77nm,20.7s,MS3.4						
YKW3	Yellowknife Ar	35.52	46	eP	P	12 36 05.0	-0.7
YKA	Yellowknife Ar	35.55	46	P	P	12 36 05.0	-0.9
	comp=Z,3.8nm,0.7s,mb4.4,baz=282,slow=7.9,SNR=36						
YKA				PcP	PcP	12 38 34.4	+0.3
	comp=Z,0.3nm,0.7s,baz=288,slow=3.1,SNR=4.5						
YKA				ScP	ScP	12 42 18.7	+2.8
	comp=Z,0.3nm,0.6s,baz=290,slow=3.7,SNR=5.1						
YKA				LR	LR	12 52 46.9	
	comp=Z,109nm,18.6s,MS3.6,baz=280,slow=40						
YKA	Yellowknife Ar	35.55	46	P	P	12 36 05.0	-0.9
YKA						12 38 34.4	
YKA	Yellowknife Ar	35.55	46	P	P	12 36 05.0	-0.9
YKA				PcP	PcP	12 38 34.4	+0.3
YKA				ScP	ScP	12 42 18.7	+2.8
YKA				LR	LR	12 52 46.9	
GNW	Green Mountain	36.19	73	eP	P	12 36 12.7	+1.3
HAWA	Hanford	38.73	73	eP	P	12 36 32.9	0.0
	comp=Z,0.4nm,0.8s						
EDM	Edmonton	39.16	60	eP	P	12 36 36.5	0.0
NEW	Newport	39.25	69	P	P	12 36 35.8	-1.4
	comp=Z,3.8nm,0.8s,mb4.2,baz=303,slow=6.9,SNR=8.8						
NEW	Newport	39.25	69	eP	P	12 36 37.2	0.0
NEW				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NEW	Newport	39.25	69	eP	P	12 36 37.1	-0.1
	comp=Z,4.6nm,0.9s,mb4.2						
YBH	Yreka Blue Hor	39.25	81	P	P	12 36 37.8	+0.5
	comp=Z,1.5nm,0.8s,mb3.8,baz=180,slow=3.0,SNR=3.4						
WALA	Waterton Lakes	40.73	67	eP	P	12 36 49.7	+0.1
	comp=Z,7.2nm,1.1s,mb4.2						
BSMT	Bassoo Peak	40.82	69	eP	P	12 36 50.4	+0.1
MSO	Missoula	41.83	69	eP	P	12 36 58.4	-0.2
	comp=Z,2.9nm,0.9s,mb3.9						
HRY	Holter Researc	43.13	68	eP	P	12 37 08.2	-0.9
HLID	Hailey	43.31	74	eP	P	12 37 10.9	+0.4
	comp=Z,2.8nm,0.9s,mb4.0						
EGMT	Eagleton	43.64	66	eP	P	12 37 12.2	-1.0
	comp=Z,6.7nm,0.8s,mb4.4						
BOZ	Bozeman (W)	43.82	70	eP	P	12 37 13.9	-0.7
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
BOZ	Bozeman (W)	43.82	70	eP	P	12 37 13.9	-0.7
	comp=Z,3.8nm,0.8s,mb4.2						
NVAR	Mina Array Bea	43.92	82	P	P	12 37 14.7	-0.7
	comp=Z,0.7nm,0.7s,mb3.5,baz=278,slow=11,SNR=7.7						
ELK	Elko	44.42	78	eP	P	12 37 19.7	+0.2
ELK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ELK	Elko	44.42	78	eP	P	12 37 19.7	+0.2
	comp=Z,3.1nm,0.8s,mb4.1						
BJI	Beijing	45.04	282	eP	P	12 37 24.4	0.0
BJI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
BJI				LR	LR		
	comp=Z,64nm,21.5s,MS3.5						
HVU	Hansel Valley	45.32	75	eP	P	12 37 27.8	+1.2
BGU	Big Grassy Mou	45.67	76	eP	P	12 37 31.5	+2.2
TLY	Talaya	45.80	302	eP	P	12 37 31.4	+1.0
TLY				eS	S	12 44 10.2	-0.4
TLY				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
TLY				MLR	MLR		
	comp=Z,115nm,19.0s,MS3.8						
ULN	Ulaanbaatar	45.97	296⇑	eP	P	12 37 32.2	+0.4
ULN	Ulaanbaatar	45.97	296	eP	P	12 37 31.9	+0.2
	comp=Z,6.8nm,0.8s,mb4.6						
TPNV	Topopah Spring	46.11	83	eP	P	12 37 32.8	-0.1
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
TPNV	Topopah Spring	46.11	83	eP	P	12 37 32.8	0.0
	comp=Z,3.8nm,0.7s,mb4.4						
DUG	Dugway	46.24	77	eP	P	12 37 34.3	+0.5
DUG				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
DUG	Dugway	46.24	77	eP	P	12 37 34.3	+0.5
	comp=Z,11nm,1.2s,mb4.7						
SONM	Songino Array	46.36	296	P	P	12 37 35.2	+0.4
	comp=Z,5.5nm,0.8s,mb4.5,baz=59,slow=8.6,SNR=32						
SONM				PcP	PcP	12 39 08.6	-0.6
	comp=Z,1.2nm,0.6s,baz=55,slow=3.0,SNR=4.6						
SONM				LR	LR	12 58 30.3	
	comp=Z,174nm,18.7s,MS4.0,baz=75,slow=38						
SONM	Songino Array	46.36	296	P	P	12 37 35.2	+0.4
SONM						12 39 08.6	
BW06	Boulder Array	46.67	72	eP	P	12 37 37.1	-0.1
	comp=Z,5.7nm,0.8s,mb4.5						
PDAR	Pinedale Array	46.67	72	P	P	12 37 37.4	+0.1
	comp=Z,5.9nm,0.8s,mb4.6,baz=316,slow=4.5,SNR=58						
DAU	Daniels Canyon	47.05	75	eP	P	12 37 39.9	-0.3
MOY	Mondy	47.21	303	eP	P	12 37 42.3	+0.9
HHC	Hu-ho-hao-te	47.36	286	eP	P	12 37 42.2	-0.4
HHC				AP	pP	12 37 54.0	-2.0
HHC				XP	sP	12 37 58.8	-2.9
HHC				PP	PP	12 39 32.7	-1.4
HHC				PCS	PcS	12 43 07.7	-0.4
HHC				S	S	12 44 30.6	-2.4
HHC				SCS	ScS	12 47 28.9	-3.3
HHC				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,112nm,5.2s						
HHC				LR	LR		
	comp=N,156nm,20.8s,MS4.0						
HHC				LR	LR		
	comp=E,116nm,21.4s,MS4.0						
HHC				LR	LR		
	comp=Z,102nm,20.8s,MS3.8						
MSU	Marysvale	47.66	78	eP	P	12 37 45.3	+0.4
TMUT	Trail Mountain	47.77	77	eP	P	12 37 48.3	+2.5

SRU San Rafael 48.30 76 *e*P P 12 37 51.8 +1.9
NJ2 Nanjing 48.45 271 *e*P P 12 37 52.8 +1.7
NJ2 AP pP 12 38 05.5 +1.0
NJ2 S S 12 44 49.0 +0.6
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
NJ2 AMB AMB
comp=Z,330nm,6.0s
NJ2 LR LR
comp=N,200nm,19.6s,MS4.2
NJ2 LR LR
comp=E,130nm,18.1s,MS4.2
ULM Lac du Bonnet 50.03 56 LR LR 13 00 18.8
comp=E,50nm,19.8s,MS3.5,baz=235,slow=37
SMCO Snowmass 50.41 74 *e*P P 12 38 07.9 +1.9
ISCO Idaho Springs 50.84 73 *e*P P 12 38 09.7 +0.5
ANMO Albuquerque 53.46 78⇑ *e*P P 12 38 25.1 -3.6
SUMG Summit 53.46 14 *e*P P 12 38 28.1 -0.5
comp=E,7.5nm,1.0s,mb4.6
ZAL Zalesovo 53.84 313 P P 12 38 30.1 -1.4
comp=E,0.9nm,0.3s,mb4.1,baz=87,slow=3.7,SNR=3.6
NVS Novosibirsk 53.97 315 *e*P P 12 38 32.4 0.0
NVS *e* 12 39 36.7
LZH Lanzhou 55.06 286 *e*P P 12 38 40.5 +0.2
LZH AP pP 12 38 53.2 -0.7
LZH XP sP 12 38 58.5 -1.1
LZH PP PP 12 40 45.2 +1.4
LZH AMB AMB
comp=Z,22nm,1.3s,mb5.0
GTA Gaotai 55.26 291 *e*P P 12 38 42.3 +0.5
GTA AP pP 12 38 49.1 -6.3
GTA XP sP 12 38 52.1 -9.0
GTA PCP PcP 12 39 44.6 +2.5
GTA PP PP 12 40 46.7 +1.1
GTA S S 12 46 20.9 -1.0
GTA XS sS 12 46 32.7 -12
GTA SS SS 12 50 05.6 -1.0
GTA AMB AMB
comp=Z,7.0nm,1.0s,mb4.7
GTA AMB AMB
comp=Z,112nm,6.1s
GTA LR LR
comp=N,84nm,14.8s,MS4.1
GTA LR LR
comp=E,96nm,14.1s,MS4.1
GTA LR LR
comp=Z,129nm,14.8s,MS4.1
GDL2 Guadalupe Moun 56.60 79 *e*P P 12 38 50.2 -1.1
GDL2 *ep*P pP 12 39 04.3 -0.7
ARCES ARCESS Array B 58.10 350 P P 12 39 00.9 -1.0
comp=Z,3.0nm,0.9s,mb4.3,baz=29,slow=8.5,SNR=10
CD2 Chengdu 58.64 281 *e*P P 12 39 04.0 -1.7
CD2 AP pP 12 39 16.4 -3.0
CD2 XP sP 12 39 22.0 -3.0
CD2 PP PP 12 41 15.3 -0.4
CD2 S S 12 47 01.5 -4.9
CD2 XS sS 12 47 23.2 -6.2
CD2 SS SS 12 50 56.0 -3.7
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,60nm,12.0s
CD2 LR LR
comp=Z,70nm,13.2s,MS4.0
KURK Kurchatov 58.81 313⇑ *e*P P 12 39 07.3 +0.4
KURK Kurchatov 58.81 313 *e*P P 12 39 06.6 -0.3
comp=Z,8.5nm,0.6s,mb5.0
WMQ Urumqi 59.08 303 P P 12 39 10.7 +2.0
WMQ AP pP 12 39 23.4 +0.9
WMQ PP PP 12 41 23.3 +3.7
WMQ AMB AMB
comp=Z,10.0nm,2.0s,mb4.5
WMQ AMB AMB
comp=Z,71nm,5.5s
WMQ LR LR
comp=N,187nm,21.0s,MS4.3
WMQ LR LR
comp=E,141nm,19.9s,MS4.3
WMQ LR LR
comp=Z,188nm,21.5s,MS4.2
MKAR Makanchi Array 59.80 308 P P 12 39 13.6 -0.1
comp=Z,6.1nm,0.6s,mb4.8,baz=57,slow=7.4,SNR=49
MKAR Makanchi Array 59.80 308 P P 12 39 13.6 -0.1
GYA Guiyang 59.97 276 P P 12 39 15.8 +0.9
GYA AP pP 12 39 28.5 -0.2
GYA XP sP 12 39 33.8 -0.5
GYA PP PP 12 41 29.9 +2.4
GYA S S 12 47 22.2 -1.4
GYA XS sS 12 47 43.6 -3.1
GYA SS SS 12 51 19.7 -1.0
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,80nm,4.2s
GYA LR LR
comp=N,340nm,18.4s,MS4.7
GYA LR LR
comp=E,310nm,18.6s,MS4.7
GYA LR LR
comp=Z,280nm,17.9s,MS4.5
SCHQ Schefferville 60.29 38 P P 12 39 15.4 -1.6
comp=Z,5.6nm,0.9s,mb4.6,baz=316,slow=5.5,SNR=4.4
BVAR Borovoye Array 60.72 319 P P 12 39 18.2 -1.7
comp=Z,4.4nm,0.8s,mb4.7,baz=79,slow=7.7,SNR=18
BVAR PcP PcP 12 40 03.8 +0.2
comp=Z,2.7nm,0.8s,baz=64,slow=3.8,SNR=7.4
BRVK Borovoye 60.73 320 *e*P P 12 39 20.7 +0.6
BRVK pmax pmax
comp=Z,7.0nm,1.2s,mb4.7
BRVK Borovoye 60.73 320 *e*P P 12 39 20.6 +0.6
comp=Z,7.1nm,1.2s,mb4.7
ZRNK Zerenda 61.33 320 *e*P P 12 39 22.8 -1.3
ZRNK pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
ZRNK Zerenda 61.33 320 *e*P P 12 39 22.8 -1.3
comp=Z,5.6nm,0.9s,mb4.7
MIAR Mount Ida 61.49 70 *e*P P 12 39 24.9 -0.3
MIAR pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
MIAR Mount Ida 61.49 70 *e*P P 12 39 24.9 -0.3
comp=Z,8.5nm,1.2s,mb4.8
ARU Arti 62.48 328⇓ *e*P P 12 39 31.5 -0.3
ARU pmax pmax
comp=Z,6.0nm,1.2s,mb4.6
ARU Arti 62.48 328 *e*P P 12 39 31.0 -0.8
comp=Z,5.4nm,0.9s,mb4.7
WCI Wyandotte Cave 63.06 62 *e*P P 12 39 34.7 -1.0
WCI pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
WCI Wyandotte Cave 63.06 62 *e*P P 12 39 34.7 -0.9
comp=Z,5.6nm,0.8s,mb4.8
KMI Kunming 63.38 278 P P 12 39 37.5 -0.3
KMI AP pP 12 39 50.8 -0.9
KMI XP sP 12 39 56.3 -1.0
KMI PP PP 12 41 55.3 -2.3
KMI S S 12 48 03.3 -3.4
KMI XS sS 12 48 22.9 -7.1
KMI SS SS 12 52 17.1 +3.1
KMI AMB AMB
comp=Z,7.0nm,1.4s,mb4.6
KMI AMB AMB
comp=Z,55nm,3.9s
KMI LR LR
comp=Z,59nm,17.7s,MS3.8
JOF Joensuu 63.58 345 *ep* P 12 39 37.6 -1.5
PLAL Pickwick Lake 64.37 66 *e*P P 12 39 43.7 -0.6
comp=Z,6.1nm,0.7s,mb4.7
KAF Kangasniemi 65.11 347 *ep* P 12 39 47.6 -1.5
comp=Z,10nm,0.8s,mb4.9,baz=15,slow=5.8
KAF Kangasniemi 65.11 347 *e*P P 12 39 47.6 -1.5
KAF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
FINES FINESS Array B 65.78 347 P P 12 39 52.1 -1.4
comp=Z,8.1nm,0.8s,mb4.8,baz=24,slow=6.5,SNR=35
FINES LR LR 13 14 13.6
FINES FINESS Array B 65.78 347 *i* P P 12 39 52.5 -1.0
FINES pmax pmax
comp=Z,8.0nm,0.8s
LRAL Lakeview Retre 66.39 66 *e*P P 12 39 56.4 -1.0
comp=Z,3.1nm,0.7s,mb4.5
NB2 NORSAR Subarra 67.69 354 P P 12 40 05.0 -0.6
comp=Z,12nm,1.4s,mb4.7,baz=7.2,slow=6.5
NOA NORSAR Array B 67.69 354 P P 12 40 04.7 -1.0
comp=Z,2.7nm,0.8s,mb4.3,baz=7.2,slow=6.3,SNR=7.9
NOA LR LR 13 10 29.5
comp=Z,17nm,19.6s,MS3.3,baz=315,slow=37
KSH Kashi 68.26 306 *e*P P 12 40 09.7 +0.5
KSH *eA*P pP 12 40 23.5 +0.3
KSH *ePCP* PcP 12 40 38.2 +3.6
KSH *eP*P PP 12 42 42.9 +2.7
KSH *eSCP* 12 44 34.2
KSH *ePCS* 12 44 41.6
KSH *eS* S 12 49 04.2 -1.9
KSH *eXS* sS 12 49 25.3 -4.3
KSH *eSCS* ScS 12 50 01.9 -2.5
KSH *eSS* SS 12 53 30.1 +0.3
KSH AMB AMB
comp=Z,234nm,12.7s
KSH LR LR
comp=Z,340nm,12.8s,MS4.8
OBN Obninsk 69.81 339 *de*P P 12 40 18.6 -0.2
OBN *eS* S 12 49 22.5 -2.0
OBN pmax pmax
comp=Z,22nm,1.0s,mb5.0
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
GUN Gumba 71.55 292 *e*P P 12 40 30.4 +1.0
comp=Z,39nm,0.5s,mb5.6
JIRN Jiri 71.56 291 *e*P P 12 40 30.7 +1.2
comp=Z,33nm,0.7s,mb5.4
KKN Kakani 71.99 292 *e*P P 12 40 32.9 +0.8
comp=Z,17nm,0.6s,mb5.1
PKI Pulchoki 72.08 292 *e*P P 12 40 32.7 +0.1
GKN Gorkha 72.20 293 *e*P P 12 40 33.9 +0.6
comp=Z,12nm,0.5s,mb5.0
DMN Daman 72.23 292 *e*P P 12 40 34.4 +0.9
KOLN Koldanda 72.98 293 *e*P P 12 40 38.5 +0.6
comp=Z,17nm,0.7s,mb5.1
SUW Suwalki 73.37 346 *e*P P 12 40 39.2 -1.0
PPT Papeete 73.37 150 *e*LR LR 13 02 45.1
comp=Z,92nm,24.8s
BSEG Bad Segeberg 74.82 354 *e*P P 12 40 49.0 +0.3
comp=Z,15nm,0.9s,mb4.9
AKASG Malin Array Be 75.51 342 P P 12 40 52.2 -0.5
comp=Z,14nm,0.6s,mb5.1,baz=20,slow=5.8,SNR=47
AKASG Malin Array Be 75.51 342 P P 12 40 52.2 -0.5
IBBN Ibbenburen 76.59 356 *e*P P 12 40 59.1 +0.3
CLZ Clausthal 76.90 354 *e*P P 12 41 00.9 +0.3
comp=Z,12nm,0.9s,mb4.8
CLZ Clausthal 76.90 354 *e*P P 12 41 00.9 +0.3
CLZ pmax pmax
comp=Z,12nm,0.9s,mb4.8
CLL Collm 77.23 352 P P 12 41 02.0 -0.4
comp=Z,logA/T=0.8,mb4.5
CLL *e**PP pP 12 41 19.0 +2.4
CLL Collm 77.23 352 *i* P P 12 41 02.0 -0.4
comp=Z,4.0nm,0.7s,mb4.5
CLL *ep*P pP 12 41 19.0 +2.4
CLL Collm 77.23 352 *i* P P 12 41 02.0 -0.4
CLL *e**PP pP 12 41 19.0 +2.4
CLL pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
OJC Ojcow 77.55 348 *e*P P 12 41 04.0 -0.2
BRG Berggiesshubel 77.58 351 *e*P P 12 41 03.9 -0.4
comp=Z,6.0nm,1.1s,mb4.4
BRG Berggiesshubel 77.58 351 *e*P P 12 41 04.0 -0.3
comp=Z,3.7nm,1.1s,mb4.2
BRG *e* pP 12 41 19.1 +0.5
comp=Z,1.4nm,1.0s
BRG Berggiesshubel 77.58 351 *e*P P 12 41 04.0 -0.3
BRG *e* pP 12 41 19.0 +0.4
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BRG pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
KWP Kalwaria 77.69 346 *e*P P 12 41 05.6 +0.6
UPC Upice 77.73 350 *e*P P 12 41 04.6 -0.6
DPC Dobruska-Polom 77.85 350 *e*P P 12 41 05.7 -0.2
DPC *ep*P pP 12 41 20.4 +0.3
PVCC Panska Ves 77.86 351 *e*P P 12 41 05.6 -0.3
MOX Moxa 78.00 353 *e*P P 12 41 06.4 -0.3
comp=Z,5.0nm,0.9s,mb4.4
STHS Stebnicka Huta 78.13 346 *e*P P 12 41 07.5 +0.1
STHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
STHS Stebnicka Huta 78.13 346 *e*P P 12 41 07.5 +0.1
comp=Z,6.6nm,0.8s,mb4.6
OKC Ostrava-Krasne 78.14 349 *e*P P 12 41 07.3 -0.2
TANN Tannenbergstha 78.16 352 *e*P P 12 41 07.4 -0.2
MORC Moravsky Berou 78.27 349⇑ *i*P P 12 41 08.1 -0.1
MORC Moravsky Berou 78.27 349 *e*P P 12 41 08.5 +0.3
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MORC Moravsky Berou 78.27 349 *e*P P 12 41 08.5 +0.3
comp=Z,3.0nm,0.8s,mb4.3
NKC Novy Kostel 78.34 352 *e*P P 12 41 08.1 -0.5
KIV Kislovodsk 78.36 330 *e*P P 12 41 13.4 +4.7
KIV pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
KIV MLR MLR
comp=Z,32nm,17.0s,MS3.7
KOLS Kolonicke sedl 78.44 346 *e*P P 12 41 09.5 +0.4
KOLS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KOLS Kolonicke sedl 78.44 346 *e*P P 12 41 09.5 +0.4
comp=Z,7.1nm,0.9s,mb4.6
CRVS Cervenica-Dubn 78.60 346 *e*P P 12 41 11.5 +1.5
TNS Taunus Mts 78.63 355 *e*P P 12 41 10.4 +0.2
VRAC Vranov 78.84 349⇑ *i*P P 12 41 11.6 +0.2
TBI Tubuai 78.85 152 *e*LR LR 13 05 15.2
comp=Z,87nm,24.5s
GIVF Givet 78.91 357 *e*P P 12 41 11.6 -0.1
comp=Z,9.7nm,0.7s,mb4.6
GIVF Givet 78.91 357 *e*P P 12 41 11.6 -0.1
GIVF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
GIVF Givet 78.91 357 *e*P P 12 41 11.6 -0.1
comp=Z,4.8nm,0.6s,mb4.6
BAIF Baives 78.97 358⇑ *i*P P 12 41 12.3 +0.2
comp=Z,16nm,0.8s,mb4.7
BAIF Baives 78.97 358⇑ *i*P P 12 41 12.3 +0.2
BAIF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BAIF Baives 78.97 358⇑ *i*P P 12 41 12.3 +0.2
comp=Z,7.9nm,0.8s,mb4.7
GRA1 Grafenberg Arr 78.98 353 *e*P P 12 41 12.5 +0.4
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 78.98 353 *e*P P 12 41 12.5 +0.4
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 78.98 353 *e*P P 12 41 12.5 +0.4
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 78.98 353 *e*P P 12 41 12.5 +0.4
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KECS Kecovo 79.15 347 *e*P P 12 41 11.6 -1.4
KECS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KECS Kecovo 79.15 347 *e*P P 12 41 11.6 -1.4
comp=Z,5.7nm,0.9s,mb4.5
BURAR Bucovina Array 79.22 343⇑ *i*P P 12 41 13.9 +0.5
WLF Walferdange 79.30 356 *e*P P 12 41 14.4 +0.5
KHC Kasperske Hory 79.33 351 *e*P P 12 41 14.2 +0.2
VYHS Vyhne 79.37 348 *i* P P 12 41 14.2 0.0
VYHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
VYHS Vyhne 79.37 348 *i* P P 12 41 14.2 0.0
comp=Z,3.9nm,1.1s,mb4.2
SMOL Smolenice 79.53 349 *e* P 12 41 16.2 +1.1
SMOL Smolenice 79.53 349 *e*P P 12 41 12.0 -3.1
SMOL *e* 12 41 16.2
GEC2 GERESS Array S 79.61 351 *e*P P 12 41 15.4 -0.1
comp=Z,4.0nm,0.8s,mb4.4
GEC2 GERESS Array S 79.61 351 *e*P P 12 41 15.4 -0.1
GEC2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
GERES GERESS Array B 79.61 351 P P 12 41 15.6 +0.1
comp=Z,2.1nm,0.6s,mb4.3,baz=39,slow=5.1,SNR=15
ZST Bratislava 79.88 349 *e*P P 12 41 17.8 +0.8
CONA Conrad Observa 80.29 350⇑ *i*P P 12 41 19.7 +0.5
comp=Z,4.6nm,0.8s,mb4.5
DRGR 80.45 345⇑ *i*P P 12 41 20.4 +0.3
CDF Champ du Feu 80.50 356⇑ *i*P P 12 41 20.2 -0.2
comp=Z,4.4nm,0.8s,mb4.2
CDF Champ du Feu 80.50 356⇑ *i*P P 12 41 20.2 -0.2
CDF pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
CDF Champ du Feu 80.50 356⇑ *i*P P 12 41 20.2 -0.2
comp=Z,2.2nm,0.8s,mb4.1
MEZF Maizieres J'vi 80.50 357 *e*P P 12 41 20.5 +0.1
comp=Z,16nm,0.9s,mb4.7
MEZF Maizieres J'vi 80.50 357 *e*P P 12 41 20.5 +0.1
comp=Z,16nm,0.9s,mb5.0
HAU Haudompre 80.95 356 *e*P P 12 41 23.6 +0.8
HINF Hinteralfeld 81.12 356 *e*P P 12 41 23.3 -0.3
comp=Z,3.2nm,0.5s,mb4.2
HINF Hinteralfeld 81.12 356 *e*P P 12 41 23.3 -0.3
HINF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
HINF Hinteralfeld 81.12 356 *e*P P 12 41 23.3 -0.3
comp=Z,1.6nm,0.5s,mb4.2
MLR Muntele Rosu 81.14 342⇑ *i*P P 12 41 25.5 +1.8
WATA Walderalm 81.29 352⇑ *i*P P 12 41 24.9 +0.3
comp=Z,9.9nm,1.0s,mb4.7
WATA Walderalm 81.29 352⇑ *i*P P 12 41 24.9 +0.3
WATA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MOTA Moosalm 81.32 353⇑ *i*P P 12 41 24.8 +0.1
comp=Z,3.2nm,0.8s,mb4.3
MOTA Moosalm 81.32 353⇑ *i*P P 12 41 24.8 +0.1
MOTA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
WTTA Wattenberg 81.36 352⇑ *i*P P 12 41 25.5 +0.6
comp=Z,6.4nm,0.7s,mb4.7
WTTA Wattenberg 81.36 352⇑ *i*P P 12 41 25.5 +0.6
WTTA pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
KBA Koelnbreinsper 81.39 351⇑ *i*P P 12 41 26.2 +1.1
comp=Z,26nm,0.9s,mb5.1
KBA Koelnbreinsper 81.39 351⇑ *i*P P 12 41 26.2 +1.1
KBA pmax pmax
comp=Z,26nm,0.9s,mb5.2
SQTA Sankt Quirin 81.44 353⇑ *i*P P 12 41 25.7 +0.3
comp=Z,4.3nm,0.7s,mb4.5
SQTA Sankt Quirin 81.44 353⇑ *i*P P 12 41 25.7 +0.4
SQTA pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
PKSM Moragy 81.63 347⇓ *i*P P 12 41 26.3 -0.1
WRA Warramunga Arr 81.71 223 P P 12 41 24.1 -2.7
comp=Z,0.9nm,0.7s,mb3.8,baz=32,slow=6.1,SNR=13
WRA Warramunga Arr 81.71 223 *i* P P 12 41 25.3 -1.5
WRA pmax pmax
comp=Z,1.0nm,0.7s
LOR Lormes 81.77 358 *e*P P 12 41 26.7 -0.4
comp=Z,6.8nm,0.8s,mb4.3
LOR Lormes 81.77 358 *e*P P 12 41 26.7 -0.4
LOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LOR Lormes 81.77 358 *e*P P 12 41 26.7 -0.4
comp=Z,3.4nm,0.8s,mb4.3
BZS Buzias 81.77 345⇑ *i*P P 12 41 27.2 +0.1
GZR Gura Zlata 81.80 344⇓ *i*P P 12 41 28.0 +0.8
OBKA Obir 81.83 350⇓ *i*P P 12 41 27.5 +0.1
comp=Z,13nm,1.1s,mb4.8
CABF La Chapelle 82.35 356⇑ *i*P P 12 41 30.3 +0.1
comp=Z,27nm,1.3s,mb4.7
CABF La Chapelle 82.35 356⇑ *i*P P 12 41 30.3 +0.1
CABF pmax pmax
comp=Z,14nm,1.3s,mb4.7
CABF La Chapelle 82.35 356⇑ *i*P P 12 41 30.3 +0.1
comp=Z,14nm,1.3s,mb4.7
SMF Signal de Mont 82.39 358⇑ *i*P P 12 41 30.2 -0.2
comp=Z,16nm,1.0s,mb4.6
SMF Signal de Mont 82.39 358⇑ *i*P P 12 41 30.2 -0.2
SMF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
SMF Signal de Mont 82.39 358⇑ *i*P P 12 41 30.2 -0.2
comp=Z,8.2nm,1.0s,mb4.6
MFF Saint Martin d 82.47 1⇑ *i*P P 12 41 30.8 0.0
comp=Z,11nm,0.9s,mb4.5
MFF Saint Martin d 82.47 1⇑ *i*P P 12 41 30.8 0.0
MFF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MFF Saint Martin d 82.47 1⇑ *i*P P 12 41 30.8 0.0
comp=Z,5.6nm,0.9s,mb4.5
TCF Toulx Ste Croi 82.78 359⇑ *i*P P 12 41 32.2 -0.2
comp=Z,9.6nm,1.0s,mb4.5
TCF Toulx Ste Croi 82.78 359⇑ *i*P P 12 41 32.2 -0.2
TCF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
TCF Toulx Ste Croi 82.78 359⇑ *i*P P 12 41 32.2 -0.2
comp=Z,4.8nm,1.0s,mb4.5
LPL La Plagne 83.42 356 *e*P P 12 41 35.7 0.0
LPG La Plagne 83.44 356 *e*P P 12 41 36.1 +0.3
BNI Bardonecchia 83.88 356 *e*P P 12 41 39.1 +1.1
BNI pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BNI Bardonecchia 83.88 356 *e*P P 12 41 39.0 +1.0
comp=Z,7.7nm,0.9s,mb4.8
ORIF Oris-en-Rattie 84.05 356 *e*P P 12 41 38.8 -0.1
comp=Z,5.6nm,0.8s,mb4.4
ORIF Oris-en-Rattie 84.05 356 *e*P P 12 41 38.8 -0.1
ORIF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
ORIF Oris-en-Rattie 84.05 356 *e*P P 12 41 38.8 -0.1
comp=Z,2.8nm,0.8s,mb4.4
FITZ Fitzroy Crossi 84.14 232 *e*P P 12 41 38.2 -1.1
comp=Z,4.3nm,0.7s,mb4.7
CAF Calviac 84.14 359⇑ *i*P P 12 41 39.6 +0.2
comp=Z,16nm,1.1s,mb4.8
CAF Calviac 84.14 359⇑ *i*P P 12 41 39.6 +0.2
CAF pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
CAF Calviac 84.14 359⇑ *i*P P 12 41 39.6 +0.2
comp=Z,7.8nm,1.1s,mb4.8
VIVF Saint-Julien-l 84.16 357 *e*P P 12 41 39.8 +0.4
comp=Z,7.8nm,1.1s,mb4.5
VIVF Saint-Julien-l 84.16 357 *e*P P 12 41 39.8 +0.4
VIVF pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
VIVF Saint-Julien-l 84.16 357 *e*P P 12 41 39.8 +0.4
comp=Z,3.9nm,1.0s,mb4.5
MBDF Montbardon 84.20 356 *e*P P 12 41 39.7 0.0
comp=Z,12nm,0.9s,mb4.7
MBDF Montbardon 84.20 356 *e*P P 12 41 39.7 0.0
MBDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
MBDF Montbardon 84.20 356 *e*P P 12 41 39.7 0.0
comp=Z,5.8nm,0.9s,mb4.7
MALT Malatya 84.81 331 *e*P P 12 41 44.0 +1.2
MALT pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
MALT Malatya 84.81 331 *e*P P 12 41 44.0 +1.2
comp=Z,5.0nm,1.0s,mb4.6
LASF Ste Croix 84.96 358 *e*P P 12 41 43.9 +0.4
comp=Z,5.9nm,0.9s,mb4.4
SMRF Simiane la Rot 85.01 356 *e*P P 12 41 43.6 -0.1
comp=Z,21nm,1.0s,mb4.9
SMRF Simiane la Rot 85.01 356 *e*P P 12 41 43.6 -0.1
comp=Z,21nm,1.0s,mb5.2
ASAR Alice Springs 85.19 222 P P 12 41 43.2 -1.4
comp=Z,0.6nm,0.6s,mb3.9,baz=26,slow=5.3,SNR=9.6
LMR La Mourre 85.61 356⇑ *i*P P 12 41 46.8 +0.1
comp=Z,20nm,1.0s,mb5.0
LMR La Mourre 85.61 356⇑ *i*P P 12 41 46.8 +0.1
LMR pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
LMR La Mourre 85.61 356⇑ *i*P P 12 41 46.8 +0.1
comp=Z,9.9nm,1.0s,mb5.0
MTLF Montolieu 85.73 359⇑ *i*P P 12 41 47.7 +0.4
comp=Z,7.0nm,1.0s,mb4.6
MTLF Montolieu 85.73 359⇑ *i*P P 12 41 47.7 +0.4
MTLF pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
MTLF Montolieu 85.73 359⇑ *i*P P 12 41 47.7 +0.4
comp=Z,3.5nm,1.0s,mb4.5
EPF Esparros 86.05 0 *e*P P 12 41 48.5 -0.4
comp=Z,7.1nm,0.8s,mb4.6
EPF Esparros 86.05 0 *e*P P 12 41 48.5 -0.4
EPF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
EPF Esparros 86.05 0 *e*P P 12 41 48.5 -0.4
comp=Z,3.5nm,0.8s,mb4.6
ETSF Etsaut 86.17 1 *e*P P 12 41 49.5 0.0
comp=Z,8.4nm,0.8s,mb4.7
ETSF Etsaut 86.17 1 *e*P P 12 41 49.5 0.0
ETSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
ETSF Etsaut 86.17 1 *e*P P 12 41 49.5 0.0
comp=Z,4.2nm,0.8s,mb4.7
PGF Pioggiola 86.25 354 *e*P P 12 41 50.0 +0.1
comp=Z,20nm,1.0s,mb5.0
PGF Pioggiola 86.25 354 *e*P P 12 41 50.0 +0.1
PGF pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,10.0nm,1.0s,mb5.0						
PGF	Pioggiola	86.25	354	eP	P	12 41 50.0	+0.1
	comp=Z,9.9nm,1.0s,mb5.0						
ESDC	Sonseca Array	89.31	4	P	P	12 42 03.4	-1.1
	comp=Z,0.1nm,0.2s,mb3.7,baz=343,slow=3.1,SNR=6.5						
STKA	Stephens Creek	89.67	212	P	P	12 42 02.0	-4.2
	comp=Z,1.2nm,0.6s,mb4.4,baz=348,slow=13,SNR=5.1						
TSUM	Tsumeb	145.28	331	ePKP	PKPdf	12 48 45.6	-0.2
LBTB	Lobatse	147.53	314	PKPbc	PKPbc	12 48 52.4	+0.1
	comp=Z,7.2nm,0.9s,baz=357,slow=1.7,SNR=9.2						
BOSA	Boshof	150.76	311	PKPbc	PKPbc	12 48 59.4	-1.0
	comp=Z,2.2nm,0.7s,baz=98,slow=3.2,SNR=6.5						

NEIC ***02*** *12:36:17.9, 29.45S×71.71W, h44km, MG3.7(GUC), After GUC.*

GUC 02 12:36:17.9±0.7**, 29.45S×71.71W, h44km**±3km**, MD3.9, ML3.7, 3C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.99	64	⇓iP	Pn	12 36 36.4	+1.1
LCO				iS	Sn	12 36 50.5	+2.4
TLL	Tololo Astrono	1.06	132	⇓iP	Pn	12 36 38.0	+1.7
TLL				iS	Sn	12 36 53.2	+3.2
TLL				AML	AML	12 36 56.4	
	comp=N,3μm,0.5s						
TLL	Tololo Astrono	1.06	132	⇓iP	Pn	12 36 38.0	+1.7
TLL				iS	Sn	12 36 53.2	+3.2
VACH	Vallenar	1.21	44	⇑iP	Pn	12 36 39.1	+0.8
VACH				iS	Sn	12 36 55.0	+1.5
VACH				AML	AML	12 36 57.6	
	comp=N,6μm,0.1s						
VACH	Vallenar	1.21	44	⇑iP	Pn	12 36 39.1	+0.8
VACH				iS	Sn	12 36 55.0	+1.5
OVCH	Ovalle	1.23	159	eP	Pn	12 36 39.1	+0.4
OVCH				iS	Sn	12 36 55.5	+1.4
OVCH				AML	AML	12 37 00.7	
	comp=E,930nm,0.5s						
OVCH	Ovalle	1.23	159	eP	Pn	12 36 39.1	+0.4
OVCH				iS	Sn	12 36 55.5	+1.4
CMCH	Combarbala	1.82	160	⇓iP	Pn	12 36 47.7	+1.0
CMCH				iS	Sn	12 37 09.7	+1.1
CMCH				AML	AML	12 37 24.2	
	comp=N,1μm,0.8s						
CMCH	Combarbala	1.82	160	⇓iP	Pn	12 36 47.7	+1.0
CMCH				iS	Sn	12 37 09.7	+1.1
CPCH	Copiapo	2.41	30	⇑iP	Pn	12 36 55.6	+0.9
CPCH				iS	Sn	12 37 24.5	+1.5
RCDM	Rinconada Maip	4.10	169	eP	Pn	12 37 18.9	+0.9
RCDM				iS	Sn	12 38 05.4	+0.7

ISCJB ***02*** *12:52:53.2±0.3, 47.28N±0.02×0.62W±0.03, h4km±3km, Error ellipse: s-maj=3.2km s-min=2.3km az=107.1*
CSEM ***02*** *12:52:55.7±0.0, 47.27N×0.74W, h2km, ML2.6/18, Error ellipse: s-maj=1.1km s-min=0.7km az=50.0*
NEIC ***02*** *12:52:55.9, 47.27N×0.73W, h5km, ML2.6(STR), ML2.6(LDG), After LDG.*
LDG ***02*** *12:52:55.9±0.1, 47.27N×0.73W, h5km, Md2.4/3, Ml2.6/18, Error ellipse: s-maj=1.7km s-min=1.2km az=48.0*
STR ***02*** *12:52:56.9±0.7, 47.21N×0.83W, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 02 12:52:54.5±0.3**, 47.27N**±0.02×**0.68W**±0.02**, h10km**±3km**, n58,** σ0ˢ90/150**, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCHF	La Chataignera	0.61	184	Pg	Pg	12 53 07.8	+1.6
LCHF				Sg	Sg	12 53 15.4	+1.2
MFF	Saint Martin d	0.77	151	ePn	Pn	12 53 11.4	0.0
	SNR=1.0						
MFF				eSg	Sg	12 53 20.6	+1.4
	18nm,0.3s,SNR=1.0						
MFF				eSn	Sg	12 53 24.1	+4.9
	SNR=1.0						
MFF	Saint Martin d	0.77	151	ePg	Pg	12 53 10.1	+0.9
MFF				ePn	Pn	12 53 11.4	0.0
MFF				eSg	Sg	12 53 20.6	+1.4
MFF				eSn	Sg	12 53 24.1	+4.9
MFF	Saint Martin d	0.77	151	ePn	Pn	12 53 11.4	0.0
	SNR=1.0						
MFF				eSg	Sg	12 53 20.6	+1.4
	9.2nm,0.3s,SNR=1.0						
MFF				eSn	Sg	12 53 24.1	+4.9
	SNR=1.0						
LRYF	La Roche-sur-Y	0.92	221	Pg	Pg	12 53 12.1	0.0
LRYF				Sg	Sg	12 53 23.2	-0.8
GRR	Gorron	1.12	354	ePg	Pg	12 53 16.9	+0.9
	SNR=1.0						
GRR				eSg	Sg	12 53 31.6	+1.0
	35nm,0.3s						
GRR	Gorron	1.12	354	ePg	Pg	12 53 16.9	+0.9
	SNR=1.0						
GRR				eSg	Sg	12 53 31.6	+1.0
	18nm,0.3s						
CHIF	Chize	1.16	171	Pg	Pg	12 53 17.7	+1.0
CHIF				Sg	Sg	12 53 33.2	+1.5
LDF	La Druitiere	1.37	16	ePg	Pg	12 53 22.2	+1.4
	SNR=1.0						
LDF				eSn	Sn	12 53 37.9	0.0
LDF				eSg	Sg	12 53 39.2	+0.6
	12nm,0.2s,SNR=1.0						
LDF	La Druitiere	1.37	16	ePn	Pn	12 53 20.6	+0.9
LDF				ePg	Pg	12 53 22.2	+1.4
LDF				eSn	Sn	12 53 37.9	0.0
LDF				eSg	Sg	12 53 39.2	+0.6
LDF	La Druitiere	1.37	16	ePg	Pg	12 53 22.2	+1.4
	SNR=1.0						
LDF				eSn	Sn	12 53 37.9	0.0
LDF				eSg	Sg	12 53 39.2	+0.6
	6.1nm,0.2s,SNR=1.0						
FLN	La Foliniere	1.50	5	ePn	Pn	12 53 21.7	+0.3
	baz=181						
FLN	La Foliniere	1.50	5	ePg	Pg	12 53 23.7	+0.5
	baz=181,SNR=1.0						
FLN				eSn	Sn	12 53 40.6	-0.4
	SNR=1.0						
FLN				eSg	Sg	12 53 43.3	+0.7
	17nm,0.2s,baz=193,SNR=1.0						
FLN	La Foliniere	1.50	5	ePn	Pn	12 53 21.7	+0.3
FLN				ePg	Pg	12 53 23.7	+0.5
FLN				eSn	Sn	12 53 40.6	-0.4
FLN				eSg	Sg	12 53 43.3	+0.7
FLN	La Foliniere	1.50	5	ePg	Pg	12 53 23.7	+0.5
	SNR=1.0						
FLN				eSn	Sn	12 53 40.6	-0.4
	SNR=1.0						
FLN				eSg	Sg	12 53 43.3	+0.7
	8.3nm,0.2s,SNR=1.0						
SGMF	Saint Gilles	1.60	308	ePg	Pg	12 53 24.8	-0.4
SGMF				eSn	Sn	12 53 43.5	-0.1
	9.6nm,0.4s,SNR=1.0						
SGMF				eSg	Sg	12 53 45.7	-0.3
SGMF	Saint Gilles	1.60	308	ePn	Pn	12 53 23.2	+0.3
SGMF				ePg	Pg	12 53 24.8	-0.4
SGMF				eSn	Sn	12 53 43.5	-0.1
SGMF				eSg	Sg	12 53 45.7	-0.3
SGMF	Saint Gilles	1.60	308	ePg	Pg	12 53 24.8	-0.4
SGMF				eSn	Sn	12 53 43.5	-0.1
	4.8nm,0.4s,SNR=1.0						
SGMF				eSg	Sg	12 53 45.7	-0.3
QUIF	Quistinic	1.80	292	ePg	Pg	12 53 28.5	-0.6
	SNR=1.0						
QUIF				eSg	Sg	12 53 50.4	-2.0
	5.7nm,0.2s,SNR=1.0						
QUIF	Quistinic	1.80	292	ePn	Pn	12 53 25.6	0.0
QUIF				ePg	Pg	12 53 28.5	-0.6
QUIF				eSg	Sg	12 53 50.4	-2.0
QUIF	Quistinic	1.80	292	ePg	Pg	12 53 28.5	-0.6
	SNR=1.0						
QUIF				eSg	Sg	12 53 50.4	-2.0
	2.8nm,0.2s,SNR=1.0						
ROSF	Rostrenen	2.05	302	ePg	Pg	12 53 33.0	-0.7
	SNR=1.0						
ROSF				eSn	Sn	12 53 53.7	-0.9
ROSF				eSg	Sg	12 53 58.2	-2.1
ROSF	Rostrenen	2.05	302	ePn	Pn	12 53 28.9	-0.1
ROSF				ePg	Pg	12 53 33.0	-0.7
ROSF				eSn	Sn	12 53 53.7	-0.9
ROSF				eSg	Sg	12 53 58.2	-2.1
ROSF	Rostrenen	2.05	302	ePg	Pg	12 53 33.0	-0.7
	SNR=1.0						
ROSF				eSn	Sn	12 53 53.7	-0.9
ROSF				eSg	Sg	12 53 58.2	-2.1
TCF	Toulx Ste Croi	2.22	115	ePg	Pg	12 53 37.2	+0.2
TCF				eSg	Sg	12 54 04.8	-0.9
	6.9nm,0.2s,SNR=1.0						
TCF	Toulx Ste Croi	2.22	115	ePg	Pg	12 53 37.2	+0.2
TCF				eSg	Sg	12 54 04.8	-0.9
	3.5nm,0.2s,SNR=1.0						
HYF	Humbligny	2.26	89	ePg	Pg	12 53 38.4	+0.6
HYF				eSg	Sg	12 54 07.5	+0.4
RJF	Les Rejaudoux	2.49	142	eP	Pn	12 53 38.6	+3.5
RJF	Les Rejaudoux	2.49	142	ePg	Pg	12 53 42.2	0.0
	SNR=1.0						
RJF				eSn	Sn	12 54 04.7	-0.8
RJF				eSg	Sg	12 54 14.8	+0.3
	5.3nm,0.2s,SNR=1.0						
RJF	Les Rejaudoux	2.49	142	ePn	Pn	12 53 35.8	+0.7
RJF				eP		12 53 38.6	
RJF				ePg	Pg	12 53 42.2	0.0
RJF				eSn	Sn	12 54 04.7	-0.8
RJF				eSg	Sg	12 54 14.8	+0.3
RJF	Les Rejaudoux	2.49	142	eP	Pn	12 53 38.6	+3.5
RJF	Les Rejaudoux	2.49	142	ePg	Pg	12 53 42.2	0.0
	SNR=1.0						
RJF				eSn	Sn	12 54 04.7	-0.8
RJF				eSg	Sg	12 54 14.8	+0.3
	2.7nm,0.2s,SNR=1.0						
BGF	Bois d'Agland	2.52	105	ePg	Pg	12 53 43.3	+0.5
	SNR=1.0						
BGF				eSg	Sg	12 54 13.9	-1.6
	17nm,0.3s,SNR=1.0						
BGF	Bois d'Agland	2.52	105	ePn	Pn	12 53 36.4	+0.9
BGF				ePg	Pg	12 53 43.3	+0.5
BGF				eSg	Sg	12 54 13.9	-1.6
BGF	Bois d'Agland	2.52	105	ePg	Pg	12 53 43.3	+0.5
	SNR=1.0						
BGF				eSg	Sg	12 54 13.9	-1.6
	8.4nm,0.3s,SNR=1.0						
LFF	La Frestale	2.54	157	ePg	Pg	12 53 43.0	-0.1
	SNR=1.0						
LFF				eSn	Sn	12 54 05.1	-1.5
LFF				eSg	Sg	12 54 15.9	0.0
	7.7nm,0.4s,SNR=1.0						
LFF	La Frestale	2.54	157	ePn	Pn	12 53 36.6	+0.9
LFF				ePg	Pg	12 53 43.0	-0.1
LFF				eSn	Sn	12 54 05.1	-1.5
LFF				eSg	Sg	12 54 15.9	0.0
LFF	La Frestale	2.54	157	ePg	Pg	12 53 43.0	-0.1
	SNR=1.0						
LFF				eSn	Sn	12 54 05.1	-1.5
LFF				eSg	Sg	12 54 15.9	0.0
	3.8nm,0.4s,SNR=1.0						
AVF	Avril sur Loir	2.80	98	ePg	Pg	12 53 48.4	+0.3
	SNR=1.0						
AVF				eSn	Sn	12 54 12.5	-0.7
	SNR=1.0						
AVF				eSg	Sg	12 54 24.3	-0.1
	2.9nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	2.80	98	ePn	Pn	12 53 40.9	+1.6
AVF				ePg	Pg	12 53 48.4	+0.3
AVF				eSn	Sn	12 54 12.5	-0.7
AVF				eSg	Sg	12 54 24.3	-0.1
AVF	Avril sur Loir	2.80	98	ePg	Pg	12 53 48.4	+0.3
	SNR=1.0						
AVF				eSn	Sn	12 54 12.5	-0.7
	SNR=1.0						
AVF				eSg	Sg	12 54 24.3	-0.1
	1.5nm,0.3s,SNR=1.0						
SSF	Saint Saulge	2.86	93	ePg	Pg	12 53 48.5	-0.9
	SNR=1.0						
SSF				eSn	Sn	12 54 14.7	0.0
	SNR=1.0						
SSF				eSg	Sg	12 54 25.2	-1.3
	2.5nm,0.3s,SNR=1.0						
SSF	Saint Saulge	2.86	93	ePg	Pg	12 53 48.5	-0.9
	SNR=1.0						
SSF				eSn	Sn	12 54 14.7	0.0
	SNR=1.0						
SSF				eSg	Sg	12 54 25.2	-1.3
	1.2nm,0.3s,SNR=1.0						
CAF	Calviac	3.03	140	ePg	Pg	12 53 52.1	-0.4
CAF				eSn	Sn	12 54 17.9	-0.9
CAF				eSg	Sg	12 54 31.5	-0.2
	2.8nm,0.2s,SNR=1.0						
CAF	Calviac	3.03	140	ePn	Pn	12 53 43.2	+0.7
CAF				ePg	Pg	12 53 52.1	-0.4
CAF				eSn	Sn	12 54 17.9	-0.9
CAF				eSg	Sg	12 54 31.5	-0.2
CAF	Calviac	3.03	140	ePg	Pg	12 53 52.1	-0.4
CAF				eSn	Sn	12 54 17.9	-0.9
CAF				eSg	Sg	12 54 31.5	-0.2
	1.4nm,0.2s,SNR=1.0						
LOR	Lormes	3.09	88	ePn	Pn	12 53 44.7	+1.4
	baz=272						
LOR	Lormes	3.09	88	ePg	Pg	12 53 53.5	-0.2
	baz=268,SNR=1.0						
LOR				eSn	Sn	12 54 21.1	+0.8
LOR				eSg	Sg	12 54 32.8	-0.9
	3.6nm,0.2s,baz=265,SNR=1.0						
LOR	Lormes	3.09	88	ePn	Pn	12 53 44.7	+1.4
LOR				ePg	Pg	12 53 53.5	-0.2
LOR				eSn	Sn	12 54 21.1	+0.8
LOR				eSg	Sg	12 54 32.8	-0.9
LOR	Lormes	3.09	88	ePg	Pg	12 53 53.5	-0.2
	SNR=1.0						
LOR				eSn	Sn	12 54 21.1	+0.8
LOR				eSg	Sg	12 54 32.8	-0.9
	1.8nm,0.2s,SNR=1.0						
SMF	Signal de Mont	3.16	100	eSg	Sg	12 54 34.7	-1.2
	2.7nm,0.2s,SNR=1.0						
SMF	Signal de Mont	3.16	100	eSg	Sg	12 54 34.7	-1.2
	1.4nm,0.2s,SNR=1.0						
BAIF	Baives	4.27	47	eSg	Sg	12 55 10.7	-1.0
	0.6nm,0.3s						
BAIF	Baives	4.27	47	eSg	Sg	12 55 10.7	-1.0
	0.3nm,0.3s						
MTLF	Montolieu	4.43	152	ePn	Pn	12 54 02.7	+0.9
MTLF				eSg	Sg	12 55 15.4	-1.4
	0.6nm,0.3s						
MTLF	Montolieu	4.43	152	ePn	Pn	12 54 02.7	+0.9
MTLF				eSg	Sg	12 55 15.4	-1.4
	0.3nm,0.3s						
VIVF	Saint-Julien-l	4.44	121	eSg	Sg	12 55 15.7	-1.4
	1.6nm,0.3s						
VIVF	Saint-Julien-l	4.44	121	eSg	Sg	12 55 15.7	-1.4
	0.8nm,0.3s						

ISCJB ***02*** *13:38:22.3±0.6, 35.89N±0.08×137.18E±0.08, h273km±4km, mb3.0/2, Error ellipse: s-maj=13.7km s-min=9.1km az=118.6*
JMA ***02*** *13:38:23.7±0.1, 35.88N×137.20E, h265km±2km, M2.8*
NEIC ***02*** *13:38:23.8±0.6, 35.98N×137.57E, h280km±8km, Error ellipse: s-maj=34.0km s-min=15.3km az=90.0*
IDC ***02*** *13:38:23.7±0.8, 35.96N×137.48E, h275km±11km, mb2.8/2, mb1 3.1/3, mb1mx2.7/20, mbtmp3.6/3, Error ellipse: s-maj=47.3km s-min=22.5km az=73.0*

ISC 02 13:38:23.2±0.6**, 35.91N**±0.08×**137.18E**±0.08**, h267km**±4km**, n24,** σ0ˢ71/35**, mb3.0**/2**, 1C, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JGF	Kuroka	0.34	155	P	Pn	13 38 57.7	0.0
JGM	Miyama	0.43	241	P	Pn	13 38 58.4	+0.5
JGM				eS	S	13 39 24.8	-0.5
JAO	Obara	0.65	174	P	Pn	13 38 58.7	+0.2
JAO				S	S	13 39 25.7	-0.7
JNY	Yasuok	0.78	135	P	Pn	13 38 59.2	+0.1
JNY				S	S	13 39 26.5	-0.9
JNG	Nsakai	0.89	56	P	Pn	13 39 00.3	+0.8
JNG				eS	S	13 39 28.4	+0.2
MAJO	Matsushiro	1.04	53	⇑iP	Pn	13 39 00.9	+0.6
MAT	Matsushiro	1.04	53	P	Pn	13 39 00.7	+0.4
MAT				S	S	13 39 29.3	-0.3
MAT	Matsushiro	1.04	53	P	Pn	13 39 00.8	+0.5
MAT				eS	S	13 39 30.0	+0.4
MAT	Matsushiro	1.04	53	eP	Pn	13 39 01.0	+0.7
MAT				eS	S	13 39 29.0	-0.6
MJAR	Matsushiro Arr	1.04	53	P	Pn	13 39 01.1	+0.8
	8.8nm,0.3s,baz=238,slow=7.0,SNR=158						
MJAR				S	S	13 39 30.4	+0.8
	baz=285,slow=14,SNR=4.5						
HMMJ	Hamamatsu 2	1.14	157	eS	S	13 39 30.4	-0.2
JRY	Ryogami san	1.40	85	P	Pn	13 39 03.1	+0.6
JRY				S	S	13 39 34.6	+1.1
JWT	Wachi	1.58	247	P	Pn	13 39 04.1	+0.3
JWT				eS	S	13 39 34.8	-1.0
JHU	Hanno	1.71	91	P	Pn	13 39 05.2	+0.5
JHU				S	S	13 39 37.2	-0.3
JKY	Yasaka	1.71	261	P	Pn	13 39 04.9	+0.1
JAG	Ashikaga	1.91	74	P	Pn	13 39 06.2	-0.1
JYT	Yasato	2.46	82	P	Pn	13 39 11.1	-0.2
JHO	Hitachi	2.82	75	P	Pn	13 39 14.5	-0.4
BSO1	Boso 1	3.35	111	P	Pn	13 39 19.6	-0.9
ASAJ	Asahikawa	9.18	25	P	Pn	13 40 29.7	-1.6
	1.1nm,0.3s,baz=234,slow=16,SNR=16						
YSS	Yuzh-Sakhalins	11.79	19	ePn	Pn	13 41 02.0	-1.8
MKAR	Makanchi Array	41.84	303	P	P	13 45 48.4	+1.2
	0.4nm,0.7s,mb2.8,baz=88,slow=9.0,SNR=4.4						
WRAB	Tennant Creek	55.60	183	eP	P	13 47 31.4	0.0
WRA	Warramunga Arr	55.61	183	P	P	13 47 31.6	+0.1
	0.3nm,0.3s,mb3.2,baz=360,slow=7.6,SNR=14						

NEIC ***02*** *13:40:12.0, 20.83N×66.64W, h124km, MD3.9(RSPR), After RSPR.*

RSPR 02 13:40:12.0, 20.83N×66.64W, h124km±28km**, MD3.9**/8**, MD3.9**/8**, 8C-1D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LRS	Lares	2.53	184	⇑eP	Pn	13 40 52.1	-0.2
LRS				eS	Sn	13 41 23.2	-0.1
CBYP	Canovanas	2.65	164	⇑eP	Pn	13 40 53.6	-0.3
CBYP				eS	Sn	13 41 26.7	+0.5
LSP	Las Mesas	2.67	189	⇑eP	Pn	13 40 54.0	-0.2
LSP				eS	Sn	13 41 27.2	+0.6
SJG	San Juan	2.75	170	⇑eP	Pn	13 40 55.4	+0.3
SJG				eS	Sn	13 41 29.4	+1.1
SJG	San Juan	2.75	170	⇓eP	Pn	13 40 55.2	+0.1
SJG				eS	Sn	13 41 28.2	-0.1
MGP	Maguayo	2.84	189	⇑eP	Pn	13 40 56.3	0.0
MGP				eS	Sn	13 41 31.8	+1.2
CRPR	Cabo Rojo, PR	2.85	189	⇑eP	Pn	13 40 56.1	-0.3
CRPR				eS	Sn	13 41 30.8	+0.2
CPD	Cerro la Pandu	2.86	166	⇑eP	Pn	13 40 57.6	+1.0
CPD				eS	Sn	13 41 32.2	+1.2
MTP	Monte Pirata	2.91	159	⇑eP	Pn	13 40 57.2	0.0
MTP				eS	Sn	13 41 31.7	-0.4

ISCJB ***02*** *13:49:01.6±0.5, 38.95N±0.02×8.65W±0.05, h3km±5km, Error ellipse: s-maj=6.1km s-min=3.1km az=30.3*
CSEM ***02*** *13:49:02.5±0.1, 38.94N×8.70W, h8km, ML2.4/3, Error ellipse: s-maj=3.5km s-min=2.6km az=96.0*
MDD ***02*** *13:49:02.8±0.4, 38.95N×8.74W, h11km±4km, mbLg1.9/12, Error ellipse: s-maj=4.6km s-min=2.8km az=114.0, PRXIMO*
INMG ***02*** *13:49:03.1±1.3, 38.94N×8.71W, h0km, ML1.8, Error ellipse: s-maj=3.3km s-min=1.7km az=95.0*
IGIL ***02*** *13:49:03.7, 38.95N×8.72W, h2km, ML2.0*

ISC 02 13:49:02.5±0.4**, 38.94N**±0.02×**8.68W**±0.04**, h9km**±4km**, n34,** σ0ˢ77/57**, Portugal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALMR	Almeirim	0.23	21	eP	Pg	13 49 07.8	+0.6
ALMR				eS	Sg	13 49 11.2	+0.9
ALMR				eS	Sg	13 49 11.2	+0.9
ALMR				AML	AML	13 49 12.0	
	comp=E,213nm,0.1s						
ALMR	Almeirim	0.23	21	eP	Pg	13 49 07.8	+0.6
ALMR				eS	Sg	13 49 11.2	+0.9
PLOU	Loures	0.37	262	ePg	Pg	13 49 09.4	-0.4
PLOU				eSg	Sg	13 49 14.3	-0.4
PLOU							
	comp=E,43nm,0.2s						
PLOU	Loures	0.37	262	ePg	Pg	13 49 09.4	-0.4
PLOU				eSg	Sg	13 49 14.3	-0.4
	comp=E,43nm,0.2s						
PLML	Palmela	0.42	204	eSg	Sg	13 49 17.6	+1.2
PTOM	Tomar	0.71	17	ePg	Pg	13 49 16.4	+0.2
PTOM				eSg	Sg	13 49 26.1	+0.7
PTOM							
	comp=E,38nm,0.2s						
PTOM	Tomar	0.71	17	ePg	Pg	13 49 16.4	+0.2
PTOM				eSg	Sg	13 49 26.1	+0.7
	comp=E,38nm,0.2s						
PBEJ	Beja	1.11	145	eP	Pg	13 49 24.1	+0.1
PBEJ				eS	Sg	13 49 39.3	+0.9
PBEJ							
	comp=E,11nm,0.2s						
PBEJ	Beja	1.11	145	eP	Pg	13 49 24.1	+0.1
PBEJ				eS	Sg	13 49 39.3	+0.9
	comp=E,11nm,0.2s						
PCBR	Castelo Branco	1.29	46	eP	Pn	13 49 27.4	+0.6
PCBR				eS	Sb	13 49 44.3	+0.5
PCBR							
	comp=E,11nm,0.2s						
PCBR	Castelo Branco	1.29	46	eP	Pn	13 49 27.4	+0.6
PCBR				eS	Sb	13 49 44.3	+0.5
	comp=E,11nm,0.2s						
EBAD	Badajoz	1.32	98	Pg	Pg	13 49 26.9	-0.9
	comp=E,1.6nm,0.1s,SNR=19						
EBAD				Lg		13 49 45.9	
	comp=E,46nm,0.1s,SNR=7.9						
EBAD	Badajoz	1.32	98	Pg	Pg	13 49 26.9	-0.9
	comp=E,1.6nm,0.1s,SNR=19						
PTEO	Sao Teotonio	1.39	181	eP	Pn	13 49 28.9	+0.7
PTEO				eS	Sb	13 49 47.1	+0.5
PTEO							
	comp=E,9.0nm,0.2s						
PTEO	Sao Teotonio	1.39	181	eP	Pn	13 49 28.9	+0.7
PTEO				eS	Sb	13 49 47.1	+0.5
	comp=E,9.0nm,0.2s						
MORF	Marmelete	1.63	179	eP	Pn	13 49 31.6	+0.2
MORF				eS	Sn	13 49 52.2	-0.4
MORF				eS	Sn	13 49 52.2	-0.4
MORF				AML	AML	13 49 54.6	
	comp=N,15nm,0.2s						
MORF	Marmelete	1.63	179	eP	Pn	13 49 31.6	+0.1
MORF				eS	Sn	13 49 52.2	-0.4
EGRO	El Granado	1.69	146	Pg	Pg	13 49 33.7	-1.3
	comp=N,1.3nm,0.1s,SNR=7.9						
EGRO				Lg		13 49 57.2	
	comp=N,2.9nm,0.1s,SNR=7.9						
EGRO	El Granado	1.69	146	Pg	Pg	13 49 33.8	-1.2
	comp=N,1.3nm,0.1s,SNR=7.9						
MTE	Manteigas	1.70	31	ePg	Pg	13 49 34.3	-0.9
MTE				eSn	Sn	13 49 54.9	+0.6
MTE							
	comp=N,6.4nm,0.3s						
PVIS	Viseu	1.87	19	ePg	Pg	13 49 37.9	-0.6
PVIS				eSn	Sn	13 49 59.3	+0.7
PVIS				eSg	Sg	13 50 02.8	0.0
PVIS							
	comp=N,9.4nm,0.1s						
PVIS	Viseu	1.87	19	Pg	Pg	13 49 37.9	-0.6
PVIS				Sn	Sn	13 49 59.3	+0.7
PVIS				Lg		13 50 02.8	
	comp=N,4.7nm,0.1s						
EMIN	Mina Concepcio	1.97	126	Pn	Pn	13 49 36.1	+0.1
	comp=N,0.1nm,0.0s,SNR=7.9						
EMIN				Pg	Pg	13 49 38.9	-1.3
	comp=N,0.5nm,0.1s,SNR=7.9						
EMIN				Lg		13 50 05.1	
	comp=N,2.1nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	1.97	126	Pn	Pn	13 49 36.1	0.0
	comp=N,0.1nm,0.0s,SNR=7.9						
EMIN	Mina Concepcio	1.97	126	Pg	Pg	13 49 38.9	-1.3
	comp=N,0.5nm,0.1s,SNR=7.9						
PVRL	Vila Real	2.45	17	eSg	Sg	13 50 20.9	-0.2
PVRL							
	comp=N,4.8nm,0.2s						
PVRL	Vila Real	2.45	17	Lg		13 50 20.9	
	comp=N,2.4nm,0.2s						
ELOB	Lobios	2.96	9	Pn	Pn	13 49 49.0	-0.7
	comp=N,0.1nm,0.0s,SNR=8.1						
ELOB				Sn	Sn	13 50 24.9	-0.5
	comp=N,0.3nm,0.1s,SNR=7.9						
ELOB				Lg		13 50 34.5	
	comp=N,0.4nm,0.1s,SNR=7.9						
ELOB	Lobios	2.96	9	Pn	Pn	13 49 48.5	-1.2
	comp=N,1.5nm,0.3s,SNR=8.1						
ELOB				Sn	Sn	13 50 21.7	-3.7
	comp=N,0.6nm,0.2s,SNR=7.9						

EADA	Adamuz	3.31	102	Pn	Pn	13 49 56.6	+2.1
	comp=N,1.4nm,0.3s,SNR=6.4						
EADA				Sn	Sn	13 50 34.2	+0.2
	comp=N,0.3nm,0.1s,SNR=7.9						
EADA				Lg		13 50 48.2	
	comp=N,2.5nm,0.2s,SNR=7.9						
EADA	Adamuz	3.31	102	Pn	Pn	13 49 54.3	-0.2
	comp=N,1.4nm,0.3s,SNR=6.4						
EADA				Sn	Sn	13 50 33.1	-0.9
	comp=N,0.3nm,0.1s,SNR=7.9						
ECAL	Calabor	3.34	26	Pn	Pn	13 49 54.1	-1.0
	comp=N,1.1nm,0.3s,SNR=7.9						
ECAL				Lg		13 50 48.7	
	comp=N,1.5nm,0.2s,SNR=7.9						
ECAL	Calabor	3.34	26	Pn	Pn	13 49 53.6	-1.4
	SNR=7.9						
EQES	Quesada	4.55	103	Lg		13 51 30.2	
	comp=N,1.5nm,0.5s,SNR=7.9						

*ISCJB **02** 14:03:42.5±0.2, 4853N±001×829E±002, h13$^{km}\pm$2^{km}, Error ellipse: s-maj=2.5km s-min=1.8km az=156.8*
*BGR **02** 14:03:44.0±0.4, 4852N×832E, h10^{km}, ML2.3, Error ellipse: s-maj=4.4km s-min=3.3km az=72.0*
*CSEM **02** 14:03:43.9±0.1, 4852N×837E, h11^{km}, ML2.8/17, Error ellipse: s-maj=1.3km s-min=0.8km az=152.0*
*NEIC **02** 14:03:43.0±0.3, 4855N×828E, h5^{km}, ML2.3(SZGRF), ML2.3(STR), ML2.4(LEDBW), ML2.6(LDG), Error ellipse: s-maj=4.8km s-min=3.2km az=143.0*
*LEDBW **02** 14:03:44.4±0.2, 4850N±001×8340E±0007, h11$^{km}\pm$2^{km}, ML2.4, Error ellipse: s-maj=4.6km s-min=2.0km az=162.0*
*PRU **02** 14:03:44.9, 4856N×844E, h0^{km}*
*LDG **02** 14:03:44.4±0.1, 4850N×834E, h11^{km}, Md2.8/3, Ml2.6/12, Error ellipse: s-maj=1.6km s-min=1.3km az=148.0*
*STR **02** 14:03:44.0±0.4, 4851N×832E, h10$^{km}\pm$1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 02 14:03:43.2±0.2**, 4852N**±001×**832E**±001**, h18**$^{km}\pm$2^{km}**, n122, σ1^{s}05**/259**, 19C-8D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BFO	Black Forest	0.19	177	ePg	Pg	14 03 48.1	+0.1
BFO				eSg	Sg	14 03 50.7	-0.5
BFO	Black Forest	0.19	177	ePg	Pg	14 03 48.1	+0.1
BFO				eSg	Sg	14 03 50.7	-0.6
BFO	Black Forest	0.19	177	⇓iPg	Pg	14 03 48.2	+0.2
BFO				iSg	Sg	14 03 50.9	-0.4
OFBG	Offenburg	0.24	251	⇑ePg	Pg	14 03 49.5	+0.8
OFBG				eSg	Sg	14 03 53.0	+0.6
TUBL	Tuebingen-Lenn	0.51	90	⇑iP*	Pb	14 03 54.2	+0.6
TUBL				S*	Sb	14 04 00.6	-0.1
TUBL				SmS		14 04 03.4	
TUBL	Tuebingen-Lenn	0.51	90	⇑iPg	Pb	14 03 54.2	+0.6
TUBL				Sg	Sb	14 04 00.6	-0.1
TUBL				SmS		14 04 03.4	
BHBD	Braunhartsberg	0.54	121	⇓ePg	Pg	14 03 54.5	+0.6
BHBD				eSg	Sg	14 04 01.3	+0.2
LIBD	Limburg	0.60	232	⇑iP*	Pb	14 03 56.5	+1.3
LIBD	Limburg	0.60	232	⇑iP	Pg	14 03 56.5	+1.3
LIBD	Limburg	0.60	232	Pg	Pg	14 03 56.3	+1.1
LIBD	Limburg	0.60	232	⇑iPg	Pb	14 03 56.5	+1.3
FBB	Freiburg im Br	0.61	211	P*	Pb	14 03 56.2	+0.9
FBB	Freiburg im Br	0.61	211	P	Pg	14 03 56.2	+1.0
KIZ	Kirchzarten	0.63	205	⇑P*	Pb	14 03 56.1	+0.5
KIZ				Pg	Pg	14 03 56.4	+0.8
KIZ				S*	Sg	14 04 04.0	0.0
KIZ				SmS		14 04 06.2	
KIZ	Kirchzarten	0.63	205	⇑P	Pg	14 03 56.1	+0.5
KIZ				Pg	Pg	14 03 56.4	+0.8
KIZ				S	Sg	14 04 04.0	0.0
KIZ				S	Sg	14 04 06.2	+2.2
KIZ	Kirchzarten	0.63	205	⇑Pg	Pb	14 03 56.1	+0.5
KIZ				Sg	Sg	14 04 04.0	0.0
KIZ	Kirchzarten	0.63	205	PmP	Pg	14 03 56.4	+0.8
KIZ				SmS	Sg	14 04 06.2	+2.2
STU	Stuttgart	0.63	67	ePg	Pg	14 03 56.1	+0.5
STU				eSg	Sg	14 04 04.9	+0.7
STU	Stuttgart	0.63	67	ePg	Pg	14 03 56.1	+0.4
STU				eSg	Sg	14 04 04.9	+0.7
FELD	Feldberg im Sc	0.68	198	⇑iP*	Pg	14 03 57.2	+0.6
FELD				PmP		14 03 58.1	
FELD	Feldberg im Sc	0.68	198	⇑iP	Pb	14 03 57.2	+0.7
FELD	Feldberg im Sc	0.68	198	Pg	Pg	14 03 57.1	+0.5
FELD	Feldberg im Sc	0.68	198	⇑iPg	Pg	14 03 57.2	+0.6
BUCH	Bad Urach	0.69	96	⇑iP*	Pg	14 03 57.4	+0.6
BUCH				S*	Sg	14 04 06.5	+0.4
BUCH				SmS		14 04 08.1	
BUCH	Bad Urach	0.69	96	⇑iP	Pb	14 03 57.4	+0.7
BUCH				S	Sg	14 04 06.5	+0.4
BUCH	Bad Urach	0.69	96	⇑iPg	Pg	14 03 57.4	+0.6
BUCH				Sg	Sg	14 04 06.5	+0.4
BUCH				SmS		14 04 08.1	
GUT	Gutenstein	0.70	130	⇓P*	Pb	14 03 57.4	+0.5
GUT				S*	Sb	14 04 06.0	-0.2
GUT	Gutenstein	0.70	130	⇓P	Pb	14 03 57.4	+0.6
GUT				S	Sb	14 04 06.0	-0.2
CDF	Champ du Feu	0.70	261	ePn	Pn	14 03 59.2	+1.0
CDF				eSg	Sg	14 04 07.3	+1.0
	24nm,0.2s,SNR=1.0						
CDF				eSn	Sn	14 04 09.0	+0.4
CDF	Champ du Feu	0.70	261	ePg	Pg	14 03 57.9	+0.9
CDF				ePn	Pn	14 03 59.2	+1.0
CDF				eSg	Sg	14 04 07.3	+1.0
CDF				eSn	Sn	14 04 09.0	+0.4
CDF	Champ du Feu	0.70	261	ePn	Pn	14 03 59.2	+1.0
CDF				eSg	Sg	14 04 07.3	+1.0
	12nm,0.2s,SNR=1.0						
CDF				eSn	Sn	14 04 09.0	+0.4
KTD	Kalmit	0.81	349	Pg	Pg	14 04 00.5	+1.5
ECH	Echery	0.83	249	⇑P	Pn	14 03 60.0	0.0
ECH				Pg	Pg	14 04 00.5	+1.0
ECH				S	Sg	14 04 11.1	+0.7
ECH	Echery	0.83	249	Pg	Pg	14 04 00.0	+0.6
ECH				Sg	Sg	14 04 11.0	+0.6
ECH	Echery	0.83	249	⇑Pn	Pn	14 03 60.0	0.0
ECH				Sx	Sg	14 04 11.1	+0.7
ECH	Echery	0.83	249	P	Pg	14 04 00.5	+1.0
SISB	Singen-Schiene	0.94	152	⇑P	Pn	14 04 02.1	+0.6
SISB				PmP		14 04 02.4	
SISB				S	Sn	14 04 14.3	-0.3
SISB	Singen-Schiene	0.94	152	⇑Pn	Pn	14 04 02.1	+0.6
SISB				Sn	Sn	14 04 14.3	-0.3
SISB	Singen-Schiene	0.94	152	PmP	Pg	14 04 02.4	+0.9
SWS	Schriesheim-Wi	0.99	15	⇑P	Pn	14 04 02.2	0.0
SWS				S	Sb	14 04 16.3	+1.7
SWS	Schriesheim-Wi	0.99	15	⇑P	Pb	14 04 02.2	+0.3
SWS				S	Sb	14 04 16.3	+1.7
SWS	Schriesheim-Wi	0.99	15	⇑Pn	Pn	14 04 02.2	0.0
SWS				S	Sb	14 04 16.3	+1.7
MOF	Molkenrain	1.04	230	P	Pb	14 04 03.3	+0.7
MOF				PmP		14 04 04.3	
MOF	Molkenrain	1.04	230	Px	Pg	14 04 04.3	+1.0
TOD	Tromm	1.13	16	Pg	Pg	14 04 04.0	-1.0
SIND	Sindeldorf	1.19	45	P	Pn	14 04 04.7	-0.1
SIND				Pg	Pg	14 04 06.6	+0.5
SIND				S	Sb	14 04 19.7	-0.4
SIND	Sindeldorf	1.19	45	P	Pn	14 04 04.7	-0.2
SIND				Pg	Pg	14 04 06.6	+0.5
SIND				S	Sb	14 04 19.7	-0.4
SIND	Sindeldorf	1.19	45	P	Pg	14 04 06.6	+0.5
BBS	Basel-Blauen	1.19	207	⇑Pg	Pg	14 04 06.9	+0.7
BBS	Basel-Blauen	1.19	207	Pg	Pg	14 04 06.8	+0.6
BBS				Sg	Sg	14 04 22.0	+0.2
BBS	Basel-Blauen	1.19	207	⇑P	Pn	14 04 06.9	+2.0
HINF	Hinteralfeld	1.21	235	ePg	Pg	14 04 06.7	+0.2
HINF				eSn	Sn	14 04 21.3	+0.2
	SNR=1.0						
HINF				eSg	Sg	14 04 22.9	+0.5
	26nm,0.2s						
HINF	Hinteralfeld	1.21	235	ePn	Pn	14 04 04.8	-0.4
HINF				ePg	Pg	14 04 06.7	+0.2
HINF				eSn	Sn	14 04 21.3	+0.2
HINF				eSg	Sg	14 04 22.9	+0.5
HINF	Hinteralfeld	1.21	235	ePg	Pg	14 04 06.7	+0.2
HINF				eSn	Sn	14 04 21.3	+0.2
	SNR=1.0						
HINF				eSg	Sg	14 04 22.9	+0.5
	13nm,0.2s						
HDH	Heidenheim-Cha	1.26	87	P	Pn	14 04 07.5	+1.7
HDH				Pg	Pg	14 04 07.9	+0.4
HDH				Sg	Sg	14 04 23.7	-0.2
HDH	Heidenheim-Cha	1.26	87	P	Pn	14 04 07.6	+1.7
HDH				Pg	Pg	14 04 07.9	+0.4
HDH				Sg	Sg	14 04 23.7	-0.2
HDH	Heidenheim-Cha	1.26	87	P	Pg	14 04 07.9	+0.4
HAU	Haudompre	1.41	249	ePg	Pg	14 04 11.0	+0.6
	SNR=1.0						
HAU				eSn	Sn	14 04 27.1	+0.9
	SNR=1.0						
HAU				eSg	Sg	14 04 30.0	+1.1
	22nm,0.2s,SNR=1.0						
HAU	Haudompre	1.41	249	ePn	Pn	14 04 09.0	+1.0
HAU				ePg	Pg	14 04 11.0	+0.6
HAU				eSn	Sn	14 04 27.1	+0.9
HAU				eSg	Sg	14 04 30.0	+1.1
HAU	Haudompre	1.41	249	ePg	Pg	14 04 11.0	+0.6
	SNR=1.0						
HAU				eSn	Sn	14 04 27.1	+0.9
	SNR=1.0						
HAU				eSg	Sg	14 04 30.0	+1.1
	11nm,0.2s,SNR=1.0						
RUP	Ruppelstein	1.44	325	Pg	Pg	14 04 12.0	+1.1
RUP	Ruppelstein	1.44	325	Pg	Pg	14 04 11.9	+1.0
RUP				Sg	Sg	14 04 30.9	+1.2
RUP	Ruppelstein	1.44	325	P	Pn	14 04 12.0	+3.7
ABH	Alteburg	1.45	340	Pg	Pg	14 04 12.4	+1.3
ABH	Alteburg	1.45	340	Pg	Pg	14 04 12.3	+1.2
UBR	Ueberruh	1.47	124	Pg	Pg	14 04 12.3	+0.8
UBR				PmP		14 04 13.4	
UBR				Sg	Sg	14 04 30.7	+0.1
LOMF	Lomont	1.54	221	Pg	Pg	14 04 13.5	+0.6
LOMF				Sg	Sg	14 04 33.5	+0.5
LOMF	Lomont	1.54	221	Px	Pg	14 04 13.5	+0.6
LOMF				S	Sg	14 04 33.5	+0.5
DAVA	Damuels	1.62	139	⇓eSg	Sg	14 04 35.8	+0.2
	comp=N,1.5nm,0.2s						
DAVA	Damuels	1.62	139	⇑iPg	Pg	14 04 15.3	+0.8
	1.3nm,0.1s						
DAVA				⇓eSn	Sg	14 04 35.8	+0.2
	1.5nm,0.2s						
TNS	Taunus Mts	1.70	3	ePn	Pn	14 04 12.6	+0.6
TNS				eSg	Sg	14 04 38.5	+0.4
WLF	Walferdange	1.82	310	eSg	Sg	14 04 42.1	+0.2
RFYF	Reffroy	1.89	274	ePg	Pg	14 04 20.1	+0.6
	baz=85						
RFYF				eSn	Sn	14 04 38.1	+0.2
RFYF				eSg	Sg	14 04 44.4	+0.3
RFYF	Reffroy	1.89	274	ePn	Pn	14 04 15.8	+1.2
RFYF				ePg	Pg	14 04 20.1	+0.6
RFYF				eSn	Sn	14 04 38.1	+0.2
RFYF				eSg	Sg	14 04 44.4	+0.3
RFYF	Reffroy	1.89	274	ePg	Pg	14 04 20.1	+0.6
RFYF				eSn	Sn	14 04 38.1	+0.2
RFYF				eSg	Sg	14 04 44.4	+0.3
FUR	Furstenfeldbru	2.01	99	ePg	Pg	14 04 21.8	+0.1
FUR				eSg	Sg	14 04 47.6	-0.2
MEZF	Maizieres J'vi	2.17	271	ePg	Pg	14 04 25.1	+0.2
	baz=90						
MEZF				eSn	Sn	14 04 44.4	-0.5
MEZF				eSg	Sg	14 04 52.9	-0.1
	9.3nm,0.3s,SNR=1.0						
MEZF	Maizieres J'vi	2.17	271	ePn	Pn	14 04 19.7	+1.3
MEZF				ePg	Pg	14 04 25.1	+0.2
MEZF				eSn	Sn	14 04 44.4	-0.5
MEZF				eSg	Sg	14 04 52.9	-0.1
MEZF	Maizieres J'vi	2.17	271	ePg	Pg	14 04 25.1	+0.2
MEZF				eSn	Sn	14 04 44.4	-0.5
MEZF				eSg	Sg	14 04 52.9	-0.1
	4.7nm,0.3s,SNR=1.0						
SFTF	Sexfontaines	2.21	263	ePg	Pg	14 04 25.8	+0.2
	baz=76						
SFTF				eSn	Sn	14 04 45.1	-0.7
SFTF				eSg	Sg	14 04 54.5	+0.2
SFTF	Sexfontaines	2.21	263	ePn	Pn	14 04 19.1	+0.2
SFTF				ePg	Pg	14 04 25.8	+0.2
SFTF				eSn	Sn	14 04 45.1	-0.7
SFTF				eSg	Sg	14 04 54.5	+0.2
SFTF	Sexfontaines	2.21	263	ePg	Pg	14 04 25.8	+0.2
SFTF				eSn	Sn	14 04 45.1	-0.7
SFTF				eSg	Sg	14 04 54.5	+0.2
MOTA	Moosalm	2.21	121	⇑iPg	Pg	14 04 25.9	+0.2
	0.6nm,0.1s						
MOTA				⇑iSn	Sn	14 04 53.8	+7.8
	15nm,0.2s						
GRA1	Grafenberg Arr	2.24	57	ePg	Pg	14 04 25.5	-0.6
GRA1				eSg	Sg	14 04 53.8	-1.4
GRF	Grafenberg Arr	2.24	57	ePg	Pg	14 04 25.5	-0.7
GRF				eSg	Sg	14 04 53.8	-1.4
SQTA	Sankt Quirin	2.34	123	⇓iPn	Pn	14 04 22.7	+1.9
	0.7nm,0.1s						
SQTA				⇑iSn	Sn	14 04 56.8	+7.7
	9.4nm,0.3s						
CABF	La Chapelle	2.44	219	ePg	Pg	14 04 29.3	-0.6
	SNR=1.0						
CABF				eSn	Sn	14 04 52.2	+0.8
	SNR=1.0						
CABF				eSg	Sg	14 05 00.4	-1.2
	3.5nm,0.2s,SNR=1.0						
CABF	La Chapelle	2.44	219	ePn	Pn	14 04 22.1	0.0
CABF				ePg	Pg	14 04 29.3	-0.6
CABF				eSn	Sn	14 04 52.2	+0.8
CABF				eSg	Sg	14 05 00.4	-1.2
CABF	La Chapelle	2.44	219	ePg	Pg	14 04 29.3	-0.6
	SNR=1.0						
CABF				eSn	Sn	14 04 52.2	+0.8
	SNR=1.0						
CABF				eSg	Sg	14 05 00.4	-1.2
	1.8nm,0.2s,SNR=1.0						
WTTA	Wattenberg	2.56	118	⇓iPn	Pn	14 04 25.0	+1.1
WTTA				⇑eSn	Sn	14 05 05.1	+11
	2.4nm,0.2s						
MOX	Moxa	3.02	44	ePg	Pg	14 04 40.2	-0.9
MOX				eSg	Sg	14 05 19.0	-1.2
BAIF	Baives	3.10	301	eSg	Sg	14 05 20.2	-2.5
	4.9nm,0.5s,SNR=1.0						
BAIF	Baives	3.10	301	eSg	Sg	14 05 20.2	-2.5
	2.5nm,0.5s,SNR=1.0						
NKC	Novy Kostel	3.20	56	ePG	Pg	14 04 43.1	-1.3
NKC				eSG	Sg	14 05 23.3	-2.6
	8.4nm,0.4s						
LPL	La Plagne	3.20	200	ePg	Pg	14 04 43.7	-0.8
	SNR=1.0						
LPL				eSg	Sg	14 05 25.7	-0.2
	3.0nm,0.4s,SNR=1.0						
LPL	La Plagne	3.20	200	ePg	Pg	14 04 43.7	-0.8
	SNR=1.0						
LPL				eSg	Sg	14 05 25.7	-0.2
	1.5nm,0.4s,SNR=1.0						
LPG	La Plagne	3.21	200	eSg	Sg	14 05 24.5	-1.8
	5.3nm,0.6s,SNR=1.0						
LPG	La Plagne	3.21	200	eSg	Sg	14 05 24.5	-1.8
	2.7nm,0.6s,SNR=1.0						
LOR	Lormes	3.25	249	ePn	Pn	14 04 33.7	+0.4
	baz=70,SNR=1.0						
LOR	Lormes	3.25	249	ePg	Pg	14 04 44.8	-0.7
	baz=67,SNR=1.0						
LOR				eSn	Sn	14 05 10.0	-1.5
	SNR=1.0						
LOR				eSg	Sg	14 05 27.4	-0.2
	7.1nm,0.3s,SNR=1.0						
LOR	Lormes	3.25	249	ePn	Pn	14 04 33.7	+0.4
LOR				ePg	Pg	14 04 44.8	-0.7
LOR				eSn	Sn	14 05 10.0	-1.5
LOR				eSg	Sg	14 05 27.4	-0.2
LOR	Lormes	3.25	249	ePg	Pg	14 04 44.8	-0.7
	SNR=1.0						
LOR				eSn	Sn	14 05 10.0	-1.5
	SNR=1.0						
LOR				eSg	Sg	14 05 27.4	-0.2
	3.5nm,0.3s,SNR=1.0						
KHC	Kasperske Hory	3.53	78	ePN	Pn	14 04 41.5	+4.4
KHC				ePG	Pg	14 04 48.7	-2.1
KHC				eSG	Sg	14 05 33.7	-2.8
	3.5nm,0.2s						
SSF	Saint Saulge	3.56	248	ePg	Pg	14 04 50.3	-1.0
	SNR=1.0						
SSF				eSg	Sg	14 05 34.7	-2.8
	3.9nm,0.3s,SNR=1.0						
SSF	Saint Saulge	3.56	248	ePn	Pn	14 04 37.7	+0.2
SSF				ePg	Pg	14 04 50.3	-1.0
SSF				eSg	Sg	14 05 34.7	-2.8
SSF	Saint Saulge	3.56	248	ePg	Pg	14 04 50.3	-1.0
	SNR=1.0						
SSF				eSg	Sg	14 05 34.7	-2.8
	2.0nm,0.3s,SNR=1.0						
SMF	Signal de Mont	3.56	240	ePg	Pg	14 04 50.2	-1.3
	SNR=1.0						
SMF				eSg	Sg	14 05 35.7	-2.0
	6.1nm,0.3s,SNR=1.0						
SMF	Signal de Mont	3.56	240	ePn	Pn	14 04 36.8	-0.8
SMF				ePg	Pg	14 04 50.2	-1.3
SMF				eSg	Sg	14 05 35.7	-2.0
SMF	Signal de Mont	3.56	240	ePg	Pg	14 04 50.2	-1.3
	SNR=1.0						
SMF				eSg	Sg	14 05 35.7	-2.0
	3.0nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	3.78	245	ePg	Pg	14 04 53.8	-1.7
	SNR=1.0						
AVF				eSn	Sn	14 05 24.1	-0.4
	SNR=1.0						
AVF				eSg	Sg	14 05 41.5	-3.0
	1.9nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	3.78	245	ePn	Pn	14 04 40.0	-0.5
AVF				ePg	Pg	14 04 53.8	-1.7
AVF				eSn	Sn	14 05 24.1	-0.4
AVF				eSg	Sg	14 05 41.5	-3.0
AVF	Avril sur Loir	3.78	245	ePg	Pg	14 04 53.8	-1.7
	SNR=1.0						
AVF				eSn	Sn	14 05 24.1	-0.4
	SNR=1.0						
AVF				eSg	Sg	14 05 41.5	-3.0
	0.9nm,0.3s,SNR=1.0						
ORIF	Oris-en-Rattie	3.98	206	eSg	Sg	14 05 48.3	-2.6
	2.8nm,0.3s,SNR=1.0						
ORIF	Oris-en-Rattie	3.98	206	eSg	Sg	14 05 48.3	-2.6
	1.4nm,0.3s,SNR=1.0						
HYF	Humbligny	4.02	254	ePn	Pn	14 04 43.4	-0.5
HYF				ePg	Pg	14 04 59.3	-0.9
HYF				eSg	Sg	14 05 50.7	-1.6
CLL	Collm	4.12	46	iPG	Pg	14 05 00.3	-1.7
CLL				e		14 05 34.0	
CLL				eSG	Sg	14 05 52.0	-3.3
BGF	Bois d'Agland	4.20	244	ePn	Pn	14 04 45.9	-0.3
BGF				ePg	Pg	14 05 02.8	-0.7
BGF				eSn	Sn	14 05 33.7	-1.1
BRG	Berggiesshubel	4.34	55	SG	Sg	14 06 00.6	-2.0
	1.0nm,0.5s						
VIVF	Saint-Julien-l	4.44	216	eSn	Sn	14 05 38.5	-2.4
	SNR=1.0						
VIVF				eSg	Sg	14 06 02.7	-3.1
	SNR=1.0						
DPC	Dobruska-Polom	5.53	68	eSG	Sg	14 06 37.5	-3.3
RJF	Les Rejaudoux	5.66	238	ePn	Pn	14 05 06.3	-0.1
RJF				ePg	Pg	14 05 28.6	-3.0
RJF				eSn	Sn	14 06 09.1	-1.9
RJF				eSg	Sg	14 06 40.7	-4.2
MFF	Saint Martin d	6.04	255	ePn	Pn	14 05 11.2	-0.4

MAN 02 14:15:50.4, 1754N×12026E, h44^{km}, mb2.5, ML4.0, MS1.3, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	Dolores	0.45	75	eP	Pn	14 16 02.6	+1.9
ABRA				eS	Sn	14 16 11.2	+3.3
PIP	Pasuquin	0.86	24	⇓iP	Pn	14 16 07.0	+1.0
APYP	Conner	0.99	71	eP	Pn	14 16 08.5	+0.6
APYP				eS	Sn	14 16 22.0	+1.2
BCPH	Baguio City Da	1.19	165	⇑iP	Pn	14 16 11.0	+0.5
BCPH				iS	Sn	14 16 27.1	+1.6
BOLP	Bolinao	1.19	196	eP	Pn	14 16 11.4	+0.8
CVP	Callao Caves	1.50	83	eP	Pn	14 16 05.0	-10
CVP				iS	Sn	14 16 34.0	+0.8
CAUP	Cauayan	1.61	111	eP	Pn	14 16 17.6	+1.3
SCZP	Santa Cruz	1.78	191	eP	Pn	14 16 19.1	+0.5
BALP	Baler	2.19	144	eP	Pn	14 16 24.9	+0.7
POLP	Polilio Island	3.23	150	eP	Sn	14 17 19.2	+3.6

*SKO **02** 14:18:59.5, 4127N×2279E, h15^{km}, M2.5, ML1.5*
*CSEM **02** 14:19:00.4±0.2, 4132N×2280E, h5^{km}, ML3.1, Error ellipse: s-maj=4.0km s-min=1.4km az=22.0*
THE 02 14:19:00.8, 4128N×2279E, h4^{km}, ML3.1, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNT	Kendrikon	0.14	144	ePg	Pg	14 19 03.7	+0.2
KNT				eSg	Sg	14 19 06.0	+0.5
KNT	Kendrikon	0.14	144	ePg	Pg	14 19 03.7	+0.1
KNT				eSg	Sg	14 19 05.9	+0.4
VAY	Valandovo	0.17	285	ePg	Pg	14 19 03.9	-0.2
VAY				eSg	Sg	14 19 06.8	+0.4
VAY	Valandovo	0.17	285	iPg	Pg	14 19 03.9	-0.2
VAY				eLg		14 19 06.9	
	comp=E,164nm,0.2s						
VAY				iSg	Sg	14 19 06.9	+0.5
	comp=N,227nm,0.3s						
VAY	Valandovo	0.17	285	ePg	Pg	14 19 03.9	-0.2
VAY				iSg	Sg	14 19 06.8	+0.4
	comp=N,227nm,0.3s						
GRG	Griva	0.43	223	ePg	Pg	14 19 09.3	+0.1
GRG				eSg	Sg	14 19 15.2	+0.4
SOH	Sokhos	0.62	137	ePg	Pg	14 19 12.5	-0.3
SOH				eSg	Sg	14 19 21.5	+0.6
FNA	Florina	1.18	246	ePg	Pg	14 19 23.0	-0.4

WEL 02 14:19:24.9±0.3**, 3777S×17665E, h150**$^{km}\pm$2^{km}**, ML3.5**/14**, Error ellipse: s-maj=3.8km s-min=3.8km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	0.62	144	PN	Pn	14 19 46.4	-0.5
URZ				SN	Sn	14 20 03.6	0.0
MWZ	Matawai	0.90	130	ePN	Pn	14 19 48.9	0.0
MWZ				SN	Sn	14 20 08.1	+1.0
PUZ	Puketiti	1.31	104	ePN	Pn	14 19 52.5	-0.1
BKZ	Black Stump Fm	1.41	185	ePN	Pn	14 19 53.3	-0.1
BKZ				SN	Sn	14 20 15.3	0.0
KNZ	Kokohu	1.49	148	ePN	Pn	14 19 54.6	+0.2
TWVZ	Taurewa	1.61	216	ePN	Pn	14 19 56.3	+0.6
NGZ	Ngauruhoe	1.63	210	ePN	Pn	14 19 56.7	+0.8
WPVZ	Whakapapa	1.68	211	ePN	Pn	14 19 57.0	+0.6
TUVZ	Tukino	1.69	207	ePN	Pn	14 19 56.9	+0.4
FWVZ	Far West T-bar	1.72	210	ePN	Pn	14 19 57.4	+0.6
WNVZ	Wahianoa	1.76	207	ePN	Pn	14 19 57.5	+0.2
MOVZ	Moawhango	1.78	203	ePN	Pn	14 19 57.2	-0.4
PKVZ	Pokaka	1.83	213	ePN	Pn	14 19 58.3	+0.3
MTVZ	Mangateitei	1.86	209	ePN	Pn	14 19 58.3	-0.1
PXZ	Pawanui	2.27	176	ePN	Pn	14 20 02.8	-0.4
PXZ				SN	Sn	14 20 31.1	-1.6
TSZ	Takapari Road	2.35	193	ePN	Pn	14 20 03.1	-1.1
TSZ				SN	Sn	14 20 33.3	-1.2
MRZ	Mangatainoka R	3.01	196	ePN	Pn	14 20 10.2	-2.2
MRZ				SN	Sn	14 20 46.9	-2.1
KIW	Kapiti Island	3.37	203	ePN	Pn	14 20 14.1	-2.9
KIW				SN	Sn	14 20 53.7	-3.6
MTW	Mount Morrison	3.50	194	ePN	Pn	14 20 15.7	-3.0
CAW	Cannon Point	3.56	200	ePN	Pn	14 20 16.3	-3.1
TRWZ	Traveller	3.70	191	ePN	Pn	14 20 18.7	-2.6
MRW	Makara Radio	3.77	203	ePN	Pn	14 20 18.8	-3.4
MSWZ	Moikau Station	3.80	196	ePN	Pn	14 20 19.2	-3.3
WEL	Wellington	3.80	202	ePN	Pn	14 20 19.1	-3.4
TCW	Tory Channel	3.90	207	ePN	Pn	14 20 20.2	-3.6
TUWZ	Tuamarina	4.21	209	ePN	Pn	14 20 24.4	-3.5
QRZ	Quartz Range	4.42	225	ePN	Pn	14 20 27.5	-3.2
THZ	Tophouse	4.92	215	ePN	Pn	14 20 32.8	-4.5
KHZ	Kahutara	5.22	206	ePN	Pn	14 20 37.5	-3.7

CASC 02 14:30:42.7±2.3**, 829N×8297W, h28**$^{km}\pm$17^{km}**, MD3.7, 1C-1D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVD	David	0.54	74	⇓iP	Pb	14 30 54.2	+0.7
DVD				eS	Sb	14 31 02.2	+1.2
BRU	Baru	0.65	38	eP	Pb	14 30 55.7	+0.2
BRU				eS	Sb	14 31 05.9	+1.5
CNI	Changuinola	1.21	22	⇑eP	Pn	14 31 03.7	0.0
CNI				eS	Sn	14 31 19.2	+0.1
BUS	Buena Vista	1.48	328	eP	Pn	14 31 06.9	-0.5
BUS				eS	Sn	14 31 29.9	+4.0
URSC	Urasca	1.73	333	eP	Pn	14 31 09.9	-1.0

URSC				eS	Sn	14 31 32.5	+0.5
LCR2	**La Lucha 2**	**1.77**	**325**	eP	Pn	14 31 11.5	+0.1
LCR2				eS	Sn	14 31 35.1	+2.1
PRS1	**Puriscal**	**2.14**	**322**	eP	Pn	14 31 15.5	-1.1
PRS1				eS	Sn	14 31 43.2	+1.0
CGA2	**Cerro Gallo 2**	**2.26**	**319**	eP	Pn	14 31 18.1	-0.2
CGA2				eS	Sn	14 31 47.3	+2.1

*NEIC **02** 14:37:36.8±0.6,5282N×782E,h5km,ML2.9(SZGRF), ML3.0(LDG),Error ellipse: s-maj=8.3km s-min=5.3km az=158.0*
*CSEM **02** 14:37:37.9±0.1,5281N×790E,h1km,ML3.0/15,Error ellipse: s-maj=2.4km s-min=2.0km az=3.0*
*BNS **02** 14:37:38.8±1.1,5271N×8.12E,h2km,ML2.5*
*LDG **02** 14:37:38.8±0.1,5277N×790E,h1km,Md3.1/3,Ml3.0/18, Error ellipse: s-maj=3.4km s-min=2.4km az=121.0, Suspected Mining induced.*
BGR 02 14:37:38.2±0.3,5280N×811E,h2km,ML2.8/8,Error ellipse: s-maj=5.6km s-min=4.4km az=32.0,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IBBN	**Ibbenburen**	**0.54**	**204**	ePg	Pg	14 37 47.9	-0.5
IBBN				eSg	Sg	14 37 56.7	+1.3
IBBN	**Ibbenburen**	**0.54**	**204**	ePg	Pg	14 37 47.9	-0.5
IBBN				eSg	Sg	14 37 56.7	+1.3
WIT	**Witteveen**	**0.88**	**272**	i Pg	Pg	14 37 51.4	-3.6
	30nm,0.2s						
WIT				eSg	Sg	14 38 06.4	0.0
WIT	**Witteveen**	**0.88**	**272**	ePg	Pg	14 37 54.4	-0.6
	SNR=2.0						
WIT				eSg	Sg	14 38 06.4	0.0
WTSB	**Winterswijk**	**1.16**	**225**	ePn	Pn	14 37 59.0	-2.4
	6.5nm,0.3s						
WTSB				ePg	Pg	14 37 59.8	-0.5
	27nm,0.2s						
WTSB				eSg	Sg	14 38 14.8	-0.5
WTSB	**Winterswijk**	**1.16**	**225**	ePg	Pg	14 37 59.8	-0.6
	SNR=10						
WTSB				eSg	Sg	14 38 15.2	-0.1
WTSB	**Winterswijk**	**1.16**	**225**	Pg	Pg	14 37 59.8	-0.5
	SNR=10						
WTSB				Sg	Sg	14 38 15.2	-0.1
HLG	**Helgoland**	**1.40**	**354**	ePn	Pn	14 38 03.9	-0.7
	SNR=2.7						
HLG				eSg	Sg	14 38 22.3	-0.8
BUG	**Bochum--Univer**	**1.45**	**201**	ePn	Pn	14 38 03.5	-2.0
BUG				eSg	Sg	14 38 24.2	-0.7
LAUG	**Laupendahl**	**1.62**	**207**	ePn	Pn	14 38 05.3	-2.4
LAUG				eSn	Sn	14 38 26.4	-2.7
CLZ	**Clausthal**	**1.68**	**124**	ePg	Pn	14 38 09.1	+0.5
	SNR=11						
CLZ				eSg	Sn	14 38 30.6	-0.1
CLZ	**Clausthal**	**1.68**	**124**	ePn	Pn	14 38 09.0	+0.4
GTTG	**Gvttingen**	**1.69**	**137**	ePg	Pg	14 38 09.4	-1.2
	SNR=3.4						
BSEG	**Bad Segeberg**	**1.75**	**48**	ePn	Pn	14 38 09.4	0.0
BSEG	**Bad Segeberg**	**1.75**	**48**	ePn	Pn	14 38 09.4	-0.1
HOBG	**Hohbusch**	**1.88**	**195**	ePn	Pn	14 38 09.8	-1.5
HOBG				eSn	Sn	14 38 32.1	-3.4
BNS	**Bensberg**	**1.92**	**198**	eSn	Sn	14 38 33.7	-3.0
UBBA	**Unterbreizbach**	**2.30**	**149**	ePn	Pn	14 38 16.6	-0.5
UBBA				eSg	Sg	14 38 51.4	-0.7
STB	**Steinbach**	**2.34**	**200**	ePn	Pn	14 38 15.2	-2.5
KLL	**Kalltalsperre**	**2.43**	**208**	ePn	Pn	14 38 17.0	-1.8
HGN	**Heimansgroeve**	**2.44**	**215**	ePg	Pn	14 38 16.7	-2.3
	2.8nm,0.2s						
HGN				eSg	Sn	14 38 45.7	-3.8
HGN	**Heimansgroeve**	**2.44**	**215**	ePn	Pn	14 38 16.8	-2.2
	SNR=3.6						
HGN				eSn	Sn	14 38 45.8	-3.7
TNS	**Taunus Mts**	**2.58**	**175**	ePn	Pn	14 38 20.5	-0.4
TNS				eSg	Sg	14 39 01.5	+0.3
BGG	**Burgeitz**	**2.64**	**191**	eSn	Sn	14 38 51.3	-3.0
	23nm,0.5s						
HILG	**Hillesheim**	**2.66**	**200**	ePn	Pn	14 38 21.7	-0.4
HILG				eSn	Sn	14 38 52.6	-2.3
MOX	**Moxa**	**3.06**	**133**	ePn	Pn	14 38 28.2	+0.6
MOX				ePg	Pg	14 38 40.2	+3.3
MOX				eSg	Sg	14 39 21.9	+5.3
CLL	**Collm**	**3.37**	**114**	ePn	Pn	14 38 33.0	+1.3
CLL				ePg	Pg	14 38 48.0	+5.3
CLL				eSg	Sg	14 39 29.0	+2.7
CLL				i x	x	14 39 39.2	
	comp=Z,8.0nm,0.7s						
GIVF	**Givet**	**3.39**	**219**	ePn	Pn	14 38 29.1	-3.0
GIVF				eSn	Sn	14 39 07.8	-5.1
GIVF				eSg	Sg	14 39 22.5	-4.6
	comp=Z,12nm,0.3s						
GIVF	**Givet**	**3.39**	**219**	ePn	Pn	14 38 29.1	-3.0
GIVF				eSn	Sn	14 39 07.8	-5.1
GIVF				eSg	Sg	14 39 22.5	-4.6
	comp=Z,5.8nm,0.3s						
WERD	**Werda**	**3.52**	**130**	ePn	Pn	14 38 34.5	+0.7
TANN	**Tannenbergstha**	**3.61**	**130**	ePn	Pn	14 38 36.0	+0.9
GRF	**Grafenberg Arr**	**3.67**	**147**	eSg	Sg	14 39 36.0	-0.1
BAIF	**Baives**	**3.67**	**223**	ePn	Pn	14 38 33.1	-2.8
BAIF				eSn	Sn	14 39 14.1	-5.7
BAIF				eSg	Sg	14 39 32.2	-3.9
	comp=Z,4.9nm,0.3s						
BAIF	**Baives**	**3.67**	**223**	ePn	Pn	14 38 33.1	-2.8
BAIF				eSn	Sn	14 39 14.1	-5.7
BAIF				eSg	Sg	14 39 32.2	-3.9
	comp=Z,2.5nm,0.3s						
BRG	**Berggiesshubel**	**4.10**	**116**	ePn	Pn	14 38 42.8	+1.0
CDF	**Champ du Feu**	**4.42**	**187**	ePn	Pn	14 38 43.8	-2.4
CDF				eSn	Sn	14 39 31.7	-6.6
CDF				eSg	Sg	14 39 54.2	-6.0
	comp=Z,9.9nm,0.5s						
CDF	**Champ du Feu**	**4.42**	**187**	ePn	Pn	14 38 43.8	-2.4
CDF				eSn	Sn	14 39 31.7	-6.6
CDF				eSg	Sg	14 39 54.2	-6.0
	comp=Z,4.9nm,0.5s						
BFO	**Black Forest**	**4.47**	**178**	ePn	Pn	14 38 45.6	-1.3
BFO	**Black Forest**	**4.47**	**178**	ePn	Pn	14 38 45.6	-1.3
RFYF	**Reffroy**	**4.50**	**203**	ePn	Pn	14 38 44.7	-2.6
	baz=29						
RFYF				eSn	Sn	14 39 33.1	-7.0
RFYF				eSg	Sg	14 39 56.9	-5.7
	comp=Z,6.9nm,0.3s						
RFYF	**Reffroy**	**4.50**	**203**	ePn	Pn	14 38 44.7	-2.6
RFYF				eSn	Sn	14 39 33.1	-7.0
RFYF				eSg	Sg	14 39 56.9	-5.7
	comp=Z,3.5nm,0.3s						
MEZF	**Maizieres J'vi**	**4.72**	**206**	ePn	Pn	14 38 48.3	-2.0
	baz=16						
MEZF				eSg	Sg	14 40 03.9	-5.8
	comp=Z,7.5nm,0.4s						
MEZF	**Maizieres J'vi**	**4.72**	**206**	ePn	Pn	14 38 48.3	-2.0
MEZF				eSg	Sg	14 40 03.9	-5.8
	comp=Z,3.8nm,0.4s						
HAU	**Haudompre**	**4.93**	**194**	ePn	Pn	14 38 50.6	-2.6
HAU				eSn	Sn	14 39 42.7	-8.0
HAU				eSg	Sg	14 40 10.6	-5.8
	comp=Z,8.2nm,0.5s						
HAU	**Haudompre**	**4.93**	**194**	ePn	Pn	14 38 50.6	-2.6
HAU				eSn	Sn	14 39 42.7	-8.0
HAU				eSg	Sg	14 40 10.6	-5.8
	comp=Z,4.1nm,0.5s						
SFTF	**Sexfontaines**	**5.00**	**204**	ePn	Pn	14 38 52.0	-2.1
	baz=17						
SFTF				eSg	Sg	14 40 12.9	-5.8
	comp=Z,6.5nm,0.4s						
SFTF	**Sexfontaines**	**5.00**	**204**	ePn	Pn	14 38 52.0	-2.1
SFTF				eSg	Sg	14 40 12.9	-5.8
	comp=Z,3.2nm,0.4s						
HINF	**Hinteralfeld**	**5.05**	**190**	ePn	Pn	14 38 52.6	-2.3
HINF				eSn	Sn	14 39 46.0	-7.8
HINF				eSg	Sg	14 40 14.4	-6.0
	comp=Z,7.2nm,0.5s						
HINF	**Hinteralfeld**	**5.05**	**190**	ePn	Pn	14 38 52.6	-2.3
HINF				eSn	Sn	14 39 46.0	-7.8
HINF				eSg	Sg	14 40 14.4	-6.0
	comp=Z,3.6nm,0.5s						
GEC2	**GERESS Array S**	**5.31**	**136**	ePn	Pn	14 38 59.9	+1.5
	SNR=2.4						
LOR	**Lormes**	**6.17**	**208**	ePn	Pn	14 39 06.9	-3.4
	baz=25						
LOR				eSn	Sn	14 40 13.4	-8.1
LOR				eSg	Sg	14 40 49.7	-6.7
	comp=Z,4.8nm,0.5s						
LOR	**Lormes**	**6.17**	**208**	ePn	Pn	14 39 06.9	-3.4
LOR				eSn	Sn	14 40 13.4	-8.1
LOR				eSg	Sg	14 40 49.7	-6.7
	comp=Z,2.4nm,0.5s						
CABF	**La Chapelle**	**6.33**	**193**	ePn	Pn	14 39 10.1	-2.3
CABF				eSg	Sg	14 40 54.8	-6.6
	comp=Z,10nm,0.8s						
CABF	**La Chapelle**	**6.33**	**193**	ePn	Pn	14 39 10.1	-2.3
CABF				eSg	Sg	14 40 54.8	-6.6
	comp=Z,5.1nm,0.8s						
SSF	**Saint Saulge**	**6.46**	**209**	ePn	Pn	14 39 11.0	-3.3
SSF				eSg	Sg	14 40 58.4	-7.3
	comp=Z,3.6nm,0.5s						
SSF	**Saint Saulge**	**6.46**	**209**	ePn	Pn	14 39 11.0	-3.3
SSF				eSg	Sg	14 40 58.4	-7.3
	comp=Z,1.8nm,0.5s						
LDF	**La Druitiere**	**6.71**	**234**	ePn	Pn	14 39 13.9	-3.8
LDF				eSn	Sn	14 40 27.2	-7.5
	comp=Z,1.2nm,0.3s						
LDF	**La Druitiere**	**6.71**	**234**	ePn	Pn	14 39 13.9	-3.8
LDF				eSn	Sn	14 40 27.2	-7.5
	comp=Z,0.6nm,0.3s						
SMF	**Signal de Mont**	**6.75**	**206**	ePn	Pn	14 39 15.2	-3.0
AVF	**Avril sur Loir**	**6.75**	**209**	ePn	Pn	14 39 15.1	-3.2
FLN	**La Foliniere**	**6.78**	**237**	ePn	Pn	14 39 16.0	-2.7
FLN				eSn	Sn	14 40 28.3	-8.1
	comp=Z,1.6nm,0.3s						
FLN	**La Foliniere**	**6.78**	**237**	ePn	Pn	14 39 16.0	-2.7
FLN				eSn	Sn	14 40 28.3	-8.1
	comp=Z,0.8nm,0.3s						
BGF	**Bois d'Agland**	**7.12**	**211**	ePn	Pn	14 39 20.2	-3.0
BGF				eSg	Sg	14 41 19.8	-6.8
	comp=Z,6.1nm,0.4s						
BGF	**Bois d'Agland**	**7.12**	**211**	ePn	Pn	14 39 20.2	-3.0
BGF				eSg	Sg	14 41 19.8	-6.8
	comp=Z,3.0nm,0.4s						
GRR	**Gorron**	**7.21**	**236**	ePg	Pg	14 39 50.7	-5.6
GRR				eSn	Sn	14 40 39.5	-7.6
	comp=Z,1.5nm,0.2s						
GRR	**Gorron**	**7.21**	**236**	ePn	Pn	14 39 22.1	-2.5
GRR				ePg	Pg	14 39 50.7	-5.6
GRR				eSn	Sn	14 40 39.5	-7.6
TCF	**Toulx Ste Croi**	**7.56**	**213**	ePn	Pn	14 39 26.5	-2.8
TCF				eSg	Sg	14 41 32.7	-8.1
	comp=Z,1.0nm,0.3s						
TCF	**Toulx Ste Croi**	**7.56**	**213**	ePn	Pn	14 39 26.5	-2.8
TCF				eSg	Sg	14 41 32.7	-8.1
	comp=Z,0.5nm,0.3s						
MBDF	**Montbardon**	**8.12**	**187**	eSg	Sg	14 41 50.6	-8.4
	comp=Z,0.9nm,0.3s						
MBDF	**Montbardon**	**8.12**	**187**	eSg	Sg	14 41 50.6	-8.4
	comp=Z,0.4nm,0.3s						
SGMF	**Saint Gilles**	**8.18**	**240**	ePn	Pn	14 39 33.5	-4.3

*NEIC **02** 14:38:59.5±2.0,5053N×17953W,h10km,ML3.3(AEIC), Error ellipse: s-maj=36.3km s-min=16.5km az=194.0*
*IDC **02** 14:39:00.4±4.3,51.11N×17948W,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.4/19,mbtmp3.4/3,Error ellipse: s-maj=137.7km s-min=34.2km az=2.0*
*ISCJB **02** 14:39:05.4±3.9,510N±04×1795W±02,h58km±25km, mb3.5/3,Error ellipse: s-maj=73.0km s-min=21.6km az=164.3*
ISC 02 14:39:04.9±5.5,508N±05×1795W±02,h45km±36km,n5, σ1s38/6,mb3.5/3,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.95**	**310**	P	**Pn**	**14 39 21.1**	**-0.7**
AMKA				S	**Sn**	**14 39 34.5**	**+0.4**
SPIA	**Saint Paul Isl**	**8.42**	**37**	ePn	**Pn**	**14 41 04.7**	**+0.4**
YKA	**Yellowknife Ar**	**35.98**	**46**	P	**P**	**14 45 59.8**	**-1.5**
	0.2nm,0.5s,mb3.3,baz=282,slow=7.5,SNR=6.3						
PDAR	**Pinedale Array**	**46.94**	**71**	P	**P**	**14 47 31.9**	**+0.9**
	0.6nm,0.7s,mb3.7,baz=308,slow=4.1,SNR=7.7						
MKAR	**Makanchi Array**	**60.04**	**308**	P	**P**	**14 49 07.5**	**+0.4**
	0.2nm,0.4s,mb3.5,baz=45,slow=5.4,SNR=4.6						

*SKO **02** 15:50:04.6,4009N×1978E,h0km*
*NEIC **02** 15:50:05.1,4038N×1974E,h5km,MD3.4(ATH),After ATH.*
*ISCJB **02** 15:50:06.5±0.9,4028N±003×1986E±006,h2km±6km, Error ellipse: s-maj=8.4km s-min=4.3km az=29.8*
*ATH **02** 15:50:06.1,4031N×1982E,h8km±2km,MD3.4/4*
*CSEM **02** 15:50:07.5±0.2,4024N×1992E,h2km,MD3.4,Error ellipse: s-maj=4.1km s-min=1.9km az=98.0*
*THE **02** 15:50:08.6,4027N×2003E,h10km,ML3.1*
ISC 02 15:50:07.1±1.0,4027N±003×1985E±007,h5km±6km,n22, σ1s41/33,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.13**	**80**	i Pg	**Pg**	**15 50 07.8**	**-1.9**
TPE				i Sg	**Sg**	**15 50 08.8**	**-2.6**
SRN	**Sarande**	**0.41**	**163**	i Pg	**Pg**	**15 50 14.6**	**-0.4**
SRN				i Sg	**Sg**	**15 50 21.5**	**+1.2**
KEK	**Kerkira**	**0.56**	**184**	ePB	**Pg**	**15 50 17.5**	**-0.4**
KEK	**Kerkira**	**0.56**	**184**	ePb	**Pg**	**15 50 18.3**	**+0.4**
IGT	**Igoumenitsa**	**0.83**	**153**	ePg	**Pg**	**15 50 22.4**	**-0.6**
IGT				eSg	**Sg**	**15 50 34.6**	**+0.9**
JAN	**Janina**	**0.99**	**128**	ePG	**Pg**	**15 50 25.0**	**-1.0**
JAN				eSB	**Sb**	**15 50 39.3**	**-0.6**
JAN	**Janina**	**0.99**	**128**	ePb	**Pg**	**15 50 25.0**	**-1.0**
JAN				eSb	**Sb**	**15 50 41.5**	**+1.6**
TIR	**Tirane**	**1.07**	**1**	ePg	**Pg**	**15 50 28.9**	**+1.2**
OHR	**Ohrid**	**1.11**	**40**	ePg	**Pg**	**15 50 28.4**	**+0.1**
OHR				i Sg	**Sg**	**15 50 45.5**	**+2.8**
OHR	**Ohrid**	**1.11**	**40**	ePg	**Pg**	**15 50 28.3**	**0.0**
OHR				i Sg	**Sg**	**15 50 45.5**	**+2.8**
MEV	**Metsovon**	**1.17**	**114**	ePg	**Pn**	**15 50 28.0**	**-2.0**
FNA	**Florina**	**1.27**	**66**	ePg	**Pn**	**15 50 29.5**	**-1.9**
FNA				eSg	**Sg**	**15 50 47.3**	**-0.7**
BIA	**Bitola**	**1.35**	**56**	ePn	**Pn**	**15 50 30.7**	**-1.8**
BIA				i Sg	**Sg**	**15 50 52.4**	**+2.0**
BIA	**Bitola**	**1.35**	**56**	ePn	**Pn**	**15 50 30.6**	**-1.9**
BIA				i Sg	**Sg**	**15 50 52.4**	**+2.0**
KZN	**Kozani**	**1.47**	**88**	ePB	**Pb**	**15 50 34.3**	**-0.6**
KZN	**Kozani**	**1.47**	**88**	ePb	**Pb**	**15 50 35.8**	**+0.9**
LKD	**Levkas**	**1.68**	**158**	ePb	**Pb**	**15 50 38.3**	**-0.2**
EVR	**Evrytania**	**2.03**	**131**	ePN	**Pn**	**15 50 43.2**	**+1.3**
EVR	**Evrytania**	**2.03**	**131**	ePb	**Pb**	**15 50 42.5**	**-1.9**
EVR				eSn	**Sg**	**15 51 15.0**	**+2.6**
AGG	**Agios Georgios**	**2.29**	**122**	ePn	**Pn**	**15 50 46.0**	**+0.5**
VAY	**Valandovo**	**2.32**	**62**	ePn	**Pn**	**15 50 47.6**	**+1.8**
SRS	**Serrai**	**2.97**	**72**	ePn	**Pn**	**15 50 55.4**	**+0.6**

*NIED **02** 15:55:00,4490N×15040E,h14km,Mw3.9 Best double couple: M0 7.17000×10¹⁴ NP1:φs20.00000°,δ59.00000°, λ72.00000°. NP2:φs233.00000°,δ35.00000°,λ118.00000°.*
*JMA **02** 15:55:50.5±0.5,4486N×15036E,h30km,M4.3*
*ISCJB **02** 15:55:53.9±1.3,4396N±009×1502E±0.1,h102km±10km, mb3.7/12,Error ellipse: s-maj=17.6km s-min=8.5km az=100.1*
*IDC **02** 15:55:56.5±1.3,4620N×14930E,h0km,mb3.7/9, mb1 3.8/10,mb1mx3.7/20,mbtmp3.7/10,ML3.6/1,MS3.2/1, Ms1 3.2/1,ms1mx2.1/34,Error ellipse: s-maj=32.3km s-min=24.3km az=141.0*
*MOS **02** 15:55:57.7±2.4,4585N×14971E,h35km,mb4.3/3,Error ellipse: s-maj=15.5km s-min=13.3km az=91.6*
*NEIC **02** 15:55:59.5±0.7,4613N×14930E,h20km,mb4.1/4,Error ellipse: s-maj=16.2km s-min=11.4km az=140.0*
ISC 02 15:55:54.9±1.2,4402N±009×1503E±01,h95km±10km,n43, σ0s93/51,mb3.7/12,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.34**	**260**	P	**Pn**	**15 56 43.7**	**-1.4**
NEM2				eS	**Sn**	**15 57 23.9**	**0.0**
JRA	**Rausu**	**3.71**	**271**	P	**Pn**	**15 56 49.3**	**-0.8**
JRA				eS	**Sn**	**15 57 32.9**	**+0.1**
JNK	**Nakash**	**4.04**	**266**	P	**Pn**	**15 56 53.4**	**-1.1**
JNK				eS	**Sn**	**15 57 40.6**	**-0.1**
JAK	**Akkeshi**	**4.18**	**258**	P	**Pn**	**15 56 55.7**	**-0.7**
JAK				eS	**Sn**	**15 57 43.8**	**-0.3**
JTKR	**Abashiri--Toko**	**4.59**	**272**	P	**Pn**	**15 57 01.7**	**-0.2**
JAR	**Ashorobuto**	**4.77**	**264**	P	**Pn**	**15 57 04.3**	**-0.1**
JAR				eS	**Sn**	**15 57 59.6**	**+1.2**
JOB	**Onbets**	**4.81**	**259**	P	**Pn**	**15 57 04.6**	**-0.4**
JOB				eS	**Sn**	**15 58 00.6**	**+1.1**
JMP	**Maruseppu**	**4.98**	**272**	P	**Pn**	**15 57 07.0**	**-0.2**
JCH	**Churui**	**5.23**	**257**	P	**Pn**	**15 57 10.6**	**0.0**
JCH				eS	**Sn**	**15 58 10.5**	**+0.9**
JKK2	**Kamakawa 2**	**5.43**	**271**	P	**Pn**	**15 57 12.7**	**-0.6**
ASAJ	**Asahikawa**	**5.53**	**274**	Pn	**Pn**	**15 57 14.3**	**-0.4**
	1.9nm,0.3s,baz=77,slow=19,SNR=26						
ASAJ				LR	LR	15 59 51.4	
	comp=Z,215nm,19.4s,baz=350,slow=45						
ASAJ	**Asahikawa**	**5.53**	**274**	PN	**Pn**	**15 57 14.3**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,215nm,19.4s						
JEM	**Erimo**	**5.58**	**251**	P	**Pn**	**15 57 17.6**	**+2.2**
JFR	**Furan**	**5.64**	**264**	P	**Pn**	**15 57 17.2**	**+1.0**
JNBK	**Urakawa-nobuka**	**5.76**	**255**	P	**Pn**	**15 57 17.5**	**-0.4**
JAB	**Ashibetsu**	**5.85**	**268**	P	**Pn**	**15 57 20.4**	**+1.4**
JBT2	**Biratori 2**	**5.89**	**261**	P	**Pn**	**15 57 19.4**	**-0.2**
YSS	**Yuzh-Sakhalins**	**6.04**	**302**	ePN	**Pn**	**15 57 16.0**	**-5.6**
YSS				e		15 58 20.0	
YSS				MLR	MLR		
	comp=Z,400nm,14.0s						
JNB	**Noboribetsu**	**6.91**	**260**	P	**Pn**	**15 57 33.9**	**+0.4**
JNB				eS	**Sn**	**15 58 51.5**	**+0.9**
JKB	**Kayabe**	**7.10**	**256**	P	**Pn**	**15 57 36.2**	**+0.1**
JKB				eS	**Sn**	**15 58 54.1**	**-1.1**
JTH	**Tanohata**	**7.47**	**240**	eS	**Sn**	**15 59 02.7**	**-1.5**
JTM	**Tenmabayashi**	**7.53**	**248**	eS	**Sn**	**15 59 04.9**	**-0.8**
OFUJ	**Ofunato**	**8.12**	**235**	eS	**Sn**	**15 59 20.1**	**+0.2**
JRG	**Rokugo**	**8.55**	**241**	eS	**Sn**	**15 59 32.4**	**+1.7**
JIO	**Ouri**	**8.72**	**233**	eS	**Sn**	**15 59 34.1**	**-0.5**
YAK	**Yakutsk**	**21.70**	**333**	eP	**P**	**16 00 32.3**	**-5.8**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.3						
YAK	**Yakutsk**	**21.70**	**333**	eP	**P**	**16 00 32.3**	**-5.8**
	comp=Z,13nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**30.00**	**293**	P	**P**	**16 01 53.9**	**-0.6**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.8						
ULN	**Ulaanbaatar**	**30.00**	**293**	P	**P**	**16 01 53.9**	**-0.5**
	comp=Z,3.1nm,1.1s,mb3.9						
SONM	**Songino Array**	**30.44**	**293**	P	**P**	**16 01 59.0**	**+0.6**
	comp=Z,0.5nm,0.7s,mb3.3,baz=69,slow=8.1,SNR=4.7						
INK	**Inuvik**	**45.03**	**31**	P	**P**	**16 04 01.9**	**+0.9**
	comp=Z,0.3nm,0.3s,mb3.5,baz=285,slow=4.8,SNR=4.2						
MKAR	**Makanchi Array**	**46.45**	**298**	P	**P**	**16 04 12.4**	**+0.3**
	comp=Z,1.0nm,0.8s,mb3.6,baz=81,slow=7.6,SNR=7.4						
KURK	**Kurchatov**	**47.24**	**305**	eP	**P**	**16 04 17.4**	**-0.9**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
KURK	**Kurchatov**	**47.24**	**305**	eP	**P**	**16 04 17.4**	**-1.0**
	comp=Z,1.6nm,0.6s,mb3.9						
BVAR	**Borovoye Array**	**51.06**	**310**	P	**P**	**16 04 46.5**	**-1.0**
	comp=Z,0.6nm,0.6s,mb3.8,baz=59,slow=7.1,SNR=5.8						
ZRNK	**Zerenda**	**51.85**	**310**	eP	**P**	**16 04 53.6**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
ZRNK	**Zerenda**	**51.85**	**310**	eP	**P**	**16 04 53.6**	**+0.2**
	comp=Z,0.7nm,0.3s,mb4.2						
YKA	**Yellowknife Ar**	**54.31**	**35**	P	**P**	**16 05 13.8**	**+2.4**
	comp=Z,0.2nm,0.6s,mb3.3,baz=296,slow=6.6,SNR=2.7						
FINES	**FINESS Array B**	**65.64**	**334**	P	**P**	**16 06 26.3**	**-2.6**
	comp=Z,0.9nm,0.7s,mb3.7,baz=46,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**69.00**	**196**	P	pP	16 07 15.5	+1.3
	comp=Z,0.4nm,0.7s,baz=14,slow=5.6,SNR=4.9						
AKASG	**Malin Array Be**	**72.67**	**325**	P	**P**	**16 07 11.8**	**-0.5**
	comp=Z,0.4nm,0.4s,mb3.6,baz=32,slow=5.7,SNR=5.4						
AKASG	**Malin Array Be**	**72.67**	**325**	P	**P**	**16 07 11.8**	**-0.6**
GERES	**GERESS Array B**	**79.99**	**333**	P	**P**	**16 07 54.7**	**+1.0**
	comp=Z,0.3nm,0.4s,mb3.5,baz=32,slow=5.8,SNR=3.9						

*NEIC **02** 15:58:28.6±5.1,5.14S×15145E,h93km±29km,mb4.0/3, Error ellipse: s-maj=63.7km s-min=43.2km az=114.0*
IDC 02 15:58:26.1±8.4,531S×15178E,h80km±59km,mb3.7/3, mb1 3.8/4,mb1mx3.4/14,mbtmp4.0/4,MS3.6/2,Ms1 3.6/2, ms1mx2.8/24,Error ellipse: s-maj=98.8km s-min=54.2km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.13**	**228**	P	Pn	15 59 53.9	-0.1
PMG				S	Sn	16 01 04.7	+2.0
	1.3nm,0.3s,baz=289,slow=23,SNR=4.1						
PMG	**Port Moresby**	**6.13**	**228**	eP	Pn	15 59 55.1	+1.1
PMG				S	Sn	16 01 04.7	+2.0
KAKA	**Kakadu**	**20.46**	**248**	eP	P	16 02 57.4	+0.2
	4.4nm,0.6s						
DZM	**Mont Dzumac**	**21.89**	**141**	LR	LR	16 09 15.3	
	comp=Z,25nm,20.8s,baz=352,slow=30						
WRAB	**Tennant Creek**	**22.34**	**228**	eP	P	16 03 17.0	-0.2
	3.5nm,0.6s						
WB2	**Warramunga Arr**	**22.34**	**228**	eP	P	16 03 17.3	0.0
WRA	**Warramunga Arr**	**22.35**	**228**	P	P	16 03 17.0	-0.4
	2.3nm,0.7s,baz=52,slow=9.9,SNR=22						
AS31	**Alice Springs**	**25.09**	**222**	eP	P	16 03 45.8	+2.6
ASAR	**Alice Springs**	**25.09**	**222**	P	P	16 03 43.8	+0.5
	2.8nm,0.7s,baz=56,slow=8.9,SNR=47						
ASPA	**Alice Springs**	**25.10**	**222**	eP	P	16 03 45.8	+2.5
FITZ	**Fitzroy Crossi**	**28.53**	**241**	eP	P	16 04 13.6	-0.5
	5.7nm,1.4s						
FITZ	**Fitzroy Crossi**	**28.53**	**241**	P	P	16 04 14.0	0.0
	1.2nm,0.5s,baz=52,slow=9.1,SNR=8.8						
URZ	**Urewera**	**40.07**	**148**	LR	LR	16 19 11.7	
	comp=Z,544nm,19.1s,baz=180,slow=31						
TORD	**Torodi Ar. Bea**	**149.49**	**287**	PKPbc	PKPbc	16 18 07.4	+1.3
	0.8nm,0.6s,baz=68,slow=2.2,SNR=4.8						

GUC 02 16:03:38.9±0.9,3315S×7025W,h7km±2km,MD3.7,ML2.0, 5C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.18**	**191**	⇑ i P	Pg	16 03 43.3	+0.8
FCH				i S	Sg	16 03 46.1	+1.2
FCH				AML	AML	16 03 46.2	
	comp=E,611nm,0.3s						
CLCH	**Cerro Calan**	**0.34**	**225**	⇑ i P	Pg	16 03 46.6	+1.1
CLCH				i S	Sg	16 03 52.0	+1.9
CLCH				AML	AML	16 03 54.6	
	comp=E,716nm,0.3s						
PEL	**Peldehue**	**0.36**	**272**	⇓ i P	Pg	16 03 46.7	+0.7
PEL				i S	Sg	16 03 51.9	+1.1
PEL				AML	AML	16 03 52.5	
	comp=E,171nm,0.2s						
PCH	**Pirque**	**0.52**	**205**	⇓ i P	Pg	16 03 49.8	+0.9
PCH				i S	Sg	16 03 57.5	+1.9
JACH	**Jahuel**	**0.55**	**328**	⇓ i P	Pg	16 03 50.1	+0.5
JACH				i S	Sg	16 03 57.9	+1.1
RCDM	**Rinconada Maip**	**0.57**	**234**	⇑ i P	Pg	16 03 50.9	+1.0
LMEL	**Las Melosas**	**0.69**	**177**	⇑ i P	Pg	16 03 52.6	+0.4
LMEL				i S	Sg	16 04 02.6	+1.4
LMEL				AML	AML	16 04 03.8	
	comp=N,78nm,0.2s						
TACH	**Talagante**	**0.76**	**229**	⇓ i P	Pg	16 03 53.9	+0.4
TACH				i S	Sg	16 04 04.6	+1.3
CHCH	**Chadas Angostu**	**0.85**	**203**	i S	Sg	16 04 07.3	+1.2
CACH	**El Canelo**	**1.00**	**197**	⇑ i P	Pg	16 03 58.6	+0.5
LNV	**Longovilo**	**1.26**	**230**	i S	Sg	16 04 18.8	-0.4

*LDG **02** 16:05:02.6±0.1,4371N×708E,h10km,Md1.8/3,Ml1.8/6, Error ellipse: s-maj=1.5km s-min=1.0km az=155.0*
STR 02 16:05:02.7±0.1,4373N×706E,h5km±1km,Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0,Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MVIF	**Mont Vial**	**0.18**	**22**	Pg	Pg	16 05 06.7	+0.5
MVIF				Sg	Sg	16 05 09.8	+1.2
REVF	**Revere**	**0.22**	**87**	Pg	Pg	16 05 07.6	+0.5
REVF				Sg	Sg	16 05 11.0	+1.0
LUCF	**Luceram**	**0.26**	**52**	Pg	Pg	16 05 08.2	+0.4
SBF	**Sospel**	**0.30**	**64**	ePg	Pg	16 05 08.8	+0.2
SBF				eSg	Sg	16 05 13.0	+0.5
	29nm,0.2s						
TOUF	**Mont Tournerai**	**0.32**	**26**	Pg	Pg	16 05 09.1	+0.3
TOUF				Sg	Sg	16 05 13.7	+0.8
FRF	**La Foret Royal**	**0.34**	**241**	ePg	Pg	16 05 09.4	0.0
FRF				eSg	Sg	16 05 13.8	-0.1
	42nm,0.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AUTN	L'Aution	0.38	45	Pg	Pg	16 05 11.1	+1.1
AUTN				Sg	Sg	16 05 15.7	+0.8
SAOF	Saorge	0.44	54	Pg	Pg	16 05 11.0	-0.2
SAOF				Sg	Sg	16 05 17.4	+0.5
LMR	La Mourre	0.56	226	ePg	Pg	16 05 13.3	-0.2
LMR				eSg	Sg	16 05 20.6	-0.3
	11nm,0.2s						
LMR				eSn	Sg	16 05 24.1	+3.2
	5.5nm,0.2s						
MBDF	Montbardon	1.02	348	ePg	Pg	16 05 22.0	-0.2
MBDF				eSg	Sg	16 05 35.1	-0.3
	1.4nm,0.3s						
SMRF	Simiane la Rot	1.10	283	ePg	Pg	16 05 24.1	+0.3
SMRF				eSg	Sg	16 05 38.2	+0.1
	3.3nm,0.3s						
ORIF	Oris-en-Rattie	1.46	325	ePg	Pg	16 05 30.3	-0.4
ORIF				eSg	Sg	16 05 49.5	-0.1
	4.0nm,0.4s						
PGF	Pioggiola	1.85	129	ePn	Pn	16 05 32.3	-2.7
PGF				eSn	Sn	16 05 53.4	-5.3
	0.8nm,0.2s						
VIVF	Saint-Julien-l	2.05	304	ePn	Pn	16 05 35.9	-1.9
VIVF				eSn	Sn	16 06 00.4	-3.4
	0.6nm,0.2s						
LASF	Ste Croix	2.34	280	ePn	Pn	16 05 39.5	-2.3
LASF				eSn	Sn	16 06 06.7	-4.2
	0.5nm,0.3s						

*ISCJB **02** 16:05:53.8±0.5, 3508N±003×458W±004, h10km, Error ellipse: s-maj=4.5km s-min=3.8km az=141.2*
*CSEM **02** 16:05:57.2±0.1, 3503N×440W, h40km, MD2.9, Error ellipse: s-maj=1.9km s-min=1.6km az=45.0*
*MDD **02** 16:05:57.4±1.6, 3502N×452W, h29km±20km, mbLg2.2/6, Error ellipse: s-maj=8.1km s-min=5.1km az=90.0, PRXIMO*
*CNRM **02** 16:05:57.7, 3489N×456W, h17km, MD2.9*
ISC 02 16:05:54.3±0.4**, 3505N**±003×**469W**±004**, h10km, n30, σ1s62**/53**, 1C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPAL	Palemas	0.63	74	eP	Pg	16 06 08.5	+1.9
MPAL				iS	Sg	16 06 17.0	+2.1
TOU	Touzarine	0.77	96	iS	Pg	16 06 08.0	-1.2
TOU	Touzarine	0.77	96	eP	Pg	16 06 11.5	+2.3
TZK	Tazeka	1.04	157	iP	Pg	16 06 15.0	+0.6
TZK				iS	Sg	16 06 27.5	-0.5
EMEL	Melilla	1.44	80	S	Sn	16 06 34.0	-5.4
	49nm,0.1s,SNR=7.9						
EMLI	Melilla	1.44	80	S	Sn	16 06 34.0	-5.5
	49nm,0.1s,SNR=7.9						
EMIJ	Mijas	1.51	357	P	Pn	16 06 21.0	-0.4
	0.5nm,0.1s,SNR=5.8						
EMIJ				S	Sn	16 06 39.5	-1.7
	5.3nm,0.1s,SNR=16						
EMIJ	Mijas	1.51	357	P	Pn	16 06 21.1	-0.3
	0.5nm,0.1s,SNR=5.8						
EMIJ				S	Sn	16 06 39.0	-2.2
	5.3nm,0.1s,SNR=16						
EALB	Alboran	1.61	56	P	Pn	16 06 21.3	-1.5
	5.3nm,0.1s,SNR=7.9						
EALB				S	Sn	16 06 39.0	-4.6
	1.8nm,0.1s,SNR=7.9						
EALB	Alboran	1.61	56	P	Pn	16 06 21.2	-1.6
	5.3nm,0.1s,SNR=7.9						
EALB				S	Sn	16 06 39.0	-4.7
	1.8nm,0.1s,SNR=7.9						
MIF	Mishlifen	1.70	196	eP	Pn	16 06 23.0	-1.0
MIF				iS	Sn	16 06 41.5	-4.3
EGUA	Guajares	2.00	27	P	Pn	16 06 27.4	-0.7
	0.2nm,0.1s,SNR=4.0						
EGUA				S	Sn	16 06 50.0	-3.2
	0.5nm,0.2s,SNR=4.0						
CZD	Col de Zad	2.04	189	iP	Pn	16 06 28.5	-0.1
CZD				iS	Sn	16 06 51.5	-2.6
ESPR	Espera	2.05	333	S	Sn	16 06 56.4	+2.0
	4.7nm,0.3s,SNR=7.9						
ESPR	Espera	2.05	333	S	Sn	16 06 57.4	+3.0
	4.7nm,0.3s,SNR=7.9						
EBER	Berja	2.35	38	P	Pn	16 06 32.0	-0.9
	0.2nm,0.1s,SNR=7.9						
EBER				S	Sn	16 06 59.1	-2.7
	1.1nm,0.1s,SNR=7.9						
EBER	Berja	2.35	38	P	Pn	16 06 32.0	-0.9
	0.2nm,0.1s,SNR=7.9						
EBER				S	Sn	16 06 59.1	-2.7
	1.1nm,0.1s,SNR=7.9						
EQUE	Quentar	2.37	25	P	Pn	16 06 33.9	+0.6
	0.8nm,0.1s,SNR=4.0						
EQUE				S	Sn	16 07 02.4	0.0
	0.5nm,0.0s,SNR=7.9						
EQES	Quesada	3.04	25	P	Pn	16 06 44.9	+2.5
	0.5nm,0.1s,SNR=5.8						
EQES				S	Sn	16 07 20.8	+1.9
	0.2nm,0.1s						
EQES	Quesada	3.04	25	P	Pn	16 06 44.9	+2.5
	0.5nm,0.1s,SNR=5.8						
EQES				S	Sn	16 07 20.8	+1.9
	0.2nm,0.1s						
EADA	Adamuz	3.11	2	P	Pn	16 06 45.5	+2.1
	0.6nm,0.1s,SNR=7.4						
EADA				S	Sn	16 07 19.6	-1.0
	0.1nm,0.0s						
EADA	Adamuz	3.11	2	P	Pn	16 06 45.5	+2.1
	0.6nm,0.1s,SNR=7.4						
EADA				S	Sn	16 07 19.6	-1.0
	0.1nm,0.0s						
EMIN	Mina Concepcio	3.15	330	P	Pn	16 06 45.4	+1.4
	0.3nm,0.0s,SNR=11						
EMIN				S	Sn	16 07 20.5	-1.1
	1.0nm,0.1s						
EGRO	El Granado	3.35	318	⇑P	Pn	16 06 48.4	+1.7
	1.8nm,0.0s,SNR=18						
EGRO				S	Sn	16 07 25.9	-0.7
	2.8nm,0.1s						
PBEJ	Beja	3.92	320	ePn	Pn	16 06 56.9	+2.3
PBEJ				eSn	Sn	16 07 39.2	-1.4
PBEJ							
	1.3nm,0.1s						
PBEJ	Beja	3.92	320	ePn	Pn	16 06 56.9	+2.3
PBEJ				eSn	Sn	16 07 39.2	-1.4
PTEO	Sao Teotonio	4.10	309	ePn	Pn	16 06 58.8	+1.7
PTEO				eSn	Sn	16 07 44.4	-0.7
PTEO							
	1.1nm,0.2s						
PTEO	Sao Teotonio	4.10	309	ePn	Pn	16 06 58.8	+1.7
PTEO				eSn	Sn	16 07 44.4	-0.7
EBAD	Badajoz	4.14	334	P	Pn	16 07 00.1	+2.5
	0.4nm,0.0s,SNR=7.9						
EBAD				S	Sn	16 07 44.3	-1.8
	1.8nm,0.1s,SNR=7.9						
ETOB	Tobarra	4.38	34	P	Pn	16 07 02.2	+1.3
	1.3nm,0.2s,SNR=8.3						

WEL 02 16:11:28.5±0.4**, 3749S**×**17751E, h124km**±2km**, ML3.5**/11**, Error ellipse: s-maj=4.1km s-min=3.4km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	0.83	135	PN	Pn	16 11 49.0	-0.2
PUZ				SN	Sn	16 12 04.2	-0.7
URZ	Urewera	0.83	202	PN	Pn	16 11 49.3	+0.1
URZ				SN	Sn	16 12 04.7	-0.2
MWZ	Matawai	0.84	179	PN	Pn	16 11 49.5	+0.1
MWZ				SN	Sn	16 12 05.5	+0.4
KNZ	Kokohu	1.54	175	PN	Pn	16 11 56.7	+0.2
BKZ	Black Stump Fm	1.86	205	PN	Pn	16 12 00.2	-0.2
BKZ				SN	Sn	16 12 25.3	+0.6
FWVZ	Far West T-bar	2.34	220	ePN	Pn	16 12 06.6	+0.2
MOVZ	Moawhango	2.36	215	ePN	Pn	16 12 06.1	-0.5
WNVZ	Wahianoa	2.37	219	ePN	Pn	16 12 06.6	-0.1
MTVZ	Mangateitei	2.48	220	ePN	Pn	16 12 07.9	-0.2
PXZ	Pawanui	2.59	191	ePN	Pn	16 12 08.5	-1.0
TSZ	Takapari Road	2.84	205	ePN	Pn	16 12 11.4	-1.3
BFZ	Birch Farm	3.34	197	ePN	Pn	16 12 17.5	-1.8
MRZ	Mangatainoka R	3.51	205	ePN	Pn	16 12 18.5	-3.0
KIW	Kapiti Island	3.93	210	ePN	Pn	16 12 24.4	-2.7
CAW	Cannon Point	4.08	207	ePN	Pn	16 12 26.0	-3.1
SNZO	South Karori	4.39	209	ePN	Pn	16 12 29.7	-3.6
TCW	Tory Channel	4.48	213	ePN	Pn	16 12 31.2	-3.3
TUWZ	Tuamarina	4.81	214	PN	Pn	16 12 35.3	-3.6
QRZ	Quartz Range	5.11	228	ePN	Pn	16 12 40.2	-2.7
THZ	Tophouse	5.55	218	ePN	Pn	16 12 45.2	-3.7
KHZ	Kahutara	5.79	211	ePN	Pn	16 12 47.7	-4.4
LTZ	Lake Taylor	6.64	216	ePN	Pn	16 12 58.4	-5.0

*IDC **02** 16:24:46.5±1.0, 026S×12531E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/16, mbtmp3.8/7, ML3.0/1, Error ellipse: s-maj=123.2km s-min=16.9km az=68.0*
*ISCJB **02** 16:24:49.1±0.7, 01S±01×1258E±02, h33km, mb3.9/8, Error ellipse: s-maj=26.7km s-min=9.9km az=121.7*
*NEIC **02** 16:24:50.0±0.6, 012S×12576E, h25km, mb4.2/2, Error ellipse: s-maj=23.7km s-min=8.9km az=61.0*
ISC 02 16:24:51.6±0.7**, 01S**±01×**1257E**±02**, h35km, n14, σ0s95**/14**, mb3.9**/8**, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSM	Kuching	15.51	276	eP	Pn	16 28 28.3	+0.7
FITZ	Fitzroy Crossi	17.88	180	P	Pn	16 28 55.1	-2.3
	0.0nm,0.3s,baz=356,slow=16,SNR=2.3						
WRAB	Tennant Creek	21.43	157	eP	P	16 29 35.9	-0.6
	2.9nm,0.7s,mb3.7						
WRA	Warramunga Arr	21.43	157	P	P	16 29 36.0	-0.6
	1.7nm,0.7s,mb3.5,baz=331,slow=11,SNR=14						
WB2	Warramunga Arr	21.44	157	eP	P	16 29 36.2	-0.4
AS31	Alice Springs	24.72	162	eP	P	16 30 10.9	+1.4
ASAR	Alice Springs	24.72	162	P	P	16 30 09.7	+0.2
	0.6nm,0.5s,mb3.4,baz=339,slow=9.3,SNR=30						
ASAR				PcP	PcP	16 33 47.2	+1.4
	0.3nm,0.4s,baz=351,slow=2.1,SNR=6.9						
ASPA	Alice Springs	24.72	162	eP	P	16 30 10.9	+1.4
STKA	Stephens Creek	34.97	156	P	P	16 31 41.3	+0.9
	1.2nm,0.6s,mb4.0,baz=328,slow=9.5,SNR=3.1						
SONM	Songino Array	50.63	343	P	P	16 33 47.4	+0.2
	0.6nm,0.6s,mb3.7,baz=154,slow=7.1,SNR=6.1						
MKAR	Makanchi Array	60.17	327	P	P	16 34 55.1	-0.6
	1.4nm,0.6s,mb4.2,baz=119,slow=8.5,SNR=21						
ZAL	Zalesovo	63.57	334	P	P	16 35 18.8	+0.1
	1.4nm,0.4s,mb4.3,baz=83,slow=12,SNR=3.7						
ZAL	Zalesovo	63.57	334	P	P	16 35 18.8	+0.1
KURK	Kurchatov	64.46	329	P	P	16 35 23.6	-0.9
	2.6nm,0.6s,mb4.4						

*IDC **02** 16:57:56.4±2.7, 5122N×17941W, h15km±16km, mb4.8/30, mb1 5.0/31, mb1mx4.9/33, mbtmp4.9/31, ML4.9/1, MS5.1/24, Ms1 5.1/24, ms1mx4.8/37, Error ellipse: s-maj=15.3km s-min=9.9km az=156.0*
*MOS **02** 16:57:57.7±0.9, 5122N×17938W, h31km, mb5.4/114, MS5.1/73, Error ellipse: s-maj=6.9km s-min=3.9km az=93.2*
*BJI **02** 16:57:58.1, 5126N×17961W, h37km, mB5.5, mb5.2, Ms5.3, Msz5.0*
*ISCJB **02** 16:57:59.2±0.1, 51.12N±003×17942W±002, h46km, mb5.2/253, MS5.1/200, Error ellipse: s-maj=4.9km s-min=1.7km az=12.2*
*NEIC **02** 16:58:00.9±0.5, 51.19N×17939W, h46km±4km, mb5.1/178, MS5.1/147, MW5.5, ML5.2(AEIC), Error ellipse: s-maj=4.5km s-min=2.2km az=187.0, Moment Tensor Solution. s23 Moment tensor: Scale 10^{17}Nm; M_{rr}0.67; $M_{\theta\theta}$-0.48; $M_{\phi\phi}$-0.19; $M_{r\theta}$1.74; $M_{\theta\phi}$-0.28; $M_{\phi r}$1.21; Best double couple: $M_0$2.20000×10^{17} NP1:ϕ_s55.00000°, δ81.00000°, λ89.00000°. NP2:ϕ_s241.00000°, δ9.00000°, λ96.00000°. Principal axes: T 2.2300, Plg54.0000°, Azm324.0000°; N -0.0200, Plg1.0000°, Azm55.0000°; P -2.2100, Plg36.0000°, Azm146.0000°;*
*HRVD **02** 16:58:00.9±0.2, 5098N×17932W, h21km, MW5.5/102, Centroid moment Tensor Solution. LP body waves: s89,c162; Mantle waves: s102,c224; Half duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.63±.04; $M_{\theta\theta}$-1.65±.03; $M_{\phi\phi}$0.02±.02; $M_{r\theta}$1.51±.06; $M_{\theta\phi}$-0.48±.02; $M_{\phi r}$0.98±.06; Best double couple: $M_0$2.48300×10^{17} NP1:ϕ_s269.00000°, δ24.00000°, λ115.00000°. NP2: ϕ_s62.00000°, δ69.00000°, λ79.00000°. Principal axes: T 2.4560, Plg65.0000°, Azm314.0000°; N 0.0570, Plg10.0000°, Azm66.0000°; P -2.5100, Plg23.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **02** 16:58:02.0, 5128N×17926E, h33km, mb5.3, MS5.0, Rat Islands, Aleutian Islands, United States*
ISC 02 16:58:01.1±0.1**, 5122N**±003×**17944W**±002**, h48km**±2.3km**:pP-P, n884, σ0s99**/920**, mb5.2**/253**, MS5.1**/200**, 152C-145D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.81	282	P	Pn	16 58 14.3	-1.8
AMKA				S	Sn	16 58 29.0	+1.9
SMY	Shemya	4.27	293	P	Pn	16 59 05.0	+1.5
SMY				S	Sn	16 59 57.0	+4.9
NIKO	Nikolski	6.75	71	P	Pn	16 59 37.0	-0.5
OKCD	Okmok Cone D	7.28	68	P	Pn	16 59 45.1	+0.2
OKCD				S	Sn	17 01 10.6	+4.4
SPIA	Saint Paul Isl	8.04	38	P	Pn	16 59 58.5	+3.3
UNV	Unalaska Valle	8.31	67	P	Pn	16 59 59.3	+0.4
AKUT	Akutan	8.80	65	eP	Pn	17 00 06.1	+0.5
FALS	False Pass	10.31	63	ePn	Pn	17 00 25.5	-0.7
SDPT	Sand Point	12.06	63	eP	Pn	17 00 49.0	-1.2
	30nm,0.3s						
CHGN	Chignik	13.41	60	eP	Pn	17 01 07.8	-0.8
PET	Petropavlovsk	13.57	286	c iP	Pn	17 01 10.5	-0.4
PET				eS	Sn	17 03 37.2	-2.9
PET				pmax	pmax		
	comp=Z,1µm,5.1s						
PET				pmax	pmax		
	comp=Z,1µm,12.5s						
PET				pmax	pmax		
	comp=Z,81nm,1.3s						
PET				smax			
	comp=E,67nm,1.0s						
PET				MLR	MLR		
	comp=Z,10µm,20.0s						
PET				MLR	MLR		
	comp=Z,8µm,20.0s						
SKR	Severo-Kuril's	15.40	278	⇑iP	Pn	17 01 30.0	-5.1
SKR				eS	S	17 04 30.0	-8.6
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
SKR				pmax	pmax		
	comp=E,2µm,6.0s						
SKR				pmax	pmax		
	comp=Z,2µm,6.0s						
SKR				pmax	pmax		
	comp=N,1µm,4.0s						
SKR				smax			
	comp=N,130nm,0.9s						
SKR				smax			
	comp=N,3µm,10.0s						
SKR				smax			
	comp=E,1µm,10.0s						
SKR				MLR	MLR		
	comp=E,3µm,20.0s						
SKR				MLR	MLR		
	comp=Z,3µm,20.0s						
SKR				MLR	MLR		
	comp=N,2µm,14.0s						
SVW2	Sparrevohn	16.46	44	eP	Pn	17 01 49.0	+0.4
KDAK	Kodiak Island	16.84	57	Pn	Pn	17 01 49.0	-4.4
	comp=N,239nm,0.8s,SNR=16						
KDAK	Kodiak Island	16.84	57	Pn	Pn	17 01 48.8	-4.6
	comp=N,4.4nm,0.3s,baz=241,slow=6.3,SNR=21						
KDAK				Sn	Sn	17 04 53.8	-5.7
	comp=N,1.2nm,0.3s,baz=270,slow=13,SNR=4.5						
KDAK	Kodiak Island	16.84	57	eP	Pn	17 01 49.0	-4.4
	comp=N,43nm,0.6s						
TTA	Tatalina	17.18	38	eP	Pn	17 01 58.3	+0.7
BILL	Bilibino	18.26	343	⇓iP	Pn	17 02 12.2	+1.4
BILL				pmax	pmax		
	comp=Z,119nm,1.2s						
BILL				MLR	MLR		
	comp=Z,10µm,19.0s						
BILL	Bilibino	18.26	343	eP	Pn	17 02 11.6	+0.8
	comp=Z,84nm,1.0s						
SLKM	Skilak Lake	18.69	49	eP	Pn	17 02 14.1	-1.9
MA2	Magadan	18.73	308	c iP	Pn	17 02 17.1	+0.6
MA2				eS	S	17 05 42.8	-3.3
MA2				pmax	pmax		
	comp=Z,20nm,0.9s						
MA2				MLR	MLR		
	comp=Z,7µm,14.5s						
MA2	Magadan	18.73	308	eP	Pn	17 02 16.7	+0.2
	comp=Z,18nm,0.9s						
PMR	Palmer	19.53	46	eP	Pn	17 02 23.4	-2.6
PMR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
PMR	Palmer	19.53	46	eP	Pn	17 02 23.4	-2.6
	comp=Z,4.2nm,0.6s						
SML	Sawmill	19.95	46	eP	Pn	17 02 26.3	-4.8
MID	Middleton Isla	20.36	53	eP	P	17 02 33.6	+0.2
EYAK	Cordova Ski Ar	20.85	50	eP	P	17 02 37.5	-1.2
COLA	College	21.28	38	eP	P	17 02 43.0	-0.4
COLA				pmax	pmax		
	comp=Z,67nm,0.8s,mb5.0						
COLA				MLR	MLR		
	comp=Z,2µm,21.0s,MS4.5						
COLA	College	21.28	38	eP	P	17 02 43.0	-0.4
	comp=Z,66nm,0.8s,mb5.0						
COLA				LR	LR		
	comp=Z,2µm,21.0s,MS4.5						
MENT	Mentasta	22.34	45	eP	P	17 02 53.7	-1.0
MIDW	Midway	23.03	175	PFAKE		17 03 10.0	+8.0
MIDW				LR	LR		
	comp=Z,5µm,20.0s,MS4.9						
YUK	Yuzh-Kuril'sk	24.29	266	⇑iP	P	17 03 14.0	+0.2
YUK				e		17 03 52.0	
YUK				ePPP		17 04 04.0	
YUK				eS	S	17 07 33.0	+3.5
YUK				pmax	pmax		
	comp=Z,3µm,3.0s						
YUK				pmax	pmax		
	comp=N,2µm,3.5s						
YUK				pmax	pmax		
	comp=E,4µm,4.0s						
YUK				smax			
	comp=N,2µm,3.5s						
YUK				MLR	MLR		
	comp=Z,3µm,19.0s,MS4.8						
YUK				MLR	MLR		
	comp=E,3µm,18.0s						
DAWY	Dawson	24.49	43	eP	P	17 03 13.6	-2.0
YSS	Yuzh-Sakhalins	24.94	275	α iP	P	17 03 20.2	+0.5
YSS				e		17 03 30.0	
YSS				e		17 03 32.2	
YSS				e		17 04 01.0	
YSS				eS	S	17 07 42.0	+2.2
YSS				eSSS		17 08 58.0	
YSS				pmax	pmax		
	comp=Z,110nm,1.0s,mb5.3						
YSS				pmax	pmax		
	comp=Z,1µm,7.0s						
YSS				MLR	MLR		
	comp=E,2µm,20.0s						
YSS				MLR	MLR		
	comp=Z,3µm,20.0s,MS4.8						
YSS	Yuzh-Sakhalins	24.94	275	eP	P	17 03 20.6	+0.9
	comp=Z,134nm,1.1s,mb5.4						
YSS				LR	LR		
	comp=Z,4µm,20.0s,MS5.0						
SKAG	Skagway	25.96	54	eP	P	17 03 28.3	-0.7
	comp=Z,4.7nm,0.5s,mb4.3						
SIT	Sitka	26.12	60	PFAKE		17 03 40.0	+10
SIT				LR	LR		
	comp=Z,5µm,20.0s,MS5.1						
ASAJ	Asahikawa	26.30	269	P	P	17 03 32.2	+0.1
	comp=Z,79nm,1.2s,mb5.1,baz=37,slow=5.5,SNR=23						
ASAJ				LR	LR	17 12 02.2	
	comp=Z,3µm,19.9s,MS4.8,baz=77,slow=32						
ASAJ	Asahikawa	26.30	269	P	P	17 03 32.2	+0.1
ASAJ				pmax	pmax		
	comp=Z,79nm,1.2s						
ASAJ				MLR	MLR		
	comp=Z,3µm,19.9s						
INK	Inuvik	27.82	35	P	P	17 03 44.4	-1.2
	comp=Z,14nm,0.6s,mb4.8,baz=234,slow=12,SNR=18						
INK	Inuvik	27.82	35	P	P	17 03 44.4	-1.2
INK				pmax	pmax		
	comp=Z,14nm,0.6s						
INK	Inuvik	27.82	35	eP	P	17 03 44.2	-1.4
	comp=Z,22nm,0.9s,mb4.8						
DLBC	Dease Lake	28.78	56	P	P	17 03 53.7	-0.5
	comp=Z,1.7nm,0.6s,baz=286,slow=15,SNR=3.0						
DLBC	Dease Lake	28.78	56	eP	P	17 03 53.6	-0.6
HABR	Khabarovsk	29.12	283	⇑iP	P	17 03 58.0	+0.8
HABR				e		17 04 54.8	
HABR				eS	S	17 08 48.7	+2.9
HABR				pmax	pmax		
	comp=Z,57nm,1.1s,mb5.2						
HABR				MLR	MLR		
	comp=Z,1µm,15.9s,MS4.6						
YAK	Yakutsk	29.22	311	eP	P	17 03 57.5	-0.6
YAK				e		17 04 52.5	
YAK				ePPP		17 05 04.4	
YAK				e		17 07 02.2	
YAK				eS	S	17 08 50.5	+3.1
YAK				eSS	SS	17 10 22.2	-30
YAK				e		17 14 39.3	
YAK				pmax	pmax		
	comp=Z,28nm,1.3s,mb4.8						
YAK				pmax	pmax		
	comp=N,2.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,21nm,1.3s						
YAK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.5						
YAK				pmax	pmax		
	comp=N,11nm,1.8s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.3s						
YAK				smax			
	comp=Z,4.0nm,1.0s						
YAK				smax			
	comp=N,11nm,1.1s						
YAK				smax			
	comp=E,10.0nm,1.4s						
YAK				MLR	MLR		
	comp=Z,2µm,19.0s,MS4.7						
YAK				MLR	MLR		
	comp=N,553nm,14.0s,MS4.8						
YAK				MLR	MLR		
	comp=E,2µm,16.0s,MS4.8						
YAK	Yakutsk	29.22	311	⇑eP	P	17 03 57.9	-0.2
YAK				LR	LR		
	comp=Z,4µm,21.0s,MS5.0						
TIXI	Tiksi	30.58	331	eP	P	17 04 08.7	-1.4
TIXI				eS	S	17 09 15.4	+6.8
TIXI				pmax	pmax		
	comp=Z,139nm,4.2s						
TIXI				MLR	MLR		
	comp=Z,7µm,17.0s,MS5.4						
TIXI	Tiksi	30.58	331	PFAKE		17 04 20.0	+10
TIXI				LR	LR		
	comp=Z,3µm,19.0s,MS5.0						
KLR	Kul'dur	30.84	286	⇓iP	P	17 04 09.3	-3.1
KLR				pmax	pmax		
	comp=E,120nm,1.4s						
KLR				pmax	pmax		
	comp=Z,180nm,1.4s,mb5.7						
MAJO	Matsushiro	33.37	261	PFAKE		17 04 50.0	+15
MAJO				LR	LR		
	comp=Z,2µm,19.0s,MS4.9						
MAT	Matsushiro	33.37	261	P	P	17 04 34.6	0.0
MAT				S	S	17 10 00.0	+7.9
MAT	Matsushiro	33.37	261	eP	P	17 04 35.0	+0.4
MAT				eS	S	17 10 00.0	+7.9
MAT				pmax	pmax		
	comp=Z,31nm,1.3s,mb5.1						
MAT				MLR	MLR		
	comp=Z,2µm,19.0s,MS4.9						
MAT	Matsushiro	33.37	261	eP	P	17 04 35.0	+0.4
	comp=Z,31nm,1.3s,mb5.1						
MAT				eS	S	17 10 00.0	+7.9
MAT				LR	LR		
	comp=Z,2µm,19.0s,MS4.9						
MJAR	Matsushiro Arr	33.37	261	P	P	17 04 34.3	-0.3
	comp=Z,3.7nm,0.7s,mb4.4,baz=46,slow=8.0,SNR=10						
MJAR				ScP	ScP	17 10 59.5	+3.7
	comp=Z,5.6nm,1.2s,baz=107,slow=0.6,SNR=5.9						
MJAR				LR	LR	17 16 26.7	
	comp=Z,2µm,19.4s,MS4.9,baz=65,slow=33						
VLA	Vladivostok	33.53	275	d iP	P	17 04 36.9	+0.9
VLA				pmax	pmax		
	comp=Z,88nm,2.4s,mb5.3						
VLA				MLR	MLR		
	comp=Z,2µm,19.0s,MS4.9						
VLA	Vladivostok	33.53	275	iP	P	17 04 36.0	0.0

WAKE Wake Island 33.71 204 PFAKE 17 04 50.0 +12
WAKE LR LR
comp=Z,2μm,21.0s,MS4.9
KIP Kipapa 34.13 143 PFAKE 17 04 50.0 +8.8
KIP LR LR
comp=Z,4μm,19.0s,MS5.2
MDJ Mudanjiang 34.20 279 P **P** **17 04 41.0 -0.9**
MDJ AP pP 17 04 52.0 -2.6
MDJ XP sP 17 04 57.0 -3.3
MDJ PP PP 17 05 59.2 -0.8
MDJ PCP PcP 17 07 18.0 +0.2
MDJ S **S** **17 10 07.7 +2.6**
MDJ AMB AMB
comp=Z,16nm,1.3s,mb4.8
MDJ AMB AMB
comp=Z,322nm,12.8s
MDJ LR LR
comp=N,1μm,20.4s,MS5.0
MDJ LR LR
comp=E,2μm,21.0s,MS5.0
MDJ LR LR
comp=Z,3μm,21.3s,MS5.0
MDJ Mudanjiang 34.20 279 *e*P **P** **17 04 41.7 -0.2**
comp=Z,21nm,1.1s,mb5.0
MDJ LR LR
comp=Z,3μm,21.0s,MS5.1
C03A Quillayute Air 35.02 73 ⇓S **S** **17 10 22.8 +5.1**
baz=35
B04A Port Angeles 35.62 73 ⇓P **P** **17 04 51.9 -2.2**
baz=36
B04A ⇓S **S** **17 10 29.6 +2.8**
baz=36
YKA Yellowknife Ar 35.63 46 P **P** **17 04 53.0 -1.2**
comp=Z,16nm,0.5s,mb5.2,baz=282,slow=7.7,SNR=168
YKA PcP PcP 17 07 21.0 -0.9
comp=Z,1.6nm,0.7s,baz=290,slow=3.2,SNR=4.4
YKA ScP ScP 17 11 07.5 +3.6
comp=Z,1.1nm,0.7s,baz=288,slow=3.5,SNR=6.7
YKA LR LR 17 21 26.9
comp=Z,5μm,19.1s,MS5.3,baz=285,slow=40
YKA Yellowknife Ar 35.63 46 P **P** **17 04 53.0 -1.2**
YKA 17 07 21.0
YKA Yellowknife Ar 35.63 46 P **P** **17 04 53.0 -1.2**
YKA PcP PcP 17 07 21.0 -0.9
YKA ScP ScP 17 11 07.5 +3.6
YKA LR LR 17 21 26.9
A04A Legoe Bay, Lum 35.80 71 ⇓P **P** **17 04 53.8 -1.8**
baz=36
A04A ⇓S **S** **17 10 31.2 +1.6**
baz=36
D03A Wishkah Elem. 35.88 74 ⇓P **P** **17 04 55.4 -0.9**
baz=36
D03A ⇑S **S** **17 10 34.7 +3.8**
baz=36
VDB Vedder Mountai 36.03 70 P **P** **17 04 57.8 +0.3**
A05A Maple Falls 36.05 70 ⇓P **P** **17 04 56.8 -0.9**
baz=36
A05A ⇓S **S** **17 10 33.3 0.0**
baz=36
C04A Brinnon 36.09 73 ⇑P **P** **17 04 57.5 -0.6**
baz=36,SNR=10
C04A ⇑S **S** **17 10 36.5 +2.4**
baz=36
E03A Lebam 36.28 75 ⇑P **P** **17 04 59.4 -0.3**
baz=36,SNR=11
E03A ⇓S **S** **17 10 40.5 +3.6**
baz=36
CMW Cultus Mountai 36.28 71 P **P** **17 05 00.5 +0.7**
B05A Bryant 36.37 72 ⇑P **P** **17 04 59.7 -0.8**
baz=36,SNR=9.1
B05A ⇓S **S** **17 10 38.8 +0.6**
baz=36
D04A Dobbs Creek Ra 36.48 74 ⇓P **P** **17 05 01.3 -0.1**
baz=36
D04A ⇓S **S** **17 10 43.9 +4.0**
baz=36
F03A Seaside 36.58 76 ⇓P **P** **17 05 01.6 -0.6**
baz=36
F03A ⇓S **S** **17 10 45.2 +3.7**
baz=36
POHA Pohakuloa 36.60 140 PFAKE 17 05 10.0 +7.5
POHA LR LR
comp=Z,4μm,20.0s,MS5.2
E04A Onalaska 36.77 74 ⇑P **P** **17 05 02.9 -1.0**
baz=37
E04A ⇑S **S** **17 10 46.8 +2.4**
baz=37
C05A Tolt Reservoir 36.87 72 ⇑P **P** **17 05 04.1 -0.7**
baz=37
C05A ⇓S **S** **17 10 48.4 +2.4**
baz=37
D05A Enumclaw 36.93 73 ⇑P **P** **17 05 04.8 -0.5**
baz=37,SNR=8.0
D05A ⇑S **S** **17 10 50.6 +3.8**
baz=37
H02A Toledo 36.93 78 ⇑S **S** **17 10 48.9 +2.0**
baz=37
CN2 Changchun 37.19 281 *e*P **P** **17 05 08.0 +0.6**
CN2 *e*AP pP 17 05 20.0 -0.2
CN2 *e*XP sP 17 05 25.5 -0.4
CN2 PP PP 17 06 35.3 +2.5
CN2 *e*S **S** **17 10 49.8 -0.9**
CN2 AMB AMB
comp=Z,20nm,1.3s,mb4.8
CN2 AMB AMB
comp=Z,380nm,4.0s
CN2 LR LR
comp=N,2μm,19.0s,MS5.1
CN2 LR LR
comp=E,2μm,19.0s,MS5.1
CN2 LR LR
comp=Z,3μm,21.0s,MS5.1
F04A Amboy 37.27 75 ⇑P **P** **17 05 07.5 -0.7**
baz=37,SNR=11
F04A ⇑S **S** **17 10 53.2 +1.1**
baz=37
E05A Randle 37.37 74 ⇑P **P** **17 05 08.0 -1.0**
baz=37
E05A ⇓S **S** **17 10 55.3 +1.9**
baz=37
H03A Soap Creek Ran 37.37 77 ⇑P **P** **17 05 08.7 -0.3**
baz=37
H03A ⇓S **S** **17 10 56.1 +2.6**
baz=37
I02A Mapleton 37.38 79 ⇑S **S** **17 10 56.9 +3.1**
baz=37
COR Corvallis 37.41 78 *e*P **P** **17 05 10.3 +1.0**
COR pmax pmax
comp=Z,96nm,1.2s,mb5.5
COR MLR MLR
comp=Z,2μm,19.0s,MS5.0
COR Corvallis 37.41 78 *e*P **P** **17 05 10.3 +1.0**
comp=Z,96nm,1.2s,mb5.5
COR LR LR
comp=Z,2μm,19.0s,MS5.0
NLW Nelson Butte 37.50 71 P **P** **17 05 10.7 +0.6**
G04A Mulino 37.59 76 ⇓P **P** **17 05 09.6 -1.3**
baz=37
G04A ⇑S **S** **17 10 59.1 +2.1**
baz=37
TWW Teanaway 37.62 73 P **P** **17 05 12.2 +1.0**
I03A Eugene 37.74 78 ⇑P **P** **17 05 11.3 -0.8**
baz=38
I03A ⇑S **S** **17 11 02.7 +3.6**
baz=38
BOD Bodaibo 37.75 307 *e*P **P** **17 05 11.7 -0.5**
BOD pmax pmax
comp=Z,82nm,1.3s,mb5.3
TBM Table Mountain 37.77 72 P **P** **17 05 12.8 +0.4**
J02A Umpqua 37.88 79 ⇓P **P** **17 05 11.9 -1.4**
baz=38
J02A ⇑S **S** **17 11 02.4 +1.2**
baz=38
F05A White Salmon 37.88 75 ⇓S **S** **17 11 02.8 +1.6**
baz=38
WTV Waterville 37.91 71 P **P** **17 05 13.6 +0.1**
HIA Hailar 37.97 292 *e*P **P** **17 05 13.8 -0.3**
HIA pmax pmax
comp=Z,63nm,1.1s
HIA MLR MLR
comp=Z,4μm,19.0s
HIA Hailar 37.97 292 *e*P **P** **17 05 13.8 -0.3**
comp=Z,62nm,1.1s,mb5.2
HIA LR LR
comp=Z,4μm,19.0s,MS5.2
H04A Detroit Lake 38.04 77 ⇑P **P** **17 05 14.3 -0.3**
baz=38,SNR=12
H04A ⇑S **S** **17 11 06.3 +2.6**
baz=38
BROR Big Rock Looko 38.09 78 P **P** **17 05 16.1 +1.0**
VFP Flag Point 38.16 75 P **P** **17 05 16.5 +0.8**
K02A Glendale 38.24 80 ⇑P **P** **17 05 14.2 -2.2**
baz=38
K02A ⇑S **S** **17 11 09.3 +2.5**
baz=38
J03A Ideyld Park 38.25 79 ⇓P **P** **17 05 14.2 -2.2**
baz=38,SNR=9.2
J03A ⇑S **S** **17 11 08.3 +1.4**
baz=38
EPH Ephrata 38.28 72 P **P** **17 05 16.8 +0.1**
G05A Wamic 38.29 76 ⇓P **P** **17 05 16.2 -0.5**
baz=38,SNR=9.0
G05A ⇓S **S** **17 11 09.1 +1.6**
baz=38
M01C Crescent City 38.36 82 ⇓S **S** **17 11 11.4 +2.9**
baz=38
L02A Cave Junction 38.51 81 ⇑P **P** **17 05 17.1 -1.5**
baz=38
L02A ⇑S **S** **17 11 12.7 +1.9**
baz=38
MDW Midway 38.54 73 P **P** **17 05 19.4 +0.5**
WAH2 Wahluke Slope 38.59 72 P **P** **17 05 19.6 +0.3**
H05A Madras 38.64 76 ⇓P **P** **17 05 18.4 -1.3**
baz=38
H05A ⇓S **S** **17 11 15.9 +3.1**
baz=38
HUMO Hull Mountain 38.66 80 *e*P **P** **17 05 22.3 +2.4**
comp=Z,5.3nm,0.7s,mb4.4
HUMO LR LR
comp=Z,3μm,19.0s,MS5.1
HUMO Hull Mountain 38.66 80 ⇓P **P** **17 05 19.7 -0.2**
baz=38
HUMO ⇓S **S** **17 11 15.4 +2.3**
baz=38
SNIWA Snively Ranch 38.68 73 P **P** **17 05 20.7 +0.7**
BBOR Butler Butte 38.68 80 P **P** **17 05 23.4 +3.3**
HAWA Hanford 38.79 73 *e*P **P** **17 05 20.7 -0.3**
comp=Z,2.3nm,0.7s
HAWA LR LR
comp=Z,141nm,22.0s
OD2 Odessa Site #2 38.79 71 P **P** **17 05 20.9 -0.1**
H2OWA Water 38.85 73 P **P** **17 05 21.9 +0.4**
I05A Bend 38.87 77 ⇓S **S** **17 11 18.2 +1.9**
baz=39
JCC Jacoby Creek 38.99 83 ⇓S **S** **17 11 21.3 +3.2**
baz=39
KHMM Horse Mountain 39.15 83 *e*P **P** **17 05 24.6 +0.7**
EDM Edmonton 39.24 60 *e*P **P** **17 05 23.7 -1.0**
KS15 Wonju Array Si 39.27 270 *e*P **P** **17 05 25.6 +0.7**
YBH Yreka Blue Hor 39.30 81 P **P** **17 05 25.4 +0.2**
comp=Z,13nm,0.8s,mb4.7,baz=343,slow=3.4,SNR=17
YBH Yreka Blue Hor 39.30 81 *e*P **P** **17 05 25.9 +0.7**
YBH pmax pmax
comp=Z,14nm,0.8s
YBH MLR MLR
comp=Z,2μm,20.0s
YBH Yreka Blue Hor 39.30 81 *e*P **P** **17 05 25.9 +0.7**
comp=Z,14nm,0.8s,mb4.7
YBH LR LR
comp=Z,2μm,20.0s,MS5.0
YBH Yreka Blue Hor 39.30 81 ⇓P **P** **17 05 25.9 +0.7**
baz=39,SNR=15
YBH ⇑S **S** **17 11 24.9 +2.2**
baz=39
NEW Newport 39.31 69 P **P** **17 05 24.6 -0.7**
comp=Z,28nm,0.7s,mb5.1,baz=294,slow=8.1,SNR=37
NEW Newport 39.31 69 P **P** **17 05 24.6 -0.7**
NEW pmax pmax
comp=Z,29nm,0.7s
NEW Newport 39.31 69 *e*P **P** **17 05 24.5 -0.8**
comp=Z,28nm,0.7s,mb5.1
NEW LR LR
comp=Z,2μm,21.0s,MS4.8
M02C Callahan 39.40 82 ⇓P **P** **17 05 25.7 -0.4**
baz=39
M02C ⇑S **S** **17 11 28.9 +4.7**
baz=39
SNY Shenyang 39.41 279 ⇑P **P** **17 05 24.1 -2.0**
SNY AP pP 17 05 34.8 -4.2
SNY XP sP 17 05 40.5 -4.2
SNY PP PP 17 06 55.5 -1.7
SNY S **S** **17 11 14.7 -10**
SNY AMB AMB
comp=Z,61nm,1.4s,mb5.1
SNY AMB AMB
comp=Z,410nm,12.0s
SNY LR LR
comp=N,1μm,22.5s,MS5.0
SNY LR LR
comp=E,2μm,22.0s,MS5.0
SNY LR LR
comp=Z,3μm,21.6s,MS5.0
K04A Chilquin 39.42 79 ⇑P **P** **17 05 26.0 -0.2**
baz=39
K04A ⇓S **S** **17 11 26.6 +2.1**
baz=39
N02C Big Bar 39.44 83 ⇓P **P** **17 05 26.6 +0.2**
baz=39,SNR=7.3
N02C ⇑S **S** **17 11 27.8 +3.1**
baz=39
L04A Klamath Falls 39.56 80 ⇓P **P** **17 05 26.7 -0.7**
baz=39
L04A ⇓S **S** **17 11 29.2 +2.5**
baz=39
I06A Prineville 39.64 77 ⇓P **P** **17 05 27.5 -0.6**
baz=40
I06A ⇓S **S** **17 11 30.5 +2.7**
baz=40
M04C Macdoel 39.81 80 ⇑P **P** **17 05 28.8 -0.7**
baz=40,SNR=15
M04C ⇑S **S** **17 11 32.3 +1.9**
baz=40
INCN Inchon 40.03 272 P **P** **17 05 32.9 +1.6**
SNR=5.1
INCN Inchon 40.03 272 *e*P **P** **17 05 31.9 +0.5**
comp=Z,87nm,1.2s,mb5.4
INCN *e*pP pP 17 05 46.7 +2.5
INCN LR LR
comp=Z,778nm,20.0s,MS4.5
J06A Christmas Vall 40.05 78 ⇑P **P** **17 05 30.3 -1.1**
baz=40,SNR=17
J06A ⇓S **S** **17 11 35.3 +1.4**
baz=40
RES Resolute Bay 40.05 24 *e*P **P** **17 05 31.9 +0.4**
RES pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
RES Resolute Bay 40.05 24 *e*P **P** **17 05 31.9 +0.5**
comp=Z,4.0nm,0.5s,mb4.4
WDC Whiskeytown Da 40.05 82 *e*P **P** **17 05 32.2 +0.7**
WDC pmax pmax
comp=Z,25nm,1.1s,mb4.9
WDC MLR MLR
comp=Z,939nm,22.0s,MS4.6
WDC Whiskeytown Da 40.05 82 *e*P **P** **17 05 32.2 +0.7**
comp=Z,25nm,1.1s,mb4.8
WDC LR LR
comp=Z,939nm,22.0s,MS4.6
WDC Whiskeytown Da 40.05 82 ⇓P **P** **17 05 31.0 -0.5**
baz=40,SNR=6.1
WDC ⇓S **S** **17 11 36.4 +2.4**
baz=40
O02C Red Bluff 40.13 83 ⇓P **P** **17 05 31.3 -0.8**
baz=40
O02C ⇓S **S** **17 11 38.1 +3.0**
baz=40
P01C Double 8 Ranch 40.20 84 ⇓P **P** **17 05 32.2 -0.5**
baz=40
P01C ⇑S **S** **17 11 39.4 +3.3**
baz=40
K06A Valley Falls 40.23 78 ⇓P **P** **17 05 32.6 -0.4**
baz=40,SNR=20
K06A ⇓S **S** **17 11 37.9 +1.3**
baz=40
L05A Lakeview 40.29 79 ⇓P **P** **17 05 32.7 -0.7**
baz=40
L05A ⇓S **S** **17 11 37.6 +0.2**
baz=40
M05C Lookout 40.48 81 ⇑P **P** **17 05 34.8 -0.2**
baz=40
M05C ⇓S **S** **17 11 43.8 +3.5**
baz=40
GASB Alder Springs 40.48 84 ⇓S **S** **17 11 44.2 +3.8**
baz=40
J07A Hines 40.50 77 ⇑P **P** **17 05 33.5 -1.6**
baz=40,SNR=9.1
J07A ⇑S **S** **17 11 43.9 +3.3**
baz=40
HATC Hat Creek Radi 40.59 81 ⇓P **P** **17 05 34.4 -1.6**
baz=40
HATC ⇑S **S** **17 11 46.5 +4.5**
baz=40
HOPS Hopland 40.65 85 PFAKE 17 05 50.0 +14
HOPS LR LR
comp=Z,2μm,19.0s,MS4.9
O03C Acorn Hollow, 40.71 83 ⇑P **P** **17 05 37.2 +0.3**
baz=40
WALA Waterton Lakes 40.80 66 *e*P **P** **17 05 36.9 -0.7**
comp=Z,56nm,1.2s,mb5.1
BSMT Bassoo Peak 40.88 68 P **P** **17 05 38.1 -0.2**
K07A Rock Creek Ran 40.91 78 P **P** **17 05 39.4 +0.9**
baz=41,SNR=37
K07A ⇓S **S** **17 11 48.0 +1.3**
baz=41
BMO Blue Mountains 40.92 74 *e*P **P** **17 05 38.0 -0.7**
comp=Z,13nm,0.8s,mb4.6
BMO LR LR
comp=Z,2μm,20.0s,MS5.0
M06C Likely Place G 40.98 80 ⇑P **P** **17 05 38.6 -0.6**
baz=41
M06C ⇓S **S** **17 11 48.6 +0.8**
baz=41
J08A Circle Bar Ran 41.02 76 ⇑P **P** **17 05 40.4 +1.0**
baz=41
J08A ⇓S **S** **17 11 49.6 +1.3**
baz=41
O04C Chester 41.11 82 ⇓P **P** **17 05 40.0 -0.2**
baz=41,SNR=6.4
O04C ⇓S **S** **17 11 52.5 +2.8**
baz=41
ELFS Eagle Lake Fie 41.16 81 ⇑P **P** **17 05 41.5 +0.9**
baz=41
ELFS ⇓S **S** **17 11 52.2 +1.8**
baz=41
L07A Adell 41.22 79 ⇓P **P** **17 05 41.8 +0.7**
baz=41,SNR=17
L07A ⇑S **S** **17 11 52.4 +1.0**
baz=41
ORV Oroville 41.30 83 ⇑P **P** **17 05 42.3 +0.5**
baz=41
ORV ⇑S **S** **17 11 52.3 -0.2**
baz=41
SUTB Sutter Butte 41.31 84 ⇓S **S** **17 11 55.2 +2.5**
baz=41
O05C Quincy 41.42 82 ⇓P **P** **17 05 42.4 -0.4**
baz=41
O05C ⇓S **S** **17 11 55.8 +1.4**
baz=41
WVOR Wild Horse Val 41.42 78 *e*P **P** **17 05 43.3 +0.5**
WVOR pmax pmax
comp=Z,27nm,0.8s,mb4.9
WVOR MLR MLR
comp=Z,3μm,22.0s,MS5.1
WVOR Wild Horse Val 41.42 78 *e*P **P** **17 05 43.3 +0.6**
comp=Z,27nm,0.8s,mb4.9
WVOR LR LR
comp=Z,3μm,22.0s,MS5.1
OHCM Honcut 41.44 83 *e*P **P** **17 05 42.6 -0.3**
M07A Soldier Meadow 41.69 79 P **P** **17 05 46.4 +1.4**
baz=42,SNR=24
M07A ⇓S **S** **17 11 59.3 +1.1**
baz=42
Q04C Lincoln 41.80 84 ⇓P **P** **17 05 45.7 -0.2**
baz=42
MSO Missoula 41.90 69 *e*P **P** **17 05 45.9 -0.8**
comp=Z,43nm,1.3s,mb4.9
MSO LR LR
comp=Z,559nm,19.0s,MS4.5
O06A Flanigan 41.99 81 ⇑S **S** **17 12 04.2 +1.5**
baz=42
BDM Black Diamond 42.03 85 ⇓S **S** **17 12 05.7 +2.3**
baz=42
M08A Happy Creek Ra 42.14 79 ⇓P **P** **17 05 48.4 -0.2**
baz=42,SNR=13
M08A ⇓S **S** **17 12 05.5 +0.5**
baz=42
P06A Stead Airport, 42.23 82 ⇑P **P** **17 05 50.0 +0.7**
baz=42
P06A ⇑S **S** **17 12 07.9 +1.7**
baz=42
LAVA Lava Cap Winer 42.25 83 ⇑P **P** **17 05 49.8 +0.3**
baz=42
L09A Wilkinson Ranc 42.25 78 ⇓P **P** **17 05 49.8 +0.3**
baz=42
L09A ⇓S **S** **17 12 08.5 +1.9**
baz=42
CHMT Chamberlain Mo 42.26 69 *e*P **P** **17 05 48.3 -1.2**
WENL Wente Brothers 42.30 86 ⇓P **P** **17 05 50.6 +0.7**
baz=42
DL2 Dalian 42.31 277 ⇑*i*P **P** **17 05 50.1 +0.1**
DL2 AP pP 17 06 04.7 +1.7
DL2 PP PP 17 07 29.5 +0.8
DL2 S **S** **17 12 10.4 +2.9**
DL2 AMB AMB
comp=Z,20nm,1.0s,mb4.7
DL2 AMB AMB
comp=Z,220nm,6.8s
DL2 LR LR
comp=N,510nm,15.2s,MS4.7
DL2 LR LR
comp=E,460nm,15.9s,MS4.7
DL2 LR LR
comp=Z,720nm,15.9s,MS4.7
R04C Big Horse Ranc 42.42 84 ⇑S **S** **17 12 09.6 +0.4**
baz=42
PAHR Pah Rah Range 42.53 81 *e*P **P** **17 05 51.9 +0.2**
comp=Z,21nm,1.0s,mb4.8
WCN Washoe City 42.54 82 ⇑P **P** **17 05 52.7 +0.8**
baz=42
WCN ⇑S **S** **17 12 14.0 +3.2**
baz=42
O07A Toulon 42.58 81 ⇓P **P** **17 05 52.6 +0.5**
baz=42,SNR=6.8
O07A ⇓S **S** **17 12 12.9 +1.5**
baz=42
S04C Ingram Canyon, 42.64 85 ⇑S **S** **17 12 12.7 +0.4**
baz=42
N08A GE Springer Mi 42.68 79 ⇓P **P** **17 05 52.4 -0.6**
baz=42,SNR=8.9
N08A ⇑S **S** **17 12 12.3 -0.6**
baz=42
R05C Kirkwood Meado 42.70 83 ⇓P **P** **17 05 52.3 -0.9**
baz=42
R05C ⇓S **S** **17 12 12.5 -0.7**
baz=42
M09A Marrel Ranch, 42.73 78 ⇓P **P** **17 05 53.5 +0.1**
baz=43
M09A ⇓S **S** **17 12 13.4 -0.2**
baz=43
ALE Alert 42.85 10 P **P** **17 05 53.9 -0.5**
comp=Z,115nm,0.6s,mb5.8,SNR=8.7
CMB Columbia Colle 42.91 84 *e*P **P** **17 05 54.5 -0.4**
CMB pmax pmax
comp=Z,20nm,1.3s,mb4.7
CMB MLR MLR
comp=Z,837nm,20.0s,MS4.6
CMB Columbia Colle 42.91 84 *e*P **P** **17 05 54.5 -0.4**
comp=Z,20nm,1.3s,mb4.7
CMB LR LR
comp=Z,837nm,20.0s,MS4.6
CMB Columbia Colle 42.91 84 ⇑P **P** **17 05 54.8 0.0**
baz=43
CMB ⇓S **S** **17 12 15.9 -0.3**
baz=43
P07A Fallon 42.94 81 ⇓P **P** **17 05 55.0 0.0**
baz=43
N09A Rock Creek Ran 43.02 79 ⇑P **P** **17 05 55.3 -0.4**
baz=43,SNR=15
N09A ⇑S **S** **17 12 18.8 +1.0**
baz=43
SAO San Andreas Ge 43.03 86 PFAKE 17 06 10.0 +14
SAO LR LR
comp=Z,1μm,19.0s,MS4.8
HAST UC Hastings Re 43.20 87 ⇑P **P** **17 05 56.5 -0.7**
baz=43
HRY Holter Researc 43.20 68 *e*P **P** **17 05 56.3 -0.9**
R06C Coleville 43.20 83 ⇑P **P** **17 05 56.6 -0.6**
baz=43,SNR=5.5
R06C ⇓S **S** **17 12 23.2 +2.7**
baz=43
M10A I.L. Ranch, Tu 43.23 77 ⇓P **P** **17 05 56.0 -1.4**
baz=43
M10A ⇑S **S** **17 12 20.9 0.0**

baz=43
P08A Dixie Valley 43.35 81 ⇑P **P 17 05 58.2 -0.2**
baz=43
S05C Merced 43.36 85 ⇓S **S 17 12 24.5 +1.6**
baz=43
HLID Hailey 43.37 74 *e*P **P 17 05 58.0 -0.6**
comp=Z,26nm,0.9s,mb5.0
HLID LR LR
comp=Z,3µm,22.0s,MS5.1
BMN Battle Mountai 43.44 79 *e*P **P 17 05 59.1 -0.1**
BMN pmax pmax
comp=Z,11nm,0.6s,mb4.8
BMN MLR MLR
comp=Z,2µm,19.0s,MS5.0
BMN Battle Mountai 43.44 79 *e*P **P 17 05 59.1 0.0**
comp=Z,11nm,0.6s,mb4.8
BMN LR LR
comp=Z,2µm,19.0s,MS5.0
DLMT Dillon 43.47 70 *e*P **P 17 05 57.9 -1.4**
comp=Z,33nm,1.3s,mb4.9
MCMT McKenzie Canyo 43.61 71 *e*P **P 17 05 60.0 -0.5**
O09A Fish Creek Ran 43.62 79 ⇓P **P 17 05 59.8 -0.7**
baz=43,SNR=13
O09A ⇑S **S 17 12 28.3 +1.7**
baz=43
U04C Hernandez Rese 43.70 86 ⇑P **P 17 06 01.5 +0.3**
baz=44
U04C ⇓S **S 17 12 31.4 +3.6**
baz=44
EGMT Eagleton 43.71 66 *e*P **P 17 06 00.5 -0.8**
comp=Z,43nm,0.8s,mb5.2
EGMT LR LR
comp=Z,867nm,19.0s,MS4.7
R07C Lee Vining 43.71 83 ⇓P **P 17 06 01.0 -0.4**
baz=44
R07C ⇑S **S 17 12 27.7 -0.3**
baz=44
N10A Dunphy 43.71 78 ⇓P **P 17 06 02.2 +0.8**
baz=44
M11A Holland Ranch, 43.74 77 ⇓P **P 17 06 00.8 -0.8**
baz=44,SNR=14
M11A ⇓S **S 17 12 29.3 +0.8**
baz=44
BOZ Bozeman (W) 43.88 70 *e*P **P 17 06 02.0 -0.7**
BOZ pmax pmax
comp=Z,26nm,0.7s,mb5.1
BOZ MLR MLR
comp=Z,750nm,20.0s,MS4.6
BOZ Bozeman (W) 43.88 70 *e*P **P 17 06 02.0 -0.7**
comp=Z,26nm,0.7s,mb5.1
BOZ LR LR
comp=Z,750nm,20.0s,MS4.6
Q08A Gabbs 43.94 81 ⇑P **P 17 06 02.9 -0.2**
baz=44,SNR=16
P09A Austin 44.02 80 ⇓P **P 17 06 04.6 +0.8**
baz=44
P09A ⇑S **S 17 12 32.9 +0.4**
baz=44
MNV Mina 44.06 82 *e*P **P 17 06 04.1 0.0**
MNV pmax pmax
comp=Z,17nm,1.2s,mb4.7
MNV MLR MLR
comp=Z,903nm,20.0s,MS4.7
MNV Mina 44.06 82 *e*P **P 17 06 04.1 0.0**
comp=Z,16nm,1.2s,mb4.6
MNV LR LR
comp=Z,903nm,20.0s,MS4.7
MLAC Mammoth Lakes 44.12 83 ⇓P **P 17 06 02.0 -2.6**
baz=44
MLAC ⇑S **S 17 12 35.9 +1.9**
baz=44
N11A Elko Archery C 44.13 78 ⇓P **P 17 06 03.6 -1.1**
baz=44
N11A ⇑S **S 17 12 37.0 +2.9**
baz=44
M12A Wells 44.29 77 ⇓P **P 17 06 05.2 -0.8**
baz=44,SNR=13
M12A ⇑S **S 17 12 39.2 +2.9**
baz=44
P10A Eureka 44.40 80 ⇓P **P 17 06 05.3 -1.5**
baz=44
Q09A Carvers 44.42 81 ⇓P **P 17 06 06.1 -0.9**
baz=44
QLMT Earthquake Lak 44.45 70 *e*P **P 17 06 06.4 -0.8**
MTUM Tungsten Hills 44.47 84 *e*P **P 17 06 06.5 -0.9**
ELK Elko 44.48 77 *e*P **P 17 06 07.6 +0.1**
ELK pmax pmax
comp=Z,17nm,0.7s
ELK MLR MLR
comp=Z,2µm,19.0s
ELK Elko 44.48 77 *e*P **P 17 06 07.6 +0.1**
comp=Z,17nm,0.7s,mb4.9
ELK LR LR
comp=Z,2µm,19.0s,MS5.1
N12A Clover Valley, 44.54 77 ⇑P **P 17 06 05.8 -2.1**
baz=44,SNR=20
N12A ⇑S **S 17 12 42.0 +1.9**
baz=44
FFC Flin Flon 44.56 54 *e*P **P 17 06 06.9 -1.2**
FFC pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
FFC MLR MLR
comp=Z,3µm,21.0s,MS5.2
FFC Flin Flon 44.56 54 *e*P **P 17 06 06.9 -1.2**
comp=Z,4.8nm,0.8s,mb4.4
FFC LR LR
comp=Z,3µm,21.0s,MS5.2
V05C Boulder Hill, 44.56 86 ⇓P **P 17 06 06.2 -1.9**
baz=44
O11A Cowboy Ranch, 44.59 78 ⇓P **P 17 06 08.1 -0.2**
baz=44,SNR=13
O11A ⇑S **S 17 12 42.3 +1.6**
baz=44
HELL Mitchell Peak, 44.60 85 ⇓P **P 17 06 06.0 -2.5**
baz=44
HELL ⇓S **S 17 12 41.4 +0.5**
baz=44
M13A Montello 44.78 76 ⇓P **P 17 06 09.9 +0.1**
baz=45,SNR=12
M13A ⇓S **S 17 12 44.2 +0.7**
baz=45
R09A Tonopah 44.85 82 ⇑P **P 17 06 10.0 -0.4**
baz=45,SNR=52
R09A ⇑S **S 17 12 45.9 +1.3**
baz=45
TPH Tonopah 44.86 82 *e*P **P 17 06 12.1 +1.6**
TPH pmax pmax
comp=Z,21nm,0.9s,mb5.0
TPH MLR MLR
comp=Z,951nm,19.0s,MS4.7
TPH Tonopah 44.86 82 *e*P **P 17 06 12.1 +1.6**
comp=Z,21nm,0.9s,mb5.0
TPH LR LR
comp=Z,951nm,19.0s,MS4.7
P11A Circle Ranch, 44.88 79 ⇑P **P 17 06 09.2 -1.5**
baz=45
P11A ⇓S **S 17 12 46.4 +1.5**
baz=45
GCMT Greycliff 44.96 68 *e*P **P 17 06 11.4 +0.1**
YFT Old Faithful 45.01 71 *e*P **P 17 06 11.4 -0.3**
BJI Beijing 45.02 282 P **P 17 06 12.1 +0.3**
BJI PP PP 17 07 58.8 +1.2
BJI PCS PcS 17 11 45.8 0.0
BJI S **S 17 12 46.5 -0.5**
BJI SCS ScS 17 16 06.0 +1.4
BJI AMB AMB
comp=Z,30nm,1.1s,mb5.0
BJI AMB AMB
comp=Z,722nm,4.4s
BJI LR LR
comp=N,2µm,20.4s,MS5.1
BJI LR LR
comp=E,1µm,21.7s,MS5.1
BJI LR LR
comp=Z,2µm,22.1s,MS5.0
BJT Baijiatuau 45.03 282 *e*P **P 17 06 11.7 -0.2**
BJT pmax pmax
comp=Z,52nm,1.2s
BJT MLR MLR
comp=Z,3µm,20.0s
BJT Baijiatuau 45.03 282 *e*P **P 17 06 11.7 -0.2**
comp=Z,52nm,1.2s,mb5.2
BJT LR LR
comp=Z,3µm,20.0s,MS5.2
N13A Wendover, West 45.05 77 ⇑P **P 17 06 12.3 +0.3**
baz=45,SNR=5.9
N13A ⇓S **S 17 12 47.8 +0.3**
baz=45

S09A Goldfield 45.08 82 ⇓P **P 17 06 11.8 -0.4**
baz=45,SNR=6.6
S09A ⇓S **S 17 12 49.4 +1.5**
baz=45
IRK Irkutsk 45.19 303 *e*P **P 17 06 12.4 -0.7**
IRK *e* 17 07 52.7
IRK pmax pmax
comp=Z,1µm,1.4s
LKWY Lake 45.21 70 *e*P **P 17 06 14.6 +1.3**
LKWY pmax pmax
comp=Z,32nm,0.7s,mb5.3
LKWY MLR MLR
comp=Z,1µm,19.0s,MS4.9
LKWY Lake 45.21 70 *e*P **P 17 06 14.6 +1.4**
comp=Z,32nm,0.7s,mb5.2
LKWY LR LR
comp=Z,1µm,19.0s,MS4.9
R10A Warm Springs 45.30 81 ⇓P **P 17 06 12.6 -1.4**
baz=45
R10A ⇑S **S 17 12 52.6 +1.5**
baz=45
CWC Cottonwood Cre 45.34 84 ⇑P **P 17 06 12.9 -1.4**
baz=45
Q11A Duckwater 45.36 80 ⇓P **P 17 06 14.8 +0.3**
baz=45,SNR=6.8
Q11A ⇓S **S 17 12 52.0 +0.1**
baz=45
HVU Hansel Valley 45.38 75 *e*P **P 17 06 14.8 +0.2**
HVU pmax pmax
comp=Z,19nm,0.7s,mb5.0
HVU Hansel Valley 45.38 75 *e*P **P 17 06 14.8 +0.1**
comp=Z,19nm,0.7s,mb5.0
P12A McGill 45.44 79 ⇑P **P 17 06 15.8 +0.6**
baz=45,SNR=14
P12A ⇓S **S 17 12 53.7 +0.6**
baz=45
MOOW Moose Ponds 45.46 71 *e*P **P 17 06 15.4 +0.1**
comp=Z,18nm,1.2s,mb4.8
TPAW Teton Pass 45.49 72 *e*P **P 17 06 16.0 +0.5**
comp=Z,11nm,0.7s,mb4.8
ISA Isabella 45.59 85 PFAKE 17 06 30.0 +14
ISA LR LR
comp=Z,265nm,19.0s,MS4.2
ISA Isabella 45.59 85 ⇑P **P 17 06 16.2 0.0**
baz=45
ISA ⇑S **S 17 12 54.5 -0.6**
baz=45
REDW Red Top Meadow 45.62 72 *e*P **P 17 06 16.4 -0.1**
comp=Z,30nm,1.1s,mb5.1
SNOW Snow King Moun 45.62 72 *e*P **P 17 06 16.7 +0.2**
comp=Z,15nm,0.8s,mb5.0
LOHW Long Hollow 45.62 71 *e*P **P 17 06 16.8 +0.2**
comp=Z,9.3nm,0.7s,mb4.8
BGU Big Grassy Mou 45.73 76 *e*P **P 17 06 17.4 0.0**
DAC Darwin (Calif) 45.75 84 PFAKE 17 06 30.0 +12
DAC LR LR
comp=Z,2µm,19.0s,MS5.0
Q12A Willow Creek R 45.75 79 ⇓P **P 17 06 16.1 -1.4**
baz=46
Q12A ⇑S **S 17 12 56.9 -0.7**
baz=46
TLY Talaya 45.81 302 P **P 17 06 19.1 +1.1**
comp=Z,234nm,1.2s,mb6.0,SNR=21
TLY Talaya 45.81 302 P **P 17 06 19.2 +1.2**
SNR=32
TLY Talaya 45.81 302*c i*P **P 17 06 18.8 +0.8**
TLY *e* 17 08 08.2
TLY *e*S **S 17 13 04.5 +6.1**
TLY *e*SS SS 17 16 18.0 -5.3
TLY pmax pmax
comp=Z,72nm,1.3s,mb5.4
TLY MLR MLR
comp=Z,4µm,21.0s,MS5.3
TLY Talaya 45.81 302 *e*P **P 17 06 18.8 +0.7**
comp=Z,50nm,1.1s,mb5.4
TLY LR LR
comp=Z,4µm,21.0s,MS5.4
AHID Auburn Hatcher 45.81 73 *e*P **P 17 06 18.5 +0.5**
comp=Z,14nm,0.8s,mb5.0
AHID LR LR
comp=Z,3µm,22.0s,MS5.1
SPUT South Promonto 45.85 75 P **P 17 06 16.4 -2.0**
ULN Ulaanbaatar 45.97 296 P **P 17 06 20.3 +0.9**
ULN Ulaanbaatar 45.97 296 P **P 17 06 20.5 +1.1**
SNR=18
ULN Ulaanbaatar 45.97 296⇑*i*P **P 17 06 20.5 +1.2**
ULN Ulaanbaatar 45.97 296 *e*P **P 17 06 19.8 +0.5**
comp=Z,16nm,0.6s,mb5.1
ULN LR LR
comp=Z,6µm,19.0s,MS5.6
OSI Osito Adit 46.10 87 ⇑P **P 17 06 18.9 -1.4**
baz=46
OSI ⇓S **S 17 13 02.5 -0.1**
baz=46
JOW Kunigami 46.15 259 LR LR 17 22 16.5
comp=Z,594nm,20.3s,MS4.5,baz=78,slow=32
TPNV Topopah Spring 46.16 82 *e*P **P 17 06 20.7 -0.1**
TPNV pmax pmax
comp=Z,23nm,0.8s,mb5.2
TPNV MLR MLR
comp=Z,2µm,19.0s,MS5.0
TPNV Topopah Spring 46.16 82 *e*P **P 17 06 20.6 -0.2**
comp=Z,23nm,0.8s,mb5.2
TPNV LR LR
comp=Z,2µm,19.0s,MS5.0
HWUT Hardware Ranch 46.21 74 *e*P **P 17 06 21.3 +0.1**
comp=Z,16nm,0.9s,mb5.0
HWUT LR LR
comp=Z,2µm,22.0s,MS4.9
DUG Dugway 46.29 77 *e*P **P 17 06 22.0 +0.2**
DUG pmax pmax
comp=Z,77nm,1.1s,mb5.5
DUG MLR MLR
comp=Z,2µm,19.0s,MS5.1
DUG Dugway 46.29 77 *e*P **P 17 06 22.0 +0.2**
comp=Z,77nm,1.1s,mb5.5
DUG LR LR
comp=Z,2µm,19.0s,MS5.1
FCC Fort Churchill 46.36 46 *e*P **P 17 06 21.8 -0.5**
SONM Songino Array 46.36 296 P **P 17 06 23.5 +1.2**
comp=Z,24nm,1.0s,mb5.1,baz=59,slow=8.2,SNR=72
SONM PcP PcP 17 07 57.1 +0.4
comp=Z,5.6nm,0.7s,baz=65,slow=2.9,SNR=4.5
SONM ScP ScP 17 11 47.5 +1.4
comp=Z,4.2nm,1.2s,baz=46,slow=4.2,SNR=7.2
SONM LR LR 17 27 19.1
comp=Z,7µm,18.6s,MS5.6,baz=59,slow=38
SONM Songino Array 46.36 296 P **P 17 06 23.5 +1.1**
SONM 17 07 57.1
NOQ North Oquirrh 46.44 76 *e*P **P 17 06 23.4 +0.4**
comp=Z,90nm,1.2s,mb5.6
U10A Ash Meadows, A 46.45 83 ⇓P **P 17 06 22.3 -0.7**
baz=46
LAO LASA Array 46.45 65 PFAKE 17 06 30.0 +6.9
LAO LR LR
comp=Z,1µm,21.0s,MS4.8
SNCC San Nicolas Is 46.49 89 PFAKE 17 06 30.0 +6.6
SNCC LR LR
comp=Z,1µm,20.0s,MS4.8
SNCC San Nicolas Is 46.49 89 ⇓P **P 17 06 24.3 +0.9**
baz=46
SNCC ⇑S **S 17 13 10.8 +2.7**
baz=46
TCUT Toone Canyon 46.60 75 P **P 17 06 24.7 +0.5**
CTU Camp Tracy 46.64 75 *e*P **P 17 06 23.5 -1.1**
comp=Z,21nm,1.0s,mb5.0
BW06 Boulder Array 46.74 72 PFAKE 17 06 40.0 +15
BW06 LR LR
comp=Z,2µm,22.0s,MS5.0
PDAR Pinedale Array 46.74 72 P **P 17 06 24.9 -0.5**
comp=Z,37nm,0.7s,mb5.5,baz=305,slow=3.7,SNR=194
PDAR LR LR 17 23 36.8
comp=Z,2µm,21.1s,MS5.0,baz=312,slow=33
TIA Tai'an 46.79 277 *e*P **P 17 06 26.3 +0.6**
GSC Goldstone 46.86 85 ⇑P **P 17 06 25.6 -0.7**
baz=47,SNR=11
NLU North Lily Min 46.89 76 *e*P **P 17 06 26.7 +0.2**
DAU Daniels Canyon 47.11 75 *e*P **P 17 06 27.8 -0.4**
MPU Maple Canyon 47.12 76 *e*P **P 17 06 28.8 +0.5**
comp=Z,12nm,0.6s,mb5.0
MPU LR LR
comp=Z,1µm,19.0s,MS4.8
MOY Mondy 47.22 303 *e*P **P 17 06 30.2 +1.1**
MOY pmax pmax
comp=Z,140nm,3.2s
GUMO Guam 47.30 231 LR LR 17 24 12.4
comp=Z,680nm,19.4s,MS4.6,baz=110,slow=33

TUQ Turquoise Mtn. 47.33 84 ⇓P **P 17 06 29.7 -0.2**
baz=47
HHC Hu-ho-hao-te 47.35 286 *e*P **P 17 06 30.5 +0.4**
HHC AP pP 17 06 42.4 -0.8
HHC XP sP 17 06 48.0 -0.8
HHC PP PP 17 08 21.5 0.0
HHC PCS PcS 17 11 55.8 +0.2
HHC S **S 17 13 23.6 +3.2**
HHC XS sS 17 13 38.6 -3.8
HHC SS SS 17 16 36.3 -12
HHC AMB AMB
comp=Z,44nm,1.4s,mb5.2
HHC AMB AMB
comp=Z,567nm,9.0s
HHC LR LR
comp=N,1µm,17.8s,MS5.1
HHC LR LR
comp=E,2µm,22.6s,MS5.1
HHC LR LR
comp=Z,2µm,22.0s,MS5.1
V11A Goodsprings 47.38 83 ⇓P **P 17 06 30.4 +0.2**
baz=47
V11A ⇑S **S 17 13 22.2 +1.5**
baz=47
U12A Valley of Fire 47.55 82 ⇓P **P 17 06 30.6 -1.1**
baz=47
U12A ⇑S **S 17 13 25.7 +2.4**
baz=47
CCUT Cedar City 47.58 80 *e*P **P 17 06 32.2 +0.4**
SSE Sheshan 47.59 269 P **P 17 06 31.6 -0.4**
SSE XP sP 17 06 51.2 +0.4
SSE PP PP 17 08 23.0 -0.8
SSE S **S 17 13 22.6 -1.3**
SSE SCS ScS 17 16 20.2 -1.2
SSE AMB AMB
comp=Z,43nm,1.2s,mb5.3
SSE AMB AMB
comp=Z,385nm,8.0s
SSE LR LR
comp=N,667nm,24.0s,MS4.6
SSE LR LR
comp=E,347nm,24.0s,MS4.6
SSE LR LR
comp=Z,752nm,26.9s,MS4.5
MVU Marysvale 47.70 78 PFAKE 17 06 40.0 +7.2
MVU LR LR
comp=Z,2µm,19.0s,MS5.1
MSU Marysvale 47.71 78 *e*P **P 17 06 33.6 +0.7**
V12A Nelson 47.81 83 ⇑P **P 17 06 33.5 -0.2**
baz=48
V12A ⇓S **S 17 13 28.4 +1.5**
baz=48
TMUT Trail Mountain 47.82 77 *e*P **P 17 06 34.5 +0.8**
W12A Cal Nev Ari 48.07 83 ⇓S **S 17 13 32.9 +2.2**
baz=48
PFO Pinyon Flat Ob 48.18 86 PFAKE 17 06 50.0 +13
PFO LR LR
comp=Z,793nm,19.0s,MS4.7
PFO Pinyon Flat Ob 48.18 86 ⇓P **P 17 06 33.9 -2.6**
baz=48
109C Camp Elliot, M 48.24 87 ⇑S **S 17 13 34.0 +0.9**
baz=48
SRU San Rafael 48.35 76 *e*P **P 17 06 38.9 +1.0**
SRU pmax pmax
comp=Z,23nm,0.5s,mb5.5
SRU San Rafael 48.35 76 *e*P **P 17 06 38.9 +1.0**
comp=Z,23nm,0.5s,mb5.5
NJ2 Nanjing 48.42 271 *e*P **P 17 06 38.2 -0.1**
NJ2 AP pP 17 06 53.3 +1.8
NJ2 PP PP 17 08 31.9 +0.6
NJ2 S **S 17 13 32.0 -3.5**
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,132nm,4.6s
NJ2 LR LR
comp=N,3µm,18.1s,MS5.4
NJ2 LR LR
comp=E,1µm,16.0s,MS5.4
NJ2 LR LR
comp=Z,490nm,20.7s,MS4.5
RWWY Rawlins 48.78 71 *e*P **P 17 06 40.1 -1.0**
comp=Z,20nm,0.7s,mb5.3
RSSD Black Hills 49.19 67 *e*P **P 17 06 43.2 -1.1**
RSSD pmax pmax
comp=Z,12nm,0.6s,mb5.1
RSSD MLR MLR
comp=Z,1µm,19.0s,MS4.9
RSSD Black Hills 49.19 67 *e*P **P 17 06 43.2 -1.0**
comp=Z,12nm,0.6s,mb5.1
RSSD LR LR
comp=Z,1µm,19.0s,MS4.9
W14A Seligman 49.25 82 ⇑P **P 17 06 44.8 +0.1**
baz=49,SNR=5.0
W14A ⇓S **S 17 13 47.8 +0.7**
baz=49
Y12C Blythe 49.30 84 ⇓P **P 17 06 44.3 -0.9**
baz=49
Y12C ⇓S **S 17 13 47.6 -0.3**
baz=49
GLA Glamis 49.57 85 ⇑P **P 17 06 47.9 +0.7**
baz=49,SNR=7.4
GLA ⇑S **S 17 13 51.8 +0.1**
baz=49
X14A Yava 49.85 83 ⇓P **P 17 06 49.9 +0.6**
baz=50
X14A ⇓S **S 17 13 57.0 +1.4**
baz=50
KBS Kingsbay 49.94 357 *e*P **P 17 06 50.5 +0.6**
KBS *e*S **S 17 14 02.5 +5.7**
KBS Kingsbay 49.94 357 *e*P **P 17 06 50.3 +0.4**
KBS pmax pmax
comp=Z,67nm,0.6s,mb5.8
KBS MLR MLR
comp=Z,853nm,20.0s,MS4.8
KBS Kingsbay 49.94 357 *e*P **P 17 06 50.3 +0.3**
comp=Z,67nm,0.6s,mb5.8
KBS LR LR
comp=Z,853nm,20.0s,MS4.8
PHWY Pilot Hill 50.06 71 *e*P **P 17 06 50.5 -0.4**
ULM Lac du Bonnet 50.10 56 P **P 17 06 50.4 -0.8**
comp=Z,2.3nm,0.5s,mb4.5,baz=308,slow=8.8,SNR=5.8
ULM LR LR 17 29 25.4
comp=Z,2µm,18.6s,MS5.1,baz=310,slow=38
ULM Lac du Bonnet 50.10 56 P **P 17 06 50.4 -0.8**
ULM LR LR 17 29 25.4
WUAZ Wupatki 50.11 80 *e*P **P 17 06 51.4 +0.1**
comp=Z,24nm,0.9s,mb5.2
WUAZ LR LR
comp=Z,2µm,19.0s,MS5.2
Y14A Wickenburg 50.13 83 ⇑P **P 17 06 50.3 -1.0**
baz=50
Y14A ⇓S **S 17 14 00.9 +1.4**
baz=50
X15A Humboldt 50.24 82 ⇓P **P 17 06 50.1 -2.2**
baz=50,SNR=9.3
X15A ⇓S **S 17 14 04.6 +3.5**
baz=50
SMCO Snowmass 50.47 74 *e*P **P 17 06 53.9 -0.1**
comp=Z,12nm,0.6s,mb5.1
SPB4 Spitsbergen Ar 50.50 356 *e*P **P 17 06 53.7 -0.6**
Z14A Wintersburg 50.54 84 ⇑P **P 17 06 52.8 -1.7**
baz=50
MVCO Mesa Verde 50.79 77 *e*P **P 17 06 57.2 +0.8**
ISCO Idaho Springs 50.90 72 *e*P **P 17 06 56.7 -0.5**
ISCO pmax pmax
comp=Z,11nm,0.9s,mb4.8
ISCO MLR MLR
comp=Z,3µm,22.0s,MS5.2
ISCO Idaho Springs 50.90 72 *e*P **P 17 06 56.7 -0.5**
comp=Z,11nm,0.9s,mb4.8
ISCO LR LR
comp=Z,3µm,22.0s,MS5.2
115A Sonoran Desert 51.43 84 ⇓P **P 17 07 00.9 -0.3**
baz=51,SNR=8.9
115A ⇑S **S 17 14 17.8 +0.2**
baz=51
DAG Danmarks Havn 51.70 6 *i* P **P 17 07 02.2 -1.0**
DAG
comp=Z,3µm,23.0s
DAG Danmarks Havn 51.70 6 *e*P **P 17 07 02.2 -1.0**
DAG MLR MLR
comp=N,2µm,23.0s,MS5.2
DAG MLR MLR
comp=Z,3µm,23.0s,MS5.2
DAG MLR MLR

comp=E,820nm,18.0s,MS5.2
TATO Taipei 51.70 263 PFAKE 17 07 20.0 +17
TATO LR LR
comp=Z,2μm,21.0s,MS5.1
WHN Wuhan 52.27 273 P **P** **17 07 07.0 -0.4**
WHN AMB AMB
comp=Z,1μm,3.9s
WHN LR LR
comp=Z,1μm,20.1s,MS5.0
SDCO Great Sand Dun 52.27 74 PFAKE 17 07 20.0 +13
SDCO LR LR
comp=Z,1μm,20.0s,MS4.9
XAN Xi'an 53.30 281 P **P** **17 07 14.8 -0.2**
XAN PCP PcP 17 08 23.5 +1.3
XAN PP PP 17 09 13.7 -1.8
XAN AMB AMB
comp=Z,19nm,2.1s,mb4.7
XAN AMB AMB
comp=Z,339nm,12.7s
XAN LR LR
comp=N,564nm,18.2s,MS4.9
XAN LR LR
comp=E,1μm,21.0s,MS4.9
XAN LR LR
comp=Z,2μm,21.0s,MS5.1
FRB Frobisher Bay 53.37 31 P **P** **17 07 14.6 -1.0**
comp=Z,40nm,0.8s,mb5.4,baz=310,slow=8.4,SNR=22
LAZ Ladron 53.46 79 *eP* **P** **17 07 16.7 +0.5**
ANMO Albuquerque 53.51 78 *eP* **P** **17 07 16.5 -0.1**
ANMO pmax pmax
comp=Z,15nm,1.4s
ANMO MLR MLR
comp=Z,2μm,19.0s
ANMO Albuquerque 53.51 78 *eP* **P** **17 07 16.4 -0.2**
comp=Z,15nm,1.4s,mb4.7
ANMO LR LR
comp=Z,2μm,19.0s,MS5.1
QZH Quanzhou 53.53 265 P **P** **17 07 17.6 +0.8**
QZH S **S** **17 14 51.5 +5.2**
QZH AMB AMB
comp=Z,110nm,1.2s,mb5.7
QZH AMB AMB
comp=Z,650nm,4.8s
QZH LR LR
comp=N,600nm,10.2s,MS5.1
QZH LR LR
comp=E,780nm,14.0s,MS5.1
QZH LR LR
comp=Z,2μm,20.8s
SUMG Summit 53.55 14 *eP* **P** **17 07 16.4 -0.5**
comp=Z,22nm,0.9s,mb5.1
EYMN Ely 53.79 56 *eP* **P** **17 07 17.3 -1.4**
comp=Z,13nm,0.8s,mb4.9
EYMN LR LR
comp=Z,1μm,19.0s,MS5.0
Y22C IRIS PASSCAL I 53.81 79 ⇓P **P** **17 07 17.2 -1.6**
baz=54
LPM Los Pinos Moun 53.83 78 *eP* **P** **17 07 19.0 +0.1**
ZAL Zalesovo 53.87 313 P **P** **17 07 19.1 -0.2**
comp=Z,2.5nm,0.4s,mb4.5,baz=59,slow=4.6,SNR=8.2
ZAL LR LR 17 32 36.4
comp=Z,3μm,18.7s,MS5.3,baz=56,slow=39
BNM Barren Site 53.94 79 *eP* **P** **17 07 20.1 +0.4**
NVS Novosibirsk 54.00 315 *i* P **P** **17 07 20.4 +0.2**
NVS *e* 17 08 25.2
NVS *eS* **S** **17 15 02.0 +9.5**
NVS *i* 17 17 09.2
NVS pmax pmax
comp=Z,55nm,2.1s,mb5.1
NVS pmax pmax
comp=N,27nm,2.0s
NVS pmax pmax
comp=E,35nm,1.9s
NVS smax
comp=N,21nm,2.3s
LZH Lanzhou 55.04 286 P **P** **17 07 29.1 +1.3**
LZH AP pP 17 07 42.5 +1.3
LZH XP sP 17 07 47.7 +1.0
LZH S **S** **17 15 12.1 +5.5**
LZH AMB AMB
comp=Z,170nm,1.4s,mb5.9
LZH AMB AMB
comp=Z,630nm,5.5s
LZH LR LR
comp=E,4μm,16.3s
LZH LR LR
comp=Z,6μm,17.8s,MS5.7
GTA Gaotai 55.25 291 ⇑P **P** **17 07 30.2 +0.9**
GTA AP pP 17 07 43.0 +0.3
GTA XP sP 17 07 48.1 -0.1
GTA PCP PcP 17 08 30.9 +1.3
GTA PP PP 17 09 34.4 +1.3
GTA S **S** **17 15 09.0 -0.4**
GTA XS sS 17 15 30.0 -1.8
GTA SS SS 17 18 53.4 -0.7
GTA AMB AMB
comp=Z,35nm,1.2s,mb5.3
GTA AMB AMB
comp=Z,503nm,9.9s
GTA LR LR
comp=N,2μm,16.7s,MS5.3
GTA LR LR
comp=E,2μm,16.7s,MS5.3
GTA LR LR
comp=Z,3μm,16.7s,MS5.4
SFJD Kangerlussuaq 55.94 22 *i* P **P** **17 07 32.7 -1.5**
comp=Z,14nm,0.6s,mb5.2
SFJD *i* 17 11 08.9
SFJD *i* S **S** **17 15 22.0 +3.4**
SFJD
comp=Z,870nm,18.0s
SFJD Kangerlussuaq 55.94 22 *i* P **P** **17 07 32.7 -1.5**
SFJD *i* S **S** **17 15 22.0 +3.4**
SFJD pmax pmax
comp=Z,14nm,0.6s,mb5.2
SFJD MLR MLR
comp=Z,880nm,18.0s,MS4.9
AMTX Amarillo 56.48 75 *eP* **P** **17 07 39.0 +1.0**
comp=Z,18nm,0.6s,mb5.3
AMTX LR LR
comp=Z,2μm,22.0s,MS5.0
KEV Kevo 57.80 349 *eP* **P** **17 07 45.9 -1.5**
KEV MLR MLR
comp=Z,1μm,19.0s,MS5.1
JMIC Jan Mayen 57.92 4 LR LR 17 31 36.5
comp=Z,474nm,20.2s,MS4.6,baz=170,slow=35
JMIC Jan Mayen 57.92 4 *eP* **P** **17 07 48.5 +0.3**
JMIC *eS* **S** **17 15 44.9 +0.2**
ARCES ARCESS Array B 58.18 350 P **P** **17 07 49.1 -0.9**
comp=Z,9.7nm,0.6s,mb5.0,baz=17,slow=6.3,SNR=48
ARCES LR LR 17 37 49.1
comp=Z,1μm,19.1s,MS5.0,baz=228,slow=41
LVZ Lovozero 58.49 346 P **P** **17 07 51.3 -0.9**
comp=Z,240nm,0.9s,mb6.2,SNR=6.9
LVZ Lovozero 58.49 346⇑ *eP* **P** **17 07 51.6 -0.6**
LVZ *e* 17 10 01.3
LVZ *e*PPP 17 11 30.6
LVZ *eS* **S** **17 15 49.8 -2.4**
LVZ pmax pmax
comp=Z,52nm,1.3s,mb5.4
LVZ pmax pmax
comp=N,17nm,1.0s
LVZ pmax pmax
comp=E,8.0nm,1.4s
LVZ smax
comp=N,28nm,1.5s
LVZ MLR MLR
comp=Z,1μm,16.0s,MS5.1
LVZ MLR MLR
comp=N,1μm,19.0s,MS5.0
LVZ MLR MLR
comp=E,517nm,17.0s,MS5.0
LVZ Lovozero 58.49 346 PFAKE 17 08 00.0 +7.8
LVZ LR LR
comp=Z,2μm,20.0s,MS5.2
CD2 Chengdu 58.62 281⇑ *iP* **P** **17 07 53.4 +0.3**
CD2 AP pP 17 08 09.1 +2.5
CD2 PCP PcP 17 08 43.6 +0.8
CD2 PP PP 17 10 04.6 +1.6
CD2 SCP ScP 17 12 36.9 -2.2
CD2 PCS PcS 17 12 43.8 -0.7
CD2 S **S** **17 15 49.9 -3.8**
CD2 SCS ScS 17 17 33.9 -4.8
CD2 SS SS 17 19 44.5 -2.5
CD2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.7
CD2 AMB AMB
comp=Z,200nm,10.8s
CD2 LR LR
comp=N,480nm,17.4s
CD2 LR LR
comp=Z,840nm,22.2s,MS4.8
TRO Tromso 58.71 353 *eS* **S** **17 15 59.7 +4.8**
KURK Kurchatov 58.84 313 P **P** **17 07 55.6 +1.0**
comp=Z,299nm,0.5s,SNR=25
KURK Kurchatov 58.84 313 P **P** **17 07 54.7 +0.1**
SNR=22
KURK Kurchatov 58.84 313⇑ *eP* **P** **17 07 55.1 +0.5**
KURK Kurchatov 58.84 313 *eP* **P** **17 07 54.6 0.0**
comp=Z,63nm,1.0s,mb5.6
KURK LR LR
comp=Z,3μm,20.0s,MS5.4
KTK1 Kautokeino 58.92 351 *eP* **P** **17 07 55.4 +0.2**
KTK1 AMb AMB 17 07 58.8
comp=Z,38nm,1.3s,mb5.3
KTK1 Kautokeino 58.92 351 *eP* **P** **17 07 55.4 +0.2**
comp=Z,38nm,1.3s,mb5.3
APA Apatity 58.99 346⇑ *iP* **P** **17 07 53.0 -2.7**
APA *eS* **S** **17 16 00.0 +1.4**
APA pmax pmax
comp=Z,36nm,1.2s,mb5.3
APA MLR MLR
comp=Z,1μm,22.0s,MS4.9
LTX Lajitas 59.07 81 *eP* **P** **17 07 55.8 -0.4**
LTX pmax pmax
comp=Z,22nm,1.1s,mb5.1
LTX MLR MLR
comp=Z,808nm,21.0s,MS4.8
LTX Lajitas 59.07 81 *eP* **P** **17 07 55.8 -0.5**
comp=Z,22nm,1.1s,mb5.1
LTX LR LR
comp=Z,808nm,21.0s,MS4.8
WMQ Urumqi 59.09 303 P **P** **17 08 01.2 +4.8**
WMQ PCP PcP 17 08 49.2 +4.5
WMQ PP PP 17 10 13.8 +6.5
WMQ SCP ScP 17 12 44.7 +3.5
WMQ AMB AMB
comp=Z,103nm,2.0s,mb5.5
WMQ AMB AMB
comp=Z,355nm,5.5s
WMQ LR LR
comp=N,2μm,21.0s,MS5.3
WMQ LR LR
comp=E,1μm,19.9s,MS5.3
WMQ LR LR
comp=Z,2μm,21.5s,MS5.2
MKAR Makanchi Array 59.82 308 P **P** **17 08 01.1 -0.2**
comp=Z,10nm,0.4s,mb5.2,baz=53,slow=6.1,SNR=186
GYA Guiyang 59.94 276⇑ *iP* **P** **17 08 02.2 0.0**
GYA AP pP 17 08 14.9 -0.9
GYA XP sP 17 08 20.4 -0.9
GYA PP PP 17 10 16.3 +1.5
GYA S **S** **17 16 08.5 -2.4**
GYA XS sS 17 16 30.0 -3.5
GYA SS SS 17 20 06.1 -1.7
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,140nm,4.9s
GYA LR LR
comp=N,460nm,17.9s,MS4.8
GYA LR LR
comp=E,510nm,18.4s,MS4.8
GYA LR LR
comp=Z,480nm,18.0s,MS4.7
TGY Tagaytay City 60.22 255 P **P** **17 08 05.2 +1.1**
comp=Z,54nm,0.3s,baz=120,slow=5.0,SNR=3.9
SCHQ Schefferville 60.38 38 P **P** **17 08 04.2 -1.0**
comp=Z,15nm,0.8s,mb5.1,baz=330,slow=8.0,SNR=25
SCHQ LR LR 17 36 11.4
comp=Z,2μm,18.5s,MS5.4,baz=321,slow=38
SCHQ Schefferville 60.38 38 *eP* **P** **17 08 03.7 -1.5**
comp=Z,25nm,0.9s,mb5.2
SCHQ LR LR
comp=Z,3μm,19.0s,MS5.5
CCM Cathedral Cave 60.47 65 *eP* **P** **17 08 04.3 -1.5**
CCM pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
CCM MLR MLR
comp=Z,803nm,20.0s,MS4.9
CCM Cathedral Cave 60.47 65 *eP* **P** **17 08 04.3 -1.5**
comp=Z,9.1nm,0.6s,mb5.0
CCM LR LR
comp=Z,803nm,20.0s,MS4.9
LOF Lofoten 60.58 354 *eP* **P** **17 08 08.4 +1.9**
SLM Saint Louis 60.64 64 *eP* **P** **17 08 06.3 -0.7**
SLM pmax pmax
comp=Z,25nm,0.6s,mb5.5
SLM Saint Louis 60.64 64 *eP* **P** **17 08 06.3 -0.7**
comp=Z,25nm,0.6s,mb5.5
JCT Junction City 60.65 77 *eP* **P** **17 08 08.4 +1.3**
JCT pmax pmax
comp=Z,21nm,0.9s,mb5.3
JCT MLR MLR
comp=Z,2μm,19.0s,MS5.3
JCT Junction City 60.65 77 *eP* **P** **17 08 08.3 +1.3**
comp=Z,21nm,0.9s,mb5.3
JCT LR LR
comp=Z,2μm,19.0s,MS5.3
VOSK Vostochnaya 60.73 319 *i* P **P** **17 08 08.1 +0.5**
VOSK pmax pmax
comp=Z,18μm,1.0s
BVAR Borovoye Array 60.75 319 P **P** **17 08 07.3 -0.5**
comp=Z,5.3nm,0.4s,mb5.0,baz=52,slow=6.6,SNR=4.5
BVAR LR LR 17 36 05.4
comp=Z,3μm,21.7s,MS5.4,baz=318,slow=38
BRVK Borovoye 60.77 320 P **P** **17 08 07.4 -0.5**
comp=Z,159nm,1.4s,mb6.0,SNR=8.3
BRVK Borovoye 60.77 320 P **P** **17 08 08.2 +0.4**
SNR=15
BRVK Borovoye 60.77 320 *eP* **P** **17 08 07.3 -0.6**
BRVK pmax pmax
comp=Z,25nm,1.2s,mb5.2
BRVK MLR MLR
comp=Z,2μm,22.0s,MS5.2
BRVK Borovoye 60.77 320 *eP* **P** **17 08 07.3 -0.5**
comp=Z,26nm,1.2s,mb5.2
BRVK LR LR
comp=Z,2μm,22.0s,MS5.2
FVM French Village 60.98 65 *eP* **P** **17 08 07.7 -1.6**
FVM pmax pmax
comp=Z,15nm,0.6s,mb5.3
FVM French Village 60.98 65 *eP* **P** **17 08 07.7 -1.7**
comp=Z,15nm,0.6s,mb5.3
ZRNK Zerenda 61.37 320 *iP* **P** **17 08 11.4 -0.5**
ZRNK pmax pmax
comp=Z,28nm,1.0s,mb5.3
ZRNK Zerenda 61.37 320 *eP* **P** **17 08 11.1 -0.9**
comp=Z,41nm,1.2s,mb5.4
SVE Sverdlovsk 61.51 327 *eP* **P** **17 08 12.8 -0.1**
SVE *e* 17 08 50.0
SVE *eS* sS 17 16 44.0 -10
SVE *e*SSS 17 23 20.0
SVE MLR MLR
comp=N,2μm,18.0s,MS5.3
SVE MLR MLR
comp=E,1μm,18.0s,MS5.3
SVE MLR MLR
comp=Z,3μm,18.0s,MS5.5
MIAR Mount Ida 61.55 69 *eP* **P** **17 08 12.4 -0.8**
MIAR pmax pmax
comp=Z,26nm,0.9s,mb5.4
MIAR MLR MLR
comp=Z,820nm,20.0s,MS4.9
MIAR Mount Ida 61.55 69 *eP* **P** **17 08 12.4 -0.8**
comp=Z,26nm,0.9s,mb5.4
MIAR LR LR
comp=Z,820nm,20.0s,MS4.9
AAM Ann Arbor 61.68 57 PFAKE 17 08 30.0 +16
AAM LR LR
comp=Z,1μm,19.0s,MS5.1
UALR University of 62.12 68 P **P** **17 08 15.5 -1.4**
comp=Z,16nm,0.9s,mb5.1
BLO Bloomington 62.34 61 *eP* **P** **17 08 17.2 -1.2**
BLO pmax pmax
comp=Z,69nm,1.0s,mb5.7
BLO Bloomington 62.34 61 *eP* **P** **17 08 17.2 -1.3**
comp=Z,69nm,1.0s,mb5.7
MOR8 Moi Rana 62.46 354 *eP* **P** **17 08 17.4 -1.8**
MOR8 AMb AMB 17 08 19.4
comp=Z,15nm,0.7s,mb5.2
ARU Arti 62.53 328⇑ *eP* **P** **17 08 19.9 +0.2**
ARU pmax pmax
comp=Z,16μm,1.2s
USIN University of 62.55 63 *eP* **P** **17 08 19.4 -0.4**
comp=Z,58nm,0.6s,mb5.9
NATX Nacogdoches 62.87 72 PFAKE 17 08 30.0 +8.0
NATX LR LR
comp=Z,2μm,21.0s,MS5.3
HNR Honiara 62.99 203 LR LR 17 32 04.0
comp=Z,1μm,18.6s,MS5.1,baz=2.5,slow=32
HNR Honiara 62.99 203 PFAKE 17 08 30.0 +7.2
HNR LR LR
comp=Z,1μm,19.0s,MS5.2
DAV Davao City (W) 63.05 246 PFAKE 17 08 40.0 +17
DAV LR LR
comp=Z,1μm,20.0s,MS5.1
BORG Borgarnes 63.13 10 PFAKE 17 08 40.0 +16
BORG LR LR
comp=Z,979nm,21.0s,MS5.0
WCI Wyandotte Cave 63.13 62 *eP* **P** **17 08 23.2 -0.5**
WCI pmax pmax
comp=Z,41nm,0.7s,mb5.7
WCI MLR MLR
comp=Z,2μm,19.0s,MS5.2
WCI Wyandotte Cave 63.13 62 *eP* **P** **17 08 23.2 -0.5**
comp=Z,41nm,0.7s,mb5.7
WCI LR LR
comp=Z,2μm,19.0s,MS5.2
KMI Kunming 63.35 278 P **P** **17 08 24.1 -1.1**
KMI AP pP 17 08 33.6 -5.2
KMI XP sP 17 08 37.5 -6.8
KMI PP PP 17 10 46.3 +1.4
KMI S **S** **17 16 55.0 +1.0**
KMI XS sS 17 17 13.7 -3.1
KMI SS SS 17 21 01.9 +0.7
KMI AMB AMB
comp=Z,23nm,1.6s,mb5.1
KMI AMB AMB
comp=Z,377nm,5.0s
KMI LR LR
comp=N,812nm,18.3s,MS5.1
KMI LR LR
comp=E,700nm,15.8s,MS5.1
KMI LR LR
comp=Z,703nm,32.5s
QIZ Qiongzhong 63.36 267 *eP* **P** **17 08 25.2 0.0**
QIZ AP pP 17 08 36.6 -2.3
QIZ XP sP 17 08 42.4 -2.0
QIZ PP PP 17 10 45.1 +0.2
QIZ S **S** **17 16 54.9 +0.8**
QIZ XS sS 17 17 15.7 -1.2
QIZ SCS ScS 17 18 13.6 -0.7
QIZ AMB AMB
comp=Z,23nm,1.9s,mb5.0
QIZ AMB AMB
comp=Z,302nm,7.7s
QIZ LR LR
comp=N,373nm,19.0s,MS4.8
QIZ LR LR
comp=E,604nm,20.2s,MS4.8
QIZ LR LR
comp=Z,757nm,21.3s,MS4.8
QIZ Qiongzhong 63.36 267 PFAKE 17 08 40.0 +15
QIZ LR LR
comp=Z,839nm,22.0s,MS4.9
HKT Hockley 63.45 75 *eP* **P** **17 08 26.6 +0.8**
HKT pmax pmax
comp=Z,15nm,1.1s,mb5.0
HKT MLR MLR
comp=Z,936nm,19.0s,MS5.0
HKT Hockley 63.45 75 *eP* **P** **17 08 26.6 +0.8**
comp=Z,14nm,1.1s,mb5.0
HKT LR LR
comp=Z,936nm,19.0s,MS5.0
ACSO Alum Creek Sta 63.51 58 *eP* **P** **17 08 25.5 -0.7**
comp=Z,8.0nm,0.6s,mb4.9
ACSO LR LR
comp=Z,710nm,19.0s,MS4.9
JOF Joensuu 63.65 345 *ep* **P** **17 08 25.1 -2.0**
ERPA Erie 63.72 55 PFAKE 17 08 40.0 +12
ERPA LR LR
comp=Z,1μm,19.0s,MS5.2
WVT Waverly 63.76 64 *eP* **P** **17 08 26.9 -1.0**
WVT pmax pmax
comp=Z,20nm,0.8s,mb5.2
WVT MLR MLR
comp=Z,922nm,19.0s,MS5.0
WVT Waverly 63.76 64 *eP* **P** **17 08 26.9 -1.0**
comp=Z,20nm,0.8s,mb5.2
WVT LR LR
comp=Z,922nm,19.0s,MS5.0
ALLY Alegheny Colle 63.98 55 *eP* **P** **17 08 28.8 -0.5**
KLMR Klimovskoe 63.99 340 *c iP* **P** **17 08 28.6 -0.8**
KLMR *eS* **S** **17 17 00.3 -1.6**
KLMR pmax pmax
comp=Z,70nm,1.3s,mb5.5
KLMR pmax pmax
comp=Z,180nm,11.6s
KLMR MLR MLR
comp=Z,3μm,16.0s,MS5.6
OXF Oxford 64.01 67 *eP* **P** **17 08 28.9 -0.6**
OXF pmax pmax
comp=Z,94nm,1.0s,mb5.8
OXF MLR MLR
comp=Z,821nm,21.0s,MS4.9
OXF Oxford 64.01 67 *eP* **P** **17 08 28.9 -0.6**
comp=Z,94nm,1.0s,mb5.8
OXF LR LR
comp=Z,821nm,21.0s,MS4.9
NSS Namsos 64.25 355 *eP* **P** **17 08 29.3 -1.7**
PLAL Pickwick Lake 64.44 66 *eP* **P** **17 08 30.8 -1.5**
comp=Z,40nm,0.7s,mb5.6
PLAL LR LR
comp=Z,990nm,22.0s,MS5.0
KAF Kangasniemi 65.17 347 *ep* **P** **17 08 35.7 -1.4**
comp=Z,21nm,0.6s,mb5.3,baz=14,slow=6.0
KAF Kangasniemi 65.17 347 *eP* **P** **17 08 35.7 -1.4**
KAF pmax pmax
comp=Z,21nm,0.6s,mb5.3
AFI Afiamalu 65.20 172 LR LR 17 33 15.4
comp=Z,1μm,18.4s,MS5.1,baz=80,slow=32
NCB Newcomb 65.24 50 PFAKE 17 08 50.0 +12
NCB LR LR
comp=Z,2μm,19.0s,MS5.2
MCWV Mont Chateau 65.58 57 PFAKE 17 08 50.0 +10
MCWV LR LR
comp=Z,3μm,19.0s,MS5.5
BINY Binghamton 65.69 52 *eP* **P** **17 08 39.3 -1.2**
comp=Z,26nm,1.0s,mb5.2
BINY LR LR
comp=Z,2μm,21.0s,MS5.3
FINES FINESS Array B 65.85 347 P **P** **17 08 39.7 -1.8**
comp=Z,17nm,0.7s,mb5.2,baz=13,slow=6.3,SNR=80
FINES LR LR 17 43 12.0
comp=Z,2μm,18.3s,MS5.3,baz=187,slow=41
FINES FINESS Array B 65.85 347 *i* P **P** **17 08 40.5 -1.0**
FINES pmax pmax
comp=Z,17nm,0.7s
FINES FINESS Array B 65.85 347 P **P** **17 08 39.7 -1.8**
FINES LR LR 17 43 12.0
TZTN Tazewell 65.86 61 *eP* **P** **17 08 40.8 -0.7**
SSPA Standing Stone 65.88 55 *eP* **P** **17 08 41.2 -0.5**
comp=Z,12nm,0.6s,mb5.1
SSPA LR LR
comp=Z,2μm,20.0s,MS5.2
TKM2 Tokmak 2 65.91 309 P **P** **17 08 43.5 +1.7**
SNR=29
ACCN Adirondack Com 65.95 50 *eP* **P** **17 08 41.2 -0.9**
CPCT Cooper Cave 66.11 63 *eP* **P** **17 08 42.9 -0.3**
LBNH Lisbon 66.14 49 PFAKE 17 09 00.0 +17
LBNH LR LR
comp=Z,2μm,20.0s,MS5.3
USP Ospenovka 66.18 310 P **P** **17 08 45.6 +2.0**
SNR=35
CHMS Chumysh 66.26 310 P **P** **17 08 45.9 +1.8**
SNR=17
KBK Karagaybulak 66.42 309 P **P** **17 08 46.9 +1.8**
SNR=32
FRU Bishkek 66.45 310 *i* P **P** **17 08 47.0 +1.7**
FRU *e* pP 17 09 04.0 +5.0
FRU *e* 17 17 38.0
FRU pmax pmax
comp=Z,180nm,2.0s,mb5.8
FRU MLR MLR
comp=Z,2μm,18.0s,MS5.3
LRAL Lakeview Retre 66.46 66 *eP* **P** **17 08 44.3 -1.1**
comp=Z,18nm,0.7s,mb5.2

LRAL LR LR
comp=Z,830nm,19.0s,MS5.0
FWV Forest Hill 66.59 59 *e*P **P 17 08 46.4 +0.1**
AAK Ala-Archa 66.66 309 P **P 17 08 48.5 +1.9**
SNR=18
AAK Ala-Archa 66.66 309 P **P 17 08 47.9 +1.2**
comp=Z,199nm,1.0s,mb6.1,SNR=13
AAK Ala-Archa 66.66 309 P **P 17 08 47.6 +0.9**
SNR=18
AAK P 17 08 47.8
SNR=27
AAK Ala-Archa 66.66 309*c i*P **P 17 08 46.8 +0.1**
AAK pmax pmax
comp=Z,60nm,1.2s,mb5.5
AAK MLR MLR
comp=Z,2µm,20.0s,MS5.3
AAK Ala-Archa 66.66 309 *e*P **P 17 08 46.3 -0.4**
comp=Z,56nm,1.2s,mb5.5
AAK LR LR
comp=Z,2µm,19.0s,MS5.3
KZA Kyzart 66.71 309 P **P 17 08 49.2 +2.3**
SNR=16
ELN Prospectdale 66.88 59 *e*P **P 17 08 47.5 -0.6**
PMG Port Moresby 66.94 216 LR LR 17 36 12.5
comp=Z,1µm,19.8s,MS5.1,baz=74,slow=34
PMG Port Moresby 66.94 216 PFAKE 17 09 00.0 +12
PMG LR LR
comp=Z,1µm,20.0s,MS5.1
UCH Uchtor 66.95 309 P **P 17 08 50.8 +2.3**
SNR=30
EKS2 Erkin-Say 66.98 310 P **P 17 08 51.2 +2.5**
SNR=7.1
BLA Blacksburg 67.08 59 *e*P **P 17 08 49.2 -0.1**
BLA pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BLA MLR MLR
comp=Z,82nm,19.0s,MS4.0
BLA Blacksburg 67.08 59 *e*P **P 17 08 49.2 -0.1**
comp=Z,1.8nm,0.9s,mb4.1
BLA LR LR
comp=Z,82nm,19.0s,MS4.0
LSA Lhasa 67.12 289 *e*P **P 17 08 50.9 +1.3**
LSA pmax pmax
comp=Z,28nm,0.9s,mb5.3
LSA MLR MLR
comp=Z,2µm,19.0s,MS5.4
LSA Lhasa 67.12 289 *e*P **P 17 08 50.9 +1.4**
comp=Z,28nm,0.9s,mb5.3
LSA LR LR
comp=Z,2µm,19.0s,MS5.4
AKTO Aktyubinsk 67.58 324 LR LR 17 41 38.8
comp=Z,4µm,18.1s,MS5.7,baz=231,slow=39
AKTO Aktyubinsk 67.58 324 *i*P **P 17 08 52.1 -0.4**
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
PAL Palisades 67.62 52 *e*P **P 17 08 52.9 +0.2**
PAL pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
PAL Palisades 67.62 52 *e*P **P 17 08 52.9 +0.1**
comp=Z,7.9nm,0.5s,mb5.0
HRV Harvard--Oak R 67.62 50 PFAKE 17 09 00.0 +7.2
HRV LR LR
comp=Z,2µm,19.0s,MS5.2
NB2 NORSAR Subarra 67.77 354 P **P 17 08 53.1 -0.6**
comp=Z,101nm,1.7s,mb5.6,baz=6.5,slow=6.5
NOA NORSAR Array B 67.77 354 P **P 17 08 52.0 -1.7**
comp=Z,4.6nm,0.6s,mb4.7,baz=340,slow=4.7,SNR=27
NOA LR LR 17 39 25.6
comp=Z,734nm,21.0s,MS4.9,baz=5.0,slow=37
AB31 Akbulak array 67.82 322⇑*e*P **P 17 08 54.0 0.0**
WES Weston 67.83 49 PFAKE 17 09 10.0 +16
WES LR LR
comp=Z,1µm,19.0s,MS5.2
CBN Corbin 67.95 56 PFAKE 17 09 10.0 +15
CBN LR LR
comp=Z,4µm,19.0s,MS5.6
NAO01 NORSAR Array S 67.98 355 *e*P **P 17 08 54.0 -1.0**
comp=Z,2.8nm,0.5s,mb4.5
NAO01 LR LR
comp=Z,1µm,20.0s,MS5.1
KK31 Karatay Array 68.20 312 *i*P **P 17 08 57.3 +0.9**
GOGA Godfrey 68.20 64 PFAKE 17 09 10.0 +14
GOGA LR LR
comp=Z,13µm,20.0s
KSH Kashi 68.27 306 P **P 17 08 59.2 +2.3**
KSH *e*AP pP 17 09 11.1 +0.5
KSH *e*XP sP 17 09 15.7 -0.4
KSH *e*PCP PcP 17 09 24.1 +1.8
KSH *e*SCP 17 13 22.8
KSH *e*S S 17 17 53.8 -0.2
KSH *e*XS sS 17 18 14.6 -2.4
KSH *e*SCS ScS 17 18 50.4 -1.8
KSH AMB AMB
comp=Z,301nm,1.3s,mb6.2
KSH LR LR
comp=N,3µm,18.0s,MS5.7
KSH LR LR
comp=E,2µm,14.6s,MS5.7
KSH LR LR
comp=Z,3µm,20.3s
VSU Vasula 68.61 346‖*i*P **P 17 08 57.7 -1.2**
BER Bergen 68.68 357 *e*P **P 17 08 59.0 -0.4**
TAOE Nuku Hiva Isla 68.77 138 *e*LR LR 17 29 41.7
comp=Z,9µm,22.6s,baz=343
MOS Moscow 69.06 339 *e*P **P 17 08 59.6 -2.2**
MOS pmax pmax
comp=Z,111nm,1.1s,mb5.7
MOS MLR MLR
comp=Z,4µm,18.0s,MS5.6
MOS MLR MLR
comp=N,3µm,17.4s,MS5.7
MOS MLR MLR
comp=E,2µm,19.0s,MS5.7
KONO Kongsberg 69.24 355 *e*P **P 17 09 03.4 +0.5**
KONO *e*S S 17 18 05.6 +0.1
KONO Kongsberg 69.24 355 *e*P **P 17 09 02.2 -0.7**
KONO pmax pmax
comp=Z,40nm,1.1s,mb5.3
KONO MLR MLR
comp=Z,795nm,20.0s,MS5.0
KONO Kongsberg 69.24 355 *e*P **P 17 09 02.2 -0.7**
comp=Z,40nm,1.1s,mb5.3
KONO LR LR
comp=Z,795nm,20.0s,MS5.0
OBN Obninsk 69.87 339*ce*P **P 17 09 06.2 -0.6**
OBN *e* 17 11 42.3
OBN *i*S S 17 18 13.6 +0.7
OBN pmax pmax
comp=Z,88nm,1.2s,mb5.6
OBN MLR MLR
comp=Z,3µm,20.0s,MS5.6
OBN Obninsk 69.87 339 *e*P **P 17 09 06.0 -0.8**
comp=Z,46nm,0.8s,mb5.5
OBN LR LR
comp=Z,3µm,19.0s,MS5.6
CM31 Chiang Mai Arr 70.63 275 PFAKE 17 09 20.0 +8.6
CM31 LR LR
comp=Z,584nm,20.0s,MS4.8
GUN Gumba 71.54 292 *e*P **P 17 09 18.5 +1.6**
comp=Z,175nm,0.6s,mb6.2
GUN Gumba 71.54 292 *e*P **P 17 09 18.5 +1.6**
comp=Z,175nm,0.6s,mb6.2
JIRN Jiri 71.55 291 *e*P **P 17 09 18.6 +1.6**
comp=Z,214nm,0.9s,mb6.1
JIRN Jiri 71.55 291 *e*P **P 17 09 18.7 +1.7**
comp=Z,214nm,0.9s,mb6.1
KKN Kakani 71.98 292 *e*P **P 17 09 20.9 +1.3**
comp=Z,39nm,0.5s,mb5.6
KKN Kakani 71.98 292 *e*P **P 17 09 20.9 +1.3**
comp=Z,39nm,0.5s,mb5.6
PKI Pulchoki 72.07 292 *e*P **P 17 09 21.3 +1.2**
PKI Pulchoki 72.07 292 *e*P **P 17 09 21.3 +1.2**
GKN Gorkha 72.20 293 *e*P **P 17 09 21.9 +1.0**
GKN Gorkha 72.20 293 *e*P **P 17 09 21.9 +1.0**
comp=Z,50nm,0.5s,mb5.7
DMN Daman 72.22 292 *e*P **P 17 09 22.3 +1.3**
comp=Z,118nm,1.2s,mb5.7
DMN Daman 72.22 292 *e*P **P 17 09 22.4 +1.4**
comp=Z,118nm,1.2s,mb5.7
VOR Voronezh 72.34 336 *e*P **P 17 09 20.0 -1.7**
VOR pmax pmax
comp=Z,50nm,1.6s,mb5.2
MUD Monsted U'grnd 72.45 355 *i*P **P 17 09 23.1 +0.7**
comp=Z,37nm,1.2s,mb5.2
MUD Monsted U'grnd 72.45 355 *i*P **P 17 09 23.1 +0.7**
MUD pmax pmax
comp=Z,37nm,1.2s,mb5.2
VRSR Storozhevoye 72.81 336 *e*P **P 17 09 24.1 -0.4**
VRSR pmax pmax
comp=Z,30nm,1.2s,mb5.1
VRSR pmax pmax
comp=N,20nm,1.0s
VRSR pmax pmax
comp=E,9.0nm,0.7s
KOLN Koldanda 72.98 293 *e*P **P 17 09 26.3 +0.8**
comp=E,87nm,1.1s,mb5.6
KOLN Koldanda 72.98 293 *e*P **P 17 09 26.4 +0.9**
comp=E,87nm,1.1s,mb5.6
DWPF Disney 73.32 66 PFAKE 17 09 40.0 +13
DWPF LR LR
comp=Z,916nm,19.0s,MS5.1
PPT Papeete 73.32 150 *e*S S 17 18 52.5 -0.1
comp=Z,1µm,24.0s
PPT *e*SS SS 17 23 33.6 -1.6
comp=Z,405nm,24.2s
PPT *e*LR LR 17 31 37.2
comp=Z,4µm,28.8s,baz=344
SUW Suwalki 73.44 346 *e*P **P 17 09 27.0 -1.2**
SUW *e*S S 17 19 03.7 +10
SUW *e*SKS 17 19 43.8
SUW *e*SS SS 17 24 15.5 +39
SUW Suwalki 73.44 346 *e*P **P 17 09 27.0 -1.2**
SUW *e* 17 19 43.8
CMIG Matias Romero 73.49 83 P **P 17 09 29.4 +0.9**
comp=Z,5.4nm,0.8s,mb4.5,baz=265,slow=3.7,SNR=4.5
CMIG LR LR 17 36 53.8
comp=Z,772nm,21.5s,MS5.0,baz=316,slow=32
LGTI Lohaghat 73.62 297 *i*P **P 17 09 32.7 +3.4**
ESK Eskdalemuir 73.78 2 *e*P **P 17 09 29.8 -0.4**
ESK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ESK MLR MLR
comp=Z,850nm,21.0s,MS5.0
ESK Eskdalemuir 73.78 2 *e*P **P 17 09 29.8 -0.5**
comp=Z,8.0nm,0.8s,mb4.7
ESK LR LR
comp=Z,850nm,21.0s,MS5.0
RAR Rarotonga 74.16 161 LR LR 17 35 00.2
comp=Z,2µm,20.4s,MS5.5,baz=284,slow=30
NIL Nilore 74.17 304 P **P 17 09 35.6 +3.1**
comp=Z,211nm,1.0s,mb6.0,SNR=9.2
BSEG Bad Segeberg 74.90 354 *e*P **P 17 09 37.0 +0.3**
comp=Z,58nm,1.0s,mb5.5
GKP Gorka Klasztor 74.94 350 *e*P **P 17 09 36.7 -0.3**
TEIG Tepich 75.21 76 PFAKE 17 09 50.0 +11
TEIG LR LR
comp=Z,400nm,21.0s,MS4.7
AKASG Malin Array Be 75.57 342 P **P 17 09 40.0 -0.6**
comp=Z,36nm,0.5s,mb5.6,baz=18,slow=5.6,SNR=94
AKASG LR LR 17 48 35.6
comp=Z,1µm,18.6s,MS5.2,baz=30,slow=40
AKASG Malin Array Be 75.57 342 P **P 17 09 40.0 -0.6**
AKASG LR LR 17 48 35.6
DCN Croghan 75.60 5 *e*P **P 17 09 40.1 -0.6**
DLF Lyons Farm 75.69 4 *e*P **P 17 09 40.6 -0.6**
DSB Dublin 75.74 4 *e*P **P 17 09 41.6 0.0**
comp=Z,20nm,0.9s,mb5.0
RUE Ruedersdorf 76.07 352 *e*P **P 17 09 43.3 -0.1**
comp=Z,38nm,0.8s,mb5.4
KAKA Kakadu 76.14 228 *e*P **P 17 09 42.6 -1.2**
comp=Z,16nm,0.8s,mb5.0
WIT Witteveen 76.21 356⇑*e*P **P 17 09 45.3 +1.1**
comp=Z,195nm,1.1s,mb5.9
IBBN Ibbenburen 76.67 355 *e*P **P 17 09 47.0 +0.2**
CLZ Clausthal 76.98 354 *e*P **P 17 09 48.8 +0.2**
comp=Z,70nm,1.2s,mb5.5
CLZ Clausthal 76.98 354 *e*P **P 17 09 48.8 +0.2**
CLZ pmax pmax
comp=Z,70nm,1.2s,mb5.5
WTSB Winterswijk 77.05 356⇑*i*P **P 17 09 48.6 -0.3**
comp=Z,40nm,1.5s,mb5.1
CTA Charters Tower 77.13 213 P **P 17 09 50.0 +0.5**
comp=Z,8.0nm,0.9s,mb4.7,baz=5.0,slow=5.9,SNR=12
CTAO Charters Tower 77.13 213 *e*P **P 17 09 49.4 0.0**
CTAO pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CTAO MLR MLR
comp=Z,1µm,19.0s,MS5.2
CTAO Charters Tower 77.13 213 *e*P **P 17 09 49.4 0.0**
comp=Z,10nm,1.0s,mb4.7
CTAO LR LR
comp=Z,1µm,19.0s,MS5.2
GTTG Gvttingen 77.30 354 *e*P **P 17 09 50.4 0.0**
CLL Collm 77.30 352 *e*P **P 17 09 49.7 -0.7**
comp=Z,19nm,0.7s,mb5.1
CLL *e*S S 17 19 39.4 +2.6
CLL *e*PPS 17 20 36.1
CLL *e*SS SS 17 24 47.2 +12
CLL *e*SSSS 17 30 28.0
CLL *e*LR LR 17 35 25.7
CLL *e*L 17 45 45.9
comp=Z,922nm,22.0s
CLL Collm 77.30 352⇑P **P 17 09 49.7 -0.7**
comp=Z,logA/T=1.4,mb5.1
CLL *e* 17 10 16.0
CLL *e*S S 17 19 47.0 +10
CLL *e*PPS 17 20 36.0
CLL *e* 17 30 24.0
CLL Collm 77.30 352⇑*i*P **P 17 09 49.7 -0.7**
comp=Z,18nm,0.7s,mb5.1
CLL *ex* x 17 10 16.0
CLL *e*(S) S 17 19 47.0 +10
CLL *e*PPS 17 20 36.0
CLL *e*(SS) 17 24 24.0
CLL *ex* x 17 29 36.0
CLL *e*SSSS 17 30 24.0
CLL Lm 17 51 00.0
comp=N,700nm,18.9s
CLL Lm 17 51 00.0
comp=E,500nm,19.2s
CLL Collm 77.30 352⇑*i*P **P 17 09 49.7 -0.7**
CLL pmax pmax
comp=Z,18nm,0.7s,mb5.1
CLL MLR MLR
comp=Z,1µm,16.5s,MS5.3
CLL Collm 77.30 352⇑*i*P **P 17 09 49.7 -0.7**
comp=Z,18nm,0.7s,mb5.1
CLL S S 17 19 47.0 +10
CLL LR LR
comp=Z,1µm,16.5s,MS5.3
GOF Gofitskoye 77.31 331 *e*P **P 17 09 49.5 -0.9**
GOF pmax pmax
comp=Z,90nm,1.3s,mb5.5
LVV L'vov 77.37 345 *e*P **P 17 09 50.5 -0.2**
LVV *e* pP 17 10 05.9 +1.2
LVV *e* 17 12 48.3
LVV *e*S S 17 19 35.1 -2.3
LVV *e*SS SS 17 24 33.9 -2.7
KSP Ksiaz 77.44 350 *e*P **P 17 09 50.6 -0.5**
KSP MLR MLR
comp=Z,4µm,20.8s,MS5.7
BUG Bochum--Univer 77.56 356 *e*P **P 17 09 51.5 -0.3**
comp=Z,58nm,1.5s,mb5.3
OJC Ojcow 77.62 347 *e*P **P 17 09 52.0 -0.1**
BRG Berggiesshubel 77.65 351 *e*P **P 17 09 51.7 -0.6**
comp=Z,51nm,1.6s,mb5.2
BRG Berggiesshubel 77.65 351 *e*P **P 17 09 51.6 -0.7**
comp=Z,6.5nm,0.9s,mb4.6
BRG *i* 17 09 53.1
comp=Z,11nm,0.8s
BRG S S 17 20 00.0 +20
BRG SS SS 17 25 14.0 +33
BRG
comp=N,428nm,21.0s
BRG
comp=E,131nm,16.6s
BRG
comp=Z,620nm,21.1s
BRG Berggiesshubel 77.65 351 *e*P **P 17 09 51.6 -0.7**
BRG S S 17 20 00.0 +20
BRG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BRG pmax pmax
comp=Z,11nm,0.8s,mb4.8
BRG MLR MLR
comp=N,428nm,21.0s,MS4.8
BRG MLR MLR
comp=E,131nm,16.6s,MS4.8
BRG MLR MLR
comp=Z,620nm,21.1s,MS4.9
BRG Berggiesshubel 77.65 351 *e*P **P 17 09 51.6 -0.7**
comp=Z,6.5nm,0.9s,mb4.6
BRG *i* 17 09 53.1
BRG S S 17 20 00.0 +20
BRG SS SS 17 25 14.0 +33
BRG LR LR
comp=Z,620nm,21.1s,MS4.9
MAK Makhachkala 77.72 327 *i*P **P 17 09 47.6 -5.1**
MAK *i* 17 12 50.6
MAK *i*PPP 17 14 34.3
MAK *e*S S 17 19 39.1 -2.1
MAK *e* 17 20 18.3
MAK pmax pmax
comp=Z,251nm,2.0s,mb5.8
MAK MLR MLR
comp=Z,5µm,22.0s,MS5.8
KWP Kalwaria 77.76 345 *e*P **P 17 09 53.5 +0.5**
KWP *e*PcP PcP 17 10 01.8 -1.0
KWP *e*pP pP 17 10 05.6 -1.4
KWP *e*PP PP 17 12 51.1 +2.3
DPC Dobruska-Polom 77.92 350 *e*P **P 17 09 53.8 0.0**
DPC *e*S S 17 19 50.5 +7.1
DPC AMS AMS 17 50 50.0
comp=Z,2µm,17.9s
PVCC Panska Ves 77.93 351 *e*P **P 17 09 53.6 -0.3**
PVCC AMS AMS 17 50 20.0
comp=Z,1µm,19.4s
UBBA Unterbreizbach 78.02 354 *e*P **P 17 09 54.4 0.0**
MOX Moxa 78.08 353 *e*P **P 17 09 54.4 -0.3**
comp=Z,19nm,1.0s,mb5.0
MOX Moxa 78.08 353 *e*P **P 17 09 54.3 -0.4**
comp=Z,28nm,1.4s,mb5.0
MOX
comp=Z,700nm,21.0s
MOX Moxa 78.08 353 *e*P **P 17 09 54.3 -0.4**
MOX pmax pmax
comp=Z,28nm,1.4s,mb5.0
MOX MLR MLR
comp=Z,700nm,21.0s,MS5.0
STHS Stebnicka Huta 78.20 346 *i*P **P 17 09 56.3 +0.9**
STHS pmax pmax
comp=Z,68nm,1.5s,mb5.4
STHS Stebnicka Huta 78.20 346 *i*P **P 17 09 56.3 +0.9**
comp=Z,68nm,1.5s,mb5.4
OKC Ostrava-Krasne 78.21 348 *e*P **P 17 09 55.1 -0.3**
OKC AMS AMS 17 49 50.0
comp=Z,1µm,17.6s
WERD Werda 78.22 352 *e*P **P 17 09 55.3 -0.2**
TANN Tannenbergstha 78.24 352 *e*P **P 17 09 55.4 -0.2**
HGN Heimansgroeve 78.29 357⇑*i*P **P 17 09 55.8 -0.1**
comp=Z,27nm,0.7s,mb5.3
HGN *e*S S 17 19 51.8 +4.4
HGN *e*SS SS 17 25 09.3 +19
HGN ⇑*i*P 17 32 20.6
comp=Z,44nm,0.8s
UCC Uccle 78.31 358 P **P 17 09 55.4 -0.5**
NIE Niedzica 78.33 347 *e*P **P 17 09 56.2 +0.1**
MORC Moravsky Berou 78.34 349⇑*i*P **P 17 09 55.9 -0.3**
MORC Moravsky Berou 78.34 349 *e*P **P 17 09 55.6 -0.5**
comp=Z,9.3nm,0.8s,mb4.8
WERN Wernitzgruen 78.37 352 *e*P **P 17 09 56.3 0.0**
KIV Kislovodsk 78.41 330 P **P 17 09 57.3 +0.7**
SNR=5.8
KIV Kislovodsk 78.41 330 *e*P **P 17 09 56.9 +0.4**
KIV *e*PPP 17 14 43.9
KIV *e*S S 17 19 49.7 +1.0
KIV *e*SS SS 17 24 57.3 +5.0
KIV pmax pmax
comp=Z,30nm,1.1s,mb5.1
KIV MLR MLR
comp=Z,2µm,21.0s,MS5.3
KIV Kislovodsk 78.41 330 *e*P **P 17 09 56.3 -0.2**
comp=Z,20nm,0.9s,mb5.1
KIV LR LR
comp=Z,2µm,22.0s,MS5.3
NKC Novy Kostel 78.42 352 *e*P **P 17 09 56.5 -0.1**
NKC AMS AMS 17 52 10.0
comp=Z,1µm,17.4s
MEM Membach 78.44 356 P **P 17 09 56.2 -0.5**
KOLS Kolonicke sedl 78.51 346 *e*P **P 17 09 57.2 +0.1**
KOLS pmax pmax
comp=Z,26nm,1.2s,mb5.0
KOLS Kolonicke sedl 78.51 346 *e*P **P 17 09 57.2 +0.1**
comp=Z,26nm,1.2s,mb5.0
MENF Mencas 78.59 359 *e*P **P 17 09 57.0 -0.5**
SNF Seneffe 78.60 358 P **P 17 09 57.4 -0.2**
SNF AP pP 17 10 11.8 +0.2
BCLA Clavier 78.66 357 P **P 17 09 57.5 -0.3**
CRVS Cervenica-Dubn 78.67 346 *e*P **P 17 09 58.2 +0.3**
CRVS pmax pmax
comp=Z,11nm,0.8s,mb4.8
CRVS Cervenica-Dubn 78.67 346 *e*P **P 17 09 58.2 +0.3**
comp=Z,11nm,0.8s,mb4.8
MANZ Manzenberg 78.69 352 *e*P **P 17 09 57.9 -0.2**
TNS Taunus Mts 78.71 355 *e*P **P 17 09 58.1 -0.1**
TBI Tubuai 78.80 152 *e*S S 17 19 51.5 -1.3
comp=Z,481nm,30.2s
TBI *e*SS SS 17 24 57.3 -0.8
comp=Z,258nm,24.0s
TBI *e*LR LR 17 34 15.6
comp=Z,3µm,22.5s,baz=339
VRAC Vranov 78.92 349⇑*i*P **P 17 09 59.7 +0.4**
VRAC Vranov 78.92 349⇑P **P 17 09 59.7 +0.4**
BBSR BB Station 78.95 52 PFAKE 17 10 10.0 +10
BBSR LR LR
comp=Z,773nm,20.0s,MS5.0
GIVF Givet 78.99 357 *e*P **P 17 09 59.5 -0.2**
DOU Dourbes 79.00 357 P **P 17 09 58.5 -1.3**
DOU E 17 10 01.0
BAIF Baives 79.05 358 *e*P **P 17 10 00.1 0.0**
comp=Z,71nm,0.9s,mb5.3
BAIF Baives 79.05 358 *e*P **P 17 10 00.1 0.0**
BAIF pmax pmax
comp=Z,36nm,0.9s,mb5.3
BAIF Baives 79.05 358 *e*P **P 17 10 00.1 0.0**
comp=Z,36nm,0.9s,mb5.3
TREC Trest 79.05 350 *e*P **P 17 09 59.7 -0.4**
TREC AMS AMS 17 51 50.0
comp=Z,2µm,17.5s
GRA1 Grafenberg Arr 79.06 353 *e*P **P 17 10 00.3 +0.2**
comp=Z,73nm,1.4s,mb5.4
GRA1 *e*S S 17 20 01.4 +5.8
GRA1 *e*SS SS 17 25 11.9 +10
GRA1 LR LR
comp=Z,700nm,20.2s,MS5.0
GRF Grafenberg Arr 79.06 353 *e*P **P 17 10 00.3 +0.2**
comp=Z,73nm,1.4s,mb5.4
GRF *e*S S 17 20 01.4 +5.8
GRF *e*SS SS 17 25 11.9 +10
GRF *e*L 17 47 40.6
comp=Z,673nm,20.2s
GRF Grafenberg Arr 79.06 353 *e*P **P 17 10 00.3 +0.2**
GRF *e*S S 17 20 01.4 +5.8
GRF *e*SS SS 17 25 11.9 +10
GRF pmax pmax
comp=Z,73nm,1.4s,mb5.4
GRF MLR MLR
comp=Z,700nm,20.2s,MS5.0
GRF Grafenberg Arr 79.06 353 *e*P **P 17 10 00.3 +0.2**
GRF *e*S S 17 20 01.4 +5.8
GRF *e*SS SS 17 25 11.9 +10
GRF pmax pmax
comp=Z,73nm,1.4s,mb5.4
GRF MLR MLR
comp=Z,700nm,20.2s,MS5.0
ZEI Tsey 79.09 329 *e*P **P 17 10 00.3 0.0**
ZEI pmax pmax
comp=Z,18nm,0.4s,mb5.3
ABH Alteburg 79.10 355 *e*P **P 17 10 01.2 +0.9**
ANN Anapa 79.17 334 *e*P **P 17 09 58.1 -2.6**
ANN *e*S S 17 19 53.4 -3.4
ANN pmax pmax
comp=Z,200nm,10.8s
ANN MLR MLR
comp=Z,861nm,17.0s,MS5.2
KIS Kishinev 79.18 341 *e*P **P 17 10 00.0 -0.8**
KIS *e*S S 17 20 03.0 +6.1
KIS MLR MLR
comp=N,2µm,18.0s
KIS MLR MLR
comp=Z,3µm,18.0s,MS5.7
KIS MLR MLR
comp=Z,4µm,18.0s
KECS Kecovo 79.22 347 *e*P **P 17 10 00.9 -0.1**
KECS pmax pmax
comp=Z,18nm,1.0s,mb5.0
KECS Kecovo 79.22 347 *e*P **P 17 10 00.9 -0.1**

comp=Z,18nm,1.0s,mb5.0
BURAR **Bucovina Array** **79.29 343** ⇓ *i*P **P** **17 10 01.9 +0.5**
BURAR **Bucovina Array** **79.29 343** ⇓P **P** **17 10 01.9 +0.6**
RUP **Ruppelstein** **79.30 356** *e*P **P** **17 10 01.4 0.0**
TOD **Tromm** **79.31 355** *e*P **P** **17 10 01.2 -0.2**
WLF **Walferdange** **79.38 356** *e*P **P** **17 10 02.1 +0.2**
WLF **Walferdange** **79.38 356** P **P** **17 10 02.2 +0.4**
WLF **Walferdange** **79.38 356** *e*P **P** **17 10 01.9 0.0**
WLF pmax pmax
comp=Z,16nm,0.8s,mb5.0
WLF **Walferdange** **79.38 356** *e*P **P** **17 10 01.9 0.0**
comp=Z,16nm,0.8s,mb5.0
KHC **Kasperske Hory** **79.41 351** *e*P **P** **17 10 02.0 0.0**
KHC x x 17 10 27.5
KHC *e*S S 17 19 57.2 -2.1
KHC AMS AMS 17 47 10.0
comp=Z,1μm,21.3s
KHC **Kasperske Hory** **79.41 351** *e*P **P** **17 10 02.0 0.0**
KHC *e* 17 10 27.5
KHC *e*S S 17 19 57.2 -2.1
KHC LR LR
comp=Z,1μm,21.3s,MS5.2
VYHS **Vyhne** **79.44 348** *e*P **P** **17 10 01.9 -0.3**
VYHS pmax pmax
comp=Z,19nm,1.4s,mb4.8
VYHS **Vyhne** **79.44 348** *e*P **P** **17 10 01.9 -0.3**
comp=Z,19nm,1.4s,mb4.8
WET **Wettzell** **79.46 352** *e*P **P** **17 10 02.3 0.0**
comp=Z,24nm,1.5s,mb4.9
WET **Wettzell** **79.46 352** *e*P **P** **17 10 02.3 0.0**
WET pmax pmax
comp=Z,24nm,1.5s,mb4.9
SMOL **Smolenice** **79.60 349** *e*P **P** **17 10 03.6 +0.6**
SOC **Sochi** **79.65 332** *c i*P **P** **17 10 02.3 -1.0**
SOC *e* pP 17 10 11.0 -6.3
SOC *e*S S 17 20 02.5 +0.7
SOC pmax pmax
comp=Z,19nm,1.0s,mb5.0
SOC MLR MLR
comp=Z,2μm,19.0s,MS5.5
GEC2 **GERESS Array S** **79.68 351** *e*P **P** **17 10 03.2 -0.3**
comp=Z,14nm,0.7s,mb5.0
GEC2 **GERESS Array S** **79.68 351** *e*P **P** **17 10 03.2 -0.3**
GEC2 pmax pmax
comp=Z,14nm,0.7s,mb5.0
GERES **GERESS Array B** **79.68 351** P **P** **17 10 02.7 -0.8**
comp=Z,8.6nm,0.6s,mb4.9,baz=26,slow=5.2,SNR=55
GERES LR LR 17 49 31.2
comp=Z,892nm,20.5s,MS5.1,baz=11,slow=39
PSZ **Piszkesteto** **79.86 347** ⇑ *e*P **P** **17 10 05.2 +0.8**
PSZ **Piszkesteto** **79.86 347** *e*P **P** **17 10 04.8 +0.4**
PSZ pmax pmax
comp=Z,53nm,1.3s,mb5.3
PSZ **Piszkesteto** **79.86 347** *e*P **P** **17 10 04.8 +0.3**
comp=Z,53nm,1.3s,mb5.3
SIM **Simferopol'** **79.91 337** P pP 17 10 12.3 -6.5
SIM S 17 20 17.5
SIM pmax pmax
comp=Z,150nm,13.0s
SIM MLR MLR
comp=Z,3μm,19.0s,MS5.6
ZST **Bratislava** **79.95 349** *e*P **P** **17 10 05.2 +0.2**
ZST pmax pmax
comp=Z,43nm,1.4s,mb5.2
ZST MLR MLR
comp=Z,500nm,18.7s,MS4.9
ZST **Bratislava** **79.95 349** *e*P **P** **17 10 05.2 +0.2**
comp=Z,43nm,1.4s,mb5.2
ZST LR LR
comp=Z,500nm,18.7s,MS4.9
STU **Stuttgart** **80.11 354** *e*P **P** **17 10 05.5 -0.3**
STU **Stuttgart** **80.11 354** *e*P **P** **17 10 05.8 0.0**
STU pmax pmax
comp=Z,9.0nm,0.4s,mb5.0
STU **Stuttgart** **80.11 354** *e*P **P** **17 10 05.8 0.0**
comp=Z,8.8nm,0.4s,mb5.0
RAO **Raoul Island** **80.13 179** LR LR 17 41 11.4
comp=Z,1μm,19.8s,MS5.3,baz=62,slow=32
CONA **Conrad Observa** **80.36 350** ⇑ *i*P **P** **17 10 07.6 +0.4**
comp=Z,26nm,1.0s,mb5.1,SNR=20
BUD **Budapest** **80.40 347** ⇑ *e*P **P** **17 10 08.3 +0.9**
DRGR **80.52 345** ⇓ *i*P **P** **17 10 08.6 +0.6**
DRGR **80.52 345** ⇓P **P** **17 10 08.6 +0.6**
FUR **Furstenfeldbru** **80.57 353** *e*P **P** **17 10 08.2 -0.1**
comp=Z,38nm,1.2s,mb5.2
FUR **Furstenfeldbru** **80.57 353** *e*P **P** **17 10 08.2 -0.1**
FUR pmax pmax
comp=Z,38nm,1.2s,mb5.2
CDF **Champ du Feu** **80.58 355** *e*P **P** **17 10 08.0 -0.3**
comp=Z,24nm,0.8s,mb4.9
CDF **Champ du Feu** **80.58 355** *e*P **P** **17 10 08.0 -0.3**
CDF pmax pmax
comp=Z,12nm,0.8s,mb4.9
CDF **Champ du Feu** **80.58 355** *e*P **P** **17 10 08.0 -0.3**
comp=Z,12nm,0.8s,mb4.9
MEZF **Maizieres J'vi** **80.58 357** *e*P **P** **17 10 08.4 +0.1**
BFO **Black Forest** **80.61 355** P **P** **17 10 08.6 +0.1**
comp=Z,84nm,1.0s,mb5.6,SNR=7.6
BFO **Black Forest** **80.61 355** *e*P **P** **17 10 08.2 -0.3**
comp=Z,38nm,1.6s,mb5.1
BFO **Black Forest** **80.61 355** *e*P **P** **17 10 08.2 -0.3**
BFO pmax pmax
comp=Z,38nm,1.6s,mb5.1
MOA **Molln** **80.61 351** ⇑ *i*P **P** **17 10 08.5 0.0**
comp=Z,7.3nm,0.7s,mb4.7
VRI **Vrincioaia** **80.69 342** ⇓ *i*P **P** **17 10 09.7 +0.8**
VRI **Vrincioaia** **80.69 342** ⇓P **P** **17 10 09.7 +0.8**
PLOR **Plostina** **80.72 342** ⇑ *i*P **P** **17 10 11.3 +2.2**
THEF **They Montfort** **80.82 356** *e*P **P** **17 10 09.4 -0.2**
HAU **Haudompre** **81.03 356** *e*P **P** **17 10 11.4 +0.7**
HAU *e*R
comp=Z,2μm,22.5s
HAU **Haudompre** **81.03 356** *e*P **P** **17 10 11.4 +0.7**
HAU LR LR
comp=Z,2μm,22.5s,MS5.3
CFR **Carcaliu** **81.06 341** ⇓ *i*P **P** **17 10 12.6 +1.7**
CFR **Carcaliu** **81.06 341** ⇓P **P** **17 10 12.6 +1.7**
FELD **Feldberg im Sc** **81.08 355** *e*P **P** **17 10 10.5 -0.5**
GNI **Garni** **81.16 327** *e*P **P** **17 10 11.2 -0.2**
GNI pmax pmax
comp=Z,16nm,1.1s
GNI MLR MLR
comp=Z,3μm,20.0s
GNI **Garni** **81.16 327** *e*P **P** **17 10 11.2 -0.2**
comp=Z,16nm,1.1s,mb4.8
GNI LR LR
comp=Z,3μm,20.0s,MS5.6
HINF **Hinteralfeld** **81.19 356** *e*P **P** **17 10 11.1 -0.5**
comp=Z,15nm,0.9s,mb4.6
HINF **Hinteralfeld** **81.19 356** *e*P **P** **17 10 11.1 -0.5**
HINF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
HINF **Hinteralfeld** **81.19 356** *e*P **P** **17 10 11.1 -0.5**
comp=Z,7.4nm,0.9s,mb4.6
MLR **Muntele Rosu** **81.20 342** ⇑ *i*P **P** **17 10 13.5 +1.9**
MLR **Muntele Rosu** **81.20 342** ⇑P **P** **17 10 13.5 +1.8**
WATA **Walderalm** **81.37 352** *i*P **P** **17 10 12.8 +0.3**
comp=Z,13nm,0.8s,mb4.9,SNR=14
WATA **Walderalm** **81.37 352** *i*P **P** **17 10 12.8 +0.3**
WATA pmax pmax
comp=Z,13nm,0.8s,mb4.9
MOTA **Moosalm** **81.40 353** ⇑ *i*P **P** **17 10 12.8 +0.1**
comp=Z,39nm,1.3s,mb5.2,SNR=9.8
MOTA **Moosalm** **81.40 353** ⇑ *i*P **P** **17 10 12.8 +0.1**
MOTA pmax pmax
comp=Z,39nm,1.3s,mb5.2
WTTA **Wattenberg** **81.43 352** *i*P **P** **17 10 13.4 +0.5**
comp=Z,34nm,0.7s,mb5.4,SNR=18
WTTA **Wattenberg** **81.43 352** *i*P **P** **17 10 13.4 +0.5**
WTTA pmax pmax
comp=Z,34nm,0.7s,mb5.4
KBA **Koelnbreinsper** **81.47 351** ⇑ *i*P **P** **17 10 14.0 +0.9**
comp=Z,75nm,0.7s,mb5.7,SNR=60
KBA **Koelnbreinsper** **81.47 351** ⇑ *i*P **P** **17 10 14.0 +1.0**
KBA pmax pmax
comp=Z,75nm,0.7s,mb5.7
SQTA **Sankt Quirin** **81.51 353** ⇑ *i*P **P** **17 10 13.9 +0.6**
comp=Z,13nm,0.6s,mb5.0,SNR=13
SQTA **Sankt Quirin** **81.51 353** ⇑ *i*P **P** **17 10 13.9 +0.6**
SQTA pmax pmax
comp=Z,13nm,0.6s,mb5.0
DAVA **Damuels** **81.55 354** ⇑ *i*P **P** **17 10 13.5 +0.1**
comp=Z,19nm,1.4s,mb4.8
WRAB **Tennant Creek** **81.61 223** PFAKE 17 10 30.0 +16
WRAB LR LR
comp=Z,1μm,22.0s,MS5.2
WRA **Warramunga Arr** **81.62 223** P **P** **17 10 12.5 -1.4**
comp=Z,5.6nm,0.7s,mb4.6,baz=33,slow=6.2,SNR=51
LOMF **Lomont** **81.66 356** *e*P **P** **17 10 13.9 -0.2**
PKSM **Moragy** **81.70 347** ⇓ *i*P **P** **17 10 14.2 -0.1**
PKSM **Moragy** **81.70 347** ⇓P **P** **17 10 14.2 -0.1**
PERS **Pernice** **81.72 350** *i*P **P** **17 10 14.6 +0.2**
PERS *i* PcP PcP 17 10 16.2 -3.9
BZS **Buzias** **81.84 345** ⇑ *i*P **P** **17 10 15.0 0.0**
BZS **Buzias** **81.84 345** ⇑P **P** **17 10 15.0 0.0**
LOR **Lormes** **81.85 358** *e*P **P** **17 10 14.5 -0.6**
comp=Z,28nm,0.8s,mb4.9
LOR *e*R
comp=Z,2μm,19.5s
LOR **Lormes** **81.85 358** *e*P **P** **17 10 14.5 -0.6**
LOR pmax pmax
comp=Z,14nm,0.8s,mb4.9
LOR MLR MLR
comp=Z,2μm,19.5s,MS5.4
LOR **Lormes** **81.85 358** *e*P **P** **17 10 14.5 -0.6**
comp=Z,14nm,0.8s,mb4.9
LOR LR LR
comp=Z,2μm,19.5s,MS5.4
GZR **Gura Zlata** **81.87 344** ⇑ *i*P **P** **17 10 16.1 +0.9**
GZR **Gura Zlata** **81.87 344** ⇑P **P** **17 10 16.1 +1.0**
OBKA **Obir** **81.91 350** ⇑ *i*P **P** **17 10 15.9 +0.6**
comp=Z,41nm,1.1s,mb5.3,SNR=13
BRES **Bressanone** **81.99 352** P **P** **17 10 16.1 +0.3**
FVI **Forni Avoltri** **82.00 352** P **P** **17 10 16.7 +0.9**
FVI pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
FVI **Forni Avoltri** **82.00 352** P **P** **17 10 16.7 +0.9**
comp=Z,8.2nm,0.8s,mb4.7
DOBS **Dobrina** **82.16 350** *e*P **P** **17 10 16.9 +0.1**
ROBS **Robic** **82.28 351** *e*P **P** **17 10 16.1 -1.2**
BRMO **Bormio** **82.32 353** P **P** **17 10 18.3 +0.8**
comp=Z,7.1nm,0.6s,mb4.8
TUE **Stuetta** **82.39 354** P **P** **17 10 18.7 +0.8**
CABF **La Chapelle** **82.43 356** *e*P **P** **17 10 18.2 +0.1**
comp=Z,17nm,0.7s,mb4.8
CABF **La Chapelle** **82.43 356** *e*P **P** **17 10 18.2 +0.1**
CABF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
CABF **La Chapelle** **82.43 356** *e*P **P** **17 10 18.2 +0.1**
comp=Z,8.4nm,0.7s,mb4.8
SMF **Signal de Mont** **82.47 358** *e*P **P** **17 10 18.1 -0.2**
comp=Z,49nm,0.9s,mb5.1
SMF **Signal de Mont** **82.47 358** *e*P **P** **17 10 18.1 -0.2**
SMF pmax pmax
comp=Z,25nm,0.9s,mb5.1
SMF **Signal de Mont** **82.47 358** *e*P **P** **17 10 18.1 -0.2**
comp=Z,25nm,0.9s,mb5.1
LCHF **La Chataignera** **82.48 1** *e*P **P** **17 10 18.7 +0.3**
MFF **Saint Martin d** **82.56 0** *e*P **P** **17 10 18.6 -0.2**
comp=Z,34nm,0.8s,mb5.1
MFF **Saint Martin d** **82.56 0** *e*P **P** **17 10 18.6 -0.2**
MFF pmax pmax
comp=Z,17nm,0.8s,mb5.1
MFF **Saint Martin d** **82.56 0** *e*P **P** **17 10 18.6 -0.2**
comp=Z,17nm,0.8s,mb5.1
BGF **Bois d'Agland** **82.58 358** *e*P **P** **17 10 18.7 -0.2**
comp=Z,46nm,1.2s,mb5.1
BGF **Bois d'Agland** **82.58 358** *e*P **P** **17 10 18.7 -0.2**
BGF pmax pmax
comp=Z,23nm,1.2s,mb5.1
BGF **Bois d'Agland** **82.58 358** *e*P **P** **17 10 18.7 -0.2**
comp=Z,23nm,1.2s,mb5.1
PSI **Prapat** **82.58 265** P **P** **17 10 18.6 -0.4**
comp=Z,10.0nm,0.7s,mb5.0,baz=36,slow=7.4,SNR=7.0
CTI **Castel Tesino** **82.64 352** P **P** **17 10 18.6 -0.6**
MABI **Malga Bissina** **82.72 353** P **P** **17 10 19.9 +0.3**
BEO **Belgrade** **82.80 346** ⇓ *i*P **P** **17 10 21.2 +1.2**
BOJS **Bojanci** **82.82 350** *e*P **P** **17 10 20.0 -0.2**
TCF **Toulx Ste Croi** **82.86 359** *e*P **P** **17 10 20.0 -0.4**
comp=Z,9.4nm,0.6s,mb4.7
TCF **Toulx Ste Croi** **82.86 359** *e*P **P** **17 10 20.0 -0.4**
TCF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
TCF **Toulx Ste Croi** **82.86 359** *e*P **P** **17 10 20.0 -0.4**
comp=Z,4.7nm,0.6s,mb4.7
MCGN **Macugnaga** **82.99 355** P **P** **17 10 22.3 +1.3**
comp=Z,33nm,1.3s,mb5.2
VAI **Varese** **83.03 354** P **P** **17 10 21.5 +0.3**
VAI pmax pmax
comp=Z,44nm,1.3s,mb5.3
VAI **Varese** **83.03 354** P **P** **17 10 21.5 +0.3**
comp=Z,44nm,1.3s,mb5.3
PLDF **La Plantade** **83.15 358** *e*P **P** **17 10 22.7 +0.8**
LPL **La Plagne** **83.50 356** *e*P **P** **17 10 24.5 +0.9**
comp=Z,16nm,0.8s,mb4.8
LPL **La Plagne** **83.50 356** *e*P **P** **17 10 24.5 +0.9**
LPL pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
LPL **La Plagne** **83.50 356** *e*P **P** **17 10 24.5 +0.9**
comp=Z,7.8nm,0.8s,mb4.8
LPG **La Plagne** **83.51 356** *e*P **P** **17 10 24.8 +1.1**
comp=Z,18nm,0.8s,mb4.9
LPG **La Plagne** **83.51 356** *e*P **P** **17 10 24.8 +1.1**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
LPG **La Plagne** **83.51 356** *e*P **P** **17 10 24.8 +1.1**
comp=Z,8.9nm,0.8s,mb5.0
DIVS **Divcibare** **83.58 346** ⇑ *i*P **P** **17 10 24.1 +0.1**
GRUS **Gruza** **83.67 345** ⇑ *i*P **P** **17 10 24.4 -0.1**
RKT **Rikitea** **83.70 140** *e*LR LR 17 36 33.7
comp=Z,1μm,24.5s
RSP **Reno Superiore** **83.83 355** P **P** **17 10 25.8 +0.4**
HYB **Hyderabad** **83.89 290** *i*P **P** **17 10 25.5 -0.2**
LBL **Lubilhac** **83.90 358** *e*P **P** **17 10 26.4 +0.7**
BNI **Bardonecchia** **83.96 356** *e*P **P** **17 10 26.7 +0.7**
BNI pmax pmax
comp=Z,37nm,1.1s,mb5.4
BNI **Bardonecchia** **83.96 356** *e*P **P** **17 10 26.6 +0.6**
comp=Z,37nm,1.1s,mb5.4
FITZ **Fitzroy Crossi** **84.05 232** *e*P **P** **17 10 26.4 -0.1**
comp=Z,25nm,0.7s,mb5.5
FITZ **Fitzroy Crossi** **84.05 232** P **P** **17 10 26.0 -0.5**
comp=Z,12nm,0.6s,mb5.2,baz=22,slow=6.5,SNR=68
BOB **Bobbio (Coli)** **84.08 354** P **P** **17 10 26.4 -0.2**
ORIF **Oris-en-Rattie** **84.13 356** *e*P **P** **17 10 27.5 +0.6**
comp=Z,10nm,0.6s,mb4.8
ORIF *e*R
comp=Z,1μm,20.0s
ORIF **Oris-en-Rattie** **84.13 356** *e*P **P** **17 10 27.5 +0.6**
ORIF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
ORIF **Oris-en-Rattie** **84.13 356** *e*P **P** **17 10 27.5 +0.6**
comp=Z,5.2nm,0.6s,mb4.8
CAF **Calviac** **84.22 359** *e*P **P** **17 10 27.5 +0.2**
comp=Z,31nm,0.9s,mb5.2
CAF **Calviac** **84.22 359** *e*P **P** **17 10 27.5 +0.2**
CAF pmax pmax
comp=Z,15nm,0.9s,mb5.1
CAF **Calviac** **84.22 359** *e*P **P** **17 10 27.5 +0.2**
comp=Z,15nm,0.9s,mb5.1
VIVF **Saint-Julien-l** **84.24 357** *e*P **P** **17 10 27.6 +0.2**
comp=Z,27nm,1.0s,mb5.0
VIVF **Saint-Julien-l** **84.24 357** *e*P **P** **17 10 27.6 +0.2**
VIVF pmax pmax
comp=Z,13nm,1.0s,mb5.0
VIVF **Saint-Julien-l** **84.24 357** *e*P **P** **17 10 27.6 +0.2**
comp=Z,13nm,1.0s,mb5.0
MBDF **Montbardon** **84.28 356** *e*P **P** **17 10 28.2 +0.6**
comp=Z,20nm,0.7s,mb5.0
MBDF **Montbardon** **84.28 356** *e*P **P** **17 10 28.2 +0.6**
MBDF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
MBDF **Montbardon** **84.28 356** *e*P **P** **17 10 28.2 +0.6**
comp=Z,9.9nm,0.7s,mb5.0
ZCCA **Zocca** **84.38 353** P **P** **17 10 30.2 +2.1**
comp=Z,174nm,1.8s,mb5.9
DOI **San Damiano** **84.48 355** P **P** **17 10 28.0 -0.6**
DOI pmax pmax
comp=Z,8.0nm,0.5s,mb5.1
DOI **San Damiano** **84.48 355** P **P** **17 10 28.0 -0.6**
comp=Z,8.2nm,0.5s,mb5.1
FNVD **Fontana Vidola** **84.55 352** P **P** **17 10 30.3 +1.3**
VLC **Villacollemand** **84.62 353** P **P** **17 10 29.7 +0.4**
SEI **Scarperia** **84.64 352** P **P** **17 10 31.4 +1.9**
comp=Z,100nm,0.6s,mb6.1
OG25 **Le Caire** **84.67 356** *e*P **P** **17 10 27.4 -2.2**
VMG **Vicchio** **84.72 352** P **P** **17 10 31.5 +1.7**
comp=Z,50nm,0.6s,mb5.8
SFI **Santa Sofia** **84.75 352** P **P** **17 10 31.1 +1.1**
JTS **JuntasAbangare** **84.86 80** PFAKE 17 10 40.0 +9.5
JTS LR LR
comp=Z,557nm,22.0s,MS4.9
MALT **Malatya** **84.87 331** ⇑ *i*P **P** **17 10 31.8 +1.2**
MALT **Malatya** **84.87 331** *e*P **P** **17 10 31.4 +0.8**
comp=Z,19nm,1.0s,mb5.2
TOUF **Mont Tournerai** **84.97 355** *e*P **P** **17 10 31.3 +0.2**
AUTN **L'Aution** **84.98 355** *e*P **P** **17 10 31.3 +0.2**
ANTO **Ankara** **85.01 336** ⇓ *i*P **P** **17 10 32.2 +0.9**
ANTO **Ankara** **85.01 336** ⇓P **P** **17 10 32.2 +0.9**
ANTO LR LR
comp=Z,1μm,22.0s,MS5.3
IMI **Imperia** **85.04 355** P P **17 10 31.4 0.0**
comp=Z,12nm,0.7s,mb5.2
LASF **Ste Croix** **85.04 358** *e*P **P** **17 10 31.6 +0.1**
comp=Z,12nm,0.9s,mb4.8
PII **Pisa** **85.04 353** P **P** **17 10 30.8 -0.7**
PII pmax pmax
comp=Z,18nm,0.6s,mb5.4
PII **Pisa** **85.04 353** P P **17 10 30.8 -0.7**
comp=Z,18nm,0.6s,mb5.4
ARV **Arcevia** **85.05 351** P P **17 10 32.2 +0.7**
comp=Z,34nm,1.1s,mb5.4
SMRF **Simiane la Rot** **85.08 356** *e*P **P** **17 10 32.4 +0.7**
comp=Z,59nm,1.0s,mb5.4
SMRF **Simiane la Rot** **85.08 356** *e*P **P** **17 10 32.4 +0.7**
comp=Z,59nm,1.0s,mb5.7
MVIF **Mont Vial** **85.09 355** *e*P **P** **17 10 31.9 +0.2**
AS31 **Alice Springs** **85.10 222** *e*P **P** **17 10 31.0 -0.8**
ASAR **Alice Springs** **85.10 222** P **P** **17 10 31.1 -0.6**
comp=Z,4.5nm,0.7s,mb4.7,baz=26,slow=5.1,SNR=63
ASPA **Alice Springs** **85.10 222** *e*P **P** **17 10 31.0 -0.8**
MSL **Mosul** **85.20 327** *ex* x 17 10 31.5
CSNT **Castellina Chi** **85.23 352** P **P** **17 10 31.9 -0.5**
REVF **Revere** **85.23 355** *e*P **P** **17 10 32.4 0.0**
SNTG **Esanatoglia** **85.29 351** P **P** **17 10 33.6 +0.9**
comp=Z,21nm,0.6s,mb5.5
TAVF **Tavernes** **85.42 356** *e*P **P** **17 10 34.5 +1.1**
PUYF **Puyloubier** **85.52 356** *e*P **P** **17 10 34.9 +1.0**
GRFL **Gerfalco** **85.58 352** P **P** **17 10 34.3 +0.2**
comp=Z,30nm,0.9s,mb5.5
EPON **Pontenova** **85.59 6** P **P** **17 10 33.7 -0.6**
comp=Z,7.4nm,0.5s,mb5.2
LMR **La Mourre** **85.68 356** *e*P **P** **17 10 34.6 -0.1**
comp=Z,33nm,0.9s,mb5.3
LMR **La Mourre** **85.68 356** *e*P **P** **17 10 34.6 -0.1**
LMR pmax pmax
comp=Z,17nm,0.9s,mb5.3
LMR **La Mourre** **85.68 356** *e*P **P** **17 10 34.6 -0.1**
comp=Z,17nm,0.9s,mb5.3
EARI **Arriondas** **85.72 4** P **P** **17 10 35.4 +0.5**
comp=Z,9.0nm,0.7s,mb5.1
BERF **Bertagne** **85.74 356** *e*P **P** **17 10 36.2 +1.3**
MTLF **Montolieu** **85.81 359** *e*P **P** **17 10 35.5 +0.2**
comp=Z,37nm,1.2s,mb5.2
MTLF **Montolieu** **85.81 359** *e*P **P** **17 10 35.5 +0.2**
MTLF pmax pmax
comp=Z,18nm,1.2s,mb5.2
MTLF **Montolieu** **85.81 359** *e*P **P** **17 10 35.5 +0.2**
comp=Z,18nm,1.2s,mb5.2
ELAN **Lanestosa** **85.86 3** P **P** **17 10 36.2 +0.6**
comp=Z,17nm,0.6s,mb5.5
EALK **Alkurruntz** **85.92 2** P **P** **17 10 36.8 +1.0**
comp=Z,7.1nm,0.6s,mb5.1
STS **Santiago** **85.94 7** P **P** **17 10 36.4 +0.5**
STS pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
STS **Santiago** **85.94 7** P **P** **17 10 36.4 +0.5**
comp=Z,5.4nm,0.8s,mb4.8
EPF **Esparros** **86.13 0** *e*P **P** **17 10 36.2 -0.7**
comp=Z,16nm,0.8s,mb5.0
EPF **Esparros** **86.13 0** *e*P **P** **17 10 36.2 -0.7**
EPF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
EPF **Esparros** **86.13 0** *e*P **P** **17 10 36.2 -0.7**
comp=Z,8.3nm,0.8s,mb5.0
AQU **L'Aquila** **86.14 350** *e*P **P** **17 10 37.6 +0.7**
AQU pmax pmax
comp=Z,37nm,0.8s,mb5.7
AQU **L'Aquila** **86.14 350** *e*P **P** **17 10 37.6 +0.7**
comp=Z,37nm,0.8s,mb5.7
FIAM **Fiamignano** **86.25 351** P P **17 10 38.4 +0.9**
ETSF **Etsaut** **86.26 1** *e*P **P** **17 10 37.9 +0.4**
comp=Z,28nm,0.7s,mb5.1
ETSF **Etsaut** **86.26 1** *e*P **P** **17 10 37.9 +0.4**
ETSF pmax pmax
comp=Z,14nm,0.7s,mb5.3
ETSF **Etsaut** **86.26 1** *e*P **P** **17 10 37.9 +0.4**
comp=Z,14nm,0.7s,mb5.3
PGF **Pioggiola** **86.32 354** *e*P **P** **17 10 37.7 -0.1**
comp=Z,97nm,1.1s,mb5.7
PGF **Pioggiola** **86.32 354** *e*P **P** **17 10 37.7 -0.1**
PGF pmax pmax
comp=Z,49nm,1.1s,mb5.7
PGF **Pioggiola** **86.32 354** *e*P **P** **17 10 37.7 -0.1**
comp=Z,48nm,1.1s,mb5.6
EBIE **Bielsa** **86.47 0** P **P** **17 10 39.7 +1.2**
comp=Z,10nm,0.6s,mb5.2
EGRA **Graus** **86.96 0** P **P** **17 10 42.3 +1.3**
comp=Z,6.1nm,0.6s,mb5.0
PBRG **Braganca** **87.14 5** *e*P **P** **17 10 42.0 +0.2**
comp=Z,6.7nm,0.9s,mb4.9
ESAC **San Caprasio** **87.43 1** P **P** **17 10 45.3 +2.1**
comp=Z,16nm,0.5s,mb5.5
PTCN **Pitcairn Islan** **87.48 136** PFAKE 17 10 50.0 +6.5
PTCN LR LR
comp=Z,4μm,20.0s,MS5.8
PVRL **Vila Real** **87.60 6** *e*P **P** **17 10 44.1 +0.1**
comp=Z,13nm,1.0s,mb5.1
PVIS **Viseu** **88.14 6** *e*P **P** **17 10 46.8 +0.2**
comp=Z,11nm,1.1s,mb5.0
GUD **Guadarrama** **88.42 4** P **P** **17 10 47.5 -0.4**
GUD pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
GUD **Guadarrama** **88.42 4** P **P** **17 10 47.5 -0.4**
comp=Z,2.8nm,0.6s,mb4.7
MTE **Manteigas** **88.48 6** *e*P **P** **17 10 47.5 -0.7**
comp=Z,9.4nm,0.9s,mb5.0
MTE **Manteigas** **88.48 6** *e*LR LR 17 40 13.3
MTE **Manteigas** **88.48 6** *e*P **P** **17 10 46.9 -1.3**
comp=Z,11nm,1.0s,mb5.0
PCBR **Castelo Branco** **89.04 6** *e*P **P** **17 10 50.9 +0.1**
comp=Z,5.3nm,0.7s,mb5.0
PTOM **Tomar** **89.20 7** *e*P **P** **17 10 51.7 +0.1**
comp=Z,16nm,1.2s,mb5.2
ESDC **Sonseca Array** **89.40 3** P **P** **17 10 52.0 -0.5**
comp=Z,2.6nm,0.6s,mb4.7,baz=354,slow=4.3,SNR=21
ESDC **Sonseca Array** **89.40 3** P **P** **17 10 51.0 -1.5**
ESLA **Sonseca Array** **89.40 3** *e*P **P** **17 10 51.2 -1.3**
comp=Z,7.1nm,1.4s,mb4.8
ESLA LR LR
comp=Z,4μm,19.0s,MS5.9
STKA **Stephens Creek** **89.58 212** ⇓ *i*P **P** **17 10 51.1 -2.3**
comp=Z,10.0nm,0.9s,mb5.2
STKA **Stephens Creek** **89.58 212** P **P** **17 10 51.2 -2.1**
comp=Z,11nm,0.8s,mb5.2,baz=340,slow=7.1,SNR=17
MBWA **Marble Bar** **89.59 235** PFAKE 17 11 00.0 +6.6
MBWA LR LR
comp=Z,591nm,19.0s,MS5.0
SJG **San Juan** **89.78 61** P **P** **17 10 54.5 +0.2**
comp=Z,8.5nm,0.6s,mb5.3,baz=86,slow=2.0,SNR=4.3
SJG **San Juan** **89.78 61** P P **17 10 54.5 +0.2**
SJG LR LR
comp=Z,978nm,20.0s,MS5.2
PAYG **Puerto Ayora** **89.99 91** PFAKE 17 11 10.0 +15
PAYG LR LR
comp=Z,752nm,22.0s,MS5.1
EVO **Evora** **90.31 7** *e*P **P** **17 10 55.2 -1.6**
comp=Z,10nm,1.1s,mb4.8
EVO *e*R
comp=Z,855nm,19.2s
PALK **Pallekele** **90.52 282** PFAKE 17 11 10.0 +12
PALK LR LR
comp=Z,516nm,20.0s,MS5.0
PBEJ **Beja** **90.82 7** *e*P **P** **17 10 59.1 0.0**
comp=Z,14nm,1.4s,mb5.1
EADA **Adamuz** **90.87 4** P **P** **17 10 57.1 -2.3**
SNZO **South Karori** **92.29 184** PFAKE 17 11 20.0 +14
SNZO LR LR
comp=Z,2μm,20.0s,MS5.6
SDV **Santo Domingo** **94.64 70** P **P** **17 11 17.5 +0.8**
comp=Z,4.1nm,0.8s,mb4.9,baz=286,slow=6.7,SNR=4.0
SDV **Santo Domingo** **94.64 70** P **P** **17 11 17.5 +0.8**
SDV LR LR
comp=Z,238nm,20.0s,MS4.7
OTAV **Otavalo** **96.70 81** PFAKE 17 11 40.0 +14
OTAV LR LR
comp=Z,295nm,21.0s,MS4.7

NWAO	Narrogin (SRO)	100.56	230	PFAKE		17 11 50.0	+6.6
NWAO				LR	LR		
	comp=Z,479nm,20.0s,MS5.0						
NNA	Nana	107.13	88	PFAKE		17 16 30.0	+8.3
NNA				LR	LR		
	comp=Z,802nm,19.0s,MS5.3						
SAML	Samuel	113.26	75	PFAKE		17 16 50.0	+17
SAML				LR	LR		
	comp=Z,613nm,22.0s,MS5.2						
LPAZ	La Paz	115.86	84	PKP	PKPdf	17 16 39.5	+1.3
	comp=Z,0.5nm,0.7s,baz=313,slow=9.0,SNR=4.7						
LPAZ	La Paz	115.86	84	PKP	PKPdf	17 16 39.5	+1.3
LPAZ				LR	LR		
	comp=Z,476nm,20.0s,MS5.1						
TORD	Torodi Ar. Bea	115.90	359	PKP	PKPdf	17 16 37.7	-0.6
	comp=Z,0.4nm,0.5s,baz=356,slow=2.1,SNR=10						
TORD				PP	PP	17 17 38.3	-4.2
	comp=Z,1.0nm,0.8s,baz=357,slow=6.0,SNR=4.1						
TORD				PKKPbc	PKKPbc	17 27 06.4	-3.0
	comp=Z,1.0nm,0.9s,baz=158,slow=2.5,SNR=3.2						
SIV	San Ignacio	120.01	78	PKP	PKPdf	17 16 45.7	-0.6
	comp=Z,1.0nm,0.8s,baz=288,slow=6.6,SNR=5.9						
LVC	Limon Verde	120.06	89	PFAKE		17 17 00.0	+14
LVC				LR	LR		
	comp=Z,322nm,19.0s,MS5.0						
KMBO	Kilima Mbogo	121.29	316	PFAKE		17 17 00.0	+11
KMBO				LR	LR		
	comp=Z,540nm,20.0s,MS5.2						
DRV	Dumont d'Urvil	121.52	198	SS	SS	17 35 19.0	+26
DBIC	Dimbokro	122.15	6	PKP	PKPdf	17 16 50.1	-0.2
	comp=Z,2.9nm,0.7s,baz=297,slow=2.6,SNR=12						
DBIC	Dimbokro	122.15	6	PKP	PKPdf	17 16 50.1	-0.2
DBIC				LR	LR		
	comp=Z,797nm,22.0s,MS5.3						
RCBR	Riachuelo	125.56	47	PFAKE		17 17 10.0	+13
RCBR				LR	LR		
	comp=Z,712nm,19.0s,MS5.4						
CFAA	Coronel Fontan	126.83	96	PKP	PKPdf	17 16 58.1	-1.2
	comp=Z,0.6nm,0.7s,baz=305,slow=3.7,SNR=11						
BDFB	Brasilia	127.53	66	PFAKE		17 17 10.0	+9.4
BDFB				LR	LR		
	comp=Z,783nm,22.0s,MS5.3						
CASY	Casey	128.62	209	PFAKE		17 17 10.0	+7.3
CASY				LR	LR		
	comp=Z,958nm,21.0s,MS5.5						
CPUP	Villa Florida	130.01	83	PKP	PKPdf	17 17 04.7	-0.6
	comp=Z,1.8nm,0.7s,baz=334,slow=2.8,SNR=5.8						
CPUP	Villa Florida	130.01	83	PKP	PKPdf	17 17 04.7	-0.7
PLCA	Paso Flores	131.31	107	PKP	PKPdf	17 17 08.2	+0.4
	comp=Z,4.0nm,1.0s,baz=236,slow=3.4,SNR=3.5						
PLCA	Paso Flores	131.31	107	PKP	PKPdf	17 17 08.2	+0.4
PLCA				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
TRQA	Tornquist	134.93	98	PFAKE		17 17 30.0	+15
TRQA				LR	LR		
	comp=Z,750nm,19.0s,MS5.4						
ASCN	Ascension	135.11	21	PFAKE		17 17 30.0	+15
ASCN				LR	LR		
	comp=Z,640nm,19.0s,MS5.4						
LSZ	Lusaka	137.84	318	PFAKE		17 17 30.0	+10
LSZ				LR	LR		
	comp=Z,821nm,20.0s,MS5.5						
QSPA	South Pole Qui	140.97	180	*e*P	PKPdf	17 17 21.1	-4.7
QSPA				LR	LR		
	comp=Z,675nm,21.0s,MS5.4						
EFI	East Falkland	144.31	114	*e*PKIKP	PKPdf	17 17 28.7	-3.0
EFI				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.9						
PMSA	Palmer Station	144.89	138	PFAKE		17 17 40.0	+7.3
PMSA				LR	LR		
	comp=Z,1µm,19.0s,MS5.8						
TSUM	Tsumeb	145.33	331	PKPbc	PKPbc	17 17 33.8	+0.4
	comp=Z,26nm,0.9s,baz=9.1,slow=4.5,SNR=56						
TSUM	Tsumeb	145.33	331	*e*PKP	PKPdf	17 17 33.8	+0.4
TSUM				LR	LR		
	comp=Z,837nm,22.0s,MS5.5						
MAW	Mawson	146.12	217	PKPbc	PKPbc	17 17 33.9	-1.9
	comp=Z,5.0nm,0.6s,baz=77,slow=3.6,SNR=10						
MAW	Mawson	146.12	217	PKPbc	PKPbc	17 17 33.9	-1.9
MAW				LR	LR		
	comp=Z,888nm,19.0s,MS5.6						
LBTB	Lobatse	147.56	314	*e*PKP2	PKPab	17 17 40.2	-1.9
LBTB				MLR	MLR		
	comp=Z,765nm,20.0s,MS5.5						
BOSA	Boshof	150.78	311	PKPbc	PKPbc	17 17 48.5	+0.5
	comp=Z,7.5nm,0.7s,baz=37,slow=3.0,SNR=24						
BOSA	Boshof	150.78	311	PKIKP	PKPdf	17 17 48.5	+6.1
BOSA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BOSA	Boshof	150.78	311	*e*PKPbc	PKPbc	17 17 48.4	+0.4
BOSA				LR	LR		
	comp=Z,1µm,21.0s,MS5.7						
SYO	Syowa Base	154.33	212	⇑*e*PKPbc	PKPbc	17 17 54.6	-1.3
SUR	Sutherland	156.01	314	PFAKE		17 18 00.0	+10
SUR				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						

NDI ***02*** *17:17:57.1±2.8, 3372N×7104E, h30^{km}, ML4.3, mb4.3(NEIC)*
IDC ***02*** *17:17:57.6±0.7, 3351N×7156E, h0^{km}, mb4.2/16, mb1 4.3/20, mb1mx4.2/26, mbtmp4.2/20, ML4.3/3, Error ellipse: s-maj=17.7km s-min=16.6km az=46.0*
ISCJB ***02*** *17:18:00.1±0.7, 3351N±003×7171E±004, h32^{km}±4^{km}, mb4.3/27, MS4.9/2, Error ellipse: s-maj=6.4km s-min=3.2km az=115.2*
BJI ***02*** *17:18:00.4, 3357N×71.10E, h59^{km}, mB5.0, mb4.5, ML4.1, Ms4.8, Msz4.7*
MOS ***02*** *17:18:01.1±0.8, 3360N×7157E, h33^{km}, mb4.6/5, Error ellipse: s-maj=13.3km s-min=7.1km az=98.3*
NEIC ***02*** *17:18:02.2±2.6, 3355N×7161E, h31^{km}±19^{km}, mb4.3/10, Error ellipse: s-maj=8.0km s-min=7.9km az=160.0*
NNC ***02*** *17:18:07.4±8.1, 3378N×71.16E, h62^{km}±36^{km}, mb3.7, Error ellipse: s-maj=79.1km s-min=33.7km az=2.0*
ISC 02 17:18:01.1±0.7**, 3354N**±003×**7167E**±004**, h24**^{km}±5^{km}**, n102,** σ**1^{s}27**/122**, mb4.3**/27**, MS4.9**/2**, 12C-2D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	0.35	36	⇑P	Pb	17 18 08.1	-0.7
CEP				S	Sb	17 18 15.0	+1.0
THW	Thamme Wali	0.75	175	P	Pb	17 18 15.0	-0.5
CHCP	Chirah Chowk	1.34	85	⇓P	Pn	17 18 27.4	+3.1
DRP	Derazinda	2.18	215	⇓P	Pn	17 18 37.4	+1.6
DLH	Dalhousie	3.75	104	*e*P	Pn	17 19 01.0	+3.6
DLH				*e*x	Sb	17 19 50.0	-1.5
PONG	Pong	3.94	113	*e*P	Pn	17 19 04.0	+3.9
PONG				*e*x	x	17 20 12.0	
BHK	Bhakra	4.54	117	*e*P	Pb	17 19 16.6	-3.4
BHK				*e*S	Sb	17 20 12.0	-2.3
SDNR	Sundarnagar	4.92	113	*e*P	Pn	17 19 16.0	+2.5
SDNR				*e*x	Sb	17 20 32.6	+7.3
SMLA	Simla	5.24	116	*e*P	Pn	17 19 20.7	+2.8
SMLA				*e*S	Sn	17 20 22.2	+4.7
DDI	Dehra Dun	6.31	119	*e*P	Pn	17 19 35.0	+2.4
DDI				*e*x	x	17 20 30.0	
KHET	Khetri	6.51	146	*e*P	Pn	17 19 42.0	+6.7
KHET				*e*S	Sn	17 20 56.2	+7.5
JASL	Jaisalmer	6.63	186	*e*P	Pn	17 19 34.7	-2.2
NDI	New Delhi	6.79	134	*e*P	Pn	17 19 39.0	-0.2
NDI				*e*x	x	17 20 28.0	
KUDL	Kundal	6.79	141	*e*P	Pn	17 19 39.7	+0.5
KUDL				*e*S	Sn	17 20 55.4	-0.3
AYAN	Aya Nagar	6.88	136	*e*P	Pn	17 19 42.0	+1.5
AYAN				*e*S	Sn	17 20 58.1	+0.1
KSH	Kashi	6.90	29	P	Pn	17 19 46.0	+5.3
KSH				Smax			
	comp=N,76nm,0.5s						
KSH				Smax			
	comp=E,96nm,0.6s						
SONA	Sohna	7.03	137	*e*P	Pn	17 19 44.1	+1.6
SONA				*e*S	Sn	17 21 01.4	-0.2
SONA				AML	AML	17 21 47.0	
	comp=N,174nm,0.5s						
SONA				AML	AML	17 21 50.2	
	comp=E,175nm,0.8s						
JOSI	Joshimath	7.33	112	*e*P	Pn	17 19 39.3	-7.3
JOSI				*e*S	Sn	17 21 06.5	-2.5
JOSI				AML	AML	17 21 59.0	
	comp=E,432nm,0.6s						
JOSI				AML	AML	17 22 01.1	
	comp=N,449nm,0.7s						
AGRA	Agra	8.30	138	*e*P	Pn	17 20 01.6	+1.6
AGRA				*e*S	Sn	17 21 33.0	+0.1
AGRA				AML	AML	17 22 37.6	
	comp=N,134nm,0.7s						
AGRA				AML	AML	17 22 37.6	
	comp=E,139nm,0.7s						
LGTI	Lohaghat	8.38	117	*e*P	Pn	17 20 01.0	-0.1
LGTI				*e*S	Sn	17 21 33.0	-1.9
UCH	Uchtor	8.96	14	P	Pn	17 20 11.9	+2.9
	SNR=25						
KZA	Kyzart	8.98	17	P	Pn	17 20 12.2	+2.9
	SNR=7.1						
EKS2	Erkin-Say	9.26	10	P	Pn	17 20 16.7	+3.6
	SNR=11						
AAK	Ala-Archa	9.35	13	P	Pn	17 20 18.5	+4.2
	SNR=8.2						
AAK	Ala-Archa	9.35	13	*e*P	Pn	17 20 17.0	+2.7
AAK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
AAK	Ala-Archa	9.35	13	*e*P	Pn	17 20 15.8	+1.5
	comp=Z,9.5nm,0.4s						
KK31	Karatay Array	9.59	355	⇑P	Pn	17 20 18.8	+1.2
	comp=Z,5.4nm,0.3s,baz=185,slow=13,SNR=216						
KK31				⇑S	Sn	17 22 04.7	+0.2
	comp=Z,7.3nm,0.6s						
CHMS	Chumysh	9.75	13	P	Pn	17 20 22.6	+2.8
	SNR=6.8						
BHPL	Bhopal	11.44	152	*e*P	Pn	17 20 43.4	+0.5
BHPL				*e*S	Sn	17 22 45.6	-4.4
KOLN	Koldanda	11.77	116	*e*P	Pn	17 20 47.3	-0.2
	comp=Z,41nm,0.4s						
GKN	Gorkha	12.44	113	*e*P	Pn	17 20 55.8	-0.8
	comp=Z,59nm,0.3s						
DMN	Daman	13.00	113	*e*P	Pn	17 21 02.9	-1.3
	comp=Z,45nm,0.4s						
KKN	Kakani	13.04	112	*e*P	Pn	17 21 03.6	-1.2
	comp=Z,92nm,0.5s						
PKI	Pulchoki	13.25	113	*e*P	Pn	17 21 06.1	-1.5
	comp=Z,65nm,0.4s						
GUN	Gumba	13.45	111	*e*P	Pn	17 21 09.2	-1.2
	comp=Z,37nm,0.3s						
AKL	Akola	13.64	158	*e*P	Pn	17 21 14.2	+1.2
AKL				*e*S	Sn	17 23 48.2	+4.5
JIRN	Jiri	13.81	111	*e*P	Pn	17 21 14.4	-0.9
	comp=Z,95nm,0.5s						
NGP	Nagpur	13.97	150	*e*x	x	17 21 14.3	
NGP				*e*S	Sn	17 23 58.4	+6.7
WSAR	Wadi Sarin	15.38	231	Pn	Pn	17 21 35.4	-1.0
	comp=Z,0.2nm,0.3s,baz=90,slow=10,SNR=4.2						
WSAR				Sn	Sn	17 24 11.2	-15
	comp=Z,0.4nm,0.3s,baz=164,slow=3.2,SNR=4.5						
MK02	Makanchi Array	15.50	28	⇑P	Pn	17 21 43.0	+5.0
	comp=Z,6.2nm,1.0s,baz=205,slow=11						
MKAR	Makanchi Array	15.51	28	Pn	Pn	17 21 39.2	+1.0
	comp=Z,0.7nm,0.3s,baz=207,slow=10,SNR=32						
MKAR	Makanchi Array	15.51	28	Pn	Pn	17 21 39.2	+1.0
WMQ	Urumqi	16.16	46	P	Pn	17 21 47.3	+0.7
WMQ				AP	pP	17 21 57.7	+1.5
WMQ				PP		17 22 01.8	
WMQ				XP	sP	17 22 06.5	+7.1
WMQ				S	Sn	17 24 41.5	-3.5
WMQ				AMB	AMB		
	comp=Z,11nm,0.5s						
WMQ				AMB	AMB		
	comp=Z,144nm,6.8s						
WMQ				LR	LR		
	comp=N,3µm,21.0s						
WMQ				LR	LR		
	comp=E,3µm,23.0s						
WMQ				LR	LR		
	comp=Z,5µm,21.0s						
LSA	Lhasa	17.03	98	P	Pn	17 21 58.5	+0.9
LSA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
LSA	Lhasa	17.03	98	P	Pn	17 21 58.5	+0.9
	comp=Z,2.0nm,0.4s						
KURK	Kurchatov	17.91	14	⇑P	Pn	17 22 08.2	-0.2
	comp=Z,13nm,1.0s						
KURK	Kurchatov	17.91	14	⇑*e*P	Pn	17 22 07.8	-0.6
KURK	Kurchatov	17.91	14	*e*P	Pn	17 22 07.2	-1.2
	comp=Z,22nm,0.9s						
AB31	Akbulak array	17.96	334	P	Pn	17 22 07.1	-2.0
	comp=Z,2.0nm,0.6s,baz=146,slow=12,SNR=48						
VOSK	Vostochnaya	19.18	359	⇑P	Pn	17 22 22.4	-1.6
	comp=Z,4.4nm,0.7s						
ZRNK	Zerenda	19.50	355	⇑P	Pn	17 22 26.7	-1.1
	comp=Z,11nm,1.1s						
ZRNK	Zerenda	19.50	355	*e*P	Pn	17 22 26.2	-1.5
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ZRNK	Zerenda	19.50	355	*e*P	Pn	17 22 26.1	-1.6
	comp=Z,7.4nm,0.6s						
BVA0	Borovoye Array	19.50	358	P	Pn	17 22 27.2	-0.6
	comp=Z,1.7nm,0.8s,baz=168,slow=11,SNR=43						
BVAR	Borovoye Array	19.50	358	P	Pn	17 22 27.1	-0.7
	comp=Z,1.3nm,0.3s,baz=165,slow=10,SNR=48						
BRVK	Borovoye	19.54	358	*e*P	Pn	17 22 26.6	-1.6
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	Borovoye	19.54	358	*e*P	Pn	17 22 26.6	-1.6
	comp=Z,4.1nm,0.6s						
AKTK	Aktyubinsk	19.64	333	P	Pn	17 22 28.1	-1.4
AKTO	Aktyubinsk	19.64	333	⇑P	Pn	17 22 27.8	-1.7
	comp=Z,0.2nm,0.7s						
AKTO	Aktyubinsk	19.64	333	P	Pn	17 22 28.1	-1.4
	comp=Z,0.9nm,0.3s,baz=146,slow=9.9,SNR=24						
ZAL	Zalesovo	22.42	21	P	P	17 22 58.2	+0.3
	comp=Z,7.2nm,0.4s,mb4.4,baz=258,slow=7.8,SNR=22						
ZAL	Zalesovo	22.42	21	P	P	17 22 58.2	+0.3
GNI	Garni	22.48	295	P	P	17 22 58.8	+0.2
	comp=Z,8.3nm,0.8s,mb4.2,baz=52,slow=7.3,SNR=6.1						
GNI	Garni	22.48	295	*e*P	P	17 23 01.5	+2.9
	comp=Z,12nm,1.0s,mb4.3						
NVS	Novosibirsk	22.79	17	*e*P	P	17 23 01.8	-0.1
NVS				*e*S	S	17 27 04.7	-5.0
NVS				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
NVS				pmax	pmax		
	comp=N,8.0nm,0.7s						
NVS				smax			
	comp=N,13nm,2.0s						
ARU	Arti	24.61	342	⇑*i*P	P	17 23 19.4	0.0
ARU				*e*PPP		17 23 59.2	
ARU				*e*S	S	17 27 40.2	+1.0
ARU				*e*SS		17 28 28.6	
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
ARU	Arti	24.61	342	*e*P	P	17 23 19.4	+0.1
	comp=Z,6.5nm,0.8s,mb4.2						
KIV	Kislovodsk	24.76	303	*e*P	P	17 23 22.9	+2.1
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1						
GOF	Gofitskoye	24.84	306	*e*P	P	17 23 22.5	+1.0
LZH	Lanzhou	26.48	75	*e*P	P	17 23 36.8	+0.4
LZH				AP	pP	17 23 51.2	+7.6
LZH				XP	sP	17 23 58.7	+12
LZH				PP		17 24 20.8	
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.5						
SOC	Sochi	26.77	301	*e*P	P	17 23 38.5	-0.5
SOC				*e*		17 24 22.5	
SOC				*e*S	S	17 28 12.0	-1.5
SOC				*e*SS		17 29 22.9	
SOC				pmax	pmax		
	comp=Z,30nm,1.3s,mb4.7						
CD2	Chengdu	27.22	87	*e*P	P	17 23 42.2	-0.8
KMI	Kunming	28.28	99	P	P	17 23 56.8	+4.3
KMI				AMB	AMB		
	comp=Z,5.0nm,1.6s,mb3.9						
SONM	Songino Array	29.67	51	P	P	17 24 06.7	+1.8
	comp=Z,0.4nm,0.5s,mb3.4,baz=241,slow=8.4,SNR=5.0						
HHC	Hu-ho-hao-te	32.39	65	*e*P	P	17 24 29.4	+0.5
HHC				AP	pP	17 24 45.3	+9.2
HHC				XP	sP	17 24 51.8	+13
HHC				PP	PP	17 25 37.0	-5.2
HHC				PCP	PcP	17 27 18.1	+2.1
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb5.0						
HHC				LR	LR		
	comp=N,1µm,22.0s,MS4.7						
HHC				LR	LR		
	comp=E,1µm,20.8s,MS4.7						
HHC				LR	LR		
	comp=Z,2µm,21.4s,MS4.8						
AKASG	Malin Array Be	35.28	312	P	P	17 24 54.0	+0.1
	comp=Z,0.5nm,0.4s,mb3.8,baz=85,slow=7.2,SNR=12						
JOF	Joensuu	38.72	332	*e*p	P	17 25 22.2	-0.9
NJ2	Nanjing	39.43	79	*e*P	P	17 25 28.3	-0.8
NJ2				PP	PP	17 27 03.1	+3.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,210nm,3.8s						
NJ2				LR	LR		
	comp=N,3µm,14.0s,MS5.3						
NJ2				LR	LR		
	comp=E,2µm,17.2s,MS5.3						
NJ2				LR	LR		
	comp=Z,770nm,15.2s,MS4.7						
FINES	FINESS Array B	40.26	328	P	P	17 25 35.1	-0.9
	comp=Z,2.5nm,0.6s,mb4.1,baz=111,slow=10,SNR=14						
KAF	Kangasniemi	40.42	329	*e*p	P	17 25 36.5	-0.9
	comp=Z,1.3nm,0.5s,mb3.9,baz=113,slow=8.4						
KAF	Kangasniemi	40.42	329	*e*P	P	17 25 36.5	-0.9
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
KEV	Kevo	43.75	339	*e*p	P	17 26 03.7	-0.8
ARCES	ARCESS Array B	44.09	339	P	P	17 26 07.3	0.0
	comp=Z,6.2nm,0.7s,mb4.5,baz=113,slow=7.9,SNR=39						
HFS	Hagfors	45.75	324	P	P	17 26 20.2	-0.2
	comp=Z,5.4nm,0.6s,mb4.7,baz=96,slow=9.1,SNR=17						
YAK	Yakutsk	46.09	34	*c i*P	P	17 26 22.7	-0.4
YAK				pmax	pmax		
	comp=Z,35nm,1.3s,mb5.1						
YAK	Yakutsk	46.09	34	*e*P	P	17 26 21.8	-1.3
	comp=Z,29nm,0.8s,mb5.3						
NB2	NORSAR Subarra	47.09	325	P	P	17 26 30.0	-1.0
	comp=Z,4.8nm,0.8s,mb4.5,baz=98,slow=7.9						
NOA	NORSAR Array B	47.09	325	P	P	17 26 30.4	-0.6
	comp=Z,1.6nm,0.8s,mb4.0,baz=104,slow=7.3,SNR=18						
ESDC	Sonseca Array	59.36	300	P	P	17 28 01.0	-0.2
	comp=Z,1.6nm,0.7s,mb4.2,baz=62,slow=7.7,SNR=17						
SUMG	Summit	64.03	342	P	P	17 28 33.0	+0.3
	comp=Z,4.6nm,1.2s,mb4.4						
TORD	Torodi Ar. Bea	66.24	270	P	P	17 28 46.5	-0.5
	comp=Z,1.8nm,0.5s,mb4.3,baz=45,slow=5.5,SNR=22						
DBIC	Dimbokro	75.12	268	P	P	17 29 41.1	0.0
	comp=Z,1.2nm,0.7s,mb3.9,baz=73,slow=11,SNR=3.2						
BOSA	Boshof	75.86	221	P	P	17 29 46.4	+1.0
	comp=Z,2.1nm,0.7s,mb4.2,baz=34,slow=8.6,SNR=5.5						
INK	Inuvik	76.73	9	P	P	17 29 50.5	+0.2
	comp=Z,6.0nm,0.7s,mb4.6,baz=310,slow=3.6,SNR=3.0						
INK	Inuvik	76.73	9	P	P	17 29 50.5	+0.2
INK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
INK	Inuvik	76.73	9	*e*P	P	17 29 50.0	-0.3
	comp=Z,5.6nm,0.7s,mb4.6						
WRA	Warramunga Arr	79.96	122	P	P	17 30 09.1	+0.9
	comp=Z,0.5nm,0.6s,mb3.6,baz=323,slow=5.3,SNR=9.5						
WRAB	Tennant Creek	79.97	122	*e*P	P	17 30 09.5	+1.3
ASAR	Alice Springs	82.11	125	P	P	17 30 20.9	+1.2
	comp=Z,0.6nm,0.7s,mb3.7,baz=308,slow=4.9,SNR=9.8						
YKA	Yellowknife Ar	84.17	3	P	P	17 30 28.9	-1.3
	comp=Z,2.3nm,0.6s,mb4.5,baz=350,slow=5.3,SNR=7.2						
YKA	Yellowknife Ar	84.17	3	⇑*e*P	P	17 30 30.2	-0.1
YKA	Yellowknife Ar	84.17	3	P	P	17 30 28.9	-1.3

IDC ***02*** *17:20:21.0±2.8, 51.11N×17940W, h16^{km}±16^{km}, mb4.8/30, mb1 4.9/31, mb1mx4.9/33, mbtmp4.9/31, ML4.9/1, MS5.1/22, Ms1 5.1/22, ms1mx5.0/32, Error ellipse: s-maj=16.0km s-min=10.5km az=170.0*
ISCJB ***02*** *17:20:23.3±0.1, 5109N±003×17943W±002, h40^{km}, mb5.2/261, MS5.2/77, Error ellipse: s-maj=4.9km s-min=1.8km az=13.9*
BJI ***02*** *17:20:23.3, 51.18N×17967W, h38^{km}, mB5.6, mb5.1, Ms5.3, Msz5.1*
MOS ***02*** *17:20:24.0±0.9, 51.14N×17934W, h46^{km}, mb5.4/125, MS5.2/41, Error ellipse: s-maj=6.9km s-min=3.9km az=93.2*
HRVD ***02*** *17:20:25.8±0.1, 5093N×17932W, h21^{km}, MW5.6/99, Centroid moment Tensor Solution. LP body waves: s89,c165;Mantle waves: s99,c267; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}2.08±.04; $M_{\theta\theta}$-2.08±.03; $M_{\phi\phi}$0.00±.03; $M_{r\theta}$1.74±.07; $M_{\theta\phi}$-0.56±.02; $M_{\phi r}$1.03±.06; Best double couple: $M_0$2.95400×10^{17} NP1:ϕ_s268.00000°, δ25.00000°, λ111.00000°. NP2: ϕ_s64.00000°, δ67.00000°, λ80.00000°. Principal axes: T 2.9280, Plg67.0000°, Azm317.0000°; N 0.0510, Plg9.0000°, Azm68.0000°; P -2.9810, Plg21.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***02*** *17:20:25.8±0.4, 51.10N×17936W, h49^{km}±3^{km}, mb5.2/192, MS5.2/20, ML5.3(AEIC) Error ellipse: s-maj=4.1km s-min=2.1km az=188.0*
SZGRF ***02*** *17:20:27.0, 5127N×179.11E, h33^{km}, mb5.3, Rat Islands, Aleutian Islands, United States*
ISC 02 17:20:25.1±0.1**, 5115N**±003×**17946W**±002**, h42**^{km}**,** **h42**^{km}±2.0^{km}**:pP-P, n808,** σ**0^{s}88**/863**, mb5.2**/261**, MS5.2**/77**, 236C-105D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.81	287	P	Pn	17 20 39.9	-0.1
AMKA				S	Sn	17 20 54.5	+3.6
SMY	Shemya	4.29	294	P	Pn	17 21 30.7	+3.0
NIKO	Nikolski	6.79	70	P	Pn	17 22 02.9	+0.8
OKCE	Okmok Cone E	7.29	67	P	Pn	17 22 10.5	+1.4
OKCD	Okmok Cone D	7.33	67	P	Pn	17 22 11.1	+1.6
SPIA	Saint Paul Isl	8.10	38	P	Pn	17 22 23.4	+3.3
UNV	Unalaska Valle	8.36	66	P	Pn	17 22 24.4	+0.8
AKUT	Akutan	8.84	65	*e*P	Pn	17 22 30.6	+0.3
FALS	False Pass	10.36	63	*e*Pn	Pn	17 22 50.2	-0.7
SDPT	Sand Point	12.11	62	*e*P	Pn	17 23 13.0	-2.0
	34nm,0.3s						
PET	Petropavlovsk	13.58	286	*c e*P	Pn	17 23 36.4	+1.4
PET				*e*S	Sn	17 26 04.0	-0.5
PET				pmax	pmax		
	comp=Z,2µm,12.9s						
PET				pmax	pmax		
	comp=Z,2µm,13.0s						
PET				pmax	pmax		
	comp=Z,75nm,1.2s						
PET				smax			
	comp=N,400nm,17.1s						
PET				smax			
	comp=E,200nm,8.3s						
PET				smax			
	comp=E,50nm,1.1s						
PET				MLR	MLR		
	comp=Z,10µm,20.0s						
PET				MLR	MLR		
	comp=Z,8µm,20.0s						
SVW2	Sparrevohn	16.52	44	*e*P	Pn	17 24 14.4	+0.7
KDAK	Kodiak Island	16.90	56	Pn	Pn	17 24 13.9	-4.5
	comp=Z,302nm,0.6s,SNR=24						
KDAK	Kodiak Island	16.90	56	Pn	Pn	17 24 14.2	-4.1
	comp=Z,4.5nm,0.3s,baz=251,slow=7.2,SNR=28						
KDAK				Sn	Sn	17 27 20.9	-4.2
	comp=Z,0.8nm,0.3s,baz=336,slow=20,SNR=6.5						
KDAK	Kodiak Island	16.90	56	*e*P	Pn	17 24 13.2	-5.1
	comp=Z,45nm,0.6s						
TTA	Tatalina	17.25	38	*e*P	Pn	17 24 22.9	+0.2
TTA				pmax	pmax		
	comp=Z,147nm,1.1s						
TTA	Tatalina	17.25	38	*e*P	Pn	17 24 22.9	+0.1
	comp=Z,147nm,1.1s						
BILL	Bilibino	18.32	343	*c e*P	Pn	17 24 36.6	+0.6
BILL				pmax	pmax		
	comp=Z,123nm,1.7s						
BILL				MLR	MLR		
	comp=Z,8µm,16.0s						
BILL	Bilibino	18.32	343	*e*P	Pn	17 24 36.6	+0.7
	comp=Z,258nm,1.4s						
SLKM	Skilak Lake	18.75	49	*e*P	Pn	17 24 39.4	-1.7
MA2	Magadan	18.76	308	*c i*P	Pn	17 24 41.5	+0.2
MA2				*e*S	S	17 28 05.1	-6.3
MA2				pmax	pmax		
	comp=Z,20nm,1.0s						
MA2				MLR	MLR		
	comp=Z,7µm,15.0s						
MA2	Magadan	18.76	308	P	Pn	17 24 43.3	+2.0
	comp=Z,39nm,1.2s						
PMR	Palmer	19.59	46	*e*P	Pn	17 24 52.6	+1.5
PMR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PMR	Palmer	19.59	46	*e*P	Pn	17 24 52.6	+1.5
	comp=Z,1.9nm,0.7s						

SML Sawmill 20.02 46 *e*P **P 17 24 52.1 -2.1**
MID Middleton Isla 20.41 53 *e*P **P 17 24 58.9 +0.4**
EYAK Cordova Ski Ar 20.91 50 *e*P **P 17 25 02.9 -0.9**
COLA College 21.35 38 *e*P **P 17 25 06.8 -1.8**
COLA pmax pmax
comp=Z,79nm,0.8s,mb5.1
COLA College 21.35 38 *e*P **P 17 25 06.8 -1.8**
comp=Z,79nm,0.8s,mb5.1
MENT Mentasta 22.40 45 *e*P **P 17 25 18.1 -1.7**
MIDW Midway 22.96 175 *e*P **P 17 25 24.1 -1.6**
comp=Z,75nm,0.9s,mb5.1
YUK Yuzh-Kuril'sk 24.27 267⇑ *i*P **P 17 25 38.0 -0.2**
YUK pmax pmax
comp=Z,3μm,3.5s
YUK pmax pmax
comp=E,2μm,4.0s
DAWY Dawson 24.56 43 *e*P **P 17 25 37.3 -3.5**
YSS Yuzh-Sakhalins 24.93 275α *i*P **P 17 25 45.5 +1.3**
YSS *e* 17 25 57.0
YSS *e* 17 26 31.0
YSS *e*S **S 17 30 06.0 +1.3**
YSS *e* 17 30 30.0
YSS *e*SSS 17 31 21.0
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.1
YSS pmax pmax
comp=Z,1μm,7.0s
YSS MLR MLR
comp=E,2μm,20.0s
YSS MLR MLR
comp=Z,4μm,20.0s,MS4.9
YSS Yuzh-Sakhalins 24.93 275 *e*P **P 17 25 45.4 +1.2**
comp=Z,49nm,0.9s,mb5.0
SKAG Skagway 26.02 54 *e*P **P 17 25 52.7 -1.4**
ASAJ Asahikawa 26.29 269 P **P 17 25 55.5 -1.0**
comp=Z,32nm,1.0s,mb4.8,baz=63,slow=7.6,SNR=16
ASAJ LR LR 17 35 41.1
comp=Z,3μm,18.6s,MS4.8,baz=78,slow=35
ASAJ Asahikawa 26.29 269 P **P 17 25 55.6 -0.9**
ASAJ pmax pmax
comp=Z,32nm,1.0s
ASAJ MLR MLR
comp=Z,3μm,18.6s
CRAG Craig 27.61 63 *e*P **P 17 26 08.7 +0.3**
INK Inuvik 27.89 35 P **P 17 26 09.7 -1.2**
comp=Z,14nm,0.7s,mb4.7,baz=239,slow=11,SNR=36
INK Inuvik 27.89 35 P **P 17 26 09.7 -1.1**
INK pmax pmax
comp=Z,14nm,0.7s
INK Inuvik 27.89 35 *e*P **P 17 26 09.3 -1.6**
comp=Z,0.5nm,1.0s
DLBC Dease Lake 28.83 56 P **P 17 26 19.3 0.0**
comp=Z,1.5nm,0.6s,baz=305,slow=10,SNR=3.7
DLBC ScP ScP 17 33 08.3 +2.2
comp=Z,2.0nm,0.6s,baz=252,slow=3.2,SNR=5.6
DLBC Dease Lake 28.83 56 P **P 17 26 19.3 0.0**
DLBC ScP ScP 17 33 08.3 +2.2
HABR Khabarovsk 29.12 283⇑ *i*P **P 17 26 22.9 +1.1**
HABR *e* 17 27 19.2
HABR S **S 17 31 12.8 +1.9**
HABR *e* 17 32 46.7
HABR pmax pmax
comp=Z,83nm,1.8s,mb5.2
HABR MLR MLR
comp=Z,1μm,17.6s,MS4.6
YAK Yakutsk 29.26 312 *c i*P **P 17 26 22.2 -0.9**
YAK *e*PPP 17 27 26.7
YAK *e* 17 29 28.2
YAK *e*S **S 17 31 13.1 +0.1**
YAK *e* 17 37 03.3
YAK pmax pmax
comp=Z,17nm,1.4s,mb4.6
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,14nm,1.6s
YAK pmax pmax
comp=Z,21nm,1.1s,mb4.8
YAK pmax pmax
comp=N,3.0nm,1.4s
YAK pmax pmax
comp=E,17nm,1.2s
YAK smax
comp=N,10.0nm,1.3s
YAK smax
comp=Z,3.0nm,0.9s
YAK smax
comp=E,18nm,1.3s
YAK MLR MLR
comp=Z,2μm,19.0s,MS4.8
YAK MLR MLR
comp=N,2μm,20.0s,MS4.9
YAK MLR MLR
comp=E,2μm,17.0s,MS4.9
KLR Kul'dur 30.84 286⇓ *i*P **P 17 26 34.2 -2.9**
KLR *e*S **S 17 31 47.0 +9.1**
KLR pmax pmax
comp=E,100nm,1.6s
KLR pmax pmax
comp=Z,190nm,1.6s,mb5.7
MJAR Matsushiro Arr 33.34 261 P **P 17 26 59.7 +0.8**
comp=Z,4.3nm,0.7s,mb4.5,baz=43,slow=6.8,SNR=12
MJAR LR LR 17 38 50.8
comp=Z,3μm,19.6s,MS4.9,baz=60,slow=33
MJAR Matsushiro Arr 33.34 261 P **P 17 26 59.7 +0.8**
MJAR LR LR 17 38 50.8
MAT Matsushiro 33.34 261 P **P 17 26 59.3 +0.3**
MAT Matsushiro 33.34 261 *e*P **P 17 26 59.0 0.0**
MAT pmax pmax
comp=Z,44nm,1.5s,mb5.2
MAT MLR MLR
comp=Z,3μm,19.0s,MS5.0
MAT Matsushiro 33.34 261 *e*P **P 17 26 59.0 0.0**
comp=Z,44nm,1.5s,mb5.2
MAT LR LR
comp=Z,3μm,19.0s,MS5.0
VLA Vladivostok 33.52 276 *i*P **P 17 27 02.6 +2.1**
MDJ Mudanjiang 34.20 279 P **P 17 27 06.2 -0.3**
MDJ AP pP 17 27 16.9 -1.0
MDJ XP sP 17 27 21.9 -1.0
MDJ PP PP 17 28 23.8 -0.6
MDJ S **S 17 32 29.4 -0.7**
MDJ XS sS 17 32 48.9 -0.3
MDJ AMB AMB
comp=Z,12nm,1.2s,mb4.7
MDJ AMB AMB
comp=Z,587nm,11.1s
MDJ LR LR
comp=E,3μm,20.4s
MDJ LR LR
comp=Z,4μm,21.2s,MS5.1
MDJ Mudanjiang 34.20 279 *e*P **P 17 27 06.0 -0.5**
comp=Z,12nm,0.9s,mb4.8
C03A Quillayute Air 35.06 73⇓ P **P 17 27 15.0 +1.1**
baz=35
C03A ⇑S **S 17 32 48.3 +4.9**
baz=35
B04A Port Angeles 35.66 72⇑ P **P 17 27 19.8 +0.8**
baz=36
B04A ⇓S **S 17 32 56.9 +4.4**
baz=36
YKA Yellowknife Ar 35.69 46 P **P 17 27 17.7 -1.5**
comp=Z,20nm,0.6s,mb5.3,baz=281,slow=7.9,SNR=244
YKA PcP PcP 17 29 46.5 -0.4
comp=Z,2.3nm,0.7s,baz=288,slow=3.3,SNR=3.6
YKA ScP ScP 17 33 30.9 +1.5
comp=Z,0.9nm,0.6s,baz=294,slow=3.1,SNR=6.5
YKA LR LR 17 43 51.5
comp=Z,6μm,19.4s,MS5.3,baz=280,slow=40
YKA Yellowknife Ar 35.69 46 P **P 17 27 17.7 -1.6**
YKA 17 29 46.5
YKA pmax pmax
comp=Z,20nm,0.6s
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA pmax pmax
comp=N,1.0nm,0.6s
YKA MLR MLR
comp=Z,6μm,19.4s
YKA Yellowknife Ar 35.69 46 P **P 17 27 17.8 -1.5**
YKA PcP PcP 17 29 46.5 -0.4
YKA ScP ScP 17 33 30.9 +1.5
YKA LR LR 17 43 51.5
A04A Legoe Bay, Lum 35.84 71⇓ P **P 17 27 21.1 +0.5**
baz=36
A04A ⇑S **S 17 32 59.1 +3.8**
baz=36
D03A Wishkah Elem. 35.92 74⇑ P **P 17 27 22.4 +1.1**
baz=36
VDB Vedder Mountai 36.06 70 P **P 17 27 22.9 +0.4**
A05A Maple Falls 36.08 70⇑ P **P 17 27 22.6 0.0**
baz=36
C04A Brinnon 36.13 73⇓ P **P 17 27 23.6 +0.6**
baz=36,SNR=17
C04A ⇑S **S 17 33 02.3 +2.6**
baz=36
MBW Mount Baker 36.29 71 P **P 17 27 24.9 +0.5**
E03A Lebam 36.31 75⇓ P **P 17 27 25.5 +0.9**
baz=36,SNR=10
E03A ⇓S **S 17 33 05.7 +3.1**
baz=36
CMW Cultus Mountai 36.32 71 P **P 17 27 25.3 +0.7**
B05A Bryant 36.41 71⇓ P **P 17 27 25.9 +0.5**
baz=36,SNR=14
B05A ⇓S **S 17 33 06.1 +2.1**
baz=36
D04A Dobbs Creek Ra 36.51 74⇑ P **P 17 27 27.3 +0.9**
baz=36
JCW Jim Creek 36.54 71 P **P 17 27 26.9 +0.4**
F03A Seaside 36.61 76⇑ S **S 17 33 11.2 +4.1**
baz=36
E04A Onalaska 36.80 74⇓ P **P 17 27 29.9 +1.1**
baz=37
E04A ⇑S **S 17 33 14.4 +4.3**
baz=37
C05A Tolt Reservoir 36.91 72⇓ P **P 17 27 30.0 +0.3**
baz=37,SNR=15
C05A ⇓S **S 17 33 14.1 +2.4**
baz=37
D05A Enumclaw 36.96 73⇓ P **P 17 27 31.2 +1.0**
baz=37,SNR=17
D05A ⇑S **S 17 33 15.9 +3.5**
baz=37
CN2 Changchun 37.18 281⇑ P **P 17 27 31.7 -0.3**
CN2 *e*AP pP 17 27 43.9 +0.3
CN2 *e*XP sP 17 27 49.3 +0.7
CN2 *e*S **S 17 33 15.0 -0.8**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.9
CN2 AMB AMB
comp=Z,720nm,4.0s
CN2 LR LR
comp=N,2μm,20.0s,MS5.1
CN2 LR LR
comp=E,3μm,20.0s,MS5.1
CN2 LR LR
comp=Z,4μm,21.0s,MS5.1
F04A Amboy 37.31 75⇑ P **P 17 27 33.5 +0.4**
baz=37,SNR=12
F04A ⇑S **S 17 33 19.6 +1.9**
baz=37
H03A Soap Creek Ran 37.40 77⇑ P **P 17 27 34.4 +0.5**
baz=37
H03A ⇓S **S 17 33 22.6 +3.5**
baz=37
E05A Randle 37.40 74 P **P 17 27 33.9 +0.1**
baz=37,SNR=8.6
E05A ⇑S **S 17 33 22.0 +2.9**
baz=37
I02A Mapleton 37.41 79⇑ P **P 17 27 34.4 +0.4**
baz=37
I02A ⇑S **S 17 33 22.5 +3.2**
baz=37
COR Corvallis 37.44 78 *e*P **P 17 27 34.9 +0.7**
COR pmax pmax
comp=Z,31nm,0.8s,mb5.2
COR Corvallis 37.44 78 *e*P **P 17 27 34.9 +0.7**
comp=Z,32nm,0.8s,mb5.2
NLW Nelson Butte 37.54 71 P **P 17 27 35.8 +0.7**
G04A Mulino 37.63 76⇑ P **P 17 27 35.9 +0.1**
baz=37,SNR=12
G04A ⇓S **S 17 33 26.3 +3.7**
baz=37
K01A Sixes 37.64 81⇓ P **P 17 27 36.3 +0.3**
baz=38
TWW Teanaway 37.66 72 P **P 17 27 36.8 +0.7**
I03A Eugene 37.77 78⇑ P **P 17 27 37.6 +0.6**
baz=38
I03A ⇑S **S 17 33 28.3 +3.6**
baz=38
BOD Bodaibo 37.78 307 *e*P **P 17 27 36.6 -0.5**
BOD pmax pmax
comp=Z,70nm,1.0s,mb5.3
J02A Umpqua 37.90 79⇓ P **P 17 27 38.7 +0.6**
baz=38
J02A ⇓S **S 17 33 31.0 +4.2**
baz=38
F05A White Salmon 37.91 75⇓ P **P 17 27 38.3 +0.1**
baz=38
F05A ⇓S **S 17 33 29.7 +2.7**
baz=38
WTV Waterville 37.94 71 P **P 17 27 38.7 +0.2**
EBG Ellensburg 37.95 73 P **P 17 27 39.0 +0.5**
HIA Hailar 37.98 292 *e*P **P 17 27 38.5 -0.3**
HIA pmax pmax
comp=Z,48nm,1.1s
HIA MLR MLR
comp=Z,5μm,19.0s
HIA Hailar 37.98 292 *e*P **P 17 27 38.5 -0.3**
comp=Z,48nm,1.1s,mb5.1
HIA LR LR
comp=Z,5μm,19.0s,MS5.3
H04A Detroit Lake 38.07 77⇑ P **P 17 27 39.7 +0.2**
baz=38,SNR=11
H04A ⇓S **S 17 33 31.8 +2.5**
baz=38
K02A Glendale 38.27 80⇓ P **P 17 27 40.6 -0.7**
baz=38
K02A ⇑S **S 17 33 34.3 +2.0**
baz=38
J03A Ideyld Park 38.28 79⇓ P **P 17 27 40.6 -0.7**
baz=38,SNR=13
G05A Wamic 38.32 75⇓ P **P 17 27 42.0 +0.3**
baz=38,SNR=11
G05A ⇑S **S 17 33 37.8 +4.8**
baz=38
EPH Ephrata 38.32 72 P **P 17 27 41.4 -0.3**
L02A Cave Junction 38.54 81⇓ P **P 17 27 43.9 +0.4**
baz=38
L02A ⇓S **S 17 33 39.9 +3.6**
baz=38
H05A Madras 38.68 76⇑ P **P 17 27 44.8 +0.2**
baz=38
H05A ⇓S **S 17 33 41.4 +3.0**
baz=38
HUMO Hull Mountain 38.69 80 *e*P **P 17 27 44.0 -0.7**
comp=Z,14nm,0.9s,mb4.7
HUMO Hull Mountain 38.69 80⇓ P **P 17 27 45.4 +0.6**
baz=38,SNR=7.9
SNIWA Snively Ranch 38.71 73 P **P 17 27 45.6 +0.7**
GBL Gable Mountain 38.77 72 P **P 17 27 45.7 +0.3**
VTHM Trough 38.81 75 P **P 17 27 46.4 +0.6**
HAWA Hanford 38.83 73 *e*P **P 17 27 45.8 -0.1**
comp=Z,6.1nm,1.1s,mb4.2
HAWA LR LR
comp=Z,176nm,20.0s
I05A Bend 38.91 77⇑ P **P 17 27 46.9 +0.4**
baz=39
I05A ⇑S **S 17 33 45.3 +3.4**
baz=39
JCC Jacoby Creek 39.02 83⇑ S **S 17 33 48.0 +4.5**
baz=39
KHMM Horse Mountain 39.17 83 *e*P **P 17 27 49.0 +0.3**
KS15 Wonju Array Si 39.26 271 *e*P **P 17 27 50.2 +0.8**
EDM Edmonton 39.29 60 *e*P **P 17 27 48.3 -1.4**
YBH Yreka Blue Hor 39.33 81 P **P 17 27 49.2 -0.9**
comp=Z,14nm,1.0s,mb4.7,baz=340,slow=6.1,SNR=18
YBH LR LR 17 42 19.9
comp=Z,3μm,19.3s,MS5.1,baz=303,slow=34
YBH Yreka Blue Hor 39.33 81 *e*P **P 17 27 50.4 +0.4**
YBH pmax pmax
comp=Z,22nm,1.0s
YBH Yreka Blue Hor 39.33 81 *e*P **P 17 27 50.4 +0.4**
comp=Z,22nm,1.0s,mb4.8
YBH Yreka Blue Hor 39.33 81⇑ P **P 17 27 50.9 +0.9**
baz=39,SNR=9.8
YBH ⇑S **S 17 33 52.0 +3.8**
baz=39
NEW Newport 39.35 69 P **P 17 27 50.0 -0.3**
comp=Z,33nm,0.8s,mb5.1,baz=301,slow=6.9,SNR=53
NEW Newport 39.35 69 P **P 17 27 50.0 -0.3**
NEW pmax pmax
comp=Z,33nm,0.8s
NEW Newport 39.35 69 *e*P **P 17 27 49.4 -0.8**
comp=Z,34nm,0.8s,mb5.1
NEW LR LR
comp=Z,3μm,22.0s,MS5.1
SNY Shenyang 39.40 279⇑ P **P 17 27 51.7 +1.0**
SNY AP pP 17 28 00.9 -1.4
SNY XP sP 17 28 06.6 -0.7
SNY AMB AMB
comp=Z,60nm,1.7s,mb5.0
SNY AMB AMB
comp=Z,1μm,9.6s
SNY LR LR
comp=N,2μm,19.8s,MS5.0
SNY LR LR
comp=E,2μm,24.3s,MS5.0
SNY LR LR
comp=Z,3μm,20.4s,MS5.1
M02C Callahan 39.43 82⇑ P **P 17 27 51.7 +0.8**
baz=39
M02C ⇑S **S 17 33 54.4 +4.6**
baz=39
K04A Chilquin 39.45 79⇓ P **P 17 27 51.8 +0.7**
baz=39
K04A ⇓S **S 17 33 54.4 +4.3**
baz=39
N02C Big Bar 39.46 83 P **P 17 27 52.3 +1.1**
baz=39,SNR=9.6
N02C ⇓S **S 17 33 53.4 +3.2**
baz=39
O01C Eel River Cons 39.53 84⇓ P **P 17 27 52.2 +0.5**
baz=39
L04A Klamath Falls 39.59 80⇑ P **P 17 27 52.8 +0.5**
baz=39
I06A Prineville 39.67 77⇑ P **P 17 27 53.4 +0.5**
baz=40,SNR=9.3
I06A ⇓S **S 17 33 56.9 +3.5**
baz=40
M04C Macdoel 39.84 80⇓ P **P 17 27 55.0 +0.6**
baz=40,SNR=8.6
M04C ⇑S **S 17 33 57.6 +1.7**
baz=40
INCN Inchon 40.02 272 *e*P **P 17 27 57.0 +1.1**
comp=Z,42nm,0.9s,mb5.2
J06A Christmas Vall 40.08 77⇓ P **P 17 27 56.7 +0.4**
baz=40,SNR=25
J06A ⇑S **S 17 34 01.0 +1.5**
baz=40
WDC Whiskeytown Da 40.08 82 *e*P **P 17 27 56.5 +0.2**
WDC pmax pmax
comp=Z,22nm,1.2s,mb4.8
WDC Whiskeytown Da 40.08 82 *e*P **P 17 27 56.5 +0.1**
comp=Z,22nm,1.2s,mb4.8
WDC Whiskeytown Da 40.08 82⇑ P **P 17 27 56.6 +0.3**
baz=40
WDC ⇑S **S 17 33 60.0 +0.5**
baz=40
O02C Red Bluff 40.16 83⇓ P **P 17 27 57.2 +0.2**
baz=40,SNR=8.3
P01C Double 8 Ranch 40.22 84⇓ P **P 17 27 58.2 +0.7**
baz=40
K06A Valley Falls 40.26 78⇓ P **P 17 27 58.4 +0.6**
baz=40,SNR=15
K06A ⇓S **S 17 34 04.0 +1.8**
baz=40
L05A Lakeview 40.32 79⇓ P **P 17 27 58.7 +0.4**
baz=40,SNR=8.7
L05A ⇑S **S 17 34 03.3 +0.3**
baz=40
M05C Lookout 40.50 80⇑ P **P 17 28 00.1 +0.3**
baz=40,SNR=7.5
M05C ⇑S **S 17 34 06.0 +0.2**
baz=40
GASB Alder Springs 40.51 84⇑ P **P 17 28 00.3 +0.4**
baz=40
GASB ⇑S **S 17 34 08.2 +2.4**
baz=40
J07A Hines 40.53 77⇑ P **P 17 28 00.5 +0.5**
baz=40,SNR=15
J07A ⇓S **S 17 34 07.6 +1.4**
baz=40
HATC Hat Creek Radi 40.62 81⇓ P **P 17 28 01.2 +0.4**
baz=40,SNR=11
HATC ⇓S **S 17 34 10.2 +2.7**
baz=40
HOPS Hopland 40.67 85⇑ P **P 17 28 01.3 +0.1**
baz=40
O03C Acorn Hollow, 40.73 83⇓ S **S 17 34 12.3 +3.0**
baz=40
WALA Waterton Lakes 40.84 66 *e*P **P 17 28 01.8 -0.8**
comp=Z,56nm,1.1s,mb5.1
BSMT Bassoo Peak 40.92 68 P **P 17 28 03.1 -0.2**
K07A Rock Creek Ran 40.94 78⇑ P **P 17 28 03.6 +0.2**
baz=41,SNR=24
K07A ⇓S **S 17 34 13.9 +1.6**
baz=41
BMO Blue Mountains 40.96 74 *e*P **P 17 28 02.8 -0.8**
comp=Z,17nm,0.9s,mb4.7
M06C Likely Place G 41.01 80⇑ P **P 17 28 04.4 +0.4**
baz=41
M06C ⇓S **S 17 34 14.5 +1.2**
baz=41
J08A Circle Bar Ran 41.05 76⇑ P **P 17 28 04.4 +0.1**
baz=41,SNR=12
J08A ⇓S **S 17 34 18.0 +4.1**
baz=41
MNRC McLaughlin Nat 41.13 84⇑ P **P 17 28 05.1 +0.1**
baz=41
O04C Chester 41.13 82⇓ P **P 17 28 05.5 +0.4**
baz=41
O04C ⇓S **S 17 34 16.7 +1.5**
baz=41
ELFS Eagle Lake Fie 41.19 81⇓ S **S 17 34 18.5 +2.6**
baz=41
NSHM Saint Helena R 41.25 85 P **P 17 28 05.9 -0.1**
L07A Adell 41.25 78⇑ P **P 17 28 06.5 +0.5**
baz=41,SNR=19
L07A ⇓S **S 17 34 18.3 +1.4**
baz=41
ORV Oroville 41.33 83⇓ P **P 17 28 06.0 -0.6**
baz=41
ORV ⇑S **S 17 34 18.6 +0.6**
baz=41
O05C Quincy 41.45 82⇑ P **P 17 28 07.7 +0.1**
baz=41,SNR=5.7
O05C ⇑S **S 17 34 21.1 +1.2**
baz=41
WVOR Wild Horse Val 41.45 78 *e*P **P 17 28 06.9 -0.8**
WVOR pmax pmax
comp=Z,51nm,1.1s,mb5.1
WVOR Wild Horse Val 41.45 78 *e*P **P 17 28 06.9 -0.7**
comp=Z,51nm,1.1s,mb5.1
OHCM Honcut 41.47 83 *e*P **P 17 28 07.0 -0.8**
M07A Soldier Meadow 41.71 79⇑ P **P 17 28 10.3 +0.5**
baz=42,SNR=27
M07A ⇓S **S 17 34 23.9 +0.1**
baz=42
Q04C Lincoln 41.82 84⇓ P **P 17 28 10.1 -0.6**
baz=42
MSO Missoula 41.94 69 *e*P **P 17 28 10.7 -0.9**
comp=Z,50nm,1.2s,mb5.0
O06A Flanigan 42.01 81⇓ P **P 17 28 12.3 0.0**
baz=42
M08A Happy Creek Ra 42.17 79⇓ P **P 17 28 13.6 +0.2**
baz=42,SNR=14
P06A Stead Airport, 42.25 82⇓ P **P 17 28 13.9 -0.3**
baz=42
LAVA Lava Cap Winer 42.27 83⇓ P **P 17 28 14.6 +0.2**
baz=42
L09A Wilkinson Ranc 42.28 77⇑ P **P 17 28 14.4 0.0**
baz=42
L09A ⇓S **S 17 34 34.0 +1.8**
baz=42
CHMT Chamberlain Mo 42.30 69 *e*P **P 17 28 13.4 -1.1**
DL2 Dalian 42.30 277 P **P 17 28 15.0 +0.4**
DL2 S **S 17 34 34.8 +2.3**
DL2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
DL2 LR LR
comp=N,470nm,15.9s,MS4.7
DL2 LR LR
comp=E,570nm,16.4s,MS4.7
DL2 LR LR
comp=Z,800nm,16.1s,MS4.7
PAHR Pah Rah Range 42.56 81 *e*P **P 17 28 16.2 -0.4**
comp=Z,23nm,0.9s,mb4.9
WCN Washoe City 42.56 82⇓ P **P 17 28 16.8 +0.1**
baz=42
O07A Toulon 42.60 80⇑ P **P 17 28 17.3 +0.3**

baz=42,SNR=20
O07A ⇓S **S** **17 34 38.5 +1.5**
baz=42
S04C Ingram Canyon, 42.67 85 ⇓P **P** **17 28 17.8 +0.2**
baz=42
N08A GE Springer Mi 42.71 79 ⇓P **P** **17 28 17.8 -0.1**
baz=42,SNR=6.5
N08A ⇑S **S** **17 34 39.2 +0.8**
baz=42
R05C Kirkwood Meado 42.72 83 ⇓P **P** **17 28 17.7 -0.3**
baz=42
M09A Marrel Ranch, 42.76 78 ⇑P **P** **17 28 18.4 +0.1**
baz=43
ALE Alert 42.92 10 P **P** **17 28 18.9 -0.7**
comp=Z,115nm,0.6s,mb5.8,SNR=14
CMB Columbia Colle 42.93 84 *e*P **P** **17 28 19.1 -0.6**
CMB pmax pmax
comp=Z,19nm,1.2s,mb4.7
CMB MLR MLR
comp=Z,1μm,20.0s,MS4.7
CMB Columbia Colle 42.93 84 *e*P **P** **17 28 19.1 -0.6**
comp=Z,19nm,1.2s,mb4.7
CMB LR LR
comp=Z,1μm,20.0s,MS4.7
CMB Columbia Colle 42.93 84 ⇓P **P** **17 28 20.0 +0.3**
baz=43
CMB ⇓S **S** **17 34 43.7 +2.0**
baz=43
N09A Rock Creek Ran 43.04 79 ⇑P **P** **17 28 20.5 -0.1**
baz=43,SNR=9.4
HAST UC Hastings Re 43.22 87 ⇓P **P** **17 28 21.3 -0.7**
baz=43
R06C Coleville 43.22 83 ⇓P **P** **17 28 22.2 +0.2**
baz=43
R06C ⇑S **S** **17 34 47.1 +1.1**
baz=43
HRY Holter Researc 43.24 68 *e*P **P** **17 28 21.2 -0.9**
M10A I.L. Ranch, Tu 43.26 77 ⇓P **P** **17 28 22.2 -0.1**
baz=43
Q07A Schurz 43.37 82 ⇓P **P** **17 28 23.3 +0.1**
baz=43
P08A Dixie Valley 43.38 80 ⇓P **P** **17 28 23.1 -0.2**
baz=43
S05C Merced 43.39 85 ⇓P **P** **17 28 23.2 -0.1**
baz=43
HLID Hailey 43.40 74 *e*P **P** **17 28 23.2 -0.3**
comp=Z,36nm,0.9s,mb5.1
HLID LR LR
comp=Z,3μm,22.0s,MS5.1
BMN Battle Mountai 43.47 79 *e*P **P** **17 28 24.3 +0.3**
BMN pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
BMN Battle Mountai 43.47 79 *e*P **P** **17 28 24.3 +0.2**
comp=Z,9.5nm,0.6s,mb4.7
DLMT Dillon 43.51 70 *e*P **P** **17 28 23.2 -1.1**
comp=Z,53nm,1.4s,mb5.1
MCMT McKenzie Canyo 43.65 71 *e*P **P** **17 28 24.2 -1.2**
O09A Fish Creek Ran 43.65 79 P **P** **17 28 25.6 +0.2**
baz=43,SNR=17
O09A ⇓S **S** **17 34 54.1 +1.9**
baz=43
U04C Hernandez Rese 43.72 86 ⇓P **P** **17 28 26.3 +0.2**
baz=44
R07C Lee Vining 43.73 83 ⇑P **P** **17 28 26.5 +0.4**
baz=44
N10A Dunphy 43.74 78 ⇑P **P** **17 28 26.3 0.0**
baz=44
EGMT Eagleton 43.75 66 *e*P **P** **17 28 25.2 -1.1**
comp=Z,53nm,0.8s,mb5.3
M11A Holland Ranch, 43.77 77 ⇑P **P** **17 28 26.6 +0.1**
baz=44,SNR=9.9
BOZ Bozeman (W) 43.92 69 *e*P **P** **17 28 27.1 -0.6**
BOZ pmax pmax
comp=Z,43nm,0.7s,mb5.3
BOZ MLR MLR
comp=Z,2μm,19.0s,MS5.0
BOZ Bozeman (W) 43.92 69 *e*P **P** **17 28 27.1 -0.6**
comp=Z,43nm,0.7s,mb5.3
BOZ LR LR
comp=Z,2μm,19.0s,MS5.0
Q08A Gabbs 43.97 81 ⇑P **P** **17 28 27.7 -0.3**
baz=44,SNR=16
T06C Millerton Lake 43.98 85 ⇑P **P** **17 28 28.7 +0.5**
baz=44
P09A Austin 44.04 80 ⇑P **P** **17 28 28.7 0.0**
baz=44
MNV Mina 44.09 82 *e*P **P** **17 28 28.7 -0.3**
MNV pmax pmax
comp=Z,15nm,1.0s,mb4.7
MNV Mina 44.09 82 *e*P **P** **17 28 28.7 -0.3**
comp=Z,14nm,1.0s,mb4.7
PKD Parkfield 44.13 86 ⇑P **P** **17 28 29.6 +0.3**
baz=44
MLAC Mammoth Lakes 44.15 83 ⇑P **P** **17 28 30.2 +0.7**
baz=44
M12A Wells 44.32 76 ⇓P **P** **17 28 31.1 +0.2**
baz=44,SNR=8.4
M12A ⇑S **S** **17 35 07.1 +5.1**
baz=44
P10A Eureka 44.42 79 ⇑P **P** **17 28 31.9 +0.3**
baz=44,SNR=6.4
Q09A Carvers 44.45 81 ⇑P **P** **17 28 31.8 -0.1**
baz=44
QLMT Earthquake Lak 44.49 70 *e*P **P** **17 28 31.6 -0.6**
MTUM Tungsten Hills 44.49 83 *e*P **P** **17 28 32.7 +0.5**
ELK Elko 44.51 77 *e*P **P** **17 28 31.9 -0.5**
ELK pmax pmax
comp=Z,29nm,0.9s
ELK MLR MLR
comp=Z,3μm,19.0s
ELK Elko 44.51 77 *e*P **P** **17 28 31.9 -0.5**
comp=Z,29nm,0.9s,mb5.1
ELK LR LR
comp=Z,3μm,19.0s,MS5.2
PTRM Twissleman Ran 44.52 87 *e*P **P** **17 28 32.7 +0.2**
N12A Clover Valley, 44.57 77 P **P** **17 28 33.1 +0.2**
baz=44,SNR=30
O11A Cowboy Ranch, 44.62 78 ⇓P **P** **17 28 33.5 +0.3**
baz=44
HELL Mitchell Peak, 44.62 85 ⇑P **P** **17 28 32.2 -1.1**
baz=44,SNR=12
M13A Montello 44.81 76 ⇑P **P** **17 28 34.5 -0.2**
baz=45
M13A ⇑S **S** **17 35 11.7 +2.6**
baz=45
R09A Tonopah 44.88 81 P **P** **17 28 35.0 -0.2**
baz=45,SNR=52
TPH Tonopah 44.88 82 *e*P **P** **17 28 35.5 +0.2**
TPH pmax pmax
comp=Z,24nm,1.0s,mb5.0
TPH Tonopah 44.88 82 *e*P **P** **17 28 35.5 +0.1**
comp=Z,24nm,1.0s,mb5.0
P11A Circle Ranch, 44.91 79 ⇑P **P** **17 28 35.6 +0.1**
baz=45
GCMT Greycliff 45.00 68 *e*P **P** **17 28 36.0 -0.3**
BJI Beijing 45.02 282 P **P** **17 28 37.3 +0.9**
BJI S **S** **17 35 18.0 +5.9**
BJI AMB AMB
comp=Z,25nm,1.1s,mb5.0
BJI LR LR
comp=N,2μm,18.7s,MS5.2
BJI LR LR
comp=E,2μm,20.4s,MS5.2
BJI LR LR
comp=Z,2μm,21.3s,MS5.1
BJT Baijiatuau 45.03 282 *e*P **P** **17 28 35.7 -0.8**
BJT pmax pmax
comp=Z,28nm,1.0s
BJT Baijiatuau 45.03 282 *e*P **P** **17 28 35.7 -0.8**
comp=Z,28nm,1.0s,mb5.0
YFT Old Faithful 45.05 70 *e*P **P** **17 28 37.9 +1.2**
N13A Wendover, West 45.08 77 ⇑P **P** **17 28 36.8 -0.1**
baz=45
S09A Goldfield 45.10 82 P **P** **17 28 36.9 -0.2**
baz=45,SNR=15
S09A ⇓S **S** **17 35 15.6 +2.2**
baz=45
IRK Irkutsk 45.21 303 *e*P **P** **17 28 35.4 -2.6**
IRK *e* 17 30 30.5
IRK pmax pmax
comp=Z,111nm,1.5s,mb5.5
LKWY Lake 45.24 70 *e*P **P** **17 28 39.2 +1.0**
LKWY pmax pmax
comp=Z,48nm,0.8s,mb5.4
LKWY Lake 45.24 70 *e*P **P** **17 28 39.2 +1.0**
comp=Z,48nm,0.8s,mb5.4
R10A Warm Springs 45.33 81 ⇓P **P** **17 28 38.6 -0.3**
baz=45
CWC Cottonwood Cre 45.36 84 ⇑P **P** **17 28 38.0 -1.2**
baz=45
RRI2 Red Ridge 45.39 72 *e*P **P** **17 28 48.5 +9.2**
Q11A Duckwater 45.39 80 P **P** **17 28 39.3 0.0**
baz=45,SNR=22
HVU Hansel Valley 45.41 75 *e*P **P** **17 28 39.5 0.0**
HVU pmax pmax
comp=Z,31nm,0.7s,mb5.2
HVU Hansel Valley 45.41 75 *e*P **P** **17 28 39.5 0.0**
comp=Z,31nm,0.7s,mb5.2
P12A McGill 45.47 79 ⇑P **P** **17 28 39.7 -0.3**
baz=45,SNR=14
MOOW Moose Ponds 45.50 71 *e*P **P** **17 28 39.8 -0.5**
comp=Z,10nm,0.9s,mb4.8
TPAW Teton Pass 45.52 72 *e*P **P** **17 28 40.6 +0.2**
comp=Z,51nm,1.3s,mb5.3
ISA Isabella 45.61 85 ⇑P **P** **17 28 40.0 -1.0**
baz=45
REDW Red Top Meadow 45.66 72 *e*P **P** **17 28 41.5 0.0**
comp=Z,47nm,1.2s,mb5.3
SNOW Snow King Moun 45.66 72 *e*P **P** **17 28 42.3 +0.9**
comp=Z,44nm,1.2s,mb5.3
LOHW Long Hollow 45.66 71 *e*P **P** **17 28 41.2 -0.3**
comp=Z,21nm,1.0s,mb5.0
BGU Big Grassy Mou 45.76 76 *e*P **P** **17 28 42.4 +0.1**
DAC Darwin (Calif) 45.77 84 *e*P **P** **17 28 42.1 -0.3**
DAC pmax pmax
comp=Z,14nm,0.9s,mb4.9
DAC Darwin (Calif) 45.77 84 *e*P **P** **17 28 42.1 -0.2**
comp=Z,14nm,0.9s,mb4.9
Q12A Willow Creek R 45.78 79 ⇓P **P** **17 28 42.0 -0.4**
baz=46
Q12A ⇓S **S** **17 35 25.3 +2.2**
baz=46
TLY Talaya 45.84 302 P **P** **17 28 44.5 +1.6**
comp=Z,194nm,0.9s,mb6.0,SNR=17
TLY Talaya 45.84 302 P **P** **17 28 44.1 +1.3**
SNR=30
TLY Talaya 45.84 302 ⇓*i*P **P** **17 28 43.9 +1.0**
TLY *e*S **S** **17 35 22.9 -1.0**
TLY *e* 17 38 30.4
TLY pmax pmax
comp=Z,48nm,1.1s,mb5.3
TLY MLR MLR
comp=Z,4μm,20.0s,MS5.4
TLY Talaya 45.84 302 *e*P **P** **17 28 43.8 +0.9**
comp=Z,39nm,1.0s,mb5.3
AHID Auburn Hatcher 45.85 73 P **P** **17 28 43.0 0.0**
comp=Z,31nm,1.0s,mb5.2
SPUT South Promonto 45.89 75 *e*P **P** **17 28 43.3 +0.1**
ULN Ulaanbaatar 45.99 296 P **P** **17 28 45.2 +1.1**
ULN Ulaanbaatar 45.99 296 P **P** **17 28 45.5 +1.4**
SNR=17
ULN Ulaanbaatar 45.99 296 *e*P **P** **17 28 45.2 +1.1**
ULN pmax pmax
comp=Z,16nm,0.6s,mb5.1
ULN MLR MLR
comp=Z,7μm,19.0s,MS5.6
ULN Ulaanbaatar 45.99 296 *e*P **P** **17 28 45.2 +1.1**
comp=Z,16nm,0.6s,mb5.1
ULN LR LR
comp=Z,7μm,19.0s,MS5.6
TPNV Topopah Spring 46.19 82 *e*P **P** **17 28 45.0 -0.7**
TPNV pmax pmax
comp=Z,45nm,0.9s,mb5.4
TPNV Topopah Spring 46.19 82 *e*P **P** **17 28 45.0 -0.6**
comp=Z,45nm,0.9s,mb5.4
HWUT Hardware Ranch 46.25 74 *e*P **P** **17 28 45.5 -0.6**
comp=Z,22nm,1.0s,mb5.0
DUG Dugway 46.33 76 *e*P **P** **17 28 46.6 -0.1**
DUG pmax pmax
comp=Z,89nm,1.1s,mb5.6
DUG Dugway 46.33 76 *e*P **P** **17 28 46.6 -0.1**
comp=Z,89nm,1.1s,mb5.6
SONM Songino Array 46.38 296 P **P** **17 28 48.4 +1.3**
comp=Z,12nm,0.6s,mb5.0,baz=74,slow=6.4,SNR=106
SONM ScP ScP 17 34 12.8 +1.3
comp=Z,1.7nm,1.0s,baz=134,slow=2.3,SNR=4.8
SONM LR LR 17 49 43.5
comp=Z,7μm,18.7s,MS5.6,baz=55,slow=38
SONM PKKP 17 51 45.7
comp=Z,0.1nm,0.5s,baz=259,slow=3.0,SNR=3.8
FCC Fort Churchill 46.42 46 *e*P **P** **17 28 45.9 -1.6**
FCC pmax pmax
comp=Z,14nm,0.8s,mb4.9
FCC Fort Churchill 46.42 46 *e*P **P** **17 28 45.9 -1.6**
comp=Z,14nm,0.8s,mb5.0
U10A Ash Meadows, A 46.47 83 ⇓P **P** **17 28 47.6 -0.2**
baz=46
U10A ⇑S **S** **17 35 34.8 +1.8**
baz=46
NOQ North Oquirrh 46.48 76 *e*P **P** **17 28 48.2 +0.3**
comp=Z,68nm,1.0s,mb5.5
LAO LASA Array 46.49 65 *e*P **P** **17 28 47.5 -0.5**
comp=Z,61nm,1.0s,mb5.5
SNCC San Nicolas Is 46.51 89 ⇓P **P** **17 28 47.9 -0.2**
baz=46
TCUT Toone Canyon 46.63 75 *e*P **P** **17 28 48.8 -0.4**
CTU Camp Tracy 46.68 75 *e*P **P** **17 28 48.8 -0.7**
comp=Z,28nm,1.0s,mb5.1
PDAR Pinedale Array 46.77 72 P **P** **17 28 49.9 -0.4**
comp=Z,37nm,0.8s,mb5.4,baz=305,slow=3.8,SNR=261
PDAR LR LR 17 46 02.1
comp=Z,2μm,20.6s,MS5.0,baz=311,slow=33
TIA Tai'an 46.78 277 ⇑P **P** **17 28 50.7 +0.4**
TIA AMB AMB
comp=Z,35nm,1.4s,mb5.1
TIA LR LR
comp=N,637nm,18.0s,MS5.1
TIA LR LR
comp=E,2μm,17.0s,MS5.1
GSC Goldstone 46.88 84 *e*P **P** **17 28 49.3 -1.8**
GSC Goldstone 46.88 84 P **P** **17 28 51.1 0.0**
baz=47,SNR=11
NLU North Lily Min 46.92 76 *e*P **P** **17 28 51.5 +0.1**
DAU Daniels Canyon 47.15 75 *e*P **P** **17 28 53.3 +0.1**
MPU Maple Canyon 47.16 76 *e*P **P** **17 28 53.1 -0.1**
comp=E,13nm,0.7s,mb5.0
MOY Mondy 47.24 303 *e*P **P** **17 28 55.3 +1.4**
MOY pmax pmax
comp=Z,129nm,2.6s,mb5.4
TUQ Turquoise Mtn. 47.35 84 ⇑P **P** **17 28 54.1 -0.7**
baz=47
HHC Hu-ho-hao-te 47.35 286 *e*P **P** **17 28 55.9 +1.1**
HHC AP pP 17 29 07.8 +1.2
HHC XP sP 17 29 13.5 +2.0
HHC PP PP 17 30 46.8 +0.7
HHC SCP ScP 17 34 16.1 +0.5
HHC S **S** **17 35 45.3 -0.3**
HHC XS sS 17 36 04.2 -1.1
HHC SCS ScS 17 38 44.7 -0.4
HHC SS SS 17 39 04.5 -8.9
HHC AMB AMB
comp=Z,43nm,1.4s,mb5.2
HHC LR LR
comp=N,1μm,19.0s,MS5.1
HHC LR LR
comp=E,2μm,23.8s,MS5.1
HHC LR LR
comp=Z,2μm,22.6s,MS5.1
V11A Goodsprings 47.40 83 ⇑P **P** **17 28 55.0 -0.1**
baz=47,SNR=10
V11A ⇑S **S** **17 35 47.9 +1.6**
baz=47
SSE Sheshan 47.58 269 P **P** **17 28 56.1 -0.4**
SSE AP pP 17 29 09.5 +1.1
SSE XP sP 17 29 15.4 +2.1
SSE S **S** **17 35 47.6 -1.2**
SSE XS sS 17 36 10.6 +2.1
SSE AMB AMB
comp=Z,36nm,1.0s,mb5.4
SSE AMB AMB
comp=Z,770nm,12.0s
SSE LR LR
comp=N,880nm,20.3s,MS4.7
SSE LR LR
comp=E,284nm,20.3s,MS4.7
SSE LR LR
comp=Z,864nm,20.6s,MS4.7
U12A Valley of Fire 47.58 82 ⇑P **P** **17 28 56.3 -0.2**
baz=47,SNR=7.9
CCUT Cedar City 47.61 80 *e*P **P** **17 28 56.5 -0.2**
MSU Marysvale 47.74 78 *e*P **P** **17 28 57.6 -0.2**
V12A Nelson 47.83 83 ⇓P **P** **17 28 58.4 -0.1**
baz=48,SNR=8.0
TMUT Trail Mountain 47.85 76 *e*P **P** **17 28 59.3 +0.7**
W12A Cal Nev Ari 48.10 83 ⇑P **P** **17 29 00.1 -0.4**
baz=48
PFO Pinyon Flat Ob 48.20 86 ⇓P **P** **17 28 59.1 -2.2**
baz=48
109C Camp Elliot, M 48.26 87 ⇓P **P** **17 29 01.5 -0.3**
baz=48
SRU San Rafael 48.39 76 *e*P **P** **17 29 03.0 +0.2**
SRU pmax pmax
comp=Z,26nm,0.6s,mb5.4
SRU San Rafael 48.39 76 *e*P **P** **17 29 03.0 +0.2**
comp=Z,26nm,0.6s,mb5.4
NJ2 Nanjing 48.40 272 *e*P **P** **17 29 03.8 +0.9**
NJ2 AP pP 17 29 15.9 +1.1
NJ2 XP sP 17 29 21.9 +2.2
NJ2 PP PP 17 30 56.9 +1.2
NJ2 S **S** **17 36 01.0 +0.5**
NJ2 XS sS 17 36 23.0 +2.8
NJ2 AMB AMB
comp=Z,110nm,1.1s,mb5.8
NJ2 AMB AMB
comp=Z,410nm,6.4s
NJ2 LR LR
comp=N,2μm,18.6s,MS5.3
NJ2 LR LR
comp=E,2μm,14.7s,MS5.3
NJ2 LR LR
comp=Z,1μm,15.8s,MS5.0
BTO Baotou 48.43 286 *e*P **P** **17 29 04.0 +0.9**
RWWY Rawlins 48.82 71 *e*P **P** **17 29 05.5 -0.6**
comp=Z,40nm,1.0s,mb5.4
KRAR Krasnoyarsk 48.92 312 ⇓*i*P **P** **17 29 06.5 -0.4**
RSSD Black Hills 49.23 67 *e*P **P** **17 29 07.8 -1.4**
RSSD pmax pmax
comp=Z,15nm,0.6s,mb5.2
RSSD Black Hills 49.23 67 *e*P **P** **17 29 07.8 -1.5**
comp=Z,15nm,0.6s,mb5.2
W14A Seligman 49.27 82 ⇓P **P** **17 29 08.8 -0.7**
baz=49,SNR=6.4
Y12C Blythe 49.32 84 ⇑P **P** **17 29 08.8 -1.1**
baz=49
GLA Glamis 49.59 85 ⇓P **P** **17 29 11.3 -0.7**
baz=49,SNR=14
W15A Williams 49.80 81 ⇓P **P** **17 29 12.9 -0.7**
baz=50
X14A Yava 49.87 83 ⇑P **P** **17 29 13.9 -0.2**
baz=50,SNR=15
KBS Kingsbay 50.01 357 *e*P **P** **17 29 15.3 +0.2**
KBS pmax pmax
comp=Z,37nm,0.5s,mb5.7
KBS Kingsbay 50.01 357 *e*P **P** **17 29 15.3 +0.2**
comp=Z,37nm,0.5s,mb5.7
PHWY Pilot Hill 50.10 71 *e*P **P** **17 29 14.7 -1.2**
WUAZ Wupatki 50.13 80 *e*P **P** **17 29 15.8 -0.3**
comp=Z,22nm,0.6s,mb5.4
Y14A Wickenburg 50.15 83 ⇑P **P** **17 29 15.7 -0.5**
baz=50
ULM Lac du Bonnet 50.16 56 P **P** **17 29 14.7 -1.6**
comp=Z,2.0nm,0.4s,mb4.5,baz=278,slow=5.8,SNR=4.3
ULM LR LR 17 51 40.9
comp=Z,2μm,19.1s,MS5.1,baz=81,slow=38
ULM Lac du Bonnet 50.16 56 P **P** **17 29 14.4 -1.8**
comp=Z,4.1nm,0.7s,mb4.6
X15A Humboldt 50.26 82 P **P** **17 29 17.0 -0.1**
baz=50,SNR=14
SMCO Snowmass 50.51 74 *e*P **P** **17 29 18.6 -0.3**
comp=Z,15nm,0.8s,mb5.0
Z14A Wintersburg 50.56 84 ⇑P **P** **17 29 18.7 -0.6**
baz=50
SPB4 Spitsbergen Ar 50.57 356 *e*P **P** **17 29 18.9 -0.5**
MVCO Mesa Verde 50.82 77 *e*P **P** **17 29 20.4 -0.9**
ISCO Idaho Springs 50.94 72 *e*P **P** **17 29 21.8 -0.4**
ISCO pmax pmax
comp=Z,18nm,0.8s,mb5.0
ISCO Idaho Springs 50.94 72 *e*P **P** **17 29 21.8 -0.3**
comp=Z,18nm,0.8s,mb5.0
115A Sonoran Desert 51.45 84 P **P** **17 29 25.9 -0.2**
baz=51,SNR=12
DAG Danmarks Havn 51.77 6 ⇓*i*P **P** **17 29 26.4 -2.0**
comp=Z,3.0nm,0.6s,mb4.4
DAG Danmarks Havn 51.77 6 ⇓*i*P **P** **17 29 26.4 -2.0**
DAG pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
116A Eloy 51.88 83 ⇑P **P** **17 29 28.4 -0.9**
baz=52
WHN Wuhan 52.26 273 P **P** **17 29 32.3 +0.3**
XAN Xi'an 53.29 281 P **P** **17 29 39.7 0.0**
XAN AMB AMB
comp=Z,18nm,1.9s,mb4.7
XAN LR LR
comp=N,268nm,15.9s,MS5.0
XAN LR LR
comp=E,1μm,20.6s,MS5.0
XAN LR LR
comp=Z,2μm,20.9s,MS5.2
LAZ Ladron 53.49 79 *e*P **P** **17 29 41.6 +0.5**
QZH Quanzhou 53.51 265 P **P** **17 29 42.2 +0.9**
QZH AP pP 17 29 54.8 +1.5
QZH S **S** **17 37 10.0 -1.2**
QZH AMB AMB
comp=Z,110nm,1.2s,mb5.7
QZH AMB AMB
comp=Z,900nm,3.4s
QZH LR LR
comp=N,700nm,10.9s,MS5.0
QZH LR LR
comp=E,410nm,12.6s,MS5.0
QZH LR LR
comp=Z,2μm,18.9s
ANMO Albuquerque 53.54 78 LR LR 17 51 48.1
comp=Z,2μm,19.0s,MS5.2,baz=128,slow=35
ANMO Albuquerque 53.54 78 *e*P **P** **17 29 41.1 -0.4**
ANMO pmax pmax
comp=Z,16nm,1.2s
ANMO MLR MLR
comp=Z,2μm,19.0s
ANMO Albuquerque 53.54 78 *e*P **P** **17 29 41.1 -0.4**
comp=Z,16nm,1.2s,mb4.8
ANMO LR LR
comp=Z,2μm,19.0s,MS5.2
SUMG Summit 53.62 14 *e*P **P** **17 29 40.6 -1.5**
comp=Z,23nm,0.9s,mb5.1
EYMN Ely 53.84 56 *e*P **P** **17 29 42.0 -1.7**
comp=Z,24nm,1.0s,mb5.1
Y22C IRIS PASSCAL I 53.84 79 ⇓P **P** **17 29 43.8 0.0**
baz=54
LPM Los Pinos Moun 53.86 78 *e*P **P** **17 29 43.9 0.0**
ZAL Zalesovo 53.90 313 P **P** **17 29 43.9 -0.3**
comp=Z,4.2nm,0.4s,mb4.7,baz=76,slow=5.2,SNR=14
ZAL LR LR 17 55 01.5
comp=Z,3μm,18.8s,MS5.3,baz=56,slow=39
BNM Barren Site 53.97 78 *e*P **P** **17 29 44.9 +0.3**
NVS Novosibirsk 54.04 315 *e*P **P** **17 29 45.4 +0.3**
NVS pmax pmax
comp=N,32nm,2.1s
NVS pmax pmax
comp=Z,78nm,2.1s,mb5.3
LZH Lanzhou 55.05 286 P **P** **17 29 53.2 +0.7**
LZH AP pP 17 30 08.7 +4.2
LZH XP sP 17 30 13.2 +3.8
LZH PP PP 17 32 01.0 +5.1
LZH *e*S **S** **17 37 35.0 +3.1**
LZH AMB AMB
comp=Z,240nm,1.4s,mb6.0
LZH AMB AMB
comp=Z,1μm,4.2s
LZH LR LR
comp=E,6μm,17.0s
LZH LR LR
comp=Z,7μm,17.9s,MS5.8
GTA Gaotai 55.27 292 ⇑P **P** **17 29 55.2 +1.2**
GTA AP pP 17 30 07.4 +1.3
GTA XP sP 17 30 13.2 +2.3
GTA PCP PcP 17 30 55.2 +0.8
GTA PP PP 17 31 59.6 +1.8
GTA S **S** **17 37 33.5 -1.3**
GTA XS sS 17 37 55.1 +0.3
GTA SS SS 17 41 18.2 -1.2
GTA AMB AMB
comp=Z,35nm,1.1s,mb5.3
GTA AMB AMB
comp=Z,457nm,6.8s
GTA LR LR
comp=N,1μm,18.3s,MS5.2
GTA LR LR
comp=E,2μm,18.3s,MS5.2

GTA LR LR
comp=Z,1µm,20.5s,MS5.0
SFJD Kangerlussuaq 56.02 22 *i* P **P 17 29 57.6 -1.8**
comp=Z,11nm,0.6s,mb5.1
SFJD
comp=Z,1µm,18.0s
SFJD Kangerlussuaq 56.02 22 *i* P **P 17 29 57.6 -1.8**
SFJD pmax pmax
comp=Z,11nm,0.6s,mb5.1
SFJD MLR MLR
comp=Z,1µm,18.0s,MS5.0
AMTX Amarillo 56.51 74 *e*P **P 17 30 02.2 -0.7**
comp=Z,16nm,0.6s,mb5.2
SCIA State Center 56.80 63 *e*P **P 17 30 04.2 -0.8**
KEV Kevo 57.87 349 *e*p **P 17 30 08.6 -3.9**
JMIC Jan Mayen 58.00 3 LR LR 17 54 11.6
comp=Z,625nm,21.2s,MS4.7,baz=313,slow=35
ARCES ARCESS Array B 58.25 350 P **P 17 30 13.9 -1.3**
comp=Z,16nm,0.7s,mb5.2,baz=28,slow=8.3,SNR=65
ARCES LR LR 18 00 31.8
comp=Z,1µm,18.2s,MS5.1,baz=23,slow=41
LVZ Lovozero 58.56 346 P **P 17 30 16.0 -1.4**
comp=Z,269nm,1.0s,mb6.2,SNR=15
LVZ Lovozero 58.56 346 *e*P **P 17 30 16.3 -1.1**
LVZ pmax pmax
comp=Z,43nm,1.0s,mb5.4
LVZ pmax pmax
comp=E,5.0nm,0.6s
LVZ MLR MLR
comp=N,886nm,15.0s
LVZ MLR MLR
comp=Z,1µm,15.0s,MS5.1
CD2 Chengdu 58.61 281 P **P 17 30 18.4 +0.7**
CD2 AP pP 17 30 31.1 +1.2
CD2 PP PP 17 32 30.0 +2.4
CD2 S **S 17 38 18.5 -0.4**
CD2 XS sS 17 38 39.5 +0.4
CD2 SS SS 17 42 16.3 +4.3
CD2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
CD2 AMB AMB
comp=Z,60nm,5.8s
CD2 LR LR
comp=N,790nm,16.8s
CD2 LR LR
comp=Z,900nm,18.7s,MS4.9
LPIG La Paz 58.65 90 P **P 17 30 17.0 -1.0**
comp=Z,12nm,0.3s,mb5.4,baz=0.0,slow=2.0,SNR=2.8
LPIG LR LR 17 50 40.8
comp=Z,1µm,18.1s,MS5.0,baz=321,slow=31
TRO Tromso 58.78 353 *e*P **P 17 30 17.4 -1.5**
TRO *e*PP PP 17 32 34.1 +5.0
KURK Kurchatov 58.88 313 P **P 17 30 20.9 +1.3**
comp=Z,406nm,0.4s,SNR=32
KURK Kurchatov 58.88 313 P **P 17 30 19.6 +0.1**
SNR=13
KURK Kurchatov 58.88 313 *e*P **P 17 30 18.9 -0.7**
KURK pmax pmax
comp=Z,33nm,0.6s,mb5.5
KURK MLR MLR
comp=Z,3µm,19.0s,MS5.4
KURK Kurchatov 58.88 313 *e*P **P 17 30 18.9 -0.7**
comp=Z,33nm,0.6s,mb5.5
KURK LR LR
comp=Z,3µm,19.0s,MS5.4
APA Apatity 59.05 346⇑ *i*P **P 17 30 20.0 -0.8**
APA pmax pmax
comp=Z,32nm,1.5s,mb5.1
APA MLR MLR
comp=Z,2µm,20.0s,MS5.1
LTX Lajitas 59.10 81 *e*P **P 17 30 20.1 -1.0**
LTX pmax pmax
comp=Z,26nm,1.1s,mb5.2
LTX Lajitas 59.10 81 *e*P **P 17 30 20.1 -1.1**
comp=Z,26nm,1.1s,mb5.2
WMQ Urumqi 59.12 303 P **P 17 30 24.3 +3.1**
WMQ AP pP 17 30 37.0 +3.6
WMQ XP sP 17 30 42.3 +4.1
WMQ PCP PcP 17 31 12.1 +2.6
WMQ PP PP 17 32 37.1 +5.0
WMQ SCP ScP 17 35 07.5 +0.7
WMQ S **S 17 38 27.0 +1.6**
WMQ AMB AMB
comp=Z,108nm,2.1s,mb5.5
WMQ AMB AMB
comp=Z,306nm,4.7s
WMQ LR LR
comp=N,2µm,21.2s,MS5.3
WMQ LR LR
comp=E,1µm,20.1s,MS5.3
WMQ LR LR
comp=Z,2µm,21.7s,MS5.2
MKAR Makanchi Array 59.85 308 P **P 17 30 26.0 -0.3**
comp=Z,25nm,0.5s,mb5.5,baz=54,slow=5.8,SNR=593
MKAR Makanchi Array 59.85 308 P **P 17 30 26.0 -0.3**
GYA Guiyang 59.93 276⇑ *i*P **P 17 30 27.2 +0.4**
GYA AP pP 17 30 39.9 +0.9
GYA XP sP 17 30 45.2 +1.3
GYA PP PP 17 32 41.3 +2.0
GYA S **S 17 38 43.5 +7.5**
GYA XS sS 17 38 55.0 -1.2
GYA SS SS 17 42 31.1 -1.7
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,140nm,4.8s
GYA LR LR
comp=N,480nm,18.0s,MS4.8
GYA LR LR
comp=E,510nm,18.4s,MS4.8
GYA LR LR
comp=Z,490nm,18.2s,MS4.7
SCHQ Schefferville 60.44 38 P **P 17 30 29.3 -1.0**
comp=Z,17nm,0.8s,mb5.2,baz=319,slow=8.2,SNR=25
SCHQ LR LR 17 58 36.1
comp=Z,3µm,18.6s,MS5.4,baz=209,slow=38
SCHQ Schefferville 60.44 38 *e*P **P 17 30 28.8 -1.6**
comp=Z,21nm,0.7s,mb5.3
CCM Cathedral Cave 60.51 65 *e*P **P 17 30 28.8 -2.0**
CCM pmax pmax
comp=Z,14nm,0.8s,mb5.1
CCM Cathedral Cave 60.51 65 *e*P **P 17 30 28.8 -2.0**
comp=Z,14nm,0.8s,mb5.2
LOF Lofoten 60.64 354 *e*P **P 17 30 32.9 +1.2**
SLM Saint Louis 60.68 64 *e*P **P 17 30 30.2 -1.8**
SLM pmax pmax
comp=Z,25nm,0.6s,mb5.5
SLM Saint Louis 60.68 64 *e*P **P 17 30 30.2 -1.8**
comp=Z,25nm,0.6s,mb5.5
JCT Junction City 60.69 77 *e*P **P 17 30 30.8 -1.2**
JCT pmax pmax
comp=Z,19nm,0.8s,mb5.3
JCT Junction City 60.69 77 *e*P **P 17 30 30.8 -1.2**
comp=Z,19nm,0.8s,mb5.3
BVAR Borovoye Array 60.80 319 P **P 17 30 32.3 -0.4**
comp=Z,7.2nm,0.4s,mb5.2,baz=53,slow=6.4,SNR=48
BVAR LR LR 17 58 29.9
comp=Z,3µm,21.2s,MS5.4,baz=321,slow=38
BRVK Borovoye 60.81 320 P **P 17 30 32.0 -0.9**
comp=Z,112nm,0.5s,mb6.2,SNR=5.5
BRVK Borovoye 60.81 320 P **P 17 30 33.1 +0.3**
SNR=9.0
BRVK P 17 30 34.3
SNR=9.2
BRVK Borovoye 60.81 320 *e*P **P 17 30 32.5 -0.4**
BRVK pmax pmax
comp=Z,25nm,1.1s,mb5.3
BRVK MLR MLR
comp=Z,2µm,21.0s,MS5.2
BRVK Borovoye 60.81 320 *e*P **P 17 30 32.5 -0.4**
comp=Z,24nm,1.1s,mb5.2
BRVK LR LR
comp=Z,2µm,21.0s,MS5.2
FVM French Village 61.03 65 *e*P **P 17 30 32.1 -2.2**
FVM pmax pmax
comp=Z,47nm,1.2s,mb5.5
FVM French Village 61.03 65 *e*P **P 17 30 32.1 -2.2**
comp=Z,47nm,1.2s,mb5.5
ZRNK Zerenda 61.41 320 *e*P **P 17 30 36.3 -0.6**
ZRNK pmax pmax
comp=Z,36nm,1.1s,mb5.4
ZRNK Zerenda 61.41 320 *e*P **P 17 30 36.3 -0.6**
comp=Z,36nm,1.1s,mb5.4
SVE Sverdlovsk 61.56 327 *e*P **P 17 30 38.3 +0.4**
SVE *e* 17 31 18.0
SVE MLR MLR
comp=N,1µm,16.0s,MS5.3
SVE MLR MLR
comp=E,1µm,16.0s,MS5.3
SVE MLR MLR
comp=Z,3µm,16.0s,MS5.6
MIAR Mount Ida 61.59 69 *e*P **P 17 30 37.6 -0.5**
MIAR pmax pmax
comp=Z,58nm,1.2s,mb5.6
MIAR Mount Ida 61.59 69 *e*P **P 17 30 37.6 -0.6**
comp=Z,58nm,1.2s,mb5.6
UALR University of 62.16 68 *e*P **P 17 30 41.1 -0.8**
comp=Z,7.6nm,0.6s,mb5.0
PARMO Parma 62.33 65 *e*P **P 17 30 41.8 -1.3**
BLO Bloomington 62.38 61 *e*P **P 17 30 42.5 -0.9**
BLO pmax pmax
comp=Z,43nm,0.8s,mb5.6
BLO Bloomington 62.38 61 *e*P **P 17 30 42.5 -0.9**
comp=Z,44nm,0.8s,mb5.6
MOR8 Moi Rana 62.53 354 *e*P **P 17 30 42.6 -1.8**
MOR8 AMb AMB 17 30 44.6
comp=Z,14nm,0.8s,mb5.2
MOR8 Moi Rana 62.53 354 *e*P **P 17 30 42.6 -1.8**
comp=Z,14nm,0.8s,mb5.2
ARU Arti 62.58 328 P **P 17 30 44.9 +0.2**
comp=Z,129nm,0.5s,SNR=7.3
ARU Arti 62.58 328 *e*P **P 17 30 44.3 -0.4**
ARU *e* 17 31 23.0
ARU *e* 17 32 59.7
ARU *e*S **S 17 39 09.8 +0.2**
ARU *e*SS SS 17 43 19.4 +5.2
ARU MLR MLR
comp=Z,2µm,17.0s,MS5.3
ARU MLR MLR
comp=N,800nm,19.0s,MS5.2
ARU MLR MLR
comp=E,1µm,18.0s,MS5.2
ARU Arti 62.58 328 *e*P **P 17 30 44.4 -0.3**
comp=E,9.2nm,0.4s,mb5.3
USIN University of 62.60 63 *e*P **P 17 30 44.4 -0.5**
comp=E,77nm,0.6s,mb6.0
NATX Nacogdoches 62.91 72 *e*P **P 17 30 47.1 +0.2**
HALT Halls 63.10 66 *e*P **P 17 30 48.0 -0.1**
WCI Wyandotte Cave 63.18 62 *e*P **P 17 30 47.4 -1.3**
WCI pmax pmax
comp=Z,55nm,0.8s,mb5.7
WCI Wyandotte Cave 63.18 62 *e*P **P 17 30 47.4 -1.3**
comp=Z,55nm,0.8s,mb5.7
QIZ Qiongzhong 63.34 268⇑ P **P 17 30 47.8 -2.0**
QIZ *e*S **S 17 39 18.8 -0.3**
QIZ XS sS 17 39 40.9 +1.4
QIZ AMB AMB
comp=Z,23nm,1.9s,mb5.0
QIZ AMB AMB
comp=Z,409nm,14.8s
QIZ LR LR
comp=N,512nm,19.1s,MS4.9
QIZ LR LR
comp=E,665nm,19.8s,MS4.9
QIZ LR LR
comp=Z,781nm,22.1s,MS4.8
KMI Kunming 63.34 278 P **P 17 30 50.0 +0.2**
KMI AP pP 17 30 59.2 -2.9
KMI XP sP 17 31 06.3 -0.6
KMI PCP PcP 17 31 26.6 0.0
KMI PP PP 17 33 08.9 -0.5
KMI S **S 17 39 17.5 -1.7**
KMI AMB AMB
comp=Z,21nm,1.5s,mb5.0
KMI LR LR
comp=N,842nm,17.2s,MS5.1
KMI LR LR
comp=E,800nm,16.3s,MS5.1
KMI LR LR
comp=Z,913nm,16.3s,MS5.0
HKT Hockley 63.48 75 *e*P **P 17 30 50.6 -0.1**
HKT pmax pmax
comp=Z,22nm,1.1s,mb5.2
HKT Hockley 63.48 75 *e*P **P 17 30 50.6 -0.1**
comp=Z,22nm,1.1s,mb5.2
ACSO Alum Creek Sta 63.56 58 P **P 17 30 50.3 -1.0**
comp=Z,8.7nm,0.5s,mb5.0
JOF Joensuu 63.71 345 *e*p **P 17 30 50.3 -1.9**
WVT Waverly 63.80 64 *e*P **P 17 30 52.0 -0.9**
WVT pmax pmax
comp=Z,22nm,0.8s,mb5.2
WVT Waverly 63.80 64 *e*P **P 17 30 52.0 -0.9**
comp=Z,22nm,0.8s,mb5.2
KLMR Klimovskoe 64.05 340 *c i*P **P 17 30 53.6 -0.9**
KLMR pmax pmax
comp=Z,50nm,1.4s,mb5.3
KLMR MLR MLR
comp=Z,4µm,21.0s,MS5.6
OXF Oxford 64.05 67 *e*P **P 17 30 53.3 -1.2**
OXF pmax pmax
comp=Z,210nm,1.2s,mb6.0
OXF Oxford 64.05 67 *e*P **P 17 30 53.3 -1.2**
comp=Z,210nm,1.2s,mb6.0
PLAL Pickwick Lake 64.48 65 *e*P **P 17 30 56.2 -1.1**
comp=Z,44nm,0.8s,mb5.5
KAF Kangasniemi 65.24 347 *e*p **P 17 31 00.6 -1.6**
comp=Z,25nm,0.5s,mb5.5,baz=15,slow=5.8
KAF Kangasniemi 65.24 347 *e*P **P 17 31 00.6 -1.6**
KAF pmax pmax
comp=Z,25nm,0.5s,mb5.5
NCB Newcomb 65.30 50 *e*P **P 17 31 01.5 -1.1**
comp=Z,9.7nm,0.8s,mb4.9
BINY Binghamton 65.75 52 *e*P **P 17 31 04.4 -1.1**
comp=Z,84nm,1.4s,mb5.6
TZTN Tazewell 65.91 61 *e*P **P 17 31 05.8 -0.7**
FINES FINESS Array B 65.92 347 P **P 17 31 05.3 -1.3**
comp=Z,21nm,0.6s,mb5.3,baz=14,slow=6.8,SNR=152
FINES LR LR 18 05 36.7
comp=Z,2µm,18.4s,MS5.3,baz=180,slow=41
FINES FINESS Array B 65.92 347 *i* P **P 17 31 05.6 -1.0**
FINES pmax pmax
comp=Z,21nm,0.6s
FINES FINESS Array B 65.92 347 P **P 17 31 05.3 -1.3**
FINES LR LR 18 05 36.7
TKM2 Tokmak 2 65.94 309 P **P 17 31 08.6 +1.8**
SNR=11
SSPA Standing Stone 65.94 55 *e*P **P 17 31 05.6 -1.1**
comp=Z,11nm,0.6s,mb5.1
CPCT Cooper Cave 66.16 63 *e*P **P 17 31 07.1 -1.1**
LBNH Lisbon 66.19 49 P **P 17 31 07.1 -1.3**
LBNH pmax pmax
comp=Z,12nm,0.9s,mb4.9
LBNH Lisbon 66.19 49 P **P 17 31 07.1 -1.3**
comp=Z,12nm,0.9s,mb4.9
USP Ospenovka 66.21 310 P **P 17 31 10.6 +2.1**
SNR=42
CHMS Chumysh 66.29 310 P **P 17 31 10.9 +1.9**
SNR=15
KBK Karagaybulak 66.45 309 P **P 17 31 12.0 +2.0**
SNR=19
FRU Bishkek 66.48 310⇑ *i*P **P 17 31 11.0 +0.8**
FRU *i* 17 31 34.0
FRU pmax pmax
comp=Z,280nm,2.1s,mb5.9
FRU MLR MLR
comp=Z,2µm,18.0s,MS5.2
LRAL Lakeview Retre 66.50 66 *e*P **P 17 31 08.7 -1.6**
comp=Z,23nm,0.8s,mb5.2
FWV Forest Hill 66.64 59 *e*P **P 17 31 10.4 -0.8**
AAK Ala-Archa 66.69 309 P **P 17 31 13.5 +2.0**
SNR=16
AAK Ala-Archa 66.69 309 P **P 17 31 11.4 -0.2**
comp=Z,200nm,1.0s,mb6.1,SNR=12
AAK Ala-Archa 66.69 309 P **P 17 31 12.1 +0.5**
SNR=22
AAK Ala-Archa 66.69 309 *c i*P **P 17 31 11.7 +0.1**
AAK pmax pmax
comp=Z,103nm,2.1s,mb5.5
AAK MLR MLR
comp=Z,2µm,19.0s,MS5.3
AAK Ala-Archa 66.69 309 *e*P **P 17 31 11.5 0.0**
comp=Z,16nm,0.6s,mb5.2
AAK LR LR
comp=Z,2µm,20.0s,MS5.3
KZA Kyzart 66.74 309 P **P 17 31 14.4 +2.5**
SNR=11
ELN Prospectdale 66.94 59 *e*P **P 17 31 12.7 -0.4**
UCH Uchtor 66.99 309 P **P 17 31 15.8 +2.4**
SNR=19
PECR Pechory 67.01 335 *e*P **P 17 31 12.6 -1.0**
PECR MLR MLR
comp=Z,2µm,20.0s,MS5.3
EKS2 Erkin-Say 67.02 310 P **P 17 31 16.0 +2.4**
SNR=9.9
LSA Lhasa 67.12 289 P **P 17 31 16.0 +1.7**
LSA Lhasa 67.12 289 *e*P **P 17 31 16.2 +1.9**
LSA pmax pmax
comp=Z,19nm,0.7s,mb5.2
LSA Lhasa 67.12 289 *e*P **P 17 31 16.2 +1.9**
comp=Z,19nm,0.7s,mb5.2
BLA Blacksburg 67.13 59 *e*P **P 17 31 14.2 -0.1**
BLA pmax pmax
comp=Z,1.0nm,0.6s
BLA Blacksburg 67.13 59 *e*P **P 17 31 14.2 -0.2**
comp=Z,1.3nm,0.6s,mb4.1
MVL Millersville 67.20 54 *e*P **P 17 31 13.6 -1.2**
AKTK Aktyubinsk 67.63 324 P **P 17 31 17.3 -0.2**
AKTO Aktyubinsk 67.63 324 P **P 17 31 17.3 -0.2**
comp=Z,10.0nm,0.4s,mb5.2,baz=57,slow=7.8,SNR=61
NB2 NORSAR Subarra 67.83 354 P **P 17 31 18.0 -0.8**
comp=Z,17nm,0.8s,mb5.1,baz=7.8,slow=6.5
NOA NORSAR Array B 67.83 354 P **P 17 31 18.0 -0.8**
comp=Z,12nm,0.9s,mb5.0,baz=7.1,slow=6.4,SNR=32
NOA LR LR 18 01 50.1
comp=Z,691nm,21.1s,MS4.9,baz=355,slow=37
WES Weston 67.89 49 *e*P **P 17 31 17.8 -1.4**
WES pmax pmax
comp=Z,21nm,0.7s,mb5.3
WES Weston 67.89 49 *e*P **P 17 31 17.8 -1.4**
comp=Z,21nm,0.7s,mb5.3
KSH Kashi 68.30 306⇑ P **P 17 31 23.8 +2.1**
KSH *e*AP pP 17 31 37.1 +3.0
KSH *e*XP sP 17 31 42.0 +3.1
KSH *e*PCP PcP 17 31 48.6 +1.5
KSH *e*PP PP 17 33 57.1 +4.4
KSH *e*SCP 17 35 48.5
KSH *e*PCS 17 35 55.3
KSH *e*S S 17 40 19.8 +0.2
KSH *e*XS sS 17 40 41.9 +1.8
KSH *e*SCS ScS 17 41 16.1 -1.7
KSH *e*SS SS 17 44 46.4 +3.2
KSH AMB AMB
comp=Z,301nm,1.3s,mb6.2
KSH LR LR
comp=N,1µm,13.1s,MS5.5
KSH LR LR
comp=E,2µm,18.0s,MS5.5
KSH LR LR
comp=Z,1µm,21.3s,MS5.0
HFS Hagfors 68.56 353 P **P 17 31 22.2 -1.2**
comp=Z,13nm,0.4s,mb5.2,baz=349,slow=1.5,SNR=80
VSU Vasula 68.67 346⇑ *i*P **P 17 31 23.5 -0.5**
TAOE Nuku Hiva Isla 68.73 138 *e*LR LR 17 51 46.8
comp=Z,9µm,22.6s,baz=340
MOS Moscow 69.12 339⇓ *i*P **P 17 31 25.9 -0.9**
MOS pmax pmax
comp=Z,72nm,0.6s,mb5.8
MOS pmax pmax
comp=N,64nm,0.5s
MOS MLR MLR
comp=Z,4µm,18.0s,MS5.7
MOS MLR MLR
comp=N,3µm,17.5s
KONO Kongsberg 69.31 355 *e*P **P 17 31 31.0 +2.9**
KONO Kongsberg 69.31 355 *e*P **P 17 31 27.7 -0.3**
KONO pmax pmax
comp=Z,21nm,0.8s,mb5.1
KONO Kongsberg 69.31 355 *e*P **P 17 31 27.7 -0.3**
comp=Z,21nm,0.8s,mb5.1
OBN Obninsk 69.94 339 P **P 17 31 31.5 -0.4**
comp=Z,404nm,0.9s,SNR=5.5
OBN Obninsk 69.94 339 *c i*P **P 17 31 31.2 -0.7**
OBN *e* 17 34 04.5
OBN pmax pmax
comp=Z,125nm,1.7s,mb5.6
OBN MLR MLR
comp=Z,4µm,20.0s,MS5.6
OBN Obninsk 69.94 339 *e*P **P 17 31 31.2 -0.6**
comp=Z,39nm,0.6s,mb5.5
VOR Voronezh 72.40 336 *e*P **P 17 31 45.0 -1.8**
VOR pmax pmax
comp=Z,40nm,1.5s,mb5.1
MUD Monsted U'grnd 72.52 355⇑ *i*P **P 17 31 47.6 +0.1**
comp=Z,28nm,0.9s,mb5.2
MUD
comp=Z,730nm,19.0s
MUD Monsted U'grnd 72.52 355⇑ *i*P **P 17 31 47.6 +0.1**
MUD pmax pmax
comp=Z,28nm,0.9s,mb5.2
MUD MLR MLR
comp=Z,740nm,19.0s,MS5.0
VRSR Storozhevoye 72.87 336 *e*P **P 17 31 49.5 -0.1**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VRSR pmax pmax
comp=N,30nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,1.0s
PPT Papeete 73.27 150 *e*SS SS 17 45 38.2 -21
comp=E,568nm,22.8s
PPT *e*LR LR 17 53 41.8
comp=E,3µm,25.8s,baz=343
PPT Papeete 73.27 150 LR LR 17 58 07.7
comp=E,956nm,21.0s,MS5.0,baz=340,slow=31
DWPF Disney 73.36 66 *e*P **P 17 31 52.1 -0.3**
comp=E,28nm,0.8s,mb5.2
SUW Suwalki 73.50 346 *e*P **P 17 31 52.1 -1.2**
comp=Z,0.1nm,1.1s
SUW *e*PcP PcP 17 32 05.0 -4.2
SUW *e*SKS 17 42 01.5
SUW *e*SS SS 17 46 03.7 +0.6
SUW L 17 47 11.2
comp=Z,1.1nm,19.2s
SUW Suwalki 73.50 346 *e*P **P 17 31 52.1 -1.2**
SUW *e*PcP PcP 17 32 05.0 -4.2
SUW *e*SKS 17 42 01.5
SUW *e*SS SS 17 46 03.7 +0.6
CMIG Matias Romero 73.51 83 P **P 17 31 53.0 -0.4**
comp=Z,6.9nm,0.8s,mb4.6,baz=313,slow=3.9,SNR=5.7
ESK Eskdalemuir 73.86 2 *e*P **P 17 31 54.9 -0.5**
ESK pmax pmax
comp=Z,14nm,0.9s,mb4.9
ESK MLR MLR
comp=Z,811nm,22.0s,MS5.0
ESK Eskdalemuir 73.86 2 *e*P **P 17 31 54.9 -0.4**
comp=Z,14nm,0.9s,mb4.9
ESK LR LR
comp=Z,811nm,22.0s,MS5.0
NIL Nilore 74.20 304 P **P 17 31 59.4 +2.0**
comp=Z,178nm,1.1s,mb5.9,SNR=8.4
BSEG Bad Segeberg 74.97 354 *e*P **P 17 32 02.0 +0.2**
comp=Z,50nm,0.8s,mb5.5
GKP Gorka Klasztor 75.01 350 *e*P **P 17 32 01.7 -0.4**
AKASG Malin Array Be 75.64 342 P **P 17 32 05.1 -0.6**
comp=Z,55nm,0.4s,mb5.9,baz=20,slow=6.4,SNR=282
AKASG LR LR 18 14 02.2
comp=Z,795nm,18.4s,MS5.1,baz=20,slow=43
AKASG Malin Array Be 75.64 342 P **P 17 32 05.1 -0.6**
AKASG LR LR 18 14 02.2
DCN Croghan 75.67 5⇑ *i*P **P 17 32 05.2 -0.7**
DLF Lyons Farm 75.76 4⇑ *i*P **P 17 32 05.6 -0.8**
DSB Dublin 75.82 4 *e*P **P 17 32 05.8 -0.9**
comp=Z,21nm,0.8s,mb5.1
NDI New Delhi 75.92 298 *e*P **P 17 32 07.0 -0.3**
KAKA Kakadu 76.08 228 *e*P **P 17 32 07.2 -1.0**
comp=Z,19nm,0.8s,mb5.1
RUE Ruedersdorf 76.14 352 *e*P **P 17 32 08.7 +0.1**
comp=Z,24nm,0.7s,mb5.2
WIT Witteveen 76.28 356⇑ *i*P **P 17 32 10.2 +0.8**
comp=Z,187nm,0.7s,mb6.2
KSM Kuching 76.54 255 *e*P **P 17 32 10.4 -0.4**
IBBN Ibbenburen 76.74 355 *e*P **P 17 32 12.0 +0.1**
CLZ Clausthal 77.05 354 *i* P **P 17 32 13.8 +0.1**
comp=Z,45nm,0.9s,mb5.4
CLZ Clausthal 77.05 354 *i* P **P 17 32 13.8 +0.1**
CLZ pmax pmax
comp=Z,45nm,0.9s,mb5.4
CTA Charters Tower 77.06 213 *e*P **P 17 32 13.5 -0.2**
comp=Z,5.7nm,0.9s,mb4.5
CTA Charters Tower 77.06 213 *e*P **P 17 32 13.5 -0.2**
CTA pmax pmax
comp=Z,6.0nm,0.9s
CTAO Charters Tower 77.06 213 P **P 17 32 13.6 -0.1**
CTAO pmax pmax
comp=Z,15nm,1.1s,mb4.8
CTAO Charters Tower 77.06 213 P **P 17 32 13.6 -0.2**
comp=Z,15nm,1.1s,mb4.8
WTSB Winterswijk 77.12 356⇑ *i*P **P 17 32 14.1 0.0**

comp=Z,32nm,1.0s,mb5.2
GOF Gofitskoye 77.36 331 *e*P P **17 32 15.3 -0.1**
GOF pmax pmax
comp=Z,50nm,0.8s,mb5.5
CLL Collm 77.37 352 *e*P P **17 32 14.7 -0.8**
comp=Z,23nm,0.9s,mb5.1
CLL Collm 77.37 352 ⇑P P **17 32 14.8 -0.7**
comp=Z,logA/T=1.4,mb5.1
CLL *i* PCP PcP 17 32 24.6 -1.3
CLL *i* *SP sP 17 32 33.7 +0.9
CLL Collm 77.37 352⇑ *i*P P **17 32 14.8 -0.7**
comp=Z,23nm,0.9s,mb5.1
CLL *i* PcP PcP 17 32 24.6 -1.3
CLL *i* sP sP 17 32 33.7 +0.9
CLL Collm 77.37 352⇑ *i*P P **17 32 14.8 -0.7**
CLL *i* pP 17 32 24.6 -3.4
CLL *i* *SP sP 17 32 33.7 +0.9
CLL pmax pmax
comp=Z,23nm,0.9s,mb5.1
CLL MLR MLR
comp=Z,1μm,16.5s,MS5.3
CLL Collm 77.37 352⇑ *i*P P **17 32 14.8 -0.7**
comp=Z,23nm,0.9s,mb5.1
CLL *i* pP 17 32 24.6 -3.4
CLL *i* sP sP 17 32 33.7 +0.9
CLL LR LR
comp=Z,1μm,16.5s,MS5.3
LVV L'vov 77.43 345⇑ *i*P P **17 32 15.7 -0.1**
LVV *e*S S 17 42 10.9 +7.5
LVV MLR MLR
comp=N,1μm,18.0s,MS5.3
LVV MLR MLR
comp=E,200nm,18.0s,MS5.3
LVV MLR MLR
comp=Z,1μm,18.0s,MS5.3
KSP Ksiaz 77.51 350 *e*P P **17 32 15.8 -0.4**
KSP *e*pP pP 17 32 27.8 -1.0
KSP L 18 11 52.0
comp=Z,3.0nm,20.3s
KSP Ksiaz 77.51 350 *e*P P **17 32 15.5 -0.7**
KSP LR LR
comp=Z,4μm,20.3s,MS5.7
BUG Bochum–Univer 77.63 356 *e*P P **17 32 16.5 -0.4**
OJC Ojcow 77.68 347 *e*P P **17 32 17.0 -0.2**
BRG Berggiesshubel 77.72 351 *e*P P **17 32 16.7 -0.7**
comp=Z,19nm,0.8s,mb5.1
KWP Kalwaria 77.83 345 *e*P P **17 32 18.5 +0.5**
comp=Z,0.2nm,0.5s
KWP *e*PcP PcP 17 32 25.1 -2.8
KWP *e*pP pP 17 32 28.1 -2.5
KWP *e*SKS 17 42 28.6
KWP L 17 50 36.3
comp=Z,2.3nm,18.0s
KWP L 18 13 02.3
comp=Z,2.3nm,18.1s
KWP Kalwaria 77.83 345⇑ *e*P P **17 32 18.5 +0.5**
KWP *e*PcP PcP 17 32 25.1 -2.8
KWP *e*pP pP 17 32 28.1 -2.5
KWP *e*SKS 17 42 28.6
DPC Dobruska-Polom 77.99 350⇑ *i*P P **17 32 18.9 0.0**
DPC AMS AMS 18 13 10.0
comp=Z,2μm,17.4s
PVCC Panska Ves 78.00 351⇑ *i*P P **17 32 18.5 -0.5**
PVCC AMS AMS 18 12 50.0
comp=Z,1μm,16.5s
UBBA Unterbreizbach 78.09 354 *e*P P **17 32 19.3 -0.2**
MOX Moxa 78.15 353 *e*P P **17 32 19.4 -0.4**
comp=Z,22nm,1.0s,mb5.0
MOX Moxa 78.15 353 *e*P P **17 32 19.4 -0.4**
MOX pmax pmax
comp=Z,24nm,0.9s,mb5.1
STHS Stebnicka Huta 78.26 346 *e*P P **17 32 21.1 +0.7**
STHS pmax pmax
comp=Z,23nm,0.7s,mb5.2
STHS Stebnicka Huta 78.26 346 *e*P P **17 32 21.1 +0.7**
comp=Z,23nm,0.7s,mb5.2
OKC Ostrava-Krasne 78.28 348⇑ *e*P P **17 32 20.7 +0.2**
OKC AMS AMS 18 12 10.0
comp=Z,2μm,18.3s
TANN Tannenbergstha 78.31 352 *e*P P **17 32 20.4 -0.3**
BEBN Eben Emael 78.34 357 P P **17 32 20.3 -0.6**
UCC Uccle 78.38 358 P P **17 32 20.7 -0.3**
UCC E 17 32 28.7
NIE Niedzica 78.39 347 *e*P P **17 32 21.4 +0.2**
MORC Moravsky Berou 78.41 349⇑ *i*P P **17 32 21.1 -0.2**
MORC Moravsky Berou 78.41 349 *e*P P **17 32 20.6 -0.7**
MORC pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MORC Moravsky Berou 78.41 349 *e*P P **17 32 20.6 -0.7**
comp=Z,7.1nm,0.8s,mb4.7
KIV Kislovodsk 78.47 330 *e*P P **17 32 22.2 +0.6**
KIV pmax pmax
comp=Z,17nm,0.9s,mb5.0
KIV MLR MLR
comp=Z,1μm,19.0s,MS5.3
KIV Kislovodsk 78.47 330 *e*P P **17 32 22.2 +0.6**
comp=Z,17nm,0.9s,mb5.0
KIV LR LR
comp=Z,1μm,19.0s,MS5.3
NKC Novy Kostel 78.49 352⇑ *i*P P **17 32 21.5 -0.2**
NKC AMS AMS 18 14 40.0
comp=Z,1μm,16.8s
MEM Membach 78.51 356 P P **17 32 21.5 -0.3**
KOLS Kolonicke sedl 78.58 346 *e*P P **17 32 23.1 +0.9**
KOLS pmax pmax
comp=Z,32nm,0.7s,mb5.4
KOLS Kolonicke sedl 78.58 346 *e*P P **17 32 23.1 +0.9**
comp=Z,32nm,0.7s,mb5.4
SNF Seneffe 78.67 358 P P **17 32 21.2 -1.5**
comp=Z,12nm,0.8s,mb4.9
BCLA Clavier 78.73 357 P P **17 32 22.8 -0.3**
comp=Z,16nm,0.7s,mb5.1
CRVS Cervenica-Dubn 78.73 346 *e*P P **17 32 23.2 +0.2**
CRVS pmax pmax
comp=Z,11nm,0.8s,mb4.8
CRVS Cervenica-Dubn 78.73 346 *e*P P **17 32 23.2 +0.2**
comp=Z,11nm,0.8s,mb4.8
TBI Tubuai 78.74 152 *e*LR LR 17 56 19.8
comp=Z,3μm,22.5s,baz=341
MANZ Manzenberg 78.76 352 *e*P P **17 32 22.9 -0.3**
TNS Taunus Mts 78.78 355 *e*P P **17 32 23.0 -0.3**
LIKS Likavka 78.92 348 *e*P P **17 32 25.2 +1.1**
LIKS pmax pmax
comp=Z,31nm,0.8s,mb5.3
LIKS Likavka 78.92 348 *e*P P **17 32 25.2 +1.1**
comp=Z,31nm,0.8s,mb5.3
VRAC Vranov 78.98 349⇑ *i*P P **17 32 24.4 0.0**
VRAC Vranov 78.98 349 P P **17 32 24.5 +0.1**
GIVF Givet 79.06 357⇑ *i*P P **17 32 24.6 -0.2**
comp=Z,34nm,0.7s,mb5.1
GIVF Givet 79.06 357⇑ *i*P P **17 32 24.6 -0.2**
GIVF pmax pmax
comp=Z,17nm,0.7s,mb5.1
GIVF Givet 79.06 357⇑ *i*P P **17 32 24.6 -0.2**
comp=Z,17nm,0.7s,mb5.1
DOU Dourbes 79.07 357 P P **17 32 24.8 -0.1**
BAIF Baives 79.12 358⇑ *i*P P **17 32 25.2 0.0**
comp=Z,70nm,0.8s,mb5.3
BAIF Baives 79.12 358⇑ *i*P P **17 32 25.2 0.0**
BAIF pmax pmax
comp=Z,35nm,0.8s,mb5.3
BAIF Baives 79.12 358⇑ *i*P P **17 32 25.2 0.0**
comp=Z,35nm,0.8s,mb5.3
TREC Trest 79.12 350⇑ *i*P P **17 32 24.7 -0.5**
TREC AMS AMS 18 14 20.0
comp=Z,2μm,16.4s
GRA1 Grafenberg Arr 79.12 353 *e*P P **17 32 25.4 +0.2**
comp=Z,44nm,1.0s,mb5.3
GRF Grafenberg Arr 79.12 353 *e*P P **17 32 25.4 +0.2**
comp=Z,44nm,1.0s,mb5.3
GRF Grafenberg Arr 79.12 353 *e*P P **17 32 25.4 +0.2**
GRF pmax pmax
comp=Z,44nm,1.0s,mb5.3
GRF Grafenberg Arr 79.12 353 *e*P P **17 32 25.4 +0.2**
GRF pmax pmax
comp=Z,44nm,1.0s,mb5.3
ZEI Tsey 79.15 329 *e*P P **17 32 26.0 +0.7**
ZEI *e* 17 35 22.9
ZEI pmax pmax
comp=Z,15nm,0.5s,mb5.2
ABH Alteburg 79.17 355⇑ *e*P P **17 32 25.2 -0.2**
ANN Anapa 79.23 334 *e*P P **17 32 22.1 -3.7**
ANN *e*S S 17 42 16.6 -6.1
ANN pmax pmax
comp=Z,53nm,1.1s,mb5.4

KECS Kecovo 79.28 347 *e*P P **17 32 26.2 +0.1**
KECS pmax pmax
comp=Z,18nm,0.8s,mb5.0
KECS Kecovo 79.28 347 *e*P P **17 32 26.2 +0.1**
comp=Z,18nm,0.8s,mb5.0
BURAR Bucovina Array 79.36 343⇑ *i*P P **17 32 26.9 +0.5**
BURAR Bucovina Array 79.36 343 ⇑P P **17 32 26.9 +0.5**
RUP Ruppelstein 79.37 356⇑ *e*P P **17 32 26.5 0.0**
TOD Tromm 79.38 355⇑ *e*P P **17 32 26.3 -0.3**
WLF Walferdange 79.45 356 P P **17 32 27.6 +0.7**
comp=Z,11nm,0.8s,mb4.8
WLF AP pP 17 32 38.5 -1.0
WLF XP sP 17 32 45.1 +0.8
WLF Walferdange 79.45 356 *e*P P **17 32 27.1 +0.1**
WLF pmax pmax
comp=Z,12nm,0.6s,mb5.0
WLF Walferdange 79.45 356 *e*P P **17 32 27.1 +0.1**
comp=Z,12nm,0.6s,mb5.0
KHC Kasperske Hory 79.48 351⇑ *i*P P **17 32 27.0 -0.1**
KHC x x 17 32 34.0
KHC AMS AMS 18 09 30.0
comp=Z,1μm,20.5s
KHC Kasperske Hory 79.48 351⇑ *i*P P **17 32 27.0 -0.1**
KHC *e* 17 32 34.0
KHC LR LR
comp=Z,1μm,20.5s,MS5.2
VYHS Vyhne 79.50 348 *e*P P **17 32 27.2 -0.1**
VYHS pmax pmax
comp=Z,12nm,0.9s,mb4.8
VYHS Vyhne 79.50 348 *e*P P **17 32 27.2 -0.1**
comp=Z,12nm,0.9s,mb4.8
WET Wettzell 79.53 352 *e*P P **17 32 27.3 -0.1**
comp=Z,12nm,1.0s,mb4.8
WET Wettzell 79.53 352 *e*P P **17 32 27.3 -0.1**
WET pmax pmax
comp=Z,12nm,1.0s,mb4.8
SMOL Smolenice 79.67 349 *e*P P **17 32 28.6 +0.5**
GEC2 GERESS Array S 79.75 351 *e*P P **17 32 28.2 -0.4**
comp=Z,14nm,0.8s,mb4.9
GEC2 GERESS Array S 79.75 351 *e*P P **17 32 28.2 -0.4**
GEC2 pmax pmax
comp=Z,14nm,0.8s,mb4.9
GERES GERESS Array B 79.75 351 P P **17 32 28.3 -0.2**
comp=Z,8.5nm,0.7s,mb4.8,baz=23,slow=4.8,SNR=78
PSZ Piszkesteto 79.92 347⇑ *e*P P **17 32 30.3 +0.8**
PSZ Piszkesteto 79.92 347 *e*P P **17 32 29.7 +0.2**
PSZ pmax pmax
comp=Z,26nm,1.1s,mb5.1
PSZ Piszkesteto 79.92 347 *e*P P **17 32 29.7 +0.2**
comp=Z,26nm,1.1s,mb5.1
SIM Simferopol' 79.97 336 P P **17 32 33.4 +3.6**
SIM pmax pmax
comp=Z,100nm,9.7s
SIM MLR MLR
comp=Z,3μm,19.0s,MS5.6
ZST Bratislava 80.02 349 *e*P P **17 32 30.7 +0.7**
ZST pmax pmax
comp=Z,25nm,0.8s,mb5.2
ZST MLR MLR
comp=Z,600nm,18.6s,MS5.0
ZST Bratislava 80.02 349 *e*P P **17 32 30.7 +0.7**
comp=Z,25nm,0.8s,mb5.2
ZST LR LR
comp=Z,600nm,18.6s,MS5.0
STU Stuttgart 80.18 354 *e*P P **17 32 30.5 -0.4**
STU Stuttgart 80.18 354 *e*P P **17 32 30.3 -0.6**
STU pmax pmax
comp=Z,20nm,0.8s,mb5.1
STU Stuttgart 80.18 354 *e*P P **17 32 30.3 -0.6**
comp=Z,20nm,0.8s,mb5.1
CONA Conrad Observa 80.43 350 *i* P P **17 32 32.8 +0.6**
comp=Z,26nm,0.9s,mb5.2,SNR=15
BUD Budapest 80.47 347⇓ *e*P P **17 32 33.3 +0.8**
DRGR 80.59 345⇓ *i*P P **17 32 33.4 +0.3**
DRGR 80.59 345 P P **17 32 33.6 +0.5**
FUR Furstenfeldbru 80.64 353 *e*P P **17 32 33.2 -0.2**
CDF Champ du Feu 80.65 355⇑ *i*P P **17 32 33.2 -0.2**
comp=Z,26nm,0.8s,mb4.9
CDF Champ du Feu 80.65 355⇑ *i*P P **17 32 33.2 -0.2**
CDF pmax pmax
comp=Z,13nm,0.8s,mb4.9
CDF Champ du Feu 80.65 355⇑ *i*P P **17 32 33.2 -0.2**
comp=Z,13nm,0.8s,mb4.9
MEZF Maizieres J'vi 80.65 357⇑ *i*P P **17 32 33.5 +0.1**
comp=Z,38nm,0.8s,mb5.1
MEZF Maizieres J'vi 80.65 357⇑ *i*P P **17 32 33.5 +0.1**
comp=Z,38nm,0.8s,mb5.4
BFO Black Forest 80.67 355 P P **17 32 33.8 +0.2**
comp=Z,63nm,0.9s,mb5.5,SNR=6.5
BFO Black Forest 80.67 355 *e*P P **17 32 33.2 -0.4**
comp=Z,15nm,1.0s,mb4.9
BFO Black Forest 80.67 355 *e*P P **17 32 33.2 -0.4**
BFO pmax pmax
comp=Z,15nm,1.0s,mb4.9
MOA Molln 80.68 351⇑ *i*P P **17 32 33.4 -0.2**
comp=Z,7.1nm,0.6s,mb4.8
VRI Vrincioaia 80.75 342⇑ *i*P P **17 32 34.6 +0.6**
VRI Vrincioaia 80.75 342 ⇑P P **17 32 34.6 +0.6**
PLOR Plostina 80.78 342⇓ *i*P P **17 32 34.7 +0.6**
ECH Echery 80.85 356⇑ *e*P P **17 32 34.0 -0.5**
THEF They Montfort 80.89 356 *e*P P **17 32 34.7 0.0**
HAU Haudompre 81.10 356⇑ *i*P P **17 32 36.6 +0.8**
comp=Z,23nm,0.8s,mb4.8
HAU *e*R
comp=Z,2μm,21.5s
HAU Haudompre 81.10 356⇑ *i*P P **17 32 36.6 +0.8**
HAU pmax pmax
comp=Z,12nm,0.8s,mb4.9
HAU MLR MLR
comp=Z,2μm,21.5s,MS5.3
HAU Haudompre 81.10 356⇑ *i*P P **17 32 36.6 +0.8**
comp=Z,12nm,0.8s,mb4.9
HAU LR LR
comp=Z,2μm,21.5s,MS5.3
CFR Carcaliu 81.12 341⇓ *i*P P **17 32 36.4 +0.4**
CFR Carcaliu 81.12 341 ⇓P P **17 32 36.4 +0.5**
FELD Feldberg im Sc 81.15 355⇑ *e*P P **17 32 35.3 -0.8**
GNI Garni 81.21 327 P P **17 32 36.3 -0.1**
comp=Z,3.0nm,0.4s,mb4.5,baz=360,slow=5.6,SNR=5.3
GNI Garni 81.21 327⇑ *e*P P **17 32 37.3 +0.9**
GNI pmax pmax
comp=Z,20nm,1.3s
GNI Garni 81.21 327 P P **17 32 36.5 +0.1**
comp=Z,32nm,1.5s,mb5.0
MOF Molkenrain 81.22 356⇑ *e*P P **17 32 36.2 -0.3**
HINF Hinteralfeld 81.27 356⇑ *i*P P **17 32 36.3 -0.4**
comp=Z,11nm,0.6s,mb4.7
HINF Hinteralfeld 81.27 356⇑ *i*P P **17 32 36.3 -0.4**
HINF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
HINF Hinteralfeld 81.27 356⇑ *i*P P **17 32 36.3 -0.4**
comp=Z,5.6nm,0.6s,mb4.7
MLR Muntele Rosu 81.27 342⇓ *i*P P **17 32 38.5 +1.8**
MLR Muntele Rosu 81.27 342 P P **17 32 38.4 +1.7**
WATA Walderalm 81.44 352⇑ *i*P P **17 32 37.8 +0.1**
comp=Z,11nm,0.5s,mb5.0,SNR=11
WATA Walderalm 81.44 352⇑ *i*P P **17 32 37.8 +0.2**
WATA pmax pmax
comp=Z,11nm,0.5s,mb5.0
MOTA Moosalm 81.47 353⇑ *i*P P **17 32 37.8 0.0**
comp=Z,16nm,1.0s,mb4.9,SNR=10
MOTA Moosalm 81.47 353⇑ *i*P P **17 32 37.8 0.0**
MOTA pmax pmax
comp=Z,16nm,1.0s,mb4.9
WTTA Wattenberg 81.50 352⇑ *i*P P **17 32 38.4 +0.4**
comp=Z,39nm,0.8s,mb5.4,SNR=24
WTTA Wattenberg 81.50 352⇑ *i*P P **17 32 38.4 +0.4**
WTTA pmax pmax
comp=Z,39nm,0.8s,mb5.4
KBA Koelnbreinsper 81.53 351⇑ *i*P P **17 32 38.9 +0.8**
comp=Z,72nm,0.7s,mb5.7,SNR=84
KBA Koelnbreinsper 81.53 351⇑ *i*P P **17 32 38.9 +0.8**
KBA pmax pmax
comp=Z,72nm,0.7s,mb5.7
WRA Warramunga Arr 81.56 223 P P **17 32 36.9 -1.3**
comp=Z,4.5nm,0.6s,mb4.5,baz=33,slow=6.1,SNR=25
WRA LR LR 18 09 30.5
comp=Z,738nm,18.4s,MS5.1,baz=30,slow=36
SQTA Sankt Quirin 81.58 353⇑ P P **17 32 38.6 +0.2**
comp=Z,16nm,0.7s,mb5.0,SNR=13
SQTA Sankt Quirin 81.58 353⇑ *i*P P **17 32 38.6 +0.2**
SQTA pmax pmax
comp=Z,16nm,0.7s,mb5.1
DAVA Damuels 81.61 354⇑ *i*P P **17 32 38.9 +0.3**
comp=Z,12nm,1.2s,mb4.7
HARR Harsova 81.63 341⇓ *i*P P **17 32 39.3 +0.6**

LOMF Lomont 81.73 356⇑ *e*P P **17 32 39.0 -0.2**
PKSM Moragy 81.77 347⇑ *i*P P **17 32 39.0 -0.4**
PKSM Moragy 81.77 347 P P **17 32 39.1 -0.3**
PERS Pernice 81.79 350 *e*P P **17 32 39.8 +0.3**
PERS *e* pP 17 32 49.7 -2.4
BZS Buzias 81.91 345⇓ *i*P P **17 32 40.3 +0.2**
BZS Buzias 81.91 345 P P **17 32 40.3 +0.2**
LOR Lormes 81.92 358⇑ *i*P P **17 32 39.7 -0.5**
comp=Z,41nm,1.1s,mb5.0
LOR *e*R
comp=Z,2μm,18.8s
LOR Lormes 81.92 358⇑ *i*P P **17 32 39.7 -0.5**
LOR pmax pmax
comp=Z,20nm,1.1s,mb5.0
LOR MLR MLR
comp=Z,2μm,18.8s,MS5.4
LOR Lormes 81.92 358⇑ *i*P P **17 32 39.7 -0.5**
comp=Z,20nm,1.1s,mb5.0
LOR LR LR
comp=Z,2μm,18.8s,MS5.4
GZR Gura Zlata 81.93 344⇓ *i*P P **17 32 41.2 +1.0**
GZR Gura Zlata 81.93 344 ⇓P P **17 32 41.2 +1.0**
OBKA Obir 81.97 350⇑ *i*P P **17 32 40.9 +0.4**
comp=Z,56nm,1.0s,mb5.5,SNR=12
BRES Bressanone 82.06 352 P P **17 32 40.2 -0.7**
FVI Forni Avoltri 82.06 352 P P **17 32 41.7 +0.8**
PTCC Patocco-Chiusa 82.20 351 P P **17 32 41.3 -0.3**
comp=Z,18nm,0.8s,mb5.0
DOBS Dobrina 82.23 350 *e*P P **17 32 42.0 +0.3**
GMNA Gemona 82.34 351 P P **17 32 42.1 -0.3**
comp=Z,106nm,0.8s,mb5.8
ROBS Robic 82.34 351 *e*P P **17 32 41.5 -0.9**
BRMO Bormio 82.39 353 P P **17 32 43.3 +0.7**
comp=Z,13nm,0.9s,mb4.8
TUE Stuetta 82.46 354 P P **17 32 43.6 +0.6**
CABF La Chapelle 82.50 356⇑ *i*P P **17 32 43.4 +0.2**
comp=Z,26nm,0.9s,mb5.0
CABF La Chapelle 82.50 356⇑ *i*P P **17 32 43.4 +0.2**
CABF pmax pmax
comp=Z,13nm,0.9s,mb5.0
CABF La Chapelle 82.50 356⇑ *i*P P **17 32 43.4 +0.2**
comp=Z,13nm,0.9s,mb5.0
SMF Signal de Mont 82.54 358⇑ *i*P P **17 32 43.2 -0.2**
comp=Z,38nm,0.8s,mb5.2
SMF Signal de Mont 82.54 358⇑ *i*P P **17 32 43.2 -0.2**
SMF pmax pmax
comp=Z,19nm,0.8s,mb5.2
SMF Signal de Mont 82.54 358⇑ *i*P P **17 32 43.2 -0.2**
comp=Z,19nm,0.8s,mb5.2
LCHF La Chataignera 82.56 1⇑ *e*P P **17 32 44.1 +0.6**
PSI Prapat 82.56 265 P P **17 32 43.4 -0.2**
comp=Z,14nm,0.7s,mb5.1,baz=120,slow=10,SNR=5.7
MFF Saint Martin d 82.63 0⇑ *i*P P **17 32 43.8 -0.1**
comp=Z,30nm,0.8s,mb5.1
MFF Saint Martin d 82.63 0⇑ *i*P P **17 32 43.8 -0.1**
MFF pmax pmax
comp=Z,15nm,0.8s,mb5.1
MFF Saint Martin d 82.63 0⇑ *i*P P **17 32 43.8 -0.1**
comp=Z,15nm,0.8s,mb5.1
BGF Bois d'Agland 82.65 358⇑ *i*P P **17 32 43.9 -0.1**
comp=Z,34nm,1.0s,mb5.0
BGF Bois d'Agland 82.65 358⇑ *i*P P **17 32 43.9 -0.1**
BGF pmax pmax
comp=Z,17nm,1.0s,mb5.0
BGF Bois d'Agland 82.65 358⇑ *i*P P **17 32 43.9 -0.1**
comp=Z,17nm,1.0s,mb5.0
CTI Castel Tesino 82.71 352 P P **17 32 43.8 -0.5**
CTI pmax pmax
comp=Z,22nm,1.0s,mb5.1
CTI Castel Tesino 82.71 352 P P **17 32 43.8 -0.5**
comp=Z,22nm,1.0s,mb5.2
MABI Malga Bissina 82.79 353 P P **17 32 44.4 -0.3**
BEO Belgrade 82.86 346⇓ *i*P P **17 32 46.4 +1.3**
BOJS Bojanci 82.89 350 *e*P P **17 32 45.0 -0.2**
TCF Toulx Ste Croi 82.93 359⇑ *i*P P **17 32 45.2 -0.2**
comp=Z,20nm,0.8s,mb4.9
TCF Toulx Ste Croi 82.93 359⇑ *i*P P **17 32 45.2 -0.2**
TCF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
TCF Toulx Ste Croi 82.93 359⇑ *i*P P **17 32 45.2 -0.2**
comp=Z,10nm,0.8s,mb4.9
MCGN Macugnaga 83.06 355 P P **17 32 46.9 +0.8**
comp=Z,9.9nm,0.7s,mb5.0
OG05 Jujurieux 83.10 357⇑ *e*P P **17 32 46.1 -0.2**
VAI Varese 83.10 354 P P **17 32 45.8 -0.5**
VAI pmax pmax
comp=Z,25nm,0.9s,mb5.2
VAI Varese 83.10 354 P P **17 32 45.8 -0.5**
comp=Z,25nm,0.9s,mb5.2
AGO Saint Agoulin 83.15 358 *e*P P **17 32 47.0 +0.4**
PLDF La Plantade 83.22 358 *e*P P **17 32 47.3 +0.3**
LPL La Plagne 83.57 356⇑ *i*P P **17 32 49.7 +1.0**
comp=Z,11nm,0.8s,mb4.7
LPL La Plagne 83.57 356⇑ *i*P P **17 32 49.7 +1.0**
LPL pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
LPL La Plagne 83.57 356⇑ *i*P P **17 32 49.7 +1.0**
comp=Z,5.7nm,0.8s,mb4.8
LPG La Plagne 83.58 356⇑ *i*P P **17 32 50.0 +1.2**
DIVS Divcibare 83.64 346⇑ *i*P P **17 32 49.3 +0.2**
RKT Rikitea 83.66 140 *e*LR LR 17 58 37.7
comp=Z,1μm,24.2s
GRUS Gruza 83.73 345 *i* P P **17 32 49.7 +0.2**
LBL Lubilhac 83.97 358 *e*P P **17 32 51.2 +0.4**
FITZ Fitzroy Crossi 84.00 231 *e*P P **17 32 50.5 -0.4**
comp=Z,28nm,0.7s,mb5.5
BNI Bardonecchia 84.03 356 P P **17 32 52.5 +1.4**
BOB Bobbio (Coli) 84.15 354 P P **17 32 51.5 -0.2**
ORIF Oris-en-Rattie 84.20 356⇑ *i*P P **17 32 52.6 +0.6**
comp=Z,23nm,0.8s,mb5.0
ORIF *e*R
comp=Z,1μm,20.2s
ORIF Oris-en-Rattie 84.20 356⇑ *i*P P **17 32 52.6 +0.6**
ORIF pmax pmax
comp=Z,11nm,0.8s,mb5.0
ORIF Oris-en-Rattie 84.20 356⇑ *i*P P **17 32 52.6 +0.6**
comp=Z,11nm,0.8s,mb5.0
CAF Calviac 84.30 359⇑ *i*P P **17 32 52.6 +0.2**
comp=Z,30nm,0.9s,mb5.1
CAF Calviac 84.30 359⇑ *i*P P **17 32 52.6 +0.2**
CAF pmax pmax
comp=Z,15nm,0.9s,mb5.1
CAF Calviac 84.30 359⇑ *i*P P **17 32 52.6 +0.2**
comp=Z,15nm,0.9s,mb5.1
VIVF Saint-Julien-l 84.31 357⇑ *i*P P **17 32 52.8 +0.3**
comp=Z,24nm,0.9s,mb5.0
VIVF Saint-Julien-l 84.31 357⇑ *i*P P **17 32 52.8 +0.3**
VIVF pmax pmax
comp=Z,12nm,0.9s,mb5.0
VIVF Saint-Julien-l 84.31 357⇑ *i*P P **17 32 52.8 +0.3**
comp=Z,12nm,0.9s,mb5.0
MBDF Montbardon 84.35 356⇑ *i*P P **17 32 53.4 +0.7**
comp=Z,28nm,0.7s,mb5.2
MBDF Montbardon 84.35 356⇑ *i*P P **17 32 53.4 +0.7**
MBDF pmax pmax
comp=Z,14nm,0.7s,mb5.2
MBDF Montbardon 84.35 356⇑ *i*P P **17 32 53.4 +0.7**
comp=Z,14nm,0.7s,mb5.2
ZCCA Zocca 84.45 352 P P **17 32 54.5 +1.3**
comp=Z,284nm,2.1s,mb6.0
GSCL Gusciola 84.48 353 P P **17 32 54.5 +1.1**
comp=Z,29nm,1.2s,mb5.3
FNVD Fontana Vidola 84.62 352 P P **17 32 54.9 +0.8**
SEI Scarperia 84.71 352 P P **17 32 56.3 +1.8**
comp=Z,247nm,0.9s
OG25 Le Caire 84.74 356⇑ *e*P P **17 32 52.7 -2.0**
BDI Bagni Di Lucca 84.77 353 P P **17 32 54.2 -0.6**
VMG Vicchio 84.79 352 P P **17 32 56.7 +1.8**
comp=Z,45nm,0.5s,mb5.8
SFI Santa Sofia 84.82 352 P P **17 32 56.5 +1.4**
SFI pmax pmax
comp=Z,64nm,1.1s,mb5.7
SFI Santa Sofia 84.82 352 P P **17 32 56.5 +1.4**
comp=Z,64nm,1.1s,mb5.7
MALT Malatya 84.92 331⇓ *i*P P **17 32 56.7 +1.1**
MALT Malatya 84.92 331 *e*P P **17 32 55.5 -0.1**
MALT pmax pmax
comp=Z,18nm,1.1s,mb5.1
MALT Malatya 84.92 331 *e*P P **17 32 55.5 -0.1**
comp=Z,18nm,1.1s,mb5.1
FSSB Fossombrone 84.94 351 P P **17 32 56.8 +1.1**
comp=Z,18nm,0.6s,mb5.4
AS31 Alice Springs 85.04 222 *e*P P **17 32 55.3 -0.9**
ASAR Alice Springs 85.04 222 P P **17 32 55.5 -0.7**
comp=Z,3.2nm,0.6s,mb4.6,baz=26,slow=5.3,SNR=31
ASAR LR LR 18 09 23.9

	comp=Z,880nm,18.2s,MS5.2,baz=28,slow=35						
ASPA	Alice Springs	85.04	222	eP	P	17 32 55.3	-0.9
TOUF	Mont Tournerai	85.04	355	⇑eP	P	17 32 56.3	+0.1
AUTN	L'Aution	85.05	355	⇑eP	P	17 32 56.3	+0.1
SAOF	Saorge	85.05	355	⇑eP	P	17 32 56.1	-0.1
CRE	Caprese Michel	85.09	352	P	P	17 32 57.4	+1.0
CRE				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.1						
CRE	Caprese Michel	85.09	352	P	P	17 32 57.4	+1.0
	comp=Z,12nm,0.8s,mb5.1						
IMI	Imperia	85.11	355	P	P	17 32 56.7	+0.2
	comp=Z,16nm,0.7s,mb5.2						
LASF	Ste Croix	85.11	358	⇑iP	P	17 32 56.8	+0.3
	comp=Z,16nm,0.8s,mb4.9						
PII	Pisa	85.11	353	P	P	17 32 56.0	-0.5
PII				pmax	pmax		
	comp=Z,47nm,1.1s,mb5.5						
PII	Pisa	85.11	353	P	P	17 32 56.0	-0.5
	comp=Z,47nm,1.1s,mb5.5						
LUCF	Luceram	85.15	355	⇑eP	P	17 32 56.7	-0.1
SMRF	Simiane la Rot	85.16	356	⇑iP	P	17 32 57.5	+0.7
	comp=Z,39nm,0.8s,mb5.3						
SMRF	Simiane la Rot	85.16	356	⇑iP	P	17 32 57.5	+0.7
	comp=Z,39nm,0.8s,mb5.6						
REVF	Revere	85.31	355	⇑eP	P	17 32 57.2	-0.3
SNTG	Esanatoglia	85.36	351	P	P	17 32 58.3	+0.5
	comp=Z,25nm,0.6s,mb5.5						
GRFL	Gerfalco	85.65	352	P	P	17 32 59.1	-0.1
	comp=Z,30nm,0.8s,mb5.6						
EPON	Pontenova	85.67	6	P	P	17 32 58.9	-0.4
	comp=Z,11nm,0.8s,mb5.2						
LMR	La Mourre	85.75	356	⇑iP	P	17 32 59.7	0.0
	comp=Z,39nm,0.9s,mb5.3						
LMR	La Mourre	85.75	356	⇑iP	P	17 32 59.7	0.0
LMR				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.3						
LMR	La Mourre	85.75	356	⇑iP	P	17 32 59.7	0.0
	comp=Z,20nm,0.9s,mb5.3						
NRCA	Norcia	85.76	351	P	P	17 33 00.5	+0.7
	comp=Z,16nm,0.7s,mb5.3						
POO	Poona	85.77	294	eP	P	17 32 58.0	-1.8
EARI	Arriondas	85.80	4	P	P	17 32 59.3	-0.7
	comp=Z,6.9nm,0.6s,mb5.1						
MTLF	Montolieu	85.88	359	⇑iP	P	17 33 00.6	+0.2
	comp=Z,26nm,0.9s,mb5.2						
MTLF	Montolieu	85.88	359	⇑iP	P	17 33 00.6	+0.2
MTLF				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.2						
MTLF	Montolieu	85.88	359	⇑iP	P	17 33 00.6	+0.2
	comp=Z,13nm,0.9s,mb5.2						
ELAN	Lanestosa	85.94	3	P	P	17 33 00.8	+0.2
	comp=Z,26nm,0.7s,mb5.6						
EALK	Alkurruntz	86.00	2	P	P	17 33 00.8	-0.2
	comp=Z,46nm,1.6s,mb5.5						
EPF	Esparros	86.20	0	⇑iP	P	17 33 01.4	-0.6
	comp=Z,18nm,0.9s,mb5.0						
EPF	Esparros	86.20	0	⇑iP	P	17 33 01.4	-0.6
EPF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.0						
EPF	Esparros	86.20	0	⇑iP	P	17 33 01.4	-0.6
	comp=Z,9.2nm,0.9s,mb5.0						
AQU	L'Aquila	86.20	350	⇓iP	P	17 33 02.6	+0.6
AQU	L'Aquila	86.20	350	eP	P	17 33 02.2	+0.2
AQU				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.6						
AQU	L'Aquila	86.20	350	eP	P	17 33 02.2	+0.2
	comp=Z,30nm,0.8s,mb5.6						
MLS	Moulis	86.27	360	eP	P	17 33 02.8	+0.5
FIAM	Fiamignano	86.32	351	P	P	17 33 03.1	+0.6
ETSF	Etsaut	86.33	1	⇑iP	P	17 33 03.0	+0.4
	comp=Z,26nm,0.7s,mb5.3						
ETSF	Etsaut	86.33	1	⇑iP	P	17 33 03.0	+0.4
ETSF				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.3						
ETSF	Etsaut	86.33	1	⇑iP	P	17 33 03.0	+0.4
	comp=Z,13nm,0.7s,mb5.3						
PGF	Pioggiola	86.39	354	⇑iP	P	17 33 02.9	0.0
	comp=Z,54nm,0.9s,mb5.5						
PGF	Pioggiola	86.39	354	⇑iP	P	17 33 02.9	0.0
PGF				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.5						
PGF	Pioggiola	86.39	354	⇑iP	P	17 33 02.9	0.0
	comp=Z,27nm,0.9s,mb5.5						
RESF	Ens	86.42	0	eP	P	17 33 04.2	+1.2
EBIE	Bielsa	86.54	0	P	P	17 33 04.4	+0.8
	comp=Z,8.6nm,0.7s,mb5.1						
SDI	San Donato	86.80	350	P	P	17 33 04.9	0.0
SDI				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.3						
SDI	San Donato	86.80	350	P	P	17 33 04.9	0.0
	comp=Z,18nm,1.0s,mb5.3						
EGRA	Graus	87.03	0	P	P	17 33 07.4	+1.4
	comp=Z,6.6nm,0.7s,mb5.0						
PBRG	Braganca	87.21	5	eP	P	17 33 06.9	0.0
	comp=Z,7.8nm,1.0s,mb4.9						
ESAC	San Caprasio	87.50	1	P	P	17 33 09.2	+0.8
	comp=Z,25nm,0.7s,mb5.6						
PVRL	Vila Real	87.67	6	eP	P	17 33 09.2	+0.1
	comp=Z,14nm,1.9s,mb4.8						
PVIS	Viseu	88.22	6	eP	P	17 33 11.8	+0.1
	comp=Z,11nm,1.1s,mb5.0						
GUD	Guadarrama	88.49	4	P	P	17 33 12.4	-0.6
GUD				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.8						
GUD	Guadarrama	88.49	4	P	P	17 33 12.4	-0.6
	comp=Z,3.7nm,0.7s,mb4.7						
MTE	Manteigas	88.56	6	eP	P	17 33 12.7	-0.6
	comp=Z,14nm,0.9s,mb5.3						
PCBR	Castelo Branco	89.12	6	eP	P	17 33 15.6	-0.3
	comp=Z,10.0nm,1.5s,mb4.9						
PTOM	Tomar	89.27	7	eP	P	17 33 16.6	-0.1
	comp=Z,21nm,1.1s,mb5.4						
ESDC	Sonseca Array	89.47	3	P	P	17 33 16.8	-0.8
	comp=Z,2.6nm,0.8s,mb4.6,baz=353,slow=4.3,SNR=23						
STKA	Stephens Creek	89.51	212	eP	P	17 33 15.5	-2.3
	comp=Z,8.6nm,0.9s,mb5.1						
STKA	Stephens Creek	89.51	212	P	P	17 33 15.6	-2.2
	comp=Z,9.6nm,0.8s,mb5.2,baz=1.4,slow=3.7,SNR=13						
STKA				LR	LR	18 11 40.4	
	comp=Z,1μm,18.3s,MS5.4,baz=18,slow=34						
EVO	Evora	90.38	7	eP	P	17 33 20.5	-1.3
	comp=Z,15nm,1.2s,mb4.9						
EVO				eR			
	comp=Z,890nm,22.0s						
EVIA	Vianos	90.55	2	P	P	17 33 22.9	+0.3
ETOB	Tobarra	90.56	2	P	P	17 33 23.0	+0.3
	comp=Z,6.0nm,0.8s,mb5.0						
MMAI	Mount Meron Ar	90.75	331	P	P	17 33 23.6	+0.1
	comp=Z,3.1nm,0.7s,mb4.8,baz=12,slow=6.2,SNR=6.1						
PBEJ	Beja	90.89	7	eP	P	17 33 24.2	0.0
	comp=Z,7.0nm,1.5s,mb4.8						
EADA	Adamuz	90.94	4	P	P	17 33 24.5	+0.1
	comp=Z,6.4nm,0.9s,mb5.0						
EBAN	Banos Encina	90.98	3	P	P	17 33 23.7	-0.9
ASF	Jabal al Asfar	91.06	330	P	P	17 33 25.6	+0.6
	comp=Z,2.8nm,0.8s,mb4.7,baz=358,slow=2.6,SNR=5.5						
EMIN	Mina Concepcio	91.23	6	P	P	17 33 24.7	-1.1
ELOJ	Sierra Loja	91.98	4	P	P	17 33 28.6	-0.7
ELOJ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.8						
ELOJ	Sierra Loja	91.98	4	P	P	17 33 28.6	-0.6
	comp=Z,2.7nm,0.6s,mb4.8						
ROSC	El Rosal	95.65	75	LR	LR	18 21 59.0	
	comp=Z,436nm,19.5s,MS4.9,baz=18,slow=39						
LPAZ	La Paz	115.88	84	PKP	PKPdf	17 39 04.2	+1.1
	comp=Z,0.8nm,0.8s,baz=18,slow=6.9,SNR=4.2						
TORD	Torodi Ar. Bea	115.97	359	PKP	PKPdf	17 39 02.8	-0.5
	comp=Z,0.5nm,0.4s,baz=343,slow=2.3,SNR=11						
TORD				PP	PP	17 40 06.2	-1.5
	comp=Z,0.9nm,0.7s,baz=19,slow=6.3,SNR=4.3						
TORD				PKKPbc	PKKPbc	17 49 33.5	-0.4
	comp=Z,1.4nm,0.8s,baz=179,slow=3.0,SNR=4.6						
KMBO	Kilima Mbogo	121.33	316	PKP	PKPdf	17 39 14.2	+0.7
	comp=Z,1.3nm,0.9s,baz=127,slow=6.6,SNR=3.8						
DBIC	Dimbokro	122.22	6	PKP	PKPdf	17 39 15.2	-0.1
	comp=Z,2.7nm,0.4s,baz=344,slow=2.3,SNR=25						
CFAA	Coronel Fontan	126.84	96	PKP	PKPdf	17 39 23.3	-0.8
	comp=Z,0.5nm,0.6s,baz=278,slow=3.4,SNR=11						
CPUP	Villa Florida	130.04	83	PKP	PKPdf	17 39 29.7	-0.5
	comp=Z,2.5nm,0.8s,baz=215,slow=4.4,SNR=7.7						
CPUP	Villa Florida	130.04	83	PKIKP	PKPdf	17 39 29.7	-0.5
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CPUP	Villa Florida	130.04	83	ePKPdf	PKPdf	17 39 29.6	-0.6
PLCA	Paso Flores	131.30	107	PKP	PKPdf	17 39 32.6	0.0
	comp=Z,2.1nm,0.9s,baz=215,slow=3.6,SNR=3.5						
PLCA				SKP		17 43 08.4	
	comp=Z,2.0nm,0.8s,baz=43,slow=3.8,SNR=3.6						
PLCA	Paso Flores	131.30	107	PKP	PKPdf	17 39 32.6	0.0
PLCA				SKP		17 43 08.4	
QSPA	South Pole Qui	140.90	180	eP	PKPdf	17 39 52.7	+2.3
TSUM	Tsumeb	145.39	331	ePKP	PKPdf	17 39 58.7	+0.4
LBTB	Lobatse	147.59	314	ePKP2	PKPab	17 40 05.5	-1.5
BOSA	Boshof	150.82	311	PKPbc	PKPbc	17 40 13.1	+0.2
	comp=Z,7.7nm,0.5s,baz=18,slow=2.4,SNR=34						
BOSA	Boshof	150.82	311	PKIKP	PKPbc	17 40 13.1	+0.3
BOSA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BOSA	Boshof	150.82	311	ePKPbc	PKPbc	17 40 12.8	-0.1
SYO	Syowa Base	154.26	212	⇑ePKPbc	PKPbc	17 40 18.4	-2.1
SNAA	Sanae	159.35	177	ePKPdf	PKPab	17 40 56.1	-0.4
SNAA				e		17 41 11.1	
SNAA				e		17 41 16.8	
VNA1	Neumayer--Stat	160.01	171	ePKPdf	PKPab	17 40 56.2	-3.2
VNA1				e		17 41 10.2	
VNA1				e		17 41 16.7	

*IDC **02** 17:45:50.0±1.6, 51.12N×179.26W, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/22, mbtmp3.9/10, ML3.7/1, MS4.0/1, Ms1 4.0/1, ms1mx3.5/40, Error ellipse: s-maj=44.0km s-min=22.4km az=157.0*
*ISCJB **02** 17:45:55.2±1.8, 51.2N±0.2×179.2W±0.1, h42km±11km, mb4.0/12, MS4.1/1, Error ellipse: s-maj=34.1km s-min=9.5km az=157.8*
*NEIC **02** 17:45:56.7±1.7, 51.10N×179.48W, h46km±11km, ML3.5(AEIC), Error ellipse: s-maj=30.5km s-min=11.8km az=167.0*
*BJI **02** 17:45:56.0, 51.10N×179.50W, h36km, mB5.2, mb4.5, Ms4.7, Msz4.5*
ISC 02 17:45:57.1±1.6**, 51.2N**±0.2×**179.3W**±0.1**, h46**km±11km**, n20, σ1s21**/20**, mb4.0**/12**, MS4.1**/1**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.88	281	P	Pn	17 46 10.7	-2.4
AMKA				S	Sn	17 46 24.4	-0.5
SMY	Shemya	4.34	293	ePn	Pn	17 47 01.6	+1.1
SPIA	Saint Paul Isl	7.99	38	ePn	Pn	17 47 54.0	+3.4
UNV	Unalaska Valle	8.24	66	ePn	Pn	17 47 55.3	+1.2
KDAK	Kodiak Island	16.78	57	Pn	Pn	17 49 45.5	-3.3
	0.3nm,0.3s,baz=90,slow=20,SNR=2.5						
INK	Inuvik	27.77	35	P	P	17 51 40.9	-0.6
	0.6nm,0.7s,mb3.3,baz=225,slow=10.0,SNR=2.4						
MDJ	Mudanjiang	34.28	279	P	P	17 52 40.0	+1.2
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.4						
YKA	Yellowknife Ar	35.58	46	P	P	17 52 49.5	-0.5
	comp=Z,0.7nm,0.5s,mb3.9,baz=282,slow=7.6,SNR=13						
YKA	Yellowknife Ar	35.58	46	P	P	17 52 49.5	-0.5
CN2	Changchun	37.26	281	eP	P	17 53 07.7	+3.4
BJI	Beijing	45.09	282	eP	P	17 54 09.4	+0.8
BJI				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.2						
SONM	Songino Array	46.42	296	P	P	17 54 20.0	+0.9
	comp=Z,0.8nm,0.6s,mb3.8,baz=70,slow=7.5,SNR=7.7						
ANMO	Albuquerque	53.44	78	LR	LR	18 17 26.0	
	comp=Z,152nm,19.5s,MS4.1,baz=299,slow=36						
MKAR	Makanchi Array	59.88	308	P	P	17 55 57.8	-0.3
	comp=Z,1.6nm,0.5s,mb4.3,baz=52,slow=6.4,SNR=31						
KMI	Kunming	63.42	278	P	P	17 56 25.6	+3.6
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.6						
FINES	FINESS Array B	65.86	347	P	P	17 56 36.6	-1.2
	comp=Z,1.0nm,0.6s,mb4.0,baz=27,slow=6.4,SNR=8.8						
NOA	NORSAR Array B	67.77	354	P	P	17 56 49.8	-0.2
	comp=Z,0.3nm,0.5s,mb3.6,baz=7.7,slow=6.4,SNR=2.9						
AKASG	Malin Array Be	75.60	342	P	P	17 57 36.6	-0.4
	comp=Z,2.4nm,0.4s,mb4.5,baz=19,slow=6.4,SNR=7.9						
GERES	GERESS Array B	79.69	351	P	P	17 57 59.9	0.0
	comp=Z,0.3nm,0.4s,mb3.6,baz=33,slow=8.0,SNR=4.9						
ASAR	Alice Springs	85.15	222	P	P	17 58 27.3	-1.0
	comp=Z,0.3nm,0.7s,mb3.5,baz=27,slow=5.3,SNR=4.9						

IDC 02 17:46:51.9±3.8**, 2.58N**×**96.59E, h0**km**, mb3.4**/5**, mb1 3.6**/5**, mb1mx3.4**/18**, mbtmp3.4**/5**, Error ellipse: s-maj=160.9km s-min=22.1km az=59.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.28	123	P	P	17 54 55.7	+0.6
	0.1nm,0.6s,baz=301,slow=8.9,SNR=3.0						
ASAR	Alice Springs	44.71	128	P	P	17 55 06.9	+0.2
	0.1nm,0.7s,baz=299,slow=8.0,SNR=2.9						
MKAR	Makanchi Array	45.76	346	P	P	17 55 15.0	0.0
	0.7nm,0.7s,baz=162,slow=7.9,SNR=9.6						
SONM	Songino Array	45.87	9	P	P	17 55 15.9	+0.1
	0.5nm,0.7s,baz=184,slow=9.6,SNR=3.9						
ZAL	Zalesovo	52.10	351	P	P	17 56 03.6	-0.1
	0.9nm,0.4s,baz=294,slow=5.8,SNR=3.6						

*IDC **02** 18:10:03.4±3.2, 51.42N×179.35W, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/21, mbtmp3.9/9, ML3.8/1, Error ellipse: s-maj=87.8km s-min=22.3km az=177.0*
*ISCJB **02** 18:10:07.3±1.9, 51.3N±0.3×179.2W±0.1, h43km±11km, mb3.9/8, Error ellipse: s-maj=49.4km s-min=9.9km az=161.8*
*NEIC **02** 18:10:08.4±1.5, 51.28N×179.45W, h38km±9km, ML3.4(AEIC), Error ellipse: s-maj=33.3km s-min=8.6km az=171.0*
ISC 02 18:10:09.0±2.1**, 51.3N**±0.3×**179.3W**±0.1**, h48**km±10km**, n14, σ0s90**/15**, mb3.9**/8**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.86	278	P	Pn	18 10 22.6	-2.1
AMKA				S	Sn	18 10 36.5	+0.2
SMY	Shemya	4.31	292	ePn	Pn	18 11 13.8	+1.8
SPIA	Saint Paul Isl	7.96	38	ePn	Pn	18 12 01.7	-0.3
UNV	Unalaska Valle	8.24	67	ePn	Pn	18 12 06.7	+0.9
KDAK	Kodiak Island	16.77	57	Pn	Pn	18 13 56.9	-3.5
	0.3nm,0.3s,baz=288,slow=20,SNR=5.6						
YKA	Yellowknife Ar	35.55	46	P	P	18 17 01.3	-0.2
	0.6nm,0.4s,mb3.9,baz=283,slow=7.4,SNR=13						
YKA	Yellowknife Ar	35.55	46	P	P	18 17 01.3	-0.2
SONM	Songino Array	46.40	296	P	P	18 18 31.0	+0.3
	0.4nm,0.5s,mb3.6,baz=69,slow=7.8,SNR=5.9						
PDAR	Pinedale Array	46.66	72	P	P	18 18 33.2	+0.4
	0.7nm,0.6s,mb3.8,baz=319,slow=3.8,SNR=4.6						
MKAR	Makanchi Array	59.84	308	P	P	18 20 09.6	+0.1
	0.9nm,0.4s,mb4.2,baz=49,slow=6.4,SNR=25						
FINES	FINESS Array B	65.82	347	P	P	18 20 48.6	-0.7
	1.0nm,0.7s,mb3.9,baz=13,slow=6.7,SNR=6.3						
NOA	NORSAR Array B	67.73	354	P	P	18 21 01.6	+0.2
	0.2nm,0.5s,mb3.4,baz=339,slow=3.3,SNR=2.4						
AKASG	Malin Array Be	75.55	342	P	P	18 21 48.2	-0.3
	2.0nm,0.4s,mb4.4,baz=20,slow=6.5,SNR=9.0						
GERES	GERESS Array B	79.65	351	P	P	18 22 11.4	+0.1
	0.4nm,0.5s,mb3.6,baz=36,slow=7.1,SNR=4.3						

*ISCJB **02** 18:14:44.2±0.9, 12.15N±0.07×88.48W±0.05, h52km±10km, mb4.2/11, Error ellipse: s-maj=11.7km s-min=7.6km az=49.6*
*CASC **02** 18:14:45.3±3.1, 12.37N×88.21W, h130km±37km, MD4.2, ML3.5, mb4.2(NEIC)*
*IDC **02** 18:14:46.7±6.0, 12.63N×88.12W, h33km±55km, mb3.9/4, mb1 4.0/6, mb1mx3.7/19, mbtmp4.0/6, ML3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx3.1/29, Error ellipse: s-maj=59.9km s-min=29.2km az=40.0*
*NEIC **02** 18:14:47.0±1.4, 12.35N×88.24W, h44km±14km, mb4.2/9, Error ellipse: s-maj=22.1km s-min=10.9km az=53.0*
ISC 02 18:14:46.2±0.8**, 12.19N**±0.06×**88.42W**±0.05**, h49**km±10km**, n49, σ0s99**/47**, mb4.2**/11**, 14C-5D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.23	28	⇓eP	x	18 15 38.3	
CNCH				eS	x	18 15 57.1	
VSM	San Miguel	1.24	7	⇑eP	x	18 15 39.0	
VSM				eS	x	18 15 55.4	
BLLM	Bellamira	1.26	8	⇑eP	x	18 15 39.0	
BLLM				eS	x	18 15 58.2	
CRIN	San Cristobal	1.43	69	⇑eP	Pn	18 15 09.7	-0.1
CRIN				eS	Sn	18 15 28.4	+1.0
LEON	Leon	1.51	81	⇑eP	Pn	18 15 09.5	-1.4
LFRS	El Faro	1.56	336	⇑eP	x	18 15 42.5	
LFRS				eS	x	18 16 05.4	
TELN	Telica	1.61	75	eP	Pn	18 15 11.0	-1.1
TELN				eS	Sn	18 15 34.9	+3.2
MIRN	Miramar	1.69	81	⇑eP	Pn	18 15 12.3	-0.9
LFU	La Fuente	1.69	337	⇑eP	x	18 15 45.4	
LFU				eS	x	18 16 07.5	
CNGN	Cerro Negro	1.71	79	⇑eP	Pn	18 15 12.9	-0.7
BOQS	Boqueron	1.75	332	⇑eP	x	18 15 45.7	
BOQS				eS	x	18 16 10.4	
COPN	Copaltepe	1.79	90	⇓eP	Pn	18 15 13.6	-1.0
COPN				eS	Sn	18 15 36.9	+0.8
MOMJ	Momotombo	1.85	83	eP	Pn	18 15 14.5	-1.0
MOMJ				eS	Sn	18 15 37.8	+0.1
SBLS	San Blas	2.02	325	eP	x	18 15 49.6	
SBLS				eS	x	18 16 18.4	
APYN	Apoyeque	2.02	88	⇓eP	Pn	18 15 17.6	-0.3
APYN				eS	Sn	18 15 42.3	+0.3
SNJE	San Jose	2.03	325	⇑eP	x	18 15 49.8	
SNJE				eS	x	18 16 17.0	
XAVN	Gruta Xavier	2.05	91	eP	Pn	18 15 17.5	-0.7
XAVN				eS	Sn	18 15 42.8	+0.2
RTR	El Retiro	2.08	325	⇑eP	x	18 15 50.6	
RTR				eS	x	18 16 17.0	
TISN	Laguna Tiscapa	2.10	91	eP	Pn	18 15 19.0	0.0
TISN				eS	Sn	18 15 44.3	+0.4
MGAN	Managua	2.12	91	⇓eP	Pn	18 15 18.5	-0.8
MGAN				eS	Sn	18 15 44.6	+0.2
MGAN				i		18 15 45.8	
	comp=N,414nm,0.2s						
TICN	Ticuantepe	2.15	94	⇑eP	Pn	18 15 19.5	0.0
TICN				eS	Sn	18 15 46.1	+1.2
RBDL	Robledal	2.28	327	⇑eP	x	18 15 53.2	
RBDL				eS	x	18 16 22.7	
APON	Apoyo	2.32	96	⇓eP	Pn	18 15 23.9	+2.0
PYTN	Playitas	2.33	81	eP	Pn	18 15 21.0	-1.1
MTO2	Montecristo 2	2.38	337	⇑eP	x	18 15 55.2	
MTO2				eS	x	18 16 27.3	
CONN	Concepcion	2.81	102	eP	Pn	18 15 27.9	-0.7
JTS	JuntasAbangare	3.89	119	Pn	Pn	18 15 43.7	+0.3
	comp=N,2.6nm,0.3s,baz=307,slow=20,SNR=12						
JTS				Sn	Sn	18 16 25.6	-2.2
	comp=N,5.4nm,0.3s,baz=246,slow=16,SNR=4.2						
JTS				LR	LR	18 17 48.8	
	comp=N,336nm,19.8s,baz=355,slow=47						
JTS	JuntasAbangare	3.89	119	ePn	Pn	18 15 43.5	+0.1
JTS				Sn	Sn	18 16 25.6	-2.2
JTS				LR	LR	18 17 48.9	
PRS1	Puriscal	4.59	118	eP	Pn	18 15 53.6	+0.6
LCR2	La Lucha 2	4.97	119	eP	Pn	18 15 59.4	+1.1
URSC	Urasca	5.12	117	eP	Pn	18 16 01.6	+1.3
BUS	Buena Vista	5.27	119	eP	Pn	18 16 03.0	+0.6
CMIG	Matias Romero	7.93	309	Pn	Pn	18 16 39.5	+0.7
	comp=N,1.2nm,0.3s,baz=86,slow=11,SNR=16						
TEIG	Tepich	8.00	1	ePn	Pn	18 16 38.8	-0.9
LRAL	Lakeview Retre	20.79	3	eP	P	18 19 23.9	+0.7
	comp=N,5.5nm,1.0s						
JCT	Junction City	21.04	332	eP	P	18 19 26.5	+0.7
	comp=N,8.0nm,0.6s,mb4.2						
GOGA	Godfrey	21.61	11	eP	P	18 19 32.7	+0.7
	comp=N,104nm,1.0s,mb5.2						
LTX	Lajitas	22.19	323	eP	P	18 19 40.6	+2.4
	comp=N,2.3nm,0.6s,mb3.8						
MIAR	Mount Ida	22.75	349	eP	P	18 19 44.4	+0.3
	comp=N,10nm,1.0s,mb4.2						
AMTX	Amarillo	25.60	334	eP	P	18 20 11.7	+0.8
	comp=N,9.5nm,0.6s,mb4.5						
CCM	Cathedral Cave	25.88	355	eP	P	18 20 12.9	-0.4
	comp=N,2.7nm,0.6s,mb4.0						
SAML	Samuel	32.71	129	eP	P	18 21 14.2	+0.2
	comp=N,3.0nm,1.0s,mb4.2						
PDAR	Pinedale Array	35.56	333	P	P	18 21 39.5	+0.9
	comp=N,0.2nm,0.5s,mb3.3,baz=138,slow=9.6,SNR=3.3						
ULM	Lac du Bonnet	38.44	352	P	P	18 22 01.6	-1.6
	comp=N,5.9nm,0.5s,mb4.5,baz=169,slow=8.3,SNR=12						
ULM	Lac du Bonnet	38.44	352	eP	P	18 22 01.3	-1.8
	comp=N,3.6nm,0.4s,mb4.5						
SCHQ	Schefferville	45.80	17	P	P	18 23 01.6	-1.5
	comp=N,2.4nm,0.5s,mb4.4,baz=205,slow=5.4,SNR=6.2						
YKA	Yellowknife Ar	53.62	345	P	P	18 24 01.0	-1.5
	comp=N,0.7nm,0.5s,mb3.8,baz=141,slow=7.5,SNR=8.9						
WRA	Warramunga Arr	138.29	254	PKP	PKPdf	18 34 08.9	+2.9
	comp=N,0.5nm,1.0s,baz=92,slow=2.7,SNR=4.1						
ASAR	Alice Springs	138.29	248	PKP	PKPdf	18 34 11.4	+5.4
	comp=N,0.5nm,0.8s,baz=99,slow=1.8,SNR=4.5						

*IDC **02** 18:14:46.1±3.2, 51.12N×179.41W, h16km±19km, mb4.6/27, mb1 4.7/28, mb1mx4.7/30, mbtmp4.7/28, ML4.8/1, MS4.4/7, Ms1 4.4/7, ms1mx3.9/36, Error ellipse: s-maj=16.5km s-min=10.7km az=155.0*
*ISCJB **02** 18:14:48.5±0.2, 51.09N±0.05×179.40W±0.03, h44km, mb4.9/185, MS4.5/27, Error ellipse: s-maj=6.5km s-min=2.7km az=176.9*
*MOS **02** 18:14:48.6±0.9, 51.13N×179.43W, h44km, mb5.1/76, MS4.4/12, Error ellipse: s-maj=8.8km s-min=4.5km az=94.9*
*BJI **02** 18:14:50.2, 51.35N×179.93W, h45km, mB5.2, mb4.9, Ms4.8, Msz4.5*
*HRVD **02** 18:14:50.7±0.3, 50.96N×179.37W, h21km±1km, MW5.1/66, Centroid moment Tensor Solution. LP body waves: s49,c66;Mantle waves: s66,c116; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.86±.22; $M_{\theta\theta}$-3.65±.15; $M_{\phi\phi}$-0.21±.12; $M_{r\theta}$3.25±.30; $M_{\theta\phi}$-1.24±.09; $M_{\phi r}$2.10±.25; Best double couple: $M_0$5.53500×10^{16} NP1:ϕ_s263.00000°,δ24.00000°,λ110.00000°. NP2: ϕ_s62.00000°,δ67.00000°,λ82.00000°. Principal axes: T 5.5100, Plg67.0000°, Azm316.0000°; N 0.0520, Plg8.0000°, Azm65.0000°; P -5.5610, Plg22.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 18:14:50.7±0.5, 51.13N×179.44W, h50km±4km, mb4.9/125, ML5.0(AEIC) Error ellipse: s-maj=5.4km s-min=2.8km az=186.0*
*SZGRF **02** 18:14:52.6, 51.39N×178.92E, h33km, mb5.1, Rat Islands, Aleutian Islands, United States*
ISC 02 18:14:50.4±0.2**, 51.17N**±0.05×**179.44W**±0.03**, h46**km**, h46**km±2.0km**:pP-P, n466, σ0s83**/464**, mb4.9**/185**, MS4.5**/27**, 108C-10D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.82	285	P	Pn	18 15 03.5	-2.0
AMKA				S	Sn	18 15 16.4	-0.1
SMY	Shemya	4.29	294	P	Pn	18 15 54.9	+1.8
SMY				S	Sn	18 16 47.5	+5.6
NIKO	Nikolski	6.77	70	P	Pn	18 16 28.0	+0.9
OKCE	Okmok Cone E	7.27	68	P	Pn	18 16 35.9	+1.9
OKCD	Okmok Cone D	7.30	68	P	Pn	18 16 35.6	+1.2
SPIA	Saint Paul Isl	8.07	38	P	Pn	18 16 47.9	+2.9
UNV	Unalaska Valle	8.33	66	P	Pn	18 16 49.3	+0.7
AKUT	Akutan	8.82	65	eP	Pn	18 16 57.0	+1.8
SDPT	Sand Point	12.09	62	eP	Pn	18 17 38.5	-1.4
	16nm,0.3s						
PET	Petropavlovsk	13.59	286	eP	Pn	18 18 08.7	+8.3
PET				eS	Sn	18 20 36.3	+6.4
PET				pmax	pmax		
	comp=Z,600nm,8.3s						
PET				pmax	pmax		
	comp=Z,37nm,1.5s						
PET				pmax	pmax		
	comp=Z,500nm,15.1s						
PET				smax			
	comp=N,200nm,8.9s						
PET				smax			
	comp=E,300nm,10.8s						
PET				MLR	MLR		
	comp=Z,2μm,19.0s						
PET				MLR	MLR		
	comp=Z,2μm,19.0s						
SVW2	Sparrevohn	16.50	44	eP	Pn	18 18 39.2	+0.7
KDAK	Kodiak Island	16.87	56	Pn	Pn	18 18 39.1	-4.0
	comp=Z,3.6nm,0.3s,baz=250,slow=6.2,SNR=25						
KDAK	Kodiak Island	16.87	56	ePn	Pn	18 18 38.7	-4.4
	comp=Z,24nm,0.4s						
TTA	Tatalina	17.22	38	eP	Pn	18 18 48.3	+0.8
BILL	Bilibino	18.31	343	ceP	Pn	18 19 01.6	+0.8
BILL				pmax	pmax		

comp=Z,64nm,1.5s
BILL MLR MLR

comp=Z,2µm,17.0s
BILL Bilibino 18.31 343 *e*P **Pn 18 19 01.2 +0.3**
comp=Z,56nm,1.0s
MA2 Magadan 18.76 308 *e*P **Pn 18 19 06.2 -0.1**
MA2 pmax pmax

comp=Z,5.0nm,0.9s
PMR Palmer 19.56 46 *e*P **Pn 18 19 12.5 -3.4**
PMR pmax pmax

comp=Z,1.0nm,0.3s
PMR Palmer 19.56 46 *e*P **Pn 18 19 12.5 -3.4**
comp=Z,1.4nm,0.3s
SML Sawmill 19.99 46 *e*P **Pn 18 19 16.8 -4.1**
MID Middleton Isla 20.39 53 *e*P **P 18 19 23.4 +0.2**
EYAK Cordova Ski Ar 20.88 50 *e*P **P 18 19 29.4 +0.8**
COLA College 21.32 38 *c i*P **P 18 19 34.4 +1.1**
COLA College 21.32 38 *e*P **P 18 19 32.9 -0.4**
comp=Z,37nm,1.0s,mb4.7
MENT Mentasta 22.38 45 *e*P **P 18 19 44.2 -0.3**
DAWY Dawson 24.53 43 *e*P **P 18 20 04.0 -1.5**
YSS Yuzh-Sakhalins 24.94 275 ⇑*i*P **P 18 20 09.5 +0.2**
YSS *e* 18 20 22.2
YSS pmax pmax

comp=Z,50nm,1.0s,mb5.0
YSS Yuzh-Sakhalins 24.94 275 *e*P **P 18 20 09.8 +0.6**
comp=Z,44nm,0.9s,mb5.0
ASAJ Asahikawa 26.30 269 P **P 18 20 21.2 -0.4**
comp=Z,28nm,1.1s,mb4.7,baz=67,slow=6.5,SNR=12
ASAJ LR LR 18 30 47.4

comp=Z,628nm,18.3s,MS4.2,baz=87,slow=36
ASAJ Asahikawa 26.30 269 P **P 18 20 21.2 -0.4**
ASAJ pmax pmax

comp=Z,28nm,1.1s
ASAJ MLR MLR

comp=Z,628nm,18.3s
INK Inuvik 27.86 35 P **P 18 20 34.5 -1.0**
comp=Z,2.3nm,0.4s,mb4.1,baz=234,slow=3.9,SNR=12
INK Inuvik 27.86 35 P **P 18 20 34.5 -1.1**
INK pmax pmax

comp=Z,2.0nm,0.4s
INK Inuvik 27.86 35 *e*P **P 18 20 34.1 -1.4**
comp=Z,7.3nm,0.9s,mb4.3
HABR Khabarovsk 29.13 283 ⇑*i*P **P 18 20 46.8 -0.1**
HABR *e*S **S 18 25 35.9 +0.2**
HABR pmax pmax

comp=Z,28nm,1.4s,mb4.8
HABR MLR MLR

comp=Z,300nm,19.2s,MS3.9
YAK Yakutsk 29.25 312 *e*P **P 18 20 46.9 -1.1**
YAK *e*PPP 18 21 47.4
YAK *e* 18 23 54.5
YAK *e*S **S 18 25 38.3 +0.7**
YAK *e* 18 31 28.2
YAK pmax pmax

comp=Z,13nm,1.4s,mb4.5
YAK pmax pmax

comp=N,2.0nm,1.5s
YAK pmax pmax

comp=E,7.0nm,1.1s
YAK pmax pmax

comp=Z,7.0nm,1.0s,mb4.3
YAK pmax pmax

comp=N,2.0nm,1.2s
YAK pmax pmax

comp=E,3.0nm,0.9s
YAK smax

comp=N,5.0nm,1.4s
YAK smax

comp=E,4.0nm,0.8s
YAK MLR MLR

comp=N,272nm,17.0s,MS4.1
YAK MLR MLR

comp=Z,404nm,17.0s,MS4.1
YAK MLR MLR

comp=E,177nm,13.0s,MS4.1
YAK Yakutsk 29.25 312 *e*P **P 18 20 46.6 -1.4**
comp=E,15nm,0.8s,mb4.8
KLR Kul'dur 30.85 286 ⇓*i*P **P 18 20 58.8 -3.3**
MJAR Matsushiro Arr 33.36 261 P **P 18 21 24.0 -0.1**
comp=E,2.4nm,0.7s,mb4.2,baz=53,slow=7.5,SNR=6.5
MDJ Mudanjiang 34.21 279 P **P 18 21 30.4 -1.1**
MDJ AP pP 18 21 41.5 -2.2
MDJ XP sP 18 21 46.4 -2.7
MDJ S **S 18 26 55.0 +0.1**
MDJ SCS ScS 18 31 50.6 -0.4
MDJ AMB AMB

comp=Z,10.0nm,1.2s,mb4.6
MDJ AMB AMB

comp=Z,146nm,13.2s
MDJ LR LR

comp=E,468nm,20.7s
MDJ LR LR

comp=Z,727nm,20.2s,MS4.4
YKA Yellowknife Ar 35.66 46 P **P 18 21 42.3 -1.7**
comp=Z,5.7nm,0.5s,mb4.8,baz=282,slow=7.5,SNR=97
YKA ScP ScP 18 27 55.8 +2.0

comp=Z,1.0nm,0.8s,baz=289,slow=3.5,SNR=5.9
CN2 Changchun 37.19 281 *e*P **P 18 21 56.9 -0.2**
CN2 *e*XP sP 18 22 14.4 -0.4
CN2 *e*S **S 18 27 38.7 -1.9**
CN2 AMB AMB

comp=Z,10.0nm,0.9s,mb4.7
CN2 AMB AMB

comp=Z,130nm,7.0s
CN2 LR LR

comp=N,370nm,19.0s,MS4.4
CN2 LR LR

comp=E,490nm,19.0s,MS4.4
CN2 LR LR

comp=Z,720nm,20.0s,MS4.5
BOD Bodaibo 37.78 307 *e*P **P 18 21 55.7 -6.3**
BOD pmax pmax

comp=Z,44nm,1.0s,mb5.1
HUMO Hull Mountain 38.67 80 P **P 18 22 09.8 +0.3**
comp=Z,16nm,1.4s,mb4.6
HAWA Hanford 38.80 73 *e*P **P 18 22 11.0 +0.3**
comp=Z,2.5nm,1.3s,mb3.8
EDM Edmonton 39.26 60 *e*P **P 18 22 13.4 -1.1**
EDM *e* pP 18 22 23.4 -3.4
YBH Yreka Blue Hor 39.31 81 P **P 18 22 14.6 -0.2**
comp=Z,1.4nm,0.6s,mb3.9,baz=315,slow=5.7,SNR=4.4
YBH LR LR 18 34 57.3

comp=Z,544nm,21.7s,MS4.3,baz=302,slow=31
YBH Yreka Blue Hor 39.31 81 *e*P **P 18 22 16.7 +1.9**
YBH pmax pmax

comp=Z,7.0nm,0.9s
YBH Yreka Blue Hor 39.31 81 *e*P **P 18 22 16.7 +1.9**
comp=Z,7.4nm,0.9s,mb4.4
NEW Newport 39.33 69 P **P 18 22 14.9 -0.1**
comp=Z,7.2nm,0.5s,mb4.6,baz=308,slow=6.3,SNR=15
NEW LR LR 18 35 51.1

comp=Z,523nm,20.6s,MS4.3,baz=313,slow=32
NEW Newport 39.33 69 P **P 18 22 15.0 0.0**
NEW pmax pmax

comp=Z,7.0nm,0.5s
NEW MLR MLR

comp=Z,523nm,20.6s
NEW Newport 39.33 69 *e*P **P 18 22 14.8 -0.2**
comp=Z,17nm,1.0s,mb4.7
SNY Shenyang 39.41 279 ⇑P **P 18 22 16.2 +0.5**
SNY AP pP 18 22 23.6 -4.5
SNY XP sP 18 22 28.8 -4.7
SNY AMB AMB

comp=Z,25nm,1.1s,mb4.9
SNY LR LR

comp=N,383nm,22.6s,MS4.3
SNY LR LR

comp=E,390nm,24.0s,MS4.3
SNY LR LR

comp=Z,513nm,21.6s,MS4.3
INCN Inchon 40.03 272 *e*P **P 18 22 21.4 +0.6**
comp=Z,40nm,1.3s,mb5.0
RES Resolute Bay 40.10 24 *e*P **P 18 22 22.1 +0.7**
RES pmax pmax

comp=Z,2.0nm,0.4s,mb4.2
RES Resolute Bay 40.10 24 *e*P **P 18 22 22.1 +0.7**
comp=Z,2.4nm,0.4s,mb4.3
WALA Waterton Lakes 40.82 66 *e*P **P 18 22 27.0 -0.4**
comp=Z,18nm,1.2s,mb4.6
BMO Blue Mountains 40.94 74 *e*P **P 18 22 28.6 +0.2**
comp=Z,7.0nm,0.9s,mb4.3
MSO Missoula 41.91 69 *e*P **P 18 22 35.6 -0.7**
comp=Z,8.7nm,0.9s,mb4.4
CHMT Chamberlain Mo 42.27 69 *e*P **P 18 22 38.6 -0.7**
DL2 Dalian 42.32 277 P **P 18 22 39.4 -0.2**
DL2 *e*S **S 18 28 57.1 -0.2**
DL2 AMB AMB

comp=Z,10.0nm,0.8s,mb4.5
DL2 LR LR

comp=N,170nm,13.2s,MS4.2
DL2 LR LR

comp=E,100nm,14.9s,MS4.2
DL2 LR LR

comp=Z,200nm,15.2s,MS4.1
PAHR Pah Rah Range 42.54 81 *e*P **P 18 22 41.5 +0.1**
comp=Z,17nm,1.2s,mb4.7
HRY Holter Researc 43.21 68 *e*P **P 18 22 46.3 -0.6**
HLID Hailey 43.38 74 *e*P **P 18 22 48.2 -0.1**
comp=Z,9.0nm,0.9s,mb4.5
BMN Battle Mountai 43.45 79 P **P 18 22 49.5 +0.7**
BMN pmax pmax

comp=Z,5.0nm,0.6s,mb4.4
BMN Battle Mountai 43.45 79 P **P 18 22 49.5 +0.6**
comp=Z,5.2nm,0.6s,mb4.4
MCMT McKenzie Canyo 43.62 71 *e*P **P 18 22 50.0 -0.2**
EGMT Eagleton 43.73 66 *e*P **P 18 22 50.9 -0.2**
comp=Z,15nm,0.7s,mb4.8
BOZ Bozeman (W) 43.90 70 *e*P **P 18 22 52.1 -0.3**
BOZ pmax pmax

comp=Z,14nm,0.8s,mb4.7
BOZ Bozeman (W) 43.90 70 *e*P **P 18 22 52.0 -0.4**
comp=Z,14nm,0.8s,mb4.8
NVAR Mina Array Bea 43.98 82 P **P 18 22 53.2 +0.2**
comp=Z,2.0nm,0.8s,mb3.9,baz=293,slow=7.8,SNR=6.0
MNV Mina 44.07 82 *e*P **P 18 22 53.6 -0.2**
MNV pmax pmax

comp=Z,6.0nm,0.9s,mb4.3
MNV Mina 44.07 82 *e*P **P 18 22 53.6 -0.2**
comp=Z,6.0nm,0.9s,mb4.3
QLMT Earthquake Lak 44.47 70 *e*P **P 18 22 57.2 +0.3**
MTUM Tungsten Hills 44.47 84 *e*P **P 18 22 57.8 +0.8**
ELK Elko 44.49 77 *e*P **P 18 22 57.7 +0.6**
ELK pmax pmax

comp=Z,8.0nm,0.8s
ELK Elko 44.49 77 *e*P **P 18 22 57.7 +0.6**
comp=Z,8.0nm,0.8s,mb4.5
GCMT Greycliff 44.98 68 *e*P **P 18 23 01.3 +0.3**
BJI Beijing 45.03 282 P **P 18 23 02.1 +0.7**
BJI AMB AMB

comp=Z,14nm,0.9s,mb4.8
BJI AMB AMB

comp=Z,92nm,3.3s
BJI LR LR

comp=N,513nm,21.2s,MS4.6
BJI LR LR

comp=E,401nm,16.7s,MS4.6
BJI LR LR

comp=Z,499nm,19.9s,MS4.4
YFT Old Faithful 45.03 70 P **P 18 23 01.2 -0.2**
IRK Irkutsk 45.22 303 *e*P **P 18 23 02.2 -0.7**
IRK pmax pmax

comp=Z,57nm,1.4s,mb5.2
HVU Hansel Valley 45.39 75 *e*P **P 18 23 05.2 +0.9**
HVU pmax pmax

comp=Z,9.0nm,0.7s,mb4.7
HVU Hansel Valley 45.39 75 *e*P **P 18 23 05.2 +0.9**
comp=Z,9.3nm,0.7s,mb4.7
MOOW Moose Ponds 45.48 71 *e*P **P 18 23 05.5 +0.6**
comp=Z,9.0nm,1.2s,mb4.5
TPAW Teton Pass 45.50 72 P **P 18 23 05.5 +0.3**
comp=Z,6.0nm,0.7s,mb4.6
REDW Red Top Meadow 45.64 72 *e*P **P 18 23 06.8 +0.6**
comp=Z,17nm,1.3s,mb4.8
BGU Big Grassy Mou 45.74 76 *e*P **P 18 23 07.5 +0.5**
TLY Talaya 45.84 302 P **P 18 23 08.8 +1.0**
SNR=16
TLY Talaya 45.84 302 *c i*P **P 18 23 08.3 +0.5**
TLY *e*S **S 18 30 03.0 +14**
TLY pmax pmax

comp=Z,23nm,1.0s,mb5.1
TLY Talaya 45.84 302 *e*P **P 18 23 08.3 +0.5**
comp=Z,32nm,1.2s,mb5.1
ULN Ulaanbaatar 45.99 296 P **P 18 23 10.2 +1.1**
SNR=7.3
ULN Ulaanbaatar 45.99 296 ⇑*e*P **P 18 23 09.7 +0.7**
TPNV Topopah Spring 46.17 82 *e*P **P 18 23 10.2 -0.2**
TPNV pmax pmax

comp=Z,12nm,0.7s,mb4.9
TPNV Topopah Spring 46.17 82 *e*P **P 18 23 10.2 -0.2**
comp=Z,12nm,0.7s,mb4.9
HWUT Hardware Ranch 46.23 74 *e*P **P 18 23 11.4 +0.6**
comp=Z,8.6nm,1.0s,mb4.6
DUG Dugway 46.31 77 *e*P **P 18 23 11.9 +0.4**
DUG pmax pmax

comp=Z,21nm,0.9s,mb5.1
DUG Dugway 46.31 77 *e*P **P 18 23 11.9 +0.4**
comp=Z,21nm,0.9s,mb5.1
SONM Songino Array 46.38 296 P **P 18 23 13.1 +1.0**
comp=Z,8.1nm,0.6s,mb4.8,baz=61,slow=8.4,SNR=99
SONM PcP PcP 18 24 46.8 +0.3

comp=Z,2.5nm,0.6s,baz=64,slow=2.2,SNR=4.4
SONM ScP ScP 18 28 38.1 +2.0

comp=Z,1.6nm,0.9s,baz=64,slow=2.6,SNR=6.8
SONM Songino Array 46.38 296 P **P 18 23 13.1 +1.0**
SONM 18 24 46.8
NOQ North Oquirrh 46.46 76 P **P 18 23 13.8 +1.1**
comp=Z,16nm,0.7s,mb5.1
LAO LASA Array 46.47 65 *e*P **P 18 23 12.1 -0.7**
comp=Z,20nm,1.0s,mb5.0
PDAR Pinedale Array 46.75 72 P **P 18 23 15.0 0.0**
comp=Z,12nm,0.6s,mb5.0,baz=314,slow=3.2,SNR=75
GSC Goldstone 46.87 84 *e*P **P 18 23 15.8 -0.1**
DAU Daniels Canyon 47.13 75 *e*P **P 18 23 19.1 +1.2**
MOY Mondy 47.25 303 *e*P **P 18 23 19.7 +0.8**
MOY pmax pmax

comp=Z,48nm,2.4s,mb5.0
HHC Hu-ho-hao-te 47.36 286 *e*P **P 18 23 20.6 +0.9**
HHC AP pP 18 23 32.4 0.0
HHC XP sP 18 23 38.4 +0.7
HHC PP PP 18 25 12.3 +1.1
HHC PCS PcS 18 28 45.2 0.0
HHC S **S 18 30 09.5 -0.8**
HHC SCS ScS 18 33 08.4 -1.3
HHC AMB AMB

comp=Z,25nm,1.0s,mb5.1
HHC LR LR

comp=N,331nm,19.0s,MS4.5
HHC LR LR

comp=E,473nm,21.4s,MS4.5
HHC LR LR

comp=Z,445nm,22.0s,MS4.4
CCUT Cedar City 47.59 80 *e*P **P 18 23 21.9 +0.4**
SSE Sheshan 47.59 269 P **P 18 23 20.8 -0.8**
SSE AMB AMB

comp=Z,33nm,0.7s,mb5.5
SSE AMB AMB

comp=Z,246nm,12.0s
MSU Marysvale 47.72 78 *e*P **P 18 23 23.3 +0.7**
TMUT Trail Mountain 47.83 76 P **P 18 23 25.4 +2.0**
SRU San Rafael 48.37 76 *e*P **P 18 23 28.7 +1.2**
SRU pmax pmax

comp=Z,9.0nm,0.5s,mb5.1
SRU San Rafael 48.37 76 *e*P **P 18 23 28.7 +1.2**
comp=Z,9.4nm,0.5s,mb5.1
NJ2 Nanjing 48.42 272 *e*P **P 18 23 27.2 -0.7**
NJ2 AP pP 18 23 40.0 -0.6
NJ2 XP sP 18 23 44.1 -1.8
NJ2 PP PP 18 25 20.9 +0.1
NJ2 S **S 18 30 24.0 -1.3**
NJ2 XS sS 18 30 45.0 -1.4
NJ2 AMB AMB

comp=Z,10.0nm,1.0s,mb4.8
NJ2 AMB AMB

comp=Z,220nm,5.4s
NJ2 LR LR

comp=N,630nm,11.0s
NJ2 LR LR

comp=E,660nm,17.1s
NJ2 LR LR

comp=Z,110nm,17.4s
BTO Baotou 48.44 286 *e*P **P 18 23 29.0 +0.9**
RWWY Rawlins 48.80 71 P **P 18 23 30.3 -0.5**
comp=Z,5.4nm,0.8s,mb4.6
KRAR Krasnoyarsk 48.92 312 ⇓*i*P **P 18 23 30.5 -1.3**
RSSD Black Hills 49.21 67 *e*P **P 18 23 33.0 -1.0**
RSSD pmax pmax

comp=Z,5.0nm,0.6s,mb4.7
RSSD Black Hills 49.21 67 *e*P **P 18 23 33.0 -1.0**
comp=Z,4.6nm,0.6s,mb4.7
GLA Glamis 49.58 85 *e*P **P 18 23 36.4 -0.4**
KBS Kingsbay 49.98 357 *e*P **P 18 23 36.8 -3.1**
KBS pmax pmax

comp=Z,21nm,0.6s,mb5.3
KBS Kingsbay 49.98 357 *e*P **P 18 23 36.8 -3.1**
comp=Z,21nm,0.6s,mb5.3
WUAZ Wupatki 50.12 80 *e*P **P 18 23 39.7 -1.2**
comp=Z,9.8nm,0.8s,mb4.9
ULM Lac du Bonnet 50.13 56 P **P 18 23 40.6 -0.4**
comp=Z,2.2nm,0.7s,mb4.3,baz=324,slow=14,SNR=3.6
SPB4 Spitsbergen Ar 50.55 356 *e*P **P 18 23 43.3 -0.9**
ANMO Albuquerque 53.52 78 P **P 18 24 06.2 -0.1**
comp=Z,1.8nm,1.0s,mb4.0,baz=313,slow=8.8,SNR=2.7
ANMO LR LR 18 43 06.2

comp=Z,451nm,21.4s,MS4.5,baz=136,slow=32
ANMO Albuquerque 53.52 78⇑ *e*P **P 18 24 07.7 +1.4**
ANMO Albuquerque 53.52 78 P **P 18 24 06.9 +0.6**
comp=Z,4.8nm,1.1s,mb4.3
QZH Quanzhou 53.53 265 P **P 18 24 06.6 +0.3**
SUMG Summit 53.59 14 *e*P **P 18 24 05.6 -1.2**
comp=Z,9.8nm,0.8s,mb4.8
EYMN Ely 53.82 56 *e*P **P 18 24 07.0 -1.5**
comp=Z,7.4nm,1.0s,mb4.6
ZAL Zalesovo 53.90 313 P **P 18 24 08.4 -0.7**
comp=Z,3.1nm,0.4s,mb4.6,baz=60,slow=4.3,SNR=11
ZAL PcP PcP 18 25 14.8 +0.7

comp=Z,2.8nm,0.7s,baz=89,slow=7.6,SNR=6.0
NVS Novosibirsk 54.03 315 *e*P **P 18 24 09.7 -0.3**
NVS *e* 18 25 14.1
NVS *e* 18 33 53.5
NVS pmax pmax

comp=E,13nm,1.6s
NVS pmax pmax

comp=Z,26nm,1.6s,mb4.9
LZH Lanzhou 55.06 286 ⇑P **P 18 24 18.0 +0.6**
LZH AP pP 18 24 30.7 +0.4
LZH XP sP 18 24 36.2 +0.6
LZH PP PP 18 26 22.8 +1.9
LZH AMB AMB

comp=Z,42nm,1.2s,mb5.3
LZH AMB AMB

comp=Z,234nm,5.1s
GTA Gaotai 55.27 292 ⇑P **P 18 24 19.7 +0.7**
GTA AP pP 18 24 32.4 +0.6
GTA XP sP 18 24 37.7 +0.6
GTA PCP PcP 18 25 19.7 +0.4
GTA PP PP 18 26 24.0 +1.2
GTA S **S 18 31 58.2 -1.2**
GTA XS sS 18 32 19.5 -1.4
GTA AMB AMB

comp=Z,14nm,1.0s,mb5.0
GTA AMB AMB

comp=Z,177nm,7.6s
GTA LR LR

comp=N,284nm,15.2s,MS4.7
GTA LR LR

comp=E,446nm,16.0s,MS4.7
GTA LR LR

comp=Z,586nm,17.5s,MS4.7
SFJD Kangerlussuaq 55.99 22 P **P 18 24 22.7 -1.4**
comp=Z,4.9nm,0.5s,mb4.8,baz=288,slow=7.0,SNR=5.3
APYP Conner 57.13 257 *e*P **P 18 24 32.7 +0.5**
KEV Kevo 57.85 349 *ep* **P 18 24 36.5 -0.8**
ARCES ARCESS Array B 58.23 350 P **P 18 24 38.7 -1.2**
comp=Z,5.0nm,0.5s,mb4.8,baz=23,slow=8.0,SNR=73
LVZ Lovozero 58.54 346⇓ *e*P **P 18 24 41.0 -1.1**
LVZ pmax pmax

comp=N,9.0nm,0.8s
LVZ pmax pmax

comp=E,4.0nm,0.7s
LVZ MLR MLR

comp=Z,390nm,20.0s,MS4.5
LVZ MLR MLR

comp=N,194nm,15.0s
CD2 Chengdu 58.62 281 P **P 18 24 43.1 +0.4**
CD2 AP pP 18 24 58.6 +2.9
CD2 XP sP 18 25 04.6 +3.7
CD2 S **S 18 32 39.4 -4.2**
CD2 XS sS 18 33 03.3 -2.0
CD2 SS SS 18 36 33.8 -3.1
CD2 AMB AMB

comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB

comp=Z,30nm,6.2s
CD2 LR LR

comp=N,190nm,7.2s
CD2 LR LR

comp=Z,230nm,20.4s,MS4.3
TRO Tromso 58.76 353 *e*P **P 18 24 41.9 -1.8**
KURK Kurchatov 58.87 313 P **P 18 24 44.7 +0.2**
SNR=8.3
KURK Kurchatov 58.87 313 *e*P **P 18 24 44.1 -0.3**
KURK pmax pmax

comp=Z,29nm,0.5s,mb5.6
KURK Kurchatov 58.87 313 *e*P **P 18 24 44.1 -0.3**
comp=Z,29nm,0.5s,mb5.6
APA Apatity 59.04 346⇑ *e*P **P 18 24 43.0 -2.6**
APA pmax pmax

comp=Z,32nm,1.5s,mb5.1
APA MLR MLR

comp=Z,500nm,20.0s,MS4.6
WMQ Urumqi 59.12 303 P **P 18 24 48.3 +2.2**
WMQ AP pP 18 25 01.0 +1.9
WMQ XP sP 18 25 06.3 +1.9
WMQ PP PP 18 27 00.9 +3.9
WMQ AMB AMB

comp=Z,27nm,2.1s,mb4.9
WMQ AMB AMB

comp=Z,118nm,5.8s
WMQ LR LR

comp=N,602nm,21.3s,MS4.8
WMQ LR LR

comp=E,451nm,20.2s,MS4.8
WMQ LR LR

comp=Z,602nm,21.8s,MS4.7
MKAR Makanchi Array 59.85 308 P **P 18 24 50.9 -0.3**
comp=Z,15nm,0.4s,mb5.4,baz=52,slow=6.3,SNR=605
GYA Guiyang 59.95 276⇑ *i*P **P 18 24 50.9 -0.9**
GYA AP pP 18 25 03.6 -1.2
GYA XP sP 18 25 08.9 -1.2
GYA PP PP 18 27 04.2 -0.2
GYA S **S 18 32 54.8 -5.9**
GYA XS sS 18 33 16.3 -6.1
GYA AMB AMB

comp=Z,10.0nm,1.0s,mb4.8
GYA AMB AMB

comp=Z,90nm,4.6s
GYA LR LR

comp=N,380nm,18.4s,MS4.7
GYA LR LR

comp=E,310nm,18.0s,MS4.7
GYA LR LR

comp=Z,270nm,18.6s,MS4.4
SCHQ Schefferville 60.41 38 P **P 18 24 53.8 -1.2**
comp=Z,5.3nm,0.6s,mb4.7,baz=322,slow=8.7,SNR=8.2
BRVK Borovoye 60.81 320 P **P 18 24 57.9 +0.1**
SNR=9.2
BRVK Borovoye 60.81 320 *e*P **P 18 24 56.9 -0.8**
BRVK pmax pmax

comp=Z,12nm,1.0s,mb5.0
BRVK Borovoye 60.81 320 *e*P **P 18 24 56.9 -0.9**
comp=Z,12nm,1.0s,mb5.0
FVM French Village 61.00 65 *e*P **P 18 24 57.9 -1.1**
FVM pmax pmax

comp=Z,5.0nm,0.5s,mb4.9
FVM French Village 61.00 65 *e*P **P 18 24 57.9 -1.1**
comp=Z,5.3nm,0.5s,mb4.9
ZRNK Zerenda 61.41 320 *e*P **P 18 25 00.9 -0.9**
ZRNK pmax pmax

comp=Z,31nm,1.3s,mb5.3
ZRNK Zerenda 61.41 320 *e*P **P 18 25 00.9 -0.8**
comp=Z,31nm,1.3s,mb5.3
SVE Sverdlovsk 61.55 327 *e*P sP 18 25 21.7 +0.7
SVE MLR MLR

comp=N,300nm,14.0s,MS4.8
SVE MLR MLR

comp=E,300nm,14.0s,MS4.8
SVE MLR MLR

comp=Z,500nm,14.0s,MS4.8
MIAR Mount Ida 61.57 69 *e*P **P 18 25 02.0 -0.9**
MIAR pmax pmax

comp=Z,22nm,1.1s,mb5.2
MIAR Mount Ida 61.57 69 *e*P **P 18 25 02.0 -0.9**
comp=Z,22nm,1.1s,mb5.2
BLO Bloomington 62.36 61 *e*P **P 18 25 07.4 -0.8**
BLO pmax pmax

comp=Z,14nm,0.8s,mb5.1
BLO Bloomington 62.36 61 *e*P **P 18 25 07.4 -0.8**

comp=Z,14nm,0.8s,mb5.2
MOR8 Moi Rana 62.51 354 *e*P **P** **18 25 07.2 -2.0**
MOR8 AMb AMB 18 25 07.8
comp=Z,10nm,0.6s,mb5.1
MOR8 Moi Rana 62.51 354 *e*P **P** **18 25 07.2 -2.0**
comp=Z,10nm,0.6s,mb5.1
ARU Arti 62.57 328 *e*P **P** **18 25 08.7 -0.9**
ARU *e* 18 25 47.9
ARU *e*S **S** **18 33 33.9 -0.1**
ARU *e*SS SS 18 37 39.7 +1.0
ARU MLR MLR
comp=Z,300nm,17.0s,MS4.5
ARU MLR MLR
comp=N,300nm,19.0s,MS4.5
ARU MLR MLR
comp=E,200nm,21.0s,MS4.5
ARU Arti 62.57 328 *e*P **P** **18 25 08.6 -0.9**
comp=E,8.3nm,0.6s,mb5.0
USIN University of 62.58 63 *e*P **P** **18 25 08.9 -0.8**
comp=E,27nm,0.6s,mb5.5
HNR Honiara 62.94 203 LR LR 18 47 02.4
comp=E,162nm,19.3s,MS4.2,baz=359,slow=31
WCI Wyandotte Cave 63.15 62 *e*P **P** **18 25 12.5 -1.0**
WCI pmax pmax
comp=Z,16nm,0.9s,mb5.2
WCI Wyandotte Cave 63.15 62 *e*P **P** **18 25 12.5 -1.0**
comp=Z,16nm,0.9s,mb5.1
QIZ Qiongzhong 63.36 268 *e*P **P** **18 25 15.6 +0.8**
QIZ S **S** **18 33 40.7 -3.2**
QIZ XS sS 18 33 59.4 -6.3
QIZ SCS ScS 18 35 03.6 -0.5
QIZ AMB AMB
comp=Z,24nm,1.7s,mb5.0
QIZ LR LR
comp=N,298nm,16.4s
QIZ LR LR
comp=Z,244nm,22.6s
KMI Kunming 63.36 278 P **P** **18 25 14.9 +0.1**
KMI AP pP 18 25 30.2 +2.3
KMI XP sP 18 25 35.3 +2.2
KMI PP PP 18 27 39.0 +4.5
KMI S **S** **18 33 44.0 +0.1**
KMI XS sS 18 34 04.6 -1.1
KMI AMB AMB
comp=Z,11nm,1.3s,mb4.8
KMI AMB AMB
comp=Z,151nm,4.1s
KMI LR LR
comp=N,178nm,23.9s,MS4.4
KMI LR LR
comp=E,253nm,23.9s,MS4.4
KMI LR LR
comp=Z,252nm,21.3s,MS4.4
JOF Joensuu 63.69 345 *e*p **P** **18 25 14.8 -2.2**
WVT Waverly 63.78 64 *e*P **P** **18 25 17.2 -0.4**
WVT pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
WVT Waverly 63.78 64 *e*P **P** **18 25 17.2 -0.4**
comp=Z,5.9nm,0.8s,mb4.7
OXF Oxford 64.03 67 *e*P **P** **18 25 19.4 +0.2**
OXF pmax pmax
comp=Z,49nm,1.0s,mb5.5
OXF Oxford 64.03 67 *e*P **P** **18 25 19.4 +0.2**
comp=Z,49nm,1.0s,mb5.5
KLMR Klimovskoe 64.03 340 *e*P **P** **18 25 18.2 -1.1**
KLMR pmax pmax
comp=Z,30nm,1.2s,mb5.2
PLAL Pickwick Lake 64.46 65 *e*P **P** **18 25 21.1 -1.0**
comp=Z,12nm,0.6s,mb5.1
KAF Kangasniemi 65.22 347 *e*p **P** **18 25 25.2 -1.8**
comp=Z,16nm,0.5s,mb5.3,baz=14,slow=6.0
KAF Kangasniemi 65.22 347 *e*P **P** **18 25 25.2 -1.8**
KAF pmax pmax
comp=Z,16nm,0.5s,mb5.3
TZTN Tazewell 65.88 61 *e*P **P** **18 25 31.1 -0.2**
FINES FINESS Array B 65.90 347 P **P** **18 25 30.1 -1.2**
comp=Z,12nm,0.6s,mb5.1,baz=35,slow=7.0,SNR=71
SSPA Standing Stone 65.91 55 *e*P **P** **18 25 30.9 -0.6**
comp=Z,9.3nm,1.0s,mb4.8
TKM2 Tokmak 2 65.94 309 P **P** **18 25 33.0 +1.4**
SNR=14
CPCT Cooper Cave 66.14 63 *e*P **P** **18 25 32.3 -0.6**
USP Ospenovka 66.21 310 P **P** **18 25 34.0 +0.7**
SNR=27
CHMS Chumysh 66.29 310 P **P** **18 25 35.3 +1.4**
SNR=8.5
KBK Karagaybulak 66.45 309 P **P** **18 25 36.6 +1.7**
SNR=13
FRU Bishkek 66.48 310 *i* P **P** **18 25 36.0 +0.9**
FRU *i* pP 18 25 49.0 +0.7
FRU pmax pmax
comp=Z,90nm,2.0s,mb5.5
LRAL Lakeview Retre 66.48 66 *e*P **P** **18 25 34.2 -0.9**
comp=Z,5.7nm,0.8s,mb4.7
AAK Ala-Archa 66.69 309 P **P** **18 25 37.3 +0.9**
SNR=9.0
AAK Ala-Archa 66.69 309 P **P** **18 25 36.5 +0.1**
SNR=10
AAK P 18 25 37.2
SNR=10
AAK Ala-Archa 66.69 309*c i*P **P** **18 25 36.6 +0.2**
AAK pmax pmax
comp=Z,33nm,1.4s,mb5.2
AAK Ala-Archa 66.69 309 *e*P **P** **18 25 36.1 -0.3**
comp=Z,54nm,1.4s,mb5.4
KZA Kyzart 66.74 309 P **P** **18 25 38.6 +1.9**
SNR=12
PMG Port Moresby 66.89 216 LR LR 18 52 50.0
comp=Z,185nm,19.5s,MS4.3,baz=203,slow=34
ELN Prospectdale 66.91 59 *e*P **P** **18 25 37.5 -0.4**
UCH Uchtor 66.98 309 P **P** **18 25 39.8 +1.5**
SNR=16
EKS2 Erkin-Say 67.02 310 P **P** **18 25 40.2 +1.7**
SNR=30
LSA Lhasa 67.13 289 P **P** **18 25 41.0 +1.7**
NB2 NORSAR Subarra 67.81 354 P **P** **18 25 42.6 -1.0**
comp=Z,27nm,1.2s,mb5.2,baz=5.5,slow=6.2
NOA NORSAR Array B 67.81 354 P **P** **18 25 42.8 -0.7**
comp=Z,5.4nm,0.6s,mb4.8,baz=7.4,slow=6.4,SNR=27
NAO01 NORSAR Array S 68.03 355 *e*P **P** **18 25 43.7 -1.3**
KSH Kashi 68.30 306⇑*i*P **P** **18 25 48.7 +2.1**
KSH *e*AP pP 18 26 01.8 +2.0
KSH *e*XP sP 18 26 06.8 +1.8
KSH *e*PCP PcP 18 26 14.2 +2.2
KSH *e*PP PP 18 28 21.5 +3.8
KSH *e*SCP 18 30 12.9
KSH *e*S S 18 34 45.1 +1.0
KSH *e*XS sS 18 35 07.8 +1.6
KSH *e*SCS ScS 18 35 41.1 -1.2
KSH AMB AMB
comp=Z,85nm,1.0s,mb5.7
KSH LR LR
comp=Z,393nm,20.0s,MS4.6
VSU Vasula 68.66 346⇑*i*P **P** **18 25 48.1 -0.7**
TAOE Nuku Hiva Isla 68.73 138 *e*LR LR 18 46 15.4
comp=Z,2µm,22.8s,baz=339
KONO Kongsberg 69.29 355 *e*P **P** **18 25 52.3 -0.5**
KONO pmax pmax
comp=Z,19nm,0.9s,mb5.0
KONO Kongsberg 69.29 355 *e*P **P** **18 25 52.3 -0.5**
comp=Z,19nm,0.9s,mb5.0
OBN Obninsk 69.92 339*ce*P **P** **18 25 56.0 -0.7**
OBN *e* 18 28 29.1
OBN *e*S S 18 35 07.0 +3.7
OBN pmax pmax
comp=Z,47nm,1.1s,mb5.3
OBN MLR MLR
comp=Z,500nm,18.0s,MS4.8
OBN Obninsk 69.92 339 *e*P **P** **18 25 55.7 -1.0**
comp=Z,22nm,0.8s,mb5.1
GUN Gumba 71.56 292 *e*P **P** **18 26 08.0 +1.4**
comp=Z,160nm,0.4s
JIRN Jiri 71.57 291 *e*P **P** **18 26 08.2 +1.5**
comp=Z,99nm,0.7s,mb5.9
KKN Kakani 72.00 292 *e*P **P** **18 26 10.3 +1.0**
comp=Z,52nm,0.7s,mb5.6
PKI Pulchoki 72.09 292 *e*P **P** **18 26 10.5 +0.7**
GKN Gorkha 72.22 293 *e*P **P** **18 26 11.5 +0.9**
comp=Z,35nm,0.5s,mb5.5
DMN Daman 72.24 292 *e*P **P** **18 26 11.6 +0.9**
comp=Z,27nm,0.7s,mb5.3
VRSR Storozhevoye 72.86 336 *e*P **P** **18 26 14.1 -0.3**
VRSR pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
VRSR pmax pmax
comp=N,10.0nm,0.6s
VRSR pmax pmax
comp=E,4.0nm,1.2s
KOLN Koldanda 72.99 293 *e*P **P** **18 26 16.0 +0.8**
comp=E,22nm,0.7s,mb5.2
PPT Papeete 73.28 150 *e*LR LR 18 48 25.8
comp=E,716nm,29.5s
DZM Mont Dzumac 73.97 194 LR LR 18 52 28.2
comp=E,334nm,19.6s,MS4.6,baz=12,slow=31
BSEG Bad Segeberg 74.95 354 *e*P **P** **18 26 26.9 +0.3**
comp=Z,38nm,0.9s,mb5.3
AKASG Malin Array Be 75.62 342 P **P** **18 26 29.9 -0.6**
comp=Z,26nm,0.4s,mb5.5,baz=20,slow=6.4,SNR=96
DCN Croghan 75.65 5 *e*P **P** **18 26 30.3 -0.3**
DLF Lyons Farm 75.73 4 *e*P **P** **18 26 30.7 -0.4**
DSB Dublin 75.79 4 *e*P **P** **18 26 31.1 -0.3**
comp=Z,5.9nm,0.7s,mb4.6
KAKA Kakadu 76.10 228 *e*P **P** **18 26 32.1 -1.1**
comp=Z,9.5nm,0.8s,mb4.8
WIT Witteveen 76.26 356 *e*P **P** **18 26 35.2 +1.1**
comp=Z,133nm,0.6s
IBBN Ibbenburen 76.72 355 *e*P **P** **18 26 36.9 +0.2**
CLZ Clausthal 77.03 354 *i*P **P** **18 26 38.7 +0.3**
comp=Z,25nm,0.8s,mb5.2
CLZ Clausthal 77.03 354 *i*P **P** **18 26 38.7 +0.3**
CLZ pmax pmax
comp=Z,25nm,0.8s,mb5.2
CTA Charters Tower 77.09 213 *e*P **P** **18 26 37.8 -1.0**
comp=Z,3.8nm,0.9s,mb4.3
CTA Charters Tower 77.09 213 P **P** **18 26 38.1 -0.7**
comp=Z,6.9nm,1.1s,mb4.5,baz=16,slow=6.4,SNR=5.2
CTA Charters Tower 77.09 213 P **P** **18 26 38.1 -0.7**
CTA pmax pmax
comp=Z,7.0nm,1.1s
WTSB Winterswijk 77.10 356⇑*i*P **P** **18 26 38.7 -0.2**
comp=Z,16nm,1.2s,mb4.8
GOF Gofitskoye 77.35 331 *e*P **P** **18 26 39.9 -0.4**
GOF pmax pmax
comp=Z,50nm,0.7s,mb5.5
CLL Collm 77.35 352 *e*P **P** **18 26 39.5 -0.8**
comp=Z,13nm,0.7s,mb5.0
CLL Collm 77.35 352⇑P **P** **18 26 39.7 -0.6**
comp=Z,logA/T=1.3,mb5.0
CLL *e*PCP PcP 18 26 50.0 -0.7
CLL Collm 77.35 352⇑*i*P **P** **18 26 39.7 -0.6**
comp=Z,13nm,0.7s,mb5.0
CLL *e*PcP PcP 18 26 50.0 -0.7
CLL Collm 77.35 352⇑*i*P **P** **18 26 39.7 -0.6**
CLL *e* pP 18 26 50.0 -3.7
CLL pmax pmax
comp=Z,13nm,0.7s,mb5.0
BUG Bochum--Univer 77.61 356 *e*P **P** **18 26 41.4 -0.3**
OJC Ojcow 77.67 347 *e*P **P** **18 26 41.9 -0.1**
BRG Berggiesshubel 77.70 351 *e*P **P** **18 26 41.5 -0.6**
comp=Z,6.7nm,0.7s,mb4.7
BRG *e* pP 18 26 56.2 +0.5
comp=Z,2.1nm,0.7s
BRG Berggiesshubel 77.70 351 *e*P **P** **18 26 41.6 -0.6**
BRG *e* pP 18 26 56.2 +0.6
BRG pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
DPC Dobruska-Polom 77.97 350 *e*P **P** **18 26 43.7 0.0**
PVCC Panska Ves 77.98 351 *e*P **P** **18 26 43.0 -0.8**
UBBA Unterbreizbach 78.07 354 *e*P **P** **18 26 44.3 0.0**
MOX Moxa 78.13 353 *e*P **P** **18 26 44.3 -0.3**
comp=Z,10.0nm,0.7s,mb4.8
MOX Moxa 78.13 353 *e*P **P** **18 26 44.2 -0.4**
comp=Z,20nm,0.9s,mb5.0
MOX Moxa 78.13 353 *e*P **P** **18 26 44.2 -0.4**
MOX pmax pmax
comp=Z,20nm,0.9s,mb5.0
STHS Stebnicka Huta 78.25 346 *i*P **P** **18 26 45.9 +0.7**
STHS pmax pmax
comp=Z,17nm,0.9s,mb5.0
STHS Stebnicka Huta 78.25 346 *i*P **P** **18 26 45.9 +0.7**
comp=Z,17nm,0.9s,mb5.0
OKC Ostrava-Krasne 78.26 348 *e*P **P** **18 26 45.2 -0.1**
TANN Tannenbergstha 78.29 352 *e*P **P** **18 26 45.2 -0.2**
BEBN Eben Emael 78.32 357 P **P** **18 26 45.2 -0.4**
HGN Heimansgroeve 78.34 357⇑*i*P **P** **18 26 45.5 -0.2**
comp=Z,27nm,0.8s,mb5.2
UCC Uccle 78.36 358 P **P** **18 26 45.5 -0.3**
UCC AP pP 18 26 57.3 -1.9
NIE Niedzica 78.38 347 *e*P **P** **18 26 46.6 +0.6**
MORC Moravsky Berou 78.39 349⇑*i*P **P** **18 26 45.4 -0.6**
MORC Moravsky Berou 78.39 349 P **P** **18 26 45.7 -0.3**
MORC Moravsky Berou 78.39 349 *e*P **P** **18 26 45.5 -0.6**
comp=Z,6.8nm,0.8s,mb4.6
KIV Kislovodsk 78.45 330 *e*P **P** **18 26 46.5 +0.1**
KIV pmax pmax
comp=Z,14nm,1.1s,mb4.8
KIV MLR MLR
comp=Z,334nm,21.0s,MS4.7
NKC Novy Kostel 78.47 352 *e*P **P** **18 26 46.4 -0.1**
MEM Membach 78.49 356 P **P** **18 26 46.5 -0.1**
KOLS Kolonicke sedl 78.56 346 *e*P **P** **18 26 47.8 +0.8**
KOLS *e* 18 26 52.2
KOLS pmax pmax
comp=Z,14nm,0.8s,mb4.9
KOLS Kolonicke sedl 78.56 346 *e*P **P** **18 26 47.8 +0.8**
comp=Z,14nm,0.8s,mb5.0
KOLS *e* 18 26 52.2
SNF Seneffe 78.65 358 P **P** **18 26 47.4 0.0**
comp=Z,6.8nm,0.8s,mb4.6
BCLA Clavier 78.71 357 P **P** **18 26 47.6 -0.2**
comp=Z,9.3nm,0.8s,mb4.8
CRVS Cervenica-Dubn 78.71 346 *e*P **P** **18 26 47.9 +0.1**
CRVS pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
CRVS Cervenica-Dubn 78.71 346 *e*P **P** **18 26 47.9 +0.1**
comp=Z,7.2nm,0.6s,mb4.8
MANZ Manzenberg 78.74 352 *e*P **P** **18 26 47.8 -0.2**
TBI Tubuai 78.75 152 *e*LR LR 18 51 02.9
comp=Z,545nm,22.8s,baz=339
TNS Taunus Mts 78.76 355 *e*P **P** **18 26 48.0 -0.1**
LIKS Likavka 78.91 348 *e*P **P** **18 26 48.9 0.0**
VRAC Vranov 78.97 349⇑*i*P **P** **18 26 49.3 +0.1**
VRAC Vranov 78.97 349 P **P** **18 26 49.4 +0.2**
GIVF Givet 79.04 357⇑*i*P **P** **18 26 49.4 -0.2**
comp=Z,26nm,0.9s,mb4.9
GIVF Givet 79.04 357⇑*i*P **P** **18 26 49.4 -0.2**
GIVF pmax pmax
comp=Z,13nm,0.9s,mb4.9
GIVF Givet 79.04 357⇑*i*P **P** **18 26 49.4 -0.2**
comp=Z,13nm,0.9s,mb4.9
DOU Dourbes 79.05 357 P **P** **18 26 49.6 -0.1**
comp=Z,8.5nm,0.6s,mb4.8
BAIF Baives 79.10 358⇑*i*P **P** **18 26 50.0 +0.1**
comp=Z,27nm,0.7s,mb5.0
BAIF Baives 79.10 358⇑*i*P **P** **18 26 50.0 +0.1**
BAIF pmax pmax
comp=Z,14nm,0.6s,mb5.1
BAIF Baives 79.10 358⇑*i*P **P** **18 26 50.0 +0.1**
comp=Z,14nm,0.6s,mb5.1
TREC Trest 79.10 350 *e*P **P** **18 26 49.4 -0.5**
GRA1 Grafenberg Arr 79.10 353 *e*P **P** **18 26 50.2 +0.2**
comp=Z,21nm,0.8s,mb5.1
GRF Grafenberg Arr 79.10 353 *e*P **P** **18 26 50.2 +0.2**
comp=Z,21nm,0.8s,mb5.1
GRF Grafenberg Arr 79.10 353 *e*P **P** **18 26 50.2 +0.2**
GRF pmax pmax
comp=Z,21nm,0.8s,mb5.1
GRF Grafenberg Arr 79.10 353 *e*P **P** **18 26 50.2 +0.2**
GRF pmax pmax
comp=Z,21nm,0.8s,mb5.1
KECS Kecovo 79.27 347 *i*P **P** **18 26 51.1 +0.3**
KECS pmax pmax
comp=Z,11nm,0.9s,mb4.8
KECS Kecovo 79.27 347 *i*P **P** **18 26 51.1 +0.3**
comp=Z,11nm,0.9s,mb4.8
BURAR Bucovina Array 79.34 343⇑*i*P **P** **18 26 51.7 +0.5**
BURAR Bucovina Array 79.34 343⇑P **P** **18 26 51.7 +0.4**
RUP Ruppelstein 79.35 356 *e*P **P** **18 26 51.2 -0.1**
TOD Tromm 79.36 355 *e*P **P** **18 26 51.0 -0.3**
WLF Walferdange 79.43 356 *e*P **P** **18 26 52.0 +0.3**
WLF Walferdange 79.43 356 P **P** **18 26 52.0 +0.3**
WLF Walferdange 79.43 356 *e*P **P** **18 26 51.7 0.0**
WLF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
WLF Walferdange 79.43 356 *e*P **P** **18 26 51.7 0.0**
comp=Z,8.4nm,0.8s,mb4.7
KHC Kasperske Hory 79.46 351 *e*P **P** **18 26 51.6 -0.3**
KHC Kasperske Hory 79.46 351*c i*P **P** **18 26 51.9 0.0**
VYHS Vyhne 79.49 348 *i*P **P** **18 26 52.1 +0.1**
VYHS pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
VYHS Vyhne 79.49 348 *i*P **P** **18 26 52.1 +0.1**
comp=Z,7.7nm,1.1s,mb4.5
WET Wettzell 79.51 352 *e*P **P** **18 26 52.1 -0.1**
comp=Z,6.0nm,0.8s,mb4.6
WET Wettzell 79.51 352 *e*P **P** **18 26 52.1 -0.1**
WET pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SMOL Smolenice 79.65 349 *i*P **P** **18 26 53.4 +0.5**
GEC2 GERESS Array S 79.73 351 *e*P **P** **18 26 53.1 -0.3**
comp=Z,10.0nm,0.7s,mb4.8
GEC2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
GERES GERESS Array B 79.73 351 P **P** **18 26 53.2 -0.2**
comp=Z,5.6nm,0.5s,mb4.7,baz=22,slow=5.8,SNR=67
PSZ Piszkesteto 79.90 347⇑*e*P **P** **18 26 55.0 +0.7**
PSZ Piszkesteto 79.90 347 *e*P **P** **18 26 54.7 +0.4**
comp=Z,33nm,1.3s,mb5.1
ZST Bratislava 80.00 349 *e*P **P** **18 26 55.4 +0.6**
ZST pmax pmax
comp=Z,17nm,0.7s,mb5.1
ZST Bratislava 80.00 349 *e*P **P** **18 26 55.4 +0.6**
comp=Z,17nm,0.7s,mb5.1
STU Stuttgart 80.16 354 *e*P **P** **18 26 55.5 -0.2**
CONA Conrad Observa 80.41 350⇑*i*P **P** **18 26 57.6 +0.6**
comp=Z,8.0nm,0.6s,mb4.8,SNR=22
BUD Budapest 80.45 347⇓*e*P **P** **18 26 58.5 +1.3**
DRGR 80.57 345⇓*i*P **P** **18 26 58.2 +0.3**
DRGR 80.57 345 P **P** **18 26 58.4 +0.5**
FUR Furstenfeldbru 80.62 353 *e*P **P** **18 26 58.1 0.0**
comp=Z,23nm,1.1s,mb5.0
FUR Furstenfeldbru 80.62 353 *e*P **P** **18 26 58.1 0.0**
FUR pmax pmax
comp=Z,23nm,1.1s,mb5.0
CDF Champ du Feu 80.63 355⇑*i*P **P** **18 26 58.0 -0.2**
comp=Z,13nm,0.8s,mb4.6
CDF Champ du Feu 80.63 355⇑*i*P **P** **18 26 58.0 -0.2**
CDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CDF Champ du Feu 80.63 355⇑*i*P **P** **18 26 58.0 -0.2**
comp=Z,6.7nm,0.8s,mb4.6
MEZF Maizieres J'vi 80.63 357⇑*i*P **P** **18 26 58.3 +0.1**
comp=Z,20nm,0.6s,mb4.9
MEZF Maizieres J'vi 80.63 357⇑*i*P **P** **18 26 58.3 +0.1**
comp=Z,20nm,0.6s,mb5.2
BFO Black Forest 80.66 355 *e*P **P** **18 26 58.1 -0.2**
comp=Z,6.0nm,0.8s,mb4.6
BFO Black Forest 80.66 355 *e*P **P** **18 26 58.1 -0.2**
BFO pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MOA Molln 80.66 351⇑*i*P **P** **18 26 58.3 -0.1**
comp=Z,6.7nm,0.9s,mb4.5
VRI Vrincioaia 80.73 342⇓*i*P **P** **18 26 59.4 +0.6**
VRI Vrincioaia 80.73 342⇓P **P** **18 26 59.4 +0.6**
PLOR Plostina 80.77 342⇑*i*P **P** **18 26 59.5 +0.6**
ECH Echery 80.83 356 *e*P **P** **18 26 58.5 -0.8**
THEF They Montfort 80.87 356 *e*P **P** **18 26 59.0 -0.5**
HAU Haudompre 81.08 356⇑*i*P **P** **18 27 01.3 +0.7**
comp=Z,10nm,0.6s,mb4.7
HAU Haudompre 81.08 356⇑*i*P **P** **18 27 01.3 +0.7**
HAU pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
HAU Haudompre 81.08 356⇑*i*P **P** **18 27 01.3 +0.7**
comp=Z,5.3nm,0.6s,mb4.7
FELD Feldberg im Sc 81.13 355 *e*P **P** **18 27 00.1 -0.7**
HINF Hinteralfeld 81.24 356⇑*i*P **P** **18 27 00.9 -0.6**
comp=Z,3.7nm,0.5s,mb4.3
HINF Hinteralfeld 81.24 356⇑*i*P **P** **18 27 00.9 -0.6**
HINF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
HINF Hinteralfeld 81.24 356⇑*i*P **P** **18 27 00.9 -0.6**
comp=Z,1.9nm,0.5s,mb4.3
MLR Muntele Rosu 81.25 342⇓*i*P **P** **18 27 03.1 +1.6**
MLR Muntele Rosu 81.25 342 P **P** **18 27 03.3 +1.8**
WATA Walderalm 81.42 352 *i*P **P** **18 27 02.6 +0.2**
comp=Z,8.1nm,0.5s,mb4.9,SNR=11
WATA Walderalm 81.42 352 *i*P **P** **18 27 02.6 +0.2**
WATA pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
MOTA Moosalm 81.45 353⇑*i*P **P** **18 27 02.7 +0.1**
comp=Z,22nm,1.3s,mb4.9
MOTA Moosalm 81.45 353⇑*i*P **P** **18 27 02.7 +0.2**
MOTA pmax pmax
comp=Z,22nm,1.3s,mb4.9
WTTA Wattenberg 81.48 352⇑*i*P **P** **18 27 03.3 +0.6**
comp=Z,11nm,0.6s,mb4.9,SNR=18
WTTA Wattenberg 81.48 352⇑*i*P **P** **18 27 03.3 +0.6**
WTTA pmax pmax
comp=Z,11nm,0.6s,mb5.0
KBA Koelnbreinsper 81.51 351⇑*i*P **P** **18 27 03.8 +0.9**
comp=Z,50nm,0.6s,mb5.6,SNR=46
KBA Koelnbreinsper 81.51 351⇑*i*P **P** **18 27 03.8 +0.9**
KBA pmax pmax
comp=Z,50nm,0.6s,mb5.6
SQTA Sankt Quirin 81.56 353⇑*i*P **P** **18 27 03.6 +0.5**
comp=Z,6.8nm,0.6s,mb4.8
SQTA Sankt Quirin 81.56 353⇑*i*P **P** **18 27 03.6 +0.4**
SQTA pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
WRA Warramunga Arr 81.59 223 P **P** **18 27 01.7 -1.6**
comp=Z,2.6nm,0.7s,mb4.3,baz=35,slow=6.1,SNR=21
DAVA Damuels 81.59 354⇑*e*P **P** **18 27 04.3 +1.0**
comp=Z,11nm,1.2s,mb4.7
PKSM Moragy 81.75 347⇑*i*P **P** **18 27 03.8 -0.3**
PKSM Moragy 81.75 347 P **P** **18 27 03.9 -0.2**
PERS Pernice 81.77 350 *e*P **P** **18 27 04.5 +0.3**
BZS Buzias 81.89 345⇑*i*P **P** **18 27 04.9 0.0**
BZS Buzias 81.89 345 P **P** **18 27 05.3 +0.4**
LOR Lormes 81.90 358⇑*i*P **P** **18 27 04.4 -0.5**
comp=Z,21nm,0.9s,mb4.8
LOR Lormes 81.90 358⇑*i*P **P** **18 27 04.4 -0.5**
LOR pmax pmax
comp=Z,11nm,0.9s,mb4.8
LOR Lormes 81.90 358⇑*i*P **P** **18 27 04.4 -0.5**
comp=Z,11nm,0.9s,mb4.8
GZR Gura Zlata 81.92 344⇓*i*P **P** **18 27 05.6 +0.6**
GZR Gura Zlata 81.92 344⇓P **P** **18 27 05.6 +0.6**
OBKA Obir 81.95 350⇑*i*P **P** **18 27 06.3 +1.1**
comp=Z,15nm,0.5s,mb5.2,SNR=13
BRES Bressanone 82.04 352 P **P** **18 27 06.1 +0.4**
DOBS Dobrina 82.21 350 *e*P **P** **18 27 06.5 0.0**
ROBS Robic 82.32 351 *i*P **P** **18 27 06.2 -0.9**
CABF La Chapelle 82.48 356⇑*i*P **P** **18 27 08.2 +0.2**
comp=Z,8.6nm,0.7s,mb4.5
CABF La Chapelle 82.48 356⇑*i*P **P** **18 27 08.2 +0.2**
CABF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CABF La Chapelle 82.48 356⇑*i*P **P** **18 27 08.2 +0.2**
comp=Z,4.3nm,0.6s,mb4.6
SMF Signal de Mont 82.52 358⇑*i*P **P** **18 27 08.0 -0.2**
comp=Z,19nm,0.7s,mb4.9
SMF Signal de Mont 82.52 358⇑*i*P **P** **18 27 08.0 -0.2**
SMF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
SMF Signal de Mont 82.52 358⇑*i*P **P** **18 27 08.0 -0.2**
comp=Z,9.4nm,0.7s,mb4.9
PSI Prapat 82.58 265 P **P** **18 27 08.1 -0.4**
comp=Z,10nm,0.8s,mb4.8,baz=27,slow=2.3,SNR=4.8
MFF Saint Martin d 82.61 0⇑*i*P **P** **18 27 08.4 -0.2**
comp=Z,19nm,0.8s,mb4.9
MFF Saint Martin d 82.61 0⇑*i*P **P** **18 27 08.4 -0.2**
MFF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MFF Saint Martin d 82.61 0⇑*i*P **P** **18 27 08.4 -0.2**
comp=Z,9.4nm,0.8s,mb4.9
BGF Bois d'Agland 82.63 358⇑*i*P **P** **18 27 08.6 -0.2**
comp=Z,16nm,0.9s,mb4.8
BGF Bois d'Agland 82.63 358⇑*i*P **P** **18 27 08.6 -0.2**
BGF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BGF Bois d'Agland 82.63 358⇑*i*P **P** **18 27 08.6 -0.2**
comp=Z,7.9nm,0.9s,mb4.7
MABI Malga Bissina 82.77 353 P **P** **18 27 09.9 +0.4**
BOJS Bojanci 82.87 350 *e*P **P** **18 27 10.0 0.0**
TCF Toulx Ste Croi 82.91 359⇑*i*P **P** **18 27 10.0 -0.2**
comp=Z,11nm,0.8s,mb4.7
TCF Toulx Ste Croi 82.91 359⇑*i*P **P** **18 27 10.0 -0.2**
TCF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
TCF Toulx Ste Croi 82.91 359⇑*i*P **P** **18 27 10.0 -0.2**
comp=Z,5.6nm,0.8s,mb4.7
PLDF La Plantade 83.20 358 *e*P **P** **18 27 12.3 +0.6**
LPL La Plagne 83.55 356⇑*i*P **P** **18 27 14.3 +0.8**
comp=Z,5.1nm,0.6s,mb4.5
LPL La Plagne 83.55 356⇑*i*P **P** **18 27 14.3 +0.8**
LPL pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,3.0nm,0.6s,mb4.6						
LPL	**La Plagne**	**83.55**	**356**	⇑*i*P	**P**	**18 27 14.3**	**+0.8**
	comp=Z,2.5nm,0.6s,mb4.5						
LPG	**La Plagne**	**83.56**	**356**	*e*P	**P**	**18 27 13.9**	**+0.3**
	comp=Z,13nm,0.9s,mb4.8						
LPG	**La Plagne**	**83.56**	**356**	*e*P	**P**	**18 27 13.9**	**+0.3**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
LPG	**La Plagne**	**83.56**	**356**	*e*P	**P**	**18 27 13.9**	**+0.3**
	comp=Z,6.6nm,0.9s,mb4.8						
LBL	**Lubilhac**	**83.95**	**358**	*e*P	**P**	**18 27 15.9**	**+0.4**
BNI	**Bardonecchia**	**84.01**	**356**	*e*P	**P**	**18 27 16.7**	**+0.8**
BNI				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.1						
BNI	**Bardonecchia**	**84.01**	**356**	*e*P	**P**	**18 27 16.7**	**+0.8**
	comp=Z,16nm,1.1s,mb5.0						
FITZ	**Fitzroy Crossi**	**84.02**	**232**	*e*P	**P**	**18 27 15.5**	**-0.4**
	comp=Z,9.5nm,0.5s,mb5.2						
FITZ	**Fitzroy Crossi**	**84.02**	**232**	P	**P**	**18 27 15.5**	**-0.4**
	comp=Z,5.4nm,0.5s,mb4.9,baz=19,slow=6.1,SNR=46						
BOB	**Bobbio (Coli)**	**84.13**	**354**	P	**P**	**18 27 16.2**	**-0.3**
ORIF	**Oris-en-Rattie**	**84.18**	**356**	⇑*i*P	**P**	**18 27 17.3**	**+0.6**
	comp=Z,8.0nm,0.6s,mb4.8						
ORIF	**Oris-en-Rattie**	**84.18**	**356**	⇑*i*P	**P**	**18 27 17.3**	**+0.6**
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
ORIF	**Oris-en-Rattie**	**84.18**	**356**	⇑*i*P	**P**	**18 27 17.3**	**+0.6**
	comp=Z,4.0nm,0.6s,mb4.7						
CAF	**Calviac**	**84.28**	**359**	⇑*i*P	**P**	**18 27 17.3**	**+0.1**
	comp=Z,19nm,1.0s,mb4.9						
CAF	**Calviac**	**84.28**	**359**	⇑*i*P	**P**	**18 27 17.3**	**+0.1**
CAF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
CAF	**Calviac**	**84.28**	**359**	⇑*i*P	**P**	**18 27 17.3**	**+0.1**
	comp=Z,9.4nm,1.0s,mb4.9						
VIVF	**Saint-Julien-l**	**84.29**	**357**	⇑*i*P	**P**	**18 27 17.4**	**+0.1**
	comp=Z,18nm,1.0s,mb4.8						
VIVF	**Saint-Julien-l**	**84.29**	**357**	⇑*i*P	**P**	**18 27 17.4**	**+0.1**
VIVF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
VIVF	**Saint-Julien-l**	**84.29**	**357**	⇑*i*P	**P**	**18 27 17.4**	**+0.1**
	comp=Z,9.1nm,1.0s,mb4.9						
MBDF	**Montbardon**	**84.33**	**356**	⇑*i*P	**P**	**18 27 18.1**	**+0.6**
	comp=Z,12nm,0.7s,mb4.8						
MBDF	**Montbardon**	**84.33**	**356**	⇑*i*P	**P**	**18 27 18.1**	**+0.6**
MBDF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.8						
MBDF	**Montbardon**	**84.33**	**356**	⇑*i*P	**P**	**18 27 18.1**	**+0.6**
	comp=Z,5.8nm,0.7s,mb4.8						
ZCCA	**Zocca**	**84.43**	**353**	P	**P**	**18 27 19.7**	**+1.7**
	comp=Z,39nm,1.2s,mb5.4						
FNVD	**Fontana Vidola**	**84.60**	**352**	P	**P**	**18 27 20.4**	**+1.6**
BDI	**Bagni Di Lucca**	**84.75**	**353**	P	**P**	**18 27 20.5**	**+0.9**
VMG	**Vicchio**	**84.77**	**352**	P	**P**	**18 27 21.2**	**+1.5**
	comp=Z,60nm,0.9s,mb5.7						
MALT	**Malatya**	**84.91**	**331**	⇑*i*P	**P**	**18 27 21.5**	**+1.1**
MALT	**Malatya**	**84.91**	**331**	*e*P	**P**	**18 27 21.1**	**+0.7**
	comp=Z,5.3nm,0.8s,mb4.7						
TOUF	**Mont Tournerai**	**85.02**	**355**	*e*P	**P**	**18 27 21.3**	**+0.3**
AUTN	**L'Aution**	**85.03**	**355**	*e*P	**P**	**18 27 20.9**	**-0.1**
AS31	**Alice Springs**	**85.06**	**222**	*e*P	**P**	**18 27 20.3**	**-0.9**
ASAR	**Alice Springs**	**85.06**	**222**	P	**P**	**18 27 20.2**	**-1.0**
	comp=Z,1.6nm,0.6s,mb4.3,baz=28,slow=5.0,SNR=26						
ASPA	**Alice Springs**	**85.06**	**222**	*e*P	**P**	**18 27 20.3**	**-0.9**
LASF	**Ste Croix**	**85.09**	**358**	⇑*i*P	**P**	**18 27 21.5**	**+0.2**
	comp=Z,19nm,1.1s,mb4.8						
LUCF	**Luceram**	**85.13**	**355**	*e*P	**P**	**18 27 21.4**	**-0.1**
SMRF	**Simiane la Rot**	**85.13**	**356**	*e*P	**P**	**18 27 22.2**	**+0.7**
	comp=Z,32nm,1.0s,mb5.1						
SMRF	**Simiane la Rot**	**85.13**	**356**	*e*P	**P**	**18 27 22.2**	**+0.7**
	comp=Z,32nm,1.0s,mb5.4						
MVIF	**Mont Vial**	**85.14**	**355**	*e*P	**P**	**18 27 21.6**	**0.0**
REVF	**Revere**	**85.28**	**355**	*e*P	**P**	**18 27 22.1**	**-0.2**
EPON	**Pontenova**	**85.64**	**6**	P	**P**	**18 27 23.0**	**-1.0**
	comp=Z,5.8nm,0.5s,mb5.1						
LMR	**La Mourre**	**85.73**	**356**	⇑*i*P	**P**	**18 27 24.5**	**0.0**
	comp=Z,17nm,0.9s,mb5.0						
LMR	**La Mourre**	**85.73**	**356**	⇑*i*P	**P**	**18 27 24.5**	**0.0**
LMR				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.0						
LMR	**La Mourre**	**85.73**	**356**	⇑*i*P	**P**	**18 27 24.5**	**0.0**
	comp=Z,8.6nm,0.9s,mb5.0						
EARI	**Arriondas**	**85.77**	**4**	P	**P**	**18 27 24.7**	**0.0**
	comp=Z,6.0nm,0.8s,mb4.9						
MTLF	**Montolieu**	**85.86**	**359**	⇑*i*P	**P**	**18 27 25.3**	**+0.2**
	comp=Z,15nm,1.0s,mb4.9						
MTLF	**Montolieu**	**85.86**	**359**	⇑*i*P	**P**	**18 27 25.3**	**+0.2**
MTLF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
MTLF	**Montolieu**	**85.86**	**359**	⇑*i*P	**P**	**18 27 25.3**	**+0.2**
	comp=Z,7.4nm,1.0s,mb4.9						
ELAN	**Lanestosa**	**85.91**	**3**	P	**P**	**18 27 26.0**	**+0.6**
	comp=Z,11nm,0.7s,mb5.2						
EALK	**Alkurruntz**	**85.97**	**2**	P	**P**	**18 27 25.4**	**-0.3**
	comp=Z,6.1nm,0.6s,mb5.0						
EPF	**Esparros**	**86.18**	**0**	⇑*i*P	**P**	**18 27 26.1**	**-0.6**
	comp=Z,6.7nm,0.8s,mb4.6						
EPF	**Esparros**	**86.18**	**0**	⇑*i*P	**P**	**18 27 26.1**	**-0.6**
EPF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.6						
EPF	**Esparros**	**86.18**	**0**	⇑*i*P	**P**	**18 27 26.1**	**-0.6**
	comp=Z,3.3nm,0.8s,mb4.6						
ETSF	**Etsaut**	**86.31**	**1**	⇑*i*P	**P**	**18 27 27.7**	**+0.4**
	comp=Z,15nm,0.7s,mb5.0						
ETSF	**Etsaut**	**86.31**	**1**	⇑*i*P	**P**	**18 27 27.7**	**+0.4**
ETSF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb5.0						
ETSF	**Etsaut**	**86.31**	**1**	⇑*i*P	**P**	**18 27 27.7**	**+0.4**
	comp=Z,7.3nm,0.7s,mb5.0						
PGF	**Pioggiola**	**86.37**	**354**	⇑*i*P	**P**	**18 27 27.5**	**-0.2**
	comp=Z,47nm,1.0s,mb5.4						
PGF	**Pioggiola**	**86.37**	**354**	⇑*i*P	**P**	**18 27 27.5**	**-0.2**
PGF				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.4						
PGF	**Pioggiola**	**86.37**	**354**	⇑*i*P	**P**	**18 27 27.5**	**-0.2**
	comp=Z,24nm,1.0s,mb5.4						
EBIE	**Bielsa**	**86.52**	**0**	P	**P**	**18 27 28.9**	**+0.5**
	comp=Z,7.4nm,1.0s,mb4.9						
PBRG	**Braganca**	**87.19**	**5**	*e*P	**P**	**18 27 31.4**	**-0.2**
	comp=Z,4.9nm,1.0s,mb4.7						
PVRL	**Vila Real**	**87.65**	**6**	*e*P	**P**	**18 27 33.8**	**-0.1**
	comp=Z,9.6nm,1.2s,mb4.9						
PVIS	**Viseu**	**88.19**	**6**	*e*P	**P**	**18 27 36.2**	**-0.3**
	comp=Z,8.5nm,1.0s,mb4.9						
MTE	**Manteigas**	**88.53**	**6**	*e*P	**P**	**18 27 37.5**	**-0.6**
	comp=Z,6.4nm,0.9s,mb5.0						
ESDC	**Sonseca Array**	**89.44**	**3**	P	**P**	**18 27 41.4**	**-1.0**
	comp=Z,0.7nm,0.5s,mb4.3,baz=353,slow=4.4,SNR=12						
ESDC	**Sonseca Array**	**89.44**	**3**	P	**P**	**18 27 42.0**	**-0.3**
	comp=Z,1.1nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**89.53**	**212**	*e*P	**P**	**18 27 41.9**	**-0.9**
	comp=Z,6.0nm,1.0s,mb4.9						
STKA	**Stephens Creek**	**89.53**	**212**	P	**P**	**18 27 40.8**	**-2.0**
	comp=Z,8.8nm,1.1s,mb5.0,baz=291,slow=0.8,SNR=7.9						
EVO	**Evora**	**90.36**	**7**	*e*P	**P**	**18 27 45.4**	**-1.2**
	comp=Z,22nm,1.4s,mb5.0						
TORD	**Torodi Ar. Bea**	**115.95**	**359**	PKP	PKPdf	18 33 27.3	-0.8
	comp=Z,0.2nm,0.4s,baz=344,slow=2.5,SNR=5.5						
TORD				PP	PP	18 34 26.7	-5.8
	comp=Z,1.1nm,0.9s,baz=1.4,slow=6.2,SNR=4.8						
TORD				PKKPbc	PKKPbc	18 43 57.1	-1.7
	comp=Z,0.2nm,0.5s,baz=182,slow=2.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**115.95**	**359**	PKP	PKPdf	18 33 27.3	-0.8
TORD				PP	PP	18 34 26.7	-5.8
TORD				PKKPbc	PKKPbc	18 43 57.1	-1.7
DBIC	**Dimbokro**	**122.20**	**6**	PKP	PKPdf	18 33 39.8	-0.3
	comp=Z,1.1nm,0.4s,baz=317,slow=3.9,SNR=7.6						
QSPA	**South Pole Qui**	**140.92**	**180**	*e*P	PKPdf	18 34 15.4	+0.1
TSUM	**Tsumeb**	**145.38**	**331**	PKPbc	PKPbc	18 34 23.7	+0.6
	comp=Z,12nm,0.6s,baz=353,slow=6.0,SNR=40						
TSUM	**Tsumeb**	**145.38**	**331**	*e*PKP	PKPdf	18 34 23.3	+0.2
MAW	**Mawson**	**146.07**	**217**	PKPbc	PKPbc	18 34 23.2	-2.1
	comp=Z,2.3nm,0.5s,baz=89,slow=2.0,SNR=10.0						
LBTB	**Lobatse**	**147.59**	**314**	PKPbc	PKPbc	18 34 30.1	+0.6
	comp=Z,11nm,0.6s,baz=12,slow=1.5,SNR=18						
LBTB	**Lobatse**	**147.59**	**314**	*e*PKPbc	PKPbc	18 34 29.8	+0.2
BOSA	**Boshof**	**150.82**	**311**	PKPbc	PKPbc	18 34 37.8	+0.1
	comp=Z,4.5nm,0.5s,baz=348,slow=2.5,SNR=18						
BOSA	**Boshof**	**150.82**	**311**	PKIKP	PKPbc	18 34 37.8	+0.1
BOSA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BOSA	**Boshof**	**150.82**	**311**	*e*PKPbc	PKPbc	18 34 37.6	-0.1

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*IDC **02** 18:17:06.4±1.0, 39.04S×175.14E, h223km±15km, mb2.7/2, mb1 3.1/3, mb1mx3.0/11, mbtmp3.5/3, Error ellipse: s-maj=48.1km s-min=19.4km az=142.0*

*ISCJB **02** 18:17:07.2±0.5, 39.11S±0.04×174.93E±0.07, h229km±4km, mb2.9/2, Error ellipse: s-maj=9.3km s-min=6.5km az=53.3*

*WEL **02** 18:17:09.7±0.2, 39.08S×175.00E, h218km±1km, ML4.4/24, Error ellipse: s-maj=2.2km s-min=2.1km az=90.0*

*NEIC **02** 18:17:09.2, 39.05S×174.99E, h222km, MG4.4(WEL), After WEL.*

ISC 02 18:17:08.0±0.5**, 39.12S**±0.04×**174.94E**±0.07**, h225**km±3km**, n101, σ0.94**/117**, mb2.9**/2**, 24C-5D, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.14**	**268**	⇑PN	**Pn**	**18 17 37.4**	**+0.1**
VRZ	**Vera Road**	**0.14**	**268**	P	**Pn**	**18 17 37.4**	**+0.1**
PKVZ	**Pokaka**	**0.36**	**118**	⇑PN	**Pn**	**18 17 38.3**	**+0.6**
PKVZ				SN	**S**	**18 18 00.4**	**-0.3**
TWVZ	**Taurewa**	**0.39**	**83**	⇑PN	**Pn**	**18 17 38.2**	**+0.4**
TWVZ				SN	**S**	**18 18 00.1**	**-0.8**
TWVZ	**Taurewa**	**0.39**	**83**	P	**Pn**	**18 17 38.2**	**+0.5**
TWVZ				S	**S**	**18 18 00.1**	**-0.8**
RAEZ	**Rainy Point**	**0.46**	**249**	PN	**Pn**	**18 17 38.7**	**+0.8**
RAEZ	**Rainy Point**	**0.46**	**249**	P	**Pn**	**18 17 38.7**	**+0.8**
WPVZ	**Whakapapa**	**0.48**	**100**	⇑PN	**Pn**	**18 17 38.7**	**+0.7**
WPVZ				SN	**S**	**18 18 00.4**	**-1.0**
WPVZ	**Whakapapa**	**0.48**	**100**	P	**Pn**	**18 17 38.7**	**+0.7**
MTVZ	**Mangateitei**	**0.49**	**123**	⇑PN	**Pn**	**18 17 38.7**	**+0.7**
FWVZ	**Far West T-bar**	**0.49**	**106**	⇓PN	**Pn**	**18 17 38.8**	**+0.8**
FWVZ	**Far West T-bar**	**0.49**	**106**	P	**Pn**	**18 17 38.8**	**+0.8**
TRVZ	**Turoa**	**0.51**	**111**	PN	**Pn**	**18 17 38.9**	**+0.8**
WTVZ	**West Tongariro**	**0.51**	**90**	PN	**Pn**	**18 17 38.6**	**+0.6**
WTVZ				SN	**S**	**18 18 00.5**	**-1.0**
WTVZ	**West Tongariro**	**0.51**	**90**	P	**Pn**	**18 17 38.6**	**+0.5**
DRZ	**Dome Shelter**	**0.51**	**108**	PN	**Pn**	**18 17 38.9**	**+0.9**
DRZ				SN	**S**	**18 18 00.6**	**-1.0**
DRZ	**Dome Shelter**	**0.51**	**108**	P	**Pn**	**18 17 39.1**	**+1.0**
NGZ	**Ngauruhoe**	**0.52**	**96**	⇑PN	**Pn**	**18 17 38.8**	**+0.7**
NGZ				SN	**S**	**18 18 00.2**	**-1.4**
KRVZ	**Karewarewa**	**0.55**	**87**	⇑PN	**Pn**	**18 17 38.8**	**+0.6**
WNVZ	**Wahianoa**	**0.55**	**112**	PN	**Pn**	**18 17 38.9**	**+0.7**
WNVZ	**Wahianoa**	**0.55**	**112**	P	**Pn**	**18 17 38.9**	**+0.7**
OTVZ	**Oturere**	**0.56**	**95**	PN	**Pn**	**18 17 38.6**	**+0.3**
TUVZ	**Tukino**	**0.57**	**105**	⇑PN	**Pn**	**18 17 39.2**	**+0.8**
TUVZ	**Tukino**	**0.57**	**105**	P	**Pn**	**18 17 39.2**	**+0.9**
HIZ	**Hauiti**	**0.61**	**354**	PN	**Pn**	**18 17 38.3**	**-0.2**
HIZ				SN	**S**	**18 18 01.1**	**-1.1**
HIZ	**Hauiti**	**0.61**	**354**	P	**Pn**	**18 17 38.3**	**-0.2**
HIZ				S	**S**	**18 18 01.1**	**-1.1**
WAZ	**Wanganui**	**0.63**	**177**	⇑PN	**Pn**	**18 17 39.8**	**+1.3**
WAZ	**Wanganui**	**0.63**	**177**	P	**Pn**	**18 17 39.8**	**+1.3**
NEZ	**North Egmont**	**0.67**	**257**	P	**Pn**	**18 17 40.2**	**+1.5**
MOVZ	**Moawhango**	**0.69**	**115**	⇑PN	**Pn**	**18 17 39.2**	**+0.4**
MOVZ				SN	**S**	**18 18 01.3**	**-1.5**
MOVZ	**Moawhango**	**0.69**	**115**	P	**Pn**	**18 17 39.2**	**+0.4**
RATZ	**Rangitukua**	**0.69**	**69**	⇑PN	**Pn**	**18 17 38.9**	**+0.1**
RATZ	**Rangitukua**	**0.69**	**69**	P	**Pn**	**18 17 38.9**	**+0.1**
WATZ	**Wairara**	**0.74**	**57**	⇑PN	**Pn**	**18 17 39.3**	**+0.2**
WATZ				SN	**S**	**18 18 02.2**	**-1.0**
WATZ	**Wairara**	**0.74**	**57**	P	**Pn**	**18 17 39.3**	**+0.3**
PKE	**Pukeiti**	**0.74**	**264**	⇑PN	**Pn**	**18 17 39.8**	**+0.7**
PKE				SN	**S**	**18 18 03.7**	**+0.4**
NRZ	**Ngariki Road**	**0.81**	**254**	⇓PN	**Pn**	**18 17 40.2**	**+0.9**
NRZ	**Ngariki Road**	**0.81**	**254**	P	**Pn**	**18 17 40.2**	**+0.8**
NWEZ	**Newall Road**	**0.85**	**259**	⇑PN	**Pn**	**18 17 40.5**	**+0.9**
BKZ	**Black Stump Fm**	**1.21**	**93**	⇑PN	**Pn**	**18 17 41.9**	**+0.1**
BKZ				SN	**S**	**18 18 06.2**	**-2.0**
BKZ	**Black Stump Fm**	**1.21**	**93**	P	**Pn**	**18 17 41.9**	**+0.1**
TSZ	**Takapari Road**	**1.23**	**140**	⇑PN	**Pn**	**18 17 43.1**	**+1.2**
TSZ				SN	**S**	**18 18 08.1**	**-0.3**
TSZ	**Takapari Road**	**1.23**	**140**	P	**Pn**	**18 17 43.1**	**+1.2**
MRZ	**Mangatainoka R**	**1.61**	**162**	⇑PN	**Pn**	**18 17 45.8**	**+0.8**
MRZ				*e*SN	**S**	**18 18 12.5**	**-1.4**
MRZ	**Mangatainoka R**	**1.61**	**162**	P	**Pn**	**18 17 45.8**	**+0.8**
KIW	**Kapiti Island**	**1.74**	**181**	⇑PN	**Pn**	**18 17 46.9**	**+0.9**
KIW	**Kapiti Island**	**1.74**	**181**	P	**Pn**	**18 17 46.9**	**+0.9**
PXZ	**Pawanui**	**1.74**	**122**	PN	**Pn**	**18 17 46.9**	**+0.9**
TIWZ	**Tintock**	**1.81**	**157**	⇑PN	**Pn**	**18 17 47.5**	**+0.9**
BFZ	**Birch Farm**	**1.85**	**148**	PN	**Pn**	**18 17 47.8**	**+0.7**
BFZ	**Birch Farm**	**1.85**	**148**	*e*P	**Pn**	**18 17 47.8**	**+0.7**
DUWZ	**D'Urville Isla**	**1.85**	**205**	⇑PN	**Pn**	**18 17 48.0**	**+0.9**
URZ	**Urewera**	**1.90**	**64**	P	**Pn**	**18 17 46.1**	**-1.5**
	31nm,0.3s,baz=245,slow=8.9,SNR=27						
URZ				S	**S**	**18 18 13.6**	**-4.9**
	61nm,0.3s,baz=235,slow=5.0,SNR=38						
URZ	**Urewera**	**1.90**	**64**	⇓PN	**Pn**	**18 17 46.1**	**-1.4**
URZ				SN	**S**	**18 18 13.5**	**-5.0**
URZ	**Urewera**	**1.90**	**64**	P	**Pn**	**18 17 46.1**	**-1.4**
CAW	**Cannon Point**	**1.99**	**177**	⇑PN	**Pn**	**18 17 49.2**	**+0.8**
CAW	**Cannon Point**	**1.99**	**177**	P	**Pn**	**18 17 49.2**	**+0.9**
MTW	**Mount Morrison**	**2.08**	**168**	⇑PN	**Pn**	**18 17 49.8**	**+0.5**
MTW	**Mount Morrison**	**2.08**	**168**	P	**Pn**	**18 17 49.8**	**+0.6**
MRW	**Makara Radio**	**2.11**	**185**	⇑PN	**Pn**	**18 17 50.3**	**+0.7**
KNZ	**Kokohu**	**2.13**	**88**	⇓PN	**Pn**	**18 17 49.6**	**-0.1**
KNZ	**Kokohu**	**2.13**	**88**	*e*P	**Pn**	**18 17 49.6**	**-0.1**
TCW	**Tory Channel**	**2.15**	**193**	⇑PN	**Pn**	**18 17 50.9**	**+0.9**
TCW	**Tory Channel**	**2.15**	**193**	P	**Pn**	**18 17 50.9**	**+1.0**
WEL	**Wellington**	**2.17**	**183**	PN	**Pn**	**18 17 50.7**	**+0.6**
WEL	**Wellington**	**2.17**	**183**	P	**Pn**	**18 17 50.7**	**+0.6**
MWZ	**Matawai**	**2.17**	**70**	⇓PN	**Pn**	**18 17 49.1**	**-1.0**
MWZ	**Matawai**	**2.17**	**70**	P	**Pn**	**18 17 49.1**	**-1.0**
SNZO	**South Karori**	**2.19**	**185**	PN	**Pn**	**18 17 50.9**	**+0.5**
SNZO	**South Karori**	**2.19**	**185**	P	**Pn**	**18 17 50.9**	**+0.5**
BHW	**Baring Head**	**2.29**	**181**	P	**Pn**	**18 17 51.7**	**+0.4**
PAWZ	**Paruwai Farm**	**2.29**	**171**	P	**Pn**	**18 17 51.9**	**+0.6**
MSWZ	**Moikau Station**	**2.30**	**174**	P	**Pn**	**18 17 52.0**	**+0.5**
NNZ	**Nelson**	**2.41**	**209**	P	**Pn**	**18 17 53.1**	**+0.5**
QRZ	**Quartz Range**	**2.52**	**227**	P	**Pn**	**18 17 53.3**	**-0.4**
CMWZ	**Cape Campbell**	**2.68**	**192**	P	**Pn**	**18 17 56.6**	**+1.1**
BSWZ	**Blackbirch Sta**	**2.71**	**197**	P	**Pn**	**18 17 56.7**	**+0.9**
PUZ	**Puketiti**	**2.80**	**69**	*e*P	**Pn**	**18 17 55.3**	**-1.5**
THZ	**Tophouse**	**3.06**	**210**	P	**Pn**	**18 17 59.8**	**+0.1**
KHZ	**Kahutara**	**3.46**	**197**	*e*P	**Pn**	**18 18 04.6**	**+0.3**
DSZ	**Denniston Nort**	**3.55**	**221**	*e*P	**Pn**	**18 18 04.7**	**-0.7**
OUZ	**Omahuta**	**4.04**	**344**	*e*P	**Pn**	**18 18 16.0**	**+4.8**
LTZ	**Lake Taylor**	**4.18**	**208**	P	**Pn**	**18 18 12.6**	**-0.3**
CRLZ	**Canterbury Las**	**4.78**	**201**	*e*P	**Pn**	**18 18 19.3**	**-1.0**
MQZ	**McQueen's Vall**	**4.89**	**200**	P	**Pn**	**18 18 20.4**	**-1.3**
WVZ	**Waitaha Valley**	**5.07**	**217**	*e*P	**Pn**	**18 18 22.8**	**-1.1**
RPZ	**Rata Peaks**	**5.44**	**211**	P	**Pn**	**18 18 28.1**	**-0.5**
	4.6nm,0.3s,baz=5.2,slow=2.0,SNR=77						
RPZ				S	**S**	**18 19 27.0**	**-5.5**
	23nm,0.3s,baz=150,slow=22,SNR=34						
RPZ	**Rata Peaks**	**5.44**	**211**	*e*P	**Pn**	**18 18 27.4**	**-1.2**
FOZ	**Fox Glacier**	**5.94**	**220**	*e*P	**Pn**	**18 18 32.1**	**-2.8**
LBZ	**Lake Benmore**	**6.35**	**213**	*e*P	**Pn**	**18 18 37.6**	**-2.5**
ODZ	**Otahua Downs**	**6.72**	**207**	*e*P	**Pn**	**18 18 44.6**	**-0.3**
JCZ	**Jackson Bay**	**6.78**	**221**	*e*P	**Pn**	**18 18 43.8**	**-1.8**
WKZ	**Wanaka**	**7.21**	**216**	*e*P	**Pn**	**18 18 48.6**	**-2.5**
EAZ	**Earnscleugh**	**7.40**	**213**	*e*P	**Pn**	**18 18 51.8**	**-1.7**
TUZ	**Tuapeka**	**7.87**	**208**	*e*P	**Pn**	**18 18 59.3**	**-0.3**
AS31	**Alice Springs**	**37.92**	**282**	*e*P	**P**	**18 24 04.1**	**+0.4**
ASAR	**Alice Springs**	**37.92**	**282**	P	**P**	**18 24 03.9**	**+0.1**
	0.1nm,0.3s,mb2.9,baz=116,slow=5.8,SNR=14						
WB2	**Warramunga Arr**	**39.75**	**287**	*e*P	**P**	**18 24 18.5**	**-0.3**
WRA	**Warramunga Arr**	**39.76**	**287**	P	**P**	**18 24 18.2**	**-0.7**
	0.3nm,0.7s,mb2.8,baz=128,slow=7.9,SNR=6.9						
ARCES	**ARCESS Array B**	**145.47**	**342**	PKPbc	PKPbc	18 36 16.3	-3.3
	0.4nm,0.3s,baz=50,slow=2.8,SNR=9.3						
FINES	**FINESS Array B**	**150.58**	**330**	PKPab	PKPab	18 36 37.4	-3.3
	0.8nm,0.4s,baz=61,slow=4.2,SNR=12						

MAN 02 18:20:36.9, 15.03N×123.96E, h1km, mb2.8, ML4.3, MS6.0, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.44**	**172**	⇑*e*P	Pn	18 21 03.6	-0.5
PVCP				*e*S	Sg	18 21 28.5	+5.3
PVCP	**Virac**	**1.44**	**172**	*e*P	Pn	18 21 03.6	-0.6
GQP	**Guinayangan**	**1.84**	**233**	*e*P	Pn	18 21 11.5	+1.9
GQP				*e*S	Sn	18 21 35.1	+1.5
POLP	**Polilio Island**	**1.97**	**261**	*e*P	Pn	18 21 11.8	+0.3
POLP				*e*S	Sn	18 21 40.0	+3.2
AUQP	**San Andres**	**2.10**	**216**	*e*P	Pn	18 21 16.0	+2.7
BALP	**Baler**	**2.40**	**287**	*e*P	Pn	18 21 15.8	-1.5
PALP	**Palanan**	**2.50**	**324**	*e*P	Pn	18 21 18.7	0.0
LQP	**Lukban**	**2.51**	**249**	*e*P	Pn	18 21 07.1	-12
BOAC	**Boac**	**2.58**	**233**	*e*P	Pn	18 21 19.8	+0.1
CAUP	**Cauayan**	**2.80**	**313**	*e*P	Pn	18 21 23.1	+0.3
PCPH	**Palayan**	**2.81**	**281**	⇑*e*P	Pn	18 21 21.7	-1.3
LUBP	**Lubang**	**3.82**	**251**	*e*P	Pn	18 21 38.5	+1.7
APYP	**Conner**	**3.83**	**318**	*e*P	Pn	18 21 37.7	+0.6
ABRA	**Dolores**	**4.06**	**310**	*e*P	Pn	18 21 42.2	+2.1
CUYO	**Cuyo Island**	**5.05**	**215**	*e*P	Pn	18 21 52.8	-1.0

MAN 02 18:23:35.4, 15.25N×124.10E, h10km, mb2.4, ML4.0, MS7.4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.65**	**178**	*e*P	Pn	18 24 04.1	-0.3
GQP	**Guinayangan**	**2.08**	**230**	*i* P	Pn	18 24 12.2	+1.8
GQP				*e*S	Sn	18 24 35.5	-0.9
POLP	**Polilio Island**	**2.15**	**256**	*e*P	Pn	18 24 14.3	+3.0
POLP				*e*S	Sn	18 24 40.5	+2.5
BALP	**Baler**	**2.48**	**282**	*e*P	Pn	18 24 16.4	+0.6
LQP	**Lukban**	**2.72**	**246**	*i* P	Pn	18 24 08.1	-11
BOAC	**Boac**	**2.82**	**231**	*e*P	Pn	18 24 20.7	+0.2

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*IDC **02** 18:26:40.6±2.4, 51.16N×179.48W, h12km±14km, mb4.7/28, mb1 4.8/29, mb1mx4.8/32, mbtmp4.8/29, ML4.8/1, MS4.5/16, Ms1 4.4/16, ms1mx4.2/32, Error ellipse: s-maj=15.2km s-min=10.6km az=159.0*

*ISCJB **02** 18:26:44.0±0.2, 51.12N±0.04×179.46W±0.02, h47km, mb5.0/208, MS4.5/41, Error ellipse: s-maj=5.6km s-min=2.0km az=14.9*

*MOS **02** 18:26:44.4±0.9, 51.15N×179.43W, h51km, mb5.2/92, MS4.5/17, Error ellipse: s-maj=7.3km s-min=4.3km az=94.6*

*BJI **02** 18:26:44.7, 51.32N×179.95W, h42km, mB5.1, mb5.0, Ms4.8, Msz4.5*

*NEIC **02** 18:26:46.0±0.5, 51.13N×179.46W, h52km±4km, mb4.9/148, MS4.5/4, ML5.0(AEIC), Error ellipse: s-maj=4.9km s-min=2.4km az=186.0*

*HRVD **02** 18:26:46.0±0.3, 51.01N×179.43W, h21km±1km, MW5.1/70, Centroid moment Tensor Solution. LP body waves: s46,c61;Mantle waves: s70,c120; Half duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}4.48±.28; $M_{\theta\theta}$-4.25±.19; $M_{\phi\phi}$-0.23±.14; $M_{r\theta}$3.86±.35; $M_{\theta\phi}$-1.42±.10; $M_{\phi r}$2.17±.28; Best double couple: $M_0$6.38000×10^16 NP1:ϕ_s261.00000°,δ24.00000°,λ105.00000°. NP2: ϕ_s64.00000°,δ67.00000°,λ83.00000°. Principal axes: T 6.3190, Plg67.0000°, Azm322.0000°; N 0.1200, Plg6.0000°, Azm67.0000°; P -6.4420, Plg22.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SZGRF **02** 18:26:48.1, 51.52N×178.89E, h33km, mb5.2, Rat Islands, Aleutian Islands, United States*

ISC 02 18:26:45.7±0.2**, 51.19N**±0.04×**179.47W**±0.02**, h49**km**, h49**km±2.4km**:pP-P, n632, σ0.78**/627**, mb5.0**/208**, MS4.5**/41**, 148C-69D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.79**	**284**	P	**Pn**	**18 26 59.1**	**-1.6**
AMKA				S	**Sn**	**18 27 11.5**	**0.0**
SMY	**Shemya**	**4.27**	**294**	P	**Pn**	**18 27 50.8**	**+2.7**
OKCD	**Okmok Cone D**	**7.32**	**68**	P	**Pn**	**18 28 31.5**	**+1.5**
SPIA	**Saint Paul Isl**	**8.08**	**38**	P	**Pn**	**18 28 43.0**	**+2.7**
UNV	**Unalaska Valle**	**8.35**	**66**	P	**Pn**	**18 28 44.0**	**-0.1**
AKUT	**Akutan**	**8.83**	**65**	*e*P	**Pn**	**18 28 51.6**	**+0.8**
FALS	**False Pass**	**10.34**	**63**	*e*Pn	**Pn**	**18 29 10.7**	**-0.7**
SDPT	**Sand Point**	**12.10**	**62**	*e*P	**Pn**	**18 29 33.8**	**-1.6**
	30nm,0.6s						
PET	**Petropavlovsk**	**13.56**	**286**	*e*P	**Pn**	**18 29 57.3**	**+1.9**
PET				*e*S	**Sn**	**18 32 24.9**	**+0.4**
PET				pmax	pmax		
	comp=Z,200nm,9.7s						
PET				pmax	pmax		
	comp=Z,49nm,1.1s						
PET				pmax	pmax		
	comp=Z,300nm,7.6s						
PET				smax			
	comp=E,300nm,13.6s						
PET				MLR	MLR		
	comp=Z,2µm,19.0s						
PET				MLR	MLR		
	comp=Z,2µm,21.0s						
SKR	**Severo-Kuril's**	**15.38**	**278**	*e*P	**Pn**	**18 30 19.0**	**-0.5**
SKR				pmax	pmax		
	comp=E,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SVW2	**Sparrevohn**	**16.50**	**44**	*e*P	**Pn**	**18 30 35.4**	**+1.6**
KDAK	**Kodiak Island**	**16.88**	**57**	Pn	**Pn**	**18 30 33.7**	**-4.8**
	comp=Z,3.8nm,0.3s,baz=314,slow=7.3,SNR=16						
KDAK	**Kodiak Island**	**16.88**	**57**	*e*Pn	**Pn**	**18 30 33.5**	**-5.0**
	comp=Z,25nm,0.6s						
TTA	**Tatalina**	**17.22**	**38**	*e*P	**Pn**	**18 30 44.3**	**+1.5**
BILL	**Bilibino**	**18.29**	**343**	*c e*P	**Pn**	**18 30 57.1**	**+1.3**
BILL				pmax	pmax		
	comp=Z,121nm,1.4s						
BILL				MLR	MLR		
	comp=Z,2µm,20.0s						
BILL	**Bilibino**	**18.29**	**343**	*e*P	**Pn**	**18 30 56.6**	**+0.8**
	comp=Z,104nm,1.1s						
MA2	**Magadan**	**18.74**	**308**	*d e*P	**Pn**	**18 31 02.8**	**+1.6**
MA2				*e*S	**S**	**18 34 24.5**	**-6.4**
MA2				pmax	pmax		
	comp=Z,20nm,1.3s						
MA2				MLR	MLR		
	comp=Z,2µm,15.3s						
MA2	**Magadan**	**18.74**	**308**	*e*P	**Pn**	**18 31 01.3**	**+0.1**
	comp=Z,8.8nm,0.8s						
PMR	**Palmer**	**19.57**	**46**	*e*P	**Pn**	**18 31 09.1**	**-2.0**
PMR				pmax	pmax		
	comp=Z,13nm,0.5s						
PMR	**Palmer**	**19.57**	**46**	*e*P	**Pn**	**18 31 09.1**	**-2.1**
	comp=Z,14nm,0.5s						
SML	**Sawmill**	**20.00**	**46**	*e*P	**Pn**	**18 31 12.7**	**-3.5**
MID	**Middleton Isla**	**20.39**	**53**	*e*P	**P**	**18 31 19.0**	**+0.5**
EYAK	**Cordova Ski Ar**	**20.89**	**50**	*e*P	**P**	**18 31 24.6**	**+0.8**
COLA	**College**	**21.32**	**38**	⇑*i*P	**P**	**18 31 29.1**	**+0.6**
COLA	**College**	**21.32**	**38**	*e*P	**P**	**18 31 27.6**	**-0.9**
	comp=Z,32nm,0.9s,mb4.7						
MENT	**Mentasta**	**22.38**	**45**	*e*P	**P**	**18 31 39.1**	**-0.6**
DAWY	**Dawson**	**24.54**	**43**	*e*P	**P**	**18 31 58.9**	**-1.7**
YSS	**Yuzh-Sakhalins**	**24.92**	**275**	*c i*P	**P**	**18 32 04.8**	**+0.6**
YSS				pmax	pmax		
	comp=Z,92nm,1.2s,mb5.2						
YSS	**Yuzh-Sakhalins**	**24.92**	**275**	*e*P	**P**	**18 32 04.7**	**+0.5**
	comp=Z,73nm,0.9s,mb5.2						
ASAJ	**Asahikawa**	**26.28**	**269**	P	**P**	**18 32 16.3**	**-0.2**
	comp=Z,42nm,1.1s,mb4.9,baz=67,slow=8.7,SNR=18						
ASAJ				LR	LR	18 41 50.7	
	comp=Z,614nm,19.0s,MS4.2,baz=245,slow=35						
ASAJ	**Asahikawa**	**26.28**	**269**	P	**P**	**18 32 16.3**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,42nm,1.1s						
ASAJ				MLR	MLR		
	comp=Z,614nm,19.0s						
INK	**Inuvik**	**27.86**	**35**	P	**P**	**18 32 29.3**	**-1.3**
	comp=Z,4.4nm,0.8s,mb4.2,baz=296,slow=12,SNR=9.6						
INK				ScP	ScP	18 39 25.2	+2.9
	comp=Z,2.3nm,0.7s,baz=55,slow=3.0,SNR=5.6						
INK	**Inuvik**	**27.86**	**35**	P	**P**	**18 32 29.3**	**-1.4**
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK				pmax	pmax		
	comp=N,2.0nm,0.7s						
INK	**Inuvik**	**27.86**	**35**	*e*P	**P**	**18 32 29.6**	**-1.1**
	comp=N,9.8nm,0.9s,mb4.4						
HABR	**Khabarovsk**	**29.11**	**283**	⇑*i*P	**P**	**18 32 41.5**	**-0.3**
HABR				*e*S	**S**	**18 37 31.0**	**+0.8**
HABR				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.1						
HABR				MLR	MLR		
	comp=Z,170nm,12.1s,MS3.9						
YAK	**Yakutsk**	**29.23**	**312**	*e*P	**P**	**18 32 41.5**	**-1.4**
YAK				*e*PPP		18 33 40.4	
YAK				*e*		18 35 45.4	
YAK				*e*S	**S**	**18 37 33.3**	**+1.2**
YAK				*e*		18 43 22.2	
YAK				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.6						
YAK				pmax	pmax		
	comp=N,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,11nm,1.2s						
YAK				pmax	pmax		

comp=Z,7.0nm,1.1s,mb4.3
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK smax
comp=N,8.0nm,1.3s
YAK smax
comp=Z,2.0nm,0.9s
YAK smax
comp=E,5.0nm,1.3s
YAK MLR MLR
comp=Z,513nm,17.0s,MS4.2
YAK MLR MLR
comp=N,235nm,19.0s,MS4.1
YAK MLR MLR
comp=E,372nm,16.0s,MS4.1
YAK Yakutsk 29.23 312 *e*P **P 18 32 41.8 -1.0**
KLR Kul'dur 30.83 286 ⇓ *i*P **P 18 32 53.4 -3.6**
KLR pmax pmax
comp=E,72nm,1.4s
KLR pmax pmax
comp=Z,120nm,1.4s,mb5.5
MJAR Matsushiro Arr 33.34 261 P **P 18 33 19.4 +0.4**
comp=Z,5.8nm,1.1s,mb4.4,baz=50,slow=8.9,SNR=9.1
MJAR ScP ScP 18 39 43.5 +3.2
comp=Z,2.1nm,1.0s,baz=340,slow=1.2,SNR=5.3
MJAR LR LR 18 49 01.4
comp=Z,284nm,18.2s,MS4.0,baz=75,slow=40
MAT Matsushiro 33.34 261 P **P 18 33 18.2 -0.8**
MAT Matsushiro 33.34 261 *e*P **P 18 33 18.0 -1.0**
MAT pmax pmax
comp=Z,19nm,1.1s,mb4.9
MAT Matsushiro 33.34 261 *e*P **P 18 33 18.0 -1.0**
comp=Z,19nm,1.1s,mb4.9
VLA Vladivostok 33.51 275 *d i*P **P 18 33 21.0 +0.5**
VLA pmax pmax
comp=Z,38nm,1.3s,mb5.2
MDJ Mudanjiang 34.19 279 P **P 18 33 25.4 -1.0**
MDJ AP pP 18 33 36.8 -2.3
MDJ XP sP 18 33 41.7 -3.2
MDJ S **S 18 38 48.1 -1.4**
MDJ SCP ScP 18 39 43.3 0.0
MDJ AMB AMB
comp=Z,11nm,0.9s,mb4.8
MDJ LR LR
comp=E,388nm,20.4s
MDJ LR LR
comp=Z,633nm,20.9s,MS4.3
MDJ Mudanjiang 34.19 279 *e*P **P 18 33 25.8 -0.6**
comp=Z,15nm,1.1s,mb4.8
YKA Yellowknife Ar 35.67 46 P **P 18 33 37.9 -1.3**
comp=Z,6.7nm,0.5s,mb4.8,baz=282,slow=7.4,SNR=78
YKA PcP PcP 18 36 06.1 -0.6
comp=Z,0.4nm,0.5s,baz=279,slow=3.1,SNR=4.7
YKA ScP ScP 18 39 52.2 +3.6
comp=Z,1.0nm,0.6s,baz=288,slow=3.7,SNR=14
YKA LR LR 18 50 22.0
comp=Z,1μm,18.5s,MS4.7,baz=280,slow=40
YKA Yellowknife Ar 35.67 46 P **P 18 33 37.9 -1.3**
YKA 18 36 06.1
YKA Yellowknife Ar 35.67 46 P **P 18 33 37.9 -1.3**
YKA PcP PcP 18 36 06.1 -0.6
YKA ScP ScP 18 39 52.2 +3.6
YKA LR LR 18 50 22.0
A05A Maple Falls 36.08 70 ⇓ P **P 18 33 43.4 +0.8**
baz=36
E03A Lebam 36.31 75 ⇑ P **P 18 33 44.9 +0.2**
baz=36
CMW Cultus Mountai 36.31 71 P **P 18 33 46.3 +1.6**
B05A Bryant 36.40 72 P **P 18 33 45.4 0.0**
baz=36,SNR=6.8
C05A Tolt Reservoir 36.90 72 ⇓ P **P 18 33 49.7 0.0**
baz=37
D05A Enumclaw 36.96 73 ⇓ P **P 18 33 50.3 +0.1**
baz=37,SNR=5.1
H02A Toledo 36.96 78 ⇓ P **P 18 33 50.5 +0.3**
baz=37
CN2 Changchun 37.17 281 *e*P **P 18 33 52.0 +0.1**
CN2 *e*XP sP 18 34 09.5 -1.0
CN2 *e*S **S 18 39 33.8 -1.3**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.6
CN2 AMB AMB
comp=Z,170nm,4.0s
CN2 LR LR
comp=N,480nm,20.0s,MS4.4
CN2 LR LR
comp=E,470nm,20.0s,MS4.4
CN2 LR LR
comp=Z,840nm,20.0s,MS4.5
F04A Amboy 37.30 75 ⇓ P **P 18 33 53.1 0.0**
baz=37
E05A Randle 37.40 74 ⇑ P **P 18 33 54.1 +0.2**
baz=37,SNR=5.7
H03A Soap Creek Ran 37.40 77 ⇑ P **P 18 33 54.0 +0.1**
baz=37
I02A Mapleton 37.41 79 ⇑ P **P 18 33 54.5 +0.6**
baz=37
CBIJ Chichi jima 37.62 245 LR LR 18 47 03.5
comp=Z,230nm,20.3s,MS4.0,baz=36,slow=32
G04A Mulino 37.63 76 ⇓ P **P 18 33 55.9 +0.1**
baz=38
BOD Bodaibo 37.76 307 *e*P **P 18 33 53.9 -3.0**
BOD pmax pmax
comp=Z,60nm,1.2s,mb5.2
I03A Eugene 37.77 78 ⇑ P **P 18 33 57.2 +0.2**
baz=38
SSOR Sweet Springs 37.81 77 P **P 18 33 58.9 +1.5**
J02A Umpqua 37.90 79 ⇑ P **P 18 33 58.5 +0.3**
baz=38
F05A White Salmon 37.91 75 ⇓ P **P 18 33 59.1 +0.9**
baz=38
HIA Hailar 37.97 292 *e*P **P 18 33 57.6 -1.1**
HIA pmax pmax
comp=Z,45nm,1.1s
HIA Hailar 37.97 292 *e*P **P 18 33 57.6 -1.1**
comp=Z,45nm,1.1s,mb5.1
H04A Detroit Lake 38.07 77 ⇑ P **P 18 34 00.1 +0.5**
baz=38
VFP Flag Point 38.19 75 P **P 18 34 01.8 +1.3**
K02A Glendale 38.27 80 ⇓ P **P 18 34 00.8 -0.5**
baz=38
J03A Ideyld Park 38.28 79 ⇓ P **P 18 34 01.0 -0.3**
baz=38
G05A Wamic 38.32 75 ⇓ P **P 18 34 00.9 -0.7**
baz=38
M01C Crescent City 38.38 82 ⇓ P **P 18 34 02.6 +0.5**
baz=38
H05A Madras 38.68 76 ⇑ P **P 18 34 04.7 0.0**
baz=38
HUMO Hull Mountain 38.69 80 *e*P **P 18 34 05.0 +0.2**
comp=Z,3.6nm,1.2s,mb4.0
HUMO Hull Mountain 38.69 80 ⇓ P **P 18 34 05.1 +0.3**
baz=39
HAWA Hanford 38.82 73 *e*P **P 18 34 05.7 -0.2**
comp=Z,1.1nm,0.8s
I05A Bend 38.90 77 ⇑ P **P 18 34 07.1 +0.5**
baz=39
JCC Jacoby Creek 39.02 83 ⇑ P **P 18 34 08.6 +1.1**
baz=39
KS15 Wonju Array Si 39.25 271 *e*P **P 18 34 10.3 +0.8**
EDM Edmonton 39.27 60 *e*P **P 18 34 08.4 -1.2**
YBH Yreka Blue Hor 39.33 81 P **P 18 34 10.1 0.0**
comp=Z,5.7nm,1.0s,mb4.3,baz=323,slow=7.4,SNR=9.6
YBH Yreka Blue Hor 39.33 81 *e*P **P 18 34 10.7 +0.6**
YBH pmax pmax
comp=Z,7.0nm,0.9s
YBH Yreka Blue Hor 39.33 81 *e*P **P 18 34 10.7 +0.6**
comp=Z,7.4nm,0.9s,mb4.4
YBH Yreka Blue Hor 39.33 81 ⇑ P **P 18 34 10.7 +0.7**
baz=39,SNR=5.5
NEW Newport 39.35 69 P **P 18 34 10.4 +0.2**
comp=Z,6.7nm,0.6s,mb4.5,baz=301,slow=5.5,SNR=13
NEW Newport 39.35 69 P **P 18 34 10.5 +0.3**
NEW pmax pmax
comp=Z,7.0nm,0.6s
NEW Newport 39.35 69 *e*P **P 18 34 09.9 -0.4**
comp=Z,22nm,0.9s,mb4.9
SNY Shenyang 39.39 279 ⇑ P **P 18 34 11.1 +0.5**
SNY AP pP 18 34 19.6 -3.9
SNY XP sP 18 34 23.3 -6.0
SNY AMB AMB
comp=Z,36nm,1.3s,mb4.9
M02C Callahan 39.43 82 ⇓ P **P 18 34 11.7 +0.8**
baz=39
K04A Chilquin 39.45 79 ⇑ P **P 18 34 11.2 +0.1**
baz=39
N02C Big Bar 39.47 83 ⇓ P **P 18 34 11.7 +0.5**
baz=39
O01C Eel River Cons 39.54 84 ⇓ P **P 18 34 11.2 -0.6**
baz=39
L04A Klamath Falls 39.59 80 ⇑ P **P 18 34 13.0 +0.8**
baz=39
I06A Prineville 39.67 77 ⇑ P **P 18 34 13.1 +0.2**
baz=40,SNR=5.8
M04C Macdoel 39.84 80 ⇑ P **P 18 34 15.0 +0.7**
baz=40
INCN Inchon 40.01 272 *e*P **P 18 34 16.6 +0.8**
comp=Z,54nm,1.1s,mb5.2
J06A Christmas Vall 40.07 77 ⇓ P **P 18 34 16.7 +0.4**
baz=40,SNR=12
WDC Whiskeytown Da 40.08 82 *e*P **P 18 34 16.5 +0.1**
WDC pmax pmax
comp=Z,19nm,1.3s,mb4.7
WDC Whiskeytown Da 40.08 82 *e*P **P 18 34 16.5 +0.2**
comp=Z,19nm,1.3s,mb4.7
WDC Whiskeytown Da 40.08 82 ⇑ P **P 18 34 16.8 +0.5**
baz=40
RES Resolute Bay 40.09 24 P **P 18 34 15.1 -1.3**
RES pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
RES Resolute Bay 40.09 24 P **P 18 34 15.1 -1.4**
comp=Z,8.9nm,1.0s,mb4.5
O02C Red Bluff 40.16 83 ⇑ P **P 18 34 17.5 +0.5**
baz=40,SNR=5.3
P01C Double 8 Ranch 40.23 84 ⇑ P **P 18 34 18.2 +0.6**
baz=40
K06A Valley Falls 40.26 78 ⇑ P **P 18 34 18.3 +0.4**
baz=40,SNR=7.7
L05A Lakeview 40.31 79 ⇓ P **P 18 34 18.9 +0.6**
baz=40
M05C Lookout 40.51 81 ⇑ P **P 18 34 20.2 +0.4**
baz=40,SNR=7.2
GASB Alder Springs 40.51 84 ⇓ P **P 18 34 20.1 +0.2**
baz=40
J07A Hines 40.52 77 ⇓ P **P 18 34 20.3 +0.3**
baz=40
HATC Hat Creek Radi 40.62 81 ⇑ P **P 18 34 21.2 +0.4**
baz=40,SNR=5.2
HOPS Hopland 40.67 85 ⇑ P **P 18 34 21.4 +0.2**
baz=40
WALA Waterton Lakes 40.83 66 *e*P **P 18 34 22.9 +0.3**
comp=Z,28nm,1.3s,mb4.7
K07A Rock Creek Ran 40.94 78 ⇓ P **P 18 34 23.7 +0.3**
baz=41,SNR=18
BMO Blue Mountains 40.95 74 *e*P **P 18 34 23.5 0.0**
comp=Z,5.2nm,0.9s,mb4.2
M06C Likely Place G 41.01 80 ⇑ P **P 18 34 24.1 0.0**
baz=41
J08A Circle Bar Ran 41.04 76 ⇑ P **P 18 34 24.5 +0.2**
baz=41
O04C Chester 41.14 82 ⇑ P **P 18 34 25.0 0.0**
baz=41
L07A Adell 41.25 79 ⇑ P **P 18 34 26.8 +0.7**
baz=41,SNR=8.7
ORV Oroville 41.33 83 ⇑ P **P 18 34 27.2 +0.6**
baz=41
SUTB Sutter Butte 41.34 84 ⇓ P **P 18 34 27.1 +0.4**
baz=41
O05C Quincy 41.45 82 ⇓ P **P 18 34 27.9 +0.3**
baz=41,SNR=5.4
WVOR Wild Horse Val 41.45 78 *e*P **P 18 34 27.7 0.0**
WVOR pmax pmax
comp=Z,15nm,0.7s,mb4.7
WVOR Wild Horse Val 41.45 78 *e*P **P 18 34 27.7 0.0**
comp=Z,15nm,0.7s,mb4.7
OHCM Honcut 41.47 83 *e*P **P 18 34 26.7 -1.1**
M07A Soldier Meadow 41.71 79 ⇓ P **P 18 34 29.7 -0.1**
baz=42,SNR=18
MSO Missoula 41.93 69 *e*P **P 18 34 31.0 -0.6**
comp=Z,17nm,1.1s,mb4.6
O06A Flanigan 42.01 81 ⇑ P **P 18 34 32.3 +0.1**
baz=42
M08A Happy Creek Ra 42.17 79 ⇑ P **P 18 34 33.6 +0.1**
baz=42,SNR=7.6
P06A Stead Airport, 42.25 82 ⇑ P **P 18 34 33.9 -0.2**
baz=42
LAVA Lava Cap Winer 42.28 83 ⇓ P **P 18 34 34.6 +0.2**
baz=42
L09A Wilkinson Ranc 42.28 77 ⇑ P **P 18 34 34.8 +0.3**
baz=42
CHMT Chamberlain Mo 42.29 69 *e*P **P 18 34 33.4 -1.1**
DL2 Dalian 42.29 277 P **P 18 34 34.2 -0.3**
DL2 *e*S **S 18 40 52.9 +1.1**
DL2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
DL2 LR LR
comp=N,110nm,15.5s,MS4.2
DL2 LR LR
comp=E,190nm,14.4s,MS4.2
DL2 LR LR
comp=Z,200nm,16.0s,MS4.1
WENL Wente Brothers 42.33 85 ⇓ P **P 18 34 34.6 -0.2**
baz=42
BNLO Ben Lomond (Sa 42.37 86 ⇓ P **P 18 34 34.8 -0.3**
baz=42
PAHR Pah Rah Range 42.56 81 *e*P **P 18 34 37.0 +0.3**
comp=Z,13nm,1.0s,mb4.6
WCN Washoe City 42.56 82 ⇓ P **P 18 34 37.1 +0.4**
baz=42
O07A Toulon 42.60 80 ⇓ P **P 18 34 37.3 +0.3**
baz=42,SNR=7.7
N08A GE Springer Mi 42.70 79 ⇓ P **P 18 34 37.4 -0.5**
baz=43
R05C Kirkwood Meado 42.72 83 ⇑ P **P 18 34 38.3 +0.3**
baz=43
M09A Marrel Ranch, 42.76 78 ⇑ P **P 18 34 38.2 -0.1**
baz=43
CMB Columbia Colle 42.93 84 ⇓ P **P 18 34 39.6 -0.1**
baz=43
PACP Pacheco Peak 43.00 86 ⇑ P **P 18 34 38.8 -1.4**
baz=43
N09A Rock Creek Ran 43.04 79 ⇑ P **P 18 34 40.7 +0.1**
baz=43
HAST UC Hastings Re 43.22 87 ⇑ P **P 18 34 41.7 -0.3**
baz=43
R06C Coleville 43.22 83 ⇓ P **P 18 34 42.3 +0.3**
baz=43
HRY Holter Researc 43.23 68 *e*P **P 18 34 42.1 0.0**
M10A I.L. Ranch, Tu 43.26 77 ⇓ P **P 18 34 42.4 0.0**
baz=43
P08A Dixie Valley 43.38 81 ⇑ P **P 18 34 43.0 -0.2**
baz=43
S05C Merced 43.39 85 ⇓ P **P 18 34 43.7 +0.3**
baz=43
HLID Hailey 43.40 74 *e*P **P 18 34 43.7 +0.2**
comp=Z,16nm,1.1s,mb4.7
BMN Battle Mountai 43.47 79 *e*P **P 18 34 44.4 +0.3**
BMN pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
BMN Battle Mountai 43.47 79 *e*P **P 18 34 44.4 +0.4**
comp=Z,4.9nm,0.6s,mb4.4
DLMT Dillon 43.50 70 P **P 18 34 44.2 0.0**
comp=Z,16nm,1.1s,mb4.7
MCMT McKenzie Canyo 43.64 71 *e*P **P 18 34 45.7 +0.3**
O09A Fish Creek Ran 43.65 79 ⇑ P **P 18 34 45.6 +0.2**
baz=44
V03C Hunter Liggett 43.65 87 ⇑ P **P 18 34 45.2 -0.3**
baz=44
U04C Hernandez Rese 43.72 86 ⇓ P **P 18 34 45.8 -0.3**
baz=44
R07C Lee Vining 43.74 83 ⇑ P **P 18 34 46.1 -0.1**
baz=44
EGMT Eagleton 43.74 66 *e*P **P 18 34 46.4 +0.1**
comp=Z,12nm,0.8s,mb4.7
M11A Holland Ranch, 43.77 77 ⇑ P **P 18 34 47.0 +0.5**
baz=44,SNR=9.1
BOZ Bozeman (W) 43.92 69 *e*P **P 18 34 46.5 -1.1**
BOZ pmax pmax
comp=Z,24nm,0.8s,mb5.0
BOZ Bozeman (W) 43.92 69 *e*P **P 18 34 46.5 -1.1**
comp=Z,24nm,0.8s,mb5.0
Q08A Gabbs 43.97 81 ⇑ P **P 18 34 48.0 0.0**
baz=44,SNR=6.5
NVAR Mina Array Bea 43.99 82 P **P 18 34 48.5 +0.2**
comp=Z,3.5nm,0.7s,mb4.2,baz=284,slow=7.3,SNR=4.1
MNV Mina 44.09 82 P **P 18 34 47.4 -1.6**
MNV pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
MNV Mina 44.09 82 P **P 18 34 47.4 -1.6**
comp=Z,4.6nm,0.9s,mb4.2
V04C Ramage Ranch, 44.12 87 ⇓ P **P 18 34 49.5 +0.3**
baz=44
M12A Wells 44.32 76 ⇑ P **P 18 34 51.2 +0.3**
baz=44,SNR=8.4
P10A Eureka 44.42 80 ⇓ P **P 18 34 51.6 0.0**
baz=44
Q09A Carvers 44.45 81 ⇑ P **P 18 34 52.1 +0.2**
baz=44
QLMT Earthquake Lak 44.48 70 *e*P **P 18 34 51.9 -0.3**
MTUM Tungsten Hills 44.49 84 *e*P **P 18 34 52.6 +0.4**
ELK Elko 44.51 77 *e*P **P 18 34 52.0 -0.4**
ELK pmax pmax
comp=Z,7.0nm,0.7s
ELK Elko 44.51 77 *e*P **P 18 34 52.0 -0.4**
comp=Z,7.4nm,0.7s,mb4.6
N12A Clover Valley, 44.57 77 ⇑ P **P 18 34 53.3 +0.4**
baz=44,SNR=13
O11A Cowboy Ranch, 44.62 78 ⇑ P **P 18 34 53.2 -0.1**
baz=44,SNR=6.2
HELL Mitchell Peak, 44.62 85 P **P 18 34 53.0 -0.3**
baz=44,SNR=10
R09A Tonopah 44.88 81 P **P 18 34 55.7 +0.4**
baz=45,SNR=7.4
TPH Tonopah 44.88 82 *e*P **P 18 34 55.6 +0.2**
TPH pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
TPH Tonopah 44.88 82 *e*P **P 18 34 55.6 +0.2**
comp=Z,7.6nm,0.7s,mb4.6
TIN Tinemaha 44.89 84 ⇓ P **P 18 34 55.9 +0.5**
baz=45
GCMT Greycliff 44.99 68 *e*P **P 18 34 56.4 +0.2**
BJI Beijing 45.00 282 P **P 18 34 56.7 +0.4**
BJI AMB AMB
comp=Z,22nm,0.9s,mb5.0
BJI LR LR
comp=N,509nm,16.2s,MS4.6
BJI LR LR
comp=E,401nm,21.1s,MS4.6
BJI LR LR
comp=Z,588nm,21.1s,MS4.5
BJT Baijiatuau 45.02 282 *e*P **P 18 34 56.9 +0.5**
BJT pmax pmax
comp=Z,29nm,1.1s
BJT Baijiatuau 45.02 282 *e*P **P 18 34 56.9 +0.5**
comp=Z,29nm,1.1s,mb5.0
YFT Old Faithful 45.05 70 *e*P **P 18 34 56.5 -0.1**
N13A Wendover, West 45.08 77 ⇓ P **P 18 34 56.8 -0.1**
baz=45
S09A Goldfield 45.10 82 ⇑ P **P 18 34 56.6 -0.4**
baz=45,SNR=5.8
IRK Irkutsk 45.19 303 *e*P **P 18 34 56.9 -0.9**
IRK *e* 18 35 15.5
IRK *e* 18 36 35.4
IRK pmax pmax
comp=Z,57nm,1.3s,mb5.2
LKWY Lake 45.24 70 *e*P **P 18 34 59.1 +0.9**
LKWY pmax pmax
comp=Z,19nm,0.8s,mb5.0
LKWY Lake 45.24 70 *e*P **P 18 34 59.1 +0.9**
comp=Z,19nm,0.8s,mb5.0
R10A Warm Springs 45.33 81 ⇓ P **P 18 34 59.0 +0.1**
baz=45
Q11A Duckwater 45.39 80 ⇓ P **P 18 34 58.9 -0.4**
baz=45,SNR=7.6
HVU Hansel Valley 45.41 75 *e*P **P 18 35 00.0 +0.5**
HVU pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
HVU Hansel Valley 45.41 75 *e*P **P 18 34 60.0 +0.4**
comp=Z,9.0nm,0.6s,mb4.8
P12A McGill 45.47 79 ⇑ P **P 18 35 00.2 +0.2**
baz=45,SNR=7.0
TPAW Teton Pass 45.52 72 *e*P **P 18 35 01.2 +0.8**
comp=Z,8.6nm,0.9s,mb4.7
ISA Isabella 45.61 85 ⇓ P **P 18 35 01.0 -0.1**
baz=46
REDW Red Top Meadow 45.65 72 *e*P **P 18 35 01.9 +0.4**
comp=Z,12nm,1.1s,mb4.7
LOHW Long Hollow 45.66 71 *e*P **P 18 35 01.9 +0.5**
comp=Z,6.0nm,0.9s,mb4.5
BGU Big Grassy Mou 45.76 76 *e*P **P 18 35 02.8 +0.5**
TLY Talaya 45.81 302 P **P 18 35 03.6 +0.9**
SNR=15
TLY Talaya 45.81 302 *e*P **P 18 35 03.1 +0.4**
TLY pmax pmax
comp=Z,41nm,1.2s,mb5.2
TLY MLR MLR
comp=Z,922nm,21.0s,MS4.7
TLY Talaya 45.81 302 *e*P **P 18 35 02.9 +0.2**
comp=Z,35nm,1.1s,mb5.2
ULN Ulaanbaatar 45.97 296 P **P 18 35 04.9 +0.9**
SNR=14
ULN Ulaanbaatar 45.97 296 *c i*P **P 18 35 04.6 +0.7**
ULN Ulaanbaatar 45.97 296 *e*P **P 18 35 04.1 +0.2**
comp=Z,17nm,0.6s,mb5.2
JOW Kunigami 46.12 259 LR LR 18 56 14.9
comp=Z,225nm,18.2s,MS4.2,baz=133,slow=38
TPNV Topopah Spring 46.19 82 *e*P **P 18 35 05.2 -0.5**
TPNV pmax pmax
comp=Z,14nm,0.8s,mb4.9
TPNV Topopah Spring 46.19 82 *e*P **P 18 35 05.2 -0.4**
comp=Z,14nm,0.8s,mb5.0
HWUT Hardware Ranch 46.24 74 *e*P **P 18 35 05.9 -0.2**
comp=Z,5.7nm,0.8s,mb4.5
DUG Dugway 46.32 77 *e*P **P 18 35 07.4 +0.7**
DUG pmax pmax
comp=Z,29nm,1.0s,mb5.2
DUG Dugway 46.32 77 *e*P **P 18 35 07.4 +0.7**
comp=Z,29nm,1.0s,mb5.2
SONM Songino Array 46.36 296 P **P 18 35 07.8 +0.8**
comp=Z,14nm,0.7s,mb5.0,baz=66,slow=7.4,SNR=114
SONM PcP PcP 18 36 41.1 -0.3
comp=Z,3.3nm,0.6s,baz=78,slow=2.4,SNR=5.3
SONM ScP ScP 18 40 32.8 +2.1
comp=Z,2.8nm,1.0s,baz=89,slow=3.3,SNR=9.5
SONM LR LR 18 56 11.6
comp=Z,2μm,18.3s,MS5.0,baz=65,slow=38
SONM Songino Array 46.36 296 P **P 18 35 07.8 +0.8**
SONM 18 36 41.1
U10A Ash Meadows, A 46.47 83 ⇑ P **P 18 35 07.5 -0.4**
baz=46
TCUT Toone Canyon 46.63 75 *e*P **P 18 35 09.9 +0.8**
CTU Camp Tracy 46.67 75 *e*P **P 18 35 10.1 +0.6**
comp=Z,17nm,1.1s,mb4.9
TIA Tai'an 46.77 277 ⇑ P **P 18 35 09.8 -0.4**
PDAR Pinedale Array 46.77 72 P **P 18 35 10.7 +0.4**
comp=Z,13nm,0.6s,mb5.0,baz=302,slow=3.5,SNR=90
PDAR LR LR 18 52 21.3
comp=Z,419nm,20.2s,MS4.4,baz=314,slow=33
GSC Goldstone 46.89 84 ⇓ P **P 18 35 10.5 -0.7**
baz=47,SNR=7.4
NLU North Lily Min 46.92 76 *e*P **P 18 35 12.0 +0.6**
FMP Fort Macarthur 46.99 87 ⇑ P **P 18 35 11.5 -0.4**
baz=47
DAU Daniels Canyon 47.14 75 *e*P **P 18 35 14.1 +1.0**
MPU Maple Canyon 47.15 76 *e*P **P 18 35 13.6 +0.4**
comp=Z,5.5nm,0.7s,mb4.6
MOY Mondy 47.22 303 *e*P **P 18 35 14.3 +0.6**
MOY pmax pmax
comp=Z,52nm,1.5s,mb5.2
HHC Hu-ho-hao-te 47.34 286 *e*P **P 18 35 15.0 +0.4**
HHC AP pP 18 35 27.0 -0.8
HHC XP sP 18 35 32.9 -0.6
HHC PP PP 18 37 04.5 -1.5
HHC SCP ScP 18 40 35.6 +0.8
HHC S **S 18 42 05.2 +0.4**
HHC SCS ScS 18 45 03.6 -0.7
HHC SS SS 18 45 23.7 -9.1
HHC AMB AMB
comp=Z,22nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,245nm,13.7s
HHC LR LR
comp=N,330nm,19.0s,MS4.6
HHC LR LR
comp=E,558nm,21.4s,MS4.6
HHC LR LR
comp=Z,467nm,23.8s,MS4.4
TUQ Turquoise Mtn. 47.35 84 ⇓ P **P 18 35 14.2 -0.6**
baz=47
V11A Goodsprings 47.40 83 ⇑ P **P 18 35 15.2 0.0**
baz=47
SSE Sheshan 47.57 269 P **P 18 35 15.6 -0.9**
SSE AMB AMB
comp=Z,25nm,0.9s,mb5.2
SSE AMB AMB
comp=Z,177nm,10.0s
U12A Valley of Fire 47.58 82 ⇑ P **P 18 35 16.4 -0.2**
baz=47
CCUT Cedar City 47.61 80 *e*P **P 18 35 15.9 -0.8**

MSU Marysvale 47.74 78 *eP* **P 18 35 18.5 +0.7**
V12A Nelson 47.84 83 ⇑P **P 18 35 18.4 -0.2**
baz=48
TMUT Trail Mountain 47.85 76 *eP* **P 18 35 19.5 +0.9**
PFO Pinyon Flat Ob 48.20 86 ⇓P **P 18 35 20.9 -0.4**
baz=48
109C Camp Elliot, M 48.27 87 ⇑P **P 18 35 21.5 -0.4**
baz=48
SRU San Rafael 48.38 76 *eP* **P 18 35 23.1 +0.4**
SRU pmax pmax
comp=Z,12nm,0.6s,mb5.1
SRU San Rafael 48.38 76 *eP* **P 18 35 23.1 +0.3**
comp=Z,12nm,0.6s,mb5.1
NJ2 Nanjing 48.40 271 *eP* **P 18 35 22.1 -0.7**
NJ2 AP pP 18 35 37.1 +1.0
NJ2 PP PP 18 37 14.8 -0.9
NJ2 S **S** **18 42 18.0 -1.9**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
NJ2 AMB AMB
comp=Z,170nm,7.9s
NJ2 LR LR
comp=N,630nm,11.0s
NJ2 LR LR
comp=E,660nm,17.1s
NJ2 LR LR
comp=Z,110nm,17.4s
BTO Baotou 48.42 286 *eP* **P 18 35 23.3 +0.3**
RWWY Rawlins 48.81 71 *eP* **P 18 35 25.8 -0.3**
comp=Z,13nm,0.9s,mb5.0
KRAR Krasnoyarsk 48.90 312 ⇑*i*P **P 18 35 25.9 -0.8**
RSSD Black Hills 49.22 67 *eP* **P 18 35 28.5 -0.7**
RSSD pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
RSSD Black Hills 49.22 67 *eP* **P 18 35 28.5 -0.7**
comp=Z,5.6nm,0.8s,mb4.7
W14A Seligman 49.27 82 ⇓P **P 18 35 29.0 -0.5**
baz=49,SNR=5.7
Y12C Blythe 49.32 84 ⇓P **P 18 35 29.2 -0.7**
baz=49
GLA Glamis 49.59 85 ⇑P **P 18 35 31.5 -0.5**
baz=50,SNR=7.4
W15A Williams 49.80 81 ⇑P **P 18 35 33.3 -0.2**
baz=50
X14A Yava 49.87 83 ⇑P **P 18 35 33.8 -0.3**
baz=50,SNR=7.5
KBS Kingsbay 49.97 357 *eP* **P 18 35 34.3 -0.6**
KBS Kingsbay 49.97 357 *eP* **P 18 35 34.2 -0.6**
comp=Z,26nm,0.6s,mb5.4
WUAZ Wupatki 50.14 80 *eP* **P 18 35 36.1 0.0**
comp=Z,12nm,0.7s,mb5.0
ULM Lac du Bonnet 50.14 56 LR LR 18 56 21.2
comp=Z,357nm,20.0s,MS4.4,baz=295,slow=36
Y14A Wickenburg 50.15 83 P **P 18 35 36.0 -0.2**
baz=50,SNR=5.1
X15A Humboldt 50.27 82 ⇑P **P 18 35 37.2 +0.1**
baz=50,SNR=8.3
SMCO Snowmass 50.50 74 *eP* **P 18 35 38.7 -0.2**
comp=Z,3.7nm,0.6s,mb4.5
SPB4 Spitsbergen Ar 50.54 356 *eP* **P 18 35 38.1 -1.0**
Z14A Wintersburg 50.57 84 ⇓P **P 18 35 38.7 -0.7**
baz=50
MVCO Mesa Verde 50.82 77 *eP* **P 18 35 41.4 +0.2**
ISCO Idaho Springs 50.93 72 *eP* **P 18 35 42.7 +0.6**
ISCO pmax pmax
comp=Z,13nm,1.2s,mb4.7
ISCO Idaho Springs 50.93 72 *eP* **P 18 35 42.7 +0.6**
comp=Z,13nm,1.2s,mb4.7
115A Sonoran Desert 51.46 84 ⇑P **P 18 35 45.6 -0.5**
baz=51,SNR=5.1
XAN Xi'an 53.28 281 P **P 18 35 58.6 -1.0**
XAN AMB AMB
comp=Z,12nm,1.2s,mb4.7
LAZ Ladron 53.49 79 *eP* **P 18 36 01.9 +0.9**
QZH Quanzhou 53.51 265 ⇓*i*P **P 18 36 02.1 +0.9**
QZH AMB AMB
comp=Z,80nm,0.9s,mb5.7
ANMO Albuquerque 53.54 78 P **P 18 36 02.1 +0.6**
comp=Z,3.3nm,1.0s,mb4.2,baz=315,slow=8.0,SNR=8.7
ANMO Albuquerque 53.54 78 P **P 18 36 02.1 +0.6**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO Albuquerque 53.54 78 *eP* **P 18 36 01.2 -0.3**
comp=Z,9.2nm,1.3s,mb4.5
Y22C IRIS PASSCAL I 53.84 79 ⇓P **P 18 36 03.6 -0.1**
baz=54
LPM Los Pinos Moun 53.86 78 *eP* **P 18 36 04.0 +0.2**
ZAL Zalesovo 53.87 313 P **P 18 36 03.2 -0.7**
comp=Z,2.1nm,0.4s,mb4.4,baz=54,slow=5.5,SNR=7.3
ZAL PcP PcP 18 37 10.7 +1.7
comp=Z,3.7nm,0.7s,baz=118,slow=5.3,SNR=6.3
ZAL LR LR 19 01 11.3
comp=Z,617nm,19.1s,MS4.7,baz=58,slow=38
ZAL Zalesovo 53.87 313 P **P 18 36 03.2 -0.7**
ZAL 18 37 10.7
BNM Barren Site 53.97 78 *eP* **P 18 36 05.1 +0.5**
NVS Novosibirsk 54.01 315 *eP* **P 18 36 04.4 -0.5**
NVS *e* 18 37 09.9
NVS *e* 18 45 52.8
NVS pmax pmax
comp=Z,12nm,0.8s,mb4.9
NVS pmax pmax
comp=N,7.0nm,0.9s
LZH Lanzhou 55.03 286 *eP* **P 18 36 12.5 +0.2**
LZH AP pP 18 36 25.5 -0.3
LZH XP sP 18 36 30.5 -0.9
LZH PP PP 18 38 17.3 +1.5
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,170nm,4.2s
GTA Gaotai 55.25 291 P **P 18 36 14.5 +0.6**
GTA AP pP 18 36 27.4 +0.1
GTA XP sP 18 36 32.3 -0.6
GTA PCP PcP 18 37 15.3 +1.0
GTA PP PP 18 38 19.1 +1.4
GTA S **S** **18 43 53.1 -0.8**
GTA XS sS 18 44 14.4 -2.1
GTA SS SS 18 47 38.5 -0.1
GTA AMB AMB
comp=Z,28nm,1.2s,mb5.2
GTA AMB AMB
comp=Z,146nm,6.8s
GTA LR LR
comp=N,397nm,19.0s,MS4.6
GTA LR LR
comp=E,303nm,16.4s,MS4.6
GTA LR LR
comp=Z,343nm,19.0s,MS4.5
KEV Kevo 57.83 349 *ep* **P 18 36 30.5 -1.7**
JMIC Jan Mayen 57.96 3 LR LR 19 05 25.0
comp=Z,174nm,18.8s,MS4.2,baz=96,slow=40
ARCES ARCESS Array B 58.21 350 P **P 18 36 33.8 -1.1**
comp=Z,5.8nm,0.6s,mb4.8,baz=25,slow=6.7,SNR=41
ARCES LR LR 19 06 41.5
comp=Z,347nm,18.3s,MS4.5,baz=2.7,slow=41
LVZ Lovozero 58.52 346 ⇑*eP* **P 18 36 36.6 -0.5**
LVZ MLR MLR
comp=Z,625nm,19.0s,MS4.8
LVZ MLR MLR
comp=N,321nm,16.0s
LVZ MLR MLR
comp=Z,266nm,17.0s
CD2 Chengdu 58.60 281 P **P 18 36 37.3 -0.3**
CD2 AP pP 18 36 49.3 -1.9
CD2 XP sP 18 36 55.9 -0.8
CD2 PCP PcP 18 37 26.9 -0.5
CD2 PP PP 18 38 47.4 -0.2
CD2 SCP ScP 18 41 22.0 -1.7
CD2 PCS PcS 18 41 26.8 -2.3
CD2 S **S** **18 44 37.0 -1.2**
CD2 XS sS 18 44 57.8 -3.0
CD2 SCS ScS 18 46 19.5 -3.7
CD2 SS SS 18 48 31.1 -0.3
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
CD2 AMB AMB
comp=Z,110nm,7.2s
CD2 LR LR
comp=N,180nm,10.2s
CD2 LR LR
comp=Z,240nm,10.8s,MS4.6
TRO Tromso 58.74 353 *eP* **P 18 36 36.7 -1.9**
TRO AMb AMB 18 36 38.0
comp=Z,17nm,0.7s,mb5.2
TRO Tromso 58.74 353 *eP* **P 18 36 36.7 -1.9**
comp=Z,17nm,0.7s,mb5.2
KURK Kurchatov 58.85 313 P **P 18 36 39.6 +0.3**
SNR=12
KURK Kurchatov 58.85 313 *eP* **P 18 36 38.9 -0.4**
KURK pmax pmax
comp=Z,35nm,0.6s,mb5.6
KURK Kurchatov 58.85 313 *eP* **P 18 36 38.9 -0.4**
comp=Z,35nm,0.6s,mb5.6
APA Apatity 59.02 346 *eP* **P 18 36 40.0 -0.5**
APA pmax pmax
comp=Z,13nm,1.0s,mb4.9
APA MLR MLR
comp=Z,800nm,20.0s,MS4.8
WMQ Urumqi 59.09 303 P **P 18 36 43.3 +2.3**
WMQ AP pP 18 36 56.0 +1.4
WMQ XP sP 18 37 01.3 +1.2
WMQ PP PP 18 38 55.9 +4.0
WMQ AMB AMB
comp=Z,32nm,2.0s,mb5.0
WMQ AMB AMB
comp=Z,141nm,5.5s
WMQ LR LR
comp=N,746nm,21.0s,MS4.9
WMQ LR LR
comp=E,559nm,19.9s,MS4.9
WMQ LR LR
comp=Z,746nm,21.5s,MS4.8
LTX Lajitas 59.10 81 *eP* **P 18 36 40.1 -1.0**
LTX pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LTX Lajitas 59.10 81 *eP* **P 18 36 40.1 -1.0**
comp=Z,5.8nm,0.8s,mb4.7
MKAR Makanchi Array 59.82 308 P **P 18 36 45.5 -0.6**
comp=Z,7.0nm,0.5s,mb5.0,baz=60,slow=5.1,SNR=30
GYA Guiyang 59.92 276 ⇑*i*P **P 18 36 46.1 -0.6**
GYA AP pP 18 36 58.8 -1.5
GYA XP sP 18 37 04.2 -1.7
GYA PP PP 18 38 59.8 +0.5
GYA S **S** **18 44 51.2 -4.1**
GYA XS sS 18 45 12.7 -5.3
GYA SS SS 18 48 48.4 -3.7
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,110nm,4.6s
GYA LR LR
comp=N,410nm,18.6s,MS4.7
GYA LR LR
comp=E,390nm,18.4s,MS4.7
GYA LR LR
comp=Z,420nm,18.9s,MS4.6
SCHQ Schefferville 60.42 38 P **P 18 36 48.6 -1.5**
comp=Z,6.7nm,0.6s,mb4.8,baz=330,slow=7.3,SNR=12
SCHQ Schefferville 60.42 38 *eP* **P 18 36 48.8 -1.4**
comp=Z,10.0nm,0.8s,mb4.9
CCM Cathedral Cave 60.50 65 *eP* **P 18 36 49.1 -1.6**
CCM pmax pmax
comp=Z,5.0nm,0.5s,mb4.9
CCM Cathedral Cave 60.50 65 *eP* **P 18 36 49.1 -1.6**
comp=Z,4.6nm,0.5s,mb4.9
JCT Junction City 60.68 77 *eP* **P 18 36 50.8 -1.1**
JCT pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
JCT Junction City 60.68 77 *eP* **P 18 36 50.8 -1.2**
comp=Z,5.9nm,0.6s,mb4.9
BVAR Borovoye Array 60.76 319 P **P 18 36 51.5 -1.0**
comp=Z,10.0nm,0.7s,mb5.1,baz=54,slow=6.3,SNR=54
BVAR LR LR 19 04 59.6
comp=Z,709nm,20.6s,MS4.8,baz=322,slow=38
BRVK Borovoye 60.78 320 P **P 18 36 53.0 +0.4**
SNR=14
BRVK Borovoye 60.78 320 *eP* **P 18 36 51.6 -1.0**
BRVK pmax pmax
comp=Z,24nm,1.2s,mb5.2
BRVK Borovoye 60.78 320 *eP* **P 18 36 51.6 -1.0**
comp=Z,24nm,1.2s,mb5.2
FVM French Village 61.02 65 *eP* **P 18 36 52.6 -1.6**
FVM pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
FVM French Village 61.02 65 *eP* **P 18 36 52.6 -1.6**
comp=Z,7.4nm,0.5s,mb5.1
ZRNK Zerenda 61.38 320 *eP* **P 18 36 55.4 -1.3**
ZRNK pmax pmax
comp=Z,26nm,1.0s,mb5.3
ZRNK Zerenda 61.38 320 *eP* **P 18 36 55.4 -1.2**
comp=Z,26nm,1.0s,mb5.3
SVE Sverdlovsk 61.53 327 *eP* **P 18 36 58.0 +0.3**
SVE *e* 18 37 36.0
SVE MLR MLR
comp=N,400nm,18.0s,MS4.8
SVE MLR MLR
comp=E,400nm,18.0s,MS4.8
SVE MLR MLR
comp=Z,600nm,18.0s,MS4.8
MIAR Mount Ida 61.59 69 *eP* **P 18 36 57.6 -0.5**
MIAR pmax pmax
comp=Z,39nm,1.2s,mb5.4
MIAR Mount Ida 61.59 69 *eP* **P 18 36 57.6 -0.4**
comp=Z,39nm,1.2s,mb5.4
BLO Bloomington 62.37 61 *eP* **P 18 37 03.0 -0.3**
BLO pmax pmax
comp=Z,28nm,1.0s,mb5.3
BLO Bloomington 62.37 61 *eP* **P 18 37 03.0 -0.4**
comp=Z,28nm,1.0s,mb5.3
MOR8 Moi Rana 62.49 354 *eP* **P 18 37 02.2 -1.9**
MOR8 AMb AMB 18 37 03.2
comp=Z,10nm,0.7s,mb5.1
MOR8 Moi Rana 62.49 354 *eP* **P 18 37 02.2 -1.9**
comp=Z,10nm,0.7s,mb5.1
ARU Arti 62.54 328 *eP* **P 18 37 04.0 -0.5**
ARU *e* pP 18 37 21.2 +3.1
ARU *e* 18 37 42.7
ARU *e* 18 39 24.2
ARU *e*PPP 18 40 52.7
ARU *e*S **S** **18 45 28.6 +0.1**
ARU *e*SS SS 18 49 34.8 +1.6
ARU MLR MLR
comp=Z,400nm,20.0s,MS4.6
ARU MLR MLR
comp=N,300nm,19.0s,MS4.5
ARU MLR MLR
comp=E,200nm,22.0s,MS4.5
ARU Arti 62.54 328 *eP* **P 18 37 03.8 -0.6**
comp=E,11nm,0.6s,mb5.2
USIN University of 62.59 63 *eP* **P 18 37 03.8 -1.0**
comp=E,30nm,0.6s,mb5.6
WCI Wyandotte Cave 63.17 62 *eP* **P 18 37 08.5 -0.1**
WCI pmax pmax
comp=Z,13nm,0.8s,mb5.1
WCI Wyandotte Cave 63.17 62 *eP* **P 18 37 08.5 -0.1**
comp=Z,13nm,0.8s,mb5.1
KMI Kunming 63.33 278 P **P 18 37 09.1 -0.6**
KMI AP pP 18 37 23.7 +0.3
KMI XP sP 18 37 28.7 -0.2
KMI PP PP 18 39 31.7 +2.3
KMI S **S** **18 45 37.5 -0.9**
KMI XS sS 18 46 00.8 -0.5
KMI SS SS 18 49 45.2 -0.4
KMI AMB AMB
comp=Z,14nm,1.1s,mb5.0
KMI AMB AMB
comp=Z,137nm,5.9s
KMI LR LR
comp=N,172nm,24.4s
KMI LR LR
comp=E,198nm,18.6s
KMI LR LR
comp=Z,237nm,19.5s,MS4.4
QIZ Qiongzhong 63.34 267 *eP* **P 18 37 09.0 -0.7**
QIZ S **S** **18 45 38.4 0.0**
QIZ XS sS 18 45 56.1 -5.2
QIZ SS SS 18 49 47.1 +1.5
QIZ AMB AMB
comp=Z,16nm,1.5s,mb4.9
JOF Joensuu 63.67 345 *ep* **P 18 37 10.0 -2.0**
WVT Waverly 63.79 64 *eP* **P 18 37 11.7 -1.1**
WVT pmax pmax
comp=Z,15nm,1.2s,mb4.9
WVT Waverly 63.79 64 *eP* **P 18 37 11.7 -1.1**
comp=Z,15nm,1.2s,mb4.9
KLMR Klimovskoe 64.01 340 *eP* **P 18 37 13.6 -0.6**
KLMR pmax pmax
comp=Z,40nm,1.1s,mb5.4
OXF Oxford 64.04 67 *eP* **P 18 37 14.9 +0.5**
OXF pmax pmax
comp=Z,54nm,0.9s,mb5.6
OXF Oxford 64.04 67 *eP* **P 18 37 14.9 +0.6**
comp=Z,54nm,0.9s,mb5.6
PLAL Pickwick Lake 64.47 65 *eP* **P 18 37 16.3 -0.9**
comp=Z,9.9nm,0.6s,mb5.0
KAF Kangasniemi 65.20 347 *ep* **P 18 37 20.1 -1.9**
comp=Z,27nm,0.7s,mb5.4,baz=15,slow=6.0
KAF Kangasniemi 65.20 347 *eP* **P 18 37 20.1 -1.9**
KAF pmax pmax
comp=Z,27nm,0.7s,mb5.4
FINES FINESS Array B 65.88 347 P **P 18 37 24.9 -1.4**
comp=Z,18nm,0.9s,mb5.1,baz=28,slow=8.6,SNR=58
FINES LR LR 19 11 47.1
comp=Z,397nm,18.7s,MS4.7,baz=20,slow=41
TZTN Tazewell 65.89 61 *eP* **P 18 37 26.3 -0.1**
TKM2 Tokmak 2 65.91 309 P **P 18 37 27.9 +1.4**
SNR=23
SSPA Standing Stone 65.92 55 *eP* **P 18 37 25.9 -0.7**
comp=Z,9.8nm,1.0s,mb4.8
ULHL Ulahol 66.10 308 P **P 18 37 29.9 +2.2**
SNR=6.2
CPCT Cooper Cave 66.15 63 *eP* **P 18 37 27.3 -0.7**
USP Ospenovka 66.19 310 P **P 18 37 29.8 +1.5**
SNR=43
CHMS Chumysh 66.26 310 P **P 18 37 30.1 +1.3**
SNR=15
KBK Karagaybulak 66.42 309 P **P 18 37 31.3 +1.5**
SNR=28
FRU Bishkek 66.45 309 *i*P **P 18 37 31.5 +1.5**
FRU *e* pP 18 37 46.0 +2.2
FRU pmax pmax
comp=Z,110nm,1.9s,mb5.6
LRAL Lakeview Retre 66.50 66 *eP* **P 18 37 29.4 -0.9**
comp=Z,9.2nm,0.8s,mb4.9
FWV Forest Hill 66.63 59 *eP* **P 18 37 30.9 -0.2**
AAK Ala-Archa 66.66 309 P **P 18 37 32.8 +1.4**
SNR=15
AAK Ala-Archa 66.66 309 P **P 18 37 31.3 -0.1**
SNR=20
AAK Ala-Archa 66.66 309 *eP* **P 18 37 31.7 +0.4**
AAK pmax pmax
comp=Z,33nm,1.0s,mb5.3
AAK Ala-Archa 66.66 309 *eP* **P 18 37 31.7 +0.4**
comp=Z,33nm,1.0s,mb5.3
KZA Kyzart 66.71 309 P **P 18 37 32.9 +1.2**
SNR=20
ELN Prospectdale 66.92 59 P **P 18 37 31.7 -1.3**
UCH Uchtor 66.96 309 P **P 18 37 35.1 +1.9**
SNR=22
EKS2 Erkin-Say 66.99 310 P **P 18 37 35.0 +1.6**
SNR=37
BLA Blacksburg 67.11 59 P **P 18 37 32.7 -1.5**
BLA pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
BLA Blacksburg 67.11 59 P **P 18 37 32.7 -1.5**
comp=Z,0.5nm,0.7s
AKTK Aktyubinsk 67.60 324 P **P 18 37 36.7 -0.6**
AKTO Aktyubinsk 67.60 324 P **P 18 37 36.7 -0.6**
comp=Z,6.4nm,0.5s,mb5.0,baz=60,slow=9.0,SNR=43
NB2 NORSAR Subarra 67.80 354 P **P 18 37 37.6 -0.9**
comp=Z,44nm,1.2s,mb5.4,baz=5.4,slow=6.5
NOA NORSAR Array B 67.80 354 P **P 18 37 37.5 -1.0**
comp=Z,12nm,0.9s,mb4.9,baz=6.3,slow=6.3,SNR=34
NOA LR LR 19 07 58.7
comp=Z,154nm,20.2s,MS4.2,baz=0.0,slow=36
KSH Kashi 68.28 306 ⇑P **P 18 37 43.6 +2.1**
KSH *e*AP pP 18 37 56.0 +0.7
KSH *e*XP sP 18 38 02.4 +1.6
KSH *e*PCP PcP 18 38 08.7 +1.8
KSH *e*PP PP 18 40 16.6 +4.1
KSH *e*SCP 18 42 07.4
KSH *e*PCS 18 42 16.1
KSH *e*S S 18 46 38.0 -0.6
KSH *e*XS sS 18 47 01.1 -0.7
KSH *e*SCS ScS 18 47 35.6 -1.3
KSH AMB AMB
comp=Z,134nm,1.1s,mb5.9
KSH LR LR
comp=N,341nm,6.0s
KSH LR LR
comp=E,723nm,5.7s
KSH LR LR
comp=Z,834nm,14.2s,MS5.1
TAOE Nuku Hiva Isla 68.76 138 *e*LR LR 18 58 07.5
comp=Z,2µm,20.5s,baz=333
MOS Moscow 69.08 339 ⇓*i*P **P 18 37 45.3 -1.3**
MOS *e* 18 38 09.3
MOS pmax pmax
comp=Z,82nm,0.6s,mb5.8
KONO Kongsberg 69.28 355 ⇑*i*P **P 18 37 47.9 +0.1**
KONO Kongsberg 69.28 355 *eP* **P 18 37 46.6 -1.1**
comp=Z,22nm,1.0s,mb5.2
OBN Obninsk 69.90 339 *de*P **P 18 37 50.8 -0.8**
OBN pmax pmax
comp=Z,55nm,1.2s,mb5.4
OBN MLR MLR
comp=Z,800nm,19.0s,MS5.0
GUN Gumba 71.54 292 *eP* **P 18 38 02.8 +1.3**
comp=Z,151nm,0.5s
JIRN Jiri 71.54 291 *eP* **P 18 38 02.9 +1.3**
comp=Z,98nm,0.6s,mb5.9
KKN Kakani 71.98 292 *eP* **P 18 38 05.2 +1.0**
comp=Z,52nm,0.6s,mb5.7
PKI Pulchoki 72.07 292 *eP* **P 18 38 06.3 +1.6**
GKN Gorkha 72.19 293 *eP* **P 18 38 06.2 +0.7**
comp=Z,57nm,0.6s,mb5.7
DMN Daman 72.21 292 *eP* **P 18 38 06.7 +1.1**
comp=Z,50nm,0.9s,mb5.4
MUD Monsted U'grnd 72.49 355 ⇓*i*P **P 18 38 07.9 +0.7**
comp=Z,42nm,1.3s,mb5.2
MUD Monsted U'grnd 72.49 355 ⇓*i*P **P 18 38 07.9 +0.7**
MUD pmax pmax
comp=Z,42nm,1.3s,mb5.2
KOLN Koldanda 72.97 293 *eP* **P 18 38 10.8 +0.7**
PPT Papeete 73.30 150 *e*LR LR 19 00 04.4
comp=Z,840nm,28.2s,baz=353
PPT Papeete 73.30 150 LR LR 19 07 01.3
comp=Z,363nm,19.0s,MS4.7,baz=177,slow=33
BSEG Bad Segeberg 74.93 354 *eP* **P 18 38 21.6 +0.1**
comp=Z,40nm,0.9s,mb5.3
AKASG Malin Array Be 75.60 342 P **P 18 38 24.6 -0.8**
comp=Z,30nm,0.5s,mb5.5,baz=20,slow=6.3,SNR=115
DCN Croghan 75.64 5 *eP* **P 18 38 23.7 -1.9**
DLF Lyons Farm 75.72 4 *eP* **P 18 38 24.1 -2.0**
RUE Ruedersdorf 76.11 352 *eP* **P 18 38 27.8 -0.5**
comp=Z,36nm,1.1s,mb5.2
WIT Witteveen 76.25 356 *eP* **P 18 38 29.8 +0.8**
comp=Z,118nm,1.1s,mb5.7
IBBN Ibbenburen 76.70 355 *eP* **P 18 38 31.7 0.0**
CLZ Clausthal 77.01 354 *eP* **P 18 38 33.5 +0.1**
comp=Z,34nm,0.8s,mb5.3
CLZ Clausthal 77.01 354 *eP* **P 18 38 33.5 +0.1**
CLZ pmax pmax
comp=Z,34nm,0.8s,mb5.3
CTA Charters Tower 77.09 213 P **P 18 38 32.6 -1.2**
comp=Z,4.9nm,0.9s,mb4.4,baz=26,slow=8.3,SNR=5.9
CTAO Charters Tower 77.09 213 *eP* **P 18 38 33.2 -0.6**
CTAO pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CTAO Charters Tower 77.09 213 *eP* **P 18 38 33.2 -0.7**
comp=Z,4.6nm,0.9s,mb4.4
WTSB Winterswijk 77.09 356 ⇑*eP* **P 18 38 33.4 -0.4**
comp=Z,22nm,1.4s,mb4.9
GOF Gofitskoye 77.33 331 *eP* **P 18 38 35.0 -0.2**
GOF pmax pmax
comp=Z,60nm,1.3s,mb5.4
CLL Collm 77.34 352 *eP* **P 18 38 34.3 -0.9**
comp=Z,16nm,0.7s,mb5.1
CLL Collm 77.34 352 P **P 18 38 34.4 -0.8**
comp=Z,logA/T=1.4,mb5.1
CLL Collm 77.34 352 *i*P **P 18 38 34.4 -0.8**
CLL pmax pmax
comp=Z,16nm,0.7s,mb5.1
CLL MLR MLR
comp=Z,300nm,16.9s,MS4.7
CLL Collm 77.34 352 *i*P **P 18 38 34.4 -0.8**
comp=Z,16nm,0.7s,mb5.1
CLL LR LR
comp=Z,300nm,16.9s,MS4.7
LVV L'vov 77.40 345 *eP* **P 18 38 35.9 +0.3**
BUG Bochum--Univer 77.59 356 *eP* **P 18 38 36.2 -0.4**
OJC Ojcow 77.65 347 *eP* **P 18 38 36.6 -0.4**
BRG Berggiesshubel 77.68 351 *eP* **P 18 38 36.3 -0.8**
comp=Z,14nm,0.7s,mb5.0
BRG Berggiesshubel 77.68 351 *i*P **P 18 38 36.4 -0.8**
comp=Z,8.3nm,0.8s,mb4.7

BRG
comp=N,142nm,22.9s
BRG
comp=E,47nm,16.6s
BRG
comp=Z,134nm,18.6s
BRG Berggiesshubel 77.68 351 *i* P **P** **18 38 36.4 -0.7**
BRG pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BRG MLR MLR
comp=N,142nm,22.9s
BRG MLR MLR
comp=E,47nm,16.6s
BRG MLR MLR
comp=Z,134nm,18.6s,MS4.3
KWP Kalwaria 77.79 345 *e*P **P** **18 38 37.7 -0.1**
KWP pmax pmax
comp=Z,121nm,0.5s
KWP Kalwaria 77.79 345 *e*P **P** **18 38 37.7 0.0**
comp=Z,121nm,0.5s
DPC Dobruska-Polom 77.95 350 *e*P **P** **18 38 38.6 0.0**
PVCC Panska Ves 77.96 351 *e*P **P** **18 38 38.6 -0.1**
UBBA Unterbreizbach 78.05 354 *e*P **P** **18 38 39.0 -0.2**
MOX Moxa 78.11 353 *e*P **P** **18 38 39.1 -0.4**
comp=Z,16nm,1.0s,mb4.9
MOX Moxa 78.11 353 *e*P **P** **18 38 39.0 -0.5**
comp=Z,18nm,0.9s,mb5.0
MOX Moxa 78.11 353 *e*P **P** **18 38 39.0 -0.5**
MOX pmax pmax
comp=Z,18nm,0.9s,mb5.0
STHS Stebnicka Huta 78.23 346 *e*P **P** **18 38 40.7 +0.5**
STHS pmax pmax
comp=Z,23nm,0.9s,mb5.1
STHS Stebnicka Huta 78.23 346 *e*P **P** **18 38 40.7 +0.5**
comp=Z,23nm,0.9s,mb5.1
OKC Ostrava-Krasne 78.24 348 *e*P **P** **18 38 40.3 +0.1**
TANN Tannenbergstha 78.27 352 *e*P **P** **18 38 40.1 -0.3**
HGN Heimansgroeve 78.32 356⇓ *e*P **P** **18 38 40.3 -0.4**
comp=Z,31nm,1.0s,mb5.2
NIE Niedzica 78.36 347 *e*P **P** **18 38 41.4 +0.5**
MORC Moravsky Berou 78.37 349⇓ *i*P **P** **18 38 40.8 -0.2**
MORC Moravsky Berou 78.37 349 *e*P **P** **18 38 40.2 -0.7**
comp=Z,9.9nm,0.9s,mb4.7
KIV Kislovodsk 78.43 330 *e*P **P** **18 38 41.5 +0.2**
KIV pmax pmax
comp=Z,17nm,1.1s,mb4.9
KIV MLR MLR
comp=Z,403nm,20.0s,MS4.8
KIV Kislovodsk 78.43 330 *e*P **P** **18 38 41.3 0.0**
comp=Z,13nm,0.9s,mb4.9
NKC Novy Kostel 78.45 352 *e*P **P** **18 38 41.0 -0.4**
KOLS Kolonicke sedl 78.54 346 *e*P **P** **18 38 42.1 +0.2**
KOLS pmax pmax
comp=Z,17nm,1.0s,mb4.9
KOLS Kolonicke sedl 78.54 346 *e*P **P** **18 38 42.1 +0.2**
comp=Z,17nm,1.0s,mb4.9
MENF Mencas 78.62 359 *e*P **P** **18 38 42.8 +0.4**
CRVS Cervenica-Dubn 78.69 346 *e*P **P** **18 38 42.9 +0.1**
CRVS pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
CRVS Cervenica-Dubn 78.69 346 *e*P **P** **18 38 42.9 +0.1**
comp=Z,7.3nm,0.7s,mb4.7
MANZ Manzenberg 78.72 352 *e*P **P** **18 38 42.5 -0.4**
TNS Taunus Mts 78.75 355 *e*P **P** **18 38 42.7 -0.3**
TBI Tubuai 78.78 152 *e*LR LR 19 02 40.6
comp=Z,608nm,21.5s,baz=344
LIKS Likavka 78.89 348 *e*P **P** **18 38 42.6 -1.2**
LIKS pmax pmax
comp=Z,24nm,0.7s,mb5.2
LIKS Likavka 78.89 348 *e*P **P** **18 38 42.6 -1.2**
comp=Z,24nm,0.7s,mb5.2
VRAC Vranov 78.95 349⇓ *i*P **P** **18 38 43.9 -0.2**
VRAC Vranov 78.95 349⇓ P **18 38 43.9 -0.3**
BAIF Baives 79.08 358⇑ *i*P **P** **18 38 44.6 -0.3**
comp=Z,30nm,0.7s,mb5.1
BAIF Baives 79.08 358⇑ *i*P **P** **18 38 44.6 -0.3**
BAIF pmax pmax
comp=Z,15nm,0.6s,mb5.1
BAIF Baives 79.08 358⇑ *i*P **P** **18 38 44.6 -0.3**
comp=Z,15nm,0.6s,mb5.1
TREC Trest 79.08 350 *e*P **P** **18 38 44.3 -0.6**
GRA1 Grafenberg Arr 79.09 353 *e*P **P** **18 38 45.0 +0.1**
comp=Z,32nm,0.9s,mb5.2
GRF Grafenberg Arr 79.09 353 *e*P **P** **18 38 45.0 +0.1**
comp=Z,32nm,0.9s,mb5.2
GRF Grafenberg Arr 79.09 353 *e*P **P** **18 38 45.0 +0.1**
GRF pmax pmax
comp=Z,32nm,0.9s,mb5.2
GRF Grafenberg Arr 79.09 353 *e*P **P** **18 38 45.0 +0.1**
GRF pmax pmax
comp=Z,32nm,0.9s,mb5.2
ZEI Tsey 79.11 329 *e*P **P** **18 38 45.7 +0.7**
ZEI pmax pmax
comp=Z,14nm,0.5s,mb5.2
KECS Kecovo 79.25 347 *i*P **P** **18 38 45.7 -0.1**
KECS *e* pP 18 38 56.8 -3.1
KECS pmax pmax
comp=Z,11nm,0.9s,mb4.8
KECS Kecovo 79.25 347 *i*P **P** **18 38 45.7 -0.1**
comp=Z,11nm,0.9s,mb4.8
KECS *e* pP 18 38 56.8 -3.1
BURAR Bucovina Array 79.32 343⇓ *i*P **P** **18 38 46.3 +0.1**
BURAR Bucovina Array 79.32 343⇓ P **18 38 46.3 +0.1**
RUP Ruppelstein 79.34 356 *e*P **P** **18 38 46.7 +0.4**
TOD Tromm 79.34 355 *e*P **P** **18 38 46.4 +0.1**
WLF Walferdange 79.41 356 *e*P **P** **18 38 46.7 0.0**
WLF Walferdange 79.41 356 *e*P **P** **18 38 46.6 -0.1**
WLF pmax pmax
comp=Z,15nm,0.9s,mb4.9
WLF Walferdange 79.41 356 *e*P **P** **18 38 46.6 -0.1**
comp=Z,15nm,0.9s,mb4.9
KHC Kasperske Hory 79.44 351 *e*P **P** **18 38 46.7 -0.1**
VYHS Vyhne 79.47 348 *i*P **P** **18 38 46.8 -0.2**
VYHS *e* pP 18 39 02.9 +1.8
VYHS Vyhne 79.47 348 *i*P **P** **18 38 46.9 -0.1**
VYHS *e* pP 18 39 02.9 +1.8
VYHS pmax pmax
comp=Z,11nm,1.1s,mb4.7
VYHS Vyhne 79.47 348 *i*P **P** **18 38 46.9 -0.1**
comp=Z,11nm,1.1s,mb4.7
VYHS *e* pP 18 39 02.9 +1.8
WET Wettzell 79.49 352 *e*P **P** **18 38 47.0 -0.1**
comp=Z,15nm,1.3s,mb4.8
WET Wettzell 79.49 352 *e*P **P** **18 38 47.0 -0.1**
WET pmax pmax
comp=Z,15nm,1.3s,mb4.8
SMOL Smolenice 79.63 349 *e*P **P** **18 38 48.2 +0.3**
GEC2 GERESS Array S 79.71 351 *e*P **P** **18 38 47.9 -0.4**
comp=Z,12nm,0.7s,mb4.9
GEC2 GERESS Array S 79.71 351 *e*P **P** **18 38 47.9 -0.4**
GEC2 pmax pmax
comp=Z,12nm,0.7s,mb4.9
GERES GERESS Array B 79.71 351 P **P** **18 38 47.5 -0.8**
comp=Z,8.4nm,0.5s,mb4.9,baz=24,slow=5.5,SNR=96
PSZ Piszkesteto 79.89 347⇓ *e*P **P** **18 38 50.5 +1.3**
PSZ Piszkesteto 79.89 347 *e*P **P** **18 38 49.9 +0.7**
PSZ pmax pmax
comp=Z,36nm,1.1s,mb5.2
PSZ Piszkesteto 79.89 347 *e*P **P** **18 38 49.9 +0.6**
comp=Z,36nm,1.1s,mb5.2
ZST Bratislava 79.98 349 *e*P **P** **18 38 50.1 +0.3**
ZST pmax pmax
comp=Z,19nm,0.9s,mb5.0
ZST MLR MLR
comp=Z,100nm,19.5s,MS4.2
ZST Bratislava 79.98 349 *e*P **P** **18 38 50.1 +0.3**
comp=Z,19nm,0.9s,mb5.0
ZST LR LR
comp=Z,100nm,19.5s,MS4.2
STU Stuttgart 80.15 354 *e*P **P** **18 38 50.2 -0.4**
CONA Conrad Observa 80.39 350 *i*P **P** **18 38 52.2 +0.2**
comp=Z,19nm,0.9s,mb5.0,SNR=18
BUD Budapest 80.43 347⇓ *e*P **P** **18 38 53.4 +1.2**
DRGR 80.55 345⇓ *i*P **P** **18 38 52.9 +0.1**
DRGR 80.55 345 ⇓P **P** **18 38 52.9 0.0**
FUR Furstenfeldbru 80.60 353 *e*P **P** **18 38 52.9 -0.2**
comp=Z,32nm,1.2s,mb5.1
FUR Furstenfeldbru 80.60 353 *e*P **P** **18 38 52.9 -0.2**
FUR pmax pmax
comp=Z,32nm,1.2s,mb5.1
CDF Champ du Feu 80.61 355⇑ *i*P **P** **18 38 52.6 -0.6**
comp=Z,16nm,0.8s,mb4.7
CDF Champ du Feu 80.61 355⇑ *i*P **P** **18 38 52.6 -0.6**
CDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CDF Champ du Feu 80.61 355⇑ *i*P **P** **18 38 52.6 -0.6**
comp=Z,8.1nm,0.8s,mb4.7
MEZF Maizieres J'vi 80.62 357⇑ *i*P **P** **18 38 52.9 -0.3**
comp=Z,37nm,1.0s,mb5.0
MEZF Maizieres J'vi 80.62 357⇑ *i*P **P** **18 38 52.9 -0.3**
comp=Z,37nm,1.0s,mb5.3
BFO Black Forest 80.64 355 *e*P **P** **18 38 52.9 -0.4**
comp=Z,13nm,1.1s,mb4.8
BFO Black Forest 80.64 355 *e*P **P** **18 38 52.9 -0.4**
BFO pmax pmax
comp=Z,13nm,1.1s,mb4.8
MOA Molln 80.64 351⇑ *i*P **P** **18 38 53.1 -0.2**
comp=Z,7.0nm,0.6s,mb4.8,SNR=8.7
VRI Vrincioaia 80.72 342⇑ *i*P **P** **18 38 54.3 +0.6**
VRI Vrincioaia 80.72 342 ⇑P **P** **18 38 54.3 +0.6**
ECH Echery 80.81 356 *e*P **P** **18 38 54.5 +0.3**
THEF They Montfort 80.86 356 *e*P **P** **18 38 54.9 +0.4**
HAU Haudompre 81.06 356⇑ *i*P **P** **18 38 55.9 +0.3**
HAU *e*R
comp=Z,392nm,20.0s
HAU Haudompre 81.06 356⇑ *i*P **P** **18 38 55.9 +0.3**
HAU LR LR
comp=Z,390nm,20.0s,MS4.8
FELD Feldberg im Sc 81.11 355 *e*P **P** **18 38 55.7 -0.1**
HINF Hinteralfeld 81.23 356⇑ *i*P **P** **18 38 55.6 -0.8**
MLR Muntele Rosu 81.23 342⇓ *i*P **P** **18 38 57.7 +1.3**
WATA Walderalm 81.40 352⇑ *i*P **P** **18 38 57.4 +0.1**
comp=Z,9.5nm,0.5s,mb5.0,SNR=13
WATA Walderalm 81.40 352⇑ *i*P **P** **18 38 57.4 +0.1**
WATA pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
MOTA Moosalm 81.43 353⇓ *i*P **P** **18 38 57.6 +0.1**
comp=Z,3.7nm,0.5s,mb4.5,SNR=13
MOTA Moosalm 81.43 353⇓ *i*P **P** **18 38 57.6 +0.1**
MOTA pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
WTTA Wattenberg 81.47 352 *i*P **P** **18 38 57.9 +0.2**
comp=Z,27nm,0.6s,mb5.3,SNR=24
WTTA Wattenberg 81.47 352 *i*P **P** **18 38 57.9 +0.2**
WTTA pmax pmax
comp=Z,27nm,0.6s,mb5.3
KBA Koelnbreinsper 81.50 351⇑ *i*P **P** **18 38 58.6 +0.7**
comp=Z,61nm,0.6s,mb5.7,SNR=65
KBA Koelnbreinsper 81.50 351⇑ *i*P **P** **18 38 58.6 +0.7**
KBA pmax pmax
comp=Z,61nm,0.6s,mb5.7
SQTA Sankt Quirin 81.54 353 *i*P **P** **18 38 58.2 +0.1**
comp=Z,11nm,0.6s,mb5.0,SNR=11
SQTA Sankt Quirin 81.54 353 *i*P **P** **18 38 58.2 +0.1**
SQTA pmax pmax
comp=Z,11nm,0.6s,mb5.0
WRA Warramunga Arr 81.58 223 P **P** **18 38 56.8 -1.5**
comp=Z,2.2nm,0.7s,mb4.2,baz=33,slow=6.1,SNR=22
PKSM Moragy 81.73 347⇑ *i*P **P** **18 38 58.9 -0.2**
PKSM Moragy 81.73 347 ⇑P **P** **18 38 58.9 -0.2**
PERS Pernice 81.75 350 *e*P **P** **18 38 59.4 +0.2**
BZS Buzias 81.87 345⇑ *i*P **P** **18 38 59.7 -0.1**
BZS Buzias 81.87 345 ⇑P **P** **18 38 59.7 -0.1**
LOR Lormes 81.89 358⇑ *i*P **P** **18 38 59.1 -0.8**
comp=Z,42nm,1.2s,mb4.9
LOR *e*R
comp=Z,372nm,19.5s
LOR Lormes 81.89 358⇑ *i*P **P** **18 38 59.1 -0.8**
LOR pmax pmax
comp=Z,21nm,1.2s,mb4.9
LOR MLR MLR
comp=Z,370nm,19.5s,MS4.8
LOR Lormes 81.89 358⇑ *i*P **P** **18 38 59.1 -0.8**
comp=Z,21nm,1.2s,mb4.9
LOR LR LR
comp=Z,370nm,19.5s,MS4.8
GZR Gura Zlata 81.90 344⇑ *i*P **P** **18 39 00.5 +0.5**
OBKA Obir 81.94 350⇑ *i*P **P** **18 39 01.1 +1.0**
comp=Z,31nm,1.1s,mb5.1
BRES Bressanone 82.02 352 P **P** **18 39 01.2 +0.6**
FVI Forni Avoltri 82.03 352 P **P** **18 39 01.1 +0.5**
FVI pmax pmax
comp=Z,39nm,1.6s,mb5.1
FVI Forni Avoltri 82.03 352 P **P** **18 39 01.1 +0.5**
comp=Z,39nm,1.6s,mb5.1
DAVOX Davos 82.08 354 P **P** **18 39 01.4 +0.4**
comp=Z,8.0nm,0.6s,mb4.8,baz=312,slow=4.9,SNR=21
PTCC Patocco-Chiusa 82.16 351 P **P** **18 39 01.4 0.0**
comp=Z,6.6nm,0.6s,mb4.7
DOBS Dobrina 82.19 350 *e*P **P** **18 39 01.5 0.0**
ROBS Robic 82.31 351 *e*P **P** **18 39 01.5 -0.6**
BRMO Bormio 82.35 353 P **P** **18 39 03.6 +1.3**
comp=Z,7.1nm,0.6s,mb4.8
TUE Stuetta 82.43 354 P **P** **18 39 03.8 +1.1**
CABF La Chapelle 82.47 356⇑ *i*P **P** **18 39 02.7 -0.2**
SMF Signal de Mont 82.51 358⇑ *i*P **P** **18 39 02.6 -0.6**
comp=Z,16nm,0.6s,mb4.9
SMF Signal de Mont 82.51 358⇑ *i*P **P** **18 39 02.6 -0.6**
SMF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
SMF Signal de Mont 82.51 358⇑ *i*P **P** **18 39 02.6 -0.6**
comp=Z,7.9nm,0.6s,mb4.9
PSI Prapat 82.56 265 P **P** **18 39 03.4 -0.1**
comp=Z,17nm,0.9s,mb5.1,baz=274,slow=5.3,SNR=5.6
MFF Saint Martin d 82.59 0⇑ *i*P **P** **18 39 03.2 -0.4**
comp=Z,25nm,0.9s,mb4.9
MFF Saint Martin d 82.59 0⇑ *i*P **P** **18 39 03.2 -0.4**
MFF pmax pmax
comp=Z,13nm,0.9s,mb5.0
MFF Saint Martin d 82.59 0⇑ *i*P **P** **18 39 03.2 -0.4**
comp=Z,13nm,0.9s,mb5.0
BGF Bois d'Agland 82.62 358⇑ *i*P **P** **18 39 03.3 -0.4**
comp=Z,9.7nm,0.7s,mb4.6
BGF Bois d'Agland 82.62 358⇑ *i*P **P** **18 39 03.3 -0.4**
BGF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
BGF Bois d'Agland 82.62 358⇑ *i*P **P** **18 39 03.3 -0.4**
comp=Z,4.8nm,0.7s,mb4.6
CTI Castel Tesino 82.67 352 P **P** **18 39 03.2 -0.8**
CTI pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
CTI Castel Tesino 82.67 352 P **P** **18 39 03.2 -0.8**
comp=Z,6.8nm,0.6s,mb4.8
MABI Malga Bissina 82.76 353 P **P** **18 39 05.2 +0.7**
BOJS Bojanci 82.85 350 *e*P **P** **18 39 05.3 +0.3**
TCF Toulx Ste Croi 82.90 359⇑ *i*P **P** **18 39 04.7 -0.5**
comp=Z,8.1nm,0.6s,mb4.6
TCF Toulx Ste Croi 82.90 359⇑ *i*P **P** **18 39 04.7 -0.5**
TCF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
TCF Toulx Ste Croi 82.90 359⇑ *i*P **P** **18 39 04.7 -0.5**
comp=Z,4.1nm,0.6s,mb4.6
MCGN Macugnaga 83.02 355 P **P** **18 39 07.1 +1.3**
comp=Z,6.8nm,0.6s,mb4.8
VAI Varese 83.07 354 P **P** **18 39 06.0 -0.1**
VAI pmax pmax
comp=Z,14nm,0.8s,mb5.0
VAI Varese 83.07 354 P **P** **18 39 06.0 -0.1**
comp=Z,14nm,0.8s,mb5.0
LPL La Plagne 83.53 356⇑ *i*P **P** **18 39 09.1 +0.7**
comp=Z,4.6nm,0.6s,mb4.5
LPL La Plagne 83.53 356⇑ *i*P **P** **18 39 09.1 +0.7**
LPL pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
LPL La Plagne 83.53 356⇑ *i*P **P** **18 39 09.1 +0.7**
comp=Z,2.3nm,0.6s,mb4.5
LPG La Plagne 83.55 356⇑ *i*P **P** **18 39 09.3 +0.8**
comp=Z,17nm,1.0s,mb4.8
LPG La Plagne 83.55 356⇑ *i*P **P** **18 39 09.3 +0.8**
LPG pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
LPG La Plagne 83.55 356⇑ *i*P **P** **18 39 09.3 +0.8**
comp=Z,8.6nm,1.0s,mb4.8
RKT Rikitea 83.69 140 *e*LR LR 19 05 00.3
comp=Z,350nm,25.8s
BNI Bardonecchia 84.00 356 *e*P **P** **18 39 11.9 +1.1**
BNI pmax pmax
comp=Z,21nm,1.1s,mb5.2
BNI Bardonecchia 84.00 356 *e*P **P** **18 39 11.8 +1.0**
comp=Z,21nm,1.1s,mb5.2
FITZ Fitzroy Crossi 84.01 231 *e*P **P** **18 39 10.7 -0.2**
comp=Z,15nm,0.6s,mb5.3
FITZ *e* pP 18 39 24.9 -0.2
FITZ Fitzroy Crossi 84.01 231 P **P** **18 39 11.0 +0.1**
comp=Z,7.2nm,0.6s,mb5.0,baz=46,slow=3.1,SNR=33
BOB Bobbio (Coli) 84.12 354 P **P** **18 39 11.0 -0.4**
ORIF Oris-en-Rattie 84.17 356⇑ *i*P **P** **18 39 12.2 +0.5**
comp=Z,13nm,0.7s,mb4.9
ORIF *e*R
comp=Z,426nm,20.2s
ORIF Oris-en-Rattie 84.17 356⇑ *i*P **P** **18 39 12.2 +0.5**
ORIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
ORIF Oris-en-Rattie 84.17 356⇑ *i*P **P** **18 39 12.2 +0.5**
comp=Z,6.3nm,0.7s,mb4.8
CAF Calviac 84.26 359⇑ *i*P **P** **18 39 12.2 0.0**
comp=Z,30nm,1.0s,mb5.1
CAF Calviac 84.26 359⇑ *i*P **P** **18 39 12.2 0.0**
CAF pmax pmax
comp=Z,15nm,1.0s,mb5.1
CAF Calviac 84.26 359⇑ *i*P **P** **18 39 12.2 0.0**
comp=Z,15nm,1.0s,mb5.1
VIVF Saint-Julien-l 84.27 357⇑ *i*P **P** **18 39 12.2 0.0**
comp=Z,18nm,1.1s,mb4.8
VIVF Saint-Julien-l 84.27 357⇑ *i*P **P** **18 39 12.2 0.0**
VIVF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
VIVF Saint-Julien-l 84.27 357⇑ *i*P **P** **18 39 12.2 0.0**
comp=Z,9.1nm,1.1s,mb4.8
MBDF Montbardon 84.32 356⇑ *i*P **P** **18 39 12.8 +0.3**
comp=Z,12nm,0.7s,mb4.8
MBDF Montbardon 84.32 356⇑ *i*P **P** **18 39 12.8 +0.3**
MBDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
MBDF Montbardon 84.32 356⇑ *i*P **P** **18 39 12.8 +0.3**
comp=Z,6.2nm,0.7s,mb4.8
ZCCA Zocca 84.41 352 P **P** **18 39 14.8 +1.9**
comp=Z,44nm,1.2s,mb5.5
GSCL Cusciola 84.45 353 P **P** **18 39 14.4 +1.3**
comp=Z,24nm,1.2s,mb5.2
FNVD Fontana Vidola 84.58 352 P **P** **18 39 15.0 +1.2**
OG25 Le Caire 84.70 356 *e*P **P** **18 39 12.2 -2.2**
VMG Vicchio 84.75 352 P **P** **18 39 15.4 +0.7**
comp=Z,33nm,0.6s,mb5.6
SFI Santa Sofia 84.78 352 P **P** **18 39 15.9 +1.1**
SFI pmax pmax
comp=Z,39nm,1.2s,mb5.4
SFI Santa Sofia 84.78 352 P **P** **18 39 15.9 +1.1**
comp=Z,39nm,1.2s,mb5.4
MALT Malatya 84.89 331⇓ *i*P **P** **18 39 16.8 +1.5**
MALT Malatya 84.89 331 *e*P **P** **18 39 16.4 +1.0**
comp=Z,13nm,0.9s,mb5.1
TOUF Mont Tournerai 85.00 355 *e*P **P** **18 39 16.7 +0.8**
AUTN L'Aution 85.01 355 *e*P **P** **18 39 16.5 +0.5**
SAOF Saorge 85.01 355 *e*P **P** **18 39 15.9 -0.1**
CRE Caprese Michel 85.06 352 P **P** **18 39 17.3 +1.1**
CRE pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
CRE Caprese Michel 85.06 352 P **P** **18 39 17.3 +1.1**
comp=Z,7.4nm,0.7s,mb4.9
AS31 Alice Springs 85.06 222 *e*P **P** **18 39 15.4 -0.8**
ASAR Alice Springs 85.06 222 P **P** **18 39 15.2 -0.9**
comp=Z,1.9nm,0.6s,mb4.4,baz=25,slow=5.6,SNR=32
ASPA Alice Springs 85.06 222 *e*P **P** **18 39 15.4 -0.8**
LASF Ste Croix 85.08 358⇑ *i*P **P** **18 39 16.3 0.0**
comp=Z,7.0nm,0.8s,mb4.5
LUCF Luceram 85.12 355 *e*P **P** **18 39 16.7 +0.2**
SMRF Simiane la Rot 85.12 356⇑ *i*P **P** **18 39 17.1 +0.6**
comp=Z,58nm,1.2s,mb5.3
SMRF Simiane la Rot 85.12 356⇑ *i*P **P** **18 39 17.1 +0.6**
comp=Z,58nm,1.2s,mb5.6
MVIF Mont Vial 85.12 355 *e*P **P** **18 39 16.9 +0.4**
REVF Revere 85.27 355 *e*P **P** **18 39 17.7 +0.5**
SNTG Esanatoglia 85.32 351 P **P** **18 39 18.1 +0.6**
comp=Z,15nm,0.5s,mb5.4
GRFL Gerfalco 85.61 352 P **P** **18 39 18.9 0.0**
comp=Z,44nm,1.2s,mb5.6
EPON Pontenova 85.63 6 P **P** **18 39 18.5 -0.6**
comp=Z,10nm,0.6s,mb5.2
LMR La Mourre 85.72 356⇑ *i*P **P** **18 39 19.2 -0.3**
comp=Z,37nm,1.0s,mb5.3
LMR La Mourre 85.72 356⇑ *i*P **P** **18 39 19.2 -0.3**
LMR pmax pmax
comp=Z,19nm,1.0s,mb5.3
LMR La Mourre 85.72 356⇑ *i*P **P** **18 39 19.2 -0.3**
comp=Z,18nm,1.0s,mb5.3
EARI Arriondas 85.76 4 P **P** **18 39 19.4 -0.3**
comp=Z,5.1nm,0.7s,mb4.9
MTLF Montolieu 85.84 359⇑ *i*P **P** **18 39 20.0 -0.1**
comp=Z,13nm,0.8s,mb4.9
MTLF Montolieu 85.84 359⇑ *i*P **P** **18 39 20.0 -0.1**
MTLF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
MTLF Montolieu 85.84 359⇑ *i*P **P** **18 39 20.0 -0.1**
comp=Z,6.6nm,0.8s,mb4.9
ELAN Lanestosa 85.90 3 P **P** **18 39 20.6 +0.2**
comp=Z,14nm,0.6s,mb5.4
EALK Alkurruntz 85.96 1 P **P** **18 39 20.6 0.0**
comp=Z,7.2nm,0.5s,mb5.2
STS Santiago 85.98 7 P **P** **18 39 20.4 -0.4**
STS pmax pmax
comp=Z,1.0nm,0.4s,mb4.4
STS Santiago 85.98 7 P **P** **18 39 20.4 -0.4**
comp=Z,1.3nm,0.4s,mb4.5
EPF Esparros 86.16 0⇑ *i*P **P** **18 39 20.9 -0.8**
comp=Z,8.8nm,0.9s,mb4.7
EPF Esparros 86.16 0⇑ *i*P **P** **18 39 20.9 -0.8**
EPF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
EPF Esparros 86.16 0⇑ *i*P **P** **18 39 20.9 -0.8**
comp=Z,4.4nm,0.9s,mb4.7
ETSF Etsaut 86.29 1⇑ *i*P **P** **18 39 22.6 +0.3**
comp=Z,15nm,0.6s,mb5.1
ETSF Etsaut 86.29 1⇑ *i*P **P** **18 39 22.6 +0.3**
ETSF pmax pmax
comp=Z,8.0nm,0.6s,mb5.1
ETSF Etsaut 86.29 1⇑ *i*P **P** **18 39 22.6 +0.3**
comp=Z,7.7nm,0.6s,mb5.1
PGF Pioggiola 86.36 354⇑ *i*P **P** **18 39 22.3 -0.3**
comp=Z,63nm,1.1s,mb5.5
PGF Pioggiola 86.36 354⇑ *i*P **P** **18 39 22.3 -0.3**
PGF pmax pmax
comp=Z,31nm,1.1s,mb5.5
PGF Pioggiola 86.36 354⇑ *i*P **P** **18 39 22.3 -0.3**
comp=Z,32nm,1.1s,mb5.5
EBIE Bielsa 86.51 0 P **P** **18 39 24.7 +1.3**
comp=Z,4.4nm,0.6s,mb4.9
PBRG Braganca 87.17 5 *e*P **P** **18 39 26.1 -0.5**
comp=Z,7.3nm,1.1s,mb4.8
PVRL Vila Real 87.64 6 *e*P **P** **18 39 28.9 +0.1**
comp=Z,8.7nm,1.2s,mb4.9
PVIS Viseu 88.18 6 *e*P **P** **18 39 31.6 +0.2**
comp=Z,15nm,1.5s,mb5.0
GUD Guadarrama 88.46 4 P **P** **18 39 32.5 -0.2**
MTE Manteigas 88.52 6 *e*P **P** **18 39 31.3 -1.7**
comp=Z,8.0nm,1.0s,mb5.0
ESDC Sonseca Array 89.43 3 P **P** **18 39 37.2 -0.1**
comp=Z,1.1nm,0.5s,mb4.4,baz=357,slow=4.0,SNR=14
ESDC Sonseca Array 89.43 3 P **P** **18 39 37.2 -0.2**
comp=Z,1.8nm,0.7s,mb4.5
STKA Stephens Creek 89.54 212 *e*P **P** **18 39 35.6 -2.2**
comp=Z,4.5nm,0.8s,mb4.8
STKA Stephens Creek 89.54 212 P **P** **18 39 35.8 -2.1**
comp=Z,7.4nm,1.0s,mb5.0,baz=5.4,slow=6.8,SNR=11
STKA LR LR 19 17 57.7
comp=Z,433nm,18.4s,MS4.9,baz=29,slow=34
TORD Torodi Ar. Bea 115.93 359 PKP PKPdf 18 45 22.1 -1.0
comp=Z,0.5nm,0.8s,baz=1.4,slow=2.0,SNR=7.1
TORD PP PP 18 46 22.1 -5.3
comp=Z,1.1nm,1.0s,baz=344,slow=4.9,SNR=3.6
TORD PKKPbc PKKPbc 18 55 48.9 -5.1
comp=Z,0.3nm,0.5s,baz=192,slow=3.6,SNR=5.5
DBIC Dimbokro 122.19 6 PKP PKPdf 18 45 34.6 -0.4
comp=Z,1.2nm,0.5s,baz=90,slow=11,SNR=4.2
CFAA Coronel Fontan 126.85 96 PKP PKPdf 18 45 43.1 -0.9
comp=Z,0.3nm,0.7s,baz=245,slow=2.1,SNR=4.8
VNDA Vanda 128.96 185 PKP PKPdf 18 45 46.9 -1.1
comp=Z,0.6nm,0.9s,baz=63,slow=8.4,SNR=2.4
QSPA South Pole Qui 140.94 180 *e*P PKPdf 18 46 09.9 -0.4
TSUM Tsumeb 145.35 331 PKPbc PKPbc 18 46 18.8 +0.8
comp=Z,18nm,0.6s,baz=345,slow=5.6,SNR=76
MAW Mawson 146.07 217 PKPbc PKPbc 18 46 18.3 -2.0
comp=Z,4.4nm,0.8s,baz=60,slow=4.5,SNR=7.8
LBTB Lobatse 147.57 314 PKPbc PKPbc 18 46 25.2 +0.7
baz=65,slow=2.9
LBTB Lobatse 147.57 314 *e*PKPbc PKPbc 18 46 24.7 +0.2
BOSA Boshof 150.79 311 PKPbc PKPbc 18 46 32.4 -0.3
comp=Z,9.0nm,0.7s,baz=352,slow=1.6,SNR=26
BOSA Boshof 150.79 311 PKPbc PKPbc 18 46 32.4 -0.2
BOSA pmax pmax
comp=Z,9.0nm,0.7s
BOSA Boshof 150.79 311 *e*PKPbc PKPbc 18 46 32.9 +0.3

*MOS **02** 18:31:30.9±0.9,5054N×157.15E,h91km,mb4.6/1,Error ellipse: s-maj=31.1km s-min=8.0km az=67.4*
*ISCJB **02** 18:31:31.6±0.6,5074N±0.10×1569E±02,h108km±6km,*

mb3.8/5, Error ellipse: s-maj=21.9km s-min=6.0km az=89.4
*NEIC **02** 18:31:32.7±1.8, 5094N×15679E, h105km±19km, mb4.1/3, Error ellipse: s-maj=17.4km s-min=10.0km az=151.0*
*KRSC **02** 18:31:33, 5075N×15753E, h92km, ML4.5*
*IDC **02** 18:31:38.6±10.0, 5106N×15637E, h163km±130km, mb3.5/4, mb1 3.8/6, mb1mx3.3/20, mbtmp4.1/6, ML4.4/1, Error ellipse: s-maj=274.9km s-min=21.0km az=134.0*
ISC 02 18:31:32.9±0.6**, 5078N**±009×**1569E**±01**, h104**km±6km**, n25, σ1s28**/33**, mb3.8**/5**, 1C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.51	259	⇓iPN	Pn	18 31 47.5	-1.7
SKR				S	Sn	18 32 01.2	-0.1
SKR				pmax	pmax		
	comp=E,730nm,0.4s						
SKR				pmax	pmax		
	comp=Z,2μm,0.4s						
SKR				pmax	pmax		
	comp=N,880nm,0.2s						
SKR				smax			
	comp=N,9μm,0.4s						
SKR				smax			
	comp=E,4μm,0.5s						
SKR				smax			
	comp=N,6μm,1.0s						
SKR				smax			
	comp=E,5μm,1.0s						
PET	Petropavlovsk	2.50	25	P	Pn	18 32 13.5	+1.4
PET				S	Sn	18 32 42.5	+0.4
PET	Petropavlovsk	2.50	25	⇑iPN	Pn	18 32 13.4	+1.3
PET				eS	Sn	18 32 43.0	+0.9
PET				pmax	pmax		
	comp=Z,132nm,0.4s						
PET				pmax	pmax		
	comp=Z,200nm,0.5s						
PET				smax			
	comp=N,900nm,2.0s						
PET				smax			
	comp=N,775nm,0.6s						
PET				smax			
	comp=E,329nm,0.5s						
PET				MLR	MLR		
	comp=Z,400nm,20.0s						
NLC	Nalytchevo	2.83	31	P	Pn	18 32 16.6	+0.1
NLC				S	Sn	18 32 47.9	-2.1
SPN	Mys Shipunski	3.02	39	P	Pn	18 32 19.7	+0.7
SPN				S	Sn	18 32 52.8	-1.7
KII	Karymskiy	3.61	25	P	Pn	18 32 30.1	+3.1
KII				S	Sn	18 33 11.6	+2.8
MKZ	Mys Kozlova	4.79	36	P	Pn	18 32 42.4	-0.4
MKZ				S	Sn	18 33 33.1	-4.0
KLY	Klyuchi	5.97	20	P	Pn	18 33 00.8	+1.9
KBTR	Krutoberegovo	6.48	31	P	Pn	18 33 05.5	-0.2
KBTR				S	Sn	18 34 12.1	-6.1
SMY	Shemya	10.84	73	PN	Pn	18 34 04.3	-0.6
ASAJ	Asahikawa	11.75	241	P	Pn	18 34 18.6	+1.5
	comp=Z,3.6nm,0.3s,baz=72,slow=15,SNR=24						
ASAJ	Asahikawa	11.75	241	PN	Pn	18 34 18.6	+1.5
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
YAK	Yakutsk	18.64	318	eP	P	18 35 40.0	-2.5
MAJO	Matsushiro	19.55	230	eP	P	18 35 52.8	+0.4
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MAJO	Matsushiro	19.55	230	eP	P	18 35 52.8	+0.4
	comp=Z,9.4nm,0.7s						
MAT	Matsushiro	19.55	230	P	P	18 35 52.9	+0.5
MAT	Matsushiro	19.55	230	eP	P	18 35 53.0	+0.6
MAT				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MAT	Matsushiro	19.55	230	eP	P	18 35 53.0	+0.6
	comp=Z,7.0nm,1.0s						
MJAR	Matsushiro Arr	19.55	230	P	P	18 35 53.5	+1.1
	comp=Z,1.3nm,0.3s,baz=29,slow=7.3,SNR=18						
HIA	Hailar	23.77	281	P	P	18 36 33.3	-2.5
BW06	Boulder Array	60.41	58	eP	P	18 41 31.6	+0.3
	comp=Z,1.7nm,0.9s,mb4.1						
PDAR	Pinedale Array	60.41	58	P	P	18 41 31.6	+0.3
	comp=Z,1.1nm,0.7s,mb4.0,baz=338,slow=2.1,SNR=8.4						
WRA	Warramunga Arr	73.17	202	P	P	18 42 51.2	-1.1
	comp=Z,0.6nm,0.5s,mb3.6,baz=16,slow=6.1,SNR=6.6						
FITZ	Fitzroy Crossi	73.89	211	P	P	18 42 56.0	-0.5
	comp=Z,1.3nm,0.7s,mb3.8,baz=6.3,slow=9.2,SNR=5.3						
ASAR	Alice Springs	76.85	202	P	P	18 43 13.6	+0.1
	comp=Z,0.8nm,0.7s,mb3.6,baz=13,slow=5.4,SNR=10						

*NEIC **02** 18:36:40.9, 3831S×176.16E, h164km, MG3.7(WEL), After WEL.*
WEL 02 18:36:40.0±0.3**, 3829S**×**17619E, h171**km±2km**, ML3.7**/17**, 1C-3D, Error ellipse: s-maj=2.0km s-min=1.6km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PATZ	Paeroa	0.11	150	PN	Pn	18 37 02.7	0.0
PATZ	Paeroa	0.11	150	P	Pn	18 37 03.1	+0.5
TAZ	Tarawera	0.26	78	PN	Pn	18 37 03.2	+0.3
TAZ	Tarawera	0.26	78	P	Pn	18 37 03.3	+0.4
URZ	Urewera	0.73	88	⇑PN	Pn	18 37 04.6	-0.3
URZ				SN	Sn	18 37 23.5	-0.5
URZ	Urewera	0.73	88	eP	Pn	18 37 04.6	-0.3
BKZ	Black Stump Fm	0.91	165	⇓PN	Pn	18 37 06.4	+0.3
BKZ				SN	Sn	18 37 25.7	-0.5
BKZ	Black Stump Fm	0.91	165	eP	Pn	18 37 06.4	+0.3
BKZ				S	Sn	18 37 25.7	-0.4
WPVZ	Whakapapa	1.05	209	PN	Pn	18 37 07.2	+0.1
WPVZ				SN	Sn	18 37 28.2	+0.2
WPVZ	Whakapapa	1.05	209	P	Pn	18 37 07.3	+0.2
MWZ	Matawai	1.05	93	PN	Pn	18 37 07.4	+0.2
MWZ				SN	Sn	18 37 28.0	-0.1
TUVZ	Tukino	1.07	203	PN	Pn	18 37 07.5	+0.2
HIZ	Hauiti	1.07	257	PN	Pn	18 37 07.1	-0.2
HIZ				SN	Sn	18 37 28.8	+0.4
HIZ	Hauiti	1.07	257	eP	Pn	18 37 07.2	-0.1
FWVZ	Far West T-bar	1.09	207	PN	Pn	18 37 07.3	-0.2
FWVZ				SN	Sn	18 37 28.8	+0.2
FWVZ	Far West T-bar	1.09	207	eP	Pn	18 37 07.4	-0.1
WNVZ	Wahianoa	1.14	204	PN	Pn	18 37 07.9	+0.1
WNVZ	Wahianoa	1.14	204	P	Pn	18 37 08.0	+0.1
MOVZ	Moawhango	1.17	197	PN	Pn	18 37 07.7	-0.5
MOVZ	Moawhango	1.17	197	P	Pn	18 37 07.8	-0.4
PKVZ	Pokaka	1.20	213	PN	Pn	18 37 08.2	-0.2
MTVZ	Mangateitei	1.23	207	PN	Pn	18 37 08.5	-0.2
MTVZ				SN	Sn	18 37 30.0	-0.7
KNZ	Kokohu	1.38	123	PN	Pn	18 37 10.5	+0.5
KNZ	Kokohu	1.38	123	eP	Pn	18 37 10.5	+0.5
PUZ	Puketiti	1.64	83	PN	Pn	18 37 12.3	-0.4
PUZ	Puketiti	1.64	83	eP	Pn	18 37 12.4	-0.2
WAZ	Wanganui	1.74	212	PN	Pn	18 37 12.9	-0.7
WAZ	Wanganui	1.74	212	eP	Pn	18 37 13.0	-0.6
TSZ	Takapari Road	1.78	186	⇓PN	Pn	18 37 13.6	-0.4
TSZ	Takapari Road	1.78	186	P	Pn	18 37 13.6	-0.4
PXZ	Pawanui	1.82	163	PN	Pn	18 37 14.5	0.0
PXZ				SN	Sn	18 37 39.7	-1.3
BFZ	Birch Farm	2.39	179	PN	Pn	18 37 19.8	-1.1
BFZ				SN	Sn	18 37 50.5	-2.0
BFZ	Birch Farm	2.39	179	eP	Pn	18 37 19.8	-1.1
MRZ	Mangatainoka R	2.42	191	⇓PN	Pn	18 37 19.7	-1.5
MRZ				SN	Sn	18 37 50.0	-3.1
MRZ	Mangatainoka R	2.42	191	eP	Pn	18 37 19.7	-1.5
TIWZ	Tintock	2.50	185	PN	Pn	18 37 20.8	-1.3
KIW	Kapiti Island	2.75	201	PN	Pn	18 37 22.9	-2.3
KIW	Kapiti Island	2.75	201	P	Pn	18 37 23.0	-2.2
MTW	Mount Morrison	2.92	190	PN	Pn	18 37 24.8	-2.4
MTW	Mount Morrison	2.92	190	P	Pn	18 37 24.9	-2.3
CAW	Cannon Point	2.95	197	PN	Pn	18 37 25.3	-2.3
CAW	Cannon Point	2.95	197	P	Pn	18 37 25.3	-2.3
DUWZ	D'Urville Isla	3.06	214	PN	Pn	18 37 26.4	-2.6
MRW	Makara Radio	3.15	201	PN	Pn	18 37 27.3	-2.8
MRW	Makara Radio	3.15	201	P	Pn	18 37 27.6	-2.5
MSWZ	Moikau Station	3.21	193	PN	Pn	18 37 27.9	-2.9
MSWZ	Moikau Station	3.21	193	P	Pn	18 37 28.1	-2.7
SNZO	South Karori	3.23	200	PN	Pn	18 37 28.2	-2.9
SNZO	South Karori	3.23	200	P	Pn	18 37 28.3	-2.7
TCW	Tory Channel	3.27	206	PN	Pn	18 37 28.9	-2.7
TCW	Tory Channel	3.27	206	P	Pn	18 37 28.9	-2.7
BHW	Baring Head	3.28	198	PN	Pn	18 37 28.7	-2.9
BHW	Baring Head	3.28	198	P	Pn	18 37 28.8	-2.9
TUWZ	Tuamarina	3.58	208	PN	Pn	18 37 32.3	-3.2
NNZ	Nelson	3.64	216	PN	Pn	18 37 32.8	-3.4
NNZ				SN	Sn	18 38 15.9	-4.1
NNZ	Nelson	3.64	216	P	Pn	18 37 32.9	-3.3
QRZ	Quartz Range	3.80	227	PN	Pn	18 37 34.2	-4.0
QRZ	Quartz Range	3.80	227	eP	Pn	18 37 34.2	-4.0
BSWZ	Blackbirch Sta	3.86	207	PN	Pn	18 37 35.8	-3.2
BSWZ	Blackbirch Sta	3.86	207	P	Pn	18 37 35.9	-3.1
THZ	Tophouse	4.29	215	PN	Pn	18 37 40.5	-4.1
THZ	Tophouse	4.29	215	eP	Pn	18 37 40.8	-3.7
KHZ	Kahutara	4.59	205	PN	Pn	18 37 44.9	-3.6
KHZ	Kahutara	4.59	205	P	Pn	18 37 45.2	-3.3
LTZ	Lake Taylor	5.39	212	PN	Pn	18 37 53.8	-5.0
LTZ	Lake Taylor	5.39	212	eP	Pn	18 37 54.3	-4.6
MQZ	McQueen's Vall	6.04	205	PN	Pn	18 38 02.2	-5.2
MQZ				SN	Sn	18 39 06.3	-10
MQZ	McQueen's Vall	6.04	205	eP	Pn	18 38 02.3	-5.1
WVZ	Waitaha Valley	6.33	219	ePN	Pn	18 38 07.0	-4.2
ODZ	Otahua Downs	7.92	210	ePN	Pn	18 38 27.3	-5.0
ODZ	Otahua Downs	7.92	210	eP	Pn	18 38 27.7	-4.6

*ISCJB **02** 18:48:17.5±0.5, 2381N±005×12171E±003, h10km, mb3.6/10, Error ellipse: s-maj=6.8km s-min=4.4km az=27.0*
*IDC **02** 18:48:17.3±0.8, 2376N×12183E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.7/19, mbtmp3.7/10, ML3.4/1, Error ellipse: s-maj=37.7km s-min=16.7km az=65.0*
*JMA **02** 18:48:18.5±0.3, 2393N×12158E, h72km, M3.2*
*BJI **02** 18:48:18.6, 2409N×12173E, h8km, mb3.7, ML4.0, Ms3.7*
*NEIC **02** 18:48:18.1±0.7, 2388N×12182E, h10km, mb3.7/1, ML4.3(TAP), Error ellipse: s-maj=16.2km s-min=8.9km az=64.0*
NEIC Recorded [3 TAP] in Hua-lien and [1 TAP] in I-lan and Nan-t'ou Counties.
ISC 02 18:48:18.7±0.5**, 2388N**±004×**12173E**±003**, h10**km**, n21, σ1s13**/27**, mb3.6**/10**, 2C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.32	337	ePn	Pg	18 48 24.0	-1.1
YHNB	Yeheng	0.85	338	⇑iPg	Pg	18 48 34.5	-0.6
YHNB				eS	Sg	18 48 45.6	-0.6
TATO	Taipei	1.11	349	⇑ePg	Pg	18 48 39.2	-0.9
TATO				eS	Sg	18 48 54.6	+0.1
YOJ	Yonaguni jima	1.31	63	P	Pn	18 48 42.7	-0.3
YOJ				eS	Sb	18 49 00.6	+0.5
IRIF	Iriomote-Funau	1.88	76	P	Pn	18 48 50.9	-0.1
HATJ	Hateruma jima	1.91	84	P	Pn	18 48 51.2	-0.1
JKRS	Kuro-shima	2.11	80	P	Pn	18 48 54.3	+0.2
JKRS				eS	Sn	18 49 21.8	+1.3
JIJ	Ishigaki jima	2.26	77	P	Pn	18 48 55.7	-0.4
JIJ				eS	Sn	18 49 23.6	-0.4
QZH	Quanzhou	3.05	291	eP	Pb	18 49 11.1	-2.0
QZH				S	Sb	18 49 51.3	+1.0
QZH				Smax			
	comp=N,460nm,0.7s						
QZH				Smax			
	comp=E,330nm,0.7s						
JOW	Kunigami	6.61	62	Pn	Pn	18 49 54.1	-1.8
	comp=E,1.9nm,0.3s,baz=200,slow=18,SNR=8.7						
CM31	Chiang Mai Arr	21.91	260	eP	P	18 53 11.9	-0.1
SONM	Songino Array	26.84	337	P	P	18 53 59.5	+0.2
	comp=E,1.3nm,0.8s,mb3.5,baz=155,slow=9.1,SNR=9.6						
MKAR	Makanchi Array	38.90	316	P	P	18 55 44.4	-0.1
	comp=E,0.9nm,0.8s,mb3.5,baz=108,slow=7.8,SNR=9.6						
ZAL	Zalesovo	40.77	327	P	P	18 56 01.8	+1.8
	comp=E,0.9nm,0.5s,mb3.6,baz=338,slow=8.5,SNR=5.2						
KURK	Kurchatov	42.64	320	P	P	18 56 18.3	+3.0
	comp=E,0.9nm,0.6s,mb3.7						
WRA	Warramunga Arr	45.26	163	P	P	18 56 35.8	-0.5
	comp=E,0.5nm,0.5s,mb3.6,baz=346,slow=8.7,SNR=10						
BVAR	Borovoye Array	48.22	321	P	P	18 57 01.3	+1.8
	comp=E,0.7nm,0.5s,mb3.9,baz=119,slow=8.4,SNR=3.9						
ASAR	Alice Springs	48.72	165	P	P	18 57 02.8	-0.6
	comp=E,0.2nm,0.4s,mb3.5,baz=341,slow=7.0,SNR=5.5						
STKA	Stephens Creek	58.61	160	P	P	18 58 13.6	-2.2
	comp=E,1.4nm,0.8s,mb4.0,baz=331,slow=9.3,SNR=2.2						
FINES	FINESS Array B	71.96	330	P	P	18 59 44.8	+2.4
	comp=E,0.4nm,0.7s,mb3.5,baz=64,slow=8.9,SNR=4.0						
YKA	Yellowknife Ar	83.06	23	P	P	19 00 45.9	+1.5
	comp=E,0.3nm,0.6s,mb3.5,baz=312,slow=5.0,SNR=4.6						

*IDC **02** 18:49:51.2±1.3, 5079N×17937W, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.9/22, mbtmp3.9/12, ML3.9/1, Error ellipse: s-maj=35.6km s-min=20.3km az=168.0*
*ISCJB **02** 18:49:57.3±1.8, 509N±02×1794W±0.1, h53km±12km, mb3.9/12, Error ellipse: s-maj=31.7km s-min=10.4km az=172.2*
*NEIC **02** 18:49:58.2±1.7, 5084N×17952W, h49km±12km, mb3.9/1, ML3.3(AEIC), Error ellipse: s-maj=25.4km s-min=11.1km az=176.0*
ISC 02 18:49:59.0±1.7**, 509N**±02×**1795W**±01**, h55**km±11km**, n21, σ1s19**/20**, mb3.9**/12**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	Amchitka	0.91	301	P	Pn	18 50 13.7	-1.9
AMKA				S	Sn	18 50 27.6	-0.3
SMY	Shemya	4.39	297	eP	Pn	18 51 05.0	+1.9
SPIA	Saint Paul Isl	8.28	37	ePn	Pn	18 51 57.5	+1.1
UNV	Unalaska Valle	8.45	65	eP	Pn	18 51 59.4	+0.7
KDAK	Kodiak Island	17.02	56	Pn	Pn	18 53 50.1	-3.1
	0.4nm,0.3s,baz=285,slow=12,SNR=3.0						
INK	Inuvik	28.07	35	P	P	18 55 43.3	-1.9
	1.0nm,0.7s,mb3.6,baz=264,slow=10,SNR=2.7						
YKA	Yellowknife Ar	35.85	46	P	P	18 56 52.4	-0.8
	0.8nm,0.5s,mb4.0,baz=283,slow=7.6,SNR=10						
YKA	Yellowknife Ar	35.85	46	P	P	18 56 52.4	-0.9
SONM	Songino Array	46.49	297	P	P	18 58 22.3	+1.7
	0.7nm,0.5s,mb3.8,baz=70,slow=8.7,SNR=8.8						
BW06	Boulder Array	46.84	71	eP	P	18 58 24.2	+0.8
	1.0nm,0.6s,mb3.9						
PDAR	Pinedale Array	46.84	71	P	P	18 58 24.4	+1.0
	1.5nm,0.8s,mb4.0,baz=320,slow=4.2,SNR=19						
ARCES	ARCESS Array B	58.48	350	P	P	18 59 48.6	-0.7
	1.0nm,0.8s,mb3.9,baz=24,slow=6.9,SNR=4.2						
MKAR	Makanchi Array	60.00	308	P	P	19 00 00.7	+0.9
	1.6nm,0.5s,mb4.3,baz=50,slow=6.2,SNR=49						
FINES	FINESS Array B	66.14	347	P	P	19 00 40.1	-0.4
	1.4nm,0.7s,mb4.1,baz=14,slow=7.9,SNR=9.4						
NOA	NORSAR Array B	68.07	354	P	P	19 00 52.5	-0.3
	0.7nm,0.8s,mb3.7,baz=8.4,slow=6.4,SNR=2.9						
AKASG	Malin Array Be	75.86	342	P	P	19 01 39.5	+0.1
	2.2nm,0.4s,mb4.5,baz=22,slow=5.6,SNR=5.5						
AKASG	Malin Array Be	75.86	342	P	P	19 01 39.5	+0.1
GERES	GERESS Array B	79.98	351	P	P	19 02 02.8	+0.6
	0.5nm,0.5s,mb3.7,baz=24,slow=6.4,SNR=6.0						
ASAR	Alice Springs	84.87	222	P	P	19 02 26.2	-1.5
	0.2nm,0.5s,mb3.5,baz=71,slow=10,SNR=4.6						
BOSA	Boshof	150.98	311	PKPbc	PKPbc	19 09 44.7	-0.8
	2.5nm,1.0s,baz=116,slow=15,SNR=4.0						
BOSA	Boshof	150.98	311	PKPbc	PKPbc	19 09 44.7	-0.8

*LDG **02** 18:57:52.9±0.1, 43.12N×1.07W, h18km, Md1.7/3, Ml1.3/1, Error ellipse: s-maj=5.6km s-min=2.4km az=19.0*
*STR **02** 18:57:53.1±0.0, 4306N×1.12W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 02 18:57:53.2±0.4**, 4314N**×**109W, h19**km±3km**, mbLg1.1**/3**, 2C, Error ellipse: s-maj=4.2km s-min=1.7km az=13.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.10	254	ePg	Pg	18 57 57.1	0.0
SJPF				eSg	Sg	18 57 59.0	-0.6
	5.3nm,0.2s						
SJPF	Ste Jean	0.10	254	Pg	Pg	18 57 57.1	0.0
SJPF				Lg		18 57 59.0	
	2.7nm,0.2s						
LARF	Larrau	0.13	144	P	Pg	18 57 57.6	+0.2
LARF				S	Sg	18 58 00.7	+0.6
ORDF	Ordiarp	0.13	58	Pg	Pg	18 57 57.2	-0.2
ORDF				Sg	Sg	18 58 00.1	-0.1
OSSF	Osses	0.17	312	Pg	Pg	18 57 57.5	-0.3
OSSF				Sg	Sg	18 58 00.7	-0.3
ATE	Arette	0.29	101	P	Pg	18 57 59.5	-0.2
ATE				S	Sg	18 58 04.2	+0.1
EALK	Alkurruntz	0.32	284	⇑Pg	Pg	18 57 59.7	-0.4
	1.3nm,0.1s,SNR=18						
EALK				Lg		18 58 04.5	
	2.2nm,0.1s,SNR=7.9						
ELIZ	Elizondo	0.32	274	⇑Pg	Pg	18 57 59.8	-0.4
	1.2nm,0.1s,SNR=18						
ELIZ				Lg		18 58 04.7	
	3.5nm,0.1s,SNR=7.9						
IUSE	Utxeti	0.39	240	Lg		18 58 06.8	
	1.8nm,0.1s,SNR=7.9						
ETSF	Etsaut	0.46	122	ePg	Pg	18 58 02.1	-0.5
ETSF				eSg	Sg	18 58 07.1	-1.8
	1.3nm,0.3s						
ETSF	Etsaut	0.46	122	Pg	Pg	18 58 02.1	-0.5
ETSF				Lg		18 58 07.1	
	0.6nm,0.3s						
EBIE	Bielsa	1.01	116	Lg		18 58 26.4	
	0.3nm,0.1s,SNR=7.9						
EPF	Esparros	1.05	96	ePg	Pg	18 58 12.4	-1.3
EPF				eSg	Sg	18 58 26.1	-1.4
	0.7nm,0.2s						
EPF	Esparros	1.05	96	Pg	Pg	18 58 12.4	-1.3
EPF				Lg		18 58 26.1	
	0.3nm,0.2s						

*IDC **02** 19:14:54.1±1.3, 51.16N×17934W, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.9/19, mbtmp3.9/10, ML3.9/1, Error ellipse: s-maj=37.7km s-min=21.0km az=171.0*
*ISCJB **02** 19:14:58.9±1.6, 512N±02×17925W±009, h41km±10km, mb4.0/13, MS4.1/1, Error ellipse: s-maj=30.7km s-min=8.5km az=167.2*
*BJI **02** 19:14:58.7, 5120N×17940W, h37km, mB4.9, mb4.5, Ms4.4, Msz4.0*
*NEIC **02** 19:14:59.8±1.5, 5121N×17938W, h37km±11km, mb4.0/1, ML4.0(AEIC), Error ellipse: s-maj=27.8km s-min=9.7km az=173.0*
ISC 02 19:15:00.7±1.5**, 512N**±02×**17931W**±009**, h44**km±10km**, n22, σ1s35**/24**, mb4.0**/13**, MS4.1**/1**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	Amchitka	0.89	282	P	Pn	19 15 14.6	-2.2
AMKA				S	Sn	19 15 27.8	-0.7
SMY	Shemya	4.35	293	eP	Pn	19 16 06.1	+1.8
SMY				eS	Sn	19 17 01.9	+8.2
SPIA	Saint Paul Isl	8.00	38	eP	Pn	19 16 58.3	+3.9
UNV	Unalaska Valle	8.25	66	eP	Pn	19 16 58.9	+1.1
KDAK	Kodiak Island	16.79	57	Pn	Pn	19 18 50.1	-2.5
	0.4nm,0.3s,baz=244,slow=3.2,SNR=3.9						
MDJ	Mudanjiang	34.28	279	P	P	19 21 43.3	+0.6
MDJ				AMB	AMB		
	comp=Z,2.0nm,1.3s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,84nm,8.5s						
YKA	Yellowknife Ar	35.59	46	P	P	19 21 53.4	-0.5
	comp=Z,0.6nm,0.5s,mb3.8,baz=283,slow=7.6,SNR=10.0						
YKA	Yellowknife Ar	35.59	46	P	P	19 21 53.4	-0.5
CN2	Changchun	37.26	281	eP	P	19 22 09.8	+1.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
SONM	Songino Array	46.44	296	P	P	19 23 23.8	+0.7
	comp=Z,0.6nm,0.6s,mb3.7,baz=62,slow=8.4,SNR=6.8						
BW06	Boulder Array	46.67	72	eP	P	19 23 25.6	+0.7
	comp=Z,1.0nm,0.6s,mb3.9						
PDAR	Pinedale Array	46.67	72	P	P	19 23 24.8	-0.2
	comp=Z,1.2nm,0.6s,mb4.0,baz=317,slow=3.8,SNR=15						
SPB4	Spitsbergen Ar	50.53	356	eP	P	19 23 58.0	+3.4
MKAR	Makanchi Array	59.89	308	P	P	19 25 01.4	-0.6
	comp=Z,1.2nm,0.5s,mb4.2,baz=48,slow=6.4,SNR=21						
KMI	Kunming	63.43	278	P	P	19 25 28.8	+2.9
KMI				AP	pP	19 25 34.8	-3.7
KMI				XP	sP	19 25 38.0	-5.5
KMI				PP	PP	19 27 48.4	+2.7
KMI				S	S	19 33 56.1	+0.5
KMI				SS	SS	19 38 05.8	+2.9
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.5						
KMI				AMB	AMB		
	comp=Z,80nm,5.3s						
KMI				LR	LR		
	comp=N,135nm,18.9s,MS4.3						
KMI				LR	LR		
	comp=E,121nm,19.8s,MS4.3						
KMI				LR	LR		
	comp=Z,130nm,24.6s,MS4.0						
FINES	FINESS Array B	65.88	347	P	P	19 25 40.5	-1.4
	comp=Z,0.4nm,0.3s,mb3.9,baz=17,slow=7.1,SNR=9.4						
NOA	NORSAR Array B	67.79	354	P	P	19 25 53.0	-1.0
	comp=Z,0.3nm,0.6s,mb3.5,baz=6.2,slow=6.1,SNR=3.1						
AKASG	Malin Array Be	75.61	342	P	P	19 26 40.2	-0.8
	comp=Z,2.2nm,0.4s,mb4.4,baz=20,slow=6.4,SNR=5.0						
AKASG	Malin Array Be	75.61	342	P	P	19 26 40.2	-0.8
GERES	GERESS Array B	79.71	351	P	P	19 27 03.7	-0.2
	comp=Z,0.4nm,0.5s,mb3.6,baz=17,slow=5.6,SNR=5.0						
ASAR	Alice Springs	85.14	222	P	P	19 27 30.9	-1.3
	comp=Z,0.4nm,0.8s,mb3.6,baz=28,slow=5.0,SNR=4.9						
TSUM	Tsumeb	145.38	331	PKPbc	PKPbc	19 34 33.6	-0.1
	comp=Z,1.4nm,0.7s,baz=260,slow=6.1,SNR=3.7						

*IDC **02** 19:30:07.6±0.6, 5106N×17946W, h0km, mb4.3/20, mb1 4.5/21, mb1mx4.4/27, mbtmp4.3/21, ML4.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/30, Error ellipse: s-maj=20.0km s-min=14.7km az=149.0*
*BJI **02** 19:30:09.0, 5154N×17872W, h47km, mB4.8, mb4.5, Ms4.2, Msz4.1*
*ISCJB **02** 19:30:12.1±0.3, 5095N±007×17935W±005, h41km, mb4.5/64, MS4.0/5, Error ellipse: s-maj=9.8km s-min=4.6km az=0.5*
*MOS **02** 19:30:13.6±0.8, 5103N×17931W, h52km, mb4.7/31, Error ellipse: s-maj=14.3km s-min=6.7km az=92.1*
*NEIC **02** 19:30:14.4±0.6, 5102N×17940W, h47km±4km, mb4.5/44, ML4.2(AEIC), Error ellipse: s-maj=7.1km s-min=3.7km az=183.0*
*SZGRF **02** 19:30:23.8, 5236N×17643E, h33km, mb4.7, Rat Islands, Aleutian Islands, United States*
ISC 02 19:30:13.8±0.4**, 5101N**±007×**17940W**±005**, h43**km**, h43**km±5.5km**:pP-P, n172, σ0s82**/169**, mb4.5**/64**, MS4.0**/5**, 10C-2D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	Amchitka	0.90	295	P	Pn	19 30 28.9	-1.1
AMKA				S	Sn	19 30 43.1	+1.4
SMY	Shemya	4.38	296	P	Pn	19 31 19.7	+1.9
SPIA	Saint Paul Isl	8.19	37	P	Pn	19 32 13.0	+3.0
UNV	Unalaska Valle	8.38	65	P	Pn	19 32 13.3	+0.6
AKUT	Akutan	8.87	64	eP	Pn	19 32 20.1	+0.7
SVW2	Sparrevohn	16.60	43	eP	Pn	19 34 04.1	+0.7
KDAK	Kodiak Island	16.95	56	Pn	Pn	19 34 03.0	-4.7
	1.5nm,0.3s,baz=179,slow=0.7,SNR=7.6						
KDAK	Kodiak Island	16.95	56	eP	Pn	19 34 02.9	-4.8
	5.6nm,0.3s						
TTA	Tatalina	17.34	38	eP	Pn	19 34 13.4	+0.9
TTA				pmax	pmax		
	comp=Z,23nm,1.3s						
TTA	Tatalina	17.34	38	eP	Pn	19 34 13.4	+0.8
	comp=Z,23nm,1.3s						
BILL	Bilibino	18.47	343	ceP	Pn	19 34 28.2	+1.8
BILL				pmax	pmax		
	comp=Z,21nm,1.3s						
BILL	Bilibino	18.47	343	eP	Pn	19 34 27.4	+0.9
	comp=Z,18nm,1.1s						
SML	Sawmill	20.09	46	P	P	19 34 42.8	-0.9
COLA	College	21.44	38	eP	P	19 34 57.9	-0.3
COLA				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.3						
COLA	College	21.44	38	eP	P	19 34 57.9	-0.3
	comp=Z,13nm,0.9s,mb4.3						
YSS	Yuzh-Sakhalins	24.98	276	eP	P	19 35 34.0	+0.7
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.6						
YSS	Yuzh-Sakhalins	24.98	276	eP	P	19 35 33.9	+0.7
	comp=Z,14nm,0.9s,mb4.5						
ASAJ	Asahikawa	26.32	270	LR	LR	19 46 33.1	
	comp=Z,80nm,18.2s,MS3.3,baz=352,slow=38						
INK	Inuvik	27.98	35	P	P	19 35 59.5	-0.8
	comp=Z,3.2nm,0.8s,mb4.0,baz=281,slow=17,SNR=5.1						
KLR	Kul'dur	30.92	286	eP	P	19 36 23.8	-2.6
MDJ	Mudanjiang	34.26	280	P	P	19 36 54.9	-0.7
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
MDJ				AMB	AMB		

comp=Z,69nm,6.0s
MDJ LR LR
comp=N,35nm,20.5s,MS3.3
MDJ LR LR
comp=E,42nm,21.3s,MS3.3
MDJ LR LR
comp=Z,79nm,22.9s,MS3.4
YKA Yellowknife Ar 35.76 46 P **P** **19 37 07.5 -1.1**
comp=Z,3.2nm,0.7s,mb4.4,baz=282,slow=8.2,SNR=16
YKA Yellowknife Ar 35.76 46 P **P** **19 37 07.5 -1.1**
CN2 Changchun 37.24 281 *e*P **P** **19 37 21.7 +0.5**
HAWA Hanford 38.84 73 *e*P **P** **19 37 34.5 0.0**
comp=Z,0.4nm,0.8s
NEW Newport 39.37 69 P **P** **19 37 39.2 +0.2**
comp=Z,6.1nm,0.8s,mb4.4,baz=296,slow=5.6,SNR=6.8
NEW Newport 39.37 69 P **P** **19 37 39.2 +0.2**
NEW pmax pmax
comp=Z,6.0nm,0.8s
NEW Newport 39.37 69 *e*P **P** **19 37 38.9 -0.1**
comp=Z,4.9nm,0.9s,mb4.2
BMO Blue Mountains 40.96 74 *e*P **P** **19 37 52.4 +0.1**
comp=Z,2.6nm,0.8s,mb3.9
MSO Missoula 41.95 69 *e*P **P** **19 37 59.3 -1.1**
comp=Z,4.0nm,1.1s,mb4.0
HRY Holter Researc 43.26 68 P **P** **19 38 11.0 +0.1**
HLID Hailey 43.41 73 *e*P **P** **19 38 12.8 +0.6**
comp=Z,4.7nm,0.9s,mb4.2
MCMT McKenzie Canyo 43.66 71 *e*P **P** **19 38 14.8 +0.6**
EGMT Eagleton 43.78 65 *e*P **P** **19 38 15.1 -0.1**
comp=Z,9.6nm,0.9s,mb4.5
NVAR Mina Array Bea 43.98 82 P **P** **19 38 17.5 +0.7**
comp=Z,1.5nm,0.8s,mb3.8,baz=290,slow=6.5,SNR=6.5
ELK Elko 44.51 77 *e*P **P** **19 38 21.4 +0.4**
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 44.51 77 *e*P **P** **19 38 21.4 +0.4**
comp=Z,2.4nm,0.8s,mb4.1
BGU Big Grassy Mou 45.76 76 P **P** **19 38 31.7 +0.8**
TLY Talaya 45.94 302 *e*P **P** **19 38 33.0 +0.7**
TLY pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ULN Ulaanbaatar 46.09 296 *e*P **P** **19 38 34.1 +0.6**
ULN pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
ULN Ulaanbaatar 46.09 296 *e*P **P** **19 38 34.1 +0.6**
comp=Z,5.3nm,1.1s,mb4.4
TPNV Topopah Spring 46.17 82 *e*P **P** **19 38 34.4 +0.2**
TPNV pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TPNV Topopah Spring 46.17 82 *e*P **P** **19 38 34.4 +0.3**
comp=Z,5.0nm,0.8s,mb4.5
DUG Dugway 46.33 76 *e*P **P** **19 38 34.8 -0.6**
DUG pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
DUG Dugway 46.33 76 *e*P **P** **19 38 34.8 -0.6**
comp=Z,9.9nm,1.1s,mb4.7
SONM Songino Array 46.47 297 P **P** **19 38 37.4 +0.9**
comp=Z,2.5nm,0.7s,mb4.2,baz=60,slow=8.8,SNR=27
SONM PcP PcP 19 40 09.9 -0.7
comp=Z,1.3nm,0.8s,baz=73,slow=3.0,SNR=6.0
PDAR Pinedale Array 46.79 72 P **P** **19 38 39.5 +0.5**
comp=Z,6.1nm,0.8s,mb4.6,baz=319,slow=4.7,SNR=57
MOY Mondy 47.35 304 *e*P **P** **19 38 44.6 +1.2**
HHC Hu-ho-hao-te 47.43 286 *e*P **P** **19 38 44.7 +0.8**
HHC AP pP 19 38 53.8 -2.2
HHC XP sP 19 38 59.1 -2.0
HHC PP PP 19 40 34.9 -0.5
HHC AMB AMB
comp=Z,13nm,0.6s,mb5.0
HHC AMB AMB
comp=Z,140nm,5.2s
HHC LR LR
comp=N,183nm,16.6s,MS4.3
HHC LR LR
comp=E,218nm,17.3s,MS4.3
HHC LR LR
comp=Z,114nm,17.3s,MS3.9
SRU San Rafael 48.39 76 *e*P **P** **19 38 53.0 +1.6**
SRU pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
SRU San Rafael 48.39 76 *e*P **P** **19 38 53.0 +1.6**
comp=Z,4.8nm,0.8s,mb4.6
NJ2 Nanjing 48.44 272 *e*P **P** **19 38 52.9 +1.1**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
WUAZ Wupatki 50.12 80 *e*P **P** **19 39 05.5 +0.9**
comp=Z,2.5nm,0.6s,mb4.4
SPB4 Spitsbergen Ar 50.72 356 *e*P **P** **19 39 08.2 -0.9**
SUMG Summit 53.75 14 *e*P **P** **19 39 30.7 -1.0**
comp=Z,7.2nm,1.0s,mb4.6
LZH Lanzhou 55.12 286 *e*P **P** **19 39 42.7 +1.1**
LZH AP pP 19 39 52.8 -1.1
LZH XP sP 19 39 56.7 -2.2
LZH AMB AMB
comp=Z,22nm,1.4s,mb5.0
ARCES ARCESS Array B 58.39 350 P **P** **19 40 03.6 -1.2**
comp=Z,2.2nm,0.6s,mb4.3,baz=23,slow=7.9,SNR=14
CD2 Chengdu 58.68 282 *e*P **P** **19 40 05.6 -1.2**
MKAR Makanchi Array 59.97 308 P **P** **19 40 14.8 -0.8**
comp=Z,3.8nm,0.5s,mb4.7,baz=50,slow=6.5,SNR=6.9
WCI Wyandotte Cave 63.21 62 *e*P **P** **19 40 37.5 -0.1**
WCI pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
WCI Wyandotte Cave 63.21 62 *e*P **P** **19 40 37.5 -0.1**
comp=Z,4.7nm,0.7s,mb4.7
KMI Kunming 63.40 278 P **P** **19 40 39.6 +0.8**
KMI AP pP 19 40 52.2 +0.9
KMI XP sP 19 40 57.1 +0.8
KMI AMB AMB
comp=Z,5.0nm,1.0s,mb4.6
KMI AMB AMB
comp=Z,53nm,4.5s
KMI LR LR
comp=N,261nm,16.2s,MS4.6
KMI LR LR
comp=E,218nm,16.2s,MS4.6
KMI LR LR
comp=Z,185nm,16.2s,MS4.3
JOF Joensuu 63.86 345 *e*p **P** **19 40 40.2 -1.6**
PLAL Pickwick Lake 64.51 65 *e*P **P** **19 40 45.5 -0.6**
comp=Z,5.8nm,0.7s,mb4.7
KAF Kangasniemi 65.39 347 *e*p **P** **19 40 49.8 -2.0**
comp=Z,10nm,0.9s,mb4.8,baz=16,slow=6.0
KAF Kangasniemi 65.39 347 *e*P **P** **19 40 49.8 -2.0**
KAF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
FINES FINESS Array B 66.06 347 P **P** **19 40 54.5 -1.7**
comp=Z,5.1nm,0.8s,mb4.6,baz=46,slow=6.1,SNR=27
LRAL Lakeview Retre 66.53 66 *e*P **P** **19 40 58.8 -0.3**
comp=Z,3.1nm,0.8s,mb4.4
NB2 NORSAR Subarra 67.98 354 P **P** **19 41 07.4 -0.9**
comp=Z,8.0nm,1.1s,mb4.7,baz=4.2,slow=6.2
NOA NORSAR Array B 67.98 354 P **P** **19 41 07.0 -1.3**
comp=Z,3.7nm,1.0s,mb4.4,baz=6.2,slow=6.3,SNR=8.4
KSH Kashi 68.42 306 *e*P **P** **19 41 08.6 -2.5**
KSH *e*AP pP 19 41 21.5 -2.2
KSH *e*XP sP 19 41 26.6 -2.0
KSH *e*PCP PcP 19 41 35.7 -0.5
KSH *e*PP PP 19 43 40.7 -1.7
KSH *e*SCP 19 45 33.7
KSH *e*PCS 19 45 38.7
KSH *e*S S 19 50 00.4 -9.0
KSH *e*SCS ScS 19 50 59.2 -8.0
KSH AMB AMB
comp=Z,36nm,1.0s,mb5.4
KSH AMB AMB
comp=Z,1μm,3.3s
KSH LR LR
comp=Z,734nm,11.6s
HFS Hagfors 68.71 353 P **P** **19 41 11.9 -1.0**
comp=Z,5.6nm,1.0s,mb4.5,baz=44,slow=4.5,SNR=11
BSEG Bad Segeberg 75.11 354 *e*P **P** **19 41 51.4 +0.1**
AKASG Malin Array Be 75.78 342 P **P** **19 41 54.4 -0.7**
comp=Z,6.3nm,0.4s,mb4.9,baz=19,slow=5.8,SNR=35
IBBN Ibbenburen 76.88 355 *e*P **P** **19 42 02.4 +1.0**
CLZ Clausthal 77.19 354 *e*P **P** **19 42 03.5 +0.4**
comp=Z,9.0nm,0.9s,mb4.7
CLZ Clausthal 77.19 354 *e*P **P** **19 42 03.5 +0.4**
CLZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CLL Collm 77.52 352 *e*P **P** **19 42 04.0 -0.9**
comp=Z,5.0nm,0.8s,mb4.5
CLL Collm 77.52 352 ⇑P **P** **19 42 03.8 -1.1**
comp=Z,logA/T=0.8,mb4.5
CLL *e**PP pP 19 42 19.0 +1.2
CLL Collm 77.52 352 ⇑*i*P **P** **19 42 03.8 -1.1**
comp=Z,5.0nm,0.8s,mb4.5
CLL *e*pP pP 19 42 19.0 +1.2
CLL Collm 77.52 352 ⇑*i*P **P** **19 42 03.8 -1.1**
CLL *e* pP 19 42 19.0 +1.2
CLL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BUG Bochum--Univer 77.77 356 *e*P **P** **19 42 05.9 -0.4**
OJC Ojcow 77.83 348 *e*P **P** **19 42 06.7 0.0**
BRG Berggiesshubel 77.87 351 *e*P **P** **19 42 06.2 -0.6**
KWP Kalwaria 77.98 346 *e*P **P** **19 42 07.6 +0.1**
KWP pmax pmax
comp=Z,44nm,0.9s,mb5.4
KWP Kalwaria 77.98 346 *e*P **P** **19 42 07.6 +0.1**
comp=Z,44nm,0.9s,mb5.4
DPC Dobruska-Polom 78.14 350 *e*P **P** **19 42 08.3 -0.1**
PVCC Panska Ves 78.15 351 *e*P **P** **19 42 08.2 -0.2**
PVCC LR LR
comp=Z,200nm,12.0s,MS4.7
MOX Moxa 78.29 353 *e*P **P** **19 42 08.8 -0.4**
OKC Ostrava-Krasne 78.42 349 *e*P **P** **19 42 09.9 0.0**
NKC Novy Kostel 78.63 352 *e*P **P** **19 42 11.0 -0.1**
TNS Taunus Mts 78.93 355 *e*P **P** **19 42 12.8 +0.1**
VRAC Vranov 79.13 349 P **P** **19 42 14.1 +0.3**
comp=Z,3.7nm,0.9s,mb4.3,baz=7.5,slow=7.0,SNR=5.7
GIVF Givet 79.21 357 *e*P **P** **19 42 14.1 -0.1**
BAIF Baives 79.27 358 *e*P **P** **19 42 14.7 +0.1**
comp=Z,15nm,0.9s,mb4.6
BAIF Baives 79.27 358 *e*P **P** **19 42 14.7 +0.1**
BAIF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BAIF Baives 79.27 358 *e*P **P** **19 42 14.7 +0.1**
comp=Z,7.6nm,0.9s,mb4.6
GRA1 Grafenberg Arr 79.27 353 *e*P **P** **19 42 14.7 +0.1**
comp=Z,7.0nm,0.9s,mb4.6
GRF Grafenberg Arr 79.27 353 *e*P **P** **19 42 14.7 +0.1**
comp=Z,7.0nm,0.9s,mb4.6
GRF Grafenberg Arr 79.27 353 *e*P **P** **19 42 14.7 +0.1**
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GRF Grafenberg Arr 79.27 353 *e*P **P** **19 42 14.7 +0.1**
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BURAR Bucovina Array 79.50 343 ⇑*i*P **P** **19 42 16.1 +0.2**
BURAR Bucovina Array 79.50 343 ⇑P **P** **19 42 16.1 +0.2**
WLF Walferdange 79.60 356 *e*P **P** **19 42 17.2 +0.8**
KHC Kasperske Hory 79.62 351 *e*P **P** **19 42 16.7 +0.2**
GEC2 GERESS Array S 79.90 351 *e*P **P** **19 42 17.9 -0.1**
comp=Z,3.0nm,0.9s,mb4.2
GEC2 GERESS Array S 79.90 351 *e*P **P** **19 42 17.9 -0.1**
GEC2 pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
GERES GERESS Array B 79.90 351 P **P** **19 42 17.9 -0.1**
comp=Z,1.6nm,0.6s,mb4.1,baz=22,slow=4.8,SNR=16
PSZ Piszkesteto 80.07 347 *e*P **P** **19 42 19.7 +0.8**
PSZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
PSZ Piszkesteto 80.07 347 *e*P **P** **19 42 19.7 +0.7**
comp=Z,6.1nm,0.9s,mb4.5
DRGR 80.73 345 ⇓*i*P **P** **19 42 22.7 +0.2**
DRGR 80.73 345 ⇓P **P** **19 42 22.7 +0.2**
CDF Champ du Feu 80.80 355 *e*P **P** **19 42 22.6 -0.2**
comp=Z,2.7nm,0.6s,mb4.0
CDF Champ du Feu 80.80 355 *e*P **P** **19 42 22.6 -0.2**
CDF pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
CDF Champ du Feu 80.80 355 *e*P **P** **19 42 22.6 -0.2**
comp=Z,1.4nm,0.6s,mb4.1
MEZF Maizieres J'vi 80.80 357 *e*P **P** **19 42 23.0 +0.2**
HINF Hinteralfeld 81.41 356 *e*P **P** **19 42 25.7 -0.4**
WRA Warramunga Arr 81.48 223 P **P** **19 42 25.7 -0.8**
comp=Z,0.8nm,0.6s,mb3.8,baz=33,slow=5.9,SNR=13
BZS Buzias 82.06 345 ⇑*i*P **P** **19 42 29.5 0.0**
BZS Buzias 82.06 345 ⇑P **P** **19 42 29.5 0.0**
LOR Lormes 82.07 358 *e*P **P** **19 42 29.0 -0.5**
comp=Z,6.3nm,0.9s,mb4.2
LOR Lormes 82.07 358 *e*P **P** **19 42 29.0 -0.5**
LOR pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
LOR Lormes 82.07 358 *e*P **P** **19 42 29.0 -0.5**
comp=Z,3.2nm,0.9s,mb4.2
GZR Gura Zlata 82.08 344 ⇑*i*P **P** **19 42 30.2 +0.6**
GZR Gura Zlata 82.08 344 ⇑P **P** **19 42 30.2 +0.6**
DAVOX Davos 82.27 354 P **P** **19 42 30.6 0.0**
comp=Z,1.3nm,0.6s,mb4.0,baz=292,slow=8.2,SNR=4.2
CABF La Chapelle 82.65 356 *e*P **P** **19 42 32.7 +0.1**
SMF Signal de Mont 82.69 358 *e*P **P** **19 42 32.6 -0.2**
comp=Z,1nm,1.1s,mb4.6
SMF Signal de Mont 82.69 358 *e*P **P** **19 42 32.6 -0.2**
SMF pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
SMF Signal de Mont 82.69 358 *e*P **P** **19 42 32.6 -0.2**
comp=Z,6.3nm,1.1s,mb4.6
MFF Saint Martin d 82.77 1 *e*P **P** **19 42 33.2 0.0**
comp=Z,12nm,1.1s,mb4.5
MFF Saint Martin d 82.77 1 *e*P **P** **19 42 33.2 0.0**
MFF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MFF Saint Martin d 82.77 1 *e*P **P** **19 42 33.2 0.0**
comp=Z,5.9nm,1.0s,mb4.6
BGF Bois d'Agland 82.80 358 *e*P **P** **19 42 33.2 -0.2**
TCF Toulx Ste Croi 83.08 359 *e*P **P** **19 42 34.6 -0.2**
comp=Z,6.5nm,0.9s,mb4.3
TCF Toulx Ste Croi 83.08 359 *e*P **P** **19 42 34.6 -0.2**
TCF pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
TCF Toulx Ste Croi 83.08 359 *e*P **P** **19 42 34.6 -0.2**
comp=Z,3.3nm,0.9s,mb4.4
LPL La Plagne 83.71 356 *e*P **P** **19 42 37.8 -0.3**
LPG La Plagne 83.73 356 *e*P **P** **19 42 38.3 +0.1**
comp=Z,5.9nm,0.9s,mb4.4
LPG La Plagne 83.73 356 *e*P **P** **19 42 38.3 +0.1**
LPG pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
LPG La Plagne 83.73 356 *e*P **P** **19 42 38.3 +0.1**
comp=Z,3.0nm,0.9s,mb4.4
FITZ Fitzroy Crossi 83.94 232 *e*P **P** **19 42 39.8 +0.6**
comp=Z,5.5nm,0.6s,mb4.9
FITZ Fitzroy Crossi 83.94 232 P **P** **19 42 40.2 +1.0**
comp=Z,3.1nm,0.7s,mb4.6,baz=51,slow=5.4,SNR=13
ORIF Oris-en-Rattie 84.35 356 *e*P **P** **19 42 42.0 +0.7**
comp=Z,7.7nm,0.9s,mb4.5
ORIF Oris-en-Rattie 84.35 356 *e*P **P** **19 42 42.0 +0.7**
ORIF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ORIF Oris-en-Rattie 84.35 356 *e*P **P** **19 42 42.0 +0.7**
comp=Z,3.8nm,0.9s,mb4.5
CAF Calviac 84.44 359 *e*P **P** **19 42 42.1 +0.3**
comp=Z,5.8nm,0.9s,mb4.4
CAF Calviac 84.44 359 *e*P **P** **19 42 42.1 +0.3**
CAF pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
CAF Calviac 84.44 359 *e*P **P** **19 42 42.1 +0.3**
comp=Z,2.9nm,0.9s,mb4.4
VIVF Saint-Julien-l 84.45 357 *e*P **P** **19 42 42.1 +0.3**
comp=Z,5.9nm,0.9s,mb4.4
VIVF Saint-Julien-l 84.45 357 *e*P **P** **19 42 42.1 +0.3**
VIVF pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
VIVF Saint-Julien-l 84.45 357 *e*P **P** **19 42 42.1 +0.3**
comp=Z,3.0nm,0.9s,mb4.4
MBDF Montbardon 84.50 356 *e*P **P** **19 42 42.1 0.0**
comp=Z,9.0nm,1.0s,mb4.5
MBDF Montbardon 84.50 356 *e*P **P** **19 42 42.1 0.0**
MBDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
MBDF Montbardon 84.50 356 *e*P **P** **19 42 42.1 0.0**
comp=Z,4.5nm,1.0s,mb4.5
ASAR Alice Springs 84.95 222 P **P** **19 42 44.6 +0.3**
comp=Z,0.9nm,0.8s,mb4.0,baz=31,slow=5.6,SNR=12
SMRF Simiane la Rot 85.30 356 *e*P **P** **19 42 47.0 +0.9**
comp=Z,12nm,1.0s,mb4.7
SMRF Simiane la Rot 85.30 356 *e*P **P** **19 42 47.0 +0.9**
comp=Z,12nm,1.0s,mb5.0
LMR La Mourre 85.90 356 *e*P **P** **19 42 49.1 0.0**
comp=Z,12nm,0.9s,mb4.8
LMR La Mourre 85.90 356 *e*P **P** **19 42 49.1 0.0**
LMR pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
LMR La Mourre 85.90 356 *e*P **P** **19 42 49.1 0.0**
comp=Z,5.8nm,0.9s,mb4.8
ETSF Etsaut 86.47 1 *e*P **P** **19 42 52.4 +0.5**
comp=Z,4.1nm,0.7s,mb4.4
ETSF Etsaut 86.47 1 *e*P **P** **19 42 52.4 +0.5**
ETSF pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
ETSF Etsaut 86.47 1 *e*P **P** **19 42 52.4 +0.5**
comp=Z,2.0nm,0.7s,mb4.5
PGF Pioggiola 86.54 354 *e*P **P** **19 42 52.3 +0.1**
comp=Z,25nm,1.0s,mb5.1
PGF Pioggiola 86.54 354 *e*P **P** **19 42 52.3 +0.1**
PGF pmax pmax
comp=Z,13nm,1.0s,mb5.1
PGF Pioggiola 86.54 354 *e*P **P** **19 42 52.3 +0.1**
comp=Z,13nm,1.0s,mb5.1
STKA Stephens Creek 89.41 212 P **P** **19 43 04.0 -1.9**
comp=Z,1.8nm,0.8s,mb4.5,baz=135,slow=9.0,SNR=4.4
ESDC Sonseca Array 89.61 4 P **P** **19 43 05.2 -1.6**
comp=Z,0.3nm,0.6s,mb3.8,baz=24,slow=4.5,SNR=4.1
TSUM Tsumeb 145.53 331 *e*PKP PKPdf 19 49 48.4 +1.3
LBTB Lobatse 147.72 314 PKPbc PKPbc 19 49 54.6 +0.9
comp=Z,3.2nm,0.7s,baz=294,slow=3.7,SNR=4.2
BOSA Boshof 150.94 311 PKPbc PKPbc 19 50 02.1 +0.4
comp=Z,5.0nm,0.9s,baz=63,slow=2.5,SNR=4.7

MOS ***02*** *19:35:48.7±1.2, 36.10N×71.16E, h58km, mb4.8/40, MS4.4/4, Error ellipse: s-maj=7.6km s-min=4.0km az=118.4*

ISCJB ***02*** *19:35:52.0±0.4, 36.18N±002×71.19E±003, h85km±4km, mb4.6/92, Error ellipse: s-maj=4.2km s-min=3.2km az=133.3*

NEIC ***02*** *19:35:52.5±1.5, 36.16N×7126E, h79km±13km, mb4.7/52, Error ellipse: s-maj=9.1km s-min=7.1km az=187.0*

BJI ***02*** *19:35:52.7, 36.33N×7120E, h85km, mB4.8, mb4.7, Ms4.4, Msz4.0*

IDC ***02*** *19:35:53.8±3.7, 36.18N×71.17E, h91km±33km, mb4.3/24, mb1 4.4/28, mb1mx4.4/30, mbtmp4.6/28, Error ellipse: s-maj=13.9km s-min=12.0km az=167.0*

SZGRF ***02*** *19:36:03.2, 36.95N×6958E, h33km, mb4.5, Hindu Kush, Afghanistan, region*

NNC ***02*** *19:36:06.7±4.0, 37.18N×7085E, h143km±39km, mb4.0, mpv5.0, Error ellipse: s-maj=47.8km s-min=28.0km az=37.0*

CSEM ***02*** *19:37:45.9, 4663N×5976E, h79km, mb5.1, After BER*

ISC 02 19:35:53.7±0.3, 3619N±002×7119E±003, h86km±4km, h81km±4.5km:pP-P,n294,σ1§20/325, mb4.6/92, 31C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.43**	**166**	⇑P	**Pn**	**19 36 35.2**	**+3.6**
CHCP	**Chirah Chowk**	**3.04**	**145**	⇓P	**Pn**	**19 36 43.2**	**+3.4**
DRP	**Derazinda**	**4.51**	**191**	⇓P	**Pn**	**19 37 02.5**	**+2.9**
KSH	**Kashi**	**5.03**	**47**	P	**Pn**	**19 37 10.1**	**+3.4**
KSH				*e*XP		19 37 27.2	
KSH				*e*S	**Sn**	**19 38 05.1**	**+1.5**
KSH				AMB	AMB		
	comp=Z,546nm,0.3s						
KSH				LR	LR		
	comp=N,4μm,5.8s						
KSH				LR	LR		
	comp=E,3μm,4.0s						
KSH				LR	LR		
	comp=Z,4μm,3.0s						
DLH	**Dalhousie**	**5.37**	**131**	*e*P	**Pn**	**19 37 15.0**	**+3.7**
DLH				*e*S	**Sn**	**19 38 15.0**	**+3.2**
PONG	**Pong**	**5.78**	**136**	*e*P	**Pn**	**19 37 17.0**	**+0.1**
PONG				*ex*	**Sn**	**19 38 24.0**	**+2.1**
BHK	**Bhakra**	**6.45**	**136**	*e*P	**Pn**	**19 37 32.2**	**+6.2**
BHK				*e*S	**Sn**	**19 38 41.8**	**+3.7**
UCH	**Uchtor**	**6.56**	**22**	P	**Pn**	**19 37 28.3**	**+0.8**
	SNR=174						
KZA	**Kyzart**	**6.67**	**27**	P	**Pn**	**19 37 30.1**	**+1.0**
	SNR=83						
SDNR	**Sundarnagar**	**6.71**	**133**	*e*P	**Pn**	**19 37 30.0**	**+0.5**
SDNR				*e*S	**Sn**	**19 38 40.0**	**-4.4**
EKS2	**Erkin-Say**	**6.76**	**16**	P	**Pn**	**19 37 31.4**	**+1.1**
	SNR=165						
AAK	**Ala-Archa**	**6.92**	**21**	P	**Pn**	**19 37 33.8**	**+1.4**
	SNR=119						
AAK	**Ala-Archa**	**6.92**	**21**	P	**Pn**	**19 37 33.1**	**+0.6**
	SNR=39						
AAK	**Ala-Archa**	**6.92**	**21**	⇓*i*PN	**Pn**	**19 37 32.6**	**+0.1**
AAK				pmax	pmax		
	comp=Z,141nm,0.6s						
AAK	**Ala-Archa**	**6.92**	**21**	⇓*i*Pn	**Pn**	**19 37 32.6**	**+0.1**
	comp=Z,141nm,0.6s						
AAK				*e*Sn	**Sn**	**19 38 48.8**	**-0.9**
KK31	**Karatay Array**	**6.92**	**356**	⇓P	**Pn**	**19 37 32.4**	**-0.1**
	comp=Z,34nm,0.3s,baz=174,slow=12						
KK31				⇑S	**Sn**	**19 38 44.3**	**-5.5**
	comp=Z,70nm,0.5s,baz=185,slow=23,SNR=11						
KK31	**Karatay Array**	**6.92**	**356**	*i* PN	**Pn**	**19 37 32.3**	**-0.2**
KK31				pmax	pmax		
	comp=Z,82nm,0.2s						
KBK	**Karagaybulak**	**7.08**	**23**	P	**Pn**	**19 37 36.0**	**+1.4**
	SNR=50						
SMLA	**Simla**	**7.09**	**134**	*e*P	**Pn**	**19 37 35.0**	**+0.2**
SMLA				*e*S	**Sn**	**19 38 50.1**	**-3.7**
SMLA				AML	AML	19 38 59.1	
	comp=E,612nm,0.5s						
SMLA				AML	AML	19 39 00.7	
	comp=N,683nm,0.7s						
FRU	**Bishkek**	**7.14**	**21**	⇑*i*P	**Pn**	**19 37 37.0**	**+1.5**
FRU				*i* S	**Sn**	**19 38 53.0**	**-2.1**
FRU				pmax	pmax		
	comp=Z,140nm,1.6s						
FRU				smax			
	comp=E,770μm,1.5s						
ULHL	**Ulahol**	**7.20**	**31**	P	**Pn**	**19 37 37.3**	**+1.0**
	SNR=46						
CHMS	**Chumysh**	**7.33**	**21**	P	**Pn**	**19 37 38.9**	**+0.8**
	SNR=123						
USP	**Ospenovka**	**7.51**	**19**	P	**Pn**	**19 37 41.1**	**+0.6**
	SNR=95						
TKM2	**Tokmak 2**	**7.53**	**25**	P	**Pn**	**19 37 41.9**	**+1.1**
	SNR=164						
KKR	**Kurukshetra**	**7.80**	**141**	*e*P	**Pn**	**19 37 42.7**	**-1.8**
DDI	**Dehra Dun**	**8.20**	**134**	*e*P	**Pn**	**19 37 51.0**	**+1.1**
DDI				*ex*	x	19 38 55.0	
KNDC	**Almaty**	**8.31**	**31**	⇑P	**Pn**	**19 37 52.7**	**+1.4**
	comp=E,106nm,1.0s						
JOSI	**Joshimath**	**8.97**	**126**	*e*P	**Pn**	**19 37 50.4**	**-10**
JOSI				*e*S	**Sn**	**19 39 29.2**	**-11**
JOSI				AML	AML	19 39 36.9	
	comp=N,621nm,1.0s						
JOSI				AML	AML	19 39 38.8	
	comp=E,567nm,0.8s						
KHET	**Khetri**	**8.99**	**153**	*e*P	**Pn**	**19 38 00.2**	**-0.4**
KHET				*e*S	**Sn**	**19 39 35.1**	**-5.0**
NDI	**New Delhi**	**9.05**	**144**	*e*P	**Pn**	**19 38 01.5**	**0.0**
NDI				*e*S	**Sn**	**19 39 36.0**	**-5.6**
AYAN	**Aya Nagar**	**9.18**	**145**	*e*P	**Pn**	**19 38 02.6**	**-0.6**
AYAN				*e*S	**Sn**	**19 39 39.9**	**-4.8**
KUDL	**Kundal**	**9.19**	**149**	*e*P	**Pn**	**19 38 03.1**	**-0.3**
KUDL				*e*S	**Sn**	**19 39 39.7**	**-5.4**
KUDL				AML	AML	19 39 45.5	
	comp=E,137nm,0.3s						
KUDL				AML	AML	19 39 46.9	
	comp=N,159nm,0.7s						
ASOR	**Ausora**	**9.26**	**141**	*e*P	**Pn**	**19 38 03.4**	**-0.9**
SONA	**Sohna**	**9.36**	**146**	*e*P	**Pn**	**19 38 04.9**	**-0.7**
SONA				*e*S	**Sn**	**19 39 43.0**	**-6.1**
SONA				AML	AML	19 39 49.3	
	comp=E,289nm,0.0s						
SONA				AML	AML	19 39 50.8	
	comp=N,369nm,0.2s						
AJM	**Ajmer**	**10.12**	**162**	*i* P	**Pn**	**19 38 15.0**	**-1.1**
AJM				*i* S	**Sn**	**19 40 02.0**	**-5.7**
LGTI	**Lohaghat**	**10.15**	**129**	*i* P	**Pn**	**19 38 14.3**	**-2.2**
LGTI				*ex*	x	19 40 02.5	
VAN	**Vannovskaya**	**10.60**	**283**	*e*P	**Pn**	**19 38 18.9**	**-3.7**
VAN				*e*S	**Sn**	**19 40 11.2**	**-8.3**
AGRA	**Agra**	**10.62**	**145**	*e*P	**Pn**	**19 38 20.9**	**-1.9**
AGRA				*e*S	**Sn**	**19 40 11.8**	**-8.0**
AGRA				AML	AML	19 40 21.5	
	comp=E,140nm,0.2s						
AGRA				AML	AML	19 40 24.2	
	comp=N,142nm,0.6s						
MK05	**Makanchi Array**	**13.45**	**35**	⇑P	**Pn**	**19 38 59.0**	**-2.0**
	comp=N,20nm,1.0s,baz=223,slow=16						
MKAR	**Makanchi Array**	**13.45**	**35**	P	**Pn**	**19 38 59.2**	**-1.8**
	comp=N,0.4nm,0.3s,baz=221,slow=9.6,SNR=79						
MKAR	**Makanchi Array**	**13.45**	**35**	P	**Pn**	**19 38 59.2**	**-1.8**
WMQ	**Urumqi**	**14.75**	**54**	P	**Pn**	**19 39 16.0**	**-1.8**
WMQ				AP		19 39 27.5	
WMQ				PP		19 39 30.0	
WMQ				XP	sP	19 39 38.6	-10

WMQ S **Sn** **19 41 58.4 -1.8**
WMQ XS 19 42 15.9
WMQ SS 19 42 17.8
WMQ PCP PcP 19 44 23.5 -0.2
WMQ AMB AMB
comp=Z,24nm,1.0s
WMQ AMB AMB
comp=Z,95nm,7.0s
WMQ LR LR
comp=N,512nm,15.6s
WMQ LR LR
comp=E,339nm,18.0s
WMQ LR LR
comp=Z,403nm,17.4s
AB31 Akbulak array 15.43 331 ⇑P **Pn** **19 39 23.3 -3.2**
comp=Z,11nm,0.5s,baz=142,slow=11,SNR=272
AB31 ⇑S S 19 42 00.3 -27
comp=Z,11nm,0.5s,baz=147,slow=23,SNR=7.9
AB31 Akbulak array 15.43 331 *i*P **Pn** **19 39 23.4 -3.0**
KURK Kurchatov 15.47 18 ⇓P **Pn** **19 39 24.3 -2.8**
comp=Z,6.2nm,0.8s
KURK Kurchatov 15.47 18 P **Pn** **19 39 29.6 +2.6**
SNR=5.4
KURK Kurchatov 15.47 18 *e*P **Pn** **19 39 24.2 -2.8**
KURK pmax pmax
comp=Z,11nm,0.8s
KURK Kurchatov 15.47 18 *e*Pn **Pn** **19 39 24.2 -2.8**
comp=Z,11nm,0.8s
KURK *e*P 19 39 28.9
AKL Akola 16.25 160 *ex* **Pn** **19 39 41.9 +5.2**
AKL *ex* x 19 42 35.5
NGP Nagpur 16.48 153 *e*P **Pn** **19 39 37.6 -2.0**
NGP *ex* x 19 42 29.0
VOSK Vostochnaya 16.53 360 ⇓P **Pn** **19 39 37.2 -3.0**
comp=Z,15nm,1.1s
VOSK ⇑S **S** **19 42 30.5 -19**
comp=Z,14nm,1.3s
VOSK Vostochnaya 16.53 360 *i* P **Pn** **19 39 37.2 -3.0**
VOSK pmax pmax
comp=Z,16µm,1.4s
ZRNK Zerenda 16.83 355 ⇑P **Pn** **19 39 42.0 -1.9**
comp=Z,30nm,1.2s
ZRNK ⇑S **S** **19 42 39.3 -16**
comp=Z,8.0nm,1.1s
ZRNK Zerenda 16.83 355 *i* P **Pn** **19 39 41.9 -2.0**
ZRNK pmax pmax
comp=Z,15nm,0.6s
ZRNK Zerenda 16.83 355 *e*P **Pn** **19 39 41.5 -2.3**
comp=Z,23nm,0.8s
BVA0 Borovoye Array 16.84 358 P **Pn** **19 39 42.3 -1.8**
comp=Z,5.0nm,1.4s,baz=172,slow=14,SNR=110
BVA0 ⇑S **S** **19 42 45.2 -11**
comp=Z,3.2nm,1.3s,baz=176,slow=21,SNR=4.9
BVAR Borovoye Array 16.84 358 P **Pn** **19 39 42.1 -1.9**
comp=Z,2.5nm,0.3s,baz=165,slow=8.9,SNR=38
BRVK Borovoye 16.88 358 P **Pn** **19 39 43.9 -0.6**
SNR=10
BRVK Borovoye 16.88 358 *e*P **Pn** **19 39 42.1 -2.4**
BRVK pmax pmax
comp=Z,60nm,0.8s
BRVK Borovoye 16.88 358 *e*P **Pn** **19 39 42.1 -2.4**
comp=Z,60nm,0.8s
WSAR Wadi Sarin 16.88 224 P **Pn** **19 39 44.9 +0.4**
comp=Z,0.7nm,0.3s,baz=22,slow=12,SNR=10
AKTK Aktyubinsk 17.13 330 P **Pn** **19 39 46.2 -1.4**
AKTO Aktyubinsk 17.13 330 ⇑P **Pn** **19 39 46.8 -0.8**
comp=Z,14nm,0.7s
AKTO ⇑S **S** **19 42 43.9 -18**
comp=Z,2.3nm,1.1s
AKTO Aktyubinsk 17.13 330 P **Pn** **19 39 46.2 -1.4**
comp=Z,2.9nm,0.3s,baz=138,slow=15,SNR=66
AKTO Aktyubinsk 17.13 330 *i* P **Pn** **19 39 46.7 -0.8**
AKTO pmax pmax
comp=Z,14nm,0.7s
POO Poona 17.75 172 *ex* x 19 44 05.0
LSA Lhasa 17.94 105 P **Pn** **19 39 58.0 +0.5**
LATR Latur 18.33 164 *ex* **Pn** **19 40 03.0 +0.9**
HYB Hyderabad 19.80 159 *i* P **Pn** **19 40 19.0 -0.6**
HYB *e*S **S** **19 43 49.0 -6.6**
ZAL Zalesovo 20.12 24 P **P** **19 40 20.3 -0.3**
comp=Z,21nm,0.4s,baz=250,slow=5.6,SNR=61
ZAL Zalesovo 20.12 24 P **P** **19 40 20.3 -0.3**
NVS Novosibirsk 20.42 20 *e*P **P** **19 40 23.3 -0.6**
NVS *e*S **S** **19 44 03.2 -4.5**
NVS pmax pmax
comp=Z,31nm,1.8s
NVS pmax pmax
comp=N,26nm,1.4s
NVS smax
comp=E,36nm,1.4s
UMR Umm Al-Rimmam 20.77 258 *e*P **P** **19 40 27.8 +0.1**
KBD Kabd 20.95 257 *e*P **P** **19 40 29.7 +0.1**
MIB Mutribah 20.97 259 *e*P **P** **19 40 30.0 +0.1**
RDF Al-Radifah 21.17 257 *e*P **P** **19 40 32.0 0.0**
NAY Al-Naaiem 21.28 258 *e*P **P** **19 40 33.1 +0.1**
RST Umm Al-Ruwaisa 21.37 259 *e*P **P** **19 40 33.7 -0.3**
SVE Sverdlovsk 21.83 344 *e*P **P** **19 40 40.0 +1.0**
SVE *e* 19 40 57.2
SVE *e* 19 44 39.0
SVE *e* 19 45 12.0
SVE pmax pmax
comp=Z,64nm,1.7s,mb4.7
ARU Arti 21.98 341 ⇑*i*P **P** **19 40 40.8 +0.3**
ARU *e* 19 41 12.0
ARU *e*PPP 19 41 22.3
ARU *e*S **S** **19 44 41.6 +3.5**
ARU *e*SS 19 45 10.3
ARU pmax pmax
comp=Z,95nm,1.0s,mb5.1
ZEI Tsey 22.01 296 *e*P **P** **19 40 42.6 +1.7**
ZEI *e**PP 19 40 55.7
ZEI pmax pmax
comp=Z,154nm,0.9s,mb5.3
GTA Gaotai 22.80 73 *e*P **P** **19 40 50.7 +1.5**
GTA AP 19 41 05.1
GTA PP 19 41 22.5
GTA S **S** **19 44 52.4 +0.7**
GTA XS sS 19 45 15.6 -7.5
GTA SS 19 45 41.1
GTA AMB AMB
comp=Z,28nm,1.4s,mb4.4
GTA AMB AMB
comp=Z,166nm,6.1s
GTA LR LR
comp=N,135nm,14.5s
GTA LR LR
comp=E,96nm,15.2s
GTA LR LR
comp=Z,124nm,15.6s
GOF Gofitskoye 23.04 301 *e*P **P** **19 40 53.1 +1.5**
GOF pmax pmax
comp=Z,50nm,0.7s,mb5.0
KIV Kislovodsk 23.07 298 *e*P **P** **19 40 50.3 -1.6**
comp=Z,248nm,0.9s,mb5.5
SOKR Solikamsk 25.20 343*c i*P **P** **19 41 12.7 +1.5**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb4.7
VRHR Novokhopersk 25.85 314 *e*P **P** **19 41 17.4 +0.3**
VRHR pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
VRHR pmax pmax
comp=N,3.0nm,0.3s
VRHR pmax pmax
comp=E,10.0nm,0.5s
LZH Lanzhou 26.30 80 *e*P **P** **19 41 24.5 +3.3**
LZH AP pP 19 41 46.5 +5.7
LZH PP 19 42 12.5
LZH AMB AMB
comp=Z,30nm,1.5s,mb4.5
VRSR Storozhevoye 27.31 313 *e*P **P** **19 41 30.2 -0.1**
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
VRSR pmax pmax
comp=N,1.0nm,0.4s
VRSR pmax pmax
comp=E,30nm,1.0s
VOR Voronezh 27.50 314 *e*P **P** **19 41 31.0 -0.9**
VOR pmax pmax
comp=Z,30nm,1.0s,mb4.8
CD2 Chengdu 27.57 92 P **P** **19 41 30.0 -2.5**
CD2 PP PP 19 42 21.0 -15
CD2 S **S** **19 46 03.6 -4.0**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
CD2 AMB AMB
comp=Z,40nm,5.6s
CD2 LR LR
comp=N,80nm,12.5s
CD2 LR LR
comp=Z,60nm,10.8s
SONM Songino Array 28.39 55 P **P** **19 41 41.1 +1.2**
comp=Z,1.4nm,0.7s,mb3.6,baz=258,slow=9.4,SNR=11
ULN Ulaanbaatar 28.82 55 *e*P **P** **19 41 44.6 +0.9**
ULN pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
ULN Ulaanbaatar 28.82 55 *e*P **P** **19 41 44.6 +0.9**
comp=Z,1.9nm,0.8s,mb3.8
KMI Kunming 29.17 103 P **P** **19 41 48.4 +1.6**
KMI AP pP 19 42 05.8 -0.8
KMI PP PP 19 42 46.8 -7.3
KMI S **S** **19 46 37.8 +5.0**
KMI XS sS 19 47 05.3 -1.7
KMI SS SS 19 48 10.6 -29
KMI AMB AMB
comp=Z,7.0nm,0.7s,mb4.4
KMI AMB AMB
comp=Z,94nm,4.5s
KMI LR LR
comp=N,343nm,12.7s
KMI LR LR
comp=E,328nm,17.3s
KMI LR LR
comp=Z,303nm,13.9s
OBN Obninsk 30.27 320*c i*P **P** **19 41 56.9 +0.3**
OBN *e**PP pP 19 42 19.1 +2.8
OBN *e* 19 42 57.6
OBN *e*S **S** **19 46 45.7 -4.4**
OBN pmax pmax
comp=Z,38nm,0.9s,mb5.0
OBN Obninsk 30.27 320 *e*P **P** **19 41 56.7 +0.1**
comp=Z,17nm,0.5s,mb4.9
GYA Guiyang 31.67 98⇑*i*P **P** **19 42 10.4 +1.6**
GYA AP pP 19 42 28.2 -0.4
GYA XP sP 19 42 37.3 -1.4
GYA PP PP 19 43 18.6 -3.2
GYA S **S** **19 47 14.0 +2.1**
GYA XS sS 19 47 44.9 -1.2
GYA SCP ScP 19 48 35.4 +1.1
GYA SCS ScS 19 52 32.2 -0.2
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,100nm,3.8s
GYA LR LR
comp=N,410nm,17.0s
GYA LR LR
comp=E,430nm,17.2s
GYA LR LR
comp=Z,450nm,17.4s
HHC Hu-ho-hao-te 31.73 69 *e*P **P** **19 42 09.6 +0.3**
HHC AP pP 19 42 27.5 -1.7
HHC XP sP 19 42 35.8 -3.4
HHC PP PP 19 43 18.0 -4.4
HHC S **S** **19 47 11.7 -1.1**
HHC PCS PcS 19 48 43.3 -0.3
HHC AMB AMB
comp=Z,12nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,85nm,3.8s
HHC LR LR
comp=N,183nm,16.6s
HHC LR LR
comp=E,218nm,14.9s
HHC LR LR
comp=Z,133nm,20.2s
KLMR Klimovskoe 31.83 331 *e*P **P** **19 42 09.7 -0.5**
KLMR pmax pmax
comp=Z,30nm,1.6s,mb4.8
AKASG Malin Array Be 33.26 309 P **P** **19 42 23.6 +0.8**
comp=Z,4.5nm,0.5s,mb4.5,baz=82,slow=7.5,SNR=27
JOF Joensuu 36.21 330 *ep* **P** **19 42 48.2 0.0**
VSU Vasula 36.52 322*c i*P **P** **19 42 50.6 -0.2**
UZH Uzhgorod 37.56 305*c i*P **P** **19 43 00.0 +0.4**
FINES FINESS Array B 37.83 326 P **P** **19 43 01.9 0.0**
comp=Z,16nm,0.7s,mb4.9,baz=111,slow=11,SNR=53
KAF Kangasniemi 37.97 327 *ep* **P** **19 43 02.5 -0.6**
comp=Z,11nm,0.7s,mb4.8,baz=111,slow=8.6
KAF Kangasniemi 37.97 327 *e*P **P** **19 43 02.5 -0.6**
KAF pmax pmax
comp=Z,11nm,0.7s,mb4.8
QIZ Qiongzhong 37.98 106 *e*P **P** **19 43 03.6 +0.4**
QIZ *e*S **S** **19 48 55.3 +6.4**
QIZ AMB AMB
comp=Z,75nm,3.5s
QIZ LR LR
comp=N,284nm,15.5s
QIZ LR LR
comp=E,285nm,14.8s
QIZ LR LR
comp=Z,248nm,19.4s
NIE Niedzica 38.87 306 *e*P **P** **19 43 13.7 +3.1**
OJC Ojcow 39.22 307 *e*P **P** **19 43 12.7 -0.8**
NJ2 Nanjing 39.36 82 *e*P **P** **19 43 13.5 -1.2**
NJ2 AP pP 19 43 31.8 -3.2
NJ2 XP sP 19 43 40.9 -4.0
NJ2 PP PP 19 44 51.1 +4.5
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
NJ2 AMB AMB
comp=Z,100nm,3.5s
NJ2 LR LR
comp=N,120nm,10.6s
NJ2 LR LR
comp=E,280nm,16.6s
NJ2 LR LR
comp=Z,900nm,18.4s
PKSM Moragy 40.13 301 ⇓*i*P **P** **19 43 23.4 +2.3**
PKSM Moragy 40.13 301 ⇓P **P** **19 43 23.4 +2.4**
OKC Ostrava-Krasne 40.28 307 *e*P **P** **19 43 21.4 -0.9**
OKC AMS AMS 19 53 00.0
comp=Z,400nm,18.3s
OKC Ostrava-Krasne 40.28 307 *e*P **P** **19 43 21.4 -0.9**
MORC Moravsky Berou 40.67 307⇑*i*P **P** **19 43 27.5 +2.0**
MORC Moravsky Berou 40.67 307 ⇑P **P** **19 43 27.5 +1.9**
KEV Kevo 41.15 338 *ep* **P** **19 43 29.0 -0.4**
VRAC Vranov 41.31 306 P **P** **19 43 32.9 +2.2**
comp=Z,10nm,0.9s,mb4.7,baz=98,slow=7.4,SNR=11
DPC Dobruska-Polom 41.44 308 *e*P **P** **19 43 32.1 +0.2**
DPC AMS AMS 19 54 20.0
comp=Z,500nm,14.3s
ARCES ARCESS Array B 41.49 338 P **P** **19 43 32.3 +0.1**
comp=Z,6.8nm,0.5s,mb4.7,baz=114,slow=8.4,SNR=88
SSE Sheshan 41.56 82 P **P** **19 43 33.3 +0.5**
SSE AP pP 19 43 50.3 -3.0
SSE S **S** **19 49 45.9 +3.5**
SSE XS sS 19 50 16.2 -1.3
SSE AMB AMB
comp=Z,21nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,59nm,5.0s
SSE LR LR
comp=N,100nm,20.0s
SSE LR LR
comp=E,148nm,20.0s
SSE LR LR
comp=Z,204nm,11.8s
CN2 Changchun 41.61 62 *e*P **P** **19 43 35.6 +2.4**
CN2 *e*S **S** **19 49 47.2 +4.1**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CN2 AMB AMB
comp=Z,200nm,3.0s
CONA Conrad Observa 41.88 304⇑*i*P **P** **19 43 36.5 +1.0**
comp=Z,15nm,0.9s,mb4.7
KTK1 Kautokeino 41.96 336 *e*P **P** **19 43 36.6 +0.6**
TREC Trest 42.03 306 *e*P **P** **19 43 37.1 +0.5**
TREC AMS AMS 19 54 30.0
comp=Z,700nm,11.7s
BRG Berggiesshubel 42.94 309 *e*P **P** **19 43 45.1 +1.1**
comp=Z,16nm,1.0s,mb4.7
BRG Berggiesshubel 42.94 309 *e*P **P** **19 43 44.0 0.0**
comp=Z,1.3nm,0.8s,mb3.7
BRG *e* 19 43 45.7
comp=Z,9.8nm,1.1s
BRG pmax pmax
comp=N,224nm,13.7s
BRG MLR MLR
comp=E,219nm,10.6s
BRG MLR MLR
comp=Z,292nm,12.1s
BRG Berggiesshubel 42.94 309 *e*P **P** **19 43 44.0 0.0**
BRG pmax pmax
comp=Z,1.0nm,0.8s,mb3.6
BRG pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
BRG pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
BRG MLR MLR
comp=N,224nm,13.7s
BRG MLR MLR
comp=E,219nm,10.6s
BRG MLR MLR
comp=Z,292nm,12.1s
BRG Berggiesshubel 42.94 309 *e*P **P** **19 43 44.0 0.0**
comp=Z,1.3nm,0.8s,mb3.7
BRG *e* 19 43 45.7
BRG LR LR
comp=Z,290nm,12.1s
MOA Molln 42.96 304⇑*i*P **P** **19 43 45.4 +1.3**
comp=Z,12nm,0.8s,mb4.7
RUE Ruedersdorf 42.98 311 P **P** **19 43 45.2 +0.9**
comp=Z,16nm,0.3s,mb5.2
GEC2 GERESS Array S 43.24 306 *e*P **P** **19 43 47.9 +1.5**
comp=Z,4.0nm,1.1s,mb4.1
GEC2 GERESS Array S 43.24 306 *e*P **P** **19 43 47.9 +1.5**
GEC2 pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
GERES GERESS Array B 43.24 306 P **P** **19 43 46.4 0.0**
comp=Z,1.9nm,0.8s,mb3.9,baz=95,slow=6.7,SNR=11
KHC Kasperske Hory 43.29 306 *e*P **P** **19 43 48.8 +2.0**
KHC *e*PP PP 19 45 22.0 -7.0
KHC AMS AMS 19 56 10.0
comp=Z,400nm,12.7s
HFS Hagfors 43.41 322 P **P** **19 43 47.6 -0.2**
comp=Z,22nm,0.6s,mb5.1,baz=93,slow=12,SNR=84
CLL Collm 43.51 309 *e*P **P** **19 43 49.8 +1.2**
comp=Z,7.0nm,0.8s,mb4.4
CLL Collm 43.51 309 P **P** **19 43 49.3 +0.7**
comp=Z,logA/T=1.0,mb4.5
CLL *i* *PP pP 19 44 08.8 -0.4
CLL *e* pP 19 44 12.0 +2.8
CLL Collm 43.51 309 *i* P **P** **19 43 49.3 +0.7**
comp=Z,8.0nm,0.8s,mb4.5
CLL *i* pP pP 19 44 08.8 -0.4
CLL *ex* x 19 44 12.0
CLL Collm 43.51 309 *i* P **P** **19 43 49.3 +0.7**
CLL *i* pP 19 44 08.8 -0.4
CLL pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
CLL Collm 43.51 309 *i* P **P** **19 43 49.3 +0.7**
comp=Z,8.0nm,0.8s,mb4.5
CLL *i* pP 19 44 08.8 -0.4
KBA Koelnbreinsper 43.67 303⇑*i*P **P** **19 43 49.2 -0.6**
comp=Z,4.6nm,0.7s,mb4.3
KBA Koelnbreinsper 43.67 303⇑*i*P **P** **19 43 49.3 -0.6**
KBA pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
TANN Tannenbergstha 43.91 308 *e*P **P** **19 43 53.0 +1.2**
NKC Novy Kostel 43.93 308 *e*P **P** **19 43 54.3 +2.3**
NKC AMS AMS 19 55 40.0
comp=Z,500nm,12.7s
NKC Novy Kostel 43.93 308 *e*P **P** **19 43 54.3 +2.3**
YAK Yakutsk 44.13 35 P **P** **19 43 53.2 -0.4**
YAK pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
YAK Yakutsk 44.13 35 P **P** **19 43 53.1 -0.4**
comp=Z,5.9nm,0.6s,mb4.5
MOR8 Moi Rana 44.16 331 *e*P **P** **19 43 52.9 -0.9**
MOR8 AMb AMB 19 43 54.5
comp=Z,61nm,0.9s,mb5.3
MOR8 Moi Rana 44.16 331 *e*P **P** **19 43 52.9 -0.9**
comp=Z,61nm,0.9s,mb5.3
MOR8 Moi Rana 44.16 331 *e*P **P** **19 43 52.9 -0.9**
comp=Z,61nm,0.9s,mb5.3,SNR=40
MANZ Manzenberg 44.17 307 *e*P **P** **19 43 56.0 +2.1**
MDJ Mudanjiang 44.42 60 P **P** **19 43 56.2 +0.3**
MDJ PP PP 19 45 40.4 -0.6
MDJ PCS PcS 19 49 32.7 +1.1
MDJ S **S** **19 50 25.4 +1.2**
MDJ AMB AMB
comp=Z,3.0nm,0.8s,mb4.1
MDJ AMB AMB
comp=Z,57nm,7.9s
MDJ LR LR
comp=N,258nm,23.8s
MDJ LR LR
comp=E,193nm,22.3s
MDJ LR LR
comp=Z,202nm,20.8s
MOX Moxa 44.43 308 *e*P **P** **19 43 57.5 +1.6**
MOX Moxa 44.43 308 *e*P **P** **19 43 57.9 +2.0**
comp=Z,9.0nm,1.3s,mb4.3
MOX
comp=Z,300nm,18.0s
MOX Moxa 44.43 308 *e*P **P** **19 43 57.9 +2.0**
MOX pmax pmax
comp=Z,9.0nm,1.3s,mb4.3
MOX MLR MLR
comp=Z,300nm,18.0s
NB2 NORSAR Subarra 44.72 323 P **P** **19 43 57.5 -0.8**
comp=Z,17nm,0.6s,mb5.0,baz=95,slow=7.9
NB2 NORSAR Subarra 44.72 323 P **P** **19 43 57.5 -0.8**
baz=95,slow=7.8,SNR=39
NOA NORSAR Array B 44.72 323 P **P** **19 43 57.4 -0.9**
comp=Z,25nm,0.9s,mb5.0,baz=96,slow=7.8,SNR=81
GRA1 Grafenberg Arr 44.77 307 *e*P **P** **19 44 00.9 +2.2**
comp=Z,15nm,1.0s,mb4.7
GRF Grafenberg Arr 44.77 307 *e*P **P** **19 44 00.9 +2.2**
comp=Z,15nm,1.0s,mb4.7
GRF Grafenberg Arr 44.77 307 *e*P **P** **19 44 00.9 +2.2**
GRF pmax pmax
comp=Z,15nm,1.0s,mb4.7
GRF Grafenberg Arr 44.77 307 *e*P **P** **19 44 00.9 +2.2**
GRF pmax pmax
comp=Z,15nm,1.0s,mb4.7
WTTA Wattenberg 44.80 304⇑*i*P **P** **19 44 00.8 +1.9**
comp=Z,13nm,1.0s,mb4.6
NAO01 NORSAR Array S 44.86 323 *e*P **P** **19 43 58.4 -1.0**
comp=Z,18nm,0.9s,mb4.8
FUR Furstenfeldbru 44.91 305 *e*P **P** **19 44 01.5 +1.7**
LOF Lofoten 44.99 333 *e*P **P** **19 44 01.9 +1.5**
LOF AMb AMB 19 44 08.2
comp=Z,56nm,1.5s,mb5.1
LOF Lofoten 44.99 333 *e*P **P** **19 44 01.9 +1.5**
comp=Z,56nm,1.5s,mb5.1,SNR=39
BSEG Bad Segeberg 45.02 313 *e*P **P** **19 44 01.8 +1.2**
SQTA Sankt Quirin 45.09 304⇑*i*P **P** **19 44 02.8 +1.6**
comp=Z,3.5nm,0.7s,mb4.2
SQTA Sankt Quirin 45.09 304⇑*i*P **P** **19 44 02.8 +1.6**
SQTA pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
CLZ Clausthal 45.11 310 *e*P **P** **19 44 02.6 +1.2**
comp=Z,24nm,1.4s,mb4.7
CLZ Clausthal 45.11 310 *e*P **P** **19 44 02.6 +1.2**
CLZ pmax pmax
comp=Z,24nm,1.4s,mb4.7
MOTA Moosalm 45.14 304⇑*i*P **P** **19 44 01.0 -0.7**
comp=Z,4.5nm,0.6s,mb4.3
MOTA Moosalm 45.14 304⇑*i*P **P** **19 44 01.0 -0.6**
MOTA pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
KONO Kongsberg 45.42 321⇑*e*P **P** **19 44 02.3 -1.5**
UBBA Unterbreizbach 45.43 309 *e*P **P** **19 44 05.1 +1.2**
DAVA Damuels 45.98 304⇓*i*P **P** **19 44 07.7 -0.5**
comp=Z,15nm,0.6s,mb4.9
DAVOX Davos 46.06 303 P **P** **19 44 07.9 -0.9**
comp=Z,7.7nm,0.8s,mb4.5,baz=108,slow=10,SNR=11
STU Stuttgart 46.20 306 *e*P **P** **19 44 12.0 +2.0**
TNS Taunus Mts 46.49 308 *e*P **P** **19 44 13.9 +1.7**
IBBN Ibbenburen 46.68 311 *e*P **P** **19 44 15.4 +1.7**
BFO Black Forest 46.84 305 P **P** **19 44 14.1 -0.8**
BUG Bochum--Univer 47.07 310 *e*P **P** **19 44 18.4 +1.6**
CDF Champ du Feu 47.52 306 *e*P **P** **19 44 20.6 +0.4**
comp=Z,6.9nm,0.9s,mb4.2
CDF Champ du Feu 47.52 306 *e*P **P** **19 44 20.6 +0.4**
CDF pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
CDF Champ du Feu 47.52 306 *e*P **P** **19 44 20.6 +0.4**
comp=Z,3.5nm,0.9s,mb4.2
PGF Pioggiola 47.55 298 *e*P **P** **19 44 19.2 -1.3**
comp=Z,13nm,0.9s,mb4.5
PGF Pioggiola 47.55 298 *e*P **P** **19 44 19.2 -1.3**
PGF pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
PGF Pioggiola 47.55 298 *e*P **P** **19 44 19.2 -1.3**
comp=Z,6.3nm,0.9s,mb4.5

Code	Station Name	Δ° AZ°	Phase Op / ISC	Time	Res
HINF	**Hinterfeldd**	**47.90 305**	*e*P **P**	**19 44 22.2**	**-1.0**
	comp=Z,14nm,0.9s,mb4.5				
HINF	**Hinterfeld**	**47.90 305**	*e*P **P**	**19 44 22.2**	**-1.0**
HINF			pmax pmax		
	comp=Z,7.0nm,0.9s,mb4.5				
HINF	**Hinterfeld**	**47.90 305**	*e*P **P**	**19 44 22.2**	**-1.0**
	comp=Z,6.8nm,0.9s,mb4.5				
WLF	**Walferdange**	**48.04 308**	*e*P **P**	**19 44 26.9**	**+2.7**
WLF	**Walferdange**	**48.04 308**	P **P**	**19 44 21.1**	**-3.1**
WLF			pmax pmax		
	comp=Z,18nm,1.2s,mb4.8				
WLF	**Walferdange**	**48.04 308**	P **P**	**19 44 21.1**	**-3.1**
	comp=Z,18nm,1.2s,mb4.8				
HAU	**Haudompre**	**48.20 305**	*e*P **P**	**19 44 25.7**	**+0.2**
	comp=Z,14nm,0.9s,mb4.5				
HAU	**Haudompre**	**48.20 305**	*e*P **P**	**19 44 25.7**	**+0.2**
HAU			pmax pmax		
	comp=Z,7.0nm,0.9s,mb4.5				
HAU	**Haudompre**	**48.20 305**	*e*P **P**	**19 44 25.7**	**+0.2**
	comp=Z,7.2nm,0.9s,mb4.5				
SBF	**Sospel**	**48.34 300**	*e*P **P**	**19 44 26.0**	**-0.6**
LPG	**La Plagne**	**48.44 302**	*e*P **P**	**19 44 27.0**	**-0.4**
	comp=Z,15nm,0.9s,mb4.5				
LPG	**La Plagne**	**48.44 302**	*e*P **P**	**19 44 27.0**	**-0.4**
LPG			pmax pmax		
	comp=Z,7.0nm,0.9s,mb4.5				
LPG	**La Plagne**	**48.44 302**	*e*P **P**	**19 44 27.0**	**-0.4**
	comp=Z,7.4nm,0.9s,mb4.5				
LPL	**La Plagne**	**48.45 302**	*e*P **P**	**19 44 27.1**	**-0.3**
MBDF	**Montbardon**	**48.60 301**	*e*P **P**	**19 44 28.3**	**-0.3**
	comp=Z,8.0nm,0.7s,mb4.5				
MBDF	**Montbardon**	**48.60 301**	*e*P **P**	**19 44 28.3**	**-0.3**
MBDF			pmax pmax		
	comp=Z,4.0nm,0.7s,mb4.5				
MBDF	**Montbardon**	**48.60 301**	*e*P **P**	**19 44 28.3**	**-0.3**
	comp=Z,4.0nm,0.7s,mb4.5				
CABF	**La Chapelle**	**48.65 304**	*e*P **P**	**19 44 28.4**	**-0.6**
KMBO	**Kilima Mbogo**	**48.74 228**	P **P**	**19 44 30.4**	**+0.8**
	comp=Z,1.9nm,0.6s,mb4.2,baz=42,slow=11,SNR=8.7				
GIVF	**Givet**	**48.81 308**	*e*P **P**	**19 44 30.0**	**-0.2**
MEZF	**Maizieres J'vi**	**48.96 306**	*e*P **P**	**19 44 30.9**	**-0.4**
	comp=Z,18nm,0.8s,mb4.7				
MEZF	**Maizieres J'vi**	**48.96 306**	*e*P **P**	**19 44 30.9**	**-0.4**
	comp=Z,18nm,0.8s,mb5.0				
ORIF	**Oris-en-Rattie**	**49.18 301**	*e*P **P**	**19 44 32.0**	**-1.0**
BAIF	**Baives**	**49.21 308**	*e*P **P**	**19 44 33.0**	**-0.2**
	comp=Z,24nm,0.9s,mb4.8				
BAIF	**Baives**	**49.21 308**	*e*P **P**	**19 44 33.0**	**-0.2**
BAIF			pmax pmax		
	comp=Z,12nm,0.9s,mb4.8				
BAIF	**Baives**	**49.21 308**	*e*P **P**	**19 44 33.0**	**-0.2**
	comp=Z,12nm,0.9s,mb4.8				
LOR	**Lormes**	**50.00 305**	*e*P **P**	**19 44 37.6**	**-1.6**
VIVF	**Saint-Julien-l**	**50.02 302**	*e*P **P**	**19 44 38.7**	**-0.7**
	comp=Z,3.4nm,0.6s,mb4.1				
VIVF	**Saint-Julien-l**	**50.02 302**	*e*P **P**	**19 44 38.7**	**-0.7**
VIVF			pmax pmax		
	comp=Z,2.0nm,0.6s,mb4.2				
VIVF	**Saint-Julien-l**	**50.02 302**	*e*P **P**	**19 44 38.7**	**-0.7**
	comp=Z,1.7nm,0.6s,mb4.2				
SMF	**Signal de Mont**	**50.16 304**	*e*P **P**	**19 44 39.6**	**-0.8**
	comp=Z,15nm,0.8s,mb4.7				
SMF	**Signal de Mont**	**50.16 304**	*e*P **P**	**19 44 39.6**	**-0.8**
SMF			pmax pmax		
	comp=Z,8.0nm,0.8s,mb4.7				
SMF	**Signal de Mont**	**50.16 304**	*e*P **P**	**19 44 39.6**	**-0.8**
	comp=Z,7.6nm,0.8s,mb4.7				
SSF	**Saint Saulge**	**50.28 305**	*e*P **P**	**19 44 40.3**	**-1.1**
	comp=Z,5.8nm,0.9s,mb4.2				
SSF	**Saint Saulge**	**50.28 305**	*e*P **P**	**19 44 40.3**	**-1.1**
SSF			pmax pmax		
	comp=Z,3.0nm,0.9s,mb4.2				
SSF	**Saint Saulge**	**50.28 305**	*e*P **P**	**19 44 40.3**	**-1.1**
	comp=Z,2.9nm,0.9s,mb4.2				
AVF	**Avril sur Loir**	**50.45 304**	*e*P **P**	**19 44 41.7**	**-0.9**
	comp=Z,12nm,0.7s,mb4.7				
AVF	**Avril sur Loir**	**50.45 304**	*e*P **P**	**19 44 41.7**	**-0.9**
AVF			pmax pmax		
	comp=Z,6.0nm,0.7s,mb4.6				
AVF	**Avril sur Loir**	**50.45 304**	*e*P **P**	**19 44 41.7**	**-0.9**
	comp=Z,6.1nm,0.7s,mb4.6				
LASF	**Ste Croix**	**50.79 301**	*e*P **P**	**19 44 44.8**	**-0.4**
	comp=Z,12nm,1.1s,mb4.5				
TCF	**Toulx Ste Croi**	**51.34 304**	*e*P **P**	**19 44 48.8**	**-0.5**
CAF	**Calviac**	**51.79 302**	*e*P **P**	**19 44 52.1**	**-0.6**
RJF	**Les Rejaudoux**	**52.06 303**	*e*P **P**	**19 44 54.4**	**-0.3**
MTLF	**Montolieu**	**52.14 300**	*e*P **P**	**19 44 54.4**	**-0.8**
	comp=Z,2.3nm,0.5s,mb4.1				
MTLF	**Montolieu**	**52.14 300**	*e*P **P**	**19 44 54.4**	**-0.8**
MTLF			pmax pmax		
	comp=Z,1.0nm,0.5s,mb4.1				
MTLF	**Montolieu**	**52.14 300**	*e*P **P**	**19 44 54.4**	**-0.8**
	comp=Z,1.1nm,0.5s,mb4.1				
LDF	**La Druitiere**	**52.29 307**	*e*P **P**	**19 44 56.1**	**-0.2**
	comp=Z,6.9nm,0.6s,mb4.6				
LDF	**La Druitiere**	**52.29 307**	*e*P **P**	**19 44 56.1**	**-0.2**
LDF			pmax pmax		
	comp=Z,3.0nm,0.6s,mb4.5				
LDF	**La Druitiere**	**52.29 307**	*e*P **P**	**19 44 56.1**	**-0.2**
	comp=Z,3.5nm,0.6s,mb4.6				
LFF	**La Frestale**	**52.69 303**	*e*P **P**	**19 44 58.6**	**-0.7**
	comp=Z,5.0nm,0.5s,mb4.5				
LFF	**La Frestale**	**52.69 303**	*e*P **P**	**19 44 58.6**	**-0.7**
LFF			pmax pmax		
	comp=Z,3.0nm,0.5s,mb4.6				
LFF	**La Frestale**	**52.69 303**	*e*P **P**	**19 44 58.6**	**-0.7**
	comp=Z,2.5nm,0.5s,mb4.5				
GRR	**Gorron**	**52.81 307**	*e*P **P**	**19 44 59.5**	**-0.7**
	comp=Z,12nm,0.7s,mb4.7				
GRR	**Gorron**	**52.81 307**	*e*P **P**	**19 44 59.5**	**-0.7**
GRR			pmax pmax		
	comp=Z,6.0nm,0.7s,mb4.7				
GRR	**Gorron**	**52.81 307**	*e*P **P**	**19 44 59.5**	**-0.7**
	comp=Z,6.3nm,0.7s,mb4.8				
MFF	**Saint Martin d**	**52.83 305**	*e*P **P**	**19 45 00.0**	**-0.3**
	comp=Z,7.7nm,0.9s,mb4.4				
MFF	**Saint Martin d**	**52.83 305**	*e*P **P**	**19 45 00.0**	**-0.3**
MFF			pmax pmax		
	comp=Z,4.0nm,0.9s,mb4.5				
MFF	**Saint Martin d**	**52.83 305**	*e*P **P**	**19 45 00.0**	**-0.3**
	comp=Z,3.8nm,0.9s,mb4.4				
MJAR	**Matsushiro Arr**	**52.92 68**	P **P**	**19 45 01.4**	**+0.4**
	comp=Z,1.5nm,0.7s,mb4.1,baz=288,slow=10.0,SNR=4.9				
EPF	**Esparros**	**53.54 301**	*e*P **P**	**19 45 04.8**	**-0.7**
	comp=Z,2.5nm,0.6s,mb4.2				
EPF	**Esparros**	**53.54 301**	*e*P **P**	**19 45 04.8**	**-0.7**
EPF			pmax pmax		
	comp=Z,1.0nm,0.6s,mb4.0				
EPF	**Esparros**	**53.54 301**	*e*P **P**	**19 45 04.8**	**-0.7**
	comp=Z,1.3nm,0.6s,mb4.1				
SGMF	**Saint Gilles**	**53.94 307**	*e*P **P**	**19 45 07.5**	**-1.0**
	comp=Z,20nm,1.0s,mb4.8				
SGMF	**Saint Gilles**	**53.94 307**	*e*P **P**	**19 45 07.5**	**-1.0**
SGMF			pmax pmax		
	comp=Z,10.0nm,1.0s,mb4.8				
SGMF	**Saint Gilles**	**53.94 307**	*e*P **P**	**19 45 07.5**	**-1.0**
	comp=Z,9.9nm,1.0s,mb4.8				
ETSF	**Etsaut**	**54.21 301**	*e*P **P**	**19 45 10.2**	**-0.2**
	comp=Z,6.8nm,0.7s,mb4.5				
ETSF	**Etsaut**	**54.21 301**	*e*P **P**	**19 45 10.2**	**-0.2**
ETSF			pmax pmax		
	comp=Z,3.0nm,0.7s,mb4.4				
ETSF	**Etsaut**	**54.21 301**	*e*P **P**	**19 45 10.2**	**-0.2**
	comp=Z,3.4nm,0.7s,mb4.5				
ROSF	**Rostrenen**	**54.38 308**	*e*P **P**	**19 45 10.5**	**-1.2**
	comp=Z,14nm,0.8s,mb4.7				
ROSF	**Rostrenen**	**54.38 308**	*e*P **P**	**19 45 10.5**	**-1.2**
ROSF			pmax pmax		
	comp=Z,7.0nm,0.8s,mb4.7				
ROSF	**Rostrenen**	**54.38 308**	*e*P **P**	**19 45 10.5**	**-1.2**
	comp=Z,6.8nm,0.8s,mb4.7				
ESDC	**Sonseca Array**	**57.74 298**	P **P**	**19 45 34.2**	**-1.4**
	comp=Z,0.6nm,0.5s,mb3.9,baz=60,slow=7.3,SNR=7.6				
BILL	**Bilibino**	**58.82 26**⇓	*e*P **P**	**19 45 44.3**	**+1.2**
BILL			*e*S	19 54 00.4	
BILL			pmax pmax		
	comp=Z,2.0nm,0.6s,mb4.3				
MDT	**Midelt**	**61.05 291**	P **P**	**19 45 57.6**	**-0.8**
	comp=Z,1.1nm,0.7s,mb4.0,baz=72,slow=7.3,SNR=4.4				
SUMG	**Summit**	**61.41 341**	*e*P **P**	**19 46 01.1**	**+0.4**
	comp=Z,13nm,1.1s,mb4.9				
LSZ	**Lusaka**	**65.35 226**	*e*P **P**	**19 46 27.4**	**+0.6**
LSZ			pmax pmax		
	comp=Z,9.0nm,0.9s,mb4.6				
LSZ	**Lusaka**	**65.35 226**	*e*P **P**	**19 46 27.4**	**+0.6**
	comp=Z,9.3nm,0.9s,mb4.6				
TORD	**Torodi Ar. Bea**	**65.87 269**	P **P**	**19 46 28.3**	**-1.9**
	comp=Z,18nm,0.7s,mb5.0,baz=48,slow=5.7,SNR=201				
TORD	**Torodi Ar. Bea**	**65.87 269**	P **P**	**19 46 28.3**	**-1.9**
INK	**Inuvik**	**74.19 9**	P **P**	**19 47 20.6**	**-0.5**
	comp=Z,2.5nm,0.5s,mb4.2,baz=355,slow=7.6,SNR=12				
LBTB	**Lobatse**	**74.55 222**	P **P**	**19 47 24.2**	**+1.0**
	comp=Z,15nm,0.5s,mb5.0,baz=44,slow=5.0,SNR=45				
LBTB	**Lobatse**	**74.55 222**	P **P**	**19 47 24.2**	**+1.0**
LBTB			pmax pmax		
	comp=Z,15nm,0.5s,mb5.0				
LBTB	**Lobatse**	**74.55 222**	*e*P **P**	**19 47 23.8**	**+0.6**
	comp=Z,32nm,1.2s,mb4.9				
DBIC	**Dimbokro**	**74.84 267**	P **P**	**19 47 23.1**	**-1.7**
	comp=Z,5.2nm,0.6s,mb4.5,baz=43,slow=7.4,SNR=15				
TSUM	**Tsumeb**	**74.85 232**	*e*P **P**	**19 47 24.8**	**-0.1**
	comp=Z,3.2nm,0.8s,mb4.1				
LIC	**Lamto**	**75.23 267**	*e*P **P**	**19 47 25.7**	**-1.4**
	comp=Z,14nm,0.7s,mb4.5				
LIC	**Lamto**	**75.23 267**	*e*P **P**	**19 47 25.7**	**-1.4**
	comp=Z,7.2nm,0.7s,mb4.5				
BOSA	**Boshof**	**77.61 220**	P **P**	**19 47 41.0**	**+0.4**
	comp=Z,27nm,0.7s,mb5.1,baz=37,slow=5.5,SNR=61				
BOSA	**Boshof**	**77.61 220**	P **P**	**19 47 41.0**	**+0.5**
BOSA			pmax pmax		
	comp=Z,27nm,0.7s,mb5.1				
BOSA	**Boshof**	**77.61 220**	*e*P **P**	**19 47 40.8**	**+0.3**
	comp=Z,28nm,0.8s,mb5.0				
KDAK	**Kodiak Island**	**79.43 22**	P **P**	**19 47 49.3**	**-1.2**
	comp=Z,2.8nm,0.6s,mb4.2,baz=125,slow=4.0,SNR=4.2				
YKA	**Yellowknife Ar**	**81.55 3**	P **P**	**19 48 00.8**	**-1.0**
	comp=Z,3.2nm,0.6s,mb4.3,baz=347,slow=5.1,SNR=28				
YKA	**Yellowknife Ar**	**81.55 3**	P **P**	**19 48 00.8**	**-1.0**
YKA			pmax pmax		
	comp=Z,3.0nm,0.6s				
WRA	**Warramunga Arr**	**81.69 122**	P **P**	**19 48 02.1**	**-0.5**
	comp=Z,1.6nm,0.6s,mb4.1,baz=324,slow=4.9,SNR=21				
WRAB	**Tennant Creek**	**81.69 122**	*e*P **P**	**19 48 02.2**	**-0.4**
ASPA	**Alice Springs**	**83.95 125**	*e*P **P**	**19 48 13.6**	**-0.7**
AS31	**Alice Springs**	**83.95 125**	*e*P **P**	**19 48 13.6**	**-0.7**
ASAR	**Alice Springs**	**83.95 125**	P **P**	**19 48 13.5**	**-0.8**
	comp=Z,1.6nm,0.7s,mb3.9,baz=310,slow=5.1,SNR=32				
CTA	**Charters Tower**	**90.27 115**	P **P**	**19 48 43.8**	**-1.1**
	comp=Z,1.2nm,0.4s,mb4.4,baz=296,slow=12,SNR=7.3				
ULM	**Lac du Bonnet**	**93.18 352**	P **P**	**19 48 56.5**	**-1.8**
	comp=Z,1.1nm,0.7s,mb4.3,baz=24,slow=3.4,SNR=2.9				
CPUP	**Villa Florida**	**135.36 268**	PKP PKPdf	19 55 01.9	-1.5
	comp=Z,1.5nm,0.8s,baz=71,slow=5.8,SNR=4.8				
LPAZ	**La Paz**	**138.86 288**	PKP PKPdf	19 55 09.4	-0.5
	comp=Z,0.6nm,0.8s,baz=219,slow=4.7,SNR=3.9				
PLCA	**Paso Flores**	**149.87 250**	PKPbc PKPbc	19 55 32.7	-1.2
	comp=Z,4.9nm,1.0s,baz=276,slow=5.1,SNR=5.1				
PLCA	**Paso Flores**	**149.87 250**	PKPbc PKPbc	19 55 32.7	-1.2

*IDC **02** 19:39:37.9±0.6, 3932N×4099E, h0km, mb4.3/20, mb1 4.5/26, mb1mx4.4/31, mbtmp4.4/26, ML4.2/5, MS4.0/22, Ms1 4.0/22, ms1mx3.9/36, Error ellipse: s-maj=13.3km s-min=9.7km az=171.0*

*ISCJB **02** 19:39:38.3±0.1, 3937N±001×4091E±002, h5km, mb4.6/97, MS4.0/27, Error ellipse: s-maj=2.2km s-min=1.9km az=132.2*

*BJI **02** 19:39:38.5, 3907N×4044E, h27km, mB5.0, mb4.8, Ms4.7, Msz4.4*

*ISK **02** 19:39:38.4, 3932N×4092E, h5km, MD4.8, ML4.9*

*MOS **02** 19:39:38.4±0.9, 3935N×4092E, h10km, mb4.8/54, Error ellipse: s-maj=5.7km s-min=3.3km az=134.7*

*CSEM **02** 19:39:39.1, 3933N×4091E, h10km, mb4.8*

*HRVD **02** 19:39:39.0±0.3, 3949N×4078E, h15km, MW5.0/75, Centroid moment Tensor Solution. LP body waves: s18,c22;Mantle waves: s75,c121; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.27±.12; $M_{\theta\theta}$-1.33±.11; $M_{\phi\phi}$1.60±.10; $M_{r\theta}$1.73±.34; $M_{\theta\phi}$-2.51±.07; $M_{\phi r}$1.41±.34; Best double couple: $M_0$3.57500×10^{16} NP1:ϕ_s290.00000°,δ63.00000°,λ-163.00000°. NP2: ϕ_s192.00000°,δ75.00000°,λ-28.00000°. Principal axes: T 3.0930, Plg8.0000°, Azm243.0000°; N 0.9660, Plg58.0000°, Azm347.0000°; P -4.0580, Plg30.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **02** 19:39:39.0, 3927N×4096E, h3km, mb4.7/67, MS4.0/2, ML4.9(ISK), After ISK.*

NEIC Felt in Bingol.

*SZGRF **02** 19:39:44.7, 3841N×3967E, h33km, mb4.6, Turkey*

ISC 02 19:39:41.6±0.4**, 3933N**±002×**4093E**±002**, h18**km±3km**,**
n440,σ1§**21**/479**, mb4.6**/99**, MS4.0**/27**, 28C-19D, Turkey**

Code	Station Name	Δ° AZ°	Phase ID Op / ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.41 156**	*i* P **Pg**	**19 39 48.3**	**-1.8**
BNGL			*i* S **Sg**	**19 39 57.8**	**+2.0**
BINT	**Bingol**	**0.57 217**	*i* PG **Pg**	**19 39 50.5**	**-2.4**
BINT	**Bingol**	**0.57 217**	Pg **Pg**	**19 39 50.5**	**-2.4**
ERZM	**Erzurum**	**0.67 30**	*i* P **Pg**	**19 39 50.7**	**-4.0**
ERZM			*i* S **Sg**	**19 40 05.2**	**+1.6**
EZC	**Erzincan**	**0.96 296**	*i* PN **Pn**	**19 40 02.2**	**+2.1**
EZC	**Erzincan**	**0.96 296**	Pn **Pn**	**19 40 02.3**	**+2.2**
BTMT	**Batman**	**1.22 159**	*i* PN **Pn**	**19 40 02.8**	**-0.8**
BEST	**Besiri**	**1.46 169**	*i* P **Pn**	**19 40 07.5**	**+0.5**
BEST			*i* S **Sn**	**19 40 26.0**	**+0.4**
DIY	**Diyarbakir**	**1.54 201**	*i* PN **Pn**	**19 40 08.6**	**+0.6**
DIY			*i* SN **Sn**	**19 40 29.3**	**+1.8**
DIY	**Diyarbakir**	**1.54 201**	Pn **Pn**	**19 40 08.0**	**0.0**
ELZG	**Elazig**	**1.73 242**	*i* P **Pn**	**19 40 09.7**	**-1.0**
ELZG			*i* S **Sn**	**19 40 34.3**	**+1.9**
MARD	**Mardin**	**2.02 183**	*i* P **Pn**	**19 40 14.3**	**-0.3**
MARD			*i* S **Sb**	**19 40 43.5**	**+1.1**
VANB	**Van**	**2.05 110**	*i* PN **Pn**	**19 40 15.7**	**+0.6**
VANB	**Van**	**2.05 110**	Pn **Pn**	**19 40 15.6**	**+0.4**
TVAN	**Van**	**2.09 112**	*i* P **Pn**	**19 40 15.7**	**0.0**
TVAN			*i* S **Sn**	**19 40 33.3**	**-7.8**
KARS	**Kars**	**2.10 52**	*i* PN **Pn**	**19 40 16.4**	**+0.6**
KARS	**Kars**	**2.10 52**	Pn **Pn**	**19 40 16.5**	**+0.7**
VANT	**Van**	**2.11 114**	*i* PN **Pn**	**19 40 15.5**	**-0.5**
VANT	**Van**	**2.11 114**	Pn **Pn**	**19 40 15.3**	**-0.7**
BCA	**Borcka**	**2.18 14**	*i* PN **Pn**	**19 40 16.9**	**0.0**
BCA			*i* SN **Sn**	**19 40 45.8**	**+2.4**
BCA	**Borcka**	**2.18 14**	Pn **Pn**	**19 40 16.9**	**0.0**
MYA	**Malataya**	**2.20 244**	*i* PN **Pn**	**19 40 17.2**	**0.0**
MALT	**Malatya**	**2.20 243**⇑	*i*P **Pn**	**19 40 16.9**	**-0.3**
MALT			*e*S **Sg**	**19 40 50.6**	**-1.9**
CLDR	**Caldiran**	**2.33 94**	*i* PN **Pn**	**19 40 19.5**	**+0.6**
URFA	**Urfa**	**2.51 222**	*i* PN **Pn**	**19 40 21.7**	**+0.2**
ATAB	**Bozova**	**2.78 229**	*i* P **Pn**	**19 40 24.7**	**-0.5**
ATAB			*i* S **Sg**	**19 41 08.3**	**-2.7**
HAKT	**HAKKARI**	**2.81 128**	*i* P **Pb**	**19 40 27.9**	**-3.3**
HAKT			*i* S **Sg**	**19 41 11.2**	**-0.5**
AKH	**Akhalkalaki**	**2.85 42**	P **Pn**	**19 40 25.1**	**-1.1**
AKH			S **Sg**	**19 41 15.3**	**+2.0**
CUKT	**Cukurca**	**2.96 134**	PN **Pn**	**19 40 28.3**	**+0.7**
GNI	**Garni**	**3.05 73**	*i* PN **Pn**	**19 40 29.5**	**+0.6**
GNI	**Garni**	**3.05 73**	Pn **Pn**	**19 40 28.3**	**-0.5**
	6.0nm,0.3s,baz=287,slow=2.4,SNR=43				
GNI			LR LR	19 41 53.6	
	comp=Z,4μm,18.4s,baz=264,slow=45				
GNI	**Garni**	**3.05 73**	P **Pn**	**19 40 28.5**	**-0.4**
	SNR=287				
GNI	**Garni**	**3.05 73**	*e*P **Pn**	**19 40 28.3**	**-0.6**
GNI			pmax pmax		
	comp=Z,3μm,0.9s				
GNI	**Garni**	**3.05 73**	*i* P **Pn**	**19 40 29.0**	**+0.1**
GNI	**Garni**	**3.05 73**	*e*Pn **Pn**	**19 40 28.3**	**-0.5**
	comp=Z,3μm,0.9s				
SVSK	**Karacayir**	**3.10 282**	PN **Pn**	**19 40 30.4**	**+0.9**
GZT	**Gaziantep**	**3.30 234**	*i* P **Pn**	**19 40 31.7**	**-0.6**
GZT			*i* S **Sn**	**19 40 56.2**	**-15**
KZR	**Kazreti**	**3.36 51**	P **Pn**	**19 40 32.5**	**-0.6**
KZR			S **Pb**	**19 40 38.0**	**-2.5**
MSL	**Mosul**	**3.48 150**	*i* x x	19 40 32.0	
MSL			*i* x x	19 40 39.0	
MSL			*i* x x	19 40 48.0	
MSL			*i* x x	19 41 16.0	
MSL			*i* x x	19 41 28.0	
MSL			*i* x x	19 41 34.0	
TOKT	**Tokat**	**3.52 288**	PN **Pn**	**19 40 36.7**	**+1.4**
TOKT	**Tokat**	**3.52 288**	Pn **Pn**	**19 40 36.1**	**+0.8**
GOR	**Gori**	**3.59 41**	P **Pn**	**19 40 36.9**	**+0.7**
AMRG		**3.59 27**	P **Pn**	**19 40 38.4**	**+2.1**
AMRG			S **Sb**	**19 41 30.7**	**+2.8**
GAZ	**Gaziantep**	**3.64 235**	PN **Pn**	**19 40 37.9**	**+1.0**
TBLG	**Delisi**	**3.76 49**	P **Pn**	**19 40 37.7**	**-0.9**
TBLG			S **Sg**	**19 41 41.1**	**-1.4**
TBLG	**Delisi**	**3.76 49**	*e*P **Pn**	**19 40 37.4**	**-1.3**
ONI	**Oni**	**3.77 30**	P **Pn**	**19 40 38.4**	**-0.3**
ONI			S **Sb**	**19 41 37.1**	**+4.3**
MTA	**Mtatsminda**	**3.77 50**	P **Pn**	**19 40 35.2**	**-3.6**
MTA			S **Sg**	**19 41 45.5**	**+2.8**
BNN	**Bunyan**	**3.99 265**	PN **Pn**	**19 40 42.3**	**+0.6**
DGRG	**David-gareji**	**4.00 57**	P **Pn**	**19 40 36.1**	**-5.8**
DGRG			S **Sg**	**19 41 52.2**	**+2.2**
ZEI	**Tsey**	**4.10 32**	*e*P **Pn**	**19 40 43.5**	**+0.1**
ZEI			*e*	19 41 31.7	
ZEI			pmax pmax		
	comp=Z,36nm,0.1s				
ZEI			pmax pmax		
	comp=Z,36nm,0.1s				
KVT	**Kavak**	**4.13 297**	PN **Pn**	**19 40 45.0**	**+1.3**
SOC	**Sochi**	**4.35 348***d*	*i*P **Pn**	**19 40 45.4**	**-1.3**
SOC			*e*S **Sn**	**19 41 45.2**	**+8.3**
SOC			pmax pmax		
	comp=Z,428nm,1.0s				
SOC			MLR MLR		
	comp=Z,1μm,10.0s				
SOC			MLR MLR		
	comp=Z,334nm,22.0s				
YOZ	**Yozgat**	**4.35 276**	*e*PN **Pn**	**19 40 48.3**	**+1.5**
KOZT	**Kozan**	**4.42 247**	PN **Pn**	**19 40 48.3**	**+0.7**
CEYT	**Ceyhan**	**4.70 242**	*e*PN **Pn**	**19 40 52.8**	**+1.3**
KIV	**Kislovodsk**	**4.80 15**⇑	*e*P **Pn**	**19 40 53.6**	**+0.6**
KIV	**Kislovodsk**	**4.80 15**	*e*P **Pn**	**19 40 53.5**	**+0.5**
KIV			*e*S **Sn**	**19 41 48.1**	**-0.1**
KIV			pmax pmax		
	comp=Z,82nm,1.2s				
KIV			MLR MLR		
	comp=Z,1μm,9.0s				
CTKT	**Corum**	**4.89 287**	*i* P **Pb**	**19 41 01.6**	**-5.1**
CTKT			*i* S **Sb**	**19 42 08.9**	**+3.7**
DIKM	**Dikmen**	**4.91 300**	*e*PN **Pn**	**19 40 56.1**	**+1.7**
CORM	**Corum**	**4.93 282**	*e*PN **Pn**	**19 40 56.7**	**+2.0**
HTY	**Hatay**	**4.97 231**	*e*PN **Pn**	**19 40 56.9**	**+1.6**
KARA	**Karaisali**	**5.06 248**	*e*PN **Pn**	**19 40 58.7**	**+2.1**
CDAG	**Cicekdag**	**5.08 275**	*i* P **Pb**	**19 41 08.7**	**-1.3**
CDAG			*i* S **Sb**	**19 42 18.6**	**+7.8**
BYBT	**Boyabat**	**5.17 296**	*e*PN **Pn**	**19 40 59.3**	**+1.3**
TOS	**Tosya**	**5.56 290**	*e*PN **Pn**	**19 41 05.8**	**+2.4**
KAMT	**Kaman**	**5.60 273**	*e*PN **Pn**	**19 41 05.8**	**+1.9**
MERS	**Mersin**	**5.62 246**	*e*PN **Pn**	**19 41 06.5**	**+2.3**
CANT	**Cankiri**	**5.76 285**	*e*PN **Pn**	**19 41 08.1**	**+2.0**
ANN	**Anapa**	**6.05 336**	*e*P **Pn**	**19 41 08.2**	**-2.0**
ANN			*e*S **Sn**	**19 42 19.3**	**+0.3**
ANN			MLR MLR		
	comp=Z,1μm,14.0s				
ANTO	**Ankara**	**6.31 277**	*e*PN **Pn**	**19 41 16.2**	**+2.5**
ANTO	**Ankara**	**6.31 277**⇓	*i*P **Pb**	**19 41 34.0**	**+3.2**
ANTO	**Ankara**	**6.31 277**	P **Pb**	**19 41 31.3**	**+0.5**
	SNR=8.3				
ANTO	**Ankara**	**6.31 277**	*e*P **Pn**	**19 41 15.0**	**+1.3**
ANTO			pmax pmax		
	comp=Z,124nm,0.8s				
ANTO	**Ankara**	**6.31 277**	*e*P **Pn**	**19 41 15.0**	**+1.3**
	comp=Z,124nm,0.8s				
LOD	**Lodumlu**	**6.33 278**	*e*PN **Pn**	**19 41 16.4**	**+2.4**
HWQ	**Hawqa**	**6.43 220**	*e*Pn **Pn**	**19 41 15.8**	**+0.5**
IKL	**Isikli**	**6.52 244**	*e*PN **Pn**	**19 41 18.3**	**+1.8**
IKL	**Isikli**	**6.52 244**	Pn **Pn**	**19 41 17.1**	**+0.6**
SAFT	**Safranbolu**	**6.59 289**	*e*PN **Pn**	**19 41 20.1**	**+2.6**
BHD	**Baghdad**	**6.66 154**	*e*x x	19 41 16.5	
BHD			*e*x x	19 41 35.5	
BHD			*e*x x	19 41 46.0	
BHD			*e*x x	19 42 34.5	
BHD			*e*x x	19 42 56.0	
BHD			*e*x x	19 43 16.0	
BHL	**Bhannes**	**6.88 220**	*e*Pn **Pn**	**19 41 21.9**	**+0.4**
FEO	**Feodosiya**	**7.02 326**	*e*P **Pn**	**19 41 28.3**	**+4.9**
FEO			*e*S **Sn**	**19 42 50.9**	**+8.2**
FEO			pmax pmax		
	comp=Z,70nm,0.5s				
FEO			smax		
	comp=E,30nm,0.9s				
FEO			smax		
	comp=N,40nm,0.8s				
KIZT	**Kizilcal**	**7.05 269**	*e*PN **Pn**	**19 41 25.9**	**+2.0**
SUDU	**Sudak**	**7.09 323**⇑	*i*P **Pn**	**19 41 29.4**	**+5.0**
SUDU			*e*S **Sn**	**19 42 52.5**	**+8.0**
SUDU			pmax pmax		
	comp=Z,100nm,0.6s				
SUDU			smax		
	comp=E,110nm,0.9s				
SUDU			smax		
	comp=N,160nm,1.0s				
RCY	**Rachaya**	**7.14 217**	*e*Pn **Pn**	**19 41 25.9**	**+0.8**
YAL	**Yalta**	**7.22 318**	*e*P **Pn**	**19 41 29.6**	**+3.5**
YAL			*e*S **Sn**	**19 42 53.2**	**+5.6**
YAL			pmax pmax		
	comp=Z,70nm,0.6s				
YAL			smax		
	comp=N,210nm,0.9s				
YAL			smax		
	comp=E,120nm,0.9s				
ALU	**Alushta**	**7.23 320**	*e*P **Pn**	**19 41 31.2**	**+4.9**
ALU			*e*S **Sn**	**19 42 55.4**	**+7.6**
ALU			pmax pmax		
	comp=Z,50nm,0.6s				
ALU			smax		
	comp=E,110nm,0.9s				
ALU			smax		
	comp=N,60nm,0.7s				
MATL	**Matirih**	**7.37 219**	*e*Pn **Pn**	**19 41 28.6**	**+0.4**
CSS	**Prodhromos**	**7.47 237**	*e*P **Pn**	**19 41 30.7**	**+1.0**
	comp=N,41nm,0.9s				
SEV	**Sevastopol'**	**7.51 316**	*e*P **Pn**	**19 41 34.7**	**+4.5**
SEV			*e*S **Sn**	**19 43 02.4**	**+7.5**
SEV			pmax pmax		
	comp=Z,20nm,0.7s				
SEV			smax		
	comp=N,60nm,1.0s				
SEV			smax		
	comp=E,80nm,1.0s				
SIM	**Simferopol'**	**7.56 320**	*e*P **Pn**	**19 41 36.2**	**+5.4**
SIM			*e*S **Sn**	**19 43 04.0**	**+8.0**
SIM			pmax pmax		
	comp=Z,50nm,0.8s				
SIM			smax		
	comp=N,100nm,1.0s				
SIM			smax		
	comp=E,180nm,1.0s				
MMAI	**Mount Meron Ar**	**7.72 217**	Pn **Pn**	**19 41 33.5**	**+0.4**
	comp=E,4.2nm,0.3s,baz=52,slow=15,SNR=40				
MMAI			Lg	19 43 42.9	
	comp=E,3.7nm,0.3s,baz=53,slow=29,SNR=3.6				
ASF	**Jabal al Asfar**	**7.86 206**	Pn **Pn**	**19 41 35.2**	**+0.3**
	comp=E,1.1nm,0.3s,baz=255,slow=12,SNR=31				
ASF			Lg	19 43 48.2	
	comp=E,3.4nm,0.3s,baz=269,slow=14,SNR=4.5				
ASF			LR LR	19 44 38.1	
	comp=E,657nm,20.5s,baz=263,slow=38				
FETY	**Fethiye**	**9.73 258**	*e*PN **Pn**	**19 42 02.1**	**+1.5**
MLSB	**Milas**	**10.54 263**	*e*PN **Pn**	**19 42 13.3**	**+1.7**
CANB	**Canakkale**	**10.72 278**	*e*PN **Pn**	**19 42 15.2**	**+1.1**
BLCB	**Balcova**	**10.88 269**	*e*PN **Pn**	**19 42 17.4**	**+1.1**
VRI	**Vrincioaia**	**12.33 307**⇓	*i*P **Pn**	**19 42 37.8**	**+1.6**
VOR	**Voronezh**	**12.46 355**	*e*P **Pn**	**19 42 37.5**	**-0.5**
VOR			pmax pmax		
	comp=N,200nm,1.2s				
VOR			pmax pmax		
	comp=Z,80nm,1.2s				
MLR	**Muntele Rosu**	**12.66 304**	Pn **Pn**	**19 42 40.9**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=110,slow=4.5,SNR=12				
MLR			LR LR	19 48 17.0	
	comp=Z,435nm,21.0s,baz=312,slow=41				
MLR	**Muntele Rosu**	**12.66 304**⇓	*i*P **Pn**	**19 42 40.6**	**-0.1**
MLR	**Muntele Rosu**	**12.66 304**	⇓P **Pn**	**19 42 40.6**	**-0.2**
IDI	**Anoyia**	**13.39 257**	Pn **Pn**	**19 42 51.4**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=63,slow=8.4,SNR=3.8				
IDI			LR LR	19 49 01.5	
	comp=Z,714nm,19.8s,baz=62,slow=42				
AKASG	**Malin Array Be**	**14.04 328**	Pn **Pn**	**19 42 58.7**	**-0.9**
	comp=Z,2.3nm,0.3s,baz=137,slow=11,SNR=28				
AKASG			Sn **Sn**	**19 45 34.3**	**-0.7**
	baz=139,slow=24,SNR=5.4				
AKASG	**Malin Array Be**	**14.04 328**	Pn **Pn**	**19 42 58.7**	**-0.9**
AKASG			Sn **Sn**	**19 45 34.3**	**-0.7**
AKBB	**Malin Array Si**	**14.04 328**	*e*P **Pn**	**19 42 57.9**	**-1.7**
KIEV	**Kiev**	**14.05 328**	P **Pn**	**19 42 59.0**	**-0.6**
GVD	**Gavdhos**	**14.17 257**	*e*P **Pn**	**19 43 01.2**	**-0.1**

comp=Z,46nm,0.8s
GRUS Gruza 15.79 293 iP Pn 19 43 27.3 +4.4
LVV L'vov 15.93 317⇑iP Pn 19 43 27.3 +2.5
LVV eS **Sn 19 46 30.1 +9.2**
LVV MLR MLR
comp=Z,400nm,15.0s
LVV MLR MLR
comp=N,200nm,14.0s
LVV MLR MLR
comp=E,400nm,15.0s
OBN Obninsk 16.06 351 deP Pn 19 43 24.4 -2.0
OBN eS **Sn 19 46 20.1 -4.0**
OBN pmax pmax
comp=Z,54nm,1.0s
OBN MLR MLR
comp=Z,600nm,14.0s
OBN Obninsk 16.06 351 eP Pn 19 43 24.8 -1.7
comp=Z,123nm,0.9s
DIVS Divcibare 16.34 294 iP Pn 19 43 34.3 +4.4
AKTO Aktyubinsk 16.38 42 LR LR 19 51 19.0
comp=Z,284nm,20.9s,baz=238,slow=43
KWP Kalwaria 16.55 314 eP Pn 19 43 36.9 +4.3
KWP Kalwaria 16.55 314 P Pn 19 43 31.9 -0.7
KWP pmax pmax
comp=Z,21nm,0.4s
KWP Kalwaria 16.55 314 P Pn 19 43 31.9 -0.8
comp=Z,21nm,0.4s
MOS Moscow 16.57 353 eP Pn 19 43 31.7 -1.2
MOS pmax pmax
comp=Z,119nm,1.2s
MOS MLR MLR
comp=Z,500nm,13.4s
BBLS Bajina Basta - 16.71 293 iP Pn 19 43 38.9 +4.2
PSZ Piszkesteto 17.44 306⇓eP Pn 19 43 47.3 +3.4
PSZ e 19 43 47.6
PSZ Piszkesteto 17.44 306 eP Pn 19 43 44.4 +0.5
PSZ pmax pmax
comp=Z,27nm,1.1s
PSZ Piszkesteto 17.44 306 eP Pn 19 43 44.4 +0.5
comp=Z,27nm,1.1s
NIE Niedzica 17.81 311 eP Pn 19 43 52.1 +3.7
OJC Ojcow 18.47 313 eP Pn 19 43 56.9 +0.4
BANOM Banah 18.57 131 ⇑P Pn 19 43 56.6 -1.2
TIP Timpagrande 18.71 277 eP Pn 19 43 58.0 -1.4
SUW Suwalki 19.00 326 eP Pn 19 44 01.6 -1.3
PTRP Pietrapertosa 19.10 282 P Pn 19 44 05.4 +1.3
OKC Ostrava-Krasne 19.26 311 e Pn 19 44 04.9 -1.1
OKC Ostrava-Krasne 19.26 311 ex Pn 19 44 04.9 -1.1
HATD Hatta, Dubai 19.32 134 ⇑P Pn 19 44 07.0 +0.2
SNR=14
ASHO Ashiyiah 19.39 134 ⇑P Pn 19 44 06.8 -0.9
SNR=10.0
FG4 Candela 19.47 283 P Pn 19 44 08.3 -0.3
MRLC Muro Lucano 19.52 282 P Pn 19 44 08.6 -0.5
MORC Moravsky Berou 19.59 310 P Pn 19 44 07.9 -2.1
MORC pmax pmax
comp=Z,22nm,1.2s
MORC Moravsky Berou 19.59 310 P Pn 19 44 07.9 -2.1
comp=Z,22nm,1.2s
FG5 Orsara di Pugl 19.65 284 P Pn 19 44 10.7 -0.1
SGO Sicignano 19.67 282 P Pn 19 44 10.6 -0.4
VRAC Vranov 19.99 308 P Pn 19 44 12.9 -1.8
comp=Z,11nm,0.9s,baz=90,slow=8.2,SNR=3.6
VRAC LR LR 19 54 28.2
comp=Z,278nm,18.1s,baz=117,slow=44
PSB1 Pescosannita 20.00 284 P P 19 44 14.1 +1.0
CONA Conrad Observa 20.01 304⇓iPn P 19 44 13.7 +0.4
comp=Z,64nm,1.2s,SNR=14
MIDA Miranda 20.40 285 P P 19 44 18.3 +0.9
RNI2 Rionero Sannit 20.47 285 P P 19 44 19.4 +1.2
DPC Dobruska-Polom 20.54 311 ex P 19 44 20.8 +1.8
RFI Roccamonfina 20.62 284 P P 19 44 21.2 +1.4
ARU Arti 20.69 28 eP P 19 44 20.9 +0.3
ARU e 19 44 40.9
ARU ePPP 19 44 49.9
ARU eS **S 19 48 15.1 +4.1**
ARU eSS 19 48 37.0
ARU MLR MLR
comp=Z,300nm,16.5s,MS3.7
ARU MLR MLR
comp=N,200nm,16.0s,MS3.7
ARU MLR MLR
comp=E,100nm,14.0s,MS3.7
ARU Arti 20.69 28 eP P 19 44 21.9 +1.3
SDI San Donato 20.73 285 P P 19 44 21.7 +0.7
KSP Ksiaz 20.75 312 eP P 19 44 25.9 +4.6
KSP Ksiaz 20.75 312 eP P 19 44 21.8 +0.5
KSP epP 19 44 25.3
KSP eS **S 19 48 14.5 +2.2**
VAE Valguarnera 20.84 273 P P 19 44 23.6 +1.3
comp=E,25nm,0.9s,baz=343,slow=1.7,SNR=8.7
VAE LR LR 19 52 46.9
comp=E,484nm,18.6s,MS3.9,baz=263,slow=38
VVLD Villa Vallelon 20.86 286 P P 19 44 23.1 +0.7
VOY Vojsko 20.91 297 e(P) P 19 44 23.4 +0.4
VOY e 19 44 27.5
VOY e 19 44 37.0
HOQ Hoqain 20.96 134 P P 19 44 24.2 +0.7
SNR=21
AQU L'Aquila 21.01 287⇑iP P 19 44 24.4 +0.3
AQU L'Aquila 21.01 287 eP P 19 44 24.2 +0.1
AQU pmax pmax
comp=Z,82nm,0.8s,mb5.1
AQU L'Aquila 21.01 287 eP P 19 44 24.2 +0.1
comp=Z,82nm,0.8s,mb5.1
MOA Molln 21.03 303⇓iP P 19 44 24.7 +0.5
comp=Z,34nm,0.8s,mb4.7
CING Cingoli 21.17 290 P P 19 44 26.4 +0.6
VSU Vasula 21.22 339c iP P 19 44 25.8 -0.5
NRCA Norcia 21.22 288 P P 19 44 27.2 +0.9
FIAM Fiamignano 21.22 287 P P 19 44 27.7 +1.3
PTCC Patocco-Chiusa 21.34 298 P P 19 44 28.7 +1.0
SNTG Esanatoglia 21.35 290 P P 19 44 28.8 +1.1
GKP Gorka Klasztor 21.37 319 eP P 19 44 27.7 -0.2
GMNA Gemona 21.40 298 P P 19 44 29.4 +1.1
KBA Koelnbreinsper 21.47 300 iP P 19 44 29.8 +0.8
comp=Z,38nm,0.9s,mb4.7,SNR=10
KBA Koelnbreinsper 21.47 300 iP P 19 44 29.8 +0.8
KBA pmax pmax
comp=Z,38nm,0.9s,mb4.7
KBA Koelnbreinsper 21.47 300 iP P 19 44 29.8 +0.8
comp=Z,38nm,0.9s,mb4.7
BIDO Bidbid 21.47 132 P P 19 44 28.7 -0.4
SNR=10
MNS Montasola 21.55 287 P P 19 44 30.6 +0.8
BSY Bisya 21.57 135 P P 19 44 34.1 +4.1
SNR=21
KLMR Klimovskoe 21.57 358 eP P 19 44 30.0 -0.1
KLMR eS **S 19 48 31.5 +3.2**
KLMR pmax pmax
comp=Z,130nm,1.5s,mb5.1
KLMR MLR MLR
comp=Z,750nm,15.0s,MS4.2
PVCC Panska Ves 21.65 310 ex P 19 44 30.4 -0.5
PVCC AMS AMS 19 55 40.0
comp=Z,200nm,12.0s
GEC2 GERESS Array S 21.65 305 eP P 19 44 30.1 -0.8
GERES GERESS Array B 21.65 305 P P 19 44 30.2 -0.7
comp=Z,6.6nm,0.7s,mb4.2,baz=112,slow=9.1,SNR=22
GERES LR LR 19 54 01.0
comp=Z,228nm,18.2s,MS3.6,baz=113,slow=40
MURB Monte Urbino 21.66 290 P P 19 44 33.1 +2.1
FVI Forni Avoltri 21.77 299 P P 19 44 33.7 +1.5
SVE Sverdlovsk 21.77 30 eP P 19 44 28.5 -3.7
SVE e 19 44 36.8
SVE e 19 45 08.2
SMDO Samad 21.79 133 P P 19 44 32.4 0.0
SNR=34
KHC Kasperske Hory 21.81 306⇓iP P 19 44 31.5 -1.1
KHC ex x 19 44 38.5
KHC Kasperske Hory 21.81 306 ex x 19 44 31.6
BADI Badiali 21.86 290 P P 19 44 34.7 +1.5
WSAR Wadi Sarin 21.98 132 P P 19 44 33.4 -1.2
comp=Z,33nm,1.1s,mb4.7,baz=296,slow=9.5,SNR=9.7
WSAR LR LR 19 53 43.0
comp=Z,480nm,18.7s,MS3.9,baz=321,slow=38
WSAR Wadi Sarin 21.98 132 P P 19 44 33.4 -1.2
WSAR LR LR 19 53 43.0
CRE Caprese Michel 22.08 291 P P 19 44 37.7 +2.2
BRG Berggiesshubel 22.14 310 eP P 19 44 36.3 +0.1
comp=Z,12nm,1.1s,mb4.2
BRG Berggiesshubel 22.14 310 e P 19 44 38.2 +2.0
comp=Z,4.9nm,0.9s,mb4.0
BRG Berggiesshubel 22.14 310 e P 19 44 38.2 +2.0

SFI Santa Sofia 22.16 291 P P 19 44 37.9 +1.5
WET Wettzell 22.25 305 eP P 19 44 36.3 -1.1
comp=Z,42nm,1.7s,mb4.6
WET Wettzell 22.25 305 eP P 19 44 36.3 -1.1
WET pmax pmax
comp=Z,42nm,1.7s,mb4.6
VMG Vicchio 22.38 291 P P 19 44 40.5 +1.7
CTI Castel Tesino 22.46 297 P P 19 44 39.8 +0.2
BRES Bressanone 22.49 299 P P 19 44 41.6 +1.6
CSNT Castellina Chi 22.56 290 P P 19 44 41.0 +0.4
SOKR Solikamsk 22.62 21c iP P 19 44 44.6 +3.4
SOKR 19 48 34.4
SOKR S **S 19 48 51.2 +2.5**
SOKR SS 19 49 43.0
SOKR pmax pmax
comp=Z,70nm,1.1s,mb5.0
SOKR MLR MLR
comp=Z,430nm,15.0s,MS4.0
WTTA Wattenberg 22.65 300⇑iP P 19 44 41.6 0.0
comp=Z,12nm,0.7s,mb4.5
WTTA Wattenberg 22.65 300⇑iP P 19 44 41.6 0.0
WTTA pmax pmax
comp=Z,13nm,0.7s,mb4.5
WATA Walderalm 22.70 300⇑eP P 19 44 42.8 +0.6
comp=Z,22nm,1.0s,mb4.5
WATA Walderalm 22.70 300⇑eP P 19 44 42.8 +0.6
WATA pmax pmax
comp=Z,22nm,1.0s,mb4.5
NKC Novy Kostel 22.83 308 e P 19 44 43.0 -0.5
NKC Novy Kostel 22.83 308 ex P 19 44 43.0 -0.5
CLL Collm 22.85 311 eP P 19 44 42.5 -1.2
comp=Z,34nm,1.1s,mb4.7
CLL Collm 22.85 311 P P 19 44 42.9 -0.8
comp=Z,logA/T=1.2,mb4.4
CLL i *SP sP 19 44 47.5 -3.8
CLL i 19 44 50.6
CLL eS **S 19 48 53.0 +0.5**
CLL Collm 22.85 311 iP P 19 44 42.9 -0.8
comp=Z,19nm,1.2s,mb4.4
CLL i (sP) sP 19 44 47.5 -3.8
CLL i x x 19 44 50.6
comp=Z,35nm,1.1s
CLL eS **S 19 48 53.0 +0.5**
CLL Collm 22.85 311 iP P 19 44 42.9 -0.8
CLL i 19 44 47.5
CLL eS **S 19 48 53.0 +0.5**
CLL pmax pmax
comp=Z,19nm,1.2s,mb4.4
CLL MLR MLR
comp=Z,500nm,10.1s,MS4.2
CLL Collm 22.85 311 iP P 19 44 42.9 -0.8
comp=Z,19nm,1.2s,mb4.4
CLL i 19 44 47.5
CLL eS **S 19 48 53.0 +0.5**
CLL LR LR
comp=Z,500nm,10.1s,MS4.2
TANN Tannenbergstha 22.88 308 eP P 19 44 43.1 -0.9
SQTA Sankt Quirin 22.93 300⇓iP P 19 44 43.9 -0.7
comp=Z,7.4nm,0.7s,mb4.2
SQTA Sankt Quirin 22.93 300⇓iP P 19 44 43.9 -0.7
SQTA pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
MANZ Manzenberg 22.97 307 eP P 19 44 43.9 -1.1
MOTA Moosalm 23.02 300⇓iP P 19 44 44.5 -1.0
comp=Z,25nm,0.8s,mb4.7,SNR=8.7
MOTA Moosalm 23.02 300⇓iP P 19 44 44.5 -1.0
MOTA pmax pmax
comp=Z,25nm,0.8s,mb4.7
FUR Furstenfeldbru 23.06 302 eP P 19 44 42.7 -3.2
comp=Z,44nm,1.0s,mb4.8
FUR Furstenfeldbru 23.06 302 eP P 19 44 42.7 -3.2
FUR pmax pmax
comp=Z,44nm,1.0s,mb4.8
BDI Bagni Di Lucca 23.07 292 P P 19 44 45.4 -0.6
PII Pisa 23.11 291 P P 19 44 46.7 +0.2
SAL Salo 23.20 296 P P 19 44 48.8 +1.4
MABI Malga Bissina 23.25 297 P P 19 44 49.0 +1.0
BRMO Bormio 23.39 298 P P 19 44 49.8 +0.3
GRA1 Grafenberg Arr 23.44 306 eP P 19 44 48.7 -1.2
comp=Z,65nm,1.0s,mb5.0
GRF Grafenberg Arr 23.44 306 eP P 19 44 48.7 -1.2
comp=Z,65nm,1.0s,mb5.0
GRF Grafenberg Arr 23.44 306 eP P 19 44 48.7 -1.2
GRF pmax pmax
comp=Z,65nm,1.0s,mb5.0
GRF Grafenberg Arr 23.44 306 eP P 19 44 48.7 -1.2
GRF pmax pmax
comp=Z,65nm,1.0s,mb5.0
MOX Moxa 23.46 308 eP P 19 44 49.6 -0.6
comp=Z,7.0nm,1.1s,mb4.0
MOX Moxa 23.46 308 e P 19 44 49.3 -0.9
DAVOX Davos 23.77 298 P P 19 44 52.5 -0.5
comp=Z,6.7nm,0.9s,mb4.0,baz=122,slow=9.1,SNR=7.1
DAVOX LR LR 19 55 12.5
comp=Z,427nm,19.9s,MS3.9,baz=91,slow=39
DAVA Damuels 23.84 300⇓eP P 19 44 52.7 -0.9
comp=Z,21nm,1.1s,mb4.5
BOB Bobbio (Coli) 23.91 293 P P 19 44 55.1 +0.8
FINES FINESS Array B 23.96 342 P P 19 44 54.3 -0.5
comp=Z,26nm,0.7s,mb4.8,baz=141,slow=9.3,SNR=19
FINES LR LR 19 56 23.7
comp=Z,190nm,18.9s,MS3.6,baz=310,slow=42
FINES FINESS Array B 23.96 342 iP P 19 44 57.5 +2.7
FINES pmax pmax
comp=Z,26nm,0.7s
VDL Val di Lei 24.02 298 ⇓P P 19 44 55.7 +0.4
PGF Pioggiola 24.26 288 eP P 19 44 56.5 -1.0
comp=Z,51nm,1.2s,mb4.5
PGF Pioggiola 24.26 288 eP P 19 44 56.5 -1.0
PGF pmax pmax
comp=Z,25nm,1.2s,mb4.5
PGF Pioggiola 24.26 288 eP P 19 44 56.5 -1.0
comp=Z,25nm,1.2s,mb4.5
VSL Villasalto 24.32 281 P P 19 44 56.9 -1.2
comp=Z,25nm,1.1s,mb4.5
JOF Joensuu 24.32 349 ep P 19 44 56.7 -1.4
BVAR Borovoye Array 24.36 46 P P 19 44 57.2 -1.2
comp=Z,6.1nm,0.8s,mb4.1,baz=218,slow=6.8,SNR=3.9
BVAR LR LR 19 56 03.0
comp=Z,266nm,21.7s,MS3.7,baz=229,slow=40
LLS Linth-Limmern 24.37 298 ⇑P P 19 44 57.5 -1.0
VAI Varese 24.45 296 P P 19 44 58.5 -0.7
KAF Kangasniemi 24.50 343 ep P 19 44 58.2 -1.5
comp=Z,25nm,0.9s,mb4.7,baz=149,slow=9.7
KAF Kangasniemi 24.50 343 eP P 19 44 58.2 -1.5
KAF pmax pmax
comp=Z,25nm,0.9s,mb4.7
WILA Wila 24.51 300 ⇓P P 19 44 59.3 -0.5
STU Stuttgart 24.53 303 eP P 19 44 58.8 -1.2
CLZ Clausthal 24.58 311 eP P 19 44 59.9 -0.5
comp=Z,18nm,1.1s,mb4.5
CLZ Clausthal 24.58 311 eP P 19 44 59.9 -0.5
CLZ pmax pmax
comp=Z,18nm,1.1s,mb4.5
QLNO Quiliano 24.69 292 P P 19 45 03.0 +1.6
ZUR Zurich 24.72 300 ⇓P P 19 45 01.3 -0.4
SLE Schleitheim 24.83 300 ⇓P P 19 45 01.9 -0.8
TOD Tromm 24.95 305 eP P 19 45 04.0 +0.2
IMI Imperia 25.02 291 P P 19 45 04.0 -0.5
BFO Black Forest 25.02 302 eP P 19 45 03.5 -1.0
SULZ Sulz-Cheisache 25.05 300 ⇑P P 19 45 04.5 -0.3
FELD Feldberg im Sc 25.17 301 eP P 19 45 05.1 -0.7
SAOF Saorge 25.26 291 eP P 19 45 07.3 +0.7
TNS Taunus Mts 25.31 306 eP P 19 45 06.7 -0.3
BSEG Bad Segeberg 25.35 315 eP P 19 45 07.5 +0.1
comp=Z,23nm,1.1s,mb4.6
SBF Sospel 25.35 291 eP P 19 45 07.1 -0.4
comp=Z,125nm,1.0s,mb5.1
SBF Sospel 25.35 291 eP P 19 45 07.1 -0.4
SBF pmax pmax
comp=Z,62nm,1.0s,mb5.1
SBF Sospel 25.35 291 eP P 19 45 07.1 -0.4
comp=Z,62nm,1.0s,mb5.1
AUTN L'Aution 25.35 292 eP P 19 45 04.3 -3.2
DIX Grande Dixence 25.41 296 ⇑P P 19 45 07.4 -0.6
LUCF Luceram 25.41 291 eP P 19 45 08.4 +0.4
AAK Ala-Archa 25.45 72⇑eP P 19 45 08.5 +0.1
AAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.1
AAK MLR MLR
comp=Z,400nm,16.0s,MS4.0
AAK Ala-Archa 25.45 72 eP P 19 45 08.9 +0.5
BBS Basel-Blauen 25.46 300 eP P 19 45 08.5 +0.1
TOUF Mont Tournerai 25.48 292 eP P 19 45 09.9 +1.3
FRU Bishkek 25.53 71 eP P 19 45 12.0 +2.9

FRU i 19 45 14.0
FRU e 19 45 42.0
MVIF Mont Vial 25.55 291 eP P 19 45 05.2 -4.1
CDF Champ du Feu 25.73 302 eP P 19 45 11.3 +0.4
comp=Z,10nm,1.0s,mb4.0
CDF Champ du Feu 25.73 302 eP P 19 45 11.3 +0.4
CDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
CDF Champ du Feu 25.73 302 eP P 19 45 11.3 +0.4
comp=Z,5.1nm,1.0s,mb4.0
ECH Echery 25.78 301 eP P 19 45 10.2 -1.2
MBDF Montbardon 25.82 293 eP P 19 45 09.7 -2.0
comp=Z,50nm,0.9s,mb4.7
MBDF Montbardon 25.82 293 eP P 19 45 09.7 -2.0
MBDF pmax pmax
comp=Z,25nm,0.9s,mb4.7
MBDF Montbardon 25.82 293 eP P 19 45 09.7 -2.0
comp=Z,25nm,0.9s,mb4.7
LPG La Plagne 25.84 295 eP P 19 45 11.3 -0.6
comp=Z,29nm,0.8s,mb4.5
LPG La Plagne 25.84 295 eP P 19 45 11.3 -0.6
LPG pmax pmax
comp=Z,15nm,0.8s,mb4.6
LPG La Plagne 25.84 295 eP P 19 45 11.3 -0.6
comp=Z,15nm,0.8s,mb4.6
LPL La Plagne 25.86 295 eP P 19 45 11.0 -1.0
comp=Z,44nm,1.2s,mb4.6
LPL La Plagne 25.86 295 eP P 19 45 11.0 -1.0
LPL pmax pmax
comp=Z,22nm,1.2s,mb4.6
LPL La Plagne 25.86 295 eP P 19 45 11.0 -1.0
comp=Z,22nm,1.2s,mb4.6
BNI Bardonecchia 25.89 294 eP P 19 45 11.4 -0.9
BNI pmax pmax
comp=Z,19nm,1.0s,mb4.6
BNI Bardonecchia 25.89 294 eP P 19 45 11.4 -0.9
comp=Z,19nm,1.0s,mb4.6
LOMF Lomont 25.91 299 eP P 19 45 13.3 +0.8
FRF La Foret Royal 25.93 291 eP P 19 45 12.0 -0.7
comp=Z,40nm,1.1s,mb4.6
FRF La Foret Royal 25.93 291 eP P 19 45 12.0 -0.7
FRF pmax pmax
comp=Z,20nm,1.1s,mb4.6
FRF La Foret Royal 25.93 291 eP P 19 45 12.0 -0.7
comp=Z,20nm,1.1s,mb4.6
HINF Hinteralfeld 25.94 300 eP P 19 45 12.4 -0.4
comp=Z,12nm,0.9s,mb4.1
HINF Hinteralfeld 25.94 300 eP P 19 45 12.4 -0.4
HINF pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
HINF Hinteralfeld 25.94 300 eP P 19 45 12.4 -0.4
comp=Z,6.1nm,0.9s,mb4.1
RSL Roselend 25.94 295 eP P 19 45 12.2 -0.6
LMR La Mourre 26.04 290 eP P 19 45 13.3 -0.4
comp=Z,53nm,1.4s,mb4.6
LMR La Mourre 26.04 290 eP P 19 45 13.3 -0.4
LMR pmax pmax
comp=Z,26nm,1.4s,mb4.6
LMR La Mourre 26.04 290 eP P 19 45 13.3 -0.4
comp=Z,26nm,1.4s,mb4.6
HAU Haudompre 26.30 301 eP P 19 45 16.5 +0.5
HAU eR
comp=Z,274nm,18.2s
HAU Haudompre 26.30 301 eP P 19 45 16.5 +0.5
HAU LR LR
comp=Z,270nm,18.3s,MS3.8
BUG Bochum--Univer 26.32 309 eP P 19 45 17.1 +0.9
OG25 Le Caire 26.32 292 eP P 19 45 13.1 -3.1
CABF La Chapelle 26.35 297 eP P 19 45 16.2 -0.3
ORIF Oris-en-Rattie 26.45 294 eP P 19 45 16.6 -0.8
comp=Z,14nm,0.8s,mb4.2
ORIF eR
comp=Z,610nm,21.2s
ORIF Oris-en-Rattie 26.45 294 eP P 19 45 16.6 -0.8
ORIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
ORIF Oris-en-Rattie 26.45 294 eP P 19 45 16.6 -0.8
comp=Z,6.8nm,0.8s,mb4.2
WLF Walferdange 26.65 304 eP P 19 45 19.9 +0.7
WLF Walferdange 26.65 304 eP P 19 45 17.6 -1.6
WLF pmax pmax
comp=Z,11nm,0.8s,mb4.4
WLF Walferdange 26.65 304 eP P 19 45 17.6 -1.6
comp=Z,11nm,0.8s,mb4.5
SMRF Simiane la Rot 26.69 292 eP P 19 45 19.1 -0.5
WTSB Winterswijk 26.73 309⇑eP P 19 45 20.2 +0.3
comp=Z,19nm,1.5s,mb4.4
OG05 Jujurieux 26.76 296 eP P 19 45 19.7 -0.5
HFS Hagfors 26.92 330 P P 19 45 20.6 -1.1
comp=Z,16nm,0.7s,mb4.7,baz=133,slow=8.7,SNR=9.7
HFS LR LR 19 57 12.0
comp=Z,248nm,18.4s,MS3.8,baz=126,slow=39
HFS Hagfors 26.92 330 P P 19 45 20.6 -1.1
HFS LR LR 19 57 12.0
HFA0 Hagfors New Ar 26.93 330 P P 19 45 25.0 +3.3
MUD Monsted U'grnd 26.98 320⇑iP P 19 45 22.4 +0.2
comp=Z,36nm,1.2s,mb4.8
MUD eS **S 19 50 09.1 +10**
MUD i 19 56 01.0
MUD
comp=Z,410nm,17.0s
MUD Monsted U'grnd 26.98 320⇑iP P 19 45 22.4 +0.2
MUD eS **S 19 50 09.1 +10**
MUD pmax pmax
comp=Z,36nm,1.2s,mb4.8
MUD MLR MLR
comp=Z,410nm,17.0s,MS4.1
MUD Monsted U'grnd 26.98 320⇑iP P 19 45 22.4 +0.2
comp=Z,36nm,1.2s,mb4.8
MUD eS **S 19 50 09.1 +10**
MUD i 19 56 01.0
HGN Heimansgroeve 26.99 307⇑eP P 19 45 22.2 -0.1
comp=Z,13nm,1.2s,mb4.3
MEZF Maizieres J'vi 27.21 302 eP P 19 45 22.8 -1.5
VIVF Saint-Julien-l 27.31 294 eP P 19 45 23.7 -1.5
comp=Z,23nm,1.1s,mb4.3
VIVF Saint-Julien-l 27.31 294 eP P 19 45 23.7 -1.5
VIVF pmax pmax
comp=Z,12nm,1.1s,mb4.3
VIVF Saint-Julien-l 27.31 294 eP P 19 45 23.7 -1.5
comp=Z,12nm,1.1s,mb4.3
GIVF Givet 27.57 305 eP P 19 45 26.1 -1.4
ATD Arta Tunnel 27.74 176 LR LR 19 57 59.5
comp=Z,26nm,18.3s,baz=354,slow=40
SMF Signal de Mont 27.90 297 eP P 19 45 29.2 -1.2
comp=Z,14nm,1.0s,mb4.3
SMF Signal de Mont 27.90 297 eP P 19 45 29.2 -1.2
SMF pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
SMF Signal de Mont 27.90 297 eP P 19 45 29.2 -1.2
comp=Z,7.2nm,1.0s,mb4.3
LOR Lormes 27.91 299 eP P 19 45 28.6 -2.0
comp=Z,16nm,0.9s,mb4.3
LOR eR
comp=Z,516nm,19.5s
LOR Lormes 27.91 299 eP P 19 45 28.6 -2.0
LOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
LOR MLR MLR
comp=Z,520nm,19.5s,MS4.1
LOR Lormes 27.91 299 eP P 19 45 28.6 -2.0
comp=Z,8.1nm,0.9s,mb4.3
LOR LR LR
comp=Z,520nm,19.5s,MS4.1
LASF Ste Croix 27.93 292 eP P 19 45 29.0 -1.6
comp=Z,24nm,1.1s,mb4.5
BAIF Baives 27.96 305 eP P 19 45 30.3 -0.6
comp=Z,14nm,1.0s,mb4.3
BAIF Baives 27.96 305 eP P 19 45 30.3 -0.6
BAIF pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
BAIF Baives 27.96 305 eP P 19 45 30.3 -0.6
comp=Z,7.2nm,1.0s,mb4.3
SSF Saint Saulge 28.14 298 eP P 19 45 32.5 -0.1
comp=Z,16nm,1.1s,mb4.3
SSF Saint Saulge 28.14 298 eP P 19 45 32.5 -0.1
SSF pmax pmax
comp=Z,8.0nm,1.1s,mb4.3
SSF Saint Saulge 28.14 298 eP P 19 45 32.5 -0.1
comp=Z,8.3nm,1.1s,mb4.3
AVF Avril sur Loir 28.24 298 eP P 19 45 32.2 -1.3
comp=Z,16nm,0.9s,mb4.3
AVF Avril sur Loir 28.24 298 eP P 19 45 32.2 -1.3
AVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
AVF Avril sur Loir 28.24 298 eP P 19 45 32.2 -1.3

comp=Z,7.8nm,0.9s,mb4.3
KONO Kongsberg 28.33 326⇑eP P 19 45 40.7 +6.4
NB2 NORSAR Subarra 28.45 330 P P 19 45 33.4 -1.9
comp=Z,1.8nm,0.7s,mb3.8,baz=126,slow=9.3
NOA NORSAR Array B 28.45 330 P P 19 45 33.8 -1.5
comp=Z,1.2nm,0.6s,mb3.7,baz=125,slow=8.9,SNR=2.5
NOA LR LR 19 58 07.1
comp=Z,191nm,19.9s,MS3.7,baz=105,slow=39
BGF Bois d'Agland 28.59 297 eP P 19 45 36.3 -0.2
comp=Z,58nm,1.4s,mb4.8
BGF Bois d'Agland 28.59 297 eP P 19 45 36.3 -0.2
BGF pmax pmax
comp=Z,29nm,1.4s,mb4.8
BGF Bois d'Agland 28.59 297 eP P 19 45 36.3 -0.2
comp=Z,29nm,1.4s,mb4.8
APA Apatity 28.60 354⇑eP P 19 45 40.5 +3.8
APA pmax pmax
comp=Z,13nm,1.0s,mb4.6
TCF Toulx Ste Croi 29.02 297 eP P 19 45 39.6 -0.8
comp=Z,21nm,1.0s,mb4.5
TCF Toulx Ste Croi 29.02 297 eP P 19 45 39.6 -0.8
TCF pmax pmax
comp=Z,11nm,1.0s,mb4.5
TCF Toulx Ste Croi 29.02 297 eP P 19 45 39.6 -0.8
comp=Z,11nm,1.0s,mb4.5
CAF Calviac 29.16 294 eP P 19 45 41.8 +0.1
comp=Z,15nm,1.2s,mb4.3
CAF Calviac 29.16 294 eP P 19 45 41.8 +0.1
CAF pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
CAF Calviac 29.16 294 eP P 19 45 41.8 +0.1
comp=Z,7.7nm,1.2s,mb4.3
MTLF Montolieu 29.17 291 eP P 19 45 41.5 -0.2
comp=Z,9.4nm,1.1s,mb4.2
MTLF Montolieu 29.17 291 eP P 19 45 41.5 -0.2
MTLF pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
MTLF Montolieu 29.17 291 eP P 19 45 41.5 -0.2
comp=Z,4.7nm,1.0s,mb4.2
LFF La Frestale 30.10 294 eP P 19 45 49.1 -0.9
LDF La Druitiere 30.65 301 eP P 19 45 54.1 -0.7
comp=Z,22nm,1.2s,mb4.6
LDF La Druitiere 30.65 301 eP P 19 45 54.1 -0.7
LDF pmax pmax
comp=Z,11nm,1.2s,mb4.6
LDF La Druitiere 30.65 301 eP P 19 45 54.1 -0.7
comp=Z,11nm,1.2s,mb4.6
MFF Saint Martin d 30.65 297 eP P 19 45 54.0 -0.8
comp=Z,14nm,1.0s,mb4.5
MFF Saint Martin d 30.65 297 eP P 19 45 54.0 -0.8
MFF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MFF Saint Martin d 30.65 297 eP P 19 45 54.0 -0.8
comp=Z,7.3nm,1.0s,mb4.5
MKAR Makanchi Array 30.84 62 P P 19 45 55.1 -1.3
comp=Z,1.3nm,0.6s,mb4.0,baz=263,slow=10,SNR=3.9
MKAR Makanchi Array 30.84 62 i P P 19 46 01.1 +4.6
MKAR pmax pmax
comp=Z,4.0nm,0.7s
GRR Gorron 31.13 301 eP P 19 45 57.5 -1.6
comp=Z,26nm,1.2s,mb4.6
GRR Gorron 31.13 301 eP P 19 45 57.5 -1.6
GRR pmax pmax
comp=Z,13nm,1.2s,mb4.6
GRR Gorron 31.13 301 eP P 19 45 57.5 -1.6
comp=Z,13nm,1.2s,mb4.6
ARCES ARCESS Array B 31.37 350 P P 19 46 00.1 -1.0
comp=Z,7.7nm,0.7s,mb4.7,baz=162,slow=8.4,SNR=10.0
ARCES LR LR 19 59 27.6
comp=Z,547nm,20.3s,MS4.2,baz=154,slow=38
KEV Kevo 31.37 351 eP P 19 46 01.9 +0.7
KEV pmax pmax
comp=Z,19nm,1.2s,mb4.8
KEV Kevo 31.37 351 eP P 19 46 01.9 +0.7
comp=Z,19nm,1.2s,mb4.8
EMOS Mosqueruela 31.60 285 P P 19 46 03.1 -0.1
comp=Z,31nm,1.0s,mb5.1
SJPF Ste Jean 31.69 291 eP P 19 46 03.8 -0.2
comp=Z,19nm,1.1s,mb4.5
SJPF Ste Jean 31.69 291 eP P 19 46 03.8 -0.2
SJPF pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
SJPF Ste Jean 31.69 291 eP P 19 46 03.8 -0.2
comp=Z,9.3nm,1.1s,mb4.5
SGMF Saint Gilles 32.26 300 eP P 19 46 07.7 -1.3
comp=Z,19nm,1.0s,mb4.6
SGMF Saint Gilles 32.26 300 eP P 19 46 07.7 -1.3
SGMF pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
SGMF Saint Gilles 32.26 300 eP P 19 46 07.7 -1.3
comp=Z,9.5nm,1.0s,mb4.6
QUIF Quistinic 32.67 300 eP P 19 46 10.9 -1.7
comp=Z,80nm,1.5s,mb5.1
QUIF Quistinic 32.67 300 eP P 19 46 10.9 -1.7
QUIF pmax pmax
comp=Z,40nm,1.5s,mb5.1
QUIF Quistinic 32.67 300 eP P 19 46 10.9 -1.7
comp=Z,40nm,1.5s,mb5.1
ROSF Rostrenen 32.74 301 eP P 19 46 13.0 -0.2
comp=Z,9.9nm,0.8s,mb4.5
ROSF Rostrenen 32.74 301 eP P 19 46 13.0 -0.2
ROSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ROSF Rostrenen 32.74 301 eP P 19 46 13.0 -0.2
comp=Z,4.9nm,0.8s,mb4.5
ETOB Tobarra 32.81 283 P P 19 46 13.1 -0.7
comp=Z,14nm,0.9s,mb4.9
ZAL Zalesovo 32.89 49 LR LR 20 01 35.6
comp=Z,227nm,19.1s,MS3.9,baz=210,slow=40
EVIA Vianos 33.53 283 P P 19 46 18.9 -1.2
EVIA pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
EVIA Vianos 33.53 283 P P 19 46 18.9 -1.2
comp=Z,9.2nm,0.9s,mb4.7
EQES Quesada 34.19 282 P P 19 46 25.0 -0.8
comp=Z,24nm,0.8s,mb5.2
GUD Guadarrama 34.28 287 P P 19 46 25.5 -1.2
GUD pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GUD Guadarrama 34.28 287 P P 19 46 25.5 -1.2
comp=Z,7.5nm,0.9s,mb4.6
EBER Berja 34.32 280 P P 19 46 25.6 -1.4
comp=Z,21nm,0.9s,mb5.1
ESDC Sonseca Array 34.37 285 P P 19 46 25.9 -1.5
comp=Z,8.4nm,0.9s,mb4.7,baz=66,slow=8.6,SNR=22
ESDC Sonseca Array 34.37 285 P P 19 46 25.5 -1.9
comp=Z,10nm,0.9s,mb4.8
ESLA Sonseca Array 34.37 285 eP P 19 46 25.6 -1.8
comp=Z,2.3nm,0.9s,mb4.1
EBAN Banos Encina 34.63 283 P P 19 46 28.8 -0.8
EBAN pmax pmax
comp=Z,11nm,0.7s,mb4.9
EBAN Banos Encina 34.63 283 P P 19 46 28.8 -0.8
comp=Z,11nm,0.7s,mb4.9
ECOG Cogollos-Vega 34.72 281 P P 19 46 29.1 -1.3
ECOG pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ECOG Cogollos-Vega 34.72 281 P P 19 46 29.1 -1.3
comp=Z,6.5nm,0.7s,mb4.7
WMQ Urumqi 34.91 67 P P 19 46 34.2 +2.2
WMQ PP PP 19 47 51.7 +0.5
WMQ PCP PcP 19 49 07.2 +2.7
WMQ S S 19 52 05.6 +3.1
WMQ SS SS 19 54 19.1 -15
WMQ SCS ScS 19 56 54.8 +2.2
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,21nm,5.2s
WMQ LR LR
comp=N,607nm,13.7s,MS4.5
WMQ LR LR
comp=E,335nm,18.3s,MS4.5
WMQ LR LR
comp=Z,401nm,16.0s,MS4.3
DLF Lyons Farm 34.95 309 eP P 19 46 30.5 -2.0
ERON Agron 34.98 281 P P 19 46 31.4 -1.3
comp=Z,4.0nm,0.7s,mb4.5
DCN Croghan 35.41 309 eP P 19 46 32.0 -4.3
MTE Manteigas 36.85 288 eP P 19 46 47.7 -1.0
comp=Z,19nm,1.0s,mb4.9
MTE Manteigas 36.85 288 eP P 19 46 47.3 -1.5
comp=Z,12nm,0.9s,mb4.7
PCBR Castelo Branco 36.95 287 eP P 19 46 48.5 -1.0
comp=Z,12nm,1.0s,mb4.7
PVIS Viseu 37.03 288 eP P 19 46 49.5 -0.8
comp=Z,13nm,0.9s,mb4.8
PVIS Viseu 37.03 288 eP P 19 46 49.2 -1.1
MDT Midelt 37.07 274 P P 19 46 50.5 -0.1
comp=Z,5.0nm,0.9s,mb4.3,baz=86,slow=10,SNR=11
PTOM Tomar 37.70 287 eP P 19 46 55.4 -0.5
comp=Z,24nm,1.1s,mb4.8
PTOM Tomar 37.70 287 eP P 19 46 55.5 -0.4
PBEJ Beja 37.75 284 eP P 19 46 55.2 -1.1
comp=Z,11nm,1.1s,mb4.5
PBEJ Beja 37.75 284 eP P 19 46 54.6 -1.7
SPB4 Spitsbergen Ar 40.26 352 P P 19 47 17.3 -0.1
JMIC Jan Mayen 40.39 337 LR LR 20 04 55.1
comp=Z,192nm,20.1s,MS4.0,baz=273,slow=38
KMBO Kilima Mbogo 40.40 186 LR LR 20 03 08.0
comp=Z,557nm,18.1s,MS4.5,baz=282,slow=35
TORD Torodi Ar. Bea 43.29 244 P P 19 47 41.4 -0.8
comp=Z,5.2nm,0.8s,mb4.3,baz=38,slow=7.2,SNR=6.7
TORD LR LR 20 08 20.8
comp=Z,159nm,19.9s,MS3.9,baz=185,slow=40
SONM Songino Array 46.88 57 P P 19 48 10.2 -0.5
comp=Z,1.0nm,0.7s,mb3.9,baz=257,slow=5.8,SNR=3.9
ULN Ulaanbaatar 47.30 57 P P 19 48 16.7 +2.7
ULN pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ULN Ulaanbaatar 47.30 57 P P 19 48 16.7 +2.7
comp=Z,9.8nm,0.9s,mb4.7
LZH Lanzhou 48.99 73 eP P 19 48 29.6 +2.6
LZH AP pP 19 48 33.1 +0.4
LZH XP sP 19 48 36.6 +1.7
LZH PP PP 19 50 22.6 +2.1
LZH AMB AMB
comp=Z,22nm,1.6s,mb4.9
CD2 Chengdu 51.16 79 eP P 19 48 42.6 -0.9
CD2 S S 19 55 59.6 -1.2
CD2 SS SS 19 59 32.0 -4.1
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,30nm,8.2s
CD2 LR LR
comp=N,110nm,16.8s
CD2 LR LR
comp=Z,150nm,13.2s,MS4.2
DBIC Dimbokro 52.41 244 P P 19 48 51.5 -1.2
comp=Z,12nm,0.6s,mb5.0,baz=35,slow=7.6,SNR=17
DBIC Dimbokro 52.41 244 eP P 19 48 51.3 -1.5
DBIC pmax pmax
comp=Z,15nm,0.7s
DBIC Dimbokro 52.41 244 eP P 19 48 51.3 -1.5
comp=Z,15nm,0.7s,mb5.0
HHC Hu-ho-hao-te 52.67 64 eP P 19 48 55.8 +1.1
HHC PP PP 19 50 55.6 +1.7
HHC PCS PcS 19 54 03.5 +0.5
HHC S S 19 56 23.2 +1.7
HHC SCS ScS 19 58 43.6 -0.1
HHC AMB AMB
comp=Z,8.0nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,105nm,4.9s
HHC LR LR
comp=N,310nm,21.4s,MS4.5
HHC LR LR
comp=E,251nm,18.4s,MS4.5
LIC Lamto 52.84 244⇑iP P 19 48 54.8 -1.2
comp=E,49nm,0.8s,mb5.2
LIC Lamto 52.84 244⇑iP P 19 48 54.8 -1.2
comp=E,24nm,0.8s,mb5.2
KMI Kunming 53.23 86 P P 19 49 02.0 +3.2
KMI AMB AMB
comp=Z,13nm,1.1s,mb4.8
NJ2 Nanjing 61.89 70 eP P 19 50 01.2 +1.4
NJ2 AP pP 19 50 06.4 +0.7
NJ2 PP PP 19 52 20.4 +4.3
NJ2 S S 19 58 25.0 +2.2
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.2
NJ2 AMB AMB
comp=Z,220nm,6.6s
TSUM Tsumeb 62.19 205 eP P 19 50 02.5 +0.6
comp=Z,28nm,1.8s,mb5.1
SCHQ Schefferville 67.80 323 P P 19 50 36.3 -2.0
comp=Z,2.0nm,0.7s,mb4.3,baz=84,slow=9.0,SNR=4.1
YSS Yuzh-Sakhalins 69.45 46⇑eP P 19 50 48.6 -0.1
YSS pmax pmax
comp=Z,15nm,1.4s,mb4.7
MJAR Matsushiro Arr 72.84 57 P P 19 51 09.9 +0.8
comp=Z,2.2nm,0.8s,mb4.1,baz=310,slow=6.7,SNR=2.7
MJAR LR LR 20 25 52.4
comp=Z,170nm,19.1s,MS4.3,baz=85,slow=38
MJAR Matsushiro Arr 72.84 57 P P 19 51 09.9 +0.8
MJAR LR LR 20 25 52.4
YKA Yellowknife Ar 76.63 349 P P 19 51 30.1 -1.0
comp=Z,2.5nm,0.9s,mb4.1,baz=18,slow=6.3,SNR=9.5
YKA Yellowknife Ar 76.63 349 P P 19 51 30.1 -1.0
NEW Newport 90.64 346 LR LR 20 32 07.1
comp=Z,128nm,19.0s,MS4.4,baz=229,slow=35
PDAR Pinedale Array 94.02 339 P P 19 52 59.0 +0.4
comp=Z,0.3nm,0.7s,mb3.8,baz=43,slow=9.8,SNR=3.3
BDFB Brasilia 98.94 257 LR LR 20 38 57.8
comp=Z,142nm,18.8s,MS4.5,baz=58,slow=36

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*MOS **02** 19:40:33.3±0.8, 003N×97.11E, h33km, mb5.1/10, Error ellipse: s-maj=14.7km s-min=8.9km az=106.6*
*BJI **02** 19:40:33.2, 030S×9747E, h43km, mB4.8, mb4.6, Ms4.7, Msz4.3*
*ISCJB **02** 19:40:34.0±0.4, 005N±006×9722E±006, h40km, mb4.6/33, MS3.7/2, Error ellipse: s-maj=9.7km s-min=6.6km az=105.0*
*IDC **02** 19:40:35.7±0.6, 005S×9709E, h39km±3km, mb4.2/20, mb1 4.3/21, mb1mx4.2/26, mbtmp4.4/21, ML3.9/1, MS3.7/3, Ms1 3.7/3, ms1mx3.2/27, Error ellipse: s-maj=23.5km s-min=9.8km az=53.0*
*NEIC **02** 19:40:35.7±0.3, 002N×97.16E, mb4.9/8, Error ellipse: s-maj=10.7km s-min=6.4km az=62.0*
ISC 02 19:40:36.3±0.4**, 006N**±006×**9723E**±006**, h42**km±1.2km**:pP-P, n73,** σ0.s**75**/65**, mb4.6**/33**, MS3.7**/2**,**
1C-4D, Northern Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PSI Prapat 3.20 32 Pn Pn 19 41 23.1 -1.0
14nm,0.3s,baz=234,slow=5.9,SNR=144
PSI LR LR 19 43 02.0
comp=Z,1μm,18.5s,baz=223,slow=45
PPI Padang Panjang 3.20 99 P Pn 19 41 23.2 -0.9
0.0nm,0.0s
TSI Tuntungan 3.67 21 P Pn 19 41 30.3 -0.2
0.0nm,0.0s
IPM Ipoh 5.80 41 P Pn 19 42 00.7 +0.9
KULM Kulim 6.21 33 eP Pn 19 42 04.6 -0.9
KSI Kapahiang 6.50 125 P Pn 19 42 09.2 -0.2
0.0nm,0.0s
CM31 Chiang Mai Arr 18.36 5 eP Pn 19 44 47.3 -0.3
6.0nm,0.8s
KKM Kota Kinabalu 19.86 72 P Pn 19 45 04.6 -1.0
CD2 Chengdu 31.30 11 eP P 19 46 53.2 +0.9
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
CD2 AMB AMB
comp=Z,60nm,6.5s
FITZ Fitzroy Crossi 33.25 124 eP P 19 47 09.8 +0.4
comp=Z,11nm,0.9s,mb4.8
FITZ Fitzroy Crossi 33.25 124 P P 19 47 09.1 -0.4
comp=Z,6.3nm,0.9s,mb4.5,baz=309,slow=8.0,SNR=9.7
FITZ pP pP 19 47 21.4 +0.5
comp=Z,5.6nm,0.9s,baz=336,slow=6.2,SNR=5.4
FITZ LR LR 20 01 55.1
comp=Z,172nm,20.3s,MS3.8,baz=243,slow=38
XAN Xi'an 35.53 17 P P 19 47 29.8 +0.6
XAN AMB AMB
comp=Z,9.0nm,1.1s,mb4.6
NJ2 Nanjing 37.81 31 eP P 19 47 48.2 -0.4
NJ2 AP pP 19 47 58.0 -2.2
NJ2 XP sP 19 48 01.5 -3.7
NJ2 PP PP 19 49 17.1 +1.6
NJ2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.4
NJ2 AMB AMB
comp=Z,110nm,3.7s
WRA Warramunga Arr 41.41 121 P P 19 48 18.5 -0.1
comp=Z,15nm,0.9s,mb4.6,baz=299,slow=9.3,SNR=35
WRA PcP PcP 19 50 16.6 +0.6
comp=Z,1.4nm,0.7s,baz=295,slow=2.4,SNR=4.6
WRAB Tennant Creek 41.42 121 eP P 19 48 19.1 +0.5
WRAB pmax pmax
comp=Z,22nm,0.9s,mb4.8
WRAB Tennant Creek 41.42 121 eP P 19 48 19.1 +0.5
comp=Z,22nm,0.9s,mb4.8
ASAR Alice Springs 42.69 126 P P 19 48 29.6 +0.6
comp=Z,2.5nm,0.8s,mb4.0,baz=296,slow=7.4,SNR=14
ASAR pP pP 19 48 41.2 +0.5
comp=Z,6.9nm,1.1s,baz=305,slow=7.7,SNR=8.7
ASAR PcP PcP 19 50 21.4 +1.2
comp=Z,2.1nm,0.9s,baz=300,slow=2.7,SNR=5.3
AS31 Alice Springs 42.69 126 P P 19 48 29.6 +0.6
BJT Baijiatuau 43.36 21 eP P 19 48 34.9 +0.5
BJT pmax pmax
comp=Z,51nm,1.4s
BJT Baijiatuau 43.36 21 eP P 19 48 34.9 +0.5
comp=Z,51nm,1.4s,mb5.1
BJI Beijing 43.38 21 P P 19 48 34.9 +0.4
BJI AMB AMB
comp=Z,11nm,0.9s,mb4.6
AAK Ala-Archa 47.05 337 i P P 19 49 03.7 0.0
AAK pmax pmax
comp=Z,10.0nm,1.6s,mb4.5
SONM Songino Array 48.24 8 P P 19 49 14.3 +1.4
comp=Z,5.2nm,0.9s,mb4.5,baz=194,slow=8.6,SNR=11
SONM pP pP 19 49 25.3 +0.5
comp=Z,5.0nm,0.9s,baz=191,slow=8.5,SNR=9.3
SONM PcP PcP 19 50 40.6 +1.1
comp=Z,2.2nm,0.8s,baz=184,slow=4.2,SNR=4.2
MKAR Makanchi Array 48.35 346 P P 19 49 14.1 +0.4
comp=Z,6.6nm,0.5s,mb4.9,baz=164,slow=8.8,SNR=35
MKAR pP pP 19 49 25.9 +0.3
comp=Z,7.8nm,0.8s,baz=160,slow=8.6,SNR=10
MKAR Makanchi Array 48.35 346 P P 19 49 14.1 +0.4
MKAR pP pP 19 49 25.9 +0.3
ULN Ulaanbaatar 48.37 9 P P 19 49 15.7 +1.8
GUMO Guam 49.04 72 LR LR 20 08 02.5
comp=Z,61nm,21.1s,MS3.6,baz=177,slow=34
CTA Charters Tower 51.97 116 eP P 19 49 42.5 +1.3
comp=Z,8.4nm,0.8s,mb4.7
CTA Charters Tower 51.97 116 P P 19 49 42.1 +1.0
comp=Z,12nm,0.9s,mb4.8,baz=291,slow=6.9,SNR=11
CTA Charters Tower 51.97 116 eP P 19 49 42.5 +1.3
CTA pmax pmax
comp=Z,8.0nm,0.8s
CTAO Charters Tower 51.97 116 eP P 19 49 42.4 +1.2
CTAO pmax pmax
comp=Z,13nm,0.9s,mb4.9
CTAO Charters Tower 51.97 116 eP P 19 49 42.4 +1.3
comp=Z,13nm,0.9s,mb4.8
MJAR Matsushiro Arr 52.51 42 P P 19 49 46.0 +0.9
comp=Z,2.5nm,0.9s,mb4.1,baz=222,slow=6.7,SNR=6.4
STKA Stephens Creek 52.58 131⇓iP P 19 49 44.8 -0.8
comp=Z,13nm,0.8s,mb4.9
STKA Stephens Creek 52.58 131 P P 19 49 45.2 -0.4
comp=Z,18nm,0.9s,mb5.0,baz=311,slow=7.5,SNR=32
KURK Kurchatov 52.89 345⇑eP P 19 49 48.4 +0.4
KURK Kurchatov 52.89 345 eP P 19 49 48.6 +0.6
ZAL Zalesovo 54.67 351 P P 19 50 01.7 +0.7
comp=Z,12nm,0.5s,mb5.2,baz=304,slow=4.1,SNR=26
ZAL pP pP 19 50 13.0 0.0
comp=Z,8.3nm,0.4s,baz=297,slow=5.8,SNR=7.1
ZAL Zalesovo 54.67 351 P P 19 50 01.7 +0.7
ZAL pP pP 19 50 13.0 0.0
NVS Novosibirsk 55.80 350 eP P 19 50 09.2 +0.1
NVS e 19 57 48.7
NVS pmax pmax
comp=Z,23nm,1.1s,mb5.1
NVS pmax pmax
comp=N,15nm,1.4s
NVS pmax pmax
comp=E,11nm,1.5s
BVAR Borovoye Array 57.33 341 P P 19 50 19.4 -0.6
comp=E,4.0nm,0.8s,mb4.5,baz=145,slow=9.2,SNR=12
BVAR pP pP 19 50 31.2 -0.9
comp=E,5.4nm,0.8s,baz=144,slow=9.0,SNR=13
HABR Khabarovsk 58.23 29 eP P 19 50 24.2 -2.1
HABR S S 19 58 24.2 -1.0
ASAJ Asahikawa 59.55 36 P P 19 50 36.1 +0.6
comp=E,1.3nm,0.6s,mb4.1,baz=235,slow=11,SNR=5.6
AKTK Aktyubinsk 60.25 332 P P 19 50 39.8 -0.5
AKTO Aktyubinsk 60.25 332 P P 19 50 39.8 -0.5
comp=E,1.3nm,0.5s,mb4.3,baz=141,slow=5.8,SNR=4.6
YSS Yuzh-Sakhalins 61.27 34 eP P 19 50 48.0 +0.8
YSS pmax pmax
comp=Z,20nm,1.0s,mb5.2
SVE Sverdlovsk 63.75 339 eP P 19 51 04.0 +0.2
ARU Arti 64.24 337⇓iP P 19 51 06.0 -1.0
ARU ePPP 19 54 57.3
ARU eS S 19 59 43.1 +1.6
ARU eSS SS 20 03 57.6 +6.2
ARU pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ARU Arti 64.24 337 eP P 19 51 06.2 -0.7
comp=Z,12nm,1.2s,mb4.8
KIV Kislovodsk 65.19 320 eP P 19 51 13.5 +0.3
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
GOF Gofitskoye 65.46 321 eP P 19 51 14.0 -0.9
YAK Yakutsk 66.50 16d iP P 19 51 21.2 -0.4
YAK pmax pmax
comp=Z,33nm,1.1s,mb5.3
YAK Yakutsk 66.50 16 eP P 19 51 20.7 -0.9
comp=Z,30nm,0.8s,mb5.4
OBN Obninsk 73.60 329deP P 19 52 04.7 -0.4
OBN e 19 54 49.4
OBN eS S 20 01 31.1 -1.2
OBN pmax pmax
comp=Z,15nm,1.5s,mb4.7
AKASG Malin Array Be 76.18 323 P P 19 52 19.0 -1.0
comp=Z,5.2nm,0.9s,mb4.5,baz=92,slow=4.9,SNR=17
AKASG pP pP 19 52 30.6 -1.9
comp=Z,2.0nm,0.6s,baz=94,slow=5.1,SNR=6.6
AKASG Malin Array Be 76.18 323 P P 19 52 19.0 -1.0
AKASG pP pP 19 52 30.6 -1.9
MLR Muntele Rosu 76.91 317 P P 19 52 24.2 0.0
comp=Z,7.1nm,1.0s,mb4.6,baz=124,slow=6.9,SNR=3.4
FINES FINESS Array B 81.02 333 P P 19 52 46.4 -0.3
comp=Z,1.6nm,0.8s,mb4.0,baz=100,slow=7.0,SNR=4.7
FINES pP pP 19 52 58.1 -1.1
comp=Z,1.6nm,0.6s,baz=103,slow=5.4,SNR=4.0
ARCES ARCESS Array B 83.61 340 P P 19 53 00.5 +0.3
comp=Z,2.1nm,0.8s,mb4.3,baz=104,slow=4.2,SNR=16
ARCES pP pP 19 53 12.1 -0.8
comp=Z,0.8nm,0.5s,baz=104,slow=4.9,SNR=4.9
VNDA Vanda 84.71 169 P P 19 53 05.5 -0.2
comp=Z,1.8nm,1.1s,mb4.1,baz=296,slow=3.2,SNR=5.8
VNDA Vanda 84.71 169 eP P 19 53 05.6 -0.1
GERES GERESS Array B 85.69 319 P P 19 53 10.4 -0.2
comp=Z,1.0nm,0.9s,mb4.1,baz=134,slow=3.9,SNR=7.6
GERES pP pP 19 53 24.2 +0.8
comp=Z,0.6nm,0.7s,baz=85,slow=4.4,SNR=4.0
HFS Hagfors 86.72 330 P P 19 53 14.8 -1.0
comp=Z,6.1nm,1.0s,mb4.8,baz=135,slow=0.8,SNR=6.5
NOA NORSAR Array B 88.01 331 P P 19 53 21.9 -0.1
comp=Z,2.0nm,1.0s,mb4.3,baz=95,slow=5.4,SNR=3.4
ULM Lac du Bonnet 128.64 11 PKP PKPdf 19 59 38.8 0.0
comp=Z,1.8nm,0.7s,baz=298,slow=2.9,SNR=3.1
PDAR Pinedale Array 131.04 26 PKP PKPdf 19 59 43.8 +0.4
comp=Z,0.4nm,0.6s,baz=270,slow=2.8,SNR=4.5
MIAR Mount Ida 144.12 15 ePKIKP PKPdf 20 00 05.7 -1.7
CPUP Villa Florida 144.18 221 PKP PKPdf 20 00 06.5 -0.9
comp=Z,5.9nm,0.8s,baz=117,slow=2.1,SNR=17
CPUP pPKP pPKPdf 20 00 18.2 -2.5
comp=Z,3.3nm,0.8s,baz=20,slow=1.2,SNR=3.6
CPUP Villa Florida 144.18 221 ePKPdf PKPdf 20 00 06.4 -1.1
CPUP pPKP pPKPdf 20 00 18.2 -2.5
LTX Lajitas 144.61 33 ePKIKP PKPdf 20 00 09.0 +0.8
CPCT Cooper Cave 144.63 2 ePKPdf PKPdf 20 00 07.4 -0.9
JCT Junction City 145.58 27 ePKP2 PKPab 20 00 11.4 +1.0
LRAL Lakeview Retre 146.84 7 ePKPbc PKPbc 20 00 13.7 -0.2

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*NEIC **02** 19:54:06.2±2.9, 531S×147.14E, h196km±23km, mb4.4/3, Error ellipse: s-maj=38.6km s-min=27.9km az=146.0*
*IDC **02** 19:54:08.8±4.8, 563S×14727E, h211km±48km, mb3.7/2, mb1 3.7/4, mb1mx3.3/12, mbtmp4.1/4, MS3.3/1, Ms1 3.3/1, ms1mx2.8/21, Error ellipse: s-maj=79.3km s-min=40.1km az=128.0*
*ISCJB **02** 19:54:13.3±5.1, 60S±03×1473E±05, h250km, mb4.2/2, Error ellipse: s-maj=77.7km s-min=19.7km az=123.9*
ISC 02 19:54:11.2±5.3**, 57S**±04×**1469E**±06**, h199**km±41km**, n11,**
σ0.s**18**/12**, mb4.2**/2**, Eastern New Guinea region**

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

PMG Port Moresby 3.69 176 P Pn 19 55 09.4 +0.4
2.0nm,0.3s,baz=340,slow=12,SNR=29
PMG S Sn 19 55 54.4 -0.1
7.9nm,0.3s,baz=353,slow=10,SNR=12
PMG Port Moresby 3.69 176 *e*Pn Pn 19 55 08.8 -0.2
PMG S Sn 19 55 54.4 -0.1
WRAB Tennant Creek 18.68 220 *e*P P 19 58 14.3 -0.2
9.7nm,0.8s
WB2 Warramunga Arr 18.69 220 *e*P P 19 58 14.6 +0.1
WRA Warramunga Arr 18.70 220 P P 19 58 14.8 +0.3
0.7nm,0.3s,baz=41,slow=11,SNR=38
WRA LR LR 20 05 11.8
comp=Z,108nm,21.9s,baz=230,slow=35
AS31 Alice Springs 21.80 214 *e*P P 19 58 47.7 +0.1
ASAR Alice Springs 21.81 214 P P 19 58 47.5 -0.1
2.4nm,0.8s,mb3.8,baz=49,slow=7.7,SNR=30
ASPA Alice Springs 21.81 214 *e*P P 19 58 47.7 0.0
FITZ Fitzroy Crossi 24.14 237 *e*P P 19 59 08.6 -0.3
10.0nm,0.4s,mb4.8
FITZ Fitzroy Crossi 24.14 237 P P 19 59 08.8 -0.1
5.4nm,0.4s,mb4.5,baz=47,slow=11,SNR=62
TORD Torodi Ar. Bea 144.92 285 PKPbc PKPdf 20 13 21.2 -3.2
0.3nm,0.7s,baz=60,slow=4.0,SNR=3.7

ISCJB ***02*** *19:55:14.9±0.9, 38.28N±0.04×20.54E±0.10, h5km, Error ellipse: s-maj=11.2km s-min=4.8km az=153.9*
ATH ***02*** *19:55:15.0, 38.21N×20.51E, h20km±1km, MD3.3/5*
NEIC ***02*** *19:55:15.0, 38.21N×20.51E, h20km, MD3.3(ATH), After ATH.*
THE ***02*** *19:55:16.8, 38.36N×20.48E, h10km, ML3.4*
CSEM ***02*** *19:55:16.2±0.1, 38.33N×20.60E, h5km, MD3.3, Error ellipse: s-maj=4.7km s-min=2.6km az=84.0*
ISC 02 19:55:16.2±0.8**, 38.33N**±0.03×**20.60E**±0.09**, h1**km±8km**, n9, σ0.67**/13**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.15**	**182**	*e*PB	**Pg**	**19 55 18.8**	**-0.3**
VLS				*e*SB	**Sg**	**19 55 21.9**	**+0.8**
LKD	**Levkas**	**0.38**	**6**	*e*Pg	**Pg**	**19 55 22.5**	**-1.1**
LKD				*e*Sg	**Sg**	**19 55 28.8**	**+0.3**
RLS	**Riolos of Patr**	**0.74**	**111**	*e*PN	**Pg**	**19 55 30.0**	**-0.3**
EVR	**Evrytania**	**1.12**	**58**	*e*PN	**Pn**	**19 55 38.5**	**-0.5**
EVR				*e*SN	**Sn**	**19 55 55.5**	**+0.5**
IGT	**Igoumenitsa**	**1.22**	**350**	*e*Pg	**Pg**	**19 55 38.7**	**-1.0**
IGT				*e*Sg	**Sg**	**19 55 56.9**	**+1.4**
JAN	**Janina**	**1.34**	**8**	*e*PN	**Pn**	**19 55 42.0**	**-0.1**
KEK	**Kerkira**	**1.52**	**336**	*e*PN	**Pn**	**19 55 44.5**	**0.0**
AGG	**Agios Georgios**	**1.52**	**62**	*e*Pg	**Pg**	**19 55 46.0**	**+0.5**
MEV	**Metsovon**	**1.54**	**18**	*e*Pg	**Pn**	**19 55 44.7**	**-0.1**

IDC ***02*** *19:57:04.4±2.7, 51.14N×179.44W, h14km±16km, mb4.6/24, mb1 4.7/25, mb1mx4.7/27, mbtmp4.7/25, ML4.9/1, MS4.2/10, Ms1 4.2/10, ms1mx3.8/31, Error ellipse: s-maj=17.0km s-min=11.1km az=152.0*
BJI ***02*** *19:57:06.9, 51.37N×179.88W, h28km, mB5.0, mb4.9, Ms4.5, Msz4.3*
MOS ***02*** *19:57:07.1±0.9, 51.16N×179.44W, h41km, mb5.2/94, MS4.0/12, Error ellipse: s-maj=8.5km s-min=4.2km az=94.8*
ISCJB ***02*** *19:57:07.2±0.2, 51.07N±0.04×179.40W±0.03, h44km, mb4.9/196, MS4.2/30, Error ellipse: s-maj=6.0km s-min=2.2km az=13.9*
HRVD ***02*** *19:57:09.2±0.8, 50.98N×179.53W, h30km±1km, MW4.8/37, Centroid moment Tensor Solution. LP body waves: s13,c13;Mantle waves: s37,c47; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.07±.24; Mθθ-1.88±.15; Mφφ-0.19±.14; Mrθ1.16±.17; Mθφ-0.41±.08; Mφr0.23±.19; Best double couple: Mo2.34400×10^16 NP1:φs256.00000°, δ30.00000°, λ89.00000°. NP2: φs78.00000°, δ60.00000°, λ91.00000°. Principal axes: T 2.3910, Plg75.0000°, Azm350.0000°; N -0.0960, Plg1.0000°, Azm257.0000°; P -2.2970, Plg15.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***02*** *19:57:09.2±0.5, 51.14N×179.46W, h48km±4km, mb4.9/141, MS4.3/3, ML4.9(AEIC) Error ellipse: s-maj=5.4km s-min=2.6km az=187.0*
SZGRF ***02*** *19:57:11.3, 51.40N×179.08E, h33km, mb5.1, Rat Islands, Aleutian Islands, United States*
ISC 02 19:57:09.0±0.2**, 51.17N**±0.04×**179.44W**±0.03**, h46**km**, h46**km±1.4km**:pP-P, n589, σ0.82**/592**, mb4.9**/196**, MS4.2**/30**, 183C-58D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.82**	**285**	P	**Pn**	**19 57 22.2**	**-2.0**
AMKA				S	**Sn**	**19 57 35.3**	**0.0**
SMY	**Shemya**	**4.29**	**294**	P	**Pn**	**19 58 12.5**	**+0.7**
NIKO	**Nikolski**	**6.77**	**70**	*e*Pn	**Pn**	**19 58 46.1**	**+0.3**
OKCD	**Okmok Cone D**	**7.31**	**68**	P	**Pn**	**19 58 54.1**	**+1.0**
SPIA	**Saint Paul Isl**	**8.08**	**38**	P	**Pn**	**19 59 07.2**	**+3.5**
UNV	**Unalaska Valle**	**8.34**	**66**	P	**Pn**	**19 59 07.9**	**+0.7**
AKUT	**Akutan**	**8.82**	**65**	*e*P	**Pn**	**19 59 15.9**	**+2.0**
FALS	**False Pass**	**10.33**	**63**	Pn	**Pn**	**19 59 35.1**	**+0.6**
SDPT	**Sand Point**	**12.09**	**62**	*e*P	**Pn**	**19 59 58.8**	**+0.2**
	19nm,0.3s						
CHGN	**Chignik**	**13.44**	**59**	*e*P	**Pn**	**20 00 18.0**	**+1.0**
PET	**Petropavlovsk**	**13.59**	**286**	*ce*P	**Pn**	**20 00 28.3**	**+9.3**
PET				*e*S	**Sn**	**20 02 59.1**	**+11**
PET				pmax	pmax		
	comp=Z,32nm,1.0s						
PET				smax			
	comp=N,100nm,12.7s						
PET				smax			
	comp=N,15nm,0.5s						
PET				smax			
	comp=E,16nm,0.7s						
PET				smax			
	comp=N,200nm,14.6s						
PET				MLR	MLR		
	comp=Z,600nm,14.0s						
PET				MLR	MLR		
	comp=Z,700nm,18.0s						
SKR	**Severo-Kuril's**	**15.41**	**278**	P	**Pn**	**20 00 42.5**	**-0.7**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,900nm,18.0s						
SKR				pmax	pmax		
	comp=Z,1μm,18.0s						
SVW2	**Sparrevohn**	**16.50**	**44**	*e*P	**Pn**	**20 00 58.9**	**+1.7**
KDAK	**Kodiak Island**	**16.88**	**56**	Pn	**Pn**	**20 00 57.5**	**-4.4**
	comp=Z,4.5nm,0.3s,baz=289,slow=8.6,SNR=22						
KDAK				Sn	**Sn**	**20 04 03.0**	**-5.3**
	comp=Z,1.0nm,0.3s,baz=349,slow=23,SNR=9.0						
KDAK	**Kodiak Island**	**16.88**	**56**	*e*Pn	**Pn**	**20 00 57.4**	**-4.4**
	comp=Z,18nm,0.4s						
TTA	**Tatalina**	**17.23**	**38**	*e*P	**Pn**	**20 01 07.9**	**+1.7**
BILL	**Bilibino**	**18.31**	**343**	*ce*P	**Pn**	**20 01 20.5**	**+1.0**
BILL				pmax	pmax		
	comp=Z,57nm,1.0s						
BILL				MLR	MLR		
	comp=Z,300nm,17.0s						
BILL	**Bilibino**	**18.31**	**343**	*e*P	**Pn**	**20 01 20.8**	**+1.3**
	comp=Z,59nm,1.0s						
MA2	**Magadan**	**18.77**	**308**	*de*P	**Pn**	**20 01 26.5**	**+1.5**
MA2				*e*S	**S**	**20 04 53.1**	**-1.9**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MA2				MLR	MLR		
	comp=Z,700nm,21.2s						
PMR	**Palmer**	**19.57**	**46**	P	**Pn**	**20 01 32.2**	**-2.4**
PMR				pmax	pmax		
	comp=Z,11nm,0.5s						
PMR	**Palmer**	**19.57**	**46**	P	**Pn**	**20 01 32.2**	**-2.3**
	comp=Z,11nm,0.5s						
PMR				*e*P		20 01 35.4	
SML	**Sawmill**	**20.00**	**46**	*e*P	**Pn**	**20 01 35.4**	**-4.2**
MID	**Middleton Isla**	**20.39**	**53**	*e*P	**P**	**20 01 42.6**	**+0.7**
EYAK	**Cordova Ski Ar**	**20.88**	**50**	*e*P	**P**	**20 01 48.9**	**+1.6**
COLA	**College**	**21.32**	**38**	*di*P	**P**	**20 01 51.8**	**-0.2**
COLA	**College**	**21.32**	**38**	*e*P	**P**	**20 01 50.3**	**-1.6**
	comp=Z,42nm,0.9s,mb4.8						
MENT	**Mentasta**	**22.38**	**45**	*e*P	**P**	**20 02 03.8**	**+0.6**
YSS	**Yuzh-Sakhalins**	**24.94**	**275**	⇓*i*P	**P**	**20 02 29.0**	**+1.1**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.1						
YSS				MLR	MLR		
	comp=Z,400nm,20.0s,MS3.9						
YSS	**Yuzh-Sakhalins**	**24.94**	**275**	*e*P	**P**	**20 02 28.5**	**+0.7**
	comp=Z,39nm,0.8s,mb5.0						
ASAJ	**Asahikawa**	**26.30**	**269**	P	**P**	**20 02 40.0**	**-0.2**
	comp=Z,14nm,0.8s,mb4.5,baz=94,slow=5.9,SNR=8.8						
ASAJ				LR	LR	20 13 07.3	
	comp=Z,196nm,20.3s,MS3.6,baz=133,slow=37						
ASAJ	**Asahikawa**	**26.30**	**269**	P	**P**	**20 02 40.1**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,14nm,0.8s						
ASAJ				MLR	MLR		
	comp=Z,196nm,20.3s						
INK	**Inuvik**	**27.86**	**35**	P	**P**	**20 02 53.8**	**-0.5**
	comp=Z,12nm,0.9s,mb4.5,baz=264,slow=9.7,SNR=10						
HABR	**Khabarovsk**	**29.13**	**283**	*e*P	**P**	**20 03 06.0**	**+0.5**
HABR				*e*S	**S**	**20 07 57.7**	**+3.4**
HABR				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.7						
YAK	**Yakutsk**	**29.26**	**312**	*e*P	**P**	**20 03 06.8**	**+0.2**
YAK				*e*PPP		20 04 08.5	
YAK				*e*		20 06 13.2	
YAK				*e*S	**S**	**20 07 57.4**	**+1.1**
YAK				*e*SS	SS	20 09 25.1	-37
YAK				*e*		20 13 45.5	
YAK				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.4						
YAK				pmax	pmax		
	comp=N,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
YAK				pmax	pmax		
	comp=N,2.0nm,0.7s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				smax			
	comp=N,7.0nm,1.5s						
YAK				smax			
	comp=E,3.0nm,0.8s						
YAK				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.6						
YAK				MLR	MLR		
	comp=N,100nm,21.0s						
YAK				MLR	MLR		
	comp=E,100nm,15.0s						
KLR	**Kul'dur**	**30.85**	**286**	*di*P	**P**	**20 03 17.5**	**-3.2**
KLR				pmax	pmax		
	comp=E,34nm,1.2s						
KLR				pmax	pmax		
	comp=Z,68nm,1.2s,mb5.3						
MJAR	**Matsushiro Arr**	**33.36**	**261**	P	**P**	**20 03 42.8**	**+0.2**
	comp=Z,2.0nm,0.9s,mb4.1,baz=49,slow=9.2,SNR=5.5						
MJAR				ScP	ScP	20 10 06.8	+2.6
	comp=Z,1.5nm,0.7s,baz=45,slow=3.7,SNR=5.0						
MDJ	**Mudanjiang**	**34.21**	**279**	P	**P**	**20 03 49.0**	**-1.1**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,84nm,11.6s						
MDJ				LR	LR		
	comp=N,220nm,26.2s,MS3.9						
MDJ				LR	LR		
	comp=E,193nm,25.6s,MS3.9						
MDJ				LR	LR		
	comp=Z,205nm,21.3s,MS3.8						
YKA	**Yellowknife Ar**	**35.67**	**46**	P	**P**	**20 04 01.1**	**-1.6**
	comp=Z,5.9nm,0.5s,mb4.8,baz=282,slow=7.5,SNR=66						
YKA				ScP	ScP	20 10 15.8	+3.4
	comp=Z,1.0nm,0.7s,baz=295,slow=3.0,SNR=6.8						
YKA				LR	LR	20 20 35.4	
	comp=Z,445nm,18.5s,MS4.3,baz=285,slow=40						
YKA	**Yellowknife Ar**	**35.67**	**46**	P	**P**	**20 04 01.1**	**-1.6**
YKA				ScP	ScP	20 10 15.8	+3.4
YKA				LR	LR	20 20 35.4	
B05A	**Bryant**	**36.39**	**72**	⇑P	**P**	**20 04 08.7**	**-0.1**
	baz=36						
C05A	**Tolt Reservoir**	**36.89**	**72**	⇓P	**P**	**20 04 13.6**	**+0.5**
	baz=37						
D05A	**Enumclaw**	**36.94**	**73**	⇓P	**P**	**20 04 13.1**	**-0.4**
	baz=37						
CN2	**Changchun**	**37.20**	**281**	*e*P	**P**	**20 04 16.0**	**+0.3**
CN2				*e*AP	pP	20 04 28.2	+0.2
CN2				*e*S	**S**	**20 09 57.8**	**-1.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,280nm,16.0s,MS4.3						
CN2				LR	LR		
	comp=E,260nm,16.0s,MS4.3						
CN2				LR	LR		
	comp=Z,510nm,19.0s,MS4.3						
F04A	**Amboy**	**37.29**	**75**	⇑P	**P**	**20 04 17.0**	**+0.5**
	baz=37						
H03A	**Soap Creek Ran**	**37.38**	**77**	⇑P	**P**	**20 04 17.5**	**+0.2**
	baz=37						
E05A	**Randle**	**37.38**	**74**	⇓P	**P**	**20 04 17.5**	**+0.2**
	baz=37						
ETW	**Entiat**	**37.74**	**72**	P	**P**	**20 04 21.2**	**+0.9**
TBM	**Table Mountain**	**37.79**	**72**	P	**P**	**20 04 21.5**	**+0.8**
J02A	**Umpqua**	**37.89**	**79**	⇑P	**P**	**20 04 20.9**	**-0.6**
	baz=38						
EBG	**Ellensburg**	**37.93**	**73**	P	**P**	**20 04 23.1**	**+1.2**
HIA	**Hailar**	**37.99**	**292**	*ci*P	**P**	**20 04 22.0**	**-0.4**
HIA	**Hailar**	**37.99**	**292**	*e*P	**P**	**20 04 21.8**	**-0.6**
	comp=Z,30nm,1.2s,mb4.9						
K02A	**Glendale**	**38.26**	**80**	⇑P	**P**	**20 04 22.9**	**-1.7**
	baz=38						
J03A	**Ideyld Park**	**38.26**	**79**	⇑P	**P**	**20 04 23.1**	**-1.6**
	baz=38						
L02A	**Cave Junction**	**38.52**	**81**	⇓P	**P**	**20 04 26.1**	**-0.7**
	baz=38						
H05A	**Madras**	**38.66**	**76**	⇓P	**P**	**20 04 27.5**	**-0.5**
	baz=38						
HUMO	**Hull Mountain**	**38.67**	**80**	*e*P	**P**	**20 04 29.0**	**+0.8**
	comp=Z,24nm,1.5s,mb4.7						
HUMO	**Hull Mountain**	**38.67**	**80**	⇓P	**P**	**20 04 29.3**	**+1.2**
	baz=39						
HAWA	**Hanford**	**38.81**	**73**	*e*P	**P**	**20 04 29.5**	**+0.2**
	comp=Z,1.8nm,1.1s						
I05A	**Bend**	**38.89**	**77**	⇓P	**P**	**20 04 31.5**	**+1.6**
	baz=39						
KS15	**Wonju Array Si**	**39.27**	**271**	*e*P	**P**	**20 04 34.0**	**+0.8**
YBH	**Yreka Blue Hor**	**39.31**	**81**	P	**P**	**20 04 33.7**	**+0.3**
	comp=Z,2.2nm,0.7s,mb4.0,baz=319,slow=5.6,SNR=7.2						
YBH	**Yreka Blue Hor**	**39.31**	**81**	*e*P	**P**	**20 04 34.5**	**+1.0**
YBH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YBH	**Yreka Blue Hor**	**39.31**	**81**	*e*P	**P**	**20 04 34.5**	**+1.0**
	comp=Z,7.2nm,0.8s,mb4.5						
YBH	**Yreka Blue Hor**	**39.31**	**81**	⇑P	**P**	**20 04 34.2**	**+0.7**
	baz=39						
NEW	**Newport**	**39.33**	**69**	P	**P**	**20 04 33.5**	**-0.2**
	comp=Z,5.0nm,0.5s,mb4.5,baz=304,slow=7.2,SNR=11						
NEW	**Newport**	**39.33**	**69**	P	**P**	**20 04 33.5**	**-0.2**
NEW				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NEW	**Newport**	**39.33**	**69**	*e*P	**P**	**20 04 33.3**	**-0.3**
	comp=Z,7.7nm,0.6s,mb4.6						
M02C	**Callahan**	**39.41**	**82**	⇑P	**P**	**20 04 35.3**	**+1.0**
	baz=39						
SNY	**Shenyang**	**39.41**	**279**	P	**P**	**20 04 34.6**	**+0.3**
SNY				AP	pP	20 04 46.5	-0.3
SNY				XP	sP	20 04 51.6	-0.6
SNY				S	**S**	**20 10 31.7**	**-1.1**
SNY				XS	sS	20 10 46.4	-7.2
SNY				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.7						
SNY				AMB	AMB		
	comp=Z,99nm,3.5s						
SNY				LR	LR		
	comp=N,411nm,18.4s,MS4.4						
SNY				LR	LR		
	comp=E,271nm,16.9s,MS4.4						
SNY				LR	LR		
	comp=Z,590nm,17.4s,MS4.5						
K04A	**Chilquin**	**39.43**	**79**	⇑P	**P**	**20 04 35.3**	**+0.8**
	baz=39						
N02C	**Big Bar**	**39.45**	**83**	⇑P	**P**	**20 04 34.9**	**+0.3**
	baz=39						
O01C	**Eel River Cons**	**39.52**	**84**	⇓P	**P**	**20 04 35.7**	**+0.5**
	baz=39						
L04A	**Klamath Falls**	**39.58**	**80**	⇑P	**P**	**20 04 36.1**	**+0.4**
	baz=40						
I06A	**Prineville**	**39.65**	**77**	⇑P	**P**	**20 04 36.5**	**+0.2**
	baz=40						
M04C	**Macdoel**	**39.82**	**80**	⇑P	**P**	**20 04 38.3**	**+0.6**
	baz=40						
INCN	**Inchon**	**40.03**	**272**	*e*P	**P**	**20 04 40.0**	**+0.5**
	comp=Z,36nm,1.0s,mb5.0						
J06A	**Christmas Vall**	**40.06**	**77**	⇑P	**P**	**20 04 40.6**	**+0.9**
	baz=40						
WDC	**Whiskeytown Da**	**40.06**	**82**	*e*P	**P**	**20 04 40.2**	**+0.5**
WDC				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
WDC	**Whiskeytown Da**	**40.06**	**82**	*e*P	**P**	**20 04 40.2**	**+0.5**
	comp=Z,3.8nm,0.8s,mb4.2						
WDC	**Whiskeytown Da**	**40.06**	**82**	⇓P	**P**	**20 04 39.2**	**-0.6**
	baz=40						
O02C	**Red Bluff**	**40.14**	**83**	⇑P	**P**	**20 04 41.1**	**+0.8**
	baz=40						
P01C	**Double 8 Ranch**	**40.21**	**84**	⇑P	**P**	**20 04 41.6**	**+0.7**
	baz=40						
K06A	**Valley Falls**	**40.24**	**78**	⇓P	**P**	**20 04 41.7**	**+0.5**
	baz=40						
L05A	**Lakeview**	**40.30**	**79**	⇑P	**P**	**20 04 42.1**	**+0.4**
	baz=40						
M05C	**Lookout**	**40.49**	**81**	⇑P	**P**	**20 04 43.2**	**0.0**
	baz=40						
J07A	**Hines**	**40.51**	**77**	⇑P	**P**	**20 04 43.0**	**-0.4**
	baz=40						
HATC	**Hat Creek Radi**	**40.60**	**81**	⇑P	**P**	**20 04 43.9**	**-0.3**
	baz=40						
BSMT	**Bassoo Peak**	**40.90**	**68**	P	**P**	**20 04 47.1**	**+0.5**
K07A	**Rock Creek Ran**	**40.92**	**78**	⇓P	**P**	**20 04 47.3**	**+0.5**
	baz=41,SNR=19						
BMO	**Blue Mountains**	**40.94**	**74**	*e*P	**P**	**20 04 47.2**	**+0.2**
	comp=Z,4.5nm,0.8s,mb4.2						
M06C	**Likely Place G**	**40.99**	**80**	⇓P	**P**	**20 04 47.8**	**+0.4**
	baz=41						
J08A	**Circle Bar Ran**	**41.03**	**76**	⇓P	**P**	**20 04 47.6**	**-0.1**
	baz=41						
L07A	**Adell**	**41.24**	**79**	⇑P	**P**	**20 04 49.5**	**+0.1**
	baz=41						
O05C	**Quincy**	**41.43**	**82**	⇑P	**P**	**20 04 51.2**	**+0.1**
	baz=41						
WVOR	**Wild Horse Val**	**41.44**	**78**	*e*P	**P**	**20 04 52.2**	**+1.1**
WVOR				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.5						
WVOR	**Wild Horse Val**	**41.44**	**78**	*e*P	**P**	**20 04 52.2**	**+1.2**
	comp=Z,8.0nm,0.7s,mb4.5						
M07A	**Soldier Meadow**	**41.70**	**79**	⇑P	**P**	**20 04 53.1**	**-0.1**
	baz=42,SNR=20						
MSO	**Missoula**	**41.92**	**69**	*e*P	**P**	**20 04 54.5**	**-0.5**
	comp=Z,4.6nm,0.8s,mb4.2						
O06A	**Flanigan**	**42.00**	**81**	⇓P	**P**	**20 04 54.5**	**-1.1**
	baz=42						
M08A	**Happy Creek Ra**	**42.15**	**79**	⇑P	**P**	**20 04 56.2**	**-0.7**
	baz=42						
CHMT	**Chamberlain Mo**	**42.28**	**69**	*e*P	**P**	**20 04 57.2**	**-0.7**
PAHR	**Pah Rah Range**	**42.54**	**81**	*e*P	**P**	**20 05 00.4**	**+0.3**
	comp=Z,6.7nm,0.8s,mb4.4						
O07A	**Toulon**	**42.59**	**80**	⇓P	**P**	**20 04 59.6**	**-0.8**
	baz=42						
N08A	**GE Springer Mi**	**42.69**	**79**	⇓P	**P**	**20 05 00.4**	**-0.8**
	baz=43						
M09A	**Marrel Ranch,**	**42.74**	**78**	⇑P	**P**	**20 05 00.8**	**-0.9**
	baz=43						
CMB	**Columbia Colle**	**42.91**	**84**	⇑P	**P**	**20 05 02.7**	**-0.4**
	baz=43						
N09A	**Rock Creek Ran**	**43.03**	**79**	⇓P	**P**	**20 05 03.9**	**-0.1**
	baz=43						
R06C	**Coleville**	**43.21**	**83**	⇓P	**P**	**20 05 04.7**	**-0.8**
	baz=43						
HRY	**Holter Researc**	**43.22**	**68**	*e*P	**P**	**20 05 05.1**	**-0.4**
M10A	**I.L. Ranch, Tu**	**43.24**	**77**	⇑P	**P**	**20 05 05.2**	**-0.6**
	baz=43						
P08A	**Dixie Valley**	**43.36**	**81**	⇓P	**P**	**20 05 06.5**	**-0.2**
	baz=43						
S05C	**Merced**	**43.37**	**85**	⇓P	**P**	**20 05 05.9**	**-0.8**
	baz=43						
HLID	**Hailey**	**43.38**	**74**	*e*P	**P**	**20 05 07.7**	**+0.8**
	comp=Z,7.4nm,0.9s,mb4.4						
DLMT	**Dillon**	**43.48**	**70**	*e*P	**P**	**20 05 07.5**	**-0.2**
	comp=Z,3.8nm,0.7s,mb4.2						
MCMT	**McKenzie Canyo**	**43.63**	**71**	*e*P	**P**	**20 05 08.8**	**0.0**
O09A	**Fish Creek Ran**	**43.63**	**79**	⇑P	**P**	**20 05 09.1**	**+0.2**
	baz=44						
EGMT	**Eagleton**	**43.73**	**66**	*e*P	**P**	**20 05 08.7**	**-0.9**
	comp=Z,12nm,0.8s,mb4.7						
BOZ	**Bozeman (W)**	**43.90**	**69**	*e*P	**P**	**20 05 10.8**	**-0.2**
BOZ				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
BOZ	**Bozeman (W)**	**43.90**	**69**	*e*P	**P**	**20 05 10.8**	**-0.2**
	comp=Z,8.8nm,0.6s,mb4.7						
Q08A	**Gabbs**	**43.95**	**81**	⇑P	**P**	**20 05 11.7**	**+0.3**
	baz=44						
P09A	**Austin**	**44.03**	**80**	⇑P	**P**	**20 05 12.1**	**+0.1**
	baz=44						
MNV	**Mina**	**44.07**	**82**	*e*P	**P**	**20 05 12.4**	**0.0**
MNV				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
MNV	**Mina**	**44.07**	**82**	*e*P	**P**	**20 05 12.4**	**0.0**
	comp=Z,6.4nm,1.0s,mb4.3						
M12A	**Wells**	**44.30**	**76**	⇑P	**P**	**20 05 14.4**	**+0.2**
	baz=44						
P10A	**Eureka**	**44.41**	**80**	⇓P	**P**	**20 05 14.5**	**-0.5**
	baz=44						
QLMT	**Earthquake Lak**	**44.47**	**70**	*e*P	**P**	**20 05 17.3**	**+1.7**
MTUM	**Tungsten Hills**	**44.47**	**84**	*e*P	**P**	**20 05 16.3**	**+0.7**
ELK	**Elko**	**44.49**	**77**	*e*P	**P**	**20 05 15.8**	**0.0**
ELK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ELK	**Elko**	**44.49**	**77**	*e*P	**P**	**20 05 15.8**	**0.0**
	comp=Z,7.6nm,0.8s,mb4.5						
N12A	**Clover Valley,**	**44.55**	**77**	⇓P	**P**	**20 05 15.1**	**-1.2**
	baz=44						
HELL	**Mitchell Peak,**	**44.61**	**85**	P	**P**	**20 05 16.8**	**+0.1**
	baz=44,SNR=5.6						
M13A	**Montello**	**44.79**	**76**	⇑P	**P**	**20 05 18.1**	**0.0**
	baz=45,SNR=12						
TPH	**Tonopah**	**44.87**	**82**	P	**P**	**20 05 19.9**	**+1.1**
TPH				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.8						
TPH	**Tonopah**	**44.87**	**82**	P	**P**	**20 05 19.9**	**+1.2**
	comp=Z,9.0nm,0.6s,mb4.8						
BJI	**Beijing**	**45.03**	**282**	*e*P	**P**	**20 05 21.0**	**+1.0**
BJI				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.8						
BJI				LR	LR		
	comp=N,190nm,18.1s,MS4.2						
BJI				LR	LR		
	comp=E,186nm,21.5s,MS4.2						
BJI				LR	LR		
	comp=Z,195nm,21.0s,MS4.0						
N13A	**Wendover, West**	**45.06**	**77**	⇑P	**P**	**20 05 19.9**	**-0.4**
	baz=45						
S09A	**Goldfield**	**45.09**	**82**	⇓P	**P**	**20 05 19.7**	**-0.8**
	baz=45						
IRK	**Irkutsk**	**45.22**	**303**	*e*P	**P**	**20 05 21.1**	**-0.4**
IRK				*e*		20 05 38.9	
IRK				*e*		20 12 02.0	
IRK				pmax	pmax		
	comp=Z,48nm,1.1s,mb5.2						
RRI2	**Red Ridge**	**45.37**	**72**	*e*P	pP	20 05 32.9	-2.4
	comp=Z,9.2nm,0.7s						
Q11A	**Duckwater**	**45.37**	**80**	⇓P	**P**	**20 05 21.9**	**-0.8**
	baz=45						
HVU	**Hansel Valley**	**45.39**	**75**	*e*P	**P**	**20 05 24.4**	**+1.5**
HVU				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
HVU	**Hansel Valley**	**45.39**	**75**	*e*P	**P**	**20 05 24.4**	**+1.5**
	comp=Z,9.6nm,0.7s,mb4.7						
P12A	**McGill**	**45.45**	**79**	⇓P	**P**	**20 05 23.0**	**-0.4**
	baz=45						
MOOW	**Moose Ponds**	**45.48**	**71**	P	**P**	**20 05 24.4**	**+0.8**
	comp=Z,6.0nm,1.0s,mb4.4						
TPAW	**Teton Pass**	**45.51**	**72**	*e*P	**P**	**20 05 25.7**	**+1.9**
	comp=Z,7.4nm,1.0s,mb4.6						
REDW	**Red Top Meadow**	**45.64**	**72**	*e*P	**P**	**20 05 23.5**	**-1.3**
LOHW	**Long Hollow**	**45.64**	**71**	*e*P	**P**	**20 05 25.7**	**+0.8**
	comp=Z,4.3nm,0.8s,mb4.4						
BGU	**Big Grassy Mou**	**45.74**	**76**	*e*P	**P**	**20 05 27.9**	**+2.3**
Q12A	**Willow Creek R**	**45.76**	**79**	⇑P	**P**	**20 05 24.3**	**-1.6**
	baz=46						
TLY	**Talaya**	**45.84**	**302**	P	**P**	**20 05 27.5**	**+1.0**
	SNR=13						
TLY	**Talaya**	**45.84**	**302**	*e*P	**P**	**20 05 26.1**	**-0.4**
TLY				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
TLY				MLR	MLR		

comp=Z,272nm,20.0s,MS4.2
TLY Talaya 45.84 302 *e*P P **20 05 27.0 +0.5**
comp=Z,19nm,0.9s,mb5.0
SPUT South Promonto 45.87 75 P P **20 05 27.7 +1.0**
ULN Ulaanbaatar 46.00 296 P P **20 05 28.9 +1.2**
SNR=6.2
ULN Ulaanbaatar 46.00 296*c i*P P **20 05 28.4 +0.7**
ULN Ulaanbaatar 46.00 296 *e*P P **20 05 28.1 +0.4**
comp=Z,15nm,0.7s,mb5.0
OSI Osito Adit 46.10 87 ⇓P P **20 05 28.8 +0.3**
baz=46
TPNV Topopah Spring 46.17 82 *e*P P **20 05 29.1 0.0**
TPNV pmax pmax
comp=Z,15nm,0.8s,mb5.0
TPNV Topopah Spring 46.17 82 *e*P P **20 05 29.1 0.0**
comp=Z,15nm,0.8s,mb5.0
DUG Dugway 46.31 77 *e*P P **20 05 30.4 +0.3**
DUG pmax pmax
comp=Z,26nm,0.9s,mb5.2
DUG Dugway 46.31 77 *e*P P **20 05 30.4 +0.3**
comp=Z,26nm,0.9s,mb5.2
SONM Songino Array 46.38 296 P P **20 05 31.4 +0.7**
comp=Z,11nm,0.7s,mb4.9,baz=60,slow=9.3,SNR=109
SONM PcP PcP 20 07 05.4 +0.3
comp=Z,2.2nm,0.7s,baz=75,slow=2.3,SNR=3.8
SONM ScP ScP 20 10 56.4 +1.8
comp=Z,2.4nm,1.0s,baz=68,slow=3.3,SNR=8.3
SONM LR LR 20 26 26.9
comp=Z,443nm,18.9s,MS4.4,baz=40,slow=38
SONM Songino Array 46.38 296 P P **20 05 31.4 +0.7**
SONM 20 07 05.4
U10A Ash Meadows, A 46.45 83 ⇓P P **20 05 30.7 -0.6**
baz=46
LAO LASA Array 46.47 65 *e*P P **20 05 31.1 -0.3**
comp=Z,11nm,0.6s,mb5.0
CTU Camp Tracy 46.66 75 *e*P P **20 05 34.3 +1.4**
comp=Z,11nm,0.9s,mb4.8
PDAR Pinedale Array 46.76 72 P P **20 05 34.0 +0.3**
comp=Z,17nm,0.8s,mb5.0,baz=308,slow=3.4,SNR=128
GSC Goldstone 46.87 84 ⇑P P **20 05 33.8 -0.7**
baz=47
DAU Daniels Canyon 47.13 75 P P **20 05 37.2 +0.7**
MPU Maple Canyon 47.14 76 *e*P P **20 05 37.5 +0.9**
comp=Z,7.1nm,0.7s,mb4.7
MOY Mondy 47.25 303 *e*P P **20 05 38.2 +0.7**
MOY pmax pmax
comp=Z,28nm,1.2s,mb5.1
TUQ Turquoise Mtn. 47.33 84 ⇑P P **20 05 37.4 -0.7**
baz=47
HHC Hu-ho-hao-te 47.36 286 *e*P P **20 05 39.5 +1.1**
HHC AP pP 20 05 51.5 +0.5
HHC XP sP 20 05 56.3 -0.1
HHC PP PP 20 07 29.7 -0.1
HHC PCS PcS 20 11 05.0 +1.1
HHC S **S** **20 12 27.6 -1.4**
HHC SS SS 20 15 48.9 -8.0
HHC AMB AMB
comp=Z,15nm,0.8s,mb5.0
HHC AMB AMB
comp=Z,145nm,8.7s
HHC LR LR
comp=N,207nm,26.8s,MS4.1
HHC LR LR
comp=E,207nm,25.0s,MS4.1
HHC LR LR
comp=Z,216nm,20.2s,MS4.1
V11A Goodsprings 47.38 83 ⇓P P **20 05 37.7 -0.8**
baz=47
SSE Sheshan 47.59 269 P P **20 05 39.5 -0.7**
SSE AP pP 20 05 52.9 +0.1
SSE PCP PcP 20 07 08.6 -0.8
SSE PP PP 20 07 31.2 -0.7
SSE S **S** **20 12 31.6 -0.6**
SSE AMB AMB
comp=Z,24nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,115nm,12.3s
SSE LR LR
comp=N,96nm,24.2s,MS3.9
SSE LR LR
comp=E,116nm,24.2s,MS3.9
SSE LR LR
comp=Z,146nm,14.0s
MSU Marysvale 47.72 78 *e*P P **20 05 39.8 -1.4**
V12A Nelson 47.82 83 ⇓P P **20 05 40.7 -1.2**
baz=48
TMUT Trail Mountain 47.84 76 *e*P P **20 05 42.1 +0.1**
W12A Cal Nev Ari 48.08 83 ⇓P P **20 05 43.3 -0.7**
baz=48
PFO Pinyon Flat Ob 48.19 86 ⇓P P **20 05 44.2 -0.5**
baz=48
SRU San Rafael 48.37 76 *e*P P **20 05 46.9 +0.7**
SRU pmax pmax
comp=Z,12nm,0.6s,mb5.1
SRU San Rafael 48.37 76 *e*P P **20 05 46.9 +0.8**
comp=Z,12nm,0.6s,mb5.1
NJ2 Nanjing 48.42 272 *e*P P **20 05 47.4 +0.9**
NJ2 AP pP 20 05 59.6 +0.4
NJ2 S **S** **20 12 45.0 +1.1**
NJ2 AMB AMB
comp=Z,20nm,1.5s,mb4.9
NJ2 AMB AMB
comp=Z,220nm,5.2s
NJ2 LR LR
comp=N,70nm,22.0s,MS4.1
NJ2 LR LR
comp=E,200nm,20.0s,MS4.1
NJ2 LR LR
comp=Z,40nm,24.0s,MS3.3
RWWY Rawlins 48.80 71 *e*P P **20 05 49.1 -0.4**
comp=Z,6.6nm,0.6s,mb4.8
RSSD Black Hills 49.21 67 *e*P P **20 05 51.8 -0.8**
RSSD pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
RSSD Black Hills 49.21 67 *e*P P **20 05 51.8 -0.9**
comp=Z,4.0nm,0.6s,mb4.6
W14A Seligman 49.26 82 ⇓P P **20 05 52.6 -0.4**
baz=49,SNR=5.8
Y12C Blythe 49.31 84 ⇑P P **20 05 53.0 -0.3**
baz=49
GLA Glamis 49.58 85 ⇑P P **20 05 55.4 0.0**
baz=50
W15A Williams 49.78 81 ⇓P P **20 05 57.1 +0.2**
baz=50
X14A Yava 49.85 83 ⇓P P **20 05 56.4 -1.1**
baz=50
KBS Kingsbay 49.99 357 *e*P P **20 05 58.6 0.0**
KBS pmax pmax
comp=Z,38nm,0.6s,mb5.6
KBS Kingsbay 49.99 357 *e*P P **20 05 58.6 0.0**
comp=Z,38nm,0.6s,mb5.6
WUAZ Wupatki 50.12 80 *e*P P **20 05 59.6 +0.1**
comp=Z,8.0nm,0.6s,mb4.9
Y14A Wickenburg 50.13 83 ⇑P P **20 05 58.9 -0.8**
baz=50
ULM Lac du Bonnet 50.13 56 P P **20 05 59.4 -0.2**
comp=Z,1.3nm,0.4s,mb4.3,baz=301,slow=5.4,SNR=4.6
X15A Humboldt 50.25 82 ⇓P P **20 06 00.3 -0.2**
baz=50,SNR=8.4
SMCO Snowmass 50.49 74 *e*P P **20 06 02.8 +0.5**
comp=Z,4.4nm,0.6s,mb4.7
Z14A Wintersburg 50.55 84 ⇓P P **20 06 02.6 -0.2**
baz=50
SPB4 Spitsbergen Ar 50.56 356 *e*P P **20 06 01.9 -1.0**
ISCO Idaho Springs 50.92 72 P P **20 06 05.3 -0.2**
ISCO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ISCO Idaho Springs 50.92 72 P P **20 06 05.3 -0.2**
comp=Z,5.0nm,0.8s,mb4.5
115A Sonoran Desert 51.44 84 ⇓P P **20 06 09.1 -0.4**
baz=51,SNR=5.2
116A Eloy 51.86 84 ⇓P P **20 06 12.2 -0.4**
baz=52
WHN Wuhan 52.27 273 P P **20 06 14.7 -1.0**
XAN Xi'an 53.31 281 P P **20 06 22.9 -0.4**
XAN AMB AMB
comp=Z,6.0nm,1.2s,mb4.4
LAZ Ladron 53.47 79 *e*P P **20 06 25.6 +1.1**
ANMO Albuquerque 53.53 78⇑ *e*P P **20 06 26.1 +1.2**
ANMO Albuquerque 53.53 78 *e*P P **20 06 24.0 -0.9**
comp=Z,1.8nm,0.7s,mb4.1
SUMG Summit 53.60 14 *e*P P **20 06 24.5 -0.9**
comp=Z,16nm,1.0s,mb4.9
LPM Los Pinos Moun 53.84 78 P P **20 06 27.4 +0.2**
BNM Barren Site 53.95 78 *e*P P **20 06 28.2 +0.2**
NVS Novosibirsk 54.04 315 *e*P P **20 06 28.1 -0.5**

NVS *e* 20 07 33.5
NVS pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=E,5.0nm,0.8s
LZH Lanzhou 55.06 286 *e*P P **20 06 37.0 +0.9**
LZH AP pP 20 06 49.7 +0.7
LZH XP sP 20 06 55.1 +0.8
LZH PP PP 20 08 42.1 +2.6
LZH AMB AMB
comp=Z,28nm,1.4s,mb5.1
GTA Gaotai 55.27 292 ⇑P P **20 06 38.5 +0.9**
GTA AP pP 20 06 51.0 +0.5
GTA XP sP 20 06 56.5 +0.7
GTA PCP PcP 20 07 38.9 +1.0
GTA PP PP 20 08 42.6 +1.1
GTA S **S** **20 14 17.2 -0.9**
GTA SS SS 20 18 02.3 -0.4
GTA AMB AMB
comp=Z,17nm,0.9s,mb5.1
GTA AMB AMB
comp=Z,162nm,6.8s
GTA LR LR
comp=N,148nm,16.3s,MS4.3
GTA LR LR
comp=E,157nm,15.6s,MS4.3
GTA LR LR
comp=Z,208nm,15.2s,MS4.3
KEV Kevo 57.85 349 *e*p P **20 06 54.0 -1.9**
ARCES ARCESS Array B 58.23 350 P P **20 06 57.2 -1.3**
comp=Z,6.8nm,0.6s,mb4.8,baz=20,slow=7.9,SNR=44
LVZ Lovozero 58.55 346⇓ *e*P P **20 06 59.6 -1.2**
LVZ pmax pmax
comp=Z,40nm,1.2s,mb5.3
LVZ pmax pmax
comp=N,12nm,0.9s
LVZ pmax pmax
comp=E,6.0nm,1.1s
CD2 Chengdu 58.62 281 *e*P P **20 07 01.0 -0.3**
CD2 AP pP 20 07 13.2 -1.1
CD2 XP sP 20 07 19.0 -0.6
CD2 PCP PcP 20 07 51.2 +0.1
CD2 PP PP 20 09 12.2 +0.9
CD2 SCP ScP 20 11 46.3 -1.3
CD2 PCS PcS 20 11 51.3 -1.5
CD2 S **S** **20 14 58.7 -3.5**
CD2 XS sS 20 15 20.3 -3.7
CD2 SCS ScS 20 16 43.1 -4.1
CD2 SS SS 20 18 53.0 -2.5
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,40nm,6.2s
CD2 LR LR
comp=N,120nm,12.0s
CD2 LR LR
comp=Z,120nm,15.6s,MS4.1
TRO Tromso 58.77 353 *e*P P **20 07 00.5 -1.8**
KURK Kurchatov 58.88 313 P P **20 07 02.6 -0.4**
SNR=8.9
KURK Kurchatov 58.88 313 *e*P P **20 07 02.4 -0.7**
KURK pmax pmax
comp=Z,29nm,0.6s,mb5.5
KURK Kurchatov 58.88 313 *e*P P **20 07 02.4 -0.7**
comp=Z,29nm,0.6s,mb5.5
LTX Lajitas 59.08 81 *e*P P **20 07 04.1 -0.4**
LTX pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
LTX Lajitas 59.08 81 *e*P P **20 07 04.1 -0.4**
comp=Z,5.3nm,0.6s,mb4.8
WMQ Urumqi 59.12 303 P P **20 07 07.2 +2.4**
WMQ AP pP 20 07 19.9 +2.1
WMQ PP PP 20 09 19.8 +4.1
WMQ AMB AMB
comp=Z,27nm,2.1s,mb4.9
WMQ AMB AMB
comp=Z,124nm,5.8s
WMQ LR LR
comp=N,602nm,21.3s,MS4.8
WMQ LR LR
comp=E,451nm,20.2s,MS4.8
WMQ LR LR
comp=Z,602nm,21.8s,MS4.7
MKAR Makanchi Array 59.85 308 P P **20 07 09.5 -0.3**
comp=Z,24nm,0.7s,mb5.3,baz=51,slow=6.9,SNR=258
MKAR Makanchi Array 59.85 308 P P **20 07 09.5 -0.3**
GYA Guiyang 59.95 276 P P **20 07 10.1 -0.4**
GYA AP pP 20 07 22.8 -0.7
GYA XP sP 20 07 28.2 -0.6
GYA PP PP 20 09 23.8 +0.8
GYA S **S** **20 15 15.2 -4.1**
GYA XS sS 20 15 36.7 -4.4
GYA SS SS 20 19 12.4 -3.8
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,90nm,4.2s
GYA LR LR
comp=N,410nm,18.6s,MS4.7
GYA LR LR
comp=E,390nm,18.8s,MS4.7
GYA LR LR
comp=Z,420nm,18.4s,MS4.6
SCHQ Schefferville 60.42 38 P P **20 07 12.7 -1.0**
comp=Z,11nm,0.9s,mb4.9,baz=340,slow=7.7,SNR=13
SCHQ LR LR 20 36 56.9
comp=Z,193nm,18.4s,MS4.3,baz=298,slow=40
SCHQ Schefferville 60.42 38 *e*P P **20 07 12.1 -1.5**
comp=Z,8.2nm,0.7s,mb4.9
JCT Junction City 60.67 77 *e*P P **20 07 17.5 +2.1**
JCT pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
JCT Junction City 60.67 77 *e*P P **20 07 17.5 +2.1**
comp=Z,6.9nm,0.6s,mb5.0
BVAR Borovoye Array 60.79 319 P P **20 07 15.3 -0.9**
baz=53,slow=6.2
BVAR LR LR 20 34 50.3
comp=Z,305nm,21.6s,MS4.4,baz=320,slow=37
BRVK Borovoye 60.81 320 P P **20 07 16.2 -0.2**
SNR=7.1
BRVK Borovoye 60.81 320 *e*P P **20 07 15.6 -0.8**
BRVK pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
BRVK Borovoye 60.81 320 *e*P P **20 07 15.6 -0.7**
comp=Z,9.7nm,0.9s,mb4.9
ZRNK Zerenda 61.41 320 *e*P P **20 07 19.2 -1.2**
ZRNK pmax pmax
comp=Z,17nm,1.1s,mb5.1
ZRNK Zerenda 61.41 320 *e*P P **20 07 19.2 -1.2**
comp=Z,17nm,1.1s,mb5.1
MIAR Mount Ida 61.57 69 P P **20 07 20.9 -0.6**
MIAR pmax pmax
comp=Z,21nm,1.1s,mb5.2
MIAR Mount Ida 61.57 69 P P **20 07 20.9 -0.7**
comp=Z,21nm,1.1s,mb5.2
STOK Stokkvaagen 62.45 354 *e*P P **20 07 26.7 -0.7**
STOK AMb AMB 20 07 28.1
comp=Z,35nm,1.1s,mb5.4
ARU Arti 62.57 328 *e*P P **20 07 26.8 -1.4**
ARU *e* 20 08 05.3
ARU *e* 20 09 47.8
ARU *e*S S **20 15 52.8 +0.1**
ARU eSS SS 20 19 52.8 -4.6
ARU Arti 62.57 328 *e*P P **20 07 27.1 -1.1**
comp=Z,7.6nm,0.6s,mb5.0
USIN University of 62.58 63 *e*P P **20 07 27.8 -0.5**
comp=Z,19nm,0.6s,mb5.4
WCI Wyandotte Cave 63.16 62 *e*P P **20 07 31.3 -0.8**
WCI pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
WCI Wyandotte Cave 63.16 62 *e*P P **20 07 31.3 -0.8**
comp=Z,9.0nm,0.7s,mb5.0
KMI Kunming 63.36 278 P P **20 07 33.3 -0.1**
KMI AP pP 20 07 47.3 +0.7
KMI PP PP 20 09 55.9 +2.8
KMI S **S** **20 16 03.5 +1.0**
KMI SS SS 20 20 09.4 -0.2
KMI AMB AMB
comp=Z,9.0nm,1.5s,mb4.7
KMI AMB AMB
comp=Z,114nm,4.3s
KMI LR LR
comp=N,138nm,21.9s,MS4.3

KMI LR LR
comp=E,171nm,19.6s,MS4.3
KMI LR LR
comp=Z,122nm,19.6s,MS4.1
JOF Joensuu 63.70 345 *e*p P **20 07 33.9 -1.8**
WVT Waverly 63.78 64 *e*P P **20 07 35.5 -0.7**
WVT pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
WVT Waverly 63.78 64 *e*P P **20 07 35.5 -0.7**
comp=Z,5.8nm,0.7s,mb4.7
OXF Oxford 64.03 67 *e*P P **20 07 37.5 -0.4**
OXF pmax pmax
comp=Z,70nm,1.0s,mb5.7
OXF Oxford 64.03 67 *e*P P **20 07 37.5 -0.4**
comp=Z,70nm,1.0s,mb5.6
KLMR Klimovskoe 64.04 340 *e*P P **20 07 36.0 -1.9**
KLMR pmax pmax
comp=Z,20nm,0.9s,mb5.2
PLAL Pickwick Lake 64.46 65 *e*P P **20 07 40.1 -0.6**
comp=Z,12nm,0.6s,mb5.1
KAF Kangasniemi 65.23 347 *e*p P **20 07 43.8 -1.9**
comp=Z,31nm,0.9s,mb5.3,baz=16,slow=6.0
KAF Kangasniemi 65.23 347 *e*P P **20 07 43.8 -1.9**
KAF pmax pmax
comp=Z,31nm,0.9s,mb5.3
TZTN Tazewell 65.89 61 *e*P P **20 07 49.6 -0.3**
FINES FINESS Array B 65.90 347 P P **20 07 48.8 -1.2**
comp=Z,17nm,0.7s,mb5.2,baz=33,slow=7.3,SNR=76
FINES LR LR 20 42 11.1
comp=Z,136nm,18.6s,MS4.2,baz=202,slow=41
SSPA Standing Stone 65.92 55 *e*P P **20 07 48.4 -1.7**
comp=Z,5.1nm,0.8s,mb4.6
TKM2 Tokmak 2 65.94 309 P P **20 07 51.6 +1.4**
SNR=17
ULHL Ulahol 66.12 308 P P **20 07 53.0 +1.6**
SNR=8.4
CPCT Cooper Cave 66.14 63 *e*P P **20 07 50.8 -0.7**
USP Ospenovka 66.21 310 P P **20 07 52.7 +0.7**
SNR=20
CHMS Chumysh 66.29 310 P P **20 07 54.0 +1.5**
SNR=7.1
KBK Karagaybulak 66.45 309 P P **20 07 55.3 +1.7**
SNR=13
LRAL Lakeview Retre 66.48 66 *e*P P **20 07 53.0 -0.8**
comp=Z,7.5nm,0.6s,mb4.9
FWV Forest Hill 66.62 59 *e*P P **20 07 53.8 -0.8**
AAK Ala-Archa 66.69 309 P P **20 07 56.8 +1.7**
SNR=8.8
AAK Ala-Archa 66.69 309 P P **20 07 55.5 +0.5**
SNR=9.8
AAK Ala-Archa 66.69 309*c i*P P **20 07 55.3 +0.2**
AAK pmax pmax
comp=Z,28nm,1.1s,mb5.2
AAK Ala-Archa 66.69 309 *e*P P **20 07 55.1 0.0**
comp=Z,17nm,0.9s,mb5.1
KZA Kyzart 66.74 309 P P **20 07 57.1 +1.7**
SNR=9.4
ELN Prospectdale 66.91 59 *e*P P **20 07 56.4 -0.1**
UCH Uchtor 66.99 309 P P **20 07 59.0 +2.1**
SNR=13
EKS2 Erkin-Say 67.02 310 P P **20 07 58.1 +1.0**
SNR=30
LSA Lhasa 67.13 289 P P **20 07 59.0 +1.1**
AKTK Aktyubinsk 67.63 324 P P **20 08 00.8 -0.2**
AKTK LR LR 20 40 46.6
AKTO Aktyubinsk 67.63 324 P P **20 08 00.8 -0.2**
comp=Z,4.7nm,0.5s,mb4.8,baz=66,slow=8.7,SNR=19
AKTO LR LR 20 40 46.6
comp=Z,302nm,18.0s,MS4.6,baz=79,slow=39
NB2 NORSAR Subarra 67.82 354 P P **20 08 01.2 -1.0**
comp=Z,33nm,1.2s,mb5.2,baz=5.4,slow=6.5
NOA NORSAR Array B 67.82 354 P P **20 08 01.5 -0.7**
comp=Z,7.0nm,0.7s,mb4.8,baz=7.0,slow=6.4,SNR=27
NOA LR LR 20 38 23.6
comp=Z,58nm,19.5s,MS3.8,baz=0.0,slow=36
KSH Kashi 68.30 306 P P **20 08 07.6 +2.3**
KSH *e*AP pP 20 08 20.9 +2.4
KSH *e*PCP PcP 20 08 32.5 +1.9
KSH *e*PP PP 20 10 40.9 +4.6
KSH *e*SCP 20 12 31.8
KSH *e*PCS 20 12 38.6
KSH *e*S S 20 17 03.6 +0.8
KSH *e*SCS ScS 20 17 59.0 -1.9
KSH *e*SS SS 20 21 29.9 +3.4
KSH AMB AMB
comp=Z,78nm,0.9s,mb5.7
KSH LR LR
comp=Z,358nm,7.2s
HFS Hagfors 68.55 353 P P **20 08 05.7 -1.1**
comp=Z,7.9nm,0.5s,mb4.9,baz=27,slow=3.6,SNR=62
TAOE Nuku Hiva Isla 68.73 138 *e*LR LR 20 28 57.2
comp=Z,846nm,23.3s
KONO Kongsberg 69.30 355⇑ *e*P P **20 08 10.9 -0.5**
KONO Kongsberg 69.30 355 *e*P P **20 08 10.8 -0.6**
comp=Z,17nm,0.9s,mb5.0
OBN Obninsk 69.93 339*de*P P **20 08 14.9 -0.4**
OBN *e*S S 20 17 21.5 -0.4
OBN pmax pmax
comp=Z,51nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
OBN Obninsk 69.93 339 *e*P P **20 08 14.7 -0.6**
comp=Z,15nm,0.6s,mb5.1
GUN Gumba 71.56 292 *e*P P **20 08 26.7 +1.4**
JIRN Jiri 71.57 291 *e*P P **20 08 26.9 +1.6**
comp=Z,97nm,0.7s,mb5.8
KKN Kakani 72.00 292 *e*P P **20 08 29.1 +1.2**
comp=Z,47nm,0.7s,mb5.6
PKI Pulchoki 72.09 292 *e*P P **20 08 29.4 +1.0**
comp=Z,33nm,0.6s,mb5.5
GKN Gorkha 72.22 293 *e*P P **20 08 30.2 +1.0**
comp=Z,27nm,0.5s,mb5.4
DMN Daman 72.24 292 *e*P P **20 08 30.5 +1.2**
comp=Z,27nm,0.7s,mb5.3
MUD Monsted U'grnd 72.51 355 *i* P P **20 08 31.4 +0.5**
comp=Z,17nm,0.9s,mb5.0
MUD Monsted U'grnd 72.51 355 *i* P P **20 08 31.4 +0.5**
MUD pmax pmax
comp=Z,17nm,0.9s,mb5.0
VRSR Storozhevoye 72.86 336 *e*P P **20 08 32.6 -0.4**
VRSR pmax pmax
comp=Z,20nm,1.2s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,4.0nm,1.0s
KOLN Koldanda 73.00 293 *e*P P **20 08 34.7 +0.9**
comp=E,16nm,0.7s,mb5.1
PPT Papeete 73.27 150 *e*LR LR 20 31 00.7
comp=E,234nm,27.5s
SUW Suwalki 73.49 346 *e*P P **20 08 35.6 -1.1**
BSEG Bad Segeberg 74.95 354 *e*P P **20 08 45.5 +0.3**
comp=Z,41nm,0.8s,mb5.4
GKP Gorka Klasztor 75.00 350 *e*P P **20 08 45.1 -0.4**
AKASG Malin Array Be 75.63 342 P P **20 08 48.5 -0.7**
comp=Z,24nm,0.4s,mb5.5,baz=22,slow=6.3,SNR=75
AKASG LR LR 20 50 36.5
comp=Z,50nm,18.1s,MS3.9,baz=30,slow=42
DCN Croghan 75.66 5 *e*P P **20 08 48.3 -1.0**
DCN Croghan 75.66 5⇑ *i*P P **20 08 49.1 -0.2**
DCN Croghan 75.66 5⇑ *i*P P **20 08 49.1 -0.2**
DLF Lyons Farm 75.74 4 *e*P P **20 08 48.7 -1.1**
DLF Lyons Farm 75.74 4⇑ *i*P P **20 08 49.5 -0.3**
DLF Lyons Farm 75.74 4⇑ *i*P P **20 08 49.5 -0.3**
IBBN Ibbenbüren 76.72 355 *e*P P **20 08 55.6 +0.3**
CLZ Clausthal 77.03 354 *e*P P **20 08 57.4 +0.3**
comp=Z,29nm,0.8s,mb5.3
CLZ Clausthal 77.03 354 *e*P P **20 08 57.4 +0.3**
CLZ pmax pmax
comp=Z,29nm,0.8s,mb5.3
CTA Charters Tower 77.08 213 *e*P P **20 08 57.2 -0.2**
comp=Z,4.3nm,1.0s,mb4.3
CTA Charters Tower 77.08 213 P P **20 08 56.8 -0.5**
comp=Z,4.3nm,1.0s,mb4.3,baz=18,slow=6.4,SNR=3.4
CTA Charters Tower 77.08 213 *e*P P **20 08 57.2 -0.2**
CTA pmax pmax
comp=Z,4.0nm,1.0s
WTSB Winterswijk 77.11 356⇑ *i*P P **20 08 57.3 -0.2**
comp=Z,20nm,0.6s,mb5.2
GOF Gofitskoye 77.36 331⇑ *i*P P **20 08 58.6 -0.3**
GOF pmax pmax
comp=Z,50nm,0.8s,mb5.5
CLL Collm 77.36 352 *e*P P **20 08 58.2 -0.7**
comp=Z,13nm,0.7s,mb5.0
CLL Collm 77.36 352 ⇑P P **20 08 58.1 -0.8**
comp=Z,logA/T=1.3,mb5.0

CLL e PCP PcP 20 09 07.0 -2.3
CLL Collm 77.36 352 ⇑ iP P 20 08 58.1 -0.8
comp=Z,13nm,0.7s,mb5.0
CLL e (PcP) PcP 20 09 07.0 -2.3
CLL Collm 77.36 352 ⇑ iP P 20 08 58.1 -0.8
CLL e pP 20 09 07.0 -5.4
CLL pmax pmax
comp=Z,13nm,0.7s,mb5.0
LVV L'vov 77.42 345 ⇑ iP P 20 08 58.9 -0.4
KSP Ksiaz 77.49 350 eP P 20 08 59.3 -0.4
BUG Bochum--Univer 77.61 356 eP P 20 09 00.0 -0.3
comp=Z,18nm,1.0s,mb5.0
OJC Ojcow 77.67 347 eP P 20 09 00.5 -0.2
BRG Berggiesshubel 77.70 351 eP P 20 09 00.2 -0.6
comp=Z,12nm,0.8s,mb4.9
BRG Berggiesshubel 77.70 351 eP P 20 09 00.2 -0.6
BRG pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KWP Kalwaria 77.82 345 eP P 20 09 02.0 +0.5
comp=Z,0.1nm,0.5s
DPC Dobruska-Polom 77.97 350 eP P 20 09 02.4 +0.1
DPC AMS AMS 20 47 50.0
PVCC Panska Ves 77.98 351 eP P 20 09 02.3 -0.1
PVCC AMS AMS 20 49 30.0
UBBA Unterbreizbach 78.08 354 eP P 20 09 03.0 +0.1
MOX Moxa 78.13 353 eP P 20 09 02.9 -0.3
MOX Moxa 78.13 353 eP P 20 09 02.6 -0.6
comp=Z,16nm,0.9s,mb5.0
MOX Moxa 78.13 353 eP P 20 09 02.6 -0.6
MOX pmax pmax
comp=Z,16nm,0.9s,mb5.0
STHS Stebnicka Huta 78.25 346 i P P 20 09 04.5 +0.6
STHS Stebnicka Huta 78.25 346 i P P 20 09 04.6 +0.7
STHS pmax pmax
comp=Z,18nm,0.7s,mb5.1
STHS Stebnicka Huta 78.25 346 i P P 20 09 04.6 +0.7
comp=Z,18nm,0.7s,mb5.1
OKC Ostrava-Krasne 78.26 348 eP P 20 09 03.9 0.0
OKC AMS AMS 20 48 50.0
TANN Tannenbergstha 78.29 352 eP P 20 09 03.9 -0.2
HGN Heimansgroeve 78.34 357 ⇑ iP P 20 09 04.2 -0.2
comp=Z,24nm,0.7s,mb5.2
NIE Niedzica 78.38 347 eP P 20 09 04.8 +0.2
MORC Moravsky Berou 78.40 349 ⇑ iP P 20 09 04.4 -0.3
MORC Moravsky Berou 78.40 349 ⇑ P 20 09 04.5 -0.2
MORC Moravsky Berou 78.40 349 eP P 20 09 03.9 -0.7
comp=Z,6.9nm,0.8s,mb4.6
KIV Kislovodsk 78.46 330 eP P 20 09 05.2 +0.2
KIV pmax pmax
comp=Z,13nm,1.1s,mb4.8
KIV MLR MLR
comp=Z,219nm,21.0s,MS4.5
NKC Novy Kostel 78.47 352 eP P 20 09 05.0 -0.1
NKC AMS AMS 20 50 30.0
KOLS Kolonicke sedl 78.56 346 eP P 20 09 05.9 +0.3
KOLS pmax pmax
comp=Z,16nm,0.8s,mb5.0
KOLS Kolonicke sedl 78.56 346 eP P 20 09 05.9 +0.3
comp=Z,16nm,0.8s,mb5.0
MENF Mencas 78.64 359 eP P 20 09 05.6 -0.4
CRVS Cervenica-Dubn 78.72 346 eP P 20 09 06.7 +0.2
CRVS pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CRVS Cervenica-Dubn 78.72 346 eP P 20 09 06.7 +0.2
comp=Z,7.3nm,1.0s,mb4.6
MANZ Manzenberg 78.75 352 eP P 20 09 06.5 -0.1
TBI Tubuai 78.75 152 eLR LR 20 33 34.6
comp=Z,230nm,25.0s
TNS Taunus Mts 78.77 355 eP P 20 09 06.6 -0.1
LIKS Likavka 78.91 348 eP P 20 09 05.4 -2.1
LIKS pmax pmax
comp=Z,28nm,0.8s,mb5.2
LIKS Likavka 78.91 348 eP P 20 09 05.4 -2.1
comp=Z,28nm,0.8s,mb5.2
VRAC Vranov 78.97 349 ⇑ iP P 20 09 07.8 0.0
VRAC Vranov 78.97 349 ⇑ P 20 09 07.8 -0.1
GIVF Givet 79.05 357 ⇑ iP P 20 09 08.0 -0.2
BAIF Baives 79.11 358 ⇑ iP P 20 09 08.6 0.0
comp=Z,45nm,0.9s,mb5.1
BAIF Baives 79.11 358 ⇑ iP P 20 09 08.6 0.0
BAIF pmax pmax
comp=Z,22nm,0.9s,mb5.1
BAIF Baives 79.11 358 ⇑ iP P 20 09 08.6 0.0
comp=Z,22nm,0.9s,mb5.1
TREC Trest 79.11 350 eP P 20 09 08.4 -0.2
TREC AMS AMS 20 48 30.0
GRA1 Grafenberg Arr 79.11 353 eP P 20 09 08.9 +0.3
comp=Z,27nm,0.8s,mb5.2
GRF Grafenberg Arr 79.11 353 eP P 20 09 08.9 +0.3
comp=Z,27nm,0.8s,mb5.2
GRF Grafenberg Arr 79.11 353 eP P 20 09 08.9 +0.3
GRF pmax pmax
comp=Z,27nm,0.8s,mb5.2
GRF Grafenberg Arr 79.11 353 eP P 20 09 08.9 +0.3
GRF pmax pmax
comp=Z,27nm,0.8s,mb5.2
KECS Kecovo 79.27 347 i P P 20 09 09.7 +0.2
KECS pmax pmax
comp=Z,13nm,0.9s,mb4.9
KECS Kecovo 79.27 347 i P P 20 09 09.7 +0.2
comp=Z,13nm,0.9s,mb4.6
BURAR Bucovina Array 79.34 343 ⇓ iP P 20 09 10.3 +0.4
BURAR Bucovina Array 79.34 343 ⇓ P 20 09 10.2 +0.4
RUP Ruppelstein 79.36 356 eP P 20 09 09.8 -0.1
TOD Tromm 79.36 355 eP P 20 09 09.8 -0.2
WLF Walferdange 79.44 356 eP P 20 09 10.6 +0.2
WLF Walferdange 79.44 356 eP P 20 09 10.4 0.0
WLF pmax pmax
comp=Z,14nm,0.8s,mb4.9
WLF Walferdange 79.44 356 eP P 20 09 10.3 0.0
comp=Z,14nm,0.8s,mb4.9
KHC Kasperske Hory 79.46 351 eP P 20 09 10.7 +0.2
KHC AMS AMS 20 44 30.0
VYHS Vyhne 79.49 348 i P P 20 09 10.8 +0.1
VYHS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
VYHS Vyhne 79.49 348 i P P 20 09 10.8 +0.1
comp=Z,8.8nm,1.0s,mb4.6
WET Wettzell 79.52 352 eP P 20 09 10.8 0.0
comp=Z,5.0nm,0.7s,mb4.5
WET Wettzell 79.52 352 eP P 20 09 10.8 0.0
WET pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SMOL Smolenice 79.65 349 eP P 20 09 12.2 +0.6
GEC2 GERESS Array S 79.73 351 eP P 20 09 11.8 -0.2
comp=Z,9.0nm,0.7s,mb4.8
GEC2 GERESS Array S 79.73 351 eP P 20 09 11.8 -0.2
GEC2 pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
GERES GERESS Array B 79.73 351 P P 20 09 11.8 -0.2
comp=Z,7.0nm,0.6s,mb4.8,baz=25,slow=5.5,SNR=81
PSZ Piszkesteto 79.91 347 eP P 20 09 13.4 +0.5
PSZ pmax pmax
comp=Z,20nm,1.0s,mb5.0
PSZ Piszkesteto 79.91 347 eP P 20 09 13.4 +0.5
comp=Z,20nm,1.0s,mb5.0
ZST Bratislava 80.00 349 eP P 20 09 14.1 +0.6
ZST pmax pmax
comp=Z,17nm,0.7s,mb5.1
ZST Bratislava 80.00 349 eP P 20 09 14.1 +0.6
comp=Z,17nm,0.7s,mb5.1
STU Stuttgart 80.17 354 eP P 20 09 14.1 -0.2
CONA Conrad Observa 80.42 350 ⇑ iP P 20 09 16.2 +0.6
comp=Z,13nm,0.7s,mb5.0,SNR=26
FLN La Foliniere 80.45 1 ⇑ iP P 20 09 15.3 -0.5
comp=Z,40nm,0.9s,mb5.0
FLN La Foliniere 80.45 1 ⇑ iP P 20 09 15.3 -0.5
FLN pmax pmax
comp=Z,20nm,0.9s,mb5.0
FLN La Foliniere 80.45 1 ⇑ iP P 20 09 15.3 -0.5
comp=Z,20nm,0.9s,mb5.0
DRGR 80.57 345 ⇓ iP P 20 09 16.6 +0.1
DRGR 80.57 345 ⇓ P 20 09 16.6 +0.1
LDF La Druitiere 80.62 0 ⇑ iP P 20 09 16.2 -0.6
comp=Z,44nm,0.7s,mb5.2
LDF La Druitiere 80.62 0 ⇑ iP P 20 09 16.2 -0.6
LDF pmax pmax
comp=Z,22nm,0.7s,mb5.2
LDF La Druitiere 80.62 0 ⇑ iP P 20 09 16.2 -0.6
comp=Z,22nm,0.7s,mb5.2
FUR Furstenfeldbru 80.62 353 eP P 20 09 16.8 0.0
comp=Z,18nm,0.7s,mb5.1
FUR Furstenfeldbru 80.62 353 eP P 20 09 16.8 0.0
FUR pmax pmax
comp=Z,18nm,0.7s,mb5.1

CDF Champ du Feu 80.64 355 ⇑ iP P 20 09 16.6 -0.2
comp=Z,12nm,0.7s,mb4.6
CDF Champ du Feu 80.64 355 ⇑ iP P 20 09 16.6 -0.2
CDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
CDF Champ du Feu 80.64 355 ⇑ iP P 20 09 16.6 -0.2
comp=Z,6.1nm,0.7s,mb4.6
MEZF Maizieres J'vi 80.64 357 ⇑ iP P 20 09 16.9 0.0
comp=Z,33nm,1.0s,mb4.9
MEZF Maizieres J'vi 80.64 357 ⇑ iP P 20 09 16.9 0.0
comp=Z,33nm,1.0s,mb5.2
BFO Black Forest 80.66 355 eP P 20 09 16.8 -0.2
comp=Z,7.0nm,0.8s,mb4.6
BFO Black Forest 80.66 355 eP P 20 09 16.8 -0.2
BFO pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MOA Molln 80.67 351 ⇑ iP P 20 09 17.0 0.0
comp=Z,5.3nm,0.7s,mb4.6,SNR=6.8
VRI Vrincioaia 80.74 342 ⇑ iP P 20 09 17.8 +0.4
VRI Vrincioaia 80.74 342 ⇑ P 20 09 17.8 +0.3
PLOR Plostina 80.77 342 ⇑ iP P 20 09 18.2 +0.6
GRR Gorron 80.82 1 ⇑ iP P 20 09 17.6 -0.2
comp=Z,38nm,0.7s,mb5.1
GRR Gorron 80.82 1 ⇑ iP P 20 09 17.6 -0.2
GRR pmax pmax
comp=Z,19nm,0.7s,mb5.1
GRR Gorron 80.82 1 ⇑ iP P 20 09 17.6 -0.2
comp=Z,19nm,0.7s,mb5.1
ROSF Rostrenen 80.82 3 ⇑ iP P 20 09 17.7 -0.1
comp=Z,32nm,1.0s,mb4.9
ROSF Rostrenen 80.82 3 ⇑ iP P 20 09 17.7 -0.1
ROSF pmax pmax
comp=Z,16nm,1.0s,mb4.9
ROSF Rostrenen 80.82 3 ⇑ iP P 20 09 17.7 -0.1
comp=Z,16nm,1.0s,mb4.9
HAU Haudompre 81.08 356 ⇑ iP P 20 09 20.0 +0.8
comp=Z,17nm,0.9s,mb4.7
HAU eR
comp=Z,133nm,20.2s
HAU Haudompre 81.08 356 ⇑ iP P 20 09 20.0 +0.8
HAU pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
HAU MLR MLR
comp=Z,130nm,20.3s,MS4.3
HAU Haudompre 81.08 356 ⇑ iP P 20 09 20.0 +0.8
comp=Z,8.6nm,0.9s,mb4.7
HAU LR LR
comp=Z,130nm,20.3s,MS4.3
FELD Feldberg im Sc 81.13 355 eP P 20 09 19.3 -0.2
MOF Molkenrain 81.20 356 eP P 20 09 19.5 -0.4
QUIF Quistinic 81.25 3 ⇑ iP P 20 09 19.7 -0.4
comp=Z,9nm,0.9s,mb4.7
QUIF Quistinic 81.25 3 ⇑ iP P 20 09 19.7 -0.4
QUIF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
QUIF Quistinic 81.25 3 ⇑ iP P 20 09 19.7 -0.4
comp=Z,9.6nm,0.9s,mb4.7
HINF Hinteralfeld 81.25 356 ⇑ iP P 20 09 19.6 -0.5
comp=Z,9.1nm,0.9s,mb4.4
HINF Hinteralfeld 81.25 356 ⇑ iP P 20 09 19.6 -0.5
HINF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
HINF Hinteralfeld 81.25 356 ⇑ iP P 20 09 19.6 -0.5
comp=Z,4.6nm,0.9s,mb4.4
MLR Muntele Rosu 81.25 342 ⇓ iP P 20 09 21.8 +1.7
MLR Muntele Rosu 81.25 342 ⇓ P 20 09 21.8 +1.6
WATA Walderalm 81.42 352 ⇓ iP P 20 09 21.5 +0.5
comp=Z,12nm,0.6s,mb5.0
WATA Walderalm 81.42 352 ⇓ iP P 20 09 21.5 +0.5
WATA pmax pmax
comp=Z,12nm,0.6s,mb5.0
MOTA Moosalm 81.45 353 ⇓ iP P 20 09 21.4 +0.2
comp=Z,7.8nm,0.7s,mb4.7
MOTA Moosalm 81.45 353 ⇓ iP P 20 09 21.4 +0.2
MOTA pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
WTTA Wattenberg 81.49 352 ⇑ iP P 20 09 22.0 +0.6
comp=Z,25nm,0.7s,mb5.2,SNR=21
WTTA Wattenberg 81.49 352 ⇑ iP P 20 09 22.0 +0.6
WTTA pmax pmax
comp=Z,25nm,0.7s,mb5.2
KBA Koelnbreinsper 81.52 351 i P P 20 09 22.4 +0.8
comp=Z,59nm,0.7s,mb5.7,SNR=66
KBA Koelnbreinsper 81.52 351 i P P 20 09 22.4 +0.9
KBA pmax pmax
comp=Z,59nm,0.6s,mb5.7
SQTA Sankt Quirin 81.57 353 ⇑ iP P 20 09 22.0 +0.2
comp=Z,11nm,0.7s,mb4.9
SQTA Sankt Quirin 81.57 353 ⇑ iP P 20 09 22.0 +0.2
SQTA pmax pmax
comp=Z,11nm,0.7s,mb4.9
SQTA Sankt Quirin 81.57 353 ⇑ iP P 20 09 22.0 +0.2
comp=Z,11nm,0.7s,mb4.9
WRA Warramunga Ar 81.58 223 P P 20 09 20.4 -1.5
comp=Z,1.4nm,0.6s,mb4.0,baz=30,slow=5.9,SNR=7.0
DAVA Damuels 81.60 354 ⇑ iP P 20 09 22.8 +0.9
comp=Z,8.0nm,1.0s,mb4.6
PKSM Moragy 81.75 347 ⇑ iP P 20 09 22.3 -0.5
PKSM Moragy 81.75 347 ⇑ P 20 09 22.3 -0.5
PERS Pernice 81.77 350 i P P 20 09 23.0 +0.1
BZS Buzias 81.89 345 ⇑ iP P 20 09 23.6 +0.1
BZS Buzias 81.89 345 ⇑ P 20 09 23.6 +0.1
LOR Lormes 81.91 358 ⇑ iP P 20 09 23.0 -0.6
comp=Z,18nm,0.9s,mb4.7
LOR eR
comp=Z,121nm,20.8s
LOR Lormes 81.91 358 ⇑ iP P 20 09 23.0 -0.6
LOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LOR MLR MLR
comp=Z,120nm,20.8s,MS4.2
LOR Lormes 81.91 358 ⇑ iP P 20 09 23.0 -0.6
comp=Z,8.9nm,0.9s,mb4.7
LOR LR LR
comp=Z,120nm,20.8s,MS4.2
GZR Gura Zlata 81.92 344 ⇑ iP P 20 09 24.3 +0.6
GZR Gura Zlata 81.92 344 ⇑ P 20 09 24.2 +0.6
OBKA Obir 81.96 350 ⇓ iP P 20 09 24.7 +0.8
comp=Z,15nm,0.6s,mb5.1
SSF Saint Saulge 82.12 358 ⇑ iP P 20 09 24.6 -0.1
comp=Z,12nm,0.7s,mb4.6
SSF Saint Saulge 82.12 358 ⇑ iP P 20 09 24.6 -0.1
SSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
SSF Saint Saulge 82.12 358 ⇑ iP P 20 09 24.6 -0.1
comp=Z,6.2nm,0.7s,mb4.7
DOBS Dobrina 82.22 350 i P P 20 09 24.9 -0.3
ROBS Robic 82.33 351 eP P 20 09 24.9 -0.8
AVF Avril sur Loir 82.39 358 ⇑ iP P 20 09 25.8 -0.3
comp=Z,29nm,1.1s,mb4.8
AVF Avril sur Loir 82.39 358 ⇑ iP P 20 09 25.8 -0.3
AVF pmax pmax
comp=Z,15nm,1.1s,mb4.8
AVF Avril sur Loir 82.39 358 ⇑ iP P 20 09 25.8 -0.3
comp=Z,15nm,1.1s,mb4.8
CABF La Chapelle 82.49 356 ⇑ iP P 20 09 26.8 +0.2
comp=Z,12nm,0.7s,mb4.6
CABF La Chapelle 82.49 356 ⇑ iP P 20 09 26.8 +0.2
CABF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
CABF La Chapelle 82.49 356 ⇑ iP P 20 09 26.8 +0.2
comp=Z,5.8nm,0.7s,mb4.6
SMF Signal de Mont 82.53 358 ⇑ iP P 20 09 26.6 -0.2
comp=Z,33nm,1.0s,mb5.0
SMF Signal de Mont 82.53 358 ⇑ iP P 20 09 26.6 -0.2
SMF pmax pmax
comp=Z,16nm,1.0s,mb5.0
SMF Signal de Mont 82.53 358 ⇑ iP P 20 09 26.6 -0.2
comp=Z,16nm,1.0s,mb5.0
LCHF La Chataignera 82.54 1 eP P 20 09 27.2 +0.3
MFF Saint Martin d 82.61 0 ⇑ iP P 20 09 27.2 -0.1
comp=Z,31nm,0.9s,mb5.0
MFF Saint Martin d 82.61 0 ⇑ iP P 20 09 27.2 -0.1
MFF pmax pmax
comp=Z,15nm,0.9s,mb5.0
MFF Saint Martin d 82.61 0 ⇑ iP P 20 09 27.2 -0.1
comp=Z,15nm,0.9s,mb5.0

BGF Bois d'Agland 82.64 358 ⇑ iP P 20 09 27.2 -0.2
comp=Z,16nm,0.9s,mb4.7
BGF Bois d'Agland 82.64 358 ⇑ iP P 20 09 27.2 -0.2
BGF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BGF Bois d'Agland 82.64 358 ⇑ iP P 20 09 27.2 -0.2
comp=Z,8.0nm,0.9s,mb4.8
BOJS Bojanci 82.88 350 eP P 20 09 28.6 0.0
TCF Toulx Ste Croi 82.92 359 ⇑ iP P 20 09 28.7 -0.2
comp=Z,12nm,0.8s,mb4.7
TCF Toulx Ste Croi 82.92 359 ⇑ iP P 20 09 28.7 -0.2
TCF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
TCF Toulx Ste Croi 82.92 359 ⇑ iP P 20 09 28.7 -0.2
comp=Z,5.8nm,0.8s,mb4.7
PLDF La Plantade 83.21 358 eP P 20 09 31.1 +0.7
SVIS Svilajnac 83.24 345 i P P 20 09 30.8 +0.3
LPL La Plagne 83.55 356 ⇑ iP P 20 09 33.0 +0.9
comp=Z,4.7nm,0.6s,mb4.5
LPL La Plagne 83.55 356 ⇑ iP P 20 09 33.0 +0.9
LPL pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
LPL La Plagne 83.55 356 ⇑ iP P 20 09 33.0 +0.9
comp=Z,2.3nm,0.6s,mb4.5
LPG La Plagne 83.57 356 ⇑ iP P 20 09 33.3 +1.1
comp=Z,16nm,0.9s,mb4.8
LPG La Plagne 83.57 356 ⇑ iP P 20 09 33.3 +1.1
LPG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LPG La Plagne 83.57 356 ⇑ iP P 20 09 33.3 +1.1
comp=Z,7.9nm,0.9s,mb4.8
DIVS Divcibare 83.63 346 i P P 20 09 32.2 -0.4
GRUS Gruza 83.72 345 i P P 20 09 32.7 -0.3
RJF Les Rejaudoux 83.91 359 ⇑ iP P 20 09 33.7 -0.2
comp=Z,12nm,0.9s,mb4.7
RJF eR
comp=Z,138nm,22.0s
RJF Les Rejaudoux 83.91 359 ⇑ iP P 20 09 33.7 -0.2
RJF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
RJF MLR MLR
comp=Z,140nm,22.0s,MS4.3
RJF Les Rejaudoux 83.91 359 ⇑ iP P 20 09 33.7 -0.2
comp=Z,5.9nm,0.9s,mb4.7
RJF LR LR
comp=Z,140nm,22.0s,MS4.3
LBL Lubilhac 83.95 358 eP P 20 09 34.9 +0.7
BNI Bardonecchia 84.02 356 eP P 20 09 35.7 +1.2
BNI pmax pmax
comp=Z,17nm,1.1s,mb5.1
BNI Bardonecchia 84.02 356 eP P 20 09 35.6 +1.1
comp=Z,17nm,1.1s,mb5.1
FITZ Fitzroy Crossi 84.02 232 eP P 20 09 34.4 -0.1
comp=Z,8.2nm,0.6s,mb5.0
FITZ Fitzroy Crossi 84.02 232 P P 20 09 34.4 -0.1
comp=Z,4.4nm,0.6s,mb4.8,baz=37,slow=4.8,SNR=30
ORIF Oris-en-Rattie 84.19 356 ⇑ iP P 20 09 35.9 +0.5
comp=Z,18nm,0.9s,mb4.9
ORIF eR
comp=Z,86nm,21.8s
ORIF Oris-en-Rattie 84.19 356 ⇑ iP P 20 09 35.9 +0.5
ORIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
ORIF Oris-en-Rattie 84.19 356 ⇑ iP P 20 09 35.9 +0.5
comp=Z,8.9nm,0.9s,mb4.9
LFF La Frestale 84.28 360 ⇑ iP P 20 09 35.8 0.0
comp=Z,35nm,0.9s,mb5.2
LFF La Frestale 84.28 360 ⇑ iP P 20 09 35.8 0.0
LFF pmax pmax
comp=Z,18nm,0.9s,mb5.2
LFF La Frestale 84.28 360 ⇑ iP P 20 09 35.8 0.0
comp=Z,18nm,0.9s,mb5.2
CAF Calviac 84.28 359 ⇑ iP P 20 09 36.0 +0.2
comp=Z,22nm,0.9s,mb5.0
CAF Calviac 84.28 359 ⇑ iP P 20 09 36.0 +0.2
CAF pmax pmax
comp=Z,11nm,0.9s,mb5.0
CAF Calviac 84.28 359 ⇑ iP P 20 09 36.0 +0.2
comp=Z,11nm,0.9s,mb5.0
VIVF Saint-Julien-l 84.29 357 ⇑ iP P 20 09 36.1 +0.2
comp=Z,10nm,0.8s,mb4.7
VIVF Saint-Julien-l 84.29 357 ⇑ iP P 20 09 36.1 +0.2
VIVF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
VIVF Saint-Julien-l 84.29 357 ⇑ iP P 20 09 36.1 +0.2
comp=Z,5.2nm,0.8s,mb4.7
MBDF Montbardon 84.34 356 ⇑ iP P 20 09 36.8 +0.7
comp=Z,17nm,0.8s,mb4.9
MBDF Montbardon 84.34 356 ⇑ iP P 20 09 36.8 +0.7
MBDF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
MBDF Montbardon 84.34 356 ⇑ iP P 20 09 36.8 +0.7
comp=Z,8.6nm,0.8s,mb4.9
OG25 Le Caire 84.72 356 eP P 20 09 36.0 -2.1
MALT Malatya 84.92 331 ⇓ iP P 20 09 40.0 +1.0
MALT Malatya 84.92 331 eP P 20 09 39.7 +0.7
comp=Z,7.6nm,0.8s,mb4.9
TOUF Mont Tournerai 85.02 355 eP P 20 09 39.9 +0.3
AUTN L'Aution 85.03 355 eP P 20 09 39.2 -0.4
SAOF Saorge 85.03 355 eP P 20 09 39.2 -0.4
AS31 Alice Springs 85.06 222 eP P 20 09 39.1 -0.7
ASAR Alice Springs 85.06 222 P P 20 09 39.2 -0.5
comp=Z,17nm,0.6s,mb4.3,baz=27,slow=5.3,SNR=27
ASPA Alice Springs 85.06 222 eP P 20 09 39.1 -0.7
LASF Ste Croix 85.10 358 eP P 20 09 40.2 +0.2
comp=Z,12nm,0.8s,mb4.8
LUCF Luceram 85.14 355 eP P 20 09 39.9 -0.3
SMRF Simiane la Rot 85.14 356 ⇑ iP P 20 09 41.0 +0.8
comp=Z,32nm,0.9s,mb5.2
SMRF Simiane la Rot 85.14 356 ⇑ iP P 20 09 41.0 +0.8
comp=Z,32nm,0.9s,mb5.5
MVIF Mont Vial 85.15 355 eP P 20 09 40.5 +0.3
SBF Sospel 85.16 355 ⇑ iP P 20 09 40.1 -0.2
comp=Z,48nm,0.9s,mb5.3
SBF Sospel 85.16 355 ⇑ iP P 20 09 40.1 -0.2
SBF pmax pmax
comp=Z,24nm,0.9s,mb5.3
SBF Sospel 85.16 355 ⇑ iP P 20 09 40.1 -0.2
comp=Z,24nm,0.9s,mb5.3
REVF Revere 85.29 355 eP P 20 09 40.7 -0.2
FRF La Foret Royal 85.51 356 ⇑ iP P 20 09 41.8 -0.2
comp=Z,24nm,0.9s,mb5.2
FRF La Foret Royal 85.51 356 ⇑ iP P 20 09 41.8 -0.2
FRF pmax pmax
comp=Z,12nm,0.9s,mb5.1
FRF La Foret Royal 85.51 356 ⇑ iP P 20 09 41.8 -0.2
comp=Z,12nm,0.9s,mb5.1
EPON Pontenova 85.65 6 P P 20 09 42.2 -0.5
comp=Z,8.1nm,0.7s,mb5.1
LMR La Mourre 85.74 356 ⇑ iP P 20 09 43.2 0.0
comp=Z,27nm,0.9s,mb5.2
LMR La Mourre 85.74 356 ⇑ iP P 20 09 43.2 0.0
LMR pmax pmax
comp=Z,13nm,0.9s,mb5.2
LMR La Mourre 85.74 356 ⇑ iP P 20 09 43.2 0.0
comp=Z,13nm,0.9s,mb5.2
EARI Arriondas 85.78 4 P P 20 09 42.5 -0.8
comp=Z,5.1nm,0.8s,mb4.8
MTLF Montolieu 85.86 359 ⇑ iP P 20 09 44.0 +0.2
comp=Z,10nm,0.8s,mb4.8
MTLF Montolieu 85.86 359 ⇑ iP P 20 09 44.0 +0.2
MTLF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
MTLF Montolieu 85.86 359 ⇑ iP P 20 09 44.0 +0.2
comp=Z,5.2nm,0.8s,mb4.8
ELAN Lanestosa 85.92 3 P P 20 09 45.5 +1.5
comp=Z,71nm,1.4s,mb5.7
EALK Alkurruntz 85.98 2 P P 20 09 44.5 +0.2
comp=Z,8.2nm,0.7s,mb5.1
STS Santiago 85.99 7 P P 20 09 44.9 +0.5
STS pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
STS Santiago 85.99 7 P P 20 09 44.9 +0.5
comp=Z,8.6nm,1.0s,mb4.9
SJPF Ste Jean 86.09 1 ⇑ iP P 20 09 45.5 +0.6
comp=Z,11nm,0.6s,mb4.9
SJPF Ste Jean 86.09 1 ⇑ iP P 20 09 45.5 +0.6
SJPF pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
SJPF Ste Jean 86.09 1 ⇑ iP P 20 09 45.5 +0.6
comp=Z,5.5nm,0.6s,mb5.0
EPF Esparros 86.18 0 eP P 20 09 44.8 -0.6
comp=Z,8.1nm,0.8s,mb4.7
EPF Esparros 86.18 0 eP P 20 09 44.8 -0.6
EPF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EPF	**Esparros**	**86.18**	**0**	*e*P	**P**	**20 09 44.8**	**-0.6**
	comp=Z,4.1nm,0.8s,mb4.7						
AQU	**L'Aquila**	**86.19**	**350**	⇓*i*P	**P**	**20 09 47.3**	**+1.9**
AQU	**L'Aquila**	**86.19**	**350**	⇓P	**P**	**20 09 47.3**	**+1.9**
ETSF	**Etsaut**	**86.31**	**1**	⇑*i*P	**P**	**20 09 46.5**	**+0.5**
	comp=Z,17nm,0.7s,mb5.1						
ETSF	**Etsaut**	**86.31**	**1**	⇑*i*P	**P**	**20 09 46.5**	**+0.5**
ETSF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.1						
ETSF	**Etsaut**	**86.31**	**1**	⇑*i*P	**P**	**20 09 46.5**	**+0.5**
	comp=Z,8.4nm,0.7s,mb5.1						
PGF	**Pioggiola**	**86.38**	**354**	⇑*i*P	**P**	**20 09 46.3**	**0.0**
	comp=Z,39nm,0.8s,mb5.4						
PGF	**Pioggiola**	**86.38**	**354**	⇑*i*P	**P**	**20 09 46.3**	**0.0**
PGF				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.4						
PGF	**Pioggiola**	**86.38**	**354**	⇑*i*P	**P**	**20 09 46.3**	**0.0**
	comp=Z,20nm,0.8s,mb5.4						
EBIE	**Bielsa**	**86.53**	**0**	P	**P**	**20 09 47.8**	**+0.7**
	comp=Z,5.0nm,0.6s,mb4.9						
PBRG	**Braganca**	**87.19**	**5**	*e*P	**P**	**20 09 50.0**	**-0.3**
	comp=Z,2.9nm,0.7s,mb4.6						
ESAC	**San Caprasio**	**87.49**	**1**	P	**P**	**20 09 51.9**	**+0.2**
	comp=Z,16nm,0.6s,mb5.4						
PVRL	**Vila Real**	**87.65**	**6**	*e*P	**P**	**20 09 52.5**	**0.0**
	comp=Z,6.0nm,1.0s,mb4.8						
PVIS	**Viseu**	**88.20**	**6**	*e*P	**P**	**20 09 54.7**	**-0.4**
	comp=Z,10nm,1.0s,mb5.0						
GUD	**Guadarrama**	**88.48**	**4**	P	**P**	**20 09 56.2**	**-0.2**
GUD				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.5						
GUD	**Guadarrama**	**88.48**	**4**	P	**P**	**20 09 56.2**	**-0.2**
	comp=Z,1.7nm,0.6s,mb4.5						
MTE	**Manteigas**	**88.54**	**6**	*e*P	**P**	**20 09 56.4**	**-0.3**
	comp=Z,8.8nm,0.9s,mb5.1						
PCBR	**Castelo Branco**	**89.10**	**6**	*e*P	**P**	**20 09 58.5**	**-0.8**
	comp=Z,6.2nm,0.8s,mb5.0						
ESDC	**Sonseca Array**	**89.45**	**3**	P	**P**	**20 10 00.4**	**-0.5**
	comp=Z,2.1nm,0.7s,mb4.6,baz=350,slow=4.2,SNR=15						
ESDC	**Sonseca Array**	**89.45**	**3**	P	**P**	**20 09 60.0**	**-1.0**
	comp=Z,2.6nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**89.53**	**212**	*e*P	**P**	**20 09 59.3**	**-2.1**
	comp=Z,3.9nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**89.53**	**212**	P	**P**	**20 09 58.9**	**-2.4**
	comp=Z,9.9nm,1.1s,mb5.0,baz=39,slow=7.3,SNR=7.9						
STKA				LR	LR	20 45 27.5	
	comp=Z,191nm,19.1s,MS4.5,baz=25,slow=32						
MOE	**Montemor**	**90.35**	**7**	*e*P	**P**	**20 10 02.8**	**-2.4**
TORD	**Torodi Ar. Bea**	**115.95**	**359**	PKP	PKPdf	20 15 46.0	-0.7
	comp=Z,0.4nm,0.6s,baz=359,slow=2.8,SNR=5.3						
TORD				PP	PP	20 16 45.2	-5.9
	comp=Z,1.1nm,0.9s,baz=18,slow=6.6,SNR=4.5						
TORD				PKKPbc	PKKPbc	20 26 16.2	-1.3
	comp=Z,0.6nm,0.8s,baz=187,slow=4.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**115.95**	**359**	PKP	PKPdf	20 15 46.0	-0.7
TORD				PP	PP	20 16 45.2	-5.9
TORD				PKKPbc	PKKPbc	20 26 16.2	-1.3
DBIC	**Dimbokro**	**122.21**	**6**	PKP	PKPdf	20 15 58.5	-0.2
	comp=Z,1.2nm,0.4s,baz=5.7,slow=3.8,SNR=5.7						
TSUM	**Tsumeb**	**145.38**	**331**	*e*PKP	PKPdf	20 16 42.2	+0.5
MAW	**Mawson**	**146.07**	**217**	PKPbc	PKPbc	20 16 42.2	-1.7
	comp=Z,2.6nm,0.6s,baz=77,slow=6.0,SNR=7.4						
LBTB	**Lobatse**	**147.59**	**314**	PKPbc	PKPbc	20 16 48.8	+0.5
	comp=Z,15nm,0.7s,baz=45,slow=1.9,SNR=21						
LBTB	**Lobatse**	**147.59**	**314**	*e*PKPbc	PKPbc	20 16 49.0	+0.8
BOSA	**Boshof**	**150.82**	**311**	PKPbc	PKPbc	20 16 56.2	-0.1
	comp=Z,6.3nm,0.8s,baz=114,slow=1.1,SNR=11						
BOSA	**Boshof**	**150.82**	**311**	*e*PKPbc	PKPbc	20 16 56.2	-0.1

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*IDC **02** 20:25:24.0±1.7, 5141N×17935W, h0^{km}, mb4.0/11, mb1 4.2/11, mb1mx4.0/20, mbtmp4.0/11, Error ellipse: s-maj=50.9km s-min=22.4km az=180.0*
*ISCJB **02** 20:25:30.1±1.1, 516N±0.1×17939W±009, h47^{km}±8^{km}, mb4.2/20, Error ellipse: s-maj=18.1km s-min=7.7km az=148.5*
*BJI **02** 20:25:35.2, 5170N×17940W, h86^{km}, mB4.6, mb4.5*
*NEIC **02** 20:25:36.3±1.4, 5167N×17945W, h86^{km}±11^{km}, mb4.2/6, Error ellipse: s-maj=18.3km s-min=8.1km az=164.0*
ISC 02 20:25:34.7±1.6**, 517N**±01×**17943W**±009**, h71**^{km}±12^{km}**, n40,** σ0^{s}**85**/42**, mb4.1**/20**, 2C-1D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.85**	**248**	P	**Pn**	**20 25 43.8**	**-7.7**
AMKA				S	**Sn**	**20 25 56.7**	**-7.2**
SMY	**Shemya**	**4.11**	**287**	*e*Pn	**Pn**	**20 26 35.6**	**+0.7**
SMY				*e*Sn	**Sn**	**20 27 21.3**	**-0.4**
SPIA	**Saint Paul Isl**	**7.66**	**41**	*e*Pn	**Pn**	**20 27 27.5**	**+4.0**
SVW2	**Sparrevohn**	**16.11**	**45**	*e*Pn	**Pn**	**20 29 18.7**	**+1.9**
KDAK	**Kodiak Island**	**16.58**	**58**	Pn	**Pn**	**20 29 21.0**	**-1.5**
	0.6nm,0.3s,baz=284,slow=5.5,SNR=4.4						
KDAK				Sn	**Sn**	**20 32 21.0**	**-4.9**
	0.2nm,0.3s,baz=164,slow=18,SNR=2.5						
KDAK	**Kodiak Island**	**16.58**	**58**	Pn	**Pn**	**20 29 21.0**	**-1.5**
KDAK				Sn	**Sn**	**20 32 21.0**	**-4.9**
SLKM	**Skilak Lake**	**18.38**	**50**	*e*P	**Pn**	**20 29 44.9**	**+0.4**
YSS	**Yuzh-Sakhalins**	**24.90**	**274**	*e*P	**P**	**20 30 50.1**	**-0.7**
	7.2nm,0.3s,mb4.6						
MDJ	**Mudanjiang**	**34.13**	**279**	P	**P**	**20 32 11.3**	**-1.4**
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,73nm,7.5s						
YKA	**Yellowknife Ar**	**35.29**	**47**	P	**P**	**20 32 22.1**	**-0.6**
	comp=Z,1.0nm,0.5s,mb3.9,baz=282,slow=7.5,SNR=8.5						
ULN	**Ulaanbaatar**	**45.76**	**296**	*e*P	**P**	**20 33 47.0**	**-1.9**
	comp=Z,1.5nm,0.6s,mb3.9						
SONM	**Songino Array**	**46.15**	**296**	P	**P**	**20 33 52.3**	**+0.3**
	comp=Z,1.3nm,0.7s,mb3.8,baz=64,slow=8.2,SNR=11						
SONM				PcP	PcP	20 35 26.1	-0.8
	comp=Z,0.2nm,0.4s,baz=28,slow=0.8,SNR=3.6						
PDAR	**Pinedale Array**	**46.59**	**72**	P	**P**	**20 33 53.9**	**-1.6**
	comp=Z,2.1nm,0.9s,mb3.9,baz=319,slow=4.5,SNR=17						
HHC	**Hu-ho-hao-te**	**47.22**	**285**	*e*P	**P**	**20 34 00.1**	**-0.3**
HHC				AP	pP	20 34 23.1	+4.9
HHC				XP	sP	20 34 33.8	+7.5
HHC				PP	PP	20 35 51.1	-0.8
HHC				PCS	PcS	20 39 25.2	-0.8
HHC				S	**S**	**20 40 41.2**	**-6.9**
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,89nm,4.4s						
TATO	**Taipei**	**51.76**	**262**	*e*P	**P**	**20 34 35.8**	**+0.8**
ENH	**Enshi**	**55.45**	**276**	*e*P	**P**	**20 35 02.7**	**+0.8**
	comp=Z,0.3nm,0.2s,mb4.0						
ARCES	**ARCESS Array B**	**57.70**	**350**	P	**P**	**20 35 17.8**	**-0.1**
	comp=Z,1.2nm,0.8s,mb4.0,baz=30,slow=9.8,SNR=5.5						
KURK	**Kurchatov**	**58.51**	**313**	*e*P	**P**	**20 35 23.2**	**-0.3**
	comp=Z,2.1nm,0.6s,mb4.3						
WMQ	**Urumqi**	**58.83**	**302**	P	**P**	**20 35 27.0**	**+1.2**
MKAR	**Makanchi Array**	**59.52**	**308**	P	**P**	**20 35 29.9**	**-0.6**
	comp=Z,1.9nm,0.4s,mb4.5,baz=51,slow=6.1,SNR=59						
BVAR	**Borovoye Array**	**60.38**	**319**	P	**P**	**20 35 36.5**	**+0.1**
	comp=Z,0.4nm,0.3s,mb3.9,baz=44,slow=6.6,SNR=9.9						
BRVK	**Borovoye**	**60.40**	**319**	*e*P	**P**	**20 35 36.3**	**-0.2**
	comp=Z,0.9nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**61.00**	**320**	*e*P	**P**	**20 35 39.8**	**-0.8**
	comp=Z,2.6nm,1.0s,mb4.2						
KMI	**Kunming**	**63.29**	**277**	P	**P**	**20 36 00.2**	**+4.3**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
FINES	**FINESS Array B**	**65.38**	**347**	P	**P**	**20 36 09.2**	**-0.3**
	comp=Z,2.2nm,0.7s,mb4.1,baz=68,slow=6.6,SNR=10						
LSA	**Lhasa**	**66.96**	**289**	*e*P	**P**	**20 36 20.8**	**+1.0**
AKTK	**Aktyubinsk**	**67.19**	**324**	P	**P**	**20 36 21.1**	**-0.1**
AKTO	**Aktyubinsk**	**67.19**	**324**	P	**P**	**20 36 21.1**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.7,baz=27,slow=4.5,SNR=2.9						
NB2	**NORSAR Subarra**	**67.28**	**354**	P	**P**	**20 36 22.2**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.4,baz=3.9,slow=6.5						
NOA	**NORSAR Array B**	**67.28**	**354**	P	**P**	**20 36 21.7**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.5,baz=6.0,slow=6.3,SNR=3.9						
PMG	**Port Moresby**	**67.33**	**216**	*e*P	**P**	**20 36 21.9**	**-0.2**
AKASG	**Malin Array Be**	**75.11**	**342**	P	**P**	**20 37 08.9**	**-0.1**
	comp=Z,2.4nm,0.4s,mb4.3,baz=22,slow=5.7,SNR=12						
BURAR	**Bucovina Array**	**78.83**	**343**	⇓*i*P	**P**	**20 37 30.6**	**+0.7**
GERES	**GERESS Array B**	**79.20**	**351**	P	**P**	**20 37 32.3**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.7,baz=24,slow=5.0,SNR=7.8						
DRGR		**80.05**	**345**	⇑*i*P	**P**	**20 37 37.4**	**+0.9**
BZS	**Buzias**	**81.37**	**345**	⇑*i*P	**P**	**20 37 44.1**	**+0.5**
STKA	**Stephens Creek**	**89.99**	**212**	*e*P	**P**	**20 38 27.1**	**+0.9**
TSUM	**Tsumeb**	**144.91**	**331**	PKPbc	PKPdf	20 45 02.9	-0.7
	comp=Z,1.6nm,0.7s,baz=36,slow=2.1,SNR=3.6						
LBTB	**Lobatse**	**147.22**	**315**	PKPbc	PKPbc	20 45 09.2	-0.6
	comp=Z,1.7nm,0.8s,baz=22,slow=5.4,SNR=2.9						
BOSA	**Boshof**	**150.46**	**312**	PKPbc	PKPbc	20 45 16.9	-1.1
	comp=Z,2.1nm,0.9s,baz=9.4,slow=4.0,SNR=3.6						

IDC 02 20:46:17.1±2.3**, 619S**×**12985E, h0**^{km}**, mb3.2**/1**, mb1 3.3**/4**, mb1mx3.2**/12**, mbtmp3.1**/4**, ML2.8**/3**, Error ellipse: s-maj=96.1km s-min=29.3km az=77.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.53**	**199**	Pn	Pn	20 49 17.9	+1.3
	0.1nm,0.3s,baz=9.5,slow=18,SNR=5.8						
FITZ				Sn	Sn	20 51 19.4	-18
	0.1nm,0.3s,baz=0.0,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**14.35**	**163**	Pn	Pn	20 49 41.1	-0.4
	0.0nm,0.3s,baz=344,slow=13,SNR=3.9						
WRA				Sn	Sn	20 52 06.5	-15
	0.1nm,0.3s,baz=336,slow=24,SNR=5.2						
ASAR	**Alice Springs**	**17.81**	**168**	P	Pn	20 50 26.0	-0.3
	0.0nm,0.3s,baz=346,slow=10,SNR=4.5						
MKAR	**Makanchi Array**	**67.47**	**327**	P	P	20 57 14.8	+0.2
	0.1nm,0.3s,baz=130,slow=7.7,SNR=4.8						

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*ISCJB **02** 21:01:44.1±0.4, 4393N±003×10557W±004, h0^{km}, Error ellipse: s-maj=4.4km s-min=3.7km az=6.2*
*NEIC **02** 21:01:46.4±0.6, 4380N×10532W, h0^{km}, ML3.0, Error ellipse: s-maj=9.8km s-min=7.6km az=141.0, Suspected Mining explosion.*
NEIC 55 km [35 miles] SSE of Gillette.
*IDC **02** 21:01:46.6±1.8, 4389N×10563W, h0^{km}, mb3.6/1, mb1 3.8/3, mb1mx3.4/19, mbtmp3.7/3, ML3.4/2, Error ellipse: s-maj=55.3km s-min=8.3km az=149.0*
ISC 02 21:01:46.0±0.4**, 4388N**±003×**10554W**±003**, h0**^{km}**, n24,** σ**1**^{s}**48**/48**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.11**	**77**	*e*Pg	**Pg**	**21 02 05.8**	**-1.5**
RSSD				*e*Sg	**Sg**	**21 02 22.6**	**+0.9**
RWWY	**Rawlins**	**2.51**	**210**	*e*Pn	**Pn**	**21 02 29.6**	**+1.6**
RWWY				*e*Sn	**Sn**	**21 02 59.9**	**+0.5**
PHWY	**Pilot Hill**	**2.58**	**179**	*e*Pn	**Pn**	**21 02 28.5**	**-0.5**
PHWY				*e*Sn	**Sn**	**21 03 00.1**	**-1.0**
LAO	**LASA Array**	**2.85**	**351**	*e*Pn	**Pn**	**21 02 34.7**	**+2.1**
LAO				*e*Sn	**Sn**	**21 03 06.9**	**-0.7**
PDAR	**Pinedale Array**	**3.13**	**251**	Pn	**Pn**	**21 02 39.5**	**+3.0**
	2.1nm,0.3s,baz=72,slow=15,SNR=44						
PDAR				Lg		21 03 23.4	
	6.9nm,0.3s,baz=70,slow=28,SNR=14						
GCMT	**Greycliff**	**3.50**	**304**	*e*Pn	**Pn**	**21 02 46.3**	**+4.7**
GCMT				*e*Sn	**Sn**	**21 03 21.4**	**-2.4**
LOHW	**Long Hollow**	**3.68**	**268**	*e*Pn	**Pn**	**21 02 47.7**	**+3.6**
MOOW	**Moose Ponds**	**3.77**	**270**	*e*Pn	**Pn**	**21 02 46.6**	**+1.3**
MOOW				*e*Pg	**Pg**	**21 02 58.8**	**+0.6**
SNOW	**Snow King Moun**	**3.81**	**265**	Pn	**Pn**	**21 02 45.5**	**-0.3**
SNOW				*e*Pg	**Pg**	**21 02 57.0**	**-1.9**
SNOW				*e*Sn	**Sn**	**21 03 31.7**	**+0.5**
REDW	**Red Top Meadow**	**3.89**	**264**	*e*Pn	**Pn**	**21 02 51.5**	**+4.5**
REDW				*e*Pg	**Pg**	**21 02 58.2**	**-2.3**
REDW				Sn	**Sn**	**21 03 32.9**	**-0.4**
REDW				*e*Sg	**Sb**	**21 03 44.4**	**+1.4**
TPAW	**Teton Pass**	**3.94**	**266**	*e*Pn	**Pn**	**21 02 50.7**	**+3.0**
TPAW				*e*Pg	**Pg**	**21 03 02.3**	**+0.8**
TPAW				*e*Sn	**Sn**	**21 03 34.4**	**-0.3**
ISCO	**Idaho Springs**	**4.08**	**181**	*e*Pn	**Pn**	**21 02 49.5**	**-0.1**
ISCO				*e*Sn	**Sb**	**21 03 44.6**	**-4.0**
RRI2	**Red Ridge**	**4.23**	**265**	*e*Pg	**Pb**	**21 03 05.1**	**+3.9**
RRI2				*e*Sg	**Sb**	**21 03 50.9**	**-1.9**
BOZ	**Bozeman (W)**	**4.68**	**294**	*e*Pn	**Pn**	**21 02 57.3**	**-0.5**
BOZ				*e*Pg	**Pg**	**21 03 15.3**	**-0.3**
BOZ				Sn	**Sn**	**21 03 51.6**	**-1.2**
SMCO	**Snowmass**	**4.82**	**193**	Pn	**Pn**	**21 02 58.0**	**-1.8**
SMCO				*e*Pg	**Pg**	**21 03 12.7**	**-5.7**
SMCO				*e*Sg	**Sg**	**21 04 17.3**	**-3.6**
HWUT	**Hardware Ranch**	**4.98**	**245**	*e*Pn	**Pn**	**21 03 01.7**	**-0.3**
	5.8nm,0.4s						
TCUT	**Toone Canyon**	**5.14**	**239**	*e*Pg	**Pg**	**21 03 20.9**	**-3.6**
DLMT	**Dillon**	**5.25**	**289**	Pn	**Pn**	**21 03 07.5**	**+1.9**
	5.9nm,1.0s						
DLMT				*e*Pg	**Pg**	**21 03 26.3**	**-0.3**
DLMT				*e*S	**Sn**	**21 04 05.5**	**-1.4**
SPUT	**South Promonto**	**5.71**	**246**	*e*Pn	**Pn**	**21 03 15.2**	**+3.2**
SPUT				*e*Sg	**Sg**	**21 04 49.8**	**+0.4**
SRU	**San Rafael**	**6.06**	**220**	Pn	**Pn**	**21 03 18.4**	**+1.6**
	6.2nm,0.7s						
DUG	**Dugway**	**6.55**	**238**	*e*Pn	**Pn**	**21 03 26.2**	**+2.7**
	1.8nm,0.4s						
MSU	**Marysvale**	**7.33**	**225**	*e*Pn	**Pn**	**21 03 36.6**	**+2.3**
MSU				*e*Pg	**Pg**	**21 04 01.8**	**-4.7**
MSU				*e*Sn	**Sn**	**21 05 02.1**	**+3.8**
ULM	**Lac du Bonnet**	**9.16**	**43**	Pn	**Pn**	**21 03 58.5**	**-0.9**
	1.6nm,0.3s,baz=232,slow=10,SNR=15						
ULM				Lg		21 06 31.4	
	0.1nm,0.3s,baz=311,slow=19,SNR=2.3						
ARCES	**ARCESS Array B**	**61.34**	**18**	P	**P**	**21 12 03.3**	**-0.2**
	4.6nm,1.2s,baz=330,slow=7.1,SNR=7.9						

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*CSEM **02** 21:07:29.5±0.1, 4455N×2177E, h18^{km}±1^{km}, MD3.1/3, Error ellipse: s-maj=2.9km s-min=2.1km az=156.0*
*BEO **02** 21:07:29.7±0.4, 4454N×2179E, h21^{km}±1^{km}*
*ISCJB **02** 21:07:30.3±0.5, 4452N±004×2181E±004, h19^{km}±7^{km}, Error ellipse: s-maj=7.3km s-min=3.8km az=126.5*
*NEIC **02** 21:07:30.1, 4455N×2173E, h15^{km}, ML3.0(BUC), After BUC.*
*BUC **02** 21:07:31.1±0.5, 4459N×2176E, h28^{km}±3^{km}, MD3.1/3, Error ellipse: s-maj=4.6km s-min=2.5km az=359.0*
ISC 02 21:07:30.0±0.6**, 4455N**±004×**2177E**±004**, h11**^{km}±6^{km}**, n24,** σ**0**^{s}**86**/42**, 10C-7D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SVIS	**Svilajnac**	**0.47**	**237**	*i* Pg	**Pg**	**21 07 39.2**	**+0.1**
SVIS				Sg	**Sg**	**21 07 45.8**	**+0.5**
DJES	**Djerdap**	**0.55**	**81**	*i* Pg	**Pg**	**21 07 39.1**	**-1.6**
DJES				Sg	**Sg**	**21 07 48.0**	**+0.1**
BEO	**Belgrade**	**0.97**	**287**	*i* Pg	**Pg**	**21 07 48.5**	**-0.3**
BEO				Sg	**Sg**	**21 08 02.7**	**+1.3**
GRUS	**Gruza**	**1.00**	**229**	*i* Pg	**Pg**	**21 07 48.8**	**-0.5**
GRUS				Sg	**Sg**	**21 08 03.0**	**+0.7**
BZS	**Buzias**	**1.07**	**354**	⇓*i*P	**Pb**	**21 07 50.2**	**-0.4**
BZS				*i* S	**Sb**	**21 08 04.4**	**-0.2**
BZS	**Buzias**	**1.07**	**354**	⇑P	**Pb**	**21 07 50.2**	**-0.4**
BZS				S	**Sb**	**21 08 04.5**	**-0.1**
GZR	**Gura Zlata**	**1.11**	**40**	⇑*i*P	**Pb**	**21 07 51.0**	**-0.2**
GZR				*i* S	**Sb**	**21 08 05.5**	**-0.1**
GZR	**Gura Zlata**	**1.11**	**40**	⇑P	**Pb**	**21 07 51.0**	**-0.1**
GZR				S	**Sb**	**21 08 06.0**	**+0.4**
GZR	**Gura Zlata**	**1.11**	**40**	⇑*i*P	**Pb**	**21 07 51.0**	**-0.2**
GZR				S	**Sb**	**21 08 06.0**	**+0.4**
DIVS	**Divcibare**	**1.35**	**251**	*i* Pg	**Pn**	**21 07 53.8**	**-1.0**
DIVS				Sg	**Sg**	**21 08 12.8**	**-0.7**
FGSL	**Fruska Gora**	**1.52**	**294**	Pg	**Pg**	**21 07 58.8**	**-0.3**
FGSL				Sg	**Sg**	**21 08 19.5**	**+0.7**
BBLS	**Bajina Basta -**	**1.83**	**249**	*i* Pn	**Pn**	**21 08 01.8**	**+0.5**
DRGR		**2.34**	**16**	⇑*i*P	**Pn**	**21 08 08.4**	**0.0**
DRGR				*i* S	**Sn**	**21 08 36.1**	**-1.0**
DRGR		**2.34**	**16**	⇓P	**Pn**	**21 08 08.3**	**0.0**
DRGR				S	**Sn**	**21 08 38.5**	**+1.5**
DRGR		**2.34**	**16**	⇓P	**Pn**	**21 08 08.3**	**-0.1**
DRGR				*i* S	**Sn**	**21 08 36.1**	**-1.0**
VOIR		**2.49**	**68**	⇑*i*P	**Pn**	**21 08 13.0**	**+2.5**
VOIR				*i* S	**Sn**	**21 08 43.9**	**+3.0**
VOIR		**2.49**	**68**	⇓P	**Pn**	**21 08 10.1**	**-0.4**
VOIR				S	**Sn**	**21 08 43.3**	**+2.4**
VOIR		**2.49**	**68**	⇓P	**Pn**	**21 08 10.1**	**-0.4**
VOIR				S	**Sn**	**21 08 43.3**	**+2.4**
PKSM	**Moragy**	**2.76**	**308**	⇓*i*P	**Pn**	**21 08 13.9**	**-0.2**
PKSM				*i* S	**Sn**	**21 08 46.2**	**-1.3**
PKSM	**Moragy**	**2.76**	**308**	⇓P	**Pn**	**21 08 14.1**	**0.0**
MLR	**Muntele Rosu**	**3.11**	**71**	⇑P	**Pn**	**21 08 18.3**	**-0.7**
MLR	**Muntele Rosu**	**3.11**	**71**	⇑P	**Pn**	**21 08 18.3**	**-0.7**
BURAR	**Bucovina Array**	**3.89**	**37**	⇑P	**Pn**	**21 08 31.1**	**+1.3**
BURAR	**Bucovina Array**	**3.89**	**37**	⇑P	**Pn**	**21 08 31.1**	**+1.3**

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*IDC **02** 21:43:09.6±1.6, 2048S×6860W, h99^{km}±15^{km}, mb3.8/10, mb1 3.9/13, mb1mx3.8/19, mbtmp4.2/13, Error ellipse: s-maj=22.4km s-min=12.4km az=125.0*
*ISCJB **02** 21:43:10.2±0.7, 2054S±004×6848W±007, h121^{km}±7^{km}, mb3.9/9, Error ellipse: s-maj=11.0km s-min=7.0km az=24.5*
*NEIC **02** 21:43:11.6±0.8, 2062S×6850W, h116^{km}±11^{km}, mb3.9/3, Error ellipse: s-maj=13.5km s-min=8.7km az=80.0*
ISC 02 21:43:11.4±0.6**, 2055S**±004×**6852W**±007**, h115**^{km}±7^{km}**, n30,** σ**1**^{s}**14**/31**, mb3.9**/9**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.09**	**190**	P	**Pn**	**21 43 45.1**	**-0.5**
	39nm,0.3s,baz=25,slow=11,SNR=259						
LVC				S	**Sn**	**21 44 11.2**	**-0.7**
	68nm,0.3s,baz=125,slow=19,SNR=10						
LVC	**Limon Verde**	**2.09**	**190**	*e*Pn	**Pn**	**21 43 45.1**	**-0.5**
LVC				*e*Sn	**Sn**	**21 44 14.3**	**+2.5**
LPAZ	**La Paz**	**4.25**	**5**	P	**Pn**	**21 44 16.9**	**+2.7**
	11nm,0.3s,baz=176,slow=7.9,SNR=210						
LPAZ	**La Paz**	**4.25**	**5**	*e*Pn	**Pn**	**21 44 16.8**	**+2.7**
LPAZ				*e*Sn	**Sn**	**21 45 01.5**	**-1.3**
SIV	**San Ignacio**	**8.40**	**59**	P	**Pn**	**21 45 09.5**	**-0.7**
	10nm,0.3s,baz=250,slow=11,SNR=150						
SIV				S	**Sn**	**21 46 43.3**	**0.0**
	0.4nm,0.3s,baz=288,slow=19,SNR=3.2						
CFAA	**Coronel Fontan**	**11.01**	**179**	P	**Pn**	**21 45 43.2**	**-2.3**
	0.1nm,0.3s,baz=354,slow=11,SNR=6.4						
CFAA				S	**Sn**	**21 47 35.1**	**-12**
	0.0nm,0.3s,baz=214,slow=18,SNR=2.0						
NNA	**Nana**	**11.67**	**316**	*e*Pn	**Pn**	**21 45 56.2**	**+1.9**
CPUP	**Villa Florida**	**11.77**	**121**	P	**Pn**	**21 45 55.9**	**+0.4**
	2.0nm,0.3s,baz=291,slow=12,SNR=23						
CPUP	**Villa Florida**	**11.77**	**121**	*e*Pn	**Pn**	**21 45 56.0**	**+0.5**
	35nm,0.8s						
TRQA	**Tornquist**	**18.34**	**163**	*e*P	**P**	**21 47 17.2**	**+0.4**
	3.3nm,0.3s						
BDFB	**Brasilia**	**20.08**	**79**	P	**P**	**21 47 36.5**	**+0.8**
	3.5nm,0.5s,baz=258,slow=11,SNR=8.2						
PLCA	**Paso Flores**	**20.20**	**184**	P	**P**	**21 47 36.3**	**-0.6**
	4.2nm,0.8s,baz=20,slow=15,SNR=7.0						
PLCA	**Paso Flores**	**20.20**	**184**	*e*P	**P**	**21 47 37.4**	**+0.4**
	3.8nm,0.7s						
OTAV	**Otavalo**	**22.83**	**334**	*e*P	**P**	**21 48 07.6**	**+3.0**
SDV	**Santo Domingo**	**29.32**	**356**	P	**P**	**21 49 02.8**	**-0.2**
	1.9nm,0.4s,mb4.1,baz=207,slow=11,SNR=2.4						
SDV	**Santo Domingo**	**29.32**	**356**	*e*P	**P**	**21 49 04.6**	**+1.5**
TEIG	**Tepich**	**44.90**	**333**	*e*P	**P**	**21 51 13.4**	**-1.0**
DBIC	**Dimbokro**	**68.11**	**74**	P	**P**	**21 53 59.8**	**+0.9**
	3.0nm,0.9s,mb4.1,baz=329,slow=22,SNR=3.7						
PDAR	**Pinedale Array**	**73.47**	**330**	P	**P**	**21 54 30.9**	**-0.4**
	0.4nm,0.6s,mb3.4,baz=131,slow=8.1,SNR=3.7						
ULM	**Lac du Bonnet**	**74.53**	**342**	P	**P**	**21 54 36.4**	**-1.1**
	1.8nm,0.5s,mb4.1,baz=119,slow=13,SNR=3.9						
SCHQ	**Schefferville**	**75.08**	**1**	P	**P**	**21 54 39.2**	**-1.4**
	2.2nm,0.8s,mb4.0,baz=254,slow=7.4,SNR=3.9						
GCMT	**Greycliff**	**75.85**	**332**	*e*P	**P**	**21 54 45.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**76.69**	**70**	P	**P**	**21 54 50.2**	**+0.5**
	1.3nm,0.4s,mb4.0,baz=253,slow=5.3,SNR=53						
TORD				pP	pP	21 55 19.0	+0.3
	2.9nm,0.8s,baz=252,slow=5.4,SNR=6.5						
VNDA	**Vanda**	**77.85**	**190**	P	**P**	**21 54 57.2**	**+1.0**
	0.8nm,0.9s,mb3.5,baz=120,slow=1.8,SNR=4.6						
BMO	**Blue Mountains**	**78.82**	**327**	*e*P	**P**	**21 55 01.1**	**-0.5**
	1.1nm,0.8s,mb3.7						
YKA	**Yellowknife Ar**	**90.42**	**340**	P	**P**	**21 55 59.0**	**-0.8**
	1.4nm,0.5s,mb4.4,baz=129,slow=4.7,SNR=11						
ASAR	**Alice Springs**	**130.92**	**208**	PKP	PKPdf	22 02 09.5	+0.2
	0.2nm,0.4s,baz=125,slow=1.5,SNR=4.5						
WRA	**Warramunga Arr**	**133.96**	**211**	PKP	PKPdf	22 02 15.5	+0.5
	0.5nm,0.5s,baz=157,slow=1.8,SNR=11						
MKAR	**Makanchi Array**	**144.65**	**35**	PKP	PKPdf	22 02 34.1	-0.3
	2.5nm,0.8s,baz=325,slow=2.7,SNR=40						
MKAR				pPKP	pPKPdf	22 03 04.5	-1.0
	0.6nm,0.6s,baz=282,slow=2.2,SNR=2.5						
SONM	**Songino Array**	**152.47**	**7**	PKP	PKPdf	22 02 48.0	+0.9
	0.6nm,0.7s,baz=296,slow=1.7,SNR=5.3						
SONM				PKPbc	PKPbc	22 02 54.3	+0.2
	1.3nm,0.6s,baz=326,slow=1.8,SNR=10						
SONM				PKPab	PKPab	22 03 04.9	+0.1
	0.4nm,0.6s,baz=328,slow=3.8,SNR=3.6						

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*ISCJB **02** 22:03:22.2±4.1, 155S±0.1×1683E±02, h65^{km}±33^{km}, mb4.1/9, Error ellipse: s-maj=36.9km s-min=22.6km az=150.6*
*NEIC **02** 22:03:23.9±2.6, 1553S×16833E, h65^{km}±19^{km}, mb4.3/4, Error ellipse: s-maj=23.5km s-min=16.0km az=56.0*
*IDC **02** 22:03:24.8±7.1, 1554S×16836E, h76^{km}±69^{km}, mb3.9/7, mb1 4.1/8, mb1mx3.9/15, mbtmp4.2/8, ML3.8/1, MS2.9/1, Ms1 2.9/1, ms1mx2.7/15, Error ellipse: s-maj=60.8km s-min=43.8km az=131.0*
ISC 02 22:03:23.4±3.6**, 154S**±01×**1684E**±02**, h63**^{km}±27^{km}**, n19,** σ**0**^{s}**76**/19**, mb4.2**/9**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.86**	**195**	P	**Pn**	**22 05 00.2**	**-1.0**
	1.8nm,0.3s,baz=54,slow=18,SNR=18						
DZM				S	**Sn**	**22 06 19.1**	**+1.3**
	baz=322,slow=19,SNR=1.9						
HNR	**Honiara**	**10.16**	**305**	LR	LR	22 08 22.7	
	comp=Z,63nm,18.8s,baz=179,slow=29						
PMG	**Port Moresby**	**21.56**	**284**	*e*P	**P**	**22 08 07.5**	**0.0**
	13nm,0.9s,mb4.4						
CTA	**Charters Tower**	**21.57**	**254**	P	**P**	**22 08 08.9**	**+1.3**
	3.4nm,0.8s,mb3.8,baz=82,slow=12,SNR=7.9						
CTAO	**Charters Tower**	**21.57**	**254**	*e*P	**P**	**22 08 08.3**	**+0.7**
	4.5nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**29.38**	**231**	P	**P**	**22 09 19.7**	**-0.7**
	0.9nm,0.5s,mb3.8,baz=40,slow=7.9,SNR=5.2						
WB2	**Warramunga Arr**	**32.70**	**257**	*e*P	**P**	**22 09 49.1**	**-0.5**
WRAB	**Tennant Creek**	**32.70**	**257**	*e*P	**P**	**22 09 48.9**	**-0.7**
	3.5nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**32.71**	**257**	P	**P**	**22 09 48.9**	**-0.8**
	4.4nm,0.9s,mb4.4,baz=90,slow=8.9,SNR=22						
TAU	**Tasmania Unive**	**32.80**	**209**	P	**P**	**22 09 50.4**	**-0.1**
AS31	**Alice Springs**	**33.44**	**250**	*e*P	**P**	**22 09 55.8**	**-0.3**
ASAR	**Alice Springs**	**33.44**	**250**	P	**P**	**22 09 56.1**	**0.0**
	7.5nm,0.8s,mb4.7,baz=79,slow=9.1,SNR=79						
FITZ	**Fitzroy Crossi**	**40.95**	**260**	*e*P	**P**	**22 10 59.9**	**+0.2**
	12nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**40.95**	**260**	P	**P**	**22 11 00.2**	**+0.5**
	5.5nm,0.7s,mb4.3,baz=97,slow=9.9,SNR=15						
MBWA	**Marble Bar**	**46.40**	**255**	P	**P**	**22 11 44.4**	**+0.9**
NWAO	**Narrogin (SRO)**	**49.32**	**240**	P	**P**	**22 12 05.5**	**-0.5**
CASY	**Casey**	**63.29**	**203**	P	**P**	**22 13 44.9**	**-0.6**
SONM	**Songino Array**	**83.69**	**323**	P	**P**	**22 15 45.5**	**+0.3**
	0.3nm,0.5s,mb3.6,baz=139,slow=4.9,SNR=3.5						
MKAR	**Makanchi Array**	**98.45**	**316**	P	**P**	**22 16 56.1**	**+1.5**
	0.4nm,0.8s,mb4.0,baz=90,slow=7.2,SNR=4.8						

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*IDC **02** 22:16:02.4±71.0, 1704S×17834W, h0^{km}, mb3.9/3, mb1 4.1/3, mb1mx3.8/12, mbtmp3.9/3, Error ellipse: s-maj=1308.0km s-min=162.9km az=78.0*
*ISCJB **02** 22:16:06.5±1.3, 169S±03×1786W±02, h33^{km}, mb3.9/4, Error ellipse: s-maj=47.3km s-min=25.3km az=133.8*
*NEIC **02** 22:16:56.8±1.1, 1677S×17961W, h500^{km}, mb3.7/1, Error ellipse: s-maj=40.8km s-min=22.1km az=157.0*
ISC 02 22:16:07.9±1.3**, 170S**±03×**1784W**±02**, h35**^{km}**, n9,** σ**0**^{s}**46**/9**, mb3.9**/4**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**33.61**	**259**	P	**P**	**22 22 45.0**	**+0.2**
STKA	**Stephens Creek**	**39.08**	**240**	P	**P**	**22 23 32.1**	**+0.5**
	1.2nm,0.5s,mb3.9,baz=79,slow=7.4,SNR=5.5						
WB2	**Warramunga Arr**	**44.79**	**259**	P	**P**	**22 24 17.8**	**-0.4**
WRAB	**Tennant Creek**	**44.79**	**259**	*e*P	**P**	**22 24 17.2**	**-1.0**
	1.6nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**44.80**	**259**	P	**P**	**22 24 18.1**	**-0.1**
	0.2nm,0.3s,mb3.4,baz=96,slow=8.2,SNR=9.9						
ASAR	**Alice Springs**	**45.05**	**253**	P	**P**	**22 24 20.6**	**+0.5**
	1.9nm,0.5s,mb4.2,baz=88,slow=8.0,SNR=22						
MBWA	**Marble Bar**	**58.30**	**255**	*e*P	**P**	**22 25 59.6**	**+0.4**
DLBC	**Dease Lake**	**84.99**	**23**	*e*P	**P**	**22 28 39.7**	**+0.2**
SNAA	**Sanae**	**91.52**	**179**	P	**P**	**22 29 10.5**	**-0.3**

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*ISCJB **02** 22:39:54.4±0.4, 4438N±002×709E±005, h19^{km}±7^{km}, Error ellipse: s-maj=6.3km s-min=3.1km az=131.9*
*STR **02** 22:39:54.4±0.1, 4439N×709E, h5^{km}±1^{km}, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **02** 22:39:54.5±0.1, 4439N×707E, h2^{km}, Md2.0/3, Ml1.7/8, Error ellipse: s-maj=1.5km s-min=0.7km az=64.0*

ISC 02 22:39:54.1±0.4**, 4438N**±002×**706E**±004**, h16**^{km}±4^{km}**, n15, σ0^{s}39**/29**, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	Saint Ours	0.20	300	Pg	Pg	22 39 58.8	0.0
SURF				Sg	Sg	22 40 02.5	+0.5
TOUF	Mont Tournerai	0.39	160	Pg	Pg	22 40 02.2	+0.1
MBDF	Montbardon	0.40	329	ePg	Pg	22 40 02.2	-0.1
MBDF				eSg	Sg	22 40 08.0	+0.2
	4.5nm,0.2s						
OG22	Abries	0.45	350	Pg	Pg	22 40 03.0	-0.1
OG22				Sg	Sg	22 40 09.0	-0.2
AUTN	L'Aution	0.47	145	Pg	Pg	22 40 03.6	+0.1
AUTN				Sg	Sg	22 40 09.9	+0.1
LUCF	Luceram	0.53	157	Pg	Pg	22 40 04.8	+0.2
LUCF				Sg	Sg	22 40 11.9	+0.2
SBF	Sospel	0.58	152	ePg	Pg	22 40 05.6	0.0
SBF				eSg	Sg	22 40 13.1	-0.3
	4.6nm,0.3s						
FRF	La Foret Royal	0.87	200	ePg	Pg	22 40 11.1	+0.1
FRF				eSg	Sg	22 40 22.3	-0.2
	9.0nm,0.2s						
ORIF	Oris-en-Rattie	1.00	303	ePg	Pg	22 40 13.2	-0.2
ORIF				eSg	Sg	22 40 26.0	-0.5
	1.4nm,0.2s						
LMR	La Mourre	1.12	201	ePg	Pg	22 40 15.2	-0.5
LMR				eSg	Sg	22 40 29.9	-0.4
	4.6nm,0.2s						
LPG	La Plagne	1.14	349	ePg	Pg	22 40 16.0	-0.1
LPG				eSg	Sg	22 40 31.0	0.0
	0.9nm,0.2s						
SMRF	Simiane la Rot	1.14	250	ePg	Pg	22 40 17.4	+1.2
SMRF				eSg	Sg	22 40 30.8	-0.3
	1.0nm,0.3s						
LPL	La Plagne	1.16	349	ePg	Pg	22 40 16.3	-0.2
LPL				eSg	Sg	22 40 31.5	-0.1
	0.7nm,0.3s						
VIVF	Saint-Julien-l	1.77	286	ePn	Pn	22 40 25.0	+0.9
VIVF				eSn	Sn	22 40 46.1	-0.2
	0.6nm,0.3s						
PGF	Pioggiola	2.31	142	ePn	Pn	22 40 32.1	+0.5
PGF				eSn	Sn	22 40 59.2	-0.5
	0.3nm,0.2s						

CASC 02 23:05:45.9±3.1**, 1300N**×**8923W, h27**^{km}±14^{km}**, MD3.5, 6C-6D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LFRS	El Faro	0.64	15	⇓iP	x	23 06 34.3	
LFRS				eS	x	23 06 43.5	
SNET	Serv Nac Est T	0.68	360	eP	x	23 05 59.3	
SNET				eS	x	23 06 09.4	
LCBS	La Ceiba	0.70	20	⇓eP	x	23 06 34.3	
LCBS				eS	x	23 06 44.3	
BOQS	Boqueron	0.73	356	⇑eP	x	23 06 36.0	
BOQS				eS	x	23 06 46.9	
LFU	La Fuente	0.75	9	⇓eP	x	23 06 34.9	
LFU				eS	x	23 06 45.4	
LBRS	Las Brisas	0.76	14	⇓eP	x	23 06 34.9	
LBRS				eS	x	23 06 45.7	
SBLS	San Blas	0.92	335	eP	x	23 06 37.6	
SBLS				eS	x	23 06 50.6	
SNJE	San Jose	0.94	337	⇑eP	x	23 06 37.6	
SNJE				eS	x	23 06 51.6	
RTR	El Retiro	0.98	336	⇓eP	x	23 06 38.5	
RTR				eS	x	23 06 52.4	
VSM	San Miguel	1.02	65	⇑eP	x	23 06 39.5	
VSM				eS	x	23 06 54.4	
BLLM	Bellamira	1.06	65	⇑eP	x	23 06 39.7	
BLLM				eS	x	23 06 56.6	
RBDL	Robledal	1.19	338	⇑iP	x	23 06 40.6	
RBDL				eS	x	23 06 55.3	
CNCH	Conchagua	1.39	78	⇓eP	x	23 06 44.3	
CNCH				eS	x	23 07 02.5	
IXG	Ixpaco	1.67	315	⇑eP	Pn	23 06 12.9	-0.5
TP2	Tecpan 2	2.48	316	eP	Pn	23 06 25.5	+0.9
TP2				eS	Sn	23 06 57.9	+3.9

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*IDC **02** 23:09:42.7±1.0, 3863N×7044E, h0^{km}, mb3.6/8, mb1 3.7/11, mb1mx3.6/23, mbtmp3.6/11, ML3.7/3, MS3.0/3, Ms1 3.0/3, ms1mx2.6/38, Error ellipse: s-maj=17.4km s-min=16.1km az=23.0*

*MOS **02** 23:09:45.8±1.1, 3885N×7035E, h33^{km}, mb4.2/2, Error ellipse: s-maj=14.8km s-min=8.5km az=87.4*

*NNC **02** 23:09:46.9±3.0, 3902N×7003E, h12^{km}±15^{km}, mb4.1, mpv4.1, Error ellipse: s-maj=22.2km s-min=15.9km az=130.0*

*NEIC **02** 23:09:47.9±0.4, 3884N×7040E, h35^{km}, mb3.7/4, Error ellipse: s-maj=8.2km s-min=6.9km az=219.0*

*ISCJB **02** 23:09:49.0±1.3, 3897N±006×7029E±007, h62^{km}±11^{km}, mb3.6/10, Error ellipse: s-maj=12.4km s-min=7.0km az=75.1*

ISC 02 23:09:51.4±1.2**, 3907N**±007×**7023E**±006**, h67**^{km}±10^{km}**, n54, σ1^{s}43**/65**, mb3.5**/10**, 9C-5D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	4.04	3	⇑Pn	Pn	23 10 52.6	+2.0
	7.3nm,0.4s,baz=171,slow=12,SNR=249						
KK31				⇑Sn	Sn	23 11 44.8	+8.1
	17nm,0.4s,baz=180,slow=28,SNR=5.9						
KK31				⇑Lg		23 11 58.2	
	103nm,0.8s,baz=194,slow=30,SNR=4.4						
EKS2	Erkin-Say	4.48	36	P	Pn	23 10 57.8	+1.0
	SNR=29						
UCH	Uchtor	4.54	45	P	Pn	23 10 57.5	0.0
	SNR=121						
AAK	Ala-Archa	4.81	41	P	Pn	23 11 03.4	+2.1
	SNR=11						
AAK	Ala-Archa	4.81	41	ePn	Pn	23 10 60.0	-1.3
AAK				eSn	Sn	23 11 58.7	+3.1
KZA	Kyzart	4.86	50	P	Pn	23 11 01.9	0.0
	SNR=94						
KBK	Karagaybulak	5.06	43	P	Pn	23 11 05.1	+0.4
	SNR=105						
CHMS	Chumysh	5.21	40	P	Pn	23 11 08.8	+2.1
	SNR=27						
USP	Ospenovka	5.29	36	P	Pn	23 11 07.8	0.0
	SNR=59						
ULHL	Ulahol	5.56	53	P	Pn	23 11 10.6	-1.0
	SNR=8.6						
TKM2	Tokmak 2	5.59	45	P	Pn	23 11 14.1	+2.1
	SNR=118						
KNDC	Almaty	6.56	49	⇑Pn	Pn	23 11 25.4	+0.2
	26nm,0.6s						
KNDC				⇑Lg		23 13 12.2	
	55nm,0.8s						
MK02	Makanchi Array	11.72	45	⇓P	Pn	23 12 34.3	-1.4
	2.7nm,0.9s,baz=227,slow=14						
MKAR	Makanchi Array	11.73	45	Pn	Pn	23 12 34.6	-1.2
	0.2nm,0.3s,baz=228,slow=13,SNR=17						
AB31	Akbulak array	12.57	327	⇓Pn	Pn	23 12 44.6	-2.6
	6.7nm,0.5s,baz=141,slow=14,SNR=177						
AB31				⇓Sn	Sn	23 15 04.0	-1.4
	8.1nm,0.7s,baz=152,slow=22,SNR=7.4						
KURK	Kurchatov	13.06	24	ePn	Pn	23 12 51.9	-2.1
KURK				eSn	Sn	23 15 16.3	-1.2
VOSK	Vostochnaya	13.67	2	⇓P	Pn	23 13 01.1	-1.0
	1.3nm,0.6s						
VOSK				⇑S	Sn	23 15 28.0	-4.1
	4.2nm,1.0s						
ZRNK	Zerenda	13.91	357	⇑P	Pn	23 13 07.3	+2.0
	3.3nm,1.2s						
ZRNK				⇑S	Sn	23 15 35.6	-2.5
	1.9nm,0.7s						
ZRNK	Zerenda	13.91	357	eP	Pn	23 13 05.8	+0.5
ZRNK				e		23 15 39.3	
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZRNK	Zerenda	13.91	357	ePn	Pn	23 13 05.8	+0.6
	comp=Z,2.3nm,0.4s						
ZRNK				eSn	Sn	23 15 39.3	+1.2
BVAR	Borovoye Array	13.96	0	Pn	Pn	23 13 04.6	-1.3
	comp=Z,0.3nm,0.3s,baz=167,slow=11,SNR=6.7						
BVAR				Sn	Sn	23 15 37.5	-1.8
	comp=Z,0.2nm,0.3s,baz=158,slow=20,SNR=2.9						
BVAR				LR	LR	23 18 20.3	
	comp=Z,30nm,19.0s,baz=143,slow=36						
BVAR	Borovoye Array	13.96	0	P	Pn	23 13 04.6	-1.3
BVAR						23 15 37.5	
BRVK	Borovoye	13.99	0	eP	Pn	23 13 06.6	+0.2
AKTK	Aktyubinsk	14.28	327	Pn	Pn	23 13 10.2	+0.2
AKTK				Sn	Sn	23 15 47.0	+0.1
AKTO	Aktyubinsk	14.28	327	⇑Pn	Pn	23 13 10.3	+0.2
	comp=Z,0.3nm,0.9s						
AKTO				⇓Sn	Sn	23 15 46.4	-0.6
	comp=Z,0.1nm,0.7s						
AKTO	Aktyubinsk	14.28	327	Pn	Pn	23 13 10.2	+0.2
	comp=Z,0.8nm,0.3s,baz=136,slow=13,SNR=15						
AKTO				Sn	Sn	23 15 47.0	+0.1
	comp=Z,0.2nm,0.3s,baz=130,slow=19,SNR=5.6						
KOLN	Koldanda	15.84	131	eP	Pn	23 13 20.7	-10
GKN	Gorkha	16.29	128	eP	Pn	23 13 28.6	-7.2
KKN	Kakani	16.84	127	eP	Pn	23 13 34.6	-8.1
	comp=Z,19nm,0.6s						
DMN	Daman	16.86	128	eP	Pn	23 13 33.6	-9.3
GUN	Gumba	17.13	126	eP	Pn	23 13 39.0	-7.2
	comp=Z,13nm,0.4s						
JIRN	Jiri	17.50	126	eP	Pn	23 13 41.8	-9.0
	comp=Z,22nm,0.5s						
ARU	Arti	19.01	340	eP	Pn	23 14 07.9	-1.2
ARU				eS	S	23 17 38.4	-1.6
ARU	Arti	19.01	340	eP	Pn	23 14 08.3	-0.8
	comp=Z,6.2nm,1.1s						
LSA	Lhasa	19.60	112	eP	Pn	23 14 10.5	-5.5
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LSA	Lhasa	19.60	112	eP	Pn	23 14 10.5	-5.5
	comp=Z,3.3nm,0.8s						
MALT	Malatya	24.77	278	P	P	23 15 07.1	+0.3
SONM	Songino Array	27.47	60	P	P	23 15 31.0	-0.2
	comp=Z,0.2nm,0.5s,mb2.9,baz=270,slow=8.6,SNR=2.8						
SONM				LR	LR	23 27 29.3	
	comp=Z,60nm,19.3s,baz=329,slow=39						
ULN	Ulaanbaatar	27.91	60	eP	P	23 15 34.6	-0.5
	comp=Z,0.5nm,0.4s,mb3.4						
FINES	FINESS Array B	35.03	324	P	P	23 16 40.0	+2.4
	comp=Z,1.0nm,0.7s,mb3.8,baz=107,slow=10,SNR=5.3						
HIA	Hailar	36.35	57	P	P	23 16 48.9	0.0
ARCES	ARCESS Array B	38.55	337	P	P	23 17 08.6	+1.2
	comp=Z,0.7nm,0.7s,mb3.6,baz=103,slow=8.8,SNR=4.7						
HFS	Hagfors	40.69	320	P	P	23 17 27.9	+2.7
	comp=Z,0.9nm,0.5s,mb3.9,baz=98,slow=11,SNR=10						
GERES	GERESS Array B	40.99	303	LR	LR	23 38 18.9	
	comp=Z,19nm,18.9s,baz=109,slow=42						
NB2	NORSAR Subarra	41.98	321	P	P	23 17 39.1	+3.3
	comp=Z,0.3nm,0.5s,mb3.3,baz=98,slow=8.6						
NOA	NORSAR Array B	41.98	321	P	P	23 17 37.9	+2.0
	comp=Z,0.4nm,0.6s,mb3.3,baz=95,slow=8.3,SNR=4.2						
YAK	Yakutsk	42.26	37	P	P	23 17 39.3	+1.2
ESDC	Sonseca Array	55.75	296	P	P	23 19 23.5	+2.3
	comp=Z,0.1nm,0.4s,mb3.2,baz=59,slow=7.1,SNR=3.9						
TORD	Torodi Ar. Bea	65.21	267	P	P	23 20 27.9	+2.2
	comp=Z,0.3nm,0.5s,mb3.4,baz=49,slow=5.9,SNR=6.6						
MBWA	Marble Bar	75.72	133	P	P	23 21 27.7	-2.0
WRA	Warramunga Arr	83.86	122	P	P	23 22 12.6	-1.1
	comp=Z,0.5nm,0.5s,mb3.6,baz=318,slow=5.0,SNR=5.3						
WRAB	Tennant Creek	83.86	122	eP	P	23 22 12.7	-1.0
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
WRAB	Tennant Creek	83.86	122	eP	P	23 22 12.7	-1.0
	comp=Z,1.1nm,0.5s,mb3.9						
WB2	Warramunga Arr	83.87	122	eP	P	23 22 12.6	-1.2

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*IDC **02** 23:19:44.8±0.6, 503N×9592E, h0^{km}, mb4.2/20, mb1 4.2/21, mb1mx4.2/25, mbtmp4.2/21, ML3.7/1, MS3.9/13, Ms1 3.9/13, ms1mx3.6/38, Error ellipse: s-maj=25.4km s-min=15.3km az=49.0*

*ISCJB **02** 23:19:48.1±0.3, 500N±005×9600E±005, h33^{km}, mb4.3/35, MS4.0/15, Error ellipse: s-maj=8.9km s-min=5.7km az=96.3*

*BJI **02** 23:19:50.0, 510N×9600E, h34^{km}, mB4.8, mb4.7, Ms4.3, Msz4.0*

*NEIC **02** 23:19:50.1±0.3, 506N×9605E, mb4.3/6, Error ellipse: s-maj=9.6km s-min=5.7km az=223.0*

NEIC Felt [II] at Banda Aceh and Sigli.

ISC 02 23:19:50.5±0.3**, 499N**±004×**9598E**±004**, h35**^{km}**, h35**^{km}±2.8^{km}**:pP-P, n68, σ1^{s}16**/65**, mb4.3**/35**, MS4.0**/15**, 1C-2D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	3.65	126	Pn	Pn	23 20 45.5	+1.0
	6.2nm,0.3s,baz=294,slow=9.4,SNR=16						
KULM	Kulim	4.66	86	ePn	Pn	23 20 57.9	-0.4
KULM				eSn	Sn	23 21 47.7	-3.4
KSM	Kuching	14.72	103	Pn	Pn	23 23 15.8	-0.3
COCO	West Island	17.09	177	Pn	Pn	23 23 47.1	+0.6
QIZ	Qiongzhong	19.43	43	eP	Pn	23 24 13.0	-2.1
QIZ				XP	sP	23 24 25.1	-2.2
QIZ				S	Sn	23 27 53.9	+1.9
QIZ				AMB	AMB		
	comp=Z,16nm,1.9s						
QIZ				LR	LR		
	comp=N,659nm,20.1s						
QIZ				LR	LR		
	comp=E,677nm,18.9s						
QIZ	Qiongzhong	19.43	43	eP	Pn	23 24 11.2	-3.9
KKM	Kota Kinabalu	20.16	86	eP	P	23 24 20.2	-1.6
KMI	Kunming	21.04	17	P	P	23 24 35.4	+4.1
KMI				AP		23 24 43.6	
KMI				XP	sP	23 24 46.7	+1.9
KMI				PP		23 24 58.6	
KMI				S	S	23 28 23.0	-0.6
KMI				XS	sS	23 28 35.9	-2.4
KMI				SS		23 28 56.1	
KMI				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.2						
KMI				AMB	AMB		
	comp=Z,154nm,3.8s						
KMI				LR	LR		
	comp=N,310nm,9.5s						
KMI				LR	LR		
	comp=E,286nm,12.4s						
KMI				LR	LR		
	comp=Z,219nm,19.0s						
LSA	Lhasa	25.00	350	P	P	23 25 11.8	+0.9
LSA	Lhasa	25.00	350	eP	P	23 25 12.7	+1.7
	comp=Z,9.2nm,0.7s,mb4.4						
CD2	Chengdu	26.80	15	P	P	23 25 29.4	+2.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
ENH	Enshi	28.19	25	P	P	23 25 38.6	-1.1
NACB	Ninganchiao	31.16	50	P	P	23 26 05.3	-0.8
XAN	Xi'an	31.30	21	P	P	23 26 08.8	+1.5
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.4						
LZH	Lanzhou	31.78	12	eP	P	23 26 12.5	+1.0
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GTA	Gaotai	34.44	5	eP	P	23 26 36.2	+1.5
GTA				AP	pP	23 26 41.5	-3.2
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
MBWA	Marble Bar	34.90	139	eP	P	23 26 40.0	+1.4
FITZ	Fitzroy Crossi	37.18	129	eP	P	23 26 57.1	-1.0
	comp=Z,6.3nm,0.9s,mb4.5						
HHC	Hu-ho-hao-te	38.34	19	eP	P	23 27 09.4	+1.4
HHC				AP	pP	23 27 20.0	+1.9
HHC				XP	sP	23 27 23.5	+1.2
HHC				PP	PP	23 28 41.4	+5.4
HHC				PCP	PcP	23 29 21.9	+0.7
HHC				S	S	23 33 01.3	+1.2
HHC				PCS	PcS	23 33 11.4	+1.0
HHC				SS	SS	23 35 43.6	-5.8
HHC				SCS	ScS	23 37 15.8	-0.6
HHC				AMB	AMB		
	comp=Z,12nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,75nm,4.5s						
HHC				LR	LR		
	comp=N,202nm,19.6s,MS4.3						
HHC				LR	LR		
	comp=E,464nm,19.6s,MS4.3						
HHC				LR	LR		
	comp=Z,176nm,18.4s,MS3.9						
BJI	Beijing	39.35	25	eP	P	23 27 20.3	+3.8
BJI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
BJI				LR	LR		
	comp=N,191nm,15.4s,MS4.1						
BJI				LR	LR		
	comp=E,155nm,20.2s,MS4.1						
BJI				LR	LR		
	comp=Z,77nm,21.5s,MS3.5						
WMQ	Urumqi	39.36	351	P	P	23 27 17.4	+0.9
WSAR	Wadi Sarin	40.33	300	P	P	23 27 27.4	+2.8
	comp=Z,6.8nm,0.6s,mb4.5,baz=118,slow=6.6,SNR=10						
NWAO	Narrogin (SRO)	42.76	153	eP	P	23 27 45.3	+0.8
MKAR	Makanchi Array	43.29	346	P	P	23 27 48.4	-0.4
	comp=Z,2.6nm,0.8s,mb4.0,baz=161,slow=7.7,SNR=30						
SONM	Songino Array	43.61	10	P	P	23 27 52.3	+1.0
	comp=Z,2.7nm,0.7s,mb4.1,baz=189,slow=9.0,SNR=28						
SONM				LR	LR	23 47 42.3	
	comp=Z,167nm,19.2s,MS4.0,baz=188,slow=38						
ULN	Ulaanbaatar	43.76	11	eP	P	23 27 51.6	-0.9
	comp=Z,2.4nm,0.9s,mb3.9						
ULN				epP	pP	23 28 01.7	-1.0
WRA	Warramunga Arr	45.12	125	P	P	23 28 03.3	-0.1
	comp=Z,3.4nm,0.8s,mb4.3,baz=302,slow=9.2,SNR=13						
WRA				LR	LR	23 48 41.8	
	comp=Z,145nm,20.0s,MS3.9,baz=300,slow=38						
WRAB	Tennant Creek	45.12	125	eP	P	23 28 03.9	+0.5
WRAB				epP	pP	23 28 14.0	+0.4
WB2	Warramunga Arr	45.13	125	eP	P	23 28 03.3	-0.1
WB2				epP	pP	23 28 13.9	+0.2
ASPA	Alice Springs	46.68	129	eP	P	23 28 15.9	+0.2
AS31	Alice Springs	46.68	129	eP	P	23 28 15.9	+0.2
ASAR	Alice Springs	46.68	129	P	P	23 28 15.5	-0.2
	comp=Z,3.3nm,0.5s,mb4.5,baz=301,slow=7.9,SNR=38						
ASAR				LR	LR	23 48 29.4	
	comp=Z,163nm,19.4s,MS4.0,baz=318,slow=37						
MJAR	Matsushiro Arr	49.81	45	LR	LR	23 51 32.3	
	comp=Z,116nm,19.0s,MS3.9,baz=235,slow=38						
BVAR	Borovoye Array	52.29	341	P	P	23 28 57.5	-1.0
	comp=Z,1.3nm,0.7s,mb4.0,baz=139,slow=9.5,SNR=14						
BVAR				LR	LR	23 55 02.2	
	comp=Z,109nm,19.0s,MS3.9,baz=156,slow=40						
BRVK	Borovoye	52.36	341	eP	P	23 28 58.0	-1.0
	comp=Z,0.7nm,0.5s,mb3.9						
ZRNK	Zerenda	52.70	340	eP	P	23 29 00.6	-0.9
CTAO	Charters Tower	55.32	118	P	P	23 29 21.4	+0.8
	comp=Z,0.6nm,0.3s,mb4.1						
AKTK	Aktyubinsk	55.34	331	P	P	23 29 19.4	-1.4
AKTO	Aktyubinsk	55.34	331	P	P	23 29 19.4	-1.4
	comp=Z,1.7nm,0.7s,mb4.2,baz=124,slow=9.6,SNR=8.0						
STKA	Stephens Creek	56.80	133	P	P	23 29 28.6	-2.6
	comp=Z,0.7nm,0.3s,mb4.1,baz=322,slow=12,SNR=3.1						
STKA				LR	LR	23 58 32.3	
	comp=Z,113nm,18.5s,MS4.0,baz=301,slow=41						
GNI	Garni	57.75	315	P	P	23 29 36.6	-1.4
	comp=Z,3.2nm,0.6s,mb4.5,baz=151,slow=19,SNR=2.8						
KMBO	Kilima Mbogo	58.98	266	P	P	23 29 45.7	-0.8
	comp=Z,2.3nm,0.7s,mb4.3,baz=40,slow=14,SNR=6.3						
EIL	Elat	62.45	301	eP	P	23 30 11.8	+1.6
	comp=Z,145nm,1.2s						
MMAI	Mount Meron Ar	62.74	305	P	P	23 30 12.7	+0.6
	comp=Z,3.5nm,0.7s,mb4.6,baz=100,slow=9.4,SNR=5.9						
MATP	Matopo	70.86	247	LR	LR	23 56 45.4	
	comp=Z,85nm,19.0s,MS4.0,baz=83,slow=31						
AKASG	Malin Array Be	71.54	322	P	P	23 31 06.2	-1.6
	comp=Z,2.1nm,0.7s,mb4.2,baz=97,slow=4.2,SNR=5.6						
IDI	Anoyia	71.71	305	P	P	23 31 09.1	+0.2
	comp=Z,6.3nm,0.7s,mb4.6,baz=0.0,slow=8.1,SNR=4.5						
VRI	Vrincioaia	72.04	317	⇑iP	P	23 31 11.0	+0.1
MLR	Muntele Rosu	72.50	316	LR	LR	00 08 25.7	
	comp=Z,64nm,18.1s,MS3.9,baz=285,slow=40						
BURAR	Bucovina Array	73.40	318	⇓iP	P	23 31 18.7	-0.3
DRGR		74.94	317	⇓iP	P	23 31 28.3	+0.4
BOSA	Boshof	75.64	239	P	P	23 31 33.7	+1.7
	comp=Z,2.3nm,0.7s,mb4.2,baz=51,slow=2.7,SNR=7.7						
FINES	FINESS Array B	76.10	332	P	P	23 31 33.0	-1.5
	comp=Z,0.8nm,0.6s,mb3.9,baz=108,slow=7.5,SNR=7.6						
ARCES	ARCESS Array B	78.58	340	P	P	23 31 47.4	-1.0
	comp=Z,3.0nm,0.9s,mb4.2,baz=89,slow=5.2,SNR=10						
ARCES	ARCESS Array B	78.58	340	P	P	23 31 47.4	-1.0
VRAC	Vranov	79.32	319	LR	LR	00 12 35.9	
	comp=Z,38nm,19.4s,MS3.8,baz=350,slow=40						
TSUM	Tsumeb	80.73	250	LR	LR	00 02 15.6	
	comp=Z,55nm,18.4s,MS3.9,baz=314,slow=32						
GERES	GERESS Array B	81.18	319	P	P	23 32 02.3	-0.3
	comp=Z,1.1nm,0.8s,mb3.8,baz=86,slow=8.2,SNR=10						
HFS	Hagfors	81.85	330	P	P	23 32 05.0	-1.0
	comp=Z,1.0nm,0.7s,mb3.9,baz=76,slow=6.1,SNR=3.7						
HFS				LR	LR	00 12 53.3	
	comp=Z,107nm,20.9s,MS4.2,baz=100,slow=39						
NOA	NORSAR Array B	83.12	331	P	P	23 32 10.9	-1.8
	comp=Z,0.7nm,0.9s,mb3.7,baz=95,slow=5.1,SNR=3.1						
NOA				LR	LR	00 13 55.5	
	comp=Z,58nm,19.3s,MS4.0,baz=105,slow=39						
DAVOX	Davos	83.72	316	P	P	23 32 16.3	+0.5
	comp=Z,3.2nm,0.7s,mb4.6,baz=82,slow=7.1,SNR=8.7						
DAVOX	Davos	83.72	316	P	P	23 32 16.3	+0.5
LPG	La Plagne	85.94	315	eP	P	23 32 27.3	+0.4
	comp=Z,7.3nm,0.7s,mb4.7						
LPG	La Plagne	85.94	315	eP	P	23 32 27.3	+0.4
	comp=Z,3.7nm,0.7s,mb4.7						
VNDA	Vanda	89.76	169	LR	LR	00 06 35.1	
	comp=Z,75nm,19.4s,MS4.1,baz=308,slow=31						
EKA	Eskdalemuir Ar	91.12	326	P	P	23 32 51.0	-0.6
	comp=Z,0.7nm,0.8s,mb4.0,baz=96,slow=6.0,SNR=3.7						
TORD	Torodi Ar. Bea	93.04	283	P	P	23 33 01.7	+1.2
	comp=Z,0.5nm,0.7s,mb4.1,baz=90,slow=3.8,SNR=6.4						
WVOR	Wild Horse Val	123.29	30	ePdif	Pdif	23 35 15.0	-0.5

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*ISCJB **02** 23:29:36.3±0.9, 4402N±003×759E±006, h5^{km}, Error ellipse: s-maj=6.5km s-min=4.2km az=162.2*

*LDG **02** 23:29:37.9±0.2, 4397N×757E, h2^{km}, Md1.7/3, Ml1.6/6, Error ellipse: s-maj=3.2km s-min=2.1km az=75.0*

*STR **02** 23:29:38.0±0.3, 4397N×756E, h5^{km}±1^{km}, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 02 23:29:37.1±0.8**, 4396N**±003×**756E**±006**, h18**^{km}±4^{km}**, n13, σ0^{s}57**/25**, Near south coast of France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AUTN	L'Aution	0.10	290	Pg	Pg	23 29 40.7	0.0
AUTN				Sg	Sg	23 29 42.7	-0.4
SBF	Sospel	0.13	221	ePg	Pg	23 29 41.2	+0.1
SBF				eSg	Sg	23 29 43.3	-0.4
	51nm,0.2s						
LUCF	Luceram	0.17	245	Pg	Pg	23 29 41.7	+0.2
LUCF				Sg	Sg	23 29 44.3	-0.2
TOUF	Mont Tournerai	0.23	283	Pg	Pg	23 29 42.7	+0.3
TOUF				Sg	Sg	23 29 46.4	+0.4
REVF	Revere	0.26	212	Pg	Pg	23 29 43.5	+0.6
REVF				Sg	Sg	23 29 47.9	+1.0
MVIF	Mont Vial	0.30	257	Pg	Pg	23 29 43.8	+0.2
FRF	La Foret Royal	0.77	239	ePg	Pg	23 29 52.4	+0.2
FRF				eSg	Sg	23 30 01.9	-0.5
	5.1nm,0.2s						
MBDF	Montbardon	0.95	324	ePg	Pg	23 29 56.0	+0.5
MBDF				eSg	Sg	23 30 07.7	-0.3
	3.0nm,0.3s						
LMR	La Mourre	0.99	231	ePg	Pg	23 29 56.1	-0.1
LMR				eSg	Sg	23 30 08.7	-0.5
	4.9nm,0.2s						
SMRF	Simiane la Rot	1.43	271	ePg	Pg	23 30 03.5	-1.2
SMRF				eSg	Sg	23 30 23.7	+0.4
	0.9nm,0.2s						
ORIF	Oris-en-Rattie	1.53	309	ePg	Pg	23 30 05.9	-0.7
ORIF				eSg	Sg	23 30 26.6	0.0
	1.6nm,0.5s						
PGF	Pioggiola	1.76	143	ePn	Pn	23 30 07.9	+1.2
PGF				eSn	Sn	23 30 27.5	-1.2
	0.1nm,0.2s						
VIVF	Saint-Julien-l	2.25	294	ePg	Pg	23 30 20.1	-0.2
VIVF				eSn	Sn	23 30 41.5	+0.7
	0.5nm,0.3s						

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*IDC **02** 23:42:36.1±3.5, 51.19N×179.43W, h0^{km}, mb3.8/5, mb1 4.0/6, mb1mx3.7/19, mbtmp3.8/6, ML4.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/29, Error ellipse: s-maj=97.9km s-min=25.8km az=2.0*

*ISCJB **02** 23:42:38.7±0.9, 51.6N±02×179.17W±009, h10^{km}, mb3.9/5, MS3.0/1, Error ellipse: s-maj=23.9km s-min=6.8km az=159.2*

*NEIC **02** 23:42:40.2, 51.07N×179.29W, h10^{km}, ML3.6(AEIC), After AEIC.*

ISC 02 23:42:39.1±2.1**, 51.5N**±0.4×**179.18W**±010**, h5**^{km}±21^{km}**, n10,**

σ1ˢ05/12, **mb3.9**/5, **MS3.0**/1, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.96**	**261**	P	**Pg**	**23 42 57.0**	**-0.6**
AMKA				S	**Sg**	**23 43 10.5**	**+0.4**
SMY	**Shemya**	**4.31**	**289**	*e*Pn	**Pn**	**23 43 49.1**	**+3.9**
SMY				*e*Sn	**Sn**	**23 44 37.0**	**+1.1**
KDAK	**Kodiak Island**	**16.54**	**57**	Pn	**Pn**	**23 46 32.5**	**+0.8**
	0.5nm,0.3s,baz=165,slow=7.1,SNR=8.6						
YKA	**Yellowknife Ar**	**35.30**	**47**	P	**P**	**23 49 35.3**	**+0.4**
	0.5nm,0.6s,mb3.6,baz=281,slow=8.0,SNR=3.8						
YKA				LR	LR	00 04 47.2	
	comp=Z,26nm,18.1s,MS3.0,baz=225,slow=37						
PDAR	**Pinedale Array**	**46.49**	**72**	P	**P**	**23 51 06.9**	**-0.2**
	1.0nm,0.7s,mb3.9,baz=308,slow=4.7,SNR=9.3						
AMTX	**Amarillo**	**56.24**	**75**	P	**P**	**23 52 21.9**	**+1.7**
MKAR	**Makanchi Array**	**59.75**	**308**	P	**P**	**23 52 43.3**	**-1.6**
	0.6nm,0.6s,mb3.8,baz=52,slow=6.2,SNR=12						
FINES	**FINESS Array B**	**65.58**	**347**	P	**P**	**23 53 22.7**	**-1.1**
	0.6nm,0.6s,mb3.8,baz=359,slow=7.7,SNR=6.1						
AKASG	**Malin Array Be**	**75.33**	**342**	P	**P**	**23 54 22.2**	**-1.1**
	0.9nm,0.3s,mb4.2,baz=21,slow=6.5,SNR=4.3						
AKASG	**Malin Array Be**	**75.33**	**342**	P	**P**	**23 54 22.2**	**-1.2**

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*ISCJB **02** 23:45:03.1±0.5, 1928N±006×3898E±009, h10km, mb3.8/12, MS3.9/15, Error ellipse: s-maj=13.0km s-min=7.1km az=137.6*
*BJI **02** 23:45:03.3, 1930N×3900E, h10km, mb4.3*
*IDC **02** 23:45:04.0±1.2, 1931N×3899E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.8/20, mbtmp3.8/10, ML3.3/2, MS3.8/18, Ms1 3.8/18, ms1mx3.5/32, Error ellipse: s-maj=25.5km s-min=20.6km az=4.0*
*NEIC **02** 23:45:05.3±0.5, 1933N×3895E, h10km, mb3.8/6, Error ellipse: s-maj=11.4km s-min=8.4km az=74.0*
*HRVD **02** 23:45:05.3±0.9, 1909N×3928E, h12km, MW4.7/31, Centroid moment Tensor Solution. LP body waves: s7,c7;Mantle waves: s31,c37; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.06±.12; $M_{\theta\theta}$0.24±.07; $M_{\phi\phi}$0.82±.15; $M_{r\theta}$-0.28±.38; $M_{\theta\phi}$-0.48±.08; $M_{\phi r}$0.59±.42; Best double couple: $M_0$1.25900×10^{16} NP1:ϕ_s329.00000°, δ29.00000°, λ-93.00000°. NP2:ϕ_s153.00000°, δ61.00000°, λ-88.00000°. Principal axes: T 1.2740, Plg16.0000°, Azm241.0000°; N -0.0260, Plg2.0000°, Azm332.0000°; P -1.2450, Plg74.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **02** 23:45:07.4±0.1, 1951N×3898E, h30km, mb4.0/3 Error ellipse: s-maj=5.5km s-min=4.2km az=58.0*
ISC 02 23:45:05.4±0.5, **1934N**±006×**3896E**±009, **h10**km, **n39**, σ**0ˢ81**/26, **mb3.7**/12, **MS3.9**/15, **Red Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**8.62**	**154**	Pn	**Pn**	**23 47 10.1**	**-0.1**
	0.2nm,0.3s,baz=292,slow=19,SNR=2.2						
ATD				Sn	**Sn**	**23 48 46.8**	**-0.6**
	0.2nm,0.3s,baz=270,slow=20,SNR=2.0						
ATD				LR	LR	23 49 53.8	
	comp=Z,269nm,21.7s,baz=32,slow=34						
MMAI	**Mount Meron Ar**	**13.99**	**348**	LR	LR	23 53 20.4	
	comp=Z,230nm,21.1s,baz=180,slow=35						
BHD	**Baghdad**	**14.70**	**18**	*e*x	x	23 48 36.0	
CSS	**Prodhromos**	**16.35**	**343**	*e*Pn	**Pn**	**23 48 53.5**	**-1.5**
	2.5nm,0.5s						
CSS	**Prodhromos**	**16.35**	**343**	*e*Pn	**Pn**	**23 48 53.5**	**-1.5**
WSAR	**Wadi Sarin**	**18.73**	**75**	P	**Pn**	**23 49 24.9**	**+0.3**
	0.2nm,0.3s,baz=237,slow=13,SNR=4.7						
WSAR				LR	LR	23 57 45.8	
	comp=Z,577nm,18.8s,baz=254,slow=41						
MALT	**Malatya**	**18.92**	**359**	*e*P	**Pn**	**23 49 25.8**	**-1.1**
	31nm,1.8s						
MALT	**Malatya**	**18.92**	**359**	*e*P	**Pn**	**23 49 25.8**	**-1.0**
	31nm,1.8s						
KMBO	**Kilima Mbogo**	**20.40**	**185**	LR	LR	23 57 23.7	
	comp=Z,356nm,18.2s,MS3.8,baz=98,slow=36						
GNI	**Garni**	**21.33**	**12**	LR	LR	23 58 52.7	
	comp=Z,311nm,18.6s,MS3.7,baz=181,slow=39						
GNI	**Garni**	**21.33**	**12**	*e*P	**P**	**23 49 52.5**	**0.0**
	34nm,1.5s,mb4.5						
GNI	**Garni**	**21.33**	**12**	*e*P	**P**	**23 49 52.5**	**0.0**
	34nm,1.5s,mb4.5						
AKASG	**Malin Array Be**	**32.24**	**348**	P	**P**	**23 51 34.2**	**+0.3**
	0.3nm,0.4s,mb3.5,baz=173,slow=8.3,SNR=4.0						
PSZ	**Piszkesteto**	**32.45**	**336**	*e*P	**P**	**23 51 33.0**	**-2.7**
	1.0nm,0.5s,mb3.9						
AKTO	**Aktyubinsk**	**34.53**	**22**	LR	LR	00 08 55.8	
	comp=Z,136nm,19.2s,MS3.7,baz=43,slow=41						
MORC	**Moravsky Berou**	**34.87**	**336**	*e*P	**P**	**23 51 58.0**	**+1.2**
	0.7nm,0.7s,mb3.7						
GERES	**GERESS Array B**	**35.78**	**331**	P	**P**	**23 52 04.8**	**+0.1**
	0.5nm,0.7s,mb3.5,baz=129,slow=10,SNR=4.3						
LSZ	**Lusaka**	**35.99**	**198**	*e*P	**P**	**23 52 06.0**	**-0.5**
	0.2nm,0.5s,mb3.3						
LSZ	**Lusaka**	**35.99**	**198**	*e*P	**P**	**23 52 06.0**	**-0.4**
	0.2nm,0.5s,mb3.3						
TORD	**Torodi Ar. Bea**	**36.25**	**266**	P	**P**	**23 52 09.6**	**+0.9**
	2.9nm,0.9s,mb4.2,baz=80,slow=8.7,SNR=11						
TORD				LR	LR	00 06 52.3	
	comp=Z,142nm,19.9s,MS3.7,baz=95,slow=36						
MDT	**Midelt**	**41.10**	**298**	LR	LR	00 11 26.0	
	comp=Z,72nm,20.5s,MS3.5,baz=338,slow=38						
BVAR	**Borovoye Array**	**41.49**	**28**	P	**P**	**23 52 53.5**	**+0.9**
	0.5nm,0.5s,mb3.4,baz=224,slow=11,SNR=4.9						
BVAR				LR	LR	00 13 05.3	
	comp=Z,90nm,19.6s,MS3.6,baz=142,slow=40						
ESDC	**Sonseca Array**	**42.02**	**308**	P	**P**	**23 52 57.6**	**+0.7**
	0.4nm,0.6s,mb3.2,baz=106,slow=7.3,SNR=7.3						
FINES	**FINESS Array B**	**43.03**	**351**	LR	LR	00 12 24.0	
	comp=Z,56nm,18.9s,MS3.5,baz=151,slow=38						
DBIC	**Dimbokro**	**44.38**	**260**	LR	LR	00 11 46.1	
	comp=Z,120nm,18.7s,MS3.8,baz=53,slow=36						
MKAR	**Makanchi Array**	**44.68**	**42**	P	**P**	**23 53 18.4**	**+0.1**
	2.5nm,0.8s,mb4.1,baz=237,slow=5.9,SNR=21						
MKAR	**Makanchi Array**	**44.68**	**42**	P	**P**	**23 53 18.4**	**+0.1**
NB2	**NORSAR Subarra**	**46.03**	**342**	P	**P**	**23 53 28.8**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.6,baz=139,slow=8.6						
NOA	**NORSAR Array B**	**46.03**	**342**	P	**P**	**23 53 29.1**	**0.0**
	comp=Z,0.7nm,0.8s,mb3.7,baz=138,slow=8.3,SNR=5.1						
WMQ	**Urumqi**	**47.32**	**48**	*e*P	**P**	**23 53 39.5**	**+0.3**
BOSA	**Boshof**	**49.47**	**196**	LR	LR	00 15 10.2	
	comp=Z,209nm,18.0s,MS4.2,baz=22,slow=36						
LZH	**Lanzhou**	**58.82**	**59**	*e*P	**P**	**23 55 04.5**	**+0.5**
SONM	**Songino Array**	**60.83**	**45**	P	**P**	**23 55 17.6**	**-0.2**
	comp=Z,0.8nm,0.8s,mb3.9,baz=275,slow=6.1,SNR=5.0						
SONM				LR	LR	00 23 46.9	
	comp=Z,98nm,20.9s,MS3.9,baz=232,slow=38						
SONM	**Songino Array**	**60.83**	**45**	P	**P**	**23 55 17.6**	**-0.2**
SONM				LR	LR	00 23 46.9	
JOW	**Kunigami**	**80.92**	**65**	LR	LR	00 33 53.4	
	comp=Z,90nm,21.0s,MS4.1,baz=133,slow=36						
MJAR	**Matsushiro Arr**	**85.82**	**53**	LR	LR	00 40 37.2	
	comp=Z,57nm,20.4s,MS4.0,baz=20,slow=39						
ASAJ	**Asahikawa**	**86.10**	**45**	LR	LR	00 39 53.9	
	comp=Z,61nm,19.5s,MS4.0,baz=351,slow=38						
MAW	**Mawson**	**88.46**	**171**	LR	LR	00 33 28.5	
	comp=Z,78nm,21.6s,MS4.1,baz=66,slow=33						
BDFB	**Brasilia**	**92.30**	**254**	LR	LR	00 34 54.8	
	comp=Z,55nm,18.9s,MS4.0,baz=174,slow=32						

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*ISCJB **02** 23:56:19.2±2.2, 531S±009×1508E±0.1, h158km±16km, mb4.3/8, Error ellipse: s-maj=24.4km s-min=15.0km az=4.6*
*IDC **02** 23:56:20.0±2.3, 538S×15090E, h156km±17km, mb3.7/4, mb1 3.9/6, mb1mx3.6/13, mbtmp4.3/6, MS2.8/1, Ms1 2.8/1, ms1mx2.5/18, Error ellipse: s-maj=38.3km s-min=15.4km az=127.0*
*NEIC **02** 23:56:20.7±2.2, 534S×15083E, h160km±17km, mb4.6/6, Error ellipse: s-maj=19.4km s-min=11.4km az=73.0*
ISC 02 23:56:21.1±1.8, **538S**±009×**1508E**±01, **h158**km±12km, **n26**, σ**0ˢ77**/27, **mb4.3**/8, **New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.41**	**222**	P	**Pn**	**23 57 39.3**	**-0.7**
	51nm,0.3s,baz=46,slow=6.4,SNR=60						
PMG				S	**Sn**	**23 58 41.9**	**+0.2**
	29nm,0.3s,baz=177,slow=19,SNR=12						
PMG				LR	LR	23 59 14.5	
	comp=Z,94nm,18.2s,baz=15,slow=32						
CTA	**Charters Tower**	**15.28**	**197**	P	**Pn**	**23 59 49.8**	**+1.2**
	0.3nm,0.3s,baz=29,slow=13,SNR=4.7						
KAKA	**Kakadu**	**19.56**	**247**	*e*P	**P**	**00 00 36.3**	**-0.3**
	14nm,0.4s						
WRAB	**Tennant Creek**	**21.59**	**226**	*e*P	**P**	**00 00 57.9**	**-0.4**
	7.5nm,0.4s,mb4.5						
WB2	**Warramunga Arr**	**21.60**	**226**	*e*P	**P**	**00 00 57.9**	**-0.5**
WRA	**Warramunga Arr**	**21.61**	**226**	P	**P**	**00 00 57.6**	**-0.9**
	2.0nm,0.3s,mb4.0,baz=50,slow=10,SNR=8.5						
WRA				S	**S**	**00 04 48.9**	**+1.1**
	4.8nm,0.9s,baz=52,slow=21,SNR=14						
WRA	**Warramunga Arr**	**21.61**	**226**	P	**P**	**00 00 57.6**	**-0.9**
WRA				S	**S**	**00 04 48.9**	**+1.1**
AS31	**Alice Springs**	**24.42**	**220**	*e*P	**P**	**00 01 26.9**	**+1.9**
ASAR	**Alice Springs**	**24.42**	**220**	P	**P**	**00 01 25.5**	**+0.5**
	4.1nm,0.7s,mb4.1,baz=52,slow=9.0,SNR=35						
ASAR				PcP	PcP	00 04 59.4	-0.3
	0.5nm,0.6s,baz=61,slow=4.0,SNR=5.0						
ASAR				S	**S**	**00 05 31.9**	**-1.3**
	0.6nm,0.7s,baz=46,slow=13,SNR=4.1						
ASPA	**Alice Springs**	**24.42**	**220**	*e*P	**P**	**00 01 26.9**	**+1.9**
FITZ	**Fitzroy Crossi**	**27.67**	**241**	*e*P	**P**	**00 01 53.8**	**-0.3**
	7.0nm,0.3s,mb4.9						
FITZ	**Fitzroy Crossi**	**27.67**	**241**	P	**P**	**00 01 53.9**	**-0.2**
	3.9nm,0.3s,mb4.6,baz=45,slow=8.0,SNR=45						
STKA	**Stephens Creek**	**27.74**	**197**	*e*P	**P**	**00 01 53.9**	**-1.0**
MBWA	**Marble Bar**	**33.98**	**240**	*e*P	**P**	**00 02 49.3**	**-0.3**
	1.5nm,0.3s,mb4.2						
KKM	**Kota Kinabalu**	**36.38**	**288**	*e*P	**P**	**00 03 09.9**	**-0.2**
NACB	**Ninganchiao**	**40.93**	**317**	P	**P**	**00 03 48.1**	**+0.2**
NWAO	**Narrogin (SRO)**	**41.59**	**225**	*e*P	**P**	**00 03 53.0**	**-0.4**
COCO	**West Island**	**53.72**	**259**	*e*P	**P**	**00 05 26.6**	**-0.1**
	38nm,0.3s,mb5.6						
SONM	**Songino Array**	**65.79**	**329**	P	**P**	**00 06 49.2**	**0.0**
	0.4nm,0.6s,mb3.5,baz=144,slow=4.9,SNR=4.6						
CASY	**Casey**	**66.89**	**197**	*e*P	**P**	**00 06 55.8**	**-0.5**
	1.7nm,0.7s,mb4.0						
LSA	**Lhasa**	**66.96**	**305**	*e*P	**P**	**00 06 57.3**	**+0.6**
VNDA	**Vanda**	**72.33**	**177**	*e*P	**P**	**00 07 29.2**	**-0.3**
QSPA	**South Pole Qui**	**84.58**	**180**	P	**P**	**00 08 36.3**	**-0.3**
GERES	**GERESS Array B**	**123.51**	**327**	PKP	PKPdf	00 14 58.3	-1.3
	0.3nm,0.4s,baz=101,slow=4.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**148.61**	**286**	PKPbc	PKPbc	00 15 48.8	-0.6
	1.5nm,0.6s,baz=78,slow=2.0,SNR=27						
BDFB	**Brasilia**	**151.99**	**138**	PKPbc	PKPbc	00 15 57.2	-0.2
	4.3nm,0.6s,baz=259,slow=1.1,SNR=8.3						

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*MDD **03** 00:21:25.9±1.8, 3721N×1035W, h0km, mbLg2.3/5, Error ellipse: s-maj=16.6km s-min=8.5km az=49.0, PRXIMO*
*IGIL **03** 00:21:35.3, 3772N×959W, h2km, ML2.0*
INMG 03 00:21:25.8±0.7, **3705N**×**1043W**, **h10**km, **ML1.9**, **Error ellipse: s-maj=4.7km s-min=3.0km az=74.0, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.45**	**79**	*e*P	Pn	00 21 50.4	-1.6
MORF				*e*S	Sn	00 22 02.1	-8.9
MORF				*e*S	Sn	00 22 02.1	-8.9
MORF				AML	AML	00 22 09.1	
	comp=N,40nm,0.1s						
MORF	**Marmelete**	**1.45**	**79**	*e*P	Pn	00 21 50.4	-1.6
MORF				*e*S	Sn	00 22 02.1	-8.9
PTEO	**Sao Teotonio**	**1.45**	**69**	*e*P	Pn	00 21 50.7	-1.3
PTEO				*e*S	Sn	00 22 08.7	-2.4
PTEO							
	comp=N,8.4nm,0.1s						
PLOU	**Loures**	**2.09**	**28**	*e*Pn	Pn	00 21 59.2	-1.7
PLOU				*e*Sn	Sn	00 22 24.2	-2.8
PLOU							
	comp=N,8.2nm,0.1s						
PBEJ	**Beja**	**2.26**	**64**	*e*Pn	Pn	00 22 01.6	-1.6
PBEJ				*e*Sn	Sn	00 22 28.1	-3.0
PBEJ							
	comp=N,4.4nm,0.1s						
EGRO	**El Granado**	**2.40**	**77**	P	Pn	00 22 03.5	-1.6
	comp=N,1.0nm,0.1s,SNR=5.9						
EGRO				S	Sn	00 22 30.4	-4.1
	comp=N,4.3nm,0.1s,SNR=11						
PTOM	**Tomar**	**3.02**	**31**	*e*Pn	Pn	00 22 11.7	-1.9
PTOM				*e*Sn	Sn	00 22 46.5	-3.3
PTOM							
	comp=N,3.5nm,0.1s						
EMIN	**Mina Concepcio**	**3.08**	**75**	P	Pn	00 22 12.6	-1.8
	comp=N,0.3nm,0.2s,SNR=7.9						
EMIN				S	Sn	00 22 46.7	-4.6
	comp=N,3.2nm,0.2s,SNR=5.8						
EBAD	**Badajoz**	**3.20**	**57**	P	Pn	00 22 14.0	-2.1
	comp=N,0.8nm,0.1s,SNR=26						
EBAD				S	Sn	00 22 50.6	-3.6
	comp=N,2.6nm,0.1s,SNR=9.5						
PCBR	**Castelo Branco**	**3.63**	**39**	*e*Pn	Pn	00 22 20.1	-1.9
PCBR				*e*Sn	Sn	00 23 00.9	-3.9
PCBR							
	comp=N,1.4nm,0.1s						
ESPR	**Espera**	**3.67**	**91**	P	Pn	00 22 22.7	+0.1
	comp=N,0.6nm,0.2s,SNR=4.0						
ESPR				S	Sn	00 23 01.9	-3.9
	comp=N,2.2nm,0.3s,SNR=7.9						
MTE	**Manteigas**	**4.04**	**33**	*e*Pn	Pn	00 22 25.4	-2.2
MTE				*e*Sn	Sn	00 23 10.3	-4.7
MTE							
	comp=N,0.9nm,0.1s						
PVIS	**Viseu**	**4.16**	**28**	*e*Pn	Pn	00 22 27.2	-2.2
PVIS				*e*Sn	Sn	00 23 13.4	-4.7
PVIS							
	comp=N,1.9nm,0.1s						
PVRL	**Vila Real**	**4.72**	**26**	*e*Pn	Pn	00 22 34.8	-2.2
PVRL				*e*Sn	Sn	00 23 26.3	-5.5
PVRL							
	comp=N,2.3nm,0.1s						
EADA	**Adamuz**	**4.78**	**75**	P	Pn	00 22 36.4	-1.5
	comp=N,0.7nm,0.1s,SNR=8.9						
EADA				S	Sn	00 23 27.5	-5.8
	comp=N,1.0nm,0.3s,SNR=7.6						
PCAB	**Cabril**	**5.01**	**21**	*e*Pn	Pn	00 22 38.5	-2.6
ELOB	**Lobios**	**5.15**	**20**	P	Pn	00 22 39.9	-3.0
	comp=N,0.3nm,0.1s,SNR=7.4						
ELOB				S	Sn	00 23 34.4	-8.0
	comp=N,0.4nm,0.1s,SNR=5.0						
EBAN	**Banos Encina**	**5.39**	**76**	P	Pn	00 22 44.9	-1.4
	comp=N,0.4nm,0.1s,SNR=4.0						
EBAN				S	Sn	00 23 42.6	-5.8
	comp=N,0.7nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**5.54**	**30**	*e*Pn	Pn	00 22 46.0	-2.3
PBRG				*e*Sn	Sn	00 23 45.9	-6.2
PBRG							
	comp=N,0.8nm,0.1s						
ECAL	**Calabor**	**5.66**	**29**	P	Pn	00 22 46.9	-3.0
	comp=N,0.2nm,0.1s,SNR=7.9						
ECAL				S	Sn	00 23 49.6	-5.4
	comp=N,0.9nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**5.72**	**61**	P	Pn	00 22 48.9	-1.9
	comp=N,0.7nm,0.1s,baz=247,slow=13,SNR=12						
EQES	**Quesada**	**5.91**	**80**	S	Sn	00 23 56.6	-4.5
	comp=N,0.4nm,0.1s,SNR=7.9						

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*NEIC **03** 00:21:36.2±0.7, 1959N×14623E, h35km, mb4.3/2, Error ellipse: s-maj=25.6km s-min=10.3km az=83.0*
*ISCJB **03** 00:21:53.2±2.5, 1946N±008×1459E±02, h208km±22km, mb3.6/8, Error ellipse: s-maj=36.6km s-min=12.4km az=169.0*
*IDC **03** 00:21:54.8±4.3, 1945N×14585E, h203km±36km, mb3.3/6, mb1 3.5/7, mb1mx3.3/17, mbtmp4.0/7, MS2.7/1, Ms1 2.7/1, ms1mx1.6/24, Error ellipse: s-maj=82.0km s-min=14.1km az=82.0*
ISC 03 00:21:54.4±2.4, **1949N**±008×**1459E**±02, **h205**km±22km, **n17**, σ**0ˢ81**/17, **mb3.6**/8, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**8.32**	**336**	P	**Pn**	**00 23 51.8**	**-0.1**
	6.3nm,0.3s,baz=98,slow=23,SNR=7.0						
CBIJ				LR	LR	00 26 31.1	
	comp=Z,57nm,20.4s,baz=104,slow=33						
NACB	**Ninganchiao**	**23.07**	**286**	P	**P**	**00 26 41.7**	**-0.1**
CTA	**Charters Tower**	**39.33**	**180**	P	**P**	**00 29 04.4**	**+0.7**
	2.2nm,0.7s,mb3.8,baz=27,slow=2.3,SNR=2.5						
WRAB	**Tennant Creek**	**40.79**	**197**	*e*P	**P**	**00 29 15.9**	**+0.2**
	3.2nm,0.5s,mb4.0						
WB2	**Warramunga Arr**	**40.80**	**197**	*e*P	**P**	**00 29 16.1**	**+0.3**
WRA	**Warramunga Arr**	**40.80**	**197**	P	**P**	**00 29 16.0**	**+0.2**
	1.9nm,0.6s,mb3.7,baz=16,slow=8.9,SNR=6.8						
ULN	**Ulaanbaatar**	**42.30**	**321**	P	**P**	**00 29 27.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**42.34**	**209**	*e*P	**P**	**00 29 27.7**	**-0.6**
	4.9nm,0.7s,mb4.0						
SONM	**Songino Array**	**42.68**	**321**	P	**P**	**00 29 32.0**	**+1.1**
	0.3nm,0.6s,mb2.9,baz=134,slow=8.3,SNR=2.9						
ASAR	**Alice Springs**	**44.47**	**196**	P	**P**	**00 29 45.3**	**+0.1**
	0.7nm,0.4s,mb3.4,baz=15,slow=7.2,SNR=12						
TLY	**Talaya**	**46.06**	**324**	*e*P	**P**	**00 29 57.1**	**-0.6**
MBWA	**Marble Bar**	**47.85**	**214**	P	**P**	**00 30 08.5**	**-3.0**
KURK	**Kurchatov**	**60.84**	**318**	P	**P**	**00 31 44.9**	**-0.2**
BRVK	**Borovoye**	**66.08**	**320**	P	**P**	**00 32 20.9**	**+1.5**
INK	**Inuvik**	**68.56**	**23**	P	**P**	**00 32 34.3**	**-0.7**
ARCES	**ARCESS Array B**	**81.82**	**342**	P	**P**	**00 33 51.4**	**+0.8**
	0.8nm,0.6s,mb3.5,baz=73,slow=8.1,SNR=7.0						
FINES	**FINESS Array B**	**86.27**	**335**	P	**P**	**00 34 11.9**	**-1.1**
	0.4nm,0.5s,mb3.4,baz=77,slow=6.0,SNR=8.3						

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*HLW **03** 00:23:31.6, 3496N×2233E, h33km, Mb3.3*
*ATH **03** 00:23:40.0, 3607N×2360E, h30km, MD3.1/3*
CSEM 03 00:23:24.1±0.2, **3514N**×**2177E**, **h40**km, **MD3.2**, **1C-4D, Error ellipse: s-maj=8.8km s-min=4.1km az=55.0, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.54**	**42**	*e*PN	Pn	00 23 50.2	+1.2
VLI	**Veliai**	**1.84**	**31**	*e*PN	Pn	00 23 56.2	+3.1
VLI				*e*SN	Sn	00 24 09.0	-6.1
VLI	**Veliai**	**1.84**	**31**	*e*P	Pn	00 23 56.2	+3.1
VLI				*e*S	Sn	00 24 15.2	+0.1
VAM	**Vamos**	**2.01**	**82**	⇑*i*PN	Pn	00 23 56.5	+1.0
SLUM		**4.64**	**141**	⇓P	Pn	00 24 33.5	+1.8
HMAT	**Matruh**	**6.02**	**131**	⇓P	Pn	00 24 52.5	+1.8
SWA1		**6.75**	**149**	⇓P	Pn	00 25 03.6	+3.1
AWBH		**9.12**	**136**	⇓P	Pn	00 25 34.3	+1.2

ISC 03 00:23:54.1±20.0, **47N**±3×±, **h0**km, **n7**, σ**0ˢ94**/7, **3C-2D, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAE	**Caneva**	**10.29**	**91**	⇑*i*Pg	**P**	**00 26 26.0**	**0.0**
CAE				*i* Sg		00 26 30.0	
ZOU	**Zoufplan**	**10.56**	**87**	⇑*e*Pg	**P**	**00 26 28.9**	**-0.8**
ZOU				*e*Sg		00 26 35.3	
BOO	**Bordano**	**10.69**	**89**	⇓*i*Pg	**P**	**00 26 27.8**	**-3.6**
VOJS	**Vojsko**	**11.28**	**90**	*i* Pg	**P**	**00 26 39.2**	**-0.2**
VOJS				*i* Sg		00 26 53.9	
GORS	**Gorjuse**	**11.30**	**88**	*i* Pg	**P**	**00 26 41.4**	**+1.6**
GORS	**Gorjuse**	**11.30**	**88**	*i* Pg	**P**	**00 26 41.3**	**+1.5**
KK31	**Karatay Array**	**49.89**	**66**	⇓Pn	**P**	**00 32 51.0**	**0.0**
	0.2nm,0.2s,baz=181,slow=12,SNR=8.4						
KK31				⇑Sn		00 34 05.2	
	0.7nm,0.5s,baz=188,slow=24,SNR=4.8						

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*CSEM **03** 00:45:25.8±0.2, 4038N×2586E, h8km, MD3.4, Error ellipse: s-maj=5.3km s-min=2.9km az=85.0*
*NEIC **03** 00:45:25.6, 4045N×2583E, h14km, MD2.7(SOF), MD3.4(ATH), After SOF.*
*ATH **03** 00:45:25.2, 4038N×2580E, h27km±1km, MD3.4/5*
*SOF **03** 00:45:25.6, 4045N×2583E, h14km, MD2.7*
*ISCJB **03** 00:45:26.6±0.9, 4038N±004×2583E±009, h21km±11km, Error ellipse: s-maj=11.9km s-min=6.2km az=162.8*
ISC 03 00:45:25.5±0.9, **4038N**±004×**2586E**±008, **h10**km±8km, **n11**, σ**0ˢ97**/15, **1D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.70**	**227**	*e*PN	**Pg**	**00 45 39.4**	**+0.2**
LIA				*e*SN	**Sg**	**00 45 48.3**	**-0.1**
RDO	**Rodhopi**	**0.81**	**342**	*e*PN	**Pg**	**00 45 41.0**	**-0.1**
RDO				*e*SN	**Sg**	**00 45 52.0**	**+0.4**
PRK	**Paraskevi**	**1.17**	**164**	*e*PN	**Pb**	**00 45 47.5**	**-0.4**
PRK				*e*SN	**Sg**	**00 46 04.0**	**+0.7**
KDZ	**Kurdzhali**	**1.31**	**345**	*i* P	**Pn**	**00 45 49.0**	**-1.0**
RZN	**Rozhen**	**1.57**	**327**	*i* P	**Pn**	**00 45 54.0**	**+0.5**
DIM	**Dimitrovgrad**	**1.69**	**352**	*i* P	**Pn**	**00 45 57.6**	**+2.5**
NVR	**Nevrokopi**	**1.80**	**303**	⇓*i*PN	**Pn**	**00 45 56.2**	**-0.4**
PLG	**Polygyros**	**1.84**	**271**	*e*PN	**Pn**	**00 45 55.9**	**-1.3**
PLG	**Polygyros**	**1.84**	**271**	*e*Pg	**Pg**	**00 46 00.0**	**-0.9**
PLG				*e*Sb	**Sb**	**00 46 24.5**	**+2.0**
MMB	**Musomiste**	**2.02**	**308**	*i* P	**Pn**	**00 45 59.0**	**-0.6**
KKB	**Krupnik**	**2.57**	**306**	*i* P	**Pb**	**00 46 11.0**	**-0.7**

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*NEIC **03** 01:04:09.5, 5176N×17458W, h17km, ML3.0(AEIC), After AEIC.*
*ISCJB **03** 01:04:13.1±1.0, 532N±02×1750W±02, h33km, mb3.9/10, MS3.6/1, Error ellipse: s-maj=28.4km s-min=9.0km az=131.6*
*IDC **03** 01:04:17.2±7.6, 5285N×17484W, h72km±67km, mb3.5/8, mb1 3.7/9, mb1mx3.5/20, mbtmp3.8/9, ML4.5/1, MS3.6/1, Ms1 3.5/1, ms1mx2.5/20, Error ellipse: s-maj=77.0km s-min=25.9km az=3.0*
ISC 03 01:04:16.9±1.7, **530N**±03×**1749W**±02, **h68**km±24km, **n17**, σ**0ˢ34**/18, **mb3.7**/10, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**3.92**	**248**	*e*Pn	**Pn**	**01 05 06.3**	**-8.2**
AMKA				*e*Sn	**Sn**	**01 05 59.3**	**0.0**
UNV	**Unalaska Valle**	**5.09**	**77**	*e*Pn	**Pn**	**01 05 21.0**	**-10**
UNV				*e*Sn	**Sn**	**01 06 19.7**	**-8.3**
KDAK	**Kodiak Island**	**13.54**	**60**	P	**Pn**	**01 07 25.6**	**-0.1**
	2.5nm,0.3s,baz=275,slow=6.2,SNR=23						
DLBC	**Dease Lake**	**25.47**	**60**	P	**P**	**01 09 39.2**	**+0.7**
	1.0nm,0.6s,mb3.5,baz=248,slow=16,SNR=2.9						
PDAR	**Pinedale Array**	**43.55**	**76**	P	**P**	**01 12 13.6**	**-0.4**
	0.6nm,0.6s,mb3.5,baz=325,slow=4.4,SNR=3.8						
SONM	**Songino Array**	**48.08**	**297**	P	**P**	**01 12 50.2**	**+0.5**
	0.9nm,0.6s,mb3.8,baz=46,slow=8.0,SNR=7.8						
ARCES	**ARCESS Array B**	**56.91**	**352**	P	**P**	**01 13 55.0**	**+0.1**
	0.8nm,0.7s,mb3.9,baz=40,slow=9.6,SNR=4.3						
ARCES	**ARCESS Array B**	**56.91**	**352**	P	**P**	**01 13 55.0**	**+0.1**
SCHQ	**Schefferville**	**57.24**	**41**	LR	LR	01 38 07.5	
	comp=Z,47nm,18.1s,baz=115,slow=35						
MKAR	**Makanchi Array**	**60.91**	**310**	P	**P**	**01 14 22.4**	**-0.2**
	0.5nm,0.5s,mb3.9,baz=61,slow=5.7,SNR=3.8						
JOF	**Joensuu**	**62.65**	**347**	*e*p	**P**	**01 14 33.8**	**-0.4**
	0.8nm,0.4s,mb4.0						
KAF	**Kangasniemi**	**64.06**	**349**	*e*p	**P**	**01 14 43.5**	**0.0**
	2.0nm,0.6s,mb4.1						
FINES	**FINESS Array B**	**64.73**	**349**	P	**P**	**01 14 48.2**	**+0.3**
	0.7nm,0.7s,mb3.6,baz=353,slow=9.6,SNR=4.2						
FINES	**FINESS Array B**	**64.73**	**349**	P	**P**	**01 14 48.2**	**+0.2**
AKASG	**Malin Array Be**	**74.73**	**344**	P	**P**	**01 15 49.0**	**-0.4**
	1.0nm,0.4s,mb3.9,baz=16,slow=5.8,SNR=5.3						
AKASG	**Malin Array Be**	**74.73**	**344**	P	**P**	**01 15 49.0**	**-0.4**
GERES	**GERESS Array B**	**78.31**	**354**	P	**P**	**01 16 09.6**	**0.0**
	0.4nm,0.7s,mb3.3,baz=25,slow=7.3,SNR=5.0						

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*BJI **03** 01:09:14.1, 105N×9741E, h30km, mB4.7, mb4.6, Ms4.4, Msz4.0*
*IDC **03** 01:09:17.6±0.9, 174N×9763E, h0km, mb4.0/10, mb1 4.2/10, mb1mx4.0/17, mbtmp4.0/10, Error ellipse: s-maj=32.4km s-min=17.0km az=49.0*
*ISCJB **03** 01:09:19.6±3.2, 175N±008×977E±0.1, h26km±21km, mb4.2/19, MS3.9/2, Error ellipse: s-maj=19.0km s-min=11.0km az=124.3*
*NEIC **03** 01:09:22.1±0.5, 179N×9770E, h30km, mb4.4/4, Error ellipse: s-maj=12.7km s-min=8.0km az=47.0*
ISC 03 01:09:22.5±2.8, **182N**±007×**9773E**±009, **h30**km±19km, **n29**, σ**0ˢ90**/32, **mb4.2**/19, **MS3.9**/2, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.54**	**51**	Pn	**Pn**	**01 09 48.1**	**+0.2**
	16nm,0.3s,baz=208,slow=5.1,SNR=96						
KULM	**Kulim**	**4.51**	**40**	*e*Pn	**Pn**	**01 10 29.8**	**+1.0**
KULM				*e*Sn	**Sn**	**01 11 16.5**	**-3.8**
KKM	**Kota Kinabalu**	**18.91**	**77**	*e*P	**Pn**	**01 13 40.0**	**-1.4**
KMI	**Kunming**	**23.67**	**11**	P	**P**	**01 14 32.5**	**+1.1**
KMI				AP		01 14 42.5	
KMI				XP	sP	01 14 47.4	+3.6
KMI				PP		01 15 06.7	
KMI				S	**S**	**01 18 44.2**	**+0.1**
KMI				XS	sS	01 18 58.5	+0.1

KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.1						
KMI				AMB	AMB		
	comp=Z,106nm,5.2s						
KMI				LR	LR		
	comp=N,237nm,16.3s,MS3.8						
KMI				LR	LR		
	comp=E,98nm,15.8s,MS3.8						
KMI				LR	LR		
	comp=Z,144nm,17.4s,MS3.5						
LSA	Lhasa	28.42	348	eP	P	01 15 14.3	-0.1
CD2	Chengdu	29.49	11	eP	P	01 15 24.1	+0.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GTA	Gaotai	37.46	3	eP	P	01 16 33.3	+0.1
GTA				AP	pP	01 16 45.8	+3.7
GTA				XP	sP	01 16 51.7	+6.0
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.3						
HHC	Hu-ho-hao-te	40.82	16	eP	P	01 17 03.6	+2.3
HHC				AP	pP	01 17 15.9	+5.7
HHC				PP	PP	01 18 44.5	+8.9
HHC				PCS	PcS	01 22 53.6	+0.9
HHC				S	S	01 23 10.9	+0.6
HHC				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.6						
HHC				AMB	AMB		
	comp=Z,122nm,8.3s						
HHC				LR	LR		
	comp=N,228nm,20.8s,MS4.2						
HHC				LR	LR		
	comp=E,324nm,21.4s,MS4.2						
HHC				LR	LR		
	comp=Z,188nm,19.6s,MS4.0						
WRA	Warramunga Arr	41.92	123	P	P	01 17 10.7	+0.4
	comp=Z,3.2nm,0.7s,mb4.0,baz=301,slow=9.2,SNR=12						
WRAB	Tennant Creek	41.92	123	eP	P	01 17 10.7	+0.4
	comp=Z,4.4nm,0.6s,mb4.3						
WB2	Warramunga Arr	41.93	123	ePn	P	01 17 11.1	+0.7
WMQ	Urumqi	42.76	349	P	P	01 17 16.6	-0.6
ASAR	Alice Springs	43.35	128	P	P	01 17 22.5	+0.6
	comp=Z,0.8nm,0.8s,mb3.5,baz=310,slow=7.7,SNR=5.9						
ASAR				PcP	PcP	01 19 12.1	+1.8
	comp=Z,0.7nm,0.5s,baz=286,slow=2.3,SNR=6.2						
SONM	Songino Array	46.45	8	P	P	01 17 46.1	-0.5
	comp=Z,2.6nm,0.8s,mb4.2,baz=187,slow=9.1,SNR=17						
MKAR	Makanchi Array	46.77	345	P	P	01 17 49.3	+0.2
	comp=Z,6.2nm,0.7s,mb4.7,baz=153,slow=8.2,SNR=49						
MDJ	Mudanjiang	51.07	29	P	P	01 18 21.3	-0.8
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,24nm,3.3s						
KURK	Kurchatov	51.34	345	eP	P	01 18 24.0	0.0
	comp=Z,5.8nm,1.1s,mb4.4						
CTAO	Charters Tower	52.31	117	eP	P	01 18 31.1	-0.2
STKA	Stephens Creek	53.38	133	P	P	01 18 37.4	-1.8
	comp=Z,1.4nm,0.6s,mb4.1,baz=315,slow=6.5,SNR=3.7						
STKA	Stephens Creek	53.38	133	eP	P	01 18 38.3	-0.9
BRVK	Borovoye	55.91	340	eP	P	01 18 55.7	-1.9
	comp=Z,3.0nm,0.8s,mb4.4						
ZRNK	Zerenda	56.26	340	eP	P	01 18 59.5	-0.5
	comp=Z,3.1nm,0.8s,mb4.4						
AKASG	Malin Array Be	75.09	322	P	P	01 21 00.7	-0.8
	comp=Z,1.2nm,0.6s,mb4.0,baz=92,slow=5.2,SNR=5.4						
FINES	FINESS Array B	79.70	332	P	P	01 21 27.2	-0.1
	comp=Z,0.9nm,0.6s,mb3.9,baz=106,slow=4.9,SNR=9.5						
FINES	FINESS Array B	79.70	332	P	P	01 21 27.2	-0.1
ARCES	ARCESS Array B	82.14	340	P	P	01 21 40.4	+0.1
	comp=Z,0.4nm,0.4s,mb3.7,baz=96,slow=4.9,SNR=12						
GERES	GERESS Array B	84.70	319	P	P	01 21 55.3	+1.8
	comp=Z,0.2nm,0.4s,mb3.6,baz=151,slow=3.0,SNR=3.5						
NB2	NORSAR Subarra	86.73	331	P	P	01 22 03.2	-0.3
	comp=Z,0.6nm,0.6s,mb4.0,baz=96,slow=4.6						
NOA	NORSAR Array B	86.73	331	P	P	01 22 03.5	0.0
	comp=Z,1.2nm,0.8s,mb4.2,baz=93,slow=4.9,SNR=8.3						

*ISCJB **03** 01:17:27.4±3.2, 275S±02×1780W±09, h267km±34km, mb3.3/3, Error ellipse: s-maj=131.3km s-min=19.4km az=13.2*

*NEIC **03** 01:17:28.1±1.4, 2744S×178.16W, h247km±17km, mb3.7/1, Error ellipse: s-maj=34.3km s-min=25.1km az=131.0*

*IDC **03** 01:17:29.3±1.9, 2745S×17841W, h240km±17km, mb3.2/2, mb1 3.5/3, mb1mx3.2/11, mbtmp3.9/3, Error ellipse: s-maj=33.6km s-min=33.1km az=178.0*

ISC 03 01:17:30.6±2.7**, 277S**±02×**178W**±**, h255**km±47km**, n9, σ0s76**/9**, mb3.5**/3**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.60	166	P	Pn	01 18 08.7	-1.4
	158nm,0.3s,baz=69,slow=23,SNR=12						
RAO				S	S	01 18 42.1	+0.8
	300nm,0.3s,baz=245,slow=23,SNR=4.3						
URZ	Urewera	11.21	199	P	Pn	01 20 05.4	+1.2
	0.7nm,0.3s,baz=165,slow=4.7,SNR=4.1						
URZ				S	S	01 22 08.8	-0.7
	1.5nm,0.3s,baz=183,slow=23,SNR=4.5						
ASAR	Alice Springs	43.01	264	P	P	01 25 05.8	+0.7
	0.4nm,0.5s,mb3.1,baz=83,slow=7.8,SNR=5.7						
WB2	Warramunga Arr	43.74	270	eP	P	01 25 10.8	-0.2
WRAB	Tennant Creek	43.75	270	eP	P	01 25 10.9	-0.1
	2.2nm,0.6s,mb3.7						
WRA	Warramunga Arr	43.75	270	P	P	01 25 10.9	-0.2
	2.2nm,0.6s,mb3.6,baz=106,slow=7.9,SNR=7.5						
MBWA	Marble Bar	56.26	262	P	P	01 26 44.6	-0.1
NOA	NORSAR Array B	146.04	352	PKPbc	PKPbc	01 36 37.8	-2.7
	0.3nm,0.9s,baz=12,slow=3.2,SNR=3.2						
TORD	Torodi Ar. Bea	165.53	180	PKPab	PKPab	01 38 07.0	+2.4
	0.5nm,0.9s,baz=188,slow=4.1,SNR=5.1						

KRSC 03 01:39:06, 5450N×16185E, h34km, ML3.6, Near east coast of Kamchatka Peninsula

*BJI **03** 01:44:55.7, 4270S×17290E, h43km, mB5.6, mb5.4, Ms5.2, Msz5.0*

*NEIC **03** 01:44:55.7, 4267S×17291E, h48km, ML4.5(WEL), After WEL.*

NEIC Felt at Christchurch.

WEL 03 01:44:55.9±0.1**, 4265S×17290E, h46**km±1km**, ML4.5**/19**, Error ellipse: s-maj=1.4km s-min=1.1km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	Lake Taylor	0.48	254	PN	Pn	01 45 06.9	+0.2
LTZ				SN	Sn	01 45 14.2	-0.2
LTZ	Lake Taylor	0.48	254	P	Pn	01 45 06.9	+0.2
LTZ				S	Sn	01 45 14.2	-0.2
KHZ	Kahutara	0.53	64	PN	Pn	01 45 06.9	-0.4
KHZ	Kahutara	0.53	64	P	Pn	01 45 06.9	-0.4
THZ	Tophouse	0.89	0	PN	Pn	01 45 11.4	-0.6
THZ	Tophouse	0.89	0	P	Pn	01 45 11.4	-0.6
CRLZ	Canterbury Las	0.95	192	PN	Pn	01 45 12.4	-0.4
MQZ	McQueen's Vall	1.07	190	PN	Pn	01 45 13.7	-0.8
MQZ	McQueen's Vall	1.07	190	P	Pn	01 45 13.7	-0.8
BSWZ	Blackbirch Sta	1.19	38	PN	Pn	01 45 15.9	-0.1
BSWZ	Blackbirch Sta	1.19	38	P	Pn	01 45 15.9	-0.1
BSWZ				S	Sn	01 45 31.2	+0.2
DSZ	Denniston Nort	1.22	318	PN	Pn	01 45 16.1	-0.3
DSZ	Denniston Nort	1.22	318	P	Pn	01 45 16.1	-0.4
CMWZ	Cape Campbell	1.33	48	PN	Pn	01 45 18.3	+0.3
CMWZ	Cape Campbell	1.33	48	P	Pn	01 45 18.3	+0.3
TUWZ	Tuamarina	1.45	33	PN	Pn	01 45 19.1	-0.5
NNZ	Nelson	1.48	14	PN	Pn	01 45 20.0	0.0
NNZ	Nelson	1.48	14	P	Pn	01 45 20.0	0.0
WVZ	Waitaha Valley	1.65	254	PN	Pn	01 45 22.8	+0.5
WVZ	Waitaha Valley	1.65	254	P	Pn	01 45 22.8	+0.5
RPZ	Rata Peaks	1.72	231	PN	Pn	01 45 22.9	-0.4
RPZ	Rata Peaks	1.72	231	P	Pn	01 45 22.9	-0.4
TCW	Tory Channel	1.77	36	PN	Pn	01 45 23.1	-0.9
QRZ	Quartz Range	1.84	351	PN	Pn	01 45 24.3	-0.7
QRZ	Quartz Range	1.84	351	P	Pn	01 45 24.3	-0.7
SNZO	South Karori	1.90	46	PN	Pn	01 45 24.8	-1.0
SNZO	South Karori	1.90	46	P	Pn	01 45 24.8	-1.0
BHW	Baring Head	1.92	50	PN	Pn	01 45 24.9	-1.3
BHW	Baring Head	1.92	50	P	Pn	01 45 24.9	-1.2
WEL	Wellington	1.95	46	PN	Pn	01 45 25.7	-0.8
WEL	Wellington	1.95	46	P	Pn	01 45 25.7	-0.8
MRW	Makara Radio	1.96	44	PN	Pn	01 45 25.5	-1.1
DUWZ	D'Urville Isla	2.00	23	PN	Pn	01 45 27.1	-0.1
MSWZ	Moikau Station	2.14	56	PN	Pn	01 45 27.6	-1.5
CAW	Cannon Point	2.24	47	PN	Pn	01 45 29.1	-1.3
CAW	Cannon Point	2.24	47	P	Pn	01 45 29.1	-1.3
PAWZ	Paruwai Farm	2.27	57	PN	Pn	01 45 29.1	-1.8
PAWZ	Paruwai Farm	2.27	57	P	Pn	01 45 29.1	-1.8
KIW	Kapiti Island	2.34	41	PN	Pn	01 45 30.9	-0.9
KIW	Kapiti Island	2.34	41	P	Pn	01 45 30.9	-0.9
TRWZ	Traveller	2.43	60	PN	Pn	01 45 31.3	-1.7
MTW	Mount Morrison	2.45	53	P	Pn	01 45 31.7	-1.6
FOZ	Fox Glacier	2.52	248	P	Pn	01 45 33.5	-0.8
LBZ	Lake Benmore	2.63	228	eP	Pn	01 45 35.3	-0.5
MRZ	Mangatainoka R	2.83	46	PN	Pn	01 45 36.6	-1.9
MRZ	Mangatainoka R	2.83	46	eP	Pn	01 45 36.6	-1.9
ODZ	Otahua Downs	2.90	214	PN	Pn	01 45 38.6	-0.9
ODZ	Otahua Downs	2.90	214	P	Pn	01 45 38.5	-1.0
BFZ	Birch Farm	3.19	53	eP	Pn	01 45 42.0	-1.5
WAZ	Wanganui	3.29	29	eP	Pn	01 45 45.8	+0.9
JCZ	Jackson Bay	3.34	243	PN	Pn	01 45 45.5	-0.1
JCZ	Jackson Bay	3.34	243	eP	Pn	01 45 45.0	-0.5
NRZ	Ngariki Road	3.40	14	P	Pn	01 45 47.6	+1.2
NWEZ	Newall Road	3.45	13	P	Pn	01 45 48.1	+1.0
NEZ	North Egmont	3.50	15	P	Pn	01 45 48.7	+1.0
RAEZ	Rainy Point	3.54	19	P	Pn	01 45 50.3	+1.9
PKE	Pukeiti	3.55	14	P	Pn	01 45 49.3	+0.9
WKZ	Wanaka	3.56	231	PN	Pn	01 45 47.4	-1.1
WKZ	Wanaka	3.56	231	eP	Pn	01 45 47.5	-1.0
EAZ	Earnscleugh	3.66	224	PN	Pn	01 45 48.6	-1.3
EAZ	Earnscleugh	3.66	224	eP	Pn	01 45 48.8	-1.1
VRZ	Vera Road	3.79	22	P	Pn	01 45 52.3	+0.5
MOVZ	Moawhango	3.89	35	P	Pn	01 45 52.2	-1.0
FWVZ	Far West T-bar	3.94	32	eP	Pn	01 45 53.3	-0.5
WPVZ	Whakapapa	3.98	31	eP	Pn	01 45 54.9	+0.5
TUZ	Tuapeka	4.05	214	eP	Pn	01 45 54.4	-0.9
TWVZ	Taurewa	4.06	29	P	Pn	01 45 54.9	-0.6
WTVZ	West Tongariro	4.08	31	P	Pn	01 45 55.2	-0.5
RATZ	Rangitukua	4.36	31	P	Pn	01 46 06.0	+6.4
HIZ	Hauiti	4.39	20	P	Pn	01 45 59.7	-0.3
WHZ	Wether Hill Ro	4.81	226	eP	Pn	01 46 02.8	-3.0
OUZ	Omahuta	7.44	4	eP	Pn	01 46 42.3	+0.5
KMI	Kunming	93.33	301	P	P	01 58 11.3	+5.5
KMI				AP	pP	01 58 17.8	-1.8
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s						
CD2	Chengdu	96.85	306	eP	P	01 58 21.5	-0.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
CD2				AMB	AMB		
	comp=Z,30nm,8.8s						
HHC	Hu-ho-hao-te	99.87	317	eP	Pdif	01 58 37.2	+1.8
HHC				AP		01 58 50.4	
HHC				XP		01 58 55.1	
HHC				PP	PP	02 02 44.7	+4.2
HHC				S		02 10 07.8	
HHC				SS	SS	02 17 04.2	+5.4
HHC				AMB	AMB		
	comp=Z,11nm,0.5s						
HHC				AMB	AMB		
	comp=Z,94nm,5.5s						
WMQ	Urumqi	114.91	307	PKP	PKiKP	02 03 31.3	-0.2

*ISCJB **03** 02:04:42.6±0.5, 5662S±007×1426W±02, h10km, mb4.4/12, MS5.1/140, Error ellipse: s-maj=13.1km s-min=10.0km az=171.3*

*IDC **03** 02:04:42.2±0.8, 5639S×14251W, h0km, mb4.0/8, mb1 4.1/8, mb1mx4.1/12, mbtmp4.0/8, MS4.7/2, Ms1 4.7/2, ms1mx4.2/13, Error ellipse: s-maj=37.2km s-min=18.5km az=173.0*

*HRVD **03** 02:04:44.2±0.1, 5666S×14242W, h25km, MW5.7/102, Centroid moment Tensor Solution. LP body waves: s89,c173;Mantle waves: s102,c291; Half duration: 1s8 Moment tensor: Scale 10^{17}Nm; Mrr-0.42±.05; Mθθ3.87±.05; Mφφ-3.45±.04; Mrθ0.51±.08; Mθφ2.89±.04; Mφr-0.25±.07; Best double couple: Mo4.69900×10^{17} NP1:φs26.00000°,δ83.00000°,λ-179.00000°. NP2: φs296.00000°,δ89.00000°,λ-7.00000°. Principal axes: T 4.9040, Plg4.0000°, Azm341.0000°; N -0.4110, Plg83.0000°, Azm108.0000°; P -4.4940, Plg6.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **03** 02:04:44.2±0.5, 5653S×14249W, h10km, mb4.7/7, MS5.1/132, MW5.8 Error ellipse: s-maj=18.4km s-min=11.7km az=187.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; Mrr-0.33; Mθθ5.02; Mφφ-4.69; Mrθ-0.89; Mθφ2.77; Mφr0.19; Best double couple: Mo5.70000×10^{17} NP1:φs300.00000°,δ88.00000°,λ9.00000°. NP2:φs210.00000°,δ81.00000°,λ178.00000°. Principal axes: T 5.8600, Plg7.0000°, Azm165.0000°; N -0.4000, Plg81.0000°, Azm313.0000°; P -5.4600, Plg5.0000°, Azm75.0000°;*

*BJI **03** 02:04:45.2, 5650S×14250W, h10km, mB5.4, Ms5.2, Msz5.1*

ISC 03 02:04:44.2±6.5**, 566S**±02×**1425W**±02**, h10**km±36km**, n178, σ0s89**/26**, mb4.4**/12**, MS5.1**/140**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	28.21	202	P	P	02 10 37.7	+0.6
	0.2nm,0.4s,baz=60,slow=13,SNR=2.1						
VNDA				LR	LR	02 19 00.2	
	comp=Z,2μm,21.8s,MS4.6,baz=77,slow=30						
VNDA	Vanda	28.21	202	P	P	02 10 37.7	+0.6
VNDA				LR	LR	02 19 00.2	
SNZO	South Karori	31.37	281	PFAKE		02 11 20.0	+15
SNZO				LR	LR		
	comp=Z,5μm,19.0s,MS5.2						
QSPA	South Pole Qui	33.55	180	eP	P	02 11 25.4	+1.2
	comp=Z,9.3nm,1.0s,mb4.7						
TBI	Tubuai	33.61	348	eS	S	02 16 45.9	-1.2
	comp=Z,1μm,28.5s						
TBI				eLR	LR	02 20 04.2	
	comp=Z,11μm,29.0s,baz=176						
RKT	Rikitea	33.91	13	eS	S	02 16 53.3	+1.5
	comp=Z,1μm,30.5s						
RKT				eLQ		02 19 00.2	
	comp=Z,5μm,31.5s						
RKT				eLR	LR	02 20 17.9	
	comp=Z,8μm,26.8s						
PMSA	Palmer Station	36.86	136	PFAKE		02 12 00.0	+7.3
PMSA				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
PPT	Papeete	39.33	349	eS	S	02 18 13.5	-1.1
	comp=Z,1μm,24.9s						
PPT				eLR	LR	02 22 40.8	
	comp=Z,12μm,28.5s,baz=181						
TAU	Tasmania Unive	45.31	256	PFAKE		02 13 10.0	+7.8
TAU				LR	LR		
	comp=Z,3μm,22.0s,MS5.2						
CASY	Casey	45.83	213	PFAKE		02 13 20.0	+14
CASY				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
EFI	East Falkland	46.75	122	PFAKE		02 13 20.0	+6.4
EFI				LR	LR		
	comp=Z,906nm,20.0s,MS4.7						
TAOE	Nuku Hiva Isla	47.67	3	eS	S	02 20 17.6	+1.1
	comp=Z,3μm,25.0s						
TAOE				eLQ		02 24 26.6	
	comp=Z,12μm,27.6s						
TAOE				eLR	LR	02 26 41.5	
	comp=Z,17μm,28.1s,baz=190						
PLCA	Paso Flores	47.81	103	P	P	02 13 21.8	-0.1
	comp=Z,2.4nm,1.1s,mb4.2,baz=59,slow=21,SNR=1.8						
PLCA	Paso Flores	47.81	103	P	P	02 13 22.3	+0.4
	comp=Z,2.4nm,0.8s,mb4.3						
PLCA				LR	LR		
	comp=Z,1μm,19.0s,MS4.9						
SNAA	Sanae	48.93	164	eP	P	02 13 28.8	-1.7
SNAA				e	pP	02 13 32.0	-1.6
SNAA				e		02 13 36.8	
SNAA				e		02 13 39.5	
SNAA				e		02 13 48.3	
SNAA	Sanae	48.93	164	eP	P	02 13 28.8	-1.7
	comp=Z,7.7nm,1.1s,mb4.7						
VNA1	Neumayer--Stat	48.94	162	eP	P	02 13 30.1	-0.4
VNA1				e		02 13 37.7	
VNA1				e		02 13 40.5	
HOPE	Hope Point	54.18	136	PFAKE		02 14 20.0	+10
HOPE				LR	LR		
	comp=Z,1μm,21.0s,MS4.9						
TRQA	Tornquist	54.33	107	PFAKE		02 14 20.0	+9.2
TRQA				LR	LR		
	comp=Z,647nm,21.0s,MS4.7						
MAW	Mawson	54.68	192	P	P	02 14 13.7	+0.3
	comp=Z,2.0nm,0.8s,mb4.2,baz=166,slow=8.3,SNR=3.0						
MAW	Mawson	54.68	192	P	P	02 14 13.7	+0.3
MAW				LR	LR		
	comp=Z,3μm,22.0s,MS5.3						
STKA	Stephens Creek	56.45	262	P	P	02 14 25.6	-0.5
	comp=Z,2.6nm,0.8s,mb4.3,baz=128,slow=6.7,SNR=4.9						
STKA	Stephens Creek	56.45	262	P	P	02 14 26.6	+0.5
FUNA	Funafuti	56.49	313	PFAKE		02 14 40.0	+14
FUNA				LR	LR		
	comp=Z,4μm,19.0s,MS5.5						
LVC	Limon Verde	62.45	90	PFAKE		02 15 20.0	+12
LVC				LR	LR		
	comp=Z,569nm,19.0s,MS4.8						
CTAO	Charters Tower	63.14	274	eP	P	02 15 14.1	+2.0
	comp=Z,9.3nm,1.1s,mb4.8						
CTAO				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
HNR	Honiara	64.62	293	PFAKE		02 15 30.0	+8.1
HNR				LR	LR		
	comp=Z,938nm,20.0s,MS5.0						
NNA	Nana	66.75	76	PFAKE		02 15 50.0	+14
NNA				LR	LR		
	comp=Z,916nm,19.0s,MS5.0						
AS31	Alice Springs	67.08	262	eP	P	02 15 37.3	-0.5
ASAR	Alice Springs	67.08	262	P	P	02 15 37.5	-0.2
	comp=Z,2.8nm,0.9s,mb4.3,baz=140,slow=6.4,SNR=21						
LPAZ	La Paz	67.97	86	P	P	02 15 42.8	-0.6
	comp=Z,0.8nm,1.0s,mb3.7,baz=186,slow=6.7,SNR=3.2						
LPAZ	La Paz	67.97	86	eP	P	02 15 44.2	+0.8
	comp=Z,22nm,1.4s,mb5.0						
LPAZ				LR	LR		
	comp=Z,360nm,19.0s,MS4.6						
NWAO	Narrogin (SRO)	68.40	243	PFAKE		02 16 00.0	+14
NWAO				LR	LR		
	comp=Z,1μm,21.0s,MS5.2						
WB2	Warramunga Arr	69.83	264	eP	P	02 15 54.7	-0.2
WRA	Warramunga Arr	69.83	264	P	P	02 15 54.6	-0.3
	comp=Z,4.3nm,0.9s,mb4.4,baz=148,slow=5.3,SNR=8.5						
WRAB	Tennant Creek	69.83	264	eP	P	02 15 54.3	-0.7
	comp=Z,14nm,1.1s,mb4.8						
WRAB				LR	LR		
	comp=Z,1μm,22.0s,MS5.2						
PMG	Port Moresby	71.39	281	PFAKE		02 16 20.0	+16
PMG				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
SIV	San Ignacio	72.12	92	P	P	02 16 08.6	-0.2
	comp=Z,2.0nm,1.1s,mb4.0,baz=246,slow=7.6,SNR=4.3						
OTAV	Otavalo	76.22	68	PFAKE		02 16 40.0	+7.2
OTAV				LR	LR		
	comp=Z,273nm,21.0s,MS4.5						
SAML	Samuel	76.72	86	P	P	02 16 31.1	-4.5
	comp=Z,7.6nm,1.3s,mb4.5						
SAML				LR	LR		
	comp=Z,308nm,21.0s,MS4.6						
MBWA	Marble Bar	76.73	252	PFAKE		02 16 50.0	+14
MBWA				LR	LR		
	comp=Z,926nm,19.0s,MS5.1						
POHA	Pohakuloa	76.85	347	PFAKE		02 16 50.0	+14
POHA				LR	LR		
	comp=Z,1μm,21.0s,MS5.2						
BDFB	Brasilia	79.56	102	PFAKE		02 17 00.0	+8.7
BDFB				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
JTS	JuntasAbangare	81.73	57	PFAKE		02 17 10.0	+7.0
JTS				LR	LR		
	comp=Z,472nm,19.0s,MS4.9						
ROSC	El Rosal	82.27	69	LR	LR	02 48 43.7	
	comp=Z,303nm,18.4s,MS4.7,baz=12,slow=32						
WAKE	Wake Island	86.76	313	PFAKE		02 17 40.0	+11
WAKE				LR	LR		
	comp=Z,1μm,22.0s,MS5.2						
SDV	Santo Domingo	87.60	70	PFAKE		02 17 40.0	+7.4
SDV				LR	LR		
	comp=Z,202nm,22.0s,MS4.5						
TEIG	Tepich	89.03	50	PFAKE		02 17 50.0	+11
TEIG				LR	LR		
	comp=Z,177nm,22.0s,MS4.4						
MIDW	Midway	89.50	330	PFAKE		02 17 50.0	+8.4
MIDW				LR	LR		
	comp=Z,524nm,19.0s,MS5.0						
SUR	Sutherland	90.24	166	PFAKE		02 18 00.0	+15
SUR				LR	LR		
	comp=Z,915nm,20.0s,MS5.2						
SNCC	San Nicolas Is	91.61	19	PFAKE		02 18 00.0	+8.6
SNCC				LR	LR		
	comp=Z,1μm,21.0s,MS5.3						
LTX	Lajitas	91.73	33	PFAKE		02 18 00.0	+8.0
LTX				LR	LR		
	comp=Z,410nm,20.0s,MS4.9						
GUMO	Guam	91.93	292	PFAKE		02 18 00.0	+7.1
GUMO				LR	LR		
	comp=Z,1.0nm,21.0s						
PFO	Pinyon Flat Ob	92.55	22	PFAKE		02 18 10.0	+14
PFO				LR	LR		
	comp=Z,1μm,21.0s						
JCT	Junction City	94.01	36	PFAKE		02 18 10.0	+7.5
JCT				LR	LR		
	comp=Z,367nm,21.0s,MS4.8						
ISA	Isabella	94.15	19	PFAKE		02 18 10.0	+6.8
ISA				LR	LR		
	comp=Z,334nm,20.0s,MS4.8						
BOSA	Boshof	94.49	169	PFAKE		02 18 20.0	+15
BOSA				LR	LR		
	comp=Z,1μm,22.0s,MS5.4						
SAO	San Andreas Ge	94.72	17	PFAKE		02 18 20.0	+14
SAO				LR	LR		
	comp=Z,951nm,19.0s,MS5.3						
HKT	Hockley	94.86	39	PFAKE		02 18 20.0	+14
HKT				LR	LR		
	comp=Z,327nm,20.0s,MS4.8						
DAC	Darwin (Calif)	94.91	20	PFAKE		02 18 20.0	+13
DAC				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
WUAZ	Wupatki	95.50	25	PFAKE		02 18 20.0	+11
WUAZ				LR	LR		
	comp=Z,1μm,21.0s,MS5.3						
TPNV	Topopah Spring	95.83	21	PFAKE		02 18 20.0	+9.2
TPNV				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
CMB	Columbia Colle	96.13	17	PFAKE		02 18 20.0	+7.8
CMB				LR	LR		
	comp=Z,879nm,20.0s,MS5.2						
ANMO	Albuquerque	96.20	29	PFAKE		02 18 20.0	+7.5
ANMO				LR	LR		
	comp=Z,708nm,22.0s,MS5.1						
HOPS	Hopland	96.65	15	PFAKE		02 18 20.0	+5.4
HOPS				LR	LR		
	comp=Z,982nm,19.0s,MS5.3						
TPH	Tonopah	96.73	20	PFAKE		02 18 30.0	+15
TPH				LR	LR		
	comp=Z,2μm,22.0s,MS5.4						
DAV	Davao City (W)	96.89	272	PFAKE		02 18 30.0	+14
DAV				LR	LR		
	comp=Z,293nm,19.0s,MS4.8						
MNV	Mina	96.90	19	PFAKE		02 18 30.0	+14
MNV				LR	LR		
	comp=Z,1μm,22.0s,MS5.3						
NATX	Nacogdoches	96.92	40	PFAKE		02 18 30.0	+14
NATX				LR	LR		
	comp=Z,319nm,21.0s,MS4.8						
AMTX	Amarillo	97.50	33	PFAKE		02 18 30.0	+12
AMTX				LR	LR		
	comp=Z,770nm,22.0s,MS5.2						
SJG	San Juan	97.68	69	PFAKE		02 18 30.0	+11
SJG				LR	LR		
	comp=Z,353nm,22.0s,MS4.8						
LBTB	Lobatse	98.08	169	PFAKE		02 18 30.0	+9.0
LBTB				LR	LR		
	comp=Z,1μm,21.0s,MS5.3						
MVU	Marysvale	98.17	24	PFAKE		02 18 30.0	+8.6
MVU				LR	LR		
	comp=Z,703nm,20.0s,MS5.2						
WDC	Whiskeytown Da	98.28	15	PFAKE		02 18 30.0	+8.1
WDC				LR	LR		
	comp=Z,1μm,21.0s,MS5.3						
DWPF	Disney	98.89	52	PFAKE		02 18 30.0	+5.4
DWPF				LR	LR		
	comp=Z,260nm,19.0s,MS4.8						
BMN	Battle Mountai	99.01	19	PFAKE		02 18 40.0	+15
BMN				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						

SDCO Great Sand Dun 99.09 29 PFAKE 02 18 40.0 +14
SDCO LR LR
comp=Z,1µm,20.0s,MS5.5
YBH Yreka Blue Hor 99.39 15 PFAKE 02 18 40.0 +13
YBH LR LR
comp=Z,1µm,21.0s,MS5.4
DUG Dugway 99.66 23 PFAKE 02 18 40.0 +12
DUG LR LR
comp=Z,750nm,19.0s,MS5.2
ELK Elko 99.69 21 PFAKE 02 18 40.0 +12
ELK LR LR
comp=Z,806nm,20.0s,MS5.2
MPU Maple Canyon 99.74 24 PFAKE 02 18 40.0 +12
MPU LR LR
comp=Z,1µm,19.0s,MS5.3
MIAR Mount Ida 99.82 39 PFAKE 02 18 40.0 +11
MIAR LR LR
comp=Z,258nm,20.0s,MS4.7
HUMO Hull Mountain 100.22 15 PFAKE 02 18 40.0 +9.5
HUMO LR LR
comp=Z,749nm,21.0s,MS5.2
WVOR Wild Horse Val 100.71 18 PFAKE 02 18 40.0 +7.3
WVOR LR LR
comp=Z,1µm,21.0s,MS5.4
LRAL Lakeview Retre 100.91 45 PFAKE 02 18 40.0 +6.4
LRAL LR LR
comp=Z,211nm,20.0s,MS4.7
ISCO Idaho Springs 100.99 28 PFAKE 02 18 40.0 +6.0
ISCO LR LR
comp=Z,1µm,19.0s,MS5.4
HWUT Hardware Ranch 101.28 23 PFAKE 02 18 50.0 +15
HWUT LR LR
comp=Z,813nm,22.0s,MS5.2
OXF Oxford 101.30 42 PFAKE 02 18 50.0 +15
OXF LR LR
comp=Z,257nm,20.0s,MS4.7
COR Corvallis 102.11 14 PFAKE 02 18 50.0 +11
COR LR LR
comp=Z,923nm,20.0s,MS5.3
PLAL Pickwick Lake 102.22 43 PFAKE 02 18 50.0 +11
PLAL LR LR
comp=Z,229nm,19.0s,MS4.7
AHID Auburn Hatcher 102.49 23 PFAKE 02 18 50.0 +9.4
AHID LR LR
comp=Z,635nm,20.0s,MS5.1
HLID Hailey 102.57 21 PFAKE 02 18 50.0 +9.0
HLID LR LR
comp=Z,2µm,20.0s,MS5.5
TSUM Tsumeb 102.65 161 PFAKE 02 18 50.0 +8.6
TSUM LR LR
comp=Z,953nm,20.0s,MS5.3
BW06 Boulder Array 102.83 24 PFAKE 02 18 50.0 +7.8
BW06 LR LR
comp=Z,954nm,22.0s,MS5.3
BMO Blue Mountains 103.29 18 PFAKE 02 18 50.0 +5.8
BMO LR LR
comp=Z,747nm,20.0s,MS5.2
WVT Waverly 103.32 43 PFAKE 02 18 50.0 +5.6
WVT LR LR
comp=Z,212nm,20.0s,MS4.7
CCM Cathedral Cave 103.80 39 PFAKE 02 19 00.0 +14
CCM LR LR
comp=Z,190nm,19.0s,MS4.7
LKWY Lake 104.36 23 PFAKE 02 19 00.0 +11
LKWY LR LR
comp=Z,839nm,20.0s,MS5.3
HAWA Hanford 104.42 16 PFAKE 02 19 00.0 +11
HAWA LR LR
comp=Z,81nm,21.0s,MS4.2
BOZ Bozeman (W) 105.13 22 PFAKE 02 23 20.0 +13
BOZ LR LR
comp=Z,472nm,19.0s,MS5.0
RSSD Black Hills 105.45 28 PFAKE 02 23 20.0 +13
RSSD LR LR
comp=Z,397nm,19.0s,MS5.0
WCI Wyandotte Cave 105.75 43 PFAKE 02 23 20.0 +12
WCI LR LR
comp=Z,205nm,19.0s,MS4.7
MSO Missoula 105.81 20 PFAKE 02 23 20.0 +12
MSO LR LR
comp=Z,709nm,21.0s,MS5.2
NEW Newport 106.63 17 PFAKE 02 23 20.0 +10
NEW LR LR
comp=Z,756nm,22.0s,MS5.2
LAO LASA Array 107.31 25 PFAKE 02 23 20.0 +9.1
LAO LR LR
comp=Z,763nm,20.0s,MS5.2
EGMT Eagleton 107.78 22 PFAKE 02 23 20.0 +8.3
EGMT LR LR
comp=Z,295nm,22.0s,MS4.8
LSZ Lusaka 107.97 171 PFAKE 02 23 20.0 +7.9
LSZ LR LR
comp=Z,1µm,19.0s,MS5.4
ACSO Alum Creek Sta 108.75 44 PFAKE 02 23 20.0 +6.4
ACSO LR LR
comp=Z,173nm,20.0s,MS4.6
CBN Corbin 109.28 49 PFAKE 02 23 30.0 +15
CBN LR LR
comp=Z,426nm,20.0s,MS5.0
MCWV Mont Chateau 109.50 47 PFAKE 02 23 30.0 +15
MCWV LR LR
comp=Z,320nm,19.0s,MS4.9
AAM Ann Arbor 110.28 43 PFAKE 02 23 30.0 +14
AAM LR LR
comp=Z,241nm,19.0s,MS4.8
SSPA Standing Stone 111.12 47 PFAKE 02 23 30.0 +12
SSPA LR LR
comp=Z,223nm,19.0s,MS4.8
ERPA Erie 111.53 45 PFAKE 02 23 30.0 +11
ERPA LR LR
comp=Z,275nm,19.0s,MS4.9
UNV Unalaska Valle 111.82 345 PFAKE 02 23 30.0 +11
UNV LR LR
comp=Z,2µm,20.0s,MS5.8
EYMN Ely 112.52 34 PFAKE 02 23 30.0 +9.3
EYMN LR LR
comp=Z,772nm,19.0s,MS5.3
BINY Binghamton 113.21 48 PFAKE 02 23 30.0 +8.0
BINY LR LR
comp=Z,337nm,19.0s,MS5.0
ULM Lac du Bonnet 113.28 31 PFAKE 02 23 30.0 +7.9
ULM LR LR
comp=Z,914nm,22.0s,MS5.3
SIT Sitka 113.46 4 PFAKE 02 23 30.0 +7.5
SIT LR LR
comp=Z,2µm,19.0s,MS5.7
TATO Taipei 113.71 280 PFAKE 02 23 30.0 +7.1
TATO LR LR
comp=Z,652nm,20.0s,MS5.2
MAJO Matsushiro 114.26 300 PFAKE 02 23 30.0 +6.0
MAJO LR LR
comp=Z,222nm,20.0s,MS4.8
KDAK Kodiak Island 114.32 354 PFAKE 02 23 30.0 +5.9
KDAK LR LR
comp=Z,484nm,22.0s,MS5.1
SMY Shemya 114.64 333 PFAKE 02 23 30.0 +5.3
SMY LR LR
comp=Z,812nm,21.0s,MS5.3
HRV Harvard--Oak R 115.32 51 PFAKE 02 23 40.0 +14
HRV LR LR
comp=Z,219nm,19.0s,MS4.8
WES Weston 115.32 51 PFAKE 02 23 40.0 +14
WES LR LR
comp=Z,352nm,22.0s,MS4.9
QIZ Qiongzhong 115.37 266 PFAKE 02 23 40.0 +14
QIZ LR LR
comp=Z,338nm,20.0s,MS5.0
NCB Newcomb 115.40 48 PFAKE 02 23 40.0 +14
NCB LR LR
comp=Z,257nm,21.0s,MS4.8
FFC Flin Flon 115.78 25 PFAKE 02 23 40.0 +13
FFC LR LR
comp=Z,541nm,20.0s,MS5.2
LBNH Lisbon 116.57 49 PFAKE 02 23 40.0 +12
LBNH LR LR
comp=Z,442nm,20.0s,MS5.1
PMR Palmer 117.97 356 PFAKE 02 23 40.0 +8.9
PMR LR LR
comp=Z,1µm,22.0s,MS5.5
DBIC Dimbokro 120.15 129 PFAKE 02 23 50.0 +15
DBIC LR LR
comp=Z,225nm,22.0s,MS4.8
PALK Pallekele 120.29 232 PFAKE 02 23 50.0 +14
PALK LR LR
comp=Z,753nm,21.0s,MS5.3

YSS Yuzh-Sakhalins 120.47 310 PFAKE 02 23 50.0 +14
YSS LR LR
comp=Z,591nm,22.0s,MS5.2
INCN Inchon 120.75 292 PFAKE 02 23 50.0 +14
INCN LR LR
comp=Z,306nm,22.0s,MS4.9
CM31 Chiang Mai Arr 120.85 256 PFAKE 02 23 50.0 +13
CM31 LR LR
comp=Z,344nm,19.0s,MS5.0
COLA College 121.22 357 PFAKE 02 23 50.0 +13
COLA LR LR
comp=Z,943nm,20.0s,MS5.4
KMBO Kilima Mbogo 122.45 180 PFAKE 02 23 50.0 +10
KMBO LR LR
comp=Z,780nm,22.0s,MS5.3
TNA Tin City 123.36 348 PFAKE 02 23 50.0 +8.5
TNA LR LR
comp=Z,733nm,20.0s,MS5.3
KMI Kunming 124.16 264 PKP PKPdf 02 23 43.8 +0.8
KMI XPKP 02 23 48.5
KMI PP PP 02 25 35.5 +8.0
KMI PKS 02 27 20.4
KMI SKKS SKKSac 02 32 23.6 -2.8
KMI SS SS 02 42 19.8 +1.5
KMI PP PP
comp=Z,31nm,5.9s
KMI LR LR
comp=N,228nm,24.5s,MS4.9
KMI LR LR
comp=E,214nm,23.0s,MS4.9
KMI LR LR
comp=Z,389nm,27.8s,MS4.9
MDJ Mudanjiang 124.65 300 PKP PKPdf 02 23 46.5 +2.5
MDJ PP PP 02 25 33.5 +2.7
MDJ PKS 02 27 23.3
MDJ SKS SKSdf 02 30 54.3 -1.6
MDJ SKKS SKKSac 02 32 21.8 -7.7
MDJ PP PP
comp=Z,64nm,6.3s
MDJ LR LR
comp=N,164nm,27.1s
MDJ LR LR
comp=E,274nm,20.6s
MDJ LR LR
comp=Z,421nm,20.6s
MDJ Mudanjiang 124.65 300 PFAKE 02 23 50.0 +6.0
MDJ LR LR
comp=Z,351nm,21.0s,MS5.0
CN2 Changchun 126.07 296 *e*PKP PKPdf 02 23 50.7 +4.0
CN2 PP PP 02 25 49.2 +8.9
CN2 LR LR
comp=N,210nm,21.0s,MS4.9
CN2 LR LR
comp=E,130nm,21.0s,MS4.9
CN2 LR LR
comp=Z,140nm,23.0s,MS4.6
SCHQ Schefferville 126.91 45 PFAKE 02 24 00.0 +12
SCHQ LR LR
comp=Z,444nm,22.0s,MS5.1
MA2 Magadan 127.29 324 PFAKE 02 24 00.0 +11
MA2 LR LR
comp=Z,827nm,21.0s,MS5.4
BJT Baijiatuau 128.09 287 PFAKE 02 24 00.0 +9.5
BJT LR LR
comp=Z,463nm,22.0s,MS5.1
CD2 Chengdu 128.10 270 *e*PKP PKPdf 02 23 50.4 -0.1
CD2 XPKP 02 23 56.2
CD2 PP PP 02 25 57.6 +3.9
CD2 PKS 02 27 25.6
CD2 SKS SKSdf 02 30 56.9 -5.4
CD2 SKKS SKKSac 02 32 45.6 -5.8
CD2 SS SS 02 43 05.6 -2.0
CD2 PP PP
comp=Z,50nm,10.8s
CD2 LR LR
comp=E,210nm,27.8s
CD2 LR LR
comp=Z,310nm,30.0s,MS4.8
BJI Beijing 128.10 287 PKP PKPdf 02 23 47.4 -3.1
BJI SS SS 02 43 08.6 +0.9
BJI PP PP
comp=Z,162nm,4.6s
BJI LR LR
comp=N,280nm,21.3s,MS5.0
BJI LR LR
comp=E,250nm,24.3s,MS5.0
BJI LR LR
comp=Z,571nm,27.3s,MS5.1
BILL Bilibino 129.91 338 PFAKE 02 24 00.0 +6.0
BILL LR LR
comp=Z,632nm,22.0s,MS5.3
HHC Hu-ho-hao-te 131.13 284 *e*PKP PKPdf 02 24 00.9 +4.6
HHC PP PP 02 26 23.7 +10
HHC PKS 02 27 35.1
HHC SKS SKSdf 02 31 11.6 +3.7
HHC SKKS SKKSac 02 33 13.4 +3.2
HHC PP PP
comp=Z,104nm,19.6s
HHC LR LR
comp=N,183nm,26.8s,MS4.9
HHC LR LR
comp=E,283nm,27.3s,MS4.9
HHC LR LR
comp=Z,475nm,32.1s,MS5.0
LZH Lanzhou 131.92 274 *e*PKP PKPdf 02 23 57.0 -0.8
LZH XPKP 02 24 06.0
LZH LR LR
comp=E,930nm,18.0s
LZH LR LR
comp=Z,590nm,21.0s,MS5.3
HIA Hailar 132.71 298 PFAKE 02 24 10.0 +11
HIA LR LR
comp=Z,449nm,22.0s,MS5.1
LSA Lhasa 134.08 257 PFAKE 02 24 10.0 +8.1
LSA LR LR
comp=Z,296nm,21.0s,MS5.0
YAK Yakutsk 136.44 317 PFAKE 02 24 20.0 +14
YAK LR LR
comp=Z,407nm,21.0s,MS5.1
ULN Ulaanbaatar 138.23 289 PFAKE 02 24 20.0 +10
ULN LR LR
comp=Z,227nm,19.0s,MS4.9
TIXI Tiksi 141.81 329 PFAKE 02 24 30.0 +14
TIXI LR LR
comp=Z,441nm,21.0s,MS5.2
TLY Talaya 142.28 291 PFAKE 02 24 30.0 +13
TLY LR LR
comp=Z,199nm,20.0s,MS4.9
WMQ Urumqi 146.19 270 PKP PKPdf 02 24 25.1 +1.4
WMQ APKP 02 24 28.6
WMQ XPKP 02 24 29.9
WMQ PP PP 02 27 50.8 +4.0
WMQ PP PP
comp=Z,808nm,10.9s
WMQ LR LR
comp=N,1µm,26.0s,MS5.7
WMQ LR LR
comp=E,980nm,24.9s,MS5.7
WMQ LR LR
comp=Z,2µm,26.5s,MS5.7
ESDC Sonseca Array 148.19 104 PKPbc PKPbc 02 24 29.0 -1.4
comp=Z,1.6nm,0.8s,baz=242,slow=2.5,SNR=8.3
ESLA Sonseca Array 148.19 104 PFAKE 02 24 40.0 +13
ESLA LR LR
comp=Z,2µm,20.0s,MS5.8
MKAR Makanchi Array 151.03 269 PKPbc PKPbc 02 24 36.5 -0.8
comp=Z,2.4nm,0.8s,baz=108,slow=4.0,SNR=13
BORG Borgarnes 151.11 49 PFAKE 02 24 40.0 +8.3
BORG LR LR
comp=Z,474nm,20.0s,MS5.3
AAK Ala-Archa 152.63 255 PFAKE 02 24 40.0 +6.0
AAK LR LR
comp=Z,282nm,20.0s,MS5.1
KURK Kurchatov 155.21 274 PFAKE 02 24 50.0 +12
KURK LR LR
comp=Z,306nm,20.0s,MS5.1
KBS Kingsbay 156.06 12 PFAKE 02 24 50.0 +11
KBS LR LR
comp=Z,492nm,20.0s,MS5.3
ESK Eskdalemuir 157.43 76 PFAKE 02 24 50.0 +9.5
ESK LR LR
comp=Z,334nm,20.0s,MS5.2
BRVK Borovoye 160.88 273 PFAKE 02 24 50.0 +5.4
BRVK LR LR
comp=Z,366nm,22.0s

GNI Garni 162.85 199 PFAKE 02 25 00.0 +13
GNI LR LR
comp=Z,556nm,21.0s
ANTO Ankara 162.97 168 PFAKE 02 25 00.0 +13
ANTO LR LR
comp=Z,450nm,20.0s
CLL Collm 164.70 100 *e*(PKPdf) PKPdf 02 25 00.5 +12
CLL *e*PKPab PKPab 02 25 49.4 +5.6
CLL *e*PP PP 02 29 30.5 +0.6
CLL *e*SKKSac SKKSac 02 36 21.7 +3.7
CLL *e*PSKS 02 40 03.2
CLL *e*PPS 02 43 25.3
CLL *e*SS SS 02 50 14.0 +11
CLL *e*SSS 02 56 36.8
CLL *e*SSSS 03 01 08.5
CLL *e*L 03 45 31.1
comp=Z,495nm,20.0s
CLL Collm 164.70 100 *e*(PKPdf) PKPdf 02 25 00.5 +12
CLL *e*PKPab PKPab 02 25 49.4 +5.6
CLL *e*PP PP 02 29 30.5 +0.6
CLL *e*SKKSac SKKSac 02 36 21.7 +3.7
CLL *e*PSKS 02 40 03.2
CLL *e*PPS 02 43 25.3
CLL *e*SS SS 02 50 14.0 +11
CLL *e*SSS 02 56 36.8
CLL *e*SSSS 03 01 08.5
CLL *e*L 03 45 31.1
comp=Z,495nm,20.0s
CLL Collm 164.70 100 *e*PKIKP PKPdf 02 24 46.0 -2.3
CLL *e*PPS 02 43 18.0
CLL *e*SS SS 02 50 08.0 +5.1
CLL *e* 02 54 48.0
CLL *e*SSS 02 56 24.0
CLL Collm 164.70 100 *e*PKPdf PKPdf 02 24 46.0 -2.3
CLL *e*PP PP 02 29 30.0 +0.1
CLL *e*SKKSac SKKSac 02 36 18.0 0.0
CLL *e*PSKS 02 40 00.0
CLL *e*PPS 02 43 18.0
CLL *e*SS SS 02 50 08.0 +5.1
CLL *e*SSrev 02 54 48.0
CLL *e*SSS 02 56 24.0
CLL *e*(SSSS) 03 01 12.0
CLL LmH 03 43 00.0
comp=N,300nm,20.8s
CLL LmH 03 43 00.0
comp=E,300nm,21.5s
CLL LmV 03 45 00.0
comp=Z,500nm,19.4s
KONO Kongsberg 165.02 67 PFAKE 02 25 00.0 +11
KONO LR LR
comp=Z,413nm,21.0s
NAO01 NORSAR Array S 165.61 62 PFAKE 02 25 00.0 +11
NAO01 LR LR
comp=Z,610nm,19.0s
KEV Kevo 166.02 15 PFAKE 02 25 00.0 +11
KEV LR LR
comp=Z,425nm,22.0s
KIV Kislovodsk 166.91 197 PFAKE 02 25 00.0 +10
KIV LR LR
comp=Z,436nm,22.0s
ARU Arti 168.35 278 PFAKE 02 25 00.0 +8.9
ARU LR LR
comp=Z,451nm,21.0s
LVZ Lovozero 168.59 5 PFAKE 02 25 00.0 +8.7
LVZ LR LR
comp=Z,667nm,22.0s
OBN Obninsk 178.42 161 PFAKE 02 25 00.0 +5.1
OBN LR LR
comp=Z,816nm,22.0s

KRSC 03 02:45:50,6079N×16644E,h19km,ML3.8,Eastern Siberia

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*CSEM **03** 03:26:07.1±1.2,3880N×2776W,h4km±6km,ML1.4,Error ellipse: s-maj=3.1km s-min=2.1km az=94.0,After PDA*
*PDA **03** 03:26:07.1±1.2,3880N×2776W,h4km±6km,MD2.9,ML1.4, Error ellipse: s-maj=3.1km s-min=2.1km az=94.0*
SVSA 03 03:26:07.1±1.2,3880N×2776W,h4km±6km,MD2.9,ML1.4, Error ellipse: s-maj=3.1km s-min=2.1km az=94.0, Azores Islands

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PGRA Graciosa 0.29 323 *e*P Pg 03 26 12.1 -0.6
PGRA *e*S Sg 03 26 16.1 -0.4
PGRA
31nm,0.1s
PGRA Graciosa 0.29 323 *e*P Pg 03 26 12.1 -0.6
PGRA *e*S Sg 03 26 16.1 -0.4
PMAN Manadas 0.30 238 *i* P Pg 03 26 12.5 -0.5
PMAN *e*S Sg 03 26 17.2 +0.2
PMAN
63nm,0.1s
PMAN Manadas 0.30 238 *e*S Sg 03 26 17.2 +0.2
SRBC Serra Branca 0.33 318 *e*P Pg 03 26 12.8 -0.6
SRBC *e*S Sg 03 26 17.6 -0.1
PSBA Serra de Santa 0.34 95 *e*S Sg 03 26 18.1 0.0
PSBA
21nm,0.4s
STGR Santa Cruz 0.34 326 *e*S Sg 03 26 18.1 -0.1
STGR
8.0nm,0.1s
PVIA Vitoria 0.36 320 *e*S Sg 03 26 18.5 -0.1
PVIA
11nm,0.1s
ROSA Rosais 0.39 259 *i* P Pg 03 26 13.8 -0.7
ROSA *e*S Sg 03 26 19.3 -0.2
ROSA Rosais 0.39 259 *e*S Sg 03 26 19.3 -0.2
PID Ribeirinha 0.45 219 *e*S Sg 03 26 21.4 -0.3
PICO Pico 0.60 241 *e*S Sg 03 26 25.4 -1.0
CALA Caldeira 0.77 254 *e*S Sg 03 26 29.4 -2.4
PLUZ Luz 0.98 283 *e*S Sg 03 26 16.4 -22
PLUZ
27nm,0.1s

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*MOS **03** 03:28:38.1±2.9,5637N×11760E,h10km,mb4.2/1,Error ellipse: s-maj=18.3km s-min=16.2km az=145.9*
BYKL 03 03:28:38.7±0.3,5639N×11752E,h12km±12km,5C-5D, East of Lake Baykal

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CRS Chara 0.66 39 ⇓*i*Pg Pg 03 28 51.1 -0.4
CRS *e*Sg Sg 03 28 59.8 -0.3
CRS Pmax
100nm,0.9s
CRS Smax
584nm,1.3s
CRS Chara 0.66 39 *e*PG Pg 03 28 51.2 -0.3
CRS *e* 03 29 00.2
CRS pmax pmax
comp=Z,98nm,0.9s
CRS smax
comp=E,588nm,0.9s
NLYR Nelyaty 1.01 276 ⇓*i*Pg Pg 03 28 56.9 -1.3
NLYR *e*Pb Pb 03 28 58.4 +0.2
NLYR *e*Sg Sg 03 29 10.1 -1.4
NLYR *e*Sb Sb 03 29 14.3 +2.8
NLYR max
comp=E,393nm,0.4s
NLYR max
comp=E,2µm,0.7s
NLYR Nelyaty 1.01 276 *e*PG Pg 03 28 56.7 -1.5
NLYR *e* 03 29 10.2
NLYR pmax pmax
comp=Z,99nm,0.3s
NLYR smax
comp=N,2µm,1.3s
KHNR Khani 1.46 68 *e*Pg Pg 03 29 05.1 -1.6
KHNR *e* 03 29 16.8
KHNR *e*Sg Sg 03 29 21.7 -4.0
SVKR Severomuysk 2.23 265 ⇓*i*Pg Pg 03 29 18.7 -2.7
SVKR *e*Sg Sg 03 29 47.7 -2.6
SVKR Pmax
comp=N,150nm,0.3s
SVKR Smax
comp=N,500nm,0.5s
UKT Uakit 2.37 249 ⇓*i*Pn Pn 03 29 17.9 +0.5
UKT ⇑*i*Pg Pg 03 29 20.9 -3.2

	comp=N,18nm,0.6s						
UKT				⇑iPg	Pg	03 29 20.9	-3.2
	comp=N,37nm,0.6s						
UKT				⇓iPg	Pg	03 29 20.9	-3.2
	comp=N,40nm,0.6s						
UKT				eSg	Sg	03 29 51.3	-3.5
UKT				Pmax			
	comp=N,63nm,0.6s						
UKT				Smax			
	comp=N,183nm,0.2s						
UKT	Uakit	2.37	249	ePN	Pn	03 29 20.9	+3.5
UKT				e		03 29 51.8	
UKT				pmax	pmax		
	comp=Z,31nm,0.3s						
UKT				smax			
	comp=N,183nm,0.2s						
BOD	Bodaibo	2.39	308	ePg	Pg	03 29 21.3	-3.3
BOD				eSg	Sg	03 29 52.2	-3.4
BOD				Pmax			
	comp=N,46nm,0.6s						
BOD				Smax			
	comp=N,891nm,0.6s						
BOD	Bodaibo	2.39	308	ePN	Pn	03 29 19.8	+2.1
BOD				e		03 29 51.9	
BOD				pmax	pmax		
	comp=Z,42nm,0.5s						
BOD				smax			
	comp=N,891nm,0.8s						
TUP	Tupik	2.41	144	⇑iPn	Pn	03 29 18.9	+1.0
TUP				⇑iPg	Pg	03 29 21.7	-3.2
TUP				e		03 29 25.6	
TUP				eSg	Sg	03 29 53.6	-2.5
TUP				e		03 30 04.0	
TUP				max			
	comp=N,136nm,0.6s						
TUP				max			
	comp=N,355nm,0.8s						
TUP	Tupik	2.41	144	ePN	Pn	03 29 18.6	+0.7
TUP				e		03 29 22.1	
TUP				eS	Sn	03 29 48.4	+1.1
TUP				e		03 29 53.4	
TUP				pmax	pmax		
	comp=Z,124nm,0.6s						
TUP				smax			
	comp=E,357nm,0.9s						
YOA	Uoyan	3.24	268	ePg	Pg	03 29 36.6	-4.3
YOA				eSg	Sg	03 30 18.7	-4.2
YOA				Pmax			
	comp=E,73nm,0.2s						
YOA				Smax			
	comp=E,449nm,1.2s						
YOA	Uoyan	3.24	268	ePN	Pn	03 29 37.9	+8.5
YOA				e		03 30 20.6	
YOA				pmax	pmax		
	comp=Z,90nm,0.5s						
YOA				smax			
	comp=N,507nm,1.3s						
KMO	Kumora	3.57	265	ePn	Pn	03 29 34.5	+0.6
KMO				⇑iPg	Pg	03 29 42.0	-5.1
KMO				eSg	Sg	03 30 29.0	-4.4
KMO				Pmax			
	comp=N,48nm,0.3s						
KMO				Smax			
	comp=N,117nm,0.9s						
KMO	Kumora	3.57	265	ePN	Pn	03 29 33.5	-0.4
KMO				e		03 29 41.7	
KMO				eS	Sn	03 30 15.7	-0.3
KMO				e		03 30 28.1	
KMO				pmax	pmax		
	comp=Z,47nm,0.4s						
KMO				smax			
	comp=N,116nm,0.9s						
TNDR	Tynda	4.25	104	eSg	Sg	03 30 51.8	-3.5
NIZ	Nizh Angarsk	4.51	265	ePn	Pn	03 29 47.8	+1.0
NIZ				ePg	Pg	03 30 00.4	-4.7
NIZ				eSn	Sn	03 30 39.8	+0.6
NIZ				eSg	Sg	03 30 59.0	-4.6
NIZ				Pmax			
	comp=N,22nm,1.4s						
NIZ				Smax			
	comp=N,46nm,1.4s						
CIT	Chita	4.96	210	ePg	Pg	03 30 07.8	-5.9
CIT				eSg	Sg	03 31 11.5	-6.4
CIT				Pmax			
	comp=N,8.0nm,0.4s						
CIT				Smax			
	comp=N,205nm,0.5s						
SYVR	Suvo	5.12	241	ePn	Pn	03 29 55.4	+0.2
SYVR				e		03 30 03.5	
SYVR				ePg	Pg	03 30 10.8	-5.9
SYVR				eSg	Sg	03 31 17.7	-5.4
SYVR				Pmax			
	comp=N,7.0nm,0.8s						
SYVR				Smax			
	comp=N,95nm,0.9s						
MXMB	Maximikha	5.96	242	eSg	Sg	03 31 42.8	-7.2
MXMB				Smax			
	comp=N,106nm,1.1s						
OGRR	Ongureny	6.34	248	ePn	Pn	03 30 12.2	+0.3
OGRR				ePg	Pg	03 30 32.7	-7.3
OGRR				eSg	Sg	03 31 54.9	-7.2
OGRR				Pmax			
	comp=N,3.0nm,0.5s						
OGRR				Smax			
	comp=N,19nm,1.7s						
OGRR	Ongureny	6.34	248	ePN	Pn	03 30 12.5	+0.6
OGRR				e		03 30 32.5	
OGRR				e		03 31 55.1	
OGRR				pmax	pmax		
	comp=Z,5.0nm,1.7s						
OGRR				smax			
	comp=N,19nm,1.8s						
KPC	Khapcheranga	7.38	207	e	Pn	03 31 24.5	+58
KPC				e		03 32 13.2	
KPC				eSg	Sg	03 32 25.8	-10
KPC				Smax			
	comp=N,66nm,1.5s						
TRG	Tyrgan	7.44	245	e	Pb	03 31 54.9	+67
TRG				eSg	Sn	03 32 29.7	+38
TRG				Smax			
	comp=N,17nm,0.1s						

*IDC **03** 03:29:41.2±1.6, 2929N×5140E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.7/25, mbtmp3.8/11, ML2.8/1, Error ellipse: s-maj=28.9km s-min=27.8km az=154.0*
*CSEM **03** 03:29:41.3±0.3, 2929N×5126E, h10km, ML3.3, Error ellipse: s-maj=12.3km s-min=6.2km az=32.0*
*ISCJB **03** 03:29:42.1±0.4, 2934N±005×5145E±003, h10km, mb3.6/10, Error ellipse: s-maj=7.4km s-min=4.0km az=20.6*
*NEIC **03** 03:29:44.2, 2938N×5142E, h15km, ML3.3(THR), After THR.*
*THR **03** 03:29:44.3±0.3, 2939N×5141E, h15km±10km, ML3.3*
*KISR **03** 03:29:45.6±1.3, 2939N×5128E, h33km, ML3.3*
ISC 03 03:29:43.8±0.4**, 2934N**±005×**5143E**±003**, h10km, n30, σ1s12**/38**, mb3.6**/10**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.72	127	ePG	Pg	03 30 16.6	-0.1
GHIR				eSG	Sg	03 30 40.1	+1.0
GHIR				AML	AML	03 30 51.0	
	comp=E,326nm,0.4s						
GHIR	Ghir-Karzin	1.72	127	ePg	Pg	03 30 16.0	-0.8
GHIR				eSg	Sg	03 30 39.0	-0.1
GHIR	Ghir-Karzin	1.72	127	ePg	Pg	03 30 16.6	-0.2
	SNR=91						
GHIR				eSg	Sg	03 30 40.1	+1.0
	SNR=91						
UMR	Umm Al-Rimmam	3.25	275	eP	Pn	03 30 36.5	+1.6
UMR				AML	AML	03 31 12.9	
	comp=Z,50nm,0.4s						
KBD	Kabd	3.27	268	eP	Pn	03 30 36.3	+1.1
KBD				AML	AML	03 31 16.9	
	comp=Z,175nm,0.3s						
RDF	Al-Radifah	3.42	264	eP	Pn	03 30 37.7	+0.5
RDF				eS	Sn	03 31 17.8	0.0
RDF				AML	AML	03 31 20.8	
	comp=Z,55nm,0.4s						
SHGR	Shooshtar-Gavs	3.58	321	ePN	Pn	03 30 40.4	+1.1
SHGR	Shooshtar-Gavs	3.58	321	ePn	Pn	03 30 40.0	+0.7
MIB	Mutribah	3.60	278	eP	Pn	03 30 40.6	+1.0
MIB				eS	Sn	03 31 21.3	-0.9
MIB				AML	AML	03 31 29.1	
	comp=Z,111nm,0.5s						
NASN	Na'in	3.65	19	ePN	Pn	03 30 42.0	+1.6
NASN	Na'in	3.65	19	ePn	Pn	03 30 41.0	+0.7
NAY	Al-Naaiem	3.66	270	eP	Pn	03 30 41.0	+0.5
NAY				eS	Sn	03 31 24.0	+0.2
NAY				AML	AML	03 31 28.8	
	comp=Z,23nm,0.4s						
KRBR	Kerman	4.68	81	ePN	Pn	03 30 57.0	+2.5
KRBR				AML	AML	03 32 25.9	
	comp=N,22nm,0.6s						
KRBR				AML	AML	03 32 28.3	
	comp=E,21nm,0.7s						
KRBR	Kerman	4.68	81	ePn	Pn	03 30 57.0	+2.5
	SNR=52						
KRBR				Sn	Sn	03 31 49.0	+0.1
ASAO	Ashtian	5.33	347	ePN	Pn	03 31 05.0	+1.6
ASAO				AML	AML	03 32 12.2	
	comp=N,22nm,0.6s						
ASAO	Ashtian	5.33	347	ePn	Pn	03 31 05.0	+1.5
WSAR	Wadi Sarin	8.86	132	Pn	Pn	03 31 50.6	-1.3
	comp=N,0.1nm,0.3s,baz=127,slow=8.5,SNR=2.3						
WSAR				Sn	Sn	03 33 27.3	-4.5
	comp=N,0.3nm,0.3s,baz=4.5,slow=21,SNR=2.7						
AKTK	Aktyubinsk	21.65	11	P	P	03 34 34.9	+0.5
AKTK	Aktyubinsk	21.65	11	P	P	03 34 34.8	+0.4
AKTO	Aktyubinsk	21.65	11	P	P	03 34 34.9	+0.5
	comp=N,1.3nm,0.5s,mb3.6,baz=189,slow=9.4,SNR=6.6						
MLR	Muntele Rosu	25.73	316	P	P	03 35 14.9	+0.6
	comp=N,3.4nm,0.6s,mb4.0,baz=8.2,slow=4.4,SNR=3.8						
AKASG	Malin Array Be	27.10	328	P	P	03 35 25.1	-1.6
	comp=N,0.5nm,0.3s,mb3.5,baz=134,slow=8.6,SNR=5.9						
BVAR	Borovoye Array	27.47	25	P	P	03 35 28.8	-1.2
	comp=N,0.3nm,0.3s,mb3.3,baz=232,slow=34,SNR=2.7						
GERES	GERESS Array B	34.70	315	P	P	03 36 32.8	-1.0
	comp=N,0.3nm,0.5s,mb3.5,baz=126,slow=5.0,SNR=3.5						
FINES	FINESS Array B	36.23	340	P	P	03 36 45.4	-1.5
	comp=N,0.7nm,0.7s,mb3.7,baz=138,slow=19,SNR=3.5						
HFS	Hagfors	39.86	331	P	P	03 37 16.1	-1.5
	comp=N,1.7nm,0.5s,mb4.0,baz=123,slow=11,SNR=10						
NB2	NORSAR Subarra	41.38	332	P	P	03 37 27.8	-2.3
	comp=Z,0.4nm,0.5s,mb3.3,baz=124,slow=8.6						
NOA	NORSAR Array B	41.38	332	P	P	03 37 28.0	-2.1
	comp=Z,0.8nm,0.8s,mb3.4,baz=121,slow=8.3,SNR=6.0						
ARCES	ARCESS Array B	42.91	347	P	P	03 37 42.1	-0.5
	comp=Z,1.1nm,0.8s,mb3.6,baz=148,slow=7.1,SNR=4.9						
TORD	Torodi Ar. Bea	48.71	262	P	P	03 38 27.4	-1.0
	comp=Z,0.5nm,0.7s,mb3.7,baz=58,slow=8.4,SNR=9.1						

*ISCJB **03** 03:31:48.7±0.6, 5146N±003×1611E±003, h0km, Error ellipse: s-maj=5.0km s-min=2.7km az=34.5*
*IPEC **03** 03:31:49.2±0.3, 5157N×1625E, h0km, ML2.3/3, Error ellipse: s-maj=2.0km s-min=1.5km az=36.0*
*NEIC **03** 03:31:49.2±0.7, 5158N×16.18E, h5km, ML2.9(SZGRF), Error ellipse: s-maj=8.1km s-min=5.8km az=225.0*
*CSEM **03** 03:31:50.9±0.2, 5148N×16.15E, h0km, ML3.3/6, Error ellipse: s-maj=3.5km s-min=1.7km az=11.0*
*WAR **03** 03:31:51.1, 5151N×16.11E, ML2.6, Mining Induced*
*VIE **03** 03:31:53.4±1.6, 5131N×16.17E, h0km, mb2.2/2, ML2.8/3, Error ellipse: s-maj=12.2km s-min=8.9km az=39.0 63 km WNW of Breslau Suspected Mining induced.*
ISC 03 03:31:49.7±0.6**, 5150N**±003×**1612E**±003**, h0km, n25, σ0s91**/54**, 5C-1D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.67	171	ePg	Pg	03 32 03.5	+1.0
KSP				eSg	Sg	03 32 12.6	+1.4
KSP	Ksiaz	0.67	171	⇓iPg	Pg	03 32 03.5	+1.0
KSP				eSg	Sg	03 32 12.5	+1.3
KSP	Ksiaz	0.67	171	ePg	Pg	03 32 03.2	+0.7
KSP				eSg	Sg	03 32 12.1	+0.9
DPC	Dobruska-Polom	1.16	174	ePG	Pg	03 32 12.3	+0.3
DPC				eSG	Sg	03 32 27.3	+0.3
	46nm,0.8s						
PVCC	Panska Ves	1.38	226	ePG	Pg	03 32 16.4	+0.2
PVCC				eSG	Sg	03 32 34.8	+0.6
	31nm,0.3s						
BRG	Berggiesshubel	1.51	246	Pg	Pg	03 32 19.1	+0.5
BRG				Sg	Sg	03 32 39.0	+0.8
BRG	Berggiesshubel	1.51	246	Pg	Pg	03 32 19.1	+0.4
BRG				Sg	Sg	03 32 39.0	+0.8
MORC	Moravsky Berou	1.95	152	ePn	Pn	03 32 23.6	-0.5
MORC				eSg	Sg	03 32 52.7	+0.3
MORC	Moravsky Berou	1.95	152	ePn	Pn	03 32 23.6	-0.5
MORC				eSg	Sg	03 32 51.1	-1.3
	17nm,0.3s						
CLL	Collm	1.96	266	i Pn	Pn	03 32 23.3	-1.0
CLL				i Pg	Pg	03 32 27.0	-0.4
CLL				i x	x	03 32 29.8	
CLL				ex	x	03 32 48.0	
CLL				i Sg	Sg	03 32 53.1	+0.3
	comp=Z,26nm,0.6s						
CLL	Collm	1.96	266	i Pn	Pn	03 32 23.3	-1.0
CLL				i Pg	Pg	03 32 27.0	-0.4
CLL				i Sg	Sg	03 32 53.1	+0.3
OKC	Ostrava-Krasne	2.11	142	ePG	Pg	03 32 30.0	-0.1
OKC				eSG	Sg	03 32 56.0	-1.4
VRAC	Vranov	2.22	172	ePn	Pn	03 32 28.0	+0.3
VRAC				eSg	Sg	03 33 00.0	-1.0
	comp=Z,19nm,0.4s						
TREC	Trest	2.25	191	ePN	Pn	03 32 28.7	+0.6
TREC				ePG	Pg	03 32 32.2	-0.6
KRUC	Moravsky	2.45	176	eSg	Sg	03 33 07.9	-0.5
	comp=Z,11nm,0.3s						
NKC	Novy Kostel	2.65	243	ePN	Pn	03 32 34.1	+0.4
NKC				ePG	Pg	03 32 40.6	0.0
NKC				eSG	Sg	03 33 15.0	0.0
	comp=Z,25nm,0.3s						
OJC	Ojcow	2.66	117	ePg	Pg	03 32 40.4	-0.3
OJC				eSg	Sg	03 33 16.3	+1.1
KHC	Kasperske Hory	2.88	215	ePN	Pn	03 32 36.8	-0.1
KHC				ePG	Pg	03 32 42.4	-2.5
KHC				eSN	Sn	03 33 12.0	-0.2
KHC				eSG	Sg	03 33 21.5	-0.8
MOX	Moxa	2.97	255	ePG	Pg	03 32 47.2	+0.6
MOX				eSG	Sg	03 33 26.0	+0.8
WET	Wettzell	3.15	223	ePn	Pn	03 32 40.9	+0.4
WET				eSg	Sg	03 33 28.3	-2.5
VYHS	Vyhne	3.48	149	eSG	Sg	03 33 41.9	+0.3
CONA	Conrad Observa	3.58	183	⇑iPn	Pn	03 32 47.8	+1.3
	comp=Z,1.1nm,0.2s						
CONA				⇑eSg	Sg	03 33 44.9	+0.1
	comp=Z,9.4nm,0.3s						
BSD	Bornholm Skovb	3.69	349	i P	Pn	03 32 45.8	-2.2
BSD				i S	Sn	03 33 27.0	-5.2
MOA	Molln	3.85	199	⇑iPn	Pn	03 32 50.9	+0.7
	comp=Z,0.9nm,0.2s						
MOA				⇑iSn	Sn	03 33 38.2	+2.1
MOA				⇑eSg	Sg	03 33 52.1	-1.4
	comp=Z,13nm,0.5s						
STHS	Stebnicka Huta	3.88	121	ePG	Pg	03 33 04.7	+0.6
STHS				eSG	Sg	03 33 59.2	+4.8

*ISCJB **03** 04:12:16.2±0.5, 55.11N±004×16254E±009, h33km, mb4.0/15, MS3.6/2, Error ellipse: s-maj=7.6km s-min=4.1km az=54.5*
*KRSC **03** 04:12:17, 55.11N×16227E, h23km, ML4.5*
*MOS **03** 04:12:17.8±1.7, 55.17N×162.17E, h61km, mb4.1/9, Error ellipse: s-maj=17.9km s-min=8.1km az=75.6*
*NEIC **03** 04:12:18.0±7.1, 5532N×16178E, h35km±67km, mb4.1/3, Error ellipse: s-maj=18.1km s-min=11.6km az=156.0*
*IDC **03** 04:12:22.4±6.5, 5532N×16187E, h75km±61km, mb3.6/12, mb1 3.8/13, mb1mx3.6/22, mbtmp3.9/13, ML4.0/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/34, Error ellipse: s-maj=24.5km s-min=16.5km az=146.0*
ISC 03 04:12:17.5±0.5**, 5512N**±003×**16248E**±009**, h35km, n45, σ1s43**/54**, mb4.0**/15**, MS3.6**/2**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.71	218	P	Pn	04 12 30.4	-0.7
MKZ				S	Sn	04 12 39.5	-1.3
KBTR	Krutoberegovo	1.11	10	P	Pn	04 12 38.1	+1.6
KBTR				S	Sn	04 12 53.1	+2.6
KLY	Klyuchi	1.58	320	P	Pn	04 12 42.5	-0.5
KLY				S	Sn	04 13 00.8	-1.4
KOZR	Kozyr	1.75	304	PN	Pn	04 12 46.4	+1.1
KOZ	Kozyrevsk	1.75	303	P	Pn	04 12 46.4	+1.0
KOZ				S	Sn	04 13 08.1	+1.6
KII	Karymskiy	2.07	240	P	Pn	04 12 50.3	+0.5
KII				S	Sn	04 13 14.7	+0.3
SPN	Mys Shipunski	2.49	217	P	Pn	04 12 54.7	-0.8
SPN				S	Sn	04 13 21.9	-2.8
NLC	Nalytchevo	2.69	225	P	Pn	04 12 58.7	+0.5
NLC				S	Sn	04 13 29.5	0.0
PET	Petropavlovsk	3.08	229	P	Pn	04 13 05.3	+1.6
PET				S	Sn	04 13 40.9	+1.6
RUS	Russkaya	3.58	223	P	Pn	04 13 11.3	+0.8
RUS				S	Sn	04 13 52.0	+0.5
SKR	Severo-Kuril's	5.88	224	PN	Pn	04 13 42.5	+0.4
SKR				eS	Sn	04 14 53.0	+4.7
SKR				pmax	pmax		
	comp=Z,70nm,0.4s						
SKR				smax			
	comp=E,80nm,0.5s						
ASAJ	Asahikawa	16.88	238	P	Pn	04 16 12.8	+1.9
	comp=E,0.9nm,0.3s,baz=60,slow=4.8,SNR=5.2						
ASAJ	Asahikawa	16.88	238	P	Pn	04 16 12.9	+1.9
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	24.91	232	P	P	04 17 36.3	-0.8
	comp=Z,1.1nm,0.3s,mb3.8,baz=34,slow=9.1,SNR=4.7						
MJAR	Matsushiro Arr	24.91	232	P	P	04 17 36.3	-0.8
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	24.91	232	P	P	04 17 36.3	-0.8
INK	Inuvik	31.41	40	P	P	04 18 36.1	+1.0
	comp=Z,2.1nm,0.8s,mb4.0,baz=307,slow=3.0,SNR=4.7						
INK	Inuvik	31.41	40	P	P	04 18 36.1	+1.0
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULN	Ulaanbaatar	34.45	281	P	P	04 18 57.8	-3.9
ULN				pmax	pmax		
	comp=Z,808nm,0.3s						
ULN	Ulaanbaatar	34.45	281	P	P	04 18 57.8	-3.9
	comp=Z,0.8nm,0.3s,mb4.1						
YKA	Yellowknife Ar	40.72	45	P	P	04 19 56.2	+1.4
	comp=Z,1.3nm,0.5s,mb3.8,baz=298,slow=8.4,SNR=9.2						
YKA	Yellowknife Ar	40.72	45	P	P	04 19 56.2	+1.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	40.72	45	P	P	04 19 56.2	+1.4
KURK	Kurchatov	47.86	302	eP	P	04 20 48.7	-3.2
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
KURK	Kurchatov	47.86	302	eP	P	04 20 48.7	-3.2
	comp=Z,1.2nm,0.4s,mb4.3						
BVAR	Borovoye Array	50.23	308	P	P	04 21 06.1	-4.0
	comp=Z,0.8nm,0.5s,mb4.0,baz=81,slow=8.9,SNR=4.2						
BVAR	Borovoye Array	50.23	308	P	P	04 21 06.1	-3.9
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZRNK	Zerenda	50.91	309	eP	P	04 21 10.9	-4.2
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	Zerenda	50.91	309	eP	P	04 21 10.9	-4.2
	comp=Z,0.9nm,0.5s,mb4.0						
ARCES	ARCESS Array B	51.79	342	P	P	04 21 20.9	-0.9
	comp=Z,0.9nm,0.6s,mb3.9,baz=27,slow=11,SNR=3.5						
ARCES				PcP	PcP	04 22 32.6	-1.9
	comp=Z,1.7nm,1.0s,baz=19,slow=5.1,SNR=5.0						
ARCES	ARCESS Array B	51.79	342	P	P	04 21 20.9	-0.8
ARCES						04 22 32.6	
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PDAR	Pinedale Array	55.33	63	P	P	04 21 50.6	+2.9
	comp=Z,0.5nm,0.6s,mb3.7,baz=331,slow=4.1,SNR=6.0						
ULM	Lac du Bonnet	56.41	49	P	P	04 21 55.0	-0.4
	comp=Z,0.9nm,0.4s,mb4.1,baz=304,slow=7.3,SNR=2.3						
AKTK	Aktyubinsk	57.48	313	P	P	04 22 00.2	-2.8
AKTO	Aktyubinsk	57.48	313	P	P	04 22 00.2	-2.8
	comp=Z,0.7nm,0.5s,mb4.0,baz=63,slow=9.0,SNR=3.0						
AKTO	Aktyubinsk	57.48	313	P	P	04 22 00.2	-2.8
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	FINESS Array B	58.80	337	P	P	04 22 10.3	-2.0
	comp=Z,0.4nm,0.5s,mb3.7,baz=46,slow=9.0,SNR=6.3						
FINES				LR	LR	04 54 30.7	
	comp=Z,30nm,18.5s,MS3.5,baz=142,slow=43						
FINES	FINESS Array B	58.80	337	P	P	04 22 10.3	-2.0
FINES				LR	LR	04 54 30.7	
NB2	NORSAR Subarra	61.97	345	P	P	04 22 31.7	-2.2
	comp=Z,0.5nm,0.5s,mb3.9,baz=18,slow=6.9						
NOA	NORSAR Array B	61.97	345	P	P	04 22 32.0	-1.9
	comp=Z,0.6nm,0.6s,mb3.9,baz=19,slow=6.8,SNR=5.1						
NOA	NORSAR Array B	61.97	345	P	P	04 22 32.0	-1.9
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HNR	Honiara	64.34	183	LR	LR	04 51 12.5	
	comp=Z,52nm,18.5s,MS3.8,baz=176,slow=36						
ASAR	Alice Springs	82.19	206	P	P	04 24 35.2	+0.4
	comp=Z,1.0nm,0.5s,mb4.0,baz=14,slow=5.3,SNR=10						
ASAR	Alice Springs	82.19	206	P	P	04 24 35.7	+0.8
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ESDC	Sonseca Array	84.87	350	P	P	04 24 47.6	-1.0
	comp=Z,2.5nm,0.9s,mb4.4,baz=358,slow=4.8,SNR=5.4						

*NEIC **03** 04:15:11.1±2.4, 1373S×170.15E, h621km±26km, mb4.4/9, Error ellipse: s-maj=27.4km s-min=19.3km az=186.0*
*ISCJB **03** 04:15:12.5±1.8, 139S±02×170.1E±02, h664km±20km, mb4.1/16, Error ellipse: s-maj=28.2km s-min=24.0km az=31.9*
*IDC **03** 04:15:12.1±2.2, 1388S×17020E, h646km±25km, mb3.3/8, mb1 3.4/9, mb1mx3.3/15, mbtmp4.3/9, Error ellipse: s-maj=27.2km s-min=17.8km az=174.0*
ISC 03 04:15:12.3±2.0**, 138S**±02×**1703E**±02**, h646km**±18km**, n61, σ0s70**/23**, mb4.1**/15**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.96	203	eP	P	04 17 22.2	+0.2
DZM	Mont Dzumac	8.96	203	P	P	04 17 22.2	+0.2
	2.4nm,0.3s,baz=60,slow=22,SNR=22						
NOUC	Port Laguerre	9.04	204	eP	P	04 17 23.0	+0.2
CTA	Charters Tower	23.79	252	P	P	04 19 36.1	-1.5
	1.0nm,0.4s,mb3.6,baz=71,slow=11,SNR=4.3						
CTAO	Charters Tower	23.79	252	P	P	04 19 35.9	-1.7
	1.3nm,0.4s,mb3.7						
URZ	Urewera	25.07	167	P	P	04 19 47.8	-1.0
	5.0nm,0.6s,mb4.2,baz=322,slow=9.6,SNR=5.4						
STKA	Stephens Creek	31.80	231	P	P	04 20 45.7	-1.1
	2.5nm,0.4s,mb4.1,baz=70,slow=8.7,SNR=9.3						
STKA	Stephens Creek	31.80	231	P	P	04 20 45.7	-1.1
TOO	Toolangi	32.32	219	eP	P	04 20 52.8	+1.6
	7.3nm,0.6s,mb4.4						
WRAB	Tennant Creek	34.86	255	eP	P	04 21 11.5	-0.8
	8.8nm,0.5s,mb4.5						
WRA	Warramunga Arr	34.87	255	P	P	04 21 12.2	-0.2
	4.7nm,0.3s,mb4.4,baz=81,slow=6.3,SNR=64						
WRA				PcP	PcP	04 23 26.1	+0.2
	0.3nm,0.3s,baz=86,slow=3.1,SNR=5.2						
AS31	Alice Springs	35.71	249	eP	P	04 21 19.5	+0.2
ASAR	Alice Springs	35.71	249	P	P	04 21 19.6	+0.3
	6.6nm,0.3s,mb4.6,baz=77,slow=9.2,SNR=98						
ASAR				PcP	PcP	04 23 28.6	+0.2
	1.4nm,0.8s,baz=89,slow=2.9,SNR=6.7						
ASAR				S	S	04 26 11.7	-0.8
	2.5nm,0.8s,baz=78,slow=16,SNR=15						
ASPA	Alice Springs	35.71	249	eP	P	04 21 19.5	+0.2
KAKA	Kakadu	36.82	267	eP	P	04 21 28.5	+0.2
	9.8nm,0.4s,mb4.7						
FORT	Forrest	42.25	239	eP	P	04 22 11.9	+0.4
	10nm,0.7s,mb4.4						
FITZ	Fitzroy Crossi	43.05	258	eP	P	04 22 18.4	+0.7
	3.3nm,0.3s,mb4.2						
MBWA	Marble Bar	48.59	254	eP	P	04 23 00.0	+0.6
	15nm,1.0s,mb4.3						
KLBR	Kellerberrin	51.07	241	eP	P	04 23 17.7	+0.3
	8.1nm,0.7s,mb4.1						
NWAO	Narrogin (SRO)	51.70	239	eP	P	04 23 22.0	+0.1
	2.3nm,0.4s,mb3.8						
SONM	Songino Array	83.54	322	P	P	04 26 34.2	-0.2
	0.5nm,0.6s,mb3.2,baz=114,slow=4.9,SNR=3.7						
MAW	Mawson	83.78	202	P	P	04 26 35.9	+0.3
	0.8nm,0.6s,mb3.4,baz=132,slow=8.1,SNR=6.6						
MKAR	Makanchi Array	98.58	316	P	Pdif	04 27 43.3	-0.4
	0.3nm,0.3s,baz=101,slow=6.3,SNR=4.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ARCES	ARCESS Array B	120.11	346	PKP	PKPdf	04 32 50.0	-1.4
	2.1nm,0.5s,baz=72,slow=2.0,SNR=41						
ARCES	ARCESS Array B	120.11	346	PKP	PKPdf	04 32 50.0	-1.4
JOF	Joensuu	123.14	339	*e*p	PKPdf	04 32 55.8	-1.4
FINES	FINESS Array B	125.95	340	PKP	PKPdf	04 33 01.3	-1.3
	0.4nm,0.4s,baz=80,slow=2.0,SNR=7.5						
FINES	FINESS Array B	125.95	340	PKP	PKPdf	04 33 01.3	-1.3
NB2	NORSAR Subarra	130.48	347	PKP	PKPdf	04 33 10.7	-0.5
	comp=Z,0.3nm,0.4s,baz=44,slow=2.7						
NOA	NORSAR Array B	130.48	347	PKP	PKPdf	04 33 09.8	-1.4
	comp=Z,0.5nm,0.6s,baz=35,slow=2.1,SNR=4.0						
GERES	GERESS Array B	140.11	336	PKP	PKPdf	04 33 29.9	+0.9
	comp=Z,0.4nm,0.6s,baz=298,slow=2.9,SNR=4.9						
CDF	Champ du Feu	142.77	341	*e*PKP1	PKPdf	04 33 32.0	-1.7
	comp=Z,4.4nm,0.7s						
HAU	Haudompre	143.41	342	*e*PKP1	PKPdf	04 33 34.2	-0.7
	comp=Z,7.5nm,0.8s						
HINF	Hinteralfeld	143.43	341	*e*PKP1	PKPdf	04 33 33.1	-1.8
	comp=Z,4.5nm,0.6s						
FLN	La Foliniere	144.35	349	*e*PKP1	PKPdf	04 33 36.1	-0.4
	comp=Z,8.7nm,0.4s						
LDF	La Druitiere	144.45	349	*e*PKP1	PKPdf	04 33 36.3	-0.4
	comp=Z,1.7nm,0.3s						
CABF	La Chapelle	144.74	341	*e*PKP1	PKPdf	04 33 38.1	+0.9
	comp=Z,12nm,0.6s						
GRR	Gorron	144.78	350	*e*PKP1	PKPdf	04 33 37.6	+0.4
	comp=Z,5.5nm,0.4s						
LOR	Lormes	144.79	344	*e*PKP1	PKPdf	04 33 37.5	+0.2
	comp=Z,4.4nm,0.4s						
SSF	Saint Saulge	145.08	344	*e*PKP1	PKPbc	04 33 38.8	-0.1
	comp=Z,12nm,0.8s						
SGMF	Saint Gilles	145.18	352	*e*PKP1	PKPbc	04 33 38.4	-0.8
	comp=Z,12nm,0.6s						
AVF	Avril sur Loir	145.37	344	*e*PKP1	PKPbc	04 33 39.3	-0.4
SMF	Signal de Mont	145.37	343	*e*PKP1	PKPbc	04 33 39.3	-0.4
LPL	La Plagne	145.49	339	*e*PKP1	PKPbc	04 33 40.5	+0.4
	comp=Z,5.4nm,0.6s						
LPG	La Plagne	145.50	339	*e*PKP1	PKPbc	04 33 40.6	+0.5
	comp=Z,8.6nm,0.6s						
BGF	Bois d'Agland	145.72	345	*e*PKP1	PKPbc	04 33 40.4	-0.3
	comp=Z,11nm,0.7s						
TCF	Toulx Ste Croi	146.13	345	*e*PKP1	PKPbc	04 33 41.6	-0.3
	comp=Z,4.4nm,0.6s						
MBDF	Montbardon	146.16	339	*e*PKP1	PKPbc	04 33 41.7	-0.2
	comp=Z,6.7nm,0.7s						
ORIF	Oris-en-Rattie	146.30	340	*e*PKP1	PKPbc	04 33 42.4	+0.1
MFF	Saint Martin d	146.37	348	*e*PKP1	PKPbc	04 33 42.1	-0.4
	comp=Z,12nm,0.7s						
SBF	Sospel	146.66	337	*e*PKP1	PKPbc	04 33 42.6	-0.7
	comp=Z,14nm,0.7s						
PGF	Pioggiola	147.14	334	*e*PKP1	PKPbc	04 33 44.1	-0.4
FRF	La Foret Royal	147.22	338	*e*PKP1	PKPbc	04 33 44.2	-0.5
	comp=Z,5.4nm,0.6s						
RJF	Les Rejaudoux	147.22	345	*e*PKP1	PKPbc	04 33 44.6	-0.2
SMRF	Simiane la Rot	147.24	339	*e*PKP1	PKPbc	04 33 45.0	+0.2
LMR	La Mourre	147.46	338	*e*PKP1	PKPbc	04 33 44.9	-0.5
	comp=Z,5.5nm,0.5s						
LASF	Ste Croix	147.71	342	*e*PKP1	PKPbc	04 33 46.1	+0.1
LFF	La Frestale	147.75	346	*e*PKP1	PKPbc	04 33 44.5	-1.6
EPF	Esparros	149.65	345	*e*PKP1	PKPbc	04 33 51.7	+1.0
ETSF	Etsaut	149.99	346	*e*PKP1	PKPbc	04 33 52.0	+0.5
	comp=Z,6.2nm,0.7s						
TORD	Torodi Ar. Bea	168.87	268	PKPab	PKPab	04 35 23.8	+1.2
	comp=Z,0.5nm,0.6s,baz=85,slow=4.4,SNR=11						

*ISCJB **03** 04:22:53.2±0.9, 1531S±007×17803W±006, h392km±9km, mb4.4/32, Error ellipse: s-maj=12.6km s-min=7.6km az=113.8*
*IDC **03** 04:22:57.7±1.9, 1522S×178.11W, h426km±20km, mb3.9/12, mb1 4.0/13, mb1mx3.9/18, mbtmp4.7/13, Error ellipse: s-maj=16.9km s-min=10.1km az=145.0*
*BJI **03** 04:22:57.2, 1497S×17789W, h428km, mB4.6, mb4.5*
*NEIC **03** 04:22:58.3±0.3, 15.16S×178.15W, mb4.4/15, Error ellipse: s-maj=14.6km s-min=7.7km az=142.0*
ISC 03 04:22:56.5±1.3**, 1532S**±008×**17799W**±007**, h412**km±14km**, h431**km±3.0km**:pP-P, n91,** σ**0s94**/68**, mb4.4**/32**, 2C-2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.17	78	P	P	04 24 26.5	-4.8
	51nm,0.3s,baz=28,slow=1.6,SNR=54						
AFI	Afiamalu	6.17	78	*e*P	P	04 24 27.4	-4.0
	532nm,0.7s						
FUNA	Funafuti	7.29	337	⇓*i*P	P	04 24 40.4	-3.2
DZM	Mont Dzumac	16.20	243	*e*P	P	04 26 22.2	+0.9
DZM	Mont Dzumac	16.20	243	P	P	04 26 23.3	+2.1
	1.4nm,0.3s,baz=77,slow=19,SNR=18						
NOUC	Port Laguerre	16.33	243	*e*P	P	04 26 25.9	+3.2
URZ	Urewera	23.26	190	P	P	04 27 26.8	-2.7
	29nm,0.9s,mb4.7,baz=8.9,slow=3.3,SNR=14						
RPZ	Rata Peaks	29.81	196	P	P	04 28 27.1	-0.5
	8.0nm,0.6s,mb4.2,baz=278,slow=5.0,SNR=9.0						
CTA	Charters Tower	34.35	257	*e*P	P	04 29 07.0	+0.4
	8.2nm,0.8s,mb4.1						
CTA	Charters Tower	34.35	257	P	P	04 29 06.1	-0.5
	9.2nm,0.5s,mb4.3,baz=84,slow=10.0,SNR=19						
CTAO	Charters Tower	34.35	257	*e*P	P	04 29 05.9	-0.7
PMG	Port Moresby	34.52	276	P	P	04 29 08.6	+0.6
	21nm,0.7s,mb4.6,baz=78,slow=8.1,SNR=7.1						
PMG	Port Moresby	34.52	276	*e*P	P	04 29 09.4	+1.4
STKA	Stephens Creek	40.27	239	*e*P	P	04 29 54.7	-0.9
	3.8nm,0.9s,mb3.7						
STKA	Stephens Creek	40.27	239	P	P	04 29 54.0	-1.6
	3.4nm,0.7s,mb3.8,baz=85,slow=10.0,SNR=9.4						
STKA	Stephens Creek	40.27	239	*e*P	P	04 29 54.5	-1.1
WB2	Warramunga Arr	45.54	257	*e*P	P	04 30 37.0	-0.2
WRAB	Tennant Creek	45.54	257	*e*P	P	04 30 36.0	-1.3
	11nm,0.9s,mb4.2						
WRA	Warramunga Arr	45.55	257	P	P	04 30 36.9	-0.4
	5.3nm,0.8s,mb4.0,baz=91,slow=7.4,SNR=33						
WRA				S	S	04 36 47.2	-0.6
	1.4nm,0.7s,baz=91,slow=14,SNR=8.8						
AS31	Alice Springs	45.93	252	*e*P	P	04 30 40.7	+0.5
AS31				*e*S	S	04 36 52.8	-0.3
ASAR	Alice Springs	45.93	252	P	P	04 30 40.7	+0.5
	46nm,0.5s,mb5.1,baz=84,slow=8.3,SNR=559						
ASAR				S	S	04 36 51.9	-1.2
	2.7nm,0.8s,baz=87,slow=16,SNR=16						
ASPA	Alice Springs	45.93	252	*e*P	P	04 30 40.7	+0.5
ASPA				*e*S	S	04 36 52.8	-0.4
KAKA	Kakadu	48.09	267	*e*P	P	04 30 57.1	+0.5
	29nm,0.6s,mb4.8						
FORT	Forrest	51.51	243	*e*P	P	04 31 21.9	-0.1
	17nm,0.7s,mb4.4						
FITZ	Fitzroy Crossi	53.89	259	*e*P	P	04 31 40.1	+0.9
	6.5nm,0.8s,mb3.9						
KLBR	Kellerberrin	60.36	242	*e*P	P	04 32 27.9	+4.0
	10.0nm,0.7s,mb4.3						
VNDA	Vanda	63.04	185	P	P	04 32 42.3	+0.8
	4.1nm,0.7s,mb4.1,baz=2.7,slow=6.8,SNR=27						
VNDA	Vanda	63.04	185	*e*P	P	04 32 42.1	+0.6
	14nm,1.2s,mb4.4						
MJAR	Matsushiro Arr	66.10	322	P	P	04 32 59.5	-1.5
	1.9nm,0.6s,mb3.9,baz=155,slow=6.4,SNR=6.2						
MJAR	Matsushiro Arr	66.10	322	P	P	04 32 59.5	-1.6
CASY	Casey	68.65	204	⇓*e*P	P	04 33 17.0	+0.2
	30nm,1.0s,mb4.9						
SSE	Sheshan	74.42	309	P	P	04 33 50.8	0.0
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,67nm,6.2s						
QSPA	South Pole Qui	74.72	180	*e*P	P	04 33 53.4	+0.9
	comp=Z,45nm,0.8s,mb5.2						
KDAK	Kodiak Island	75.81	14	P	P	04 33 57.4	-1.2
	comp=Z,1.3nm,0.5s,mb3.9,baz=219,slow=6.5,SNR=3.6						
KDAK	Kodiak Island	75.81	14	P	P	04 33 57.4	-1.2
YBH	Yreka Blue Hor	76.27	39	P	P	04 34 01.4	+0.2
	comp=Z,3.2nm,0.7s,mb4.0,baz=165,slow=2.6,SNR=12						
MDJ	Mudanjiang	76.32	324	P	P	04 34 01.9	+0.4
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,22nm,4.4s						
NJ2	Nanjing	76.63	309	*e*P	P	04 34 04.9	+1.7
HUMO	Hull Mountain	76.63	38	*e*P	P	04 34 03.3	+0.1
MNV	Mina	77.39	44	*e*P	P	04 34 07.7	+0.4
MNV				*e*pP	pP	04 35 42.8	+3.9
TPNV	Topopah Spring	77.94	46	*e*P	P	04 34 10.6	+0.3
	comp=Z,5.8nm,0.8s,mb4.3						
CN2	Changchun	78.24	322	*e*P	P	04 34 13.8	+1.8
SNY	Shenyang	78.28	319	⇑P	P	04 34 12.7	+0.5
SNY				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.7						
SHPR	Sheep Range	78.49	47	*e*P	P	04 34 13.7	+0.4
DUG	Dugway	81.86	45	*e*P	P	04 34 31.3	+0.2
BJI	Beijing	82.24	315	*e*P	P	04 34 31.2	-1.8
BJI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
HLID	Hailey	82.42	41	*e*P	P	04 34 34.3	+0.3
	comp=Z,4.5nm,0.8s,mb4.2						
TMUT	Trail Mountain	82.55	46	*e*P	P	04 34 35.6	+0.9
SRU	San Rafael	82.95	46	*e*P	P	04 34 36.8	+0.1
	comp=Z,15nm,1.4s,mb4.5						
DLBC	Dease Lake	83.31	23	*e*P	P	04 34 34.4	-4.0
DLBC				*e*pP	pP	04 36 12.4	+0.8
DLMT	Dillon	84.43	40	*e*P	P	04 34 43.6	-0.5
	comp=Z,4.8nm,0.8s,mb4.3						
REDW	Red Top Meadow	84.62	42	*e*P	P	04 34 45.2	+0.2
	comp=Z,6.1nm,1.0s,mb4.3						
GDL2	Guadalupe Moun	84.75	55	*e*P	P	04 34 50.2	+4.6
GDL2				*e*pP	pP	04 36 20.5	+1.3
CHMT	Chamberlain Mo	84.77	39	*e*P	P	04 34 45.0	-0.7
LOHW	Long Hollow	84.89	42	*e*P	P	04 34 46.4	+0.1
PDAR	Pinedale Array	85.20	43	P	P	04 34 47.6	-0.3
	comp=Z,1.9nm,0.6s,mb4.0,baz=220,slow=2.8,SNR=25						
HRY	Holter Researc	85.53	39	*e*P	P	04 34 49.4	0.0
HHC	Hu-ho-hao-te	85.76	314	*e*P	P	04 34 50.8	+0.2
HHC				AP	pP	04 36 28.7	+4.4
HHC				XP	sP	04 37 09.7	+2.6
HHC				PP	PP	04 38 18.7	+2.0
HHC				S		04 44 47.6	
HHC				XS	sS	04 47 32.9	-1.8
HHC				SS	SS	04 50 37.8	+2.2
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,110nm,4.9s						
MAW	Mawson	86.42	200	P	P	04 34 54.4	+0.6
	comp=Z,20nm,0.7s,mb5.0,baz=128,slow=6.2,SNR=70						
KMI	Kunming	87.02	297	P	P	04 34 57.1	+0.5
KMI				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.2						
CD2	Chengdu	88.02	303	*e*P	P	04 35 00.6	-0.7
SYO	Syowa Base	91.76	193	⇑*e*P	P	04 35 17.2	-1.4
SNAA	Sanae	93.16	178	*e*P	P	04 35 24.4	-0.7
SNAA				*e*		04 35 25.0	
SNAA				*e*		04 35 29.3	
SNAA				*e*		04 35 32.0	
SNAA				*e*		04 35 38.4	
SNAA	Sanae	93.16	178	*e*P	P	04 35 24.7	-0.4
	comp=Z,2.7nm,0.8s,mb4.2						
ARCES	ARCESS Array B	123.85	350	PKP	PKPdf	04 41 04.8	-1.4
	comp=Z,1.1nm,0.6s,baz=355,slow=1.3,SNR=11						
NOA	NORSAR Array B	133.86	354	PKP	PKPdf	04 41 25.8	+0.5
	comp=Z,0.5nm,0.9s,baz=14,slow=4.1,SNR=3.6						
GERES	GERESS Array B	145.22	346	PKPbc	PKPbc	04 41 45.8	-0.6
	comp=Z,0.6nm,0.6s,baz=14,slow=5.9,SNR=5.2						
GIVF	Givet	145.24	357	*e*PKP1	PKPbc	04 41 45.1	-1.4
FLN	La Foliniere	146.59	3	*e*PKP1	PKPbc	04 41 49.2	-1.2
CDF	Champ du Feu	146.72	354	*e*PKP1	PKPbc	04 41 50.1	-0.7
	comp=Z,3.0nm,0.5s						
LDF	La Druitiere	146.77	3	*e*PKP1	PKPbc	04 41 49.6	-1.3
ROSF	Rostrenen	146.79	6	*e*PKP1	PKPbc	04 41 49.5	-1.5
GRR	Gorron	146.94	4	*e*PKP1	PKPbc	04 41 50.3	-1.1
	comp=Z,6.0nm,0.5s						
SGMF	Saint Gilles	146.94	6	*e*PKP1	PKPbc	04 41 50.2	-1.2
	comp=Z,9.7nm,0.7s						
QUIF	Quistinic	147.22	6	*e*PKP1	PKPbc	04 41 51.0	-1.1
DAVOX	Davos	147.95	350	PKPbc	PKPbc	04 41 53.8	-0.2
	comp=Z,2.1nm,0.7s,baz=348,slow=6.8,SNR=4.4						
LOR	Lormes	148.11	358	*e*PKP1	PKPbc	04 41 53.4	-1.0
	comp=Z,3.1nm,0.5s						
SSF	Saint Saulge	148.33	358	*e*PKP1	PKPbc	04 41 54.3	-0.7
	comp=Z,1.9nm,0.5s						
AVF	Avril sur Loir	148.60	358	*e*PKP1	PKPbc	04 41 54.7	-1.0
	comp=Z,2.8nm,0.5s						
CABF	La Chapelle	148.62	355	*e*PKP1	PKPbc	04 41 55.8	+0.1
BGF	Bois d'Agland	148.85	359	*e*PKP1	PKPbc	04 41 55.7	-0.6
TCF	Toulx Ste Croi	149.13	360	*e*PKP1	PKPbc	04 41 57.5	+0.5
	comp=Z,5.0nm,0.8s						
LPL	La Plagne	149.64	353	*e*PKP1	PKPbc	04 41 58.7	+0.5
LPG	La Plagne	149.65	353	*e*PKP1	PKPbc	04 41 58.7	+0.5
ORIF	Oris-en-Rattie	150.32	354	*e*PKP1	PKPbc	04 41 59.7	-0.1
MBDF	Montbardon	150.41	353	*e*PKP1	PKPbc	04 42 00.0	0.0
	comp=Z,6.6nm,0.7s						
LFF	La Frestale	150.46	2	*e*PKP1	PKPbc	04 41 59.5	-0.6
SMRF	Simiane la Rot	151.28	355	*e*PKP1	PKPbc	04 42 02.2	+0.2
ETSF	Etsaut	152.43	4	*e*PKP1	PKPbc	04 42 04.5	-0.1
TORD	Torodi Ar. Bea	177.82	172	PKP	PKPdf	04 42 17.7	-0.5
	comp=Z,1.2nm,0.9s,baz=353,slow=2.0,SNR=7.7						
TORD				PKPab		04 44 09.3	
	comp=Z,1.6nm,0.8s,baz=253,slow=4.5,SNR=11						
TORD				PP	PP	04 48 01.8	+0.1
	comp=Z,0.5nm,0.9s,baz=193,slow=2.8,SNR=3.6						
TORD	Torodi Ar. Bea	177.82	172	PKP	PKPdf	04 42 17.7	-0.5
TORD				PKPab		04 44 09.3	
TORD				PP	PP	04 48 01.8	+0.1

ISC 03 04:32:18.6±2.9**, 411N**±04×**718E**±01**, h122**km±87km**, n7,** σ**0s45**/9**, 1C-1D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	Erkin-Say	2.19	42	P	P	04 32 54.7	-0.4
	MS0.0,SNR=31						
KK31	Karatay Array	2.26	336	Pn	P	04 32 56.1	+0.1
	30nm,0.4s,MS0.0,baz=137,slow=13,SNR=596						
KK31				Sn	S	04 33 24.4	0.0
	33nm,0.3s,MS0.0,baz=145,slow=30,SNR=12						
UCH	Uchtor	2.36	59	P	P	04 32 56.8	-0.5
	MS0.0,SNR=41						
AAK	Ala-Archa	2.57	51	P	P	04 33 01.2	+1.1
	MS0.0,SNR=11						
KZA	Kyzart	2.79	67	P	P	04 33 03.3	+0.2
	MS0.0,SNR=68						
USP	Ospenovka	3.00	41	P	P	04 33 05.4	-0.4
	MS0.0,SNR=10						
TKM2	Tokmak 2	3.40	55	⇑Pn	P	04 33 11.1	-0.1
	0.3nm,0.4s,MS0.0						
TKM2				⇓Sn	S	04 33 51.3	+0.1
	3.1nm,0.6s,MS0.0						

*NAO **03** 04:42:00.9±0.9, 6007N×1051E, ML2.5*
*CSEM **03** 04:42:00.0±0.1, 6003N×1053E, h1km, ML3.5/6, Error ellipse: s-maj=1.8km s-min=0.9km az=16.0, Suspected Mining explosion.*
*HEL **03** 04:42:01.4±0.1, 6005N×1053E, h10km, ML2.3, ML1.8(UPP), ML2.2(BER)*
*IDC **03** 04:42:02.4±1.9, 60.15N×1070E, h0km, mb1 3.4/2, mb1mx3.1/19, mbtmp3.3/2, ML2.6/2, Error ellipse: s-maj=14.0km s-min=6.6km az=49.0*
*UPP **03** 04:42:08.5, 5994N×1172E, h0km, ML1.8, Suspected Mining explosion.*
BER 03 04:42:02.9±4.7**, 5999N**×**1060E, h15**km±11km**, MD2.1, ML2.2, ML2.5**(NAO)**, 2D, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSL	Oslo	0.08	130	⇓*i*P	Pg	04 42 04.6	-1.4
OSL				*i* S	Sg	04 42 06.3	-1.7
OSL				*e*		04 42 06.9	
OSL				AML	AML	04 42 07.8	
	comp=Z,369nm,0.1s						
OSL	Oslo	0.08	130	⇓*i*P	Pg	04 42 04.6	-1.4
OSL				*e*S	Sg	04 42 06.3	-1.7
OSL				*e*		04 42 06.9	
OSL				AML	AML	04 42 07.8	
	comp=Z,369nm,0.1s						
KON	Kongsberg	0.61	236	Pg	Pg	04 42 13.0	-1.8
KON				Lg		04 42 21.1	
KONO	Kongsberg	0.61	236	*e*P	Pg	04 42 12.9	-1.9
KONO				Sg	Sg	04 42 21.1	-1.9
KONO				*e*Sg	Sg	04 42 21.1	-1.9
KONO	Kongsberg	0.61	236	*e*P	Pg	04 42 12.9	-2.0
	SNR=90						
KONO				Sg	Sg	04 42 21.1	-1.9
	SNR=90						
NB2	NORSAR Subarra	1.10	16	*e*PG	Pg	04 42 20.3	-3.8
NB2				*e*SG	Sg	04 42 34.4	-4.0
NB2	NORSAR Subarra	1.10	16	Pg	Pg	04 42 20.3	-3.8
	baz=198,slow=18						
NB2				Lg		04 42 34.4	
	baz=205,slow=37						
NOA	NORSAR Array B	1.10	16	Pg	Pg	04 42 19.7	-4.4
	comp=Z,3.3nm,0.3s,baz=194,slow=16,SNR=33						
NOA				Lg		04 42 31.5	
	comp=Z,7.9nm,0.3s,baz=212,slow=23,SNR=28						
HFS	Hagfors	1.56	83	*e*P	Pn	04 42 29.0	-1.1
HFS				*e*PG	Pg	04 42 30.2	-2.7
HFS				*e*SG	Sg	04 42 50.8	-2.4
HFS	Hagfors	1.56	83	Pg	Pn	04 42 29.0	-1.1
	comp=Z,4.4nm,0.3s,baz=271,slow=17,SNR=185						
HFS				Lg		04 42 49.4	
	comp=Z,41nm,0.3s,baz=268,slow=28,SNR=87						
HFS	Hagfors	1.56	83	Pn	Pn	04 42 29.0	-1.1
	baz=263,slow=16						
HFS				Pg	Pg	04 42 30.2	-2.7
	baz=263,slow=16						
HFS				Lg		04 42 50.8	
	baz=265,slow=28						
HFS	Hagfors	1.56	83	Pg	Pg	04 42 30.2	-2.7
	SNR=90						
ODD1	Odda	2.00	269	*e*P	Pn	04 42 35.0	-1.1
ODD1				*e*S	Sn	04 42 59.3	-1.5
ODD1				AML	AML	04 43 03.1	
	comp=Z,50nm,0.2s						
ODD1	Odda	2.00	269	*e*P	Pn	04 42 35.0	-1.1
ODD1				*e*Sg	Sg	04 43 01.2	-6.0
ODD1				AML	AML	04 43 03.1	
	comp=Z,50nm,0.2s						
ODD1	Odda	2.00	269	*e*P	Pn	04 42 35.0	-1.1
	SNR=50						
ODD1				*e*Sg	Sg	04 43 01.2	-6.0
	comp=Z,50nm,0.2s,SNR=90						
BLS5	Blasjo	2.17	257	*e*Pg	Pg	04 42 41.7	-2.9
BLS5				*e*Sg	Sg	04 43 08.7	-4.1
BLS5				AML	AML	04 43 12.4	
	comp=Z,34nm,0.3s						
BLS5	Blasjo	2.17	257	*e*Pg	Pg	04 42 41.7	-2.9
	SNR=90						
BLS5				*e*Sg	Sg	04 43 08.7	-4.1
	comp=Z,34nm,0.3s,SNR=90						
DOMB	Dombas	2.19	341	*e*P	Pn	04 42 37.6	-1.1
DOMB				*e*S	Sn	04 43 06.5	+0.9
DOMB				AML	AML	04 43 08.1	
	comp=Z,55nm,0.2s						
DOMB	Dombas	2.19	341	*e*P	Pn	04 42 37.6	-1.1
	SNR=50						
DOMB				*e*S	Sn	04 43 06.5	+0.9
	comp=Z,55nm,0.2s,SNR=50						
NRAU	Nora	2.29	99	*e*P	Pn	04 42 39.8	-0.3
SNART	Snartemo	2.41	228	*e*P	Pn	04 42 41.5	-0.2
SNART				*e*Sg	Sg	04 43 15.5	-4.7
SNART				AML	AML	04 43 19.8	
	comp=Z,18nm,0.3s						
ASKU	Askersund	2.42	115	*e*P	Pn	04 42 41.9	-0.1
HYA	Hoyanger	2.48	300	*e*P	Pn	04 42 42.1	-0.6
HYA				*e*S	Sn	04 43 12.8	+0.1
HYA				AML	AML	04 43 20.7	
	comp=Z,13nm,0.3s						
HYA	Hoyanger	2.48	300	*e*P	Pn	04 42 42.1	-0.6
	SNR=50						
HYA				*e*S	Sn	04 43 12.8	+0.2
	comp=Z,13nm,0.3s,SNR=50						
RUND	Rundenannen	2.65	282	*e*P	Pn	04 42 46.7	+1.7
RUND				*e*SG	Sg	04 43 20.0	-7.9
RUND	Rundenannen	2.65	282	*e*Sg	Sg	04 43 20.0	-7.9
	SNR=90						
BER	Bergen	2.66	281	*e*SG	Sg	04 43 21.1	-7.2
EGD	Espegrend	2.70	278	*e*P	Pn	04 42 44.6	-1.2
EGD				*e*SG	Sg	04 43 22.8	-7.0
EGD				AML	AML	04 43 33.0	
	comp=Z,28nm,0.4s						
EGD	Espegrend	2.70	278	*e*P	Pn	04 42 44.6	-1.2
	SNR=50						
EGD				*e*Sg	Sg	04 43 22.8	-6.9
	comp=Z,28nm,0.4s,SNR=90						
ASK	Askoy	2.74	283	*e*P	Pn	04 42 45.1	-1.2
ASK				*e*Sg	Sg	04 43 23.7	-7.2
ASK				AML	AML	04 43 33.8	
	comp=Z,30nm,0.5s						
ASK	Askoy	2.74	283	*e*P	Pn	04 42 45.1	-1.2
	SNR=50						
ASK				*e*Sg	Sg	04 43 23.7	-7.2
	comp=Z,30nm,0.5s,SNR=90						
KMY	Karmoy	2.83	256	*e*	Sg	04 43 26.0	-7.8
KMY				AML	AML	04 43 29.2	
	comp=Z,18nm,0.3s						
KMY	Karmoy	2.83	256	*e*Sg	Sg	04 43 26.0	-7.8
KMY				AML	AML	04 43 29.2	
	comp=Z,18nm,0.3s						
KMY	Karmoy	2.83	256	*e*Sg	Sg	04 43 26.0	-7.8
	comp=Z,18nm,0.3s,SNR=90						
MOL	Molde	2.98	332	*e*S	Sn	04 43 22.5	-2.5
MOL				*e*SG	Sg	04 43 29.9	-8.7
MOL	Molde	2.98	332	*e*Pg	Pg	04 42 52.6	-7.4
MOL				*e*S	Sn	04 43 22.5	-2.5
MOL				*e*Sg	Sg	04 43 28.9	-10
ESKU	Eskilstuna	3.04	102	*e*P	Pn	04 42 50.5	0.0
SUE	Sulen	3.08	293	*e*P	Pn	04 42 50.2	-0.7
SUE				*e*SG	Sg	04 43 33.0	-8.7
SUE				AML	AML	04 43 41.9	
	comp=Z,9.3nm,0.2s						
SUE	Sulen	3.08	293	*e*P	Pn	04 42 50.2	-0.7
	SNR=50						
SUE				*e*Sg	Sg	04 43 33.0	-8.7
	comp=Z,9.3nm,0.2s,SNR=90						
LNKU	Linkoeping	3.09	123	*e*P	Pn	04 42 51.8	+0.7
FOO	Floro	3.16	303	*e*P	Pn	04 42 51.9	-0.2
FOO				*e*S	Sn	04 43 25.6	-4.0
FOO	Floro	3.16	303	*e*P	Pn	04 42 51.9	-0.2
FOO				*e*S	Sn	04 43 24.9	-4.7
FOO				*e*Sg	Sg	04 43 33.8	-11
FOO				AML	AML	04 43 42.0	
	comp=Z,16nm,0.4s						
OSTU	Oestervaala	3.28	83	*e*P	Pn	04 42 53.4	-0.4
VSTU	Vaestervik	3.87	125	*e*P	Pn	04 43 03.0	+1.2
NYNU	Nynaeshamn	3.90	101	*e*P	Pn	04 43 03.0	+0.7
NSS	Namsos	4.60	7	*e*SG	Sg	04 44 21.9	-8.8
RAF	Rauma	5.62	75	*e*P	Pn	04 43 24.4	-1.4
RAF				*e*S	Sn	04 44 25.8	-4.3
RAF				*e*SG	Sg	04 44 53.9	-9.2
RAF				MSG		04 44 59.2	
	comp=Z,6.1nm,0.3s						
MEF	Metsahovi	6.90	82	*e*S	Sn	04 44 57.4	-4.4
MEF				*e*SG	Sn	04 45 34.2	+32
MEF				MSG		04 45 36.8	
	comp=Z,3.0nm,0.2s						
KEF	Keuruu	7.26	66	*e*S	Sn	04 45 04.3	-6.2
KEF				*e*SG	Sn	04 45 44.4	+34
KEF				MSG		04 45 49.4	
	comp=Z,1.8nm,0.3s						
PVF	Pernaja	7.61	79	*e*S	Sn	04 45 14.7	-4.6
PVF				*e*SG	Sn	04 45 55.4	+36
PVF				MSG		04 46 04.8	
	comp=Z,1.8nm,0.3s						
FIA0	FINESS Array S	7.73	72	*e*P	Pn	04 43 52.4	-2.5
FIA0				*e*S	Sn	04 45 16.9	-5.2
FIA0				*e*SG	Sn	04 45 59.7	+38
FIA0				MSG		04 46 07.7	
	comp=Z,1.1nm,0.2s						
FIA0	FINESS Array S	7.73	72	Pn	Pn	04 43 53.4	-1.4
	baz=269,slow=11						
FIA0				Sn	Sn	04 45 16.5	-5.6
	baz=263,slow=28						
FIA0				Lg		04 45 58.9	
	baz=270,slow=28						
FINES	FINESS Array B	7.73	72	Pn	Pn	04 43 53.4	-1.5
	comp=Z,0.2nm,0.3s,baz=262,slow=11,SNR=9.1						
FINES				Sn	Sn	04 45 16.6	-5.6
	comp=Z,0.1nm,0.3s,baz=270,slow=22,SNR=3.0						
FINES				Lg		04 45 57.4	
	comp=Z,0.4nm,0.3s,baz=267,slow=26,SNR=8.0						
KAF	Kangasniemi	7.91	68	*e*S	Sn	04 45 21.6	-5.0
KAF				*e*SG	Sn	04 46 04.4	+38
KAF				MSG		04 46 10.2	
	comp=Z,1.2nm,0.3s						
SUF	Sumiainen	7.96	63	*e*S	Sn	04 45 22.6	-5.0
SUF				*e*SG	Sn	04 46 06.3	+39
SUF				MSG		04 46 15.8	
	comp=Z,1.4nm,0.3s						
ARCES	ARCESS Array B	11.45	27	Pn	Pn	04 44 40.3	-5.6
	comp=Z,0.1nm,0.3s,baz=205,slow=14,SNR=2.9						

*TEH **03** 05:01:57.6, 3200N×4950E, h10km, Mn3.5*
*ISCJB **03** 05:01:59.4±0.5, 3089N±005×4897E±007, h10km, Error ellipse: s-maj=10.0km s-min=4.3km az=73.3*

KISR 03 05:02:00.0±1.1,30.74N×49.15E,h34km,ML2.8
CSEM 03 05:02:12.1,32.03N×49.45E,h18km,ML2.7,After THR
ISC 03 05:02:00.4±0.5,30.91N±0.05×48.90E±0.07,h10km,n13, $\sigma 0^{s}.90$/17,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	1.20	356	ePg	Pg	05 02 23.2	-0.2
	SNR=97						
KBD	Kabd	2.02	211	eP	Pn	05 02 34.0	-0.5
KBD				eS	Sn	05 03 00.0	+0.1
RST	Umm Al-Ruwaisa	2.17	230	eP	Pn	05 02 38.2	+1.7
RDF	Al-Radifah	2.30	211	eP	Pn	05 02 38.1	-0.2
RDF				eS	Sn	05 03 06.5	-0.3
RDF				AML	AML	05 03 13.2	
	comp=Z,76nm,0.3s						
QRN	Al-Qurain	2.32	202	eP	Pn	05 02 37.8	-0.9
QRN				eS	Sn	05 03 07.1	-0.2
QRN				AML	AML	05 03 10.5	
	comp=Z,45nm,0.2s						
IPIR	Pirpir	2.45	43	ePn	Pn	05 02 41.0	+0.6
IGAR	Garneh	3.11	64	ePn	Pn	05 02 47.0	-2.5
IKLH	Kalahroud	3.31	43	ePn	Pn	05 02 52.6	+0.4
IKOM	Komasi	3.46	341	ePn	Pn	05 02 54.8	+0.5
IZEF	Zefreh	3.52	55	ePn	Pn	05 02 53.9	-1.3
NASN	Na'in	3.82	59	ePn	Pn	05 02 59.9	+0.6
	SNR=52						
NASN				eSg	Sn	05 03 44.5	+0.2
	comp=Z,18nm,0.6s,SNR=91						
GHIR	Ghir-Karzin	4.42	125	ePn	Pg	05 03 26.3	+1.2
	SNR=52						
KRBR	Kerman	6.85	96	ePn	Pb	05 03 50.5	-9.0
	SNR=52						

IDC 03 05:02:56.0±1.3,0.99S×122.10E,h0km,mb3.6/4,mb1 3.7/4, mb1mx3.6/15,mbtmp3.7/4,Error ellipse: s-maj=151.8km s-min=21.7km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.32	148	P	P	05 07 56.5	+1.4
	0.8nm,0.7s,baz=328,slow=10,SNR=6.0						
ASAR	Alice Springs	25.28	154	P	P	05 08 23.2	-0.7
	0.5nm,0.7s,baz=330,slow=7.7,SNR=5.2						
SONM	Songino Array	50.52	346	P	P	05 11 56.9	+0.9
	0.7nm,0.6s,baz=173,slow=7.7,SNR=5.0						
MKAR	Makanchi Array	58.99	329	P	P	05 12 57.0	-0.3
	1.3nm,0.6s,baz=127,slow=7.7,SNR=8.5						

STR 03 05:16:06.6±0.1,42.70N×0.01E,h2km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG 03 05:16:06.4±0.1,43.04N×0.15E,h2km,Md2.2/3,Ml2.0/5, Error ellipse: s-maj=1.6km s-min=1.0km az=95.0
MDD 03 05:16:06.8±0.3,43.02N×0.15E,h9km±3km,mbLg1.5/13,1C, Error ellipse: s-maj=2.1km s-min=1.9km az=20.0, PRXIMO,France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LABF	Labassere	0.06	299	P	Pg	05 16 08.8	0.0
LABF				S	Sg	05 16 10.7	+0.6
EPF	Esparros	0.14	84	ePg	Pg	05 16 09.7	-0.2
EPF				eSg	Sg	05 16 11.8	-0.2
	54nm,0.2s						
EPF	Esparros	0.14	84	Pg	Pg	05 16 09.7	-0.2
EPF				Lg		05 16 11.8	
	27nm,0.2s						
VIEF	Viey	0.16	215	Pg	Pg	05 16 10.1	-0.1
VIEF				Sg	Sg	05 16 13.0	+0.4
VIEF	Viey	0.16	215	P	Pg	05 16 10.1	-0.1
VIEF				S	Sg	05 16 13.0	+0.4
RESF	Ens	0.25	146	Pg	Pg	05 16 11.7	-0.1
RESF				Sg	Sg	05 16 15.6	+0.4
RESF	Ens	0.25	146	P	Pg	05 16 11.7	-0.2
RESF				S	Sg	05 16 15.7	+0.4
EBIE	Bielsa	0.33	181	⇑Pg	Pg	05 16 13.0	-0.3
	6.2nm,0.1s,SNR=18						
EBIE				Lg		05 16 17.7	
	10nm,0.1s,SNR=13						
REYF	Montagne du Re	0.40	278	P	Pg	05 16 14.1	-0.5
REYF				S	Sg	05 16 19.9	0.0
ETSF	Etsaut	0.53	257	ePg	Pg	05 16 16.1	-1.0
ETSF				eSg	Sg	05 16 23.2	-0.9
	17nm,0.3s						
ETSF	Etsaut	0.53	257	Pg	Pg	05 16 16.1	-1.0
ETSF				Lg		05 16 23.2	
	8.5nm,0.3s						
ATE	Arette	0.63	277	Pg	Pg	05 16 18.9	0.0
ATE	Arette	0.63	277	S	Sg	05 16 27.6	+0.5
SALF	Salau	0.81	108	P	Pg	05 16 21.3	-1.0
SALF				S	Sg	05 16 32.6	-0.2
EGRA	Graus	0.83	171	Pg	Pg	05 16 22.6	-0.1
	0.8nm,0.2s,SNR=7.9						
EGRA				Lg		05 16 33.9	
	1.7nm,0.1s,SNR=7.9						
CSOR	Sort	0.97	131	P	Pg	05 16 24.7	-0.7
CSOR				S	Sg	05 16 37.8	-0.2
	1.8nm,0.3s						
CORG	Organya	1.17	132	P	Pb	05 16 28.1	-1.1
CORG				S	Sg	05 16 44.4	0.0
	0.9nm,0.2s						
CAVN	Les Avellanes	1.22	158	P	Pb	05 16 29.6	-0.4
CAVN				S	Sb	05 16 46.1	+0.2
	7.2nm,0.1s						
EALK	Alkurruntz	1.23	280	Pg	Pg	05 16 31.5	+1.1
	0.1nm,0.1s,SNR=4.0						
EALK				Lg		05 16 46.2	
	2.7nm,0.2s,SNR=7.9						
ELIZ	Elizondo	1.24	277	Pg	Pg	05 16 31.9	+1.3
	0.5nm,0.2s,SNR=7.9						
ELIZ				Lg		05 16 47.9	
	1.0nm,0.1s,SNR=7.9						
IUSE	Utxeti	1.25	267	Lg		05 16 48.9	
	1.3nm,0.1s,SNR=7.9						
ESAC	San Caprasio	1.37	200	Pg	Pg	05 16 33.2	+0.1
	2.3nm,0.1s,SNR=13						
ESAC				Lg		05 16 51.8	
	12nm,0.1s,SNR=4.6						
EMIR	Miracle	1.50	137	Pg	Pg	05 16 35.3	-0.3
	0.4nm,0.2s,SNR=7.9						
EMIR				Lg		05 16 55.7	
	3.7nm,0.1s,SNR=7.9						
MTLF	Montolieu	1.55	77	ePg	Pg	05 16 35.1	-1.4
MTLF				eSg	Sg	05 16 54.7	-1.9
	2.9nm,0.3s						
MTLF	Montolieu	1.55	77	Pg	Pg	05 16 35.1	-1.4
MTLF				Lg		05 16 54.7	
	1.4nm,0.3s						
LFF	La Frestale	1.97	12	ePn	Pn	05 16 38.8	-1.6
LFF	La Frestale	1.97	12	ePg	Pg	05 16 42.8	-1.8
LFF				eSg	Sg	05 17 07.4	-2.7
	2.4nm,0.2s						
LFF	La Frestale	1.97	12	Pn	Pn	05 16 38.8	-1.6
LFF				Pg	Pg	05 16 42.8	-1.8
ERTA	Horta de San J	2.06	176	Pg	Pg	05 16 43.4	-2.9
	0.3nm,0.1s,SNR=4.0						
ERTA				Lg		05 17 11.7	
	2.2nm,0.2s,SNR=7.9						
CAF	Calviac	2.36	35	ePn	Pn	05 16 44.4	-1.3
CAF	Calviac	2.36	35	ePg	Pg	05 16 50.1	-1.9
CAF				eSg	Sg	05 17 20.6	-1.9
	1.0nm,0.2s						
CAF	Calviac	2.36	35	Pn	Pn	05 16 44.4	-1.3
CAF				Pg	Pg	05 16 50.1	-1.9
CAF				Lg		05 17 20.6	
	0.5nm,0.2s						
RJF	Les Rejaudoux	2.49	23	ePg	Pg	05 16 52.1	-2.4
RJF				eSg	Sg	05 17 23.5	-3.3
	1.8nm,0.2s						
LASF	Ste Croix	2.90	67	eSg	Sg	05 17 36.9	-3.0
	1.6nm,0.4s						

CSEM 03 05:59:33.6±0.0,39.13N×28.06E,h10km,MD3.7,Error ellipse: s-maj=1.0km s-min=1.0km az=58.0
ISCJB 03 05:59:33.7±0.8,39.15N±0.02×28.05E±0.03,h6km±6km, Error ellipse: s-maj=3.5km s-min=3.3km az=76.8
NEIC 03 05:59:34.0,39.14N×28.05E,h16km,MD3.7(ISK),After ISK.
ISK 03 05:59:34.1,39.14N×28.05E,h16km,MD3.7
SOF 03 05:59:34.8,39.28N×27.94E,h2km,MD3.3
ATH 03 05:59:37.2,39.20N×27.82E,h27km±8km,MD3.9/7
ISC 03 05:59:34.7±0.6,39.13N±0.02×28.05E±0.03,h8km±4km,n73, $\sigma 0^{s}.78$/83,7C-5D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BALB	Balikesir	0.52	346	i PG	Pg	05 59 44.9	+0.1
BALB				i SG	Sg	05 59 52.7	+1.0
KDAG	Bornova	0.95	220	i P	Pg	05 59 52.4	-0.5
KDAG				i S	Sg	06 00 06.0	+0.7
IZM	Izmir	0.95	220	i PG	Pg	05 59 52.6	-0.4
BLCB	Balcova	1.08	227	i PN	Pn	05 59 55.2	-0.9
BLCB				i SN	Sn	06 00 10.7	-0.5
GDZ	Gediz	1.12	92	i P	Pg	05 59 55.2	-1.0
GDZ				i S	Sg	06 00 10.2	-0.4
KCT	Karacabey	1.16	12	PN	Pn	05 59 55.9	-1.2
KCT				SN	Sn	06 00 11.9	-1.2
CANB	Canakkale	1.17	320	PN	Pn	05 59 56.5	-0.7
CANB				SN	Sn	06 00 12.7	-0.6
EDC	Edincik	1.22	353	PN	Pn	05 59 57.2	-0.8
BNT	Bandirma	1.23	356	PN	Pn	05 59 57.3	-0.7
URLA	Izmir	1.37	236	i P	Pn	05 59 59.2	-0.8
URLA				i S	Sb	06 00 18.5	+0.4
PRK	Paraskevi	1.38	275	⇓i PN	Pn	06 00 00.0	-0.2
EZN	Ezine	1.50	298	PN	Pn	06 00 01.3	-0.5
MRMT	Marmara Adasi	1.51	347	PN	Pn	06 00 01.0	-0.9
DENT	Denizli	1.58	150	PN	Pn	06 00 02.5	-0.4
RKY	Sarkoy-Tekirda	1.69	337	PN	Pn	06 00 03.9	-0.5
SMG	Samos	1.71	214	ePN	Pn	06 00 06.8	+2.1
CHOS	Chios island	1.73	245	eP	Pn	06 00 04.6	-0.3
CHOS				eS	Sn	06 00 32.3	+5.2
MFT	Murefte	1.75	341	ePN	Pn	06 00 05.1	-0.2
YLV	Yalova	1.76	35	PN	Pn	06 00 04.0	-1.4
ADVT	Abdulvahap	1.84	45	PN	Pn	06 00 05.4	-1.1
MLSB	Milas	1.85	187	ePN	Pn	06 00 06.2	-0.4
YER	Yerkesik	2.00	175	ePN	Pn	06 00 08.4	-0.3
BORA	Eskisehir	2.01	67	i P	Pn	06 00 08.1	-0.7
BORA				i S	Sn	06 00 38.1	+4.1
CTT	Catalca	2.04	8	ePN	Pn	06 00 08.5	-0.7
ISK	Istanbul-Kandi	2.08	22	ePN	Pn	06 00 09.9	+0.1
GPA	Golpazari	2.09	56	ePN	Pn	06 00 09.2	-0.8
HRT	Hereke	2.10	36	ePN	Pn	06 00 09.7	-0.3
BODT	Bodrum	2.15	196	ePN	Pn	06 00 10.6	-0.1
ENEZ	Enez	2.17	318	ePN	Pn	06 00 10.9	0.0
KLYT	Kilyos	2.25	19	ePN	Pn	06 00 12.2	+0.1
ALN	Alexandroupoli	2.34	320	eP	Pn	06 00 13.2	-0.1
ALN				eS	Sn	06 00 47.0	+4.8
LIA	Limnos Island	2.34	290	ePB	Pb	06 00 14.0	-3.1
DALT	Dalyan (Mudla)	2.40	169	ePN	Pn	06 00 14.3	+0.1
BCK	Bucak	2.60	129	ePN	Pn	06 00 16.9	-0.1
FETY	Fethiye	2.62	161	ePN	Pn	06 00 17.4	+0.1
MDU	Mudurnu	2.78	60	ePN	Pn	06 00 19.8	+0.4
RDO	Rodhopi	2.78	317	ePN	Pn	06 00 20.0	+0.6
ELL	Elmali	2.80	148	ePN	Pn	06 00 19.6	-0.1
APE	Apeiranthos	2.86	225	eP	Pn	06 00 19.3	-1.2
EDRB	Edirne	2.89	340	ePN	Pn	06 00 20.5	-0.4
ARG	Arkhangelos	2.91	179	ePN	Pn	06 00 25.5	+4.3
KIZT	Kizilcal	3.00	94	ePN	Pn	06 00 22.6	+0.2
KDZE	Karadeniz Ereo	3.39	49	ePN	Pn	06 00 28.4	+0.6
JMB	Yambol	3.51	342	eP	Pn	06 00 29.7	+0.2
JMB	Yambol	3.51	342	P	Pn	06 00 30.2	+0.7
KONT	Konya--Tatoy	3.58	108	ePN	Pn	06 00 30.7	+0.2
RZN	Rozhen	3.60	316	eP	Pn	06 00 30.9	+0.2
LOD	Lodumlu	3.73	77	ePN	Pn	06 00 33.0	+0.6
ANTO	Ankara	3.75	77	ePN	Pn	06 00 33.4	+0.7
ANTO	Ankara	3.75	77	⇑i P	Pg	06 00 45.8	-0.6
PLG	Polygyros	3.76	291	ePN	Pn	06 00 33.0	+0.2
NVR	Nevrokopi	3.89	306	ePN	Pn	06 00 35.4	+0.7
SRS	Serrai	3.95	302	eP	Pn	06 00 35.5	0.0
MMB	Musomiste	4.11	308	P	Pn	06 00 38.0	+0.3
SAFT	Safranbolu	4.13	58	ePN	Pn	06 00 39.0	+1.0
KAMT	Kaman	4.41	85	ePN	Pn	06 00 42.7	+0.9
KNT	Kendrikon	4.43	299	eP	Pn	06 00 43.0	+0.8
PVL	Pavlikeni	4.57	334	P	Pn	06 00 45.0	+1.1
GRG	Griva	4.70	295	eP	Pn	06 00 47.0	+1.2
TOS	Tosya	4.96	66	ePN	Pn	06 00 49.9	+0.5
VTS	Vitosha	5.04	315	P	Pn	06 00 51.0	+0.5
CORM	Corum	5.19	76	ePN	Pn	06 00 54.2	+1.7
IKL	Isikli	5.32	121	ePN	Pn	06 00 55.6	+1.2
MLR	Muntele Rosu	6.54	347	⇓i P	Pn	06 01 12.4	+1.3
MLR	Muntele Rosu	6.54	347	⇓P	Pn	06 01 12.4	+1.3
VRI	Vrincioaia	6.80	352	⇑i P	Pn	06 01 15.1	+0.4
VRI	Vrincioaia	6.80	352	⇑P	Pn	06 01 15.2	+0.5
BZS	Buzias	8.04	326	⇑i P	Pn	06 01 37.4	+5.8
BZS	Buzias	8.04	326	⇑P	Pn	06 01 37.4	+5.8
BURAR	Bucovina Array	8.72	347	⇓i P	Pn	06 01 43.0	+1.9
BURAR	Bucovina Array	8.72	347	⇓P	Pn	06 01 43.0	+1.9
PKSM	Moragy	9.89	319	⇑i P	Pn	06 01 57.0	-0.1
PKSM	Moragy	9.89	319	⇑P	Pn	06 01 57.0	-0.1

SKHL 03 06:32:24.0±0.8,55.36N×122.88E,h10km,mb3.5/3, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CLNS	Chul'man	1.86	36	ePn	Pn	06 32 56.3	+0.4
CLNS				ePg	Pg	06 32 59.4	-0.3
CLNS				AMB	AMB	06 32 59.9	
	23nm,0.3s						
CLNS				eSn	Sn	06 33 20.5	+1.0
CLNS				eSg	Sg	06 33 23.4	-0.4
CLNS				A		06 33 26.4	
	38nm,0.2s						
CLNS				A		06 33 26.4	
	79nm,0.3s						
TUP	Tupik	1.93	242	ePn	Pn	06 32 58.1	+1.2
TUP				ePg	Pg	06 32 59.3	-1.8
TUP				AMB	AMB	06 32 59.9	
	12nm,0.3s						
TUP				eSn	Sn	06 33 22.2	+1.0
TUP				eSg	Sg	06 33 23.7	-2.4
TUP				A		06 33 25.9	
	87nm,0.3s						
KROS	Kirovskiy	2.54	110	ePn	Pn	06 33 06.5	+1.3
KROS				ePg	Pg	06 33 09.2	-3.5
KROS				AMB	AMB	06 33 09.6	
	6.0nm,0.5s						
KROS				eSn	Sn	06 33 36.9	+0.7
KROS				eSg	Sg	06 33 42.2	-3.4
KROS				A		06 33 45.5	
	28nm,0.5s						
KROS				A		06 33 45.5	
	27nm,0.5s						
ZEA	Zeya	3.02	121	eSg	Sg	06 33 59.0	-2.0
ZEA				A		06 34 02.4	
	49nm,0.5s						
EKMR	Ekimchan	6.34	107	eSg	Sg	06 35 42.1	-5.3
EKMR				A		06 35 53.0	
	4.0nm,0.5s						

ISCJB 03 06:46:41.9±0.3,31.92S±0.02×69.60W±0.05,h115km±4km, mb4.0/9,Error ellipse: s-maj=6.9km s-min=3.7km az=3.2
IDC 03 06:46:41.1±2.2,31.95S×69.81W,h91km±18km,mb3.6/3, mb1 3.6/7,mb1mx3.5/16,mbtmp3.8/7,Error ellipse: s-maj=27.7km s-min=23.0km az=121.0
GUC 03 06:46:42.1±0.8,31.94S×69.77W,h130km±6km,MD4.0, ML4.1
NEIC 03 06:46:42.1,31.94S×69.77W,h130km,mb4.2/8,After GUC.
ISC 03 06:46:42.9±0.3,31.93S±0.02×69.59W±0.05,h109km±4km, n55, $\sigma 0^{s}.89$/88,mb4.0/9,14C-8D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACH	Jahuel	1.13	228	eP	Pn	06 47 05.6	+0.2
JACH				i S	Sn	06 47 23.4	+1.0
CFAA	Coronel Fontan	1.20	75	P	Pn	06 47 06.2	+0.1
	21nm,0.3s,baz=246,slow=7.8,SNR=6444						
CFAA				S	Sn	06 47 23.8	+0.1
	91nm,0.3s,baz=19,slow=19,SNR=91						
CFAA	Coronel Fontan	1.20	75	P	Pn	06 47 06.2	+0.1
CFAA				S	Sn	06 47 23.8	+0.1
CMCH	Combarbala	1.42	302	⇓i P	Pn	06 47 08.2	-0.4
CMCH				i S	Sn	06 47 28.8	+0.7
CMCH				AML	AML	06 47 32.4	
	comp=N,6μm,0.7s						
CMCH	Combarbala	1.42	302	⇓i P	Pn	06 47 08.2	-0.4
CMCH				i S	Sn	06 47 28.8	+0.7
FCH	Farellones	1.52	203	⇑i P	Pn	06 47 10.6	+0.8
FCH				i S	Sn	06 47 32.2	+1.9
FCH				AML	AML	06 47 32.8	
	comp=N,2μm,0.3s						
PEL	Peldehue	1.53	217	⇑i P	Pn	06 47 09.6	-0.3
PEL				i S	Sn	06 47 30.1	-0.3
PEL				AML	AML	06 47 32.3	
	comp=E,5μm,0.4s						
PEL	Peldehue	1.53	217	⇑i P	Pn	06 47 09.6	-0.3
PEL				i S	Sn	06 47 30.1	-0.3
ROCH	El Roble	1.59	229	⇓i P	Pn	06 47 10.5	-0.2
ROCH				i S	Sn	06 47 31.6	-0.2
CHNG	Los Chungos	1.62	271	⇓i P	Pn	06 47 10.1	-1.0
CHNG				i S	Sn	06 47 31.0	-1.5
CHNG				AML	AML	06 47 38.7	
	comp=E,1μm,0.5s						
CLCH	Cerro Calan	1.67	208	⇓i P	Pn	06 47 11.8	+0.2
CLCH				i S	Sn	06 47 33.9	+0.4
CLCH				AML	AML	06 47 37.2	
	comp=E,3μm,0.5s						
CLCH				AML	AML	06 47 37.5	
	comp=E,4μm,0.6s						
FSR	Penalolen	1.74	207	⇑i P	Pn	06 47 13.1	+0.6
FSR				i S	Sn	06 47 36.0	+0.9
FSR				AML	AML	06 47 38.2	
	comp=E,2μm,0.6s						
FSR	Penalolen	1.74	207	⇑i P	Pn	06 47 13.1	+0.6
FSR				i S	Sn	06 47 36.0	+0.9
STL	Santa Lucia	1.75	210	⇑i P	Pn	06 47 12.1	-0.5
STL				i S	Sn	06 47 35.4	+0.1
SAN	Santiago	1.77	210	i P	Pn	06 47 12.8	-0.1
SAN				i S	Sn	06 47 35.8	0.0
SAN				AML	AML	06 47 36.8	
	comp=N,1μm,0.4s						
SAN	Santiago	1.77	210	i P	Pn	06 47 12.8	-0.1
SAN				i S	Sn	06 47 35.8	0.0
SJCH	San Jose de Ma	1.83	200	i P	Pn	06 47 13.4	-0.2
SJCH				i S	Sn	06 47 37.8	+0.8
ANTU	Antumapu	1.86	208	⇑i P	Pn	06 47 13.9	-0.1
ANTU				i S	Sn	06 47 38.2	+0.4
ANTU				AML	AML	06 47 39.0	
	comp=N,2μm,0.5s						
PCH	Pirque	1.86	204	⇑i P	Pn	06 47 14.6	+0.5
PCH				i S	Sn	06 47 38.2	+0.4
RCDM	Rinconada Maip	1.86	213	eP	Pn	06 47 13.8	-0.3
RCDM				i S	Sn	06 47 37.9	0.0
RCDM				AML	AML	06 47 38.6	
	comp=E,2μm,0.5s						
RCDM	Rinconada Maip	1.86	213	eP	Pn	06 47 13.8	-0.3
RCDM				i S	Sn	06 47 37.9	0.0
OVCH	Ovalle	1.90	313	eP	Pn	06 47 14.2	-0.3
OVCH				i S	Sn	06 47 38.7	0.0
OVCH				AML	AML	06 47 44.1	
	comp=E,1μm,0.3s						
OVCH	Ovalle	1.90	313	eP	Pn	06 47 14.2	-0.3
OVCH				i S	Sn	06 47 38.7	0.0
LMEL	Las Melosas	1.98	195	⇑i P	Pn	06 47 16.1	+0.4
LMEL				i S	Sn	06 47 42.1	+1.5
LMEL				AML	AML	06 47 49.5	
	comp=N,715nm,0.5s						
LMEL	Las Melosas	1.98	195	⇑i P	Pn	06 47 16.1	+0.4
LMEL				i S	Sn	06 47 42.1	+1.5
TLL	Tololo Astrono	2.04	329	⇑i P	Pn	06 47 16.8	+0.6
TLL				i S	Sn	06 47 43.1	+1.3
TLL				AML	AML	06 47 45.6	
	comp=N,2μm,0.5s						
TLL	Tololo Astrono	2.04	329	⇑i P	Pn	06 47 16.8	+0.6
TLL				i S	Sn	06 47 43.1	+1.3
IHA	Instituto Hidr	2.05	237	eP	Pn	06 47 15.1	-1.3
IHA				i S	Sn	06 47 39.4	-2.6
TACH	Talagante	2.06	213	⇓i P	Pn	06 47 16.1	-0.5
TACH				i S	Sn	06 47 42.1	-0.3
CHCH	Chadas Angostu	2.19	204	⇓i P	Pn	06 47 18.4	+0.2
CHCH				i S	Sn	06 47 45.3	0.0
LCCH	Las Cruces	2.27	227	eP	Pn	06 47 18.2	-1.1
CACH	El Canelo	2.34	201	⇑i P	Pn	06 47 20.9	+0.6
CACH				i S	Sn	06 47 49.6	+0.8
CICH	Cipreses	2.49	196	eP	Pn	06 47 22.4	+0.4
SFDO	San Fernando	2.93	204	eP	Pn	06 47 27.1	-0.8
SFDO				i S	Sn	06 48 01.6	-1.1
LCO	Las Campanas	3.06	341	⇑i P	Pn	06 47 29.7	+0.1
VACH	Vallenar	3.49	343	⇓i P	Pn	06 47 35.0	-0.3
VACH				i S	Sn	06 48 15.5	-0.3
TRQA	Tornquist	8.74	137	ePn	Pn	06 48 44.5	-1.9
	comp=N,22nm,0.6s						
TRQA				eSn	Sn	06 50 17.3	-5.8
PLCA	Paso Flores	8.82	185	P	Pn	06 48 45.5	-2.1
	comp=N,0.3nm,0.3s,baz=3.3,slow=18,SNR=7.4						
LVC	Limon Verde	9.29	4	P	Pn	06 48 52.0	-1.9
	comp=N,0.6nm,0.3s,baz=78,slow=7.7,SNR=5.6						
CPUP	Villa Florida	12.08	66	P	Pn	06 49 29.9	-1.4
	comp=N,0.7nm,0.3s,baz=222,slow=12,SNR=9.0						
CPUP	Villa Florida	12.08	66	ePn	Pn	06 49 29.7	-1.6
LPAZ	La Paz	15.62	5	P	Pn	06 50 18.6	+1.7
	comp=N,0.2nm,0.3s,baz=186,slow=9.3,SNR=12						
LPAZ	La Paz	15.62	5	eP	Pn	06 50 19.5	+2.5
	comp=N,1.3nm,0.6s						
SIV	San Ignacio	17.66	28	P	Pn	06 50 41.8	-0.1
	comp=N,0.1nm,0.3s,baz=222,slow=11,SNR=9.1						
EFI	East Falkland	21.48	160	eP	P	06 51 21.3	-1.3
	comp=N,18nm,0.8s,mb4.5						
SAML	Samuel	23.62	16	eP	P	06 51 45.5	+1.5
	comp=N,1.6nm,0.6s,mb3.5						
QSPA	South Pole Qui	58.31	180	eP	P	06 56 26.7	+0.3
	comp=N,1.4nm,0.7s,mb4.1						
OXF	Oxford	68.66	343	eP	P	06 57 34.5	0.0
	comp=N,5.9nm,0.5s,mb4.7						
WVT	Waverly	69.82	344	eP	P	06 57 41.7	+0.1
	comp=N,7.8nm,0.6s,mb4.7						
DBIC	Dimbokro	72.56	70	P	P	06 58 01.9	+3.8
	comp=N,3.2nm,0.9s,mb4.2,baz=180,slow=7.1,SNR=3.1						
ANMO	Albuquerque	75.00	329	eP	P	06 58 13.9	+1.5
	comp=N,0.7nm,0.6s,mb3.6						
TORD	Torodi Ar. Bea	81.56	69	P	P	06 58 49.0	+0.5
	comp=N,0.6nm,0.7s,mb3.5,baz=275,slow=6.8,SNR=4.6						
TORD				pP	pP	06 59 16.8	+0.4
	comp=N,1.8nm,0.9s,baz=280,slow=6.4,SNR=7.5						
TORD	Torodi Ar. Bea	81.56	69	P	P	06 58 49.0	+0.5
TORD				pP	pP	06 59 16.8	+0.4
PDAR	Pinedale Array	82.88	332	P	P	06 58 55.6	+0.3
	comp=N,0.1nm,0.4s,mb3.0,baz=132,slow=4.2,SNR=3.5						
WRA	Warramunga Arr	123.56	207	PKP	PKPdf	07 05 27.3	-0.2
	comp=N,0.3nm,0.6s,baz=158,slow=1.9,SNR=5.1						

CSEM 03 06:49:22.0±1.1,39.09N×28.56W,h0km±9km,ML2.0,Error ellipse: s-maj=7.5km s-min=2.9km az=145.0,After PDA
PDA 03 06:49:22.0±1.1,39.09N×28.56W,h0km±9km,MD3.2,ML2.0, Error ellipse: s-maj=7.5km s-min=2.9km az=145.0
SVSA 03 06:49:22.0±1.1,39.09N×28.56W,h0km±9km,MD3.2,ML2.0, Error ellipse: s-maj=7.5km s-min=2.9km az=145.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLUZ	Luz	0.34	257	eS	Sg	06 49 37.0	+4.2
PLUZ							
	32nm,0.2s						
PVIA	Vitoria	0.40	93	eS	Sg	06 49 35.1	+0.4
SRBC	Serra Branca	0.41	98	eP	Pg	06 49 29.3	-0.5
SRBC				eS	Sg	06 49 34.9	-0.2
STGR	Santa Cruz	0.43	92	eP	Pg	06 49 29.8	-0.5
STGR				eS	Sg	06 49 36.5	+0.6
STGR							
	70nm,0.2s						
STGR	Santa Cruz	0.43	92	eP	Pg	06 49 29.8	-0.5
STGR				eS	Sg	06 49 36.5	+0.6
ROSA	Rosais	0.45	146	eP	Pg	06 49 30.4	-0.2
ROSA				eS	Sg	06 49 36.1	-0.3
PGRA	Graciosa	0.45	98	eS	Sg	06 49 36.5	-0.1
PGRA							
	131nm,0.4s						
PCED	Cedros	0.48	194	i P	Pg	06 49 30.8	-0.4
PAMA	Santo Amaro	0.51	144	eS	Sg	06 49 38.4	+0.1
PAMA							
	39nm,0.2s						
CALA	Caldeira	0.52	192	i P	Pg	06 49 31.9	-0.1
PTCA	Ponta do Capel	0.54	200	eS	Sg	06 49 39.1	-0.3
PTCA							
	44nm,0.3s						
HOR	Horta	0.57	186	i P	Pg	06 49 32.1	-0.8
HOR				eS	Sg	06 49 39.7	-0.6
HOR	Horta	0.57	186	eS	Sg	06 49 39.7	-0.6
PMAN	Manadas	0.59	141	eP	Pg	06 49 32.2	-1.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMAN				eS	Sg	06 49 40.5	-0.4
PMAN							
	168nm,0.1s						
PMAN	Manadas	0.59	141	eP	Pg	06 49 32.2	-1.1
PMAN				eS	Sg	06 49 40.5	-0.4
PICO	Pico	0.60	170	iP	Pg	06 49 32.9	-0.6
PICO				eS	Sg	06 49 41.2	-0.1
PICO	Pico	0.60	170	eS	Sg	06 49 41.2	-0.1
PTEI	Pico do Teixo	0.62	165	eS	Sg	06 49 41.5	-0.3
PTEI							
	73nm,0.3s						
PCND	Candelaria	0.63	173	iP	Pg	06 49 33.3	-0.7
PCND				eS	Sg	06 49 41.1	-1.1
PCND							
	41nm,0.3s						
PBOI	Pico dos Bois	0.67	168	eS	Sg	06 49 42.5	-1.1
PID	Ribeirinha	0.73	152	eP	Pg	06 49 34.6	-1.5
PID				eS	Sg	06 49 44.2	-1.4
PIED	Piedade	0.78	149	erx		06 49 42.3	

IDC 03 06:58:29.5±6.7, 735S×15016E, h200km±40km, mb3.0/1, mb1 2.9/3, mb1mx2.8/12, mbtmp3.3/3, Error ellipse: s-maj=108.3km s-min=52.5km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.60	235	P	Pn	06 59 24.6	-1.7
	1.2nm,0.3s,baz=280,slow=15,SNR=3.1						
PMG				S	Sn	07 00 12.8	+1.9
	1.0nm,0.3s,baz=184,slow=23,SNR=2.1						
WRA	Warramunga Arr	19.80	229	P	P	07 02 43.6	-1.0
	0.1nm,0.3s,baz=52,slow=10,SNR=5.0						
ASAR	Alice Springs	22.51	222	P	P	07 03 12.2	-0.1
	1.0nm,0.6s,baz=56,slow=8.7,SNR=12						
TORD	Torodi Ar. Bea	148.46	283	PKPbc	PKPbc	07 17 54.3	+2.0
	0.7nm,0.9s,baz=86,slow=3.1,SNR=3.6						

*ISCJB **03** 06:59:06.9±1.7, 28N±02×1225E±03, h555km±24km, mb4.1/14, Error ellipse: s-maj=46.1km s-min=10.2km az=114.3*
*IDC **03** 06:59:08.8±2.2, 275N×12250E, h561km±31km, mb3.1/8, mb1 3.2/8, mb1mx3.1/18, mbtmp4.1/8, Error ellipse: s-maj=78.1km s-min=11.5km az=67.0*
*NEIC **03** 06:59:08.6±1.4, 266N×12228E, h558km±19km, mb3.9/3, Error ellipse: s-maj=51.5km s-min=7.1km az=63.0*
ISC 03 06:59:08.0±1.7, 28N±02×1225E±03, h547km±22km, n22, σ0s58/22, mb4.1/14, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	7.08	297	ePn	P	07 00 56.1	-0.4
FITZ	Fitzroy Crossi	20.98	172	P	P	07 03 13.1	+0.1
	0.8nm,0.6s,baz=57,slow=16,SNR=9.0						
WRA	Warramunga Arr	25.39	153	P	P	07 03 52.3	+0.1
	2.7nm,0.5s,mb4.2,baz=336,slow=9.6,SNR=26						
WRA				ScP	ScP	07 09 52.4	-1.0
	0.4nm,0.7s,baz=337,slow=3.0,SNR=4.7						
WB2	Warramunga Arr	25.40	153	eP	P	07 03 52.3	0.0
ASAR	Alice Springs	28.53	158	P	P	07 04 20.6	+0.8
	1.0nm,0.6s,mb3.6,baz=334,slow=7.8,SNR=14						
STKA	Stephens Creek	38.94	154	P	P	07 05 45.8	-1.3
	1.2nm,0.3s,mb3.9,baz=331,slow=9.8,SNR=4.9						
STKA	Stephens Creek	38.94	154	eP	P	07 05 46.7	-0.4
JIRN	Jiri	42.61	309	eP	P	07 06 16.0	-0.3
	15nm,0.6s,mb4.7						
GUN	Gumba	42.97	309	eP	P	07 06 19.8	+0.7
	17nm,0.4s,mb4.9						
PKI	Pulchoki	43.18	308	eP	P	07 06 20.8	+0.1
KKN	Kakani	43.38	309	eP	P	07 06 22.5	+0.2
	6.3nm,0.4s,mb4.5						
DMN	Daman	43.43	308	eP	P	07 06 23.1	+0.4
GKN	Gorkha	43.98	309	eP	P	07 06 26.8	-0.1
KOLN	Koldanda	44.69	308	eP	P	07 06 32.9	+0.5
	23nm,0.7s,mb4.8						
ULN	Ulaanbaatar	46.85	346	eP	P	07 06 50.0	+1.2
	1.8nm,0.4s,mb4.0						
SONM	Songino Array	46.99	345	P	P	07 06 50.3	+0.5
	2.2nm,0.7s,mb3.8,baz=157,slow=8.9,SNR=12						
MKAR	Makanchi Array	56.02	328	P	P	07 07 55.1	+0.2
	3.1nm,0.4s,mb3.9,baz=123,slow=8.5,SNR=38						
ZAL	Zalesovo	59.60	335	P	P	07 08 18.6	-0.7
	1.1nm,0.3s,mb3.6,baz=30,slow=3.2,SNR=3.0						
KURK	Kurchatov	60.35	330	eP	P	07 08 24.0	-0.2
	7.3nm,0.4s,mb4.4						
BVAR	Borovoye Array	65.87	328	P	P	07 08 58.6	-1.1
	0.8nm,0.6s,mb3.4,baz=133,slow=8.3,SNR=5.2						
CHKZ	Chkalovo	66.08	329	eP	P	07 09 00.3	-0.7
	0.8nm,0.5s,mb3.5						
ZRNK	Zerenda	66.56	328	eP	P	07 09 03.5	-0.4

*NEIC **03** 07:23:55.7, 3495S×7105W, h107km, MG3.5(GUC), After GUC.*
GUC 03 07:23:55.7±0.7, 3495S×7105W, h107km±3km, MD3.4, ML3.5, 9C-10D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.33	5	⇑iP	Pn	07 24 11.4	+0.1
TALC	Talca	0.66	226	⇑iP	Pn	07 24 13.6	+0.2
TALC				iS	Sn	07 24 26.8	0.0
TALC				AML	AML	07 24 28.1	
	comp=E,3μm,0.1s						
TALC	Talca	0.66	226	⇑iP	Pn	07 24 13.6	+0.2
TALC				iS	Sn	07 24 26.8	0.0
CICH	Cipreses	0.81	40	⇑iP	Pn	07 24 15.2	+0.4
CICH				iS	Sn	07 24 30.2	+1.0
CACH	El Canelo	0.91	24	⇓iP	Pn	07 24 16.4	+0.7
CACH				iS	Sn	07 24 31.7	+1.0
LNCH	Linares	1.01	206	⇓iP	Pn	07 24 17.0	+0.3
LNCH				iS	Sn	07 24 33.1	+0.5
LNCH				AML	AML	07 24 34.8	
	comp=N,520nm,0.7s						
LNCH	Linares	1.01	206	⇓iP	Pn	07 24 17.0	+0.3
LNCH				iS	Sn	07 24 33.1	+0.5
LNV	Longovilo	1.03	343	⇑iP	Pn	07 24 17.5	+0.5
LNV				iS	Sn	07 24 33.6	+0.6
CHCH	Chadas Angostu	1.06	18	⇑iP	Pn	07 24 17.8	+0.5
CHCH				iS	Sn	07 24 34.1	+0.5
TACH	Talagante	1.29	4	eP	Pn	07 24 20.3	+0.4
TACH				iS	Sn	07 24 38.6	+0.4
LMEL	Las Melosas	1.30	33	⇓iP	Pn	07 24 20.8	+0.8
LMEL				iS	Sn	07 24 39.8	+1.5
LMEL				AML	AML	07 24 43.6	
	comp=N,1μm,0.1s						
LMEL	Las Melosas	1.30	33	⇓iP	Pn	07 24 20.8	+0.8
LMEL				iS	Sn	07 24 39.8	+1.5
PCH	Pirque	1.39	19	⇓iP	Pn	07 24 21.9	+0.8
PCH				iS	Sn	07 24 41.4	+1.1
ANTU	Antumapu	1.42	14	eP	Pn	07 24 21.9	+0.6
ANTU				iS	Sn	07 24 41.7	+1.0
ANTU				AML	AML	07 24 43.8	
	comp=N,714nm,0.4s						
ANTU	Antumapu	1.42	14	eP	Pn	07 24 21.9	+0.6
ANTU				iS	Sn	07 24 41.7	+1.0
SJCH	San Jose de Ma	1.42	24	⇓iP	Pn	07 24 21.4	0.0
SJCH				iS	Sn	07 24 41.8	+0.9
SJCH				AML	AML	07 24 44.7	
	comp=N,366nm,0.2s						
SJCH	San Jose de Ma	1.42	24	⇓iP	Pn	07 24 21.4	0.0
SJCH				iS	Sn	07 24 41.8	+0.9
CNCO	Chanco	1.45	237	eP	Pn	07 24 22.0	+0.3
CNCO				iS	Sn	07 24 41.7	+0.4
CNCO				AML	AML	07 24 44.5	
	comp=E,425nm,0.4s						
CNCO	Chanco	1.45	237	eP	Pn	07 24 22.0	+0.3
CNCO				iS	Sn	07 24 41.7	+0.4
RCDM	Rinconada Maip	1.47	8	eP	Pn	07 24 22.4	+0.5
RCDM				iS	Sn	07 24 42.3	+0.5
RCDM				AML	AML	07 24 43.6	
	comp=E,2μm,0.2s						
RCDM	Rinconada Maip	1.47	8	eP	Pn	07 24 22.4	+0.5
RCDM				iS	Sn	07 24 42.3	+0.5
YECH	El Yeso	1.51	32	eP	Pn	07 24 23.2	+0.8
YECH				iS	Sn	07 24 44.8	+2.1
SAN	Santiago	1.52	12	iS	Sn	07 24 43.8	+0.8
SAN				AML	AML	07 24 44.8	
	comp=N,430nm,0.3s						
FSR	Penalolen	1.53	17	⇑iP	Pn	07 24 23.4	+0.8
FSR				iS	Sn	07 24 44.1	+1.0
FSR				AML	AML	07 24 44.9	
	comp=E,713nm,0.5s						
LCCH	Las Cruces	1.53	344	⇑iP	Pn	07 24 23.1	+0.4
LCCH				iS	Sn	07 24 43.8	+0.6
STL	Santa Lucia	1.54	13	iP	Pn	07 24 22.8	-0.1
STL				iS	Sn	07 24 44.0	+0.5
DSCH	Colegio Aleman	1.59	15	iP	Pn	07 24 23.8	+0.3
DSCH				iS	Sn	07 24 45.0	+0.5
CLCH	Cerro Calan	1.60	16	⇑iP	Pn	07 24 24.3	+0.7
CLCH				iS	Sn	07 24 46.0	+1.2
CLCH				AML	AML	07 24 46.9	
	comp=E,804nm,0.4s						
CLCH				AML	AML	07 24 47.5	
	comp=E,894nm,0.4s						
FCH	Farellones	1.73	22	eP	Pn	07 24 25.9	+0.7
FCH				iS	Sn	07 24 49.0	+1.3
FCH				AML	AML	07 24 50.5	
	comp=N,788nm,0.4s						
PEL	Peldehue	1.82	10	⇓iP	Pn	07 24 26.6	+0.4
PEL				iS	Sn	07 24 50.4	+0.8
PEL				AML	AML	07 24 52.0	
	comp=N,706nm,0.4s						
PEL	Peldehue	1.82	10	⇓iP	Pn	07 24 26.6	+0.4
PEL				iS	Sn	07 24 50.4	+0.8
ROCH	El Roble	1.97	1	iP	Pn	07 24 29.2	+1.0
ROCH				iS	Sn	07 24 53.9	+1.0
JACH	Jahuel	2.29	10	iP	Pn	07 24 32.6	+0.4
JACH				iS	Sn	07 25 01.1	+0.8

*MOS **03** 07:41:54.1±1.1, 2878S×6709W, h116km, mb4.9/4, Error ellipse: s-maj=15.7km s-min=11.2km az=84.1*
*ISCJB **03** 07:41:54.2±0.5, 2873S±003×6718W±005, h120km±7km, mb4.4/15, Error ellipse: s-maj=7.9km s-min=4.5km az=166.7*
*IDC **03** 07:41:56.4±0.5, 2877S×6724W, h128km±4km, mb4.1/8, mb1 4.2/10, mb1mx4.0/15, mbtmp4.4/10, MS2.8/2, Ms1 2.9/2, ms1mx2.5/23, Error ellipse: s-maj=19.2km s-min=8.6km az=99.0*
*NEIC **03** 07:41:56.3±0.3, 2871S×6714W, mb4.8/13, Error ellipse: s-maj=6.3km s-min=5.8km az=61.0*
*BJI **03** 07:41:56.3, 2870S×6710W, h130km, mB4.9*
*GUC **03** 07:41:57.2±0.7, 2869S×6739W, h130km, ML4.9*
ISC 03 07:41:55.4±0.5, 2874S±003×6718W±005, h117km±6km, h132km±2.3km:pP-P, n84, σ1s05/87, mb4.4/15, 9C-5D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.00	198	P	Pn	07 42 42.7	+1.2
	21nm,0.3s,baz=9.1,slow=12,SNR=3010						
CFAA				S	Sn	07 43 17.1	0.0
	67nm,0.3s,baz=210,slow=18,SNR=22						
CFAA	Coronel Fontan	3.00	198	P	Pn	07 42 42.7	+1.2
CFAA				S	Sn	07 43 17.1	0.0
LCO	Las Campanas	3.10	264	⇑iP	Pn	07 42 44.1	+1.2
LCO				iS	Sn	07 43 19.4	-0.1
LCO				AML	AML	07 43 21.6	
	comp=E,1μm,0.4s						
LCO	Las Campanas	3.10	264	⇑iP	Pn	07 42 44.1	+1.2
LCO				iS	Sn	07 43 19.8	+0.3
CPCH	Copiapo	3.12	295	eP	Pn	07 42 45.6	+2.5
CPCH				iS	Sn	07 43 20.5	+0.4
CPCH				AML	AML	07 43 25.8	
	comp=E,6μm,0.1s						
CPCH	Copiapo	3.12	295	⇑iP	Pn	07 42 45.9	+2.7
CPCH				iS	Sn	07 43 20.8	+0.8
VACH	Vallenar	3.15	272	eP	Pn	07 42 44.1	+0.6
VACH				iS	Sn	07 43 19.5	-1.1
VACH				AML	AML	07 43 24.1	
	comp=N,5μm,0.1s						
VACH	Vallenar	3.15	272	⇑iP	Pn	07 42 44.5	+1.0
VACH				iS	Sn	07 43 20.2	-0.5
TLL	Tololo Astrono	3.47	245	⇑eP	Pn	07 42 49.0	+1.3
TLL				iS	Sn	07 43 28.6	+0.4
TLL				AML	AML	07 43 33.9	
	comp=N,2μm,0.6s						
TLL	Tololo Astrono	3.47	245	⇑iP	Pn	07 42 49.0	+1.3
TLL				iS	Sn	07 43 28.4	+0.2
CDCH	Caldera	3.63	296	eP	Pn	07 42 50.0	+0.1
CDCH				iS	Sn	07 43 29.1	-3.0
CDCH				AML	AML	07 43 30.1	
	comp=E,541nm,0.6s						
CDCH	Caldera	3.63	296	eP	Pn	07 42 50.3	+0.4
CDCH				S	Sn	07 43 29.2	-2.9
CRCH	Chaqaral	3.88	307	eP	Pn	07 42 53.8	+0.6
CRCH				iS	Sn	07 43 36.2	-1.7
CRCH				AML	AML	07 43 49.5	
	comp=E,572nm,0.7s						
CRCH	Chaqaral	3.88	307	eP	Pn	07 42 54.1	+1.0
CRCH				iS	Sn	07 43 36.2	-1.7
OVCH	Ovalle	3.96	241	eP	Pn	07 42 53.8	-0.5
OVCH				iS	Sn	07 43 38.2	-1.8
CPN1	Cerro Paranal	5.01	324	eP	Pn	07 43 09.9	+1.6
CPN1				iS	Sn	07 44 03.9	-1.3
FCH	Farellones	5.30	209	eP	Pn	07 43 12.9	+0.7
PEL	Peldehue	5.32	214	⇓eP	Pn	07 43 11.8	-0.8
CLCH	Cerro Calan	5.46	211	⇑eP	Pn	07 43 14.3	-0.2
FSR	Penalolen	5.53	210	eP	Pn	07 43 15.6	+0.2
STL	Santa Lucia	5.54	212	eP	Pn	07 43 14.7	-0.9
RCDM	Rinconada Maip	5.67	212	eP	Pn	07 43 16.4	-0.7
LMEL	Las Melosas	5.71	206	eP	Pn	07 43 18.5	+0.6
LVC	Limon Verde	6.30	345	P	Pn	07 43 28.3	+2.5
	comp=E,8.6nm,0.3s,baz=157,slow=9.6,SNR=85						
LVC				S	Sn	07 44 36.1	-0.2
	comp=E,6.2nm,0.3s,baz=233,slow=19,SNR=9.3						
LVC				LR	LR	07 45 30.4	
	comp=E,103nm,18.6s,baz=223,slow=34						
LVC	Limon Verde	6.30	345	ePn	Pn	07 43 28.2	+2.4
	comp=E,33nm,0.6s						
CPUP	Villa Florida	9.07	77	P	Pn	07 44 02.4	-0.9
	comp=E,2.9nm,0.3s,baz=233,slow=11,SNR=44						
CPUP	Villa Florida	9.07	77	eP	Pn	07 44 02.4	-0.9
CPUP				pmax	pmax		
	comp=Z,78nm,0.4s						
CPUP	Villa Florida	9.07	77	ePn	Pn	07 44 02.4	-0.9
	comp=Z,78nm,0.4s						
TRQA	Tornquist	10.26	156	ePn	Pn	07 44 19.5	+0.2
	comp=Z,26nm,1.1s						
PLCA	Paso Flores	12.28	192	P	Pn	07 44 44.2	-2.0
	comp=Z,0.5nm,0.3s,baz=0.4,slow=14,SNR=18						
PLCA	Paso Flores	12.28	192	ePn	Pn	07 44 44.1	-2.1
LPAZ	La Paz	12.42	356	P	Pn	07 44 47.5	-0.5
	comp=Z,0.8nm,0.3s,baz=159,slow=7.9,SNR=28						
LPAZ				LR	LR	07 49 46.5	
	comp=Z,34nm,18.9s,baz=185,slow=38						
LPAZ	La Paz	12.42	356	eP	Pn	07 44 48.2	+0.2
LPAZ				pmax	pmax		
	comp=Z,30nm,0.8s						
LPAZ	La Paz	12.42	356	ePn	Pn	07 44 48.2	+0.2
	comp=Z,30nm,0.8s						
ARE	Arequipa	12.85	341	eP	Pn	07 44 55.0	+1.4
SIV	San Ignacio	13.88	25	P	Pn	07 45 05.5	-1.5
	comp=Z,1.0nm,0.3s,baz=216,slow=14,SNR=85						
SAML	Samuel	20.04	12	eP	P	07 46 19.0	-0.1
	comp=Z,42nm,0.7s						
BDFB	Brasilia	21.98	58	P	P	07 46 38.1	-1.6
	comp=Z,10nm,0.5s,mb4.5,baz=230,slow=9.4,SNR=30						
BDFB	Brasilia	21.98	58	eP	P	07 46 38.5	-1.2
BDFB				pmax	pmax		
	comp=Z,15nm,0.5s						
BDFB	Brasilia	21.98	58	eP	P	07 46 38.5	-1.3
	comp=Z,15nm,0.5s,mb4.6						
BAO	Brasilia Array	22.00	58	P	P	07 46 39.0	-0.9
EFI	East Falkland	23.91	166	eP	P	07 46 57.5	-0.7
EFI				pmax	pmax		
	comp=Z,38nm,0.6s,mb4.9						
EFI	East Falkland	23.91	166	eP	P	07 46 57.5	-0.8
	comp=Z,38nm,0.6s,mb4.9						
SDV	Santo Domingo	37.55	354	eP	P	07 48 57.2	-0.9
	comp=Z,2.4nm,0.4s,mb4.4						
VNA1	Neumayer--Stat	52.98	159	e	P	07 51 00.2	+0.4
VNA1				e		07 51 01.0	
VNA1				e		07 51 02.6	
SNAA	Sanae	54.97	160	e	P	07 51 13.9	-0.3
SNAA				e		07 51 14.4	
SNAA				e		07 51 16.0	
SNAA	Sanae	54.97	160	d iP	P	07 51 13.8	-0.4
SNAA	Sanae	54.97	160	eP	P	07 51 13.8	-0.5
	comp=Z,9.1nm,0.9s,mb4.8						
QSPA	South Pole Qui	61.48	180	⇓eP	P	07 51 59.9	+0.3
	comp=Z,16nm,0.6s,mb5.2						
QSPA				epP	pP	07 52 32.8	+4.8
SYO	Syowa Base	69.21	158	⇑eP	P	07 52 45.6	-3.8
DBIC	Dimbokro	69.51	70	P	P	07 52 50.7	-0.6
	comp=Z,1.5nm,0.3s,mb4.3,baz=250,slow=9.7,SNR=13						
DBIC	Dimbokro	69.51	70	P	P	07 52 50.7	-0.6
VNDA	Vanda	70.03	190	P	P	07 52 54.6	+0.3
	comp=Z,2.5nm,0.7s,mb4.1,baz=135,slow=6.6,SNR=19						
VNDA	Vanda	70.03	190	eP	P	07 52 54.6	+0.2
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNDA	Vanda	70.03	190	eP	P	07 52 54.5	+0.2
	comp=Z,2.1nm,0.8s,mb4.0						
MAW	Mawson	76.98	162	P	P	07 53 35.0	-0.1
	comp=Z,4.8nm,0.8s,mb4.3,baz=212,slow=6.7,SNR=21						
MAW	Mawson	76.98	162	eP	P	07 53 35.0	-0.1
MAW				pmax	pmax		
	comp=Z,11nm,1.3s						
MAW	Mawson	76.98	162	eP	P	07 53 35.0	-0.1
	comp=Z,11nm,1.3s,mb4.4						
TORD	Torodi Ar. Bea	78.45	68	P	P	07 53 44.0	+0.8
	comp=Z,7.7nm,0.6s,mb4.6,baz=272,slow=5.7,SNR=57						
TORD				pP	pP	07 54 15.2	+2.3
	comp=Z,2.0nm,0.7s,baz=265,slow=5.6,SNR=2.5						
SRU	San Rafael	78.68	327	eP	P	07 53 44.8	+0.3
SRU				e*PP	pP	07 54 18.7	+4.6
SRU				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
SRU	San Rafael	78.68	327	eP	P	07 53 44.8	+0.3
	comp=Z,0.7nm,0.5s,mb3.8						
SRU				epP	pP	07 54 18.7	+4.6
BOSA	Boshof	78.75	116	P	P	07 53 45.5	+0.6
	comp=Z,15nm,0.7s,mb4.9,baz=253,slow=4.9,SNR=31						
LBTB	Lobatse	80.64	113	eP	P	07 53 55.8	+0.7
LBTB				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.0						
LBTB	Lobatse	80.64	113	eP	P	07 53 55.8	+0.6
	comp=Z,13nm,0.5s,mb5.0						
PDAR	Pinedale Array	81.14	330	P	P	07 53 57.8	0.0
	comp=Z,1.1nm,0.7s,mb3.8,baz=122,slow=6.5,SNR=10						
PDAR				pP	pP	07 54 30.9	+3.4
	comp=Z,1.2nm,0.8s,baz=123,slow=7.0,SNR=7.0						
NVAR	Mina Array Bea	82.14	322	P	P	07 54 03.3	+0.3
	comp=Z,0.5nm,0.7s,mb3.5,baz=141,slow=6.7,SNR=3.6						
MCMT	McKenzie Canyo	84.22	329	eP	P	07 54 14.8	+1.0
MCMT				epP	pP	07 54 48.1	+4.4
LSZ	Lusaka	87.36	106	P	P	07 54 31.6	+2.4
YKA	Yellowknife Ar	98.50	340	P	P	07 55 19.0	-1.4
	comp=Z,0.5nm,0.6s,mb4.2,baz=135,slow=4.8,SNR=6.5						
YKA				pP	pP	07 55 51.9	+1.0
	comp=Z,0.4nm,0.8s,baz=150,slow=5.1,SNR=3.6						
YKA	Yellowknife Ar	98.50	340	P	P	07 55 19.1	-1.4
YKA				pP	pP	07 55 51.9	+1.0
ASAR	Alice Springs	124.08	203	PKP	PKPdf	08 00 39.3	-0.6
	comp=Z,3.2nm,0.6s,baz=138,slow=1.7,SNR=19						
WRA	Warramunga Arr	127.33	206	PKP	PKPdf	08 00 45.9	-0.3
	comp=Z,8.7nm,0.7s,baz=166,slow=1.6,SNR=70						
WRA				pPKP	pPKPdf	08 01 22.2	+4.4
	comp=Z,1.0nm,0.5s,baz=167,slow=1.6,SNR=3.2						
YAK	Yakutsk	144.89	346	⇓iPKIKP	PKPdf	08 01 15.7	-2.8
KURK	Kurchatov	146.20	40	d iPKP2	PKPab	08 01 21.9	-1.0
AAK	Ala-Archa	146.22	55	ePKPdf	PKPdf	08 01 21.0	+0.2
AAK				epPKPdf	pPKPdf	08 01 56.0	+3.5
ZAL	Zalesovo	147.58	31	PKPbc	PKPbc	08 01 25.6	-0.2
	comp=Z,5.8nm,0.5s,baz=161,slow=3.6,SNR=9.2						
ZAL				pPKPbc	pPKPbc	08 01 59.0	+1.8
	comp=Z,2.8nm,0.7s,baz=169,slow=1.1,SNR=4.2						
MKAR	Makanchi Array	150.14	45	PKPbc	PKPbc	08 01 32.2	-0.2
	comp=Z,3.1nm,0.6s,baz=323,slow=1.8,SNR=25						
MKAR				PKPab	PKPab	08 01 41.5	+2.8
	comp=Z,2.9nm,0.6s,baz=309,slow=1.5,SNR=3.6						
MKAR				pPKPbc	pPKPbc	08 02 06.3	+2.4
	comp=Z,1.1nm,0.5s,baz=273,slow=2.7,SNR=2.0						
YSS	Yuzh-Sakhalins	150.44	316	⇑iPKIKP	PKPdf	08 01 30.7	+3.0
BOD	Bodaibo	150.92	359	ePKIKP	PKPdf	08 01 31.9	+3.5
BOD				e		08 02 07.5	
BOD				pmax	pmax		
	comp=Z,3.0nm,1.7s						
BOD				pmax	pmax		
	comp=Z,4.0nm,1.7s						
WMQ	Urumqi	154.90	46	PKP	PKPdf	08 01 33.0	-1.2
HHC	Hu-ho-hao-te	167.87	5	ePKP	PKPdf	08 01 43.8	-3.9
HHC				PP	PP	08 06 44.7	+0.5
HHC				SKS	SKSdf	08 08 35.3	-5.4
HHC				SKKS	SKKSac	08 13 17.1	-3.3
HHC				SS	SS	08 27 20.1	-3.1
HHC				PP	PP		
	comp=Z,105nm,17.2s						
HHC				LR	LR		
	comp=E,179nm,36.9s						
HHC				LR	LR		
	comp=Z,113nm,20.2s						
LZH	Lanzhou	169.46	44	ePKP	PKPdf	08 01 44.4	-4.3
LZH				APKP		08 02 27.4	
LZH				LR	LR		
	comp=E,196nm,19.6s						
LZH				LR	LR		
	comp=Z,324nm,20.3s						
KMI	Kunming	170.31	109	PKP	PKPdf	08 01 47.2	-2.0
CD2	Chengdu	171.84	72	ePKP	PKPdf	08 01 47.9	-2.1
CD2				APKP		08 02 22.9	
CD2				XPKP		08 02 36.2	
CD2				PKP2	PKPab	08 03 12.9	0.0
CD2				PP	PP	08 07 04.9	+0.9
CD2				SKS	SKSdf	08 08 36.4	-6.1
CD2				SKKS	SKKSac	08 13 36.9	-2.8
CD2				SS	SS	08 27 58.4	-4.0
CD2				PP	PP		
	comp=Z,60nm,10.2s						
CD2				LR	LR		
	comp=E,80nm,21.6s						
CD2				LR	LR		
	comp=Z,80nm,14.4s						

*MOS **03** 07:49:32.1±1.9, 5192N×9922E, h10km, mb4.2/1, Error ellipse: s-maj=18.1km s-min=14.2km az=5.9*
BYKL 03 07:49:35.8±0.5, 5197N×9973E, 9C-5D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORL	Orlik	0.57	5	⇑iPg	Pg	07 49 45.6	-1.2
	42nm,0.4s						
ORL				⇑iPg	Pg	07 49 45.6	-1.2
	20nm,0.4s						
ORL				⇑iPg	Pg	07 49 45.6	-1.2
	57nm,0.4s						
ORL				eSg	Sg	07 49 51.9	-2.3
ORL				Pmax			
	48nm,0.3s						
ORL				Smax			
	532nm,0.9s						
MOY	Mondy	0.84	111	⇑iPg	Pg	07 49 51.8	-0.1
	78nm,0.5s						
MOY				⇓iPg	Pg	07 49 51.8	-0.1
	125nm,0.5s						
MOY				⇓iPg	Pg	07 49 51.8	-0.1
	273nm,0.5s						
MOY				eSg	Sg	07 50 03.2	+0.4
MOY				Pmax			
	277nm,0.5s						
MOY				Smax			
	700nm,1.6s						
MOY	Mondy	0.84	111	⇑iPG	Pg	07 49 51.7	-0.2
MOY				e		07 50 03.3	
MOY				pmax	pmax		
	comp=Z,276nm,0.1s						
MOY				smax			
	comp=N,436nm,0.5s						
TDJR	Todzha	2.28	282	⇑iPn	Pn	07 50 14.4	-0.2
TDJR				ePg	Pg	07 50 17.1	-2.3
TDJR				eSg	Sg	07 50 45.7	-3.2
TLY	Talaya	2.45	95	⇑iPg	Pg	07 50 19.2	-3.5
TLY				eSg	Sg	07 50 51.2	-3.2
TLY				Pmax			
	comp=N,20nm,0.2s						
TLY				Smax			
	comp=N,143nm,0.4s						
TLY	Talaya	2.45	95	⇑iPN	Pn	07 50 19.1	+2.1
TLY				e		07 50 51.4	
TLY				pmax	pmax		
	comp=Z,34nm,0.2s						
TLY				smax			
	comp=E,255nm,0.6s						
IRK	Irkutsk	2.81	83	ePg	Pg	07 50 25.9	-3.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IRK				eSg	Sg	07 51 01.6	-4.6
IRK				Pmax			
	comp=E,151nm,0.1s						
IRK				Smax			
	comp=E,912nm,0.4s						
IRK	Irkutsk	2.81	83	ePN	Pn	07 50 25.5	+3.5
IRK				e		07 51 00.9	
IRK				pmax	pmax		
	comp=Z,145nm,0.2s						
IRK				smax			
	comp=N,893nm,0.4s						
LSTR	Listvyanka	3.16	90	⇓iPg	Pg	07 50 31.9	-4.5
LSTR				eSg	Sg	07 51 12.2	-5.2
LSTR				Pmax			
	comp=N,71nm,0.6s						
LSTR				Smax			
	comp=N,220nm,0.7s						
LSTR	Listvyanka	3.16	90	⇑iPN	Pn	07 50 31.2	+4.4
LSTR				e		07 51 12.1	
LSTR				pmax	pmax		
	comp=Z,72nm,0.7s						
LSTR				smax			
	comp=N,217nm,0.6s						
TRG	Tyrgan	4.13	76	ePn	Pn	07 50 41.5	+1.3
TRG				ePg	Pg	07 50 50.7	-4.3
TRG				e		07 51 31.1	
TRG				eSg	Sg	07 51 43.4	-5.2
TRG				Pmax			
	comp=N,25nm,0.3s						
TRG				Smax			
	comp=N,113nm,0.3s						
TRG	Tyrgan	4.13	76	ePN	Pn	07 50 41.5	+1.3
TRG				e		07 50 50.6	
TRG				pmax	pmax		
	comp=Z,25nm,0.3s						
FFNB	Fofonovo	4.35	86	e	Pn	07 50 52.4	+9.3
FFNB				e		07 51 38.3	
FFNB				eSg	Sg	07 51 50.3	-5.2
FFNB				max			
	comp=Z,25nm,0.2s						
FFNB				Smax			
	comp=Z,293nm,1.0s						
HRMR	Khuramsha	4.50	92	e	Pn	07 50 49.3	+4.1
HRMR				ePg	Pg	07 50 56.8	-5.2
HRMR				e		07 51 44.3	
HRMR				eSg	Sg	07 51 55.1	-5.2
HRMR				Pmax			
	comp=Z,33nm,0.4s						
HRMR				Smax			
	comp=Z,370nm,0.4s						
TRTB	Turuntaevo	4.88	84	e	Pn	07 50 54.6	+4.2
TRTB				ePg	Pg	07 51 03.7	-5.6
TRTB				e		07 51 50.7	
TRTB				eSg	Sg	07 52 07.5	-5.0
TRTB				Pmax			
	comp=Z,38nm,0.8s						
TRTB				Smax			
	comp=Z,62nm,0.6s						
OGRR	Ongureny	5.06	68	ePn	Pn	07 50 53.1	+0.2
OGRR				ePg	Pg	07 51 06.5	-6.2
OGRR				e		07 51 51.4	
OGRR				eSg	Sg	07 52 10.9	-7.4
OGRR				Pmax			
	comp=Z,12nm,0.3s						
OGRR				Smax			
	comp=Z,81nm,0.5s						
OGRR	Ongureny	5.06	68	ePN	Pn	07 50 53.2	+0.3
OGRR				e		07 51 07.2	
OGRR				eS	Sn	07 51 49.5	-2.5
OGRR				pmax	pmax		
	comp=Z,13nm,0.4s						
OGRR				smax			
	comp=E,81nm,0.9s						
MXMB	Maximikha	5.64	73	e	Pn	07 51 13.6	+13
MXMB				e		07 52 10.7	
MXMB				eSg	Sg	07 52 30.4	-6.7
MXMB				max			
	comp=E,17nm,0.3s						
MXMB				Smax			
	comp=E,196nm,0.2s						
KRAR	Krasnoyarsk	5.72	318	ePN	Pn	07 50 56.1	-5.9
KRAR				i		07 51 16.2	
ULN	Ulaanbaatar	6.26	128	⇓ePN	Pn	07 51 07.9	-1.5
ULN				e		07 51 29.4	
SYVR	Suvo	6.45	71	ePn	Pn	07 51 13.4	+1.4
SYVR				ePg	Pg	07 51 31.4	-8.0
SYVR				eSn	Sn	07 52 22.5	-3.8
SYVR				eSg	Sg	07 52 54.2	-8.8
SYVR				Pmax			
	comp=E,3.0nm,0.7s						
SYVR				Smax			
	comp=E,38nm,1.4s						
NIZ	Nizh Angarsk	6.94	53	ePg	Pg	07 51 41.4	-7.4
NIZ				eSn	Sn	07 52 36.0	-2.4
NIZ				eSg	Sg	07 53 10.8	-7.9
NIZ				Pmax			
	comp=E,14nm,0.1s						
NIZ				Smax			
	comp=E,166nm,1.0s						
NIZ	Nizh Angarsk	6.94	53	ePN	Pn	07 51 19.8	+1.1
NIZ				e		07 51 41.9	
NIZ				pmax	pmax		
	comp=Z,6.0nm,0.4s						
KMO	Kumora	7.82	55	ePn	Pn	07 51 32.1	+1.3
KMO				ePg	Pg	07 51 57.3	-8.4
KMO				eSn	Sn	07 52 57.3	-2.8
KMO				eSg	Sg	07 53 37.7	-9.3
KMO				Pmax			
	comp=Z,5.0nm,0.3s						
KMO				Smax			
	comp=Z,89nm,1.2s						
UKT	Uakit	8.96	61	ePn	Pn	07 51 47.1	+0.7
UKT				ePg	Pg	07 52 17.4	-10
UKT				e		07 53 28.1	
UKT				eSg	Sg	07 54 14.2	-9.2
UKT				Pmax			
	comp=Z,2.0nm,0.8s						
UKT				Smax			
	comp=Z,26nm,2.4s						
BOD	Bodaibo	10.09	49	e	Sn	07 53 54.5	-1.2
BOD				eSg	Sn	07 54 49.7	+54
BOD				Smax			
	comp=Z,23nm,1.6s						
TIXI	Tiksi	23.60	23	⇓eP	P	07 54 43.2	-5.2

*ISCJB **03** 07:51:41.9±0.3, 43.15N±0.02×0.16E±0.02, h0km, Error ellipse: s-maj=2.5km s-min=2.1km az=139.2*
*STR **03** 07:51:42.9±0.8, 42.69N×0.03E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **03** 07:51:43.6±0.1, 43.07N×0.12E, h2km, ML2.5/7, Error ellipse: s-maj=2.0km s-min=1.3km az=100.0*
*LDG **03** 07:51:43.4±0.1, 43.06N×0.10E, h3km, Md2.4/3, Ml2.4/7, Error ellipse: s-maj=1.0km s-min=0.8km az=91.0*
*MDD **03** 07:51:44.4±0.2, 43.02N×0.12E, h0km, mbLg1.6/13, Error ellipse: s-maj=1.8km s-min=1.4km az=48.0, PRXIMO*

ISC 03 07:51:43.0±0.3, 43.11N±0.02×0.15E±0.02, h1km±5km, n54, σ0.87/89, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LABF	Labassere	0.08	223	P	Pg	07 51 45.8	+1.3
LABF				S	Sg	07 51 47.6	+2.0
EPF	Esparros	0.16	118	ePg	Pg	07 51 47.3	+1.2
EPF				eSg	Sg	07 51 49.6	+1.5
	33nm,0.2s						
EPF	Esparros	0.16	118	ePg	Pg	07 51 47.3	+1.2
EPF				eSg	Sg	07 51 49.6	+1.5
	17nm,0.2s						
VIEF	Viey	0.24	202	Pg	Pg	07 51 47.2	-0.4
VIEF				Sg	Sg	07 51 49.8	-0.9
VIEF	Viey	0.24	202	P	Pg	07 51 47.2	-0.4
VIEF				S	Sg	07 51 49.9	-0.8
RESF	Ens	0.33	155	Pg	Pg	07 51 48.9	-0.4
RESF				Sg	Sg	07 51 53.3	-0.3
RESF	Ens	0.33	155	P	Pg	07 51 49.1	-0.2
RESF				S	Sg	07 51 53.4	-0.2
REYF	Montagne du Re	0.40	265	P	Pg	07 51 50.7	+0.1
REYF				S	Sg	07 51 56.1	+0.3
EBIE	Bielsa	0.42	180	⇑Pg	Pg	07 51 50.3	-0.8
	6.9nm,0.0s,SNR=18						
EBIE				Lg		07 51 55.1	
	19nm,0.1s,SNR=53						
EBIE	Bielsa	0.42	180	Pg	Pg	07 51 50.3	-0.7
	6.9nm,0.0s,SNR=18						
EBIE				Lg		07 51 55.1	
	19nm,0.1s,SNR=53						
ETSF	Etsaut	0.56	249	ePg	Pg	07 51 53.2	-0.5
ETSF				eSg	Sg	07 51 59.9	-1.1
	36nm,0.2s						
ETSF	Etsaut	0.56	249	ePg	Pg	07 51 53.2	-0.5
ETSF				eSg	Sg	07 51 59.9	-1.1
	18nm,0.2s						
FDAF	Les Forges d'A	0.60	242	P	Pg	07 51 53.8	-0.7
FDAF				S	Sg	07 52 01.3	-1.0
ATE	Arette	0.62	269	Pg	Pg	07 51 55.7	+0.8
ATE	Arette	0.62	269	P	Pg	07 51 55.3	+0.4
ATE				S	Sg	07 52 04.0	+1.0
LARF	Larrau	0.83	266	P	Pg	07 51 59.2	+0.2
LARF				S	Sg	07 52 10.2	+0.3
SALF	Salau	0.84	114	Pg	Pg	07 51 59.2	+0.1
SALF				Sg	Sg	07 52 10.1	+0.1
SALF	Salau	0.84	114	P	Pg	07 51 59.4	+0.3
SALF				S	Sg	07 52 10.9	+0.9
EGRA	Graus	0.92	172	Pg	Pg	07 52 00.4	-0.2
	0.7nm,0.1s,SNR=5.9						
EGRA				Lg		07 52 11.8	
	2.3nm,0.1s,SNR=6.3						
CSOR	Sort	1.03	135	P	Pg	07 52 02.3	-0.4
CSOR				S	Sg	07 52 15.8	-0.3
	4.4nm,0.2s						
CORG	Organya	1.23	135	P	Pg	07 52 06.5	-0.1
CORG				S	Sg	07 52 22.4	-0.1
	1.8nm,0.2s						
ELIZ	Elizondo	1.23	273	Pg	Pg	07 52 08.2	+1.6
	0.7nm,0.1s,SNR=7.9						
ELIZ				Lg		07 52 23.8	
	2.1nm,0.2s,SNR=7.9						
ELIZ	Elizondo	1.23	273	Pg	Pg	07 52 07.9	+1.3
	0.7nm,0.1s,SNR=7.9						
IUSE	Utxeti	1.25	263	Pg	Pg	07 52 08.4	+1.4
	0.5nm,0.1s,SNR=4.0						
IUSE				Lg		07 52 23.8	
	1.0nm,0.1s,SNR=7.9						
IUSE	Utxeti	1.25	263	Pg	Pg	07 52 09.4	+2.4
	0.5nm,0.1s,SNR=4.0						
ESAC	San Caprasio	1.46	198	Pg	Pg	07 52 09.9	-1.1
	15nm,0.3s,SNR=7.9						
ESAC				Lg		07 52 28.6	
	39nm,0.1s,SNR=17						
ESAC	San Caprasio	1.46	198	Pg	Pg	07 52 09.9	-1.0
	15nm,0.3s,SNR=7.9						
CLLI	Llivia	1.48	114	P	Pn	07 52 11.2	+0.4
CLLI				S	Sg	07 52 31.7	+1.0
	1.8nm,0.3s						
MTLF	Montolieu	1.53	80	ePn	Pn	07 52 10.3	-1.2
MTLF	Montolieu	1.53	80	ePg	Pg	07 52 12.6	+0.2
MTLF				eSg	Sg	07 52 32.8	+0.6
	3.8nm,0.2s						
MTLF	Montolieu	1.53	80	Pn	Pn	07 52 10.3	-1.2
MTLF				Pg	Pg	07 52 12.6	+0.2
MTLF				Lg		07 52 32.8	
	1.9nm,0.2s						
MTLF	Montolieu	1.53	80	ePg	Pg	07 52 12.6	+0.2
MTLF				eSg	Sg	07 52 32.8	+0.6
	1.9nm,0.2s						
VALF	Valcebollere	1.55	116	S	Sn	07 52 33.4	+1.1
EMIR	Miracle	1.57	139	Pg	Pg	07 52 12.5	-0.5
	1.6nm,0.1s,SNR=7.9						
EMIR				Lg		07 52 33.2	
	3.1nm,0.1s,SNR=7.9						
EMIR	Miracle	1.57	139	Pg	Pg	07 52 12.5	-0.5
	1.6nm,0.1s,SNR=7.9						
CBRU	Bruguera	1.71	118	S	Sn	07 52 37.3	+1.0
	0.9nm,0.3s						
LFF	La Frestale	1.88	13	ePn	Pn	07 52 15.4	-0.9
LFF	La Frestale	1.88	13	ePg	Pg	07 52 19.5	+0.4
LFF				eSg	Sg	07 52 44.4	+0.9
	8.7nm,0.2s						
LFF	La Frestale	1.88	13	Pn	Pn	07 52 15.4	-0.9
LFF				Pg	Pg	07 52 19.5	+0.4
LFF				Lg		07 52 44.4	
	4.3nm,0.2s						
LFF	La Frestale	1.88	13	ePg	Pg	07 52 19.5	+0.4
LFF				eSg	Sg	07 52 44.4	+0.9
	4.3nm,0.2s						
ERTA	Horta de San J	2.15	176	Pg	Pg	07 52 22.5	-1.7
	0.6nm,0.1s,SNR=7.9						
ERTA				Lg		07 52 49.2	
	4.4nm,0.2s,SNR=5.6						
ERTA	Horta de San J	2.15	176	Pg	Pg	07 52 22.5	-1.8
	0.6nm,0.1s,SNR=7.9						
CAF	Calviac	2.29	37	ePn	Pn	07 52 21.2	-0.6
CAF	Calviac	2.29	37	ePg	Pg	07 52 27.2	+0.4
CAF				eSg	Sg	07 52 57.0	+0.5
	1.7nm,0.2s						
CAF	Calviac	2.29	37	Pn	Pn	07 52 21.2	-0.6
CAF				Pg	Pg	07 52 27.2	+0.4
CAF	Calviac	2.29	37	ePg	Pg	07 52 27.2	+0.4
CAF				eSg	Sg	07 52 57.0	+0.5
	0.9nm,0.2s						
RJF	Les Rejaudoux	2.41	24	ePg	Pg	07 52 28.9	-0.3
RJF				eSg	Sg	07 53 01.1	+0.7
	5.3nm,0.3s						
RJF	Les Rejaudoux	2.41	24	ePg	Pg	07 52 28.9	-0.3
RJF				eSg	Sg	07 53 01.1	+0.7
	2.7nm,0.3s						
LASF	Ste Croix	2.86	69	ePg	Pg	07 52 37.0	-0.9
LASF				eSg	Sg	07 53 14.7	-0.4
	3.1nm,0.3s						
LASF	Ste Croix	2.86	69	ePg	Pg	07 52 37.0	-0.9
LASF				eSg	Sg	07 53 14.7	-0.4
	1.5nm,0.3s						
MFF	Saint Martin d	3.50	357	ePg	Pg	07 52 48.8	-1.4
MFF				eSg	Sg	07 53 34.9	-0.7
	3.6nm,0.4s						
MFF	Saint Martin d	3.50	357	ePg	Pg	07 52 48.8	-1.4
MFF				eSg	Sg	07 53 34.9	-0.7
	1.8nm,0.4s						
VIVF	Saint-Julien-l	3.71	60	ePg	Pg	07 52 52.4	-1.6
VIVF				eSg	Sg	07 53 41.2	-0.9
	1.7nm,0.3s						
VIVF	Saint-Julien-l	3.71	60	ePg	Pg	07 52 52.4	-1.6
VIVF				eSg	Sg	07 53 41.2	-0.9
	0.9nm,0.3s						

*ISCJB **03** 07:52:40.5±3.7, 22.9S±0.2×170.0E±0.2, h110km±23km, mb4.4/9, Error ellipse: s-maj=44.5km s-min=30.4km az=86.5*
*NEIC **03** 07:52:42.0±3.3, 22.84S×170.08E, h112km±22km, mb4.5/6, Error ellipse: s-maj=33.8km s-min=29.2km az=50.0*
*IDC **03** 07:52:42.9±7.0, 22.79S×169.94E, h111km±46km, mb4.0/5, mb1 4.2/6, mb1mx3.9/12, mbtmp4.4/6, MS3.5/4, Ms1 3.5/4, ms1mx2.9/26, Error ellipse: s-maj=60.3km s-min=39.5km az=130.0*

ISC 03 07:52:40.8±3.6, 22.8S±0.2×170.1E±0.2, h101km±23km, n20, σ1.20/20, mb4.4/9, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.48	281	eP	Pn	07 53 34.2	+1.2
DZM				eS	Sn	07 54 10.6	-2.7
DZM	Mont Dzumac	3.48	281	P	Pn	07 53 34.2	+1.2
	18nm,0.3s,baz=144,slow=22,SNR=606						
DZM				S	Sn	07 54 12.0	-1.2
	94nm,0.3s,baz=139,slow=23,SNR=22						
DZM				LR	LR	07 54 39.9	
	comp=Z,254nm,19.6s,baz=45,slow=35						
DZM	Mont Dzumac	3.48	281	P	Pn	07 53 34.2	+1.2
DZM				S	Sn	07 54 12.0	-1.2
CTA	Charters Tower	22.38	272	P	P	07 57 30.4	-0.3
	14nm,0.8s,mb4.3,baz=92,slow=11,SNR=18						
CTAO	Charters Tower	22.38	272	eP	P	07 57 30.8	+0.1
	11nm,0.5s,mb4.4						
STKA	Stephens Creek	26.85	244	eP	P	07 58 09.8	-2.0
	1.9nm,0.5s,mb3.9						
STKA				e		07 58 25.3	
STKA	Stephens Creek	26.85	244	P	P	07 58 09.7	-2.1
	1.9nm,0.4s,mb4.0,baz=79,slow=12,SNR=12						
STKA				LR	LR	08 08 28.6	
	comp=Z,149nm,21.1s,baz=23,slow=35						
STKA	Stephens Creek	26.85	244	eP	P	07 58 09.8	-2.0
AS31	Alice Springs	33.24	261	eP	P	07 59 09.3	+1.1
ASAR	Alice Springs	33.24	261	P	P	07 59 08.8	+0.6
	8.8nm,0.6s,mb4.8,baz=94,slow=8.1,SNR=43						
ASPA	Alice Springs	33.25	261	eP	P	07 59 09.4	+1.1
ASPA				e		07 59 14.0	
ASPA				ePP	PP	08 00 39.3	+14
WRAB	Tennant Creek	33.39	268	eP	P	07 59 10.7	+1.2
	5.8nm,0.4s,mb4.8						
WRA	Warramunga Arr	33.40	268	P	P	07 59 10.6	+1.1
	2.8nm,0.3s,mb4.6,baz=92,slow=8.5,SNR=207						
KAKA	Kakadu	37.17	279	eP	P	07 59 40.3	-1.6
	3.6nm,0.3s,mb4.8						
FITZ	Fitzroy Crossi	41.83	268	P	P	08 00 15.4	-5.2
	2.0nm,0.4s,mb4.2,baz=70,slow=8.7,SNR=19						
VNDA	Vanda	54.94	182	LR	LR	08 21 16.1	
	comp=Z,59nm,20.1s,baz=326,slow=31						
VNDA	Vanda	54.94	182	eP	P	08 02 00.4	-0.8
	0.7nm,0.4s,mb4.0						
YBH	Yreka Blue Hor	89.27	44	LR	LR	08 36 53.2	
	comp=Z,25nm,20.8s,baz=176,slow=30						
SONM	Songino Array	90.53	323	P	P	08 05 30.5	-0.9
	0.8nm,0.6s,mb4.0,baz=131,slow=5.4,SNR=4.3						
GERES	GERESS Array B	147.98	330	PKPbc	PKPbc	08 12 15.3	+1.0
	0.5nm,0.3s,baz=25,slow=4.7,SNR=4.1						

MEX 03 07:54:04.5±0.4, 16.08N×96.11W, h78km±5km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.31	180	i P	Pn	07 54 15.2	-1.4
HUIG				i S	Sn	07 54 23.7	-1.7
VHO	Vista Hermosa	1.16	329	i P	Pn	07 54 24.2	-1.1
VHO				i S	Sn	07 54 39.7	-1.2
OXX	Oaxaca	1.16	330	i P	Pn	07 54 24.0	-1.4
OXX				i S	Sn	07 54 39.0	-2.0
CMIG	Matias Romero	1.55	49	i P	Pn	07 54 30.0	-0.3
CMIG				i S	Sn	07 54 47.8	-2.1
UTMO	Huajuapan	2.38	317	eP	Pn	07 54 40.3	-1.1
UTMO				i S	Sn	07 55 08.9	-0.8

*CSEM **03** 08:12:59.9±0.2, 38.16N×26.65E, h5km, MD3.2, Error ellipse: s-maj=4.3km s-min=2.2km az=118.0*
*ISCJB **03** 08:13:00.1±0.6, 38.16N±0.03×26.58E±0.05, h5km, Error ellipse: s-maj=5.2km s-min=3.8km az=13.3*
*ISK **03** 08:13:00.6, 38.18N×26.65E, h14km, MD3.2*
*ATH **03** 08:13:00.9, 38.13N×26.43E, h10km, MD3.1/3*
*NEIC **03** 08:13:00.7, 38.19N×26.66E, h14km, MD3.1(ATH), MD3.1(ISK), After ISK.*

ISC 03 08:12:59.9±0.8, 38.16N±0.03×26.54E±0.05, h3km±6km, n22, σ0.77/33, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URLA	Izmir	0.21	12	i P	Pg	08 13 04.4	+0.5
URLA				i S	Sg	08 13 07.4	+0.7
BLCB	Balcova	0.46	60	PG	Pg	08 13 08.3	-0.4
BLCB	Balcova	0.46	60	Pg	Pg	08 13 08.3	-0.3
BLCB				Sg	Sg	08 13 13.3	-1.3
BLCB	Balcova	0.46	60	ePg	Pg	08 13 08.3	-0.4
BLCB				Sg	Sg	08 13 13.3	-1.3
SMG	Samos	0.50	152	ePB	Pg	08 13 11.0	+1.4
IZM	Izmir	0.62	67	PG	Pg	08 13 11.4	-0.4
IZM				SG	Sg	08 13 19.5	-0.3
IZM	Izmir	0.62	67	Pg	Pg	08 13 11.4	-0.3
IZM				Sg	Sg	08 13 19.4	-0.3
KDAG	Bornova	0.62	66	i P	Pg	08 13 11.4	-0.4
KDAG				i S	Sg	08 13 19.3	-0.6
PRK	Paraskevi	1.11	349	ePB	Pb	08 13 22.1	+0.3
AYDN	Tasoluk	1.17	115	i P	Pg	08 13 22.3	0.0
AYDN				i S	Sg	08 13 37.4	-0.1
BODT	Bodrum	1.25	151	ePN	Pn	08 13 24.1	-0.2
BODT				eSN	Sn	08 13 41.3	-0.4
BODT	Bodrum	1.25	151	Pn	Pn	08 13 24.1	-0.2
MLSB	Milas	1.30	131	ePN	Pn	08 13 24.2	-0.8
MLSB	Milas	1.30	131	Pn	Pn	08 13 24.2	-0.8
BDRM	Kayabasi	1.30	146	i P	Pn	08 13 25.9	+0.9
BDRM				i S	Sg	08 13 41.1	-0.7
APE	Apeiranthos	1.35	217	ePB	Pb	08 13 25.0	-0.9
MANT	Manisa	1.62	77	i P	Pn	08 13 30.0	+0.6
MANT				i S	Sn	08 13 51.6	+0.8
DAT	Datca	1.65	150	ePN	Pn	08 13 30.2	+0.5
YER	Yerkesik	1.72	126	ePN	Pn	08 13 30.0	-0.7
BALB	Balikesir	1.81	35	ePN	Pn	08 13 31.5	-0.5
BALB	Balikesir	1.81	35	Pn	Pn	08 13 31.5	-0.5
DNZL	Cakiroluk	2.03	102	i P	Pg	08 13 39.1	+0.1
DNZL				i S	Sg	08 14 07.7	+2.4

GII 03 08:15:49.2±0.9, 31.33N×34.95E, h0km, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MZDA	Masada	0.36	93	Pg	Pg	08 15 56.8	+0.8
MKRJ	Makawir	0.63	69	Pg	Pg	08 16 03.1	+1.7
PRNI	Paran	0.97	177	Pg	Pg	08 16 08.8	+1.0
HRFI	Mount Harif	1.29	177	Pg	Pg	08 16 13.9	+0.1
OFRI	'Ofer	1.29	1	Pg	Pg	08 16 20.9	+7.0
OFRI				Sg	Sg	08 16 22.1	-8.6
MBH	Mount Berech	1.53	181	Pn	Pn	08 16 17.6	-0.1
MBH				Sn	Sn	08 16 40.2	+1.9
EIL	Elat	1.65	180	Pn	Pn	08 16 19.4	-0.1

*ISCJB **03** 08:19:03.5±1.7, 36.56N±0.07×43.9E±0.1, h10km, Error ellipse: s-maj=13.4km s-min=7.7km az=73.3*
*ISK **03** 08:19:05.8, 36.70N×43.44E, h5km, MD3.7*
*CSEM **03** 08:19:06.9±0.4, 36.77N×43.40E, h2km, MD3.7, Error ellipse: s-maj=9.1km s-min=3.3km az=141.0*

ISC 03 08:19:04.8±1.7, 36.57N±0.07×43.8E±0.1, h10km, n14, σ1.27/21, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSL	Mosul	0.66	245	ex	x	08 19 11.0	
MSL				i x	x	08 19 12.0	
MSL				i x	x	08 19 14.0	
MSL				i x	x	08 19 19.0	
MSL				i x	x	08 19 21.0	
MSL				i x	x	08 19 25.0	
CUKT	Cukurca	0.70	346	PG	Pg	08 19 17.7	-0.5
CUKT				SG	Sg	08 19 26.3	-1.1
TVAN	Van	1.98	350	i P	Pn	08 19 40.0	+1.7
TVAN				i S	Sn	08 20 10.5	+7.2
VANB	Van	2.05	350	PN	Pn	08 19 39.7	+0.4
VANB				SN	Sn	08 20 05.8	+0.9
BEST	Besiri	2.43	304	i P	Pn	08 19 42.5	-1.9
BEST				i S	Sn	08 20 08.5	-5.8
BTMT	Batman	2.47	312	ePN	Pn	08 19 44.2	-0.8
BTMT				eSN	Sn	08 20 12.8	-2.4
MARD	Mardin	2.55	288	i P	Pn	08 19 41.9	-4.3
MARD				i S	Sn	08 20 23.5	+6.3
DIY	Diyarbakir	3.16	296	ePN	Pn	08 19 53.8	-0.8
BNGL	BINGOL	3.19	319	i P	Pg	08 20 00.4	-5.4
BNGL				i S	Sn	08 20 35.2	+2.3
BHD	Baghdad	3.33	172	ex	x	08 20 17.0	
BHD				ex	x	08 20 59.0	
URFA	Urfa	4.10	284	ePN	Pn	08 20 07.7	+0.2
ATAB	Bozova	4.52	283	i P	Pb	08 20 25.6	+1.4
ATAB				i S	Sb	08 21 19.5	+0.9
MYA	Malataya	4.64	294	ePN	Pn	08 20 15.1	+0.2
GZT	Gaziantep	5.08	281	i P	Pb	08 20 32.5	-1.1
GZT				i S	Sn	08 21 23.5	+4.0

IDC 03 08:20:32.1±3.2, 12.98N×143.57E, h78km±26km, mb3.8/6, mb1 4.0/6, mb1mx3.7/19, mbtmp4.1/6, Error ellipse: s-maj=52.2km s-min=17.0km az=120.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.40	64	P	Pn	08 20 56.9	+0.9
	46nm,0.3s,baz=190,slow=5.5,SNR=32						
GUMO				S	Sn	08 21 13.8	-0.2
	265nm,0.3s,baz=128,slow=22,SNR=35						
WRA	Warramunga Arr	33.96	196	P	P	08 27 07.5	-0.4
	0.7nm,0.6s,baz=21,slow=9.5,SNR=15						
ASAR	Alice Springs	37.63	195	P	P	08 27 40.0	+0.6
	1.0nm,0.5s,baz=20,slow=12,SNR=18						
YKA	Yellowknife Ar	83.97	27	P	P	08 32 53.2	-0.4
	1.1nm,0.4s,baz=286,slow=5.1,SNR=26						
YBH	Yreka Blue Hor	84.22	49	P	P	08 32 55.8	+0.9
	2.1nm,0.8s,baz=302,slow=5.0,SNR=7.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NVAR	Mina Array Bea	88.28	51	P	P	08 33 15.9	+1.0
	2.0nm,0.7s,baz=262,slow=5.9,SNR=16						
FINES	FINESS Array B	91.17	335	P	P	08 33 27.9	-0.4
	0.4nm,0.3s,baz=49,slow=5.8,SNR=6.8						
DBIC	Dimbokro	143.05	300	PKP	PKPdf	08 39 55.8	-1.0
	3.5nm,0.9s,baz=27,slow=6.8,SNR=3.2						
LPAZ	La Paz	149.17	100	PKPbc	PKPbc	08 40 12.9	+1.4
	0.6nm,0.6s,baz=225,slow=4.3,SNR=4.1						

ISC 03 08:23:57.1±2.2**, 33.6S**±0.6×**179W**±**, h428**km±28km**, n9,** σ**0.85**/13**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MWZ	Matawai	5.38	207	PN	P	08 25 26.2	+1.1
	MS0.0						
MWZ				SN	S	08 26 34.0	-0.1
	MS0.0						
URZ	Urewera	5.49	210	PN	P	08 25 25.7	-0.4
	MS0.0						
URZ				SN	S	08 26 35.6	-0.5
	MS0.0						
BKZ	Black Stump Fm	6.51	210	PN	P	08 25 37.7	+0.7
	MS0.0						
BKZ				SN	S	08 26 55.6	-0.1
	MS0.0						
TSZ	Takapari Road	7.49	209	PN	P	08 25 48.8	+1.1
	MS0.0						
BFZ	Birch Farm	7.92	205	PN	P	08 25 50.2	-2.3
	MS0.0						
MRZ	Mangatainoka R	8.15	208	PN	P	08 25 55.9	+0.8
	MS0.0						
NNZ	Nelson	9.57	215	PN	P	08 26 10.5	-0.6
	MS0.0						
QRZ	Quartz Range	9.71	219	PN	P	08 26 12.4	-0.3
	MS0.0						
THZ	Tophouse	10.22	215	PN	P	08 26 18.0	-0.5
	MS0.0						
THZ				SN	S	08 28 11.3	+0.7
	MS0.0						

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*BJI **03** 08:37:44.5, 1.68N×95.48E, h25km, mB4.9, mb4.7, Ms4.5, Msz4.4*
*IDC **03** 08:37:45.2±0.9, 2.16N×95.49E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.2/24, mbtmp4.3/16, ML3.3/1, MS3.9/12, Ms1 3.9/12, ms1mx3.7/24, Error ellipse: s-maj=34.5km s-min=13.3km az=50.0*
*ISCJB **03** 08:37:47.0±0.4, 2.01N±0.05×95.40E±0.06, h26km, mb4.6/50, MS4.2/28, Error ellipse: s-maj=9.1km s-min=5.9km az=100.1*
*MOS **03** 08:37:48.3±1.1, 2.19N×95.46E, h33km, mb4.9/14, Error ellipse: s-maj=13.4km s-min=8.7km az=104.9*
*NEIC **03** 08:37:49.2±0.4, 2.13N×95.48E, mb4.6/12, Error ellipse: s-maj=11.7km s-min=6.5km az=49.0*
ISC 03 08:37:49.7±0.4**, 2.08N**±0.05×**95.44E**±0.05**, h28**km**, h28**km±1.7km**:pP-P, n88,** σ**1.31**/94**, mb4.6**/50**, MS4.2**/28**, 5C-6D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSI	Banda Aceh	3.40	358	P	Pn	08 38 37.0	-3.8
	138nm,1.0s						
TSI	Tuntungan	3.42	66	⇓iP	Pn	08 38 41.8	+0.6
PSI	Prapat	3.55	78	Pn	Pn	08 38 42.0	-1.0
	2.9nm,0.3s,baz=271,slow=6.3,SNR=14						
PPI	Padang Panjang	5.56	117	P	Pn	08 39 10.2	-0.3
	352nm,1.0s						
KULM	Kulim	6.10	58	ePn	Pn	08 39 16.1	-1.9
KSI	Kapahiang	9.14	129	P	Pn	08 40 01.7	+2.1
	140nm,1.0s						
KSM	Kuching	14.87	92	ePn	Pn	08 41 24.0	+6.0
CM31	Chiang Mai Arr	16.64	12	eP	Pn	08 41 40.4	-0.4
	18nm,0.9s						
QIZ	Qiongzhong	21.97	39	eP	P	08 42 40.9	-0.4
QIZ				S	S	08 46 40.1	-2.2
QIZ				XS	sS	08 46 48.7	-5.8
QIZ				SS		08 47 22.6	
QIZ				AMB	AMB		
	comp=Z,26nm,2.3s,mb4.2						
QIZ				AMB	AMB		
	comp=Z,115nm,4.0s						
QIZ				LR	LR		
	comp=N,860nm,13.1s,MS4.4						
QIZ				LR	LR		
	comp=E,630nm,13.6s,MS4.4						
QIZ				LR	LR		
	comp=Z,553nm,13.1s,MS4.2						
KMI	Kunming	23.97	16	P	P	08 43 02.0	+0.3
KMI				AP		08 43 06.8	
KMI				XP	sP	08 43 09.2	-4.0
KMI				PP		08 43 35.1	
KMI				S	S	08 47 17.3	+0.7
KMI				SS		08 48 06.6	
KMI				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.4						
KMI				AMB	AMB		
	comp=Z,132nm,3.1s						
KMI				LR	LR		
	comp=N,627nm,14.8s,MS4.4						
KMI				LR	LR		
	comp=E,719nm,14.8s,MS4.4						
KMI				LR	LR		
	comp=Z,756nm,14.8s,MS4.3						
GYA	Guiyang	26.53	23	⇑iP	P	08 43 25.3	+0.4
GYA				AP	pP	08 43 32.8	-0.3
GYA				XP	sP	08 43 35.7	-0.8
GYA				PP		08 44 09.4	
GYA				S	S	08 47 54.6	-2.9
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,80nm,3.2s						
GYA				LR	LR		
	comp=N,480nm,16.8s,MS4.2						
GYA				LR	LR		
	comp=E,410nm,16.6s,MS4.2						
GYA				LR	LR		
	comp=Z,430nm,17.0s,MS4.1						
JIRN	Jiri	26.93	342	eP	P	08 43 29.5	+0.9
	comp=Z,54nm,1.0s,mb5.0						
PKI	Pulchoki	27.11	340	eP	P	08 43 31.4	+1.3
DMN	Daman	27.25	340	eP	P	08 43 33.8	+2.4
	comp=Z,58nm,1.3s,mb4.9						
GUN	Gumba	27.27	341	eP	P	08 43 33.2	+1.6
	comp=Z,81nm,1.1s,mb5.2						
KKN	Kakani	27.35	340	eP	P	08 43 35.0	+2.7
	comp=Z,86nm,1.4s,mb5.1						
GKN	Gorkha	27.77	339	eP	P	08 43 39.7	+3.6
	comp=Z,56nm,1.0s,mb5.2						
LSA	Lhasa	27.77	352	eP	P	08 43 37.5	+1.4
LSA				pmax	pmax		
	comp=Z,55nm,1.3s,mb5.0						
LSA	Lhasa	27.77	352	eP	P	08 43 37.5	+1.4
	comp=Z,55nm,1.3s,mb5.0						
KOLN	Koldanda	27.95	337	eP	P	08 43 41.1	+3.5
	comp=Z,34nm,1.0s,mb4.9						
CD2	Chengdu	29.74	15	eP	P	08 43 54.0	+0.5
CD2				AP	pP	08 44 01.5	-0.2
CD2				XP	sP	08 44 04.8	-0.3
CD2				PP	PP	08 44 51.4	-9.5
CD2				S	S	08 48 48.0	+0.1
CD2				XS	sS	08 49 01.0	-0.5
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,5.2s						
CD2				LR	LR		
	comp=N,330nm,13.2s						
CD2				LR	LR		
	comp=Z,420nm,12.0s,MS4.3						
LZH	Lanzhou	34.72	12	eP	P	08 44 41.2	+4.0
LZH				AP	pP	08 44 47.6	+2.1
LZH				XP	sP	08 44 51.7	+2.8
LZH				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,180nm,4.2s						
LZH				LR	LR		
	comp=E,1µm,15.4s						
LZH				LR	LR		
	comp=Z,2µm,17.3s,MS5.0						
FITZ	Fitzroy Crossi	35.87	125	P	P	08 44 47.1	0.0
	comp=Z,5.1nm,0.8s,mb4.5,baz=275,slow=4.5,SNR=8.6						
NJ2	Nanjing	37.08	34	eP	P	08 44 59.9	+2.5
NJ2				PP	PP	08 46 29.6	+7.4
NJ2				S	S	08 50 44.0	+2.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,210nm,3.9s						
NJ2				LR	LR		
	comp=N,190nm,17.4s,MS4.3						
NJ2				LR	LR		
	comp=E,320nm,14.3s,MS4.3						
NJ2				LR	LR		
	comp=Z,770nm,15.1s,MS4.6						
GTA	Gaotai	37.37	6	eP	P	08 45 03.7	+3.8
GTA				AP	pP	08 45 11.0	+2.8
GTA				XP	sP	08 45 14.4	+2.8
GTA				PP	PP	08 46 31.9	+6.6
GTA				S	S	08 50 51.2	+5.1
GTA				XS	sS	08 51 03.8	+4.0
GTA				SS	SS	08 53 25.6	-4.8
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.2						
GTA				AMB	AMB		
	comp=Z,67nm,4.6s						
GTA				LR	LR		
	comp=N,182nm,14.8s,MS4.1						
GTA				LR	LR		
	comp=E,152nm,14.5s,MS4.1						
GTA				LR	LR		
	comp=Z,193nm,14.4s,MS4.0						
SSE	Sheshan	37.75	37	P	P	08 45 03.8	+0.7
SSE				AP	pP	08 45 16.9	+5.5
SSE				PP	PP	08 46 31.4	+1.9
SSE				S	S	08 50 53.1	+1.2
SSE				SCS	ScS	08 55 10.8	-3.1
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,108nm,3.9s						
SSE				LR	LR		
	comp=N,176nm,17.4s,MS4.1						
SSE				LR	LR		
	comp=E,210nm,17.4s,MS4.1						
SSE				LR	LR		
	comp=Z,111nm,22.2s,MS3.6						
HHC	Hu-ho-hao-te	41.26	19	eP	P	08 45 31.8	-0.5
HHC				AP	pP	08 45 41.7	+1.0
HHC				XP	sP	08 45 45.9	+1.8
HHC				PP	PP	08 47 10.9	+3.1
HHC				PCS	PcS	08 51 20.1	-1.8
HHC				S	S	08 51 43.8	-0.7
HHC				XS	sS	08 51 59.4	+1.2
HHC				SS	SS	08 54 43.0	-5.2
HHC				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,87nm,4.2s						
HHC				LR	LR		
	comp=N,543nm,17.2s,MS4.6						
HHC				LR	LR		
	comp=E,505nm,16.1s,MS4.6						
HHC				LR	LR		
	comp=Z,563nm,16.1s,MS4.5						
WSAR	Wadi Sarin	41.40	304	LR	LR	09 02 46.1	
	comp=Z,104nm,18.9s,MS3.7,baz=178,slow=36						
WMQ	Urumqi	42.13	352	P	P	08 45 39.7	+0.2
WMQ				AP	pP	08 45 47.1	-0.8
WMQ				XP	sP	08 45 50.5	-0.7
WMQ				PP	PP	08 47 20.7	+3.5
WMQ				S	S	08 51 57.5	+0.1
WMQ				SS	SS	08 54 59.7	-5.9
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,68nm,4.0s						
WMQ				LR	LR		
	comp=N,284nm,18.2s,MS4.3						
WMQ				LR	LR		
	comp=E,213nm,17.1s,MS4.3						
WMQ				LR	LR		
	comp=Z,285nm,18.7s,MS4.2						
BJT	Baijiatuau	42.19	24	eP	P	08 45 39.6	-0.4
BJT				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BJT	Baijiatuau	42.19	24	eP	P	08 45 39.6	-0.4
	comp=Z,6.2nm,0.5s,mb4.5						
BJI	Beijing	42.22	24	eP	P	08 45 40.1	-0.1
BJI				S	S	08 52 10.0	+11
BJI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.3						
BJI				LR	LR		
	comp=N,197nm,14.2s,MS4.4						
BJI				LR	LR		
	comp=E,307nm,14.5s,MS4.4						
BJI				LR	LR		
	comp=Z,110nm,25.6s						
WRA	Warramunga Arr	43.99	122	P	P	08 45 54.3	-0.2
	comp=Z,5.5nm,0.9s,mb4.3,baz=299,slow=9.0,SNR=23						
WRA				LR	LR	09 06 31.8	
	comp=Z,140nm,20.6s,MS3.9,baz=280,slow=39						
WRAB	Tennant Creek	43.99	122	eP	P	08 45 54.6	0.0
WRAB				e*PP	pP	08 46 01.2	-1.7
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
WRAB	Tennant Creek	43.99	122	eP	P	08 45 54.6	+0.1
	comp=Z,7.6nm,0.8s,mb4.5						
WRAB				epP	pP	08 46 01.2	-1.8
WB2	Warramunga Arr	44.00	122	eP	P	08 45 53.4	-1.2
AAK	Ala-Archa	44.52	338	eP	P	08 45 58.7	0.0
AAK				e*PP	pP	08 46 08.1	+1.0
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
AAK	Ala-Archa	44.52	338	eP	P	08 45 58.7	0.0
	comp=Z,3.9nm,0.8s,mb4.3						
AAK				epP	pP	08 46 08.1	+0.9
ASAR	Alice Springs	45.32	127	P	P	08 46 06.0	+0.9
	comp=Z,1.3nm,0.8s,mb3.8,baz=298,slow=7.8,SNR=12						
MKAR	Makanchi Array	45.99	347	P	P	08 46 09.1	-1.3
	comp=Z,6.3nm,0.7s,mb4.7,baz=163,slow=7.6,SNR=33						
MKAR	Makanchi Array	45.99	347	⇑eP	P	08 46 09.1	-1.3
SONM	Songino Array	46.55	10	P	P	08 46 13.5	-1.4
	comp=Z,2.5nm,0.8s,mb4.2,baz=188,slow=8.5,SNR=14						
SONM				LR	LR	09 07 57.2	
	comp=Z,290nm,18.9s,MS4.2,baz=335,slow=39						
ULN	Ulaanbaatar	46.70	11	⇓eP	P	08 46 16.2	+0.2
SNY	Shenyang	46.95	29	⇑P	P	08 46 19.9	+1.9
SNY				AP	pP	08 46 27.5	+1.0
SNY				XP	sP	08 46 30.8	+1.0
SNY				PP	PP	08 48 09.8	+1.2
SNY				S	S	08 53 11.2	+3.7
SNY				XS	sS	08 53 20.1	-1.3
SNY				SS	SS	08 56 27.5	-6.9
SNY				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.9						
SNY				AMB	AMB		
	comp=Z,85nm,4.0s						
SNY				LR	LR		
	comp=N,327nm,16.1s,MS4.5						
SNY				LR	LR		
	comp=E,343nm,15.4s,MS4.5						
SNY				LR	LR		
	comp=Z,312nm,15.7s,MS4.4						
TLY	Talaya	49.91	7	eP	P	08 46 40.4	-0.3
TLY				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
TLY				MLR	MLR		
	comp=Z,164nm,18.0s,MS4.1						
TLY	Talaya	49.91	7	eP	P	08 46 42.0	+1.3
	comp=Z,5.7nm,1.2s,mb4.5						
GUMO	Guam	50.17	74	LR	LR	09 06 08.0	
	comp=Z,97nm,18.6s,MS3.8,baz=244,slow=34						
KURK	Kurchatov	50.51	346	⇑iP	P	08 46 44.4	-0.9
KURK	Kurchatov	50.51	346	eP	P	08 46 44.0	-1.3
	comp=Z,15nm,1.2s,mb4.8						
MDJ	Mudanjiang	51.98	31	P	P	08 46 55.9	-0.5
MDJ				AP	pP	08 47 02.8	-2.1
MDJ				XP	sP	08 47 05.8	-2.4
MDJ				PP	PP	08 48 54.9	+0.4
MDJ				S	S	08 54 20.2	+2.3
MDJ				SS	SS	08 57 58.3	+3.3
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,19nm,3.1s						
MDJ				LR	LR		
	comp=N,73nm,13.8s,MS4.3						
MDJ				LR	LR		
	comp=E,212nm,15.2s,MS4.3						
MDJ				LR	LR		
	comp=Z,135nm,18.9s,MS4.0						
MJAR	Matsushiro Arr	52.25	44	P	P	08 46 58.3	-0.1
	comp=Z,0.7nm,0.4s,mb3.9,baz=216,slow=6.3,SNR=4.3						
MJAR				LR	LR	09 09 41.6	
	comp=Z,123nm,18.6s,MS4.0,baz=260,slow=37						
ZAL	Zalesovo	52.43	352	P	P	08 46 58.6	-1.1
	comp=Z,3.2nm,0.4s,mb4.6,baz=297,slow=6.6,SNR=12						
NVS	Novosibirsk	53.53	351	eP	P	08 47 06.1	-1.7
CTA	Charters Tower	54.46	116	P	P	08 47 14.8	+0.2
	comp=Z,7.0nm,1.0s,mb4.6,baz=320,slow=6.2,SNR=5.8						
CTA				LR	LR	09 14 19.6	
	comp=Z,147nm,21.3s,MS4.0,baz=270,slow=40						
CTA	Charters Tower	54.46	116	P	P	08 47 14.8	+0.2
CTA				LR	LR	09 14 19.6	
CTAO	Charters Tower	54.46	116	eP	P	08 47 15.7	+1.1
CTAO				e*PP	pP	08 47 22.5	-0.7
CTAO				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
CTAO	Charters Tower	54.46	116	eP	P	08 47 15.7	+1.1
	comp=Z,12nm,1.1s,mb4.7						
CTAO				epP	pP	08 47 22.5	-0.7
BVAR	Borovoye Array	54.86	342	P	P	08 47 16.2	-1.3
	comp=Z,2.6nm,0.7s,mb4.4,baz=144,slow=8.4,SNR=10.0						
BRVK	Borovoye	54.92	342	eP	P	08 47 16.4	-1.5
BRVK				e*PP	pP	08 47 24.4	-2.1
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
BRVK	Borovoye	54.92	342	eP	P	08 47 16.4	-1.6
	comp=Z,5.8nm,1.0s,mb4.6						
BRVK				epP	pP	08 47 24.4	-2.1
ZRNK	Zerenda	55.24	341	eP	P	08 47 18.0	-2.2
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
ZRNK	Zerenda	55.24	341	eP	P	08 47 18.0	-2.2
	comp=Z,4.4nm,1.0s,mb4.4						
STKA	Stephens Creek	55.25	132	P	P	08 47 19.2	-1.1
	comp=Z,6.6nm,1.1s,mb4.6,baz=280,slow=9.9,SNR=6.3						
STKA				LR	LR	09 10 29.3	
	comp=Z,226nm,21.8s,MS4.2,baz=205,slow=36						
STKA	Stephens Creek	55.25	132	eP	P	08 47 19.3	-0.9
CHKZ	Chkalovo	55.35	342	eP	P	08 47 19.4	-1.6
CHKZ				e*PP	pP	08 47 29.7	+0.1
CHKZ				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
CHKZ	Chkalovo	55.35	342	eP	P	08 47 19.4	-1.6
	comp=Z,16nm,1.1s,mb5.0						
CHKZ				epP	pP	08 47 29.7	+0.1
KLR	Kul'dur	56.28	28	eP	P	08 47 24.8	-2.9
AKTK	Aktyubinsk	57.64	333	P	P	08 47 37.6	+0.3
AKTO	Aktyubinsk	57.64	333	P	P	08 47 37.6	+0.2
	comp=Z,1.7nm,0.6s,mb4.2,baz=107,slow=12,SNR=8.3						
KMBO	Kilima Mbogo	58.27	267	LR	LR	09 09 30.1	
	comp=Z,86nm,18.9s,MS3.9,baz=98,slow=33						
YSS	Yuzh-Sakhalins	60.63	35	⇑eP	P	08 47 59.2	+1.2
YSS				pmax	pmax		
	comp=Z,23nm,1.8s,mb5.0						
SVE	Sverdlovsk	61.24	339	eP	P	08 48 05.0	+2.9
SVE				MLR	MLR		
	comp=N,100nm,14.0s,MS4.5						
SVE				MLR	MLR		
	comp=E,200nm,14.0s,MS4.5						
SVE				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.1						
ARU	Arti	61.70	338	⇓iP	P	08 48 04.2	-1.1
ARU				e		08 50 20.0	
ARU				eS	S	08 56 26.2	0.0
ARU				eSS	SS	09 00 28.5	+0.6
ARU				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.6						
ARU	Arti	61.70	338	eP	P	08 48 04.5	-0.8
	comp=Z,6.4nm,1.2s,mb4.6						
KIV	Kislovodsk	62.50	320	eP	P	08 48 07.2	-3.5
KIV				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.1						
YAK	Yakutsk	65.08	17	⇓eP	P	08 48 30.4	+2.7
YAK				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.0						
OBN	Obninsk	70.96	329	eP	P	08 49 02.7	-1.9
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.1						
MA2	Magadan	71.31	26	deP	P	08 49 05.3	-1.4
MA2				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
TIXI	Tiksi	72.64	11	⇓iP	P	08 49 14.1	-0.6
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
MAW	Mawson	73.17	192	LR	LR	09 15 50.8	
	comp=Z,74nm,20.2s,MS4.0,baz=247,slow=31						
FINES	FINESS Array B	78.42	333	P	P	08 49 46.3	-1.5
	comp=Z,1.2nm,0.8s,mb3.9,baz=105,slow=6.5,SNR=4.5						
ARCES	ARCESS Array B	81.12	340	P	P	08 50 02.2	-0.3
	comp=Z,1.9nm,0.8s,mb4.1,baz=104,slow=5.1,SNR=6.3						
ARCES	ARCESS Array B	81.12	340	P	P	08 50 02.2	-0.3
HFS	Hagfors	84.09	330	P	P	08 50 18.3	+0.4
	comp=Z,0.6nm,0.4s,mb4.1,baz=164,slow=42,SNR=3.4						
NOA	NORSAR Array B	85.39	331	LR	LR	09 33 45.8	
	comp=Z,46nm,20.0s,MS3.9,baz=60,slow=39						
VNDA	Vanda	87.03	168	LR	LR	09 22 03.9	
	comp=Z,64nm,20.7s,MS4.0,baz=201,slow=30						
TORD	Torodi Ar. Bea	93.18	283	P	P	08 51 03.2	+1.9
	comp=Z,1.1nm,1.0s,mb4.2,baz=84,slow=4.3,SNR=4.8						
TORD				LR	LR	09 29 55.2	
	comp=Z,75nm,18.8s,MS4.2,baz=110,slow=34						
CPUP	Villa Florida	144.43	225	ePKIKP	PKPdf	08 57 24.0	+0.7

PRE 03 09:33:58.2±1.2**, 21.35S**×**33.16E, h5**km**, ML4.0, Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
POGA	Pongola	6.16	193	eP	Pn	09 35 29.6	-0.2
POGA				eS	Sn	09 36 37.3	-3.3
POGA				AML	AML	09 37 19.1	
	comp=Z,18nm,0.5s						
LBTB	Lobatse	7.86	241	eP	Pn	09 35 54.9	+1.8
LBTB				eS	Sn	09 37 18.3	-4.1
LBTB				AML	AML	09 38 11.6	
	comp=Z,21nm,0.7s						
SEK	Senekal	8.57	215	eP	Pn	09 36 04.1	+1.1
BOSA	Boshof	10.18	223	eP	Pn	09 36 26.7	+1.7
BOSA				eS	Sn	09 38 15.2	-4.3
BOSA				AML	AML	09 39 25.0	
	comp=Z,8.1nm,0.8s						

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*ISCJB **03** 09:53:28.1±0.6, 20.38S±0.05×67.80W±0.08, h160km±7km, mb3.8/5, Error ellipse: s-maj=13.0km s-min=7.6km az=40.2*
*IDC **03** 09:53:28.8±0.8, 20.41S×67.75W, h152km±10km, mb3.8/4, mb1 3.8/8, mb1mx3.6/19, mbtmp4.2/8, Error ellipse: s-maj=22.0km s-min=8.3km az=106.0*
*NEIC **03** 09:53:29.5±0.8, 20.32S×67.91W, h160km±10km, mb4.0/5, Error ellipse: s-maj=14.5km s-min=11.0km az=85.0*
ISC 03 09:53:28.9±0.7**, 20.32S**±0.06×**67.88W**±0.08**, h154**km±8km**, n19,** σ**1.18**/25**, mb3.8**/5**, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.47	203	P	Pn	09 54 10.4	+0.5
LVC				S	Sn	09 54 41.2	-0.3
	22nm,0.3s,baz=125,slow=23,SNR=10						
LPAZ	La Paz	4.02	357	P	Pn	09 54 33.1	+3.6
	7.1nm,0.3s,baz=151,slow=6.8,SNR=143						
LPAZ				S	Sn	09 55 20.0	+3.3
	3.5nm,0.3s,baz=92,slow=13,SNR=7.9						
LPAZ	La Paz	4.02	357	ePn	Pn	09 54 33.4	+3.9
LPAZ				eSn	Sn	09 55 20.4	+3.8
ARE	Arequipa	5.15	318	eP	Pn	09 54 43.0	-1.3
ARE				eS	Sn	09 55 38.0	-5.2
SIV	San Ignacio	7.77	57	P	Pn	09 55 19.5	+0.3
	7.0nm,0.3s,baz=254,slow=10.0,SNR=212						
SIV				S	Sn	09 56 43.7	-2.3
	0.1nm,0.3s,baz=323,slow=22,SNR=4.9						
CFAA	Coronel Fontan	11.24	182	P	Pn	09 56 02.0	-3.1
	0.1nm,0.3s,baz=336,slow=14,SNR=5.6						
CFAA				S	Sn	09 57 57.0	-12
	0.0nm,0.3s,baz=21,slow=22,SNR=3.5						
CPUP	Villa Florida	11.38	124	P	Pn	09 56 08.8	+1.8

	0.2nm,0.3s,baz=277,slow=9.3,SNR=3.7						
CPUP	Villa Florida	11.38	124	P	Pn	09 56 08.8	+1.8
TRQA	Tornquist	18.40	165	eP	P	09 57 31.9	-0.3
	4.6nm,0.6s						
BDFB	Brasilia	19.45	79	P	P	09 57 43.5	-0.1
	0.2nm,0.3s,baz=292,slow=5.4,SNR=1.8						
PLCA	Paso Flores	20.47	186	P	P	09 57 55.1	+0.6
	9.8nm,0.9s,baz=12,slow=12,SNR=17						
PLCA	Paso Flores	20.47	186	eP	P	09 57 55.6	+1.1
	16nm,1.1s						
QSPA	South Pole Qui	69.86	180	eP	P	10 04 23.1	+0.2
	1.8nm,0.5s,mb4.1						
TORD	Torodi Ar. Bea	76.05	70	P	P	10 04 59.0	-0.2
	1.5nm,0.5s,mb3.9,baz=257,slow=5.4,SNR=24						
HLID	Hailey	76.57	327	eP	P	10 05 03.3	+1.0
	0.9nm,0.9s,mb3.4						
MAW	Mawson	85.17	163	P	P	10 05 47.5	-0.3
	1.4nm,0.6s,mb3.9,baz=180,slow=10.0,SNR=7.6						
MAW	Mawson	85.17	163	eP	P	10 05 47.5	-0.3
	1.2nm,0.6s,mb3.8						
YKA	Yellowknife Ar	90.41	340	P	P	10 06 11.9	-0.8
	0.7nm,0.7s,mb3.7,baz=134,slow=4.5,SNR=5.1						
YKA	Yellowknife Ar	90.41	340	P	P	10 06 11.9	-0.8

MEX 03 10:13:15.8±0.6, 1709N×9588W, h64km±15km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OXX	Oaxaca	0.81	270	eP	Pn	10 13 30.0	-1.6
OXX				i S	Sn	10 13 42.0	-1.3
VHO	Vista Hermosa	0.82	269	i P	Pn	10 13 30.5	-1.2
VHO				i S	Sn	10 13 41.7	-1.7
CMIG	Matias Romero	0.95	90	i P	Pn	10 13 32.3	-1.1
CMIG				i S	Sn	10 13 44.4	-2.0
HUIG	Huatulco	1.33	190	i P	Pn	10 13 37.1	-1.2
HUIG				i S	Sn	10 13 53.2	-2.0
UTMO	Huajuapan	1.98	292	eP	Pn	10 13 51.7	+4.7
UTMO				i S	Sn	10 14 16.6	+5.8

ISCJB 03 10:37:12.7±0.3, 3445S±002×6969W±003, h10km, mb4.3/21, MS3.7/5, Error ellipse: s-maj=4.7km s-min=2.7km az=107.2
GUC 03 10:37:13.5±0.8, 3444S×6979W, h8km±6km, MD4.4, ML4.0
NEIC 03 10:37:13.5, 3444S×6979W, h8km, mb4.4/15, ML4.0(GUC), After GUC.
IDC 03 10:37:21.3±2.3, 3437S×6952W, h61km±20km, mb4.0/9, mb1 4.1/14, mb1mx4.0/19, mbtmp4.2/14, MS3.5/8, Ms1 3.5/8, ms1mx3.2/23, Error ellipse: s-maj=26.3km s-min=14.9km az=98.0
ISC 03 10:37:14.3±0.3, 3441S±002×6979W±003, h10km, n81, σ1.07/101, mb4.3/21, MS3.7/5, 12C-10D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	Cipreses	0.53	280⇑	iP	Pg	10 37 23.5	-1.2
LMEL	Las Melosas	0.66	328⇓	iP	Pg	10 37 26.4	-0.7
LMEL				i S	Sg	10 37 36.3	+0.6
LMEL				AML	AML	10 37 37.6	
	comp=E,15µm,0.6s						
LMEL	Las Melosas	0.66	328⇓	iP	Pg	10 37 26.4	-0.7
LMEL				i S	Sg	10 37 36.3	+0.6
CACH	El Canelo	0.74	293⇓	iP	Pg	10 37 27.0	-1.5
YECH	El Yeso	0.79	342⇑	iP	Pg	10 37 28.9	-0.6
YECH				i S	Sg	10 37 40.4	+0.7
CHCH	Chadas Angostu	0.86	303⇑	iP	Pg	10 37 29.7	-1.2
CHCH				i S	Sg	10 37 41.9	-0.3
SJCH	San Jose de Ma	0.90	328⇑	iP	Pg	10 37 30.2	-1.5
SJCH				i S	Sg	10 37 43.3	-0.2
SJCH				AML	AML	10 37 44.5	
	comp=E,7µm,0.6s						
SJCH	San Jose de Ma	0.90	328⇑	iP	Pg	10 37 30.2	-1.5
SJCH				i S	Sg	10 37 43.3	-0.2
PCH	Pirque	0.99	322⇑	iP	Pg	10 37 32.2	-1.2
PCH				i S	Sg	10 37 46.8	+0.4
SFDO	San Fernando	1.03	258⇑	iP	Pg	10 37 32.3	-1.9
ANTU	Antumapu	1.10	320	eP	Pb	10 37 34.3	-1.0
ANTU				i S	Sg	10 37 50.0	+0.4
ANTU				AML	AML	10 37 51.2	
	comp=E,10µm,0.5s						
ANTU	Antumapu	1.10	320	eP	Pb	10 37 34.3	-1.0
ANTU				i S	Sg	10 37 50.0	+0.4
FCH	Farellones	1.16	339⇑	iP	Pb	10 37 35.6	-0.8
FCH				i S	Sb	10 37 52.1	+0.6
FCH				AML	AML	10 37 54.0	
	comp=E,5µm,0.2s						
CLCH	Cerro Calan	1.19	328⇓	iP	Pb	10 37 36.0	-0.9
CLCH				i S	Sb	10 37 53.0	+0.6
CLCH				AML	AML	10 37 55.3	
	comp=E,9µm,0.7s						
CLCH				AML	AML	10 37 55.9	
	comp=E,11µm,0.7s						
DSCH	Colegio Aleman	1.20	327	eP	Pb	10 37 35.7	-1.4
DSCH				i S	Sb	10 37 53.0	+0.3
SAN	Santiago	1.20	322	eP	Pb	10 37 35.9	-1.3
SAN				i S	Sb	10 37 53.1	+0.4
SAN				AML	AML	10 37 53.9	
	comp=E,4µm,0.3s						
STL	Santa Lucia	1.21	324⇓	iP	Pn	10 37 35.6	-1.6
STL				i S	Sb	10 37 52.5	-0.3
TACH	Talagante	1.22	308⇑	iP	Pn	10 37 36.1	-1.3
TACH				i S	Sb	10 37 53.2	0.0
RCDM	Rinconada Maip	1.25	317	eP	Pn	10 37 36.9	-1.0
RCDM				i S	Sb	10 37 54.4	+0.3
RCDM				AML	AML	10 37 55.9	
	comp=E,3µm,0.4s						
RCDM	Rinconada Maip	1.25	317	eP	Pn	10 37 36.9	-1.0
RCDM				i S	Sb	10 37 54.4	+0.3
LNV	Longovilo	1.42	288⇓	iP	Pn	10 37 38.9	-1.2
LNV				i S	Sn	10 37 58.0	-1.0
PEL	Peldehue	1.47	329⇓	iP	Pn	10 37 40.7	-0.1
PEL				i S	Sn	10 38 01.4	+1.3
PEL				AML	AML	10 38 06.6	
	comp=N,5µm,0.8s						
PEL	Peldehue	1.47	329⇓	iP	Pn	10 37 40.7	-0.1
PEL				i S	Sn	10 38 01.4	+1.3
MDZ	Mendoza	1.71	27⇓	iP	Pn	10 37 35.8	-8.4
MDZ				i S	Sn	10 37 49.2	-17
LCCH	Las Cruces	1.75	302⇑	iP	Pn	10 37 44.6	-0.1
LCCH				i S	Sn	10 38 08.5	+1.4
ROCH	El Roble	1.76	324	eP	Pn	10 37 46.6	+1.7
TALC	Talca	1.81	237⇑	iP	Pn	10 37 45.8	+0.3
TALC				i S	Sn	10 38 10.4	+1.9
JACH	Jahuel	1.85	338	eP	Pn	10 37 47.6	+1.5
JACH				i S	Sn	10 38 13.1	+3.6
LNCH	Linares	2.06	226	eP	Pn	10 37 50.6	+1.6
LNCH				AML	AML	10 38 34.0	
	comp=N,1µm,0.7s						
IHA	Instituto Hidr	2.08	311⇑	iP	Pn	10 37 50.7	+1.6
IHA				i S	Sn	10 38 18.9	+3.9
CCHI	Chillan	2.88	220	eP	Pn	10 38 03.9	+3.8
CCHI				AML	AML	10 38 56.3	
	comp=E,663nm,0.5s						
CHNG	Los Chungos	2.90	330⇓	iP	Pn	10 38 03.3	+2.8
CHNG				i S	Sn	10 38 42.1	+6.7
CHNG				AML	AML	10 38 48.7	
	comp=N,1µm,0.6s						
CFAA	Coronel Fontan	3.09	25	P	Pn	10 38 04.7	+1.6
	comp=N,1.4nm,0.3s,baz=196,slow=15,SNR=74						
CFAA				S	Sn	10 38 50.5	+11
	comp=N,7.6nm,0.3s,baz=248,slow=17,SNR=5.4						
PLCA	Paso Flores	6.34	185	P	Pn	10 38 54.3	+6.5
	comp=N,0.7nm,0.3s,baz=344,slow=13,SNR=15						
PLCA				Lg		10 40 30.6	
	comp=N,1.1nm,0.3s,baz=24,slow=5.6,SNR=3.4						
PLCA				LR	LR	10 40 56.6	
	comp=N,106nm,19.5s,baz=270,slow=34						
PLCA	Paso Flores	6.34	185	ePn	Pn	10 38 55.1	+7.3
	comp=N,21nm,0.8s						
PLCA				eSn	Sn	10 40 02.0	+1.8
TRQA	Tornquist	7.28	122	ePn	Pn	10 39 00.1	-0.6
TRQA				eSn	Sn	10 40 35.8	+12
LVC	Limon Verde	11.78	4	P	Pn	10 40 06.7	+4.3
	comp=N,0.2nm,0.3s,baz=29,slow=6.0,SNR=5.1						
LVC				Lg		10 43 18.2	
	comp=N,0.3nm,0.3s,baz=50,slow=6.4,SNR=4.3						
LVC				LR	LR	10 44 44.2	
	comp=N,146nm,20.7s,baz=30,slow=38						
LVC	Limon Verde	11.78	4	ePn	Pn	10 40 03.4	+1.0
LVC				Lg		10 43 18.2	
CPUP	Villa Florida	13.43	56	P	Pn	10 40 22.3	-2.5
	comp=N,0.5nm,0.3s,baz=211,slow=14,SNR=8.5						
CPUP	Villa Florida	13.43	56	ePn	Pn	10 40 24.1	-0.8
	comp=N,16nm,0.6s						
CPUP				eSn	Sn	10 43 12.3	+18
LPAZ	La Paz	18.11	5	P	Pn	10 41 28.5	+2.6
	comp=N,0.3nm,0.3s,baz=175,slow=8.7,SNR=35						
LPAZ				LR	LR	10 49 20.8	
	comp=N,89nm,20.3s,baz=214,slow=40						
LPAZ	La Paz	18.11	5	eP	Pn	10 41 28.1	+2.2
	comp=N,10nm,0.9s						
EFI	East Falkland	19.22	157	eP	Pn	10 41 37.3	-2.0
	comp=N,164nm,1.5s						
SIV	San Ignacio	19.95	25	P	Pn	10 41 47.8	-0.2
	comp=N,0.5nm,0.3s,baz=215,slow=12,SNR=69						
NNA	Nana	23.23	342	eP	P	10 42 21.9	+0.3
SAML	Samuel	26.06	15	eP	P	10 42 47.6	-0.2
	comp=N,3.3nm,0.9s,mb3.9						
BDFB	Brasilia	27.07	52	P	P	10 42 55.8	-1.1
	comp=N,1.8nm,0.4s,mb4.0,baz=206,slow=9.1,SNR=3.1						
BDFB				LR	LR	10 53 18.2	
	comp=N,151nm,18.0s,MS3.6,baz=225,slow=36						
SDV	Santo Domingo	43.07	359	P	P	10 45 14.1	-0.2
	comp=N,4.7nm,0.8s,mb4.2,baz=6.5,slow=7.3,SNR=4.3						
QSPA	South Pole Qui	55.83	180	eP	P	10 46 51.7	0.0
	comp=N,1.2nm,0.5s,mb4.2						
TEIG	Tepich	57.11	339	eP	P	10 47 01.4	+0.6
	comp=N,1.7nm,0.5s,mb4.3						
VNDA	Vanda	64.06	191	P	P	10 47 48.8	+0.5
	comp=N,1.5nm,0.7s,mb4.2,baz=129,slow=6.4,SNR=14						
VNDA	Vanda	64.06	191	eP	P	10 47 49.2	+0.9
	comp=N,3.3nm,1.1s,mb4.3						
JCT	Junction City	70.48	333	P	P	10 48 29.9	+0.9
	comp=N,4.2nm,0.9s,mb4.4						
OXF	Oxford	70.99	343	P	P	10 48 31.7	-0.4
	comp=N,11nm,1.0s,mb4.8						
PPT	Papeete	72.03	261	LR	LR	11 12 45.5	
	comp=N,21nm,18.7s,MS3.4,baz=129,slow=29						
WVT	Waverly	72.17	345	eP	P	10 48 38.6	-0.6
	comp=N,9.2nm,0.8s,mb4.8						
MAW	Mawson	72.25	163	P	P	10 48 38.6	-1.1
	comp=N,2.7nm,1.0s,mb4.1,baz=244,slow=9.1,SNR=4.6						
DBIC	Dimbokro	73.56	70	P	P	10 48 46.5	-1.0
	comp=N,6.4nm,1.1s,mb4.5,baz=207,slow=5.7,SNR=4.3						
DBIC				LR	LR	11 18 19.3	
	comp=N,43nm,18.1s,MS3.8,baz=63,slow=34						
DBIC	Dimbokro	73.56	70	P	P	10 48 46.5	-1.0
CCM	Cathedral Cave	74.81	343	eP	P	10 48 54.3	-0.4
	comp=N,5.0nm,1.0s,mb4.4						
ACSO	Alum Creek Sta	75.27	350	eP	P	10 48 57.1	-0.3
	comp=N,6.3nm,0.8s,mb4.6						
ANMO	Albuquerque	77.06	330	eP	P	10 49 08.4	+0.8
	comp=N,2.9nm,1.0s,mb4.2						
BOSA	Boshof	78.22	117	P	P	10 49 14.0	-0.1
	comp=N,3.7nm,0.7s,mb4.5,baz=264,slow=5.8,SNR=12						
BOSA				LR	LR	11 18 39.2	
	comp=N,58nm,21.3s,MS3.9,baz=358,slow=32						
BOSA	Boshof	78.22	117	P	P	10 49 14.0	-0.1
SMCO	Snowmass	80.91	332	eP	P	10 49 30.0	+1.3
	comp=N,2.6nm,1.0s,mb4.1						
MSU	Marysvale	82.52	328	eP	P	10 49 38.0	+0.8
TORD	Torodi Ar. Bea	82.61	69	P	P	10 49 37.7	0.0
	comp=N,2.2nm,0.9s,mb4.2,baz=248,slow=3.8,SNR=10						
TORD				LR	LR	11 25 26.5	
	comp=N,59nm,18.5s,MS4.0,baz=110,slow=35						
TORD	Torodi Ar. Bea	82.61	69	P	P	10 49 37.7	0.0
HWUT	Hardware Ranch	84.82	330	eP	P	10 49 49.2	+0.2
	comp=N,3.3nm,1.0s,mb4.4						
PDAR	Pinedale Array	84.99	332	P	P	10 49 50.4	+0.5
	comp=N,1.1nm,0.8s,mb4.0,baz=145,slow=4.6,SNR=11						
NVAR	Mina Array Bea	85.30	324	P	P	10 49 52.8	+1.4
	comp=N,1.1nm,0.8s,mb4.0,baz=141,slow=6.2,SNR=8.6						
HLID	Hailey	87.63	329	eP	P	10 50 03.4	+0.6
	comp=N,1.6nm,0.9s,mb4.2						
ASAR	Alice Springs	118.01	205	PKP	PKPdf	10 56 00.8	-0.4
	comp=N,0.5nm,0.7s,baz=139,slow=1.7,SNR=7.2						
WRA	Warramunga Arr	121.27	207	PKP	PKPdf	10 56 07.3	-0.3
	comp=N,2.2nm,0.9s,baz=167,slow=1.6,SNR=22						
ZRNK	Zerenda	145.51	45	ePKPbc	PKPbc	10 56 52.7	0.0
CHKZ	Chkalovo	146.22	43	ePKPbc	PKPbc	10 56 53.9	-1.0
CHKZ				ePKPab	PKPab	10 56 55.1	-0.5
BRVK	Borovoye	146.22	44	ePKPbc	PKPbc	10 56 53.9	-1.0
BRVK				ePKPab	PKPab	10 56 55.2	-0.4
AAK	Ala-Archa	151.04	63	ePKPdf	PKPdf	10 57 01.4	-0.3
AAK				ePKPbc	PKPbc	10 57 07.1	-0.4
KURK	Kurchatov	151.88	45	ePKPdf	PKPdf	10 57 00.3	-2.7
KURK				ePKPbc	PKPbc	10 57 09.1	-0.3
KURK				ePKPab	PKPab	10 57 14.1	-4.4
ZAL	Zalesovo	153.54	35	PKPbc	PKPbc	10 57 12.5	-0.6
	comp=N,1.0nm,0.6s,baz=151,slow=12,SNR=5.5						
MKAR	Makanchi Array	155.60	51	PKPab	PKPab	10 57 33.9	-0.4
	comp=N,0.9nm,0.6s,baz=290,slow=4.5,SNR=6.7						

HLW 03 11:01:21.4, 3472N×2611E, h20km, Mb3.2
ATH 03 11:01:22.8, 3474N×2665E, h10km, MD3.2/3
CSEM 03 11:01:23.3, 3471N×2666E, h24km, MD3.2
ISC 03 11:01:22.0±1.8, 347N±01×267E±01, h24km±27km, n7, σ1.24/7, 2C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	Khrisi	0.83	285	ePB	Pb	11 01 38.0	+0.2
KARP	Karpathos	0.97	24	ePB	Pb	11 01 40.0	-0.2
NPS	Neapolis	1.06	305	ePG	Pn	11 01 41.5	+0.1
SLUM		3.39	202	P	Pn	11 02 10.4	-3.0
HMAT	Matruh	3.57	174	⇑P	Pn	11 02 16.7	+0.8
SWA1		5.44	189	P	Pn	11 02 41.6	0.0
GLL	Jalalah	6.63	138	⇑P	Pn	11 03 02.5	+4.6

NEIC 03 11:02:23.1, 3444S×6980W, h11km, ML3.2(GUC), After GUC.
GUC 03 11:02:23.1±0.8, 3444S×6980W, h11km±11km, MD4.0, ML3.2, 9C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	Cipreses	0.53	283⇑	iP	Pg	11 02 33.1	-0.3
CICH				i S	Sg	11 02 40.9	+0.5
LMEL	Las Melosas	0.68	330⇓	iP	Pg	11 02 35.9	-0.3
LMEL				i S	Sg	11 02 46.0	+0.8
LMEL				AML	AML	11 02 47.0	
	comp=E,2µm,0.6s						
LMEL	Las Melosas	0.68	330⇓	iP	Pg	11 02 35.9	-0.3
LMEL				i S	Sg	11 02 46.0	+0.8
CACH	El Canelo	0.74	296⇓	iP	Pg	11 02 36.5	-0.8
CACH				i S	Sg	11 02 46.7	-0.3
YECH	El Yeso	0.81	343	eP	Pg	11 02 38.6	-0.1
YECH				i S	Sg	11 02 50.1	+0.8
CHCH	Chadas Angostu	0.87	305	eP	Pg	11 02 39.2	-0.7
CHCH				i S	Sg	11 02 51.6	+0.4
SJCH	San Jose de Ma	0.92	330	eP	Pg	11 02 39.8	-1.1
SJCH				i S	Sg	11 02 53.1	+0.2
SJCH				AML	AML	11 02 53.9	
	comp=E,1µm,0.6s						
PCH	Pirque	1.01	324⇓	iP	Pg	11 02 42.0	-0.6
PCH				i S	Sg	11 02 56.4	+0.7
SFDO	San Fernando	1.02	260⇑	iP	Pg	11 02 41.9	-0.8
SFDO				i S	Sg	11 02 56.0	+0.1
ANTU	Antumapu	1.11	321	eP	Pb	11 02 44.0	-0.4
ANTU				i S	Sb	11 02 59.1	+0.3
ANTU				AML	AML	11 03 00.6	
	comp=E,1µm,0.4s						
ANTU	Antumapu	1.11	321	eP	Pb	11 02 44.0	-0.4
ANTU				i S	Sb	11 02 59.1	+0.3
FCH	Farellones	1.18	340⇑	iP	Pb	11 02 45.2	-0.3
FCH				i S	Sb	11 03 01.6	+0.8
FCH				AML	AML	11 03 03.4	
	comp=E,647nm,0.3s						
CLCH	Cerro Calan	1.21	329⇓	iP	Pn	11 02 45.6	-0.4
CLCH				i S	Sb	11 03 02.3	+0.7
CLCH				AML	AML	11 03 07.0	
	comp=E,1µm,0.6s						
CLCH				AML	AML	11 03 07.6	
	comp=E,2µm,0.6s						
SAN	Santiago	1.22	324	i P	Pn	11 02 46.0	-0.1
SAN				i S	Sb	11 03 02.6	+0.7
TACH	Talagante	1.23	309⇑	iP	Pn	11 02 45.7	-0.6
TACH				i S	Sb	11 03 02.7	+0.5
RCDM	Rinconada Maip	1.27	318⇑	iP	Pn	11 02 46.4	-0.4
RCDM				i S	Sb	11 03 03.5	+0.3
LNV	Longovilo	1.42	289⇓	iP	Pn	11 02 48.5	-0.3
PEL	Peldehue	1.49	330⇑	iP	Pn	11 02 50.5	+0.7
PEL				i S	Sn	11 03 11.3	+2.1
PEL				AML	AML	11 03 16.7	
	comp=N,740nm,0.6s						
PEL	Peldehue	1.49	330⇑	iP	Pn	11 02 50.5	+0.7
PEL				i S	Sn	11 03 11.3	+2.1
MDZ	Mendoza	1.74	27	eP	Pn	11 02 50.2	-3.1
MDZ				i S	Sn	11 03 03.7	-12
LCCH	Las Cruces	1.76	303⇑	iP	Pn	11 02 54.7	+1.2
JACH	Jahuel	1.88	339⇑	iP	Pn	11 02 58.0	+2.9
JACH				i S	Sn	11 03 23.0	+4.2

IDC 03 11:16:59.0±127.0, 1648S×17399W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, Error ellipse: s-maj=2417.0km s-min=199.7km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	43.01	241	P	P	11 25 00.2	+0.1
	0.5nm,0.5s,baz=67,slow=7.7,SNR=4.6						
WRA	Warramunga Arr	49.05	258	P	P	11 25 48.1	+0.4
	0.3nm,0.4s,baz=89,slow=8.0,SNR=14						
ASAR	Alice Springs	49.24	253	P	P	11 25 49.7	+0.5
	2.1nm,0.4s,baz=90,slow=7.6,SNR=63						

MOS 03 11:21:55.3±1.2, 3.18S×12688E, h33km, mb4.5/8, Error ellipse: s-maj=33.0km s-min=9.6km az=110.3
IDC 03 11:21:55.5±3.1, 309S×12693E, h22km±18km, mb4.2/7, mb1 4.4/9, mb1mx4.2/16, mbtmp4.4/9, ML4.1/2, MS3.7/8, Ms1 3.7/8, ms1mx3.4/21, Error ellipse: s-maj=42.9km s-min=9.4km az=70.0
ISCJB 03 11:22:00.5±1.3, 324S±006×127.11E±007, h84km±13km, mb4.6/32, Error ellipse: s-maj=13.7km s-min=6.8km az=118.1
BJI 03 11:22:00.2, 320S×12720E, h77km, mB5.0, mb4.7, Ms4.5, Msz4.4
NEIC 03 11:22:01.3±1.4, 3.16S×127.15E, h78km±13km, mb4.6/8, Error ellipse: s-maj=13.9km s-min=6.3km az=62.0
ISC 03 11:22:03.0±1.0, 327S±005×12713E±007, h90km±11km, n74, σ1.09/76, mb4.6/32, 4C-3D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLE	Tual	6.07	113	P	Pn	11 23 30.7	+0.6
	175nm,0.8s						
PCI	Palu	7.66	288	P	Pn	11 23 51.0	-0.8
	130nm,0.9s						
KAKA	Kakadu	10.76	151	eP	Pn	11 24 33.2	-0.7
	26nm,0.5s						
BUKP	Musuan	11.26	349	eP	Pn	11 24 33.9	-6.9
FITZ	Fitzroy Crossi	14.82	186	eP	Pn	11 25 27.7	-0.1
	16nm,1.0s						
FITZ				e		11 25 33.0	
FITZ	Fitzroy Crossi	14.82	186	Pn	Pn	11 25 25.8	-1.9
	0.1nm,0.3s,baz=36,slow=12,SNR=7.0						
FITZ				LR	LR	11 32 04.0	
	comp=Z,289nm,18.9s,baz=221,slow=41						
KSM	Kuching	17.46	285	eP	Pn	11 26 00.1	-0.6
BJII	Banjamegara	17.81	256	P	Pn	11 26 07.9	+3.0
	47nm,1.3s						
WRAB	Tennant Creek	18.00	158	eP	Pn	11 26 07.1	-0.1
WRAB				pmax	pmax		
	comp=Z,42nm,0.8s						
WRAB	Tennant Creek	18.00	158	eP	Pn	11 26 07.1	-0.1
	comp=Z,42nm,0.8s						
WRAB				epP	pP	11 26 14.6	-9.2
WRA	Warramunga Arr	18.01	158	P	Pn	11 26 06.8	-0.5
	comp=Z,1.9nm,0.3s,baz=345,slow=12,SNR=61						
WRA				S	S	11 29 34.5	+6.3
	comp=Z,0.3nm,0.3s,baz=346,slow=21,SNR=4.6						
WRA				ScP	ScP	11 34 14.0	+9.4
	baz=340,slow=2.3,SNR=5.6						
WRA	Warramunga Arr	18.01	158	P	Pn	11 26 06.8	-0.5
WRA				S	S	11 29 34.5	+6.3
WB2	Warramunga Arr	18.01	158	eP	Pn	11 26 07.0	-0.4
WB2				epP	pP	11 26 15.0	-8.9
MBWA	Marble Bar	19.19	201	eP	Pn	11 26 20.2	-1.2
	comp=Z,20nm,0.9s						
PMG	Port Moresby	20.81	108	i P	pP	11 26 46.8	-7.9
AS31	Alice Springs	21.31	163	eP	P	11 26 43.5	+1.0
AS31				eS	S	11 30 41.1	+7.1
ASAR	Alice Springs	21.31	163	P	P	11 26 43.2	+0.7
	comp=Z,16nm,0.8s,mb4.4,baz=343,slow=10,SNR=76						
ASAR				S	S	11 30 39.9	+5.8
	comp=Z,7.3nm,0.9s,baz=348,slow=23,SNR=13						
ASAR				ScP	ScP	11 34 21.8	+10
	comp=Z,1.4nm,0.8s,baz=352,slow=1.9,SNR=8.6						
ASAR				LR	LR	11 35 33.8	
	comp=Z,191nm,20.6s,baz=257,slow=38						
ASAR	Alice Springs	21.31	163	P	P	11 26 43.2	+0.7
ASAR				S	S	11 30 39.9	+5.9
ASAR	Alice Springs	21.31	163	P	P	11 26 43.2	+0.7
ASAR				S	S	11 30 39.9	+5.8
ASAR				ScP	ScP	11 34 21.8	+10
ASPA	Alice Springs	21.31	163	eP	P	11 26 43.5	+1.0
ASPA				eS	S	11 30 41.1	+7.1
GUMO	Guam	24.29	46	LR	LR	11 35 13.8	
	comp=Z,92nm,19.3s,baz=268,slow=33						
CTA	Charters Tower	25.05	133	eP	P	11 27 21.4	+2.6
	comp=Z,4.2nm,0.8s,mb3.9						
CTA	Charters Tower	25.05	133	P	P	11 27 21.0	+2.1
	comp=Z,1.8nm,0.6s,mb3.7,baz=300,slow=13,SNR=8.5						
CTA	Charters Tower	25.05	133	eP	P	11 27 21.4	+2.6
CTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FORT	Forrest	27.38	178	eP	P	11 27 39.8	0.0
	comp=Z,20nm,0.6s,mb4.8						
KULM	Kulim	27.78	288	eP	P	11 27 43.9	+0.4
YHNB	Yeheng	28.32	349	eP	P	11 27 46.9	-1.4
JOW	Kunigami	29.94	2	LR	LR	11 37 55.4	
	comp=Z,63nm,21.8s,baz=69,slow=32						
STKA	Stephens Creek	31.55	156	eP	P	11 28 15.3	-1.4
	comp=Z,5.4nm,0.6s,mb4.5						
STKA	Stephens Creek	31.55	156	P	P	11 28 15.3	-1.4
	comp=Z,7.0nm,0.7s,mb4.5,baz=324,slow=8.5,SNR=28						
STKA				PcP	PcP	11 31 06.2	-1.1
	comp=Z,1.9nm,0.5s,baz=308,slow=4.8,SNR=4.1						
STKA				LR	LR	11 42 09.0	
	comp=Z,210nm,20.9s,baz=283,slow=38						
NJ2	Nanjing	35.99	348	eP	P	11 28 55.4	+0.2
NJ2				AP	pP	11 29 18.9	+2.9
NJ2				PP	PP	11 30 21.1	+2.5
NJ2				S	S	11 34 26.0	-1.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,110nm,3.9s						
NJ2				LR	LR		
	comp=N,240nm,19.9s						
NJ2				LR	LR		
	comp=E,380nm,13.8s						
KMI	Kunming	36.83	321	P	P	11 29 03.9	+1.5
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
CD2	Chengdu	40.64	328	eP	P	11 29 33.9	-0.3
CD2				PP	PP	11 31 11.2	+1.8
CD2				S	S	11 35 43.9	+6.5
CD2				SS	SS	11 38 39.9	-1.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
CD2				LR	LR		
	comp=E,110nm,12.0s						
CD2				LR	LR		
	comp=Z,60nm,8.4s						
MJAR	Matsushiro Arr	40.93	14	P	P	11 29 33.8	-2.7
	comp=Z,6.0nm,0.8s,mb4.5,baz=184,slow=9.7,SNR=12						
MJAR				LR	LR	11 45 45.7	
	comp=Z,75nm,18.4s,baz=170,slow=35						
BJI	Beijing	44.25	348	eP	P	11 30 05.6	+2.1
BJI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
LZH	Lanzhou	44.79	333	eP	P	11 30 08.0	+0.2
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.8						
SNY	Shenyang	45.00	356	⇑P	P	11 30 11.0	+1.6
HHC	Hu-ho-hao-te	46.15	344	eP	P	11 30 19.1	+0.6
HHC				PP	PP	11 32 07.8	-0.5
HHC				PCS	PcS	11 35 48.0	+0.4
HHC				S	S	11 37 04.1	+6.3
HHC				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,114nm,4.8s						

MDJ	Mudanjiang	47.72	2	P	P	11 30 29.3	-1.4
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,48nm,3.2s						
GTA	Gaotai	49.35	332	eP	P	11 30 43.6	+0.4
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.4						
JIRN	Jiri	50.00	311	eP	P	11 30 48.7	+0.6
	comp=Z,23nm,0.8s,mb5.1						
GUN	Gumba	50.36	311	eP	P	11 30 50.8	-0.1
	comp=Z,49nm,1.0s,mb5.4						
PKI	Pulchoki	50.55	310	eP	P	11 30 52.3	+0.1
KKN	Kakani	50.76	310	eP	P	11 30 54.4	+0.6
DMN	Daman	50.80	310	eP	P	11 30 54.6	+0.5
	comp=Z,28nm,1.0s,mb5.2						
GKN	Gorkha	51.35	310	eP	P	11 30 58.4	+0.1
	comp=Z,22nm,0.9s,mb5.2						
HABR	Khabarovsk	51.99	7	eP	P	11 31 02.5	-0.5
HABR				eS	S	11 38 18.7	-0.8
HABR				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.3						
KOLN	Koldanda	52.03	309	eP	P	11 31 03.9	+0.5
	comp=Z,26nm,0.9s,mb5.2						
ULN	Ulaanbaatar	53.87	343	eP	P	11 31 16.6	-0.3
	comp=Z,9.8nm,0.9s,mb4.8						
SONM	Songino Array	54.03	343	P	P	11 31 17.3	-0.8
	comp=Z,4.1nm,1.0s,mb4.4,baz=153,slow=9.0,SNR=13						
TLY	Talaya	58.27	343⇑	iP	P	11 31 50.0	+1.8
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
WMQ	Urumqi	58.73	327	P	P	11 31 52.8	+1.4
MKAR	Makanchi Array	63.56	327	P	P	11 32 23.6	-0.5
	comp=Z,2.2nm,0.6s,mb4.2,baz=132,slow=8.1,SNR=8.7						
MKAR	Makanchi Array	63.56	327	i P	P	11 32 23.6	-0.4
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YAK	Yakutsk	65.14	1⇓	eP	P	11 32 33.9	-0.5
YAK				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.8						
AAK	Ala-Archa	65.86	320⇓	eP	P	11 32 38.4	-0.6
AAK				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.2						
ZAL	Zalesovo	67.00	334	P	P	11 32 45.1	-1.1
	comp=Z,1.2nm,0.4s,mb4.1						
KURK	Kurchatov	67.86	329	eP	P	11 32 50.9	-0.8
CHKZ	Chkalovo	73.61	329	eP	P	11 33 25.4	-1.1
ZRNK	Zerenda	74.10	328	eP	P	11 33 28.4	-1.0
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
ZRNK	Zerenda	74.10	328	eP	P	11 33 28.4	-1.0
	comp=Z,3.5nm,0.9s,mb4.1						
TIXI	Tiksi	74.78	1⇑	eP	P	11 33 35.8	+2.4
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.3						
BILL	Bilibino	76.18	14⇑	eP	P	11 33 42.0	+0.7
BILL				pmax	pmax		
	comp=Z,7.0nm,2.5s,mb4.0						
VNDA	Vanda	76.48	173	P	P	11 33 42.5	-0.6
	comp=Z,1.6nm,0.7s,mb3.9,baz=334,slow=6.1,SNR=13						
VNDA				LR	LR	12 05 49.9	
	comp=Z,78nm,19.4s,baz=325,slow=34						
MAW	Mawson	77.38	201	LR	LR	12 06 22.9	
	comp=Z,93nm,19.4s,baz=255,slow=34						
ARU	Arti	81.05	328⇓	eP	P	11 34 09.5	+1.4
ARU				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.0						
QSPA	South Pole Qui	86.69	180	eP	P	11 34 36.0	-0.8
	comp=Z,9.2nm,1.1s,mb4.6						
KIV	Kislovodsk	88.24	314	i P	P	11 34 43.6	-0.6
TIRR	Tirgusor	98.50	314	eP	P	11 35 30.5	-0.9
TORD	Torodi Ar. Bea	125.22	284	PKP	PKPdf	11 40 55.5	+2.4
	comp=Z,2.0nm,0.8s,baz=54,slow=2.0,SNR=11						
JTS	JuntasAbangare	147.41	76	PKPbc	PKPbc	11 41 38.5	+2.1
	comp=Z,6.9nm,0.7s,baz=358,slow=3.8,SNR=5.2						
CPUP	Villa Florida	150.26	172	ePKIKP	PKPdf	11 41 45.4	+7.0
NNA	Nana	151.76	123	ePKPbc	PKPbc	11 41 49.1	+2.0
LPAZ	La Paz	155.40	143	PKPbc	PKPdf	11 41 55.4	+10
	comp=Z,1.4nm,0.9s,baz=195,slow=5.3,SNR=5.4						

*IDC **03** 11:32:60.0±1.5, 3141N×4105W, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.9/26, mbtmp3.9/12, MS3.7/16, Ms1 3.7/16, ms1mx3.5/29, Error ellipse: s-maj=47.4km s-min=19.2km az=159.0*
*ISCJB **03** 11:33:00.1±0.9, 314N±02×4099W±0.10, h10km, mb4.3/27, MS3.7/16, Error ellipse: s-maj=28.2km s-min=9.4km az=149.9*
*NEIC **03** 11:33:01.6±0.9, 3140N×4097W, h10km, mb4.4/7, Error ellipse: s-maj=27.2km s-min=9.5km az=164.0*
*MOS **03** 11:33:01.0±1.0, 3157N×4099W, h10km, mb4.6/16, Error ellipse: s-maj=19.5km s-min=11.0km az=62.6*
ISC 03 11:33:01.8±0.9, **314N**±02×**4091W**±010, **h10**km, **n70**, σ**0.90**/58, **mb4.3**/27, **MS3.7**/16, **5C-8D, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	29.78	329	LR	LR	11 50 10.9	
	comp=Z,245nm,19.3s,MS3.9,baz=104,slow=35						
MDT	Midelt	30.69	78	LR	LR	11 49 01.3	
	comp=Z,136nm,18.6s,MS3.6,baz=335,slow=31						
SDV	Santo Domingo	35.58	237	P	P	11 39 59.0	-0.3
	3.4nm,0.8s,mb4.3,baz=226,slow=4.2,SNR=4.5						
SDV				LR	LR	11 51 10.4	
	comp=Z,96nm,21.3s,MS3.5,baz=324,slow=31						
SDV	Santo Domingo	35.58	237	eP	P	11 39 58.8	-0.5
	4.0nm,0.9s,mb4.3						
EKA	Eskdalemuir Ar	35.72	37	P	P	11 40 01.4	+0.9
	1.2nm,0.8s,mb3.9,baz=232,slow=8.7,SNR=3.6						
EKA	Eskdalemuir Ar	35.72	37	P	P	11 40 01.4	+0.9
EKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SFJD	Kangerlussuaq	36.09	354	LR	LR	11 51 16.4	
	comp=Z,60nm,20.1s,MS3.4,baz=102,slow=30						
SUMG	Summit	41.25	1	eP	P	11 40 46.8	-0.2
	comp=Z,9.3nm,1.0s,mb4.4						
DBIC	Dimbokro	41.72	119	LR	LR	11 56 13.6	
	comp=Z,140nm,18.8s,MS3.9,baz=20,slow=33						
TORD	Torodi Ar. Bea	43.09	105	LR	LR	11 56 39.1	
	comp=Z,81nm,19.5s,MS3.6,baz=320,slow=33						
JMIC	Jan Mayen	43.40	15	LR	LR	11 53 59.8	
	comp=Z,28nm,21.7s,MS3.1,baz=90,slow=29						
CLL	Collm	43.96	47	eP	P	11 41 08.0	-1.1
KHC	Kasperske Hory	44.17	50	eP	P	11 41 11.0	+0.2
KHC	Kasperske Hory	44.17	50c	iP	P	11 41 11.1	+0.3
ULM	Lac du Bonnet	44.54	311	LR	LR	11 59 30.2	
	comp=Z,44nm,19.6s,MS3.4,baz=23,slow=36						
NB2	NORSAR Subarra	44.89	33	P	P	11 41 15.7	-0.8
	comp=Z,18nm,1.7s,mb4.6,baz=253,slow=8.6						
NOA	NORSAR Array B	44.89	33	P	P	11 41 15.5	-1.0
	comp=Z,0.8nm,0.7s,mb3.6,baz=254,slow=7.9,SNR=3.6						
NOA	NORSAR Array B	44.89	33	P	P	11 41 15.5	-1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VAE	Valguarnera	45.48	67	LR	LR	11 58 40.9	
	comp=Z,55nm,21.3s,MS3.5,baz=116,slow=34						
HFS	Hagfors	45.83	35	P	P	11 41 23.9	0.0
	comp=Z,1.5nm,0.8s,mb4.0,baz=24,slow=11,SNR=3.5						
HFS				LR	LR	11 56 42.0	
	comp=Z,40nm,18.1s,MS3.4,baz=156,slow=31						
BDFB	Brasilia	47.27	189	LR	LR	11 58 17.4	
	comp=Z,76nm,19.0s,MS3.7,baz=124,slow=32						
FINES	FINESS Array B	52.02	34	P	P	11 42 10.5	-1.0
	comp=Z,1.3nm,0.8s,mb3.9,baz=305,slow=6.7,SNR=4.3						
FINES	FINESS Array B	52.02	34	P	P	11 42 10.5	-0.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VSU	Vasula	52.26	38⇓	eP	P	11 42 14.2	+1.0
MLR	Muntele Rosu	52.77	54	P	P	11 42 19.3	+2.3
	comp=Z,3.9nm,0.8s,mb4.4,baz=129,slow=4.4,SNR=3.8						
MLR	Muntele Rosu	52.77	54	P	P	11 42 19.3	+2.3
MLR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ANMO	Albuquerque	54.09	293⇓	eP	P	11 42 34.9	+8.2
LPAZ	La Paz	54.15	213	LR	LR	12 03 34.1	
	comp=Z,48nm,18.3s,MS3.6,baz=96,slow=34						
AKASG	Malin Array Be	54.20	48	P	P	11 42 26.4	-1.1
	comp=Z,2.2nm,0.7s,mb4.2,baz=275,slow=6.8,SNR=15						
AKASG	Malin Array Be	54.20	48	P	P	11 42 26.4	-1.1
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	Malin Array Be	54.20	48	P	P	11 42 26.4	-1.1
BNM	Barren Site	54.45	292	eP	P	11 42 29.1	-0.2
BW06	Boulder Array	54.54	303	eP	P	11 42 29.5	-0.5
PDAR	Pinedale Array	54.54	303	P	P	11 42 28.4	-1.6
	comp=Z,0.7nm,0.8s,mb3.7,baz=81,slow=9.2,SNR=6.9						
PDAR				LR	LR	12 03 57.2	
	comp=Z,197nm,20.1s,MS4.2,baz=126,slow=34						
YKA	Yellowknife Ar	55.20	327	P	P	11 42 35.1	+0.4
	comp=Z,1.0nm,0.9s,mb3.8,baz=90,slow=6.8,SNR=3.3						
YKA				LR	LR	12 05 33.3	
	comp=Z,98nm,19.2s,MS3.9,baz=85,slow=35						
YKA	Yellowknife Ar	55.20	327	P	P	11 42 35.1	+0.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA				MLR	MLR		
	comp=Z,98nm,19.2s						
LVZ	Lovozero	55.90	26⇓	eP	P	11 42 39.5	-0.3
LVZ				pmax	pmax		
	comp=Z,23nm,1.7s,mb4.9						
SRU	San Rafael	56.11	299	eP	P	11 42 41.8	+0.5
MSU	Marysvale	57.52	298	eP	P	11 42 52.4	+1.1
OBN	Obninsk	57.93	41c	iP	P	11 42 53.8	-0.4
OBN				e		11 45 01.5	
OBN				pmax	pmax		
	comp=Z,31nm,1.5s,mb5.1						
NEW	Newport	58.53	310	eP	P	11 42 56.4	-2.0
NEW				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NEW	Newport	58.53	310	eP	P	11 42 56.4	-2.0
	comp=Z,4.0nm,0.9s,mb4.5						
ANN	Anapa	60.85	53	eP	P	11 43 21.2	+6.8
ANN				e		11 43 26.7	
ANN				pmax	pmax		
	comp=Z,34nm,0.3s						
TPNV	Topopah Spring	61.07	298	eP	P	11 43 16.6	+0.8
TPNV				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.6						
TPNV	Topopah Spring	61.07	298	eP	P	11 43 16.6	+0.8
	comp=Z,6.6nm,1.3s,mb4.6						
NVAR	Mina Array Bea	62.12	300	P	P	11 43 21.9	-1.1
	comp=Z,0.7nm,0.7s,mb3.9,baz=70,slow=7.8,SNR=5.4						
DAC	Darwin (Calif)	62.31	297	eP	P	11 43 25.3	+1.1
DAC				e*PP	pP	11 43 34.4	+6.9
DAC				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
DAC	Darwin (Calif)	62.31	297	eP	P	11 43 25.3	+1.1
	comp=Z,3.5nm,0.6s,mb4.7						
DAC				epP	pP	11 43 34.4	+7.0
KHMM	Horse Mountain	65.22	304	eP	P	11 43 44.4	+1.0
KHMM				epP	pP	11 43 47.7	+1.0
KHMM				esP	sP	11 43 49.2	+1.3
COLA	College	68.74	334⇑	eP	P	11 44 09.9	+4.1
ARU	Arti	69.33	36⇓	eP	P	11 44 09.1	-0.4
ARU				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
SVE	Sverdlovsk	70.18	35	eP	P	11 44 06.0	-8.7
ZRNK	Zerenda	76.31	36	eP	P	11 44 50.4	-0.5
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
ZRNK	Zerenda	76.31	36	eP	P	11 44 50.4	-0.5
	comp=Z,4.2nm,1.3s,mb4.2						
CHKZ	Chkalovo	76.69	35	eP	P	11 44 52.7	-0.4
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
CHKZ	Chkalovo	76.69	35	eP	P	11 44 52.7	-0.4
	comp=Z,1.3nm,0.9s,mb3.9						
TIXI	Tiksi	76.98	3⇓	eP	P	11 44 55.3	+0.6
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BILL	Bilibino	78.79	350	eP	P	11 45 05.3	+0.5
BILL				e		11 48 08.5	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
KMBO	Kilima Mbogo	80.49	97	LR	LR	12 20 19.4	
	comp=Z,134nm,18.3s,MS4.3,baz=56,slow=35						
NVS	Novosibirsk	81.64	29	eP	P	11 45 11.4	-8.7
NVS				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.6						
NVS				pmax	pmax		
	comp=N,4.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.2s						
KURK	Kurchatov	82.39	34⇓	eP	P	11 45 24.0	-0.1
ZAL	Zalesovo	82.93	29	P	P	11 45 27.5	+0.7
	comp=E,0.9nm,0.5s,mb4.1,baz=169,slow=5.6,SNR=8.8						
ZAL	Zalesovo	82.93	29	P	P	11 45 27.5	+0.6
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	Zalesovo	82.93	29	P	P	11 45 27.5	+0.7
AAK	Ala-Archa	85.45	42⇑	eP	P	11 45 39.4	-0.3
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.5						
YAK	Yakutsk	86.58	4⇑	eP	P	11 45 49.5	+4.2
YAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.2						
BOSA	Boshof	86.75	126	LR	LR	12 21 34.0	
	comp=Z,75nm,19.6s,MS4.1,baz=95,slow=34						
MKAR	Makanchi Array	86.84	35	P	P	11 45 46.1	-0.5
	comp=Z,0.2nm,0.2s,mb3.9,baz=35,slow=4.4,SNR=6.2						
TLY	Talaya	91.60	21⇓	eP	P	11 46 10.8	+1.8
TLY				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.8						
ULN	Ulaanbaatar	96.01	21⇓	eP	P	11 46 29.3	0.0

IDC 03 11:39:56.6±1.1, **3144N**×**4115W, h0**km, **mb3.8**/10, **mb1 4.0**/10, **mb1mx3.8**/23, **mbtmp3.8**/10, **Error ellipse: s-maj=35.0km s-min=20.3km az=159.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	35.42	237	P	P	11 46 55.1	+0.8
	1.6nm,0.4s,baz=45,slow=13,SNR=3.0						
TORD	Torodi Ar. Bea	43.30	105	P	P	11 47 59.8	-0.2
	1.9nm,1.1s,baz=304,slow=7.4,SNR=4.6						
NOA	NORSAR Array B	44.98	33	P	P	11 48 13.5	0.0
	0.5nm,0.6s,baz=254,slow=8.0,SNR=3.4						
FINES	FINESS Array B	52.11	34	P	P	11 49 08.6	+0.2
	0.5nm,0.4s,baz=186,slow=5.4,SNR=3.6						
ARCES	ARCESS Array B	52.77	24	P	P	11 49 12.4	-0.9
	2.1nm,0.9s,baz=287,slow=8.5,SNR=5.2						
AKASG	Malin Array Be	54.33	48	P	P	11 49 24.1	-0.7
	1.8nm,0.7s,baz=278,slow=6.4,SNR=8.0						
PDAR	Pinedale Array	54.36	303	P	P	11 49 25.6	+0.6
	0.6nm,0.9s,baz=57,slow=3.3,SNR=4.3						
NVAR	Mina Array Bea	61.93	300	P	P	11 50 17.7	-0.4
	0.4nm,0.7s,baz=69,slow=7.9,SNR=3.0						
ZAL	Zalesovo	83.00	29	P	P	11 52 24.4	+0.8
	0.8nm,0.5s,baz=136,slow=7.1,SNR=4.2						
MKAR	Makanchi Array	86.94	35	P	P	11 52 43.8	+0.3
	0.2nm,0.3s,baz=328,slow=5.1,SNR=4.0						

MAN 03 11:46:11.7, 901N×12514E, h1km, mb2.4, ML4.0, MS2.0, Mindanao

*HLW **03** 11:52:58.0, 2957N×3677E, h20km, Mb3.0*
*ISCJB **03** 11:53:00.6±1.2, 2981N±007×3621E±008, h10km, Error ellipse: s-maj=9.9km s-min=9.7km az=132.2*
*GII **03** 11:53:01.2±2.4, 2991N×3618E, h0km, ML2.0/2*
ISC 03 11:53:00.9±1.2, **2980N**±007×**3624E**±008, **h10**km, **n17**, σ**1.12**/19, **2D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	Aqaba	1.04	266	Pg	Pg	11 53 20.4	-0.5
HRFI	Mount Harif	1.07	283	Pg	Pg	11 53 20.7	-0.8
HRFI				Sg	Sg	11 53 36.3	+0.8
EIL	Elat	1.13	264	Pg	Pg	11 53 23.1	+0.5
MBH	Mount Berech	1.15	270	Pg	Pg	11 53 22.8	-0.3
MBH	Mount Berech	1.15	270	Pg	Pg	11 53 22.7	-0.4
ZFRI	Zfri	1.19	309	Pg	Pg	11 53 22.1	-1.5
ZFRI	Zfri	1.19	309	Pg	Pg	11 53 22.1	-1.6
PRNI	Paran	1.20	297	Pg	Pg	11 53 22.5	-1.5
PRNI				Sg	Sg	11 53 39.3	-0.4
MASH	Mash'abbe Sade	1.73	314	Pn	Pn	11 53 31.1	+0.1
HDHB	Dhahab	1.78	233	⇓P	Pn	11 53 30.2	-1.5
MKRJ	Makawir	1.82	344	Pn	Pn	11 53 32.5	+0.3
DRGI	Dragot	1.93	338	Pn	Pn	11 53 33.0	-0.8
KZIT	Kziot	1.94	305	Pn	Pn	11 53 35.8	+1.9
HNKL	Nakhl	1.97	274	P	Pn	11 53 35.9	+1.6
HKAT	Jabal Katrina	2.35	238	P	Pn	11 53 38.9	-0.6
AMAG	Maghara	2.76	288	P	Pn	11 53 47.3	+2.2
SUZ		2.96	272	⇓P	Pn	11 53 49.2	+1.2

*HLW **03** 11:55:14.9, 3100N×3500E, h5km, Mb3.0*
*ISCJB **03** 11:55:15.6±0.5, 3088N±003×3503E±005, h9km±6km, Error ellipse: s-maj=6.9km s-min=5.3km az=169.0*
*GII **03** 11:55:15.0±0.9, 3087N×3502E, h0km, ML2.4/5*
ISC 03 11:55:16.1±0.5, **3088N**±003×**3502E**±005, **h10**km±6km, **n23**, σ**0.70**/25, **3C, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASH	Mash'abbe Sade	0.23	300	Pg	Pg	11 55 20.6	-0.3
RTMM	Retamin	0.34	301	Pg	Pg	11 55 22.6	-0.2
RTMM	Retamin	0.34	301	Pg	Pg	11 55 22.5	-0.3
SVTA	Shivta	0.35	279	Pg	Pg	11 55 23.0	0.0
ZFRI	Zfri	0.35	157	Pg	Pg	11 55 23.0	-0.1
MZDA	Masada	0.52	34	Pg	Pg	11 55 25.8	-0.5
MZDA	Masada	0.52	34	Pg	Pg	11 55 25.7	-0.5
PRNI	Paran	0.53	182	Pg	Pg	11 55 26.3	-0.1
PRNI				Sg	Sg	11 55 35.2	+1.9
KZIT	Kziot	0.54	273	Pg	Pg	11 55 26.3	-0.3
KZIT				Sg	Sg	11 55 34.9	+1.3
DRGI	Dragot	0.78	24	Pg	Pg	11 55 31.4	+0.3
DRGI	Dragot	0.78	24	Pg	Pg	11 55 31.4	+0.2
HRFI	Mount Harif	0.84	179	Pg	Pg	11 55 31.6	-0.7
MKRJ	Makawir	0.85	38	Pg	Pg	11 55 32.9	+0.3
MBH	Mount Berech	1.09	185	Pg	Pg	11 55 36.4	-0.6
AQBJ	Aqaba	1.15	179	Pg	Pg	11 55 37.6	-0.6
EIL	Elat	1.21	183	Pg	Pg	11 55 38.9	-0.4
HNKL	Nakhl	1.31	224	⇑P	Pn	11 55 39.9	-0.5
AMAG	Maghara	1.58	262	P	Pn	11 55 43.1	-1.0
HBST	Basata	1.68	189	P	Pn	11 55 46.1	+0.6
MMA0	Mount Meron ar	2.15	9	Pn	Pn	11 55 53.4	+1.3
SUZ		2.16	242	P	Pn	11 55 51.6	-0.6
HDHB	Dhahab	2.18	189	⇑P	Pn	11 55 52.4	0.0
HKAT	Jabal Katrina	2.51	201	⇑P	Pn	11 55 57.6	+0.6

*IDC **03** 12:37:14.4±3.0, 1170S×16563E, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.0/14, mbtmp4.2/6, ML4.0/1, MS3.9/2, Ms1 3.9/2, ms1mx3.1/19, Error ellipse: s-maj=54.9km s-min=34.3km az=78.0*
*NEIC **03** 12:37:15.7±1.2, 1153S×16569E, h10km, mb4.2/4, Error ellipse: s-maj=24.4km s-min=20.7km az=97.0*
*ISCJB **03** 12:37:17.5±1.1, 1180S±008×1656E±02, h33km, mb4.2/5, MS3.8/2, Error ellipse: s-maj=22.1km s-min=10.9km az=147.6*
ISC 03 12:37:19.4±1.1, **1168S**±008×**1657E**±01, **h35**km, **n15**, σ**1.15**/15, **mb4.2**/5, **MS3.8**/2, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.36	176	Pn	Pn	12 39 45.6	+0.1
	1.3nm,0.3s,baz=110,slow=16,SNR=17						
DZM				Sn	Sn	12 41 39.7	-0.6
	0.2nm,0.3s,baz=30,slow=18,SNR=3.1						
CTA	Charters Tower	20.45	243	eP	P	12 41 56.0	+2.3
	5.9nm,1.0s						
CTA	Charters Tower	20.45	243	P	P	12 41 54.8	+1.0
	7.9nm,1.0s,baz=65,slow=11,SNR=8.5						
CTAO	Charters Tower	20.45	243	eP	P	12 41 55.4	+1.7
	11nm,1.0s						
ARMA	Armidale	22.75	213	eP	P	12 42 21.7	+3.3
WRA	Warramunga Arr	31.20	251	P	P	12 43 35.0	-0.2
	1.6nm,0.8s,mb3.9,baz=83,slow=8.7,SNR=13						
AS31	Alice Springs	32.45	244	eP	P	12 43 44.9	-1.3
ASAR	Alice Springs	32.45	244	P	P	12 43 45.3	-0.9
	2.3nm,0.7s,mb4.1,baz=71,slow=9.3,SNR=33						
ASPA	Alice Springs	32.45	244	eP	P	12 43 44.9	-1.3
FITZ	Fitzroy Crossi	39.15	256	eP	P	12 44 44.7	+1.1
	5.0nm,0.8s,mb4.3						
FITZ	Fitzroy Crossi	39.15	256	P	P	12 44 43.8	+0.2
	3.1nm,0.8s,mb4.1,baz=124,slow=8.1,SNR=6.5						
FITZ				LR	LR	13 00 01.7	
	comp=Z,90nm,19.0s,MS3.6,baz=277,slow=35						
NWAO	Narrogin (SRO)	49.05	236	LR	LR	13 07 49.5	
	comp=Z,180nm,20.0s,MS4.1,baz=68,slow=38						
QSPA	South Pole Qui	78.33	180	eP	P	12 49 17.6	+1.6
	7.7nm,1.1s,mb4.5						
COLA	College	83.91	18	eP	P	12 49 44.6	-1.0
MKAR	Makanchi Array	93.93	317	P	P	12 50 34.0	+0.6
	0.3nm,0.3s,mb4.2,baz=95,slow=7.4,SNR=5.7						

*NEIC **03** 12:44:48.0, 1552N×9370W, h34km, MD4.0(MEX), After MEX.*
MEX 03 12:44:47.7±0.8, **1549N**×**9369W, h38**km±999km, **MD4.0, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	San Cristobal	1.60	39	i P	Pn	12 45 12.0	-1.5
SCX				i S	Sn	12 45 32.0	-1.0
CCIG	Comitan	1.69	62	eP	Pn	12 45 14.2	-0.6
CCIG				i S	Sn	12 45 32.0	-3.2
HUIG	Huatulco	2.34	277	i P	Pn	12 45 22.3	-1.4
HUIG				i S	Sn	12 45 49.1	-2.1
OXX	Oaxaca	3.31	299	eP	Pn	12 45 37.5	+0.5
OXX				i S	Sn	12 46 12.0	-3.1
OXX	Oaxaca	3.31	299	eP	Pn	12 45 38.0	+1.0
OXX				i S	Sn	12 46 11.0	-4.1
VHO	Vista Hermosa	3.32	299	eP	Pn	12 45 36.0	-1.0
VHO				i S	Sn	12 46 12.0	-3.2
UTMO	Huajuapan	4.58	301	i P	Pn	12 45 54.0	-0.3
MEIG	Mezcala	6.17	294	i P	Pn	12 46 16.3	0.0
MEIG				i S	Sn	12 47 24.3	-1.3
TEIG	Tepich	6.99	47	eP	Pn	12 46 21.7	-5.8
	11nm,0.3s						
JTS	JuntasAbangare	9.96	120	eP	Pn	12 47 09.6	+1.3
	7.7nm,0.3s						

*ISCJB **03** 12:46:31.4±3.2, 12N±0.1×124.1E±03, h275km±34km, mb4.0/9, Error ellipse: s-maj=47.8km s-min=11.7km az=139.8*
*NEIC **03** 12:46:34.5±4.3, 1.12N×12408E, h293km±48km, mb4.2/5, Error ellipse: s-maj=32.6km s-min=13.0km az=76.0*
*IDC **03** 12:46:35.5±2.6, 108N×124.14E, h306km±28km, mb3.6/6, mb1 3.7/7, mb1mx3.5/15, mbtmp4.2/7, Error ellipse: s-maj=43.2km s-min=9.7km az=72.0*
ISC 03 12:46:35.5±2.7, **11N**±01×**1241E**±03, **h303**km±29km, **n16**, σ**0.68**/17, **mb4.0**/9, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	16.05	149	eP	P	12 50 03.4	-0.4
	9.6nm,0.5s						
FITZ	Fitzroy Crossi	19.17	176	eP	P	12 50 36.3	-1.1
	7.1nm,1.2s						
FITZ	Fitzroy Crossi	19.17	176	P	P	12 50 36.2	-1.1
	0.4nm,0.3s,baz=45,slow=9.9,SNR=13						
WRAB	Tennant Creek	23.22	155	eP	P	12 51 16.6	+0.3
	17nm,0.3s,mb4.9						
WRA	Warramunga Arr	23.22	155	P	P	12 51 15.5	-0.8
	10nm,0.3s,mb4.6,baz=336,slow=9.9,SNR=39						
WRA				S	S	12 55 04.9	-0.4
	0.7nm,0.8s,baz=332,slow=15,SNR=3.1						
WB2	Warramunga Arr	23.23	155	eP	P	12 51 16.7	+0.3
AS31	Alice Springs	26.42	159	eP	P	12 51 45.8	+0.8
ASAR	Alice Springs	26.43	159	P	P	12 51 45.8	+0.7
	0.9nm,0.3s,mb3.6,baz=338,slow=10.0,SNR=44						
ASPA	Alice Springs	26.43	159	eP	P	12 51 45.8	+0.8
MJAR	Matsushiro Arr	37.59	19	P	P	12 53 21.5	-0.1
	1.8nm,0.6s,mb3.7,baz=195,slow=8.7,SNR=4.4						
SONM	Songino Array	48.99	344	P	P	12 54 52.0	0.0
	1.9nm,0.8s,mb3.5,baz=157,slow=9.1,SNR=12						
MKAR	Makanchi Array	58.25	327	P	P	12 55 59.3	+0.6
	0.9nm,0.4s,mb3.6,baz=120,slow=8.4,SNR=12						
MKAR				PcP	PcP	12 56 46.6	+0.2
	0.8nm,0.7s,baz=120,slow=4.9,SNR=3.6						
KURK	Kurchatov	62.56	329	eP	P	12 56 28.2	+0.4
	5.1nm,0.8s,mb4.2						
BRVK	Borovoye	68.17	328	eP	P	12 57 03.7	+0.2
ZRNK	Zerenda	68.79	328	eP	P	12 57 07.2	-0.1
	2.2nm,0.6s,mb4.1						
ARCES	ARCESS Array B	91.96	340	P	P	12 59 08.3	-1.6
	1.5nm,0.9s,mb3.9,baz=97,slow=6.2,SNR=3.8						

WEL 03 13:20:15.8±0.2, **4015S**×**17661E, h42**km±3km, **ML3.7**/6, **Error ellipse: s-maj=2.1km s-min=0.9km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.23**	**60**	PN	Pn	13 20 24.0	+0.5
PXZ				SN	Sn	13 20 30.1	+1.2
TSZ	**Takapari Road**	**0.50**	**280**	PN	Pn	13 20 25.8	-0.8
TSZ				SN	Sn	13 20 33.2	-1.1
BFZ	**Birch Farm**	**0.60**	**207**	PN	Pn	13 20 28.5	+0.6
BFZ				SN	Sn	13 20 37.6	+1.0
TIWZ	**Tintock**	**0.84**	**221**	PN	Pn	13 20 31.4	+0.3
TIWZ				SN	Sn	13 20 42.5	+0.2
MRZ	**Mangatainoka R**	**0.94**	**236**	PN	Pn	13 20 32.4	-0.2
MRZ				SN	Sn	13 20 45.0	+0.2
BKZ	**Black Stump Fm**	**0.98**	**355**	PN	Pn	13 20 32.5	-0.7
BKZ				SN	Sn	13 20 44.3	-1.5
MOVZ	**Moawhango**	**0.99**	**318**	PN	Pn	13 20 32.9	-0.4
MOVZ				SN	Sn	13 20 45.1	-0.9
WNVZ	**Wahianoa**	**1.13**	**316**	PN	Pn	13 20 35.3	+0.1
TUVZ	**Tukino**	**1.14**	**320**	PN	Pn	13 20 35.6	+0.2
MTVZ	**Mangateitei**	**1.16**	**311**	PN	Pn	13 20 35.7	+0.1
TRVZ	**Turoa**	**1.18**	**316**	PN	Pn	13 20 36.0	+0.2
DRZ	**Dome Shelter**	**1.18**	**317**	PN	Pn	13 20 36.1	+0.2
FWVZ	**Far West T-bar**	**1.21**	**317**	PN	Pn	13 20 36.2	0.0
OTVZ	**Oturere**	**1.22**	**323**	PN	Pn	13 20 36.6	+0.1
NGZ	**Ngauruhoe**	**1.24**	**321**	PN	Pn	13 20 36.7	0.0
WPVZ	**Whakapapa**	**1.25**	**319**	PN	Pn	13 20 36.8	0.0
KRVZ	**Karewarewa**	**1.29**	**324**	PN	Pn	13 20 37.4	0.0
WTVZ	**West Tongariro**	**1.29**	**322**	PN	Pn	13 20 37.3	-0.1
PKVZ	**Pokaka**	**1.29**	**311**	PN	Pn	13 20 37.3	-0.1
RITZ	**Rihia Road**	**1.30**	**333**	PN	Pn	13 20 37.5	0.0
WAZ	**Wanganui**	**1.31**	**287**	PN	Pn	13 20 38.1	+0.5
HATZ	**Hinemaiaia**	**1.31**	**342**	PN	Pn	13 20 37.3	-0.4
MTW	**Mount Morrison**	**1.31**	**219**	PN	Pn	13 20 36.9	-0.8
KATZ	**Kakaramea**	**1.36**	**329**	PN	Pn	13 20 38.3	-0.1
KNZ	**Kokohu**	**1.39**	**37**	PN	Pn	13 20 38.1	-0.7
TWVZ	**Taurewa**	**1.40**	**320**	PN	Pn	13 20 38.4	-0.5
RATZ	**Rangitukua**	**1.43**	**333**	PN	Pn	13 20 39.5	+0.2
TRWZ	**Traveller**	**1.43**	**209**	PN	Pn	13 20 38.6	-0.7
CAW	**Cannon Point**	**1.52**	**230**	PN	Pn	13 20 39.7	-0.8
PAWZ	**Paruwai Farm**	**1.53**	**216**	PN	Pn	13 20 39.8	-0.8
WATZ	**Wairara**	**1.59**	**334**	PN	Pn	13 20 40.9	-0.5
MSWZ	**Moikau Station**	**1.63**	**219**	PN	Pn	13 20 40.7	-1.4
MRW	**Makara Radio**	**1.81**	**233**	PN	Pn	13 20 43.6	-0.9
BHW	**Baring Head**	**1.82**	**226**	PN	Pn	13 20 43.4	-1.3
SNZO	**South Karori**	**1.85**	**231**	PN	Pn	13 20 43.8	-1.3
TAZ	**Tarawera**	**1.91**	**358**	PN	Pn	13 20 45.2	-0.8
URZ	**Urewera**	**1.92**	**12**	PN	Pn	13 20 44.7	-1.4
MWZ	**Matawai**	**1.94**	**22**	PN	Pn	13 20 45.0	-1.4
NNZ	**Nelson**	**2.68**	**245**	*e*PN	Pn	13 20 55.0	-1.4
QRZ	**Quartz Range**	**3.18**	**256**	*e*PN	Pn	13 21 02.0	-1.3

*CSEM **03** 13:39:40.9, 20.27S×176.10W, h33km, mb5.7*
*MOS **03** 13:39:53.1±0.8, 20.30S×176.09W, h140km, mb5.3/40, Error ellipse: s-maj=8.8km s-min=7.1km az=54.1*
*BJI **03** 13:39:59.9, 19.96S×175.82W, h201km, mB5.3, mb5.4*
*ISCJB **03** 13:39:59.9±0.1, 20.52S±0.02×176.10W±0.03, h208km, mb5.2/126, Error ellipse: s-maj=4.5km s-min=2.6km az=77.6*
*IDC **03** 13:40:00.9±0.4, 20.48S×176.02W, h207km±3km, mb5.0/23, mb1 5.0/23, mb1mx5.0/24, mbtmp5.5/23, Error ellipse: s-maj=10.2km s-min=9.7km az=139.0*
*NEIC **03** 13:40:01.0±0.1, 20.49S×176.11W, mb5.2/78, MW5.4, Error ellipse: s-maj=4.3km s-min=2.3km az=124.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.16; $M_{\theta\theta}$0.25; $M_{\phi\phi}$0.92; $M_{r\theta}$-0.45; $M_{\theta\phi}$0.48; $M_{\phi r}$-1.29; Best double couple: $M_0$1.80000×10^{17} NP1:ϕ_s21.00000°, δ70.00000°, λ-94.00000°. NP2:ϕ_s214.00000°, δ21.00000°, λ-78.00000°. Principal axes: T 1.8000, Plg25.0000°, Azm115.0000°; N 0.0100, Plg4.0000°, Azm23.0000°; P -1.8000, Plg65.0000°, Azm284.0000°;*
*BGS **03** 13:40:01.0±4.4, 20.48S×176.12W, h207km, mb5.2(NEIC)*
*HRVD **03** 13:40:01.0±0.1, 20.56S×175.59W, h212km, MW5.4/101, Centroid moment Tensor Solution. LP body waves: s85,c152;Mantle waves: s101,c184; Half duration: 1.3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.74±.02; $M_{\theta\theta}$0.40±.03; $M_{\phi\phi}$0.34±.03; $M_{r\theta}$-0.63±.02; $M_{\theta\phi}$0.50±.03; $M_{\phi r}$-1.41±.02; Best double couple: $M_0$1.74400×10^{17} NP1:ϕ_s247.00000°, δ17.00000°, λ-51.00000°. NP2: ϕ_s27.00000°, δ77.00000°, λ-101.00000°. Principal axes: T 1.7520, Plg31.0000°, Azm126.0000°; N -0.0150, Plg10.0000°, Azm29.0000°; P -1.7370, Plg57.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **03** 13:40:02.5, 20.56S×176.05W, h221km, Fiji Islands region*
ISC 03 13:40:01.6±0.1**, 20.52S**±0.03×**176.08W**±0.03**, h210**km**, h210**km±1.0km**:pP-P, n981,** σ0.79/500**, mb5.2**/126**, 119C-216D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.75**	**33**	P	**Pn**	**13 41 41.8**	**-10**
	16nm,0.3s,baz=34,slow=16,SNR=40						
AFI				S	S	13 42 58.6	-21
	290nm,0.3s,baz=200,slow=22,SNR=12						
AFI	**Afiamalu**	**7.75**	**33**	P	**Pn**	**13 41 41.8**	**-10**
AFI				S	S	13 42 58.6	-21
AFI				pmax	pmax		
	comp=Z,16nm,0.3s						
AFI				smax			
	comp=N,290nm,0.3s						
AFI	**Afiamalu**	**7.75**	**33**	*e*Pn	**Pn**	**13 41 41.5**	**-10**
	comp=N,418nm,0.8s						
AFI				*e*S	S	13 42 55.7	-24
RAO	**Raoul Island**	**8.85**	**191**	S	**S**	**13 43 41.3**	**-4.1**
	comp=N,168nm,0.3s,baz=248,slow=24,SNR=9.5						
FUNA	**Funafuti**	**12.77**	**338**	*e*P	**Pn**	**13 42 55.8**	**-0.1**
BKM	**Butte a Klehm**	**15.09**	**278**	⇑*i*P	**Pn**	**13 43 29.2**	**+4.8**
RAR	**Rarotonga**	**15.26**	**95**	P	**Pn**	**13 43 21.3**	**-5.2**
	comp=N,8.0nm,0.3s,baz=254,slow=7.9,SNR=36						
RAR				S	**S**	**13 46 07.2**	**-8.3**
	comp=N,7.4nm,0.3s,baz=97,slow=20,SNR=4.7						
RAR	**Rarotonga**	**15.26**	**95**	P	**Pn**	**13 43 21.3**	**-5.2**
RAR				S	**S**	**13 46 07.2**	**-8.3**
RAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
RAR				smax			
	comp=N,7.0nm,0.3s						
DZM	**Mont Dzumac**	**16.36**	**261**	⇓*i*P	**P**	**13 43 43.1**	**+4.3**
DZM	**Mont Dzumac**	**16.36**	**261**	P	**P**	**13 43 43.0**	**+4.3**
	comp=N,15nm,0.3s,baz=90,slow=12,SNR=141						
MTAZ	**Motutapu**	**18.02**	**204**	PN	**Pn**	**13 43 58.7**	**-0.4**
MTAZ	**Motutapu**	**18.02**	**204**	*e*P	**P**	**13 43 59.1**	**+2.3**
KAAZ	**Kauri Point**	**18.13**	**204**	PN	**Pn**	**13 43 60.0**	**-0.5**
KAAZ	**Kauri Point**	**18.13**	**204**	P	**P**	**13 44 01.1**	**+3.1**
OTAZ	**Otara**	**18.15**	**204**	PN	**Pn**	**13 44 00.8**	**0.0**
OTAZ	**Otara**	**18.15**	**204**	P	**P**	**13 44 01.5**	**+3.2**
PUZ	**Puketiti**	**18.16**	**194**	*e*PN	**Pn**	**13 43 56.2**	**-4.7**
PUZ				SN	**S**	**13 47 03.1**	**-12**
PUZ	**Puketiti**	**18.16**	**194**	*e*P	**P**	**13 43 57.7**	**-0.8**
MKAZ	**Moumakai**	**18.20**	**203**	PN	**Pn**	**13 44 01.3**	**0.0**
MKAZ	**Moumakai**	**18.20**	**203**	P	**P**	**13 44 01.4**	**+2.5**
WTAZ	**Waiatarua**	**18.27**	**205**	P	**P**	**13 44 02.7**	**+3.1**
MWZ	**Matawai**	**18.59**	**196**	*e*PN	**P**	**13 44 02.2**	**-0.9**
MWZ	**Matawai**	**18.59**	**196**	*e*P	**P**	**13 44 02.4**	**-0.7**
URZ	**Urewera**	**18.63**	**197**	P	**P**	**13 44 00.4**	**-3.2**
	comp=N,11nm,0.3s,baz=9.8,slow=3.7,SNR=188						
URZ				S	**S**	**13 47 19.2**	**-5.4**
	comp=N,8.3nm,0.3s,baz=308,slow=23,SNR=8.6						
URZ	**Urewera**	**18.63**	**197**	*e*PN	**P**	**13 44 01.7**	**-1.9**
URZ	**Urewera**	**18.63**	**197**	*e*P	**P**	**13 44 02.8**	**-0.7**
TAZ	**Tarawera**	**18.78**	**198**	PN	**P**	**13 44 06.0**	**+0.9**
KNZ	**Kokohu**	**19.21**	**195**	PN	**P**	**13 44 11.6**	**+1.9**
KNZ	**Kokohu**	**19.21**	**195**	*e*P	**P**	**13 44 10.2**	**+0.5**
HIZ	**Hauiti**	**19.57**	**202**	PN	**P**	**13 44 15.8**	**+2.3**
TSZ	**Takapari Road**	**20.63**	**198**	PN	**P**	**13 44 23.5**	**-1.4**
BFZ	**Birch Farm**	**21.13**	**196**	*e*PN	**P**	**13 44 28.8**	**-1.4**
BFZ	**Birch Farm**	**21.13**	**196**	*e*P	**P**	**13 44 28.7**	**-1.5**
MRZ	**Mangatainoka R**	**21.30**	**198**	*e*PN	**P**	**13 44 29.0**	**-3.0**
CAW	**Cannon Point**	**21.86**	**198**	*e*PN	**P**	**13 44 35.5**	**-2.0**
CAW	**Cannon Point**	**21.86**	**198**	P	**P**	**13 44 35.8**	**-1.7**
SNZO	**South Karori**	**22.15**	**199**	*e*P	**P**	**13 44 38.8**	**-1.4**
	comp=N,127nm,0.8s,mb5.5						
TCW	**Tory Channel**	**22.19**	**200**	P	**P**	**13 44 38.6**	**-2.0**
QRZ	**Quartz Range**	**22.45**	**203**	PN	**P**	**13 44 42.7**	**-0.2**
QRZ	**Quartz Range**	**22.45**	**203**	*e*P	**P**	**13 44 42.9**	**0.0**
NNZ	**Nelson**	**22.49**	**201**	PN	**P**	**13 44 41.3**	**-2.1**
NNZ				SN	**S**	**13 48 36.6**	**+2.5**
NNZ	**Nelson**	**22.49**	**201**	*e*P	**P**	**13 44 41.3**	**-2.0**
BSWZ	**Blackbirch Sta**	**22.77**	**200**	P	**P**	**13 44 46.0**	**+0.1**
THZ	**Tophouse**	**23.14**	**201**	PN	**P**	**13 44 48.9**	**-0.3**
THZ	**Tophouse**	**23.14**	**201**	*e*P	**P**	**13 44 49.1**	**-0.1**
DSZ	**Denniston Nort**	**23.52**	**203**	*e*P	**P**	**13 44 51.0**	**-1.7**
KHZ	**Kahutara**	**23.52**	**200**	PN	**P**	**13 44 52.0**	**-0.7**
KHZ	**Kahutara**	**23.52**	**200**	*e*P	**P**	**13 44 53.0**	**+0.3**
LTZ	**Lake Taylor**	**24.26**	**201**	PN	**P**	**13 44 58.7**	**-0.7**
LTZ	**Lake Taylor**	**24.26**	**201**	*e*P	**P**	**13 44 58.8**	**-0.6**
TBI	**Tubuai**	**24.84**	**101**	*e*P	**P**	**13 45 03.6**	**-1.1**
	comp=N,347nm,1.2s,mb5.9						
CRLZ	**Canterbury Las**	**24.85**	**200**	*e*PN	**P**	**13 45 04.4**	**-0.4**
CRLZ	**Canterbury Las**	**24.85**	**200**	*e*P	**P**	**13 45 04.9**	**+0.1**
WVZ	**Waitaha Valley**	**25.06**	**203**	PN	**P**	**13 45 05.9**	**-0.8**
WVZ	**Waitaha Valley**	**25.06**	**203**	*e*P	**P**	**13 45 06.1**	**-0.6**
PAE	**Paea**	**25.19**	**88**	*e*P	**P**	**13 45 06.2**	**-1.6**
	comp=N,343nm,1.1s,mb5.9						
PPT	**Papeete**	**25.21**	**88**	*e*P	**P**	**13 45 06.6**	**-1.4**
	comp=N,237nm,1.3s,mb5.7						
PPT				*e*pP	pP	13 45 47.0	-2.4
	comp=N,147nm,1.3s						
PPT	**Papeete**	**25.21**	**88**	P	**P**	**13 45 06.5**	**-1.6**
	comp=N,138nm,0.9s,mb5.6,baz=276,slow=2.8,SNR=15						
PPT	**Papeete**	**25.21**	**88**	P	**P**	**13 45 06.5**	**-1.5**
PPT				pmax	pmax		
	comp=Z,138nm,0.9s						
TVO	**Taravao**	**25.48**	**88**	*e*P	**P**	**13 45 10.0**	**-0.4**
	comp=Z,385nm,1.1s,mb6.0						
RPZ	**Rata Peaks**	**25.50**	**202**	P	**P**	**13 45 11.2**	**+0.6**
	comp=Z,121nm,0.5s,mb5.8,baz=48,slow=4.0,SNR=31						
RPZ	**Rata Peaks**	**25.50**	**202**	PN	**P**	**13 45 10.3**	**-0.3**
RPZ	**Rata Peaks**	**25.50**	**202**	*e*P	**P**	**13 45 12.2**	**+1.6**
HNR	**Honiara**	**25.61**	**292**	P	**P**	**13 45 11.7**	**+0.1**
	comp=Z,135nm,0.9s,mb5.6,baz=278,slow=0.8,SNR=10.0						
HNR	**Honiara**	**25.61**	**292**	P	**P**	**13 45 11.7**	**+0.1**
HNR				pmax	pmax		
	comp=Z,135nm,0.9s,mb5.6						
HNR	**Honiara**	**25.61**	**292**	*e*P	**P**	**13 45 11.6**	**0.0**
	comp=Z,428nm,1.4s,mb5.9						
FOZ	**Fox Glacier**	**25.87**	**204**	PN	**P**	**13 45 13.3**	**-0.6**
FOZ	**Fox Glacier**	**25.87**	**204**	*e*P	**P**	**13 45 13.1**	**-0.9**
LBZ	**Lake Benmore**	**26.39**	**203**	*e*PN	**P**	**13 45 18.2**	**-0.4**
LBZ	**Lake Benmore**	**26.39**	**203**	*e*P	**P**	**13 45 18.3**	**-0.3**
JCZ	**Jackson Bay**	**26.66**	**205**	PN	**P**	**13 45 20.9**	**-0.2**
JCZ	**Jackson Bay**	**26.66**	**205**	*e*P	**P**	**13 45 20.9**	**-0.1**
ODZ	**Otahua Downs**	**26.81**	**201**	*e*PN	**P**	**13 45 23.9**	**+1.6**
ODZ	**Otahua Downs**	**26.81**	**201**	*e*P	**P**	**13 45 22.4**	**+0.1**
PMOR	**Pomariorio Ree**	**27.38**	**83**	*e*P	**P**	**13 45 25.6**	**-1.8**
	comp=Z,213nm,1.3s,mb5.6						
EAZ	**Earnscleugh**	**27.44**	**203**	*e*PN	**P**	**13 45 28.3**	**+0.4**
EAZ	**Earnscleugh**	**27.44**	**203**	*e*P	**P**	**13 45 28.5**	**+0.6**
VAH	**Vaihoa**	**27.56**	**84**	*e*P	**P**	**13 45 26.9**	**-2.1**
	comp=Z,126nm,1.1s,mb5.5						
ARMA	**Armidale**	**30.68**	**245**	⇓*i*P	**P**	**13 45 58.1**	**+1.5**
CNB	**Canberra Magne**	**33.71**	**237**	⇓*i*P	**P**	**13 46 23.8**	**+0.9**
	comp=Z,167nm,0.7s,mb5.7						
CTA	**Charters Tower**	**35.28**	**264**	⇓*i*P	**P**	**13 46 37.2**	**+0.8**
	comp=Z,178nm,0.4s,mb6.0						
CTA				*e*PCP	PcP	13 49 03.4	+1.4
CTA				*e*SCP	ScP	13 52 33.0	+5.4
CTA	**Charters Tower**	**35.28**	**264**	PcP	PcP	13 49 01.9	-0.1
	comp=Z,40nm,1.1s,baz=73,slow=2.9,SNR=5.2						
CTA				ScP	ScP	13 52 29.5	+1.9
	comp=Z,26nm,1.1s,baz=111,slow=1.3,SNR=10						
CTA	**Charters Tower**	**35.28**	**264**	⇓*i*P	**P**	**13 46 37.2**	**+0.8**
CTA				*e*		13 49 03.4	
CTA				pmax	pmax		
	comp=Z,178nm,0.4s						
CTAO	**Charters Tower**	**35.28**	**264**	⇓*e*P	**P**	**13 46 37.2**	**+0.8**
CTAO				*e**PP	pP	13 47 21.4	+1.7
CTAO				*e*		13 49 03.1	
CTAO				pmax	pmax		
	comp=Z,340nm,0.8s,mb5.9						
CTAO	**Charters Tower**	**35.28**	**264**	⇓*e*P	**P**	**13 46 37.2**	**+0.8**
	comp=Z,340nm,0.8s,mb5.9						
CTAO				*e*pP	pP	13 47 21.4	+1.7
CTAO				*e*PcP	PcP	13 49 03.1	+1.1
CTAO				*e*ScP	ScP	13 52 32.6	+5.1
PMG	**Port Moresby**	**37.11**	**282**	P	**P**	**13 46 52.2**	**+0.4**
	comp=Z,381nm,1.0s,mb5.9,baz=98,slow=7.2						
PMG	**Port Moresby**	**37.11**	**282**	⇓*e*P	**P**	**13 46 52.5**	**+0.7**
PMG				*e*		13 49 08.4	
PMG				pmax	pmax		
	comp=Z,586nm,1.1s						
PMG	**Port Moresby**	**37.11**	**282**	⇓*e*P	**P**	**13 46 52.5**	**+0.7**
	comp=Z,586nm,1.1s,mb6.0						
PMG				*e*PcP	PcP	13 49 08.4	+0.9
TOO	**Toolangi**	**37.34**	**235**	*e*P	**P**	**13 46 54.1**	**+0.3**
	comp=Z,110nm,1.0s,mb5.3						
TOO	**Toolangi**	**37.34**	**235**	*e*P	**P**	**13 46 54.1**	**+0.3**
TOO				pmax	pmax		
	comp=Z,110nm,1.0s,mb5.3						
RKT	**Rikitea**	**38.16**	**102**	*e*P	**P**	**13 46 59.9**	**-0.8**
	comp=Z,310nm,1.2s,mb5.7						
WAKE	**Wake Island**	**43.02**	**336**	*e*P	**P**	**13 47 39.3**	**-1.1**
	comp=Z,442nm,1.2s,mb5.8						
POHA	**Pohakuloa**	**44.80**	**28**	P	**P**	**13 47 53.5**	**-1.1**
	comp=Z,327nm,0.6s,mb5.8						
AS31	**Alice Springs**	**46.26**	**256**	⇓*i*P	**P**	**13 48 05.9**	**-0.1**
AS31				*e*PcP	PcP	13 49 38.6	+0.8
AS31				*e*ScP	ScP	13 53 15.9	+5.1
ASAR	**Alice Springs**	**46.27**	**256**	P	**P**	**13 48 06.0**	**0.0**
	comp=Z,71nm,0.7s,mb5.1,baz=90,slow=8.4,SNR=323						
ASAR				pP	pP	13 48 51.5	+0.1
	comp=Z,21nm,0.9s,baz=89,slow=7.9,SNR=1.8						
ASAR				PcP	PcP	13 49 38.8	+1.0
	comp=Z,60nm,0.9s,baz=102,slow=4.1,SNR=22						
ASAR				ScP	ScP	13 53 12.1	+1.3
	comp=Z,4.8nm,0.8s,baz=118,slow=4.2,SNR=5.7						
ASAR				S	**S**	**13 54 34.3**	**-2.2**
	comp=Z,1.4nm,0.7s,baz=92,slow=15,SNR=5.0						
ASAR	**Alice Springs**	**46.27**	**256**	P	**P**	**13 48 06.0**	**0.0**
ASAR				*PP	pP	13 48 51.5	+0.1
ASAR						13 49 38.8	
ASAR				S	**S**	**13 54 34.3**	**-2.2**
ASAR				pmax	pmax		
	comp=Z,71nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,21nm,0.9s						
ASAR				pmax	pmax		
	comp=Z,60nm,0.9s						
ASAR				pmax	pmax		
	comp=N,5.0nm,0.9s						
ASAR				smax			
	comp=N,1.0nm,0.7s						
ASPA	**Alice Springs**	**46.27**	**256**	⇓*i*P	**P**	**13 48 05.9**	**-0.1**
ASPA				*e*PCP	PcP	13 49 38.6	+0.8
ASPA				*e*SCP	ScP	13 53 15.9	+5.1
WB2	**Warramunga Arr**	**46.37**	**262**	⇓*e*P	**P**	**13 48 05.6**	**-1.2**
WB2				*e*pP	pP	13 48 53.2	+1.0
WB2				*e*PcP	PcP	13 49 38.8	+0.6
WRAB	**Tennant Creek**	**46.37**	**262**	P	**P**	**13 48 07.0**	**+0.2**
	SNR=36						
WRAB	**Tennant Creek**	**46.37**	**262**	*e*P	**P**	**13 48 06.3**	**-0.5**
WRAB				*e**PP	pP	13 48 53.2	+1.0
WRAB				*e*		13 49 38.8	
WRAB				pmax	pmax		
	comp=Z,454nm,1.3s,mb5.6						
WRAB	**Tennant Creek**	**46.37**	**262**	*e*P	**P**	**13 48 06.3**	**-0.5**
	comp=Z,454nm,1.3s,mb5.6						
WRAB				*e*pP	pP	13 48 53.2	+1.0
WRAB				*e*PcP	PcP	13 49 38.8	+0.6
WRA	**Warramunga Arr**	**46.38**	**262**	P	**P**	**13 48 06.4**	**-0.5**
	comp=Z,37nm,0.4s,mb5.1,baz=96,slow=7.5,SNR=941						
WRA				pP	pP	13 48 52.4	+0.1
	comp=Z,15nm,1.0s,baz=96,slow=6.1,SNR=1.5						
WRA				PcP	PcP	13 49 38.9	+0.7
	comp=Z,30nm,0.9s,baz=93,slow=4.0,SNR=10						
WRA				ScP	ScP	13 53 13.4	+2.1
	comp=Z,6.1nm,1.1s,baz=97,slow=4.2,SNR=5.8						
WRA				S	**S**	**13 54 36.3**	**-1.8**
	comp=Z,1.5nm,0.8s,baz=93,slow=15,SNR=4.9						
WRA	**Warramunga Arr**	**46.38**	**262**	P	**P**	**13 48 06.4**	**-0.5**
WRA				*PP	pP	13 48 52.4	+0.1
WRA						13 49 38.9	
WRA				S	**S**	**13 54 36.3**	**-1.8**
WRA				pmax	pmax		
	comp=Z,37nm,0.4s						
WRA				pmax	pmax		
	comp=Z,15nm,1.0s						
WRA				pmax	pmax		
	comp=Z,31nm,0.9s						
WRA				pmax	pmax		
	comp=N,6.0nm,1.1s						
WRA				smax			
	comp=N,2.0nm,0.8s						
MIDW	**Midway**	**48.47**	**358**	*e*P	**P**	**13 48 21.7**	**-1.2**
	comp=N,400nm,1.7s,mb5.5						
KAKA	**Kakadu**	**49.77**	**271**	*e*P	**P**	**13 48 32.6**	**-0.2**
	comp=N,260nm,0.8s,mb5.6						
FORT	**Forrest**	**50.94**	**247**	⇓*i*P	**P**	**13 48 40.7**	**-0.8**
	comp=N,122nm,1.0s,mb5.3						
GUMO	**Guam**	**51.22**	**308**	P	**P**	**13 48 43.9**	**+0.3**
	comp=N,242nm,0.7s,mb5.7,baz=177,slow=9.7,SNR=17						
GUMO	**Guam**	**51.22**	**308**	P	**P**	**13 48 43.9**	**+0.3**
GUMO				pmax	pmax		
	comp=Z,242nm,0.7s,mb5.7						
FITZ	**Fitzroy Crossi**	**54.81**	**262**	*e*P	**P**	**13 49 09.9**	**+0.1**
	comp=Z,101nm,1.0s,mb5.3						
FITZ	**Fitzroy Crossi**	**54.81**	**262**	P	**P**	**13 49 10.1**	**+0.3**
	comp=Z,43nm,0.6s,mb5.1,baz=92,slow=7.2,SNR=89						
SBA	**Scott Base**	**57.97**	**184**	*e*P	**P**	**13 49 35.0**	**+2.9**
SBA				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.0						
SBA	**Scott Base**	**57.97**	**184**	*e*P	**P**	**13 49 35.0**	**+2.9**
	comp=Z,44nm,1.1s,mb5.0						
VNDA	**Vanda**	**58.05**	**186**	P	**P**	**13 49 31.1**	**-1.5**
	comp=Z,7.7nm,0.8s,mb4.4,baz=15,slow=6.4,SNR=16						
VNDA				pP	pP	13 50 20.6	+0.5
	comp=Z,12nm,0.9s,baz=16,slow=7.7,SNR=5.5						
VNDA	**Vanda**	**58.05**	**186**	P	**P**	**13 49 31.2**	**-1.5**
VNDA				*PP	pP	13 50 20.7	+0.5
VNDA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VNDA				pmax	pmax		
	comp=Z,12nm,0.9s						
MBWA	**Marble Bar**	**59.60**	**257**	P	**P**	**13 49 43.5**	**+0.2**
	SNR=13						
MBWA	**Marble Bar**	**59.60**	**257**	*e*P	**P**	**13 49 43.0**	**-0.4**
	comp=Z,154nm,1.1s,mb5.5						
KLBR	**Kellerberrin**	**59.68**	**245**	*e*P	**P**	**13 49 43.3**	**-0.5**
	comp=Z,80nm,1.0s,mb5.3						
MUN	**Mundaring**	**60.94**	**244**	*e*P	**P**	**13 49 52.3**	**-0.1**
CASY	**Casey**	**64.71**	**205**	⇓*i*P	**P**	**13 50 18.0**	**+0.8**
JHJ	**Hachijo jima 2**	**67.98**	**321**	P	**P**	**13 50 37.1**	**-0.8**
	comp=Z,159nm,0.3s,mb6.1,baz=176,slow=6.1,SNR=24						
TSM	**Tawau**	**69.30**	**283**	P	**P**	**13 50 47.8**	**+1.7**
QSPA	**South Pole Qui**	**69.55**	**180**	⇓*i*P	**P**	**13 50 48.8**	**+1.2**
	comp=Z,41nm,0.8s,mb5.1						
BALP	**Baler**	**71.04**	**296**	*e*P	**P**	**13 50 56.5**	**-0.2**
MJAR	**Matsushiro Arr**	**71.31**	**323**	P	**P**	**13 50 57.3**	**-0.9**
	comp=Z,40nm,0.8s,mb5.1,baz=158,slow=5.8,SNR=77						
MJAR				pP	pP	13 51 46.9	-0.8
	comp=Z,4.1nm,0.8s,baz=150,slow=2.4,SNR=0.9						
MJAR	**Matsushiro Arr**	**71.31**	**323**	P	**P**	**13 50 57.3**	**-1.0**
MJAR				*PP	pP	13 51 46.9	-0.8
MJAR				pmax	pmax		
	comp=Z,40nm,0.8s						
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MJAR	**Matsushiro Arr**	**71.31**	**323**	P	**P**	**13 50 57.3**	**-0.9**
MJAR				pP	pP	13 51 46.9	-0.8
MAJO	**Matsushiro**	**71.31**	**323**	*e*P	**P**	**13 50 57.6**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,56nm,0.8s,mb5.2						
MAJO	**Matsushiro**	**71.31**	**323**	*e*P	**P**	**13 50 57.6**	**-0.7**
	comp=Z,56nm,0.8s,mb5.2						
MAT	**Matsushiro**	**71.31**	**323**	P	**P**	**13 50 57.4**	**-0.9**
MAT				*e*S	S	13 59 57.0	-1.5
MAT	**Matsushiro**	**71.31**	**323**	*e*P	**P**	**13 50 57.0**	**-1.3**
MAT				*e*S		14 00 55.0	
MAT				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.0						
MAT	**Matsushiro**	**71.31**	**323**	*e*P	**P**	**13 50 57.0**	**-1.3**
	comp=Z,25nm,0.7s,mb5.0						
MAT				*e*S		14 00 55.0	
KKM	**Kota Kinabalu**	**71.51**	**284**	P	**P**	**13 51 00.6**	**+1.1**
KKM	**Kota Kinabalu**	**71.51**	**284**	*e*P	**P**	**13 51 00.2**	**+0.7**
JOW	**Kunigami**	**71.57**	**309**	P	**P**	**13 51 00.4**	**+0.6**
	comp=Z,111nm,0.9s,mb5.5,baz=140,slow=6.4,SNR=23						
MIR	**Mirnyy**	**71.73**	**205**	*d* *i*P	**P**	**13 51 02.0**	**+1.2**
MIR				pmax	pmax		
	comp=Z,500nm,1.5s,mb5.9						
APYP	**Conner**	**72.33**	**297**	*e*P	**P**	**13 51 04.3**	**-0.1**
ABRA	**Dolores**	**72.67**	**297**	*e*P	**P**	**13 51 06.4**	**0.0**
UNV	**Unalaska Valle**	**74.52**	**6**	*e*P	**P**	**13 51 15.2**	**-1.9**
	comp=Z,445nm,1.1s,mb6.0						
ASAJ	**Asahikawa**	**74.62**	**330**	P	**P**	**13 51 18.2**	**+0.5**
	comp=Z,44nm,1.0s,mb5.0,baz=215,slow=9.7,SNR=18						
ASAJ	**Asahikawa**	**74.62**	**330**	P	**P**	**13 51 18.2**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,44nm,1.0s						
AKUT	**Akutan**	**74.88**	**6**	*e*P	**P**	**13 51 16.9**	**-2.3**
SKR	**Severo-Kuril's**	**75.02**	**342**	*e*P	**P**	**13 51 15.0**	**-4.9**
SKR				pmax	pmax		
	comp=N,180nm,1.0s						
SKR				pmax	pmax		
	comp=E,130nm,1.0s						
SKR				pmax	pmax		
	comp=Z,270nm,1.0s,mb5.8						
NACB	**Ninganchiao**	**75.19**	**303**	*e*P	**P**	**13 51 20.2**	**-0.7**
KSM	**Kuching**	**75.20**	**277**	*e*P	**P**	**13 51 21.9**	**+0.9**
KSM				*e*pP	pP	13 52 17.1	+6.1
YHNB	**Yeheng**	**75.61**	**304**	*e*P	**P**	**13 51 22.6**	**-0.7**
TATO	**Taipei**	**75.68**	**304**	P	**P**	**13 51 23.7**	**0.0**
	SNR=7.7						
TATO	**Taipei**	**75.68**	**304**	*e*P	**P**	**13 51 23.4**	**-0.3**
	comp=Z,275nm,1.2s,mb5.8						
FALS	**False Pass**	**75.85**	**8**	*e*P	**P**	**13 51 22.5**	**-2.2**
FARB	**Farallon Islan**	**76.44**	**41**	⇑P	**P**	**13 51 28.2**	**+0.2**
	baz=77						
PET	**Petropavlovsk**	**76.45**	**345**	κ *i*P	**P**	**13 51 26.8**	**-1.3**
PET				*e*S	S	14 00 54.2	-1.7
PET				pmax	pmax		
	comp=N,40nm,0.9s						
PET				pmax	pmax		
	comp=Z,93nm,0.9s,mb5.4						
PET				pmax	pmax		
	comp=N,300nm,2.4s						
PET				pmax	pmax		
	comp=Z,400nm,2.4s,mb5.6						
PET				pmax	pmax		
	comp=Z,200nm,10.1s						
PET				MLR	MLR		
	comp=Z,100nm,18.0s						
V04C	**Ramage Ranch,**	**76.50**	**43**	⇑P	**P**	**13 51 28.4**	**+0.1**
	baz=77						
V03C	**Hunter Liggett**	**76.50**	**43**	⇓P	**P**	**13 51 29.0**	**+0.6**
	baz=77						
HAST	**UC Hastings Re**	**76.52**	**43**	⇑P	**P**	**13 51 29.0**	**+0.5**
	baz=77,SNR=8.7						
SBC	**Santa Barbara**	**76.53**	**45**	⇓P	**P**	**13 51 28.7**	**+0.2**
	baz=77						
BNLO	**Ben Lomond (Sa**	**76.59**	**42**	⇓P	**P**	**13 51 28.7**	**-0.1**
	baz=77						
JRSC	**Jasper Ridge**	**76.72**	**41**	⇓P	**P**	**13 51 29.8**	**+0.2**
	baz=77						
SDPT	**Sand Point**	**76.73**	**9**	*e*P	**P**	**13 51 27.9**	**-1.7**
YSS	**Yuzh-Sakhalins**	**76.73**	**332**	κ *i*P	**P**	**13 51 29.2**	**-0.4**
YSS				S	S	14 00 58.0	-1.0
YSS				pmax	pmax		
	comp=E,90nm,1.2s						
YSS				pmax	pmax		
	comp=Z,170nm,1.2s,mb5.5						
YSS				pmax	pmax		
	comp=N,80nm,1.5s						
YSS				pmax	pmax		
	comp=Z,400nm,3.0s						
YSS	**Yuzh-Sakhalins**	**76.73**	**332**	*e*P	**P**	**13 51 29.6**	**0.0**
	comp=Z,180nm,1.3s,mb5.5						
SAO	**San Andreas Ge**	**76.82**	**42**	*e*P	**P**	**13 51 30.7**	**+0.6**
SAO				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
SAO	**San Andreas Ge**	**76.82**	**42**	*e*P	**P**	**13 51 30.7**	**+0.5**
	comp=Z,18nm,0.8s,mb4.7						
LRV	**Little Rabbit**	**76.88**	**43**	*e*P	**P**	**13 51 31.2**	**+0.8**
PKD	**Parkfield**	**76.90**	**43**	⇑P	**P**	**13 51 30.7**	**+0.1**
	baz=77,SNR=5.6						
PTRM	**Twissleman Ran**	**76.93**	**44**	*e*P	**P**	**13 51 30.6**	**-0.1**
U04C	**Hernandez Rese**	**77.00**	**43**	⇓P	**P**	**13 51 32.0**	**+0.9**
	baz=77,SNR=13						
PACP	**Pacheco Peak**	**77.07**	**42**	⇓P	**P**	**13 51 32.0**	**+0.4**
	baz=77,SNR=14						
WENL	**Wente Brothers**	**77.16**	**41**	⇓P	**P**	**13 51 32.5**	**+0.5**
	baz=77						
CVS	**Carmenet Viney**	**77.18**	**40**	⇑P	**P**	**13 51 31.9**	**-0.2**
	baz=77						
HOPS	**Hopland**	**77.23**	**40**	⇓P	**P**	**13 51 32.7**	**+0.3**
	baz=77						
V05C	**Boulder Hill,**	**77.26**	**44**	⇑P	**P**	**13 51 33.5**	**+0.9**
	baz=78						

OSI **Osito Adit** 77.30 45 ⇓P P 13 51 33.1 +0.3
baz=78
S04C **Ingram Canyon,** 77.36 42 ⇓P P 13 51 33.4 +0.3
baz=78,SNR=11
109C **Camp Elliot, M** 77.40 48 ⇓P P 13 51 33.2 -0.2
baz=78
KIPM **Iron Peak** 77.51 39 *eP* P 13 51 34.4 +0.4
O01C **Eel River Cons** 77.52 38 ⇑P P 13 51 34.3 +0.3
baz=78,SNR=6.8
MNRC **McLaughlin Nat** 77.53 40 ⇓P P 13 51 34.4 +0.3
baz=78,SNR=13
SPIA **Saint Paul Isl** 77.55 3 *eP* P 13 51 33.2 -1.0
Q03C **Winters** 77.64 40 ⇓P P 13 51 35.6 +0.9
baz=78
JCC **Jacoby Creek** 77.84 38 ⇑P P 13 51 35.7 -0.1
baz=78
GASB **Alder Springs** 77.86 39 ⇓P P 13 51 36.8 +1.0
baz=78,SNR=9.7
S05C **Merced** 77.88 42 ⇓P P 13 51 35.6 -0.4
baz=78,SNR=5.5
QZH **Quanzhou** 77.94 302 ⇓*iP* P 13 51 36.8 +0.5
QZH XP sP 13 52 47.5 -1.4
QZH S S 14 01 05.3 -6.6
QZH AMB AMB
comp=Z,290nm,1.0s,mb5.9
KHMM **Horse Mountain** 78.05 38 *eP* P 13 51 37.5 +0.5
KHMM *epP* pP 13 52 29.3 +2.0
R04C **Big Horse Ranc** 78.06 41 ⇓P P 13 51 36.2 -0.8
baz=78
T06C **Millerton Lake** 78.07 43 ⇑P P 13 51 36.6 -0.4
baz=78
ISA **Isabella** 78.08 45 *eP* P 13 51 37.0 -0.1
ISA pmax pmax
comp=Z,56nm,1.1s,mb5.1
ISA **Isabella** 78.08 45 *eP* P 13 51 37.0 -0.1
comp=Z,56nm,1.1s,mb5.1
ISA **Isabella** 78.08 45 ⇓P P 13 51 37.4 +0.3
baz=78,SNR=26
KS15 **Wonju Array Si** 78.12 318 *eP* P 13 51 37.8 +0.5
SUTB **Sutter Butte** 78.15 40 ⇑P P 13 51 37.0 -0.5
baz=78
O02C **Red Bluff** 78.15 39 ⇑P P 13 51 38.1 +0.6
baz=78,SNR=22
Q04C **Lincoln** 78.15 41 ⇑P P 13 51 37.4 -0.1
baz=78
PFO **Pinyon Flat Ob** 78.26 47 P P 13 51 38.0 -0.1
comp=Z,131nm,0.9s,mb5.6,SNR=8.7
PFO **Pinyon Flat Ob** 78.26 47 *eP* P 13 51 38.0 -0.1
PFO pmax pmax
comp=Z,21nm,1.0s,mb4.7
PFO **Pinyon Flat Ob** 78.26 47 *eP* P 13 51 38.0 0.0
comp=Z,21nm,1.0s,mb4.7
PFO **Pinyon Flat Ob** 78.26 47 ⇓P P 13 51 38.2 +0.2
baz=78,SNR=13
N02C **Big Bar** 78.27 38 ⇑P P 13 51 38.1 0.0
baz=78,SNR=12
CMB **Columbia Colle** 78.27 42 *eP* P 13 51 37.9 -0.2
CMB pmax pmax
comp=Z,29nm,0.9s,mb4.9
CMB **Columbia Colle** 78.27 42 *eP* P 13 51 37.9 -0.2
comp=Z,29nm,0.9s,mb4.9
CMB **Columbia Colle** 78.27 42 ⇑P P 13 51 38.0 -0.1
baz=78,SNR=17
HELL **Mitchell Peak,** 78.32 44 ⇓P P 13 51 38.2 -0.2
baz=78,SNR=22
KRMB **Red Mountain** 78.38 37 *eP* P 13 51 39.3 +0.6
OHCM **Honcut** 78.40 40 *eP* P 13 51 38.6 -0.3
OHCM *epP* pP 13 52 28.2 -1.1
O03C **Acorn Hollow,** 78.48 39 ⇑P P 13 51 39.0 -0.3
baz=79
LAVA **Lava Cap Winer** 78.49 41 ⇓P P 13 51 39.0 -0.4
baz=79,SNR=13
KCC **Kaiser Creek** 78.51 43 ⇑P P 13 51 38.8 -0.7
baz=79
ORV **Oroville** 78.53 40 ⇓P P 13 51 39.1 -0.4
baz=79,SNR=11
WDC **Whiskeytown Da** 78.55 39 *eP* P 13 51 39.6 -0.1
WDC pmax pmax
comp=Z,42nm,1.2s,mb4.9
WDC **Whiskeytown Da** 78.55 39 *eP* P 13 51 39.6 -0.1
comp=Z,42nm,1.2s,mb4.9
WDC **Whiskeytown Da** 78.55 39 ⇑P P 13 51 39.5 -0.2
baz=79,SNR=16
CWC **Cottonwood Cre** 78.79 44 ⇑P P 13 51 41.0 +0.1
baz=79,SNR=16
R05C **Kirkwood Meado** 78.87 41 P P 13 51 41.6 +0.2
baz=79,SNR=18
M02C **Callahan** 78.89 38 ⇑P P 13 51 42.1 +0.6
baz=79,SNR=17
INCN **Inchon** 78.94 317 P P 13 51 43.1 +1.3
SNR=9.9
INCN **Inchon** 78.94 317 *eP* P 13 51 41.7 -0.2
comp=Z,136nm,1.2s,mb5.5
L02A **Cave Junction** 78.96 37 ⇓P P 13 51 42.2 +0.3
baz=79,SNR=6.2
GSC **Goldstone** 78.98 46 *eP* P 13 51 42.1 +0.1
GSC **Goldstone** 78.98 46 P P 13 51 42.3 +0.3
baz=79,SNR=27
MLAC **Mammoth Lakes** 79.00 43 ⇓P P 13 51 42.9 +0.7
baz=79
DAC **Darwin (Calif)** 79.01 45 *eP* P 13 51 42.5 +0.3
DAC pmax pmax
comp=Z,12nm,1.0s,mb4.5
DAC **Darwin (Calif)** 79.01 45 *eP* P 13 51 42.5 +0.3
comp=Z,12nm,1.0s,mb4.5
MTUM **Tungsten Hills** 79.01 43 *eP* P 13 51 42.8 +0.6
TIN **Tinemaha** 79.05 44 ⇓P P 13 51 42.9 +0.5
baz=79
GLA **Glamis** 79.08 49 *eP* P 13 51 43.0 +0.4
GLA *e*PP pP 13 52 34.1 +1.1
GLA **Glamis** 79.08 49 P P 13 51 43.3 +0.8
baz=79,SNR=21
SSE **Sheshan** 79.09 309 P P 13 51 41.0 -1.6
SSE AP pP 13 52 33.6 +0.5
SSE XP sP 13 52 57.2 +1.8
SSE S S 14 01 23.3 -0.9
SSE SCS ScS 14 01 43.2 -2.2
SSE AMB AMB
comp=Z,46nm,0.9s,mb5.1
SSE AMB AMB
comp=Z,227nm,7.6s
SSE LR LR
comp=N,107nm,26.2s
SSE LR LR
comp=E,80nm,26.2s
SSE LR LR
comp=Z,88nm,25.0s
O05C **Quincy** 79.13 40 P P 13 51 43.1 +0.2
baz=79,SNR=14
R07C **Lee Vining** 79.14 42 ⇓P P 13 51 43.4 +0.5
baz=79,SNR=14
R06C **Coleville** 79.15 42 ⇑P P 13 51 43.4 +0.4
baz=79,SNR=24
YBH **Yreka Blue Hor** 79.19 38 *eP* P 13 51 43.5 +0.3
YBH pmax pmax
comp=Z,31nm,0.9s
YBH **Yreka Blue Hor** 79.19 38 *eP* P 13 51 43.5 +0.3
comp=Z,31nm,0.9s,mb4.9
YBH **Yreka Blue Hor** 79.19 38 P P 13 51 43.6 +0.4
baz=79,SNR=32
O04C **Chester** 79.25 40 ⇑P P 13 51 43.7 +0.2
baz=80,SNR=8.7
HATC **Hat Creek Radi** 79.34 39 ⇓P P 13 51 44.1 +0.2
baz=80,SNR=16
VLA **Vladivostok** 79.34 324 ⇑*iP* P 13 51 44.4 +0.4
LBCM **Butte Creek Ri** 79.42 39 P P 13 51 44.6 +0.2
K02A **Glendale** 79.42 37 ⇑P P 13 51 44.5 +0.1
baz=80,SNR=6.6
WCN **Washoe City** 79.43 41 ⇓P P 13 51 44.8 +0.4
baz=80,SNR=34
P06A **Stead Airport,** 79.57 41 ⇑P P 13 51 45.5 +0.3
baz=80
HUMO **Hull Mountain** 79.62 37 *eP* P 13 51 45.7 +0.2
comp=Z,23nm,1.1s,mb4.7
HUMO *epP* pP 13 52 37.8 +1.8
HUMO **Hull Mountain** 79.62 37 ⇑P P 13 51 45.8 +0.3
baz=80,SNR=16
TUQ **Turquoise Mtn.** 79.64 46 ⇓P P 13 51 46.0 +0.4
baz=80,SNR=14
ELFS **Eagle Lake Fie** 79.65 40 ⇓P P 13 51 46.0 +0.3
baz=80
Y12C **Blythe** 79.67 48 ⇑P P 13 51 46.3 +0.5
baz=80,SNR=11
M04C **Macdoel** 79.73 38 ⇑P P 13 51 46.3 +0.2
baz=80,SNR=18
J02A **Umpqua** 79.77 36 ⇓P P 13 51 46.5 +0.2
baz=80,SNR=6.8

Q07A **Schurz** 79.80 42 ⇑P P 13 51 46.7 +0.2
baz=80
NVAR **Mina Array Bea** 79.81 42 PKPPKP 14 18 32.8
comp=Z,0.5nm,0.7s,baz=317,slow=0.6,SNR=4.2
M05C **Lookout** 79.86 39 P P 13 51 47.0 +0.3
baz=80,SNR=24
PAHR **Pah Rah Range** 79.91 41 *eP* P 13 51 47.2 +0.2
comp=Z,39nm,1.0s,mb5.0
PAHR *epP* pP 13 52 40.1 +2.5
MNV **Mina** 79.91 43 *eP* P 13 51 47.1 +0.1
MNV *e*PP pP 13 52 35.8 -1.8
MNV pmax pmax
comp=Z,37nm,1.0s,mb5.0
MNV **Mina** 79.91 43 *eP* P 13 51 47.1 +0.1
comp=Z,37nm,1.0s,mb5.0
MNV *epP* pP 13 52 35.8 -1.8
O06A **Flanigan** 79.91 40 P P 13 51 47.3 +0.2
baz=80,SNR=64
U10A **Ash Meadows, A** 79.93 45 ⇑P P 13 51 47.7 +0.5
baz=80,SNR=12
L04A **Klamath Falls** 79.95 38 ⇓P P 13 51 47.5 +0.3
baz=80,SNR=12
I02A **Mapleton** 80.05 35 ⇑P P 13 51 48.0 +0.2
baz=80
S09A **Goldfield** 80.09 44 P P 13 51 48.0 -0.1
baz=80,SNR=18
J03A **Ideyld Park** 80.11 36 P P 13 51 48.5 +0.4
baz=80,SNR=6.8
P07A **Fallon** 80.11 41 ⇑P P 13 51 48.2 +0.1
baz=80
M06C **Likely Place G** 80.16 39 P P 13 51 48.6 +0.3
baz=80,SNR=28
V11A **Goodsprings** 80.20 46 P P 13 51 49.2 +0.6
baz=80,SNR=17
TPNV **Topopah Spring** 80.28 45 *eP* P 13 51 49.5 +0.5
TPNV pmax pmax
comp=Z,31nm,0.8s,mb5.0
TPNV **Topopah Spring** 80.28 45 *eP* P 13 51 49.5 +0.4
comp=Z,31nm,0.8s,mb5.0
W12A **Cal Nev Ari** 80.28 47 ⇑P P 13 51 49.5 +0.5
baz=80,SNR=14
TPH **Tonopah** 80.30 43 *eP* P 13 51 49.4 +0.3
TPH *e*PP pP 13 52 39.9 +0.2
TPH pmax pmax
comp=Z,34nm,1.1s,mb4.9
TPH **Tonopah** 80.30 43 *eP* P 13 51 49.4 +0.3
comp=Z,34nm,1.1s,mb4.9
TPH *epP* pP 13 52 39.9 +0.2
Q08A **Gabbs** 80.30 42 P P 13 51 49.3 +0.2
baz=80,SNR=14
K04A **Chilquin** 80.32 37 ⇓P P 13 51 49.2 0.0
baz=80
I03A **Eugene** 80.33 36 ⇑P P 13 51 48.9 -0.3
baz=80
H02A **Toledo** 80.40 35 ⇓P P 13 51 49.8 +0.2
baz=81
KDAK **Kodiak Island** 80.43 13 P P 13 51 49.0 -0.8
comp=Z,530nm,1.1s,mb6.1,SNR=12
KDAK **Kodiak Island** 80.43 13 P P 13 51 48.5 -1.3
comp=Z,69nm,1.0s,mb5.2,baz=200,slow=2.9,SNR=40
KDAK **Kodiak Island** 80.43 13 *eP* P 13 51 48.6 -1.2
comp=Z,153nm,1.3s,mb5.5
L05A **Lakeview** 80.48 38 ⇑P P 13 51 50.4 +0.4
baz=81,SNR=22
R09A **Tonopah** 80.49 43 ⇓P P 13 51 50.1 0.0
baz=81,SNR=15
O07A **Toulon** 80.49 41 P P 13 51 50.4 +0.2
baz=81,SNR=80
MPOR **Mary's Peak** 80.53 35 P P 13 51 50.7 +0.3
V12A **Nelson** 80.53 46 ⇑P P 13 51 50.7 +0.4
baz=81,SNR=24
U11A **Corn Creek** 80.56 45 ⇓P P 13 51 50.8 +0.3
baz=81,SNR=7.9
Z14A **Wintersburg** 80.58 49 ⇑P P 13 51 51.3 +0.7
baz=81,SNR=12
P08A **Dixie Valley** 80.70 42 ⇑P P 13 51 51.8 +0.5
baz=81
115A **Sonoran Desert** 80.74 50 ⇓P P 13 51 51.7 +0.3
baz=81,SNR=7.0
Q09A **Carvers** 80.76 43 ⇓P P 13 51 51.7 +0.2
baz=81
H03A **Soap Creek Ran** 80.78 35 P P 13 51 51.9 +0.3
baz=81,SNR=6.7
Y14A **Wickenburg** 80.84 49 ⇓P P 13 51 52.5 +0.5
baz=81,SNR=29
O08A **Rooster Mine** 81.01 41 ⇑P P 13 51 53.1 +0.2
baz=81
R10A **Warm Springs** 81.01 44 ⇑P P 13 51 53.3 +0.5
baz=81,SNR=30
116A **Eloy** 81.05 50 ⇓P P 13 51 53.6 +0.5
baz=81,SNR=6.8
M07A **Soldier Meadow** 81.05 40 P P 13 51 53.5 +0.4
baz=81,SNR=28
U12A **Valley of Fire** 81.13 46 P P 13 51 54.1 +0.6
baz=81,SNR=24
WIFE **Three Sisters-** 81.19 36 P P 13 51 54.0 +0.2
X14A **Yava** 81.20 48 P P 13 51 54.8 +0.9
baz=81,SNR=38
P09A **Austin** 81.21 42 ⇑P P 13 51 53.8 -0.1
baz=81
K06A **Valley Falls** 81.28 38 ⇑P P 13 51 54.5 +0.2
baz=82,SNR=13
NJ2 **Nanjing** 81.29 309 *eP* P 13 51 54.6 +0.3
NJ2 AP pP 13 52 48.5 +3.4
NJ2 PP PP 13 55 04.6 +1.7
NJ2 S S 14 01 44.0 -3.0
NJ2 SKS 14 01 46.0
NJ2 AMB AMB
comp=Z,100nm,1.0s,mb5.4
NJ2 AMB AMB
comp=Z,330nm,6.2s
NJ2 LR LR
comp=N,1μm,17.9s
NJ2 LR LR
comp=E,1μm,17.8s
NJ2 LR LR
comp=Z,11μm,19.0s
N08A **GE Springer Mi** 81.31 41 ⇑P P 13 51 54.3 -0.1
baz=82,SNR=20
L07A **Adell** 81.34 39 ⇑P P 13 51 55.1 +0.5
baz=82,SNR=26
HABR **Khabarovsk** 81.36 330 ⇓*iP* P 13 51 55.3 +0.6
HABR *eS* S 14 01 48.0 +0.2
HABR pmax pmax
comp=Z,208nm,1.3s,mb5.6
H04A **Detroit Lake** 81.39 36 ⇑P P 13 51 54.4 -0.5
baz=82,SNR=22
BKCOR **Black Crater** 81.41 36 P P 13 51 55.1 +0.2
W14A **Seligman** 81.46 48 ⇑P P 13 51 56.4 +1.1
baz=82,SNR=50
O09A **Fish Creek Ran** 81.54 42 P P 13 51 55.7 +0.1
baz=82,SNR=19
I05A **Bend** 81.56 36 ⇓P P 13 51 55.8 0.0
baz=82,SNR=10
G04A **Mulino** 81.56 35 ⇑P P 13 51 55.4 -0.4
baz=82,SNR=8.5
M08A **Happy Creek Ra** 81.56 40 P P 13 51 56.3 +0.5
baz=82,SNR=16
MDJ **Mudanjiang** 81.58 324 P P 13 51 56.7 +0.8
MDJ AP pP 13 52 44.7 -1.9
MDJ XP sP 13 53 06.8 -2.0
MDJ PP PP 13 55 05.5 +0.2
MDJ S S 14 01 52.6 +2.5
MDJ XS sS 14 03 18.3 -0.4
MDJ SS SS 14 07 16.1 +4.2
MDJ AMB AMB
comp=Z,131nm,0.7s,mb5.7
MDJ AMB AMB
comp=Z,260nm,3.2s
MDJ **Mudanjiang** 81.58 324 *eP* P 13 51 56.5 +0.6
comp=Z,111nm,0.9s,mb5.5
J06A **Christmas Vall** 81.62 38 P P 13 51 55.9 -0.2
baz=82,SNR=32
X15A **Humboldt** 81.67 49 ⇑P P 13 51 57.3 +1.0
baz=82,SNR=37
BMN **Battle Mountai** 81.67 41 *eP* P 13 51 56.5 +0.2
BMN pmax pmax
comp=Z,41nm,1.3s,mb4.9
BMN **Battle Mountai** 81.67 41 *eP* P 13 51 56.5 +0.1
comp=Z,41nm,1.3s,mb4.9
P10A **Eureka** 81.67 42 ⇑P P 13 51 56.4 0.0
baz=82,SNR=8.3
N09A **Rock Creek Ran** 81.73 41 ⇓P P 13 51 56.9 +0.2
baz=82,SNR=11
Q11A **Duckwater** 81.75 43 P P 13 51 57.0 +0.2
baz=82,SNR=27
K07A **Rock Creek Ran** 81.80 39 P P 13 51 57.3 +0.3
baz=82,SNR=48
E03A **Lebam** 81.86 34 ⇑P P 13 51 57.3 -0.1
baz=82
H05A **Madras** 81.89 36 ⇑P P 13 51 57.4 -0.1
baz=82,SNR=14
KGM **Kluang** 81.91 275 P P 13 51 58.7 +1.1
WVOR **Wild Horse Val** 82.00 39 *eP* P 13 51 58.1 0.0
WVOR pmax pmax
comp=Z,37nm,1.0s,mb5.0
WVOR **Wild Horse Val** 82.00 39 *eP* P 13 51 58.1 0.0
comp=Z,37nm,1.0s,mb5.0
W15A **Williams** 82.01 48 ⇑P P 13 51 58.7 +0.5
baz=82
I06A **Prineville** 82.02 37 ⇓P P 13 51 58.5 +0.4
baz=82,SNR=58
F04A **Amboy** 82.06 35 ⇑P P 13 51 58.0 -0.4
baz=82,SNR=9.3
P11A **Circle Ranch,** 82.08 43 ⇓P P 13 51 58.6 +0.1
baz=82,SNR=6.2
M09A **Marrel Ranch,** 82.11 40 ⇓P P 13 51 59.1 +0.4
baz=82,SNR=14
D03A **Wishkah Elem.** 82.14 33 ⇓P P 13 51 59.0 +0.2
baz=82
MAW **Mawson** 82.15 199 ⇓*iP* P 13 51 59.4 +0.6
comp=Z,23nm,0.6s,mb5.0
MAW *epP* pP 13 52 51.2 +1.6
MAW **Mawson** 82.15 199 P P 13 51 59.0 +0.2
comp=Z,29nm,0.7s,mb5.0,baz=127,slow=6.4,SNR=96
MAW pP pP 13 52 48.6 -1.0
comp=Z,18nm,1.0s,baz=124,slow=6.2,SNR=3.8
MAW **Mawson** 82.15 199 P P 13 51 59.0 +0.2
MAW *PP pP 13 52 48.6 -1.1
MAW pmax pmax
comp=Z,29nm,0.7s
MAW pmax pmax
comp=Z,18nm,1.0s
J07A **Hines** 82.18 38 ⇓P P 13 51 59.0 0.0
baz=82,SNR=21
VFP **Flag Point** 82.18 35 P P 13 51 58.9 -0.2
G05A **Wamic** 82.22 36 ⇑P P 13 51 59.1 -0.1
baz=82,SNR=8.8
N10A **Dunphy** 82.28 41 ⇓P P 13 51 59.7 +0.2
baz=82
C03A **Quillayute Air** 82.29 32 ⇓P P 13 52 00.1 +0.6
baz=82
L09A **Wilkinson Ranc** 82.33 40 ⇑P P 13 51 59.8 0.0
baz=82,SNR=9.4
E04A **Onalaska** 82.33 34 ⇓P P 13 52 00.1 +0.3
baz=82
Q12A **Willow Creek R** 82.39 44 ⇓P P 13 52 00.3 +0.3
baz=83,SNR=9.3
O11A **Cowboy Ranch,** 82.47 42 ⇑P P 13 52 00.8 +0.3
baz=83,SNR=30
QIZ **Qiongzhong** 82.51 293 P P 13 52 01.9 +1.2
QIZ XP sP 13 53 12.9 -0.9
QIZ PP PP 13 55 18.6 +5.6
QIZ *eS* S 14 02 03.6 +4.1
QIZ XS sS 14 03 27.3 -1.1
QIZ SS SS 14 07 27.5 +1.8
QIZ AMB AMB
comp=Z,62nm,2.2s,mb5.0
CCUT **Cedar City** 82.53 45 *eP* P 13 52 01.5 +0.7
CCUT *epP* pP 13 52 52.4 +0.8
F05A **White Salmon** 82.55 35 ⇓P P 13 52 00.7 -0.2
baz=83,SNR=9.7
P12A **McGill** 82.58 43 ⇑P P 13 52 01.3 +0.2
baz=83,SNR=18
D04A **Dobbs Creek Ra** 82.63 34 ⇑P P 13 52 02.0 +0.7
baz=83
J08A **Circle Bar Ran** 82.66 38 ⇑P P 13 52 01.5 0.0
baz=83,SNR=20
M10A **I.L. Ranch, Tu** 82.72 41 ⇓P P 13 52 02.2 +0.4
baz=83,SNR=8.8
WUAZ **Wupatki** 82.81 48 *eP* P 13 52 02.6 +0.3
comp=Z,71nm,1.1s,mb5.3
N11A **Elko Archery C** 82.81 42 ⇓P P 13 52 02.0 -0.3
baz=83
E05A **Randle** 82.82 34 ⇑P P 13 52 01.9 -0.4
baz=83,SNR=34
B04A **Port Angeles** 82.89 32 ⇑P P 13 52 02.8 +0.1
baz=83
LON **Longmire** 82.92 34 P P 13 52 02.3 -0.5
DL2 **Dalian** 82.99 316 *i*P P 13 52 02.5 -0.7
DL2 XP sP 13 53 15.6 -0.7
DL2 *eS* S 14 02 06.5 +2.1
DL2 AMB AMB
comp=Z,50nm,1.1s,mb5.2
DL2 AMB AMB
comp=Z,120nm,5.5s
SVW2 **Sparrevohn** 83.00 10 *eP* P 13 52 01.4 -1.8
D05A **Enumclaw** 83.10 34 ⇑P P 13 52 04.0 +0.3
baz=83,SNR=10
M11A **Holland Ranch,** 83.13 41 ⇓P P 13 52 04.3 +0.4
baz=83,SNR=22
GSM **Grass Mountain** 83.22 34 P P 13 52 04.2 -0.1
N12A **Clover Valley,** 83.27 42 P P 13 52 04.8 +0.2
baz=84,SNR=47
RMW **Rattlesnake Mo** 83.37 34 P P 13 52 05.1 0.0
SNY **Shenyang** 83.39 319 ⇓P P 13 52 06.9 +1.7
SNY AMB AMB
comp=Z,9.0nm,0.5s,mb4.8
CN2 **Changchun** 83.42 322 ⇓P P 13 52 05.4 0.0
CN2 *eAP* pP 13 52 55.7 -0.7
CN2 *eXP* sP 13 53 17.7 -0.8
CN2 *eS* S 14 02 08.3 -0.4
CN2 AMB AMB
comp=Z,140nm,1.0s,mb5.7
CN2 AMB AMB
comp=Z,620nm,3.0s
SLKM **Skilak Lake** 83.42 13 *eP* P 13 52 03.8 -1.6
SLKM *e*PP pP 13 52 56.4 0.0
KLR **Kul'dur** 83.47 329 ⇑*iP* P 13 52 02.6 -3.0
KLR *e* pP 13 52 56.0 -0.6
KLR *e* 14 03 32.0
KLR pmax pmax
comp=E,42nm,1.8s
KLR pmax pmax
comp=Z,100nm,1.8s,mb5.2
BBB **Bella Bella** 83.58 27 P P 13 52 05.7 -0.5
comp=Z,14nm,0.8s,mb4.7,baz=220,slow=5.5,SNR=11
BBB pP pP 13 52 55.9 -1.3
comp=Z,18nm,1.0s,baz=236,slow=7.2,SNR=5.2
C05A **Tolt Reservoir** 83.58 34 ⇓P P 13 52 05.8 -0.4
baz=84,SNR=23
M12A **Wells** 83.67 42 P P 13 52 07.0 +0.4
baz=84,SNR=29
EBG **Ellensburg** 83.67 35 P P 13 52 06.7 0.0
A04A **Legoe Bay, Lum** 83.73 32 ⇓P P 13 52 07.0 +0.1
baz=84,SNR=5.9
B05A **Bryant** 83.74 33 ⇑P P 13 52 06.8 -0.2
baz=84
JCW **Jim Creek** 83.78 33 P P 13 52 07.0 -0.2
N13A **Wendover, West** 83.80 42 ⇓P P 13 52 07.6 +0.3
baz=84,SNR=30
TBM **Table Mountain** 83.82 34 P P 13 52 07.2 -0.2
CMW **Cultus Mountai** 83.83 33 P P 13 52 07.6 +0.1
MSU **Marysvale** 83.84 45 *eP* P 13 52 08.4 +0.9
MSU *e*PP pP 13 52 58.6 +0.1
HAWA **Hanford** 83.91 36 *eP* P 13 52 07.6 -0.2
comp=Z,4.2nm,0.9s,mb4.2
HAWA *epP* pP 13 52 58.9 0.0
WHN **Wuhan** 83.91 306 ⇓P P 13 52 08.7 +0.8
M13A **Montello** 84.10 42 P P 13 52 09.1 +0.3
baz=84,SNR=38
BMO **Blue Mountains** 84.22 38 *eP* P 13 52 08.8 -0.6
BMO *e*PP pP 13 53 00.7 +0.2
BMO pmax pmax
comp=Z,19nm,0.9s,mb4.8
BMO **Blue Mountains** 84.22 38 *eP* P 13 52 08.8 -0.6
comp=Z,19nm,0.9s,mb4.8
BMO *epP* pP 13 53 00.7 +0.2
BMO *esP* sP 13 53 25.2 +2.6
A05A **Maple Falls** 84.22 32 ⇑P P 13 52 08.6 -0.8
baz=84
ETW **Entiat** 84.24 34 P P 13 52 09.4 -0.1
MA2 **Magadan** 84.30 344 *d*/*P* P 13 52 08.1 -1.7
MA2 *e*PP pP 13 53 00.2 -0.7
MA2 *eS* S 14 02 13.5 -3.9
MA2 *e* 14 02 22.8
MA2 PPS 14 03 41.4
MA2 SSS 14 11 28.0
MA2 pmax pmax
comp=N,40nm,1.0s
MA2 pmax pmax
comp=E,20nm,1.0s
MA2 pmax pmax

comp=Z,100nm,1.0s,mb5.5
MA2 Magadan 84.30 344 *e*P **P** **13 52 08.2 -1.6**
comp=Z,113nm,1.0s,mb5.5
DUG Dugway 84.32 43 *e*P **P** **13 52 10.1 +0.2**
DUG pmax pmax
comp=Z,19nm,1.2s,mb4.7
DUG Dugway 84.32 43 *e*P **P** **13 52 10.1 +0.1**
comp=Z,19nm,1.2s,mb4.7
EYAK Cordova Ski Ar 84.44 15 *e*P **P** **13 52 08.7 -1.8**
EPH Ephrata 84.47 35 P **P** **13 52 10.3 -0.3**
WTV Waterville 84.50 34 P **P** **13 52 10.3 -0.5**
BGU Big Grassy Mou 84.58 43 *e*P **P** **13 52 10.9 -0.3**
TIA Tai'an 84.62 312 ⇓P **P** **13 52 11.3 -0.1**
PMR Palmer 84.64 13 *e*P **P** **13 52 09.9 -1.6**
PMR *e**PP pP 13 53 02.5 -0.1
PMR pmax pmax
comp=Z,85nm,1.2s,mb5.3
PMR Palmer 84.64 13 *e*P **P** **13 52 09.8 -1.6**
comp=Z,85nm,1.2s,mb5.3
PMR *e*pP pP 13 53 02.5 -0.1
TTA Tatalina 84.67 9 *e*P **P** **13 52 10.9 -0.8**
TTA pmax pmax
comp=Z,158nm,1.1s,mb5.7
TTA Tatalina 84.67 9 *e*P **P** **13 52 10.9 -0.8**
comp=Z,158nm,1.1s,mb5.7
NLU North Lily Min 84.67 44 *e*P **P** **13 52 12.0 +0.3**
TMUT Trail Mountain 84.89 45 *e*P **P** **13 52 13.4 +0.6**
TMUT *e*pP pP 13 53 03.7 -0.2
IPM Ipoh 84.92 277 P **P** **13 52 14.0 +1.1**
DIV Divide 84.95 14 *e*P **P** **13 52 11.9 -1.2**
comp=Z,316nm,1.0s,mb6.0
OD2 Odessa Site #2 84.97 35 P **P** **13 52 12.8 -0.3**
MPU Maple Canyon 84.99 44 *e*P **P** **13 52 13.8 +0.5**
comp=Z,16nm,1.0s,mb4.7
MPU *e*pP pP 13 53 04.8 +0.3
SML Sawmill 85.00 13 *e*P **P** **13 52 11.4 -1.9**
SPUT South Promonto 85.16 43 *e*P **P** **13 52 14.0 -0.1**
SPUT *e*pP pP 13 53 06.5 +1.2
HLID Hailey 85.18 40 *e*P **P** **13 52 14.3 +0.1**
comp=Z,25nm,1.0s,mb4.9
HLID *e*pP pP 13 53 03.0 -2.4
HVU Hansel Valley 85.20 42 *e*P **P** **13 52 14.4 +0.1**
HVU pmax pmax
comp=Z,27nm,1.2s,mb4.8
HVU Hansel Valley 85.20 42 *e*P **P** **13 52 14.4 +0.1**
comp=Z,27nm,1.2s,mb4.8
SRU San Rafael 85.25 45 *e*P **P** **13 52 14.6 +0.1**
SRU *e**PP pP 13 53 03.6 -2.1
SRU pmax pmax
comp=Z,44nm,0.8s,mb5.2
SRU San Rafael 85.25 45 *e*P **P** **13 52 14.6 0.0**
comp=Z,44nm,0.8s,mb5.2
SRU *e*pP pP 13 53 03.6 -2.2
LAZ Ladron 85.27 51 *e*P **P** **13 52 15.6 +0.9**
LAZ *e*pP pP 13 53 04.7 -1.1
Y22C IRIS PASSCAL I 85.27 51 ⇓P **P** **13 52 15.5 +0.8**
baz=85
CTU Camp Tracy 85.27 43 *e*P **P** **13 52 14.5 -0.1**
comp=Z,26nm,1.1s,mb4.9
LENM Lemitar 85.28 51 *e*P **P** **13 52 15.5 +0.8**
LENM *e*pP pP 13 53 06.2 +0.4
DAU Daniels Canyon 85.45 44 *e*P **P** **13 52 16.0 +0.5**
DAU *e**PP pP 13 53 06.2 -0.5
BNM Barren Site 85.52 51 *e*P **P** **13 52 16.5 +0.6**
BNM *e*pP pP 13 53 07.4 +0.2
KULM Kulim 85.56 277 *e*P **P** **13 52 17.0 +0.9**
LTX Lajitas 85.56 57 *e*P **P** **13 52 16.4 +0.3**
LTX *e**PP pP 13 53 06.5 -0.8
LTX pmax pmax
comp=Z,42nm,1.2s,mb5.0
LTX Lajitas 85.56 57 *e*P **P** **13 52 16.4 +0.3**
comp=Z,42nm,1.2s,mb5.0
LTX *e*pP pP 13 53 06.5 -0.8
LPM Los Pinos Moun 85.59 51 *e*P **P** **13 52 16.7 +0.4**
LPM *e*pP pP 13 53 07.7 +0.2
MVCO Mesa Verde 85.67 48 *e*P **P** **13 52 16.6 0.0**
TCUT Toone Canyon 85.72 43 *e*P **P** **13 52 17.1 +0.3**
TCUT *e*pP pP 13 53 06.6 -1.5
HWUT Hardware Ranch 85.88 43 *e*P **P** **13 52 17.0 -0.6**
comp=Z,7.2nm,0.9s,mb4.4
HWUT *e*pP pP 13 53 08.5 -0.4
ANMO Albuquerque 86.02 51 *d i*P **P** **13 52 18.7 +0.4**
ANMO *i* *PP pP 13 53 10.7 +1.1
ANMO Albuquerque 86.02 51 *e*P **P** **13 52 18.7 +0.4**
comp=Z,22nm,1.0s,mb4.8
ANMO *e*pP pP 13 53 09.1 -0.6
SNG Songkhla 86.26 279 P **P** **13 52 21.5 +2.0**
comp=Z,330nm,1.0s,mb6.0
PSI Prapat 86.29 274 P **P** **13 52 18.9 -0.7**
comp=Z,62nm,0.9s,mb5.3,baz=148,slow=4.0,SNR=40
PSI pP pP 13 53 11.4 +0.5
comp=Z,9.7nm,0.9s,baz=172,slow=10.0,SNR=2.0
PSI Prapat 86.29 274 P **P** **13 52 18.9 -0.8**
PSI *PP pP 13 53 11.4 +0.4
PSI pmax pmax
comp=Z,62nm,1.0s,mb5.3
PSI pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
PSI Prapat 86.29 274 P **P** **13 52 18.9 -0.7**
PSI pP pP 13 53 11.4 +0.5
NEW Newport 86.35 35 *e*P **P** **13 52 19.1 -0.8**
NEW *e**PP pP 13 53 10.7 -0.6
NEW pmax pmax
comp=Z,9.0nm,0.8s
NEW Newport 86.35 35 *e*P **P** **13 52 19.1 -0.9**
comp=Z,8.9nm,0.8s,mb4.5
NEW *e*pP pP 13 53 10.7 -0.6
SKAG Skagway 86.39 20 *e*P **P** **13 52 20.0 -0.2**
AHID Auburn Hatcher 86.78 42 *e*P **P** **13 52 21.9 -0.1**
comp=Z,107nm,0.8s,mb5.6
AHID *e*pP pP 13 53 11.8 -1.6
MCMT McKenzie Canyo 86.81 40 *e*P **P** **13 52 22.3 +0.1**
MCMT *e*pP pP 13 53 11.4 -2.2
SYO Syowa Base 87.09 192 ⇓*e*P **P** **13 52 22.6 -0.9**
SYO Syowa Base 87.09 192 ⇓*e*PcP PcP 13 52 24.8 -0.6
SYO Syowa Base 87.09 192 ⇓*e*pP pP 13 53 12.7 -2.2
BJT Baijiatuau 87.17 315 *e*P **P** **13 52 24.1 +0.2**
BJT pmax pmax
comp=Z,187nm,1.6s
BJT Baijiatuau 87.17 315 *e*P **P** **13 52 24.1 +0.2**
comp=Z,187nm,1.6s,mb5.6
BJI Beijing 87.18 315 *e*P **P** **13 52 24.2 +0.2**
BJI SKS 14 02 28.4
BJI S S 14 02 37.2 -8.2
BJI AMB AMB
comp=Z,59nm,1.6s,mb5.1
BJI AMB AMB
comp=Z,481nm,2.6s,mb5.8
REDW Red Top Meadow 87.25 42 *e*P **P** **13 52 24.0 -0.3**
comp=Z,8.0nm,0.9s,mb4.5
TPAW Teton Pass 87.25 41 *e*P **P** **13 52 24.3 0.0**
comp=Z,6.8nm,0.8s,mb4.4
TPAW *e*pP pP 13 53 13.7 -2.0
DLMT Dillon 87.26 39 *e*P **P** **13 52 24.0 -0.3**
comp=Z,12nm,1.0s,mb4.6
MSO Missoula 87.28 37 *e*P **P** **13 52 23.3 -1.1**
comp=Z,5.9nm,1.0s,mb4.3
SNOW Snow King Moun 87.36 41 *e*P **P** **13 52 25.2 +0.3**
comp=Z,26nm,1.1s,mb4.9
DLBC Dease Lake 87.38 22 P **P** **13 52 24.6 -0.3**
comp=Z,8.5nm,0.9s,mb4.5,baz=228,slow=7.0,SNR=24
DLBC pP pP 13 53 14.8 -1.6
comp=Z,9.2nm,0.9s,baz=189,slow=9.0,SNR=6.9
DLBC Dease Lake 87.38 22 P **P** **13 52 24.6 -0.3**
DLBC pP pP 13 53 14.8 -1.6
IMW Indian Meadow 87.47 41 *e*P **P** **13 52 26.6 +1.2**
comp=Z,7.2nm,0.8s,mb4.5
MOOW Moose Ponds 87.52 41 *e*P **P** **13 52 25.3 -0.3**
comp=Z,3.2nm,0.8s,mb4.2
LOHW Long Hollow 87.53 41 *e*P **P** **13 52 25.3 -0.3**
comp=Z,5.9nm,0.8s,mb4.5
QLMT Earthquake Lak 87.67 40 *e*P **P** **13 52 26.8 +0.5**
QLMT *e*pP pP 13 53 15.8 -2.0
SMCO Snowmass 87.67 47 *e*P **P** **13 52 26.4 0.0**
comp=Z,20nm,0.9s,mb4.9
SMCO *e*pP pP 13 53 17.6 -0.2
CHMT Chamberlain Mo 87.72 38 *e*P **P** **13 52 25.9 -0.6**
PDAR Pinedale Array 87.75 43 P **P** **13 52 26.0 -0.7**
comp=Z,5.3nm,0.8s,mb4.4,baz=230,slow=2.5,SNR=48
PDAR pP pP 13 53 16.2 -2.0
comp=Z,1.8nm,0.8s,baz=225,slow=3.9,SNR=2.0
PDAR PP PP 13 55 48.0 -7.3
comp=Z,0.9nm,0.8s,baz=306,slow=3.2,SNR=3.9
PDAR PKKPbc PKKPbc 14 10 12.5 0.0
comp=Z,1.3nm,0.9s,baz=64,slow=3.4,SNR=8.0
PDAR PKPPKP 14 18 18.5
comp=Z,0.2nm,0.7s,baz=237,slow=3.1,SNR=2.6
COLA College 87.85 12 *e*P **P** **13 52 25.2 -1.9**
COLA pmax pmax
comp=Z,87nm,1.0s,mb5.5
COLA College 87.85 12 *e*P **P** **13 52 25.1 -2.0**
comp=Z,87nm,1.0s,mb5.5
PLCA Paso Flores 87.94 133 P **P** **13 52 28.6 +1.0**
comp=Z,3.9nm,1.1s,mb4.2,baz=170,slow=5.9,SNR=3.9
PLCA pP pP 13 53 19.1 0.0
comp=Z,14nm,1.2s,baz=229,slow=5.7,SNR=5.5
PLCA PKKPbc PKKPbc 14 10 12.9 +0.9
comp=Z,2.7nm,0.8s,baz=11,slow=1.3,SNR=7.2
PLCA Paso Flores 87.94 133 P **P** **13 52 28.6 +1.0**
PLCA *PP pP 13 53 19.1 0.0
PLCA pmax pmax
comp=Z,4.0nm,1.1s
PLCA pmax pmax
comp=Z,14nm,1.3s
PLCA pmax pmax
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 87.98 39 *e*P **P** **13 52 27.4 -0.4**
BOZ pmax pmax
comp=Z,21nm,1.1s,mb4.9
BOZ Bozeman (W) 87.98 39 *e*P **P** **13 52 27.4 -0.3**
comp=Z,21nm,1.1s,mb4.9
GYA Guiyang 88.23 299 ⇓*i*P **P** **13 52 29.3 +0.4**
GYA AP pP 13 53 19.8 -0.7
GYA XP sP 13 53 41.3 -1.2
GYA PP PP 13 56 01.8 +2.6
GYA SKS 14 02 36.4
GYA S S 14 02 54.0 -1.4
GYA AMB AMB
comp=Z,50nm,0.9s,mb5.3
GYA AMB AMB
comp=Z,180nm,4.2s
GYA LR LR
comp=N,410nm,19.7s
GYA LR LR
comp=E,460nm,20.4s
GYA LR LR
comp=Z,480nm,20.8s
HRY Holter Researc 88.43 38 *e*P **P** **13 52 29.5 -0.4**
VNA1 Neumayer--Stat 88.67 176 *e*P **P** **13 52 31.7 +0.7**
VNA1 *e* 13 52 32.4
VNA1 *e* 13 52 35.2
VNA1 *e* 13 52 41.7
VNA1 *e* 13 52 43.3
VNA1 *e* 13 53 16.8
VNA1 *e* pP 13 53 23.0 +0.4
VNA1 *e* pP 13 53 24.5 +1.9
VNA1 *e* pP 13 53 26.5 +3.9
VNA1 *e* 13 53 29.8
VNA1 *e* 13 53 41.0
VNA1 *e* 13 53 47.0
RWWY Rawlins 88.73 44 *e*P **P** **13 52 30.8 -0.5**
comp=Z,24nm,1.0s,mb5.0
NVL N'lazarevskaya 88.79 183 *e*P **P** **13 52 31.0 -0.5**
NVL pmax pmax
comp=Z,16nm,1.3s,mb4.7
ISCO Idaho Springs 88.90 47 *e*P **P** **13 52 32.0 0.0**
ISCO pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
ISCO Idaho Springs 88.90 47 *e*P **P** **13 52 32.0 -0.1**
comp=Z,3.6nm,0.8s,mb4.2
NNT Nongplab 89.02 284 P **P** **13 52 34.5 +1.9**
JCT Junction City 89.08 57 *e*P **P** **13 52 33.3 +0.4**
JCT pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
JCT Junction City 89.08 57 *e*P **P** **13 52 33.3 +0.4**
comp=Z,3.8nm,0.4s,mb4.6
GCMT Greycliff 89.23 40 *e*P **P** **13 52 33.7 +0.1**
BILL Bilibino 89.25 353 *d i*P **P** **13 52 32.2 -1.5**
BILL *i* *PP pP 13 53 26.1 +0.8
BILL pmax pmax
comp=Z,87nm,2.5s,mb5.1
BILL Bilibino 89.25 353 *e*P **P** **13 52 32.5 -1.2**
comp=Z,22nm,0.8s,mb5.0
XAN Xi'an 89.58 307 P **P** **13 52 36.0 +0.7**
XAN AMB AMB
comp=Z,169nm,1.1s,mb5.8
HIA Hailar 89.77 324 *e*P **P** **13 52 35.9 -0.2**
HIA pmax pmax
comp=Z,24nm,1.0s
HIA Hailar 89.77 324 *e*P **P** **13 52 35.9 -0.2**
comp=Z,24nm,1.0s,mb5.0
NANT Nan 90.39 290 ⇓P **P** **13 52 40.0 +1.0**
comp=Z,575nm,0.9s
HHC Hu-ho-hao-te 90.66 314 *e*P **P** **13 52 41.0 +0.7**
HHC AP pP 13 53 32.1 +0.1
HHC XP sP 13 53 53.5 -0.4
HHC PP PP 13 56 22.1 +3.6
HHC S S 14 03 17.0 -0.9
HHC XS sS 14 04 44.4 -4.1
HHC SS SS 14 09 26.3 +1.7
HHC AMB AMB
comp=Z,54nm,1.1s,mb5.4
HHC AMB AMB
comp=Z,283nm,4.3s
KMI Kunming 90.97 296 ⇓P **P** **13 52 43.3 +1.6**
KMI AP pP 13 53 32.5 -0.9
KMI XP sP 13 53 54.4 -1.0
KMI PP PP 13 56 25.6 +4.7
KMI SKS 14 02 55.3
KMI S S 14 03 19.2 -1.4
KMI XS sS 14 04 49.3 -2.0
KMI SS SS 14 09 32.4 +3.4
KMI AMB AMB
comp=Z,89nm,1.2s,mb5.6
KMI AMB AMB
comp=Z,194nm,3.1s
KMI LR LR
comp=N,164nm,17.2s
KMI LR LR
comp=E,167nm,19.1s
KMI LR LR
comp=Z,167nm,20.7s
CLNS Chul'man 91.49 332 *e*P **P** **13 52 42.9 -1.2**
CLNS pmax pmax
comp=N,20nm,0.8s
CLNS pmax pmax
comp=Z,30nm,0.8s,mb5.3
CLNS pmax pmax
comp=E,21nm,0.9s
CHRT Chiangrai 91.58 291 ⇓P **P** **13 52 46.0 +1.5**
comp=E,421nm,1.0s
BTO Baotou 91.61 313 *e*P **P** **13 52 44.4 -0.2**
RSSD Black Hills 91.93 43 *e*P **P** **13 52 45.5 -0.6**
RSSD *e**PP pP 13 53 35.0 -2.9
RSSD pmax pmax
comp=Z,50nm,1.0s,mb5.4
RSSD Black Hills 91.93 43 *e*P **P** **13 52 45.5 -0.6**
comp=Z,50nm,1.0s,mb5.4
RSSD *e*pP pP 13 53 35.0 -2.9
CD2 Chengdu 92.32 302 P **P** **13 52 48.4 +0.5**
CD2 AP pP 13 53 39.2 -0.5
CD2 XP sP 13 54 00.6 -1.0
CD2 PP PP 13 56 34.6 +3.1
CD2 SKS 14 03 00.3
CD2 S S 14 03 31.0 -1.7
CD2 XS sS 14 05 00.3 -3.4
CD2 SS SS 14 09 50.9 +2.5
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
CD2 AMB AMB
comp=Z,40nm,9.8s
CD2 LR LR
comp=E,90nm,16.8s
CD2 LR LR
comp=Z,100nm,16.8s
YAK Yakutsk 92.81 337 *e*P **P** **13 52 49.4 -0.8**
YAK *e* 13 56 29.2
YAK *e*S S 14 03 02.2 -35
YAK *e**SS S 14 03 43.4 +6.3
YAK pmax pmax
comp=Z,23nm,0.9s,mb5.2
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,15nm,1.1s
YAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK smax
comp=N,9.0nm,1.6s
YAK smax
comp=Z,2.0nm,0.6s
YAK smax
comp=E,4.0nm,1.0s
YAK Yakutsk 92.81 337 *e*P **P** **13 52 48.4 -1.8**
comp=E,109nm,0.8s,mb5.9
INK Inuvik 93.83 15 P **P** **13 52 53.3 -1.6**
comp=E,29nm,1.1s,mb5.2,baz=204,slow=7.0,SNR=28
INK Inuvik 93.83 15 P **P** **13 52 53.3 -1.6**
INK pmax pmax
comp=Z,29nm,1.1s
LZH Lanzhou 94.22 307 P **P** **13 52 57.0 +0.3**
LZH AP pP 13 53 51.5 +3.1
LZH PP PP 13 56 43.5 -2.8
LZH AMB AMB
comp=Z,78nm,1.2s,mb5.6
LZH AMB AMB
comp=Z,398nm,5.1s
YKA Yellowknife Ar 95.79 24 P **P** **13 53 02.4 -1.4**
comp=Z,5.6nm,0.8s,mb4.9,baz=239,slow=4.5,SNR=25
YKA Yellowknife Ar 95.79 24 P **P** **13 53 02.4 -1.4**
YKA pmax pmax
comp=Z,6.0nm,0.8s
YKA Yellowknife Ar 95.79 24 P **P** **13 53 02.4 -1.4**
ULN Ulaanbaatar 96.56 319 P **P** **13 53 07.3 -0.1**
SNR=8.5
ULN Ulaanbaatar 96.56 319 *e*P **P** **13 53 06.6 -0.7**
ULN Ulaanbaatar 96.56 319 *e*P **P** **13 53 05.5 -1.8**
comp=Z,40nm,1.6s,mb5.4
SONM Songino Array 96.96 318 P **P** **13 53 07.8 -1.3**
comp=Z,2.8nm,0.9s,mb4.5,baz=119,slow=3.5,SNR=17
SONM Songino Array 96.96 318 P **P** **13 53 07.8 -1.3**
SONM pmax pmax
comp=Z,3.0nm,0.9s
BOD Bodaibo 97.02 330 *e*P **P** **13 53 03.7 -5.7**
BOD pmax pmax
comp=Z,11nm,1.6s,mb4.8
GTA Gaotai 98.39 309 *e*P **P** **13 53 15.8 +0.3**
GTA AP pP 13 54 06.2 -1.2
GTA XP sP 13 54 28.1 -1.2
GTA PP PP 13 57 19.8 +1.5
GTA SKS 14 03 31.7
GTA S S 14 04 21.9 -3.2
GTA XS sS 14 05 52.0 -4.7
GTA SS SS 14 11 15.2 +1.1
GTA AMB AMB
comp=Z,11nm,1.2s,mb5.1
GTA AMB AMB
comp=Z,112nm,6.1s
GTA LR LR
comp=N,102nm,15.2s
GTA LR LR
comp=E,111nm,15.2s
GTA LR LR
comp=Z,136nm,16.3s
TIXI Tiksi 99.24 345 ⇑*e*P Pdif 13 53 17.2 -2.1
TLY Talaya 100.03 321 ⇑*e*P Pdif 13 53 21.1 -1.7
LPAZ La Paz 100.38 112 PKKPbc PKKPbc 14 09 40.2 +0.8
comp=Z,1.9nm,0.7s,baz=64,slow=4.4,SNR=10
JIRN Jiri 105.83 294 *e*P PKiKP 13 58 00.1 0.0
GUN Gumba 106.16 294 *e*P PKiKP 13 58 00.1 -0.6
PKI Pulchoki 106.48 294 *e*P PKiKP 13 58 00.7 -0.6
KKN Kakani 106.64 294 *e*P PKiKP 13 58 00.3 -1.3
DMN Daman 106.75 294 *e*P PKiKP 13 58 01.4 -0.4
GKN Gorkha 107.25 294 *e*P PKiKP 13 58 02.7 0.0
KOLN Koldanda 108.08 294 *e*P PKiKP 13 58 04.5 +0.2
MKAR Makanchi Array 112.52 313 Pdiff Pdif 13 54 17.5 -0.8
comp=Z,1.0nm,0.7s,baz=91,slow=6.1,SNR=6.1
MKAR PKiKP PKiKP 13 58 11.5 -1.2
comp=Z,3.0nm,0.4s,baz=189,slow=0.9,SNR=28
MKAR PP PP 13 58 57.9 -4.4
comp=Z,2.8nm,0.9s,baz=109,slow=9.4,SNR=5.5
MKAR PKKPbc PKKPbc 14 09 02.2 +0.1
comp=Z,0.7nm,0.7s,baz=309,slow=0.8,SNR=4.4
MKAR Makanchi Array 112.52 313 P Pdif 13 54 17.5 -0.9
MKAR *i* 13 58 11.5
MKAR 13 58 57.9
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 112.52 313 Pdif Pdif 13 54 17.5 -0.8
MKAR PKPdf PKiKP 13 58 11.5 -1.2
MKAR PP PP 13 58 57.9 -4.4
MKAR PKKPbc PKKPbc 14 09 02.2 +0.1
NVS Novosibirsk 112.63 322 *e*PKIKP PKiKP 13 58 10.3 -2.6
NVS *e**PP 13 58 59.8
NVS *e*S SKSac 14 04 35.0 -1.7
NVS *e* 14 05 06.7
NVS pmax pmax
comp=Z,11nm,1.2s
NVS pmax pmax
comp=N,2.0nm,1.0s
NVS pmax pmax
comp=E,5.0nm,1.0s
NVS pmax pmax
comp=Z,8.0nm,1.7s
NVS pmax pmax
comp=N,6.0nm,1.4s
NVS pmax pmax
comp=E,10.0nm,1.9s
NVS smax
comp=N,4.0nm,1.0s
NVS smax
comp=E,19nm,1.4s
KURK Kurchatov 115.23 317 P PKPdf 13 58 17.0 -0.9
SNR=6.3
KURK Kurchatov 115.23 317 *e*PKPdf PKPdf 13 58 16.5 -1.4
KSH Kashi 116.38 305 *e*PKP PKPdf 13 58 21.6 +1.5
KSH *e*XPKP 13 59 36.4
KSH *e*PKS 14 01 57.0
KSH *e*SKS SKSdf 14 05 12.6 +0.6
KSH PP PP
comp=Z,251nm,3.6s
TKM2 Tokmak 2 116.93 309 P PKPdf 13 58 21.0 -0.1
SNR=17
KZA Kyzart 117.14 308 P PKPdf 13 58 22.4 +0.9
SNR=11
KBK Karagaybulak 117.39 308 P PKPdf 13 58 22.1 +0.1
SNR=9.2
CHMS Chumysh 117.56 309 P PKPdf 13 58 22.1 -0.2
SNR=8.3
UCH Uchtor 117.69 308 P PKPdf 13 58 23.2 +0.6
SNR=27
AAK Ala-Archa 117.73 308 P PKPdf 13 58 22.8 +0.1
SNR=5.3
AAK Ala-Archa 117.73 308 P PKPdf 13 58 21.9 -0.8
SNR=6.3
AAK Ala-Archa 117.73 308 ⇑*i* PKIKP PKPdf 13 58 21.7 -1.0
AAK Ala-Archa 117.73 308 *e*PKPdf PKPdf 13 58 21.2 -1.4
USP Ospenovka 117.75 309 P PKPdf 13 58 22.5 -0.2
SNR=8.3
EKS2 Erkin-Say 118.26 308 P PKPdf 13 58 23.5 -0.2
SNR=13
CHKZ Chkalovo 120.05 321 *e*PKIKP PKPdf 13 58 25.4 -1.7
CHKZ *e* 13 59 21.6
BVAR Borovoye Array 120.25 320 PKP PKPdf 13 58 26.5 -1.1
comp=Z,5.3nm,0.4s,baz=98,slow=3.0,SNR=54
BVAR pPKP pPKPdf 13 59 19.1 -2.7
comp=Z,5.8nm,0.8s,baz=146,slow=2.8,SNR=3.1
BVAR Borovoye Array 120.25 320 PKIKP PKPdf 13 58 26.5 -1.0
BVAR 13 59 19.1
BVAR pmax pmax
comp=Z,5.0nm,0.4s
BVAR pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 120.31 320 P PKPdf 13 58 26.8 -0.8
SNR=14
BRVK Borovoye 120.31 320 *e*PKPdf PKPdf 13 58 26.5 -1.1
BRVK *e*pPKPdf pPKPdf 13 59 23.0 +1.1
ZRNK Zerenda 121.09 320 *e*PKIKP PKPdf 13 58 27.8 -1.3
ZRNK *e* 13 59 24.1
SUMG Summit 122.75 14 *e*PKPdf PKPdf 13 58 31.5 -0.8
SVE Sverdlovsk 125.02 326 ⇓*e*PKIKP PKPdf 13 58 36.0 -0.7
SVE *e* 13 59 31.0
SVE pmax pmax
comp=Z,80nm,1.7s

SOKR	**Solikamsk**	**126.01**	**330**d	iPKIKP	PKPdf	13 58 37.1	-1.5
SOKR				pmax	pmax		
	comp=Z,50nm,1.2s						
ARU	**Arti**	**126.24**	**326**	i PKIKP	PKPdf	13 58 37.9	-1.1
ARU				e		14 00 31.3	
ARU				eSP	SP	14 10 26.8	+9.3
ARU				ePS	PS	14 10 36.3	-5.3
ARU				eSS	SS	14 17 21.7	-0.6
ARU	**Arti**	**126.24**	**326**	ePKPdf	PKPdf	13 58 37.5	-1.5
BOSA	**Boshof**	**126.98**	**204**	PKP	PKPdf	13 58 41.1	+0.7
	comp=Z,20nm,1.1s,baz=184,slow=2.6,SNR=10						
BOSA	**Boshof**	**126.98**	**204**	PKIKP	PKPdf	13 58 41.2	+0.8
BOSA				pmax	pmax		
	comp=Z,20nm,1.1s						
ARCES	**ARCESS Array B**	**129.26**	**350**	PKP	PKPdf	13 58 43.2	-1.5
	comp=Z,17nm,0.9s,baz=118,slow=0.1,SNR=30						
ARCES				pPKP	pPKPdf	13 59 36.4	-2.6
	comp=Z,4.8nm,0.7s,baz=35,slow=4.4,SNR=2.7						
ARCES	**ARCESS Array B**	**129.26**	**350**	PKIKP	PKPdf	13 58 43.2	-1.6
ARCES						13 59 36.4	
ARCES				pmax	pmax		
	comp=Z,17nm,0.9s						
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ARCES	**ARCESS Array B**	**129.26**	**350**	PKP	PKPdf	13 58 43.2	-1.5
ARCES				pPKP	pPKPdf	13 59 36.4	-2.6
SMDO	**Samad**	**129.91**	**283**	P	PKPdf	13 58 47.7	+1.7
	SNR=5.8						
BSY	**Bisya**	**130.64**	**283**	P	PKPdf	13 58 48.7	+1.3
	SNR=7.9						
ASHO	**Ashiyiah**	**131.92**	**285**	P	PKPdf	13 58 51.6	+1.8
	SNR=5.6						
JOF	**Joensuu**	**133.69**	**343**	ep		13 58 37.7	
KAF	**Kangasniemi**	**135.65**	**345**	ep		13 58 42.7	
FINES	**FINESS Array B**	**136.28**	**345**	PKhKP		13 58 44.3	
	comp=Z,1.0nm,0.4s,baz=100,slow=1.6,SNR=7.0						
FINES				PKP	PKPdf	13 58 55.5	-2.5
	comp=Z,3.5nm,0.3s,baz=97,slow=6.0,SNR=16						
FINES				pPKP	pPKPdf	13 59 50.2	-2.1
	comp=Z,4.9nm,1.0s,baz=352,slow=2.7,SNR=2.1						
FINES	**FINESS Array B**	**136.28**	**345**	PKHKP		13 58 44.3	
FINES						13 58 55.5	
FINES						13 59 50.2	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES				pmax	pmax		
	comp=Z,4.0nm,0.3s						
FINES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FINES	**FINESS Array B**	**136.28**	**345**	PKP		13 58 44.3	
FINES				PKP	PKPdf	13 58 55.5	-2.5
FINES				pPKP	pPKPdf	13 59 50.2	-2.1
LSZ	**Lusaka**	**137.17**	**216**	ePKIKP	PKPdf	13 59 00.9	+1.3
VRHR	**Novokhopersk**	**137.57**	**325**	ePKHKP		13 58 49.5	
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=N,40nm,1.9s						
VRHR				pmax	pmax		
	comp=E,50nm,1.5s						
OBN	**Obninsk**	**137.62**	**333**	i PKHKP		13 58 49.4	
OBN				e		14 01 44.9	
OBN				pmax	pmax		
	comp=Z,44nm,1.6s						
OBN	**Obninsk**	**137.62**	**333**⇓	ePKP	PKPdf	13 59 00.3	-0.2
TSUM	**Tsumeb**	**138.31**	**200**	PKPpre		13 58 55.7	
VRSR	**Storozhevoye**	**138.79**	**327**	ePKHKP		13 58 52.4	
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRSR				pmax	pmax		
	comp=N,4.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,5.0nm,0.6s						
NB2	**NORSAR Subarra**	**139.20**	**355**	PKPdf		13 58 51.8	
	comp=Z,3.8nm,1.0s,baz=10,slow=1.9						
NOA	**NORSAR Array B**	**139.20**	**355**	PKhKP		13 58 51.5	
	comp=Z,3.6nm,0.8s,baz=16,slow=4.5,SNR=11						
NOA				pPKP	pPKPdf	13 59 54.4	-3.3
	comp=Z,1.7nm,0.9s,baz=32,slow=2.1,SNR=2.1						
NOA				SKPbc	SKPbc	14 02 18.2	-0.3
	comp=Z,2.4nm,0.9s,baz=13,slow=4.4,SNR=3.3						
NOA	**NORSAR Array B**	**139.20**	**355**	PKHKP		13 58 51.5	
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA				pmax	pmax		
	comp=N,2.0nm,0.9s						
QRN	**Al-Qurain**	**139.36**	**291**	eP		13 58 54.5	
QRN				AMb	AMB	13 58 59.1	
	comp=Z,11nm,0.3s						
NAO01	**NORSAR Array S**	**139.42**	**355**	ePKPpre		13 58 51.7	
UMR	**Umm Al-Rimmam**	**139.51**	**292**	eP		13 58 55.0	
UMR				AMb	AMB	13 58 59.4	
	comp=Z,44nm,0.8s						
GOF	**Gofitskoye**	**139.58**	**316**	ePKIKP	PKPdf	13 59 05.7	+1.7
GOF				pmax	pmax		
	comp=Z,50nm,1.3s						
RDF	**Al-Radifah**	**139.68**	**291**	eP		13 58 54.9	
RDF				AMb	AMB	13 59 00.2	
	comp=Z,46nm,1.2s						
ZEI	**Tsey**	**139.88**	**313**	ePKIKP	PKPdf	13 59 05.6	+1.0
NAY	**Al-Naaiem**	**139.94**	**291**	eP		13 58 55.1	
NAY				AMb	AMB	13 58 59.8	
	comp=Z,18nm,1.1s						
KIV	**Kislovodsk**	**140.25**	**315**	i PKIKP	PKPdf	13 59 04.8	-0.5
KIV				pmax	pmax		
	comp=Z,21nm,1.2s						
KIV				MLR	MLR		
	comp=Z,49nm,20.0s						
KIV	**Kislovodsk**	**140.25**	**315**	ePKP	PKPdf	13 59 04.8	-0.5
KMBO	**Kilima Mbogo**	**140.91**	**241**	PKhKP		13 59 02.0	
	comp=Z,14nm,1.0s,baz=49,slow=3.7,SNR=23						
KMBO				SKPbc	SKPbc	14 02 24.8	+1.7
	comp=Z,7.3nm,1.0s,baz=68,slow=2.7,SNR=5.2						
KMBO	**Kilima Mbogo**	**140.91**	**241**	PKHKP		13 59 02.0	
KMBO				pmax	pmax		
	comp=Z,14nm,1.0s						
KMBO				pmax	pmax		
	comp=N,7.0nm,1.0s						
KMBO	**Kilima Mbogo**	**140.91**	**241**	ePKPpre		13 59 01.4	
BHD	**Baghdad**	**141.98**	**298**	ex	x	13 59 02.0	
SOC	**Sochi**	**142.36**	**316**c	iPKIKP	PKPdf	13 59 10.8	+1.8
SOC				e		14 02 20.2	
SOC				pmax	pmax		
	comp=Z,48nm,0.9s						
MSL	**Mosul**	**142.42**	**303**	ex	x	13 59 00.0	
ERZM	**Erzurum**	**142.67**	**310**	i P	PKPdf	13 59 07.6	-1.9
EZM	**Erzurum**	**142.67**	**310**	P	PKPdf	13 59 07.6	-2.0
BNGL	**BINGOL**	**143.14**	**308**	i P	PKPdf	13 59 06.8	-3.7
ANN	**Anapa**	**143.24**	**319**	i PKIKP	PKPdf	13 59 07.4	-3.2
ANN				pmax	pmax		
	comp=Z,133nm,1.6s						
SUW	**Suwalki**	**143.47**	**341**	ePKP	PKPdf	13 59 07.7	-3.3
EZC	**Erzincan**	**143.84**	**310**	P	PKPdf	13 59 12.4	+0.8
EAB	**Aberfoyle**	**143.86**	**8**⇓	eP	PKPdf	13 59 08.6	-3.1
EAB	**Aberfoyle**	**143.86**	**8**⇓	eP	PKPdf	13 59 08.6	-3.1
AKASG	**Malin Array Be**	**143.88**	**333**	PKP	PKPdf	13 59 08.9	-2.8
	comp=Z,52nm,0.3s,baz=39,slow=4.4,SNR=92						
AKASG				pPKP	pPKPdf	14 00 03.9	-2.2
	comp=Z,18nm,1.0s,baz=33,slow=3.6,SNR=1.5						
AKASG				SKPbc	SKPbc	14 02 30.2	-0.2
	comp=Z,14nm,1.1s,baz=36,slow=2.2,SNR=8.9						
AKASG	**Malin Array Be**	**143.88**	**333**	PKIKP	PKPdf	13 59 08.9	-2.8
AKASG						14 00 03.9	
AKASG						14 02 30.2	
AKASG				pmax	pmax		
	comp=Z,52nm,0.4s						
AKASG				pmax	pmax		
	comp=Z,18nm,1.0s						
AKASG				pmax	pmax		
	comp=N,14nm,1.1s						
MUD	**Monsted U'grnd**	**143.91**	**355**⇓	iP	PKPdf	13 59 08.8	-3.0
	comp=N,138nm,1.3s						
MUD	**Monsted U'grnd**	**143.91**	**355**⇓	iPKIKP	PKPdf	13 59 08.8	-3.0
MUD				pmax	pmax		
	comp=Z,140nm,1.3s						
MARD	**Mardin**	**143.93**	**306**	i P	PKPdf	13 59 10.2	-1.6
PGBU	**Glenifferbraes**	**144.21**	**8**⇓	eP	PKPdf	13 59 09.7	-2.6
PGBU	**Glenifferbraes**	**144.21**	**8**⇓	eP	PKPdf	13 59 09.7	-2.6
EDI	**Edinburgh**	**144.25**	**7**⇓	eP	PKPdf	13 59 09.6	-2.7
EDI	**Edinburgh**	**144.25**	**7**⇓	eP	PKPdf	13 59 09.6	-2.7
EAU	**Auchinoon**	**144.30**	**7**⇓	eP	PKPdf	13 59 10.4	-2.1
EAU	**Auchinoon**	**144.30**	**7**⇓	eP	PKPdf	13 59 10.4	-2.1
ESY	**Stoneypath**	**144.32**	**6**⇓	eP	PKPdf	13 59 09.9	-2.6
ESY	**Stoneypath**	**144.32**	**6**⇓	eP	PKPdf	13 59 09.9	-2.6
EBL	**Broad Law**	**144.42**	**7**⇓	eP	PKPdf	13 59 10.7	-2.0
EBL	**Broad Law**	**144.42**	**7**⇓	eP	PKPdf	13 59 10.7	-2.0
MZRK	**Al-Mazaregh**	**144.45**	**303**	⇓P	PKPdf	13 59 11.1	-1.6
BSD	**Bornholm Skovb**	**144.48**	**349**⇓	iP	PKPdf	13 59 10.4	-2.4
	comp=Z,136nm,0.9s						
BSD	**Bornholm Skovb**	**144.48**	**349**⇓	iPKIKP	PKPdf	13 59 10.4	-2.4
BSD				pmax	pmax		
	comp=Z,140nm,0.9s						
SFNV	**Sufian**	**144.70**	**304**	⇓P	PKPdf	13 59 12.8	-0.3
DRBT	**Darb Altahta**	**144.81**	**305**	⇓P	PKPdf	13 59 17.2	+3.9
ESK	**Eskdalemuir**	**144.85**	**7**⇓	eP	PKPdf	13 59 11.7	-1.7
ESK	**Eskdalemuir**	**144.85**	**7**⇓	eP	PKPdf	13 59 11.7	-1.7
ESK	**Eskdalemuir**	**144.85**	**7**	ePKP	PKPdf	13 59 11.8	-1.6
ELZG	**Elazig**	**144.89**	**308**	i P	PKPdf	13 59 14.8	+1.3
BWH	**Wardlaw**	**144.93**	**8**⇓	eP	PKPdf	13 59 12.1	-1.5
BWH	**Wardlaw**	**144.93**	**8**⇓	eP	PKPdf	13 59 12.1	-1.5
BHH	**Howats Hill**	**145.06**	**7**⇓	eP	PKPbc	13 59 12.3	-1.4
BHH	**Howats Hill**	**145.06**	**7**⇓	eP	PKPbc	13 59 12.3	-1.4
SIM	**Simferopol'**	**145.15**	**321**	ePKIKP	PKPdf	13 59 14.5	+0.6
SIM				e		14 00 10.0	
RGN	**Rugen**	**145.29**	**350**	ePKP	PKPdf	13 59 13.9	-0.2
MYA	**Malataya**	**145.36**	**308**	P	PKPdf	13 59 16.2	+1.9
MALT	**Malatya**	**145.37**	**308**⇑	iP	PKPdf	13 59 16.2	+1.9
MALT	**Malatya**	**145.37**	**308**	ePKP	PKPdf	13 59 15.2	+0.9
URFA	**Urfa**	**145.37**	**307**	P	PKPdf	13 59 15.7	+1.4
BDL	**Dobcross Hall**	**145.38**	**7**⇓	eP	PKPdf	13 59 14.1	-0.2
BDL	**Dobcross Hall**	**145.38**	**7**⇓	eP	PKPdf	13 59 14.1	-0.2
BBO1	**Bothel**	**145.41**	**7**⇓	eP	PKPdf	13 59 13.7	-0.7
BBO1	**Bothel**	**145.41**	**7**⇓	eP	PKPdf	13 59 13.7	-0.7
XDE	**Dent Fell**	**145.61**	**8**⇓	eP	PKPdf	13 59 14.2	-0.5
XDE	**Dent Fell**	**145.61**	**8**⇓	eP	PKPdf	13 59 14.2	-0.5
WAR	**Warsaw**	**145.66**	**341**	ePKP	PKPdf	13 59 16.6	+1.8
GIM	**North Isle of**	**145.69**	**9**⇓	eP	PKPdf	13 59 14.5	-0.3
GIM	**North Isle of**	**145.69**	**9**⇓	eP	PKPdf	13 59 14.5	-0.3
SVSK	**Karacayir**	**145.77**	**312**	P	PKPdf	13 59 16.7	+1.7
WIM	**Isle of Man**	**145.80**	**9**⇓	eP	PKPdf	13 59 15.0	0.0
WIM	**Isle of Man**	**145.80**	**9**⇓	eP	PKPdf	13 59 15.0	0.0
CDU1	**Dunnerdale**	**145.81**	**7**⇓	eP	PKPdf	13 59 14.8	-0.3
CDU1	**Dunnerdale**	**145.81**	**7**⇓	eP	PKPdf	13 59 14.8	-0.3
LRN	**Richmond**	**145.88**	**6**	eP	PKPdf	13 59 15.4	+0.2
LRN	**Richmond**	**145.88**	**6**	eP	PKPdf	13 59 15.4	+0.2
TOKT	**Tokat**	**145.91**	**313**	P	PKPdf	13 59 17.1	+1.9
LWH	**Whinny Nab**	**146.06**	**5**	eP	PKPdf	13 59 16.3	+0.8
LWH	**Whinny Nab**	**146.06**	**5**	eP	PKPdf	13 59 16.3	+0.8
DCN	**Croghan**	**146.12**	**12**	eP	PKPdf	13 59 10.9	-4.7
DCN	**Croghan**	**146.12**	**12**	eP	PKPdf	13 59 16.1	+0.5
DCN	**Croghan**	**146.12**	**12**	eP	pPKPab	14 00 05.7	-5.0
DCN	**Croghan**	**146.12**	**12**	eP	PKPdf	13 59 16.1	+0.5
JHLN	**Al Jahlan**	**146.22**	**304**	⇓P	PKPdf	13 59 18.1	+2.4
BSEG	**Bad Segeberg**	**146.29**	**353**	ePKPdf	PKPdf	13 59 15.8	0.0
BSEG				ePKPbc	PKPbc	13 59 17.0	-0.4
BSEG				epPKPbc	pPKPbc	14 00 12.4	+1.5
DLF	**Lyons Farm**	**146.31**	**11**	eP	PKPdf	13 59 11.7	-4.2
DLF	**Lyons Farm**	**146.31**	**11**	eP	PKPdf	13 59 16.7	+0.8
DLF	**Lyons Farm**	**146.31**	**11**	eP	pPKPab	14 00 06.2	-5.2
DLF	**Lyons Farm**	**146.31**	**11**	eP	PKPdf	13 59 16.7	+0.8
GZT	**Gaziantep**	**146.34**	**307**	i P	PKPdf	13 59 18.4	+2.5
BOYT	**Boyabat**	**146.52**	**315**	i P	PKPdf	13 59 19.1	+2.8
WCB1	**Church Bay**	**146.56**	**9**⇓	eP	PKPdf	13 59 16.2	-0.1
WCB1	**Church Bay**	**146.56**	**9**⇓	eP	PKPdf	13 59 16.2	-0.1
WME	**Myndd Eilian**	**146.58**	**9**	eP	PKPdf	13 59 16.8	+0.5
WME	**Myndd Eilian**	**146.58**	**9**	eP	PKPdf	13 59 16.8	+0.5
BYBT	**Boyabat**	**146.58**	**316**	P	PKPdf	13 59 19.2	+2.8
GAZ	**Gaziantep**	**146.67**	**307**	P	PKPdf	13 59 19.7	+3.2
WLF1	**Llynfaes**	**146.67**	**9**⇓	eP	PKPdf	13 59 17.4	+0.9
WLF1	**Llynfaes**	**146.67**	**9**⇓	eP	PKPdf	13 59 17.4	+0.9
YRC	**Rhoscolyn**	**146.68**	**9**⇓	eP	PKPdf	13 59 17.2	+0.7
YRC	**Rhoscolyn**	**146.68**	**9**⇓	eP	PKPdf	13 59 17.2	+0.7
LVV	**L'vov**	**146.68**	**336**⇓	iPKP2	PKPab	13 59 18.2	-1.9
KIS	**Kishinev**	**146.72**	**328**d	iPKP2	PKPab	13 59 18.0	-2.3
KIS				pmax	pmax		
	comp=Z,1μm,1.0s						
LHO	**Holmfirth**	**146.74**	**6**	eP	PKPdf	13 59 15.7	-0.9
LHO	**Holmfirth**	**146.74**	**6**	eP	PKPdf	13 59 15.7	-0.9
WPM1	**Penmaenmawr**	**146.77**	**9**	eP	PKPdf	13 59 17.3	+0.7
WPM1	**Penmaenmawr**	**146.77**	**9**	eP	PKPdf	13 59 17.3	+0.7
YRE	**Yr Eifl**	**146.97**	**9**	eP	PKPdf	13 59 16.5	-0.4
YRE	**Yr Eifl**	**146.97**	**9**	eP	PKPdf	13 59 16.5	-0.4
CTKT	**Corum**	**146.97**	**314**	i P	PKPdf	13 59 20.0	+3.0
BNN	**Bunyan**	**147.03**	**311**	P	PKPdf	13 59 20.0	+2.9
RUE	**Ruedersdorf**	**147.20**	**349**	ePKPbc	PKPbc	13 59 19.7	-0.3
SBD1	**Bryn Du**	**147.20**	**8**⇓	eP	PKPdf	13 59 18.9	+1.5
SBD1	**Bryn Du**	**147.20**	**8**⇓	eP	PKPdf	13 59 18.9	+1.5
DRWC	**Darouich**	**147.27**	**306**	⇓P	PKPdf	13 59 21.0	+3.5
TOS	**Tosya**	**147.28**	**315**	P	PKPdf	13 59 21.5	+4.0
CORM	**Corum**	**147.29**	**314**	P	PKPdf	13 59 21.7	+4.2
KWP	**Kalwaria**	**147.33**	**337**	ePKP	PKPdf	13 59 20.3	+2.7
KWP				e		13 59 23.3	
BALT	**Daday**	**147.45**	**317**	i P	PKPdf	13 59 21.4	+3.7
ROOS	**tl_alroos**	**147.55**	**302**	⇓P	PKPdf	13 59 22.0	+4.0
KOZT	**Kozan**	**147.58**	**308**	P	PKPdf	13 59 21.6	+3.5
COBT	**Iskenderun**	**147.62**	**306**	i P	PKPdf	13 59 21.9	+3.8
BTCH	**Batrach**	**147.63**	**305**	⇓P	PKPdf	13 59 21.1	+3.0
HLM1	**Long Mynd**	**147.63**	**8**⇓	eP	PKPdf	13 59 20.1	+2.0
HLM1	**Long Mynd**	**147.63**	**8**⇓	eP	PKPdf	13 59 20.1	+2.0
KFRA	**Kufra**	**147.63**	**304**	⇓P	PKPdf	13 59 22.0	+3.9
WIT	**Witteveen**	**147.70**	**357**⇓	iPKPpre		13 59 21.7	
	comp=Z,655nm,1.4s						
CDAG	**Cicekdag**	**147.72**	**313**	i P	PKPdf	13 59 21.6	+3.3
AVNT	**Avonos**	**147.76**	**311**	i P	PKPdf	13 59 21.3	+3.0
CANT	**Cankiri**	**147.76**	**315**	P	PKPdf	13 59 22.0	+3.7
OJC	**Ojcow**	**147.81**	**341**	ePKPdf	PKPdf	13 59 17.8	-0.6
OJC				ePKPbc	PKPbc	13 59 21.3	-0.3
OJC				ePKPab	PKPab	13 59 24.8	+0.2
OJC				epPKPdf	pPKPdf	14 00 14.6	+1.8
CEYT	**Ceyhan**	**147.82**	**308**	P	PKPdf	13 59 22.6	+4.2
WRDH	**Warideh**	**147.84**	**305**	⇓P	PKPdf	13 59 22.4	+3.9
ZALF	**Zalf**	**147.84**	**300**	⇓P	PKPdf	13 59 22.8	+4.3
HTY	**Hatay**	**147.84**	**306**	P	PKPdf	13 59 22.3	+3.9
BURAR	**Bucovina Array**	**147.94**	**332**⇑	iP	PKPdf	13 59 22.7	+4.1
BURAR	**Bucovina Array**	**147.94**	**332**	⇑P	PKPdf	13 59 22.7	+4.1
ELDT	**Eldivan**	**147.95**	**315**	i P	PKPdf	13 59 22.7	+4.1
SLNF	**Slenfeh**	**147.96**	**305**	⇓P	PKPdf	13 59 22.8	+4.1
HTR	**Trewern Hill**	**148.01**	**8**⇓	eP	PKPdf	13 59 20.7	+2.0
HTR	**Trewern Hill**	**148.01**	**8**⇓	eP	PKPdf	13 59 20.7	+2.0
SAFT	**Safranbolu**	**148.05**	**317**	P	PKPdf	13 59 22.9	+4.1
ARNB	**Al Arnab**	**148.06**	**305**	⇓P	PKPdf	13 59 23.0	+4.2
BIDA	**Albida**	**148.07**	**304**	⇓P	PKPdf	13 59 23.1	+4.3
KOLS	**Kolonicke sedl**	**148.07**	**337**	ePKP	PKPdf	13 59 19.1	+0.3
KOLS				e		13 59 22.3	
KOLS				e		13 59 26.2	
KOLS	**Kolonicke sedl**	**148.07**	**337**	ePKIKP	PKPdf	13 59 19.1	+0.3
KOLS				e		13 59 22.3	
MCH1	**Michaelchurch**	**148.13**	**8**⇓	eP	PKPdf	13 59 21.0	+2.1
MCH1	**Michaelchurch**	**148.13**	**8**⇓	eP	PKPdf	13 59 21.0	+2.1
IBBN	**Ibbenburen**	**148.14**	**356**	ePKPbc	PKPbc	13 59 22.0	-0.4
HAE	**Alders End**	**148.14**	**8**⇓	eP	PKPdf	13 59 21.2	+2.2
HAE	**Alders End**	**148.14**	**8**⇓	eP	PKPdf	13 59 21.2	+2.2
HAWK	**Haweek**	**148.15**	**303**	⇓P	PKPdf	13 59 23.8	+4.9
KSP	**Ksiaz**	**148.21**	**345**	ePKP	PKPdf	13 59 19.2	+0.2
KSP				e		13 59 22.8	
KSP	**Ksiaz**	**148.21**	**345**	ePKP	PKPdf	13 59 19.1	+0.1
KSP				ePKPdf	PKPdf	13 59 22.7	+3.7
KSP				epPKPdf	pPKPdf	14 00 12.8	-0.6
KSP				epPKPab	pPKPab	14 00 18.2	-0.5
MARH	**Ras Al Marh**	**148.24**	**302**	⇓P	PKPdf	13 59 24.6	+5.5
KARA	**Karaisali**	**148.24**	**308**	P	PKPdf	13 59 19.5	+0.4
KAMT	**Kaman**	**148.29**	**313**	P	PKPdf	13 59 23.2	+4.1
SSW	**Stow on the Wo**	**148.30**	**7**⇓	eP	PKPdf	13 59 22.2	+3.0
SSW	**Stow on the Wo**	**148.30**	**7**⇓	eP	PKPdf	13 59 22.2	+3.0
CLZ	**Clausthal**	**148.34**	**352**	ePKPdf	PKPdf	13 59 19.1	-0.2
CLZ				ePKPbc	PKPbc	13 59 23.0	0.0
NIE	**Niedzica**	**148.34**	**339**	ePKP	PKPdf	13 59 23.3	+4.0
SALA	**Sala**	**148.38**	**299**	⇓P	PKPdf	13 59 24.4	+5.1
CRVS	**Cervenica-Dubn**	**148.39**	**338**	ePKP	PKPdf	13 59 19.6	+0.3
CRVS				e		13 59 23.6	
CRVS				e		13 59 27.6	
CRVS	**Cervenica-Dubn**	**148.39**	**338**	ePKIKP	PKPdf	13 59 19.6	+0.3
CRVS				e		13 59 23.6	
CLL	**Collm**	**148.46**	**349**	ePKPdf	PKPdf	13 59 18.7	-0.8
CLL				ePKPbc	PKPbc	13 59 22.7	-0.6
CLL				epPKPbc	pPKPbc	14 00 18.7	+1.6
CLL	**Collm**	**148.46**	**349**	i PKIKP	PKPdf	13 59 19.4	-0.1
	comp=Z,logA/T=1.3						
CLL				i PKP1	PKPbc	13 59 23.0	-0.3
CLL				i PKP2	PKPab	13 59 26.4	-0.8
CLL				i *PPKP		14 00 15.9	
CLL				i *PPKP2		14 00 18.9	
CLL				e		14 00 48.0	
CLL	**Collm**	**148.46**	**349**	i PKPdf	PKPdf	13 59 19.4	-0.1
	comp=Z,25nm,1.4s						
CLL				⇓iPKPbc	PKPbc	13 59 23.0	-0.3
	comp=Z,148nm,1.0s						
CLL				i PKPab	PKPab	13 59 26.4	-0.8
	comp=Z,135nm,1.0s						
CLL				i pPKPbc	pPKPbc	14 00 15.9	-1.2
CLL				i pPKPab	pPKPab	14 00 18.9	-0.8
	comp=Z,117nm,1.1s						
CLL				ex	x	14 00 48.0	
CLL	**Collm**	**148.46**	**349**⇓	iPKIKP	PKPdf	13 59 19.4	-0.1
CLL				i		13 59 26.4	
CLL				i		14 00 15.9	
CLL				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CLL				pmax	pmax		
	comp=Z,25nm,1.0s						
CLL				pmax	pmax		
	comp=Z,148nm,1.0s						
CLL	**Collm**	**148.46**	**349**	i PKP	PKPdf	13 59 19.4	-0.1
CLL				⇓iPKP	PKPdf	13 59 23.0	+3.5
CLL				i PKP	PKPdf	13 59 26.4	+6.9
CLL				i pPKP	pPKPdf	14 00 15.9	+2.1
CLL				i pPKP	pPKPdf	14 00 18.9	+5.1
TOTH	**TOTAH**	**148.46**	**301**	⇓P	PKPdf	13 59 24.5	+5.1
HGH	**Gray Hill**	**148.50**	**8**⇓	eP	PKPdf	13 59 22.0	+2.5
HGH	**Gray Hill**	**148.50**	**8**⇓	eP	PKPdf	13 59 22.0	+2.5
QASN	**Qassioun**	**148.54**	**301**	⇓P	PKPdf	13 59 24.9	+5.3
WTSB	**Winterswijk**	**148.54**	**357**	ePKiKP	PKiKP	13 59 19.2	-5.6
	comp=Z,21nm,1.4s						
WTSB				⇓iPKPpre		13 59 23.0	
	comp=Z,145nm,1.6s						
WTSB				ePKPab	PKPab	13 59 26.1	-1.4
	comp=Z,157nm,0.9s						
WTSB				epPKP	pPKPdf	14 00 15.1	+1.1
	comp=Z,5.0nm,0.7s						
VRI	**Vrincioaia**	**148.54**	**329**⇑	iP	PKPdf	13 59 23.6	+4.0
VRI	**Vrincioaia**	**148.54**	**329**	P	PKPdf	13 59 23.8	+4.2
UPC	**Upice**	**148.59**	**345**	ePKPDF	PKPdf	13 59 19.7	0.0
UPC				⇑iPKP	PKPdf	13 59 23.8	+4.1
UPC				ePKPAB	PKPab	13 59 28.4	+0.6
UPC				epPKP	pPKPdf	14 00 17.6	+3.6
UPC	**Upice**	**148.59**	**345**	ePKIKP	PKPdf	13 59 19.7	0.0
UPC				i		13 59 23.8	
OKC	**Ostrava-Krasne**	**148.64**	**342**	ePKPDF	PKPdf	13 59 19.5	-0.2
OKC				⇑iPKP	PKPdf	13 59 23.8	+4.1
OKC				ePKPAB	PKPab	13 59 28.1	+0.1
OKC	**Ostrava-Krasne**	**148.64**	**342**	ePKIKP	PKPdf	13 59 19.5	-0.2
OKC				i		13 59 23.8	
SKP1	**Kophill**	**148.64**	**6**⇓	eP	PKPdf	13 59 22.6	+2.9
SKP1	**Kophill**	**148.64**	**6**⇓	eP	PKPdf	13 59 22.6	+2.9
DPC	**Dobruska-Polom**	**148.66**	**345**	ePKPDF	PKPdf	13 59 19.7	-0.1
DPC				⇑iPKP	PKPdf	13 59 24.2	+4.4
DPC				epPKP	pPKPdf	14 00 16.6	+2.4
DPC	**Dobruska-Polom**	**148.66**	**345**	ePKIKP	PKPdf	13 59 19.7	-0.1
DPC				i		13 59 24.2	
ANTO	**Ankara**	**148.68**	**314**	P	PKPdf	13 59 24.2	+4.4
ANTO	**Ankara**	**148.68**	**314**⇑	iP	PKPbc	13 59 24.9	+1.1
ANTO	**Ankara**	**148.68**	**314**	ePKHKP		13 59 19.6	
ANTO						13 59 24.9	
ANTO	**Ankara**	**148.68**	**314**	ePKPdf	PKPdf	13 59 19.6	-0.2
ANTO				ePKPbc	PKPbc	13 59 24.3	+0.5
ANTO				P		13 59 24.7	
ANTO				⇑P		13 59 24.9	
LOD	**Lodumlu**	**148.69**	**314**	P	PKPbc	13 59 24.9	+1.1
BRG	**Berggiesshubel**	**148.70**	**348**	ePKPdf	PKPdf	13 59 19.1	-0.7
BRG				ePKPbc	PKPbc	13 59 23.4	-0.5
BRG				ePKPab	PKPab	13 59 27.4	-0.8
BRG	**Berggiesshubel**	**148.70**	**348**	ePKP	PKPdf	13 59 19.8	0.0
	comp=Z,16nm,1.2s						
BRG	**Berggiesshubel**	**148.70**	**348**	i PKP	PKPdf	13 59 23.9	+4.0
	comp=Z,62nm,1.0s						
BRG	**Berggiesshubel**	**148.70**	**348**	i PKP	PKPdf	13 59 27.7	+7.9
	comp=Z,53nm,1.0s						
BRG				epPKP	pPKPdf	14 00 09.6	-4.7
	comp=Z,8.0nm,0.9s						
BRG				e		14 00 15.3	
	comp=Z,56nm,1.1s						
BRG				i		14 00 19.4	
	comp=Z,38nm,1.1s						
BRG				i sPKP		14 00 29.8	
	comp=Z,20nm,1.2s						
BRG				e		14 02 43.7	
	comp=Z,4.8nm,1.1s						
BRG				e		14 02 51.3	
	comp=Z,20nm,2.0s						
BRG	**Berggiesshubel**	**148.70**	**348**	ePKIKP	PKPdf	13 59 19.8	0.0
BRG				i		13 59 27.7	
BRG				e		14 00 09.6	
BRG				e		14 02 51.3	
BRG				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BRG				pmax	pmax		
	comp=Z,16nm,1.0s						
BRG				pmax	pmax		
	comp=Z,62nm,1.0s						
BRG				pmax	pmax		
	comp=Z,53nm,1.0s						
BRG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BRG				pmax	pmax		
	comp=Z,56nm,1.1s						
BRG				pmax	pmax		
	comp=N,38nm,1.2s						
BRG				pmax	pmax		
	comp=Z,20nm,1.1s						
BRG				pmax	pmax		
	comp=Z,5.0nm,2.0s						
BRG	**Berggiesshubel**	**148.70**	**348**	ePKP	PKPdf	13 59 19.8	0.0
BRG				i PKP	PKPdf	13 59 23.9	+4.0
BRG				i PKP	PKPdf	13 59 27.7	+7.9
BRG				epPKP	pPKPdf	14 00 09.6	-4.7
BRG				e		14 00 15.3	
BRG				i		14 00 19.4	
BRG				i sPKP		14 00 29.8	
BRG				e		14 02 43.7	
BRG				e		14 02 51.3	
MERS	**Mersin**	**148.78**	**308**	P	PKPdf	13 59 21.4	+1.4
SGKT	**Sivrigoynuk**	**148.81**	**316**	i P	PKPbc	13 59 24.6	+0.5
BRBR	**Barbar**	**148.83**	**301**	⇓P	PKPbc	13 59 25.7	+1.5
MORC	**Moravsky Berou**	**148.86**	**343**⇑	iP	PKPbc	13 59 24.7	+0.4
MORC	**Moravsky Berou**	**148.86**	**343**	ePKPdf	PKPdf	13 59 20.0	-0.1
MORC				ePKPbc	PKPbc	13 59 24.2	-0.1
MORC				⇑P		13 59 24.7	
PVCC	**Panska Ves**	**148.90**	**347**	ePKPDF	PKPdf	13 59 20.0	-0.2
PVCC				⇑iPKP	PKPdf	13 59 24.7	+4.5
PVCC				epPKP	pPKPdf	14 00 16.6	+2.1
HEX	**Exmoor**	**148.92**	**9**⇓	eP	PKPdf	13 59 23.5	+3.3
HEX	**Exmoor**	**148.92**	**9**⇓	eP	PKPdf	13 59 23.5	+3.3
RCY	**Rachaya**	**148.92**	**301**	eP	PKPbc	13 59 25.2	+0.8
BHL	**Bhannes**	**148.93**	**302**	eP	PKPbc	13 59 25.2	+0.7
TCHB	**Talchebab**	**149.02**	**300**	⇓P	PKPbc	13 59 25.7	+1.1
BUG	**Bochum--Univer**	**149.03**	**356**	ePKPbc	PKPbc	13 59 23.8	-0.9
BUG				ePKPab	PKPab	13 59 28.6	-1.0
LIKS	**Likavka**	**149.05**	**340**	ePKP	PKPab	13 59 30.8	+1.2
SWK	**Warminster**	**149.05**	**8**⇓	eP	PKPdf	13 59 23.9	+3.5
SWK	**Warminster**	**149.05**	**8**⇓	eP	PKPdf	13 59 23.9	+3.5
KECS	**Kecovo**	**149.09**	**338**	ePKP	PKPbc	13 59 25.1	+0.3
KECS				e		13 59 30.1	
MEST	**Erdemli**	**149.17**	**308**	i P	PKPbc	13 59 25.4	+0.4
MLR	**Muntele Rosu**	**149.20**	**329**⇑	iP	PKPbc	13 59 25.6	+0.5
MLR	**Muntele Rosu**	**149.20**	**329**	P	PKPbc	13 59 25.5	+0.4
MOX	**Moxa**	**149.33**	**350**	ePKPdf	PKPdf	13 59 20.2	-0.7
MOX				ePKPbc	PKPbc	13 59 25.2	-0.2
MOX	**Moxa**	**149.33**	**350**	ePKP	PKPdf	13 59 20.5	-0.4
MOX				e		13 59 25.2	
	comp=Z,135nm,1.4s						
MOX				e		14 00 17.7	
PRA	**Prague**	**149.36**	**347**	⇑PKP	PKPdf	13 59 20.0	-0.9
PRA				PKPAB	PKPab	13 59 30.0	-0.9
PRA				pPKP	pPKPdf	14 00 22.0	+6.7
UBBA	**Unterbreizbach**	**149.39**	**352**	ePKPbc	PKPbc	13 59 25.1	-0.5
MDU	**Mudurnu**	**149.41**	**317**	eP	PKPbc	13 59 25.9	+0.2
TANN	**Tannenbergstha**	**149.41**	**349**	ePKPdf	PKPdf	13 59 20.6	-0.4
TANN				ePKPbc	PKPbc	13 59 25.7	+0.1
TANN				ePKPab	PKPab	13 59 30.7	-0.4
DYA	**Yadsworthy**	**149.51**	**10**⇓	eP	PKPdf	13 59 24.6	+3.4
DYA	**Yadsworthy**	**149.51**	**10**⇓	eP	PKPdf	13 59 24.6	+3.4
VRAC	**Vranov**	**149.54**	**344**⇑	iP	PKPbc	13 59 26.3	+0.3
VRAC	**Vranov**	**149.54**	**344**	P	PKPbc	13 59 26.2	+0.2
CRQ2	**Rosemanowes 2**	**149.55**	**12**	eP	PKPdf	13 59 24.5	+3.3
CRQ2	**Rosemanowes 2**	**149.55**	**12**	eP	PKPdf	13 59 24.5	+3.3

NKC	Novy Kostel	149.59 349	ePKPDF	PKPdf	13 59 21.0	-0.3
NKC			⇑iPKP	PKPdf	13 59 26.3	+5.0
NKC			ePKPAB	PKPab	13 59 31.4	-0.5
VYHS	Vyhne	149.62 340	ePKP	PKPdf	13 59 20.9	-0.4
VYHS			e		13 59 26.3	
VYHS			e		13 59 32.7	
VYHS			e		14 00 18.3	
VYHS	Vyhne	149.62 340	ePKP	PKPdf	13 59 20.9	-0.4
VYHS			e		13 59 26.3	
VYHS			e		13 59 32.7	
VYHS			e		14 00 18.4	
DRGR		149.65 334	⇑iP	PKPbc	13 59 26.6	+0.4
IKL	Isikli	149.65 307	eP	PKPbc	13 59 26.5	+0.3
VOIR		149.66 330	⇑iP	PKPbc	13 59 27.3	+1.1
VOIR		149.66 330	⇑P	PKPbc	13 59 27.2	+1.0
CGH1	Goonhilly	149.66 12	eP	PKPbc	13 59 25.2	-1.0
CGH1	Goonhilly	149.66 12	eP	PKPbc	13 59 25.2	-1.0
BEBN	Eben Emael	149.76 358	PKPbc	PKPbc	13 59 26.1	-0.4
BEBN			PKPab	PKPab	13 59 31.9	-0.7
BEBN			APKPbc		14 00 19.2	
PSZ	Piszkesteto	149.77 338	⇓ePKP	PKPbc	13 59 26.5	0.0
PSZ	Piszkesteto	149.77 338	ePKPbc	PKPbc	13 59 26.2	-0.3
PSZ			ePKPab	PKPab	13 59 32.9	+0.2
KIZT	Kizilcal	149.78 313	eP	PKPbc	13 59 27.0	+0.5
HGN	Heimansgroeve	149.78 357	PKiKP	PKiKP	13 59 20.9	-6.5
	comp=Z,9.7nm,1.2s					
HGN			⇓iPKPpre		13 59 26.3	
	comp=Z,79nm,1.4s					
HGN			i PKPab	PKPab	13 59 31.2	-1.4
	comp=Z,86nm,1.1s					
HGN			epPKP	pPKPdf	14 00 19.2	+3.2
	comp=Z,4.5nm,0.1s					
UCC	Uccle	149.79 359	PKPbc	PKPbc	13 59 26.1	-0.5
UCC			PKPab	PKPab	13 59 32.0	-0.6
UCC			APKPab		14 00 21.9	
MTUR	Matau	149.81 330	PKP2	PKPbc	13 59 27.4	+0.8
TREC	Trest	149.84 345	ePKPDF	PKPdf	13 59 21.2	-0.5
TREC			⇑iPKP	PKPdf	13 59 26.7	+5.0
TREC			ePKPAB	PKPab	13 59 32.2	-0.7
TREC			epPKP	pPKPdf	14 00 19.4	+3.3
TREC	Trest	149.84 345	ePKIKP	PKPdf	13 59 21.2	-0.5
TREC			e		13 59 32.2	
KONT	Konya--Tatoy	149.88 311	eP	PKPbc	13 59 26.9	+0.2
MANZ	Manzenberg	149.89 349	ePKPdf	PKPdf	13 59 21.2	-0.5
MANZ			ePKPbc	PKPbc	13 59 26.8	0.0
MANZ			epPKPbc	pPKPbc	14 00 22.7	+2.0
MEM	Membach	149.93 357	PKPbc	PKPbc	13 59 26.6	-0.3
MEM			PKPab	PKPab	13 59 31.8	-1.5
MEM			APKPbc		14 00 19.8	
MEM			E		14 00 22.3	
MEM			APKPab		14 00 24.9	
MENF	Mencas	150.00 2	PKP	PKPdf	13 59 21.1	-0.8
SMOL	Smolenice	150.03 342	ePKP	PKPbc	13 59 28.1	+1.0
SMOL			e		13 59 34.8	
ERMK	Ermenek	150.06 309	i P	PKPbc	13 59 27.8	+0.6
SNF	Seneffe	150.08 360	PKPbc	PKPbc	13 59 27.0	-0.2
SNF			PKPab	PKPab	13 59 33.0	-0.9
ROTZ	Rotzenmuhle	150.08 349	ePKPbc	PKPbc	13 59 27.3	0.0
ROTZ			ePKPab	PKPab	13 59 32.8	-1.1
ROTZ			epPKPbc	pPKPbc	14 00 23.5	+2.3
ESKT	Eskisehir	150.14 315	i P	PKPbc	13 59 27.3	-0.1
BCLA	Clavier	150.15 358	PKPbc	PKPbc	13 59 27.0	-0.4
BCLA			PKPab	PKPab	13 59 33.1	-1.1
TNS	Taunus Mts	150.15 354	ePKPbc	PKPbc	13 59 27.4	0.0
HRT	Hereke	150.19 318	eP	PKPdf	13 59 25.8	+3.6
BORA	Eskisehir	150.21 316	i P	PKPbc	13 59 27.3	-0.3
GRA1	Grafenberg Arr	150.32 350	ePKPdf	PKPdf	13 59 22.6	+0.2
GRA1			ePKPbc	PKPbc	13 59 27.8	0.0
GRA1			ePKPab	PKPab	13 59 34.6	-0.3
GRA1			epPKPdf	pPKPdf	14 00 20.9	+4.1
GRA1			epPKPbc	pPKPbc	14 00 24.6	+2.8
GRA1			epPKPab	pPKPab	14 00 29.3	+2.1
GRF	Grafenberg Arr	150.32 350	ePKPdf	PKPdf	13 59 22.6	+0.2
GRF			ePKPbc	PKPbc	13 59 27.8	0.0
GRF			ePKPab	PKPab	13 59 34.6	-0.3
GRF			epPKPdf	pPKPdf	14 00 20.9	+4.1
GRF			epPKPbc	pPKPbc	14 00 24.6	+2.8
GRF			epPKPab	pPKPab	14 00 29.3	+2.1
GRF	Grafenberg Arr	150.32 350	ePKIKP	PKPdf	13 59 22.6	+0.2
GRF			e		13 59 34.6	
ADVT	Abdulvahap	150.37 318	eP	PKPbc	13 59 28.1	+0.2
CSS	Prodhromos	150.39 305	P	PKPbc	13 59 28.1	+0.1
	comp=Z,3.8nm,1.1s					
MAMC	Mammari	150.40 306	P	PKPbc	13 59 28.8	+0.8
ZST	Bratislava	150.41 342	ePKP	PKPbc	13 59 28.3	+0.3
ZST			e		13 59 35.8	
ZST			e		14 00 21.0	
KHC	Kasperske Hory	150.43 347	ePKPDF	PKPdf	13 59 22.1	-0.5
KHC			⇑iPKP	PKPdf	13 59 28.2	+5.6
KHC			ePKPAB	PKPab	13 59 33.5	-1.8
KHC			epPKP	pPKPdf	14 00 19.3	+2.3
KHC	Kasperske Hory	150.43 347	ePKIKP	PKPdf	13 59 22.1	-0.5
KHC			e		13 59 33.5	
BUD	Budapest	150.44 339	⇓ePKP	PKPbc	13 59 27.9	-0.2
GIVF	Givet	150.48 359	ePKIKP	PKPdf	13 59 22.0	-0.7
DOU	Dourbes	150.49 359	PKPbc	PKPbc	13 59 28.0	-0.2
DOU			PKPab	PKPab	13 59 32.8	-2.7
DOU			E		14 00 10.2	
DOU			APKPbc		14 00 21.1	
BAIF	Baives	150.53 360	ePKIKP	PKPdf	13 59 22.1	-0.6
WET	Wettzell	150.56 348	ePKPdf	PKPdf	13 59 22.3	-0.5
WET			ePKPbc	PKPbc	13 59 28.5	+0.1
ABH	Alteburg	150.56 355	PKP	PKPdf	13 59 22.6	-0.2
GERES	GERESS Array B	150.67 347	PKP	PKPdf	13 59 22.8	-0.1
	comp=Z,3.7nm,0.9s,baz=70,slow=1.6,SNR=19					
GERES			PKPbc	PKPbc	13 59 28.6	0.0
	comp=Z,57nm,0.9s,baz=48,slow=2.0,SNR=122					
GERES			pPKPbc	pPKPbc	14 00 21.3	-1.3
	comp=Z,20nm,0.9s,baz=86,slow=1.9,SNR=4.7					
GERES	GERESS Array B	150.67 347	PKIKP	PKPdf	13 59 22.8	-0.2
GERES			pmax	pmax		
	comp=Z,4.0nm,0.9s					
GERES			pmax	pmax		
	comp=Z,57nm,0.9s					
GERES			pmax	pmax		
	comp=Z,20nm,0.9s					
TOD	Tromm	150.72 353	PKIKP	PKPdf	13 59 22.6	-0.4
GZR	Gura Zlata	150.73 332	⇑iP	PKPbc	13 59 28.7	-0.1
GZR	Gura Zlata	150.73 332	⇑P	PKPbc	13 59 28.7	-0.1
RUP	Ruppelstein	150.78 356	PKIKP	PKPdf	13 59 23.2	+0.1
SZAC	Souni-Zanaja	150.81 305	P	PKPbc	13 59 29.6	+0.6
	comp=Z,7.5nm,1.0s					
WLF	Walferdange	150.87 357	ePKPbc	PKPbc	13 59 29.3	+0.2
WLF	Walferdange	150.87 357	PKPbc	PKPbc	13 59 29.2	+0.1
WLF			PKPab	PKPab	13 59 36.1	-1.1
WLF			E		14 00 22.9	
WLF	Walferdange	150.87 357	ePKPbc	PKPbc	13 59 29.5	+0.4
ALFC	Alevga	150.88 306	P	PKPbc	13 59 29.2	+0.1
	comp=Z,4.9nm,0.8s					
ULDT	Uludag	150.91 318	i P	PKPbc	13 59 29.6	+0.4
CONA	Conrad Observa	151.00 343	⇑iPKPdf	PKPdf	13 59 23.5	0.0
	comp=Z,24nm,1.6s,SNR=15					
CONA			⇑iPKiKP	PKiKP	13 59 30.1	+0.2
CONA			⇓iPKPab	PKPab	13 59 39.2	+1.4
BZS	Buzias	151.04 334	⇑iP	PKPbc	13 59 29.2	-0.3
BZS	Buzias	151.04 334	P	PKPbc	13 59 29.4	-0.1
PVL	Pavlikeni	151.13 326	ePKIKP	PKPbc	13 59 30.0	+0.3
PPCY	Paphos	151.18 306	P	PKPbc	13 59 29.6	-0.2
ISP	Isparta	151.22 313	eP	PKPbc	13 59 29.7	-0.2
ISP	Isparta	151.22 313	⇓iP	PKPbc	13 59 29.8	-0.1
ISP	Isparta	151.22 313	P	PKPbc	13 59 29.8	-0.1
MOA	Molln	151.48 345	⇑i	PKPbc	13 59 30.6	+0.1
	comp=Z,27nm,1.0s					
MOA	Molln	151.48 345	⇑i	PKPab	13 59 41.1	+1.4
	comp=Z,93nm,1.6s					
MOA	Molln	151.48 345	⇓iPKPdf	PKPdf	13 59 23.5	-0.7
	comp=Z,9.7nm,1.1s,SNR=8.2					
MOA			⇑iPKiKP	PKiKP	13 59 30.6	-0.3
	comp=Z,27nm,1.0s					
MOA			⇑iPKPab	PKPab	13 59 41.1	+1.4
	comp=Z,93nm,1.6s					
MOA	Molln	151.48 345	⇓iP	PKPdf	13 59 23.5	-0.7
MOA			i		13 59 30.6	
MOA			i		13 59 41.1	
STU	Stuttgart	151.50 353	ePKPdf	PKPdf	13 59 24.0	-0.2
STU			ePKPbc	PKPbc	13 59 30.4	-0.2
STU	Stuttgart	151.50 353	ePKPbc	PKPbc	13 59 30.3	-0.2
FLN	La Foliniere	151.60 6	ePKIKP	PKPdf	13 59 23.6	-0.8
	comp=Z,89nm,1.4s					
ROSF	Rostrenen	151.65 10	ePKIKP	PKPdf	13 59 23.2	-1.2
PKSM	Moragy	151.68 338	⇑iP	PKPbc	13 59 30.8	-0.2
PKSM	Moragy	151.68 338	⇑P	PKPbc	13 59 30.8	-0.2
FUR	Furstenfeldbru	151.79 350	ePKPdf	PKPdf	13 59 24.3	-0.4
FUR			ePKPbc	PKPbc	13 59 30.9	-0.3
FUR			ePKPab	PKPab	13 59 40.5	-0.5
FUR			epPKPbc	pPKPbc	14 00 27.6	+2.3
LDF	La Druitiere	151.81 6	ePKIKP	PKPdf	13 59 23.9	-0.8
SGMF	Saint Gilles	151.84 9	ePKIKP	PKPdf	13 59 23.8	-0.9
GRR	Gorron	151.94 7	ePKIKP	PKPdf	13 59 24.2	-0.7
BFO	Black Forest	152.03 354	ePKPdf	PKPdf	13 59 24.5	-0.5
BFO			ePKPbc	PKPbc	13 59 31.3	-0.5
BFO			ePKPab	PKPab	13 59 41.4	-0.6
CDF	Champ du Feu	152.04 355	ePKIKP	PKPdf	13 59 24.1	-0.9
QUIF	Quistinic	152.08 10	ePKIKP	PKPdf	13 59 24.5	-0.6
ELL	Elmali	152.17 311	eP	PKPbc	13 59 32.5	+0.5
ECH	Echery	152.25 355	PKP	PKPdf	13 59 25.4	+0.1
DNZL	Cakiroluk	152.30 314	i P	PKPbc	13 59 33.0	+0.6
THEF	They Montfort	152.31 357	PKP	PKPdf	13 59 25.6	+0.2
PERS	Pernice	152.39 343	ePKPdf	PKPdf	13 59 24.6	-1.0
PERS			ePKPbc	PKPbc	13 59 31.8	-0.7
PERS			i PKPab	PKPab	13 59 42.8	-0.7
PERS			epPKPbc	pPKPbc	14 00 28.2	+1.5
PERS			e		14 00 38.3	
KBA	Koelnbreinsper	152.42 346	⇑i	PKPbc	13 59 32.4	-0.2
	comp=Z,55nm,1.1s					
KBA	Koelnbreinsper	152.42 346	⇓i	PKPab	13 59 44.2	+0.6
	comp=Z,116nm,1.7s					
KBA	Koelnbreinsper	152.42 346	i PKPdf	PKPdf	13 59 25.0	-0.6
	comp=Z,16nm,1.1s,SNR=5.3					
KBA			⇑iPKiKP	PKiKP	13 59 32.4	-0.4
	comp=Z,55nm,1.1s					
KBA			⇓iPKPab	PKPab	13 59 44.2	+0.6
	comp=Z,116nm,1.7s					
GROS	Grobnik	152.45 343	ePKPdf	PKPdf	13 59 24.9	-0.7
FELD	Feldberg im Sc	152.51 354	PKP	PKPdf	13 59 25.6	-0.1
FELD			eP		13 59 32.5	
WATA	Walderalm	152.54 349	⇑i	PKPbc	13 59 32.8	-0.1
	comp=Z,14nm,0.6s					
WATA	Walderalm	152.54 349	⇑i	PKPab	13 59 44.8	+0.6
	comp=Z,41nm,1.0s					
WATA	Walderalm	152.54 349	⇓ePKPdf	PKPdf	13 59 26.9	+1.1
	comp=Z,6.5nm,0.8s					
WATA			⇑iPKiKP	PKiKP	13 59 32.8	-0.3
	comp=Z,14nm,0.6s					
WATA			⇑iPKPab	PKPab	13 59 44.8	+0.6
	comp=Z,41nm,1.0s					
WTTA	Wattenberg	152.60 349	⇑i	PKPbc	13 59 33.2	+0.2
	comp=Z,121nm,1.5s					
WTTA	Wattenberg	152.60 349	⇑iPKPdf	PKPdf	13 59 26.0	+0.1
	comp=Z,26nm,1.3s					
WTTA			⇑iPKiKP	PKiKP	13 59 33.2	0.0
	comp=Z,121nm,1.5s					
MOF	Molkenrain	152.61 355	PKP	PKPdf	13 59 25.6	-0.3
MOTA	Moosalm	152.62 349	⇓i	PKPbc	13 59 33.3	+0.3
	comp=Z,81nm,1.2s					
MOTA	Moosalm	152.62 349	⇓i	PKPab	13 59 44.7	+0.2
	comp=Z,30nm,0.8s					
MOTA	Moosalm	152.62 349	⇑ePKPdf	PKPdf	13 59 26.5	+0.7
	comp=Z,21nm,1.1s					
MOTA			⇓iPKiKP	PKiKP	13 59 33.3	+0.1
	comp=Z,81nm,1.2s					
MOTA			⇓iPKPab	PKPab	13 59 44.7	+0.2
	comp=Z,30nm,0.8s					
OBKA	Obir	152.66 344	⇑i	PKPbc	13 59 32.7	-0.5
	comp=Z,18nm,1.2s					
OBKA	Obir	152.66 344	⇓i	PKPab	13 59 44.9	+0.2
	comp=Z,48nm,0.9s					
OBKA	Obir	152.66 344	⇓ePKPdf	PKPdf	13 59 25.9	-0.1
	comp=Z,11nm,1.5s					
OBKA			⇑iPKiKP	PKiKP	13 59 32.7	-0.6
	comp=Z,18nm,1.2s					
OBKA			⇓iPKPab	PKPab	13 59 44.9	+0.2
	comp=Z,48nm,0.9s					
VTS	Vitosha	152.66 328	⇑iP	PKPbc	13 59 33.0	-0.2
VTS	Vitosha	152.66 328	eP	PKPdf	13 59 26.0	+0.1
VTS			⇑P		13 59 33.0	
SQTA	Sankt Quirin	152.72 349	⇓i	PKPbc	13 59 33.7	+0.4
	comp=Z,79nm,1.3s					
SQTA	Sankt Quirin	152.72 349	⇓iPKPdf	PKPdf	13 59 26.5	+0.4
	comp=Z,8.7nm,0.7s					
SQTA			⇓iPKiKP	PKiKP	13 59 33.7	+0.2
	comp=Z,79nm,1.3s					
FETY	Fethiye	152.81 312	eP	PKPbc	13 59 33.5	0.0
DAVA	Damuels	152.87 351	⇑i	PKPbc	13 59 33.9	+0.3
	comp=Z,106nm,1.2s					
DAVA	Damuels	152.87 351	⇓iPKPdf	PKPdf	13 59 26.9	+0.7
	comp=Z,14nm,1.6s					
DAVA			⇑iPKiKP	PKiKP	13 59 33.9	+0.1
	comp=Z,106nm,1.2s					
AYVA	Ayvalik	152.93 319	i P	PKPbc	13 59 33.3	-0.5
PDKS	Podkum	152.95 343	ePKPbc	PKPbc	13 59 33.3	-0.5
BBS	Basel-Blauen	152.97 355	PKIKP	PKPdf	13 59 26.7	+0.3
CRES	Cresnjev	153.04 342	ePKPdf	PKPdf	13 59 25.6	-0.9
CRES			ePKPbc	PKPbc	13 59 33.6	-0.4
CRES			ePKPab	PKPab	13 59 45.7	-0.5
KDAG	Bornova	153.09 317	i P	PKPbc	13 59 33.5	-0.6
LJU	Ljubljana	153.10 344	ePKPdf	PKPdf	13 59 26.2	-0.4
LJU			ePKPbc	PKPbc	13 59 33.8	-0.3
LJU			ePKPab	PKPab	13 59 45.9	-0.6
LJU			epPKPbc	pPKPbc	14 00 27.0	-1.2
LJU	Ljubljana	153.10 344	ePKIKP	PKPdf	13 59 26.2	-0.4
LJU			e		13 59 45.9	
IZM	Izmir	153.10 317	eP	PKPbc	13 59 34.1	-0.1
AYDN	Tasoluk	153.10 315	i P	PKPbc	13 59 34.8	+0.6
MMB	Musomiste	153.12 326	ePKIKP	PKPbc	13 59 32.0	-2.2
LOMF	Lomont	153.13 356	PKP	PKPdf	13 59 27.1	+0.5
VOY	Vojsko	153.27 344	ePKPdf	PKPdf	13 59 26.2	-0.6
VOY			ePKPbc	PKPbc	13 59 33.5	-1.0
VOY			ePKPab	PKPab	13 59 45.5	-1.8
VOY			e		14 00 00.6	
VOY	Vojsko	153.27 344	ePKPdf	PKPdf	13 59 26.2	-0.6
VOY			ePKPbc	PKPbc	13 59 33.5	-1.0
VOY			ePKPab	PKPab	13 59 45.5	-1.8
LOR	Lormes	153.32 0	ePKIKP	PKPdf	13 59 26.2	-0.7
	comp=Z,48nm,1.2s					
JAVS	Javornik	153.36 344	ePKPdf	PKPdf	13 59 26.3	-0.7
JAVS			ePKPbc	PKPbc	13 59 34.0	-0.7
JAVS			ePKPab	PKPab	13 59 46.5	-1.1
BOJS	Bojanci	153.39 342	ePKPdf	PKPdf	13 59 26.8	-0.2
BOJS			ePKPbc	PKPbc	13 59 34.7	0.0
BOJS			ePKPab	PKPab	13 59 47.4	-0.4
BOJS			epPKPbc	pPKPbc	14 00 28.0	-0.8
SSF	Saint Saulge	153.53 1	ePKIKP	PKPdf	13 59 26.8	-0.4
	comp=Z,35nm,1.2s					
LCHF	La Chataignera	153.64 7	PKP	PKPbc	13 59 34.8	-0.5
MFF	Saint Martin d	153.78 6	ePKIKP	PKPdf	13 59 26.9	-0.6
	comp=Z,34nm,1.2s					
AVF	Avril sur Loir	153.79 1	ePKIKP	PKPdf	13 59 26.7	-0.9
	comp=Z,15nm,1.1s					
PLE	Pljevlja	153.83 334	⇓iPKP	PKPab	13 59 49.8	+0.2
CABF	La Chapelle	153.92 357	ePKIKP	PKPdf	13 59 27.6	-0.1
	comp=Z,42nm,1.2s					
SMF	Signal de Mont	153.94 0	ePKIKP	PKPdf	13 59 27.1	-0.7
	comp=Z,54nm,1.4s					
IVA	Berane	153.99 333	⇓iPKP	PKPab	13 59 50.0	-0.3
BGF	Bois d'Agland	154.02 2	ePKIKP	PKPdf	13 59 27.4	-0.5
UPM	Unac-Piva	154.13 334	⇓iPKP	PKPab	13 59 50.8	-0.1
PVY	Plav	154.18 332	⇓iPKP	PKPab	13 59 51.4	+0.2
TCF	Toulx Ste Croi	154.26 3	ePKIKP	PKPdf	13 59 27.6	-0.6
	comp=Z,27nm,1.0s					
NKY	Niksic	154.42 334	⇓iPKP	PKPab	13 59 51.5	-0.6
AGO	Saint Agoulin	154.53 1	PKP	PKPdf	13 59 28.7	+0.1
BRY	Bratogost	154.53 334	⇓iPKP	PKPab	13 59 52.0	-0.6
PLDF	La Plantade	154.62 0	PKP	PKPdf	13 59 28.2	-0.5
TTG	Podgorica	154.62 333	⇓iPKP	PKPab	13 59 52.0	-1.0
PYM	Petit Puy Mans	154.83 2	PKP	PKPdf	13 59 29.6	+0.6
BUM	Brajici-Budva	154.88 333	⇓iPKP	PKPab	13 59 52.2	-1.9
HCY	Herceg Novi	154.93 334	⇓iPKP	PKPab	13 59 52.7	-1.6
LPG	La Plagne	154.98 355	ePKIKP	PKPdf	13 59 29.6	+0.4
ULC	Ulcinj	155.01 332	⇓iPKP	PKPab	13 59 52.1	-2.6
RJF	Les Rejaudoux	155.21 4	ePKIKP	PKPdf	13 59 29.1	-0.4
LBL	Lubilhac	155.35 1	PKP	PKPdf	13 59 29.2	-0.5
BNI	Bardonecchia	155.43 355	ePKIKP	PKPdf	13 59 28.2	-1.6
BNI			e		13 59 56.4	
EPON	Pontenova	155.44 20	PKP	PKPdf	13 59 33.1	+3.2
CAF	Calviac	155.62 3	ePKIKP	PKPdf	13 59 29.9	-0.2
ORIF	Oris-en-Rattie	155.62 357	ePKIKP	PKPdf	13 59 29.9	-0.2
VIVF	Saint-Julien-l	155.73 359	ePKIKP	PKPdf	13 59 30.2	0.0
MBDF	Montbardon	155.75 355	ePKIKP	PKPdf	13 59 30.1	-0.2
EARI	Arriondas	156.03 17	PKP	PKPdf	13 59 31.2	+0.6
LASF	Ste Croix	156.51 0	ePKIKP	PKPdf	13 59 31.2	-0.1
	comp=Z,36nm,1.2s					
SBF	Sospel	156.54 354	ePKIKP	PKPdf	13 59 30.6	-0.7
SMRF	Simiane la Rot	156.57 357	ePKIKP	PKPdf	13 59 30.4	-0.9
	comp=Z,25nm,1.0s					
AQU	L'Aquila	156.81 342	ePKP2	PKPab	14 00 02.6	+0.2
FRF	La Foret Royal	156.92 355	ePKIKP	PKPdf	13 59 31.1	-0.7
PBRG	Braganca	156.94 21	ePKPab	PKPab	14 00 02.5	-0.5
PVRL	Vila Real	157.07 23	ePKPab	PKPab	14 00 03.4	-0.1
LMR	La Mourre	157.15 355	ePKIKP	PKPdf	13 59 31.4	-0.7
	comp=Z,39nm,1.2s					
MTLF	Montolieu	157.20 3	ePKIKP	PKPdf	13 59 31.9	-0.2
	comp=Z,20nm,1.2s					
ETSF	Etsaut	157.38 9	ePKIKP	PKPdf	13 59 32.5	+0.2
	comp=Z,8.8nm,0.7s					
PVIS	Viseu	157.49 24	ePKPab	PKPab	14 00 05.0	-0.4
PGF	Pioggiola	157.63 350	ePKIKP	PKPdf	13 59 32.0	-0.7
	comp=Z,82nm,1.5s					
MTE	Manteigas	157.90 24	ePKPdf	PKPdf	13 59 33.2	+0.2
MTE	Manteigas	157.90 24	ePKPab	PKPab	14 00 06.4	-0.7
MTE	Manteigas	157.90 24	ePKPdf	PKPdf	13 59 33.2	+0.2
TIP	Timpagrande	158.37 332	ePKPdf	PKPdf	13 59 33.5	-0.1
TIP			ePKPab	PKPab	14 00 09.3	+0.1
PCBR	Castelo Branco	158.41 24	ePKPdf	PKPdf	13 59 33.9	+0.3
PCBR	Castelo Branco	158.41 24	ePKPab	PKPab	14 00 08.8	-0.5
GUD	Guadarrama	158.79 17	PKIKP	PKPdf	13 59 35.5	+1.4
EVO	Evora	159.30 27	ePKIKP	PKPdf	13 59 35.0	+0.3
	comp=Z,23nm,0.9s					
ERTA	Horta de San J	159.40 8	PKP	PKPdf	13 59 34.9	+0.1
EBAD	Badajoz	159.53 25	PKP	PKPdf	13 59 35.1	+0.2
ESDC	Sonseca Array	159.75 18	PKP	PKPdf	13 59 35.5	+0.3
	comp=Z,2.4nm,0.8s,baz=352,slow=3.9,SNR=15					
ESDC			PKPab	PKPab	14 00 14.7	-0.5
	comp=Z,6.9nm,0.7s,baz=334,slow=3.7,SNR=27					
ESDC	Sonseca Array	159.75 18	PKP	PKPdf	13 59 35.3	+0.2
ESLA	Sonseca Array	159.75 18	PKPdf	PKPdf	13 59 35.1	-0.1
ESLA			ePKPab	PKPab	14 00 14.9	-0.2
PBEJ	Beja	159.79 28	ePKPdf	PKPdf	13 59 36.1	+0.9
PTEO	Sao Teotonio	159.79 30	ePKPdf	PKPdf	13 59 36.6	+1.4
PTEO	Sao Teotonio	159.79 30	ePKPab	PKPab	14 00 14.7	-0.6
EMIN	Mina Concepcio	160.51 26	PKP	PKPdf	13 59 36.4	+0.4
EADA	Adamuz	160.94 21	PKP	PKPdf	13 59 36.6	+0.1
EVIA	Vianos	161.11 16	PKIKP	PKPdf	13 59 37.9	+1.2
EBAN	Banos Encina	161.19 19	PKIKP	PKPdf	13 59 37.7	+0.9
ELUQ	Luque	161.59 21	PKIKP	PKPdf	13 59 38.1	+0.9
ESPR	Espera	161.61 26	PKP	PKPdf	13 59 37.6	+0.4
EQES	Quesada	161.74 18	PKP	PKPdf	13 59 37.7	+0.3
EHUE	Huescar	161.87 17	PKIKP	PKPdf	13 59 38.1	+0.7
EMUR	La Murta	162.17 13	PKP	PKPdf	13 59 37.0	-0.8
LIC	Lamto	163.34 147	ePKIKP	PKPdf	13 59 38.3	-0.6
	comp=Z,39nm,0.9s					
DBIC	Dimbokro	163.81 147	PKP	PKPdf	13 59 39.0	-0.4
	comp=Z,15nm,1.1s,baz=90,slow=0.8,SNR=6.9					
DBIC	Dimbokro	163.81 147	PKIKP	PKPdf	13 59 39.0	-0.3
DBIC			pmax	pmax		
	comp=Z,15nm,1.1s					
DBIC	Dimbokro	163.81 147	PKP	PKPdf	13 59 39.0	-0.4
TORD	Torodi Ar. Bea	172.36 163	PKP	PKPdf	13 59 44.3	-0.8
	comp=Z,12nm,1.1s,baz=310,slow=1.2,SNR=29					
TORD			pPKP	pPKPdf	14 00 37.9	-1.9
	comp=Z,4.0nm,1.1s,baz=320,slow=1.3,SNR=2.8					
TORD			PKPab	PKPab	14 01 11.0	+0.2
	comp=Z,5.7nm,0.8s,baz=183,slow=3.5,SNR=16					
TORD			pPKPab	pPKPab	14 02 04.4	+1.6
	comp=Z,3.5nm,0.8s,baz=195,slow=4.0,SNR=3.0					
TORD	Torodi Ar. Bea	172.36 163	PKP	PKPdf	13 59 44.3	-0.8
TORD			pPKP	pPKPdf	14 00 37.9	-1.9
TORD			PKPab	PKPab	14 01 11.0	+0.2
TORD			pPKPab	pPKPab	14 02 04.4	+1.7

*NEIC **03** 14:22:02.7±2.0,3450S×6959W,h10^{km},ML2.7(GUC), Error ellipse: s-maj=21.0km s-min=11.5km az=150.0*

GUC 03 14:22:05.7±0.7,3445S×6979W,h14^{km}±6^{km},MD3.7, ML2.7,7C-5D,Chile-Argentina border region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	Cipreses	0.54 284	⇑iP	Pg	14 22 16.0	-0.3
CICH			i S	Sg	14 22 23.9	+0.4
LMEL	Las Melosas	0.69 330	⇓iP	Pg	14 22 18.9	-0.3
LMEL			i S	Sg	14 22 28.9	+0.6
LMEL			AML	AML	14 22 30.0	
	comp=E,926nm,0.3s					
LMEL	Las Melosas	0.69 330	⇓iP	Pg	14 22 18.9	-0.3
LMEL			i S	Sg	14 22 28.9	+0.6
CACH	El Canelo	0.75 296	⇓iP	Pg	14 22 19.5	-0.8
CACH			i S	Sg	14 22 29.7	-0.5
YECH	El Yeso	0.82 342	⇑iP	Pg	14 22 21.4	-0.1
YECH			i S	Sg	14 22 33.2	+0.9
YECH			AML	AML	14 22 36.2	
	comp=N,247nm,0.5s					
CHCH	Chadas Angostu	0.88 305	⇑iP	Pg	14 22 22.3	-0.5
CHCH			i S	Sg	14 22 34.8	+0.4
PCH	Pirque	1.02 324	⇑iP	Pb	14 22 25.2	-0.1
PCH			i S	Sb	14 22 39.8	+1.2
SFDO	San Fernando	1.03 260	⇑iP	Pb	14 22 24.8	-0.5
SFDO			i S	Sb	14 22 39.0	+0.3
ANTU	Antumapu	1.13 321	eP	Pb	14 22 26.3	-0.6
ANTU			i S	Sb	14 22 42.1	+0.6
ANTU			AML	AML	14 22 43.1	
	comp=E,519nm,0.3s					
ANTU	Antumapu	1.13 321	eP	Pb	14 22 26.3	-0.6
ANTU			i S	Sb	14 22 42.1	+0.6
FCH	Farellones	1.20 339	⇑iP	Pn	14 22 28.2	+0.1
FCH			i S	Sb	14 22 45.3	+1.8
FCH			AML	AML	14 22 46.3	
	comp=E,269nm,0.3s					
CLCH	Cerro Calan	1.22 329	⇑iP	Pn	14 22 28.3	-0.1
CLCH			i S	Sb	14 22 45.6	+1.4
CLCH			AML	AML	14 22 50.9	
	comp=E,373nm,0.6s					
TACH	Talagante	1.24 309	⇓iP	Pn	14 22 28.7	0.0
TACH			i S	Sb	14 22 46.1	+1.2
RCDM	Rinconada Maip	1.28 318	eP	Pn	14 22 29.8	+0.6
RCDM			i S	Sb	14 22 46.8	+0.9
RCDM			AML	AML	14 22 48.1	
	comp=E,212nm,0.2s					
RCDM	Rinconada Maip	1.28 318	eP	Pn	14 22 29.8	+0.6
RCDM			i S	Sb	14 22 46.8	+0.9
LNV	Longovilo	1.43 290	⇓iP	Pn	14 22 31.4	+0.1
MDZ	Mendoza	1.75 27	eP	Pn	14 22 32.2	-3.4
MDZ			i S	Sn	14 22 45.5	-12
LCCH	Las Cruces	1.77 303	i P	Pn	14 22 37.4	+1.4
LCCH			i S	Sn	14 23 01.8	+3.4

MAN 03 14:50:54.1,801N×12720E,h5^{km},mb3.6,ML4.7,MS4.3, 2C,Philippine Islands region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	1.83 301	eP	Pn	14 51 25.7	-0.5
BUTP			eS	Sn	14 51 50.9	+1.1
BUKP	Musuan	2.13 267	eP	Pn	14 51 30.7	+0.4
BUKP			eS	Sn	14 51 57.5	+0.5
SCPH	Surigao	2.44 316	⇑eP	Pn	14 51 31.2	-3.4
CGP	Cagayan de Oro	2.52 280	⇑eP	Pn	14 51 01.4	-34
CGP			i S	Sn	14 52 02.9	-3.9
MSLP	Maasin	3.13 313	eP	Pn	14 51 44.5	+0.4
MSLP			eS	Sn	14 52 26.8	+4.9
PAGZ	Pagadian	3.79 268	eP	Pn	14 51 54.4	+1.2

*CSEM **03** 14:51:24.1±0.9,3464N×2653E,h106^{km}±6^{km},ML3.7, Error ellipse: s-maj=24.0km s-min=2.4km az=160.0*
*ISCJB **03** 14:51:25.3±1.0,346N±0.1×266E±0.1,h100^{km},Error ellipse: s-maj=17.6km s-min=10.1km az=80.6*
*ATH **03** 14:51:25.8,3531N×2687E,h10^{km},MD3.4/3*
*HLW **03** 14:51:29.1,3429N×2665E,h104^{km},Mb3.7*

ISC 03 14:51:26.1±1.0,346N±01×265E±01,h100^{km},n11, σ0^{s}69/11,4C,Crete

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.72 292	ePG	**Pn**	**14 51 45.5**	**+1.8**
NPS	Neapolis	0.99 312	ePG	**Pn**	**14 51 45.0**	**-1.4**
SLUM		3.29 200	P	**Pn**	**14 52 15.6**	**-0.1**
HMAT	Matruh	3.53 172	P	**Pn**	**14 52 18.6**	**-0.4**
SWA1		5.37 188	P	**Pn**	**14 52 43.8**	**0.0**
SWA2		5.42 190	P	**Pn**	**14 52 44.5**	**0.0**
HNAT	Natroun	6.06 144	⇑P	**Pn**	**14 52 53.0**	**-0.1**
HSAF	As Saff	6.55 138	P	**Pn**	**14 52 59.8**	**-0.1**
HHAG	Hagoal	6.62 133	⇑P	**Pn**	**14 53 00.8**	**0.0**
GLL	Jalalah	6.67 137	⇑P	**Pn**	**14 53 01.4**	**-0.2**
SUZ		7.16 130	⇑P	**Pn**	**14 53 08.7**	**+0.6**

SZGRF **03** 15:07:20.3, 1836S×17721W, h33km, Fiji Islands region
MOS **03** 15:08:25.6±1.5, 18.16S×178.16W, h621km, mb4.4/18, Error ellipse: s-maj=11.9km s-min=9.4km az=138.9
ISCJB **03** 15:08:25.5±0.8, 1833S±006×178.11W±004, h628km±10km, mb4.5/60, Error ellipse: s-maj=9.5km s-min=4.9km az=124.4
BJI **03** 15:08:25.3, 1830S×178.10W, h625km, mB4.6, mb4.6
NEIC **03** 15:08:26.4±0.6, 1826S×178.07W, h626km±7km, mb4.3/34, Error ellipse: s-maj=9.3km s-min=5.0km az=150.0
IDC **03** 15:08:26.8±1.1, 1833S×178.07W, h632km±14km, mb4.2/18, mb1 4.3/21, mb1mx4.2/24, mbtmp5.2/21, Error ellipse: s-maj=11.9km s-min=9.4km az=152.0
ISC 03 15:08:26.7±0.8, **1833S**±005×**17805W**±004, **h624**km±10km, **h605**km±2.7km**:pP-P, n374,** σ0.71/262, **mb4.5**/60, **76C-84D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.46	55	P	P	15 10 21.0	-0.8
	60nm,0.3s,baz=340,slow=0.9,SNR=95						
AFI	Afiamalu	7.46	55	P	P	15 10 21.0	-0.8
AFI				pmax	pmax		
	comp=Z,60nm,0.3s						
AFI	Afiamalu	7.46	55	eP	P	15 10 20.9	-0.9
	comp=Z,783nm,1.0s						
RAO	Raoul Island	10.87	179	P	P	15 10 53.6	-0.8
	comp=Z,284nm,0.3s,baz=136,slow=2.3,SNR=11						
RAO	Raoul Island	10.87	179	eP	P	15 10 53.4	-1.0
RAO				pmax	pmax		
	comp=Z,548nm,0.4s						
RAO	Raoul Island	10.87	179	eP	P	15 10 53.4	-1.0
	comp=Z,548nm,0.4s						
DZM	Mont Dzumac	15.02	253	eP	P	15 11 35.5	+1.5
DZM	Mont Dzumac	15.02	253	P	P	15 11 34.9	+0.9
	comp=Z,6.9nm,0.3s,baz=80,slow=16,SNR=66						
NOUC	Port Laguerre	15.15	253	⇑iP	P	15 11 36.7	+1.5
RAR	Rarotonga	17.44	102	P	P	15 11 56.7	+0.6
	comp=Z,0.9nm,0.3s,baz=125,slow=19,SNR=4.4						
RAR	Rarotonga	17.44	102	P	P	15 11 56.7	+0.6
RAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
URZ	Urewera	20.30	191	P	P	15 12 20.3	-1.6
	comp=Z,15nm,0.3s,baz=317,slow=2.8,SNR=31						
QRZ	Quartz Range	23.84	198	PN	P	15 12 54.1	+0.7
QRZ				SN	S	15 16 25.3	-2.0
NNZ	Nelson	23.96	196	PN	P	15 12 53.8	-0.7
THZ	Tophouse	24.60	196	PN	P	15 12 59.3	-0.9
DSZ	Denniston Nort	24.90	198	PN	P	15 13 03.1	+0.4
LTZ	Lake Taylor	25.72	197	PN	P	15 13 09.0	-1.0
RPZ	Rata Peaks	26.92	198	P	P	15 13 19.2	-1.3
	comp=Z,19nm,0.7s,mb4.8,baz=357,slow=2.0,SNR=12						
ARMA	Armidale	30.02	241	⇓iP	P	15 13 49.0	+1.7
CNB	Canberra Magne	33.44	233	⇓iP	P	15 14 17.8	+1.7
	comp=Z,166nm,0.5s						
CTA	Charters Tower	33.71	261	⇓iP	P	15 14 18.9	+0.5
	comp=Z,88nm,0.6s,mb5.6						
CTA				ePCP	PcP	15 16 39.2	+0.3
CTA				eSCP	ScP	15 19 27.1	+1.7
CTA	Charters Tower	33.71	261	P	P	15 14 19.0	+0.6
	comp=Z,101nm,0.7s,mb5.6,baz=91,slow=10,SNR=204						
CTA	Charters Tower	33.71	261	⇓iP	P	15 14 18.9	+0.5
CTA				e		15 16 39.2	
CTA				pmax	pmax		
	comp=Z,88nm,0.6s						
CTAO	Charters Tower	33.71	261	⇓iP	P	15 14 19.0	+0.6
CTAO				pmax	pmax		
	comp=Z,103nm,0.7s,mb5.6						
CTAO	Charters Tower	33.71	261	⇓iP	P	15 14 19.0	+0.6
	comp=Z,103nm,0.7s,mb5.6						
PMG	Port Moresby	34.86	280	P	P	15 14 29.1	+1.2
	comp=Z,169nm,0.8s,baz=75,slow=5.7,SNR=48						
PMG	Port Moresby	34.86	280	⇓eP	P	15 14 28.9	+0.9
PMG				pmax	pmax		
	comp=Z,196nm,0.9s						
PMG	Port Moresby	34.86	280	⇓eP	P	15 14 28.9	+1.0
	comp=Z,196nm,0.9s						
TOO	Toolangi	37.17	231	⇓iP	P	15 14 47.9	+1.1
	comp=Z,48nm,0.8s,mb5.1						
TOO	Toolangi	37.17	231	⇓iP	P	15 14 47.9	+1.1
TOO				pmax	pmax		
	comp=Z,48nm,0.8s,mb5.1						
WB2	Warramunga Arr	44.88	260	⇓eP	P	15 15 47.1	-0.4
WRAB	Tennant Creek	44.88	260	⇓iP	P	15 15 47.2	-0.3
WRAB				pmax	pmax		
	comp=Z,166nm,0.6s						
WRAB	Tennant Creek	44.88	260	⇓iP	P	15 15 47.2	-0.3
	comp=Z,166nm,0.6s						
WRA	Warramunga Arr	44.89	260	P	P	15 15 46.8	-0.8
	comp=Z,85nm,0.4s,mb5.6,baz=96,slow=7.1,SNR=1114						
WRA				PcP	PcP	15 17 14.7	-0.4
	comp=Z,7.4nm,0.4s,baz=90,slow=3.3,SNR=6.8						
WRA				S	S	15 21 37.5	-4.0
	comp=Z,2.8nm,0.9s,baz=98,slow=13,SNR=5.1						
WRA	Warramunga Arr	44.89	260	P	P	15 15 46.8	-0.8
WRA						15 17 14.7	
WRA				S	S	15 21 37.5	-4.0
WRA				pmax	pmax		
	comp=Z,85nm,0.4s						
WRA				pmax	pmax		
	comp=Z,7.0nm,0.4s						
WRA				smax			
	comp=N,3.0nm,0.9s						
AS31	Alice Springs	45.00	255	eP	P	15 15 48.8	+0.4
AS31				ePcP	PcP	15 17 15.6	+0.1
ASAR	Alice Springs	45.00	255	P	P	15 15 48.9	+0.4
	comp=N,224nm,0.7s,baz=93,slow=7.7,SNR=3421						
ASAR				PcP	PcP	15 17 15.4	-0.1
	comp=N,17nm,0.4s,baz=105,slow=3.7,SNR=9.0						
ASAR				ScP	ScP	15 20 09.5	+0.1
	comp=N,1.5nm,0.7s,baz=117,slow=4.4,SNR=4.2						
ASAR				S	S	15 21 41.6	-1.5
	comp=N,7.8nm,0.9s,baz=89,slow=16,SNR=19						
ASAR	Alice Springs	45.00	255	P	P	15 15 48.9	+0.5
ASAR						15 17 15.5	
ASAR				S	S	15 21 41.6	-1.5
ASAR				pmax	pmax		
	comp=Z,224nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,17nm,0.4s						
ASAR				pmax	pmax		
	comp=N,2.0nm,0.7s						
ASAR				smax			
	comp=N,8.0nm,0.9s						
ASPA	Alice Springs	45.01	255	eP	P	15 15 48.8	+0.4
ASPA				ePCP	PcP	15 17 15.6	0.0
KAKA	Kakadu	47.91	269	⇓iP	P	15 16 09.9	-0.4
	comp=N,154nm,0.4s						
GUMO	Guam	48.40	308	P	P	15 16 13.7	-0.2
	comp=N,101nm,0.8s,mb5.4,baz=355,slow=21,SNR=4.7						
GUMO	Guam	48.40	308	P	P	15 16 13.7	-0.2
GUMO				pmax	pmax		
	comp=Z,101nm,0.8s,mb5.4						
FORT	Forrest	50.13	245	⇓iP	P	15 16 26.1	-0.4
	comp=Z,101nm,0.4s,mb5.6						
FITZ	Fitzroy Crossi	53.29	261	⇓iP	P	15 16 49.3	+0.2
	comp=Z,37nm,0.5s,mb5.0						
FITZ	Fitzroy Crossi	53.29	261	P	P	15 16 49.4	+0.2
	comp=Z,18nm,0.5s,mb4.7,baz=116,slow=3.5,SNR=148						
MBWA	Marble Bar	58.30	256	⇓iP	P	15 17 23.2	-0.3
	comp=Z,53nm,0.6s,mb4.8						
KLBR	Kellerberrin	58.95	244	eP	P	15 17 27.1	-0.7
	comp=Z,109nm,0.7s,mb5.1						
NWAO	Narrogin (SRO)	59.31	242	eP	P	15 17 30.1	-0.2
NWAO				pmax	pmax		
	comp=Z,49nm,1.2s						
NWAO	Narrogin (SRO)	59.31	242	eP	P	15 17 30.1	-0.2
	comp=Z,48nm,1.2s,mb4.5						
VNDA	Vanda	60.05	185	P	P	15 17 35.9	+0.7
	comp=Z,1.9nm,0.5s,mb3.6,baz=354,slow=7.0,SNR=24						
VNDA	Vanda	60.05	185	P	P	15 17 35.9	+0.7
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MUN	Mundaring	60.23	243	eP	P	15 17 35.8	-0.5
CASY	Casey	65.90	205	⇓iP	P	15 18 12.2	-0.2
TSM	Tawau	66.99	283	P	P	15 18 22.0	+2.8
MJAR	Matsushiro Arr	68.45	323	P	P	15 18 26.9	-1.0
	comp=Z,2.5nm,0.4s,mb4.0,baz=158,slow=5.8,SNR=14						
MJAR				PcP	PcP	15 18 47.7	-0.2
	comp=Z,2.2nm,0.7s,baz=123,slow=4.6,SNR=5.3						
MJAR	Matsushiro Arr	68.45	323	P	P	15 18 27.0	-1.0
MJAR						15 18 47.7	
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MJAR	Matsushiro Arr	68.45	323	P	P	15 18 26.9	-1.0
MJAR				PcP	PcP	15 18 47.7	-0.2
MAT	Matsushiro	68.45	323	P	P	15 18 26.9	-1.1
MAT	Matsushiro	68.45	323	eP	P	15 18 27.0	-1.0
JOW	Kunigami	68.75	309	P	P	15 18 29.8	0.0
	comp=Z,13nm,0.8s,mb4.4,baz=164,slow=8.8,SNR=4.8						
KKM	Kota Kinabalu	69.17	284	P	P	15 18 33.0	+0.6
KKM	Kota Kinabalu	69.17	284	eP	P	15 18 32.3	-0.1
QSPA	South Pole Qui	71.73	180	⇓iP	P	15 18 48.1	+0.8
	comp=Z,23nm,0.6s,mb4.9						
UNV	Unalaska Valle	72.56	7	eP	P	15 18 49.1	-3.0
	comp=Z,42nm,0.6s,mb5.1						
MIR	Mirnyy	72.93	205	d iP	P	15 18 55.0	+0.8
MIR				pmax	pmax		
	comp=Z,210nm,0.9s						
KSM	Kuching	73.07	277	eP	P	15 18 55.6	+0.6
YSS	Yuzh-Sakhalins	73.94	333	⇓eP	P	15 18 59.9	0.0
YSS				pmax	pmax		
	comp=Z,27nm,2.0s,mb4.4						
QZH	Quanzhou	75.19	303	P	P	15 19 07.0	+0.1
HAST	UC Hastings Re	76.21	44	⇑P	P	15 19 13.1	+0.6
	baz=76						
V04C	Ramage Ranch,	76.23	45	⇓P	P	15 19 13.1	+0.5
	baz=76						
PKD	Parkfield	76.62	45	⇓P	P	15 19 14.9	+0.1
	baz=77						
U04C	Hernandez Rese	76.70	44	⇓P	P	15 19 16.0	+0.8
	baz=77						
PACP	Pacheco Peak	76.74	43	⇓P	P	15 19 16.0	+0.6
	baz=77						
S04C	Ingram Canyon,	77.00	43	⇑P	P	15 19 17.1	+0.2
	baz=77						
V05C	Boulder Hill,	77.01	45	⇓P	P	15 19 17.5	+0.6
	baz=77						
MNRC	McLaughlin Nat	77.09	41	⇑P	P	15 19 17.8	+0.4
	baz=77						
109C	Camp Elliot, M	77.34	49	⇑P	P	15 19 19.0	+0.4
	baz=78						
GASB	Alder Springs	77.38	41	⇑P	P	15 19 19.7	+0.8
	baz=78						
S05C	Merced	77.56	44	⇑P	P	15 19 19.9	0.0
	baz=78						
O02C	Red Bluff	77.65	40	⇑P	P	15 19 21.1	+0.8
	baz=78						
N02C	Big Bar	77.73	39	⇓P	P	15 19 20.9	+0.2
	baz=78						
ISA	Isabella	77.86	46	⇑P	P	15 19 22.0	+0.5
	baz=78						
CMB	Columbia Colle	77.91	43	eP	P	15 19 21.5	-0.2
CMB				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
CMB	Columbia Colle	77.91	43	eP	P	15 19 21.5	-0.3
	comp=Z,9.8nm,1.0s,mb4.2						
CMB	Columbia Colle	77.91	43	P	P	15 19 21.8	+0.1
	baz=78,SNR=5.3						
WDC	Whiskeytown Da	78.05	40	⇓P	P	15 19 22.3	-0.1
	baz=78						
HELL	Mitchell Peak,	78.05	45	⇓P	P	15 19 22.2	-0.2
	baz=78						
ORV	Oroville	78.08	41	⇓P	P	15 19 22.5	-0.1
	baz=78						
LAVA	Lava Cap Winer	78.10	42	⇑P	P	15 19 22.7	0.0
	baz=78						
M02C	Callahan	78.35	39	⇓P	P	15 19 24.6	+0.6
	baz=78,SNR=7.9						
L02A	Cave Junction	78.37	38	⇓P	P	15 19 24.2	0.0
	baz=78						
NJ2	Nanjing	78.47	309	eP	P	15 19 24.3	-0.4
NJ2				PP	PP	15 22 34.6	+0.6
NJ2				S	S	15 28 27.0	-4.1
NJ2				SKS		15 28 33.0	
NJ2				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,330nm,6.2s						
R05C	Kirkwood Meado	78.50	43	⇑P	P	15 19 24.9	0.0
	baz=79,SNR=5.7						
CWC	Cottonwood Cre	78.56	45	⇑P	P	15 19 25.3	+0.2
	baz=79						
YBH	Yreka Blue Hor	78.64	39	P	P	15 19 26.0	+0.4
	comp=Z,7.8nm,0.6s,mb4.2,baz=194,slow=1.7,SNR=33						
YBH	Yreka Blue Hor	78.64	39	P	P	15 19 26.0	+0.4
YBH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
YBH	Yreka Blue Hor	78.64	39	eP	P	15 19 25.8	+0.3
	comp=Z,3.3nm,0.4s,mb4.0						
YBH	Yreka Blue Hor	78.64	39	⇑P	P	15 19 25.8	+0.3
	baz=79,SNR=12						
O05C	Quincy	78.69	41	⇑P	P	15 19 25.9	+0.1
	baz=79						
MDJ	Mudanjiang	78.72	325	P	P	15 19 26.2	+0.2
MDJ				AP	pP	15 21 33.2	-1.9
MDJ				XP	sP	15 22 37.6	-0.6
MDJ				S	S	15 28 33.0	-0.8
MDJ				XS	sS	15 32 25.4	+1.7
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,24nm,3.2s						
O04C	Chester	78.79	41	⇓P	P	15 19 26.4	0.0
	baz=79						
R06C	Coleville	78.80	43	⇑P	P	15 19 26.7	+0.3
	baz=79,SNR=5.0						
K02A	Glendale	78.81	38	⇑P	P	15 19 26.6	+0.1
	baz=79						
R07C	Lee Vining	78.82	44	⇓P	P	15 19 26.5	0.0
	baz=79,SNR=7.1						
GSC	Goldstone	78.82	47	⇑P	P	15 19 26.9	+0.3
	baz=79						
HATC	Hat Creek Radi	78.85	40	⇓P	P	15 19 27.0	+0.3
	baz=79						
HUMO	Hull Mountain	79.02	38	eP	P	15 19 27.6	0.0
	comp=Z,10nm,1.0s,mb4.1						
HUMO	Hull Mountain	79.02	38	⇑P	P	15 19 27.8	+0.2
	baz=79,SNR=8.4						
WCN	Washoe City	79.04	42	⇑P	P	15 19 28.0	+0.3
	baz=79,SNR=5.3						
GLA	Glamis	79.07	50	⇑P	P	15 19 28.4	+0.5
	baz=79						
J02A	Umpqua	79.13	37	⇓P	P	15 19 28.1	0.0
	baz=79						
ELFS	Eagle Lake Fie	79.18	41	⇑P	P	15 19 28.6	+0.1
	baz=79						
M04C	Macdoel	79.19	39	⇓P	P	15 19 28.4	-0.1
	baz=79,SNR=6.0						
BUOR	Burton Butte	79.24	39	P	P	15 19 29.2	+0.4
M05C	Lookout	79.36	40	⇑P	P	15 19 29.4	0.0
	baz=80						
I02A	Mapleton	79.38	37	⇑P	P	15 19 29.4	0.0
	baz=80						
L04A	Klamath Falls	79.39	39	⇑P	P	15 19 29.4	-0.1
	baz=80						
Q07A	Schurz	79.45	43	⇑P	P	15 19 29.8	-0.1
	baz=80						
J03A	Ideyld Park	79.48	37	⇓P	P	15 19 30.2	+0.2
	baz=80						
O06A	Flanigan	79.49	41	⇓P	P	15 19 30.0	0.0
	baz=80,SNR=5.1						
NVAR	Mina Array Bea	79.49	44	P	P	15 19 30.4	+0.4
	comp=Z,6.6nm,0.7s,mb4.1,baz=225,slow=8.9,SNR=44						
TUQ	Turquoise Mtn.	79.50	47	⇓P	P	15 19 30.2	+0.1
	baz=80						
PAHR	Pah Rah Range	79.51	42	eP	P	15 19 29.6	-0.6
	comp=Z,17nm,1.3s,mb4.2						
MNV	Mina	79.59	44	eP	P	15 19 30.0	-0.6
MNV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.0						
MNV	Mina	79.59	44	eP	P	15 19 29.9	-0.6
	comp=Z,9.2nm,1.0s,mb4.1						
Y12C	Blythe	79.64	49	⇑P	P	15 19 31.2	+0.3
	baz=80						
I03A	Eugene	79.67	37	⇓P	P	15 19 30.7	-0.4
	baz=80						
M06C	Likely Place G	79.68	40	⇓P	P	15 19 31.0	0.0
	baz=80						
U10A	Ash Meadows, A	79.74	46	⇓P	P	15 19 31.8	+0.5
	baz=80						
S09A	Goldfield	79.82	45	⇓P	P	15 19 31.6	-0.2
	baz=80						
KGM	Kluang	79.85	276	P	P	15 19 32.9	+0.9
L05A	Lakeview	79.95	39	⇓P	P	15 19 32.8	+0.3
	baz=80,SNR=6.8						
Q08A	Gabbs	79.97	43	⇑P	P	15 19 32.7	+0.1
	baz=80						
V11A	Goodsprings	80.06	47	⇓P	P	15 19 33.1	+0.1
	baz=80						
TPNV	Topopah Spring	80.07	46	eP	P	15 19 33.2	+0.1
TPNV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.8						
TPNV	Topopah Spring	80.07	46	eP	P	15 19 33.2	+0.1
	comp=Z,5.0nm,1.0s,mb3.8						
O07A	Toulon	80.08	42	⇑P	P	15 19 33.0	-0.1
	baz=80,SNR=9.5						
H03A	Soap Creek Ran	80.10	36	⇑P	P	15 19 33.4	+0.1
	baz=80						
R09A	Tonopah	80.20	44	⇓P	P	15 19 33.8	0.0
	baz=80,SNR=6.5						
IRO	Indian Ridge	80.28	37	P	P	15 19 34.1	0.0
P08A	Dixie Valley	80.33	43	⇑P	P	15 19 34.8	+0.4
	baz=80						
U11A	Corn Creek	80.39	47	⇑P	P	15 19 34.9	+0.2
	baz=80						
V12A	Nelson	80.40	47	⇓P	P	15 19 35.0	+0.2
	baz=80						
Q09A	Carvers	80.45	44	⇓P	P	15 19 35.1	0.0
	baz=81						
SNY	Shenyang	80.53	320	⇓P	P	15 19 33.3	-2.1
SNY				AMB	AMB		
	comp=Z,101nm,0.5s,mb5.5						
CN2	Changchun	80.56	322	eP	P	15 19 35.7	+0.1
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
Z14A	Wintersburg	80.59	50	⇓P	P	15 19 36.4	+0.6
	baz=81						
M07A	Soldier Meadow	80.59	41	⇓P	P	15 19 36.1	+0.3
	baz=81,SNR=10						
H04A	Detroit Lake	80.73	37	⇓P	P	15 19 35.7	-0.8
	baz=81,SNR=9.1						
K06A	Valley Falls	80.74	39	⇑P	P	15 19 36.7	+0.1
	baz=81,SNR=5.8						
R10A	Warm Springs	80.74	45	⇓P	P	15 19 37.0	+0.5
	baz=81,SNR=11						
115A	Sonoran Desert	80.80	51	⇓P	P	15 19 37.2	+0.3
	baz=81						
Y14A	Wickenburg	80.83	50	⇓P	P	15 19 37.1	+0.1
	baz=81						
L07A	Adell	80.84	40	⇑P	P	15 19 37.4	+0.4
	baz=81,SNR=11						
P09A	Austin	80.86	43	⇓P	P	15 19 37.0	-0.2
	baz=81						
G04A	Mulino	80.88	36	⇑P	P	15 19 36.6	-0.7
	baz=81						
N08A	GE Springer Mi	80.90	42	⇑P	P	15 19 37.2	-0.1
	baz=81,SNR=15						
I05A	Bend	80.94	38	⇓P	P	15 19 37.4	-0.2
	baz=81						
U12A	Valley of Fire	80.98	47	⇓P	P	15 19 37.8	0.0
	baz=81						
J06A	Christmas Vall	81.06	39	P	P	15 19 37.9	-0.3
	baz=81,SNR=16						
E03A	Lebam	81.11	35	⇑P	P	15 19 37.9	-0.6
	baz=81						
M08A	Happy Creek Ra	81.12	41	⇑P	P	15 19 38.8	+0.3
	baz=81,SNR=6.5						
116A	Eloy	81.12	52	⇓P	P	15 19 38.9	+0.5
	baz=81						
O09A	Fish Creek Ran	81.17	43	⇑P	P	15 19 38.6	-0.1
	baz=81						
X14A	Yava	81.17	49	⇓P	P	15 19 39.4	+0.7
	baz=81,SNR=7.8						
H05A	Madras	81.25	37	⇓P	P	15 19 38.6	-0.5
	baz=81						
K07A	Rock Creek Ran	81.28	40	⇓P	P	15 19 39.4	+0.1
	baz=81,SNR=18						
BMN	Battle Mountai	81.29	42	eP	P	15 19 39.4	0.0
BMN				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.2						
BMN	Battle Mountai	81.29	42	eP	P	15 19 39.4	0.0
	comp=Z,12nm,1.1s,mb4.2						
N09A	Rock Creek Ran	81.33	42	⇓P	P	15 19 39.6	0.0
	baz=82,SNR=5.4						
P10A	Eureka	81.34	43	⇓P	P	15 19 39.7	+0.1
	baz=82						
D03A	Wishkah Elem.	81.35	34	⇓P	P	15 19 39.9	+0.2
	baz=82						
F04A	Amboy	81.35	36	⇓P	P	15 19 39.0	-0.6
	baz=82						
W14A	Seligman	81.39	49	⇓P	P	15 19 40.8	+0.9
	baz=82,SNR=9.5						
I06A	Prineville	81.43	38	⇑P	P	15 19 40.3	+0.2
	baz=82,SNR=25						
C03A	Quillayute Air	81.46	33	⇑P	P	15 19 41.4	+1.2
	baz=82						
Q11A	Duckwater	81.47	44	⇓P	P	15 19 40.1	-0.2
	baz=82,SNR=12						
WVOR	Wild Horse Val	81.51	40	eP	P	15 19 40.3	-0.2
WVOR				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.3						
WVOR	Wild Horse Val	81.51	40	eP	P	15 19 40.3	-0.1
	comp=Z,12nm,1.0s,mb4.4						
J07A	Hines	81.63	39	⇓P	P	15 19 41.0	-0.1
	baz=82						
X15A	Humboldt	81.65	50	⇑P	P	15 19 42.0	+0.8
	baz=82						
M09A	Marrel Ranch,	81.69	41	⇑P	P	15 19 41.7	+0.3
	baz=82						
MA2	Magadan	81.69	345	eP	P	15 19 37.9	-3.5
MA2				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
P11A	Circle Ranch,	81.77	44	⇓P	P	15 19 41.9	+0.1
	baz=82						
L09A	Wilkinson Ranc	81.88	41	⇑P	P	15 19 42.4	+0.1
	baz=82,SNR=6.0						
E05A	Randle	82.10	35	⇑P	P	15 19 42.9	-0.5
	baz=82,SNR=7.3						
Q12A	Willow Creek R	82.12	45	⇑P	P	15 19 43.6	+0.1
	baz=82						
J08A	Circle Bar Ran	82.13	39	P	P	15 19 43.7	+0.1
	baz=82,SNR=14						
O11A	Cowboy Ranch,	82.14	43	⇓P	P	15 19 43.8	+0.2
	baz=82						
P12A	McGill	82.29	44	⇑P	P	15 19 44.6	+0.2
	baz=82,SNR=5.3						
M10A	I.L. Ranch, Tu	82.31	42	⇓P	P	15 19 44.5	0.0
	baz=82,SNR=5.5						
D05A	Enumclaw	82.35	35	⇓P	P	15 19 44.7	-0.1
	baz=82						
CCUT	Cedar City	82.35	46	eP	P	15 19 45.3	+0.5
N11A	Elko Archery C	82.45	43	⇑P	P	15 19 45.1	-0.1
	baz=83						
ELK	Elko	82.73	43	eP	P	15 19 46.5	-0.1
ELK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ELK	Elko	82.73	43	eP	P	15 19 46.5	-0.1
	comp=Z,5.4nm,0.9s,mb4.1						
M11A	Holland Ranch,	82.74	42	⇓P	P	15 19 47.0	+0.3
	baz=83,SNR=7.6						
WUAZ	Wupatki	82.76	49	eP	P	15 19 46.3	-0.4
	comp=Z,5.9nm,1.0s,mb4.1						
IPM	Ipoh	82.81	277	P	P	15 19 48.4	+1.4
C05A	Tolt Reservoir	82.82	35	⇑P	P	15 19 46.4	-0.7
	baz=83,SNR=5.2						
TTA	Tatalina	82.83	10	eP	P	15 19 45.8	-1.3
TTA				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.5						
TTA	Tatalina	82.83	10	eP	P	15 19 45.8	-1.4
	comp=Z,13nm,0.9s,mb4.5						
A04A	Legoe Bay, Lum	82.91	33	⇓P	P	15 19 47.1	-0.4
	baz=83						
N12A	Clover Valley,	82.92	43	⇑P	P	15 19 47.5	-0.1
	baz=83,SNR=8.7						
PMR	Palmer	82.93	13	eP	P	15 19 45.4	-2.2
PMR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
PMR	Palmer	82.93	13	eP	P	15 19 45.4	-2.2
	comp=Z,9.8nm,0.9s,mb4.3						
B05A	Bryant	82.95	34	⇓P	P	15 19 47.2	-0.5
	baz=83						
HAWA	Hanford	83.24	36	eP	P	15 19 48.4	-0.7
	comp=Z,1.8nm,1.5s						
M12A	Wells	83.29	43	⇓P	P	15 19 49.4	0.0
	baz=83						
KULM	Kulim	83.43	278	eP	P	15 19 50.6	+0.6
N13A	Wendover, West	83.46	43	⇓P	P	15 19 50.3	+0.1
	baz=84						
MAW	Mawson	83.58	200	eP	P	15 19 50.5	-0.3
	comp=Z,13nm,1.1s,mb4.4						
MAW	Mawson	83.58	200	P	P	15 19 50.8	0.0
	comp=Z,6.4nm,0.5s,mb4.5,baz=132,slow=6.0,SNR=42						
MAW	Mawson	83.58	200	P	P	15 19 50.8	0.0
MAW				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MSU	Marysvale	83.64	46	eP	P	15 19 51.7	+0.6

M13A	Montello	83.75	43	⇓P	P	15 19 51.7	0.0
	baz=84,SNR=7.0						
PSI	Prapat	84.26	275	P	P	15 19 53.2	-1.0
	comp=Z,36nm,0.8s,mb5.0,baz=125,slow=2.8,SNR=33						
PSI	Prapat	84.26	275	P	P	15 19 53.2	-1.0
PSI				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.0						
BJI	Beijing	84.32	315	*e*P	P	15 19 54.1	-0.4
BJI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.3						
HLID	Hailey	84.72	41	*e*P	P	15 19 56.5	+0.1
	comp=Z,4.4nm,0.8s,mb4.1						
SRU	San Rafael	85.06	46	*e*P	P	15 19 57.8	-0.3
SRU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
SRU	San Rafael	85.06	46	*e*P	P	15 19 57.8	-0.2
	comp=Z,3.1nm,0.6s,mb4.1						
GYA	Guiyang	85.54	300	P	P	15 20 00.7	+0.4
GYA				AP	pP	15 22 09.9	-2.5
GYA				XP	sP	15 23 09.1	-5.6
GYA				PP	PP	15 23 31.6	+0.7
GYA				SKS		15 29 27.7	
GYA				S	S	15 29 41.5	+0.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
GYA				AMB	AMB		
	comp=Z,50nm,4.9s						
LTX	Lajitas	85.94	57	*e*P	P	15 20 03.4	+1.2
LTX				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.4						
LTX	Lajitas	85.94	57	*e*P	P	15 20 03.4	+1.2
	comp=Z,9.5nm,1.1s,mb4.3						
ANMO	Albuquerque	86.09	51	*e*P	P	15 20 03.1	+0.1
ANMO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ANMO	Albuquerque	86.09	51	*e*P	P	15 20 03.1	+0.1
	comp=Z,2.8nm,0.9s,mb3.9						
COLA	College	86.11	12	*e*P	P	15 20 00.3	-2.7
COLA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
COLA	College	86.11	12	*e*P	P	15 20 00.3	-2.7
	comp=Z,4.9nm,0.6s,mb4.3						
MCMT	McKenzie Canyo	86.34	40	*e*P	P	15 20 04.0	-0.1
BSMT	Bassoo Peak	86.75	37	P	P	15 20 05.4	-0.6
DLMT	Dillon	86.76	40	*e*P	P	15 20 05.8	-0.3
	comp=Z,15nm,1.1s,mb4.6						
XAN	Xi'an	86.78	307	P	P	15 20 06.6	+0.4
XAN				AMB	AMB		
	comp=Z,22nm,1.1s,mb4.8						
TPAW	Teton Pass	86.87	42	*e*P	P	15 20 06.6	0.0
	comp=Z,7.3nm,1.1s,mb4.3						
BILL	Bilibino	86.88	354	*e*P	P	15 20 04.5	-2.2
BILL				pmax	pmax		
	comp=Z,10.0nm,2.1s,mb4.2						
IMW	Indian Meadow	87.07	42	*e*P	P	15 20 08.8	+1.2
	comp=Z,13nm,1.1s,mb4.6						
MOOW	Moose Ponds	87.12	42	P	P	15 20 06.3	-1.5
	comp=Z,2.3nm,0.9s,mb3.9						
LOHW	Long Hollow	87.15	42	*e*P	P	15 20 07.6	-0.3
	comp=Z,3.5nm,0.7s,mb4.2						
QLMT	Earthquake Lak	87.22	41	*e*P	P	15 20 09.3	+1.0
PDAR	Pinedale Array	87.42	43	P	P	15 20 09.0	-0.2
	comp=Z,3.8nm,0.6s,mb4.3,baz=224,slow=3.0,SNR=37						
BOZ	Bozeman (W)	87.49	40	*e*P	P	15 20 09.1	-0.4
BOZ				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.3						
BOZ	Bozeman (W)	87.49	40	*e*P	P	15 20 09.1	-0.4
	comp=Z,8.7nm,1.3s,mb4.3						
SMCO	Snowmass	87.55	47	P	P	15 20 09.1	-0.7
	comp=Z,1.6nm,0.6s,mb3.9						
HHC	Hu-ho-hao-te	87.81	314	*e*P	P	15 20 12.8	+1.8
HHC				AP	pP	15 22 21.6	-2.4
HHC				XP	sP	15 23 21.1	-5.0
HHC				PP	PP	15 23 54.4	+5.6
HHC				S	S	15 30 06.1	+3.7
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,121nm,5.7s						
KMI	Kunming	88.32	297	P	P	15 20 14.7	+1.3
KMI				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.5						
SYO	Syowa Base	88.82	193	⇑*e*P	P	15 20 14.2	-1.5
CD2	Chengdu	89.58	303	*e*P	P	15 20 19.0	-0.2
VNA1	Neumayer--Stat	90.97	177	⇑*i*P	P	15 20 25.9	+0.3
VNA1				*e*		15 20 26.3	
VNA1				*e*		15 20 27.0	
LZH	Lanzhou	91.42	308	*e*P	P	15 20 28.0	+0.3
LZH				AP	pP	15 22 40.0	-1.6
LZH				XP	sP	15 23 40.0	-3.3
LZH				PP	PP	15 24 19.8	+2.9
LZH				AMB	AMB		
	comp=Z,26nm,1.0s,mb5.1						
RSSD	Black Hills	91.63	44	*e*P	P	15 20 27.9	-0.8
RSSD				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
RSSD	Black Hills	91.63	44	*e*P	P	15 20 27.9	-0.8
	comp=Z,1.1nm,0.6s,mb4.1						
ULN	Ulaanbaatar	93.69	319	⇑*e*P	P	15 20 37.4	-0.7
ULN	Ulaanbaatar	93.69	319	*e*P	P	15 20 36.6	-1.5
	comp=Z,1.2nm,0.6s,mb4.2						
SONM	Songino Array	94.09	319	P	P	15 20 38.7	-1.2
	comp=Z,0.3nm,0.4s,mb3.8,baz=113,slow=2.8,SNR=5.3						
YKA	Yellowknife Ar	94.57	25	P	P	15 20 40.4	-1.7
	comp=Z,1.1nm,0.6s,mb4.2,baz=241,slow=4.6,SNR=4.6						
YKA	Yellowknife Ar	94.57	25	P	P	15 20 40.4	-1.7
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TIXI	Tiksi	96.65	345	*i* P	P	15 20 49.1	-2.3
MKAR	Makanchi Array	109.67	314	PKiKP	PKiKP	15 25 45.7	-2.2
	comp=Z,1.6nm,0.5s,baz=174,slow=0.7,SNR=35						
MKAR	Makanchi Array	109.67	314	PKPdf	PKiKP	15 25 45.7	-2.2
KURK	Kurchatov	112.36	318	⇑*i*PKIKP	PKiKP	15 25 50.8	-2.2
KURK	Kurchatov	112.36	318	*e*PKPdf	PKiKP	15 25 50.6	-2.4
AAK	Ala-Archa	114.91	309	⇓*i*PKIKP	PKPdf	15 25 55.4	-2.5
BVAR	Borovoye Array	117.39	321	PKP	PKPdf	15 26 00.7	-1.9
	comp=Z,2.4nm,0.4s,baz=125,slow=2.1,SNR=17						
BVAR	Borovoye Array	117.39	321	PKIKP	PKPdf	15 26 00.7	-2.0
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZRNK	Zerenda	118.22	321	*e*PKIKP	PKPdf	15 26 02.0	-2.3
ARU	Arti	123.39	326	*i* PKIKP	PKPdf	15 26 12.2	-2.0
ARU				*e*		15 28 02.6	
KEV	Kevo	126.34	349	*e*p	PKPdf	15 26 17.8	-2.0
ARCES	ARCESS Array B	126.79	350	PKP	PKPdf	15 26 18.1	-2.6
	comp=Z,4.3nm,0.6s,baz=42,slow=1.1,SNR=36						
ARCES	ARCESS Array B	126.79	350	PKIKP	PKPdf	15 26 18.1	-2.6
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BOSA	Boshof	128.18	206	PKP	PKPdf	15 26 23.2	-0.1
	comp=Z,2.9nm,0.7s,baz=184,slow=7.9,SNR=5.7						
BOSA	Boshof	128.18	206	PKIKP	PKPdf	15 26 23.2	-0.1
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
JOF	Joensuu	131.06	343	*e*p	PKPdf	15 26 26.2	-2.6
KAF	Kangasniemi	133.06	345	*e*p	PKPdf	15 26 30.3	-2.3
	comp=Z,7.1nm,0.6s						
FINES	FINESS Array B	133.69	344	PKhKP		15 26 26.6	
	comp=Z,3.0nm,0.7s,baz=88,slow=2.7,SNR=6.7						
FINES	FINESS Array B	133.69	344	PKIKP		15 26 26.6	
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
OBN	Obninsk	134.83	333	*i* PKIKP	PKPdf	15 26 33.3	-2.6
OBN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
NB2	NORSAR Subarra	136.83	353	PKPdf	PKPdf	15 26 39.5	-0.1
	comp=Z,0.8nm,0.5s,baz=13,slow=1.9						
NOA	NORSAR Array B	136.83	353	PKP	PKPdf	15 26 37.7	-1.8
	comp=Z,1.4nm,0.7s,baz=14,slow=3.9,SNR=7.3						
KMBO	Kilima Mbogo	140.26	245	PKhKP		15 26 40.9	
	comp=Z,2.4nm,0.6s,baz=60,slow=6.8,SNR=9.5						
KMBO	Kilima Mbogo	140.26	245	PKHKP		15 26 40.9	
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KMBO	Kilima Mbogo	140.26	245	*e*PKPpre		15 26 41.3	
AKASG	Malin Array Be	141.09	332	PKhKP		15 26 40.4	
	comp=Z,2.5nm,0.3s,baz=44,slow=4.0,SNR=26						
AKASG	Malin Array Be	141.09	332	PKHKP		15 26 40.4	
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MALT	Malatya	142.54	310	⇑*i*P	PKPdf	15 26 47.9	-2.0
MALT	Malatya	142.54	310	*e*PKPpre		15 26 47.3	
BSEG	Bad Segeberg	143.88	352	*e*PKPbc	PKPdf	15 26 50.3	-1.9
LVV	L'vov	143.93	336	*e*PKIKP	PKPdf	15 26 50.4	-1.9
OJC	Ojcow	145.12	340	*e*PKP	PKPdf	15 26 54.3	-0.1
BURAR	Bucovina Array	145.14	332	⇑*i*P	PKPdf	15 26 55.3	+0.9
KOLS	Kolonicke sedl	145.33	336	*e*PKP	PKPdf	15 26 55.7	+1.0
KSP	Ksiaz	145.61	344	⇓*i*PKP2	PKPab	15 26 56.3	-2.4
NIE	Niedzica	145.64	339	*e*PKP	PKPdf	15 26 56.6	+1.4
CRVS	Cervenica-Dubn	145.66	337	*e*PKP	PKPdf	15 26 56.0	+0.7
VRI	Vrincioaia	145.72	329	⇑*i*P	PKPdf	15 26 56.4	+1.0
VRI	Vrincioaia	145.72	329	⇑P	PKPdf	15 26 56.4	+1.0
ANTO	Ankara	145.82	315	⇓*i*P	PKPdf	15 26 56.7	+1.2
ANTO	Ankara	145.82	315	*e*PKPdf	PKPdf	15 26 55.7	+0.1
CLZ	Clausthal	145.91	351	*e*PKPbc	PKPbc	15 26 56.6	-1.1
CLL	Collm	145.95	348	*e*PKPbc	PKPbc	15 26 56.2	-1.6
CLL	Collm	145.95	348	⇓*i*PKPbc	PKPbc	15 26 56.6	-1.2
	comp=Z,31nm,0.8s						
CLL				*i* x		15 27 04.2	
UPC	Upice	145.99	344	*e*PKP	PKPdf	15 26 56.7	+0.9
DPC	Dobruska-Polom	146.05	343	*e*PKP	PKPdf	15 26 57.7	+1.8
BRG	Berggiesshubel	146.16	346	*e*PKPbc	PKPbc	15 26 57.1	-1.3
BRG	Berggiesshubel	146.16	346	*i* PKP	PKPdf	15 26 57.5	+1.4
	comp=Z,8.3nm,0.6s						
MORC	Moravsky Berou	146.22	342	⇑*i*P	PKPdf	15 26 58.1	+1.9
MORC	Moravsky Berou	146.22	342	⇑P	PKPdf	15 26 58.1	+1.9
KECS	Kecovo	146.36	338	*e*PKP	PKPdf	15 26 58.2	+1.7
MLR	Muntele Rosu	146.37	329	⇑*i*P	PKPdf	15 26 58.3	+1.8
MLR	Muntele Rosu	146.37	329	⇑P	PKPdf	15 26 58.3	+1.8
VOIR		146.84	330	⇑*i*P	PKPdf	15 26 59.6	+2.4
VOIR		146.84	330	⇑P	PKPdf	15 26 59.6	+2.4
MOX	Moxa	146.85	349	*e*PKP	PKPdf	15 26 58.9	+1.6
	comp=Z,9.0nm,0.9s						
TANN	Tannenbergstha	146.91	348	*e*PKPbc	PKPbc	15 26 59.4	-1.0
VYHS	Vyhne	146.93	339	*e*PKP	PKPdf	15 26 59.8	+2.4
NKC	Novy Kostel	147.08	348	*e*PKP	PKPdf	15 26 59.9	+2.3
TREC	Trest	147.24	344	*e*PKP	PKPdf	15 27 00.4	+2.5
MANZ	Manzenberg	147.38	348	*e*PKPbc	PKPbc	15 27 00.8	-0.9
ROTZ	Rotzenmuhle	147.57	348	*e*PKPbc	PKPbc	15 27 01.4	-0.7
MEM	Membach	147.63	355	PKPbc	PKPbc	15 27 01.3	-1.0
ZST	Bratislava	147.75	341	*e*PKP	PKPbc	15 27 02.8	+0.2
TNS	Taunus Mts	147.76	352	*e*PKPbc	PKPbc	15 27 01.7	-0.9
GRA1	Grafenberg Arr	147.84	349	*e*PKPbc	PKPbc	15 27 01.8	-1.0
GRF	Grafenberg Arr	147.84	349	*e*PKPbc	PKPbc	15 27 01.8	-1.0
KHC	Kasperske Hory	147.87	346	*e*PKP	PKPbc	15 27 02.2	-0.7
GERES	GERESS Array B	148.11	345	PKPbc	PKPbc	15 27 01.9	-1.6
	comp=Z,4.5nm,0.6s,baz=54,slow=6.8,SNR=7.1						
GERES	GERESS Array B	148.11	345	PKHKP	PKPbc	15 27 01.9	-1.6
GERES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GIVF	Givet	148.22	356	*e*PKP1	PKPbc	15 27 02.7	-1.1
	comp=Z,16nm,0.5s						
DOU	Dourbes	148.24	357	PKPbc	PKPbc	15 27 02.9	-0.9
BZS	Buzias	148.26	333	⇑*i*P	PKPbc	15 27 03.0	-0.9
BZS	Buzias	148.26	333	⇑P	PKPbc	15 27 03.0	-0.9
BAIF	Baives	148.30	357	*e*PKP1	PKPbc	15 27 03.0	-0.9
	comp=Z,9.0nm,0.5s						
CONA	Conrad Observa	148.37	342	⇑*i*PKiKP	PKiKP	15 27 03.9	-1.3
	comp=Z,24nm,1.4s						
WLF	Walferdange	148.56	355	*e*PKPbc	PKPbc	15 27 04.2	-0.4
WLF	Walferdange	148.56	355	E		15 27 04.3	
MOA	Molln	148.88	344	⇑*i*P	PKPbc	15 27 04.6	-0.8
	comp=Z,14nm,1.4s						
PKSM	Moragy	148.96	337	⇑*i*P	PKPbc	15 27 04.6	-1.0
PKSM	Moragy	148.96	337	⇑P	PKPbc	15 27 04.6	-0.9
FUR	Furstenfeldbru	149.29	348	*e*PKPbc	PKPbc	15 27 05.6	-0.8
FLN	La Foliniere	149.58	3	*e*PKP1	PKPbc	15 27 05.6	-1.5
	comp=Z,13nm,0.5s						
BFO	Black Forest	149.63	352	*e*PKPbc	PKPbc	15 27 06.1	-1.1
CDF	Champ du Feu	149.68	353	*e*PKP1	PKPbc	15 27 06.3	-1.0
	comp=Z,12nm,0.6s						
PERS	Pernice	149.75	342	*i* PKPbc	PKPbc	15 27 06.0	-1.4
LDF	La Druitiere	149.77	3	*e*PKP1	PKPbc	15 27 06.0	-1.5
	comp=Z,12nm,0.6s						
VTS	Vitosha	149.83	328	⇑*i*P	PKPbc	15 27 07.3	-0.3
VTS	Vitosha	149.83	328	⇑P	PKPbc	15 27 07.3	-0.3
KBA	Koelnbreinsper	149.84	344	⇑*i*P	PKPbc	15 27 06.4	-1.2
	comp=Z,12nm,0.6s						
SGMF	Saint Gilles	149.93	6	*e*PKP1	PKPbc	15 27 07.0	-0.9
GRR	Gorron	149.93	4	*e*PKP1	PKPbc	15 27 06.6	-1.3
	comp=Z,13nm,0.5s						
WATA	Walderalm	150.01	347	⇑*i*P	PKPdf	15 27 05.0	+2.6
	comp=Z,10nm,0.5s						
WTTA	Wattenberg	150.07	347	⇑*i*P	PKPbc	15 27 07.7	-0.5
	comp=Z,22nm,0.6s						
MOTA	Moosalm	150.10	347	⇑*i*P	PKPbc	15 27 07.4	-0.9
	comp=Z,7.2nm,0.6s						
HAU	Haudompre	150.19	354	*e*PKP1	PKPbc	15 27 07.5	-1.0
	comp=Z,16nm,0.5s						
SQTA	Sankt Quirin	150.20	347	⇑*i*P	PKPbc	15 27 08.0	-0.5
	comp=Z,14nm,0.7s						
HINF	Hinteralfeld	150.32	353	*e*PKP1	PKPbc	15 27 07.3	-1.5
CRES	Cresnjev	150.38	341	*i* PKPbc	PKPbc	15 27 08.0	-1.0
DAVA	Damuels	150.40	349	⇑*i*P	PKPbc	15 27 08.3	-0.6
	comp=Z,5.4nm,0.5s						
LJU	Ljubljana	150.46	342	*i* PKPbc	PKPbc	15 27 08.1	-1.1
VISS	Visnje	150.59	341	*e*PKPbc	PKPbc	15 27 08.5	-0.9
VOJS	Vojsko	150.66	343	*e*PKPbc	PKPbc	15 27 08.2	-1.4
BOJS	Bojanci	150.73	341	*e*PKPbc	PKPbc	15 27 09.0	-0.7
LOR	Lormes	151.10	357	*e*PKP1	PKPbc	15 27 09.2	-1.3
	comp=Z,13nm,0.5s						
SSF	Saint Saulge	151.32	358	*e*PKP1	PKPbc	15 27 10.1	-0.9
	comp=Z,12nm,0.7s						
CABF	La Chapelle	151.59	354	*e*PKP1	PKPbc	15 27 11.1	-0.6
	comp=Z,11nm,0.7s						
AVF	Avril sur Loir	151.59	358	*e*PKP1	PKPbc	15 27 10.2	-1.5
SMF	Signal de Mont	151.72	357	*e*PKP1	PKPbc	15 27 09.6	-2.3
	comp=Z,4.1nm,0.4s						
MFF	Saint Martin d	151.75	3	*e*PKP1	PKPbc	15 27 10.8	-1.2
	comp=Z,9.0nm,0.5s						
BGF	Bois d'Agland	151.84	359	*e*PKP1	PKPbc	15 27 11.1	-1.1
	comp=Z,12nm,0.6s						
TCF	Toulx Ste Croi	152.12	360	*e*PKP1	PKPbc	15 27 11.6	-1.2
	comp=Z,5.8nm,0.5s						
LPL	La Plagne	152.60	353	*e*PKP1	PKPbc	15 27 13.6	-0.3
LPG	La Plagne	152.62	353	*e*PKP1	PKPbc	15 27 13.6	-0.3
	comp=Z,5.3nm,0.7s						
ORIF	Oris-en-Rattie	153.29	354	*e*PKP1	PKPbc	15 27 14.5	-0.8
MBDF	Montbardon	153.37	352	*e*PKP1	PKPbc	15 27 14.7	-0.8
	comp=Z,10.0nm,0.7s						
DBIC	Dimbokro	166.65	149	PKP	PKPdf	15 27 21.2	-0.5
	comp=Z,2.9nm,0.7s,baz=241,slow=6.9,SNR=5.1						
DBIC	Dimbokro	166.65	149	PKIKP	PKPdf	15 27 21.3	-0.5
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						

IDC 03 15:35:36.8±10.0**, 3229S**×**17753W, h131**km±100km**, mb3.3**/2**, mb1 3.5**/3**, mb1mx3.4**/11**, mbtmp3.7**/3**, ML2.9**/1**, Error ellipse: s-maj=101.4km s-min=55.8km az=167.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	7.40	215	P	Pn	15 37 22.8	+0.7
	0.2nm,0.3s,baz=311,slow=23,SNR=5.0						
URZ				S	Sn	15 38 43.8	-0.7
	0.2nm,0.3s,baz=153,slow=13,SNR=2.4						
ASAR	Alice Springs	43.44	269	P	P	15 43 27.6	+1.0
	0.3nm,0.4s,baz=107,slow=7.2,SNR=8.0						
WRA	Warramunga Arr	44.60	274	P	P	15 43 35.6	-0.3
	0.7nm,0.4s,baz=111,slow=8.1,SNR=33						
FINES	FINESS Array B	147.05	339	PKPbc	PKPbc	15 55 02.4	-1.8
	0.6nm,0.5s,baz=104,slow=3.9,SNR=4.7						

MAN 03 15:39:20.9, 1867N×**12078E, h31**km**, mb3.0, ML4.4, MS2.4, 1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PIP	Pasuquin	0.38	204	⇓*i*P	Pb	15 39 30.6	+1.2
PIP				*e*S	Sb	15 39 37.7	+2.3
APYP	Conner	0.92	151	*e*P	Pn	15 39 37.5	-0.1
APYP				*e*S	Sn	15 39 50.3	+0.6
ABRA	Dolores	1.02	184	*e*P	Pn	15 39 39.3	+0.3
ABRA				*e*S	Sn	15 39 54.3	+2.1
SGCP	Mt. Cagua	1.27	109	*e*P	Pn	15 39 42.6	+0.2
SGCP				*e*S	Sn	15 39 58.6	+0.1
CAUP	Cauayan	1.98	150	*e*P	Pn	15 39 55.1	+2.8

*NEIC **03** 15:42:24.8, 2805S×71.18W, h45km, MG4.3(GUC), After GUC.*

GUC 03 15:42:24.8±1.0**, 2805S**×**7118W, h45**km±4km**, ML4.3, 3C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	Vallenar	0.64	145	⇓*i*P	Pn	15 42 38.3	+0.7
VACH				*i* S	Sn	15 42 47.4	+0.7
VACH				AML	AML	15 42 48.2	
	comp=N,17μm,0.2s						
VACH	Vallenar	0.64	145	⇓*i*P	Pn	15 42 38.3	+0.7
VACH				*i* S	Sn	15 42 47.4	+0.7
CPCH	Copiapo	1.00	47	⇑*i*P	Pn	15 42 43.2	+0.7
CPCH				*i* S	Sn	15 42 57.2	+1.7
CPCH				AML	AML	15 42 59.0	
	comp=N,29μm,0.1s						
CPCH	Copiapo	1.00	47	⇑*i*P	Pn	15 42 43.2	+0.7
CPCH				*i* S	Sn	15 42 57.2	+1.7
CDCH	Caldera	1.02	18	*e*P	Pn	15 42 41.6	-1.1
CDCH				*i* S	Sn	15 42 55.8	-0.1
LCO	Las Campanas	1.05	156	*e*P	Pn	15 42 44.4	+1.4
LCO				*i* S	Sn	15 42 59.0	+2.5
CRCH	Chaqaral	1.77	16	⇑*i*P	Pn	15 42 53.3	+0.4
CRCH				*i* S	Sn	15 43 14.0	-0.2
TLL	Tololo Astrono	2.13	171	*e*P	Pn	15 43 01.6	+3.6
TLL				*i* S	Sn	15 43 28.6	+5.4
TLL				AML	AML	15 43 36.1	
	comp=E,2μm,0.5s						
TLL	Tololo Astrono	2.13	171	*e*P	Pn	15 43 01.6	+3.6
TLL				*i* S	Sn	15 43 28.6	+5.4
LVC	Limon Verde	5.79	21	*e*Pn	Pn	15 43 48.3	+0.2
	comp=E,12nm,0.4s						

*IDC **03** 15:54:06.4±1.4, 821N×12702E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/17, mbtmp3.8/6, MS3.4/1, Ms1 3.4/1, ms1mx2.7/30, Error ellipse: s-maj=119.3km s-min=19.2km az=73.0*
*NEIC **03** 15:54:08.1±0.6, 817N×12691E, h10km, mb4.2/1, Error ellipse: s-maj=14.7km s-min=9.4km az=97.0*
*MAN **03** 15:54:09.8, 800N×12731E, h35km, mb4.0, ML5.0, MS6.4*
*ISCJB **03** 15:54:10.2±0.7, 805N±005×12728E±006, h33km, mb3.8/7, MS3.4/1, Error ellipse: s-maj=8.3km s-min=6.5km az=36.2*

ISC 03 15:54:12.1±0.7**, 806N**±005×**12720E**±006**, h35**km**, n29, σ1.41**/35**, mb3.8**/7**, MS3.4**/1**, 1C-3D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	1.45	220	*e*P	Pn	15 54 35.0	-0.9
MATI				*e*S	Sn	15 54 52.4	-1.2
BUTP	Butuan	1.81	300	*e*P	Pn	15 54 40.4	-0.4
BUTP				*e*S	Sn	15 55 07.5	+5.1
DAV	Davao City (W)	1.89	239	*e*Pg	Pn	15 54 41.0	-0.8
DMPH	Davao City--Mi	1.94	240	⇓*i*P	Pn	15 54 44.7	+2.1
DMPH				*i* S	Sn	15 55 02.3	-3.4
BUKP	Musuan	2.13	265	*e*P	Pn	15 54 45.8	+0.6
BUKP				*e*S	Sn	15 55 12.7	+2.3
KCP	Kidapawan	2.34	244	⇓*i*P	Pn	15 54 48.6	+0.6
KCP				*i* S	Sn	15 55 15.9	+0.4
SCPH	Surigao	2.41	315	⇓*e*P	Pn	15 54 49.4	+0.4
CGP	Cagayan de Oro	2.52	279	*i* S	Sn	15 55 17.4	-2.5
MSLP	Maasin	3.10	312	*e*P	Pn	15 55 00.8	+2.3
MSLP				*e*S	Sn	15 55 41.9	+7.5
TBP	Tagbilaran	3.68	296	*e*P	Pn	15 55 15.5	+9.0
TBP				*e*S	Sn	15 56 01.4	+13
PAGZ	Pagadian	3.79	267	*e*P	Pn	15 55 08.2	+0.2
DCPH	Dipolog City	3.85	278	⇑*e*P	Pn	15 55 08.1	-0.7
OCLP	Ormoc	3.92	319	*e*P	Pn	15 55 10.4	+0.5
BESP	Borongan	3.93	334	*e*P	Pn	15 55 11.6	+1.7
GUIM	Jordan	5.22	300	*e*P	Pn	15 55 29.0	+1.4
PVCP	Virac	6.26	332	*e*P	Pn	15 55 43.2	+1.2
CUYO	Cuyo Island	6.70	295	*e*P	Pn	15 55 47.5	-0.5
ENPP	El Nido	8.28	293	*e*P	Pn	15 56 06.9	-2.8
CAUP	Cauayan	10.27	330	*e*P	Pn	15 56 34.2	-2.8
FITZ	Fitzroy Crossi	26.04	183	P	P	15 59 42.9	+1.0
	1.9nm,1.1s,mb3.5						
WRA	Warramunga Arr	28.70	166	P	P	16 00 06.7	+0.9
	0.5nm,0.8s,mb3.3,baz=346,slow=9.0,SNR=2.6						
ASAR	Alice Springs	32.20	168	P	P	16 00 38.2	+1.4
	0.4nm,0.3s,mb3.7,baz=342,slow=7.1,SNR=16						
SONM	Songino Array	43.40	340	LR	LR	16 19 05.7	
	comp=Z,42nm,18.6s,MS3.4,baz=58,slow=35						
MKAR	Makanchi Array	54.34	323	P	P	16 03 32.9	-2.2
	0.7nm,0.6s,mb3.8,baz=122,slow=7.4,SNR=7.7						
MKAR				PcP	PcP	16 04 38.4	-0.4
	0.5nm,0.8s,baz=132,slow=4.1,SNR=3.8						
KURK	Kurchatov	58.40	326	*e*P	P	16 04 01.8	-2.3
	1.2nm,0.5s,mb4.2						
JOF	Joensuu	85.57	333	*e*p	P	16 06 45.9	-0.8
ARCES	ARCESS Array B	86.58	340	P	P	16 06 50.3	-1.4
	1.8nm,0.9s,mb4.3,baz=60,slow=5.8,SNR=4.7						
FINES	FINESS Array B	88.26	332	P	P	16 06 58.4	-1.4
	0.4nm,0.4s,mb4.0,baz=90,slow=5.7,SNR=6.9						
FINES	FINESS Array B	88.26	332	P	P	16 06 58.4	-1.4

*ISCJB **03** 15:56:40.7±0.8, 5137N±004×1613E±004, h0km, Error ellipse: s-maj=5.6km s-min=2.9km az=40.4*
*IPEC **03** 15:56:40.9±0.4, 5147N×1629E, h0km±1km, ML1.9/3, Error ellipse: s-maj=2.4km s-min=1.5km az=30.0*
*PRU **03** 15:56:42.7, 5138N×16.15E, h0km*
*CSEM **03** 15:56:43.6±0.3, 5135N×16.14E, h0km, ML2.9/6, Error ellipse: s-maj=5.2km s-min=2.7km az=20.0*

ISC 03 15:56:41.5±0.8**, 5142N**±004×**1616E**±004**, h0**km**, n19, σ0.91**/41**, 3C-2D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.58	172	*e*Pg	Pg	15 56 53.4	+0.7
KSP				*e*Sg	Sg	15 57 01.6	+1.4
KSP	Ksiaz	0.58	172	*e*Pg	Pg	15 56 53.2	+0.5
KSP				*e*Sg	Sg	15 57 00.5	+0.3
UPC	Upice	0.92	186	*e*PG	Pg	15 56 59.6	+0.5
DPC	Dobruska-Polom	1.07	174	*e*PG	Pg	15 57 02.3	+0.2
DPC				*e*SG	Sg	15 57 16.5	+0.5
	21nm,0.6s						
DPC	Dobruska-Polom	1.07	174	*e*Pg	Pg	15 57 02.0	-0.1
DPC				*e*Sg	Sg	15 57 16.1	+0.1
PVCC	Panska Ves	1.34	229	*e*PG	Pg	15 57 07.8	+0.5
PVCC	Panska Ves	1.34	229	*e*Pg	Pg	15 57 07.6	+0.3
PVCC				*e*Sg	Sg	15 57 25.8	+1.1
BRG	Berggiesshubel	1.50	250	PN	Pn	15 57 09.1	-0.6
BRG				PG	Pg	15 57 10.2	-0.1
BRG				SG	Sg	15 57 30.6	+0.8
	15nm,0.3s						
MORC	Moravsky Berou	1.86	151	*e*Pn	Pn	15 57 14.2	-0.5
MORC				*e*Sg	Sg	15 57 39.5	-1.9
	8.2nm,0.3s						
CLL	Collm	1.98	268	*e*Pg	Pg	15 57 18.0	-1.6
CLL				*e*Sg	Sg	15 57 45.0	-0.3
	comp=Z,12nm,0.5s						
OKC	Ostrava-Krasne	2.02	141	*e*PG	Pg	15 57 21.2	+0.9
OKC				*e*SG	Sg	15 57 45.6	-1.0
	comp=Z,14nm,0.6s						
VRAC	Vranov	2.13	172	*e*Pn	Pn	15 57 18.4	+0.1
VRAC				*e*Sg	Sg	15 57 49.0	-0.9
	comp=Z,12nm,0.4s						
KRUC	Moravsky	2.36	176	*e*Pn	Pn	15 57 21.4	-0.1
KRUC				*e*Sg	Sg	15 57 56.5	-0.9
	comp=Z,3.8nm,0.3s						
OJC	Ojcow	2.60	116	*e*Pg	Pg	15 57 31.2	-0.2
OJC				*e*Sg	Sg	15 58 05.9	+0.8
NKC	Novy Kostel	2.64	245	*e*PN	Pn	15 57 25.2	-0.1
NKC				*e*PG	Pg	15 57 31.6	-0.5
NKC				*e*SG	Sg	15 58 06.0	-0.2
	comp=Z,14nm,0.3s						
KHC	Kasperske Hory	2.83	217	*e*PN	Pn	15 57 27.7	-0.2
KHC				*e*PG	Pg	15 57 34.6	-1.1
KHC				*e*SN	Sn	15 58 02.0	-0.6
KHC				*e*SG	Sg	15 58 10.7	-1.6
	comp=Z,4.2nm,0.4s						
MOX	Moxa	2.97	257	*e*PG	Pg	15 57 38.1	-0.4
MOX				*e*SG	Sg	15 58 18.0	+1.0
CONA	Conrad Observa	3.50	183	⇓*i*Pn	Pn	15 57 39.3	+2.2
	comp=Z,0.6nm,0.2s						
CONA				⇓*i*Sg	Sg	15 58 34.6	+0.7
	comp=Z,3.6nm,0.3s						
MOA	Molln	3.78	200	⇑*i*Pn	Pn	15 57 42.0	+1.0
MOA				⇑*i*Sn	Sn	15 58 28.9	+2.8
	comp=Z,0.4nm,0.1s						
MOA				⇑*i*Sg	Sg	15 58 42.9	0.0
	comp=Z,2.0nm,0.3s						

KRSC 03 15:56:56, 6069N×**16678E, h15**km**, ML3.6, Eastern Siberia**

ISCJB ***03*** *16:07:12.6±0.5,2793S±003×6652W±005,h156km±4km, mb4.6/53,Error ellipse: s-maj=6.8km s-min=4.2km az=169.1*

MOS ***03*** *16:07:13.4±1.1,2790S×6650W,h160km,mb5.0/13,Error ellipse: s-maj=12.4km s-min=7.7km az=90.5*

HRVD ***03*** *16:07:14.6±0.3,2807S×6647W,h195km±3km,MW5.1/62, Centroid moment Tensor Solution. LP body waves: s35,c38;Mantle waves: s62,c91; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.40±.20; $M_{\theta\theta}$0.75±.23; $M_{\phi\phi}$1.65±.29; $M_{r\theta}$2.56±.15; $M_{\theta\phi}$-5.02±.16; $M_{\phi r}$0.43±.20; Best double couple: $M_0$5.97600×10^{16} NP1:ϕ_s177.00000°,δ57.00000°,λ-21.00000°. NP2: ϕ_s279.00000°,δ72.00000°,λ-145.00000°. Principal axes: T 6.4750, Plg10.0000°, Azm46.0000°; N -1.0010, Plg52.0000°, Azm303.0000°; P -5.4760, Plg37.0000°, Azm143.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***03*** *16:07:14.6±0.2,2797S×6651W,mb4.6/42 Error ellipse: s-maj=5.3km s-min=3.5km az=104.0*

BJI ***03*** *16:07:15.5,2800S×6650W,h166km,mB5.0*

IDC ***03*** *16:07:15.3±0.5,2790S×6639W,h170km±4km,mb4.4/14, mb1 4.6/19,mb1mx4.6/20,mbtmp5.0/19,Error ellipse: s-maj=13.9km s-min=10.8km az=78.0*

ISC 03 16:07:13.6±0.5**,2793S**±003×**6651W**±005**,h152**km±4km**, h168**km±3.5km**:pP-P,n195,**σ0s**89**/145**,mb4.6**/53**,14C-9D, Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**3.46**	**279**	⇑*i*P	**Pn**	**16 08 07.5**	**+0.7**
CPCH				*i* S	**Sn**	**16 08 47.2**	**-0.9**
VACH	**Vallenar**	**3.80**	**259**	⇑*i*P	**Pn**	**16 08 12.6**	**+1.2**
VACH				*i* S	**Sn**	**16 08 55.9**	**-0.3**
CDCH	**Caldera**	**3.93**	**282**	*e*P	**Pn**	**16 08 13.3**	**+0.3**
CFAA	**Coronel Fontan**	**3.96**	**202**	P	**Pn**	**16 08 15.0**	**+1.7**
	171nm,0.3s,baz=24,slow=12						
CFAA				S	**Sn**	**16 09 00.1**	**+0.4**
	123nm,0.3s,baz=10,slow=16,SNR=44						
CFAA	**Coronel Fontan**	**3.96**	**202**	P	**Pn**	**16 08 15.0**	**+1.7**
CFAA				S	**Sn**	**16 09 00.1**	**+0.4**
CRCH	**Chaqaral**	**3.99**	**292**	⇓*i*P	**Pn**	**16 08 15.1**	**+1.4**
CRCH				*i* S	**Sn**	**16 08 59.1**	**-1.3**
TLL	**Tololo Astrono**	**4.37**	**238**	⇑*i*P	**Pn**	**16 08 20.3**	**+1.6**
TLL				*i* S	**Sn**	**16 09 10.2**	**+0.8**
OVCH	**Ovalle**	**4.89**	**236**	⇑*i*P	**Pn**	**16 08 25.3**	**-0.3**
OVCH				*i* S	**Sn**	**16 09 20.2**	**-1.5**
CMCH	**Combarbala**	**5.07**	**229**	⇓*i*P	**Pn**	**16 08 27.8**	**-0.2**
CMCH				*i* S	**Sn**	**16 09 25.6**	**-0.5**
MDZ	**Mendoza**	**5.33**	**202**	⇑*i*P	**Pn**	**16 08 32.9**	**+1.4**
MDZ				*i* S	**Sn**	**16 09 30.9**	**-1.3**
MDZ				*i*		16 09 56.9	
LVC	**Limon Verde**	**5.72**	**337**	P	**Pn**	**16 08 38.6**	**+2.0**
	153nm,0.3s,baz=163,slow=10,SNR=807						
LVC				S	**Sn**	**16 09 40.7**	**-0.8**
	263nm,0.3s,baz=5.6,slow=23,SNR=25						
LVC	**Limon Verde**	**5.72**	**337**	*e*Pn	**Pn**	**16 08 38.8**	**+2.2**
	504nm,0.6s						
LVC				*e*Sn	**Sn**	**16 09 39.5**	**-2.0**
PEL	**Peldehue**	**6.32**	**214**	⇓*i*P	**Pn**	**16 08 44.4**	**-0.2**
PCH	**Pirque**	**6.63**	**210**	⇓*i*P	**Pn**	**16 08 49.2**	**+0.4**
ANTU	**Antumapu**	**6.65**	**211**	⇑*i*P	**Pn**	**16 08 49.7**	**+0.8**
ANTU				*i* S	**Sn**	**16 10 02.6**	**-1.0**
RCDM	**Rinconada Maip**	**6.66**	**213**	*e*P	**Pn**	**16 08 49.1**	**0.0**
RCDM				*i* S	**Sn**	**16 10 02.9**	**-1.0**
LMEL	**Las Melosas**	**6.70**	**207**	⇑*i*P	**Pn**	**16 08 50.7**	**+1.1**
TACH	**Talagante**	**6.86**	**213**	P	**Pn**	**16 08 50.7**	**-1.1**
CHCH	**Chadas Angostu**	**6.96**	**210**	⇓*i*P	**Pn**	**16 08 53.1**	**0.0**
CACH	**El Canelo**	**7.09**	**209**	⇑*i*P	**Pn**	**16 08 55.4**	**+0.5**
SFDO	**San Fernando**	**7.70**	**209**	P	**Pn**	**16 09 01.6**	**-1.3**
CPUP	**Villa Florida**	**8.33**	**81**	P	**Pn**	**16 09 12.0**	**+0.6**
	10nm,0.3s,baz=246,slow=12,SNR=239						
CPUP	**Villa Florida**	**8.33**	**81**	⇑*e*Pn	**Pn**	**16 09 11.7**	**+0.3**
	0.2nm,0.4s						
TRQA	**Tornquist**	**10.79**	**161**	*e*P	**Pn**	**16 09 43.5**	**-0.4**
	252nm,1.0s						
TRQA				*e*		16 09 55.1	
LPAZ	**La Paz**	**11.68**	**352**	P	**Pn**	**16 09 55.9**	**+0.2**
	18nm,0.3s,baz=152,slow=8.2,SNR=186						
LPAZ	**La Paz**	**11.68**	**352**	*e*P	**Pn**	**16 09 55.8**	**+0.1**
LPAZ				*e*		16 11 57.4	
LPAZ				pmax	pmax		
	comp=Z,177nm,0.5s						
LPAZ	**La Paz**	**11.68**	**352**	*e*Pn	**Pn**	**16 09 55.8**	**+0.1**
	comp=Z,178nm,0.5s						
LPAZ				*e*		16 10 05.3	
LPAZ				*e*Sn	**Sn**	**16 11 57.4**	**-7.4**
ARE	**Arequipa**	**12.31**	**337**	*e*P	**Pn**	**16 10 04.0**	**+0.2**
ARE				*e*S	**Sn**	**16 12 11.0**	**-8.8**
SIV	**San Ignacio**	**12.90**	**24**	P	**Pn**	**16 10 11.2**	**-0.2**
	comp=Z,13nm,0.3s,baz=218,slow=13,SNR=218						
PLCA	**Paso Flores**	**13.20**	**194**	P	**Pn**	**16 10 14.7**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=358,slow=15,SNR=24						
PLCA	**Paso Flores**	**13.20**	**194**	P	**Pn**	**16 10 14.7**	**-0.5**
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PLCA	**Paso Flores**	**13.20**	**194**	*e*Pn	**Pn**	**16 10 14.5**	**-0.7**
	comp=Z,0.2nm,0.4s						
NNA	**Nana**	**18.58**	**327**	*e*P	**P**	**16 11 19.4**	**+0.4**
	comp=Z,80nm,0.9s						
SAML	**Samuel**	**19.14**	**10**	*e*P	**P**	**16 11 24.3**	**-0.8**
	comp=Z,94nm,0.5s						
BDFB	**Brasilia**	**21.05**	**58**	P	**P**	**16 11 45.0**	**-0.5**
	comp=Z,38nm,0.3s,mb5.2,baz=241,slow=8.5,SNR=62						
BDFB	**Brasilia**	**21.05**	**58**	P	**P**	**16 11 45.0**	**-0.6**
BDFB				pmax	pmax		
	comp=Z,38nm,0.3s						
BAO	**Brasilia Array**	**21.07**	**58**	P	**P**	**16 11 45.0**	**-0.8**
ATAH	**Atahualpa**	**23.67**	**329**	P	**P**	**16 12 11.9**	**+0.8**
	comp=Z,11nm,0.7s,mb4.5,baz=172,slow=9.0,SNR=9.2						
EFI	**East Falkland**	**24.55**	**167**	⇑*i*P	**P**	**16 12 19.3**	**+0.1**
EFI	**East Falkland**	**24.55**	**167**	*e*P	**P**	**16 12 19.1**	**-0.2**
	comp=Z,254nm,1.0s,mb5.7						
ROSC	**El Rosal**	**33.46**	**346**	P	**P**	**16 13 38.7**	**+0.6**
	comp=Z,8.2nm,0.4s,mb4.8,baz=108,slow=16,SNR=5.1						
SDV	**Santo Domingo**	**36.81**	**353**	*e*P	**P**	**16 14 05.1**	**-1.8**
	comp=Z,20nm,0.3s,mb5.2						
SDV				*e*		16 14 12.3	
JTS	**JuntasAbangare**	**41.98**	**332**	⇓*e*P	**P**	**16 14 51.1**	**+1.5**
TEIG	**Tepich**	**52.30**	**334**	*e*P	**P**	**16 16 07.0**	**-2.5**
	comp=Z,19nm,0.6s,mb4.9						
VNA1	**Neumayer--Stat**	**53.52**	**159**	⇓*i*P	**P**	**16 16 19.1**	**+0.6**
VNA1				*e*		16 16 20.1	
VNA1				*e*		16 16 22.9	
VNA1				*e*	pP	16 16 52.4	-1.0
VNA1				*e*	pP	16 16 58.4	+5.0
VNA1				*e*		16 17 08.6	
VNA1				*e*		16 17 23.0	
VNA1				*e*		16 17 25.3	
QSPA	**South Pole Qui**	**62.29**	**180**	⇓*i*P	**P**	**16 17 20.0**	**+0.5**
	comp=Z,73nm,0.7s,mb5.6						
LRAL	**Lakeview Retre**	**63.68**	**341**	*e*P	**P**	**16 17 27.2**	**-1.5**
	comp=Z,4.5nm,0.7s,mb4.4						
CPCT	**Cooper Cave**	**65.29**	**344**	*e*P	**P**	**16 17 38.4**	**-0.8**
PLAL	**Pickwick Lake**	**65.81**	**341**	*e*P	**P**	**16 17 41.1**	**-1.4**
	comp=Z,2.3nm,0.5s,mb4.3						
JCT	**Junction City**	**66.21**	**329**	*e*P	**P**	**16 17 45.2**	**+0.1**
JCT				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.1						
JCT	**Junction City**	**66.21**	**329**	*e*P	**P**	**16 17 45.2**	**+0.2**
	comp=Z,23nm,0.7s,mb5.1						
FWV	**Forest Hill**	**66.53**	**348**	P	**P**	**16 17 46.9**	**-0.3**
MIAR	**Mount Ida**	**67.21**	**336**	*e*P	**P**	**16 17 50.8**	**-0.6**
MIAR				pmax	pmax		
	comp=Z,51nm,1.1s,mb5.3						
MIAR	**Mount Ida**	**67.21**	**336**	*e*P	**P**	**16 17 50.8**	**-0.6**
	comp=Z,51nm,1.1s,mb5.3						
MCWV	**Mont Chateau**	**68.38**	**349**	*e*P	**P**	**16 17 58.5**	**-0.2**
	comp=Z,18nm,0.7s,mb4.9						
DBIC	**Dimbokro**	**68.68**	**70**	P	**P**	**16 17 59.3**	**-1.3**
	comp=Z,4.4nm,0.3s,mb4.7,baz=215,slow=8.4,SNR=47						
DBIC	**Dimbokro**	**68.68**	**70**	*e*P	**P**	**16 17 59.4**	**-1.2**
DBIC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
DBIC	**Dimbokro**	**68.68**	**70**	*e*P	**P**	**16 17 59.4**	**-1.2**
	comp=Z,8.6nm,0.8s,mb4.5						
SSPA	**Standing Stone**	**69.03**	**351**	*e*P	**P**	**16 18 02.3**	**-0.4**
	comp=Z,3.7nm,0.6s,mb4.3						
FVM	**French Village**	**69.29**	**340**	*e*P	**P**	**16 18 03.0**	**-1.4**
FVM				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.9						
FVM	**French Village**	**69.29**	**340**	*e*P	**P**	**16 18 03.0**	**-1.4**
	comp=Z,14nm,0.6s,mb4.9						
CCM	**Cathedral Cave**	**69.61**	**339**	*e*P	**P**	**16 18 04.4**	**-1.9**
CCM				pmax	pmax		
	comp=Z,21nm,0.6s,mb5.0						
CCM	**Cathedral Cave**	**69.61**	**339**	*e*P	**P**	**16 18 04.4**	**-1.9**
	comp=Z,22nm,0.6s,mb5.0						
SYO	**Syowa Base**	**69.74**	**158**	⇑*i*P	**P**	**16 18 06.2**	**-0.9**
SBA	**Scott Base**	**69.92**	**190**	*e*P	**P**	**16 18 08.9**	**+0.7**
SBA				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
SBA	**Scott Base**	**69.92**	**190**	*e*P	**P**	**16 18 08.9**	**+0.7**
	comp=Z,18nm,1.0s,mb4.8						
VNDA	**Vanda**	**70.92**	**190**	P	**P**	**16 18 14.3**	**+0.1**
	comp=Z,13nm,0.8s,mb4.7,baz=137,slow=5.3,SNR=69						
VNDA	**Vanda**	**70.92**	**190**	*e*P	**P**	**16 18 14.9**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,15nm,0.9s						
VNDA	**Vanda**	**70.92**	**190**	*e*P	**P**	**16 18 14.9**	**+0.6**
	comp=Z,15nm,0.9s,mb4.7						
LAZ	**Ladron**	**72.95**	**326**	*e*P	**P**	**16 18 27.6**	**+1.2**
ANMO	**Albuquerque**	**73.05**	**327**	*e*P	**P**	**16 18 27.9**	**+0.9**
ANMO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ANMO	**Albuquerque**	**73.05**	**327**	*e*P	**P**	**16 18 27.9**	**+1.0**
	comp=Z,4.3nm,0.9s,mb4.2						
WUAZ	**Wupatki**	**75.99**	**324**	*e*P	**P**	**16 18 45.0**	**+1.1**
	comp=Z,12nm,0.9s,mb4.5						
TSUM	**Tsumeb**	**76.21**	**105**	*e*P	**P**	**16 18 45.1**	**0.0**
	comp=Z,8.8nm,0.8s,mb4.4						
ISCO	**Idaho Springs**	**76.59**	**330**	*e*P	**P**	**16 18 48.2**	**+0.9**
ISCO				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
ISCO	**Idaho Springs**	**76.59**	**330**	*e*P	**P**	**16 18 48.2**	**+0.9**
	comp=Z,6.7nm,0.8s,mb4.3						
SMCO	**Snowmass**	**76.70**	**329**	*e*P	**P**	**16 18 48.9**	**+1.0**
	comp=Z,21nm,1.3s,mb4.6						
MAW	**Mawson**	**77.57**	**162**	*e*P	**P**	**16 18 52.3**	**-0.5**
	comp=Z,29nm,0.9s,mb4.9						
MAW	**Mawson**	**77.57**	**162**	P	**P**	**16 18 52.5**	**-0.3**
	comp=Z,31nm,0.7s,mb5.0,baz=217,slow=6.3,SNR=97						
MAW	**Mawson**	**77.57**	**162**	P	**P**	**16 18 52.5**	**-0.3**
MAW				pmax	pmax		
	comp=Z,31nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.60**	**68**	P	**P**	**16 18 52.2**	**-0.8**
	comp=Z,8.6nm,0.5s,mb4.7,baz=273,slow=6.7,SNR=125						
TORD	**Torodi Ar. Bea**	**77.60**	**68**	P	**P**	**16 18 52.2**	**-0.8**
CCUT	**Cedar City**	**78.57**	**324**	*e*P	**P**	**16 18 59.6**	**+1.3**
BOSA	**Boshof**	**78.58**	**116**	P	**P**	**16 18 58.2**	**-0.2**
	comp=Z,25nm,0.6s,mb5.1,baz=248,slow=4.1,SNR=71						
BOSA	**Boshof**	**78.58**	**116**	P	**P**	**16 18 58.2**	**-0.1**
BOSA				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.0						
BOSA	**Boshof**	**78.58**	**116**	*e*P	**P**	**16 18 58.1**	**-0.2**
	comp=Z,43nm,0.8s,mb5.1						
MSU	**Marysvale**	**78.69**	**325**	*e*P	**P**	**16 18 59.8**	**+0.9**
EYMN	**Ely**	**78.80**	**343**	*e*P	**P**	**16 18 58.1**	**-1.4**
	comp=Z,3.3nm,0.7s,mb4.1						
RWWY	**Rawlins**	**78.83**	**330**	*e*P	**P**	**16 19 00.3**	**+0.6**
	comp=Z,24nm,0.8s,mb4.9						
RSSD	**Black Hills**	**79.50**	**334**	*e*P	**P**	**16 19 03.5**	**+0.1**
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
RSSD	**Black Hills**	**79.50**	**334**	*e*P	**P**	**16 19 03.5**	**+0.1**
	comp=Z,3.7nm,0.8s,mb4.1						
TPNV	**Topopah Spring**	**79.67**	**322**	*e*P	**P**	**16 19 05.3**	**+1.0**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
TPNV	**Topopah Spring**	**79.67**	**322**	*e*P	**P**	**16 19 05.3**	**+1.0**
	comp=Z,3.8nm,0.9s,mb4.0						
DAU	**Daniels Canyon**	**79.69**	**327**	*e*P	**P**	**16 19 05.4**	**+1.0**
DUG	**Dugway**	**80.29**	**326**	*e*P	**P**	**16 19 07.8**	**+0.2**
DUG				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
DUG	**Dugway**	**80.29**	**326**	*e*P	**P**	**16 19 07.8**	**+0.2**
	comp=Z,3.0nm,0.6s,mb4.1						
TCUT	**Toone Canyon**	**80.31**	**327**	*e*P	**P**	**16 19 08.4**	**+0.7**
LBTB	**Lobatse**	**80.42**	**113**	*e*P	**P**	**16 19 08.2**	**-0.1**
LBTB				pmax	pmax		
	comp=Z,49nm,0.9s,mb5.1						
LBTB	**Lobatse**	**80.42**	**113**	*e*P	**P**	**16 19 08.2**	**-0.1**
	comp=Z,48nm,0.9s,mb5.1						
PDAR	**Pinedale Array**	**80.74**	**329**	P	**P**	**16 19 10.1**	**+0.1**
	comp=Z,4.0nm,0.6s,mb4.2,baz=124,slow=7.3,SNR=50						
PDAR				pP	pP	16 19 50.2	+2.6
	comp=Z,2.0nm,0.8s,baz=110,slow=6.5,SNR=2.3						
HWUT	**Hardware Ranch**	**80.76**	**327**	*e*P	**P**	**16 19 09.8**	**-0.3**
	comp=Z,15nm,0.9s,mb4.6						
BGU	**Big Grassy Mou**	**80.95**	**326**	*e*P	**P**	**16 19 11.2**	**+0.1**
HVU	**Hansel Valley**	**81.47**	**327**	*e*P	**P**	**16 19 13.8**	**-0.1**
HVU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
HVU	**Hansel Valley**	**81.47**	**327**	*e*P	**P**	**16 19 13.8**	**-0.1**
	comp=Z,6.4nm,0.7s,mb4.4						
NVAR	**Mina Array Bea**	**81.87**	**321**	P	**P**	**16 19 16.6**	**+0.7**
	comp=Z,1.2nm,0.6s,mb3.7,baz=135,slow=6.6,SNR=11						
NVAR				pP	pP	16 19 57.8	+4.1
	comp=Z,1.6nm,0.9s,baz=193,slow=6.8,SNR=3.9						
LOHW	**Long Hollow**	**81.88**	**329**	*e*P	**P**	**16 19 16.4**	**+0.4**
	comp=Z,6.2nm,0.7s,mb4.3						
ELK	**Elko**	**81.92**	**325**	*e*P	**P**	**16 19 16.0**	**-0.2**
ELK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ELK	**Elko**	**81.92**	**325**	*e*P	**P**	**16 19 16.0**	**-0.2**
	comp=Z,6.9nm,0.8s,mb4.3						
TPAW	**Teton Pass**	**81.94**	**329**	*e*P	**P**	**16 19 16.4**	**+0.2**
	comp=Z,8.2nm,1.1s,mb4.3						
MOOW	**Moose Ponds**	**82.05**	**329**	*e*P	**P**	**16 19 16.7**	**-0.1**
	comp=Z,5.6nm,1.3s,mb4.0						
ULM	**Lac du Bonnet**	**82.08**	**341**	P	**P**	**16 19 16.1**	**-0.9**
	comp=Z,7.4nm,1.0s,mb4.3,baz=150,slow=8.7,SNR=4.4						
ULM				pP	pP	16 19 58.5	+3.7
	comp=Z,5.5nm,0.9s,baz=108,slow=2.2,SNR=3.4						
IMW	**Indian Meadow**	**82.25**	**329**	*e*P	**P**	**16 19 19.3**	**+1.4**
	comp=Z,13nm,0.9s,mb4.5						
SCHQ	**Schefferville**	**82.42**	**360**	P	**P**	**16 19 18.6**	**-0.2**
	comp=Z,4.0nm,0.9s,mb4.1,baz=185,slow=7.3,SNR=4.6						
GCMT	**Greycliff**	**83.18**	**331**	*e*P	**P**	**16 19 22.2**	**-0.6**
PAHR	**Pah Rah Range**	**83.37**	**322**	*e*P	**P**	**16 19 24.1**	**+0.4**
	comp=Z,3.8nm,0.8s,mb4.2						
HLID	**Hailey**	**83.61**	**327**	*e*P	**P**	**16 19 25.3**	**+0.3**
	comp=Z,8.7nm,0.7s,mb4.6						
MCMT	**McKenzie Canyo**	**83.84**	**329**	*e*P	**P**	**16 19 27.1**	**+1.0**
BOZ	**Bozeman (W)**	**83.92**	**330**	*e*P	**P**	**16 19 26.3**	**-0.2**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
BOZ	**Bozeman (W)**	**83.92**	**330**	*e*P	**P**	**16 19 26.3**	**-0.2**
	comp=Z,1.9nm,0.7s,mb3.9						
DLMT	**Dillon**	**84.13**	**329**	*e*P	**P**	**16 19 28.2**	**+0.6**
	comp=Z,15nm,1.2s,mb4.6						
MIR	**Mirnyy**	**84.53**	**172**	*e*P	**P**	**16 19 29.5**	**-0.1**
MIR				pmax	pmax		
	comp=Z,190nm,1.5s,mb5.6						
CHMT	**Chamberlain Mo**	**85.61**	**330**	*e*P	**P**	**16 19 35.2**	**+0.2**
BMO	**Blue Mountains**	**85.97**	**326**	*e*P	**P**	**16 19 36.3**	**-0.4**
	comp=Z,1.4nm,0.6s,mb3.9						
CASY	**Casey**	**86.06**	**179**	*e*P	**P**	**16 19 37.0**	**-0.2**
YBH	**Yreka Blue Hor**	**86.59**	**321**	*e*P	**P**	**16 19 38.3**	**-1.5**
YBH				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YBH	**Yreka Blue Hor**	**86.59**	**321**	*e*P	**P**	**16 19 38.3**	**-1.4**
	comp=Z,1.8nm,0.6s,mb4.1						
LSZ	**Lusaka**	**87.02**	**106**	*e*P	**P**	**16 19 43.5**	**+1.7**
LSZ				pmax	pmax		
	comp=Z,51nm,0.9s,mb5.3						
LSZ	**Lusaka**	**87.02**	**106**	*e*P	**P**	**16 19 43.5**	**+1.7**
	comp=Z,51nm,0.9s,mb5.3						
ESDC	**Sonseca Array**	**88.94**	**43**	P	**P**	**16 19 50.7**	**-0.2**
	comp=Z,0.4nm,0.3s,mb3.8,baz=258,slow=3.4,SNR=3.4						
YKA	**Yellowknife Ar**	**97.95**	**340**	P	**P**	**16 20 31.1**	**-1.1**
	comp=Z,0.8nm,0.5s,mb4.4,baz=137,slow=5.1,SNR=5.4						
YKA				pP	pP	16 21 13.1	+2.4
	comp=Z,0.8nm,0.7s,baz=119,slow=6.4,SNR=2.5						
ARCES	**ARCESS Array B**	**116.56**	**23**	PKP	PKPdf	16 25 36.6	-2.9
	comp=Z,1.1nm,0.9s,baz=250,slow=3.6,SNR=5.5						
ARCES	**ARCESS Array B**	**116.56**	**23**	PKIKP	PKPdf	16 25 36.6	-2.9
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**125.05**	**203**	PKP	PKPdf	16 25 55.1	-0.7
	comp=Z,11nm,0.6s,baz=134,slow=1.7,SNR=75						
ASAR				pPKP	pPKPdf	16 26 40.7	+4.7
	comp=Z,3.7nm,0.7s,baz=152,slow=2.3,SNR=5.4						
ASAR	**Alice Springs**	**125.05**	**203**	PKIKP	PKPdf	16 25 55.1	-0.7
ASAR						16 26 40.7	
ASAR				pmax	pmax		
	comp=Z,11nm,0.6s						
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AS31	**Alice Springs**	**125.06**	**203**	*e*PKP	PKPdf	16 25 55.0	-0.8
ASPA	**Alice Springs**	**125.06**	**203**	*e*PKP	PKPdf	16 25 55.0	-0.8
WB2	**Warramunga Arr**	**128.31**	**205**	*e*PKPdf	PKPdf	16 26 01.6	-0.4
WRA	**Warramunga Arr**	**128.31**	**205**	PKP	PKPdf	16 26 01.8	-0.3
	comp=Z,6.5nm,0.3s,baz=156,slow=1.9,SNR=106						
WRA				pPKP	pPKPdf	16 26 47.5	+5.3
	comp=Z,5.1nm,0.6s,baz=161,slow=1.6,SNR=6.4						
WRA	**Warramunga Arr**	**128.31**	**205**	PKIKP	PKPdf	16 26 01.8	-0.2
WRA						16 26 47.5	
WRA				pmax	pmax		
	comp=Z,7.0nm,0.3s						
WRA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WRAB	**Tennant Creek**	**128.31**	**205**	*e*PKIKP	PKPdf	16 26 01.7	-0.3
BILL	**Bilibino**	**129.27**	**337**	*i* PKIKP	PKPdf	16 26 02.1	-1.8
BILL				*e*		16 28 12.9	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s						
WSAR	**Wadi Sarin**	**130.64**	**82**	PKP	PKPdf	16 26 06.2	-0.2
	comp=Z,10.0nm,0.9s,baz=5.7,slow=6.3,SNR=4.7						
ARU	**Arti**	**132.06**	**38**	⇑*i*PKIKP	PKPdf	16 26 08.5	-0.6
FITZ	**Fitzroy Crossi**	**132.75**	**196**	*e*PKP	PKPdf	16 26 10.5	+0.1
	comp=Z,11nm,0.4s						
FITZ	**Fitzroy Crossi**	**132.75**	**196**	PKP	PKPdf	16 26 10.5	+0.1
	comp=Z,5.5nm,0.4s,baz=244,slow=3.0,SNR=37						
FITZ				pPKP	pPKPdf	16 26 55.8	+5.2
	comp=Z,1.9nm,0.7s,baz=203,slow=9.6,SNR=2.3						
TIXI	**Tiksi**	**135.41**	**353**	*i* PKIKP	PKPdf	16 26 13.2	-2.2
ZRNK	**Zerenda**	**138.84**	**40**	*e*PKIKP	PKPdf	16 26 21.2	-0.6
BRVK	**Borovoye**	**139.53**	**40**	*e*PKIKP	PKPdf	16 26 23.4	+0.4
YAK	**Yakutsk**	**144.25**	**347**	*e*PKIKP	PKPdf	16 26 28.2	-3.2
YAK				*e*		16 27 15.1	
YAK				pmax	pmax		
	comp=Z,15nm,0.8s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.8s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,11nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.4s						
YAK	**Yakutsk**	**144.25**	**347**	*e*PKP	PKPdf	16 26 28.5	-2.9
EKS2	**Erkin-Say**	**144.75**	**55**	P	PKPdf	16 26 31.8	-0.5
	SNR=17						
USP	**Ospenovka**	**145.14**	**54**	P	PKPbc	16 26 33.0	+0.1
	SNR=22						
KURK	**Kurchatov**	**145.20**	**40**	*e*PKIKP	PKPdf	16 26 32.8	-0.3
AAK	**Ala-Archa**	**145.28**	**55**	P	PKPdf	16 26 34.2	+1.0
	SNR=38						
AAK	**Ala-Archa**	**145.28**	**55**	*e*PKP	PKPdf	16 26 32.9	-0.3
NVS	**Novosibirsk**	**145.30**	**31**	*e*PKP2	PKPab	16 26 32.1	-1.5
NVS				pmax	pmax		
	comp=Z,63nm,1.2s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.4s						
NVS				pmax	pmax		
	comp=E,20nm,1.2s						
UCH	**Uchtor**	**145.38**	**55**	P	PKPdf	16 26 34.8	+1.4
	SNR=68						
CHMS	**Chumysh**	**145.38**	**54**	P	PKPdf	16 26 34.0	+0.6
	SNR=27						
KBK	**Karagaybulak**	**145.60**	**54**	P	PKPdf	16 26 35.2	+1.4
	SNR=21						
KZA	**Kyzart**	**145.94**	**55**	P	PKPdf	16 26 35.8	+1.4
	SNR=16						
TKM2	**Tokmak 2**	**146.00**	**54**	P	PKPdf	16 26 35.1	+0.7
	SNR=26						
ZAL	**Zalesovo**	**146.59**	**31**	PKPbc	PKPbc	16 26 35.2	-2.0
	comp=E,10nm,0.4s,baz=161,slow=2.3,SNR=28						
ZAL				pPKPbc	pPKPbc	16 27 20.6	+3.7
	comp=E,4.8nm,0.5s,baz=122,slow=2.3,SNR=2.6						
ZAL	**Zalesovo**	**146.59**	**31**	PKP2	PKPab	16 26 35.2	-3.4
ZAL				pmax	pmax		
	comp=Z,11nm,0.4s						
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZAL	**Zalesovo**	**146.59**	**31**	PKPbc	PKPbc	16 26 35.2	-2.0
ZAL				pPKPbc	pPKPbc	16 27 20.6	+3.7
ULHL	**Ulahol**	**146.62**	**55**	P	PKPdf	16 26 38.2	+2.7
	SNR=7.5						
KSH	**Kashi**	**146.95**	**60**	*e*PKP	PKPdf	16 26 36.9	+0.9
KSH				*e*PKS		16 30 10.4	
KSH				*e*SKS	SKSdf	16 33 26.7	-3.8
KSH				PP	PP		
	comp=Z,276nm,6.9s						
GUMO	**Guam**	**147.49**	**250**	PKPbc	PKPbc	16 26 39.0	-0.8
	comp=Z,23nm,0.3s,baz=186,slow=22,SNR=4.9						
GUMO	**Guam**	**147.49**	**250**	PKP2	PKPbc	16 26 39.0	-0.7
GUMO				pmax	pmax		
	comp=Z,23nm,0.3s						
NDI	**New Delhi**	**148.13**	**80**	*e*P	PKPbc	16 26 41.0	-0.4
KRAR	**Krasnoyarsk**	**148.28**	**22**	⇑*i*PKIKP	PKPdf	16 26 39.6	+1.4
MKAR	**Makanchi Array**	**149.16**	**44**	PKPbc	PKPbc	16 26 43.4	-0.6
	comp=Z,11nm,0.6s,baz=305,slow=2.4,SNR=141						
MKAR	**Makanchi Array**	**149.16**	**44**	⇑*e*PKP2	PKPdf	16 26 42.4	+2.7
YSS	**Yuzh-Sakhalins**	**150.25**	**318**	*e*PKIKP	PKPdf	16 26 45.0	+3.6
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**150.25**	**318**	*e*PKPbc	PKPbc	16 26 45.9	-0.8
PSI	**Prapat**	**151.40**	**148**	PKPbc	PKPbc	16 26 48.8	-0.6
	comp=Z,20nm,0.5s,baz=211,slow=4.0,SNR=20						
PSI				PKPab	PKPab	16 26 57.4	-0.8
	comp=Z,16nm,0.6s,baz=212,slow=13,SNR=8.9						
PSI	**Prapat**	**151.40**	**148**	PKIKP	PKPbc	16 26 48.8	-0.6
PSI						16 26 57.4	
PSI				pmax	pmax		
	comp=Z,20nm,0.5s						
PSI				pmax	pmax		
	comp=Z,16nm,0.6s						
KOLN	**Koldanda**	**153.60**	**83**	*e*P	PKPab	16 27 06.5	-0.9
WMQ	**Urumqi**	**153.91**	**46**	PKP	PKPdf	16 26 44.6	-2.2
KLR	**Kul'dur**	**154.51**	**331**	*e*PKIKP	PKPdf	16 26 43.7	-4.0
GKN	**Gorkha**	**154.54**	**83**	*e*P	PKPab	16 27 10.8	-0.6
DMN	**Daman**	**154.90**	**84**	*e*P	PKPab	16 27 12.8	-0.2
	comp=Z,95nm,0.9s						
KKN	**Kakani**	**155.08**	**84**	*e*P	PKPab	16 27 13.2	-0.5
	comp=Z,86nm,0.9s						
PKI	**Pulchoki**	**155.16**	**84**	*e*P	PKPab	16 27 13.4	-0.7
	comp=Z,65nm,1.0s						
GUN	**Gumba**	**155.62**	**84**	*e*P	PKPab	16 27 15.9	-0.1
	comp=Z,48nm,0.9s						
JIRN	**Jiri**	**155.86**	**84**	*e*P	PKPab	16 27 16.9	-0.2
	comp=Z,77nm,1.1s						
MJAR	**Matsushiro Arr**	**157.44**	**299**	PKPab	PKPab	16 27 22.2	-1.7
	comp=Z,1.7nm,0.5s,baz=73,slow=5.2,SNR=5.4						
MJAR				pPKPab	pPKPab	16 28 07.2	+4.6
	comp=Z,0.5nm,0.3s,baz=94,slow=2.4,SNR=3.7						
SONM	**Songino Array**	**159.37**	**14**	PKP	PKPdf	16 26 52.8	-1.0
	comp=Z,2.7nm,0.9s,baz=296,slow=0.1,SNR=15						
SONM				PKPab	PKPab	16 27 32.1	-0.2
	comp=Z,1.4nm,0.5s,baz=322,slow=3.5,SNR=8.4						
SONM				pPKPab	pPKPab	16 28 15.5	+4.6
	comp=Z,0.8nm,0.8s,baz=328,slow=2.7,SNR=3.0						
SONM	**Songino Array**	**159.37**	**14**	PKIKP	PKPdf	16 26 52.8	-1.1
SONM						16 27 32.1	
SONM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ULN	**Ulaanbaatar**	**159.47**	**12**	*d i*PKIKP	PKPdf	16 26 53.8	-0.2
CN2	**Changchun**	**161.47**	**332**	*e*PKP	PKPdf	16 26 55.0	-1.1
GTA	**Gaotai**	**163.88**	**41**	*e*PKP	PKPdf	16 26 59.2	+0.7
GTA				APKP		16 27 40.8	
GTA				PKP2	PKPab	16 27 53.5	+1.5
GTA				XPKP		16 27 58.2	
HHC	**Hu-ho-hao-te**	**167.02**	**7**	*e*PKP	PKPdf	16 27 01.6	+0.5
HHC				APKP		16 27 44.6	
HHC				XPKP		16 28 01.3	
HHC				PKS		16 30 30.5	
HHC				PP	PP	16 31 56.2	+2.1
HHC				SKKS	SKKSac	16 38 29.8	+3.0
KMI	**Kunming**	**169.98**	**104**	PKP	PKPdf	16 27 01.9	-1.1
CD2	**Chengdu**	**171.01**	**68**	*e*PKP	PKPdf	16 26 58.8	-4.8
NJ2	**Nanjing**	**173.79**	**313**	*e*PKP	PKPdf	16 27 03.8	-1.0
NJ2				APKP		16 27 47.3	
NJ2				XPKP		16 28 02.3	
NJ2				PKS		16 30 35.0	
NJ2				SKS	SKSdf	16 33 49.0	-4.7
NJ2				SKKS	SKKSac	16 38 58.0	-1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NJ2				PP	PP		
	comp=Z,240nm,6.6s						
NJ2				LR	LR		
	comp=N,1µm,22.0s						
NJ2				LR	LR		
	comp=E,1µm,22.5s						
NJ2				LR	LR		
	comp=Z,3µm,21.7s						

MAN 03 16:21:51.5, 1236N×12373E, h1km, mb2.4, ML4.0, MS2.1, 1C, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.10**	**268**⇑	eP	Pg	16 21 53.2	-0.2
MMPH				i S	Sg	16 21 55.3	+0.5
AUQP	**San Andres**	**1.40**	**313**	eP	Pn	16 22 17.5	-0.6
AUQP				eS	Sg	16 22 38.1	+1.6
OCLP	**Ormoc**	**1.56**	**146**	eP	Pn	16 22 20.2	-0.1
GUIM	**Jordan**	**2.06**	**213**	eP	Pn	16 22 28.0	+0.9
GUIM				eS	Sn	16 22 54.4	+1.0

*MOS **03** 16:33:41.0±0.7, 652S×12966E, h117km, mb4.7/14, Error ellipse: s-maj=16.3km s-min=7.9km az=116.1*
*BJI **03** 16:33:43.4, 706S×12994E, h176km, mB4.8, mb4.6*
*ISCJB **03** 16:33:46.0±0.8, 665S±004×12983E±005, h168km±9km, mb4.6/37, Error ellipse: s-maj=8.8km s-min=6.5km az=167.5*
*IDC **03** 16:33:47.5±3.3, 663S×12970E, h164km±30km, mb4.4/7, mb1 4.4/10, mb1mx4.3/14, mbtmp4.9/10, MS3.0/1, Ms1 3.0/1, ms1mx2.3/17, Error ellipse: s-maj=21.5km s-min=12.5km az=66.0*
*NEIC **03** 16:33:48.4±1.0, 654S×12983E, h176km±9km, mb4.7/17, Error ellipse: s-maj=8.3km s-min=5.5km az=52.0*
ISC 03 16:33:47.5±0.7, **666S**±003×**12988E**±006, **h165**km±8km, **h191**km±2.1km**:pP-P, n113, σ1s15**/108, **mb4.6**/37, **3C-4D, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**3.02**	**70**	P	**Pn**	**16 34 36.4**	**+0.8**
	3µm,0.8s						
KAKA	**Kakadu**	**6.52**	**157**	eP	**Pn**	**16 35 21.7**	**+0.6**
	284nm,0.2s						
KAKA				eS	**Sn**	**16 36 32.1**	**-2.4**
BAKI	**Biak**	**8.25**	**49**	P	**Pn**	**16 35 44.3**	**+0.3**
	870nm,1.1s						
FITZ	**Fitzroy Crossi**	**12.10**	**200**	eP	**Pn**	**16 36 33.0**	**-1.6**
	59nm,0.4s						
FITZ				eS	**Sn**	**16 38 41.7**	**-6.8**
FITZ	**Fitzroy Crossi**	**12.10**	**200**	P	**Pn**	**16 36 32.9**	**-1.6**
	7.8nm,0.3s,baz=31,slow=12,SNR=152						
FITZ				S	**Sn**	**16 38 41.7**	**-6.9**
	12nm,0.3s,baz=24,slow=15,SNR=5.2						
WRAB	**Tennant Creek**	**13.89**	**162**	eP	**Pn**	**16 36 55.4**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,112nm,0.5s						
WRAB	**Tennant Creek**	**13.89**	**162**	ePn	**Pn**	**16 36 55.4**	**-1.9**
	comp=Z,112nm,0.5s						
WRAB				eS	**Sn**	**16 39 18.5**	**-13**
WRA	**Warramunga Arr**	**13.90**	**162**	P	**Pn**	**16 36 55.1**	**-2.3**
	comp=Z,9.3nm,0.3s,baz=342,slow=13,SNR=264						
WRA				S	**Sn**	**16 39 22.6**	**-8.9**
	comp=Z,7.9nm,0.3s,baz=342,slow=22,SNR=7.0						
WB2	**Warramunga Arr**	**13.90**	**162**	ePn	**Pn**	**16 36 55.5**	**-2.0**
WB2				eS	**Sn**	**16 39 22.0**	**-10**
PMG	**Port Moresby**	**17.32**	**100**	P	**Pn**	**16 37 41.8**	**+2.6**
	comp=Z,0.8nm,0.3s,baz=20,slow=1.7,SNR=4.1						
PMG	**Port Moresby**	**17.32**	**100**	eP	**Pn**	**16 37 41.0**	**+1.7**
PMG				eS	**S**	**16 40 45.3**	**-4.5**
AS31	**Alice Springs**	**17.35**	**168**	eP	**Pn**	**16 37 40.2**	**+0.6**
AS31				eS	**S**	**16 40 50.7**	**+0.4**
ASPA	**Alice Springs**	**17.35**	**168**	eP	**Pn**	**16 37 40.2**	**+0.6**
ASPA				eS	**S**	**16 40 50.7**	**+0.4**
ASAR	**Alice Springs**	**17.35**	**168**	P	**Pn**	**16 37 40.4**	**+0.8**
	comp=Z,18nm,0.3s,baz=344,slow=9.4,SNR=459						
ASAR				S	**S**	**16 40 50.1**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=356,slow=24,SNR=11						
ASAR	**Alice Springs**	**17.35**	**168**	P	**Pn**	**16 37 40.4**	**+0.8**
ASAR				S	**S**	**16 40 50.1**	**-0.2**
MBWA	**Marble Bar**	**17.45**	**213**	eP	**Pn**	**16 37 41.4**	**+0.7**
	comp=Z,23nm,0.7s						
MBWA				eS	**S**	**16 40 39.8**	**-12**
KKM	**Kota Kinabalu**	**18.58**	**312**	P	**P**	**16 37 53.0**	**+1.1**
CTA	**Charters Tower**	**20.75**	**132**	eP	**P**	**16 38 16.9**	**+1.7**
	comp=Z,16nm,0.5s						
CTA	**Charters Tower**	**20.75**	**132**	P	**P**	**16 38 17.0**	**+1.7**
	comp=Z,28nm,0.7s,baz=309,slow=12,SNR=48						
CTA	**Charters Tower**	**20.75**	**132**	eP	**P**	**16 38 16.9**	**+1.7**
CTA				pmax	pmax		
	comp=Z,16nm,0.5s						
CTAO	**Charters Tower**	**20.75**	**132**	eP	**P**	**16 38 16.9**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,23nm,0.6s						
CTAO	**Charters Tower**	**20.75**	**132**	eP	**P**	**16 38 16.9**	**+1.6**
	comp=Z,23nm,0.6s						
KSM	**Kuching**	**21.14**	**292**	eP	**P**	**16 38 19.8**	**+0.4**
LEM	**Lembang**	**22.11**	**268**	P	**P**	**16 38 32.4**	**+2.8**
	comp=Z,77nm,1.3s,mb5.0						
FORT	**Forrest**	**24.06**	**184**	eP	**P**	**16 38 48.9**	**+1.5**
	comp=Z,40nm,0.6s,mb5.1						
KLBR	**Kellerberrin**	**27.27**	**203**	eP	**P**	**16 39 17.6**	**+1.3**
	comp=Z,12nm,0.4s,mb4.9						
KGM	**Kluang**	**27.88**	**287**	P	**P**	**16 39 24.9**	**+3.1**
MUN	**Mundaring**	**28.24**	**205**	eP	**P**	**16 39 26.1**	**+1.2**
NWAO	**Narrogin (SRO)**	**28.66**	**203**	P	**P**	**16 39 29.4**	**+0.8**
	comp=Z,7.6nm,0.4s,mb4.8,baz=54,slow=8.5,SNR=24						
NWAO	**Narrogin (SRO)**	**28.66**	**203**	eP	**P**	**16 39 30.1**	**+1.5**
HNR	**Honiara**	**29.89**	**97**	LR	LR	16 49 36.8	
	comp=Z,35nm,22.0s,baz=181,slow=32						
KULM	**Kulim**	**31.50**	**291**	eP	**P**	**16 39 52.5**	**-1.1**
PSI	**Prapat**	**32.30**	**286**	P	**P**	**16 39 58.8**	**-1.9**
	comp=Z,28nm,0.8s,mb5.0,baz=107,slow=5.6,SNR=18						
SSE	**Sheshan**	**38.45**	**348**	P	**P**	**16 40 50.8**	**-2.4**
SSE				AMB	AMB		
	comp=Z,24nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,102nm,4.1s						
CM31	**Chiang Mai Arr**	**39.42**	**310**	eP	**P**	**16 41 01.3**	**0.0**
	comp=Z,15nm,1.0s,mb4.6						
NJ2	**Nanjing**	**39.91**	**345**	eP	**P**	**16 41 04.1**	**-1.1**
NJ2				PP	PP	16 42 41.1	+0.7
NJ2				S	**S**	**16 47 02.0**	**+4.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,410nm,3.9s						
NJ2				LR	LR		
	comp=N,240nm,19.9s						
NJ2				LR	LR		
	comp=E,380nm,13.8s						
NJ2				LR	LR		
	comp=Z,18µm,16.0s						
KMI	**Kunming**	**41.18**	**321**	P	**P**	**16 41 16.3**	**+0.7**
KMI				AP	pP	16 41 58.3	+6.8
KMI				S	**S**	**16 47 16.2**	**-0.4**
KMI				SS	SS	16 50 18.4	-7.8
KMI				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.3						
KMI				AMB	AMB		
	comp=Z,121nm,5.4s						
KMI				LR	LR		
	comp=N,286nm,11.0s						
KMI				LR	LR		
	comp=E,235nm,8.7s						
KMI				LR	LR		
	comp=Z,215nm,9.1s						
CD2	**Chengdu**	**44.95**	**328**	eP	**P**	**16 41 45.2**	**-0.7**
CD2				AP	pP	16 42 26.7	+4.3
CD2				XP	sP	16 42 48.1	+7.3
CD2				PP	PP	16 43 33.8	-0.5
CD2				S	**S**	**16 48 08.4**	**-3.2**
CD2				XS	sS	16 49 21.5	+6.4
CD2				SS	SS	16 51 27.9	-8.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,40nm,5.9s						
BJI	**Beijing**	**48.16**	**346**	eP	**P**	**16 42 09.8**	**-1.1**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.5						
SNY	**Shenyang**	**48.59**	**354**	⇓P	**P**	**16 42 15.4**	**+1.2**
SNY				AMB	AMB		
	comp=Z,13nm,0.5s,mb4.8						
LZH	**Lanzhou**	**49.05**	**332**	eP	**P**	**16 42 20.9**	**+3.2**
LZH				PP	PP	16 44 17.2	+4.5
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.7						
HHC	**Hu-ho-hao-te**	**50.18**	**342**	eP	**P**	**16 42 28.8**	**+2.6**
HHC				AP	pP	16 43 11.3	+7.9
HHC				PP	PP	16 44 30.4	+7.4
HHC				S	**S**	**16 49 29.5**	**+4.1**
HHC				SCS	ScS	16 51 57.6	-2.7
HHC				AMB	AMB		
	comp=Z,18nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,52nm,4.3s						
CN2	**Changchun**	**50.38**	**356**	eP	**P**	**16 42 31.5**	**+3.8**
PALK	**Pallekele**	**50.97**	**285**	eP	**P**	**16 42 31.7**	**-0.4**
	comp=Z,13nm,0.7s,mb4.7						
MDJ	**Mudanjiang**	**51.04**	**360**	P	**P**	**16 42 32.2**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,26nm,3.7s						
LSA	**Lhasa**	**51.87**	**316**	P	**P**	**16 42 39.2**	**+0.4**
LSA	**Lhasa**	**51.87**	**316**	eP	**P**	**16 42 39.4**	**+0.6**
LSA				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.7						
LSA	**Lhasa**	**51.87**	**316**	eP	**P**	**16 42 39.4**	**+0.6**
	comp=Z,13nm,0.6s,mb4.7						
GTA	**Gaotai**	**53.62**	**331**	P	**P**	**16 42 51.8**	**+0.2**
GTA				AP	pP	16 43 32.9	+3.7
GTA				XP	sP	16 43 56.2	+8.8
GTA				PP	PP	16 44 56.8	+2.8
GTA				S	**S**	**16 50 09.0**	**-3.3**
GTA				XS	sS	16 51 25.4	+7.8
GTA				SS	SS	16 53 52.2	-2.8
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
GTA				AMB	AMB		
	comp=Z,106nm,6.1s						
GTA				LR	LR		
	comp=N,106nm,14.1s						
GTA				LR	LR		
	comp=E,76nm,14.8s						
GTA				LR	LR		
	comp=Z,123nm,14.4s						
JIRN	**Jiri**	**54.27**	**311**	eP	**P**	**16 42 56.6**	**+0.2**
YSS	**Yuzh-Sakhalins**	**54.59**	**11**⇓	eP	**P**	**16 42 59.3**	**+0.7**
YSS				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.6						
GUN	**Gumba**	**54.64**	**311**	eP	**P**	**16 42 59.2**	**+0.2**
	comp=Z,36nm,0.5s,mb5.4						
PKI	**Pulchoki**	**54.82**	**310**	eP	**P**	**16 43 00.0**	**-0.3**
KKN	**Kakani**	**55.03**	**311**	eP	**P**	**16 43 01.7**	**-0.1**
	comp=Z,15nm,0.5s,mb5.0						
DMN	**Daman**	**55.06**	**310**	eP	**P**	**16 43 02.0**	**-0.1**
GKN	**Gorkha**	**55.62**	**310**	eP	**P**	**16 43 06.0**	**-0.1**
KOLN	**Koldanda**	**56.29**	**310**	eP	**P**	**16 43 10.9**	**+0.1**
ULN	**Ulaanbaatar**	**57.91**	**342**	eP	**P**	**16 43 22.2**	**+0.1**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
ULN	**Ulaanbaatar**	**57.91**	**342**	eP	**P**	**16 43 22.2**	**+0.1**
	comp=Z,4.9nm,0.6s,mb4.5						
SONM	**Songino Array**	**58.08**	**342**	P	**P**	**16 43 23.0**	**-0.4**
	comp=Z,1.5nm,0.5s,mb4.0,baz=157,slow=6.2,SNR=12						
WMQ	**Urumqi**	**63.05**	**327**	P	**P**	**16 43 57.4**	**+0.4**
WMQ				AP	pP	16 44 41.7	+6.0
WMQ				AMB	AMB		
	comp=Z,118nm,6.2s						
WMQ				LR	LR		
	comp=N,186nm,23.1s						
WMQ				LR	LR		
	comp=E,140nm,22.0s						
WMQ				LR	LR		
	comp=Z,186nm,23.6s						
MKAR	**Makanchi Array**	**67.88**	**327**	P	**P**	**16 44 27.4**	**-0.6**
	comp=Z,24nm,0.5s,mb5.2,baz=119,slow=7.9,SNR=279						
YAK	**Yakutsk**	**68.48**	**360**	eP	**P**	**16 44 31.3**	**-0.5**
YAK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.2s						
KZA	**Kyzart**	**69.44**	**320**	P	**P**	**16 44 39.3**	**+1.6**
	SNR=17						
TKM2	**Tokmak 2**	**69.65**	**320**	P	**P**	**16 44 39.7**	**+0.8**
	SNR=27						
KBK	**Karagaybulak**	**69.93**	**320**	P	**P**	**16 44 41.5**	**+0.9**
	SNR=12						
UCH	**Uchtor**	**69.99**	**319**	P	**P**	**16 44 42.4**	**+1.4**
	SNR=21						
AAK	**Ala-Archa**	**70.20**	**320**	P	**P**	**16 44 43.4**	**+1.1**
	SNR=9.9						
AAK	**Ala-Archa**	**70.20**	**320**⇑	iP	**P**	**16 44 42.2**	**-0.1**
AAK				i *PP	pP	16 45 09.5	-12
AAK				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.5						
AAK	**Ala-Archa**	**70.20**	**320**	eP	**P**	**16 44 42.1**	**-0.2**
	comp=Z,23nm,0.9s,mb4.9						
CHMS	**Chumysh**	**70.22**	**320**	P	**P**	**16 44 42.6**	**+0.2**
	SNR=7.4						
USP	**Ospenovka**	**70.52**	**320**	P	**P**	**16 44 44.7**	**+0.5**
	SNR=20						
EKS2	**Erkin-Say**	**70.68**	**320**	P	**P**	**16 44 46.2**	**+1.0**
	SNR=33						
KURK	**Kurchatov**	**72.17**	**329**⇑	eP	**P**	**16 44 53.6**	**-0.5**
KURK				i *PP	pP	16 45 17.8	-16
KURK	**Kurchatov**	**72.17**	**329**	eP	**P**	**16 44 53.5**	**-0.6**
	comp=Z,7.2nm,0.4s,mb4.8						
NVS	**Novosibirsk**	**72.51**	**334**	eP	**P**	**16 44 53.5**	**-2.7**
NVS				eS	S	16 53 59.2	-7.7
NVS				pmax	pmax		
	comp=N,5.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
NVS				smax			
	comp=N,8.0nm,1.6s						
NVS				smax			
	comp=E,8.0nm,1.4s						
VNDA	**Vanda**	**72.80**	**173**	P	**P**	**16 44 57.7**	**-0.2**
	comp=E,1.6nm,0.6s,mb3.9,baz=318,slow=6.8,SNR=11						
VNDA	**Vanda**	**72.80**	**173**	P	**P**	**16 44 57.7**	**-0.2**
KK31	**Karatay Array**	**73.01**	**319**	i P	**P**	**16 44 59.1**	**0.0**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.3						
MAW	**Mawson**	**75.22**	**201**	P	**P**	**16 45 12.1**	**+0.2**
	comp=Z,7.7nm,0.7s,mb4.5,baz=75,slow=5.1,SNR=34						
VOSK	**Vostochnaya**	**77.25**	**328**	i P	**P**	**16 45 22.3**	**-1.1**
VOSK				pmax	pmax		
	comp=Z,3µm,0.4s						
BRVK	**Borovoye**	**77.78**	**328**	eP	**P**	**16 45 24.5**	**-1.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
BRVK	**Borovoye**	**77.78**	**328**	eP	**P**	**16 45 24.5**	**-1.8**
	comp=Z,4.3nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**77.91**	**328**	i P	**P**	**16 45 26.0**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
CHKZ	**Chkalovo**	**77.91**	**328**	eP	**P**	**16 45 25.8**	**-1.2**
	comp=Z,5.4nm,0.9s,mb4.2						
TIXI	**Tiksi**	**78.15**	**360**c	iP	**P**	**16 45 26.6**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**78.42**	**327**	i P	**P**	**16 45 28.8**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**78.42**	**327**	eP	**P**	**16 45 28.7**	**-1.0**
	comp=Z,7.2nm,0.8s,mb4.3						
AKTO	**Aktyubinsk**	**83.73**	**322**	i P	**P**	**16 45 57.3**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
SYO	**Syowa Base**	**83.94**	**201**⇓	eP	**P**	**16 45 58.5**	**-0.4**
ARU	**Arti**	**85.36**	**328**⇓	iP	**P**	**16 46 04.7**	**-1.3**
ARU				e		16 49 23.7	
ARU				ePPP		16 51 16.0	
ARU				eS		16 56 19.4	
ARU				eSS	SS	17 02 07.5	+6.2
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
ARU	**Arti**	**85.36**	**328**	eP	**P**	**16 46 04.2**	**-1.8**
	comp=Z,5.2nm,0.8s,mb4.3						
CDF	**Champ du Feu**	**116.27**	**321**	ePKIKP	PKPdf	16 52 10.7	-0.4
PDAR	**Pinedale Array**	**116.73**	**45**	PKP	PKPdf	16 52 11.2	-0.8
	comp=Z,0.5nm,0.8s,baz=317,slow=1.5,SNR=5.4						
HINF	**Hinteralfeld**	**116.75**	**321**	ePKIKP	PKPdf	16 52 10.9	-1.2
	comp=Z,2.8nm,0.4s						
GIVF	**Givet**	**117.10**	**324**	ePKIKP	PKPdf	16 52 12.3	-0.5
BAIF	**Baives**	**117.48**	**324**	ePKIKP	PKPdf	16 52 12.5	-1.0
LPG	**La Plagne**	**117.63**	**318**	ePKIKP	PKPdf	16 52 13.6	-0.2
	comp=Z,2.7nm,0.5s						
LPL	**La Plagne**	**117.63**	**318**	ePKIKP	PKPdf	16 52 13.4	-0.4
	comp=Z,6.2nm,0.5s						
CABF	**La Chapelle**	**117.67**	**320**	ePKIKP	PKPdf	16 52 13.5	-0.3
	comp=Z,10nm,0.6s						
MBDF	**Montbardon**	**117.88**	**318**	ePKIKP	PKPdf	16 52 13.8	-0.4
	comp=Z,3.8nm,0.6s						
FRF	**La Foret Royal**	**118.35**	**316**	ePKIKP	PKPdf	16 52 14.5	-0.7
	comp=Z,5.3nm,0.7s						
ORIF	**Oris-en-Rattie**	**118.41**	**318**	ePKIKP	PKPdf	16 52 14.7	-0.6
SSF	**Saint Saulge**	**119.13**	**321**	ePKIKP	PKPdf	16 52 16.1	-0.6
	comp=Z,7.2nm,0.7s						
AVF	**Avril sur Loir**	**119.34**	**321**	ePKIKP	PKPdf	16 52 16.8	-0.3
BGF	**Bois d'Agland**	**119.75**	**321**	ePKIKP	PKPdf	16 52 17.4	-0.4
	comp=Z,9.9nm,0.5s						
TCF	**Toulx Ste Croi**	**120.26**	**321**	ePKIKP	PKPdf	16 52 18.4	-0.4
	comp=Z,2.1nm,0.5s						
MTLF	**Montolieu**	**121.44**	**317**	ePKIKP	PKPdf	16 52 20.6	-0.5
MFF	**Saint Martin d**	**121.60**	**322**	ePKIKP	PKPdf	16 52 20.8	-0.6
	comp=Z,6.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**128.63**	**281**	PKP	PKPdf	16 52 35.3	+0.4
	comp=Z,1.8nm,0.5s,baz=72,slow=1.8,SNR=13						
DBIC	**Dimbokro**	**135.06**	**273**	PKP	PKPdf	16 52 48.4	+1.4
	comp=Z,1.8nm,0.4s,baz=217,slow=7.9,SNR=7.2						
LPAZ	**La Paz**	**151.06**	**142**	PKPbc	PKPbc	16 53 23.2	+2.4
	comp=Z,2.8nm,0.4s,baz=22,slow=2.3,SNR=26						
LPAZ	**La Paz**	**151.06**	**142**	ePKPbc	PKPbc	16 53 23.1	+2.3

MAN 03 16:41:45.3, 1238N×12372E, h3km, mb2.6, ML4.1, MS2.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.09**	**256**⇓	iP	Pg	16 41 47.4	+0.3
MMPH				i S	Sg	16 41 49.2	+0.8
PVCP	**Virac**	**1.28**	**19**	eP	Pg	16 42 08.6	-1.3
PVCP				eS	Sg	16 42 26.9	+0.4
AUQP	**San Andres**	**1.38**	**313**	eP	Pn	16 42 11.4	0.0
AUQP				eS	Sg	16 42 31.9	+2.2
OCLP	**Ormoc**	**1.58**	**146**	eP	Pn	16 42 14.2	0.0
GUIM	**Jordan**	**2.06**	**212**	eP	Pn	16 42 21.2	+0.3
GUIM				eS	Sn	16 42 47.7	+0.6

MAN 03 16:45:58.7, 1240N×12366E, h9km, mb3.1, ML4.4, MS1.9, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.05**	**223**⇑	eP	Pg	16 46 01.3	+0.7
MMPH				i S	Sg	16 46 03.2	+1.3
RCP	**Roxas**	**1.22**	**227**⇑	eP	Pn	16 46 21.5	-0.5
RCP				eS	Sb	16 46 38.5	+0.6
PVCP	**Virac**	**1.28**	**22**⇓	iP	Pn	16 46 22.5	-0.3
PVCP				i S	Sb	16 46 43.9	+4.3
PVCP	**Virac**	**1.28**	**22**	eP	Pn	16 46 22.2	-0.6
PVCP				eS	Sb	16 46 40.8	+1.2
AUQP	**San Andres**	**1.33**	**314**	eP	Pn	16 46 25.4	+1.9
AUQP				eS	Sb	16 46 46.1	+5.1
KALP	**Kalibo**	**1.48**	**241**⇑	eP	Sn	16 46 44.6	-0.3
OTRP	**Odiongan**	**1.60**	**269**	eP	Pn	16 46 31.2	+4.0
OCLP	**Ormoc**	**1.63**	**145**	eP	Pn	16 46 27.3	-0.2
PLP	**Palo**	**1.78**	**133**	i P	Pn	16 46 29.4	-0.2
PLP				i S	Sn	16 46 52.3	0.0
BESP	**Borongan**	**1.91**	**114**	eP	Sn	16 46 55.1	-0.5
GUIM	**Jordan**	**2.05**	**211**	eP	Pn	16 46 34.1	+0.7
GUIM				eS	Sn	16 47 00.6	+1.6
BOAC	**Boac**	**2.06**	**301**	eP	Pn	16 46 33.4	-0.1
LLP	**Lapu-Lapu**	**2.09**	**172**	eP	Pn	16 46 33.7	-0.2
LLP				eS	Sn	16 46 59.6	-0.4
CUYO	**Cuyo Island**	**3.01**	**240**	eP	Pn	16 46 47.9	+1.4
BUSP	**Coron**	**3.41**	**264**	eP	Pn	16 46 52.4	+0.4
ENPP	**El Nido**	**4.31**	**255**	eP	Pn	16 47 04.9	+0.5
PAGZ	**Pagadian**	**4.53**	**184**	eP	Pn	16 47 09.6	+2.1

*ISCJB **03** 17:00:51.4±0.7, 4013S±004×17663E±007, h51km±6km, mb3.2/2, Error ellipse: s-maj=8.8km s-min=5.8km az=39.5*
*WEL **03** 17:00:52.6±0.2, 4013S×17657E, h38km±3km, ML3.6/12, Error ellipse: s-maj=1.9km s-min=1.1km az=90.0*
WEL Felt in the Hawke's Bay region, maximum reported intensity MM 4.
*IDC **03** 17:00:54.3±6.7, 3987S×17642E, h53km±51km, mb3.2/2, mb1 3.4/2, mb1mx3.3/10, mbtmp3.4/2, Error ellipse: s-maj=76.5km s-min=33.6km az=133.0*
ISC 03 17:00:52.0±0.7, **4013S**±004×**17662E**±007, **h45**km±7km, **n31, σ0s63**/36, **mb3.2**/2, **North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.21**	**63**	PN	**Pn**	**17 01 00.5**	**+0.6**
PXZ				SN	**Sn**	**17 01 05.7**	**+0.2**
TSZ	**Takapari Road**	**0.51**	**278**	PN	**Pn**	**17 01 02.3**	**-0.7**
TSZ				SN	**Sn**	**17 01 09.6**	**-1.3**
BFZ	**Birch Farm**	**0.62**	**207**	PN	**Pn**	**17 01 05.0**	**+0.5**
TIWZ	**Tintock**	**0.85**	**220**	PN	**Pn**	**17 01 08.1**	**+0.5**
MRZ	**Mangatainoka R**	**0.95**	**236**	PN	**Pn**	**17 01 08.5**	**-0.5**
MRZ				SN	**Sn**	**17 01 20.8**	**-0.6**
BKZ	**Black Stump Fm**	**0.97**	**354**	PN	**Pn**	**17 01 09.0**	**-0.2**
BKZ				SN	**Sn**	**17 01 21.0**	**-0.8**
MOVZ	**Moawhango**	**0.98**	**317**	PN	**Pn**	**17 01 09.4**	**0.0**
MOVZ				SN	**Sn**	**17 01 21.6**	**-0.5**
WNVZ	**Wahianoa**	**1.12**	**315**	PN	**Pn**	**17 01 11.8**	**+0.5**
TUVZ	**Tukino**	**1.14**	**319**	PN	**Pn**	**17 01 12.1**	**+0.6**
MTVZ	**Mangateitei**	**1.15**	**310**	PN	**Pn**	**17 01 12.1**	**+0.4**
TRVZ	**Turoa**	**1.17**	**315**	PN	**Pn**	**17 01 12.4**	**+0.5**
DRZ	**Dome Shelter**	**1.18**	**316**	PN	**Pn**	**17 01 12.7**	**+0.6**
FWVZ	**Far West T-bar**	**1.20**	**316**	PN	**Pn**	**17 01 12.7**	**+0.4**
OTVZ	**Oturere**	**1.21**	**322**	PN	**Pn**	**17 01 12.9**	**+0.4**
NGZ	**Ngauruhoe**	**1.23**	**320**	PN	**Pn**	**17 01 13.2**	**+0.4**
WPVZ	**Whakapapa**	**1.24**	**318**	PN	**Pn**	**17 01 13.2**	**+0.4**
KRVZ	**Karewarewa**	**1.28**	**324**	PN	**Pn**	**17 01 13.8**	**+0.4**
WTVZ	**West Tongariro**	**1.28**	**322**	PN	**Pn**	**17 01 13.8**	**+0.3**
PKVZ	**Pokaka**	**1.29**	**310**	PN	**Pn**	**17 01 13.8**	**+0.3**
RITZ	**Rihia Road**	**1.29**	**333**	PN	**Pn**	**17 01 14.0**	**+0.5**
HATZ	**Hinemaiaia**	**1.30**	**342**	PN	**Pn**	**17 01 13.9**	**+0.1**
WAZ	**Wanganui**	**1.31**	**286**	PN	**Pn**	**17 01 14.6**	**+0.8**
MTW	**Mount Morrison**	**1.33**	**219**	PN	**Pn**	**17 01 13.4**	**-0.7**
KATZ	**Kakaramea**	**1.35**	**328**	PN	**Pn**	**17 01 14.8**	**+0.3**
KNZ	**Kokohu**	**1.38**	**37**	PN	**Pn**	**17 01 14.5**	**-0.3**
TWVZ	**Taurewa**	**1.39**	**319**	PN	**Pn**	**17 01 15.2**	**+0.2**
TRWZ	**Traveller**	**1.45**	**209**	PN	**Pn**	**17 01 15.1**	**-0.7**
URZ	**Urewera**	**1.91**	**12**	P	**Pn**	**17 01 21.2**	**-0.8**
	4.9nm,0.3s,baz=234,slow=5.9,SNR=70						
URZ				S	**Sn**	**17 01 42.2**	**-2.6**
	13nm,0.3s,baz=66,slow=19,SNR=27						
ASAR	**Alice Springs**	**39.39**	**281**	P	**P**	**17 08 17.2**	**-0.1**
	0.2nm,0.4s,mb3.2,baz=118,slow=6.4,SNR=12						
WRA	**Warramunga Arr**	**41.29**	**286**	P	**P**	**17 08 32.7**	**-0.3**
	0.3nm,0.6s,mb3.1,baz=123,slow=8.3,SNR=3.3						
ARCES	**ARCESS Array B**	**146.83**	**342**	PKPbc	PKPbc	17 20 27.7	-1.5
	0.7nm,0.9s,baz=344,slow=3.9,SNR=3.6						

*ISCJB **03** 17:08:20.2±0.8, 5552N±007×144.12W±009, h10km, Error ellipse: s-maj=12.0km s-min=4.2km az=64.7*
*NEIC **03** 17:08:23.2±0.8, 5557N×14427W, h10km, ML3.6(AEIC), Error ellipse: s-maj=11.9km s-min=5.0km az=213.0*
*PGC **03** 17:08:25.4, 5570N×14424W, h10km, MLSn3.7/6, 490km southwest of Yakutat, Ak Gulf of Alaska.*
ISC 03 17:08:24.2±0.8, **5570N**±006×**14398W**±008, **h10**km, **n31, σ1s48**/46, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MID	**Middleton Isla**	**3.95**	**342**	P	**Pn**	**17 09 23.4**	**-1.4**
YKU2	**Yakutat**	**4.47**	**29**	P	**Pn**	**17 09 33.5**	**+1.6**
PNL	**Peninsula**	**4.68**	**30**	P	**Pn**	**17 09 35.9**	**+1.1**
PNL				S	**Sn**	**17 10 26.0**	**-3.1**
EYAK	**Cordova Ski Ar**	**4.96**	**350**	P	**Pn**	**17 09 38.2**	**-0.4**
SIT	**Sitka**	**5.00**	**71**	eP	**Pn**	**17 09 39.2**	**0.0**
KDAK	**Kodiak Island**	**5.18**	**297**	P	**Pn**	**17 09 40.9**	**-0.9**
SLKM	**Skilak Lake**	**5.85**	**328**	ePn	**Pn**	**17 09 48.9**	**-2.0**
SLKM				eS	**Sn**	**17 10 51.3**	**-6.8**
SKAG	**Skagway**	**5.99**	**47**	eP	**Pn**	**17 09 55.1**	**+2.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	Craig	6.16	88	eP	Pn	17 09 56.7	+1.5
HYT	Haines Junctio	6.17	31	Pn	Pn	17 09 57.5	+2.1
HYT				Sn	Sn	17 11 03.3	-2.6
	comp=Z,12nm,0.4s						
HYT				Trac		17 11 03.5	
	comp=Z,12nm,0.4s						
RC01	Rabbit Creek A	6.20	333	P	Pn	17 09 55.4	-0.3
SML	Sawmill	6.53	342	P	Pn	17 10 00.7	+0.4
NDB	Naden	6.61	101	Pn	Pn	17 10 02.2	+0.8
NDB				Sn	Sn	17 11 15.1	-1.7
	comp=Z,22nm,0.2s						
NDB				Trac		17 11 20.2	
	comp=Z,22nm,0.2s						
NDB	Naden	6.61	101	ePn	Pn	17 10 02.2	+0.8
NDB				Sn	Sn	17 11 15.1	-1.7
WHY	Whitehorse	6.92	40	Pn	Pn	17 10 08.0	+2.4
WHY				Sn	Sn	17 11 21.0	-3.3
WHY				Trac		17 11 26.1	
	comp=Z,6.0nm,0.2s						
WHY	Whitehorse	6.92	40	Pn	Pn	17 10 08.0	+2.4
WHY				Sn	Sn	17 11 21.0	-3.3
VIB	Van Inlet	7.10	105	Pn	Pn	17 10 08.6	+0.5
VIB				Sn	Sn	17 11 27.1	-1.7
VIB				Trac		17 11 29.6	
	comp=Z,5.0nm,0.3s						
VIB	Van Inlet	7.10	105	Pn	Pn	17 10 08.6	+0.5
VIB				eSn	Sn	17 11 27.1	-1.7
MENT	Mentasta	7.26	1	eP	Pn	17 10 11.9	+1.5
MOBC	Moresby Island	7.47	105	Pn	Pn	17 10 13.0	-0.3
MOBC				Sn	Sn	17 11 37.6	-0.5
MOBC				Trac		17 11 39.6	
	comp=Z,5.0nm,0.2s						
MOBC	Moresby Island	7.47	105	ePn	Pn	17 10 13.0	-0.3
MOBC				eSn	Sn	17 11 37.6	-0.5
BNB	Barry Inlet	7.83	108	Pn	Pn	17 10 19.1	+1.0
BNB				Sn	Sn	17 11 47.1	+0.3
	comp=Z,125nm,0.3s						
BNB				Trac		17 11 50.8	
	comp=Z,125nm,0.3s						
BNB	Barry Inlet	7.83	108	ePn	Pn	17 10 19.1	+1.0
BNB				eSn	Sn	17 11 47.1	+0.3
RUBB	Prince Rupert	8.01	94	Pn	Pn	17 10 22.0	+1.4
RUBB				Sn	Sn	17 11 49.5	-1.7
RUBB				Trac		17 11 53.6	
	comp=Z,7.0nm,0.2s						
RUBB	Prince Rupert	8.01	94	ePn	Pn	17 10 22.0	+1.4
RUBB				eSn	Sn	17 11 49.5	-1.7
BNAB	Bonilla	8.06	100	Pn	Pn	17 10 19.7	-1.5
DLBC	Dease Lake	8.08	64	ePn	Pn	17 10 24.8	+3.2
SVW2	Sparrevohn	8.14	316	eP	Pn	17 10 20.8	-1.7
DAWY	Dawson	8.70	13	Pn	Pn	17 10 31.7	+1.6
DAWY	Dawson	8.70	13	ePn	Pn	17 10 31.1	+1.1
SMY	Shemya	24.42	281	eP	P	17 13 38.0	-4.9

*ISCJB **03** 17:22:35.7±0.5, 3821N±003×2322E±005, h8km±4km, Error ellipse: s-maj=6.6km s-min=3.7km az=125.7*
*THE **03** 17:22:35.9, 38.19N×2321E, h1km, ML3.5*
*ATH **03** 17:22:35.6, 3820N×2321E, h23km±1km, MD3.5/14, ML3.2*
*NEIC **03** 17:22:35.5, 3820N×23.19E, h21km, ML3.2(ATH), After ATH.*
*CSEM **03** 17:22:36.4±0.1, 38.19N×2322E, h10km, ML3.2, Error ellipse: s-maj=2.0km s-min=1.4km az=63.0*
ISC 03 17:22:36.1±0.5**, 3819N**±003×**2320E**±005**, h7**km±5km**, n32, σ0^{s}.78**/40**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGER	Gerania Oros	0.20	167	ePB	Pg	17 22 41.0	+0.8
ATH	Athens Observa	0.46	117	ePB	Pg	17 22 45.7	+0.7
ATH				eSB	Sg	17 22 51.3	+0.3
NAIG	Nisos Aigina	0.48	152	ePB	Pg	17 22 45.5	+0.1
LKR	Lokris	0.49	341	ePB	Pg	17 22 45.2	-0.4
LKR				eSB	Sg	17 22 52.9	+0.9
PTL	Penteli	0.54	104	ePN	Pg	17 22 46.5	0.0
KVR	Kavouri	0.57	128	ePN	Pg	17 22 47.0	-0.2
AGG	Agios Georgios	1.08	321	ePg	Pg	17 22 55.8	-1.0
AGG				eSg	Sg	17 23 11.6	+0.8
AOS	Alonnisos	1.12	28	ePg	Pg	17 22 56.9	-0.7
AOS				eSg	Sg	17 23 12.7	+0.7
NEO	Neokhori	1.12	1	ePN	Pn	17 22 57.3	-0.9
XOR	Xorichti	1.18	360	ePg	Pg	17 22 58.2	-0.5
EVR	Evrytania	1.31	304	ePN	Pn	17 22 59.8	-1.1
EVR	Evrytania	1.31	304	ePb	Pb	17 22 59.0	-2.1
RLS	Riolos of Patr	1.37	265	ePN	Pn	17 23 01.7	0.0
ITM	Ithomi	1.43	226	ePN	Pn	17 23 02.8	+0.4
VLI	Veliai	1.48	188	ePN	Pn	17 23 03.0	-0.2
KYTH	Kithira	1.91	184	ePN	Pn	17 23 10.0	+0.9
LIT	Litokhoron	1.99	344	ePn	Pn	17 23 09.5	-0.7
LKD	Levkas	2.07	285	ePn	Pn	17 23 11.2	-0.1
APE	Apeiranthos	2.16	120	ePn	Pn	17 23 12.2	-0.4
APE	Apeiranthos	2.16	120	ePB	Pn	17 23 12.1	-0.4
PLG	Polygyros	2.19	5	ePN	Pn	17 23 12.0	-1.0
MEV	Metsovon	2.22	317	ePn	Pn	17 23 13.7	+0.3
MEV	Metsovon	2.22	317	ePn	Pn	17 23 13.6	+0.3
CHOS	Chios island	2.25	84	ePn	Pn	17 23 13.6	-0.2
KZN	Kozani	2.39	333	ePN	Pn	17 23 15.5	-0.2
KARN	Karanos	2.84	168	ePn	Pn	17 23 21.7	-0.1
SRS	Serrai	2.94	6	ePn	Pn	17 23 22.9	-0.4
FNA	Florina	2.95	332	ePn	Pn	17 23 23.7	+0.2
FNA				eSn	Sn	17 24 00.8	+1.6
KNT	Kendrikon	2.98	356	ePn	Pn	17 23 24.0	+0.1
BIA	Bitola	3.18	333	ePn	Pn	17 23 29.6	+3.1
BIA				eSn	Sn	17 24 05.6	+0.8
BIA	Bitola	3.18	333	ePn	Pn	17 23 29.6	+3.0
BIA				eSn	Sn	17 24 05.5	+0.7
OHR	Ohrid	3.46	328	ePn	Pn	17 23 35.5	+5.1
OHR				eSn	Sn	17 24 12.3	+0.6

*NEIC **03** 17:32:55.2, 27.16S×7124W, h11km, ML3.5(GUC), After GUC.*
GUC 03 17:32:55.2±0.5**, 2716S×7124W, h11**km±1km**, MD3.6, ML3.5, 4C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	Caldera	0.38	76	⇓iP	Pg	17 33 03.2	+0.6
CDCH				i S	Sg	17 33 08.9	+1.3
CPCH	Copiapo	0.81	104	⇑iP	Pg	17 33 10.3	-0.6
CPCH				i S	Sg	17 33 22.0	+0.6
CPCH				AML	AML	17 33 25.1	
	comp=E,7μm,0.1s						
CPCH	Copiapo	0.81	104	⇑iP	Pg	17 33 10.3	-0.6
CPCH				i S	Sg	17 33 22.0	+0.6
CRCH	Chaqaral	0.98	34	⇑iP	Pg	17 33 13.2	-0.9
CRCH				i S	Sg	17 33 26.3	-0.7
CRCH				AML	AML	17 33 29.4	
	comp=N,1μm,0.5s						
CRCH	Chaqaral	0.98	34	⇑iP	Pg	17 33 13.2	-0.9
CRCH				i S	Sg	17 33 26.3	-0.7
LCO	Las Campanas	1.90	166	eP	Pn	17 33 28.2	+0.7
LCO				i S	Sn	17 33 53.3	+1.8
TLL	Tololo Astrono	3.02	173	eP	Pn	17 33 44.4	+1.6
TLL				AML	AML	17 34 38.4	
	comp=N,240nm,0.6s						

IDC 03 17:44:32.4±2.5**, 295N×12881E, h0**km**, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.3**/14**, mbtmp3.3**/3**, Error ellipse: s-maj=180.2km s-min=24.4km az=69.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.39	167	P	P	17 49 42.7	-0.2
	0.9nm,0.6s,baz=344,slow=9.9,SNR=16						
ASAR	Alice Springs	26.92	170	P	P	17 50 14.1	-1.1
	0.3nm,1.0s,baz=353,slow=8.1,SNR=4.7						
MKAR	Makanchi Array	59.38	325	P	P	17 54 37.8	+1.4
	0.2nm,0.4s,baz=111,slow=8.3,SNR=6.5						

*NIED **03** 17:53:00, 2020N×12160E, h41km, Mw4.2 Best double couple: $M_0$1.97000×10^15 NP1:ϕ_s134.00000°, δ84.00000°, λ-8.00000°. NP2:ϕ_s225.00000°, δ82.00000°, λ-174.00000°.*
*IDC **03** 17:53:01.8±0.8, 1986N×12128E, h0km, mb4.0/10, mb1 4.1/11, mb1mx4.0/19, mbtmp4.1/11, ML4.6/1, Error ellipse: s-maj=28.1km s-min=16.5km az=72.0*
*ISCJB **03** 17:53:07.0±0.4, 2008N±002×12158E±005, h51km±5km, mb4.0/16, Error ellipse: s-maj=8.6km s-min=2.7km az=32.6*
*NEIC **03** 17:53:06.8±2.3, 1994N×12145E, h33km±17km, mb4.3/5, Error ellipse: s-maj=10.2km s-min=6.1km az=85.0*
*MAN **03** 17:53:07.2, 20.10N×121.16E, h43km, mb3.6, ML4.7, MS5.6*
*BJI **03** 17:53:08.0, 2064N×12150E, h12km, mB4.5, mb4.3, ML3.9*
*JMA **03** 17:53:09.7±0.3, 2024N×12157E, h58km, M4.8*
ISC 03 17:53:08.6±0.3**, 2008N**±002×**12150E**±005**, h47**km±5km**, n60, σ1^{s}.16**/84**, mb4.0**/16**, 2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	1.90	164	eP	Pn	17 53 39.0	+0.4
SGCP				eS	Sn	17 54 05.2	+3.8
PIP	Pasuquin	1.94	206	⇓iP	Pn	17 53 37.3	-1.8
PIP				eS	Sn	17 53 59.4	-2.9
APYP	Conner	2.22	186	eP	Pn	17 53 42.5	-0.5
APYP				eS	Sn	17 54 08.8	-0.4
ABRA	Dolores	2.53	197	eP	Pn	17 53 46.4	-0.8
ABRA				eS	Sn	17 54 13.1	-3.8
CAUP	Cauayan	3.14	174	eP	Pn	17 53 57.4	+1.9
CAUP				eS	Sn	17 54 44.9	+13
BCPH	Baguio City Da	3.79	193	⇓eP	Pn	17 54 04.4	0.0
BCPH				i S	Sn	17 54 50.1	+2.5
BOLP	Bolinao	3.98	203	eP	Pn	17 54 06.8	-0.3
BOLP				eS	Sn	17 54 51.5	-1.0
NACB	Ninganchiao	4.07	1	ePn	Pn	17 54 08.2	-0.2
NACB				eSn	Sn	17 54 54.5	-0.2
BALP	Baler	4.32	179	eP	Pn	17 54 12.0	+0.2
BALP				eS	Sn	17 55 03.0	+2.2
HATJ	Hateruma jima	4.49	28	P	Pn	17 54 14.8	+0.6
HATJ				S	Sn	17 55 04.2	-0.9
SCZP	Santa Cruz	4.54	200	eP	Pn	17 54 13.1	-1.8
SCZP				eS	Sn	17 55 17.4	+11
YHNB	Yeheng	4.56	359	ePn	Pn	17 54 15.7	+0.6
YHNB				eSn	Sn	17 55 09.1	+2.2
YOJ	Yonaguni jima	4.58	18	P	Pn	17 54 15.9	+0.6
YOJ				eS	Sn	17 55 06.8	-0.4
IRIF	Iriomote-Funau	4.71	26	P	Pn	17 54 17.8	+0.7
IRIF				S	Sn	17 55 09.7	-0.7
JKRS	Kuro-shima	4.74	29	P	Pn	17 54 18.4	+0.8
JKRS				S	Sn	17 55 10.0	-1.3
TATO	Taipei	4.87	360	ePn	Pn	17 54 21.6	+2.3
	53nm,0.5s						
JIJ	Ishigaki jima	4.91	29	P	Pn	17 54 20.0	+0.1
JIJ				S	Sn	17 55 13.4	-2.0
POLP	Polilio Island	5.34	175	eP	Pn	17 54 26.9	+1.1
JTJ	Tarama	5.42	33	P	Pn	17 54 27.3	+0.5
JTJ				S	Sn	17 55 27.2	-0.7
QZH	Quanzhou	5.53	331	P	Pn	17 54 26.2	-2.2
QZH				S	Sn	17 55 24.2	-6.5
QZH				Smax			
	comp=N,80nm,0.4s						
QZH				Smax			
	comp=E,120nm,0.8s						
JMJ	Miyako jima 2	5.87	36	P	Pn	17 54 34.2	+1.1
JMJ				eS	Sn	17 55 38.9	-0.1
JOGS	Gusukube	5.89	37	P	Pn	17 54 35.1	+1.8
JOGS				eS	Sn	17 55 38.5	-1.0
TGY	Tagaytay City	5.97	185	Pn	Pn	17 54 38.4	+3.9
	comp=E,24nm,0.3s,baz=275,slow=1.0,SNR=5.6						
LUBP	Lubang	6.43	191	eP	Pn	17 54 42.9	+2.2
AUQP	San Andres	6.82	170	eP	Pn	17 54 51.6	+5.6
PVCP	Virac	6.93	158	eP	Pn	17 54 47.1	-0.5
JKE	Kume jima 2	7.89	37	P	Pn	17 55 01.2	+0.5
BUSP	Coron	8.13	189	eP	Pn	17 55 04.4	+0.3
JAGN	Aguni-jima	8.35	38	P	Pn	17 55 07.4	+0.3
JAGN				eS	Sn	17 56 38.9	-1.1
ENPP	El Nido	9.05	193	eP	Pn	17 55 16.0	-0.6
JIH	Iheya	9.11	39	P	Pn	17 55 17.1	-0.4
JIH				eS	Sn	17 56 55.4	-3.2
JOW	Kunigami	9.15	42	Pn	Pn	17 55 17.9	-0.2
	comp=E,14nm,0.3s,baz=210,slow=12,SNR=38						
JOW				Sn	Sn	17 56 54.3	-5.3
	comp=E,2.5nm,0.3s,baz=123,slow=26,SNR=3.3						
JOW	Kunigami	9.15	42	P	Pn	17 55 17.7	-0.3
CUYO	Cuyo Island	9.19	183	eP	Pn	17 55 21.6	+3.0
QIZ	Qiongzhong	11.04	267	ePn	Pn	17 55 41.8	-2.1
QIZ				eSn	Sn	17 57 38.7	-7.2
KS15	Wonju Array Si	18.17	16	eP	Pn	17 57 17.8	+0.4
CD2	Chengdu	19.28	308	eP	Pn	17 57 30.8	+0.1
BJT	Baijiatuau	20.39	348	eP	P	17 57 41.8	+0.4
	comp=E,38nm,0.7s						
BJI	Beijing	20.41	348	eP	P	17 57 41.9	+0.3
BJI				AMB	AMB		
	comp=Z,43nm,0.9s						
KSM	Kuching	21.49	212	P	P	17 57 50.5	-2.8
MJAR	Matsushiro Arr	21.97	38	P	P	17 58 02.6	+4.2
	comp=Z,2.1nm,0.7s,mb3.7,baz=243,slow=11,SNR=8.1						
MDJ	Mudanjiang	25.37	14	P	P	17 58 31.5	+0.2
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.2						
ASAJ	Asahikawa	29.72	32	P	P	17 59 12.2	+1.9
	comp=Z,1.6nm,0.4s,mb4.1,baz=99,slow=5.3,SNR=6.2						
ULN	Ulaanbaatar	30.09	340	eP	P	17 59 14.3	+0.8
	comp=Z,3.3nm,0.6s,mb4.2						
SONM	Songino Array	30.27	340	P	P	17 59 15.9	+0.8
	comp=Z,1.9nm,0.5s,mb4.1,baz=157,slow=9.8,SNR=25						
FITZ	Fitzroy Crossi	38.16	174	eP	P	18 00 23.3	-0.1
	comp=Z,4.1nm,1.5s,mb3.9						
MKAR	Makanchi Array	41.55	319	P	P	18 00 52.4	+0.9
	comp=Z,1.3nm,0.5s,mb3.8,baz=113,slow=9.3,SNR=26						
WRAB	Tennant Creek	41.71	162	eP	P	18 00 52.3	-0.5
	comp=Z,4.3nm,0.4s,mb4.4						
WRA	Warramunga Arr	41.72	162	P	P	18 00 51.1	-1.8
	comp=Z,2.9nm,0.5s,mb4.2,baz=343,slow=9.0,SNR=39						
WB2	Warramunga Arr	41.72	162	eP	P	18 00 52.2	-0.7
ZAL	Zalesovo	43.87	329	P	P	18 01 10.4	+0.1
	comp=Z,1.8nm,0.8s,mb3.9,baz=357,slow=6.3,SNR=11						
AS31	Alice Springs	45.13	164	eP	P	18 01 19.8	-0.6
ASAR	Alice Springs	45.13	164	P	P	18 01 19.4	-1.0
	comp=Z,1.2nm,0.4s,mb4.1,baz=346,slow=6.9,SNR=52						
ASPA	Alice Springs	45.13	164	eP	P	18 01 19.8	-0.6
BVAR	Borovoye Array	51.06	323	P	P	18 02 06.4	+0.3
	comp=Z,0.7nm,0.5s,mb3.8,baz=110,slow=8.1,SNR=7.2						
CHKZ	Chkalovo	51.16	324	eP	P	18 02 07.2	+0.3
	comp=Z,1.4nm,0.6s,mb4.1						
JOF	Joensuu	72.42	331	ep	P	18 04 31.7	+1.8
	comp=Z,1.0nm,0.5s,mb4.0						
ARCES	ARCESS Array B	73.44	339	P	P	18 04 35.7	-0.3
	comp=Z,1.4nm,1.0s,mb3.9,baz=72,slow=5.2,SNR=5.7						
ARCES	ARCESS Array B	73.44	339	P	P	18 04 35.7	-0.3
FINES	FINESS Array B	75.13	330	P	P	18 04 45.2	-0.6
	comp=Z,0.8nm,0.5s,mb3.9,baz=49,slow=5.8,SNR=6.2						

*ISCJB **03** 18:01:45.1±0.6, 4377N±005×10523W±007, h0km, mb4.1/1, Error ellipse: s-maj=7.6km s-min=6.6km az=27.3*
*NEIC **03** 18:01:46.5±0.5, 4373N×10520W, h0km, ML2.7, Error ellipse: s-maj=8.0km s-min=6.0km az=161.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
*IDC **03** 18:01:47.1±1.7, 4409N×10583W, h0km, mb3.9/1, mb1 3.8/3, mb1mx3.4/21, mbtmp3.7/3, ML3.1/2, Error ellipse: s-maj=64.8km s-min=8.4km az=147.0*
ISC 03 18:01:46.5±0.6**, 4374N**±005×**10521W**±007**, h0**km**, n17, σ1^{s}.03**/21**, mb4.1**/1**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.93	65	eP	Pg	18 02 05.3	+1.1
PHWY	Pilot Hill	2.44	184	ePn	Pn	18 02 27.3	-0.3
PHWY				eSn	Sn	18 02 58.8	+0.6
RWWY	Rawlins	2.53	216	ePn	Pn	18 02 29.1	+0.3
RWWY				eSn	Sn	18 02 59.4	-0.8
PDAR	Pinedale Array	3.32	254	Pn	Pn	18 02 39.5	-0.2
	1.1nm,0.3s,baz=71,slow=15,SNR=25						
PDAR				Pg	Pg	18 02 45.5	-4.6
	3.0nm,0.3s,baz=75,slow=18,SNR=33						
PDAR				Lg		18 03 21.2	
	1.3nm,0.3s,baz=68,slow=29,SNR=6.4						
GCMT	Greycliff	3.78	304	ePn	Pn	18 02 46.3	+0.3
LOHW	Long Hollow	3.92	270	ePn	Pn	18 02 47.5	-0.4
ISCO	Idaho Springs	3.95	185	ePn	Pn	18 02 48.3	0.0
MOOW	Moose Ponds	4.01	272	Pn	Pn	18 02 51.6	+2.4
REDW	Red Top Meadow	4.12	267	eP	Pn	18 02 57.6	+6.9
IMW	Indian Meadow	4.15	274	ePn	Pn	18 02 52.9	+1.9
TPAW	Teton Pass	4.18	269	ePn	Pn	18 02 51.9	+0.5
TPAW				ePg	Pg	18 03 03.5	-3.0
RRI2	Red Ridge	4.46	267	ePg	Pg	18 03 12.6	+0.6
BOZ	Bozeman (W)	4.96	295	ePn	Pn	18 03 01.2	-1.0
HWUT	Hardware Ranch	5.15	248	Pn	Pn	18 03 03.8	-1.0
HRY	Holter Researc	5.54	305	ePn	Pn	18 03 10.5	+0.3
ULM	Lac du Bonnet	9.11	41	Pn	Pn	18 03 58.3	-0.9
	1.1nm,0.3s,baz=239,slow=10.0,SNR=9.9						
ARCES	ARCESS Array B	61.40	18	P	P	18 12 03.0	-1.4
	1.4nm,0.9s,mb4.1,baz=341,slow=6.9,SNR=6.6						

*ISCJB **03** 18:05:01.0±0.6, 325S±007×292E±0.1, h10km, mb4.1/8, MS3.0/1, Error ellipse: s-maj=17.0km s-min=9.6km az=25.9*
*IDC **03** 18:05:01.8±0.9, 3.18S×29.12E, h0km, mb4.0/7, mb1 4.0/10, mb1mx3.8/23, mbtmp3.9/10, ML2.5/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/24, Error ellipse: s-maj=29.4km s-min=17.5km az=101.0*
*NEIC **03** 18:05:03.3±0.5, 323S×29.13E, h10km, mb4.4/2, Error ellipse: s-maj=15.1km s-min=9.1km az=104.0*
ISC 03 18:05:03.2±0.5**, 325S**±007×**291E**±01**, h10**km**, n17, σ0^{s}.83**/19**, mb4.1**/8**, MS3.0**/1**, Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	8.39	76	Pn	Pn	18 07 05.1	+0.3
	1.2nm,0.3s,baz=224,slow=20,SNR=16						
KMBO				LR	LR	18 10 41.4	
	comp=Z,114nm,18.5s,baz=64,slow=40						
KMBO	Kilima Mbogo	8.39	76	Pn	Pn	18 07 05.1	+0.3
KMBO				eS	Sn	18 08 27.6	-12
KMBO				LR	LR	18 10 41.4	
LSZ	Lusaka	11.99	184	ePn	Pn	18 07 52.9	-1.2
	3.3nm,0.6s						
LSZ				eSn	Sn	18 10 02.5	-5.4
MATP	Matopo	17.08	182	Pn	Pn	18 09 01.0	-1.1
	0.1nm,0.3s,baz=9.8,slow=16,SNR=2.9						
TSUM	Tsumeb	19.46	215	P	Pn	18 09 31.4	+0.2
	0.1nm,0.3s,baz=40,slow=14,SNR=2.6						
LBTB	Lobatse	21.91	189	P	P	18 09 57.4	+1.0
	5.5nm,1.0s,mb3.9,baz=358,slow=6.0,SNR=4.5						
LBTB				LR	LR	18 18 36.5	
	comp=Z,61nm,18.4s,MS3.0,baz=72,slow=37						
LBTB	Lobatse	21.91	189	P	P	18 09 57.4	+1.0
LBTB				LR	LR	18 18 36.5	
BOSA	Boshof	25.49	188	P	P	18 10 33.3	+1.7
	2.3nm,0.8s,mb3.8,baz=23,slow=16,SNR=4.7						
BOSA	Boshof	25.49	188	eP	P	18 10 33.5	+1.9
	1.9nm,0.6s,mb3.8						
TORD	Torodi Ar. Bea	31.73	301	P	P	18 11 27.3	+0.1
	4.4nm,0.8s,mb4.4,baz=104,slow=8.0,SNR=26						
FINES	FINESS Array B	64.55	358	P	P	18 15 40.3	-0.1
	2.3nm,0.7s,mb4.3,baz=158,slow=12,SNR=9.9						
KAF	Kangasniemi	65.22	359	ep	P	18 15 45.1	+0.3
	3.3nm,0.4s,mb4.7,baz=175,slow=6.4						
NOA	NORSAR Array B	65.59	351	P	P	18 15 47.5	+0.3
	0.8nm,0.7s,mb3.9,baz=160,slow=6.2,SNR=3.8						
JOF	Joensuu	66.01	1	ep	P	18 15 49.7	-0.2
MKAR	Makanchi Array	68.26	36	P	P	18 16 04.4	+0.2
	0.3nm,0.6s,mb3.5,baz=230,slow=5.8,SNR=3.3						
ARCES	ARCESS Array B	72.68	359	P	P	18 16 29.8	-1.4
	1.8nm,0.9s,mb4.0,baz=167,slow=5.7,SNR=5.9						
ARCES	ARCESS Array B	72.68	359	P	P	18 16 29.8	-1.4

*IDC **03** 18:34:06.9±2.6, 2187S×171.12E, h0km, mb4.0/4, mb1 4.3/4, mb1mx4.0/10, mbtmp4.0/4, Error ellipse: s-maj=128.1km s-min=30.2km az=158.0*
*ISCJB **03** 18:34:11.5±3.5, 226S±04×1713E±02, h52km±25km, mb4.2/6, Error ellipse: s-maj=63.0km s-min=23.2km az=163.5*
*NEIC **03** 18:34:12.3±4.7, 2249S×17138E, h49km±29km, mb4.5/2, Error ellipse: s-maj=84.9km s-min=23.6km az=155.0*
ISC 03 18:34:12.8±3.4**, 224S**±04×**1714E**±02**, h48**km±24km**, n13, σ0^{s}.67**/14**, mb4.2**/6**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.56	274	eP	Pn	18 35 19.4	+0.1
DZM				eS	Sn	18 36 11.2	+0.2
DZM	Mont Dzumac	4.56	274	Pn	Pn	18 35 19.2	0.0
	6.2nm,0.3s,baz=123,slow=20,SNR=47						
DZM				Sn	Sn	18 36 14.8	+3.9
	3.3nm,0.3s,baz=158,slow=19,SNR=2.6						
NOUC	Port Laguerre	4.69	273	eP	Pn	18 35 21.0	0.0
NOUC				eS	Sn	18 36 13.8	-0.3
AS31	Alice Springs	34.42	261	eP	P	18 40 55.6	+0.1
ASAR	Alice Springs	34.42	261	P	P	18 40 55.4	-0.1
	1.9nm,0.8s,mb4.1,baz=92,slow=10.0,SNR=19						
ASPA	Alice Springs	34.42	261	eP	P	18 40 55.6	+0.1
WRA	Warramunga Arr	34.55	267	P	P	18 40 55.0	-1.7
	0.6nm,0.4s,mb3.8,baz=98,slow=8.4,SNR=29						
KAKA	Kakadu	38.24	278	eP	P	18 41 29.0	+0.9
	5.5nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	42.98	267	eP	P	18 42 08.2	+1.0
	5.0nm,0.8s,mb4.3						
NVAR	Mina Array Bea	89.45	48	P	P	18 47 04.6	0.0
	1.1nm,0.7s,mb4.3,baz=210,slow=6.8,SNR=7.2						
SONM	Songino Array	90.94	322	P	P	18 47 11.1	-0.4
	0.5nm,0.7s,mb4.0,baz=143,slow=3.1,SNR=5.3						
KHC	Kasperske Hory	148.06	332	ePKP	PKPdf	18 53 52.5	+2.7
GERES	GERESS Array B	148.22	332	PKPbc	PKPbc	18 53 52.7	-0.8
	0.6nm,0.5s,baz=35,slow=3.3,SNR=5.9						

*ISCJB **03** 18:39:02.2±1.3, 714N±0.1×93W±06, h10km, Error ellipse: s-maj=32.1km s-min=7.1km az=123.0*
*BER **03** 18:39:06.0±0.4, 7131N×9.17W, h10km, MD3.7, ML3.2*
ISC 03 18:39:03.6±1.3**, 714N**±01×**93W**±06**, h10**km**, n7, σ0^{s}.50**/13**, 1C, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	Jan Mayen West	0.43	142	eP	Pg	18 39 12.8	+0.7
JNW				eS	Sg	18 39 17.7	-0.1
JNW				AML	AML	18 39 19.3	
	comp=Z,3μm,0.3s						
JNW	Jan Mayen West	0.43	142	eP	Pg	18 39 12.8	+0.8
	SNR=104						
JNW				eS	Sg	18 39 17.7	-0.1
	comp=Z,3μm,0.3s,SNR=104						
JMI	Jan Mayen	0.47	159	eP	Pg	18 39 13.4	+0.6
JMI				eS	Sg	18 39 18.5	-0.5
JMI				AML	AML	18 39 20.3	
	comp=Z,2μm,0.4s						
JMI	Jan Mayen	0.47	159	eP	Pg	18 39 13.4	+0.6
	SNR=103						
JMI				eS	Sg	18 39 18.5	-0.6
	comp=Z,2μm,0.4s,SNR=103						
JNE	Jan Mayen East	0.49	141	eP	Pg	18 39 13.4	+0.3
JNE				eS	Sg	18 39 19.1	-0.5
JNE				AML	AML	18 39 23.7	
	comp=Z,2μm,0.2s						
JNE	Jan Mayen East	0.49	141	eP	Pg	18 39 13.4	+0.3
	SNR=102						
JNE				eS	Sg	18 39 19.1	-0.5
	comp=Z,2μm,0.2s,SNR=102						
DAG	Danmarks Havn	6.00	339	⇑iP	Pn	18 40 32.0	-0.4
	comp=Z,13nm,0.4s						

*NIED **03** 18:47:00, 3920N×14340E, h17km, Mw3.6 Best double couple: $M_0$2.90000×10^14 NP1:ϕ_s32.00000°, δ59.00000°, λ98.00000°. NP2:ϕ_s197.00000°, δ31.00000°, λ77.00000°.*
JMA 03 18:47:35.8±0.1**, 3919N×14343E, h36**km**, M3.6, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.31	288	P	Pn	18 47 58.3	+0.8
MIYJ				eS	Sn	18 48 14.5	+0.8
OFUJ	Ofunato	1.37	266	P	Pn	18 47 59.4	+0.9
JTH	Tanohata	1.42	302	P	Pn	18 47 59.9	+0.8
JTH				eS	Sn	18 48 18.0	+1.4
JOM	Ohasama	1.68	280	P	Pn	18 48 04.1	+1.4
JOM				eS	Sn	18 48 24.7	+1.7
JMK	Ichinoseki	1.74	263	P	Pn	18 48 04.8	+1.4
JMK				eS	Sn	18 48 25.9	+1.5
JIO	Ouri	1.78	246	P	Pn	18 48 05.0	+0.9
JIO				eS	Sn	18 48 25.6	+0.1
JANG	Nango	1.89	309	P	Pn	18 48 06.1	+0.5
JOU	Okura	2.31	250	P	Pn	18 48 13.0	+1.6
JOU				eS	Sn	18 48 40.7	+2.1
JAH	Hinai	2.38	296	P	Pn	18 48 14.0	+1.8
JYK	Kaneyama	2.41	264	P	Pn	18 48 14.6	+1.9
JTM	Tenmabayashi	2.42	312	P	Pn	18 48 13.6	+0.8
JTM				eS	Sn	18 48 42.2	+1.1

JMM	Marumori	2.46	238	P	Pn	18 48 14.4	+1.1
MAT	Matsushiro	4.91	239	P	Pn	18 48 50.1	+3.1

MAN 03 19:06:55.2, 930N×12236E, h32km, mb2.4, ML4.0, MS6.5, 2C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	Dipolog City	1.21	126⇑	eP	Pn	19 07 15.3	-0.7
DCPH				eS	Sn	19 07 31.1	-0.3
GUIM	Jordan	1.33	10	eP	Pn	19 07 17.5	-0.1
GUIM				eS	Sn	19 07 34.6	+0.3
IPIL	Ipil	1.52	172⇑	iP	Pn	19 07 20.9	+0.8
IPIL				i S	Sn	19 07 38.3	-0.6
IPIL	Ipil	1.52	172	eP	Sn	19 07 38.4	-0.4
IPIL				eS	Sn	19 07 39.4	+0.5
PAGZ	Pagadian	1.76	145	eP	Pn	19 07 25.1	+1.5
CUYO	Cuyo Island	2.03	319	eP	Pn	19 07 27.9	+0.8
CUYO				eS	Sn	19 07 50.9	-0.4
BUSP	Coron	3.42	322	eP	Pn	19 07 47.0	+0.7
BUSP				eS	Sn	19 08 24.9	-0.9
ENPP	El Nido	3.45	303	eP	Pn	19 07 47.8	+1.0

*IDC **03** 19:18:07.9±1.6, 2056N×12155E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/16, mbtmp3.4/4, MS3.8/1, Ms1 3.8/1, ms1mx2.6/18, Error ellipse: s-maj=150.0km s-min=20.9km az=66.0*

*ISCJB **03** 19:18:27.2±3.1, 208N±02×1220E±04, h202km±29km, mb3.0/4, Error ellipse: s-maj=72.0km s-min=20.7km az=140.1*

ISC 03 19:18:28.3±3.1**, 208N**±02×**1220E**±05**, h195**km±29km**, n6, σ0ˢ96**/8**, mb3.0**/4**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	2.99	193	eP	Pn	19 19 17.2	-0.3
APYP				eS	Sn	19 19 55.6	-0.4
ABRA	Dolores	3.34	201	eP	Pn	19 19 22.0	+0.3
ABRA				eS	Sn	19 20 03.9	+0.4
SONM	Songino Array	29.77	339	P	P	19 24 17.3	+0.7
	0.1nm,0.5s,mb2.7,baz=153,slow=9.7,SNR=2.6						
MKAR	Makanchi Array	41.31	318	P	P	19 25 53.9	-0.8
	0.3nm,0.4s,mb3.0,baz=106,slow=8.4,SNR=6.2						
WRA	Warramunga Arr	42.25	163	P	P	19 26 01.4	-1.0
	0.4nm,0.4s,mb3.2,baz=344,slow=9.1,SNR=16						
ASAR	Alice Springs	45.69	165	P	P	19 26 30.8	+1.1
	0.2nm,0.3s,mb3.0,baz=342,slow=7.0,SNR=6.8						
ASAR				LR	LR	19 46 53.4	
	comp=Z,105nm,20.9s,baz=183,slow=38						

MAN 03 19:21:58.9, 1223N×12389E, h3km, mb2.7, ML4.1, MS3.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.29	297⇓	iP	Pg	19 22 04.9	+0.4
MMPH				i S	Sg	19 22 06.7	-1.6
OCLP	Ormoc	1.36	149	eP	Pn	19 22 23.8	-1.1
PVCP	Virac	1.39	11	eP	Pn	19 22 25.9	+0.8
PVCP				eS	Sg	19 22 43.8	+0.4
AUQP	San Andres	1.61	313	eP	Pn	19 22 28.5	+0.2
AUQP				eS	Sn	19 22 49.6	+0.1
GUIM	Jordan	2.04	219	eP	Pn	19 22 38.9	+4.8

*ISCJB **03** 19:47:28.6±1.2, 3765N±006×2090E±008, h10km, Error ellipse: s-maj=11.1km s-min=6.0km az=87.3*

*NEIC **03** 19:47:28.8, 3765N×2092E, h4km, MD3.5(ATH), After ATH.*

*ATH **03** 19:47:28.8, 3765N×2092E, h4km, MD3.5/4*

*CSEM **03** 19:47:29.1±0.2, 3763N×2091E, h0km±1km, MD3.5, Error ellipse: s-maj=5.4km s-min=2.4km az=47.0*

*THE **03** 19:47:31.0, 3778N×2089E, h10km, ML3.3*

ISC 03 19:47:29.3±1.3**, 3766N**±006×**2090E**±008**, h10**km**, n14, σ1ˢ09**/19**, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.57	335	ePG	Pg	19 47 40.0	-0.5
VLS				eSG	Sg	19 47 49.1	+1.0
RLS	Riolos of Patr	0.60	48	ePG	Pg	19 47 39.3	-1.7
RLS				eSG	Sg	19 47 48.6	-0.2
ITM	Ithomi	0.94	120	ePG	Pg	19 47 46.4	-1.1
LKD	Levkas	1.07	349	ePg	Pg	19 47 48.4	-1.4
LKD				eSg	Sg	19 48 02.8	-0.9
EVR	Evrytania	1.45	29	ePN	Pn	19 47 56.7	+1.2
AGG	Agios Georgios	1.77	39	ePb	Pb	19 48 01.4	-0.4
IGT	Igoumenitsa	1.93	347	ePb	Pb	19 48 02.6	-2.0
IGT				eSb	Sb	19 48 27.4	-1.1
MEV	Metsovon	2.14	7	ePn	Pn	19 48 06.0	+0.9
MEV	Metsovon	2.14	7	ePn	Pn	19 48 05.9	+0.8
LIT	Litokhoron	2.74	26	ePn	Pn	19 48 14.3	+1.0
FNA	Florina	3.14	7	ePn	Pn	19 48 19.9	+1.0
FNA				eSn	Sn	19 48 57.5	+1.1
GRG	Griva	3.49	19	ePn	Pn	19 48 24.5	+0.8
SOH	Sokhos	3.69	30	ePn	Pn	19 48 27.6	+1.2
KNT	Kendrikon	3.83	23	ePn	Pn	19 48 29.2	+0.9

*ISCJB **03** 19:53:59.1±3.9, 24S±01×1284E±03, h0km±25km, mb3.9/4, MS3.3/1, Error ellipse: s-maj=48.0km s-min=14.8km az=144.7*

*NEIC **03** 19:54:02.5±0.7, 239S×12840E, h10km, mb4.3/2, Error ellipse: s-maj=30.6km s-min=9.8km az=72.0*

*IDC **03** 19:54:09.2±5.3, 255S×12824E, h65km±48km, mb3.4/3, mb1 3.9/5, mb1mx3.6/14, mbtmp3.9/5, ML4.0/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/11, Error ellipse: s-maj=92.7km s-min=13.9km az=73.0*

ISC 03 19:54:07.0±3.1**, 25S**±01×**1283E**±03**, h43**km±32km**, n10, σ0ˢ50**/10**, mb3.8**/4**, MS3.3**/1**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.75	189	P	Pn	19 57 45.1	-0.7
	0.2nm,0.3s,baz=3.4,slow=19,SNR=6.0						
WRAB	Tennant Creek	18.32	162	eP	Pn	19 58 18.4	+0.6
	49nm,1.2s						
WRA	Warramunga Arr	18.32	162	P	Pn	19 58 18.1	+0.2
	1.1nm,0.3s,baz=340,slow=11,SNR=48						
WB2	Warramunga Arr	18.33	162	eP	Pn	19 58 17.5	-0.4
AS31	Alice Springs	21.74	166	eP	P	19 58 54.9	+0.2
ASAR	Alice Springs	21.74	166	P	P	19 58 55.5	+0.8
	7.3nm,0.8s,mb4.2,baz=346,slow=11,SNR=41						
ASAR				S	S	20 02 52.6	-0.3
	2.8nm,1.1s,baz=348,slow=23,SNR=6.7						
CTAO	Charters Tower	24.75	136	P	P	19 59 23.8	-0.7
	4.3nm,0.9s,mb4.0						
JOW	Kunigami	29.14	360	LR	LR	20 11 22.3	
	comp=Z,77nm,19.2s,MS3.3,baz=55,slow=35						
SONM	Songino Array	53.65	342	P	P	20 03 23.9	-0.3
	0.6nm,1.0s,mb3.5,baz=194,slow=5.5,SNR=3.7						
MKAR	Makanchi Array	63.56	326	P	P	20 04 33.5	+0.4
	0.2nm,0.5s,mb3.4,baz=127,slow=6.0,SNR=2.8						

*ISCJB **03** 20:12:47.3±0.7, 4375N±005×10524W±008, h0km, mb3.8/2, MS3.4/2, Error ellipse: s-maj=9.4km s-min=6.7km az=80.3*

*IDC **03** 20:12:47.9±1.6, 4397N×10566W, h0km, mb3.7/2, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, ML3.2/3, MS3.6/2, Ms1 3.6/2, ms1mx2.4/41, Error ellipse: s-maj=54.1km s-min=7.6km az=147.0*

*NEIC **03** 20:12:48.3±0.5, 4375N×10520W, h0km, ML3.1, Error ellipse: s-maj=8.3km s-min=5.2km az=146.0, Suspected Mining explosion.*

NEIC 65 km [40 miles] SSE of Gillette.

ISC 03 20:12:48.2±0.6**, 4374N**±006×**10517W**±008**, h0**km**, n27, σ0ˢ97**/28**, mb3.8**/2**, MS3.4**/2**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.91	64	eP	Pg	20 13 07.2	+1.6
PHWY	Pilot Hill	2.44	185	ePn	Pn	20 13 29.9	+0.6
RWWY	Rawlins	2.54	217	ePn	Pn	20 13 31.2	+0.6
RWWY				eSn	Sn	20 14 01.1	-1.1
LAO	LASA Array	3.04	346	ePn	Pn	20 13 38.6	+1.0
PDAR	Pinedale Array	3.35	255	Pn	Pn	20 13 41.5	-0.2
PDAR				Pg	Pg	20 13 46.8	-5.5
PDAR				Lg		20 14 24.5	
PDAR	Pinedale Array	3.35	255	Pn	Pn	20 13 41.5	-0.2
	3.5nm,0.3s,baz=76,slow=16,SNR=42						
PDAR				Pg	Pg	20 13 46.8	-5.5
	6.6nm,0.3s,baz=64,slow=19,SNR=47						
PDAR				Lg		20 14 24.5	
	8.8nm,0.3s,baz=68,slow=29,SNR=10						
GCMT	Greycliff	3.80	304	ePn	Pn	20 13 47.8	-0.2
LOHW	Long Hollow	3.94	270	ePn	Pn	20 13 51.0	+1.1
MOOW	Moose Ponds	4.04	272	ePn	Pn	20 13 51.3	0.0
SNOW	Snow King Moun	4.06	268	ePg	Pg	20 13 58.8	-7.2
REDW	Red Top Meadow	4.14	267	ePn	Pn	20 13 53.4	+0.7
IMW	Indian Meadow	4.18	274	ePn	Pn	20 13 55.6	+2.4
TPAW	Teton Pass	4.20	269	ePn	Pn	20 13 53.6	+0.1
AHID	Auburn Hatcher	4.44	259	ePn	Pn	20 13 56.7	0.0
RRI2	Red Ridge	4.49	267	ePg	Pg	20 14 04.7	-9.5
BOZ	Bozeman (W)	4.99	295	ePn	Pn	20 14 03.4	-0.9
HWUT	Hardware Ranch	5.17	248	ePn	Pn	20 14 06.5	-0.3
	7.7nm,0.4s						
TCUT	Toone Canyon	5.30	243	ePn	Pn	20 14 09.5	+0.9
DAU	Daniels Canyon	5.61	236	ePn	Pn	20 14 12.9	0.0
CHMT	Chamberlain Mo	6.52	302	ePn	Pn	20 14 24.9	-0.5
ULM	Lac du Bonnet	9.10	41	Pn	Pn	20 14 59.5	-1.3
	0.9nm,0.3s,baz=233,slow=10,SNR=9.4						
ULM				Lg		20 17 27.9	
	0.1nm,0.3s,baz=201,slow=14,SNR=2.0						
NVAR	Mina Array Bea	11.23	246	Pn	Pn	20 15 28.8	-1.2
	0.0nm,0.3s,baz=38,slow=20,SNR=3.0						
LPIG	La Paz	20.03	194	LR	LR	20 24 51.7	
	comp=Z,181nm,20.8s,MS3.4,baz=262,slow=36						
CMIG	Matias Romero	27.95	159	LR	LR	20 33 16.7	
	comp=Z,92nm,19.0s,MS3.4,baz=189,slow=43						
ARCES	ARCESS Array B	61.40	18	P	P	20 23 04.3	-1.8
	1.3nm,1.0s,mb4.0,baz=335,slow=6.3,SNR=8.8						
MKAR	Makanchi Array	89.61	355	P	P	20 25 46.7	-1.1
MKAR	Makanchi Array	89.61	355	P	P	20 25 46.7	-1.1
	0.2nm,0.6s,mb3.6,baz=3.8,slow=4.3,SNR=3.7						

*ISCJB **03** 20:31:02.9±0.4, 8.16S±007×15079E±006, h33km, mb4.6/28, MS3.9/8, Error ellipse: s-maj=10.3km s-min=8.2km az=105.2*

*MOS **03** 20:31:03.0±0.8, 8.16S×15078E, h33km, mb4.8/7, Error ellipse: s-maj=15.3km s-min=12.7km az=162.7*

*IDC **03** 20:31:04.7±3.6, 8.14S×15077E, h32km±27km, mb4.1/11, mb1 4.3/14, mb1mx4.2/16, mbtmp4.3/14, ML3.9/3, MS3.8/12, Ms1 3.8/12, ms1mx3.7/22, Error ellipse: s-maj=19.1km s-min=13.2km az=123.0*

*NEIC **03** 20:31:05.9±1.1, 8.18S×15077E, h44km±10km, mb4.7/12, Error ellipse: s-maj=9.7km s-min=7.6km az=163.0*

*BJI **03** 20:31:06.6, 731S×15058E, h24km, mB5.2, mb4.7*

ISC 03 20:31:04.8±2.9**, 818S**±007×**15075E**±007**, h32**km±21km**, n60, σ0ˢ97**/56**, mb4.6**/28**, MS3.9**/8**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.76	251	Pn	Pn	20 32 02.0	+1.5
	33nm,0.3s,baz=68,slow=9.5,SNR=92						
PMG				Sn	Sn	20 32 51.4	+7.8
	12nm,0.3s,baz=12,slow=8.2,SNR=3.4						
PMG				LR	LR	20 33 33.0	
	comp=Z,2μm,19.7s,baz=55,slow=39						
PMG	Port Moresby	3.76	251	P	Pn	20 32 02.0	+1.5
PMG						20 32 51.4	
HNR	Honiara	9.17	98	Pn	Pn	20 33 15.4	+0.6
	2.7nm,0.3s,baz=271,slow=6.1,SNR=5.6						
HNR				LR	LR	20 36 10.9	
	comp=Z,576nm,20.5s,baz=357,slow=33						
CTA	Charters Tower	12.61	200	Pn	Pn	20 33 57.4	-4.5
	baz=198,slow=20,SNR=2.8						
CTA				LR	LR	20 37 52.6	
	comp=Z,167nm,19.9s,baz=22,slow=32						
CTA	Charters Tower	12.61	200	Pn	Pn	20 33 57.4	-4.5
CTA				LR	LR	20 37 52.6	
KAKA	Kakadu	18.56	254	eP	Pn	20 35 19.6	+0.3
	39nm,1.2s						
WRAB	Tennant Creek	19.72	232	eP	Pn	20 35 31.6	-1.6
WRAB				pmax	pmax		
	comp=Z,18nm,0.8s						
WRAB	Tennant Creek	19.72	232	eP	Pn	20 35 31.6	-1.5
	comp=Z,18nm,0.8s						
WB2	Warramunga Arr	19.72	232	eP	Pn	20 35 31.5	-1.7
WRA	Warramunga Arr	19.73	232	P	Pn	20 35 32.0	-1.3
	comp=Z,0.5nm,0.3s,baz=56,slow=11,SNR=32						
WRA				LR	LR	20 42 60.0	
	comp=Z,205nm,19.1s,baz=70,slow=36						
DZM	Mont Dzumac	20.47	134	P	P	20 35 40.6	+0.9
	comp=Z,34nm,1.2s,baz=156,slow=16,SNR=8.2						
DZM				LR	LR	20 41 55.7	
	comp=Z,350nm,20.5s,MS3.7,baz=38,slow=32						
AS31	Alice Springs	22.31	224	eP	P	20 36 00.0	+0.5
ASAR	Alice Springs	22.31	224	P	P	20 36 00.0	+0.5
	comp=Z,7.4nm,0.6s,mb4.3,baz=61,slow=9.6,SNR=23						
ASAR				S	S	20 40 05.1	+1.9
	comp=Z,1.3nm,1.2s,baz=41,slow=20,SNR=2.8						
ASAR				LR	LR	20 44 49.8	
	comp=Z,191nm,19.0s,MS3.5,baz=272,slow=37						
ASAR	Alice Springs	22.31	224	P	P	20 36 00.0	+0.5
ASAR				S	S	20 40 05.1	+1.9
ASPA	Alice Springs	22.31	224	eP	P	20 36 00.0	+0.5
FITZ	Fitzroy Crossi	26.34	245	eP	P	20 36 37.6	-0.1
	comp=Z,21nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	26.34	245	P	P	20 36 37.2	-0.5
	comp=Z,7.4nm,0.6s,mb4.4,baz=89,slow=6.7,SNR=37						
FITZ				LR	LR	20 47 40.0	
	comp=Z,222nm,18.5s,MS3.7,baz=198,slow=38						
FORT	Forrest	30.91	220	eP	P	20 37 23.1	+4.7
	comp=Z,20nm,0.6s,mb5.1						
AFI	Afiamalu	37.18	102	LR	LR	20 50 05.8	
	comp=Z,252nm,21.2s,MS4.0,baz=62,slow=31						
KLBR	Kellerberrin	38.54	228	eP	P	20 38 29.4	+5.1
	comp=Z,6.6nm,0.6s,mb4.5						
MJAR	Matsushiro Arr	46.02	346	P	P	20 39 24.4	-0.8
	comp=Z,1.5nm,0.8s,mb4.0,baz=172,slow=7.4,SNR=6.5						
XAN	Xi'an	57.74	319	P	P	20 40 52.3	-0.2
XAN				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.4						
PPT	Papeete	58.72	106	LR	LR	21 02 44.0	
	comp=Z,188nm,19.9s,MS4.2,baz=322,slow=32						
CD2	Chengdu	59.46	313	eP	P	20 41 04.8	+0.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
LZH	Lanzhou	62.30	318	eP	P	20 41 25.0	+1.2
LZH				AP	pP	20 41 31.5	-2.1
LZH				XP	sP	20 41 35.0	-2.4
LZH				AMB	AMB		
	comp=Z,15nm,1.2s,mb5.0						
HIA	Hailar	63.32	338	eP	P	20 41 31.1	+0.5
HIA				e		20 41 37.0	
HIA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HIA	Hailar	63.32	338	eP	P	20 41 31.1	+0.5
	comp=Z,9.1nm,0.7s,mb5.0						
HIA				e		20 41 37.0	
ULN	Ulaanbaatar	67.83	330	eP	P	20 42 00.4	+0.7
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
ULN	Ulaanbaatar	67.83	330	eP	P	20 42 00.4	+0.7
	comp=Z,4.6nm,0.8s,mb4.6						
SONM	Songino Array	68.13	329	P	P	20 42 02.4	+0.7
	comp=Z,2.1nm,0.8s,mb4.2,baz=143,slow=5.2,SNR=21						
SONM				LR	LR	21 13 25.0	
	comp=Z,51nm,18.0s,MS3.8,baz=339,slow=37						
LSA	Lhasa	68.52	306	P	P	20 42 08.2	+4.1
LSA	Lhasa	68.52	306	eP	P	20 42 05.6	+1.5
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
LSA	Lhasa	68.52	306	eP	P	20 42 05.6	+1.6
	comp=Z,4.3nm,0.7s,mb4.5						
VNDA	Vanda	69.56	177	P	P	20 42 09.8	-0.7
	comp=Z,1.4nm,0.8s,mb3.9,baz=331,slow=7.3,SNR=7.5						
VNDA	Vanda	69.56	177	eP	P	20 42 10.2	-0.3
JIRN	Jiri	71.83	303	eP	P	20 42 30.8	+6.5
	comp=Z,19nm,0.8s,mb5.1						
TLY	Talaya	72.01	331	eP	P	20 42 26.3	+0.9
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
TLY	Talaya	72.01	331	eP	P	20 42 26.3	+0.9
	comp=Z,3.3nm,1.0s,mb4.2						
GUN	Gumba	72.17	303	eP	P	20 42 31.8	+5.4
	comp=Z,35nm,0.8s,mb5.3						
PKI	Pulchoki	72.45	302	eP	P	20 42 34.2	+6.2
KKN	Kakani	72.63	302	eP	P	20 42 34.6	+5.5
	comp=Z,21nm,0.9s,mb5.1						
DMN	Daman	72.72	302	eP	P	20 42 36.3	+6.7
	comp=Z,40nm,0.8s,mb5.4						
GKN	Gorkha	73.24	302	eP	P	20 42 38.8	+6.1
	comp=Z,35nm,0.9s,mb5.3						
KOLN	Koldanda	74.03	302	eP	P	20 42 44.1	+6.7
BILL	Bilibino	76.83	6	eP	P	20 42 59.6	+6.2
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
MKAR	Makanchi Array	81.55	320	P	P	20 43 19.2	0.0
	comp=Z,1.3nm,0.8s,mb3.9,baz=98,slow=6.2,SNR=15						
MAW	Mawson	81.69	203	P	P	20 43 20.2	+0.3
	comp=Z,2.9nm,0.6s,mb4.4,baz=75,slow=9.5,SNR=4.6						
MAW				LR	LR	21 15 42.6	
	comp=Z,54nm,19.4s,MS3.9,baz=92,slow=33						
QSPA	South Pole Qui	81.80	180	eP	P	20 43 20.2	-0.3
	comp=Z,5.4nm,0.9s,mb4.5						
ZAL	Zalesovo	82.85	327	P	P	20 43 24.3	-1.7
	comp=Z,0.8nm,0.3s,mb4.2,baz=338,slow=11,SNR=2.9						
ZAL				LR	LR	21 20 22.1	
	comp=Z,97nm,19.2s,MS4.2,baz=360,slow=36						
KURK	Kurchatov	85.18	323	P	P	20 43 36.9	-1.0
KURK				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.8						
KURK	Kurchatov	85.18	323	P	P	20 43 36.9	-1.0
	comp=Z,11nm,1.5s,mb4.8						
AAK	Ala-Archa	85.52	314	eP	P	20 43 38.6	-1.0
AAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
AAK	Ala-Archa	85.52	314	eP	P	20 43 38.6	-1.0
	comp=Z,5.5nm,0.8s,mb4.8						
BBB	Bella Bella	91.00	37	P	P	20 44 06.0	+0.3
	comp=Z,4.0nm,0.7s,mb4.8,baz=145,slow=3.0,SNR=3.2						
NVAR	Mina Array Bea	95.75	52	P	P	20 44 25.9	-1.7
	comp=Z,0.1nm,0.3s,mb3.7,baz=282,slow=4.2,SNR=2.5						
GERES	GERESS Array B	125.79	326	PKP	PKPdf	20 50 04.9	+1.8
	comp=Z,0.8nm,0.8s,baz=96,slow=6.0,SNR=2.4						
LPAZ	La Paz	134.48	122	PKP	PKPdf	20 50 20.4	+0.8
	comp=Z,0.7nm,0.7s,baz=68,slow=2.8,SNR=3.7						
LPAZ	La Paz	134.48	122	PKP	PKPdf	20 50 20.4	+0.8
TORD	Torodi Ar. Bea	149.21	282	PKPbc	PKPbc	20 50 50.6	+0.6
	comp=Z,0.9nm,0.7s,baz=42,slow=2.0,SNR=9.1						
BDFB	Brasilia	149.90	142	PKPbc	PKPbc	20 50 52.5	+0.8
	comp=Z,3.5nm,0.6s,baz=236,slow=4.9,SNR=3.6						

*ISCJB **03** 20:33:34.1±3.2, 6.1S±0.1×1548E±0.1, h153km±28km, mb4.2/11, Error ellipse: s-maj=24.8km s-min=16.8km az=59.3*

*IDC **03** 20:33:35.1±3.7, 607S×15475E, h151km±32km, mb4.0/8, mb1 4.1/11, mb1mx3.9/17, mbtmp4.5/11, Error ellipse: s-maj=25.0km s-min=16.3km az=41.0*

*NEIC **03** 20:33:35.8±2.4, 6.10S×15476E, h158km±21km, mb4.6/3, Error ellipse: s-maj=19.3km s-min=13.3km az=221.0*

ISC 03 20:33:36.0±2.9**, 62S**±01×**1548E**±01**, h156**km±24km**, n20, σ0ˢ65**/19**, mb4.2**/11**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.19	246	P	Pn	20 35 32.3	+0.4
	4.4nm,0.3s,baz=64,slow=8.1,SNR=6.3						
PMG				S	Sn	20 37 02.8	-0.3
	8.1nm,0.3s,baz=97,slow=18,SNR=6.5						
CTA	Charters Tower	16.13	210	P	Pn	20 37 13.8	-0.2
	0.1nm,0.3s,baz=49,slow=9.4,SNR=4.2						
CTA	Charters Tower	16.13	210	P	Pn	20 37 13.8	-0.2
DZM	Mont Dzumac	19.45	146	eP	P	20 37 49.7	-0.8
DZM	Mont Dzumac	19.45	146	P	P	20 37 50.0	-0.6
	3.7nm,0.3s,baz=16,slow=18,SNR=45						
WRAB	Tennant Creek	24.10	233	eP	P	20 38 37.2	0.0
	15nm,0.7s,mb4.6						
WRA	Warramunga Arr	24.11	233	P	P	20 38 37.2	-0.1
	9.3nm,0.6s,mb4.5,baz=54,slow=9.5,SNR=25						
WRA				PcP	PcP	20 42 14.4	+0.2
	0.7nm,0.4s,baz=53,slow=2.5,SNR=8.4						
ASAR	Alice Springs	26.56	227	P	P	20 39 00.9	+1.5
	0.5nm,0.3s,mb3.6,baz=58,slow=9.4,SNR=5.3						
ASAR				PcP	PcP	20 42 20.2	+0.5
	1.2nm,0.6s,baz=60,slow=2.5,SNR=10						
MBWA	Marble Bar	37.04	243	eP	P	20 40 35.8	+5.0
	2.4nm,0.5s,mb4.1						
URZ	Urewera	37.86	151	P	P	20 40 38.0	+0.3
	16nm,0.7s,mb4.8,baz=80,slow=2.1,SNR=8.6						
RPZ	Rata Peaks	40.07	162	P	P	20 40 55.9	-0.2
	21nm,1.2s,mb4.6,baz=232,slow=15,SNR=3.1						
SONM	Songino Array	68.50	327	P	P	20 44 20.7	-0.7
	0.6nm,0.7s,mb3.5,baz=141,slow=5.9,SNR=3.6						
VNDA	Vanda	71.43	178	P	P	20 44 39.0	-0.3
MKAR	Makanchi Array	82.61	319	P	P	20 45 41.0	-0.8
	1.2nm,0.7s,mb3.8,baz=93,slow=5.9,SNR=8.3						
MKAR	Makanchi Array	82.61	319	P	P	20 45 41.0	-0.8
QSPA	South Pole Qui	83.82	180	eP	P	20 45 47.8	-0.1
	10nm,0.5s,mb4.8						
MAW	Mawson	85.08	203	P	P	20 45 54.1	-0.2
	3.0nm,0.6s,mb4.2,baz=106,slow=7.2,SNR=15						
NVAR	Mina Array Bea	91.39	52	P	P	20 46 25.7	+1.5
	1.5nm,1.0s,mb4.0,baz=245,slow=4.2,SNR=4.7						
TORD	Torodi Ar. Bea	152.56	287	PKPbc	PKPbc	20 53 12.8	-1.1
	0.5nm,0.5s,baz=71,slow=1.9,SNR=8.9						
TORD	Torodi Ar. Bea	152.56	287	PKPbc	PKPbc	20 53 12.8	-1.2

IDC 03 20:44:02.3±1.6**, 076N**×**12244E, h0**km**, mb3.5**/3**, mb1 3.6**/4**, mb1mx3.5**/16**, mbtmp3.5**/4**, ML3.4**/1**, Error ellipse: s-maj=133.2km s-min=23.3km az=64.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.01	171	P	Pn	20 48 26.7	+0.5
	0.1nm,0.3s,baz=20,slow=13,SNR=8.5						
WRA	Warramunga Arr	23.65	151	P	P	20 49 15.5	0.0
	0.7nm,0.5s,baz=326,slow=11,SNR=13						
ASAR	Alice Springs	26.71	156	P	P	20 49 43.3	0.0
	0.3nm,0.5s,baz=343,slow=14,SNR=7.3						
MKAR	Makanchi Array	57.68	328	P	P	20 53 54.6	+0.1
	0.4nm,0.4s,baz=120,slow=9.0,SNR=7.3						

IDC 03 21:00:05.5±5.2**, 2968S**×**17842W, h0**km**, mb3.7**/2**, mb1 4.0**/2**, mb1mx3.7**/10**, mbtmp3.7**/2**, Error ellipse: s-maj=290.6km s-min=75.6km az=166.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.79	266	P	P	21 08 04.6	-0.2
	0.3nm,0.4s,baz=98,slow=7.7,SNR=4.2						
WRA	Warramunga Arr	43.71	272	P	P	21 08 12.7	+0.5
	0.7nm,0.3s,baz=110,slow=8.1,SNR=28						
FINES	FINESS Array B	144.35	340	PKP	PKPdf	21 19 42.3	-1.2
	1.5nm,0.5s,baz=44,slow=4.6,SNR=13						

IDC 03 21:19:34.6±2.4**, 287S**×**12965E, h0**km**, mb3.6**/2**, mb1 3.9**/4**, mb1mx3.7**/15**, mbtmp3.7**/4**, ML3.4**/2**, Error ellipse: s-maj=124.0km s-min=26.7km az=73.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.64	194	Pn	Pn	21 23 17.8	+1.6
	0.1nm,0.3s,baz=7.1,slow=16,SNR=3.0						
WRA	Warramunga Arr	17.57	165	P	Pn	21 23 39.8	-1.1
	0.2nm,0.3s,baz=346,slow=12,SNR=9.5						
WRA				S	Sn	21 26 49.0	-8.3
	0.1nm,0.3s,baz=340,slow=22,SNR=2.8						
ASAR	Alice Springs	21.08	169	P	P	21 24 21.1	+0.6
	3.5nm,0.7s,baz=349,slow=10,SNR=10						
ASAR				S	S	21 28 10.7	-5.2
	1.8nm,0.9s,baz=348,slow=21,SNR=7.1						
MKAR	Makanchi Array	64.61	326	P	P	21 30 14.0	+0.1
	0.3nm,0.7s,baz=114,slow=8.2,SNR=5.0						

*IDC **03** 21:26:50.2±3.4, 5079N×179.18W, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.6/21, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=100.8km s-min=25.8km az=179.0*

*ISCJB **03** 21:26:53.7±2.8, 508N±06×179.1W±02, h33km, mb3.8/5, Error ellipse: s-maj=80.7km s-min=19.4km az=172.7*

ISC 03 21:26:55.8±2.8**, 509N**±06×**1791W**±02**, h35**km**, n7, σ0ˢ71**/7**, mb3.8**/5**, 1C, Andreanof Islands**

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

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDAK	Kodiak Island	16.86	56	Pn	Pn	21 30 49.3	+0.3
	0.6nm,0.3s,baz=214,slow=12,SNR=5.9						
PDAR	Pinedale Array	46.65	72	P	P	21 35 20.4	-0.3
	0.4nm,0.6s,mb3.5,baz=343,slow=4.6,SNR=4.9						
SONM	Songino Array	46.69	297	P	P	21 35 21.9	+0.9
	0.3nm,0.6s,mb3.4,baz=69,slow=7.9,SNR=3.4						
MKAR	Makanchi Array	60.18	308	P	P	21 36 59.0	-1.0
	0.6nm,0.4s,mb3.9,baz=43,slow=6.8,SNR=13						
FINES	FINESS Array B	66.22	347	P	P	21 37 39.3	-0.7
	0.3nm,0.3s,mb3.8,baz=8.7,slow=6.3,SNR=5.1						
AKASG	Malin Array Be	75.95	342	P	P	21 38 38.9	-0.1
	1.5nm,0.4s,mb4.3,baz=19,slow=6.4,SNR=6.0						
BURAR	Bucovina Array	79.67	344	⇑iP	P	21 39 00.6	+1.0

*IDC **03** 21:27:24.1±1.3, 38.15N×22.02E, h0^{km}, mb3.6/6, mb1 3.7/6, mb1mx3.5/21, mbtmp3.6/6, Error ellipse: s-maj=40.5km s-min=23.0km az=123.0*

*ISCJB **03** 21:27:30.5±0.4, 38.06N±0.03×21.98E±0.05, h75^{km}±5^{km}, mb3.5/6, Error ellipse: s-maj=6.7km s-min=4.6km az=142.8*

*CSEM **03** 21:27:31.0±0.1, 38.13N×22.04E, h60^{km}, ML3.6, Error ellipse: s-maj=2.5km s-min=1.9km az=23.0*

*NEIC **03** 21:27:31.7, 38.11N×22.08E, h45^{km}, MD3.4(ATH), After ATH.*

*ATH **03** 21:27:31.7, 38.11N×22.08E, h45^{km}±15^{km}, MD3.4/12, ML3.6*

*THE **03** 21:27:31.2, 38.14N×22.06E, h13^{km}, ML3.0*

*HLW **03** 21:27:36.3, 37.73N×22.46E, h30^{km}, Mb3.8*

ISC 03 21:27:31.6±0.3**, 38.07N**±0.03×**22.01E**±0.05**, h67**^{km}±5^{km}**, n52,** σ**0^{s}95**/62**, mb3.5**/6**, 7C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.43	268	eP	Pn	21 27 42.7	-0.8
RLS				eS	Sn	21 27 51.8	-0.4
EVR	Evrytania	0.86	350	eP	Pn	21 27 49.0	+0.9
ITM	Ithomi	0.90	184	eP	Pn	21 27 50.2	+1.6
LKR	Lokris	0.97	53	eP	Pn	21 27 48.9	-0.6
AGG	Agios Georgios	0.98	15	ePg	Pn	21 27 49.4	-0.3
MGER	Gerania Oros	0.99	95	eP	Pn	21 27 49.0	-0.8
VLS	Valsamata	1.12	276	eP	Pn	21 27 51.9	+0.4
NAIG	Nisos Aigina	1.21	105	eP	Pn	21 27 52.3	-0.3
LKD	Levkas	1.24	301	ePg	Pn	21 27 53.6	+0.6
ATH	Athens Observa	1.35	94	eP	Pn	21 27 54.9	+0.4
PTL	Penteli	1.47	90	eP	Pn	21 27 56.0	0.0
VLI	Veliai	1.54	151	eP	Pn	21 27 57.8	+0.8
NEO	Neokhori	1.56	37	eP	Pn	21 27 56.8	-0.4
XOR	Xorichti	1.59	35	ePg	Pn	21 27 57.3	-0.3
JAN	Janina	1.82	331	eP	Pn	21 28 02.1	+1.4
AOS	Alonnisos	1.83	53	ePb	Pn	21 28 00.4	-0.4
IGT	Igoumenitsa	1.96	319	ePb	Pn	21 28 02.8	+0.2
LIT	Litokhoron	2.06	10	ePn	Pn	21 28 03.8	-0.2
KZN	Kozani	2.24	355	eP	Pn	21 28 07.5	+1.1
FNA	Florina	2.75	350	ePn	Pn	21 28 14.1	+0.8
FNA				eSn	Sn	21 28 47.0	+1.6
FNA	Florina	2.75	350	ePn	Pn	21 28 14.1	+0.8
FNA				eSn	Sn	21 28 47.0	+1.6
GRG	Griva	2.90	6	ePn	Pn	21 28 15.8	+0.5
SOH	Sokhos	2.94	20	ePn	Pn	21 28 16.2	+0.4
BIA	Bitola	2.99	350	ePn	Pn	21 28 17.1	+0.5
BIA	Bitola	2.99	350	ePn	Pn	21 28 16.1	-0.4
BIA				i Sn	Sn	21 28 50.0	-1.2
BIA	Bitola	2.99	350	ePn	Pn	21 28 17.1	+0.5
BIA				i Sn	Sn	21 28 50.0	-1.2
KARN	Karanos	3.08	150	ePn	Pn	21 28 19.9	+2.2
KNT	Kendrikon	3.16	12	ePn	Pn	21 28 19.5	+0.6
OHR	Ohrid	3.17	343	ePn	Pn	21 28 24.7	+5.6
OHR				i Sn	Sn	21 28 55.3	-0.5
VAY	Valandovo	3.27	7	ePn	Pn	21 28 20.5	0.0
VAY				i Sn	Sn	21 28 58.1	-0.1
VAY	Valandovo	3.27	7	ePn	Pn	21 28 20.4	0.0
VAY				i Sn	Sn	21 28 58.1	-0.1
SRS	Serrai	3.28	21	ePn	Pn	21 28 20.6	+0.1
ALN	Alexandroupoli	4.21	47	ePn	Pn	21 28 33.9	+0.7
TIP	Timpagrande	4.26	287	eP	Pn	21 28 33.4	-0.5
SG1	Sgolgore (BA)	4.96	305	ePn	Pn	21 28 42.7	-0.8
STON	Ston	5.81	327	i Pn	Pn	21 28 53.2	-1.9
STON				i Sn	Sn	21 29 53.3	-7.0
SLUM		7.08	157	⇑P	Pn	21 29 11.1	-1.3
MLR	Muntele Rosu	7.97	20	⇑iP	Pn	21 29 21.4	-3.3
HMAT	Matruh	8.13	147	⇑P	Pn	21 29 25.4	-1.4
PLOR	Plostina	8.50	22	⇑iP	Pn	21 29 36.1	+4.2
VRI	Vrincioaia	8.54	23	⇑iP	Pn	21 29 35.8	+3.3
CRES	Cresnjev	9.15	330	ePn	Pn	21 29 39.3	-1.5
CRES				eSn	Sn	21 31 15.1	-7.1
SWA2		9.26	161	⇑P	Pn	21 29 41.6	-0.7
SWA1		9.31	160	⇑P	Pn	21 29 42.4	-0.5
VISS	Visnje	9.39	328	eSn	Sn	21 31 20.4	-7.5
FINES	FINESS Array B	23.53	5	P	P	21 32 33.8	-1.8
	0.7nm,0.9s,mb3.0,baz=224,slow=12,SNR=3.0						
NB2	NORSAR Subarra	23.97	347	P	P	21 32 39.8	+0.2
	comp=Z,0.4nm,0.5s,mb3.0,baz=159,slow=11						
NOA	NORSAR Array B	23.97	347	P	P	21 32 39.1	-0.5
	comp=Z,0.4nm,0.6s,mb3.0,baz=159,slow=8.6,SNR=3.1						
TORD	Torodi Ar. Bea	30.71	221	P	P	21 33 41.4	+1.4
	comp=Z,1.4nm,0.7s,mb3.8,baz=36,slow=9.0,SNR=20						
ARCES	ARCESS Array B	31.58	2	P	P	21 33 48.1	+0.5
	comp=Z,1.5nm,1.0s,mb3.7,baz=188,slow=9.9,SNR=2.9						
MKAR	Makanchi Array	44.36	59	P	P	21 35 35.6	+0.5
	comp=Z,0.5nm,0.4s,mb3.6,baz=275,slow=7.6,SNR=13						
ZAL	Zalesovo	44.88	48	P	P	21 35 39.2	0.0
	comp=Z,0.9nm,0.5s,mb3.8,baz=178,slow=9.8,SNR=5.4						

*ISCJB **03** 22:07:21.3±1.5, 4.6S±0.1×155.1E±0.1, h502^{km}±18^{km}, mb4.0/13, Error ellipse: s-maj=18.3km s-min=15.7km az=87.1*

*IDC **03** 22:07:22.4±1.9, 4.60S×155.20E, h505^{km}±23^{km}, mb3.2/7, mb1 3.4/9, mb1mx3.3/15, mbtmp4.2/9, Error ellipse: s-maj=20.9km s-min=16.3km az=78.0*

*NEIC **03** 22:07:22.5±1.0, 4.59S×155.21E, h508^{km}±11^{km}, mb4.4/8, Error ellipse: s-maj=11.3km s-min=9.7km az=134.0*

ISC 03 22:07:22.9±1.4**, 4.6S**±0.1×**155.2E**±0.1**, h510**^{km}±18^{km}**, n25,** σ**0^{s}63**/23**, mb4.1**/13**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	6.69	136	P	P	22 09 06.1	-0.2
	21nm,0.3s,baz=267,slow=1.5,SNR=10						
CTA	Charters Tower	17.68	209	P	P	22 11 00.3	+0.7
	0.3nm,0.3s,baz=11,slow=10,SNR=2.7						
CTAO	Charters Tower	17.68	209	eP	P	22 11 01.2	+1.6
	4.3nm,0.8s						
DZM	Mont Dzumac	20.47	149	P	P	22 11 25.5	+0.4
	2.6nm,0.4s,baz=100,slow=22,SNR=8.8						
WRAB	Tennant Creek	25.39	231	eP	P	22 12 09.7	+0.6
	10nm,0.5s,mb4.7						
WB2	Warramunga Arr	25.39	231	eP	P	22 12 09.6	+0.4
WRA	Warramunga Arr	25.40	231	P	P	22 12 09.6	+0.4
	6.4nm,0.5s,mb4.5,baz=57,slow=9.3,SNR=103						
WRA				PcP	PcP	22 15 24.8	+0.4
	0.4nm,0.4s,baz=59,slow=2.8,SNR=4.9						
ASAR	Alice Springs	27.95	225	P	P	22 12 30.9	-0.7
	2.0nm,0.5s,mb4.0,baz=57,slow=8.7,SNR=22						
ASAR				PcP	PcP	22 15 31.2	+0.7
	0.4nm,0.5s,baz=61,slow=2.7,SNR=5.0						
FITZ	Fitzroy Crossi	31.87	243	eP	P	22 13 05.3	-0.3
	12nm,1.0s,mb4.4						
FORT	Forrest	36.48	221	eP	P	22 13 44.4	+0.1
	9.1nm,0.4s,mb4.7						
MBWA	Marble Bar	38.16	241	eP	P	22 13 57.7	-0.3
	4.1nm,0.5s,mb4.2						
MJAR	Matsushiro Arr	43.93	340	P	P	22 14 42.8	-1.2
	1.7nm,0.5s,mb3.8,baz=163,slow=7.9,SNR=6.8						
KLBR	Kellerberrin	44.20	228	eP	P	22 14 45.4	-0.6
	22nm,1.2s,mb4.6						
NWAO	Narrogin (SRO)	45.24	227	P	P	22 14 53.8	-0.3
SONM	Songino Array	67.48	327	P	P	22 17 28.8	+1.2
	0.5nm,0.4s,mb3.4,baz=142,slow=6.3,SNR=4.4						
VNDA	Vanda	72.93	178	P	P	22 17 59.5	-0.4
	0.9nm,0.7s,mb3.3,baz=338,slow=8.3,SNR=5.6						
VNDA	Vanda	72.93	178	P	P	22 17 59.5	-0.5
SBA	Scott Base	73.43	177	P	P	22 18 01.8	-1.0
MKAR	Makanchi Array	81.79	318	P	P	22 18 47.8	-0.2
	0.4nm,0.8s,mb2.9,baz=98,slow=6.2,SNR=3.7						
QSPA	South Pole Qui	85.33	180	eP	P	22 19 05.9	+0.2
	1.7nm,0.3s,mb4.0						
MAW	Mawson	86.66	203	eP	P	22 19 11.9	-0.1
BRVK	Borovoye	90.62	323	eP	P	22 19 30.9	+0.5
HLID	Hailey	93.42	47	P	P	22 19 43.9	+0.6
	3.2nm,0.6s,mb4.5						
BDFB	Brasilia	149.43	132	PKPbc	PKPbc	22 26 14.9	+0.9
	1.3nm,0.4s,baz=110,slow=1.3,SNR=3.4						
TORD	Torodi Ar. Bea	152.53	290	PKPbc	PKPbc	22 26 21.4	+0.3
	0.4nm,0.4s,baz=52,slow=1.7,SNR=16						

IDC 03 22:10:19.0±11.0**, 29.80S**×**179.08W, h366**^{km}±104^{km}**, mb3.1**/2**, mb1 3.3**/3**, mb1mx3.1**/11**, mbtmp3.9**/3**, Error ellipse: s-maj=64.8km s-min=45.8km az=90.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.12	297	P	P	22 13 34.2	+0.1
	0.2nm,0.3s,baz=162,slow=19,SNR=3.6						
ASAR	Alice Springs	42.21	267	P	P	22 17 38.3	+0.9
	0.7nm,0.9s,baz=104,slow=7.7,SNR=5.4						
WRA	Warramunga Arr	43.14	272	P	P	22 17 44.5	-0.3
	1.2nm,0.4s,baz=110,slow=8.0,SNR=19						
FINES	FINESS Array B	144.26	340	PKP	PKPdf	22 29 10.2	-1.7
	0.7nm,0.4s,baz=67,slow=3.6,SNR=11						
NOA	NORSAR Array B	148.02	351	PKPbc	PKPbc	22 29 21.0	-0.8
	0.4nm,0.6s,baz=16,slow=4.4,SNR=3.3						
AKASG	Malin Array Be	150.26	323	PKPbc	PKPbc	22 29 26.5	-0.8
	0.8nm,0.5s,baz=52,slow=3.4,SNR=4.8						
TORD	Torodi Ar. Bea	163.41	183	PKPab	PKPab	22 30 31.6	-0.1
	0.4nm,0.7s,baz=171,slow=4.5,SNR=7.3						

*IDC **03** 22:34:49.8±0.8, 20.61S×174.01W, h0^{km}, mb4.2/8, mb1 4.5/9, mb1mx4.3/16, mbtmp4.3/9, ML4.6/1, MS3.6/7, Ms1 3.6/7, ms1mx3.3/26, Error ellipse: s-maj=33.9km s-min=20.8km az=139.0*

*ISCJB **03** 22:34:53.7±0.5, 20.64S±0.07×174.1W±0.1, h33^{km}, mb4.4/16, MS3.8/5, Error ellipse: s-maj=15.1km s-min=8.4km az=44.1*

*NEIC **03** 22:34:55.1±0.4, 20.62S×173.98W, h35^{km}, mb4.6/10, Error ellipse: s-maj=14.5km s-min=8.7km az=123.0*

*MOS **03** 22:34:56.9±2.9, 20.80S×174.59W, h33^{km}, mb4.6/8, Error ellipse: s-maj=19.6km s-min=15.4km az=54.3*

ISC 03 22:34:55.4±0.5**, 20.65S**±0.08×**174.0W**±0.1**, h35**^{km}**, n66,** σ**0^{s}93**/44**, mb4.4**/16**, MS3.8**/5**, 4C, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.03	18	Pn	Pn	22 36 31.0	-4.7
	6.8nm,0.3s,baz=100,slow=11,SNR=3.8						
AFI				Sn	Sn	22 37 45.1	-9.2
	13nm,0.3s,baz=246,slow=23,SNR=4.6						
AFI	Afiamalu	7.03	18	Pn	Pn	22 36 33.8	-1.9
AFI				eSn	Sn	22 37 45.4	-9.0
RAO	Raoul Island	9.28	202	eP	Pn	22 37 06.1	-0.5
RAR	Rarotonga	13.28	95	Pn	Pn	22 37 50.4	-11
	6.5nm,0.3s,baz=268,slow=7.9,SNR=9.1						
RAR				LR	LR	22 41 09.9	
	comp=Z,47nm,18.6s,baz=229,slow=28						
DZM	Mont Dzumac	18.30	262	P	Pn	22 39 09.0	+2.6
	0.7nm,0.3s,baz=77,slow=19,SNR=8.3						
DZM				LR	LR	22 44 04.8	
	comp=Z,124nm,20.1s,baz=42,slow=30						
URZ	Urewera	19.17	202	P	Pn	22 39 13.5	-3.4
	1.9nm,0.3s,baz=7.8,slow=10,SNR=5.6						
URZ				S	S	22 42 46.0	-5.2
	0.3nm,0.3s,baz=131,slow=20,SNR=3.9						
SNZO	South Karori	22.73	203	eP	P	22 39 54.0	-0.1
	11nm,0.9s,mb4.3						
TBI	Tubuai	22.87	101	eLR	LR	22 44 58.0	
	272nm,25.2s,baz=278						
PPT	Papeete	23.24	87	eLR	LR	22 45 14.0	
	196nm,21.5s,baz=249						
PPT	Papeete	23.24	87	LR	LR	22 46 53.3	
	comp=Z,305nm,19.4s,MS3.8,baz=198,slow=31						
HNR	Honiara	27.50	290	LR	LR	22 50 08.2	
	comp=Z,124nm,18.5s,MS3.5,baz=180,slow=34						
RKT	Rikitea	36.20	101	eLR	LR	22 51 08.6	
	210nm,24.0s						
CTA	Charters Tower	37.23	264	eP	P	22 42 03.1	-0.3
	4.4nm,0.9s,mb4.3						
CTA	Charters Tower	37.23	264	eP	P	22 42 03.1	-0.3
CTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CTAO	Charters Tower	37.23	264	eP	P	22 42 04.6	+1.2
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
CTAO	Charters Tower	37.23	264	eP	P	22 42 04.6	+1.1
	comp=Z,4.2nm,0.7s,mb4.4						
STKA	Stephens Creek	41.13	245	eP	P	22 42 35.8	-0.2
	comp=Z,6.1nm,1.1s,mb4.1						
STKA	Stephens Creek	41.13	245	P	P	22 42 35.3	-0.8
	comp=Z,9.1nm,1.0s,mb4.4,baz=103,slow=8.8,SNR=8.2						
STKA				LR	LR	22 57 38.7	
	comp=Z,148nm,19.8s,MS3.9,baz=205,slow=33						
AS31	Alice Springs	48.16	256	eP	P	22 43 32.1	+0.1
ASAR	Alice Springs	48.16	256	P	P	22 43 31.4	-0.6
	comp=Z,8.3nm,0.9s,mb4.8,baz=87,slow=8.3,SNR=50						
ASAR				PcP	PcP	22 45 00.0	+0.9
	comp=Z,1.7nm,0.8s,baz=95,slow=4.7,SNR=4.8						
ASAR	Alice Springs	48.16	256	P	P	22 43 31.4	-0.6
ASAR						22 45 00.0	
ASAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASPA	Alice Springs	48.16	256	eP	P	22 43 32.1	0.0
WB2	Warramunga Arr	48.31	261	eP	P	22 43 32.2	-1.0
WRAB	Tennant Creek	48.31	261	eP	P	22 43 31.8	-1.4
WRAB				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
WRAB	Tennant Creek	48.31	261	eP	P	22 43 31.8	-1.4
	comp=Z,15nm,1.1s,mb4.9						
WRA	Warramunga Arr	48.32	261	P	P	22 43 32.0	-1.3
	comp=Z,4.3nm,0.9s,mb4.5,baz=95,slow=7.8,SNR=30						
WRA				PcP	PcP	22 45 01.0	+1.3
	comp=Z,1.6nm,0.8s,baz=93,slow=4.2,SNR=5.5						
WRA	Warramunga Arr	48.32	261	P	P	22 43 32.0	-1.3
WRA						22 45 01.0	
WRA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FORT	Forrest	52.70	247	eP	P	22 44 06.3	-0.1
	comp=Z,14nm,0.9s,mb4.9						
FITZ	Fitzroy Crossi	56.75	261	P	P	22 44 35.9	+0.2
	comp=Z,0.9nm,0.4s,mb4.2,baz=97,slow=18,SNR=6.9						
VNDA	Vanda	58.12	186	P	P	22 44 45.6	+0.2
	comp=Z,1.1nm,0.8s,mb4.0,baz=6.9,slow=5.9,SNR=7.1						
VNDA	Vanda	58.12	186	P	P	22 44 46.3	+0.9
KLBR	Kellerberrin	61.41	245	eP	P	22 45 08.8	+0.8
	comp=Z,5.9nm,0.6s,mb4.9						
MBWA	Marble Bar	61.50	257	eP	P	22 45 09.1	+0.5
QSPA	South Pole Qui	69.42	180	eP	P	22 46 00.7	+1.0
	comp=Z,6.1nm,0.8s,mb4.6						
ASAJ	Asahikawa	75.72	329	LR	LR	23 18 33.1	
	comp=Z,72nm,18.8s,MS4.0,baz=169,slow=35						
YSS	Yuzh-Sakhalins	77.78	331	eP	P	22 46 50.2	+1.3
NVAR	Mina Array Bea	78.59	41	P	P	22 46 53.9	+0.6
	comp=Z,3.6nm,1.0s,mb4.3,baz=220,slow=7.4,SNR=4.2						
NVAR	Mina Array Bea	78.59	41	P	P	22 46 53.9	+0.6
MAW	Mawson	82.67	199	P	P	22 47 15.9	+0.7
	comp=Z,1.6nm,0.8s,mb4.1,baz=296,slow=9.0,SNR=6.2						
MAW	Mawson	82.67	199	P	P	22 47 16.9	+1.6
HLID	Hailey	84.02	39	eP	P	22 47 22.9	+0.7
	comp=Z,2.5nm,0.7s,mb4.5						
TTA	Tatalina	84.50	8	P	P	22 47 24.1	-0.5
TTA				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.7						
TTA	Tatalina	84.50	8	P	P	22 47 24.1	-0.6
	comp=Z,9.1nm,1.3s,mb4.8						
MA2	Magadan	84.99	343	eP	P	22 47 26.8	-0.3
PDAR	Pinedale Array	86.52	42	P	P	22 47 34.2	-0.5
	comp=Z,0.6nm,0.8s,mb3.9,baz=243,slow=1.7,SNR=5.1						
SNAA	Sanae	87.72	177	P	P	22 47 39.6	-0.9
BJT	Baijiatuau	88.68	314	P	P	22 47 45.3	+0.3
SONM	Songino Array	98.37	318	LR	LR	23 30 38.2	
	comp=Z,38nm,21.3s,MS3.9,baz=77,slow=34						
MKAR	Makanchi Array	114.06	313	PKP	PKiKP	22 53 29.5	-1.3
	comp=Z,0.3nm,0.6s,baz=41,slow=3.9,SNR=3.8						
BRVK	Borovoye	121.68	320	PKIKP	PKPdf	22 53 54.5	+9.1
ARCES	ARCESS Array B	129.70	351	PKP	PKPdf	22 53 59.4	-1.3
	comp=Z,0.7nm,0.8s,baz=12,slow=9.2,SNR=3.1						
ARCES	ARCESS Array B	129.70	351	PKIKP	PKPdf	22 53 59.4	-1.3
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	Malin Array Be	144.89	334	PKP	PKPdf	22 54 27.8	-0.9
	comp=Z,3.8nm,0.7s,baz=39,slow=4.3,SNR=16						
AKASG	Malin Array Be	144.89	334	PKHKP	PKPdf	22 54 27.8	-0.8
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MALT	Malatya	146.99	309	ePKP2	PKPab	22 54 36.8	+1.1
CLL	Collm	148.92	352	eP	PKPbc	22 54 40.0	+0.6
CLL				i sPKPab		22 54 56.3	
	comp=Z,9.0nm,1.2s						
CLL				i x	x	22 55 05.5	
CLL	Collm	148.92	352	ePKIKP	PKPbc	22 54 40.0	+0.6
CLL				i		22 54 56.3	
UPC	Upice	149.18	348	⇑ePKP	PKPbc	22 54 43.8	+3.7
BRG	Berggiesshubel	149.21	350	eP	PKPab	22 54 45.4	+0.8
	comp=Z,3.1nm,1.2s						
BRG	Berggiesshubel	149.21	350	ePKP2	PKPab	22 54 45.4	+0.8
BRG				pmax	pmax		
	comp=Z,2.0nm,1.2s						
DPC	Dobruska-Polom	149.27	347	⇑ePKP	PKPbc	22 54 42.9	+2.6
OKC	Ostrava-Krasne	149.33	345	epPKP	pPKPdf	22 54 50.7	+3.2
PVCC	Panska Ves	149.43	349	⇑ePKP	PKPbc	22 54 42.6	+1.9
PVCC				epPKP	pPKPdf	22 54 53.0	+5.3
KHC	Kasperske Hory	150.95	350	⇑ePKP	PKPbc	22 54 43.1	-1.2
KHC				epPKP	pPKPdf	22 54 58.0	+7.9
GERES	GERESS Array B	151.21	349	PKPbc	PKPbc	22 54 45.3	+0.4
	comp=Z,0.5nm,0.7s,baz=191,slow=0.7,SNR=3.8						
GERES	GERESS Array B	151.21	349	PKIKP	PKPbc	22 54 45.3	+0.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*NIED **03** 22:44:00, 37.70N×142.20E, h32^{km}, Mw3.4 Best double couple: $M_0$1.67000×10^{14} NP1:ϕ_s24.00000°, δ50.00000°, λ63.00000°. NP2:ϕ_s243.00000°, δ47.00000°, λ119.00000°.*

*IDC **03** 22:44:52.4±2.0, 37.76N×142.75E, h0^{km}, mb3.6/4, mb1 3.7/6, mb1mx3.5/21, mbtmp3.7/6, ML3.4/2, Error ellipse: s-maj=49.8km s-min=25.8km az=79.0*

*MOS **03** 22:44:54.9±0.8, 37.80N×142.79E, h33^{km}, mb4.0/4, Error ellipse: s-maj=20.9km s-min=16.4km az=177.0*

*NEIC **03** 22:44:57.7±0.7, 37.78N×142.69E, h35^{km}, mb4.0/1, Error ellipse: s-maj=13.3km s-min=10.8km az=85.0*

*ISCJB **03** 22:44:58.5±1.1, 37.70N±0.04×142.35E±0.09, h51^{km}±9^{km}, mb3.6/5, Error ellipse: s-maj=12.0km s-min=7.0km az=15.4*

*JMA **03** 22:44:59.5±0.1, 37.72N×142.24E, h38^{km}±2^{km}, M3.7*

ISC 03 22:44:59.7±1.1**, 37.71N**±0.04×**142.33E**±0.09**, h42**^{km}±10^{km}**, n30,** σ**0^{s}95**/42**, mb3.6**/5**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	Ouri	1.07	314	P	Pn	22 45 17.7	-0.6
JIO				S	Sn	22 45 30.4	-1.6
JFK	Kawauchi	1.20	254	P	Pn	22 45 19.2	-0.8
JFK				eS	Sn	22 45 33.5	-1.7
JMM	Marumori	1.23	278	P	Pn	22 45 19.6	-0.7
JMM				S	Sn	22 45 34.2	-1.5
JOU	Okura	1.47	297	P	Pn	22 45 23.6	-0.1
JOU				eS	Sn	22 45 41.5	-0.2
JMK	Ichinoseki	1.52	325	P	Pn	22 45 24.2	-0.1
JMK				S	Sn	22 45 42.3	-0.6
JFT	Otama	1.59	264	P	Pn	22 45 25.7	+0.3
JFT				eS	Sn	22 45 45.0	+0.3
JYS	Shirataka	1.86	287	P	Pn	22 45 29.2	+0.2
JYS				eS	Sn	22 45 52.6	+1.3
JOM	Ohasama	1.94	336	P	Pn	22 45 30.1	0.0
JOM				S	Sn	22 45 53.3	0.0
JYK	Kaneyama	1.96	309	P	Pn	22 45 31.0	+0.5
JYK				eS	Sn	22 45 54.5	+0.6
JFY	Yanaizu	2.11	263	P	Pn	22 45 33.2	+0.8
JYA	Atsumi	2.24	294	P	Pn	22 45 35.1	+0.8
MJAR	Matsushiro Arr	3.49	252	Pn	Pn	22 45 53.2	+1.7
	1.7nm,0.3s,baz=66,slow=9.6,SNR=10						
MJAR	Matsushiro Arr	3.49	252	P	Pn	22 45 53.2	+1.8
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	Matsushiro Arr	3.49	252	Pn	Pn	22 45 53.1	+1.7
MAJO	Matsushiro	3.49	252	eP	Pn	22 45 54.0	+2.6
MAT	Matsushiro	3.49	252	P	Pn	22 45 53.3	+1.9
MAT				eS	Sn	22 46 31.0	-0.5
MAT	Matsushiro	3.49	252	P	Pn	22 45 54.0	+2.6
MAT				S	Sn	22 46 35.0	+3.5
JHJ	Hachijo jima 2	5.03	205	Pn	Pn	22 46 11.8	-0.7
	comp=Z,5.7nm,0.3s,baz=68,slow=19,SNR=9.7						
JHJ				Sn	Sn	22 47 05.8	-3.5
	comp=Z,11nm,0.3s,baz=233,slow=22,SNR=4.4						
SONM	Songino Array	28.02	303	P	P	22 50 47.3	+0.6
	comp=Z,0.6nm,0.7s,mb3.3,baz=97,slow=8.5,SNR=5.7						
SONM	Songino Array	28.02	303	P	P	22 50 47.3	+0.6
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TLY	Talaya	30.45	310	P	P	22 51 08.1	-0.1
MKAR	Makanchi Array	44.38	302	P	P	22 53 06.0	0.0
	comp=Z,0.1nm,0.4s,mb2.9,baz=69,slow=9.9,SNR=3.6						
KURK	Kurchatov	46.09	308	eP	P	22 53 19.4	-0.1
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
KURK	Kurchatov	46.09	308	eP	P	22 53 19.4	-0.1
	comp=Z,0.6nm,0.3s,mb4.0						
WRAB	Tennant Creek	57.82	189	P	P	22 54 47.0	+0.2
WB2	Warramunga Arr	57.83	189	eP	P	22 54 46.3	-0.6
WRA	Warramunga Arr	57.83	189	P	P	22 54 46.1	-0.8
	comp=Z,0.9nm,0.6s,mb4.0,baz=5.0,slow=7.1,SNR=7.4						
WRA	Warramunga Arr	57.83	189	P	P	22 54 46.1	-0.8
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	68.56	332	P	P	22 55 57.9	0.0
	comp=Z,1.0nm,0.9s,mb3.7,baz=34,slow=7.1,SNR=3.3						
FINES	FINESS Array B	68.56	332	P	P	22 55 57.9	0.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						

*NEIC **03** 22:45:39.5±0.6, 3.30S×128.03E, h35^{km}, mb4.3/4, Error ellipse: s-maj=23.2km s-min=10.2km az=70.0*

*ISCJB **03** 22:45:48.2±3.8, 3.6S±0.1×127.9E±0.2, h143^{km}±38^{km}, mb3.9/4, Error ellipse: s-maj=28.6km s-min=14.3km az=112.4*

*IDC **03** 22:45:55.1±6.8, 3.85S×127.94E, h192^{km}±67^{km}, mb3.6/3, mb1 3.7/5, mb1mx3.4/17, mbtmp4.1/5, Error ellipse: s-maj=89.4km s-min=18.8km az=63.0*

ISC 03 22:45:55.1±2.5**, 3.8S**±0.1×**127.9E**±0.2**, h194**^{km}±25^{km}**, n18,** σ**0^{s}66**/19**, mb3.8**/4**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	14.37	189	eP	Pn	22 49 09.0	-0.8
	6.8nm,1.0s						
FITZ	Fitzroy Crossi	14.37	189	P	Pn	22 49 08.9	-0.9
	0.3nm,0.3s,baz=16,slow=11,SNR=11						
WRAB	Tennant Creek	17.21	159	eP	Pn	22 49 44.5	+0.4
	12nm,0.2s						
WRA	Warramunga Arr	17.21	159	P	Pn	22 49 43.0	-1.2
	1.0nm,0.3s,baz=338,slow=11,SNR=78						
WRA				S	S	22 52 51.4	-0.4
	0.1nm,0.3s,baz=342,slow=17,SNR=4.1						
WB2	Warramunga Arr	17.22	159	eP	Pn	22 49 44.3	+0.1
MBWA	Marble Bar	18.98	204	P	P	22 50 02.6	+0.6
AS31	Alice Springs	20.57	164	eP	P	22 50 19.8	+0.9
ASAR	Alice Springs	20.57	164	P	P	22 50 18.6	-0.3
	2.2nm,0.3s,baz=345,slow=12,SNR=33						
ASPA	Alice Springs	20.57	164	eP	P	22 50 19.8	+0.9
CTAO	Charters Tower	24.11	134	P	P	22 50 53.3	+0.2
STKA	Stephens Creek	30.74	157	eP	P	22 51 52.1	+0.1
	1.4nm,0.5s,mb3.9						
STKA	Stephens Creek	30.74	157	P	P	22 51 52.2	+0.2
	1.5nm,0.5s,mb3.9,baz=342,slow=9.0,SNR=6.3						
HNR	Honiara	32.30	102	P	P	22 52 05.7	0.0
MKAR	Makanchi Array	64.43	327	P	P	22 56 11.2	+0.6
	1.0nm,0.5s,mb3.7,baz=114,slow=8.3,SNR=20						
KURK	Kurchatov	68.73	329	eP	P	22 56 38.5	+0.7
	0.9nm,0.4s,mb3.8						
BRVK	Borovoye	74.34	328	P	P	22 57 11.3	-0.1
CHKZ	Chkalovo	74.47	329	P	P	22 57 10.7	-1.5
ZRNK	Zerenda	74.97	328	eP	P	22 57 14.8	-0.2
	1.3nm,0.3s,mb4.0						

*IDC **03** 22:59:57.1±1.9, 35.70N×73.53E, h0^{km}, mb3.7/7, mb1 3.8/11, mb1mx3.7/22, mbtmp3.7/11, ML3.7/3, Error ellipse: s-maj=39.7km s-min=23.2km az=155.0*

*NEIC **03** 22:59:58.4±0.5, 35.65N×73.42E, h10^{km}, mb3.4/3, Error*

ellipse: s-maj=10.0km s-min=7.9km az=53.0
*MOS **03** 22:59:59.0±1.1,3567N×7336E,h29km,mb4.4/5,Error ellipse: s-maj=16.0km s-min=7.8km az=94.7*
*ISCJB **03** 23:00:03.4±0.4,3607N±004×7324E±007,h33km,mb3.8/9, Error ellipse: s-maj=9.3km s-min=3.6km az=128.5*
*NNC **03** 23:00:08.7±9.2,3651N×7246E,h0km,mb3.4,mpv2.8, Error ellipse: s-maj=79.7km s-min=70.3km az=79.0*
ISC 03 23:00:05.2±0.4,3605N±004×7324E±008,h35km,n61, σ1s63/70,mb3.8/9,4C-2D,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	2.39	179	P	Pn	23 00 49.3	+7.5
CEP	Cherat	2.48	207	P	Pn	23 00 49.6	+6.6
THW	Thamme Wali	3.48	201	P	Pn	23 01 03.8	+7.1
SARP	Sargodha	4.14	187	P	Pn	23 01 11.0	+5.0
DLH	Dalhousie	4.17	146	eP	Pn	23 01 13.0	+6.7
DLH				eS	Sn	23 02 00.0	+6.3
PONG	Pong	4.67	150	eP	Pn	23 01 19.0	+5.9
PONG				ex	x	23 02 15.0	
BHK	Bhakra	5.33	149	ex	x	23 02 34.2	
SDNR	Sundarnagar	5.50	145	eP	Pn	23 01 29.5	+4.9
SDNR				eS	Sn	23 02 31.0	+4.4
SMLA	Simla	5.90	145	eP	Pn	23 01 34.4	+4.3
SMLA				eS	Sn	23 02 39.8	+3.3
KLP	Kalpa	6.14	136	eP	Pn	23 01 38.4	+5.0
KLP				eS	Sn	23 02 45.4	+3.0
AAK	Ala-Archa	6.65	8	ePN	Pn	23 01 43.1	+2.8
AAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AAK	Ala-Archa	6.65	8	ePn	Pn	23 01 43.1	+2.7
	comp=Z,3.7nm,0.6s						
AAK				eSn	Sn	23 02 58.9	+4.1
TKM2	Tokmak 2	7.10	14	⇑Pn	Pn	23 01 48.2	+1.6
	comp=Z,0.1nm,0.5s						
TKM2				⇓Sn	Sn	23 03 08.5	+2.5
	comp=Z,0.4nm,0.7s						
KK31	Karatay Array	7.35	344	⇓Pn	Pn	23 01 52.4	+2.4
	comp=Z,0.7nm,0.2s,baz=155,slow=12,SNR=113						
KK31				⇑Sn	Sn	23 03 13.6	+1.5
	comp=Z,2.8nm,0.4s,baz=175,slow=25,SNR=3.8						
NDI	New Delhi	8.08	154	ex	x	23 03 31.0	
KHET	Khetri	8.25	164	eP	Pn	23 02 08.0	+5.7
KHET				eS	Sn	23 03 32.6	-1.6
KHET				AML	AML	23 03 37.6	
	comp=N,16nm,0.5s						
KUDL	Kundal	8.35	160	eP	Pn	23 02 06.4	+2.7
KUDL				eS	Sn	23 03 35.5	-1.3
KUDL				AML	AML	23 03 42.4	
	comp=E,22nm,0.4s						
KUDL				AML	AML	23 03 43.5	
	comp=N,20nm,0.4s						
SONA	Sohna	8.43	156	eP	Pn	23 02 09.2	+4.3
SONA				eS	Sn	23 03 37.9	-0.9
KOLN	Koldanda	12.06	130	eP	Pn	23 02 55.9	+1.4
GKN	Gorkha	12.56	127	eP	Pn	23 02 59.9	-1.4
MKAR	Makanchi Array	12.69	29	Pn	Pn	23 03 03.2	+0.1
	baz=216,slow=8.7,SNR=2.3						
KKN	Kakani	13.12	125	eP	Pn	23 03 06.8	-2.2
DMN	Daman	13.13	127	eP	Pn	23 03 08.4	-0.7
PKI	Pulchoki	13.36	126	eP	Pn	23 03 11.6	-0.6
GUN	Gumba	13.45	124	eP	Pn	23 03 11.5	-1.9
JIRN	Jiri	13.82	124	eP	Pn	23 03 17.3	-1.2
	comp=N,19nm,0.4s						
KURK	Kurchatov	15.16	13	P	Pn	23 03 36.4	-0.3
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	Kurchatov	15.16	13	Pn	Pn	23 03 36.4	-0.3
	comp=Z,2.1nm,0.9s						
LSA	Lhasa	16.32	108	P	Pn	23 03 44.4	-7.2
AB31	Akbulak array	16.39	328	Pn	Pn	23 03 51.5	-1.0
	comp=Z,0.9nm,0.5s,baz=131,slow=15,SNR=23						
AB31				⇑Sn	Sn	23 06 42.4	-11
	comp=Z,0.9nm,0.6s						
BVAR	Borovoye Array	17.09	354	P	Pn	23 04 00.3	-1.0
	comp=Z,0.4nm,0.3s,baz=162,slow=9.0,SNR=7.0						
BRVK	Borovoye	17.13	354	eP	Pn	23 04 02.8	+1.0
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	Borovoye	17.13	354	ePn	Pn	23 04 02.8	+1.0
	comp=Z,1.2nm,0.6s						
ZRNK	Zerenda	17.16	351	eP	Pn	23 04 02.2	0.0
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZRNK	Zerenda	17.16	351	ePn	Pn	23 04 02.2	+0.1
	comp=Z,4.9nm,1.0s						
CHKZ	Chkalovo	17.72	355	eP	Pn	23 04 09.8	+0.7
AKTK	Aktyubinsk	18.10	327	P	Pn	23 04 13.2	-0.6
AKTO	Aktyubinsk	18.10	327	⇑Pn	Pn	23 04 13.0	-0.7
AKTO	Aktyubinsk	18.10	327	P	Pn	23 04 13.2	-0.6
	comp=Z,0.5nm,0.3s,baz=122,slow=13,SNR=10						
AKTO	Aktyubinsk	18.10	327	P	Pn	23 04 13.2	-0.6
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	Zalesovo	19.62	21	P	Pn	23 04 30.6	-1.5
	comp=Z,0.3nm,0.3s,baz=244,slow=9.5,SNR=3.9						
SONM	Songino Array	27.12	54	P	P	23 05 42.2	-2.7
	comp=Z,0.3nm,0.6s,mb3.0,baz=260,slow=8.2,SNR=2.8						
ULN	Ulaanbaatar	27.56	54	P	P	23 05 47.2	-1.6
MALT	Malatya	27.73	285	eP	P	23 05 48.6	-1.7
AKASG	Malin Array Be	34.63	309	P	P	23 06 50.9	-0.2
	comp=Z,0.2nm,0.3s,mb3.5,baz=80,slow=7.6,SNR=4.8						
JOF	Joensuu	37.16	330	ep	P	23 07 13.6	+0.9
	comp=Z,3.1nm,0.4s,mb4.5						
JOF	Joensuu	37.16	330	eP	P	23 07 13.6	+0.9
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.5						
FINES	FINESS Array B	38.87	326	P	P	23 07 27.9	+0.8
	comp=Z,0.7nm,0.3s,mb3.8,baz=119,slow=10,SNR=20						
FINES	FINESS Array B	38.87	326	P	P	23 07 27.9	+0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES	ARCESS Array B	42.25	337	P	P	23 07 56.1	+1.0
	comp=Z,0.6nm,0.4s,mb3.6,baz=113,slow=8.5,SNR=16						
ARCES	ARCESS Array B	42.25	337	P	P	23 07 56.1	+1.1
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	NORSAR Subarra	45.82	323	P	P	23 08 23.9	+0.2
	comp=Z,0.7nm,0.5s,mb3.9,baz=92,slow=7.9						
NOA	NORSAR Array B	45.82	323	P	P	23 08 23.8	+0.1
	comp=Z,0.9nm,0.5s,mb4.0,baz=94,slow=7.6,SNR=7.2						
NOA	NORSAR Array B	45.82	323	P	P	23 08 23.8	+0.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TORD	Torodi Ar. Bea	67.52	270	P	P	23 10 57.1	-0.6
	comp=Z,0.3nm,0.4s,mb3.7,baz=51,slow=6.0,SNR=17						
MBWA	Marble Bar	71.91	135	eP	P	23 11 19.4	-5.4
DBIC	Dimbokro	76.48	268	P	P	23 11 46.3	-5.1
	comp=Z,5.4nm,1.0s,mb4.4,baz=206,slow=8.4,SNR=3.3						
DBIC	Dimbokro	76.48	268	P	P	23 11 46.3	-5.1
DBIC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NWAO	Narrogin (SRO)	80.02	144	P	P	23 12 06.0	-5.0
WRAB	Tennant Creek	80.23	123	P	P	23 12 07.7	-4.4
YKA	Yellowknife Ar	81.59	4	P	P	23 12 16.6	-2.8
	comp=Z,0.9nm,0.8s,mb3.7,baz=314,slow=6.1,SNR=4.2						

CASC 03 23:16:09.2±2.4,1326N×9031W,h20km±12km,MD4.0, 5C-4D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.89	49	⇓iP	x	23 17 11.4	
SBLS				eS	x	23 17 23.7	
RTR	El Retiro	0.91	45	eP	x	23 17 11.8	
RTR				eS	x	23 17 24.9	
SNJE	San Jose	0.92	48	⇓iP	x	23 17 11.8	
SNJE				eS	x	23 17 24.6	
IXG	Ixpaco	0.92	352	⇓eP	Pb	23 16 27.0	+0.5
IXG				eS	Sb	23 16 39.1	+0.7
BOQS	Boqueron	1.11	65	⇑eP	x	23 17 14.3	
BOQS				eS	x	23 17 30.7	
SNET	Serv Nac Est T	1.14	68	⇑eP	x	23 16 28.0	
LFRS	El Faro	1.27	73	⇑iP	x	23 17 16.5	
LFRS				eS	x	23 17 33.8	
SNVI	San Vicente	1.48	76	eP	x	23 17 19.8	
SNVI				eS	x	23 17 40.3	
TP2	Tecpan 2	1.67	336	⇑eP	Pn	23 16 38.6	+1.4
TP2				eS	Sn	23 16 59.1	+1.1
VSM	San Miguel	1.99	85	⇑eP	x	23 17 27.4	
VSM				eS	x	23 17 54.2	
BLLM	Bellamira	2.03	84	⇓eP	x	23 17 27.7	
BLLM				eS	x	23 17 53.4	
CNCH	Conchagua	2.42	89	eP	x	23 17 32.4	
CNCH				eS	x	23 18 02.6	

*ISCJB **03** 23:42:07.6±0.3,4676N±002×026W±002,h4km,Error ellipse: s-maj=2.8km s-min=2.2km az=54.6*
*LDG **03** 23:42:10.2±0.1,4672N×033W,h4km,Md2.6/3,Ml2.3/20, Error ellipse: s-maj=1.4km s-min=0.9km az=34.0*
*STR **03** 23:42:11.6±0.4,4665N×048W,h5km±1km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 03 23:42:08.8±0.3,4673N±002×031W±002,h8km±4km,n32, σ0s82/55,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFF	Saint Martin d	0.17	139	ePg	Pg	23 42 13.9	+1.5
	SNR=1.0						
MFF				eSg	Sg	23 42 16.1	+1.3
	67nm,0.2s						
LCHF	La Chataignera	0.30	258	Pg	Pg	23 42 15.5	+0.7
LCHF				Sg	Sg	23 42 19.0	+0.1
CHIF	Chize	0.60	187	Pg	Pg	23 42 21.9	+1.5
CHIF				Sg	Sg	23 42 28.8	+0.5
LRYF	La Roche-sur-Y	0.87	260	Pg	Pg	23 42 25.5	0.0
LRYF				Sg	Sg	23 42 35.9	-0.8
GRR	Gorron	1.70	348	ePn	Pn	23 42 39.5	+0.8
	SNR=1.0						
GRR				eSg	Sg	23 43 03.9	+0.5
	4.5nm,0.2s						
TCF	Toulx Ste Croi	1.80	103	ePg	Pg	23 42 43.5	+0.3
	SNR=1.0						
TCF				eSg	Sg	23 43 07.1	+0.6
	4.9nm,0.2s,SNR=1.0						
LDF	La Druitiere	1.87	4	ePn	Pn	23 42 41.7	+0.7
	SNR=1.0						
LDF	La Druitiere	1.87	4	ePg	Pg	23 42 45.1	+0.5
LDF				eSg	Sg	23 43 09.2	+0.4
	5.5nm,0.2s,SNR=1.0						
RJF	Les Rejaudoux	1.91	138	ePg	Pg	23 42 45.9	+0.4
	SNR=1.0						
RJF				eSg	Sg	23 43 10.3	0.0
	7.6nm,0.2s,SNR=1.0						
LFF	La Frestale	1.94	157	ePg	Pg	23 42 46.2	+0.3
	SNR=1.0						
LFF				eSg	Sg	23 43 11.0	-0.1
	3.1nm,0.2s						
FLN	La Foliniere	2.04	357	ePn	Pn	23 42 44.0	+0.7
FLN	La Foliniere	2.04	357	ePg	Pg	23 42 47.9	+0.1
	baz=174						
FLN				eSg	Sg	23 43 13.8	-0.4
	3.9nm,0.2s,baz=178,SNR=1.0						
HYF	Humbligny	2.09	74	ePn	Pn	23 42 44.5	+0.4
HYF	Humbligny	2.09	74	ePg	Pg	23 42 49.2	+0.4
HYF				eSg	Sg	23 43 16.1	+0.2
	11nm,0.3s						
SGMF	Saint Gilles	2.15	316	ePn	Pn	23 42 45.4	+0.4
SGMF	Saint Gilles	2.15	316	ePg	Pg	23 42 49.7	-0.4
SGMF				eSg	Sg	23 43 17.1	-0.9
	2.3nm,0.3s,SNR=1.0						
BGF	Bois d'Agland	2.18	93	ePn	Pn	23 42 46.3	+1.0
	SNR=1.0						
BGF	Bois d'Agland	2.18	93	ePg	Pg	23 42 51.0	+0.4
BGF				eSg	Sg	23 43 18.7	-0.2
	7.1nm,0.3s,SNR=1.0						
QUIF	Quistinic	2.28	302	ePn	Pn	23 42 46.9	+0.2
QUIF	Quistinic	2.28	302	ePg	Pg	23 42 52.5	+0.1
	SNR=1.0						
QUIF				eSg	Sg	23 43 19.9	-2.0
	2.3nm,0.2s,SNR=1.0						
CAF	Calviac	2.45	137	ePn	Pn	23 42 49.7	+0.6
	SNR=1.0						
CAF	Calviac	2.45	137	ePg	Pg	23 42 56.0	+0.2
CAF				eSg	Sg	23 43 26.7	-0.9
	2.0nm,0.2s,SNR=1.0						
AVF	Avril sur Loir	2.52	87	ePn	Pn	23 42 51.0	+1.0
	SNR=1.0						
AVF				eSg	Sg	23 43 29.8	+0.1
	0.8nm,0.2s,SNR=1.0						
ROSF	Rostrenen	2.57	310	ePn	Pn	23 42 51.4	+0.7
	SNR=1.0						
ROSF	Rostrenen	2.57	310	ePg	Pg	23 42 58.0	-0.1
ROSF				eSg	Sg	23 43 29.6	-1.8
	2.8nm,0.4s,SNR=1.0						
SSF	Saint Saulge	2.64	81	ePg	Pg	23 42 59.1	-0.2
	SNR=1.0						
SSF				eSn	Sn	23 43 22.2	-1.6
	SNR=1.0						
SSF				eSg	Sg	23 43 33.8	+0.3
	1.6nm,0.4s,SNR=1.0						
SMF	Signal de Mont	2.86	90	ePg	Pg	23 43 03.5	-0.1
	SNR=1.0						
SMF				eSn	Sn	23 43 27.8	-1.4
	SNR=1.0						
SMF				eSg	Sg	23 43 40.3	-0.3
	2.1nm,0.4s,SNR=1.0						
LOR	Lormes	2.90	78	ePg	Pg	23 43 04.6	+0.2
	baz=260,SNR=1.0						
LOR				eSg	Sg	23 43 40.8	-1.2
	2.0nm,0.4s,baz=260,SNR=1.0						
EPF	Esparros	3.73	173	eSg	Sg	23 44 07.3	-1.3
	0.9nm,0.3s						
MTLF	Montolieu	3.83	151	ePn	Pn	23 43 08.6	+0.5
	SNR=1.0						
MTLF				eSg	Sg	23 44 10.6	-1.4
	1.1nm,0.4s						
LASF	Ste Croix	3.96	131	eSg	Sg	23 44 14.2	-1.7
	1.7nm,0.4s						
VIVF	Saint-Julien-l	3.96	116	eSg	Sg	23 44 14.5	-1.4
	1.3nm,0.3s						

*ISCJB **03** 23:55:33.5±0.4,981N±007×10825E±009,h10km, mb4.0/18,MS4.0/17,Error ellipse: s-maj=14.3km s-min=8.5km az=127.1*
*IDC **03** 23:55:33.3±0.9,977N×10824E,h0km,mb3.8/10, mb1 4.0/10,mb1mx3.9/18,mbtmp3.8/10,MS3.9/16, Ms1 3.9/16,ms1mx3.8/21,Error ellipse: s-maj=76.3km s-min=18.3km az=59.0*
*BJI **03** 23:55:39.0,990N×10840E,h45km,mB4.6,mb4.1,Ms4.5, Msz4.1*
*NEIC **03** 23:55:41.0±1.6,987N×10839E,h55km±16km,mb4.3/6, Error ellipse: s-maj=18.1km s-min=7.4km az=64.0*
ISC 03 23:55:35.3±0.5,981N±007×10827E±009,h10km,n38, σ0s85/30,mb4.0/18,MS4.0/17,South China Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UBT	Ubonrachathani	6.26	330	PN	Pn	23 57 04.5	-3.2
UBT				PG	Pg	23 58 04.0	+29
UBT				SG	Sg	23 58 49.1	-7.3
SNG	Songkhla	8.01	252	P	Pn	23 57 31.5	-0.2
KSM	Kuching	8.53	166	ePn	Pn	23 57 42.8	+4.0
NNT	Nongplab	8.82	289	P	Pn	23 57 50.0	+7.2
CHRT	Chiangrai	12.93	322	P	Pn	23 58 45.0	+5.9
	316nm,1.3s						
NACB	Ninganchiao	19.12	40	P	Pn	23 59 58.4	-0.8
CD2	Chengdu	21.41	349	eP	P	00 00 26.6	+3.4
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
JOW	Kunigami	25.38	46	LR	LR	00 09 29.4	
	comp=Z,280nm,21.6s,MS3.7,baz=144,slow=33						
LSA	Lhasa	25.45	323	eP	P	00 01 03.2	-0.1
	comp=Z,3.7nm,0.4s,mb4.3						
GTA	Gaotai	30.43	347	eP	P	00 01 48.9	+1.1
GTA				AP	pP	00 01 56.0	+5.1
GTA				S	S	00 06 52.8	+4.2
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.1						
GTA				AMB	AMB		
	comp=Z,64nm,5.7s						
GTA				LR	LR		
	comp=N,515nm,17.9s,MS4.5						
GTA				LR	LR		
	comp=E,717nm,14.8s,MS4.5						
GTA				LR	LR		
	comp=Z,409nm,15.6s,MS4.2						
FITZ	Fitzroy Crossi	32.61	148	LR	LR	00 15 38.9	
	comp=Z,72nm,22.0s,MS3.3,baz=222,slow=37						
SONM	Songino Array	37.93	358	P	P	00 02 53.1	+0.3
	comp=Z,4.3nm,1.3s,mb4.0,baz=179,slow=9.1,SNR=7.3						
SONM				LR	LR	00 20 33.6	
	comp=Z,420nm,18.1s,MS4.3,baz=169,slow=40						
ULN	Ulaanbaatar	37.94	359	eP	P	00 02 53.5	+0.5
	comp=Z,1.4nm,0.8s,mb3.7						
MJAR	Matsushiro Arr	37.99	41	LR	LR	00 19 01.2	
	comp=Z,101nm,20.8s,MS3.6,baz=265,slow=37						
WRA	Warramunga Arr	39.15	139	P	P	00 03 02.4	-0.7
	comp=Z,0.6nm,0.3s,mb3.7,baz=322,slow=9.5,SNR=5.1						
WRAB	Tennant Creek	39.16	139	P	P	00 03 04.7	+1.6
WB2	Warramunga Arr	39.16	139	eP	P	00 03 03.0	-0.2
ASAR	Alice Springs	41.66	143	P	P	00 03 23.9	+0.1
	comp=Z,0.6nm,0.5s,mb3.5,baz=327,slow=8.5,SNR=7.4						
ASAR				LR	LR	00 20 55.5	
	comp=Z,96nm,21.0s,MS3.6,baz=65,slow=37						
MKAR	Makanchi Array	42.97	334	P	P	00 03 34.3	-0.2
	comp=Z,1.4nm,0.9s,mb3.7,baz=128,slow=7.9,SNR=13						
MKAR				PcP	PcP	00 05 24.8	-0.1
	comp=Z,0.8nm,0.8s,baz=132,slow=5.1,SNR=4.2						
KURK	Kurchatov	47.53	335	eP	P	00 04 11.0	+0.2
	comp=Z,5.3nm,1.0s,mb4.5						
ZAL	Zalesovo	47.85	341	P	P	00 04 11.9	-1.4
	comp=Z,1.6nm,0.7s,mb4.2,baz=324,slow=2.2,SNR=8.1						
ZAL				LR	LR	00 25 51.9	
	comp=Z,132nm,18.2s,MS4.0,baz=70,slow=38						
STKA	Stephens Creek	52.29	144	LR	LR	00 29 21.0	
	comp=Z,82nm,19.4s,MS3.8,baz=202,slow=39						
STKA	Stephens Creek	52.29	144	eP	P	00 04 45.9	-1.1
BVAR	Borovoye Array	52.78	332	P	P	00 04 50.5	-0.1
	comp=Z,0.9nm,0.8s,mb3.7,baz=125,slow=12,SNR=3.7						
CHKZ	Chkalovo	53.11	333	eP	P	00 04 53.0	+0.1
	comp=Z,3.3nm,1.3s,mb4.1						
ZRNK	Zerenda	53.38	332	eP	P	00 04 54.9	-0.1
	comp=Z,5.4nm,1.4s,mb4.3						
KMBO	Kilima Mbogo	71.50	266	LR	LR	00 37 47.0	
	comp=Z,127nm,18.1s,MS4.2,baz=94,slow=36						
AKASG	Malin Array Be	75.54	320	P	P	00 07 19.4	-0.5
	comp=Z,1.4nm,0.8s,mb4.0,baz=82,slow=4.9,SNR=8.6						
AKASG				LR	LR	00 44 04.8	
	comp=Z,62nm,18.4s,MS4.0,baz=55,slow=38						
FINES	FINESS Array B	77.71	331	P	P	00 07 32.5	+0.2
	comp=Z,0.7nm,0.7s,mb3.7,baz=130,slow=13,SNR=3.9						
FINES				LR	LR	00 45 58.6	
	comp=Z,77nm,18.8s,MS4.0,baz=112,slow=39						
ARCES	ARCESS Array B	78.34	339	LR	LR	00 46 14.0	
	comp=Z,114nm,18.3s,MS4.2,baz=206,slow=39						
MAW	Mawson	83.75	196	LR	LR	00 40 25.4	
	comp=Z,101nm,19.4s,MS4.2,baz=58,slow=32						
NOA	NORSAR Array B	84.89	331	P	P	00 08 10.6	+0.2
	comp=Z,0.9nm,0.9s,mb3.9,baz=80,slow=5.0,SNR=2.8						
NOA				LR	LR	00 51 20.9	
	comp=Z,60nm,19.5s,MS4.0,baz=60,slow=39						
BRG	Berggiesshubel	85.19	321	e(P)	P	00 08 13.1	+1.2
	comp=Z,2.2nm,1.1s,mb4.2						
GERES	GERESS Array B	85.68	319	P	P	00 08 14.2	-0.1
	comp=Z,0.9nm,0.9s,mb4.0,baz=108,slow=4.3,SNR=5.5						
GERES				LR	LR	00 54 14.4	
	comp=Z,62nm,18.3s,MS4.0,baz=91,slow=41						
GERES	GERESS Array B	85.68	319	P	P	00 08 14.2	-0.1
GERES				LR	LR	00 54 14.4	
BOSA	Boshof	88.58	241	LR	LR	00 47 10.6	
	comp=Z,115nm,19.8s,MS4.3,baz=13,slow=35						
VNDA	Vanda	92.18	170	LR	LR	00 48 31.2	
	comp=Z,67nm,20.9s,MS4.1,baz=298,slow=34						
PMSA	Palmer Station	124.86	184	ePKPdf	PKPdf	00 14 35.0	-0.4

*IDC **04** 00:03:38.9±2.5,8.18S×11034E,h0km,mb3.9/4,mb1 4.0/4, mb1mx3.7/16,mbtmp3.9/4,Error ellipse: s-maj=149.0km s-min=22.9km az=50.0*
*ISCJB **04** 00:03:41.7±0.9,82S±01×1103E±02,h33km,mb3.8/5, Error ellipse: s-maj=30.9km s-min=11.1km az=118.2*
*NEIC **04** 00:03:44.1±0.8,8.13S×11039E,h35km,mb3.7/1,Error ellipse: s-maj=27.1km s-min=9.8km az=59.0*
ISC 04 00:03:44.1±0.9,81S±01×1104E±02,h35km,n12,σ0s81/12, mb3.8/5,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	15.26	23	P	Pn	00 07 16.5	-0.3
MBWA	Marble Bar	15.80	146	P	Pn	00 07 22.9	-1.0
WRA	Warramunga Arr	26.02	119	P	P	00 09 12.8	-1.0
	0.6nm,0.5s,mb3.4,baz=291,slow=11,SNR=3.9						
WRAB	Tennant Creek	26.03	119	eP	P	00 09 15.7	+1.9
	0.9nm,0.4s,mb3.6						
WB2	Warramunga Arr	26.03	119	P	P	00 09 13.5	-0.4
ASAR	Alice Springs	27.34	127	P	P	00 09 25.9	+0.2
	1.1nm,0.6s,mb3.6,baz=300,slow=8.3,SNR=12						
STKA	Stephens Creek	37.43	133	P	P	00 10 54.6	+0.7
	1.0nm,0.3s,mb4.1,baz=323,slow=10,SNR=5.0						
STKA	Stephens Creek	37.43	133	P	P	00 10 54.9	+1.0
MKAR	Makanchi Array	60.13	338	P	P	00 13 48.3	+0.3
	0.9nm,0.3s,mb4.2,baz=151,slow=6.4,SNR=20						
KURK	Kurchatov	64.74	338	P	P	00 14 19.4	+0.6
CHKZ	Chkalovo	70.13	336	eP	P	00 14 52.3	-0.6
ZRNK	Zerenda	70.26	335	P	P	00 14 53.3	-0.4

IDC 04 00:22:11.0±1.1,030S×12340E,h0km,mb3.6/4,mb1 3.8/4, mb1mx3.7/16,mbtmp3.6/4,Error ellipse: s-maj=178.6km s-min=21.0km az=65.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.26	152	P	P	00 27 11.3	+1.8
	2.3nm,0.9s,baz=329,slow=12,SNR=9.6						
ASAR	Alice Springs	25.36	157	P	P	00 27 39.7	-0.1
	0.6nm,0.7s,baz=350,slow=14,SNR=4.5						
ASAR				PcP	PcP	00 31 11.1	-1.3
	0.5nm,0.5s,baz=350,slow=2.6,SNR=5.3						
SONM	Songino Array	50.18	345	P	P	00 31 08.7	+0.3
	0.4nm,0.5s,baz=150,slow=6.7,SNR=3.3						
MKAR	Makanchi Array	59.08	328	P	P	00 32 13.4	+0.4
	0.4nm,0.3s,baz=120,slow=8.5,SNR=11						

WEL 04 00:32:32.4±0.1,4072S×17550E,h30km±1km,ML3.6/39, 6C-2D,Error ellipse: s-maj=1.2km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRZ	Mangatainoka R	0.08	46	⇓P*	Pb	00 32 37.2	-0.4
MRZ				S*	Sb	00 32 41.1	-0.1
TIWZ	Tintock	0.30	102	⇑P*	Pb	00 32 40.0	+0.1
TIWZ				S*	Sb	00 32 46.2	+1.4
MTW	Mount Morrison	0.44	180	⇑P*	Pb	00 32 42.4	+0.5
KIW	Kapiti Island	0.47	252	⇑P*	Pb	00 32 42.3	-0.1
KIW				S*	Sb	00 32 49.5	+0.3
CAW	Cannon Point	0.51	220	⇑P*	Pb	00 32 43.2	+0.2
BFZ	Birch Farm	0.57	87	⇑P*	Pb	00 32 43.6	-0.3
BFZ				S*	Sb	00 32 52.8	+1.0
PAWZ	Paruwai Farm	0.67	185	P*	Pb	00 32 45.4	-0.2
PAWZ				S*	Sb	00 32 55.8	+1.3
TRWZ	Traveller	0.69	168	P*	Pb	00 32 46.4	+0.3
TRWZ				S*	Sb	00 32 56.5	+1.2
MSWZ	Moikau Station	0.72	195	P*	Pb	00 32 46.1	-0.4
MSWZ				S*	Sb	00 32 56.9	+0.8
TSZ	Takapari Road	0.74	28	P*	Pb	00 32 45.2	-1.7
TSZ				S*	Sb	00 32 55.3	-1.4
MRW	Makara Radio	0.80	230	P*	Pb	00 32 47.3	-0.4
MRW				S*	Sb	00 32 58.8	+0.6
WEL	Wellington	0.80	224	P*	Pb	00 32 47.4	-0.3
BHW	Baring Head	0.84	215	P*	Pb	00 32 47.7	-0.8
SNZO	South Karori	0.84	225	P*	Pb	00 32 48.0	-0.6
SNZO				S*	Sb	00 33 00.1	+0.5
WAZ	Wanganui	1.04	337	⇑PN	Pn	00 32 50.8	-0.2
WAZ				SN	Sn	00 33 04.9	+0.4
TCW	Tory Channel	1.05	242	P*	Pb	00 32 50.6	-1.5
DUWZ	D'Urville Isla	1.21	265	P*	Pb	00 32 52.4	-2.2
DUWZ				S*	Sb	00 33 07.9	-1.9
PXZ	Pawanui	1.24	57	P*	Pb	00 32 51.9	-3.3
PXZ				S*	Sb	00 33 08.5	-2.4
MOVZ	Moawhango	1.32	8	PN	Pn	00 32 54.1	-0.7
MOVZ				SN	Sn	00 33 10.2	-1.2
MTVZ	Mangateitei	1.33	359	PN	Pn	00 32 54.7	-0.2
TUWZ	Tuamarina	1.38	238	⇓PN	Pn	00 32 54.6	-1.0
WNVZ	Wahianoa	1.39	3	PN	Pn	00 32 55.4	-0.3
TRVZ	Turoa	1.42	1	PN	Pn	00 32 56.0	-0.1
PKVZ	Pokaka	1.43	355	PN	Pn	00 32 56.1	-0.2
DRZ	Dome Shelter	1.44	2	PN	Pn	00 32 56.4	-0.1
TUVZ	Tukino	1.45	5	PN	Pn	00 32 56.5	-0.1
FWVZ	Far West T-bar	1.46	1	PN	Pn	00 32 56.5	-0.3
WPVZ	Whakapapa	1.51	1	PN	Pn	00 32 57.4	0.0
NGZ	Ngauruhoe	1.54	3	PN	Pn	00 32 57.9	+0.1
OTVZ	Oturere	1.56	5	PN	Pn	00 32 57.9	-0.1
BSWZ	Blackbirch Sta	1.58	230	PN	Pn	00 32 57.4	-1.0
WTVZ	West Tongariro	1.60	2	PN	Pn	00 32 58.9	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVZ	Karewarewa	1.62	4	PN	Pn	00 32 58.9	-0.1
TWVZ	Taurewa	1.65	358	PN	Pn	00 32 58.9	-0.4
RAEZ	Rainy Point	1.66	329	PN	Pn	00 33 00.0	+0.5
NNZ	Nelson	1.68	252	PN	Pn	00 32 59.1	-0.7
VRZ	Vera Road	1.69	340	PN	Pn	00 32 59.7	-0.2
BKZ	Black Stump Fm	1.73	26	PN	Pn	00 32 58.4	-2.0
KATZ	Kakaramea	1.75	5	PN	Pn	00 33 00.9	+0.2
NEZ	North Egmont	1.81	323	PN	Pn	00 33 02.2	+0.7

*IDC **04** 00:40:54.5±1.1, 3774N×7260E, h0^{km}, mb3.7/7, mb1 3.9/11, mb1mx3.7/23, mbtmp3.8/11, ML3.8/4, Error ellipse: s-maj=19.9km s-min=18.7km az=54.0*
*ISCJB **04** 00:40:56.3±0.5, 3772N±003×7230E±009, h33^{km}, mb3.7/12, Error ellipse: s-maj=10.3km s-min=3.3km az=143.1*
*NNC **04** 00:40:57.6±3.4, 3794N×7147E, h0^{km}, mb4.0, mpv3.9, Error ellipse: s-maj=33.1km s-min=21.9km az=41.0*
*MOS **04** 00:40:58.9±1.4, 3804N×7279E, h33^{km}, mb4.0/6, Error ellipse: s-maj=17.6km s-min=7.7km az=93.4*
*NEIC **04** 00:40:59.9±0.6, 3797N×7266E, h35^{km}, mb3.8/4, Error ellipse: s-maj=13.3km s-min=8.5km az=59.0*
*BJI **04** 00:41:01.1, 3808N×7271E, h30^{km}, mb3.9, ML4.0*
ISC 04 00:40:58.8±0.5, **3777N**±003×**7217E**±009, **h35**^{km}, **n74**, σ**1^{s}47**/84, **mb3.7**/12, **7C-5D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UCH	Uchtor	4.81	21	P	Pn	00 42 10.0	+1.3
	SNR=26						
KZA	Kyzart	4.92	28	P	Pn	00 42 11.0	+0.9
	SNR=13						
EKS2	Erkin-Say	5.04	14	P	Pn	00 42 13.8	+1.9
	SNR=15						
AAK	Ala-Archa	5.18	19	P	Pn	00 42 15.5	+1.8
	SNR=8.8						
AAK	Ala-Archa	5.18	19	ePn	Pn	00 42 11.5	-2.3
FRU	Bishkek	5.40	20	ePN	Pn	00 42 24.0	+7.2
FRU				i		00 42 31.0	
FRU				i S	Sn	00 43 43.0	+25
FRU				smax			
	comp=E,280nm,1.6s						
ULHL	Ulahol	5.46	34	P		00 42 30.8	
	SNR=5.8						
KK31	Karatay Array	5.48	347	Pn	Pn	00 42 20.1	+2.3
	comp=E,9.6nm,0.4s,baz=153,slow=11,SNR=206						
KK31				⇓Lg		00 43 42.0	
	comp=E,49nm,0.7s,baz=169,slow=31,SNR=3.9						
USP	Ospenovka	5.78	17	P	Pn	00 42 22.8	+0.8
	SNR=11						
TKM2	Tokmak 2	5.78	26	P	Pn	00 42 22.9	+1.0
	SNR=12						
TKM2	Tokmak 2	5.78	26	⇓Pn	Pn	00 42 22.9	+0.9
	comp=E,0.8nm,0.6s						
TKM2				⇑Sn	Sn	00 43 37.0	+10
DLH	Dalhousie	6.07	148	eP	Pn	00 42 30.0	+4.0
DLH				eS	Sn	00 43 38.0	+3.8
KNDC	Almaty	6.56	32	⇓Pn	Pn	00 42 41.4	+8.7
	comp=E,43nm,0.6s						
KNDC				⇑Sn	Sn	00 44 03.5	+17
	comp=E,206nm,1.3s						
SDNR	Sundarnagar	7.40	146	ex	x	00 42 52.0	
SDNR				eS	Sn	00 44 06.4	-0.5
KLP	Kalpa	7.98	139	eP	Pn	00 42 53.7	+1.5
KLP				eS	Sn	00 44 21.4	+0.1
KLP				AML	AML	00 44 37.6	
	comp=E,113nm,0.9s						
KLP				AML	AML	00 44 39.0	
	comp=N,149nm,1.0s						
NDI	New Delhi	9.99	154	eP	Pn	00 43 25.0	+5.2
NDI				eS	Sn	00 45 10.0	-0.7
KHET	Khetri	10.14	161	eS	Sn	00 45 15.1	+1.0
KHET				AML	AML	00 45 26.7	
	comp=N,9.4nm,0.4s						
KUDL	Kundal	10.26	158	⇑eS	Sn	00 45 16.7	-0.5
KUDL				eS	Sn	00 45 18.3	+1.2
KUDL				AML	AML	00 45 26.4	
	comp=E,13nm,0.7s						
KUDL				AML	AML	00 45 26.5	
	comp=N,8.6nm,0.4s						
SONA	Sohna	10.35	155	eS	Sn	00 45 17.8	-1.5
SONA				AML	AML	00 45 34.1	
	comp=N,50nm,0.3s						
SONA				AML	AML	00 45 36.1	
	comp=E,24nm,0.2s						
MK02	Makanchi Array	11.71	37	⇑Pn	Pn	00 43 43.0	-0.3
	comp=E,3.1nm,0.9s						
MKAR	Makanchi Array	11.72	36	Pn	Pn	00 43 43.7	+0.3
	comp=E,0.2nm,0.3s,baz=225,slow=15,SNR=9.5						
MKAR				Lg		00 46 58.1	
	comp=E,0.1nm,0.3s,baz=203,slow=25,SNR=8.9						
KURK	Kurchatov	13.74	18	eP	Pn	00 44 06.9	-4.1
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURK	Kurchatov	13.74	18	ePn	Pn	00 44 06.9	-4.1
	comp=Z,4.2nm,0.9s						
KOLN	Koldanda	13.84	133	eP	Pn	00 44 09.0	-3.4
	comp=Z,11nm,0.3s						
GKN	Gorkha	14.29	129	eP	Pn	00 44 13.5	-5.0
	comp=Z,30nm,0.5s						
AB31	Akbulak array	14.49	326	Pn	Pn	00 44 20.1	-1.2
	comp=Z,2.4nm,0.5s,baz=134,slow=13,SNR=34						
AB31				Sn	Sn	00 46 53.4	-7.1
	comp=Z,8.0nm,0.7s,baz=131,slow=22,SNR=20						
KKN	Kakani	14.84	128	eP	Pn	00 44 20.4	-5.6
	comp=Z,16nm,0.5s						
DMN	Daman	14.86	129	eP	Pn	00 44 21.3	-5.0
	comp=Z,15nm,0.4s						
VOSK	Vostochnaya	14.98	357	⇓Pn	Pn	00 44 23.6	-4.2
	comp=Z,2.1nm,0.7s						
PKI	Pulchoki	15.07	129	eP	Pn	00 44 24.4	-4.7
	comp=Z,24nm,0.5s						
GUN	Gumba	15.13	127	eP	Pn	00 44 23.8	-6.0
	comp=Z,17nm,0.4s						
BVA0	Borovoye Array	15.31	356	Pn	Pn	00 44 30.3	-1.9
	comp=Z,1.2nm,1.2s,baz=166,slow=14,SNR=13						
BVAR	Borovoye Array	15.31	356	Pn	Pn	00 44 30.5	-1.7
	comp=Z,0.3nm,0.3s,baz=161,slow=13,SNR=13						
BVAR				Lg		00 49 03.8	
	comp=Z,0.1nm,0.3s,baz=173,slow=25,SNR=2.6						
ZRNK	Zerenda	15.35	353	⇑Pn	Pn	00 44 34.0	+1.4
	comp=Z,3.6nm,0.7s						
ZRNK	Zerenda	15.35	353	eP	Pn	00 44 31.4	-1.2
ZRNK				e		00 47 26.5	
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ZRNK	Zerenda	15.35	353	ePn	Pn	00 44 31.4	-1.2
	comp=Z,5.2nm,0.6s						
ZRNK				eSn	Sn	00 47 26.5	+5.1
BRVK	Borovoye	15.35	356	eP	Pn	00 44 32.1	-0.6
BRVK				pmax	pmax		
	comp=Z,427nm,3.4s						
BRVK	Borovoye	15.35	356	ePn	Pn	00 44 32.0	-0.6
	comp=Z,427nm,3.4s						
JIRN	Jiri	15.50	126	eP	Pn	00 44 29.1	-5.6
	comp=Z,30nm,0.5s						
CHKZ	Chkalovo	15.95	357	⇑Pn	Pn	00 44 37.4	-3.0
	comp=Z,4.4nm,1.6s						
CHKZ	Chkalovo	15.95	357	eP	Pn	00 44 37.7	-2.7
CHKZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CHKZ	Chkalovo	15.95	357	ePn	Pn	00 44 37.7	-2.7
	comp=Z,3.7nm,1.0s						
AKTK	Aktyubinsk	16.20	326	Pn	Pn	00 44 43.6	-0.1
AKTK				Sn	Sn	00 47 37.0	-5.2
AKTO	Aktyubinsk	16.20	326	⇑Pn	Pn	00 44 40.9	-2.8
	comp=Z,0.2nm,0.8s						
AKTO				⇓Sn	Sn	00 47 35.6	-6.7
	comp=Z,0.1nm,0.7s						
AKTO	Aktyubinsk	16.20	326	Pn	Pn	00 44 43.6	-0.1
	comp=Z,0.2nm,0.3s,baz=162,slow=6.4,SNR=2.4						
AKTO				Sn	Sn	00 47 37.0	-5.2
	comp=Z,0.2nm,0.3s,baz=343,slow=19,SNR=5.5						
LSA	Lhasa	17.70	111	P	Pn	00 44 59.1	-3.3
ZAL	Zalesovo	18.36	24	P	Pn	00 45 07.8	-2.7
	comp=Z,1.5nm,0.3s,baz=246,slow=4.8,SNR=10						
ZAL	Zalesovo	18.36	24	P	Pn	00 45 07.8	-2.8
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL	Zalesovo	18.36	24	P	Pn	00 45 07.8	-2.7
NVS	Novosibirsk	18.67	20	eP	Pn	00 45 10.9	-3.4
NVS				e		00 48 34.3	
NVS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.7s						
NVS				smax			
	comp=N,8.0nm,1.6s						
NVS				smax			
	comp=E,34nm,2.3s						
GTA	Gaotai	21.64	77	eP	P	00 45 48.3	+2.3
GTA				AP		00 45 53.7	
GTA				XP	sP	00 45 57.0	-2.8
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.0						
SONM	Songino Array	26.86	57	P	P	00 46 33.9	-2.1
	comp=Z,0.4nm,0.7s,mb3.1,baz=267,slow=8.6,SNR=3.6						
ULN	Ulaanbaatar	27.30	57	eP	P	00 46 38.1	-1.9
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
ULN	Ulaanbaatar	27.30	57	eP	P	00 46 38.1	-1.9
	comp=Z,0.7nm,0.4s,mb3.5						
AKASG	Malin Array Be	32.90	307	P	P	00 47 36.1	+6.6
	comp=Z,0.3nm,0.3s,mb3.7,baz=82,slow=6.5,SNR=4.6						
JOF	Joensuu	35.26	329	ep	P	00 47 55.3	+5.3
	comp=Z,0.8nm,0.4s,mb4.0						
JOF	Joensuu	35.26	329	eP	P	00 47 55.3	+5.3
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	FINESS Array B	36.97	325	P	P	00 48 07.7	+3.0
	comp=Z,0.7nm,0.5s,mb3.7,baz=121,slow=9.6,SNR=7.6						
FINES	FINESS Array B	36.97	325	P	P	00 48 07.7	+3.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	ARCESS Array B	40.34	337	P	P	00 48 33.7	+0.7
	comp=Z,0.5nm,0.5s,mb3.5,baz=111,slow=7.9,SNR=9.7						
ARCES	ARCESS Array B	40.34	337	P	P	00 48 33.7	+0.8
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	ARCESS Array B	40.34	337	P	P	00 48 33.7	+0.7
NB2	NORSAR Subarra	43.94	322	P	P	00 49 04.2	+1.9
	comp=Z,0.6nm,0.7s,mb3.4,baz=89,slow=7.9						
NOA	NORSAR Array B	43.94	322	P	P	00 49 04.6	+2.3
	comp=Z,0.4nm,0.5s,mb3.4,baz=111,slow=7.6,SNR=4.0						
NOA	NORSAR Array B	43.94	322	P	P	00 49 04.6	+2.3
TORD	Torodi Ar. Bea	66.68	269	P	P	00 51 49.9	+3.9
	comp=Z,0.7nm,0.6s,mb3.8,baz=47,slow=5.7,SNR=12						
TORD	Torodi Ar. Bea	66.68	269	P	P	00 51 49.9	+3.9
YKA	Yellowknife Ar	79.94	3	P	P	00 53 04.6	+0.5
	comp=Z,0.2nm,0.5s,mb3.3,baz=349,slow=5.3,SNR=4.0						
YKA	Yellowknife Ar	79.94	3	P	P	00 53 04.6	+0.5
WRA	Warramunga Arr	81.88	123	P	P	00 53 14.2	-0.3
	comp=Z,0.9nm,0.7s,mb3.8,baz=328,slow=5.0,SNR=3.5						
WRA	Warramunga Arr	81.88	123	P	P	00 53 14.2	-0.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRAB	Tennant Creek	81.88	123	eP	P	00 53 15.1	+0.6
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
WRAB	Tennant Creek	81.88	123	eP	P	00 53 15.1	+0.6
	comp=Z,0.9nm,0.5s,mb4.0						
WB2	Warramunga Arr	81.89	123	P	P	00 53 14.9	+0.3

BJI 04 00:45:28.2, 3994N×**11582E, h15**^{km}**, ML3.5, Northeastern China**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HHC	Hu-ho-hao-te	3.38	287	ePG	Pg	00 46 26.9	-6.0
HHC				SG	Sg	00 47 09.5	-7.1
HHC				Smax			
	comp=N,99nm,0.4s						
HHC				Smax			
	comp=E,249nm,0.6s						
TIA	Tai'an	3.86	164	P	Pn	00 46 27.6	+0.6
TIA				PG	Pg	00 46 35.7	-6.5
TIA				S	Sn	00 47 13.2	+1.1
TIA				SG	Sg	00 47 29.9	-2.3
TIA				Smax			
	comp=N,47nm,0.6s						
TIA				Smax			
	comp=E,70nm,0.6s						
BTO	Baotou	4.49	280	ePG	Pg	00 46 48.6	-5.5
BTO				SG	Sg	00 47 42.8	-9.4
DL2	Dalian	4.62	101	ePG	Pg	00 46 51.0	-5.6
DL2				SG	Sg	00 47 52.0	-4.4
DL2				Smax			
	comp=N,30nm,0.6s						
DL2				Smax			
	comp=E,20nm,0.6s						

*NDI **04** 01:07:52.5±38.0, 3491N×7347E, h15^{km}±999^{km}, MD3.9, ML3.8*
*ISCJB **04** 01:07:53.6±0.9, 3531N±009×747E±02, h10^{km}, Error ellipse: s-maj=26.4km s-min=5.5km az=128.4*
ISC 04 01:07:55.8±1.0, **3517N**±010×**744E**±02, **h10**^{km}, **n10**, σ**0^{s}89**/15, **Northwestern Kashmir**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	2.92	154	eP	Pn	01 08 42.0	-0.2
DLH				eS	Sn	01 09 18.0	+0.7
SDNR	Sundarnagar	4.24	149	eP	Pn	01 09 00.0	-0.3
SDNR				eS	Sn	01 09 50.0	+0.2
SMLA	Simla	4.64	150	eP	Sn	01 09 58.0	-1.8
SMLA				eS	Sb	01 10 17.4	+4.2
	355nm,0.3s						
KLP	Kalpa	4.83	138	eP	Pn	01 09 09.2	+0.6
KLP				eS	Sn	01 10 06.4	+1.8
KLP				AML	AML	01 10 34.7	
	comp=N,147nm,0.6s						
KLP				AML	AML	01 10 35.3	
	comp=E,130nm,0.5s						
KK31	Karatay Array	8.48	340	Pn	Pn	01 09 59.0	+0.4
	comp=E,1.2nm,0.3s,baz=164,slow=12,SNR=53						
KK31				Sn	Sn	01 11 34.5	+0.1
	comp=E,0.6nm,0.3s,baz=169,slow=23,SNR=8.2						
KOLN	Koldanda	10.75	131	eP	Pn	01 10 30.7	+1.0
GKN	Gorkha	11.26	127	eP	Pn	01 10 36.2	-0.4
	comp=E,7.7nm,0.2s						
PKI	Pulchoki	12.05	126	eP	Pn	01 10 47.6	+0.1
	comp=E,5.5nm,0.3s						
GUN	Gumba	12.15	123	eP	Pn	01 10 47.8	-1.0
	comp=E,13nm,0.4s						
JIRN	Jiri	12.52	124	eP	Pn	01 10 52.8	-1.1
	comp=E,17nm,0.4s						

ISC 04 01:33:19.6±5.5, **407N**±04×**729E**±02, **h33**^{km}, **n10**, σ**1^{s}41**/12, **2C, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UCH	Uchtor	1.93	38	P	P	01 33 48.4	-2.2
	SNR=32						
EKS2	Erkin-Say	2.05	18	P	P	01 33 52.4	0.0
	SNR=18						
KZA	Kyzart	2.22	51	P	P	01 33 53.5	-1.3
	SNR=20						
AAK	Ala-Archa	2.25	31	P	P	01 33 54.3	-0.9
	SNR=29						
KBK	Karagaybulak	2.46	37	P	P	01 33 57.1	-1.2
	SNR=15						
USP	Ospenovka	2.81	24	P	P	01 34 06.5	+3.2
	SNR=6.8						
ULHL	Ulahol	2.92	57	P	P	01 34 05.3	+0.5
	SNR=11						
TKM2	Tokmak 2	2.98	41	P	P	01 34 07.4	+1.8
	SNR=13						
TKM2	Tokmak 2	2.98	41	⇑Pn	Pn	01 34 07.6	+1.8
	0.2nm,0.3s						
TKM2				⇑Sn	Sn	01 34 47.3	+6.6
	1.7nm,0.6s						
KK31	Karatay Array	3.00	324	Pn	Pn	01 34 06.0	-0.1
	0.2nm,0.3s,baz=135,slow=12,SNR=34						
KK31				Pg	P	01 34 13.1	+7.2
	2.0nm,0.3s,baz=142,slow=17,SNR=22						
KK31				Lg		01 34 56.1	
	4.9nm,0.3s,baz=139,slow=31,SNR=8.9						

*ISCJB **04** 01:57:50.1±1.5, 7470N±008×100E±05, h10^{km}, Error ellipse: s-maj=18.9km s-min=11.1km az=4.7*
*BER **04** 01:57:52.5±3.5, 7464N×924E, h14^{km}±94^{km}, ML2.7, ML2.0(NAO)*
*CSEM **04** 01:57:52.5, 7464N×924E, h14^{km}, ML2.7, After BER*
*NAO **04** 01:57:55.5±4.6, 7478N×1130E, ML2.0*
ISC 04 01:57:51.7±1.6, **7472N**±008×**98E**±05, **h10**^{km}, **n7**, σ**0^{s}69**/10, **Greenland Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	3.80	21	Pn	Pn	01 58 51.5	+1.2
	baz=195,slow=16						
SPA0	Spitsbergen Ar	3.80	21	Pn	Pn	01 58 51.5	+1.2
	baz=195,slow=14,SNR=55						
HOPEN	Hopen	4.18	57	eP	Pn	01 58 55.2	-0.3
HOPEN				eS	Sn	01 59 44.3	-0.2
HOPEN				AML	AML	01 59 46.4	
	comp=E,32nm,0.5s						
KBS	Kingsbay	4.26	5	Pn	Pn	01 58 55.8	-0.8
ARA0	ARCESS Array S	7.07	129	Pn	Pn	01 59 35.9	+0.6
	baz=325,slow=12						
ARA0				Sn	Sn	02 00 50.3	-5.3
	baz=314,slow=22						
ARA0	ARCESS Array S	7.07	129	Pn	Pn	01 59 35.8	+0.6
	baz=325,slow=12,SNR=55						
ARA0				Sn	Sn	02 00 50.3	-5.3
	baz=314,slow=19,SNR=55						
KAF	Kangasniemi	13.94	146	ep	Pn	02 01 08.8	-0.5
	comp=E,7.8nm,0.8s,baz=349,slow=13						

*CASC **04** 02:05:23.0±2.5, 1098N×8697W, h18^{km}±8^{km}, MD4.2, ML3.7, mb3.9(NEIC)*
*ISCJB **04** 02:05:24.8±0.9, 1098N±005×8684W±008, h63^{km}±7^{km}, mb3.9/11, Error ellipse: s-maj=14.3km s-min=5.4km az=116.2*
*IDC **04** 02:05:26.5±3.9, 1163N×8643W, h25^{km}±31^{km}, mb3.8/6, mb1 4.0/7, mb1mx3.7/21, mbtmp3.9/7, MS3.3/3, Ms1 3.4/3, ms1mx2.7/31, Error ellipse: s-maj=44.8km s-min=23.0km az=47.0*
*NEIC **04** 02:05:27.3±1.3, 1141N×8645W, h41^{km}±21^{km}, mb3.9/6, Error ellipse: s-maj=18.5km s-min=11.1km az=200.0*
ISC 04 02:05:26.5±0.8, **1103N**±005×**8676W**±008, **h56**^{km}±7^{km}, **n50**, σ**1^{s}07**/55, **mb3.9**/11, **MS3.3**/2, **11C-6D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SSNN	San Juan del S	0.93	74	⇑eP	Pn	02 05 42.9	-0.6
SSNN				eS	Sn	02 05 58.8	+2.8
APON	Apoyo	1.12	37	⇑eP	Pn	02 05 45.3	-0.6
TICN	Ticuantepe	1.13	27	⇓eP	Pn	02 05 45.6	-0.4
COPN	Copaltepe	1.16	8	⇓eP	Pn	02 05 45.7	-0.8
COPN				eS	Sn	02 06 01.5	+0.2
XAVN	Gruta Xavier	1.19	21	eP	Pn	02 05 46.4	-0.5
XAVN				eS	Sn	02 06 04.7	+2.5
TISN	Laguna Tiscapa	1.21	23	⇓eP	Pn	02 05 46.6	-0.5
MGAN	Managua	1.22	24	⇑eP	Pn	02 05 46.8	-0.5
MGAN				eS	Sn	02 06 07.0	+4.1
MGAN				e		02 06 08.7	
	comp=N,1µm,0.4s						
CONN	Concepcion	1.23	64	⇑eP	Pn	02 05 46.9	-0.6
MADN	Villa Maderas	1.26	72	⇑eP	Pn	02 05 47.5	-0.4
APYN	Apoyeque	1.27	18	⇓eP	Pn	02 05 47.2	-0.7
APYN				eS	Sn	02 06 04.8	+0.9
LEON	Leon	1.39	355	⇑eP	Pn	02 05 48.7	-0.9
LEON				eS	Sn	02 06 06.4	-0.4
MIRN	Miramar	1.41	2	⇓eP	Pn	02 05 49.0	-0.8
VCR	Vista de Mar	1.43	129	eP	Pn	02 05 49.8	-0.3
CNGN	Cerro Negro	1.47	2	⇑eP	Pn	02 05 49.7	-0.9
CNGN				eS	Sn	02 06 09.9	+1.2
LIM1	Limonal	1.51	102	⇑eP	Pn	02 05 50.9	-0.4
TELN	Telica	1.57	357	⇑eP	Pn	02 05 51.2	-0.8
TELN				eS	Sn	02 06 13.0	+1.7
PYTN	Playitas	1.65	25	⇑eP	Pn	02 05 52.5	-0.7
CRIN	San Cristobal	1.69	350	⇑eP	Pn	02 05 52.8	-0.8
CRIN				eS	Sn	02 06 14.6	+0.5
JTS	JuntasAbangare	1.92	112	Pn	Pn	02 05 57.0	+0.3
	comp=N,14nm,0.3s,baz=311,slow=18,SNR=44						
JTS				Pg	Pn	02 06 00.7	+3.9
	comp=N,21nm,0.3s,baz=313,slow=19,SNR=46						
JTS				Lg		02 06 32.0	
	comp=N,43nm,0.3s,baz=264,slow=17,SNR=9.1						
JTS	JuntasAbangare	1.92	112	Pn	Pn	02 05 57.0	+0.3
JTS				Pg	Pn	02 06 00.7	+3.9
JTS				Lg		02 06 32.0	
CNCH	Conchagua	2.47	335	⇓iP	x	02 06 49.3	
CNCH				eS	x	02 07 19.5	
PRS1	Puriscal	2.62	113	eP	Pn	02 06 07.1	+0.8
BLLM	Bellamira	2.80	329	eP	x	02 06 53.9	
BLLM				eS	x	02 07 26.1	
LCR2	La Lucha 2	3.00	115	eP	Pn	02 06 12.6	+1.1
BUS	Buena Vista	3.29	116	eP	Pn	02 06 17.5	+2.0
LCBS	La Ceiba	3.40	321	eP	x	02 07 01.9	
LCBS				eS	x	02 07 39.8	
CMIG	Matias Romero	9.92	308	Pn	Pn	02 07 46.2	-0.1
	comp=N,0.6nm,0.3s,baz=118,slow=10.0,SNR=9.2						
CMIG	Matias Romero	9.92	308	Pn	Pn	02 07 46.2	-0.1
PAYG	Puerto Ayora	12.14	197	ePn	Pn	02 08 24.3	+7.7
SDV	Santo Domingo	16.03	96	ePn	Pn	02 09 07.5	-0.6
	comp=N,2.7nm,0.7s						
ATAH	Atahualpa	19.75	155	LR	LR	02 16 33.5	
	comp=N,72nm,18.3s,baz=220,slow=33						
CPD	Cerro la Pandu	21.34	69	P	P	02 10 04.1	-4.7
LRAL	Lakeview Retre	21.91	359	eP	P	02 10 15.4	+0.5
	comp=N,5.9nm,0.8s,mb4.1						
LTX	Lajitas	24.10	322	eP	P	02 10 38.9	+2.2
	comp=N,1.9nm,0.6s,mb3.7						
MIAR	Mount Ida	24.22	346	eP	P	02 10 38.1	+0.2
	comp=N,3.9nm,0.7s,mb4.0						
CPCT	Cooper Cave	24.40	4	eP	P	02 10 39.8	+0.3
WCI	Wyandotte Cave	27.09	1	eP	P	02 11 03.1	-0.7
	comp=N,4.9nm,0.7s,mb4.2						
CCM	Cathedral Cave	27.21	352	eP	P	02 11 05.1	+0.1
	comp=N,2.8nm,0.9s,mb3.8						
LPAZ	La Paz	32.81	146	LR	LR	02 25 18.9	
	comp=N,60nm,20.8s,MS3.3,baz=37,slow=36						
GLA	Glamis	33.83	315	eP	P	02 12 05.2	+2.0
SADO	Sadowa	34.26	10	P	P	02 12 04.8	-2.1
	comp=N,3.3nm,0.7s,mb4.4,baz=234,slow=5.4,SNR=4.8						
PDAR	Pinedale Array	37.34	332	P	P	02 12 34.0	+0.6
	comp=N,0.5nm,0.6s,mb3.5,baz=120,slow=8.9,SNR=6.0						
PDAR				PcP	PcP	02 14 53.9	+2.4
	comp=N,0.4nm,0.7s,baz=120,slow=5.3,SNR=3.8						
PDAR	Pinedale Array	37.34	332	P	P	02 12 34.0	+0.6
PDAR				PcP	PcP	02 14 53.9	+2.4
NVAR	Mina Array Bea	39.22	319	P	P	02 12 51.8	+2.6
	comp=N,0.3nm,0.4s,mb3.4,baz=145,slow=6.5,SNR=3.5						
NVAR				PcP	PcP	02 15 01.6	+4.2
	comp=N,2.1nm,0.7s,baz=134,slow=2.6,SNR=10						
ULM	Lac du Bonnet	39.82	351	P	P	02 12 53.2	-1.0
	comp=N,3.7nm,0.8s,mb4.2,baz=170,slow=9.6,SNR=6.3						
YBH	Yreka Blue Hor	43.87	321	LR	LR	02 33 29.1	
	comp=N,44nm,19.9s,MS3.4,baz=255,slow=39						
SCHQ	Schefferville	46.45	16	P	P	02 13 45.7	-1.9
	comp=N,1.5nm,0.8s,mb4.0,baz=210,slow=12,SNR=4.3						
SCHQ	Schefferville	46.45	16	P	P	02 13 45.7	-1.9
YKA	Yellowknife Ar	55.16	345	P	P	02 14 52.7	-0.5
	comp=N,0.9nm,0.8s,mb3.8,baz=142,slow=7.2,SNR=5.1						
YKA	Yellowknife Ar	55.16	345	P	P	02 14 52.7	-0.5

*IDC **04** 02:08:00.3±1.2, 2934S×17793W, h0^{km}, mb4.1/3, mb1 4.3/4, mb1mx4.0/12, mbtmp4.1/4, ML3.6/1, MS3.6/8, Ms1 3.6/8, ms1mx3.3/15, Error ellipse: s-maj=36.1km s-min=8.3km az=109.0*
*ISCJB **04** 02:08:03.5±1.3, 2942S±007×1779W±02, h33^{km}, mb4.3/6, MS3.5/7, Error ellipse: s-maj=29.3km s-min=8.7km az=24.4*
*NEIC **04** 02:08:04.9±1.2, 2935S×17785W, h35^{km}, mb4.6/3, Error ellipse: s-maj=28.4km s-min=20.4km az=93.0*
ISC 04 02:08:03.3±2.7, **295S**±01×**1781W**±03, **h9**^{km}±26^{km}, **n21**, σ**0^{s}71**/13, **mb4.3**/6, **MS3.5**/7, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.29	28	Pn	Pg	02 08 09.3	+0.2
	4µm,0.3s,baz=109,slow=3.3,SNR=60						
RAO				Sn	Sg	02 08 12.8	-0.3
	4µm,0.3s,baz=114,slow=20,SNR=61						
RAO	Raoul Island	0.29	28	Pn	Pg	02 08 09.3	+0.2
RAO				Sn	Sg	02 08 12.8	-0.3
URZ	Urewera	9.60	203	Pn	Pn	02 10 22.0	+0.3
	0.6nm,0.3s,baz=16,slow=19,SNR=3.1						
URZ				Sn	Sn	02 12 06.0	-3.7

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	1.6nm,0.3s,baz=169,slow=18,SNR=7.9						
DZM	Mont Dzumac	15.78	294	LR	LR	02 16 27.8	
	comp=Z,267nm,20.2s,baz=182,slow=32						
TBI	Tubuai	26.31	83	eLR	LR	02 20 05.4	
	268nm,32.2s,baz=245						
PPT	Papeete	28.62	72	eLR	LR	02 21 10.0	
	186nm,27.2s,baz=243						
PPT	Papeete	28.62	72	LR	LR	02 23 22.9	
	comp=Z,29nm,20.1s,MS2.9,baz=217,slow=32						
HNR	Honiara	28.68	310	LR	LR	02 22 40.2	
	comp=Z,51nm,20.6s,MS3.1,baz=358,slow=31						
CTAO	Charters Tower	33.60	278	eP	P	02 14 44.7	+0.8
	8.0nm,0.8s,mb4.7						
STKA	Stephens Creek	34.62	256	P	P	02 14 53.7	+0.8
	2.1nm,0.8s,mb4.1,baz=59,slow=6.9,SNR=3.4						
STKA				LR	LR	02 27 23.6	
	comp=Z,94nm,18.4s,MS3.6,baz=27,slow=33						
STKA	Stephens Creek	34.62	256	P	P	02 14 53.7	+0.8
STKA				LR	LR	02 27 23.6	
ASAR	Alice Springs	43.10	266	P	P	02 16 03.2	-0.6
	2.0nm,0.7s,mb4.0,baz=99,slow=7.2,SNR=18						
ASAR				LR	LR	02 32 49.0	
	comp=Z,119nm,20.0s,MS3.8,baz=170,slow=34						
WRAB	Tennant Creek	44.00	271	P	P	02 16 10.4	-0.7
	8.6nm,1.0s,mb4.4						
WRA	Warramunga Arr	44.00	271	P	P	02 16 10.9	-0.3
	3.7nm,1.0s,mb4.1,baz=109,slow=7.7,SNR=5.6						
QSPA	South Pole Qui	60.60	180	eP	P	02 18 14.7	+0.3
	6.1nm,1.1s,mb4.6						
MAW	Mawson	73.11	200	LR	LR	02 49 23.1	
	comp=Z,70nm,20.4s,MS3.9,baz=247,slow=34						
LPIG	La Paz	84.12	58	LR	LR	02 49 25.8	
	comp=Z,41nm,18.8s,MS3.8,baz=340,slow=30						
LPAZ	La Paz	98.57	114	LR	LR	02 56 55.7	
	comp=Z,27nm,20.8s,MS3.7,baz=235,slow=30						
FINES	FINESS Array B	144.29	340	PKP	PKPdf	02 27 35.0	-4.8
	1.2nm,0.6s,baz=76,slow=5.9,SNR=9.2						
NOA	NORSAR Array B	147.87	352	PKPbc	PKPbc	02 27 46.5	-2.4
	0.5nm,0.8s,baz=17,slow=4.5,SNR=3.4						
TORD	Torodi Ar. Bea	163.72	179	PKPab	PKPab	02 28 56.9	-1.9
	0.5nm,0.7s,baz=178,slow=4.2,SNR=5.2						

IDC 04 02:14:40.2±1.1**,2134S×6764W,h204^{km}**±24^{km}**,mb2.9**/1**, mb1 2.8**/3**,mb1mx2.8**/15**,mbtmp3.2**/3**,Error ellipse: s-maj=44.9km s-min=13.4km az=93.0,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	1.73	223	P	Pn	02 15 17.4	+1.2
	7.1nm,0.3s,baz=41,slow=7.0,SNR=76						
LVC				S	Sn	02 15 45.0	+0.7
	7.5nm,0.3s,baz=265,slow=21,SNR=37						
LPAZ	La Paz	5.05	355	P	Pn	02 15 57.6	+2.4
	0.3nm,0.3s,baz=198,slow=6.4,SNR=7.4						
LPAZ				S	Sn	02 16 55.2	+0.7
	0.1nm,0.3s,baz=240,slow=20,SNR=3.7						
CPUP	Villa Florida	10.66	120	P	Pn	02 17 07.7	-0.1
	0.4nm,0.3s,baz=278,slow=8.2,SNR=3.7						
TORD	Torodi Ar. Bea	76.19	70	P	P	02 26 06.3	+0.4
	0.6nm,1.1s,baz=257,slow=5.7,SNR=4.1						

*CASC **04** 02:20:48.9±2.0,1086N×8709W,h0^{km}±6^{km},MD4.3,ML3.8, mb4.3(NEIC)*
*NEIC **04** 02:20:54.9±1.0,11.10N×86.90W,h35^{km},mb4.3/6,Error ellipse: s-maj=26.9km s-min=10.2km az=50.0*
*ISCJB **04** 02:20:56.1±1.3,11.14N±0.09×86.8W±0.1,h62^{km}±8^{km}, mb4.0/15,Error ellipse: s-maj=24.3km s-min=6.5km az=110.2*
*IDC **04** 02:21:02.3±1.1,1147N×8631W,h88^{km}±8^{km},mb3.7/9, mb1 3.9/9,mb1mx3.6/21,mbtmp4.0/9,MS3.2/2,Ms1 3.3/2, ms1mx2.7/31,Error ellipse: s-maj=36.9km s-min=8.9km az=53.0*
ISC 04 02:20:57.2±1.3**,1118N**±009×**867W**±01**,h51**^{km}±9^{km}**, h92**^{km}±1.4^{km}**:pP-P,n46,σ0^{s}94**/47**,mb4.0**/15**,MS3.1**/1**, 11C-5D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SSNN	San Juan del S	0.88	83	⇑eP	Pn	02 21 12.5	-0.9
TICN	Ticuantepe	0.99	30	eP	Pn	02 21 15.2	+0.4
APON	Apoyo	0.99	42	⇑eP	Pn	02 21 14.9	+0.1
COPN	Copaltepe	1.01	8	⇓iP	Pn	02 21 15.2	+0.1
XAVN	Gruta Xavier	1.05	23	⇑eP	Pn	02 21 15.8	+0.2
TISN	Laguna Tiscapa	1.07	26	⇓eP	Pn	02 21 16.1	+0.3
MGAN	Managua	1.08	27	⇓eP	Pn	02 21 16.4	+0.4
MGAN	Managua	1.08	27	e	Sn	02 21 38.0	+8.1
	comp=E,2μm,0.3s						
APYN	Apoyeque	1.12	20	⇑eP	Pn	02 21 16.9	+0.4
CONN	Concepcion	1.16	70	⇑eP	Pn	02 21 16.5	-0.6
MADN	Villa Maderas	1.21	79	⇑eP	Pn	02 21 16.9	-0.8
LEON	Leon	1.24	353	⇑eP	Pn	02 21 18.2	0.0
LEON				eS	Sn	02 21 41.3	+7.5
MIRN	Miramar	1.26	1	⇓eP	Pn	02 21 18.5	+0.1
MIRN				eS	Sn	02 21 41.0	+6.9
CNGN	Cerro Negro	1.32	2	⇑eP	Pn	02 21 19.0	-0.2
TELN	Telica	1.42	357	⇑eP	Pn	02 21 20.7	0.0
PYTN	Playitas	1.51	26	⇑eP	Pn	02 21 21.9	+0.1
LIM1	Limonal	1.54	108	⇑eP	Pn	02 21 20.6	-1.6
CRIN	San Cristobal	1.54	349	⇓eP	Pn	02 21 22.0	-0.3
JTS	JuntasAbangare	1.97	116	P	Pn	02 21 29.7	+1.6
	comp=E,27nm,0.3s,baz=321,slow=19,SNR=29						
JTS				S	Sn	02 21 54.3	+2.8
	comp=E,58nm,0.3s,baz=298,slow=21,SNR=7.9						
JTS	JuntasAbangare	1.97	116	eP	Pn	02 21 26.7	-1.4
JTS				S	Sn	02 21 54.3	+2.8
CGA2	Cerro Gallo 2	2.52	117	eP	Pn	02 21 34.8	-0.8
LCR2	La Lucha 2	3.05	118	eP	Pn	02 21 43.0	+0.1
BUS	Buena Vista	3.35	118	eP	Pn	02 21 47.2	+0.2
ROSC	El Rosal	13.80	116	LR	LR	02 29 35.9	
	comp=E,107nm,19.8s,baz=53,slow=38						
SDV	Santo Domingo	16.03	97	P	Pn	02 24 41.9	+2.8
	comp=E,0.3nm,0.3s,baz=331,slow=14,SNR=3.0						
LRAL	Lakeview Retre	21.76	359	eP	P	02 25 44.6	+0.2
	comp=E,8.3nm,0.8s,mb4.2						
MIAR	Mount Ida	24.08	346	eP	P	02 26 07.7	-0.1
	comp=E,6.6nm,0.7s,mb4.2						
CPCT	Cooper Cave	24.25	4	eP	P	02 26 10.6	+1.3
BLA	Blacksburg	26.54	11	P	P	02 26 30.7	+0.6
	comp=E,0.4nm,0.7s,mb3.1						
WCI	Wyandotte Cave	26.94	1	ePKPdf	P	02 26 34.0	+0.3
	comp=E,8.4nm,0.8s,mb4.3						
CCM	Cathedral Cave	27.07	352	eP	P	02 26 34.0	-0.8
	comp=E,1.7nm,0.6s,mb3.8						
ANMO	Albuquerque	29.70	326	P	P	02 27 00.6	+2.3
	comp=E,1.1nm,0.8s,mb3.7,baz=141,slow=4.4,SNR=4.5						
ANMO	Albuquerque	29.70	326	P	P	02 27 00.6	+2.3
SSPA	Standing Stone	30.37	13	eP	P	02 27 04.5	+0.4
	comp=E,4.2nm,0.7s,mb4.3						
LPAZ	La Paz	32.92	146	LR	LR	02 41 22.4	
	comp=E,42nm,20.3s,MS3.1,baz=67,slow=37						
SADO	Sadowa	34.11	10	P	P	02 27 36.1	-0.8
	comp=E,3.5nm,0.7s,mb4.4,baz=198,slow=9.3,SNR=4.4						
PDAR	Pinedale Array	37.22	332	P	P	02 28 03.9	+0.3
	comp=E,0.7nm,0.6s,mb3.7,baz=126,slow=10,SNR=8.2						
PDAR				PcP	PcP	02 30 24.7	+2.2
	comp=E,0.4nm,0.5s,baz=130,slow=6.0,SNR=4.1						
NVAR	Mina Array Bea	39.11	319	P	P	02 28 23.0	+3.4
	comp=E,0.3nm,0.3s,mb3.5,baz=168,slow=4.6,SNR=3.8						
NVAR				PcP	PcP	02 30 31.3	+2.9
	comp=E,2.8nm,0.7s,baz=137,slow=4.1,SNR=14						
ULM	Lac du Bonnet	39.68	351	P	P	02 28 22.4	-1.9
	comp=E,4.6nm,0.7s,mb4.3,baz=164,slow=6.8,SNR=8.6						
ULM				pP	pP	02 28 44.2	+6.6
	comp=E,2.8nm,0.7s,baz=180,slow=7.1,SNR=3.8						
SCHQ	Schefferville	46.30	16	P	P	02 29 16.3	-1.4
	comp=E,3.2nm,0.7s,mb4.4,baz=198,slow=5.5,SNR=5.8						
SCHQ				pP	pP	02 29 37.6	+6.2
	comp=E,1.7nm,0.6s,baz=185,slow=8.7,SNR=2.2						
BDFB	Brasilia	46.69	124	P	P	02 29 20.9	+0.1
	comp=E,1.2nm,0.4s,mb4.2,baz=354,slow=6.3,SNR=3.5						
CPUP	Villa Florida	46.99	143	P	P	02 29 23.2	0.0
	comp=E,1.4nm,0.8s,mb3.9,baz=304,slow=4.9,SNR=4.8						
CPUP				pP	pP	02 29 45.4	+8.6
	comp=E,0.6nm,0.6s,baz=345,slow=8.2,SNR=2.0						
CPUP	Villa Florida	46.99	143	P	P	02 29 23.2	+0.1
	comp=E,6.1nm,0.8s,mb4.6						
CPUP				pP	pP	02 29 45.4	+8.6
YKA	Yellowknife Ar	55.02	345	P	P	02 30 22.1	-1.3
	comp=E,1.2nm,0.9s,mb3.9,baz=142,slow=7.0,SNR=6.8						
YKA				PcP	PcP	02 31 24.9	+0.3
	comp=E,0.4nm,0.5s,baz=148,slow=4.0,SNR=6.6						
YKA	Yellowknife Ar	55.02	345	P	P	02 30 22.1	-1.3
YKA				PcP	PcP	02 31 24.9	+0.4
SONM	Songino Array	120.10	350	PKP	PKPdf	02 39 41.6	-0.6
	comp=E,0.4nm,0.5s,baz=333,slow=0.6,SNR=4.2						

*IDC **04** 02:38:05.3±1.4,523N×9449E,h0^{km},mb3.9/7,mb1 4.0/7, mb1mx3.7/20,mbtmp3.9/7,Error ellipse: s-maj=69.2km s-min=20.8km az=53.0*
*ISCJB **04** 02:38:09.4±5.7,53N±02×946E±02,h39^{km}±57^{km},mb3.9/9, Error ellipse: s-maj=46.9km s-min=15.6km az=96.2*
*NEIC **04** 02:38:10.3±0.5,530N×9464E,h30^{km},mb4.4/2,Error ellipse: s-maj=16.9km s-min=8.4km az=219.0*
ISC 04 02:38:12.6±3.8**,53N**±02×**946E**±02**,h50**^{km}±42^{km}**,n14, σ0^{s}30**/14**,mb3.9**/9**,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALK	Pallekele	13.91	279	Pn	Pn	02 41 26.9	-0.1
	46nm,1.3s						
MKAR	Makanchi Array	42.70	348	P	P	02 46 04.9	+0.4
	1.3nm,0.5s,mb3.9,baz=167,slow=7.5,SNR=13						
SONM	Songino Array	43.60	12	P	P	02 46 11.4	-0.4
	0.5nm,0.5s,mb3.5,baz=183,slow=7.8,SNR=5.6						
WRA	Warramunga Arr	46.45	124	P	P	02 46 34.5	+0.1
	2.3nm,0.5s,mb4.3,baz=303,slow=9.3,SNR=11						
WRAB	Tennant Creek	46.45	124	eP	P	02 46 34.4	-0.1
	5.7nm,0.5s,mb4.8						
WB2	Warramunga Arr	46.46	124	eP	P	02 46 34.4	-0.1
WB2	Warramunga Arr	46.46	124	eP	P	02 46 34.5	0.0
KURK	Kurchatov	47.22	346	eP	P	02 46 40.9	+0.5
	1.2nm,0.8s,mb3.9						
ASAR	Alice Springs	47.96	128	P	P	02 46 46.4	+0.2
	0.5nm,0.3s,mb4.0,baz=296,slow=8.0,SNR=6.2						
FINES	FINESS Array B	75.19	332	P	P	02 49 49.4	-0.3
	0.3nm,0.4s,mb3.6,baz=90,slow=6.9,SNR=4.6						
FINES	FINESS Array B	75.19	332	P	P	02 49 49.4	-0.3
ARCES	ARCESS Array B	77.84	340	P	P	02 50 04.2	-0.5
	0.4nm,0.6s,mb3.5,baz=103,slow=6.9,SNR=7.2						
ARCES	ARCESS Array B	77.84	340	P	P	02 50 04.2	-0.5
GERES	GERESS Array B	80.03	319	P	P	02 50 17.0	+0.3
	0.2nm,0.5s,mb3.3,baz=94,slow=4.1,SNR=4.2						

*ISCJB **04** 02:52:59.3±0.6,5846N±007×317W±0.1,h10^{km},mb3.7/12, MS3.0/6,Error ellipse: s-maj=10.4km s-min=9.7km az=34.2*
*IDC **04** 02:52:59.1±0.9,5841N×3178W,h0^{km},mb3.7/12, mb1 3.8/14,mb1mx3.7/27,mbtmp3.7/14,ML3.3/2,MS3.1/8, Ms1 3.1/8,ms1mx2.9/29,Error ellipse: s-maj=20.6km s-min=18.5km az=8.0*
*CSEM **04** 02:53:00.9,5837N×3174W,h10^{km},mb4.3/1,After NEIC*
*NEIC **04** 02:53:00.9±0.6,5837N×3174W,h10^{km},mb4.3/1,Error ellipse: s-maj=14.0km s-min=8.9km az=205.0*
ISC 04 02:53:00.6±0.6**,5839N**±007×**317W**±01**,h10**^{km}**,n26, σ0^{s}91**/22**,mb3.7**/12**,MS3.0**/6**,Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	8.08	33	Pn	Pn	02 54 58.3	+0.3
	0.4nm,0.3s,baz=244,slow=12,SNR=2.4						
BORG				Sn	Sn	02 56 29.4	+0.1
	0.3nm,0.3s,baz=254,slow=15,SNR=2.0						
SFJD	Kangerlussuaq	12.18	323	Pn	Pn	02 55 56.1	+2.0
DSB	Dublin	15.11	99	Pn	Pn	02 56 34.8	+0.8
	11nm,0.8s						
DSB	Dublin	15.11	99	Pn	Pn	02 56 34.8	+0.7
	11nm,0.8s						
EKA	Eskdalemuir Ar	15.87	89	Pn	Pn	02 56 44.6	+0.6
	0.1nm,0.3s,baz=287,slow=8.7,SNR=4.1						
JMIC	Jan Mayen	15.90	28	LR	LR	03 00 53.7	
	comp=Z,22nm,20.6s,baz=138,slow=30						
SCHQ	Schefferville	19.50	275	LR	LR	03 03 14.3	
	comp=Z,67nm,21.1s,baz=59,slow=32						
NOA	NORSAR Array B	21.54	65	P	P	02 57 50.6	+0.6
	1.1nm,0.9s,mb3.3,baz=282,slow=8.2,SNR=2.8						
NOA				LR	LR	03 04 33.8	
	comp=Z,16nm,18.4s,MS2.4,baz=185,slow=32						
HFS	Hagfors	22.94	66	P	P	02 58 05.2	+0.3
	1.6nm,0.8s,mb3.5,baz=297,slow=13,SNR=3.8						
HFS				LR	LR	03 06 33.4	
	comp=Z,43nm,18.1s,MS2.9,baz=106,slow=36						
ESDC	Sonseca Array	25.82	124	P	P	02 58 31.9	-0.1
	0.6nm,0.6s,mb3.3,baz=321,slow=9.3,SNR=4.9						
ARCES	ARCESS Array B	26.37	42	P	P	02 58 37.3	+0.3
	2.3nm,1.0s,mb3.7,baz=263,slow=8.4,SNR=7.4						
DAVOX	Davos	27.36	97	LR	LR	03 09 32.6	
	comp=Z,47nm,18.1s,MS3.1,baz=264,slow=36						
FINES	FINESS Array B	28.32	59	P	P	02 58 53.8	-0.8
	0.8nm,0.7s,mb3.5,baz=290,slow=12,SNR=2.0						
VRAC	Vranov	29.32	87	LR	LR	03 09 20.4	
	comp=Z,48nm,20.5s,MS3.1,baz=176,slow=33						
AKASG	Malin Array Be	35.05	75	P	P	02 59 52.6	-1.1
	0.2nm,0.4s,mb3.4,baz=301,slow=8.9,SNR=4.7						
ULM	Lac du Bonnet	36.94	286	LR	LR	03 13 46.6	
	comp=Z,43nm,19.8s,MS3.2,baz=277,slow=34						
YKA	Yellowknife Ar	38.44	312	P	P	03 00 20.8	-1.7
	0.7nm,0.6s,mb3.6,baz=57,slow=9.0,SNR=5.2						
YKA				LR	LR	03 15 26.8	
	comp=Z,48nm,20.1s,MS3.3,baz=100,slow=35						
DAWY	Dawson	46.12	324	eP	P	03 01 24.8	-0.2
DAWY	Dawson	46.12	324	eP	P	03 01 24.8	-0.2
PDAR	Pinedale Array	48.93	287	P	P	03 01 47.3	+0.4
	0.8nm,0.7s,mb3.9,baz=53,slow=7.8,SNR=9.0						
AKTK	Aktyubinsk	49.09	58	P	P	03 01 47.5	-0.6
AKTK	Aktyubinsk	49.09	58	P	P	03 01 47.5	-0.6
AKTO	Aktyubinsk	49.09	58	P	P	03 01 47.5	-0.6
	1.2nm,0.6s,mb4.1,baz=310,slow=7.6,SNR=7.7						
TORD	Torodi Ar. Bea	51.66	137	P	P	03 02 06.5	-1.0
	1.4nm,0.8s,mb3.9,baz=331,slow=8.0,SNR=15						
DBIC	Dimbokro	55.61	147	P	P	03 02 38.5	+2.0
	2.3nm,0.7s,mb4.3,baz=28,slow=2.1,SNR=4.0						
MKAR	Makanchi Array	61.95	45	P	P	03 03 19.7	-0.9
	0.3nm,0.3s,mb4.0,baz=335,slow=5.4,SNR=4.0						

*IDC **04** 03:01:13.5±9.9,3648N×6974E,h85^{km}±103^{km},mb3.4/4, mb1 3.3/6,mb1mx3.1/24,mbtmp3.6/6,ML3.6/2,Error ellipse: s-maj=77.0km s-min=52.1km az=91.0*
*ISCJB **04** 03:01:17.2±4.6,370N±02×699E±03,h106^{km}±44^{km}, mb3.6/4,Error ellipse: s-maj=40.5km s-min=22.8km az=98.7*
ISC 04 03:01:18.1±5.5**,370N**±03×**698E**±02**,h105**^{km}±50^{km}**,n9, σ1^{s}25**/11**,mb3.6**/4**,1D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	6.15	5	P	Pn	03 02 42.1	-4.3
	4.3nm,0.3s,baz=181,slow=13,SNR=115						
KK31				S	Sn	03 03 53.4	-2.0
	1.2nm,0.3s,baz=190,slow=26,SNR=5.9						
MKAR	Makanchi Array	13.53	40	P	Pn	03 04 26.9	+1.1
	0.3nm,0.3s,baz=236,slow=10,SNR=3.0						
AB31	Akbulak array	14.19	333	P	Pn	03 04 34.4	+0.1
	0.6nm,0.3s,baz=140,slow=12,SNR=33						
AB31				⇓S	Sn	03 07 11.0	+0.4
	0.6nm,0.5s						
AKTO	Aktyubinsk	15.88	332	P	Pn	03 04 57.2	+1.7
	0.3nm,0.3s,baz=143,slow=15,SNR=5.8						
FINES	FINESS Array B	36.53	326	P	P	03 08 13.8	+0.4
	0.2nm,0.3s,mb3.5,baz=131,slow=8.3,SNR=5.5						
HFS	Hagfors	42.07	322	P	P	03 08 60.0	+0.5
	0.9nm,0.4s,mb3.9,baz=106,slow=9.4,SNR=8.3						
NB2	NORSAR Subarra	43.40	323	P	P	03 09 09.9	-0.3
	comp=Z,0.5nm,0.4s,mb3.6,baz=99,slow=7.9						
NOA	NORSAR Array B	43.40	323	P	P	03 09 10.0	-0.1
	comp=Z,0.6nm,0.4s,mb3.6,baz=97,slow=7.7,SNR=5.7						
TORD	Torodi Ar. Bea	64.73	268	P	P	03 11 42.9	-2.2
	comp=Z,0.4nm,0.6s,mb3.5,baz=53,slow=5.3,SNR=16						

*NEIC **04** 03:09:13.0±0.5,1627N×12272E,h35^{km},mb4.2/2,Error ellipse: s-maj=20.8km s-min=9.0km az=75.0*
*ISCJB **04** 03:09:25.7±0.5,1522N±005×1204E±0.1,h153^{km}±4^{km}, mb3.7/8,Error ellipse: s-maj=19.4km s-min=7.4km az=161.6*
*IDC **04** 03:09:25.4±5.4,1562N×12150E,h142^{km}±47^{km},mb3.6/6, mb1 3.8/6,mb1mx3.4/18,mbtmp4.0/6,Error ellipse: s-maj=117.2km s-min=15.7km az=64.0*
*MAN **04** 03:09:27.6,1524N×12044E,h131^{km},mb2.8,ML4.3, MS4.5*
ISC 04 03:09:26.8±0.5**,1522N**±005×**1204E**±01**,h148**^{km}±4^{km}**,n20, σ0^{s}81**/24**,mb3.7**/8**,1C,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.75	317	eP	Pn	03 09 49.4	-0.1
SCZP				eS	Sn	03 10 06.4	-0.3
BCPH	Baguio City Da	1.16	7	⇑eP	Pn	03 09 52.2	-0.6
BCPH				eS	Sn	03 10 12.3	-0.4
BALP	Baler	1.21	65	eP	Pn	03 09 54.1	+0.8
TGY	Tagaytay City	1.21	157	P	Pn	03 09 55.0	+1.7
	102nm,0.3s,baz=336,slow=3.2,SNR=9.0						
TGY				S	Sn	03 10 19.1	+5.5
	60nm,0.3s,baz=172,slow=19,SNR=2.5						
BOLP	Bolinao	1.26	336	eP	Pn	03 09 53.7	-0.1
BOLP				eS	Sn	03 10 14.1	-0.3
LUBP	Lubang	1.49	187	eP	Pn	03 09 56.0	-0.2
BUSP	Coron	3.21	184	eP	Sn	03 10 54.0	-1.4
ENPP	El Nido	4.11	194	eP	Pn	03 10 30.8	+2.3
WRA	Warramunga Arr	37.52	158	P	P	03 16 25.7	-0.6
	2.0nm,0.4s,mb4.1,baz=340,slow=8.5,SNR=26						
WB2	Warramunga Arr	37.53	158	eP	P	03 16 25.8	-0.5
ASAR	Alice Springs	40.83	161	P	P	03 16 53.8	0.0
	1.7nm,0.5s,mb4.0,baz=337,slow=6.6,SNR=20						
MKAR	Makanchi Array	44.67	323	P	P	03 17 26.0	+1.4
	0.4nm,0.6s,mb3.2,baz=123,slow=8.8,SNR=4.5						
KURK	Kurchatov	48.79	326	eP	P	03 17 57.2	+0.4
	3.8nm,0.9s,mb4.0						
STKA	Stephens Creek	51.04	157	P	P	03 18 13.0	-0.7
CHKZ	Chkalovo	54.53	326	eP	P	03 18 39.9	+0.6
	1.0nm,0.6s,mb3.7						
ARCES	ARCESS Array B	77.58	339	P	P	03 21 06.2	-0.2
	0.4nm,0.3s,mb3.5,baz=81,slow=7.2,SNR=13						
FINES	FINESS Array B	78.84	331	P	P	03 21 13.3	0.0
	0.7nm,0.8s,mb3.3,baz=45,slow=5.7,SNR=3.3						
HFS	Hagfors	85.03	331	P	P	03 21 45.3	-0.3
	baz=90,slow=1.7						
NB2	NORSAR Subarra	85.80	333	P	P	03 21 48.5	-0.9
	comp=Z,1.3nm,0.5s,mb3.9,baz=66,slow=4.8						
NOA	NORSAR Array B	85.80	333	P	P	03 21 48.8	-0.6
	comp=Z,1.5nm,0.6s,mb3.9,baz=66,slow=4.9,SNR=11						

*NEIC **04** 03:10:11.2,2857S×6933W,h102^{km},mb4.5/3,After GUC.*
GUC 04 03:10:11.2±1.1**,2857S×6933W,h102**^{km}±32^{km}**,ML4.0, 2C-2D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	Vallenar	1.25	270	iP	Pn	03 10 35.2	+0.6
VACH				iS	Sn	03 10 53.3	+1.0
VACH				AML	AML	03 10 56.8	
	comp=N,7μm,0.1s						
VACH	Vallenar	1.25	270	iP	Pn	03 10 35.2	+0.6
VACH				iS	Sn	03 10 53.3	+1.0
LCO	Las Campanas	1.28	250	eP	Pn	03 10 35.5	+0.7
LCO				iS	Sn	03 10 54.5	+1.7
CPCH	Copiapo	1.51	323	⇑iP	Pn	03 10 37.9	+0.3
CPCH				iS	Sn	03 10 58.2	+0.5
CPCH				AML	AML	03 11 02.0	
	comp=E,13μm,0.1s						
CPCH	Copiapo	1.51	323	⇑iP	Pn	03 10 37.9	+0.3
CPCH				iS	Sn	03 10 58.2	+0.5
CDCH	Caldera	2.00	318	eP	Pn	03 10 44.3	+0.5
CDCH				iS	Sn	03 11 08.5	-0.1
TLL	Tololo Astrono	2.04	219	⇓iP	Pn	03 10 45.4	+1.0
TLL				iS	Sn	03 11 11.0	+1.3
TLL				AML	AML	03 11 19.1	
	comp=N,434nm,0.7s						
TLL	Tololo Astrono	2.04	219	⇓iP	Pn	03 10 45.4	+1.0
TLL				iS	Sn	03 11 11.0	+1.3
CRCH	Chaqaral	2.50	332	eP	Pn	03 10 51.3	+1.0
CRCH				iS	Sn	03 11 20.9	+0.6
CRCH				AML	AML	03 11 21.9	
	comp=N,219nm,0.1s						
CRCH	Chaqaral	2.50	332	eP	Pn	03 10 51.3	+1.0
CRCH				iS	Sn	03 11 20.9	+0.6
OVCH	Ovalle	2.60	218	iP	Pn	03 10 50.8	-0.8
OVCH				iS	Sn	03 11 21.1	-1.6
OVCH				AML	AML	03 11 24.2	
	comp=N,543nm,0.8s						
OVCH	Ovalle	2.60	218	iP	Pn	03 10 50.8	-0.8
OVCH				iS	Sn	03 11 21.1	-1.6
CEN1	Los Morros	5.22	351	iP	Pn	03 11 23.5	-3.4
LVC	Limon Verde	5.95	4	ePn	Pn	03 11 36.4	-0.3
	comp=N,29nm,0.9s						
CPUP	Villa Florida	10.89	81	ePn	Pn	03 12 41.7	-2.2
	comp=N,4.3nm,0.3s						
CPUP				Sn	Sn	03 14 43.5	-0.3
TRQA	Tornquist	11.28	149	ePn	Pn	03 12 46.2	-2.9
	comp=N,2.1nm,0.7s						
MVCO	Mesa Verde	75.05	329	eP	P	03 21 41.1	-0.6

WEL 04 03:23:40.1±0.3**,3719S×17648E,h279**^{km}±3^{km}**,ML3.8**/4**, 1C,Error ellipse: s-maj=5.3km s-min=4.7km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	1.18	155	PN	Pn	03 24 19.1	-0.2
URZ				SN	S	03 24 49.7	-0.5
MWZ	Matawai	1.42	145	PN	Pn	03 24 20.8	+0.2
MWZ				SN	S	03 24 52.2	-0.5
PUZ	Puketiti	1.67	123	PN	Pn	03 24 22.5	+0.1
PUZ				SN	S	03 24 54.9	-0.9
BKZ	Black Stump Fm	1.98	180	⇑PN	Pn	03 24 25.0	+0.2
BKZ				SN	S	03 24 59.9	-0.4
KNZ	Kokohu	2.06	153	PN	Pn	03 24 25.6	0.0
TUVZ	Tukino	2.18	197	PN	Pn	03 24 27.2	+0.6
TSZ	Takapari Road	2.90	188	PN	Pn	03 24 32.8	-0.6
CAW	Cannon Point	4.07	195	PN	Pn	03 24 44.7	-1.3
TCW	Tory Channel	4.37	202	PN	Pn	03 24 47.9	-1.6
TUWZ	Tuamarina	4.67	204	PN	Pn	03 24 51.3	-1.7
TUWZ				SN	S	03 25 47.9	-3.4

GUC 04 03:45:55.0±0.7**,2721S×7125W,h42**^{km}±4^{km}**,MD3.6, ML2.6,2D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CDCH	Caldera	0.40	71	⇓iP	Pn	03 46 04.5	0.0
CDCH				iS	Sn	03 46 11.8	+0.5
CPCH	Copiapo	0.81	101	⇓iP	Pn	03 46 10.4	+0.3
CPCH				iS	Sn	03 46 22.2	+1.2
CRCH	Chaqaral	1.03	33	eP	Pn	03 46 15.2	+2.3
CRCH				iS	Sn	03 46 29.7	+3.6
CRCH				AML	AML	03 46 34.0	
	comp=N,137nm,0.3s						
CPN1	Cerro Paranal	2.68	17	eP	Pn	03 46 37.6	+2.0
CPN1				iS	Sn	03 47 09.3	+2.4
CPN1				AML	AML	03 47 31.7	
	comp=E,60nm,0.4s						

NEIC 04 03:51:05.9,3275S×6887W,h149^{km}**,MG3.7**(GUC)**,2C-2D, After GUC.,Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACH	Jahuel	1.46	272	eP	Pn	03 51 35.5	+0.6
JACH				iS	Sn	03 51 58.3	+1.2
PEL	Peldehue	1.58	255	⇓iP	Pn	03 51 36.6	+0.5
PEL				iS	Sn	03 51 60.0	+0.6
PCH	Pirque	1.63	237	eP	Pn	03 51 37.3	+0.5
PCH				iS	Sn	03 52 01.3	+0.9
RCDM	Rinconada Maip	1.79	245	⇑iP	Pn	03 51 39.0	+0.5
RCDM				S	Sn	03 52 03.6	+0.2
ROCH	El Roble	1.82	262	P	Pn	03 51 39.3	+0.5
ROCH				S	Sn	03 52 04.0	-0.1
CHCH	Chadas Angostu	1.91	231	iP	Pn	03 51 40.3	+0.5
CHCH				iS	Sn	03 52 06.4	+0.5
TACH	Talagante	1.96	242	⇑iP	Pn	03 51 40.8	+0.4
CACH	El Canelo	1.99	226	iP	Pn	03 51 41.6	+0.7
CACH				iS	Sn	03 52 08.7	+1.1
LCCH	Las Cruces	2.38	252	P	Pn	03 51 44.7	-0.7
CMCH	Combarbala	2.40	310	⇓iP	Pn	03 51 46.5	+0.8
CMCH				iS	Sn	03 52 16.7	+0.3
SFDO	San Fernando	2.58	223	P	Pn	03 51 47.9	-0.1
TLL	Tololo Astrono	3.06	327	eP	Pn	03 51 55.0	+1.0

*BJI **04** 03:56:24.5,3897N×11635E,h14^{km},mB4.8,mb4.8,ML5.4, Ms5.0,Msz4.8*
*HRVD **04** 03:56:26.9±0.2,3885N×11630E,h23^{km}±1^{km},MW4.9/62,*

Centroid moment Tensor Solution. LP body waves: s13,c16;Mantle waves: s62,c101; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}0.15±.12; $M_{\theta\theta}$1.39±.10; $M_{\phi\phi}$-1.54±.10; $M_{r\theta}$0.77±.15; $M_{\theta\phi}$2.04±.08; $M_{\phi r}$1.02±.16; Best double couple: M_o2.81400×10^16 NP1:ϕ_s110.00000°, δ65.00000°, λ8.00000°. NP2:ϕ_s16.00000°, δ83.00000°, λ155.00000°. Principal axes: T 2.9220, Plg23.0000°, Azm330.0000°; N -0.2190, Plg64.0000°, Azm181.0000°; P -2.7060, Plg12.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISCJB ***04*** *03:56:26.2±0.8, 39.04N±0.02×116.16E±0.03, h17km±5km, mb4.9/180, MS4.6/51 Error ellipse: s-maj=3.9km s-min=3.5km az=9.4*

NEIC ***04*** *03:56:26.9±0.1, 39.07N×116.15E, h10km, mb5.0/114, MS4.9/10, Error ellipse: s-maj=4.6km s-min=3.3km az=218.0*

NEIC Felt [III] at Beijing and Tianjin. Also felt at Cangzhou, Shijiazhuang and Shunyi.

BGS ***04*** *03:56:28.7±1.4, 38.73N×114.62E, h10km, mb5.4*

SZGRF ***04*** *03:56:28.2, 38.68N×116.39E, h33km, mb5.4, MS4.9, Northeastern China*

MOS ***04*** *03:56:28.7±0.8, 39.13N×116.19E, h33km, mb5.2/99, MS4.7/33, Error ellipse: s-maj=8.2km s-min=3.7km az=119.8*

IDC ***04*** *03:56:30.0±4.4, 39.16N×116.31E, h33km±33km, mb4.4/23, mb1 4.6/26, mb1mx4.6/27, mbtmp4.7/26, ML4.0/3, MS4.3/21, Ms1 4.3/21, ms1mx4.0/35, Error ellipse: s-maj=18.0km s-min=9.9km az=53.0*

ISC 04 03:56:26.7±0.7, 3901N±002×11619E±002, h11km±4km, h19km±2.8km; pP-P, n577, σ0.95/597, mb4.9/179, MS4.6/51, 108C-22D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BJT	**Baijiatuan**	**1.01**	**359**	⇑*i*P		**Pg**	**03 56 46.5**	**+0.4**
BJT				*e*S		**Sg**	**03 57 02.0**	**+2.8**
BJI	**Beijing**	**1.03**	**359**	PG		**Pg**	**03 56 46.6**	**+0.1**
BJI				SG		**Sg**	**03 57 01.6**	**+1.7**
TIA	**Tai'an**	**2.89**	**165**	P		**Pn**	**03 57 08.6**	**-4.2**
TIA				PG			03 57 10.8	
TIA				SG		**Sn**	**03 57 49.8**	**+2.3**
HHC	**Hu-ho-hao-te**	**4.00**	**299**	*e*P		**Pn**	**03 57 29.3**	**+1.3**
HHC				PG		**Pg**	**03 57 40.5**	**-2.9**
HHC				SG		**Sg**	**03 58 34.3**	**-0.9**
HHC				Smax				
	comp=N,7μm,0.8s							
HHC				Smax				
	comp=E,9μm,0.9s							
DL2	**Dalian**	**4.24**	**90**	⇓*i*P		**Pn**	**03 57 29.2**	**-2.1**
DL2				S		**Sn**	**03 58 21.1**	**+0.3**
DL2				Smax				
	comp=N,4μm,1.0s							
DL2				Smax				
	comp=E,2μm,0.8s							
BTO	**Baotou**	**5.01**	**290**	*e*P		**Pn**	**03 57 42.4**	**+0.6**
BTO				*e*PG		**Pg**	**03 57 57.7**	**-5.0**
BTO				SG		**Sg**	**03 59 01.2**	**-6.3**
BTO				Smax				
	comp=N,2μm,1.9s							
BTO				Smax				
	comp=E,2μm,1.1s							
SNY	**Shenyang**	**6.30**	**61**	⇑P		**Pn**	**03 57 58.1**	**-1.5**
SNY				PG		**Pg**	**03 58 18.5**	**-8.9**
SNY				S		**Sn**	**03 59 15.1**	**+3.5**
SNY				SG		**Sg**	**03 59 40.4**	**-8.6**
SNY				Smax				
	comp=N,1μm,1.2s							
SNY				Smax				
	comp=E,896nm,0.9s							
NJ2	**Nanjing**	**7.28**	**162**	*e*P		**Pn**	**03 58 10.9**	**-2.1**
NJ2				S		**Sn**	**03 59 33.8**	**-1.8**
NJ2				Smax				
	comp=N,1μm,0.6s							
NJ2				Smax				
	comp=E,3μm,1.0s							
NJ2				LR	LR			
	comp=N,10μm,13.7s							
NJ2				LR	LR			
	comp=E,5μm,9.7s							
NJ2				LR	LR			
	comp=Z,5μm,11.7s							
XAN	**Xi'an**	**7.67**	**232**	P		**Pn**	**03 58 15.4**	**-3.0**
XAN				PG			03 58 40.5	
XAN				SG			04 00 23.5	
XAN				Smax				
	comp=N,691nm,1.0s							
XAN				Smax				
	comp=E,708nm,1.0s							
XAN				LR	LR			
	comp=N,6μm,9.8s							
XAN				LR	LR			
	comp=E,5μm,9.6s							
XAN				LR	LR			
	comp=Z,9μm,10.0s							
CN2	**Changchun**	**8.44**	**53**	P		**Pn**	**03 58 28.3**	**-0.7**
CN2				Smax				
	comp=N,1μm,1.0s							
CN2				Smax				
	comp=E,1μm,1.0s							
WHN	**Wuhan**	**8.58**	**191**	P		**Pn**	**03 58 30.5**	**-0.4**
WHN				AP			03 58 34.1	
WHN				S		**Sn**	**04 00 06.3**	**-1.4**
WHN				Smax				
	comp=N,747nm,0.9s							
WHN				Smax				
	comp=E,1μm,0.7s							
WHN				LR	LR			
	comp=Z,5μm,9.6s							
KS15	**Wonju Array Si**	**9.34**	**96**	*e*Pn		**Pn**	**03 58 39.2**	**-2.1**
KS15				*e*Sn		**Sn**	**04 00 20.9**	**-5.4**
LZH	**Lanzhou**	**10.23**	**257**	*e*P		**Pn**	**03 58 52.6**	**-0.8**
LZH				AP			03 58 57.7	
LZH				XP			03 59 01.3	
LZH				PP			03 59 03.0	
LZH				S		**Sn**	**04 00 56.2**	**+8.1**
LZH				XS			04 01 02.0	
LZH				*e*SS			04 01 08.0	
LZH				AMB	AMB			
	comp=Z,60nm,1.0s							
LZH				AMB	AMB			
	comp=Z,240nm,4.0s							
LZH				LR	LR			
	comp=E,9μm,10.0s							
LZH				LR	LR			
	comp=Z,11μm,11.8s							
HIA	**Hailar**	**10.56**	**13**	*e*P		**Pn**	**03 58 57.6**	**-0.5**
HIA				pmax	pmax			
	comp=Z,28nm,0.7s							
HIA	**Hailar**	**10.56**	**13**	*e*Pn		**Pn**	**03 58 57.6**	**-0.4**
	comp=Z,28nm,0.7s							
ULN	**Ulaanbaatar**	**11.06**	**326**	P		**Pn**	**03 59 04.7**	**-0.1**
	SNR=6.2							
ULN	**Ulaanbaatar**	**11.06**	**326**	*c i*P		**Pn**	**03 59 04.2**	**-0.6**
ULN	**Ulaanbaatar**	**11.06**	**326**	*e*Pn		**Pn**	**03 59 04.6**	**-0.2**
SONM	**Songino Array**	**11.32**	**324**	Pn		**Pn**	**03 59 07.9**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=141,slow=11,SNR=61							
SONM				Sn		**Sn**	**04 01 14.2**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=137,slow=16,SNR=3.0							
SONM				Lg			04 02 28.6	
	comp=Z,5.5nm,0.3s,baz=134,slow=26,SNR=6.9							
SONM				LR	LR		04 04 05.9	
	comp=Z,3μm,18.5s,baz=144,slow=40							
SONM	**Songino Array**	**11.32**	**324**	P		**Pn**	**03 59 07.9**	**-0.6**
SONM							04 01 14.2	
SONM				pmax	pmax			
	comp=Z,1.0nm,0.3s							
SONM				smax				
	comp=N,1.0nm,0.3s							
SONM				MLR	MLR			
	comp=Z,3μm,18.5s							
MDJ	**Mudanjiang**	**11.46**	**56**	P		**Pn**	**03 59 09.7**	**-0.6**
MDJ				S		**Sn**	**04 01 18.2**	**-0.1**
MDJ				LR	LR			
	comp=N,2μm,9.0s							
MDJ				LR	LR			
	comp=E,1μm,13.4s							
MDJ				LR	LR			
	comp=Z,2μm,11.2s							
MDJ	**Mudanjiang**	**11.46**	**56**	*e*Pn		**Pn**	**03 59 11.1**	**+0.8**
	comp=Z,11nm,0.8s							
VLA	**Vladivostok**	**12.54**	**66**	⇓*e*P		**Pn**	**03 59 25.7**	**+0.6**
VLA				pmax	pmax			
	comp=Z,16nm,0.6s							
GTA	**Gaotai**	**12.71**	**277**	⇓P		**Pn**	**03 59 27.8**	**+0.4**
GTA				AP			03 59 32.1	
GTA				XP			03 59 34.5	
GTA				PP			03 59 38.1	
GTA				S		**Sn**	**04 01 49.1**	**+0.2**
GTA				SS			04 02 04.5	
GTA				AMB	AMB			
	comp=Z,14nm,0.8s							
GTA				AMB	AMB			
	comp=Z,133nm,5.0s							
GTA				LR	LR			
	comp=N,9μm,12.9s							
GTA				LR	LR			
	comp=E,7μm,13.7s							
GTA				LR	LR			
	comp=Z,7μm,12.5s							
CD2	**Chengdu**	**13.00**	**235**	*e*P		**Pn**	**03 59 33.4**	**+2.0**
CD2				XP			03 59 40.0	
CD2				PP			03 59 47.4	
CD2				S		**Sn**	**04 02 01.7**	**+5.7**
CD2				XS			04 02 05.4	
CD2				SS			04 02 16.9	
CD2				AMB	AMB			
	comp=Z,10.0nm,0.4s							
CD2				AMB	AMB			
	comp=Z,40nm,4.7s							
CD2				LR	LR			
	comp=N,3μm,7.2s							
CD2				LR	LR			
	comp=Z,2μm,10.2s							
GYA	**Guiyang**	**14.85**	**215**	⇑*i*P		**Pn**	**03 59 57.3**	**+0.7**
GYA				AP		pP	04 00 01.2	-4.3
GYA				XP		sP	04 00 03.8	-3.1
GYA				AMB	AMB			
	comp=Z,30nm,0.6s							
GYA				AMB	AMB			
	comp=Z,120nm,3.2s							
GYA				LR	LR			
	comp=N,3μm,8.9s							
GYA				LR	LR			
	comp=E,4μm,9.7s							
GYA				LR	LR			
	comp=Z,4μm,10.2s							
YHNB	**Yeheng**	**14.96**	**161**	*e*Pn		**Pn**	**03 59 58.0**	**-0.1**
YHNB				*e*Sn		**Sn**	**04 02 39.3**	**-4.5**
KLR	**Kul'dur**	**15.11**	**42**	*e*P		**Pn**	**03 59 56.7**	**-3.5**
KLR				*e*			04 02 49.5	
KLR				MLR	MLR			
	comp=E,2μm,8.5s							
KLR				MLR	MLR			
	comp=Z,5μm,8.5s							
TLY	**Talaya**	**15.40**	**329**	*e*P		**Pn**	**04 00 03.6**	**-0.4**
TLY				*e*S		**Sn**	**04 02 56.9**	**+2.2**
TLY				pmax	pmax			
	comp=Z,9.0nm,0.7s							
TLY				MLR	MLR			
	comp=Z,2μm,15.0s							
TLY	**Talaya**	**15.40**	**329**	*e*Pn		**Pn**	**04 00 03.7**	**-0.3**
NACB	**Ninganchiao**	**15.49**	**161**	*e*Pn		**Pn**	**04 00 08.1**	**+3.0**
IRK	**Irkutsk**	**15.61**	**332**	*e*P		**Pn**	**04 00 10.1**	**+3.4**
IRK				*e*			04 02 54.6	
IRK				pmax	pmax			
	comp=Z,100nm,1.3s							
IRK				smax				
	comp=N,347nm,1.1s							
JOW	**Kunigami**	**15.81**	**137**	Pn		**Pn**	**04 00 11.3**	**+2.1**
	comp=N,0.8nm,0.3s,baz=341,slow=11,SNR=4.6							
JOW				LR	LR		04 07 08.0	
	comp=N,1μm,19.2s,baz=268,slow=40							
JOW	**Kunigami**	**15.81**	**137**	Pn		**Pn**	**04 00 11.3**	**+2.1**
JOW				LR	LR		04 07 08.0	
MOY	**Mondy**	**16.52**	**325**	*e*P		**Pn**	**04 00 20.4**	**+2.0**
MOY				pmax	pmax			
	comp=Z,78nm,1.8s							
MAJO	**Matsushiro**	**17.58**	**91**	*e*P		**Pn**	**04 00 32.5**	**+0.8**
MAJO				pmax	pmax			
	comp=Z,51nm,0.8s							
MAJO	**Matsushiro**	**17.58**	**91**	*e*Pn		**Pn**	**04 00 32.5**	**+0.8**
	comp=Z,51nm,0.8s							
MAT	**Matsushiro**	**17.58**	**91**	P		**Pn**	**04 00 32.5**	**+0.8**
MAT				S		**Sn**	**04 03 55.0**	**+7.6**
MAT	**Matsushiro**	**17.58**	**91**	*e*P		**Pn**	**04 00 33.0**	**+1.3**
MAT				pmax	pmax			
	comp=Z,111nm,1.5s							
MAT	**Matsushiro**	**17.58**	**91**	*e*P		**Pn**	**04 00 33.0**	**+1.3**
	comp=Z,111nm,1.5s							
MAT				*e*S		**Sn**	**04 03 56.0**	**+8.6**
MJAR	**Matsushiro Arr**	**17.58**	**91**	P		**Pn**	**04 00 33.3**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=285,slow=12,SNR=71							
MJAR				LR	LR		04 07 28.6	
	comp=Z,724nm,18.6s,baz=300,slow=38							
MJAR	**Matsushiro Arr**	**17.58**	**91**	P		**Pn**	**04 00 33.3**	**+1.6**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR				MLR	MLR			
	comp=Z,724nm,18.6s							
KMI	**Kunming**	**17.90**	**223**	P		**Pn**	**04 00 34.6**	**-1.1**
KMI				XP		sP	04 00 39.7	-1.1
KMI				PP			04 00 48.3	
KMI				S		**Sn**	**04 03 54.8**	**-0.5**
KMI				XS		sS	04 04 00.6	-6.0
KMI				SS			04 04 15.1	
KMI				AMB	AMB			
	comp=Z,15nm,2.0s							
KMI				AMB	AMB			
	comp=Z,122nm,3.9s							
KMI				LR	LR			
	comp=N,3μm,13.9s							
KMI				LR	LR			
	comp=E,3μm,16.8s							
KMI				LR	LR			
	comp=Z,1μm,15.5s							
CLNS	**Chul'man**	**18.74**	**15**	*e*P		**Pn**	**04 00 47.0**	**+1.1**
CLNS				pmax	pmax			
	comp=Z,25nm,0.8s							
CLNS				pmax	pmax			
	comp=N,19nm,0.7s							
CLNS				pmax	pmax			
	comp=E,18nm,1.6s							
BOD	**Bodaibo**	**18.88**	**356**	*e*P		**Pn**	**04 00 47.8**	**+0.2**
BOD				pmax	pmax			
	comp=Z,62nm,1.2s							
JHJ	**Hachijo jima 2**	**19.94**	**100**	LR	LR		04 09 16.2	
	comp=Z,1000nm,19.4s,baz=247,slow=38							
ASAJ	**Asahikawa**	**20.37**	**67**	P		**P**	**04 01 01.6**	**-1.7**
	comp=Z,22nm,1.0s,baz=270,slow=9.7,SNR=7.6							
ASAJ				LR	LR		04 08 51.5	
	comp=Z,853nm,18.2s,MS4.1,baz=320,slow=37							
ASAJ	**Asahikawa**	**20.37**	**67**	P		**P**	**04 01 01.6**	**-1.7**
ASAJ				pmax	pmax			
	comp=Z,23nm,1.0s							
ASAJ				MLR	MLR			
	comp=Z,853nm,18.2s							
QIZ	**Qiongzhong**	**20.66**	**197**	*e*P		**P**	**04 01 09.4**	**+2.9**
QIZ				AP			04 01 15.0	
QIZ				S		**S**	**04 05 01.2**	**+4.0**
QIZ				SS			04 05 27.5	
QIZ				AMB	AMB			
	comp=Z,37nm,2.3s							
QIZ				AMB	AMB			
	comp=Z,189nm,4.0s							
QIZ				LR	LR			
	comp=N,2μm,12.7s,MS5.0							
QIZ				LR	LR			
	comp=E,4μm,14.4s,MS5.0							
QIZ				LR	LR			
	comp=Z,3μm,11.6s,MS4.8							
YSS	**Yuzh-Sakhalins**	**20.92**	**59**	⇓*e*P		**P**	**04 01 09.3**	**0.0**
YSS				*e*			04 01 35.5	
YSS				*e*S		**S**	**04 04 54.0**	**-8.4**
YSS				*e*			04 05 20.0	
YSS				pmax	pmax			
	comp=Z,20nm,0.8s							
YSS				pmax	pmax			
	comp=Z,60nm,1.0s							
YSS				smax				
	comp=N,400nm,9.0s							
YSS				MLR	MLR			
	comp=N,1μm,15.0s,MS4.7							
YSS				MLR	MLR			
	comp=N,700nm,13.0s							
YSS				MLR	MLR			
	comp=Z,900nm,13.0s,MS4.3							
YSS				MLR	MLR			
	comp=E,1μm,12.0s,MS4.7							
YSS	**Yuzh-Sakhalins**	**20.92**	**59**	*e*P		**P**	**04 01 10.0**	**+0.7**
	comp=E,74nm,1.0s							
WMQ	**Urumqi**	**21.85**	**292**	P		**P**	**04 01 21.1**	**+1.8**
WMQ				AP			04 01 23.7	
WMQ				XP		sP	04 01 25.6	+1.8
WMQ				PP			04 01 46.1	
WMQ				S		**S**	**04 05 16.7**	**-3.9**
WMQ				PCP		PcP	04 05 21.7	+2.9
WMQ				XS		sS	04 05 23.4	-2.1
WMQ				SS			04 05 54.0	
WMQ				SCP		ScP	04 08 56.9	+0.9
WMQ				PCS		PcS	04 08 58.7	+1.5
WMQ				SCS		ScS	04 12 40.1	-0.4
WMQ				AMB	AMB			
	comp=Z,154nm,1.2s,mb5.3							
WMQ				AMB	AMB			
	comp=Z,571nm,4.0s							
WMQ				LR	LR			
	comp=N,4μm,12.6s,MS5.0							
WMQ				LR	LR			
	comp=E,2μm,14.8s,MS5.0							
WMQ				LR	LR			
	comp=Z,2μm,14.4s,MS4.7							
LSA	**Lhasa**	**22.60**	**253**	P		**P**	**04 01 27.0**	**-0.3**
LSA				AP			04 01 30.0	
LSA				S		**S**	**04 05 28.0**	**-7.3**
LSA				XS		sS	04 05 41.5	+1.3
LSA	**Lhasa**	**22.60**	**253**	*e*P		**P**	**04 01 28.2**	**+0.9**
LSA				pmax	pmax			
	comp=Z,99nm,1.1s,mb5.2							
LSA	**Lhasa**	**22.60**	**253**	*e*P		**P**	**04 01 28.2**	**+0.9**
	comp=Z,99nm,1.1s,mb5.2							
KRAR	**Krasnoyarsk**	**23.00**	**325**	⇓*e*P		**P**	**04 01 30.2**	**-1.3**
KRAR				pmax	pmax			
	comp=Z,108nm,1.3s,mb5.1							
KRAR				MLR	MLR			
	comp=Z,1μm,16.0s,MS4.5							
NANT	**Nan**	**24.21**	**218**	⇑P		**P**	**04 01 46.0**	**+2.7**
	comp=Z,100nm,1.0s,mb5.2							
YAK	**Yakutsk**	**24.49**	**15**	*e*P		**P**	**04 01 45.4**	**-0.5**
YAK				*e**PP			04 01 54.5	
YAK				*i**SP		sP	04 01 59.5	+9.0
YAK				*e*			04 02 17.1	
YAK				*e*PPP			04 02 26.2	
YAK				*e*			04 05 25.2	
YAK				*e*S		**S**	**04 06 02.2**	**-3.9**
YAK				*e**SS		sS	04 06 16.1	+4.6
YAK				*e*SSS			04 07 10.1	
YAK				*e*			04 12 46.4	
YAK				pmax	pmax			
	comp=Z,11nm,1.2s,mb4.2							
YAK				pmax	pmax			
	comp=N,14nm,1.4s							
YAK				pmax	pmax			
	comp=E,13nm,1.7s							
YAK				pmax	pmax			
	comp=Z,13nm,0.6s,mb4.5							
YAK				pmax	pmax			
	comp=N,10.0nm,1.1s							
YAK				pmax	pmax			
	comp=E,10.0nm,1.4s							
YAK				smax				
	comp=E,123nm,11.8s							
YAK				smax				
	comp=N,105nm,18.7s							
YAK				MLR	MLR			
	comp=N,1μm,12.0s,MS4.6							
YAK				MLR	MLR			
	comp=Z,1μm,12.0s,MS4.6							
YAK				MLR	MLR			
	comp=E,345nm,10.0s,MS4.6							
CBIJ	**Chichi jima**	**24.73**	**111**	LR		LR	04 11 30.8	
	comp=E,243nm,18.1s,MS3.7,baz=146,slow=36							
TGY	**Tagaytay City**	**25.16**	**169**	P		**P**	**04 01 53.2**	**+1.2**
	comp=E,118nm,0.3s,baz=31,slow=12,SNR=3.3							
TGY	**Tagaytay City**	**25.16**	**169**	P		**P**	**04 01 53.2**	**+1.2**
TGY				pmax	pmax			
	comp=Z,118nm,0.3s							
KKTK	**Khon Kaen**	**25.44**	**211**	P		**P**	**04 01 54.5**	**-0.1**
	comp=Z,2μm,0.5s							
MKAR	**Makanchi Array**	**25.86**	**299**	⇑P		**P**	**04 01 59.2**	**+0.8**
	comp=Z,13nm,0.7s,mb4.6,baz=96,slow=11,SNR=68							
MKAR	**Makanchi Array**	**25.86**	**299**	⇑*e*P		**P**	**04 01 59.4**	**+1.0**
ZAL	**Zalesovo**	**26.00**	**315**	P		**P**	**04 02 00.3**	**+0.8**
	comp=Z,17nm,1.0s,mb4.5,baz=358,slow=9.7,SNR=47							
ZAL	**Zalesovo**	**26.00**	**315**	P		**P**	**04 02 00.4**	**+0.8**
ZAL				pmax	pmax			
	comp=Z,17nm,1.0s							
NVS	**Novosibirsk**	**27.18**	**316**	*i*P		**P**	**04 02 10.0**	**-0.3**
NVS				pmax	pmax			
	comp=N,21nm,1.4s							
NVS				pmax	pmax			
	comp=E,47nm,1.4s							
NVS				pmax	pmax			
	comp=Z,47nm,1.4s,mb4.8							
NST	**Nakhon Sawan**	**27.19**	**216**	P		**P**	**04 02 09.0**	**-1.3**
JIRN	**Jiri**	**27.38**	**255**	*e*P		**P**	**04 02 12.5**	**+0.4**
	comp=Z,35nm,0.7s,mb5.0							
GUN	**Gumba**	**27.48**	**255**	*e*P		**P**	**04 02 12.9**	**-0.1**
	comp=Z,52nm,0.7s,mb5.2							
KKN	**Kakani**	**28.00**	**256**	*e*P		**P**	**04 02 17.3**	**-0.3**
	comp=Z,78nm,0.9s,mb5.3							
PKI	**Pulchoki**	**28.02**	**255**	*e*P		**P**	**04 02 17.7**	**0.0**
DMN	**Daman**	**28.22**	**256**	*e*P		**P**	**04 02 19.5**	**-0.1**
	comp=Z,43nm,0.8s,mb5.1							
GKN	**Gorkha**	**28.37**	**257**	*e*P		**P**	**04 02 20.4**	**-0.5**
KURK	**Kurchatov**	**28.78**	**306**	P		**P**	**04 02 25.4**	**+0.9**
	comp=Z,419nm,0.9s,SNR=63							
KURK	**Kurchatov**	**28.78**	**306**	P		**P**	**04 02 25.6**	**+1.1**
	SNR=32							
KURK	**Kurchatov**	**28.78**	**306**	⇑*i*P		**P**	**04 02 25.2**	**+0.7**
KURK	**Kurchatov**	**28.78**	**306**	*e*P		**P**	**04 02 25.2**	**+0.7**
MA2	**Magadan**	**29.99**	**35**	*e*P		**P**	**04 02 39.6**	**+4.3**
MA2				*e*			04 07 21.7	
MA2				*e*			04 13 02.6	
ULHL	**Ulahol**	**30.30**	**289**	P		**P**	**04 02 39.3**	**+1.3**
	SNR=5.4							
TKM2	**Tokmak 2**	**30.69**	**291**	P		**P**	**04 02 43.3**	**+1.8**
	SNR=15							
KSH	**Kashi**	**30.96**	**284**	⇑P		**P**	**04 02 46.7**	**+2.8**
KSH				*e*AP		pP	04 02 52.6	+5.4
KSH				*e*XP		sP	04 02 54.9	+6.4
KSH				*e*PP		PP	04 03 48.7	-5.0
KSH				*e*PCP		PcP	04 05 43.6	+3.6
KSH				*e*S		**S**	**04 07 49.8**	**+1.6**
KSH				*e*SCP		ScP	04 09 23.0	+0.3
KSH				*e*PCS		PcS	04 09 26.5	+2.5
KSH				*e*SS		SS	04 09 35.3	-25
KSH				*e*SCS		ScS	04 13 18.5	-1.1
KSH				AMB	AMB			
	comp=Z,85nm,1.0s,mb5.5							
KSH				LR	LR			
	comp=N,3μm,14.1s							
KSH				LR	LR			
	comp=E,2μm,9.4s							
KSH				LR	LR			
	comp=Z,2μm,9.5s							
KZA	**Kyzart**	**31.05**	**289**	P		**P**	**04 02 47.1**	**+2.4**
	SNR=7.7							
KBK	**Karagaybulak**	**31.19**	**290**	P		**P**	**04 02 47.9**	**+2.0**
	SNR=7.5							
CHMS	**Chumysh**	**31.29**	**291**	P		**P**	**04 02 48.2**	**+1.4**
	SNR=8.1							
FRU	**Bishkek**	**31.41**	**291**	*e*P		**P**	**04 02 49.0**	**+1.2**
FRU				pmax	pmax			
	comp=Z,60nm,1.8s,mb5.1							
USP	**Ospenovka**	**31.45**	**291**	P		**P**	**04 02 49.4**	**+1.2**
	SNR=11							
AAK	**Ala-Archa**	**31.53**	**290**	P		**P**	**04 02 50.5**	**+1.7**
	SNR=6.4							
AAK	**Ala-Archa**	**31.53**	**290**	P		**P**	**04 02 49.8**	**+0.9**
	SNR=5.8							
AAK	**Ala-Archa**	**31.53**	**290**	⇑*i*P		**P**	**04 02 48.9**	**0.0**
AAK				pmax	pmax			
	comp=Z,17nm,1.3s,mb4.7							
AAK				MLR	MLR			
	comp=Z,2μm,18.0s,MS4.7							
AAK	**Ala-Archa**	**31.53**	**290**	*e*P		**P**	**04 02 49.2**	**+0.4**
UCH	**Uchtor**	**31.57**	**289**	P		**P**	**04 02 51.7**	**+2.5**
	SNR=26							
EKS2	**Erkin-Say**	**32.05**	**290**	P		**P**	**04 02 54.6**	**+1.2**
	SNR=6.1							

TIXI Tiksi 33.34 7 *eP* **P** **04 03 03.1 -1.7**
TIXI pmax pmax
comp=Z,12nm,1.0s,mb4.8
TIXI MLR MLR
comp=Z,2µm,13.0s,MS4.9
VOSK Vostochnaya 33.75 309 *i P* **P** **04 03 08.6 +0.3**
VOSK pmax pmax
comp=Z,38µm,1.3s
CHKZ Chkalovo 34.07 311 *i P* **P** **04 03 11.3 +0.2**
CHKZ pmax pmax
comp=Z,60nm,1.5s,mb5.3
CHKZ Chkalovo 34.07 311 *eP* **P** **04 03 11.6 +0.5**
BRVK Borovoye 34.20 310 P **P** **04 03 13.8 +1.6**
comp=Z,355nm,1.0s,SNR=18
BRVK Borovoye 34.20 310 P **P** **04 03 13.6 +1.3**
SNR=26
BRVK Borovoye 34.20 310 *eP* **P** **04 03 13.0 +0.7**
KK31 Karatay Array 34.36 292 *i P* **P** **04 03 14.0 +0.4**
KK31 pmax pmax
comp=Z,26nm,0.9s,mb5.2
ZRNK Zerenda 34.96 309 *i P* **P** **04 03 19.3 +0.5**
ZRNK pmax pmax
comp=Z,67nm,1.0s,mb5.5
ZRNK Zerenda 34.96 309⇑ *iP* **P** **04 03 19.6 +0.8**
comp=Z,75nm,1.0s,mb5.6
GUMO Guam 35.81 127 LR LR 04 15 17.1
comp=Z,156nm,21.6s,MS3.7,baz=316,slow=32
BILL Bilibino 39.74 27⇓ *eP* **P** **04 03 58.7 -0.7**
BILL *SP sP 04 04 08.0 +4.0
BILL pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
BILL MLR MLR
comp=Z,200nm,15.0s,MS4.1
BILL Bilibino 39.74 27 *eP* **P** **04 03 59.2 -0.1**
comp=Z,14nm,1.3s,mb4.5
SVE Sverdlovsk 40.01 315⇑ *eP* **P** **04 04 02.1 +0.5**
SVE pmax pmax
comp=Z,100nm,2.0s,mb5.2
SVE MLR MLR
comp=N,400nm,11.0s,MS5.1
SVE MLR MLR
comp=E,2µm,11.0s,MS5.1
SVE MLR MLR
comp=Z,2µm,11.0s,MS5.2
ARU Arti 41.15 315⇑ *iP* **P** **04 04 11.6 +0.6**
ARU *e* 04 05 45.4
ARU *e*PPP 04 06 03.4
ARU *e*S **S** **04 10 25.1 +1.1**
ARU *e*SS SS 04 13 25.7 -1.0
ARU *e*SSS 04 14 05.8
ARU pmax pmax
comp=Z,54nm,1.0s,mb5.1
ARU MLR MLR
comp=N,400nm,17.0s,MS4.7
ARU MLR MLR
comp=E,700nm,17.0s,MS4.7
ARU MLR MLR
comp=Z,1µm,17.0s,MS4.8
ARU Arti 41.15 315 *eP* **P** **04 04 11.7 +0.7**
AKTK Aktyubinsk 41.87 305 P **P** **04 04 16.5 -0.3**
AKTO Aktyubinsk 41.87 305 P **P** **04 04 16.5 -0.3**
comp=Z,10nm,0.8s,mb4.5,baz=92,slow=8.3,SNR=47
AKTO Aktyubinsk 41.87 305 P **P** **04 04 16.5 -0.4**
AKTO pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
SOKR Solikamsk 42.14 319 *c iP* **P** **04 04 19.0 -0.1**
SOKR S **S** **04 10 40.4 +1.7**
SOKR pmax pmax
comp=Z,80nm,1.2s,mb5.2
SOKR MLR MLR
comp=Z,780nm,19.0s,MS4.6
KLMR Klimovskoe 50.61 322 *eP* **P** **04 05 25.4 -0.3**
KLMR pmax pmax
comp=Z,100nm,1.7s,mb5.5
WSAR Wadi Sarin 50.92 270 P **P** **04 05 28.6 +0.6**
comp=Z,11nm,0.9s,mb4.8,baz=9.5,slow=8.7,SNR=4.8
LVZ Lovozero 51.41 331⇑ *eP* **P** **04 05 31.6 -0.1**
LVZ pmax pmax
comp=Z,14nm,0.9s,mb4.9
LVZ pmax pmax
comp=N,10.0nm,1.1s
LVZ pmax pmax
comp=E,1.0nm,0.7s
VRHR Novokhopersk 51.88 309 *eP* **P** **04 05 35.4 +0.2**
VRHR pmax pmax
comp=Z,110nm,1.2s,mb5.7
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,70nm,1.0s
APA Apatity 51.94 331⇑ *iP* **P** **04 05 36.0 +0.4**
APA *i* 04 06 44.0
APA *e*S **S** **04 13 00.0 +1.4**
APA pmax pmax
comp=Z,16nm,1.0s,mb4.9
APA MLR MLR
comp=Z,700nm,11.0s,MS5.0
MOS Moscow 52.81 316⇓ *iP* **P** **04 05 41.3 -0.8**
MOS *e* 04 05 53.2
MOS pmax pmax
comp=Z,200nm,1.3s,mb5.9
MOS pmax pmax
comp=Z,164nm,1.2s,mb5.8
MOS MLR MLR
comp=E,1µm,18.0s
MOS MLR MLR
comp=Z,1µm,18.0s,MS5.0
ZEI Tsey 53.22 299 *eP* **P** **04 05 44.6 -0.5**
ZEI *e*PP pP 04 05 51.0 +2.4
ZEI pmax pmax
comp=Z,6.0nm,0.2s,mb5.2
VRSR Storozhevoye 53.30 310 *eP* **P** **04 05 45.6 -0.1**
VRSR *e*PP pP 04 05 51.9 +2.8
VRSR pmax pmax
comp=Z,50nm,0.7s,mb5.5
VRSR pmax pmax
comp=N,40nm,0.8s
VRSR pmax pmax
comp=E,70nm,0.8s
VRSR MLR MLR
comp=N,170nm,12.0s,MS4.9
VRSR MLR MLR
comp=Z,640nm,12.0s,MS4.9
VRSR MLR MLR
comp=E,720nm,13.0s,MS4.9
OBN Obninsk 53.58 315 *α iP* **P** **04 05 47.4 -0.3**
OBN *e* 04 05 55.7
OBN *e* 04 06 00.2
OBN pmax pmax
comp=Z,72nm,1.7s,mb5.3
OBN MLR MLR
comp=Z,700nm,18.0s,MS4.8
OBN Obninsk 53.58 315 *eP* **P** **04 05 46.9 -0.8**
comp=Z,77nm,1.5s,mb5.4
KIV Kislovodsk 53.60 301 P **P** **04 05 49.7 +1.8**
SNR=5.8
KIV Kislovodsk 53.60 301 *eP* **P** **04 05 48.6 +0.7**
KIV *e* 04 07 49.9
KIV *e*S **S** **04 13 21.9 +0.7**
KIV pmax pmax
comp=Z,56nm,1.0s,mb5.5
KIV pmax pmax
comp=Z,102nm,1.6s,mb5.5
KIV MLR MLR
comp=Z,314nm,16.0s,MS4.5
KIV Kislovodsk 53.60 301 *eP* **P** **04 05 48.8 +0.9**
KAKA Kakadu 53.64 160 *eP* **P** **04 05 49.1 +0.9**
comp=Z,20nm,0.9s,mb5.1
GNI Garni 53.66 296 *eP* **P** **04 05 48.0 -0.3**
KEV Kevo 53.73 334 *ep* **P** **04 05 48.0 -0.9**
comp=Z,18nm,0.9s,mb5.0
KEV Kevo 53.73 334 *eP* **P** **04 05 48.0 -0.9**
KEV pmax pmax
comp=Z,19nm,0.9s,mb5.0
JOF Joensuu 53.90 326 *ep* **P** **04 05 49.9 -0.2**
comp=Z,1.4nm,0.4s,mb4.2
JOF Joensuu 53.90 326 *eP* **P** **04 05 49.9 -0.2**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
SPB4 Spitsbergen Ar 54.13 345 *eP* **P** **04 05 51.8 0.0**
ARCES ARCESS Array B 54.30 334 P **P** **04 05 52.7 -0.3**
comp=Z,6.0nm,0.8s,mb4.6,baz=81,slow=8.6,SNR=31
ARCES PcP PcP 04 06 55.6 -1.5
comp=Z,4.8nm,0.8s,baz=72,slow=5.4,SNR=8.3
ARCES LR LR 04 34 55.2
comp=Z,282nm,18.7s,MS4.4,baz=22,slow=42
ARCES ARCESS Array B 54.30 334 P **P** **04 05 52.7 -0.3**
ARCES 04 06 55.6
ARCES pmax pmax
comp=Z,6.0nm,0.8s
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 54.30 334 P **P** **04 05 52.7 -0.3**
ARCES PcP PcP 04 06 55.6 -1.5
ARCES LR LR 04 34 55.2
TTA Tatalina 55.17 34 *eP* **P** **04 05 59.2 -0.1**
SOC Sochi 55.73 301 *eP* **P** **04 06 02.5 -0.9**
SOC *e*PP pP 04 06 14.8 +8.0
SOC *e*PPP 04 09 18.0
SOC *e*S **S** **04 13 44.4 -5.4**
SOC *e* 04 15 49.5
SOC *e*SS SS 04 17 28.2 -6.9
SOC MLR MLR
comp=Z,381nm,16.0s,MS4.6
SVW2 Sparrevohn 55.97 36 *eP* **P** **04 06 05.4 +0.3**
PMG Port Moresby 56.13 142 LR LR 04 29 47.3
comp=Z,258nm,19.1s,MS4.3,baz=7.1,slow=36
KAF Kangasniemi 56.35 326 *ep* **P** **04 06 05.9 -1.9**
comp=Z,27nm,0.9s,mb5.3,baz=68,slow=6.6
KAF Kangasniemi 56.35 326 *eP* **P** **04 06 05.9 -1.9**
KAF pmax pmax
comp=Z,27nm,0.9s,mb5.3
FINES FINESS Array B 56.70 325 P **P** **04 06 09.8 -0.5**
comp=Z,17nm,0.9s,mb5.1,baz=77,slow=8.2,SNR=54
FINES LR LR 04 31 10.3
comp=Z,132nm,18.7s,MS4.1,baz=258,slow=37
FINES FINESS Array B 56.70 325 P **P** **04 06 09.8 -0.5**
FINES pmax pmax
comp=Z,17nm,0.9s
FINES MLR MLR
comp=Z,132nm,18.7s
ANN Anapa 56.74 303 *eP* **P** **04 06 05.4 -5.2**
ANN *e*S **S** **04 13 56.2 -7.1**
ANN pmax pmax
comp=Z,100nm,1.7s,mb5.6
ANN MLR MLR
comp=N,542nm,15.0s,MS4.8
ANN MLR MLR
comp=E,357nm,15.0s,MS4.8
ANN MLR MLR
comp=Z,440nm,15.0s,MS4.7
FITZ Fitzroy Crossi 57.50 169 *eP* **P** **04 06 18.3 +2.4**
comp=Z,10nm,1.0s,mb4.8
FITZ Fitzroy Crossi 57.50 169 P **P** **04 06 17.5 +1.5**
comp=Z,4.9nm,0.8s,mb4.6,baz=339,slow=8.4,SNR=6.1
VSU Vasula 57.50 321 *c iP* **P** **04 06 15.4 -0.6**
COLA College 57.84 30 *eP* **P** **04 06 17.9 -0.4**
COLA pmax pmax
comp=Z,29nm,0.9s,mb5.3
COLA College 57.84 30 *eP* **P** **04 06 17.9 -0.4**
comp=Z,29nm,0.9s,mb5.3
KDAK Kodiak Island 58.64 39 *eP* **P** **04 06 25.4 +1.4**
PMR Palmer 58.66 34 *eP* **P** **04 06 27.5 +3.4**
PMR pmax pmax
comp=Z,15nm,0.8s,mb5.1
PMR Palmer 58.66 34 *eP* **P** **04 06 27.5 +3.5**
comp=Z,15nm,0.8s,mb5.1
MALT Malatya 58.87 296⇑ *iP* **P** **04 06 26.9 +1.4**
MALT Malatya 58.87 296 *eP* **P** **04 06 26.5 +1.0**
MALT pmax pmax
comp=Z,25nm,1.0s,mb5.2
MALT Malatya 58.87 296 *eP* **P** **04 06 26.5 +1.0**
comp=Z,25nm,1.0s,mb5.2
SML Sawmill 58.91 34 *eP* **P** **04 06 27.4 +1.6**
AKASG Malin Array Be 59.33 312 P **P** **04 06 27.9 -0.9**
comp=Z,6.3nm,0.9s,mb4.7,baz=52,slow=6.7,SNR=26
AKASG LR LR 04 34 03.0
comp=Z,678nm,19.8s,MS4.8,baz=70,slow=38
AKASG Malin Array Be 59.33 312 *i P* **P** **04 06 27.8 -0.9**
AKASG pmax pmax
comp=Z,6.0nm,0.9s
EYAK Cordova Ski Ar 60.59 34 *eP* **P** **04 06 37.4 -0.1**
WRAB Tennant Creek 61.05 160⇑ *iP* **P** **04 06 40.6 +0.1**
WRAB Tennant Creek 61.05 160 *eP* **P** **04 06 40.1 -0.4**
comp=Z,33nm,0.9s,mb5.5
WRA Warramunga Arr 61.06 160 P **P** **04 06 41.8 +1.2**
comp=Z,15nm,0.9s,mb5.1,baz=350,slow=7.6,SNR=31
WRA Warramunga Arr 61.06 160 *i P* **P** **04 06 42.5 +1.9**
WRA pmax pmax
comp=Z,15nm,0.9s
WB2 Warramunga Arr 61.06 160 *eP* **P** **04 06 38.2 -2.4**
DAG Danmarks Havn 61.08 349⇓ *iP* **P** **04 06 40.0 -0.7**
comp=Z,3.0nm,0.8s,mb4.5
DAG Danmarks Havn 61.08 349⇓ *eP* **P** **04 06 40.0 -0.7**
DAG pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
DAG Danmarks Havn 61.08 349⇓ *eP* **P** **04 06 40.0 -0.7**
comp=Z,3.0nm,0.8s,mb4.5
SUW Suwalki 61.19 318 *eP* **P** **04 06 41.0 -0.4**
SUW Suwalki 61.19 318 *eP* **P** **04 06 39.7 -1.7**
SUW pmax pmax
comp=Z,99nm,1.5s,mb5.7
SUW Suwalki 61.19 318 *eP* **P** **04 06 39.7 -1.8**
comp=Z,99nm,1.5s,mb5.7
INK Inuvik 61.22 23 *eP* **P** **04 06 40.3 -1.3**
INK pmax pmax
comp=Z,11nm,0.8s
INK Inuvik 61.22 23 *eP* **P** **04 06 40.3 -1.3**
comp=Z,11nm,0.8s,mb5.0
DAWY Dawson 61.46 29 *eP* **P** **04 06 42.8 -0.6**
BRTR Keskin Array B 61.51 300 P **P** **04 06 44.0 +0.4**
comp=Z,9.6nm,0.9s,mb4.9,baz=66,slow=3.6,SNR=27
BRTR Keskin Array B 61.51 300 P **P** **04 06 44.0 +0.4**
BRTR pmax pmax
comp=Z,10.0nm,0.9s
LVV L'vov 62.70 313 *i P* **P** **04 06 51.3 -0.3**
LVV MLR MLR
comp=Z,200nm,17.0s,MS4.3
LVV MLR MLR
comp=N,200nm,16.0s,MS4.5
LVV MLR MLR
comp=E,200nm,18.0s,MS4.5
VRI Vrincioaia 63.02 308⇓ *iP* **P** **04 06 54.1 +0.3**
VRI Vrincioaia 63.02 308 ⇓P **P** **04 06 54.1 +0.3**
BURAR Bucovina Array 63.08 311⇑ *iP* **P** **04 06 55.3 +1.1**
BURAR Bucovina Array 63.08 311 ⇑P **P** **04 06 55.3 +1.1**
NB2 NORSAR Subarra 63.28 328 P **P** **04 06 54.3 -1.2**
comp=Z,27nm,0.9s,mb5.4,baz=55,slow=6.5
NOA NORSAR Array B 63.28 328 P **P** **04 06 54.7 -0.8**
comp=Z,13nm,0.8s,mb5.1,baz=56,slow=6.4,SNR=55
NOA LR LR 04 36 48.4
comp=Z,347nm,19.2s,MS4.5,baz=40,slow=38
NOA NORSAR Array B 63.28 328 P **P** **04 06 54.7 -0.8**
NOA pmax pmax
comp=Z,13nm,0.8s
NOA MLR MLR
comp=Z,347nm,19.2s
NOA NORSAR Array B 63.28 328 P **P** **04 06 54.7 -0.8**
NOA LR LR 04 36 48.4
NAO01 NORSAR Array S 63.52 328 *eP* **P** **04 06 55.6 -1.4**
comp=Z,4.0nm,0.8s,mb4.5
KWP Kalwaria 63.54 314 *eP* **P** **04 06 57.6 +0.4**
MLR Muntele Rosu 63.69 308⇑ *iP* **P** **04 06 58.6 +0.4**
MLR Muntele Rosu 63.69 308 ⇑P **P** **04 06 58.6 +0.4**
KOLS Kolonicke sedl 64.14 313 *eP* **P** **04 07 00.8 -0.3**
KOLS pmax pmax
comp=Z,11nm,1.5s,mb4.7
KOLS Kolonicke sedl 64.14 313 *eP* **P** **04 07 00.8 -0.3**
comp=Z,11nm,1.5s,mb4.7
AS31 Alice Springs 64.52 162 *eP* **P** **04 07 03.8 +0.2**
ASAR Alice Springs 64.52 162 P **P** **04 07 03.4 -0.2**
comp=Z,8.0nm,0.8s,mb4.8,baz=348,slow=5.7,SNR=24
ASAR LR LR 04 36 23.7
comp=Z,116nm,21.9s,MS4.0,baz=187,slow=37
ASAR Alice Springs 64.52 162 P **P** **04 07 03.4 -0.2**
ASAR pmax pmax
comp=Z,8.0nm,0.9s
ASAR MLR MLR
comp=Z,116nm,21.9s
ISP Isparta 64.57 299 *eP* **P** **04 07 04.0 +0.1**
ISP pmax pmax
comp=Z,31nm,0.9s,mb5.3
ISP Isparta 64.57 299 *eP* **P** **04 07 04.0 0.0**
comp=Z,31nm,0.9s,mb5.3
CRVS Cervenica-Dubn 64.61 313 *eP* **P** **04 07 03.6 -0.7**
CRVS *e*SP sP 04 07 08.1 -1.0
CRVS Cervenica-Dubn 64.61 313 *eP* **P** **04 07 03.6 -0.7**
CRVS *e* pP 04 07 08.1 +0.3
CRVS LR LR
comp=Z,400nm,19.3s,MS4.6
KONO Kongsberg 64.72 327 *c iP* **P** **04 07 03.6 -1.3**
RES Resolute Bay 64.72 9 *eP* **P** **04 07 03.7 -1.2**
RES pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
RES Resolute Bay 64.72 9 *eP* **P** **04 07 03.7 -1.2**
comp=Z,6.9nm,1.0s,mb4.6
BSD Bornholm Skovb 64.81 321⇑ *iP* **P** **04 07 04.9 -0.6**
BSD pmax pmax
comp=Z,33nm,1.0s,mb5.3
BSD MLR MLR
comp=Z,670nm,17.0s,MS4.9
BSD Bornholm Skovb 64.81 321⇑ *iP* **P** **04 07 04.9 -0.6**
comp=Z,33nm,1.0s,mb5.3
BSD *e* 04 09 45.4
OJC Ojcow 64.86 315 *eP* **P** **04 07 05.7 -0.2**
DRGR 64.97 311⇑ *iP* **P** **04 07 06.5 -0.1**
DRGR 64.97 311 ⇑P **P** **04 07 06.5 -0.1**
NIE Niedzica 65.00 314 *eP* **P** **04 07 07.3 +0.6**
CTA Charters Tower 65.19 149 *eP* **P** **04 07 10.9 +2.9**
comp=Z,8.9nm,0.9s,mb4.8
CTA Charters Tower 65.19 149 P **P** **04 07 09.6 +1.6**
comp=Z,14nm,1.1s,mb4.9,baz=350,slow=8.6,SNR=6.0
CTA Charters Tower 65.19 149 P **P** **04 07 09.6 +1.6**
CTA pmax pmax
comp=Z,14nm,1.1s
CTAO Charters Tower 65.19 149 *eP* **P** **04 07 10.2 +2.2**
CTAO pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
CTAO Charters Tower 65.19 149 *eP* **P** **04 07 10.2 +2.2**
comp=Z,7.5nm,0.9s,mb4.7
KECS Kecovo 65.39 313 *eP* **P** **04 07 06.9 -2.4**
KECS *e* 04 07 36.6
KECS pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
KECS Kecovo 65.39 313 *eP* **P** **04 07 06.9 -2.4**
comp=Z,3.1nm,1.1s,mb4.2
KECS *e* 04 07 36.6
KECS *e*PP PP 04 09 27.7 -5.4
SKAG Skagway 65.61 32 *eP* **P** **04 07 11.2 +0.5**
COP Copenhagen 65.68 323 *i P* **P** **04 07 09.9 -1.3**
comp=Z,25nm,0.8s,mb5.3
COP
comp=Z,240nm,17.0s
COP Copenhagen 65.68 323 *eP* **P** **04 07 09.9 -1.3**
COP pmax pmax
comp=Z,25nm,0.8s,mb5.3
COP MLR MLR
comp=Z,240nm,17.0s,MS4.5
COP Copenhagen 65.68 323 *eP* **P** **04 07 09.9 -1.3**
comp=Z,25nm,0.8s,mb5.3
COP LR LR
comp=Z,240nm,17.0s,MS4.5
RGN Rugen 65.89 322 *eP* **P** **04 07 13.0 +0.4**
comp=Z,96nm,1.2s,mb5.7
OKC Ostrava-Krasne 65.97 315 *eP* **P** **04 07 12.9 -0.2**
PSZ Piszkesteto 66.02 313⇑ *eP* **P** **04 07 13.5 +0.1**
PSZ Piszkesteto 66.02 313 *eP* **P** **04 07 13.4 0.0**
PSZ pmax pmax
comp=Z,25nm,1.4s,mb5.0
PSZ Piszkesteto 66.02 313 *eP* **P** **04 07 13.4 +0.1**
comp=Z,25nm,1.4s,mb5.1
BZS Buzias 66.23 310⇑ *iP* **P** **04 07 13.7 -1.1**
VYHS Vyhne 66.31 314 *i P* **P** **04 07 15.2 0.0**
comp=Z,16nm,1.4s,mb4.9
VYHS LR LR
comp=Z,400nm,19.6s,MS4.6
MORC Moravsky Berou 66.33 316 *eP* **P** **04 07 15.2 -0.2**
KSP Ksiaz 66.43 317 *eP* **P** **04 07 16.4 +0.4**
KSP Ksiaz 66.43 317⇑ *eP* **P** **04 07 16.1 +0.1**
KSP *e*pP pP 04 07 24.9 +5.4
KSP LR LR
comp=Z,2µm,18.9s,MS5.3
DPC Dobruska-Polom 66.68 317 *eP* **P** **04 07 18.3 +0.7**
DPC AMS AMS 04 38 00.0
comp=Z,900nm,16.2s
MUD Monsted U'grnd 66.74 325⇑ *iP* **P** **04 07 17.9 -0.1**
comp=Z,34nm,1.0s,mb5.3
MUD
comp=Z,450nm,17.0s
MUD Monsted U'grnd 66.74 325⇑ *iP* **P** **04 07 17.9 -0.1**
MUD pmax pmax
comp=Z,34nm,1.0s,mb5.3
MUD MLR MLR
comp=Z,460nm,17.0s,MS4.8
UPC Upice 66.76 317 *eP* **P** **04 07 18.5 +0.4**
RUE Ruedersdorf 66.82 319 *eP* **P** **04 07 18.9 +0.4**
comp=Z,29nm,0.6s,mb5.5
VTS Vitosha 66.87 307⇑ *iP* **P** **04 07 19.1 +0.3**
VTS Vitosha 66.87 307 ⇑P **P** **04 07 19.1 +0.3**
VRAC Vranov 67.11 316⇑ *iP* **P** **04 07 20.8 +0.5**
VRAC Vranov 67.11 316 ⇑P **P** **04 07 20.8 +0.4**
SUMG Summit 67.31 352 *eP* **P** **04 07 20.3 -1.4**
comp=Z,4.2nm,0.6s,mb4.7
ZST Bratislava 67.44 314 *eP* **P** **04 07 22.2 -0.2**
ZST Bratislava 67.44 314 *eP* **P** **04 07 22.3 -0.1**
comp=Z,12nm,1.1s,mb4.8
ZST LR LR
comp=Z,300nm,14.8s,MS4.6
PVCC Panska Ves 67.51 317 *eP* **P** **04 07 23.2 +0.3**
PVCC AMS AMS 04 38 40.0
comp=Z,1µm,17.7s
BRG Berggiesshubel 67.65 318 *eP* **P** **04 07 23.9 +0.2**
comp=Z,28nm,1.1s,mb5.2
BRG Berggiesshubel 67.65 318 *eP* **P** **04 07 23.8 +0.1**
comp=Z,17nm,1.1s,mb5.0
BRG
comp=N,225nm,16.4s
BRG
comp=E,262nm,17.9s
BRG
comp=Z,361nm,16.4s
BRG Berggiesshubel 67.65 318 *eP* **P** **04 07 23.8 +0.1**
BRG pmax pmax
comp=Z,17nm,1.1s,mb5.0
BRG MLR MLR
comp=N,225nm,16.4s,MS4.6
BRG MLR MLR
comp=E,262nm,17.9s,MS4.6
BRG MLR MLR
comp=Z,361nm,16.4s,MS4.7
PKSM Moragy 67.66 312⇑ *iP* **P** **04 07 23.3 -0.5**
PKSM Moragy 67.66 312 ⇑P **P** **04 07 23.3 -0.5**
BSEG Bad Segeberg 67.69 322 *eP* **P** **04 07 24.3 +0.3**
comp=Z,44nm,0.9s,mb5.5
TREC Trest 67.72 316 *eP* **P** **04 07 24.2 0.0**
TREC AMS AMS 04 38 40.0
comp=Z,700nm,14.5s
CLL Collm 67.88 319 *eP* **P** **04 07 25.0 -0.2**
comp=Z,41nm,0.9s,mb5.5
CLL Collm 67.88 319 ⇑P **P** **04 07 24.9 -0.3**
comp=Z,logA/T=1.6,mb5.4
CLL *i* *PP pP 04 07 28.5 -0.2
CLL *i* *SP sP 04 07 31.2 +1.1
CLL *e*PP PP 04 09 57.0 +2.1
CLL Collm 67.88 319⇑ *iP* **P** **04 07 24.9 -0.3**
comp=Z,41nm,1.0s,mb5.4
CLL *i* (pP) pP 04 07 28.5 -0.2
CLL *i* sP sP 04 07 31.2 +1.1
CLL *e*PP PP 04 09 57.0 +2.1
CLL Collm 67.88 319⇑ *iP* **P** **04 07 24.9 -0.3**
CLL *i* 04 07 31.2
CLL pmax pmax
comp=Z,41nm,1.0s,mb5.4
CLL MLR MLR
comp=Z,800nm,17.3s,MS5.0
CLL Collm 67.88 319⇑ *iP* **P** **04 07 24.9 -0.3**
comp=Z,41nm,1.0s,mb5.4
CLL *i* pP 04 07 28.5 -0.2
CLL *i* 04 07 31.2
CLL LR LR
comp=Z,800nm,17.3s,MS5.0
FBE Freiberg 67.92 318 *eP* **P** **04 07 25.7 +0.2**
comp=Z,35nm,1.4s,mb5.2
CONA Conrad Observa 68.28 315⇑ *iP* **P** **04 07 28.6 +0.9**
comp=Z,34nm,1.1s,mb5.3
DLBC Dease Lake 68.41 31 *eP* **P** **04 07 32.5 +4.0**
NRDL Niedersach Rie 68.64 321 *eP* **P** **04 07 30.5 +0.5**
comp=Z,36nm,1.1s,mb5.2
TANN Tannenbergstha 68.68 318 *eP* **P** **04 07 30.5 +0.3**
comp=Z,19nm,1.1s,mb4.9
LRW Lerwick 68.68 332⇑ *eP* **P** **04 07 29.5 -0.7**
LRW Lerwick 68.68 332⇑ *eP* **P** **04 07 29.5 -0.7**
WERD Werda 68.74 318 *eP* **P** **04 07 30.8 +0.2**
comp=Z,19nm,1.2s,mb4.9
NKC Novy Kostel 68.80 318 *eP* **P** **04 07 31.0 +0.1**
KHC Kasperske Hory 68.84 317 *eP* **P** **04 07 31.1 -0.1**

KHC AMS AMS 04 39 10.0
comp=Z,1µm,18.4s
KHC Kasperske Hory 68.84 317*c i*P **P** **04 07 31.2 0.0**
CLZ Clausthal 68.90 320 *e*P **P** **04 07 32.3 +0.7**
comp=Z,54nm,1.1s,mb5.4
CLZ Clausthal 68.90 320 *e*P **P** **04 07 32.3 +0.7**
CLZ pmax pmax
comp=Z,54nm,1.1s,mb5.4
GEC2 GERESS Array S 68.94 316 *e*P **P** **04 07 31.9 +0.1**
comp=Z,16nm,1.2s,mb4.8
GEC2 GERESS Array S 68.94 316 *e*P **P** **04 07 31.9 +0.1**
GEC2 pmax pmax
comp=Z,16nm,1.2s,mb4.8
GERES GERESS Array B 68.94 316 P **P** **04 07 31.8 0.0**
comp=Z,5.6nm,0.9s,mb4.5,baz=56,slow=5.0,SNR=33
GERES LR LR 04 39 57.5
comp=Z,753nm,18.0s,MS5.0,baz=76,slow=38
GERES GERESS Array B 68.94 316 P **P** **04 07 31.8 0.0**
GERES pmax pmax
comp=Z,6.0nm,1.0s
GERES MLR MLR
comp=Z,753nm,18.0s
MOX Moxa 68.98 319 *e*P **P** **04 07 32.3 +0.2**
comp=Z,19nm,1.3s,mb4.9
MOX Moxa 68.98 319 *e*P **P** **04 07 32.2 +0.1**
comp=Z,37nm,1.8s,mb5.0
MOX
comp=Z,700nm,18.0s
MOX Moxa 68.98 319 *e*P **P** **04 07 32.2 +0.1**
MOX pmax pmax
comp=Z,37nm,1.8s,mb5.0
MOX MLR MLR
comp=Z,700nm,18.0s,MS4.9
ROTZ Rotzenmuhle 69.19 318 *e*P **P** **04 07 34.0 +0.6**
comp=Z,25nm,1.1s,mb5.1
WET Wettzell 69.20 317 *e*P **P** **04 07 33.8 +0.3**
comp=Z,16nm,1.3s,mb4.8
WET Wettzell 69.20 317 *e*P **P** **04 07 33.8 +0.3**
WET pmax pmax
comp=Z,16nm,1.3s,mb4.8
MOA Molln 69.21 315⇑*i*P **P** **04 07 33.5 0.0**
comp=Z,18nm,1.4s,mb4.8
PERS Pernice 69.44 314 *e*P **P** **04 07 34.6 -0.3**
UBBA Unterbreizbach 69.70 319 *e*P **P** **04 07 36.7 +0.1**
comp=Z,30nm,1.5s,mb5.0
GRA1 Grafenberg Arr 69.75 318 *e*P **P** **04 07 37.5 +0.6**
comp=Z,64nm,1.0s,mb5.5
GRA1 LR LR
comp=Z,700nm,20.1s,MS4.9
GRF Grafenberg Arr 69.75 318 *e*P **P** **04 07 37.5 +0.6**
comp=Z,64nm,1.0s,mb5.5
GRF *e*L 04 40 46.4
comp=Z,668nm,20.1s
GRF Grafenberg Arr 69.75 318 *e*P **P** **04 07 37.5 +0.6**
GRF pmax pmax
comp=Z,64nm,1.0s,mb5.5
GRF MLR MLR
comp=Z,700nm,20.1s,MS4.9
GRF Grafenberg Arr 69.75 318 *e*P **P** **04 07 37.5 +0.6**
GRF pmax pmax
comp=Z,64nm,1.0s,mb5.5
GRF MLR MLR
comp=Z,700nm,20.1s,MS4.9
OBKA Obir 69.83 314⇑*i*P **P** **04 07 36.1 -1.3**
comp=Z,15nm,1.1s,mb4.8
IBBN Ibbenburen 69.91 322 *e*P **P** **04 07 37.7 -0.1**
comp=Z,18nm,0.6s,mb5.2
BOJS Bojanci 70.02 313 *e*P **P** **04 07 38.0 -0.5**
VISS Visnje 70.08 313 *e*P **P** **04 07 38.6 -0.3**
WIT Witteveen 70.11 323 *e*P **P** **04 07 40.4 +1.4**
KBA Koelnbreinsper 70.17 315⇑*i*P **P** **04 07 39.8 +0.4**
comp=Z,28nm,1.2s,mb5.0
KBA Koelnbreinsper 70.17 315*i*P **P** **04 07 39.8 +0.4**
KBA pmax pmax
comp=Z,28nm,1.3s,mb5.0
KLBR Kellerberrin 70.26 179 *e*P **P** **04 07 39.9 -0.1**
comp=Z,46nm,1.5s,mb5.2
FORT Forrest 70.31 169 *e*P **P** **04 07 39.0 -1.3**
comp=Z,13nm,0.6s,mb5.0
FORT *e* pP 04 07 43.1 -0.7
WTSB Winterswijk 70.58 322⇑*e*P **P** **04 07 42.0 0.0**
comp=Z,31nm,1.2s,mb5.1
MUN Mundaring 70.63 180 *e*P **P** **04 07 45.5 +3.3**
FUR Furstenfeldbru 70.64 317 *e*P **P** **04 07 42.8 +0.5**
comp=Z,48nm,1.2s,mb5.3
FUR Furstenfeldbru 70.64 317 *e*P **P** **04 07 42.8 +0.5**
FUR pmax pmax
comp=Z,48nm,1.2s,mb5.3
BUG Bochum–Univer 70.68 321 *e*P **P** **04 07 42.6 0.0**
comp=Z,28nm,0.9s,mb5.2
ORE Reay 70.74 331⇑*e*P **P** **04 07 42.6 -0.4**
ORE Reay 70.74 331⇑*e*P **P** **04 07 42.6 -0.4**
TNS Taunus Mts 70.85 320 *e*P **P** **04 07 44.0 +0.4**
comp=Z,15nm,1.2s,mb4.8
TNS Taunus Mts 70.85 320 *e*P **P** **04 07 44.0 +0.4**
TNS pmax pmax
comp=Z,15nm,1.2s,mb4.8
YKA Yellowknife Ar 70.94 22 P **P** **04 07 42.2 -1.9**
comp=Z,3.0nm,0.8s,mb4.3,baz=322,slow=6.0,SNR=13
YKA LR LR 04 38 54.3
comp=Z,130nm,21.9s,MS4.2,baz=350,slow=36
YKA Yellowknife Ar 70.94 22 P **P** **04 07 42.2 -1.9**
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA MLR MLR
comp=Z,131nm,21.9s
YKA Yellowknife Ar 70.94 22 P **P** **04 07 42.2 -1.9**
YKA LR LR 04 38 54.3
WATA Walderalm 70.98 316⇑*i*P **P** **04 07 44.9 +0.6**
comp=Z,8.8nm,0.9s,mb4.7
WATA Walderalm 70.98 316⇑*i*P **P** **04 07 45.0 +0.6**
WATA pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
WTTA Wattenberg 70.99 316⇑*i*P **P** **04 07 44.7 +0.3**
comp=Z,26nm,1.0s,mb5.1
WTTA Wattenberg 70.99 316⇑*i*P **P** **04 07 44.8 +0.4**
WTTA pmax pmax
comp=Z,26nm,1.0s,mb5.1
OTO Tongue 71.01 331⇑*e*P **P** **04 07 44.3 -0.2**
OTO Tongue 71.01 331⇑*e*P **P** **04 07 44.3 -0.2**
MCD Coleburn Disti 71.22 330⇑*e*P **P** **04 07 45.4 -0.4**
MCD Coleburn Disti 71.22 330⇑*e*P **P** **04 07 45.4 -0.4**
MOTA Moosalm 71.23 316⇑*i*P **P** **04 07 45.7 -0.2**
comp=Z,15nm,1.2s,mb4.8
MOTA Moosalm 71.23 316⇑*i*P **P** **04 07 45.7 -0.2**
MOTA pmax pmax
comp=Z,15nm,1.2s,mb4.8
SQTA Sankt Quirin 71.25 316⇑*i*P **P** **04 07 46.0 0.0**
comp=Z,26nm,1.3s,mb5.0
SQTA Sankt Quirin 71.25 316⇑*i*P **P** **04 07 46.0 0.0**
SQTA pmax pmax
comp=Z,26nm,1.3s,mb5.0
MME1 Meikle Cairn 71.30 330⇑*e*P **P** **04 07 45.5 -0.8**
MME1 Meikle Cairn 71.30 330⇑*e*P **P** **04 07 45.5 -0.8**
STU Stuttgart 71.37 318 *e*P **P** **04 07 46.6 -0.1**
comp=Z,14nm,1.1s,mb4.8
NWAO Narrogin (SRO) 71.58 179 LR LR 04 36 08.2
comp=Z,154nm,21.4s,MS4.2,baz=346,slow=33
NWAO Narrogin (SRO) 71.58 179 *e*P **P** **04 07 49.4 +1.4**
NWAO pmax pmax
comp=Z,42nm,1.1s
NWAO Narrogin (SRO) 71.58 179 *e*P **P** **04 07 49.4 +1.4**
comp=Z,42nm,1.1s,mb5.3
HGN Heimansgroeve 71.76 321⇑*e*P **P** **04 07 48.5 -0.6**
comp=Z,19nm,1.1s,mb4.9
MEM Membach 71.82 321 P **P** **04 07 49.5 0.0**
comp=Z,8.9nm,0.9s,mb4.7
BEBN Eben Emael 71.87 321 P **P** **04 07 49.8 0.0**
DAVA Damuels 71.92 317⇓*i*P **P** **04 07 50.2 +0.1**
comp=Z,21nm,1.4s,mb4.9
KAC Achnashellach 72.06 331 *e*P **P** **04 07 50.3 -0.6**
KAC Achnashellach 72.06 331 *e*P **P** **04 07 50.3 -0.6**
BFO Black Forest 72.09 318 *e*P **P** **04 07 50.8 -0.3**
comp=Z,16nm,1.0s,mb4.9
BFO Black Forest 72.09 318 *e*P **P** **04 07 50.8 -0.3**
BFO pmax pmax
comp=Z,16nm,1.0s,mb4.9
BCLA Clavier 72.29 321⇑P **P** **04 07 52.1 -0.2**
WLF Walferdange 72.36 320 *e*P **P** **04 07 53.4 +0.7**
comp=Z,30nm,1.2s,mb5.1
WLF Walferdange 72.36 320 P **P** **04 07 53.6 +0.9**
comp=Z,7.8nm,1.2s,mb4.5
WLF Walferdange 72.36 320 *e*P **P** **04 07 52.3 -0.4**
WLF pmax pmax
comp=Z,27nm,1.3s,mb5.0
WLF Walferdange 72.36 320 *e*P **P** **04 07 52.3 -0.4**
comp=Z,27nm,1.3s,mb5.0
EBL Broad Law 72.41 329⇑*e*P **P** **04 07 52.6 -0.4**
EBL Broad Law 72.41 329⇑*e*P **P** **04 07 52.6 -0.4**
EAU Auchinoon 72.52 329⇑*e*P **P** **04 07 53.3 -0.3**
EAU Auchinoon 72.52 329⇑*e*P **P** **04 07 53.3 -0.3**
CDF Champ du Feu 72.59 319 *e*P **P** **04 07 53.9 -0.1**
comp=Z,77nm,1.1s,mb5.2
CDF Champ du Feu 72.59 319 *e*P **P** **04 07 53.9 -0.1**
CDF pmax pmax
comp=Z,39nm,1.1s,mb5.2
CDF Champ du Feu 72.59 319 *e*P **P** **04 07 53.9 -0.1**
comp=Z,38nm,1.1s,mb5.2
EAB Aberfoyle 72.63 330⇑*e*P **P** **04 07 53.9 -0.4**
EAB Aberfoyle 72.63 330⇑*e*P **P** **04 07 53.9 -0.4**
KAR1 Arisaig 72.68 331 *e*P **P** **04 07 54.0 -0.6**
KAR1 Arisaig 72.68 331 *e*P **P** **04 07 54.0 -0.6**
SNF Seneffe 72.73 322 P **P** **04 07 55.1 +0.2**
comp=Z,5.6nm,1.0s,mb4.5
GIVF Givet 72.73 321 *e*P **P** **04 07 54.6 -0.3**
TIP Timpagrande 72.83 307 *e*P **P** **04 07 54.6 -0.8**
NRCA Norcia 72.84 311 P **P** **04 07 55.6 +0.1**
DOU Dourbes 72.85 321 P **P** **04 07 55.3 -0.3**
comp=Z,3.5nm,0.9s,mb4.3
PGBU Glenifferbraes 72.95 329⇑*e*P **P** **04 07 56.1 -0.2**
PGBU Glenifferbraes 72.95 329⇑*e*P **P** **04 07 56.1 -0.2**
VMG Vicchio 73.06 313 P **P** **04 07 58.1 +1.3**
BAIF Baives 73.06 321 *e*P **P** **04 07 56.5 -0.3**
BWH Wardlaw 73.08 329 *e*P **P** **04 07 56.4 -0.5**
BWH Wardlaw 73.08 329 *e*P **P** **04 07 56.4 -0.5**
ZCCA Zocca 73.14 314 P **P** **04 07 59.1 +1.8**
comp=Z,44nm,1.3s,mb5.2
HINF Hinteralfeld 73.19 318 *e*P **P** **04 07 56.9 -0.7**
comp=Z,34nm,1.3s,mb4.8
HINF Hinteralfeld 73.19 318 *e*P **P** **04 07 56.9 -0.7**
HINF pmax pmax
comp=Z,17nm,1.3s,mb4.8
HINF Hinteralfeld 73.19 318 *e*P **P** **04 07 56.9 -0.7**
comp=Z,17nm,1.3s,mb4.8
BBO1 Bothel 73.22 328⇑*e*P **P** **04 07 57.4 -0.4**
BBO1 Bothel 73.22 328⇑*e*P **P** **04 07 57.4 -0.4**
CKE Keswick 73.27 328 *e*P **P** **04 07 56.5 -1.6**
CKE Keswick 73.27 328 *e*P **P** **04 07 56.5 -1.6**
HAU Haudompre 73.32 319 *e*P **P** **04 07 59.0 +0.6**
comp=Z,25nm,1.0s,mb4.8
HAU *e*R
comp=Z,737nm,18.5s
HAU Haudompre 73.32 319 *e*P **P** **04 07 59.0 +0.6**
HAU pmax pmax
comp=Z,13nm,1.0s,mb4.8
HAU MLR MLR
comp=Z,740nm,18.5s,MS5.0
HAU Haudompre 73.32 319 *e*P **P** **04 07 59.0 +0.6**
comp=Z,13nm,1.0s,mb4.8
HAU LR LR
comp=Z,740nm,18.5s,MS5.0
ERBM Eremo 73.41 314 P **P** **04 08 00.4 +1.5**
LHO Holmfirth 73.47 327⇑*e*P **P** **04 07 58.6 -0.7**
LHO Holmfirth 73.47 327⇑*e*P **P** **04 07 58.6 -0.7**
XDE Dent Fell 73.48 328 *e*P **P** **04 07 58.6 -0.7**
XDE AMb AMB 04 08 00.3
comp=Z,52nm,1.2s,mb5.3
XDE Dent Fell 73.48 328 *e*P **P** **04 07 58.6 -0.7**
XDE AMb AMB 04 08 00.3
comp=Z,52nm,1.2s,mb5.3
KBI1 Birley Grange 73.54 326⇑*e*P **P** **04 07 58.7 -0.9**
KBI1 Birley Grange 73.54 326⇑*e*P **P** **04 07 58.7 -0.9**
MCGN Macugnaga 73.78 316 P **P** **04 08 01.5 +0.4**
comp=Z,19nm,1.2s,mb4.9
KWE Weaver Farm 73.84 326 *e*P **P** **04 08 00.9 -0.5**
KWE Weaver Farm 73.84 326 *e*P **P** **04 08 00.9 -0.5**
SFJD Kangerlussuaq 73.84 355 *i*P **P** **04 08 00.2 -1.2**
comp=Z,12nm,0.9s,mb4.8
SFJD Kangerlussuaq 73.84 355 *i*P **P** **04 08 00.2 -1.2**
SFJD pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRFL Gerfalco 73.88 313 P **P** **04 08 01.5 -0.2**
SKP1 Kophill 74.28 325⇑*e*P **P** **04 08 02.8 -1.3**
SKP1 Kophill 74.28 325⇑*e*P **P** **04 08 02.8 -1.3**
CABF La Chapelle 74.36 318 *e*P **P** **04 08 03.9 -0.6**
comp=Z,27nm,1.0s,mb4.8
CABF La Chapelle 74.36 318 *e*P **P** **04 08 03.9 -0.6**
CABF pmax pmax
comp=Z,14nm,1.0s,mb4.8
CABF La Chapelle 74.36 318 *e*P **P** **04 08 03.9 -0.6**
comp=Z,14nm,1.0s,mb4.8
STKA Stephens Creek 74.38 158 P **P** **04 08 04.4 -0.2**
comp=Z,5.4nm,0.7s,mb4.6,baz=346,slow=4.1,SNR=6.7
SBD1 Bryn Du 74.52 327 *e*P **P** **04 08 05.0 -0.4**
SBD1 Bryn Du 74.52 327 *e*P **P** **04 08 05.0 -0.4**
SSW Stow on the Wo 74.58 325⇑*e*P **P** **04 08 05.1 -0.6**
SSW Stow on the Wo 74.58 325⇑*e*P **P** **04 08 05.1 -0.6**
WCB1 Church Bay 74.73 328 *e*P **P** **04 08 06.1 -0.5**
WCB1 AMb AMB 04 08 07.8
comp=Z,41nm,1.5s,mb5.2
WCB1 Church Bay 74.73 328 *e*P **P** **04 08 06.1 -0.5**
WCB1 AMb AMB 04 08 07.8
comp=Z,41nm,1.5s,mb5.2
WLF1 Llynfaes 74.73 328⇑*e*P **P** **04 08 05.9 -0.7**
WLF1 AMb AMB 04 08 07.4
comp=Z,64nm,1.2s,mb5.4
WLF1 Llynfaes 74.73 328⇑*e*P **P** **04 08 05.9 -0.7**
WLF1 AMb AMB 04 08 07.4
comp=Z,64nm,1.2s,mb5.4
LPL La Plagne 74.73 317 *e*P **P** **04 08 06.7 +0.1**
comp=Z,36nm,1.1s,mb4.9
LPL La Plagne 74.73 317 *e*P **P** **04 08 06.7 +0.1**
LPL pmax pmax
comp=Z,18nm,1.1s,mb4.9
LPL La Plagne 74.73 317 *e*P **P** **04 08 06.7 +0.1**
comp=Z,18nm,1.1s,mb4.9
LPG La Plagne 74.73 317 *e*P **P** **04 08 07.0 +0.3**
comp=Z,60nm,1.3s,mb5.1
LPG La Plagne 74.73 317 *e*P **P** **04 08 07.0 +0.3**
LPG pmax pmax
comp=Z,30nm,1.3s,mb5.1
LPG La Plagne 74.73 317 *e*P **P** **04 08 07.0 +0.3**
comp=Z,30nm,1.3s,mb5.1
YRC Rhoscolyn 74.83 328⇑*e*P **P** **04 08 06.5 -0.7**
YRC AMb AMB 04 08 08.5
comp=Z,52nm,1.3s,mb5.3
YRC Rhoscolyn 74.83 328⇑*e*P **P** **04 08 06.5 -0.7**
YRC AMb AMB 04 08 08.5
comp=Z,52nm,1.3s,mb5.3
MCH1 Michaelchurch 75.06 326 *e*P **P** **04 08 07.8 -0.7**
MCH1 ⇑*e*P 04 08 07.8
MCH1 Michaelchurch 75.06 326 *e*P **P** **04 08 07.8 -0.7**
MCH1 ⇑*e*P 04 08 07.8
BNI Bardonecchia 75.06 316 *e*P **P** **04 08 08.6 +0.1**
BNI pmax pmax
comp=Z,17nm,1.3s,mb4.8
BNI Bardonecchia 75.06 316 *e*P **P** **04 08 08.6 +0.1**
comp=Z,17nm,1.3s,mb4.8
LOR Lormes 75.08 319 *e*P **P** **04 08 07.4 -1.2**
comp=Z,24nm,1.0s,mb4.8
LOR *e*R
comp=Z,575nm,18.5s
LOR Lormes 75.08 319 *e*P **P** **04 08 07.4 -1.2**
LOR pmax pmax
comp=Z,12nm,1.0s,mb4.8
LOR MLR MLR
comp=Z,580nm,18.5s,MS4.9
LOR Lormes 75.08 319 *e*P **P** **04 08 07.4 -1.2**
comp=Z,12nm,1.0s,mb4.8
LOR LR LR
comp=Z,580nm,18.5s,MS4.9
HTR Trewern Hill 75.12 326 *e*P **P** **04 08 08.2 -0.6**
HTR AMb AMB 04 08 09.6
comp=Z,58nm,1.4s,mb5.3
HTR Trewern Hill 75.12 326 *e*P **P** **04 08 08.2 -0.6**
HTR AMb AMB 04 08 09.6
comp=Z,58nm,1.4s,mb5.3
IMI Imperia 75.14 315 P **P** **04 08 09.0 0.0**
MBDF Montbardon 75.22 316 *e*P **P** **04 08 08.7 -0.8**
comp=Z,31nm,1.1s,mb4.8
MBDF Montbardon 75.22 316 *e*P **P** **04 08 08.7 -0.8**
MBDF pmax pmax
comp=Z,16nm,1.1s,mb4.9
MBDF Montbardon 75.22 316 *e*P **P** **04 08 08.7 -0.8**
comp=Z,16nm,1.1s,mb4.8
HGH Gray Hill 75.23 326 *e*P **P** **04 08 08.6 -0.9**
HGH Gray Hill 75.23 326 *e*P **P** **04 08 08.6 -0.9**
PGF Pioggiola 75.39 313 *e*P **P** **04 08 10.2 -0.2**
comp=Z,39nm,1.0s,mb5.0
PGF Pioggiola 75.39 313 *e*P **P** **04 08 10.2 -0.2**
PGF pmax pmax
comp=Z,20nm,1.0s,mb5.0
PGF Pioggiola 75.39 313 *e*P **P** **04 08 10.2 -0.2**
comp=Z,20nm,1.0s,mb5.0
SSF Saint Saulge 75.40 319 *e*P **P** **04 08 09.7 -0.8**
comp=Z,10nm,0.9s,mb4.5
SSF Saint Saulge 75.40 319 *e*P **P** **04 08 09.7 -0.8**
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
SSF Saint Saulge 75.40 319 *e*P **P** **04 08 09.7 -0.8**
comp=Z,5.2nm,0.9s,mb4.5
SBF Sospel 75.42 315 *e*P **P** **04 08 09.9 -0.7**
comp=Z,34nm,0.8s,mb5.0
SBF Sospel 75.42 315 *e*P **P** **04 08 09.9 -0.7**
SBF pmax pmax
comp=Z,17nm,0.8s,mb5.0
SBF Sospel 75.42 315 *e*P **P** **04 08 09.9 -0.7**
comp=Z,17nm,0.8s,mb5.0
SMF Signal de Mont 75.50 319 *e*P **P** **04 08 10.4 -0.7**
comp=Z,68nm,1.2s,mb5.1
SMF Signal de Mont 75.50 319 *e*P **P** **04 08 10.4 -0.7**
SMF pmax pmax
comp=Z,34nm,1.2s,mb5.2
SMF Signal de Mont 75.50 319 *e*P **P** **04 08 10.4 -0.7**
comp=Z,34nm,1.2s,mb5.2
ORIF Oris-en-Rattie 75.58 317 *e*P **P** **04 08 11.2 -0.3**
comp=Z,23nm,1.1s,mb4.7
ORIF *e*R
comp=Z,1µm,19.0s
ORIF Oris-en-Rattie 75.58 317 *e*P **P** **04 08 11.2 -0.3**
ORIF pmax pmax
comp=Z,11nm,1.1s,mb4.7
ORIF Oris-en-Rattie 75.58 317 *e*P **P** **04 08 11.2 -0.3**
comp=Z,11nm,1.1s,mb4.7
AVF Avril sur Loir 75.66 319 *e*P **P** **04 08 11.3 -0.7**
comp=Z,24nm,1.0s,mb4.8
AVF Avril sur Loir 75.66 319 *e*P **P** **04 08 11.3 -0.7**
AVF pmax pmax
comp=Z,12nm,1.0s,mb4.8
AVF Avril sur Loir 75.66 319 *e*P **P** **04 08 11.3 -0.7**
comp=Z,12nm,1.0s,mb4.8
HYF Humbligny 75.69 320 *e*P **P** **04 08 12.1 -0.1**
FRF La Foret Royal 76.05 315 *e*P **P** **04 08 13.5 -0.7**
comp=Z,35nm,1.3s,mb4.8
FRF La Foret Royal 76.05 315 *e*P **P** **04 08 13.5 -0.7**
FRF pmax pmax
comp=Z,17nm,1.3s,mb4.8
FRF La Foret Royal 76.05 315 *e*P **P** **04 08 13.5 -0.7**
comp=Z,17nm,1.3s,mb4.8
HEX Exmoor 76.08 326⇑*e*P **P** **04 08 13.2 -1.1**
HEX Exmoor 76.08 326⇑*e*P **P** **04 08 13.2 -1.1**
LDF La Druitiere 76.14 322 *e*P **P** **04 08 13.9 -0.8**
comp=Z,35nm,1.0s,mb4.9
LDF La Druitiere 76.14 322 *e*P **P** **04 08 13.9 -0.8**
LDF pmax pmax
comp=Z,18nm,1.0s,mb5.0
LDF La Druitiere 76.14 322 *e*P **P** **04 08 13.9 -0.8**
comp=Z,18nm,1.0s,mb5.0
FLN La Foliniere 76.19 322 *e*P **P** **04 08 13.9 -1.1**
comp=Z,18nm,0.9s,mb4.7
FLN La Foliniere 76.19 322 *e*P **P** **04 08 13.9 -1.1**
FLN pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
FLN La Foliniere 76.19 322 *e*P **P** **04 08 13.9 -1.1**
comp=Z,9.0nm,0.9s,mb4.7
VIVF Saint-Julien-l 76.26 317 *e*P **P** **04 08 14.8 -0.6**
comp=Z,25nm,1.2s,mb4.7
VIVF Saint-Julien-l 76.26 317 *e*P **P** **04 08 14.8 -0.6**
VIVF pmax pmax
comp=Z,12nm,1.2s,mb4.7
VIVF Saint-Julien-l 76.26 317 *e*P **P** **04 08 14.8 -0.6**
comp=Z,12nm,1.2s,mb4.7
LMR La Mourre 76.28 315 *e*P **P** **04 08 15.0 -0.5**
comp=Z,52nm,1.3s,mb5.0
LMR La Mourre 76.28 315 *e*P **P** **04 08 15.0 -0.5**
LMR pmax pmax
comp=Z,26nm,1.3s,mb5.0
LMR La Mourre 76.28 315 *e*P **P** **04 08 15.0 -0.5**
comp=Z,26nm,1.3s,mb5.0
SMRF Simiane la Rot 76.36 316 *e*P **P** **04 08 15.6 -0.4**
TCF Toulx Ste Croi 76.58 319 *e*P **P** **04 08 16.8 -0.4**
comp=Z,19nm,1.2s,mb4.6
TCF Toulx Ste Croi 76.58 319 *e*P **P** **04 08 16.8 -0.4**
TCF pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
TCF Toulx Ste Croi 76.58 319 *e*P **P** **04 08 16.8 -0.4**
comp=Z,9.6nm,1.2s,mb4.6
DYA Yadsworthy 76.59 325⇑*e*P **P** **04 08 16.4 -0.9**
DYA Yadsworthy 76.59 325⇑*e*P **P** **04 08 16.4 -0.9**
GRR Gorron 76.63 322 *e*P **P** **04 08 16.7 -0.8**
comp=Z,36nm,1.1s,mb4.9
GRR Gorron 76.63 322 *e*P **P** **04 08 16.7 -0.8**
GRR pmax pmax
comp=Z,18nm,1.1s,mb4.9
GRR Gorron 76.63 322 *e*P **P** **04 08 16.7 -0.8**
comp=Z,18nm,1.1s,mb4.9
LASF Ste Croix 77.22 317 *e*P **P** **04 08 20.5 -0.3**
comp=Z,30nm,1.3s,mb4.8
SGMF Saint Gilles 77.53 323 *e*P **P** **04 08 22.0 -0.6**
comp=Z,26nm,0.8s,mb4.9
SGMF Saint Gilles 77.53 323 *e*P **P** **04 08 22.0 -0.6**
SGMF pmax pmax
comp=Z,13nm,0.8s,mb4.9
SGMF Saint Gilles 77.53 323 *e*P **P** **04 08 22.0 -0.6**
comp=Z,13nm,0.8s,mb4.9
MFF Saint Martin d 77.54 321 *e*P **P** **04 08 22.4 -0.2**
comp=Z,28nm,1.0s,mb4.8
MFF Saint Martin d 77.54 321 *e*P **P** **04 08 22.4 -0.2**
MFF pmax pmax
comp=Z,14nm,1.0s,mb4.8
MFF Saint Martin d 77.54 321 *e*P **P** **04 08 22.4 -0.2**
comp=Z,14nm,1.0s,mb4.9
CAF Calviac 77.58 318 *e*P **P** **04 08 22.9 0.0**
comp=Z,28nm,1.2s,mb4.8
CAF Calviac 77.58 318 *e*P **P** **04 08 22.9 0.0**
CAF pmax pmax
comp=Z,14nm,1.2s,mb4.8
CAF Calviac 77.58 318 *e*P **P** **04 08 22.9 0.0**
comp=Z,14nm,1.2s,mb4.8
RJF Les Rejaudoux 77.61 319 *e*P **P** **04 08 22.6 -0.4**
comp=Z,13nm,0.8s,mb4.6
RJF *e*R
comp=Z,607nm,19.8s
RJF Les Rejaudoux 77.61 319 *e*P **P** **04 08 22.6 -0.4**
RJF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
RJF MLR MLR
comp=Z,610nm,19.8s,MS4.9
RJF Les Rejaudoux 77.61 319 *e*P **P** **04 08 22.6 -0.4**
comp=Z,6.4nm,0.8s,mb4.6
RJF LR LR
comp=Z,610nm,19.8s,MS4.9
ROSF Rostrenen 77.80 324 *e*P **P** **04 08 23.6 -0.5**
comp=Z,31nm,1.0s,mb4.9
ROSF Rostrenen 77.80 324 *e*P **P** **04 08 23.6 -0.5**
ROSF pmax pmax
comp=Z,15nm,1.0s,mb4.9
ROSF Rostrenen 77.80 324 *e*P **P** **04 08 23.6 -0.5**
comp=Z,15nm,1.0s,mb4.9
QUIF Quistinic 78.06 323 *e*P **P** **04 08 25.0 -0.5**
LFF La Frestale 78.25 319 *e*P **P** **04 08 26.6 0.0**
comp=Z,27nm,1.0s,mb4.8
LFF La Frestale 78.25 319 *e*P **P** **04 08 26.6 0.0**
LFF pmax pmax
comp=Z,13nm,1.0s,mb4.8
LFF La Frestale 78.25 319 *e*P **P** **04 08 26.6 0.0**
comp=Z,13nm,1.0s,mb4.8
MTLF Montolieu 78.59 317 *e*P **P** **04 08 28.1 -0.4**
comp=Z,11nm,0.9s,mb4.7
MTLF Montolieu 78.59 317 *e*P **P** **04 08 28.1 -0.4**
MTLF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MTLF Montolieu 78.59 317 *e*P **P** **04 08 28.1 -0.4**
comp=Z,5.4nm,0.9s,mb4.5
FCC Fort Churchill 79.38 16 *e*P **P** **04 08 33.2 +0.4**
FCC pmax pmax
comp=Z,14nm,1.2s,mb4.8
FCC Fort Churchill 79.38 16 *e*P **P** **04 08 33.2 +0.4**
comp=Z,14nm,1.2s,mb4.8
EPF Esparros 79.79 318 *e*P **P** **04 08 34.2 -0.8**
comp=Z,9.8nm,1.0s,mb4.4
EPF Esparros 79.79 318 *e*P **P** **04 08 34.2 -0.8**
EPF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
EPF Esparros 79.79 318 *e*P **P** **04 08 34.2 -0.8**
comp=Z,4.9nm,1.0s,mb4.4
EMIR Miracle 79.94 316 P **P** **04 08 35.4 -0.5**
comp=Z,9.4nm,0.7s,mb4.8

EBIE Bielsa 80.14 318 P **P** **04 08 37.5 +0.6**
comp=Z,5.6nm,0.7s,mb4.6
ETSF Etsaut 80.36 318 *e*P **P** **04 08 37.3 -0.8**
comp=Z,8.9nm,0.9s,mb4.4
ETSF Etsaut 80.36 318 *e*P **P** **04 08 37.3 -0.8**
ETSF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ETSF Etsaut 80.36 318 *e*P **P** **04 08 37.3 -0.8**
comp=Z,4.4nm,0.9s,mb4.4
EGRA Graus 80.39 317 P **P** **04 08 38.7 +0.4**
comp=Z,9.6nm,0.6s,mb4.9
ETOS Mallorca 80.72 314 P **P** **04 08 41.2 +1.2**
comp=Z,9.3nm,0.9s,mb4.7
G04A Mulino 80.97 38 ⇑P **P** **04 08 44.4 +3.1**
baz=81
NEW Newport 81.06 33 *e*P **P** **04 08 45.7 +3.9**
HAWA Hanford 81.45 35 *e*P **P** **04 08 48.3 +4.4**
J03A Ideyid Park 82.09 39 ⇓P **P** **04 08 52.0 +4.7**
baz=82
EMOS Mosqueruela 82.11 316 P **P** **04 08 47.8 +0.4**
comp=Z,12nm,0.7s,mb4.9
KMBO Kilima Mbogo 82.11 262 P **P** **04 08 47.5 +0.1**
comp=Z,5.1nm,0.9s,mb4.4,baz=36,slow=8.2,SNR=11
KMBO Kilima Mbogo 82.11 262 P **P** **04 08 47.5 +0.1**
KMBO pmax pmax
comp=Z,5.0nm,0.9s
K02A Glendale 82.27 40 ⇓P **P** **04 08 53.3 +5.1**
baz=82
BSMT Basseo Peak 82.36 32 *e*P **P** **04 08 49.2 +0.5**
YBH Yreka Blue Hor 83.42 40 *e*P **P** **04 08 56.7 +2.5**
MSO Missoula 83.52 32 *e*P **P** **04 08 55.6 +0.8**
comp=Z,7.8nm,1.4s,mb4.7
J06A Christmas Vall 83.54 38 ⇑P **P** **04 08 55.4 +0.6**
baz=83
BMO Blue Mountains 83.63 35 *e*P **P** **04 08 54.8 -0.5**
comp=Z,3.6nm,0.9s,mb4.5
BMO *e*PcP PcP 04 08 59.8 +0.3
CHMT Chamberlain Mo 83.74 32 *e*P **P** **04 08 55.5 -0.3**
K06A Valley Falls 83.83 38 ⇓P **P** **04 08 57.2 +0.8**
baz=84
GUD Guadarrama 83.84 319 P **P** **04 08 56.5 +0.1**
GUD pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
GUD Guadarrama 83.84 319 P **P** **04 08 56.5 +0.2**
comp=Z,3.6nm,0.8s,mb4.5
L05A Lakeview 84.12 39 ⇓P **P** **04 08 59.1 +1.3**
baz=84
EGMT Eagleton 84.21 29 *e*P **P** **04 08 57.3 -1.0**
comp=Z,7.9nm,0.9s,mb4.8
K07A Rock Creek Ran 84.40 38 ⇓P **P** **04 08 59.9 +0.7**
baz=84
EVIA Vianos 84.44 316 P **P** **04 09 00.0 +0.6**
EVIA pmax pmax
comp=Z,16nm,0.8s,mb5.2
EVIA Vianos 84.44 316 P **P** **04 09 00.0 +0.6**
comp=Z,16nm,0.8s,mb5.2
ESDC Sonseca Array 84.45 318 P **P** **04 08 59.4 -0.1**
comp=Z,3.0nm,0.8s,mb4.5,baz=35,slow=4.6,SNR=11
ESDC LR LR 04 50 16.9
comp=Z,202nm,19.1s,MS4.5,baz=80,slow=38
ESDC Sonseca Array 84.45 318 P **P** **04 08 59.4 -0.1**
comp=Z,2.9nm,0.8s,mb4.5
ESLA Sonseca Array 84.46 318 *e*P **P** **04 08 58.9 -0.6**
comp=Z,3.4nm,1.4s,mb4.3
HRY Holter Researc 84.47 31 *e*P **P** **04 08 59.5 0.0**
HATC Hat Creek Radi 84.73 40 ⇑P **P** **04 09 01.7 +0.8**
baz=84
L07A Adell 84.87 38 ⇑P **P** **04 09 02.5 +1.0**
baz=84
WVOR Wild Horse Val 84.88 37 *e*P **P** **04 09 04.9 +3.2**
WVOR pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
WVOR Wild Horse Val 84.88 37 *e*P **P** **04 09 04.9 +3.2**
comp=Z,5.5nm,1.0s,mb4.6
DLMT Dillon 85.26 32 *e*P **P** **04 09 03.0 -0.6**
comp=Z,9.2nm,0.8s,mb5.0
EQES Quesada 85.35 316 P **P** **04 09 03.9 -0.1**
comp=Z,11nm,0.9s,mb5.0
BOZ Bozeman (W) 85.42 31 *e*P **P** **04 09 04.0 -0.3**
M07A Soldier Meadow 85.43 38 ⇑P **P** **04 09 04.9 +0.5**
baz=85
MCMT McKenzie Canyo 85.58 33 *e*P **P** **04 09 04.6 -0.5**
MCMT *e*PcP PcP 04 09 10.5 +2.4
ORV Oroville 85.66 41 ⇓P **P** **04 09 05.5 -0.1**
baz=85
OHCM Honcut 85.83 41 *e*P **P** **04 09 14.2 +7.8**
EADA Adamuz 85.89 317 P **P** **04 09 06.7 0.0**
comp=Z,4.2nm,0.8s,mb4.7
HLID Hailey 85.93 34 *e*P **P** **04 09 07.4 +0.6**
comp=Z,6.2nm,0.8s,mb4.9
GCMT Greycliff 86.09 30 *e*P **P** **04 09 07.5 -0.2**
N08A GE Springer Mi 86.40 38 ⇑P **P** **04 09 09.9 +0.7**
baz=86
SCHQ Schefferville 86.49 2 P **P** **04 09 07.5 -2.1**
comp=Z,3.8nm,1.0s,mb4.6,baz=335,slow=6.8,SNR=4.1
SCHQ LR LR 04 49 39.3
comp=Z,102nm,19.2s,MS4.2,baz=196,slow=37
O07A Toulon 86.51 39 ⇓P **P** **04 09 10.4 +0.6**
baz=86
ULM Lac du Bonnet 86.75 20 P **P** **04 09 08.1 -2.8**
comp=Z,1.2nm,0.6s,mb4.3,baz=359,slow=9.8,SNR=3.0
ULM LR LR 04 47 32.8
comp=Z,172nm,21.0s,MS4.4,baz=360,slow=35
IMW Indian Meadow 87.14 32 *e*P **P** **04 09 14.9 +2.1**
comp=Z,5.5nm,0.8s,mb4.8
CMB Columbia Colle 87.38 41 *e*P **P** **04 09 18.8 +4.8**
CMB pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
CMB Columbia Colle 87.38 41 *e*P **P** **04 09 18.8 +4.8**
comp=Z,6.1nm,1.0s,mb4.8
CMB Columbia Colle 87.38 41 ⇑P **P** **04 09 14.2 +0.2**
baz=87
EVO Evora 87.39 320 *e*P **P** **04 09 11.4 -2.6**
comp=Z,15nm,1.1s,mb4.8
EVO *e*R
comp=Z,270nm,18.2s
M13A Montello 87.80 35 ⇑P **P** **04 09 16.3 +0.3**
baz=88
NVAR Mina Array Bea 88.13 40 P **P** **04 09 17.6 +0.1**
comp=Z,0.8nm,0.8s,mb4.0,baz=324,slow=2.0,SNR=5.3
MNV Mina 88.20 40 *e*P **P** **04 09 16.7 -1.2**
MNV pmax pmax
comp=Z,4.0nm,1.1s,mb4.6
MNV Mina 88.20 40 *e*P **P** **04 09 16.7 -1.2**
comp=Z,4.0nm,1.1s,mb4.6
PDAR Pinedale Array 88.64 32 P **P** **04 09 18.9 -1.1**
comp=Z,0.4nm,1.0s,baz=320,slow=8.3,SNR=3.0
PDAR LR LR 04 50 45.3
comp=Z,127nm,20.5s,MS4.3,baz=163,slow=37
HWUT Hardware Ranch 88.75 34 *e*P **P** **04 09 23.0 +2.5**
comp=Z,7.2nm,1.2s,mb4.9
S09A Goldfield 89.22 40 ⇓P **P** **04 09 23.7 +1.0**
baz=89
R10A Warm Springs 89.22 39 ⇑P **P** **04 09 23.7 +1.0**
baz=89
RSSD Black Hills 89.63 28 *e*P **P** **04 09 23.7 -0.9**
RSSD pmax pmax
comp=Z,11nm,1.0s,mb5.1
RSSD Black Hills 89.63 28 *e*P **P** **04 09 23.7 -0.9**
comp=Z,11nm,1.0s,mb5.1
MSU Marysvale 90.99 36 *e*P **P** **04 09 38.0 +7.0**
SRU San Rafael 91.25 35 *e*P **P** **04 09 38.3 +6.2**
GSC Goldstone 91.31 41 *e*P **P** **04 09 38.7 +6.2**
GSC Goldstone 91.31 41 ⇓P **P** **04 09 32.8 +0.3**
baz=91
TUQ Turquoise Mtn. 91.65 40 ⇑P **P** **04 09 35.0 +0.9**
baz=91
PV10 Paradox Valley 92.50 34 *e*P **P** **04 09 38.9 +1.0**
SMCO Snowmass 92.71 32 *e*P **P** **04 09 39.2 +0.3**
comp=Z,7.5nm,0.9s,mb5.1
PV01 Paradox Valley 92.91 34 *e*P **P** **04 09 40.1 +0.3**
WUAZ Wupatki 93.80 37 *e*P **P** **04 09 50.1 +6.1**
comp=Z,4.0nm,0.9s,mb4.8
TORD Torodi Ar. Bea 99.96 296 P Pdif 04 10 10.4 -1.4
comp=Z,0.9nm,0.8s,baz=42,slow=3.8,SNR=5.9
TORD LR LR 05 03 02.4
comp=Z,130nm,18.1s,MS4.5,baz=30,slow=40
LIC Lamto 109.50 296 *e*P Pdif 04 10 54.2 0.0
comp=Z,72nm,1.6s
LIC *e*R
comp=Z,122nn,22.2s
LIC Lamto 109.50 296 *e*P Pdif 04 10 54.2 0.0
LIC LR LR
comp=Z,60nm,22.3s,MS4.1
SAML Samuel 150.06 359 *e*PKPbc PKPbc 04 16 16.4 -1.0
SAML *e* 04 19 47.3
BDFB Brasilia 152.90 325 PKPbc PKPbc 04 16 21.9 -2.1
comp=Z,1.7nm,0.6s,baz=50,slow=8.9,SNR=3.4
BDFB PKPab PKPab 04 16 33.3 -1.8
comp=Z,4.1nm,0.7s,baz=22,slow=5.0,SNR=5.7
BDFB Brasilia 152.90 325 PKIKP PKPbc 04 16 21.9 -2.1
BDFB 04 16 33.3
BDFB pmax pmax
comp=Z,2.0nm,0.6s
BDFB pmax pmax
comp=Z,4.0nm,0.7s
LPAZ La Paz 157.05 11 PKP PKPdf 04 16 21.9 -0.6
comp=Z,0.8nm,0.9s,baz=349,slow=9.0,SNR=4.3
LPAZ La Paz 157.05 11 PKIKP PKPdf 04 16 21.9 -0.6
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
CPUP Villa Florida 166.23 335 PKPab PKPab 04 17 29.8 -3.1
comp=Z,0.7nm,0.5s,baz=79,slow=3.2,SNR=5.4
PLCA Paso Flores 174.54 110 PKP PKPdf 04 16 38.4 +1.9
comp=Z,3.6nm,1.1s,baz=345,slow=6.6,SNR=3.4
PLCA PKPab PKPab 04 18 10.6 +0.8
comp=Z,2.2nm,1.0s,baz=304,slow=7.5,SNR=3.7
PLCA Paso Flores 174.54 110 PKIKP PKPdf 04 16 38.4 +1.8
PLCA pmax pmax
comp=Z,4.0nm,1.1s
PLCA pmax pmax
comp=Z,2.0nm,1.0s

MEX 04 04:13:22.8±0.5, 1792N×10027W, h63km±12km, MD3.5, 1D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**0.62**	**90**	*i* P	Pn	04 13 35.0	-1.3
MEIG				*i* S	Sn	04 13 44.5	-1.6
PLIG	**Platanillo**	**0.87**	**57**	*i* P	Pn	04 13 38.2	-1.1
PLIG				*i* S	Sn	04 13 49.9	-1.5
CAIG	**El Cayaco**	**0.87**	**180**	⇓*i* P	Pn	04 13 37.7	-1.6
CAIG				*i* S	Sn	04 13 49.9	-1.5
ACX	**Acapulco**	**1.10**	**162**	*i* P	Pn	04 13 41.5	-0.8
ACX				*i* S	Sn	04 13 55.0	-1.8
UTMO	**Huajuapan**	**2.35**	**92**	*i* P	Pn	04 13 59.4	+0.3
UTMO				*i* S	Sn	04 14 24.9	-1.9

IDC 04 04:24:33.1±1.6, 142N×122 14E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=308.7km s-min=24.1km az=61.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.37**	**151**	P	P	04 29 54.1	+1.3
	1.5nm,0.6s,baz=334,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**27.43**	**156**	P	P	04 30 19.6	-0.9
	0.7nm,0.6s,baz=327,slow=7.6,SNR=12						
STKA	**Stephens Creek**	**37.91**	**153**	P	P	04 31 52.7	+0.7
	1.5nm,0.4s,baz=339,slow=9.5,SNR=4.3						
MKAR	**Makanchi Array**	**56.96**	**328**	P	P	04 34 20.4	+0.1
	0.7nm,0.7s,baz=137,slow=7.5,SNR=6.4						

JMA 04 04:42:21.6±0.4, 2197N×12126E, h104km, M3.7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**2.96**	**33**	P	Pn	04 43 07.5	+0.7
HATJ	**Hateruma jima**	**3.13**	**48**	P	Pn	04 43 09.9	+0.7
HATJ				S	Sn	04 43 46.5	+0.6
IRIF	**Iriomote-Funau**	**3.27**	**44**	P	Pn	04 43 12.1	+1.1
IRIF				S	Sn	04 43 50.8	+1.6
JKRS	**Kuro-shima**	**3.39**	**48**	P	Pn	04 43 13.7	+1.1
JKRS				S	Sn	04 43 52.9	+0.8
JIJ	**Ishigaki jima**	**3.57**	**48**	P	Pn	04 43 15.6	+0.6
JIJ				S	Sn	04 43 57.1	+0.9
JTJ	**Tarama**	**4.13**	**49**	P	Pn	04 43 23.4	+0.8
JTJ				S	Sn	04 44 10.8	+0.9

*BJI **04** 04:43:14.7, 11.17S×161.96E, h26km, mB5.1, mb4.9*
*ISCJB **04** 04:43:16.1±0.4, 11.30S±0.05×162.06E±0.06, h33km, mb4.5/26, MS3.9/7, Error ellipse: s-maj=9.1km s-min=6.8km az=104.1*
*MOS **04** 04:43:16.5±1.5, 11.23S×162.04E, h33km, mb4.8/6, Error ellipse: s-maj=13.0km s-min=12.5km az=133.0*
*IDC **04** 04:43:17.9±5.0, 11.30S×162.00E, h33km±37km, mb4.2/9, mb1 4.4/12, mb1mx4.2/17, mbtmp4.4/12, ML4.4/3, MS3.8/9, Ms1 3.8/9, ms1mx3.6/19, Error ellipse: s-maj=21.3km s-min=18.1km az=68.0*
*NEIC **04** 04:43:18.2±0.3, 11.26S×162.08E, h35km, mb4.6/12, Error ellipse: s-maj=10.4km s-min=8.4km az=144.0*
ISC 04 04:43:18.4±0.3, 11.23S±0.05×162.09E±0.06, h35km, n74, σ1s00/65, mb4.5/26, MS3.9/7, 6C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.76**	**310**	Pn	**Pn**	**04 44 00.2**	**+0.1**
	41nm,0.3s,baz=307,slow=1.4,SNR=20						
HNR				Sn	**Sn**	**04 44 31.5**	**-0.7**
	303nm,0.3s,baz=88,slow=16,SNR=6.9						
HNR				LR	LR	04 45 00.6	
	comp=Z,574nm,19.8s,baz=177,slow=38						
HNR	**Honiara**	**2.76**	**310**	*e*P	**Pn**	**04 44 01.2**	**+1.1**
HNR				*e*		04 44 32.0	
HNR	**Honiara**	**2.76**	**310**	*e*Pn	**Pn**	**04 44 01.2**	**+1.1**
HNR				*e*Sn	**Sn**	**04 44 32.0**	**-0.2**
HNR				LR	LR	04 45 00.6	
NOUC	**Port Laguerre**	**11.54**	**160**	*e*P	**Pn**	**04 45 60.0**	**-0.6**
NOUC				*e*S	**Sn**	**04 47 59.0**	**-9.1**
DZM	**Mont Dzumac**	**11.56**	**159**	*e*P	**Pn**	**04 46 00.1**	**-0.7**
DZM				*e*S	**Sn**	**04 48 00.7**	**-7.9**
DZM	**Mont Dzumac**	**11.56**	**159**	Pn	**Pn**	**04 46 00.1**	**-0.7**
	1.1nm,0.3s,baz=342,slow=23,SNR=44						
DZM				Sn	**Sn**	**04 48 01.1**	**-7.5**
	0.8nm,0.3s,baz=125,slow=20,SNR=4.9						
DZM				LR	LR	04 49 38.9	
	comp=Z,562nm,21.6s,baz=9.3,slow=33						
DZM	**Mont Dzumac**	**11.56**	**159**	Pn	**Pn**	**04 46 00.1**	**-0.7**
DZM				Sn	**Sn**	**04 48 01.1**	**-7.5**
DZM				LR	LR	04 49 38.9	
CTA	**Charters Tower**	**17.59**	**238**	P	**Pn**	**04 47 21.1**	**+0.4**
	1.8nm,0.3s,baz=66,slow=13,SNR=10						
CTAO	**Charters Tower**	**17.59**	**238**	*e*P	**Pn**	**04 47 21.0**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,40nm,1.1s						
CTAO	**Charters Tower**	**17.59**	**238**	*e*Pn	**Pn**	**04 47 21.0**	**+0.4**
	comp=Z,40nm,1.1s						
AFI	**Afiamalu**	**25.64**	**99**	LR	LR	04 57 03.1	
	comp=Z,166nm,21.7s,MS3.5,baz=261,slow=32						
RAO	**Raoul Island**	**25.88**	**137**	P	**P**	**04 48 46.1**	**-0.7**
	comp=Z,264nm,0.3s,baz=58,slow=22,SNR=4.2						
STKA	**Stephens Creek**	**27.92**	**219**	P	**P**	**04 49 05.1**	**-0.1**
	comp=Z,1.6nm,0.6s,mb3.9,baz=335,slow=3.9,SNR=4.0						
STKA				LR	LR	04 58 53.0	
	comp=Z,312nm,21.8s,MS3.9,baz=33,slow=34						
STKA	**Stephens Creek**	**27.92**	**219**	P	**P**	**04 49 05.1**	**-0.1**
STKA				LR	LR	04 58 53.0	
WRAB	**Tennant Creek**	**28.05**	**249**	⇑*e*P	**P**	**04 49 13.3**	**+7.0**
WRAB	**Tennant Creek**	**28.05**	**249**	*e*P	**P**	**04 49 08.4**	**+2.2**
WB2	**Warramunga Arr**	**28.05**	**249**	*e*P	**P**	**04 49 09.4**	**+3.1**
WB2	**Warramunga Arr**	**28.05**	**249**	*e*P	**P**	**04 49 09.7**	**+3.4**
WRA	**Warramunga Arr**	**28.06**	**249**	P	**P**	**04 49 05.2**	**-1.2**
	comp=Z,2.5nm,0.8s,mb3.9,baz=80,slow=9.6,SNR=4.1						
WRA				PcP	PcP	04 52 21.0	+0.6
	comp=Z,2.6nm,0.9s,baz=80,slow=2.6,SNR=8.6						
KAKA	**Kakadu**	**29.03**	**264**	*e*P	**P**	**04 49 14.4**	**-0.6**
	comp=Z,9.7nm,0.5s,mb4.8						
ASAR	**Alice Springs**	**29.52**	**241**	P	**P**	**04 49 17.8**	**-1.6**
	comp=Z,0.8nm,0.6s,mb3.6,baz=63,slow=9.7,SNR=12						
ASAR				LR	LR	04 59 08.0	
	comp=Z,190nm,18.3s,MS3.8,baz=161,slow=32						
ASAR	**Alice Springs**	**29.52**	**241**	P	**P**	**04 49 17.8**	**-1.6**
ASAR				LR	LR	04 59 08.0	
GUMO	**Guam**	**30.00**	**325**	LR	LR	05 00 06.8	
	comp=Z,221nm,20.4s,MS3.8,baz=190,slow=34						
FITZ	**Fitzroy Crossi**	**35.87**	**255**	*e*P	**P**	**04 50 16.5**	**+1.7**
	comp=Z,7.8nm,1.1s,mb4.5						
MBWA	**Marble Bar**	**41.74**	**251**	*e*P	**P**	**04 51 05.6**	**+1.6**
	comp=Z,1.6nm,0.5s,mb3.9						
KKM	**Kota Kinabalu**	**48.77**	**288**	*e*P	**P**	**04 51 60.0**	**+0.2**
MJAR	**Matsushiro Arr**	**52.57**	**336**	P	**P**	**04 52 27.4**	**-1.0**
	comp=Z,1.4nm,0.5s,mb4.2,baz=172,slow=7.7,SNR=4.4						
MJAR	**Matsushiro Arr**	**52.57**	**336**	P	**P**	**04 52 27.4**	**-1.0**

SSE Sheshan 57.54 318 P **P** **04 53 03.5 -0.8**
SSE AMB AMB
comp=Z,39nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,104nm,3.7s
NJ2 Nanjing 59.68 318 *e*P **P** **04 53 18.9 -0.3**
NJ2 AP pP 04 53 29.3 -0.6
NJ2 XP sP 04 53 33.3 -0.7
NJ2 PP PP 04 55 32.1 +1.0
NJ2 S **S** **05 01 23.0 -4.4**
NJ2 XS sS 05 01 39.0 -5.9
NJ2 AMB AMB
comp=Z,20nm,1.2s,mb5.0
NJ2 AMB AMB
comp=Z,210nm,3.9s
YSS Yuzh-Sakhalins 60.45 345 *i* P **P** **04 53 23.4 -1.0**
MDJ Mudanjiang 62.90 334 P **P** **04 53 41.3 +0.3**
MDJ AMB AMB
comp=Z,10.0nm,1.1s,mb4.9
MDJ AMB AMB
comp=Z,89nm,5.4s
KULM Kulim 63.29 282 *e*P **P** **04 53 43.7 +0.1**
VNDA Vanda 66.28 180 LR LR 05 19 40.7
comp=Z,102nm,19.9s,MS4.0,baz=184,slow=33
MA2 Magadan 71.15 354 *e*P **P** **04 54 31.3 -2.1**
MA2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ULN Ulaanbaatar 76.38 325 *c i*P **P** **04 55 04.1 +0.1**
ULN Ulaanbaatar 76.38 325 *e*P **P** **04 55 04.1 +0.1**
comp=Z,12nm,1.3s,mb4.7
SONM Songino Array 76.73 325 P **P** **04 55 06.9 +0.9**
comp=Z,5.7nm,0.7s,mb4.6,baz=143,slow=5.6,SNR=49
SONM LR LR 05 25 27.0
comp=Z,81nm,20.4s,MS4.0,baz=164,slow=33
YAK Yakutsk 77.30 345 *c i*P **P** **04 55 08.5 -0.7**
YAK pmax pmax
comp=Z,49nm,0.7s,mb5.5
KDAK Kodiak Island 78.11 23 P **P** **04 55 14.4 +0.7**
comp=Z,6.3nm,0.8s,mb4.6,baz=235,slow=4.2,SNR=6.7
QSPA South Pole Qui 78.77 180 *e*P **P** **04 55 21.4 +4.0**
comp=Z,8.7nm,1.1s,mb4.6
BILL Bilibino 79.12 2 *α i*P **P** **04 55 19.1 -0.2**
BILL *e* 04 55 33.9
BILL pmax pmax
comp=Z,25nm,1.7s,mb4.9
BILL Bilibino 79.12 2 *e*P **P** **04 55 19.1 -0.1**
comp=Z,30nm,1.4s,mb5.0
SVW2 Sparrevohn 79.44 19 *e*P **P** **04 55 21.5 +0.4**
TLY Talaya 80.31 327 *e*P **P** **04 55 26.3 +0.5**
TLY pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
COLA College 84.61 19 *c i*P **P** **04 55 47.4 -0.8**
COLA College 84.61 19 *e*P **P** **04 55 47.0 -1.2**
comp=Z,6.0nm,0.7s,mb4.8
DAWY Dawson 87.05 22 *e*P **P** **04 56 00.5 +0.3**
NVAR Mina Array Bea 88.90 51 P **P** **04 56 10.1 +1.0**
comp=Z,1.4nm,0.7s,mb4.4,baz=228,slow=5.3,SNR=11
MNV Mina 89.02 51 *e*P **P** **04 56 11.1 +1.5**
MNV pmax pmax
comp=Z,1.0nm,0.6s,mb4.3
MNV Mina 89.02 51 *e*P **P** **04 56 11.1 +1.4**
comp=Z,0.5nm,0.6s,mb4.0
TPNV Topopah Spring 90.11 52 *e*P **P** **04 56 16.2 +1.5**
TPNV pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
TPNV Topopah Spring 90.11 52 *e*P **P** **04 56 16.1 +1.4**
comp=Z,1.6nm,0.9s,mb4.3
MKAR Makanchi Array 91.21 317 P **P** **04 56 18.6 -1.3**
comp=Z,0.4nm,0.3s,mb4.2,baz=89,slow=7.1,SNR=6.9
MKAR Makanchi Array 91.21 317 *i* P **P** **04 56 20.1 +0.2**
BMO Blue Mountains 91.27 45 *e*P **P** **04 56 21.4 +1.3**
BMO pmax pmax
comp=Z,1.0nm,0.9s,mb4.2
BMO Blue Mountains 91.27 45 *e*P **P** **04 56 21.4 +1.2**
comp=Z,1.4nm,0.9s,mb4.3
KURK Kurchatov 94.50 321 ⇓*e*P **P** **04 56 34.9 -0.1**
KURK Kurchatov 94.50 321 P **P** **04 56 33.9 -1.1**
comp=Z,0.9nm,0.4s,mb4.5
YKA Yellowknife Ar 96.80 28 P **P** **04 56 44.5 -1.0**
comp=Z,1.5nm,0.6s,mb4.6,baz=259,slow=4.9,SNR=11
YKA Yellowknife Ar 96.80 28 P **P** **04 56 44.5 -1.0**
BVAR Borovoye Array 99.89 322 LR LR 05 39 59.3
comp=Z,54nm,18.7s,MS4.1,baz=320,slow=34
ARCES ARCESS Array B 115.58 344 PKP PKPdf 05 01 55.6 -1.1
comp=Z,1.0nm,0.6s,baz=77,slow=1.6,SNR=19
JOF Joensuu 117.73 337 *ep* PKPdf 05 01 56.0 -4.8
KAF Kangasniemi 120.09 338 *ep* PKPdf 05 02 02.1 -3.3
comp=Z,1.0nm,0.4s
KAF Kangasniemi 120.09 338 *e*PKIKP PKPdf 05 02 02.1 -3.3
KAF pmax pmax
comp=Z,1.0nm,0.4s
LPAZ La Paz 123.30 118 PKP PKPdf 05 02 13.8 +2.3
comp=Z,0.7nm,0.5s,baz=50,slow=2.2,SNR=8.9
LPAZ La Paz 123.30 118 PKP PKPdf 05 02 13.8 +2.3
AKASG Malin Array Be 125.01 325 PKP PKPdf 05 02 14.2 -0.6
comp=Z,0.9nm,0.5s,baz=46,slow=2.6,SNR=6.7
NB2 NORSAR Subarra 125.89 343 PKPdf PKPdf 05 02 15.7 -0.8
comp=Z,0.7nm,0.6s,baz=8.2,slow=1.8
NOA NORSAR Array B 125.89 343 PKP PKPdf 05 02 15.7 -0.8
comp=Z,0.7nm,0.7s,baz=39,slow=1.9,SNR=5.2
EKA Eskdalemuir Ar 134.50 348 PKP PKPdf 05 02 33.7 +0.9
comp=Z,0.5nm,0.5s,baz=1.8,slow=2.7,SNR=3.9
BDFB Brasilia 139.99 131 PKP PKPdf 05 02 45.1 +2.1
comp=Z,4.4nm,1.1s,baz=145,slow=9.1,SNR=3.1
TORD Torodi Ar. Bea 160.74 278 PKP PKPdf 05 03 14.6 +0.1
comp=Z,0.8nm,0.7s,baz=4.2,slow=1.6,SNR=7.8

MEX 04 04:46:26.0±0.5, 1721N×10042W, h36km±6km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.22**	**139**	*i* P	Pn	04 46 31.5	-1.6
CAIG				*i* S	Sn	04 46 36.4	-1.6
ACX	**Acapulco**	**0.59**	**126**	*i* P	Pn	04 46 36.5	-1.4
ACX				*i* S	Sn	04 46 44.0	-2.3
MEIG	**Mezcala**	**1.04**	**47**	*i* P	Pn	04 46 42.6	-1.5
MEIG				*i* S	Sn	04 46 55.3	-2.1

OTT 04 05:09:59.3±0.5, 6423N×8690W, h18km, MN3.4/4, 195km northeast from Chesterfield Inlet, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QILN	**Qililugaq Expl**	**2.44**	**5**	PN	Pn	05 10 38.5	+0.2
QILN				SN	Sn	05 11 05.0	-2.6
QILN				SG	Sg	05 11 11.7	-6.1
QILN				Trac		05 11 16.4	
	comp=Z,55nm,0.1s						
YRTN	**Rankin Inlet**	**2.74**	**241**	PN	Pn	05 10 42.2	-0.1
YRTN				SN	Sn	05 11 12.8	-2.0
YRTN				SG	Sg	05 11 17.8	-9.5
YRTN				Trac		05 11 20.7	
	comp=Z,154nm,0.2s						
SRLN	**Sarcpa Lake, N**	**4.57**	**17**	PN	Pn	05 11 07.5	0.0
SRLN				SN	Sn	05 11 57.5	-2.6
SRLN				SG	Sg	05 12 19.2	-6.8
SRLN				Trac		05 12 27.4	
	comp=Z,28nm,0.2s						
AP3N	**Apex site 3 Nu**	**5.34**	**9**	PN	Pn	05 11 17.0	-1.0
AP3N				SN	Sn	05 12 18.1	-0.9
AP3N				SG	Sg	05 12 43.4	-7.2
AP3N				Trac		05 12 47.3	
	comp=Z,30nm,0.3s						
ILON	**Igloolik, Nuna**	**5.54**	**19**	PN	Pn	05 11 19.9	-0.8
ILON				Trac		05 12 54.2	
	comp=Z,32nm,0.2s						
GIFN	**Gifford Fjord,**	**6.14**	**17**	PN	Pn	05 11 28.1	-0.9
GIFN				SN	Sn	05 12 34.4	-4.4
GIFN				LG		05 13 07.4	
GIFN				Trac		05 13 10.9	
	comp=Z,18nm,0.2s						
FCC	**Fort Churchill**	**6.47**	**215**	PN	Pn	05 11 33.7	0.0
FCC				SN	Sn	05 12 41.6	-5.4
FCC				SG	Sn	05 13 17.1	+30
FCC				Trac		05 13 29.3	
	comp=Z,16nm,0.3s						
FRB	**Frobisher Bay**	**8.08**	**85**	PN	Pn	05 11 58.1	+2.5
FRB				SN	Sn	05 13 26.7	+0.2
FRB				LG		05 14 17.3	
FRB				Trac		05 14 23.8	
	comp=Z,12nm,0.3s						

SILO	**Sutton Inlier**	**9.84**	**173**	PN	Pn	05 12 22.6	+2.8
SILO				SN	Sn	05 14 06.9	-2.7
SILO				LG		05 15 11.8	
SILO				Trac		05 15 16.6	
	comp=Z,5.0nm,0.4s						
BOXN	**Box Lake**	**10.00**	**278**	PN	Pn	05 12 17.0	-5.0
BOXN				SN	Sn	05 14 00.9	-13
MLON	**Marlo Lake**	**10.05**	**279**	PN	Pn	05 12 17.9	-4.8
MLON				SN	Sn	05 14 01.4	-14
MLON				Trac		05 15 05.2	
	comp=Z,7.3nm,0.5s						
COWN	**Contwyoto Lake**	**10.40**	**287**	PN	Pn	05 12 22.1	-5.5
COWN				SN	Sn	05 14 10.2	-13
COWN				LG		05 15 07.0	
KUQ	**Kuujjuuaa**	**10.80**	**116**	PN	Pn	05 12 37.6	+4.7
KUQ				SN	Sn	05 14 32.2	-1.2
KUQ				LG		05 15 44.9	
KUQ				Trac		05 15 55.0	
	comp=Z,6.7nm,0.4s						
RES	**Resolute Bay**	**10.86**	**349**	PN	Pn	05 12 31.0	-2.7
RES				SN	Sn	05 14 21.2	-13
RES				LG		05 15 26.0	
RES				Trac		05 15 32.0	
	comp=Z,6.8nm,0.5s						
VIMO	**Victor Mine**	**11.56**	**170**	PN	Pn	05 12 45.1	+1.7
VIMO				SN	Sn	05 14 46.8	-5.3
WEMQ	**Wemindji, Queb**	**12.12**	**154**	PN	Pn	05 12 53.0	+2.1
WEMQ				SN	Sn	05 15 02.1	-3.5
FFC	**Flin Flon**	**12.19**	**226**	PN	Pn	05 12 48.4	-3.6
FFC				PN	Pn	05 12 49.0	-2.9
FFC				SN	Sn	05 15 02.9	-4.5
FFC				LG		05 16 07.3	
FFC				Trac		05 16 29.8	
	comp=Z,8.8nm,0.6s						
LG4Q	**La Grande 4**	**12.49**	**142**	PN	Pn	05 12 58.2	+2.1
LG4Q				SN	Sn	05 15 10.8	-3.9
LG4Q				LG		05 16 29.5	
LG4Q				Trac		05 16 50.2	
	comp=Z,5.9nm,0.3s						
YKW3	**Yellowknife Ar**	**12.49**	**275**	PN	Pn	05 12 49.0	-7.1
YKW3				SN	Sn	05 14 55.8	-19
YKW3				LG		05 16 11.1	
YKW3				Trac		05 16 23.9	
	comp=Z,3.8nm,0.3s						
NANO	**Nakina Ontario**	**13.92**	**180**	PN	Pn	05 13 13.7	-1.8
NANO				SN	Sn	05 15 42.2	-7.4
SOLO	**Sioux Lookout**	**14.52**	**193**	PN	Pn	05 13 22.6	-1.1
SOLO				SN	Sn	05 15 53.7	-10
ULM	**Lac du Bonnet**	**14.81**	**203**	PN	Pn	05 13 24.8	-2.9
ULM				SN	Sn	05 15 56.9	-14

*IDC **04** 05:30:47.7±2.9, 2.49N×95.64E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, Error ellipse: s-maj=121.9km s-min=20.2km az=56.0*
*ISCJB **04** 05:30:52.3±0.9, 2.6N±0.1×95.9E±0.2, h33km, mb4.0/11, Error ellipse: s-maj=27.7km s-min=15.9km az=111.4*
*NEIC **04** 05:30:54.5±0.9, 2.59N×95.90E, h30km, mb4.4/5, Error ellipse: s-maj=31.4km s-min=16.8km az=54.0*

ISC 04 05:30:55.1±0.9, **2.7N**±0.1×**96.0E**±0.2, **h35**km, **n12**, σ**1s28**/12, **mb4.0**/11, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**30.31**	**24**	*e*P	**P**	**05 37 04.1**	**+1.0**
	0.3nm,0.4s,mb3.4						
FITZ	**Fitzroy Crossi**	**35.77**	**126**	P	**P**	**05 37 50.1**	**-0.6**
	1.2nm,0.7s,mb3.9,baz=292,slow=16,SNR=2.3						
WRA	**Warramunga Arr**	**43.84**	**123**	P	**P**	**05 38 57.6**	**-0.2**
	0.9nm,0.7s,mb3.6,baz=299,slow=9.2,SNR=4.3						
WRAB	**Tennant Creek**	**43.85**	**123**	*e*P	**P**	**05 39 01.3**	**+3.5**
	6.1nm,1.1s,mb4.2						
MKAR	**Makanchi Array**	**45.55**	**347**	P	**P**	**05 39 08.6**	**-2.8**
	0.8nm,0.7s,mb3.8,baz=160,slow=7.5,SNR=7.3						
SONM	**Songino Array**	**45.91**	**10**	P	**P**	**05 39 14.4**	**+0.2**
	0.3nm,0.5s,mb3.5,baz=205,slow=6.4,SNR=3.1						
KURK	**Kurchatov**	**50.09**	**346**	*e*P	**P**	**05 39 48.0**	**+1.5**
	15nm,1.8s,mb4.7						
ZAL	**Zalesovo**	**51.94**	**352**	P	**P**	**05 39 58.4**	**-2.0**
	1.0nm,0.3s,mb4.2,baz=192,slow=6.3,SNR=2.4						
ZAL	**Zalesovo**	**51.94**	**352**	P	**P**	**05 39 58.4**	**-2.0**
BVAR	**Borovoye Array**	**54.49**	**341**	P	**P**	**05 40 18.4**	**-0.8**
	0.9nm,0.6s,mb3.9,baz=146,slow=10,SNR=2.4						
CHKZ	**Chkalovo**	**54.97**	**342**	*e*P	**P**	**05 40 24.0**	**+1.3**
	12nm,1.7s,mb4.7						
KMBO	**Kilima Mbogo**	**58.82**	**267**	*e*P	**P**	**05 40 50.4**	**+0.4**
	2.3nm,1.0s,mb4.2						

*MOS **04** 05:51:56.2±0.8, 7.87N×39.15E, h10km, mb4.6/14, Error ellipse: s-maj=16.8km s-min=8.3km az=98.0*
*IDC **04** 05:51:56.7±0.7, 7.97N×39.01E, h0km, mb4.0/15, mb1 4.1/16, mb1mx4.0/25, mbtmp4.0/16, ML3.2/1, MS3.7/12, Ms1 3.6/12, ms1mx3.5/25, Error ellipse: s-maj=21.0km s-min=15.0km az=95.0*
*ISCJB **04** 05:51:58.7±1.9, 7.89N±0.06×39.07E±0.09, h27km±14km, mb4.2/29, MS3.7/11, Error ellipse: s-maj=15.2km s-min=10.3km az=31.9*
*NEIC **04** 05:51:58.5±0.5, 7.92N×39.01E, h10km, mb4.5/14, Error ellipse: s-maj=12.7km s-min=8.5km az=92.0*

ISC 04 05:51:59.2±3.8, **7.93N**±0.06×**39.09E**±0.09, **h14**km±24km, **n68**, σ**0s91**/62, **mb4.2**/29, **MS3.7**/11, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**5.15**	**46**	Pg	**Pb**	**05 53 28.6**	**-0.5**
	2.9nm,0.3s,baz=265,slow=9.5,SNR=11						
ATD				Lg		05 54 44.4	
	13nm,0.3s,baz=270,slow=22,SNR=8.5						
KMBO	**Kilima Mbogo**	**9.18**	**192**	Pn	**Pn**	**05 54 11.4**	**+0.3**
	0.2nm,0.3s,baz=348,slow=16,SNR=5.1						
KMBO				Lg		05 56 40.6	
	3.8nm,0.3s,baz=77,slow=23,SNR=15						
KMBO				LR	LR	05 58 05.4	
	comp=Z,181nm,20.2s,baz=337,slow=40						
WSAR	**Wadi Sarin**	**24.16**	**49**	LR	LR	06 06 11.5	
	comp=Z,122nm,19.8s,MS3.4,baz=305,slow=35						
ASF	**Jabal al Asfar**	**24.21**	**355**	P	**P**	**05 57 15.0**	**-0.2**
	1.0nm,0.4s,mb3.6,baz=40,slow=16,SNR=3.1						
MMAI	**Mount Meron Ar**	**25.20**	**353**	LR	LR	06 05 50.8	
	comp=Z,124nm,19.5s,MS3.4,baz=155,slow=33						
OPO	**Ambohidratompo**	**27.51**	**163**	P	**P**	**05 57 47.6**	**+2.5**
	1.0nm,0.4s,mb3.8,baz=337,slow=7.7,SNR=2.5						
GNI	**Garni**	**32.48**	**8**	P	**P**	**05 58 29.1**	**0.0**
GNI				pmax	pmax		
	comp=Z,4.0nm,0.4s						
GNI	**Garni**	**32.48**	**8**	P	**P**	**05 58 29.1**	**0.0**
	comp=Z,3.8nm,0.4s,mb4.6						
TORD	**Torodi Ar. Bea**	**37.10**	**281**	P	**P**	**05 59 08.0**	**-1.0**
	comp=Z,0.6nm,0.9s,mb3.4,baz=89,slow=7.4,SNR=3.1						
TORD				LR	LR	06 14 26.6	
	comp=Z,101nm,19.6s,MS3.6,baz=115,slow=36						
BOSA	**Boshof**	**38.70**	**200**	P	**P**	**05 59 22.9**	**+0.4**
	comp=Z,2.2nm,0.8s,mb4.0,baz=59,slow=16,SNR=3.3						
BOSA				LR	LR	06 15 53.5	
	comp=Z,101nm,19.7s,MS3.6,baz=202,slow=37						
BOSA	**Boshof**	**38.70**	**200**	P	**P**	**05 59 22.9**	**+0.4**
BOSA				LR	LR	06 15 53.5	
AKASG	**Malin Array Be**	**43.42**	**351**	P	**P**	**06 00 01.4**	**0.0**
	comp=Z,2.8nm,0.8s,mb4.0,baz=175,slow=7.1,SNR=4.6						
AKASG	**Malin Array Be**	**43.42**	**351**	P	**P**	**06 00 01.4**	**0.0**
PGF	**Pioggiola**	**43.48**	**327**	*e*P	**P**	**06 00 02.6**	**+0.8**
	comp=Z,20nm,1.0s,mb4.5						
PGF	**Pioggiola**	**43.48**	**327**	*e*P	**P**	**06 00 02.6**	**+0.8**
PGF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
PGF	**Pioggiola**	**43.48**	**327**	*e*P	**P**	**06 00 02.6**	**+0.8**
	comp=Z,10.0nm,1.0s,mb4.5						
DBIC	**Dimbokro**	**43.59**	**271**	P	**P**	**06 00 01.8**	**-1.0**
	comp=Z,5.6nm,0.8s,mb4.3,baz=31,slow=8.3,SNR=4.5						
DBIC				LR	LR	06 17 00.9	
	comp=Z,84nm,21.1s,MS3.6,baz=72,slow=35						
DBIC	**Dimbokro**	**43.59**	**271**	*e*P	**P**	**06 00 02.1**	**-0.7**
DBIC				pmax	pmax		
	comp=Z,12nm,1.0s						
DBIC	**Dimbokro**	**43.59**	**271**	*e*P	**P**	**06 00 02.1**	**-0.7**
	comp=Z,12nm,1.0s,mb4.6						
DBIC				LR	LR	06 17 00.9	
LIC	**Lamto**	**43.80**	**271**	*e*P	**P**	**06 00 01.7**	**-2.7**
	comp=Z,34nm,1.1s,mb4.7						
LIC				*e*R			
	comp=Z,110nm,20.0s						
LIC	**Lamto**	**43.80**	**271**	*e*P	**P**	**06 00 01.7**	**-2.7**
	comp=Z,17nm,1.1s,mb4.7						
AKTK	**Aktyubinsk**	**45.21**	**17**	P	**P**	**06 00 16.3**	**+0.6**
AKTO	**Aktyubinsk**	**45.21**	**17**	P	**P**	**06 00 16.3**	**+0.6**
	comp=Z,1.4nm,0.8s,mb3.9,baz=245,slow=4.6,SNR=5.7						
GERES	**GERESS Array B**	**46.05**	**337**	P	**P**	**06 00 21.8**	**-0.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=154,slow=7.3,SNR=4.0						
MBDF	**Montbardon**	**46.15**	**328**	*e*P	**P**	**06 00 23.4**	**+0.3**
	comp=Z,7.4nm,0.6s,mb4.5						
MBDF	**Montbardon**	**46.15**	**328**	*e*P	**P**	**06 00 23.4**	**+0.3**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
MBDF	**Montbardon**	**46.15**	**328**	*e*P	**P**	**06 00 23.4**	**+0.3**
	comp=Z,3.7nm,0.6s,mb4.5						
LPG	**La Plagne**	**46.68**	**329**	*e*P	**P**	**06 00 28.4**	**+1.1**
ORIF	**Oris-en-Rattie**	**46.74**	**328**	*e*P	**P**	**06 00 27.9**	**+0.1**
	comp=Z,5.5nm,0.7s,mb4.3						
ORIF				*e*R			
	comp=Z,78nm,22.3s						
ORIF	**Oris-en-Rattie**	**46.74**	**328**	*e*P	**P**	**06 00 27.9**	**+0.1**
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
ORIF	**Oris-en-Rattie**	**46.74**	**328**	*e*P	**P**	**06 00 27.9**	**+0.1**
	comp=Z,2.8nm,0.7s,mb4.3						
LASF	**Ste Croix**	**47.30**	**326**	*e*P	**P**	**06 00 32.8**	**+0.6**
MDT	**Midelt**	**47.40**	**308**	P	**P**	**06 00 32.5**	**-0.4**
	comp=Z,4.1nm,1.0s,mb4.3,baz=116,slow=10,SNR=5.0						
CABF	**La Chapelle**	**47.78**	**330**	*e*P	**P**	**06 00 36.9**	**+1.0**
	comp=Z,17nm,1.0s,mb4.7						
CABF	**La Chapelle**	**47.78**	**330**	*e*P	**P**	**06 00 36.9**	**+1.0**
CABF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
CABF	**La Chapelle**	**47.78**	**330**	*e*P	**P**	**06 00 36.9**	**+1.0**
	comp=Z,8.4nm,1.0s,mb4.7						
CDF	**Champ du Feu**	**48.47**	**332**	*e*P	**P**	**06 00 43.9**	**+2.7**
	comp=Z,7.2nm,0.9s,mb4.4						
CDF	**Champ du Feu**	**48.47**	**332**	*e*P	**P**	**06 00 43.9**	**+2.7**
CDF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CDF	**Champ du Feu**	**48.47**	**332**	*e*P	**P**	**06 00 43.9**	**+2.7**
	comp=Z,3.6nm,0.9s,mb4.4						
ETSF	**Etsaut**	**49.20**	**322**	*e*P	**P**	**06 00 46.3**	**-0.5**
	comp=Z,8.8nm,1.0s,mb4.4						
ETSF	**Etsaut**	**49.20**	**322**	*e*P	**P**	**06 00 46.3**	**-0.5**
ETSF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
ETSF	**Etsaut**	**49.20**	**322**	*e*P	**P**	**06 00 46.3**	**-0.5**
	comp=Z,4.4nm,1.0s,mb4.4						
AVF	**Avril sur Loir**	**49.31**	**328**	*e*P	**P**	**06 00 48.4**	**+0.8**
	comp=Z,3.7nm,0.8s,mb4.2						
AVF	**Avril sur Loir**	**49.31**	**328**	*e*P	**P**	**06 00 48.4**	**+0.8**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AVF	**Avril sur Loir**	**49.31**	**328**	*e*P	**P**	**06 00 48.4**	**+0.8**
	comp=Z,1.9nm,0.8s,mb4.2						
LOR	**Lormes**	**49.35**	**329**	*e*P	**P**	**06 00 48.5**	**+0.5**
	comp=Z,6.2nm,0.7s,mb4.4						
LOR				*e*R			
	comp=Z,58nm,22.0s						
LOR	**Lormes**	**49.35**	**329**	*e*P	**P**	**06 00 48.5**	**+0.5**
LOR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
LOR	**Lormes**	**49.35**	**329**	*e*P	**P**	**06 00 48.5**	**+0.5**
	comp=Z,3.1nm,0.7s,mb4.5						
RJF	**Les Rejaudoux**	**49.37**	**325**	*e*P	**P**	**06 00 47.6**	**-0.5**
	comp=Z,14nm,1.0s,mb4.6						
RJF				*e*R			
	comp=Z,80nm,19.2s						
RJF	**Les Rejaudoux**	**49.37**	**325**	*e*P	**P**	**06 00 47.6**	**-0.5**
RJF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
RJF	**Les Rejaudoux**	**49.37**	**325**	*e*P	**P**	**06 00 47.6**	**-0.5**
	comp=Z,7.2nm,1.0s,mb4.7						
TCF	**Toulx Ste Croi**	**49.60**	**327**	*e*P	**P**	**06 00 50.7**	**+0.9**
ESDC	**Sonseca Array**	**49.78**	**316**	P	**P**	**06 00 50.8**	**-0.4**
	comp=Z,1.3nm,0.6s,mb4.1,baz=119,slow=6.9,SNR=6.6						
ESDC				LR	LR	06 24 32.5	
	comp=Z,50nm,18.0s,MS3.6,baz=195,slow=39						
BRVK	**Borovoye**	**51.63**	**23**	P	**P**	**06 01 05.8**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
BRVK	**Borovoye**	**51.63**	**23**	P	**P**	**06 01 05.8**	**+0.6**
	comp=Z,0.6nm,0.4s,mb3.9						
CHKZ	**Chkalovo**	**52.23**	**23**	*e*P	**P**	**06 01 09.5**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**52.23**	**23**	*e*P	**P**	**06 01 09.5**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.1						
MKAR	**Makanchi Array**	**53.44**	**36**	P	**P**	**06 01 17.8**	**-0.8**
	comp=Z,1.2nm,0.7s,mb3.9,baz=232,slow=6.0,SNR=11						
FINES	**FINESS Array B**	**54.27**	**352**	LR	LR	06 26 24.1	
	comp=Z,25nm,19.1s,MS3.3,baz=189,slow=38						
NB2	**NORSAR Subarra**	**56.92**	**344**	P	**P**	**06 01 42.2**	**-1.5**
	comp=Z,5.1nm,1.0s,mb4.5,baz=149,slow=7.4						
NOA	**NORSAR Array B**	**56.92**	**344**	P	**P**	**06 01 42.6**	**-1.1**
	comp=Z,2.5nm,0.9s,mb4.3,baz=144,slow=7.0,SNR=3.1						
NVS	**Novosibirsk**	**58.47**	**28**	*e*P	**P**	**06 01 53.5**	**-1.2**
NVS				pmax	pmax		
	comp=N,5.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
NVS				pmax	pmax		
	comp=E,3.0nm,0.7s						
ZAL	**Zalesovo**	**58.70**	**30**	P	**P**	**06 01 56.4**	**+0.1**
	comp=E,1.6nm,0.3s,mb4.5,baz=259,slow=4.3,SNR=5.7						
SONM	**Songino Array**	**68.98**	**42**	P	**P**	**06 03 03.2**	**-0.7**
	comp=E,0.2nm,0.3s,mb3.5,baz=235,slow=5.1,SNR=3.5						
MAW	**Mawson**	**77.24**	**171**	P	**P**	**06 03 51.4**	**-1.4**
	comp=E,1.9nm,0.7s,mb4.1,baz=310,slow=6.5,SNR=6.3						
MAW				LR	LR	06 31 40.2	
	comp=E,102nm,21.9s,MS4.1,baz=242,slow=31						
BDFB	**Brasilia**	**89.34**	**254**	LR	LR	06 40 12.4	
	comp=E,58nm,19.6s,MS4.0,baz=173,slow=32						
SCHQ	**Schefferville**	**92.61**	**326**	LR	LR	06 48 39.3	
	comp=E,26nm,19.1s,MS3.7,baz=44,slow=37						
ASAR	**Alice Springs**	**97.52**	**113**	LR	LR	06 42 55.7	
	comp=E,134nm,20.7s,MS4.4,baz=355,slow=31						

*NIED **04** 06:11:00, 25.60N×129.00E, h8km, Mw3.7 Best double couple: Mo3.84000×10^14 NP1:φs20.00000°, δ73.00000°, λ-117.00000°. NP2:φs260.00000°, δ31.00000°, λ-34.00000°.*

JMA 04 06:11:06.8±0.3, **25.65N**×**128.95E**, **h50**km, **M3.9**, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.19**	**294**	P	Pn	06 11 27.6	+0.6
JJT2				*e*S	Sn	06 11 42.6	+0.6
NAH1	**Naha**	**1.26**	**296**	P	Pn	06 11 28.6	+0.6
NAH1				*e*S	Sn	06 11 43.2	-0.7
JOW	**Kunigami**	**1.32**	**333**	P	Pn	06 11 29.7	+0.8
JOW				S	Sn	06 11 44.5	-0.9
JIH	**Iheya**	**1.64**	**328**	P	Pn	06 11 34.3	+1.1
JIH				*e*S	Sn	06 11 53.2	+0.2
JAGN	**Aguni-jima**	**1.80**	**302**	P	Pn	06 11 35.9	+0.6
JAGN				*e*S	Sn	06 11 56.9	-0.1
JMZ	**Minamidaito 2**	**2.06**	**85**	P	Pn	06 11 38.8	-0.1
JMZ				*e*S	Sn	06 12 00.8	-2.5
JKE	**Kume jima 2**	**2.06**	**290**	P	Pn	06 11 39.1	+0.2
JKE				*e*S	Sn	06 12 02.0	-1.4
JTK	**Tokunoshima**	**2.13**	**0**	P	Pn	06 11 41.0	+1.1
JTK				*e*S	Sn	06 12 06.0	+0.9
JZK	**Kikaishima**	**2.81**	**19**	*e*S	Sn	06 12 22.4	+0.6
JAM	**Amami Oshima**	**2.81**	**12**	*e*S	Sn	06 12 21.9	0.0
JOGS	**Gusukube**	**3.33**	**255**	P	Pn	06 11 56.8	+0.5
JOGS				*e*S	Sn	06 12 33.0	-1.6
JTJ	**Tarama**	**3.98**	**256**	P	Pn	06 12 05.0	-0.2
JTJ				*e*S	Sn	06 12 46.9	-3.7
JIJ	**Ishigaki jima**	**4.55**	**255**	*e*S	Sn	06 12 59.8	-4.8

*IDC **04** 06:36:54.2±3.2, 51.32N×179.44W, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/21, mbtmp4.0/7, ML3.7/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/28, Error ellipse: s-maj=87.6km s-min=25.2km az=1.0*
*ISCJB **04** 06:36:57.2±3.6, 50.9N±0.4×179.2W±0.1, h49km±19km, mb4.0/6, MS3.0/2, Error ellipse: s-maj=61.9km s-min=15.0km az=175.7*
*NEIC **04** 06:36:57.0, 51.10N×179.27W, h1km, ML3.3(AEIC), After AEIC.*

ISC 04 06:36:58.2±3.4, **51.0N**±0.4×**179.3W**±0.1, **h44**km±18km, **n13**, σ**1s09**/12, **mb4.0**/6, **MS3.0**/2, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.00**	**296**	P	**Pn**	**06 37 14.8**	**-1.0**
AMKA				S	**Sn**	**06 37 29.7**	**+0.9**
SVW2	**Sparrevohn**	**16.58**	**43**	*e*Pn	**Pn**	**06 40 49.0**	**+1.6**
KDAK	**Kodiak Island**	**16.90**	**56**	Pn	**Pn**	**06 40 49.3**	**-2.0**
	0.3nm,0.3s,baz=299,slow=19,SNR=4.5						
DAWY	**Dawson**	**24.61**	**43**	*e*P	**P**	**06 42 13.6**	**-0.6**
ASAJ	**Asahikawa**	**26.42**	**270**	LR	LR	06 50 41.1	
	comp=Z,38nm,21.8s,MS2.9,baz=99,slow=31						
DLBC	**Dease Lake**	**28.83**	**56**	LR	LR	06 53 21.0	
	comp=Z,53nm,21.1s,MS3.1,baz=130,slow=34						
YKA	**Yellowknife Ar**	**35.73**	**46**	P	**P**	**06 43 52.7**	**+0.2**
	0.8nm,0.4s,mb4.0,baz=282,slow=7.8,SNR=7.1						
YKA	**Yellowknife Ar**	**35.73**	**46**	P	**P**	**06 43 52.7**	**+0.2**
SONM	**Songino Array**	**46.58**	**297**	P	**P**	**06 45 21.6**	**-0.1**
	0.5nm,0.5s,mb3.7,baz=69,slow=7.7,SNR=4.3						
PDAR	**Pinedale Array**	**46.71**	**72**	P	**P**	**06 45 24.7**	**+2.1**
	1.3nm,0.7s,mb4.0,baz=315,slow=4.6,SNR=13						
FINES	**FINESS Array B**	**66.14**	**347**	P	**P**	**06 47 40.1**	**-0.8**
	1.4nm,0.8s,mb4.1,baz=38,slow=7.7,SNR=4.6						
NOA	**NORSAR Array B**	**68.04**	**355**	P	**P**	**06 47 52.7**	**-0.2**
	0.4nm,0.5s,mb3.7,baz=7.3,slow=6.3,SNR=3.5						
AKASG	**Malin Array Be**	**75.86**	**342**	P	**P**	**06 48 39.8**	**0.0**
	2.7nm,0.4s,mb4.5,baz=20,slow=6.5,SNR=7.0						

*ISK **04** 06:38:53.9, 37.88N×33.84E, h7km, MD3.8, ML3.6*
*ISCJB **04** 06:38:54.7±0.3, 37.89N±0.02×33.84E±0.04, h10km, Error ellipse: s-maj=4.2km s-min=3.1km az=154.8*
*CSEM **04** 06:38:54.2±0.1, 37.86N×33.83E, h10km, MD3.8, Error ellipse: s-maj=1.9km s-min=1.7km az=80.0*
*NEIC **04** 06:38:56.2, 37.84N×33.83E, h29km, ML3.5(ISK), After ISK.*

ISC 04 06:38:55.2±0.3, **37.87N**±0.02×**33.84E**±0.04, **h10**km, **n52**, σ**0s97**/63, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	**Mersin**	**1.14**	**151**	PN	**Pn**	**06 39 16.0**	**-1.2**
KONT	**Konya--Tatoy**	**1.17**	**274**	PN	**Pn**	**06 39 16.4**	**-1.2**
KONT	**Konya--Tatoy**	**1.17**	**274**	Pn	**Pn**	**06 39 16.5**	**-1.2**
KONT	**Konya--Tatoy**	**1.17**	**274**	Pn	**Pn**	**06 39 16.5**	**-1.1**
AVNT	**Avonos**	**1.21**	**41**	*i* P	**Pn**	**06 39 15.0**	**-3.1**
AVNT				*i* S	**Sb**	**06 39 42.3**	**+8.5**
MEST	**Erdemli**	**1.31**	**169**	*i* P	**Pn**	**06 39 18.2**	**-1.2**
MEST				*i* S	**Sb**	**06 39 36.0**	**-0.6**
MEST	**Erdemli**	**1.31**	**169**	*i* P	**Pn**	**06 39 18.2**	**-1.3**
MEST				*i* S	**Sb**	**06 39 36.0**	**-0.6**
ERMK	**Ermenek**	**1.43**	**211**	*i* P	**Pn**	**06 39 21.0**	**-0.3**
ERMK				*i* S	**Sn**	**06 39 41.2**	**+1.1**
KAMT	**Kaman**	**1.50**	**356**	PN	**Pn**	**06 39 21.3**	**-0.8**
KAMT	**Kaman**	**1.50**	**356**	Pn	**Pn**	**06 39 21.3**	**-0.8**
KOZT	**Kozan**	**1.62**	**103**	PN	**Pn**	**06 39 23.2**	**-0.7**
KOZT				SN	**Sn**	**06 39 45.4**	**+0.6**
IKL	**Isikli**	**1.64**	**184**	PN	**Pn**	**06 39 23.8**	**-0.2**
CEYT	**Ceyhan**	**1.75**	**119**	PN	**Pn**	**06 39 25.5**	**0.0**
CEYT	**Ceyhan**	**1.75**	**119**	Pn	**Pn**	**06 39 25.6**	**0.0**
KRTS	**Karatas**	**1.79**	**136**	PN	**Pn**	**06 39 26.7**	**+0.6**
CDAG	**Cicekdag**	**1.80**	**13**	*i* P	**Pn**	**06 39 25.3**	**-1.0**
CDAG				*i* S	**Sg**	**06 39 53.1**	**+0.1**
KIZT	**Kizilcal**	**1.84**	**304**	PN	**Pn**	**06 39 27.1**	**+0.3**
KIZT	**Kizilcal**	**1.84**	**304**	Pn	**Pn**	**06 39 27.2**	**+0.4**
BNN	**Bunyan**	**1.86**	**58**	PN	**Pn**	**06 39 27.2**	**+0.2**
BNN	**Bunyan**	**1.86**	**58**	Pn	**Pn**	**06 39 27.2**	**+0.2**
YOZ	**Yozgat**	**2.11**	**33**	*e*PN	**Pn**	**06 39 30.7**	**+0.2**
YOZ	**Yozgat**	**2.11**	**33**	Pn	**Pn**	**06 39 30.7**	**+0.2**
LOD	**Lodumlu**	**2.18**	**338**	*e*PN	**Pn**	**06 39 31.9**	**+0.4**
LOD	**Lodumlu**	**2.18**	**338**	Pn	**Pn**	**06 39 32.0**	**+0.5**
LOD	**Lodumlu**	**2.18**	**338**	Pn	**Pn**	**06 39 32.0**	**+0.5**
COBT	**Iskenderun**	**2.35**	**124**	*i* P	**Pn**	**06 39 34.6**	**+0.7**
COBT				*i* S	**Sb**	**06 40 06.9**	**+0.1**
CORM	**Corum**	**2.38**	**15**	*e*PN	**Pn**	**06 39 34.8**	**+0.5**
HTY	**Hatay**	**2.54**	**133**	*e*PN	**Pn**	**06 39 36.8**	**+0.4**
HTY	**Hatay**	**2.54**	**133**	Pn	**Pn**	**06 39 36.9**	**+0.4**
ELDT	**Eldivan**	**2.63**	**353**	*i* P	**Pb**	**06 39 41.2**	**-1.3**
ELDT				*i* S	**Sg**	**06 40 19.8**	**0.0**
ISP	**Isparta**	**2.64**	**270**	*e*PN	**Pn**	**06 39 37.7**	**-0.1**
ISP	**Isparta**	**2.64**	**270**	*e*Pn	**Pn**	**06 39 36.5**	**-1.3**
ISP				*e*Sn	**Sn**	**06 40 09.6**	**-0.2**
CANT	**Cankiri**	**2.73**	**356**	*e*PN	**Pn**	**06 39 38.7**	**-0.4**
CANT	**Cankiri**	**2.73**	**356**	Pn	**Pn**	**06 39 40.3**	**+1.1**
GAZ	**Gaziantep**	**2.77**	**104**	*e*PN	**Pn**	**06 39 40.8**	**+1.2**
GAZ	**Gaziantep**	**2.77**	**104**	Pn	**Pn**	**06 39 40.0**	**+0.3**
GAZ	**Gaziantep**	**2.77**	**104**	Pn	**Pn**	**06 39 40.0**	**+0.4**
CTKT	**Corum**	**2.84**	**15**	*i* P	**Pb**	**06 39 45.5**	**-0.5**
GZT	**Gaziantep**	**3.00**	**99**	*i* P	**Pb**	**06 39 46.0**	**-2.7**
TOS	**Tosya**	**3.16**	**3**	*e*PN	**Pn**	**06 39 46.0**	**+1.0**
SVSK	**Karacayir**	**3.20**	**49**	*e*PN	**Pn**	**06 39 45.4**	**-0.1**
SVSK	**Karacayir**	**3.20**	**49**	Pn	**Pn**	**06 39 46.6**	**+1.1**
SVSK	**Karacayir**	**3.20**	**49**	Pn	**Pn**	**06 39 46.6**	**+1.1**
TOKT	**Tokat**	**3.23**	**40**	Pn	**Pn**	**06 39 46.6**	**+0.7**
TOKT	**Tokat**	**3.23**	**40**	Pn	**Pn**	**06 39 46.6**	**+0.7**
MDU	**Mudurnu**	**3.30**	**323**	Pn	**Pn**	**06 39 48.5**	**+1.7**
MDU	**Mudurnu**	**3.30**	**323**	Pn	**Pn**	**06 39 48.5**	**+1.7**
SAFT	**Safranbolu**	**3.48**	**346**	Pn	**Pn**	**06 39 51.0**	**+1.7**
BOYT	**Boyabat**	**3.64**	**13**	*i* P	**Pb**	**06 40 00.1**	**+0.5**
BOYT				*i* S	**Sg**	**06 40 50.6**	**-1.4**
MYA	**Malataya**	**3.65**	**81**	*e*PN	**Pn**	**06 39 52.0**	**+0.4**
MYA	**Malataya**	**3.65**	**81**	Pn	**Pn**	**06 39 52.8**	**+1.2**
BALT	**Daday**	**3.67**	**355**	*i* P	**Pb**	**06 40 02.4**	**+2.2**
BALT				*i* S	**Sg**	**06 40 52.0**	**-1.2**

NNC 04 06:44:57.6±2.1, **54.15N**×**86.59E**, **h0**km, **mb3.9**, **mpv3.7**, **9C-3D**, **Error ellipse: s-maj=20.3km s-min=11.9km az=81.0**, **Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.97**	**238**	⇑Pn	Pn	06 46 27.0	-0.2
	7.9nm,1.0s						
KURK				⇑Sn	Sn	06 47 37.9	+1.6
	2.6nm,0.7s						
KURK				⇓Lg		06 48 07.7	
	10nm,1.3s						
MK02	**Makanchi Array**	**7.88**	**202**	⇑Pn	Pn	06 46 53.1	-0.3
	2.1nm,0.5s,baz=26,slow=13						
MK02				⇓Sn	Sn	06 48 23.7	+0.3
	6.6nm,0.8s,baz=26,slow=27						
MK02				⇑Lg		06 49 09.9	
	14nm,0.9s,baz=29,slow=35						
VOSK	**Vostochnaya**	**9.43**	**268**	⇑Pn	Pn	06 47 13.8	-1.0
	3.1nm,0.6s						
VOSK				⇑Sn	Sn	06 49 00.4	-1.1
	6.5nm,0.7s						
CHKZ	**Chkalovo**	**9.45**	**274**	⇑Pn	Pn	06 47 13.6	-1.3
	2.1nm,0.9s						
CHKZ				⇑Sn	Sn	06 49 00.7	-1.1
	2.9nm,0.8s						
BVA0	**Borovoye Array**	**9.71**	**270**	Pn	Pn	06 47 18.8	+0.3
	0.2nm,0.5s,baz=75,slow=15,SNR=9.4						
BVA0				Sn	Sn	06 49 07.2	-1.0
	1.1nm,0.9s,baz=77,slow=25,SNR=6.6						
ZRNK	**Zerenda**	**10.54**	**271**	⇓Pn	Pn	06 47 29.0	-0.9
	3.7nm,0.8s						
ZRNK				⇑Sn	Sn	06 49 30.0	+1.4
	3.3nm,0.8s						

*NEIC **04** 06:57:20.0, 28.67S×71.34W, h34km, ML3.8(GUC), After GUC.*

GUC 04 06:57:20.0±0.7, **28.67S**×**71.34W**, **h34**km±6km, **MD4.2**, **ML3.8**, **2D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.52**	**80**	⇓*i*P	Pn	06 57 30.9	-0.1
VACH				*i* S	Sb	06 57 38.9	+0.4
VACH				AML	AML	06 57 44.2	
	comp=N,7μm,0.3s						
VACH	**Vallenar**	**0.52**	**80**	⇓*i*P	Pn	06 57 30.9	-0.1
VACH				*i* S	Sb	06 57 38.9	+0.4
LCO	**Las Campanas**	**0.66**	**121**	*e*P	Pn	06 57 33.2	+0.4
LCO				*i* S	Sn	06 57 43.2	+1.3
TLL	**Tololo Astrono**	**1.56**	**163**	*e*P	Pn	06 57 47.6	+2.3
TLL				*i* S	Sn	06 58 08.2	+3.9
TLL				AML	AML	06 58 12.1	
	comp=E,1μm,0.4s						
TLL	**Tololo Astrono**	**1.56**	**163**	*e*P	Pn	06 57 47.6	+2.3
TLL				*i* S	Sn	06 58 08.2	+3.9
CPCH	**Copiapo**	**1.57**	**34**	*e*P	Pn	06 57 46.5	+1.1

CPCH				*i* S	Sn	06 58 07.5	+3.0
CPCH				AML	AML	06 58 11.0	
	comp=N,6μm,0.2s						
CPCH	**Copiapo**	**1.57**	**34**	*e*P	Pn	06 57 46.5	+1.1
CPCH				*i* S	Sn	06 58 07.5	+3.0
CDCH	**Caldera**	**1.65**	**16**	*e*P	Pn	06 57 45.2	-1.3
CDCH				*i* S	Sn	06 58 05.5	-1.1
CRCH	**Chaqaral**	**2.40**	**16**	*i* P	Pn	06 57 55.9	-0.9
CRCH				*i* S	Sn	06 58 23.1	-1.9
FCH	**Farellones**	**4.73**	**169**	*e*P	Pn	06 58 34.1	+5.3
CLCH	**Cerro Calan**	**4.76**	**172**	*e*P	Pn	06 58 28.8	-0.5

IDC 04 07:23:00.3±3.2**,3468S×5845E,h0km,mb3.9**/3**,mb1 4.1**/3**, mb1mx3.7**/20**,mbtmp3.9**/3**,Error ellipse: s-maj=328.5km s-min=28.7km az=22.0,South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**65.42**	**103**	P	P	07 33 45.9	+1.0
	0.7nm,0.6s,baz=240,slow=5.9,SNR=13						
WRA	**Warramunga Arr**	**67.60**	**99**	P	P	07 33 58.3	-0.5
	1.5nm,0.9s,baz=240,slow=5.7,SNR=7.0						
TORD	**Torodi Ar. Bea**	**71.82**	**301**	P	P	07 34 24.9	+0.1
	1.2nm,0.9s,baz=126,slow=3.7,SNR=6.2						
YKA	**Yellowknife Ar**	**151.82**	**353**	PKPbc	PKPbc	07 42 56.3	-0.7
	2.0nm,0.6s,baz=356,slow=2.8,SNR=7.6						

MEX 04 07:36:34.2±0.8**,1613N×9773W,h9km**±18km**,MD3.6, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.46**	**304**	*i* P	Pg	07 36 42.7	-0.4
PNIG				*i* S	Sg	07 36 49.7	+0.5
VHO	**Vista Hermosa**	**1.34**	**46**	*i* P	Pn	07 36 55.5	-3.5
VHO				*i* S	Sb	07 37 11.5	-5.2
OXX	**Oaxaca**	**1.35**	**46**	*e*P	Pn	07 36 55.5	-3.7
OXX				*i* S	Sb	07 37 13.0	-4.0
UTMO	**Huajuapan**	**1.69**	**358**	*e*P	Pn	07 36 59.2	-4.6
UTMO				*i* S	Sn	07 37 19.9	-5.7
MEIG	**Mezcala**	**2.54**	**315**	*i* P	Pn	07 37 12.2	-3.3
MEIG				*i* S	Sn	07 37 41.6	-4.8

*CSEM **04** 07:56:54.0±0.4,3845N×2841W,h4km±3km,ML1.5,Error ellipse: s-maj=1.8km s-min=1.3km az=45.0,After PDA*
*PDA **04** 07:56:54.0±0.4,3845N×2841W,h4km±3km,MD2.6,ML1.5, Error ellipse: s-maj=1.8km s-min=1.3km az=45.0*
SVSA 04 07:56:54.0±0.4**,3845N×2841W,h4km**±3km**,MD2.6,ML1.5, Error ellipse: s-maj=1.8km s-min=1.3km az=45.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBOI	**Pico dos Bois**	**0.03**	**112**	*i* P	Pg	07 56 54.9	0.0
PBOI				*i* S	Sg	07 56 55.8	+0.2
PBOI							
	79nm,0.1s						
PCND	**Candelaria**	**0.05**	**298**	*e*P	Pg	07 56 55.3	+0.1
PCND				*i* S	Sg	07 56 56.3	+0.2
PCND							
	15nm,0.1s						
PICO	**Pico**	**0.06**	**345**	*e*P	Pg	07 56 55.3	0.0
PICO				*e*S	Sg	07 56 56.4	+0.1
PTEI	**Pico do Teixo**	**0.06**	**39**	*e*P	Pg	07 56 55.6	+0.2
PTEI				*e*S	Sg	07 56 56.7	+0.3
PTEI							
	16nm,0.2s						

*ISCJB **04** 07:59:10.8±0.4,3086N±003×3501E±004,h9km±4km, Error ellipse: s-maj=6.2km s-min=4.3km az=31.6*
*GII **04** 07:59:10.1±0.9,3086N×3501E,h0km,ML2.5/6*
*HLW **04** 08:59:10.1,3104N×3494E,h10km,Mb2.6*
ISC 04 07:59:11.4±0.4**,3087N**±003×**3500E**±004**,h10km**±4km**,n28, σ0s85**/36**,2C-8D,Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MASH	**Mash'abbe Sade**	**0.22**	**304**	Pg	**Pg**	**07 59 15.7**	**-0.2**
SVTA	**Shivta**	**0.33**	**280**	Pg	**Pg**	**07 59 18.2**	**+0.3**
ZFRI	**Zfri**	**0.35**	**154**	Pg	**Pg**	**07 59 17.9**	**-0.4**
PRNI	**Paran**	**0.52**	**180**	Pg	**Pg**	**07 59 21.1**	**-0.3**
PRNI				Sg	**Sg**	**07 59 29.8**	**+1.6**
KZIT	**Kziot**	**0.52**	**274**	Pg	**Pg**	**07 59 21.2**	**-0.2**
KZIT				Sg	**Sg**	**07 59 29.8**	**+1.6**
MZDA	**Masada**	**0.54**	**35**	Pg	**Pg**	**07 59 21.4**	**-0.3**
MZDA				Sg	**Sg**	**07 59 30.1**	**+1.3**
DRGI	**Dragot**	**0.80**	**25**	Pg	**Pg**	**07 59 26.9**	**+0.3**
DRGI	**Dragot**	**0.80**	**25**	Pg	**Pg**	**07 59 26.9**	**+0.2**
HRFI	**Mount Harif**	**0.83**	**178**	Pg	**Pg**	**07 59 26.7**	**-0.7**
MKRJ	**Makawir**	**0.87**	**39**	Pg	**Pg**	**07 59 27.9**	**-0.2**
MBH	**Mount Berech**	**1.08**	**184**	Pg	**Pg**	**07 59 31.9**	**-0.2**
AQBJ	**Aqaba**	**1.14**	**178**	Pg	**Pg**	**07 59 32.6**	**-0.6**
EIL	**Elat**	**1.20**	**182**	Pg	**Pg**	**07 59 32.9**	**-1.5**
EIL	**Elat**	**1.20**	**182**	Pg	**Pg**	**07 59 32.8**	**-1.6**
HNKL	**Nakhl**	**1.29**	**223**	⇑P	**Pn**	**07 59 34.8**	**-0.6**
HNKL				S	**Sb**	**07 59 52.9**	**+0.7**
HMDT	**Nahal Hemdat**	**1.45**	**18**	Pn	**Pn**	**07 59 37.4**	**-0.3**
AMAG	**Maghara**	**1.56**	**262**	⇓P	**Pn**	**07 59 37.1**	**-2.0**
HBST	**Basata**	**1.67**	**188**	⇓P	**Pn**	**07 59 41.1**	**+0.4**
HBST				S	**Sn**	**08 00 03.4**	**+1.3**
HBST	**Basata**	**1.67**	**188**	⇓P	**Pn**	**07 59 41.1**	**+0.4**
HBST				S	**Sn**	**08 00 03.4**	**+1.3**
HBST	**Basata**	**1.67**	**188**	P	**Pn**	**07 59 41.1**	**+0.5**
HBST				S	**Sn**	**08 00 03.3**	**+1.2**
OFRI	**'Ofer**	**1.75**	**360**	Pn	**Pn**	**07 59 42.4**	**+0.7**
SUZ		**2.14**	**242**	⇓P	**Pn**	**07 59 45.4**	**-1.7**
HDHB	**Dhahab**	**2.17**	**189**	⇓P	**Pn**	**07 59 47.9**	**+0.4**
ZNM		**2.37**	**232**	⇓P	**Pn**	**07 59 49.1**	**-1.1**
HKAT	**Jabal Katrina**	**2.50**	**201**	P	**Pn**	**07 59 52.5**	**+0.4**
HKAT				S	**Sn**	**08 00 23.3**	**+0.7**
TR2		**2.71**	**204**	⇑P	**Pn**	**07 59 55.2**	**+0.2**
TR1		**3.00**	**198**	⇓P	**Pn**	**07 59 59.2**	**+0.2**
HHRG	**Al Ghardaqah**	**3.85**	**199**	⇓P	**Pn**	**08 00 11.0**	**+0.3**

ISC 04 08:12:49.4±0.8**,3777N**±004×**2545W**±006**,h0km,n5, σ0s33**/6**,Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LFA	**Lagoa do Fogo**	**0.02**	**277**	*i* P	**Pg**	**08 12 49.9**	**+0.1**
MESC	**Monte Escuro**	**0.02**	**13**	*e*P	**Pg**	**08 12 49.4**	**-0.4**
MESC				*e*S	**Sg**	**08 12 50.5**	**+0.3**
VIF	**Vila Franca**	**0.03**	**158**	*e*S	**Sg**	**08 12 50.4**	**+0.1**
VIF							
	12nm,0.1s						
PCNG	**Congro**	**0.04**	**94**	*e*S	**Sg**	**08 12 50.8**	**-0.1**
PCNG							
	28nm,0.1s						
PRCH	**Ribeira Ch**	**0.05**	**208**	*e*S	**Sg**	**08 12 50.9**	**0.0**
PRCH							
	19nm,0.2s						

CASC 04 08:15:26.9±2.9**,1351N×9056W,h35km**±21km**,MD3.8, ML3.4,6C-6D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.67**	**9**⇓	*e*P	Pn	08 15 39.7	-0.1
IXG				*e*S	Sn	08 15 50.3	+1.2
TER	**Terranova**	**0.80**	**351**⇑	*e*P	Pn	08 15 41.7	0.0
SBLS	**San Blas**	**0.96**	**70**⇓	*e*P	x	08 16 32.8	
SBLS				*e*S	x	08 16 45.5	
RTR	**El Retiro**	**0.97**	**67**	*e*P	x	08 16 33.0	
RTR				*e*S	x	08 16 45.8	
FUG	**Fuego 3**	**0.97**	**344**	*e*P	Pn	08 15 44.1	0.0
SNJE	**San Jose**	**0.99**	**69**	*e*P	x	08 16 33.2	
SNJE				*e*S	x	08 16 45.9	
RBDL	**Robledal**	**1.04**	**55**⇓	*e*P	x	08 16 33.8	
RBDL				*e*S	x	08 16 48.6	
BOQS	**Boqueron**	**1.26**	**80**	*e*P	x	08 16 37.6	
BOQS				*e*S	x	08 16 53.9	
SNET	**Serv Nac Est T**	**1.30**	**82**	*e*P	x	08 15 49.8	
SNET				*e*S	x	08 16 05.9	
JAT	**Jato**	**1.32**	**308**⇑	*e*P	Pn	08 15 49.5	+0.7
TP2	**Tecpan 2**	**1.34**	**340**⇓	*e*P	Pn	08 15 49.5	+0.3
TP2				*e*S	Sn	08 16 06.7	+1.0
LFU	**La Fuente**	**1.42**	**80**⇓	*e*P	x	08 16 39.7	
LFU				*e*S	x	08 16 59.0	
LFRS	**El Faro**	**1.46**	**85**⇑	*e*P	x	08 16 40.2	
LFRS				*e*S	x	08 16 58.0	
LBRS	**Las Brisas**	**1.49**	**81**⇑	*e*P	x	08 16 40.7	
LBRS				*e*S	x	08 17 02.1	
LCBS	**La Ceiba**	**1.54**	**85**⇑	*e*P	x	08 16 41.5	
LCBS				*e*S	x	08 17 01.8	
SNVI	**San Vicente**	**1.68**	**86**	*e*P	x	08 16 43.3	
SNVI				*e*S	x	08 17 04.0	
SNVI				*e*S	x	08 17 05.6	
CNCH	**Conchagua**	**2.66**	**95**⇑	*e*P	x	08 16 58.9	
CNCH				*e*S	x	08 17 30.9	
LEON	**Leon**	**3.74**	**107**	*e*P	Pn	08 16 22.6	+0.6
LEON				*e*S	Sn	08 17 04.2	-0.6
MIRN	**Miramar**	**3.90**	**105**⇓	*e*P	Pn	08 16 25.6	+1.3
MIRN				*e*S	Sn	08 17 08.5	-0.3
COPN	**Copaltepe**	**4.09**	**108**	*e*P	Pn	08 16 27.3	+0.4
COPN				*e*S	Sn	08 17 11.8	-1.8
MGAN	**Managua**	**4.42**	**107**	*e*	Pn	08 17 33.2	+62
	comp=N,86nm,0.5s						

*CSEM **04** 08:54:54.4,3764N×2088E,h18km,MD3.5/4,After ATH*
*NEIC **04** 08:54:54.4,3764N×2088E,h18km,MD3.5(ATH),After ATH.*
ATH 04 08:54:54.4,3764N×2088E,h18km±4km**,MD3.5**/4**,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.58**	**337**	*e*PN	Pn	08 55 05.8	-2.0
VLS				*e*SN	Sg	08 55 15.0	+1.2
RLS	**Riolos of Patr**	**0.62**	**48**	*e*PB	Pb	08 55 06.3	-0.5
RLS				*e*SN	Sg	08 55 15.7	+0.6
ITM	**Ithomi**	**0.95**	**119**	*e*PN	Pn	08 55 12.9	+0.1
LKR	**Lokris**	**1.95**	**58**	*e*PN	Pn	08 55 29.0	+2.4

*ISCJB **04** 08:55:58.9±0.7,3340N±003×3531E±005,h10km,Error ellipse: s-maj=6.7km s-min=3.6km az=32.0*
*GRAL **04** 08:55:58.0±1.6,3331N×3523E,h0km±435km,MD2.8*
*GII **04** 08:57:34.3±1.4,3340N×3535E,h0km±2km*
ISC 04 08:55:59.0±1.4**,3340N**±003×**3530E**±006**,h16km**±16km**, n12,σ1s07**/21**,Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATL	**Matirih**	**0.10**	**13**	*i* Pg	**Pg**	**08 56 01.3**	**-1.0**
HNTI	**Hanita**	**0.33**	**199**	Pg	**Pg**	**08 56 06.1**	**+0.2**
HNTI				Sg	**Sg**	**08 56 12.3**	**+1.7**
MMC7	**Mount Meron ar**	**0.38**	**169**	Pg	**Pg**	**08 56 05.9**	**-0.9**
HRI	**Mount Hermon**	**0.38**	**110**	Pg	**Pg**	**08 56 05.4**	**-1.4**
HRI				Sg	**Sg**	**08 56 12.3**	**+0.3**
HRI	**Mount Hermon**	**0.38**	**110**	Pg	**Pg**	**08 56 05.4**	**-1.4**
HRI				Sg	**Sg**	**08 56 12.3**	**+0.2**
MMA0B	**Mount Meron ar**	**0.39**	**168**	Pg	**Pg**	**08 56 06.0**	**-0.9**
MMA0B				Sg	**Sg**	**08 56 12.7**	**+0.4**
MMB1	**Mount Meron ar**	**0.39**	**167**	Pg	**Pg**	**08 56 06.0**	**-1.0**
RCY	**Rachaya**	**0.44**	**78**	*i* Pg	**Pg**	**08 56 06.4**	**-1.5**
RCY				*i* Sg	**Sg**	**08 56 13.3**	**-0.5**
BHL	**Bhannes**	**0.58**	**30**	*i* Pg	**Pg**	**08 56 10.3**	**-0.2**
BHL				*i* Sg	**Sg**	**08 56 20.1**	**+1.8**
KSHT	**Keshet**	**0.59**	**134**	Pg	**Pg**	**08 56 11.8**	**+1.1**
KSHT				Sg	**Sg**	**08 56 19.9**	**+1.4**
KSHT	**Keshet**	**0.59**	**134**	Pg	**Pg**	**08 56 11.7**	**+1.1**
KSHT				Sg	**Sg**	**08 56 19.9**	**+1.3**
HWQ	**Hawqa**	**1.03**	**31**	*i* Pg	**Pg**	**08 56 18.3**	**-0.6**
HWQ				*i* Sg	**Sg**	**08 56 33.8**	**+1.4**

*LDG **04** 09:00:24.5±0.4,1364S×16705E,h10km,Mb4.8/3,Error ellipse: s-maj=48.1km s-min=17.2km az=87.0*
*ISCJB **04** 09:00:40.9±0.9,1462S±006×167.19E±006,h170km±8km, mb4.4/27,Error ellipse: s-maj=10.6km s-min=8.7km az=69.4*
*BJI **04** 09:00:40.8,1444S×16749E,h175km,mB4.8,mb4.7*
*NEIC **04** 09:00:42.0±0.3,1448S×16722E,mb4.4/17,Error ellipse: s-maj=9.3km s-min=7.4km az=136.0*
*IDC **04** 09:00:42.7±1.4,1457S×16707E,h168km±11km,mb4.1/14, mb1 4.2/16,mb1mx4.2/19,mbtmp4.6/16,MS3.3/1, Ms1 3.3/1,ms1mx2.8/18,Error ellipse: s-maj=14.5km s-min=10.7km az=144.0*
ISC 04 09:00:42.1±0.8**,1461S**±006×**16725E**±007**,h169km**±8km**, h178km**±7.3km**:pP-P,n126,σ1s11**/55**,mb4.4**/27**,1C-2D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**3.18**	**163**⇑	*i*P	**Pn**	**09 01 31.2**	**-1.3**
BKM				S	**Sn**	**09 02 10.3**	**+1.2**
DZM	**Mont Dzumac**	**7.46**	**186**	*e*P	**Pn**	**09 02 29.0**	**+0.9**
DZM				*e*S	**Sn**	**09 03 49.8**	**-1.8**
DZM	**Mont Dzumac**	**7.46**	**186**	P	**Pn**	**09 02 29.5**	**+1.3**
	3.9nm,0.3s,baz=42,slow=14,SNR=29						
DZM				S	**Sn**	**09 03 55.8**	**+4.1**
	3.4nm,0.3s,baz=296,slow=20,SNR=3.8						
HNR	**Honiara**	**8.81**	**305**	P	**Pn**	**09 02 45.5**	**-0.5**
	3.8nm,0.3s,baz=93,slow=2.1,SNR=5.3						
HNR	**Honiara**	**8.81**	**305**	*e*Pn	**Pn**	**09 02 46.0**	**0.0**
AFI	**Afiamalu**	**20.34**	**91**	P	**P**	**09 05 08.3**	**+3.1**
	85nm,1.2s,baz=270,slow=19,SNR=4.7						
CTA	**Charters Tower**	**20.76**	**252**	*e*P	**P**	**09 05 11.4**	**+1.7**
	6.9nm,0.7s						
CTA	**Charters Tower**	**20.76**	**252**	P	**P**	**09 05 10.8**	**+1.2**
	10nm,0.8s,baz=87,slow=8.9,SNR=12						
CTAO	**Charters Tower**	**20.76**	**252**	*e*P	**P**	**09 05 10.8**	**+1.2**
	9.3nm,0.8s						
CNB	**Canberra Magne**	**26.14**	**215**	*e*P	**P**	**09 06 02.4**	**+1.9**
STKA	**Stephens Creek**	**29.05**	**229**	*e*P	**P**	**09 06 28.5**	**+2.1**
	12nm,0.4s,mb5.0						
STKA	**Stephens Creek**	**29.05**	**229**	P	**P**	**09 06 27.4**	**+1.1**
	22nm,0.6s,mb5.0,baz=47,slow=7.9,SNR=70						
STKA				PcP	PcP	09 09 30.8	+0.5
	3.9nm,0.6s,baz=62,slow=2.4,SNR=5.5						
WB2	**Warramunga Arr**	**31.82**	**256**	*e*P	**P**	**09 06 50.8**	**0.0**
WB2				*e*S	**S**	**09 11 45.9**	**-2.7**
WRA	**Warramunga Arr**	**31.84**	**256**	P	**P**	**09 06 50.5**	**-0.4**
	2.0nm,0.8s,mb3.9,baz=84,slow=8.5,SNR=40						
WRA				S	**S**	**09 11 45.7**	**-3.1**
	1.4nm,1.0s,baz=84,slow=16,SNR=4.3						
AS31	**Alice Springs**	**32.70**	**249**	*e*P	**P**	**09 06 58.1**	**-0.3**
AS31				*e*S	**S**	**09 12 01.0**	**-1.1**
ASAR	**Alice Springs**	**32.70**	**249**	P	**P**	**09 06 58.3**	**-0.1**
	2.8nm,0.4s,mb4.4,baz=70,slow=9.7,SNR=57						
ASAR				pP	pP	09 07 35.5	+1.7
	2.0nm,0.7s,baz=78,slow=9.7,SNR=5.7						
ASAR				S	**S**	**09 12 00.4**	**-1.7**
	1.2nm,0.9s,baz=86,slow=18,SNR=6.3						
ASPA	**Alice Springs**	**32.70**	**249**	*e*P	**P**	**09 06 58.1**	**-0.3**
ASPA				*e*S	**S**	**09 12 01.0**	**-1.2**
GUMO	**Guam**	**35.72**	**321**	LR	LR	09 19 40.6	
	comp=Z,52nm,21.8s,baz=118,slow=32						
FORT	**Forrest**	**39.34**	**239**	*e*P	**P**	**09 07 55.8**	**+1.0**
	21nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**40.02**	**259**	*e*P	**P**	**09 08 01.4**	**+1.0**
	5.4nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**40.02**	**259**	P	**P**	**09 08 01.3**	**+0.9**
	2.7nm,0.6s,mb4.0,baz=245,slow=4.6,SNR=7.6						
MBWA	**Marble Bar**	**45.56**	**255**	*e*P	**P**	**09 08 45.7**	**+0.7**
	4.3nm,0.5s,mb4.3						
KLBR	**Kellerberrin**	**48.15**	**241**	*e*P	**P**	**09 09 05.3**	**+0.3**
	12nm,0.7s,mb4.6						
NWAO	**Narrogin (SRO)**	**48.79**	**239**	P	**P**	**09 09 09.9**	**0.0**
	11nm,0.8s,mb4.5,baz=97,slow=9.7,SNR=6.9						
NWAO	**Narrogin (SRO)**	**48.79**	**239**	*e*P	**P**	**09 09 10.3**	**+0.4**
	7.3nm,0.6s,mb4.5						
MJAR	**Matsushiro Arr**	**57.80**	**332**	P	**P**	**09 10 14.6**	**-0.9**
	2.0nm,0.6s,mb4.2,baz=170,slow=7.5,SNR=5.0						
MAJO	**Matsushiro**	**57.80**	**332**	*e*P	**P**	**09 10 14.7**	**-0.9**
	4.6nm,0.5s,mb4.6						
VNDA	**Vanda**	**62.98**	**181**	P	**P**	**09 10 50.4**	**-0.4**
	4.0nm,0.7s,mb4.3,baz=358,slow=7.0,SNR=28						
VNDA	**Vanda**	**62.98**	**181**	*e*P	**P**	**09 10 50.5**	**-0.2**
	3.7nm,0.7s,mb4.3						
SBA	**Scott Base**	**63.25**	**180**	*e*P	**P**	**09 10 53.9**	**+1.3**
	14nm,0.8s,mb4.8						
KMI	**Kunming**	**74.23**	**302**	P	**P**	**09 12 02.4**	**+2.0**
KMI				AP	pP	09 12 45.8	+4.5
KMI				XP	sP	09 13 07.7	+8.4
KMI				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.7						
QSPA	**South Pole Qui**	**75.41**	**180**	*e*P	**P**	**09 12 07.0**	**-0.2**
	comp=Z,16nm,1.1s,mb4.6						
HHC	**Hu-ho-hao-te**	**75.49**	**320**	*e*P	**P**	**09 12 10.6**	**+3.0**
HHC				PP	PP	09 15 03.5	+4.5
HHC				S	S	09 21 34.2	+0.2
HHC				SS	SS	09 26 33.0	+4.8
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.7						
HHC				AMB	AMB		
	comp=Z,94nm,5.8s						
CD2	**Chengdu**	**75.92**	**308**	*e*P	**P**	**09 12 09.4**	**-0.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
LZH	**Lanzhou**	**78.23**	**312**	*e*P	**P**	**09 12 24.1**	**+1.2**
LZH				AMB	AMB		
	comp=Z,23nm,1.4s,mb4.6						
MAW	**Mawson**	**81.98**	**202**	P	**P**	**09 12 43.1**	**+0.1**
	comp=Z,7.1nm,0.9s,mb4.3,baz=106,slow=3.9,SNR=14						
ULN	**Ulaanbaatar**	**82.03**	**324**	*e*P	**P**	**09 12 43.3**	**0.0**
	comp=Z,3.8nm,0.9s,mb4.0						
ULN				*e*pP	pP	09 13 22.8	-2.1
SONM	**Songino Array**	**82.39**	**324**	P	**P**	**09 12 44.8**	**-0.4**
	comp=Z,1.0nm,0.6s,mb3.6,baz=134,slow=4.3,SNR=11						
BILL	**Bilibino**	**82.43**	**360**	*e*P	**P**	**09 12 44.4**	**-0.9**
	comp=Z,3.5nm,0.4s,mb4.3						
PMR	**Palmer**	**83.40**	**19**	*e*P	**P**	**09 12 48.9**	**-1.5**
	comp=Z,10nm,1.2s,mb4.4						
PMR				*e*pP	pP	09 13 37.7	+5.6
COLA	**College**	**86.21**	**18**	*e*P	**P**	**09 13 02.4**	**-2.0**
	comp=Z,2.9nm,0.8s,mb4.1						
NVAR	**Mina Array Bea**	**87.21**	**49**	P	**P**	**09 13 09.5**	**+0.3**
	comp=Z,1.5nm,0.8s,mb3.9,baz=232,slow=6.1,SNR=8.4						
SYO	**Syowa Base**	**88.81**	**197**⇓	*e*P	**P**	**09 13 16.0**	**-0.8**
SYO	**Syowa Base**	**88.81**	**197**⇓	*e*PcP	PcP	09 13 17.3	-0.9
BMO	**Blue Mountains**	**90.18**	**44**	*e*P	**P**	**09 13 22.9**	**-0.3**
	comp=Z,1.9nm,0.9s,mb4.0						
MSU	**Marysvale**	**91.78**	**51**	*e*P	**P**	**09 13 31.2**	**+0.6**
WMQ	**Urumqi**	**92.64**	**315**	P	**P**	**09 13 34.8**	**+0.3**
MKAR	**Makanchi Array**	**97.11**	**316**	P	**P**	**09 13 55.4**	**+0.4**
	comp=Z,1.5nm,0.7s,mb4.4,baz=92,slow=7.3,SNR=7.8						
ZAL	**Zalesovo**	**97.30**	**324**	P	**P**	**09 13 55.0**	**-0.8**
	comp=Z,1.4nm,0.3s,mb4.8,baz=16,slow=5.5,SNR=3.8						
KEV	**Kevo**	**119.61**	**345**	*e*pkp	PKPdf	09 19 04.1	-7.6
ARCES	**ARCESS Array B**	**120.14**	**345**	PKP	PKPdf	09 19 12.1	-0.7
	comp=Z,5.0nm,0.3s,baz=80,slow=2.2,SNR=85						
JOF	**Joensuu**	**122.77**	**338**	*e*pkp	PKPdf	09 19 16.8	-1.0
KAF	**Kangasniemi**	**125.08**	**339**	*e*pkp	PKPdf	09 19 20.7	-1.5
FINES	**FINESS Array B**	**125.61**	**338**	PKP	PKPdf	09 19 22.7	-0.6
	comp=Z,4.9nm,0.9s,baz=98,slow=2.1,SNR=15						
NB2	**NORSAR Subarra**	**130.51**	**345**	PKPdf	PKPdf	09 19 32.5	-0.1
	comp=Z,3.0nm,0.8s,baz=35,slow=1.9						
NOA	**NORSAR Array B**	**130.51**	**345**	PKP	PKPdf	09 19 32.8	+0.2
	comp=Z,2.3nm,0.7s,baz=34,slow=2.0,SNR=12						
NOA				SKPbc	SKPbc	09 22 42.4	+2.1
	comp=Z,4.7nm,0.7s,baz=33,slow=2.9,SNR=18						
AKASG	**Malin Array Be**	**130.63**	**326**	PKP	PKPdf	09 19 32.8	0.0
	comp=Z,0.7nm,0.5s,baz=50,slow=1.5,SNR=8.1						
AKASG				SKPbc	SKPbc	09 22 43.3	+2.5
	comp=Z,2.7nm,0.7s,baz=44,slow=4.5,SNR=10						
GERES	**GERESS Array B**	**139.53**	**333**	PKP	PKPdf	09 19 50.6	+1.2
	comp=Z,1.5nm,0.7s,baz=238,slow=4.3,SNR=9.4						
TIP	**Timpagrande**	**144.35**	**319**	*e*PKPdf	PKPdf	09 19 57.6	-0.3
CABF	**La Chapelle**	**144.41**	**338**	*e*PKP1	PKPdf	09 19 57.7	-0.4
	comp=Z,38nm,1.0s						
FLN	**La Foliniere**	**144.48**	**346**	*e*PKP1	PKPdf	09 19 56.6	-1.6
	comp=Z,25nm,0.8s						
LDF	**La Druitiere**	**144.55**	**346**	*e*PKP1	PKPdf	09 19 56.8	-1.5
	comp=Z,22nm,0.7s						
LOR	**Lormes**	**144.62**	**340**	*e*PKP1	PKPdf	09 19 57.5	-0.9
	comp=Z,51nm,1.2s						
GRR	**Gorron**	**144.92**	**346**	*e*PKP1	PKPdf	09 19 58.4	-0.5
	comp=Z,82nm,0.7s						
SSF	**Saint Saulge**	**144.92**	**341**	*e*PKP1	PKPdf	09 19 59.0	+0.1
	comp=Z,105nm,0.9s						
HYF	**Humbligny**	**145.01**	**342**	*e*PKP1	PKPdf	09 19 59.4	+0.3
LPL	**La Plagne**	**145.08**	**336**	*e*PKP1	PKPbc	09 19 59.9	+0.8
	comp=Z,23nm,0.7s						
LPG	**La Plagne**	**145.09**	**336**	*e*PKP1	PKPbc	09 20 00.0	+0.9
	comp=Z,71nm,1.0s						
OG05	**Jujurieux**	**145.13**	**338**	PKP	PKPdf	09 20 00.4	+1.1
SMF	**Signal de Mont**	**145.18**	**340**	*e*PKP1	PKPbc	09 19 59.5	+0.1
	comp=Z,98nm,1.1s						
AVF	**Avril sur Loir**	**145.21**	**340**	*e*PKP1	PKPbc	09 19 59.5	0.0
	comp=Z,62nm,1.0s						
SGMF	**Saint Gilles**	**145.41**	**348**	*e*PKP1	PKPbc	09 20 00.0	-0.1
	comp=Z,121nm,1.0s						
ROSF	**Rostrenen**	**145.47**	**349**	*e*PKP1	PKPbc	09 20 00.2	-0.1
	comp=Z,57nm,0.9s						
BNI	**Bardonecchia**	**145.49**	**335**	*e*PKPab	PKPab	09 20 01.2	+0.4
BGF	**Bois d'Agland**	**145.58**	**341**	*e*PKP1	PKPbc	09 20 00.9	+0.3
	comp=Z,66nm,0.9s						
MBDF	**Montbardon**	**145.72**	**335**	*e*PKP1	PKPbc	09 20 01.3	+0.3
	comp=Z,53nm,1.1s						
PLDF	**La Plantade**	**145.84**	**340**	PKP	PKPdf	09 20 02.8	+2.3
QUIF	**Quistinic**	**145.86**	**348**	*e*PKP1	PKPbc	09 20 01.1	-0.4
ORIF	**Oris-en-Rattie**	**145.91**	**336**	*e*PKP1	PKPbc	09 20 02.2	+0.6
	comp=Z,76nm,0.9s						
SAOF	**Saorge**	**145.98**	**333**	PKP	PKPdf	09 20 01.2	+0.4
TCF	**Toulx Ste Croi**	**146.02**	**341**	*e*PKP1	PKPbc	09 20 02.2	+0.3
	comp=Z,27nm,0.8s						
AUTN	**L'Aution**	**146.03**	**334**	PKP	PKPdf	09 20 01.4	+0.6
TOUF	**Mont Tournerai**	**146.09**	**334**	PKP	PKPdf	09 20 01.3	+0.3
SBF	**Sospel**	**146.13**	**333**	*e*PKP1	PKPbc	09 20 02.3	0.0
	comp=Z,94nm,0.9s						
LUCF	**Luceram**	**146.15**	**334**	PKP	PKPdf	09 20 01.9	+0.9
MVIF	**Mont Vial**	**146.23**	**334**	PKP	PKPdf	09 20 03.4	+2.2
OG25	**Le Caire**	**146.29**	**335**	PKP	PKPdf	09 20 01.0	-0.3
MFF	**Saint Martin d**	**146.41**	**344**	*e*PKP1	PKPbc	09 20 03.2	+0.1
	comp=Z,71nm,0.8s						
VIVF	**Saint-Julien-l**	**146.43**	**337**	*e*PKP1	PKPbc	09 20 03.7	+0.6
	comp=Z,37nm,0.9s						
PGF	**Pioggiola**	**146.45**	**330**	*e*PKP1	PKPbc	09 20 03.4	+0.2
	comp=Z,102nm,1.1s						
LCHF	**La Chataignera**	**146.50**	**345**	PKP	PKPbc	09 20 04.6	+1.3
CORF	**Corte**	**146.56**	**330**	PKP	PKPbc	09 20 04.3	+0.8
LBL	**Lubilhac**	**146.61**	**339**	PKP	PKPbc	09 20 05.0	+1.3
STOF	**St-Etienne Org**	**146.67**	**335**	PKP	PKPbc	09 20 04.8	+1.0
FRF	**La Foret Royal**	**146.72**	**334**	*e*PKP1	PKPbc	09 20 04.0	0.0
	comp=Z,84nm,1.0s						
SMRF	**Simiane la Rot**	**146.82**	**335**	*e*PKP1	PKPbc	09 20 04.9	+0.7
	comp=Z,44nm,0.9s						
VILF	**Villemus**	**146.87**	**335**	PKP	PKPbc	09 20 05.7	+1.3
TAVF	**Tavernes**	**146.92**	**335**	PKP	PKPbc	09 20 05.5	+1.0
LMR	**La Mourre**	**146.96**	**334**	*e*PKP1	PKPbc	09 20 04.8	+0.2
	comp=Z,52nm,0.9s						
RJF	**Les Rejaudoux**	**147.11**	**341**	*e*PKP1	PKPbc	09 20 05.5	+0.4
	comp=Z,24nm,0.7s						
PRAF	**Pradon**	**147.12**	**336**	PKP	PKPbc	09 20 06.4	+1.3
PUYF	**Puyloubier**	**147.14**	**335**	PKP	PKPbc	09 20 05.9	+0.8
TREF	**Trevaresse**	**147.19**	**335**	PKP	PKPbc	09 20 06.7	+1.4
CAF	**Calviac**	**147.28**	**340**	*e*PKP1	PKPbc	09 20 06.1	+0.6
	comp=Z,44nm,1.1s						
BERF	**Bertagne**	**147.32**	**335**	PKP	PKPbc	09 20 06.9	+1.3
GELF	**Grande-Etoile**	**147.37**	**335**	PKP	PKPbc	09 20 07.1	+1.3
LASF	**Ste Croix**	**147.40**	**338**	*e*PKP1	PKPbc	09 20 06.5	+0.7
	comp=Z,65nm,1.0s						
LFF	**La Frestale**	**147.68**	**342**	*e*PKP1	PKPbc	09 20 07.0	+0.4
	comp=Z,68nm,0.8s						
MTLF	**Montolieu**	**148.63**	**339**	*e*PKP1	PKPbc	09 20 09.6	+0.5
	comp=Z,51nm,0.9s						
LRDF	**Laroque-de-Fa**	**148.86**	**338**	PKP	PKPbc	09 20 10.8	+1.1
MLS	**Moulis**	**149.35**	**340**	PKP	PKPbc	09 20 11.8	+0.9
EPF	**Esparros**	**149.53**	**341**	*e*PKP1	PKPbc	09 20 12.1	+0.8
ATE	**Arette**	**149.80**	**342**	PKP	PKPbc	09 20 13.1	+1.1
ETSF	**Etsaut**	**149.93**	**342**	*e*PKP1	PKPbc	09 20 13.4	+1.1
	comp=Z,38nm,0.7s						
PBRG	**Braganca**	**152.41**	**350**	*e*PKPbc	PKPbc	09 20 18.4	+0.4
PBRG	**Braganca**	**152.41**	**350**	*e*PKPab	PKPab	09 20 29.1	+0.3
PVRL	**Vila Real**	**153.08**	**352**	*e*PKPbc	PKPbc	09 20 20.4	+0.9
PVRL	**Vila Real**	**153.08**	**352**	*e*PKPab	PKPab	09 20 31.7	+0.1
PVIS	**Viseu**	**153.65**	**352**	*e*PKPab	PKPab	09 20 35.0	+0.9
ESDC	**Sonseca Array**	**153.87**	**344**	PKPbc	PKPbc	09 20 21.9	+0.7
	comp=Z,0.5nm,0.4s,baz=28,slow=1.2,SNR=6.3						
ESDC				PKPab	PKPab	09 20 36.1	+1.1
	comp=Z,0.3nm,0.3s,baz=27,slow=4.3,SNR=4.9						
MTE	**Manteigas**	**153.91**	**351**	*e*PKPbc	PKPbc	09 20 20.3	-1.0
MTE	**Manteigas**	**153.91**	**351**	*e*PKPab	PKPab	09 20 36.4	+1.2
PCBR	**Castelo Branco**	**154.45**	**351**	*e*PKPab	PKPab	09 20 38.2	+0.7
EVO	**Evora**	**155.81**	**351**	*e*PKP2	PKPab	09 20 44.3	+1.0
	comp=Z,12nm,0.9s						
PBEJ	**Beja**	**156.28**	**350**	*e*PKPab	PKPab	09 20 46.0	+0.7
TORD	**Torodi Ar. Bea**	**165.90**	**266**	PKPab	PKPab	09 21 28.9	+1.5
	comp=Z,1.8nm,0.8s,baz=106,slow=3.5,SNR=9.5						

MAN 04 09:12:30.5, 1804N×12116E, h29km, mb2.3, ML3.9, MS5.1, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APYP	**Conner**	**0.19**	**156**	eP	Pb	09 12 37.2	+0.7
APYP				eS	Sb	09 12 41.9	+1.4
ABRA	**Dolores**	**0.57**	**228**	eP	Pb	09 12 43.2	+1.1
ABRA				eS	Sb	09 12 52.3	+2.3
PIP	**Pasuquin**	**0.59**	**299**	⇓iP	Pb	09 12 43.0	+0.7
PIP				eS	Sb	09 12 59.9	+10
CVP	**Callao Caves**	**0.71**	**118**	⇓eP	Pb	09 12 45.0	+0.7
CVP				iS	Sb	09 12 55.0	+1.2
SGCP	**Mt. Cagua**	**0.87**	**76**	eP	Pn	09 12 46.8	+0.1
SGCP				eS	Sb	09 12 56.7	-1.5
CAUP	**Cauayan**	**1.26**	**150**	eP	Pn	09 12 56.5	+4.5
CAUP				eS	Sn	09 13 16.9	+9.0

*NEIC **04** 09:33:29.9, 4207N×309E, h10km, ML2.6(STR), After STR.*

CSEM 04 09:33:27.5±1.4**, 4218N×357E, h1km, ML2.6, 1C, Error ellipse: s-maj=25.5km s-min=8.6km az=95.0, Suspected Mining explosion., Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EJON	**La Jonquera**	**0.57**	**298**	⇑Pg	Pg	09 33 37.7	-0.8
EJON				Lg		09 33 40.6	
EJON	**La Jonquera**	**0.57**	**298**	Pg	Pg	09 33 37.7	-0.8
	SNR=18						
EJON				Lg		09 33 40.6	
	82nm,0.2s,SNR=63						
SJAF	**Saint Jean de**	**0.59**	**301**	Pg	Pg	09 33 38.3	-0.6
FILF	**Fillols**	**0.84**	**297**	Pg	Pg	09 33 43.3	-0.3
LRDF	**Laroque-de-Fa**	**1.07**	**315**	Pg	Pg	09 33 47.8	-0.3
LRDF				Sg	Sg	09 34 01.9	-0.1
VALF	**Valcebollere**	**1.17**	**282**	Pg	Pg	09 33 47.2	-2.8
VALF				Sg	Sg	09 33 58.0	-7.2
EMIR	**Miracle**	**1.54**	**261**	Pg	Pg	09 33 56.0	-1.1
EMIR				Lg		09 34 14.1	
EMIR	**Miracle**	**1.54**	**261**	Pg	Pg	09 33 56.0	-1.1
	11nm,0.3s,SNR=6.8						
EMIR				Lg		09 34 14.1	
	35nm,0.2s,SNR=10						
EGRA	**Graus**	**2.42**	**271**	Pg	Pg	09 34 12.5	-1.3
EGRA				Lg		09 34 37.1	
EGRA	**Graus**	**2.42**	**271**	Pg	Pg	09 34 12.5	-1.3
	SNR=4.0						
EGRA				Lg		09 34 37.1	
	4.4nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**2.59**	**282**	Pg	Pg	09 34 13.4	-3.6
EBIE				Lg		09 34 42.4	
EBIE	**Bielsa**	**2.59**	**282**	Pg	Pg	09 34 13.4	-3.7
	4.5nm,0.3s,SNR=18						
EBIE				Lg		09 34 42.4	
	15nm,0.5s,SNR=17						
ERTA	**Horta de San J**	**2.72**	**244**	Lg		09 34 49.9	
	7.0nm,0.3s,SNR=6.3						
ESAC	**San Caprasio**	**3.05**	**263**	Lg		09 34 59.6	
	14nm,0.2s,SNR=7.9						

CASC 04 09:40:45.6±2.7**, 890N×8262W, h0km**±18km**, MD4.0, ML3.8, 4C-1D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.60**	**246**	⇑eP	Pg	09 40 58.0	+0.9
BUS	**Buena Vista**	**1.30**	**300**	⇑iP	Pg	09 41 09.2	-1.4
LCR2	**La Lucha 2**	**1.60**	**302**	⇑eP	Pn	09 41 13.9	-1.2
SJS	**Escuela Geolog**	**1.75**	**306**	⇑eP	Pn	09 41 17.3	0.0
PRS1	**Puriscal**	**1.99**	**303**	eP	Pn	09 41 19.3	-1.2
CGA2	**Cerro Gallo 2**	**2.13**	**301**	eP	Pn	09 41 22.2	-0.3
LIM1	**Limonal**	**3.16**	**305**	⇓eP	Pn	09 41 37.0	+0.4
LIM1				eS	Sn	09 42 16.6	+1.7
VCR	**Vista de Mar**	**3.21**	**293**	eP	Pn	09 41 36.7	-0.6
CONN	**Concepcion**	**3.97**	**312**	eP	Pn	09 41 49.7	+1.9

*ISCJB **04** 10:47:04.9±1.9, 3359N±0.05×3666E±0.1, h10km, Error ellipse: s-maj=12.5km s-min=7.2km az=8.6*
*GRAL **04** 10:47:06.4±2.1, 3359N×3657E, h0km±609km, MD2.9*
*GII **04** 10:47:06.3±0.8, 3362N×3643E, h0km±30km*

ISC 04 10:47:05.6±2.1**, 3359N**±005×**366E**±01**, h10km, n6, σ0^{s}60**/10**, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RCY	Rachaya	0.62	261	ePg	**Pg**	**10 47 17.3**	**-0.3**
RCY				eSg	**Sg**	**10 47 25.2**	**-0.6**
HRI	Mount Hermon	0.76	245	Pg	**Pg**	**10 47 20.2**	**+0.1**
HRI				Sg	**Sg**	**10 47 30.9**	**+0.9**
BHL	Bhannes	0.81	293	ePg	**Pg**	**10 47 20.2**	**-1.1**
BHL				eSg	**Sg**	**10 47 31.8**	**-0.1**
HWQ	Hawqa	0.85	324	ePg	**Pg**	**10 47 21.9**	**-0.1**
HWQ				eSg	**Sg**	**10 47 34.1**	**+1.0**
KSHT	Keshet	0.87	226	Pg	**Pg**	**10 47 22.8**	**+0.5**
MMA0	Mount Meron ar	1.12	240	Pg	**Pg**	**10 47 26.9**	**-0.2**

MEX 04 10:53:48.5±0.8**, 1658N×9631W, h63km**±12km**, MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.64**	**320**	iP	Pn	10 54 00.7	-1.5
VHO				iS	Sn	10 54 10.3	-1.8
OXX	**Oaxaca**	**0.64**	**322**	iP	Pn	10 54 01.0	-1.2
OXX				iS	Sn	10 54 11.0	-1.2
HUIG	**Huatulco**	**0.83**	**166**	iP	Pn	10 54 03.3	-1.2
HUIG				iS	Sn	10 54 14.3	-2.0
CMIG	**Matias Romero**	**1.46**	**69**	iP	Pn	10 54 11.0	-1.7
CMIG				iS	Sn	10 54 29.4	-1.4
UTMO	**Huajuapan**	**1.89**	**311**	eP	Pn	10 54 18.3	-0.3

*NEIC **04** 11:28:30.5, 3381S×7135W, h51km, MG3.5(GUC), After GUC.*
NEIC Felt [II] at San Antonio.

GUC 04 11:28:30.5±0.7**, 3381S×7135W, h51km**±4km**, MD4.2, ML3.5, 10C-9D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.15**	**199**	⇑iP	Pn	11 28 38.9	+0.2
TACH	**Talagante**	**0.38**	**65**	⇓iP	Pn	11 28 40.7	+0.3
LCCH	**Las Cruces**	**0.38**	**332**	⇓iP	Pn	11 28 40.3	-0.2
RCDM	**Rinconada Maip**	**0.56**	**55**	⇑iP	Pn	11 28 42.7	+0.2
RCDM				iS	Sn	11 28 51.9	+0.7
RCDM				AML	AML	11 28 52.5	
	comp=N,6μm,0.1s						
RCDM	**Rinconada Maip**	**0.56**	**55**	⇑iP	Pn	11 28 42.7	+0.2
RCDM				iS	Sn	11 28 51.9	+0.7
CHCH	**Chadas Angostu**	**0.59**	**102**	⇓iP	Pn	11 28 43.5	+0.6
ANTU	**Antumapu**	**0.65**	**68**	⇓iP	Pn	11 28 44.1	+0.5
ANTU				iS	Sn	11 28 54.4	+1.4
ANTU				AML	AML	11 29 00.7	
	comp=N,2μm,0.3s						
ANTU	**Antumapu**	**0.65**	**68**	⇓iP	Pn	11 28 44.1	+0.5
ANTU				iS	Sn	11 28 54.4	+1.4
SAN	**Santiago**	**0.68**	**58**	eP	Pn	11 28 44.5	+0.5
SAN				iS	Sn	11 28 55.0	+1.2
SAN				AML	AML	11 28 58.1	
	comp=N,3μm,0.2s						
SAN	**Santiago**	**0.68**	**58**	eP	Pn	11 28 44.5	+0.5
SAN				iS	Sn	11 28 55.0	+1.2
CACH	**El Canelo**	**0.69**	**116**	⇑iP	Pn	11 28 45.3	+1.1
PCH	**Pirque**	**0.72**	**75**	⇓iP	Pn	11 28 45.0	+0.4
PCH				iS	Sn	11 28 56.6	+1.8
DSCH	**Colegio Aleman**	**0.77**	**58**	iP	Pn	11 28 45.2	0.0
DSCH				iS	Sn	11 28 56.9	+1.0
CLCH	**Cerro Calan**	**0.80**	**59**	⇑iP	Pn	11 28 46.2	+0.6
CLCH				iS	Sn	11 28 58.2	+1.7
CLCH				AML	AML	11 28 59.3	
	comp=E,3μm,0.5s						
CLCH				AML	AML	11 28 59.8	
	comp=E,3μm,0.5s						
IHA	**Instituto Hidr**	**0.82**	**343**	⇓iP	Pn	11 28 46.2	+0.3
IHA				iS	Sn	11 28 58.4	+1.3
SFDO	**San Fernando**	**0.85**	**161**	⇑iP	Pn	11 28 46.7	+0.5
PEL	**Peldehue**	**0.87**	**40**	⇓iP	Pn	11 28 47.2	+0.7
PEL				iS	Sn	11 29 00.1	+1.9
PEL				AML	AML	11 29 01.4	
	comp=N,8μm,0.4s						
PEL	**Peldehue**	**0.87**	**40**	⇓iP	Pn	11 28 47.2	+0.7
PEL				iS	Sn	11 29 00.1	+1.9
ROCH	**El Roble**	**0.89**	**19**	⇑iP	Pn	11 28 47.6	+0.9
ROCH				iS	Sn	11 29 00.2	+1.6
CICH	**Cipreses**	**0.92**	**123**	eP	Pn	11 28 48.0	+0.9
CICH				iS	Sn	11 29 00.9	+1.4
FCH	**Farellones**	**1.01**	**62**	⇑iP	Pn	11 28 49.1	+0.7
FCH				iS	Sn	11 29 03.8	+2.2
FCH				AML	AML	11 29 05.1	
	comp=E,2μm,0.3s						
YECH	**El Yeso**	**1.07**	**82**	⇑iP	Pn	11 28 50.3	+1.2
YECH				iS	Sn	11 29 05.3	+2.4
YECH				AML	AML	11 29 05.8	
	comp=N,646nm,0.3s						
JACH	**Jahuel**	**1.29**	**30**	⇑iP	Pn	11 28 53.3	+1.1
JACH				iS	Sn	11 29 10.3	+1.9
TALC	**Talca**	**1.60**	**188**	eP	Pn	11 28 57.0	+0.6
TALC				iS	Sn	11 29 17.1	+1.3
TLL	**Tololo Astrono**	**3.67**	**7**	eP	Pn	11 29 25.5	+0.9
PLCA	**Paso Flores**	**6.94**	**175**	eP	Pn	11 30 10.8	+1.3
	comp=N,6.1nm,0.8s						

IDC 04 11:42:51.2±5.7**, 496S×15336E, h0km, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.6**/12**, mbtmp3.5**/4**, MS4.0**/1**, Ms1 4.0**/1**, ms1mx3.1**/10**, Error ellipse: s-maj=172.0km s-min=30.3km az=107.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.76**	**230**	P	P	11 48 06.4	+1.0
	1.0nm,0.8s,baz=53,slow=9.7,SNR=7.5						
ASAR	**Alice Springs**	**26.41**	**223**	P	P	11 48 29.2	-0.3
	0.4nm,0.8s,baz=56,slow=9.1,SNR=6.1						
RAO	**Raoul Island**	**36.36**	**135**	LR	LR	12 01 07.0	
	comp=Z,216nm,19.7s,baz=63,slow=30						
SONM	**Songino Array**	**66.75**	**328**	P	P	11 53 45.7	+1.3
	0.4nm,0.4s,baz=143,slow=5.5,SNR=4.8						
MKAR	**Makanchi Array**	**80.81**	**319**	P	P	11 55 05.8	-1.0
	0.2nm,0.4s,baz=117,slow=4.7,SNR=3.8						

*NEIC **04** 11:47:52.2, 3769S×17706E, h140km, MG4.0(WEL), After WEL.*

WEL 04 11:47:51.9±0.4**, 3770S×17702E, h142km**±2km**, ML3.9**/7**, 3C, Error ellipse: s-maj=2.5km s-min=1.9km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.39**	**224**	⇑PN	Pn	11 48 12.0	+0.1
MARZ	**Manawahe**	**0.39**	**224**	P	Pn	11 48 12.0	+0.1
EDRZ	**Edgecumbe**	**0.46**	**209**	PN	Pn	11 48 12.3	+0.1
EDRZ	**Edgecumbe**	**0.46**	**209**	P	Pn	11 48 12.3	+0.1
URZ	**Urewera**	**0.56**	**173**	⇑PN	Pn	11 48 12.4	-0.3
URZ				SN	Sn	11 48 27.6	-0.9
URZ	**Urewera**	**0.56**	**173**	P	Pn	11 48 12.4	-0.3
TGRZ	**Tauranga**	**0.60**	**267**	PN	Pn	11 48 12.9	-0.1
TGRZ	**Tauranga**	**0.60**	**267**	P	Pn	11 48 12.9	0.0
TAZ	**Tarawera**	**0.67**	**217**	PN	Pn	11 48 13.9	+0.6
TAZ	**Tarawera**	**0.67**	**217**	P	Pn	11 48 13.9	+0.6
MWZ	**Matawai**	**0.75**	**148**	⇑PN	Pn	11 48 13.8	-0.1
MWZ				SN	Sn	11 48 30.9	+0.3
MWZ	**Matawai**	**0.75**	**148**	P	Pn	11 48 13.8	-0.1
MWZ				S	Sn	11 48 30.9	+0.3
PATZ	**Paeroa**	**0.90**	**221**	PN	Pn	11 48 15.8	+0.7
MXZ	**Matakaoa Point**	**1.03**	**83**	PN	Pn	11 48 16.1	-0.1
MXZ				SN	Sn	11 48 34.8	0.0
MXZ	**Matakaoa Point**	**1.03**	**83**	P	Pn	11 48 16.2	0.0
PUZ	**Puketiti**	**1.05**	**111**	PN	Pn	11 48 16.1	-0.2
PUZ				SN	Sn	11 48 34.9	-0.1
PUZ	**Puketiti**	**1.05**	**111**	P	Pn	11 48 16.1	-0.3
KNZ	**Kokohu**	**1.41**	**159**	PN	Pn	11 48 20.1	+0.2
KNZ	**Kokohu**	**1.41**	**159**	P	Pn	11 48 20.1	+0.1
BKZ	**Black Stump Fm**	**1.52**	**196**	PN	Pn	11 48 20.9	-0.2
BKZ				SN	Sn	11 48 42.8	-0.6
BKZ	**Black Stump Fm**	**1.52**	**196**	eP	Pn	11 48 20.9	-0.2
OTVZ	**Oturere**	**1.81**	**216**	PN	Pn	11 48 24.7	+0.4
HIZ	**Hauiti**	**1.89**	**244**	eP	Pn	11 48 23.7	-1.6
FWVZ	**Far West T-bar**	**1.93**	**216**	PN	Pn	11 48 26.1	+0.3
FWVZ	**Far West T-bar**	**1.93**	**216**	eP	Pn	11 48 28.4	+2.7
WNVZ	**Wahianoa**	**1.97**	**214**	PN	Pn	11 48 26.2	0.0
WNVZ	**Wahianoa**	**1.97**	**214**	P	Pn	11 48 26.2	0.0
MOVZ	**Moawhango**	**1.97**	**210**	PN	Pn	11 48 25.7	-0.5
MOVZ	**Moawhango**	**1.97**	**210**	P	Pn	11 48 25.7	-0.5
PXZ	**Pawanui**	**2.33**	**183**	PN	Pn	11 48 29.9	-0.7
PXZ				SN	Sn	11 48 59.0	-1.2
TSZ	**Takapari Road**	**2.49**	**199**	PN	Pn	11 48 31.6	-0.9
TSZ				SN	Sn	11 49 03.2	-0.7
TSZ	**Takapari Road**	**2.49**	**199**	eP	Pn	11 48 31.6	-1.0
WAZ	**Wanganui**	**2.59**	**217**	PN	Pn	11 48 33.8	0.0
BFZ	**Birch Farm**	**3.03**	**191**	PN	Pn	11 48 37.9	-1.5
BFZ				SN	Sn	11 49 14.6	-1.5
BFZ	**Birch Farm**	**3.03**	**191**	eP	Pn	11 48 37.9	-1.5
MRZ	**Mangatainoka R**	**3.16**	**200**	PN	Pn	11 48 39.2	-1.8
MRZ				SN	Sn	11 49 15.5	-3.4
MRZ	**Mangatainoka R**	**3.16**	**200**	eP	Pn	11 48 39.2	-1.8
TIWZ	**Tintock**	**3.19**	**196**	PN	Pn	11 48 39.7	-1.7
TIWZ				SN	Sn	11 49 17.3	-2.4
CAW	**Cannon Point**	**3.72**	**203**	PN	Pn	11 48 45.7	-2.6
CAW	**Cannon Point**	**3.72**	**203**	P	Pn	11 48 45.7	-2.6
TCW	**Tory Channel**	**4.10**	**210**	P	Pn	11 48 50.5	-2.7

*CSEM **04** 11:57:46.6±1.0, 3860N×2877W, h4km±6km, ML1.4, Error ellipse: s-maj=7.8km s-min=6.9km az=27.0, After PDA*
*PDA **04** 11:57:46.6±1.0, 3860N×2877W, h4km±6km, MD2.7, ML1.4, Error ellipse: s-maj=7.8km s-min=6.9km az=27.0*

SVSA 04 11:57:46.6±1.0**, 3860N×2877W, h4km**±6km**, MD2.7, ML1.4, Error ellipse: s-maj=7.8km s-min=6.9km az=27.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.02**	**243**	iP	Pg	11 57 48.6	+1.2
PTCA				eS	Sg	11 57 49.7	+1.7
PTCA							
	127nm,0.2s						
PTCA	**Ponta do Capel**	**0.02**	**243**	eS	Sg	11 57 49.7	+1.7
CALA	**Caldeira**	**0.06**	**104**	iP	Pg	11 57 47.7	-0.2
CALA				eS	Sg	11 57 48.8	+0.1
CALA	**Caldeira**	**0.06**	**104**	eS	Sg	11 57 48.8	+0.1
HOR	**Horta**	**0.13**	**122**	eP	Pg	11 57 49.0	-0.2
HOR				eS	Sg	11 57 50.9	0.0
PCND	**Candelaria**	**0.27**	**117**	eS	Sg	11 57 56.5	+1.1
PCND							
	9.3nm,0.2s						
PICO	**Pico**	**0.29**	**109**	eP	Pg	11 57 52.1	0.0
PICO				eS	Sg	11 57 56.1	+0.2
PTEI	**Pico do Teixo**	**0.34**	**107**	erx		11 57 52.4	
ROSA	**Rosais**	**0.43**	**73**	iP	Pg	11 57 54.4	-0.5
ROSA				eS	Sg	11 58 00.0	-0.5
ROSA	**Rosais**	**0.43**	**73**	eS	Sg	11 58 00.0	-0.5
PID	**Ribeirinha**	**0.53**	**106**	eP	Pg	11 57 55.7	-1.1
PMAN	**Manadas**	**0.54**	**86**	eP	Pg	11 57 55.9	-1.0
PMAN							
	30nm,0.1s						

*CSEM **04** 11:59:20.4, 3757N×2090E, h10km, MD3.5/3, After ATH*

ATH 04 11:59:20.4, 3757N×2090E, h10km, MD3.5/3**, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.65**	**338**	ePB	Pb	11 59 33.2	-0.7
RLS	**Riolos of Patr**	**0.66**	**42**	ePB	Pb	11 59 33.1	-0.9
ITM	**Ithomi**	**0.91**	**115**	ePB	Pb	11 59 37.6	-0.6

MEX 04 12:30:51.3±1.0**, 1650N×9396W, h145km**±32km**, MD3.7, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.76**	**97**	iP	Pn	12 31 22.9	-0.4
CCIG				iS	Sn	12 31 46.1	-1.8
HUIG	**Huatulco**	**2.19**	**251**	iP	Pn	12 31 26.1	-2.3
HUIG				iS	Sn	12 31 55.6	-1.2
OXX	**Oaxaca**	**2.71**	**283**	eP	Pn	12 31 35.0	+0.2
OXX				iS	Sn	12 32 06.0	-2.3
VHO	**Vista Hermosa**	**2.72**	**282**	iP	Pn	12 31 34.8	-0.1
VHO				iS	Sn	12 32 06.4	-2.1

WEL 04 12:35:28.0±0.3**, 3896S×17544E, h143km**±2km**, ML3.5**/10**, 11C, Error ellipse: s-maj=2.2km s-min=1.8km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.12**	**182**	⇑PN	Pn	12 35 47.3	0.0
TWVZ				SN	Sn	12 36 02.0	+0.1
WTVZ	**West Tongariro**	**0.20**	**144**	⇑PN	Pn	12 35 47.7	+0.3
WTVZ				SN	Sn	12 36 03.2	+0.9
KRVZ	**Karewarewa**	**0.21**	**132**	⇑PN	Pn	12 35 47.8	+0.3
KRVZ				SN	Sn	12 36 03.1	+0.8
NGZ	**Ngauruhoe**	**0.25**	**151**	⇑PN	Pn	12 35 47.9	+0.3
NGZ				SN	Sn	12 36 02.7	+0.2
WPVZ	**Whakapapa**	**0.26**	**162**	PN	Pn	12 35 47.8	+0.2
FWVZ	**Far West T-bar**	**0.31**	**164**	PN	Pn	12 35 48.0	+0.2
PKVZ	**Pokaka**	**0.34**	**192**	⇑PN	Pn	12 35 47.8	-0.1
TRVZ	**Turoa**	**0.35**	**166**	⇑PN	Pn	12 35 48.2	+0.3
TRVZ				SN	Sn	12 36 03.3	+0.2
TUVZ	**Tukino**	**0.35**	**152**	⇑PN	Pn	12 35 48.3	+0.4
TUVZ				SN	Sn	12 36 03.1	0.0
WNVZ	**Wahianoa**	**0.39**	**162**	PN	Pn	12 35 48.2	+0.2
MTVZ	**Mangateitei**	**0.43**	**177**	⇑PN	Pn	12 35 48.3	0.0
MOVZ	**Moawhango**	**0.51**	**152**	⇑PN	Pn	12 35 48.5	-0.1
MOVZ				SN	Sn	12 36 03.4	-0.9
VRZ	**Vera Road**	**0.56**	**252**	PN	Pn	12 35 48.2	-0.7
HIZ	**Hauiti**	**0.64**	**314**	⇑PN	Pn	12 35 48.9	-0.4
HIZ				SN	Sn	12 36 05.4	-0.2
BKZ	**Black Stump Fm**	**0.84**	**105**	PN	Pn	12 35 51.3	+0.5
BKZ				SN	Sn	12 36 08.2	0.0
WAZ	**Wanganui**	**0.87**	**204**	PN	Pn	12 35 50.7	-0.4
TSZ	**Takapari Road**	**1.17**	**160**	PN	Pn	12 35 53.6	-0.1
TSZ				SN	Sn	12 36 11.8	-1.6
URZ	**Urewera**	**1.48**	**63**	PN	Pn	12 35 56.7	-0.2
URZ				SN	Sn	12 36 18.1	-0.7
PXZ	**Pawanui**	**1.54**	**135**	PN	Pn	12 35 57.5	0.0
MRZ	**Mangatainoka R**	**1.71**	**176**	PN	Pn	12 35 58.0	-1.4
MWZ	**Matawai**	**1.75**	**70**	⇑PN	Pn	12 35 59.9	+0.1
KIW	**Kapiti Island**	**1.95**	**192**	PN	Pn	12 36 00.1	-2.0
KIW				SN	Sn	12 36 23.5	-4.7
CAW	**Cannon Point**	**2.17**	**187**	PN	Pn	12 36 02.7	-2.0
PUZ	**Puketiti**	**2.38**	**69**	PN	Pn	12 36 07.1	-0.2
TUWZ	**Tuamarina**	**2.73**	**204**	PN	Pn	12 36 08.8	-2.9
TUWZ				SN	Sn	12 36 39.3	-6.0
NNZ	**Nelson**	**2.76**	**214**	PN	Pn	12 36 08.7	-3.4
NNZ				SN	Sn	12 36 41.0	-5.0
QRZ	**Quartz Range**	**2.92**	**229**	PN	Pn	12 36 10.0	-4.1
KHZ	**Kahutara**	**3.75**	**202**	PN	Pn	12 36 21.2	-3.6
LTZ	**Lake Taylor**	**4.52**	**211**	SN	Sn	12 37 19.6	-7.3
MQZ	**McQueen's Vall**	**5.19**	**203**	SN	Sn	12 37 32.0	-11

*ISCJB **04** 12:36:02.3±0.8, 3758N±0.05×724E±0.1, h100km, Error ellipse: s-maj=17.0km s-min=4.8km az=137.6*
*NNC **04** 12:36:13.5±2.3, 3836N×7065E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=27.3km s-min=21.0km az=74.0*

ISC 04 12:36:03.7±0.8**, 3759N**±005×**723E**±01**, h100km, n18, σ0^{s}95**/23**, 2C, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	4.65	12	P	**Pn**	**12 37 11.8**	**+0.1**
	SNR=18						
UCH	Uchtor	4.92	19	P	**Pn**	**12 37 15.6**	**+0.3**
	SNR=29						
KZA	Kyzart	5.01	26	P	**Pn**	**12 37 16.2**	**-0.3**
	SNR=16						
EKS2	Erkin-Say	5.18	12	P	**Pn**	**12 37 19.3**	**+0.4**
	SNR=5.9						
AAK	Ala-Archa	5.30	17	P	**Pn**	**12 37 20.9**	**+0.5**
	SNR=13						
ULHL	Ulahol	5.53	32	P	**Pn**	**12 37 23.0**	**-0.6**
	SNR=18						
KK31	Karatay Array	5.68	346	P	**Pn**	**12 37 26.1**	**+0.5**
	1.6nm,0.2s,baz=144,slow=11,SNR=86						
KK31				S	**Sn**	**12 38 23.5**	**-6.0**
	13nm,0.4s,baz=149,slow=16,SNR=15						
CHMS	Chumysh	5.71	18	P	**Pn**	**12 37 25.9**	**0.0**
	SNR=5.7						
SMLA	Simla	7.58	147	eP	**Pn**	**12 37 56.9**	**+5.5**
SMLA				eS	**Sn**	**12 39 16.0**	**+0.3**
	208nm,0.3s						
KLP	Kalpa	7.76	139	eS	**Sn**	**12 39 18.6**	**-1.4**
KLP				AML	AML	12 39 29.5	
	comp=N,81nm,0.6s						
KLP				AML	AML	12 39 29.5	
	comp=E,128nm,0.5s						
JOSI	Joshimath	9.22	137	eP	**Pn**	**12 38 16.6**	**+2.9**
JOSI				ex	x	12 39 42.8	
JOSI				AML	AML	12 39 50.3	
	comp=N,96nm,0.5s						
JOSI				AML	AML	12 39 51.6	
	comp=E,79nm,0.4s						
SONA	Sohna	10.13	156	eS	**Sn**	**12 40 18.2**	**+0.5**
SONA				AML	AML	12 40 23.1	
	comp=E,39nm,0.5s						
SONA				AML	AML	12 40 23.3	
	comp=N,67nm,0.5s						
KOLN	Koldanda	13.62	133	eP	**Pn**	**12 39 07.6**	**-5.0**
GKN	Gorkha	14.07	129	eP	**Pn**	**12 39 19.3**	**+0.9**
	comp=N,8.8nm,0.3s						
GKN				eS	**Sn**	**12 41 45.1**	**-8.2**
DMN	Daman	14.64	129	eP	**Pn**	**12 39 22.9**	**-2.9**
AB31	Akbulak array	14.71	326	P	**Pn**	**12 39 25.3**	**-1.3**
	comp=N,0.3nm,0.3s,baz=0.0,slow=0.1,SNR=8.5						
AB31				S	**Sn**	**12 41 53.4**	**-15**
	comp=N,1.6nm,0.5s,baz=144,slow=23,SNR=12						
JIRN	Jiri	15.29	126	eP	**Pn**	**12 39 34.3**	**+0.4**
	comp=N,15nm,0.3s						
AKTO	Aktyubinsk	16.43	326	⇑P	**Pn**	**12 39 48.3**	**+0.1**
AKTO				⇑S	**S**	**12 42 34.3**	**-21**

*IDC **04** 12:43:06.9±5.6, 3.17S×13970E, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.8/11, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=122.5km s-min=63.7km az=147.0*
*ISCJB **04** 12:43:09.3±3.3, 32S±02×1397E±02, h24km±29km, mb3.6/2, Error ellipse: s-maj=37.5km s-min=19.7km az=83.0*
*NEIC **04** 12:43:14.1±3.2, 342S×13980E, h35km, mb3.8/2, Error ellipse: s-maj=51.9km s-min=34.4km az=154.0*

ISC 04 12:43:15.0±4.0**, 32S**±03×**1396E**±02**, h60km**±23km**, n11, σ1^{s}27**/18**, mb3.6**/2**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	11.79	217	eP	**Pn**	**12 45 59.8**	**-0.5**
	18nm,0.4s						
KAKA				eS	**Sn**	**12 48 12.5**	**+2.2**
WRAB	Tennant Creek	17.37	197	eP	**Pn**	**12 47 13.2**	**-0.1**
	5.6nm,0.7s						
WRAB				eS	**S**	**12 50 24.0**	**-7.4**
WB2	Warramunga Arr	17.38	197	eP	**Pn**	**12 47 12.3**	**-1.1**
WB2				eS	**S**	**12 50 22.2**	**-9.3**
WB2	Warramunga Arr	17.38	197	ePn	**Pn**	**12 47 11.8**	**-1.5**
WB2				eS	**S**	**12 50 17.6**	**-14**
WRA	Warramunga Arr	17.39	197	P	**Pn**	**12 47 11.4**	**-2.0**
	0.6nm,0.3s,baz=14,slow=13,SNR=27						
FITZ	Fitzroy Crossi	20.15	222	eP	**P**	**12 47 45.2**	**+1.0**
	7.5nm,1.3s						
FITZ				eS	**S**	**12 51 25.1**	**-2.0**
FITZ	Fitzroy Crossi	20.15	222	P	**P**	**12 47 44.2**	**0.0**
	2.9nm,0.8s,baz=30,slow=20,SNR=4.5						
AS31	Alice Springs	21.05	195	eP	**P**	**12 47 55.5**	**+1.6**
AS31				eS	**S**	**12 51 49.8**	**+5.0**
ASAR	Alice Springs	21.05	195	P	**P**	**12 47 53.9**	**-0.1**
	1.4nm,0.5s,mb3.5,baz=23,slow=9.0,SNR=18						
ASPA	Alice Springs	21.05	195	eP	**P**	**12 47 55.5**	**+1.6**
ASPA				eS	**S**	**12 51 49.8**	**+4.9**
VNDA	Vanda	75.18	175	P	**P**	**12 54 51.0**	**+0.1**
	0.7nm,0.6s,mb3.8,baz=327,slow=7.5,SNR=5.6						

ISC 04 12:51:18.8±0.7**, 3989N**±005×**2995E**±004**, h0km, n5, σ1^{s}20**/10**, Turkey**

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

BORA	**Eskisehir**	**0.39**	**91**	iP	**Pg**	**12 51 26.1**	**-0.4**
BORA				iS	**Sg**	**12 51 33.2**	**+1.6**
ULDT	**Uludag**	**0.68**	**293**	iP	**Pg**	**12 51 31.3**	**-1.0**
ULDT				iS	**Sg**	**12 51 41.8**	**+0.5**
ESKT	**Eskisehir**	**0.78**	**117**	iP	**Pg**	**12 51 33.2**	**-1.3**
ESKT				iS	**Sg**	**12 51 43.8**	**-1.0**
GDZ	**Gediz**	**0.88**	**205**	iP	**Pg**	**12 51 35.7**	**-0.5**
GDZ				iS	**Sg**	**12 51 49.4**	**+1.5**
SGKT	**Sivrigoynuk**	**1.75**	**66**	iP	**Pn**	**12 51 49.8**	**-0.9**
SGKT				iS	**Sn**	**12 52 16.7**	**+2.7**

*IDC **04** 12:59:30.0±3.9, 1567S×174.11W, h0^{km}, mb3.9/3, mb1 4.2/5, mb1mx4.0/15, mbtmp4.0/5, ML2.6/2, MS4.0/17, Ms1 4.0/17, ms1mx3.9/25, Error ellipse: s-maj=292.5km s-min=22.1km az=150.0*

*ISCJB **04** 12:59:32.7±1.5, 157S±06×1740W±04, h33^{km}, mb4.2/5, MS4.1/14, Error ellipse: s-maj=93.3km s-min=8.7km az=116.5*

*NEIC **04** 12:59:35.6±1.4, 1550S×17428W, h35^{km}, mb4.7/2, Error ellipse: s-maj=86.5km s-min=14.1km az=147.0*

ISC 04 12:59:35.2±1.6**, 155S**±06×**1742W**±04**, h35**^{km}**, n26,** σ1§**30**/10**, mb4.2**/5**, MS4.1**/14**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.77**	**56**	Pn	**Pn**	**13 00 14.9**	**-2.1**
	12nm,0.3s,baz=57,slow=10,SNR=16						
AFI				Sn	**Sn**	**13 00 48.1**	**-1.2**
	9.1nm,0.3s,baz=284,slow=22,SNR=5.8						
AFI				LR	LR	13 01 19.3	
	comp=Z,3μm,20.0s,baz=296,slow=38						
RAO	**Raoul Island**	**14.15**	**194**	LR	LR	13 07 01.0	
	comp=Z,379nm,18.9s,baz=351,slow=32						
DZM	**Mont Dzumac**	**19.50**	**247**	P	**Pn**	**13 04 00.1**	**-0.6**
	0.1nm,0.3s,baz=75,slow=19,SNR=3.1						
DZM				LR	LR	13 10 07.8	
	comp=Z,839nm,19.9s,baz=50,slow=33						
PPT	**Papeete**	**23.65**	**99**	eLQ		13 09 32.4	
	2μm,25.8s						
PPT				eLR	LR	13 10 33.5	
	367nm,26.2s						
TBI	**Tubuai**	**24.55**	**112**	eLQ		13 09 58.3	
	1μm,26.8s						
TBI				eLR	LR	13 10 52.1	
	139nm,26.8s						
HNR	**Honiara**	**25.98**	**280**	LR	LR	13 13 32.8	
	comp=Z,486nm,19.1s,MS4.0,baz=175,slow=32						
RKT	**Rikitea**	**37.66**	**108**	eLQ		13 15 35.4	
	240nm,25.0s						
CTA	**Charters Tower**	**37.92**	**257**	LR	LR	13 19 40.6	
	comp=Z,228nm,18.5s,MS4.0,baz=69,slow=32						
PMG	**Port Moresby**	**38.22**	**274**	LR	LR	13 20 07.1	
	comp=Z,199nm,20.9s,MS3.9,baz=50,slow=32						
STKA	**Stephens Creek**	**43.38**	**240**	LR	LR	13 22 39.5	
	comp=Z,230nm,21.8s,MS4.0,baz=294,slow=32						
AS31	**Alice Springs**	**49.40**	**252**	eP	**P**	**13 08 20.2**	**-1.2**
ASAR	**Alice Springs**	**49.40**	**252**	P	**P**	**13 08 20.6**	**-0.8**
	3.0nm,0.7s,mb4.4,baz=86,slow=7.9,SNR=28						
ASAR				LR	LR	13 26 48.3	
	comp=Z,417nm,21.6s,MS4.4,baz=85,slow=33						
GUMO	**Guam**	**49.76**	**303**	LR	LR	13 25 59.9	
	comp=Z,116nm,18.7s,MS3.9,baz=131,slow=32						
MJAR	**Matsushiro Arr**	**68.52**	**320**	LR	LR	13 34 53.0	
	comp=Z,178nm,21.3s,MS4.3,baz=165,slow=31						
LPIG	**La Paz**	**73.69**	**59**	LR	LR	13 36 00.5	
	comp=Z,106nm,18.3s,MS4.2,baz=342,slow=30						
NVAR	**Mina Array Bea**	**74.86**	**42**	P	**P**	**13 11 14.4**	**+2.3**
	1.0nm,0.8s,mb3.8,baz=216,slow=7.4,SNR=5.2						
TTA	**Tatalina**	**79.42**	**8**	eP	**P**	**13 11 38.3**	**+0.6**
	23nm,1.6s,mb4.9						
PDAR	**Pinedale Array**	**82.80**	**42**	P	**P**	**13 11 57.8**	**+2.1**
	0.7nm,0.9s,mb3.7,baz=160,slow=2.9,SNR=5.6						
PDAR				LR	LR	13 42 50.7	
	comp=Z,69nm,18.6s,MS4.0,baz=359,slow=31						
SMCO	**Snowmass**	**82.88**	**46**	P	**P**	**13 11 57.0**	**+0.9**
	5.0nm,1.2s,mb4.4						
DAWY	**Dawson**	**83.66**	**15**	eP	**P**	**13 12 00.4**	**+0.3**
MAW	**Mawson**	**87.50**	**199**	LR	LR	13 47 53.7	
	comp=Z,111nm,18.4s,MS4.3,baz=248,slow=33						
PLCA	**Paso Flores**	**90.00**	**132**	LR	LR	13 42 59.8	
	comp=Z,114nm,21.4s,MS4.3,baz=181,slow=29						
YKA	**Yellowknife Ar**	**90.44**	**24**	LR	LR	13 44 02.1	
	comp=Z,36nm,20.8s,MS3.8,baz=270,slow=30						
SONM	**Songino Array**	**94.41**	**318**	LR	LR	13 49 01.3	
	comp=Z,74nm,20.6s,MS4.1,baz=69,slow=31						
ULM	**Lac du Bonnet**	**94.44**	**39**	LR	LR	13 49 19.1	
	comp=Z,58nm,20.7s,MS4.0,baz=255,slow=32						
BRTR	**Keskin Array B**	**145.75**	**320**	PKPbc	PKPbc	13 19 11.2	+0.8
	0.8nm,0.7s,baz=45,slow=4.3,SNR=3.8						

IDC 04 13:17:45.6±58.0**, 2340S**×**17972W, h0**^{km}**, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.9**/12**, mbtmp4.0**/3**, Error ellipse: s-maj=1048.0km s-min=150.0km az=86.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.15**	**247**	P	P	13 24 39.9	-1.1
	0.5nm,0.4s,baz=100,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**42.37**	**260**	P	P	13 25 41.9	+0.4
	0.9nm,0.4s,baz=91,slow=7.2,SNR=13						
WRA	**Warramunga Arr**	**42.70**	**266**	P	P	13 25 45.2	+1.0
	2.0nm,0.3s,baz=101,slow=8.4,SNR=130						

IDC 04 13:46:04.3±86.0**, 1372S**×**17164E, h0**^{km}**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/13**, mbtmp3.8**/3**, MS2.9**/1**, Ms1 2.9**/1**, ms1mx2.5**/22**, Error ellipse: s-maj=1474.0km s-min=135.8km az=67.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**12.22**	**289**	LR	LR	13 53 18.4	
	comp=Z,55nm,18.6s,baz=179,slow=36						
STKA	**Stephens Creek**	**32.91**	**232**	P	P	13 52 40.3	+0.1
	0.6nm,0.3s,baz=68,slow=9.4,SNR=6.0						
WRA	**Warramunga Arr**	**36.18**	**255**	P	P	13 53 09.3	+0.8
	0.5nm,0.7s,baz=87,slow=8.6,SNR=5.0						
ASAR	**Alice Springs**	**36.99**	**249**	P	P	13 53 15.6	+0.1
	1.2nm,0.5s,baz=76,slow=9.5,SNR=32						

*MOS **04** 13:52:28.4±1.2, 3131S×17932W, h118^{km}, mb5.0/11, Error ellipse: s-maj=12.2km s-min=9.3km az=77.1*

*ISCJB **04** 13:52:32.3±0.3, 3172S±002×17941W±006, h157^{km}, mb5.0/39, Error ellipse: s-maj=7.7km s-min=2.8km az=30.9*

*BJI **04** 13:52:32.9, 3110S×17900W, h164^{km}, mB5.2, mb5.1*

*IDC **04** 13:52:34.6±1.0, 3123S×17921W, h170^{km}±8^{km}, mb4.5/13, mb1 4.4/15, mb1mx4.4/18, mbtmp4.9/15, MS3.8/5, Ms1 3.8/5, ms1mx3.4/25, Error ellipse: s-maj=12.2km s-min=10.5km az=164.0*

*HRVD **04** 13:52:36.1±0.3, 3139S×179.18W, h168^{km}±3^{km}, MW5.0/59, Centroid moment Tensor Solution. LP body waves: s30,c38;Mantle waves: s59,c90; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.14±.18; $M_{\theta\theta}$-0.94±.22; $M_{\phi\phi}$3.08±.21; $M_{r\theta}$-1.07±.15; $M_{\theta\phi}$0.50±.26; $M_{\phi r}$-3.68±.14; Best double couple: $M_0$4.66600×10^{16} NP1:ϕ_s171.00000°,δ19.00000°,λ-114.00000°. NP2: ϕ_s16.00000°,δ73.00000°,λ-82.00000°. Principal axes: T 5.1270, Plg28.0000°, Azm100.0000°; N -0.9190, Plg7.0000°, Azm194.0000°; P -4.2060, Plg61.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **04** 13:52:36.1±0.3, 3191S×17923W, mb4.9/20 Error ellipse: s-maj=10.5km s-min=4.8km az=113.0*

ISC 04 13:52:33.5±0.3**, 3174S**±003×**17933W**±006**, h159**^{km}**, h159**^{km}±2.5^{km}**:pP-P, n342,** σ1§**46**/221**, mb5.0**/39**, 20C-9D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.76**	**27**	P	**Pn**	**13 53 13.1**	**-5.1**
	143nm,0.3s,baz=269,slow=21,SNR=6.0						
RAO				S	**Sn**	**13 53 43.4**	**-9.4**
	1μm,0.3s,baz=121,slow=22,SNR=11						
RAO				LR	LR	13 53 59.8	
	comp=Z,2μm,19.1s,baz=14,slow=38						
RAO	**Raoul Island**	**2.76**	**27**	P	**Pn**	**13 53 13.1**	**-5.1**
RAO				S	**Sn**	**13 53 43.4**	**-9.4**
RAO				pmax	pmax		
	comp=Z,143nm,0.3s						
RAO				MLR	MLR		
	comp=Z,2μm,19.1s						
MXZ	**Matakaoa Point**	**6.13**	**198**	PN	**Pn**	**13 54 01.9**	**-0.1**
MXZ				SN	**Sn**	**13 55 12.9**	**+1.5**
MXZ	**Matakaoa Point**	**6.13**	**198**	P	**Pn**	**13 54 03.4**	**+1.4**
PUZ	**Puketiti**	**6.63**	**197**	PN	**Pn**	**13 54 08.3**	**-0.2**
PUZ				SN	**Sn**	**13 55 24.8**	**+1.7**
PUZ	**Puketiti**	**6.63**	**197**	eP	**Pn**	**13 54 08.8**	**+0.3**
PUZ				S	**Sn**	**13 55 26.5**	**+3.4**
MWZ	**Matawai**	**7.07**	**200**	PN	**Pn**	**13 54 14.4**	**-0.1**
MWZ				SN	**Sn**	**13 55 36.5**	**+2.8**
MWZ	**Matawai**	**7.07**	**200**	eP	**Pn**	**13 54 14.8**	**+0.3**
URZ	**Urewera**	**7.13**	**203**	P	**Pn**	**13 54 15.8**	**+0.5**
	comp=Z,5.7nm,0.3s,baz=44,slow=3.0,SNR=60						
URZ				S	**Sn**	**13 55 39.8**	**+4.5**
	comp=Z,38nm,0.3s,baz=280,slow=19,SNR=11						
URZ	**Urewera**	**7.13**	**203**	PN	**Pn**	**13 54 15.6**	**+0.3**
URZ				SN	**Sn**	**13 55 39.0**	**+3.7**
URZ	**Urewera**	**7.13**	**203**	eP	**Pn**	**13 54 15.8**	**+0.5**
TAZ	**Tarawera**	**7.33**	**207**	PN	**Pn**	**13 54 23.9**	**+6.0**
PATZ	**Paeroa**	**7.55**	**207**	PN	**Pn**	**13 54 22.9**	**+2.1**
KNZ	**Kokohu**	**7.67**	**198**	PN	**Pn**	**13 54 22.0**	**-0.4**
KNZ	**Kokohu**	**7.67**	**198**	P	**Pn**	**13 54 27.1**	**+4.7**
BKZ	**Black Stump Fm**	**8.16**	**203**	PN	**Pn**	**13 54 27.6**	**-1.3**
BKZ	**Black Stump Fm**	**8.16**	**203**	eP	**Pn**	**13 54 28.3**	**-0.6**
HIZ	**Hauiti**	**8.27**	**214**	PN	**Pn**	**13 54 34.4**	**+4.1**
HIZ	**Hauiti**	**8.27**	**214**	eP	**Pn**	**13 54 34.4**	**+4.0**
KRVZ	**Karewarewa**	**8.41**	**208**	PN	**Pn**	**13 54 34.8**	**+2.6**
OTVZ	**Oturere**	**8.46**	**207**	PN	**Pn**	**13 54 32.5**	**-0.4**
OTVZ				SN	**Sn**	**13 56 10.9**	**+3.8**
NGZ	**Ngauruhoe**	**8.50**	**208**	PN	**Pn**	**13 54 33.3**	**-0.1**
NGZ	**Ngauruhoe**	**8.50**	**208**	P	**Pn**	**13 54 35.6**	**+2.2**
WPVZ	**Whakapapa**	**8.54**	**208**	PN	**Pn**	**13 54 35.3**	**+1.3**
WPVZ	**Whakapapa**	**8.54**	**208**	eP	**Pn**	**13 54 35.8**	**+1.8**
TUVZ	**Tukino**	**8.55**	**207**	PN	**Pn**	**13 54 35.4**	**+1.2**
TUVZ				SN	**Sn**	**13 56 13.2**	**+3.8**
TUVZ	**Tukino**	**8.55**	**207**	P	**Pn**	**13 54 37.1**	**+2.9**
FWVZ	**Far West T-bar**	**8.58**	**208**	PN	**Pn**	**13 54 34.8**	**+0.2**
FWVZ	**Far West T-bar**	**8.58**	**208**	eP	**Pn**	**13 54 36.5**	**+1.9**
TRVZ	**Turoa**	**8.62**	**207**	PN	**Pn**	**13 54 36.1**	**+1.0**
WNVZ	**Wahianoa**	**8.63**	**207**	ePN	**Pn**	**13 54 33.4**	**-1.7**
WNVZ	**Wahianoa**	**8.63**	**207**	P	**Pn**	**13 54 36.4**	**+1.3**
MOVZ	**Moawhango**	**8.64**	**206**	PN	**Pn**	**13 54 33.0**	**-2.3**
MOVZ	**Moawhango**	**8.64**	**206**	P	**Pn**	**13 54 35.3**	**0.0**
PKVZ	**Pokaka**	**8.70**	**208**	PN	**Pn**	**13 54 37.2**	**+1.1**
PKVZ				SN	**Sn**	**13 56 16.2**	**+3.5**
MTVZ	**Mangateitei**	**8.73**	**208**	PN	**Pn**	**13 54 40.0**	**+3.5**
MTVZ				SN	**Sn**	**13 56 18.6**	**+5.1**
VRZ	**Vera Road**	**8.81**	**212**	PN	**Pn**	**13 54 40.1**	**+2.5**
VRZ	**Vera Road**	**8.81**	**212**	eP	**Pn**	**13 54 42.3**	**+4.8**
PXZ	**Pawanui**	**8.84**	**199**	PN	**Pn**	**13 54 34.2**	**-3.7**
PXZ				SN	**Sn**	**13 56 14.4**	**-1.8**
RAEZ	**Rainy Point**	**9.11**	**212**	PN	**Pn**	**13 54 46.6**	**+5.1**
RAEZ	**Rainy Point**	**9.11**	**212**	P	**Pn**	**13 54 47.7**	**+6.2**
TSZ	**Takapari Road**	**9.14**	**203**	PN	**Pn**	**13 54 39.0**	**-3.0**
TSZ	**Takapari Road**	**9.14**	**203**	eP	**Pn**	**13 54 39.9**	**-2.0**
PKE	**Pukeiti**	**9.22**	**214**	PN	**Pn**	**13 54 48.0**	**+5.0**
PKE	**Pukeiti**	**9.22**	**214**	P	**Pn**	**13 54 48.4**	**+5.4**
NEZ	**North Egmont**	**9.23**	**214**	PN	**Pn**	**13 54 47.0**	**+3.8**
NEZ	**North Egmont**	**9.23**	**214**	P	**Pn**	**13 54 49.1**	**+6.0**
WAZ	**Wanganui**	**9.24**	**208**	ePN	**Pn**	**13 54 44.2**	**+1.0**
WAZ	**Wanganui**	**9.24**	**208**	eP	**Pn**	**13 54 46.2**	**+3.0**
BFZ	**Birch Farm**	**9.61**	**201**	PN	**Pn**	**13 54 44.4**	**-3.8**
BFZ				SN	**Sn**	**13 56 31.4**	**-3.5**
BFZ	**Birch Farm**	**9.61**	**201**	eP	**Pn**	**13 54 44.7**	**-3.5**
MRZ	**Mangatainoka R**	**9.81**	**203**	PN	**Pn**	**13 54 47.0**	**-3.8**
MRZ	**Mangatainoka R**	**9.81**	**203**	eP	**Pn**	**13 54 47.3**	**-3.5**
TIWZ	**Tintock**	**9.81**	**202**	PN	**Pn**	**13 54 50.5**	**-0.4**
TIWZ				SN	**Sn**	**13 56 36.3**	**-3.3**
KIW	**Kapiti Island**	**10.22**	**205**	PN	**Pn**	**13 54 56.1**	**-0.1**
KIW	**Kapiti Island**	**10.22**	**205**	P	**Pn**	**13 54 57.1**	**+0.9**
MTW	**Mount Morrison**	**10.28**	**202**	PN	**Pn**	**13 54 56.3**	**-0.7**
MTW				SN	**Sn**	**13 56 46.8**	**-4.2**
MTW	**Mount Morrison**	**10.28**	**202**	P	**Pn**	**13 54 56.6**	**-0.4**
CAW	**Cannon Point**	**10.38**	**204**	ePN	**Pn**	**13 54 53.1**	**-5.2**
CAW	**Cannon Point**	**10.38**	**204**	P	**Pn**	**13 54 54.9**	**-3.4**
TRWZ	**Traveller**	**10.44**	**201**	SN	**Sn**	**13 56 52.3**	**-2.5**
PAWZ	**Paruwai Farm**	**10.51**	**202**	eSN	**Sn**	**13 56 53.3**	**-3.0**
PAWZ	**Paruwai Farm**	**10.51**	**202**	P	**Pn**	**13 54 59.3**	**-0.7**
MSWZ	**Moikau Station**	**10.60**	**203**	SN	**Sn**	**13 56 56.4**	**-2.0**
MSWZ	**Moikau Station**	**10.60**	**203**	P	**Pn**	**13 55 00.3**	**-0.8**
MRW	**Makara Radio**	**10.62**	**205**	PN	**Pn**	**13 55 01.4**	**-0.1**
MRW				SN	**Sn**	**13 56 56.9**	**-2.2**
WEL	**Wellington**	**10.64**	**205**	ePN	**Pn**	**13 55 01.1**	**-0.7**
WEL				SN	**Sn**	**13 56 58.2**	**-1.4**
WEL	**Wellington**	**10.64**	**205**	P	**Pn**	**13 55 01.7**	**-0.1**
SNZO	**South Karori**	**10.69**	**205**	ePn	**Pn**	**13 55 07.7**	**+5.4**
TUWZ	**Tuamarina**	**11.08**	**207**	PN	**Pn**	**13 55 02.7**	**-4.7**
TUWZ				SN	**Sn**	**13 57 05.6**	**-4.5**
NNZ	**Nelson**	**11.13**	**210**	PN	**Pn**	**13 55 05.7**	**-2.5**
NNZ				SN	**Sn**	**13 57 10.1**	**-1.2**
NNZ	**Nelson**	**11.13**	**210**	eP	**Pn**	**13 55 05.7**	**-2.4**
QRZ	**Quartz Range**	**11.20**	**214**	eP	**Pn**	**13 55 08.3**	**-0.7**
BSWZ	**Blackbirch Sta**	**11.35**	**207**	PN	**Pn**	**13 55 09.0**	**-2.0**
BSWZ	**Blackbirch Sta**	**11.35**	**207**	P	**Pn**	**13 55 09.0**	**-2.0**
THZ	**Tophouse**	**11.78**	**210**	PN	**Pn**	**13 55 15.4**	**-1.2**
THZ				SN	**Sn**	**13 57 23.9**	**-3.1**
THZ	**Tophouse**	**11.78**	**210**	eP	**Pn**	**13 55 16.3**	**-0.3**
KHZ	**Kahutara**	**12.08**	**206**	PN	**Pn**	**13 55 17.2**	**-3.3**
KHZ	**Kahutara**	**12.08**	**206**	eP	**Pn**	**13 55 18.0**	**-2.5**
DSZ	**Denniston Nort**	**12.25**	**213**	PN	**Pn**	**13 55 20.9**	**-1.8**
DSZ	**Denniston Nort**	**12.25**	**213**	eP	**Pn**	**13 55 22.2**	**-0.6**
LTZ	**Lake Taylor**	**12.89**	**209**	eP	**Pn**	**13 55 27.9**	**-3.0**
CRLZ	**Canterbury Las**	**13.42**	**206**	eP	**Pn**	**13 55 42.0**	**+4.3**
MQZ	**McQueen's Vall**	**13.52**	**206**	PN	**Pn**	**13 55 32.8**	**-6.1**
MQZ	**McQueen's Vall**	**13.52**	**206**	eP	**Pn**	**13 55 34.2**	**-4.8**
RPZ	**Rata Peaks**	**14.16**	**210**	P	**Pn**	**13 55 46.4**	**-0.6**
	comp=Z,2.7nm,0.3s,baz=184,slow=4.8,SNR=15						
RPZ				S	**Sn**	**13 58 16.5**	**-7.6**
	comp=Z,3.8nm,0.3s,baz=107,slow=19,SNR=19						
RPZ	**Rata Peaks**	**14.16**	**210**	PN	**Pn**	**13 55 41.8**	**-5.2**
RPZ				SN	**Sn**	**13 58 15.3**	**-8.8**
RPZ	**Rata Peaks**	**14.16**	**210**	eP	**Pn**	**13 55 43.9**	**-3.1**
FOZ	**Fox Glacier**	**14.65**	**213**	eP	**Pn**	**13 55 51.7**	**-1.4**
LBZ	**Lake Benmore**	**15.07**	**210**	PN	**Pn**	**13 55 56.5**	**-1.8**
ODZ	**Otahua Downs**	**15.42**	**208**	PN	**Pn**	**13 55 59.4**	**-3.2**
ODZ	**Otahua Downs**	**15.42**	**208**	eP	**Pn**	**13 56 00.8**	**-1.8**
DZM	**Mont Dzumac**	**15.91**	**304**	eP	**Pn**	**13 56 10.3**	**+1.7**
DZM	**Mont Dzumac**	**15.91**	**304**	P	**Pn**	**13 56 10.3**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=108,slow=16,SNR=13						
WKZ	**Wanaka**	**15.93**	**212**	PN	**Pn**	**13 56 05.0**	**-3.9**
WKZ				SN	**Sn**	**13 58 55.5**	**-11**
WKZ	**Wanaka**	**15.93**	**212**	eP	**Pn**	**13 56 05.0**	**-3.9**
EAZ	**Earnscleugh**	**16.12**	**210**	eSN	**Sn**	**13 59 00.4**	**-11**
TUZ	**Tuapeka**	**16.57**	**208**	SN	**Sn**	**13 59 13.0**	**-8.9**
AFI	**Afiamalu**	**19.05**	**23**	P	**P**	**13 56 37.1**	**-6.4**
	comp=Z,2.7nm,0.3s,baz=241,slow=20,SNR=6.9						
AFI	**Afiamalu**	**19.05**	**23**	P	**P**	**13 56 37.1**	**-6.4**
AFI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
RAR	**Rarotonga**	**20.38**	**64**	P	**P**	**13 56 56.8**	**-0.9**
	comp=Z,49nm,0.8s,baz=232,slow=8.3,SNR=5.4						
RAR	**Rarotonga**	**20.38**	**64**	P	**P**	**13 56 56.8**	**-0.9**
RAR				pmax	pmax		
	comp=Z,49nm,0.8s						
ARMA	**Armidale**	**24.88**	**265**	eP	**P**	**13 57 45.3**	**+3.9**
ARMA				ePCP	PcP	14 01 19.7	+6.7
CNB	**Canberra Magne**	**26.28**	**254**	eP	**P**	**13 57 58.2**	**+4.1**
	comp=Z,18nm,1.0s,mb4.6						
TBI	**Tubuai**	**27.71**	**80**	eLQ		14 03 50.0	
	comp=Z,332nm,25.5s						
TBI				eLR	LR	14 05 05.2	
	comp=Z,193nm,27.5s						
HNR	**Honiara**	**29.36**	**315**	P	**P**	**13 58 19.0**	**-2.5**
	comp=Z,40nm,0.6s,mb5.4,baz=258,slow=4.4,SNR=5.9						
HNR	**Honiara**	**29.36**	**315**	eP	**P**	**13 58 19.5**	**-2.0**
HNR				pmax	pmax		
	comp=Z,107nm,1.0s,mb5.5						
HNR	**Honiara**	**29.36**	**315**	eP	**P**	**13 58 19.5**	**-2.0**
	comp=Z,107nm,1.0s,mb5.5						
TOO	**Toolangi**	**29.40**	**249**	eP	**P**	**13 58 25.7**	**+3.9**
	comp=Z,12nm,1.1s,mb4.5						
TOO	**Toolangi**	**29.40**	**249**	eP	**P**	**13 58 25.7**	**+3.9**
TOO				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.5						
PPT	**Papeete**	**30.38**	**69**	eLQ		14 04 44.0	
	comp=Z,344nm,25.8s						
PPT				eLR	LR	14 06 20.2	
	comp=Z,200nm,26.0s						
PPT	**Papeete**	**30.38**	**69**	LR	LR	14 07 46.5	
	comp=Z,203nm,21.9s,baz=132,slow=30						
CTA	**Charters Tower**	**32.92**	**282**	eP	**P**	**13 58 54.6**	**+1.9**
	comp=Z,54nm,1.0s,mb5.2						
CTA				ePCP	PcP	14 01 34.5	+1.2
CTA				eSCP	ScP	14 05 00.6	-1.8
CTA	**Charters Tower**	**32.92**	**282**	LR	LR	14 10 25.9	
	comp=Z,199nm,18.4s,baz=78,slow=32						
CTA	**Charters Tower**	**32.92**	**282**	eP	**P**	**13 58 54.6**	**+1.9**
CTA				e		14 01 34.5	
CTA				pmax	pmax		
	comp=Z,54nm,1.0s						
CTAO	**Charters Tower**	**32.92**	**282**	eP	**P**	**13 58 54.6**	**+1.9**
CTAO				pmax	pmax		
	comp=Z,61nm,0.9s,mb5.3						
CTAO	**Charters Tower**	**32.92**	**282**	eP	**P**	**13 58 54.6**	**+1.9**
	comp=Z,61nm,0.9s,mb5.3						
STKA	**Stephens Creek**	**33.08**	**259**	eP	**P**	**13 58 57.2**	**+3.1**
	comp=Z,42nm,0.9s,mb5.2						
STKA	**Stephens Creek**	**33.08**	**259**	P	**P**	**13 58 57.4**	**+3.2**
	comp=Z,50nm,0.9s,mb5.2,baz=98,slow=9.0,SNR=72						
STKA				ScP	ScP	14 04 59.9	-3.1
	comp=Z,3.9nm,1.0s,baz=42,slow=6.9,SNR=3.4						
PMG	**Port Moresby**	**38.18**	**298**	iP	**P**	**13 59 36.6**	**-1.0**
AS31	**Alice Springs**	**41.92**	**269**	eP	**P**	**14 00 09.7**	**+1.4**
ASAR	**Alice Springs**	**41.92**	**269**	P	**P**	**14 00 09.7**	**+1.4**
	comp=Z,50nm,0.6s,mb5.3,baz=109,slow=7.4,SNR=504						
ASAR				PcP	PcP	14 02 00.8	0.0
	comp=Z,3.1nm,0.4s,baz=119,slow=3.8,SNR=5.7						
ASAR				ScP	ScP	14 05 33.4	-2.8
	comp=Z,1.2nm,0.6s,baz=114,slow=3.9,SNR=6.3						
ASAR				S	**S**	**14 06 16.6**	**+2.0**
	comp=Z,1.2nm,0.9s,baz=106,slow=15,SNR=3.2						
ASAR	**Alice Springs**	**41.92**	**269**	P	**P**	**14 00 09.7**	**+1.4**
ASAR						14 02 00.8	
ASAR				S	**S**	**14 06 16.6**	**+2.0**
ASAR				pmax	pmax		
	comp=Z,50nm,0.6s						
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ASAR				pmax	pmax		
	comp=N,1.0nm,0.6s						
ASAR				smax			
	comp=N,1.0nm,0.9s						
ASPA	**Alice Springs**	**41.92**	**269**⇓	iP	**P**	**14 00 09.6**	**+1.2**
WB2	**Warramunga Arr**	**43.02**	**274**⇓	iP	**P**	**14 00 17.8**	**+0.6**
WB2				eS	**S**	**14 06 28.8**	**-1.9**
WB2	**Warramunga Arr**	**43.02**	**274**	eP	**P**	**14 00 18.3**	**+1.0**
WRAB	**Tennant Creek**	**43.02**	**274**	eP	**P**	**14 00 18.3**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,153nm,0.4s,mb6.0						
WRAB	**Tennant Creek**	**43.02**	**274**	eP	**P**	**14 00 18.3**	**+1.0**
	comp=Z,153nm,0.4s,mb6.0						
WRA	**Warramunga Arr**	**43.03**	**274**	P	**P**	**14 00 18.1**	**+0.7**
	comp=Z,94nm,0.4s,mb5.8,baz=112,slow=8.0,SNR=1599						
WRA				PcP	PcP	14 02 04.7	+0.2
	comp=Z,8.2nm,0.8s,baz=121,slow=3.2,SNR=5.4						
WRA				ScP	ScP	14 05 39.3	-1.4
	comp=Z,3.2nm,0.9s,baz=118,slow=4.2,SNR=7.9						
WRA				S	**S**	**14 06 28.8**	**-2.1**
	comp=Z,1.7nm,0.9s,baz=115,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**43.03**	**274**	P	**P**	**14 00 18.1**	**+0.8**
WRA						14 02 04.7	
WRA				S	**S**	**14 06 28.8**	**-2.1**
WRA				pmax	pmax		
	comp=Z,94nm,0.4s						
WRA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WRA				pmax	pmax		
	comp=N,3.0nm,0.9s						
WRA				smax			
	comp=N,2.0nm,0.9s						
FORT	**Forrest**	**44.61**	**257**	eP	**P**	**14 00 31.0**	**+1.1**
	comp=N,33nm,1.2s,mb4.8						
FORT				epP	pP	14 01 13.8	+8.7
SBA	**Scott Base**	**46.63**	**184**	eP	**P**	**14 00 51.1**	**+5.4**
SBA				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.0						
SBA	**Scott Base**	**46.63**	**184**	eP	**P**	**14 00 51.1**	**+5.4**
	comp=Z,42nm,1.0s,mb5.0						
SBA				epP	pP	14 01 25.6	+4.4
VNDA	**Vanda**	**46.66**	**186**	P	**P**	**14 00 50.4**	**+4.4**
	comp=Z,1.4nm,0.4s,baz=7.4,slow=9.0,SNR=10						
VNDA				ScP	ScP	14 05 55.0	-0.7
	comp=Z,1.3nm,0.6s,baz=337,slow=4.4,SNR=7.4						
VNDA	**Vanda**	**46.66**	**186**	P	**P**	**14 00 50.4**	**+4.4**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VNDA				pmax	pmax		
	comp=N,1.0nm,0.6s						
VNDA	**Vanda**	**46.66**	**186**	P	**P**	**14 00 50.4**	**+4.4**
VNDA				ScP	ScP	14 05 55.0	-0.7
KAKA	**Kakadu**	**48.06**	**282**	eP	**P**	**14 00 56.6**	**-0.2**
	comp=N,44nm,0.9s,mb5.1						
FITZ	**Fitzroy Crossi**	**51.23**	**272**	eP	**P**	**14 01 21.2**	**+0.4**
	comp=N,80nm,1.0s,mb5.3						
FITZ	**Fitzroy Crossi**	**51.23**	**272**	P	**P**	**14 01 21.7**	**+0.9**
	comp=N,50nm,0.8s,mb5.2,baz=127,slow=9.2						
KLBR	**Kellerberrin**	**52.84**	**252**	eP	**P**	**14 01 33.5**	**+0.8**
	comp=N,28nm,1.2s,mb4.9						
CASY	**Casey**	**53.43**	**208**	eP	**P**	**14 01 38.1**	**+1.1**
MBWA	**Marble Bar**	**54.96**	**265**	eP	**P**	**14 01 48.2**	**+0.2**
	comp=N,23nm,1.0s,mb4.8						
QSPA	**South Pole Qui**	**58.38**	**180**	eP	**P**	**14 02 16.6**	**+4.4**
MIR	**Mirnyy**	**60.42**	**207**c	iP	**P**	**14 02 29.0**	**+2.9**
MIR				pmax	pmax		
	comp=Z,257nm,1.5s,mb5.8						
MAW	**Mawson**	**70.66**	**201**⇓	iP	**P**	**14 03 33.1**	**+1.3**
	comp=Z,11nm,1.0s,mb4.5						
MAW				epP	pP	14 03 53.4	-17
MAW	**Mawson**	**70.66**	**201**	P	**P**	**14 03 33.2**	**+1.4**
	comp=Z,18nm,1.1s,mb4.7,baz=124,slow=7.2,SNR=28						
MAW	**Mawson**	**70.66**	**201**⇓	iP	**P**	**14 03 33.1**	**+1.3**
MAW				e*PP	pP	14 03 53.4	-17
MAW				pmax	pmax		
	comp=Z,11nm,1.0s						
PMSA	**Palmer Station**	**71.52**	**156**	eP	**P**	**14 03 40.1**	**+3.1**
KSM	**Kuching**	**74.16**	**282**	eP	**P**	**14 03 52.2**	**-0.4**
SYO	**Syowa Base**	**75.56**	**194**⇑	eP	**P**	**14 04 01.0**	**+0.4**
SYO	**Syowa Base**	**75.56**	**194**⇓	epP	pP	14 04 38.8	-0.5
JOW	**Kunigami**	**76.72**	**313**	P	**P**	**14 04 06.3**	**-0.9**
	comp=Z,11nm,0.5s,mb4.8,baz=130,slow=12,SNR=8.9						
SNAA	**Sanae**	**76.85**	**179**	eP	**P**	**14 04 10.0**	**+2.1**
SNAA				pmax	pmax		
	comp=Z,31nm,1.0s						
SNAA	**Sanae**	**76.85**	**179**	eP	**P**	**14 04 10.0**	**+2.1**
	comp=Z,31nm,1.0s,mb4.9						
NVL	**N'lazarevskaya**	**77.48**	**184**⇑	iP	**P**	**14 04 13.4**	**+2.0**
NVL				pmax	pmax		
	comp=Z,61nm,1.1s,mb5.1						
NVL				pmax	pmax		
	comp=N,30nm,1.4s						
NVL				pmax	pmax		
	comp=E,8.0nm,0.8s						
VNA1	**Neumayer--Stat**	**77.71**	**177**⇓	iP	**P**	**14 04 15.5**	**+2.9**
VNA1				e		14 04 18.3	
VNA1				e		14 04 19.8	
VNA1				e		14 04 24.5	
VNA1				e	pP	14 04 52.3	+0.8
MJAR	**Matsushiro Arr**	**78.70**	**326**	P	**P**	**14 04 15.8**	**-2.3**
	comp=E,2.8nm,0.5s,mb4.2,baz=164,slow=5.5,SNR=12						
MJAR	**Matsushiro Arr**	**78.70**	**326**	P	**P**	**14 04 15.8**	**-2.3**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MJAR	**Matsushiro Arr**	**78.70**	**326**	P	**P**	**14 04 15.8**	**-2.3**
MAJO	**Matsushiro**	**78.70**	**326**	eP	**P**	**14 04 17.0**	**-1.1**
MAT	**Matsushiro**	**78.70**	**326**	P	**P**	**14 04 15.5**	**-2.6**
MAT	**Matsushiro**	**78.70**	**326**	eP	**P**	**14 04 16.0**	**-2.1**
PLCA	**Paso Flores**	**82.43**	**133**	P	**P**	**14 04 40.7**	**+2.8**
	comp=Z,1.2nm,0.3s,mb4.0,baz=199,slow=3.4,SNR=6.4						
PLCA	**Paso Flores**	**82.43**	**133**	eP	**P**	**14 04 40.8**	**+2.8**
ASAJ	**Asahikawa**	**83.10**	**333**	P	**P**	**14 04 40.9**	**-0.5**
	comp=Z,6.3nm,0.5s,mb4.6,baz=229,slow=9.4,SNR=16						
ASAJ	**Asahikawa**	**83.10**	**333**	P	**P**	**14 04 40.9**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SSE	**Sheshan**	**84.13**	**312**	P	**P**	**14 04 46.7**	**0.0**
SSE				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,192nm,4.2s						
KS15	**Wonju Array Si**	**84.64**	**320**	eP	**P**	**14 04 49.4**	**+0.1**
KS15				eP		14 04 49.6	
YSS	**Yuzh-Sakhalins**	**85.46**	**335**⇑	iP	**P**	**14 04 52.6**	**-0.7**
YSS	**Yuzh-Sakhalins**	**85.46**	**335**	eP	**P**	**14 04 53.0**	**-0.2**

comp=Z,21nm,0.6s,mb5.0
UNV Unalaska Valle 85.95 8 *e*P P **14 04 55.3 -0.5**
comp=Z,14µm,1.2s
LPIG La Paz 86.21 59 LR LR 14 34 48.4
comp=Z,38nm,20.8s,baz=210,slow=30
NJ2 Nanjing 86.25 311 *e*P **P 14 04 55.8 -1.4**
NJ2 AP pP 14 05 35.5 -1.3
NJ2 XP sP 14 05 54.4 +0.9
NJ2 PP PP 14 08 17.0 -3.2
NJ2 SKS 14 15 02.0
NJ2 S 14 15 12.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
NJ2 AMB AMB
comp=Z,210nm,7.9s
NJ2 LR LR
comp=N,290nm,26.7s
NJ2 LR LR
comp=E,420nm,22.0s
NJ2 LR LR
comp=Z,10µm,25.1s
PET Petropavlovsk 86.56 347⇑ *i*P **P 14 04 57.0 -1.7**
PET pmax pmax
comp=Z,21nm,1.3s,mb4.8
ISA Isabella 88.05 45 *e*P **P 14 05 06.4 +0.6**
ISA pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
ISA Isabella 88.05 45 *e*P **P 14 05 06.4 +0.6**
comp=Z,7.1nm,0.8s,mb4.5
WHN Wuhan 88.25 308 P **P 14 05 07.7 +0.9**
CMB Columbia Colle 88.52 43 *e*P **P 14 05 07.7 -0.3**
CMB pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CMB Columbia Colle 88.52 43 *e*P **P 14 05 07.7 -0.3**
comp=Z,5.2nm,0.8s,mb4.5
CMB *e*P 14 05 07.9
GLA Glamis 88.63 49 *e*P **P 14 05 08.3 -0.3**
GLA *e**PP pP 14 05 53.1 +4.7
GSC Goldstone 88.83 47 *e*P **P 14 05 09.9 +0.4**
WDC Whiskeytown Da 89.07 40 *e*P **P 14 05 10.2 -0.4**
WDC *e*P 14 05 14.3
MDJ Mudanjiang 89.08 326 P **P 14 05 10.3 -0.4**
MDJ AP pP 14 05 48.8 -1.8
MDJ XP sP 14 06 05.3 -1.9
MDJ PP PP 14 08 41.9 -0.9
MDJ S 14 15 48.9
MDJ AMB AMB
comp=Z,17nm,1.1s,mb4.9
MDJ AMB AMB
comp=Z,36nm,4.0s
MDJ Mudanjiang 89.08 326 *e*P **P 14 05 10.6 -0.1**
comp=Z,34nm,1.4s,mb5.1
MDJ *e* 14 05 57.9
HABR Khabarovsk 89.66 332⇓ *i*P **P 14 05 12.8 -0.6**
HABR pmax pmax
comp=Z,93nm,2.2s,mb5.3
YBH Yreka Blue Hor 89.78 39 P **P 14 05 13.2 -0.7**
comp=Z,1.2nm,0.6s,mb4.0,baz=120,slow=2.5,SNR=3.7
YBH Yreka Blue Hor 89.78 39 P **P 14 05 13.2 -0.8**
YBH pmax pmax
comp=Z,1.0nm,0.6s
NVAR Mina Array Bea 89.99 43 P **P 14 05 14.8 -0.2**
comp=Z,3.7nm,0.9s,mb4.3,baz=206,slow=6.6,SNR=16
MNV Mina 90.08 43 *e*P **P 14 05 15.4 +0.1**
HUMO Hull Mountain 90.27 38 *e*P **P 14 05 17.0 +0.8**
comp=Z,13nm,1.4s,mb4.7
CN2 Changchun 90.52 324 *e*P **P 14 05 16.2 -1.2**
CN2 *e*XP sP 14 06 14.3 +0.4
CN2 *e*S 14 15 55.1
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.4
CN2 AMB AMB
comp=Z,170nm,4.0s
GYA Guiyang 91.23 300⇑ *i*P **P 14 05 21.6 +0.9**
GYA AP pP 14 06 02.2 +1.6
GYA XP sP 14 06 19.4 +2.2
GYA PP PP 14 09 03.9 +4.1
GYA SKS 14 15 39.0
GYA S 14 16 04.1
GYA XS sS 14 17 15.3 +0.3
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,110nm,4.6s
GYA LR LR
comp=N,410nm,21.8s
GYA LR LR
comp=E,390nm,21.2s
GYA LR LR
comp=Z,340nm,21.5s
KLR Kul'dur 91.61 330 *e*P **P 14 05 18.7 -3.8**
KLR pmax pmax
comp=Z,33nm,1.4s,mb5.2
KMI Kunming 93.41 297 P **P 14 05 31.2 +0.5**
KMI AMB AMB
comp=Z,7.0nm,0.7s,mb4.9
CMIG Matias Romero 94.25 73 LR LR 14 37 48.4
comp=Z,34nm,20.2s,baz=327,slow=29
GDL2 Guadalupe Moun 95.18 55 *e*P **P 14 05 43.6 +4.8**
CD2 Chengdu 95.83 303 *e*P **P 14 05 40.0 -1.8**
CD2 AP pP 14 06 20.7 -1.1
CD2 XP sP 14 06 37.7 -0.7
CD2 PP PP 14 09 36.4 +0.7
CD2 SKS 14 15 59.6
CD2 S 14 16 40.3
CD2 XS sS 14 17 51.8 -4.1
CD2 SS SS 14 23 17.6 -1.8
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,40nm,8.6s
TTA Tatalina 96.17 10 *e*P **P 14 05 42.6 -0.7**
HHC Hu-ho-hao-te 96.34 315 *e*P **P 14 05 44.6 +0.5**
HHC AP pP 14 06 24.8 +0.7
HHC XP sP 14 06 42.1 +1.4
HHC PP PP 14 09 41.7 +2.0
HHC S 14 16 46.6
HHC XS sS 14 17 58.0 -2.3
HHC SS SS 14 23 25.7 -0.9
HHC AMB AMB
comp=Z,14nm,0.5s,mb5.5
HHC AMB AMB
comp=Z,86nm,5.9s
HHC LR LR
comp=N,303nm,16.7s
HHC LR LR
comp=E,425nm,18.4s
HHC LR LR
comp=Z,155nm,19.0s
BILL Bilibino 100.05 355 P Pdif 14 06 00.0 -0.7
BILL pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 107.14 26 PKiKP PKiKP 14 10 38.6 -2.1
comp=Z,1.1nm,0.8s,baz=237,slow=1.6,SNR=5.5
WMQ Urumqi 113.15 308 PKP PKiKP 14 10 51.4 -0.6
WMQ PP PP 14 11 46.9 +3.0
WMQ XPKP 14 11 49.5
WMQ PP PP
comp=Z,153nm,10.1s
WMQ LR LR
comp=N,517nm,17.4s
WMQ LR LR
comp=E,712nm,20.6s
WMQ LR LR
comp=Z,891nm,16.6s
BOSA Boshof 115.58 204 PKP PKPdf 14 10 57.5 +0.9
comp=Z,1.4nm,0.6s,baz=202,slow=5.4,SNR=2.7
BOSA Boshof 115.58 204 PKiKP PKPdf 14 10 57.6 +0.9
BOSA pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 117.75 310 PKP PKPdf 14 10 58.7 -2.1
comp=Z,2.9nm,0.9s,baz=80,slow=2.8,SNR=14
MKAR Makanchi Array 117.75 310 PKiKP PKPdf 14 10 58.7 -2.1
MKAR pmax pmax
comp=Z,3.0nm,0.9s
ZAL Zalesovo 118.27 318 PKP PKPdf 14 10 59.6 -2.2
comp=Z,1.0nm,0.3s,baz=319,slow=5.4,SNR=3.1
ZAL Zalesovo 118.27 318 PKiKP PKPdf 14 10 59.6 -2.2
ZAL pmax pmax
comp=Z,1.0nm,0.4s
NVS Novosibirsk 119.39 319 *e*PKiKP PKPdf 14 11 00.9 -3.1
KURK Kurchatov 121.14 313 *e*PKiKP PKPdf 14 11 05.3 -2.0
CHKZ Chkalovo 126.48 316 *e*PKiKP PKPdf 14 11 16.9 -0.7
BVAR Borovoye Array 126.55 315 PKP PKPdf 14 11 16.2 -1.5
comp=Z,2.0nm,0.4s,baz=118,slow=2.5,SNR=20
BVAR Borovoye Array 126.55 315 PKiKP PKPdf 14 11 16.2 -1.5
BVAR pmax pmax
comp=Z,2.0nm,0.4s
BRVK Borovoye 126.62 315 P PKPdf 14 11 17.9 0.0
SNR=6.5
BRVK Borovoye 126.62 315 *e*PKPdf PKPdf 14 11 17.4 -0.4
ZRNK Zerenda 127.38 315 *e*PKiKP PKPdf 14 11 17.4 -1.9
SCHQ Schefferville 127.99 43 PKP PKPdf 14 11 19.3 -1.2
comp=Z,0.8nm,0.3s,baz=284,slow=8.3,SNR=4.0
SCHQ Schefferville 127.99 43 PKP PKPdf 14 11 19.3 -1.2
KMBO Kilima Mbogo 132.36 234 PKP PKPdf 14 11 30.3 +1.5
comp=Z,1.4nm,0.6s,baz=57,slow=23,SNR=4.3
KMBO SKPbc SKPbc 14 14 38.5 -2.2
comp=Z,4.9nm,0.9s,baz=96,slow=2.6,SNR=7.1
KMBO Kilima Mbogo 132.36 234 PKiKP PKPdf 14 11 30.3 +1.5
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO pmax pmax
comp=N,5.0nm,0.9s
KMBO Kilima Mbogo 132.36 234 PKP PKPdf 14 11 30.3 +1.5
KMBO SKPbc SKPbc 14 14 38.5 -2.2
ARU Arti 133.38 320 *i* PKiKP PKPdf 14 11 26.2 -4.5
AKTK Aktyubinsk 134.14 311 PKP PKPdf 14 11 31.7 -0.4
AKTO Aktyubinsk 134.14 311 PKP PKPdf 14 11 31.7 -0.4
comp=N,1.8nm,0.4s,baz=104,slow=3.2,SNR=7.2
AKTO Aktyubinsk 134.14 311 PKiKP PKPdf 14 11 31.7 -0.4
AKTO pmax pmax
comp=Z,2.0nm,0.4s
SUMG Summit 134.29 15 *e*PKPdf PKPdf 14 11 32.4 0.0
ARCES ARCESS Array B 139.63 347 PKhKP 14 11 32.8
comp=Z,1.5nm,0.5s,baz=56,slow=1.4,SNR=14
ARCES PKP PKPdf 14 11 42.2 -0.1
comp=Z,8.3nm,0.9s,baz=56,slow=2.3,SNR=7.5
ARCES ARCESS Array B 139.63 347 PKiKP PKPdf 14 11 42.2 -0.1
JOF Joensuu 143.22 337 *e*pkp PKPdf 14 11 42.6 -6.1
BHD Baghdad 143.30 284 *ex* x 14 11 45.0
GNI Garni 143.65 296 *i* PKiKP PKPdf 14 11 47.7 -1.7
ZEI Tsey 144.22 300 *e*PKiKP PKPdf 14 11 48.6 -1.8
GOF Gofitskoye 144.63 304 *e*PKiKP PKPdf 14 11 48.1 -3.0
GOF pmax pmax
comp=Z,61nm,1.3s
MSL Mosul 144.75 289 *ex* x 14 11 48.0
MOS Moscow 144.76 324 *e*PKiKP PKPdf 14 11 47.7 -3.7
MOS pmax pmax
comp=Z,100nm,1.3s
MOS pmax pmax
comp=Z,99nm,1.2s
KIV Kislovodsk 145.01 303 P PKPbc 14 11 50.3 -1.2
SNR=7.1
KIV Kislovodsk 145.01 303 *e*PKiKP PKPdf 14 11 50.6 -1.2
KIV pmax pmax
comp=Z,37nm,1.2s
KIV Kislovodsk 145.01 303 *e*PKPdf PKPdf 14 11 50.5 -1.3
KAF Kangasniemi 145.40 339 *e*pkp PKPdf 14 11 49.4 -3.1
baz=27,slow=2.5
OBN Obninsk 145.58 323 *d* iPKP2 PKPab 14 11 51.4 -2.4
OBN pmax pmax
comp=Z,201nm,1.5s
OBN Obninsk 145.58 323 *e*PKPdf PKPdf 14 11 51.7 -1.1
PUL Pulkovo 145.71 334 *e*PKP2 PKPab 14 11 52.2 -2.0
VRSR Storozhevoye 145.71 316 *e*PKiKP PKPdf 14 11 51.8 -1.2
VRSR pmax pmax
comp=Z,70nm,0.7s
VRSR pmax pmax
comp=N,4.0nm,0.5s
VRSR pmax pmax
comp=E,6.0nm,0.4s
FINES FINESS Array B 145.98 338 PKPbc PKPbc 14 11 51.8 -2.7
comp=E,24nm,0.5s,baz=61,slow=4.1,SNR=293
FINES FINESS Array B 145.98 338 PKiKP PKPdf 14 11 51.8 -1.7
FINES pmax pmax
comp=Z,24nm,0.5s
NSS Namsos 146.44 351 *e*P PKPdf 14 11 51.9 -2.3
NSS AMb AMB 14 11 54.1
comp=Z,53nm,1.1s
VSU Vasula 147.95 334 *i* PKP2 PKPdf 14 11 57.9 +1.2
MALT Malatya 148.55 293⇓ *i*P PKPdf 14 12 00.8 +3.1
MALT Malatya 148.55 293 *e*PKPdf PKPdf 14 11 59.0 +1.3
MALT *e*PKPbc PKPbc 14 12 02.6 +1.1
NB2 NORSAR Subarra 149.88 350 PKP PKPdf 14 11 59.1 -0.8
comp=Z,26nm,1.0s,baz=18,slow=4.3
NOA NORSAR Array B 149.88 350 PKPbc PKPbc 14 12 02.7 -2.2
comp=Z,20nm,1.0s,baz=16,slow=4.2,SNR=34
NOA NORSAR Array B 149.88 350 PKHKP 14 12 02.7
NOA pmax pmax
comp=Z,20nm,1.0s
NOA NORSAR Array B 149.88 350 PKPbc PKPbc 14 12 02.7 -2.2
NAO01 NORSAR Array S 150.11 350 *e*PKPdf PKPdf 14 12 03.4 +3.2
NAO01 *e*PKPbc PKPbc 14 12 08.9 +3.5
KONO Kongsberg 151.45 351 *e*P PKPdf 14 12 06.2 +4.0
KONO AMb AMB 14 12 08.6
comp=Z,34nm,1.0s
KONO Kongsberg 151.45 351 *e*PKPbc PKPbc 14 12 07.3 -1.2
AKASG Malin Array Be 151.63 320 PKPbc PKPbc 14 12 07.1 -1.9
comp=Z,3.7nm,0.5s,baz=56,slow=2.2,SNR=33
AKASG PKPab PKPab 14 12 16.4 -1.8
comp=Z,2.7nm,0.4s,baz=51,slow=4.2,SNR=13
AKASG Malin Array Be 151.63 320 PKiKP PKPdf 14 12 07.1 +4.6
AKASG 14 12 16.4
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 151.63 320 PKPbc PKPbc 14 12 07.1 -1.9
AKASG PKPab PKPab 14 12 16.4 -1.8
BRTR Keskin Array B 152.19 296 PKP PKPdf 14 12 02.5 -0.9
comp=Z,0.7nm,0.6s,baz=270,slow=7.4,SNR=3.9
BRTR PKPbc PKPbc 14 12 08.5 -1.7
comp=Z,4.2nm,0.4s,baz=114,slow=3.1,SNR=24
BRTR PKPab PKPab 14 12 19.1 -1.4
comp=Z,5.6nm,0.9s,baz=142,slow=6.3,SNR=4.1
BRTR Keskin Array B 152.19 296 PKiKP PKPdf 14 12 02.5 -0.9
BRTR 14 12 08.5
BRTR 14 12 19.1
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR pmax pmax
comp=Z,4.0nm,0.4s
BRTR pmax pmax
comp=Z,6.0nm,0.9s
SUW Suwalki 152.51 331 *e*PKiKP PKPbc 14 12 09.3 -1.6
SUW *e* 14 12 20.4
ANTO Ankara 152.82 296 P PKPbc 14 12 11.8 +0.2
SNR=5.9
ANTO Ankara 152.82 296 *e*PKPbc PKPbc 14 12 11.8 +0.2
LIC Lamto 154.07 167 *e*PKP1 PKPbc 14 12 07.8 -6.5
DBIC Dimbokro 154.53 167 PKP PKPdf 14 12 07.2 +0.5
comp=Z,8.9nm,1.0s,baz=164,slow=0.4,SNR=4.3
DBIC PKPbc PKPbc 14 12 17.1 +1.7
comp=Z,3.8nm,0.4s,baz=113,slow=6.5,SNR=10
DBIC PKPab PKPab 14 12 31.9 +1.4
comp=Z,8.5nm,0.8s,baz=162,slow=4.3,SNR=4.1
DBIC Dimbokro 154.53 167 PKiKP PKPdf 14 12 07.3 +0.5
DBIC 14 12 17.1
DBIC 14 12 31.9
DBIC pmax pmax
comp=Z,9.0nm,1.0s
DBIC pmax pmax
comp=Z,4.0nm,0.4s
DBIC pmax pmax
comp=Z,9.0nm,0.8s
DBIC Dimbokro 154.53 167 PKP PKPdf 14 12 07.2 +0.5
DBIC *e*PKPbc PKPbc 14 12 17.1 +1.7
DBIC *e*PKPbc PKPbc 14 12 17.2 +1.9
DBIC PKPab PKPab 14 12 31.9 +1.4
DBIC *e*PKPab PKPab 14 12 32.8 +2.3
KWP Kalwaria 155.67 324 *e*PKP2 PKPab 14 12 34.4 -0.9
KOLS Kolonicke sedl 156.33 323 *e*PKP PKPab 14 12 35.2 -3.0
STHS Stebnicka Huta 156.54 325 *e*PKP PKPab 14 12 38.2 -0.9
OJC Ojcow 156.68 328 *e*PKP PKPab 14 12 37.9 -1.8
BSEG Bad Segeberg 156.75 345 *e*PKPab PKPab 14 12 38.3 -1.7
CRVS Cervenica-Dubn 156.77 324 *e*PKP PKPab 14 12 40.7 +0.6
RUE Ruedersdorf 157.17 339 *e*PKPab PKPab 14 12 39.5 -2.3
KECS Kecovo 157.53 324 *e*PKP PKPab 14 12 42.0 -1.4
KSP Ksiaz 157.67 333 *e*PKP2 PKPab 14 12 41.4 -2.6
OKC Ostrava-Krasne 157.69 329 *e*PKPAB PKPab 14 12 41.9 -2.1
UPC Upice 158.05 333 *e*PKPAB PKPab 14 12 44.6 -1.0
DPC Dobruska-Polom 158.05 332 *e*PKPAB PKPab 14 12 44.0 -1.6
VYHS Vyhne 158.34 326 *e*PKP PKPab 14 12 45.3 -1.5
CLL Collm 158.43 339 *e*PKPab PKPab 14 12 44.7 -2.5
CLL Collm 158.43 339⇑ *i*PKPab PKPab 14 12 45.1 -2.1
comp=Z,25nm,1.3s
CLL Collm 158.43 339⇑ *i*PKP2 PKPab 14 12 45.1 -2.1
CLL pmax pmax
comp=Z,25nm,1.3s
BRG Berggiesshubel 158.50 337 *e*PKPab PKPab 14 12 45.7 -1.8
BRG Berggiesshubel 158.50 337 *e*P PKPab 14 12 46.0 -1.5
comp=Z,11nm,1.2s
BRG Berggiesshubel 158.50 337 *e*PKP2 PKPab 14 12 46.0 -1.5
BRG pmax pmax
comp=Z,11nm,1.2s
PVCC Panska Ves 158.57 335 *e*PKPAB PKPab 14 12 46.7 -1.1
FBE Freiberg 158.65 338 *e*PKPab PKPab 14 12 46.2 -2.0
CLZ Clausthal 158.68 343 *e*PKPab PKPab 14 12 46.6 -1.7
IBBN Ibbenburen 158.80 348 *e*PKPab PKPab 14 12 47.0 -1.8
TREC Trest 159.22 332 *e*PKPAB PKPab 14 12 48.9 -1.8
TANN Tannenbergstha 159.38 338 *e*PKPdf PKPdf 14 12 14.5 +1.6
TANN *e*PKPab PKPab 14 12 49.7 -1.7
WERD Werda 159.40 338 *e*PKPab PKPab 14 12 49.9 -1.5
MOX Moxa 159.43 340 *e*PKPab PKPab 14 12 50.0 -1.6
MOX Moxa 159.43 340 *e*PKP PKPab 14 12 50.6 -1.0
comp=Z,22nm,1.5s
NKC Novy Kostel 159.54 338 *e*PKPAB PKPab 14 12 50.4 -1.7
MANZ Manzenberg 159.86 338 *e*PKPab PKPab 14 12 52.0 -1.5
ROTZ Rotzenmuhle 160.02 338 *e*PKPab PKPab 14 12 52.5 -1.7
KHC Kasperske Hory 160.09 334 *e*PKPAB PKPab 14 12 52.8 -1.7
GEC2 GERESS Array S 160.28 334 *e*PKPab PKPab 14 12 53.2 -2.1
GERES GERESS Array B 160.28 334 PKPab PKPab 14 12 53.0 -2.3
comp=Z,1.9nm,0.6s,baz=57,slow=4.9,SNR=14
GERES GERESS Array B 160.28 334 PKP2 PKPab 14 12 53.0 -2.3
GERES pmax pmax
comp=Z,2.0nm,0.6s
WET Wettzell 160.33 336 *e*PKPab PKPab 14 12 54.0 -1.5
GRF Grafenberg Arr 160.39 339 *e*PKPab PKPab 14 12 55.4 -0.4
HGN Heimansgroeve 160.59 350 *e*PKP PKPab 14 12 54.8 -1.9
comp=Z,20nm,1.3s
TNS Taunus Mts 160.64 345 *e*PKPab PKPab 14 12 55.2 -1.7
GIVF Givet 161.39 352 *e*PKP2 PKPab 14 12 58.0 -2.1
TORD Torodi Ar. Bea 161.48 183 PKP PKPdf 14 12 16.2 +1.0
comp=Z,12nm,1.1s,baz=336,slow=0.6,SNR=28
TORD PKPab PKPab 14 13 02.4 +1.9
comp=Z,14nm,0.8s,baz=174,slow=3.6,SNR=23
TORD PP PP 14 16 47.0 +2.8
comp=Z,0.8nm,0.9s,baz=193,slow=4.4,SNR=3.4
BAIF Baives 161.50 353 *e*PKP2 PKPab 14 12 58.8 -1.8
WLF Walferdange 161.62 349 *e*PKPab PKPab 14 13 00.1 -1.1
BFO Black Forest 162.43 343 *e*PKPab PKPab 14 13 02.7 -2.0
CDF Champ du Feu 162.60 345⇑ *i*PKP2 PKPab 14 13 03.7 -1.8
comp=Z,34nm,1.5s
FLN La Foliniere 162.97 3 *e*PKP2 PKPab 14 13 05.0 -2.1
ROSF Rostrenen 163.15 9 *e*PKP2 PKPab 14 13 05.2 -2.7
comp=Z,57nm,1.2s
HAU Haudompre 163.18 347⇑ *i*PKP2 PKPab 14 13 07.1 -0.9
comp=Z,20nm,1.0s
SGMF Saint Gilles 163.32 8⇑ *i*PKP2 PKPab 14 13 06.0 -2.6
comp=Z,82nm,1.2s
GRR Gorron 163.32 4 *e*PKP2 PKPab 14 13 06.5 -2.1
QUIF Quistinic 163.58 9⇑ *i*PKP2 PKPab 14 13 07.1 -2.6
comp=Z,47nm,1.2s
LOR Lormes 164.29 352⇑ *i*PKP2 PKPab 14 13 10.8 -2.1
comp=Z,16nm,1.2s
SSF Saint Saulge 164.54 353⇑ *i*PKP2 PKPab 14 13 12.2 -1.8
comp=Z,44nm,1.2s
CABF La Chapelle 164.57 346 *e*PKP2 PKPab 14 13 12.6 -1.5
AVF Avril sur Loir 164.82 353⇑ *i*PKP2 PKPab 14 13 13.3 -1.9
comp=Z,29nm,1.1s
SMF Signal de Mont 164.91 352⇑ *i*PKP2 PKPab 14 13 13.8 -1.8
comp=Z,86nm,1.3s
BGF Bois d'Agland 165.10 354 *e*PKP2 PKPab 14 13 14.7 -1.8
MFF Saint Martin d 165.14 2 *e*PKP2 PKPab 14 13 14.7 -1.9
comp=Z,22nm,1.1s
TCF Toulx Ste Croi 165.42 356⇑ *i*PKP2 PKPab 14 13 15.9 -2.0
comp=Z,21nm,1.1s
LPL La Plagne 165.45 343 *e*PKP2 PKPab 14 13 17.3 -0.7
comp=Z,38nm,1.3s
LPG La Plagne 165.47 343 *e*PKP2 PKPab 14 13 17.4 -0.7
comp=Z,51nm,1.4s
MBDF Montbardon 166.18 342 *e*PKP2 PKPab 14 13 19.9 -1.3
ORIF Oris-en-Rattie 166.22 344⇑ *i*PKP2 PKPab 14 13 20.4 -1.0
comp=Z,21nm,1.1s
RJF Les Rejaudoux 166.44 357 *e*PKP2 PKPab 14 13 20.3 -2.0
VIVF Saint-Julien-l 166.53 348 *e*PKP2 PKPab 14 13 21.6 -1.2
comp=Z,20nm,1.1s
SBF Sospel 166.77 338 *e*PKP2 PKPab 14 13 24.4 +0.6
comp=Z,31nm,1.1s
CAF Calviac 166.78 356 *e*PKP2 PKPab 14 13 22.4 -1.5
comp=Z,27nm,1.3s
LFF La Frestale 166.82 360 *e*PKP2 PKPab 14 13 22.1 -1.9
SMRF Simiane la Rot 167.18 344⇑ *i*PKP2 PKPab 14 13 24.6 -1.1
comp=Z,35nm,1.4s
FRF La Foret Royal 167.28 340 *e*PKP2 PKPab 14 13 24.5 -1.6
LMR La Mourre 167.53 340⇑ *i*PKP2 PKPab 14 13 25.7 -1.5
comp=Z,67nm,1.3s
MTLF Montolieu 168.35 354 *e*PKP2 PKPab 14 13 29.3 -1.5
comp=Z,17nm,1.2s
ETSF Etsaut 168.81 5 *e*PKP2 PKPab 14 13 31.0 -1.9
ESDC Sonseca Array 171.23 24 PKP PKPdf 14 12 23.2 +0.4
comp=Z,1.4nm,0.7s,baz=346,slow=1.8,SNR=11
ESDC PKPab PKPab 14 13 41.7 -1.8
comp=Z,1.3nm,0.6s,baz=343,slow=4.6,SNR=10

*LDG **04** 13:52:38.9±0.1, 4623N×875E, h2km, Md2.4/3, Ml2.6/12, Error ellipse: s-maj=3.1km s-min=2.3km az=128.0*
*ISCJB **04** 13:52:38.9±0.3, 4628N±002×864E±002, h14km±3km, Error ellipse: s-maj=2.8km s-min=2.6km az=115.2*
*ROM **04** 13:52:39.4±0.2, 4627N×869E, h10km, Md2.5/10, Ml2.5/2, Error ellipse: s-maj=4.2km s-min=1.5km az=91.0*
*CSEM **04** 13:52:39.4±0.1, 4623N×871E, h20km, ML2.7/13, Error ellipse: s-maj=1.3km s-min=1.2km az=162.0*
*VIE **04** 13:52:40.8±1.2, 4626N×881E, h8km, mb1.8/1, ML2.7/1, Error ellipse: s-maj=8.0km s-min=6.6km az=123.0*
*ZUR **04** 13:52:40.3, 4629N×870E, h7km±1km, ML2.4/18*
*NEIC **04** 13:52:40.3, 4628N×871E, h7km, ML2.4(STR), ML2.5(ROM), ML2.4(ZUR), ML2.6(LDG), After ZUR.*
*STR **04** 13:52:46.4±0.8, 4645N×845E, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 04 13:52:39.6±0.3, 4627N±002×866E±002, h17km±3km, n66, σ1°8 08/108, 7C-4D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUSIO	**Fusio** 584nm,0.2s	**0.19**	**2**	*i* Sg	**Pg**	**13 52 44.3**	**0.0**
FUSIO	**Fusio** 584nm,0.2s	**0.19**	**2**⇑	*i*Pg	**Sg**	**13 52 46.7**	**-0.7**
FUSIO	**Fusio** 584nm,0.2s	**0.19**	**2**⇑	*i*Pg	**Sg**	**13 52 46.7**	**-0.7**
VAI	**Varese**	**0.41**	**169**	Pg	**Pg**	**13 52 48.8**	**+0.9**
VAI				Sg	**Sg**	**13 52 54.3**	**+0.9**
MUGIO	**Muggio** 1µm,0.3s	**0.44**	**142**	*i* Sg	**Pg**	**13 52 48.9**	**+0.5**
MUGIO	**Muggio** 1µm,0.3s	**0.44**	**142**⇓	*i*Pg	**Sg**	**13 52 54.4**	**0.0**
MUGIO	**Muggio**	**0.44**	**142**	Pg	**Pg**	**13 52 48.9**	**+0.5**
MUGIO				Sg	**Sg**	**13 52 54.7**	**+0.3**
TUE	**Stuetta**	**0.52**	**66**	Pg	**Pg**	**13 52 50.0**	**0.0**
TUE				Sg	**Sg**	**13 52 56.3**	**-0.7**
MMK	**Mattmark** 172nm,0.3s	**0.53**	**246**	*i* Sg	**Pg**	**13 52 51.2**	**+1.1**
MMK	**Mattmark** 513nm,0.1s	**0.53**	**246**⇑	*i*Pg	**Sg**	**13 52 57.9**	**+0.8**
MMK	**Mattmark** 513nm,0.1s	**0.53**	**246**	Pg	**Pg**	**13 52 50.9**	**+0.8**
MMK				Sg	**Sg**	**13 52 58.9**	**+1.8**
MCGN	**Macugnaga** 27nm,0.2s	**0.56**	**237**	Pg	**Pg**	**13 52 51.5**	**+0.9**
MCGN				Sg	**Sg**	**13 52 59.1**	**+1.0**
HASLI	**Hasliberg** 299nm,0.2s	**0.60**	**325**	*e*Pg	**Sg**	**13 52 58.7**	**-0.9**
VDL	**Val di Lei** 402nm,0.5s	**0.61**	**68**⇓	*i*Pg	**Pg**	**13 52 50.8**	**-0.8**
BNALP	**Bannalp** 219nm,0.3s	**0.63**	**345**	*e*Pg	**Pg**	**13 52 52.3**	**+0.4**
BNALP	219nm,0.3s			*i* Sg		13 52 52.6	
LLS	**Linth-Limmern** 112nm,0.5s	**0.63**	**23**⇑	*i*Pg	**Pg**	**13 52 52.2**	**+0.1**
MUO	**Muotathal** 303nm,0.5s	**0.70**	**359**	*e*Pg	**Sg**	**13 53 00.7**	**-2.0**
LKBD	**Leukerbad** 89nm,0.3s	**0.72**	**280**	*e*P	**Pg**	**13 52 54.5**	**+0.8**
LKBD	**Leukerbad**	**0.72**	**280**	*e*P	**Pg**	**13 52 54.9**	**+1.1**
LKBD	**Leukerbad**	**0.72**	**280**	*e*P	**Sg**	**13 52 54.9**	**+1.2**
WIMIS	**Wimmis**	**0.82**	**300**	*i* P	**Pb**	**13 52 56.8**	**+1.4**
WIMIS	**Wimmis**	**0.82**	**300**	*i* P	**Pb**	**13 52 56.8**	**+1.5**
DIX	**Grande Dixence**	**0.88**	**258**	Pg	**Pg**	**13 52 57.8**	**+1.0**

DIX				Sg	Sg	13 53 09.8	+1.4
PLONS	Plons	0.93	32	eP	Pb	13 52 54.9	-2.4
	112nm,0.8s						
SENIN	Lac Senin	0.94	276	eP	Pb	13 52 57.5	0.0
	67nm,0.4s						
DAVOX	Davos	0.99	58	Pg	Pg	13 52 58.5	-0.3
DAVOX				Sg	Sg	13 53 13.4	+1.6
DAVOX	Davos	0.99	58	⇑iP	Pb	13 52 56.8	-1.5
	140nm,0.5s						
DAVOX	Davos	0.99	58	Pg	Pg	13 52 58.5	-0.3
DAVOX				Sg	Sg	13 53 13.4	+1.6
FUORN	Ofenpass	1.17	72	Pg	Pg	13 53 01.6	-0.6
MABI	Malga Bissina	1.31	99	Pg	Pg	13 53 04.1	-0.7
DAVA	Damuels	1.32	39	⇓iPg	Pg	13 53 04.8	-0.4
	comp=Z,5.2nm,0.1s						
DAVA				⇑eSg	Sg	13 53 23.0	+0.6
	comp=N,18nm,0.3s						
DAVA	Damuels	1.32	39	⇓iPg	Pg	13 53 04.8	-0.4
DAVA				eSg	Sg	13 53 23.0	+0.6
BBS	Basel-Blauen	1.44	327	Pn	Pg	13 53 08.8	+1.6
MAGA	Magasa	1.46	109	Pg	Pg	13 53 07.2	-0.5
MAGA				Sg	Sg	13 53 28.7	+2.0
	93nm,0.4s						
SLE	Schleitheim	1.51	356	⇑iP	Pn	13 52 58.5	-7.3
	156nm,0.5s						
LPG	La Plagne	1.54	241	ePg	Pg	13 53 08.4	-0.7
LPG				eSg	Sg	13 53 28.8	-0.3
	5.5nm,0.2s						
LPG	La Plagne	1.54	241	ePg	Pg	13 53 08.4	-0.7
LPG				eSg	Sg	13 53 28.8	-0.3
	2.8nm,0.2s						
LPL	La Plagne	1.54	242	ePg	Pg	13 53 09.2	0.0
LPL				eSg	Sg	13 53 28.9	-0.3
	11nm,0.4s						
LPL	La Plagne	1.54	242	ePg	Pg	13 53 09.2	0.0
LPL				eSg	Sg	13 53 28.9	-0.3
	5.4nm,0.4s						
LOMF	Lomont	1.66	312	Pn	Pg	13 53 12.0	+0.5
FELD	Feldberg im Sc	1.67	345	Sg	Sg	13 53 34.1	+0.6
CABF	La Chapelle	1.81	282	ePg	Pg	13 53 14.2	-0.2
CABF				eSg	Sg	13 53 37.9	0.0
	8.1nm,0.3s						
CABF	La Chapelle	1.81	282	ePn	Pn	13 53 09.9	-0.1
CABF				ePg	Pg	13 53 14.2	-0.2
CABF				eSg	Sg	13 53 37.9	0.0
CABF	La Chapelle	1.81	282	ePg	Pg	13 53 14.2	-0.2
CABF				eSg	Sg	13 53 37.9	0.0
	4.1nm,0.3s						
MOF	Molkenrain	1.90	327	Pn	Pn	13 53 14.2	+3.0
MOF				Sg	Sg	13 53 41.0	+0.3
HINF	Hinteralfeld	1.98	322	ePg	Pg	13 53 17.0	-0.7
HINF				eSn	Sn	13 53 37.7	+0.9
HINF				eSg	Sg	13 53 43.7	+0.3
	14nm,0.2s						
HINF	Hinteralfeld	1.98	322	ePn	Pn	13 53 12.7	+0.3
HINF				ePg	Pg	13 53 17.0	-0.7
HINF				eSn	Sn	13 53 37.7	+0.9
HINF				eSg	Sg	13 53 43.7	+0.3
HINF	Hinteralfeld	1.98	322	ePg	Pg	13 53 17.0	-0.7
HINF				eSn	Sn	13 53 37.7	+0.9
HINF				eSg	Sg	13 53 43.7	+0.3
	6.9nm,0.2s						
MBDF	Montbardon	2.03	221	ePg	Pg	13 53 16.7	-1.9
MBDF				eSn	Sn	13 53 37.7	-0.3
	5.0nm,0.3s						
MBDF	Montbardon	2.03	221	ePg	Pg	13 53 16.7	-1.9
MBDF				eSn	Sn	13 53 37.7	-0.3
	2.5nm,0.3s						
ECH	Echery	2.20	333	Pn	Pn	13 53 17.9	+2.5
CDF	Champ du Feu	2.34	337	eP	Pn	13 53 19.5	+2.2
CDF				eSn	Sn	13 53 45.3	-0.4
CDF				eSg	Sg	13 53 53.2	-1.8
	11nm,0.4s						
CDF	Champ du Feu	2.34	337	eP	Pn	13 53 19.5	+2.2
CDF				eSn	Sn	13 53 45.3	-0.4
CDF				eSg	Sg	13 53 53.2	-1.8
	5.5nm,0.4s						
HAU	Haudompre	2.35	319	ePg	Pg	13 53 23.4	-1.2
HAU				eSn	Sn	13 53 46.7	+0.9
HAU				eSg	Sg	13 53 55.7	+0.6
	14nm,0.3s						
HAU	Haudompre	2.35	319	ePg	Pg	13 53 23.4	-1.2
HAU				eSn	Sn	13 53 46.7	+0.9
HAU				eSg	Sg	13 53 55.7	+0.6
	7.1nm,0.3s						
ORIF	Oris-en-Rattie	2.37	236	ePn	Pn	13 53 17.1	-0.6
ORIF				eSg	Sg	13 53 54.5	-1.3
	5.1nm,0.4s						
ORIF	Oris-en-Rattie	2.37	236	ePn	Pn	13 53 17.1	-0.6
ORIF				eSg	Sg	13 53 54.5	-1.3
	2.5nm,0.4s						
THEF	They Montfort	2.68	318	Pn	Pn	13 53 25.2	+3.3
VIVF	Saint-Julien-l	3.13	245	eSg	Sg	13 54 18.8	-1.4
	2.6nm,0.3s						
VIVF	Saint-Julien-l	3.13	245	eSg	Sg	13 54 18.8	-1.4
	1.3nm,0.3s						
LMR	La Mourre	3.31	208	ePn	Pn	13 53 29.4	-1.1
LMR				eSn	Sn	13 54 07.0	-2.4
	2.7nm,0.3s						
LMR	La Mourre	3.31	208	ePn	Pn	13 53 29.4	-1.1
LMR				eSn	Sn	13 54 07.0	-2.4
	1.4nm,0.3s						
LOR	Lormes	3.45	289	ePn	Pn	13 53 32.6	+0.1
SSF	Saint Saulge	3.63	285	ePn	Pn	13 53 34.9	-0.2
SSF				ePg	Pg	13 53 47.9	-1.3
AVF	Avril sur Loir	3.70	280	eSg	Sg	13 54 36.8	-1.6
	1.0nm,0.2s						
AVF	Avril sur Loir	3.70	280	eSg	Sg	13 54 36.8	-1.6
	0.5nm,0.2s						

IDC 04 14:11:57.0±3.0**, 147S×12645E, h0**km**, mb3.3**/2**, mb1 3.5**/3**, mb1mx3.3**/16**, mbtmp3.3**/3**, ML3.2**/1**, Error ellipse: s-maj=385.3km s-min=26.1km az=65.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.91	158	P	Pn	14 16 30.3	-1.5
	0.1nm,0.3s,baz=334,slow=13,SNR=12						
ASAR	Alice Springs	23.21	162	P	P	14 17 06.0	+0.4
	0.3nm,0.5s,baz=345,slow=12,SNR=11						
MKAR	Makanchi Array	61.70	327	P	P	14 22 17.0	+0.1
	0.2nm,0.4s,baz=112,slow=8.5,SNR=5.3						

*GII **04** 14:25:54.0±1.0, 3393N×3578E, h0km, ML2.6/4*
*ISCJB **04** 14:25:57.6±0.4, 3379N±002×3574E±004, h10km, Error ellipse: s-maj=4.5km s-min=3.2km az=40.2*
*GRAL **04** 14:25:57.9±0.8, 3378N×3576E, h0km±93km, MD3.0*
*NSSC **04** 14:25:58.1, 3375N×3576E, h15km±3km*
ISC 04 14:25:58.0±0.4**, 3379N**±002×**3574E**±004**, h10**km**, n29, σ1.18**/47**, 11D, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BHL	Bhannes	0.14	330	i Pg	Pg	14 26 00.4	-0.7
RCY	Rachaya	0.31	167	i Pg	Pg	14 26 03.1	-1.1
BRBR	Barbar	0.41	154	⇑P	Pg	14 26 05.1	-1.0
BRBR				⇓S	Sg	14 26 11.8	+0.2
BRBR	Barbar	0.41	154	⇑iP	Pg	14 26 05.1	-1.0
MATL	Matirih	0.45	229	i Pg	Pg	14 26 05.8	-0.9
MATL	Matirih	0.45	229	i Pg	Pg	14 26 05.8	-1.0
QASN	Qassioun	0.52	119	⇑P	Pg	14 26 07.1	-1.0
QASN				⇑S	Sg	14 26 14.2	-0.6
QASN	Qassioun	0.52	119	⇑iP	Pg	14 26 07.1	-0.9
HWQ	Hawqa	0.52	20	i Pg	Pg	14 26 07.2	-0.9
KSDI	Kefar Szold	0.59	186	Pg	Pg	14 26 09.1	-0.4
KSDI				Sg	Sg	14 26 20.0	+2.7
MARH	Ras Al Marh	0.67	69	⇑P	Pg	14 26 10.6	-0.3
MARH				⇓S	Sg	14 26 20.9	+1.4
MARH	Ras Al Marh	0.67	69	⇑iP	Pg	14 26 10.6	-0.3
MARH				⇓iS	Sg	14 26 21.0	+1.4
TOTH	TOTAH	0.72	126	⇑P	Pg	14 26 11.5	-0.3
TOTH				⇓S	Sg	14 26 22.5	+1.4
TOTH	TOTAH	0.72	126	⇑iP	Pg	14 26 11.5	-0.3
TOTH				⇓iS	Sg	14 26 22.5	+1.3
MMC2	Mount Meron ar	0.80	200	Pg	Pg	14 26 13.1	-0.4
MMA0	Mount Meron ar	0.82	200	Pg	Pg	14 26 13.2	-0.5
MMA0B	Mount Meron ar	0.82	200	Pg	Pg	14 26 13.1	-0.6
HNTI	Hanita	0.84	214	Pg	Pg	14 26 13.6	-0.6
HNTI				Sg	Sg	14 26 28.3	+3.0
BIDA	Albida	1.32	21	⇓P	Pn	14 26 22.3	-0.1
BIDA				⇓S	Sb	14 26 41.6	+1.9
BIDA	Albida	1.32	21	⇓iP	Pn	14 26 22.3	-0.1
BIDA				⇓iS	Sb	14 26 41.6	+1.8
OFRI	‘Ofer	1.32	209	Pn	Pn	14 26 22.1	-0.3
OFRI				Sn	Sn	14 26 43.2	+3.1
SALA	Sala	1.36	142	⇑P	Pn	14 26 21.9	-1.0
SALA				⇑S	Sb	14 26 40.1	-0.8
SALA	Sala	1.36	142	⇑iP	Pn	14 26 21.9	-1.1
SALA				⇑iS	Sb	14 26 40.1	-0.8
MMLI	Mount Malkishu	1.37	191	Pn	Pn	14 26 22.3	-0.8
MMLI				Sn	Sn	14 26 44.3	+3.0
HMDT	Nahal Hemdat	1.54	187	Pn	Pn	14 26 25.6	+0.2
HMDT				Sn	Sn	14 26 49.0	+3.5
SLTI	Sal’it	1.65	201	Pn	Pn	14 26 26.2	-0.8
SLTI				Sn	Sn	14 26 51.8	+3.6
WRDH	Warideh	1.81	18	⇑P	Pn	14 26 29.5	+0.4
WRDH				⇓S	Sn	14 26 53.0	+0.8
WRDH	Warideh	1.81	18	⇑iP	Pn	14 26 29.5	+0.3
WRDH				⇓iS	Sn	14 26 53.0	+0.9
MKRJ	Makawir	2.23	182	Sn	Sn	14 27 06.6	+4.1

*IDC **04** 14:33:04.8±7.0, 2407N×9672E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/21, mbtmp3.9/5, MS3.3/1, Ms1 3.3/1, ms1mx2.6/21, Error ellipse: s-maj=127.0km s-min=60.9km az=153.0*
*ISCJB **04** 14:33:18.0±2.0, 248N±02×961E±01, h65km±32km, mb3.8/5, Error ellipse: s-maj=37.7km s-min=9.4km az=48.7*
ISC 04 14:33:19.7±1.5**, 249N**±02×**962E**±01**, h58**km±27km**, n13, σ0.90**/16**, mb3.8**/5**, MS3.1**/1**, 2D, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHRT	Chiangrai	6.02	146	⇓PN	Pn	14 34 44.0	-2.2
CHRT				PG	Pn	14 35 04.0	+18
CHRT				SG	Sn	14 36 22.0	+28
NANT	Nan	7.39	145	⇓P	Pn	14 35 06.0	+1.1
	325nm,1.0s						
JIRN	Jiri	9.38	289	eP	Pn	14 35 33.2	+1.0
	46nm,0.7s						
GUN	Gumba	9.71	290	eP	Pn	14 35 37.4	+0.7
	58nm,0.7s						
PKI	Pulchoki	10.04	288	eP	Pn	14 35 40.0	-1.1
	18nm,0.5s						
KKN	Kakani	10.20	289	eP	Pn	14 35 43.5	+0.2
	28nm,0.5s						
KKN				eS	Sn	14 37 36.0	-0.1
DMN	Daman	10.31	287	eP	Pn	14 35 44.2	-0.6
	37nm,0.8s						
DMN				eS	Sn	14 37 38.8	+0.1
GKN	Gorkha	10.80	289	eP	Pn	14 35 50.8	-0.7
SONM	Songino Array	24.25	17	P	P	14 38 29.9	-1.3
	1.3nm,0.8s,mb3.4,baz=194,slow=12,SNR=4.8						
SONM				LR	LR	14 49 10.9	
	comp=Z,66nm,19.6s,MS3.1,baz=226,slow=39						
MKAR	Makanchi Array	24.49	337	P	P	14 38 33.9	+0.6
	3.5nm,0.6s,mb4.0,baz=144,slow=9.8,SNR=30						
ZAL	Zalesovo	30.20	347	P	P	14 39 25.1	+0.5
	1.3nm,0.6s,mb3.9,baz=283,slow=4.0,SNR=2.7						
BVAR	Borovoye Array	34.13	332	P	P	14 40 00.3	+1.3
	1.4nm,0.5s,mb4.1,baz=116,slow=9.8,SNR=6.7						
GERES	GERESS Array B	66.86	315	P	P	14 44 04.6	-1.0
	0.3nm,0.4s,mb3.7,baz=87,slow=5.7,SNR=4.1						

*IDC **04** 14:34:13.8±3.5, 1.17N×9722E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, MS3.4/1, Ms1 3.4/1, ms1mx2.5/20, Error ellipse: s-maj=138.9km s-min=28.3km az=55.0*
*ISCJB **04** 14:34:16.1±1.4, 12N±02×97.1E±02, h33km, mb3.7/6, MS3.5/1, Error ellipse: s-maj=29.6km s-min=22.3km az=91.7*
*NEIC **04** 14:34:17.6±1.1, 1.12N×97.13E, h30km, mb3.9/1, Error ellipse: s-maj=24.1km s-min=18.0km az=46.0*
ISC 04 14:34:18.7±1.4**, 12N**±02×**971E**±02**, h35**km**, n8, σ0.52**/8**, mb3.7**/6**, MS3.5**/1**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.40	40	eP	Pn	14 35 36.4	-0.3
WRA	Warramunga Arr	42.07	122	P	P	14 42 07.0	0.0
	0.5nm,0.7s,mb3.3,baz=302,slow=9.2,SNR=5.5						
SONM	Songino Array	47.18	9	P	P	14 42 48.3	+0.6
	0.4nm,0.5s,mb3.6,baz=186,slow=8.7,SNR=4.4						
MKAR	Makanchi Array	47.26	346	P	P	14 42 49.0	+0.6
	0.6nm,0.5s,mb3.8,baz=154,slow=6.9,SNR=5.4						
MKAR	Makanchi Array	47.26	346	P	P	14 42 49.0	+0.6
ZAL	Zalesovo	53.58	351	P	P	14 43 36.5	+0.3
	1.2nm,0.4s,mb4.2,baz=282,slow=4.4,SNR=3.4						
BVAR	Borovoye Array	56.27	341	P	P	14 43 55.4	-0.2
	0.2nm,0.3s,mb3.6,baz=138,slow=10.0,SNR=3.7						
BVAR				LR	LR	15 09 48.4	
	comp=Z,37nm,20.3s,MS3.5,baz=210,slow=38						
BRVK	Borovoye	56.33	341	eP	P	14 43 55.0	-1.0
	0.7nm,0.6s,mb3.9						

*IDC **04** 14:34:33.9±1.1, 092N×9684E, h0km, mb4.2/12, mb1 4.3/12, mb1mx4.1/22, mbtmp4.2/12, Error ellipse: s-maj=57.1km s-min=14.6km az=53.0*
*ISCJB **04** 14:34:37.1±8.0, 1.1N±0.1×970E±02, h31km±53km, mb4.3/22, MS4.2/2, Error ellipse: s-maj=36.9km s-min=10.2km az=116.3*
*MOS **04** 14:34:37.8±0.8, 1.12N×9700E, h33km, mb4.7/6, Error ellipse: s-maj=24.5km s-min=11.0km az=106.0*
*BJI **04** 14:34:37.4, 081N×9739E, h44km, mB5.1, mb4.8, Ms4.5, Msz4.2*
*NEIC **04** 14:34:38.9±0.4, 107N×9701E, h30km, mb4.5/8, Error ellipse: s-maj=11.3km s-min=6.4km az=46.0*
ISC 04 14:34:40.6±2.9**, 11N**±01×**971E**±02**, h41**km±23km**, n48, σ0.80**/47**, mb4.3**/22**, MS4.2**/2**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	Ipoh	5.17	50	P	Pn	14 35 55.1	-0.3
KULM	Kulim	5.47	41	eP	Pn	14 35 58.2	-1.3
KGM	Kluang	6.31	82	P	Pn	14 36 11.8	+0.7
KSM	Kuching	13.24	88	P	Pn	14 37 47.2	+1.2
KKM	Kota Kinabalu	19.72	75	P	Pn	14 39 07.7	-0.7
KKM	Kota Kinabalu	19.72	75	eP	Pn	14 39 06.4	-2.0
TSM	Tawau	21.02	81	P	P	14 39 20.9	+0.1
KMI	Kunming	24.48	12	P	P	14 39 57.1	+1.3
KMI				AP		14 40 03.7	
KMI				PP		14 40 34.0	
KMI				S	S	14 44 21.8	+8.5
KMI				XS	sS	14 44 32.6	+0.9
KMI				AMB	AMB		
	comp=Z,33nm,1.4s,mb4.6						
KMI				AMB	AMB		
	comp=Z,145nm,3.3s						
KMI				LR	LR		
	comp=N,567nm,13.1s,MS4.4						
KMI				LR	LR		
	comp=E,339nm,10.3s,MS4.4						
KMI				LR	LR		
	comp=Z,538nm,14.1s,MS4.2						
FITZ	Fitzroy Crossi	34.00	126	eP	P	14 41 19.3	-1.1
	comp=Z,4.8nm,0.9s,mb4.4						
FITZ	Fitzroy Crossi	34.00	126	P	P	14 41 20.0	-0.4
	comp=Z,1.3nm,0.7s,mb4.0,baz=242,slow=14,SNR=3.8						
XAN	Xi’an	34.57	17	P	P	14 41 24.5	-0.9
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
GTA	Gaotai	38.18	3	eP	P	14 41 56.6	+0.4
GTA				AP	pP	14 42 06.5	-1.0
GTA				XP	sP	14 42 10.4	-2.0
GTA				S	S	14 47 38.9	-7.9
GTA				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
GTA				AMB	AMB		
	comp=Z,130nm,6.1s						
GTA				LR	LR		
	comp=N,153nm,16.3s,MS4.1						
GTA				LR	LR		
	comp=E,153nm,13.3s,MS4.1						
GTA				LR	LR		
	comp=Z,181nm,15.6s,MS4.0						
WRA	Warramunga Arr	42.11	122	P	P	14 42 28.7	0.0
	comp=Z,3.3nm,0.7s,mb4.1,baz=300,slow=9.1,SNR=21						
WRAB	Tennant Creek	42.12	122	eP	P	14 42 29.1	+0.3
WB2	Warramunga Arr	42.12	122	eP	P	14 42 28.7	-0.1
BJT	Baijiatuau	42.43	22	eP	P	14 42 32.6	+1.3
BJT				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BJT	Baijiatuau	42.43	22	eP	P	14 42 32.6	+1.2
	comp=Z,9.9nm,0.7s,mb4.5						
ASAR	Alice Springs	43.46	127	P	P	14 42 40.0	+0.3
	comp=Z,2.4nm,0.8s,mb4.0,baz=300,slow=7.6,SNR=14						
SONM	Songino Array	47.22	9	P	P	14 43 10.1	+0.7
	comp=Z,2.1nm,0.5s,mb4.3,baz=189,slow=9.3,SNR=18						
MKAR	Makanchi Array	47.28	346	P	P	14 43 10.7	+0.8
	comp=Z,2.9nm,0.5s,mb4.5,baz=160,slow=8.5,SNR=19						
ULN	Ulaanbaatar	47.35	9	P	P	14 43 10.0	-0.5
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ULN	Ulaanbaatar	47.35	9	P	P	14 43 10.0	-0.5
	comp=Z,3.0nm,0.8s,mb4.3						
TLY	Talaya	50.68	5	eP	P	14 43 36.9	+1.0
TLY				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
TLY				pmax	pmax		
	comp=Z,103nm,16.0s						
HIA	Hailar	51.75	19	eP	P	14 43 44.0	0.0
HIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HIA	Hailar	51.75	19	eP	P	14 43 44.0	0.0
	comp=Z,6.7nm,0.8s,mb4.6						
KURK	Kurchatov	51.83	345	eP	P	14 43 45.2	+0.7
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
KURK	Kurchatov	51.83	345	eP	P	14 43 45.1	+0.6
	comp=Z,7.6nm,1.0s,mb4.6						
STKA	Stephens Creek	53.41	132	eP	P	14 43 56.7	+0.5
	comp=Z,3.1nm,0.6s,mb4.4						
STKA	Stephens Creek	53.41	132	P	P	14 43 55.8	-0.5
	comp=Z,3.7nm,0.8s,mb4.4,baz=337,slow=3.3,SNR=7.5						
ZAL	Zalesovo	53.60	351	P	P	14 43 58.4	+0.7
	comp=Z,3.9nm,0.6s,mb4.5,baz=292,slow=5.7,SNR=20						
BVAR	Borovoye Array	56.27	341	P	P	14 44 16.7	-0.2
	comp=Z,3.2nm,0.7s,mb4.5,baz=134,slow=8.5,SNR=16						
BRVK	Borovoye	56.34	341	eP	P	14 44 17.3	-0.1
KLR	Kul’dur	56.38	27	eP	P	14 44 15.0	-2.7
ZRNK	Zerenda	56.67	340	eP	P	14 44 19.1	-0.7
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ZRNK	Zerenda	56.67	340	eP	P	14 44 19.1	-0.7
	comp=Z,1.3nm,0.6s,mb4.1						
CHKZ	Chkalovo	56.75	342	eP	P	14 44 20.5	+0.1
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
CHKZ	Chkalovo	56.75	342	eP	P	14 44 20.5	+0.2
	comp=Z,6.4nm,0.8s,mb4.7						
AKTK	Aktyubinsk	59.23	332	P	P	14 44 37.3	-0.4
AKTO	Aktyubinsk	59.23	332	P	P	14 44 37.3	-0.4
	comp=Z,1.7nm,0.7s,mb4.2,baz=131,slow=6.2,SNR=7.0						
SVE	Sverdlovsk	62.70	338	eP	P	14 45 09.5	+8.2
FINES	FINESS Array B	80.00	333	P	P	14 46 45.5	-0.1
	comp=Z,1.4nm,0.9s,mb3.9,baz=101,slow=9.9,SNR=3.8						
GERES	GERESS Array B	84.78	319	P	P	14 47 10.7	+0.1
	comp=Z,0.3nm,0.3s,mb3.9,baz=79,slow=6.9,SNR=4.9						
NB2	NORSAR Subarra	87.00	331	P	P	14 47 21.5	-0.1
	comp=Z,0.7nm,0.7s,mb4.0,baz=97,slow=4.8						
NOA	NORSAR Array B	87.00	331	P	P	14 47 19.9	-1.7
	comp=Z,1.1nm,0.8s,mb4.1,baz=94,slow=5.0,SNR=4.5						
NOA	NORSAR Array B	87.00	331	P	P	14 47 19.9	-1.7
JCT	Junction City	144.70	26	ePKIKP	PKPdf	14 54 13.0	+0.1
CPUP	Villa Florida	144.86	222	PKP	PKPdf	14 54 13.6	+0.5
	comp=Z,0.6nm,0.3s,baz=120,slow=3.5,SNR=4.2						
LRAL	Lakeview Retre	145.81	6	eP	PKPdf	14 54 15.6	+0.8

*NEIC **04** 15:03:03.9, 1705N×9589W, h55km, MD3.6(MEX), After MEX.*
MEX 04 15:03:03.7±0.5**, 1705N×9589W, h58**km±11km**, MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OXX	Oaxaca	0.80	273	i P	Pn	15 03 18.0	-1.1
OXX				i S	Sn	15 03 29.0	-1.4
VHO	Vista Hermosa	0.81	272	i P	Pn	15 03 17.9	-1.4
VHO				i S	Sn	15 03 28.9	-1.7
CMIG	Matias Romero	0.96	87	eP	Pn	15 03 19.8	-1.4
CMIG				i S	Sn	15 03 32.2	-1.8
HUIG	Huatulco	1.29	190	i P	Pn	15 03 24.2	-1.3
HUIG				i S	Sn	15 03 39.7	-2.1
UTMO	Huajuapan	1.99	293	eP	Pn	15 03 34.7	-0.2
UTMO				i S	Sn	15 03 56.7	-2.1

CASC 04 15:31:47.5±2.6**, 1376N×9121W, h14**km±13km**, MD3.6, 4C-3D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IXG	Ixpaco	0.84	61	⇑eP	Pg	15 32 03.7	-0.1
IXG				eS	Sg	15 32 14.8	0.0
TP2	Tecpan 2	1.03	10	⇑eP	Pb	15 32 06.7	-0.4
TP2				eS	Sb	15 32 21.6	+1.1
RBDL	Robledal	1.52	76	⇓eP	x	15 32 16.0	
RBDL				eS	x	15 32 38.1	
RTR	El Retiro	1.52	85	⇓eP	x	15 32 16.0	
RTR				eS	x	15 32 38.9	
SBLS	San Blas	1.54	87	⇑eP	x	15 32 15.7	
SBLS				eS	x	15 32 36.4	
SNJE	San Jose	1.56	86	eP	x	15 32 16.2	
SNJE				eS	x	15 32 36.0	
BOQS	Boqueron	1.88	91	⇑eP	x	15 32 21.0	
BOQS				eS	x	15 32 45.6	
LFRS	El Faro	2.09	93	⇓eP	x	15 32 23.9	
LFRS				eS	x	15 32 50.0	

*NEIC **04** 15:40:54.5, 3292S×7165W, h36km, ML2.8(GUC), After GUC.*
GUC 04 15:40:54.5±0.8**, 3292S×7165W, h36**km±3km**, MD3.6, ML2.8, 6C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROCH	El Roble	0.54	96	⇑iP	Pn	15 41 06.3	+0.6
ROCH				i S	Sn	15 41 14.2	+0.7
LCCH	Las Cruces	0.56	173	⇓iP	Pn	15 41 05.8	-0.1
LCCH				i S	Sn	15 41 14.0	0.0
PEL	Peldehue	0.84	106	⇑iP	Pn	15 41 10.5	+0.7
PEL				i S	Sn	15 41 22.5	+1.6
PEL				AML	AML	15 41 24.5	
	comp=N,2µm,0.3s						
PEL	Peldehue	0.84	106	⇑iP	Pn	15 41 10.5	+0.7
PEL				i S	Sn	15 41 22.5	+1.6
RCDM	Rinconada Maip	0.91	129	⇓iP	Pn	15 41 11.1	+0.4
RCDM				i S	Sn	15 41 23.3	+0.8
RCDM				AML	AML	15 41 23.8	
	comp=N,737nm,0.1s						
JACH	Jahuel	0.92	75	⇑iP	Pn	15 41 11.4	+0.4
JACH				i S	Sn	15 41 24.1	+1.2
TACH	Talagante	0.94	141	⇓iP	Pn	15 41 11.7	+0.5
SAN	Santiago	0.98	123	eP	Pn	15 41 12.1	+0.3
SAN				i S	Sn	15 41 26.0	+1.5
SAN				AML	AML	15 41 27.7	
	comp=E,453nm,0.3s						
SAN	Santiago	0.98	123	eP	Pn	15 41 12.1	+0.3
SAN				i S	Sn	15 41 26.0	+1.5
CHNG	Los Chungos	1.04	7	⇑iP	Pn	15 41 13.6	+1.0
CHNG				i S	Sn	15 41 26.8	+0.8
CHNG				AML	AML	15 41 29.9	
	comp=N,57nm,0.2s						
CLCH	Cerro Calan	1.05	117	eP	Pn	15 41 13.7	+1.0
CLCH				i S	Sn	15 41 28.1	+2.0
CLCH				AML	AML	15 41 31.8	
	comp=N,478nm,0.5s						
CLCH				AML	AML	15 41 32.5	
	comp=N,613nm,0.4s						
LNV	Longovilo	1.05	169	⇓iP	Pn	15 41 12.5	-0.2
LNV				i S	Sn	15 41 26.2	0.0
ANTU	Antumapu	1.07	127	AML	AML	15 41 30.5	
	comp=N,355nm,0.6s						
PCH	Pirque	1.18	127	⇓iP	Pn	15 41 15.8	+1.3
PCH				i S	Sn	15 41 32.0	+2.6
FCH	Farellones	1.21	110	⇓iP	Pn	15 41 16.2	+1.2
FCH				i S	Sn	15 41 32.7	+2.6
FCH				AML	AML	15 41 33.9	
	comp=N,466nm,0.1s						
CHCH	Chadas Angostu	1.31	141	⇑iP	Pn	15 41 17.5	+1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHCH				eS	Sn	15 41 34.3	+1.7
CACH	**El Canelo**	**1.48**	**144**	⇓iP	Pn	15 41 20.4	+1.8
CACH				i S	Sn	15 41 40.7	+4.0
LMEL	**Las Melosas**	**1.52**	**128**	eP	Pn	15 41 20.9	+1.6
LMEL				i S	Sn	15 41 41.2	+3.4
LMEL				AML	AML	15 41 44.2	
	comp=N,472nm,0.2s						
LMEL	**Las Melosas**	**1.52**	**128**	eP	Pn	15 41 20.9	+1.6
LMEL				i S	Sn	15 41 41.2	+3.4
CICH	**Cipreses**	**1.73**	**144**	eP	Pn	15 41 23.6	+1.6
SFDO	**San Fernando**	**1.77**	**163**	eP	Pn	15 41 24.1	+1.5
SFDO				i S	Sn	15 41 46.4	+2.6

IDC 04 15:45:45.6±5.1**, 1957S**×**17588W, h0**km**, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.6**/13**, mbtmp3.7**/3**, Error ellipse: s-maj=170.2km s-min=98.5km az=156.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.99**	**243**	P	P	15 53 21.8	-0.1
	1.1nm,0.7s,baz=103,slow=14,SNR=3.0						
ASAR	**Alice Springs**	**46.68**	**256**	P	P	15 54 16.7	+0.7
	0.7nm,0.5s,baz=96,slow=7.8,SNR=23						
ASAR				PcP	PcP	15 55 50.0	+0.3
	0.3nm,0.9s,baz=100,slow=4.1,SNR=4.1						
WRA	**Warramunga Arr**	**46.71**	**261**	P	P	15 54 16.6	+0.3
	0.2nm,0.3s,baz=97,slow=7.5,SNR=8.7						

IDC 04 16:00:19.2±1.9**, 1834S**×**17781W, h590**km±40km**, mb3.3**/4**, mb1 3.4**/5**, mb1mx3.1**/15**, mbtmp4.4**/5**, Error ellipse: s-maj=87.5km s-min=36.0km az=157.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.28**	**54**	P	P	16 02 10.6	-0.6
	2.5nm,0.3s,baz=241,slow=19,SNR=8.4						
CTA	**Charters Tower**	**33.94**	**261**	P	P	16 06 15.4	+0.7
	3.3nm,0.7s,baz=87,slow=14,SNR=3.8						
STKA	**Stephens Creek**	**38.93**	**242**	P	P	16 06 55.5	0.0
	0.9nm,0.3s,baz=75,slow=8.4,SNR=14						
WB2	**Warramunga Arr**	**45.11**	**260**	eP	P	16 07 44.2	+0.3
WRA	**Warramunga Arr**	**45.12**	**260**	P	P	16 07 44.3	+0.3
	2.7nm,0.4s,baz=98,slow=7.0,SNR=75						
ASAR	**Alice Springs**	**45.23**	**255**	P	P	16 07 45.2	+0.4
	4.5nm,0.6s,baz=94,slow=7.3,SNR=128						
ASAR				PcP	PcP	16 09 12.7	+0.6
	0.5nm,0.7s,baz=95,slow=3.8,SNR=4.5						
ASAR				S	S	16 13 42.5	-0.2
	0.5nm,0.7s,baz=84,slow=16,SNR=4.2						
ASPA	**Alice Springs**	**45.23**	**255**	eP	P	16 07 45.1	+0.3
KAKA	**Kakadu**	**48.15**	**269**	eP	P	16 08 07.4	+0.6
	3.6nm,0.4s						

*NEIC **04** 16:08:24.0, 3078S×12153E, h7km, ML3.2(AUST), After AUST.*
NEIC Felt at Kalgoorlie.
AUST 04 16:08:24.3, 3078S×12153E, h6km, ML3.2, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBL	**Kambalda**	**0.66**	**153**	eP	Pg	16 08 36.0	-1.1
KMBL				eS	Sg	16 08 45.2	-0.5
	9µm,0.7s						
KLBR	**Kellerberrin**	**3.33**	**255**	eP	Pn	16 09 15.4	-1.5
KLBR				eS	Sn	16 10 03.1	+6.3
	109nm,0.4s						
BLDU	**Ballidu**	**4.15**	**271**	eP	Pn	16 09 25.8	-2.4
BLDU				eS	Sn	16 10 30.3	+13
	19nm,0.3s						
NWAO	**Narrogin (SRO)**	**4.23**	**239**	eP	Pn	16 09 41.3	+12
NWAO				eS	Sn	16 10 26.6	+7.6
	182nm,0.3s						
MUN	**Mundaring**	**4.70**	**254**	eP	Pn	16 09 33.7	-2.0
MUN				eS	Sn	16 10 24.6	-6.0
MEEK	**Meekatharra**	**4.85**	**328**	eP	Pn	16 09 35.8	-2.0
MEEK				eS	Sn	16 10 34.6	+0.3
	9.7nm,0.2s						
MORW	**Morawa**	**5.06**	**288**	eP	Pn	16 09 38.5	-2.1
MORW				eS	Sn	16 10 33.8	-5.6
	17nm,0.2s						
MORW	**Morawa**	**5.06**	**288**	eP	Pn	16 09 38.5	-2.1
	17nm,0.2s						
MORW				eS	Sn	16 10 33.8	-5.6
RKGY	**Rocky Gully**	**5.41**	**224**	eP	Pn	16 09 47.4	+1.9
FORT	**Forrest**	**5.62**	**92**	eP	Pn	16 09 49.5	+1.1
	5.6nm,0.6s						
FORT				eS	Sn	16 10 49.3	-3.9
	26nm,0.6s						
MBWA	**Marble Bar**	**9.71**	**350**	eP	Pn	16 10 40.6	-3.9
MBWA				eS	Sn	16 12 22.6	-11
ASPA	**Alice Springs**	**13.09**	**60**	eP	Pn	16 11 25.5	-5.2
ASPA				eS	Sn	16 13 44.6	-12
AS31	**Alice Springs**	**13.09**	**60**	eP	Pn	16 11 25.5	-5.2
AS31				eS	Sn	16 13 44.6	-12
FITZ	**Fitzroy Crossi**	**13.16**	**17**	eP	Pn	16 11 28.3	-3.4
FITZ				eS	Sn	16 13 43.2	-15
	3.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**13.16**	**17**	eP	Pn	16 11 28.3	-3.4
	3.0nm,0.5s						
FITZ				eS	Sn	16 13 43.2	-15
WB2	**Warramunga Arr**	**15.82**	**50**	eP	Pn	16 12 01.6	-6.0
WB2				eS	Sn	16 14 47.6	-16

*ISCJB **04** 16:08:58.8±0.2, 5150N±001×1609E±002, h0km, mb3.7/6, Error ellipse: s-maj=2.1km s-min=1.5km az=30.0*
*NAO **04** 16:08:58.8, 5150N×16.10E, h10km, mb2.5*
*MOS **04** 16:08:59.3±1.1, 5164N×1602E, h10km, mb4.2/1, Error ellipse: s-maj=5.8km s-min=3.5km az=75.8*
*BGR **04** 16:09:00.6±0.5, 5148N×1623E, h1km, ML3.9/13, Error ellipse: s-maj=5.6km s-min=5.6km az=59.0*
*IDC **04** 16:09:01.8±0.5, 5148N×1599E, h0km, mb3.7/6, mb1 3.8/14, mb1mx3.7/26, mbtmp3.7/14, ML3.6/8, Error ellipse: s-maj=9.3km s-min=5.5km az=106.0*
*IPEC **04** 16:09:01.0±0.3, 5152N×16.14E, h0km±1km, ML3.4/3, Error ellipse: s-maj=2.1km s-min=1.0km az=27.0*
*NEIC **04** 16:09:01.0±0.2, 5158N×1606E, h5km, mb4.0/1, ML3.6(BRA), ML3.8(STR), ML3.9(FUR), ML3.9(SZGRF), Error ellipse: s-maj=3.4km s-min=2.8km az=187.0*
*PRU **04** 16:09:02.4, 5149N×1607E, h0km*
*WAR **04** 16:09:02.7, 5150N×1609E, ML3.3, Mining Induced*
*LDG **04** 16:09:02.5±0.1, 5148N×16.16E, h1km, Md4.0/3, Ml4.0/21, Error ellipse: s-maj=3.4km s-min=2.5km az=140.0, Suspected Mining induced.*
*CSEM **04** 16:09:02.8±0.1, 5147N×16.10E, h1km, ML4.1/26, Ms3.6, Error ellipse: s-maj=1.6km s-min=0.9km az=22.0*
*VIE **04** 16:09:04.2±0.8, 5133N×1601E, h0km, mb3.2/8, ML3.3/10, Ms3.6/1, Error ellipse: s-maj=6.0km s-min=4.8km az=176.0 74 km WNW of Breslau Suspected Mining induced.*
*STR **04** 16:09:08.7±1.6, 5197N×16.10E, h17km±1km, Ml4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 04 16:09:00.4±0.2**, 5156N**±001×**1610E**±002**, h0**km**, n184, σ1s14**/296**, mb3.7**/6**, 19C-17D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**170**	i Pg	**Pg**	**16 09 15.0**	**+0.7**
KSP				eSg	**Sg**	**16 09 24.1**	**+0.4**
KSP				eL		16 09 28.8	
KSP	**Ksiaz**	**0.73**	**170**	⇓iPg	**Pg**	**16 09 15.0**	**+0.7**
KSP				eSg	**Sg**	**16 09 24.1**	**+0.4**
UPC	**Upice**	**1.05**	**183**	ePG	**Pg**	**16 09 21.0**	**+0.4**
DPC	**Dobruska-Polom**	**1.22**	**173**	ePG	**Pg**	**16 09 23.8**	**+0.1**
DPC				eSG	**Sg**	**16 09 38.5**	**-1.0**
	472nm,0.7s						
DPC	**Dobruska-Polom**	**1.22**	**173**	eP	**Pg**	**16 09 23.8**	**+0.1**
DPC				e		16 09 38.5	
DPC				smax			
	comp=N,472nm,0.7s						
PVCC	**Panska Ves**	**1.41**	**224**	ePG	**Pg**	**16 09 27.7**	**+0.2**
PVCC				eSG	**Sg**	**16 09 45.3**	**-0.5**
	comp=N,372nm,0.3s						
PVCC	**Panska Ves**	**1.41**	**224**	eP	**Pg**	**16 09 27.7**	**+0.2**
PVCC				e		16 09 45.3	
PVCC				smax			
	comp=N,372nm,0.3s						
PVCC	**Panska Ves**	**1.41**	**224**	ePg	**Pg**	**16 09 27.7**	**+0.2**
PVCC				eSg	**Sg**	**16 09 45.5**	**-0.3**
BRG	**Berggiesshubel**	**1.52**	**244**	ePn	**Pn**	**16 09 28.7**	**-0.1**
BRG				eSg	**Sg**	**16 09 50.4**	**+1.2**
BRG	**Berggiesshubel**	**1.52**	**244**	PN	**Pn**	**16 09 28.6**	**-0.2**
BRG				PG	**Pg**	**16 09 30.3**	**+0.8**
BRG				SG	**Sg**	**16 09 50.2**	**+1.1**
	comp=N,348nm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**244**	P	**Pn**	**16 09 28.6**	**-0.2**
BRG						16 09 50.2	
BRG				smax			
	comp=N,348nm,0.4s						
RUE	**Ruedersdorf**	**1.70**	**304**	ePn	**Pn**	**16 09 31.8**	**+0.4**
RUE				eSg	**Sg**	**16 09 58.6**	**+3.4**
RUE	**Ruedersdorf**	**1.70**	**304**	ePn	**Pn**	**16 09 31.8**	**+0.4**
RUE				eSg	**Sg**	**16 09 58.6**	**+3.4**
PRA	**Prague**	**1.82**	**216**	PG	**Pg**	**16 09 33.0**	**-2.4**
PRA				SG	**Sg**	**16 09 59.0**	**0.0**
FBE	**Freiberg**	**1.84**	**251**	ePn	**Pn**	**16 09 33.3**	**+0.1**
FBE				eSg	**Sg**	**16 09 59.7**	**+0.2**
CLL	**Collm**	**1.95**	**264**	ePn	**Pn**	**16 09 35.0**	**+0.2**
CLL				eSg	**Sg**	**16 10 04.4**	**+1.2**
CLL	**Collm**	**1.95**	**264**	i Pn	**Pn**	**16 09 34.9**	**+0.1**
CLL				ePg	**Pg**	**16 09 38.0**	**+0.2**
CLL				i x	x	16 09 41.0	
CLL				i x	x	16 09 42.1	
CLL				i Sg	**Sg**	**16 10 04.1**	**+0.9**
	comp=Z,245nm,0.7s						
CLL	**Collm**	**1.95**	**264**	i Pn	**Pn**	**16 09 34.9**	**+0.1**
CLL				ePg	**Pg**	**16 09 38.0**	**+0.2**
CLL				i Sg	**Sg**	**16 10 04.1**	**+0.9**
RAC	**Raciborz**	**1.99**	**137**	ePg	**Pg**	**16 09 38.0**	**-0.5**
RAC				eSg	**Sg**	**16 10 03.8**	**-0.4**
MORC	**Moravsky Berou**	**2.01**	**152**	⇓iP	**Pn**	**16 09 35.4**	**-0.1**
MORC	**Moravsky Berou**	**2.01**	**152**	⇓P	**Pn**	**16 09 35.4**	**-0.1**
MORC	**Moravsky Berou**	**2.01**	**152**	ePn	**Pn**	**16 09 35.4**	**-0.1**
MORC				eSg	**Sg**	**16 10 02.2**	**-2.7**
	comp=Z,230nm,0.5s						
MORC				S	**Sn**	**16 10 05.0**	**+3.7**
OKC	**Ostrava-Krasne**	**2.16**	**142**	ePN	**Pn**	**16 09 37.3**	**-0.3**
OKC				ePG	**Pg**	**16 09 41.4**	**-0.4**
OKC				eSG	**Sg**	**16 10 08.0**	**-1.8**
VRAC	**Vranov**	**2.27**	**172**	Pn	**Pn**	**16 09 39.8**	**+0.6**
	comp=Z,9.3nm,0.3s,baz=341,slow=13,SNR=30						
VRAC				Lg		16 10 10.7	
	comp=Z,28nm,0.3s,baz=73,slow=21,SNR=5.5						
VRAC	**Vranov**	**2.27**	**172**	⇓iP	**Pn**	**16 09 39.7**	**+0.5**
VRAC	**Vranov**	**2.27**	**172**	S	**Sn**	**16 10 11.2**	**+3.3**
VRAC	**Vranov**	**2.27**	**172**	⇓P	**Pn**	**16 09 39.7**	**+0.5**
VRAC	**Vranov**	**2.27**	**172**	ePn	**Pn**	**16 09 39.3**	**+0.1**
VRAC				eSg	**Sg**	**16 10 10.9**	**-2.6**
	comp=Z,184nm,0.6s						
TREC	**Trest**	**2.30**	**190**	ePG	**Pg**	**16 09 43.2**	**-1.3**
KRUC	**Moravsky**	**2.50**	**176**	ePn	**Pn**	**16 09 42.5**	**+0.1**
KRUC				eSg	**Sg**	**16 10 18.2**	**-2.7**
	comp=Z,178nm,0.6s						
TANN	**Tannenbergstha**	**2.57**	**245**	ePn	**Pn**	**16 09 43.9**	**+0.7**
TANN				eSg	**Sg**	**16 10 23.1**	**+0.3**
WERD	**Werda**	**2.64**	**247**	ePn	**Pn**	**16 09 44.8**	**+0.6**
WERD				eSg	**Sg**	**16 10 25.7**	**+0.5**
NKC	**Novy Kostel**	**2.66**	**242**	ePN	**Pn**	**16 09 45.2**	**+0.6**
NKC				ePG	**Pg**	**16 09 51.7**	**+0.2**
NKC				eSG	**Sg**	**16 10 26.7**	**+0.7**
	comp=Z,344nm,0.3s						
OJC	**Ojcow**	**2.70**	**118**	ePn	**Pn**	**16 09 43.6**	**-1.4**
OJC				i Pg	**Pg**	**16 09 52.4**	**+0.2**
OJC				i Sg	**Sg**	**16 10 28.3**	**+1.2**
KHC	**Kasperske Hory**	**2.92**	**215**	ePN	**Pn**	**16 09 48.2**	**+0.2**
KHC				ePG	**Pg**	**16 09 54.6**	**-1.7**
KHC				eSN	**Sn**	**16 10 23.0**	**-0.8**
KHC				eSG	**Sg**	**16 10 32.3**	**-1.8**
	comp=Z,121nm,0.5s						
MOX	**Moxa**	**2.97**	**254**	ePn	**Pn**	**16 09 49.0**	**+0.3**
MOX				eSg	**Sg**	**16 10 37.5**	**+1.7**
MOX	**Moxa**	**2.97**	**254**	ePN	**Pn**	**16 09 49.1**	**+0.3**
MOX				ePG	**Pg**	**16 09 57.5**	**+0.2**
MOX				eSG	**Sg**	**16 10 37.6**	**+1.8**
MOX	**Moxa**	**2.97**	**254**	ePn	**Pn**	**16 09 49.1**	**+0.3**
MOX				ePg	**Pg**	**16 09 57.5**	**+0.2**
MOX				eSg	**Sg**	**16 10 37.6**	**+1.8**
MANZ	**Manzenberg**	**2.98**	**240**	ePn	**Pn**	**16 09 50.0**	**+1.0**
MANZ				eSg	**Sg**	**16 10 38.3**	**+2.1**
ROTZ	**Rotzenmuhle**	**3.06**	**236**	ePn	**Pn**	**16 09 50.7**	**+0.7**
GEC2	**GERESS Array S**	**3.12**	**210**	ePn	**Pn**	**16 09 51.1**	**+0.3**
GEC2	**GERESS Array S**	**3.12**	**210**	ePn	**Pn**	**16 09 51.1**	**+0.3**
GERES	**GERESS Array B**	**3.12**	**210**	Pn	**Pn**	**16 09 51.3**	**+0.5**
	comp=Z,10nm,0.3s,baz=30,slow=12,SNR=165						
GERES				Pg	**Pg**	**16 09 57.7**	**-2.5**
	comp=Z,20nm,0.3s,baz=28,slow=13,SNR=47						
GERES				Sn	**Sn**	**16 10 26.3**	**-2.5**
	comp=Z,11nm,0.3s,baz=13,slow=25,SNR=6.7						
GERES				Lg		16 10 37.8	
	comp=Z,21nm,0.3s,baz=41,slow=27,SNR=5.3						
GERES	**GERESS Array B**	**3.12**	**210**	P	**Pn**	**16 09 51.3**	**+0.5**
GERES						16 10 26.3	
GERES	**GERESS Array B**	**3.12**	**210**	Pg	**Pg**	**16 09 57.7**	**-2.5**
LIKS	**Likavka**	**3.17**	**141**	eSG	**Sg**	**16 10 43.1**	**+1.0**
SMOL	**Smolenice**	**3.17**	**164**	ePN	**Pn**	**16 09 53.6**	**+2.1**
SMOL				ePG	**Pg**	**16 10 00.6**	**-0.5**
SMOL				eSG	**Sg**	**16 10 43.2**	**+1.1**
WET	**Wettzell**	**3.18**	**222**	ePn	**Pn**	**16 09 51.8**	**+0.2**
WET	**Wettzell**	**3.18**	**222**	ePn	**Pn**	**16 09 51.8**	**+0.2**
ZST	**Bratislava**	**3.43**	**169**	ePN	**Pn**	**16 09 56.6**	**+1.6**
ZST				ePG	**Pg**	**16 10 04.2**	**-1.9**
ZST				eSG	**Sg**	**16 10 48.1**	**-2.4**
ZST	**Bratislava**	**3.43**	**169**	eP	**Pn**	**16 09 56.6**	**+1.6**
ZST				pmax	pmax		
	comp=N,62nm,0.6s						
NIE	**Niedzica**	**3.44**	**127**	ePn	**Pn**	**16 09 56.0**	**+0.8**
NIE				ePg	**Pg**	**16 10 05.9**	**-0.4**
NIE				eSg	**Sg**	**16 10 51.1**	**+0.2**
VYHS	**Vyhne**	**3.54**	**149**	ePN	**Pn**	**16 09 56.6**	**0.0**
VYHS				ePG	**Pg**	**16 10 07.2**	**-1.0**
VYHS	**Vyhne**	**3.54**	**149**	ePn	**Pn**	**16 09 56.6**	**0.0**
VYHS				ePg	**Pg**	**16 10 07.3**	**-0.9**
CLZ	**Clausthal**	**3.57**	**277**	ePn	**Pn**	**16 09 58.7**	**+1.6**
CLZ				eSg	**Sg**	**16 10 57.6**	**+2.4**
CLZ	**Clausthal**	**3.57**	**277**	ePn	**Pn**	**16 09 58.7**	**+1.6**
CLZ				eSg	**Sg**	**16 10 57.6**	**+2.4**
GRA1	**Grafenberg Arr**	**3.62**	**241**	ePn	**Pn**	**16 09 56.3**	**-1.4**
GRA1				eSg	**Sg**	**16 10 57.3**	**+0.5**
GRA1	**Grafenberg Arr**	**3.62**	**241**	Pn	**Pn**	**16 09 56.3**	**-1.4**
GRA1				Sg	**Sg**	**16 10 57.3**	**+0.5**
GRF	**Grafenberg Arr**	**3.62**	**241**	ePn	**Pn**	**16 09 56.3**	**-1.5**
GRF				eSg	**Sg**	**16 10 57.3**	**+0.5**
BSD	**Bornholm Skovb**	**3.63**	**349**	i P	**Pn**	**16 09 58.7**	**+0.8**
BSD				i S	**Sn**	**16 10 39.7**	**-1.8**
CONA	**Conrad Observa**	**3.64**	**182**	i Pn	**Pn**	**16 09 58.8**	**+0.9**
	comp=N,6.3nm,0.3s,SNR=18						
CONA				⇑iPg	**Pg**	**16 10 09.0**	**-1.1**
	comp=N,37nm,0.3s						
CONA				⇑iSn	**Sn**	**16 10 37.7**	**-3.9**
CONA				⇑eSg	**Sg**	**16 10 55.5**	**-1.7**
	comp=N,156nm,0.5s						
CONA	**Conrad Observa**	**3.64**	**182**	Pg	**Pg**	**16 10 09.0**	**-1.1**
	comp=N,37nm,0.3s						
CONA				Sn	**Sn**	**16 10 37.7**	**-3.8**
CONA				Sg	**Sg**	**16 10 55.5**	**-1.7**
	comp=N,156nm,0.5s						
NRDL	**Niedersach Rie**	**3.82**	**287**	ePn	**Pn**	**16 10 01.7**	**+1.3**
HROE	**Hohe Rhon--Fla**	**3.88**	**257**	⇓iPn	**Pn**	**16 10 02.2**	**+0.9**
MOA	**Molln**	**3.90**	**198**	i Pn	**Pn**	**16 10 02.2**	**+0.7**
	comp=N,27nm,0.3s,SNR=70						
MOA				⇑iPg	**Pg**	**16 10 16.3**	**+1.2**
	comp=N,21nm,0.4s						
MOA				⇑iSn	**Sn**	**16 10 47.5**	**-0.5**
	comp=N,36nm,0.5s						
MOA				⇑eSg	**Sg**	**16 11 04.7**	**-0.9**
	comp=N,78nm,0.5s						
STHS	**Stebnicka Huta**	**3.92**	**121**	ePN	**Pn**	**16 10 02.4**	**+0.5**
STHS				ePG	**Pg**	**16 10 15.8**	**+0.2**
STHS				eSG	**Sg**	**16 11 10.8**	**+4.3**
STHS	**Stebnicka Huta**	**3.92**	**121**	eP	**Pn**	**16 10 02.4**	**+0.5**
STHS				pmax	pmax		
	comp=N,55nm,0.6s						
KECS	**Kecovo**	**4.18**	**136**	ePN	**Pn**	**16 10 04.8**	**-0.6**
KECS				ePG	**Pg**	**16 10 20.3**	**-0.2**
KECS				eSG	**Sg**	**16 11 17.2**	**+2.5**
KECS	**Kecovo**	**4.18**	**136**	eP	**Pn**	**16 10 04.8**	**-0.6**
KECS				pmax	pmax		
	comp=N,18nm,0.6s						
BSEG	**Bad Segeberg**	**4.24**	**306**	ePn	**Pn**	**16 10 06.9**	**+0.7**
BSEG	**Bad Segeberg**	**4.24**	**306**	ePn	**Pn**	**16 10 06.9**	**+0.6**
CRVS	**Cervenica-Dubn**	**4.35**	**126**	ePN	**Pn**	**16 10 08.4**	**+0.7**
CRVS				ePG	**Pg**	**16 10 23.3**	**-0.5**
CRVS				eSG	**Sg**	**16 11 20.5**	**+0.4**
BGLD	**Berchtesgaden**	**4.39**	**208**	⇑iPn	**Pn**	**16 10 09.1**	**+0.8**
PSZ	**Piszkesteto**	**4.40**	**144**	⇑ePn	**Pn**	**16 10 09.4**	**+1.0**
PSZ				eSB	**Sb**	**16 11 12.2**	**+0.1**
PSZ	**Piszkesteto**	**4.40**	**144**	ePn	**Pn**	**16 10 08.6**	**+0.2**
PSZ	**Piszkesteto**	**4.40**	**144**	ePn	**Pn**	**16 10 08.6**	**+0.2**
FUR	**Furstenfeldbru**	**4.61**	**224**	ePn	**Pn**	**16 10 12.2**	**+0.9**
KWP	**Kalwaria**	**4.63**	**112**	ePn	**Pg**	**16 10 26.6**	**-2.6**
KWP				eSn	**Sg**	**16 11 32.2**	**+3.0**
KWP	**Kalwaria**	**4.63**	**112**	ePn	**Pn**	**16 10 11.5**	**-0.1**
KWP				ePg	**Pg**	**16 10 26.6**	**-2.5**
KWP	**Kalwaria**	**4.63**	**112**	ePn	**Pn**	**16 10 11.5**	**-0.1**
COP	**Copenhagen**	**4.68**	**334**	i P	**Pg**	**16 10 37.0**	**+7.0**
COP				i S	**Sn**	**16 11 06.1**	**-1.1**
COP	**Copenhagen**	**4.68**	**334**	eP	**Pg**	**16 10 37.0**	**+7.0**
COP				i S	**Sn**	**16 11 06.1**	**-1.1**
KOLS	**Kolonicke sedl**	**4.75**	**121**	ePN	**Pn**	**16 10 13.8**	**+0.5**
KOLS				ePG	**Pg**	**16 10 30.6**	**-0.9**
KBA	**Koelnbreinsper**	**4.83**	**203**	⇑iPn	**Pn**	**16 10 15.6**	**+1.3**
	comp=N,22nm,0.4s,SNR=14						
KBA				⇑eSg	**Sg**	**16 11 36.9**	**+1.3**
	comp=N,28nm,0.4s						
TNS	**Taunus Mts**	**5.02**	**258**	ePn	**Pn**	**16 10 17.7**	**+0.7**
TOD	**Tromm**	**5.04**	**250**	P	**Pn**	**16 10 16.8**	**-0.4**
GROS	**Grobnik**	**5.12**	**185**	i Pn	**Pn**	**16 10 19.8**	**+1.5**
GROS				eSg	**Sg**	**16 11 41.9**	**-2.9**
WATA	**Walderalm**	**5.15**	**217**	⇑iPn	**Pn**	**16 10 20.3**	**+1.5**
	comp=N,16nm,0.5s						
WATA				⇓iSg	**Sg**	**16 11 51.2**	**+5.3**
	comp=N,29nm,0.5s						
OBKA	**Obir**	**5.15**	**192**	⇓iPn	**Pn**	**16 10 20.1**	**+1.3**
	comp=N,4.2nm,0.5s						
OBKA				⇑iSg	**Sg**	**16 11 47.2**	**+1.2**
	comp=N,35nm,0.6s						
WTTA	**Wattenberg**	**5.19**	**216**	i Pn	**Pn**	**16 10 21.0**	**+1.8**
	comp=N,5.1nm,0.3s,SNR=6.8						
WTTA				⇓eSg	**Sg**	**16 11 47.8**	**+0.7**
	comp=N,30nm,0.5s						
IBBN	**Ibbenburen**	**5.22**	**282**	ePn	**Pn**	**16 10 21.2**	**+1.5**
STU	**Stuttgart**	**5.24**	**241**	eP	**Pn**	**16 10 19.4**	**-0.6**
STU				pmax	pmax		
	comp=Z,28nm,0.5s						
STU	**Stuttgart**	**5.24**	**241**	ePn	**Pn**	**16 10 19.4**	**-0.5**
	comp=Z,28nm,0.5s						
STU				ePg	**Pg**	**16 10 40.7**	**-0.1**
STU	**Stuttgart**	**5.24**	**241**	ePn	**Pn**	**16 10 19.4**	**-0.6**
	comp=Z,28nm,0.5s						
STU	**Stuttgart**	**5.24**	**241**	ePg	**Pg**	**16 10 40.7**	**-0.1**
MOTA	**Moosalm**	**5.33**	**220**	⇑iPn	**Pn**	**16 10 21.9**	**+0.7**
	comp=Z,10nm,0.4s,SNR=14						
MOTA	**Moosalm**	**5.33**	**220**	⇑iP	**Pn**	**16 10 21.9**	**+0.7**
MOTA				pmax	pmax		
	comp=Z,11nm,0.4s						
SQTA	**Sankt Quirin**	**5.39**	**218**	⇓iPn	**Pn**	**16 10 23.9**	**+1.9**
	comp=Z,14nm,0.4s,SNR=10						
SQTA				⇓iSg	**Sg**	**16 11 53.9**	**+0.5**
	comp=Z,11nm,0.3s						
PDKS	**Podkum**	**5.55**	**188**	ePn	**Pn**	**16 10 25.6**	**+1.3**
PKSM	**Moragy**	**5.61**	**162**	⇓iP	**Pn**	**16 10 26.3**	**+1.3**
PKSM	**Moragy**	**5.61**	**162**	⇓P	**Pn**	**16 10 26.3**	**+1.3**
PKSM	**Moragy**	**5.61**	**162**	⇑ePn	**Pn**	**16 10 26.3**	**+1.3**
HLG	**Helgoland**	**5.63**	**301**	ePn	**Pn**	**16 10 26.1**	**+0.8**
ABH	**Alteburg**	**5.68**	**256**	P	**Pn**	**16 10 26.0**	**-0.1**
ABH				S	**Sg**	**16 11 56.5**	**-6.5**
VOY	**Vojsko**	**5.72**	**196**	e(Pn)	**Pn**	**16 10 27.2**	**+0.7**
VOY				e		16 10 52.4	
VOY				e(Sn)	**Sg**	**16 12 05.2**	**+1.1**
WTSB	**Winterswijk**	**5.79**	**278**	ex	**Sg**	**16 12 06.4**	**0.0**
	comp=Z,16nm,0.9s						
DAVA	**Damuels**	**5.89**	**226**	⇑iPn	**Pn**	**16 10 29.1**	**+0.2**
DAVA				⇑iSg	**Sg**	**16 12 10.1**	**+0.4**
	comp=Z,37nm,0.7s						
BFO	**Black Forest**	**5.96**	**240**	ePn	**Pn**	**16 10 28.9**	**-1.0**
RUP	**Ruppelstein**	**6.04**	**256**	P	**Pn**	**16 10 30.6**	**-0.4**
RUP				S	**Sg**	**16 12 08.2**	**-6.3**
BOJS	**Bojanci**	**6.08**	**186**	i Pn	**Pn**	**16 10 33.0**	**+1.4**
DAVOX	**Davos**	**6.28**	**223**	Pn	**Pn**	**16 10 35.3**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=47,slow=13,SNR=8.2						
DAVOX				Lg		16 12 15.0	
	comp=Z,1.0nm,0.3s,baz=336,slow=22,SNR=3.5						
DRGR		**6.44**	**135**	⇑iP	**Pn**	**16 10 36.8**	**+0.3**
DRGR		**6.44**	**135**	S	**Sn**	**16 11 45.9**	**-4.9**
DRGR		**6.44**	**135**	⇑P	**Pn**	**16 10 36.8**	**+0.3**
HGN	**Heimansgroeve**	**6.45**	**267**	ex	**Sb**	**16 12 09.7**	**-1.2**
	comp=Z,26nm,2.0s						
CDF	**Champ du Feu**	**6.50**	**244**	ePn	**Pn**	**16 10 36.7**	**-0.6**
CDF				eSg	**Sg**	**16 12 26.8**	**-2.4**
	comp=Z,40nm,0.8s						
CDF	**Champ du Feu**	**6.50**	**244**	ePn	**Pn**	**16 10 36.7**	**-0.6**
CDF				eSg	**Sg**	**16 12 26.8**	**-2.4**
	comp=Z,20nm,0.8s						
HINF	**Hinteralfeld**	**7.07**	**242**	ePn	**Pn**	**16 10 44.7**	**-0.4**
HINF				eSg	**Sg**	**16 12 43.2**	**-4.2**
	comp=Z,40nm,0.8s						
HINF	**Hinteralfeld**	**7.07**	**242**	ePn	**Pn**	**16 10 44.7**	**-0.4**
HINF				eSg	**Sg**	**16 12 43.2**	**-4.2**
	comp=Z,20nm,0.8s						
BURAR	**Bucovina Array**	**7.12**	**120**	⇓iP	**Pn**	**16 10 47.0**	**+1.2**
BURAR	**Bucovina Array**	**7.12**	**120**	⇓P	**Pn**	**16 10 47.0**	**+1.2**
HAU	**Haudompre**	**7.24**	**244**	ePn	**Pn**	**16 10 47.3**	**-0.2**
HAU				eSg	**Sg**	**16 12 49.7**	**-3.3**
	comp=Z,46nm,0.8s						
HAU	**Haudompre**	**7.24**	**244**	ePn	**Pn**	**16 10 47.3**	**-0.2**
HAU				eSg	**Sg**	**16 12 49.7**	**-3.3**
	comp=Z,23nm,0.8s						
GIVF	**Givet**	**7.29**	**263**	ePn	**Pn**	**16 10 48.0**	**-0.1**
GIVF				eSg	**Sg**	**16 12 51.1**	**-3.4**
	comp=Z,52nm,1.0s						
GIVF	**Givet**	**7.29**	**263**	ePn	**Pn**	**16 10 48.0**	**-0.1**
GIVF				eSg	**Sg**	**16 12 51.1**	**-3.4**
	comp=Z,26nm,1.0s						
RFYF	**Reffroy**	**7.43**	**251**	ePn	**Pn**	**16 10 49.8**	**-0.3**
	baz=66						
RFYF				eSg	**Sg**	**16 12 55.6**	**-3.6**
	comp=Z,46nm,0.8s						
RFYF	**Reffroy**	**7.43**	**251**	ePn	**Pn**	**16 10 49.8**	**-0.3**
RFYF				eSg	**Sg**	**16 12 55.6**	**-3.6**
	comp=Z,23nm,0.8s						
GZR	**Gura Zlata**	**7.60**	**142**	⇓iP	**Pn**	**16 10 53.8**	**+1.5**
GZR	**Gura Zlata**	**7.60**	**142**	⇓P	**Pn**	**16 10 53.8**	**+1.4**
BAIF	**Baives**	**7.68**	**263**	ePn	**Pn**	**16 10 53.3**	**-0.2**
BAIF				eSn	**Sn**	**16 12 16.3**	**-4.9**
BAIF				eSg	**Sg**	**16 13 03.6**	**-3.5**
	comp=Z,4.3nm,0.2s						
BAIF	**Baives**	**7.68**	**263**	eP	**Pn**	**16 10 53.3**	**-0.2**
BAIF				e		16 12 16.3	
BAIF	**Baives**	**7.68**	**263**	ePn	**Pn**	**16 10 53.3**	**-0.2**
BAIF				eSn	**Sn**	**16 12 16.3**	**-4.9**
BAIF				eSg	**Sg**	**16 13 03.6**	**-3.5**
	comp=Z,2.2nm,0.2s						
MEZF	**Maizieres J'vi**	**7.74**	**251**	ePn	**Pn**	**16 10 53.6**	**-0.7**
	baz=70						
MEZF				eSg	**Sg**	**16 13 03.7**	**-5.3**
	comp=Z,13nm,0.3s						
MEZF	**Maizieres J'vi**	**7.74**	**251**	ePn	**Pn**	**16 10 53.6**	**-0.7**
MEZF				eSg	**Sg**	**16 13 03.7**	**-5.3**
	comp=Z,6.4nm,0.3s						
CABF	**La Chapelle**	**8.22**	**237**	ePn	**Pn**	**16 11 00.1**	**-0.8**
CABF				eSg	**Sg**	**16 13 18.3**	**-6.1**
	comp=Z,92nm,1.2s						
CABF	**La Chapelle**	**8.22**	**237**	ePn	**Pn**	**16 11 00.1**	**-0.8**
CABF				eSg	**Sg**	**16 13 18.3**	**-6.1**
	comp=Z,46nm,1.2s						
AKASG	**Malin Array Be**	**8.30**	**91**	Pn	**Pn**	**16 11 01.0**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=277,slow=13,SNR=8.9						
AKASG				Sn	**Sn**	**16 12 32.1**	**-4.5**
	comp=Z,2.9nm,0.3s,baz=285,slow=29,SNR=5.8						
AKASG				Lg		16 13 28.6	
	baz=277,slow=30,SNR=3.3						
AKASG	**Malin Array Be**	**8.30**	**91**	Pn	**Pn**	**16 11 01.0**	**-1.1**
AKASG				Sn	**Sn**	**16 12 32.1**	**-4.5**
LPL	**La Plagne**	**8.66**	**229**	ePn	**Pn**	**16 11 06.2**	**-0.8**
LPL				eSg	**Sg**	**16 13 33.0**	**-5.6**
	comp=Z,28nm,1.1s						
LPG	**La Plagne**	**8.67**	**229**	ePn	**Pn**	**16 11 06.1**	**-0.9**
LPG				eSg	**Sg**	**16 13 33.0**	**-5.7**
	comp=Z,50nm,1.3s						
HFS	**Hagfors**	**8.70**	**352**	Pn	**Pn**	**16 11 07.4**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=174,slow=15,SNR=12						
HFS				Sn	**Sn**	**16 12 45.0**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=146,slow=26,SNR=3.7						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HFS	**Hagfors**	**8.70**	**352**	Sn	**Sn**	**16 12 45.0**	**-1.3**
LOR	**Lormes**	**9.06**	**247**	*e*Pn	**Pn**	**16 11 11.2**	**-1.2**
	baz=65						
LOR				*e*Sg	**Sg**	**16 13 45.7**	**-5.5**
	comp=Z,30nm,1.0s						
LOR	**Lormes**	**9.06**	**247**	*e*Pn	**Pn**	**16 11 11.2**	**-1.2**
LOR				*e*Sg	**Sg**	**16 13 45.7**	**-5.5**
	comp=Z,15nm,1.0s						
MBDF	**Montbardon**	**9.24**	**226**	*e*Pn	**Pn**	**16 11 12.9**	**-2.0**
MBDF				*e*Sg	Sn	16 13 51.3	+52
	comp=Z,14nm,1.0s						
SSF	**Saint Saulge**	**9.37**	**246**	*e*Pn	**Pn**	**16 11 15.7**	**-1.0**
SSF				*e*Sg	Sn	16 13 56.2	+53
	comp=Z,22nm,0.9s						
SSF	**Saint Saulge**	**9.37**	**246**	*e*Pn	**Pn**	**16 11 15.7**	**-1.0**
SSF				*e*Sg	Sn	16 13 56.2	+53
	comp=Z,11nm,0.9s						
SMF	**Signal de Mont**	**9.42**	**243**	*e*Pn	**Pn**	**16 11 16.2**	**-1.1**
SMF				*e*Sg	Sn	16 13 56.7	+53
	comp=Z,27nm,1.0s						
SMF	**Signal de Mont**	**9.42**	**243**	*e*Pn	**Pn**	**16 11 16.2**	**-1.1**
SMF				*e*Sg	Sn	16 13 56.7	+53
	comp=Z,14nm,1.0s						
ORIF	**Oris-en-Rattie**	**9.51**	**230**	*e*Pn	**Pn**	**16 11 17.8**	**-0.8**
ORIF				*e*Sg	Sn	16 14 00.1	+54
	comp=Z,42nm,1.3s						
AVF	**Avril sur Loir**	**9.61**	**245**	*e*Pg	Px	16 11 59.9	
AVF				*e*Sg	Sx	16 14 02.9	
	comp=Z,18nm,1.0s						
AVF	**Avril sur Loir**	**9.61**	**245**	*e*Pn	**Pn**	**16 11 19.3**	**-0.7**
AVF				*e*Pg	Pn	16 11 59.9	+40
AVF				*e*Sg	Sn	16 14 02.9	+54
AVF	**Avril sur Loir**	**9.61**	**245**	*e*Pg	Px	16 11 59.9	
AVF				*e*Sg	Sx	16 14 02.9	
	comp=Z,9.2nm,1.0s						
SBF	**Sospel**	**9.65**	**221**	*e*Pn	**Pn**	**16 11 20.6**	**0.0**
HYF	**Humbligny**	**9.76**	**249**	*e*Pn	**Pn**	**16 11 20.5**	**-1.5**
NB2	**NORSAR Subarra**	**9.88**	**346**	Pn	**Pn**	**16 11 22.5**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=162,slow=14						
NOA	**NORSAR Array B**	**9.88**	**346**	Pn	**Pn**	**16 11 21.8**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=156,slow=12,SNR=5.1						
NOA				Sn	**Sn**	**16 13 10.7**	**-4.6**
	comp=Z,0.4nm,0.3s,baz=160,slow=20,SNR=2.5						
NOA	**NORSAR Array B**	**9.88**	**346**	Sn	**Sn**	**16 13 10.7**	**-4.6**
BGF	**Bois d'Agland**	**10.03**	**245**	*e*Pn	**Pn**	**16 11 24.7**	**-1.0**
BGF				*e*Sg	Sn	16 14 16.6	+58
	comp=Z,17nm,0.6s						
BGF	**Bois d'Agland**	**10.03**	**245**	*e*Pn	**Pn**	**16 11 24.7**	**-1.0**
BGF				*e*Sg	Sn	16 14 16.6	+58
	comp=Z,8.4nm,0.6s						
VIVF	**Saint-Julien-l**	**10.15**	**233**	*e*Pn	**Pn**	**16 11 26.0**	**-1.3**
VIVF				*e*Sg	Sn	16 14 18.9	+57
	comp=Z,18nm,1.1s						
VIVF	**Saint-Julien-l**	**10.15**	**233**	*e*Pn	**Pn**	**16 11 26.0**	**-1.3**
VIVF				*e*Sg	Sn	16 14 18.9	+57
	comp=Z,9.2nm,1.1s						
FRF	**La Foret Royal**	**10.23**	**222**	*e*Pn	**Pn**	**16 11 29.1**	**+0.7**
LMR	**La Mourre**	**10.47**	**222**	*e*Pn	**Pn**	**16 11 31.4**	**-0.4**
TCF	**Toulx Ste Croi**	**10.54**	**245**	*e*Pn	**Pn**	**16 11 31.7**	**-1.1**
TCF				*e*Sg	Sn	16 14 32.0	+60
	comp=Z,15nm,1.0s						
TCF	**Toulx Ste Croi**	**10.54**	**245**	*e*Pn	**Pn**	**16 11 31.7**	**-1.1**
TCF				*e*Sg	Sn	16 14 32.0	+60
	comp=Z,7.6nm,1.0s						
LASF	**Ste Croix**	**11.11**	**232**	*e*Pn	**Pn**	**16 11 39.6**	**-0.9**
FINES	**FINESS Array B**	**11.32**	**25**	Pn	**Pn**	**16 11 42.5**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=202,slow=12,SNR=31						
FINES				Sn	**Sn**	**16 13 46.2**	**-4.5**
	comp=Z,0.8nm,0.3s,baz=202,slow=22,SNR=5.8						
FINES	**FINESS Array B**	**11.32**	**25**	Sn	**Sn**	**16 13 46.2**	**-4.5**
KAF	**Kangasniemi**	**11.95**	**24**	*e*p	**Pn**	**16 11 48.1**	**-3.9**
	comp=Z,0.6nm,0.3s						
KAF	**Kangasniemi**	**11.95**	**24**	*e*P	**Pn**	**16 11 48.1**	**-3.9**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
EKA	**Eskdalemuir Ar**	**12.08**	**296**	Pn	**Pn**	**16 11 50.4**	**-3.3**
	comp=Z,0.5nm,0.3s,baz=105,slow=14,SNR=9.1						
EKA				Sn	**Sn**	**16 14 01.6**	**-7.6**
	comp=Z,0.1nm,0.3s,baz=102,slow=24,SNR=3.0						
JOF	**Joensuu**	**14.00**	**30**	*e*p	**Pn**	**16 12 17.0**	**-3.0**
ARCES	**ARCESS Array B**	**18.58**	**10**	Pn	**Pn**	**16 13 15.2**	**-3.8**
	comp=Z,0.6nm,0.3s,baz=192,slow=14,SNR=12						
KEV	**Kevo**	**18.97**	**12**	*e*p	**Pn**	**16 13 22.7**	**-1.1**
	comp=Z,4.0nm,0.4s						
KEV	**Kevo**	**18.97**	**12**	*e*P	**Pn**	**16 13 22.7**	**-1.1**
KEV				pmax	pmax		
	comp=Z,4.0nm,0.4s						
GOF	**Gofitskoye**	**18.99**	**99**	*e*P	**Pn**	**16 13 16.5**	**-7.6**
AKTK	**Aktyubinsk**	**26.15**	**76**	P	**P**	**16 14 36.5**	**+0.2**
AKTO	**Aktyubinsk**	**26.15**	**76**	P	**P**	**16 14 36.5**	**+0.2**
	comp=Z,1.5nm,0.6s,mb3.8,baz=268,slow=9.0,SNR=6.0						
BVAR	**Borovoye Array**	**32.58**	**66**	P	**P**	**16 15 34.6**	**+1.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=290,slow=9.0,SNR=7.0						
TORD	**Torodi Ar. Bea**	**40.04**	**202**	P	**P**	**16 16 38.1**	**+1.0**
	comp=Z,0.8nm,0.6s,mb3.5,baz=12,slow=7.7,SNR=5.0						
MKAR	**Makanchi Array**	**42.21**	**69**	P	**P**	**16 16 56.0**	**+1.1**
	comp=Z,0.3nm,0.4s,mb3.4,baz=302,slow=7.1,SNR=6.4						
SONM	**Songino Array**	**54.90**	**55**	P	**P**	**16 18 33.5**	**+0.8**
	comp=Z,0.6nm,0.8s,mb3.7,baz=276,slow=8.1,SNR=6.2						
PDAR	**Pinedale Array**	**74.90**	**322**	P	**P**	**16 20 44.0**	**+1.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=56,slow=6.6,SNR=5.1						

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*IDC **04** 16:09:20.9±1.3, 3485N×2745E, h0km, mb4.0/2, mb1 3.7/5, mb1mx3.5/21, mbtmp3.7/5, ML3.4/3, Error ellipse: s-maj=36.4km s-min=17.7km az=170.0*
*HLW **04** 16:09:21.0, 3543N×2743E, h33km, Mb3.5*
*ISCJB **04** 16:09:22.8±1.3, 3499N±002×2740E±004, h15km±9km, mb3.8/2, Error ellipse: s-maj=6.0km s-min=3.6km az=18.4*
*ISK **04** 16:09:23.8, 3504N×27.17E, h81km, MD3.6*
*CSEM **04** 16:09:23.0±0.1, 3500N×2741E, h20km, MD3.8, Error ellipse: s-maj=2.9km s-min=1.7km az=96.0*
*NEIC **04** 16:09:25.1±1.2, 3528N×2703E, h30km±9km, MD3.8(ATH), Error ellipse: s-maj=19.4km s-min=9.5km az=142.0*
*ATH **04** 16:09:25.2, 3533N×27.15E, h31km±4km, MD3.8/6*
ISC 04 16:09:23.0±1.2**, 3504N**±002×**2732E**±004**, h7**km±8km**, n40, σ1ˢ02**/48**, mb3.8**/2**, 2C-10D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.52**	**346**	*e*PB	**Pg**	**16 09 32.0**	**-1.0**
XRY	**Khrisi**	**1.34**	**263**	*e*PB	**Pb**	**16 09 47.5**	**-1.0**
ARG	**Arkhangelos**	**1.34**	**29**	*e*PN	**Pn**	**16 09 47.5**	**-0.7**
NPS	**Neapolis**	**1.41**	**279**	*e*PN	**Pn**	**16 09 48.7**	**-0.4**
DAT	**Datca**	**1.69**	**7**	PN	**Pn**	**16 09 53.2**	**+0.2**
DAT				SN	**Sn**	**16 10 14.2**	**-0.7**
IDI	**Anoyia**	**2.00**	**278**	Pn	**Pn**	**16 09 58.9**	**+1.7**
	12nm,0.3s,baz=98,slow=16,SNR=36						
IDI				Sn	**Sn**	**16 10 27.5**	**+5.0**
	20nm,0.3s,baz=147,slow=16,SNR=4.0						
BODT	**Bodrum**	**2.01**	**360**	PN	**Pn**	**16 09 57.2**	**-0.2**
BODT				SN	**Sn**	**16 10 22.0**	**-0.8**
BDRM	**Kayabasi**	**2.02**	**3**	*i* P	**Pn**	**16 09 58.0**	**+0.6**
BDRM	**Kayabasi**	**2.02**	**3**	*i* P	**Pn**	**16 09 58.0**	**+0.5**
DALT	**Dalyan (Mudla)**	**2.03**	**32**	PN	**Pn**	**16 09 58.7**	**+1.1**
DALT				SN	**Sn**	**16 10 23.6**	**+0.4**
FETY	**Fethiye**	**2.14**	**42**	PN	**Pn**	**16 10 00.5**	**+1.4**
YER	**Yerkesik**	**2.23**	**20**	PN	**Pn**	**16 10 00.5**	**+0.2**
MLSB	**Milas**	**2.28**	**9**	*e*PN	**Pn**	**16 10 01.6**	**+0.6**
APE	**Apeiranthos**	**2.48**	**325**	*e*PB	**Pn**	**16 10 02.4**	**-1.5**
SMG	**Samos**	**2.69**	**352**	*e*PN	**Pn**	**16 10 03.9**	**-2.7**
ELL	**Elmali**	**2.71**	**50**	*e*PN	**Pn**	**16 10 08.1**	**+1.2**
DNZL	**Cakiroluk**	**2.99**	**27**	*i* P	**Pn**	**16 10 10.6**	**-0.2**
DENT	**Denizli**	**3.04**	**27**	*e*PN	**Pn**	**16 10 12.7**	**+1.2**
MANT	**Manisa**	**3.58**	**16**	*i* P	**Pn**	**16 10 21.9**	**+3.0**
HMAT	**Matruh**	**3.94**	**183**	⇑P	**Pn**	**16 10 24.7**	**+0.8**
HMAT				S	**Sn**	**16 11 11.0**	**+0.5**
SLUM		**3.96**	**207**	⇓P	**Pn**	**16 10 24.8**	**+0.7**
SLUM				S	**Sn**	**16 11 11.4**	**+0.6**
ERMK	**Ermenek**	**4.82**	**69**	*i* P	**Pn**	**16 10 37.6**	**+1.6**
HBRG	**Burj al 'Arab**	**4.94**	**154**	⇓P	**Pn**	**16 10 37.3**	**-0.3**
KONT	**Konya--Tatoy**	**4.99**	**53**	*e*PN	**Pn**	**16 10 39.1**	**+0.8**
KIZT	**Kizilcal**	**5.29**	**42**	PN	**Pn**	**16 10 42.9**	**+0.4**
IKL	**Isikli**	**5.32**	**75**	PN	**Pn**	**16 10 43.3**	**+0.4**
SWA1		**5.92**	**194**	⇓P	**Pn**	**16 10 52.0**	**+0.9**
SWA1				S	**Sn**	**16 11 59.0**	**-0.2**
SWA2		**6.00**	**196**	⇓P	**Pn**	**16 10 53.0**	**+0.8**
HNAT	**Natroun**	**6.08**	**152**	⇓P	**Pn**	**16 10 52.7**	**-0.6**
HHAG	**Hagoal**	**6.49**	**140**	⇓P	**Pn**	**16 10 58.0**	**-0.9**
HSAF	**As Saff**	**6.49**	**145**	⇓P	**Pn**	**16 10 58.5**	**-0.5**
GLL	**Jalalah**	**6.60**	**144**	P	**Pn**	**16 10 59.9**	**-0.5**
AMAG	**Maghara**	**6.62**	**130**	⇓P	**Pn**	**16 10 59.1**	**-1.6**
AWBH		**6.84**	**168**	⇓P	**Pn**	**16 11 04.1**	**+0.4**
BRTR	**Keskin Array B**	**6.87**	**45**	Pn	**Pn**	**16 11 04.5**	**+0.4**
	0.2nm,0.3s,baz=218,slow=14,SNR=6.9						
SUZ		**6.97**	**137**	⇑P	**Pn**	**16 11 04.6**	**-1.0**
MMAI	**Mount Meron Ar**	**7.01**	**104**	Pn	**Pn**	**16 11 04.3**	**-1.8**
	2.0nm,0.3s,baz=310,slow=12,SNR=7.0						
MMAI				Sn	**Sn**	**16 12 25.1**	**-1.0**
	4.2nm,0.3s,baz=310,slow=26,SNR=6.4						
HDK1	**Dakhla**	**9.64**	**169**	⇓P	**Pn**	**16 11 43.4**	**+1.3**
TORD	**Torodi Ar. Bea**	**31.80**	**233**	P	**P**	**16 15 46.5**	**-1.6**
	1.8nm,0.5s,mb4.2,baz=36,slow=8.8,SNR=28						
MKAR	**Makanchi Array**	**42.36**	**57**	P	**P**	**16 17 16.1**	**-1.7**
	0.6nm,0.5s,mb3.5,baz=269,slow=8.4,SNR=12						

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*NEIC **04** 16:16:04.1, 1591N×9397W, h24km, MD3.8(MEX), After MEX.*
MEX 04 16:16:03.0±0.4**, 1588N**×**9389W, h49**km±78km**, MD3.8, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.54**	**322**	*i* P	Pn	16 16 26.6	-1.5
CMIG				*i* S	Sn	16 16 45.0	-1.9
CMIG	**Matias Romero**	**1.54**	**322**	*i* P	Pn	16 16 26.5	-1.6
CMIG				*i* S	Sn	16 16 43.7	-3.2
HUIG	**Huatulco**	**2.14**	**267**	*i* P	Pn	16 16 34.9	-1.4
HUIG				*i* S	Sn	16 16 59.8	-1.8
HUIG	**Huatulco**	**2.14**	**267**	*i* P	Pn	16 16 34.8	-1.5
HUIG				*i* S	Sn	16 16 59.3	-2.4
OXX	**Oaxaca**	**2.98**	**294**	*e*P	Pn	16 16 48.0	+0.3
OXX				*i* S	Sn	16 17 21.0	-1.1
VHO	**Vista Hermosa**	**2.98**	**294**	*e*P	Pn	16 16 46.6	-1.1
VHO				*i* S	Sn	16 17 19.6	-2.6
VHO	**Vista Hermosa**	**2.98**	**294**	*e*P	Pn	16 16 46.6	-1.1
VHO				*i* S	Sn	16 17 20.3	-1.9
TEIG	**Tepich**	**6.87**	**50**	*e*P	Pn	16 17 35.7	-5.4
	4.0nm,0.3s						
TEIG				*e*S	Sn	16 18 50.5	-7.4

MAN 04 16:41:40.7, 697N×**12651E, h45**km**, mb2.8, ML4.3, MS3.0, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**0.25**	**264**	*e*P	Pn	16 41 50.6	+1.7
MATI				*e*S	Sn	16 41 57.6	+3.0
DMPH	**Davao City--Mi**	**1.00**	**276**	⇓*i*P	Pn	16 41 58.4	+0.1
DMPH				*i* S	Sn	16 42 12.6	+1.4
BUKP	**Musuan**	**1.69**	**302**	*e*P	Pn	16 42 08.9	+1.2
BUKP				*e*S	Sn	16 42 29.2	+1.0
CGP	**Cagayan de Oro**	**2.33**	**309**	*i* S	Sn	16 42 44.9	+1.1

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*CSEM **04** 17:16:32.2±0.0, 3586N×29.13E, h40km, Mw3.2, Error ellipse: s-maj=1.6km s-min=1.0km az=79.0*
*ISCJB **04** 17:16:32.5±0.3, 3585N±002×29.16E±003, h33km, Error ellipse: s-maj=4.0km s-min=2.8km az=125.3*
*ATH **04** 17:16:33.6, 36.10N×29.11E, h44km±26km, MD3.5/4*
*NEIC **04** 17:16:33.6, 36.10N×29.11E, h44km, MD3.2(ISK), MD3.5(ATH), After ATH.*
*ISK **04** 17:16:34.4, 3601N×29.11E, h29km, MD3.2*
*HLW **04** 17:16:35.1, 3577N×29.13E, h22km, Mb3.8*
*NIC **04** 17:16:37.6±0.4, 3585N×2942E, h25km, ML3.3, MW3.2*
ISC 04 17:16:34.0±0.3**, 3591N**±002×**2917E**±003**, h35**km**, n41, σ0ˢ68**/55**, 2C-11D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.41**	**55**	*e*P	**Pn**	**17 16 43.7**	**+0.2**
FETY	**Fethiye**	**0.72**	**355**	*i* PG	**Pn**	**17 16 47.3**	**-0.5**
FETY				*i* SG	**Sn**	**17 16 57.0**	**-0.6**
ARG	**Arkhangelos**	**0.90**	**290**	*e*P	**Pn**	**17 16 50.3**	**+0.2**
ARG				*e*S	**Sn**	**17 17 01.4**	**-0.5**
DALT	**Dalyan (Mudla)**	**0.96**	**334**	PG	**Pn**	**17 16 50.6**	**-0.4**
DALT				SG	**Sn**	**17 17 02.4**	**-0.9**
ELL	**Elmali**	**1.03**	**35**	PG	**Pn**	**17 16 52.7**	**+0.8**
ELL				SG	**Sn**	**17 17 05.5**	**+0.4**
YER	**Yerkesik**	**1.41**	**330**	PN	**Pn**	**17 16 57.8**	**+0.6**
DAT	**Datca**	**1.52**	**303**	PN	**Pn**	**17 16 59.1**	**+0.4**
KARP	**Karpathos**	**1.67**	**258**	*e*P	**Pn**	**17 17 02.0**	**+1.2**
DNZL	**Cakiroluk**	**1.78**	**357**	*i* P	**Pn**	**17 17 01.9**	**-0.3**
DNZL				*i* S	**Sn**	**17 17 23.2**	**-0.4**
MLSB	**Milas**	**1.78**	**321**	*e*PN	**Pn**	**17 17 03.2**	**+1.0**
MLSB				*e*SN	**Sn**	**17 17 23.2**	**-0.4**
BDRM	**Kayabasi**	**1.80**	**310**	*i* P	**Pn**	**17 17 02.0**	**-0.6**
BDRM				*i* S	**Sn**	**17 17 23.4**	**-0.8**
DENT	**Denizli**	**1.84**	**357**	PN	**Pn**	**17 17 03.2**	**+0.1**
BODT	**Bodrum**	**1.89**	**308**	*e*PN	**Pn**	**17 17 03.7**	**0.0**
BCK	**Bucak**	**1.92**	**36**	*e*PN	**Pn**	**17 17 04.9**	**+0.7**
AYDN	**Tasoluk**	**2.03**	**330**	*i* P	**Pn**	**17 17 06.4**	**+0.7**
AYDN				*i* S	**Sn**	**17 17 30.6**	**+0.8**
ISP	**Isparta**	**2.21**	**29**	*e*P	**Pn**	**17 17 07.4**	**-0.8**
TKTP	**Tekketepe**	**2.32**	**23**	*i* P	**Pn**	**17 17 09.5**	**-0.2**
TKTP				*i* S	**Sn**	**17 17 40.3**	**+3.4**
SMG	**Samos**	**2.59**	**314**	*e*P	**Pn**	**17 17 12.1**	**-1.3**
PPCY	**Paphos**	**2.79**	**111**	P	**Pn**	**17 17 16.5**	**+0.3**
ALFC	**Alevga**	**2.90**	**104**	P	**Pn**	**17 17 17.3**	**-0.4**
	6.4nm,0.1s						
ALFC				S	**Sn**	**17 17 49.1**	**-2.2**
NPS	**Neapolis**	**2.97**	**258**	*e*P	**Pn**	**17 17 19.1**	**+0.5**
BLCB	**Balcova**	**3.00**	**326**	*e*PN	**Pn**	**17 17 19.2**	**+0.2**
SZAC	**Souni-Zanaja**	**3.25**	**110**	P	**Pn**	**17 17 22.6**	**+0.1**
SZAC				S	**Sn**	**17 17 58.5**	**-1.4**
KONT	**Konya--Tatoy**	**3.27**	**51**	*e*PN	**Pn**	**17 17 24.0**	**+1.3**
MAMC	**Mammari**	**3.38**	**101**	P	**Pn**	**17 17 24.9**	**+0.5**
PHNC	**Paralimni**	**4.07**	**101**	P	**Pn**	**17 17 34.6**	**+0.8**
HMAT	**Matruh**	**5.11**	**200**	⇑P	**Pn**	**17 17 47.6**	**-0.4**
HMAT				S	**Sn**	**17 18 40.5**	**-5.2**
HBRG	**Burj al 'Arab**	**5.35**	**174**	⇓P	**Pn**	**17 17 51.4**	**0.0**
SLUM		**5.50**	**218**	⇓P	**Pn**	**17 17 53.3**	**-0.2**
SLUM				S	**Sn**	**17 18 50.3**	**-5.2**
AMAG	**Maghara**	**6.25**	**146**	⇑P	**Pn**	**17 18 04.1**	**+0.4**
SQR		**6.25**	**164**	⇓P	**Pn**	**17 18 03.7**	**0.0**
KOT	**Kottamia**	**6.37**	**159**	⇓P	**Pn**	**17 18 05.6**	**+0.2**
HNAT	**Natroun**	**6.38**	**169**	⇓P	**Pn**	**17 18 05.4**	**-0.1**
FYM	**Al Fayyum**	**6.40**	**165**	⇓P	**Pn**	**17 18 05.8**	**0.0**
HHAG	**Hagoal**	**6.43**	**157**	P	**Pn**	**17 18 06.3**	**+0.1**
HSAF	**As Saff**	**6.59**	**162**	⇓P	**Pn**	**17 18 08.5**	**+0.1**
GLL	**Jalalah**	**6.67**	**161**	P	**Pn**	**17 18 09.6**	**+0.1**
GLL				S	**Sn**	**17 19 18.9**	**-5.4**
SWA1		**7.24**	**205**	⇓P	**Pn**	**17 18 17.3**	**-0.1**
SWA2		**7.35**	**206**	⇓P	**Pn**	**17 18 18.8**	**0.0**
AWBH		**7.57**	**182**	⇓P	**Pn**	**17 18 21.2**	**-0.6**
HDK1	**Dakhla**	**10.34**	**179**	⇓P	**Pn**	**17 19 00.5**	**+0.7**

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*IDC **04** 17:25:27.7±0.9, 1969S×17379W, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.3/18, mbtmp4.3/10, ML2.7/1, MS3.9/11, Ms1 3.9/11, ms1mx3.6/22, Error ellipse: s-maj=35.1km s-min=17.7km az=131.0*
*NEIC **04** 17:25:28.9±0.4, 1982S×17373W, h10km, mb4.6/11, Error ellipse: s-maj=17.7km s-min=10.1km az=145.0*
*ISCJB **04** 17:25:30.7±0.5, 200S±0.1×17374W±0.10, h33km, mb4.4/18, MS3.9/11, Error ellipse: s-maj=19.5km s-min=10.1km az=116.2*
ISC 04 17:25:32.6±0.5**, 201S**±01×**17364W**±010**, h35**km**, n52, σ0ˢ84**/27**, mb4.4**/18**, MS3.9**/11**, 3C, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.40**	**16**	Pn	**Pn**	**17 26 58.3**	**-5.9**
	11nm,0.3s,baz=260,slow=1.2,SNR=12						
AFI	**Afiamalu**	**6.40**	**16**	*e*Pn	**Pn**	**17 26 57.7**	**-6.5**
RAR	**Rarotonga**	**13.03**	**97**	Pn	**Pn**	**17 28 29.7**	**-5.5**
	3.1nm,0.3s,baz=242,slow=7.3,SNR=3.7						
DZM	**Mont Dzumac**	**18.69**	**260**	Pn	**Pn**	**17 29 49.7**	**+1.4**
	0.3nm,0.3s,baz=86,slow=17,SNR=3.4						
URZ	**Urewera**	**19.81**	**202**	P	**Pn**	**17 30 01.7**	**0.0**
	14nm,0.4s,baz=318,slow=3.5,SNR=32						
TBI	**Tubuai**	**22.69**	**103**	*e*LQ		17 34 50.2	
	2μm,28.8s						
TBI				*e*LR	LR	17 35 45.5	
	118nm,30.2s						
PPT	**Papeete**	**22.91**	**88**	*e*LQ		17 35 04.6	
	2μm,28.5s						
PPT				*e*LR	LR	17 35 46.6	
	365nm,26.5s						
PPT	**Papeete**	**22.91**	**88**	LR	LR	17 37 41.5	
	comp=Z,130nm,21.1s,MS3.4,baz=79,slow=32						
RPZ	**Rata Peaks**	**26.82**	**205**	P	**P**	**17 31 13.9**	**+4.5**
	14nm,0.9s,mb4.5,baz=106,slow=16,SNR=6.5						
CTA	**Charters Tower**	**37.60**	**263**	P	**P**	**17 32 44.2**	**+0.4**
	2.3nm,0.6s,mb4.1,baz=78,slow=13,SNR=4.5						
CTAO	**Charters Tower**	**37.60**	**263**	*e*P	**P**	**17 32 42.6**	**-1.2**
	3.0nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**41.65**	**244**	P	**P**	**17 33 17.1**	**-0.3**
	3.1nm,0.8s,mb4.0,baz=42,slow=5.1,SNR=4.3						
STKA				LR	LR	17 48 09.8	
	comp=Z,219nm,21.1s,MS4.0,baz=289,slow=33						
AS31	**Alice Springs**	**48.59**	**256**	*e*P	**P**	**17 34 12.9**	**+0.3**
ASAR	**Alice Springs**	**48.59**	**256**	P	**P**	**17 34 12.8**	**+0.3**
	2.2nm,0.8s,mb4.2,baz=94,slow=7.8,SNR=11						
ASAR				LR	LR	17 53 45.5	
	comp=Z,108nm,19.9s,MS3.8,baz=281,slow=35						
WB2	**Warramunga Arr**	**48.69**	**261**	*e*P	**P**	**17 34 13.1**	**-0.2**
WRAB	**Tennant Creek**	**48.70**	**261**	*e*P	**P**	**17 34 13.1**	**-0.3**
	17nm,1.2s,mb5.0						
WRA	**Warramunga Arr**	**48.70**	**261**	P	**P**	**17 34 13.4**	**-0.1**
	1.3nm,0.5s,mb4.2,baz=97,slow=7.4,SNR=26						
SBA	**Scott Base**	**58.59**	**185**	*e*P	**P**	**17 35 24.6**	**-1.2**
	26nm,1.5s,mb5.0						
VNDA	**Vanda**	**58.72**	**186**	LR	LR	17 55 01.1	
	comp=Z,80nm,21.1s,MS3.8,baz=308,slow=30						
VNDA	**Vanda**	**58.72**	**186**	*e*P	**P**	**17 35 20.1**	**-6.7**
	8.5nm,0.6s,mb5.0						
QSPA	**South Pole Qui**	**69.98**	**180**	*e*P	**P**	**17 36 44.1**	**+3.6**
	4.1nm,1.0s,mb4.3						
MJAR	**Matsushiro Arr**	**72.38**	**321**	P	**P**	**17 36 53.5**	**-1.5**
	2.1nm,0.8s,mb4.1,baz=155,slow=5.6,SNR=6.7						
MJAR				LR	LR	18 02 30.0	
	comp=Z,120nm,21.8s,MS4.1,baz=155,slow=31						
NVAR	**Mina Array Bea**	**77.96**	**41**	P	**P**	**17 37 27.8**	**+0.7**
	0.7nm,0.5s,mb3.8,baz=226,slow=9.9,SNR=4.9						
MNV	**Mina**	**78.06**	**41**	*e*P	**P**	**17 37 27.9**	**+0.3**
	4.9nm,1.2s,mb4.3						
MAW	**Mawson**	**83.30**	**199**	LR	LR	18 10 29.1	
	comp=Z,76nm,18.4s,MS4.1,baz=233,slow=32						
SRU	**San Rafael**	**83.33**	**44**	*e*P	**P**	**17 37 56.3**	**+0.5**
	2.7nm,0.9s,mb4.3						
HLID	**Hailey**	**83.39**	**39**	*e*P	**P**	**17 37 56.4**	**+0.2**
	0.5nm,0.5s,mb3.8						
ANMO	**Albuquerque**	**83.99**	**50**	*e*P	**P**	**17 38 00.2**	**+1.0**
	9.1nm,1.6s,mb4.7						
PV01	**Paradox Valley**	**84.12**	**46**	*e*P	**P**	**17 38 00.6**	**+0.8**
PDAR	**Pinedale Array**	**85.90**	**42**	P	**P**	**17 38 07.4**	**-1.4**
	0.3nm,0.6s,mb3.7,baz=223,slow=6.1,SNR=4.1						
PDAR				LR	LR	18 12 28.1	
	comp=Z,43nm,19.1s,MS3.9,baz=7.7,slow=33						
PLCA	**Paso Flores**	**86.56**	**132**	LR	LR	18 09 19.1	
	comp=Z,95nm,18.6s,MS4.2,baz=200,slow=30						
SNAA	**Sanae**	**88.27**	**177**	P	**P**	**17 38 20.5**	**+0.2**
	1.6nm,1.0s,mb4.2						
MIAR	**Mount Ida**	**93.38**	**55**	*e*P	**P**	**17 38 43.0**	**-1.0**
	2.5nm,0.3s,mb5.1						
YKA	**Yellowknife Ar**	**94.46**	**24**	LR	LR	18 14 16.7	
	comp=Z,34nm,19.0s,MS3.8,baz=270,slow=31						
ULM	**Lac du Bonnet**	**97.69**	**39**	LR	LR	18 22 07.4	
	comp=Z,73nm,18.1s,MS4.2,baz=229,slow=35						
SONM	**Songino Array**	**98.16**	**318**	LR	LR	18 16 10.5	
	comp=Z,41nm,20.3s,MS3.9,baz=254,slow=31						
AKASG	**Malin Array Be**	**144.51**	**335**	PKP	PKPdf	17 45 03.8	-1.4
	1.1nm,0.5s,baz=43,slow=4.7,SNR=10						
STHS	**Stebnicka Huta**	**148.40**	**341**	*e*PKP	PKPab	17 45 19.9	+1.3
STHS				*e*		17 45 52.7	
CLL	**Collm**	**148.41**	**352**	⇑*i*PKiKP	PKiKP	17 45 16.2	-0.7
	comp=Z,5.0nm,1.0s						
CLL				*i* (sPKPab)		17 45 27.7	
	comp=Z,5.0nm,0.9s						
BRG	**Berggiesshubel**	**148.70**	**351**	*e*P	PKPbc	17 45 17.7	+1.6
	comp=Z,0.8nm,0.2s						
BRG				*e*		17 45 30.9	
	comp=Z,2.2nm,0.9s						
BRG				*e*		17 45 58.2	
	comp=Z,5.8nm,1.3s						
DPC	**Dobruska-Polom**	**148.78**	**348**	⇑*e*PKP	PKPbc	17 45 17.8	+1.6
KECS	**Kecovo**	**149.46**	**341**	*e*PKP	PKPab	17 45 22.7	-0.2
BRTR	**Keskin Array B**	**149.49**	**316**	PKPbc	PKPbc	17 45 18.7	+0.7
	comp=Z,0.3nm,0.3s,baz=268,slow=30,SNR=4.3						
VYHS	**Vyhne**	**149.92**	**343**	*e*PKP	PKPbc	17 45 20.5	+1.4
VYHS				*e*		17 45 38.5	
VYHS				*e*		17 46 01.2	
KHC	**Kasperske Hory**	**150.45**	**350**	⇑*e*PKP	PKPbc	17 45 21.1	+0.8
KHC				*e*PKPAB	PKPab	17 45 28.1	+1.2
GERES	**GERESS Array B**	**150.71**	**350**	PKPbc	PKPbc	17 45 20.5	-0.5
	comp=Z,0.6nm,0.8s,baz=319,slow=3.9,SNR=3.8						
FLN	**La Foliniere**	**150.87**	**9**	*e*PKP1	PKPbc	17 45 20.9	-0.4
SGMF	**Saint Gilles**	**150.99**	**12**	*e*PKP1	PKPbc	17 45 19.7	-1.9
LDF	**La Druitiere**	**151.08**	**9**	*e*PKP1	PKPbc	17 45 21.4	-0.4
	comp=Z,6.3nm,0.8s						
GRR	**Gorron**	**151.17**	**10**	*e*PKP1	PKPbc	17 45 21.7	-0.3
	comp=Z,5.5nm,0.7s						
SSF	**Saint Saulge**	**152.99**	**4**	*e*PKP1	PKPbc	17 45 26.3	+0.1
	comp=Z,5.5nm,0.7s						
CABF	**La Chapelle**	**153.54**	**0**	*e*PKP1	PKPbc	17 45 25.2	-2.2

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*ISCJB **04** 18:36:56.9±1.1, 643S±003×12990E±007, h78km±11km, mb4.3/21, Error ellipse: s-maj=12.4km s-min=5.7km az=169.1*
*BJI **04** 18:36:56.5, 699S×12988E, h104km, mB4.7, mb4.6*
*NEIC **04** 18:36:58.7±1.4, 640S×12987E, h84km±14km, mb4.3/18, Error ellipse: s-maj=15.6km s-min=8.8km az=60.0*
*IDC **04** 18:36:59.4±3.8, 647S×12982E, h84km±34km, mb4.0/7, mb1 4.2/10, mb1mx4.1/15, mbtmp4.5/10, Error ellipse: s-maj=36.4km s-min=15.5km az=70.0*
ISC 04 18:36:57.2±0.9**, 649S**±004×**12972E**±006**, h60**km±9km**, h84**km±5.2km**: pP-P, n51, σ1ˢ20**/60**, mb4.4**/21**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SWI	**Sorong**	**5.80**	**15**	P	**Pn**	**18 38 20.1**	**-0.5**
	93nm,0.4s						
KAKA	**Kakadu**	**6.74**	**157**	*e*P	**Pn**	**18 38 37.2**	**+3.7**
	262nm,0.6s						
KAKA				*e*S	**Sn**	**18 39 49.4**	**+0.6**
BAKI	**Biak**	**8.27**	**51**	P	**Pn**	**18 38 53.7**	**-0.6**
	471nm,0.7s						
FITZ	**Fitzroy Crossi**	**12.21**	**199**	*e*P	**Pn**	**18 39 51.9**	**+3.7**
	21nm,0.3s						
FITZ				*e*S	**Sn**	**18 42 00.6**	**-2.0**
FITZ	**Fitzroy Crossi**	**12.21**	**199**	P	**Pn**	**18 39 52.4**	**+4.2**
	3.6nm,0.3s,baz=32,slow=12,SNR=125						
FITZ				S	**Sn**	**18 42 02.2**	**-0.5**
	1.9nm,0.3s,baz=75,slow=17,SNR=5.0						
WRAB	**Tennant Creek**	**14.10**	**162**	*e*Pn	**Pn**	**18 40 13.0**	**-0.8**
	27nm,0.5s						
WRAB				*e*Sn	**Sn**	**18 42 37.2**	**-11**
WRA	**Warramunga Arr**	**14.11**	**162**	P	**Pn**	**18 40 13.6**	**-0.3**
	5.6nm,0.3s,baz=348,slow=13,SNR=103						
WRA				S	**Sn**	**18 42 39.8**	**-9.0**
	5.7nm,0.3s,baz=345,slow=21,SNR=10						
WB2	**Warramunga Arr**	**14.11**	**162**	*e*P	**Pn**	**18 40 13.9**	**0.0**
WB2				*e*S	**Sn**	**18 42 38.0**	**-11**
MBWA	**Marble Bar**	**17.50**	**213**	*e*Pn	**Pn**	**18 41 02.9**	**+6.0**
	8.2nm,0.7s						
MBWA				*e*Sn	**Sn**	**18 44 10.3**	**-0.7**
PMG	**Port Moresby**	**17.51**	**101**	Pn	**Pn**	**18 40 56.1**	**-1.0**
	23nm,0.9s						
AS31	**Alice Springs**	**17.55**	**167**	*e*P	**Pn**	**18 40 59.1**	**+1.6**
AS31				*e*S	**S**	**18 44 04.0**	**-13**
ASAR	**Alice Springs**	**17.55**	**167**	P	**Pn**	**18 40 59.2**	**+1.7**
	2.2nm,0.3s,baz=345,slow=14,SNR=130						
ASAR				S	**S**	**18 44 07.5**	**-9.5**
	1.5nm,0.3s,baz=351,slow=26,SNR=7.1						
ASPA	**Alice Springs**	**17.55**	**167**	*e*P	**Pn**	**18 40 59.1**	**+1.6**
ASPA				*e*S	**S**	**18 44 04.0**	**-13**
KKM	**Kota Kinabalu**	**18.35**	**312**	*e*Pn	**Pn**	**18 41 09.2**	**+1.9**
KSM	**Kuching**	**20.93**	**292**	P	**P**	**18 41 34.4**	**-0.3**
CTA	**Charters Tower**	**20.98**	**132**	*e*P	**P**	**18 41 36.0**	**+0.6**
	6.5nm,0.9s						
CTA	**Charters Tower**	**20.98**	**132**	P	**P**	**18 41 35.7**	**+0.3**
	8.8nm,0.9s,baz=306,slow=11,SNR=8.2						
CTAO	**Charters Tower**	**20.98**	**132**	*e*P	**P**	**18 41 33.3**	**-2.1**
	8.7nm,0.9s						
FORT	**Forrest**	**24.21**	**183**	*e*P	**P**	**18 42 10.2**	**+2.1**
	8.5nm,0.5s,mb4.4						
KLBR	**Kellerberrin**	**27.37**	**203**	*e*P	**P**	**18 42 39.7**	**+3.1**
	42nm,1.7s,mb4.7						
STKA	**Stephens Creek**	**27.59**	**158**	*e*P	**P**	**18 42 38.9**	**+0.3**
	1.9nm,0.3s,mb4.2						
STKA	**Stephens Creek**	**27.59**	**158**	P	**P**	**18 42 38.6**	**+0.1**
	2.8nm,0.4s,mb4.2,baz=341,slow=8.8,SNR=16						
NWAO	**Narrogin (SRO)**	**28.75**	**202**	P	**P**	**18 42 47.1**	**-1.9**
	30nm,1.3s,mb4.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KMI	Kunming	40.95	321	P	P	18 44 33.6	-0.2
KMI				AP	pP	18 44 56.0	+6.9
KMI				PP	PP	18 46 15.6	+6.5
KMI				S	S	18 50 42.7	+1.4
KMI				SS	SS	18 53 40.9	-4.0
KMI				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb3.9						
KMI				AMB	AMB		
	comp=Z,78nm,5.7s						
KMI				LR	LR		
	comp=N,160nm,15.4s						
KMI				LR	LR		
	comp=E,141nm,15.4s						
KMI				LR	LR		
	comp=Z,120nm,13.2s						
CD2	Chengdu	44.73	328	eP	P	18 45 03.8	-0.6
LZH	Lanzhou	48.83	332	eP	P	18 45 39.1	+2.7
LZH				AP	pP	18 45 57.8	+5.7
LZH				PP	PP	18 47 33.8	+3.8
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb5.0						
HHC	Hu-ho-hao-te	49.97	342	eP	P	18 45 47.1	+2.0
HHC				AP	pP	18 46 06.5	+5.6
HHC				PP	PP	18 47 45.2	+4.7
HHC				S	S	18 52 51.4	+0.1
HHC				SCS	ScS	18 55 27.6	-3.3
HHC				SS	SS	18 56 23.5	-1.2
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,139nm,5.7s						
HHC				LR	LR		
	comp=N,116nm,19.6s						
HHC				LR	LR		
	comp=E,199nm,19.6s						
HHC				LR	LR		
	comp=Z,152nm,17.2s						
MDJ	Mudanjiang	50.87	360	P	P	18 45 52.8	+0.9
MDJ				PCP	PcP	18 47 06.4	-1.4
MDJ				PP	PP	18 47 54.7	+6.1
MDJ				PCS	PcS	18 51 05.8	+0.5
MDJ				S	S	18 53 05.4	+1.7
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,34nm,4.2s						
ULN	Ulaanbaatar	57.70	342	eP	P	18 46 41.3	-0.2
	comp=Z,1.9nm,0.6s,mb4.3						
SONM	Songino Array	57.87	342	P	P	18 46 42.3	-0.4
	comp=Z,1.0nm,0.5s,mb4.2,baz=164,slow=6.6,SNR=19						
WMQ	Urumqi	62.82	327	P	P	18 47 16.9	+0.4
MKAR	Makanchi Array	67.65	327	P	P	18 47 48.0	+0.2
	comp=Z,5.8nm,0.6s,mb4.8,baz=119,slow=7.6,SNR=62						
MKAR				PcP	PcP	18 48 16.2	+1.8
	comp=Z,1.6nm,0.7s,baz=118,slow=7.3,SNR=5.4						
MKAR	Makanchi Array	67.65	327	P	P	18 47 48.0	+0.2
MKAR				PcP	PcP	18 48 16.2	+1.8
MA2	Magadan	67.95	11	P	P	18 47 42.7	-7.0
	comp=Z,25nm,1.0s,mb5.2						
AAK	Ala-Archa	69.97	320	eP	P	18 48 02.2	+0.1
ZAL	Zalesovo	71.01	334	P	P	18 48 07.1	-1.4
	comp=Z,1.5nm,0.5s,mb4.2,baz=324,slow=4.1,SNR=6.6						
ZAL	Zalesovo	71.01	334	P	P	18 48 07.1	-1.4
KURK	Kurchatov	71.94	329	eP	P	18 48 13.1	-1.0
	comp=Z,4.6nm,1.0s,mb4.4						
VNDA	Vanda	72.98	173	P	P	18 48 19.1	-1.2
	comp=Z,1.8nm,0.9s,mb4.0,baz=321,slow=6.0,SNR=7.8						
VNDA	Vanda	72.98	173	eP	P	18 48 19.1	-1.2
	comp=Z,1.4nm,0.9s,mb3.9						
SBA	Scott Base	73.87	172	eP	P	18 48 25.7	+0.2
	comp=Z,1.3nm,0.7s,mb4.0						
MAW	Mawson	75.32	201	P	P	18 48 34.1	+0.1
	comp=Z,2.1nm,0.6s,mb4.2,baz=73,slow=5.5,SNR=9.6						
MAW	Mawson	75.32	201	eP	P	18 48 34.3	+0.4
	comp=Z,3.5nm,0.7s,mb4.4						
BRVK	Borovoye	77.56	328	eP	P	18 48 45.5	-1.0
	comp=Z,1.5nm,0.7s,mb4.0						
ZRNK	Zerenda	78.19	327	eP	P	18 48 48.9	-1.2
	comp=Z,3.1nm,0.9s,mb4.2						
QSPA	South Pole Qui	83.48	180	eP	P	18 49 17.0	-1.3
	comp=Z,2.9nm,0.6s,mb4.5						
ARU	Arti	85.13	328	eP	P	18 49 23.6	-3.0
	comp=Z,2.8nm,0.6s,mb4.6						
TORD	Torodi Ar. Bea	128.44	282	PKP	PKPdf	18 55 56.4	-0.7
	comp=Z,0.6nm,0.6s,baz=74,slow=2.4,SNR=7.7						
CPUP	Villa Florida	146.67	168	PKPbc	PKPbc	18 56 31.4	-0.7
	comp=Z,1.4nm,0.5s,baz=226,slow=1.5,SNR=8.3						
CPUP	Villa Florida	146.67	168	ePKPdf	PKPdf	18 56 30.4	+0.1
LPAZ	La Paz	151.29	142	PKPbc	PKPbc	18 56 44.2	+0.4
	comp=Z,0.9nm,0.5s,baz=104,slow=3.3,SNR=5.7						

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*BJI **04** 18:48:19.7, 7960N×360E, h10km, mB4.9, mb4.7, Ms4.6, Msz4.2*
*CSEM **04** 18:48:19.4, 7964N×381E, h2km, mb4.7*
*ISCJB **04** 18:48:21.1±0.2, 7964N±003×38E±02, h10km, mb4.6/138, MS3.8/36, Error ellipse: s-maj=4.4km s-min=3.8km az=176.4*
*MOS **04** 18:48:21.3±0.9, 7957N×331E, h12km, mb4.8/71, Error ellipse: s-maj=39.1km s-min=3.5km az=92.0*
*IDC **04** 18:48:21.7±0.6, 7961N×360E, h0km, mb4.2/15, mb1 4.3/19, mb1mx4.2/26, mbtmp4.2/19, ML3.9/4, MS3.8/18, Ms1 3.8/18, ms1mx3.6/29, Error ellipse: s-maj=15.8km s-min=12.2km az=60.0*
*NEIC **04** 18:48:22.8±0.3, 7963N×361E, h10km, mb4.6/93, Error ellipse: s-maj=6.2km s-min=4.9km az=62.0*
*BER **04** 18:48:22.4±3.5, 7988N×431E, h18km, MD3.6, ML3.6, ML3.5(NAO)*
*NAO **04** 18:48:22.3, 7960N×380E, h5km, mb4.1*
*HRVD **04** 18:48:22.8±0.3, 7951N×307E, h13km±1km, MW4.8/68, Centroid moment Tensor Solution. LP body waves: s26,c31; Mantle waves: s68,c106; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.81±.12; $M_{\theta\theta}$-0.01±.09; $M_{\phi\phi}$1.82±.08; $M_{r\theta}$-0.76±.28; $M_{\theta\phi}$0.34±.06; $M_{\phi r}$-0.48±.17; Best double couple: $M_0$2.05000×10^{16} NP1: ϕ_s174.00000°, δ38.00000°, λ-118.00000°. NP2: ϕ_s28.00000°, δ57.00000°, λ-69.00000°. Principal axes: T 1.9820, Plg10.0000°, Azm103.0000°; N 0.1380, Plg17.0000°, Azm196.0000°; P -2.1170, Plg70.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BGS **04** 18:48:23.3±1.9, 7959N×320E, h10km, mb4.8*
*SZGRF **04** 18:48:38.5, 7840N×563E, h41km, mb4.6, Svalbard, Norway, region*

ISC 04 18:48:22.6±0.2, **7962N**±003×**37E**±02, **h10**km, **(h27**km±3.2km**:pP-P), n412, σ1**$**11**/425, **mb4.6**/138, **MS3.8**/36, **26C-6D, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.70	110	Pn	Pn	18 48 49.7	-2.6
KBS				Sn	Sn	18 49 08.8	-5.3
KBS	Kingsbay	1.70	110	eP	Pn	18 48 49.6	-2.7
KBS				eS	Sn	18 49 08.7	-5.4
KBS	Kingsbay	1.70	110	ePn	Pn	18 48 49.4	-2.9
KBS				eSn	Sn	18 49 09.4	-4.7
KBS	Kingsbay	1.70	110	ePn	Pn	18 48 49.4	-2.9
KBS				eSn	Sn	18 49 09.4	-4.7
SPB4	Spitsbergen Ar	2.85	114	ePn	Pn	18 49 06.1	-1.9
SPB4	Spitsbergen Ar	2.85	114	ePn	Pn	18 49 06.1	-2.0
SPA0	Spitsbergen Ar	2.85	114	Pn	Pn	18 49 06.3	-1.8
	baz=324,slow=7.9						
SPA0				Sn	Sn	18 49 37.8	-4.7
	baz=327,slow=16						
DAG	Danmarks Havn	5.37	249⇓	iP	Pn	18 49 38.8	-3.9
	25nm,0.7s						
DAG	Danmarks Havn	5.37	249⇓	iP	Pn	18 49 38.8	-3.9
DAG				pmax	pmax		
	comp=Z,25nm,0.7s						
HOPEN	Hopen	5.39	114	eP	Pn	18 49 40.5	-2.5
HOPEN				eS	Sn	18 50 37.9	-7.1
HOPEN				AML	AML	18 50 43.0	
	comp=N,515nm,0.4s						
BJO1	Bjornoya	6.16	139	eP	Pn	18 49 52.4	-1.2
BJO1				eS	Sn	18 51 00.3	-3.8
BJO	Bjornoya	6.18	138	eP	Pn	18 49 52.4	-1.5
BJO				eS	Sn	18 50 58.9	-5.7
BJO				AML	AML	18 51 01.8	
	comp=Z,29nm,0.6s						
JNW	Jan Mayen West	9.13	206	eP	Pn	18 50 33.0	-1.4
JNW				eS	Sn	18 52 07.6	-10
JNW				AML	AML	18 52 13.1	
	comp=Z,48nm,0.3s						
JNW	Jan Mayen West	9.13	206	eP	Pn	18 50 33.0	-1.4
JNW				eS	Sn	18 52 07.6	-10
JNE	Jan Mayen East	9.16	205	eP	Pn	18 50 33.6	-1.2
JMIC	Jan Mayen	9.18	206	Pn	Pn	18 50 32.5	-2.5
	comp=Z,20nm,0.3s,baz=92,slow=3.3,SNR=50						
JMIC				Sn	Sn	18 52 08.4	-10
	comp=Z,9.4nm,0.3s,baz=156,slow=19,SNR=14						
JMIC				LR	LR	18 53 10.1	
	comp=Z,179nm,19.0s,baz=85,slow=32						
JMIC	Jan Mayen	9.18	206	Pn	Pn	18 50 32.5	-2.5
JMIC				Sn	Sn	18 52 08.4	-10
JMI	Jan Mayen	9.26	206	eP	Pn	18 50 34.3	-1.7
JMI				AML	AML	18 52 14.8	
	comp=Z,49nm,0.4s						
SCO	Scoresbysund	11.14	229	i P	Pn	18 50 59.6	-2.2
	comp=Z,11nm,0.9s						
SCO				eS	Sn	18 52 57.4	-9.0
SCO	Scoresbysund	11.14	229	eP	Pn	18 50 59.6	-2.2
SCO				pmax	pmax		
	comp=Z,11nm,0.9s						
SCO	Scoresbysund	11.14	229	eP	Pn	18 50 59.6	-2.2
	comp=Z,11nm,0.9s						
SCO				eS	Sn	18 52 57.4	-9.0
KEV	Kevo	11.52	136	ePn	Pn	18 51 02.1	-4.9
KEV				eSn	Sn	18 53 03.5	-12
KEV	Kevo	11.52	136	eP	Pn	18 51 10.7	+3.7
KEV				eSn	Sn	18 53 03.5	-12
ARCES	ARCESS Array B	11.54	139	Pn	Pn	18 51 05.7	-1.7
	comp=Z,3.8nm,0.3s,baz=345,slow=11,SNR=34						
ARCES				Sn	Sn	18 53 05.5	-11
	comp=Z,0.4nm,0.3s,baz=345,slow=20,SNR=2.6						
ARA0	ARCESS Array S	11.54	139	Pn	Pn	18 51 05.2	-2.2
	baz=351,slow=12						
ARA0				Sn	Sn	18 53 07.2	-9.2
	baz=2.1,slow=22						
ARE0	ARCESS Array S	11.54	139	ePn	Pn	18 51 04.8	-2.6
ARE0				eSn	Sn	18 52 59.9	-16
ARE0	ARCESS Array S	11.54	139	ePn	Pn	18 51 04.8	-2.6
SUMG	Summit	11.97	257	ePn	Pn	18 51 08.5	-4.7
	comp=Z,150nm,0.8s						
APA	Apatity	14.41	130⇑	iP	Pn	18 51 31.5	-15
APA				pmax	pmax		
	comp=Z,22nm,0.7s						
JOF	Joensuu	18.58	138	ep	Pn	18 52 36.8	-3.1
	comp=Z,4.4nm,0.5s						
JOF	Joensuu	18.58	138	eP	Pn	18 52 36.8	-3.1
JOF				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KAF	Kangasniemi	18.81	146	ep	Pn	18 52 40.2	-2.5
	comp=Z,14nm,0.8s						
KAF	Kangasniemi	18.81	146	eP	Pn	18 52 40.2	-2.5
KAF				pmax	pmax		
	comp=Z,14nm,0.8s						
NB2	NORSAR Subarra	18.82	169	P	Pn	18 52 42.4	-0.4
	comp=Z,12nm,1.2s,baz=356,slow=11						
NB2	NORSAR Subarra	18.82	169	P	Pn	18 52 43.1	+0.3
	baz=353,slow=9.3						
NOA	NORSAR Array B	18.82	169	P	Pn	18 52 42.1	-0.7
	comp=Z,0.3nm,0.3s,baz=352,slow=12,SNR=16						
SFJD	Kangerlussuaq	18.94	260	P	Pn	18 52 38.4	-5.9
	comp=Z,3.4nm,0.3s,baz=8.8,slow=11,SNR=20						
SFJD	Kangerlussuaq	18.94	260	i P	Pn	18 52 39.0	-5.2
	comp=Z,34nm,0.6s						
SFJD	Kangerlussuaq	18.94	260	i P	Pn	18 52 39.0	-5.2
SFJD				pmax	pmax		
	comp=Z,34nm,0.6s						
NAO01	NORSAR Array S	19.00	169	eP	Pn	18 52 41.3	-3.8
	comp=Z,7.9nm,0.8s						
FIA1	FINESS Array S	19.44	147	eP	Pn	18 52 46.5	-3.8
FIA0	FINESS Array S	19.44	147	P	Pn	18 52 49.9	-0.5
	baz=350,slow=8.6						
FINES	FINESS Array B	19.44	147	P	Pn	18 52 48.5	-1.9
	comp=Z,0.4nm,0.3s,baz=349,slow=9.9,SNR=26						
LRW	Lerwick	19.64	187	eP	Pn	18 52 51.0	-1.8
LRW	Lerwick	19.64	187	eP	Pn	18 52 51.0	-1.8
HFS	Hagfors	19.82	165	P	Pn	18 52 53.4	-1.5
	comp=Z,0.5nm,0.3s,baz=1.0,slow=8.9,SNR=24						
HFS	Hagfors	19.82	165	P	Pn	18 52 53.7	-1.2
	baz=18,slow=6.2						
KONO	Kongsberg	20.16	171	eP	P	18 52 54.0	-3.0
KONO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KONO	Kongsberg	20.16	171	eP	P	18 52 54.0	-3.0
	comp=Z,9.1nm,0.9s						
KLMR	Klimovskoe	21.65	129	eP	P	18 53 12.7	-0.4
KLMR				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.6						
MVH1	Achvaich	21.94	191	eP	P	18 53 15.2	-1.1
MVH1	Achvaich	21.94	191	eP	P	18 53 15.2	-1.1
MCD	Coleburn Disti	22.25	190⇑	eP	P	18 53 19.5	-0.1
MCD				AMb	AMB	18 53 21.0	
	comp=Z,47nm,1.4s,mb4.7						
MCD	Coleburn Disti	22.25	190⇑	eP	P	18 53 19.5	-0.1
MCD				AMb	AMB	18 53 21.0	
	comp=Z,47nm,1.4s,mb4.7						
VSU	Vasula	22.44	147	eP	P	18 53 20.8	-0.7
MME1	Meikle Cairn	22.52	189⇑	eP	P	18 53 21.8	-0.5
MME1	Meikle Cairn	22.52	189⇑	eP	P	18 53 21.8	-0.5
MUD	Monsted U'grnd	23.35	172	i P	P	18 53 31.2	+0.1
	comp=Z,16nm,1.0s,mb4.4						
MUD				i S	S	18 57 53.6	+10
MUD							
	comp=Z,100nm,18.0s						
MUD	Monsted U'grnd	23.35	172	i P	P	18 53 31.2	+0.1
MUD				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.4						
MUD				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.3						
MUD	Monsted U'grnd	23.35	172	i P	P	18 53 31.2	+0.1
	comp=Z,16nm,1.0s,mb4.4						
MUD				i S	S	18 57 53.6	+10
EAB	Aberfoyle	23.69	191	eP	P	18 53 33.8	-0.7
EAB	Aberfoyle	23.69	191	eP	P	18 53 33.8	-0.7
ESY	Stoneypath	23.90	189	eP	P	18 53 36.7	+0.2
ESY	Stoneypath	23.90	189	eP	P	18 53 36.7	+0.2
EAU	Auchinoon	24.00	190	eP	P	18 53 37.4	0.0
EAU	Auchinoon	24.00	190	eP	P	18 53 37.4	0.0
EBL	Broad Law	24.06	189	eP	P	18 53 37.6	-0.3
EBL	Broad Law	24.06	189	eP	P	18 53 37.6	-0.3
EKA	Eskdalemuir Ar	24.50	189	P	P	18 53 41.7	-0.3
	comp=Z,5.2nm,0.9s,mb4.0,baz=6.7,slow=10,SNR=13						
ESK	Eskdalemuir	24.52	189	eP	P	18 53 41.3	-0.8
ESK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.4						
ESK	Eskdalemuir	24.52	189	eP	P	18 53 41.3	-0.9
	comp=Z,12nm,1.0s,mb4.4						
ESK	Eskdalemuir	24.52	189	eP	P	18 53 41.3	-0.8
	comp=Z,12nm,1.0s,mb4.4						
BBO1	Bothel	25.10	189	eP	P	18 53 47.5	+0.1
BBO1	Bothel	25.10	189	eP	P	18 53 47.5	+0.1
FRB	Frobisher Bay	25.12	274	P	P	18 53 48.1	+0.6
	comp=Z,13nm,0.8s,mb4.5,baz=19,slow=10,SNR=6.7						
FRB				LR	LR	19 03 44.3	
	comp=Z,371nm,19.6s,MS3.9,baz=63,slow=37						
CKE	Keswick	25.25	189	eP	P	18 53 48.8	0.0
CKE	Keswick	25.25	189	eP	P	18 53 48.8	0.0
XDE	Dent Fell	25.34	190⇑	eP	P	18 53 49.6	0.0
XDE	Dent Fell	25.34	190⇑	eP	P	18 53 49.6	0.0
SOKR	Solikamsk	25.60	110c	iP	P	18 54 00.5	+8.6
SOKR						18 57 21.8	
SOKR				pmax	pmax		
	comp=Z,30nm,1.3s,mb4.7						
SOKR				MLR	MLR		
	comp=Z,410nm,23.0s,MS3.9						
WIM	Isle of Man	25.74	191	eP	P	18 53 53.0	-0.2
WIM	Isle of Man	25.74	191	eP	P	18 53 53.0	-0.2
BSEG	Bad Segeberg	25.90	171	eP	P	18 53 55.0	+0.4
	comp=Z,13nm,0.9s,mb4.5						
LHO	Holmfirth	26.26	187	eP	P	18 53 57.9	-0.1
LHO				AMb	AMB	18 53 58.9	
	comp=Z,32nm,1.3s,mb4.7						
LHO	Holmfirth	26.26	187	eP	P	18 53 57.9	-0.1
LHO				AMb	AMB	18 53 58.9	
	comp=Z,32nm,1.3s,mb4.7						
SUW	Suwalki	26.53	154	P	P	18 53 57.2	-3.1
SUW				pmax	pmax		
	comp=Z,27nm,0.9s,mb4.8						
SUW	Suwalki	26.53	154	P	P	18 53 57.2	-3.1
	comp=Z,27nm,0.9s,mb4.8						
DSB	Dublin	26.71	193	P	P	18 53 58.0	-3.9
	comp=Z,12nm,1.2s,mb4.3						
OBN	Obninsk	26.83	136κ	eP	P	18 54 02.8	-0.3
OBN				e		18 54 11.5	
OBN						18 54 44.0	
OBN				e		18 55 08.4	
OBN				eS	S	18 58 45.2	+5.9
OBN				pmax	pmax		
	comp=Z,31nm,1.8s,mb4.5						
OBN				MLR	MLR		
	comp=Z,300nm,21.0s,MS3.8						
SBD1	Bryn Du	26.94	189	eP	P	18 54 03.6	-0.4
SBD1				AMb	AMB	18 54 05.8	
	comp=Z,25nm,1.5s,mb4.5						
SBD1	Bryn Du	26.94	189	eP	P	18 54 03.6	-0.4
SBD1				AMb	AMB	18 54 05.8	
	comp=Z,25nm,1.5s,mb4.5						
NRDL	Niedersach Rie	27.34	171	eP	P	18 54 08.3	+0.7
	comp=Z,27nm,1.7s,mb4.5						
NRDL				epP	pP	18 54 18.7	+8.0
NRDL				esP	sP	18 54 26.6	+15
RUE	Ruedersdorf	27.48	167	P	P	18 54 06.2	-2.7
	comp=Z,26nm,1.5s,mb4.5						
CLZ	Clausthal	28.00	171	eP	P	18 54 14.7	+1.2
	comp=Z,15nm,1.7s,mb4.3						
CLZ				epP	pP	18 54 25.1	+8.5
CLZ	Clausthal	28.00	171	eP	P	18 54 14.7	+1.2
CLZ				pmax	pmax		
	comp=Z,15nm,1.7s,mb4.3						
BUG	Bochum--Univer	28.33	175	eP	P	18 54 17.1	+0.6
	comp=Z,25nm,1.7s,mb4.6						
CLL	Collm	28.62	168	eP	P	18 54 19.4	+0.3
	comp=Z,23nm,1.8s,mb4.6						
CLL	Collm	28.62	168	P	P	18 54 18.4	-0.7
	comp=Z,logA/T=1.1,mb4.6						
CLL				i		18 54 29.6	
CLL				i PPP		18 55 17.0	
CLL	Collm	28.62	168	i P	P	18 54 18.4	-0.7
	comp=Z,22nm,1.8s,mb4.6						
CLL				i x	x	18 54 29.6	
CLL				i PPP		18 55 17.0	
CLL	Collm	28.62	168	i P	P	18 54 14.7	-4.4
CLL				i	pP	18 54 18.4	-3.7
CLL	Collm	28.62	168	i P	P	18 54 14.7	-4.4
CLL				i	pP	18 54 18.4	-3.7
CLL				i		18 54 29.6	
SVE	Sverdlovsk	28.86	107	eP	P	18 54 30.9	+10
SVE				eS	S	18 59 11.0	-0.3
SVE				pmax	pmax		
	comp=Z,60nm,1.8s,mb5.0						
SVE				MLR	MLR		
	comp=N,400nm,16.0s,MS4.2						
SVE				MLR	MLR		
	comp=E,200nm,16.0s,MS4.2						
SVE				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.2						
ARU	Arti	28.88	110⇓	iP	P	18 54 22.0	+0.6
ARU				e		18 55 12.5	
ARU				ePPP		18 55 22.0	
ARU				e		18 57 26.3	
ARU				eS	S	18 59 12.7	+1.1
ARU				eSS	SS	19 00 37.2	-37
ARU				e		19 05 00.8	
ARU				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.9						
ARU				MLR	MLR		
	comp=N,200nm,19.0s,MS3.8						
ARU				MLR	MLR		
	comp=Z,300nm,19.0s,MS3.9						
ARU				MLR	MLR		
	comp=E,80nm,18.0s,MS3.8						
ARU	Arti	28.88	110	eP	P	18 54 22.3	+0.9
	comp=E,18nm,0.8s,mb4.8						
ARU				e		18 54 30.5	
ARU	Arti	28.88	110	eP	P	18 54 22.3	+0.9
FBE	Freiberg	29.02	167	eP	P	18 54 22.7	+0.1
	comp=Z,40nm,1.8s,mb4.8						
BRG	Berggiesshubel	29.09	167	eP	P	18 54 23.8	+0.5
	comp=Z,5.2nm,1.2s,mb4.2						
BRG				e		18 54 33.2	
	comp=Z,3.9nm,1.1s						
BRG				e		18 54 42.4	
	comp=Z,2.4nm,0.8s						
BRG							
	comp=N,48nm,18.3s						
BRG							
	comp=E,58nm,22.4s						
BRG							
	comp=Z,109nm,18.1s						
BRG	Berggiesshubel	29.09	167	eP	P	18 54 23.8	+0.5
BRG				e		18 54 33.2	
BRG				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.1						
BRG				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
BRG				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
BRG				MLR	MLR		
	comp=N,48nm,18.3s,MS3.3						
BRG				MLR	MLR		
	comp=E,58nm,22.4s,MS3.3						
BRG				MLR	MLR		
	comp=Z,109nm,18.1s,MS3.5						
BRG	Berggiesshubel	29.09	167	eP	P	18 54 23.8	+0.5
	comp=Z,5.2nm,1.2s,mb4.1						
BRG				e		18 54 33.2	
BRG				e		18 54 42.4	
BRG				LR	LR		
	comp=Z,110nm,18.1s,MS3.5						
MOX	Moxa	29.23	170	eP	P	18 54 25.0	+0.5
	comp=Z,15nm,1.1s,mb4.6						
MOX				esP	sP	18 54 44.0	+15
MOX	Moxa	29.23	170	eP	P	18 54 25.4	+0.9
	comp=Z,19nm,1.2s,mb4.7						
MOX				e		18 54 35.9	
MOX				e		18 54 43.8	
MOX	Moxa	29.23	170	eP	P	18 54 25.4	+0.9
MOX				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.7						
WERD	Werda	29.45	169	eP	P	18 54 26.7	+0.2
	comp=Z,14nm,1.4s,mb4.5						
PVCC	Panska Ves	29.46	166	eP	P	18 54 26.7	+0.1
TANN	Tannenbergstha	29.49	169	eP	P	18 54 27.5	+0.7
	comp=Z,13nm,1.2s,mb4.5						
UPC	Upice	29.55	164	eP	P	18 54 28.2	+0.9
TNS	Taunus Mts	29.57	174	eP	P	18 54 28.1	+0.6
	comp=Z,12nm,1.5s,mb4.4						
TNS	Taunus Mts	29.57	174	eP	P	18 54 28.1	+0.6
TNS				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.4						
NKC	Novy Kostel	29.67	169	eP	P	18 54 29.2	+0.8
NKC				epP	pP	18 54 38.5	+7.0
NKC	Novy Kostel	29.67	169	eP	P	18 54 29.2	+0.8
NKC				e		18 54 38.5	
BAIF	Baives	29.69	179	eP	P	18 54 28.6	0.0
	comp=Z,15nm,1.1s,mb4.4						
BAIF	Baives	29.69	179	eP	P	18 54 28.6	0.0
BAIF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
BAIF	Baives	29.69	179	eP	P	18 54 28.6	0.0
	comp=Z,7.7nm,1.1s,mb4.4						
DPC	Dobruska-Polom	29.72	164	eP	P	18 54 29.0	+0.1
OJC	Ojcow	30.05	159	eP	P	18 54 32.3	+0.5
ROTZ	Rotzenmuhle	30.13	169	eP	P	18 54 33.4	+0.9
	comp=Z,8.0nm,1.0s,mb4.4						
ROTZ				esP	sP	18 54 52.0	+15
GRA1	Grafenberg Arr	30.17	170	eP	P	18 54 33.6	+0.8
	comp=Z,9.0nm,1.1s,mb4.4						
GRA1				epP	pP	18 54 44.5	+8.6
GRF	Grafenberg Arr	30.17	170	eP	P	18 54 33.6	+0.8
	comp=Z,9.0nm,1.1s,mb4.4						
GRF				epP	pP	18 54 44.5	+8.6
GRF	Grafenberg Arr	30.17	170	eP	P	18 54 33.6	+0.8
GRF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
GRF	Grafenberg Arr	30.17	170	eP	P	18 54 33.6	+0.8
GRF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
OKC	Ostrava-Krasne	30.33	161	eP	P	18 54 35.2	+0.9
AKASG	Malin Array Be	30.35	147	P	P	18 54 33.4	-1.0
	comp=Z,2.4nm,0.7s,mb4.0,baz=345,slow=9.3,SNR=13						
AKASG				LR	LR	19 06 19.1	
	comp=Z,211nm,20.9s,MS3.8,baz=345,slow=36						
AKBB	Malin Array Si	30.35	147	eP	P	18 54 33.0	-1.4
MORC	Moravsky Berou	30.36	162⇑	iP	P	18 54 35.4	+0.9
MORC	Moravsky Berou	30.36	162	eP	P	18 54 34.6	+0.1
MORC				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						

MORC Moravsky Berou 30.36 162 *e*P P **18 54 34.6 +0.1**
comp=Z,11nm,1.0s,mb4.5
MORC *e* 18 54 45.7
TREC Trest 30.73 165 *e*P P **18 54 38.7 +0.9**
TREC *e*pP pP 18 54 47.4 +6.5
WET Wettzell 30.77 168 *e*P P **18 54 38.8 +0.6**
comp=Z,13nm,1.5s,mb4.5
WET Wettzell 30.77 168 *e*P P **18 54 38.8 +0.6**
WET pmax pmax
comp=Z,13nm,1.5s,mb4.5
VRAC Vranov 30.78 163 LR LR 19 06 47.5
comp=Z,84nm,18.1s,MS3.4,baz=359,slow=36
VRAC Vranov 30.78 163 ⇑*i*P P **18 54 39.3 +1.1**
VRAC Vranov 30.78 163 ⇑P P **18 54 39.3 +1.1**
VRAC Vranov 30.78 163 *e*P P **18 54 39.0 +0.8**
KHC Kasperske Hory 30.82 167 *e*P P **18 54 40.0 +1.5**
KHC *ex* x 18 54 49.9
KHC AMS AMS 19 06 10.0
comp=Z,100nm,17.6s
KWP Kalwaria 30.84 156 P P **18 54 39.5 +0.7**
NIE Niedzica 30.89 159 *e*P P **18 54 40.4 +1.2**
STHS Stebnicka Huta 30.95 157 *i* P P **18 54 41.3 +1.6**
STHS pmax pmax
comp=Z,15nm,0.9s,mb4.8
STHS Stebnicka Huta 30.95 157 *i* P P **18 54 41.3 +1.6**
comp=Z,15nm,0.9s,mb4.8
STU Stuttgart 31.04 173 *e*P P **18 54 41.5 +1.0**
comp=Z,32nm,1.5s,mb4.9
STU *e*pP pP 18 54 52.2 +8.7
STU Stuttgart 31.04 173 *e*P P **18 54 40.7 +0.2**
STU pmax pmax
comp=Z,13nm,0.9s,mb4.8
STU Stuttgart 31.04 173 *e*P P **18 54 40.7 +0.2**
comp=Z,13nm,0.9s,mb4.8
STU Stuttgart 31.04 173 *e*P P **18 54 40.7 +0.2**
comp=Z,13nm,0.9s,mb4.8
GEC2 GERESS Array S 31.11 167 *e*P P **18 54 42.2 +1.1**
comp=Z,10.0nm,1.0s,mb4.6
GEC2 *e*pP pP 18 54 52.8 +8.7
GEC2 *e*sP sP 18 55 00.9 +16
GEC2 GERESS Array S 31.11 167 *e*P P **18 54 42.2 +1.1**
GEC2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
GERES GERESS Array B 31.11 167 P P **18 54 41.7 +0.6**
comp=Z,3.4nm,0.8s,mb4.2,baz=10,slow=8.1,SNR=28
GERES LR LR 19 06 35.8
comp=Z,127nm,20.2s,MS3.6,baz=132,slow=35
CDF Champ du Feu 31.36 175 *e*P P **18 54 43.6 +0.3**
comp=Z,12nm,1.0s,mb4.3
CDF Champ du Feu 31.36 175 *e*P P **18 54 43.6 +0.3**
CDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
CDF Champ du Feu 31.36 175 *e*P P **18 54 43.6 +0.3**
comp=Z,5.8nm,1.0s,mb4.3
GRR Gorron 31.40 186 *e*P P **18 54 42.5 -1.2**
comp=Z,24nm,1.1s,mb4.7
GRR Gorron 31.40 186 *e*P P **18 54 42.5 -1.2**
GRR pmax pmax
comp=Z,12nm,1.1s,mb4.6
GRR Gorron 31.40 186 *e*P P **18 54 42.5 -1.2**
comp=Z,12nm,1.1s,mb4.7
VRHR Novokhopersk 31.42 132 *e*P P **18 54 42.9 -0.9**
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
VRHR pmax pmax
comp=N,30nm,1.5s
VRHR pmax pmax
comp=E,40nm,1.1s
BFO Black Forest 31.46 174 *e*P P **18 54 45.1 +0.9**
comp=Z,15nm,1.9s,mb4.5
BFO Black Forest 31.46 174 *e*P P **18 54 45.1 +0.9**
BFO pmax pmax
comp=Z,15nm,1.9s,mb4.5
KOLS Kolonicke sedl 31.51 156 *e*pP pP 18 54 47.0 -0.7
KOLS Kolonicke sedl 31.51 156 *e*P P **18 54 47.1 +2.5**
KOLS pmax pmax
comp=Z,6.0nm,1.3s,mb4.3
KOLS Kolonicke sedl 31.51 156 *e*P P **18 54 47.1 +2.5**
comp=Z,6.4nm,1.3s,mb4.3
ROSF Rostrenen 31.51 189 *e*P P **18 54 43.8 -0.8**
SGMF Saint Gilles 31.57 188 *e*P P **18 54 44.6 -0.6**
SMOL Smolenice 31.61 162 *e*pP pP 18 54 47.0 -1.6
VYHS Vyhne 31.71 161 *e*P P **18 54 47.1 +0.7**
VYHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
VYHS Vyhne 31.71 161 *e*P P **18 54 47.1 +0.7**
comp=Z,4.9nm,1.1s,mb4.2
HAU Haudompre 31.76 177 *e*P P **18 54 48.1 +1.3**
comp=Z,20nm,0.9s,mb4.6
HAU *e*R
comp=Z,76nm,21.5s
HAU Haudompre 31.76 177 *e*P P **18 54 48.1 +1.3**
HAU pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
HAU MLR MLR
comp=Z,80nm,21.5s,MS3.4
HAU Haudompre 31.76 177 *e*P P **18 54 48.1 +1.3**
comp=Z,10.0nm,0.9s,mb4.7
HAU LR LR
comp=Z,80nm,21.5s,MS3.4
KECS Kecovo 31.83 159 *e*P P **18 54 46.3 -1.2**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
KECS Kecovo 31.83 159 *e*P P **18 54 46.3 -1.2**
comp=Z,2.8nm,0.9s,mb4.1
ZST Bratislava 31.91 163 *e*P P **18 54 49.6 +1.4**
ZST pmax pmax
comp=Z,14nm,1.3s,mb4.6
ZST Bratislava 31.91 163 *e*P P **18 54 49.6 +1.4**
comp=Z,14nm,1.3s,mb4.6
QUIF Quistinic 31.93 189 *e*P P **18 54 47.7 -0.6**
HINF Hinteralfeld 31.95 176 *e*P P **18 54 48.5 0.0**
CONA Conrad Observa 32.12 164 ⇑*i*P P **18 54 51.6 +1.6**
comp=Z,10nm,0.9s,mb4.7
MOA Molln 32.12 167 ⇑*i*P P **18 54 51.3 +1.3**
comp=Z,5.1nm,0.8s,mb4.4
BILL Bilibino 32.21 12 P P **18 54 51.0 +0.2**
BILL *e* 18 55 00.1
BILL pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
BILL MLR MLR
comp=Z,200nm,17.0s,MS3.9
BILL Bilibino 32.21 12 P P **18 54 49.7 -1.1**
comp=Z,12nm,1.3s,mb4.6
BILL Bilibino 32.21 12 P P **18 54 49.7 -1.1**
comp=Z,12nm,1.3s,mb4.6
PSZ Piszkesteto 32.35 159 *e*P P **18 54 50.0 -2.1**
PSZ pmax pmax
comp=Z,14nm,1.2s,mb4.7
PSZ Piszkesteto 32.35 159 *e*P P **18 54 50.0 -2.1**
comp=Z,14nm,1.2s,mb4.7
SRO1 Iza 32.41 162 *e*P P **18 54 54.7 +2.2**
SRO1 pmax pmax
comp=Z,27nm,1.0s,mb5.0
SRO1 Iza 32.41 162 *e*P P **18 54 54.7 +2.2**
comp=Z,27nm,1.0s,mb5.0
LOR Lormes 32.48 180 *e*P P **18 54 52.3 -0.9**
comp=Z,20nm,1.1s,mb4.6
LOR *e*R
comp=Z,92nm,18.0s
LOR Lormes 32.48 180 *e*P P **18 54 52.3 -0.9**
LOR pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
LOR MLR MLR
comp=Z,90nm,18.0s,MS3.5
LOR Lormes 32.48 180 *e*P P **18 54 52.3 -0.9**
comp=Z,9.9nm,1.1s,mb4.5
LOR LR LR
comp=Z,90nm,18.0s,MS3.5
WATA Walderalm 32.54 170 ⇑*i*P P **18 54 55.5 +1.8**
comp=Z,4.2nm,0.7s,mb4.5
WATA Walderalm 32.54 170 ⇑*i*P P **18 54 55.5 +1.8**
WATA pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SSF Saint Saulge 32.69 180 *e*P P **18 54 54.5 -0.5**
comp=Z,20nm,1.0s,mb4.7
SSF Saint Saulge 32.69 180 *e*P P **18 54 54.5 -0.5**
SSF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SSF Saint Saulge 32.69 180 *e*P P **18 54 54.5 -0.5**
comp=Z,10nm,1.0s,mb4.7
ARSA Arzberg 32.78 165 ⇑*i*P P **18 54 57.7 +1.9**
comp=Z,4.8nm,0.7s,mb4.5
KBA Koelnbreinsper 32.86 168 ⇑*i*P P **18 54 58.5 +2.0**
comp=Z,5.2nm,0.9s,mb4.5
KBA Koelnbreinsper 32.86 168 ⇑*i*P P **18 54 58.5 +2.0**
KBA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
AVF Avril sur Loir 32.96 180 *e*P P **18 54 56.9 -0.5**
comp=Z,28nm,1.0s,mb4.8
AVF Avril sur Loir 32.96 180 *e*P P **18 54 56.9 -0.5**
AVF pmax pmax
comp=Z,14nm,1.0s,mb4.8
AVF Avril sur Loir 32.96 180 *e*P P **18 54 56.9 -0.5**
comp=Z,14nm,1.0s,mb4.8
BURAR Bucovina Array 33.05 153 ⇑*i*P P **18 54 58.9 +0.8**
DAVOX Davos 33.05 172 LR LR 19 07 29.6
comp=Z,105nm,21.4s,MS3.5,baz=78,slow=35
SMF Signal de Mont 33.10 180 *e*P P **18 54 58.2 -0.4**
comp=Z,8.2nm,0.8s,mb4.4
SMF Signal de Mont 33.10 180 *e*P P **18 54 58.2 -0.4**
SMF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SMF Signal de Mont 33.10 180 *e*P P **18 54 58.2 -0.4**
comp=Z,4.1nm,0.8s,mb4.4
CABF La Chapelle 33.15 177 *e*P P **18 54 59.0 0.0**
comp=Z,15nm,0.8s,mb4.7
CABF La Chapelle 33.15 177 *e*P P **18 54 59.0 0.0**
CABF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CABF La Chapelle 33.15 177 *e*P P **18 54 59.0 0.0**
comp=Z,7.5nm,0.8s,mb4.7
SCHQ Schefferville 33.16 266 LR LR 19 08 30.8
comp=Z,201nm,19.5s,MS3.8,baz=120,slow=36
SCHQ Schefferville 33.16 266 P P **18 54 54.4 -4.8**
comp=Z,1.5nm,0.6s,mb4.1
MFF Saint Martin d 33.17 185 *e*P P **18 54 58.7 -0.6**
comp=Z,14nm,1.0s,mb4.6
MFF Saint Martin d 33.17 185 *e*P P **18 54 58.7 -0.6**
MFF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MFF Saint Martin d 33.17 185 *e*P P **18 54 58.7 -0.6**
comp=Z,7.2nm,1.0s,mb4.6
BGF Bois d'Agland 33.19 181 *e*P P **18 54 59.2 -0.2**
comp=Z,56nm,1.0s,mb5.1
BGF Bois d'Agland 33.19 181 *e*P P **18 54 59.2 -0.2**
BGF pmax pmax
comp=Z,28nm,1.0s,mb5.2
BGF Bois d'Agland 33.19 181 *e*P P **18 54 59.2 -0.2**
comp=Z,28nm,1.0s,mb5.1
TCF Toulx Ste Croi 33.47 182 *e*P P **18 55 01.4 -0.4**
comp=Z,36nm,1.1s,mb4.9
TCF Toulx Ste Croi 33.47 182 *e*P P **18 55 01.4 -0.4**
TCF pmax pmax
comp=Z,18nm,1.1s,mb4.9
TCF Toulx Ste Croi 33.47 182 *e*P P **18 55 01.4 -0.4**
comp=Z,18nm,1.1s,mb4.9
OBKA Obir 33.47 166 ⇑*i*P P **18 55 03.9 +2.0**
comp=Z,21nm,0.9s,mb5.0
CHKZ Chkalovo 33.63 99 *e*P P **18 55 04.0 +0.8**
CHKZ *e* 18 55 12.6
CHKZ pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
CHKZ Chkalovo 33.63 99 *e*P P **18 55 04.0 +0.8**
comp=Z,9.2nm,0.6s,mb4.9
CHKZ *e* 18 55 12.6
CHKZ Chkalovo 33.63 99 *e*P P **18 55 04.0 +0.8**
DRGR 33.67 156 ⇓*i*P P **18 55 04.5 +0.9**
YKA Yellowknife Ar 33.78 313 P P **18 55 04.3 -0.2**
comp=Z,0.1nm,0.3s,baz=345,slow=33,SNR=3.3
YKA PcP PcP 18 57 42.9 -0.8
comp=Z,1.4nm,0.7s,baz=4.3,slow=2.3,SNR=7.9
YKA LR LR 19 08 42.1
comp=Z,167nm,18.3s,MS3.8,baz=35,slow=36
YKA Yellowknife Ar 33.78 313 P P **18 55 04.3 -0.3**
YKA 18 57 42.9
YKA Yellowknife Ar 33.78 313 P P **18 55 04.3 -0.2**
YKA PcP PcP 18 57 42.9 -0.8
YKA LR LR 19 08 42.0
YKA Yellowknife Ar 33.78 313 PcP PcP 18 57 42.9 -0.8
PKSM Moragy 33.98 161 ⇑*i*P P **18 54 59.5 -6.7**
PKSM Moragy 33.98 161 ⇑P P **18 54 59.5 -6.7**
ZRNK Zerenda 34.03 101 *e*P P **18 55 07.5 +0.8**
ZRNK *e* 18 55 16.1
ZRNK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ZRNK Zerenda 34.03 101 *e*P P **18 55 07.5 +0.8**
comp=Z,5.7nm,0.6s,mb4.7
ZRNK *e* 18 55 16.1
ZRNK Zerenda 34.03 101 *e*P P **18 55 07.5 +0.8**
BRVK Borovoye 34.16 99 *e*P P **18 55 08.5 +0.7**
BRVK *e* 18 55 17.3
BRVK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BRVK Borovoye 34.16 99 *e*P P **18 55 08.5 +0.7**
comp=Z,6.7nm,1.0s,mb4.5
BRVK *e* 18 55 17.3
BRVK Borovoye 34.16 99 *e*P P **18 55 08.5 +0.7**
BVAR Borovoye Array 34.21 99 P P **18 55 09.0 +0.8**
comp=Z,1.9nm,0.6s,mb4.2,baz=339,slow=9.3,SNR=15
BVAR LR LR 19 11 54.2
comp=Z,311nm,18.7s,MS4.1,baz=318,slow=41
LPL La Plagne 34.25 176 *e*P P **18 55 09.5 +0.9**
comp=Z,12nm,0.7s,mb4.6
LPL La Plagne 34.25 176 *e*P P **18 55 09.5 +0.9**
LPL pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
LPL La Plagne 34.25 176 *e*P P **18 55 09.5 +0.9**
comp=Z,6.0nm,0.7s,mb4.6
TRAV 34.27 175 P P **18 55 09.1 +0.3**
LPG La Plagne 34.27 176 *e*P P **18 55 09.8 +1.0**
comp=Z,16nm,0.9s,mb4.7
LPG La Plagne 34.27 176 *e*P P **18 55 09.8 +1.0**
LPG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LPG La Plagne 34.27 176 *e*P P **18 55 09.8 +1.0**
comp=Z,7.9nm,0.9s,mb4.7
RJF Les Rejaudoux 34.45 183 *e*P P **18 55 10.1 -0.3**
comp=Z,37nm,1.0s,mb5.0
RJF *e*R
comp=Z,67nm,19.2s
RJF Les Rejaudoux 34.45 183 *e*P P **18 55 10.1 -0.3**
RJF pmax pmax
comp=Z,19nm,1.0s,mb5.0
RJF MLR MLR
comp=Z,70nm,19.3s,MS3.4
RJF Les Rejaudoux 34.45 183 *e*P P **18 55 10.1 -0.3**
comp=Z,19nm,1.0s,mb5.0
RJF LR LR
comp=Z,70nm,19.3s,MS3.4
AKTO Aktyubinsk 34.55 114 LR LR 19 10 34.4
comp=Z,259nm,19.4s,MS4.0,baz=357,slow=39
RSP Reno Superiore 34.62 176 P P **18 55 12.5 +0.7**
BNI Bardonecchia 34.71 176 P P **18 55 07.4 -5.2**
BNI *e* 18 55 13.7
BNI pmax pmax
comp=Z,28nm,1.8s,mb4.9
BNI Bardonecchia 34.71 176 P P **18 55 07.3 -5.3**
comp=Z,28nm,1.8s,mb4.9
BNI *e* 18 55 13.7
BZS Buzias 34.76 158 ⇑*i*P P **18 55 14.3 +1.3**
BZS Buzias 34.76 158 ⇑P P **18 55 14.3 +1.3**
COLA College 34.79 339 P P **18 55 15.1 +1.8**
COLA *e* 18 55 23.0
COLA pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
COLA College 34.79 339 P P **18 55 15.1 +1.9**
comp=Z,9.8nm,1.3s,mb4.6
COLA *e* 18 55 23.0
COLA College 34.79 339 P P **18 55 15.1 +1.8**
NVS Novosibirsk 34.80 85 *e*P P **18 55 09.8 -3.5**
LFF La Frestale 34.83 184 *e*P P **18 55 13.5 -0.1**
CAF Calviac 34.83 182 *e*P P **18 55 13.4 -0.2**
ORIF Oris-en-Rattie 34.84 177 *e*P P **18 55 13.2 -0.5**
comp=Z,11nm,1.0s,mb4.5
ORIF *e*R
comp=Z,105nm,17.8s
ORIF Oris-en-Rattie 34.84 177 *e*P P **18 55 13.2 -0.5**
ORIF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ORIF Oris-en-Rattie 34.84 177 *e*P P **18 55 13.2 -0.5**
comp=Z,5.7nm,1.0s,mb4.5
RRL Cesana Torines 34.85 176 P P **18 55 14.6 +0.8**
VIVF Saint-Julien-l 34.90 179 *e*P P **18 55 14.2 0.0**
comp=Z,16nm,1.0s,mb4.6
VIVF Saint-Julien-l 34.90 179 *e*P P **18 55 14.2 0.0**
VIVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
VIVF Saint-Julien-l 34.90 179 *e*P P **18 55 14.2 0.0**
comp=Z,8.1nm,1.0s,mb4.6
MBDF Montbardon 35.04 176 *e*P P **18 55 15.4 0.0**
comp=Z,13nm,1.0s,mb4.5
MBDF Montbardon 35.04 176 *e*P P **18 55 15.4 0.0**
MBDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MBDF Montbardon 35.04 176 *e*P P **18 55 15.4 0.0**
comp=Z,6.5nm,1.0s,mb4.5
YAK Yakutsk 35.21 41 *e*P P **18 55 16.2 -0.7**
YAK pmax pmax
comp=Z,13nm,0.9s,mb4.9
YAK Yakutsk 35.21 41 *e*P P **18 55 15.3 -1.6**
comp=Z,8.8nm,0.7s,mb4.8
YAK Yakutsk 35.21 41 *e*P P **18 55 15.3 -1.6**
comp=Z,8.8nm,0.7s,mb4.8
PCP Pian Castagno 35.25 174 P P **18 55 16.9 -0.4**
SC2M Scurtabr 35.41 173 P P **18 55 19.8 +1.2**
CODM 35.43 172 P P **18 55 20.2 +1.4**
ROB Roburent 35.49 175 P P **18 55 19.0 -0.3**
ENR Entracque 35.55 175 P P **18 55 19.4 -0.4**
FIN Finale Ligure 35.58 174 P P **18 55 19.4 -0.7**
SARO Sassorosso 35.65 172 P P **18 55 20.8 +0.1**
LASF Ste Croix 35.67 180 *e*P P **18 55 21.7 +0.8**
comp=Z,53nm,1.4s,mb5.0
LASF Ste Croix 35.67 180 *e*P P **18 55 21.7 +0.8**
comp=Z,26nm,1.4s,mb5.0
VLC Villacollemand 35.68 172 *e*P P **18 55 18.6 -2.4**
comp=Z,25nm,1.1s,mb5.0
MONE Monesi 35.70 175 P P **18 55 21.1 0.0**
SMRF Simiane la Rot 35.78 178 *e*P P **18 55 21.4 -0.4**
comp=Z,7.9nm,0.7s,mb4.4
SMRF Simiane la Rot 35.78 178 *e*P P **18 55 21.4 -0.4**
comp=Z,4.0nm,0.7s,mb4.4
SBF Sospel 35.91 175 *e*P P **18 55 23.5 +0.6**
comp=Z,65nm,0.8s,mb5.3
SBF Sospel 35.91 175 *e*P P **18 55 23.5 +0.6**
SBF pmax pmax
comp=Z,33nm,0.8s,mb5.3
SBF Sospel 35.91 175 *e*P P **18 55 23.5 +0.6**
comp=Z,33nm,0.8s,mb5.3
MAIM 35.92 172 P P **18 55 23.5 +0.5**
ZAL Zalesovo 35.94 84 P P **18 55 24.2 +1.1**
comp=Z,0.8nm,0.3s,mb4.1,baz=111,slow=3.7,SNR=5.0
ZAL LR LR 19 16 03.8
comp=Z,208nm,18.7s,MS3.9,baz=118,slow=46
ZAL Zalesovo 35.94 84 P P **18 55 24.2 +1.0**
FRF La Foret Royal 36.20 176 *e*P P **18 55 25.4 0.0**
comp=Z,29nm,0.9s,mb4.9
FRF La Foret Royal 36.20 176 *e*P P **18 55 25.4 0.0**
FRF pmax pmax
comp=Z,15nm,0.9s,mb4.9
FRF La Foret Royal 36.20 176 *e*P P **18 55 25.4 0.0**
comp=Z,15nm,0.9s,mb4.9
MTLF Montolieu 36.41 182 *e*P P **18 55 27.2 0.0**
LMR La Mourre 36.43 177 *e*P P **18 55 27.2 -0.2**
comp=Z,17nm,1.0s,mb4.7
LMR La Mourre 36.43 177 *e*P P **18 55 27.2 -0.2**
LMR pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
LMR La Mourre 36.43 177 *e*P P **18 55 27.2 -0.2**
comp=Z,8.6nm,1.0s,mb4.7
EALK Alkurruntz 36.58 186 P P **18 55 29.1 +0.5**
comp=Z,48nm,1.2s,mb5.2
EALK Alkurruntz 36.58 186 P P **18 55 29.1 +0.4**
comp=Z,48nm,1.2s,mb5.2
ELIZ Elizondo 36.64 186 P P **18 55 29.2 +0.1**
ELIZ pmax pmax
comp=Z,24nm,1.2s,mb4.9
ELIZ Elizondo 36.64 186 P P **18 55 29.1 0.0**
comp=Z,24nm,1.2s,mb4.9
ELIZ Elizondo 36.64 186 P P **18 55 29.1 0.0**
comp=Z,24nm,1.2s,mb4.9
EPF Esparros 36.74 184 *e*P P **18 55 29.7 -0.3**
comp=Z,49nm,1.2s,mb4.9
EPF Esparros 36.74 184 *e*P P **18 55 29.7 -0.3**
EPF pmax pmax
comp=Z,24nm,1.2s,mb4.9
EPF Esparros 36.74 184 *e*P P **18 55 29.7 -0.3**
comp=Z,24nm,1.2s,mb4.9
ETSF Etsaut 36.88 185 *e*P P **18 55 31.3 +0.1**
comp=Z,35nm,1.2s,mb4.8
ETSF Etsaut 36.88 185 *e*P P **18 55 31.3 +0.1**
ETSF pmax pmax
comp=Z,17nm,1.2s,mb4.8
ETSF Etsaut 36.88 185 *e*P P **18 55 31.3 +0.1**
comp=Z,17nm,1.2s,mb4.8
ANN Anapa 37.07 139 *e*P P **18 55 38.7 +5.9**
ANN pmax pmax
comp=Z,35nm,1.0s,mb5.1
ANN MLR MLR
comp=Z,115nm,13.0s,MS3.9
EBIE Bielsa 37.09 184 P P **18 55 34.7 +1.8**
comp=Z,26nm,1.0s,mb5.0
EBIE Bielsa 37.09 184 P P **18 55 34.7 +1.7**
comp=Z,26nm,1.0s,mb5.0
PGF Pioggiola 37.26 173 *e*P P **18 55 34.1 -0.3**
GOF Gofitskoye 37.53 132 *e*P P **18 55 46.0 +9.3**
EGRA Graus 37.57 184 P P **18 55 38.7 +1.6**
comp=Z,19nm,1.3s,mb4.7
EGRA Graus 37.57 184 P P **18 55 38.7 +1.6**
comp=Z,19nm,1.3s,mb4.7
KURK Kurchatov 37.91 92 *e*P P **18 55 40.4 +0.5**
KURK *e* 18 55 49.1
KURK pmax pmax
comp=Z,15nm,0.9s,mb4.7
KURK Kurchatov 37.91 92 *e*P P **18 55 40.4 +0.5**
comp=Z,15nm,0.9s,mb4.7
KURK *e* 18 55 49.1
KURK *e* 18 55 56.9
KURK Kurchatov 37.91 92 *e*P P **18 55 40.4 +0.5**
SOC Sochi 38.55 137 *e*P P **18 55 39.5 -5.8**
SOC *e* 18 57 55.0
SOC *e*S **S 19 01 32.6 -8.5**
SOC *e*SS SS 19 04 17.8 -13
SOC *e*SSS 19 04 48.8
SOC pmax pmax
comp=Z,30nm,1.0s,mb5.0
SOC MLR MLR
comp=Z,234nm,19.0s,MS4.0
KIV Kislovodsk 38.56 133 *e*P P **18 55 45.1 -0.3**
KIV *e*S **S 19 01 40.2 -1.1**
KIV pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
KIV MLR MLR
comp=Z,179nm,18.0s,MS3.9
KIV Kislovodsk 38.56 133 *e*P P **18 55 39.2 -6.2**
comp=Z,5.9nm,0.9s,mb4.3
ETOR Torete 38.99 187 P P **18 55 50.4 +1.4**
ETOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
ETOR Torete 38.99 187 P P **18 55 50.4 +1.3**
comp=Z,4.2nm,0.9s,mb4.2
ETOR Torete 38.99 187 P P **18 55 50.4 +1.4**
comp=Z,4.2nm,0.9s,mb4.2
SVW2 Sparrevohn 38.99 344 *e*P P **18 55 48.5 -0.5**
SVW2 *e* 18 55 58.2
SVW2 Sparrevohn 38.99 344 *e*P P **18 55 48.5 -0.6**
DLBC Dease Lake 39.60 323 LR LR 19 13 53.0
comp=Z,83nm,21.0s,MS3.5,baz=341,slow=39
PCBR Castelo Branco 40.14 193 *e*P P **18 55 59.3 +0.7**
comp=Z,18nm,1.1s,mb4.7
ESDC Sonseca Array 40.18 189 P P **18 55 59.4 +0.4**
comp=Z,2.6nm,0.7s,mb4.1,baz=360,slow=8.8,SNR=15
ESDC Sonseca Array 40.18 189 P P **18 55 59.9 +0.9**
comp=Z,4.1nm,0.8s,mb4.2
ESDC Sonseca Array 40.18 189 P P **18 55 59.9 +1.0**
comp=Z,4.1nm,0.8s,mb4.2
ESLA Sonseca Array 40.18 189 *e*P P **18 55 55.2 -3.7**
comp=Z,5.0nm,1.2s,mb4.1
ESLA *e* pP 18 55 59.4 -2.6
VSL Villasalto 40.31 173 P P **18 55 55.9 -4.2**
comp=Z,9.6nm,0.9s,mb4.5
VSL *e* pP 18 56 00.2 -2.9
MOY Mondy 40.97 70 *e*P P **18 56 07.0 +1.5**
ETOB Tobarra 41.15 186 P P **18 56 08.8 +1.8**
comp=Z,31nm,1.1s,mb4.8
ETOB Tobarra 41.15 186 P P **18 56 08.8 +1.8**
comp=Z,31nm,1.1s,mb4.8
EBAD Badajoz 41.20 193 P P **18 56 08.6 +1.2**
comp=Z,7.6nm,1.0s,mb4.3
BRTR Keskin Array B 41.66 145 P P **18 56 11.3 +0.2**
comp=Z,3.7nm,0.9s,mb4.0,baz=341,slow=6.5,SNR=10.0
KDAK Kodiak Island 42.14 341 P P **18 56 16.4 +1.4**
comp=Z,4.5nm,0.7s,mb4.2,baz=21,slow=6.1,SNR=6.0
KDAK Kodiak Island 42.14 341 *e*P P **18 56 14.9 -0.1**
comp=Z,16nm,1.1s,mb4.6
KDAK Kodiak Island 42.14 341 *e*P P **18 56 14.9 -0.1**
comp=Z,16nm,1.1s,mb4.6
ELUQ Luque 42.30 189 P P **18 56 18.4 +2.0**

ELUQ pmax pmax
comp=Z,21nm,1.4s,mb4.6
ELUQ Luque 42.30 189 P **P** **18 56 18.4 +2.0**
comp=Z,20nm,1.4s,mb4.6
MKAR Makanchi Array 42.34 90 P **P** **18 56 17.1 +0.4**
comp=Z,3.3nm,0.7s,mb4.0,baz=352,slow=7.5,SNR=24
ULM Lac du Bonnet 42.72 291 LR LR 19 14 13.5
comp=Z,212nm,19.4s,MS4.0,baz=13,slow=36
ULM Lac du Bonnet 42.72 291 *e*P **P** **18 56 17.9 -1.8**
comp=Z,4.5nm,0.9s,mb4.2
MALT Malatya 43.59 139 *e*P **P** **18 56 28.5 +1.7**
MALT pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
MALT Malatya 43.59 139 *e*P **P** **18 56 28.5 +1.7**
comp=Z,9.4nm,1.1s,mb4.4
FRU Bishkek 44.79 99 *e*P **P** **18 56 47.0 +11**
FRU pmax pmax
comp=Z,50nm,1.9s,mb5.0
AAK Ala-Archa 44.96 99 *e*P **P** **18 56 38.0 +0.2**
AAK *e* 18 56 46.6
AAK pmax pmax
comp=Z,13nm,1.1s,mb4.7
AAK Ala-Archa 44.96 99 *e*P **P** **18 56 38.0 +0.2**
comp=Z,13nm,1.1s,mb4.7
AAK *e* 18 56 46.6
BBB Bella Bella 45.53 320 LR LR 19 14 10.2
comp=Z,90nm,21.3s,MS3.7,baz=18,slow=34
SONM Songino Array 45.59 67 P **P** **18 56 42.9 +0.1**
comp=Z,1.6nm,0.6s,mb4.1,baz=339,slow=8.1,SNR=15
SONM LR LR 19 18 28.0
comp=Z,200nm,18.8s,MS4.1,baz=347,slow=40
ULN Ulaanbaatar 45.67 66 *e*P **P** **18 56 44.1 +0.7**
ULN *e* 18 56 52.3
ULN pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ULN Ulaanbaatar 45.67 66 *e*P **P** **18 56 44.1 +0.6**
comp=Z,5.8nm,0.8s,mb4.6
ULN *e* 18 56 52.3
WMQ Urumqi 46.20 86 P **P** **18 56 48.7 +1.1**
WMQ AP pP 18 56 51.7 +1.0
WMQ XP sP 18 56 53.1 +1.1
WMQ PP PP 18 58 37.5 +1.6
WMQ AMB AMB
comp=Z,9.0nm,1.1s,mb4.6
WMQ AMB AMB
comp=Z,73nm,4.5s
WMQ LR LR
comp=N,264nm,19.8s,MS4.3
WMQ LR LR
comp=E,198nm,18.7s,MS4.3
WMQ LR LR
comp=Z,263nm,20.3s,MS4.2
NEW Newport 47.96 309 *e*P **P** **18 56 55.9 -5.4**
NEW pmax pmax
comp=Z,7.0nm,1.4s
NEW Newport 47.96 309 *e*P **P** **18 56 55.9 -5.5**
comp=Z,6.5nm,1.4s,mb4.5
CHMT Chamberlain Mo 48.72 306 *e*P **P** **18 57 06.3 -0.9**
CHMT *e* 18 57 15.6
MSO Missoula 48.91 306 *e*P **P** **18 57 08.3 -0.3**
comp=Z,5.7nm,1.0s,mb4.6
MSO *e* 18 57 17.9
ECSD EROS,Sioux Fal 49.16 289 *e*P **P** **18 57 10.1 -0.5**
ECSD *e* 18 57 19.6
RSSD Black Hills 50.02 296 *e*P **P** **18 57 15.8 -1.3**
RSSD pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
RSSD Black Hills 50.02 296 *e*P **P** **18 57 15.8 -1.3**
comp=Z,7.7nm,0.9s,mb4.7
BMO Blue Mountains 51.33 309 *e*P **P** **18 57 23.2 -3.8**
comp=Z,2.7nm,1.2s,mb4.0
BMO *e* 18 57 35.6
YSS Yuzh-Sakhalins 51.50 35 *e*P **P** **18 57 26.5 -1.8**
YSS pmax pmax
comp=Z,46nm,1.3s,mb5.2
YSS Yuzh-Sakhalins 51.50 35 *e*P **P** **18 57 26.5 -1.7**
comp=Z,46nm,1.3s,mb5.2
BLO Bloomington 51.81 279 *e*P **P** **18 57 28.7 -2.0**
BLO pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
BLO Bloomington 51.81 279 *e*P **P** **18 57 28.7 -2.0**
comp=Z,9.2nm,0.7s,mb4.8
BLO *e* 18 57 39.6
PDAR Pinedale Array 52.22 301 P **P** **18 57 34.0 +0.4**
comp=Z,0.6nm,1.0s,baz=1.1,slow=7.4,SNR=5.8
PDAR LR LR 19 20 09.2
comp=Z,90nm,21.6s,MS3.8,baz=118,slow=36
MDJ Mudanjiang 52.24 47 P **P** **18 57 31.9 -1.9**
MDJ AP pP 18 57 34.9 -2.1
MDJ PCP PcP 18 58 45.8 +0.6
MDJ PP PP 18 59 31.8 -0.4
MDJ AMB AMB
comp=Z,5.0nm,1.7s,mb4.2
MDJ AMB AMB
comp=Z,39nm,4.1s
MDJ LR LR
comp=N,20nm,16.4s,MS3.6
MDJ LR LR
comp=E,44nm,15.9s,MS3.6
MDJ LR LR
comp=Z,52nm,18.9s,MS3.6
GTA Gaotai 52.64 76 *e*P **P** **18 57 37.9 +1.1**
GTA AP pP 18 57 47.1 +7.1
GTA XP sP 18 57 50.8 +10
GTA AMB AMB
comp=Z,4.0nm,0.7s,mb4.5
MIB Mutribah 53.11 131 *e*P **P** **18 57 40.1 -0.2**
MIB AMb AMB 18 57 42.5
comp=Z,28nm,0.9s,mb5.2
HHC Hu-ho-hao-te 53.24 64 *e*P **P** **18 57 40.7 -0.5**
HHC AP pP 18 57 44.9 +0.5
HHC XP sP 18 57 47.2 +1.6
HHC PP PP 18 59 42.0 +0.7
HHC AMB AMB
comp=Z,14nm,0.5s,mb5.2
HHC AMB AMB
comp=Z,122nm,5.6s
HHC LR LR
comp=N,129nm,17.2s,MS4.4
HHC LR LR
comp=E,280nm,15.5s,MS4.4
HHC LR LR
comp=Z,224nm,20.2s,MS4.2
RST Umm Al-Ruwaisa 53.36 132 *e*P **P** **18 57 41.7 -0.4**
RST AMb AMB 18 57 43.7
comp=Z,17nm,0.8s,mb5.0
UMR Umm Al-Rimmam 53.41 131 *e*P **P** **18 57 42.5 0.0**
UMR AMb AMB 18 57 44.8
comp=Z,44nm,0.9s,mb5.4
NAY Al-Naaiem 53.64 132 *e*P **P** **18 57 44.1 -0.1**
NAY AMb AMB 18 57 45.6
comp=Z,10nm,0.8s,mb4.8
RDF Al-Radifah 54.00 131 *e*P **P** **18 57 46.9 +0.1**
RDF AMb AMB 18 57 48.6
comp=Z,26nm,0.8s,mb5.2
SNY Shenyang 54.14 53 ⇑P **P** **18 57 47.4 -0.4**
SNY AMB AMB
comp=Z,9.0nm,0.5s,mb5.0
SNY AMB AMB
comp=Z,52nm,3.6s
SMCO Snowmass 55.31 298 *e*P **P** **18 57 57.0 +0.7**
comp=Z,11nm,1.0s,mb4.8
SMCO *e* 18 58 06.4
PV10 Paradox Valley 56.43 300 *e*P **P** **18 58 05.6 +1.3**
PV10 *e* 18 58 14.5
LZH Lanzhou 56.58 73 *e*P **P** **18 58 05.6 +0.2**
LZH AP pP 18 58 10.2 +1.6
LZH XP sP 18 58 12.6 +2.8
LZH AMB AMB
comp=Z,22nm,1.5s,mb5.0
PV01 Paradox Valley 56.59 299 *e*P **P** **18 58 06.0 +0.6**
PV01 *e* 18 58 14.4
MIAR Mount Ida 57.57 284 *e*P **P** **18 58 11.2 -1.2**
MIAR *e* 18 58 20.9
MIAR pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
MIAR Mount Ida 57.57 284 *e*P **P** **18 58 11.2 -1.2**
comp=Z,7.1nm,0.9s,mb4.7
MIAR *e* 18 58 20.9
ANMO Albuquerque 59.36 296 *e*P **P** **18 58 25.5 +0.6**
GKN Gorkha 61.02 93 *e*P **P** **18 58 36.6 +0.3**
comp=Z,28nm,0.9s,mb5.4
MJAR Matsushiro Arr 61.28 41 P **P** **18 58 37.4 -0.7**
comp=Z,6.1nm,1.1s,mb4.6,baz=347,slow=6.2,SNR=12
MJAR LR LR 19 23 41.4
comp=Z,40nm,18.5s,MS3.6,baz=355,slow=35
GUN Gumba 61.34 92 *e*P **P** **18 58 40.2 +1.8**
KKN Kakani 61.35 93 *e*P **P** **18 58 39.3 +0.8**
comp=Z,42nm,0.8s,mb5.6
DMN Daman 61.49 93 *e*P **P** **18 58 40.6 +1.1**
comp=Z,16nm,0.8s,mb5.2
CD2 Chengdu 61.62 74 *e*P **P** **18 58 39.0 -1.3**
JIRN Jiri 61.64 92 *e*P **P** **18 58 42.1 +1.6**
comp=Z,32nm,1.0s,mb5.4
JCT Junction City 62.62 289 *e*P **P** **18 58 46.8 -0.2**
JCT pmax pmax
comp=Z,12nm,1.4s,mb4.8
JCT Junction City 62.62 289 *e*P **P** **18 58 46.8 -0.2**
comp=Z,12nm,1.4s,mb4.8
WHN Wuhan 63.77 64 *e*P **P** **18 58 54.2 -0.5**
SSE Sheshan 64.31 58 P **P** **18 58 55.4 -2.8**
SSE XP sP 18 59 08.2 +5.5
SSE PCP PcP 18 59 30.1 -2.7
SSE PP PP 19 01 16.4 -3.2
SSE S **S** **19 07 30.3 -5.9**
SSE XS sS 19 07 43.5 +2.0
SSE SCS ScS 19 08 46.7 -5.8
SSE SS SS 19 11 40.7 -5.0
SSE AMB AMB
comp=Z,14nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,63nm,4.1s
SSE LR LR
comp=N,37nm,18.1s,MS4.2
SSE LR LR
comp=E,125nm,19.1s,MS4.2
SSE LR LR
comp=Z,39nm,17.6s,MS3.6
LTX Lajitas 64.39 292 P **P** **18 58 57.4 -1.4**
LTX *e* 18 59 05.3
TORD Torodi Ar. Bea 66.50 182 P **P** **18 59 12.2 -0.2**
comp=Z,4.2nm,0.7s,mb4.6,baz=352,slow=6.9,SNR=24
KMI Kunming 67.09 76 P **P** **18 59 13.8 -2.4**
KMI AP pP 18 59 21.6 +2.2
KMI XP sP 18 59 24.5 +3.9
KMI PP PP 19 01 46.5 +2.6
KMI AMB AMB
comp=Z,3.0nm,1.3s,mb4.2
KMI AMB AMB
comp=Z,67nm,4.6s
KMI LR LR
comp=N,124nm,19.4s,MS4.4
KMI LR LR
comp=E,208nm,20.7s,MS4.4
KMI LR LR
comp=Z,109nm,17.4s,MS4.1
LIC Lamto 73.50 189 *e*P **P** **18 59 54.8 -0.6**
comp=Z,25nm,1.0s,mb4.8
LIC *e*R
comp=Z,91nm,20.2s
LIC Lamto 73.50 189 *e*P **P** **18 59 54.8 -0.6**
comp=Z,12nm,1.0s,mb4.8
LIC LR LR
comp=Z,50nm,20.3s,MS3.8
LIC Lamto 73.50 189 *e*P **P** **18 59 54.8 -0.6**
comp=Z,12nm,1.0s,mb4.8
KMBO Kilima Mbogo 82.43 146 *i* P **P** **19 00 47.5 +2.5**
KMBO pmax pmax
comp=Z,1.0nm,0.8s
ROSC El Rosal 83.09 259 LR LR 19 37 20.4
comp=Z,69nm,20.1s,MS4.0,baz=118,slow=35
ASAR Alice Springs 119.99 54 PKP PKPdf 19 07 11.6 -1.8
comp=Z,0.4nm,0.7s,baz=353,slow=2.1,SNR=7.1
VNA1 Neumayer--Stat 150.24 188 *i* PKPdf PKPdf 19 08 12.8 +4.1
VNA1 *e* 19 08 13.6
SNAA Sanae 151.15 184 *e*PKIKP PKPdf 19 08 14.1 +4.0

*ISCJB **04** 18:52:48.2±1.7, 021N±008×122.1E±0.1, h207km±18km, mb4.2/25, Error ellipse: s-maj=20.8km s-min=7.7km az=115.9*
*IDC **04** 18:52:49.6±2.7, 026N×122.11E, h208km±25km, mb3.7/8, mb1 3.8/9, mb1mx3.5/20, mbtmp4.2/9, Error ellipse: s-maj=33.8km s-min=10.8km az=72.0*
*NEIC **04** 18:52:49.7±1.6, 0.19N×121.94E, h215km±17km, mb4.2/7, Error ellipse: s-maj=24.8km s-min=7.7km az=60.0*
*BJI **04** 18:52:50.3, 008N×122.01E, h226km, mB4.5, mb4.4*
ISC 04 18:52:51.4±2.2, 026N±008×1223E±01, h221km±24km, n40, σ1§12/39, mb4.2/25, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**8.33**	**314**	*e*Pn	**Pn**	**18 54 44.9**	**-4.0**
KSM	**Kuching**	**12.00**	**276**	P	**Pn**	**18 55 37.6**	**+1.9**
KAKA	**Kakadu**	**16.38**	**142**	*e*P	**P**	**18 56 28.7**	**+0.6**
	16nm,0.5s						
FITZ	**Fitzroy Crossi**	**18.55**	**170**	*e*P	**P**	**18 56 51.5**	**-0.2**
	15nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.55**	**170**	P	**P**	**18 56 50.9**	**-0.8**
	1.4nm,0.3s,baz=359,slow=7.8,SNR=23						
KULM	**Kulin**	**22.14**	**283**	*e*P	**P**	**18 57 24.5**	**-4.5**
WRAB	**Tennant Creek**	**23.31**	**150**	*e*P	**P**	**18 57 39.8**	**+0.2**
	9.4nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**23.31**	**150**	P	**P**	**18 57 39.8**	**+0.1**
	5.5nm,0.5s,mb4.4,baz=324,slow=11,SNR=59						
WB2	**Warramunga Arr**	**23.32**	**150**	*e*P	**P**	**18 57 40.3**	**+0.6**
ASPA	**Alice Springs**	**26.34**	**155**	*e*P	**P**	**18 58 07.4**	**+0.4**
AS31	**Alice Springs**	**26.34**	**155**	*e*P	**P**	**18 58 04.8**	**-2.1**
AS31				*e*PcP	PcP	19 01 26.4	-0.4
ASAR	**Alice Springs**	**26.34**	**155**	P	**P**	**18 58 07.4**	**+0.4**
	1.4nm,0.5s,mb3.9,baz=344,slow=14,SNR=49						
ASAR				PcP	PcP	19 01 27.4	+0.7
	0.8nm,0.3s,baz=348,slow=2.2,SNR=22						
ASAR				ScP	ScP	19 04 47.3	+1.9
	0.2nm,0.6s,baz=341,slow=2.9,SNR=6.8						
KMI	**Kunming**	**31.09**	**324**	P	**P**	**18 58 50.9**	**+1.9**
KMI				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.2						
NJ2	**Nanjing**	**31.79**	**355**	*e*P	**P**	**18 58 55.5**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,210nm,7.9s						
NJ2				LR	LR		
	comp=N,260nm,16.7s						
NJ2				LR	LR		
	comp=E,340nm,19.3s						
NJ2				LR	LR		
	comp=Z,5μm,20.0s						
CD2	**Chengdu**	**35.18**	**332**	*e*P	**P**	**18 59 24.0**	**-0.3**
MJAR	**Matsushiro Arr**	**39.02**	**21**	P	**P**	**18 59 55.2**	**-1.4**
	comp=Z,0.8nm,0.7s,mb3.4,baz=193,slow=9.5,SNR=5.3						
MJAR	**Matsushiro Arr**	**39.02**	**21**	P	**P**	**18 59 55.2**	**-1.4**
LZH	**Lanzhou**	**39.54**	**336**	*e*P	**P**	**19 00 02.8**	**+1.9**
LZH				AP	pP	19 00 46.5	-0.5
LZH				XP	sP	19 01 09.6	-2.5
LZH				PP	PP	19 01 41.8	+5.2
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.4						
HHC	**Hu-ho-hao-te**	**41.55**	**348**	*e*P	**P**	**19 00 20.6**	**+3.3**
HHC				PP	PP	19 02 01.9	+3.7
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,120nm,6.7s						
HHC				LR	LR		
	comp=N,133nm,17.2s						
HHC				LR	LR		
	comp=E,283nm,14.9s						
HHC				LR	LR		
	comp=Z,224nm,19.6s						
LSA	**Lhasa**	**41.65**	**317**	P	**P**	**19 00 20.0**	**+1.8**
LSA	**Lhasa**	**41.65**	**317**	*e*P	**P**	**19 00 19.3**	**+1.2**
	comp=Z,4.0nm,0.6s,mb4.0						
JIRN	**Jiri**	**44.02**	**311**	*e*P	**P**	**19 00 37.5**	**+0.4**
	comp=Z,21nm,0.3s,mb4.9						
GTA	**Gaotai**	**44.04**	**335**	P	**P**	**19 00 38.3**	**+1.0**
GTA				AMB	AMB		
	comp=Z,14nm,0.6s,mb4.5						
GUN	**Gumba**	**44.39**	**311**	*e*P	**P**	**19 00 40.3**	**+0.3**
	comp=Z,32nm,0.4s,mb5.0						
PKI	**Pulchoki**	**44.56**	**311**	*e*P	**P**	**19 00 41.2**	**-0.2**
	comp=Z,12nm,0.4s,mb4.6						
MDJ	**Mudanjiang**	**44.65**	**7**	P	**P**	**19 00 43.1**	**+1.0**
MDJ				PCP	PcP	19 02 21.6	+0.9
MDJ				PP	PP	19 02 32.7	+1.7
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.9s,mb3.7						
MDJ				AMB	AMB		
	comp=Z,63nm,4.3s						
MDJ				LR	LR		
	comp=N,52nm,16.4s						
MDJ				LR	LR		
	comp=E,35nm,14.3s						
MDJ				LR	LR		
	comp=Z,52nm,18.4s						
KKN	**Kakani 44.77 311**			*e*P	**P**	**19 00 43.0**	**-0.1**
	comp=Z,11nm,0.4s,mb4.5						
DMN	**Daman 44.81 311**			*e*P	**P**	**19 00 43.5**	**+0.1**
	comp=Z,7.7nm,0.4s,mb4.4						
GKN	**Gorkha 45.37 311**			*e*P	**P**	**19 00 47.6**	**-0.2**
	comp=Z,11nm,0.3s,mb4.7						
KOLN	**Koldanda 46.05 310**			*e*P	**P**	**19 00 52.5**	**-0.5**
ASAJ	**Asahikawa 47.28 20**			P	**P**	**19 01 03.0**	**+0.4**
	comp=Z,2.7nm,0.7s,mb3.7,baz=235,slow=15,SNR=6.2						
ULN	**Ulaanbaatar 49.22 347**			*e*P	**P**	**19 01 17.6**	**+0.2**
	comp=Z,7.7nm,0.7s,mb4.1						
SONM	**Songino Array 49.35 346**			P	**P**	**19 01 18.1**	**-0.3**
	comp=Z,5.3nm,0.6s,mb4.0,baz=165,slow=9.0,SNR=48						
SONM				PcP	PcP	19 02 36.6	-0.8
	comp=Z,0.4nm,0.5s,baz=174,slow=5.8,SNR=3.2						
WMQ	**Urumqi 53.19 329**			P	**P**	**19 01 46.4**	**-0.4**
MKAR	**Makanchi Array 58.00 329**			P	**P**	**19 02 20.7**	**-0.3**
	comp=Z,3.9nm,0.3s,mb4.5,baz=121,slow=8.3,SNR=32						
MKAR				PcP	PcP	19 03 09.4	-1.1
	comp=Z,0.9nm,0.7s,baz=128,slow=5.2,SNR=3.0						
AAK	**Ala-Archa 60.06 321**			*e*P	**P**	**19 02 34.5**	**-0.6**
	comp=Z,3.7nm,0.7s,mb4.1						
ZAL	**Zalesovo 61.77 336**			P	**P**	**19 02 45.3**	**-1.3**
	comp=Z,1.7nm,0.4s,mb4.0,baz=96,slow=1.1,SNR=6.8						
BVAR	**Borovoye Array 67.88 329**			P	**P**	**19 03 24.1**	**-1.8**
	comp=Z,0.6nm,0.5s,mb3.5,baz=137,slow=5.2,SNR=4.2						
BRVK	**Borovoye 67.95 329**			P	**P**	**19 03 24.0**	**-2.4**
	comp=Z,1.8nm,0.9s,mb3.7						
TORD	**Torodi Ar. Bea 119.62 285**			PKP	PKPdf	19 11 13.8	-1.0
	comp=Z,0.3nm,0.4s,baz=79,slow=2.0,SNR=6.7						

*BJI **04** 18:53:36.7, 7960N×320E, h10km, mB5.0, mb4.7, Ms4.4, Msz4.1*
*ISCJB **04** 18:53:39.9±0.4, 7952N±005×42E±02, h10km, mb4.2/48, MS4.2/3, Error ellipse: s-maj=7.0km s-min=4.9km az=164.6*
*IDC **04** 18:53:39.9±1.0, 7953N×337E, h0km, mb3.8/12, mb1 4.0/16, mb1mx3.9/26, mbtmp3.9/16, ML3.7/4, Error ellipse: s-maj=20.2km s-min=16.1km az=30.0*
*NEIC **04** 18:53:40.8±0.6, 7958N×3.19E, h10km, mb4.4/35, Error ellipse: s-maj=10.0km s-min=6.6km az=181.0*
*HRVD **04** 18:53:40.8±0.6, 7965N×287E, h19km±2km, MW4.6/39, Centroid moment Tensor Solution. LP body waves: s4,c4;Mantle waves: s39,c48; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.95±.18; $M_{\theta\theta}$-0.14±.12; $M_{\phi\phi}$1.09±.11; $M_{r\theta}$0.30±.36; $M_{r\phi}$0.14±.08; $M_{\theta\phi}$0.12±.20; Best double couple: M_o1.08500×10^{16} NP1:ϕ=350.00000°, δ43.00000°,λ-115.00000°. NP2:ϕ=203.00000°, δ52.00000°,λ-68.00000°. Principal axes: T 1.1180, Plg4.0000°, Azm278.0000°; N -0.0650, Plg17.0000°, Azm9.0000°; P -1.0510, Plg72.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BER **04** 18:53:41.1±3.3, 7970N×435E, h10km, MD3.6, ML3.7, ML2.9(NAO)*
*NAO **04** 18:53:43.4±5.5, 7984N×475E, h34km±70km, ML2.9*
*CSEM **04** 18:53:51.4, 7877N×552E, h40km, mb4.5*
*SZGRF **04** 18:54:04.8, 7669N×649W, h33km, mb4.2, Greenland Sea*
ISC 04 18:53:40.8±0.4, 7955N±005×36E±02, h10km, (h1⁴km±1.4km:pP-P),n134,σ1§19/151,mb4.2/48,MS4.2/3, 1C-1D,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay 1.68 108**			P	**Pn**	**18 54 07.8**	**-2.5**
KBS				Sn	**Sn**	**18 54 27.0**	**-4.8**
KBS	**Kingsbay 1.68 108**			⇑*i*P	**Pn**	**18 54 07.8**	**-2.5**
KBS				Pn	**Pn**	**18 54 07.8**	**-2.5**
KBS				*e*S	**Sn**	**18 54 26.7**	**-5.1**
KBS				Sn	**Sn**	**18 54 27.0**	**-4.8**
KBS	**Kingsbay 1.68 108**			*e*Pn	**Pn**	**18 54 07.5**	**-2.8**
SPB4	**Spitsbergen Ar 2.82 113**			*e*Pn	**Pn**	**18 54 24.1**	**-1.8**
SPB4	**Spitsbergen Ar 2.82 113**			*e*Pn	**Pn**	**18 54 24.1**	**-1.8**
SPA0	**Spitsbergen Ar 2.83 113**			Pn	**Pn**	**18 54 24.4**	**-1.5**
	baz=324,slow=7.9						
SPA0				Sn	**Sn**	**18 54 55.8**	**-4.3**
	baz=311,slow=28						
DAG	**Danmarks Havn 5.34 250**			⇓*i*P	**Pn**	**18 54 56.9**	**-3.6**
	15nm,0.7s						
HOPEN	**Hopen 5.36 114**			*e*P	**Pn**	**18 54 58.7**	**-2.1**
HOPEN				*e*S	**Sn**	**18 55 55.7**	**-6.9**
HOPEN				AML	AML	18 55 58.9	
	comp=N,239nm,0.4s						
BJO1	**Bjornoya 6.11 138**			*e*P	**Pn**	**18 55 10.6**	**-0.6**
BJO1				*e*S	**Sn**	**18 56 13.8**	**-7.3**
BJO	**Bjornoya 6.13 138**			*e*P	**Pn**	**18 55 10.6**	**-0.9**
BJO				*e*S	**Sn**	**18 56 13.8**	**-7.8**
JNW	**Jan Mayen West 9.07 206**			*e*P	**Pn**	**18 55 49.5**	**-2.2**
JNW				AML	AML	18 57 29.6	
	comp=Z,55nm,0.4s						
JNE	**Jan Mayen East 9.10 205**			*e*P	**Pn**	**18 55 50.3**	**-1.8**
JMIC	**Jan Mayen 9.11 206**			Pn	**Pn**	**18 55 50.5**	**-1.9**
	comp=Z,22nm,0.3s,baz=85,slow=3.3,SNR=29						
JMIC				Sn	**Sn**	**18 57 28.1**	**-6.9**
	comp=Z,17nm,0.3s,baz=167,slow=15,SNR=12						
JMI	**Jan Mayen 9.19 206**			*e*P	**Pn**	**18 55 51.5**	**-1.9**
JMI				*e*S	**Sn**	**18 57 28.1**	**-8.8**
SCO	**Scoresbysund 11.09 229**			*i* P	**Pn**	**18 56 17.5**	**-1.9**
	comp=Z,9.6nm,0.8s						
SCO				*i* S	**Sn**	**18 58 12.3**	**-11**
KEV	**Kevo 11.47 136**			*e*p	**Pn**	**18 56 22.1**	**-2.5**
ARA0	**ARCESS Array S 11.49 139**			Pn	**Pn**	**18 56 23.4**	**-1.5**
	baz=352,slow=11						
ARA0				Sn	**Sn**	**18 58 25.2**	**-8.0**
	baz=8.4,slow=22						
ARA0	**ARCESS Array S 11.49 139**			Pn	**Pn**	**18 56 23.4**	**-1.5**
	SNR=50						
ARA0				Sn	**Sn**	**18 58 25.2**	**-8.1**
	SNR=50						
ARCES	**ARCESS Array B 11.49 139**			Pn	**Pn**	**18 56 23.6**	**-1.3**
	comp=Z,1.6nm,0.3s,baz=348,slow=11,SNR=15						
ARCES				Sn	**Sn**	**18 58 25.1**	**-8.2**
	comp=Z,0.1nm,0.3s,baz=352,slow=14,SNR=3.3						
SUMG	**Summit 11.95 257**			*e*Pn	**Pn**	**18 56 26.9**	**-4.3**
SUMG				*e*Sn	**Sn**	**18 58 29.6**	**-15**
JOF	**Joensuu 18.53 138**			*e*p	**Pn**	**18 57 53.6**	**-4.0**
NB2	**NORSAR Subarra 18.75 168**			P	**Pn**	**18 58 00.9**	**+0.7**
	comp=Z,6.4nm,1.1s,baz=356,slow=11						
NB2	**NORSAR Subarra 18.75 168**			P	**Pn**	**18 58 00.9**	**+0.8**
	baz=359,slow=12						
NOA	**NORSAR Array B 18.75 168**			P	**Pn**	**18 57 59.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=352,slow=12,SNR=6.4						
NOA	**NORSAR Array B 18.75 168**			P	**Pn**	**18 57 59.5**	**-0.7**
SFJD	**Kangerlussuaq 18.92 260**			P	**Pn**	**18 57 56.7**	**-5.6**
	comp=Z,5.8nm,0.3s,baz=7.0,slow=11,SNR=14						
SFJD	**Kangerlussuaq 18.92 260**			*i* P	**Pn**	**18 57 56.8**	**-5.5**
	comp=Z,1.5nm,0.8s						
NAO01	**NORSAR Array S 18.93 169**			P	**Pn**	**18 58 01.7**	**-0.8**
	comp=Z,5.8nm,0.9s						
NAO01	**NORSAR Array S 18.93 169**			P	**Pn**	**18 58 01.7**	**-0.7**
	comp=Z,5.8nm,0.9s						
FIA0	**FINESS Array S 19.38 146**			P	**Pn**	**18 58 08.4**	**+0.6**
	baz=352,slow=10						
FINES	**FINESS Array B 19.38 146**			P	**Pn**	**18 58 08.1**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=349,slow=9.4,SNR=14						
FINES	**FINESS Array B 19.38 146**			P	**Pn**	**18 58 08.1**	**+0.2**
HFS	**Hagfors 19.76 165**			P	**Pn**	**18 58 10.6**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=356,slow=9.1,SNR=9.5						
HFS	**Hagfors 19.76 165**			P	**Pn**	**18 58 11.6**	**-0.8**
	baz=11,slow=10						
KONO	**Kongsberg 20.09 171**			*e*P	**P**	**18 58 14.9**	**+0.5**
	comp=Z,16nm,1.1s						
EKA	**Eskdalemuir Ar 24.43 189**			P	**P**	**18 59 00.1**	**+0.6**
	comp=Z,2.7nm,1.0s,mb3.6,baz=6.0,slow=8.7,SNR=4.8						
FRB	**Frobisher Bay 25.12 274**			P	**P**	**18 59 05.4**	**-0.4**
	comp=Z,3.7nm,0.3s,mb4.4,baz=35,slow=7.1,SNR=3.7						
OBN	**Obninsk 26.78 136**			*e*P	**P**	**18 59 21.3**	**+0.5**
	comp=Z,11nm,0.6s,mb4.6						
OBN	**Obninsk 26.78 136**			*e*P	**P**	**18 59 21.3**	**+0.5**
	comp=Z,11nm,0.6s,mb4.6						
CLL	**Collm 28.55 168**			*e*P	**P**	**18 59 38.0**	**+1.3**
ARU	**Arti 28.86 110**			P	**P**	**18 59 41.4**	**+1.9**
	comp=Z,4.1nm,0.8s,mb4.2						
ARU	**Arti 28.86 110**			P	**P**	**18 59 41.4**	**+2.0**
	comp=Z,4.1nm,0.8s,mb4.2						

GRA1	Grafenberg Arr	30.10	170	eP	P	18 59 52.0	+1.5
	comp=Z,4.0nm,1.0s,mb4.1						
GRF	Grafenberg Arr	30.10	170	eP	P	18 59 52.0	+1.5
	comp=Z,4.0nm,1.0s,mb4.1						
AKASG	Malin Array Be	30.29	147	P	P	18 59 51.1	-1.0
	comp=Z,0.6nm,0.5s,mb3.6,baz=347,slow=9.2,SNR=8.4						
AKBB	Malin Array Si	30.29	147	eP	P	18 59 51.0	-1.1
AKBB	Malin Array Si	30.29	147	eP	P	18 59 51.0	-1.1
MORC	Moravsky Berou	30.29	162	eP	P	18 59 53.2	+1.0
	comp=Z,4.6nm,1.1s,mb4.1						
MORC	Moravsky Berou	30.29	162	eP	P	18 59 53.2	+1.0
	comp=Z,4.6nm,1.1s,mb4.1						
VRAC	Vranov	30.71	163	eP	P	18 59 57.7	+1.9
KWP	Kalwaria	30.78	155	eP	P	18 59 55.4	-1.0
	comp=Z,12nm,1.2s,mb4.6						
STHS	Stebnicka Huta	30.89	157	eP	P	18 59 59.5	+2.1
	comp=Z,8.0nm,1.1s,mb4.5						
FLN	La Foliniere	30.95	185	eP	P	18 59 58.7	+0.8
STU	Stuttgart	30.97	173	P	P	18 59 59.0	+0.9
	comp=Z,6.8nm,0.5s,mb4.7						
STU	Stuttgart	30.97	173	P	P	18 59 59.0	+0.9
	comp=Z,6.8nm,0.5s,mb4.7						
GERES	GERESS Array B	31.04	167	P	P	18 59 58.8	+0.1
	comp=Z,1.2nm,0.8s,mb3.8,baz=2.1,slow=7.2,SNR=6.8						
LDF	La Druitiere	31.11	185	eP	P	18 59 58.6	-0.8
GRR	Gorron	31.33	186	eP	P	19 00 00.9	-0.4
KOLS	Kolonicke sedl	31.44	156	eP	P	19 00 05.6	+3.3
SGMF	Saint Gilles	31.50	188	eP	P	19 00 02.8	0.0
VYHS	Vyhne	31.65	161	eP	P	19 00 05.8	+1.7
	comp=Z,3.5nm,1.3s,mb4.0						
HAU	Haudompre	31.69	177	eP	P	19 00 06.4	+2.0
QUIF	Quistinic	31.85	189	eP	P	19 00 05.9	0.0
PSZ	Piszkesteto	32.29	159	eP	P	19 00 09.4	-0.3
	comp=Z,2.1nm,0.7s,mb4.1						
PSZ	Piszkesteto	32.29	159	eP	P	19 00 09.4	-0.3
	comp=Z,2.0nm,0.7s,mb4.1						
LOR	Lormes	32.41	180	eP	P	19 00 09.6	-1.2
SSF	Saint Saulge	32.62	180	eP	P	19 00 12.9	+0.3
	comp=Z,7.7nm,0.9s,mb4.3						
SSF	Saint Saulge	32.62	180	eP	P	19 00 12.9	+0.3
	comp=Z,3.8nm,0.9s,mb4.3						
AVF	Avril sur Loir	32.89	180	eP	P	19 00 15.3	+0.3
CABF	La Chapelle	33.08	177	eP	P	19 00 17.4	+0.8
MFF	Saint Martin d	33.10	185	eP	P	19 00 17.0	+0.1
BGF	Bois d'Agland	33.12	181	eP	P	19 00 17.5	+0.5
	comp=Z,6.1nm,0.4s,mb4.5						
BGF	Bois d'Agland	33.12	181	eP	P	19 00 17.5	+0.5
	comp=Z,3.0nm,0.4s,mb4.5						
SCHQ	Schefferville	33.15	266	eP	P	19 00 14.9	-2.4
	comp=Z,2.6nm,0.8s,mb4.2						
TCF	Toulx Ste Croi	33.39	182	eP	P	19 00 19.5	+0.1
	comp=Z,23nm,1.2s,mb4.7						
TCF	Toulx Ste Croi	33.39	182	eP	P	19 00 19.5	+0.1
	comp=Z,12nm,1.2s,mb4.7						
CHKZ	Chkalovo	33.62	99	eP	P	19 00 21.3	0.0
	comp=Z,5.4nm,0.6s,mb4.7						
CHKZ				e		19 00 30.4	
CHKZ	Chkalovo	33.62	99	eP	P	19 00 21.3	0.0
ZRNK	Zerenda	34.02	101	eP	P	19 00 25.9	+1.0
	comp=Z,2.3nm,0.6s,mb4.3						
ZRNK				e		19 00 33.9	
ZRNK	Zerenda	34.02	101	eP	P	19 00 25.9	+1.0
BRVK	Borovoye	34.15	99	eP	P	19 00 28.2	+2.3
	comp=Z,4.4nm,1.0s,mb4.3						
BRVK				e		19 00 36.0	
BRVK	Borovoye	34.15	99	eP	P	19 00 28.2	+2.2
LPL	La Plagne	34.18	176	eP	P	19 00 27.9	+1.7
	comp=Z,3.7nm,0.6s,mb4.2						
LPL	La Plagne	34.18	176	eP	P	19 00 27.9	+1.7
	comp=Z,1.9nm,0.6s,mb4.2						
LPG	La Plagne	34.20	176	eP	P	19 00 28.2	+1.8
BVAR	Borovoye Array	34.20	99	P	P	19 00 27.1	+0.7
	comp=Z,1.1nm,0.7s,mb3.9,baz=342,slow=9.3,SNR=6.5						
RJF	Les Rejaudoux	34.38	183	eP	P	19 00 28.3	+0.3
	comp=Z,8.2nm,0.8s,mb4.4						
RJF	Les Rejaudoux	34.38	183	eP	P	19 00 28.3	+0.3
	comp=Z,4.1nm,0.8s,mb4.4						
AKTK	Aktyubinsk	34.53	113	P	P	19 00 28.9	-0.3
AKTK	Aktyubinsk	34.53	113	P	P	19 00 29.0	-0.2
AKTO	Aktyubinsk	34.53	113	P	P	19 00 28.9	-0.3
	comp=Z,0.4nm,0.4s,mb3.7,baz=4.8,slow=12,SNR=2.9						
CAF	Calviac	34.76	182	eP	P	19 00 31.6	+0.4
ORIF	Oris-en-Rattie	34.77	177	eP	P	19 00 32.3	+1.0
VIVF	Saint-Julien-l	34.82	179	eP	P	19 00 32.7	+0.9
	comp=Z,26nm,1.4s,mb4.7						
VIVF	Saint-Julien-l	34.82	179	eP	P	19 00 32.7	+0.9
	comp=Z,13nm,1.4s,mb4.7						
LASF	Ste Croix	35.60	180	eP	P	19 00 40.2	+1.7
	comp=Z,18nm,1.4s,mb4.5						
LASF	Ste Croix	35.60	180	eP	P	19 00 40.2	+1.7
	comp=Z,8.8nm,1.4s,mb4.5						
SMRF	Simiane la Rot	35.71	178	eP	P	19 00 39.5	+0.1
	comp=Z,15nm,1.2s,mb4.5						
SMRF	Simiane la Rot	35.71	178	eP	P	19 00 39.5	+0.1
	comp=Z,7.3nm,1.2s,mb4.5						
SBF	Sospel	35.84	175	eP	P	19 00 41.7	+1.1
	comp=Z,26nm,0.8s,mb4.9						
SBF	Sospel	35.84	175	eP	P	19 00 41.7	+1.1
	comp=Z,13nm,0.8s,mb4.9						
FRF	La Foret Royal	36.13	176	eP	P	19 00 43.8	+0.7
	comp=Z,21nm,1.1s,mb4.7						
FRF	La Foret Royal	36.13	176	eP	P	19 00 43.8	+0.7
	comp=Z,10nm,1.1s,mb4.7						
LMR	La Mourre	36.36	176	eP	P	19 00 45.7	+0.7
	comp=Z,21nm,1.2s,mb4.6						
LMR	La Mourre	36.36	176	eP	P	19 00 45.7	+0.7
	comp=Z,10nm,1.2s,mb4.6						
EPF	Esparros	36.67	184	eP	P	19 00 48.0	+0.4
	comp=Z,25nm,1.3s,mb4.6						
EPF	Esparros	36.67	184	eP	P	19 00 48.0	+0.4
	comp=Z,12nm,1.3s,mb4.6						
ETSF	Etsaut	36.81	185	eP	P	19 00 49.4	+0.5
	comp=Z,26nm,1.4s,mb4.6						
ETSF	Etsaut	36.81	185	eP	P	19 00 49.4	+0.5
	comp=Z,13nm,1.4s,mb4.6						
PGF	Pioggiola	37.18	173	eP	P	19 00 52.7	+0.7
KURK	Kurchatov	37.91	92	eP	P	19 00 59.0	+0.9
	comp=Z,10nm,1.2s,mb4.4						
KURK				e		19 01 06.9	
KURK	Kurchatov	37.91	92	eP	P	19 00 59.0	+0.9
ESDC	Sonseca Array	40.11	189	P	P	19 01 16.6	0.0
	comp=Z,0.4nm,0.5s,mb3.5,baz=360,slow=9.2,SNR=6.6						
ESLA	Sonseca Array	40.11	189	eP	P	19 01 16.2	-0.4
	comp=Z,1.3nm,1.0s,mb3.6						
ESLA	Sonseca Array	40.11	189	eP	P	19 01 16.2	-0.4
	comp=Z,1.3nm,1.0s,mb3.6						
BRTR	Keskin Array B	41.60	145	P	P	19 01 29.6	+0.7
	comp=Z,1.5nm,0.9s,mb3.6,baz=336,slow=2.7,SNR=4.6						
BRTR	Keskin Array B	41.60	145	P	P	19 01 29.5	+0.6
MKAR	Makanchi Array	42.35	90	P	P	19 01 35.4	+0.4
	comp=Z,0.6nm,0.5s,mb3.5,baz=354,slow=8.5,SNR=4.4						
MKAR	Makanchi Array	42.35	90	P	P	19 01 35.4	+0.4
GNI	Garni	42.53	132	P	P	19 01 39.9	+3.4
	comp=Z,10nm,0.9s,mb4.5						
ULM	Lac du Bonnet	42.74	291	eP	P	19 01 38.0	-0.1
	comp=Z,3.7nm,0.9s,mb4.1						
MALT	Malatya	43.54	139	P	P	19 01 44.8	+0.1
	comp=Z,3.4nm,0.9s,mb4.1						
EYMN	Ely	44.21	286	P	P	19 01 49.1	-0.9
	comp=Z,26nm,1.4s,mb4.8						
EYMN				e		19 01 56.4	
SONM	Songino Array	45.62	67	P	P	19 02 01.4	+0.1
	comp=Z,0.4nm,0.6s,mb3.5,baz=326,slow=5.0,SNR=2.5						
WMQ	Urumqi	46.20	86	P	P	19 02 06.7	+0.8
PDAR	Pinedale Array	52.25	301	P	P	19 02 52.2	+0.1
	comp=Z,0.3nm,0.8s,mb3.3,baz=34,slow=11,SNR=4.5						
MDJ	Mudanjiang	52.29	47	P	P	19 02 48.4	-4.0
MDJ				PCP	PcP	19 04 01.1	-2.5
MDJ				SCP	ScP	19 07 57.6	-3.2
MDJ				PCS	PcS	19 07 59.5	-2.5
MDJ				S	S	19 10 14.9	-2.7
MDJ				SCS	ScS	19 12 38.7	-3.8
MDJ				SS	SS	19 13 50.4	-4.7
MDJ				AMB	AMB		
	comp=Z,6.0nm,2.0s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,42nm,4.1s						
MDJ				LR	LR		
	comp=N,54nm,17.6s,MS3.8						
MDJ				LR	LR		
	comp=E,35nm,14.3s,MS3.8						
MDJ				LR	LR		
	comp=Z,52nm,15.7s,MS3.7						
HHC	Hu-ho-hao-te	53.27	64	eP	P	19 02 58.1	-1.6
HHC				AP	pP	19 03 02.3	-0.6
HHC				PP	PP	19 05 00.0	+0.2
HHC				S	S	19 10 27.1	-3.9
HHC				SCS	ScS	19 12 44.2	-5.2
HHC				SS	SS	19 14 05.1	-5.6
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,111nm,5.1s						
HHC				LR	LR		
	comp=N,223nm,17.8s,MS4.5						
HHC				LR	LR		
	comp=E,283nm,13.7s,MS4.5						
HHC				LR	LR		
	comp=Z,224nm,19.0s						
LZH	Lanzhou	56.61	73	eP	P	19 03 23.9	+0.1
LZH				AP	pP	19 03 28.5	+1.5
LZH				XP	sP	19 03 30.9	+2.7
LZH				PP	PP	19 05 31.5	+1.8
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb5.0						
MAJO	Matsushiro	61.33	41	P	P	19 04 01.7	+5.1
CD2	Chengdu	61.64	74	eP	P	19 03 56.4	-2.3
TORD	Torodi Ar. Bea	66.43	182	P	P	19 04 29.9	-0.3
	comp=Z,1.5nm,0.8s,mb4.1,baz=354,slow=4.4,SNR=15						
TORD	Torodi Ar. Bea	66.43	182	P	P	19 04 29.9	-0.3
KMI	Kunming	67.11	76	P	P	19 04 35.2	+0.7
KMI				AP	pP	19 04 38.3	+0.5
KMI				XP	sP	19 04 39.6	+0.6
KMI				PP	PP	19 07 01.2	-1.1
KMI				S	S	19 13 26.1	-2.5
KMI				XS	sS	19 13 33.5	-0.5
KMI				SS	SS	19 17 43.2	-4.3
KMI				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.3						
KMI				AMB	AMB		
	comp=Z,86nm,5.0s						
KMI				LR	LR		
	comp=N,129nm,22.0s,MS4.3						
KMI				LR	LR		
	comp=E,172nm,19.7s,MS4.3						
KMI				LR	LR		
	comp=Z,194nm,15.1s,MS4.4						

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*PRE **04** 19:08:49.8±1.4, 2097S×3325E, h5^{km}, ML4.9*
*ISCJB **04** 19:08:54.8±0.6, 2133S±004×3288E±007, h10^{km}, mb4.1/9, Error ellipse: s-maj=9.0km s-min=5.5km az=10.6*
*IDC **04** 19:08:54.3±1.2, 2139S×3325E, h0^{km}, mb3.9/3, mb1 4.0/6, mb1mx3.7/25, mbtmp4.0/6, ML4.1/3, MS3.4/2, Ms1 3.3/2, ms1mx2.9/28, Error ellipse: s-maj=35.0km s-min=25.9km az=142.0*
*NEIC **04** 19:08:56.3±0.5, 2129S×33.11E, h10^{km}, mb4.4/7, Error ellipse: s-maj=12.3km s-min=11.0km az=172.0*
ISC 04 19:08:56.1±0.5**, 2128S**±004×**3303E**±006**, h10^{km}, n29, σ1^{s}31**/37**, mb4.1**/9**, Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	Pongola	6.20	192	eP	Pn	19 10 26.3	-1.4
POGA				eS	Sn	19 11 38.8	+0.1
POGA				AML	AML	19 12 22.3	
	comp=Z,129nm,0.7s						
LSZ	Lusaka	7.53	322	ePn	Pn	19 10 47.1	+1.2
	comp=Z,41nm,0.7s						
LSZ				eSn	Sn	19 12 09.8	-1.6
LSZ				eSg	Sg	19 12 54.5	-3.4
LBTB	Lobatse	7.79	240	eP	Pn	19 10 50.4	+0.9
LBTB				eS	Sn	19 12 17.1	-0.5
LBTB				AML	AML	19 13 09.0	
	comp=Z,108nm,0.7s						
LBTB	Lobatse	7.79	240	ePn	Pn	19 10 51.3	+1.8
	comp=Z,13nm,0.6s						
LBTB				eSn	Sn	19 12 13.5	-4.2
SEK	Senekal	8.56	214	eP	Pn	19 11 01.2	+1.1
SEK				eS	Sn	19 12 36.1	-0.7
SEK				AML	AML	19 13 41.2	
	comp=Z,81nm,0.7s						
KSD	Kokstad	9.78	199	eP	Pn	19 11 17.4	+0.6
KSD				eS	Sn	19 13 05.0	-1.7
KSD				AML	AML	19 14 07.2	
	comp=Z,24nm,0.7s						
BOSA	Boshof	10.15	222	eP	Pn	19 11 22.2	+0.4
BOSA				eS	Sn	19 13 14.2	-1.6
BOSA				AML	AML	19 14 22.1	
	comp=Z,35nm,0.7s						
BOSA	Boshof	10.15	222	Pn	Pn	19 11 22.2	+0.4
	comp=Z,1.7nm,0.3s,baz=52,slow=13,SNR=28						
BOSA				Sn	Sn	19 13 11.6	-4.2
	comp=Z,0.7nm,0.3s,baz=174,slow=6.0,SNR=3.2						
BOSA				Lg		19 14 13.2	
	comp=Z,1.6nm,0.3s,baz=109,slow=16,SNR=4.0						
BOSA				LR	LR	19 15 36.3	
	comp=Z,159nm,20.8s,baz=83,slow=39						
OPO	Ambohidratompo	13.58	81	Pn	Pn	19 12 06.6	-2.2
	comp=Z,0.3nm,0.3s,baz=270,slow=13,SNR=3.7						
OPO				Sn	Sn	19 14 23.9	-16
	comp=Z,0.4nm,0.3s,baz=160,slow=22,SNR=4.2						
TSUM	Tsumeb	14.64	275	ePn	Pn	19 12 24.1	+0.9
	comp=Z,4.2nm,0.6s						
TSUM				eSn	Sn	19 14 59.4	-6.2
SUR	Sutherland	15.52	222	Pn	Pn	19 12 36.3	+1.3
	comp=Z,1.1nm,0.3s,baz=54,slow=13,SNR=12						
SUR				Sn	Sn	19 15 19.0	-7.9
	comp=Z,0.3nm,0.3s,baz=5.9,slow=16,SNR=3.1						
SUR				Lg		19 17 05.2	
	comp=Z,0.5nm,0.3s,baz=135,slow=16,SNR=3.7						
SUR				LR	LR	19 18 48.8	
	comp=Z,192nm,19.1s,baz=354,slow=38						
SUR	Sutherland	15.52	222	ePn	Pn	19 12 33.4	-1.6
	comp=Z,35nm,1.2s						
SUR				eSn	Sn	19 15 17.4	-10
SUR				Sn	Sn	19 15 19.0	-7.9
SUR				Lg		19 17 05.2	
KMBO	Kilima Mbogo	20.45	12	Lg		19 19 38.6	
	comp=Z,1.9nm,0.8s,baz=73,slow=21,SNR=4.4						
TOA0	Torodi Ar. Sit	46.01	315	P	P	19 17 21.5	+1.8
TORD	Torodi Ar. Bea	46.01	315	P	P	19 17 21.1	+1.4
	comp=Z,1.4nm,1.0s,mb3.9,baz=128,slow=7.2,SNR=8.9						
DBIC	Dimbokro	46.41	303	P	P	19 17 22.3	-0.4
	comp=Z,5.5nm,1.1s,mb4.4						
MAW	Mawson	49.97	166	P	P	19 17 50.3	0.0
	comp=Z,1.4nm,0.7s,mb4.1						
SNAA	Sanae	54.46	193	eP	P	19 18 25.2	+1.6
	comp=Z,0.6nm,0.7s,mb3.6						
VNDA	Vanda	77.00	170	eP	P	19 20 48.6	-0.5
	comp=Z,1.0nm,0.7s,mb3.9						
SBA	Scott Base	77.53	171	eP	P	19 20 52.2	+0.2
	comp=Z,13nm,1.6s,mb4.6						
BVAR	Borovoye Array	80.77	22	P	P	19 21 08.6	-1.2
	comp=Z,0.2nm,0.4s,mb3.4,baz=224,slow=4.0,SNR=4.1						
ASAR	Alice Springs	90.99	116	P	P	19 21 59.6	-0.9
	comp=Z,0.8nm,0.8s,mb4.1,baz=235,slow=3.2,SNR=6.3						
SAML	Samuel	92.52	259	P	P	19 22 10.6	+3.1
WRAB	Tennant Creek	92.86	113	P	P	19 22 10.8	+1.7
	comp=Z,6.7nm,0.8s,mb5.1						
TMUT	Trail Mountain	144.57	309	ePKPdf	PKPdf	19 28 33.3	+0.5
MSU	Marysvale	145.55	308	ePKPdf	PKPdf	19 28 37.3	+2.8
BMO	Blue Mountains	146.10	321	ePKPdf	PKPdf	19 28 37.2	+1.7
NVAR	Mina Array Bea	150.00	311	PKPbc	PKPbc	19 28 49.2	+2.4
	comp=Z,0.6nm,0.6s,baz=68,slow=4.9,SNR=4.2						
NVAR	Mina Array Bea	150.00	311	PKPbc	PKPbc	19 28 49.2	+2.4

IDC 04 19:14:50.1±2.1**, 582S**×**13047E, h0^{km}, mb3.6**/1**, mb1 3.8**/4**, mb1mx3.6**/13**, mbtmp3.6**/4**, ML3.4**/3**, Error ellipse: s-maj=79.1km s-min=28.1km az=77.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.09	201	Pn	Pn	19 17 56.6	-0.6
	0.1nm,0.3s,baz=5.4,slow=15,SNR=9.2						
FITZ				Sn	Sn	19 20 05.4	-18
	0.2nm,0.3s,baz=64,slow=13,SNR=4.2						
WRA	Warramunga Arr	14.53	165	Pn	Pn	19 18 18.4	+1.5
	0.1nm,0.3s,baz=346,slow=11,SNR=8.0						
WRA				Sn	Sn	19 20 47.6	-11
	0.3nm,0.3s,baz=332,slow=22,SNR=8.4						
ASAR	Alice Springs	18.05	170	P	Pn	19 19 02.1	-0.2
	0.3nm,0.3s,baz=345,slow=10,SNR=31						
MKAR	Makanchi Array	67.51	326	P	P	19 25 48.2	+0.2
	0.3nm,0.5s,baz=120,slow=7.7,SNR=6.6						

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*IDC **04** 19:28:25.3±1.0, 1501S×17366W, h0^{km}, mb4.0/5, mb1 4.2/6, mb1mx4.0/14, mbtmp4.0/6, ML2.8/1, MS3.4/3, Ms1 3.4/3, ms1mx3.1/17, Error ellipse: s-maj=45.3km s-min=21.5km az=148.0*
*ISCJB **04** 19:28:28.1±0.7, 150S±02×1737W±02, h33^{km}, mb4.2/7, MS3.4/3, Error ellipse: s-maj=39.2km s-min=12.8km az=119.3*
*NEIC **04** 19:28:30.0±0.6, 1499S×17366W, h35^{km}, mb4.6/2, Error ellipse: s-maj=35.0km s-min=12.8km az=150.0*
ISC 04 19:28:28.9±6.6**, 150S**±02×**1736W**±02**, h29^{km}**±49^{km}**, n12, σ1^{s}19**/10**, mb4.2**/7**, MS3.4**/3**, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.02	59	Pn	Pn	19 29 01.5	+0.6
	166nm,0.3s,baz=97,slow=1.2,SNR=49						
AFI				Sn	Sn	19 29 22.5	-2.7
	156nm,0.3s,baz=52,slow=22,SNR=7.8						
DZM	Mont Dzumac	20.23	247	LR	LR	19 37 56.9	
	comp=Z,150nm,18.8s,MS3.4,baz=23,slow=28						
STKA	Stephens Creek	44.13	240	P	P	19 36 35.4	+0.7
	1.5nm,0.8s,mb3.8,baz=152,slow=16,SNR=3.2						
WRAB	Tennant Creek	49.79	256	eP	P	19 37 16.8	-2.2
	12nm,0.9s,mb4.9						
WRA	Warramunga Arr	49.80	256	P	P	19 37 19.0	0.0
	1.0nm,0.7s,mb3.9,baz=96,slow=7.8,SNR=10.0						
AS31	Alice Springs	50.10	252	eP	P	19 37 20.8	-0.5
ASAR	Alice Springs	50.10	252	P	P	19 37 20.9	-0.4
	4.7nm,0.6s,mb4.7,baz=86,slow=8.0,SNR=93						
ASAR				LR	LR	19 54 49.8	
	comp=Z,12nm,20.1s,MS2.9,baz=109,slow=32						
VNDA	Vanda	63.80	186	P	P	19 38 58.5	+0.1
	1.4nm,0.8s,mb4.0,baz=9.3,slow=6.3,SNR=7.9						
COLA	College	81.95	11	eP	P	19 40 46.8	+0.8
	3.2nm,0.8s,mb4.3						
PDAR	Pinedale Array	82.04	42	P	P	19 40 48.4	+2.0
	0.4nm,0.7s,mb3.5,baz=248,slow=1.6,SNR=3.6						
PDAR				LR	LR	20 15 34.9	
	comp=Z,39nm,18.2s,MS3.8,baz=73,slow=34						
CPUP	Villa Florida	105.68	123	eP	PKiKP	19 46 50.2	+0.7
BRTR	Keskin Array B	145.71	321	PKPbc	PKPbc	19 48 06.8	+1.9
	1.6nm,0.7s,baz=74,slow=2.6,SNR=8.4						

WEL 04 19:32:51.2±0.1**, 3929S**×**17490E, h30^{km}, ML3.7**/36**, 5C-8D, Error ellipse: s-maj=0.6km s-min=0.5km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	Vera Road	0.19	325	⇑P*	Pb	19 32 57.2	-0.1
VRZ				S*	Sb	19 33 02.5	+1.1
PKVZ	Pokaka	0.34	91	⇑P*	Pb	19 32 59.1	-0.2
PKVZ				S*	Sb	19 33 05.5	+0.7
RAEZ	Rainy Point	0.39	269	P*	Pb	19 32 59.7	-0.3
RAEZ				S*	Sb	19 33 06.9	+1.0
MTVZ	Mangateitei	0.45	103	⇓P*	Pb	19 33 00.5	-0.3
MTVZ				S*	Sb	19 33 07.7	+0.2
TWVZ	Taurewa	0.47	63	⇑P*	Pb	19 33 00.7	-0.4
TWVZ				S*	Sb	19 33 07.9	+0.1
WAZ	Wanganui	0.47	172	P*	Pb	19 33 00.6	-0.6
WAZ				S*	Sb	19 33 08.0	0.0
TRVZ	Turoa	0.50	92	P*	Pb	19 33 01.5	-0.1
TRVZ				S*	Sb	19 33 08.7	0.0
FWVZ	Far West T-bar	0.51	87	⇓P*	Pb	19 33 01.5	-0.2
FWVZ				S*	Sb	19 33 08.6	-0.3
WPVZ	Whakapapa	0.51	81	P*	Pb	19 33 01.4	-0.3
WPVZ				S*	Sb	19 33 09.5	+0.6
DRZ	Dome Shelter	0.52	89	P*	Pb	19 33 01.8	-0.1
DRZ				S*	Sb	19 33 09.7	+0.6
WNVZ	Wahianoa	0.54	95	⇓P*	Pb	19 33 02.1	-0.2
NGZ	Ngauruhoe	0.55	79	P*	Pb	19 33 02.2	-0.3
NGZ				S*	Sb	19 33 10.0	-0.1
WTVZ	West Tongariro	0.56	73	⇑P*	Pb	19 33 02.2	-0.4
WTVZ				S*	Sb	19 33 10.6	+0.3
TUVZ	Tukino	0.58	89	⇓P*	Pb	19 33 02.8	-0.2
KRVZ	Karewarewa	0.60	72	⇓P*	Pb	19 33 02.9	-0.4
KRVZ				S*	Sb	19 33 11.7	+0.1
OTVZ	Oturere	0.60	79	⇓P*	Pb	19 33 03.1	-0.3
OTVZ				S*	Sb	19 33 11.8	+0.2
NEZ	North Egmont	0.62	271	P*	Pb	19 33 03.2	-0.5
MOVZ	Moawhango	0.67	101	⇓PN	Pn	19 33 03.7	-1.0
MOVZ				S*	Sb	19 33 12.7	-0.7
KATZ	Kakaramea	0.69	64	⇓PN	Pn	19 33 04.3	-0.7
KATZ				SN	Sn	19 33 13.7	-1.0
PKE	Pukeiti	0.71	277	PN	Pn	19 33 04.8	-0.5
PKE				SN	Sn	19 33 14.7	-0.6
NRZ	Ngariki Road	0.75	266	PN	Pn	19 33 04.9	-0.9
HIZ	Hauiti	0.77	357	⇑PN	Pn	19 33 05.2	-0.8
HIZ				SN	Sn	19 33 16.5	-0.1
RATZ	Rangitukua	0.80	59	PN	Pn	19 33 05.9	-0.5
RATZ				SN	Sn	19 33 17.3	+0.1
NWEZ	Newall Road	0.80	270	PN	Pn	19 33 05.8	-0.7
WATZ	Wairara	0.87	49	PN	Pn	19 33 06.8	-0.5
WATZ				SN	Sn	19 33 18.8	-0.1
TSZ	Takapari Road	1.13	134	PN	Pn	19 33 10.4	-0.6
TSZ				SN	Sn	19 33 25.4	0.0
BKZ	Black Stump Fm	1.24	85	PN	Pn	19 33 12.2	-0.3
MRZ	Mangatainoka R	1.47	159	PN	Pn	19 33 15.7	0.0
MRZ				SN	Sn	19 33 34.9	+1.0
KIW	Kapiti Island	1.57	180	PN	Pn	19 33 17.0	-0.2
KIW				SN	Sn	19 33 36.0	-0.5
TOZ	Tahuroa Road	1.62	17	PN	Pn	19 33 17.1	-0.7
TOZ				SN	Sn	19 33 37.0	-0.7
TIWZ	Tintock	1.67	153	PN	Pn	19 33 19.4	+1.0
DUWZ	D'Urville Isla	1.69	206	PN	Pn	19 33 18.5	-0.3
CAW	Cannon Point	1.83	176	PN	Pn	19 33 20.9	+0.3
MTW	Mount Morrison	1.93	166	PN	Pn	19 33 23.7	+1.7
MRW	Makara Radio	1.95	184	PN	Pn	19 33 22.3	+0.1
TCW	Tory Channel	1.98	194	PN	Pn	19 33 22.2	-0.5
URZ	Urewera	2.01	60	ePN	Pn	19 33 22.9	-0.2
SNZO	South Karori	2.03	184	PN	Pn	19 33 23.6	+0.3
MKAZ	Moumakai	2.18	6	PN	Pn	19 33 25.1	-0.4
NNZ	Nelson	2.25	211	PN	Pn	19 33 26.4	-0.1
MWZ	Matawai	2.26	66	ePN	Pn	19 33 27.1	+0.6
TUWZ	Tuamarina	2.27	199	PN	Pn	19 33 26.1	-0.5
QRZ	Quartz Range	2.38	229	PN	Pn	19 33 26.8	-1.5
QRZ				SN	Sn	19 33 53.7	-2.7
MTAZ	Motutapu	2.49	0	PN	Pn	19 33 28.1	-1.6
KHZ	Kahutara	3.29	198	ePN	Pn	19 33 40.0	-0.8
WCZ	Waipu Caves	3.37	352	PN	Pn	19 33 41.5	-0.3
WCZ				SN	Sn	19 34 19.5	-1.3
DSZ	Denniston Nort	3.41	223	PN	Pn	19 33 41.5	-0.9
DSZ				SN	Sn	19 34 17.8	-3.9
LTZ	Lake Taylor	4.02	209	PN	Pn	19 33 50.0	-0.7
OUZ	Omahuta	4.19	345	PN	Pn	19 33 52.8	-0.3

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*IDC **04** 19:37:38.8±2.9, 3948N×7545E, h0^{km}, mb3.5/4, mb1 3.6/6, mb1mx3.4/22, mbtmp3.4/6, ML3.0/2, Error ellipse: s-maj=50.4km s-min=26.1km az=172.0*
*NEIC **04** 19:37:39.0±1.8, 3942N×7527E, h10^{km}, Error ellipse: s-maj=28.9km s-min=20.0km az=163.0*
*NNC **04** 19:37:43.1±4.2, 3982N×7520E, h0^{km}, mb3.3, mpv3.0, Error ellipse: s-maj=42.2km s-min=25.2km az=153.0*
*ISCJB **04** 19:37:44.7±0.7, 3962N±006×755E±01, h59^{km}±7^{km}, mb3.4/4, Error ellipse: s-maj=18.6km s-min=5.9km az=122.9*
*BJI **04** 19:37:45.6, 3994N×7551E, h8^{km}, ML3.1*
ISC 04 19:37:45.8±0.7**, 3961N**±006×**755E**±01**, h54^{km}**±8^{km}**, n31, σ0^{s}85**/35**, mb3.4**/4**, 6C-2D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	0.36	104	⇑PG	Pn	19 37 55.0	-0.8
KSH				SG	Sn	19 38 03.1	+0.1
KSH				Smax			
	comp=N,3μm,0.6s						
KSH				Smax			
	comp=E,2μm,0.7s						
KZA	Kyzart	2.48	355	P	Pn	19 38 23.5	-0.2
	SNR=53						
ULHL	Ulahol	2.69	12	P	Pn	19 38 28.5	+1.9
	SNR=192						
UCH	Uchtor	2.73	344	P	Pn	19 38 27.3	+0.2
	SNR=558						
AML	Almayashu	2.88	332	P	Pn	19 38 29.6	+0.5
	SNR=72						
KBK	Karagaybulak	3.08	352	P	Pn	19 38 32.5	+0.6
	SNR=175						
AAK	Ala-Archa	3.12	346	P	Pn	19 38 33.2	+0.7
	SNR=70						
AAK	Ala-Archa	3.12	346	Pn	Pn	19 38 32.7	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,2μm,0.4s,SNR=55						
AAK	**Ala-Archa**	**3.12**	**346**	*e*Pn	**Pn**	**19 38 31.9**	**-0.6**
AAK				*e*Sn	**Sn**	**19 39 07.3**	**-1.2**
TKM2	**Tokmak 2**	**3.31**	**1**	P	**Pn**	**19 38 35.7**	**+0.6**
	SNR=30						
TKM2	**Tokmak 2**	**3.31**	**1**	⇑Pn	**Pn**	**19 38 35.6**	**+0.5**
	comp=E,0.6nm,0.5s						
TKM2				⇓Pg	**Pn**	**19 38 39.8**	**+4.7**
TKM2				⇑Lg		19 39 20.1	
	comp=E,5.3nm,0.5s						
EKS2	**Erkin-Say**	**3.33**	**337**	P	**Pn**	**19 38 36.2**	**+0.9**
	SNR=11						
CHMS	**Chumysh**	**3.44**	**351**	P	**Pn**	**19 38 37.1**	**+0.3**
	SNR=13						
USP	**Ospenovka**	**3.74**	**349**	P	**Pn**	**19 38 41.0**	**+0.1**
	SNR=21						
KK31	**Karatay Array**	**5.14**	**314**	⇓Pn	**Pn**	**19 38 59.0**	**-1.2**
	comp=E,0.8nm,0.5s,baz=0.0,slow=0.1,SNR=4.4						
KK31				⇑Pg	**Pn**	**19 39 11.9**	**+12**
	comp=E,5.7nm,0.6s,baz=123,slow=15,SNR=3.7						
KK31				⇑Lg		19 40 16.7	
	comp=E,6.8nm,0.6s,baz=129,slow=29,SNR=4.4						
MK02	**Makanchi Array**	**8.71**	**32**	⇑Pn	**Pn**	**19 39 47.2**	**-1.9**
	comp=E,0.6nm,0.6s,baz=219,slow=14						
MKAR	**Makanchi Array**	**8.72**	**32**	Pn	**Pn**	**19 39 49.1**	**-0.1**
	comp=E,0.2nm,0.3s,baz=208,slow=14,SNR=10						
MKAR				Lg		19 42 03.4	
	comp=E,0.1nm,0.3s,baz=216,slow=23,SNR=2.3						
GKN	**Gorkha**	**13.82**	**144**	*e*P	**Pn**	**19 40 59.1**	**+0.2**
	comp=E,14nm,0.3s						
BVAR	**Borovoye Array**	**13.88**	**347**	Pn	**Pn**	**19 40 55.3**	**-4.3**
	comp=E,0.1nm,0.3s,baz=159,slow=13,SNR=4.3						
BVAR				Lg		19 44 50.7	
	comp=E,0.1nm,0.3s,baz=142,slow=36,SNR=4.4						
BRVK	**Borovoye**	**13.93**	**347**	P	**Pn**	**19 40 53.9**	**-6.4**
	comp=E,0.8nm,0.5s						
ZRNK	**Zerenda**	**14.08**	**344**	*e*P	**Pn**	**19 41 10.8**	**+8.4**
KKN	**Kakani**	**14.30**	**143**	*e*P	**Pn**	**19 41 05.4**	**+0.2**
DMN	**Daman**	**14.37**	**143**	*e*P	**Pn**	**19 41 05.9**	**-0.3**
GUN	**Gumba**	**14.49**	**140**	*e*P	**Pn**	**19 41 08.3**	**+0.6**
	comp=E,14nm,0.5s						
JIRN	**Jiri**	**14.85**	**140**	*e*P	**Pn**	**19 41 12.1**	**-0.3**
	comp=E,24nm,0.6s						
SONM	**Songino Array**	**23.66**	**59**	P	**P**	**19 42 52.8**	**+0.5**
	comp=E,0.2nm,0.7s,mb2.7,baz=272,slow=11,SNR=3.1						
FINES	**FINESS Array B**	**37.04**	**323**	P	**P**	**19 44 49.9**	**-0.5**
	comp=E,0.6nm,0.4s,mb3.7,baz=104,slow=8.0,SNR=6.8						
FINES	**FINESS Array B**	**37.04**	**323**	P	**P**	**19 44 49.9**	**-0.5**
ARCES	**ARCESS Array B**	**39.74**	**335**	P	**P**	**19 45 12.6**	**-0.5**
	comp=E,2.6nm,1.1s,mb3.9,baz=119,slow=9.9,SNR=4.8						
GVD	**Gavdhos**	**40.77**	**280**	P	**P**	**19 45 18.6**	**-3.1**
	comp=E,27nm,0.8s						
GERES	**GERESS Array B**	**44.13**	**303**	P	**P**	**19 45 50.0**	**+1.1**
	comp=E,0.3nm,0.5s,mb3.3,baz=55,slow=11,SNR=4.7						

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*ISCJB **04** 19:44:27.3±0.5, 21.59S±0.04×66.65W±0.05, h214km±5km, mb4.0/22, Error ellipse: s-maj=8.2km s-min=6.2km az=38.2*
*IDC **04** 19:44:28.6±0.7, 21.54S×66.61W, h208km±7km, mb3.8/8, mb1 4.0/14, mb1mx3.8/20, mbtmp4.4/14, Error ellipse: s-maj=12.5km s-min=9.6km az=112.0*
*NEIC **04** 19:44:28.2±0.5, 21.58S×66.68W, h208km±6km, mb4.2/20, Error ellipse: s-maj=8.8km s-min=6.8km az=74.0*
*BJI **04** 19:44:28.2, 21.60S×66.70W, h207km, mB4.9*
*GUC **04** 19:44:30.9±0.5, 22.12S×66.94W, h250km, ML5.0*
ISC 04 19:44:28.4±0.5**, 21.56S**±0.04×**66.63W**±0.05**, h206**km±5km**, n56,** σ1.13/62**, mb4.0**/22**, 5C-3D, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.36**	**243**	P	**Pn**	**19 45 13.0**	**+1.9**
	57nm,0.3s,baz=55,slow=7.2,SNR=496						
LVC				S	**Sn**	**19 45 46.2**	**+1.8**
	54nm,0.3s,baz=243,slow=21,SNR=47						
LVC	**Limon Verde**	**2.36**	**243**	⇓*i*Pn	**Pn**	**19 45 13.2**	**+2.1**
LVC				*e*S	**Sn**	**19 45 45.6**	**+1.1**
CEN1	**Los Morros**	**3.77**	**240**	⇓*i*P	**Pn**	**19 45 31.1**	**+3.6**
CEN1				*i* S	**Sn**	**19 46 16.7**	**+2.7**
CEN1				AML	AML	19 46 18.2	
	comp=E,605nm,0.8s						
ANCH	**Antofagasta**	**4.08**	**238**	⇑*i*P	**Pn**	**19 45 29.7**	**-1.6**
ANCH				*i* S	**Sn**	**19 46 16.1**	**-4.8**
ANCH				AML	AML	19 46 17.1	
	comp=N,1μm,0.1s						
ANCH	**Antofagasta**	**4.08**	**238**	⇑*i*P	**Pn**	**19 45 29.7**	**-1.6**
ANCH				*i* S	**Sn**	**19 46 16.1**	**-4.8**
CPN1	**Cerro Paranal**	**4.62**	**228**	⇑*i*P	**Pn**	**19 45 38.9**	**+0.7**
CPN1				*i* S	**Sn**	**19 46 30.3**	**-2.9**
LPAZ	**La Paz**	**5.43**	**345**	P	**Pn**	**19 45 50.4**	**+1.9**
	comp=N,22nm,0.3s,baz=150,slow=8.8,SNR=349						
LPAZ				S	**Sn**	**19 46 53.0**	**+1.3**
	baz=278,slow=24,SNR=2.5						
LPAZ	**La Paz**	**5.43**	**345**	⇑*i*Pn	**Pn**	**19 45 50.7**	**+2.2**
	comp=N,65nm,0.4s						
LPAZ				*e*S	**Sn**	**19 46 51.6**	**-0.2**
CDCH	**Caldera**	**6.69**	**214**	*e*P	**Pn**	**19 46 02.8**	**-1.8**
CDCH				*i* S	**Sn**	**19 47 14.3**	**-6.7**
ARE	**Arequipa**	**6.84**	**317**	⇑*i*P	**Pn**	**19 46 05.1**	**-1.5**
ARE				*e*S	**Sn**	**19 47 19.0**	**-5.7**
SIV	**San Ignacio**	**7.64**	**44**	P	**Pn**	**19 46 17.4**	**+0.4**
	comp=N,18nm,0.3s,baz=222,slow=13,SNR=196						
SIV				S	**Sn**	**19 47 41.5**	**-2.0**
	comp=N,0.2nm,0.3s,baz=319,slow=20,SNR=2.7						
CPUP	**Villa Florida**	**9.74**	**121**	P	**Pn**	**19 46 44.8**	**+0.6**
	comp=N,0.1nm,0.3s,baz=263,slow=6.3,SNR=3.4						
CPUP	**Villa Florida**	**9.74**	**121**	P	**Pn**	**19 46 44.8**	**+0.6**
CFAA	**Coronel Fontan**	**10.10**	**188**	P	**Pn**	**19 46 47.4**	**-1.4**
	comp=N,1.0nm,0.3s,baz=359,slow=14,SNR=34						
CFAA				S	**Sn**	**19 48 34.5**	**-7.3**
	comp=N,0.4nm,0.3s,baz=352,slow=11,SNR=6.0						
CFAA	**Coronel Fontan**	**10.10**	**188**	P	**Pn**	**19 46 47.4**	**-1.4**
CFAA				S	**Sn**	**19 48 34.5**	**-7.3**
SAML	**Samuel**	**12.97**	**15**	*e*Pn	**Pn**	**19 47 24.9**	**-0.4**
	comp=N,3.4nm,0.5s						
NNA	**Nana**	**13.64**	**313**	*e*Pn	**Pn**	**19 47 33.4**	**-0.2**
TRQA	**Tornquist**	**16.92**	**167**	*e*P	**P**	**19 48 10.9**	**-1.0**
	comp=N,3.5nm,0.5s						
BDFB	**Brasilia**	**18.60**	**75**	P	**P**	**19 48 30.9**	**+0.7**
	comp=N,1.2nm,0.3s,baz=254,slow=6.0,SNR=5.5						
BDFB	**Brasilia**	**18.60**	**75**	*e*P	**P**	**19 48 30.6**	**+0.4**
	comp=N,8.1nm,0.6s						
PLCA	**Paso Flores**	**19.40**	**189**	P	**P**	**19 48 39.4**	**+0.5**
	comp=N,0.6nm,0.3s,baz=6.0,slow=12,SNR=12						
PLCA	**Paso Flores**	**19.40**	**189**	*e*P	**P**	**19 48 39.2**	**+0.3**
	comp=N,4.8nm,0.8s						
OTAV	**Otavalo**	**24.55**	**330**	*e*P	**P**	**19 49 27.7**	**-1.5**
TEIG	**Tepich**	**46.61**	**332**	*e*P	**P**	**19 52 34.5**	**-1.4**
	comp=N,6.3nm,0.9s,mb4.0						
WVT	**Waverly**	**60.78**	**340**	*e*P	**P**	**19 54 16.9**	**-1.6**
	comp=N,11nm,0.7s,mb4.6						
SIUC	**Southern Illin**	**62.67**	**340**	P	**P**	**19 54 30.4**	**-0.7**
	comp=N,7.4nm,0.8s,mb4.4						
DBIC	**Dimbokro**	**66.73**	**72**	P	**P**	**19 54 57.2**	**0.0**
	comp=N,3.0nm,0.7s,mb4.0						
BNM	**Barren Site**	**67.22**	**325**	*e*P	**P**	**19 55 01.1**	**+0.7**
ANMO	**Albuquerque**	**67.74**	**325**	*e*P	**P**	**19 55 04.5**	**+0.8**
	comp=N,1.5nm,0.9s,mb3.6						
WUAZ	**Wupatki**	**70.85**	**323**	*e*P	**P**	**19 55 23.8**	**+1.1**
	comp=N,9.1nm,1.0s,mb4.4						
PV01	**Paradox Valley**	**71.25**	**326**	*e*P	**P**	**19 55 24.7**	**-0.5**
SRU	**San Rafael**	**73.00**	**326**	⇓*i*P	**P**	**19 55 36.3**	**+0.8**
	comp=N,7.3nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**75.24**	**329**	P	**P**	**19 55 48.7**	**+0.3**
	comp=N,1.0nm,0.5s,mb3.7,baz=128,slow=7.6,SNR=14						
HWUT	**Hardware Ranch**	**75.38**	**327**	*e*P	**P**	**19 55 49.2**	**0.0**
	comp=N,2.5nm,0.6s,mb4.0						
TORD	**Torodi Ar. Bea**	**75.39**	**69**	P	**P**	**19 55 49.3**	**0.0**
	comp=N,6.0nm,0.5s,mb4.5,baz=256,slow=5.4,SNR=94						
TORD				pP	pP	19 56 43.2	+4.9
	comp=N,1.5nm,0.8s,baz=254,slow=6.1,SNR=3.7						
AHID	**Auburn Hatcher**	**76.00**	**328**	*e*P	**P**	**19 55 53.4**	**+0.6**
	comp=N,8.2nm,0.9s,mb4.4						
ULM	**Lac du Bonnet**	**76.04**	**341**	P	**P**	**19 55 51.9**	**-1.1**
	comp=N,4.5nm,0.6s,mb4.3,baz=149,slow=5.9,SNR=8.3						
SCHQ	**Schefferville**	**76.08**	**360**	P	**P**	**19 55 52.2**	**-1.0**
	comp=N,1.6nm,0.6s,mb3.8,baz=214,slow=5.1,SNR=4.3						
SCHQ	**Schefferville**	**76.08**	**360**	*e*P	**P**	**19 55 52.0**	**-1.2**
	comp=N,2.7nm,0.7s,mb4.0						
LOHW	**Long Hollow**	**76.38**	**329**	*e*P	**P**	**19 55 55.2**	**+0.3**
	comp=N,2.0nm,0.5s,mb4.0						
NVAR	**Mina Array Bea**	**76.86**	**321**	P	**P**	**19 55 58.0**	**+0.3**
	comp=N,1.3nm,0.8s,mb3.6,baz=151,slow=5.8,SNR=7.5						
TSUM	**Tsumeb**	**77.99**	**106**	*e*P	**P**	**19 56 05.0**	**+1.2**
	comp=N,2.1nm,0.7s,mb3.9						
HLID	**Hailey**	**78.24**	**327**	*e*P	**P**	**19 56 06.3**	**+1.1**
	comp=N,4.0nm,0.8s,mb4.1						
BOSA	**Boshof**	**81.54**	**117**	P	**P**	**19 56 23.8**	**+0.9**
	comp=N,1.2nm,0.4s,mb3.9,baz=249,slow=8.1,SNR=8.7						
LBTB	**Lobatse**	**83.06**	**114**	*e*P	**P**	**19 56 31.7**	**+0.9**
	comp=N,5.3nm,1.1s,mb4.2						
ESDC	**Sonseca Array**	**84.40**	**44**	P	**P**	**19 56 38.2**	**+0.6**
	comp=N,0.1nm,0.3s,mb3.0,baz=251,slow=4.5,SNR=6.9						
LSZ	**Lusaka**	**88.84**	**106**	P	**P**	**19 56 59.4**	**+0.3**
	comp=N,1.4nm,0.7s,mb3.9						
YKA	**Yellowknife Ar**	**91.96**	**340**	P	**P**	**19 57 13.0**	**-0.5**
	comp=N,1.5nm,0.5s,mb4.2,baz=129,slow=4.5,SNR=13						
ESK	**Eskdalemuir**	**93.54**	**31**	P	**P**	**19 57 14.7**	**-6.1**
ASAR	**Alice Springs**	**130.80**	**205**	PKP	PKPdf	20 03 15.7	+0.7
	comp=N,0.6nm,0.4s,baz=138,slow=1.9,SNR=13						
WRA	**Warramunga Arr**	**133.94**	**208**	PKP	PKPdf	20 03 21.4	+0.5
	comp=N,0.7nm,1.1s,baz=156,slow=1.8,SNR=7.4						
MKAR	**Makanchi Array**	**144.41**	**38**	PKP	PKPdf	20 03 39.5	-0.5
	comp=N,7.7nm,0.6s,baz=314,slow=3.8,SNR=70						
WMQ	**Urumqi**	**149.25**	**38**	PKP	PKPdf	20 03 45.2	-2.8
SONM	**Songino Array**	**153.19**	**10**	PKP	PKPdf	20 03 54.1	+0.1
	comp=N,0.8nm,0.7s,baz=273,slow=1.5,SNR=6.0						
SONM				PKPbc	PKPbc	20 04 02.0	+0.4
	comp=N,1.9nm,0.5s,baz=310,slow=1.4,SNR=12						
SONM				PKPab	PKPab	20 04 14.2	+0.1
	comp=N,0.5nm,0.5s,baz=329,slow=4.1,SNR=4.3						
MDJ	**Mudanjiang**	**153.39**	**334**	PKP	PKPdf	20 03 53.4	-0.9
HHC	**Hu-ho-hao-te**	**160.71**	**4**	*e*PKP	PKPdf	20 04 00.1	-3.4
HHC				APKP		20 04 58.1	
HHC				XPKP		20 05 21.3	
HHC				PP	PP	20 08 29.2	-0.6
HHC				SKS	SKSdf	20 10 41.3	-7.7
HHC				SKKS	SKKSac	20 14 53.6	-4.3
HHC				PP	PP		
	comp=Z,61nm,10.7s						

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*ISCJB **04** 19:49:50.1±2.7, 79.1N±0.1×4.4E±0.2, h2km±19km, mb3.9/8, MS3.1/7, Error ellipse: s-maj=17.8km s-min=7.5km az=13.3*
*CSEM **04** 19:49:52.9±0.2, 79.15N×3.32E, h36km±1km, mb4.1/4*
*NAO **04** 19:49:52.4±4.5, 79.56N×5.49E, ML2.6*
*IDC **04** 19:49:52.1±6.1, 79.20N×4.16E, h0km, mb3.7/2, mb1 3.7/5, mb1mx3.4/22, mbtmp3.7/5, ML2.9/3, MS3.1/11, Ms1 3.1/11, ms1mx2.9/34, Error ellipse: s-maj=101.6km s-min=37.2km az=102.0*
*NEIC **04** 19:49:52.9±0.7, 79.14N×4.34E, h10km, mb4.0/6, Error ellipse: s-maj=16.4km s-min=8.9km az=190.0*
*BER **04** 19:49:52.6±3.8, 79.99N×6.14E, h10km, MD3.3, ML3.2, ML2.6(NAO)*
ISC 04 19:49:53.3±3.2**, 79.1N**±0.1×**4.6E**±0.3**, h14**km±22km**, n45,** σ1.04/47**, mb3.9**/8**, MS3.1**/7**, Greenland Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.43**	**94**	Pn	**Pn**	**19 50 17.5**	**-1.3**
KBS				Lg		19 50 36.0	
KBS	**Kingsbay**	**1.43**	**94**	*e*P	**Pn**	**19 50 17.5**	**-1.3**
KBS				*e*S	**Sn**	**19 50 35.9**	**-1.5**
KBS				AML	AML	19 50 38.8	
	comp=Z,180nm,0.3s						
KBS	**Kingsbay**	**1.43**	**94**	*e*Pn	**Pn**	**19 50 17.2**	**-1.6**
KBS				*e*Sn	**Sn**	**19 50 33.9**	**-3.5**
KBS	**Kingsbay**	**1.43**	**94**	*e*Pn	**Pn**	**19 50 17.2**	**-1.6**
KBS				*e*S	**Sn**	**19 50 35.9**	**-1.4**
	comp=Z,180nm,0.3s,SNR=50						
SPB4	**Spitsbergen Ar**	**2.51**	**106**	*e*Pn	**Pn**	**19 50 33.8**	**+0.1**
SPB4				*e*Sn	**Sn**	**19 51 05.0**	**+0.8**
SPB4	**Spitsbergen Ar**	**2.51**	**106**	*e*Pn	**Pn**	**19 50 33.8**	**+0.1**
SPB4				*e*Sn	**Sn**	**19 51 04.9**	**+0.8**
SPA0	**Spitsbergen Ar**	**2.52**	**106**	Pn	**Pn**	**19 50 33.7**	**-0.1**
	baz=304,slow=14						
SPA0				Sn	**Sn**	**19 51 04.5**	**+0.3**
	baz=335,slow=16						
HOPEN	**Hopen**	**5.04**	**111**	*e*P	**Pn**	**19 51 08.5**	**+0.1**
HOPEN				*e*S	**Sn**	**19 52 03.9**	**-2.4**
HOPEN				AML	AML	19 52 06.5	
	comp=N,217nm,0.4s						
DAG	**Danmarks Havn**	**5.37**	**256**	*i* P	**Pn**	**19 51 12.0**	**-1.0**
	comp=N,1.5nm,0.8s						
DAG	**Danmarks Havn**	**5.37**	**256**	*e*P	**Pn**	**19 51 12.0**	**-1.0**
	comp=N,1.5nm,0.8s						
SCO	**Scoresbysund**	**10.94**	**232**	*i* P	**Pn**	**19 52 35.3**	**+6.0**
	comp=N,1.7nm,0.4s						
SCO	**Scoresbysund**	**10.94**	**232**	*e*P	**Pn**	**19 52 35.3**	**+6.0**
	comp=N,1.7nm,0.4s						
KEV	**Kevo**	**11.03**	**136**	Pn	**Pn**	**19 52 32.0**	**+1.4**
KEV	**Kevo**	**11.03**	**136**	Pn	**Pn**	**19 52 32.0**	**+1.4**
ARA0	**ARCESS Array S**	**11.04**	**139**	Pn	**Pn**	**19 52 31.4**	**+0.6**
	baz=355,slow=12						
ARCES	**ARCESS Array B**	**11.04**	**139**	Pn	**Pn**	**19 52 30.0**	**-0.8**
	comp=N,0.1nm,0.3s,baz=320,slow=19,SNR=3.3						
ARCES				LR	LR	19 56 35.9	
	comp=N,61nm,21.8s,baz=1.5,slow=36						
ARCES	**ARCESS Array B**	**11.04**	**139**	Pn	**Pn**	**19 52 30.0**	**-0.8**
ARCES				LR	LR	19 56 35.9	
SUMG	**Summit**	**12.03**	**260**	*e*Pn	**Pn**	**19 52 37.6**	**-6.7**
	comp=N,4.8nm,0.6s						
SUMG				*e*Sn	**Sn**	**19 54 40.8**	**-18**
SUMG	**Summit**	**12.03**	**260**	*e*Pn	**Pn**	**19 52 37.6**	**-6.7**
	comp=N,4.8nm,0.6s						
SUMG				*e*Sn	**Sn**	**19 54 40.8**	**-17**
NOA	**NORSAR Array B**	**18.28**	**170**	LR	LR	20 00 08.0	
	comp=N,28nm,19.2s,baz=350,slow=34						
FINES	**FINESS Array B**	**18.92**	**147**	P	**Pn**	**19 54 14.8**	**+0.6**
	comp=N,0.1nm,0.3s,baz=357,slow=10,SNR=6.1						
FINES				LR	LR	20 01 09.3	
	comp=N,52nm,21.1s,baz=132,slow=36						
FINES	**FINESS Array B**	**18.92**	**147**	P	**Pn**	**19 54 14.8**	**+0.6**
FINES				LR	LR	20 01 09.3	
SFJD	**Kangerlussuaq**	**19.02**	**262**	*e*P	**Pn**	**19 54 12.1**	**-3.3**
SFJD	**Kangerlussuaq**	**19.02**	**262**	*e*P	**Pn**	**19 54 12.1**	**-3.3**
HFS	**Hagfors**	**19.29**	**166**	P	**Pn**	**19 54 19.2**	**+0.6**
	comp=N,0.2nm,0.3s,baz=7.6,slow=12,SNR=5.9						
HFS				LR	LR	20 00 41.1	
	comp=N,46nm,20.2s,baz=35,slow=34						
OBN	**Obninsk**	**26.34**	**137**	P	**P**	**19 55 28.2**	**-0.6**
	comp=N,8.1nm,0.8s,mb4.3						
OBN	**Obninsk**	**26.34**	**137**	P	**P**	**19 55 28.2**	**-0.6**
	comp=N,8.1nm,0.8s,mb4.3						
ARU	**Arti**	**28.55**	**110**	P	**P**	**19 55 47.8**	**-0.8**
	comp=N,1.5nm,0.6s,mb3.9						
ARU	**Arti**	**28.55**	**110**	P	**P**	**19 55 47.8**	**-0.8**
	comp=N,1.5nm,0.6s,mb3.9						
GERES	**GERESS Array B**	**30.57**	**168**	LR	LR	20 08 41.7	
	comp=N,15nm,18.0s,MS2.7,baz=71,slow=37						
INK	**Inuvik**	**30.82**	**331**	LR	LR	20 09 06.9	
	comp=N,42nm,19.8s,MS3.1,baz=174,slow=38						
CHKZ	**Chkalovo**	**33.38**	**99**	*e*P	**P**	**19 56 31.4**	**+0.2**
	comp=N,2.5nm,0.8s,mb4.2						
CHKZ	**Chkalovo**	**33.38**	**99**	*e*P	**P**	**19 56 31.4**	**+0.2**
	comp=N,2.5nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**33.77**	**101**	*e*P	**P**	**19 56 35.1**	**+0.5**
	comp=N,1.2nm,0.6s,mb4.0						
BVAR	**Borovoye Array**	**33.96**	**99**	P	**P**	**19 56 37.8**	**+1.6**
	comp=N,0.8nm,0.6s,mb3.8,baz=332,slow=9.1,SNR=8.5						
BVAR				LR	LR	20 13 20.0	
	comp=N,50nm,18.7s,MS3.3,baz=136,slow=41						
AKTO	**Aktyubinsk**	**34.19**	**114**	LR	LR	20 13 38.2	
	comp=N,31nm,18.0s,MS3.1,baz=117,slow=42						
YKA	**Yellowknife Ar**	**34.26**	**314**	LR	LR	20 10 14.0	
	comp=N,30nm,19.9s,MS3.0,baz=270,slow=36						
KURK	**Kurchatov**	**37.72**	**92**	*e*P	**P**	**19 57 09.1**	**+0.7**
	comp=N,2.8nm,1.0s,mb4.0						
KURK				*e*		19 57 16.8	
KURK	**Kurchatov**	**37.72**	**92**	*e*P	**P**	**19 57 09.1**	**+0.7**
DLBC	**Dease Lake**	**40.11**	**324**	LR	LR	20 15 17.8	
	comp=N,40nm,19.1s,MS3.3,baz=258,slow=38						
MKAR	**Makanchi Array**	**42.18**	**90**	P	**P**	**19 57 46.0**	**+0.5**
	comp=N,0.6nm,0.6s,mb3.4,baz=338,slow=7.3,SNR=7.3						
MKAR	**Makanchi Array**	**42.18**	**90**	P	**P**	**19 57 46.0**	**+0.5**
MMAI	**Mount Meron Ar**	**47.97**	**145**	LR	LR	20 21 55.0	
	comp=N,24nm,21.5s,MS3.1,baz=100,slow=40						
MCMT	**McKenzie Canyo**	**51.13**	**306**	*e*P	**P**	**19 59 00.6**	**+5.0**
BMO	**Blue Mountains**	**51.78**	**310**	*e*P	**P**	**19 59 01.5**	**+1.1**
	comp=N,1.4nm,0.8s,mb3.9						

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*IDC **04** 19:58:53.2±6.7, 36.26N×70.86E, h143km±61km, mb3.3/9, mb1 3.5/12, mb1mx3.3/23, mbtmp3.8/12, Error ellipse: s-maj=32.4km s-min=17.8km az=19.0*
*NEIC **04** 19:58:54.8±2.2, 36.30N×70.89E, h159km±19km, mb3.7/7, Error ellipse: s-maj=17.1km s-min=11.3km az=205.0*
*MOS **04** 19:58:55.3±1.1, 36.41N×70.66E, h173km, mb4.1/1, Error ellipse: s-maj=18.6km s-min=8.9km az=92.0*
*ISCJB **04** 19:58:57.8±0.9, 36.51N±0.05×70.92E±0.09, h193km±10km, mb3.4/9, Error ellipse: s-maj=13.4km s-min=5.1km az=127.3*
*NNC **04** 19:59:02.9±3.1, 37.35N×70.45E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=25.2km s-min=24.7km az=156.0*
ISC 04 19:58:59.2±0.9**, 36.57N**±0.05×**70.9E**±0.1**, h191**km±10km**, n54,** σ0.95/62**, mb3.5**/9**, 3C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.80**	**132**	*e*x	x	20 01 29.0	
AML	**Almayashu**	**5.96**	**21**	P	**Pn**	**20 00 26.5**	**+0.7**
	SNR=153						
UCH	**Uchtor**	**6.31**	**25**	P	**Pn**	**20 00 30.9**	**+0.7**
	SNR=35						
KZA	**Kyzart**	**6.45**	**30**	P	**Pn**	**20 00 32.2**	**0.0**
	SNR=13						
EKS2	**Erkin-Say**	**6.48**	**19**	P	**Pn**	**20 00 33.1**	**+0.6**
	SNR=25						
KK31	**Karatay Array**	**6.53**	**358**	Pn	**Pn**	**20 00 33.0**	**-0.2**
	4.3nm,0.4s,baz=184,slow=13,SNR=246						
KK31				⇓Sn	**Sn**	**20 01 42.5**	**-5.0**
	61nm,0.8s,baz=182,slow=21,SNR=22						
AAK	**Ala-Archa**	**6.66**	**24**	P	**Pn**	**20 00 35.8**	**+0.9**
	SNR=11						
AAK	**Ala-Archa**	**6.66**	**24**	*e*PN	**Pn**	**20 00 34.4**	**-0.5**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.4s						
AAK	**Ala-Archa**	**6.66**	**24**	*e*P	**Pn**	**20 00 34.4**	**-0.5**
	comp=Z,10nm,0.4s						
AAK				*e*Sn	**Sn**	**20 01 49.3**	**-1.3**
KBK	**Karagaybulak**	**6.84**	**26**	P	**Pn**	**20 00 37.8**	**+0.6**
	SNR=12						
CHMS	**Chumysh**	**7.07**	**24**	P	**Pn**	**20 00 40.8**	**+0.6**
	SNR=11						
SDNR	**Sundarnagar**	**7.14**	**133**	*e*P	**Pn**	**20 00 39.8**	**-1.3**
SDNR				*e*S	**Sn**	**20 01 55.0**	**-7.0**
USP	**Ospenovka**	**7.24**	**21**	P	**Pn**	**20 00 43.0**	**+0.6**
	SNR=12						
TKM2	**Tokmak 2**	**7.30**	**28**	P	**Pn**	**20 00 44.0**	**+0.7**
	SNR=45						
TKM2	**Tokmak 2**	**7.30**	**28**	⇑Pn	**Pn**	**20 00 43.3**	**+0.1**
	comp=Z,2.5nm,0.6s						
TKM2				⇓Sn	**Sn**	**20 02 03.9**	**-1.9**
	comp=Z,0.6nm,0.7s						
KLP	**Kalpa**	**7.91**	**127**	*e*P	**Pn**	**20 00 50.4**	**-0.7**
KLP				*e*S	**Sn**	**20 02 14.6**	**-5.5**
KLP				AML	AML	20 02 16.1	
	comp=E,98nm,0.6s						
KLP				AML	AML	20 02 17.2	
	comp=N,105nm,0.4s						
NDI	**New Delhi**	**9.50**	**144**	*e*S	**Sn**	**20 02 48.5**	**-10**
KUDL	**Kundal**	**9.64**	**149**	*e*P	**Pn**	**20 01 10.9**	**-2.8**
KUDL				*e*S	**Sn**	**20 02 50.5**	**-11**
KUDL				AML	AML	20 02 53.7	
	comp=E,13nm,0.5s						
KUDL				AML	AML	20 02 54.3	
	comp=N,8.1nm,0.4s						
SONA	**Sohna**	**9.81**	**146**	*e*S	**Sn**	**20 02 55.3**	**-10**
SONA				AML	AML	20 02 59.0	
	comp=N,31nm,0.4s						
SONA				AML	AML	20 03 00.6	
	comp=E,29nm,0.4s						
MKAR	**Makanchi Array**	**13.29**	**36**	P	**Pn**	**20 01 59.5**	**-0.9**
	comp=E,0.1nm,0.3s,baz=220,slow=11,SNR=8.9						
GKN	**Gorkha**	**14.41**	**122**	*e*P	**Pn**	**20 02 14.9**	**+0.4**
	comp=E,16nm,0.5s						
GKN				*e*S	**Sn**	**20 04 39.6**	**-16**
AB31	**Akbulak array**	**14.98**	**331**	P	**Pn**	**20 02 23.0**	**+1.6**
	comp=E,2.9nm,0.5s,baz=141,slow=14,SNR=36						
AB31				⇑S	**Sn**	**20 05 04.0**	**-4.8**
	comp=E,0.9nm,0.5s,baz=159,slow=23,SNR=5.8						
DMN	**Daman**	**14.99**	**123**	*e*P	**Pn**	**20 02 22.9**	**+1.4**
KKN	**Kakani**	**14.99**	**122**	*e*P	**Pn**	**20 02 21.4**	**-0.1**
	comp=E,19nm,0.7s						
KURK	**Kurchatov**	**15.19**	**19**	*e*P	**Pn**	**20 02 23.5**	**-0.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KURK	**Kurchatov**	**15.19**	**19**	*e*Pn	**Pn**	**20 02 23.4**	**-0.6**
	comp=Z,2.2nm,1.1s						
PKI	**Pulchoki**	**15.22**	**122**	*e*P	**Pn**	**20 02 25.8**	**+1.5**
GUN	**Gumba**	**15.33**	**120**	*e*P	**Pn**	**20 02 25.5**	**-0.2**
	comp=Z,12nm,0.4s						
JIRN	**Jiri**	**15.70**	**120**	*e*P	**Pn**	**20 02 31.4**	**+1.2**
	comp=Z,16nm,0.4s						
ZRNK	**Zerenda**	**16.43**	**356**	*e*P	**Pn**	**20 02 39.9**	**+0.9**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZRNK	**Zerenda**	**16.43**	**356**	*e*P	**Pn**	**20 02 39.9**	**+0.9**
	comp=Z,2.7nm,0.7s						
ZRNK				*e*pP	pP	20 02 58.5	-11
BVAR	**Borovoye Array**	**16.46**	**359**	P	**Pn**	**20 02 38.1**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=169,slow=11,SNR=20						
BRVK	**Borovoye**	**16.49**	**359**	*e*P	**Pn**	**20 02 39.7**	**0.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRVK	**Borovoye**	**16.49**	**359**	*e*P	**Pn**	**20 02 39.7**	**0.0**
	comp=Z,1.7nm,0.4s						
AKTK	**Aktyubinsk**	**16.68**	**330**	P	**Pn**	**20 02 41.8**	**-0.1**
AKTO	**Aktyubinsk**	**16.68**	**330**	⇑P	**Pn**	**20 02 42.7**	**+0.8**
	comp=Z,0.3nm,0.9s						
AKTO				⇓S	**S**	**20 05 44.5**	**-0.9**
	comp=Z,0.1nm,1.2s						
AKTO	**Aktyubinsk**	**16.68**	**330**	P	**Pn**	**20 02 41.8**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=138,slow=11,SNR=32						
CHKZ	**Chkalovo**	**17.11**	**359**	*e*P	**Pn**	**20 02 47.0**	**0.0**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CHKZ	**Chkalovo**	**17.11**	**359**	*e*P	**Pn**	**20 02 47.0**	**-0.1**
	comp=Z,2.3nm,0.6s						
LSA	**Lhasa**	**18.28**	**106**	*e*P	**P**	**20 03 01.9**	**+3.4**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LSA	**Lhasa**	**18.28**	**106**	*e*P	**P**	**20 03 01.9**	**+3.4**
	comp=Z,2.5nm,0.8s						
ZAL	**Zalesovo**	**19.87**	**25**	P	**P**	**20 03 16.2**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=253,slow=9.0,SNR=5.7						
KIV	**Kislovodsk**	**22.68**	**298**	P	**P**	**20 03 39.9**	**-4.3**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
KIV	**Kislovodsk**	**22.68**	**298**	P	**P**	**20 03 39.9**	**-4.2**
	comp=Z,4.0nm,0.8s,mb3.9						
BRTR	**Keskin Array B**	**29.33**	**288**	P	**P**	**20 04 43.0**	**-0.9**
	comp=Z,0.3nm,0.4s,mb3.4,baz=67,slow=22,SNR=2.4						
FINES	**FINESS Array B**	**37.38**	**326**	P	**P**	**20 05 54.0**	**+0.7**
	comp=Z,1.1nm,0.9s,mb3.5,baz=123,slow=9.5,SNR=4.7						
ARCES	**ARCESS Array B**	**41.05**	**338**	P	**P**	**20 06 23.5**	**-0.2**
	comp=Z,1.2nm,0.7s,mb3.6,baz=170,slow=8.1,SNR=3.6						
ARCES	**ARCESS Array B**	**41.05**	**338**	P	**P**	**20 06 23.5**	**-0.2**
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**20 06 50.5**	**+0.8**
	comp=Z,0.3nm,0.5s,mb3.2,baz=97,slow=7.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**65.63**	**269**	P	**P**	**20 09 21.9**	**-0.7**
	comp=Z,0.1nm,0.3s,mb3.1,baz=52,slow=5.4,SNR=6.1						
TORD	**Torodi Ar. Bea**	**65.63**	**269**	P	**P**	**20 09 21.9**	**-0.7**
YKA	**Yellowknife Ar**	**81.18**	**3**	P	**P**	**20 10 53.8**	**+0.5**
	comp=Z,0.6nm,0.5s,mb3.5,baz=348,slow=5.3,SNR=4.7						
WRA	**Warramunga Arr**	**82.10**	**122**	P	**P**	**20 10 57.3**	**-0.9**
	comp=Z,1.3nm,0.6s,mb3.8,baz=324,slow=4.9,SNR=19						
ASAR	**Alice Springs**	**84.37**	**125**	P	**P**	**20 11 08.8**	**-1.0**
	comp=Z,1.3nm,0.6s,mb3.9,baz=308,slow=4.9,SNR=21						

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*NEIC **04** 20:14:44.9, 29.59S×72.02W, h35km, ML3.7(GUC), After GUC.*
GUC 04 20:14:44.9±0.7**, 29.59S**×**72.02W, h35**km±6km**, MD3.8, ML3.7, 3C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**1.24**	**145**	*e*P	Pn	20 15 06.1	+0.4
OVCH				*i* S	Sn	20 15 23.1	+1.8
OVCH				AML	AML	20 15 25.7	
	comp=N,1μm,0.2s						
OVCH	**Ovalle**	**1.24**	**145**	*e*P	Pn	20 15 06.1	+0.4
OVCH				*i* S	Sn	20 15 23.1	+1.8
LCO	**Las Campanas**	**1.29**	**64**	⇑*i*P	Pn	20 15 08.0	+1.6
LCO				*i* S	Sn	20 15 25.8	+3.3
VACH	**Vallenar**	**1.50**	**48**	*e*P	Pn	20 15 11.1	+1.8
VACH				*i* S	Sn	20 15 29.8	+2.2
VACH				AML	AML	20 15 30.7	
	comp=N,1μm,0.1s						
VACH	**Vallenar**	**1.50**	**48**	*e*P	Pn	20 15 11.1	+1.8
VACH				*i* S	Sn	20 15 29.8	+2.2
CMCH	**Combarbala**	**1.81**	**151**	⇑*i*P	Pn	20 15 15.3	+1.7

CMCH				*i* S	Sn	20 15 38.4	+3.1
CMCH				AML	AML	20 15 52.1	
	comp=E,2μm,0.5s						
CMCH	Combarbala	1.81	151	⇑*i*P	Pn	20 15 15.3	+1.7
CMCH				*i* S	Sn	20 15 38.4	+3.1
PEL	Peldehue	3.72	162	*e*P	Pn	20 15 41.9	+2.0
PEL				*e*S	Sn	20 16 24.2	+1.7
PEL				AML	AML	20 16 40.3	
	comp=E,151nm,0.5s						
PEL	Peldehue	3.72	162	*e*P	Pn	20 15 41.9	+2.0
PEL				*e*S	Sn	20 16 24.2	+1.7
TACH	Talagante	4.16	167	⇓*i*P	Pn	20 15 47.2	+1.4
TACH				*e*S	Sn	20 16 34.4	+1.2
LVC	Limon Verde	7.49	23	*e*Pn	Pn	20 16 36.3	+4.7
	comp=E,6.2nm,0.9s						

*IDC **04** 20:29:39.2±1.4, 55.11N×58.15E, h0km, mb3.2/1, mb1 3.4/5, mb1mx3.2/21, mbtmp3.3/5, ML3.0/4, MS3.0/1, Ms1 3.0/1, ms1mx2.1/14, Error ellipse: s-maj=22.4km s-min=13.7km az=5.0*
*NEIC **04** 20:29:39.7±0.8, 5483N×5791E, h10km, Error ellipse: s-maj=16.4km s-min=9.3km az=211.0*
*ISCJB **04** 20:29:40.0±0.7, 5477N±003×5849E±008, h10km, mb3.0/1, MS2.9/1, Error ellipse: s-maj=6.3km s-min=4.6km az=8.8*
*MOS **04** 20:29:43.9±2.8, 5482N×5821E, h98km, mb3.5/1, Error ellipse: s-maj=15.4km s-min=11.9km az=114.2*
*CSEM **04** 20:29:43.5±0.3, 5490N×5806E, h10km, ML3.1/4, Error ellipse: s-maj=7.4km s-min=5.4km az=90.0*
*NNC **04** 20:29:47.6±3.5, 5435N×5892E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=38.4km s-min=10.4km az=129.0*
ISC 04 20:29:41.6±0.7**, 5479N**±003×**5838E**±007**, h10km, n34, σ1§52**/55**, mb3.0**/1**, MS2.9**/1**, 11C-3D, Ural Mountains region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARU	Arti	1.65	4	*e*P	Pn	20 30 09.7	-0.9
ARU				*e*		20 30 34.3	
ARU	Arti	1.65	4	*e*Pn	Pn	20 30 09.7	-0.9
ARU				*e*Sg	Sg	20 30 34.3	-0.4
SVE	Sverdlovsk	2.41	31	*e*P	Pg	20 30 28.0	+0.2
SVE				*e*S	Sn	20 30 55.0	+4.4
SVE				MLR	MLR		
	comp=Z,180μm,2.0s						
AKTK	Aktyubinsk	4.36	183	Pn	Pn	20 30 52.3	+4.4
AKTK				Sn	Sn	20 31 39.4	+0.6
AKTO	Aktyubinsk	4.36	183	⇑Pn	Pn	20 30 51.4	+3.5
AKTO				⇑Sn	Sn	20 31 38.9	+0.1
	comp=Z,0.2nm,0.7s						
AKTO				⇑Lg		20 31 50.6	
	comp=Z,0.3nm,0.7s						
AKTO	Aktyubinsk	4.36	183	Pn	Pn	20 30 52.3	+4.4
	comp=Z,0.4nm,0.3s,baz=339,slow=11,SNR=7.1						
AKTO				Sn	Sn	20 31 39.4	+0.6
	comp=Z,0.7nm,0.3s,baz=173,slow=23,SNR=9.6						
AKTO	Aktyubinsk	4.36	183	Pn	Pn	20 30 51.4	+3.5
AKTO				Sn	Sn	20 31 38.9	+0.1
	comp=Z,0.2nm,0.7s						
AB31	Akbulak array	5.62	169	Pn	Pn	20 31 05.5	+0.4
	comp=Z,0.4nm,0.2s,baz=356,slow=11,SNR=46						
AB31				Sn	Sn	20 32 07.9	-1.9
	comp=Z,1.6nm,0.3s,baz=278,slow=27,SNR=7.1						
AB31				⇑Lg		20 32 28.1	
	comp=Z,5.5nm,0.5s,baz=359,slow=24,SNR=4.1						
AB31	Akbulak array	5.62	169	Pn	Pn	20 31 05.6	+0.4
	comp=Z,0.4nm,0.2s,SNR=46						
AB31				Sn	Sn	20 32 07.9	-1.9
	comp=Z,1.6nm,0.3s,SNR=7.1						
ZRNK	Zerenda	6.55	102	⇑Pn	Pn	20 31 19.9	+2.0
	comp=Z,2.7nm,0.5s						
ZRNK				⇓Sn	Sn	20 32 34.0	+1.4
	comp=Z,3.4nm,0.5s						
ZRNK				⇓Lg		20 33 01.3	
	comp=Z,6.9nm,0.6s						
ZRNK	Zerenda	6.55	102	*e*P	Pn	20 31 20.3	+2.4
ZRNK				*e*		20 32 30.6	
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
ZRNK	Zerenda	6.55	102	*e*Pn	Pn	20 31 20.3	+2.4
	comp=Z,7.2nm,0.5s						
ZRNK				*e*Sn	Sn	20 32 30.6	-2.1
ZRNK				*e*Sg	Sg	20 33 09.1	-2.6
ZRNK	Zerenda	6.55	102	*e*Pn	Pn	20 31 20.3	+2.4
	comp=Z,7.2nm,0.5s						
ZRNK				Sn	Sn	20 32 34.0	+1.4
	comp=Z,3.4nm,0.5s						
BRVK	Borovoye	7.24	99	*e*P	Pn	20 31 25.6	-1.8
BRVK				*e*		20 32 49.7	
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	Borovoye	7.24	99	*e*Pn	Pn	20 31 25.6	-1.8
	comp=Z,1.6nm,0.6s						
BRVK				*e*Sn	Sn	20 32 49.7	0.0
CHKZ	Chkalovo	7.26	94	⇑Pn	Pn	20 31 29.1	+1.5
	comp=Z,1.0nm,0.5s						
CHKZ				⇑Sn	Sn	20 32 50.4	+0.3
	comp=Z,2.4nm,0.4s						
CHKZ	Chkalovo	7.26	94	*e*P	Pn	20 31 29.8	+2.1
CHKZ				*e*		20 32 48.6	
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CHKZ	Chkalovo	7.26	94	*e*Pn	Pn	20 31 29.8	+2.2
	comp=Z,2.4nm,0.5s						
CHKZ				*e*Sn	Sn	20 32 48.6	-1.6
CHKZ	Chkalovo	7.26	94	*e*Pn	Pn	20 31 29.8	+2.1
	comp=Z,2.4nm,0.5s						
CHKZ				Sn	Sn	20 32 50.4	+0.3
	comp=Z,2.4nm,0.4s						
BVA0	Borovoye Array	7.31	99	Pn	Pn	20 31 31.3	+2.9
	comp=Z,0.4nm,0.5s,baz=199,slow=24,SNR=11						
BVA0				⇑Sn	Sn	20 32 50.1	-1.4
	comp=Z,0.5nm,0.4s,baz=281,slow=25,SNR=4.9						
BVA0				⇑Lg		20 33 33.2	
	comp=Z,2.2nm,0.8s						
BVAR	Borovoye Array	7.31	99	Pn	Pn	20 31 30.8	+2.5
	comp=Z,1.0nm,0.3s,baz=285,slow=13,SNR=14						
BVAR				Sn	Sn	20 32 53.1	+1.7
	comp=Z,2.1nm,0.3s,baz=279,slow=26,SNR=7.8						
BVAR				Lg		20 33 35.8	
	comp=Z,0.6nm,0.3s,baz=284,slow=33,SNR=3.6						
BVAR	Borovoye Array	7.31	99	P	Pn	20 31 30.8	+2.4
BVAR						20 32 53.1	
BVAR	Borovoye Array	7.31	99	Pn	Pn	20 31 30.8	+2.4
BVAR				Sn	Sn	20 32 50.1	-1.3
	comp=Z,0.5nm,0.4s,SNR=4.9						
VOSK	Vostochnaya	7.75	100	⇓Pn	Pn	20 31 36.5	+2.1
	comp=Z,1.2nm,0.4s						
VOSK				⇑Sn	Sn	20 33 01.2	-1.0
	comp=Z,5.0nm,0.9s						
VOSK	Vostochnaya	7.75	100	Pn	Pn	20 31 36.5	+2.1
VOSK				Sn	Sn	20 33 01.2	-1.0
KURK	Kurchatov	12.91	100	*e*P	Pn	20 32 44.7	-0.3
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	Kurchatov	12.91	100	*e*Pn	Pn	20 32 44.7	-0.3
	comp=Z,1.3nm,0.6s						
KK31	Karatay Array	14.12	141	Pn	Pn	20 32 59.6	-2.0
	comp=Z,0.4nm,0.6s,baz=338,slow=15,SNR=5.5						
KK31				⇑Sn	Sn	20 35 34.3	-4.1
	comp=Z,0.4nm,0.5s,baz=331,slow=23,SNR=3.2						
MKAR	Makanchi Array	17.04	108	P	Pn	20 33 40.5	+0.7
	comp=Z,0.0nm,0.3s,baz=322,slow=11,SNR=3.2						
FINES	FINESS Array B	18.17	305	P	Pn	20 33 47.2	-6.7
	comp=Z,0.1nm,0.3s,baz=99,slow=12,SNR=3.4						
FINES	FINESS Array B	18.17	305	P	Pn	20 33 47.2	-6.7
NB2	NORSAR Subarra	25.34	304	P	P	20 35 05.7	-2.9
	comp=Z,0.2nm,0.5s,mb2.9,baz=83,slow=7.4						
NOA	NORSAR Array B	25.34	304	P	P	20 35 04.8	-3.7
	comp=Z,0.3nm,0.4s,mb3.2,baz=87,slow=9.1,SNR=4.1						
DAVOX	Davos	31.14	276	LR	LR	20 48 33.6	
	comp=Z,24nm,19.4s,MS2.9,baz=83,slow=37						

WEL 04 20:33:34.1±0.1**, 4093S**×**17607E, h32km, ML3.6**/14**, 5C-2D, Error ellipse: s-maj=1.3km s-min=0.8km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIWZ	Tintock	0.21	318	⇑P*	Pb	20 33 40.4	-0.2
TIWZ				S*	Sb	20 33 44.9	-0.1
BFZ	Birch Farm	0.28	28	⇓P*	Pb	20 33 41.7	+0.2
BFZ				S*	Sb	20 33 47.1	+0.6
MRZ	Mangatainoka R	0.46	306	⇑P*	Pb	20 33 43.8	-0.2
MRZ				S*	Sb	20 33 51.0	+0.2
MTW	Mount Morrison	0.48	242	⇓P*	Pb	20 33 44.6	+0.3
MTW				S*	Sb	20 33 52.3	+0.9
TRWZ	Traveller	0.55	212	⇑P*	Pb	20 33 45.5	+0.1
TRWZ				S*	Sb	20 33 54.0	+0.9
PAWZ	Paruwai Farm	0.66	227	⇑P*	Pb	20 33 47.1	-0.1
PAWZ				S*	Sb	20 33 57.0	+0.8
CAW	Cannon Point	0.78	257	P*	Pb	20 33 48.7	-0.4
CAW				S*	Sb	20 33 59.5	+0.1
MSWZ	Moikau Station	0.78	232	⇑P*	Pb	20 33 48.5	-0.8
MSWZ				S*	Sb	20 33 58.5	-1.1
TSZ	Takapari Road	0.88	355	P*	Pb	20 33 50.2	-0.6
TSZ				S*	Sb	20 34 02.0	-0.2
KIW	Kapiti Island	0.88	274	P*	Pb	20 33 50.7	-0.3
KIW				S*	Sb	20 34 02.1	-0.2
WEL	Wellington	1.04	250	P*	Pb	20 33 52.5	-1.1
MRW	Makara Radio	1.08	254	P*	Pb	20 33 52.8	-1.4
MRW				S*	Sb	20 34 06.5	-1.5
PXZ	Pawanui	1.08	34	P*	Pb	20 33 52.5	-1.8
SNZO	South Karori	1.10	249	P*	Pb	20 33 53.0	-1.5
SNZO				S*	Sb	20 34 06.7	-1.8
TCW	Tory Channel	1.38	258	PN	Pn	20 33 57.8	+0.5
TCW				S*	Sb	20 34 13.7	-3.0
WAZ	Wanganui	1.44	324	PN	Pn	20 34 00.2	+2.2
MOVZ	Moawhango	1.54	351	PN	Pn	20 34 00.8	+1.4
MOVZ				SN	Sn	20 34 18.6	+0.2
MTVZ	Mangateitei	1.61	343	PN	Pn	20 34 02.6	+2.2
MTVZ				SN	Sn	20 34 20.9	+0.9
DUWZ	D'Urville Isla	1.63	274	PN	Pn	20 34 01.5	+0.8
DUWZ				S*	Sb	20 34 20.7	-3.1
WNVZ	Wahianoa	1.64	347	PN	Pn	20 34 02.8	+2.0
WNVZ				SN	Sn	20 34 21.3	+0.5
TRVZ	Turoa	1.68	346	SN	Sn	20 34 23.0	+1.2
TUVZ	Tukino	1.69	349	PN	Pn	20 34 03.0	+1.6
TUVZ				SN	Sn	20 34 23.0	+1.0
DRZ	Dome Shelter	1.70	347	SN	Sn	20 34 23.2	+1.0
FWVZ	Far West T-bar	1.72	347	PN	Pn	20 34 03.7	+1.8
FWVZ				SN	Sn	20 34 23.6	+0.9
PKVZ	Pokaka	1.73	341	PN	Pn	20 34 04.2	+2.2
WPVZ	Whakapapa	1.77	347	PN	Pn	20 34 04.6	+2.1
WPVZ				SN	Sn	20 34 25.0	+1.0
OTVZ	Oturere	1.79	350	PN	Pn	20 34 04.5	+1.6
BSWZ	Blackbirch Sta	1.83	244	PN	Pn	20 34 02.6	-0.7
WTVZ	West Tongariro	1.85	348	PN	Pn	20 34 05.4	+1.7
RAEZ	Rainy Point	2.09	321	PN	Pn	20 34 10.8	+3.9
PKE	Pukeiti	2.36	317	PN	Pn	20 34 15.5	+4.8
KHZ	Kahutara	2.41	231	PN	Pn	20 34 09.9	-1.4
KHZ				S*	Sb	20 34 36.3	-10
THZ	Tophouse	2.52	250	PN	Pn	20 34 11.7	-1.2

*ISCJB **04** 20:37:01.8±0.2, 4833N±001×12321W±002, h60km±3km, Error ellipse: s-maj=2.3km s-min=1.6km az=125.1*
*NEIC **04** 20:37:02.9, 4833N×12320W, h46km, MD3.6(SEA), MW4.0(PGC), After PGC.*
NEIC Felt [III] at Anacortes, Coupeville, Eastsound, Friday Harbor, Greenbank, Langley, Oak Harbor, Port Angeles and Sequim; [II] on Camano Island, Lopez Island and at Port Townsend. Also felt [III] at Victoria, British Columbia. Felt in much of northern and central Puget Sound and parts of southern Vancouver Island, British Columbia.
*PNSN **04** 20:37:03.0, 4836N×12320W, h46km, MD3.6, Fault plane solution: NP1:φs10.00000°, δ75.00000°, NP2: φs224.00000°, δ18.00000°, Principal axes: T Plg29.0000°, Azm108.0000°; P Plg59.0000°, Azm266.0000°;*
*PGC **04** 20:37:02.9, 4833N×12320W, h46km±3km, Mw4.0/4, MD3.6(SEA)*
PGC 16km southeast of Victoria, Bc Strait of Juan de Fuca, British Columbia Felt (II-IV) throughout southern Vancouver Island and northwestern Washington State.
ISC 04 20:37:03.0±0.1**, 4833N**±001×**12320W**±002**, h44km**±4km**, n207, σ0§71**/277**, 54C-41D, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VGZ	Gonzales	0.12	317	⇑P	Pn	20 37 09.8	-0.4
VGZ				S	Sn	20 37 15.0	-0.2
VGZ				Trac		20 37 15.4	
	comp=Z,17μm,0.3s						
B04A	Port Angeles	0.33	217	⇓P	Pn	20 37 11.7	-0.3
	baz=0.3,SNR=1000						
B04A				⇑S	Sn	20 37 18.7	+0.5
	baz=0.3						
BLN	Blyn Mountain	0.35	154	⇓P	Pn	20 37 11.7	-0.5
STW	Striped Peak	0.36	241	⇑P	Pn	20 37 12.1	-0.1
PGC	Sidney	0.36	333	⇑P	Pn	20 37 12.0	-0.3
PGC				S	Sn	20 37 18.8	0.0
PGC				Trac		20 37 19.4	
	comp=Z,3μm,0.1s						
PGC	Sidney	0.36	333	⇑P	Pn	20 37 12.0	-0.3
PGC				S	Sn	20 37 18.8	0.0
ERW	Mount Erie	0.41	71	⇓P	Pn	20 37 12.2	-0.5
ERW				S	Sn	20 37 19.8	+0.2
MCW	Mount Constitu	0.43	35	⇓P	Pn	20 37 12.7	-0.3
SNB	Saturna Island	0.45	3	⇓P	Pn	20 37 13.2	-0.1
SNB				S	Sn	20 37 20.9	+0.4
SNB				Trac		20 37 21.4	
	comp=Z,815nm,0.1s						
SNB	Saturna Island	0.45	3	⇓P	Pn	20 37 13.2	-0.1
SNB				S	Sn	20 37 20.9	+0.4
LZB	Mount Lazard	0.50	305	P	Pn	20 37 13.4	-0.5
LZB				S	Sn	20 37 21.7	0.0
LZB				Trac		20 37 22.4	
	comp=Z,2μm,0.2s						
LZB	Mount Lazard	0.50	305	*e*P	Pn	20 37 13.4	-0.5
LZB				S	Sn	20 37 21.7	0.0
A04A	Legoe Bay, Lum	0.51	40	⇑P	Pn	20 37 13.6	-0.4
	baz=0.5,SNR=1000						
A04A				⇑S	Sn	20 37 21.9	0.0
	baz=0.5						
OSD	Olympics--Snow	0.61	214	⇑P	Pn	20 37 15.8	+0.5
OBC	Olympics--Boni	0.66	244	⇑P	Pn	20 37 16.2	+0.3
GOBB	Galiano Island	0.66	342	⇑P	Pn	20 37 15.8	-0.1
GOBB				S	Sn	20 37 25.1	-0.1
GOBB				Trac		20 37 26.3	
	comp=Z,2μm,0.2s						
GOBB	Galiano Island	0.66	342	⇑*i*P	Pn	20 37 15.8	-0.1
GOBB				*e*S	Sn	20 37 25.1	-0.1
SBES	Silver Beach E	0.68	49	P	Pn	20 37 16.4	+0.1
HDW	Hoodsport	0.69	172	⇑P	Pn	20 37 16.2	-0.1
KINR	Kitsap County	0.69	147	P	Pn	20 37 16.4	0.0
CMW	Cultus Mountai	0.73	82	⇓P	Pn	20 37 16.4	-0.5
B05A	Bryant	0.74	95	⇑P	Pn	20 37 16.5	-0.5
	baz=0.7,SNR=1000						
B05A				⇓S	Sn	20 37 26.8	-0.4
	baz=0.7						
BEVT	Boeing Everett	0.74	123	P	Pn	20 37 17.0	-0.1
KITP	Kitsap County	0.76	149	P	Pn	20 37 17.7	+0.4
ATES	Arlington Traf	0.77	96	P	Pn	20 37 17.0	-0.5
OTR	Olympics--Tyee	0.80	253	⇑P	Pn	20 37 18.2	+0.3
GNW	Green Mountain	0.80	162	⇑P	Pn	20 37 17.6	-0.3
GMW	Gold Mountain	0.83	160	⇑P	Pn	20 37 18.0	-0.2
BABE	Bainbridge Sch	0.85	148	P	Pn	20 37 19.4	+0.8
JCW	Jim Creek	0.86	98	⇑P	Pn	20 37 18.3	-0.4
PFB	Port Renfrew	0.86	287	⇑P	Pn	20 37 18.0	-0.7
PFB				S	Sn	20 37 29.9	-0.2
PFB				Trac		20 37 30.3	
	comp=Z,502nm,0.2s						
PFB	Port Renfrew	0.86	287	⇑P	Pn	20 37 18.0	-0.7
PFB				*e*S	Sn	20 37 29.9	-0.2
LAWT	Lawton Element	0.86	141	⇑P	Pn	20 37 19.8	+1.0
KIMR	Kitsap County	0.88	160	P	Pn	20 37 18.9	0.0
OOW	Octopus West	0.89	229	⇑P	Pn	20 37 19.2	+0.1
FINN	Finn Hill Juni	0.89	133	⇑P	Pn	20 37 19.7	+0.6
QAW	Queen Anne	0.90	140	P	Pn	20 37 20.4	+1.2
SEA	Seattle	0.90	138	P	Pn	20 37 20.2	+1.0
LEOT	Leota Junior H	0.92	127	P	Pn	20 37 19.7	+0.2
BLH	Bald Hill	0.93	122	⇑P	Pn	20 37 19.2	-0.4
HOLY	Holy Rosary Sc	0.94	144	P	Pn	20 37 20.9	+1.2
KIMB	Kimball Elemen	0.96	141	P	Pn	20 37 21.4	+1.3
OSR	Olympics--Salm	0.97	212	⇑P	Pn	20 37 20.0	-0.1
EARN	East Ridge Ele	0.98	127	P	Pn	20 37 20.4	+0.1
MBW	Mount Baker	0.98	62	⇑P	Pn	20 37 20.5	+0.2
C03A	Quillayute Air	0.99	248	⇓P	Pn	20 37 20.4	-0.1
	baz=1.0,SNR=51						
C03A				⇓S	Sn	20 37 32.8	-0.5
	baz=1.0						
A05A	Maple Falls	1.00	47	⇑P	Pn	20 37 20.6	0.0
	baz=1.0,SNR=312						
A05A				⇓S	Sn	20 37 34.0	+0.5
	baz=1.0						
VDB	Vedder Mountai	1.01	46	⇑P	Pn	20 37 20.5	-0.3
VDB				S	Sn	20 37 33.9	+0.1
VDB				Trac		20 37 36.1	
	comp=Z,3μm,0.2s						
SMW	South Mountain	1.01	185	⇑P	Pn	20 37 21.0	+0.2
HNB	Haney	1.03	23	P	Pn	20 37 20.9	-0.2
HNB				S	Sn	20 37 34.6	+0.3
HNB				Trac		20 37 35.2	
	comp=Z,1μm,0.2s						
NLLB	Nanaimo Lost L	1.04	330	⇑P	Pn	20 37 20.9	-0.3
NLLB				S	Sn	20 37 34.6	+0.1
NLLB				Trac		20 37 36.6	
	comp=Z,648nm,0.2s						
RHAZ	Hazelwood Elem	1.04	139	P	Pn	20 37 21.8	+0.6
BIB	Bowen Island	1.08	356	⇑P	Pn	20 37 21.8	0.0
BIB				S	Sn	20 37 36.0	+0.4
BIB				Trac		20 37 38.4	
	comp=Z,502nm,0.2s						
PNLK	Pine Lake Midd	1.09	133	P	Pn	20 37 22.1	+0.3
HTW	Haystack Looko	1.09	118	⇓P	Pn	20 37 21.4	-0.5
RPW	Rockport	1.13	83	⇑P	Pn	20 37 22.3	-0.1
MEW	McNeil Island	1.19	161	⇑P	Pn	20 37 23.5	+0.3
MGB	Mount Grey	1.20	305	⇑P	Pn	20 37 22.9	-0.4
MGB				S	Sn	20 37 38.8	+0.5
MGB				Trac		20 37 39.5	
	comp=Z,660nm,0.2s						
C05A	Tolt Reservoir	1.20	122	⇑P	Pn	20 37 22.7	-0.6
	baz=1.2,SNR=111						
C05A				⇑S	Sn	20 37 38.4	0.0
	baz=1.2						
ELW	Echo Lake	1.22	132	⇑P	Pn	20 37 23.5	-0.1
D04A	Dobbs Creek Ra	1.25	167	⇓P	Pn	20 37 24.2	+0.2
	baz=1.2						
D04A				⇑S	Sn	20 37 40.5	+0.9
	baz=1.2						
EGRN	Evergreen Coll	1.26	173	P	Pn	20 37 24.1	-0.1
D03A	Wishkah Elem.	1.27	198	⇑P	Pn	20 37 24.1	-0.2
	baz=1.3,SNR=30						
D03A				⇓S	Sn	20 37 40.1	+0.1
	baz=1.3						
WISH	Wishkah	1.27	198	P	Pn	20 37 24.1	-0.2
RMW	Rattlesnake Mo	1.28	132	⇑P	Pn	20 37 24.4	-0.1
WPB	Watts Point	1.33	360	⇑P	Pn	20 37 24.9	-0.2
WPB				S	Sn	20 37 42.8	+1.1
WPB				Trac		20 37 43.4	
	comp=Z,551nm,0.2s						
SHB	Sechelt	1.35	341	⇑P	Pn	20 37 25.3	0.0
SHB				S	Sn	20 37 42.4	+0.4
SHB				Trac		20 37 45.4	
	comp=Z,796nm,0.2s						
CPW	Capitol Peak	1.35	178	⇓P	Pn	20 37 25.4	-0.1
PCEP	Pierce County	1.36	153	P	Pn	20 37 25.4	-0.2
D05A	Enumclaw	1.40	144	⇓P	Pn	20 37 26.3	+0.2
	baz=1.4,SNR=174						
D05A				⇑S	Sn	20 37 43.9	+0.5
	baz=1.4						
GHW	Garrison Hill	1.43	154	⇑P	Pn	20 37 26.1	-0.4
ALB	Alberni	1.43	312	⇑P	Pn	20 37 26.2	-0.4
ALB				S	Sn	20 37 44.3	+0.1
ALB				Trac		20 37 44.8	
	comp=Z,284nm,0.3s						
PCFR	Pierce County	1.43	159	⇓P	Pn	20 37 26.2	-0.4
GSM	Grass Mountain	1.47	139	⇓P	Pn	20 37 27.0	-0.1
ON2	Olympics--Nort	1.50	195	P	Pn	20 37 27.1	-0.3
RRHS	Rochester High	1.53	176	P	Pn	20 37 27.8	-0.1
PCMD	Pierce County	1.56	157	P	Pn	20 37 27.9	-0.4
HOPB	Hope	1.58	47	P	Pn	20 37 28.6	0.0
HOPB				S	Sn	20 37 49.7	+1.9
HOPB				Trac		20 37 53.1	
	comp=Z,490nm,0.2s						
TXB	Texada	1.59	330	⇑P	Pn	20 37 28.4	-0.3
TXB				S	Sn	20 37 48.8	+0.6
TXB				Trac		20 37 59.8	
	comp=Z,293nm,0.2s						
RVC	Mount Rainier-	1.62	149	⇑P	Pn	20 37 29.0	-0.1
WRW	Wenatchee Ridg	1.62	106	⇑P	Pn	20 37 29.1	-0.1
OZB	Mount Ozzard	1.65	293	⇑P	Pn	20 37 28.6	-0.8
OZB				S	Sn	20 37 48.1	-1.3
OZB				Trac		20 37 49.1	
	comp=Z,346nm,0.1s						
LCW	Lucas Creek	1.69	168	⇑P	Pn	20 37 29.9	-0.2
FMW	Mount Fremont	1.74	143	⇑P	Pn	20 37 30.7	0.0
RCS	Mount Rainier-	1.76	145	⇓P	Pn	20 37 31.2	+0.1
E04A	Onalaska	1.77	169	⇓P	Pn	20 37 31.2	+0.1
	baz=1.8,SNR=17						
E04A				⇑S	Sn	20 37 53.3	+0.9
	baz=1.8						
REMR	Mount Rainier-	1.77	148	P	Pn	20 37 31.2	+0.1
LMW	Ladd Mountain	1.77	159	⇑P	Pn	20 37 31.1	-0.1
RCM	Mount Rainier-	1.79	146	⇑P	Pn	20 37 31.7	+0.2
E03A	Lebam	1.79	188	⇓P	Pn	20 37 31.1	-0.4
	baz=1.8,SNR=51						
E03A				⇓S	Sn	20 37 52.5	-0.6
	baz=1.8						
WSLR	Whistler	1.81	6	⇑P	Pn	20 37 32.0	+0.3
WSLR				Trac		20 37 59.3	
	comp=Z,258nm,0.3s						
LON	Longmire	1.84	149	⇑P	Pn	20 37 31.9	-0.2
BMW	Boistfort Moun	1.85	181	⇑P	Pn	20 37 32.1	-0.1
BTB	Buttle Lake	1.91	308	⇑P	Pn	20 37 32.9	-0.2
BTB				S	Sn	20 37 55.8	-0.1
BTB				Trac		20 37 55.9	
	comp=Z,263nm,0.3s						
NLW	Nelson Butte	1.93	96	⇑P	Pn	20 37 33.1	-0.3
TWW	Teanaway	1.97	126	⇑P	Pn	20 37 35.0	+1.0
WPW	White Pass	1.98	145	⇓P	Pn	20 37 34.5	+0.5
KOSW	Kosmos	1.99	159	⇓P	Pn	20 37 34.3	+0.2
LTY	Liberty	2.01	121	⇑P	Pn	20 37 34.7	+0.2
E05A	Randle	2.02	151	P	Pn	20 37 34.6	0.0
	baz=2.0,SNR=321						
E05A				⇑S	Sn	20 37 58.2	-0.4
	baz=2.0						
ETW	Entiat	2.06	109	⇑P	Pn	20 37 35.2	+0.1
GLK	Glacier Lake	2.07	148	P	Pn	20 37 35.9	+0.6
TDL	Tradedollar La	2.09	161	⇑P	Pn	20 37 35.7	+0.2
TBM	Table Mountain	2.10	122	⇑P	Pn	20 37 36.3	+0.5
ERK	Elk Rock	2.10	164	P	Pn	20 37 36.1	+0.4
CBSW	Chelan Butte S	2.18	103	P	Pn	20 37 36.4	-0.4
STD	Studebaker Rid	2.19	162	⇑P	Pn	20 37 37.3	+0.3
RVW	Rose Valley	2.20	172	⇑P	Pn	20 37 37.2	+0.2
SOSW	Source of Smit	2.21	160	P	Pn	20 37 37.5	+0.3
FL2	Flat Top 2	2.21	164	⇓P	Pn	20 37 37.6	+0.4
CBB	Campbell River	2.22	321	P	Pn	20 37 37.4	0.0
CBB				S	Sn	20 38 06.9	+3.4
CBB				Trac		20 38 12.3	
	comp=Z,174nm,0.6s						
SHW	Mount Saint He	2.23	163	P	Pn	20 37 38.2	+0.7
NLO	Nicolai Mounta	2.25	184	⇑P	Pn	20 37 37.8	+0.1
ESD	East Dome	2.25	161	P	Pn	20 37 38.5	+0.8
NAC	Naches	2.27	134	⇑P	Pn	20 37 38.4	+0.4
WTV	Waterville	2.27	105	⇑P	Pn	20 37 37.8	-0.2
EBG	Ellensburg	2.28	128	⇑P	Pn	20 37 38.5	+0.4
JLK	June Lake	2.29	161	P	Pn	20 37 38.9	+0.6
DHW2	Dyer Hill 2	2.32	97	P	Pn	20 37 38.5	-0.3
LVP	Lakeview Peak	2.32	166	P	Pn	20 37 39.0	+0.3
CDFW	Cedar Flats	2.35	160	⇓P	Pn	20 37 39.7	+0.6
GDR	Gold River	2.36	309	P	Pn	20 37 39.4	+0.1
GDR				S	Sn	20 38 07.3	+0.2
GDR				Trac		20 38 17.2	
	comp=Z,81nm,0.3s						
MTMW	Mount Mitchell	2.40	163	⇑P	Pn	20 37 40.4	+0.6
F03A	Seaside	2.41	186	⇓P	Pn	20 37 39.6	-0.4
	baz=2.4,SNR=23						
F03A				⇓S	Sn	20 38 07.6	-0.6
	baz=2.4						
ASR	Mount Adams--S	2.44	153	⇑P	Pn	20 37 40.8	+0.5
ETB	Estevan Point	2.44	297	P	Pn	20 37 36.4	-4.0
ETB				S	Sn	20 38 08.6	-0.4
ETB				Trac		20 38 10.7	
	comp=Z,78nm,0.2s						
LLLB	Lillooet	2.44	20	⇑P	Pn	20 37 40.6	+0.3
LLLB				S	Sn	20 38 09.4	+0.4
LLLB				Trac		20 38 24.4	
	comp=Z,275nm,0.5s						
F04A	Amboy	2.46	167	⇑P	Pn	20 37 40.6	0.0
	baz=2.5,SNR=53						
F04A				⇓S	Sn	20 38 09.3	0.0
	baz=2.5						
PNT	Penticton	2.57	66	⇑P	Pn	20 37 42.4	+0.3
PNT				S	Sn	20 38 10.8	-1.3

PNT				Trac		20 38 32.7	
	comp=Z,147nm,0.5s						
EPH	**Ephrata**	**2.62**	**111**	⇑P	**Pn**	**20 37 42.1**	**-0.7**
SAW	**Saint Andrews**	**2.63**	**102**	P	**Pn**	**20 37 42.3**	**-0.6**
MXC	**Moxie City**	**2.64**	**130**	P	**Pn**	**20 37 42.9**	**-0.1**
GULW	**Guler Mountain**	**2.64**	**155**	P	**Pn**	**20 37 43.6**	**+0.5**
KMOR	**Kings Mountain**	**2.70**	**184**	⇑P	**Pn**	**20 37 43.4**	**-0.5**
BVW	**Beverly**	**2.71**	**123**	P	**Pn**	**20 37 43.6**	**-0.4**
F05A	**White Salmon**	**2.72**	**153**	⇑P	**Pn**	**20 37 44.5**	**+0.3**
	baz=2.7,SNR=68						
F05A				⇓S	**Sn**	**20 38 16.6**	**+0.7**
	baz=2.7						
APM	**Augspurger Mou**	**2.79**	**158**	P	**Pn**	**20 37 46.3**	**+1.1**
NCRB	**Newcastle Ridg**	**2.79**	**319**	P	**Pn**	**20 37 45.6**	**+0.4**
NCRB				S	**Sn**	**20 38 18.2**	**+0.6**
NCRB				Trac		20 38 32.4	
	comp=Z,130nm,0.6s						
BRVW	**Black Rock Val**	**2.85**	**129**	P	**Pn**	**20 37 45.8**	**-0.2**
FHE	**Frenchman Hill**	**2.86**	**117**	P	**Pn**	**20 37 45.2**	**-0.8**
GL2	**New Goldendale**	**2.87**	**145**	P	**Pn**	**20 37 46.8**	**+0.5**
WOSB	**Woss**	**2.87**	**311**	P	**Pn**	**20 37 46.6**	**+0.4**
WOSB				S	**Sn**	**20 38 21.8**	**+2.2**
WOSB				Trac		20 38 25.4	
	comp=Z,35nm,0.2s						
MDW	**Midway**	**2.90**	**125**	⇑P	**Pn**	**20 37 46.3**	**-0.3**
VLMM	**Larch Mountain**	**2.90**	**164**	P	**Pn**	**20 37 47.5**	**+0.8**
PGO	**Gresham**	**2.91**	**170**	P	**Pn**	**20 37 47.6**	**+0.9**
WAH2	**Wahluke Slope**	**2.92**	**121**	⇑P	**Pn**	**20 37 46.3**	**-0.7**
GBB	**Gable Butte**	**2.97**	**124**	⇑P	**Pn**	**20 37 47.1**	**-0.5**
BENWA	**Benson Ranch**	**2.98**	**126**	P	**Pn**	**20 37 47.6**	**-0.2**
CRF	**Corfu**	**2.99**	**119**	P	**Pn**	**20 37 46.8**	**-1.1**
EDB	**Eliza Dome**	**3.00**	**302**	P	**Pn**	**20 37 47.6**	**-0.4**
EDB				S	**Sn**	**20 38 20.4**	**-2.5**
EDB				Trac		20 38 27.1	
	comp=Z,54nm,0.5s						
SNIWA	**Snively Ranch**	**3.04**	**126**	P	**Pn**	**20 37 48.2**	**-0.5**
WRD	**Warden**	**3.14**	**118**	P	**Pn**	**20 37 47.6**	**-2.3**
MJ2	**May Junction 2**	**3.15**	**123**	P	**Pn**	**20 37 49.3**	**-0.8**
HAWA	**Hanford**	**3.16**	**126**	ePn	**Pn**	**20 37 49.2**	**-1.0**
HAWA				eSn	**Sn**	**20 38 34.1**	**+7.5**
G04A	**Mulino**	**3.16**	**171**	⇑P	**Pn**	**20 37 50.5**	**+0.3**
	baz=3.2						
G04A				⇓S	**Sn**	**20 38 26.6**	**0.0**
	baz=3.2						
OD2	**Odessa Site #2**	**3.17**	**106**	⇑P	**Pn**	**20 37 49.2**	**-1.1**
TDH	**Tom, Dick, Har**	**3.19**	**162**	P	**Pn**	**20 37 51.1**	**+0.5**
PRW	**Prosser**	**3.19**	**130**	P	**Pn**	**20 37 50.7**	**0.0**
MAYB	**Maynard**	**3.32**	**310**	⇑P	**Pn**	**20 37 53.0**	**+0.5**
MAYB				S	**Sn**	**20 38 31.2**	**+0.5**
MAYB				Trac		20 38 35.9	
	comp=Z,32nm,0.4s						
DPW	**Davenport**	**3.38**	**96**	P	**Pn**	**20 37 52.6**	**-0.6**
BPBC	**Brooks Peninsu**	**3.51**	**303**	P	**Pn**	**20 37 54.7**	**-0.3**
BPBC				S	**Sn**	**20 38 33.7**	**-1.6**
BPBC				Trac		20 38 37.3	
	comp=Z,51nm,0.2s						
SSOR	**Sweet Springs**	**3.51**	**171**	P	**Pn**	**20 37 55.4**	**+0.3**
PHC	**Port Hardy**	**3.64**	**312**	P	**Pn**	**20 37 57.4**	**+0.5**
PHC				S	**Sn**	**20 38 37.7**	**-0.9**
PHC				Trac		20 39 03.2	
	comp=Z,33nm,0.5s						
H03A	**Soap Creek Ran**	**3.65**	**181**	⇑P	**Pn**	**20 37 57.0**	**0.0**
	baz=3.7,SNR=26						
H03A				⇑S	**Sn**	**20 38 37.9**	**-0.8**
	baz=3.7						
H02A	**Toledo**	**3.69**	**189**	⇓P	**Pn**	**20 37 57.3**	**-0.2**
	baz=3.7,SNR=19						
H02A				⇑S	**Sn**	**20 38 38.5**	**-1.2**
	baz=3.7						
H04A	**Detroit Lake**	**3.71**	**169**	⇓P	**Pn**	**20 37 57.9**	**+0.1**
	baz=3.7,SNR=24						
H04A				⇓S	**Sn**	**20 38 39.5**	**-0.9**
	baz=3.7						
COR	**Corvallis**	**3.74**	**181**	ePn	**Pn**	**20 37 58.5**	**+0.3**
COR				eSn	**Sn**	**20 38 41.0**	**0.0**
H05A	**Madras**	**3.92**	**159**	⇑P	**Pn**	**20 38 01.2**	**+0.5**
	baz=3.9,SNR=10						
HOLB	**Holberg**	**3.96**	**308**	P	**Pn**	**20 38 01.1**	**-0.2**
HOLB				S	**Sn**	**20 38 42.9**	**-3.5**
HOLB				Trac		20 38 47.5	
	comp=Z,32nm,0.2s						
NEW	**Newport**	**4.06**	**89**	ePn	**Pn**	**20 38 01.6**	**-0.9**
NEW				eSn	**Sn**	**20 39 02.0**	**+13**
BROR	**Big Rock Looko**	**4.09**	**172**	P	**Pn**	**20 38 03.7**	**+0.7**
BKCOR	**Black Crater**	**4.16**	**165**	P	**Pn**	**20 38 04.8**	**+0.8**
SLEB	**Sale Mountain**	**4.34**	**47**	P	**Pn**	**20 38 06.7**	**+0.2**
SLEB				S	**Sn**	**20 38 56.3**	**+0.4**
SLEB				Trac		20 39 18.9	
	comp=Z,62nm,0.7s						
I02A	**Mapleton**	**4.35**	**186**	⇑P	**Pn**	**20 38 06.4**	**-0.2**
	baz=4.3,SNR=40						
I02A				⇑S	**Sn**	**20 38 53.9**	**-2.1**
	baz=4.3						
I03A	**Eugene**	**4.36**	**181**	⇓P	**Pn**	**20 38 06.9**	**+0.2**
	baz=4.4,SNR=5.6						
I03A				⇑S	**Sn**	**20 38 54.2**	**-2.0**
	baz=4.4						
DOWB	**Downie Slide**	**4.40**	**42**	⇑P	**Pn**	**20 38 06.7**	**-0.5**
DOWB				S	**Sn**	**20 38 56.7**	**-0.5**
DOWB				Trac		20 39 26.3	
	comp=Z,581nm,0.6s						
RNO	**Roman Nose**	**4.43**	**185**	P	**Pn**	**20 38 07.8**	**+0.1**
HBO	**Huckleberry Mo**	**4.53**	**172**	P	**Pn**	**20 38 10.0**	**+1.0**
I06A	**Prineville**	**4.86**	**154**	⇑P	**Pn**	**20 38 14.3**	**+0.8**
	baz=4.8,SNR=9.8						
J02A	**Umpqua**	**4.96**	**183**	P	**Pn**	**20 38 15.2**	**+0.2**
	baz=5.0,SNR=45						
J02A				⇓S	**Sn**	**20 39 10.3**	**-0.9**
	baz=5.0						
BBB	**Bella Bella**	**4.98**	**323**	P	**Pn**	**20 38 16.3**	**+1.1**
BBB				S	**Sn**	**20 39 11.8**	**+0.2**
BBB				S	**Sn**	**20 39 11.8**	**+0.2**
BBB				Trac		20 39 39.4	
	comp=Z,29nm,0.8s						
DBO	**Dodson Butte**	**5.21**	**180**	P	**Pn**	**20 38 19.0**	**+0.7**
BMO	**Blue Mountains**	**5.35**	**128**	ePn	**Pn**	**20 38 19.1**	**-1.1**
	7.2nm,0.6s						
J06A	**Christmas Vall**	**5.51**	**156**	⇓P	**Pn**	**20 38 22.9**	**+0.4**
	baz=5.5						
K02A	**Glendale**	**5.56**	**182**	⇓P	**Pn**	**20 38 23.6**	**+0.4**
	baz=5.6						
K02A				⇑S	**Sn**	**20 39 23.1**	**-2.7**
	baz=5.6						
BSMT	**Bassoo Peak**	**5.66**	**92**	ePn	**Pn**	**20 38 23.3**	**-1.3**
HUMO	**Hull Mountain**	**5.72**	**178**	ePn	**Pn**	**20 38 26.2**	**+0.8**
	3.3nm,0.6s						
HUMO				e		20 38 45.7	
HUMO	**Hull Mountain**	**5.72**	**178**	⇓P	**Pn**	**20 38 26.4**	**+1.0**
	baz=5.7						
HUMO				⇓S	**Sn**	**20 39 30.0**	**+0.2**
	baz=5.7						
K06A	**Valley Falls**	**5.90**	**158**	⇑P	**Pn**	**20 38 28.7**	**+0.9**
	baz=5.9						
J08A	**Circle Bar Ran**	**5.96**	**145**	⇑P	**Pn**	**20 38 29.5**	**+0.7**
	baz=6.0						
WALA	**Waterton Lakes**	**6.20**	**80**	P	**Pn**	**20 38 32.3**	**+0.4**
WALA				S	**Sn**	**20 39 42.0**	**+0.5**
WALA				Trac		20 40 34.0	
	comp=Z,20nm,0.8s						
MSO	**Missoula**	**6.44**	**100**	ePn	**Pn**	**20 38 33.1**	**-2.2**
	2.9nm,0.5s						
YBH	**Yreka Blue Hor**	**6.60**	**177**	ePn	**Pn**	**20 38 37.8**	**+0.2**
YBH	**Yreka Blue Hor**	**6.60**	**177**	⇑P	**Pn**	**20 38 38.2**	**+0.7**
	baz=6.6						
WVOR	**Wild Horse Val**	**6.71**	**150**	ePn	**Pn**	**20 38 40.4**	**+1.4**
	3.6nm,0.9s						
WVOR				e		20 39 09.9	
CHMT	**Chamberlain Mo**	**6.87**	**98**	ePn	**Pn**	**20 38 39.1**	**-2.1**
CHMT				eSn	**Sn**	**20 39 55.2**	**-2.9**
BNB	**Barry Inlet**	**6.92**	**311**	P	**Pn**	**20 38 41.9**	**+0.1**
BNB				S	**Sn**	**20 39 56.4**	**-2.8**
BNB				Trac		20 39 58.5	
	comp=Z,93nm,0.4s						
MOBC	**Moresby Island**	**7.36**	**315**	P	**Pn**	**20 38 48.2**	**+0.3**
KHMM	**Horse Mountain**	**7.46**	**183**	ePn	**Pn**	**20 38 50.1**	**+0.8**
JCC	**Jacoby Creek**	**7.53**	**185**	⇓P	**Pn**	**20 38 50.7**	**+0.5**
	baz=7.5						
HLID	**Hailey**	**7.76**	**125**	ePn	**Pn**	**20 38 54.5**	**+1.2**
	3.6nm,0.8s						
MCMT	**McKenzie Canyo**	**7.94**	**112**	ePn	**Pn**	**20 38 55.0**	**-0.9**
NDB	**Naden**	**8.32**	**316**	P	**Pn**	**20 39 01.9**	**+0.9**
BOZ	**Bozeman (W)**	**8.35**	**104**	ePn	**Pn**	**20 38 58.6**	**-2.9**
	1.4nm,0.5s						
ELK	**Elko**	**9.47**	**140**	ePn	**Pn**	**20 39 20.4**	**+3.6**
	6.0nm,0.8s						
LAO	**LASA Array**	**11.60**	**92**	ePn	**Pn**	**20 39 40.8**	**-5.2**
YKW3	**Yellowknife Ar**	**15.05**	**15**	P	**Pn**	**20 40 35.2**	**+2.5**

*NNC **04** 21:00:49.3±2.7, 3877N×6992E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=20.4km s-min=18.0km az=20.0*
*ISCJB **04** 21:00:53.1±1.4, 3873N±005×700E±02, h75km±47km, Error ellipse: s-maj=20.2km s-min=8.5km az=20.4*
ISC 04 21:00:52.9±3.0**, 3875N**±005×**6986E**±008**, h20**km±23km**, n18, σ1§01**/22**, 4C-1D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.38**	**6**	Pn	**Pn**	**21 01 59.5**	**+1.3**
	4.7nm,0.3s,baz=201,slow=15,SNR=162						
KK31				Sn	**Sn**	**21 02 55.0**	**+6.3**
	9.0nm,0.4s,baz=184,slow=20,SNR=3.9						
KK31				Lg		21 03 06.4	
	11nm,0.3s,baz=181,slow=29,SNR=6.2						
AML	**Almayashu**	**4.47**	**40**	P	**Pn**	**21 02 00.3**	**+0.9**
	SNR=84						
EKS2	**Erkin-Say**	**4.91**	**36**	P	**Pn**	**21 02 06.7**	**+1.2**
	SNR=22						
UCH	**Uchtor**	**4.96**	**44**	P	**Pn**	**21 02 04.7**	**-1.6**
	SNR=34						
CEP	**Cherat**	**5.19**	**161**	P	**Pn**	**21 02 09.2**	**-0.1**
AAK	**Ala-Archa**	**5.24**	**41**	P	**Pn**	**21 02 10.1**	**+0.1**
	SNR=11						
KZA	**Kyzart**	**5.29**	**49**	P	**Pn**	**21 02 08.7**	**-2.1**
	SNR=91						
KBK	**Karagaybulak**	**5.49**	**43**	P	**Pn**	**21 02 12.6**	**-0.9**
	SNR=15						
CHMS	**Chumysh**	**5.63**	**40**	P	**Pn**	**21 02 16.7**	**+1.2**
	SNR=9.5						
USP	**Ospenovka**	**5.71**	**36**	P	**Pn**	**21 02 17.1**	**+0.5**
	SNR=6.1						
CHCP	**Chirah Chowk**	**5.78**	**151**	P	**Pn**	**21 02 17.8**	**+0.3**
ULHL	**Ulahol**	**5.99**	**52**	P	**Pn**	**21 02 17.3**	**-3.0**
	SNR=10						
TKM2	**Tokmak 2**	**6.02**	**44**	P	**Pn**	**21 02 21.6**	**+0.7**
	SNR=47						
TKM2	**Tokmak 2**	**6.02**	**44**	⇑Pn	**Pn**	**21 02 21.0**	**+0.2**
	2.5nm,0.5s						
TKM2				⇓Sn	**Sn**	**21 03 29.6**	**+0.4**
	1.1nm,0.6s						
THW	**Thamme Wali**	**6.13**	**165**	P	**Pn**	**21 02 22.6**	**+0.2**
MK02	**Makanchi Array**	**12.15**	**45**	⇑Pn	**Pn**	**21 03 38.7**	**-6.2**
	0.5nm,0.8s						
AB31	**Akbulak array**	**12.69**	**329**	Pn	**Pn**	**21 03 52.0**	**-0.1**
	5.6nm,0.5s,baz=140,slow=13,SNR=100						
AB31				Sn	**Sn**	**21 06 11.7**	**-1.1**
	3.0nm,0.5s,baz=0.0,slow=0.1,SNR=23						
AKTO	**Aktyubinsk**	**14.39**	**328**	⇑Pn	**Pn**	**21 04 15.2**	**-0.2**
AKTO				⇑Sn	**Sn**	**21 06 55.1**	**+0.7**
	0.1nm,0.8s						

MAN 04 21:05:26.8, 964N×12244E, h0km, mb1.8, ML3.6, MS5.7, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.84**	**111**	iP	Sg	21 05 57.5	+3.8
GUIM	**Jordan**	**0.99**	**8**	eP	Pg	21 05 46.0	+0.3
CUYO	**Cuyo Island**	**1.84**	**311**	eP	Pn	21 05 59.7	0.0
IPIL	**Ipil**	**1.85**	**176**	eP	Pn	21 05 59.7	0.0
IPIL				eS	Sn	21 06 22.4	-1.4
PAGZ	**Pagadian**	**2.01**	**152**	eP	Pn	21 06 02.3	+0.3
PAGZ				eS	Sn	21 06 31.4	+3.6
BUSP	**Coron**	**3.22**	**317**	eP	Pn	21 06 20.5	+2.0
ENPP	**El Nido**	**3.35**	**298**	eP	Pn	21 06 20.8	+0.5

*PRU **04** 21:51:07.5, 4243N×1578E, h0km*
*ROM **04** 21:51:11.0±0.4, 4294N×1621E, h10km, Ml3.0/29, Error ellipse: s-maj=6.6km s-min=2.3km az=114.0*
*ISCJB **04** 21:51:12.2±0.2, 4282N±001×1595E±002, h10km, Error ellipse: s-maj=2.3km s-min=2.0km az=91.7*
*PDG **04** 21:51:12.0±1.5, 4309N×1605E, h0km±1km*
*NEIC **04** 21:51:12.3±0.7, 4283N×1598E, h1km±6km, MD3.3(PDG), ML3.0(ROM), Error ellipse: s-maj=3.9km s-min=2.9km az=189.0*
*CSEM **04** 21:51:15.0±0.1, 4284N×1607E, h35km, ML3.1/13, Ms2.9, Error ellipse: s-maj=1.4km s-min=1.2km az=38.0*
*VIE **04** 21:51:16.2±1.2, 4297N×1588E, h8km, mb2.7/7, ML2.8/8, Ms2.9/1, Error ellipse: s-maj=11.9km s-min=8.1km az=56.0*
*LDG **04** 21:51:17.6±0.3, 4303N×1583E, h10km, Ml3.1/12, Error ellipse: s-maj=8.8km s-min=4.0km az=65.0*
*THE **04** 21:51:17.2, 4267N×1623E, h21km, ML3.3*
ISC 04 21:51:13.6±0.2**, 4278N**±002×**1595E**±002**, h10**km**, n128, σ1§14**/178**, 21C-11D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGRT	**San Giovanni R**	**1.03**	**189**	Pg	**Pg**	**21 51 33.9**	**+0.4**
SGRT				Sg	**Sg**	**21 51 51.5**	**+4.6**
MSAG	**Monte S. Angel**	**1.07**	**182**	Pg	**Pg**	**21 51 34.1**	**0.0**
MSAG				Sg	**Sg**	**21 51 51.9**	**+4.0**
FGMS	**Monte Sant'Ang**	**1.07**	**180**	Pg	**Pg**	**21 51 34.2**	**+0.1**
MS1	**Monte Sant'Ang**	**1.07**	**180**	ePg	**Pg**	**21 51 34.7**	**+0.5**
MS1				eSg	**Sg**	**21 51 51.3**	**+3.2**
FG2	**Serracapriola**	**1.14**	**211**	Pg	**Pg**	**21 51 35.7**	**+0.3**
RGNG	**Rignano Grg**	**1.14**	**194**	Pg	**Pg**	**21 51 35.3**	**-0.1**
FRES	**Fresagrandinar**	**1.25**	**230**	Pg	**Pg**	**21 51 37.9**	**+0.4**
	424nm,0.7s						
STON	**Ston**	**1.29**	**85**	i Pn	**Pn**	**21 51 34.9**	**-2.7**
STON				i Sg	**Sg**	**21 51 53.9**	**-1.1**
STON	**Ston**	**1.29**	**85**	i Pn	**Pn**	**21 51 34.8**	**-2.8**
STON				i Sg	**Sg**	**21 51 53.8**	**-1.2**
CIGN	**Sant'Elia a Pi**	**1.37**	**215**	Pg	**Pg**	**21 51 39.1**	**-0.7**
	149nm,0.8s						
TRIV	**Trivento**	**1.45**	**226**	Pn	**Pn**	**21 51 40.9**	**+1.1**
	262nm,0.7s						
FG5	**Orsara di Pugl**	**1.58**	**199**	Pg	**Pg**	**21 51 43.5**	**-0.4**
	72nm,0.4s						
BSSO	**Busso**	**1.59**	**220**	Pn	**Pn**	**21 51 43.2**	**+1.4**
	133nm,0.6s						
VCEL	**Villa Celiera**	**1.61**	**257**	Pg	**Pg**	**21 51 43.2**	**-1.2**
	186nm,0.4s						
SACR	**S. Croce Del S**	**1.66**	**214**	Pg	**Pg**	**21 51 44.6**	**-0.9**
	90nm,0.6s						
MIDA	**Miranda**	**1.70**	**229**	Pn	**Pn**	**21 51 43.9**	**+0.7**
	177nm,0.8s						
SGTA	**Sant Agata di**	**1.70**	**195**	Pn	**Pn**	**21 51 43.8**	**+0.5**
	114nm,0.5s						
INTR	**Introdacqua**	**1.70**	**244**	Pn	**Pn**	**21 51 45.2**	**+1.9**
	356nm,1.1s						
CDT	**Castel del Mon**	**1.71**	**172**	ePg	**Pg**	**21 51 45.1**	**-1.3**
TERO	**Teramo**	**1.74**	**266**	Pn	**Pn**	**21 51 44.7**	**+0.9**
	163nm,0.9s						
BAI	**Bari**	**1.81**	**157**	ePg	**Pg**	**21 51 47.6**	**-0.6**
FAGN	**Fagnano**	**1.83**	**255**	Pn	**Pn**	**21 51 47.7**	**+2.7**
	209nm,0.5s						
VAGA	**Valle Agricola**	**1.87**	**224**	Pn	**Pn**	**21 51 47.0**	**+1.4**
	228nm,0.9s						
AOI	**Ancona**	**1.89**	**295**	Pn	**Pn**	**21 51 45.1**	**-0.7**
	138nm,0.9s						
CAMP	**Campotosto**	**1.89**	**263**	Pn	**Pn**	**21 51 46.7**	**+0.8**
	73nm,0.8s						
HCY	**Herceg Novi**	**1.91**	**99**	⇓iPn	**Pn**	**21 51 45.4**	**-0.7**
HCY				eSn	**Sn**	**21 52 14.1**	**+3.9**
BRY	**Bratogost**	**1.91**	**85**	⇑iPn	**Pn**	**21 51 45.0**	**-1.1**
BRY				eSn	**Sn**	**21 52 12.0**	**+1.8**
AMUR	**Altamura**	**1.93**	**165**	Pn	**Pn**	**21 51 46.0**	**-0.4**
	105nm,0.5s						
AQU	**L'Aquila**	**1.93**	**258**	ePn	**Pn**	**21 51 46.7**	**+0.2**
AQU	**L'Aquila**	**1.93**	**258**	ePn	**Pn**	**21 51 46.7**	**+0.2**
SNAL	**S. Angelo Dei**	**1.93**	**197**	Pn	**Pn**	**21 51 46.6**	**+0.1**
	175nm,0.8s						
MOCO	**Biccari - m.te**	**1.94**	**224**	Pn	**Pn**	**21 51 43.6**	**-3.0**
	153nm,0.9s						
VVLD	**Villa Vallelon**	**1.95**	**243**	Pn	**Pn**	**21 51 48.3**	**+1.6**
	160nm,0.7s						
SG1	**Sgolgore (BA)**	**2.01**	**164**	ePg	**Pg**	**21 51 47.5**	**-4.6**
MCRV	**Calabrutti - M**	**2.08**	**197**	Pn	**Pn**	**21 51 48.3**	**-0.2**
	105nm,0.9s						
NRCA	**Norcia**	**2.09**	**272**	Pn	**Pn**	**21 51 48.9**	**+0.3**
	40nm,0.5s						
CING	**Cingoli**	**2.11**	**287**	Pn	**Pn**	**21 51 48.5**	**-0.4**
	104nm,1.0s						
NOCI	**Noci**	**2.15**	**157**	Pn	**Pn**	**21 51 49.3**	**-0.2**
	201nm,0.7s						
FIAM	**Fiamignano**	**2.16**	**257**	Pn	**Pn**	**21 51 51.6**	**+2.0**
	76nm,0.7s						
UPM	**Unac-Piva**	**2.21**	**78**	⇑iPn	**Pn**	**21 51 49.9**	**-0.4**
UPM				eSn	**Sn**	**21 52 19.4**	**+1.8**
BUM	**Brajici-Budva**	**2.23**	**101**	⇓iPn	**Pn**	**21 51 50.2**	**-0.3**
BUM				eSn	**Sn**	**21 52 23.1**	**+5.0**
NKY	**Niksic**	**2.24**	**88**	⇑iPn	**Pn**	**21 51 49.8**	**-0.9**
NKY				eSn	**Sn**	**21 52 20.5**	**+2.1**
SNTG	**Esanatoglia**	**2.26**	**283**	Pn	**Pn**	**21 51 50.6**	**-0.4**
	16nm,0.2s						
ARVD	**Arcevia**	**2.32**	**289**	Pn	**Pn**	**21 51 51.3**	**-0.5**
	2µm,4.9s						
ARV	**Arcevia**	**2.32**	**289**	Pn	**Pn**	**21 51 51.2**	**-0.6**
	14nm,0.5s						
CDRU	**Civita di Ruta**	**2.34**	**192**	Pn	**Pn**	**21 51 52.7**	**+0.7**
	24nm,0.5s						
MNS	**Montasola**	**2.45**	**262**	Pn	**Pn**	**21 51 54.8**	**+1.2**
	125nm,1.6s						
TTG	**Podgorica**	**2.47**	**97**	⇓iPn	**Pn**	**21 51 53.1**	**-0.7**
TTG				eSn	**Sn**	**21 52 26.6**	**+2.7**
CMPR	**Campora**	**2.51**	**191**	Pn	**Pn**	**21 51 55.1**	**+0.8**
	37nm,0.6s						
MURB	**Monte Urbino**	**2.56**	**282**	Pn	**Pn**	**21 51 55.3**	**+0.2**
	91nm,0.3s						
PLE	**Pljevlja**	**2.58**	**77**	⇓iPn	**Pn**	**21 51 54.8**	**-0.5**
PLE				eSn	**Sn**	**21 52 28.1**	**+1.3**
BOJS	**Bojanci**	**2.77**	**350**	i Pn	**Pn**	**21 51 58.1**	**+0.1**
BOJS							
	comp=Z,62nm,0.5s						
BOJS	**Bojanci**	**2.77**	**350**	Pn	**Pn**	**21 51 58.1**	**+0.1**
	comp=Z,62nm,0.5s						
IVA	**Berane**	**2.90**	**87**	⇓iPn	**Pn**	**21 52 00.3**	**+0.5**
IVA				eSn	**Sn**	**21 52 37.7**	**+3.0**
PVY	**Plav**	**2.97**	**92**	⇑iPn	**Pn**	**21 52 01.1**	**+0.4**
PVY				eSn	**Sn**	**21 52 39.5**	**+3.2**
CRE	**Caprese Michel**	**3.05**	**287**	Pn	**Pn**	**21 52 02.1**	**+0.3**
	comp=Z,6µm,12.0s						
VISS	**Visnje**	**3.13**	**346**	ePn	**Pn**	**21 52 02.9**	**0.0**
DIVS	**Divcibare**	**3.22**	**64**	i Pn	**Pn**	**21 52 05.5**	**+1.3**
DIVS				Sg	**Sg**	**21 52 52.3**	**-4.7**
DIVS	**Divcibare**	**3.22**	**64**	ePn	**Pn**	**21 52 03.1**	**-1.1**
DIVS				eSn	**Sn**	**21 52 40.8**	**-1.9**
GOLS	**Golise**	**3.24**	**356**	ePn	**Pn**	**21 52 04.0**	**-0.4**
TIR	**Tirane**	**3.24**	**115**	ePn	**Pn**	**21 52 02.6**	**-1.9**
CSNT	**Castellina Chi**	**3.48**	**283**	Pn	**Pn**	**21 52 07.7**	**-0.1**
	comp=Z,9.0nm,0.7s						
VOY	**Vojsko**	**3.57**	**336**	ePn	**Pn**	**21 52 08.3**	**-0.7**
VOY				e		21 52 14.4	
VOY				eSn	**Sn**	**21 52 51.7**	**+0.5**
TIP	**Timpagrande**	**3.65**	**170**	Pn	**Pn**	**21 52 09.0**	**-1.0**
OBKA	**Obir**	**3.86**	**345**	⇓iPn	**Pn**	**21 52 13.1**	**+0.1**
OBKA				⇑iSn	**Sn**	**21 52 59.0**	**+0.6**
	comp=Z,7.2nm,0.2s						
OHR	**Ohrid**	**3.98**	**113**	ePn	**Pn**	**21 52 13.2**	**-1.4**
PTCC	**Patocco-Chiusa**	**4.07**	**334**	Pn	**Pn**	**21 52 14.8**	**-1.1**
	comp=Z,12nm,0.4s						
SKO	**Skopje**	**4.14**	**99**	ePn	**Pn**	**21 52 13.2**	**-3.6**
VLC	**Villacollemand**	**4.28**	**291**	ePn	**Pn**	**21 52 18.4**	**-0.3**
VLC	**Villacollemand**	**4.28**	**291**	ePn	**Pn**	**21 52 18.4**	**-0.3**
BIA	**Bitola**	**4.38**	**112**	ePn	**Pn**	**21 52 19.3**	**-0.8**
FVI	**Forni Avoltri**	**4.44**	**330**	Pn	**Pn**	**21 52 19.8**	**-1.1**
	comp=Z,5.0nm,0.2s						
ARSA	**Arzberg**	**4.48**	**356**	⇓iPn	**Pn**	**21 52 21.4**	**-0.2**
	comp=Z,2.1nm,0.3s						
FNA	**Florina**	**4.52**	**114**	ePn	**Pn**	**21 52 21.4**	**-0.6**
FNA				eSn	**Sn**	**21 53 10.0**	**-4.6**
IGT	**Igoumenitsa**	**4.63**	**133**	ePn	**Pn**	**21 52 22.6**	**-1.0**
KBA	**Koelnbreinsper**	**4.68**	**338**	⇓iPn	**Pn**	**21 52 24.2**	**-0.1**
	comp=Z,2.0nm,0.3s						
KBA				⇑iSn	**Sn**	**21 53 18.9**	**+0.2**
	comp=Z,2.1nm,0.3s						
BZS	**Buzias**	**4.96**	**53**	⇑iP	**Pn**	**21 52 28.0**	**-0.1**
MEV	**Metsovon**	**4.97**	**125**	ePn	**Pn**	**21 52 27.2**	**-1.1**
PGF	**Pioggiola**	**5.13**	**270**	ePn	**Pn**	**21 52 31.1**	**+0.6**
PGF				eSn	**Sn**	**21 53 24.5**	**-5.3**
	comp=Z,3.3nm,0.7s						
PGF	**Pioggiola**	**5.13**	**270**	ePn	**Pn**	**21 52 31.1**	**+0.6**
PGF				eSn	**Sn**	**21 53 24.5**	**-5.3**
	comp=Z,1.6nm,0.7s						
GRG	**Griva**	**5.15**	**109**	ePn	**Pn**	**21 52 29.7**	**-0.9**
CONA	**Conrad Observa**	**5.15**	**359**	⇑iPn	**Pn**	**21 52 30.5**	**-0.2**
CONA				⇑iSn	**Sn**	**21 53 30.7**	**+0.5**
	comp=Z,3.8nm,0.4s						
MOA	**Molln**	**5.21**	**347**	⇓iPn	**Pn**	**21 52 31.7**	**+0.2**
	comp=Z,6.0nm,0.4s						
MOA				⇑iSn	**Sn**	**21 53 31.5**	**-0.1**
	comp=Z,5.9nm,0.6s						
WTTA	**Wattenberg**	**5.43**	**327**	⇑iPn	**Pn**	**21 52 35.4**	**+0.9**
	comp=Z,1.5nm,0.2s						
WTTA				⇑iSn	**Sn**	**21 53 39.9**	**+2.8**
	comp=Z,5.6nm,0.4s						
WTTA				⇑iSg	**Sg**	**21 54 06.8**	**-1.0**
	comp=Z,7.5nm,0.5s						
WTTA	**Wattenberg**	**5.43**	**327**	Pn	**Pn**	**21 52 35.4**	**+0.9**
	comp=Z,1.5nm,0.2s						
WTTA				Sn	**Sn**	**21 53 39.9**	**+2.9**
	comp=Z,5.6nm,0.4s						
WATA	**Walderalm**	**5.51**	**327**	⇑iPn	**Pn**	**21 52 36.8**	**+1.1**
GZR	**Gura Zlata**	**5.57**	**60**	⇑iP	**Pn**	**21 52 39.2**	**+2.8**
SQTA	**Sankt Quirin**	**5.57**	**324**	⇓ePg	**Pg**	**21 52 57.8**	**-2.5**
	comp=Z,5.0nm,0.4s						
SQTA				⇑iSn	**Sn**	**21 53 41.9**	**+1.4**
	comp=Z,2.7nm,0.3s						
LIT	**Litokhoron**	**5.59**	**116**	ePn	**Pn**	**21 52 35.9**	**-0.9**
MOTA	**Moosalm**	**5.71**	**325**	⇑iPn	**Pn**	**21 52 39.8**	**+1.4**
	comp=Z,0.3nm,0.1s						
MOTA				⇓iSg	**Sg**	**21 54 18.9**	**+1.9**
	comp=Z,4.1nm,0.6s						
MOTA	**Moosalm**	**5.71**	**325**	Pn	**Pn**	**21 52 39.8**	**+1.4**
	comp=Z,0.3nm,0.1s						
PSZ	**Piszkesteto**	**5.84**	**27**	ePn	**Pn**	**21 52 38.4**	**-1.8**
PSZ	**Piszkesteto**	**5.84**	**27**	ePn	**Pn**	**21 52 38.4**	**-1.8**
VSL	**Villasalto**	**5.95**	**239**	ePn	**Pn**	**21 52 42.9**	**+1.2**
VSL	**Villasalto**	**5.95**	**239**	ePn	**Pn**	**21 52 42.9**	**+1.2**
AGG	**Agios Georgios**	**6.12**	**126**	ePn	**Pn**	**21 52 43.5**	**-0.5**
DAVA	**Damuels**	**6.23**	**318**	⇑iPn	**Pn**	**21 52 46.9**	**+1.3**
	comp=Z,0.7nm,0.2s						
DAVA				⇑iSn	**Sn**	**21 53 53.9**	**-2.9**
	comp=Z,5.5nm,0.5s						
DAVA	**Damuels**	**6.23**	**318**	⇑iPn	**Pn**	**21 52 46.9**	**+1.3**
	comp=Z,0.7nm,0.2s						
DAVA				i Sn	**Sn**	**21 53 53.9**	**-2.9**
DRGR		**6.26**	**48**	⇑iP	**Pn**	**21 52 48.0**	**+2.0**
SBF	**Sospel**	**6.31**	**283**	ePn	**Pn**	**21 52 46.2**	**-0.4**
SBF				eSn	**Sn**	**21 53 54.0**	**-4.7**
	comp=Z,4.6nm,0.5s						
SBF	**Sospel**	**6.31**	**283**	ePn	**Pn**	**21 52 46.2**	**-0.4**
SBF				eSn	**Sn**	**21 53 54.0**	**-4.7**
	comp=Z,2.3nm,0.5s						
KHC	**Kasperske Hory**	**6.56**	**346**	ePN	**Pn**	**21 52 50.3**	**+0.2**
KHC				eSN	**Sn**	**21 54 06.1**	**+1.1**
FRF	**La Foret Royal**	**6.85**	**280**	ePn	**Pn**	**21 52 53.6**	**-0.4**
FRF				eSn	**Sn**	**21 54 07.3**	**-4.8**
	comp=Z,7.9nm,1.2s						
FRF	**La Foret Royal**	**6.85**	**280**	ePn	**Pn**	**21 52 53.6**	**-0.4**
FRF				eSn	**Sn**	**21 54 07.3**	**-4.8**
	comp=Z,4.0nm,1.2s						
MBDF	**Montbardon**	**6.93**	**289**	ePn	**Pn**	**21 52 53.9**	**-1.2**
MBDF				eSn	**Sn**	**21 54 09.0**	**-5.0**
	comp=Z,1.3nm,0.3s						
MBDF	**Montbardon**	**6.93**	**289**	ePn	**Pn**	**21 52 53.9**	**-1.2**
MBDF				eSn	**Sn**	**21 54 09.0**	**-5.0**
	comp=Z,0.6nm,0.3s						
LMR	**La Mourre**	**6.94**	**278**	ePn	**Pn**	**21 52 54.5**	**-0.8**
LMR				eSn	**Sn**	**21 54 09.3**	**-5.0**
	comp=Z,0.7nm,0.3s						
LMR	**La Mourre**	**6.94**	**278**	ePn	**Pn**	**21 52 54.5**	**-0.8**
LMR				eSn	**Sn**	**21 54 09.3**	**-5.0**
	comp=Z,0.3nm,0.3s						
BNI	**Bardonecchia**	**7.07**	**292**	Pn	**Pn**	**21 52 52.3**	**-4.8**
MORC	**Moravsky Berou**	**7.09**	**8**	Pn	**Pn**	**21 52 52.2**	**-5.1**
MORC	**Moravsky Berou**	**7.09**	**8**	Pn	**Pn**	**21 52 52.2**	**-5.1**
LPG	**La Plagne**	**7.16**	**295**	ePn	**Pn**	**21 52 58.5**	**+0.2**
LPG				eSn	**Sn**	**21 54 12.8**	**-6.8**
	comp=Z,9.1nm,0.7s						
LPG	**La Plagne**	**7.16**	**295**	ePn	**Pn**	**21 52 58.5**	**+0.2**
LPG				eSn	**Sn**	**21 54 12.8**	**-6.8**
	comp=Z,4.6nm,0.7s						
LPL	**La Plagne**	**7.17**	**296**	ePn	**Pn**	**21 52 57.1**	**-1.4**
LPL				eSn	**Sn**	**21 54 11.4**	**-8.7**
	comp=Z,1.3nm,0.2s						
ORIF	**Oris-en-Rattie**	**7.59**	**290**	ePn	**Pn**	**21 53 03.5**	**-0.7**
ORIF				eSn	**Sn**	**21 54 23.8**	**-6.5**
	comp=Z,2.8nm,0.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORIF	**Oris-en-Rattie**	**7.59**	**290**	*e*Pn	**Pn**	**21 53 03.5**	**-0.7**
ORIF				*e*Sn	**Sn**	**21 54 23.8**	**-6.5**
	comp=Z,1.4nm,0.6s						
SMRF	**Simiane la Rot**	**7.66**	**283**	*e*Pn	**Pn**	**21 53 05.2**	**+0.1**
SMRF				*e*Sn	**Sn**	**21 54 26.1**	**-5.8**
	comp=Z,19nm,1.5s						
SMRF	**Simiane la Rot**	**7.66**	**283**	*e*Pn	**Pn**	**21 53 05.2**	**+0.1**
SMRF				*e*Sn	**Sn**	**21 54 26.1**	**-5.8**
	comp=Z,9.3nm,1.5s						
CLL	**Collm**	**8.77**	**348**	*e*SG	Sx	21 56 04.0	
SMF	**Signal de Mont**	**9.45**	**298**	*e*Pn	**Pn**	**21 53 27.5**	**-2.2**
LOR	**Lormes**	**9.67**	**302**	*e*Pn	**Pn**	**21 53 32.2**	**-0.5**
LOR				*e*Sn	**Sn**	**21 55 12.6**	**-8.7**
	comp=Z,2.9nm,0.4s						
LOR	**Lormes**	**9.67**	**302**	*e*Pn	**Pn**	**21 53 32.2**	**-0.5**
LOR				*e*Sn	**Sn**	**21 55 12.6**	**-8.7**
	comp=Z,1.5nm,0.4s						
SSF	**Saint Saulge**	**9.81**	**300**	*e*Sn	**Sn**	**21 55 14.9**	**-10**
	comp=Z,1.0nm,0.3s						
SSF	**Saint Saulge**	**9.81**	**300**	*e*Sn	**Sn**	**21 55 14.9**	**-10**
	comp=Z,0.5nm,0.3s						
AVF	**Avril sur Loir**	**9.81**	**298**	*e*Pn	**Pn**	**21 53 33.0**	**-1.7**
BGF	**Bois d'Agland**	**10.07**	**297**	*e*Pn	**Pn**	**21 53 36.4**	**-1.8**
RJF	**Les Rejaudoux**	**10.70**	**289**	*e*Pn	**Pn**	**21 53 47.0**	**+0.2**
RJF				*e*Sn	**Sn**	**21 55 38.4**	**-8.2**
	comp=Z,3.1nm,0.8s						
RJF	**Les Rejaudoux**	**10.70**	**289**	*e*Pn	**Pn**	**21 53 47.0**	**+0.2**
RJF				*e*Sn	**Sn**	**21 55 38.4**	**-8.2**
	comp=Z,1.5nm,0.8s						

*ISCJB **04** 22:07:47.3±0.6, 3952N±004×2123E±004, h8km±7km, Error ellipse: s-maj=6.3km s-min=5.0km az=166.8*
*ATH **04** 22:07:47.7, 3950N×2122E, h14km±9km, MD3.3/4*
*CSEM **04** 22:07:48.2±0.1, 3951N×2122E, h5km, ML2.3, Error ellipse: s-maj=3.2km s-min=2.6km az=172.0*
*THE **04** 22:07:48.2, 3950N×2122E, h9km, ML2.3*
*NEIC **04** 22:07:48.3, 3953N×2123E, h7km, MD3.3(ATH), After ATH.*

ISC 04 22:07:47.8±0.5**, 3951N**±004×**2123E**±004**, h13**km±8km**, n13, σ0.s76**/19**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEV	**Metsovon**	**0.27**	**0**	*e*Pg	**Pg**	**22 07 53.9**	**+0.4**
JAN	**Janina**	**0.33**	**297**	*e*PG	**Pg**	**22 07 54.0**	**-0.4**
JAN				*e*SB	**Sg**	**22 07 59.0**	**+0.1**
IGT	**Igoumenitsa**	**0.69**	**272**	*e*Pg	**Pg**	**22 08 01.0**	**-0.3**
IGT				*e*Sg	**Sg**	**22 08 11.3**	**+0.9**
EVR	**Evrytania**	**0.74**	**143**	*e*PG	**Pg**	**22 08 01.5**	**-0.7**
EVR				*e*SB	**Sb**	**22 08 12.7**	**+0.1**
EVR	**Evrytania**	**0.74**	**143**	*e*Pb	**Pg**	**22 08 01.5**	**-0.7**
EVR				Sb	**Sb**	**22 08 13.9**	**+1.3**
KZN	**Kozani**	**0.90**	**28**	*e*PB	**Pb**	**22 08 05.2**	**0.0**
LKD	**Levkas**	**0.92**	**209**	*e*Pg	**Pg**	**22 08 05.3**	**-0.2**
AGG	**Agios Georgios**	**0.98**	**119**	*e*Pg	**Pg**	**22 08 06.5**	**-0.2**
KEK	**Kerkira**	**1.12**	**281**	*e*PB	**Pb**	**22 08 09.2**	**+0.2**
KEK	**Kerkira**	**1.12**	**281**	*e*Pb	**Pb**	**22 08 10.1**	**+1.1**
LIT	**Litokhoron**	**1.14**	**58**	*e*Pg	**Pg**	**22 08 09.5**	**-0.2**
LIT				*e*Sg	**Sg**	**22 08 26.2**	**+1.7**
FNA	**Florina**	**1.28**	**5**	*e*Pg	**Pg**	**22 08 11.2**	**-1.1**
GRG	**Griva**	**1.70**	**31**	*e*Pb	**Pb**	**22 08 17.4**	**-1.4**
GRG				*e*Sb	**Sb**	**22 08 40.3**	**+0.2**

*IDC **04** 22:23:05.0±2.1, 1074S×124.12E, h0km, mb3.6/1, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, ML3.9/2, Error ellipse: s-maj=209.0km s-min=29.0km az=54.0*
*ISCJB **04** 22:23:09.2±1.8, 1046S±006×12461E±009, h43km±18km, mb3.8/3, Error ellipse: s-maj=15.4km s-min=8.8km az=123.2*
*NEIC **04** 22:23:09.7±0.5, 1079S×124.12E, h35km, mb3.9/2, Error ellipse: s-maj=16.3km s-min=7.7km az=52.0*

ISC 04 22:23:11.3±1.6**, 1047S**±007×**12457E**±010**, h44**km±18km**, n17, σ1.s12**/26**, mb3.8**/3**, Timor region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.66**	**172**	*e*P	**Pn**	**22 25 02.8**	**+2.6**
	19nm,0.4s						
FITZ				*e*S	**Sn**	**22 26 26.5**	**+0.9**
KAKA	**Kakadu**	**8.02**	**107**	*e*P	**Pn**	**22 25 07.4**	**+2.2**
	8.1nm,0.4s						
KAKA				*e*S	**Sn**	**22 26 34.9**	**+0.3**
MBWA	**Marble Bar**	**11.60**	**203**	Pn	**Pn**	**22 25 45.4**	**-8.8**
WRA	**Warramunga Arr**	**13.32**	**136**	Pn	**Pn**	**22 26 16.2**	**-1.4**
	0.5nm,0.3s,baz=309,slow=15,SNR=7.0						
WRA				Sn	**Sn**	**22 28 37.9**	**-6.3**
	1.3nm,0.3s,baz=308,slow=24,SNR=8.9						
WRAB	**Tennant Creek**	**13.32**	**136**	*e*Pn	**Pn**	**22 26 17.0**	**-0.6**
WRAB				*e*Sn	**Sn**	**22 28 37.4**	**-6.8**
WB2	**Warramunga Arr**	**13.33**	**136**	*e*P	**Pn**	**22 26 15.5**	**-2.2**
WB2				*e*S	**Sn**	**22 28 38.0**	**-6.4**
WB2	**Warramunga Arr**	**13.33**	**136**	*e*Pn	**Pn**	**22 26 17.0**	**-0.7**
WB2				*e*Sn	**Sn**	**22 28 36.2**	**-8.2**
WB2				*e*S	**Sn**	**22 28 38.0**	**-6.4**
AS31	**Alice Springs**	**15.86**	**147**	*e*Pn	**Pn**	**22 26 51.8**	**+0.5**
AS31				*e*Sn	**Sn**	**22 29 44.5**	**-1.4**
ASAR	**Alice Springs**	**15.86**	**147**	Pn	**Pn**	**22 26 51.8**	**+0.5**
	0.7nm,0.3s,baz=320,slow=12,SNR=70						
ASAR				Sn	**Sn**	**22 29 46.1**	**+0.1**
	0.5nm,0.3s,baz=313,slow=21,SNR=7.9						
KKM	**Kota Kinabalu**	**18.40**	**333**	P	**Pn**	**22 27 21.8**	**-1.1**
HNR	**Honiara**	**34.85**	**91**	P	**P**	**22 30 01.7**	**+3.6**
TAU	**Tasmania Unive**	**37.92**	**152**	P	**P**	**22 30 23.5**	**-0.8**
MKAR	**Makanchi Array**	**68.36**	**330**	P	**P**	**22 34 08.4**	**+0.3**
	0.4nm,0.5s,mb3.7,baz=146,slow=6.3,SNR=6.5						
KURK	**Kurchatov**	**72.82**	**331**	*e*P	**P**	**22 34 36.5**	**+1.3**
	0.5nm,0.3s,mb3.9						
BRVK	**Borovoye**	**78.31**	**330**	*e*P	**P**	**22 35 06.6**	**-0.1**
CHKZ	**Chkalovo**	**78.51**	**331**	*e*P	**P**	**22 35 06.7**	**-1.0**
	0.4nm,0.4s,mb3.7						
ZRNK	**Zerenda**	**78.89**	**329**	*e*P	**P**	**22 35 10.0**	**+0.2**

*TIF **04** 22:36:15.9, 4243N×4537E, h13km±2km*
*ISCJB **04** 22:36:16.0±0.4, 4240N±003×4539E±002, h8km, Error ellipse: s-maj=3.8km s-min=2.7km az=7.7*
*MOS **04** 22:36:16.2±0.6, 4245N×4538E, h8km, mb3.7/1, Error ellipse: s-maj=10.6km s-min=7.2km az=128.1*

ISC 04 22:36:16.5±0.4**, 4242N**±002×**4538E**±002**, h5**km±5km**, n22, σ1.s16**/44**, 4C-3D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.67**	**68**	*e*PG	**Pg**	**22 36 27.8**	**-1.5**
BTLR				*i* S	**Sg**	**22 36 38.0**	**0.0**
BTLR				pmax	pmax		
	comp=Z,48nm,0.5s						
SNJR	**Sundja**	**0.77**	**327**	⇓*i*PG	**Pg**	**22 36 31.1**	**-0.1**
SNJR				*i* S	**Sg**	**22 36 42.8**	**+1.6**
VLKR	**Vladikavkaz**	**0.81**	**321**	*e*PG	**Pg**	**22 36 31.9**	**-0.1**
VLKR				*e*S	**Sg**	**22 36 44.2**	**+1.7**
TBLG	**Delisi**	**0.84**	**215**	*e*PG	**Pg**	**22 36 32.7**	**+0.2**
TBLG				*e*S	**Sg**	**22 36 45.0**	**+1.6**
DGRG	**David-gareji**	**0.97**	**180**	P	**Pg**	**22 36 37.0**	**+2.0**
DGRG				S	**Sg**	**22 36 51.9**	**+4.2**
XNZR	**Khunzakh**	**0.99**	**83**	*e*PG	**Pg**	**22 36 36.4**	**+1.0**
XNZR				*i* S	**Sg**	**22 36 49.5**	**+1.3**
XNZR				pmax	pmax		
	comp=Z,29nm,0.2s						
GOR	**Gori**	**1.04**	**246**	P	**Pg**	**22 36 34.7**	**-1.7**
GOR				S	**Sg**	**22 36 49.4**	**-0.4**
ARNR	**Ardon**	**1.12**	**314**	⇑*i*PG	**Pg**	**22 36 37.2**	**-0.6**
ARNR				*i* S	**Sg**	**22 36 53.2**	**+0.9**
BTKR	**Batakoyurt**	**1.13**	**327**	⇓*i*PG	**Pg**	**22 36 37.5**	**-0.7**
BTKR				*i* S	**Sg**	**22 36 53.8**	**+0.9**
ZEI	**Tsey**	**1.15**	**288**	*e*PG	**Pg**	**22 36 37.7**	**-0.8**
ZEI				*e*S	**Sg**	**22 36 54.3**	**+1.0**
KORR	**Kora**	**1.17**	**305**	⇑*i*PG	**Pg**	**22 36 38.1**	**-0.8**
KORR				*i* S	**Sg**	**22 36 54.9**	**+0.8**
KRNR	**Karanay**	**1.20**	**70**	*e*PG	**Pg**	**22 36 39.5**	**+0.1**
KRNR				*e*S	**Sg**	**22 36 55.0**	**0.0**
DBC	**Dubki**	**1.23**	**60**	*i* PG	**Pg**	**22 36 37.5**	**-2.5**
DBC				*i* S	**Sg**	**22 36 55.5**	**-0.4**
KMSR	**Komsomolskaya**	**1.24**	**320**	⇓*i*PG	**Pg**	**22 36 39.3**	**-0.9**
KMSR				*i* S	**Sg**	**22 36 57.0**	**+0.7**
KMKR	**Kumukh**	**1.31**	**102**	*i* PG	**Pg**	**22 36 42.0**	**+0.4**
KMKR				*e*S	**Sg**	**22 37 02.0**	**+3.5**
KMKR				pmax	pmax		
	comp=Z,32nm,0.2s						
TRKR	**Terskaya**	**1.39**	**340**	*e*PG	**Pg**	**22 36 41.8**	**-1.2**
TRKR				*i* S	**Sb**	**22 37 01.5**	**+0.6**
DIGR	**Digorskoe uzhe**	**1.41**	**290**	⇑*i*PG	**Pg**	**22 36 42.1**	**-1.4**
DIGR				*e*S	**Sb**	**22 37 02.0**	**+0.4**
ONI	**Oni**	**1.44**	**277**	P	**Pn**	**22 36 41.2**	**-2.0**
ONI				S	**Sb**	**22 37 01.2**	**-1.1**
PRTR	**Priterechnaya**	**1.55**	**329**	⇑*i*PG	**Pg**	**22 36 44.6**	**-1.6**
PRTR				*i* S	**Sn**	**22 37 06.3**	**+1.0**
AMRG		**1.66**	**274**	P	**Pn**	**22 36 46.9**	**+0.6**
AMRG				S	**Sn**	**22 37 11.3**	**+3.3**
AKH	**Akhalkalaki**	**1.73**	**235**	P	**Pn**	**22 36 46.2**	**-1.0**
AKH				S	**Sn**	**22 37 02.5**	**-7.3**
GOF	**Gofitskoye**	**3.14**	**328**	*e*PN	**Pg**	**22 37 19.9**	**+3.3**
GOF				*i* S	**Sg**	**22 37 56.3**	**-0.9**
GOF				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GOF				smax			
	comp=N,50nm,0.8s						
GOF				smax			
	comp=E,40nm,0.8s						

PRE 04 22:48:05.7±1.5**, 2120S**×**3335E, h5**km**, ML3.7, Mozambique**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**6.34**	**194**	*e*P	Pn	22 49 39.3	-0.5
POGA				*e*S	Sn	22 50 49.3	-3.3
POGA				AML	AML	22 51 06.3	
	comp=Z,6.2nm,0.3s						
KSR	**Koster**	**7.52**	**231**	*e*P	Pn	22 49 56.8	+0.8
KSR				*e*S	Sn	22 51 18.2	-3.3
KSR				AML	AML	22 51 27.3	
	comp=Z,6.6nm,0.5s						
SEK	**Senekal**	**8.79**	**215**	*e*P	Pn	22 50 15.3	+1.8
SEK				*e*S	Sn	22 51 49.6	-3.4
SEK				AML	AML	22 52 56.2	
	comp=Z,6.5nm,1.0s						
KSD	**Kokstad**	**9.95**	**200**	*e*P	Pn	22 50 31.2	+1.9
KSD				*e*S	Sn	22 52 15.5	-5.9
KSD				AML	AML	22 52 17.8	
	comp=Z,4.7nm,0.7s						

*NEIC **04** 23:05:46.6, 2807S×6767W, h130km, MG4.5(GUC), After GUC.*

GUC 04 23:05:46.6±0.8**, 2807S**×**6767W, h130**km**, ML4.5, 5C-2D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**2.48**	**286**	⇑*i*P	Pn	23 06 27.3	+0.7
CPCH				*i* S	Sn	23 06 57.5	+0.2
CPCH				AML	AML	23 07 03.9	
	comp=E,2µm,0.1s						
CPCH	**Copiapo**	**2.48**	**286**	⇑*i*P	Pn	23 06 27.3	+0.7
CPCH				*i* S	Sn	23 06 57.5	+0.2
LCO	**Las Campanas**	**2.82**	**250**	⇑*i*P	Pn	23 06 32.1	+1.2
LCO				*i* S	Sn	23 07 07.0	+1.9
CDCH	**Caldera**	**2.98**	**289**	*i* P	Pn	23 06 33.8	+0.9
CDCH				*i* S	Sn	23 07 07.8	-0.7
CRCH	**Chaqaral**	**3.14**	**303**	*i* S	Sn	23 07 12.4	0.0
TLL	**Tololo Astrono**	**3.44**	**232**	⇓*i*P	Pn	23 06 39.8	+0.8
TLL				*i* S	Sn	23 07 20.9	+1.4
TLL				AML	AML	23 07 23.7	
	comp=E,197nm,0.3s						
TLL	**Tololo Astrono**	**3.44**	**232**	⇓*i*P	Pn	23 06 39.8	+0.8
TLL				*i* S	Sn	23 07 20.9	+1.4
CMCH	**Combarbala**	**4.24**	**222**	⇑*i*P	Pn	23 06 48.3	-1.2
CMCH				*i* S	Sn	23 07 36.9	-1.3
CMCH				AML	AML	23 07 39.0	
	comp=E,456nm,0.7s						
CMCH	**Combarbala**	**4.24**	**222**	⇑*i*P	Pn	23 06 48.3	-1.2
CMCH				*i* S	Sn	23 07 36.9	-1.3
CPUP	**Villa Florida**	**9.37**	**82**	*e*Pn	Pn	23 07 55.5	-3.0
CPUP				*e*Sn	Sn	23 09 41.9	-0.1

IDC 04 23:22:24.1±15.0**, 675S**×**12920E, h117**km±164km**, mb3.3**/1**, mb1 3.6**/4**, mb1mx3.3**/14**, mbtmp3.9**/4**, ML3.8**/3**, Error ellipse: s-maj=121.8km s-min=58.1km az=38.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.81**	**197**	P	Pn	23 25 09.0	+0.3
	0.3nm,0.3s,baz=38,slow=14,SNR=21						
FITZ				S	Sn	23 27 12.0	-6.6
	0.7nm,0.3s,baz=273,slow=23,SNR=6.6						
WRA	**Warramunga Arr**	**14.04**	**160**	P	Pn	23 25 37.8	0.0
	0.6nm,0.3s,baz=341,slow=13,SNR=4.7						
WRA				S	Sn	23 28 02.4	-10
	0.8nm,0.3s,baz=333,slow=23,SNR=5.3						
ASAR	**Alice Springs**	**17.42**	**165**	P	Pn	23 26 19.5	-0.3
	0.6nm,0.3s,baz=343,slow=9.1,SNR=35						
MKAR	**Makanchi Array**	**67.58**	**327**	P	P	23 33 08.2	+0.2
	0.3nm,0.4s,baz=112,slow=7.6,SNR=8.9						

*NEIC **04** 23:34:29.0±0.5, 721S×12822E, h35km, mb4.1/5, Error ellipse: s-maj=18.3km s-min=7.6km az=71.0*
*ISCJB **04** 23:34:31.5±0.5, 761S±005×12802E±009, h100km, mb4.0/6, Error ellipse: s-maj=13.8km s-min=5.3km az=142.3*
*IDC **04** 23:34:34.2±4.1, 755S×12794E, h102km±38km, mb3.7/4, mb1 3.9/6, mb1mx3.7/14, mbtmp4.1/6, Error ellipse: s-maj=42.4km s-min=19.9km az=62.0*

ISC 04 23:34:37.0±1.6**, 771S**±007×**1281E**±01**, h144**km±20km**, n26, σ1.s29**/35**, mb4.0**/6**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.57**	**139**	*e*P	**Pn**	**23 36 13.1**	**+1.8**
	36nm,0.4s						
KAKA				*e*S	**Sn**	**23 37 22.7**	**-2.3**
FITZ	**Fitzroy Crossi**	**10.59**	**193**	*e*P	**Pn**	**23 37 05.7**	**+0.8**
	8.9nm,0.3s						
FITZ				*e*S	**Sn**	**23 39 00.1**	**-1.9**
FITZ	**Fitzroy Crossi**	**10.59**	**193**	P	**Pn**	**23 37 05.8**	**+0.8**
	1.9nm,0.3s,baz=23,slow=12,SNR=40						
FITZ				S	**Sn**	**23 39 02.0**	**+0.1**
	2.2nm,0.3s,baz=99,slow=22,SNR=9.1						
WRAB	**Tennant Creek**	**13.59**	**154**	*e*Pn	**Pn**	**23 37 45.1**	**+1.2**
	14nm,0.6s						
WRAB				*e*Sn	**Sn**	**23 40 05.7**	**-8.5**
WRA	**Warramunga Arr**	**13.59**	**154**	P	**Pn**	**23 37 44.3**	**+0.4**
	1.1nm,0.3s,baz=332,slow=13,SNR=8.0						
WRA				S	**Sn**	**23 40 10.5**	**-3.7**
	2.2nm,0.3s,baz=333,slow=23,SNR=10						
WRA	**Warramunga Arr**	**13.59**	**154**	P	**Pn**	**23 37 44.3**	**+0.4**
WRA				S	**Sn**	**23 40 10.5**	**-3.7**
WB2	**Warramunga Arr**	**13.60**	**154**	*e*P	**Pn**	**23 37 44.9**	**+0.9**
WB2				*e*S	**Sn**	**23 40 08.6**	**-5.7**
MBWA	**Marble Bar**	**15.61**	**210**	*e*Pn	**Pn**	**23 38 12.8**	**+3.7**
MBWA				*e*Sn	**Sn**	**23 40 55.0**	**-7.6**
AS31	**Alice Springs**	**16.82**	**161**	*e*P	**Pn**	**23 38 28.5**	**+4.5**
AS31				*e*S	**S**	**23 41 24.2**	**-6.9**
ASAR	**Alice Springs**	**16.82**	**161**	P	**Pn**	**23 38 19.1**	**-4.9**
	0.0nm,0.3s,baz=348,slow=10,SNR=4.5						
ASAR				S	**S**	**23 41 30.4**	**-0.6**
	0.5nm,0.3s,baz=348,slow=26,SNR=6.8						
ASPA	**Alice Springs**	**16.82**	**161**	*e*P	**Pn**	**23 38 28.5**	**+4.5**
ASPA				*e*S	**S**	**23 41 24.2**	**-6.9**
KKM	**Kota Kinabalu**	**18.07**	**319**	P	**P**	**23 38 36.9**	**-0.5**
CTA	**Charters Tower**	**21.49**	**127**	*e*P	**P**	**23 39 17.4**	**+3.2**
	2.9nm,0.4s,mb4.0						
CTA	**Charters Tower**	**21.49**	**127**	P	**P**	**23 39 16.8**	**+2.6**
	3.5nm,0.5s,mb4.0,baz=303,slow=13,SNR=8.0						
CTAO	**Charters Tower**	**21.49**	**127**	*e*P	**P**	**23 39 17.4**	**+3.2**
	3.1nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**27.14**	**154**	*e*P	**P**	**23 40 10.1**	**+3.4**
	2.3nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**27.14**	**154**	P	**P**	**23 40 10.4**	**+3.7**
	2.3nm,0.4s,mb4.1,baz=310,slow=12,SNR=6.8						
NACB	**Ninganchiao**	**32.32**	**349**	P	**P**	**23 40 51.4**	**-0.9**
ENH	**Enshi**	**41.77**	**336**	P	**P**	**23 42 10.2**	**-1.9**
MAJO	**Matsushiro**	**45.04**	**12**	*e*P	**P**	**23 42 38.5**	**+0.2**
	3.0nm,0.2s,mb4.6						
MDJ	**Mudanjiang**	**52.10**	**1**	P	**P**	**23 43 31.3**	**-1.0**
ULN	**Ulaanbaatar**	**58.37**	**344**	*e*P	**P**	**23 44 17.8**	**+0.7**
	0.8nm,0.4s,mb3.9						
SONM	**Songino Array**	**58.53**	**343**	P	**P**	**23 44 19.0**	**+0.7**
	1.4nm,0.7s,mb3.9,baz=165,slow=7.0,SNR=10						
MKAR	**Makanchi Array**	**67.79**	**328**	P	**P**	**23 45 19.5**	**+0.2**
	0.2nm,0.3s,mb3.3,baz=111,slow=8.5,SNR=6.1						
CPUP	**Villa Florida**	**145.76**	**171**	PKPbc	PKPbc	23 54 02.1	+3.1
	0.8nm,0.3s,baz=176,slow=1.9,SNR=9.5						
LPAZ	**La Paz**	**151.26**	**146**	PKPbc	PKPbc	23 54 17.6	+4.3
	1.4nm,0.4s,baz=50,slow=4.3,SNR=16						

IGQ 04 23:43:24.7, 164S×**8115W, h10**km±21km**, Mb4.0, Ms3.8, 8C-3D, Error ellipse: s-maj=24.6km s-min=4.3km az=158.4, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**2.08**	**41**	⇑P	Pn	23 44 02.1	+2.4
MAG1				S	Sn	23 44 27.8	+2.3
IGUA	**Igualata**	**2.52**	**87**	⇑P	Pn	23 44 08.1	+2.5
IGUA				S	Sn	23 44 34.5	-1.9
ARRY	**Arrayan**	**2.70**	**87**	⇑P	Pn	23 44 10.4	+2.2
ARRY				S	Sn	23 44 38.8	-2.0
PATA	**Patacocha**	**2.72**	**87**	⇓P	Pn	23 44 10.7	+2.2
PATA				S	Sn	23 44 40.8	-0.6
ULBA	**Ulba**	**2.75**	**86**	⇑P	Pn	23 44 11.8	+3.0
ULBA				S	Sn	23 44 42.4	+0.3
PISA	**Pisayambo**	**2.82**	**78**	⇓P	Pn	23 44 13.4	+3.5
PISA				S	Sn	23 44 44.1	+0.1
VC1	**Cotopaxi 1**	**2.92**	**70**	P	Pn	23 44 15.6	+4.4
VC1				S	Sn	23 44 52.3	+6.0
TERV	**Terraza Guagua**	**2.93**	**60**	⇑P	Pn	23 44 14.5	+3.1
TERV				S	Sn	23 44 47.9	+1.3
TAMB	**Tambo**	**2.94**	**71**	P	Pn	23 44 15.2	+3.8
TAMB				S	Sn	23 44 51.5	+4.8
PINO	**Pino**	**2.94**	**60**	⇓P	Pn	23 44 14.6	+3.2
PINO				S	Sn	23 44 49.1	+2.4
GGP	**Refugio Guagua**	**2.94**	**60**	⇑P	Pn	23 44 13.6	+2.1
GGP				S	Sn	23 44 43.4	-3.5
YANA	**Yana**	**2.99**	**60**	⇑P	Pn	23 44 14.1	+1.9
YANA				S	Sn	23 44 45.8	-2.3
ANTI	**Antisana**	**3.21**	**68**	P	Pn	23 44 19.1	+3.9
ANTI				S	Sn	23 44 57.4	+3.8
COTA	**Cotacachi**	**3.43**	**55**	P	Pn	23 44 20.6	+2.4
COTA				S	Sn	23 45 00.3	+1.5
CAYR	**Refugio Cayamb**	**3.55**	**62**	⇑P	Pn	23 44 25.3	+5.5
CAYR				S	Sn	23 45 06.3	+4.5
CAYA	**Cayambe**	**3.59**	**62**	P	Pn	23 44 24.1	+3.7

*ISCJB **04** 23:53:55.7±1.8, 24.19N±007×1426E±02, h52km±16km, mb4.1/18, MS3.2/1, Error ellipse: s-maj=28.9km s-min=10.8km az=173.9*
*NEIC **04** 23:53:55.8±0.3, 2425N×14262E, h35km, mb4.3/7, Error ellipse: s-maj=16.2km s-min=7.2km az=85.0*
*IDC **04** 23:53:56.0±5.8, 24.19N×14253E, h35km±45km, mb3.8/10, mb1 3.9/11, mb1mx3.8/20, mbtmp4.0/11, ML3.4/1, MS3.1/4, Ms1 3.1/4, ms1mx2.6/29, Error ellipse: s-maj=38.8km s-min=15.6km az=88.0*

ISC 04 23:53:57.9±1.7**, 2424N**±007×**1427E**±02**, h56**km±15km**, n34, σ0.s66**/29**, mb4.1**/18**, MS3.3**/1**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.87**	**352**	Pn	**Pn**	**23 54 39.8**	**-1.4**
	6.1nm,0.3s,baz=282,slow=19,SNR=2.7						
CBIJ				Sn	**Sn**	**23 55 16.0**	**+1.4**
	34nm,0.3s,baz=293,slow=21,SNR=7.4						
JHJ	**Hachijo jima 2**	**9.20**	**345**	LR	LR	23 59 17.8	
	comp=Z,78nm,20.1s,baz=126,slow=35						
JOW	**Kunigami**	**13.24**	**284**	LR	LR	00 02 06.2	
	comp=Z,114nm,19.0s,baz=92,slow=37						
ASAJ	**Asahikawa**	**19.83**	**360**	LR	LR	00 06 00.4	
	comp=Z,35nm,21.4s,baz=36,slow=36						
ULN	**Ulaanbaatar**	**36.71**	**319**	P	**P**	**00 00 58.9**	**-0.6**
SONM	**Songino Array**	**37.09**	**319**	LR	LR	00 16 58.6	
	comp=Z,41nm,18.4s,MS3.3,baz=96,slow=37						
YAK	**Yakutsk**	**38.79**	**350**	P	**P**	**00 01 16.0**	**-1.0**
WRAB	**Tennant Creek**	**44.65**	**191**	P	**P**	**00 02 05.1**	**+0.3**
WB2	**Warramunga Arr**	**44.66**	**191**	*e*P	**P**	**00 02 04.5**	**-0.4**
WB2	**Warramunga Arr**	**44.66**	**191**	*e*P	**P**	**00 02 05.1**	**+0.2**
WRA	**Warramunga Arr**	**44.66**	**191**	P	**P**	**00 02 04.8**	**-0.1**
	2.9nm,0.7s,mb4.2,baz=13,slow=8.6,SNR=9.6						
FITZ	**Fitzroy Crossi**	**45.24**	**203**	*e*P	**P**	**00 02 10.6**	**+1.0**
	4.9nm,0.9s,mb4.3						
ASAR	**Alice Springs**	**48.37**	**191**	P	**P**	**00 02 34.5**	**+0.4**
	0.4nm,0.6s,mb3.7,baz=18,slow=9.7,SNR=6.1						
MKAR	**Makanchi Array**	**52.64**	**311**	P	**P**	**00 03 06.4**	**+0.1**
	0.6nm,0.5s,mb3.8,baz=80,slow=9.2,SNR=12						
KURK	**Kurchatov**	**55.30**	**316**	*e*P	**P**	**00 03 25.5**	**-0.2**
	1.2nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**55.81**	**181**	P	**P**	**00 03 28.9**	**-0.3**
	0.8nm,0.4s,mb4.1,baz=330,slow=14,SNR=2.8						
CHKZ	**Chkalovo**	**60.29**	**319**	*e*P	**P**	**00 04 00.1**	**-0.5**
	1.2nm,0.4s,mb4.3						
BRVK	**Borovoye**	**60.50**	**319**	P	**P**	**00 04 02.4**	**+0.3**
	1.4nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**61.28**	**319**	*e*P	**P**	**00 04 07.0**	**-0.4**
	1.4nm,0.8s,mb4.1						
INK	**Inuvik**	**65.45**	**24**	P	**P**	**00 04 35.4**	**+0.5**
	1.0nm,0.4s,mb4.2,baz=46,slow=8.9,SNR=4.1						
YKA	**Yellowknife Ar**	**74.45**	**28**	P	**P**	**00 05 30.7**	**+0.7**
	0.7nm,0.8s,mb3.7,baz=294,slow=5.6,SNR=3.8						
ARCES	**ARCESS Array B**	**76.37**	**341**	P	**P**	**00 05 42.2**	**+1.1**
	1.8nm,0.6s,mb4.2,baz=81,slow=8.7,SNR=9.3						
ARCES	**ARCESS Array B**	**76.37**	**341**	P	**P**	**00 05 42.2**	**+1.1**
JOF	**Joensuu**	**77.82**	**334**	*e*p	**P**	**00 05 49.4**	**+0.1**
	1.3nm,0.4s,mb4.2						
KAF	**Kangasniemi**	**80.22**	**335**	*e*p	**P**	**00 06 02.1**	**-0.3**
	1.4nm,0.6s,mb4.1						
FINES	**FINESS Array B**	**80.69**	**334**	P	**P**	**00 06 05.1**	**+0.2**
	0.9nm,0.4s,mb4.1,baz=78,slow=5.5,SNR=30						
FINES	**FINESS Array B**	**80.69**	**334**	P	**P**	**00 06 05.1**	**+0.2**
AKASG	**Malin Array Be**	**85.17**	**324**	P	**P**	**00 06 28.1**	**0.0**
	0.5nm,0.4s,mb4.0,baz=49,slow=4.9,SNR=5.3						
NB2	**NORSAR Subarra**	**86.41**	**339**	P	**P**	**00 06 34.0**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.9,baz=53,slow=5.1						
NOA	**NORSAR Array B**	**86.41**	**339**	P	**P**	**00 06 34.0**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.9,baz=53,slow=6.6,SNR=4.0						
NOA	**NORSAR Array B**	**86.41**	**339**	P	**P**	**00 06 34.0**	**-0.2**
AMTX	**Amarillo**	**95.31**	**48**	*e*P	**P**	**00 07 14.9**	**-0.9**
	comp=Z,11nm,1.0s,mb5.2						
LPAZ	**La Paz**	**150.10**	**80**	PKPbc	PKPbc	00 13 45.4	+3.2
	comp=Z,0.8nm,0.5s,baz=229,slow=2.8,SNR=4.8						
LPAZ	**La Paz**	**150.10**	**80**	PKPbc	PKPbc	00 13 45.4	+3.2

*IDC **05** 00:32:07.6±0.5, 15.19S×172.17W, h0km, mb4.4/12, mb1 4.6/12, mb1mx4.5/17, mbtmp4.4/12, MS4.1/15, Ms1 4.1/15, ms1mx3.9/22, Error ellipse: s-maj=26.6km s-min=14.0km az=125.0*
*ISCJB **05** 00:32:11.6±0.3, 1532S±007×172.12W±007, h33km, mb4.6/48, MS4.2/15, Error ellipse: s-maj=12.4km s-min=6.9km az=97.0*
*SZGRF **05** 00:32:12.6, 1575S×17122W, h16km, Samoa Islands region*
*BJI **05** 00:32:12.9, 1530S×172.10W, h36km, mB5.3, mb5.0, Ms4.8, Msz4.6*
*ORF **05** 00:32:13.9, 1577S×17271W, h30km, mb5.6*
*MOS **05** 00:32:13.1±2.0, 1533S×172.16W, h33km, mb4.9/21, Error ellipse: s-maj=13.2km s-min=9.5km az=60.7*
*NEIC **05** 00:32:14.0±0.2, 1532S×17208W, mb4.6/33, Error ellipse: s-maj=15.6km s-min=8.2km az=137.0*
*HRVD **05** 00:32:14.0±0.4, 1545S×17173W, h19km±1km, MW4.9/45, Centroid moment Tensor Solution. LP body waves: s23,c24;Mantle waves: s45,c54; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.72±.25; $M_{\theta\theta}$0.46±.15; $M_{\phi\phi}$2.26±.15; $M_{r\theta}$0.56±.47; $M_{\theta\phi}$-0.29±.14; $M_{\phi r}$-0.11±.32; Best double couple: $M_0$2.56500×10^{16} NP1:ϕ_s180.00000°,δ44.00000°,λ-76.00000°. NP2: ϕ_s342.00000°,δ48.00000°,λ-103.00000°. Principal axes: T 2.3130, Plg2.0000°, Azm80.0000°; N 0.4990, Plg9.0000°, Azm350.0000°; P -2.8160, Plg80.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 00:32:13.7±0.3**, 1535S**±007×**17206W**±007**, h35**km**, (h38**km±.6km**:pP-P), n256, σ0.s87**/95**, mb4.6**/48**, MS4.2**/15**, 18C-11D, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.46**	**11**	Pn	**Pn**	**00 32 31.6**	**-6.0**
	163nm,0.3s,baz=346,slow=2.2,SNR=50						

AFI Sn **Sn** **00 32 47.1 -8.3**
2µm,0.3s,baz=150,slow=20,SNR=35
RAR **Rarotonga** **13.04 118** Pn **Pn** **00 35 08.9 -7.6**
4.0nm,0.3s,baz=249,slow=8.6,SNR=4.8
RAR LR LR 00 38 57.5
comp=Z,669nm,20.5s,baz=28,slow=31
DZM **Mont Dzumac** **21.41 249** LR LR 00 43 05.8
comp=Z,241nm,18.7s,MS3.6,baz=241,slow=31
PPT **Papeete** **21.68 99** eLQ 00 41 06.0
PPT 1µm,27.0s *e*LR LR 00 42 04.6
648nm,25.8s,baz=261
PPT **Papeete** **21.68 99** LR LR 00 43 13.6
comp=Z,322nm,21.2s,MS3.7,baz=275,slow=30
TBI **Tubuai** **22.74 114** eLQ 00 41 20.7
838nm,28.2s
TBI *e*LR LR 00 42 37.8
642nm,25.5s,baz=287
URZ **Urewera** **24.74 201** P **P** **00 37 33.6 +1.8**
27nm,0.9s,mb4.8,baz=104,slow=2.2,SNR=6.3
HNR **Honiara** **27.95 279** LR LR 00 47 18.6
comp=Z,393nm,19.5s,MS4.0,baz=178,slow=33
HNR **Honiara** **27.95 279** P **P** **00 38 02.2 +1.5**
TAOE **Nuku Hiva Isla** **31.84 82** *e*LR LR 00 46 42.9
863nm,26.1s
RKT **Rikitea** **35.78 108** *e*LR LR 00 48 32.8
423nm,27.0s
PMG **Port Moresby** **40.22 274** *e*P **P** **00 39 48.6 +1.8**
PMG pmax pmax
comp=Z,12nm,0.9s
PMG **Port Moresby** **40.22 274** *e*P **P** **00 39 48.6 +1.8**
comp=Z,12nm,0.9s,mb4.6
TAU **Tasmania Unive** **44.23 223** *e*P **P** **00 40 19.3 -0.2**
STKA **Stephens Creek** **45.18 240** P **P** **00 40 25.9 -1.2**
comp=Z,7.4nm,0.9s,mb4.5,baz=74,slow=8.0,SNR=7.7
STKA LR LR 00 57 47.8
comp=Z,93nm,18.7s,MS3.7,baz=35,slow=34
STKA **Stephens Creek** **45.18 240** *e*P **P** **00 40 27.6 +0.5**
WRAB **Tennant Creek** **51.10 257** *e*P **P** **00 41 13.4 +0.6**
WRA **Warramunga Arr** **51.11 257** P **P** **00 41 10.5 -2.3**
comp=Z,3.2nm,0.9s,mb4.2,baz=90,slow=7.0,SNR=94
WRA LR LR 01 01 52.4
comp=Z,225nm,18.8s,MS4.2,baz=115,slow=35
AS31 **Alice Springs** **51.35 252** *e*P **P** **00 41 14.4 -0.2**
ASAR **Alice Springs** **51.35 252** P **P** **00 41 14.1 -0.6**
comp=Z,4.1nm,0.7s,mb4.5,baz=88,slow=8.0,SNR=20
ASAR LR LR 00 58 42.5
comp=Z,2µm,20.7s,MS5.0,baz=294,slow=31
SBA **Scott Base** **63.41 185** *e*P **P** **00 42 39.9 +0.2**
SBA *e* 00 43 15.8
SBA pmax pmax
comp=Z,11nm,1.2s,mb4.9
SBA **Scott Base** **63.41 185** *e*P **P** **00 42 39.9 +0.3**
comp=Z,11nm,1.2s,mb4.9
SBA *e*PcP PcP 00 43 15.8 -0.5
VNDA **Vanda** **63.56 186** P **P** **00 42 40.0 -0.7**
comp=Z,2.8nm,1.0s,mb4.2,baz=351,slow=6.7,SNR=8.7
VNDA **Vanda** **63.56 186** *e*P **P** **00 42 40.1 -0.6**
VNDA pmax pmax
comp=Z,5.0nm,1.2s
VNDA **Vanda** **63.56 186** *e*P **P** **00 42 40.1 -0.6**
comp=Z,4.7nm,1.2s,mb4.4
VNDA *e*pP pP 00 43 32.5 +41
MBWA **Marble Bar** **64.61 254** *e*P **P** **00 42 47.6 0.0**
NWAO **Narrogin (SRO)** **65.77 241** P **P** **00 42 55.0 -0.1**
MJAR **Matsushiro Arr** **69.74 319** P **P** **00 43 19.4 -0.8**
comp=Z,3.4nm,0.7s,mb4.4,baz=156,slow=5.9,SNR=7.9
MJAR LR LR 01 08 19.6
comp=Z,108nm,19.9s,MS4.1,baz=45,slow=31
MAJO **Matsushiro** **69.74 319** *e*P **P** **00 43 20.6 +0.5**
CMB **Columbia Colle** **71.88 41** *e*P **P** **00 43 38.1 +5.0**
CMB *e* 00 43 55.0
CMB pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CMB **Columbia Colle** **71.88 41** *e*P **P** **00 43 38.1 +5.0**
comp=Z,7.0nm,0.9s,mb4.6
CMB *e*PcP PcP 00 43 55.0 +3.2
LPIG **La Paz** **71.92 58** LR LR 01 08 32.1
comp=Z,112nm,19.5s,MS4.1,baz=220,slow=30
YBH **Yreka Blue Hor** **72.79 36** P **P** **00 43 39.1 +0.6**
comp=Z,4.0nm,0.7s,mb4.5,baz=237,slow=7.7,SNR=18
YBH LR LR 01 07 32.5
comp=Z,134nm,21.3s,MS4.2,baz=226,slow=29
YBH **Yreka Blue Hor** **72.79 36** *e*P **P** **00 43 38.8 +0.3**
YBH pmax pmax
comp=Z,7.0nm,0.9s
YBH **Yreka Blue Hor** **72.79 36** *e*P **P** **00 43 38.8 +0.3**
comp=Z,6.8nm,0.9s,mb4.6
HUMO **Hull Mountain** **73.21 36** *e*P **P** **00 43 41.1 +0.1**
comp=Z,9.7nm,1.3s,mb4.6
NVAR **Mina Array Bea** **73.44 41** P **P** **00 43 41.9 -0.4**
comp=Z,3.6nm,0.8s,mb4.4,baz=223,slow=8.6,SNR=18
NVAR **Mina Array Bea** **73.44 41** P **P** **00 43 41.9 -0.4**
MNV **Mina** **73.53 41** *e*P **P** **00 43 42.2 +0.3**
MNV pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
MNV **Mina** **73.53 41** *e*P **P** **00 43 42.2 +0.2**
comp=Z,1.3nm,0.8s,mb3.9
TPNV **Topopah Spring** **73.93 44** *e*P **P** **00 43 45.5 +0.2**
TPNV pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
TPNV **Topopah Spring** **73.93 44** *e*P **P** **00 43 45.5 +0.3**
comp=Z,4.0nm,0.9s,mb4.3
YSS **Yuzh-Sakhalins** **74.09 330** *e*P **P** **00 43 46.7 +0.5**
YSS pmax pmax
comp=Z,25nm,1.2s,mb5.0
KDAK **Kodiak Island** **74.63 11** *e*P **P** **00 43 48.6 -0.7**
comp=Z,19nm,1.1s,mb4.9
QSPA **South Pole Qui** **74.69 180** *e*P **P** **00 43 48.9 -0.8**
comp=Z,22nm,1.2s,mb5.0
BMN **Battle Mountai** **75.28 40** *e*P **P** **00 43 53.3 +0.2**
BMN *e* pP 00 44 04.1 +0.1
BMN pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BMN **Battle Mountai** **75.28 40** *e*P **P** **00 43 53.3 +0.2**
comp=Z,6.8nm,0.8s,mb4.6
BMN *e* pP 00 44 04.1 +0.1
WVOR **Wild Horse Val** **75.60 38** *e*P **P** **00 43 54.8 -0.1**
WVOR pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
WVOR **Wild Horse Val** **75.60 38** *e*P **P** **00 43 54.8 -0.1**
comp=Z,8.7nm,1.0s,mb4.6
CCUT **Cedar City** **76.19 44** *e*P **P** **00 43 59.1 +0.8**
ELK **Elko** **76.70 41** *e*P **P** **00 44 01.2 0.0**
ELK *e* pP 00 44 12.2 +0.1
ELK pmax pmax
comp=Z,5.0nm,1.0s
ELK **Elko** **76.70 41** *e*P **P** **00 44 01.1 0.0**
comp=Z,5.0nm,1.0s,mb4.4
ELK *e*PcP PcP 00 44 12.2 -0.2
MSU **Marysvale** **77.49 44** *e*P **P** **00 44 06.9 +1.3**
MSU *e* pP 00 44 17.4 +0.8
HAWA **Hanford** **77.51 34** *e*P **P** **00 44 05.6 -0.1**
comp=Z,1.2nm,1.3s,mb3.7
HAWA *e*PcP PcP 00 44 16.8 +0.9
BMO **Blue Mountains** **77.81 36** *e*P **P** **00 44 07.0 -0.4**
BMO pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
BMO **Blue Mountains** **77.81 36** *e*P **P** **00 44 07.0 -0.4**
comp=Z,9.6nm,1.4s,mb4.5
DUG **Dugway** **77.95 42** *e*P **P** **00 44 08.0 -0.2**
DUG pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
DUG **Dugway** **77.95 42** *e*P **P** **00 44 08.0 -0.2**
comp=Z,9.2nm,1.1s,mb4.6
TMUT **Trail Mountain** **78.54 44** *e*P **P** **00 44 12.5 +1.0**
TMUT *e* 00 44 17.2
TMUT *e*PcP PcP 00 44 23.6 +3.2
HLID **Hailey** **78.78 39** *e*P **P** **00 44 13.2 +0.4**
comp=Z,5.6nm,0.9s,mb4.5
HLID *e* 00 44 17.6
HLID *e*PcP PcP 00 44 24.0 +2.5
HABR **Khabarovsk** **78.99 327** *e*P **P** **00 44 12.9 -1.0**
HABR *e*S S 00 54 08.3 -1.9
HABR pmax pmax
comp=Z,37nm,1.2s,mb5.2
TTA **Tatalina** **79.03 7** *e*P **P** **00 44 13.7 -0.4**
TTA *e* pP 00 44 25.6 +0.5
TTA pmax pmax
comp=Z,23nm,1.3s,mb5.0
TTA **Tatalina** **79.03 7** *e*P **P** **00 44 13.7 -0.4**
comp=Z,23nm,1.3s,mb4.9
TTA *e*P 00 44 14.1
TTA *e*PcP PcP 00 44 25.6 +3.0
TCUT **Toone Canyon** **79.35 42** *e*P **P** **00 44 16.1 +0.2**
TCUT *e*PcP PcP 00 44 27.1 +3.2

HWUT **Hardware Ranch** **79.50 42** P **P** **00 44 18.1 +1.4**
comp=Z,3.5nm,0.8s,mb4.3
PV01 **Paradox Valley** **79.76 46** *e*P **P** **00 44 19.1 +0.9**
ANMO **Albuquerque** **79.79 49** LR LR 01 16 52.9
comp=Z,165nm,18.8s,MS4.4,baz=132,slow=34
ANMO **Albuquerque** **79.79 49** *e*P **P** **00 44 16.5 -1.8**
AHID **Auburn Hatcher** **80.39 41** *e*P **P** **00 44 21.1 -0.4**
comp=Z,7.1nm,0.9s,mb4.6
TPAW **Teton Pass** **80.86 40** *e*P **P** **00 44 24.3 +0.2**
comp=Z,15nm,1.0s,mb4.9
TPAW *e*pP pP 00 44 35.4 +0.3
MSO **Missoula** **80.88 36** *e*P **P** **00 44 23.1 -1.0**
comp=Z,7.2nm,1.2s,mb4.5
SNOW **Snow King Moun** **80.97 40** P **P** **00 44 24.7 +0.1**
comp=Z,18nm,1.0s,mb5.0
SNOW *e*pP pP 00 44 36.4 +0.8
IMW **Indian Meadow** **81.08 40** *e*P **P** **00 44 26.7 +1.5**
comp=Z,8.2nm,1.0s,mb4.6
IMW *e*pP pP 00 44 37.6 +1.3
MOOW **Moose Ponds** **81.12 40** *e*P **P** **00 44 25.5 0.0**
comp=Z,3.7nm,1.0s,mb4.3
MOOW *e*pP pP 00 44 36.8 +0.4
LOHW **Long Hollow** **81.14 40** *e*P **P** **00 44 25.5 -0.1**
comp=Z,4.4nm,0.9s,mb4.4
LOHW *e*pP pP 00 44 36.7 +0.2
NJ2 **Nanjing** **81.17 307** *e*P **P** **00 44 26.4 +0.7**
NJ2 AP pP 00 44 36.8 +0.1
NJ2 XP sP 00 44 41.1 +0.4
NJ2 PP PP 00 47 28.6 -2.5
NJ2 S S 00 54 32.0 -1.1
NJ2 XS sS 00 54 49.0 -2.3
NJ2 AMB AMB
comp=Z,20nm,1.3s,mb4.9
NJ2 AMB AMB
comp=Z,250nm,5.9s
QLMT **Earthquake Lak** **81.27 39** P **P** **00 44 26.9 +0.7**
CHMT **Chamberlain Mo** **81.32 36** *e*P **P** **00 44 25.9 -0.6**
CHMT *e*pP pP 00 44 37.2 -0.3
SMCO **Snowmass** **81.35 45** *e*P **P** **00 44 27.5 +0.8**
comp=Z,10.0nm,1.2s,mb4.6
SMCO *e*pP pP 00 44 38.2 +0.6
PDAR **Pinedale Array** **81.37 41** P **P** **00 44 25.8 -1.0**
comp=Z,1.7nm,0.8s,mb4.0,baz=232,slow=3.3,SNR=18
PDAR LR LR 01 14 51.4
comp=Z,122nm,19.1s,MS4.3,baz=253,slow=32
BOZ **Bozeman (W)** **81.58 38** *e*P **P** **00 44 27.9 +0.1**
BOZ *e**PP pP 00 44 38.7 -0.2
BOZ pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BOZ **Bozeman (W)** **81.58 38** *e*P **P** **00 44 27.9 +0.1**
comp=Z,7.6nm,1.2s,mb4.5
BOZ *e*pP pP 00 44 38.7 -0.2
HRY **Holter Researc** **82.03 37** *e*P **P** **00 44 29.9 -0.4**
HRY *e*pP pP 00 44 41.4 +0.1
COLA **College** **82.08 10** *e*P **P** **00 44 29.0 -1.5**
COLA *e**PP pP 00 44 40.8 -0.7
COLA pmax pmax
comp=Z,22nm,0.9s,mb5.1
COLA **College** **82.08 10** *e*P **P** **00 44 28.9 -1.5**
comp=Z,22nm,0.9s,mb5.1
COLA *e*pP pP 00 44 40.8 -0.7
ISCO **Idaho Springs** **82.58 45** *e*P **P** **00 44 33.5 +0.4**
ISCO *e**PP pP 00 44 43.7 -0.4
ISCO pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
ISCO **Idaho Springs** **82.58 45** *e*P **P** **00 44 33.5 +0.4**
comp=Z,4.7nm,1.1s,mb4.4
ISCO *e*pP pP 00 44 43.7 -0.4
GCMT **Greycliff** **82.83 39** *e*P **P** **00 44 34.0 -0.4**
GCMT *e*pP pP 00 44 45.6 +0.2
BILL **Bilibino** **84.64 352**⇑ *e*P **P** **00 44 42.3 -1.3**
BILL pmax pmax
comp=Z,16nm,2.2s,mb4.8
RSSD **Black Hills** **85.56 42** *e*P **P** **00 44 47.9 -0.3**
RSSD *e**PP pP 00 44 58.5 -0.8
RSSD pmax pmax
comp=Z,12nm,1.0s,mb5.1
RSSD **Black Hills** **85.56 42** *e*P **P** **00 44 47.9 -0.4**
comp=Z,12nm,1.0s,mb5.1
RSSD *e*pP pP 00 44 58.5 -0.8
MAW **Mawson** **88.25 198** P **P** **00 45 00.4 -0.9**
comp=Z,8.9nm,1.1s,mb4.9,baz=100,slow=6.7,SNR=12
MAW **Mawson** **88.25 198** P **P** **00 45 00.4 -0.9**
MAW *e*P 00 45 00.7
PLCA **Paso Flores** **88.59 132** P **P** **00 45 03.1 +0.2**
comp=Z,2.4nm,1.1s,mb4.5,baz=284,slow=7.4,SNR=3.7
PLCA LR LR 01 16 54.3
comp=Z,96nm,18.3s,MS4.2,baz=201,slow=30
PLCA **Paso Flores** **88.59 132** *e*P **P** **00 45 03.1 +0.2**
PLCA pmax pmax
comp=Z,7.0nm,1.3s
PLCA **Paso Flores** **88.59 132** *e*P **P** **00 45 03.1 +0.2**
comp=Z,6.6nm,1.3s,mb4.8
PLCA P 00 45 03.1
PLCA LR LR 01 16 54.3
YKA **Yellowknife Ar** **89.54 23** P **P** **00 45 05.6 -1.8**
comp=Z,1.1nm,0.8s,mb4.2,baz=240,slow=4.2,SNR=6.0
YKA **Yellowknife Ar** **89.54 23** P **P** **00 45 05.6 -1.8**
HHC **Hu-ho-hao-te** **89.94 313** *e*P **P** **00 45 11.6 +2.3**
HHC AP pP 00 45 22.3 +1.9
HHC XP sP 00 45 26.4 +2.0
HHC PP PP 00 48 47.4 +5.1
HHC SKS 00 55 39.1
HHC S 00 56 00.8
HHC AMB AMB
comp=Z,21nm,0.4s,mb5.8
HHC AMB AMB
comp=Z,121nm,6.2s
HHC LR LR
comp=E,228nm,38.1s
SNAA **Sanae** **92.88 177** *e*P **P** **00 45 21.9 -1.0**
SNAA pmax pmax
comp=Z,3.0nm,1.3s
SNAA **Sanae** **92.88 177** *e*P **P** **00 45 21.9 -1.0**
comp=Z,3.3nm,1.3s,mb4.6
CD2 **Chengdu** **92.89 301** *e*P **P** **00 45 22.3 -0.6**
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,80nm,9.2s
ULM **Lac du Bonnet** **93.09 39** LR LR 01 21 25.4
comp=Z,111nm,19.7s,MS4.3,baz=234,slow=32
TRQA **Tornquist** **95.74 132** P **P** **00 45 37.2 +1.1**
ROSC **El Roal** **98.71 87** LR LR 01 19 19.9
comp=Z,63nm,19.8s,MS4.1,baz=181,slow=29
KURK **Kurchatov** **113.95 319** *i* PKIKP PKiKP 00 50 46.1 -2.8
ARU **Arti** **123.97 329** *e*PKIKP PKPdf 00 51 05.9 -2.2
ARCES **ARCESS Array B** **124.73 353** PKP PKPdf 00 51 07.7 -1.9
comp=Z,3.4nm,0.9s,baz=17,slow=0.9,SNR=3.7
FINES **FINESS Array B** **132.16 348** PKP PKPdf 00 51 23.8 +0.1
comp=Z,1.0nm,0.7s,baz=342,slow=7.5,SNR=5.7
NB2 **NORSAR Subarra** **134.32 358** PKPdf PKPdf 00 51 26.8 -1.0
comp=Z,2.6nm,1.2s,baz=6.0,slow=1.9
NOA **NORSAR Array B** **134.32 358** PKP PKPdf 00 51 26.0 -1.8
comp=Z,0.9nm,0.8s,baz=44,slow=2.4,SNR=3.6
OBN **Obninsk** **134.57 337**⇑ *i* PKIKP PKPdf 00 51 24.9 -3.4
OBN *e*PPS 01 04 13.0
OBN *e*SS SS 01 11 58.3 +8.2
OBN pmax pmax
comp=Z,5.0nm,0.7s
AKASG **Malin Array Be** **140.78 339** PKP PKPdf 00 51 39.3 -0.4
comp=Z,0.2nm,0.3s,baz=19,slow=2.0,SNR=4.9
SOC **Sochi** **140.96 323** *i* PKIKP PKPdf 00 51 43.6 +3.6
SOC *e* 00 54 39.4
SOC *e*PPP 00 57 45.9
SOC *e*SS SS 01 13 05.2 -0.6
SOC *e*SSS 01 18 19.7
SOC pmax pmax
comp=Z,42nm,1.0s
CLZ **Clausthal** **143.55 357** *e*PKPbc PKPdf 00 51 40.8 -3.8
KWP **Kalwaria** **143.75 344** *e*PKHKP 00 51 41.9
CLL **Collm** **143.90 355** *e*PKIKP PKPdf 00 51 43.0 -2.3
comp=Z,logA/T=1.1
CLL *i* *PPKP 00 51 54.5
CLL **Collm** **143.90 355** *e*PKPdf PKPdf 00 51 43.0 -2.3
comp=Z,6.0nm,0.5s
CLL *i* pPKPdf pPKPdf 00 51 54.5 -2.2
comp=Z,9.0nm,0.9s
CLL **Collm** **143.90 355** *e*PKIKP PKPdf 00 51 43.0 -2.3
CLL *i* 00 51 54.5
CLL pmax pmax
comp=Z,6.0nm,0.5s
OJC **Ojcow** **143.92 347** *e*PKP PKPdf 00 51 42.3 -3.0
BUG **Bochum--Univer** **144.00 1** *e*PKPbc PKPdf 00 51 42.5 -2.9
BRG **Berggiesshubel** **144.24 353** *e*PKPbc PKPdf 00 51 43.2 -2.7

BRG **Berggiesshubel** **144.24 353** *e*P PKPdf 00 51 49.1 +3.3
comp=Z,2.4nm,1.1s
BRG *e* 00 51 55.7
BRG comp=Z,2.7nm,0.8s *e* 00 52 00.1
comp=Z,2.4nm,0.9s
BRG **Berggiesshubel** **144.24 353** *e*PKIKP PKPdf 00 51 49.1 +3.2
BRG *e* 00 51 55.7
BRG *e* 00 52 00.1
BRG pmax pmax
comp=Z,2.0nm,1.1s
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG pmax pmax
comp=Z,2.0nm,0.9s
FBE **Freiberg** **144.25 354** *e*PKPbc PKPdf 00 51 43.8 -2.1
STHS **Stebnicka Huta** **144.33 345** *i* PKP PKPdf 00 51 44.4 -1.6
UPC **Upice** **144.33 351** *e*PKP PKPdf 00 51 44.4 -1.6
UPC *e*pPKP pPKPdf 00 51 55.6 -1.9
TSUM **Tsumeb** **144.38 196** *e*PKPdf PKPdf 00 51 44.9 -1.2
DPC **Dobruska-Polom** **144.44 351** *e*PKP PKPdf 00 51 44.5 -1.7
DPC *e*pPKP pPKPdf 00 51 56.0 -1.7
KOLS **Kolonicke sedl** **144.51 344** *e*PKP PKPdf 00 51 44.8 -1.5
PVCC **Panska Ves** **144.51 353** *e*PKP PKPdf 00 51 45.5 -0.8
UCC **Uccle** **144.53 4** PKP PKPdf 00 51 45.7 -0.7
UCC E 00 51 49.5
NIE **Niedzica** **144.55 346** *e*PKP PKPdf 00 51 45.1 -1.3
OKC **Ostrava-Krasne** **144.62 349** *e*PKP PKPdf 00 51 44.9 -1.6
OKC *ex* x 00 51 50.0
OKC *e*pPKP pPKPdf 00 51 56.5 -1.5
MOX **Moxa** **144.67 356** *e*PKPbc PKPdf 00 51 44.6 -2.0
MOX **Moxa** **144.67 356** *e*P PKPdf 00 51 45.3 -1.3
comp=Z,25nm,1.6s
MALT **Malatya** **144.73 316**⇑ *i* P PKPdf 00 51 47.5 +0.8
MALT **Malatya** **144.73 316**⇑ P PKPdf 00 51 47.5 +0.8
CRVS **Cervenica-Dubn** **144.75 344** *e*PKP PKPdf 00 51 45.6 -1.1
MORC **Moravsky Berou** **144.79 349**⇑ *i* P PKPdf 00 51 45.8 -1.0
MORC **Moravsky Berou** **144.79 349**⇑ P PKPdf 00 51 45.8 -1.0
BURAR **Bucovina Array** **144.79 340**⇑ *i* P PKPdf 00 51 46.2 -0.6
BURAR **Bucovina Array** **144.79 340**⇑ P PKPdf 00 51 46.1 -0.7
MEM **Membach** **144.80 2** PKP PKPdf 00 51 46.0 -0.8
MEM E 00 51 51.1
MEM APKP 00 57.3
SNF **Seneffe** **144.81 4** PKP PKPdf 00 51 46.0 -0.9
WERD **Werda** **144.82 355** *e*PKPbc PKPdf 00 51 45.2 -1.7
TANN **Tannenbergstha** **144.84 355** *e*PKPbc PKPdf 00 51 45.3 -1.6
GUNZ **Gunzen** **144.90 355** *e*PKPbc PKPdf 00 51 45.7 -1.3
BCLA **Clavier** **144.96 3** PKP PKPdf 00 51 45.6 -1.5
BCLA E 00 51 49.9
BCLA APKP 00 51 56.5
NKC **Novy Kostel** **145.02 355** *e*PKP PKPdf 00 51 46.3 -0.9
NKC *e*pPKP pPKPdf 00 51 57.8 -0.9
TNS **Taunus Mts** **145.22 359** *e*PKPbc PKPbc 00 51 46.7 -0.6
DOU **Dourbes** **145.24 4** PKP PKPdf 00 51 46.8 -0.7
DOU APKP 00 51 58.5
GIVF **Givet** **145.25 4** *e*PKP1 PKPbc 00 51 46.6 -0.8
BAIF **Baives** **145.25 4** *e*PKP1 PKPbc 00 51 46.8 -0.6
comp=Z,116nm,1.5s
MANZ **Manzenberg** **145.29 355** *e*PKPbc PKPbc 00 51 47.1 -0.4
VRAC **Vranov** **145.40 350**⇑ *i* P PKPbc 00 51 48.1 +0.3
VRAC **Vranov** **145.40 350**⇑ P PKPbc 00 51 48.1 +0.2
ROTZ **Rotzenmuhle** **145.50 355** *e*PKPbc PKPbc 00 51 48.0 -0.2
ABH **Alteburg** **145.56 0** PKP PKPdf 00 51 48.4 +0.3
TREC **Trest** **145.59 351** *e*PKP PKPdf 00 51 48.3 +0.1
TREC *e*pPKP pPKPdf 00 51 59.5 -0.1
GRA1 **Grafenberg Arr** **145.65 356** *e*PKPbc PKPbc 00 51 48.5 -0.1
GRA1 *e*pPKPbc pPKPbc 00 51 53.3 -6.7
GRA1 *e* 00 51 59.9
GRF **Grafenberg Arr** **145.65 356** *e*PKPbc PKPbc 00 51 48.5 -0.1
GRF *e*pPKPbc pPKPbc 00 51 53.3 -6.7
GRF *e* 00 51 59.9
VRI **Vrincioaia** **145.73 336**⇑ *i* P PKPdf 00 51 49.0 +0.6
RUP **Ruppelstein** **145.74 1** PKP2 PKPab 00 51 48.9 -0.4
WLF **Walferdange** **145.75 2** *e*PKPbc PKPbc 00 51 48.9 0.0
WLF **Walferdange** **145.75 2** E 00 51 49.1
WLF E 00 52 00.7
WLF **Walferdange** **145.75 2** *e*PKPdf PKPdf 00 51 49.1 +0.7
VYHS **Vyhne** **145.75 347** *e*PKP PKPdf 00 51 48.8 +0.3
VYHS **Vyhne** **145.75 347** *i* PKP PKPdf 00 51 48.8 +0.3
TOD **Tromm** **145.83 359** PKP2 PKPab 00 51 49.1 -0.5
ROSF **Rostrenen** **145.84 13** *e*PKP1 PKPbc 00 51 48.1 -1.1
FLN **La Foliniere** **145.97 10** *e*PKP1 PKPbc 00 51 48.7 -0.9
comp=Z,94nm,1.5s
KHC **Kasperske Hory** **146.00 353** *e*PKP PKPdf 00 51 49.4 +0.5
KHC *ex* x 00 51 54.1
KHC *e*pPKP pPKPdf 00 52 01.4 +0.9
SMOL **Smolenice** **146.02 349** *e*PKP PKPbc 00 51 51.3 +1.5
PSZ **Piszkesteto** **146.05 346**⇓ *i* P PKPdf 00 51 49.7 +0.7
PSZ **Piszkesteto** **146.05 346** *e*PKP PKPdf 00 51 49.1 +0.1
WET **Wettzell** **146.06 354** *e*PKPbc PKPbc 00 51 49.8 -0.1
SGMF **Saint Gilles** **146.07 13** *e*PKP1 PKPbc 00 51 48.9 -1.0
comp=Z,17nm,0.9s
LDF **La Druitiere** **146.19 10** *e*PKP1 PKPbc 00 51 49.5 -0.8
comp=Z,94nm,1.6s
QUIF **Quistinic** **146.25 13** *e*PKP1 PKPbc 00 51 49.9 -0.6
comp=Z,51nm,1.4s
GEC2 **GERESS Array S** **146.26 353** *e*PKPbc PKPbc 00 51 50.3 -0.2
GERES **GERESS Array B** **146.26 353** PKPbc PKPbc 00 51 49.6 -0.9
comp=Z,2.3nm,0.8s,baz=23,slow=1.7,SNR=25
GRR **Gorron** **146.27 11** *e*PKP1 PKPbc 00 51 50.0 -0.5
DRGR **146.32 342**⇓ *i* P PKPdf 00 51 50.5 +1.1
DRGR **146.32 342**⇓ P PKPdf 00 51 50.5 +1.1
MLR **Muntele Rosu** **146.34 337**⇑ *i* P PKPdf 00 51 51.0 +1.5
MLR **Muntele Rosu** **146.34 337**⇑ P PKPdf 00 51 51.0 +1.5
ZST **Bratislava** **146.39 349** *e*PKP PKPdf 00 51 51.7 +2.2
ZST LR LR
comp=Z,300nm,18.4s,MS5.1
SRO1 **Iza** **146.58 347** *e*PKP PKPbc 00 51 52.7 +1.3
STU **Stuttgart** **146.66 358** *e*PKPbc PKPbc 00 51 51.1 -0.5
KMBO **Kilima Mbogo** **146.71 243** PKPbc PKPbc 00 51 52.2 +0.4
comp=Z,3.8nm,0.9s,baz=56,slow=3.8,SNR=6.2
MEZF **Maizieres J'vi** **146.86 4** *e*PKP1 PKPbc 00 51 51.9 -0.3
comp=Z,38nm,1.3s
CONA **Conrad Observa** **146.86 350**⇑ *i* PKPbc PKPbc 00 51 50.4 -1.8
comp=Z,17nm,1.3s
BRTR **Keskin Array B** **146.92 322** PKPbc PKPbc 00 51 51.8 -0.6
comp=Z,3.4nm,0.9s,baz=110,slow=3.3,SNR=14
CDF **Champ du Feu** **147.03 1** *e*PKP1 PKPbc 00 51 52.3 -0.4
comp=Z,34nm,1.2s
BFO **Black Forest** **147.11 360** *e*PKPbc PKPbc 00 51 52.5 -0.4
FUR **Furstenfeldbru** **147.16 356** *e*PKPbc PKPbc 00 51 52.7 -0.4
MOA **Molln** **147.18 352**⇓ *i* P PKPdf 00 51 53.0 +2.2
comp=Z,18nm,1.3s
THEF **They Montfort** **147.18 2** PKP PKPdf 00 51 52.7 +1.8
ECH **Echery** **147.22 1** PKP PKPdf 00 51 53.2 +2.3
HAU **Haudompre** **147.41 2** *e*PKP1 PKPbc 00 51 54.3 +0.5
comp=Z,31nm,1.0s
FELD **Feldberg im Sc** **147.57 360** PKP PKPdf 00 51 54.2 +2.7
ARSA **Arzberg** **147.57 350**⇓ *i* P PKPdf 00 51 53.5 +2.0
comp=Z,6.1nm,1.0s
MOF **Molkenrain** **147.59 1** PKP PKPdf 00 51 54.6 +3.0
HINF **Hinteralfeld** **147.62 1** *e*PKP1 PKPbc 00 51 53.6 -0.7
BZS **Buzias** **147.71 342**⇓ *i* P PKPdf 00 51 54.1 +2.3
BZS **Buzias** **147.71 342**⇓ P PKPdf 00 51 54.1 +2.4
PKSM **Moragy** **147.95 346**⇓ *i* P PKPdf 00 51 55.0 +2.8
PKSM **Moragy** **147.95 346**⇓ P PKPdf 00 51 55.0 +2.9
WATA **Walderalm** **147.97 355**⇓ *i* P PKPdf 00 51 54.9 +2.8
comp=Z,8.9nm,0.8s
MOTA **Moosalm** **147.99 356**⇑ *i* P PKPdf 00 51 55.4 +3.2
comp=Z,13nm,1.0s
LOR **Lormes** **148.00 5** *e*PKP1 PKPbc 00 51 54.7 -0.7
comp=Z,37nm,1.3s
WTTA **Wattenberg** **148.03 355**⇓ *i* P PKPdf 00 51 55.5 +3.2
comp=Z,12nm,0.8s
LOMF **Lomont** **148.08 1** PKP PKPdf 00 51 53.5 +1.1
SQTA **Sankt Quirin** **148.11 356** *i* P PKPdf 00 51 54.9 +2.4
comp=Z,8.4nm,1.0s
DAVA **Damuels** **148.12 357**⇑ *i* P PKPdf 00 51 56.1 +0.4
comp=Z,19nm,1.3s
MFF **Saint Martin d** **148.12 11** *e*PKP1 PKPbc 00 51 54.9 -0.8
comp=Z,62nm,1.6s
SSF **Saint Saulge** **148.17 6** *e*PKP1 PKPbc 00 51 55.4 -0.4
comp=Z,49nm,1.4s
PERS **Pernice** **148.24 351** *e*PKPbc PKPbc 00 51 55.2 -0.7
AVF **Avril sur Loir** **148.42 6** *e*PKP1 PKPbc 00 51 55.7 -0.8
comp=Z,22nm,1.2s
BGF **Bois d'Agland** **148.60 7** *e*PKP1 PKPbc 00 51 56.5 -0.4
comp=Z,26nm,1.2s
SMF **Signal de Mont** **148.61 5** *e*PKP1 PKPbc 00 51 56.4 -0.6
comp=Z,28nm,1.2s
DOBS **Dobrina** **148.65 350** *e*PKPbc PKPbc 00 51 56.7 -0.4
DOBS *e* 00 52 07.7
TCF **Toulx Ste Croi** **148.79 8** *e*PKP1 PKPbc 00 51 56.7 -0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CABF	**La Chapelle**	**148.80**	**2**	*e*PKP1	PKPbc	00 51 57.7	+0.3
	comp=Z,48nm,1.1s						
LJU	**Ljubljana**	**148.91**	**351**	*e*PKPbc	PKPbc	00 51 56.7	-1.0
LJU				*e*		00 52 08.4	
RJF	**Les Rejaudoux**	**149.65**	**9**	*e*PKP1	PKPbc	00 51 59.2	-0.4
VTS	**Vitosha**	**149.85**	**337**	⇑*i*P	PKPbc	00 51 59.5	-0.5
VTS	**Vitosha**	**149.85**	**337**	⇑P	PKPbc	00 51 59.5	-0.6
LFF	**La Frestale**	**149.88**	**10**	*e*PKP1	PKPbc	00 51 59.7	-0.4
LPL	**La Plagne**	**149.91**	**2**	*e*PKP1	PKPbc	00 52 01.0	+0.8
	comp=Z,17nm,1.0s						
LPG	**La Plagne**	**149.93**	**2**	*e*PKP1	PKPbc	00 52 01.2	+1.0
	comp=Z,23nm,1.0s						
LBL	**Lubilhac**	**149.95**	**7**	PKP	PKPbc	00 52 01.3	+1.0
CAF	**Calviac**	**150.10**	**8**	*e*PKP1	PKPbc	00 52 00.5	-0.2
BNI	**Bardonecchia**	**150.38**	**2**	*e*PKIKP	PKPbc	00 52 02.3	+1.0
VIVF	**Saint-Julien-l**	**150.46**	**5**	*e*PKP1	PKPbc	00 52 01.7	+0.2
	comp=Z,48nm,1.2s						
ORIF	**Oris-en-Rattie**	**150.48**	**3**	*e*PKP1	PKPbc	00 52 01.9	+0.3
	comp=Z,28nm,1.2s						
LASF	**Ste Croix**	**151.16**	**6**	*e*PKP1	PKPbc	00 52 03.3	+0.1
	comp=Z,52nm,1.2s						
STOF	**St-Etienne Org**	**151.40**	**3**	PKP	PKPbc	00 52 04.5	+0.8
SMRF	**Simiane la Rot**	**151.40**	**4**	*e*PKP1	PKPbc	00 52 04.3	+0.6
	comp=Z,57nm,1.4s						
TOUF	**Mont Tournerai**	**151.43**	**1**	PKP	PKPbc	00 52 04.1	+0.3
VILF	**Villemus**	**151.53**	**3**	PKP	PKPbc	00 52 05.2	+1.2
MVIF	**Mont Vial**	**151.54**	**1**	PKP	PKPbc	00 52 04.5	+0.5
PRAF	**Pradon**	**151.54**	**4**	PKP	PKPbc	00 52 05.0	+0.9
LUCF	**Luceram**	**151.55**	**1**	PKP	PKPbc	00 52 04.1	0.0
SBF	**Sospel**	**151.58**	**1**	*e*PKP1	PKPbc	00 52 03.5	-0.6
ETSF	**Etsaut**	**151.60**	**13**	*e*PKP1	PKPbc	00 52 04.4	+0.2
	comp=Z,43nm,1.1s						
EPF	**Esparros**	**151.66**	**12**	*e*PKP1	PKPbc	00 52 05.3	+1.0
	comp=Z,21nm,1.1s						
MTLF	**Montolieu**	**151.68**	**9**	*e*PKP1	PKPbc	00 52 04.1	-0.3
	comp=Z,15nm,1.1s						
TAVF	**Tavernes**	**151.78**	**3**	PKP	PKPbc	00 52 05.2	+0.6
FRF	**La Foret Royal**	**151.86**	**2**	*e*PKP1	PKPbc	00 52 04.4	-0.4
	comp=Z,12nm,1.0s						
BERF	**Bertagne**	**152.07**	**4**	PKP	PKPbc	00 52 05.9	+0.7
LMR	**La Mourre**	**152.09**	**2**	*e*PKP1	PKPbc	00 52 05.0	-0.3
	comp=Z,16nm,1.0s						
EVO	**Evora**	**152.97**	**28**	*e*PKIKP	PKPdf	00 52 00.6	+0.6
	comp=Z,20nm,1.0s						
ESDC	**Sonseca Array**	**153.62**	**21**	PKPbc	PKPbc	00 52 08.0	-0.7
	comp=Z,1.5nm,0.7s,baz=337,slow=3.1,SNR=9.1						
TORD	**Torodi Ar. Bea**	**173.56**	**109**	PKP	PKPdf	00 52 18.0	-1.3
	comp=Z,1.1nm,0.9s,baz=38,slow=2.3,SNR=4.5						

*NEIC **05** 00:33:26.7, 36.48N×11.28W, h26km, MG3.7(MDD), After MDD.*
*INMG **05** 00:33:27.3±0.9, 36.64N×11.24W, h10km, ML1.8, Error ellipse: s-maj=9.0km s-min=6.2km az=108.0*
MDD 05 00:33:26.9±2.7**, 36.64N×11.08W, h0km, mbLg2.4**/3**, 1C, Error ellipse: s-maj=23.4km s-min=19.2km az=88.0, PRXIMO, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**2.09**	**64**	*e*Pn	Pn	00 34 02.1	-1.0
PTEO				*e*Sn	Sn	00 34 28.0	-1.8
PTEO							
	5.6nm,0.4s						
PBEJ	**Beja**	**2.91**	**61**	*e*Pn	Pn	00 34 13.2	-1.2
PBEJ				*e*Sn	Sn	00 34 47.5	-2.6
PBEJ							
	1.0nm,0.2s						
EGRO	**El Granado**	**3.01**	**72**	P	Pn	00 34 15.0	-0.8
	0.7nm,0.1s,SNR=7.9						
EGRO				S	Sn	00 34 49.9	-2.6
	0.8nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.01**	**72**	P	Pn	00 34 14.9	-0.8
EGRO				S	Sn	00 34 49.9	-2.6
PTOM	**Tomar**	**3.64**	**34**	*e*Sn	Sn	00 35 04.0	-4.2
PTOM							
	3.0nm,0.3s						
PTOM	**Tomar**	**3.64**	**34**	Sn	Sn	00 35 04.0	-4.2
	1.5nm,0.3s						
EMIN	**Mina Concepcio**	**3.69**	**71**	P	Pn	00 34 23.8	-1.3
	0.5nm,0.1s,SNR=11						
EMIN				S	Sn	00 35 05.3	-4.1
	0.7nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.69**	**71**	P	Pn	00 34 24.0	-1.1
EMIN				S	Sn	00 35 05.3	-4.1
EBAD	**Badajoz**	**3.85**	**56**	P	Pn	00 34 26.3	-1.0
	0.7nm,0.1s,SNR=7.9						
EBAD				S	Sn	00 35 10.4	-3.0
	2.1nm,0.2s,SNR=7.9						
ESPR	**Espera**	**4.20**	**85**	⇑P	Pn	00 34 30.7	-1.4
	2.0nm,0.1s,SNR=18						
ESPR				S	Sn	00 35 16.8	-5.1
	2.4nm,0.2s,SNR=7.9						
ESPR	**Espera**	**4.20**	**85**	P	Pn	00 34 30.8	-1.3
ESPR				S	Sn	00 35 16.8	-5.1
PCBR	**Castelo Branco**	**4.27**	**40**	*e*Pn	Pn	00 34 30.8	-2.3
PCBR				*e*Sn	Sn	00 35 19.8	-3.9
PCBR							
	0.7nm,0.2s						
PVIS	**Viseu**	**4.77**	**30**	*e*Sn	Sn	00 35 32.0	-4.0
EADA	**Adamuz**	**5.39**	**72**	P	Pn	00 34 47.3	-1.2
	0.6nm,0.2s,SNR=6.1						
EADA				S	Sn	00 35 47.4	-3.9
	0.4nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.72**	**23**	S	Sn	00 35 54.4	-5.0
	0.6nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.27**	**31**	S	Sn	00 36 09.1	-4.0
	1.1nm,0.2s,SNR=7.9						

*IDC **05** 00:55:21.7±9.4, 17.84S×178.44E, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.1/12, mbtmp4.3/4, Error ellipse: s-maj=215.6km s-min=42.0km az=33.0*
*ISCJB **05** 00:55:23.7±0.8, 17.9S±0.2×178.6E±0.1, h33km, mb4.3/7, Error ellipse: s-maj=31.6km s-min=14.0km az=150.2*
*NEIC **05** 00:55:26.3±0.6, 17.77S×178.51E, h35km, mb4.5/4, Error ellipse: s-maj=23.8km s-min=10.3km az=165.0*
ISC 05 00:55:26.6±0.8**, 17.9S**±0.2×**178.6E**±0.1**, h35km, n13, σ0.37**/13**, mb4.3**/7**, Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.10**	**68**	Pn	**Pn**	**00 57 49.0**	**-0.1**
CTAO	**Charters Tower**	**30.60**	**261**	*e*P	**P**	**01 01 43.7**	**+6.5**
	4.4nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**36.13**	**240**	P	**P**	**01 02 24.8**	**-0.5**
	2.4nm,0.9s,mb4.1,baz=101,slow=10,SNR=2.9						
STKA	**Stephens Creek**	**36.13**	**240**	P	**P**	**01 02 24.8**	**-0.5**
WB2	**Warramunga Arr**	**41.78**	**260**	*e*P	**P**	**01 03 12.9**	**+0.4**
WRAB	**Tennant Creek**	**41.79**	**260**	*e*P	**P**	**01 03 12.8**	**+0.2**
	4.3nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**41.80**	**260**	P	**P**	**01 03 12.8**	**+0.1**
	2.0nm,0.4s,mb4.1,baz=92,slow=8.3,SNR=14						
ASAR	**Alice Springs**	**42.02**	**254**	P	**P**	**01 03 13.9**	**-0.6**
	9.4nm,0.6s,mb4.6,baz=88,slow=9.0,SNR=124						
MBWA	**Marble Bar**	**55.28**	**256**	P	**P**	**01 04 56.6**	**+0.2**
VNDA	**Vanda**	**60.25**	**184**	P	**P**	**01 05 31.5**	**+0.2**
	1.0nm,0.7s,mb4.0,baz=39,slow=6.5,SNR=7.1						
VNDA	**Vanda**	**60.25**	**184**	*e*P	**P**	**01 05 31.6**	**+0.3**
	1.0nm,0.7s,mb4.0						
SBA	**Scott Base**	**60.29**	**183**	P	**P**	**01 05 31.6**	**0.0**
MAW	**Mawson**	**82.90**	**200**	*e*P	**P**	**01 07 43.4**	**-4.3**
	4.5nm,0.7s,mb4.6						

*ISCJB **05** 02:13:09.9±4.6, 36.6N±0.2×70.6E±0.4, h122km±52km, mb2.6/1, Error ellipse: s-maj=60.6km s-min=25.6km az=120.9*
*NNC **05** 02:13:10.8±4.5, 36.59N×70.16E, h80km±111km, mb3.5, mpv3.5, Error ellipse: s-maj=80.8km s-min=37.0km az=75.0*
ISC 05 02:13:08.6±4.7**, 36.5N**±0.2×**70.1E**±0.3**, h81km**±50km**, n4, σ2.17**/6**, mb2.6**/1**, 3C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.62**	**2**	⇑P	**Pn**	**02 14 44.0**	**+0.9**
	4.2nm,0.3s,baz=182,slow=12,SNR=161						
KK31				⇑S	**Sn**	**02 15 58.2**	**+1.0**
	3.6nm,0.4s,baz=193,slow=23,SNR=9.2						
TKM2	**Tokmak 2**	**7.68**	**32**	⇑P	**Pn**	**02 14 55.5**	**-2.2**
	0.4nm,0.5s						
AB31	**Akbulak array**	**14.77**	**333**	⇓P	**Pn**	**02 16 34.3**	**+1.2**
	1.2nm,0.3s,baz=163,slow=12,SNR=77						
AB31				⇓S	**Sn**	**02 19 14.2**	**-1.5**
	0.6nm,0.5s,baz=149,slow=24,SNR=5.7						
NB2	**NORSAR Subarra**	**43.98**	**323**	P	**P**	**02 21 07.7**	**0.0**
	comp=Z,0.1nm,0.8s,mb2.6,baz=97,slow=8.6						

*NIED **05** 02:30:00, 24.00N×122.10E, h32km, Mw3.8 Best double couple: Mo6.35000×10^14 NP1:φs67.00000°, δ86.00000°, λ78.00000°. NP2:φs318.00000°, δ13.00000°, λ161.00000°.*
*JMA **05** 02:30:11.2±0.3, 24.00N×122.14E, h24km, M3.7*
*NEIC **05** 02:30:11.0±9.1, 23.74N×122.22E, h30km±39km, mb4.0/3, Error ellipse: s-maj=103.6km s-min=50.8km az=89.0*
*ISCJB **05** 02:30:13.5±0.7, 24.2N±0.1×122.16E±0.03, h39km±10km, mb4.0/3, Error ellipse: s-maj=18.1km s-min=4.8km az=12.0*
ISC 05 02:30:13.3±1.0**, 24.0N**±0.1×**122.19E**±0.04**, h28km**±7km**, n12, σ0.82**/21**, mb4.0**/3**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.56**	**285**	*e*Pg	**Pb**	**02 30 25.1**	**+0.4**
NACB				*e*Sg	**Sb**	**02 30 32.0**	**-0.4**
YOJ	**Yonaguni jima**	**0.86**	**60**	P	**Pn**	**02 30 28.0**	**-1.6**
YOJ				S	**Sb**	**02 30 40.4**	**-0.4**
YHNB	**Yeheng**	**0.98**	**311**	*e*Pn	**Pn**	**02 30 31.8**	**+0.6**
YHNB				*e*Sn	**Sn**	**02 30 37.7**	**-6.4**
TATO	**Taipei**	**1.14**	**326**	*e*Pn	**Pn**	**02 30 34.7**	**+1.3**
TATO				*e*Sn	**Sn**	**02 30 42.3**	**-5.7**
IRIF	**Iriomote-Funau**	**1.44**	**78**	P	**Pn**	**02 30 37.4**	**-0.1**
IRIF				*e*S	**Sn**	**02 30 55.7**	**+0.3**
HATJ	**Hateruma jima**	**1.48**	**89**	P	**Pn**	**02 30 37.3**	**-0.7**
HATJ				*e*S	**Sn**	**02 30 56.4**	**0.0**
JKRS	**Kuro-shima**	**1.67**	**83**	P	**Pn**	**02 30 40.5**	**-0.3**
JKRS				*e*S	**Sn**	**02 31 02.3**	**+1.0**
JIJ	**Ishigaki jima**	**1.81**	**79**	P	**Pn**	**02 30 42.1**	**-0.6**
JIJ				*e*S	**Sn**	**02 31 04.5**	**-0.2**
JTJ	**Tarama**	**2.37**	**75**	P	**Pn**	**02 30 51.4**	**+1.1**
JTJ				*e*S	**Sn**	**02 31 18.9**	**+0.5**
ULN	**Ulaanbaatar**	**26.66**	**337**	*e*P	**P**	**02 35 49.6**	**-0.1**
	2.7nm,0.9s,mb3.8						
CHKZ	**Chkalovo**	**48.43**	**321**	*e*P	**P**	**02 38 52.2**	**-0.9**
	1.3nm,0.7s,mb4.1						
ZRNK	**Zerenda**	**49.16**	**320**	*e*P	**P**	**02 38 58.2**	**-0.5**
	1.7nm,0.8s,mb4.1						

*ISCJB **05** 02:37:07.0±1.2, 16.4S±0.2×176.4W±0.1, h357km±13km, mb4.0/21, Error ellipse: s-maj=33.3km s-min=9.3km az=118.6*
*IDC **05** 02:37:08.3±1.9, 16.46S×176.24W, h358km±21km, mb3.7/7, mb1 3.8/9, mb1mx3.6/17, mbtmp4.4/9, Error ellipse: s-maj=30.7km s-min=12.2km az=144.0*
*NEIC **05** 02:37:08.2±0.8, 16.37S×176.32W, h358km±8km, mb4.0/14, Error ellipse: s-maj=18.5km s-min=5.6km az=149.0*
ISC 05 02:37:08.4±1.2**, 16.4S**±0.2×**176.3W**±0.1**, h356km**±13km**, n36, σ0.78**/30**, mb4.0**/21**, 1C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.02**	**61**	P	**Pn**	**02 38 28.1**	**-0.2**
	8.1nm,0.3s,baz=93,slow=3.1,SNR=5.0						
DZM	**Mont Dzumac**	**17.24**	**248**	P	**P**	**02 40 48.0**	**+1.2**
	0.5nm,0.3s,baz=69,slow=20,SNR=5.2						
URZ	**Urewera**	**22.56**	**194**	P	**P**	**02 41 38.0**	**-1.1**
	8.4nm,0.4s,mb4.3,baz=308,slow=1.8,SNR=9.7						
STKA	**Stephens Creek**	**41.13**	**240**	*e*P	**P**	**02 44 19.5**	**+0.5**
	1.0nm,0.3s,mb3.5						
STKA	**Stephens Creek**	**41.13**	**240**	P	**P**	**02 44 19.3**	**+0.4**
	1.3nm,0.4s,mb3.5,baz=87,slow=13,SNR=6.9						
STKA	**Stephens Creek**	**41.13**	**240**	*e*P	**P**	**02 44 19.2**	**+0.3**
WB2	**Warramunga Arr**	**46.89**	**258**	*e*P	**P**	**02 45 03.7**	**-0.5**
WRAB	**Tennant Creek**	**46.89**	**258**	*e*P	**P**	**02 45 04.0**	**-0.2**
	3.5nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**46.90**	**258**	P	**P**	**02 45 04.2**	**-0.1**
	2.3nm,0.5s,mb3.7,baz=91,slow=6.8,SNR=18						
AS31	**Alice Springs**	**47.15**	**253**	*e*P	**P**	**02 45 05.7**	**-0.5**
ASAR	**Alice Springs**	**47.15**	**253**	P	**P**	**02 45 06.2**	**0.0**
	18nm,0.5s,mb4.6,baz=89,slow=7.9,SNR=211						
ASPA	**Alice Springs**	**47.15**	**253**	*e*P	**P**	**02 45 06.0**	**-0.2**
KAKA	**Kakadu**	**49.64**	**267**	⇑*i*P	**P**	**02 45 25.4**	**+0.4**
	6.5nm,0.4s,mb4.2						
FORT	**Forrest**	**52.48**	**244**	*e*P	**P**	**02 45 45.5**	**-0.4**
	4.9nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	**55.27**	**259**	*e*P	**P**	**02 46 07.4**	**+1.5**
MBWA	**Marble Bar**	**60.40**	**255**	*e*P	**P**	**02 46 41.3**	**+0.1**
	4.7nm,0.5s,mb4.2						
YBH	**Yreka Blue Hor**	**76.08**	**38**	P	**P**	**02 48 17.8**	**+0.3**
	2.9nm,0.7s,mb4.1,baz=148,slow=2.6,SNR=11						
NVAR	**Mina Array Bea**	**76.93**	**43**	P	**P**	**02 48 23.1**	**+0.7**
	2.3nm,0.8s,mb4.0,baz=210,slow=7.0,SNR=8.2						
TPNV	**Topopah Spring**	**77.52**	**45**	*e*P	**P**	**02 48 26.1**	**+0.6**
	3.6nm,1.2s,mb4.0						
ELK	**Elko**	**80.17**	**42**	*e*P	**P**	**02 48 40.4**	**+0.6**
	1.0nm,0.6s,mb3.7						
HLID	**Hailey**	**82.16**	**40**	*e*P	**P**	**02 48 50.6**	**+0.4**
	1.5nm,0.8s,mb3.9						
PV10	**Paradox Valley**	**83.20**	**47**	*e*P	**P**	**02 48 56.0**	**+0.4**
LTX	**Lajitas**	**83.48**	**57**	*e*P	**P**	**02 48 58.1**	**+1.2**
	1.7nm,0.6s,mb4.0						
ANMO	**Albuquerque**	**83.58**	**51**	*e*P	**P**	**02 48 58.2**	**+0.8**
	1.4nm,0.9s,mb3.8						
COLA	**College**	**83.86**	**12**	*e*P	**P**	**02 48 56.8**	**-2.0**
	6.2nm,0.8s,mb4.5						
TPAW	**Teton Pass**	**84.31**	**42**	*e*P	**P**	**02 49 00.7**	**-0.4**
	1.9nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**84.86**	**43**	P	**P**	**02 49 02.9**	**-0.9**
	0.5nm,0.7s,mb3.5,baz=197,slow=1.5,SNR=4.9						
BOZ	**Bozeman (W)**	**84.93**	**40**	*e*P	**P**	**02 49 04.2**	**+0.1**
	1.1nm,0.7s,mb3.8						
BILL	**Bilibino**	**85.12**	**354**	*e*P	**P**	**02 49 03.3**	**-1.8**
	2.8nm,0.7s,mb4.2						
RSSD	**Black Hills**	**89.07**	**43**	*e*P	**P**	**02 49 23.5**	**-0.4**
	1.2nm,0.7s,mb3.8						
BDFB	**Brasilia**	**119.88**	**119**	PKP	PKPdf	02 55 17.6	+0.8
	1.5nm,0.7s,baz=329,slow=5.1,SNR=3.1						
ARCES	**ARCESS Array B**	**125.15**	**351**	PKP	PKPdf	02 55 25.2	-1.7
	3.2nm,0.9s,baz=338,slow=2.0,SNR=7.7						
CLL	**Collm**	**144.36**	**350**	*e*PKIKP	PKPdf	02 56 01.0	-1.5
MORC	**Moravsky Berou**	**144.84**	**344**	*e*PKPdf	PKPdf	02 56 02.6	-0.7
BRTR	**Keskin Array B**	**145.06**	**318**	PKPbc	PKPbc	02 56 04.2	+0.2
	0.6nm,0.4s,baz=80,slow=1.5,SNR=5.2						
GERES	**GERESS Array B**	**146.59**	**348**	PKPbc	PKPbc	02 56 07.8	-0.6
	0.4nm,0.5s,baz=46,slow=5.8,SNR=4.6						

*NIED **05** 02:47:00, 26.50N×144.30E, h8km, Mw4.3 Best double couple: Mo3.37000×10^15 NP1:φs82.00000°, δ61.00000°, λ-117.00000°. NP2:φs308.00000°, δ39.00000°, λ-51.00000°.*
*IDC **05** 02:47:19.0±0.8, 26.07N×144.11E, h0km, mb4.3/14, mb1 4.4/17, mb1mx4.3/24, mbtmp4.3/17, ML4.5/3, MS3.6/14, Ms1 3.6/14, ms1mx3.4/30, Error ellipse: s-maj=24.9km s-min=18.5km az=32.0*
*JMA **05** 02:47:21.9±0.1, 26.54N×144.27E, h20km, M4.9*
*BJI **05** 02:47:22.4, 26.03N×144.32E, h42km, mB4.7, mb4.5, Ms4.3, Msz3.9*
*ISCJB **05** 02:47:24.2±0.3, 26.60N±0.03×144.14E±0.04, h27km, mb4.5/52, MS3.8/21, Error ellipse: s-maj=5.4km s-min=3.7km az=112.8*
*MOS **05** 02:47:25.0±0.8, 26.49N×144.03E, h36km, mb4.8/20, Error ellipse: s-maj=15.8km s-min=6.8km az=109.1*
*NEIC **05** 02:47:26.2±1.4, 26.35N×144.10E, h40km±11km, mb4.6/22, MW4.3(NIED), Error ellipse: s-maj=9.7km s-min=8.6km az=169.0*
ISC 05 02:47:25.8±0.3**, 26.48N**±0.03×**144.14E**±0.04**, h29km**±2.0km**:pP-P, n123, σ1.04**/139**, mb4.5**/52**, MS3.8**/21**, 2D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.76**	**275**	P	**Pn**	**02 47 53.6**	**-0.8**
JHHJ				*e*S	**Sn**	**02 48 17.0**	**+1.2**
CBIJ	**Chichi jima**	**1.85**	**290**	Pn	**Pn**	**02 47 54.7**	**-0.9**
	96nm,0.3s,baz=291,slow=20,SNR=53						
CBIJ				Sn	**Sn**	**02 48 16.9**	**-1.2**
	123nm,0.3s,baz=284,slow=22,SNR=8.3						
CBIJ				LR	LR	02 48 37.7	
	comp=Z,421nm,19.2s,baz=277,slow=39						
CBIJ	**Chichi jima**	**1.85**	**290**	P	**Pn**	**02 47 54.6**	**-1.0**
CBIJ				S	**Sn**	**02 48 18.9**	**+0.9**
JHJ2	**Mitsune**	**7.60**	**331**	P	**Pn**	**02 49 14.5**	**-0.1**
JHJ2				*e*S	**Sn**	**02 50 39.3**	**-0.4**
JHJ	**Hachijo jima 2**	**7.62**	**331**	Pn	**Pn**	**02 49 14.8**	**-0.1**
	15nm,0.3s,baz=80,slow=23,SNR=14						
JHJ				Sn	**Sn**	**02 50 37.7**	**-2.6**
	21nm,0.3s,baz=263,slow=23,SNR=6.1						
BSO1	**Boso 1**	**8.59**	**342**	P	**Pn**	**02 49 27.6**	**-0.6**
BSO1				*e*S	**Sn**	**02 51 03.1**	**-1.0**
BSO2	**Boso 2**	**8.74**	**341**	S	**Sn**	**02 51 10.2**	**+2.3**
BSO3	**Boso 3**	**8.86**	**340**	P	**Pn**	**02 49 32.4**	**+0.5**
BSO3				S	**Sn**	**02 51 10.4**	**-0.4**
BSO4	**Boso 4**	**9.09**	**340**	P	**Pn**	**02 49 37.0**	**+2.0**
BSO4				S	**Sn**	**02 51 18.1**	**+1.7**
JOD2	**Odawara 2**	**9.77**	**335**	P	**Pn**	**02 49 44.8**	**+0.5**
JOD2				S	**Sn**	**02 51 31.1**	**-1.9**
JRY	**Ryogami san**	**10.51**	**336**	P	**Pn**	**02 49 54.9**	**+0.5**
JRY				S	**Sn**	**02 51 51.1**	**-0.1**
JNT	**Takato**	**10.68**	**333**	P	**Pn**	**02 49 58.9**	**+2.1**
JNT				S	**Sn**	**02 51 57.3**	**+1.9**
MJAR	**Matsushiro Arr**	**11.23**	**335**	Pn	**Pn**	**02 50 04.8**	**+0.5**
	5.9nm,0.3s,baz=161,slow=11,SNR=29						
MJAR				Sn	**Sn**	**02 52 08.0**	**-0.9**
	1.3nm,0.3s,baz=175,slow=18,SNR=6.7						
MJAR				LR	LR	02 54 45.5	
	comp=Z,182nm,18.2s,baz=165,slow=39						
MJAR	**Matsushiro Arr**	**11.23**	**335**	P	**Pn**	**02 50 04.8**	**+0.5**
MJAR						02 52 08.0	
MJAR	**Matsushiro Arr**	**11.23**	**335**	Pn	**Pn**	**02 50 04.8**	**+0.5**
MJAR				Sn	**Sn**	**02 52 08.0**	**-0.9**
MJAR				LR	LR	02 54 45.5	
MAJO	**Matsushiro**	**11.23**	**335**	*e*Pn	**Pn**	**02 50 05.7**	**+1.3**
MAJO				*e*Sn	**Sn**	**02 52 09.4**	**+0.5**
MAT	**Matsushiro**	**11.23**	**335**	P	**Pn**	**02 50 05.3**	**+0.9**
MAT				*e*S	**Sn**	**02 52 06.6**	**-2.3**
MAT	**Matsushiro**	**11.23**	**335**	P	**Pn**	**02 50 05.5**	**+1.1**
MAT				S	**Sn**	**02 52 07.5**	**-1.4**
MAT	**Matsushiro**	**11.23**	**335**	*e*P	**Pn**	**02 50 05.0**	**+0.6**
MAT				S	**Sn**	**02 52 07.0**	**-1.9**
MAT				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MAT	**Matsushiro**	**11.23**	**335**	*e*P	**Pn**	**02 50 05.0**	**+0.6**
	comp=Z,10nm,0.7s						
MAT				S	**Sn**	**02 52 07.0**	**-1.9**
ASAJ	**Asahikawa**	**17.64**	**356**	S	**Sn**	**02 54 39.1**	**-6.0**
	comp=Z,0.5nm,0.3s,baz=80,slow=19,SNR=4.6						
ASAJ				LR	LR	02 57 56.6	
	comp=Z,218nm,20.8s,baz=158,slow=35						
VLA	**Vladivostok**	**19.37**	**332**	*e*P	**Pn**	**02 51 50.3**	**-0.1**
VLA				pmax	pmax		
	comp=Z,49nm,1.2s						
YSS	**Yuzh-Sakhalins**	**20.47**	**357**	P	**P**	**02 52 03.0**	**+1.9**
SSE	**Sheshan**	**20.62**	**288**	*e*P	**P**	**02 52 03.0**	**+0.2**
SSE				AMB	AMB		
	comp=Z,26nm,0.8s						
SSE				AMB	AMB		
	comp=Z,48nm,3.5s						
MDJ	**Mudanjiang**	**21.56**	**331**	P	**P**	**02 52 14.3**	**+1.4**
MDJ				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,105nm,7.4s						
MDJ	**Mudanjiang**	**21.56**	**331**	*e*P	**P**	**02 52 13.9**	**+1.0**
NJ2	**Nanjing**	**22.72**	**290**	*e*P	**P**	**02 52 23.5**	**-1.8**
NJ2				AP		02 52 33.2	
NJ2				XP	sP	02 52 37.1	+0.3
NJ2				PP		02 52 51.9	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.1						
NJ2				AMB	AMB		
	comp=Z,40nm,3.6s						
NJ2				LR	LR		
	comp=N,2μm,14.3s,MS4.9						
NJ2				LR	LR		
	comp=E,3μm,13.2s,MS4.9						
NJ2				LR	LR		
	comp=Z,2μm,14.8s,MS4.6						
CN2	**Changchun**	**22.98**	**324**	*e*P	**P**	**02 52 29.9**	**+1.9**
CN2				*e*XP	sP	02 52 40.4	+0.9
CN2				*e*S	**S**	**02 56 34.6**	**-2.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,23.0s,MS3.7						
CN2				LR	LR		
	comp=E,220nm,23.0s,MS3.7						
CN2				LR	LR		
	comp=Z,110nm,16.0s						
KLR	**Kul'dur**	**24.66**	**340**	*e*P	**P**	**02 52 42.2**	**-1.8**
BJI	**Beijing**	**26.88**	**307**	*e*P	**P**	**02 53 09.7**	**+5.6**
BJI				S	**S**	**02 57 44.4**	**+5.4**
BJI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb3.9						
BJI				LR	LR		
	comp=Z,80nm,22.3s,MS3.2						
HIA	**Hailar**	**29.57**	**327**	*e*P	**P**	**02 53 28.5**	**+0.5**
HHC	**Hu-ho-hao-te**	**30.47**	**306**	*e*P	**P**	**02 53 38.0**	**+2.0**
HHC				AP	pP	02 53 49.9	+5.5
HHC				XP	sP	02 53 54.6	+6.7
HHC				PP	PP	02 54 36.9	-8.1
HHC				S	**S**	**02 58 31.8**	**-3.5**
HHC				XS	sS	02 58 51.2	+2.0
HHC				AMB	AMB		
	comp=Z,15nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,80nm,5.4s						
HHC				LR	LR		
	comp=N,130nm,16.6s,MS4.0						
HHC				LR	LR		
	comp=E,242nm,17.2s,MS4.0						
HHC				LR	LR		
	comp=Z,116nm,16.7s,MS3.6						
LZH	**Lanzhou**	**35.53**	**296**	*e*P	**P**	**02 54 20.7**	**+0.5**
LZH				AP	pP	02 54 28.5	-0.2
LZH				XP	sP	02 54 31.8	-0.4
LZH				PP	PP	02 55 40.5	-0.6
LZH				*e*S	**S**	**02 59 53.6**	**-0.3**
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,83nm,5.4s						
LZH				LR	LR		
	comp=N,642nm,13.7s						
LZH				LR	LR		
	comp=Z,835nm,17.2s,MS4.6						
CD2	**Chengdu**	**35.56**	**287**	*e*P	**P**	**02 54 20.6**	**+0.2**
CD2				AP	pP	02 54 27.9	-1.0
CD2				XP	sP	02 54 31.3	-1.1
CD2				PP	PP	02 55 41.2	-0.2
CD2				S	**S**	**02 59 54.4**	**0.0**
CD2				SS	SS	03 02 14.3	-15
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
CD2				LR	LR		
	comp=E,90nm,13.2s						
CD2				LR	LR		
	comp=Z,150nm,14.4s,MS3.9						
ULN	**Ulaanbaatar**	**35.97**	**316**	*e*P	**P**	**02 54 24.8**	**+0.8**
ULN				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
ULN	**Ulaanbaatar**	**35.97**	**316**	*e*P	**P**	**02 54 24.8**	**+0.8**
	comp=Z,12nm,1.2s,mb4.7						
SONM	**Songino Array**	**36.37**	**316**	P	**P**	**02 54 27.9**	**+0.5**
	comp=Z,2.5nm,0.9s,mb4.2,baz=120,slow=8.9,SNR=15						
SONM				LR	LR	03 10 41.2	
	comp=Z,50nm,18.7s,MS3.3,baz=118,slow=38						
SONM	**Songino Array**	**36.37**	**316**	P	**P**	**02 54 27.9**	**+0.5**
SONM				LR	LR	03 10 41.2	
YAK	**Yakutsk**	**36.84**	**349**	*e*P	**P**	**02 54 32.2**	**+0.8**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.7						
KMI	**Kunming**	**37.18**	**277**	P	**P**	**02 54 36.0**	**+1.7**
KMI				AP	pP	02 54 44.0	+1.2
KMI				XP	sP	02 54 47.4	+1.1
KMI				PP	PP	02 56 03.0	+3.7
KMI				S	**S**	**03 00 20.6**	**+1.4**
KMI				XS	sS	03 00 34.1	+0.9
KMI				SS	SS	03 02 51.3	-11
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.6						
KMI				LR	LR		
	comp=Z,57nm,20.0s,MS3.4						

GTA	**Gaotai**	**39.00**	**301**	eP	**P**	**02 54 48.6**	**-1.0**
GTA				PP	PP	02 56 20.7	+1.5
GTA				S	**S**	**03 00 43.0**	**-3.6**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.0						
GTA				AMB	AMB		
	comp=Z,92nm,4.9s						
GTA				LR	LR		
	comp=N,123nm,14.4s,MS4.1						
GTA				LR	LR		
	comp=E,167nm,13.7s,MS4.1						
GTA				LR	LR		
	comp=Z,126nm,12.5s,MS3.9						
BILL	**Bilibino**	**43.68**	**12**⇓	eP	**P**	**02 55 29.0**	**+1.0**
BILL				e		02 57 16.5	
BILL				pmax	pmax		
	comp=Z,19nm,1.8s,mb4.5						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.8						
BILL	**Bilibino**	**43.68**	**12**	eP	**P**	**02 55 28.0**	**0.0**
	comp=Z,1.9nm,0.3s,mb4.3						
TIXI	**Tiksi**	**46.01**	**353**	eP	**P**	**02 55 46.6**	**0.0**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.5						
WRAB	**Tennant Creek**	**47.10**	**193**	eP	**P**	**02 55 55.5**	**+0.4**
WB2	**Warramunga Arr**	**47.11**	**193**	eP	**P**	**02 55 56.8**	**+1.6**
WRA	**Warramunga Arr**	**47.11**	**193**	P	**P**	**02 55 49.1**	**-6.1**
	comp=Z,1.9nm,0.8s,mb4.1,baz=16,slow=8.8,SNR=5.4						
WRA				LR	LR	03 16 12.5	
	comp=Z,14nm,18.4s,MS3.0,baz=230,slow=37						
FITZ	**Fitzroy Crossi**	**47.82**	**204**	eP	**P**	**02 55 56.4**	**-4.3**
	comp=Z,12nm,1.0s,mb4.9						
WMQ	**Urumqi**	**48.35**	**306**	P	**P**	**02 56 06.0**	**+1.2**
WMQ				AP	pP	02 56 21.6	+8.1
WMQ				PP	PP	02 57 58.9	+1.5
WMQ				S	**S**	**03 03 01.0**	**-2.2**
WMQ				AMB	AMB		
	comp=Z,11nm,1.6s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,71nm,5.0s						
WMQ				LR	LR		
	comp=N,261nm,21.0s,MS4.3						
WMQ				LR	LR		
	comp=E,196nm,19.9s,MS4.3						
WMQ				LR	LR		
	comp=Z,258nm,21.5s,MS4.2						
ASAR	**Alice Springs**	**50.82**	**192**	LR	LR	03 15 05.2	
	comp=Z,60nm,20.3s,MS3.6,baz=99,slow=33						
MKAR	**Makanchi Array**	**52.21**	**310**	P	**P**	**02 56 34.4**	**+0.3**
	comp=Z,5.6nm,0.7s,mb4.6,baz=91,slow=9.7,SNR=33						
SVW2	**Sparrevohn**	**52.88**	**32**	eP	**P**	**02 56 39.1**	**+0.1**
SVW2				epP	pP	02 56 46.6	-1.2
KDAK	**Kodiak Island**	**53.82**	**36**	P	**P**	**02 56 45.5**	**-0.4**
	comp=Z,8.9nm,1.1s,mb4.6,baz=199,slow=4.7,SNR=5.8						
KURK	**Kurchatov**	**54.66**	**315**	eP	**P**	**02 56 51.9**	**-0.1**
PMR	**Palmer**	**56.03**	**32**	eP	**P**	**02 57 01.4**	**-0.5**
PMR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
PMR	**Palmer**	**56.03**	**32**	eP	**P**	**02 57 01.4**	**-0.5**
	comp=Z,9.7nm,1.0s,mb4.8						
SML	**Sawmill**	**56.43**	**32**	eP	**P**	**02 57 05.2**	**+0.5**
COLA	**College**	**57.02**	**28**	eP	**P**	**02 57 11.0**	**+2.0**
COLA	**College**	**57.02**	**28**	eP	**P**	**02 57 10.1**	**+1.1**
	comp=Z,2.9nm,0.7s,mb4.4						
EYAK	**Cordova Ski Ar**	**57.58**	**33**	eP	**P**	**02 57 13.6**	**+0.7**
AAK	**Ala-Archa**	**58.04**	**305**	eP	**P**	**02 57 15.3**	**-0.8**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
AAK	**Ala-Archa**	**58.04**	**305**	eP	**P**	**02 57 15.3**	**-0.8**
	comp=Z,2.0nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**58.08**	**183**	LR	LR	03 22 28.7	
	comp=Z,136nm,20.4s,MS4.0,baz=207,slow=37						
STKA	**Stephens Creek**	**58.08**	**183**	eP	**P**	**02 57 16.4**	**0.0**
CHKZ	**Chkalovo**	**59.49**	**319**	eP	**P**	**02 57 25.6**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
CHKZ	**Chkalovo**	**59.49**	**319**	eP	**P**	**02 57 25.6**	**-0.6**
	comp=Z,6.0nm,0.9s,mb4.6						
BVAR	**Borovoye Array**	**59.67**	**318**	P	**P**	**02 57 27.5**	**0.0**
	comp=Z,8.7nm,0.8s,mb4.8,baz=89,slow=7.6,SNR=32						
BVAR				LR	LR	03 26 19.5	
	comp=Z,40nm,18.2s,MS3.6,baz=326,slow=39						
BRVK	**Borovoye**	**59.73**	**318**	eP	**P**	**02 57 28.0**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
BRVK	**Borovoye**	**59.73**	**318**	eP	**P**	**02 57 28.0**	**+0.2**
	comp=Z,5.7nm,0.9s,mb4.6						
ZRNK	**Zerenda**	**60.51**	**318**	eP	**P**	**02 57 32.7**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**60.51**	**318**	eP	**P**	**02 57 32.7**	**-0.5**
	comp=Z,3.9nm,0.9s,mb4.5						
INK	**Inuvik**	**62.87**	**24**	P	**P**	**02 57 49.1**	**+0.1**
	comp=Z,3.3nm,0.9s,mb4.5,baz=266,slow=8.7,SNR=5.8						
SVE	**Sverdlovsk**	**64.77**	**323**	eP	**P**	**02 58 01.0**	**-0.6**
SVE				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
ARU	**Arti**	**65.97**	**323**⇓	iP	**P**	**02 58 08.8**	**-0.6**
ARU				e		03 00 30.9	
ARU				ePPP		03 02 08.1	
ARU				eS	S	03 06 55.7	+0.6
ARU				eSS	SS	03 11 08.4	-2.1
ARU				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
ARU	**Arti**	**65.97**	**323**	eP	**P**	**02 58 09.5**	**+0.1**
AKTO	**Aktyubinsk**	**67.69**	**316**	LR	LR	03 31 56.1	
	comp=Z,45nm,18.3s,MS3.7,baz=312,slow=39						
YKA	**Yellowknife Ar**	**71.85**	**29**	P	**P**	**02 58 45.1**	**-0.8**
	comp=Z,1.4nm,0.9s,mb3.9,baz=294,slow=5.3,SNR=4.8						
YKA				LR	LR	03 33 00.9	
	comp=Z,30nm,18.4s,MS3.6,baz=200,slow=38						
JOF	**Joensuu**	**76.40**	**334**	ep	**P**	**02 59 11.2**	**-1.3**
OBN	**Obninsk**	**78.02**	**326**	eP	**P**	**02 59 21.2**	**-0.4**
OBN				e		03 02 23.3	
OBN				eS	S	03 09 21.3	+7.8
OBN				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.7						
CMB	**Columbia Colle**	**78.20**	**53**	eP	**P**	**02 59 22.5**	**-0.1**
CMB				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
CMB	**Columbia Colle**	**78.20**	**53**	eP	**P**	**02 59 22.5**	**0.0**
	comp=Z,9.8nm,1.2s,mb4.6						
FINES	**FINESS Array B**	**79.26**	**334**	P	**P**	**02 59 27.6**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.1,baz=76,slow=5.3,SNR=12						
FINES				LR	LR	03 39 23.5	
	comp=Z,36nm,18.1s,MS3.7,baz=24,slow=39						
FINES	**FINESS Array B**	**79.26**	**334**	iP	**P**	**02 59 28.0**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVAR	**Mina Array Bea**	**79.52**	**52**	P	**P**	**02 59 30.4**	**+0.6**
	comp=Z,2.1nm,0.9s,mb4.1,baz=274,slow=3.5,SNR=7.3						
KIV	**Kislovodsk**	**79.73**	**314**	eP	**P**	**02 59 31.9**	**+0.9**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
KIV	**Kislovodsk**	**79.73**	**314**	eP	**P**	**02 59 31.9**	**+0.9**
	comp=Z,4.8nm,0.4s,mb4.8						
HLID	**Hailey**	**79.91**	**46**	eP	**P**	**02 59 31.6**	**-0.3**
	comp=Z,1.0nm,0.8s,mb3.8						
ELK	**Elko**	**80.63**	**49**	eP	**P**	**02 59 35.8**	**0.0**
ELK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ELK	**Elko**	**80.63**	**49**	eP	**P**	**02 59 35.8**	**-0.1**
	comp=Z,1.1nm,0.9s,mb3.8						
FFC	**Flin Flon**	**81.33**	**32**	eP	**P**	**02 59 39.3**	**-0.2**
FFC				e*PP	pP	02 59 49.0	+0.3
FFC				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
FFC	**Flin Flon**	**81.33**	**32**	eP	**P**	**02 59 39.3**	**-0.3**
	comp=Z,5.8nm,1.1s,mb4.4						
FFC				epP	pP	02 59 49.0	+0.2
IMW	**Indian Meadow**	**81.98**	**45**	eP	**P**	**02 59 43.9**	**+0.9**
DUG	**Dugway**	**82.53**	**49**	eP	**P**	**02 59 44.3**	**-1.5**
DUG				e*PP	pP	02 59 52.2	-2.8
DUG				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
DUG	**Dugway**	**82.53**	**49**	eP	**P**	**02 59 44.3**	**-1.5**
	comp=Z,3.0nm,1.2s,mb4.2						
DUG				epP	pP	02 59 52.2	-2.8
ANN	**Anapa**	**82.65**	**317**	eP	**P**	**02 59 40.7**	**-5.7**
ANN				i*PP	pP	02 59 51.9	-3.7
ANN				e		03 02 50.2	
ANN				eS	S	03 09 52.9	-9.1
ANN				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1						
PDAR	**Pinedale Array**	**83.41**	**45**	P	**P**	**02 59 49.5**	**-0.9**
	comp=Z,0.3nm,0.9s,mb3.3,baz=291,slow=4.6,SNR=3.9						
PDAR				LR	LR	03 33 07.2	
	comp=Z,69nm,18.5s,MS4.1,baz=246,slow=33						
AKASG	**Malin Array Be**	**84.14**	**325**	P	**P**	**02 59 52.5**	**-1.6**
	comp=Z,4.1nm,0.9s,mb4.5,baz=44,slow=5.2,SNR=17						
AKASG	**Malin Array Be**	**84.14**	**325**	iP	**P**	**02 59 52.9**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKASG	**Malin Array Be**	**84.14**	**325**	P	**P**	**02 59 52.5**	**-1.6**
NB2	**NORSAR Subarra**	**84.82**	**339**	P	**P**	**02 59 56.3**	**-1.3**
	comp=Z,11nm,1.0s,mb5.0,baz=42,slow=5.1						
NOA	**NORSAR Array B**	**84.82**	**339**	P	**P**	**02 59 56.4**	**-1.2**
	comp=Z,5.4nm,0.9s,mb4.7,baz=43,slow=4.8,SNR=20						
NOA				LR	LR	03 42 05.3	
	comp=Z,30nm,18.5s,MS3.7,baz=15,slow=39						
NAO01	**NORSAR Array S**	**85.07**	**339**	eP	**P**	**02 59 57.2**	**-1.6**
	comp=Z,5.2nm,1.0s,mb4.6						
NAO01				epP	pP	03 00 04.5	-3.6
SUW	**Suwalki**	**85.07**	**329**	eP	**P**	**02 59 57.9**	**-0.9**
PV10	**Paradox Valley**	**85.97**	**49**	eP	**P**	**03 00 04.0**	**+0.7**
PV10				epP	pP	03 00 10.8	-1.8
RSSD	**Black Hills**	**86.12**	**42**	eP	**P**	**03 00 04.4**	**+0.3**
RSSD				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.3						
RSSD	**Black Hills**	**86.12**	**42**	eP	**P**	**03 00 04.4**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.4						
SMCO	**Snowmass**	**86.94**	**47**	eP	**P**	**03 00 08.6**	**+0.6**
	comp=Z,2.3nm,1.1s,mb4.3						
ULM	**Lac du Bonnet**	**87.00**	**34**	LR	LR	03 44 16.0	
	comp=Z,35nm,18.6s,MS3.8,baz=328,slow=39						
ULM	**Lac du Bonnet**	**87.00**	**34**	eP	**P**	**03 00 06.5**	**-1.8**
	comp=Z,4.2nm,1.2s,mb4.5						
BRTR	**Keskin Array B**	**87.69**	**314**	P	**P**	**03 00 10.7**	**-1.1**
	comp=Z,1.3nm,0.9s,mb4.2,baz=120,slow=3.4,SNR=4.4						
KWP	**Kalwaria**	**88.11**	**326**	eP	**P**	**03 00 12.9**	**-0.8**
ANMO	**Albuquerque**	**89.53**	**51**	eP	**P**	**03 00 21.1**	**+0.8**
ANMO	**Albuquerque**	**89.53**	**51**	eP	**P**	**03 00 20.7**	**+0.3**
	comp=Z,2.4nm,1.3s,mb4.4						
PSZ	**Piszkesteto**	**90.64**	**326**	eP	**P**	**03 00 24.7**	**-0.8**
PSZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.6						
PSZ	**Piszkesteto**	**90.64**	**326**	eP	**P**	**03 00 24.7**	**-0.8**
	comp=Z,2.2nm,0.6s,mb4.7						
AMTX	**Amarillo**	**92.83**	**49**	eP	**P**	**03 00 35.9**	**+0.2**
	comp=Z,4.5nm,0.9s,mb4.9						
GERES	**GERESS Array B**	**92.93**	**330**	P	**P**	**03 00 34.9**	**-1.3**
	comp=Z,0.5nm,0.7s,mb4.0,baz=59,slow=6.4,SNR=5.1						
PLCA	**Paso Flores**	**148.03**	**125**	PKPbc	PKPdf	03 07 05.5	+0.2
	comp=Z,1.6nm,0.6s,baz=254,slow=2.9,SNR=7.0						
PLCA	**Paso Flores**	**148.03**	**125**	PKIKP	PKPdf	03 07 05.6	+0.3
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PLCA	**Paso Flores**	**148.03**	**125**	ePKPbc	PKPdf	03 07 06.3	+1.0
LPAZ	**La Paz**	**148.37**	**78**	PKPbc	PKPbc	03 07 09.7	+0.3
	comp=Z,3.4nm,0.9s,baz=350,slow=5.6,SNR=16						
LPAZ	**La Paz**	**148.37**	**78**	ePKPbc	PKPbc	03 07 09.8	+0.4
SAML	**Samuel**	**148.79**	**61**	ePKPbc	PKPbc	03 07 09.6	-0.8

IDC 05 02:50:53.1±4.2**,250S**×**13607E,h0**^{km}**,mb3.8**/2**,mb1 4.0**/3**, mb1mx3.7**/11**,mbtmp3.8**/3**,ML3.3**/1**,Error ellipse: s-maj=196.0km s-min=28.4km az=81.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.77**	**199**	eP	Pn	02 53 30.7	+2.1
	12nm,0.8s						
WB2	**Warramunga Arr**	**17.42**	**185**	eP	Pn	02 54 59.3	+1.8
WRA	**Warramunga Arr**	**17.42**	**185**	P	Pn	02 54 56.2	-1.3
	0.1nm,0.3s,baz=4.8,slow=13,SNR=3.8						
ASAR	**Alice Springs**	**21.15**	**186**	P	P	02 55 40.8	+1.1
	5.0nm,0.8s,baz=9.7,slow=11,SNR=43						
ASPA	**Alice Springs**	**21.15**	**186**	eP	P	02 55 42.1	+2.4
MKAR	**Makanchi Array**	**68.03**	**323**	P	P	03 01 54.5	+0.2
	0.5nm,0.6s,baz=117,slow=6.8,SNR=3.4						

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*ROM **05** 03:02:54.4±0.4,4297N×16.14E,h10^{km},Md2.8/6,Ml2.7/7, Error ellipse: s-maj=7.3km s-min=2.0km az=111.0*
*NEIC **05** 03:02:54.4,4297N×16.14E,h10^{km},ML2.7(ROM),After ROM.*
*ISCJB **05** 03:02:58.0±0.5,4291N±003×1598E±005,h30^{km},Error ellipse: s-maj=5.7km s-min=4.8km az=7.6*
*CSEM **05** 03:02:57.5±0.3,4287N×1591E,h30^{km},ML3.6/3,Error ellipse: s-maj=11.0km s-min=4.6km az=72.0*
ISC 05 03:02:58.8±0.5**,4289N**±004×**1597E**±006**,h30**^{km}**,n20,** σ**0**^{s}**96**/26**,Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGRT	**San Giovanni R**	**1.15**	**189**	Pg	**Pn**	**03 03 17.1**	**-1.7**
SGRT				Sg	**Sn**	**03 03 33.9**	**+0.4**
	135nm,0.4s						
MSAG	**Monte S. Angel**	**1.18**	**182**	Pg	**Pn**	**03 03 17.7**	**-1.5**
MSAG				Sg	**Sn**	**03 03 35.4**	**+1.2**
	182nm,0.5s						
FGMS	**Monte Sant'Ang**	**1.18**	**181**	Pg	**Pn**	**03 03 17.7**	**-1.6**
FGMS				Sg	**Sn**	**03 03 35.2**	**+0.9**
	58nm,0.3s						
RGNG	**Rignano Grg**	**1.25**	**193**	Pg	**Pn**	**03 03 18.7**	**-1.5**
RGNG				Sg	**Sn**	**03 03 37.0**	**+1.0**
STON	**Ston**	**1.27**	**90**	i Pn	**Pn**	**03 03 17.1**	**-3.3**
STON				i Sg	**Sn**	**03 03 36.3**	**-0.2**
VCEL	**Villa Celiera**	**1.65**	**253**	Pg	**Pn**	**03 03 25.9**	**+0.2**
	56nm,0.5s						
SGTA	**Sant Agata di**	**1.81**	**195**	Pg	**Pn**	**03 03 28.4**	**+0.5**
	35nm,0.5s						
FAGN	**Fagnano**	**1.87**	**251**	Pg	**Pn**	**03 03 29.4**	**+0.7**
	56nm,0.4s						
SDI	**San Donato**	**1.99**	**234**	Pg	**Pn**	**03 03 31.1**	**+0.7**
	7.0nm,0.4s						
VVLD	**Villa Vallelon**	**2.02**	**240**	Pg	**Pn**	**03 03 30.8**	**0.0**
	125nm,1.5s						
NRCA	**Norcia**	**2.10**	**269**	Pg	**Pn**	**03 03 31.9**	**0.0**
	12nm,0.5s						
SNTG	**Esanatoglia**	**2.25**	**280**	Pg	**Pn**	**03 03 33.3**	**-0.7**
	5.0nm,0.4s						
ARV	**Arcevia**	**2.30**	**286**	Pg	**Pn**	**03 03 34.7**	**+0.1**
	24nm,1.4s						
FSSB	**Fossombrone**	**2.47**	**290**	Pg	**Pn**	**03 03 36.1**	**-0.8**
	24nm,0.8s						
BOJS	**Bojanci**	**2.66**	**349**	i Pn	**Pn**	**03 03 40.5**	**+0.9**
BOJS	**Bojanci**	**2.66**	**349**	i Pn	**Pn**	**03 03 40.5**	**+0.8**
BBLS	**Bajina Basta -**	**2.69**	**68**	i P	**Pn**	**03 03 41.0**	**+1.0**
DIVS	**Divcibare**	**3.16**	**66**	i P	**Pn**	**03 03 47.2**	**+0.7**
DIVS	**Divcibare**	**3.16**	**66**	P	**Pn**	**03 03 47.2**	**+0.7**
VOY	**Vojsko**	**3.48**	**335**	ePn	**Pn**	**03 03 51.0**	**+0.2**
VOY				eSn	**Sn**	**03 04 35.2**	**+4.3**
VOY				e		03 04 49.6	

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*IDC **05** 03:44:05.9±0.5,2051S×174.10W,h0^{km},mb4.9/13, mb1 5.0/14,mb1mx5.0/18,mbtmp4.9/14,ML4.9/1,MS5.1/17, Ms1 5.1/17,ms1mx5.0/21,Error ellipse: s-maj=21.8km s-min=14.8km az=147.0*
*ISCJB **05** 03:44:08.9±0.2,2065S±005×17404W±004,h27^{km}, mb5.3/110,MS5.4/167,Error ellipse: s-maj=7.8km s-min=3.8km az=125.9*
*BJI **05** 03:44:09.8,20.16S×17368W,h27^{km},mB5.7,mb5.2,Ms5.5, Msz5.3*
*NEIC **05** 03:44:10.3±0.1,2057S×174.13W,mb5.3/77,MS5.4/141, Error ellipse: s-maj=7.6km s-min=3.8km az=147.0*
*MOS **05** 03:44:10.8±1.2,2044S×174.19W,h33^{km},mb5.4/41, MS5.4/57,Error ellipse: s-maj=10.8km s-min=7.7km az=54.4*
*HRVD **05** 03:44:10.3±0.1,2068S×17348W,h19^{km},MW5.6/102, Centroid moment Tensor Solution. LP body waves: s86,c164;Mantle waves: s102,c251; Half duration: 1^{s}6 Moment tensor: Scale 10^{17}Nm; M_{rr}2.67±.04; $M_{\theta\theta}$0.30±.03; $M_{\phi\phi}$-2.98±.04; $M_{r\theta}$0.62±.08; $M_{\theta\phi}$-0.60±.03; $M_{\phi r}$2.05±.08; Best double couple: $M_0$3.58800×10^{17} NP1:ϕ_s185.00000°, δ27.00000°,λ81.00000°. NP2:ϕ_s14.00000°,δ63.00000°, λ94.00000°. Principal axes: T 3.3890, Plg71.0000°, Azm294.0000°; N 0.3940, Plg4.0000°, Azm192.0000°; P -3.7880, Plg18.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*SZGRF **05** 03:44:10.9,2088S×17354W,h37^{km},mb5.4,Tonga Islands*
*CSEM **05** 03:44:14.0,2096S×17483W,h33^{km},mb5.7*

ISC 05 03:44:11.1±0.2**,2062S**±005×**17403W**±004**,h29**^{km}**, h29**^{km}±1.2^{km}**:pP-P,n672,**σ**0**^{s}**80**/357**,mb5.3**/110**,MS5.4**/167**, 167C-152D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.01**	**18**	Pn	**Pn**	**03 45 46.0**	**-5.7**
	28nm,0.3s,baz=91,slow=3.1,SNR=9.8						
AFI				Sn	**Sn**	**03 46 59.2**	**-11**
	29nm,0.3s,baz=159,slow=17,SNR=4.0						
AFI				T		03 52 56.0	
	22nm,0.3s,baz=76,slow=20,SNR=6.4						
AFI	**Afiamalu**	**7.01**	**18**	ePn	**Pn**	**03 45 46.8**	**-5.0**
	232nm,0.6s						
RAO	**Raoul Island**	**9.29**	**202**	Sn	**Sn**	**03 48 00.6**	**-5.9**
	186nm,0.3s,baz=82,slow=21,SNR=12						
RAO				LR	LR	03 49 14.0	
	comp=Z,2µm,21.5s,baz=218,slow=33						
RAR	**Rarotonga**	**13.34**	**95**	Pn	**Pn**	**03 47 09.5**	**-8.9**
	25nm,0.3s,baz=251,slow=6.8,SNR=21						
RAR				Sn	Sn	03 49 22.0	-24
	5.6nm,0.3s,baz=82,slow=17,SNR=4.6						
RAR				LR	LR	03 51 44.3	
	comp=Z,8µm,18.9s,baz=193,slow=34						
RAR				T		04 01 18.8	
	6.6nm,0.3s,baz=79,slow=20,SNR=4.1						
RAR	**Rarotonga**	**13.34**	**95**	Pn	**Pn**	**03 47 09.5**	**-8.9**
RAR				Sn	Sn	03 49 22.1	-24
RAR				LR	LR	03 51 44.3	
DZM	**Mont Dzumac**	**18.25**	**262**⇑	iP	**Pn**	**03 48 24.0**	**+1.9**
DZM	**Mont Dzumac**	**18.25**	**262**	P	**Pn**	**03 48 23.5**	**+1.4**
	5.5nm,0.3s,baz=72,slow=19,SNR=35						
DZM				LR	LR	03 52 54.4	
	comp=Z,2µm,19.2s,baz=88,slow=29						
NOUC	**Port Laguerre**	**18.38**	**262**	eP	**Pn**	**03 48 25.0**	**+1.3**
URZ	**Urewera**	**19.18**	**202**	P	**Pn**	**03 48 31.3**	**-2.1**
	3.8nm,0.3s,baz=3.8,slow=4.9,SNR=15						
URZ				S	**Sn**	**03 51 55.4**	**-12**
	1.7nm,0.3s,baz=166,slow=13,SNR=4.0						
URZ				LR	LR	03 55 28.7	
	comp=Z,5µm,18.5s,baz=12,slow=35						
SNZO	**South Karori**	**22.74**	**202**	PFAKE		03 49 20.0	+9.4
SNZO				LR	LR		
	comp=Z,9µm,20.0s,MS5.2						
TBI	**Tubuai**	**22.94**	**101**	eLQ		03 53 22.5	
	comp=Z,6µm,25.2s						
TBI	**Tubuai**	**22.94**	**101**	eP	**P**	**03 49 09.3**	**-3.5**
	comp=Z,740nm,1.3s,mb6.0						
TBI				eLR	LR	03 54 35.2	
	comp=Z,12µm,28.5s,baz=275						
PAE	**Paea**	**23.28**	**87**	eP	**P**	**03 49 13.5**	**-2.9**
	comp=Z,228nm,1.3s,mb5.4						
PPT	**Papeete**	**23.30**	**87**	eP	**P**	**03 49 13.8**	**-2.8**
	comp=Z,128nm,1.4s,mb5.2						
PPT	**Papeete**	**23.30**	**87**	eLQ		03 53 33.7	
	comp=Z,9µm,24.0s						
PPT				eLR	LR	03 54 41.2	
	comp=Z,16µm,27.0s,baz=259						
PPT	**Papeete**	**23.30**	**87**	P	**P**	**03 49 14.3**	**-2.3**
	comp=Z,34nm,0.6s,mb5.0,baz=223,slow=4.3,SNR=5.7						
PPT				LR	LR	03 57 16.1	
	comp=Z,6µm,18.5s,MS5.1,baz=253,slow=34						
PPT	**Papeete**	**23.30**	**87**	eP	**P**	**03 49 14.8**	**-1.9**
PPT				epP		03 49 25.3	
TVO	**Taravao**	**23.57**	**87**	eP	**P**	**03 49 16.2**	**-3.0**
	comp=Z,213nm,1.3s,mb5.4						
PMOR	**Pomariorio Ree**	**25.49**	**82**	eP	**P**	**03 49 34.7**	**-2.0**
	comp=Z,70nm,1.2s,mb5.1						
VAH	**Vaihoa**	**25.67**	**82**	eP	**P**	**03 49 36.8**	**-1.5**
	comp=Z,117nm,1.2s,mb5.3						
RPZ	**Rata Peaks**	**26.18**	**205**	P	**P**	**03 49 43.3**	**+0.3**
	comp=Z,18nm,0.7s,mb4.8,baz=322,slow=2.3,SNR=12						
HNR	**Honiara**	**27.43**	**290**	LR	LR	03 59 09.0	
	comp=Z,4µm,19.1s,MS5.0,baz=178,slow=33						
HNR	**Honiara**	**27.43**	**290**	PFAKE		03 50 10.0	+16
HNR				LR	LR		
	comp=Z,4µm,21.0s,MS5.0						
ARMA	**Armidale**	**32.38**	**245**	eP	**P**	**03 50 38.2**	**+0.1**
TAOE	**Nuku Hiva Isla**	**34.71**	**75**	eS	**S**	**03 56 23.7**	**-2.8**
	comp=Z,2µm,22.8s						
TAOE				eLR	LR	03 59 54.0	
	comp=Z,21µm,28.1s,baz=251						
CNB	**Canberra Magne**	**35.27**	**238**	eP	**P**	**03 51 03.2**	**0.0**
	comp=Z,37nm,1.0s,mb5.3						
RKT	**Rikitea**	**36.26**	**101**	eLQ		03 59 25.0	
	comp=Z,1µm,26.8s						
RKT				eLR	LR	04 00 36.2	
	comp=Z,10µm,29.8s						
CTA	**Charters Tower**	**37.18**	**264**⇓	iP	**P**	**03 51 19.1**	**-0.3**
	comp=Z,13nm,0.5s,mb5.0						
CTA	**Charters Tower**	**37.18**	**264**⇓	iP	**P**	**03 51 19.1**	**-0.3**
CTA				pmax	pmax		
	comp=Z,13nm,0.5s						
CTAO	**Charters Tower**	**37.18**	**264**	eP	**P**	**03 51 18.7**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.3						
CTAO				MLR	MLR		
	comp=Z,3µm,19.0s,MS5.1						
CTAO	**Charters Tower**	**37.18**	**264**	eP	**P**	**03 51 18.7**	**-0.7**
	comp=Z,42nm,0.9s,mb5.3						
CTAO				LR	LR		
	comp=Z,3µm,19.0s,MS5.1						
TOO	**Toolangi**	**38.86**	**235**	eP	**P**	**03 51 32.3**	**-1.3**
	comp=Z,14nm,0.6s,mb4.9						
TOO	**Toolangi**	**38.86**	**235**	eP	**P**	**03 51 32.3**	**-1.3**
TOO				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.9						
PMG	**Port Moresby**	**39.01**	**281**	P	**P**	**03 51 33.4**	**-1.4**
	comp=Z,22nm,0.8s,mb4.9,baz=90,slow=8.1,SNR=4.4						
PMG	**Port Moresby**	**39.01**	**281**	P	**P**	**03 51 33.4**	**-1.5**
PMG				pmax	pmax		
	comp=Z,23nm,0.8s						
PMG	**Port Moresby**	**39.01**	**281**	eP	**P**	**03 51 34.1**	**-0.8**
	comp=Z,55nm,1.0s,mb5.2						
PMG				LR	LR		
	comp=Z,3µm,19.0s,MS5.2						
TAU	**Tasmania Unive**	**39.20**	**227**	PFAKE		03 51 50.0	+14
TAU				LR	LR		
	comp=Z,3µm,19.0s,MS5.2						
PTCN	**Pitcairn Islan**	**40.60**	**105**	PFAKE		03 52 00.0	+12
PTCN				LR	LR		
	comp=Z,5µm,19.0s,MS5.4						
STKA	**Stephens Creek**	**41.09**	**245**	eP	**P**	**03 51 51.1**	**-1.1**
	comp=Z,17nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**41.09**	**245**	P	**P**	**03 51 51.9**	**-0.3**
	comp=Z,19nm,0.7s,mb4.8,baz=85,slow=9.5,SNR=30						
STKA				LR	LR	04 07 37.6	
	comp=Z,3µm,18.3s,MS5.2,baz=79,slow=34						
WAKE	**Wake Island**	**43.94**	**333**	PFAKE		03 52 30.0	+15
WAKE				LR	LR		
	comp=Z,2µm,19.0s,MS5.1						
KIP	**Kipapa**	**44.62**	**21**	eP	**P**	**03 52 20.8**	**0.0**
KIP				pmax	pmax		
	comp=Z,86nm,1.0s,mb5.5						
KIP	**Kipapa**	**44.62**	**21**	eP	**P**	**03 52 20.8**	**+0.1**
	comp=Z,86nm,1.0s,mb5.5						
AS31	**Alice Springs**	**48.11**	**256**	eP	**P**	**03 52 47.2**	**-0.9**
ASAR	**Alice Springs**	**48.11**	**256**	P	**P**	**03 52 46.2**	**-1.9**
	comp=Z,18nm,0.7s,mb5.2,baz=99,slow=7.6,SNR=97						
ASAR				PcP	PcP	03 54 16.8	+1.3
	comp=Z,11nm,0.8s,baz=105,slow=4.4,SNR=4.9						
ASAR				S	**S**	**03 59 43.2**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=97,slow=15,SNR=6.2						
ASAR				LR	LR	04 11 37.4	
	comp=Z,2µm,18.1s,MS5.1,baz=3.1,slow=34						
ASAR	**Alice Springs**	**48.11**	**256**	P	**P**	**03 52 46.2**	**-1.9**
ASAR						03 54 16.8	
ASAR				S	**S**	**03 59 43.2**	**-1.7**
ASPA	**Alice Springs**	**48.11**	**256**	eP	**P**	**03 52 47.2**	**-1.0**
WB2	**Warramunga Arr**	**48.25**	**261**	eP	**P**	**03 52 47.7**	**-1.6**
WRAB	**Tennant Creek**	**48.25**	**261**	eP	**P**	**03 52 47.3**	**-2.0**
WRAB				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.3						
WRAB				MLR	MLR		
	comp=Z,3µm,19.0s,MS5.3						
WRAB	**Tennant Creek**	**48.25**	**261**	eP	**P**	**03 52 47.3**	**-2.0**
	comp=Z,18nm,0.6s,mb5.3						
WRAB				LR	LR		
	comp=Z,3µm,19.0s,MS5.3						
WRA	**Warramunga Arr**	**48.26**	**261**	P	**P**	**03 52 47.2**	**-2.2**
	comp=Z,7.1nm,0.6s,mb4.9,baz=93,slow=5.7,SNR=32						
WRA				PcP	PcP	03 54 17.4	+1.3
	comp=Z,4.8nm,0.8s,baz=93,slow=3.5,SNR=4.2						
WRA				LR	LR	04 12 42.9	
	comp=Z,3µm,18.1s,MS5.3,baz=90,slow=36						
WRA	**Warramunga Arr**	**48.26**	**261**	P	**P**	**03 52 47.2**	**-2.1**
WRA						03 54 17.4	

MIDW Midway 48.65 356 *e*P P 03 52 52.6 +0.2
comp=Z,25nm,0.6s,mb5.4
MIDW LR LR
comp=Z,3μm,20.0s,MS5.3
KAKA Kakadu 51.69 270 ⇓*i*P P 03 53 14.4 -1.0
comp=Z,75nm,1.2s,mb5.5
FORT Forrest 52.66 247 ⇓*i*P P 03 53 21.6 -1.0
comp=Z,78nm,0.7s,mb5.7
DRV Dumont d'Urvil 54.52 201 P P 03 53 36.0 -0.2
DRV S S 04 01 20.0 +6.6
FITZ Fitzroy Crossi 56.69 261 ⇓*i*P P 03 53 51.4 -0.4
comp=Z,42nm,1.5s,mb5.2
SBA Scott Base 58.03 185 *e*P P 03 54 03.5 +2.3
SBA pmax pmax
comp=Z,295nm,1.9s,mb6.0
SBA MLR MLR
comp=Z,2μm,19.0s,MS5.3
SBA Scott Base 58.03 185 *e*P P 03 54 03.5 +2.3
comp=Z,295nm,1.9s,mb6.0
SBA LR LR
comp=Z,2μm,19.0s,MS5.3
VNDA Vanda 58.15 186 LR LR 04 14 46.8
comp=Z,1μm,20.2s,MS5.0,baz=24,slow=32
VNDA Vanda 58.15 186 *e*P P 03 54 03.5 +1.4
VNDA pmax pmax
comp=Z,14nm,0.3s
VNDA MLR MLR
comp=Z,2μm,19.0s
VNDA Vanda 58.15 186 *e*P P 03 54 03.5 +1.3
comp=Z,14nm,0.3s,mb5.5
VNDA LR LR
comp=Z,2μm,19.0s,MS5.3
RPN Rapa Nui 58.96 110 PFAKE 03 54 20.0 +12
RPN LR LR
comp=Z,4μm,19.0s,MS5.5
KLBR Kellerberrin 61.37 245 *e*P P 03 54 25.3 +1.1
comp=Z,49nm,0.7s,mb5.7
MBWA Marble Bar 61.45 257 *e*P P 03 54 24.3 -0.5
comp=Z,22nm,0.6s,mb5.5
MBWA LR LR
comp=Z,6μm,20.0s,MS5.8
NWAO Narrogin (SRO) 61.63 243 PFAKE 03 54 40.0 +14
NWAO LR LR
comp=Z,2μm,20.0s,MS5.3
MUN Mundaring 62.62 244 ⇓*i*P P 03 54 33.8 +1.2
DAV Davao City (W) 65.38 288 PFAKE 03 55 00.0 +9.2
DAV LR LR
comp=Z,2μm,19.0s,MS5.2
CASY Casey 65.45 205 *e*P P 03 54 51.0 -0.2
QSPA South Pole Qui 69.45 180 *e*P P 03 55 17.4 +0.8
comp=Z,61nm,1.0s,mb5.5
QSPA LR LR
comp=Z,2μm,19.0s,MS5.3
MIR Mirnyy 72.45 205 *e*P P 03 55 36.5 +1.8
MIR pmax pmax
comp=Z,300nm,1.5s,mb6.0
MJAR Matsushiro Arr 72.56 321 P P 03 55 34.7 -0.7
comp=Z,18nm,0.8s,mb5.1,baz=157,slow=6.3,SNR=21
MJAR LR LR 04 21 57.2
comp=Z,850nm,19.4s,MS5.0,baz=160,slow=31
MJAR Matsushiro Arr 72.56 321 P P 03 55 34.7 -0.7
MJAR LR LR 04 21 57.2
MAJO Matsushiro 72.57 321 *e*P P 03 55 35.4 0.0
MAJO pmax pmax
comp=Z,29nm,0.8s,mb5.3
MAJO MLR MLR
comp=Z,887nm,20.0s,MS5.0
MAJO Matsushiro 72.57 321 *e*P P 03 55 35.4 0.0
comp=Z,29nm,0.8s,mb5.3
MAJO LR LR
comp=Z,887nm,20.0s,MS5.0
MAT Matsushiro 72.57 321 P P 03 55 35.1 -0.3
MAT S S 04 05 01.0 +2.9
MAT Matsushiro 72.57 321 *e*P P 03 55 35.0 -0.4
MAT *e*S S 04 05 01.0 +2.9
MAT pmax pmax
comp=Z,16nm,0.8s,mb5.0
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.9
MAT Matsushiro 72.57 321 *e*P P 03 55 35.0 -0.4
comp=Z,16nm,0.8s,mb5.0
MAT *e*S S 04 05 01.0 +2.9
MAT LR LR
comp=Z,710nm,20.0s,MS4.9
KKM Kota Kinabalu 73.39 283 *e*P P 03 55 39.0 -1.4
SMY Shemya 73.76 353 PFAKE 03 55 50.0 +7.5
SMY LR LR
comp=Z,4μm,20.0s,MS5.7
ERM Erimo 73.82 328 PFAKE 03 55 50.0 +7.2
ERM LR LR
comp=Z,20nm,19.0s
YUK Yuzh-Kuril'sk 74.08 331 *e*P P 03 55 43.0 -1.3
YUK S S 04 05 21.0 +5.8
YUK *e*PS 04 05 51.0
UNV Unalaska Valle 74.44 5 PFAKE 03 56 00.0 +14
UNV LR LR
comp=Z,4μm,21.0s,MS5.7
SNCC San Nicolas Is 74.65 45 PFAKE 03 56 00.0 +12
SNCC LR LR
comp=Z,2μm,19.0s,MS5.4
SNCC San Nicolas Is 74.65 45 ⇓S S 04 05 30.1 +8.5
baz=75
V04C Ramage Ranch, 75.26 42 ⇓P P 03 55 51.8 +0.7
baz=76
V04C ⇑S S 04 05 34.7 +6.3
baz=76
FARB Farallon Islan 75.28 40 ⇓S S 04 05 35.5 +6.9
baz=76
HAST UC Hastings Re 75.31 41 ⇑P P 03 55 52.1 +0.7
baz=76
HAST ⇑S S 04 05 33.6 +4.6
baz=76
JRSC Jasper Ridge 75.54 40 ⇑P P 03 55 53.0 +0.2
baz=76
SAO San Andreas Ge 75.61 41 PFAKE 03 56 00.0 +6.8
SAO LR LR
comp=Z,3μm,19.0s,MS5.7
PKD Parkfield 75.66 42 ⇓P P 03 55 53.2 -0.3
baz=76
PKD ⇓S S 04 05 37.7 +4.8
baz=76
PTRM Twissleman Ran 75.69 43 *e*P P 03 55 54.2 +0.6
PTRM *epP* pP 03 56 03.5 +0.6
SKR Severo-Kuril's 75.71 341 *e*P P 03 55 48.0 -5.8
SKR *e* 03 56 03.5
SKR *e*S S 04 05 35.0 +1.6
SKR *e*PS 04 06 24.0
SKR pmax pmax
comp=N,1μm,8.0s
SKR pmax pmax
comp=Z,1μm,8.0s
SKR pmax pmax
comp=Z,260nm,1.3s,mb6.0
SKR smax
comp=N,2μm,14.0s
SKR smax
comp=E,2μm,14.0s
SKR MLR MLR
comp=N,2μm,18.0s,MS5.6
SKR MLR MLR
comp=E,1μm,18.0s,MS5.6
SKR MLR MLR
comp=Z,2μm,18.0s,MS5.5
U04C Hernandez Rese 75.77 42 ⇑P P 03 55 54.9 +0.8
baz=76,SNR=5.9
U04C ⇓S S 04 05 39.7 +5.6
baz=76
PACP Pacheco Peak 75.87 41 ⇓P P 03 55 55.2 +0.5
baz=76,SNR=8.4
PACP ⇓S S 04 05 41.0 +5.8
baz=76
WENL Wente Brothers 75.98 40 ⇑P P 03 55 55.8 +0.5
baz=76
WENL ⇑S S 04 05 43.0 +6.7
baz=76
OSI Osito Adit 76.01 44 ⇑P P 03 55 56.1 +0.6
baz=76
OSI ⇑S S 04 05 39.6 +3.0
baz=76
CVS Carmenet Viney 76.02 39 ⇓S S 04 05 42.2 +5.4
baz=76
NSHM Saint Helena R 76.05 39 *e*P P 03 55 57.1 +1.4
109C Camp Elliot, M 76.06 47 ⇓P P 03 55 56.0 +0.2
baz=76
109C ⇓S S 04 05 42.0 +4.8
baz=76

HOPS Hopland 76.09 39 PFAKE 03 56 10.0 +14
HOPS LR LR
comp=Z,3μm,19.0s,MS5.6
BDM Black Diamond 76.12 40 ⇑S S 04 05 42.8 +4.8
baz=76
S04C Ingram Canyon, 76.16 41 ⇓P P 03 55 56.5 +0.2
baz=76,SNR=5.5
S04C ⇑S S 04 05 42.6 +4.3
baz=76
P01C Double 8 Ranch 76.25 38 ⇓S S 04 05 42.5 +3.1
baz=76
MNRC McLaughlin Nat 76.38 39 ⇑P P 03 55 57.9 +0.3
baz=77
MNRC ⇓S S 04 05 45.3 +4.5
baz=77
O01C Eel River Cons 76.42 37 ⇓S S 04 05 45.9 +4.7
baz=77
Q03C Winters 76.48 39 ⇑P P 03 55 58.5 +0.4
baz=77
S05C Merced 76.67 41 ⇓P P 03 55 59.1 -0.1
baz=77
S05C ⇓S S 04 05 47.3 +3.3
baz=77
GASB Alder Springs 76.73 38 ⇓P P 03 56 00.1 +0.5
baz=77,SNR=5.9
GASB ⇓S S 04 05 49.4 +4.8
baz=77
JCC Jacoby Creek 76.76 37 ⇓S S 04 05 48.5 +3.6
baz=77
ISA Isabella 76.81 44 *e*P P 03 56 00.8 +0.8
ISA pmax pmax
comp=Z,41nm,1.3s,mb5.2
ISA MLR MLR
comp=Z,518nm,19.0s,MS4.9
ISA Isabella 76.81 44 *e*P P 03 56 00.8 +0.8
comp=Z,42nm,1.3s,mb5.2
ISA LR LR
comp=Z,518nm,19.0s,MS4.9
ISA Isabella 76.81 44 ⇑P P 03 55 60.0 0.0
baz=77,SNR=8.2
ISA ⇑S S 04 05 49.1 +3.6
baz=77
T06C Millerton Lake 76.85 42 ⇑P P 03 56 00.3 +0.1
baz=77
T06C ⇑S S 04 05 49.3 +3.4
baz=77
NACB Ninganchiao 76.85 302 *e*P P 03 56 00.3 0.0
R04C Big Horse Ranc 76.88 40 ⇓S S 04 05 50.6 +4.3
baz=77
PFO Pinyon Flat Ob 76.92 46 P P 03 56 01.8 +1.2
comp=Z,98nm,1.2s,mb5.6,SNR=8.1
PFO Pinyon Flat Ob 76.92 46 *e*P P 03 56 00.7 +0.1
PFO pmax pmax
comp=Z,35nm,1.4s,mb5.1
PFO MLR MLR
comp=Z,1μm,19.0s,MS5.2
PFO Pinyon Flat Ob 76.92 46 *e*P P 03 56 00.7 +0.1
comp=Z,35nm,1.4s,mb5.1
PFO LR LR
comp=Z,1μm,19.0s,MS5.2
PFO Pinyon Flat Ob 76.92 46 ⇑P P 03 56 00.7 0.0
baz=77,SNR=14
PFO ⇑S S 04 05 50.0 +3.4
baz=77
Q04C Lincoln 76.99 40 ⇓P P 03 56 00.9 -0.1
baz=77
SUTB Sutter Butte 77.00 39 ⇑P P 03 56 00.5 -0.6
baz=77
SUTB ⇓S S 04 05 50.5 +3.0
baz=77
O02C Red Bluff 77.03 38 ⇓P P 03 56 01.1 -0.1
baz=77
O02C ⇑S S 04 05 51.8 +3.9
baz=77
PET Petropavlovsk 77.07 343 *c i*P P 03 56 00.8 -0.7
PET *e*S S 04 05 45.9 -2.4
PET *e*PS 04 06 26.2
PET pmax pmax
comp=Z,500nm,10.5s
PET pmax pmax
comp=Z,800nm,11.3s
PET smax
comp=E,800nm,16.4s
PET smax
comp=N,700nm,14.1s
PET MLR MLR
comp=Z,2μm,18.0s,MS5.4
PET Petropavlovsk 77.07 343 *e*P P 03 56 00.1 -1.3
PET LR LR
comp=Z,2μm,19.0s,MS5.4
CMB Columbia Colle 77.07 41 *e*P P 03 56 01.4 -0.1
CMB pmax pmax
comp=Z,22nm,1.2s,mb5.0
CMB MLR MLR
comp=Z,3μm,19.0s,MS5.6
CMB Columbia Colle 77.07 41 *e*P P 03 56 01.4 -0.1
comp=Z,22nm,1.2s,mb5.0
CMB LR LR
comp=Z,3μm,19.0s,MS5.6
CMB Columbia Colle 77.07 41 ⇑P P 03 56 01.1 -0.4
baz=77,SNR=12
CMB ⇓S S 04 05 51.6 +3.3
baz=77
HELL Mitchell Peak, 77.08 43 ⇓P P 03 56 00.8 -0.7
baz=77,SNR=9.0
HELL ⇑S S 04 05 50.9 +2.6
baz=77
KSM Kuching 77.11 277 *e*P P 03 56 02.4 +0.7
N02C Big Bar 77.17 37 ⇓P P 03 56 02.0 0.0
baz=77
N02C ⇑S S 04 05 53.6 +4.2
baz=77
OHCM Honcut 77.25 39 *e*P P 03 56 02.2 -0.2
YHNB Yeheng 77.27 303 *e*P P 03 56 03.1 +0.5
KCC Kaiser Creek 77.29 42 ⇓P P 03 56 03.2 +0.5
baz=78
KCC ⇑S S 04 05 54.2 +3.6
baz=78
S06C San Francisco 77.31 41 ⇓P P 03 56 02.6 -0.2
baz=78
LAVA Lava Cap Winer 77.32 40 ⇓P P 03 56 02.7 -0.1
baz=78
LAVA ⇑S S 04 05 54.8 +3.8
baz=78
TATO Taipei 77.33 303 *e*P P 03 56 02.4 -0.5
comp=Z,180nm,1.4s,mb5.8
TATO LR LR
comp=Z,2μm,19.0s,MS5.5
O03C Acorn Hollow, 77.35 38 ⇓P P 03 56 02.5 -0.5
baz=78
O03C ⇓S S 04 05 54.6 +3.2
baz=78
ORV Oroville 77.38 39 ⇓P P 03 56 02.7 -0.5
baz=78
ORV ⇓S S 04 05 55.8 +4.2
baz=78
M01C Crescent City 77.41 36 ⇑P P 03 56 03.5 +0.2
baz=78
M01C ⇑S S 04 05 56.0 +4.0
baz=78
WDC Whiskeytown Da 77.44 38 *e*P P 03 56 03.8 +0.2
WDC pmax pmax
comp=Z,24nm,1.3s,mb5.0
WDC MLR MLR
comp=Z,3μm,19.0s,MS5.6
WDC Whiskeytown Da 77.44 38 *e*P P 03 56 03.8 +0.2
comp=Z,24nm,1.3s,mb5.0
WDC LR LR
comp=Z,3μm,19.0s,MS5.6
WDC Whiskeytown Da 77.44 38 ⇓P P 03 56 03.4 -0.1
baz=78,SNR=7.8
WDC ⇓S S 04 05 55.1 +2.8
baz=78
GSC Goldstone 77.68 45 *e*P P 03 56 05.4 +0.5
GSC *e*PP pP 03 56 12.8 -1.3
GSC Goldstone 77.68 45 ⇑P P 03 56 04.5 -0.3
baz=78,SNR=8.9
GSC ⇑S S 04 05 57.8 +2.9
baz=78
R05C Kirkwood Meado 77.69 40 ⇑P P 03 56 04.9 0.0
baz=78
R05C ⇓S S 04 05 58.9 +3.9
baz=78
GLA Glamis 77.72 48 *e*P P 03 56 05.8 +0.7
GLA Glamis 77.72 48 ⇓P P 03 56 05.4 +0.3
baz=78,SNR=17
GLA ⇑S S 04 05 58.3 +3.0
baz=78

YSS Yuzh-Sakhalins 77.72 331 *α i*P P 03 56 05.0 -0.1
YSS *e* pP 03 56 13.0 -1.4
YSS *i* *SP sP 03 56 20.0 +2.2
YSS *e*S S 04 05 54.0 -1.4
YSS *e*PS 04 06 26.0
YSS *e*PPS 04 06 47.0
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.3
YSS MLR MLR
comp=N,1μm,17.0s,MS5.4
YSS MLR MLR
comp=Z,1μm,17.0s,MS5.2
YSS MLR MLR
comp=E,1μm,18.0s,MS5.4
YSS Yuzh-Sakhalins 77.72 331 *e*P P 03 56 05.2 +0.1
comp=E,37nm,0.8s,mb5.4
YSS LR LR
comp=Z,2μm,20.0s,MS5.5
MTUM Tungsten Hills 77.78 42 *e*P P 03 56 06.2 +0.8
MTUM *epP* pP 03 56 18.6 +3.9
M02C Callahan 77.80 37 ⇑P P 03 56 06.0 +0.4
baz=78,SNR=6.4
M02C ⇓S S 04 05 59.6 +3.3
baz=78
TIN Tinemaha 77.81 43 ⇓S S 04 05 59.9 +3.6
baz=78
L02A Cave Junction 77.90 36 ⇓P P 03 56 06.6 +0.6
baz=78
L02A ⇓S S 04 06 01.9 +4.6
baz=78
R07C Lee Vining 77.93 41 ⇓P P 03 56 06.5 +0.2
baz=78
R07C ⇓S S 04 06 02.4 +4.7
baz=78
R06C Coleville 77.95 41 ⇓P P 03 56 06.7 +0.3
baz=78,SNR=9.5
R06C ⇓S S 04 06 02.1 +4.3
baz=78
O05C Quincy 77.98 39 ⇑P P 03 56 06.7 +0.2
baz=78
O05C ⇑S S 04 06 00.2 +2.0
baz=78
YBH Yreka Blue Hor 78.11 37 *e*P P 03 56 07.9 +0.6
YBH pmax pmax
comp=Z,14nm,1.1s
YBH MLR MLR
comp=Z,3μm,19.0s
YBH Yreka Blue Hor 78.11 37 *e*P P 03 56 07.9 +0.6
comp=Z,14nm,1.1s,mb4.8
YBH LR LR
comp=Z,3μm,19.0s,MS5.6
YBH Yreka Blue Hor 78.11 37 ⇓P P 03 56 07.3 +0.1
baz=78,SNR=6.7
YBH ⇓S S 04 06 01.6 +2.1
baz=78
O04C Chester 78.11 39 ⇓P P 03 56 06.8 -0.5
baz=78
O04C ⇑S S 04 06 01.3 +1.7
baz=78
HATC Hat Creek Radi 78.22 38 ⇑P P 03 56 07.7 -0.2
baz=78,SNR=5.8
HATC ⇓S S 04 06 04.0 +3.2
baz=78
WCN Washoe City 78.25 40 ⇓P P 03 56 08.2 +0.1
baz=78
WCN ⇓S S 04 06 04.9 +3.7
baz=78
Y12C Blythe 78.32 47 ⇓P P 03 56 08.3 -0.1
baz=78,SNR=10
Y12C ⇑S S 04 06 05.2 +3.4
baz=78
TUQ Turquoise Mtn. 78.34 45 ⇑P P 03 56 08.6 0.0
baz=79
TUQ ⇓S S 04 06 05.7 +3.6
baz=79
K02A Glendale 78.37 35 ⇑P P 03 56 08.2 -0.5
baz=79
K02A ⇑S S 04 06 06.7 +4.4
baz=79
P06A Stead Airport, 78.41 40 ⇓P P 03 56 09.1 +0.2
baz=79
P06A ⇑S S 04 06 06.1 +3.3
baz=79
ELFS Eagle Lake Fie 78.52 39 ⇑P P 03 56 09.5 0.0
baz=79
ELFS ⇓S S 04 06 07.7 +3.8
baz=79
HUMO Hull Mountain 78.56 36 *e*P P 03 56 10.2 +0.4
comp=Z,27nm,1.5s,mb5.0
HUMO LR LR
comp=Z,3μm,19.0s,MS5.6
HUMO Hull Mountain 78.56 36 ⇑P P 03 56 10.0 +0.2
baz=79,SNR=6.8
HUMO ⇑S S 04 06 07.9 +3.6
baz=79
NVAR Mina Array Bea 78.60 41 P P 03 56 10.5 +0.5
comp=Z,14nm,1.0s,mb4.9,baz=206,slow=5.8,SNR=44
M04C Macdoel 78.63 37 ⇑P P 03 56 10.1 0.0
baz=79
M04C ⇓S S 04 06 08.0 +2.8
baz=79
U10A Ash Meadows, A 78.65 44 ⇑P P 03 56 10.5 +0.3
baz=79
U10A ⇑S S 04 06 10.5 +5.2
baz=79
MNV Mina 78.70 42 *e*P P 03 56 10.7 +0.2
MNV pmax pmax
comp=Z,46nm,1.3s,mb5.2
MNV MLR MLR
comp=Z,3μm,19.0s,MS5.7
MNV Mina 78.70 42 *e*P P 03 56 10.7 +0.2
comp=Z,46nm,1.3s,mb5.2
MNV LR LR
comp=Z,3μm,19.0s,MS5.7
J02A Umpqua 78.73 35 ⇓P P 03 56 10.6 -0.1
baz=79
PAHR Pah Rah Range 78.73 40 *e*P P 03 56 11.4 +0.7
comp=Z,38nm,1.3s,mb5.2
M05C Lookout 78.75 38 ⇓P P 03 56 10.9 +0.1
baz=79,SNR=6.5
M05C ⇑S S 04 06 10.4 +4.0
baz=79
O06A Flanigan 78.76 39 P P 03 56 10.9 +0.1
baz=79,SNR=7.5
O06A ⇑S S 04 06 09.7 +3.2
baz=79
S09A Goldfield 78.85 43 ⇓P P 03 56 11.3 0.0
baz=79,SNR=15
S09A ⇑S S 04 06 11.6 +4.1
baz=79
L04A Klamath Falls 78.86 37 ⇑P P 03 56 11.2 -0.3
baz=79
L04A ⇑S S 04 06 11.4 +3.8
baz=79
V11A Goodsprings 78.90 45 ⇑P P 03 56 11.9 +0.3
baz=79,SNR=9.5
V11A ⇑S S 04 06 10.8 +2.8
baz=79
P07A Fallon 78.93 40 ⇑P P 03 56 11.8 0.0
baz=79
P07A ⇓S S 04 06 12.1 +3.7
baz=79
W12A Cal Nev Ari 78.97 46 ⇓P P 03 56 12.3 +0.3
baz=79
W12A ⇓S S 04 06 12.9 +4.2
baz=79
TPNV Topopah Spring 79.01 44 *e*P P 03 56 12.7 +0.5
TPNV pmax pmax
comp=Z,40nm,1.3s,mb5.2
TPNV MLR MLR
comp=Z,3μm,19.0s,MS5.6
TPNV Topopah Spring 79.01 44 *e*P P 03 56 12.7 +0.4
comp=Z,40nm,1.3s,mb5.2
TPNV LR LR
comp=Z,3μm,19.0s,MS5.6
I02A Mapleton 79.03 34 ⇑P P 03 56 12.8 +0.4
baz=79
I02A ⇓S S 04 06 11.6 +2.2
baz=79
M06C Likely Place G 79.04 38 ⇑P P 03 56 12.7 +0.3
baz=79,SNR=7.8
M06C ⇓S S 04 06 12.3 +2.8
baz=79
J03A Ideyld Park 79.06 35 ⇓S S 04 06 14.4 +4.7
baz=79
TPH Tonopah 79.06 42 *e*P P 03 56 13.1 +0.6
TPH pmax pmax
comp=Z,42nm,1.1s,mb5.3

TPH MLR MLR
comp=Z,2μm,19.0s,MS5.5
TPH Tonopah 79.06 42 *e*P **P 03 56 13.1 +0.6**
comp=Z,42nm,1.1s,mb5.3
TPH LR LR
comp=Z,2μm,19.0s,MS5.5
Q08A Gabbs 79.10 41 ⇓P **P 03 56 12.8 +0.1**
baz=79,SNR=12
Q08A ⇑S S 04 06 15.1 +5.0
baz=79
Z14A Wintersburg 79.20 48 ⇑P **P 03 56 13.6 +0.4**
baz=79,SNR=7.5
Z14A ⇑S S 04 06 15.2 +4.1
baz=79
V12A Nelson 79.22 45 ⇓P **P 03 56 13.5 +0.1**
baz=79,SNR=13
V12A ⇑S S 04 06 16.4 +5.0
baz=79
K04A Chilquin 79.24 36 ⇓P **P 03 56 13.8 +0.3**
baz=80
K04A ⇑S S 04 06 15.5 +3.9
baz=80
R09A Tonopah 79.26 42 ⇓P **P 03 56 13.9 +0.3**
baz=80,SNR=20
R09A ⇑S S 04 06 15.6 +3.8
baz=80
U11A Corn Creek 79.27 45 ⇓P **P 03 56 13.8 +0.2**
baz=80
U11A ⇑S S 04 06 17.1 +5.1
baz=80
I03A Eugene 79.30 35 ⇓P **P 03 56 13.9 +0.1**
baz=80
I03A ⇓S S 04 06 16.6 +4.3
baz=80
O07A Toulon 79.32 40 ⇓P **P 03 56 14.0 0.0**
baz=80,SNR=15
O07A ⇓S S 04 06 16.7 +4.2
baz=80
115A Sonoran Desert 79.34 49 ⇓P **P 03 56 14.1 +0.1**
baz=80
115A ⇓S S 04 06 16.4 +3.7
baz=80
L05A Lakeview 79.37 37 ⇓P **P 03 56 14.5 +0.3**
baz=80,SNR=8.4
L05A ⇑S S 04 06 18.4 +5.3
baz=80
Y14A Wickenburg 79.47 48 ⇑P **P 03 56 15.2 +0.5**
baz=80,SNR=7.6
Y14A ⇓S S 04 06 19.2 +5.1
baz=80
P08A Dixie Valley 79.52 41 ⇓S S 04 06 19.8 +5.3
baz=80
Q09A Carvers 79.55 42 ⇓P **P 03 56 15.2 +0.1**
baz=80
Q09A ⇑S S 04 06 20.0 +5.1
baz=80
QZH Quanzhou 79.61 302 ⇑*i*P **P 03 56 16.3 +0.8**
QZH AMB AMB
comp=Z,100nm,1.2s,mb5.6
QZH AMB AMB
comp=Z,1μm,4.6s
QZH LR LR
comp=N,5μm,31.0s
QZH LR LR
comp=E,2μm,18.5s
QZH LR LR
comp=Z,3μm,21.4s
116A Eloy 79.64 49 ⇑P **P 03 56 15.8 +0.1**
baz=80
116A ⇑S S 04 06 21.5 +5.6
baz=80
COR Corvallis 79.70 34 PFAKE 03 56 30.0 +14
COR LR LR
comp=Z,5μm,19.0s,MS5.9
H03A Soap Creek Ran 79.77 34 ⇑P **P 03 56 16.5 +0.1**
baz=80
H03A ⇑S S 04 06 20.1 +2.9
baz=80
R10A Warm Springs 79.77 43 ⇓P **P 03 56 16.8 +0.4**
baz=80,SNR=13
R10A ⇓S S 04 06 21.9 +4.6
baz=80
U12A Valley of Fire 79.83 45 ⇑P **P 03 56 17.1 +0.4**
baz=80,SNR=20
U12A ⇑S S 04 06 23.3 +5.3
baz=80
X14A Yava 79.84 47 ⇓P **P 03 56 17.1 +0.3**
baz=80,SNR=12
X14A ⇑S S 04 06 23.7 +5.6
baz=80
M07A Soldier Meadow 79.91 39 ⇓P **P 03 56 17.1 -0.1**
baz=80,SNR=12
M07A ⇓S S 04 06 23.0 +4.2
baz=80
P09A Austin 80.00 41 ⇓P **P 03 56 17.4 -0.2**
baz=80
P09A ⇑S S 04 06 23.1 +3.4
baz=80
W14A Seligman 80.12 47 ⇑P **P 03 56 18.5 +0.2**
baz=80,SNR=14
W14A ⇓S S 04 06 26.6 +5.6
baz=80
KDAK Kodiak Island 80.13 11 *e*P **P 03 56 17.0 -1.3**
comp=Z,56nm,1.4s,mb5.3
KDAK LR LR
comp=Z,376nm,20.0s,MS4.7
N08A GE Springer Mi 80.15 40 ⇓P **P 03 56 18.2 -0.2**
baz=80,SNR=15
N08A ⇓S S 04 06 25.0 +3.7
baz=80
K06A Valley Falls 80.19 37 ⇓P **P 03 56 18.6 -0.1**
baz=80
K06A ⇓S S 04 06 25.2 +3.5
baz=80
L07A Adell 80.21 38 ⇑P **P 03 56 18.8 0.0**
baz=80,SNR=7.2
L07A ⇑S S 04 06 27.1 +5.2
baz=80
X15A Humboldt 80.30 48 ⇑P **P 03 56 19.3 0.0**
baz=80,SNR=18
X15A ⇓S S 04 06 28.2 +5.4
baz=80
INCN Inchon 80.33 316 PFAKE 03 56 30.0 +11
INCN LR LR
comp=Z,1μm,20.0s,MS5.3
O09A Fish Creek Ran 80.35 41 P **P 03 56 19.4 -0.1**
baz=81,SNR=12
O09A ⇑S S 04 06 26.4 +3.1
baz=81
H04A Detroit Lake 80.36 35 ⇓P **P 03 56 18.6 -0.9**
baz=81
H04A ⇓S S 04 06 25.1 +1.6
baz=81
M08A Happy Creek Ra 80.42 39 ⇓P **P 03 56 20.0 +0.2**
baz=81,SNR=12
M08A ⇑S S 04 06 28.5 +4.5
baz=81
P10A Eureka 80.46 41 ⇑P **P 03 56 19.9 -0.2**
baz=81
P10A ⇓S S 04 06 28.1 +3.5
baz=81
F03A Seaside 80.48 33 ⇓P **P 03 56 19.0 -1.2**
baz=81
BMN Battle Mountai 80.49 40 *e*P **P 03 56 20.7 +0.5**
BMN pmax pmax
comp=Z,19nm,1.2s,mb4.9
BMN MLR MLR
comp=Z,2μm,19.0s,MS5.5
BMN Battle Mountai 80.49 40 *e*P **P 03 56 20.7 +0.4**
comp=Z,19nm,1.2s,mb4.9
BMN LR LR
comp=Z,2μm,19.0s,MS5.5
I05A Bend 80.51 36 ⇑P **P 03 56 20.0 -0.3**
baz=81
I05A ⇑S S 04 06 29.0 +4.0
baz=81
Q11A Duckwater 80.51 42 ⇑P **P 03 56 20.2 -0.2**
baz=81,SNR=13
Q11A ⇓S S 04 06 28.0 +2.9
baz=81
J06A Christmas Vall 80.53 37 P **P 03 56 20.3 -0.2**
baz=81,SNR=11
J06A ⇓S S 04 06 28.8 +3.5
baz=81
G04A Mulino 80.55 34 ⇑P **P 03 56 20.2 -0.4**
baz=81
N09A Rock Creek Ran 80.56 40 ⇑P **P 03 56 20.6 0.0**
baz=81
N09A ⇑S S 04 06 29.6 +4.1
baz=81
SSE Sheshan 80.65 308 *e*P **P 03 56 22.2 +1.1**
SSE AP pP 03 56 35.1 +4.7
SSE XP sP 03 56 38.9 +5.1
SSE PP PP 03 59 25.4 +0.4
SSE S S 04 06 25.6 -0.9
SSE XS sS 04 06 42.5 +0.7
SSE AMB AMB
comp=Z,29nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,479nm,7.5s
SSE LR LR
comp=N,306nm,26.2s,MS4.8
SSE LR LR
comp=E,528nm,26.2s,MS4.8
SSE LR LR
comp=Z,856nm,19.7s
W15A Williams 80.66 47 ⇓P **P 03 56 22.0 +0.8**
baz=81
W15A ⇑S S 04 06 32.6 +6.0
baz=81
O10A Cortez Mining, 80.84 41 ⇓P **P 03 56 22.1 0.0**
baz=81
O10A ⇑S S 04 06 32.2 +3.7
baz=81
H05A Madras 80.85 35 ⇑P **P 03 56 21.6 -0.5**
baz=81
H05A ⇑S S 04 06 30.8 +2.3
baz=81
P11A Circle Ranch, 80.86 42 ⇓P **P 03 56 22.2 0.0**
baz=81
P11A ⇑S S 04 06 32.6 +3.9
baz=81
WVOR Wild Horse Val 80.88 38 *e*P **P 03 56 22.7 +0.4**
WVOR pmax pmax
comp=Z,29nm,1.1s,mb5.1
WVOR MLR MLR
comp=Z,4μm,19.0s,MS5.8
WVOR Wild Horse Val 80.88 38 *e*P **P 03 56 22.7 +0.4**
comp=Z,29nm,1.1s,mb5.1
WVOR LR LR
comp=Z,4μm,19.0s,MS5.8
E03A Lebam 80.90 33 ⇓P **P 03 56 22.0 -0.5**
baz=81
E03A ⇑S S 04 06 32.1 +3.1
baz=81
I06A Prineville 80.95 36 ⇓P **P 03 56 22.6 -0.1**
baz=81,SNR=14
I06A ⇓S S 04 06 32.7 +3.2
baz=81
M09A Marrel Ranch, 80.95 39 ⇓P **P 03 56 22.7 0.0**
baz=81
M09A ⇓S S 04 06 32.8 +3.1
baz=81
F04A Amboy 81.07 34 ⇓P **P 03 56 22.5 -0.9**
baz=81
F04A ⇓S S 04 06 32.7 +1.8
baz=81
J07A Hines 81.08 37 ⇓P **P 03 56 23.0 -0.4**
baz=81,SNR=5.7
J07A ⇓S S 04 06 35.2 +4.2
baz=81
N10A Dunphy 81.09 40 ⇓P **P 03 56 23.3 -0.2**
baz=81
N10A ⇑S S 04 06 34.9 +3.8
baz=81
Q12A Willow Creek R 81.14 43 ⇓P **P 03 56 23.9 +0.1**
baz=81,SNR=5.6
Q12A ⇑S S 04 06 34.8 +3.2
baz=81
D03A Wishkah Elem. 81.18 32 ⇓P **P 03 56 23.8 -0.2**
baz=81
D03A ⇓S S 04 06 36.5 +4.4
baz=81
L09A Wilkinson Ranc 81.19 39 ⇑P **P 03 56 23.9 -0.1**
baz=81,SNR=9.3
L09A ⇑S S 04 06 35.4 +3.3
baz=81
G05A Wamic 81.19 35 ⇓P **P 03 56 23.9 -0.1**
baz=81
G05A ⇑S S 04 06 35.1 +3.0
baz=81
CCUT Cedar City 81.24 45 *e*P **P 03 56 25.2 +1.0**
O11A Cowboy Ranch, 81.27 41 ⇓P **P 03 56 24.2 -0.2**
baz=82,SNR=11
O11A ⇑S S 04 06 36.2 +3.3
baz=82
ARUT Antelope Range 81.33 44 *e*P **P 03 56 24.6 -0.1**
P12A McGill 81.35 42 ⇑P **P 03 56 24.6 -0.2**
baz=82
P12A ⇓S S 04 06 36.6 +2.8
baz=82
E04A Onalaska 81.36 33 ⇑S S 04 06 36.3 +2.5
baz=82
C03A Quillayute Air 81.36 31 ⇓P **P 03 56 25.3 +0.4**
baz=82
C03A ⇑S S 04 06 37.1 +3.1
baz=82
WUAZ Wupatki 81.46 47 *e*P **P 03 56 26.5 +1.1**
WUAZ LR LR
comp=Z,1μm,19.0s,MS5.3
comp=Z,24nm,1.1s,mb5.0
F05A White Salmon 81.54 34 ⇑P **P 03 56 25.5 -0.3**
baz=82
F05A ⇑S S 04 06 37.6 +1.9
baz=82
J08A Circle Bar Ran 81.55 37 ⇑P **P 03 56 25.5 -0.4**
baz=82,SNR=6.4
J08A ⇓S S 04 06 40.1 +4.3
baz=82
M10A I.L. Ranch, Tu 81.56 40 ⇓P **P 03 56 26.2 +0.3**
baz=82
M10A ⇓S S 04 06 38.1 +2.1
baz=82
N11A Elko Archery C 81.62 41 ⇓P **P 03 56 26.0 -0.3**
baz=82
N11A ⇓S S 04 06 39.8 +3.2
baz=82
D04A Dobbs Creek Ra 81.66 33 ⇓P **P 03 56 25.1 -1.3**
baz=82
D04A ⇓S S 04 06 40.0 +3.0
baz=82
E05A Randle 81.83 33 ⇓P **P 03 56 26.5 -0.8**
baz=82,SNR=9.7
E05A ⇑S S 04 06 39.5 +0.8
baz=82
ELK Elko 81.88 41 *e*P **P 03 56 27.8 +0.1**
ELK pmax pmax
comp=Z,10.0nm,1.1s
ELK MLR MLR
comp=Z,4μm,19.0s
ELK Elko 81.88 41 *e*P **P 03 56 27.8 +0.2**
comp=Z,10nm,1.1s,mb4.7
ELK LR LR
comp=Z,4μm,19.0s,MS5.8
M11A Holland Ranch, 81.95 40 ⇓P **P 03 56 28.2 +0.2**
baz=82
M11A ⇑S S 04 06 44.3 +4.3
baz=82
B04A Port Angeles 81.96 32 ⇑P **P 03 56 28.2 +0.1**
baz=82
B04A ⇑S S 04 06 41.9 +1.9
baz=82
C04A Brinnon 81.99 32 ⇑S S 04 06 42.8 +2.4
baz=82
N12A Clover Valley, 82.07 41 ⇓P **P 03 56 28.3 -0.4**
baz=82,SNR=7.0
N12A ⇑S S 04 06 44.6 +3.4
baz=82
D05A Enumclaw 82.13 33 ⇑P **P 03 56 28.8 -0.1**
baz=82,SNR=7.1
D05A ⇑S S 04 06 43.9 +2.1
baz=82
HABR Khabarovsk 82.43 329 *e*P **P 03 56 30.7 +0.2**
HABR *e*S S 04 06 43.9 -1.0
M12A Wells 82.47 41 ⇓P **P 03 56 30.7 -0.1**
baz=83,SNR=6.3
M12A ⇓S S 04 06 48.1 +2.7
baz=83
MSU Marysvale 82.56 44 *e*P **P 03 56 31.9 +0.7**
N13A Wendover, West 82.59 41 ⇓P **P 03 56 31.2 -0.2**
baz=83,SNR=6.2
N13A ⇓S S 04 06 49.4 +2.9
baz=83
C05A Tolt Reservoir 82.62 33 ⇓P **P 03 56 30.6 -0.9**
baz=83,SNR=7.3
C05A ⇑S S 04 06 47.8 +1.0
baz=83
MAW Mawson 82.69 199 *e*S S 04 06 48.5 +1.0
MAW Mawson 82.69 199 P **P 03 56 32.4 +0.5**
comp=Z,10nm,0.9s,mb4.8,baz=119,slow=8.1,SNR=19
MAW LR LR 04 32 35.0
comp=Z,3μm,18.2s,MS5.7,baz=111,slow=35
MAW Mawson 82.69 199 *e*P **P 03 56 32.1 +0.2**
MAW *e*S S 04 06 48.5 +1.0
MAW pmax pmax
comp=Z,14nm,0.9s
MAW Mawson 82.69 199 *e*P **P 03 56 32.1 +0.2**
comp=Z,14nm,0.9s,mb5.0
MAW *e*S S 04 06 48.5 +1.0
SVW2 Sparrevohn 82.78 9 *e*P **P 03 56 31.4 -0.9**
B05A Bryant 82.79 32 ⇓P **P 03 56 31.9 -0.5**
baz=83
B05A ⇑S S 04 06 49.8 +1.2
baz=83
MDJ Mudanjiang 82.79 323 P **P 03 56 33.0 +0.6**
MDJ AP pP 03 56 39.3 -2.4
MDJ XP sP 03 56 42.2 -2.9
MDJ PP PP 03 59 43.0 +0.4
MDJ S S 04 06 50.7 +2.1
MDJ XS sS 04 07 05.3 +1.3
MDJ AMB AMB
comp=Z,19nm,1.4s,mb4.9
MDJ AMB AMB
comp=Z,735nm,8.4s
MDJ LR LR
comp=N,444nm,17.5s,MS5.2
MDJ LR LR
comp=E,927nm,18.3s,MS5.2
MDJ LR LR
comp=Z,1μm,16.6s,MS5.3
MDJ Mudanjiang 82.79 323 *e*P **P 03 56 33.3 +0.9**
comp=Z,48nm,1.3s,mb5.4
MDJ LR LR
comp=Z,1μm,20.0s,MS5.3
A04A Legoe Bay, Lum 82.80 31 ⇑P **P 03 56 32.0 -0.5**
baz=83
A04A ⇑S S 04 06 49.8 +1.1
baz=83
NJ2 Nanjing 82.85 308 *e*P **P 03 56 34.1 +1.4**
NJ2 AP pP 03 56 44.9 +2.9
NJ2 XP sP 03 56 48.5 +3.1
NJ2 PP PP 03 59 44.9 +1.8
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.3
NJ2 AMB AMB
comp=Z,220nm,7.1s
NJ2 LR LR
comp=N,1μm,24.3s,MS5.9
NJ2 LR LR
comp=E,6μm,21.2s,MS5.9
NJ2 LR LR
comp=Z,4μm,20.8s,MS5.8
HAWA Hanford 82.89 35 *e*P **P 03 56 32.8 0.0**
comp=Z,2.8nm,1.3s
HAWA LR LR
comp=Z,464nm,19.0s
M13A Montello 82.90 41 ⇑P **P 03 56 33.0 +0.1**
baz=83
M13A ⇓S S 04 06 51.4 +1.6
baz=83
DUG Dugway 83.08 43 *e*P **P 03 56 33.3 -0.6**
DUG pmax pmax
comp=Z,19nm,1.4s,mb4.9
DUG MLR MLR
comp=Z,2μm,19.0s,MS5.4
DUG Dugway 83.08 43 *e*P **P 03 56 33.3 -0.6**
comp=Z,19nm,1.4s,mb4.9
DUG LR LR
comp=Z,2μm,19.0s,MS5.4
SLKM Skilak Lake 83.11 12 *e*P **P 03 56 33.0 -1.1**
BMO Blue Mountains 83.14 37 *e*P **P 03 56 33.7 -0.5**
comp=Z,26nm,1.4s,mb5.1
BMO LR LR
comp=Z,3μm,19.0s,MS5.7
A05A Maple Falls 83.29 31 ⇑P **P 03 56 34.3 -0.7**
baz=84
A05A ⇑S S 04 06 54.1 +0.4
baz=84
CRAG Craig 83.37 22 *e*P **P 03 56 34.1 -1.3**
TMUT Trail Mountain 83.62 44 *e*P **P 03 56 38.1 +1.5**
MPU Maple Canyon 83.73 43 *e*P **P 03 56 38.6 +1.3**
comp=Z,28nm,1.2s,mb5.3
MPU LR LR
comp=Z,6μm,22.0s,MS5.9
LAZ Ladron 83.85 50 *e*P **P 03 56 39.5 +1.7**
LAZ *ep*P pP 03 56 46.4 -0.8
LENM Lemitar 83.85 50 *e*P **P 03 56 38.7 +0.8**
LENM *ep*P pP 03 56 53.0 +5.8
SIT Sitka 83.90 20 PFAKE 03 56 50.0 +12
SIT LR LR
comp=Z,919nm,19.0s,MS5.2
PAYG Puerto Ayora 83.91 88 PFAKE 03 56 50.0 +12
PAYG LR LR
comp=Z,3μm,19.0s,MS5.8
SRU San Rafael 83.96 44 *e*P **P 03 56 39.0 +0.6**
SRU pmax pmax
comp=Z,93nm,1.3s,mb5.8
SRU San Rafael 83.96 44 *e*P **P 03 56 39.0 +0.6**
comp=Z,93nm,1.3s,mb5.8
LTX Lajitas 84.02 56 *e*P **P 03 56 39.2 +0.5**
LTX pmax pmax
comp=Z,43nm,1.5s,mb5.4
LTX MLR MLR
comp=Z,1μm,19.0s,MS5.4
LTX Lajitas 84.02 56 *e*P **P 03 56 39.2 +0.5**
comp=Z,43nm,1.5s,mb5.3
LTX LR LR
comp=Z,1μm,19.0s,MS5.4
HLID Hailey 84.03 39 *e*P **P 03 56 39.4 +0.6**
comp=Z,19nm,1.0s,mb5.2
HLID LR LR
comp=Z,949nm,19.0s,MS5.2
CTU Camp Tracy 84.03 43 *e*P **P 03 56 39.0 +0.2**
comp=Z,32nm,1.2s,mb5.3
EYAK Cordova Ski Ar 84.07 14 *e*P **P 03 56 38.0 -0.9**
BNM Barren Site 84.09 50 *e*P **P 03 56 40.2 +1.1**
LPM Los Pinos Moun 84.17 50 *e*P **P 03 56 40.4 +1.0**
DAU Daniels Canyon 84.19 43 *e*P **P 03 56 39.7 +0.1**
QIZ Qiongzhong 84.31 293 ⇑P **P 03 56 42.2 +2.0**
QIZ XP sP 03 56 54.0 +1.1
QIZ PP PP 03 59 56.7 +1.6
QIZ S S 04 07 05.6 +1.6
QIZ XS sS 04 07 19.0 -0.4
QIZ SS SS 04 12 40.3 +6.4
QIZ AMB AMB
comp=Z,29nm,1.6s,mb5.2
QIZ AMB AMB
comp=Z,586nm,4.7s
QIZ LR LR
comp=N,455nm,19.3s,MS5.1
QIZ LR LR
comp=E,656nm,20.8s,MS5.1
QIZ LR LR
comp=Z,967nm,19.3s,MS5.2
QIZ Qiongzhong 84.31 293 PFAKE 03 56 50.0 +10
QIZ LR LR
comp=Z,984nm,19.0s,MS5.2
PMR Palmer 84.32 12 *e*P **P 03 56 39.1 -1.2**
PMR pmax pmax
comp=Z,33nm,1.4s,mb5.3
PMR Palmer 84.32 12 *e*P **P 03 56 39.1 -1.2**
comp=Z,33nm,1.4s,mb5.3
DL2 Dalian 84.40 315 ⇑*i*P **P 03 56 41.4 +0.7**
DL2 S S 04 07 05.7 +0.8
DL2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
DL2 AMB AMB
comp=Z,310nm,6.0s
DL2 LR LR
comp=N,500nm,17.2s,MS5.1
DL2 LR LR
comp=E,480nm,17.3s,MS5.1
DL2 LR LR
comp=Z,720nm,18.9s,MS5.1
TTA Tatalina 84.47 8 *e*P **P 03 56 41.0 0.0**
TCUT Toone Canyon 84.48 42 *e*P **P 03 56 41.6 +0.5**
TCUT *ep*P pP 03 56 49.3 -1.1
PV10 Paradox Valley 84.56 46 *e*P **P 03 56 41.3 -0.1**
PV10 *ep*P pP 03 56 51.0 +0.2
KLR Kul'dur 84.57 328 *e*P **P 03 56 36.3 -5.2**
KLR *e* 03 59 51.5
KLR *e*S S 04 06 54.5 -12

KLR pmax pmax
comp=Z,230nm,3.0s
KLR pmax pmax
comp=Z,1μm,10.0s
ANMO Albuquerque 84.61 50 *e*P **P 03 56 42.2 +0.5**
ANMO *e**PP pP 03 56 50.2 -0.8
ANMO pmax pmax
comp=Z,69nm,1.6s
ANMO MLR MLR
comp=Z,1μm,19.0s
ANMO Albuquerque 84.61 50 *e*P **P 03 56 42.1 +0.4**
comp=Z,69nm,1.6s,mb5.5
ANMO *e*pP pP 03 56 50.2 -0.8
ANMO LR LR
comp=Z,1μm,19.0s,MS5.2
HWUT Hardware Ranch 84.65 42 *e*P **P 03 56 42.0 +0.1**
comp=Z,30nm,1.4s,mb5.2
HWUT LR LR
comp=Z,3μm,19.0s,MS5.7
SML Sawmill 84.68 12 *e*P **P 03 56 41.3 -0.7**
CN2 Changchun 84.70 321 *e*P **P 03 56 42.5 +0.3**
CN2 *e*XP sP 03 56 56.9 +2.0
CN2 *e*PP PP 04 00 00.6 +2.4
CN2 *e*S S 04 07 06.7 -1.1
CN2 *e*SS SS 04 12 40.6 +1.0
CN2 AMB AMB
comp=Z,20nm,1.6s,mb5.0
CN2 AMB AMB
comp=Z,730nm,5.0s
CN2 LR LR
comp=N,900nm,17.0s,MS5.3
CN2 LR LR
comp=E,550nm,17.0s,MS5.3
CN2 LR LR
comp=Z,1μm,17.0s,MS5.3
PV01 Paradox Valley 84.75 46 *e*P **P 03 56 42.8 +0.4**
MA2 Magadan 84.94 343 *e*P **P 03 56 42.9 -0.5**
MA2 MLR MLR
comp=Z,1μm,20.0s,MS5.2
COCO West Island 84.99 259 PFAKE 03 56 50.0 +6.4
COCO LR LR
comp=Z,2μm,20.0s,MS5.5
NEW Newport 85.34 34 *e*P **P 03 56 44.4 -1.0**
NEW pmax pmax
comp=Z,12nm,1.3s
NEW MLR MLR
comp=Z,6μm,19.0s
NEW Newport 85.34 34 *e*P **P 03 56 44.4 -1.0**
comp=Z,12nm,1.3s,mb4.9
NEW LR LR
comp=Z,6μm,19.0s,MS6.0
WHN Wuhan 85.54 305 ⇓P **P 03 56 48.0 +1.6**
WHN LR LR
comp=Z,2μm,18.6s,MS5.5
AHID Auburn Hatcher 85.58 41 *e*P **P 03 56 46.8 +0.2**
comp=Z,34nm,1.2s,mb5.5
AHID *e*pP pP 03 56 55.0 -0.9
AHID LR LR
comp=Z,2μm,19.0s,MS5.6
MCMT McKenzie Canyo 85.68 39 *e*P **P 03 56 47.5 +0.5**
SKAG Skagway 85.85 19 *e*P **P 03 56 49.0 +1.1**
comp=Z,25nm,0.9s,mb5.4
TNA Tin City 86.03 3 *e*P **P 03 56 48.1 -0.7**
comp=Z,54nm,1.2s,mb5.7
TNA LR LR
comp=Z,760nm,21.0s,MS5.1
REDW Red Top Meadow 86.06 41 *e*P **P 03 56 48.6 -0.3**
comp=Z,27nm,1.2s,mb5.4
REDW *e*pP pP 03 56 57.1 -1.2
TPAW Teton Pass 86.07 41 *e*P **P 03 56 49.4 +0.4**
comp=Z,14nm,1.1s,mb5.1
DLMT Dillon 86.13 38 *e*P **P 03 56 49.0 -0.3**
comp=Z,40nm,1.2s,mb5.5
SNOW Snow King Moun 86.17 41 *e*P **P 03 56 49.7 +0.2**
comp=Z,39nm,1.3s,mb5.5
SNOW *e*pP pP 03 56 57.5 -1.3
CMIG Matias Romero 86.19 70 P **P 03 56 50.0 +0.4**
comp=Z,9.9nm,1.1s,mb5.0,baz=282,slow=4.8,SNR=4.8
MSO Missoula 86.20 37 PFAKE 03 57 00.0 +10
MSO LR LR
comp=Z,2μm,19.0s,MS5.5
IMW Indian Meadow 86.30 40 *e*P **P 03 56 51.0 +0.9**
comp=Z,24nm,1.3s,mb5.3
IMW *e*pP pP 03 56 59.1 -0.4
MOOW Moose Ponds 86.33 40 *e*P **P 03 56 49.8 -0.5**
comp=Z,37nm,1.9s,mb5.3
MOOW *e*pP pP 03 56 58.2 -1.5
LOHW Long Hollow 86.34 41 *e*P **P 03 56 50.0 -0.4**
comp=Z,18nm,1.4s,mb5.1
SMCO Snowmass 86.36 46 *e*P **P 03 56 50.8 +0.4**
comp=Z,13nm,0.9s,mb5.2
QLMT Earthquake Lak 86.52 39 *e*P **P 03 56 51.9 +0.7**
QLMT *e*pP pP 03 56 59.9 -0.6
BW06 Boulder Array 86.53 42 *e*P **P 03 56 50.6 -0.6**
comp=Z,8.1nm,1.0s,mb4.9
BW06 *e*pP pP 03 56 58.5 -2.2
BW06 *e*sP sP 03 57 02.8 -1.2
BW06 LR LR
comp=Z,2μm,19.0s,MS5.4
PDAR Pinedale Array 86.53 42 P **P 03 56 50.5 -0.8**
comp=Z,1.9nm,0.8s,mb4.4,baz=222,slow=2.0,SNR=13
PDAR LR LR 04 32 34.2
comp=Z,2μm,18.0s,MS5.5,baz=247,slow=34
CHMT Chamberlain Mo 86.64 37 *e*P **P 03 56 51.3 -0.5**
MENT Mentasta 86.64 13 *e*P **P 03 56 51.5 -0.3**
SDCO Great Sand Dun 86.65 48 PFAKE 03 57 00.0 +8.1
SDCO LR LR
comp=Z,1μm,19.0s,MS5.3
BOZ Bozeman (W) 86.85 39 *e*P **P 03 56 52.3 -0.5**
BOZ pmax pmax
comp=Z,22nm,1.3s,mb5.2
BOZ MLR MLR
comp=Z,2μm,19.0s,MS5.5
BOZ Bozeman (W) 86.85 39 *e*P **P 03 56 52.3 -0.5**
comp=Z,22nm,1.3s,mb5.2
BOZ LR LR
comp=Z,2μm,19.0s,MS5.5
LKWY Lake 86.98 40 PFAKE 03 57 00.0 +6.5
LKWY LR LR
comp=Z,2μm,19.0s,MS5.6
HRY Holter Researc 87.33 38 *e*P **P 03 56 55.0 -0.1**
RWWY Rawlins 87.47 44 *e*P **P 03 56 56.1 +0.3**
comp=Z,14nm,0.9s,mb5.2
KULM Kulim 87.47 277 *e*P **P 03 56 56.3 +0.4**
JCT Junction City 87.53 56 *e*P **P 03 56 55.7 -0.4**
JCT pmax pmax
comp=Z,29nm,1.4s,mb5.3
JCT MLR MLR
comp=Z,2μm,19.0s,MS5.4
JCT Junction City 87.53 56 *e*P **P 03 56 55.7 -0.4**
comp=Z,29nm,1.4s,mb5.3
JCT LR LR
comp=Z,2μm,19.0s,MS5.4
COLA College 87.57 11 c *i*P **P 03 56 55.1 -1.2**
COLA College 87.57 11 *e*P **P 03 56 54.9 -1.4**
comp=Z,67nm,1.1s,mb5.8
COLA LR LR
comp=Z,2μm,20.0s,MS5.5
ISCO Idaho Springs 87.58 46 *e*P **P 03 56 58.0 +1.6**
ISCO pmax pmax
comp=Z,7.0nm,1.2s,mb4.8
ISCO MLR MLR
comp=Z,1μm,19.0s,MS5.3
ISCO Idaho Springs 87.58 46 *e*P **P 03 56 58.0 +1.6**
comp=Z,7.2nm,1.2s,mb4.8
ISCO LR LR
comp=Z,1μm,19.0s,MS5.3
AMTX Amarillo 88.04 52 *e*P **P 03 56 58.6 +0.1**
comp=Z,40nm,1.4s,mb5.5
AMTX LR LR
comp=Z,3μm,19.0s,MS5.7
VNA1 Neumayer--Stat 88.43 175 ⇑ *i*P **P 03 57 00.3 -0.1**
VNA1 *e* 03 57 02.2
VNA1 *e* 03 57 05.2
VNA1 *e* 03 57 11.6
VNA1 *e* 03 57 16.2
VNA1 *e* 03 57 19.3
VNA1 *e* 03 57 22.2
VNA1 *e* 03 57 39.3
VNA1 *e* 03 57 49.5
BJT Baijiatuau 88.61 314 *e*P **P 03 57 01.8 +0.5**
BJT pmax pmax
comp=Z,94nm,1.6s
BJT MLR MLR
comp=Z,1μm,20.0s
BJT Baijiatuau 88.61 314 *e*P **P 03 57 01.8 +0.5**
comp=Z,94nm,1.6s,mb5.9
BJT LR LR
comp=Z,1μm,20.0s,MS5.4
BJI Beijing 88.62 314 *e*P **P 03 57 02.0 +0.7**
BJI SKS 04 07 28.6
BJI S S 04 07 46.8 +1.0
BJI AMB AMB
comp=Z,20nm,1.9s,mb5.1
BJI AMB AMB
comp=Z,887nm,3.8s
BJI LR LR
comp=N,452nm,18.2s,MS5.3
BJI LR LR
comp=E,958nm,18.2s,MS5.3
BJI LR LR
comp=Z,967nm,18.9s,MS5.2
NVL N'lazarevskaya 88.77 182 *e*P pP 03 57 12.3 +0.9
NVL *e* 04 07 52.9
NVL pmax pmax
comp=Z,15nm,1.3s,mb5.2
EFI East Falkland 88.94 146 PFAKE 03 57 10.0 +7.2
EFI LR LR
comp=Z,1μm,20.0s,MS5.3
EGMT Eagleton 89.23 37 *e*P **P 03 57 02.6 -1.6**
comp=Z,13nm,1.3s,mb5.1
EGMT LR LR
comp=Z,3μm,19.0s,MS5.7
BILL Bilibino 89.58 353 ⇓ *e*P **P 03 57 05.0 -0.8**
BILL *e* 04 00 43.0
BILL *i* S S 04 07 44.7 -10
BILL *e*SS SS 04 13 50.8 -0.1
BILL pmax pmax
comp=Z,18nm,1.1s,mb5.3
BILL Bilibino 89.58 353 *e*P **P 03 57 05.2 -0.6**
comp=Z,31nm,1.1s,mb5.5
BILL LR LR
comp=Z,3μm,20.0s,MS5.7
GYA Guiyang 89.96 298 ⇑ *i*P **P 03 57 09.4 +1.8**
GYA AP pP 03 57 19.8 +2.8
GYA XP sP 03 57 23.7 +3.4
GYA PP PP 04 00 45.0 +4.4
GYA SKS 04 07 35.7
GYA S S 04 07 57.8 -0.5
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,140nm,4.9s
GYA LR LR
comp=N,670nm,19.8s,MS5.3
GYA LR LR
comp=E,840nm,20.4s,MS5.3
GYA LR LR
comp=Z,860nm,20.8s,MS5.2
HKT Hockley 90.44 58 *e*P **P 03 57 10.5 +0.7**
HKT pmax pmax
comp=Z,20nm,1.5s,mb5.2
HKT MLR MLR
comp=Z,1μm,19.0s,MS5.3
HKT Hockley 90.44 58 *e*P **P 03 57 10.5 +0.7**
comp=Z,20nm,1.5s,mb5.2
HKT LR LR
comp=Z,1μm,19.0s,MS5.3
LAO LASA Array 90.59 40 *e*P **P 03 57 11.1 +0.6**
comp=Z,45nm,1.5s,mb5.6
LAO LR LR
comp=Z,744nm,21.0s,MS5.1
RSSD Black Hills 90.69 43 *e*P **P 03 57 10.5 -0.5**
RSSD *e**PP pP 03 57 18.5 -1.9
RSSD pmax pmax
comp=Z,19nm,1.2s,mb5.3
RSSD MLR MLR
comp=Z,2μm,19.0s,MS5.5
RSSD Black Hills 90.69 43 *e*P **P 03 57 10.5 -0.5**
comp=Z,19nm,1.2s,mb5.3
RSSD *e*pP pP 03 57 18.5 -1.9
RSSD LR LR
comp=Z,2μm,19.0s,MS5.5
HIA Hailar 90.98 323 PFAKE 03 57 20.0 +7.7
HIA LR LR
comp=Z,2μm,20.0s,MS5.6
XAN Xi'an 91.19 306 P **P 03 57 14.9 +1.6**
XAN AP pP 03 57 20.9 -1.8
XAN AMB AMB
comp=Z,17nm,0.9s,mb5.4
CFAA Coronel Fontan 92.01 125 P **P 03 57 17.6 +0.5**
comp=Z,0.7nm,1.0s,baz=276,slow=8.7,SNR=3.2
NATX Nacogdoches 92.07 57 PFAKE 03 57 30.0 +13
NATX LR LR
comp=Z,1μm,19.0s,MS5.4
HHC Hu-ho-hao-te 92.12 313 *e*P **P 03 57 18.9 +1.3**
HHC AP pP 03 57 27.1 +0.1
HHC XP sP 03 57 30.1 -0.3
HHC PP PP 04 01 02.3 +4.6
HHC SKS 04 07 46.7
HHC S S 04 08 16.5 -1.6
HHC SS SS 04 14 30.4 +2.7
HHC AMB AMB
comp=Z,26nm,0.4s,mb5.9
HHC AMB AMB
comp=Z,441nm,6.8s
HHC LR LR
comp=N,558nm,20.2s,MS5.2
HHC LR LR
comp=E,753nm,20.8s,MS5.2
HHC LR LR
comp=Z,841nm,23.2s,MS5.1
NANT Nan 92.23 289 ⇓P **P 03 57 18.0 -0.1**
comp=Z,128nm,1.0s,mb6.2
NNA Nana 92.43 104 PFAKE 03 57 30.0 +11
NNA LR LR
comp=Z,2μm,19.0s,MS5.6
CLNS Chul'man 92.49 331 *e*P **P 03 57 18.8 -0.5**
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=Z,13nm,1.0s,mb5.2
CLNS pmax pmax
comp=E,7.0nm,0.8s
JTS JuntasAbangare 92.71 80 *e*P **P 03 57 22.3 +2.0**
JTS pmax pmax
comp=Z,25nm,1.1s
JTS MLR MLR
comp=Z,1μm,19.0s
JTS JuntasAbangare 92.71 80 *e*P **P 03 57 22.3 +2.0**
comp=Z,25nm,1.1s,mb5.5
JTS LR LR
comp=Z,1μm,19.0s,MS5.3
KMI Kunming 92.73 296 P **P 03 57 22.7 +2.3**
KMI AP pP 03 57 33.5 +3.7
KMI XP sP 03 57 37.3 +4.1
KMI PP PP 04 01 07.3 +4.8
KMI SKS 04 07 52.3
KMI S S 04 08 22.6 -0.9
KMI XS sS 04 08 39.8 +0.7
KMI SS SS 04 14 39.6 +3.2
KMI AMB AMB
comp=Z,24nm,1.4s,mb5.4
KMI AMB AMB
comp=Z,331nm,9.4s
KMI LR LR
comp=N,807nm,20.3s,MS5.5
KMI LR LR
comp=E,1μm,19.5s,MS5.5
KMI LR LR
comp=Z,2μm,20.3s,MS5.6
TEIG Tepich 93.16 70 PFAKE 03 57 30.0 +7.6
TEIG LR LR
comp=Z,935nm,19.0s,MS5.3
CHRT Chiangrai 93.42 290 ⇑P **P 03 57 26.0 +2.4**
comp=Z,126nm,1.0s,mb6.3
TRQA Tornquist 93.60 133 PFAKE 03 57 40.0 +16
TRQA LR LR
comp=Z,1μm,19.0s,MS5.4
YAK Yakutsk 93.65 337 *e*P **P 03 57 23.6 -1.0**
YAK pmax pmax
comp=Z,32nm,0.8s,mb5.8
YAK MLR MLR
comp=Z,684nm,19.0s,MS5.1
YAK Yakutsk 93.65 337 *e*P **P 03 57 23.6 -1.1**
comp=Z,32nm,0.8s,mb5.8
YAK LR LR
comp=Z,684nm,19.0s,MS5.1
MIAR Mount Ida 93.98 55 PFAKE 03 57 40.0 +14
MIAR LR LR
comp=Z,1μm,19.0s,MS5.4
CD2 Chengdu 94.00 301 *e*P **P 03 57 25.8 -0.5**
CD2 AP pP 03 57 36.4 +0.7
CD2 XP sP 03 57 40.1 +1.0
CD2 PP PP 04 01 15.0 +2.6
CD2 SKS 04 07 56.5
CD2 S S 04 08 30.8 -3.9
CD2 XS sS 04 08 48.6 -1.8
CD2 SS SS 04 14 55.2 +0.6
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,230nm,9.6s
CD2 LR LR
comp=N,490nm,18.0s
CD2 LR LR
comp=Z,520nm,18.0s,MS5.0
YKA Yellowknife Ar 95.09 24 P **P 03 57 29.5 -1.8**
comp=Z,1.6nm,0.8s,mb4.5,baz=233,slow=4.3,SNR=8.2
YKA LR LR 04 33 52.7
comp=Z,589nm,21.5s,MS5.0,baz=270,slow=31
LVC Limon Verde 95.28 116 PFAKE 03 57 40.0 +7.9
LVC LR LR
comp=Z,2μm,20.0s,MS5.6
OTAV Otavalo 95.31 92 PFAKE 03 57 50.0 +18
OTAV LR LR
comp=Z,2μm,19.0s,MS5.5
LZH Lanzhou 95.81 306 *e*P **P 03 57 35.8 +1.2**
LZH AP pP 03 57 46.9 +2.9
LZH XP sP 03 57 50.6 +3.2
LZH PP PP 04 01 29.7 +3.2
LZH SKS 04 08 08.3
LZH *e*S S 04 08 47.8 -2.7
LZH XS sS 04 09 06.3 +0.2
LZH SS SS 04 15 22.4 +2.0
LZH AMB AMB
comp=Z,33nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,175nm,9.7s
LZH LR LR
comp=N,845nm,18.3s
LZH LR LR
comp=Z,1μm,19.8s,MS5.3
FFC Flin Flon 96.76 34 *e*P **P 03 57 36.1 -2.8**
FFC pmax pmax
comp=Z,5.0nm,1.4s,mb4.8
FFC MLR MLR
comp=Z,3μm,19.0s,MS5.8
FFC Flin Flon 96.76 34 *e*P **P 03 57 36.1 -2.7**
comp=Z,5.3nm,1.4s,mb4.8
FFC LR LR
comp=Z,3μm,19.0s,MS5.8
CCM Cathedral Cave 97.01 52 PFAKE 03 57 50.0 +10
CCM LR LR
comp=Z,2μm,19.0s,MS5.7
OXF Oxford 97.18 56 PFAKE 03 57 50.0 +9.2
OXF LR LR
comp=Z,2μm,19.0s,MS5.6
ULN Ulaanbaatar 97.91 318 ⇑ *e*P **P 03 57 42.9 -1.1**
ULN Ulaanbaatar 97.91 318 PFAKE 03 57 50.0 +6.0
ULN LR LR
comp=Z,792nm,19.0s,MS5.2
SONM Songino Array 98.31 318 P **P 03 57 44.8 -1.0**
comp=Z,1.2nm,0.9s,mb4.4,baz=157,slow=4.5,SNR=6.3
SONM PP PP 04 01 40.6 -5.1
comp=Z,1.0nm,0.9s,baz=115,slow=10,SNR=4.1
SONM LR LR 04 44 35.8
comp=Z,729nm,18.1s,MS5.2,baz=344,slow=37
SONM Songino Array 98.31 318 P **P 03 57 44.8 -1.0**
SONM 04 01 40.6
ULM Lac du Bonnet 98.33 39 LR LR 04 39 36.4
comp=Z,2μm,18.1s,MS5.7,baz=81,slow=34
ULM Lac du Bonnet 98.33 39 *e*P **P 03 57 44.1 -1.9**
comp=Z,18nm,1.4s,mb5.4
PLAL Pickwick Lake 98.37 56 PFAKE 03 58 00.0 +14
PLAL LR LR
comp=Z,1μm,20.0s,MS5.5
LPAZ La Paz 98.56 111 LR LR 04 35 12.0
comp=Z,1μm,18.3s,MS5.4,baz=311,slow=31
LRAL Lakeview Retre 98.58 58 PFAKE 03 58 00.0 +13
LRAL LR LR
comp=Z,1μm,19.0s,MS5.4
WVT Waverly 98.93 55 PFAKE 03 58 00.0 +11
WVT LR LR
comp=Z,1μm,20.0s,MS5.5
TIXI Tiksi 99.84 344 PFAKE 03 58 00.0 +7.3
TIXI LR LR
comp=Z,745nm,19.0s,MS5.2
EYMN Ely 100.21 43 PFAKE 03 58 10.0 +16
EYMN LR LR
comp=Z,2μm,19.0s,MS5.7
WCI Wyandotte Cave 100.75 53 PFAKE 03 58 10.0 +13
WCI LR LR
comp=Z,2μm,19.0s,MS5.5
DWPF Disney 101.63 64 PFAKE 03 58 10.0 +9.4
DWPF LR LR
comp=Z,833nm,19.0s,MS5.3
ACSO Alum Creek Sta 103.79 52 PFAKE 03 58 20.0 +10
ACSO LR LR
comp=Z,696nm,19.0s,MS5.2
AAM Ann Arbor 103.84 50 PFAKE 03 58 20.0 +10
AAM LR LR
comp=Z,2μm,19.0s,MS5.7
LSA Lhasa 103.95 297 PFAKE 03 58 20.0 +9.1
LSA LR LR
comp=Z,575nm,20.0s,MS5.1
SDV Santo Domingo 105.56 86 PFAKE 04 02 40.0 +8.6
SDV LR LR
comp=Z,427nm,19.0s,MS5.0
SAML Samuel 105.98 106 PFAKE 04 02 40.0 +7.9
SAML LR LR
comp=Z,1μm,19.0s,MS5.5
MCWV Mont Chateau 105.98 53 PFAKE 04 02 40.0 +7.9
MCWV LR LR
comp=Z,2μm,19.0s,MS5.7
ERPA Erie 106.44 51 PFAKE 04 02 40.0 +7.0
ERPA LR LR
comp=Z,2μm,19.0s,MS5.6
PALK Pallekele 106.78 272 PFAKE 04 02 50.0 +16
PALK LR LR
comp=Z,963nm,19.0s,MS5.4
CBN Corbin 107.53 55 PFAKE 04 02 50.0 +15
CBN LR LR
comp=Z,2μm,20.0s,MS5.6
SSPA Standing Stone 107.66 53 PFAKE 04 02 50.0 +15
SSPA LR LR
comp=Z,1μm,19.0s,MS5.5
BINY Binghamton 109.37 51 PFAKE 04 02 50.0 +12
BINY LR LR
comp=Z,1μm,19.0s,MS5.5
WMQ Urumqi 109.82 310 PDIF Pdif 03 58 37.2 +0.1
WMQ PP PP 04 03 15.2 +3.7
WMQ SKS SKSdf 04 09 45.9 -3.4
WMQ S Sdif 04 10 43.4 -4.6
WMQ PP PP
comp=Z,91nm,7.0s
WMQ LR LR
comp=N,854nm,21.2s,MS5.4
WMQ LR LR
comp=E,640nm,20.1s,MS5.4
WMQ LR LR
comp=Z,784nm,21.7s,MS5.2
NCB Newcomb 110.94 50 PFAKE 04 02 50.0 +8.6
NCB LR LR
comp=Z,1μm,20.0s,MS5.5
LBNH Lisbon 112.62 50 PFAKE 04 03 00.0 +15
LBNH LR LR
comp=Z,3μm,19.0s,MS5.9
HRV Harvard--Oak R 112.66 51 PFAKE 04 03 00.0 +15
HRV LR LR
comp=Z,2μm,19.0s,MS5.7
MKAR Makanchi Array 113.99 313 PKiKP PKiKP 04 02 46.6 -0.6
comp=Z,0.7nm,0.6s,baz=60,slow=2.9,SNR=7.7
KURK Kurchatov 116.60 317 ⇑ *i*PKIKP PKPdf 04 02 51.7 -0.5
KURK Kurchatov 116.60 317 *e*PKPdf PKPdf 04 02 51.9 -0.3
KURK LR LR
comp=Z,841nm,19.0s,MS5.4
BBSR BB Station 116.68 63 PFAKE 04 03 00.0 +7.6
BBSR LR LR
comp=Z,690nm,20.0s,MS5.3
AAK Ala-Archa 119.29 308 ⇑ *i*PKIKP PKPdf 04 02 57.5 +0.1
AAK Ala-Archa 119.29 308 *e*PKPdf PKPdf 04 02 57.8 +0.4
AAK LR LR
comp=Z,548nm,20.0s,MS5.2
CHKZ Chkalovo 121.33 321 *e*PKIKP PKPdf 04 02 59.9 -1.4
KBS Kingsbay 121.57 359 *e*PKIKP PKPdf 04 03 01.0 -0.8
KBS MLR MLR

comp=Z,500nm,19.0s,MS5.2
BRVK Borovoye 121.61 320 *e*PKIKP PKPdf 04 03 01.0 -0.9
BRVK *e* 04 03 09.6
BRVK MLR MLR
comp=Z,577nm,20.0s,MS5.2
SFJD Kangerlussuaq 121.64 23 *i* P PP 04 04 26.2 -8.3
SFJD *e* Sdif 04 12 30.3 +3.7
SFJD *i* SS 04 21 01.6 -6.9
SFJD
comp=Z,1μm,18.0s
SUMG Summit 122.37 14 *e*PKPdf PKPdf 04 03 03.3 0.0
ZRNK Zerenda 122.39 320 *e*PKIKP PKPdf 04 03 02.3 -1.1
SUR Sutherland 125.42 195 PFAKE 04 03 20.0 +11
SUR LR LR
comp=Z,1μm,19.0s,MS5.7
SVE Sverdlovsk 126.17 326 *i* PKIKP PKPdf 04 03 10.0 -0.6
SVE *e* 04 05 01.0
SVE *e* 04 10 16.0
SVE *e*PS PS 04 15 12.0 +4.3
SVE MLR MLR
comp=N,400nm,18.0s,MS5.3
SVE MLR MLR
comp=E,400nm,18.0s,MS5.3
SVE MLR MLR
comp=Z,2μm,18.0s,MS5.7
ARU Arti 127.39 326 *i* PKIKP PKPdf 04 03 11.3 -1.6
ARU *e* 04 05 09.1
ARU *e* 04 10 13.3
ARU MLR MLR
comp=Z,2μm,20.0s,MS5.7
ARU MLR MLR
comp=N,600nm,19.0s,MS5.6
ARU MLR MLR
comp=E,1μm,19.0s,MS5.6
ARU Arti 127.39 326 PFAKE 04 03 20.0 +7.1
ARU LR LR
comp=Z,2μm,19.0s,MS5.7
KEV Kevo 129.23 351 PFAKE 04 03 30.0 +14
KEV LR LR
comp=Z,747nm,21.0s,MS5.4
LVZ Lovozero 129.42 346 *i* PKHKP 04 03 03.2
LVZ pmax pmax
comp=Z,188nm,2.1s
LVZ pmax pmax
comp=N,138nm,1.9s
LVZ pmax pmax
comp=E,42nm,1.8s
LVZ MLR MLR
comp=Z,1μm,21.0s,MS5.5
LVZ MLR MLR
comp=N,730nm,19.0s,MS5.5
LVZ MLR MLR
comp=E,452nm,19.0s,MS5.5
ARCES ARCESS Array B 129.66 351 PKP PKPdf 04 03 15.0 -2.3
comp=E,7.3nm,0.9s,baz=19,slow=4.1,SNR=8.6
ARE0 ARCESS Array S 129.66 351 *e*PKPdf PKPdf 04 03 15.9 -1.4
RCBR Riachuelo 131.20 118 PFAKE 04 03 30.0 +10
RCBR LR LR
comp=Z,1μm,19.0s,MS5.5
JOF Joensuu 134.32 344 *ep* PKPdf 04 03 27.0 +0.9
KAF Kangasniemi 136.21 346 *ep* PKPdf 04 03 30.9 +1.3
FINES FINESS Array B 136.86 346 PKP PKPdf 04 03 27.2 -3.5
comp=Z,4.3nm,1.0s,baz=40,slow=3.2,SNR=5.6
PUL Pulkovo 137.21 342 *i* PKIKP PKPdf 04 03 37.6 +6.2
PUL pmax pmax
comp=Z,117nm,0.6s
PUL pmax pmax
comp=N,133nm,0.9s
PUL MLR MLR
comp=Z,726nm,21.0s,MS5.4
PUL MLR MLR
comp=N,479nm,16.0s,MS5.4
PUL MLR MLR
comp=E,384nm,20.0s,MS5.4
LSZ Lusaka 138.18 213 *e*PKIKP PKPdf 04 03 35.0 +1.8
LSZ MLR MLR
comp=Z,862nm,19.0s,MS5.5
OBN Obninsk 138.57 334⇑*i*PKIKP PKPdf 04 03 32.1 -1.8
OBN *e* 04 06 23.5
OBN *e* 04 09 21.5
OBN *e* 04 10 32.6
OBN *e*SS SS 04 24 30.4 -6.0
OBN *e*SSS 04 29 51.8
OBN pmax pmax
comp=Z,16nm,1.2s
OBN MLR MLR
comp=Z,600nm,20.0s,MS5.3
OBN Obninsk 138.57 334 PFAKE 04 03 50.0 +16
OBN LR LR
comp=Z,718nm,19.0s,MS5.4
MAK Makhachkala 138.80 312 *i* PKIKP PKPdf 04 03 33.7 -0.7
MAK *e*PPP 04 09 37.7
MAK pmax pmax
comp=Z,84nm,1.2s
TSUM Tsumeb 138.82 197 *e*PKPdf PKPdf 04 03 34.6 +0.2
TSUM LR LR
comp=Z,1μm,19.0s,MS5.6
NB2 NORSAR Subarra139.45 356 PKPdf PKPdf 04 03 34.6 -0.9
comp=Z,6.3nm,1.2s,baz=7.9,slow=1.9
NOA NORSAR Array B139.45 356 PKP PKPdf 04 03 32.8 -2.8
comp=Z,1.5nm,0.9s,baz=15,slow=4.3,SNR=5.6
NAO01 NORSAR Array S139.66 356 *e*PKPdf PKPdf 04 03 35.7 -0.3
KONO Kongsberg 140.92 357⇑*i*PKIKP PKPdf 04 03 38.7 +0.5
KONO Kongsberg 140.92 357 PFAKE 04 03 50.0 +12
KONO LR LR
comp=Z,708nm,20.0s,MS5.4
GOF Gofitskoye 140.96 317 *e*PKIKP PKPdf 04 03 42.0 +3.7
KIV Kislovodsk 141.67 316 *i* PKIKP PKPdf 04 03 40.0 +0.4
KIV pmax pmax
comp=Z,11nm,1.1s
KIV Kislovodsk 141.67 316 PFAKE 04 03 50.0 +10
KIV LR LR
comp=Z,704nm,20.0s,MS5.4
GNI Garni 141.68 309 PFAKE 04 03 50.0 +10
GNI LR LR
comp=Z,494nm,20.0s,MS5.3
KMBO Kilima Mbogo 142.52 239 PKP PKPdf 04 03 41.2 +0.2
comp=Z,2.9nm,1.0s,baz=80,slow=8.5,SNR=4.2
KMBO Kilima Mbogo 142.52 239 PKIKP PKPdf 04 03 41.2 +0.1
KMBO pmax pmax
comp=Z,3.0nm,1.0s
KMBO Kilima Mbogo 142.52 239 *e*PKPdf PKPdf 04 03 42.7 +1.6
KMBO LR LR
comp=Z,567nm,20.0s,MS5.3
BHD Baghdad 143.71 298 *ex* x 04 03 39.0
SOC Sochi 143.75 317 *e*PKHKP 04 03 38.6
SOC *e* 04 06 54.6
SOC pmax pmax
comp=Z,30nm,0.8s
MSL Mosul 144.07 304 *ex* x 04 03 40.0
MUD Monsted U'grnd 144.13 357 *i* P PKPdf 04 03 41.0 -2.9
comp=Z,37nm,1.3s
MUD *i* 04 07 47.6
MUD *i* 04 25 47.0
MUD
comp=Z,780nm,18.0s
MUD Monsted U'grnd 144.13 357 *e*PKIKP PKPdf 04 03 41.0 -2.9
MUD *i* 04 25 47.0
MUD pmax pmax
comp=Z,37nm,1.3s
MUD MLR MLR
comp=Z,790nm,18.0s,MS5.5
MUD Monsted U'grnd 144.13 357 *e*P PKPdf 04 03 41.0 -2.9
MUD *i* 04 07 47.6
MUD *i* 04 25 47.0
SUW Suwalki 144.16 343 *e*PKP PKPdf 04 03 41.4 -2.6
ERZM Erzurum 144.20 310 *i* P PKPdf 04 03 40.5 -3.6
ANN Anapa 144.55 320 *i* PKIKP PKPdf 04 03 43.5 -1.1
ANN *e* 04 10 54.3
ANN pmax pmax
comp=Z,94nm,1.7s
COP Copenhagen 144.65 354⇑*i*P PKPdf 04 03 43.0 -1.8
comp=Z,25nm,1.2s
COP *i* 04 07 44.2
COP *i* 04 25 57.6
COP
comp=Z,460nm,19.0s
COP Copenhagen 144.65 354⇑*i*PKIKP PKPdf 04 03 43.0 -1.8
COP pmax pmax
comp=Z,25nm,1.2s
COP MLR MLR
comp=Z,470nm,19.0s,MS5.3
ESK Eskdalemuir 144.67 9 *e*PKIKP PKPdf 04 03 42.5 -2.4
ESK MLR MLR
comp=Z,707nm,20.0s,MS5.4
BNGL BINGOL 144.70 309 *i* P PKPdf 04 03 40.5 -4.5
AKASG Malin Array Be 144.83 334 PKP PKPdf 04 03 43.2 -1.9
comp=Z,6.7nm,0.5s,baz=36,slow=3.6,SNR=54
AKASG Malin Array Be 144.83 334 PKP PKPdf 04 03 43.2 -1.9
AKBB Malin Array Si 144.83 334 *e*PKIKP PKPdf 04 03 43.3 -1.8
BSD Bornholm Skovb 144.90 351⇑*i*P PKPdf 04 03 43.3 -1.9
comp=Z,57nm,1.3s
BSD *i* 04 03 55.5
BSD *i* 04 05 01.5
BSD
comp=Z,610nm,18.0s
BSD Bornholm Skovb 144.90 351⇑*i*PKIKP PKPdf 04 03 43.3 -1.9
BSD *i* 04 03 55.5
BSD pmax pmax
comp=Z,57nm,1.3s
BSD MLR MLR
comp=Z,610nm,18.0s,MS5.4
BSD Bornholm Skovb 144.90 351⇑*i*P PKPdf 04 03 43.3 -1.9
BSD *i* 04 03 55.5
BSD *i* 04 05 01.5
BEST Besiri 144.98 307 *i* P PKPdf 04 03 42.4 -3.0
ASCN Ascension 145.30 143 PFAKE 04 04 00.0 +14
ASCN LR LR
comp=Z,947nm,19.0s,MS5.6
MARD Mardin 145.54 306 *i* P PKPdf 04 03 43.3 -3.0
RGN Rugen 145.67 352 *e*PKPbc PKPbc 04 03 46.4 -0.5
RGN Rugen 145.67 352 *e*PKPbc PKPbc 04 03 46.8 -0.1
DCN Croghan 145.78 14 *e*P PKPdf 04 03 43.0 -3.8
DLF Lyons Farm 145.99 13 *e*P PKPdf 04 03 43.5 -3.6
DSB Dublin 146.07 13 *e*PKPdf PKPdf 04 03 47.8 +0.5
WAR Warsaw 146.33 343 *e*PKP PKPab 04 03 50.4 +0.6
SIM Simferopol' 146.41 323 *e*PKP2 PKPab 04 03 50.6 +0.6
SIM pmax pmax
comp=Z,40nm,1.3s
ELZG Elazig 146.44 309 *i* P PKPdf 04 03 47.2 -0.7
BSEG Bad Segeberg 146.57 355 *e*PKPbc PKPbc 04 03 49.3 -0.3
MALT Malatya 146.92 309 *i* P PKPdf 04 03 52.0 +3.3
MALT Malatya 146.92 309 *e*PKPbc PKPbc 04 03 50.4 -0.2
LVV L'vov 147.52 338 *i* PKP2 PKPab 04 03 52.3 -2.1
LVV *e* 04 07 15.3
LVV *e* 04 10 32.3
RUE Ruedersdorf 147.62 351 *e*PKPbc PKPbc 04 03 52.2 -0.4
PDA Ponta Delgada 147.74 51 *e*PKP PKPab 04 03 56.0 +0.7
KIS Kishinev 147.79 330 *e*PKIKP PKPdf 04 03 51.0 +0.9
KIS *e*PPP 04 10 51.0
KIS pmax pmax
comp=Z,1μm,9.0s
KIS pmax pmax
comp=Z,1μm,10.0s
KIS MLR MLR
comp=N,1μm,20.0s,MS5.8
KIS MLR MLR
comp=E,800nm,20.0s,MS5.8
KIS MLR MLR
comp=Z,2μm,20.0s,MS5.9
KIS MLR MLR
comp=Z,2μm,21.0s
WIT Witteveen 147.86 359 *e*PKP PKPdf 04 03 53.1 +2.9
NRDL Niedersach Rie 148.02 355 *e*PKPbc PKPbc 04 03 53.5 -0.2
KWP Kalwaria 148.13 339 *e*PKP PKPbc 04 03 54.3 +0.4
OJC Ojcow 148.49 343 *e*PKPdf PKPdf 04 03 51.0 -0.3
OJC *e*PKPab PKPab 04 03 54.9 -3.4
OJC *ep*PKPdf pPKPdf 04 04 01.4 +0.4
OJC Ojcow 148.49 343 *e*PKP2 PKPbc 04 03 54.9 0.0
CLZ Clausthal 148.65 355 *e*PKPbc PKPbc 04 03 55.6 +0.3
WTSB Winterswijk 148.71 359 *e*PKP PKPdf 04 03 51.1 -0.5
comp=Z,31nm,1.9s
KSP Ksiaz 148.76 347 *e*PKP PKPbc 04 03 56.3 +0.7
KSP Ksiaz 148.76 347 *e*PKP PKPbc 04 03 55.8 +0.2
KSP *ep*PKP pPKPdf 04 04 09.0 +7.6
KSP *e*SS SS 04 26 29.0 -4.7
KSP LR LR
comp=Z,1μm,21.1s,MS5.7
STHS Stebnicka Huta 148.79 341 *e*PKP PKPbc 04 03 56.7 +1.1
BALT Daday 148.82 318 *i* P PKPbc 04 03 57.7 +2.0
KOLS Kolonicke sedl 148.87 339 *e*PKP PKPdf 04 03 52.0 +0.1
CLL Collm 148.88 351 *e*PKPdf PKPdf 04 03 51.5 -0.4
CLL *e*PKPbc PKPbc 04 03 55.7 -0.2
comp=Z,45nm,1.3s
CLL *e*PKPab PKPab 04 04 00.3 +0.5
CLL *ep*PKPbc pPKPbc 04 04 02.7 -2.8
CLL *e*PP PP 04 07 20.8 -5.6
CLL *e*PPP 04 10 48.3
CLL *e*PSKS 04 17 42.8
CLL *e*PPS 04 20 08.8
CLL *e*SS SS 04 26 39.4 +4.3
CLL *e*L 05 14 28.4
comp=Z,868nm,20.0s
CLL Collm 148.88 351 *e*PKIKP PKPdf 04 03 52.0 +0.1
CLL *i* PKP1 PKPbc 04 03 55.7 -0.2
CLL *i* *PPKP 04 04 05.3
CLL *i* *PPKP2 04 04 09.3
CLL *e*PPS 04 20 10.5
CLL *e*SS SS 04 26 30.0 -5.1
CLL Collm 148.88 351 *e*PKPdf PKPdf 04 03 52.0 +0.1
CLL ⇑*i*PKPbc PKPbc 04 03 55.7 -0.2
comp=Z,44nm,1.3s
CLL *i* pPKPbc pPKPbc 04 04 05.3 -0.2
CLL *i* pPKPab pPKPab 04 04 09.3 0.0
comp=Z,79nm,1.1s
CLL *i* x x 04 04 21.5
CLL *ex* x 04 06 21.0
CLL *e*PSKS 04 17 54.0
CLL *e*PPS 04 20 10.0
CLL *e*SS SS 04 26 30.0 -5.1
CLL *ex* x 04 38 12.0
CLL Lm 05 13 00.0
comp=N,700nm,19.5s
CLL Lm 05 13 00.0
comp=E,700nm,21.0s
CLL Lm 05 13 00.0
comp=Z,900nm,18.4s
CLL Collm 148.88 351⇑*e*PKIKP PKPdf 04 03 52.0 +0.1
CLL *i* 04 03 55.7
CLL *i* 04 04 05.3
CLL pmax pmax
comp=Z,44nm,1.3s
CLL MLR MLR
comp=Z,900nm,18.4s,MS5.6
CLL Collm 148.88 351 *e*PKP PKPdf 04 03 52.0 +0.1
CLL ⇑*i*PKP PKPdf 04 03 55.7 +3.8
CLL *i* 04 04 05.3
CLL LR LR
comp=Z,900nm,18.4s,MS5.6
BURAR Bucovina Array 148.88 334⇓*i*P PKPbc 04 03 57.2 +1.3
BURAR Bucovina Array 148.88 334⇓P PKPbc 04 03 57.2 +1.3
NIE Niedzica 149.07 342 *e*PKPdf PKPdf 04 03 53.1 +0.9
NIE *e*PKPab PKPbc 04 03 57.5 +1.1
NIE Niedzica 149.07 342 *e*PKP2 PKPbc 04 03 57.5 +1.1
UPC Upice 149.13 347⇑*e*PKP PKPbc 04 03 56.5 0.0
BRG Berggiesshubel 149.16 350 *e*PKPbc PKPbc 04 03 56.5 -0.1
BRG Berggiesshubel 149.16 350 *e*PKP PKPdf 04 03 53.3 +1.0
comp=Z,7.7nm,1.5s
BRG Berggiesshubel 149.16 350 *e*PKP PKPdf 04 03 53.3 +1.0
BRG LR LR
comp=Z,630nm,17.9s,MS5.5
CRVS Cervenica-Dubn 149.17 340 *e*PKP PKPbc 04 03 57.1 +0.5
CRVS *e* 04 04 10.9
CRVS Cervenica-Dubn 149.17 340 *e*PKP PKPbc 04 03 57.1 +0.5
CRVS *e* 04 04 10.9
CRVS LR LR
comp=Z,300nm,21.6s,MS5.0
CDAG Cicekdag 149.18 314 *i* P PKPdf 04 03 51.0 -1.4
FBE Freiberg 149.20 351 *e*PKPbc PKPbc 04 03 56.8 +0.1
COBT Iskenderun 149.21 307 *i* P PKPdf 04 03 53.9 +1.4
DPC Dobruska-Polom 149.22 347⇑*e*PKP PKPbc 04 03 57.1 +0.4
DPC *ex* x 04 17 37.2
DPC *ex* x 04 26 29.3
DPC AMS AMS 05 19 50.0
comp=Z,1μm,19.8s
BUG Bochum--Univer 149.22 358 *e*PKPbc PKPbc 04 03 56.4 -0.3
AVNT Avonos 149.25 312 *i* P PKPdf 04 03 55.8 +3.3
OKC Ostrava-Krasne 149.28 344⇑*e*PKP PKPbc 04 03 55.7 -1.2
OKC *ep*PKP pPKPdf 04 04 05.9 +3.7
OKC *ex* x 04 17 31.1
OKC *e*SS SS 04 26 39.6 +0.1
OKC AMS AMS 05 12 40.0
comp=Z,900nm,20.1s
OKC Ostrava-Krasne 149.28 344 *e*PKP PKPbc 04 03 55.7 -1.2
OKC *e* 04 04 05.9
OKC *e* 04 17 31.1
OKC *e* 04 26 39.6
ELDT Eldivan 149.35 316 *i* P PKPdf 04 03 55.8 +3.1
PVCC Panska Ves 149.39 349⇑*e*PKP PKPbc 04 03 58.0 +0.8
PVCC *ep*PKP pPKPdf 04 04 06.6 +4.2
PVCC AMS AMS 05 20 00.0
comp=Z,1μm,18.3s
MORC Moravsky Berou 149.48 345⇑*i*P PKPbc 04 03 58.5 +1.1
MORC Moravsky Berou 149.48 345 *e*PKPbc PKPbc 04 03 57.2 -0.2
VRI Vrincioaia 149.59 331⇑*i*P PKPbc 04 03 58.1 +0.4
VRI Vrincioaia 149.59 331⇑P PKPbc 04 03 58.1 +0.4
BR131 Keskin Array S 149.61 315 *e*PKPdf PKPdf 04 03 52.7 -0.4
BR131 *e*PKPbc PKPbc 04 03 58.2 +0.5
BRTR Keskin Array B 149.61 315 PKP PKPdf 04 03 52.0 -1.1
comp=Z,1.7nm,1.0s,baz=148,slow=5.7,SNR=6.1
BRTR PKPbc PKPbc 04 03 57.8 0.0
comp=Z,4.1nm,0.6s,baz=121,slow=3.0,SNR=20
BRTR PP PP 04 07 35.1 +4.5
comp=Z,2.5nm,1.1s,baz=145,slow=4.5,SNR=3.5
MOX Moxa 149.71 353 *e*PKPbc PKPbc 04 03 57.9 0.0
MOX Moxa 149.71 353 *e*PKP PKPbc 04 03 57.5 -0.4
comp=Z,80nm,1.7s
MOX
comp=Z,500nm,20.0s
WERD Werda 149.81 352 *e*PKPbc PKPbc 04 03 58.3 +0.1
WERD *ep*PKPbc pPKPbc 04 04 09.0 +1.2
TANN Tannenbergstha 149.82 352 *e*PKPbc PKPbc 04 03 58.5 +0.3
UCC Uccle 149.85 2 PKiKP PKiKP 04 03 58.1 -1.1
BEBN Eben Emael 149.88 0 PKPbc PKPbc 04 03 57.9 -0.5
GUNZ Gunzen 149.89 352 *e*PKPbc PKPbc 04 03 58.6 +0.2
GUNZ *ep*PKPbc pPKPbc 04 04 09.5 +1.5
MENF Mencas 149.97 5 PKP PKPdf 04 03 55.9 +2.2
MENF Mencas 149.97 5 *e*P PKPbc 04 03 58.1 -0.5
NKC Novy Kostel 150.00 352⇑*e*PKP PKPbc 04 03 59.1 +0.4
NKC *ep*PKP pPKPdf 04 04 09.6 +6.2
NKC AMS AMS 05 19 30.0
comp=Z,1μm,18.8s
NKC Novy Kostel 150.00 352 *e*PKP PKPbc 04 03 59.1 +0.4
NKC *e* 04 04 09.6
MEM Membach 150.07 360 PKPbc PKPbc 04 03 58.8 0.0
ANTO Ankara 150.10 316 PFAKE 04 04 10.0 +16
ANTO LR LR
comp=Z,667nm,22.0s,MS5.4
VRAC Vranov 150.14 346⇑*i*P PKPbc 04 03 59.6 +0.6
VRAC Vranov 150.14 346 PKP2 PKPbc 04 04 00.2 +1.2
VRAC Vranov 150.14 346⇑P PKPbc 04 03 59.6 +0.6
SNF Seneffe 150.14 2 PKiKP PKiKP 04 03 59.7 -0.2
SGKT Sivrigoynuk 150.19 318 *i* P PKPdf 04 03 53.9 -0.1
MLR Muntele Rosu 150.24 331⇑*i*P PKPbc 04 03 58.9 -0.3
MLR Muntele Rosu 150.24 331 PKIKP PKPbc 04 03 59.6 +0.4
MLR Muntele Rosu 150.24 331⇑P PKPbc 04 03 58.9 -0.3
BCLA Clavier 150.26 1 PKPbc PKPbc 04 03 56.4 -2.8
BCLA PKPab PKPab 04 04 03.5 -2.0
BCLA XPKPab 04 04 12.6
MANZ Manzenberg 150.29 352 *e*PKPbc PKPbc 04 03 59.6 +0.2
VYHS Vyhne 150.32 343 *i* PKP PKPbc 04 03 59.6 +0.2
VYHS LR LR
comp=Z,400nm,21.3s,MS5.2
TREC Trest 150.39 347⇑*e*PKP PKPbc 04 03 59.9 +0.3
TREC AMS AMS 05 21 10.0
comp=Z,1μm,18.6s
TNS Taunus Mts 150.39 357 *e*PKPbc PKPbc 04 03 59.4 -0.2
ROTZ Rotzenmuhle 150.49 352 *e*PKPbc PKPbc 04 04 00.0 +0.2
PSZ Piszkesteto 150.53 341⇑*ep*PKP PKPbc 04 04 00.1 +0.2
PSZ Piszkesteto 150.53 341⇓*i*P PKPbc 04 04 01.0 +1.1
PSZ Piszkesteto 150.53 341 *e*PKPbc PKPbc 04 03 60.0 +0.1
DRGR 150.54 336⇑*i*P PKPbc 04 03 59.4 -0.5
DRGR 150.54 336⇑P PKPbc 04 03 59.4 -0.5
DOU Dourbes 150.56 2 PKP PKPdf 04 03 51.2 -3.4
DOU E 04 03 56.1
DOU PKiKP PKiKP 04 04 00.4 -0.3
DOU PKPab PKPab 04 04 04.1 -2.7
DOU XPKPab 04 04 12.1
DOU APKPab 04 04 16.0
GIVF Givet 150.56 2 *e*PKIKP PKPdf 04 03 54.0 -0.6
BAIF Baives 150.59 2 *e*PKIKP PKPdf 04 03 54.2 -0.4
VOIR 150.68 332⇑*i*P PKPbc 04 04 02.1 +1.8
VOIR 150.68 332⇑P PKPbc 04 04 02.1 +1.9
SMOL Smolenice 150.68 344 *e*PKP PKPbc 04 04 01.7 +1.4
SMOL *e* 04 04 21.3
GRA1 Grafenberg Arr 150.69 353 *e*PKPbc PKPbc 04 04 00.5 +0.2
GRA1 *e*PP PP 04 07 42.0 +5.1
GRA1 *e*SKKSac SKKSac 04 14 28.0 +2.2
GRA1 *e*SS SS 04 26 54.8 -0.4
GRA1 *e*SSS 04 32 42.1
GRA1 LR LR
comp=Z,600nm,21.2s,MS5.4
GRF Grafenberg Arr 150.69 353 *e*PKPbc PKPbc 04 04 00.5 +0.2
GRF *e*PP PP 04 07 42.0 +5.1
GRF *e*SKKSac SKKSac 04 14 28.0 +2.2
GRF *e*SS SS 04 26 54.8 -0.4
GRF *e*SSS 04 32 42.1
GRF *e*L 05 13 28.6
comp=Z,641nm,21.2s
GRF Grafenberg Arr 150.69 353 *e*PKIKP PKPbc 04 04 00.5 +0.2
GRF *e* 04 07 42.0
GRF *e*SS SS 04 26 54.8 -0.4
GRF *e*SSS 04 32 42.1
GRF MLR MLR
comp=Z,600nm,21.2s,MS5.4
GRF Grafenberg Arr 150.69 353 *e*PKIKP PKPbc 04 04 00.5 +0.2
GRF *e* 04 07 42.0
GRF *e*SS SS 04 26 54.8 -0.4
GRF *e*SSS 04 32 42.1
GRF MLR MLR
comp=Z,600nm,21.2s,MS5.4
MEST Erdemli 150.73 309 *i* P PKPdf 04 03 56.7 +1.9
ABH Alteburg 150.77 358 *e*P PKPbc 04 04 00.1 -0.4
KHC Kasperske Hory 150.91 350 *e*PKPDF PKPdf 04 03 54.5 -0.6
KHC ⇑*e*PKP PKPdf 04 03 59.3 +4.2
KHC *ep*PKP pPKPdf 04 04 12.1 +7.3
KHC *e*SS SS 04 26 57.1 -0.6
KHC AMS AMS 05 24 20.0
comp=Z,1μm,18.1s
KHC Kasperske Hory 150.91 350 *e*PKP PKPbc 04 03 59.3 -1.5
KHC *e* 04 04 12.1
KHC *e* 04 26 57.1
KHC LR LR
comp=Z,1μm,18.1s,MS5.7
RUP Ruppelstein 150.97 359 *e*PKIKP PKPbc 04 04 00.8 -0.2
TOD Tromm 150.99 356 *e*PKIKP PKPbc 04 04 00.8 -0.2
WET Wettzell 151.00 351 *e*PKPbc PKPbc 04 04 01.0 0.0
WET *ep*PKPbc pPKPbc 04 04 12.4 +1.7
WLF Walferdange 151.02 360 *e*PKPbc PKPbc 04 04 01.3 +0.2
WLF Walferdange 151.02 360 PKiKP PKiKP 04 04 02.2 +0.5
WLF Walferdange 151.02 360 *e*PKPbc PKPbc 04 04 01.7 +0.7
SRO1 Iza 151.16 343 *e*PKP PKPbc 04 04 01.8 +0.4
SRO1 *e* 04 04 13.0
GEC2 GERESS Array S 151.16 349 *e*PKPbc PKPbc 04 04 01.4 0.0
GEC2 *ep*PKPbc pPKPbc 04 04 12.8 +1.8
GERES GERESS Array B 151.16 349 PKPbc PKPbc 04 03 60.0 -1.4
comp=Z,7.6nm,1.0s,baz=48,slow=2.0,SNR=23
KDHN Kadinhani 151.25 314 *i* P PKPdf 04 03 50.0 -5.6
ROSF Rostrenen 151.36 13 *e*PKIKP PKPdf 04 03 55.0 -0.8
FLN La Foliniere 151.45 9 *e*PKIKP PKPdf 04 03 55.4 -0.5
comp=Z,81nm,1.0s
ESKT Eskisehir 151.54 317 *i* P PKPdf 04 03 59.6 +3.5
SGMF Saint Gilles 151.58 12 *e*PKIKP PKPdf 04 03 55.4 -0.8
comp=Z,28nm,1.3s
ERMK Ermenek 151.60 310 *i* P PKPdf 04 03 54.8 -1.4
CONA Conrad Observa 151.60 346 *i* PKiKP PKiKP 04 04 03.3 +0.4
comp=Z,42nm,1.1s,SNR=12
LDF La Druitiere 151.66 9 *e*PKIKP PKPdf 04 03 55.5 -0.8
GZR Gura Zlata 151.67 335⇑*i*P PKPbc 04 04 05.8 +3.2
GZR Gura Zlata 151.67 335⇓P PKPbc 04 04 04.7 +2.2
GRR Gorron 151.75 10 *e*PKIKP PKPdf 04 03 55.8 -0.6
comp=Z,13nm,1.1s
QUIF Quistinic 151.78 13 *e*PKIKP PKPdf 04 03 55.8 -0.7
comp=Z,20nm,1.2s
BZS Buzias 151.94 336⇑*i*P PKPbc 04 04 03.4 +0.2
BZS Buzias 151.94 336 PKIKP PKPbc 04 04 03.8 +0.6
BZS Buzias 151.94 336⇑P PKPbc 04 04 03.4 +0.2
ULDT Uludag 152.25 320 *i* P PKPdf 04 03 59.6 +2.5
BFO Black Forest 152.29 357 *e*PKPbc PKPbc 04 04 03.6 -0.4
PKSM Moragy 152.44 341⇓*i*P PKPbc 04 04 04.6 +0.3
PKSM Moragy 152.44 341 PKIKP PKPbc 04 04 04.1 -0.2
PKSM Moragy 152.44 341⇓P PKPbc 04 04 04.6 +0.3
ECH Echery 152.45 358 PKP PKPbc 04 04 04.6 +0.3
THEF They Montfort 152.46 360 PKP PKPbc 04 04 04.2 -0.2
FELD Feldberg im Sc 152.76 357 *e*P PKPdf 04 04 00.1 +2.2
MOF Molkenrain 152.81 358 PKP PKPbc 04 04 05.3 +0.1
MOF Molkenrain 152.81 358 *e*P PKPbc 04 04 04.8 -0.4
HINF Hinteralfeld 152.86 359 *e*PKIKP PKPdf 04 03 57.5 -0.5
PGB Panagyurishte 153.31 329 *e*P PKPbc 04 04 03.2 -3.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOMF	Lomont	153.32	359	PKP	PKPbc	04 04 06.6	+0.3
LOMF	Lomont	153.32	359	eP	PKPbc	04 04 05.9	-0.4
LOR	Lormes	153.36	3	ePKIKP	PKPdf	04 03 58.4	-0.4
LOR				eR			
	comp=Z,1μm,20.0s						
LOR	Lormes	153.36	3	ePKPdf	PKPdf	04 03 58.4	-0.4
LOR				LR	LR		
	comp=Z,1μm,20.0s,MS5.8						
PLD	Plovdiv	153.38	328	eP	PKPdf	04 03 59.3	+0.5
FVI	Forni Avoltri	153.50	349	PKIKP	PKPbc	04 04 07.4	+0.8
SSF	Saint Saulge	153.55	4	ePKIKP	PKPdf	04 03 58.8	-0.2
BRES	Bressanone	153.56	351	PKP	PKPbc	04 04 05.9	-0.9
GCIS	Gornji Cirnik	153.59	345	ePKPbc	PKPbc	04 04 06.8	-0.1
GCIS				ePP	PP	04 07 52.1	-1.3
MFF	Saint Martin d	153.60	10	ePKIKP	PKPdf	04 03 58.6	-0.5
RZN	Rozhen	153.68	327	eP	PKPdf	04 04 01.7	+2.5
LJU	Ljubljana	153.69	346	ePKPdf	PKPdf	04 03 58.5	-0.8
LJU				ePKPbc	PKPbc	04 04 06.9	-0.1
VTS	Vitosha	153.73	330	eP	PKPdf	04 03 58.4	-0.9
VTS	Vitosha	153.73	330	⇑iP	PKPab	04 04 23.9	+3.9
GRUS	Gruza	153.74	335	iP	PKPbc	04 04 07.6	+0.4
AVF	Avril sur Loir	153.81	4	ePKIKP	PKPdf	04 03 58.8	-0.6
VOY	Vojsko	153.83	347	ePKPdf	PKPdf	04 03 58.4	-1.1
VOY				ePKPbc	PKPbc	04 04 08.0	+0.6
VOY				e		04 04 11.9	
DIVS	Divcibare	153.84	337	iP	PKPbc	04 04 07.5	+0.1
BRMO	Bormio	153.96	353	PKP	PKPbc	04 04 09.0	+1.4
BOJS	Bojanci	154.03	345	ePKPdf	PKPdf	04 03 59.8	0.0
BOJS				ePKPbc	PKPbc	04 04 08.0	+0.2
BOJS				e		04 18 13.0	
TUE	Stuetta	154.06	355	PKP	PKPbc	04 04 06.5	-1.4
TCF	Toulx Ste Croi	154.21	6	ePKIKP	PKPdf	04 03 59.3	-0.7
	comp=Z,11nm,1.2s						
BBLS	Bajina Basta -	154.25	337	iP	pPKPbc	04 04 15.7	-2.3
KKB	Krupnik	154.35	329	eP	PKPdf	04 04 03.7	+3.5
MCGN	Macugnaga	154.67	357	PKP	PKPbc	04 04 08.2	-1.0
VAI	Varese	154.71	355	PKIKP	PKPdf	04 04 03.7	+3.0
LPL	La Plagne	155.16	359	ePKIKP	PKPdf	04 04 01.7	+0.4
LPG	La Plagne	155.18	359	ePKIKP	PKPdf	04 04 01.8	+0.5
LBL	Lubilhac	155.35	5	ePKP2	PKPab	04 04 22.7	-4.2
CAF	Calviac	155.54	7	ePKIKP	PKPdf	04 04 01.3	-0.5
	comp=Z,18nm,1.4s						
BNI	Bardonecchia	155.62	359	ePKIKP	PKPdf	04 04 02.5	+0.6
BNI				e		04 04 13.8	
BOB	Bobbio (Coli)	155.75	354	PKP2	PKPab	04 04 26.2	-2.4
VIVF	Saint-Julien-l	155.80	2	ePKIKP	PKPdf	04 04 02.3	+0.1
AQU	L'Aquila	157.44	346	ePKP2	PKPab	04 04 34.3	-1.6
ESDC	Sonseca Array	159.18	22	PKP	PKPdf	04 04 06.1	-0.3
	comp=Z,0.4nm,0.5s,baz=345,slow=4.6,SNR=5.1						
ESDC				PKPab	PKPab	04 04 43.6	+0.1
	comp=Z,2.6nm,0.9s,baz=330,slow=2.7,SNR=5.8						
ESDC	Sonseca Array	159.18	22	PKP	PKPdf	04 04 06.1	-0.3
ESDC				PKPab	PKPab	04 04 43.6	+0.1
TORD	Torodi Ar. Bea	171.52	151	PKP	PKPdf	04 04 16.8	+0.2
	comp=Z,3.1nm,1.2s,baz=160,slow=0.3,SNR=6.5						
TORD				PKPab	PKPab	04 05 38.1	+0.3
	comp=Z,3.9nm,1.2s,baz=197,slow=3.9,SNR=4.3						

*ISCJB **05** 03:51:28.5±1.1, 15.51S±0.08×72.37W±0.08, h88^{km}±14^{km}, mb4.1/7, Error ellipse: s-maj=15.9km s-min=9.3km az=93.3*

*NEIC **05** 03:51:36.3±1.9, 15.53S×72.20W, h146^{km}±17^{km}, mb4.3/7, Error ellipse: s-maj=25.8km s-min=14.2km az=58.0*

*IDC **05** 03:51:37.3±5.5, 15.87S×72.01W, h144^{km}±37^{km}, mb3.8/5, mb1 3.8/9, mb1mx3.5/20, mbtmp4.1/9, MS2.8/2, Ms1 2.8/2, ms1mx2.6/24, Error ellipse: s-maj=60.4km s-min=20.0km az=117.0*

ISC 05 03:51:29.8±0.8**, 15.57S**±0.07×**72.36W**±0.08**, h83**^{km}±11^{km}**, n18, σ0**^{s}**80**/22**, mb4.1**/7**, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	4.13	101	P	Pn	03 52 36.3	+5.8
	3.5nm,0.3s,baz=272,slow=9.3,SNR=80						
LPAZ				S	Sn	03 53 25.8	+8.2
	1.3nm,0.3s,baz=215,slow=20,SNR=7.1						
LPAZ	La Paz	4.13	101	ePn	Pn	03 52 36.9	+6.4
LPAZ				eSn	Sn	03 53 23.8	+6.2
NNA	Nana	5.62	309	ePn	Pn	03 52 51.8	+1.0
	60nm,0.4s						
NNA				eSn	Sn	03 53 53.1	-1.0
LVC	Limon Verde	7.73	156	P	Pn	03 53 20.5	+0.9
	9.1nm,0.3s,baz=331,slow=9.8,SNR=75						
LVC				S	Sn	03 54 43.2	-2.3
	2.7nm,0.3s,baz=74,slow=23,SNR=3.6						
LVC	Limon Verde	7.73	156	ePn	Pn	03 53 20.2	+0.7
	22nm,0.3s						
LVC				eSn	Sn	03 54 43.2	-2.3
ATAH	Atahualpa	10.37	325	LR	LR	03 58 51.0	
	comp=Z,80nm,18.7s,baz=88,slow=40						
SIV	San Ignacio	10.88	94	P	Pn	03 54 02.8	+0.4
	0.8nm,0.3s,baz=286,slow=8.7,SNR=19						
SAML	Samuel	11.12	55	ePn	Pn	03 54 05.6	-0.1
	4.4nm,0.5s						
CFAA	Coronel Fontan	16.40	167	P	Pn	03 55 15.6	+0.7
	0.1nm,0.3s,baz=340,slow=11,SNR=14						
CFAA				LR	LR	04 01 07.0	
	comp=Z,17nm,19.9s,baz=344,slow=36						
OTAV	Otavalo	16.82	338	eP	Pn	03 55 24.6	+4.6
	5.0nm,1.2s						
BDFB	Brasilia	23.45	93	P	P	03 56 31.7	0.0
	3.2nm,0.5s,mb3.9,baz=263,slow=9.6,SNR=10						
SDV	Santo Domingo	24.36	4	eP	P	03 56 39.0	-0.9
	6.3nm,1.0s,mb3.9						
PLCA	Paso Flores	25.12	177	P	P	03 56 46.6	-0.3
	2.5nm,0.8s,mb3.7,baz=354,slow=14,SNR=8.5						
PLCA	Paso Flores	25.12	177	eP	P	03 56 47.7	+0.8
	4.5nm,1.0s,mb3.9						
WVT	Waverly	53.46	344	eP	P	04 00 41.8	+0.5
	2.1nm,0.4s,mb4.5						
DBIC	Dimbokro	70.40	77	P	P	04 02 34.6	-0.2
	6.0nm,0.9s,mb4.4,baz=204,slow=12,SNR=4.6						
TORD	Torodi Ar. Bea	78.60	73	P	P	04 03 22.0	-0.4
	1.6nm,0.6s,mb4.0,baz=260,slow=5.0,SNR=34						
ESDC	Sonseca Array	84.02	46	P	P	04 03 51.5	+0.4
	1.1nm,0.6s,mb3.8,baz=270,slow=4.4,SNR=6.7						

MAN 05 03:52:40.3, 15.93N×119.78E, h28^{km}**, mb2.0, ML3.7, MS2.8, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.20	140	eP	Pb	03 52 47.9	+1.6
SCZP				eS	Sb	03 52 53.8	+3.4
BOLP	Bolinao	0.47	16	eP	Pb	03 52 50.9	+0.9
BOLP				eS	Sb	03 52 56.7	0.0
BCPH	Baguio City Da	0.89	60	⇑eP	Pn	03 52 57.0	+0.1
BCPH				iS	Sb	03 53 10.3	+1.7
BALP	Baler	1.74	96	eP	Pn	03 53 09.5	+0.9
LUBP	Lubang	2.23	168	eP	Pn	03 53 19.8	+4.4

MEX 05 04:00:07.6±0.6**, 16.76N×99.67W, h7**^{km}±4^{km}**, MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	Acapulco	0.26	294	iP	Pg	04 00 12.5	-0.2
ACX				iS	Sg	04 00 16.0	-0.2
CAIG	El Cayaco	0.64	297	iP	Pg	04 00 19.0	-1.0
CAIG				iS	Sg	04 00 27.9	-0.4
MEIG	Mezcala	1.16	2	iP	Pg	04 00 26.3	-3.6
MEIG				iS	Sg	04 00 40.9	-4.0
PLIG	Platanillo	1.63	6	iP	Pn	04 00 34.4	-2.3
PLIG				iS	Sn	04 00 53.9	-4.1
UTMO	Huajuapan	2.08	59	eP	Pn	04 00 40.0	-2.9
UTMO				iS	Sn	04 01 03.6	-5.3

MAN 05 04:11:19.8, 9.76N×125.51E, h55^{km}**, mb1.9, ML3.7, MS7.4, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.03	318	⇓eP	Pn	04 11 28.0	-0.1
SCPH				eS	Sn	04 11 34.4	+0.5
MSLP	Maasin	0.74	300	eP	Pn	04 11 37.3	+3.1
MSLP				eS	Sn	04 11 50.5	+5.7
TBP	Tagbilaran	1.62	268	eP	Pn	04 11 56.2	+10
TBP				eS	Sn	04 12 16.9	+11
BUKP	Musuan	1.92	193	eP	Pn	04 11 51.1	+1.1
PAGZ	Pagadian	2.83	228	eP	Pn	04 12 03.5	+1.0

*ISCJB **05** 04:14:54.9±2.7, 51.14N±0.1×16.11E±0.1, h0^{km}, Error ellipse: s-maj=18.2km s-min=8.2km az=46.1*

*PRU **05** 04:14:56.3, 51.39N×16.07E, h0^{km}*

ISC 05 04:14:55.2±3.1**, 51.14N**±0.1×**16.11E**±0.1**, h0**^{km}**, n4, σ0**^{s}**23**/7**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UPC	Upice	0.91	184	ePG	Pg	04 15 13.0	+0.3
DPC	Dobruska-Polom	1.07	172	ePG	Pg	04 15 15.7	-0.1
DPC				eSG	Sg	04 15 29.7	-0.1
	2.7nm,0.3s						
PVCC	Panska Ves	1.31	228	ePG	Pg	04 15 20.5	+0.1
PVCC				eSG	Sg	04 15 37.2	-0.2
	4.4nm,0.3s						
BRG	Berggiesshubel	1.46	249	PG	Pg	04 15 22.9	-0.3
BRG				SG	Sg	04 15 42.5	+0.3
	3.6nm,0.3s						

*NEIC **05** 04:33:46.1±1.0, 50.32N×18.83E, h5^{km}, MG2.5(WAR), Error ellipse: s-maj=15.1km s-min=7.5km az=192.0*

*PRU **05** 04:33:48.3, 50.22N×18.86E, h0^{km}*

WAR 05 04:33:47.5, 50.25N×18.95E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	Ojcow	0.54	92	iPg	Pg	04 33 57.7	-0.2
OJC				eSg	Sg	04 34 05.6	+0.7
OKC	Ostrava-Krasne	0.66	232	ePG	Pg	04 33 59.8	-0.4
MORC	Moravsky Berou	1.02	243	ePn	Pn	04 34 05.8	-3.3
MORC				eSn	Sn	04 34 19.4	-4.8
LIKS	Likavka	1.20	175	eSN	Sn	04 34 26.4	-2.1
NIE	Niedzica	1.21	133	ePg	Pg	04 34 10.7	0.0
NIE				eSg	Sg	04 34 27.7	+1.4
DPC	Dobruska-Polom	1.69	275	ePG	Pg	04 34 16.7	-3.2
DPC				eSG	Sg	04 34 39.0	-2.8
	20nm,0.5s						
STHS	Stebnicka Huta	1.70	118	ePN	Pn	04 34 19.4	+1.0
STHS				eSN	Sn	04 34 46.8	+6.0
VYHS	Vyhne	1.75	183	ePN	Pn	04 34 17.8	-1.4
VYHS				eSN	Sn	04 34 40.2	-2.0
KSP	Ksiaz	1.80	290	ePg	Pg	04 34 21.1	-0.9
KSP				eSg	Sg	04 34 43.9	-1.4
UPC	Upice	1.90	279	ePG	Pg	04 34 21.6	-2.4
UPC				eSG	Sg	04 34 46.2	-2.4
CRVS	Cervenica-Dubn	2.12	129	ePN	Pn	04 34 26.2	+2.1
PSZ	Piszkesteto	2.41	165	ePg	Pg	04 34 33.4	-0.3
KOLS	Kolonicke sedl	2.53	120	ePG	Pg	04 34 35.5	-0.5
BRG	Berggiesshubel	3.26	283	Pg	Pb	04 34 45.3	-0.9
BRG				Sg	Sg	04 35 30.0	-2.1
BRG				SG	Sg	04 35 30.0	-2.1
	2.1nm,0.6s						
BRG	Berggiesshubel	3.26	283	PG	Pb	04 34 45.3	-0.9
KHC	Kasperske Hory	3.67	254	eSG	Sg	04 35 42.6	-2.6
	5.7nm,0.6s						
CLL	Collm	3.92	288	eSG	Sg	04 35 56.0	+2.4

*ISCJB **05** 05:07:43.8±7.5, 60.4S±0.1×28.2W±0.2, h26^{km}±55^{km}, mb4.1/18, MS3.6/1, Error ellipse: s-maj=20.7km s-min=12.1km az=64.2*

*NEIC **05** 05:07:48.2±2.5, 60.48S×28.24W, h51^{km}±23^{km}, mb4.3/9, Error ellipse: s-maj=14.4km s-min=8.7km az=217.0*

*IDC **05** 05:07:54.8±7.9, 60.26S×28.07W, h102^{km}±74^{km}, mb3.7/13, mb1 3.8/13, mb1mx3.7/19, mbtmp4.0/13, MS3.7/1, Ms1 3.7/1, ms1mx3.4/20, Error ellipse: s-maj=21.1km s-min=13.9km az=32.0*

ISC 05 05:07:46.5±7.4**, 60.5S**±0.1×**28.2W**±0.2**, h34**^{km}±55^{km}**, n30, σ0**^{s}**83**/26**, mb4.1**/18**, MS3.6**/1**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	Sanae	15.05	148	ePn	Pn	05 11 16.4	-0.3
	22nm,0.8s						
QSPA	South Pole Qui	29.75	180	eP	P	05 13 49.2	-0.5
	6.6nm,1.1s,mb4.3						
TRQA	Tornquist	30.86	301	eP	P	05 13 59.9	+0.3
	6.6nm,1.0s,mb4.4						
TRQA				epP	pP	05 14 09.6	+0.3
PLCA	Paso Flores	32.54	288	P	P	05 14 12.2	-2.1
	0.8nm,0.5s,mb3.9,baz=288,slow=11,SNR=5.0						
PLCA				LR	LR	05 26 49.0	
	comp=Z,134nm,20.1s,MS3.6,baz=177,slow=35						
PLCA	Paso Flores	32.54	288	eP	P	05 14 12.7	-1.6
	0.4nm,0.5s,mb3.6						
PLCA				LR	LR	05 26 49.0	
MAW	Mawson	36.98	140	P	P	05 14 54.0	+1.3
	2.8nm,0.9s,mb4.1,baz=228,slow=4.9,SNR=5.6						
CFAA	Coronel Fontan	39.04	299	P	P	05 15 10.8	+0.9
	0.2nm,0.7s,mb3.0,baz=166,slow=7.4,SNR=4.9						
CPUP	Villa Florida	39.50	317	P	P	05 15 14.0	+0.2
	0.7nm,0.5s,mb3.7,baz=139,slow=7.9,SNR=4.7						
CPUP	Villa Florida	39.50	317	P	P	05 15 14.0	+0.2
VNDA	Vanda	42.10	183	P	P	05 15 38.8	+3.5
	1.0nm,0.6s,mb3.6,baz=237,slow=1.4,SNR=6.0						
VNDA	Vanda	42.10	183	eP	P	05 15 35.4	+0.1
	3.9nm,1.2s,mb3.9						
SUR	Sutherland	42.47	71	P	P	05 15 38.4	+0.2
	3.8nm,0.8s,mb4.1,baz=199,slow=12,SNR=3.4						
SUR	Sutherland	42.47	71	P	P	05 15 38.4	+0.2
BDFB	Brasilia	47.02	334	P	P	05 16 13.5	-1.0
	0.9nm,0.5s,mb4.0,baz=190,slow=11,SNR=2.4						
LVC	Limon Verde	47.22	305	P	P	05 16 17.2	+1.1
	1.3nm,0.5s,mb4.1,baz=124,slow=7.3,SNR=3.3						
BOSA	Boshof	47.71	73	P	P	05 16 20.0	+0.2
	3.0nm,0.5s,mb4.5,baz=202,slow=9.3,SNR=10						
BOSA	Boshof	47.71	73	P	P	05 16 20.0	+0.2
SIV	San Ignacio	50.35	317	P	P	05 16 39.8	-0.3
	0.5nm,0.6s,mb3.7,baz=163,slow=11,SNR=5.0						
LBTB	Lobatse	50.92	71	P	P	05 16 44.2	-0.2
	5.2nm,0.8s,mb4.5,baz=212,slow=8.5,SNR=12						
LBTB	Lobatse	50.92	71	eP	P	05 16 44.0	-0.4
	5.3nm,0.8s,mb4.5						
LPAZ	La Paz	52.62	309	P	P	05 16 58.8	+1.7
	1.0nm,0.5s,mb4.0,baz=129,slow=6.1,SNR=13						
LPAZ	La Paz	52.62	309	eP	P	05 16 58.3	+1.1
	1.2nm,0.5s,mb4.1						
SAML	Samuel	57.64	318	eP	P	05 17 32.9	-0.4
	1.2nm,0.4s,mb4.3						
LSZ	Lusaka	60.54	67	eP	P	05 17 53.6	+0.2
	10nm,0.8s,mb5.0						
TORD	Torodi Ar. Bea	77.19	30	P	P	05 19 36.3	-0.6
	3.4nm,0.6s,mb4.4,baz=199,slow=6.1,SNR=34						
ASAR	Alice Springs	94.90	164	P	P	05 21 04.3	-0.8
	0.4nm,0.5s,mb4.1,baz=184,slow=3.6,SNR=5.2						
TPAW	Teton Pass	123.37	300	ePKPdf	PKPdf	05 26 37.2	-2.7
BRVK	Borovoye	137.47	62	ePKPdf	PKPdf	05 27 05.0	-1.6
ZAL	Zalesovo	144.61	70	PKP	PKPdf	05 27 15.7	-3.8
	1.8nm,0.8s,baz=249,slow=4.1,SNR=4.9						
SONM	Songino Array	151.21	95	PKPbc	PKPbc	05 27 35.4	-0.8
	0.7nm,0.5s,baz=204,slow=3.3,SNR=5.0						

*BJI **05** 05:15:05.5, 56.52N×118.48E, h18^{km}, mB4.7, mb4.3, ML5.1, Ms4.3*

*MOS **05** 05:15:07.3±0.9, 56.19N×118.02E, h11^{km}, mb4.3/12, Error ellipse: s-maj=9.8km s-min=8.7km az=96.9*

*IDC **05** 05:15:07.2±1.0, 56.21N×118.17E, h0^{km}, mb3.8/9, mb1 4.0/11, mb1mx3.9/22, mbtmp3.8/11, ML3.5/2, MS3.7/3, Ms1 3.7/3, ms1mx3.2/32, Error ellipse: s-maj=26.0km s-min=19.9km az=159.0*

*BYKL **05** 05:15:07.7±0.2, 56.33N×118.12E, h7^{km}±16^{km}*

*ISCJB **05** 05:15:07.3±0.2, 56.32N±0.03×118.09E±0.03, h7^{km}, mb4.0/27, MS3.8/4, Error ellipse: s-maj=3.6km s-min=2.4km az=1.1*

*NEIC **05** 05:15:09.0±0.3, 56.20N×118.17E, h10^{km}, mb4.0/12, Error ellipse: s-maj=8.4km s-min=6.8km az=147.0*

ISC 05 05:15:07.7±0.6**, 56.32N**±0.03×**118.17E**±0.03**, h3**^{km}±4^{km}**, n97, σ1**^{s}**25**/136**, mb4.0**/27**, MS3.8**/4**, 9C-4D, East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRS	Chara	0.58	5	⇑iPg	Pg	05 15 18.3	-0.6
CRS				Pmax		05 15 20.9	
	3μm,0.9s						
CRS				eSg	Sg	05 15 26.2	-0.3
CRS				Smax		05 15 34.8	
	8μm,1.8s						
CRS	Chara	0.58	5	ePG	Pg	05 15 18.5	-0.4
CRS				e		05 15 26.6	
CRS				pmax	pmax		
	comp=Z,3μm,0.9s						
CRS				smax			
	comp=E,6μm,0.9s						
KHNR	Khani	1.17	58	⇑iPg	Pg	05 15 29.5	-0.6
KHNR				eSg	Sg	05 15 45.9	+0.6
NLYR	Nelyaty	1.38	278	⇑iPg	Pn	05 15 31.3	-2.6
NLYR				e	Pg	05 15 35.2	+1.0
NLYR				max		05 15 35.7	
	comp=E,2μm,0.5s						
NLYR				eSg	Sg	05 15 49.7	-2.4
NLYR				Smax		05 15 53.2	
	comp=E,6μm,1.0s						
NLYR	Nelyaty	1.38	278	ePG	Pn	05 15 31.2	-2.7
NLYR				e	Sg	05 15 50.2	-1.9
NLYR				pmax			
	comp=Z,2μm,0.6s						
NLYR				smax			
	comp=N,16μm,1.0s						
TUP	Tupik	2.15	151	ePn	Pn	05 15 44.4	-0.2
TUP				ePg	Pb	05 15 46.3	-1.1
TUP				Pmax		05 15 47.9	
	comp=N,1μm,0.6s						
TUP				e		05 16 06.2	
TUP				eSg	Sb	05 16 14.4	-0.1
TUP				Smax		05 16 21.0	
	comp=N,4μm,1.1s						
TUP	Tupik	2.15	151	ePN	Pn	05 15 44.3	-0.3
TUP				e		05 15 46.9	
TUP				eS	Sn	05 16 11.7	-0.1
TUP				pmax	pmax		
	comp=Z,1μm,0.7s						
TUP				smax			
	comp=N,4μm,1.1s						
SVKR	Severomuysk	2.58	267	ePn	Pn	05 15 49.4	-1.1
SVKR				ePg	Pb	05 15 53.0	-1.7
SVKR				Pmax		05 15 56.9	
	comp=N,1μm,0.5s						
SVKR				eSg	Sb	05 16 26.5	-0.4
SVKR				Smax		05 16 32.2	
	comp=N,7μm,0.9s						
SVKR	Severomuysk	2.58	267	ePN	Pn	05 15 50.3	-0.2
SVKR				e		05 15 53.3	
SVKR				e		05 16 25.6	
SVKR				pmax	pmax		
	comp=Z,1μm,0.7s						
SVKR				smax			
	comp=N,7μm,1.0s						
BOD	Bodaibo	2.73	305	ePn	Pn	05 15 51.4	-1.0
BOD				⇑iPg	Pb	05 15 55.5	-1.7
	comp=N,434nm,0.8s						
BOD				⇓iPg	Pb	05 15 55.5	-1.7
	comp=N,643nm,0.8s						
BOD				⇑iPg	Pb	05 15 55.5	-1.7
	comp=N,521nm,0.8s						
BOD				Pmax		05 15 58.7	
	comp=N,1μm,0.9s						
BOD				eSg	Sb	05 16 29.7	-1.3
BOD				Smax		05 16 32.9	
	comp=N,2μm,1.2s						
BOD	Bodaibo	2.73	305	⇑ePN	Pn	05 15 50.9	-1.5
BOD				i		05 15 55.2	
BOD				e		05 16 29.2	
BOD				pmax	pmax		
	comp=Z,1μm,1.0s						
BOD				smax			
	comp=N,2μm,1.2s						
YOA	Uoyan	3.60	270	ePg	Pg	05 16 12.1	-4.7
YOA				Pmax		05 16 18.8	
	comp=N,360nm,0.6s						
YOA				eSn	Sn	05 16 46.3	-1.3
YOA				eSg	Sg	05 16 58.4	-5.1
YOA				Smax		05 17 15.8	
	comp=N,6μm,1.3s						
YOA	Uoyan	3.60	270	ePN	Pb	05 16 13.0	+0.9
YOA				e	Sb	05 16 59.2	+3.0
YOA				pmax	pmax		
	comp=Z,366nm,0.5s						
YOA				smax			
	comp=E,6μm,1.0s						
CLNS	Chul'man	3.75	79	ePg	Pb	05 16 14.9	+0.2
CLNS				e		05 16 53.5	
CLNS				eSg	Sb	05 17 04.5	+3.9
CLNS	Chul'man	3.75	79	ePN	Pn	05 16 07.9	+1.3
CLNS				e		05 16 15.9	
CLNS				eS	Sn	05 16 54.7	+3.4
CLNS				pmax	pmax		
	comp=N,2.0nm,0.2s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.2s						
CLNS				pmax	pmax		
	comp=Z,4.0nm,0.2s						
CLNS				pmax	pmax		
	comp=Z,88nm,0.6s						
CLNS				pmax	pmax		
	comp=N,28nm,0.4s						
CLNS				pmax	pmax		
	comp=E,78nm,0.7s						
CLNS				smax			
	comp=E,167nm,0.6s						
CLNS				smax			
	comp=Z,38nm,0.4s						
CLNS				smax			
	comp=N,198nm,0.7s						
CLNS				smax			
	comp=E,677nm,0.7s						
CLNS				smax			
	comp=Z,173nm,0.5s						
CLNS				smax			
	comp=N,645nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,200nm,16.0s						
TNDR	Tynda	3.89	105	ePn	Pn	05 16 08.5	+0.1
TNDR				ePg	Pb	05 16 18.5	+1.6
TNDR				eSn	Sn	05 16 54.5	0.0
TNDR				eSg	Sb	05 17 09.2	+4.8
KMO	Kumora	3.93	267	ePn	Pn	05 16 08.4	-0.5
KMO				ePg	Pb	05 16 17.5	-0.1
KMO				Pmax		05 16 24.8	
	comp=Z,211nm,1.4s						
KMO				eSn	Sn	05 16 53.0	-2.6
KMO				eSg	Sb	05 17 07.5	+1.9
KMO				Smax		05 17 12.5	
	comp=Z,2μm,1.1s						
KMO	Kumora	3.93	267	ePN	Pn	05 16 08.5	-0.4
KMO				eS	Sn	05 16 53.2	-2.4
KMO				eS	Sg	05 17 07.1	-6.8
KMO				smax			
	comp=N,2μm,1.1s						
YLYR	Ulyunkhan	4.23	253	⇓iPn	Pn	05 16 12.6	-0.5
YLYR				ePg	Pb	05 16 23.4	+0.6
YLYR				Pmax		05 16 27.4	
	comp=N,171nm,0.9s						
YLYR				eSg	Sb	05 17 17.7	+3.4
YLYR				Smax		05 17 23.8	
	comp=N,2μm,1.5s						
YLYR	Ulyunkhan	4.23	253	ePN	Pn	05 16 12.6	-0.5
YLYR				e		05 16 24.2	
YLYR				e		05 17 18.9	
YLYR				pmax	pmax		
	comp=Z,175nm,1.1s						
YLYR				smax			
	comp=E,2μm,1.7s						
NIZ	Nizh Angarsk	4.87	267	ePn	Pn	05 16 21.9	0.0
NIZ				ePg	Pb	05 16 34.0	+0.3
NIZ				Pmax		05 16 36.5	
	comp=E,79nm,1.5s						
NIZ				eSg	Sb	05 17 35.8	+3.1
NIZ				Smax		05 17 46.7	
	comp=E,542nm,1.8s						
NIZ	Nizh Angarsk	4.87	267	ePN	Pg	05 16 36.1	-4.9
NIZ				e		05 17 38.8	
NIZ				pmax	pmax		
	comp=Z,53nm,0.5s						
NIZ				smax			
	comp=N,373nm,0.8s						
CIT	Chita	5.09	214	ePn	Pn	05 16 23.7	-1.2
CIT				ePg	Pb	05 16 38.5	+1.1
CIT				Pmax		05 16 38.8	
	comp=N,65nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CIT				eSn	Sn	05 17 21.7	-2.5
CIT				eSg	Sb	05 17 43.8	+4.8
CIT				Smax		05 18 02.2	
	comp=N,1μm,1.4s						
CIT	Chita	5.09	214	ePN	Pg	05 16 37.9	-7.3
CIT				e		05 17 43.4	
CIT				pmax	pmax		
	comp=Z,65nm,1.1s						
CIT				smax			
	comp=N,1μm,1.5s						
KROS	Kirovskiy	5.36	107	ePn	Pn	05 16 26.2	-2.5
KROS				⇓iPg	Pb	05 16 42.4	+0.3
KROS				eSg	Sb	05 17 51.6	+4.7
SYVR	Suvo	5.41	244	ePg	Pb	05 16 44.6	+1.8
SYVR				Pmax		05 16 46.6	
	comp=N,10.0nm,0.5s						
SYVR				e		05 17 43.6	
SYVR				eSg	Sb	05 17 55.1	+7.0
SYVR				Smax		05 18 01.0	
	comp=N,1μm,1.8s						
SYVR				e		05 18 14.5	
MXMB	Maximikha	6.25	245	ePn	Pn	05 16 42.3	+1.4
MXMB				ePg	Pb	05 17 00.6	+3.4
MXMB				Pmax		05 17 06.8	
	comp=N,43nm,1.0s						
MXMB				e		05 17 48.2	
MXMB				eSg	Sb	05 18 21.4	+9.0
MXMB				Smax		05 18 29.4	
	comp=N,2μm,1.1s						
OGRR	Ongureny	6.65	251	ePn	Pn	05 16 47.0	+0.6
OGRR				ePg	Pb	05 17 07.5	+3.5
OGRR				Pmax		05 17 11.2	
	comp=N,55nm,0.8s						
OGRR				e		05 17 56.4	
OGRR				eSg	Sb	05 18 33.2	+9.3
OGRR				Smax		05 18 41.9	
	comp=N,440nm,1.7s						
OGRR	Ongureny	6.65	251	ePN	Pn	05 16 46.0	-0.4
OGRR				e		05 17 08.1	
CGD	Chagda	7.13	65	e	Pn	05 16 54.3	+1.4
CGD				e		05 18 13.8	
CGD				eSg	Sg	05 18 46.6	-10
HIA	Hailar	7.13	172	ePN	Pn	05 16 51.6	-1.3
HIA				pmax	pmax		
	comp=Z,12nm,0.6s						
HIA	Hailar	7.13	172	ePn	Pn	05 16 51.5	-1.4
	comp=Z,12nm,0.6s						
TRTB	Turuntaevo	7.40	241	ePn	Pn	05 16 57.1	+0.4
TRTB				ePg	Pb	05 17 20.0	+3.1
TRTB				Pmax		05 17 21.9	
	comp=Z,27nm,1.3s						
TRTB				e		05 18 30.2	
TRTB				eSg	Sb	05 18 55.3	+10
TRTB				Smax		05 18 58.7	
	comp=Z,543nm,1.1s						
KPC	Khapcheranga	7.49	210	ePN	Pn	05 16 56.2	-1.7
KPC				e		05 17 20.6	
KPC				e		05 19 00.0	
KPC				pmax	pmax		
	comp=Z,20nm,0.8s						
KPC				smax			
	comp=N,640nm,1.5s						
TRG	Tyrgan	7.74	248	ePg	Px	05 17 28.6	
TRG				Pmax		05 17 35.1	
	comp=N,8.0nm,0.8s						
TRG				eSg	Sx	05 19 08.2	
TRG				Smax		05 19 15.8	
	comp=N,216nm,1.9s						
TRG	Tyrgan	7.74	248	ePN	Pn	05 17 00.7	-0.7
TRG				e		05 17 26.7	
TRG				e		05 19 07.3	
TRG				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TRG				smax			
	comp=N,216nm,1.4s						
FFNB	Fofonovo	7.94	242	e	Px	05 17 31.3	
FFNB				eSg	Sx	05 19 12.7	
FFNB				Smax		05 19 26.1	
	comp=N,998nm,1.1s						
KAB	Kabansk	7.99	242	ePG	Px	05 17 32.7	
YAK	Yakutsk	8.22	41	ePN	Pn	05 17 06.6	-1.3
YAK				e		05 18 38.3	
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YAK				smax			
	comp=N,50nm,1.3s						
YAK				smax			
	comp=E,19nm,1.2s						
YAK				smax			
	comp=Z,24nm,1.2s						
YAK				pmax	pmax		
	comp=N,174nm,1.7s						
YAK				pmax	pmax		
	comp=E,110nm,1.2s						
YAK				pmax	pmax		
	comp=Z,44nm,1.2s						
YAK				smax			
	comp=N,178nm,1.4s						
YAK				smax			
	comp=Z,79nm,0.9s						
YAK				smax			
	comp=E,100nm,0.8s						
YAK				pmax	pmax		
	comp=Z,172nm,6.8s						
KLR	Kul'dur	10.85	125	eP	Pn	05 17 41.7	-2.3
KLR				MLR	MLR		
	comp=E,600nm,7.5s						
KLR				MLR	MLR		
	comp=Z,1μm,7.5s						
ULN	Ulaanbaatar	10.87	224⇑	iP	Pn	05 17 49.1	+4.9
ULN	Ulaanbaatar	10.87	224	ePn	Pn	05 17 43.2	-1.0
SONM	Songino Array	11.15	225	Pn	Pn	05 17 46.9	-1.2
	comp=Z,0.4nm,0.3s,baz=32,slow=14,SNR=17						
SONM				Lg		05 20 56.8	
	comp=Z,2.3nm,0.3s,baz=8.2,slow=31,SNR=8.2						
ORL	Orlik	11.34	258	e	Pn	05 17 51.8	+1.2
ORL				e		05 19 54.9	
ORL				eSg	Sn	05 20 57.1	+59
ORL				Smax		05 21 14.4	
	comp=Z,182nm,1.3s						
TIXI	Tiksi	16.04	12d	iP	Pn	05 18 50.1	-4.2
TIXI				pmax	pmax		
	comp=Z,17nm,1.3s						
HHC	Hu-ho-hao-te	16.07	198	eP	Pn	05 19 00.1	+5.4
HHC				AMB	AMB		
	comp=Z,18nm,0.5s						
HHC				AMB	AMB		
	comp=Z,192nm,6.2s						
HHC				LR	LR		
	comp=N,305nm,13.1s						
HHC				LR	LR		
	comp=E,429nm,13.7s						
ZAL	Zalesovo	19.12	277	P	Pn	05 19 31.4	-1.2
	comp=E,0.3nm,0.3s,baz=49,slow=11,SNR=9.3						
ZAL				Lg		05 25 01.4	
	comp=E,0.2nm,0.3s,baz=144,slow=17,SNR=2.6						
NVS	Novosibirsk	19.68	280	eP	Pn	05 19 37.7	-1.6
NVS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ASAJ	Asahikawa	19.71	118	LR	LR	05 27 03.0	
	comp=Z,202nm,18.2s,baz=11,slow=36						
GTA	Gaotai	20.81	223	eP	P	05 19 50.5	+0.2
GTA				AP		05 20 00.7	
GTA				XP	sP	05 20 03.5	+12
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s						
PET	Petropavlovsk	23.40	81	eP	P	05 20 17.0	-0.9
PET				pmax	pmax		
	comp=Z,24nm,1.2s,mb4.5						
KURK	Kurchatov	23.92	273	eP	P	05 20 23.6	+0.7
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.8						
KURK	Kurchatov	23.92	273	eP	P	05 20 23.6	+0.7
	comp=Z,3.7nm,1.0s,mb3.8						
MAJO	Matsushiro	23.96	137	eP	P	05 20 22.4	-0.9
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.1						
MAJO	Matsushiro	23.96	137	eP	P	05 20 22.4	-0.9
	comp=Z,3.3nm,0.4s,mb4.1						
MJAR	Matsushiro Arr	23.96	137	LR	LR	05 28 31.8	
	comp=Z,111nm,20.8s,MS3.3,baz=200,slow=34						
MKAR	Makanchi Array	24.00	262	P	P	05 20 24.8	+1.1
	comp=Z,0.5nm,0.3s,mb3.4,baz=57,slow=8.8,SNR=8.5						
NJ2	Nanjing	24.27	179	eP	P	05 20 25.5	-0.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
BILL	Bilibino	24.58	42⇑	eP	P	05 20 30.3	+1.4
BILL				eS	S	05 24 42.9	-7.7
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
BILL				MLR	MLR		
	comp=Z,200nm,17.0s,MS3.7						
SSE	Sheshan	25.30	174	eP	P	05 20 37.4	+1.9
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,84nm,3.8s						
CHKZ	Chkalovo	26.98	285	eP	P	05 20 50.2	-0.5
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
CHKZ	Chkalovo	26.98	285	eP	P	05 20 50.2	-0.5
	comp=Z,1.9nm,0.7s,mb3.7						
BVAR	Borovoye Array	27.39	283	P	P	05 20 54.0	-0.3
	comp=Z,0.7nm,0.8s,mb3.3,baz=60,slow=8.8,SNR=3.6						
ZRNK	Zerenda	28.17	284	eP	P	05 21 01.2	-0.1
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
ZRNK	Zerenda	28.17	284	eP	P	05 21 01.2	-0.2
	comp=Z,1.4nm,0.7s,mb3.7						
AAK	Ala-Archa	30.93	262	eP	P	05 21 25.9	0.0
KBS	Kingsbay	38.31	343	eP	P	05 22 29.2	-0.4
KBS				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.1						
KBS	Kingsbay	38.31	343	eP	P	05 22 29.2	-0.5
	comp=Z,44nm,1.0s,mb5.2						
ARCES	ARCESS Array B	39.80	327	LR	LR	05 41 50.9	
	comp=Z,171nm,21.8s,MS3.9,baz=190,slow=40						
OBN	Obninsk	43.41	304⇑	eP	P	05 23 11.3	-0.4
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
OBN				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.3						
FINES	FINESS Array B	44.07	316	P	P	05 23 16.1	-0.9
	comp=Z,1.7nm,0.8s,mb3.8,baz=145,slow=7.0,SNR=4.1						
KIV	Kislovodsk	47.53	289	eP	P	05 23 46.7	+2.4
KIV				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
KIV	Kislovodsk	47.53	289	eP	P	05 23 46.7	+2.4
	comp=Z,15nm,0.9s,mb5.0						
AKASG	Malin Array Be	49.66	303	P	P	05 23 59.2	-1.4
	comp=Z,1.2nm,0.5s,mb4.2,baz=42,slow=9.1,SNR=4.3						
BRTR	Keskin Array B	55.28	291	P	P	05 24 43.3	+0.9
	comp=Z,1.2nm,0.7s,mb4.0,baz=53,slow=6.4,SNR=4.5						
KHC	Kasperske Hory	57.73	311	eP	P	05 25 01.5	+1.6
GERES	GERESS Array B	57.90	311	P	P	05 25 00.8	-0.3
	comp=Z,0.2nm,0.3s,mb3.6,baz=58,slow=8.0,SNR=6.0						
BOZ	Bozeman (W)	70.15	35	eP	P	05 26 21.7	+0.1
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BOZ	Bozeman (W)	70.15	35	eP	P	05 26 21.7	0.0
	comp=Z,0.8nm,0.6s,mb3.8						
ELK	Elko	73.29	40	eP	P	05 26 42.7	+2.2
ELK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ELK	Elko	73.29	40	eP	P	05 26 42.7	+2.2
	comp=Z,0.8nm,0.7s,mb3.8						
BW06	Boulder Array	73.39	35	eP	P	05 26 41.1	0.0
	comp=Z,0.8nm,0.7s,mb3.8						
PDAR	Pinedale Array	73.39	35	P	P	05 26 41.1	0.0
	comp=Z,0.5nm,0.7s,mb3.6,baz=2.7,slow=3.1,SNR=5.6						
RSSD	Black Hills	73.81	30	eP	P	05 26 43.5	-0.1
RSSD				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
RSSD	Black Hills	73.81	30	eP	P	05 26 43.5	-0.1
	comp=Z,1.1nm,0.6s,mb4.0						
NVAR	Mina Array Bea	74.20	43	P	P	05 26 47.2	+1.4
	comp=Z,0.8nm,0.8s,mb3.7,baz=311,slow=1.7,SNR=5.3						
NVAR	Mina Array Bea	74.20	43	P	P	05 26 47.2	+1.4
WRA	Warramunga Arr	77.18	164	P	P	05 27 01.6	-1.3
	comp=Z,2.2nm,0.8s,mb4.1,baz=351,slow=6.8,SNR=6.9						
PV10	Paradox Valley	77.53	36	eP	P	05 27 05.5	+0.6
PV01	Paradox Valley	77.90	36	eP	P	05 27 08.0	+1.0
AS31	Alice Springs	80.78	165	eP	P	05 27 13.5	-9.2
ASPA	Alice Springs	80.78	165	eP	P	05 27 13.5	-9.2
ANMO	Albuquerque	81.50	36	eP	P	05 27 27.1	+0.6
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ANMO	Albuquerque	81.50	36	eP	P	05 27 27.1	+0.6
	comp=Z,1.4nm,1.0s,mb3.9						
AMTX	Amarillo	83.04	32	eP	P	05 27 35.4	+0.8
	comp=Z,2.9nm,0.8s,mb4.4						
WCI	Wyandotte Cave	83.55	19	eP	P	05 27 37.3	+0.1
WCI				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
WCI	Wyandotte Cave	83.55	19	eP	P	05 27 37.3	0.0
	comp=Z,1.6nm,0.5s,mb4.4						

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*IDC **05** 05:41:44.6±2.3, 088N×97.16E, h0^{km}, mb3.7/4, mb1 3.8/5, mb1mx3.5/20, mbtmp3.6/5, ML2.8/1, Error ellipse: s-maj=57.2km s-min=31.9km az=55.0*

*ISCJB **05** 05:41:47.8±1.5, 10N±02×972E±02, h33^{km}, mb3.7/5, Error ellipse: s-maj=24.2km s-min=23.4km az=37.1*

*NEIC **05** 05:41:49.3±1.1, 094N×9725E, h30^{km}, mb3.9/1, Error ellipse: s-maj=18.6km s-min=17.5km az=209.0*

ISC 05 05:41:50.4±1.5**, 10N**±02×**973E**±02**, h35**^{km}**, n7,** σ0.25/7**, mb3.7**/5**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.42	42	Pn	Pn	05 42 27.4	-0.1
	1.8nm,0.3s,baz=172,slow=12,SNR=5.9						
KULM	Kulim	5.42	38	ePn	Pn	05 43 08.7	0.0
WRA	Warramunga Arr	41.85	122	P	P	05 49 37.0	0.0
	0.2nm,0.7s,mb2.9,baz=302,slow=10,SNR=3.1						
SONM	Songino Array	47.31	8	P	P	05 50 20.7	+0.2
	0.8nm,0.6s,mb3.9,baz=187,slow=9.3,SNR=7.8						
MKAR	Makanchi Array	47.45	346	P	P	05 50 21.9	+0.3
	0.8nm,0.6s,mb3.9,baz=153,slow=8.2,SNR=6.4						
ZAL	Zalesovo	53.75	351	P	P	05 51 09.2	+0.1
	0.8nm,0.4s,mb4.0,baz=64,slow=2.1,SNR=3.1						
CHKZ	Chkalovo	56.94	341	eP	P	05 51 31.6	-0.5
	1.0nm,0.8s,mb3.9						

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*IDC **05** 05:42:21.4±1.7, 092N×97.14E, h0^{km}, mb4.0/5, mb1 4.1/6, mb1mx3.8/20, mbtmp3.9/6, ML3.2/1, Error ellipse: s-maj=52.8km s-min=22.6km az=60.0*

*ISCJB **05** 05:42:24.6±1.1, 10N±0.1×972E±02, h33^{km}, mb4.0/7, Error ellipse: s-maj=22.4km s-min=16.8km az=137.4*

*NEIC **05** 05:42:26.0±0.8, 095N×9721E, h30^{km}, mb4.1/2, Error ellipse: s-maj=16.5km s-min=12.2km az=67.0*

ISC 05 05:42:27.2±1.1**, 10N**±01×**973E**±02**, h35**^{km}**, n9,** σ0.32/9**, mb4.0**/7**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.44	43	Pn	Pn	05 43 04.3	-0.2
	4.8nm,0.3s,baz=155,slow=10.0,SNR=6.0						
KULM	Kulim	5.43	38	ePn	Pn	05 43 45.7	0.0
KULM				epPn		05 43 52.6	
WRA	Warramunga Arr	41.88	122	P	P	05 50 14.0	0.0
	0.7nm,0.7s,mb3.4,baz=299,slow=9.1,SNR=4.9						
ASAR	Alice Springs	43.23	127	P	P	05 50 24.9	0.0
	0.7nm,0.8s,mb3.4,baz=315,slow=7.8,SNR=4.9						
SONM	Songino Array	47.31	8	P	P	05 50 57.3	0.0
	1.9nm,0.5s,mb4.2,baz=187,slow=9.3,SNR=12						
SONM				PcP	PcP	05 52 28.8	+0.9
	0.9nm,0.7s,baz=183,slow=4.1,SNR=4.3						
ULN	Ulaanbaatar	47.44	9	eP	P	05 50 59.1	+0.8
	1.7nm,0.7s,mb4.1						
MKAR	Makanchi Array	47.44	346	P	P	05 50 57.9	-0.4
	2.1nm,0.7s,mb4.2,baz=157,slow=7.7,SNR=8.7						
ZAL	Zalesovo	53.75	351	P	P	05 51 46.0	0.0
	2.0nm,0.5s,mb4.3,baz=313,slow=3.2,SNR=6.9						
CHKZ	Chkalovo	56.92	341	eP	P	05 52 08.6	-0.2
	1.5nm,0.8s,mb4.1						

IDC 05 06:03:37.2±1.6**, 2091S**×**6858W, h107**^{km}±17^{km}**, mb3.1**/1**, mb1 3.2**/3**, mb1mx3.0**/16**, mbtmp3.6**/3**, Error ellipse: s-maj=53.6km s-min=16.0km az=105.0, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.72	190	P	Pn	06 04 06.6	+0.1
	20nm,0.3s,baz=352,slow=13,SNR=124						
LVC				S	Sn	06 04 29.5	+0.7
	42nm,0.3s,baz=307,slow=23,SNR=27						
LPAZ	La Paz	4.62	5	P	Pn	06 04 46.2	+1.3
	0.5nm,0.3s,baz=186,slow=8.8,SNR=21						
SIV	San Ignacio	8.64	57	P	Pn	06 05 38.7	-0.7
	1.1nm,0.3s,baz=253,slow=12,SNR=21						
SIV				S	Sn	06 07 03.8	-11
	0.2nm,0.3s,baz=4.1,slow=24,SNR=2.6						
TORD	Torodi Ar. Bea	76.87	70	P	P	06 15 18.2	+0.7
	0.4nm,0.4s,baz=248,slow=4.4,SNR=7.5						
MKAR	Makanchi Array	144.98	36	PKP	PKPdf	06 23 01.4	-0.5
	0.4nm,0.7s,baz=328,slow=4.3,SNR=4.4						

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*CSEM **05** 06:12:07.4±0.5, 3856N×2847W, h13^{km}±5^{km}, ML0.8, Error ellipse: s-maj=4.9km s-min=4.5km az=94.0, After PDA*

*PDA **05** 06:12:07.4±0.5, 3856N×2847W, h13^{km}±5^{km}, MD2.6, ML0.8, Error ellipse: s-maj=4.9km s-min=4.5km az=94.0*

SVSA 05 06:12:07.4±0.5**, 3856N**×**2847W, h13**^{km}±5^{km}**, MD2.6, ML0.8, Error ellipse: s-maj=4.9km s-min=4.5km az=94.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PICO	Pico	0.07	150	eP	Pg	06 12 09.8	-0.2
PICO				eS	Sg	06 12 11.8	-0.2
CALA	Caldeira	0.18	276	erx		06 12 10.2	
ROSA	Rosais	0.24	49	eP	Pg	06 12 11.9	-0.6
ROSA				eS	Sg	06 12 15.3	-0.6
PMAN	Manadas	0.31	77	eP	Pg	06 12 13.1	-0.6
PMAN				eS	Sg	06 12 17.0	-0.9
PMAN							
	4.9nm,0.1s						
PMAN	Manadas	0.31	77	eP	Pg	06 12 13.1	-0.6
PMAN				eS	Sg	06 12 17.0	-0.9

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*MOS **05** 06:12:17.1±1.8, 5637N×118.12E, h3^{km}, mb4.1/1, Error ellipse: s-maj=31.1km s-min=25.0km az=19.0*

BYKL 05 06:12:18.3±0.3**, 5634N**×**11811E, h12**^{km}±21^{km}**, 3C, East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRS	Chara	0.57	9⇑	iPg	Pg	06 12 28.9	-0.5
CRS				eSg	Sg	06 12 36.8	-0.1
CRS				Pmax			
	188nm,0.8s						
CRS				Smax			
	528nm,1.3s						
KHNR	Khani	1.19	60	ePg	Pg	06 12 40.0	-1.1
KHNR				eSg	Sg	06 12 55.8	-0.7
NLYR	Nelyaty	1.35	277	ePg	Pg	06 12 43.0	-1.2
NLYR				e		06 12 44.8	
NLYR				eSg	Sg	06 13 00.4	-1.3
NLYR				max			
	238nm,0.4s						
NLYR				Smax			
	1μm,0.7s						
NLYR	Nelyaty	1.35	277	ePG	Pg	06 12 41.5	-2.7
NLYR				e		06 13 00.7	
NLYR				pmax	pmax		
	comp=Z,216nm,0.3s						
NLYR				smax			
	comp=N,1μm,1.0s						
TUP	Tupik	2.19	151	ePn	Pn	06 12 55.1	+0.6
TUP				ePg	Pg	06 12 57.4	-2.9
TUP				eSg	Sg	06 13 25.7	-3.0
TUP				Pmax			
	comp=N,111nm,0.4s						
TUP				Smax			
	comp=N,281nm,0.6s						
TUP	Tupik	2.19	151	ePN	Pn	06 12 54.9	+0.4
TUP				e		06 12 57.4	
TUP				eS	Sn	06 13 22.3	+0.8
TUP				e		06 13 25.5	
TUP				pmax	pmax		
	comp=Z,110nm,0.6s						
TUP				smax			
	comp=N,302nm,0.9s						
SVKR	Severomuysk	2.55	267	ePn	Pn	06 13 00.5	+1.0
SVKR				ePg	Pg	06 13 03.5	-3.7
SVKR				eSg	Sg	06 13 36.8	-3.5
SVKR				Pmax			
	comp=N,181nm,0.5s						
SVKR				Smax			
	comp=N,617nm,0.6s						
UKT	Uakit	2.66	253	e	Pn	06 13 02.7	+1.7
UKT				ePg	Pg	06 13 05.2	-4.2
UKT				eSg	Sg	06 13 39.7	-4.2
UKT				Pmax			
	comp=N,35nm,1.0s						
UKT				Smax			
	comp=N,165nm,1.0s						
UKT	Uakit	2.66	253	ePN	Pn	06 13 05.1	+4.1
UKT				e		06 13 39.9	
UKT				pmax	pmax		
	comp=Z,28nm,0.5s						
UKT				smax			
	comp=N,149nm,0.5s						
BOD	Bodaibo	2.69	305⇑	iPg	Pg	06 13 05.7	-4.1
BOD				eSg	Sg	06 13 40.6	-4.0
BOD				Pmax			
	comp=N,125nm,0.6s						
BOD				Smax			
	comp=N,216nm,1.0s						
BOD	Bodaibo	2.69	305⇑	ePN	Pn	06 13 01.1	-0.2
BOD				i		06 13 05.5	
BOD				e		06 13 38.8	
BOD				pmax	pmax		
	comp=Z,114nm,0.3s						
BOD				smax			
	comp=N,151nm,0.6s						
YOA	Uoyan	3.57	269	eSg	Sg	06 14 09.4	-3.6
YOA				Smax			
	comp=N,451nm,1.4s						
CLNS	Chul'man	3.78	80	e	Sn	06 14 06.0	+5.1
CLNS				eSg	Sg	06 14 14.7	-5.1
KMO	Kumora	3.90	266	ePn	Pn	06 13 18.4	+0.5
KMO				ePg	Pg	06 13 26.7	-6.2
KMO				eSn	Sn	06 14 03.2	-0.4
KMO				eSg	Sg	06 14 17.0	-6.4
KMO				Pmax			
	comp=N,31nm,0.4s						
KMO				Smax			
	comp=N,176nm,0.9s						
KMO	Kumora	3.90	266	ePN	Pg	06 13 26.0	-6.9
KMO				eS	Sn	06 14 02.0	-1.6
KMO				e		06 14 16.6	
KMO				pmax	pmax		
	comp=Z,29nm,0.4s						
KMO				smax			
	comp=N,176nm,1.1s						
TNDR	Tynda	3.92	105	e	Sn	06 14 04.9	+0.6
TNDR				eSg	Sg	06 14 20.5	-3.8
YLYR	Ulyunkhan	4.21	252	ePn	Pn	06 13 23.8	+1.6
YLYR				ePg	Pg	06 13 33.3	-5.5
YLYR				eSn	Sn	06 14 11.6	+0.4
YLYR				eSg	Sg	06 14 27.5	-5.8
YLYR				Pmax			
	comp=N,15nm,0.9s						
YLYR				Smax			
	comp=N,128nm,1.2s						
YLYR	Ulyunkhan	4.21	252	ePN	Pn	06 13 23.0	+0.8
YLYR				e		06 13 33.5	
YLYR				e		06 14 28.1	
YLYR				pmax	pmax		
	comp=Z,12nm,0.5s						
YLYR				smax			
	comp=N,129nm,1.2s						
NIZ	Nizh Angarsk	4.84	267	ePn	Pn	06 13 30.3	-0.6
NIZ				ePg	Pg	06 13 44.2	-6.7
NIZ				eSg	Sg	06 14 46.9	-6.7
NIZ				Pmax			
	comp=N,9.0nm,0.6s						
NIZ				Smax			
	comp=N,23nm,0.8s						
SYVR	Suvo	5.39	243	e	Pg	06 13 55.4	-6.1
SYVR				eSg	Sg	06 15 05.1	-6.1
SYVR				Smax			
	comp=N,94nm,1.2s						
KROS	Kirovskiy	5.40	107	ePn	Pn	06 13 36.8	-1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KROS				ePg	Pg	06 13 51.5	-10
KROS				e		06 14 36.0	
KROS				eSg	Sg	06 15 02.1	-10
MXMB	Maximikha	6.23	244	eSg	Sg	06 15 32.0	-6.3
MXMB				Smax			
	comp=N,131nm,1.0s						
OGRR	Ongureny	6.63	250	e	Pn	06 13 59.6	+4.1
OGRR				ePg	Pg	06 14 18.3	-6.9
OGRR				e		06 15 06.7	
OGRR				eSg	Sg	06 15 45.2	-5.8
OGRR				Pmax			
	comp=N,1.0nm,0.2s						
OGRR				Smax			
	comp=N,28nm,1.5s						
KPC	Khapcheranga	7.49	210	e	Pn	06 14 35.6	+28
KPC				eSg	Sn	06 16 10.4	+38
KPC				max			
	comp=N,2.0nm,0.7s						
KPC				Smax			
	comp=N,47nm,1.4s						
TRG	Tyrgan	7.72	247	eSg	Sn	06 16 18.9	+41
TRG				Smax			
	comp=N,15nm,1.3s						

ISC 05 06:16:17.4±2.8, 424N±01×763E±03, h0^{km}, n6, σ0^{s}91/6, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	0.15	183	P	Pg	06 16 20.4	-0.1
	SNR=11						
TKM2	Tokmak 2	0.71	317	P	Pg	06 16 31.3	-0.3
	SNR=9.4						
KZA	Kyzart	0.81	247	P	Pg	06 16 33.6	0.0
	SNR=24						
KBK	Karagaybulak	1.00	285	P	Pb	06 16 37.8	+0.5
	SNR=6.5						
UCH	Uchtor	1.30	263	P	Pb	06 16 41.4	-1.1
	SNR=16						
AML	Almayashu	1.92	263	P	Pn	06 16 52.6	+1.0
	SNR=5.3						

MAN 05 06:17:27.8, 851N×12294E, h31^{km}, mb1.6, ML3.5, MS9.4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DCPH	Dipolog City	0.42	80	⇓eP	Pb	06 17 38.0	+1.0
DCPH				eS	Sb	06 17 44.0	+0.7
PAGZ	Pagadian	0.79	146	eP	Pn	06 17 43.6	+0.8
PAGZ				eS	Sb	06 17 53.5	+0.1
IPIL	Ipil	0.80	207	eP	Pn	06 17 43.9	+1.0
IPIL				eS	Sb	06 17 53.9	+0.1

JMA 05 06:19:08.7±0.2, 3734N×14174E, h42^{km}±3^{km}, M3.5, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.69	272	⇓P	Pn	06 19 22.2	+0.2
JFK				S	Sn	06 19 31.2	-0.4
ONAJ	Iwakimizuishiy	0.79	253	⇑P	Pn	06 19 23.4	0.0
ONAJ				S	Sn	06 19 33.5	-0.5
JMM	Marumori	0.92	305	⇓P	Pn	06 19 25.3	+0.2
JMM				eS	Sn	06 19 37.5	+0.4
JFT	Otama	1.13	279	⇓P	Pn	06 19 29.3	+1.3
JFT				S	Sn	06 19 43.5	+1.1
JIO	Ouri	1.16	345	⇓P	Pn	06 19 28.5	+0.1
JIO				eS	Sn	06 19 42.0	-0.9
JHO	Hitachi	1.19	233	P	Pn	06 19 28.7	-0.1
JHO				eS	Sn	06 19 42.5	-1.2
JOU	Okura	1.33	321	P	Pn	06 19 31.7	+0.9
JYS	Shirataka	1.59	304	P	Pn	06 19 36.0	+1.6
JYS				eS	Sn	06 19 56.3	+2.6
JFY	Yanaizu	1.62	273	P	Pn	06 19 36.0	+1.2
JFY				eS	Sn	06 19 56.5	+2.0
JMK	Ichinoseki	1.66	346	P	Pn	06 19 36.2	+0.9
MAT	Matsushiro	2.94	255	P	Pn	06 19 53.9	+1.0
MAT				eS	Sn	06 20 31.9	+5.0

ISCJB 05 06:25:35.0±1.3, 263S±02×1794E±02, h526^{km}±19^{km}, mb4.0/5, Error ellipse: s-maj=33.7km s-min=23.5km az=25.1
IDC 05 06:25:35.4±2.0, 26.18S×17943E, h518^{km}±29^{km}, mb3.2/3, mb1 3.5/5, mb1mx3.2/13, mbtmp4.2/5, Error ellipse: s-maj=54.5km s-min=23.4km az=174.0
NEIC 05 06:25:35.4±0.9, 2627S×17940E, h522^{km}±13^{km}, mb4.4/2, Error ellipse: s-maj=23.4km s-min=15.1km az=188.0
ISC 05 06:25:35.7±1.3, 263S±02×1794E±02, h520^{km}±18^{km}, n12, σ0^{s}53/9, mb4.0/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.78	142	P	P	06 26 54.2	+0.5
	356nm,0.3s,baz=87,slow=7.0,SNR=19						
URZ	Urewera	12.08	189	P	P	06 28 14.3	-0.7
	1.0nm,0.3s,baz=44,slow=10,SNR=5.8						
DZM	Mont Dzumac	12.55	287	P	P	06 28 19.3	-0.5
	0.5nm,0.3s,baz=117,slow=19,SNR=3.1						
ASAR	Alice Springs	41.16	263	P	P	06 32 35.0	+0.7
	1.6nm,0.4s,mb3.9,baz=90,slow=7.4,SNR=28						
WB2	Warramunga Arr	41.75	269	eP	P	06 32 39.0	0.0
WRA	Warramunga Arr	41.76	269	P	P	06 32 39.2	0.0
	2.1nm,0.5s,mb4.0,baz=105,slow=8.0,SNR=12						
KAKA	Kakadu	46.04	278	eP	P	06 33 11.8	-0.5
	7.5nm,0.3s,mb4.7						
FITZ	Fitzroy Crossi	50.15	268	eP	P	06 33 43.8	+0.8
	5.3nm,0.6s,mb4.2						
NVAR	Mina Array Bea	86.85	44	P	P	06 37 24.5	-0.3
	0.5nm,0.6s,mb3.3,baz=224,slow=6.4,SNR=4.1						
NB2	NORSAR Subarra	144.35	350	PKP	PKPdf	06 44 10.6	-1.8
	comp=Z,0.5nm,0.5s,baz=12,slow=3.0						
NOA	NORSAR Array B	144.35	350	PKP	PKPdf	06 44 10.8	-1.6
	comp=Z,0.7nm,0.7s,baz=20,slow=2.5,SNR=5.7						
NOA	NORSAR Array B	144.35	350	PKP	PKPdf	06 44 10.8	-1.6

ISCJB 05 06:37:22.8±0.8, 154S±06×1755W±03, h33^{km}, mb4.6/5, Error ellipse: s-maj=99.7km s-min=9.5km az=138.0
IDC 05 06:37:34.1±8.8, 1492S×17507W, h166^{km}±162^{km}, mb4.0/3, mb1 4.1/4, mb1mx3.6/14, mbtmp4.4/4, Error ellipse: s-maj=161.6km s-min=127.9km az=136.0
ISC 05 06:37:25.6±0.8, 155S±06×1755W±03, h35^{km}, n8, σ0^{s}86/9, mb4.6/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.94	67	P	Pn	06 38 26.4	+2.9
	16nm,0.3s,baz=357,slow=2.0,SNR=20						
AFI				S	Sn	06 39 07.5	-0.9
	10nm,0.3s,baz=169,slow=20,SNR=3.8						
STKA	Stephens Creek	42.24	239	P	P	06 45 15.8	+0.5
	1.0nm,0.4s,mb3.8,baz=63,slow=4.5,SNR=3.6						
WB2	Warramunga Arr	47.83	257	eP	P	06 45 59.7	-0.1
WRA	Warramunga Arr	47.84	257	P	P	06 45 59.4	-0.4
	1.7nm,0.7s,mb4.2,baz=91,slow=6.9,SNR=14						
ASAR	Alice Springs	48.15	252	P	P	06 46 02.5	+0.3
	22nm,0.7s,mb5.3,baz=86,slow=7.9,SNR=171						
ASPA	Alice Springs	48.16	252	eP	P	06 46 02.2	0.0
KAKA	Kakadu	50.46	266	eP	P	06 46 20.1	+0.2
	8.2nm,0.9s,mb4.8						
FORT	Forrest	53.56	243	eP	P	06 46 42.0	-1.0
	5.8nm,0.5s,mb4.8						

CASC 05 07:01:49.6±3.2, 1377N×9123W, h7^{km}±38^{km}, MD3.6, 2C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.86	62	⇑eP	Pg	07 02 06.7	+0.6
IXG				eS	Sg	07 02 19.4	+2.3
TP2	Tecpan 2	1.03	12	⇑eP	Pg	07 02 09.3	0.0
TP2				eS	Sg	07 02 23.8	+1.1
RBDL	Robledal	1.54	77	eP	x	07 02 25.2	
RBDL				eS	x	07 02 46.3	
RTR	El Retiro	1.55	85	eP	x	07 02 25.2	
RTR				eS	x	07 02 48.2	
SBLS	San Blas	1.57	87	eP	x	07 02 25.2	
SBLS				eS	x	07 02 46.8	
SNJE	San Jose	1.58	86	⇓eP	x	07 02 26.0	
SNJE				eS	x	07 02 47.7	
LFRS	El Faro	2.12	94	eP	x	07 02 33.6	
LFRS				eS	x	07 03 00.5	
LBRS	Las Brisas	2.13	91	eP	x	07 02 31.8	
LBRS				eS	x	07 03 01.8	
LCBS	La Ceiba	2.19	93	eP	x	07 02 35.0	
LCBS				eS	x	07 03 04.1	

IDC 05 07:05:57.1±2.1, 1472N×14442E, h0^{km}, mb3.5/3, mb1 4.0/4, mb1mx3.7/19, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=89.5km s-min=16.5km az=64.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.21	159	Pn	Pn	07 06 21.7	+0.5
	154nm,0.3s,baz=303,slow=3.2,SNR=37						
GUMO				Sn	Sn	07 06 37.3	-0.9
	116nm,0.3s,baz=173,slow=23,SNR=25						
GUMO				T		07 07 40.6	
	52nm,0.3s,baz=39,slow=7.6,SNR=3.9						
JOW	Kunigami	19.29	311	P	Pn	07 10 24.4	0.0
	0.6nm,0.3s,baz=162,slow=13,SNR=4.1						
WRA	Warramunga Arr	35.84	196	P	P	07 12 58.9	+0.5
	1.0nm,0.7s,baz=17,slow=9.6,SNR=7.1						
SONM	Songino Array	45.56	324	P	P	07 14 18.1	-0.5
	0.3nm,0.6s,baz=134,slow=10,SNR=2.5						
MKAR	Makanchi Array	60.38	316	P	P	07 16 08.0	0.0
	0.4nm,0.6s,baz=98,slow=7.7,SNR=5.9						

MOS 05 07:11:46.5±2.1, 8370N×11146E, h10^{km}, mb4.4/2, Error ellipse: s-maj=99.9km s-min=20.8km az=88.2
ISCJB 05 07:11:47.3±0.6, 836N±0.1×1134E±09, h10^{km}, mb3.8/11, MS3.1/2, Error ellipse: s-maj=20.8km s-min=11.3km az=117.8
IDC 05 07:11:47.5±1.1, 8364N×11374E, h0^{km}, mb3.7/8, mb1 3.8/8, mb1mx3.7/20, mbtmp3.7/8, MS3.2/2, Ms1 3.2/2, ms1mx2.4/38, Error ellipse: s-maj=29.7km s-min=21.9km az=149.0
NEIC 05 07:11:49.1±0.5, 8362N×11350E, h10^{km}, mb4.3/3, Error ellipse: s-maj=14.7km s-min=8.2km az=150.0
ISC 05 07:11:48.7±0.6, 836N±01×1135E±09, h10^{km}, (h31^{km}±2.3^{km}:pP-P), n21, σ0^{s}56/20, mb3.8/11, MS3.1/2, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARCES	ARCESS Array B	21.32	285	P	P	07 16 35.1	-0.5
	8.7nm,0.9s,mb4.1,baz=18,slow=12,SNR=6.0						
INK	Inuvik	25.01	54	P	P	07 17 12.0	-0.8
	4.2nm,0.9s,mb4.0,baz=341,slow=12,SNR=6.3						
INK				LR	LR	07 26 29.1	
	comp=Z,47nm,18.1s,MS3.0,baz=59,slow=35						
INK	Inuvik	25.01	54	eP	P	07 17 12.0	-0.7
INK				epP	pP	07 17 21.8	+6.0
INK				LR	LR	07 26 29.1	
JOF	Joensuu	27.07	275	ep	P	07 17 24.5	-6.8
KAF	Kangasniemi	28.41	279	ep	P	07 17 37.5	-5.8
	baz=16,slow=8.6						
FINES	FINESS Array B	29.09	279	P	P	07 17 48.8	-0.6
	1.2nm,0.7s,mb3.7,baz=27,slow=16,SNR=3.4						
NB2	NORSAR Subarra	31.08	293	P	P	07 18 08.5	+1.5
	comp=Z,0.4nm,0.6s,mb3.4,baz=14,slow=7.4						
NOA	NORSAR Array B	31.08	293	P	P	07 18 07.7	+0.7
	comp=Z,0.4nm,0.5s,mb3.5,baz=20,slow=8.9,SNR=3.1						
YKA	Yellowknife Ar	32.29	40	LR	LR	07 32 27.4	
	comp=Z,39nm,18.3s,MS3.1,baz=345,slow=38						
SONM	Songino Array	35.98	188	P	P	07 18 49.8	+0.1
	comp=Z,0.1nm,0.6s,mb2.9,baz=2.3,slow=7.2,SNR=2.1						
MKAR	Makanchi Array	38.02	215	P	P	07 19 07.1	+0.1
	comp=Z,1.0nm,0.7s,mb3.7,baz=3.4,slow=7.7,SNR=7.5						
LAO	LASA Array	48.59	36	P	P	07 20 33.5	+1.1
	comp=Z,6.4nm,1.0s,mb4.6						
RSSD	Black Hills	51.29	34	eP	P	07 20 52.7	-0.2
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
RSSD	Black Hills	51.29	34	eP	P	07 20 52.7	-0.2
	comp=Z,2.9nm,0.9s,mb4.2						
PDAR	Pinedale Array	52.27	39	P	P	07 20 59.8	-0.4
	comp=Z,0.2nm,0.5s,mb3.3,baz=32,slow=7.4,SNR=2.5						
PV10	Paradox Valley	56.67	39	eP	P	07 21 31.9	-0.3
PV01	Paradox Valley	56.94	39	eP	P	07 21 34.5	+0.4
PV01				epP	pP	07 21 43.7	+6.4
MVCO	Mesa Verde	57.87	39	eP	P	07 21 40.9	+0.2
MVCO				epP	pP	07 21 48.6	+4.8
MVCO				e		07 22 00.6	
ANMO	Albuquerque	60.26	37	eP	P	07 21 57.1	-0.1
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ANMO	Albuquerque	60.26	37	eP	P	07 21 57.1	-0.1
	comp=Z,2.5nm,1.3s,mb4.1						
TORD	Torodi Ar. Bea	79.39	293	P	P	07 23 54.9	-0.1
	comp=Z,0.3nm,0.7s,mb3.4,baz=8.7,slow=7.8,SNR=3.0						

BJI 05 07:13:08.6, 1451N×14409E, h11^{km}, mB5.0, mb4.6, Ms4.3, Msz4.0
IDC 05 07:13:09.6±1.4, 1474N×14436E, h0^{km}, mb4.0/6, mb1 4.2/6, mb1mx3.9/19, mbtmp4.0/6, MS4.0/18, Ms1 4.0/18, ms1mx3.8/27, Error ellipse: s-maj=55.2km s-min=16.2km az=75.0
HRVD 05 07:13:10.5±0.4, 1461N×14404E, h13^{km}±1^{km}, MW4.9/71, Centroid moment Tensor Solution. LP body waves: s16,c17;Mantle waves: s71,c98; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.54±.19; $M_{\theta\theta}$0.31±.10; $M_{\phi\phi}$2.23±.13; $M_{r\theta}$-0.12±.32; $M_{\theta\phi}$0.53±.07; $M_{\phi r}$0.13±.24; Best double couple: $M_0$2.46000×10^{16} NP1:ϕ_s18.00000°,δ44.00000°,λ-86.00000°. NP2: ϕ_s191.00000°,δ46.00000°,λ-94.00000°. Principal axes: T 2.3690, Plg1.0000°, Azm284.0000°; N 0.1780, Plg3.0000°, Azm194.0000°; P -2.5500, Plg87.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 05 07:13:10.5±0.8, 1478N×14455E, h10^{km}, mb4.7/4 Error ellipse: s-maj=34.2km s-min=7.3km az=79.0
ISCJB 05 07:13:11.7±0.5, 1474N±006×1444E±0.1, h26^{km}, mb4.5/17, MS4.0/22, Error ellipse: s-maj=18.8km s-min=5.9km az=138.8
MOS 05 07:13:12.7±0.7, 1474N×14437E, h33^{km}, mb4.6/4, Error ellipse: s-maj=29.7km s-min=10.8km az=108.3
ISC 05 07:13:13.4±0.5, 1475N±006×1445E±01, h28^{km}, h28^{km}±4.4^{km}:pP-P, n51, σ0^{s}82/39, mb4.5/17, MS4.0/22, 7C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.21	163	Pn	Pn	07 13 33.6	-0.9
	127nm,0.3s,baz=310,slow=3.4,SNR=44						
GUMO				Sn	Sn	07 13 49.4	-0.5
	190nm,0.3s,baz=177,slow=22,SNR=19						
GUMO				T		07 14 56.8	
	90nm,0.3s,baz=329,slow=22,SNR=2.8						
GUMO	Guam	1.21	163	Pn	Pn	07 13 33.6	-0.9
GUMO				Sn	Sn	07 13 49.4	-0.5
CBIJ	Chichi jima	12.47	350	LR	LR	07 19 44.6	
	comp=Z,323nm,20.9s,baz=166,slow=32						
JOW	Kunigami	19.33	311	LR	LR	07 23 16.6	
	comp=Z,810nm,20.6s,baz=145,slow=32						
MJAR	Matsushiro Arr	22.42	347	P	P	07 18 09.0	-0.8
	3.8nm,0.9s,mb3.8,baz=173,slow=10,SNR=7.2						
MJAR				LR	LR	07 26 17.3	
	comp=Z,283nm,18.2s,MS3.7,baz=175,slow=35						
SSE	Sheshan	26.85	311	eP	P	07 18 49.0	-2.6
SSE				AP	pP	07 18 57.7	-2.0
SSE				XP	sP	07 19 02.8	-0.3
SSE				S	S	07 23 23.0	-3.3
SSE				XS	sS	07 23 37.5	-2.2
SSE				SCS	ScS	07 29 39.8	-2.8
SSE				AMB	AMB		
	comp=Z,27nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,88nm,4.1s						
SSE				LR	LR		
	comp=N,218nm,29.2s,MS3.8						
SSE				LR	LR		
	comp=E,305nm,29.3s,MS3.8						
SSE				LR	LR		
	comp=Z,402nm,28.2s,MS3.8						
NJ2	Nanjing	29.05	311	eP	P	07 19 10.5	-0.7
NJ2				AP	pP	07 19 20.5	+1.2
NJ2				XP	sP	07 19 23.3	+0.6
NJ2				PP	PP	07 20 04.4	-13
NJ2				S	S	07 23 59.0	-1.9
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,150nm,3.5s						
NJ2				LR	LR		
	comp=N,920nm,12.0s						
NJ2				LR	LR		
	comp=E,1µm,9.8s						
ASAJ	Asahikawa	29.31	357	LR	LR	07 30 55.9	
	comp=E,172nm,19.6s,MS3.7,baz=172,slow=36						
QIZ	Qiongzhong	33.41	282	eP	P	07 19 44.9	-4.7
QIZ				S	S	07 25 10.4	+1.4
QIZ				AMB	AMB		
	comp=Z,15nm,1.9s,mb4.6						
QIZ				AMB	AMB		
	comp=Z,269nm,3.9s						
QIZ				LR	LR		
	comp=Z,383nm,25.9s,MS4.0						
HABR	Khabarovsk	34.52	349	eP	P	07 19 59.2	0.0
HABR				eS	S	07 25 26.6	+0.4
BJI	Beijing	35.32	321	eP	P	07 20 05.1	-1.1
BJI				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.5						
BJI				LR	LR		
	comp=N,257nm,24.2s,MS4.0						
BJI				LR	LR		
	comp=E,144nm,24.4s,MS4.0						
BJI				LR	LR		
	comp=Z,345nm,34.4s						
WRAB	Tennant Creek	35.89	196	⇑iP	P	07 20 11.4	+0.4
WB2	Warramunga Arr	35.90	196	eP	P	07 20 11.3	+0.2
WRA	Warramunga Arr	35.90	196	P	P	07 20 11.0	-0.1
	comp=Z,3.7nm,1.0s,mb4.3,baz=13,slow=9.5,SNR=10						
WRA				LR	LR	07 33 29.6	
	comp=Z,86nm,20.0s,MS3.5,baz=205,slow=34						
FITZ	Fitzroy Crossi	37.57	210	eP	P	07 20 25.5	+0.1
	comp=Z,16nm,1.1s,mb4.7						
FITZ	Fitzroy Crossi	37.57	210	P	P	07 20 25.6	+0.2
	comp=Z,6.9nm,1.0s,mb4.3,baz=47,slow=9.4,SNR=4.1						
ASAR	Alice Springs	39.56	195	P	P	07 20 42.8	+0.7
	comp=Z,0.5nm,0.9s,baz=15,slow=12,SNR=3.3						
LZH	Lanzhou	42.03	308	⇑P	P	07 21 03.7	+1.3
LZH				AP	pP	07 21 10.8	+0.1
LZH				XP	sP	07 21 15.0	+1.0
LZH				AMB	AMB		
	comp=Z,47nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,75nm,9.7s						
LZH				LR	LR		
	comp=N,361nm,18.2s						
LZH				LR	LR		
	comp=Z,498nm,19.6s,MS4.4						
ULN	Ulaanbaatar	45.23	325	⇑eP	P	07 21 28.9	+0.7
SONM	Songino Array	45.58	324	P	P	07 21 31.3	+0.4
	comp=Z,1.1nm,0.8s,mb3.8,baz=136,slow=8.3,SNR=8.9						
SONM				LR	LR	07 40 27.4	
	comp=Z,272nm,18.9s,MS4.2,baz=248,slow=36						
GTA	Gaotai	46.15	311	eP	P	07 21 36.1	+0.7
GTA				AP	pP	07 21 39.8	-4.0
GTA				XP	sP	07 21 43.0	-4.1
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.4						
GTA				AMB	AMB		
	comp=Z,60nm,5.0s						
GTA				LR	LR		
	comp=N,189nm,19.8s,MS4.4						
GTA				LR	LR		
	comp=E,396nm,20.5s,MS4.4						
GTA				LR	LR		
	comp=Z,215nm,19.0s,MS4.1						
BILL	Bilibino	55.08	10	⇑eP	P	07 22 44.0	+1.2
BILL				eSS	ScS	07 32 24.9	-5.2
BILL				pmax	pmax		
	comp=Z,16nm,2.3s,mb4.6						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.9						
WMQ	Urumqi	56.09	313	P	P	07 22 50.6	+0.5
MKAR	Makanchi Array	60.41	316	P	P	07 23 20.1	-0.2
	comp=Z,3.3nm,1.0s,mb4.3,baz=93,slow=8.6,SNR=15						
MKAR	Makanchi Array	60.41	316	iP	P	07 23 21.0	+0.7
MKAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NVS	Novosibirsk	61.61	325	eP	P	07 23 27.5	-1.0
KURK	Kurchatov	63.47	320	⇓iP	P	07 23 40.5	-0.4
KURK	Kurchatov	63.47	320	eP	P	07 23 40.4	-0.5
	comp=Z,11nm,1.2s,mb4.9						
RAR	Rarotonga	65.33	122	LR	LR	07 47 03.0	
	comp=Z,236nm,21.8s,MS4.3,baz=304,slow=31						
CHKZ	Chkalovo	68.71	322	eP	P	07 24 14.5	0.0
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
CHKZ	Chkalovo	68.71	322	eP	P	07 24 14.5	0.0
	comp=Z,1.7nm,0.9s,mb4.0						
BVAR	Borovoye Array	68.80	321	LR	LR	07 54 55.4	
	comp=Z,162nm,20.0s,MS4.3,baz=147,slow=36						
ZRNK	Zerenda	69.63	321	eP	P	07 24 20.3	+0.1
ZRNK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
ZRNK	Zerenda	69.63	321	eP	P	07 24 20.3	+0.1
	comp=Z,9.6nm,1.3s,mb4.6						
PPT	Papeete	72.50	114	eLR	LR	07 46 33.7	
	comp=Z,490nm,30.8s,baz=285						
PPT	Papeete	72.50	114	LR	LR	07 54 33.5	
	comp=Z,259nm,19.1s,MS4.5,baz=172,slow=34						
TBI	Tubuai	74.84	120	eLR	LR	07 47 37.9	
	comp=Z,224nm,32.8s,baz=306						
ARU	Arti	75.62	325	⇑iP	P	07 24 55.9	+0.1
ARU				pmax	pmax		
	comp=Z,9.0nm,2.1s,mb4.3						
TAOE	Nuku Hiva Isla	78.28	102	eLR	LR	07 49 14.9	
	comp=Z,812nm,28.1s						
YKA	Yellowknife Ar	82.00	27	LR	LR	07 58 24.4	
	comp=Z,48nm,19.6s,MS3.9,baz=270,slow=33						
ARCES	ARCESS Array B	85.88	342	LR	LR	08 10 21.5	
	comp=Z,67nm,19.7s,MS4.0,baz=114,slow=40						
GNI	Garni	87.89	311	LR	LR	08 03 53.1	
	comp=Z,60nm,22.0s,MS4.0,baz=236,slow=35						
GNI	Garni	87.89	311	⇑iP	P	07 26 01.1	+0.7
GNI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GNI				MLR	MLR		
	comp=Z,100nm,26.0s						
OBN	Obninsk	87.94	327	⇑eP	P	07 26 00.8	+0.1
OBN				eS		07 36 26.8	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.3						
PUL	Pulkovo	88.99	333	eP	P	07 26 05.8	+0.2
FINES	FINESS Array B	89.97	335	LR	LR	08 09 08.9	
	comp=Z,82nm,19.2s,MS4.2,baz=357,slow=37						
PDAR	Pinedale Array	91.40	45	LR	LR	08 01 05.6	
	comp=Z,48nm,21.1s,MS3.9,baz=130,slow=31						
AKASG	Malin Array Be	93.87	325	LR	LR	08 11 32.1	
	comp=Z,119nm,18.3s,MS4.4,baz=55,slow=37						
NOA	NORSAR Array B	95.84	339	LR	LR	08 13 44.0	
	comp=Z,61nm,20.7s,MS4.1,baz=45,slow=38						
BRTR	Keskin Array B	96.01	314	LR	LR	08 11 23.2	
	comp=Z,52nm,21.2s,MS4.0,baz=296,slow=36						
ULM	Lac du Bonnet	96.48	34	LR	LR	08 06 23.2	
	comp=Z,58nm,19.5s,MS4.1,baz=25,slow=33						

IDC 05 07:16:21.4±6.1, 6037S×15530E, h0^{km}, mb3.7/2, mb1 4.0/3, mb1mx3.7/11, mbtmp3.7/3, ML3.6/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/18, Error ellipse: s-maj=372.1km s-min=35.8km az=75.0, Macquarie Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	Vanda	17.37	175	P	Pn	07 20 24.7	-0.4
	0.2nm,0.3s,baz=348,slow=12,SNR=9.3						
ASAR	Alice Springs	39.59	328	P	P	07 23 54.5	+0.1
	0.5nm,0.6s,baz=160,slow=8.7,SNR=6.0						
WRA	Warramunga Arr	43.05	330	P	P	07 24 22.3	-0.5
	1.4nm,1.0s,baz=164,slow=7.4,SNR=7.3						
HNR	Honiara	50.95	6	LR	LR	07 41 51.7	
	comp=Z,90nm,18.1s,baz=179,slow=30						

ISCJB 05 07:18:60.0±1.5, 27.18S±0.04×713W±0.1, h31^{km}±8^{km}, Error ellipse: s-maj=15.6km s-min=6.8km az=19.7

NEIC ***05*** *07:18:59.9, 2724S×7133W, h20^{km}, ML3.7(GUC), After GUC.*
GUC ***05*** *07:18:59.9±0.9, 2724S×7133W, h20^{km}±17^{km}, MD3.8, ML3.7*
ISC 05 07:19:00.8±2.0**, 2720S**±004×**713W**±01**, h27**^{km}±11^{km}**, n10, σ0^{s}54**/18**, 2C-5D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CDCH	Caldera	0.41	72	⇓iP	Pb	07 19 08.8	-0.9
CDCH				iS	Sb	07 19 16.3	+0.6
CPCH	Copiapo	0.83	101	⇓iP	Pb	07 19 16.0	-0.6
CPCH				iS	Sb	07 19 27.7	+0.4
CPCH				AML	AML	07 19 30.0	
	comp=E,13μm,0.1s						
CPCH	Copiapo	0.83	101	⇓iP	Pb	07 19 16.0	-0.6
CPCH				iS	Sb	07 19 27.7	+0.4
CRCH	Chaqaral	1.03	34	⇓iP	Pn	07 19 19.2	-0.3
CRCH				iS	Sn	07 19 33.2	+0.2
CRCH				AML	AML	07 19 36.3	
	comp=N,1μm,0.6s						
CRCH	Chaqaral	1.03	34	⇓iP	Pn	07 19 19.2	-0.3
CRCH				iS	Sn	07 19 33.2	+0.2
VACH	Vallenar	1.44	162	⇑iP	Pn	07 19 24.8	-0.3
VACH				iS	Sn	07 19 42.5	-0.6
VACH				AML	AML	07 19 46.0	
	comp=E,2μm,0.3s						
VACH	Vallenar	1.44	162	⇑iP	Pn	07 19 24.8	-0.3
VACH				iS	Sn	07 19 42.5	-0.6
LCO	Las Campanas	1.87	165	eP	Pn	07 19 31.5	+0.5
TLL	Tololo Astrono	2.98	172	eP	Pn	07 19 47.3	+1.0
LVC	Limon Verde	5.04	26	ePn	Pn	07 20 14.9	+0.2
	comp=E,11nm,0.4s						
LVC				eSn	Sn	07 21 11.8	-0.2

BJI ***05*** *07:33:30.2, 2748N×5548E, h11^{km}, mB5.0, mb4.6, Ms4.4, Msz4.3*
IDC ***05*** *07:33:30.5±0.8, 2688N×5582E, h0^{km}, mb4.0/11, mb1 4.1/13, mb1mx4.0/25, mbtmp4.1/13, ML3.8/1, MS3.8/2, Ms1 3.8/2, ms1mx2.7/33, Error ellipse: s-maj=19.5km s-min=17.5km az=97.0*
ISCJB ***05*** *07:33:31.8±0.3, 2690N±003×5585E±004, h10^{km}, mb4.1/14, MS4.4/2, Error ellipse: s-maj=5.2km s-min=3.4km az=140.1*
NEIC ***05*** *07:33:32.7, 2691N×5592E, h7^{km}, mb4.2/2, ML3.9(THR), MN4.1(TEH), After THR.*
CSEM ***05*** *07:33:33.2±0.1, 2691N×5592E, h18^{km}, ML3.9, Error ellipse: s-maj=4.1km s-min=2.1km az=72.0*
MOS ***05*** *07:33:33.1±1.9, 2674N×5598E, h33^{km}, mb4.6/4, Error ellipse: s-maj=19.7km s-min=10.5km az=110.0*
THR ***05*** *07:33:33.6±1.1, 2696N×5591E, h12^{km}±6^{km}, ML3.9*
TEH ***05*** *07:33:37.1, 2691N×5581E, h18^{km}, Mn5.1*
ISC 05 07:33:34.2±0.9**, 2689N**±003×**5591E**±004**, h14**^{km}±6^{km}**, n88, σ1^{s}13**/100**, mb4.1**/14**, MS4.4**/2**, 2C-5D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.55	25	ePG	Pg	07 33 43.3	-1.8
BNDS				eSG	Sg	07 33 51.2	-1.2
BNDS				AML	AML	07 34 03.4	
	comp=E,4μm,0.5s						
BNDS				AML	AML	07 34 03.8	
	comp=N,9μm,0.4s						
BNDS	Bandar-Abbas	0.55	25	Pg	Pg	07 33 43.0	-2.1
BNDS				Sg	Sg	07 33 51.0	-1.4
BNDS	Bandar-Abbas	0.55	25	ePg	Pg	07 33 43.3	-1.8
	SNR=99						
BNDS				eSg	Sg	07 33 51.2	-1.2
	comp=N,9μm,0.4s,SNR=99						
BANOM	Banah	1.03	160	P	Pb	07 33 53.2	-0.6
	SNR=1218						
BANOM				⇓S	Sb	07 34 08.3	+1.2
ASHO	Ashiyiah	2.21	177	⇓P	Pn	07 34 11.4	+1.1
	SNR=45						
GHIR	Ghir-Karzin	2.94	299	ePN	Pn	07 34 21.8	+1.3
GHIR				AML	AML	07 35 21.5	
	comp=E,497nm,0.5s						
GHIR				AML	AML	07 35 29.1	
	comp=N,285nm,0.5s						
GHIR	Ghir-Karzin	2.94	299	Pn	Pn	07 34 21.0	+0.5
KRBR	Kerman	3.17	13	ePN	Pn	07 34 25.4	+1.8
KRBR				Sn	Sn	07 35 01.7	+0.6
KRBR				AML	AML	07 35 14.5	
	comp=E,485nm,0.6s						
KRBR				AML	AML	07 35 19.3	
	comp=N,522nm,0.6s						
KRBR	Kerman	3.17	13	Pn	Pn	07 34 25.0	+1.4
KRBR				Sn	Sn	07 35 02.0	+0.8
KRBR	Kerman	3.17	13	Pn	Pn	07 34 25.0	+1.4
KRBR				Sn	Sn	07 35 01.7	+0.6
	SNR=47						
ISRV	Sarvestan	3.50	316	ePn	Pn	07 34 29.3	+1.1
ISRV	Sarvestan	3.50	316	Pn	Pn	07 34 29.2	+1.0
HOQ	Hoqain	3.53	159	⇓P	Pn	07 34 27.5	-1.2
IMOK	Mook	3.55	308	ePn	Pn	07 34 36.1	+7.3
ARQ	Araqi	3.58	171	P	Pn	07 34 29.5	+0.1
	SNR=12						
IPAR	Pars	3.87	320	ePn	Pn	07 34 34.5	+1.2
SMDO	Samad	4.28	153	⇓P	Pn	07 34 39.6	+0.7
	SNR=13						
WSAR	Wadi Sarin	4.40	145	Pn	Pn	07 34 40.8	+0.3
	comp=N,5.4nm,0.3s,baz=332,slow=14,SNR=40						
WSAR				Sn	Sn	07 35 30.4	-1.1
	comp=N,2.7nm,0.3s,baz=49,slow=20,SNR=3.9						
WSAR				LR	LR	07 36 30.8	
	comp=N,213nm,19.6s,baz=1.1,slow=41						
IMEH	Mehriz	4.62	346	ePn	Pn	07 34 45.0	+1.4
IMEH				eSn	Sn	07 35 35.4	-1.6
IMEH	Mehriz	4.62	346	Pn	Pn	07 34 45.0	+1.4
IMEH				Sn	Sn	07 35 35.3	-1.8
IBAF	Bafgh	4.69	356	ePn	Pn	07 34 45.6	+1.1
IBAF	Bafgh	4.69	356	Pn	Pn	07 34 45.5	+1.0
ZHSF	Zahedan	5.07	57	ePN	Pn	07 34 51.1	+1.3
ZHSF	Zahedan	5.07	57	Pn	Pn	07 34 51.0	+1.2
WBK	Wadi Bani Khal	5.09	146	⇑P	Pn	07 34 49.8	-0.2
	SNR=10						
ISAD	Sadrabad	5.37	339	eSn	Sn	07 35 52.9	-2.5
ICHK	Chekchek	5.49	347	ePn	Pn	07 34 56.8	+1.3
ICHK	Chekchek	5.49	347	Pn	Pn	07 34 56.7	+1.2
IGAR	Garneh	6.24	330	ePn	Pn	07 35 09.3	+3.5
NASN	Na'in	6.47	336	ePn	Pn	07 35 10.1	+1.1
IZEF	Zefreh	6.74	333	ePn	Pn	07 35 12.8	+0.1
IZEF				eSn	Sn	07 36 25.2	-4.1
IZEF	Zefreh	6.74	333	Pn	Pn	07 35 12.8	+0.1
IZEF				Sn	Sn	07 36 25.1	-4.2
IPIR	Pirpir	7.23	324	ePn	Pn	07 35 19.9	+0.5
IPIR	Pirpir	7.23	324	Pn	Pn	07 35 19.8	+0.4
QRN	Al-Qurain	7.31	286	eP	Pn	07 35 19.9	-0.7
QRN				AML	AML	07 36 39.9	
	comp=Z,28nm,0.3s						
IKLH	Kalahroud	7.42	331	ePn	Pn	07 35 22.5	+0.5
IKLH				eSn	Sn	07 36 41.2	-4.8
IKLH	Kalahroud	7.42	331	Pn	Pn	07 35 22.5	+0.5
IKLH				Sn	Sn	07 36 41.1	-4.9
RDF	Al-Radifah	7.67	287	AML	AML	07 36 50.2	
	comp=Z,34nm,0.3s						
UMR	Umm Al-Rimmam	7.70	292	eP	Pn	07 35 25.2	-0.7
UMR				AML	AML	07 36 50.2	
	comp=Z,20nm,0.3s						
NAY	Al-Naaiem	8.01	289	eP	Pn	07 35 29.5	-0.6
NAY				AML	AML	07 36 54.6	
	comp=Z,8.3nm,0.5s						
MIB	Mutribah	8.09	293	eP	Pn	07 35 30.8	-0.4
MIB				AML	AML	07 37 01.7	
	comp=Z,69nm,0.5s						
ISHM	Shahmirzad	9.16	347	ePn	Pn	07 35 46.7	+0.8
ISHM	Shahmirzad	9.16	347	Pn	Pn	07 35 46.6	+0.7
IDMV	Damavand	9.27	340	ePn	Pn	07 35 47.9	+0.5
IDMV	Damavand	9.27	340	Pn	Pn	07 35 47.8	+0.4
IKIA	Kiasar	9.48	349	ePn	Pn	07 35 51.3	+1.1
IKIA	Kiasar	9.48	349	Pn	Pn	07 35 51.2	+1.0
IGLO	Galoogah	9.61	348	ePn	Pn	07 35 56.9	+4.9
IKOM	Komasi	10.25	317	ePn	Pn	07 36 01.1	+0.3
IKOM	Komasi	10.25	317	Pn	Pn	07 36 01.0	+0.2
ILIN	Laeen	11.09	318	ePn	Pn	07 36 12.1	-0.2
GNI	Garni	16.15	328	Pn	Pn	07 37 18.8	-1.9
	comp=Z,0.5nm,0.3s,baz=173,slow=16,SNR=2.5						
GNI	Garni	16.15	328	ePn	Pn	07 37 19.5	-1.3
GNI	Garni	16.15	328	ePn	Pn	07 37 19.5	-1.2
MALT	Malatya	18.58	312	eP	Pn	07 37 51.5	+0.4
MALT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MALT	Malatya	18.58	312	eP	Pn	07 37 51.5	+0.4
	comp=Z,7.7nm,0.9s						
MALT	Malatya	18.58	312	eP	Pn	07 37 51.5	+0.4
	comp=Z,7.7nm,0.9s						
ZEI	Tsey	18.62	331	eP	Pn	07 37 52.8	+1.2
MMAI	Mount Meron Ar	18.78	294	P	Pn	07 37 55.0	+1.6
	comp=Z,0.5nm,0.3s,baz=95,slow=16,SNR=2.4						
KIV	Kislovodsk	20.10	331	eP	P	07 38 08.4	+1.0
KIV				pmax	pmax		
	comp=Z,28nm,0.9s						
KIV	Kislovodsk	20.10	331	eP	P	07 38 08.4	+0.9
	comp=Z,28nm,0.9s						
KIV	Kislovodsk	20.10	331	eP	P	07 38 08.4	+1.0
	comp=Z,28nm,0.9s						
GOF	Gofitskoye	20.86	334	eP	P	07 38 19.7	+4.1
BRTR	Keskin Array B	22.52	310	P	P	07 38 33.0	-0.3
	comp=Z,1.0nm,0.7s,mb3.4,baz=119,slow=14,SNR=4.9						
BRTR	Keskin Array B	22.52	310	P	P	07 38 33.0	-0.4
AKTK	Aktyubinsk	23.56	3	P	P	07 38 43.5	-0.8
AKTK	Aktyubinsk	23.56	3	P	P	07 38 43.5	-0.9
AKTO	Aktyubinsk	23.56	3	P	P	07 38 43.5	-0.8
	comp=Z,3.9nm,0.6s,mb4.0,baz=168,slow=12,SNR=15						
BVAR	Borovoye Array	28.25	19	P	P	07 39 25.3	-1.5
	comp=Z,4.4nm,0.8s,mb4.2,baz=190,slow=7.5,SNR=24						
MKAR	Makanchi Array	28.76	39	P	P	07 39 30.6	-0.8
	comp=Z,0.6nm,0.4s,mb3.6,baz=226,slow=8.1,SNR=5.5						
KURK	Kurchatov	29.42	30	⇑Pn	P	07 39 36.1	-1.1
	comp=Z,1.5nm,0.7s,mb3.8						
KURK				⇓Lg		07 41 58.7	
	comp=Z,16nm,1.1s						
WMQ	Urumqi	30.69	48	P	P	07 39 50.4	+2.0
FINES	FINESS Array B	39.93	338	P	P	07 41 06.0	-1.8
	comp=Z,1.0nm,0.7s,mb3.7,baz=123,slow=10,SNR=5.9						
FINES	FINESS Array B	39.93	338	P	P	07 41 06.0	-1.8
KMI	Kunming	41.94	82	P	P	07 41 25.4	+1.0
KMI				AP	pP	07 41 27.5	-1.2
KMI				PP	PP	07 43 06.8	+5.3
KMI				S	S	07 47 44.3	+1.9
KMI				SS	SS	07 50 43.6	-5.5
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.5						
KMI				AMB	AMB		
	comp=Z,75nm,4.3s						
KMI				LR	LR		
	comp=N,212nm,17.2s,MS4.2						
KMI				LR	LR		
	comp=E,180nm,13.8s,MS4.2						
KMI				LR	LR		
	comp=Z,235nm,15.2s,MS4.2						
SONM	Songino Array	44.33	48	P	P	07 41 43.2	-0.5
	comp=Z,1.6nm,0.9s,mb3.8,baz=267,slow=7.6,SNR=8.6						
NOA	NORSAR Array B	45.41	331	P	P	07 41 48.6	-3.8
	comp=Z,0.4nm,0.6s,mb3.4,baz=120,slow=8.1,SNR=3.1						
TORD	Torodi Ar. Bea	52.38	266	P	P	07 42 44.2	-1.7
	comp=Z,6.4nm,0.5s,mb4.8,baz=64,slow=7.3,SNR=103						
CN2	Changchun	57.56	53	eP	P	07 43 23.5	+0.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
DBIC	Dimbokro	60.98	262	P	P	07 43 45.7	-1.3
	comp=Z,5.7nm,0.8s,mb4.7,baz=8.1,slow=14,SNR=3.0						
DBIC	Dimbokro	60.98	262	P	P	07 43 45.7	-1.3
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KLR	Kul'dur	61.12	47	eP	P	07 43 42.9	-5.0
BOSA	Boshof	62.54	210	P	P	07 43 56.0	-1.5
	comp=Z,1.7nm,0.5s,mb4.4,baz=26,slow=5.8,SNR=5.7						
BOSA	Boshof	62.54	210	P	P	07 43 56.0	-1.5
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
CBIJ	Chichi jima	75.19	67	LR	LR	08 21 00.1	
	comp=Z,268nm,21.0s,MS4.5,baz=170,slow=38						
WRA	Warramunga Arr	89.08	113	P	P	07 46 27.6	-1.3
	comp=Z,0.7nm,0.8s,mb4.0,baz=313,slow=4.0,SNR=6.4						
WRA	Warramunga Arr	89.08	113	P	P	07 46 27.6	-1.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
RKT	Rikitea	169.44	72	eLR	LR	07 53 23.7	
	comp=Z,264nm,28.8s						

NIED ***05*** *07:42:00, 2620N×12840E, h23^{km}, Mw4.3 Best double couple: $M_0$3.74000×10^{15} NP1:ϕ_s45.00000°, δ71.00000°, λ94.00000°. NP2:ϕ_s212.00000°, δ20.00000°, λ78.00000°.*
BJI ***05*** *07:42:09.7, 2582N×12866E, h20^{km}, mB4.5, mb4.4, Ms4.1, Msz3.7*
ISCJB ***05*** *07:42:15.6±0.9, 26.14N±005×12848E±004, h32^{km}±5^{km}, mb4.5/27, MS3.6/5, Error ellipse: s-maj=7.9km s-min=6.0km az=173.4*
NEIC ***05*** *07:42:15.8±2.1, 26.11N×128.19E, h17^{km}±12^{km}, mb4.5/8, MW4.3(NIED), Error ellipse: s-maj=15.5km s-min=13.3km az=100.0*
MOS ***05*** *07:42:16.3±1.2, 26.10N×128.17E, h33^{km}, mb4.7/7, Error ellipse: s-maj=30.3km s-min=11.0km az=119.8*
IDC ***05*** *07:42:17.7±2.3, 2623N×12828E, h29^{km}±16^{km}, mb4.1/12, mb1 4.1/12, mb1mx4.0/22, mbtmp4.2/12, MS3.5/7, Ms1 3.5/7, ms1mx3.2/25, Error ellipse: s-maj=38.3km s-min=16.3km az=69.0*
JMA ***05*** *07:42:17.2±0.2, 2620N×12841E, h35^{km}±4^{km}, M4.2*
JMA Felt I J1.
ISC 05 07:42:16.2±0.9**, 2617N**±005×**12847E**±004**, h23**^{km}±6^{km}**, n61, σ0^{s}97**/62**, mb4.5**/27**, MS3.6**/5**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.65	267	P	Pb	07 42 29.1	+0.2
JJT2				S	Sb	07 42 37.6	+0.1
JOW	Kunigami	0.68	345	Pg	Pb	07 42 29.7	+0.3
	3μm,0.3s,baz=165,slow=15,SNR=3429						
JOW				Lg		07 42 38.2	
	2μm,0.3s,baz=108,slow=26,SNR=40						
JOW	Kunigami	0.68	345	P	Pb	07 42 29.7	+0.3
JOW				eS	Sb	07 42 38.1	-0.3
NAH1	Naha	0.70	273	P	Pb	07 42 29.8	0.0
NAH1				S	Sb	07 42 38.7	-0.3
JIH	Iheya	0.97	332	P	Pb	07 42 34.2	-0.1
JIH				eS	Sb	07 42 46.4	-0.3
JAGN	Aguni-jima	1.18	291	P	Pn	07 42 37.1	-0.2
JAGN				eS	Sn	07 42 51.9	-0.7
JKE	Kume jima 2	1.52	276	P	Pn	07 42 41.1	-0.9
JTK	Tokunoshima	1.66	15	P	Pn	07 42 44.0	+0.1
JAM	Amami Oshima	2.45	24	P	Pn	07 42 55.2	+0.5
JMZ	Minamidaito 2	2.50	97	P	Pn	07 42 54.7	-0.7
JMZ				S	Sn	07 43 23.2	-2.0
YHNB	Yeheng	6.59	258	ePn	Pn	07 43 47.0	-4.6
CBIJ	Chichi jima	12.30	83	LR	LR	07 49 22.9	
	comp=Z,68nm,18.4s,baz=186,slow=34						
BJT	Baijiatuau	17.21	326	eP	Pn	07 46 16.6	+1.6
BJT				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BJT	Baijiatuau	17.21	326	eP	Pn	07 46 16.6	+1.7
	comp=Z,7.8nm,0.5s						
BJI	Beijing	17.22	326	eP	Pn	07 46 16.5	+1.4
BJI				AMB	AMB		
	comp=Z,7.0nm,0.8s						
BJI				LR	LR		
	comp=N,412nm,13.2s						
BJI				LR	LR		
	comp=E,167nm,15.2s						
BJI				LR	LR		
	comp=Z,221nm,22.2s						
GUMO	Guam	19.83	126	LR	LR	07 52 53.9	
	comp=Z,87nm,21.6s,baz=236,slow=32						
ASAJ	Asahikawa	21.25	29	LR	LR	07 55 31.1	
	comp=Z,121nm,19.6s,MS3.3,baz=129,slow=37						
CD2	Chengdu	22.20	288	eP	P	07 47 09.1	-1.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
LZH	Lanzhou	23.23	301	eP	P	07 47 22.3	+0.6
LZH				AP		07 47 27.5	
LZH				XP	sP	07 47 30.2	-1.0
LZH				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.4						
YSS	Yuzh-Sakhalins	23.63	25	eP	P	07 47 27.0	+1.3
YSS				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.4						
YSS	Yuzh-Sakhalins	23.63	25	eP	P	07 47 27.0	+1.3
	comp=Z,13nm,0.8s,mb4.4						
ULN	Ulaanbaatar	27.42	328	eP	P	07 48 01.8	+1.7
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
ULN	Ulaanbaatar	27.42	328	eP	P	07 48 01.8	+1.8
	comp=Z,2.2nm,0.8s,mb3.7						
SONM	Songino Array	27.72	327	P	P	07 48 04.3	+1.6
	comp=Z,2.7nm,0.5s,mb4.1,baz=139,slow=10,SNR=17						
SONM				LR	LR	08 00 21.2	
	comp=Z,150nm,21.0s,MS3.5,baz=101,slow=39						
LSA	Lhasa	33.07	285	P	P	07 48 48.9	-1.1
LSA				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb5.0						
LSA	Lhasa	33.07	285	P	P	07 48 48.9	-1.1
	comp=Z,5.8nm,0.3s,mb5.0						
JIRN	Jiri	37.60	282	eP	P	07 49 29.8	+0.8
	comp=Z,5.6nm,0.4s,mb4.7						
GUN	Gumba	37.84	282	eP	P	07 49 32.1	+1.1
PKI	Pulchoki	38.30	282	eP	P	07 49 35.1	+0.2
	comp=Z,16nm,0.6s,mb4.9						
KKN	Kakani	38.38	282	eP	P	07 49 36.2	+0.6
	comp=Z,20nm,0.6s,mb5.0						
DMN	Daman	38.56	282	eP	P	07 49 37.8	+0.7
	comp=Z,14nm,0.6s,mb4.8						
GKN	Gorkha	38.92	283	eP	P	07 49 39.9	-0.2
	comp=Z,21nm,0.5s,mb5.1						
PMG	Port Moresby	39.76	150	LR	LR	08 02 27.8	
	comp=Z,84nm,21.9s,MS3.5,baz=114,slow=30						
KOLN	Koldanda	39.86	283	eP	P	07 49 47.9	0.0
	comp=Z,20nm,0.8s,mb4.9						
MKAR	Makanchi Array	41.73	312	P	P	07 50 02.7	-0.7
	comp=Z,4.8nm,0.6s,mb4.3,baz=99,slow=10,SNR=38						
MKAR	Makanchi Array	41.73	312	P	P	07 50 02.7	-0.7
WRA	Warramunga Arr	46.19	172	P	P	07 50 40.3	+1.1
	comp=Z,1.6nm,0.7s,mb4.1,baz=352,slow=8.4,SNR=14						
ASAR	Alice Springs	49.82	173	P	P	07 51 09.1	+1.9
	comp=Z,1.2nm,0.7s,mb4.1,baz=2.1,slow=13,SNR=12						
BVAR	Borovoye Array	50.46	318	P	P	07 51 11.9	-0.2
	comp=Z,3.1nm,0.6s,mb4.5,baz=72,slow=8.9,SNR=21						
BVAR				LR	LR	08 13 49.5	
	comp=Z,159nm,20.8s,MS4.0,baz=139,slow=38						
BRVK	Borovoye	50.53	318	eP	P	07 51 12.4	-0.2
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	Borovoye	50.53	318	eP	P	07 51 12.4	-0.2
	comp=Z,3.1nm,0.6s,mb4.4						
ZRNK	Zerenda	51.28	318	eP	P	07 51 17.9	-0.4
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
ZRNK	Zerenda	51.28	318	eP	P	07 51 17.9	-0.4
	comp=Z,8.4nm,0.6s,mb4.8						
AKTK	Aktyubinsk	58.03	315	P	P	07 52 05.5	-1.8
AKTO	Aktyubinsk	58.03	315	P	P	07 52 05.5	-1.8
	comp=Z,1.3nm,0.6s,mb4.1,baz=91,slow=13,SNR=2.4						
KDAK	Kodiak Island	62.44	36	P	P	07 52 38.5	+1.1
	comp=Z,3.1nm,0.9s,mb4.5,baz=297,slow=15,SNR=5.1						
KDAK	Kodiak Island	62.44	36	P	P	07 52 38.5	+1.1
JOF	Joensuu	70.20	331	ep	P	07 53 24.6	-2.5
	comp=Z,5.4nm,0.7s,mb4.6						
JOF	Joensuu	70.20	331	eP	P	07 53 24.6	-2.5
JOF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
FINES	FINESS Array B	73.02	331	P	P	07 53 43.4	-0.7
	comp=Z,2.8nm,0.7s,mb4.3,baz=65,slow=6.4,SNR=14						
FINES	FINESS Array B	73.02	331	P	P	07 53 43.4	-0.7
AKASG	Malin Array Be	75.72	320	P	P	07 53 59.0	-0.8
	comp=Z,1.7nm,0.4s,mb4.3,baz=61,slow=6.5,SNR=7.7						
BR131	Keskin Array S	77.24	308	eP	P	07 54 08.2	-0.3
	comp=Z,0.8nm,0.3s,mb4.1						
BRTR	Keskin Array B	77.24	308	P	P	07 54 08.5	+0.1
	comp=Z,1.2nm,0.7s,mb3.9,baz=84,slow=5.1,SNR=4.8						
NB2	NORSAR Subarra	79.46	334	P	P	07 54 20.0	-0.7
	comp=Z,1.6nm,0.6s,mb4.1,baz=53,slow=5.6						
NOA	NORSAR Array B	79.46	334	P	P	07 54 20.3	-0.4
	comp=Z,1.9nm,0.6s,mb4.2,baz=52,slow=5.6,SNR=12						
SUMG	Summit	81.11	356	eP	P	07 54 30.4	+0.8
	comp=Z,6.8nm,0.6s,mb4.8						
GERES	GERESS Array B	85.38	323	P	P	07 54 51.2	-0.4
	comp=Z,0.9nm,0.6s,mb4.1,baz=42,slow=4.2,SNR=5.5						
GERES	GERESS Array B	85.38	323	P	P	07 54 51.2	-0.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TRCR	Troy Canyon	92.18	45	eP	P	07 55 18.8	-5.2
ULM	Lac du Bonnet	94.37	27	LR	LR	08 41 00.6	
	comp=Z,35nm,18.1s,MS3.9,baz=30,slow=37						

NIED ***05*** *07:44:00, 2620N×12840E, h20^{km}, Mw4.0 Best double couple: $M_0$1.24000×10^{15} NP1:ϕ_s38.00000°, δ71.00000°, λ83.00000°. NP2:ϕ_s239.00000°, δ20.00000°, λ110.00000°.*
JMA 05 07:43:55.0±0.3**, 2620N**×**12841E, h35**^{km}±4^{km}**, M3.6, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.60	264	P	Pn	07 44 07.0	0.0
JJT2				eS	Sn	07 44 15.5	+0.1
JOW	Kunigami	0.64	349	P	Pn	07 44 07.5	-0.1
JOW				eS	Sn	07 44 15.8	-0.7
NAH1	Naha	0.65	270	P	Pn	07 44 07.5	-0.2
NAH1				eS	Sn	07 44 16.7	0.0
JIH	Iheya	0.92	335	P	Pn	07 44 12.2	+0.8
JIH				eS	Sn	07 44 24.1	+0.7
JAGN	Aguni-jima	1.12	291	P	Pn	07 44 14.8	+0.7
JAGN				eS	Sn	07 44 29.4	+1.1
JKE	Kume jima 2	1.46	275	P	Pn	07 44 18.9	0.0
JTK	Tokunoshima	1.65	17	P	Pn	07 44 22.0	+0.5
JTK				eS	Sn	07 44 42.7	+1.2
JAM	Amami Oshima	2.45	26	P	Pn	07 44 33.1	+0.7
JAM				eS	Sn	07 45 02.2	+1.1
JMZ	Minamidaito 2	2.56	98	P	Pn	07 44 32.8	-1.1
JMZ				eS	Sn	07 45 00.4	-3.4

IDC 05 08:11:03.0±4.8**, 2176N**×**14384E, h94**^{km}±32^{km}**, mb3.3**/4**, mb1 3.4**/5**, mb1mx3.2**/20**, mbtmp3.8**/5**, Error ellipse: s-maj=165.5km s-min=20.0km az=83.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.53	345	P	Pn	08 12 24.1	+1.3
	7.7nm,0.3s,baz=290,slow=21,SNR=3.8						
CBIJ				S	Sn	08 13 24.8	-0.1
	5.0nm,0.3s,baz=322,slow=20,SNR=3.3						
WRA	Warramunga Arr	42.47	193	P	P	08 18 48.5	-0.1
	0.6nm,0.8s,baz=13,slow=8.8,SNR=12						
ASAR	Alice Springs	46.17	193	P	P	08 19 18.3	+0.2
	0.1nm,0.3s,baz=16,slow=7.7,SNR=3.1						
BVAR	Borovoye Array	63.02	319	P	P	08 21 20.9	+1.0
	0.5nm,0.4s,baz=104,slow=6.3,SNR=3.6						
FINES	FINESS Array B	83.39	335	P	P	08 23 19.0	-0.8
	0.4nm,0.4s,baz=67,slow=5.0,SNR=6.4						

HLW ***05*** *08:17:46.5, 3136N×3544E, h15^{km}, Mb3.0*
ISCJB ***05*** *08:17:49.7±0.6, 3107N±003×35.16E±006, h6^{km}±6^{km}, Error ellipse: s-maj=9.6km s-min=4.9km az=33.7*
GII ***05*** *08:17:49.6±0.2, 3108N×35.16E, h1^{km}±1^{km}, ML2.6/5*
ISC 05 08:17:50.2±0.6**, 3107N**±003×**3517E**±006**, h6**^{km}±6^{km}**, n23, σ0^{s}66**/25**, 3C, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MZDA	Masada	0.29	35	Pg	Pg	08 17 56.0	+0.2
MASH	Mash'abbe Sade	0.34	257	Pg	Pg	08 17 56.9	+0.2
RTMM	Retamin	0.41	268	Pg	Pg	08 17 58.4	+0.2
ZFRI	Zfri	0.51	179	Pg	Pg	08 18 00.4	+0.3
DRGI	Dragot	0.56	20	Pg	Pg	08 18 00.7	-0.2
MKRJ	Makawir	0.63	40	Pg	Pg	08 18 03.0	+0.7
KZIT	Kziot	0.68	256	Pg	Pg	08 18 03.2	-0.1
PRNI	Paran	0.73	191	Pg	Pg	08 18 04.5	+0.3
SLTI	Sal'it	1.17	355	Pg	Pg	08 18 11.8	-0.9
SLTI				Sg	Sg	08 18 29.0	+1.1
HMDT	Nahal Hemdat	1.22	14	Pg	Pg	08 18 13.0	-0.6
MBH	Mount Berech	1.29	190	Pg	Pg	08 18 14.5	-0.5
AQBJ	Aqaba	1.34	184	Pn	Pn	08 18 15.4	0.0
MMLI	Mount Malkishu	1.38	9	Pn	Pn	08 18 16.3	+0.3
EIL	Elat	1.41	188	Pn	Pn	08 18 15.9	-0.5
HNKL	Nakhl	1.53	222	⇑eP	Pn	08 18 17.6	-0.5
HNKL				S	Sn	08 18 40.8	+2.5
OFRI	'Ofer	1.55	354	Pn	Pn	08 18 18.2	-0.2
OFRI	'Ofer	1.55	354	Pn	Pn	08 18 18.2	-0.2
AMAG	Maghara	1.74	256	P	Pn	08 18 19.8	-1.1
HBST	Basata	1.89	192	P	Pn	08 18 23.4	+0.4
SUZ		2.36	239	⇑P	Pn	08 18 28.9	-0.6
HDHB	Dhahab	2.39	192	P	Pn	08 18 29.5	-0.3
HKAT	Jabal Katrina	2.74	202	P	Pn	08 18 35.0	+0.3
TR2		2.96	206	⇑P	Pn	08 18 37.6	0.0

*ISCJB **05** 08:36:18.0±0.7, 147N±0.1×1442E±02, h10km, mb4.1/9, MS3.6/8, Error ellipse: s-maj=27.1km s-min=8.0km az=124.3*

*IDC **05** 08:36:18.1±1.1, 1466N×14432E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.9/19, mbtmp4.0/7, MS3.6/9, Ms1 3.6/9, ms1mx3.2/27, Error ellipse: s-maj=45.1km s-min=14.2km az=72.0*

*NEIC **05** 08:36:21.5±0.7, 1470N×14442E, mb4.5/2, Error ellipse: s-maj=31.5km s-min=8.5km az=76.0*

ISC 05 08:36:19.4±6.3**, 147N**±01×**1444E**±02**, h10**km±39km**, n18, σ0.57**/13**, mb4.1**/9**, MS3.6**/8**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.19	156	Pn	Pn	08 36 42.2	0.0
	123nm,0.3s,baz=318,slow=3.2,SNR=18						
GUMO				Sn	Sn	08 36 58.1	-0.3
	162nm,0.3s,baz=165,slow=22,SNR=24						
GUMO	Guam	1.19	156	Pn	Pn	08 36 42.2	0.0
GUMO				Sn	Sn	08 36 58.1	-0.3
JOW	Kunigami	19.27	311	LR	LR	08 46 34.4	
	comp=Z,173nm,19.9s,baz=123,slow=32						
MJAR	Matsushiro Arr	22.45	347	P	P	08 41 18.4	-0.2
	3.0nm,0.9s,mb3.7,baz=169,slow=9.0,SNR=5.0						
MJAR				LR	LR	08 49 34.5	
	comp=Z,79nm,18.7s,MS3.2,baz=270,slow=36						
HNR	Honiara	28.51	146	LR	LR	08 51 43.7	
	comp=Z,111nm,19.4s,MS3.5,baz=360,slow=32						
ASAJ	Asahikawa	29.37	357	LR	LR	08 52 27.0	
	comp=Z,37nm,21.4s,MS3.0,baz=265,slow=33						
WRA	Warramunga Arr	35.80	196	P	P	08 43 19.6	+0.8
	3.4nm,1.0s,mb4.2,baz=16,slow=9.5,SNR=8.5						
FITZ	Fitzroy Crossi	37.45	210	P	P	08 43 32.4	-0.4
	7.3nm,1.0s,mb4.5,baz=68,slow=10,SNR=5.2						
ASAR	Alice Springs	39.46	195	P	P	08 43 49.9	+0.1
	0.4nm,0.7s,mb3.3,baz=15,slow=12,SNR=3.6						
SONM	Songino Array	45.56	325	P	P	08 44 39.3	-0.1
	1.0nm,0.7s,mb3.8,baz=138,slow=9.0,SNR=7.6						
SONM				LR	LR	09 03 36.4	
	comp=Z,54nm,19.6s,MS3.5,baz=110,slow=36						
AFI	Afiamalu	51.87	121	LR	LR	09 02 09.9	
	comp=Z,144nm,20.8s,MS4.0,baz=70,slow=30						
MKAR	Makanchi Array	60.37	316	P	P	08 46 28.6	-0.1
	2.4nm,0.8s,mb4.3,baz=96,slow=8.7,SNR=13						
KURK	Kurchatov	63.44	320	eP	P	08 46 48.9	-0.4
	7.2nm,1.0s,mb4.8						
KURK				epP	pP	08 46 58.0	+5.4
ZRNK	Zerenda	69.60	321	eP	P	08 47 28.1	-0.7
	1.9nm,0.8s,mb4.1						
ZRNK				e		08 47 36.0	
PPT	Papeete	72.60	114	LR	LR	09 13 57.1	
	comp=Z,340nm,19.5s,MS4.6,baz=324,slow=31						
YKA	Yellowknife Ar	82.12	27	LR	LR	09 21 58.3	
	comp=Z,18nm,20.3s,MS3.4,baz=270,slow=33						
FINES	FINESS Array B	89.97	335	P	P	08 49 20.4	+1.4
	1.1nm,0.8s,mb4.2,baz=69,slow=10,SNR=4.5						
AKASG	Malin Array Be	93.85	325	LR	LR	09 32 11.0	
	comp=Z,27nm,20.6s,MS3.7,baz=150,slow=36						

MAN 05 08:37:09.6, 1608N×12182E, h11km, mb2.6, ML4.1, MS1.7, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BALP	Baler	0.41	215	eP	Pg	08 37 19.1	+1.4
CAUP	Cauayan	0.86	0	eP	Pg	08 37 24.6	-1.4
PCPH	Palayan	0.87	234	⇓eP	Pg	08 37 25.1	-1.3
PCPH				i S	Sg	08 37 38.0	+0.4
PALP	Palanan	1.13	31	eP	Pb	08 37 30.7	-0.5
BCPH	Baguio City Da	1.23	284	⇓eP	Pn	08 37 31.0	-1.7
BCPH				eS	Sb	08 37 47.3	-1.3
CVP	Callao Caves	1.61	0	eP	Pn	08 37 36.0	-1.9
CVP				i S	Sn	08 37 54.5	-4.2
APYP	Conner	1.85	343	eP	Pn	08 37 41.2	-0.1
BOLP	Bolinao	1.86	279	eP	Pn	08 37 42.3	+1.0
SCZP	Santa Cruz	1.86	261	eP	Pn	08 37 41.6	+0.2
LQP	Lukban	1.98	188	eP	Pn	08 37 44.6	+1.6
GQP	Guinayangan	2.25	164	eP	Pn	08 37 47.4	+0.7
GQP				eS	Sn	08 38 14.8	+0.5
LUBP	Lubang	2.79	213	eP	Pn	08 37 53.9	-0.2
PVCP	Virac	3.35	137	eP	Pn	08 38 00.6	-1.2

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*ISCJB **05** 08:45:01.3±0.2, 1565S±003×7025W±005, h220km, mb4.1/32, Error ellipse: s-maj=7.6km s-min=4.0km az=144.4*

*IDC **05** 08:45:02.9±0.5, 1540S×6999W, h217km±3km, mb3.9/13, mb1 4.1/17, mb1mx4.0/23, mbtmp4.6/17, Error ellipse: s-maj=14.5km s-min=7.6km az=43.0*

*NEIC **05** 08:45:02.8±0.2, 1568S×7017W, mb4.3/23, Error ellipse: s-maj=9.4km s-min=5.3km az=63.0*

*BJI **05** 08:45:02.7, 1570S×7020W, h219km, mB4.8*

ISC 05 08:45:02.8±0.2**, 1576S**±003×**7019W**±006**, h222**km**, h222**km±1.7km**: pP-P, n99, σ1.26**/88**, mb4.1**/32**, 4C-1D, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	Arequipa	1.44	241	⇑iP	Pn	08 45 35.8	-2.2
ARE				i S	S	08 46 01.8	-3.7
LPAZ	La Paz	2.05	105	P	Pn	08 45 44.1	+0.7
	1μm,0.3s,baz=300,slow=8.0						
LPAZ				S	S	08 46 15.0	-0.3
	214nm,0.3s,baz=21,slow=24,SNR=16						
LPAZ	La Paz	2.05	105	ePn	Pn	08 45 44.1	+0.6
LPAZ				eSn	S	08 46 12.1	-3.2
LVC	Limon Verde	6.93	170	P	Pn	08 46 42.6	+0.4
	94nm,0.3s,baz=349,slow=10,SNR=625						
LVC				S	S	08 47 58.8	-2.7
	187nm,0.3s,baz=134,slow=20,SNR=6.6						
LVC	Limon Verde	6.93	170	i P	Pn	08 46 42.3	+0.1
LVC	Limon Verde	6.93	170	ePn	Pn	08 46 42.3	+0.1
LVC				eS	S	08 47 47.5	-14
NNA	Nana	7.47	299	ePn	Pn	08 46 43.8	-5.4
NNA				eS	S	08 48 03.1	-11
CEN1	Los Morros	7.59	180	eP	Pn	08 46 52.4	+1.6
CEN1				eS	S	08 48 17.1	-0.1
ANCH	Antofagasta	7.89	181	eP	Pn	08 46 50.9	-3.7
ANCH				eS	S	08 48 16.1	-8.0
ANCH	Antofagasta	7.89	181	P	Pn	08 46 51.4	-3.2
SIV	San Ignacio	8.78	93	P	Pn	08 47 04.2	-1.8
	16nm,0.3s,baz=280,slow=12,SNR=677						
CPN1	Cerro Paranal	8.83	181	eP	Pn	08 47 06.1	-0.5
CPN1				eS	S	08 48 40.6	-5.6
CRCH	Chaqaral	10.54	182	eP	Pn	08 47 28.5	-0.1
CRCH				eS	S	08 49 19.5	-7.2
CRCH	Chaqaral	10.54	182	eP	Pn	08 47 28.8	+0.1
CDCH	Caldera	11.28	183	⇑iP	Pn	08 47 37.2	-0.7
CDCH				eS	S	08 49 33.6	-10
ATAH	Atahualpa	11.85	316	P	Pn	08 47 41.2	-3.9
	2.6nm,0.3s,baz=130,slow=9.4,SNR=62						
CMCH	Combarbala	15.37	183	⇑eP	Pn	08 48 29.7	+1.2
CMCH				eS	S	08 51 09.4	-8.9
CMCH	Combarbala	15.37	183	i P	Pn	08 48 29.7	+1.3
CFAA	Coronel Fontan	15.88	174	P	Pn	08 48 37.2	+2.6
	1.2nm,0.3s,baz=344,slow=11,SNR=87						
CFAA				S	S	08 51 26.4	-2.8
	0.5nm,0.3s,baz=228,slow=16,SNR=7.6						
CFAA	Coronel Fontan	15.88	174	P	Pn	08 48 37.2	+2.6
CFAA				S	S	08 51 26.4	-2.8
CPUP	Villa Florida	15.95	133	P	Pn	08 48 34.8	-0.6
	2.5nm,0.3s,baz=295,slow=10,SNR=58						
CPUP	Villa Florida	15.95	133	eP	Pn	08 48 34.9	-0.6
	10nm,0.6s						
FCH	Farellones	17.50	180	⇓eP	P	08 48 55.6	+4.0
OTAV	Otavalo	17.86	332	eP	P	08 48 55.3	-0.3
	23nm,0.7s						
BDFB	Brasilia	21.35	93	P	P	08 49 32.4	-0.4
	22nm,0.8s,mb4.8,baz=264,slow=12,SNR=48						
BDFB	Brasilia	21.35	93	eP	P	08 49 32.1	-0.7
BAO	Brasilia Array	21.37	93	P	P	08 49 33.0	0.0
TRQA	Tornquist	23.37	163	eP	P	08 49 53.0	+1.5
	10nm,0.4s,mb4.7						
SDV	Santo Domingo	24.49	359	P	P	08 50 00.3	-1.4
	2.6nm,0.2s,mb4.4,baz=325,slow=1.9,SNR=3.9						
SDV				pP		08 50 38.7	
	8.3nm,0.6s,baz=235,slow=8.2,SNR=2.3						
SDV	Santo Domingo	24.49	359	eP	P	08 50 02.7	+1.0
	6.7nm,0.8s,mb4.3						
SDV				epP		08 50 40.6	
PLCA	Paso Flores	24.89	181	P	P	08 50 07.5	+2.3
	13nm,0.6s,mb4.8,baz=356,slow=10,SNR=39						
PLCA	Paso Flores	24.89	181	eP	P	08 50 07.5	+2.3
	10nm,0.6s,mb4.6						
RCBR	Riachuelo	35.04	77	eP	P	08 51 35.0	+0.6
	8.2nm,0.6s,mb4.4						
TEIG	Tepich	39.93	333	eP	P	08 52 14.2	-1.2
	4.9nm,0.6s,mb4.1						
TEIG				epP	pP	08 53 01.2	-0.6
CMIG	Matias Romero	40.72	322	P	P	08 52 21.1	-0.8
	4.3nm,0.7s,mb4.0,baz=141,slow=6.6,SNR=8.7						
JCT	Junction City	54.09	328	eP	P	08 54 03.7	-0.9
	7.6nm,0.9s,mb4.2						
MIAR	Mount Ida	54.74	336	eP	P	08 54 12.5	+3.2
	5.5nm,1.1s,mb4.0						
GDL2	Guadalupe Moun	57.84	326	eP	P	08 54 36.4	+5.3
GDL2				epP	pP	08 55 16.0	-5.0
BNM	Barren Site	60.55	326	eP	P	08 54 49.9	+0.2
LAZ	Ladron	61.02	325	eP	P	08 54 52.8	-0.1
LAZ				epP	pP	08 55 43.2	-0.1
ANMO	Albuquerque	61.06	326	eP	P	08 54 52.9	-0.2
WUAZ	Wupatki	64.21	323	eP	P	08 55 14.4	+0.5
WUAZ				epP	pP	08 56 06.2	+1.4
ISCO	Idaho Springs	64.38	330	eP	P	08 55 15.1	+0.1
	2.9nm,0.8s,mb4.0						
SMCO	Snowmass	64.56	329	eP	P	08 55 16.6	+0.4
	4.3nm,0.9s,mb4.1						
PV01	Paradox Valley	64.58	327	eP	P	08 55 16.8	+0.5
PV01				epP	pP	08 56 06.0	-1.3
VNA1	Neumayer--Stat	66.08	161	eP	P	08 55 28.5	+2.6
VNA1				e		08 55 47.5	
SRU	San Rafael	66.33	327	eP	P	08 55 27.4	-0.1
	1.7nm,0.6s,mb3.9						
MSU	Marysvale	66.79	325	eP	P	08 55 31.0	+0.6
MSU				epP	pP	08 56 21.2	-0.6
SHPR	Sheep Range	67.11	322	eP	P	08 55 32.2	-0.2
SHPR				epP	pP	08 56 26.0	+2.2
RSSD	Black Hills	67.12	334	eP	P	08 55 32.6	+0.1
	4.6nm,0.8s,mb4.2						
TPNV	Topopah Spring	68.05	322	eP	P	08 55 38.6	+0.3
	5.5nm,0.9s,mb4.2						
TPNV				epP	pP	08 56 32.7	+2.8
DUG	Dugway	68.33	326	eP	P	08 55 39.7	-0.4
	8.5nm,1.4s,mb4.2						
DUG				epP	pP	08 56 33.0	+1.3
DBIC	Dimbokro	68.40	76	P	P	08 55 38.7	-1.8
	3.3nm,0.5s,mb4.3,baz=244,slow=5.9,SNR=13						
PDAR	Pinedale Array	68.56	330	P	P	08 55 40.4	-1.0
	0.7nm,0.5s,mb3.6,baz=118,slow=7.8,SNR=11						
PDAR				pP	pP	08 56 31.4	-1.6
	0.3nm,0.4s,baz=133,slow=8.3,SNR=1.9						
ULM	Lac du Bonnet	69.50	343	P	P	08 55 44.6	-2.6
	1.9nm,0.5s,mb4.0,baz=144,slow=5.4,SNR=9.8						
SNOW	Snow King Moun	69.66	330	eP	P	08 55 48.2	0.0
	2.7nm,0.7s,mb4.0						
LOHW	Long Hollow	69.69	330	eP	P	08 55 47.6	-0.8
	2.2nm,0.7s,mb3.9						
TPAW	Teton Pass	69.77	330	eP	P	08 55 49.2	+0.3
	1.9nm,0.6s,mb3.9						
RRI2	Red Ridge	69.85	329	eP	P	08 55 58.6	+9.3
	6.8nm,0.8s,mb4.3						
RRI2				epP	pP	08 56 48.8	+7.6
ELK	Elko	70.04	325	eP	P	08 55 50.4	-0.2
ELK				epP	pP	08 56 43.7	+1.4
IMW	Indian Meadow	70.07	330	eP	P	08 55 52.0	+1.3
	3.7nm,0.6s,mb4.2						
MNV	Mina	70.16	322	epP	pP	08 56 44.4	+1.3
NVAR	Mina Array Bea	70.25	322	P	P	08 55 51.8	-0.1
	0.5nm,0.7s,mb3.3,baz=138,slow=6.9,SNR=5.5						
NVAR				pP	pP	08 56 44.4	+0.7
	2.0nm,0.9s,baz=137,slow=7.7,SNR=5.6						
GCMT	Greycliff	70.90	332	eP	P	08 55 55.7	0.0
GCMT				epP	pP	08 56 45.3	-2.4
HLID	Hailey	71.56	328	eP	P	08 56 00.4	+0.7
HLID				epP	pP	08 56 53.1	+1.4
MCMT	McKenzie Canyo	71.68	329	eP	P	08 56 00.9	+0.5
MCMT				epP	pP	08 56 51.2	-1.2
BOZ	Bozeman (W)	71.70	331	eP	P	08 56 01.6	+1.1
PAHR	Pah Rah Range	71.72	322	epP	pP	08 56 55.4	+2.7
EGMT	Eagleton	72.64	333	eP	P	08 56 05.8	-0.3
	7.8nm,0.9s,mb4.3						
BMO	Blue Mountains	73.95	327	eP	P	08 56 15.2	+1.4
	5.1nm,1.4s,mb4.0						
QSPA	South Pole Qui	74.41	180	eP	P	08 56 18.8	+2.5
	10nm,0.9s,mb4.5						
TORD	Torodi Ar. Bea	76.66	72	P	P	08 56 28.3	-0.9
	3.3nm,0.6s,mb4.1,baz=266,slow=6.2,SNR=30						
TORD				pP	pP	08 57 21.6	-0.3
	4.4nm,0.7s,baz=257,slow=5.5,SNR=6.5						
MDT	Midelt	79.06	51	pP	pP	08 57 35.6	+0.2
	3.2nm,0.9s,baz=233,slow=6.1,SNR=5.4						
VNDA	Vanda	82.27	190	P	P	08 57 01.5	+2.2
	2.0nm,0.9s,mb3.8,baz=136,slow=3.3,SNR=9.4						
SYO	Syowa Base	82.28	160	⇑ePcP	PcP	08 57 00.6	-3.5
ESDC	Sonseca Array	82.64	45	pP	pP	08 57 54.5	-0.3
	1.9nm,0.7s,baz=255,slow=5.3,SNR=2.9						
TSUM	Tsumeb	82.90	108	P	P	08 57 05.0	+2.5
	6.2nm,0.7s,mb4.4,baz=240,slow=6.4,SNR=21						
YKA	Yellowknife Ar	85.39	341	P	P	08 57 13.7	-1.4
	2.4nm,0.7s,mb4.0,baz=135,slow=5.1,SNR=8.9						
YKA				pP	pP	08 58 06.3	-2.6
	2.5nm,0.8s,baz=131,slow=5.6,SNR=4.3						
MAW	Mawson	90.15	164	P	P	08 57 39.9	+2.1
	2.4nm,0.8s,mb4.1,baz=247,slow=7.9,SNR=6.0						
STKA	Stephens Creek	123.68	213	eP	PKPdf	09 03 35.8	+1.9
	2.1nm,0.6s						
STKA	Stephens Creek	123.68	213	PKP	PKPdf	09 03 35.8	+1.9
	2.8nm,0.6s,baz=75,slow=2.3,SNR=11						
ASAR	Alice Springs	134.29	212	PKP	PKPdf	09 03 55.7	+1.7
	2.0nm,0.6s,baz=124,slow=1.8,SNR=21						
ASAR				SKPbc	SKPbc	09 07 06.2	+3.8
	1.3nm,0.9s,baz=136,slow=3.7,SNR=5.4						
WB2	Warramunga Arr	137.10	215	e	PKPdf	09 04 01.4	+2.1
WB2				e		09 07 15.5	
WRA	Warramunga Arr	137.11	215	PKhKP		09 03 48.8	
	0.9nm,0.6s,baz=136,slow=2.8,SNR=14						
WRA				PKP	PKPdf	09 04 01.4	+2.1
	3.1nm,0.6s,baz=135,slow=1.6,SNR=27						
WRA				SKPbc	SKPbc	09 07 15.5	+4.3
	1.2nm,0.6s,baz=146,slow=2.5,SNR=12						
MKAR	Makanchi Array	141.52	31	SKPbc	SKPbc	09 07 26.2	+3.0
	0.2nm,0.2s,baz=336,slow=2.7,SNR=3.7						
MBWA	Marble Bar	142.05	195	ePKPdf	PKPdf	09 04 11.5	+3.3
FITZ	Fitzroy Crossi	142.92	205	eP	PKPdf	09 04 08.5	-1.3
	5.5nm,0.4s						
KAKA	Kakadu	143.93	220	eP	PKPdf	09 04 11.4	-0.2
	6.0nm,0.6s						
WMQ	Urumqi	146.29	29	PKP	PKPdf	09 04 19.2	+3.6
MDJ	Mudanjiang	146.72	334	PKP	PKPdf	09 04 17.0	+0.7
MJAR	Matsushiro Arr	147.37	315	PKPbc	PKPbc	09 04 21.5	+1.3
	12nm,0.8s,baz=92,slow=1.9,SNR=29						
MAJO	Matsushiro	147.37	315	ePKPbc	PKPbc	09 04 21.3	+1.1
MAT	Matsushiro	147.37	315	PKP2	PKPab	09 04 21.0	-1.6
SONM	Songino Array	147.89	4	PKP	PKPdf	09 04 17.8	-0.5
	0.8nm,0.9s,baz=57,slow=5.3,SNR=6.0						
SONM				PKPbc	PKPbc	09 04 22.5	+1.0
	2.3nm,0.6s,baz=338,slow=2.4,SNR=16						
SONM				pPKPbc	pPKPbc	09 05 17.7	-0.5
	4.7nm,0.8s,baz=313,slow=2.4,SNR=11						
CN2	Changchun	149.04	338	ePKP	PKPdf	09 04 19.6	-0.5
HHC	Hu-ho-hao-te	154.95	357	ePKP	PKPdf	09 04 27.5	-1.4
HHC				APKP		09 05 25.0	
HHC				PP	PP	09 08 32.9	+1.9
SSE	Sheshan	161.53	328	ePKP	PKPdf	09 04 35.3	-1.5
NJ2	Nanjing	161.81	335	ePKP	PKPdf	09 04 37.2	+0.1
CD2	Chengdu	163.93	19	ePKP	PKPdf	09 04 35.6	-3.6

IDC 05 09:09:44.2±2.1**, 085N×9719E, h0**km**, mb3.9**/4**, mb1 4.0**/5**, mb1mx3.6**/20**, mbtmp3.8**/5**, ML2.9**/1**, Error ellipse: s-maj=54.7km s-min=28.4km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	2.60	42	Pn	Pn	09 10 27.1	-0.5
	2.5nm,0.3s,baz=222,slow=11,SNR=9.9						
WRA	Warramunga Arr	41.86	122	P	P	09 17 36.3	+0.3
	0.6nm,0.5s,baz=302,slow=9.0,SNR=6.0						
WB2	Warramunga Arr	41.87	122	eP	P	09 17 44.8	+8.8
SONM	Songino Array	47.48	8	P	P	09 18 20.8	0.0
	0.4nm,0.5s,baz=188,slow=9.0,SNR=4.4						
MKAR	Makanchi Array	47.58	346	P	P	09 18 22.0	+0.4
	1.2nm,0.5s,baz=160,slow=8.3,SNR=16						
ZAL	Zalesovo	53.90	351	P	P	09 19 08.6	-0.7
	2.5nm,0.5s,baz=280,slow=3.6,SNR=5.6						

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*ISCJB **05** 09:10:29.9±0.7, 773N±009×1372E±02, h33km, mb4.3/14, MS3.6/7, Error ellipse: s-maj=24.8km s-min=11.8km az=153.4*

*BJI **05** 09:10:35.3, 752N×13727E, h108km, mB5.0, mb4.8*

*NEIC **05** 09:10:38.1±6.2, 771N×13710E, h94km±58km, mb4.4/3, Error ellipse: s-maj=29.4km s-min=10.4km az=74.0*

*IDC **05** 09:10:48.8±3.8, 757N×13687E, h190km±34km, mb3.7/9, mb1 3.8/9, mb1mx3.7/19, mbtmp4.2/9, MS3.5/9, Ms1 3.6/9, ms1mx3.3/25, Error ellipse: s-maj=33.3km s-min=11.5km az=80.0*

ISC 05 09:10:32.1±0.7**, 777N**±009×**1372E**±02**, h35**km**, n23, σ0.68**/18**, mb4.3**/14**, MS3.6**/7**, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	9.48	52	LR	LR	09 16 21.9	
	comp=Z,152nm,20.2s,baz=235,slow=34						
PMG	Port Moresby	19.72	150	LR	LR	09 22 29.2	
	comp=Z,74nm,20.2s,baz=39,slow=36						
YHNB	Yeheng	22.63	320	eP	P	09 15 30.8	+1.0
WRA	Warramunga Arr	27.68	186	P	P	09 16 17.8	+1.1
	2.6nm,0.9s,mb3.8,baz=3.5,slow=10,SNR=21						
WRA				S	S	09 20 44.1	-12
	0.5nm,0.8s,baz=4.8,slow=23,SNR=4.5						
FITZ	Fitzroy Crossi	28.13	204	LR	LR	09 28 30.7	
	comp=Z,67nm,20.2s,MS3.2,baz=124,slow=38						
HNR	Honiara	28.36	127	LR	LR	09 26 55.8	
	comp=Z,55nm,19.2s,MS3.2,baz=359,slow=34						
ASAR	Alice Springs	31.41	186	P	P	09 16 50.4	+0.7
	0.5nm,0.6s,mb3.5,baz=15,slow=13,SNR=7.7						
ASAR				PcP	PcP	09 19 41.3	-1.4
	0.9nm,0.8s,baz=356,slow=3.4,SNR=5.6						
BJI	Beijing	37.24	333	eP	P	09 17 40.2	-0.1
BJI				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.8						
PSI	Prapat	38.44	265	P	P	09 17 49.5	-0.9
	comp=Z,5.0nm,0.7s,mb4.3,baz=304,slow=11,SNR=5.6						
PSI	Prapat	38.44	265	P	P	09 17 49.5	-0.9
STKA	Stephens Creek	39.64	174	P	P	09 17 59.2	-1.1
	comp=Z,2.5nm,0.9s,mb3.9,baz=316,slow=8.3,SNR=3.0						
STKA				LR	LR	09 35 58.2	
	comp=Z,116nm,20.4s,MS3.7,baz=27,slow=38						
GTA	Gaotai	46.00	319	eP	P	09 18 51.9	0.0
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.3						
ULN	Ulaanbaatar	47.46	333	eP	P	09 19 04.1	+0.8
	comp=Z,4.7nm,0.9s,mb4.4						
SONM	Songino Array	47.74	332	P	P	09 19 06.2	+0.7
	comp=Z,4.5nm,0.8s,mb4.5,baz=143,slow=7.7,SNR=27						
SONM				LR	LR	09 38 34.1	
	comp=Z,73nm,18.6s,MS3.7,baz=77,slow=35						
MKAR	Makanchi Array	60.74	320	P	P	09 20 40.3	+0.1
	comp=Z,3.5nm,0.7s,mb4.6,baz=105,slow=8.8,SNR=27						
ZAL	Zalesovo	62.25	328	P	P	09 20 49.7	-0.6
	comp=Z,1.9nm,0.7s,mb4.3,baz=36,slow=4.6,SNR=6.9						
KURK	Kurchatov	64.42	323	eP	P	09 21 04.2	-0.5
	comp=Z,5.8nm,0.8s,mb4.7						
ZRNK	Zerenda	70.77	323	eP	P	09 21 44.1	-0.6
	comp=Z,4.9nm,1.0s,mb4.4						
SML	Sawmill	75.86	28	eP	P	09 22 14.1	-0.6
VNDA	Vanda	86.28	175	LR	LR	10 04 39.2	
	comp=Z,111nm,19.3s,MS4.3,baz=327,slow=38						
ARCES	ARCESS Array B	90.19	341	P	P	09 23 28.4	-0.4
	comp=Z,2.9nm,0.8s,mb4.6,baz=71,slow=6.8,SNR=3.8						
ARCES				LR	LR	10 09 46.2	
	comp=Z,24nm,19.6s,MS3.6,baz=196,slow=39						
FINES	FINESS Array B	93.10	333	LR	LR	10 10 44.0	
	comp=Z,34nm,18.5s,MS3.8,baz=306,slow=39						
NVAR	Mina Array Bea	96.40	50	P	P	09 23 57.9	+0.6
	comp=Z,0.3nm,0.6s,mb3.9,baz=273,slow=3.3,SNR=3.7						

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*MOS **05** 10:19:20.7±0.9, 427S×15184E, h171km, mb4.9/30, Error ellipse: s-maj=9.6km s-min=6.8km az=83.2*

*BJI **05** 10:19:21.1, 421S×15234E, h192km, mB5.0, mb4.9*

*ISCJB **05** 10:19:21.9±0.1, 439S±003×15186E±002, h184km, mb5.0/97, Error ellipse: s-maj=3.6km s-min=3.3km az=123.7*

*IDC **05** 10:19:22.4±0.9, 438S×15181E, h179km±7km, mb4.7/22, mb1 4.7/26, mb1mx4.7/27, mbtmp5.2/26, MS4.2/10, Ms1 4.2/10, ms1mx3.9/31, Error ellipse: s-maj=9.7km s-min=7.1km az=94.0*

*HRVD **05** 10:19:23.2±0.1, 430S×15198E, h179km±1km, MW5.5/92, Centroid moment Tensor Solution. LP body waves: s83,c135; Mantle waves: s92,c189; Half duration: 1.4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.28±.03; $M_{\theta\theta}$1.61±.03; $M_{\phi\phi}$-1.33±.04; $M_{r\theta}$-0.31±.03; $M_{\theta\phi}$1.25±.04; $M_{\phi r}$-1.53±.03; Best double couple: $M_0$2.48700×10^{17} NP1: ϕ_s291.00000°, δ52.00000°, λ-9.00000°. NP2: ϕ_s27.00000°, δ83.00000°, λ-142.00000°. Principal axes: T 2.3720, Plg20.0000°, Azm153.0000°; N 0.2250, Plg51.0000°, Azm36.0000°; P -2.6020, Plg31.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **05** 10:19:23.2±0.1, 436S×15186E, mb4.8/43 Error ellipse: s-maj=5.7km s-min=4.3km az=118.0*

ISC 05 10:19:23.7±0.1**, 440S**±002×**15189E**±002**, h186**km**, h186**km±1.6km**: pP-P, n400, σ0.94**/354**, mb5.0**/95**, 47C-50D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.84	223	P	Pn	10 21 01.2	-0.4
	33nm,0.3s,baz=40,slow=7.1,SNR=57						
PMG				S	Sn	10 22 17.4	-1.6
	24nm,0.3s,baz=143,slow=5.1,SNR=5.1						
PMG				LR	LR	10 23 34.4	
	comp=Z,2μm,18.4s,baz=38,slow=37						
PMG	Port Moresby	6.84	223	ePn	Pn	10 21 01.1	-0.5
PMG				eSn	Sn	10 21 53.4	-26
HNR	Honiara	9.43	122	P	Pn	10 21 33.9	-1.7
	9.3nm,0.3s,baz=237,slow=0.3,SNR=7.6						
HNR	Honiara	9.43	122	P	Pn	10 21 33.9	-1.7
HNR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
HNR	Honiara	9.43	122	ePn	Pn	10 21 33.5	-2.1
	comp=Z,332nm,0.8s						
CTA	Charters Tower	16.53	199	⇓iP	Pn	10 23 06.1	+1.2
	comp=Z,34nm,0.6s						
CTA				e		10 24 14.2	
CTA				eS	S	10 26 11.9	+4.4
CTA	Charters Tower	16.53	199	P	Pn	10 23 05.6	+0.7
	comp=Z,5.0nm,0.3s,baz=24,slow=12,SNR=37						
CTA				S	S	10 26 09.7	+2.2
	baz=159,slow=14,SNR=3.5						
CTA	Charters Tower	16.53	199	P	Pn	10 23 05.6	+0.7
CTA				S	S	10 26 09.7	+2.2
CTA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
CTAO	Charters Tower	16.53	199	eP	Pn	10 23 06.0	+1.1
GUMO	Guam	19.18	339	P	P	10 23 33.5	+0.4
	comp=Z,6.9nm,0.3s,baz=174,slow=8.1,SNR=14						
GUMO	Guam	19.18	339	P	P	10 23 33.5	+0.4
KAKA	Kakadu	20.91	246	eP	P	10 23 50.7	-0.9
	comp=Z,1μm,1.5s						
KAKA				eS	S	10 27 34.2	+0.1
NOUC	Port Laguerre	22.46	143	eP	P	10 24 06.6	-0.6
DZM	Mont Dzumac	22.53	143	eP	P	10 24 07.1	-0.7
DZM	Mont Dzumac	22.53	143	P	P	10 24 07.7	-0.1
	comp=Z,561nm,0.8s,mb6.0,baz=318,slow=6.8,SNR=238						
DZM				ScP	ScP	10 31 17.0	+2.3
	comp=Z,18nm,0.9s,baz=74,slow=5.6,SNR=6.2						
WRAB	Tennant Creek	23.03	226	eP	P	10 24 12.4	+0.1
WRAB				e		10 28 08.8	
WRAB				pmax	pmax		
	comp=Z,1μm,0.8s						
WRAB	Tennant Creek	23.03	226	eP	P	10 24 12.4	+0.1
	comp=Z,1μm,0.8s						
WRAB				ePcP	PcP	10 28 08.8	+13
WB2	Warramunga Arr	23.03	226	⇓iP	P	10 24 12.4	0.0
WB2				eS	S	10 28 08.5	-0.4
WB2				eSCS	ScS	10 35 04.4	+2.3
WRA	Warramunga Arr	23.04	226	P	P	10 24 12.5	0.0
	comp=Z,409nm,0.4s,baz=54,slow=10,SNR=1228						
WRA				S	S	10 28 08.5	-0.5
	comp=Z,22nm,0.8s,baz=45,slow=16,SNR=6.6						
WRA				ScP	ScP	10 31 17.1	+1.1
	comp=Z,12nm,0.9s,baz=47,slow=2.9,SNR=12						
WRA	Warramunga Arr	23.04	226	P	P	10 24 12.5	0.0
WRA				S	S	10 28 08.5	-0.5

AS31	Alice Springs	25.84	220	eP	P	10 24 37.0	-0.8
AS31				eS	S	10 28 52.7	-0.8
AS31				eScS	ScS	10 35 15.8	+2.2
ASAR	Alice Springs	25.84	220	P	P	10 24 37.4	-0.5
	comp=Z,50nm,0.9s,mb5.2,baz=56,slow=8.3,SNR=216						
ASAR				S	S	10 28 53.6	+0.1
	comp=Z,7.8nm,0.9s,baz=37,slow=15,SNR=4.8						
ASAR				ScP	ScP	10 31 24.4	+0.6
	comp=Z,7.0nm,0.8s,baz=54,slow=3.0,SNR=6.4						
ASAR				LR	LR	10 34 42.1	
	comp=Z,336nm,19.4s,baz=44,slow=36						
ASAR	Alice Springs	25.84	220	P	P	10 24 37.4	-0.5
ASAR				S	S	10 28 53.6	+0.1
ASPA	Alice Springs	25.84	221	eP	P	10 24 37.0	-0.9
ASPA				eS	S	10 28 52.7	-0.8
ASPA				eSCS	ScS	10 35 15.8	+2.2
ARMA	Armidale	25.88	181	eP	P	10 24 39.1	+0.9
ARMA				eS	S	10 28 58.5	+4.5
ARMA				eSCP	ScP	10 31 29.1	+5.2
STKA	Stephens Creek	28.99	198	eP	P	10 25 05.5	-0.3
	comp=Z,12nm,1.4s,mb4.4						
STKA				eS	S	10 29 43.6	+0.6
STKA				eSCP	ScP	10 31 37.7	+4.3
STKA	Stephens Creek	28.99	198	P	P	10 25 05.6	-0.3
	comp=Z,9.6nm,0.6s,mb4.7,baz=15,slow=9.3,SNR=26						
STKA				S	S	10 29 43.9	+0.9
	comp=Z,6.8nm,0.8s,baz=147,slow=6.3,SNR=4.1						
STKA				ScP	ScP	10 31 35.7	+2.3
	comp=Z,22nm,1.1s,baz=92,slow=5.1,SNR=6.6						
FITZ	Fitzroy Crossi	29.06	240	⇑iP	P	10 25 05.6	-0.9
	comp=Z,280nm,0.8s,mb6.0						
FITZ				eS	S	10 29 42.6	-1.5
FITZ	Fitzroy Crossi	29.06	240	P	P	10 25 05.7	-0.8
	comp=Z,137nm,0.8s,mb5.7,baz=74,slow=8.4,SNR=126						
BUKP	Musuan	29.41	294	eP	P	10 25 09.2	-0.4
CNB	Canberra Magne	30.85	184	eP	P	10 25 23.3	+1.1
	comp=Z,29nm,0.9s,mb5.0						
CNB				eS	S	10 30 16.6	+4.5
PVCP	Virac	32.83	303	eP	P	10 25 39.8	+0.3
TOO	Toolangi	33.53	189	eP	P	10 25 46.9	+1.3
	comp=Z,13nm,0.9s,mb4.7						
TOO	Toolangi	33.53	189	eP	P	10 25 46.9	+1.3
TOO				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
FORT	Forrest	34.53	218	⇓iP	P	10 25 53.3	-0.9
	comp=Z,244nm,0.7s,mb5.9						
FORT				eS	S	10 31 04.7	-4.3
TSM	Tawau	35.06	284	P	P	10 26 01.6	+2.8
MBWA	Marble Bar	35.38	239	P	P	10 26 01.2	-0.3
	SNR=16						
MBWA	Marble Bar	35.38	239	eP	P	10 26 00.3	-1.3
	comp=Z,220nm,0.9s,mb5.8						
PPR	Puerto Princes	35.91	293	⇑eP	P	10 26 07.0	+1.0
AFI	Afiamalu	37.04	107	LR	LR	10 39 47.3	
	comp=Z,471nm,20.4s,baz=106,slow=33						
KKM	Kota Kinabalu	37.10	286	P	P	10 26 18.7	+2.7
KKM	Kota Kinabalu	37.10	286	eP	P	10 26 15.9	-0.1
JOW	Kunigami	38.55	325	P	P	10 26 28.4	+0.2
	comp=Z,39nm,0.9s,mb5.0,baz=173,slow=8.3,SNR=6.4						
TAU	Tasmania Unive	38.56	185	eP	P	10 26 29.3	+1.0
TAU				pmax	pmax		
	comp=Z,17nm,0.5s,mb4.9						
TAU	Tasmania Unive	38.56	185	eP	P	10 26 29.3	+1.1
	comp=Z,17nm,0.5s,mb4.9						
QRZ	Quartz Range	40.73	156	PN	P	10 26 46.9	+0.7
URZ	Urewera	40.79	149	P	P	10 26 46.7	0.0
	comp=Z,54nm,0.6s,mb5.3,baz=303,slow=3.9,SNR=36						
URZ				ScP	ScP	10 32 16.6	+0.7
	comp=Z,18nm,0.8s,baz=20,slow=4.3,SNR=6.5						
URZ	Urewera	40.79	149	PN	P	10 26 46.6	0.0
NACB	Ninganchiao	40.95	315	eP	P	10 26 48.8	+0.8
PUZ	Puketiti	41.25	148	PN	P	10 26 50.2	-0.2
NNZ	Nelson	41.41	155	PN	P	10 26 52.0	+0.2
YHNB	Yeheng	41.42	316	eP	P	10 26 52.5	+0.7
THZ	Tophouse	41.67	156	PN	P	10 26 53.5	-0.4
KLBR	Kellerberrin	41.92	226	⇓iP	P	10 26 54.1	-1.8
	comp=Z,84nm,0.8s,mb5.4						
KLBR				ePCP	PcP	10 28 36.5	-11
KLBR				eS	S	10 32 59.4	-0.6
KSM	Kuching	41.95	277	eP	P	10 26 56.5	+0.4
RPZ	Rata Peaks	42.66	159	P	P	10 27 01.8	0.0
	comp=Z,113nm,0.8s,mb5.5,baz=46,slow=0.5,SNR=38						
MJAR	Matsushiro Arr	42.69	344	P	P	10 26 59.6	-2.4
	comp=Z,6.7nm,0.8s,mb4.3,baz=165,slow=8.3,SNR=13						
MJAR				ScP	ScP	10 32 23.7	+0.2
	comp=Z,5.5nm,0.9s,baz=160,slow=4.6,SNR=7.4						
MAJO	Matsushiro	42.69	344	eP	P	10 27 00.4	-1.7
MAJO				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.6						
MAJO	Matsushiro	42.69	344	eP	P	10 27 00.4	-1.7
	comp=Z,11nm,0.7s,mb4.6						
MAT	Matsushiro	42.69	344	P	P	10 27 00.6	-1.5
MAT				S	S	10 33 02.0	-9.3
MAT	Matsushiro	42.69	344	eP	P	10 27 01.0	-1.1
MAT				eS	S	10 33 03.0	-8.3
MAT				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
MAT	Matsushiro	42.69	344	eP	P	10 27 01.0	-1.1
	comp=Z,6.7nm,0.8s,mb4.3						
MAT				eS	S	10 33 03.0	-8.3
NWAO	Narrogin (SRO)	43.02	224	P	P	10 27 03.0	-1.8
	comp=Z,36nm,0.9s,mb5.0,baz=60,slow=7.4,SNR=18						
NWAO				PP	PP	10 28 47.7	-0.8
	comp=Z,62nm,0.9s,baz=51,slow=12,SNR=7.6						
NWAO				LR	LR	10 45 32.1	
	comp=Z,393nm,18.8s,baz=226,slow=36						
NWAO	Narrogin (SRO)	43.02	224	P	P	10 27 03.0	-1.7
NWAO						10 28 47.7	
NWAO				pmax	pmax		
	comp=Z,36nm,0.9s						
NWAO				pmax	pmax		
	comp=Z,62nm,0.9s						
NWAO				MLR	MLR		
	comp=Z,393nm,18.8s						
NWAO	Narrogin (SRO)	43.02	224	eP	P	10 27 03.3	-1.5
	comp=Z,172nm,1.5s,mb5.5						
MUN	Mundaring	43.24	226	eP	P	10 27 05.7	-0.8
MUN				ePCP	PcP	10 28 50.2	-2.0
QZH	Quanzhou	43.56	314	⇓iP	P	10 27 10.3	+1.2
QZH				S	S	10 33 24.0	0.0
QZH				AMB	AMB		
	comp=Z,190nm,1.2s,mb5.6						
QZH				LR	LR		
	comp=N,1µm,16.7s						
QZH				LR	LR		
	comp=E,2µm,15.2s						
QZH				LR	LR		
	comp=Z,1µm,19.4s						
SSE	Sheshan	45.87	322	eP	P	10 27 27.7	+0.4
SSE				AP	pP	10 28 09.1	+1.1
SSE				XP	sP	10 28 30.2	+1.4
SSE				PCP	PcP	10 29 01.6	+0.4
SSE				PP	PP	10 29 18.8	+0.7
SSE				S	S	10 33 56.8	-0.4
SSE				XS	sS	10 35 10.9	+2.5
SSE				SCS	ScS	10 37 02.9	-0.3
SSE				AMB	AMB		
	comp=Z,26nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,69nm,3.5s						
SSE				LR	LR		
	comp=N,518nm,23.8s						
SSE				LR	LR		
	comp=E,653nm,23.8s						
SSE				LR	LR		
	comp=Z,280nm,26.9s						
KS15	Wonju Array Si	47.25	334	eP	P	10 27 38.1	+0.1
QIZ	Qiongzhong	47.48	301	⇑P	P	10 27 42.5	+2.7
QIZ				XP	sP	10 28 39.7	-1.8
QIZ				S	S	10 34 23.6	+3.5
QIZ				SCS	ScS	10 37 16.2	+2.4
QIZ				SS	SS	10 37 53.0	+2.7
QIZ				AMB	AMB		
	comp=Z,38nm,1.5s,mb4.8						
QIZ				AMB	AMB		
	comp=Z,385nm,4.1s						
INCN	Inchon	47.84	333	eP	P	10 27 42.8	+0.2
	comp=Z,65nm,0.8s,mb5.3						
NJ2	Nanjing	47.97	321	eP	P	10 27 42.4	-1.1
NJ2				AP	pP	10 28 24.8	+0.2
NJ2				XP	sP	10 28 45.8	+0.5
NJ2				PP	PP	10 29 35.3	-1.9
NJ2				XS	sS	10 35 38.0	-0.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,50nm,3.9s						
NJ2				LR	LR		
	comp=N,2µm,24.9s						
NJ2				LR	LR		
	comp=E,2µm,27.8s						
NJ2				LR	LR		
	comp=Z,10µm,19.1s						
KGM	Kluang	48.95	276	P	P	10 27 51.6	+0.6
ASAJ	Asahikawa	49.02	351	P	P	10 27 51.3	-0.2
	comp=Z,8.4nm,0.7s,mb4.5,baz=241,slow=12,SNR=9.0						
ASAJ	Asahikawa	49.02	351	P	P	10 27 51.3	-0.2
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
RAR	Rarotonga	49.77	114	P	P	10 27 58.7	+1.5
	comp=Z,88nm,0.9s,mb5.4,baz=249,slow=7.2,SNR=14						
RAR				LR	LR	10 45 15.2	
	comp=Z,234nm,19.7s,baz=106,slow=31						
WHN	Wuhan	49.94	317	eP	P	10 28 00.5	+2.0
IPM	Ipoh	51.57	279	P	P	10 28 12.6	+2.0
YSS	Yuzh-Sakhalins	51.77	352	eP	P	10 28 15.0	+2.9
KULM	Kulim	52.07	280	eP	P	10 28 14.7	+0.4
MDJ	Mudanjiang	52.74	340	P	P	10 28 18.8	-0.5
MDJ				AP	pP	10 28 59.2	-1.8
MDJ				XP	sP	10 29 19.4	-2.2
MDJ				PCP	PcP	10 29 25.8	-0.5
MDJ				PP	PP	10 30 20.0	-0.4
MDJ				S	S	10 35 27.8	-4.9
MDJ				XS	sS	10 36 42.1	-3.5
MDJ				SCS	ScS	10 37 48.6	-1.1
MDJ				SS	SS	10 39 12.6	-1.1
MDJ				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,105nm,7.1s						
MDJ				LR	LR		
	comp=N,170nm,18.1s						
MDJ				LR	LR		
	comp=E,301nm,16.8s						
MDJ				LR	LR		
	comp=Z,234nm,23.2s						
PSI	Prapat	53.40	277	P	P	10 28 23.9	-0.2
	comp=Z,13nm,0.9s,mb4.7,baz=108,slow=4.5,SNR=14						
GYA	Guiyang	53.43	308	⇓iP	P	10 28 26.1	+1.8
GYA				AP	pP	10 29 09.0	+2.8
GYA				XP	sP	10 29 30.2	+3.5
GYA				PP	PP	10 30 30.7	+4.0
GYA				SCP	ScP	10 33 08.8	0.0
GYA				S	S	10 35 42.9	+0.8
GYA				XS	sS	10 36 56.8	+1.7
GYA				SCS	ScS	10 37 52.5	-2.1
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,110nm,4.2s						
CN2	Changchun	53.57	336	eP	P	10 28 26.5	+1.2
CN2				eAP	pP	10 29 09.5	+2.3
CN2				eXP	sP	10 29 29.6	+1.8
CN2				eS	S	10 35 43.3	-0.6
CN2				eSS	SS	10 39 27.5	+0.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
HABR	Khabarovsk	54.68	346	eP	P	10 28 33.0	-0.3
HABR				eS	S	10 35 59.2	+0.4
NST	Nakhon Sawan	54.96	292	⇓P	P	10 28 36.8	+1.4
	comp=Z,83nm,1.0s,mb5.4						
BJI	Beijing	55.06	327	eP	P	10 28 35.6	-0.5
BJI				AP	pP	10 29 24.5	+6.3
BJI				XP	sP	10 29 43.2	+4.5
BJI				S	S	10 36 00.9	-3.0
BJI				XS	sS	10 37 23.7	+6.4
BJI				SS	SS	10 39 50.0	-0.4
BJI				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
NANT	Nan	55.42	296	⇑P	P	10 28 38.0	-0.6
	comp=Z,529nm,1.0s						
XAN	Xi'an	55.71	317	P	P	10 28 41.2	+0.5
XAN				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.0						
KMI	Kunming	56.01	304	P	P	10 28 44.5	+1.6
KMI				AP	pP	10 29 27.2	+2.1
KMI				PCP	PcP	10 29 41.4	+2.5
KMI				XP	sP	10 29 48.0	+2.4
KMI				PP	PP	10 30 52.9	+3.2
KMI				SCP	ScP	10 33 21.0	+0.9
KMI				PCS	PcS	10 33 40.3	+0.8
KMI				S	S	10 36 14.8	-1.7
KMI				XS	sS	10 37 29.3	-0.8
KMI				SCS	ScS	10 38 11.1	-2.0
KMI				SS	SS	10 40 03.8	-1.5
KMI				AMB	AMB		
	comp=Z,48nm,1.2s,mb5.2						
KMI				AMB	AMB		
	comp=Z,402nm,9.5s						
KMI				LR	LR		
	comp=N,251nm,16.4s						
KMI				LR	LR		
	comp=E,223nm,14.1s						
KMI				LR	LR		
	comp=Z,308nm,15.0s						
KLR	Kul'dur	56.21	344	eP	P	10 28 39.0	-5.3
CHRT	Chiangrai	56.59	297	⇓P	P	10 28 48.0	+1.1
	comp=Z,313nm,1.0s,mb6.1						
CM31	Chiang Mai Arr	56.88	295	eP	P	10 28 51.7	+2.6
	comp=Z,58nm,0.8s,mb5.5						
CD2	Chengdu	57.79	311	P	P	10 28 56.0	+0.6
CD2				AP	pP	10 29 38.2	+0.3
CD2				XP	sP	10 30 02.1	+3.9
CD2				PP	PP	10 31 08.3	+2.8
CD2				S	S	10 36 37.2	-2.6
CD2				XS	sS	10 37 55.4	+1.6
CD2				SS	SS	10 40 30.6	-2.7
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
CD2				AMB	AMB		
	comp=Z,90nm,2.7s,mb5.1						
CD2				LR	LR		
	comp=N,260nm,16.2s						
CD2				LR	LR		
	comp=Z,150nm,16.8s						
HHC	Hu-ho-hao-te	58.20	325	eP	P	10 28 59.6	+1.4
HHC				AP	pP	10 29 42.9	+2.1
HHC				XP	sP	10 30 02.5	+1.4
HHC				PP	PP	10 31 13.3	+4.2
HHC				S	S	10 36 44.0	-1.0
HHC				XS	sS	10 38 01.3	+2.1
HHC				SCS	ScS	10 38 26.2	-2.9
HHC				SS	SS	10 40 41.2	+1.5
HHC				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
HHC				AMB	AMB		
	comp=Z,124nm,6.3s						
HHC				LR	LR		
	comp=N,273nm,18.4s						
HHC				LR	LR		
	comp=E,358nm,19.6s						
HHC				LR	LR		
	comp=Z,414nm,19.6s						
PPT	Papeete	58.71	108	eP	P	10 29 03.5	+1.8
	comp=Z,46nm,0.8s,mb5.3						
PPT	Papeete	58.71	108	eS	S	10 36 52.5	+0.8
	comp=Z,462nm,26.8s						
PPT				eLQ		10 43 33.7	
	comp=Z,2µm,29.2s						
PPT				eLR	LR	10 46 37.1	
	comp=Z,157nm,23.8s						
PAE	Paea	58.72	108	eP	P	10 29 03.4	+1.6
	comp=Z,87nm,1.0s,mb5.5						
PAE				epP	pP	10 29 43.0	-1.4
	comp=Z,70nm,0.8s						
BTO	Baotou	58.94	324	eP	P	10 29 03.2	-0.1
TVO	Taravao	59.04	108	eP	P	10 29 06.1	+2.1
	comp=Z,218nm,0.8s,mb6.1						
TBI	Tubuai	59.55	114	eLQ		10 44 29.7	
	comp=Z,2µm,30.2s						
TBI	Tubuai	59.55	114	eP	P	10 29 08.9	+1.4
	comp=Z,198nm,1.0s,mb5.9						
TBI	Tubuai	59.55	114	eS	S	10 37 02.9	+0.4
	comp=Z,478nm,27.8s						
TBI				eLR	LR	10 46 56.9	
	comp=Z,272nm,42.2s						
PMOR	Pomariorio Ree	60.12	105	eP	P	10 29 12.9	+1.5
	comp=Z,259nm,1.0s,mb6.0						
LZH	Lanzhou	60.31	316	⇓P	P	10 29 14.5	+1.8
LZH				AP	pP	10 29 54.2	-1.4
LZH				PCP	PcP	10 29 57.5	+1.6
LZH				XP	sP	10 30 18.1	+2.3
LZH				PP	PP	10 31 32.2	+4.4
LZH				SCP	ScP	10 33 38.6	-0.6
LZH				PCS	PcS	10 33 58.7	+0.1
LZH				S	S	10 37 12.5	+0.3
LZH				XS	sS	10 38 29.2	+2.3
LZH				SCS	ScS	10 38 42.6	-2.2
LZH				SS	SS	10 41 14.8	+1.9
LZH				AMB	AMB		
	comp=Z,57nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,232nm,7.4s						
LZH				LR	LR		
	comp=E,287nm,16.3s						
LZH				LR	LR		
	comp=Z,413nm,18.5s						
VAH	Vaihoa	60.39	105	eP	P	10 29 14.4	+1.2
	comp=Z,131nm,1.0s,mb5.7						
GTA	Gaotai	64.75	317	eP	P	10 29 42.9	+0.8
GTA				PCP	PcP	10 30 13.8	-0.2
GTA				AP	pP	10 30 26.8	+1.3
GTA				XP	sP	10 30 47.3	+1.7
GTA				PP	PP	10 32 11.2	+4.4
GTA				SCP		10 33 57.7	
GTA				S	S	10 38 08.6	+1.1
GTA				XS	sS	10 39 25.4	+2.2
GTA				SS	SS	10 42 26.0	+3.9
GTA				AMB	AMB		
	comp=Z,37nm,1.1s,mb5.1						
GTA				AMB	AMB		
	comp=Z,139nm,8.0s						
GTA				LR	LR		
	comp=N,318nm,20.9s						
GTA				LR	LR		
	comp=E,292nm,22.1s						
GTA				LR	LR		
	comp=Z,148nm,16.3s						
ULN	Ulaanbaatar	65.18	328	P	P	10 29 45.9	+1.0
	SNR=6.1						
ULN	Ulaanbaatar	65.18	328	eP	P	10 29 45.4	+0.6
ULN				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
ULN	Ulaanbaatar	65.18	328	eP	P	10 29 45.4	+0.6
	comp=Z,10.0nm,0.9s,mb4.7						
SONM	Songino Array	65.51	328	P	P	10 29 47.3	+0.4
	comp=Z,7.6nm,0.7s,mb4.6,baz=144,slow=6.2,SNR=33						
LSA	Lhasa	67.27	305	P	P	10 29 57.0	-1.1
LSA	Lhasa	67.27	305	eP	P	10 30 00.2	+2.1
LSA				pmax	pmax		
	comp=Z,53nm,0.8s,mb5.4						
LSA	Lhasa	67.27	305	eP	P	10 30 00.2	+2.1
	comp=Z,53nm,0.8s,mb5.4						
TAOE	Nuku Hiva Isla	67.58	98	eLR	LR	10 50 13.5	
	comp=Z,683nm,27.9s						
CASY	Casey	68.13	197	eP	P	10 30 03.3	-0.2
YAK	Yakutsk	68.41	349	i P	P	10 30 05.3	+0.1
MOY	Mondy	70.61	329	eP	P	10 30 19.4	+0.7
MOY				pmax	pmax		
	comp=Z,47nm,2.7s,mb4.7						
JIRN	Jiri	70.81	301	eP	P	10 30 20.2	+0.3
	comp=Z,117nm,0.8s,mb5.7						
VIS	Vishakhapatnam	71.08	290	eP	P	10 30 21.5	0.0
GUN	Gumba	71.14	301	eP	P	10 30 22.5	+0.6
	comp=Z,270nm,0.8s,mb6.0						
PKI	Pulchoki	71.45	301	eP	P	10 30 23.9	+0.2
	comp=Z,173nm,1.0s,mb5.7						
KKN	Kakani	71.62	301	eP	P	10 30 24.7	0.0
	comp=Z,153nm,0.8s,mb5.8						
DMN	Daman	71.72	301	eP	P	10 30 25.9	+0.6
	comp=Z,343nm,1.0s,mb6.0						
GKN	Gorkha	72.22	301	eP	P	10 30 28.4	+0.1
	comp=Z,311nm,1.0s,mb6.0						
RKT	Rikitea	72.78	113	eLR	LR	10 53 10.4	
	comp=Z,462nm,30.5s						
BILL	Bilibino	72.98	6	⇓eP	P	10 30 32.2	-0.6
BILL				e		10 33 20.1	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
KOLN	Koldanda	73.05	301	eP	P	10 30 33.2	0.0
	comp=Z,220nm,0.9s,mb5.9						
VNDA	Vanda	73.26	178	P	P	10 30 34.2	-0.2
	comp=Z,3.7nm,0.6s,mb4.3,baz=328,slow=6.8,SNR=20						
VNDA				LR	LR	10 56 58.0	
	comp=Z,195nm,21.0s,baz=101,slow=31						
VNDA	Vanda	73.26	178	eP	P	10 30 33.9	-0.5
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
VNDA	Vanda	73.26	178	eP	P	10 30 33.9	-0.5
	comp=Z,4.1nm,0.7s,mb4.3						
SBA	Scott Base	73.82	177	eP	P	10 30 38.3	+0.6
SBA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
SBA	Scott Base	73.82	177	eP	P	10 30 38.3	+0.6
	comp=Z,6.6nm,0.9s,mb4.4						
MIR	Mirnyy	73.97	201	d iP	P	10 30 40.0	+1.4
MIR				pmax	pmax		
	comp=Z,350nm,1.5s,mb5.9						
WMQ	Urumqi	74.84	318	P	P	10 30 44.0	+0.4
HYB	Hyderabad	75.50	289	i P	P	10 30 48.0	+0.6
HYB	Hyderabad	75.50	289	eP	P	10 30 48.0	+0.6
NGP	Nagpur	75.68	293	eP	P	10 30 46.1	-2.3
NGP				AMb	AMB	10 30 48.1	
	comp=Z,85nm,1.8s,mb5.1						
KDAK	Kodiak Island	76.24	27	eP	P	10 30 49.5	-2.0
	comp=Z,8.1nm,0.9s,mb4.3						
SVW2	Sparrevohn	76.82	23	eP	P	10 30 54.6	-0.2
AKL	Akola	77.48	292	ex	x	10 31 08.0	
BHPL	Bhopal	77.54	295	eP	P	10 30 57.4	-1.4
TTA	Tatalina	77.74	22	eP	P	10 30 57.8	-2.1
SLKM	Skilak Lake	78.70	25	eP	P	10 31 03.9	-1.3
NDI	New Delhi	78.74	300	eP	P	10 31 04.3	-1.1
NDI				AMb	AMB	10 31 06.9	
	comp=Z,36nm,1.5s,mb4.8						
SMLA	Simla	79.28	303	eP	P	10 31 08.3	0.0
MKAR	Makanchi Array	79.43	319	P	P	10 31 08.8	-0.4
	comp=Z,22nm,0.9s,mb4.8,baz=101,slow=6.3,SNR=95						
MKAR	Makanchi Array	79.43	319	i P	P	10 31 09.3	+0.1
MKAR				pmax	pmax		
	comp=Z,22nm,0.9s						
MKAR	Makanchi Array	79.43	319	P	P	10 31 08.8	-0.4
SDNR	Sundarnagar	79.52	303	eP	P	10 31 09.6	0.0
KAD	Karad	79.61	288	eP	P	10 31 09.4	-0.7
PMR	Palmer	79.70	25	eP	P	10 31 09.3	-1.3
PMR				e*PP	pP	10 31 55.2	-0.6
PMR				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.5						
PMR	Palmer	79.70	25	eP	P	10 31 09.3	-1.3
	comp=Z,15nm,1.3s,mb4.5						
PMR				epP	pP	10 31 55.2	-0.7
SML	Sawmill	80.14	25	eP	P	10 31 12.5	-0.5
SML				e*PP	pP	10 31 57.0	-1.2
ZAL	Zalesovo	80.33	326	P	P	10 31 12.9	-1.1
	comp=Z,10nm,0.8s,mb4.5,baz=4.6,slow=5.9,SNR=47						
AJM	Ajmer	80.59	298	eP	P	10 31 14.4	-0.9
AJM				i P		10 31 15.0	
NVS	Novosibirsk	81.50	327	i P	P	10 31 18.1	-2.1
NVS				i S	S	10 41 12.2	-3.9
NVS				pmax	pmax		
	comp=N,18nm,1.6s						
NVS				pmax	pmax		
	comp=Z,37nm,1.6s,mb4.8						
NVS				pmax	pmax		
	comp=E,16nm,1.1s						
NVS				smax			
	comp=N,8.0nm,1.4s						
NVS				smax			
	comp=E,22nm,1.4s						
COLA	College	81.82	22	eP	P	10 31 18.9	-3.0
COLA				e*PP	pP	10 32 06.3	-1.0
COLA				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.5						
COLA	College	81.82	22	eP	P	10 31 18.9	-3.0
	comp=Z,12nm,0.9s,mb4.5						
COLA				epP	pP	10 32 06.3	-1.0
KSH	Kashi	81.99	311	⇑P	P	10 31 25.5	+2.8
KSH				eAP	pP	10 32 10.9	+2.7
KSH				eXP	sP	10 32 31.8	+4.0
KSH				ePP	PP	10 34 37.5	+4.5
KSH				eS	S	10 41 21.4	+0.3
KSH				eXS	sS	10 42 49.0	+8.8
KSH				eSS	SS	10 46 51.7	+7.6
KSH				AMB	AMB		
	comp=Z,550nm,6.2s						
KSH				LR	LR		

comp=N,270nm,5.1s
KSH LR LR
comp=E,520nm,5.2s
KSH LR LR
comp=Z,304nm,7.0s
ULHL Ulahol 82.39 313 P **P** 10 31 26.0 +1.2
SNR=12
KURK Kurchatov 82.90 322 P **P** 10 31 26.9 -0.5
SNR=17
KURK Kurchatov 82.90 322 *e*P **P** 10 31 26.1 -1.3
KURK *e**PP pP 10 32 12.1 -0.9
KURK pmax pmax
comp=Z,38nm,1.0s,mb5.1
KURK Kurchatov 82.90 322 *e*P **P** 10 31 26.1 -1.3
comp=Z,38nm,1.0s,mb5.1
KURK *e*pP pP 10 32 12.1 -0.9
TKM2 Tokmak 2 83.00 314 P **P** 10 31 28.2 +0.2
SNR=20
TKM2 Tokmak 2 83.00 314 *i* P **P** 10 31 28.2 +0.2
TKM2 pmax pmax
comp=Z,24nm,1.1s,mb4.8
KZA Kyzart 83.07 313 P **P** 10 31 30.5 +2.2
SNR=59
KBK Karagaybulak 83.41 314 P **P** 10 31 31.1 +1.1
SNR=12
CHMS Chumysh 83.62 314 P **P** 10 31 31.8 +0.7
SNR=15
UCH Uchtor 83.64 313 P **P** 10 31 32.5 +1.3
SNR=61
FRU Bishkek 83.69 314 *e*P **P** 10 31 31.0 -0.5
FRU *e* pP 10 32 14.0 -3.1
FRU pmax pmax
comp=Z,60nm,1.4s,mb5.1
AAK Ala-Archa 83.73 314 P **P** 10 31 32.9 +1.1
SNR=14
AAK Ala-Archa 83.73 314 P **P** 10 31 31.4 -0.3
SNR=11
AAK Ala-Archa 83.73 314*c i*P **P** 10 31 31.5 -0.2
AAK pmax pmax
comp=Z,33nm,0.9s,mb5.1
AAK Ala-Archa 83.73 314 *e*P **P** 10 31 31.0 -0.7
comp=Z,26nm,0.9s,mb5.0
USP Ospenovka 83.86 314 P **P** 10 31 33.1 +0.8
SNR=26
AML Almayashu 84.22 313 P **P** 10 31 35.9 +1.8
SNR=33
EKS2 Erkin-Say 84.26 313 P **P** 10 31 35.7 +1.3
SNR=36
BHJ Bhuj 84.61 294 *e*P **P** 10 31 36.1 0.0
QSPA South Pole Qui 85.55 180 *e*P **P** 10 31 39.9 -0.9
comp=Z,17nm,0.9s,mb4.8
MAW Mawson 85.58 203 *e*P **P** 10 31 39.9 -1.1
comp=Z,15nm,1.0s,mb4.7
MAW Mawson 85.58 203 P **P** 10 31 40.0 -0.9
comp=Z,22nm,1.0s,mb4.8,baz=86,slow=6.1,SNR=35
MAW Mawson 85.58 203 P **P** 10 31 40.0 -0.9
MAW pmax pmax
comp=Z,22nm,1.0s
KK31 Karatay Array 86.70 314 *i* P **P** 10 31 46.3 -0.1
DLBC Dease Lake 87.51 31 LR LR 11 05 50.1
comp=Z,207nm,20.4s,baz=264,slow=32
CHKZ Chkalovo 88.35 324 *e*P **P** 10 31 52.5 -1.8
CHKZ *e**PP pP 10 32 38.8 -1.6
CHKZ pmax pmax
comp=Z,15nm,0.7s,mb4.9
CHKZ Chkalovo 88.35 324 *e*P **P** 10 31 52.5 -1.7
comp=Z,15nm,0.7s,mb4.9
CHKZ *e*pP pP 10 32 38.8 -1.6
BVAR Borovoye Array 88.38 323 P **P** 10 31 52.6 -1.8
comp=Z,23nm,0.7s,mb5.1,baz=104,slow=6.3,SNR=104
BRVK Borovoye 88.45 323 P **P** 10 31 53.7 -1.0
SNR=13
BRVK Borovoye 88.45 323 *e*P **P** 10 31 52.8 -1.9
BRVK pmax pmax
comp=Z,13nm,0.8s,mb4.8
BRVK Borovoye 88.45 323 *e*P **P** 10 31 52.8 -1.9
comp=Z,13nm,0.8s,mb4.8
RNO Roman Nose 88.97 46 P **P** 10 31 58.2 +1.0
ZRNK Zerenda 89.20 323 *e*P **P** 10 31 56.5 -1.7
ZRNK *e**PP pP 10 32 43.0 -1.4
ZRNK pmax pmax
comp=Z,15nm,0.9s,mb4.9
ZRNK Zerenda 89.20 323 *e*P **P** 10 31 56.5 -1.8
comp=Z,15nm,0.9s,mb4.9
ZRNK *e*pP pP 10 32 43.0 -1.4
F03A Seaside 89.34 44 ⇓P **P** 10 31 58.9 0.0
baz=89
H03A Soap Creek Ran 89.38 45 ⇓P **P** 10 31 58.8 -0.3
baz=89
HUMO Hull Mountain 89.39 47 *e*P **P** 10 31 58.7 -0.4
comp=Z,12nm,0.8s,mb4.9
HUMO *e*pP pP 10 32 44.5 -0.8
HUMO Hull Mountain 89.39 47 ⇑P **P** 10 31 59.0 -0.1
baz=89
E03A Lebam 89.42 43 ⇑P **P** 10 31 59.1 -0.2
baz=89,SNR=5.9
J03A Ideyld Park 89.47 47 ⇓P **P** 10 31 59.8 +0.3
baz=90,SNR=5.4
YBH Yreka Blue Hor 89.47 48 *e*P **P** 10 32 00.7 +1.2
YBH pmax pmax
comp=Z,5.0nm,0.9s
YBH Yreka Blue Hor 89.47 48 *e*P **P** 10 32 00.7 +1.2
comp=Z,5.3nm,0.9s,mb4.5
YBH Yreka Blue Hor 89.47 48 ⇓P **P** 10 31 59.4 -0.1
baz=90
WDC Whiskeytown Da 89.47 49 ⇑P **P** 10 31 59.4 -0.1
baz=90
BBOR Butler Butte 89.62 47 P **P** 10 32 02.2 +2.0
O03C Acorn Hollow, 89.80 50 ⇑P **P** 10 32 00.8 -0.2
baz=90
SUTB Sutter Butte 89.91 51 ⇑P **P** 10 32 01.1 -0.4
baz=90
E04A Onalaska 90.00 43 ⇓P **P** 10 32 02.0 0.0
baz=90
D04A Dobbs Creek Ra 90.00 43 ⇓P **P** 10 32 01.6 -0.4
baz=90
GNW Green Mountain 90.04 42 *e*P **P** 10 32 01.7 -0.4
IRO Indian Ridge 90.05 46 P **P** 10 32 03.3 +1.1
M04C Macdoel 90.12 48 ⇑P **P** 10 32 02.1 -0.5
baz=90
L04A Klamath Falls 90.12 48 ⇑P **P** 10 32 02.2 -0.3
baz=90
F04A Amboy 90.14 44 ⇓P **P** 10 32 02.4 -0.2
baz=90
ORV Oroville 90.16 51 ⇓P **P** 10 32 02.4 -0.3
baz=90
H04A Detroit Lake 90.16 45 ⇓P **P** 10 32 02.3 -0.5
baz=90
K04A Chiloquin 90.29 47 ⇓P **P** 10 32 03.0 -0.3
baz=90
O04C Chester 90.55 50 ⇑P **P** 10 32 03.8 -0.7
baz=91
B05A Bryant 90.60 42 ⇑P **P** 10 32 04.3 -0.5
baz=91
M05C Lookout 90.60 49 ⇑P **P** 10 32 04.3 -0.4
baz=91
O05C Quincy 90.64 50 ⇓P **P** 10 32 04.4 -0.5
baz=91
E05A Randle 90.66 44 ⇑P **P** 10 32 04.1 -0.9
baz=91
LAVA Lava Cap Winer 90.68 51 ⇑P **P** 10 32 04.9 -0.2
baz=91
A05A Maple Falls 90.68 41 ⇑P **P** 10 32 04.4 -0.7
baz=91
FMW Mount Fremont 90.75 43 P **P** 10 32 04.6 -0.9
I05A Bend 90.77 46 ⇑P **P** 10 32 04.9 -0.6
baz=91
F05A White Salmon 90.80 44 ⇑P **P** 10 32 05.2 -0.5
baz=91
C05A Tolt Reservoir 90.81 42 ⇑P **P** 10 32 05.3 -0.5
baz=91
G05A Wamic 90.83 45 ⇑P **P** 10 32 05.4 -0.5
baz=91
H05A Madras 90.84 45 ⇓P **P** 10 32 05.6 -0.3
baz=91
L05A Lakeview 90.90 48 ⇑P **P** 10 32 05.8 -0.3
baz=91,SNR=6.4
M06C Likely Place G 91.09 49 ⇓P **P** 10 32 06.9 -0.1
baz=91,SNR=6.0
R05C Kirkwood Meado 91.19 51 ⇑P **P** 10 32 06.6 -0.9
baz=91
K06A Valley Falls 91.39 47 ⇑P **P** 10 32 08.2 -0.2
baz=91,SNR=7.9
P06A Stead Airport, 91.40 50 ⇓P **P** 10 32 08.3 -0.2
baz=91
WCN Washoe City 91.48 51 ⇑P **P** 10 32 08.6 -0.3
baz=92
O06A Flanigan 91.50 50 ⇑P **P** 10 32 08.3 -0.6
baz=92
J06A Christmas Vall 91.50 47 P **P** 10 32 08.3 -0.6
baz=92,SNR=15
EBG Ellensburg 91.50 43 P **P** 10 32 08.2 -0.8
I06A Prineville 91.51 46 ⇑P **P** 10 32 08.6 -0.4
baz=92,SNR=8.0
R06C Coleville 91.67 52 ⇑P **P** 10 32 09.3 -0.4
baz=92
HELL Mitchell Peak, 91.87 54 ⇓P **P** 10 32 10.3 -0.3
baz=92
R07C Lee Vining 91.95 52 ⇓P **P** 10 32 11.0 0.0
baz=92
L07A Adell 92.00 48 ⇑P **P** 10 32 11.2 -0.1
baz=92,SNR=17
M07A Soldier Meadow 92.09 49 ⇑P **P** 10 32 11.2 -0.4
baz=92,SNR=17
J07A Hines 92.12 47 P **P** 10 32 11.8 0.0
baz=92,SNR=13
P07A Fallon 92.17 51 ⇓P **P** 10 32 11.9 -0.1
baz=92
HAWA Hanford 92.17 44 *e*P **P** 10 32 12.2 +0.2
comp=Z,0.3nm,0.8s
Q07A Schurz 92.19 51 ⇑P **P** 10 32 11.8 -0.3
baz=92
O07A Toulon 92.22 50 ⇑P **P** 10 32 11.7 -0.6
baz=92
GBL Gable Mountain 92.24 44 P **P** 10 32 12.1 -0.2
ISA Isabella 92.24 55 ⇓P **P** 10 32 12.0 -0.3
baz=92
MTUM Tungsten Hills 92.28 53 *e*P **P** 10 32 13.6 +1.1
MWC Mount Wilson 92.49 56 *e*P **P** 10 32 15.2 +1.7
WVOR Wild Horse Val 92.55 48 *e*P **P** 10 32 13.4 -0.4
WVOR pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
WVOR Wild Horse Val 92.55 48 *e*P **P** 10 32 13.4 -0.4
comp=Z,6.2nm,0.8s,mb4.8
NVAR Mina Array Bea 92.56 52 P **P** 10 32 13.4 -0.4
comp=Z,4.8nm,0.7s,mb4.7,baz=245,slow=5.0,SNR=26
MNV Mina 92.67 52 *e*P **P** 10 32 14.9 +0.6
MNV pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
MNV Mina 92.67 52 *e*P **P** 10 32 14.9 +0.5
comp=Z,5.8nm,0.9s,mb4.7
M08A Happy Creek Ra 92.68 49 ⇑P **P** 10 32 14.6 +0.2
baz=93,SNR=7.5
J08A Circle Bar Ran 92.73 47 P **P** 10 32 14.1 -0.5
baz=93,SNR=15
OD2 Odessa Site #2 92.80 43 P **P** 10 32 14.5 -0.5
N08A GE Springer Mi 92.83 49 ⇑P **P** 10 32 14.6 -0.5
baz=93
Q08A Gabbs 92.87 51 P **P** 10 32 15.6 +0.3
baz=93,SNR=5.1
109C Camp Elliot, M 93.20 57 ⇓P **P** 10 32 16.7 -0.1
baz=93
L09A Wilkinson Ranc 93.25 48 ⇓P **P** 10 32 17.0 0.0
baz=93,SNR=5.4
N09A Rock Creek Ran 93.30 49 ⇑P **P** 10 32 17.4 +0.2
baz=93
S09A Goldfield 93.37 53 ⇑P **P** 10 32 17.4 -0.1
baz=93,SNR=24
M09A Marrel Ranch, 93.38 49 ⇑P **P** 10 32 17.6 0.0
baz=93
R09A Tonopah 93.51 52 ⇓P **P** 10 32 18.1 -0.1
baz=94,SNR=5.9
O09A Fish Creek Ran 93.52 50 ⇑P **P** 10 32 18.1 -0.1
baz=94
P09A Austin 93.52 51 ⇑P **P** 10 32 18.0 -0.2
baz=94
GSC Goldstone 93.58 55 *e*P **P** 10 32 19.1 +0.6
GSC Goldstone 93.58 55 ⇑P **P** 10 32 18.5 0.0
baz=94
BMO Blue Mountains 93.65 45 *e*P **P** 10 32 18.2 -0.6
BMO *e**PP pP 10 33 03.0 -2.1
BMO pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
BMO Blue Mountains 93.65 45 *e*P **P** 10 32 18.2 -0.6
comp=Z,3.7nm,0.8s,mb4.6
BMO *e*pP pP 10 33 03.0 -2.1
SYO Syowa Base 93.74 200 ‖*e*P **P** 10 32 17.9 -1.3
PFO Pinyon Flat Ob 93.79 57 *e*P **P** 10 32 20.0 +0.5
PFO pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
PFO Pinyon Flat Ob 93.79 57 *e*P **P** 10 32 20.0 +0.5
comp=Z,8.3nm,0.8s,mb4.9
PFO Pinyon Flat Ob 93.79 57 ⇓P **P** 10 32 19.3 -0.1
baz=94,SNR=8.9
NEW Newport 93.91 42 *e*P **P** 10 32 19.2 -0.8
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 93.91 42 *e*P **P** 10 32 19.2 -0.8
comp=Z,4.4nm,0.9s,mb4.6
U10A Ash Meadows, A 94.02 54 ⇓P **P** 10 32 20.5 0.0
baz=94,SNR=5.9
P10A Eureka 94.05 51 ⇓P **P** 10 32 20.6 -0.1
baz=94
TPNV Topopah Spring 94.11 53 *e*P **P** 10 32 20.8 -0.1
TUQ Turquoise Mtn. 94.31 55 ⇓P **P** 10 32 21.7 -0.2
baz=94,SNR=5.1
M11A Holland Ranch, 94.63 49 ⇑P **P** 10 32 23.6 +0.3
baz=95
Q11A Duckwater 94.65 52 ⇓P **P** 10 32 23.6 +0.2
baz=95,SNR=5.7
O11A Cowboy Ranch, 94.69 50 ⇓P **P** 10 32 23.6 +0.1
baz=95
V11A Goodsprings 94.72 55 ⇑P **P** 10 32 23.7 -0.1
baz=95,SNR=8.9
U11A Corn Creek 94.79 54 ⇓P **P** 10 32 24.1 0.0
baz=95
SHPR Sheep Range 94.97 54 *e*P **P** 10 32 25.6 +0.7
ELK Elko 95.02 50 *e*P **P** 10 32 25.3 +0.2
ELK pmax pmax
comp=Z,1.0nm,0.6s
ELK Elko 95.02 50 *e*P **P** 10 32 25.3 +0.2
comp=Z,0.9nm,0.6s,mb4.2
GLA Glamis 95.13 57 *e*P **P** 10 32 27.8 +2.2
GLA Glamis 95.13 57 ⇓P **P** 10 32 25.9 +0.3
baz=95
W12A Cal Nev Ari 95.16 55 ⇓P **P** 10 32 25.8 0.0
baz=95
N12A Clover Valley, 95.18 50 ⇓P **P** 10 32 25.3 -0.6
baz=95
V12A Nelson 95.19 55 ⇓P **P** 10 32 25.8 -0.1
baz=95,SNR=6.8
P12A McGill 95.25 51 ⇑P **P** 10 32 25.9 -0.2
baz=95
M12A Wells 95.28 49 ⇑P **P** 10 32 26.0 -0.3
baz=95
Q12A Willow Creek R 95.30 51 ⇓P **P** 10 32 26.2 -0.2
baz=95
Y12C Blythe 95.41 57 ⇓P **P** 10 32 26.7 -0.2
baz=95
U12A Valley of Fire 95.46 54 ⇑P **P** 10 32 27.0 -0.1
baz=96
BSMT Bassoo Peak 95.47 42 *e*P **P** 10 32 25.9 -1.3
YKA Yellowknife Ar 95.50 28 P **P** 10 32 25.9 -1.4
comp=Z,1.5nm,0.7s,mb4.4,baz=271,slow=4.9,SNR=5.9
YKA LR LR 11 17 42.8
comp=Z,63nm,18.7s,baz=270,slow=37
YKA Yellowknife Ar 95.50 28 P **P** 10 32 25.9 -1.4
YKA LR LR 11 17 42.8
HLID Hailey 95.69 47 *e*P **P** 10 32 28.3 +0.1
comp=Z,1.9nm,0.8s,mb4.5
RPN Rapa Nui 95.80 118 LR LR 11 08 35.0
comp=Z,133nm,20.1s,baz=151,slow=31
AKTK Aktyubinsk 95.84 320 P **P** 10 32 27.1 -1.7
AKTO Aktyubinsk 95.84 320 P **P** 10 32 27.1 -1.7
comp=Z,24nm,0.8s,mb4.6,baz=110,slow=4.9,SNR=8.6
M13A Montello 95.85 49 ⇓P **P** 10 32 29.0 +0.1
baz=96
CCUT Cedar City 96.42 53 *e*P **P** 10 32 32.5 +1.0
W14A Seligman 96.63 55 ⇓P **P** 10 32 33.8 +1.4
baz=97
X14A Yava 96.77 56 ⇓P **P** 10 32 33.7 +0.7
baz=97
W15A Williams 97.29 55 ⇑P **P** 10 32 36.2 +0.8
baz=97
X15A Humboldt 97.31 56 ⇓P **P** 10 32 36.5 +1.0
baz=97
BOZ Bozeman (W) 97.66 45 *e*P **P** 10 32 36.7 -0.4
BOZ pmax pmax
comp=Z,1.0nm,0.9s,mb4.2
BOZ Bozeman (W) 97.66 45 *e*P **P** 10 32 36.7 -0.4
comp=Z,1.4nm,0.9s,mb4.4
WUAZ Wupatki 98.02 55 *e*P **P** 10 32 40.6 +2.0
comp=Z,5.0nm,0.8s,mb5.0
TMUT Trail Mountain 98.11 51 *e*P **P** 10 32 40.5 +1.4
TPAW Teton Pass 98.21 47 *e*P **P** 10 32 39.7 +0.2
comp=Z,2.0nm,0.8s,mb4.6
MOOW Moose Ponds 98.35 47 *e*P **P** 10 32 41.0 +0.8
comp=Z,1.9nm,0.8s,mb4.6
LOHW Long Hollow 98.46 47 *e*P **P** 10 32 40.9 +0.3
comp=Z,1.7nm,0.7s,mb4.6
SRU San Rafael 98.65 51 *e*P **P** 10 32 41.8 +0.3
SRU pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
SRU San Rafael 98.65 51 *e*P **P** 10 32 41.8 +0.3
comp=Z,2.3nm,0.8s,mb4.7
LPIG La Paz 98.90 66 LR LR 11 12 10.8
comp=Z,99nm,19.1s,baz=7.1,slow=32
BW06 Boulder Array 99.25 48 *e*P Pdif 10 32 42.9 -1.3
comp=Z,2.7nm,0.8s
PDAR Pinedale Array 99.25 48 P Pdif 10 32 42.5 -1.6
comp=Z,3.0nm,0.7s,baz=269,slow=1.9,SNR=30
PV10 Paradox Valley 99.83 52 *e*P Pdif 10 32 46.4 -0.3
LAO LASA Array 101.35 43 *e*Pdif Pdif 10 32 53.4 0.0
comp=Z,2.6nm,0.8s
SMCO Snowmass 101.40 51 *e*Pdif Pdif 10 32 54.5 +0.8
OBN Obninsk 107.90 327 *e*P Pdif 10 33 21.3 -1.3
OBN *e*S SKSac 10 43 43.1 -1.4
OBN pmax pmax
comp=Z,3.0nm,0.4s
OBN MLR MLR
comp=Z,200nm,20.0s
AKASG Malin Array Be 113.64 324 PKiKP PKiKP 10 37 38.2 -1.5
comp=Z,0.3nm,0.3s,baz=59,slow=2.7,SNR=6.1
AKASG Malin Array Be 113.64 324 PKPdf PKiKP 10 37 38.2 -1.5
KMBO Kilima Mbogo 114.46 267 PKP PKiKP 10 37 42.0 +0.7
comp=Z,2.1nm,1.0s,baz=38,slow=4.7,SNR=4.0
NB2 NORSAR Subarra116.23 340 PKPdf PKPdf 10 37 42.9 -1.8
comp=Z,0.3nm,0.5s,baz=44,slow=1.9
NOA NORSAR Array B116.23 340 PKP PKPdf 10 37 43.4 -1.4
comp=Z,1.2nm,0.9s,baz=49,slow=2.1,SNR=4.8
NOA SKP 10 41 01.6
comp=Z,0.7nm,0.7s,baz=48,slow=1.9,SNR=3.7
LRAL Lakeview Retre 118.31 55 *e*PKPdf PKPdf 10 37 49.1 +0.3
PLCA Paso Flores 120.64 143 PKP PKPdf 10 37 53.4 +0.2
comp=Z,2.2nm,0.9s,baz=255,slow=3.4,SNR=6.1
PLCA SKP 10 41 14.2
comp=Z,6.9nm,1.1s,baz=193,slow=2.7,SNR=8.4
PLCA Paso Flores 120.64 143 PKiKP PKPdf 10 37 53.4 +0.2
PLCA pmax pmax
comp=Z,2.0nm,0.9s
PLCA pmax pmax
comp=N,7.0nm,1.1s
MORC Moravsky Berou 120.66 327 *e*PKiKP PKPdf 10 37 53.4 +0.2
SCHQ Schefferville 120.82 25 PKP PKPdf 10 37 52.1 -1.5
comp=N,1.9nm,1.0s,baz=241,slow=5.8,SNR=4.3
LSZ Lusaka 120.93 249 *e*PKiKP PKPdf 10 37 55.3 +1.5
UPC Upice 121.05 329 *e*PKPdf PKPdf 10 37 54.5 +0.5
FWV Forest Hill 121.76 48 *e*PKPdf PKPdf 10 37 54.5 -0.9
BRG Berggiesshubel 121.88 330 *e*PKPdf PKPdf 10 37 55.5 -0.1
BRG Berggiesshubel 121.88 330 *e*PKP PKPdf 10 37 55.6 0.0
comp=N,1.7nm,0.8s
BRG PP PP 10 40 19.0 +47
BRG Berggiesshubel 121.88 330 *e*PKiKP PKPdf 10 37 55.6 0.0
BRG pmax pmax
comp=Z,2.0nm,0.8s
CLL Collm 122.07 331 *e*PKiKP PKPdf 10 37 56.0 0.0
comp=Z,logA/T=0.7
CLL Collm 122.07 331 *e*PKPdf PKPdf 10 37 56.0 0.0
comp=Z,6.0nm,1.1s
CLL Collm 122.07 331 *e*PKiKP PKPdf 10 37 56.0 0.0
CLL pmax pmax
comp=Z,6.0nm,1.1s
BLA Blacksburg 122.18 48 *e*PKiKP PKPdf 10 37 55.9 -0.3
TANN Tannenbergstha 122.90 330 *e*PKPdf PKPdf 10 37 57.4 -0.1
WERD Werda 122.95 330 *e*PKPdf PKPdf 10 37 57.7 0.0
GUNZ Gunzen 123.00 330 *e*PKPdf PKPdf 10 37 57.9 +0.2
KHC Kaperske Hory 123.13 329 *e*PKPdf PKPdf 10 37 56.9 -1.1
MOX Moxa 123.16 331 *e*PKPdf PKPdf 10 37 58.1 0.0
GEC2 GERESS Array S 123.24 328 *e*PKPdf PKPdf 10 37 58.0 -0.2
GERES GERESS Array B 123.24 328 PKP PKPdf 10 37 57.8 -0.4
comp=Z,2.8nm,0.9s,baz=349,slow=1.4,SNR=14
GERES SKP 10 41 15.9
comp=Z,0.9nm,0.7s,baz=38,slow=2.4,SNR=4.5
GERES GERESS Array B 123.24 328 PKiKP PKPdf 10 37 57.8 -0.4
GERES pmax pmax
comp=Z,3.0nm,0.9s
GERES pmax pmax
comp=N,1.0nm,0.7s
MANZ Manzenberg 123.35 330 *e*PKPdf PKPdf 10 37 58.6 +0.2
WET Wettzell 123.49 329 *e*PKPdf PKPdf 10 37 58.5 -0.2
GIVF Givet 126.67 334 *e*PKP1 PKPdf 10 38 05.2 +0.4
CDF Champ du Feu 126.76 331 *e*PKP1 PKPdf 10 38 04.9 0.0
BAIF Baives 126.97 334 *e*PKP1 PKPdf 10 38 05.7 +0.4
comp=N,10nm,1.1s
HINF Hinteralfeld 127.38 331 *e*PKP1 PKPdf 10 38 06.2 +0.1
HAU Haudompre 127.49 331 *e*PKP1 PKPdf 10 38 07.5 +1.2
HAU *e*R
comp=N,99nm,21.0s
MEZF Maizieres J'vi 127.74 333 *e*PKP1 PKPdf 10 38 07.4 +0.6
CABF La Chapelle 128.59 330 *e*PKP1 PKPdf 10 38 09.2 +0.8
comp=N,13nm,1.1s
LPG La Plagne 129.02 329 *e*PKP1 PKPdf 10 38 10.2 +0.9
LOR Lormes 129.19 332 *e*PKP1 PKPdf 10 38 09.8 +0.2
comp=N,8.2nm,0.8s
LOR *e*R
comp=N,112nm,22.0s
TSUM Tsumeb 129.29 241 *e*PKPdf PKPdf 10 38 11.3 +1.5
SSF Saint Saulge 129.50 332 *e*PKP1 PKPdf 10 38 10.7 +0.5
comp=N,20nm,1.0s
SMF Signal de Mont 129.65 332 *e*PKP1 PKPdf 10 38 11.9 +1.4
comp=N,12nm,0.9s
PGF Pioggiola 129.72 325 *e*PKP1 PKPdf 10 38 11.1 +0.5
AVF Avril sur Loir 129.78 332 *e*PKP1 PKPdf 10 38 10.8 +0.1
ORIF Oris-en-Rattie 129.87 329 *e*PKP1 PKPdf 10 38 11.4 +0.5
comp=N,5.8nm,0.8s
ORIF *e*R
comp=N,123nm,20.8s
LDF La Druitiere 129.91 336 *e*PKP1 PKPdf 10 38 11.4 +0.5
comp=N,4.3nm,0.7s
FLN La Foliniere 129.92 336 *e*PKP1 PKPdf 10 38 11.2 +0.2
comp=N,13nm,1.3s
BGF Bois d'Agland 130.18 332 *e*PKP1 PKPdf 10 38 12.0 +0.5
GRR Gorron 130.37 336 *e*PKP1 PKPdf 10 38 12.4 +0.6
comp=N,7.6nm,0.8s
FRF La Foret Royal 130.38 327 *e*PKP1 PKPdf 10 38 12.2 +0.4
VIVF Saint-Julien-l 130.53 330 *e*PKP1 PKPdf 10 38 13.0 +0.9
SMRF Simiane la Rot 130.67 328 *e*PKP1 PKPdf 10 38 13.5 +1.1
comp=N,12nm,0.9s
TCF Toulx Ste Croi 130.68 333 *e*PKP1 PKPdf 10 38 13.2 +0.8
MFF Saint Martin d 131.49 334 *e*PKP1 PKPdf 10 38 14.6 +0.7
comp=N,10nm,1.0s
ETSF Etsaut 134.53 332 *e*PKP1 PKPdf 10 38 19.9 +0.2
comp=N,12nm,1.0s
LPAZ La Paz 135.41 118 PKP PKPdf 10 38 20.8 -0.5
comp=N,2.4nm,0.8s,baz=209,slow=2.7,SNR=8.4
LPAZ SKP 10 41 40.0
comp=N,7.4nm,0.8s,baz=325,slow=2.0,SNR=13
LPAZ La Paz 135.41 118 PKiKP PKPdf 10 38 20.8 -0.5
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
LPAZ pmax pmax
comp=N,7.0nm,0.8s
SDV Santo Domingo 137.55 82 *e*PKPdf PKPdf 10 38 27.1 +1.9
CPUP Villa Florida 138.36 139 SKP 10 41 46.5
comp=N,3.2nm,0.7s,baz=235,slow=3.4,SNR=8.6
CPUP Villa Florida 138.36 139 *e*PKiKP PKPdf 10 38 28.3 +1.5
TORD Torodi Ar. Bea 149.32 288 PKP PKPdf 10 38 45.5 -0.3
comp=N,40nm,0.8s,baz=37,slow=2.7,SNR=53
TORD PKPbc PKPbc 10 38 50.3 0.0
comp=N,40nm,0.8s,baz=56,slow=2.1,SNR=136
TORD PKPab PKPab 10 38 56.1 +0.6
comp=N,42nm,0.8s,baz=80,slow=2.7,SNR=28
BDFB Brasilia 151.99 136 PKP PKPdf 10 38 51.5 +1.6
comp=N,5.5nm,0.9s,baz=196,slow=1.8,SNR=6.8
BDFB PKPbc PKPbc 10 38 57.5 +0.9
comp=N,14nm,0.8s,baz=227,slow=1.3,SNR=16
BDFB Brasilia 151.99 136 PKiKP PKPdf 10 38 51.5 +1.6
BDFB pmax pmax
comp=Z,6.0nm,0.9s
BDFB pmax pmax
comp=Z,14nm,0.8s
DBIC Dimbokro 156.74 277 PKPab PKPab 10 39 27.2 +0.2
comp=Z,21nm,0.8s,baz=89,slow=3.2,SNR=13
DBIC Dimbokro 156.74 277 PKP2 PKPab 10 39 27.2 +0.3
DBIC pmax pmax
comp=Z,21nm,0.8s
DBIC Dimbokro 156.74 277 *e*PKPab PKPab 10 39 27.0 +0.1
LIC Lamto 156.94 276 *e*PKP2 PKPab 10 39 27.6 -0.2
comp=Z,78nm,1.0s

PGC 05 10:46:15.5, 5125N×13045W, h10^{km}, ML3.5/32, 189km southwest of Bella Bella, Bc South of Moresby Island, British Columbia, near margin., Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**1.55**	**329**	Pn	Pn	10 46 40.8	-2.5
BNB				Sg	Sg	10 47 02.8	-2.8
BNB				Trac		10 47 10.2	
	comp=Z,4μm,0.2s						
HOLB	**Holberg**	**1.59**	**112**	Pn	Pn	10 46 41.3	-2.4
HOLB				Sg	Sg	10 47 04.1	-2.5
HOLB				Trac		10 47 13.2	
	comp=Z,719nm,0.5s						
BBB	**Bella Bella**	**1.73**	**56**	Pn	Pn	10 46 43.6	-2.0
BBB				Sg	Sg	10 47 07.2	-3.9
BBB				Trac		10 47 17.0	
	comp=Z,617nm,0.5s						
PHC	**Port Hardy**	**1.98**	**105**	Pn	Pn	10 46 46.4	-2.7
PHC				Sn	Sn	10 47 09.5	-4.5
PHC				Sg	Sg	10 47 16.0	-3.2
PHC				Trac		10 47 24.9	
	comp=Z,255nm,0.5s						
BPBC	**Brooks Peninsu**	**2.02**	**122**	Pn	Pn	10 46 47.2	-2.4
BPBC				Sg	Sg	10 47 17.1	-3.5
BPBC				Trac		10 47 21.8	
	comp=Z,281nm,0.4s						
MOBC	**Moresby Island**	**2.14**	**336**	Pn	Pn	10 46 49.5	-1.9
MOBC				Sg	Sg	10 47 20.5	-4.0
MOBC				Trac		10 47 23.4	
	comp=Z,290nm,0.4s						
MAYB	**Maynard**	**2.24**	**111**	Pn	Pn	10 46 51.5	-1.2
MAYB				Sg	Sg	10 47 20.4	-7.2
MAYB				Trac		10 47 30.7	
	comp=Z,119nm,0.4s						
BNAB	**Bonilla**	**2.25**	**357**	Pn	Pn	10 46 50.5	-2.3
BNAB				Sg	Sg	10 47 24.1	-3.7
BNAB				Trac		10 47 30.6	
	comp=Z,186nm,0.4s						
VIB	**Van Inlet**	**2.38**	**328**	Pn	Pn	10 46 53.1	-1.6
VIB				Sg	Sg	10 47 27.7	-4.4
VIB				Trac		10 47 33.1	
	comp=Z,74nm,0.3s						
EDB	**Eliza Dome**	**2.53**	**122**	Pn	Pn	10 46 55.4	-1.2
EDB				Sg	Sg	10 47 30.4	-6.4
EDB				Trac		10 47 36.7	
	comp=Z,80nm,0.5s						
WOSB	**Woss**	**2.69**	**112**	Pn	Pn	10 46 57.8	-1.2
WOSB				Sg	Sg	10 47 31.9	-10
WOSB				Trac		10 47 46.4	
	comp=Z,108nm,0.4s						
NCRB	**Newcastle Ridg**	**2.91**	**105**	Pn	Pn	10 47 01.1	-0.8
NCRB				Sg	Sg	10 47 39.1	-10
NCRB				Trac		10 47 58.7	
	comp=Z,64nm,0.5s						
RUBB	**Prince Rupert**	**3.08**	**2**	Pn	Pn	10 47 03.6	-0.7
RUBB				Sg	Sg	10 47 49.4	-5.2
RUBB				Trac		10 47 53.0	
	comp=Z,336nm,0.3s						
NDB	**Naden**	**3.11**	**332**	Sg	Sg	10 47 51.5	-3.8
NDB				Trac		10 47 59.2	
	comp=Z,129nm,0.5s						
ETB	**Estevan Point**	**3.13**	**125**	Pn	Pn	10 47 02.8	-2.1
ETB				Trac		10 48 15.9	
	comp=Z,27nm,0.5s						
GDR	**Gold River**	**3.18**	**116**	Sg	Sg	10 47 46.1	-11
GDR				Trac		10 48 10.2	
	comp=Z,85nm,0.6s						
CBB	**Campbell River**	**3.46**	**109**	Pn	Pn	10 47 09.2	-0.2
CBB				Sn	Sn	10 47 47.9	-2.5
CBB				Sg	Sg	10 47 57.6	-9.0
CBB				Trac		10 48 10.4	
	comp=Z,89nm,0.8s						
BTB	**Buttle Lake**	**3.62**	**118**	Sg	Sg	10 48 00.9	-11
BTB				Trac		10 48 11.8	
	comp=Z,48nm,0.4s						
OZB	**Mount Ozzard**	**3.93**	**124**	Pn	Pn	10 47 14.6	-1.3
OZB				Sg	Sg	10 48 12.9	-8.7
OZB				Trac		10 48 30.0	
	comp=Z,22nm,0.5s						
ALB	**Alberni**	**4.11**	**117**	Sg	Sg	10 48 21.2	-6.3
ALB				Trac		10 48 31.1	
	comp=Z,23nm,0.5s						
TXB	**Texada**	**4.14**	**110**	Pn	Pn	10 47 18.6	-0.2
TXB				Sg	Sg	10 48 18.2	-10
TXB				Trac		10 48 37.8	
	comp=Z,58nm,0.8s						
MGB	**Mount Grey**	**4.33**	**119**	Pn	Pn	10 47 21.0	-0.5
MGB				Sg	Sg	10 48 28.1	-6.5
MGB				Trac		10 48 40.9	
	comp=Z,45nm,0.9s						
SHB	**Sechelt**	**4.52**	**109**	Trac		10 48 39.8	
	comp=Z,94nm,0.6s						
SHB	**Sechelt**	**4.52**	**109**	Sg	Sg	10 48 28.4	-12
NLLB	**Nanaimo Lost L**	**4.61**	**114**	Trac		10 48 51.0	
	comp=Z,33nm,0.7s						
NLLB	**Nanaimo Lost L**	**4.61**	**114**	Sg	Sg	10 48 35.7	-8.0
PFB	**Port Renfrew**	**4.72**	**122**	Trac		10 49 11.2	
	comp=Z,12nm,0.7s						
PFB	**Port Renfrew**	**4.72**	**122**	Sg	Sg	10 48 37.0	-10
WPB	**Watts Point**	**4.89**	**106**	Pn	Pn	10 47 27.1	-2.0
WPB				Sg	Sg	10 48 37.9	-15
WPB				Trac		10 48 56.9	
	comp=Z,15nm,0.6s						
WSLR	**Whistler**	**4.92**	**100**	Trac		10 48 51.9	
	comp=Z,6.0nm,0.2s						
FSB	**Fort Saint Jam**	**4.92**	**47**	Pn	Pn	10 47 29.2	-0.3
FSB				Sg	Sg	10 48 45.5	-8.0
FSB				Trac		10 48 54.3	
	comp=Z,42nm,0.7s						
BIB	**Bowen Island**	**4.93**	**109**	Sg	Sg	10 48 45.5	-8.4
BIB				Trac		10 48 56.4	
	comp=Z,35nm,0.9s						
GOBB	**Galiano Island**	**5.02**	**115**	Sg	Sg	10 48 49.1	-7.7
GOBB				Trac		10 49 00.4	
	comp=Z,22nm,0.6s						
LZB	**Mount Lazard**	**5.03**	**119**	Trac		10 49 13.9	
	comp=Z,7.0nm,0.7s						
LZB	**Mount Lazard**	**5.03**	**119**	Sg	Sg	10 48 44.1	-13
PGC	**Sidney**	**5.21**	**117**	Trac		10 49 04.7	
	comp=Z,11nm,0.6s						
PGC	**Sidney**	**5.21**	**117**	Sg	Sg	10 48 50.9	-12
SNB	**Saturna Island**	**5.30**	**115**	Trac		10 49 11.4	
	comp=Z,6.0nm,0.8s						
VGZ	**Gonzales**	**5.41**	**119**	Trac		10 49 12.1	
	comp=Z,17nm,0.8s						
HNB	**Haney**	**5.42**	**108**	Trac		10 49 03.5	
	comp=Z,9.0nm,0.5s						
HNB	**Haney**	**5.42**	**108**	Sg	Sg	10 48 55.6	-14
LLLB	**Lillooet**	**5.46**	**93**	Trac		10 49 15.9	
	comp=Z,8.0nm,0.5s						
VDB	**Vedder Mountai**	**5.81**	**109**	Trac		10 49 19.4	
	comp=Z,16nm,0.6s						
BMBC	**Bull Mountain**	**6.89**	**43**	Pn	Pn	10 47 57.0	+0.4
BMBC				Sn	Sn	10 49 13.4	-1.6
BMBC				Sg	Sg	10 49 45.1	-12
BMBC				Trac		10 50 01.9	
	comp=Z,24nm,0.7s						
PNT	**Penticton**	**7.21**	**101**	Trac		10 50 11.6	
	comp=Z,10.0nm,0.8s						
DLBC	**Dease Lake**	**7.21**	**2**	Pn	Pn	10 48 03.2	+2.3
DLBC				Sg	Sg	10 49 56.7	-10
DLBC				Trac		10 50 07.1	
	comp=Z,13nm,0.8s						
DOWB	**Downie Slide**	**7.47**	**83**	Sg	Sg	10 50 06.6	-8.8
SLEB	**Sale Mountain**	**7.74**	**86**	Trac		10 50 34.0	
	comp=Z,7.0nm,0.8s						

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*ISCJB **05** 10:56:07.6±0.4, 678N±004×7288W±004, h175^{km}±4^{km}, mb4.0/26, Error ellipse: s-maj=7.0km s-min=5.0km az=105.1*
*IDC **05** 10:56:07.9±0.7, 679N×7295W, h163^{km}±7^{km}, mb3.6/8, mb1 3.9/11, mb1mx3.7/23, mbtmp4.2/11, Error ellipse: s-maj=17.7km s-min=8.0km az=129.0*
*FUNV **05** 10:56:07.2, 671N×7318W, h172^{km}, MW4.2*
*BJI **05** 10:56:08.9, 680N×7300W, h166^{km}, mB4.9*
*NEIC **05** 10:56:08.8±0.5, 677N×7300W, h167^{km}±6^{km}, mb4.1/21, Error ellipse: s-maj=9.2km s-min=7.1km az=140.0*
ISC 05 10:56:08.7±0.4, **678N**±004×**7288W**±004, **h167**^{km}±4^{km}, **n72**, σ**0^{s}94**/85, **mb4.0**/26, **1C-2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**27**	⇓*i*P	**Pn**	**10 56 37.4**	**+0.5**
CAPV				*e*S	**Sn**	**10 56 58.9**	**+0.3**
ROSC	**El Rosal**	**2.39**	**217**	P	**Pn**	**10 56 48.6**	**-0.8**
	316nm,0.3s,baz=342,slow=2.6,SNR=248						
ROSC				S	**Sn**	**10 57 19.9**	**-0.8**
	179nm,0.3s,baz=110,slow=21,SNR=7.5						
SOCV	**Socops**	**2.51**	**53**	*e*P	**Pn**	**10 56 52.1**	**+1.4**
SOCV				*e*S	**Sn**	**10 57 24.2**	**+0.9**
VIGV	**El Vigia**	**2.54**	**36**	*e*P	**Pn**	**10 56 51.9**	**+0.7**
VIGV				*e*S	**Sn**	**10 57 25.4**	**+1.3**
SDV	**Santo Domingo**	**3.06**	**47**	P	**Pn**	**10 56 58.8**	**+1.3**
	56nm,0.3s,baz=267,slow=5.0,SNR=144						
SDV				S	**Sn**	**10 57 35.2**	**-0.1**
	37nm,0.3s,baz=35,slow=3.6,SNR=5.6						
SDV	**Santo Domingo**	**3.06**	**47**	P	**Pn**	**10 56 58.8**	**+1.3**
SDV				S	**Sn**	**10 57 35.2**	**-0.1**
ELOV	**Elorza**	**3.38**	**86**	*e*P	**Pn**	**10 57 03.4**	**+1.9**
ELOV				*e*S	**Sn**	**10 57 44.2**	**+1.6**
VIRV	**Villa del Rosa**	**3.73**	**7**	*e*P	**Pn**	**10 57 04.2**	**-1.7**
VIRV				*e*S	**Sn**	**10 57 47.5**	**-3.0**
QARV	**Quebrada Arrib**	**4.13**	**34**	⇑*i*P	**Pn**	**10 57 11.7**	**+0.6**
QARV				*e*S	**Sn**	**10 57 58.4**	**-1.4**
CURV	**Curarigua**	**4.33**	**42**	*e*P	**Pn**	**10 57 14.0**	**+0.5**
CURV				*e*S	**Sn**	**10 58 03.1**	**-1.1**
DABV	**Dabajuro**	**4.68**	**28**	*e*P	**Pn**	**10 57 18.3**	**+0.1**
DABV				*e*S	**Sn**	**10 58 10.8**	**-1.7**
TEPV	**Terepaima**	**4.83**	**49**	*e*P	**Pn**	**10 57 21.0**	**+0.8**
BAUV	**El Baul**	**5.26**	**65**	*e*P	**Pn**	**10 57 25.4**	**-0.3**
BAUV				*e*S	**Sn**	**10 58 24.6**	**-1.5**
MONV	**Montecano**	**5.89**	**29**	*e*P	**Pn**	**10 57 33.3**	**-0.8**
MONV				*e*S	**Sn**	**10 58 36.8**	**-4.4**
CAOV	**Caicara del Or**	**6.54**	**85**	*e*P	**Pn**	**10 57 41.9**	**-0.7**
CAOV				*e*S	**Sn**	**10 58 54.5**	**-1.9**
BIRV	**Birongo**	**7.50**	**60**	*e*P	**Pn**	**10 57 55.4**	**+0.1**
OTAV	**Otavalo**	**8.54**	**221**	*e*Pn	**Pn**	**10 58 02.0**	**-7.2**
OTAV				*e*Sn	**Sn**	**10 59 42.5**	**-2.0**
PCRV	**Puerto La Cruz**	**8.83**	**67**	P	**Pn**	**10 58 15.2**	**+2.3**
	1.5nm,0.3s,baz=237,slow=13,SNR=16						
PCRV				S	**Sn**	**10 59 49.6**	**-1.6**
	1.0nm,0.3s,baz=173,slow=17,SNR=2.1						
CMJ	**Castle Mountai**	**11.79**	**344**	*e*P	**Pn**	**10 58 53.3**	**+1.5**
GWJ	**Greenwich**	**11.84**	**342**	⇓*e*P	**Pn**	**10 58 53.4**	**+1.0**
MCJ	**Malvern**	**12.03**	**338**	*e*P	**Pn**	**10 58 55.7**	**+0.9**
MCJ				*e*S	**Sn**	**11 00 59.5**	**-8.7**
CVJ	**Coleyville**	**12.25**	**339**	*e*P	**Pn**	**10 58 58.6**	**+0.9**
CVJ				*e*S	**Sn**	**11 01 03.3**	**-10**
BBJ	**Bamboo Saint A**	**12.30**	**340**	*e*P	**Pn**	**10 58 58.9**	**+0.5**
BBJ				*e*S	**Sn**	**11 01 03.8**	**-11**
JTS	**JuntasAbangare**	**12.44**	**287**	P	**Pn**	**10 59 05.2**	**+5.2**
	3.1nm,0.3s,baz=89,slow=3.0,SNR=16						
ATAH	**Atahualpa**	**14.75**	**202**	P	**Pn**	**10 59 34.0**	**+4.8**
	1.0nm,0.3s,baz=32,slow=14,SNR=5.1						
TEIG	**Tepich**	**20.04**	**313**	*e*P	**P**	**11 00 28.6**	**-0.2**
	9.6nm,0.6s						
LPAZ	**La Paz**	**23.39**	**168**	P	**P**	**11 01 04.0**	**+1.6**
	0.6nm,0.3s,mb3.5,baz=340,slow=12,SNR=6.6						
LPAZ	**La Paz**	**23.39**	**168**	*e*P	**P**	**11 01 03.9**	**+1.5**
	1.4nm,0.8s,mb3.4						
WVT	**Waverly**	**32.27**	**337**	*e*P	**P**	**11 02 21.5**	**+0.1**
	2.7nm,0.3s,mb4.5						
CCM	**Cathedral Cave**	**35.31**	**335**	*e*P	**P**	**11 02 47.4**	**-0.3**
LTX	**Lajitas**	**36.67**	**312**	*e*P	**P**	**11 02 58.8**	**-0.5**
	2.3nm,0.5s,mb4.1						
AMTX	**Amarillo**	**38.54**	**321**	*e*P	**P**	**11 03 14.7**	**-0.3**
	4.0nm,0.4s,mb4.4						
LAZ	**Ladron**	**41.87**	**316**	*e*P	**P**	**11 03 42.8**	**+0.5**
LAZ				*e*PcP	PcP	11 05 45.1	+10
EYMN	**Ely**	**43.99**	**342**	*e*P	**P**	**11 03 58.7**	**-0.6**
	5.5nm,0.4s,mb4.5						
ISCO	**Idaho Springs**	**44.08**	**323**	*e*P	**P**	**11 04 00.2**	**+0.1**
	2.2nm,0.7s,mb3.9						
PV01	**Paradox Valley**	**44.92**	**319**	*e*P	**P**	**11 04 07.5**	**+0.8**
WUAZ	**Wupatki**	**45.42**	**315**	*e*P	**P**	**11 04 11.3**	**+0.6**
	7.9nm,0.8s,mb4.4						
SRU	**San Rafael**	**46.73**	**319**	*e*P	**P**	**11 04 20.9**	**0.0**
	2.1nm,0.5s,mb4.0						
GLA	**Glamis**	**46.84**	**310**	*e*P	**P**	**11 04 22.5**	**+0.7**
ULM	**Lac du Bonnet**	**47.41**	**340**	P	**P**	**11 04 25.1**	**-1.1**
	3.7nm,0.5s,mb4.3,baz=136,slow=6.9,SNR=20						
MSU	**Marysvale**	**47.50**	**318**	*e*P	**P**	**11 04 27.5**	**+0.7**
ARUT	**Antelope Range**	**47.99**	**316**	*e*P	**P**	**11 04 31.0**	**+0.3**
SCHQ	**Schefferville**	**48.17**	**5**	P	**P**	**11 04 31.3**	**-0.7**
	4.2nm,0.7s,mb4.2,baz=181,slow=4.7,SNR=12						
SCHQ	**Schefferville**	**48.17**	**5**	*e*P	**P**	**11 04 32.3**	**+0.3**
	4.0nm,0.5s,mb4.3						
BW06	**Boulder Array**	**48.25**	**324**	*e*P	**P**	**11 04 32.3**	**-0.3**
	0.9nm,0.5s,mb3.7						
PDAR	**Pinedale Array**	**48.25**	**324**	P	**P**	**11 04 32.4**	**-0.3**
	1.7nm,0.7s,mb3.8,baz=125,slow=8.5,SNR=16						
TCUT	**Toone Canyon**	**48.41**	**321**	*e*P	**P**	**11 04 34.2**	**+0.4**
HWUT	**Hardware Ranch**	**48.78**	**321**	*e*P	**P**	**11 04 36.6**	**-0.1**
	2.8nm,0.7s,mb4.0						
DUG	**Dugway**	**48.80**	**319**	*e*P	**P**	**11 04 36.7**	**-0.1**
	1.8nm,0.6s,mb3.9						
DUG				*e*		11 04 45.4	
SNOW	**Snow King Moun**	**49.37**	**324**	*e*P	**P**	**11 04 41.6**	**+0.4**
	3.1nm,0.6s,mb4.1						
LOHW	**Long Hollow**	**49.37**	**324**	*e*P	**P**	**11 04 41.4**	**+0.3**
	3.3nm,0.6s,mb4.1						
TPAW	**Teton Pass**	**49.50**	**324**	*e*P	**P**	**11 04 42.5**	**+0.3**
	4.1nm,0.8s,mb4.1						
MOOW	**Moose Ponds**	**49.54**	**324**	*e*P	**P**	**11 04 41.6**	**-0.8**
	2.3nm,0.7s,mb3.9						
IMW	**Indian Meadow**	**49.74**	**324**	*e*P	**P**	**11 04 45.0**	**+1.1**
	2.8nm,0.5s,mb4.2						
BOZ	**Bozeman (W)**	**51.18**	**326**	*e*P	**P**	**11 04 54.4**	**-0.4**
MCMT	**McKenzie Canyo**	**51.39**	**324**	*e*P	**P**	**11 04 56.7**	**+0.4**
HLID	**Hailey**	**51.62**	**322**	*e*P	**P**	**11 04 58.3**	**+0.3**
	1.4nm,0.6s,mb3.8						
NVAR	**Mina Array Bea**	**51.68**	**315**	P	**P**	**11 04 58.1**	**-0.4**
	1.1nm,0.7s,mb3.6,baz=112,slow=7.7,SNR=4.3						
LRM	**Limekiln Ridge**	**51.75**	**325**	*e*P	**P**	**11 04 59.1**	**+0.2**
HRY	**Holter Researc**	**51.94**	**327**	*e*P	**P**	**11 05 00.1**	**-0.2**
WVOR	**Wild Horse Val**	**53.72**	**319**	*e*P	**P**	**11 05 13.0**	**-0.4**
	1.9nm,0.5s,mb4.1						
YBH	**Yreka Blue Hor**	**56.14**	**316**	*e*P	**P**	**11 05 28.9**	**-1.9**
	1.4nm,0.5s,mb4.0						
YKA	**Yellowknife Ar**	**63.39**	**340**	P	**P**	**11 06 19.5**	**-0.8**
	3.2nm,0.6s,mb4.3,baz=133,slow=6.5,SNR=18						
SUMG	**Summit**	**68.99**	**11**	*e*P	**P**	**11 06 55.6**	**-0.3**
INK	**Inuvik**	**73.15**	**340**	P	**P**	**11 07 20.4**	**-0.6**
	1.3nm,0.5s,mb3.9,baz=102,slow=4.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**73.52**	**78**	P	**P**	**11 07 22.9**	**-0.2**
	0.1nm,0.3s,mb3.1,baz=286,slow=6.0,SNR=5.1						
HHC	**Hu-ho-hao-te**	**132.44**	**355**	*e*PKP	PKPdf	11 15 02.6	-0.5
HHC				PP	PP	11 17 30.3	+2.1
HHC				SKKS	SKKSac	11 24 09.6	+1.9
HHC				SS	SS	11 34 56.9	+3.1
HHC				PP	PP		
	comp=Z,104nm,8.6s						
CD2	**Chengdu**	**142.39**	**5**	*e*PKP	PKPdf	11 15 18.7	-2.7
ASAR	**Alice Springs**	**149.28**	**234**	PKPbc	PKPbc	11 15 37.4	-0.2
	comp=Z,2.2nm,0.6s,baz=118,slow=3.2,SNR=36						
ASPA	**Alice Springs**	**149.28**	**234**	*e*P	PKPdf	11 15 37.0	+3.9
WB2	**Warramunga Arr**	**150.51**	**241**	*e*P	PKPdf	11 15 40.6	+5.6
WRA	**Warramunga Arr**	**150.52**	**241**	PKPbc	PKPbc	11 15 40.7	+0.1
	comp=Z,2.2nm,0.4s,baz=108,slow=2.6,SNR=45						

NNC 05 11:08:49.9±5.1, **5440N**×**8610E, h0**^{km}, **mb3.5, mpv3.2, 8C, Error ellipse: s-maj=44.8km s-min=28.1km az=59.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.87**	**234**	⇑Pn	Pn	11 10 18.8	+0.7
	1.7nm,0.7s						
KURK				⇑Sn	Sn	11 11 28.7	+2.6
	0.9nm,0.8s						
KURK				⇑Lg		11 12 01.7	
	4.7nm,1.0s						
MK02	**Makanchi Array**	**8.01**	**199**	⇑Pn	Pn	11 10 46.9	-0.7
	0.9nm,0.8s,baz=24,slow=14						
MK02				⇑Sn	Sn	11 12 18.7	-0.1
	1.8nm,0.7s,baz=26,slow=28						
MK02				⇑Lg		11 13 04.8	
	4.1nm,1.1s,baz=21,slow=28						
VOSK	**Vostochnaya**	**9.15**	**266**	⇑Pn	Pn	11 11 04.1	+0.9
	0.4nm,0.3s						
VOSK				⇑Sn	Sn	11 12 44.0	-3.0
	2.7nm,0.9s						

IDC 05 11:09:20.3±15.0, **245N**×**12804E, h109**^{km}±150^{km}, **mb3.6**/5, **mb1 3.7**/5, **mb1mx3.5**/15, **mbtmp3.9**/5, **Error ellipse: s-maj=106.0km s-min=22.8km az=71.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.09**	**165**	P	P	11 14 17.1	+0.6
	2.2nm,0.6s,baz=345,slow=11,SNR=34						
WB2	**Warramunga Arr**	**23.10**	**165**	*e*P	P	11 14 16.7	+0.2
ASAR	**Alice Springs**	**26.58**	**168**	P	P	11 14 48.5	+0.4
	0.5nm,0.6s,baz=358,slow=7.6,SNR=8.5						
STKA	**Stephens Creek**	**36.48**	**160**	P	P	11 16 14.9	+0.1
	0.9nm,0.5s,baz=337,slow=11,SNR=5.6						
SONM	**Songino Array**	**48.93**	**341**	P	P	11 17 55.6	+0.3
	1.4nm,0.6s,baz=150,slow=7.9,SNR=8.8						
MKAR	**Makanchi Array**	**59.35**	**325**	P	P	11 19 11.2	+0.3
	1.8nm,0.5s,baz=118,slow=8.4,SNR=28						
MKAR				PcP	PcP	11 19 56.5	-1.2
	0.9nm,0.8s,baz=123,slow=5.3,SNR=5.9						

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*ISCJB **05** 11:29:10.6±0.9, 3048N±005×10692E±006, h10^{km}, mb3.5/3, Error ellipse: s-maj=8.2km s-min=7.1km az=62.0*
*IDC **05** 11:29:12.3±2.3, 2992N×10638E, h0^{km}, mb3.5/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.5/3, Error ellipse: s-maj=375.6km s-min=25.4km az=53.0*
*BJI **05** 11:29:14.8, 3024N×10686E, h16^{km}, ML3.2, Ms3.2, Msz3.2*
ISC 05 11:29:13.0±0.9, **3035N**±005×**10682E**±006, **h10**^{km}, **n6**, σ**1^{s}18**/10, **mb3.5**/3, **Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.69**	**283**	P	**Pn**	**11 29 56.5**	**+0.2**
CD2				PG	**Pb**	**11 30 01.6**	**+0.3**
CD2				SG	**Sb**	**11 30 32.6**	**-1.7**
CD2				Smax			
	comp=N,140nm,0.7s						
CD2				Smax			
	comp=E,140nm,0.7s						
XAN	**Xi'an**	**4.09**	**25**	PG	**Pb**	**11 30 26.3**	**+1.3**
XAN				SG	**Sg**	**11 31 22.3**	**-1.9**
XAN				Smax			
	comp=N,130nm,0.9s						
XAN				Smax			
	comp=E,102nm,0.8s						
LZH	**Lanzhou**	**6.24**	**337**	PG	**Pg**	**11 31 11.5**	**-0.9**
LZH				SG	**Sg**	**11 32 34.7**	**+1.5**
LZH				Smax			
	comp=N,65nm,1.2s						
LZH				Smax			
	comp=E,59nm,1.2s						
LZH				LR	LR		
	comp=N,138nm,6.3s						
LZH				LR	LR		
	comp=Z,172nm,8.5s						
MKAR	**Makanchi Array**	**25.09**	**318**	P	**P**	**11 34 39.2**	**+1.5**
	comp=Z,0.7nm,0.5s,mb3.4,baz=119,slow=11,SNR=10						
WRA	**Warramunga Arr**	**56.59**	**149**	P	**P**	**11 38 55.1**	**-0.8**
	comp=Z,0.3nm,0.3s,mb3.8,baz=338,slow=7.7,SNR=13						
ASAR	**Alice Springs**	**59.67**	**151**	P	**P**	**11 39 17.8**	**+0.3**
	comp=Z,0.2nm,0.4s,mb3.5,baz=332,slow=6.7,SNR=9.1						

IDC 05 11:44:31.5±59.0, **1582S**×**17478W, h0**^{km}, **mb4.2**/3, **mb1 4.4**/3, **mb1mx3.8**/13, **mbtmp4.2**/3, **Error ellipse: s-maj=1112.0km s-min=166.8km az=78.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.67**	**240**	*e*P	P	11 52 30.4	+0.5
	3.8nm,1.4s						
STKA	**Stephens Creek**	**42.67**	**240**	P	P	11 52 30.4	+0.5
	2.2nm,0.7s,baz=79,slow=12,SNR=7.8						
WB2	**Warramunga Arr**	**48.44**	**257**	*e*P	P	11 53 16.0	+0.4
WRA	**Warramunga Arr**	**48.45**	**257**	P	P	11 53 15.8	+0.2
	0.6nm,0.5s,baz=95,slow=7.2,SNR=33						
ASAR	**Alice Springs**	**48.71**	**252**	P	P	11 53 18.0	+0.3
	3.8nm,0.5s,baz=88,slow=8.6,SNR=128						
ASPA	**Alice Springs**	**48.72**	**252**	*e*P	P	11 53 17.9	+0.2

ISC 05 11:52:53.9±1.1, **3726N**±009×**2811E**±01, **h48**^{km}, **n7**, σ**0^{s}75**/9, **1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.29**	**277**	*e*PG	**P**	**11 53 03.2**	**+0.4**
AYDN	**Tasoluk**	**0.45**	**333**	*i* P	**P**	**11 53 04.5**	**0.0**
AYDN				*i* S	**S**	**11 53 11.8**	**-0.1**
BDRM	**Kayabasi**	**0.58**	**251**	*i* P	**P**	**11 53 06.7**	**+0.6**
BDRM				*i* S	**S**	**11 53 15.7**	**+0.7**
BODT	**Bodrum**	**0.69**	**253**	*e*PG	**P**	**11 53 05.5**	**-1.9**
DAT	**Datca**	**0.69**	**220**	*e*PG	**P**	**11 53 07.4**	**-0.1**
DNZL	**Cakiroluk**	**0.84**	**59**	*i* P	**P**	**11 53 09.9**	**+0.2**
DRGR		**10.34**	**339**	⇑*i*P	**P**	**11 55 42.6**	**+20**
DRGR				S		11 55 48.1	

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*ISCJB **05** 11:56:12.6±0.5, 26.13S±0.08×71.0E±0.1, h10^{km}, mb4.4/23, MS4.1/14, Error ellipse: s-maj=17.8km s-min=12.1km az=11.4*
*MOS **05** 11:56:12.8±0.7, 26.10S×71.18E, h10^{km}, mb4.7/8, Error ellipse: s-maj=32.1km s-min=16.5km az=93.8*
*IDC **05** 11:56:12.2±0.9, 26.13S×70.97E, h0^{km}, mb4.1/9, mb1 4.2/9, mb1mx4.0/19, mbtmp4.1/9, MS4.0/10, Ms1 4.0/10, ms1mx3.8/22, Error ellipse: s-maj=34.3km s-min=21.5km az=56.0*
*BJI **05** 11:56:13.0, 26.19S×70.63E, h23^{km}, mB5.1, mb4.8, Ms4.5, Msz4.2*
*NEIC **05** 11:56:14.4±0.4, 26.07S×71.03E, h10^{km}, mb4.7/8, Error ellipse: s-maj=18.9km s-min=11.7km az=81.0*
ISC 05 11:56:14.5±0.5, **2612S**±008×**710E**±01, **h10**^{km}, **n44**, σ**0^{s}71**/38, **mb4.4**/23, **MS4.1**/14, **1C, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**40.49**	**256**	LR	LR	12 17 52.5	
	comp=Z,349nm,18.3s,MS4.2,baz=104,slow=32						
MAW	**Mawson**	**41.80**	**185**	LR	LR	12 17 29.6	
	comp=Z,503nm,19.0s,MS4.4,baz=49,slow=31						
ASAR	**Alice Springs**	**56.65**	**102**	P	**P**	**12 05 57.1**	**-0.6**
	1.3nm,0.8s,mb4.0,baz=253,slow=6.6,SNR=11						
WRA	**Warramunga Arr**	**58.16**	**98**	P	**P**	**12 06 07.9**	**-0.5**
	3.0nm,1.1s,mb4.2,baz=250,slow=6.6,SNR=5.8						
QIZ	**Qiongzhong**	**58.65**	**44**	*e*P	**P**	**12 06 11.8**	**0.0**
QIZ				*e*S	**S**	**12 14 14.0**	**-2.2**
QIZ				AMB	AMB		
	comp=Z,21nm,1.7s,mb4.9						
QIZ				AMB	AMB		
	comp=Z,203nm,4.1s						
QIZ				LR	LR		
	comp=Z,274nm,21.1s,MS4.3						
KMI	**Kunming**	**59.47**	**34**	P	**P**	**12 06 18.9**	**+1.4**
KMI				PCP	PcP	12 07 01.4	-3.7
KMI				PP	PP	12 08 35.9	+7.1
KMI				S	**S**	**12 14 31.5**	**+4.7**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
KMI				LR	LR		
	comp=N,189nm,22.0s,MS4.3						
KMI				LR	LR		
	comp=E,129nm,18.3s,MS4.3						
KMI				LR	LR		
	comp=Z,196nm,22.0s,MS4.2						
SNAA	**Sanae**	**60.35**	**200**	*e*P	**P**	**12 06 24.5**	**+0.9**
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SNAA	**Sanae**	**60.35**	**200**	*e*P	**P**	**12 06 24.5**	**+0.9**
	comp=Z,2.0nm,0.8s,mb4.2						
QSPA	**South Pole Qui**	**64.02**	**180**	*e*P	**P**	**12 06 47.7**	**-0.5**
	comp=Z,6.6nm,1.0s,mb4.6						
VNDA	**Vanda**	**64.89**	**166**	P	**P**	**12 06 53.0**	**-0.9**
	comp=Z,6.3nm,0.8s,mb4.7,baz=274,slow=6.8,SNR=30						
VNDA				LR	LR	12 31 07.3	
	comp=Z,78nm,21.5s,MS3.9,baz=268,slow=32						
VNDA	**Vanda**	**64.89**	**166**	*e*P	**P**	**12 06 53.4**	**-0.5**
VNDA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
VNDA	**Vanda**	**64.89**	**166**	*e*P	**P**	**12 06 53.4**	**-0.6**
	comp=Z,8.6nm,0.9s,mb4.8						
SBA	**Scott Base**	**65.88**	**167**	*e*P	**P**	**12 07 00.8**	**+0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SBA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
SBA	**Scott Base**	**65.88**	**167**	*e*P	**P**	**12 07 00.8**	**+0.5**
	comp=Z,4.5nm,0.7s,mb4.6						
AAK	**Ala-Archa**	**68.48**	**3**	⇑*e*P	**P**	**12 07 17.0**	**+0.2**
AAK				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.6						
WHN	**Wuhan**	**69.98**	**39**	*e*P	**P**	**12 07 27.3**	**+1.2**
GTA	**Gaotai**	**70.53**	**23**	*e*P	**P**	**12 07 30.5**	**+1.0**
GTA				AP	pP	12 07 43.4	+11
GTA				AMB	AMB		
	comp=Z,6.0nm,1.5s,mb4.3						
GTA				AMB	AMB		
	comp=Z,105nm,5.3s						
GTA				LR	LR		
	comp=N,139nm,17.1s,MS4.5						
GTA				LR	LR		
	comp=E,222nm,17.1s,MS4.5						
GTA				LR	LR		
	comp=Z,142nm,17.5s,MS4.3						
WMQ	**Urumqi**	**71.27**	**13**	*e*P	**P**	**12 07 33.2**	**-0.8**
MKAR	**Makanchi Array**	**73.29**	**8**	P	**P**	**12 07 45.1**	**-0.9**
	comp=Z,1.7nm,0.8s,mb4.0,baz=196,slow=5.9,SNR=14						
MKAR	**Makanchi Array**	**73.29**	**8**	*i* P	**P**	**12 07 45.5**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NJ2	**Nanjing**	**73.69**	**41**	*e*P	**P**	**12 07 49.1**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
BRTR	**Keskin Array B**	**74.18**	**331**	P	**P**	**12 07 50.9**	**-0.4**
	comp=Z,0.9nm,0.7s,mb3.8,baz=104,slow=5.2,SNR=4.7						
KIV	**Kislovodsk**	**74.40**	**339**	*e*P	**P**	**12 07 52.6**	**+0.1**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
SSE	**Sheshan**	**74.42**	**43**	*e*P	**P**	**12 07 53.4**	**+0.7**
SSE				AP	pP	12 08 03.6	+7.6
SSE				XP	sP	12 08 06.6	+9.4
SSE				PCP	PcP	12 08 08.7	+1.4
SSE				PP	PP	12 10 37.6	-1.3
SSE				S	S	12 17 23.0	-4.4
SSE				XS	sS	12 17 39.1	+6.3
SSE				SCS	ScS	12 18 00.6	-3.2
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,56nm,4.2s						
SSE				LR	LR		
	comp=N,27nm,40.0s,MS3.6						
SSE				LR	LR		
	comp=E,58nm,40.0s,MS3.6						
SSE				LR	LR		
	comp=Z,67nm,31.6s						
KURK	**Kurchatov**	**76.79**	**5**	*e*P	**P**	**12 08 06.0**	**-0.2**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
KURK	**Kurchatov**	**76.79**	**5**	*e*P	**P**	**12 08 06.0**	**-0.3**
	comp=Z,6.7nm,1.1s,mb4.5						
TORD	**Torodi Ar. Bea**	**77.82**	**291**	P	**P**	**12 08 11.8**	**-0.2**
	comp=Z,1.3nm,1.0s,mb3.8,baz=110,slow=5.1,SNR=3.5						
TORD				LR	LR	12 42 47.3	
	comp=Z,80nm,18.6s,MS4.1,baz=100,slow=36						
CHKZ	**Chkalovo**	**79.46**	**360**	*e*P	**P**	**12 08 20.6**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.4						
CHKZ	**Chkalovo**	**79.46**	**360**	*e*P	**P**	**12 08 20.6**	**-0.4**
	comp=Z,7.3nm,1.5s,mb4.4						
SONM	**Songino Array**	**80.21**	**23**	P	**P**	**12 08 25.3**	**+0.1**
	comp=Z,1.9nm,1.0s,mb4.0,baz=220,slow=4.6,SNR=11						
SONM				LR	LR	12 44 51.2	
	comp=Z,72nm,18.7s,MS4.0,baz=238,slow=36						
DBIC	**Dimbokro**	**80.32**	**282**	LR	LR	12 42 03.0	
	comp=Z,88nm,18.4s,MS4.1,baz=105,slow=34						
ULN	**Ulaanbaatar**	**80.47**	**24**	*e*P	**P**	**12 08 26.5**	**0.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**80.47**	**24**	*e*P	**P**	**12 08 26.5**	**0.0**
	comp=Z,2.0nm,0.6s,mb4.2						
ZAL	**Zalesovo**	**80.61**	**8**	P	**P**	**12 08 26.9**	**-0.4**
	comp=Z,1.2nm,0.4s,mb4.2,baz=15,slow=6.9,SNR=3.2						
ZAL				LR	LR	12 44 50.7	
	comp=Z,91nm,18.7s,MS4.2,baz=88,slow=36						
ZAL	**Zalesovo**	**80.61**	**8**	P	**P**	**12 08 26.9**	**-0.4**
ZAL				LR	LR	12 44 50.7	
GUMO	**Guam**	**81.94**	**71**	LR	LR	12 40 38.0	
	comp=Z,34nm,19.1s,MS3.7,baz=280,slow=32						
ARU	**Arti**	**82.89**	**353**	*e*P	**P**	**12 08 34.0**	**-5.3**
ARU	**Arti**	**82.89**	**353**	*e*P	**P**	**12 08 33.7**	**-5.6**
	comp=Z,7.1nm,0.8s,mb4.8						
AKASG	**Malin Array Be**	**84.91**	**335**	P	**P**	**12 08 48.3**	**-1.3**
	comp=Z,0.2nm,0.2s,mb3.8,baz=168,slow=4.9,SNR=5.8						
AKASG	**Malin Array Be**	**84.91**	**335**	*i* P	**P**	**12 08 50.2**	**+0.6**
MJAR	**Matsushiro Arr**	**88.82**	**48**	LR	LR	12 48 15.1	
	comp=Z,92nm,19.5s,MS4.2,baz=135,slow=35						
FINES	**FINESS Array B**	**94.47**	**340**	LR	LR	12 49 35.4	
	comp=Z,25nm,19.2s,MS3.7,baz=131,slow=34						
COLA	**College**	**134.03**	**22**	*e*PKIKP	PKPdf	12 15 31.5	-0.5
FFC	**Flin Flon**	**150.95**	**352**	*e*PKPdf	PKPdf	12 16 03.2	+1.5
FFC				*e*PKPab	PKPab	12 16 14.8	0.0

IDC 05 12:31:20.3±31.0**, 1843S**×**17659W, h0km, mb4.1**/4**, mb1 4.2**/4**, mb1mx3.9**/14**, mbtmp4.1**/4**, Error ellipse: s-maj=593.7km s-min=150.0km az=86.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.91**	**242**	P	P	12 38 56.4	+0.4
	1.9nm,0.9s,baz=63,slow=6.8,SNR=4.4						
WRA	**Warramunga Arr**	**46.24**	**260**	P	P	12 39 47.7	+0.4
	0.6nm,0.3s,baz=98,slow=7.5,SNR=43						
ASAR	**Alice Springs**	**46.32**	**255**	P	P	12 39 48.4	+0.5
	0.7nm,0.4s,baz=87,slow=8.4,SNR=15						
FITZ	**Fitzroy Crossi**	**54.65**	**261**	P	P	12 40 51.0	+0.1
	6.7nm,1.2s,baz=127,slow=18,SNR=6.1						

JMA 05 12:45:41.5±0.1**, 3320N**×**14039E, h44km**±3km**, M3.6, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.49**	**260**	P	Pn	12 45 52.3	0.0
JMY	**Miyakejima3**	**1.14**	**320**	*e*S	Sn	12 46 15.2	-0.1
BSO1	**Boso 1**	**1.53**	**18**	P	Pn	12 46 06.2	-0.1
BSO1				S	Sn	12 46 24.3	-0.7
BSO2	**Boso 2**	**1.58**	**11**	*e*S	Sn	12 46 25.9	-0.3
BSO3	**Boso 3**	**1.60**	**4**	P	Pn	12 46 07.9	+0.6
BSO3				*e*S	Sn	12 46 27.5	+0.8
JIM2	**Oshima 3**	**1.71**	**332**	P	Pn	12 46 09.6	+0.8
JIM2				*e*S	Sn	12 46 29.3	-0.1
BSO4	**Boso 4**	**1.79**	**359**	P	Pn	12 46 11.2	+1.4
BSO4				*e*S	Sn	12 46 32.4	+1.1
JIZS	**Izushimoda**	**1.97**	**321**	P	Pn	12 46 13.2	+0.9
KTJJ	**Kamata 2**	**2.04**	**328**	P	Pn	12 46 14.4	+1.0
KTJJ				*e*S	Sn	12 46 38.1	+0.5
JOD2	**Odawara 2**	**2.32**	**333**	P	Pn	12 46 18.2	+1.0
JOD2				*e*S	Sn	12 46 43.6	-0.9
MAT	**Matsushiro**	**3.79**	**332**	P	Pn	12 46 40.6	+3.3
MAT				S	Sn	12 47 22.7	+2.1

*ISCJB **05** 13:06:20.8±0.5, 3201N±002×3556E±004, h2km±4km, Error ellipse: s-maj=5.8km s-min=2.3km az=31.6*
*CSEM **05** 13:06:20.7±0.2, 3204N×3550E, h1km±1km, Mw2.9, Error ellipse: s-maj=3.3km s-min=1.3km az=92.0*
*GII **05** 13:06:20.9±0.4, 3202N×3547E, h1km, ML3.1/10, Mw2.9/8*
*GRAL **05** 13:06:22.1±3.7, 3201N×3508E, h0km±31km, MD3.5*
*NSSC **05** 13:06:27.0, 3225N×3571E, h13km±2km*
ISC 05 13:06:21.5±0.4**, 3201N**±002×**3557E**±004**, h5km**±3km**, n38, σ1s02**/64**, 9D, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HMDT	**Nahal Hemdat**	**0.24**	**352**	Pg	**Pg**	**13 06 26.4**	**+0.1**
DRGI	**Dragot**	**0.44**	**200**	Pg	**Pg**	**13 06 30.0**	**0.0**
DRGI				Sg	**Sg**	**13 06 36.3**	**+0.6**
MMLI	**Mount Malkishu**	**0.44**	**344**	Pg	**Pg**	**13 06 29.8**	**-0.2**
MMLI				Sg	**Sg**	**13 06 37.4**	**+1.6**
MKRJ	**Makawir**	**0.46**	**172**	Pg	**Pg**	**13 06 31.4**	**+1.1**
SLTI	**Sal'it**	**0.50**	**297**	Pg	**Pg**	**13 06 30.2**	**-1.0**
SLTI				Sg	**Sg**	**13 06 37.4**	**-0.3**
MZDA	**Masada**	**0.72**	**194**	Pg	**Pg**	**13 06 35.3**	**0.0**
MZDA				Sg	**Sg**	**13 06 45.2**	**+0.6**
AMAZ	**Amatzia**	**0.73**	**230**	Pg	**Pg**	**13 06 34.8**	**-0.8**
AMAZ				Sg	**Sg**	**13 06 45.7**	**+0.7**
TCHB	**Talchebab**	**0.74**	**27**	⇑P	**Pg**	**13 06 36.4**	**+0.8**
TCHB				⇓S	**Sg**	**13 06 44.0**	**-1.3**
TCHB	**Talchebab**	**0.74**	**27**	⇑*i*P	**Pg**	**13 06 36.4**	**+0.8**
OFRI	**'Ofer**	**0.78**	**321**	Pg	**Pg**	**13 06 35.5**	**-1.0**
MMA0	**Mount Meron ar**	**1.01**	**352**	Pg	**Pg**	**13 06 40.1**	**-0.7**
MMA0				Sg	**Sg**	**13 06 55.1**	**+1.2**
HNTI	**Hanita**	**1.12**	**343**	Pg	**Pg**	**13 06 42.3**	**-0.7**
HNTI				Sg	**Sg**	**13 06 58.0**	**+0.6**
KSDI	**Kefar Szold**	**1.18**	**4**	Pg	**Pg**	**13 06 43.8**	**-0.3**
KSDI				Sg	**Sg**	**13 07 01.4**	**+2.0**
SALA	**Sala**	**1.21**	**54**	⇑P	**Pg**	**13 06 45.2**	**+0.6**
SALA				⇑S	**Sg**	**13 06 59.2**	**-1.1**
SALA	**Sala**	**1.21**	**54**	⇑*i*P	**Pg**	**13 06 45.2**	**+0.6**
SALA				⇑*i*S	**Sg**	**13 06 59.2**	**-1.1**
MASH	**Mash'abbe Sade**	**1.21**	**214**	Pg	**Pg**	**13 06 43.6**	**-1.1**
RTMM	**Retamin**	**1.22**	**218**	Pg	**Pg**	**13 06 43.7**	**-1.1**
BRBR	**Barbar**	**1.43**	**13**	⇓P	**Pn**	**13 06 48.1**	**-0.1**
BRBR				⇑S	**Sb**	**13 07 05.5**	**-1.7**
BRBR	**Barbar**	**1.43**	**13**	⇓*i*P	**Pn**	**13 06 48.1**	**0.0**
BRBR				⇑*i*S	**Sb**	**13 07 05.5**	**-1.7**
RCY	**Rachaya**	**1.48**	**8**	*e*P	**Pn**	**13 06 48.7**	**-0.1**
RCY				*e*S	**Sn**	**13 07 10.0**	**+1.4**
MATL	**Matirih**	**1.49**	**352**	*e*P	**Pn**	**13 06 46.6**	**-2.3**
KZIT	**Kziot**	**1.49**	**223**	Pn	**Pn**	**13 06 48.1**	**-0.8**
KZIT				Sn	**Sn**	**13 07 08.0**	**-0.7**
ZFRI	**Zfri**	**1.49**	**193**	Pn	**Pn**	**13 06 49.1**	**+0.2**
TOTH	**TOTAH**	**1.53**	**28**	⇓P	**Pn**	**13 06 50.1**	**+0.6**
TOTH				⇑S	**Sn**	**13 07 07.4**	**-2.3**
TOTH	**TOTAH**	**1.53**	**28**	⇓*i*P	**Pn**	**13 06 50.1**	**+0.7**
TOTH				⇑*i*S	**Sn**	**13 07 07.4**	**-2.3**
QASN	**Qassioun**	**1.63**	**21**	⇑P	**Pn**	**13 06 51.2**	**+0.4**
QASN				⇑S	**Sn**	**13 07 09.9**	**-2.3**
QASN	**Qassioun**	**1.63**	**21**	⇑*i*P	**Pn**	**13 06 51.2**	**+0.4**
QASN				⇑*i*S	**Sn**	**13 07 09.9**	**-2.3**
PRNI	**Paran**	**1.72**	**196**	Pn	**Pn**	**13 06 51.7**	**-0.4**
PRNI				Sn	**Sn**	**13 07 15.4**	**+0.9**
ZALF	**Zalf**	**1.75**	**58**	⇓P	**Pn**	**13 06 54.2**	**+1.8**
ZALF				⇓S	**Sn**	**13 07 14.9**	**-0.2**
ZALF	**Zalf**	**1.75**	**58**	⇓*i*P	**Pn**	**13 06 54.2**	**+1.8**
ZALF				⇓*i*S	**Sn**	**13 07 14.9**	**-0.2**
BHL	**Bhannes**	**1.89**	**2**	*e*P	**Pn**	**13 06 55.0**	**+0.6**
BHL				*e*S	**Sn**	**13 07 20.9**	**+2.3**
HRFI	**Mount Harif**	**2.02**	**193**	Pn	**Pn**	**13 06 56.0**	**-0.2**
HRFI				Sn	**Sn**	**13 07 22.8**	**+1.0**
MBH	**Mount Berech**	**2.28**	**194**	Pn	**Pn**	**13 06 59.5**	**-0.2**
MBH	**Mount Berech**	**2.28**	**194**	Pn	**Pn**	**13 06 59.5**	**-0.3**
HWQ	**Hawqa**	**2.28**	**8**	*e*P	**Pn**	**13 07 01.1**	**+1.3**
HWQ				*e*S	**Sn**	**13 07 32.9**	**+4.6**
HWQ	**Hawqa**	**2.28**	**8**	*e*P	**Pn**	**13 07 01.1**	**+1.3**
HWQ				*e*S	**Sn**	**13 07 32.9**	**+4.6**
AQBJ	**Aqaba**	**2.32**	**191**	Pn	**Pn**	**13 07 00.5**	**+0.2**
EIL	**Elat**	**2.39**	**193**	Pn	**Pn**	**13 07 01.0**	**-0.3**

*ISCJB **05** 14:13:55.2±0.4, 2139S±003×6649W±004, h214km±4km, mb4.6/84, Error ellipse: s-maj=6.1km s-min=4.6km az=145.0*
*MOS **05** 14:13:56.7±1.2, 2128S×6651W, h226km, mb4.9/35, Error ellipse: s-maj=11.4km s-min=7.5km az=98.9*
*LDG **05** 14:13:57.3, 2079S×6637W, h216km*
*IDC **05** 14:13:58.9±0.5, 2131S×6652W, h234km±4km, mb4.5/14, mb1 4.5/20, mb1mx4.5/22, mbtmp5.0/20, Error ellipse: s-maj=12.8km s-min=10.0km az=64.0*
*NEIC **05** 14:13:58.2±0.2, 2145S×6653W, mb4.7/72, Error ellipse: s-maj=6.6km s-min=4.1km az=87.0*
*BJI **05** 14:14:01.2, 2140S×6650W, h234km, mB5.1*
ISC 05 14:13:55.9±0.5**, 2140S**±003×**6645W**±004**, h207km**±4km**, h236km**±1.5km**: pP-P, n398, σ0s88**/366**, mb4.6**/83**, 86C-62D, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.59**	**242**	P	**Pn**	**14 14 42.7**	**+1.6**
	100nm,0.3s,baz=46,slow=7.3,SNR=1151						
LVC				S	**Sn**	**14 15 16.6**	**+0.1**
	689nm,0.3s,baz=235,slow=20,SNR=49						
LVC	**Limon Verde**	**2.59**	**242**	⇓*e*Pn	**Pn**	**14 14 42.7**	**+1.6**
LVC				*e*S	**Sn**	**14 15 16.4**	**-0.1**
CEN1	**Los Morros**	**4.00**	**240**	⇓*i*P	**Pn**	**14 15 00.3**	**+2.4**
CEN1				*i* S	**Sn**	**14 15 46.7**	**+0.1**
ANCH	**Antofagasta**	**4.31**	**237**	⇑*e*P	**Pn**	**14 14 58.8**	**-3.0**
ANCH				*i* S	**Sn**	**14 15 46.3**	**-7.3**
ANCH	**Antofagasta**	**4.31**	**237**	⇑*i*P	**Pn**	**14 14 58.9**	**-2.8**
CPN1	**Cerro Paranal**	**4.86**	**228**	⇑*i*P	**Pn**	**14 15 08.4**	**-0.2**
CPN1				*i* S	**Sn**	**14 16 01.2**	**-4.8**
LPAZ	**La Paz**	**5.32**	**342**	P	**Pn**	**14 15 16.9**	**+2.4**
	23nm,0.3s,baz=156,slow=8.7,SNR=587						
LPAZ				S	**Sn**	**14 16 14.5**	**-2.2**
	baz=305,slow=19,SNR=2.3						
LPAZ	**La Paz**	**5.32**	**342**	⇑*i*P	**Pn**	**14 15 16.8**	**+2.3**
LPAZ				*e*S	**Sn**	**14 16 17.8**	**+1.1**
LPAZ				pmax	pmax		
	comp=Z,267nm,0.8s						
LPAZ	**La Paz**	**5.32**	**342**	⇑*i*Pn	**Pn**	**14 15 16.8**	**+2.2**
	comp=Z,267nm,0.8s						
LPAZ				*e*S	**Sn**	**14 16 17.8**	**+1.1**
CRCH	**Chaqaral**	**6.23**	**217**	⇓*i*P	**Pn**	**14 15 24.7**	**-1.5**
CRCH				*e*S	**Sn**	**14 16 31.0**	**-6.8**
CPCH	**Copiapo**	**6.92**	**210**	⇑*i*P	**Pn**	**14 15 32.5**	**-2.7**
CPCH				*i* S	**Sn**	**14 16 47.3**	**-6.7**
CPCH	**Copiapo**	**6.92**	**210**	⇓*i*P	**Pn**	**14 15 32.7**	**-2.4**
CDCH	**Caldera**	**6.92**	**214**	⇓*i*P	**Pn**	**14 15 32.1**	**-3.0**
CDCH	**Caldera**	**6.92**	**214**	⇑*i*P	**Pn**	**14 15 32.2**	**-3.0**
SIV	**San Ignacio**	**7.41**	**44**	P	**Pn**	**14 15 43.3**	**+1.9**
	comp=Z,40nm,0.3s,baz=243,slow=12,SNR=2043						
LCO	**Las Campanas**	**8.50**	**206**	*e*P	**Pn**	**14 15 53.1**	**-2.5**
LCO	**Las Campanas**	**8.50**	**206**	⇑*i*P	**Pn**	**14 15 53.4**	**-2.3**
TLL	**Tololo Astrono**	**9.57**	**203**	*e*P	**Pn**	**14 16 07.0**	**-2.5**
TLL	**Tololo Astrono**	**9.57**	**203**	⇓*i*P	**Pn**	**14 16 07.6**	**-1.9**
CPUP	**Villa Florida**	**9.68**	**122**	P	**Pn**	**14 16 13.4**	**+2.5**
	comp=Z,1.5nm,0.3s,baz=284,slow=11,SNR=9.8						
CPUP	**Villa Florida**	**9.68**	**122**	*e*P	**Pn**	**14 16 13.0**	**+2.1**
CPUP				pmax	pmax		
	comp=Z,67nm,0.6s						
CPUP	**Villa Florida**	**9.68**	**122**	*e*Pn	**Pn**	**14 16 13.0**	**+2.1**
	comp=Z,67nm,0.6s						
CFAA	**Coronel Fontan**	**10.29**	**189**	P	**Pn**	**14 16 17.6**	**-1.1**
	comp=Z,2.5nm,0.3s,baz=2.4,slow=12,SNR=91						
CFAA				S	**Sn**	**14 18 06.3**	**-7.5**
	comp=Z,3.3nm,0.3s,baz=262,slow=17,SNR=11						
JACH	**Jahuel**	**11.83**	**197**	*e*P	**Pn**	**14 16 38.7**	**+0.3**
ROCH	**El Roble**	**12.22**	**198**	⇑*i*P	**Pn**	**14 16 43.1**	**-0.3**
PEL	**Peldehue**	**12.29**	**197**	⇓*e*P	**Pn**	**14 16 44.4**	**+0.2**
PEL	**Peldehue**	**12.29**	**197**	*e*P	**Pn**	**14 16 44.0**	**-0.2**
FCH	**Farellones**	**12.36**	**195**	*e*P	**Pn**	**14 16 45.3**	**+0.2**
CLCH	**Cerro Calan**	**12.49**	**196**	⇓*e*P	**Pn**	**14 16 47.4**	**+0.7**
PCH	**Pirque**	**12.70**	**196**	⇑*i*P	**Pn**	**14 16 49.7**	**+0.3**
SAML	**Samuel**	**12.77**	**15**	⇑*e*Pn	**Pn**	**14 16 50.0**	**-0.2**
	comp=Z,28nm,0.7s						
LMEL	**Las Melosas**	**12.84**	**194**	⇑*e*P	**Pn**	**14 16 52.2**	**+1.0**
LMEL	**Las Melosas**	**12.84**	**194**	⇑*i*P	**Pn**	**14 16 52.5**	**+1.3**
TACH	**Talagante**	**12.84**	**197**	⇑*i*P	**Pn**	**14 16 50.0**	**-1.1**
TACH	**Talagante**	**12.84**	**197**	*e*P	**Pn**	**14 16 50.1**	**-1.0**
LCCH	**Las Cruces**	**12.86**	**200**	⇑*i*P	**Pn**	**14 16 50.6**	**-0.8**
LCCH	**Las Cruces**	**12.86**	**200**	⇑*i*P	**Pn**	**14 16 50.6**	**-0.8**
CHCH	**Chadas Angostu**	**13.03**	**196**	⇑*i*P	**Pn**	**14 16 53.8**	**+0.3**
CHCH	**Chadas Angostu**	**13.03**	**196**	⇑*i*P	**Pn**	**14 16 53.4**	**-0.1**
CACH	**El Canelo**	**13.19**	**195**	*e*P	**Pn**	**14 16 56.0**	**+0.5**
CACH	**El Canelo**	**13.19**	**195**	⇑*i*P	**Pn**	**14 16 56.0**	**+0.5**
LNV	**Longovilo**	**13.26**	**198**	⇑*i*P	**Pn**	**14 16 55.0**	**-1.3**
CICH	**Cipreses**	**13.34**	**194**	*e*P	**Pn**	**14 16 58.4**	**+1.0**
NNA	**Nana**	**13.65**	**312**	*e*P	**Pn**	**14 17 02.5**	**+1.2**
SFDO	**San Fernando**	**13.77**	**196**	⇑*i*P	**Pn**	**14 17 02.9**	**+0.2**
TRQA	**Tornquist**	**17.05**	**168**	*e*P	**P**	**14 17 40.0**	**-0.8**
	comp=Z,14nm,0.6s						
BDFB	**Brasilia**	**18.39**	**75**	P	**P**	**14 17 58.0**	**+2.6**
	comp=Z,5.4nm,0.3s,baz=252,slow=11,SNR=27						
ATAH	**Atahualpa**	**18.39**	**319**	P	**P**	**14 17 54.7**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=164,slow=6.9,SNR=6.6						
PLCA	**Paso Flores**	**19.59**	**189**	P	**P**	**14 18 08.6**	**+0.2**
	comp=Z,1.8nm,0.3s,baz=4.3,slow=11,SNR=26						
PLCA	**Paso Flores**	**19.59**	**189**	*e*P	**P**	**14 18 08.3**	**-0.1**
PLCA				pmax	pmax		
	comp=Z,19nm,0.7s						
PLCA	**Paso Flores**	**19.59**	**189**	*e*P	**P**	**14 18 08.3**	**0.0**
	comp=Z,19nm,0.7s						
CAM4	**Nova Friburgo**	**22.18**	**97**	(P)	**P**	**14 18 37.3**	**+2.2**
CAM4				*i*		14 18 40.4	
SDV	**Santo Domingo**	**30.37**	**352**	*e*P	**P**	**14 19 46.9**	**-1.6**
	comp=Z,15nm,1.0s,mb4.6						
TEIG	**Tepich**	**46.55**	**331**	*e*P	**P**	**14 22 01.5**	**-1.3**
	comp=Z,18nm,0.8s,mb4.4						
LRAL	**Lakeview Retre**	**57.57**	**340**	*e*P	**P**	**14 23 22.3**	**-1.7**
	comp=Z,8.6nm,0.8s,mb4.4						
HKT	**Hockley**	**58.36**	**330**	*e*P	**P**	**14 23 28.7**	**-0.7**
HKT				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.5						
HKT	**Hockley**	**58.36**	**330**	*e*P	**P**	**14 23 28.7**	**-0.8**
	comp=Z,15nm,1.1s,mb4.5						
NATX	**Nacogdoches**	**59.36**	**332**	*e*P	**P**	**14 23 34.6**	**-1.7**
	comp=Z,64nm,0.8s,mb5.3						
VNA1	**Neumayer--Stat**	**59.62**	**161**	⇑*i*P	**P**	**14 23 40.3**	**+2.2**
VNA1				*e*		14 23 40.5	
VNA1				*e*		14 23 42.0	
VNA1				*e*		14 23 45.3	
VNA1				*e*	pP	14 24 24.2	-0.9
VNA1				*e*		14 24 44.2	
PLAL	**Pickwick Lake**	**59.71**	**339**	*e*P	**P**	**14 23 36.0**	**-2.8**
	comp=Z,24nm,1.0s,mb4.8						
ELN	**Prospectdale**	**59.85**	**347**	*e*P	**P**	**14 23 39.1**	**-0.5**
FWV	**Forest Hill**	**60.20**	**347**	*e*P	**P**	**14 23 40.8**	**-1.2**
WVT	**Waverly**	**60.68**	**340**	*e*P	**P**	**14 23 42.7**	**-2.6**
WVT				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
WVT	**Waverly**	**60.68**	**340**	*e*P	**P**	**14 23 42.7**	**-2.6**
	comp=Z,2.5nm,0.6s,mb4.0						
JCT	**Junction City**	**60.73**	**327**	*e*P	**P**	**14 23 44.4**	**-1.2**
JCT				pmax	pmax		
	comp=Z,27nm,0.9s,mb4.9						
JCT	**Junction City**	**60.73**	**327**	*e*P	**P**	**14 23 44.4**	**-1.2**
	comp=Z,27nm,0.9s,mb4.9						
GLAT	**Glass**	**61.28**	**339**	*e*P	**P**	**14 23 48.0**	**-1.4**
MIAR	**Mount Ida**	**61.32**	**335**	*e*P	**P**	**14 23 48.1**	**-1.5**
MIAR				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.8						
MIAR	**Mount Ida**	**61.32**	**335**	*e*P	**P**	**14 23 48.1**	**-1.5**
	comp=Z,25nm,0.9s,mb4.8						
WCI	**Wyandotte Cave**	**62.17**	**342**	*e*P	**P**	**14 23 52.7**	**-2.6**
WCI				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
WCI	**Wyandotte Cave**	**62.17**	**342**	*e*P	**P**	**14 23 52.7**	**-2.6**
	comp=Z,9.8nm,0.7s,mb4.5						
FVM	**French Village**	**63.22**	**339**	*e*P	**P**	**14 24 00.3**	**-1.9**
FVM				pmax	pmax		
	comp=Z,39nm,0.9s,mb5.0						
FVM	**French Village**	**63.22**	**339**	*e*P	**P**	**14 24 00.3**	**-1.9**
	comp=Z,39nm,0.9s,mb5.0						
CCM	**Cathedral Cave**	**63.56**	**338**	*e*P	**P**	**14 24 01.3**	**-3.1**
CCM				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.1						
CCM	**Cathedral Cave**	**63.56**	**338**	*e*P	**P**	**14 24 01.3**	**-3.1**
	comp=Z,41nm,0.8s,mb5.1						
AMTX	**Amarillo**	**65.21**	**329**	*e*P	**P**	**14 24 13.8**	**-1.4**
	comp=Z,20nm,1.0s,mb4.7						
LBNH	**Lisbon**	**65.50**	**356**	*e*P	**P**	**14 24 16.5**	**-0.5**
LBNH				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
LBNH	**Lisbon**	**65.50**	**356**	*e*P	**P**	**14 24 16.5**	**-0.5**
	comp=Z,8.6nm,0.9s,mb4.4						
LONY	**Lake Ozonia**	**66.11**	**354**	*e*P	**P**	**14 24 18.5**	**-2.4**
NVL	**N'lazarevskaya**	**66.11**	**159**	⇑*i*P	**P**	**14 24 22.3**	**+1.4**
NVL				pmax	pmax		
	comp=Z,39nm,1.2s,mb4.9						
NVL				pmax	pmax		
	comp=N,5.0nm,0.9s						
NVL				pmax	pmax		
	comp=E,16nm,1.2s						
LIC	**Lamto**	**66.16**	**73**	*e*P	**P**	**14 24 21.2**	**0.0**
	comp=E,24nm,0.7s,mb4.6						
LIC	**Lamto**	**66.16**	**73**	*e*P	**P**	**14 24 21.2**	**0.0**
	comp=E,12nm,0.7s,mb4.6						
DBIC	**Dimbokro**	**66.51**	**72**	P	**P**	**14 24 23.9**	**+0.4**
	comp=E,40nm,0.7s,mb5.1,baz=219,slow=6.8,SNR=34						
BNM	**Barren Site**	**67.18**	**325**	*e*P	**P**	**14 24 27.4**	**-0.2**
LAZ	**Ladron**	**67.65**	**324**	*e*P	**P**	**14 24 31.0**	**+0.5**
ANMO	**Albuquerque**	**67.70**	**325**	*d i*P	**P**	**14 24 30.9**	**0.0**
ANMO	**Albuquerque**	**67.70**	**325**	*e*P	**P**	**14 24 30.3**	**-0.5**
	comp=E,12nm,0.9s,mb4.5						
QSPA	**South Pole Qui**	**68.80**	**180**	*e*P	**P**	**14 24 38.9**	**+1.2**
	comp=E,34nm,1.1s,mb4.9						
116A	**Eloy**	**68.91**	**320**	⇓P	**P**	**14 24 38.9**	**+0.5**
	baz=69						
115A	**Sonoran Desert**	**69.33**	**320**	⇓P	**P**	**14 24 41.7**	**+0.8**
	baz=70						
Z14A	**Wintersburg**	**70.22**	**320**	⇑P	**P**	**14 24 46.8**	**+0.4**
	baz=70						
X15A	**Humboldt**	**70.59**	**321**	P	**P**	**14 24 49.4**	**+0.8**
	baz=71,SNR=11						
Y14A	**Wickenburg**	**70.66**	**320**	⇓P	**P**	**14 24 49.4**	**+0.4**
	baz=71,SNR=8.7						
WUAZ	**Wupatki**	**70.82**	**322**	*e*P	**P**	**14 24 50.8**	**+0.8**
	comp=E,33nm,1.0s,mb4.9						
X14A	**Yava**	**70.96**	**321**	⇓P	**P**	**14 24 51.6**	**+0.8**
	baz=71,SNR=14						
ISCO	**Idaho Springs**	**71.01**	**329**	*e*P	**P**	**14 24 51.4**	**+0.3**
ISCO				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.5						
ISCO	**Idaho Springs**	**71.01**	**329**	*e*P	**P**	**14 24 51.4**	**+0.2**
	comp=Z,15nm,1.3s,mb4.5						
W15A	**Williams**	**71.09**	**322**	⇑P	**P**	**14 24 52.6**	**+0.9**
	baz=71,SNR=5.8						
GLA	**Glamis**	**71.16**	**318**	⇑P	**P**	**14 24 52.4**	**+0.4**
	baz=71						
SMCO	**Snowmass**	**71.19**	**328**	*e*P	**P**	**14 24 52.4**	**+0.2**
	comp=Z,8.4nm,0.8s,mb4.4						
PV01	**Paradox Valley**	**71.21**	**326**	*e*P	**P**	**14 24 53.0**	**+0.7**
Y12C	**Blythe**	**71.44**	**319**	⇓P	**P**	**14 24 54.2**	**+0.5**
	baz=72						
W14A	**Seligman**	**71.59**	**321**	⇑P	**P**	**14 24 55.6**	**+1.0**
	baz=72,SNR=11						
PV10	**Paradox Valley**	**71.64**	**326**	*e*P	**P**	**14 24 54.9**	**0.0**
PFO	**Pinyon Flat Ob**	**72.54**	**318**	⇑P	**P**	**14 25 00.9**	**+0.6**
	baz=73						
EYMN	**Ely**	**72.59**	**343**	*e*P	**P**	**14 24 58.7**	**-1.9**
	comp=Z,15nm,1.2s,mb4.5						
W12A	**Cal Nev Ari**	**72.71**	**320**	⇑P	**P**	**14 25 01.5**	**+0.3**
	baz=73						
SRU	**San Rafael**	**72.96**	**326**	*e*P	**P**	**14 25 03.0**	**+0.3**
SRU				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.0						
SRU	**San Rafael**	**72.96**	**326**	*e*P	**P**	**14 25 03.0**	**+0.3**
	comp=Z,29nm,0.8s,mb5.0						
V12A	**Nelson**	**72.99**	**320**	⇑P	**P**	**14 25 03.2**	**+0.3**
	baz=73,SNR=8.8						
U12A	**Valley of Fire**	**73.29**	**321**	⇓P	**P**	**14 25 05.3**	**+0.7**
	baz=74,SNR=15						
CCUT	**Cedar City**	**73.39**	**323**	*e*P	**P**	**14 25 06.4**	**+1.2**
CCUT				*e*pP	pP	14 26 02.2	+8.1
V11A	**Goodsprings**	**73.41**	**320**	⇓P	**P**	**14 25 05.8**	**+0.4**
	baz=74						
MSU	**Marysvale**	**73.41**	**324**	*e*P	**P**	**14 25 05.9**	**+0.5**
MSU				*e**PP	pP	14 26 01.2	+6.9
TUQ	**Turquoise Mtn.**	**73.43**	**320**	⇑P	**P**	**14 25 06.1**	**+0.6**
	baz=74						
TMUT	**Trail Mountain**	**73.46**	**325**	*e*P	**P**	**14 25 05.9**	**+0.2**
ARUT	**Antelope Range**	**73.60**	**323**	*e*P	**P**	**14 25 07.7**	**+1.2**
RSSD	**Black Hills**	**73.72**	**333**	*e*P	**P**	**14 25 07.0**	**-0.2**
RSSD				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.5						
RSSD	**Black Hills**	**73.72**	**333**	*e*P	**P**	**14 25 07.0**	**-0.2**
	comp=Z,11nm,0.9s,mb4.5						
U11A	**Corn Creek**	**73.77**	**321**	⇑P	**P**	**14 25 08.2**	**+0.8**
	baz=74						
GSC	**Goldstone**	**73.88**	**319**	P	**P**	**14 25 08.7**	**+0.6**
	baz=74,SNR=6.5						
MPU	**Maple Canyon**	**74.21**	**326**	*e*P	**P**	**14 25 10.6**	**+0.6**
	comp=Z,15nm,0.9s,mb4.6						
SNCC	**San Nicolas Is**	**74.26**	**316**	⇓P	**P**	**14 25 10.6**	**+0.3**
	baz=74						
DAU	**Daniels Canyon**	**74.30**	**326**	*e*P	**P**	**14 25 11.4**	**+0.9**
U10A	**Ash Meadows, A**	**74.34**	**320**	⇑P	**P**	**14 25 11.7**	**+1.0**
	baz=75,SNR=5.8						
OSI	**Osito Adit**	**74.62**	**317**	⇑P	**P**	**14 25 12.4**	**0.0**
	baz=75						
TPNV	**Topopah Spring**	**74.64**	**321**	*e*P	**P**	**14 25 13.5**	**+1.0**
TPNV				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.7						
TPNV	**Topopah Spring**	**74.64**	**321**	*e*P	**P**	**14 25 13.5**	**+1.0**
	comp=Z,17nm,0.9s,mb4.7						
TCUT	**Toone Canyon**	**74.89**	**326**	*e*P	**P**	**14 25 13.7**	**-0.2**
DUG	**Dugway**	**74.96**	**325**	*e*P	**P**	**14 25 14.7**	**+0.4**
DUG				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.7						
DUG	**Dugway**	**74.96**	**325**	*e*P	**P**	**14 25 14.7**	**+0.3**

comp=Z,25nm,1.3s,mb4.7
ISA Isabella 75.14 318 ⇑P P 14 25 16.0 +0.6
baz=75,SNR=8.4
TORD Torodi Ar. Bea 75.17 69 P P 14 25 15.8 +0.3
comp=Z,62nm,0.6s,mb5.4,baz=259,slow=5.5,SNR=343
TORD pP pP 14 26 11.5 +6.8
comp=Z,15nm,0.8s,baz=252,slow=5.8,SNR=7.1
TORD Torodi Ar. Bea 75.17 69 P P 14 25 15.8 +0.3
TORD pP pP 14 26 11.4 +6.8
PDAR Pinedale Array 75.19 329 P P 14 25 15.2 -0.5
comp=Z,3.1nm,0.6s,mb4.1,baz=124,slow=7.5,SNR=32
Q12A Willow Creek R 75.25 323 ⇓P P 14 25 16.7 +0.7
baz=76
HWUT Hardware Ranch 75.33 327 *eP* **P 14 25 16.4 0.0**
comp=Z,7.7nm,0.8s,mb4.4
CWC Cottonwood Cre 75.41 319 ⇑P P 14 25 17.4 +0.6
baz=76,SNR=5.8
SPUT South Promonto 75.57 326 *eP* **P 14 25 17.7 -0.1**
R10A Warm Springs 75.58 322 ⇑P P 14 25 19.1 +1.3
baz=76,SNR=22
Q11A Duckwater 75.59 322 P P 14 25 18.6 +0.7
baz=76,SNR=17
P12A McGill 75.60 323 ⇓P P 14 25 18.7 +0.8
baz=76,SNR=6.9
BGU Big Grassy Mou 75.60 325 *eP* **P 14 25 18.1 +0.1**
BGU *epP* pP 14 26 13.1 +5.9
S09A Goldfield 75.73 321 P P 14 25 19.2 +0.5
baz=76,SNR=11
SYO Syowa Base 75.79 159 ⇓*eP* **P 14 25 19.0 0.0**
TIN Tinemaha 75.90 320 ⇑P P 14 25 19.8 +0.2
baz=76
SCHQ Schefferville 75.92 360 P P 14 25 18.5 -1.3
comp=Z,11nm,0.7s,mb4.6,baz=181,slow=4.5,SNR=19
SCHQ Schefferville 75.92 360 *eP* **P 14 25 18.4 -1.3**
comp=Z,13nm,0.8s,mb4.6
ULM Lac du Bonnet 75.93 341 P P 14 25 18.2 -1.6
comp=Z,16nm,0.6s,mb4.8,baz=153,slow=5.6,SNR=53
ULM Lac du Bonnet 75.93 341 *eP* **P 14 25 18.2 -1.7**
comp=Z,21nm,0.7s,mb4.9
AHID Auburn Hatcher 75.94 328 *eP* **P 14 25 19.9 0.0**
comp=Z,8.5nm,0.7s,mb4.5
R09A Tonopah 75.99 321 ⇑P P 14 25 20.6 +0.4
baz=76,SNR=11
HVU Hansel Valley 76.08 326 *eP* **P 14 25 20.9 +0.2**
HVU pmax pmax
comp=Z,11nm,1.1s,mb4.4
HVU Hansel Valley 76.08 326 *eP* **P 14 25 20.9 +0.2**
comp=Z,11nm,1.1s,mb4.4
P11A Circle Ranch, 76.12 323 ⇓P P 14 25 21.5 +0.6
baz=76
HELL Mitchell Peak, 76.14 319 ⇑P P 14 25 21.1 +0.1
baz=76,SNR=9.6
V05C Boulder Hill, 76.16 318 ⇓P P 14 25 21.8 +0.7
baz=76
N13A Wendover, West 76.18 325 ⇓P P 14 25 21.2 0.0
baz=76
REDW Red Top Meadow 76.26 328 *eP* **P 14 25 21.9 +0.2**
comp=Z,32nm,1.3s,mb4.8
SNOW Snow King Moun 76.29 328 *eP* **P 14 25 22.2 +0.4**
comp=Z,6.2nm,0.3s,mb4.7
MTUM Tungsten Hills 76.30 320 *eP* **P 14 25 22.6 +0.7**
LOHW Long Hollow 76.33 329 *eP* **P 14 25 22.3 +0.2**
comp=Z,14nm,0.8s,mb4.7
TPAW Teton Pass 76.41 328 *eP* **P 14 25 22.8 +0.2**
comp=Z,13nm,0.8s,mb4.6
Q09A Carvers 76.45 322 ⇑P P 14 25 23.3 +0.5
baz=77
O11A Cowboy Ranch, 76.47 323 ⇓P P 14 25 23.3 +0.4
baz=77
RRI2 Red Ridge 76.48 328 *eP* **P 14 25 32.3 +9.4**
comp=Z,35nm,1.2s,mb4.9
MOOW Moose Ponds 76.50 329 *eP* **P 14 25 22.9 -0.2**
comp=Z,20nm,1.4s,mb4.6
P10A Eureka 76.57 323 ⇑P P 14 25 24.4 +1.0
baz=77,SNR=7.3
PKD Parkfield 76.61 317 ⇑P P 14 25 23.7 0.0
baz=77
N12A Clover Valley, 76.63 324 ⇑P P 14 25 23.9 +0.1
baz=77
MLAC Mammoth Lakes 76.64 320 ⇓P P 14 25 23.9 +0.1
baz=77
ELK Elko 76.66 324 *eP* **P 14 25 23.8 -0.1**
ELK pmax pmax
comp=Z,9.0nm,1.0s
ELK Elko 76.66 324 *eP* **P 14 25 23.8 -0.1**
comp=Z,8.9nm,1.0s,mb4.3
IMW Indian Meadow 76.70 329 *eP* **P 14 25 25.4 +1.3**
comp=Z,23nm,0.8s,mb4.9
MNV Mina 76.76 321 *eP* **P 14 25 24.8 +0.3**
MNV pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
MNV Mina 76.76 321 *eP* **P 14 25 24.8 +0.3**
comp=Z,10nm,1.1s,mb4.4
NVAR Mina Array Bea 76.84 321 P P 14 25 25.4 +0.5
comp=Z,7.1nm,0.8s,mb4.3,baz=141,slow=7.3,SNR=38
NVAR pP pP 14 26 19.6 +5.3
comp=Z,0.4nm,0.6s,baz=168,slow=6.3,SNR=0.9
NVAR Mina Array Bea 76.84 321 P P 14 25 25.4 +0.5
NVAR pP pP 14 26 19.6 +5.3
Q08A Gabbs 76.91 321 P P 14 25 25.5 +0.2
baz=77,SNR=11
P09A Austin 76.91 322 ⇓P P 14 25 25.6 +0.2
baz=77
M12A Wells 76.95 325 ⇓P P 14 25 25.7 +0.1
baz=77,SNR=6.8
N11A Elko Archery C 76.99 324 ⇓P P 14 25 25.9 +0.2
baz=77
U04C Hernandez Rese 77.02 318 ⇓P P 14 25 26.4 +0.4
baz=77
O10A Cortez Mining, 77.05 323 ⇑P P 14 25 26.5 +0.4
baz=77
R07C Lee Vining 77.07 320 ⇓P P 14 25 26.9 +0.7
baz=77,SNR=7.8
V03C Hunter Liggett 77.10 317 ⇓P P 14 25 26.4 0.0
baz=77
VNDA Vanda 77.34 190 P P 14 25 28.2 +0.4
comp=Z,3.2nm,0.9s,mb3.9,baz=138,slow=3.5,SNR=14
VNDA Vanda 77.34 190 P P 14 25 28.2 +0.4
O09A Fish Creek Ran 77.36 323 ⇓P P 14 25 29.1 +1.3
baz=78
S05C Merced 77.37 319 ⇑P P 14 25 27.8 -0.1
baz=78
S06C San Francisco 77.41 319 ⇑P P 14 25 28.2 +0.1
baz=78
M11A Holland Ranch, 77.44 324 ⇓P P 14 25 28.8 +0.6
baz=78,SNR=12
HAST UC Hastings Re 77.53 317 ⇑P P 14 25 29.0 +0.2
baz=78
P08A Dixie Valley 77.55 322 ⇑P P 14 25 29.3 +0.5
baz=78
R06C Coleville 77.58 320 ⇑P P 14 25 30.1 +1.0
baz=78
QLMT Earthquake Lak 77.63 329 *eP* **P 14 25 30.1 +0.8**
PACP Pacheco Peak 77.75 318 ⇑P P 14 25 30.6 +0.6
baz=78
CMB Columbia Colle 77.84 319 ⇓P P 14 25 30.3 -0.1
baz=78
TSUM Tsumeb 77.87 106 P P 14 25 32.6 +1.9
comp=Z,13nm,0.8s,mb4.6,baz=231,slow=5.6,SNR=27
TSUM Tsumeb 77.87 106 *eP* **P 14 25 32.2 +1.6**
comp=Z,34nm,1.3s,mb4.8
M10A I.L. Ranch, Tu 77.91 324 ⇑P P 14 25 31.2 +0.3
baz=78
N09A Rock Creek Ran 78.00 323 ⇑P P 14 25 31.1 -0.3
baz=78
R05C Kirkwood Meado 78.08 320 ⇑P P 14 25 32.5 +0.7
baz=78,SNR=5.3
S04C Ingram Canyon, 78.08 318 ⇓P P 14 25 32.2 +0.4
baz=78
HLID Hailey 78.20 327 *eP* **P 14 25 33.2 +0.7**
comp=Z,20nm,0.9s,mb4.7
WCN Washoe City 78.27 321 ⇓P P 14 25 33.5 +0.7
baz=78
N08A GE Springer Mi 78.30 323 ⇑P P 14 25 32.6 -0.4
baz=78
PAHR Pah Rah Range 78.31 321 *eP* **P 14 25 33.7 +0.6**
comp=Z,39nm,0.9s,mb5.0
PAHR *epP* pP 14 26 30.3 +7.7
MCMT McKenzie Canyo 78.32 328 *eP* **P 14 25 33.7 +0.6**
O07A Toulon 78.32 322 ⇓P P 14 25 33.1 0.0
baz=78,SNR=7.8
BOZ Bozeman (W) 78.33 329 *eP* **P 14 25 32.7 -0.5**
BOZ pmax pmax
comp=Z,8.0nm,1.3s,mb4.2
BOZ Bozeman (W) 78.33 329 *eP* **P 14 25 32.7 -0.4**
comp=Z,7.9nm,1.3s,mb4.2
M09A Marrel Ranch, 78.34 323 ⇓P P 14 25 33.6 +0.4
baz=79,SNR=5.2

BNLO Ben Lomond (Sa 78.38 318 ⇓P P 14 25 33.5 0.0
baz=79
LAVA Lava Cap Winer 78.51 320 ⇑P P 14 25 34.2 0.0
baz=79
DLMT Dillon 78.58 329 *eP* **P 14 25 34.6 +0.1**
comp=Z,22nm,1.3s,mb4.6
JRSC Jasper Ridge 78.59 318 ⇓P P 14 25 34.7 +0.1
baz=79
BDM Black Diamond 78.69 318 ⇓P P 14 25 35.1 0.0
baz=79
L09A Wilkinson Ranc 78.87 324 ⇓P P 14 25 36.3 +0.1
baz=79,SNR=6.0
O06A Flanigan 78.87 321 ⇓P P 14 25 36.4 +0.3
baz=79
M08A Happy Creek Ra 78.88 323 ⇑P P 14 25 36.3 +0.1
baz=79
Q03C Winters 79.20 319 ⇓P P 14 25 38.3 +0.4
baz=79
HRY Holter Researc 79.21 330 *eP* **P 14 25 38.1 +0.2**
M07A Soldier Meadow 79.29 322 ⇑P P 14 25 38.5 +0.1
baz=80,SNR=10
CVS Carmenet Viney 79.30 318 ⇑P P 14 25 38.6 +0.1
baz=80
OHCM Honcut 79.33 320 *eP* **P 14 25 38.4 -0.1**
O05C Quincy 79.38 320 ⇓P P 14 25 39.2 +0.3
baz=80
ORV Oroville 79.47 320 ⇓P P 14 25 39.6 +0.2
baz=80,SNR=13
ELFS Eagle Lake Fie 79.69 321 ⇑P P 14 25 40.8 +0.2
baz=80,SNR=5.9
O04C Chester 79.71 321 ⇑P P 14 25 40.6 -0.1
baz=80
L07A Adell 79.80 323 P P 14 25 41.7 +0.6
baz=80,SNR=5.5
M06C Likely Place G 79.92 322 ⇑P P 14 25 42.1 +0.3
baz=80,SNR=11
CHMT Cherlain Mo 80.02 330 *eP* **P 14 25 42.3 -0.1**
J08A Circle Bar Ran 80.20 324 ⇓P P 14 25 43.6 +0.3
baz=80
HATC Hat Creek Radi 80.25 321 ⇑P P 14 25 43.5 0.0
baz=80
GASB Alder Springs 80.27 319 ⇑P P 14 25 44.1 +0.4
baz=80
M05C Lookout 80.41 321 ⇑P P 14 25 44.3 -0.1
baz=81
BMO Blue Mountains 80.59 326 *eP* **P 14 25 45.1 -0.2**
comp=Z,23nm,1.2s,mb4.7
BMO *epP* pP 14 26 42.2 +7.0
O02C Red Bluff 80.64 320 ⇑P P 14 25 44.9 -0.7
baz=81
L05A Lakeview 80.66 322 ⇓P P 14 25 46.4 +0.6
baz=81,SNR=12
J07A Hines 80.67 324 ⇑P P 14 25 46.2 +0.4
baz=81,SNR=7.2
PBEJ Beja 80.73 43 *eP* **P 14 25 47.1 +1.0**
comp=Z,18nm,1.3s,mb4.5
WDC Whiskeytown Da 80.74 320 ⇓P P 14 25 44.6 -1.6
baz=81
K06A Valley Falls 80.82 323 ⇑P P 14 25 47.1 +0.6
baz=81,SNR=8.3
EVO Evora 80.93 43 *eP* **P 14 25 46.0 -1.2**
comp=Z,9.5nm,0.6s,mb4.3
J06A Christmas Vall 81.05 323 P P 14 25 48.0 +0.2
baz=81,SNR=20
M04C Macdoel 81.07 321 ⇑P P 14 25 47.8 -0.1
baz=81,SNR=6.8
O01C Eel River Cons 81.24 319 ⇑P P 14 25 49.3 +0.5
baz=81
N02C Big Bar 81.34 320 ⇓P P 14 25 49.5 +0.1
baz=82,SNR=6.5
L04A Klamath Falls 81.35 322 ⇓P P 14 25 49.2 -0.2
baz=82
M02C Callahan 81.42 321 ⇑P P 14 25 49.1 -0.6
baz=82
BOSA Boshof 81.47 117 P P 14 25 51.0 +1.0
comp=Z,14nm,0.8s,mb4.6,baz=258,slow=4.6,SNR=20
BOSA Boshof 81.47 117 *eP* **P 14 25 51.1 +1.1**
BOSA pmax pmax
comp=Z,15nm,1.0s,mb4.6
BOSA Boshof 81.47 117 *eP* **P 14 25 51.0 +1.1**
comp=Z,15nm,1.0s,mb4.6
I06A Prineville 81.53 324 ⇑P P 14 25 50.9 +0.6
baz=82,SNR=12
YBH Yreka Blue Hor 81.55 321 *eP* **P 14 25 49.0 -1.4**
YBH pmax pmax
comp=Z,3.0nm,0.9s
YBH Yreka Blue Hor 81.55 321 *eP* **P 14 25 49.0 -1.4**
comp=Z,3.0nm,0.9s,mb3.9
YBH Yreka Blue Hor 81.55 321 ⇑P P 14 25 49.2 -1.2
baz=82,SNR=5.2
FFC Flin Flon 81.69 340 *eP* **P 14 25 49.8 -1.3**
FFC pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
FFC Flin Flon 81.69 340 *eP* **P 14 25 49.8 -1.3**
comp=Z,10nm,0.9s,mb4.5
PCBR Castelo Branco 82.04 42 *eP* **P 14 25 53.7 +0.7**
comp=Z,20nm,1.4s,mb4.6
BBOR Butler Butte 82.25 322 P P 14 25 53.3 -0.7
I05A Bend 82.26 324 ⇓P P 14 25 54.5 +0.4
baz=82
MTE Manteigas 82.33 41 *eP* **P 14 25 55.2 +0.7**
comp=Z,19nm,1.1s,mb4.6
L02A Cave Junction 82.34 321 ⇓P P 14 25 54.6 +0.1
baz=82
K02A Glendale 82.65 321 P P 14 25 56.1 0.0
baz=83,SNR=6.1
IRO Indian Ridge 82.71 323 P P 14 25 55.9 -0.5
PVRL Vila Real 82.75 41 *eP* **P 14 25 57.3 +0.7**
comp=Z,32nm,1.8s,mb4.8
HAWA Hanford 82.78 326 *eP* **P 14 25 56.7 -0.1**
comp=Z,1.2nm,0.8s,mb3.7
GBL Gable Mountain 82.88 326 P P 14 25 57.6 +0.3
LBTB Lobatse 82.97 114 P P 14 25 59.1 +1.3
comp=Z,18nm,1.0s,mb4.8,baz=268,slow=5.9,SNR=20
LBTB Lobatse 82.97 114 *eP* **P 14 25 59.1 +1.3**
LBTB pmax pmax
comp=Z,27nm,1.1s,mb4.9
LBTB Lobatse 82.97 114 *eP* **P 14 25 59.1 +1.3**
comp=Z,27nm,1.1s,mb4.9
G05A Wamic 82.98 324 ⇓P P 14 25 58.3 +0.4
baz=83
OD2 Odessa Site #2 83.02 327 P P 14 25 58.0 -0.1
J02A Umpqua 83.06 322 ⇑P P 14 25 58.3 +0.1
baz=83
K01A Sixes 83.24 321 ⇓P P 14 25 59.2 0.0
baz=84
I03A Eugene 83.27 323 ⇓P P 14 25 59.2 -0.1
baz=84
F05A White Salmon 83.47 325 ⇑P P 14 26 00.2 -0.1
baz=84
I02A Mapleton 83.60 322 ⇑P P 14 26 00.8 -0.2
baz=84
PBRG Braganca 83.65 41 *eP* **P 14 26 01.7 +0.5**
comp=Z,28nm,1.2s,mb4.9
H03A Soap Creek Ran 83.71 323 ⇑P P 14 26 01.3 -0.3
baz=84
MAW Mawson 83.76 163 ⇓*iP* **P 14 26 02.6 +0.8**
comp=Z,13nm,0.9s,mb4.7
MAW Mawson 83.76 163 P P 14 26 02.6 +0.8
comp=Z,16nm,0.9s,mb4.8,baz=221,slow=5.6,SNR=35
MAW Mawson 83.76 163 ⇓*iP* **P 14 26 02.6 +0.8**
MAW pmax pmax
comp=Z,13nm,0.9s
TBM Table Mountain 83.84 326 P P 14 26 02.5 +0.3
WTV Waterville 83.86 327 P P 14 26 02.1 -0.2
F04A Amboy 84.02 324 ⇑P P 14 26 02.4 -0.7
baz=84
E05A Randle 84.06 325 ⇑P P 14 26 02.5 -0.8
baz=84,SNR=5.3
ESDC Sonseca Array 84.17 43 P P 14 26 04.5 +0.7
comp=Z,6.8nm,0.8s,mb4.4,baz=240,slow=5.0,SNR=21
ESLA Sonseca Array 84.17 43 *eP* **P 14 26 04.6 +0.7**
comp=Z,0.8nm,0.8s,mb3.5
D05A Enumclaw 84.58 326 ⇑P P 14 26 05.2 -0.7
baz=85
RMW Rattlesnake Mo 84.66 326 P P 14 26 05.4 -0.9
C05A Tolt Reservoir 84.75 326 ⇑P P 14 26 05.5 -1.2
baz=85
E03A Lebam 85.02 324 ⇑P P 14 26 07.8 -0.3
baz=85
B05A Bryant 85.32 326 P P 14 26 08.4 -1.2
baz=86,SNR=6.0
A05A Maple Falls 85.79 327 ⇑P P 14 26 10.8 -1.1
baz=86
LSZ Lusaka 88.72 106 *eP* **P 14 26 29.2 +3.2**
LSZ pmax pmax
comp=Z,45nm,1.5s,mb5.1

LSZ Lusaka 88.72 106 *eP* **P 14 26 29.2 +3.2**
comp=Z,46nm,1.5s,mb5.1
QUIF Quistinic 89.23 37 *eP* **P 14 26 27.2 -1.1**
comp=Z,18nm,0.8s,mb4.7
QUIF Quistinic 89.23 37 *eP* **P 14 26 27.2 -1.1**
QUIF pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
QUIF Quistinic 89.23 37 *eP* **P 14 26 27.2 -1.1**
comp=Z,9.1nm,0.8s,mb4.7
ROSF Rostrenen 89.40 37 *eP* **P 14 26 28.1 -1.0**
comp=Z,25nm,0.8s,mb4.8
ROSF Rostrenen 89.40 37 *eP* **P 14 26 28.1 -1.0**
ROSF pmax pmax
comp=Z,13nm,0.8s,mb4.8
ROSF Rostrenen 89.40 37 *eP* **P 14 26 28.1 -1.0**
comp=Z,13nm,0.8s,mb4.8
SGMF Saint Gilles 89.75 37 *eP* **P 14 26 29.5 -1.3**
comp=Z,13nm,0.8s,mb4.5
SGMF Saint Gilles 89.75 37 *eP* **P 14 26 29.5 -1.3**
SGMF pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
SGMF Saint Gilles 89.75 37 *eP* **P 14 26 29.5 -1.3**
comp=Z,6.4nm,0.8s,mb4.5
LFF La Frestale 89.93 41 *eP* **P 14 26 31.0 -0.6**
MTLF Montolieu 90.04 43 *eP* **P 14 26 31.5 -0.6**
comp=Z,19nm,1.1s,mb4.5
MTLF Montolieu 90.04 43 *eP* **P 14 26 31.5 -0.6**
MTLF pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
MTLF Montolieu 90.04 43 *eP* **P 14 26 31.5 -0.6**
comp=Z,9.7nm,1.1s,mb4.5
MFF Saint Martin d 90.25 39 *eP* **P 14 26 32.3 -0.8**
comp=Z,28nm,0.8s,mb4.8
MFF Saint Martin d 90.25 39 *eP* **P 14 26 32.3 -0.8**
MFF pmax pmax
comp=Z,14nm,0.8s,mb4.8
MFF Saint Martin d 90.25 39 *eP* **P 14 26 32.3 -0.8**
comp=Z,14nm,0.8s,mb4.8
RJF Les Rejaudoux 90.58 41 *eP* **P 14 26 33.9 -0.7**
comp=Z,16nm,1.0s,mb4.6
RJF Les Rejaudoux 90.58 41 *eP* **P 14 26 33.9 -0.7**
RJF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
RJF Les Rejaudoux 90.58 41 *eP* **P 14 26 33.9 -0.7**
comp=Z,7.8nm,1.0s,mb4.6
CAF Calviac 90.73 41 *eP* **P 14 26 34.2 -1.1**
GRR Gorron 90.78 37 *eP* **P 14 26 34.3 -1.2**
comp=Z,33nm,0.8s,mb5.0
GRR Gorron 90.78 37 *eP* **P 14 26 34.3 -1.2**
GRR pmax pmax
comp=Z,17nm,0.8s,mb5.0
GRR Gorron 90.78 37 *eP* **P 14 26 34.3 -1.2**
comp=Z,17nm,0.8s,mb5.0
FLN La Foliniere 91.19 37 *eP* **P 14 26 36.4 -1.0**
comp=Z,32nm,1.0s,mb4.9
FLN La Foliniere 91.19 37 *eP* **P 14 26 36.4 -1.0**
FLN pmax pmax
comp=Z,16nm,1.0s,mb4.9
FLN La Foliniere 91.19 37 *eP* **P 14 26 36.4 -1.0**
comp=Z,16nm,1.0s,mb4.9
LDF La Druitiere 91.31 37 *eP* **P 14 26 36.9 -1.1**
comp=Z,17nm,0.7s,mb4.8
LDF La Druitiere 91.31 37 *eP* **P 14 26 36.9 -1.1**
LDF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
LDF La Druitiere 91.31 37 *eP* **P 14 26 36.9 -1.1**
comp=Z,8.4nm,0.7s,mb4.8
TCF Toulx Ste Croi 91.50 40 *eP* **P 14 26 38.0 -0.8**
comp=Z,8.8nm,0.8s,mb4.4
TCF Toulx Ste Croi 91.50 40 *eP* **P 14 26 38.0 -0.8**
TCF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TCF Toulx Ste Croi 91.50 40 *eP* **P 14 26 38.0 -0.8**
comp=Z,4.4nm,0.8s,mb4.4
YKA Yellowknife Ar 91.87 340 P P 14 26 39.5 -1.1
comp=Z,12nm,0.7s,mb4.9,baz=127,slow=4.4,SNR=63
YKA pP pP 14 27 36.9 +5.5
comp=Z,4.8nm,0.9s,baz=130,slow=4.6,SNR=2.7
YKA Yellowknife Ar 91.87 340 P P 14 26 39.5 -1.1
YKA pP pP 14 27 36.9 +5.5
BGF Bois d'Agland 92.01 40 *eP* **P 14 26 40.6 -0.6**
AVF Avril sur Loir 92.43 40 *eP* **P 14 26 42.4 -0.8**
comp=Z,12nm,0.9s,mb4.5
AVF Avril sur Loir 92.43 40 *eP* **P 14 26 42.4 -0.8**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AVF Avril sur Loir 92.43 40 *eP* **P 14 26 42.4 -0.8**
comp=Z,5.9nm,0.9s,mb4.5
CASY Casey 92.57 179 *eP* **P 14 26 44.2 +0.4**
SSF Saint Saulge 92.65 40 *eP* **P 14 26 43.1 -1.1**
comp=Z,19nm,1.0s,mb4.8
SSF Saint Saulge 92.65 40 *eP* **P 14 26 43.1 -1.1**
SSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
SSF Saint Saulge 92.65 40 *eP* **P 14 26 43.1 -1.1**
comp=Z,9.4nm,1.0s,mb4.8
SMF Signal de Mont 92.66 40 *eP* **P 14 26 43.6 -0.6**
comp=Z,25nm,1.1s,mb4.9
SMF Signal de Mont 92.66 40 *eP* **P 14 26 43.6 -0.6**
SMF pmax pmax
comp=Z,13nm,1.1s,mb4.9
SMF Signal de Mont 92.66 40 *eP* **P 14 26 43.6 -0.6**
comp=Z,13nm,1.1s,mb4.9
LMR La Mourre 92.79 44 *eP* **P 14 26 43.8 -1.0**
LOR Lormes 92.96 40 *eP* **P 14 26 44.2 -1.4**
comp=Z,16nm,1.1s,mb4.7
LOR Lormes 92.96 40 *eP* **P 14 26 44.2 -1.4**
LOR pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
LOR Lormes 92.96 40 *eP* **P 14 26 44.2 -1.4**
comp=Z,7.9nm,1.1s,mb4.7
ORIF Oris-en-Rattie 93.11 43 *eP* **P 14 26 45.7 -0.6**
LPL La Plagne 93.92 42 *eP* **P 14 26 48.9 -1.1**
LPG La Plagne 93.92 42 *eP* **P 14 26 49.4 -0.6**
PGF Pioggiola 94.09 46 *eP* **P 14 26 49.7 -1.1**
GIVF Givet 94.86 38 *eP* **P 14 26 52.5 -1.8**
CDF Champ du Feu 95.53 40 *eP* **P 14 26 56.5 -0.9**
SUMG Summit 95.62 8 *eP* **P 14 26 57.2 -0.6**
comp=Z,8.7nm,1.0s,mb4.9
GERES GERESS Array B 99.61 41 P Pdif 14 27 15.2 -0.5
comp=Z,0.5nm,0.6s,baz=237,slow=6.2,SNR=4.5
OBN Obninsk 114.67 38 ⇓*e*PKIKP PKiKP 14 32 06.0 -5.5
OBN *e* 14 33 14.0
OBN *e* 14 35 43.4
OBN *e*S SKSac 14 38 37.3 -2.4
OBN pmax pmax
comp=Z,9.0nm,0.5s
BILL Bilibino 123.25 339 ⇓PKIKP PKPdf 14 32 26.6 -1.4
BILL *e* 14 34 06.9
BILL *e*S SKSdf 14 39 20.1 -0.1
BILL pmax pmax
comp=Z,3.0nm,0.9s
ARU Arti 126.77 35 ⇑*i*PKIKP PKPdf 14 32 34.8 0.0
ASAR Alice Springs 131.02 205 PKP PKPdf 14 32 43.0 +0.1
comp=Z,3.6nm,0.9s,baz=134,slow=1.7,SNR=28
ASAR pPKP pPKPdf 14 33 43.2 +7.0
comp=Z,0.5nm,0.8s,baz=140,slow=1.8,SNR=1.8
ASAR SKPbc SKPbc 14 35 45.8 -2.1
comp=Z,0.7nm,0.5s,baz=143,slow=3.8,SNR=13
ASAR Alice Springs 131.02 205 PKIKP PKPdf 14 32 43.0 +0.1
ASAR 14 33 43.2
MA2 Magadan 133.62 335 *i* PKIKP PKPdf 14 32 44.6 -3.2
ZRNK Zerenda 133.68 36 *e*PKIKP PKPdf 14 32 48.3 +0.4
WRA Warramunga Arr 134.16 208 PKP PKPdf 14 32 48.9 +0.1
comp=Z,1.8nm,0.6s,baz=153,slow=2.0,SNR=33
WRA pPKP pPKPdf 14 33 50.7 +8.6
comp=Z,0.8nm,0.6s,baz=158,slow=1.5,SNR=3.2
WRA SKPbc SKPbc 14 35 55.6 -3.0
comp=Z,2.8nm,0.8s,baz=149,slow=3.1,SNR=14
WRA Warramunga Arr 134.16 208 PKIKP PKPdf 14 32 48.9 +0.1
WRA 14 33 50.7
CHKZ Chkalovo 134.22 34 *e*PKIKP PKPdf 14 32 49.1 +0.2
YAK Yakutsk 137.89 349 *ci* PKIKP PKPdf 14 32 55.1 -0.6
NVS Novosibirsk 139.57 27 *i* PKIKP PKPdf 14 32 58.2 -0.6
KURK Kurchatov 139.97 34 ⇑*i*PKIKP PKPdf 14 33 00.1 +0.6
ZAL Zalesovo 140.86 27 PKP PKPdf 14 32 59.9 -1.2
comp=Z,3.7nm,0.8s,baz=186,slow=1.9,SNR=15
AAK Ala-Archa 141.15 48 *i* PKIKP PKPdf 14 32 59.5 -2.1
BOD Bodaibo 143.62 360 *e*PKIKP PKPdf 14 33 02.4 -3.6
BOD pmax pmax
comp=Z,11nm,0.9s
MKAR Makanchi Array 144.18 38 PKP PKPdf 14 33 05.9 -1.1
comp=Z,27nm,0.7s,baz=318,slow=3.4,SNR=278
MKAR pPKP pPKPdf 14 34 05.3 +4.9
comp=Z,4.8nm,1.0s,baz=34,slow=3.1,SNR=1.2
MKAR Makanchi Array 144.18 38 PKP PKPdf 14 33 05.9 -1.1

MKAR				pPKP	pPKPdf	14 34 05.3	+4.9
YSS	**Yuzh-Sakhalins**	**145.23**	**324**⇓	ePKP2	PKPab	14 33 08.0	-1.2
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**145.23**	**324**	eP	PKPdf	14 33 08.7	-0.1
NDI	**New Delhi**	**146.39**	**70**	eP	PKPdf	14 33 12.5	+1.7
HABR	**Khabarovsk**	**147.97**	**333**	ePKIKP	PKPdf	14 33 14.3	+0.9
HABR				e		14 33 16.6	
KLR	**Kul'dur**	**148.68**	**337**	ePKHKP		14 33 11.0	
WMQ	**Urumqi**	**149.01**	**38**	PKP	PKPdf	14 33 14.9	-0.2
KOLN	**Koldanda**	**152.08**	**71**	eP	PKPdf	14 33 27.1	+7.3
	comp=Z,15nm,0.8s						
GKN	**Gorkha**	**152.96**	**70**	eP	PKPdf	14 33 28.0	+6.9
SONM	**Songino Array**	**153.00**	**11**	PKP	PKPdf	14 33 21.7	+0.6
	comp=Z,5.9nm,0.9s,baz=342,slow=0.7,SNR=26						
SONM				PKPbc	PKPbc	14 33 28.9	+0.3
	comp=Z,10.0nm,0.8s,baz=301,slow=1.5,SNR=22						
SONM				PKPab	PKPab	14 33 40.7	-0.2
	comp=Z,4.1nm,0.7s,baz=321,slow=4.2,SNR=7.2						
SONM				pPKP	pPKPdf	14 34 21.9	+7.1
	comp=Z,0.4nm,0.4s,baz=38,slow=44,SNR=1.5						
SONM				pPKPbc	pPKPbc	14 34 29.1	+7.2
	comp=Z,2.8nm,0.7s,baz=336,slow=1.6,SNR=4.1						
SONM	**Songino Array**	**153.00**	**11**	PKIKP	PKPdf	14 33 21.7	+0.5
SONM						14 33 40.7	
SONM						14 34 21.9	
ULN	**Ulaanbaatar**	**153.08**	**10**	ePKPdf	PKPdf	14 33 21.4	+0.1
ULN				ePKPbc	PKPbc	14 33 28.2	-0.6
DMN	**Daman**	**153.42**	**71**	eP	PKPdf	14 33 30.2	+8.4
	comp=Z,46nm,0.9s						
KKN	**Kakani**	**153.55**	**70**	eP	PKPdf	14 33 30.2	+8.2
	comp=Z,45nm,1.0s						
PKI	**Pulchoki**	**153.69**	**71**	eP	PKPdf	14 33 29.9	+7.7
	comp=Z,26nm,0.9s						
GUN	**Gumba**	**154.06**	**70**	eP	PKPdf	14 33 31.9	+9.2
	comp=Z,73nm,1.2s						
CN2	**Changchun**	**155.56**	**339**	ePKP	PKPdf	14 33 25.1	+0.4
GTA	**Gaotai**	**158.53**	**30**	ePKP	PKPdf	14 33 29.6	+1.1
GTA				PKP2	PKPab	14 34 05.1	+0.5
GTA				APKP		14 34 34.7	
HHC	**Hu-ho-hao-te**	**160.53**	**5**	ePKP	PKPdf	14 33 31.3	+0.5
HHC				XPKP		14 34 51.7	
HHC				PP	PP	14 37 59.6	+3.3
HHC				SKS	SKSdf	14 40 12.6	-3.6
HHC				SKKS	SKKSac	14 44 25.1	+0.7
HHC				SS	SS	14 57 47.8	-2.8
HHC				PP	PP		
	comp=Z,72nm,14.3s						
BJI	**Beijing**	**161.28**	**354**	ePKP	PKPdf	14 33 30.2	-1.4
LZH	**Lanzhou**	**163.08**	**28**	⇓PKP	PKPdf	14 33 31.8	-1.6
LZH				PKP2	PKPab	14 34 25.3	+0.8
LZH				APKP		14 34 31.7	
LZH				XPKP		14 34 54.5	
CD2	**Chengdu**	**167.08**	**41**	ePKP	PKPdf	14 33 34.4	-2.4
SSE	**Sheshan**	**168.16**	**326**	ePKP	PKPdf	14 33 37.2	-0.3
NJ2	**Nanjing**	**168.38**	**337**	ePKP	PKPdf	14 33 38.2	+0.5
NJ2				APKP		14 34 35.5	
NJ2				PKP2	PKPab	14 34 50.4	+2.5
NJ2				XPKP		14 35 00.1	
NJ2				PKS		14 37 09.0	
NJ2				PP	PP	14 38 40.0	+2.8
NJ2				PP	PP		
	comp=Z,370nm,8.4s						
NJ2				LR	LR		
	comp=N,310nm,23.4s						
NJ2				LR	LR		
	comp=E,240nm,20.5s						
NJ2				LR	LR		
	comp=Z,15µm,21.8s						
KMI	**Kunming**	**169.39**	**67**	PKP	PKPdf	14 33 37.5	-0.8

*ISCJB **05** 15:26:26.8±0.7, 59S±02×1057E±02, h100^{km}, mb4.1/15, Error ellipse: s-maj=37.4km s-min=10.0km az=100.6*
*NEIC **05** 15:26:30.1±5.9, 600S×10557E, h117^{km}±52^{km}, mb4.3/4, Error ellipse: s-maj=34.0km s-min=8.7km az=60.0*
*IDC **05** 15:26:30.2±10.0, 598S×10556E, h115^{km}±94^{km}, mb3.8/11, mb1 3.9/11, mb1mx3.7/18, mbtmp4.1/11, Error ellipse: s-maj=74.0km s-min=15.0km az=55.0*
ISC 05 15:26:28.4±0.7**, 60S**±02×**1055E**±02**, h100**^{km}**, n22, σ0^{s}67**/18**, mb4.1**/15**, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.04**	**123**	P	**P**	**15 31 25.9**	**+1.0**
	0.9nm,0.5s,mb3.4,baz=292,slow=16,SNR=9.3						
WRA	**Warramunga Arr**	**31.25**	**119**	P	**P**	**15 32 38.6**	**+0.1**
	0.8nm,0.3s,mb3.9,baz=310,slow=8.8,SNR=36						
WRA				PcP	PcP	15 35 30.4	-0.2
	0.7nm,0.4s,baz=308,slow=2.1,SNR=14						
WRAB	**Tennant Creek**	**31.26**	**119**	P	**P**	**15 32 37.2**	**-1.3**
	4.4nm,0.5s,mb4.4						
WB2	**Warramunga Arr**	**31.26**	**119**	eP	**P**	**15 32 38.2**	**-0.3**
ASAR	**Alice Springs**	**32.47**	**126**	P	**P**	**15 32 49.2**	**+0.1**
	0.9nm,0.3s,mb3.9,baz=302,slow=8.0,SNR=24						
ASAR				PcP	PcP	15 35 34.2	+0.2
	0.6nm,0.7s,baz=293,slow=2.1,SNR=4.7						
STKA	**Stephens Creek**	**42.41**	**132**	P	**P**	**15 34 13.7**	**+0.8**
	2.1nm,0.4s,mb4.2,baz=307,slow=5.1,SNR=12						
SONM	**Songino Array**	**53.61**	**1**	P	**P**	**15 35 40.0**	**+0.8**
	1.0nm,0.4s,mb4.2,baz=175,slow=9.5,SNR=8.0						
ULN	**Ulaanbaatar**	**53.66**	**1**	eP	**P**	**15 35 39.9**	**+0.4**
	1.6nm,0.6s,mb4.2						
MKAR	**Makanchi Array**	**56.46**	**341**	P	**P**	**15 35 59.6**	**-0.1**
	1.8nm,0.5s,mb4.4,baz=148,slow=8.9,SNR=39						
KURK	**Kurchatov**	**61.07**	**341**	eP	**P**	**15 36 31.2**	**-0.5**
BVAR	**Borovoye Array**	**65.88**	**338**	P	**P**	**15 37 02.9**	**-0.5**
	1.7nm,0.5s,mb4.1,baz=139,slow=9.6,SNR=10						
BRVK	**Borovoye**	**65.95**	**338**	eP	**P**	**15 37 02.9**	**-0.9**
	0.9nm,0.4s,mb4.0						
CHKZ	**Chkalovo**	**66.31**	**338**	eP	**P**	**15 37 05.6**	**-0.4**
	2.3nm,0.4s,mb4.4						
SBA	**Scott Base**	**78.29**	**169**	eP	**P**	**15 38 16.7**	**-0.7**
BRTR	**Keskin Array B**	**80.06**	**312**	P	**P**	**15 38 28.0**	**+1.0**
	1.2nm,0.7s,mb3.9,baz=116,slow=7.0,SNR=5.9						
AKASG	**Malin Array Be**	**86.00**	**322**	P	**P**	**15 38 58.4**	**+0.8**
	0.5nm,0.4s,mb3.8,baz=84,slow=5.1,SNR=4.7						
VRI	**Vrincioaia**	**86.51**	**317**	S		15 38 27.4	
FINES	**FINESS Array B**	**90.20**	**332**	P	**P**	**15 39 17.7**	**+0.2**
	0.7nm,0.5s,mb4.0,baz=128,slow=9.0,SNR=5.1						
ARCES	**ARCESS Array B**	**92.09**	**340**	P	**P**	**15 39 25.8**	**-0.5**
	3.3nm,1.0s,mb4.5,baz=95,slow=4.1,SNR=3.9						
CPUP	**Villa Florida**	**143.80**	**207**	PKP	PKPdf	15 45 51.6	-0.2
	0.6nm,0.4s,baz=54,slow=4.2,SNR=4.9						
JCT	**Junction City**	**145.97**	**41**	ePKP	PKPdf	15 45 56.4	+1.0
CPCT	**Cooper Cave**	**149.28**	**16**	ePKPbc	PKPbc	15 46 05.3	0.0

*NEIC **05** 15:27:34.9, 38.16S×179.42E, h33^{km}, ML4.0(WEL), After WEL.*
WEL 05 15:27:34.3±0.5**, 3821S**×**17930E, h12**^{km}**, ML4.0**/4**, Error ellipse: s-maj=4.0km s-min=2.4km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.83**	**279**	P*	Pb	15 27 49.8	-0.9
PUZ				S*	Sb	15 28 01.6	-0.2
PUZ				S*	Sb	15 28 01.8	0.0
PUZ	**Puketiti**	**0.83**	**279**	P	Pg	15 27 49.8	-0.5
MXZ	**Matakaoa Point**	**1.01**	**309**	P*	Pb	15 27 52.6	-1.2
MXZ				S*	Sb	15 28 06.4	-0.7
MXZ	**Matakaoa Point**	**1.01**	**309**	P	Pb	15 27 52.7	-1.1
MXZ				S	Sg	15 28 06.3	-0.7
MWZ	**Matawai**	**1.40**	**264**	PN	Pn	15 27 58.3	-1.3
MWZ				SN	Sn	15 28 16.0	-2.0
MWZ				SN	Sn	15 28 16.1	-1.9
MWZ	**Matawai**	**1.40**	**264**	P	Pn	15 27 58.3	-1.3
MWZ				S	Sn	15 28 16.0	-2.0
URZ	**Urewera**	**1.72**	**268**	PN	Pn	15 28 03.3	-0.8
URZ	**Urewera**	**1.72**	**268**	P	Pn	15 28 03.3	-0.8
TAZ	**Tarawera**	**2.19**	**269**	PN	Pn	15 28 10.3	-0.3
TAZ	**Tarawera**	**2.19**	**269**	P	Pn	15 28 10.5	-0.1
BKZ	**Black Stump Fm**	**2.39**	**246**	PN	Pn	15 28 12.5	-0.8
BKZ				SN	Sn	15 28 40.5	-2.1
BKZ	**Black Stump Fm**	**2.39**	**246**	eP	Pn	15 28 12.5	-0.8
PATZ	**Paeroa**	**2.40**	**265**	P	Pn	15 28 13.2	-0.1
FWVZ	**Far West T-bar**	**3.11**	**249**	PN	Pn	15 28 23.0	-0.2
FWVZ	**Far West T-bar**	**3.11**	**249**	eP	Pn	15 28 23.0	-0.1
HIZ	**Hauiti**	**3.50**	**264**	PN	Pn	15 28 28.5	-0.1
HIZ	**Hauiti**	**3.50**	**264**	eP	Pn	15 28 28.6	0.0
MRZ	**Mangatainoka R**	**3.78**	**228**	PN	Pn	15 28 29.4	-2.9
MRZ	**Mangatainoka R**	**3.78**	**228**	eP	Pn	15 28 29.6	-2.8
MRZ				S	Sn	15 29 12.8	-3.9

*ISCJB **05** 15:48:07.4±2.6, 33.72S±0.10×178.9W±03, h33^{km}, mb3.2/2, Error ellipse: s-maj=37.6km s-min=12.6km az=17.5*
*IDC **05** 15:48:15.8±3.1, 3361S×17936E, h0^{km}, mb3.5/2, mb1 3.7/3, mb1mx3.6/13, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=65.7km s-min=35.1km az=95.0*
ISC 05 15:48:09.1±2.6**, 3368S**±010×**1788W**±03**, h35**^{km}**, n9, σ0^{s}82**/11**, mb3.2**/2**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MWZ	**Matawai**	**5.53**	**212**	ePN	**Pn**	**15 49 29.2**	**+0.4**
MWZ				SN	**Sn**	**15 50 31.9**	**+0.7**
URZ	**Urewera**	**5.66**	**215**	Pn	**Pn**	**15 49 31.0**	**+0.3**
	2.2nm,0.3s,baz=332,slow=3.2,SNR=20						
URZ				Sn	**Sn**	**15 50 32.7**	**-1.6**
	1.6nm,0.3s,baz=329,slow=22,SNR=3.9						
URZ	**Urewera**	**5.66**	**215**	PN	**Pn**	**15 49 30.8**	**+0.2**
URZ				SN	**Sn**	**15 50 32.5**	**-1.8**
WCZ	**Waipu Caves**	**6.10**	**246**	PN	**Pn**	**15 49 37.9**	**+1.3**
OUZ	**Omahuta**	**6.49**	**254**	PN	**Pn**	**15 49 42.2**	**+0.1**
BKZ	**Black Stump Fm**	**6.67**	**214**	PN	**Pn**	**15 49 44.6**	**+0.1**
ASAR	**Alice Springs**	**42.40**	**271**	P	**P**	**15 55 59.3**	**-0.7**
	0.2nm,0.5s,mb3.0,baz=110,slow=7.6,SNR=4.6						
WRA	**Warramunga Arr**	**43.68**	**276**	P	**P**	**15 56 09.9**	**-0.5**
	0.4nm,0.4s,mb3.5,baz=116,slow=7.7,SNR=17						
FINES	**FINESS Array B**	**147.96**	**338**	PKPbc	PKPbc	16 07 60.0	+9.4
	0.6nm,0.8s,baz=353,slow=5.6,SNR=3.3						

MAN 05 15:59:19.4, 1720N×**12016E, h26**^{km}**, mb2.3, ML3.9, MS0.7, 2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.69**	**50**	eP	Pb	15 59 33.2	+0.3
BOLP	**Bolinao**	**0.85**	**196**	eP	Pb	15 59 35.3	-0.2
BOLP	**Bolinao**	**0.85**	**196**	eS	Sb	15 59 44.0	-2.4
BCPH	**Baguio City Da**	**0.91**	**153**⇓	eP	Pn	15 59 35.9	-0.6
BCPH				i S	Sb	15 59 49.0	+0.7
PIP	**Pasuquin**	**1.20**	**22**⇓	iP	Pn	15 59 40.2	-0.2
PIP				eS	Sn	15 59 56.0	+0.1
APYP	**Conner**	**1.23**	**58**	eP	Pn	15 59 40.5	-0.4
APYP	**Conner**	**1.23**	**58**	eS	Sn	15 59 54.8	-1.7
SCZP	**Santa Cruz**	**1.44**	**189**	eP	Pn	15 59 43.5	-0.2
CAUP	**Cauayan**	**1.62**	**99**	eP	Pn	15 59 49.1	+3.0
LUBP	**Lubang**	**3.45**	**179**	eP	Pn	16 00 14.5	+3.1

ISC 05 16:00:35.7±0.7**, 3880N**±005×**4047E**±007**, h77**^{km}**, n8, σ1^{s}35**/13**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.55**	**74**	i P	**P**	**16 00 46.7**	**-3.1**
	MS0.0						
BNGL				i S	**S**	**16 00 59.4**	**-0.8**
	MS0.0						
BEST	**Besiri**	**1.10**	**145**	i P	**P**	**16 00 55.6**	**-0.5**
	MS0.0						
BEST				i S	**S**	**16 01 12.2**	**+0.8**
	MS0.0						
ELZG	**Elazig**	**1.20**	**256**	i P	**P**	**16 00 49.5**	**-7.9**
	MS0.0						
ELZG				i S	**S**	**16 01 05.5**	**-8.2**
	MS0.0						
ERZM	**Erzurum**	**1.30**	**32**	i P	**P**	**16 00 51.5**	**-7.4**
	MS0.0						
ERZM				i S	**S**	**16 01 17.6**	**+1.6**
	MS0.0						
MARD	**Mardin**	**1.50**	**171**	i P	**P**	**16 01 00.9**	**-0.6**
	MS0.0						
MARD				i S	**S**	**16 01 21.3**	**+0.8**
	MS0.0						
VRI	**Vrincioaia**	**12.37**	**309**	S	**S**	**16 05 44.8**	**-2.0**
	MS0.0						
PLOR	**Plostina**	**12.41**	**309**	S	**S**	**16 05 48.7**	**+1.0**
	MS0.0						
MLR	**Muntele Rosu**	**12.68**	**306**	S	**S**	**16 05 55.4**	**+1.3**
	MS0.0						

*SOF **05** 16:07:42.9, 40.48N×25.52E, h9^{km}, MD2.8*
*NEIC **05** 16:07:47.9±0.8, 40.74N×25.34E, h10^{km}, MD2.8(SOF), MD3.5(ATH), Error ellipse: s-maj=16.1km s-min=8.4km az=82.0*
*ISCJB **05** 16:07:53.0±0.6, 40.30N±0.03×25.19E±0.03, h2^{km}±5^{km}, Error ellipse: s-maj=5.3km s-min=3.8km az=42.7*
*CSEM **05** 16:07:54.3±0.2, 40.34N×25.26E, h10^{km}, MD3.5, Error ellipse: s-maj=5.0km s-min=4.2km az=12.0*
*ISK **05** 16:07:54.8, 40.31N×25.19E, h32^{km}, MD3.0*
*ATH **05** 16:07:54.3, 40.31N×25.28E, h25^{km}±1^{km}, MD3.5/3*
*THE **05** 16:07:56.2, 40.32N×25.27E, h19^{km}, ML3.2*
ISC 05 16:07:54.1±0.6**, 4031N**±003×**2520E**±003**, h8**^{km}±5^{km}**, n22, σ0^{s}89**/33**, 3C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.41**	**182**⇑	iPB	**Pg**	**16 08 03.3**	**+1.2**
ENEZ	**Enez**	**0.84**	**59**	i PG	**Pg**	**16 08 10.7**	**+0.4**
ENEZ				i SG	**Sg**	**16 08 22.4**	**+1.2**
ALN	**Alexandroupoli**	**0.87**	**47**	ePg	**Pg**	**16 08 10.8**	**0.0**
ALN				eSg	**Sg**	**16 08 23.0**	**+0.9**
RDO	**Rodhopi**	**0.88**	**17**⇑	iPN	**Pn**	**16 08 11.1**	**-1.7**
EZN	**Ezine**	**0.99**	**119**	i PG	**Pg**	**16 08 12.8**	**-0.3**
EZN				i SG	**Sg**	**16 08 26.0**	**+0.1**
PRK	**Paraskevi**	**1.34**	**142**	ePN	**Pn**	**16 08 18.6**	**-0.6**
PRK				eSN	**Sn**	**16 08 37.0**	**-0.3**
PLG	**Polygyros**	**1.34**	**273**	ePN	**Pn**	**16 08 19.9**	**+0.7**
CANB	**Canakkale**	**1.46**	**101**	ePN	**Pn**	**16 08 20.3**	**-0.4**
NVR	**Nevrokopi**	**1.46**	**316**⇑	iPN	**Pn**	**16 08 21.3**	**+0.5**
NVR				eSN	**Sn**	**16 08 42.5**	**+2.5**
SRS	**Serrai**	**1.47**	**304**	ePg	**Pg**	**16 08 21.4**	**-0.8**
SRS				eSg	**Sg**	**16 08 40.3**	**-1.0**
SOH	**Sokhos**	**1.50**	**291**	ePg	**Pg**	**16 08 22.0**	**-0.9**
SOH				eSg	**Sg**	**16 08 41.5**	**-0.8**
MFT	**Murefte**	**1.65**	**73**	ePN	**Pn**	**16 08 22.4**	**-1.1**
MMB	**Musomiste**	**1.70**	**319**	eP	**Pn**	**16 08 14.3**	**-10**
EDRB	**Edirne**	**1.93**	**37**	ePN	**Pn**	**16 08 26.2**	**-1.1**
KNT	**Kendrikon**	**1.95**	**297**	ePn	**Pn**	**16 08 28.7**	**+1.2**
CHOS	**Chios island**	**2.03**	**161**	ePn	**Pn**	**16 08 28.6**	**-0.1**
CHOS				eSn	**Sn**	**16 08 53.7**	**-0.5**
GRG	**Griva**	**2.23**	**288**	ePn	**Pn**	**16 08 32.4**	**+1.0**
KKB	**Krupnik**	**2.23**	**315**	i P	**Pn**	**16 08 22.9**	**-8.6**
VAY	**Valandovo**	**2.24**	**298**	i Pn	**Pn**	**16 08 38.0**	**+6.5**
VAY				eSn	**Sn**	**16 09 09.0**	**+10**
JMB	**Yambol**	**2.39**	**25**	ePn	**Pn**	**16 08 33.9**	**+0.3**
JMB				eSn	**Sn**	**16 09 02.7**	**-0.5**
JMB	**Yambol**	**2.39**	**25**	ePn	**Pn**	**16 08 33.9**	**+0.2**
JMB				eSn	**Sn**	**16 09 02.7**	**-0.5**
AGG	**Agios Georgios**	**2.56**	**241**	ePn	**Pn**	**16 08 36.9**	**+0.9**

*NIED **05** 16:09:00, 29.30N×129.90E, h71^{km}, Mw4.5 Best double couple: $M_0$6.14000×10^{15} NP1:ϕ_s225.00000°, δ80.00000°, λ160.00000°. NP2:ϕ_s319.00000°, δ70.00000°, λ11.00000°.*
*BJI **05** 16:09:07.3, 29.17N×130.39E, h80^{km}, mB4.5, mb4.2, Ms3.6*
*ISCJB **05** 16:09:07.5±0.3, 29.23N±0.03×130.02E±0.06, h65^{km}±3^{km}, mb4.0/19, Error ellipse: s-maj=8.7km s-min=3.6km az=44.9*
*JMA **05** 16:09:08.1±0.1, 29.28N×129.89E, h65^{km}±2^{km}, M4.4*
JMA Felt II J1.
*IDC **05** 16:09:08.4±1.8, 29.29N×130.00E, h57^{km}±17^{km}, mb3.8/12, mb1 4.1/16, mb1mx4.0/25, mbtmp4.2/16, ML4.5/4, MS3.2/6, Ms1 3.2/6, ms1mx2.9/31, Error ellipse: s-maj=18.0km s-min=11.2km az=109.0*
*NEIC **05** 16:09:08.8±0.7, 29.18N×130.00E, h61^{km}±7^{km}, mb4.2/7, Error ellipse: s-maj=9.9km s-min=6.6km az=111.0*
NEIC Recorded [2 JMA] on Kuchino-shima and [1 JMA] on Amami-oshima and Nakano-shima.
*MOS **05** 16:09:09.1±1.6, 29.32N×130.14E, h85^{km}, mb4.2/5, Error ellipse: s-maj=14.0km s-min=8.0km az=84.3*
ISC 05 16:09:08.7±0.3**, 2924N**±003×**13000E**±006**, h58**^{km}±4^{km}**, n64, σ1^{s}02**/71**, mb4.1**/19**, MS3.2**/4**, 1C-1D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.61**	**350**	P	**Pn**	**16 09 21.0**	**-0.8**
JNN				S	**Sn**	**16 09 30.6**	**-0.7**
JAM	**Amami Oshima**	**0.89**	**203**	P	**Pn**	**16 09 24.9**	**-0.4**
JAM				S	**Sn**	**16 09 37.3**	**-0.2**
JZK	**Kikaishima**	**0.92**	**182**	P	**Pn**	**16 09 26.4**	**+0.8**
JKC	**Kuchinoerabu**	**1.23**	**8**	P	**Pn**	**16 09 29.3**	**-0.4**
JKC				S	**Sn**	**16 09 45.0**	**-0.4**
JTN	**Tanegashima 3**	**1.65**	**31**	P	**Pn**	**16 09 35.6**	**+0.3**
JTK	**Tokunoshima**	**1.72**	**213**	P	**Pn**	**16 09 36.1**	**-0.2**
JTK				eS	**Sn**	**16 09 57.4**	**+0.3**
JTSR	**Tashiro 2**	**2.08**	**22**	P	**Pn**	**16 09 41.4**	**+0.2**
JTSR				eS	**Sn**	**16 10 05.9**	**-0.1**
JSU	**Suzuyama**	**2.29**	**10**	P	**Pn**	**16 09 44.3**	**+0.2**
JSU				S	**Sn**	**16 10 11.2**	**0.0**
JIH	**Iheya**	**2.84**	**220**	P	**Pn**	**16 09 51.0**	**-0.5**
JOW	**Kunigami**	**2.84**	**213**	P	**Pn**	**16 09 51.0**	**-0.6**
	136nm,0.3s,baz=74,slow=12,SNR=397						
JOW				S	**Sn**	**16 10 25.9**	**+1.2**
	152nm,0.3s,baz=78,slow=28,SNR=8.4						
JOW				LR	LR	16 11 15.4	
	comp=Z,351nm,18.3s,baz=352,slow=44						
JOW	**Kunigami**	**2.84**	**213**	P	**Pn**	**16 09 50.9**	**-0.7**
JAGN	**Aguni-jima**	**3.59**	**223**	P	**Pn**	**16 10 01.7**	**-0.2**
JJT2	**Tamagusuku 2**	**3.68**	**213**	P	**Pn**	**16 10 03.0**	**0.0**
JKE	**Kume jima 2**	**4.07**	**225**	P	**Pn**	**16 10 07.5**	**-0.8**
KS15	**Wonju Array Si**	**8.37**	**348**	eP	**Pn**	**16 11 10.2**	**+2.9**
INCN	**Inchon**	**8.69**	**342**	eP	**Pn**	**16 11 13.5**	**+1.8**
	63nm,1.0s						
YHNB	**Yeheng**	**8.94**	**241**	eP	**Pn**	**16 11 15.2**	**+0.1**
NACB	**Ninganchiao**	**9.05**	**238**	eP	**Pn**	**16 11 13.5**	**-3.1**
JHJ	**Hachijo jima 2**	**9.23**	**63**	P	**Pn**	**16 11 20.2**	**+1.2**
	57nm,0.3s,baz=206,slow=22,SNR=10						
MAJO	**Matsushiro**	**10.03**	**41**	eP	**Pn**	**16 11 30.5**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.4s						
MAJO	**Matsushiro**	**10.03**	**41**	eP	**Pn**	**16 11 30.5**	**+0.5**
	comp=Z,8.5nm,0.4s						
MAT	**Matsushiro**	**10.03**	**41**	P	**Pn**	**16 11 30.2**	**+0.2**
MAT				eS	**Sn**	**16 13 25.1**	**+4.2**
MAT	**Matsushiro**	**10.03**	**41**	eP	**Pn**	**16 11 30.0**	**0.0**
MJAR	**Matsushiro Arr**	**10.03**	**41**	P	**Pn**	**16 11 30.3**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=240,slow=14,SNR=11						
BJT	**Baijiatuau**	**15.64**	**317**	P	**Pn**	**16 12 47.5**	**+2.1**
BJT				pmax	pmax		
	comp=Z,11nm,0.7s						
BJT	**Baijiatuau**	**15.64**	**317**	P	**Pn**	**16 12 47.5**	**+2.1**
	comp=Z,11nm,0.7s						
BJI	**Beijing**	**15.65**	**317**	eP	**Pn**	**16 12 45.3**	**-0.2**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.9s						
BJI				LR	LR		
	comp=N,211nm,22.3s						
BJI				LR	LR		
	comp=E,166nm,18.7s						
ASAJ	**Asahikawa**	**17.93**	**31**	P	**Pn**	**16 13 11.4**	**-2.4**
	comp=E,2.4nm,0.3s,baz=184,slow=3.7,SNR=23						
ASAJ				LR	LR	16 19 25.5	
	comp=E,61nm,18.8s,baz=164,slow=34						
ASAJ	**Asahikawa**	**17.93**	**31**	P	**Pn**	**16 13 11.5**	**-2.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,61nm,18.8s						
XAN	**Xi'an**	**18.57**	**290**	P	**Pn**	**16 13 25.3**	**+3.7**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.7s						
KLR	**Kul'dur**	**20.01**	**3**	eP	**P**	**16 13 33.0**	**-3.5**
YSS	**Yuzh-Sakhalins**	**20.29**	**26**	eP	**P**	**16 13 40.2**	**+0.6**
YSS				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YSS	**Yuzh-Sakhalins**	**20.29**	**26**	eP	**P**	**16 13 40.2**	**+0.6**
	comp=Z,9.2nm,0.7s						
GUMO	**Guam**	**20.80**	**135**	LR	LR	16 21 08.5	
	comp=Z,33nm,21.5s,MS2.7,baz=76,slow=35						
ULN	**Ulaanbaatar**	**25.68**	**323**	eP	**P**	**16 14 32.8**	**-0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.1						
ULN	**Ulaanbaatar**	**25.68**	**323**	eP	**P**	**16 14 32.8**	**-0.4**
	comp=Z,3.9nm,0.6s,mb4.1						
SONM	**Songino Array**	**26.02**	**322**	P	**P**	**16 14 35.2**	**-1.0**
	comp=Z,2.4nm,0.6s,mb3.9,baz=134,slow=9.4,SNR=20						
SONM				LR	LR	16 25 37.9	
	comp=Z,52nm,18.6s,MS3.1,baz=320,slow=38						
GTA	**Gaotai**	**26.81**	**300**	eP	**P**	**16 14 45.5**	**+2.2**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**40.79**	**309**	P	**P**	**16 16 44.2**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.2,baz=91,slow=11,SNR=6.3						
BILL	**Bilibino**	**44.33**	**19**	P	**P**	**16 17 12.3**	**-0.7**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
BILL	**Bilibino**	**44.33**	**19**	P	**P**	**16 17 12.3**	**-0.6**
	comp=Z,1.6nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	**47.25**	**186**	eP	**P**	**16 17 36.0**	**+0.1**
	comp=Z,3.3nm,0.5s,mb4.5						
KK31	**Karatay Array**	**49.02**	**303**	⇓Pn	**P**	**16 17 49.1**	**-0.5**
	comp=Z,0.3nm,0.5s,mb3.6,baz=66,slow=9.3,SNR=7.4						
KK31				⇑Lg		16 19 24.9	
	comp=Z,0.6nm,0.5s,baz=84,slow=28,SNR=6.0						
WRAB	**Tennant Creek**	**49.06**	**175**	eP	**P**	**16 17 49.8**	**-0.1**
WRA	**Warramunga Arr**	**49.07**	**175**	P	**P**	**16 17 49.9**	**-0.1**
	comp=Z,2.7nm,0.5s,mb4.5,baz=354,slow=8.1,SNR=30						
WB2	**Warramunga Arr**	**49.07**	**175**	eP	**P**	**16 17 50.0**	**0.0**
BVAR	**Borovoye Array**	**49.13**	**316**	P	**P**	**16 17 50.9**	**+0.4**
	comp=Z,2.5nm,0.7s,mb4.4,baz=89,slow=9.1,SNR=9.6						
BRVK	**Borovoye**	**49.20**	**316**	eP	**P**	**16 17 52.5**	**+1.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BRVK	**Borovoye**	**49.20**	**316**	eP	**P**	**16 17 52.5**	**+1.6**
	comp=Z,1.7nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**49.96**	**316**	eP	**P**	**16 17 56.5**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**49.96**	**316**	eP	**P**	**16 17 56.5**	**-0.3**
	comp=Z,2.7nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**52.73**	**176**	P	**P**	**16 18 18.7**	**+1.2**
	comp=Z,1.9nm,0.5s,mb4.3,baz=9.8,slow=13,SNR=27						
ILAR	**Eielson Array**	**61.06**	**29**	P	**P**	**16 19 14.8**	**-1.6**
	comp=Z,1.2nm,0.7s,mb4.2,baz=297,slow=9.2,SNR=7.7						
STKA	**Stephens Creek**	**61.77**	**169**	P	**P**	**16 19 20.7**	**-0.5**
	comp=Z,1.9nm,0.7s,mb4.3,baz=13,slow=7.3,SNR=3.6						
STKA	**Stephens Creek**	**61.77**	**169**	P	**P**	**16 19 20.7**	**-0.5**
KEV	**Kevo**	**67.22**	**338**	ep	**P**	**16 19 53.3**	**-3.5**
ARCES	**ARCESS Array B**	**67.79**	**338**	P	**P**	**16 19 59.0**	**-1.4**
	comp=Z,2.3nm,0.9s,mb4.2,baz=69,slow=7.9,SNR=4.6						
ARCES				LR	LR	16 54 33.7	
	comp=Z,39nm,20.8s,MS3.6,baz=262,slow=40						
JOF	**Joensuu**	**68.19**	**331**	ep	**P**	**16 19 59.2**	**-3.7**
KAF	**Kangasniemi**	**70.64**	**331**	ep	**P**	**16 20 20.1**	**+2.1**
FINES	**FINESS Array B**	**71.03**	**330**	P	**P**	**16 20 20.4**	**0.0**
	comp=Z,0.7nm,0.4s,mb4.0,baz=62,slow=5.9,SNR=10						
FINES				LR	LR	16 56 24.2	
	comp=Z,24nm,20.8s,MS3.4,baz=73,slow=40						
YKA	**Yellowknife Ar**	**75.15**	**26**	P	**P**	**16 20 44.1**	**-0.6**
	comp=Z,2.9nm,0.5s,mb4.5,baz=302,slow=6.0,SNR=21						
NB2	**NORSAR Subarra**	**77.31**	**334**	P	**P**	**16 20 56.2**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.8,baz=48,slow=5.6						
NOA	**NORSAR Array B**	**77.31**	**334**	P	**P**	**16 20 55.2**	**-1.8**
	comp=Z,0.6nm,0.6s,mb3.7,baz=50,slow=5.6,SNR=4.1						
NVAR	**Mina Array Bea**	**87.31**	**47**	P	**P**	**16 21 50.3**	**+1.2**
	comp=Z,0.5nm,0.6s,mb3.9,baz=308,slow=5.0,SNR=4.7						

*CSEM **05** 16:12:53.7, 40.29N×25.23E, h10^{km}, MD3.5/3, After ATH*
ATH 05 16:12:53.7, 4029N×**2523E, h10**^{km}**, MD3.5**/3**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RDO	**Rodhopi**	**0.89**	**15**	ePB	Pb	16 13 10.5	-0.7
PRK	**Paraskevi**	**1.32**	**142**	ePB	Pb	16 13 18.4	-0.1
PLG	**Polygyros**	**1.37**	**274**	ePB	Pb	16 13 19.0	-0.4

*ISCJB **05** 16:29:59.5±0.8, 51.84N±0.08×85.35E±0.09, h10^{km}, Error ellipse: s-maj=11.5km s-min=7.2km az=49.5*
*NNC **05** 16:30:00.8±7.7, 51.82N×85.60E, h0^{km}, mb3.7, mpv3.2, Error ellipse: s-maj=56.8km s-min=38.5km az=68.0*
*MOS **05** 16:30:01.6±1.5, 51.73N×85.82E, h15^{km}, mb3.9/1, Error ellipse: s-maj=34.0km s-min=16.3km az=82.1*
ISC 05 16:30:01.2±0.7**, 5177N**±006×**8547E**±008**, h10**^{km}**, n12, σ1^{s}26**/17**, 11C-1D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELDR	**Elanda**	**0.68**	**145**	ePG	**Pg**	**16 30 12.0**	**-2.3**

ELDR				*e*		16 30 19.7	
UKR	**Ust'-Kan**	**0.94**	**208**	*e*PG	**Pg**	**16 30 20.8**	**+1.4**
UKR				*e*		16 30 33.7	
ARTR	**Artybash**	**1.12**	**88**	*e*PG	**Pg**	**16 30 17.5**	**-5.3**
ARTR				*e*SG	**Sg**	**16 30 28.3**	**-9.1**
ELT	**Yel'tsovka**	**1.56**	**17**	*e*PN	**Pn**	**16 30 30.0**	**+1.0**
ELT				*e*		16 30 50.8	
TASR	**Tashtagol**	**1.78**	**55**	*e*PN	**Pn**	**16 30 31.2**	**-0.8**
TASR				*e*		16 30 54.8	
NVS	**Novosibirsk**	**3.35**	**337**	*e*PN	**Pn**	**16 30 54.4**	**+0.8**
NVS				*i*		16 31 05.7	
NVS				*i*		16 31 49.6	
KURK	**Kurchatov**	**4.43**	**259**	⇑Pn	**Pn**	**16 31 13.1**	**+4.6**
	2.9nm,0.7s						
KURK				⇑Sn	**Sn**	**16 32 07.4**	**+7.2**
KURK				⇑Lg		16 32 26.0	
	34nm,0.9s						
MK02	**Makanchi Array**	**5.42**	**204**	⇑Pn	**Pn**	**16 31 25.4**	**+3.3**
	1.9nm,0.5s,baz=26,slow=13						
MK02				⇑Lg		16 32 50.5	
	21nm,0.6s,baz=36,slow=30						
VOSK	**Vostochnaya**	**8.95**	**282**	⇑Pn	**Pn**	**16 32 10.9**	**+0.4**
	4.5nm,1.9s						
VOSK				⇑Sn	**Sn**	**16 33 50.5**	**-0.7**
	2.5nm,0.8s						
CHKZ	**Chkalovo**	**9.22**	**288**	⇑Pn	**Pn**	**16 32 14.8**	**+0.7**
	1.6nm,1.1s						
CHKZ				⇑Sn	**Sn**	**16 33 53.0**	**-4.9**
	2.3nm,1.0s						
BVA0	**Borovoye Array**	**9.31**	**284**	⇑Sn	**Sn**	**16 33 58.4**	**-1.8**
	0.6nm,0.9s,baz=73,slow=41,SNR=3.1						
ZRNK	**Zerenda**	**10.14**	**283**	⇑Pn	**Pn**	**16 32 27.2**	**+0.3**
	2.5nm,1.2s						
ZRNK				⇓Sn	**Sn**	**16 34 20.2**	**-0.5**
	6.1nm,1.4s						

*MOS **05** 16:54:15.5±2.7, 5447N×110.13E, h10km, mb4.1/1, Error ellipse: s-maj=37.0km s-min=13.8km az=53.7*

BYKL 05 16:54:16.0±0.2**, 5483N×10997E, h5**km±18km**, 2C-3D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.69**	**86**	⇑*i*Pg	Pg	16 54 28.2	-1.1
YLYR				*e*Sg	Sg	16 54 37.5	-0.7
YLYR				Pmax			
	76nm,0.2s						
YLYR				Smax			
	723nm,0.2s						
YLYR	**Ulyunkhan**	**0.69**	**86**	*e*PG	Pg	16 54 28.2	-1.1
YLYR				*e*		16 54 37.4	
YLYR				pmax	pmax		
	comp=Z,78nm,0.2s						
YLYR				smax			
	comp=N,734nm,0.2s						
NIZ	**Nizh Angarsk**	**0.98**	**346**	⇑*i*Pg	Pg	16 54 33.8	-1.0
NIZ				*e*Sg	Sg	16 54 47.3	-0.2
NIZ				Pmax			
	comp=N,45nm,0.3s						
NIZ				Smax			
	comp=N,194nm,0.3s						
SYVR	**Suvo**	**1.18**	**179**	*e*Pg	Pg	16 54 37.3	-1.2
SYVR				*e*Pb	Pb	16 54 39.2	+0.4
SYVR				*e*Sg	Sg	16 54 53.1	-0.7
SYVR				*e*		16 54 57.6	
SYVR				max			
	comp=N,17nm,0.1s						
SYVR				max			
	comp=N,314nm,0.8s						
KMO	**Kumora**	**1.27**	**33**	⇓*i*Pg	Pg	16 54 39.1	-1.3
KMO				*e*Sg	Sg	16 54 56.1	-0.8
KMO				*e*		16 55 00.0	
KMO				Pmax			
	comp=N,70nm,0.3s						
KMO				max			
	comp=N,149nm,1.0s						
YOA	**Uoyan**	**1.64**	**37**	*e*Pg	Pg	16 54 46.6	-0.9
YOA				*e*Sg	Sg	16 55 09.0	+0.2
YOA				Pmax			
	comp=N,11nm,0.2s						
YOA				Smax			
	comp=N,614nm,1.0s						
YOA	**Uoyan**	**1.64**	**37**	*e*PN	Pn	16 54 47.1	+1.6
YOA				*e*		16 55 09.7	
YOA				pmax	pmax		
	comp=Z,9.0nm,0.1s						
YOA				smax			
	comp=E,552nm,0.4s						
MXMB	**Maximikha**	**1.73**	**205**	*e*Pg	Pg	16 54 47.3	-1.8
MXMB				*e*Sg	Sg	16 55 10.8	-0.7
MXMB				Pmax			
	comp=E,34nm,0.4s						
MXMB				Smax			
	comp=E,272nm,0.8s						
OGRR	**Ongureny**	**1.83**	**231**	⇓*i*Pn	Pn	16 54 48.1	0.0
OGRR				⇓*i*Pg	Pg	16 54 49.3	-1.8
OGRR				*e*Sg	Sg	16 55 13.9	-1.0
OGRR				Pmax			
	comp=E,85nm,0.2s						
OGRR				Smax			
	comp=E,308nm,0.3s						
OGRR	**Ongureny**	**1.83**	**231**	*e*PN	Pn	16 54 48.0	-0.1
OGRR				*e*		16 54 49.4	
OGRR				*e*		16 55 13.6	
OGRR				pmax	pmax		
	comp=Z,85nm,0.4s						
OGRR				smax			
	comp=E,308nm,0.4s						
UKT	**Uakit**	**2.20**	**71**	*e*Pn	Pn	16 54 54.0	+0.8
UKT				*e*Pg	Pg	16 54 55.1	-3.1
UKT				*e*Sg	Sg	16 55 23.7	-3.0
UKT				Pmax			
	comp=E,46nm,0.3s						
UKT				Smax			
	comp=E,252nm,0.5s						
UKT	**Uakit**	**2.20**	**71**	*e*PN	Pn	16 54 54.2	+1.0
UKT				*e*		16 55 24.4	
UKT				pmax	pmax		
	comp=Z,44nm,0.3s						
UKT				smax			
	comp=N,252nm,0.5s						
SVKR	**Severomuysk**	**2.42**	**56**	*e*Pg	Pg	16 54 59.6	-2.7
SVKR				*e*Sg	Sg	16 55 31.8	-1.8
SVKR				Pmax			
	comp=N,65nm,0.4s						
SVKR				Smax			
	comp=N,991nm,0.5s						
SVKR	**Severomuysk**	**2.42**	**56**	*e*PN	Pn	16 54 59.2	+3.1
SVKR				*e*		16 55 00.4	
SVKR				*e*		16 55 32.3	
SVKR				pmax	pmax		
	comp=Z,65nm,0.4s						
SVKR				smax			
	comp=N,991nm,0.7s						
TRTB	**Turuntaevo**	**2.96**	**209**	*e*Pn	Pn	16 55 04.0	+0.4
TRTB				*e*Pg	Pg	16 55 08.7	-3.9
TRTB				*e*Sg	Sg	16 55 46.8	-4.1
TRTB				Pmax			
	comp=N,15nm,0.4s						
TRTB				Smax			
	comp=N,61nm,1.8s						
TRG	**Tyrgan**	**2.99**	**227**	*e*Pn	Pn	16 55 04.9	+0.9
TRG				*e*Pg	Pg	16 55 09.4	-3.8
TRG				*e*Sg	Sg	16 55 48.4	-3.5
TRG				Pmax			
	comp=N,8.0nm,0.3s						
TRG				Smax			
	comp=N,47nm,0.5s						
NLYR	**Nelyaty**	**3.65**	**61**	*e*Pg	Pg	16 55 21.9	-4.0
NLYR				*e*Sg	Sg	16 56 08.8	-4.4
NLYR				Pmax			
	comp=N,19nm,0.6s						
NLYR				Smax			
	comp=N,95nm,1.5s						
HRMR	**Khuramsha**	**3.68**	**211**	*e*Pn	Pn	16 55 15.8	+2.2
HRMR				*e*Pg	Pg	16 55 22.2	-4.4
HRMR				*e*Sn	Sn	16 55 57.3	-0.1
HRMR				*e*Sg	Sg	16 56 09.4	-4.9
HRMR				Pmax			
	comp=N,17nm,0.4s						
HRMR				Smax			
	comp=N,145nm,0.5s						
BOD	**Bodaibo**	**3.74**	**35**	*e*Pg	Pg	16 55 23.8	-3.9
BOD				*e*		16 55 58.0	
BOD				*e*Sg	Sg	16 56 11.2	-5.1
BOD				Pmax			
	comp=N,5.0nm,0.5s						
BOD				Smax			
	comp=N,22nm,0.3s						
BOD	**Bodaibo**	**3.74**	**35**	*e*PN	Pn	16 55 23.3	+8.9
LSTR	**Listvyanka**	**4.28**	**228**	*e*	Pn	16 55 24.1	+2.4
LSTR				*e*Pg	Pg	16 55 32.4	-5.5
LSTR				*e*		16 56 13.2	
LSTR				*e*Sg	Sg	16 56 28.0	-5.3
LSTR				Pmax			
	comp=N,3.0nm,0.4s						
LSTR				Smax			
	comp=N,57nm,1.3s						
CRS	**Chara**	**5.11**	**63**	*e*	Pn	16 55 48.8	+16
CRS				*e*Sg	Sg	16 56 52.4	-7.8
CRS				max			
	comp=N,4.0nm,0.8s						
CRS				Smax			
	comp=N,45nm,1.9s						
KPC	**Khapcheranga**	**5.34**	**163**	*e*Pn	Pn	16 55 35.9	-0.5
KPC				*e*Pg	Pg	16 55 51.9	-6.5
KPC				*e*Sg	Sg	16 57 00.8	-6.8
KPC				Pmax			
	comp=N,4.0nm,0.6s						
KPC				Smax			
	comp=N,25nm,0.9s						
TUP	**Tupik**	**5.81**	**90**	*e*Pn	Pn	16 55 42.2	-0.7
TUP				*e*Pg	Pg	16 56 00.4	-7.0
TUP				*e*		16 56 45.8	
TUP				*e*Sg	Sg	16 57 16.0	-6.7
TUP				Pmax			
	comp=N,2.0nm,0.8s						
TUP				Smax			
	comp=N,54nm,0.8s						
TUP	**Tupik**	**5.81**	**90**	*e*PN	Pn	16 55 42.2	-0.7
TUP				*e*		16 56 00.0	
TUP				*e*		16 57 15.6	
TUP				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TUP				smax			
	comp=N,55nm,1.0s						
MOY	**Mondy**	**6.25**	**243**	*e*Pn	Pn	16 55 48.7	-0.1
MOY				*e*		16 57 00.5	
MOY				*e*Sg	Sg	16 57 27.6	-9.1
MOY				Smax			
	comp=N,35nm,1.4s						
ORL	**Orlik**	**6.46**	**253**	*e*Pn	Pn	16 55 52.2	+0.5
ORL				*e*Sn	Sn	16 57 04.1	-1.7
ORL				*e*Sg	Sg	16 57 36.0	-7.3
ORL				Smax			
	comp=N,15nm,2.1s						

*NIED **05** 17:08:00, 4020N×14250E, h41km, Mw5.3 Best double couple: M0 8.59000×10^16 NP1: φs21.00000°, δ73.00000°, λ93.00000°. NP2: φs192.00000°, δ18.00000°, λ81.00000°.*
*CSEM **05** 17:08:34.8, 4022N×14227E, h10km, mb5.6*
*BGS **05** 17:08:35.4±1.3, 3951N×14368E, h40km, mb5.1*
*BJI **05** 17:08:38.6, 40.10N×14231E, h50km, mB5.4, mb5.3, Ms4.9, Msz4.7*
*ISCJB **05** 17:08:39.7±0.1, 40.18N±002×14234E±002, h47km, mb5.5/286, MS4.8/84, Error ellipse: s-maj=3.0km s-min=1.8km az=124.6*
*MOS **05** 17:08:39.3±0.8, 4038N×14228E, h36km, mb5.7/121, MS4.9/49, Error ellipse: s-maj=6.8km s-min=3.4km az=106.7*
*JMA **05** 17:08:39.7±0.1, 40.15N×14243E, h36km±1km, M5.4 Broadband fault plane solution: P waves. NP1: φs190.00000°, δ29.00000°, λ82.00000°. NP2: φs18.00000°, δ61.00000°, λ94.00000°. Principal axes: T Plg74.0000°, Azm299.0000°; N Plg4.0000°, Azm196.0000°; P Plg16.0000°, Azm105.0000°;*
JMA Felt III J1.
*IDC **05** 17:08:40.4±0.5, 40.12N×14233E, h44km±3km, mb4.9/25, mb1 4.9/28, mb1mx4.9/30, mbtmp5.1/28, MS4.6/22, Ms1 4.6/22, ms1mx4.3/31 Error ellipse: s-maj=12.9km s-min=9.1km az=106.0*
*HRVD **05** 17:08:41.0±0.2, 4022N×14259E, h52km, MW5.3/84, Centroid moment Tensor Solution. LP body waves: s66,c119; Mantle waves: s84,c170; Half duration: 1.0s Moment tensor: Scale 10^17Nm; Mrr0.75±.02; Mθθ0.06±.01; Mφφ-0.80±.01; Mrθ0.30±.01; Mθφ-0.18±.01; Mφr0.52±.01; Best double couple: M0 0.99700×10^17 NP1: φs178.00000°, δ29.00000°, λ67.00000°. NP2: φs23.00000°, δ64.00000°, λ102.00000°. Principal axes: T 0.9690, Plg69.0000°, Azm317.0000°; N 0.0570, Plg11.0000°, Azm198.0000°; P -1.0250, Plg18.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 17:08:41.0±0.1, 40.17N×14232E, mb5.4/182, MS4.8/23, MW5.2(NIED) Error ellipse: s-maj=3.5km s-min=2.4km az=161.0*
NEIC Recorded [3 JMA] in Aomori and Iwate; [2 JMA] in Miyagi; [1 JMA] in Akita and Yamagata Prefectures. Also recorded [2 JMA] in south-central Hokkaido and [1 JMA] in eastern Hokkaido.
*SZGRF **05** 17:08:41.6, 4055N×14282E, h46km, mb5.5, MS4.7, Near east coast of eastern Honshu, Japan*

ISC 05 17:08:41.4±0.1**, 4020N**±002×**14231E**±002**, h49**km±.7km**: pP-P, n1023, σ0.80**/1035**, mb5.5**/286**, MS4.8**/84**, 348C-72D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.43**	**234**	⇓P	**Pn**	**17 08 50.0**	**-1.7**
JTH				S	**Sn**	**17 08 57.6**	**-1.5**
JANG	**Nango**	**0.64**	**287**	⇓P	**Pn**	**17 08 53.4**	**-0.8**
MIYJ	**Miyakonagasawa**	**0.72**	**212**	P	**Pn**	**17 08 53.4**	**-2.0**
MIYJ				S	**Sn**	**17 09 03.3**	**-2.2**
JKZ	**Kuzumaki**	**0.78**	**255**	P	**Pn**	**17 08 55.7**	**-0.5**
JKZ				*e*S	**Sn**	**17 09 06.9**	**0.0**
JOM	**Ohasama**	**1.07**	**228**	⇓P	**Pn**	**17 08 59.4**	**-0.6**
JOM				S	**Sn**	**17 09 13.9**	**+0.2**
JTM	**Tenmabayashi**	**1.12**	**302**	⇓P	**Pn**	**17 09 00.9**	**+0.2**
JTM				*e*S	**Sn**	**17 09 16.4**	**+1.4**
OFUJ	**Ofunato**	**1.22**	**204**	⇓P	**Pn**	**17 09 00.7**	**-1.3**
JAH	**Hinai**	**1.28**	**270**	⇓P	**Pn**	**17 09 03.4**	**+0.5**
JAH				*e*S	**Sn**	**17 09 21.2**	**+2.2**
JMK	**Ichinoseki**	**1.50**	**215**	P	**Pn**	**17 09 05.2**	**-0.7**
JMK				S	**Sn**	**17 09 25.2**	**+0.9**
JRG	**Rokugo**	**1.52**	**239**	⇓P	**Pn**	**17 09 06.0**	**-0.1**
JOT	**Ohata**	**1.53**	**321**	⇓P	**Pn**	**17 09 06.2**	**0.0**
JYW	**Yuwa**	**1.75**	**249**	⇓P	**Pn**	**17 09 10.0**	**+0.8**
JIW	**Iwasaki**	**1.81**	**283**	⇓P	**Pn**	**17 09 11.0**	**+1.0**
ERM	**Erimo**	**1.93**	**19**	Pn	**Pn**	**17 09 10.4**	**-1.3**
	19μm,0.7s						
JYK	**Kaneyama**	**1.98**	**230**	⇓P	**Pn**	**17 09 12.3**	**-0.1**
JTB	**Tobi-shima**	**2.35**	**246**	P	**Pn**	**17 09 17.8**	**+0.3**
JYS	**Shirataka**	**2.63**	**222**	⇑P	**Pn**	**17 09 22.5**	**+1.1**
JAB	**Ashibetsu**	**3.31**	**359**	⇑P	**Pn**	**17 09 31.1**	**+0.5**
JNS	**Sasagawa**	**3.33**	**225**	P	**Pn**	**17 09 32.4**	**+1.5**
JNS				S	**Sn**	**17 10 20.1**	**+11**
JKK2	**Kamakawa 2**	**3.69**	**5**	P	**Pn**	**17 09 35.7**	**-0.2**
JHO	**Hitachi**	**3.83**	**201**	P	**Pn**	**17 09 36.6**	**-1.2**
JHO				S	**Sn**	**17 10 23.1**	**+1.5**
JHK	**Hiroka**	**3.91**	**222**	P	**Pn**	**17 09 40.2**	**+1.3**
JHK				S	**Sn**	**17 10 33.8**	**+10**
ASAJ	**Asahikawa**	**3.92**	**3**	P	**Pn**	**17 09 39.1**	**0.0**
	45nm,0.3s,baz=217,slow=15,SNR=173						
ASAJ				S	**Sn**	**17 10 24.4**	**+0.5**
	100nm,0.3s,baz=250,slow=31,SNR=4.2						
ASAJ				LR	LR	17 11 36.1	
	comp=Z,14μm,21.7s,baz=194,slow=44						
ASAJ	**Asahikawa**	**3.92**	**3**	P	**Pn**	**17 09 39.2**	**+0.1**
ASAJ				S	**Sn**	**17 10 24.4**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,45nm,0.3s						
ASAJ				smax			
	comp=N,101nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,14μm,21.7s						
YUK	**Yuzh-Kuril'sk**	**4.66**	**33**	⇓*i*P	**Pn**	**17 09 46.8**	**-2.3**
YUK				*i* S	**Sn**	**17 10 36.0**	**-5.9**
YUK				pmax	pmax		
	comp=Z,420nm,0.4s						
YUK				pmax	pmax		
	comp=N,240nm,0.6s						
YUK				pmax	pmax		
	comp=E,190nm,0.5s						
YUK				pmax	pmax		
	comp=Z,4μm,2.0s						
YUK				pmax	pmax		
	comp=N,5μm,1.0s						
YUK				pmax	pmax		
	comp=E,2μm,0.8s						
YUK				smax			
	comp=N,35μm,1.0s						
YUK				smax			
	comp=E,24μm,0.6s						
YUK				smax			
	comp=N,16μm,0.5s						
YUK				smax			
	comp=E,9μm,0.5s						
MAJO	**Matsushiro**	**4.87**	**223**	⇑*i*Pn	**Pn**	**17 09 54.0**	**+1.9**
MAJO				*e*Sn	Sn	17 11 10.3	+23
MAT	**Matsushiro**	**4.87**	**223**	*e*P	**Pn**	**17 09 54.0**	**+1.9**
MAT				S	**Sn**	**17 10 57.0**	**+10**
MJAR	**Matsushiro Arr**	**4.87**	**223**	P	**Pn**	**17 09 53.6**	**+1.6**
	comp=E,17nm,0.3s,baz=33,slow=14,SNR=410						
MJAR				LR	LR	17 12 02.1	
	comp=E,8μm,20.7s,baz=40,slow=42						
KUR	**Kuril'sk**	**6.49**	**37**	⇓*i*P	**Pn**	**17 10 08.7**	**-5.5**
KUR				*i* S	**Sn**	**17 11 18.3**	**-8.6**
KUR				pmax	pmax		
	comp=Z,3μm,1.0s						
KUR				pmax	pmax		
	comp=N,360nm,0.6s						
KUR				pmax	pmax		
	comp=E,240nm,0.6s						
KUR				pmax	pmax		
	comp=Z,990nm,0.6s						
KUR				smax			
	comp=N,12μm,1.8s						
KUR				smax			
	comp=E,4μm,1.8s						
KUR				smax			
	comp=N,3μm,0.5s						
KUR				smax			
	comp=E,1μm,0.5s						
KUR				MLR	MLR		
	comp=N,4μm,11.0s						
KUR				MLR	MLR		
	comp=E,3μm,11.0s						
KUR				MLR	MLR		
	comp=Z,4μm,11.0s						
YSS	**Yuzh-Sakhalins**	**6.76**	**3**	α*i*P	**Pn**	**17 10 18.0**	**-0.1**
YSS				*e*S	**Sn**	**17 11 29.0**	**-4.7**
YSS				pmax	pmax		
	comp=N,500nm,1.0s						
YSS				pmax	pmax		
	comp=Z,500nm,1.0s						
YSS				pmax	pmax		
	comp=Z,840nm,1.1s						
YSS				smax			
	comp=E,1μm,5.0s						
YSS				MLR	MLR		
	comp=Z,6μm,20.0s						
YSS				MLR	MLR		
	comp=N,4μm,18.0s						
YSS				MLR	MLR		
	comp=E,2μm,19.0s						
YSS	**Yuzh-Sakhalins**	**6.76**	**3**	⇑*i*Pn	**Pn**	**17 10 17.8**	**-0.2**
	comp=E,928nm,1.1s						
JHJ	**Hachijo jima 2**	**7.35**	**197**	P	**Pn**	**17 10 24.1**	**-1.9**
	comp=E,57nm,0.3s,baz=75,slow=20,SNR=9.3						
JHJ				S	**Sn**	**17 11 41.6**	**-6.4**
	comp=E,31nm,0.3s,baz=60,slow=21,SNR=2.4						
VLA	**Vladivostok**	**8.33**	**294**	*d i*P	**Pn**	**17 10 42.9**	**+3.4**
VLA				pmax	pmax		
	comp=Z,308nm,1.4s						
UGL	**Uglegorsk**	**8.88**	**359**	*e*P	**Pn**	**17 10 44.0**	**-3.1**
UGL				pmax	pmax		
	comp=Z,90nm,0.9s						
UGL				pmax	pmax		
	comp=Z,500nm,3.0s						
UGL				MLR	MLR		
	comp=N,6μm,20.0s						
UGL				MLR	MLR		
	comp=Z,4μm,20.0s						
UGL				MLR	MLR		
	comp=E,3μm,18.0s						
HABR	**Khabarovsk**	**9.77**	**330**	⇑*i*P	**Pn**	**17 10 59.5**	**+0.3**
HABR				*e*		17 12 48.6	
HABR				pmax	pmax		
	comp=Z,512nm,1.4s						
MDJ	**Mudanjiang**	**10.39**	**299**	P	**Pn**	**17 11 10.6**	**+2.9**
MDJ				AP		17 11 13.3	
MDJ				S	**Sn**	**17 13 13.1**	**+10**
MDJ				PCP	PcP	17 17 11.1	+0.3
MDJ				PCS	PcS	17 20 44.8	+0.4
MDJ				SCS	ScS	17 24 15.1	+1.1
MDJ				AMB	AMB		
	comp=Z,236nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,433nm,5.2s						
MDJ				LR	LR		
	comp=N,3μm,16.4s						
MDJ				LR	LR		
	comp=E,5μm,19.1s						
MDJ				LR	LR		
	comp=Z,6μm,18.4s						
MDJ	**Mudanjiang**	**10.39**	**299**	⇑*e*P	**Pn**	**17 11 10.2**	**+2.4**
	comp=Z,208nm,0.9s						
KS15	**Wonju Array Si**	**11.59**	**261**	*e*P	**Pn**	**17 11 25.6**	**+1.5**
KLR	**Kul'dur**	**11.74**	**324**	*e*P	**Pn**	**17 11 22.6**	**-3.5**
KLR				*e*		17 13 35.5	
KLR				pmax	pmax		
	comp=E,73nm,1.2s						
KLR				pmax	pmax		
	comp=Z,90nm,1.2s						
KLR				MLR	MLR		
	comp=E,4μm,15.0s						
KLR				MLR	MLR		
	comp=Z,5μm,15.0s						
INCN	**Inchon**	**12.52**	**263**	*e*P	**Pn**	**17 11 39.2**	**+2.3**
	comp=Z,111nm,1.4s						
INCN				*e*		17 11 49.3	
CN2	**Changchun**	**13.05**	**292**	*e*P	**Pn**	**17 11 44.6**	**+0.5**
CN2				*e*AP		17 11 53.3	
CN2				*e*XP		17 11 59.9	
CN2				*e*S	**Sn**	**17 14 08.9**	**+1.2**
CN2				*e*SS		17 14 24.7	
CN2				AMB	AMB		
	comp=Z,50nm,0.9s						
CN2				AMB	AMB		
	comp=Z,280nm,4.0s						
CN2				LR	LR		
	comp=N,2μm,17.0s						
CN2				LR	LR		
	comp=E,3μm,17.0s						
CN2				LR	LR		
	comp=Z,4μm,17.0s						
CBIJ	**Chichi jima**	**13.07**	**181**	S	**Sn**	**17 13 57.7**	**-10**
	comp=Z,6.4nm,0.3s,baz=255,slow=19,SNR=3.0						
SKR	**Severo-Kuril's**	**14.25**	**38**	*e*P	**Pn**	**17 11 51.9**	**-8.5**
SKR				pmax	pmax		
	comp=N,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				MLR	MLR		
	comp=N,2μm,20.0s						
SKR				MLR	MLR		
	comp=E,2μm,20.0s						
SKR				MLR	MLR		
	comp=Z,3μm,20.0s						
DL2	**Dalian**	**16.01**	**272**	P	**Pn**	**17 12 24.0**	**+0.8**
DL2				*e*S	**S**	**17 15 20.0**	**-11**
DL2				XS	sS	17 15 34.0	-15
DL2				AMB	AMB		
	comp=Z,51nm,0.6s						
DL2				AMB	AMB		
	comp=Z,806nm,8.0s						
DL2				LR	LR		
	comp=N,1μm,15.0s						
PET	**Petropavlovsk**	**17.00**	**36**	⇓*e*P	**Pn**	**17 12 33.8**	**-1.8**
PET				*e*S	**S**	**17 15 43.5**	**-8.0**
PET				pmax	pmax		
	comp=Z,31nm,1.3s						
PET				smax			
	comp=N,200nm,14.0s						
PET				MLR	MLR		
	comp=Z,1μm,18.0s						
PET				MLR	MLR		

comp=Z,1μm,20.0s
PET Petropavlovsk 17.00 36 *i* P **Pn 17 12 37.8 +2.2**
JOW Kunigami 17.71 225 P **Pn 17 12 41.1 -3.2**
comp=Z,0.7nm,0.3s,baz=9.1,slow=12,SNR=5.1
HIA Hailar 18.37 307⇑ *i*P **Pn 17 12 49.6 -2.8**
HIA pmax pmax
comp=Z,78nm,0.9s
HIA Hailar 18.37 307⇑ *i*P **Pn 17 12 49.5 -2.9**
comp=Z,78nm,0.9s
SSE Sheshan 19.39 249 *e*P **Pn 17 13 02.9 -1.8**
SSE AP pP 17 13 13.6 -0.8
SSE XP sP 17 13 20.5 0.0
SSE S **S 17 16 35.0 -4.8**
SSE XS sS 17 16 54.8 -3.1
SSE AMB AMB
comp=Z,137nm,1.2s
SSE LR LR
comp=N,763nm,18.0s
SSE LR LR
comp=E,279nm,18.0s
SSE LR LR
comp=Z,1μm,22.7s
BJI Beijing 19.97 278 *e*P **Pn 17 13 07.5 -4.1**
BJI XP sP 17 13 26.5 -0.5
BJI S **S 17 16 44.4 -7.1**
BJI PCP PcP 17 17 19.0 -5.4
BJI AMB AMB
comp=Z,79nm,1.2s
BJI LR LR
comp=N,2μm,16.0s
BJI LR LR
comp=E,2μm,20.3s
BJI LR LR
comp=Z,2μm,31.1s
BJT Baijiatuau 19.98 278⇑ *i*P **Pn 17 13 07.4 -4.3**
BJT pmax pmax
comp=Z,104nm,0.8s
BJT Baijiatuau 19.98 278⇑ *i*P **Pn 17 13 07.4 -4.3**
comp=Z,104nm,0.8s
MA2 Magadan 20.12 13 *e*P **P 17 13 10.2 -1.0**
MA2 *e*S **S 17 16 47.2 -7.2**
MA2 pmax pmax
comp=Z,200nm,0.6s
MA2 pmax pmax
comp=N,200nm,0.5s
MA2 MLR MLR
comp=Z,2μm,18.2s,MS4.4
MA2 Magadan 20.12 13 *e*P **P 17 13 09.6 -1.6**
comp=Z,74nm,0.8s
CLNS Chul'man 20.16 331 *e*P **P 17 13 10.2 -1.4**
CLNS *e*S **S 17 16 44.4 -11**
CLNS pmax pmax
comp=Z,269nm,1.0s
CLNS pmax pmax
comp=N,249nm,1.2s
CLNS pmax pmax
comp=E,171nm,0.8s
CLNS pmax pmax
comp=N,152nm,1.1s
CLNS pmax pmax
comp=Z,171nm,1.1s
CLNS pmax pmax
comp=E,215nm,1.2s
CLNS smax
comp=N,406nm,11.1s
CLNS smax
comp=Z,319nm,10.7s
CLNS smax
comp=E,284nm,11.4s
CLNS MLR MLR
comp=N,2μm,16.0s,MS4.7
CLNS MLR MLR
comp=Z,3μm,16.0s,MS4.8
CLNS MLR MLR
comp=E,2μm,18.0s,MS4.7
NJ2 Nanjing 20.58 254 *e*P **P 17 13 14.4 -1.7**
NJ2 PP 17 13 36.0
NJ2 S **S 17 16 58.0 -5.5**
NJ2 AMB AMB
comp=Z,220nm,0.9s
NJ2 AMB AMB
comp=Z,270nm,8.0s
NJ2 LR LR
comp=N,2μm,11.3s,MS5.0
NJ2 LR LR
comp=E,4μm,15.2s,MS5.0
NJ2 LR LR
comp=Z,6μm,17.8s,MS5.0
YAK Yakutsk 23.17 345 *e*P **P 17 13 40.4 -3.4**
YAK *e* 17 17 25.2
YAK *e*S **S 17 17 45.4 -6.3**
YAK *e*SS sS 17 18 27.2 +15
YAK pmax pmax
comp=Z,379nm,0.9s,mb5.8
YAK pmax pmax
comp=N,158nm,1.0s
YAK pmax pmax
comp=E,47nm,0.9s
YAK smax
comp=N,79nm,0.9s
YAK smax
comp=Z,42nm,0.9s
YAK smax
comp=E,87nm,1.0s
YAK Yakutsk 23.17 345 *e*P **P 17 13 40.3 -3.5**
comp=E,371nm,0.8s,mb5.9
HHC Hu-ho-hao-te 23.33 282 *e*P **P 17 13 44.5 -0.9**
HHC AP 17 13 56.0
HHC XP sP 17 14 01.7 -1.3
HHC PP 17 14 15.8
HHC S **S 17 17 48.8 -5.4**
HHC XS sS 17 18 08.6 -6.5
HHC SS 17 18 37.8
YHNB Yeheng 23.41 235 *e*P **P 17 13 42.8 -3.3**
NACB Ninganchiao 23.63 234 *e*P **P 17 13 43.9 -4.2**
BTO Baotou 24.53 282 *e*P **P 17 13 53.9 -2.4**
BTO S **S 17 17 59.4 -14**
WHN Wuhan 24.67 256 *e*P **P 17 13 56.5 -1.1**
WHN S **S 17 18 12.0 -3.8**
WHN LR LR
comp=Z,4μm,14.1s,MS5.1
QZH Quanzhou 25.01 240⇑ *i*P **P 17 14 00.2 -0.5**
QZH S **S 17 18 12.6 -8.7**
QZH AMB AMB
comp=Z,150nm,1.1s,mb5.4
QZH LR LR
comp=N,2μm,14.5s,MS4.7
QZH LR LR
comp=E,1μm,15.7s,MS4.7
QZH LR LR
comp=Z,2μm,16.9s,MS4.6
BOD Bodaibo 25.32 324⇑ *i*P **P 17 14 02.5 -1.0**
BOD *e* pP 17 14 16.8 +0.8
BOD pmax pmax
comp=Z,205nm,0.9s,mb5.7
BOD pmax pmax
comp=Z,173nm,1.2s,mb5.5
ULN Ulaanbaatar 26.31 299 P **P 17 14 12.4 -0.1**
SNR=22
ULN Ulaanbaatar 26.31 299⇑ *e*P **P 17 14 11.8 -0.6**
ULN pmax pmax
comp=Z,23nm,0.6s,mb4.9
ULN MLR MLR
comp=Z,3μm,20.0s,MS4.8
ULN Ulaanbaatar 26.31 299⇑ *e*P **P 17 14 11.8 -0.7**
comp=Z,23nm,0.6s,mb4.9
ULN LR LR
comp=Z,3μm,20.0s,MS4.8
GUMO Guam 26.60 174 LR LR 17 24 00.1
comp=Z,1μm,21.8s,MS4.3,baz=51,slow=35
SONM Songino Array 26.75 299 P **P 17 14 16.2 -0.2**
comp=Z,49nm,0.9s,mb5.0,baz=100,slow=6.2,SNR=131
SONM LR LR 17 25 27.0
comp=Z,3μm,18.6s,MS4.9,baz=81,slow=38
XAN Xi'an 27.22 268 P **P 17 14 18.9 -1.7**
XAN AP pP 17 14 34.6 +1.4
XAN AMB AMB
comp=Z,24nm,0.9s,mb4.7
XAN LR LR
comp=E,1μm,16.3s
XAN LR LR
comp=Z,2μm,16.3s,MS4.7
IRK Irkutsk 28.61 308 *e*P **P 17 14 32.7 -0.3**
IRK *e* pP 17 14 47.3 +1.7
IRK pmax pmax
comp=Z,112nm,1.2s,mb5.5
TLY Talaya 28.91 306 P **P 17 14 36.8 +1.1**
comp=Z,314nm,1.0s,mb6.0,SNR=10
LZH Lanzhou 30.37 275⇑ P **P 17 14 47.6 -1.1**
LZH AP pP 17 14 59.7 -1.6
LZH XP sP 17 15 05.6 -1.5
LZH PP PP 17 15 48.2 -10
LZH PCP PcP 17 17 47.5 -0.1
LZH S **S 17 19 42.7 -3.0**
LZH XS sS 17 20 03.8 -3.2
LZH SCP ScP 17 21 23.5 -2.4
LZH SS SS 17 21 25.6 -31
LZH PCS PcS 17 21 29.6 -1.7
LZH SCS ScS 17 25 18.2 -3.8
LZH AMB AMB
comp=Z,93nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,315nm,4.9s
LZH LR LR
comp=N,2μm,13.2s
LZH LR LR
comp=Z,3μm,17.5s,MS5.0
MOY Mondy 30.54 306 *e*P **P 17 14 50.3 +0.1**
MOY pmax pmax
comp=Z,129nm,1.5s,mb5.5
BILL Bilibino 30.80 17*c i*P **P 17 14 51.4 -1.0**
BILL *i* pP 17 15 06.2 +1.1
BILL *e* 17 15 47.7
BILL *e*S **S 17 19 48.2 -4.3**
BILL pmax pmax
comp=Z,31nm,0.6s,mb5.3
BILL MLR MLR
comp=Z,1μm,21.0s,MS4.6
BILL Bilibino 30.80 17 *e*P **P 17 14 51.0 -1.4**
comp=Z,156nm,1.4s,mb5.7
TIXI Tiksi 32.25 352 *e*P **P 17 15 02.7 -2.5**
TIXI *e*S **S 17 20 16.9 +1.8**
TIXI pmax pmax
comp=Z,20nm,0.7s,mb5.1
TIXI MLR MLR
comp=Z,760nm,17.0s,MS4.5
TIXI Tiksi 32.25 352⇑ *i*P **P 17 15 03.7 -1.5**
GTA Gaotai 32.43 283⇑ P **P 17 15 06.9 +0.1**
GTA AP pP 17 15 18.9 -0.6
GTA XP sP 17 15 24.6 -0.6
GTA PP PP 17 16 15.7 -5.0
GTA PCP PcP 17 17 53.9 +0.8
GTA S **S 17 20 17.6 -0.4**
GTA XS sS 17 20 37.3 -2.0
GTA SCP ScP 17 21 33.8 +0.9
GTA PCS PcS 17 21 38.8 +0.6
GTA SS SS 17 22 13.5 -25
GTA SCS ScS 17 25 31.7 -0.5
GTA AMB AMB
comp=Z,65nm,1.0s,mb5.4
GTA AMB AMB
comp=Z,176nm,5.7s
GTA LR LR
comp=N,1μm,19.0s,MS5.0
GTA LR LR
comp=E,3μm,18.2s,MS5.0
GTA LR LR
comp=Z,3μm,18.6s,MS5.1
CD2 Chengdu 32.49 266 *e*P **P 17 15 05.6 -1.7**
CD2 AP pP 17 15 17.4 -2.6
CD2 XP sP 17 15 23.9 -1.9
CD2 PP PP 17 16 13.5 -7.9
CD2 PCP PcP 17 17 53.6 +0.3
CD2 S **S 17 20 13.6 -5.3**
CD2 XS sS 17 20 35.0 -5.2
CD2 SCP ScP 17 21 32.2 -0.9
CD2 PCS PcS 17 21 37.3 -1.1
CD2 SS SS 17 22 11.5 -28
CD2 SCS ScS 17 25 29.7 -2.8
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.2
CD2 AMB AMB
comp=Z,100nm,3.7s
CD2 LR LR
comp=N,650nm,16.8s
CD2 LR LR
comp=Z,690nm,20.4s,MS4.3
GYA Guiyang 32.56 256⇑ *i*P **P 17 15 06.9 -1.0**
GYA AP pP 17 15 18.2 -2.3
GYA XP sP 17 15 24.4 -1.9
GYA PP PP 17 16 14.1 -7.9
GYA PCP PcP 17 17 56.8 +3.3
GYA S **S 17 20 14.6 -5.2**
GYA XS sS 17 20 34.5 -6.7
GYA SCP ScP 17 21 34.8 +1.5
GYA AMB AMB
comp=Z,100nm,0.9s,mb5.8
GYA AMB AMB
comp=Z,270nm,7.2s
GYA LR LR
comp=N,2μm,17.1s,MS4.9
GYA LR LR
comp=E,1μm,17.0s,MS4.9
GYA LR LR
comp=Z,2μm,18.9s,MS4.8
QIZ Qiongzhong 34.95 242 P **P 17 15 30.1 +1.5**
QIZ AP pP 17 15 40.2 -1.2
QIZ XP sP 17 15 45.2 -1.9
QIZ PP PP 17 16 48.9 +0.4
QIZ S **S 17 21 00.4 +3.6**
QIZ XS sS 17 21 19.8 +1.6
QIZ SCP ScP 17 21 40.4 -1.3
QIZ PCS PcS 17 21 47.1 +0.1
QIZ AMB AMB
comp=Z,25nm,1.3s,mb5.0
QIZ LR LR
comp=N,710nm,19.2s
QIZ LR LR
comp=Z,936nm,17.3s,MS4.6
KRAR Krasnoyarsk 35.74 313*c i*P **P 17 15 33.9 -1.6**
KRAR pmax pmax
comp=Z,149nm,0.8s,mb6.0
KRAR MLR MLR
comp=Z,1μm,20.0s,MS4.7
KMI Kunming 36.23 258 P **P 17 15 39.6 0.0**
KMI AP pP 17 15 53.1 +0.7
KMI XP sP 17 15 58.7 +0.5
KMI PP PP 17 16 59.7 -3.0
KMI S **S 17 21 08.4 -8.1**
KMI XS sS 17 21 31.4 -6.6
KMI SCS ScS 17 25 53.0 +0.6
KMI AMB AMB
comp=Z,114nm,1.0s,mb5.8
KMI AMB AMB
comp=Z,380nm,4.9s
KMI LR LR
comp=N,1μm,17.0s,MS5.0
KMI LR LR
comp=E,2μm,18.5s,MS5.0
KMI LR LR
comp=Z,2μm,17.9s,MS5.0
TNA Tin City 37.77 31 *e*P **P 17 15 52.7 -0.1**
comp=Z,82nm,1.4s,mb5.3
WMQ Urumqi 40.13 294 P **P 17 16 13.8 +1.4**
WMQ AP pP 17 16 26.0 +0.6
WMQ XP sP 17 16 31.5 +0.4
WMQ PP PP 17 17 50.8 +5.4
WMQ PCP PcP 17 18 18.4 +2.3
WMQ SCP ScP 17 22 02.5 +1.3
WMQ S **S 17 22 16.6 +1.2**
WMQ XS sS 17 22 37.3 +0.2
WMQ SS SS 17 25 09.6 -4.8
WMQ SCS ScS 17 26 14.5 -0.2
WMQ AMB AMB
comp=Z,122nm,1.4s,mb5.4
WMQ AMB AMB
comp=Z,616nm,4.0s
WMQ LR LR
comp=N,501nm,12.5s,MS4.7
WMQ LR LR
comp=E,534nm,16.6s,MS4.7
WMQ LR LR
comp=Z,828nm,17.7s,MS4.6
UBT Ubonrachathani 40.87 243⇓ P **P 17 16 19.5 +0.9**
NVS Novosibirsk 41.23 311 *i* P **P 17 16 20.4 -1.1**
NVS pmax pmax
comp=N,21nm,1.4s
NVS pmax pmax
comp=E,91nm,1.4s
NVS pmax pmax
comp=Z,95nm,1.4s,mb5.2
KKM Kota Kinabalu 41.29 222 P **P 17 16 21.8 -0.2**
KKM Kota Kinabalu 41.29 222⇑ *i*P **P 17 16 22.3 +0.2**
CHRT Chiangrai 41.54 254⇑ P **P 17 16 25.0 +0.9**
comp=Z,629nm,1.0s,mb6.2
NANT Nan 41.55 252⇑ P **P 17 16 21.0 -3.1**
comp=Z,869nm,1.0s,mb6.3
KKTK Khon Kaen 41.65 247 P **P 17 16 25.0 +0.1**
comp=Z,617nm,0.6s,mb6.4
TSM Tawau 41.99 218 P **P 17 16 30.0 +2.2**
TTA Tatalina 42.45 37 *e*P **P 17 16 31.6 +0.2**
SVW2 Sparrevohn 42.61 39 *e*P **P 17 16 33.5 +0.7**
LSA Lhasa 42.71 272 P **P 17 16 35.0 +1.4**
LSA Lhasa 42.71 272 *e*P **P 17 16 34.4 +0.8**
LSA pmax pmax
comp=Z,57nm,0.9s,mb5.3
LSA Lhasa 42.71 272 *e*P **P 17 16 34.4 +0.8**
comp=Z,57nm,0.9s,mb5.3
MKAR Makanchi Array 43.11 299 P **P 17 16 36.7 -0.1**
comp=Z,29nm,0.7s,mb5.1,baz=84,slow=9.1,SNR=161
MKAR Makanchi Array 43.11 299 P **P 17 16 36.7 -0.1**
SHL Shillong 44.22 267 *e*P **P 17 16 47.6 +1.8**
KDAK Kodiak Island 44.31 44 P **P 17 16 46.0 -0.5**
comp=Z,323nm,1.0s,mb6.0,SNR=6.1
KDAK Kodiak Island 44.31 44 P **P 17 16 45.3 -1.2**
comp=Z,14nm,0.8s,mb4.8,baz=312,slow=4.3,SNR=15
KDAK Kodiak Island 44.31 44 *e*P **P 17 16 45.7 -0.8**
comp=Z,57nm,1.0s,mb5.2
KURK Kurchatov 44.60 306 P **P 17 16 48.7 -0.1**
comp=Z,1μm,0.9s
KURK Kurchatov 44.60 306 P **P 17 16 48.8 0.0**
SNR=104
KURK Kurchatov 44.60 306 *e*P **P 17 16 48.3 -0.5**
KURK pmax pmax
comp=Z,222nm,0.8s,mb6.0
KURK MLR MLR
comp=Z,688nm,19.0s,MS4.6
KURK Kurchatov 44.60 306 *e*P **P 17 16 48.3 -0.4**
comp=Z,222nm,0.8s,mb6.0
KURK LR LR
comp=Z,688nm,19.0s,MS4.6
SLKM Skilak Lake 45.26 40 P **P 17 16 52.7 -1.3**
PMR Palmer 45.69 38 *e*P **P 17 16 56.7 -0.7**
PMR pmax pmax
comp=Z,17nm,0.7s,mb5.1
PMR MLR MLR
comp=Z,440nm,22.0s,MS4.4
PMR Palmer 45.69 38 *e*P **P 17 16 56.7 -0.7**
comp=Z,17nm,0.7s,mb5.1
PMR LR LR
comp=Z,440nm,22.0s,MS4.4
COLA College 46.05 34 *e*P **P 17 17 00.2 0.0**
COLA pmax pmax
comp=Z,69nm,1.0s,mb5.5
COLA College 46.05 34 *e*P **P 17 17 00.2 -0.1**
comp=Z,69nm,1.0s,mb5.5
SML Sawmill 46.05 38 *e*P **P 17 16 59.7 -0.6**
NNT Nongplab 46.38 246 P **P 17 17 04.0 +1.1**
ILAR Eielson Array 46.47 34 P **P 17 17 02.9 -0.7**
comp=Z,17nm,0.7s,mb5.1,baz=266,slow=7.4,SNR=137
EYAK Cordova Ski Ar 47.45 40 *e*P **P 17 17 11.2 -0.1**
JIRN Jiri 47.50 273⇑ *i*P **P 17 17 12.6 +1.0**
comp=Z,220nm,0.8s,mb6.2
GUN Gumba 47.61 273⇑ *i*P **P 17 17 13.3 +0.8**
comp=Z,534nm,0.9s
MENT Mentasta 48.05 36 *e*P **P 17 17 16.1 +0.2**
KKN Kakani 48.13 273⇑ *i*P **P 17 17 16.0 -0.5**
comp=Z,474nm,0.9s,mb6.5
PKI Pulchoki 48.14 273⇑ *i*P **P 17 17 16.9 +0.3**
comp=Z,282nm,1.2s,mb6.2
KSM Kuching 48.26 225 *e*P **P 17 17 17.6 +0.1**
DMN Daman 48.36 273⇑ *i*P **P 17 17 18.7 +0.5**
comp=Z,246nm,1.0s,mb6.2
GKN Gorkha 48.52 274⇑ *i*P **P 17 17 19.7 +0.3**
comp=Z,375nm,1.0s,mb6.4
CHKZ Chkalovo 48.72 311 *i* P **P 17 17 19.9 -1.1**
CHKZ pmax pmax
comp=Z,89nm,1.0s,mb5.8
CHKZ Chkalovo 48.72 311⇑ *i*P **P 17 17 20.5 -0.4**
comp=Z,115nm,0.9s,mb5.9
TKM2 Tokmak 2 48.81 296 P **P 17 17 22.7 +1.0**
SNR=100
TKM2 Tokmak 2 48.81 296 *i* P **P 17 17 21.4 -0.3**
TKM2 pmax pmax
comp=Z,115nm,0.9s,mb5.9
TKM2 Tokmak 2 48.81 296 *i* P **P 17 17 21.5 -0.2**
BVAR Borovoye Array 49.01 310 P **P 17 17 23.3 0.0**
comp=Z,56nm,0.7s,mb5.7,baz=81,slow=9.2,SNR=291
BRVK Borovoye 49.07 311 P **P 17 17 23.7 0.0**
comp=Z,645nm,0.9s,SNR=33
BRVK Borovoye 49.07 311 P **P 17 17 24.0 +0.3**
SNR=31
BRVK Borovoye 49.07 311⇑ *i*P **P 17 17 23.6 -0.1**
BRVK pmax pmax
comp=Z,48nm,0.8s,mb5.6
BRVK MLR MLR
comp=Z,1μm,19.0s,MS4.9
BRVK Borovoye 49.07 311⇑ *i*P **P 17 17 23.6 -0.1**
comp=Z,48nm,0.8s,mb5.6
BRVK LR LR
comp=Z,1μm,19.0s,MS4.9
KBK Karagaybulak 49.35 296 P **P 17 17 26.6 +0.8**
SNR=78
KZA Kyzart 49.35 295 P **P 17 17 27.5 +1.7**
SNR=37
CHMS Chumysh 49.36 297 P **P 17 17 26.0 +0.1**
SNR=14
KOLN Koldanda 49.43 274⇑ *i*P **P 17 17 27.0 +0.6**
comp=Z,387nm,1.2s,mb6.3
USP Ospenovka 49.43 297 P **P 17 17 26.7 +0.2**
SNR=23
FRU Bishkek 49.51 297 *i* P **P 17 17 26.0 -1.1**
FRU pmax pmax
comp=Z,310nm,2.0s,mb6.0
FRU MLR MLR
comp=Z,1μm,18.0s,MS4.9
PMG Port Moresby 49.55 174 LR LR 17 36 40.0
comp=Z,209nm,21.1s,MS4.1,baz=359,slow=34
SNG Songkhla 49.66 240 P **P 17 17 29.0 +0.8**
comp=Z,142nm,1.0s,mb6.0
AAK Ala-Archa 49.67 296 P **P 17 17 28.6 +0.4**
SNR=14
AAK Ala-Archa 49.67 296 P **P 17 17 27.2 -1.0**
comp=Z,172nm,0.8s,mb6.1,SNR=12
AAK Ala-Archa 49.67 296 P **P 17 17 27.7 -0.5**
SNR=24
AAK Ala-Archa 49.67 296*c i*P **P 17 17 27.4 -0.8**
AAK pmax pmax
comp=Z,51nm,1.4s,mb5.4
AAK Ala-Archa 49.67 296 *e*P **P 17 17 27.3 -1.0**
comp=Z,67nm,1.3s,mb5.5
BOK Bokaro 49.77 269 *e*P **P 17 17 29.1 +0.2**
BOK AMb AMB 17 17 32.3
comp=Z,61nm,1.4s,mb5.4
UCH Uchtor 49.80 296 P **P 17 17 30.3 +1.0**
SNR=21
KSH Kashi 49.82 292⇑ P **P 17 17 31.2 +1.8**
KSH *e*AP pP 17 17 42.6 -0.1
KSH *e*XP sP 17 17 49.4 +1.1
KSH *e*PCP PcP 17 18 51.3 +1.8
KSH *e*SCP ScP 17 22 41.8 +0.8
KSH *e*S **S 17 24 36.3 +0.8**
KSH *e*XS sS 17 24 56.4 -1.3
KSH *e*SCS ScS 17 27 15.5 -1.1
KSH AMB AMB
comp=Z,606nm,4.8s
KSH LR LR
comp=N,2μm,14.1s,MS5.3
KSH LR LR
comp=E,1μm,13.4s,MS5.3
KSH LR LR
comp=Z,1μm,16.1s,MS5.0
ZRNK Zerenda 49.84 311 *i* P **P 17 17 29.2 -0.4**
ZRNK pmax pmax
comp=Z,50nm,0.9s,mb5.5
ZRNK Zerenda 49.84 311⇑ *i*P **P 17 17 29.5 0.0**
comp=Z,137nm,0.9s,mb6.0
EKS2 Erkin-Say 50.15 297 P **P 17 17 32.2 +0.3**
SNR=44
AML Almayashu 50.40 296 P **P 17 17 35.0 +1.2**
SNR=80
KULM Kulim 51.05 238 *e*P **P 17 17 39.1 +0.5**
LGTI Lohaghat 51.14 278 *i* P **P 17 17 40.0 +0.6**
INK Inuvik 51.27 28 P **P 17 17 40.4 +0.1**
comp=Z,34nm,0.8s,mb5.3,baz=297,slow=6.7,SNR=25
IPM Ipoh 51.41 237 P **P 17 17 41.5 +0.1**

KGM Kluang 51.87 233 P **P** 17 17 46.8 +1.9
HNR Honiara 52.00 158 LR LR 17 37 27.8
comp=Z,784nm,21.6s,MS4.7,baz=358,slow=33
KK31 Karatay Array 52.20 298 *i* P **P** **17 17 46.8 -0.5**
SDNR Sundarnagar 52.61 282 *eP* **P** **17 17 50.1 -0.3**
SDNR *ex* x 17 17 50.6
SMLA Simla 52.64 282 *eP* **P** **17 17 50.3 -0.3**
SKAG Skagway 52.79 39 *eP* **P** **17 17 51.9 +0.3**
SVE Sverdlovsk 53.28 317⇑*iP* **P** **17 17 56.2 +1.0**
SVE *e* pP 17 18 11.0 +2.4
SVE *e* 17 19 01.8
SVE *e* 17 20 00.0
SVE *eS* **S** **17 25 32.0 +8.9**
SVE pmax pmax
comp=Z,380nm,1.2s,mb6.2
SVE MLR MLR
comp=N,700nm,14.0s,MS5.2
SVE MLR MLR
comp=E,1μm,14.0s,MS5.2
SVE MLR MLR
comp=Z,4μm,14.0s,MS5.6
KAKA Kakadu 53.43 192 *eP* **P** **17 17 55.3 -1.0**
comp=Z,41nm,1.0s,mb5.3
NDI New Delhi 53.82 279 *eP* **P** **17 17 59.0 -0.2**
NDI AMb AMB 17 18 00.2
comp=Z,100nm,1.2s,mb5.6
PSI Prapat 54.04 238 P **P** **17 18 00.9 +0.1**
comp=Z,38nm,1.0s,mb5.3,baz=357,slow=4.5,SNR=14
SOKR Solikamsk 54.28 321*c iP* **P** **17 18 02.4 -0.2**
SOKR pmax pmax
comp=Z,180nm,1.1s,mb5.9
SOKR MLR MLR
comp=Z,1μm,20.0s,MS4.9
NIL Nilore 54.35 287 P **P** **17 18 04.7 +1.7**
comp=Z,178nm,1.1s,mb5.9,SNR=7.5
ARU Arti 54.49 317 P **P** **17 18 04.4 +0.3**
comp=Z,1μm,0.9s,SNR=84
ARU Arti 54.49 317⇓*iP* **P** **17 18 04.1 0.0**
ARU *e* 17 19 04.1
ARU *e* 17 20 06.4
ARU *e*PPP 17 21 15.2
ARU *eS* **S** **17 25 40.2 +0.7**
ARU *eSS* SS 17 29 23.7 +1.3
ARU pmax pmax
comp=Z,229nm,0.9s,mb6.1
ARU MLR MLR
comp=Z,2μm,17.0s,MS5.3
ARU MLR MLR
comp=N,900nm,16.0s,MS5.3
ARU MLR MLR
comp=E,2μm,16.5s,MS5.3
ARU Arti 54.49 317⇑*iP* **P** **17 18 03.8 -0.2**
comp=E,206nm,0.9s,mb6.1
DLBC Dease Lake 55.72 39 LR LR 17 41 57.5
comp=E,75nm,19.2s,MS3.8,baz=311,slow=36
AB31 Akbulak array 56.48 309 *i* P **P** **17 18 17.1 -1.3**
NGP Nagpur 56.48 270 *eP* **P** **17 18 16.6 -1.8**
NGP AMb AMB 17 18 17.4
comp=Z,106nm,1.9s,mb5.5
BHPL Bhopal 56.55 273 *eP* **P** **17 18 18.6 -0.3**
BHPL AMb AMB 17 18 19.8
comp=Z,105nm,1.1s,mb5.8
AJM Ajmer 56.91 278 *eP* **P** **17 18 21.0 -0.5**
AJM *i* P 17 18 21.0
AJM AMb AMB 17 18 22.6
comp=Z,95nm,1.1s,mb5.7
ALE Alert 56.92 4 P **P** **17 18 20.2 -1.3**
comp=Z,307nm,1.0s,mb6.3,SNR=15
AKTK Aktyubinsk 57.12 311 P **P** **17 18 22.5 -0.4**
AKTO Aktyubinsk 57.12 311 P **P** **17 18 22.5 -0.4**
comp=Z,82nm,0.8s,mb5.8,baz=67,slow=13,SNR=153
AKTO Aktyubinsk 57.12 311 *i* P **P** **17 18 22.0 -0.9**
AKTO pmax pmax
comp=Z,17nm,0.8s,mb5.1
KBS Kingsbay 57.67 350 *eP* **P** **17 18 27.1 +0.3**
KBS AMS AMS 17 46 08.4
comp=Z,189nm,19.9s,MS4.2
KBS Kingsbay 57.67 350 *eP* **P** **17 18 26.6 -0.2**
KBS pmax pmax
comp=Z,68nm,1.2s,mb5.5
KBS Kingsbay 57.67 350 *eP* **P** **17 18 26.6 -0.2**
comp=Z,68nm,1.2s,mb5.6
AKL Akola 58.29 271 *ex* x 17 18 40.7
AKL AMb AMB 17 18 43.0
comp=Z,156nm,1.6s,mb5.8
HYB Hyderabad 59.03 267⇑*iP* **P** **17 18 36.0 -0.3**
HYB Hyderabad 59.03 267⇑*eP* **P** **17 18 36.0 -0.3**
LVZ Lovozero 59.53 335 *eP* **P** **17 18 38.0 -1.7**
LVZ S **S** **17 26 40.0 -5.9**
LVZ pmax pmax
comp=Z,93nm,1.3s,mb5.7
LVZ MLR MLR
comp=Z,676nm,17.0s,MS4.8
LVZ MLR MLR
comp=N,216nm,16.0s,MS4.8
LVZ MLR MLR
comp=E,661nm,21.0s,MS4.8
LATR Latur 59.97 269 *eP* **P** **17 18 42.0 -0.7**
FITZ Fitzroy Crossi 60.04 198 *eP* **P** **17 18 42.3 -0.9**
comp=E,27nm,0.9s,mb5.3
FITZ Fitzroy Crossi 60.04 198 P **P** **17 18 41.9 -1.4**
comp=E,14nm,0.8s,mb5.0,baz=8.0,slow=6.3,SNR=16
CTA Charters Tower 60.08 176 *eP* **P** **17 18 55.4 +12**
comp=E,9.1nm,1.5s,mb4.6
APA Apatity 60.11 335⇑*iP* **P** **17 18 43.2 -0.5**
APA *eS* **S** **17 27 00.0 +6.7**
APA pmax pmax
comp=Z,147nm,1.5s,mb5.8
APA MLR MLR
comp=Z,900nm,20.0s,MS4.9
WRAB Tennant Creek 60.27 189 P **P** **17 18 43.0 -1.8**
SNR=7.1
WRAB Tennant Creek 60.27 189 *eP* **P** **17 18 43.2 -1.6**
WRAB pmax pmax
comp=Z,74nm,1.3s,mb5.6
WRAB MLR MLR
comp=Z,664nm,21.0s,MS4.8
WRAB Tennant Creek 60.27 189 *eP* **P** **17 18 43.2 -1.7**
comp=Z,74nm,1.3s,mb5.5
WRAB LR LR
comp=Z,664nm,21.0s,MS4.8
WB2 Warramunga Arr 60.28 189 *eP* **P** **17 18 43.3 -1.6**
WB2 *ep*P pP 17 18 57.2 -1.3
WB2 *e* 17 24 13.5
WRA Warramunga Arr 60.28 189 P **P** **17 18 43.4 -1.5**
comp=Z,14nm,0.9s,mb5.0,baz=5.8,slow=7.0,SNR=53
WRA LR LR 17 43 20.9
comp=Z,257nm,21.6s,MS4.3,baz=300,slow=35
YKA Yellowknife Ar 60.73 31 P **P** **17 18 47.3 -0.7**
comp=Z,9.7nm,0.9s,mb4.9,baz=302,slow=6.5,SNR=33
YKA LR LR 17 44 24.7
comp=Z,186nm,21.8s,MS4.2,baz=315,slow=35
YKA Yellowknife Ar 60.73 31 P **P** **17 18 47.3 -0.7**
YKA LR LR 17 44 24.7
KEV Kevo 60.75 339 *ep* **P** **17 18 46.7 -1.4**
comp=Z,50nm,0.9s,mb5.6
KEV Kevo 60.75 339 *eP* **P** **17 18 46.7 -1.4**
KEV pmax pmax
comp=Z,50nm,0.9s,mb5.6
ARCES ARCESS Array B 61.30 339 P **P** **17 18 51.2 -0.5**
comp=Z,23nm,0.8s,mb5.3,baz=56,slow=8.9,SNR=29
ARCES LR LR 17 50 11.4
comp=Z,491nm,18.3s,MS4.7,baz=49,slow=41
KLMR Klimovskoe 61.48 327*c iP* **P** **17 18 52.4 -0.6**
KLMR *e* 17 21 06.4
KLMR *eS* **S** **17 27 15.8 +5.0**
KLMR *eSS* SS 17 31 10.8 -1.4
KLMR pmax pmax
comp=Z,250nm,1.5s,mb6.1
KLMR pmax pmax
comp=Z,60nm,6.7s
KLMR MLR MLR
comp=Z,1μm,23.0s,MS5.0
PECR Pechory 61.79 321*d iP* **P** **17 18 54.7 -0.4**
PECR pmax pmax
comp=Z,1μm,1.4s
PECR pmax pmax
comp=Z,500nm,3.0s
PECR MLR MLR
comp=Z,800nm,16.0s
KAD Karad 62.44 270 *eP* **P** **17 18 59.5 0.0**
KAD ⇑*iP* 17 18 59.6
KAD AMb AMB 17 19 00.7
comp=Z,149nm,1.1s,mb6.0
DAG Danmarks Havn 62.69 355⇑*iP* **P** **17 19 00.0 -1.1**
comp=Z,163nm,1.6s,mb5.9
DAG pmax pmax
comp=Z,160nm,1.6s,mb5.9
ABKT Ailbek 62.95 298 P **P** **17 19 03.0 +0.1**
comp=Z,651nm,0.9s,SNR=54
TRO Tromso 62.96 341 *eP* **P** **17 19 01.1 -1.9**
TRO AMb AMB 17 19 03.2
comp=Z,79nm,1.0s,mb5.8
TRO *eS* **S** **17 27 22.8 -6.6**
TRO AMS AMS 17 51 36.9
comp=Z,456nm,19.3s,MS4.7
TRO Tromso 62.96 341 *eP* **P** **17 19 01.1 -1.8**
TRO pmax pmax
comp=Z,79nm,1.0s,mb5.8
TRO MLR MLR
comp=Z,460nm,19.3s,MS4.7
TRO Tromso 62.96 341 *eP* **P** **17 19 01.1 -1.9**
comp=Z,79nm,1.0s,mb5.8
TRO LR LR
comp=Z,460nm,19.3s,MS4.7
JOF Joensuu 63.52 331 *ep* **P** **17 19 04.6 -2.0**
comp=Z,85nm,0.9s,mb5.8
JOF Joensuu 63.52 331 *eP* **P** **17 19 04.6 -2.0**
JOF pmax pmax
comp=Z,85nm,0.9s,mb5.8
AS31 Alice Springs 64.01 189 *eP* **P** **17 19 08.8 -1.1**
AS31 *e* 17 24 11.3
ASAR Alice Springs 64.01 189 P **P** **17 19 08.8 -1.0**
comp=Z,7.9nm,0.8s,mb4.8,baz=8.8,slow=5.4,SNR=40
ASAR LR LR 17 47 08.6
comp=Z,184nm,21.4s,MS4.2,baz=11,slow=36
ASPA Alice Springs 64.01 189 *eP* **P** **17 19 08.8 -1.1**
ASPA *e* 17 24 11.3
D03A Wishkah Elem. 64.29 49⇑P **P** **17 19 12.1 +0.4**
baz=64
CMW Cultus Mountai 64.53 47 P **P** **17 19 14.2 +0.9**
MBWA Marble Bar 64.57 203 *eP* **P** **17 19 12.1 -1.4**
comp=Z,54nm,1.4s,mb5.4
MBWA *ep*P pP 17 19 26.9 -0.3
B05A Bryant 64.63 47⇓P **P** **17 19 14.2 +0.3**
baz=64
E03A Lebam 64.71 50⇑P **P** **17 19 14.6 +0.1**
baz=64
JCW Jim Creek 64.77 47 P **P** **17 19 15.4 +0.7**
MOS Moscow 65.15 323*α iP* **P** **17 19 16.5 -0.8**
MOS *e**PP pP 17 19 31.4 +0.4
MOS *e* 17 21 37.5
MOS *eS* S 17 27 56.8 +0.3
MOS *i* *SS sS 17 28 18.0 -1.5
MOS pmax pmax
comp=Z,400nm,1.6s,mb6.2
MOS pmax pmax
comp=Z,248nm,1.4s,mb6.0
MOS MLR MLR
comp=N,2μm,17.0s
MOS MLR MLR
comp=Z,2μm,17.0s,MS5.3
C05A Tolt Reservoir 65.17 48⇑P **P** **17 19 17.7 +0.3**
baz=65
FMW Mount Fremont 65.60 48 P **P** **17 19 21.0 +0.8**
F04A Amboy 65.71 50⇓P **P** **17 19 21.1 +0.1**
baz=66
NLW Nelson Butte 65.72 47 P **P** **17 19 21.6 +0.7**
E05A Randle 65.75 49⇑P **P** **17 19 20.8 -0.3**
baz=66
MTMW Mount Mitchell 65.78 50 P **P** **17 19 22.5 +1.1**
KAF Kangasniemi 65.83 332 *ep* **P** **17 19 20.2 -1.5**
comp=Z,83nm,0.9s,mb5.8,baz=47,slow=6.1
KAF Kangasniemi 65.83 332 *eP* **P** **17 19 20.2 -1.5**
KAF pmax pmax
comp=Z,83nm,0.9s,mb5.8
VRHR Novokhopersk 65.84 317 *eP* **P** **17 19 20.9 -0.8**
VRHR pmax pmax
comp=N,50nm,0.8s
VRHR pmax pmax
comp=Z,100nm,0.8s,mb5.9
VRHR pmax pmax
comp=E,100nm,1.0s
VRHR MLR MLR
comp=Z,2μm,18.0s,MS5.3
VRHR MLR MLR
comp=N,14μm,29.0s
VRHR MLR MLR
comp=E,1μm,17.0s
TWW Teanaway 65.94 48 P **P** **17 19 23.6 +1.2**
ETW Entiat 65.99 47 P **P** **17 19 23.3 +0.6**
OBN Obninsk 66.00 323 P **P** **17 19 22.8 0.0**
comp=E,742nm,0.8s,SNR=8.2
OBN Obninsk 66.00 323*c iP* **P** **17 19 22.2 -0.6**
OBN *e* 17 21 44.6
OBN pmax pmax
comp=Z,315nm,1.9s,mb6.0
OBN MLR MLR
comp=Z,1μm,17.0s,MS5.2
OBN Obninsk 66.00 323 *eP* **P** **17 19 22.2 -0.6**
comp=Z,305nm,1.4s,mb6.1
TBM Table Mountain 66.08 48 P **P** **17 19 23.9 +0.6**
EBG Ellensburg 66.24 48 P **P** **17 19 25.0 +0.7**
KEBM Edson Butte 66.24 53 *eP* **P** **17 19 25.2 +0.8**
I03A Eugene 66.28 52⇓P **P** **17 19 25.2 +0.6**
baz=66
F05A White Salmon 66.30 49⇓P **P** **17 19 25.1 +0.4**
baz=66
FINES FINESS Array B 66.36 332 P **P** **17 19 24.4 -0.7**
comp=Z,44nm,0.8s,mb5.6,baz=55,slow=7.7,SNR=154
FINES pP pP 17 19 37.4 -1.5
comp=Z,30nm,0.8s,baz=67,slow=6.2,SNR=9.3
FINES LR LR 17 50 42.5
comp=Z,1μm,19.9s,MS5.0,baz=50,slow=38
FINES FINESS Array B 66.36 332 P **P** **17 19 24.4 -0.7**
FINES *PP pP 17 19 37.4 -1.4
J02A Umpqua 66.44 53⇓P **P** **17 19 26.3 +0.7**
baz=66
H04A Detroit Lake 66.54 51⇑P **P** **17 19 26.5 +0.3**
baz=66,SNR=8.1
VFP Flag Point 66.61 50 P **P** **17 19 27.7 +1.0**
VOR Voronezh 66.71 319⇑*iP* **P** **17 19 25.4 -1.9**
VOR pmax pmax
comp=N,90nm,1.2s
VOR pmax pmax
comp=Z,240nm,1.2s,mb6.1
G05A Wamic 66.74 50⇓P **P** **17 19 27.9 +0.4**
baz=66
J03A Ideyld Park 66.81 52⇑P **P** **17 19 27.4 -0.5**
baz=67
K02A Glendale 66.82 53⇑P **P** **17 19 26.9 -1.1**
baz=67
OD2 Odessa Site #2 67.02 47 P **P** **17 19 29.3 0.0**
VRSR Storozhevoye 67.02 318 *eP* **P** **17 19 28.9 -0.4**
VRSR *e**SP sP 17 19 44.3 -4.3
VRSR pmax pmax
comp=N,80nm,0.9s
VRSR pmax pmax
comp=E,100nm,0.9s
VRSR pmax pmax
comp=Z,190nm,0.9s,mb6.1
VRSR MLR MLR
comp=Z,870nm,14.0s,MS5.1
VRSR MLR MLR
comp=N,620nm,19.0s,MS5.0
VRSR MLR MLR
comp=E,680nm,18.0s,MS5.0
MAK Makhachkala 67.08 307 *eP* **P** **17 19 27.2 -2.5**
MAK MLR MLR
comp=Z,705nm,14.0s,MS5.0
L02A Cave Junction 67.09 54⇑P **P** **17 19 30.4 +0.7**
baz=67
HAWA Hanford 67.12 48 *eP* **P** **17 19 30.6 +0.6**
comp=Z,2.8nm,1.4s
H05A Madras 67.12 50⇑P **P** **17 19 30.1 +0.2**
baz=67
JMIC Jan Mayen 67.16 350 *eS* S 17 28 22.5 +1.5
JMIC AMS AMS 17 53 49.9
comp=Z,126nm,20.8s,MS4.1
VTHM Trough 67.22 50 P **P** **17 19 31.4 +0.8**
HUMO Hull Mountain 67.23 53⇑P **P** **17 19 31.1 +0.4**
baz=67
I05A Bend 67.38 51⇓P **P** **17 19 31.9 +0.4**
baz=67
NEW Newport 67.39 45 *eP* **P** **17 19 31.6 0.0**
NEW *e**PP pP 17 19 45.0 -0.4
NEW pmax pmax
comp=Z,51nm,1.3s
NEW Newport 67.39 45 *eP* **P** **17 19 31.6 -0.1**
comp=Z,51nm,1.3s,mb5.4
NEW *ep*P pP 17 19 45.0 -0.5
SUMG Summit 67.53 0 *eP* **P** **17 19 32.8 +0.3**
comp=Z,120nm,1.1s,mb5.8
SUMG *ep*P pP 17 19 46.6 +0.3
JCC Jacoby Creek 67.57 55⇑P **P** **17 19 32.8 0.0**
baz=67
KHMM Horse Mountain 67.73 55 *eP* **P** **17 19 33.8 0.0**
KHMM pP pP 17 19 47.1 -0.5
YBH Yreka Blue Hor 67.88 54 *eP* **P** **17 19 35.1 +0.4**
YBH *e**PP pP 17 19 48.9 +0.4
YBH pmax pmax
comp=Z,33nm,1.3s
YBH Yreka Blue Hor 67.88 54 *eP* **P** **17 19 35.1 +0.4**
comp=Z,33nm,1.3s,mb5.2
YBH *ep*P pP 17 19 48.9 +0.4
YBH Yreka Blue Hor 67.88 54⇓P **P** **17 19 35.2 +0.4**
baz=68
K04A Chilquin 67.98 52⇓P **P** **17 19 36.1 +0.7**
baz=68
M02C Callahan 67.99 54⇓P **P** **17 19 34.9 -0.4**
baz=68
N02C Big Bar 68.02 55⇓P **P** **17 19 36.2 +0.6**
baz=68
VSU Vasula 68.10 329*c iP* **P** **17 19 35.6 -0.5**
VSU Vasula 68.10 329⇑*iP* **P** **17 19 35.7 -0.4**
I06A Prineville 68.13 51⇑P **P** **17 19 36.9 +0.6**
baz=68
L04A Klamath Falls 68.13 53⇑P **P** **17 19 36.6 +0.3**
baz=68
M04C Macdoel 68.39 53 P **P** **17 19 39.0 +1.1**
baz=68,SNR=8.3
GOF Gofitskoye 68.53 311⇑*iP* **P** **17 19 39.0 +0.2**
GOF *eS* S 17 28 40.4 +3.0
GOF pmax pmax
comp=Z,200nm,0.8s,mb6.1
J06A Christmas Vall 68.56 51 P **P** **17 19 39.7 +0.7**
baz=68,SNR=14
WDC Whiskeytown Da 68.64 55 P **P** **17 19 39.1 -0.4**
WDC pmax pmax
comp=Z,14nm,1.0s,mb4.8
WDC Whiskeytown Da 68.64 55 P **P** **17 19 39.1 -0.4**
comp=Z,14nm,1.0s,mb4.8
WDC Whiskeytown Da 68.64 55⇑P **P** **17 19 39.6 +0.1**
baz=68
AFI Afiamalu 68.66 132 LR LR 17 43 34.2
comp=Z,497nm,20.1s,MS4.7,baz=324,slow=30
O02C Red Bluff 68.71 55⇑P **P** **17 19 40.5 +0.6**
baz=68
K06A Valley Falls 68.76 52⇓P **P** **17 19 40.9 +0.6**
baz=68
L05A Lakeview 68.85 52⇓P **P** **17 19 41.2 +0.4**
baz=69
BSMT Bassoo Peak 68.90 45 P **P** **17 19 41.8 +0.6**
J07A Hines 68.99 51⇑P **P** **17 19 42.0 +0.4**
baz=69
M05C Lookout 69.05 53⇓P **P** **17 19 42.6 +0.6**
baz=69
GASB Alder Springs 69.06 55⇓P **P** **17 19 42.8 +0.7**
baz=69
HATC Hat Creek Radi 69.17 54⇓P **P** **17 19 43.4 +0.6**
baz=69
DGRG David-gareji 69.25 307 P **P** **17 19 43.5 +0.3**
BMO Blue Mountains 69.29 48 *eP* **P** **17 19 43.5 0.0**
comp=Z,32nm,1.3s,mb5.1
ZEI Tsey 69.37 309 *eP* **P** **17 19 44.0 0.0**
ZEI pmax pmax
comp=Z,73nm,1.0s,mb5.6
KIV Kislovodsk 69.38 310 P **P** **17 19 44.3 +0.2**
comp=Z,2μm,1.0s,SNR=38
KIV Kislovodsk 69.38 310 P **P** **17 19 45.1 +1.1**
SNR=72
KIV Kislovodsk 69.38 310*c iP* **P** **17 19 44.8 +0.7**
KIV *eS* S 17 28 46.9 -0.5
KIV *eSS* SS 17 33 14.3 -0.8
KIV pmax pmax
comp=Z,378nm,1.1s,mb6.2
KIV pmax pmax
comp=Z,505nm,1.4s,mb6.3
KIV MLR MLR
comp=Z,1μm,18.0s,MS5.1
KIV Kislovodsk 69.38 310 *eP* **P** **17 19 44.7 +0.6**
comp=Z,342nm,1.0s,mb6.2
MTA Mtatsminda 69.46 308 P **P** **17 19 47.3 +2.7**
TBLG Delisi 69.47 308 P **P** **17 19 45.8 +1.1**
TBLG Delisi 69.47 308 P **P** **17 19 45.6 +1.0**
TBLG Delisi 69.47 308 *eP* **P** **17 19 45.6 +1.0**
J08A Circle Bar Ran 69.49 50⇑P **P** **17 19 45.0 +0.3**
baz=69
M06C Likely Place G 69.56 53⇓P **P** **17 19 45.5 +0.3**
baz=69
O04C Chester 69.69 54⇑P **P** **17 19 46.5 +0.5**
baz=70
GOR Gori 69.70 308 P **P** **17 19 47.3 +1.3**
ELFS Eagle Lake Fie 69.74 54⇓P **P** **17 19 46.8 +0.5**
baz=70
ONI Oni 69.75 309 P **P** **17 19 44.8 -1.5**
L07A Adell 69.77 52⇓P **P** **17 19 47.1 +0.6**
baz=70,SNR=11
ORV Oroville 69.88 55⇑P **P** **17 19 47.1 -0.1**
baz=70
WVOR Wild Horse Val 69.94 51 *eP* **P** **17 19 47.8 +0.3**
WVOR pmax pmax
comp=Z,35nm,1.2s,mb5.2
WVOR Wild Horse Val 69.94 51 *eP* **P** **17 19 47.8 +0.2**
comp=Z,35nm,1.2s,mb5.2
AMRG 69.97 309 P **P** **17 19 49.0 +1.3**
MSO Missoula 69.98 45 *eP* **P** **17 19 47.5 -0.2**
comp=Z,9.7nm,1.0s,mb4.7
MSO *ep*P pP 17 20 01.3 -0.3
M07A Soldier Meadow 70.24 52⇓P **P** **17 19 50.1 +0.8**
baz=70,SNR=8.1
CHMT Chamberlain Mo 70.30 45 *eP* **P** **17 19 49.0 -0.7**
CHMT *ep*P pP 17 20 03.3 -0.3
MNK Minsk 70.31 326 *i* P **P** **17 19 47.0 -2.8**
MNK pmax pmax
comp=Z,630nm,1.0s,mb6.5
GNI Garni 70.40 306 P **P** **17 19 51.8 +1.5**
SNR=12
GNI P 17 19 52.2
SNR=10
GNI Garni 70.40 306*c iP* **P** **17 19 51.6 +1.3**
GNI pmax pmax
comp=Z,140nm,1.6s
GNI Garni 70.40 306 *eP* **P** **17 19 51.1 +0.8**
comp=Z,99nm,1.1s,mb5.7
AKH Akhalkalaki 70.41 308 P **P** **17 19 49.1 -1.3**
O06A Flanigan 70.57 54 P **P** **17 19 52.0 +0.7**
baz=70,SNR=9.2
FFC Flin Flon 70.68 34 P **P** **17 19 51.5 -0.5**
comp=Z,213nm,0.9s,mb6.1,SNR=20
FFC Flin Flon 70.68 34 *eP* **P** **17 19 51.2 -0.8**
FFC *e**PP pP 17 20 05.1 -0.8
FFC pmax pmax
comp=Z,43nm,0.9s,mb5.4
FFC Flin Flon 70.68 34 *eP* **P** **17 19 51.2 -0.8**
comp=Z,42nm,0.9s,mb5.4
FFC *ep*P pP 17 20 05.1 -0.8
M08A Happy Creek Ra 70.68 52⇓P **P** **17 19 52.4 +0.3**
baz=70
WSAR Wadi Sarin 70.75 284 P **P** **17 19 53.1 +0.6**
comp=Z,23nm,1.0s,mb5.1,baz=44,slow=6.9,SNR=6.4
L09A Wilkinson Ranc 70.77 51⇑P **P** **17 19 52.8 +0.2**
baz=70
LAVA Lava Cap Winer 70.83 55⇑P **P** **17 19 53.5 +0.5**
baz=71
WBK Wadi Bani Khal 70.87 284 P **P** **17 19 54.6 +1.4**
SNR=11
BANOM Banah 70.89 288 P **P** **17 19 54.6 +1.3**
SNR=5.2
BIDO Bidbid 70.95 285 P **P** **17 19 55.2 +1.5**
SNR=7.4
DIGO Kars 71.08 307 *i* P **P** **17 19 55.5 +1.0**
PAHR Pah Rah Range 71.11 54 *eP* **P** **17 19 53.3 -1.4**
comp=Z,30nm,1.2s,mb5.1
WCN Washoe City 71.12 54⇓P **P** **17 19 54.5 -0.3**
baz=71
O07A Toulon 71.15 53⇑P **P** **17 19 55.4 +0.5**
baz=71,SNR=12
HRY Holter Researc 71.19 44 *eP* **P** **17 19 55.4 +0.3**
HRY *ep*P pP 17 20 09.3 +0.3
S04C Ingram Canyon, 71.20 57⇑P **P** **17 19 55.7 +0.5**
baz=71
N08A GE Springer Mi 71.23 52⇓P **P** **17 19 55.4 0.0**
baz=71
M09A Marrel Ranch, 71.26 51⇑P **P** **17 19 56.3 +0.7**
baz=71
R05C Kirkwood Meado 71.28 55⇑P **P** **17 19 55.9 +0.2**

baz=71
SMDO Samad 71.28 285 P P 17 19 56.7 +1.0
SNR=6.1
SOC Sochi 71.32 312*c* *i*P P 17 19 56.1 +0.2
SOC *e**PP pP 17 20 08.9 -0.9
SOC *e* 17 20 15.3
SOC *e* 17 22 38.6
SOC *e*PPP 17 24 18.8
SOC *i*S S 17 29 12.9 +2.8
SOC *e**SS sS 17 29 35.2 +1.9
SOC *e* 17 29 49.6
SOC pmax pmax
comp=Z,96nm,1.2s,mb5.6
SOC MLR MLR
comp=Z,672nm,19.0s,MS4.9
SOC Sochi 71.32 312 *i*P P 17 19 56.4 +0.5
EGMT Eagleton 71.45 42 *e*P P 17 19 56.4 -0.3
comp=Z,46nm,1.0s,mb5.4
EGMT *e*pP pP 17 20 10.4 -0.2
CMB Columbia Colle 71.48 56 ⇑P P 17 19 56.8 -0.1
baz=71
HOQ Hoqain 71.52 285 P P 17 19 57.8 +0.7
SNR=22
PACP Pacheco Peak 71.52 57 ⇑P P 17 19 56.8 -0.3
baz=71
NB2 NORSAR Subarra 71.55 337 P P 17 19 56.5 -0.8
comp=Z,81nm,0.9s,mb5.7,baz=38,slow=6.2
NOA NORSAR Array B 71.55 337 P P 17 19 56.7 -0.6
comp=Z,44nm,0.8s,mb5.4,baz=38,slow=6.0,SNR=180
NOA LR LR 17 54 17.0
comp=Z,630nm,20.9s,MS4.9,baz=30,slow=38
N09A Rock Creek Ran 71.56 52 ⇑P P 17 19 57.9 +0.5
baz=71
DLMT Dillon 71.62 46 *e*P P 17 19 58.1 +0.3
comp=Z,71nm,1.0s,mb5.5
DLMT *e*pP pP 17 20 11.5 -0.1
JMDO Jabal Madar 71.65 284 P P 17 19 58.4 +0.5
SNR=13
STKA Stephens Creek 71.71 181 LR LR 17 51 16.6
comp=Z,284nm,19.9s,MS4.5,baz=19,slow=36
LCCM Lewis and Clar 71.71 45 P P 17 19 58.9 +0.6
HLID Hailey 71.72 48 *e*P P 17 19 58.4 +0.1
comp=Z,16nm,1.1s,mb4.9
HLID *e*pP pP 17 20 12.6 +0.3
M10A I.L. Ranch, Tu 71.74 51 ⇑P P 17 19 59.1 +0.6
baz=72
R06C Coleville 71.78 55 ⇑P P 17 19 59.7 +1.0
baz=72
ASHO Ashiyiah 71.79 287 P P 17 19 59.4 +0.6
SNR=8.7
NAO01 NORSAR Array S 71.80 337 *e*P P 17 19 57.9 -0.9
comp=Z,30nm,0.9s,mb5.2
MCMT McKenzie Canyo 71.82 46 *e*P P 17 19 59.3 +0.4
FORT Forrest 71.84 193 *e*P P 17 19 58.1 -1.0
comp=Z,21nm,0.8s,mb5.1
ANN Anapa 71.86 314 *e*P P 17 19 56.8 -2.4
ANN *e**PP pP 17 20 09.8 -3.2
ANN *e* 17 20 18.3
ANN *e* 17 22 38.7
ANN *e*S S 17 29 12.3 -3.9
ANN pmax pmax
comp=Z,113nm,1.3s,mb5.6
ANN MLR MLR
comp=Z,719nm,19.0s,MS5.0
S05C Merced 71.93 56 ⇑P P 17 19 59.7 +0.1
baz=72
BOZ Bozeman (W) 71.97 45 *e*P P 17 20 00.1 +0.3
BOZ *e**PP pP 17 20 13.7 0.0
BOZ pmax pmax
comp=Z,37nm,0.8s,mb5.4
BOZ Bozeman (W) 71.97 45 *e*P P 17 20 00.1 +0.3
comp=Z,37nm,0.8s,mb5.4
BOZ *e*pP pP 17 20 13.7 0.0
BMN Battle Mountai 72.00 52 *e*P P 17 20 00.1 +0.1
BMN *e**PP pP 17 20 13.4 -0.5
BMN pmax pmax
comp=Z,21nm,1.0s,mb5.0
BMN Battle Mountai 72.00 52 *e*P P 17 20 00.1 +0.1
comp=Z,21nm,1.0s,mb5.0
BMN *e*pP pP 17 20 13.4 -0.5
BSY Bisya 72.10 285 P P 17 20 01.2 +0.6
SNR=6.7
O09A Fish Creek Ran 72.17 52 ⇓P P 17 20 01.4 +0.3
baz=72
AKASG Malin Array Be 72.24 322 P P 17 20 00.9 -0.5
comp=Z,56nm,0.8s,mb5.5,baz=43,slow=6.2,SNR=178
AKASG LR LR 17 54 59.7
comp=Z,545nm,19.7s,MS4.8,baz=35,slow=38
M11A Holland Ranch, 72.24 51 ⇑P P 17 20 02.5 +1.1
baz=72,SNR=7.4
ARQ Araqi 72.25 286 P P 17 20 02.4 +0.9
SNR=11
ARQ P 17 20 02.5
SNR=13
R07C Lee Vining 72.29 55 ⇑P P 17 20 02.5 +0.8
baz=72
Q08A Gabbs 72.52 54 ⇑P P 17 20 03.4 +0.3
baz=72
NVAR Mina Array Bea 72.55 54 P P 17 20 04.1 +0.8
comp=Z,3.6nm,0.8s,baz=306,slow=4.2,SNR=16
P09A Austin 72.58 53 ⇑P P 17 20 03.5 0.0
baz=72
HAKT HAKKARI 72.60 305 *i*P P 17 20 03.5 -0.1
QLMT Earthquake Lak 72.60 46 *e*P P 17 20 04.3 +0.8
SUW Suwalki 72.61 327 *e*P P 17 20 03.0 -0.7
comp=Z,0.2nm,1.2s
SUW *e*pP pP 17 20 16.2 -1.4
SUW L 17 54 05.0
comp=Z,1.1nm,19.6s
SUW Suwalki 72.61 327⇑*e*P P 17 20 03.0 -0.7
SUW *e*pP pP 17 20 16.2 -1.4
MNV Mina 72.64 54 *e*P P 17 20 04.7 +0.8
MNV *e**PP pP 17 20 17.0 -0.8
MNV pmax pmax
comp=Z,27nm,1.3s,mb5.0
MNV Mina 72.64 54 *e*P P 17 20 04.7 +0.9
comp=Z,27nm,1.3s,mb5.0
MNV *e*pP pP 17 20 16.9 -0.8
SFJD Kangerlussuaq 72.68 5 *i*P P 17 20 02.9 -1.2
comp=Z,36nm,0.9s,mb5.3
SFJD *i* pP 17 20 17.5 -0.5
SFJD *i*S S 17 29 52.3 +27
SFJD
comp=Z,670nm,22.0s
M12A Wells 72.77 50 ⇑P P 17 20 05.3 +0.7
baz=72,SNR=7.4
GCMT Greycliff 72.93 44 *e*P P 17 20 05.8 +0.2
GCMT *e*pP pP 17 20 19.5 0.0
P10A Eureka 72.96 52 ⇑P P 17 20 05.9 +0.2
baz=73
ELK Elko 72.99 51 *e*P P 17 20 06.6 +0.7
ELK pmax pmax
comp=Z,35nm,1.6s
ELK MLR MLR
comp=Z,253nm,22.0s
ELK Elko 72.99 51 *e*P P 17 20 06.6 +0.7
comp=Z,35nm,1.6s,mb5.0
ELK LR LR
comp=Z,253nm,22.0s,MS4.5
Q09A Carvers 73.00 53 ⇑P P 17 20 06.0 0.0
baz=73
N12A Clover Valley, 73.04 51 ⇓P P 17 20 07.1 +0.9
baz=73
O11A Cowboy Ranch, 73.12 52 ⇑P P 17 20 07.4 +0.7
baz=73
KONO Kongsberg 73.15 337 *e*P P 17 20 06.6 -0.3
KONO *e*S S 17 29 31.2 +0.3
KONO Kongsberg 73.15 337 *e*P P 17 20 06.2 -0.6
KONO pmax pmax
comp=Z,14nm,0.8s,mb4.9
KONO Kongsberg 73.15 337 *e*P P 17 20 06.2 -0.6
comp=Z,14nm,0.8s,mb4.9
YFT Old Faithful 73.17 46 *e*P P 17 20 06.4 -0.5
HELL Mitchell Peak, 73.17 56 ⇑P P 17 20 07.0 0.0
baz=73
M13A Montello 73.24 50 ⇑P P 17 20 07.7 +0.3
baz=73,SNR=7.2
LKWY Lake 73.33 45 *e*P P 17 20 08.6 +0.7
LKWY pmax pmax
comp=Z,32nm,1.1s,mb5.2
LKWY Lake 73.33 45 *e*P P 17 20 08.6 +0.7
comp=Z,32nm,1.1s,mb5.2
P11A Circle Ranch, 73.43 52 ⇑P P 17 20 09.1 +0.7
baz=73
R09A Tonopah 73.43 54 ⇓P P 17 20 08.8 +0.3
baz=73,SNR=9.3
TPH Tonopah 73.44 54 P P 17 20 09.3 +0.7
TPH pmax pmax
comp=Z,37nm,1.4s,mb5.1
TPH Tonopah 73.44 54 P P 17 20 09.3 +0.8
comp=Z,37nm,1.4s,mb5.1
IMW Indian Meadow 73.47 46 *e*P P 17 20 10.6 +1.9
comp=Z,39nm,1.2s,mb5.2
N13A Wendover, West 73.53 50 ⇑P P 17 20 09.5 +0.4
baz=73
SIM Simferopol' 73.58 315*c* *i*P P 17 20 09.2 -0.1
SIM *e*S S 17 29 25.0 -11
SIM pmax pmax
comp=Z,84nm,1.0s,mb5.6
SIM MLR MLR
comp=Z,1μm,20.0s,MS5.1
S09A Goldfield 73.66 54 ⇓P P 17 20 10.0 +0.2
baz=73
MOOW Moose Ponds 73.67 46 *e*P P 17 20 10.8 +0.9
comp=Z,34nm,1.2s,mb5.2
TPAW Teton Pass 73.72 47 *e*P P 17 20 11.1 +0.9
comp=Z,52nm,1.3s,mb5.3
BER Bergen 73.75 339 *e*P P 17 20 10.6 +0.2
BER AMb AMB 17 20 12.4
comp=Z,67nm,1.2s,mb5.4
BER AMS AMS 17 56 56.6
comp=Z,511nm,20.7s,MS4.8
BER Bergen 73.75 339 *e*P P 17 20 10.6 +0.2
comp=Z,67nm,1.2s,mb5.5
BER LR LR
comp=Z,510nm,20.7s,MS4.8
MSL Mosul 73.76 304 *i*x x 17 20 08.5
HVU Hansel Valley 73.78 49 *e*P P 17 20 11.1 +0.5
HVU *e**PP pP 17 20 23.7 -0.8
HVU pmax pmax
comp=Z,20nm,1.1s,mb5.0
HVU Hansel Valley 73.78 49 *e*P P 17 20 11.1 +0.5
comp=Z,20nm,1.1s,mb5.0
HVU *e*pP pP 17 20 23.7 -0.8
LOHW Long Hollow 73.83 46 *e*P P 17 20 12.1 +1.2
comp=Z,23nm,1.3s,mb4.9
REDW Red Top Meadow 73.86 47 *e*P P 17 20 11.4 +0.4
comp=Z,35nm,1.2s,mb5.2
R10A Warm Springs 73.88 53 ⇓P P 17 20 11.5 +0.4
baz=74
Q11A Duckwater 73.93 53 ⇑P P 17 20 11.9 +0.5
baz=74
P12A McGill 73.99 52 ⇑P P 17 20 11.7 -0.1
baz=74,SNR=7.8
ISA Isabella 74.14 57 ⇓P P 17 20 12.0 -0.6
baz=74
BGU Big Grassy Mou 74.18 50 P P 17 20 12.3 -0.6
Q12A Willow Creek R 74.31 52 ⇓P P 17 20 13.9 +0.3
baz=74
MARD Mardin 74.58 306 *i*P P 17 20 15.9 +0.7
HWUT Hardware Ranch 74.59 48 *e*P P 17 20 15.6 +0.3
comp=Z,60nm,1.4s,mb5.3
TPNV Topopah Spring 74.75 54 *e*P P 17 20 16.6 +0.4
TPNV pmax pmax
comp=Z,18nm,1.0s,mb5.0
TPNV Topopah Spring 74.75 54 *e*P P 17 20 16.6 +0.4
comp=Z,18nm,1.0s,mb5.0
DUG Dugway 74.77 50 *e*P P 17 20 16.7 +0.4
DUG pmax pmax
comp=Z,23nm,1.1s,mb5.0
DUG Dugway 74.77 50 *e*P P 17 20 16.7 +0.4
comp=Z,22nm,1.1s,mb5.0
BHD Baghdad 74.79 301 *i*x x 17 20 14.5
WAR Warsaw 74.79 327 *e*P P 17 20 16.9 +0.5
UMR Umm Al-Rimmam 74.81 296 *e*P P 17 20 15.8 -0.8
UMR AMb AMB 17 20 18.5
comp=Z,110nm,1.0s,mb5.7
MIB Mutribah 74.92 296 *e*P P 17 20 16.4 -0.8
MIB AMb AMB 17 20 18.3
comp=Z,196nm,0.9s,mb6.0
ELZG Elazig 74.93 308 *i*P P 17 20 18.6 +1.3
SNCC San Nicolas Is 74.95 59 ⇓P P 17 20 17.1 -0.2
baz=75
KIS Kishinev 74.95 319*c* *i*P P 17 20 16.0 -1.4
KIS *e* 17 20 24.0
KIS *e**PP pP 17 20 32.0 +0.7
KIS MLR MLR
comp=Z,1μm,19.0s,MS5.3
KIS MLR MLR
comp=N,700nm,18.0s,MS5.1
KIS MLR MLR
comp=E,500nm,16.0s,MS5.1
KIS MLR MLR
comp=Z,1μm,20.0s
KLBR Kellerberrin 74.96 202 *e*P P 17 20 16.2 -1.2
comp=Z,14nm,0.9s,mb4.9
PDAR Pinedale Array 74.97 46 P P 17 20 17.5 +0.1
comp=Z,2.6nm,0.6s,baz=270,slow=2.1,SNR=35
PDAR pP pP 17 20 30.9 -0.6
comp=Z,7.2nm,0.9s,baz=304,slow=3.4,SNR=11
TCUT Toone Canyon 75.00 49 *e*P P 17 20 18.0 +0.4
BSD Bornholm Skovb 75.00 332⇑*i*P P 17 20 17.0 -0.6
comp=Z,122nm,1.4s,mb5.6
BSD *e* 17 20 39.9
BSD
comp=Z,100μm,20.0s
BSD Bornholm Skovb 75.00 332⇑*i*P P 17 20 17.0 -0.6
BSD pmax pmax
comp=Z,120nm,1.4s
BSD MLR MLR
comp=Z,100μm,20.0s
BSD Bornholm Skovb 75.00 332⇑*i*P P 17 20 17.0 -0.6
comp=Z,122nm,1.4s,mb5.6
BSD *e* 17 20 39.9
U10A Ash Meadows, A 75.03 55 ⇓P P 17 20 17.3 -0.5
baz=75
KBD Kabd 75.06 296 *e*P P 17 20 17.1 -0.8
KBD AMb AMB 17 20 20.1
comp=Z,430nm,1.1s,mb6.3
CTU Camp Tracy 75.07 49 *e*P P 17 20 18.6 +0.5
comp=Z,18nm,1.1s,mb4.9
CTU *e*pP pP 17 20 32.3 +0.3
QRN Al-Qurain 75.17 295 *e*P P 17 20 18.1 -0.5
QRN AMb AMB 17 20 19.0
comp=Z,132nm,0.7s,mb6.0
LVV L'vov 75.25 324 *i*P P 17 20 19.1 0.0
LVV *e*S S 17 29 56.1 +1.6
LVV MLR MLR
comp=N,300nm,16.0s,MS4.9
LVV MLR MLR
comp=E,400nm,16.0s,MS4.9
LVV MLR MLR
comp=Z,600nm,16.0s,MS5.0
RDF Al-Radifah 75.31 295 *e*P P 17 20 19.0 -0.4
RDF AMb AMB 17 20 19.9
comp=Z,256nm,1.0s,mb6.1
NAY Al-Naaiem 75.33 296 *e*P P 17 20 18.8 -0.7
NAY AMb AMB 17 20 20.1
comp=Z,97nm,1.4s,mb5.5
RST Umm Al-Ruwaisa 75.34 296 *e*P P 17 20 18.6 -1.0
RST AMb AMB 17 20 20.5
comp=Z,192nm,1.1s,mb6.0
MALT Malatya 75.39 308 *e*P P 17 20 21.0 +1.1
MALT pmax pmax
comp=Z,131nm,1.2s,mb5.7
MALT Malatya 75.39 308 *e*P P 17 20 21.0 +1.1
comp=Z,131nm,1.2s,mb5.7
COP Copenhagen 75.42 333⇑*i*P P 17 20 20.2 +0.1
comp=Z,43nm,1.2s,mb5.2
COP *e* 17 20 41.9
COP *i* 17 23 02.1
COP
comp=Z,640nm,20.0s
COP Copenhagen 75.42 333⇑*i*P P 17 20 20.2 +0.1
COP pmax pmax
comp=Z,43nm,1.2s,mb5.2
COP MLR MLR
comp=Z,640nm,20.0s,MS4.9
GSC Goldstone 75.43 56 ⇓P P 17 20 19.7 -0.4
baz=75
BOYT Boyabat 75.44 312 *i*P P 17 20 21.1 +0.9
DAU Daniels Canyon 75.54 49 *e*P P 17 20 21.4 +0.7
U11A Corn Creek 75.62 54 ⇑P P 17 20 20.0 -1.2
baz=75
MUD Monsted U'grnd 75.88 335⇑*i*P P 17 20 22.7 0.0
comp=Z,35nm,1.0s,mb5.2
MUD
comp=Z,650nm,19.0s
MUD Monsted U'grnd 75.88 335⇑*i*P P 17 20 22.7 0.0
MUD pmax pmax
comp=Z,35nm,1.0s,mb5.2
MUD MLR MLR
comp=Z,650nm,19.0s,MS5.0
TUQ Turquoise Mtn. 75.91 56 ⇓P P 17 20 22.3 -0.5
baz=76
V11A Goodsprings 75.96 55 ⇓P P 17 20 21.9 -1.3
baz=76
KWP Kalwaria 75.98 324 *i*P P 17 20 23.9 +0.7
comp=Z,0.4nm,1.4s
KWP L 17 56 55.7
comp=Z,1.5nm,16.3s
KWP Kalwaria 75.98 324⇑*i*P P 17 20 23.9 +0.7
KWP pmax pmax
comp=Z,400nm,1.4s,mb6.2
KWP MLR MLR
comp=Z,2μm,16.3s,MS5.4
RGN Rugen 76.02 332 *e*P P 17 20 23.4 -0.1
comp=Z,121nm,1.2s,mb5.7
CTKT Corum 76.03 312 *i*P P 17 20 24.2 +0.7
U12A Valley of Fire 76.14 54 ⇓P P 17 20 23.8 -0.3
baz=76
CCUT Cedar City 76.14 52 *e*P P 17 20 24.7 +0.6
TOS Tosya 76.20 312 *i*P P 17 20 26.3 +1.8
BALT Daday 76.23 313 *i*P P 17 20 25.7 +1.1
MSU Marysvale 76.23 51 *e*P P 17 20 25.8 +1.1
BURAR Bucovina Array 76.27 322⇑*i*P P 17 20 25.5 +0.6
BURAR Bucovina Array 76.27 322 ⇑P P 17 20 25.5 +0.5
TMUT Trail Mountain 76.30 50 *e*P P 17 20 25.5 +0.4
TMUT *e*pP pP 17 20 39.0 0.0
NWAO Narrogin (SRO) 76.37 202 P P 17 20 24.5 -0.9
comp=Z,15nm,0.9s,mb4.9,baz=25,slow=8.4,SNR=6.5
NWAO Narrogin (SRO) 76.37 202 P P 17 20 24.5 -0.9
V12A Nelson 76.39 55 ⇓P P 17 20 24.3 -1.3
baz=76
ULM Lac du Bonnet 76.49 34 P P 17 20 25.1 -1.1
comp=Z,5.3nm,0.6s,mb4.7,baz=315,slow=6.5,SNR=20
ULM pP pP 17 20 38.5 -1.6
comp=Z,10nm,0.8s,baz=326,slow=5.9,SNR=7.9
ULM LR LR 17 59 17.4
comp=Z,134nm,19.6s,MS4.3,baz=356,slow=40
ULM Lac du Bonnet 76.49 34 *e*P P 17 20 24.9 -1.2
comp=Z,54nm,1.4s,mb5.3
GZT Gaziantiep 76.53 308 *i*P P 17 20 27.7 +1.3
BNN Bunyan 76.58 310 *i*P P 17 20 28.2 +1.6
W12A Cal Nev Ari 76.66 55 ⇑P P 17 20 25.4 -1.7
baz=76
KOLS Kolonicke sedl 76.68 324 *i*P P 17 20 27.4 +0.2
KOLS *e* 17 23 12.3
KOLS Kolonicke sedl 76.68 324 *i*P P 17 20 27.4 +0.2
comp=Z,22nm,1.3s,mb4.9
KOLS *e*PP PP 17 23 12.3 -7.7
KOLS LR LR
comp=Z,500nm,21.0s,MS4.8
PFO Pinyon Flat Ob 76.72 57 ⇓P P 17 20 27.1 -0.4
baz=76
VRI Vrincioaia 76.78 320⇑*i*P P 17 20 28.2 +0.4
VRI Vrincioaia 76.78 320 P P 17 20 28.8 +1.0
OJC Ojcow 76.81 326 *i*P P 17 20 28.2 +0.2
OJC *e*PcP PcP 17 20 41.0 +2.0
OJC *e*SKSac SKSac 17 30 36.7 +0.7
OJC L 17 56 54.7
comp=Z,6.0nm,19.5s
SAFT Safranbolu 76.81 313 *i*P P 17 20 29.4 +1.5
SRU San Rafael 76.82 50 *e*P P 17 20 28.2 +0.2
SRU pmax pmax
comp=Z,18nm,0.8s,mb5.0
SRU San Rafael 76.82 50 *e*P P 17 20 28.2 +0.2
comp=Z,18nm,0.8s,mb5.0
PLOR Plostina 76.83 320⇓*i*P P 17 20 29.0 +1.0
CDAG Cicekdag 76.93 311 *i*P P 17 20 29.1 +0.5
RWWY Rawlins 76.98 46 *e*P P 17 20 28.8 -0.1
comp=Z,47nm,1.2s,mb5.3
RSSD Black Hills 77.02 43 *e*P P 17 20 28.9 -0.2
RSSD pmax pmax
comp=Z,22nm,1.0s,mb5.0
RSSD Black Hills 77.02 43 *e*P P 17 20 28.9 -0.3
comp=Z,22nm,1.0s,mb5.0
CRVS Cervenica-Dubn 77.07 324 *i*P P 17 20 29.7 +0.3
comp=Z,16nm,1.1s,mb4.8
CRVS LR LR
comp=Z,600nm,16.3s,MS5.0
NIE Niedzica 77.19 325 *e*P P 17 20 31.0 +0.9
BR131 Keskin Array S 77.29 311 *e*P P 17 20 30.9 +0.2
comp=Z,4.3nm,0.5s,mb4.6
BRTR Keskin Array B 77.29 311 P P 17 20 31.1 +0.4
comp=Z,38nm,1.1s,mb5.2,baz=83,slow=3.9,SNR=72
BRTR PP PP 17 23 21.3 -3.8
comp=Z,3.1nm,0.9s,baz=79,slow=6.5,SNR=3.6
MLR Muntele Rosu 77.43 320⇑*i*P P 17 20 31.9 +0.5
MLR Muntele Rosu 77.43 320 P P 17 20 32.3 +0.9
KAMT Kaman 77.48 311 *e*P P 17 20 32.8 +1.1
RUE Ruedersdorf 77.48 331 *e*P P 17 20 31.7 0.0
comp=Z,126nm,1.5s,mb5.6
KOZT Kozan 77.49 309 *e*P P 17 20 32.8 +1.1
BSEG Bad Segeberg 77.56 333 *e*P P 17 20 32.1 -0.1
comp=Z,72nm,1.3s,mb5.4
PSN Preselentsi 77.57 317 *i*P P 17 20 29.7 -2.5
WHFO Wadi Hawf 77.58 283 P P 17 20 31.9 -0.4
SNR=11
RAC Raciborz 77.59 327 *e*P P 17 20 33.3 +1.0
RAC MLR MLR
comp=Z,2μm,20.0s,MS5.3
SGKT Sivrigoynuk 77.61 313 *i*P P 17 20 33.4 +1.0
ANTO Ankara 77.67 312 *e*P P 17 20 33.0 +0.3
ANTO Ankara 77.67 312⇓*i*P P 17 20 33.6 +0.8
ANTO Ankara 77.67 312 P P 17 20 33.8 +1.0
SNR=18
ANTO P 17 20 34.1
SNR=18
ANTO Ankara 77.67 312 *e*P P 17 20 32.7 -0.1
ANTO pmax pmax
comp=Z,105nm,1.0s,mb5.7
ANTO Ankara 77.67 312 *e*P P 17 20 32.7 -0.1
comp=Z,105nm,1.0s,mb5.7
LOD Lodumlu 77.68 312 *e*P P 17 20 32.7 -0.1
MLA1 Latheron 77.76 342⇑*e*P P 17 20 32.8 -0.5
MLA1 Latheron 77.76 342⇑*e*P P 17 20 32.8 -0.5
KSP Ksiaz 77.79 328 *i*P P 17 20 33.9 +0.5
comp=Z,0.3nm,1.8s
KSP L 17 57 39.2
comp=Z,1.8nm,19.4s
KSP Ksiaz 77.79 328⇑*e*P P 17 20 33.5 +0.1
KSP LR LR
comp=Z,2μm,19.4s,MS5.5
OKC Ostrava-Krasne 77.80 327⇑*i*P P 17 20 33.7 +0.2
OKC *e*pP pP 17 20 47.0 -0.5
OKC *e*SKS 17 30 43.7
OKC AMS AMS 17 57 20.0
comp=Z,1μm,18.4s
OKC Ostrava-Krasne 77.80 327⇑*i*P P 17 20 33.7 +0.2
OKC *e* pP 17 20 47.0 -0.5
OKC *e*S S 17 30 43.3 +21
OTO Tongue 77.83 343⇑*e*P P 17 20 33.5 -0.1
OTO Tongue 77.83 343⇑*e*P P 17 20 33.5 -0.1
W14A Seligman 77.83 54 ⇑P P 17 20 34.0 +0.3
baz=78,SNR=18
Y12C Blythe 77.87 56 ⇓P P 17 20 33.8 0.0
baz=78
VOIR 77.91 320⇑*i*P P 17 20 34.5 +0.4
VOIR 77.91 320 ⇑P P 17 20 34.5 +0.4
LIKS Likavka 77.99 326 *e*P P 17 20 35.4 +0.9
LIKS pmax pmax
comp=Z,40nm,0.9s,mb5.3
LIKS Likavka 77.99 326 *e*P P 17 20 35.4 +0.9
comp=Z,40nm,0.9s,mb5.3
DRGR 78.05 322⇓*i*P P 17 20 35.2 +0.3
DRGR 78.05 322 ⇑P P 17 20 35.2 +0.3
MTUR Matau 78.06 320 P P 17 20 35.8 +0.9
HENT Hendek 78.09 314 *i*P P 17 20 35.1 +0.1
MORC Moravsky Berou 78.10 327⇑*i*P P 17 20 35.8 +0.7
MORC Moravsky Berou 78.10 327 *e*P P 17 20 35.1 0.0
MORC pmax pmax
comp=Z,51nm,1.0s,mb5.4
MORC Moravsky Berou 78.10 327 *e*P P 17 20 35.1 0.0
comp=Z,51nm,1.0s,mb5.4
KARA Karaisali 78.10 309 *e*P P 17 20 36.3 +1.2
GLA Glamis 78.12 57 ⇑P P 17 20 35.2 -0.1
baz=78
DPC Dobruska-Polom 78.16 328⇑*i*P P 17 20 36.1 +0.6
DPC *e*pP pP 17 20 48.1 -1.4
DPC *ex* x 17 30 50.9
DPC AMS AMS 17 57 40.0
comp=Z,900nm,17.8s
UPC Upice 78.16 328⇑*i*P P 17 20 35.8 +0.3
UPC *e*pP pP 17 20 46.8 -2.7
PV10 Paradox Valley 78.17 50 P P 17 20 35.3 -0.3
HLG Helgoland 78.18 335 *e*P P 17 20 35.4 -0.2

comp=Z,50nm,1.0s,mb5.4
ABTO Aybut 78.28 283 P **P** 17 20 36.1 0.0
SNR=7.9
MVH1 Achvaich 78.30 342⇑*e*P **P** 17 20 35.9 -0.3
MVH1 Achvaich 78.30 342⇑*e*P **P** 17 20 35.9 -0.3
PRD Provadia 78.31 317 *i* P **P** 17 20 35.9 -0.4
W15A Williams 78.35 54 ⇑P **P** 17 20 36.6 0.0
baz=78
MCD Coleburn Disti 78.39 342⇑*e*P **P** 17 20 36.4 -0.4
MCD Coleburn Disti 78.39 342⇑*e*P **P** 17 20 36.4 -0.4
X14A Yava 78.43 55 ⇓P **P** 17 20 36.4 -0.6
baz=78,SNR=8.6
PSZ Piszkesteto 78.50 325⇑*i*P **P** 17 20 38.1 +0.8
PSZ Piszkesteto 78.50 325⇓*i*P **P** 17 20 38.2 +0.9
PSZ Piszkesteto 78.50 325 *e*P **P** 17 20 37.9 +0.6
PSZ pmax pmax
comp=Z,108nm,1.5s,mb5.6
PSZ Piszkesteto 78.50 325 *e*P **P** 17 20 37.9 +0.5
comp=Z,108nm,1.5s,mb5.6
VYHS Vyhne 78.53 326 *i* P **P** 17 20 37.9 +0.4
VYHS *e* 17 23 27.2
VYHS Vyhne 78.53 326 *i* P **P** 17 20 37.9 +0.4
comp=Z,22nm,1.1s,mb5.0
VYHS *e*PP PP 17 23 27.2 -8.3
VYHS LR LR
comp=Z,400nm,21.5s,MS4.7
MME1 Meikle Cairn 78.56 342⇑*e*P **P** 17 20 36.7 -1.0
MME1 Meikle Cairn 78.56 342⇑*e*P **P** 17 20 36.7 -1.0
PV01 Paradox Valley 78.61 49 *e*P **P** 17 20 37.7 -0.2
MERS Mersin 78.68 309 *e*P **P** 17 20 39.1 +0.8
WUAZ Wupatki 78.68 53 *e*P **P** 17 20 38.9 +0.6
comp=Z,29nm,1.0s,mb5.2
BRG Berggiesshubel 78.69 330 *e*P **P** 17 20 38.2 -0.2
comp=Z,35nm,1.1s,mb5.2
BRG Berggiesshubel 78.69 330 *e*P **P** 17 20 38.3 -0.1
comp=Z,21nm,1.1s,mb5.0
BRG *e* pP 17 20 51.2 -1.2
comp=Z,14nm,1.2s
BRG *e* 17 23 20.5
comp=Z,4.7nm,0.9s
BRG PP PP 17 23 36.0 -0.9
BRG S S 17 30 40.0 +8.0
BRG
comp=N,275nm,20.3s
BRG
comp=E,318nm,21.8s
BRG
comp=Z,364nm,18.0s
BRG Berggiesshubel 78.69 330 *e*P **P** 17 20 38.3 -0.1
BRG *e* pP 17 20 51.2 -1.3
BRG 17 23 36.0
BRG S S 17 30 40.0 +8.0
BRG pmax pmax
comp=Z,21nm,1.2s,mb4.9
BRG pmax pmax
comp=Z,14nm,1.2s,mb4.8
BRG pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BRG MLR MLR
comp=N,275nm,20.3s,MS4.8
BRG MLR MLR
comp=E,318nm,21.8s,MS4.8
BRG MLR MLR
comp=Z,364nm,18.0s,MS4.8
BRG Berggiesshubel 78.69 330 *e*P **P** 17 20 38.3 -0.1
comp=Z,21nm,1.1s,mb5.0
BRG *e* pP 17 20 51.2 -1.2
BRG *e* 17 23 20.5
BRG PP PP 17 23 36.0 -0.9
BRG S S 17 30 40.0 +8.0
BRG LR LR
comp=Z,360nm,18.0s,MS4.8
CLL Collm 78.71 330 *e*P **P** 17 20 37.9 -0.6
comp=Z,47nm,1.0s,mb5.4
CLL Collm 78.71 330 ⇑P **P** 17 20 38.2 -0.3
comp=Z,logA/T=1.7,mb5.4
CLL *i* PCP PcP 17 20 44.8 -2.5
CLL *i* *PP pP 17 20 51.0 -1.6
CLL *i* 17 21 06.4
CLL *e* 17 23 24.0
CLL *e*PP PP 17 23 38.0 +1.0
CLL *e*SP 17 31 12.0
CLL Collm 78.71 330⇑*i*P **P** 17 20 38.2 -0.3
comp=Z,47nm,1.0s,mb5.4
CLL *i* (PcP) PcP 17 20 44.8 -2.5
CLL *i* pP pP 17 20 51.0 -1.6
CLL *i* sPcP 17 21 06.4
CLL *ex* x 17 23 24.0
CLL *e*PP PP 17 23 38.0 +1.0
CLL *e*SP 17 31 12.0
CLL LmH 17 56 00.0
comp=N,400nm,20.4s
CLL LmH 17 56 00.0
comp=E,700nm,19.2s
CLL Collm 78.71 330⇑*i*P **P** 17 20 38.2 -0.3
CLL *i* *PP pP 17 20 51.0 -1.6
CLL pmax pmax
comp=Z,47nm,1.0s,mb5.4
CLL MLR MLR
comp=Z,500nm,14.7s,MS5.0
CLL Collm 78.71 330⇑*i*P **P** 17 20 38.2 -0.3
comp=Z,47nm,1.0s,mb5.4
CLL *i* pP pP 17 20 51.0 -1.6
CLL LR LR
comp=Z,500nm,14.7s,MS5.0
Y14A Wickenburg 78.71 55 ⇓P **P** 17 20 38.7 +0.2
baz=78
PVCC Panska Ves 78.72 329⇑*i*P **P** 17 20 39.1 +0.5
PVCC AMS AMS 17 58 10.0
comp=Z,1μm,17.9s
NRDL Niedersach Rie 78.81 333 *e*P **P** 17 20 38.8 -0.3
comp=Z,94nm,2.0s,mb5.4
SMCO Snowmass 78.82 48 *e*P **P** 17 20 39.7 +0.6
comp=Z,28nm,1.3s,mb5.0
X15A Humboldt 78.82 54 ⇑P **P** 17 20 39.9 +0.7
baz=79,SNR=8.4
VRAC Vranov 78.85 327⇑*i*P **P** 17 20 39.8 +0.5
VRAC Vranov 78.85 327 P **P** 17 20 40.0 +0.7
KIZT Kizilcal 78.86 312 *i* P **P** 17 20 40.3 +0.9
FBE Freiberg 78.88 330 *e*P **P** 17 20 39.4 -0.1
comp=Z,192nm,2.0s,mb5.7
KAC Achnashellach 78.94 343⇑*e*P **P** 17 20 39.7 -0.1
KAC Achnashellach 78.94 343⇑*e*P **P** 17 20 39.7 -0.1
KDHN Kadinhani 78.97 311 *i* P **P** 17 20 39.9 0.0
ADVT Abdulvahap 79.00 314 *e*P **P** 17 20 38.4 -1.7
ESKT Eskisehir 79.01 313 *i* P **P** 17 20 40.1 -0.1
SZH Strazhica 79.02 318 *i* P **P** 17 20 40.6 +0.4
GZR Gura Zlata 79.04 321⇓*i*P **P** 17 20 40.6 +0.2
GZR Gura Zlata 79.04 321 ⇓P **P** 17 20 40.6 +0.3
MEST Erdemli 79.09 309 *i* P **P** 17 20 40.1 -0.5
SMOL Smolenice 79.11 326 *e*P **P** 17 20 42.0 +1.3
SMOL Smolenice 79.11 326 *e*P **P** 17 20 42.1 +1.4
Z14A Wintersburg 79.12 56 ⇓P **P** 17 20 40.5 -0.2
baz=79
PRU Pruhonice 79.16 329⇑*i*P **P** 17 20 41.1 +0.1
PRU *e*pP pP 17 20 53.5 -1.5
PRU AMS AMS 17 58 20.0
comp=Z,900nm,18.2s
ISCO Idaho Springs 79.16 47 *e*P **P** 17 20 41.0 0.0
ISCO pmax pmax
comp=Z,13nm,1.0s,mb4.8
ISCO Idaho Springs 79.16 47 *e*P **P** 17 20 41.0 0.0
comp=Z,13nm,1.0s,mb4.8
KPL Plockton 79.16 343⇓*e*P **P** 17 20 41.0 0.0
KPL Plockton 79.16 343⇓*e*P **P** 17 20 41.0 0.0
BUD Budapest 79.21 325⇓*e*P **P** 17 20 41.8 +0.5
CLZ Clausthal 79.25 332 *e*P **P** 17 20 41.6 +0.1
comp=Z,103nm,1.5s,mb5.5
CLZ Clausthal 79.25 332 *e*P **P** 17 20 41.6 +0.1
CLZ pmax pmax
comp=Z,103nm,1.5s,mb5.5
JMB Yambol 79.26 317 *i* P **P** 17 20 42.0 +0.5
SRO Srobarova 79.27 325 *e*P **P** 17 20 43.4 +1.8
SRO pmax pmax
comp=Z,101nm,0.8s,mb5.8
SRO Srobarova 79.27 325 *e*P **P** 17 20 43.4 +1.8
comp=Z,101nm,0.8s,mb5.8
MVCO Mesa Verde 79.28 50 *e*P **P** 17 20 42.3 +0.7
TREC Trest 79.32 328⇑*i*P **P** 17 20 42.1 +0.2
TREC AMS AMS 17 58 20.0
comp=Z,900nm,18.8s
SRO1 Iza 79.34 325 *e*P **P** 17 20 43.1 +1.1
SRO1 pmax pmax
comp=Z,62nm,1.0s,mb5.5
BZS Buzias 79.43 322⇑*i*P **P** 17 20 42.6 +0.1
BZS Buzias 79.43 322 *i*P **P** 17 20 42.5 +0.1
ZST Bratislava 79.50 326 *e*P **P** 17 20 43.3 +0.5
comp=Z,23nm,1.2s,mb5.0
ZST LR LR
comp=Z,300nm,17.8s,MS4.7
ULDT Uludag 79.53 314 *i* P **P** 17 20 43.5 +0.5
KAR1 Arisaig 79.59 343⇑*e*P **P** 17 20 43.3 0.0
KAR1 Arisaig 79.59 343⇑*e*P **P** 17 20 43.3 0.0
IKL Isikli 79.60 309 *i* P **P** 17 20 37.6 -5.8
TANN Tannenbergstha 79.63 330 *e*P **P** 17 20 43.5 0.0
comp=Z,39nm,1.6s,mb5.1
WERD Werda 79.66 330 *e*P **P** 17 20 43.6 -0.1
comp=Z,64nm,1.7s,mb5.3
GUNZ Gunzen 79.72 330 *e*P **P** 17 20 44.1 +0.1
comp=Z,65nm,1.7s,mb5.3
WIT Witteveen 79.72 334⇑*e*P **P** 17 20 44.4 +0.4
ESY Stoneypath 79.72 341⇑*e*P **P** 17 20 43.8 -0.2
ESY Stoneypath 79.72 341⇑*e*P **P** 17 20 43.8 -0.2
MOX Moxa 79.76 331 *e*P **P** 17 20 44.1 -0.2
comp=Z,60nm,1.6s,mb5.3
MOX *e* 17 23 30.3
MOX
comp=Z,400nm,21.0s
MOX Moxa 79.76 331 *e*P **P** 17 20 44.1 -0.2
MOX pmax pmax
comp=Z,60nm,1.6s,mb5.3
MOX MLR MLR
comp=Z,400nm,21.0s,MS4.7
NKC Novy Kostel 79.78 330⇑*i*P **P** 17 20 44.0 -0.4
NKC *e*pP pP 17 20 56.4 -2.0
EDI Edinburgh 79.86 341⇑*e*P **P** 17 20 44.3 -0.5
EDI Edinburgh 79.86 341⇑*e*P **P** 17 20 44.3 -0.5
EAB Aberfoyle 79.91 342⇑*e*P **P** 17 20 44.9 -0.2
EAB Aberfoyle 79.91 342⇑*e*P **P** 17 20 44.9 -0.2
EBL Broad Law 79.96 341⇑*e*P **P** 17 20 45.2 -0.1
EBL Broad Law 79.96 341⇑*e*P **P** 17 20 45.2 -0.1
EAU Auchinoon 80.00 341⇑*e*P **P** 17 20 45.8 +0.3
EAU Auchinoon 80.00 341⇑*e*P **P** 17 20 45.8 +0.3
115A Sonoran Desert 80.01 56 ⇓P **P** 17 20 45.1 -0.5
baz=80
DIM Dimitrovgrad 80.10 318 *i* P **P** 17 20 47.0 +0.9
EYMN Ely 80.11 33 *e*P **P** 17 20 44.7 -1.4
comp=Z,60nm,1.4s,mb5.3
MANZ Manzenberg 80.11 330 *e*P **P** 17 20 46.2 +0.1
comp=Z,31nm,1.2s,mb5.1
KHC Kasperske Hory 80.22 329⇑*i*P **P** 17 20 46.9 +0.2
KHC *e*pP pP 17 21 00.2 -0.6
KHC *ex* x 17 31 12.7
KHC AMS AMS 17 59 00.0
comp=Z,1μm,18.4s
KHC Kasperske Hory 80.22 329⇑*i*P **P** 17 20 46.9 +0.2
KHC *e* pP 17 21 00.2 -0.6
KHC MLR MLR
comp=Z,1μm,18.4s,MS5.2
UBBA Unterbreizbach 80.22 332 *e*P **P** 17 20 46.8 +0.1
comp=Z,33nm,1.4s,mb5.1
CONA Conrad Observa 80.23 327 *i* P **P** 17 20 47.6 +0.8
comp=Z,146nm,1.7s,mb5.6,SNR=23
ROTZ Rotzenmuhle 80.25 330 *e*P **P** 17 20 47.3 +0.4
comp=Z,131nm,1.8s,mb5.6
PGBU Glenifferbraes 80.28 342⇑*e*P **P** 17 20 47.0 -0.1
PGBU Glenifferbraes 80.28 342⇑*e*P **P** 17 20 47.0 -0.1
PKSM Moragy 80.35 324⇓*i*P **P** 17 20 46.9 -0.5
PKSM Moragy 80.35 324 P **P** 17 20 47.3 -0.2
ISP Isparta 80.36 312⇓*i*P **P** 17 20 47.8 +0.3
ISP Isparta 80.36 312*c* *i*P **P** 17 20 47.2 -0.3
ISP Isparta 80.36 312 P **P** 17 20 47.8 +0.3
WTSB Winterswijk 80.39 334⇑*e*P **P** 17 20 47.0 -0.6
comp=Z,52nm,1.4s,mb5.3
WTSB *ex* x 17 21 00.1
GEC2 GERESS Array S 80.40 328 *e*P **P** 17 20 47.5 -0.2
comp=Z,26nm,1.0s,mb5.1
GEC2 *e*pP pP 17 21 00.6 -1.2
GEC2 GERESS Array S 80.40 328 *e*P **P** 17 20 47.5 -0.2
GEC2 *e**PP pP 17 21 00.6 -1.2
GEC2 pmax pmax
comp=Z,26nm,1.0s,mb5.1
GERES GERESS Array B 80.40 328 P **P** 17 20 47.6 -0.1
comp=Z,11nm,0.8s,mb4.8,baz=34,slow=5.0,SNR=82
GERES pP pP 17 21 00.7 -1.1
comp=Z,7.1nm,0.8s,baz=36,slow=5.0,SNR=9.0
GERES PP PP 17 23 35.7 -15
comp=Z,3.7nm,1.0s,baz=64,slow=10.0,SNR=4.6
GERES LR LR 17 59 35.2
comp=Z,815nm,19.9s,MS5.1,baz=34,slow=38
GERES GERESS Array B 80.40 328 P **P** 17 20 47.6 -0.1
GERES *PP pP 17 21 00.7 -1.1
ESK Eskdalemuir 80.41 341 P **P** 17 20 47.0 -0.8
comp=Z,134nm,0.7s,mb6.0,SNR=6.8
ESK Eskdalemuir 80.41 341⇑*e*P **P** 17 20 47.5 -0.3
ESK Eskdalemuir 80.41 341⇑*e*P **P** 17 20 47.5 -0.3
ESK Eskdalemuir 80.41 341 *e*P **P** 17 20 46.8 -1.0
comp=Z,46nm,1.3s,mb5.2
116A Eloy 80.44 55 ⇑P **P** 17 20 48.1 +0.2
baz=80
PGB Panagyurishte 80.44 319 *i* P **P** 17 20 48.6 +0.7
WET Wettzell 80.48 329 *e*P **P** 17 20 48.4 +0.2
comp=Z,61nm,1.4s,mb5.3
WET Wettzell 80.48 329 *e*P **P** 17 20 48.4 +0.2
WET pmax pmax
comp=Z,61nm,1.4s,mb5.3
PLD Plovdiv 80.49 318 *i* P **P** 17 20 48.5 +0.3
BHH Howats Hill 80.62 341⇑*e*P **P** 17 20 48.7 -0.2
BHH Howats Hill 80.62 341⇑*e*P **P** 17 20 48.7 -0.2
BWH Wardlaw 80.65 341⇑*e*P **P** 17 20 48.9 -0.2
BWH Wardlaw 80.65 341⇑*e*P **P** 17 20 48.9 -0.2
BUG Bochum--Univer 80.67 333 *e*P **P** 17 20 48.7 -0.5
comp=Z,82nm,1.5s,mb5.4
BUG *e*pP pP 17 21 02.3 -1.0
CSS Prodhromos 80.67 308 *e*P **P** 17 20 48.2 -1.0
CSS Prodhromos 80.67 308 *e*P **P** 17 20 49.4 +0.2
comp=Z,59nm,1.3s,mb5.4
GRA1 Grafenberg Arr 80.68 330 *e*P **P** 17 20 49.6 +0.4
comp=Z,260nm,1.8s,mb5.9
GRA1 *e*pP pP 17 21 02.8 -0.5
GRA1 *e*PP PP 17 24 02.0 +8.5
GRA1 *e*S S 17 31 12.4 +19
GRA1 LR LR
comp=Z,400nm,21.3s,MS4.7
GRF Grafenberg Arr 80.68 330 *e*P **P** 17 20 49.6 +0.4
comp=Z,260nm,1.8s,mb5.9
GRF *e*pP pP 17 21 02.8 -0.5
GRF *e*PP PP 17 24 02.0 +8.5
GRF *e*S S 17 31 12.4 +19
GRF *e*L 17 58 52.4
comp=Z,402nm,21.3s
GRF Grafenberg Arr 80.68 330 *e*P **P** 17 20 49.6 +0.4
GRF *e**PP pP 17 21 02.8 -0.5
GRF *e* 17 24 02.0
GRF pmax pmax
comp=Z,260nm,1.8s,mb5.9
GRF MLR MLR
comp=Z,400nm,21.3s,MS4.7
GRF Grafenberg Arr 80.68 330 *e*P **P** 17 20 49.6 +0.4
GRF *e**PP pP 17 21 02.8 -0.5
GRF *e* 17 24 02.0
GRF pmax pmax
comp=Z,260nm,1.8s,mb5.9
GRF MLR MLR
comp=Z,400nm,21.3s,MS4.7
RZN Rozhen 80.78 318 *i* P **P** 17 20 50.7 +0.9
VTS Vitosha 80.89 319 *e*P **P** 17 20 50.9 +0.6
VTS Vitosha 80.89 319 *i* P **P** 17 20 50.9 +0.6
VTS Vitosha 80.89 319⇑*i*P **P** 17 20 51.2 +0.9
ARSA Arzberg 80.91 326 *i* P **P** 17 20 50.7 +0.3
comp=Z,97nm,2.0s,mb5.4,SNR=7.3
BBO1 Bothel 80.95 341⇑*e*P **P** 17 20 50.8 +0.2
BBO1 Bothel 80.95 341⇑*e*P **P** 17 20 50.8 +0.2
MOA Molln 80.96 328⇑*i*P **P** 17 20 51.0 +0.3
comp=Z,84nm,1.8s,mb5.4,SNR=18
CKE Keswick 81.05 340⇑*e*P **P** 17 20 51.3 +0.1
CKE Keswick 81.05 340⇑*e*P **P** 17 20 51.3 +0.1
GRUS Gruza 81.15 321⇑*i*P **P** 17 20 51.4 -0.3
TUC Tucson 81.18 55 *e*P **P** 17 20 51.3 -0.6
TUC pmax pmax
comp=Z,15nm,1.3s,mb4.8
TUC Tucson 81.18 55 *e*P **P** 17 20 51.3 -0.5
comp=Z,15nm,1.3s,mb4.8
XDE Dent Fell 81.22 341⇑*e*P **P** 17 20 51.9 -0.2
XDE AMb AMB 17 20 54.3
comp=Z,61nm,1.2s,mb5.4
XDE Dent Fell 81.22 341⇑*e*P **P** 17 20 51.9 -0.2
XDE AMb AMB 17 20 54.3
comp=Z,61nm,1.2s,mb5.4
TNS Taunus Mts 81.27 332 *e*P **P** 17 20 52.1 -0.3
comp=Z,73nm,1.7s,mb5.3
TNS Taunus Mts 81.27 332 *e*P **P** 17 20 52.1 -0.3
TNS pmax pmax
comp=Z,73nm,1.7s,mb5.3
DIVS Divcibare 81.33 322⇑*i*P **P** 17 20 52.6 -0.1
DIVS Divcibare 81.33 322 *e*P **P** 17 20 52.6 -0.1
MMB Musomiste 81.36 318 *i* P **P** 17 20 53.4 +0.6
RAR Rarotonga 81.47 127 LR LR 17 48 37.8
comp=Z,695nm,20.9s,MS5.0,baz=310,slow=29
KKB Krupnik 81.49 319 *i* P **P** 17 20 53.9 +0.4
GROS Grobnik 81.53 326 *i* P **P** 17 20 53.7 -0.1
PERS Pernice 81.56 326 *i* P **P** 17 20 54.0 +0.2
comp=Z,656nm,0.1s
LHO Holmfirth 81.65 339⇑*e*P **P** 17 20 54.2 -0.1
LHO Holmfirth 81.65 339⇑*e*P **P** 17 20 54.2 -0.1
TOD Tromm 81.66 332⇑*e*P **P** 17 20 54.4 0.0
HGN Heimansgroeve 81.70 334 *e*P **P** 17 20 53.2 -1.5
comp=Z,44nm,1.5s,mb5.2
HGN *ex* x 17 21 07.5
comp=Z,22nm,2.0s
HGN *e*S S 17 31 04.7 +1.1
BEBN Eben Emael 81.76 334 P **P** 17 20 54.5 -0.4
BEBN AP pP 17 21 07.5 -1.6
SRS Serrai 81.78 318 *e*P **P** 17 20 54.9 -0.2
BBLS Bajina Basta - 81.78 322⇑*i*P **P** 17 20 55.9 +0.9
IZM Izmir 81.79 314 *e*P **P** 17 20 55.5 +0.4
MEM Membach 81.80 334 P **P** 17 20 54.6 -0.5
comp=Z,11nm,1.0s,mb4.7
WIM Isle of Man 81.84 341⇑*e*P **P** 17 20 55.1 -0.2
WIM AMb AMB 17 20 56.6
comp=Z,60nm,1.2s,mb5.4
WIM Isle of Man 81.84 341⇑*e*P **P** 17 20 55.1 -0.2
WIM AMb AMB 17 20 56.6
comp=Z,60nm,1.2s,mb5.4
ABH Alteburg 81.88 332⇑*e*P **P** 17 20 55.4 -0.2
OBKA Obir 81.90 327⇑*i*P **P** 17 20 55.5 -0.1
comp=Z,319nm,3.8s,SNR=10
FUR Furstenfeldbru 81.90 329 *e*P **P** 17 20 55.9 +0.2
comp=Z,79nm,1.0s,mb5.6
FUR Furstenfeldbru 81.90 329 *e*P **P** 17 20 55.9 +0.2
FUR pmax pmax
comp=Z,79nm,1.0s,mb5.6
GCIS Gornji Cirnik 81.94 326 *i* P **P** 17 20 55.6 -0.3
KBA Koelnbreinsper 81.95 328 *i* P **P** 17 20 56.1 +0.2
comp=Z,113nm,1.5s,mb5.6,SNR=28
KBA Koelnbreinsper 81.95 328 *i* P **P** 17 20 56.1 +0.2
KBA pmax pmax
comp=Z,113nm,1.5s,mb5.6
LAZ Ladron 82.00 51 *e*P **P** 17 20 56.6 +0.5
FETY Fethiye 82.02 312 *e*P **P** 17 20 54.7 -1.6
ANMO Albuquerque 82.02 51 *e*P **P** 17 20 57.2 +0.9
ANMO pmax pmax
comp=Z,25nm,1.2s
ANMO MLR MLR
comp=Z,185nm,20.0s
ANMO Albuquerque 82.02 51 *e*P **P** 17 20 57.1 +0.8
comp=Z,24nm,1.2s,mb5.0
ANMO LR LR
comp=Z,185nm,20.0s,MS4.4
KNT Kendrikon 82.10 318 *e*P **P** 17 20 56.7 0.0
SCHQ Schefferville 82.11 17 P **P** 17 20 56.3 -0.5
comp=Z,10.0nm,0.8s,mb4.8,baz=343,slow=6.5,SNR=16
SCHQ pP pP 17 21 10.2 -0.7
comp=Z,19nm,0.8s,baz=359,slow=6.1,SNR=12
SCHQ LR LR 17 59 05.0
comp=Z,261nm,21.9s,MS4.5,baz=95,slow=37
SCHQ Schefferville 82.11 17 *e*P **P** 17 20 56.2 -0.6
comp=Z,27nm,0.9s,mb5.2
SCHQ *e*pP pP 17 21 10.6 -0.3
SOH Sokhos 82.12 318 *e*P **P** 17 20 55.5 -1.3
VAY Valandovo 82.15 319 *e*P **P** 17 20 56.8 -0.2
VAY Valandovo 82.15 319⇑*i*P **P** 17 20 56.7 -0.2
UCC Uccle 82.19 335 P **P** 17 20 56.5 -0.7
STU Stuttgart 82.20 331 *e*P **P** 17 20 57.0 -0.2
comp=Z,64nm,1.1s,mb5.5
STU Stuttgart 82.20 331 *e*P **P** 17 20 57.3 +0.1
STU pmax pmax
comp=Z,21nm,0.7s,mb5.2
STU Stuttgart 82.20 331 *e*P **P** 17 20 57.3 0.0
comp=Z,20nm,0.7s,mb5.2
BCLA Clavier 82.20 334 P **P** 17 20 56.7 -0.5
comp=Z,8.6nm,1.0s,mb4.6
RUP Ruppelstein 82.20 333⇑*e*P **P** 17 20 57.1 -0.2
SKO Skopje 82.23 320 *e*P **P** 17 20 58.7 +1.3
SKO Skopje 82.23 320⇑*i*P **P** 17 20 58.8 +1.4
LJU Ljubljana 82.28 326 *e*P **P** 17 20 57.2 -0.5
LJU *e* 17 31 32.3
LPM Los Pinos Moun 82.36 51 *e*P **P** 17 20 59.0 +0.9
BOJS Bojanci 82.39 326 *e*P **P** 17 20 58.0 -0.3
comp=Z,100nm,1.8s,mb5.4
BOJS *e* 17 31 30.1
WATA Walderalm 82.46 329⇓*i*P **P** 17 20 58.8 +0.2
comp=Z,87nm,1.7s,mb5.4
WATA pmax pmax
comp=Z,87nm,1.7s,mb5.4
CADS Cadrg 82.47 327 *e*P **P** 17 20 57.4 -1.3
SNF Seneffe 82.47 334 P **P** 17 20 58.2 -0.4
BNM Barren Site 82.48 51 *e*P **P** 17 20 59.2 +0.6
PTCC Patocco-Chiusa 82.48 327 P **P** 17 20 57.7 -1.0
comp=Z,17nm,0.6s,mb5.1
WTTA Wattenberg 82.49 329⇑*i*P **P** 17 20 59.1 +0.3
comp=Z,182nm,2.1s,mb5.6
WTTA Wattenberg 82.49 329⇑*i*P **P** 17 20 59.1 +0.3
WTTA pmax pmax
comp=Z,182nm,2.1s,mb5.6
GRG Griva 82.50 319 *e*P **P** 17 20 58.7 -0.1
WCB1 Church Bay 82.50 341⇑*e*P **P** 17 20 58.3 -0.6
WCB1 AMb AMB 17 21 00.6
comp=Z,30nm,1.9s,mb5.0
WCB1 Church Bay 82.50 341⇑*e*P **P** 17 20 58.3 -0.6
WCB1 AMb AMB 17 21 00.6
comp=Z,30nm,1.9s,mb5.0
WLF1 Llynfaes 82.55 341⇑*e*P **P** 17 20 58.0 -1.1
WLF1 AMb AMB 17 21 00.7
comp=Z,12nm,2.4s,mb4.5
WLF1 Llynfaes 82.55 341⇑*e*P **P** 17 20 58.0 -1.1
WLF1 AMb AMB 17 21 00.7
comp=Z,12nm,2.4s,mb4.5
WLF Walferdange 82.55 333 *e*P **P** 17 20 59.0 -0.1
comp=Z,19nm,0.9s,mb5.1
WLF Walferdange 82.55 333 P **P** 17 20 59.5 +0.4
WLF Walferdange 82.55 333 *e*P **P** 17 20 59.2 +0.1
WLF pmax pmax
comp=Z,26nm,1.2s,mb5.1
WLF Walferdange 82.55 333 *e*P **P** 17 20 59.2 +0.1
comp=Z,26nm,1.2s,mb5.1
VOJS Vojsko 82.56 327 *e*P **P** 17 20 58.0 -1.1
FVI Forni Avoltri 82.57 328 P **P** 17 20 58.0 -1.2
FVI pmax pmax
comp=Z,33nm,1.3s,mb5.2
FVI Forni Avoltri 82.57 328 P **P** 17 20 58.0 -1.2
comp=Z,33nm,1.3s,mb5.2
SBD1 Bryn Du 82.60 340⇑*e*P **P** 17 20 59.6 +0.2
SBD1 AMb AMB 17 21 00.9
comp=Z,87nm,1.1s,mb5.7
SBD1 Bryn Du 82.60 340⇑*e*P **P** 17 20 59.6 +0.2
SBD1 AMb AMB 17 21 00.9
comp=Z,87nm,1.1s,mb5.7
YLL Llanberis 82.62 340⇑*e*P **P** 17 20 59.3 -0.2
YLL Llanberis 82.62 340⇑*e*P **P** 17 20 59.3 -0.2
YRC Rhoscolyn 82.63 341⇑*e*P **P** 17 20 58.2 -1.3
YRC Rhoscolyn 82.63 341⇑*e*P **P** 17 20 58.2 -1.3
GIVF Givet 82.64 334⇑*i*P **P** 17 20 59.0 -0.5
GMNA Gemona 82.64 327 P **P** 17 20 58.6 -0.9
comp=Z,147nm,0.8s,mb6.1
MOTA Moosalm 82.64 329⇑*i*P **P** 17 20 59.7 +0.2
comp=Z,58nm,1.1s,mb5.5,SNR=15
MOTA Moosalm 82.64 329⇑*i*P **P** 17 20 59.7 +0.2
MOTA pmax pmax
comp=Z,58nm,1.1s,mb5.5
SQTA Sankt Quirin 82.70 329⇑*i*P **P** 17 21 00.1 +0.3
comp=Z,63nm,1.4s,mb5.5,SNR=8.5
SQTA Sankt Quirin 82.70 329⇑*i*P **P** 17 21 00.1 +0.3
SQTA pmax pmax
comp=Z,63nm,1.4s,mb5.5
DOU Dourbes 82.72 334 P **P** 17 20 59.4 -0.6
comp=Z,4.2nm,1.2s
YRE Yr Eifl 82.83 340⇑*e*P **P** 17 20 59.9 -0.7
YRE Yr Eifl 82.83 340⇑*e*P **P** 17 20 59.9 -0.7
HLM1 Long Mynd 82.85 339⇑*e*P **P** 17 21 00.3 -0.4
HLM1 AMb AMB 17 21 04.0
comp=Z,30nm,2.2s,mb4.9
HLM1 Long Mynd 82.85 339⇑*e*P **P** 17 21 00.3 -0.4

HLM1 AMb AMB 17 21 04.0
comp=Z,30nm,2.2s,mb4.9

BAIF Baives 82.88 334⇑ iP P 17 21 00.2 -0.6
BFO Black Forest 82.89 331 P P 17 21 00.0 -0.8
comp=Z,161nm,1.2s,mb5.9,SNR=9.4
BFO Black Forest 82.89 331 eP P 17 21 00.6 -0.2
comp=Z,157nm,2.1s,mb5.7
BFO epP pP 17 21 13.7 -1.3
BFO Black Forest 82.89 331 eP P 17 21 00.6 -0.2
BFO e*PP pP 17 21 13.7 -1.3
BFO pmax pmax
comp=Z,157nm,2.1s,mb5.7
SKP1 Kophill 82.98 338⇑ eP P 17 21 00.8 -0.5
SKP1 Kophill 82.98 338⇑ eP P 17 21 00.8 -0.5
BIA Bitola 83.00 319 i P P 17 21 00.6 -0.8
DLF Lyons Farm 83.07 342⇑ iP P 17 21 01.2 -0.6
DSB Dublin 83.08 342 eP P 17 21 01.3 -0.5
comp=Z,75nm,1.6s,mb5.5
LIT Litokhoron 83.09 318 eP P 17 21 01.4 -0.5
MENF Mencas 83.11 336 eP P 17 21 01.2 -0.8
DAVA Damuels 83.17 330 i P P 17 21 02.5 +0.2
comp=Z,122nm,1.6s,mb5.7,SNR=11
OHR Ohrid 83.19 320⇑ iP P 17 21 01.8 -0.6
DCN Croghan 83.20 342 ij P P 17 21 01.8 -0.6
CDF Champ du Feu 83.21 332⇑ iP P 17 21 02.4 -0.1
comp=Z,71nm,1.1s,mb5.3
CDF Champ du Feu 83.21 332⇑ iP P 17 21 02.4 -0.1
CDF pmax pmax
comp=Z,36nm,1.1s,mb5.3
CDF Champ du Feu 83.21 332 i P P 17 21 02.4 -0.1
comp=Z,36nm,1.1s,mb5.3
XOR Xorichti 83.27 317 eP P 17 21 02.1 -0.7
HTR Trewern Hill 83.35 339⇑ eP P 17 21 03.1 -0.1
HTR AMb AMB 17 21 05.5
comp=Z,32nm,1.5s,mb5.1
HTR Trewern Hill 83.35 339⇑ eP P 17 21 03.1 -0.1
HTR AMb AMB 17 21 05.5
comp=Z,32nm,1.5s,mb5.1
MCH1 Michaelchurch 83.35 339⇑ eP P 17 21 02.9 -0.3
MCH1 ⇑eP 17 21 02.9
MCH1 Michaelchurch 83.35 339⇑ eP P 17 21 02.9 -0.3
MCH1 ⇑eP 17 21 02.9
FELD Feldberg im Sc 83.39 331⇑ eP P 17 21 03.3 -0.1
ECH Echery 83.42 332 eP P 17 21 03.2 -0.3
SWN1 Swindon 83.45 338 eP P 17 21 03.9 +0.2
SWN1 Swindon 83.45 338 eP P 17 21 03.9 +0.2
CTI Castel Tesino 83.47 328 P P 17 21 03.0 -0.8
HGH Gray Hill 83.62 339⇑ eP P 17 21 04.3 -0.3
HGH AMb AMB 17 21 05.6
comp=Z,60nm,2.0s,mb5.4
HGH Gray Hill 83.62 339⇑ eP P 17 21 04.3 -0.3
HGH AMb AMB 17 21 05.6
comp=Z,60nm,2.0s,mb5.4
BRMO Bormio 83.64 329 P P 17 21 04.9 +0.2
MOF Molkenrain 83.73 331 eP P 17 21 04.8 -0.4
THEF They Montfort 83.83 332⇑ eP P 17 21 05.4 -0.3
HINF Hinteralfeld 83.86 332⇑ iP P 17 21 05.2 -0.6
comp=Z,36nm,1.2s,mb5.1
HINF Hinteralfeld 83.86 332⇑ iP P 17 21 05.2 -0.6
HINF pmax pmax
comp=Z,18nm,1.2s,mb5.1
HINF Hinteralfeld 83.86 332⇑ iP P 17 21 05.2 -0.6
comp=Z,18nm,1.2s,mb5.1
HAU Haudompre 83.89 332⇑ iP P 17 21 05.5 -0.5
comp=Z,52nm,1.1s,mb5.3
HAU eR
comp=Z,639nm,20.2s
HAU Haudompre 83.89 332⇑ iP P 17 21 05.5 -0.5
HAU pmax pmax
comp=Z,26nm,1.1s,mb5.3
HAU MLR MLR
comp=Z,640nm,20.3s,MS5.0
HAU Haudompre 83.89 332⇑ iP P 17 21 05.5 -0.5
comp=Z,26nm,1.1s,mb5.3
HAU LR LR
comp=Z,640nm,20.3s,MS5.0
SWK Warminster 83.90 338⇑ eP P 17 21 06.0 -0.1
SWK Warminster 83.90 338⇑ eP P 17 21 06.0 -0.1
BBS Basel-Blauen 83.92 331⇑ eP P 17 21 06.1 0.0
MEZF Maizieres J'vi 83.92 333⇑ iP P 17 21 06.1 0.0
MABI Malga Bissina 83.93 329 P P 17 21 05.3 -0.9
TUE Stuetta 84.04 329 P P 17 21 06.7 -0.1
LOMF Lomont 84.26 331⇑ eP P 17 21 07.7 -0.2
SAL Salo 84.29 328 P P 17 21 07.4 -0.6
SAL pmax pmax
comp=Z,62nm,0.7s,mb5.8
SAL Salo 84.29 328 P P 17 21 07.4 -0.6
comp=Z,62nm,0.7s,mb5.8
HTL Hartland 84.65 340⇑ eP P 17 21 09.9 0.0
HTL Hartland 84.65 340⇑ eP P 17 21 09.9 0.0
VAI Varese 84.77 329 P P 17 21 09.9 -0.5
VAI pmax pmax
comp=Z,246nm,1.2s,mb6.2
VAI Varese 84.77 329 P P 17 21 09.9 -0.5
comp=Z,246nm,1.2s,mb6.2
AMTX Amarillo 84.84 48 eP P 17 21 10.9 +0.1
comp=Z,42nm,1.2s,mb5.4
RSM Repubblica di 84.85 326 P P 17 21 11.5 +0.6
FSSB Fossombrone 84.91 326 P P 17 21 11.1 0.0
ARV Arcevia 84.99 326 P P 17 21 11.6 +0.1
comp=Z,17nm,0.8s,mb5.2
MCGN Macugnaga 85.00 330 P P 17 21 11.7 +0.1
comp=Z,63nm,1.0s,mb5.7
SFI Santa Sofia 85.13 327 P P 17 21 12.9 +0.7
SFI pmax pmax
comp=Z,75nm,1.4s,mb5.6
SFI Santa Sofia 85.13 327 P P 17 21 12.9 +0.7
comp=Z,74nm,1.4s,mb5.6
ZCCA Zocca 85.13 327 P P 17 21 13.4 +1.2
comp=Z,41nm,1.0s,mb5.5
CABF La Chapelle 85.16 331 iP P 17 21 12.4 0.0
comp=Z,88nm,1.3s,mb5.4
CABF La Chapelle 85.16 331⇑ iP P 17 21 12.4 0.0
CABF pmax pmax
comp=Z,44nm,1.3s,mb5.4
CABF La Chapelle 85.16 331⇑ iP P 17 21 12.4 0.0
comp=Z,44nm,1.3s,mb5.4
SNTG Esanatoglia 85.19 325 P P 17 21 12.4 -0.1
comp=Z,24nm,0.8s,mb5.4
VMG Vicchio 85.21 327 P P 17 21 14.0 +1.4
comp=Z,96nm,0.8s,mb6.0
ORO Oropa 85.28 330 P P 17 21 12.2 -0.8
ORO pmax pmax
comp=Z,68nm,1.2s,mb5.7
ORO Oropa 85.28 330 P P 17 21 12.2 -0.8
comp=Z,68nm,1.2s,mb5.7
BADI Badiali 85.28 326 P P 17 21 13.3 +0.3
GSCL Gusciola 85.29 328 P P 17 21 13.4 +0.4
comp=Z,25nm,0.9s,mb5.3
CRE Caprese Michel 85.32 326 P P 17 21 13.3 +0.1
CSA1 St Austell 85.35 340⇑ eP P 17 21 13.0 -0.3
CSA1 St Austell 85.35 340⇑ eP P 17 21 13.0 -0.3
MURB Monte Urbino 85.36 326 P P 17 21 13.5 +0.1
LOR Lormes 85.39 333⇑ iP P 17 21 13.0 -0.6
comp=Z,155nm,1.0s,mb5.8
LOR eR
comp=Z,770nm,19.8s
LOR Lormes 85.39 333⇑ iP P 17 21 13.0 -0.6
LOR pmax pmax
comp=Z,77nm,1.0s,mb5.8
LOR MLR MLR
comp=Z,770nm,19.8s,MS5.1
LOR Lormes 85.39 333⇑ iP P 17 21 13.0 -0.6
comp=Z,77nm,1.0s,mb5.8
LOR LR LR
comp=Z,770nm,19.8s,MS5.1
TERO Teramo 85.40 325 P P 17 21 13.2 -0.4
BOB Bobbio (Coli) 85.41 328 P P 17 21 12.4 -1.2
PPT Papeete 85.44 117 eLR LR 17 47 34.3
comp=Z,1µm,22.5s,baz=314
PPT Papeete 85.44 117 LR LR 17 54 24.3
comp=Z,457nm,18.4s,MS4.9,baz=302,slow=32
NRCA Norcia 85.45 325 P P 17 21 13.9 +0.1
comp=Z,72nm,1.2s,mb5.7
FLN La Foliniere 85.51 336⇑ iP P 17 21 13.7 -0.4
FLN eR
comp=Z,847nm,23.0s
FLN La Foliniere 85.51 336⇑ iP P 17 21 13.7 -0.4
FLN LR LR
comp=Z,850nm,23.0s,MS5.1
LDF La Druitiere 85.55 336⇑ iP P 17 21 13.8 -0.5
comp=Z,52nm,1.1s,mb5.4
LDF La Druitiere 85.55 336⇑ iP P 17 21 13.8 -0.5
LDF pmax pmax
comp=Z,26nm,1.1s,mb5.4
LDF La Druitiere 85.55 336⇑ iP P 17 21 13.8 -0.5
comp=Z,26nm,1.1s,mb5.4
CRQ2 Rosemanowes 2 85.59 340⇑ eP P 17 21 14.0 -0.5
CRQ2 AMb AMB 17 21 16.5
comp=Z,102nm,1.6s,mb5.8
CRQ2 Rosemanowes 2 85.59 340⇑ eP P 17 21 14.0 -0.5
CRQ2 AMb AMB 17 21 16.5
comp=Z,102nm,1.6s,mb5.8
CMA1 Manaccan 85.66 340⇑ eP P 17 21 14.5 -0.4
CMA1 Manaccan 85.66 340⇑ eP P 17 21 14.5 -0.4
CGH1 Goonhilly 85.69 340⇑ eP P 17 21 14.4 -0.6
CGH1 Goonhilly 85.69 340⇑ eP P 17 21 14.4 -0.6
SSF Saint Saulge 85.69 333⇑ iP P 17 21 14.9 -0.1
comp=Z,81nm,0.9s,mb5.6
SSF Saint Saulge 85.69 333⇑ iP P 17 21 14.9 -0.1
SSF pmax pmax
comp=Z,40nm,0.9s,mb5.7
SSF Saint Saulge 85.69 333⇑ iP P 17 21 14.9 -0.1
comp=Z,40nm,0.9s,mb5.7
AQU L'Aquila 85.71 325⇑ iP P 17 21 15.4 +0.3
AQU L'Aquila 85.71 325 eP P 17 21 15.2 +0.1
AQU pmax pmax
comp=Z,7.0nm,0.4s,mb5.2
AQU L'Aquila 85.71 325 eP P 17 21 15.2 +0.1
comp=Z,6.5nm,0.4s,mb5.2
CPZ Penzance 85.71 340⇑ eP P 17 21 14.5 -0.6
CPZ AMb AMB 17 21 15.9
comp=Z,72nm,1.1s,mb5.8
CPZ Penzance 85.71 340⇑ eP P 17 21 14.5 -0.6
CPZ AMb AMB 17 21 15.9
comp=Z,72nm,1.1s,mb5.8
FG5 Orsara di Pugl 85.72 323 P P 17 21 15.8 +0.7
FG5 pmax pmax
comp=Z,46nm,1.0s,mb5.7
FG5 Orsara di Pugl 85.72 323 P P 17 21 15.8 +0.7
comp=Z,46nm,1.0s,mb5.7
RSL Roselend 85.74 331⇑ eP P 17 21 15.1 -0.2
HYF Humbligny 85.81 334 eP P 17 21 15.9 +0.3
LPL La Plagne 85.84 330⇑ iP P 17 21 16.0 +0.2
comp=Z,98nm,1.0s,mb5.7
LPL La Plagne 85.84 330⇑ iP P 17 21 16.0 +0.2
LPL pmax pmax
comp=Z,49nm,1.0s,mb5.7
LPL La Plagne 85.84 330⇑ iP P 17 21 16.0 +0.2
comp=Z,49nm,1.0s,mb5.7
LPG La Plagne 85.85 330⇑ iP P 17 21 16.1 +0.3
comp=Z,117nm,1.0s,mb5.8
LPG La Plagne 85.85 330⇑ iP P 17 21 16.1 +0.3
LPG pmax pmax
comp=Z,58nm,1.0s,mb5.8
LPG La Plagne 85.85 330⇑ iP P 17 21 16.1 +0.3
comp=Z,58nm,1.0s,mb5.8
OG05 Jujurieux 85.88 331 eP P 17 21 15.9 0.0
SMF Signal de Mont 85.94 333⇑ iP P 17 21 16.1 -0.1
comp=Z,189nm,1.2s,mb5.9
SMF Signal de Mont 85.94 333⇑ iP P 17 21 16.1 -0.1
SMF pmax pmax
comp=Z,94nm,1.2s,mb5.9
SMF Signal de Mont 85.94 333⇑ iP P 17 21 16.1 -0.1
comp=Z,94nm,1.2s,mb5.9
GRR Gorron 85.96 336⇑ iP P 17 21 16.2 -0.1
comp=Z,112nm,1.1s,mb5.7
GRR Gorron 85.96 336⇑ iP P 17 21 16.2 -0.1
GRR pmax pmax
comp=Z,56nm,1.1s,mb5.7
GRR Gorron 85.96 336⇑ iP P 17 21 16.2 -0.1
comp=Z,56nm,1.1s,mb5.7
AVF Avril sur Loir 85.98 333⇑ iP P 17 21 16.4 -0.1
comp=Z,201nm,0.9s,mb6.0
AVF Avril sur Loir 85.98 333⇑ iP P 17 21 16.4 -0.1
AVF pmax pmax
comp=Z,100nm,0.9s,mb6.0
AVF Avril sur Loir 85.98 333⇑ iP P 17 21 16.4 -0.1
comp=Z,100nm,0.9s,mb6.0
VVLD Villa Vallelon 86.00 324 P P 17 21 15.8 -0.7
MNS Montasola 86.00 325 P P 17 21 15.4 -1.2
SDI San Donato 86.04 324 P P 17 21 16.1 -0.7
SDI pmax pmax
comp=Z,15nm,0.8s,mb5.3
SDI San Donato 86.04 324 P P 17 21 16.1 -0.7
comp=Z,15nm,0.8s,mb5.3
BNI Bardonecchia 86.26 330 eP P 17 21 17.4 -0.4
BNI pmax pmax
comp=Z,27nm,1.0s,mb5.4
BNI Bardonecchia 86.26 330 eP P 17 21 17.4 -0.4
comp=Z,27nm,1.0s,mb5.4
TAOE Nuku Hiva Isla 86.27 105 eLR LR 17 47 57.7
comp=Z,3µm,29.8s,baz=320
GDM Grand'Maison 86.34 331 eP P 17 21 18.3 +0.1
BGF Bois d'Agland 86.36 333⇑ iP P 17 21 18.3 0.0
comp=Z,48nm,0.9s,mb5.4
BGF Bois d'Agland 86.36 333⇑ iP P 17 21 18.3 0.0
BGF pmax pmax
comp=Z,24nm,0.9s,mb5.4
BGF Bois d'Agland 86.36 333⇑ iP P 17 21 18.3 0.0
comp=Z,24nm,0.9s,mb5.4
GRN Grenoble 86.45 331 eP P 17 21 19.1 +0.3
SGMF Saint Gilles 86.59 337⇑ iP P 17 21 19.5 0.0
comp=Z,156nm,1.3s,mb5.8
SGMF Saint Gilles 86.59 337⇑ iP P 17 21 19.5 0.0
SGMF pmax pmax
comp=Z,78nm,1.3s,mb5.8
SGMF Saint Gilles 86.59 337⇑ iP P 17 21 19.5 0.0
comp=Z,78nm,1.3s,mb5.8
PLDF La Plantade 86.60 333 eP P 17 21 19.9 +0.4
TIP Timpagrande 86.66 321 eP P 17 21 19.4 -0.4
TIP epP pP 17 21 32.8 -1.2
ORIF Oris-en-Rattie 86.67 331⇑ iP P 17 21 19.8 -0.1
comp=Z,38nm,1.1s,mb5.2
ORIF eR
comp=Z,480nm,21.0s
ORIF Oris-en-Rattie 86.67 331⇑ iP P 17 21 19.8 -0.1
ORIF pmax pmax
comp=Z,19nm,1.1s,mb5.2
ORIF Oris-en-Rattie 86.67 331⇑ iP P 17 21 19.8 -0.1
comp=Z,19nm,1.1s,mb5.2
SURF Saint Ours 86.69 330 eP P 17 21 19.7 -0.2
AGO Saint Agoulin 86.70 333 eP P 17 21 20.3 +0.3
ROSF Rostrenen 86.72 338⇑ iP P 17 21 20.4 +0.3
comp=Z,144nm,1.1s,mb5.8
ROSF Rostrenen 86.72 338⇑ iP P 17 21 20.4 +0.3
ROSF pmax pmax
comp=Z,72nm,1.1s,mb5.8
ROSF Rostrenen 86.72 338⇑ iP P 17 21 20.4 +0.3
comp=Z,72nm,1.1s,mb5.8
TCF Toulx Ste Croi 86.81 334⇑ iP P 17 21 20.7 +0.2
comp=Z,119nm,1.3s,mb5.7
TCF Toulx Ste Croi 86.81 334⇑ iP P 17 21 20.7 +0.2
TCF pmax pmax
comp=Z,60nm,1.3s,mb5.7
TCF Toulx Ste Croi 86.81 334⇑ iP P 17 21 20.7 +0.2
comp=Z,60nm,1.3s,mb5.7
SBF Sospel 86.97 329⇑ iP P 17 21 20.8 -0.5
comp=Z,17nm,0.7s,mb5.1
SBF Sospel 86.97 329⇑ iP P 17 21 20.8 -0.5
SBF pmax pmax
comp=Z,9.0nm,0.7s,mb5.1
SBF Sospel 86.97 329⇑ iP P 17 21 20.8 -0.5
comp=Z,8.7nm,0.7s,mb5.1
PYM Petit Puy Mans 87.00 333 eP P 17 21 21.9 +0.4
QUIF Quistinic 87.07 338⇑ iP P 17 21 21.7 -0.1
comp=Z,38nm,1.0s,mb5.3
QUIF Quistinic 87.07 338⇑ iP P 17 21 21.7 -0.1
QUIF pmax pmax
comp=Z,19nm,1.0s,mb5.3
QUIF Quistinic 87.07 338⇑ iP P 17 21 21.7 -0.1
comp=Z,19nm,1.0s,mb5.3
VIVF Saint-Julien-l 87.17 331⇑ iP P 17 21 22.4 +0.1
comp=Z,94nm,1.3s,mb5.5
VIVF Saint-Julien-l 87.17 331⇑ iP P 17 21 22.4 +0.1
VIVF pmax pmax
comp=Z,47nm,1.3s,mb5.6
VIVF Saint-Julien-l 87.17 331⇑ iP P 17 21 22.4 +0.1
comp=Z,47nm,1.3s,mb5.6
MFF Saint Martin d 87.32 335⇑ iP P 17 21 23.1 +0.1
comp=Z,109nm,1.0s,mb5.8
MFF Saint Martin d 87.32 335⇑ iP P 17 21 23.1 +0.1
MFF pmax pmax
comp=Z,55nm,1.0s,mb5.7
MFF Saint Martin d 87.32 335⇑ iP P 17 21 23.1 +0.1
comp=Z,55nm,1.0s,mb5.7
LBL Lubilhac 87.37 332 eP P 17 21 23.8 +0.6
PGF Pioggiola 87.43 327⇑ iP P 17 21 22.6 -1.0
LCHF La Chataignera 87.45 336⇑ eP P 17 21 24.4 +0.8
FRNF Fournols 87.47 333 eP P 17 21 24.2 +0.5
FRF La Foret Royal 87.53 329⇑ iP P 17 21 22.8 -1.2
LTX Lajitas 87.65 53 eP P 17 21 25.1 +0.5
LTX pmax pmax
comp=Z,27nm,1.3s,mb5.3
LTX Lajitas 87.65 53 eP P 17 21 25.1 +0.6
comp=Z,27nm,1.3s,mb5.3
LMR La Mourre 87.77 329⇑ iP P 17 21 24.2 -1.0
SOI Samo 87.87 320 P P 17 21 25.0 -0.6
RJF Les Rejaudoux 87.91 333⇑ iP P 17 21 26.1 +0.3
comp=Z,102nm,1.2s,mb5.6
RJF eR
comp=Z,657nm,22.5s
RJF Les Rejaudoux 87.91 333⇑ iP P 17 21 26.1 +0.3
RJF pmax pmax
comp=Z,51nm,1.2s,mb5.6
RJF MLR MLR
comp=Z,660nm,22.5s,MS5.0
RJF Les Rejaudoux 87.91 333⇑ iP P 17 21 26.1 +0.3
comp=Z,51nm,1.2s,mb5.6
RJF LR LR
comp=Z,660nm,22.5s,MS5.0
CCM Cathedral Cave 87.97 39 eP P 17 21 25.1 -1.0
CCM pmax pmax
comp=Z,67nm,1.4s,mb5.7
CCM Cathedral Cave 87.97 39 eP P 17 21 25.1 -1.0
comp=Z,67nm,1.4s,mb5.7
CAF Calviac 88.05 333⇑ iP P 17 21 27.2 +0.7
comp=Z,74nm,1.1s,mb5.5
CAF Calviac 88.05 333⇑ iP P 17 21 27.2 +0.7
CAF pmax pmax
comp=Z,37nm,1.1s,mb5.5
CAF Calviac 88.05 333⇑ iP P 17 21 27.2 +0.7
comp=Z,37nm,1.1s,mb5.5
LASF Ste Croix 88.14 331⇑ iP P 17 21 27.1 +0.2
FVM French Village 88.42 39 eP P 17 21 27.7 -0.6
FVM pmax pmax
comp=Z,17nm,0.6s,mb5.5
FVM French Village 88.42 39 eP P 17 21 27.7 -0.5
comp=Z,17nm,0.6s,mb5.5
LFF La Frestale 88.49 334⇑ iP P 17 21 29.1 +0.5
comp=Z,73nm,1.1s,mb5.5
LFF La Frestale 88.49 334⇑ iP P 17 21 29.1 +0.5
LFF pmax pmax
comp=Z,36nm,1.1s,mb5.5
LFF La Frestale 88.49 334⇑ iP P 17 21 29.1 +0.5
comp=Z,36nm,1.1s,mb5.5
JCT Junction City 89.13 50 P P 17 21 30.9 -0.7
JCT pmax pmax
comp=Z,6.0nm,0.6s,mb5.1
JCT Junction City 89.13 50 P P 17 21 30.9 -0.7
comp=Z,5.8nm,0.6s,mb5.1
MTLF Montolieu 89.37 332⇑ iP P 17 21 33.0 +0.3
comp=Z,24nm,0.9s,mb5.2
MTLF Montolieu 89.37 332⇑ iP P 17 21 33.0 +0.3
MTLF pmax pmax
comp=Z,12nm,0.9s,mb5.2
MTLF Montolieu 89.37 332⇑ iP P 17 21 33.0 +0.3
comp=Z,12nm,0.9s,mb5.2
MIAR Mount Ida 89.53 43 eP P 17 21 32.0 -1.4
MIAR pmax pmax
comp=Z,20nm,0.9s,mb5.5
MIAR Mount Ida 89.53 43 eP P 17 21 31.9 -1.5
comp=Z,20nm,0.9s,mb5.4
TBI Tubuai 89.55 121 eLR LR 17 49 19.5
comp=Z,667nm,26.2s,baz=314
ALLY Alegheny Colle 89.88 30 eP P 17 21 35.2 +0.1
ACSO Alum Creek Sta 89.94 33 eP P 17 21 35.5 +0.2
comp=Z,19nm,0.8s,mb5.5
NCB Newcomb 89.98 25 eP P 17 21 34.1 -1.4
comp=Z,23nm,1.4s,mb5.3
NCB epP pP 17 21 49.0 -0.9
WCI Wyandotte Cave 90.16 36 eP P 17 21 36.5 +0.1
WCI e*PP pP 17 21 50.4 -0.3
WCI pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
WCI Wyandotte Cave 90.16 36 eP P 17 21 36.5 +0.1
comp=Z,7.8nm,0.8s,mb5.1
WCI epP pP 17 21 50.4 -0.3
EPF Esparros 90.31 333⇑ iP P 17 21 36.7 -0.4
comp=Z,16nm,1.0s,mb5.0
EPF Esparros 90.31 333⇑ iP P 17 21 36.7 -0.4
EPF pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
EPF Esparros 90.31 333⇑ iP P 17 21 36.7 -0.4
comp=Z,8.1nm,1.0s,mb5.0
EBIE Bielsa 90.68 333 P P 17 21 38.9 +0.1
comp=Z,37nm,1.5s,mb5.5
ETSF Etsaut 90.73 334⇑ iP P 17 21 39.8 +0.7
comp=Z,38nm,1.2s,mb5.3
ETSF Etsaut 90.73 334⇑ iP P 17 21 39.8 +0.7
ETSF pmax pmax
comp=Z,19nm,1.2s,mb5.3
ETSF Etsaut 90.73 334⇑ iP P 17 21 39.8 +0.7
comp=Z,19nm,1.2s,mb5.3
EALK Alkurruntz 90.77 334 P P 17 21 39.0 -0.2
comp=Z,42nm,1.6s,mb5.5
BINY Binghamton 90.94 27 eP P 17 21 40.0 -0.1
comp=Z,45nm,1.2s,mb5.7
EGRA Graus 91.05 333 P P 17 21 40.9 +0.3
comp=Z,18nm,0.8s,mb5.5
WVT Waverly 91.15 38 eP P 17 21 40.6 -0.4
WVT pmax pmax
comp=Z,28nm,1.4s,mb5.4
WVT Waverly 91.15 38 eP P 17 21 40.6 -0.4
comp=Z,28nm,1.4s,mb5.4
ELAN Lanestosa 91.38 336 P P 17 21 41.1 -1.0
comp=Z,110nm,1.9s,mb5.9
SSPA Standing Stone 91.62 29 eP P 17 21 42.7 -0.4
comp=Z,27nm,1.1s,mb5.5
OXF Oxford 91.68 40 eP P 17 21 42.6 -0.9
OXF pmax pmax
comp=Z,98nm,1.4s,mb6.0
OXF Oxford 91.68 40 eP P 17 21 42.6 -0.9
comp=Z,98nm,1.4s,mb6.0
ESAC San Caprasio 91.74 333 P P 17 21 43.7 0.0
comp=Z,137nm,1.8s,mb6.0
ERTA Horta de San J 92.14 332 P P 17 21 44.6 -1.0
comp=Z,25nm,1.1s,mb5.5
EMOS Mosqueruela 92.95 332 P P 17 21 49.7 +0.4
comp=Z,15nm,1.1s,mb5.3
ETOR Torete 93.09 334 P P 17 21 49.1 -0.9
ETOR pmax pmax
comp=Z,8.0nm,1.2s,mb5.0
ETOR Torete 93.09 334 P P 17 21 49.1 -0.9
comp=Z,7.8nm,1.2s,mb5.0
CPCT Cooper Cave 93.25 37 eP P 17 21 50.5 -0.3
ELN Prospectdale 93.41 33 eP P 17 21 51.2 -0.2
GUD Guadarrama 93.94 335 P P 17 21 52.4 -1.5
GUD pmax pmax
comp=Z,6.0nm,1.4s,mb4.8
GUD Guadarrama 93.94 335 P P 17 21 52.4 -1.5
comp=Z,5.6nm,1.4s,mb4.8
ESDC Sonseca Array 94.76 335 P P 17 21 57.3 -0.3
comp=Z,3.0nm,0.6s,mb4.9,baz=18,slow=4.6,SNR=12
ESDC PP PP 17 25 33.4 -13
comp=Z,0.2nm,0.2s,baz=20,slow=6.8,SNR=4.0
ESDC LR LR 18 10 03.4
comp=Z,391nm,18.7s,MS4.9,baz=25,slow=39
ESDC Sonseca Array 94.76 335 P P 17 21 56.1 -1.5
comp=Z,1.7nm,1.6s
ESLA Sonseca Array 94.76 335 eP P 17 21 56.9 -0.7
comp=Z,3.3nm,1.3s,mb4.6
EVIA Vianos 95.19 333 P P 17 22 00.2 +0.6
EVIA pmax pmax
comp=Z,17nm,0.9s,mb5.5
EVIA Vianos 95.19 333 P P 17 22 00.2 +0.5
comp=Z,17nm,0.9s,mb5.5
RKT Rikitea 99.30 112 eLR LR 17 53 58.9
comp=Z,750nm,24.0s
KMBO Kilima Mbogo 102.21 279 P Pdif 17 22 30.9 -0.3
comp=Z,1.2nm,0.5s,baz=47,slow=11,SNR=5.3
KMBO Kilima Mbogo 102.21 279 i P Pdif 17 22 31.3 +0.2
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 102.21 279 e Pdif Pdif 17 22 30.7 -0.4
comp=Z,2.8nm,1.2s
TORD Torodi Ar. Bea 115.56 317 PKP PKPdf 17 27 17.3 -0.7
comp=Z,1.5nm,0.8s,baz=352,slow=1.5,SNR=9.6
TORD PP PP 17 28 18.1 -2.4
comp=Z,16nm,1.1s,baz=26,slow=6.0,SNR=13
VNDA Vanda 118.06 175 PKP PKPdf 17 27 20.8 -2.0
comp=Z,0.9nm,0.9s,baz=292,slow=2.7,SNR=3.6
VNDA Vanda 118.06 175 PKP PKPdf 17 27 20.8 -2.0
MAW Mawson 122.68 207 PKP PKPdf 17 27 30.0 -1.7
comp=Z,2.3nm,0.7s,baz=6.6,slow=2.2,SNR=6.2
DBIC Dimbokro 124.41 319 PKP PKPdf 17 27 34.5 -0.6
comp=Z,6.3nm,0.8s,baz=251,slow=20,SNR=6.4
BOSA Boshof 127.78 262 PKP PKPdf 17 27 41.2 -0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,6.1nm,1.0s,baz=134,slow=2.1,SNR=7.2						
QSPA	**South Pole Qui**	**129.93**	**180**	*e*P	PKPdf	17 27 43.3	-2.3
LPAZ	**La Paz**	**144.43**	**57**	PKP	PKPdf	17 28 11.6	-0.6
	comp=Z,4.2nm,0.8s,baz=357,slow=6.4,SNR=13						
LPAZ	**La Paz**	**144.43**	**57**	PKIKP	PKPdf	17 28 11.6	-0.6
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LPAZ	**La Paz**	**144.43**	**57**	*e*PKP	PKPdf	17 28 10.9	-1.3
RCBR	**Riachuelo**	**145.75**	**357**	*e*PKPdf	PKPdf	17 28 14.8	+0.4
RCBR				*e*pPKPdf	pPKPdf	17 28 29.5	+0.2
VNA1	**Neumayer--Stat**	**145.94**	**197**	*e*PKPdf	PKPdf	17 28 13.7	-1.1
VNA1				*e*		17 28 14.3	
VNA1				*e*		17 28 14.6	
VNA1				*e*		17 28 15.3	
VNA1				*e*		17 28 17.0	
VNA1				*e*		17 28 20.3	
VNA1				*e*		17 28 24.5	
VNA1				*e*		17 28 29.8	
VNA1				*e*		17 28 35.3	
VNA1				*e*		17 28 40.9	
VNA1				*e*		17 29 01.8	
VNA1				*e*		21 31 21.3	
VNA1				*e*		21 31 29.3	
LVC	**Limon Verde**	**148.32**	**66**	*e*PKPbc	PKPbc	17 28 23.1	+0.8
SIV	**San Ignacio**	**148.45**	**47**	PKP	PKPdf	17 28 19.1	+0.1
	comp=Z,19nm,0.9s,baz=320,slow=2.8,SNR=28						
SIV				PKPbc	PKPbc	17 28 22.6	0.0
	comp=Z,19nm,0.9s,baz=312,slow=2.3,SNR=53						
SIV				pPKPbc	pPKPbc	17 28 36.0	-1.3
	comp=Z,20nm,0.9s,baz=303,slow=1.6,SNR=7.7						
BDFB	**Brasilia**	**153.93**	**23**	PKPbc	PKPbc	17 28 35.7	+0.3
	comp=Z,9.0nm,0.9s,baz=319,slow=1.9,SNR=8.9						
BDFB				pPKPbc	pPKPbc	17 28 48.8	-1.4
	comp=Z,11nm,0.9s,baz=310,slow=3.6,SNR=5.9						
PLCA	**Paso Flores**	**155.07**	**102**	PKPbc	PKPdf	17 28 37.5	+8.6
	comp=Z,2.0nm,0.9s,baz=254,slow=4.9,SNR=6.1						

*IDC **05** 17:09:35.1±13.0, 567N×126.12E, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.0/19, mbtmp4.2/5, Error ellipse: s-maj=232.9km s-min=78.1km az=170.0*
*MAN **05** 17:09:44.1, 556N×126.16E, h91km, mb3.0, ML4.4, MS3.7*
*ISCJB **05** 17:09:45.3±0.7, 58N±0.1×126.16E±0.09, h117km±18km, mb4.1/5, Error ellipse: s-maj=23.6km s-min=14.8km az=29.0*
ISC 05 17:09:46.7±0.7**, 58N**±02×**12615E**±010**, h113**km±19km**, n20, σ0^{s}73**/24**, mb4.1**/5**, 3C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**1.15**	**6**	*e*P	**Pn**	**17 10 08.3**	**-1.4**
MATI				*e*S	**Sn**	**17 10 28.1**	**+0.9**
DAV	**Davao City (W)**	**1.39**	**336**	*e*P	**Pn**	**17 10 12.5**	**+0.1**
DMPH	**Davao City--Mi**	**1.43**	**334**	⇑*i*P	**Pn**	**17 10 12.7**	**-0.2**
DMPH				*i* S	**Sn**	**17 10 31.6**	**-1.1**
KCP	**Kidapawan**	**1.60**	**319**	⇑*e*P	**Pn**	**17 10 14.9**	**0.0**
KCP				*e*S	**Sn**	**17 10 36.6**	**+0.3**
BUKP	**Musuan**	**2.34**	**333**	*e*P	**Pn**	**17 10 24.5**	**+0.4**
CTBH	**Cotabato--PC H**	**2.36**	**307**	⇑*i*P	**Pn**	**17 10 24.2**	**-0.2**
CTBH				*i* S	**Sn**	**17 10 53.7**	**+0.4**
CGP	**Cagayan de Oro**	**3.01**	**332**	*i* S	**Sn**	**17 11 07.7**	**-0.9**
BUTP	**Butuan**	**3.20**	**351**	*e*P	**Pn**	**17 10 36.9**	**+1.5**
PAGZ	**Pagadian**	**3.42**	**307**	*e*P	**Pn**	**17 10 38.6**	**+0.3**
SCPH	**Surigao**	**4.02**	**351**	⇓*e*P	**Pn**	**17 10 51.2**	**+4.9**
KAKA	**Kakadu**	**19.42**	**161**	*e*P	**P**	**17 14 04.7**	**+0.7**
	10nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.75**	**181**	*e*P	**P**	**17 14 48.9**	**+0.4**
	5.8nm,1.0s,mb3.9						
FITZ	**Fitzroy Crossi**	**23.75**	**181**	P	**P**	**17 14 49.2**	**+0.7**
	2.3nm,0.7s,mb3.6,baz=6.2,slow=12,SNR=26						
WRA	**Warramunga Arr**	**26.81**	**163**	P	**P**	**17 15 15.8**	**-0.4**
	1.4nm,0.4s,mb3.9,baz=339,slow=10,SNR=29						
WB2	**Warramunga Arr**	**26.82**	**163**	*e*P	**P**	**17 15 15.8**	**-0.5**
ASPA	**Alice Springs**	**30.24**	**166**	*e*P	**P**	**17 15 45.1**	**-1.6**
ASAR	**Alice Springs**	**30.24**	**166**	P	**P**	**17 15 46.7**	**0.0**
	1.8nm,0.6s,mb3.9,baz=344,slow=7.2,SNR=41						
NWAO	**Narrogin (SRO)**	**39.42**	**192**	P	**P**	**17 17 05.8**	**+0.3**
	12nm,1.1s,mb4.6,baz=24,slow=8.9,SNR=5.6						
STKA	**Stephens Creek**	**40.25**	**159**	*e*P	**P**	**17 17 12.8**	**+0.5**
	2.7nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**40.25**	**159**	P	**P**	**17 17 12.8**	**+0.5**
	3.4nm,0.4s,mb4.5,baz=340,slow=7.4,SNR=17						

IDC 05 17:15:39.0±17.0**, 2238S**×**17485W, h0**km**, mb4.2**/5**, mb1 4.4**/5**, mb1mx4.0**/15**, mbtmp4.2**/5**, Error ellipse: s-maj=320.4km s-min=139.7km az=82.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.26**	**266**	P	P	17 22 44.9	+1.0
	4.2nm,0.4s,baz=94,slow=12,SNR=15						
STKA	**Stephens Creek**	**39.68**	**247**	P	P	17 23 13.2	+0.4
	3.1nm,1.1s,baz=90,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**46.98**	**258**	P	P	17 24 11.3	-0.3
	1.0nm,0.4s,baz=96,slow=7.3,SNR=23						
WRA	**Warramunga Arr**	**47.27**	**263**	P	P	17 24 13.5	-0.5
	1.3nm,0.3s,baz=102,slow=8.2,SNR=59						
FITZ	**Fitzroy Crossi**	**55.70**	**263**	P	P	17 25 18.3	+1.1
	2.3nm,0.9s,baz=98,slow=7.1,SNR=6.1						

*ISCJB **05** 17:24:06.4±0.6, 4272N±0.05×142.15E±0.06, h138km±4km, mb3.5/4, Error ellipse: s-maj=8.8km s-min=5.9km az=92.0*
*IDC **05** 17:24:07.0±1.5, 4563N×14236E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/20, mbtmp3.6/4, Error ellipse: s-maj=58.6km s-min=18.6km az=71.0*
*JMA **05** 17:24:07.4±0.2, 4281N×142.11E, h139km±2km, M2.8*
ISC 05 17:24:07.2±0.6**, 4272N**±005×**14215E**±006**, h137**km±4km**, n22, σ0^{s}51**/34**, mb3.5**/4**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JBT2	**Biratori 2**	**0.17**	**68**	P	**Pn**	**17 24 26.3**	**+0.5**
JBT2				*e*S	**Sn**	**17 24 40.3**	**+0.5**
JEW	**Eniwo**	**0.53**	**284**	P	**Pn**	**17 24 27.1**	**-0.1**
JEW				*e*S	**Sn**	**17 24 41.8**	**-0.5**
JFR	**Furan**	**0.55**	**36**	P	**Pn**	**17 24 27.4**	**+0.1**
JFR				*e*S	**Sn**	**17 24 42.2**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.62**	**134**	P	**Pn**	**17 24 29.1**	**+1.4**
JAB	**Ashibetsu**	**0.79**	**4**	P	**Pn**	**17 24 29.1**	**+0.2**
JAB				*e*S	**Sn**	**17 24 45.3**	**-0.1**
JCH	**Churui**	**0.90**	**96**	P	**Pn**	**17 24 29.9**	**+0.1**
JCH				*e*S	**Sn**	**17 24 46.4**	**-0.6**
JHR	**Hokuryu**	**1.07**	**343**	P	**Pn**	**17 24 31.7**	**+0.3**
JHR				*e*S	**Sn**	**17 24 49.8**	**+0.1**
JKB	**Kayabe**	**1.17**	**225**	P	**Pn**	**17 24 32.4**	**+0.1**
JKB				*e*S	**Sn**	**17 24 50.8**	**-0.7**
JKK2	**Kamakawa 2**	**1.23**	**20**	P	**Pn**	**17 24 33.2**	**+0.3**
JKK2				*e*S	**Sn**	**17 24 52.0**	**-0.6**
JAR	**Ashorobuto**	**1.32**	**63**	P	**Pn**	**17 24 34.1**	**+0.3**
JAR				*e*S	**Sn**	**17 24 53.8**	**-0.3**
JSK	**Shakotan**	**1.38**	**298**	P	**Pn**	**17 24 34.5**	**0.0**
ASAJ	**Asahikawa**	**1.44**	**13**	Pn	**Pn**	**17 24 35.1**	**+0.1**
	0.9nm,0.3s,baz=219,slow=12,SNR=16						
ASAJ				Sn	**Sn**	**17 24 55.8**	**-0.5**
	2.0nm,0.3s,baz=56,slow=30,SNR=7.4						
JOT	**Ohata**	**1.57**	**212**	P	**Pn**	**17 24 36.7**	**+0.2**
JOT				*e*S	**Sn**	**17 24 58.7**	**-0.2**
JYG	**Yagishiri**	**1.79**	**343**	P	**Pn**	**17 24 39.1**	**+0.1**
JTKR	**Abashiri--Toko**	**1.79**	**45**	P	**Pn**	**17 24 39.9**	**+0.8**
JTKR				*e*S	**Sn**	**17 25 04.5**	**+1.1**
JAK	**Akkeshi**	**1.89**	**81**	P	**Pn**	**17 24 40.0**	**-0.2**
JAK				*e*S	**Sn**	**17 25 04.4**	**-1.1**
JOSM	**Okushiri--Mats**	**2.08**	**253**	P	**Pn**	**17 24 42.6**	**+0.1**
SONM	**Songino Array**	**25.52**	**294**	P	**P**	**17 29 30.1**	**+7.2**
	0.3nm,0.6s,mb3.1,baz=97,slow=6.0,SNR=2.9						
BVAR	**Borovoye Array**	**47.31**	**309**	P	**P**	**17 32 27.3**	**+0.4**
	0.6nm,0.4s,mb3.6,baz=72,slow=7.6,SNR=4.7						
FINES	**FINESS Array B**	**64.08**	**331**	P	**P**	**17 34 25.9**	**-0.6**
	0.5nm,0.5s,mb3.6,baz=54,slow=7.1,SNR=5.3						
NOA	**NORSAR Array B**	**69.18**	**337**	P	**P**	**17 34 58.1**	**-0.7**
	0.5nm,0.6s,mb3.5,baz=38,slow=6.3,SNR=3.7						
VNDA	**Vanda**	**120.58**	**175**	PKP	PKPdf	17 43 05.0	+22
	0.8nm,0.3s,baz=307,slow=1.8,SNR=13						

IDC 05 17:24:39.0±27.0**, 2152S**×**17377W, h0**km**, mb4.2**/4**, mb1 4.3**/4**, mb1mx4.0**/15**, mbtmp4.2**/4**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.8**/21**, Error ellipse: s-maj=499.3km s-min=153.8km az=75.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.04**	**91**	LR	LR	17 31 15.3	
	comp=Z,169nm,18.6s,baz=123,slow=30						
CTA	**Charters Tower**	**37.33**	**265**	P	P	17 31 54.3	+1.3
	4.2nm,0.3s,baz=99,slow=11,SNR=13						
STKA	**Stephens Creek**	**40.95**	**246**	P	P	17 32 22.7	-0.6
	3.3nm,0.9s,baz=72,slow=9.6,SNR=4.6						
ASAR	**Alice Springs**	**48.14**	**257**	P	P	17 33 20.9	+0.1
	1.0nm,0.6s,baz=91,slow=7.9,SNR=21						
WRA	**Warramunga Arr**	**48.38**	**262**	P	P	17 33 22.9	+0.2
	0.5nm,0.3s,baz=96,slow=8.5,SNR=54						

FUNV 05 17:25:45.7, 675N×**7315W, h176**km**, MW3.5, 1C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.38**	**37**	⇑*i*P	Pn	17 26 15.5	-0.7
CAPV				*e*S	Sn	17 26 37.6	-2.1
VIGV	**El Vigia**	**2.73**	**40**	*e*P	Pn	17 26 30.1	-0.7
VIGV				*e*S	Sn	17 27 03.0	-2.8
SOCV	**Socops**	**2.74**	**56**	*e*P	Pn	17 26 30.2	-0.7
SOCV				*e*S	Sn	17 27 02.7	-3.3
VIRV	**Villa del Rosa**	**3.80**	**11**	*e*P	Pn	17 26 42.4	-1.6
VIRV				*e*S	Sn	17 27 24.8	-4.8
QARV	**Quebrada Arrib**	**4.30**	**37**	*e*P	Pn	17 26 50.0	-0.5
SANV	**Sanarito**	**4.50**	**52**	*e*P	Pn	17 26 51.9	-1.2
CURV	**Curarigua**	**4.52**	**44**	*e*P	Pn	17 26 52.0	-1.3
CURV				*e*S	Sn	17 27 40.7	-5.6
DABV	**Dabajuro**	**4.83**	**31**	*e*P	Pn	17 26 56.0	-1.4
BAUV	**El Baul**	**5.51**	**66**	*e*P	Pn	17 27 03.6	-2.6

*BJI **05** 17:38:07.4, 3470N×13699E, h356km, mB4.5, mb4.6*
*ISCJB **05** 17:38:08.7±0.3, 3459N±0.05×13668E±0.05, h343km±2km, mb3.8/20, Error ellipse: s-maj=8.0km s-min=7.0km az=141.3*
*MOS **05** 17:38:08.7±1.0, 3459N×13679E, h347km, mb4.0/4, Error ellipse: s-maj=20.6km s-min=10.9km az=95.2*
*JMA **05** 17:38:09.9±0.2, 3467N×13662E, h340km±2km, M3.7*
*NEIC **05** 17:38:09.7±0.4, 3457N×13675E, h339km±4km, mb4.3/7, Error ellipse: s-maj=9.6km s-min=6.7km az=89.0*
*IDC **05** 17:38:09.7±0.8, 3464N×13684E, h340km±11km, mb3.3/11, mb1 3.4/14, mb1mx3.3/23, mbtmp4.0/14, Error ellipse: s-maj=27.2km s-min=11.4km az=77.0*
ISC 05 17:38:09.7±0.3**, 3462N**±005×**13668E**±005**, h337**km±2km**, n59, σ0^{s}79**/71**, mb3.8**/20**, 2C-8D, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIE	**Ise**	**0.23**	**175**	⇓P	**Pn**	**17 38 52.9**	**+0.9**
JIE				*e*S	**S**	**17 39 26.1**	**+0.2**
TSUJ	**Tsu 2**	**0.23**	**293**	⇓P	**Pn**	**17 38 52.8**	**+0.8**
TSUJ				*e*S	**S**	**17 39 25.8**	**-0.1**
JWY	**Kouya**	**0.98**	**246**	⇓P	**Pn**	**17 38 54.8**	**+0.8**
JWY				*e*S	**S**	**17 39 28.9**	**-0.5**
JGM	**Miyama**	**1.08**	**2**	⇓P	**Pn**	**17 38 55.1**	**+0.8**
JGM				S	**S**	**17 39 30.2**	**+0.1**
JWT	**Wachi**	**1.24**	**303**	⇓P	**Pn**	**17 38 55.5**	**+0.4**
JWT				S	**S**	**17 39 30.3**	**-1.2**
JWZ	**Kozaga**	**1.35**	**217**	P	**Pn**	**17 38 56.0**	**+0.3**
JKG	**Kaga**	**1.68**	**350**	⇓P	**Pn**	**17 38 57.8**	**+0.2**
JKG				*e*S	**S**	**17 39 35.0**	**-0.9**
JYN	**Shimob**	**1.76**	**60**	⇓P	**Pn**	**17 38 58.8**	**+0.7**
JOD2	**Odawara 2**	**2.08**	**71**	⇓P	**Pn**	**17 39 01.2**	**+0.9**
JIM2	**Oshima 3**	**2.27**	**87**	⇑P	**Pn**	**17 39 03.0**	**+1.2**
MAJO	**Matsushiro**	**2.29**	**33**	*e*P	**Pn**	**17 39 02.4**	**+0.5**
MAT	**Matsushiro**	**2.29**	**33**	P	**Pn**	**17 39 02.4**	**+0.5**
MAT				S	**S**	**17 39 44.0**	**+0.2**
MAT	**Matsushiro**	**2.29**	**33**	*e*P	**Pn**	**17 39 02.0**	**+0.1**
MJAR	**Matsushiro Arr**	**2.29**	**33**	P	**Pn**	**17 39 02.5**	**+0.6**
	33nm,0.3s,baz=211,slow=8.6,SNR=466						
MJAR				S	**S**	**17 39 43.4**	**-0.4**
	baz=201,slow=17,SNR=1.7						
JHS	**Saijyo**	**2.96**	**278**	⇑P	**Pn**	**17 39 08.0**	**+0.3**
JHS				S	**S**	**17 39 52.5**	**-1.7**
JHJ	**Hachijo jima 2**	**2.98**	**119**	S	**S**	**17 40 01.9**	**+7.2**
	33nm,0.3s,baz=56,slow=24,SNR=6.9						
BSO1	**Boso 1**	**3.54**	**88**	P	**Pn**	**17 39 12.0**	**-1.2**
BSO1				S	**S**	**17 40 02.9**	**-1.5**
KS15	**Wonju Array Si**	**7.66**	**294**	*e*P	**Pn**	**17 39 59.9**	**+0.3**
CBIJ	**Chichi jima**	**8.87**	**146**	P	**Pn**	**17 40 09.3**	**-4.7**
	14nm,0.3s,baz=276,slow=22,SNR=8.2						
ASAJ	**Asahikawa**	**10.53**	**24**	P	**Pn**	**17 40 33.1**	**-0.8**
	1.2nm,0.3s,baz=227,slow=12,SNR=15						
ASAJ				S	**S**	**17 42 23.3**	**-9.0**
	1.0nm,0.3s,baz=85,slow=31,SNR=7.8						
ASAJ	**Asahikawa**	**10.53**	**24**	P	**Pn**	**17 40 33.1**	**-0.8**
ASAJ				S	**S**	**17 42 23.3**	**-9.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
JOW	**Kunigami**	**10.61**	**225**	P	**Pn**	**17 40 35.1**	**+0.3**
	comp=N,1.9nm,0.3s,baz=61,slow=14,SNR=6.0						
MDJ	**Mudanjiang**	**11.38**	**333**	*e*P	**Pn**	**17 40 44.2**	**+0.2**
	comp=N,40nm,0.8s						
CN2	**Changchun**	**12.63**	**320**	*e*P	**Pn**	**17 40 58.6**	**-0.5**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**13.15**	**19**	*e*P	**Pn**	**17 41 06.4**	**+1.3**
YSS				*e*		17 43 23.3	
YSS	**Yuzh-Sakhalins**	**13.15**	**19**	*e*P	**Pn**	**17 41 04.9**	**-0.2**
	comp=Z,14nm,0.4s						
KLR	**Kul'dur**	**15.05**	**347**	*e*P	**P**	**17 41 21.0**	**-4.3**
NACB	**Ninganchiao**	**16.75**	**236**	*e*P	**P**	**17 41 42.8**	**-1.0**
HIA	**Hailar**	**19.25**	**325**	P	**P**	**17 42 07.8**	**-2.6**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HIA	**Hailar**	**19.25**	**325**	P	**P**	**17 42 07.8**	**-2.7**
	comp=Z,5.5nm,0.5s						
XAN	**Xi'an**	**22.91**	**276**	P	**P**	**17 42 45.6**	**+0.6**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**25.73**	**310**	*e*P	**P**	**17 43 12.0**	**+1.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.2						
ULN	**Ulaanbaatar**	**25.73**	**310**	*e*P	**P**	**17 43 12.0**	**+1.6**
	comp=Z,1.4nm,0.6s,mb3.4						
SONM	**Songino Array**	**26.14**	**310**	P	**P**	**17 43 15.0**	**+1.0**
	comp=Z,0.8nm,0.5s,mb3.2,baz=123,slow=10.0,SNR=8.0						
MKAR	**Makanchi Array**	**42.20**	**304**	P	**P**	**17 45 31.1**	**+0.6**
	comp=Z,1.6nm,0.6s,mb3.3,baz=86,slow=9.7,SNR=21						
JIRN	**Jiri**	**43.40**	**275**	*e*P	**P**	**17 45 40.0**	**0.0**
	comp=Z,22nm,0.7s,mb4.4						
GUN	**Gumba**	**43.56**	**276**	*e*P	**P**	**17 45 40.8**	**-0.5**
	comp=Z,20nm,0.7s,mb4.4						
KKN	**Kakani**	**44.10**	**276**	*e*P	**P**	**17 45 45.2**	**-0.3**
	comp=Z,16nm,0.8s,mb4.2						
DMN	**Daman**	**44.31**	**276**	*e*P	**P**	**17 45 47.2**	**0.0**
KURK	**Kurchatov**	**44.45**	**310**	*e*P	**P**	**17 45 50.4**	**+2.2**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.2						
KURK	**Kurchatov**	**44.45**	**310**	*e*P	**P**	**17 45 50.4**	**+2.2**
	comp=Z,1.4nm,0.5s,mb3.4						
GKN	**Gorkha**	**44.55**	**276**	*e*P	**P**	**17 45 48.4**	**-0.6**
KOLN	**Koldanda**	**45.48**	**277**	*e*P	**P**	**17 45 56.5**	**+0.2**
	comp=Z,8.6nm,0.8s,mb3.9						
WRAB	**Tennant Creek**	**54.30**	**183**	*e*P	**P**	**17 47 01.6**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb4.3						
WRAB	**Tennant Creek**	**54.30**	**183**	*e*P	**P**	**17 47 01.6**	**-0.5**
	comp=Z,5.3nm,0.3s,mb4.3						
WB2	**Warramunga Arr**	**54.30**	**183**	*e*P	**P**	**17 47 01.8**	**-0.3**
WRA	**Warramunga Arr**	**54.30**	**183**	P	**P**	**17 47 02.0**	**-0.1**
	comp=Z,2.5nm,0.3s,mb4.1,baz=0.1,slow=7.6,SNR=185						
AS31	**Alice Springs**	**58.02**	**183**	*e*P	**P**	**17 47 28.0**	**-0.1**
ASAR	**Alice Springs**	**58.02**	**183**	P	**P**	**17 47 28.2**	**+0.1**
	comp=Z,0.8nm,0.3s,mb3.5,baz=360,slow=6.3,SNR=79						
ARCES	**ARCESS Array B**	**64.87**	**339**	P	**P**	**17 48 13.0**	**-0.6**
	comp=Z,1.1nm,0.6s,mb3.6,baz=50,slow=11,SNR=4.6						
STKA	**Stephens Creek**	**66.31**	**175**	P	**P**	**17 48 22.6**	**-0.1**
	comp=Z,1.2nm,0.7s,mb3.7,baz=23,slow=7.7,SNR=3.7						
FINES	**FINESS Array B**	**69.11**	**331**	P	**P**	**17 48 39.5**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.5,baz=90,slow=5.7,SNR=5.4						
AKASG	**Malin Array Be**	**73.79**	**321**	P	**P**	**17 49 07.5**	**-0.2**
	comp=Z,0.3nm,0.3s,mb3.5,baz=48,slow=6.1,SNR=6.2						
NB2	**NORSAR Subarra**	**74.86**	**336**	P	**P**	**17 49 13.7**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.3,baz=45,slow=5.9						
NOA	**NORSAR Array B**	**74.86**	**336**	P	**P**	**17 49 13.2**	**-0.6**
	comp=Z,0.6nm,0.7s,mb3.4,baz=44,slow=5.6,SNR=3.4						
BRTR	**Keskin Array B**	**77.50**	**310**	P	**P**	**17 49 29.4**	**+0.7**
	comp=Z,0.5nm,0.6s,mb3.4,baz=73,slow=4.8,SNR=3.8						
GERES	**GERESS Array B**	**82.65**	**326**	P	**P**	**17 49 56.1**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.7,baz=17,slow=5.6,SNR=5.3						
SRU	**San Rafael**	**83.87**	**46**	*e*P	**P**	**17 50 00.9**	**-1.2**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
SRU	**San Rafael**	**83.87**	**46**	*e*P	**P**	**17 50 00.9**	**-1.3**
	comp=Z,3.0nm,0.5s,mb4.4						

IDC 05 17:46:59.7±1.2**, 273N**×**9932E, h144**km±72km**, mb2.9**/3**, mb1 3.1**/3**, mb1mx2.8**/19**, mbtmp3.3**/3**, Error ellipse: s-maj=352.7km s-min=24.0km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.40**	**281**	P	Pn	17 47 21.0	+1.2
	2.5nm,0.3s,baz=287,slow=6.9,SNR=15						
PSI				S	Sn	17 47 36.6	+1.6
	1.2nm,0.3s,baz=297,slow=22,SNR=11						
WRA	**Warramunga Arr**	**41.10**	**125**	P	P	17 54 29.5	+0.2
	0.3nm,0.7s,baz=302,slow=9.3,SNR=6.5						
ASAR	**Alice Springs**	**42.68**	**130**	P	P	17 54 42.5	+0.4
	0.4nm,0.9s,baz=302,slow=7.2,SNR=5.2						
MKAR	**Makanchi Array**	**46.33**	**344**	P	P	17 55 10.9	-0.1
	0.2nm,0.4s,baz=152,slow=9.6,SNR=5.0						

IDC 05 17:51:29.8±2.0**, 089N**×**9728E, h0**km**, mb3.5**/4**, mb1 3.6**/5**, mb1mx3.4**/19**, mbtmp3.5**/5**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.6**/14**, Error ellipse: s-maj=55.8km s-min=23.9km az=63.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.51**	**41**	Pn	Pn	17 52 11.8	0.0
	3.0nm,0.3s,baz=325,slow=8.6,SNR=7.5						
PSI				LR	LR	17 53 22.8	
	comp=Z,340nm,19.1s,baz=85,slow=46						
WRA	**Warramunga Arr**	**41.80**	**122**	P	P	17 59 21.2	+0.1
	0.2nm,0.3s,baz=304,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**43.14**	**127**	P	P	17 59 32.5	+0.4
	1.1nm,1.1s,baz=298,slow=7.6,SNR=6.5						
SONM	**Songino Array**	**47.42**	**8**	P	P	18 00 05.8	-0.2
	0.3nm,0.4s,baz=185,slow=8.8,SNR=5.5						
MKAR	**Makanchi Array**	**47.56**	**346**	P	P	18 00 07.2	+0.1
	0.7nm,0.5s,baz=162,slow=7.7,SNR=18						

*NIED **05** 18:15:00, 2890N×12970E, h11km, Mw3.6 Best double couple: M0 3.30000×10^14 NP1: φs 99.00000°, δ48.00000°, λ-105.00000°. NP2: φs 302.00000°, δ44.00000°, λ-74.00000°.*
JMA 05 18:15:31.4±0.1**, 2895N**×**12967E, h30**km**, M3.8, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.54**	**186**	P	Pb	18 15 41.8	-0.7
JAM				*e*S	Sb	18 15 50.4	+0.4
JZK	**Kikaishima**	**0.69**	**157**	P	Pb	18 15 44.5	-0.4
JNN	**Nakanoshima**	**0.91**	**11**	P	Pn	18 15 47.8	-0.3
JNN				*e*S	Sn	18 16 00.2	+0.1
JTK	**Tokunoshima**	**1.32**	**209**	P	Pn	18 15 55.1	+1.3
JTK				*e*S	Sn	18 16 13.7	+3.3
JKC	**Kuchinoerabu**	**1.57**	**17**	P	Pn	18 15 57.1	-0.2
JKC				*e*S	Sn	18 16 16.2	-0.4
JTN	**Tanegashima 3**	**2.04**	**34**	P	Pn	18 16 04.4	+0.7
JIH	**Iheya**	**2.43**	**219**	P	Pn	18 16 12.0	+3.0
JIH				*e*S	Sn	18 16 40.7	+3.0
JOW	**Kunigami**	**2.44**	**211**	P	Pn	18 16 12.0	+2.8
JKE	**Kume jima 2**	**3.66**	**225**	P	Pn	18 16 29.0	+3.1

JMA 05 18:17:41.7, 3594N×**13763E, h10**km±1km**, M1.6, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.38**	**318**	P	Pg	18 17 49.2	0.0
JGN				S	Sg	18 17 53.9	-0.4
MAT	**Matsushiro**	**0.76**	**38**	P	Pg	18 17 56.1	-0.3
MAT				S	Sg	18 18 05.7	-0.6
MAT	**Matsushiro**	**0.76**	**38**	P	Pg	18 17 56.1	-0.3
MAT				S	Sg	18 18 06.0	-0.3
JYN	**Shimob**	**0.86**	**120**	P	Pg	18 17 58.4	0.0
JYN				*e*S	Sg	18 18 10.1	+0.5
SHZ3	**Shizuoka 3**	**0.99**	**151**	*e*S	Sg	18 18 13.2	-0.5
JRY	**Ryogami san**	**1.03**	**85**	P	Pg	18 18 01.1	-0.5
JRY				*e*S	Sg	18 18 14.1	-0.9

*IDC **05** 18:26:40.9±1.1, 1089S×11555E, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.0/15, mbtmp4.2/7, MS3.6/1, Ms1 3.6/1, ms1mx2.8/17, Error ellipse: s-maj=45.7km s-min=17.5km az=63.0*
*ISCJB **05** 18:26:43.8±0.3, 1094S±0.08×11560E±0.10, h33km, mb4.6/21, MS3.4/1, Error ellipse: s-maj=16.6km s-min=5.5km az=103.9*
*BJI **05** 18:26:43.0, 1090S×11550E, h20km, mB5.1, mb4.6*
*MOS **05** 18:26:43.9±0.7, 1087S×11566E, h33km, mb4.7/8, Error ellipse: s-maj=26.9km s-min=12.3km az=117.0*
*NEIC **05** 18:26:44.0±11.0, 1092S×11555E, h20km±73km, mb4.6/11, Error ellipse: s-maj=14.5km s-min=13.7km az=112.0*
ISC 05 18:26:46.4±0.3**, 1096S**±007×**1155E**±01**, h35**km**, n49, σ0^{s}84**/55**, mb4.6**/21**, MS3.4**/1**, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**10.91**	**159**	*e*P	**Pn**	**18 29 11.5**	**-8.5**
	54nm,0.4s						
MBWA				*e*Sn	**Sn**	**18 31 03.8**	**-17**
FITZ	**Fitzroy Crossi**	**12.07**	**127**	*e*P	**Pn**	**18 29 30.8**	**-5.1**
	7.1nm,0.4s						
FITZ				*e*S	**Sn**	**18 31 35.8**	**-13**
FITZ	**Fitzroy Crossi**	**12.07**	**127**	Pn	**Pn**	**18 29 30.9**	**-5.0**
	1.3nm,0.3s,baz=300,slow=9.6,SNR=42						
FITZ				Sn	**Sn**	**18 31 37.0**	**-12**
	1.9nm,0.3s,baz=198,slow=22,SNR=5.8						
WRA	**Warramunga Arr**	**20.18**	**119**	P	**P**	**18 31 18.0**	**+0.2**
	2.4nm,0.9s,baz=296,slow=13,SNR=21						
WRA				S	**S**	**18 34 49.2**	**-13**
	1.1nm,0.4s,baz=283,slow=24,SNR=6.2						
WRAB	**Tennant Creek**	**20.18**	**118**	*e*P	**P**	**18 31 18.2**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**20.18**	**118**	*e*P	**P**	**18 31 18.2**	**+0.3**
	comp=Z,14nm,0.8s						
WB2	**Warramunga Arr**	**20.19**	**118**	*e*P	**P**	**18 31 18.3**	**+0.4**
WB2				*e*S	**S**	**18 34 48.6**	**-14**
KLBR	**Kellerberrin**	**20.63**	**175**	*e*P	**P**	**18 31 21.6**	**-1.1**
	comp=Z,29nm,1.2s						
MUN	**Mundaring**	**20.92**	**178**	*e*P	**P**	**18 31 26.9**	**+1.0**
PSI	**Prapat**	**21.46**	**309**	LR	LR	18 40 54.8	
	comp=Z,158nm,19.2s,MS3.4,baz=344,slow=40						
ASPA	**Alice Springs**	**21.57**	**128**	*e*P	**P**	**18 31 33.2**	**+0.4**
ASPA				*e*S	**S**	**18 35 23.3**	**-6.6**
AS31	**Alice Springs**	**21.57**	**128**	*e*P	**P**	**18 31 33.2**	**+0.3**
AS31				*e*S	**S**	**18 35 23.3**	**-6.6**
ASAR	**Alice Springs**	**21.57**	**128**	P	**P**	**18 31 33.0**	**+0.1**
	comp=Z,1.9nm,0.6s,mb3.7,baz=301,slow=10,SNR=38						
ASAR				S	**S**	**18 35 23.9**	**-6.0**
	comp=Z,3.0nm,0.8s,baz=308,slow=25,SNR=7.6						
NWAO	**Narrogin (SRO)**	**21.91**	**176**	P	**P**	**18 31 35.5**	**-1.1**
	comp=Z,6.7nm,0.5s,mb4.3,baz=2.7,slow=13,SNR=10.0						
NWAO	**Narrogin (SRO)**	**21.91**	**176**	*e*P	**P**	**18 31 36.5**	**0.0**
FORT	**Forrest**	**22.89**	**151**	*e*P	**P**	**18 31 45.8**	**-1.0**
	comp=Z,21nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**31.80**	**135**	*e*P	**P**	**18 33 07.9**	**+0.4**
	comp=Z,3.5nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**31.80**	**135**	P	**P**	**18 33 08.2**	**+0.6**
	comp=Z,4.1nm,0.7s,mb4.4,baz=299,slow=9.3,SNR=13						
CD2	**Chengdu**	**43.14**	**345**	*e*P	**P**	**18 34 44.1**	**+0.7**
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
LSA	**Lhasa**	**46.77**	**330**	*e*P	**P**	**18 35 13.5**	**+1.3**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
LSA	**Lhasa**	**46.77**	**330**	*e*P	**P**	**18 35 13.5**	**+1.2**
	comp=Z,4.6nm,0.8s,mb4.5						
JIRN	**Jiri**	**47.78**	**324**	*e*P	**P**	**18 35 20.0**	**-0.2**
	comp=Z,15nm,0.5s,mb5.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUN	Gumba	48.15	324	eP	P	18 35 22.0	-1.0
	comp=Z,11nm,0.4s,mb5.2						
PKI	Pulchoki	48.17	323	eP	P	18 35 22.3	-0.9
DMN	Daman	48.38	323	eP	P	18 35 24.3	-0.5
	comp=Z,11nm,0.6s,mb5.1						
GKN	Gorkha	48.95	323	eP	P	18 35 28.4	-0.7
	comp=Z,6.8nm,0.3s,mb5.1						
KOLN	Koldanda	49.40	322	eP	P	18 35 32.1	-0.5
	comp=Z,12nm,0.7s,mb5.0						
MJAR	Matsushiro Arr	51.85	23	P	P	18 35 48.8	-2.2
	comp=Z,1.5nm,0.8s,mb4.0,baz=210,slow=7.2,SNR=4.6						
MDJ	Mudanjiang	56.76	12	eP	P	18 36 26.4	-0.4
	comp=Z,7.7nm,0.6s,mb4.9						
SONM	Songino Array	59.10	353	P	P	18 36 43.0	-0.1
	comp=Z,0.6nm,0.5s,mb3.9,baz=171,slow=7.9,SNR=8.1						
KZA	Kyzart	64.44	328	P	P	18 37 20.4	+1.3
	SNR=7.0						
MKAR	Makanchi Array	64.73	335	P	P	18 37 20.9	-0.1
	comp=Z,7.4nm,0.5s,mb5.0,baz=149,slow=7.2,SNR=101						
TKM2	Tokmak 2	64.86	329	P	P	18 37 22.3	+0.4
	SNR=6.9						
UCH	Uchtor	64.93	327	P	P	18 37 23.7	+1.4
	SNR=5.8						
KBK	Karagaybulak	65.01	328	P	P	18 37 23.9	+1.1
	SNR=12						
AAK	Ala-Archa	65.23	328	eP	P	18 37 24.0	-0.3
AAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
AAK	Ala-Archa	65.23	328	eP	P	18 37 24.0	-0.3
	comp=Z,7.8nm,0.9s,mb4.7						
AML	Almayashu	65.30	327	P	P	18 37 26.0	+1.3
	SNR=8.1						
EKS2	Erkin-Say	65.62	327	P	P	18 37 27.9	+1.1
	SNR=12						
BOD	Bodaibo	68.55	359	eP	P	18 37 45.4	0.0
BOD				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
KURK	Kurchatov	69.31	336	eP	P	18 37 50.1	-0.1
KURK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
KURK	Kurchatov	69.31	336	eP	P	18 37 50.1	-0.1
	comp=Z,6.6nm,0.6s,mb4.7						
BRVK	Borovoye	74.54	334	eP	P	18 38 20.1	-1.4
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	Borovoye	74.54	334	eP	P	18 38 20.1	-1.4
	comp=Z,0.9nm,0.6s,mb3.9						
CHKZ	Chkalovo	74.83	334	eP	P	18 38 22.8	-0.3
CHKZ				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
CHKZ	Chkalovo	74.83	334	eP	P	18 38 22.8	-0.4
	comp=Z,7.3nm,1.1s,mb4.5						
ZRNK	Zerenda	75.03	333	eP	P	18 38 23.9	-0.4
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
ZRNK	Zerenda	75.03	333	eP	P	18 38 23.9	-0.4
	comp=Z,2.7nm,0.7s,mb4.3						
YKA	Yellowknife Ar	117.36	24	PKP	PKPdf	18 45 28.2	+0.1
	comp=Z,0.4nm,0.5s,baz=313,slow=1.4,SNR=4.7						

*CSEM **05** 18:36:57.6±1.2, 3842N×2852W, h4km±5km, ML1.8, Error ellipse: s-maj=4.9km s-min=2.2km az=21.0, After PDA*
*PDA **05** 18:36:57.6±1.2, 3842N×2852W, h4km±5km, MD2.8, ML1.8, Error ellipse: s-maj=4.9km s-min=2.2km az=21.0*
SVSA 05 18:36:57.6±1.2, 3842N×2852W, h4km±5km, MD2.8, ML1.8, Error ellipse: s-maj=4.9km s-min=2.2km az=21.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCND	Candelaria	0.07	45	i P	Pg	18 36 59.1	0.0
PCND				eS	Sg	18 37 00.6	+0.5
PCND							
	272nm,0.1s						
PICO	Pico	0.11	44	eP	Pg	18 36 59.7	-0.1
PICO				eS	Sg	18 37 01.0	-0.4
PBOI	Pico dos Bois	0.12	82	i P	Pg	18 37 00.2	+0.2
PBOI				eS	Sg	18 37 01.6	0.0
PBOI							
	103nm,0.3s						
HOR	Horta	0.14	322	eP	Pg	18 37 00.0	-0.3
HOR				eS	Sg	18 37 02.1	0.0
PTEI	Pico do Teixo	0.15	60	eS	Sg	18 37 02.9	+0.3
PTEI							
	145nm,0.2s						
CALA	Caldeira	0.21	319	i P	Pg	18 37 01.6	-0.2
CALA				eS	Sg	18 37 04.5	-0.1
CALA	Caldeira	0.21	319	eS	Sg	18 37 04.5	-0.1
PTCA	Ponta do Capel	0.27	307	eS	Sg	18 37 06.6	+0.2
PTCA							
	26nm,0.3s						
PID	Ribeirinha	0.32	86	eP	Pg	18 37 02.8	-0.9
PID				eS	Sg	18 37 07.6	-0.3
PIED	Piedade	0.37	90	eS	Sg	18 37 09.5	0.0
ROSA	Rosais	0.37	36	i P	Pg	18 37 04.0	-0.7
ROSA				eS	Sg	18 37 09.0	-0.6
ROSA	Rosais	0.37	36	eS	Sg	18 37 09.0	-0.6
PAMA	Santo Amaro	0.37	46	i P	Pg	18 37 04.6	-0.2
PAMA				eS	Sg	18 37 09.9	+0.2
PAMA							
	72nm,0.3s						
PAMA	Santo Amaro	0.37	46	eS	Sg	18 37 09.9	+0.2

*ISCJB **05** 19:05:30.8±0.2, 4657N±001×765E±002, h10km, Error ellipse: s-maj=2.1km s-min=1.7km az=0.3*
*NEIC **05** 19:05:31.9, 4657N×772E, h7km, ML2.1(ZUR), ML2.3(STR), ML2.4(ROM), ML2.6(LDG), After ZUR.*
*CSEM **05** 19:05:31.6±0.1, 4653N×769E, h5km, ML2.6/18, Error ellipse: s-maj=1.0km s-min=0.9km az=100.0*
*ZUR **05** 19:05:31.9, 4657N×772E, h7km±2km, ML2.1/17*
*VIE **05** 19:05:32.8±0.3, 4644N×792E, h10km, mb2.2/1, ML2.5/1, Error ellipse: s-maj=6.0km s-min=1.1km az=136.0*
*LDG **05** 19:05:32.9±0.1, 4658N×764E, h3km, Md2.6/3, Ml2.6/19, Error ellipse: s-maj=2.1km s-min=1.1km az=97.0*
*STR **05** 19:05:33.2±0.7, 4659N×768E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ROM **05** 19:05:33.0±0.2, 4650N×771E, h10km, Md2.4/7, Ml1.8/2, Error ellipse: s-maj=2.3km s-min=1.4km az=144.0*
ISC 05 19:05:31.7±0.2, 4657N±001×765E±002, h10km±3km, n83, σ0s96/146, 8C-5D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIMIS	Wimmis	0.10	351	⇓iPg	Pg	19 05 34.8	+0.5
	1µm,0.4s						
WIMIS				eSg	Sg	19 05 36.7	+0.5
	1µm,0.4s						
LKBD	Leukerbad	0.18	185	⇑iPg	Pg	19 05 36.9	+1.3
	888nm,0.2s						
LKBD				i Sg	Sg	19 05 38.9	+0.6
	888nm,0.2s						
SENIN	Lac Senin	0.32	230	⇑iPg	Pg	19 05 38.8	+0.8
	125nm,0.4s						
HASLI	Hasliberg	0.40	61	i Sg	Pg	19 05 39.2	-0.3
	201nm,0.3s						
HASLI	Hasliberg	0.40	61	⇑iPg	Sg	19 05 44.5	-0.3
	201nm,0.3s						
GRYON	Gryon	0.49	230	ePg	Pg	19 05 42.0	+0.7
	31nm,0.6s						
DIX	Grande Dixence	0.51	199	⇑iPg	Pg	19 05 42.4	+0.7
	103nm,0.3s						
DIX				Sg	Sg	19 05 49.6	+1.1
TORNY	Torny	0.52	294	ePg	Sg	19 05 49.9	+1.3
	468nm,0.2s						
AIGLE	Aigle	0.53	245	ePg	Pg	19 05 43.3	+1.2
	138nm,0.3s						
MMK	Mattmark	0.56	157	Pg	Pg	19 05 42.8	+0.2
MMK				Sg	Sg	19 05 49.9	-0.1
MMK	Mattmark	0.56	157	⇓iPg	Pg	19 05 42.9	+0.3
	147nm,0.2s						
MMK				Sg	Sg	19 05 49.9	-0.1
BNALP	Bannalp	0.61	60	ePg	Pg	19 05 43.3	-0.3
	49nm,0.3s						
BNALP				i Sg	Sg	19 05 51.7	0.0
	49nm,0.3s						
SALAN	Lac Salanfe	0.63	228	⇑iPg	Sg	19 05 53.8	+1.6
	18nm,0.5s						
MCGN	Macugnaga	0.65	159	Pg	Pg	19 05 44.6	+0.2
MCGN				Sg	Sg	19 05 52.7	-0.3
	20nm,0.2s						
FUSIO	Fusio	0.71	99	i Sg	Pg	19 05 44.6	-0.9
	152nm,0.1s						
FUSIO	Fusio	0.71	99	⇑iPg	Pg	19 05 45.2	-0.3
	152nm,0.1s						
FUSIO	Fusio	0.71	99	⇑iPg	Pg	19 05 45.2	-0.3
	152nm,0.1s						
EMV	Vieux Emosson	0.72	226	ePg	Pg	19 05 47.0	+1.3
	71nm,0.1s						
BALST	Balsthal	0.77	2	⇑iP	Pg	19 05 47.5	+0.9
	379nm,0.5s						
MUO	Muotathal	0.79	59	ePg	Pg	19 05 46.3	-0.7
	107nm,0.2s						
BOURR	Bourrignon	0.87	341	⇓iP	Pg	19 05 49.3	+0.7
	134nm,0.6s						
BRANT	Les Verrieres	0.89	295	eP	Pg	19 05 50.5	+1.6
	121nm,0.3s						
MRGE	Morge	0.90	207	Pg	Pg	19 05 49.3	+0.3
	18nm,0.6s						
BBS	Basel-Blauen	0.90	354	Pg	Pg	19 05 50.5	+1.4
LOMF	Lomont	0.96	325	Pg	Pg	19 05 51.3	+1.0
LOMF				Sg	Sg	19 06 05.7	+2.9
ORO	Oropa	0.97	166	Pg	Pg	19 05 50.3	-0.1
ORO				Sg	Sg	19 06 02.4	-0.6
	41nm,0.2s						
CABF	La Chapelle	1.08	273	ePg	Pg	19 05 53.9	+1.5
CABF				eSg	Sg	19 06 06.7	+0.3
	13nm,0.2s,SNR=1.0						
CABF	La Chapelle	1.08	273	ePg	Pg	19 05 53.9	+1.5
CABF				eSg	Sg	19 06 06.7	+0.3
	6.6nm,0.2s,SNR=1.0						
RSL	Roselend	1.13	219	Pg	Pg	19 05 53.7	+0.2
MUGIO	Muggio	1.16	123	Pg	Pg	19 05 53.6	-0.5
MUGIO				Sg	Sg	19 06 08.3	-0.9
TUE	Stuetta	1.18	94	Pg	Pg	19 05 53.8	-0.6
TUE				Sg	Sg	19 06 08.4	-1.3
	24nm,0.3s						
LPL	La Plagne	1.23	212	ePn	Pn	19 05 55.8	+0.9
	SNR=1.0						
LPL				eSg	Sg	19 06 11.9	+0.6
	3.9nm,0.3s						
LPL	La Plagne	1.23	212	ePn	Pn	19 05 55.8	+0.9
	SNR=1.0						
LPL				eSg	Sg	19 06 11.9	+0.6
	2.0nm,0.3s						
LPG	La Plagne	1.24	211	ePn	Pn	19 05 56.0	+0.9
	SNR=1.0						
LPG				eSg	Sg	19 06 12.5	+0.9
	6.6nm,0.2s,SNR=1.0						
LPG	La Plagne	1.24	211	ePn	Pn	19 05 56.0	+0.9
	SNR=1.0						
LPG				eSg	Sg	19 06 12.5	+0.9
	3.3nm,0.2s,SNR=1.0						
FELD	Feldberg im Sc	1.33	10	Pn	Pn	19 05 57.1	+0.8
FELD				Sg	Sg	19 06 14.8	+0.2
MOF	Molkenrain	1.33	345	Pn	Pn	19 05 57.9	+1.6
MOF				Sg	Sg	19 06 15.2	+0.6
HINF	Hinteralfeld	1.36	337	ePg	Pg	19 05 58.1	+0.2
HINF				eSg	Sg	19 06 15.6	0.0
	15nm,0.2s						
HINF	Hinteralfeld	1.36	337	ePn	Pn	19 05 56.9	+0.1
HINF				ePg	Pg	19 05 58.1	+0.2
HINF				eSg	Sg	19 06 15.6	0.0
DAVOX	Davos	1.55	81	Pg	Pg	19 06 00.7	-0.8
OG05	Jujurieux	1.61	252	Pg	Pg	19 06 04.1	+1.5
ECH	Echery	1.68	349	Pn	Pn	19 06 01.1	-0.1
HAU	Haudompre	1.69	329	ePg	Pg	19 06 04.0	-0.1
	SNR=1.0						
HAU				eSg	Sg	19 06 25.8	-0.2
	16nm,0.3s,SNR=1.0						
HAU	Haudompre	1.69	329	ePn	Pn	19 06 01.4	+0.2
HAU				ePg	Pg	19 06 04.0	-0.1
HAU				eSg	Sg	19 06 25.8	-0.2
HAU	Haudompre	1.69	329	ePg	Pg	19 06 04.0	-0.1
	SNR=1.0						
HAU				eSg	Sg	19 06 25.8	-0.2
	8.2nm,0.3s,SNR=1.0						
DAVA	Damuels	1.69	64	⇓iPg	Pg	19 06 03.5	-0.6
DAVA				⇓iSg	Sg	19 06 25.7	-0.4
	comp=Z,11nm,0.3s						
DAVA	Damuels	1.69	64	Pg	Pg	19 06 03.5	-0.7
DAVA				Sg	Sg	19 06 25.7	-0.4
	11nm,0.3s						
CDF	Champ du Feu	1.86	352	ePg	Pg	19 06 07.1	-0.4
	SNR=1.0						
CDF				eSg	Sg	19 06 30.9	-0.7
	11nm,0.2s						
CDF	Champ du Feu	1.86	352	ePn	Pn	19 06 03.5	-0.1
CDF				ePg	Pg	19 06 07.1	-0.4
CDF				eSg	Sg	19 06 30.9	-0.7
CDF	Champ du Feu	1.86	352	eSg	Sg	19 06 30.9	-0.7
	5.4nm,0.2s						
THEF	They Montfort	2.01	326	Pn	Pn	19 06 08.0	+2.4
THEF				Sg	Sg	19 06 37.2	+0.9
ORIF	Oris-en-Rattie	2.06	218	ePg	Pg	19 06 11.1	-0.2
	SNR=1.0						
ORIF				eSg	Sg	19 06 38.3	+0.3
	4.4nm,0.3s,SNR=1.0						
ORIF	Oris-en-Rattie	2.06	218	ePn	Pn	19 06 06.8	+0.4
ORIF				ePg	Pg	19 06 11.1	-0.2
ORIF				eSg	Sg	19 06 38.3	+0.3
ORIF	Oris-en-Rattie	2.06	218	ePg	Pg	19 06 11.1	-0.2
	SNR=1.0						
ORIF				eSg	Sg	19 06 38.3	+0.3
	2.2nm,0.3s,SNR=1.0						
SFTF	Sexfontaines	2.41	314	ePg	Pg	19 06 17.2	-0.8
SFTF				eSg	Sg	19 06 48.8	-0.5
	4.2nm,0.3s						
SFTF	Sexfontaines	2.41	314	ePg	Pg	19 06 17.2	-0.8
SFTF				eSg	Sg	19 06 48.8	-0.5
	2.1nm,0.3s						
RFYF	Reffroy	2.53	325	ePg	Pg	19 06 19.8	-0.5
RFYF				eSg	Sg	19 06 52.8	-0.3
	6.8nm,0.3s						
RFYF	Reffroy	2.53	325	ePg	Pg	19 06 19.8	-0.5
RFYF				eSg	Sg	19 06 52.8	-0.3
	3.4nm,0.3s						
SMF	Signal de Mont	2.62	273	ePg	Pg	19 06 22.0	0.0
	SNR=1.0						
SMF				eSg	Sg	19 06 54.6	-1.5
	11nm,0.2s,SNR=1.0						
SMF	Signal de Mont	2.62	273	ePn	Pn	19 06 14.8	+0.7
SMF				ePg	Pg	19 06 22.0	0.0
SMF				eSg	Sg	19 06 54.6	-1.5
SMF	Signal de Mont	2.62	273	ePg	Pg	19 06 22.0	0.0
	SNR=1.0						
SMF				eSg	Sg	19 06 54.6	-1.5
	5.4nm,0.2s,SNR=1.0						
LOR	Lormes	2.69	286	ePg	Pg	19 06 22.7	-0.6
	SNR=1.0						
LOR				eSg	Sg	19 06 56.0	-2.1
	4.8nm,0.2s						
LOR	Lormes	2.69	286	ePn	Pn	19 06 15.2	+0.2
LOR				ePg	Pg	19 06 22.7	-0.6
LOR				eSg	Sg	19 06 56.0	-2.1
LOR	Lormes	2.69	286	ePg	Pg	19 06 22.7	-0.6
	SNR=1.0						
LOR				eSg	Sg	19 06 56.0	-2.1
	2.4nm,0.2s						
VIVF	Saint-Julien-l	2.70	232	ePg	Pg	19 06 22.8	-0.6
	SNR=1.0						
VIVF				eSg	Sg	19 06 58.1	-0.3
	4.6nm,0.3s,SNR=1.0						
VIVF	Saint-Julien-l	2.70	232	ePn	Pn	19 06 15.7	+0.6
VIVF				ePg	Pg	19 06 22.8	-0.6
VIVF				eSg	Sg	19 06 58.1	-0.3
VIVF	Saint-Julien-l	2.70	232	ePg	Pg	19 06 22.8	-0.6
	SNR=1.0						
VIVF				eSg	Sg	19 06 58.1	-0.3
	2.3nm,0.3s,SNR=1.0						
SSF	Saint Saulge	2.89	281	eSg	Sg	19 07 02.9	-1.6
	4.3nm,0.2s,SNR=1.0						
SSF	Saint Saulge	2.89	281	eSg	Sg	19 07 02.9	-1.6
	2.2nm,0.2s,SNR=1.0						
AVF	Avril sur Loir	2.96	276	ePg	Pg	19 06 27.4	-1.2
	SNR=1.0						
AVF				eSg	Sg	19 07 04.8	-2.2
	2.8nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	2.96	276	ePn	Pn	19 06 19.4	+0.6
AVF				ePg	Pg	19 06 27.4	-1.2
AVF				eSg	Sg	19 07 04.8	-2.2
AVF	Avril sur Loir	2.96	276	ePg	Pg	19 06 27.4	-1.2
	SNR=1.0						
AVF				eSg	Sg	19 07 04.8	-2.2
	1.4nm,0.3s,SNR=1.0						
SMRF	Simiane la Rot	2.98	210	ePg	Pg	19 06 28.0	-0.8
FRF	La Foret Royal	3.09	194	ePg	Pg	19 06 30.0	-0.9
BGF	Bois d'Agland	3.31	272	ePg	Pg	19 06 33.8	-1.4
BGF				eSg	Sg	19 07 16.5	-1.6
	8.7nm,0.3s,SNR=1.0						
BGF	Bois d'Agland	3.31	272	ePg	Pg	19 06 33.8	-1.4
BGF				eSg	Sg	19 07 16.5	-1.6
	4.3nm,0.3s,SNR=1.0						
LMR	La Mourre	3.33	194	ePg	Pg	19 06 35.5	-0.1
LASF	Ste Croix	3.66	228	ePg	Pg	19 06 40.6	-1.1
LASF				eSg	Sg	19 07 27.7	-1.4
	1.2nm,0.3s						
LASF	Ste Croix	3.66	228	ePn	Pn	19 06 28.6	+0.3
LASF				ePg	Pg	19 06 40.6	-1.1
LASF				eSg	Sg	19 07 27.7	-1.4
LASF	Ste Croix	3.66	228	ePg	Pg	19 06 40.6	-1.1
LASF				eSg	Sg	19 07 27.7	-1.4
	0.6nm,0.3s						
TCF	Toulx Ste Croi	3.77	268	eSn	Sn	19 07 11.9	-2.4
	SNR=1.0						
TCF				eSg	Sg	19 07 30.7	-2.1
	2.4nm,0.3s,SNR=1.0						
GIVF	Givet	4.01	333	ePg	Pg	19 06 46.8	-1.7
MTLF	Montolieu	5.03	232	ePg	Pg	19 07 06.0	-2.0

*JSN **05** 19:14:32.9±0.8, 1988N×7545W, h19km±214km, MD4.0*
*ISCJB **05** 19:14:33.4±0.6, 1977N±006×7538W±005, h34km±28km, Error ellipse: s-maj=11.8km s-min=5.4km az=108.1*
*SSNC **05** 19:14:35.1, 1977N×7536W, h25km, MD3.0, ML3.2*
ISC 05 19:14:33.7±1.0, 1978N±005×7536W±005, h31km±8km, n12, σ0s87/19, 5C-3D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	Rio Carpintero	0.38	304	i PG	Pb	19 14 42.3	0.0
	baz=112						
RCC				i SG	Sb	19 14 47.6	-0.6
	comp=N,2µm,0.2s						
RCC				e			
	comp=E,7µm,0.4s						
MOAC	Moa	0.95	23	ePG	Pn	19 14 51.7	+0.8
	baz=210						
MOAC				eSG	Sn	19 15 03.5	+0.2
	comp=N,2µm,0.7s						
MOAC				e			
	comp=E,2µm,0.5s						
MASC	Masc	1.14	70	ePG	Pn	19 14 53.0	-0.4
	baz=246						
MASC				eSG	Sn	19 15 06.8	-1.0
	comp=N,55nm,0.1s						
MASC				e			
	comp=E,71nm,0.1s						
LMGC	Las Mercedes	1.57	281	i PG	Pn	19 15 01.0	+1.7
	baz=138						
LMGC				i SG	Sn	19 15 17.6	-1.0
	comp=N,572nm,0.4s						
LMGC				e			
	comp=E,531nm,0.2s						
CMJ	Castle Mountai	1.90	210	⇓iP	Pn	19 15 04.1	+0.3
GWJ	Greenwich	2.13	217	⇑iP	Pn	19 15 06.8	-0.3
STH	Stony Hill	2.18	219	⇑iP	Pn	19 15 07.4	-0.3
STH				eS	Sn	19 15 33.5	-0.2
HOJ	Hope	2.20	217	⇑iP	Pn	19 15 08.1	0.0
BBJ	Bamboo Saint A	2.28	233	⇑iP	Pn	19 15 08.7	-0.3
CVJ	Coleyville	2.57	233	⇓eP	Pn	19 15 12.8	-0.3
MBJ	Montego Bay	2.73	240	⇓iP	Pn	19 15 18.2	+2.8
MBJ				eS	Sn	19 15 45.9	-1.4
MCJ	Malvern	2.87	230	⇑iP	Pn	19 15 18.6	+1.3
MCJ				eS	Sn	19 15 51.0	+0.2

*IDC **05** 19:45:25.7±2.2, 603S×12976E, h0km, mb3.9/1, mb1 3.6/3, mb1mx3.4/13, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=151.0km s-min=30.2km az=69.0*
*ISCJB **05** 19:45:36.0±2.8, 65S±02×1300E±0.1, h33km, mb3.9/1, Error ellipse: s-maj=22.7km s-min=21.0km az=134.8*
ISC 05 19:45:34.9±3.4, 63S±02×1300E±02, h35km, n6, σ0s99/11, mb3.9/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.79	159	eP	Pn	19 47 16.2	+4.2
	8.4nm,0.9s						
KAKA				eS	Sn	19 48 28.0	-0.1
FITZ	Fitzroy Crossi	12.46	200	eP	Pn	19 48 33.8	+4.1
	5.9nm,0.9s						
FITZ				eS	Sn	19 50 47.2	0.0
WRA	Warramunga Arr	14.18	163	Pn	Pn	19 48 51.9	-1.3
	0.1nm,0.3s,baz=345,slow=13,SNR=11						
WRA				Sn	Sn	19 51 19.6	-10
	0.6nm,0.3s,baz=340,slow=22,SNR=7.9						
WB2	Warramunga Arr	14.18	163	eP	Pn	19 48 54.8	+1.6
WB2				eS	Sn	19 51 20.2	-9.1
ASAR	Alice Springs	17.65	168	P	Pn	19 49 37.9	-0.1
	0.1nm,0.3s,baz=354,slow=10,SNR=11						
ASAR				S	S	19 52 49.6	-10
	0.1nm,0.3s,baz=0.4,slow=28,SNR=4.7						
MKAR	Makanchi Array	67.66	327	P	P	19 56 22.4	-6.0
	0.8nm,0.6s,mb3.9,baz=115,slow=8.4,SNR=12						

IDC 05 19:48:24.5±2.7, 2928S×17778W, h17km±26km, mb3.6/2, mb1 3.8/2, mb1mx3.6/12, mbtmp3.7/2, Error ellipse: s-maj=130.9km s-min=20.5km az=17.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.12	282	Pn	Pg	19 48 31.6	+3.4
	999nm,0.3s,baz=74,slow=18,SNR=42						
RAO				Sn	Sg	19 48 36.4	+5.7
	3µm,0.3s,baz=78,slow=22,SNR=32						
ASAR	Alice Springs	43.37	266	P	P	19 56 26.1	+0.3
	0.7nm,0.7s,baz=102,slow=8.0,SNR=7.2						
WRA	Warramunga Arr	44.26	271	P	P	19 56 33.3	+0.3
	0.8nm,0.7s,baz=110,slow=8.0,SNR=6.9						
FINES	FINESS Array B	144.16	341	PKP	PKPdf	20 07 58.0	-1.3
	0.9nm,0.6s,baz=80,slow=3.1,SNR=7.1						

PRE 05 20:02:51.9±1.7, 2145S×3301E, h5km, ML3.2, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	Messina	2.91	252	eP	Pn	20 03 40.8	+2.0
MSNA				eS	Sn	20 04 15.9	+1.7
MSNA				AML	AML	20 04 30.7	
	comp=Z,42nm,0.2s						
POGA	Pongola	6.03	192	eP	Pn	20 04 22.0	+0.3
POGA				eS	Sn	20 05 28.5	-2.6
POGA				AML	AML	20 05 37.9	
	comp=Z,4.6nm,0.4s						
LBTB	Lobatse	7.68	241	eP	Pn	20 04 44.9	+0.5
LBTB				eS	Sn	20 06 08.0	-3.8
LBTB				AML	AML	20 06 40.8	
	comp=Z,2.6nm,0.6s						
BOSA	Boshof	10.01	223	eP	Pn	20 05 17.4	+1.0
BOSA				eS	Sn	20 07 03.8	-5.2
BOSA				AML	AML	20 08 10.2	
	comp=Z,1.4nm,0.5s						

MAN 05 20:21:58.9, 1403N×12049E, h102km, MS6.8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.38	219	eP	Pn	20 22 15.6	+1.5
PGP	Puerto Galera	0.69	139	eP	Pn	20 22 18.6	+2.2
POLP	Polilio Island	1.57	63	eP	Pn	20 22 26.6	+0.5
BUSP	Coron	2.03	188	eP	Pn	20 22 32.5	+0.6
BOLP	Bolinao	2.41	347	eP	Pn	20 23 02.3	+26
ENPP	El Nido	2.99	200	eP	Pn	20 22 45.5	+1.0

*NEIC **05** 20:28:43.4, 1628N×9826W, h9km, MD3.9(MEX), After MEX.*
MEX 05 20:28:43.4±0.7, 1629N×9826W, h8km±4km, MD4.0, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.16	53	⇓iP	Pg	20 28 46.3	-0.5
PNIG				i S	Sg	20 28 48.9	-0.2
UTMO	Huajuapan	1.59	16	eP	Pn	20 29 08.7	-3.1
UTMO				i S	Sn	20 29 28.2	-4.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OXX	Oaxaca	1.67	62	i P	Pn	20 29 10.0	-2.9
OXX				i S	Sn	20 29 29.0	-5.5
ACX	Acapulco	1.69	290	i P	Pn	20 29 10.0	-3.1
ACX				i S	Sn	20 29 29.0	-5.8
CAIG	El Cayaco	2.06	292	i P	Pn	20 29 14.9	-3.4
CAIG				i S	Sn	20 29 39.6	-4.5
MEIG	Mezcala	2.08	322	eP	Pn	20 29 15.7	-2.8
MEIG				i S	Sn	20 29 39.5	-5.0
HUIG	Huatulco	2.14	104	eP	Pn	20 29 15.6	-3.7
HUIG				i S	Sn	20 29 42.3	-3.7
HUIG	Huatulco	2.14	104	eP	Pn	20 29 15.6	-3.7
HUIG				i S	Sn	20 29 39.0	-7.0
PLIG	Platanillo	2.40	331	i P	Pn	20 29 21.1	-1.9
PLIG				i S	Sn	20 29 48.3	-4.1
YAIG	Yautepec	2.67	343	i P	Pn	20 29 23.5	-3.1
YAIG				i S	Sn	20 29 55.4	-3.7
PPM	Popocatepetl	2.78	353	eP	Pn	20 29 26.6	-1.5
PPM				i S	Sn	20 29 58.9	-2.9
IIZ	Mezontepec	3.02	342	eP	Pn	20 29 27.2	-4.3
IIZ				i S	Sn	20 30 03.2	-4.7
CMIG	Matias Romero	3.33	76	eP	Pn	20 29 32.3	-3.5
CMIG				i S	Sn	20 30 11.6	-3.9

WEL 05 20:37:58.6±0.3, 4102S×17197E, h5km, ML3.6/14, Error ellipse: s-maj=2.3km s-min=1.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QRZ	Quartz Range	0.46	65	PG	Pg	20 38 07.9	+0.4
QRZ				SG	Sg	20 38 14.0	+0.4
THZ	Tophouse	1.02	137	P*	Pb	20 38 17.8	-0.9
THZ				S*	Sb	20 38 31.4	-1.0
NNZ	Nelson	1.08	101	P*	Pb	20 38 18.8	-1.0
NNZ				S*	Sb	20 38 33.9	-0.2
DUWZ	D'Urville Isla	1.49	82	PN	Pn	20 38 25.6	-0.5
TUWZ	Tuamarina	1.54	106	PN	Pn	20 38 26.4	-0.4
TUWZ				SN	Sn	20 38 47.1	0.0
BSWZ	Blackbirch Sta	1.59	116	PN	Pn	20 38 28.2	+0.8
BSWZ				SN	Sn	20 38 48.5	+0.2
TCW	Tory Channel	1.75	97	PN	Pn	20 38 29.7	+0.1
LTZ	Lake Taylor	1.77	173	PN	Pn	20 38 29.0	-1.0
KHZ	Kahutara	1.82	140	PN	Pn	20 38 31.2	+0.6
WVZ	Waitaha Valley	2.25	204	PN	Pn	20 38 34.7	-1.8
CAW	Cannon Point	2.34	93	PN	Pn	20 38 38.1	+0.4
RAEZ	Rainy Point	2.54	48	PN	Pn	20 38 39.4	-1.0
WAZ	Wanganui	2.62	62	PN	Pn	20 38 40.8	-0.8
PKVZ	Pokaka	3.11	57	PN	Pn	20 38 47.5	-0.8
WNVZ	Wahianoa	3.25	60	PN	Pn	20 38 49.6	-0.6
FWVZ	Far West T-bar	3.26	58	PN	Pn	20 38 49.8	-0.6
TWVZ	Taurewa	3.29	55	PN	Pn	20 38 49.5	-1.4
HIZ	Hauiti	3.35	42	PN	Pn	20 38 49.6	-2.0
JCZ	Jackson Bay	3.87	217	PN	Pn	20 38 56.6	-2.2
ODZ	Otahua Downs	4.14	193	PN	Pn	20 39 00.5	-2.0

IDC 05 20:50:19.8±2.5, 431N×12368E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=345.3km s-min=26.2km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.28	157	P	P	20 55 58.0	+1.1
	0.3nm,0.3s,baz=337,slow=9.5,SNR=9.3						
ASAR	Alice Springs	29.54	161	P	P	20 56 25.4	-0.6
	0.1nm,0.3s,baz=345,slow=9.6,SNR=4.4						
MKAR	Makanchi Array	55.37	326	P	P	20 59 55.7	+0.1
	0.2nm,0.3s,baz=121,slow=8.2,SNR=6.5						

IDC 05 21:05:14.8±19.0, 786S×11040E, h159km±185km, mb3.5/5, mb1 3.6/6, mb1mx3.4/17, mbtmp3.9/6, ML3.4/1, Error ellipse: s-maj=104.6km s-min=24.5km az=64.0, Jawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	17.98	126	P	Pn	21 09 13.1	-1.7
	0.1nm,0.3s,baz=288,slow=20,SNR=4.8						
FITZ				S	S	21 12 14.5	-17
	0.1nm,0.3s,baz=113,slow=19,SNR=2.5						
WRA	Warramunga Arr	26.11	120	P	P	21 10 33.9	+0.1
	2.0nm,0.6s,baz=302,slow=11,SNR=23						
WB2	Warramunga Arr	26.12	120	eP	P	21 10 35.1	+1.2
ASAR	Alice Springs	27.47	128	P	P	21 10 46.4	+0.4
	0.5nm,0.4s,baz=300,slow=8.3,SNR=12						
STKA	Stephens Creek	37.59	134	eP	P	21 12 14.3	+0.5
	4.6nm,0.4s						
STKA	Stephens Creek	37.59	134	P	P	21 12 14.3	+0.5
	5.4nm,0.4s,baz=314,slow=6.5,SNR=31						
MKAR	Makanchi Array	59.89	338	P	P	21 15 03.9	+0.1
	0.1nm,0.4s,baz=151,slow=7.1,SNR=4.8						
VNDA	Vanda	74.52	170	P	P	21 16 35.3	-0.5
	1.1nm,0.9s,baz=299,slow=7.1,SNR=7.8						

*NEIC **05** 21:10:33.5±0.8, 5.12N×94.49E, h30km, mb4.4/2, Error ellipse: s-maj=37.8km s-min=8.2km az=51.0*
*ISCJB **05** 21:10:37.7±3.7, 52N±02×947E±03, h83km±29km, mb3.9/11, Error ellipse: s-maj=58.1km s-min=12.9km az=108.1*
*IDC **05** 21:10:39.9±4.8, 531N×9484E, h82km±39km, mb3.6/9, mb1 3.8/10, mb1mx3.5/23, mbtmp3.9/10, MS2.8/1, Ms1 2.8/1, ms1mx2.0/29, Error ellipse: s-maj=63.6km s-min=16.3km az=56.0*
ISC 05 21:10:39.1±3.4, 52N±02×947E±03, h77km±27km, n17, σ0^{s}62/18, mb3.9/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.89	119	P	Pn	21 11 49.3	-0.9
	2.3nm,0.3s,baz=333,slow=15,SNR=5.5						
PSI				S	Sn	21 12 46.3	+0.9
	1.9nm,0.3s,baz=287,slow=22,SNR=3.9						
PSI				LR	LR	21 13 27.0	
	comp=Z,99nm,20.2s,baz=159,slow=35						
LSA	Lhasa	24.58	353	eP	P	21 15 52.9	+1.1
	3.4nm,0.6s,mb4.0						
MKAR	Makanchi Array	42.78	347	P	P	21 18 28.9	-0.1
	0.8nm,0.4s,mb3.8,baz=165,slow=7.9,SNR=17						
SONM	Songino Array	43.65	11	P	P	21 18 35.3	-0.6
	0.9nm,0.6s,mb3.7,baz=188,slow=8.2,SNR=5.4						
SONM				PcP	PcP	21 20 21.2	-0.8
	0.4nm,0.5s,baz=198,slow=5.0,SNR=3.2						
WRA	Warramunga Arr	46.34	124	P	P	21 18 57.1	-0.2
	1.7nm,0.6s,mb3.9,baz=303,slow=9.2,SNR=11						
WRAB	Tennant Creek	46.35	124	eP	P	21 18 57.3	0.0
WB2	Warramunga Arr	46.35	124	eP	P	21 18 57.0	-0.4
KURK	Kurchatov	47.30	346	eP	P	21 19 05.1	+0.3
ASAR	Alice Springs	47.85	129	P	P	21 19 09.2	+0.1
	0.6nm,0.5s,mb3.7,baz=299,slow=8.0,SNR=14						
ZAL	Zalesovo	49.24	352	P	P	21 19 19.6	-0.1
	2.2nm,0.5s,mb4.4,baz=323,slow=6.0,SNR=11						
BVAR	Borovoye Array	51.66	342	P	P	21 19 38.2	+0.2
	1.0nm,0.6s,mb4.0,baz=144,slow=9.4,SNR=7.9						
BRVK	Borovoye	51.72	342	eP	P	21 19 37.8	-0.6
ZRNK	Zerenda	52.04	341	eP	P	21 19 40.0	-0.8
CHKZ	Chkalovo	52.14	342	eP	P	21 19 41.7	+0.2
	9.4nm,1.3s,mb4.7						
FINES	FINESS Array B	75.29	332	P	P	21 22 13.7	-0.1
	0.3nm,0.5s,mb3.3,baz=103,slow=8.2,SNR=4.7						
ARCES	ARCESS Array B	77.92	340	P	P	21 22 28.1	-0.5
	2.3nm,0.8s,mb4.0,baz=82,slow=9.1,SNR=6.4						
GERES	GERESS Array B	80.14	319	P	P	21 22 42.3	+1.6
	0.4nm,0.5s,mb3.5,baz=108,slow=4.3,SNR=5.6						

*NIED **05** 21:11:00, 3840N×14080E, h5km, Mw4.1 Best double couple: M₀1.63000×10^{15} NP1:φ$_s$34.00000°, δ66.00000°, λ85.00000°. NP2:φ$_s$225.00000°, δ25.00000°, λ100.00000°.*
*JMA **05** 21:11:44.9, 3839N×14074E, h11km±1km, M4.3 Broadband fault plane solution: P waves. NP1: φ$_s$246.00000°, δ36.00000°, λ98.00000°. NP2:φ$_s$56.00000°, δ54.00000°, λ84.00000°. Principal axes: T Plg80.0000°, Azm301.0000°; N Plg5.0000°, Azm59.0000°; P Plg9.0000°, Azm150.0000°;*
JMA Felt IV J1.
*ISCJB **05** 21:11:44.3±0.4, 3840N±002×14074E±004, h20km±2km, mb4.3/35, MS3.3/4 Error ellipse: s-maj=4.7km s-min=3.8km az=12.7*
*BJI **05** 21:11:46.4, 3798N×14083E, h56km, mB4.7, mb4.5, Msz4.2*
*MOS **05** 21:11:47.3±1.1, 3846N×14056E, h38km, mb4.7/16, Error ellipse: s-maj=11.7km s-min=7.1km az=95.2*
*IDC **05** 21:11:48.6±2.9, 3841N×14060E, h38km±25km, mb3.8/15, mb1 4.0/18, mb1mx4.0/24, mbtmp4.0/18, ML3.5/3, MS3.3/3, Ms1 3.3/3, ms1mx2.7/33, Error ellipse: s-maj=18.8km s-min=14.0km az=96.0*
*NEIC **05** 21:11:49.4±0.8, 3838N×14065E, h45km±7km, mb4.4/13, Error ellipse: s-maj=9.0km s-min=6.9km az=107.0*
NEIC Recorded [4 JMA] in Miyagi; [2 JMA] in Fukushima and Yamagata; [1 JMA] in Akita, Iwate and Niigata Prefectures.
*SZGRF **05** 21:11:51.9, 40.14N×14351E, h33km, mb4.5, Off east coast of Honshu, Japan*
ISC 05 21:11:44.7±0.4, 3839N±002×14073E±003, h11km±2km, n91, σ0^{s}93/103, mb4.3/35, MS3.3/4, 3C-11D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOU	Okura	0.06	248	⇓P	Pg	21 11 47.1	+0.1
JOU				S	Sg	21 11 48.7	+0.1
JIO	Ouri	0.49	82	⇓P	Pg	21 11 54.0	-0.3
JIO				S	Sg	21 12 00.8	0.0
JMM	Marumori	0.52	175	⇓P	Pg	21 11 54.8	-0.2
JMM				S	Sg	21 12 01.9	0.0
JYS	Shirataka	0.55	253	⇓P	Pg	21 11 55.8	+0.3
JYS				S	Sg	21 12 03.3	+0.6
JYK	Kaneyama	0.60	331	⇓P	Pg	21 11 56.6	+0.1
JYK				S	Sg	21 12 04.6	+0.1
JMK	Ichinoseki	0.68	34	⇓P	Pg	21 11 57.2	-0.7
JYA	Atsumi	0.82	285	⇓P	Pg	21 12 00.6	-0.1
JYA				S	Sg	21 12 11.6	+0.2
JFT	Otama	0.92	200	⇓P	Pg	21 12 02.1	-0.4
JFT				S	Sg	21 12 14.4	-0.2
JFK	Kawauchi	1.02	174	⇓P	Pb	21 12 03.0	-1.5
JFK				S	Sg	21 12 17.2	-0.6
MAJO	Matsushiro	2.73	228	eP	Pn	21 12 29.6	+1.2
MAT	Matsushiro	2.73	228	P	Pn	21 12 29.6	+1.2
MAT				S	Sn	21 13 06.6	+5.3
MAT	Matsushiro	2.73	228	eP	Pn	21 12 29.0	+0.6
MAT				eS	Sn	21 13 08.0	+6.7
MJAR	Matsushiro Arr	2.73	228	Pn	Pn	21 12 29.9	+1.5
	3.7nm,0.3s,baz=76,slow=24,SNR=21						
MJAR				Lg		21 13 09.1	
	19nm,0.3s,baz=183,slow=24,SNR=9.4						
JHJ	Hachijo jima 2	5.31	189	Pn	Pn	21 13 04.5	+0.6
	18nm,0.3s,baz=95,slow=17,SNR=3.5						
JHJ				Sn	Sn	21 14 06.2	+1.1
	13nm,0.3s,baz=77,slow=18,SNR=2.8						
ASAJ	Asahikawa	5.89	13	Pn	Pn	21 13 13.6	+1.7
	1.0nm,0.3s,baz=233,slow=12,SNR=4.4						
ASAJ				Sn	Sn	21 14 19.8	+0.3
	baz=116,slow=27,SNR=2.9						
ASAJ	Asahikawa	5.89	13	P	Pn	21 13 13.6	+1.7
ASAJ						21 14 19.8	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	Yuzh-Sakhalins	8.69	9	P	Pn	21 13 52.3	+2.0
YSS	Yuzh-Sakhalins	8.69	9	P	Pn	21 13 52.6	+2.3
KS15	Wonju Array Si	10.20	269	ePn	Pn	21 14 13.9	+2.9
KLR	Kul'dur	12.62	332	eP	Pn	21 14 44.2	+0.1
KLR				MLR	MLR		
	comp=Z,500nm,13.0s						
SSE	Sheshan	17.62	251	eP	Pn	21 15 47.0	-3.1
SSE				AMB	AMB		
	comp=Z,24nm,0.7s						
SSE				AMB	AMB		
	comp=Z,99nm,6.9s						
NJ2	Nanjing	18.94	257	eP	Pn	21 16 04.1	-2.2
NJ2				AP	pP	21 16 13.0	+4.2
NJ2				PP		21 16 19.4	
NJ2				S	Sn	21 19 29.0	-9.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,50nm,3.9s						
YAK	Yakutsk	24.63	347	i P	P	21 17 04.9	-0.2
YAK				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.6						
ULN	Ulaanbaatar	26.16	302	⇓eP	P	21 17 18.6	-0.4
SONM	Songino Array	26.60	302	P	P	21 17 21.8	-1.2
	comp=Z,2.1nm,1.0s,mb3.6,baz=98,slow=9.0,SNR=12						
SONM				LR	LR	21 28 01.4	
	comp=Z,49nm,19.1s,MS3.1,baz=275,slow=37						
CD2	Chengdu	31.16	267	eP	P	21 18 02.8	-0.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
BILL	Bilibino	32.89	17	⇑eP	P	21 18 18.8	+0.1
BILL				e		21 19 23.6	
BILL				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.4						
ZAL	Zalesovo	40.62	311	i P	P	21 19 26.7	+2.1
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LSA	Lhasa	41.57	273	P	P	21 19 33.9	+1.5
MKAR	Makanchi Array	42.95	301	P	P	21 19 43.2	-0.5
	comp=Z,1.9nm,0.8s,mb3.9,baz=88,slow=9.0,SNR=11						
MKAR	Makanchi Array	42.95	301	P	P	21 19 43.2	-0.5
KURK	Kurchatov	44.68	307	eP	P	21 19 56.6	-0.9
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
KURK	Kurchatov	44.68	307	eP	P	21 19 56.6	-0.9
	comp=Z,5.7nm,0.9s,mb4.4						
JIRN	Jiri	46.38	274	eP	P	21 20 11.3	+0.4
GUN	Gumba	46.50	274	eP	P	21 20 11.6	-0.3
	comp=Z,17nm,0.6s,mb5.1						
KKN	Kakani	47.03	274	eP	P	21 20 16.0	-0.1
	comp=Z,13nm,0.8s,mb4.9						
PKI	Pulchoki	47.03	274	eP	P	21 20 16.4	+0.3
DMN	Daman	47.25	274	eP	P	21 20 18.5	+0.7
GKN	Gorkha	47.43	275	eP	P	21 20 18.6	-0.6
KOLN	Koldanda	48.35	275	eP	P	21 20 26.9	+0.5
	comp=Z,34nm,1.4s,mb5.2						
ILAR	Eielson Array	48.65	33	P	P	21 20 28.6	0.0
	comp=Z,1.2nm,0.7s,mb4.0,baz=267,slow=7.3,SNR=12						
CHKZ	Chkalovo	49.00	312	eP	P	21 20 30.5	-0.8
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
CHKZ	Chkalovo	49.00	312	eP	P	21 20 30.5	-0.8
	comp=Z,2.1nm,0.8s,mb4.2						
BVAR	Borovoye Array	49.27	311	P	P	21 20 32.4	-0.9
	comp=Z,1.1nm,0.7s,mb4.0,baz=78,slow=7.3,SNR=7.6						
BVAR				PcP	PcP	21 21 56.1	-0.1
	comp=Z,1.5nm,0.7s,baz=96,slow=3.0,SNR=7.4						
BRVK	Borovoye	49.32	311	eP	P	21 20 33.3	-0.5
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BRVK	Borovoye	49.32	311	eP	P	21 20 33.3	-0.5
	comp=Z,1.2nm,0.7s,mb4.0						
AAK	Ala-Archa	49.38	297	eP	P	21 20 33.0	-1.3
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
AAK	Ala-Archa	49.38	297	eP	P	21 20 33.0	-1.2
	comp=Z,4.5nm,0.9s,mb4.5						
ZRNK	Zerenda	50.10	312	eP	P	21 20 39.5	-0.2
ZRNK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
ZRNK	Zerenda	50.10	312	eP	P	21 20 39.5	-0.3
	comp=Z,7.4nm,1.2s,mb4.6						
SVE	Sverdlovsk	53.78	318	eP	P	21 21 07.0	-0.1
ARU	Arti	54.99	318	⇑i P	P	21 21 15.5	-0.5
ARU				eS	S	21 28 57.1	-0.8
ARU				eSS	SS	21 32 40.7	-0.7
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
WRAB	Tennant Creek	58.32	187	eP	P	21 21 38.9	-0.7
WRAB				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
WRAB	Tennant Creek	58.32	187	eP	P	21 21 38.9	-0.7
	comp=Z,13nm,1.1s,mb4.9						
WRA	Warramunga Arr	58.33	187	P	P	21 21 39.3	-0.3
	comp=Z,4.5nm,0.9s,mb4.5,baz=5.2,slow=7.3,SNR=21						
WRA	Warramunga Arr	58.33	187	i P	P	21 21 40.0	+0.3
WRA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ASAR	Alice Springs	62.06	187	P	P	21 22 05.4	+0.2
	comp=Z,1.6nm,0.8s,mb4.2,baz=12,slow=6.4,SNR=12						
ARCES	ARCESS Array B	62.54	339	LR	LR	21 50 49.3	
	comp=Z,30nm,18.5s,MS3.5,baz=79,slow=38						
YKA	Yellowknife Ar	62.91	30	P	P	21 22 09.8	-1.2
	comp=Z,0.5nm,0.6s,mb3.8,baz=297,slow=6.2,SNR=3.8						
YKA	Yellowknife Ar	62.91	30	i P	P	21 22 12.0	+1.0
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
JOF	Joensuu	64.52	331	ep	P	21 22 20.0	-1.5
OBN	Obninsk	66.69	323	⇓eP	P	21 22 32.7	-2.9
OBN				e		21 24 59.1	
OBN				eS	S	21 31 21.4	-5.8
OBN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
FINES	FINESS Array B	67.37	332	P	P	21 22 38.5	-1.4
	comp=Z,3.3nm,0.8s,mb4.4,baz=73,slow=6.6,SNR=11						
KIV	Kislovodsk	69.62	310	eP	P	21 22 54.7	+0.8
KIV				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
KIV				MLR	MLR		
	comp=Z,16nm,17.0s,MS3.3						
KIV	Kislovodsk	69.62	310	eP	P	21 22 55.2	+1.2
	comp=Z,5.5nm,0.8s,mb4.5						
STKA	Stephens Creek	69.91	179	P	P	21 22 56.4	+0.6
ANN	Anapa	72.21	313	e*PP	P	21 23 09.0	-0.7
NB2	NORSAR Subarra	72.73	337	P	P	21 23 11.8	-1.0
	comp=Z,3.6nm,0.8s,mb4.3,baz=37,slow=6.2						
NOA	NORSAR Array B	72.73	337	P	P	21 23 12.2	-0.6
	comp=Z,2.9nm,0.8s,mb4.3,baz=38,slow=6.0,SNR=17						
AKASG	Malin Array Be	72.90	322	P	P	21 23 12.8	-1.0
	comp=Z,1.6nm,0.6s,mb4.1,baz=44,slow=6.0,SNR=9.7						
BOZ	Bozeman (W)	74.12	44	eP	P	21 23 22.1	+1.1
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BOZ	Bozeman (W)	74.12	44	eP	P	21 23 22.1	+1.1
	comp=Z,2.1nm,0.9s,mb4.1						
NVAR	Mina Array Bea	74.61	53	P	P	21 23 25.3	+1.5
	comp=Z,0.8nm,0.2s,mb4.2,baz=296,slow=5.1,SNR=4.4						
PDAR	Pinedale Array	77.10	45	P	P	21 23 38.8	+0.7
	comp=Z,0.6nm,0.7s,mb3.7,baz=283,slow=1.7,SNR=6.7						
STHS	Stebnicka Huta	77.55	324	eP	P	21 23 41.1	+0.5
STHS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
STHS	Stebnicka Huta	77.55	324	eP	P	21 23 41.1	+0.5
	comp=Z,2.2nm,0.9s,mb4.1						
BRTR	Keskin Array B	77.56	311	P	P	21 23 40.3	-0.3
	comp=Z,0.5nm,0.4s,mb3.8,baz=72,slow=4.7,SNR=4.0						
ULM	Lac du Bonnet	78.67	33	P	P	21 23 46.4	-0.4
	comp=Z,1.1nm,0.6s,mb4.0,baz=305,slow=4.1,SNR=2.7						
BRG	Berggiesshubel	79.62	329	e(P)	P	21 23 52.6	+0.6
	comp=Z,1.1nm,0.5s,mb4.1						
BRG	Berggiesshubel	79.62	329	eP	P	21 23 52.6	+0.6
BRG				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
CLL	Collm	79.66	330	P	P	21 23 51.5	-0.7
	comp=Z,logA/T=0.7,mb4.4						
CLL	Collm	79.66	330	i P	P	21 23 51.5	-0.7
	comp=Z,4.0nm,0.8s,mb4.4						
CLL	Collm	79.66	330	i P	P	21 23 51.5	-0.7
CLL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
KHC	Kasperske Hory	81.11	328	i P	P	21 24 00.5	+0.5
GERES	GERESS Array B	81.28	328	P	P	21 24 00.7	-0.3
	comp=Z,1.0nm,0.7s,mb3.8,baz=35,slow=4.9,SNR=8.7						
GERES				LR	LR	22 00 06.9	
	comp=Z,21nm,21.8s,MS3.5,baz=214,slow=36						
GRA1	Grafenberg Arr	81.63	330	eP	P	21 24 03.0	+0.2
	comp=Z,5.0nm,0.9s,mb4.4						
GRF	Grafenberg Arr	81.63	330	eP	P	21 24 03.0	+0.2
	comp=Z,5.0nm,0.9s,mb4.4						
GRF	Grafenberg Arr	81.63	330	eP	P	21 24 03.0	+0.2
GRF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
GRF	Grafenberg Arr	81.63	330	eP	P	21 24 03.0	+0.2
GRF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
ANMO	Albuquerque	84.12	50	⇑eP	P	21 24 17.7	+2.0
LPAZ	La Paz	146.44	57	PKPbc	PKPbc	21 31 26.2	+0.4
	comp=Z,3.8nm,1.2s,baz=349,slow=5.2,SNR=3.6						

*ISCJB **05** 21:32:20.5±0.6, 4507S±003×16678E±005, h12km, mb3.8/4, MS3.6/2, Error ellipse: s-maj=5.6km s-min=4.2km az=149.6*
*NEIC **05** 21:32:23.4, 45.11S×166.88E, h12km, ML4.7(WEL), After WEL.*
NEIC Felt at Manapouri and Te Anau.
*WEL **05** 21:32:23.6±0.5, 45.13S×166.89E, h12km, ML4.8/17, Error ellipse: s-maj=4.9km s-min=1.6km az=90.0*
WEL Felt from West Coast to Fiordland, maximum reported intensity MM 4.
*IDC **05** 21:32:26.3±5.1, 4506S×16692E, h52km±43km, mb3.7/4, mb1 3.9/5, mb1mx3.7/12, mbtmp4.0/5, ML4.2/2, MS3.7/2, Ms1 3.6/2, ms1mx3.0/19, Error ellipse: s-maj=60.3km s-min=18.4km az=6.0*
ISC 05 21:32:21.8±0.5, 4512S±003×16683E±005, h12km, n49, σ0^{s}88/52, mb3.8/4, MS3.6/2, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.42	147	P*	Pg	21 32 31.7	+1.6
DCZ				S*	Sg	21 32 37.1	+1.4
DCZ				S*	Sg	21 32 37.4	+1.6
DCZ	Deep Cove	0.42	147	P	Pg	21 32 31.7	+1.6
DCZ				S	Sg	21 32 37.2	+1.4
MSZ	Milford Sound	0.90	60	P*	Pb	21 32 39.1	-0.2
MSZ				S*	Sb	21 32 51.6	+0.3
MSZ	Milford Sound	0.90	60	P	Pg	21 32 39.2	0.0
MSZ				S	Sg	21 32 51.7	+0.8
MLZ	Mavora Lakes	0.97	104	P*	Pb	21 32 39.9	-0.7
MLZ				S*	Sb	21 32 51.5	-1.9
WHZ	Wether Hill Ro	1.10	135	P*	Pb	21 32 42.1	-0.6
WHZ				S*	Sb	21 32 55.8	-1.3
WHZ	Wether Hill Ro	1.10	135	P	Pb	21 32 42.1	-0.6
WKZ	Wanaka	1.58	80	PN	Pn	21 32 50.9	+1.3
WKZ				SN	Sn	21 33 10.7	+0.7
WKZ	Wanaka	1.58	80	P	Pn	21 32 51.0	+1.4
JCZ	Jackson Bay	1.73	53	eP	Pn	21 32 51.5	-0.2
EAZ	Earnscleugh	1.75	94	PN	Pn	21 32 52.8	+0.8
EAZ	Earnscleugh	1.75	94	P	Pn	21 32 52.8	+0.8
APZ	The Paps	1.89	155	PN	Pn	21 32 53.6	-0.3
TUZ	Tuapeka	2.14	114	PN	Pn	21 32 57.1	-0.1
TUZ	Tuapeka	2.14	114	eP	Pn	21 32 57.1	-0.2
SYZ	Scrubby Hill	2.15	132	PN	Pn	21 32 57.2	-0.2
LBZ	Lake Benmore	2.50	74	PN	Pn	21 33 02.7	+0.5
LBZ	Lake Benmore	2.50	74	P	Pn	21 33 02.7	+0.5
FOZ	Fox Glacier	2.58	54	PN	Pn	21 33 03.7	+0.4
FOZ	Fox Glacier	2.58	54	eP	Pn	21 33 03.8	+0.5
ODZ	Otahua Downs	2.70	90	PN	Pn	21 33 05.0	-0.1
ODZ	Otahua Downs	2.70	90	P	Pn	21 33 05.0	0.0
RPZ	Rata Peaks	3.34	67	P	Pn	21 33 14.0	+0.2
	102nm,0.3s,baz=221,slow=3.9,SNR=232						
RPZ				S	Sn	21 33 53.1	-0.2
	84nm,0.3s,baz=1.9,slow=19,SNR=10.0						
RPZ	Rata Peaks	3.34	67	PN	Pn	21 33 13.5	-0.3
WVZ	Waitaha Valley	3.48	55	PN	Pn	21 33 15.0	-0.7
WVZ	Waitaha Valley	3.48	55	eP	Pn	21 33 15.0	-0.7
MQZ	McQueen's Vall	4.40	73	eP	Pn	21 33 27.6	-0.8
LTZ	Lake Taylor	4.57	61	eP	Pn	21 33 29.8	-0.9
THZ	Tophouse	5.55	55	eP	Pn	21 33 43.7	-0.5
KHZ	Kahutara	5.56	63	eP	Pn	21 33 44.2	-0.1
QRZ	Quartz Range	5.99	46	eP	Pn	21 33 49.1	-1.1
NNZ	Nelson	6.18	53	eP	Pn	21 33 53.6	+0.8
TCW	Tory Channel	6.70	57	P	Pn	21 34 03.5	+3.5
PKE	Pukeiti	7.96	44	P	Pn	21 34 19.5	+2.3
HIZ	Hauiti	8.91	45	eP	Pn	21 34 30.2	-0.1
URZ	Urewera	10.29	52	P	Pn	21 34 50.0	+0.7
	0.5nm,0.3s,baz=11,slow=23,SNR=2.3						
URZ				S	Sn	21 36 35.8	-8.8
	1.0nm,0.3s,baz=298,slow=14,SNR=2.8						
WCZ	Waipu Caves	10.80	34	eP	Pn	21 34 54.6	-1.6
STKA	Stephens Creek	23.65	295	P	P	21 37 33.7	+0.6
	2.9nm,0.8s,mb3.8,baz=122,slow=15,SNR=4.8						
STKA				LR	LR	21 45 35.1	
	comp=Z,237nm,20.5s,MS3.6,baz=202,slow=33						
STKA	Stephens Creek	23.65	295	P	P	21 37 33.7	+0.6
STKA				LR	LR	21 45 35.1	
ASAR	Alice Springs	34.23	298	P	P	21 39 06.8	-0.6
	0.5nm,0.6s,mb3.6,baz=142,slow=8.2,SNR=5.9						
ASAR				LR	LR	21 50 45.9	
	comp=Z,93nm,20.7s,MS3.5,baz=178,slow=32						
WRA	Warramunga Arr	36.75	302	P	P	21 39 28.7	-0.3
	1.7nm,0.7s,mb4.0,baz=137,slow=8.0,SNR=25						
FITZ	Fitzroy Crossi	43.55	295	P	P	21 40 25.4	0.0
	1.6nm,0.5s,mb4.0,baz=166,slow=4.2,SNR=8.7						
BRTR	Keskin Array B	145.41	278	PKPbc	PKPbc	21 51 58.0	-1.5
	0.7nm,0.6s,baz=133,slow=5.3,SNR=4.6						
TORD	Torodi Ar. Bea	145.71	206	PKPbc	PKPbc	21 51 59.0	-1.5
	2.9nm,0.6s,baz=140,slow=2.3,SNR=46						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ARCES	ARCESS Array B	148.82	335	PKPbc	PKPbc	21 52 05.6	-3.6
	1.5nm,0.6s,baz=76,slow=5.1,SNR=7.6						
JOF	Joensuu	149.22	321	epkp	PKPdf	21 52 06.7	+0.7
AKASG	Malin Array Be	151.35	297	PKPbc	PKPbc	21 52 12.9	-2.4
	0.5nm,0.4s,baz=78,slow=2.8,SNR=12						
KAF	Kangasniemi	151.67	321	epkp	PKPdf	21 52 12.6	+2.8
FINES	FINESS Array B	151.99	320	PKPbc	PKPbc	21 52 14.2	-2.6
	2.2nm,0.7s,baz=90,slow=4.2,SNR=12						

IDC 05 22:21:37.7±0.9, 1570N×6147W, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/26, mbtmp3.8/10, ML3.5/1, Error ellipse: s-maj=24.5km s-min=9.0km az=111.0

ISCJB 05 22:21:39.3±0.4, 1575N±003×6153W±006, h23km±3km, mb3.7/9, Error ellipse: s-maj=10.1km s-min=3.3km az=145.2

TRN 05 22:21:40.4, 1577N×6152W, h3km, M3.3(FDF)

NEIC 05 22:21:41.7, 1571N×6150W, h3km, MD2.9(TRN), After TRN.

ISC 05 22:21:39.7±0.3, 1575N±002×6151W±005, h16km±2km, n33, σ0.76/43, mb3.7/9, 10C-7D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBG	Guadaloupe-3	0.16	309	⇓iP	Pg	22 21 43.2	-0.7
BBL	Barber's Block	0.23	169	⇑iP	Pg	22 21 44.4	-0.4
MGG	Marie-Galante	0.25	48	⇑iP	Pg	22 21 45.2	0.0
DWS	Wesley	0.27	133	⇑iP	Pg	22 21 46.1	+0.7
DWS				eS	Sg	22 21 49.9	+0.5
PHG	Guadaloupe-2	0.29	335	⇑eP	Pg	22 21 46.0	+0.1
HMG	Houelmont	0.29	322	⇓eP	Pg	22 21 45.7	-0.2
DOG	Dongo Capester	0.30	340	⇑iP	Pg	22 21 46.0	0.0
SCG	Saint Claude	0.32	330	⇓iP	Pg	22 21 46.4	0.0
MDN	Morne-Daniel	0.44	165	⇑iP	Pg	22 21 49.4	+0.7
MDN				eS	Sg	22 21 55.5	+0.9
MDN	Morne-Daniel	0.44	165	⇑iP	Pg	22 21 49.4	+0.7
MDN				eS	Sg	22 21 55.5	+0.9
LZG	Guadaloupe-1	0.46	327	⇑eP	Pg	22 21 48.7	-0.3
DBCT	Belle View Cho	0.50	161	eP	Pg	22 21 50.3	+0.6
DBCT				eS	Sg	22 21 56.8	+0.3
DSHT	Scott's Head	0.55	166	eP	Pg	22 21 51.1	+0.6
DSHT				eS	Sg	22 21 57.9	0.0
SFG	Saint Francois	0.59	31	eP	Pg	22 21 51.0	-0.3
SEG	Port Louis	0.65	1	⇑eP	Pg	22 21 51.9	-0.5
DEG	La Desirade	0.71	38	⇑eP	Pg	22 21 52.2	-1.3
FDF	Fort de France	1.07	161	⇓iP	Pb	22 21 59.1	-0.7
FDF				eS	Sb	22 22 13.2	-0.3
CRM	Caravelle	1.15	150	⇓eP	Pn	22 21 59.5	-1.6
CRM				eS	Sb	22 22 14.5	-1.2
BIM	Bigot	1.30	161	⇓eP	Pn	22 22 02.1	-0.9
MVM	Montagne Vaucl	1.33	153	⇓eP	Pn	22 22 02.5	-1.0
MVM				eS	Sn	22 22 20.2	-0.6
BPA	Boggy Peak	1.33	346	eP	Pn	22 22 03.8	+0.2
BPA				eS	Sn	22 22 21.9	+1.0
CPB	Codrington	1.90	351	eP	Pn	22 22 11.5	+0.1
CPB				eS	Sn	22 22 33.3	-1.7
PCRV	Puerto La Cruz	6.32	209	Pn	Pn	22 23 11.3	-0.8
	1.0nm,0.3s,baz=359,slow=10,SNR=5.1						
SIV	San Ignacio	31.54	179	P	P	22 28 02.2	+1.1
	1.3nm,0.5s,mb4.0,baz=11,slow=8.2,SNR=10						
CPUP	Villa Florida	42.02	174	P	P	22 29 30.0	-0.3
	0.3nm,0.3s,mb3.3,baz=14,slow=12,SNR=3.1						
PDAR	Pinedale Array	48.96	313	P	P	22 30 25.9	+0.7
	0.3nm,0.6s,mb3.5,baz=115,slow=6.7,SNR=4.0						
EKA	Eskdalemuir Ar	59.33	34	P	P	22 31 41.9	+1.1
	0.6nm,0.7s,mb3.8,baz=260,slow=4.8,SNR=5.9						
TORD	Torodi Ar. Bea	61.07	83	P	P	22 31 53.3	+0.6
	1.0nm,0.8s,mb4.0,baz=285,slow=5.6,SNR=4.8						
NB2	NORSAR Subarra	67.99	30	P	P	22 32 38.9	+0.9
	comp=Z,0.8nm,0.7s,mb3.9,baz=263,slow=6.5						
NOA	NORSAR Array B	67.99	30	P	P	22 32 39.0	+1.0
	comp=Z,1.2nm,0.7s,mb4.0,baz=262,slow=6.3,SNR=9.2						
GERES	GERESS Array B	68.60	43	P	P	22 32 42.4	+0.6
	comp=Z,0.2nm,0.5s,mb3.3,baz=282,slow=6.3,SNR=4.0						
HFS	Hagfors	69.11	31	P	P	22 32 46.0	+1.0
	comp=Z,0.2nm,0.5s,mb3.4,baz=226,slow=6.0,SNR=4.3						
FINES	FINESS Array B	75.17	30	P	P	22 33 22.1	+0.9
	comp=Z,1.3nm,0.9s,mb3.9,baz=234,slow=6.7,SNR=4.9						

IDC 05 22:22:17.9±0.6, 1574N×6160W, h0km, mb4.1/18, mb1 4.3/20, mb1mx4.2/29, mbtmp4.1/20, ML3.8/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/25, Error ellipse: s-maj=12.7km s-min=8.7km az=111.0

LDG 05 22:22:17.2±0.2, 1584N×6177W, h10km, Mb4.6/13, Ms3.3/2, Error ellipse: s-maj=11.4km s-min=6.2km az=131.0

TRN 05 22:22:18.6, 1574N×6152W, h22km, MD3.8, M3.8(FDF)

ISCJB 05 22:22:20.3±0.3, 1575N±002×6155W±005, h26km±2km, mb4.2/35, Error ellipse: s-maj=8.6km s-min=3.4km az=145.3

NEIC 05 22:22:23.6, 1571N×6148W, h5km, mb4.7/15, MD3.8(TRN), After TRN.

BJI 05 22:22:23.5, 1570N×6150W, h8km, mB5.4, Ms4.9, Msz4.5

ISC 05 22:22:20.7±0.4, 1574N±002×6158W±004, h15km±2km, n97, σ0.74/103, mb4.2/35, 7C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBG	Guadaloupe-3	0.13	331	⇓iP	Pg	22 22 24.1	-0.1
BBL	Barber's Block	0.24	153	⇑iP	Pg	22 22 25.4	-0.5
HMG	Houelmont	0.27	335	eP	Pg	22 22 26.8	+0.4
PHG	Guadaloupe-2	0.28	348	⇑eP	Pg	22 22 27.0	+0.3
DOG	Dongo Capester	0.29	353	⇑eP	Pg	22 22 27.0	+0.1
SCG	Saint Claude	0.30	341	⇑iP	Pg	22 22 27.3	+0.3
DWS	Wesley	0.31	123	eP	Pg	22 22 27.1	-0.1
DWS				eS	Sg	22 22 31.3	-0.2
MGG	Marie-Galante	0.31	55	⇑iP	Pg	22 22 26.2	-0.9
BCG	Bois Riant Cap	0.35	354	⇑eP	Pg	22 22 27.8	0.0
LZG	Guadaloupe-1	0.44	335	⇓iP	Pg	22 22 29.8	+0.3
MDN	Morne-Daniel	0.46	157	eS	Sg	22 22 36.8	+0.9
DBCT	Belle View Cho	0.52	154	eP	Pg	22 22 31.4	+0.5
DBCT				eS	Sg	22 22 39.2	+1.4
DBCT	Belle View Cho	0.52	154	eP	Pg	22 22 31.4	+0.5
DBCT				eS	Sg	22 22 39.2	+1.4
DSHT	Scott's Head	0.56	159	eP	Pg	22 22 32.1	+0.5
DSHT				eS	Sg	22 22 40.3	+1.1
DSHT	Scott's Head	0.56	159	eP	Pg	22 22 32.1	+0.5
DSHT				eS	Sg	22 22 40.3	+1.1
SFG	Saint Francois	0.63	36	⇑eP	Pg	22 22 32.1	-0.9
SEG	Port Louis	0.66	6	eP	Pg	22 22 33.7	0.0
DEG	La Desirade	0.76	41	eP	Pg	22 22 33.1	-2.3
FDF	Fort de France	1.08	157	eP	Pb	22 22 40.0	-1.0
FDF				eS	Sb	22 22 54.4	-0.6
CRM	Caravelle	1.17	147	eP	Pn	22 22 40.6	-1.8
BIM	Bigot	1.31	158	eP	Pn	22 22 43.8	-0.6
BPA	Boggy Peak	1.33	348	eP	Pn	22 22 44.2	-0.4
BPA				eS	Sn	22 23 01.7	-0.3
BPA	Boggy Peak	1.33	348	eP	Pn	22 22 44.8	+0.2
BPA				eS	Sn	22 23 01.7	-0.3
MVM	Montagne Vaucl	1.35	151	eP	Pn	22 22 43.1	-1.9
CPB	Codrington	1.91	353	eP	Pn	22 22 52.6	0.0
CPB				eS	Sn	22 23 16.0	-0.3
STAT	Sint Eustatius	2.20	323	eP	Pg	22 23 03.1	+0.2
STAT				eS	Sn	22 23 25.8	+2.2
PCRV	Puerto La Cruz	6.28	209	Pn	Pn	22 23 52.0	-0.7
	1.6nm,0.3s,baz=49,slow=6.9,SNR=2.9						
PCRV				LR	LR	22 26 48.8	
	comp=Z,134nm,18.1s,baz=66,slow=43						
SDV	Santo Domingo	11.16	233	Pn	Pn	22 24 58.0	-1.6
	1.0nm,0.3s,baz=48,slow=12,SNR=3.0						
SDV	Santo Domingo	11.16	233	Pn	Pn	22 24 58.0	-1.6
ROSC	El Rosal	16.55	231	LR	LR	22 32 42.6	
	comp=Z,81nm,22.0s,baz=32,slow=38						
OTAV	Otavalo	22.68	229	P	P	22 27 29.5	+8.0
	0.9nm,0.6s,mb3.4						
SAML	Samuel	24.58	184	eP	P	22 27 40.0	0.0
	6.8nm,1.1s,mb4.1						
SIV	San Ignacio	31.53	179	P	P	22 28 42.6	+0.5
	2.8nm,0.6s,mb4.3,baz=12,slow=9.3,SNR=15						
CPUP	Villa Florida	42.02	174	P	P	22 30 11.2	-0.1
	0.3nm,0.4s,mb3.3,baz=315,slow=10.0,SNR=2.7						
ULM	Lac du Bonnet	44.16	329	P	P	22 30 27.4	-1.3
	2.4nm,0.5s,mb4.2,baz=134,slow=8.4,SNR=8.1						
PDAR	Pinedale Array	48.92	313	P	P	22 31 05.8	-0.2
	1.4nm,0.7s,mb4.1,baz=111,slow=10.0,SNR=9.4						
TRQA	Tornquist	53.51	180	eP	P	22 31 46.8	+6.3
	1.6nm,0.7s,mb4.1						
MDT	Midelt	54.02	61	P	P	22 31 45.4	+1.2
	1.9nm,0.8s,mb4.1,baz=281,slow=7.7,SNR=3.8						
ESDC	Sonseca Array	55.29	52	P	P	22 31 54.2	+0.8
	0.4nm,0.4s,mb3.8,baz=262,slow=7.4,SNR=5.5						
DBIC	Dimbokro	56.23	92	P	P	22 32 00.8	+0.7
	4.4nm,0.8s,mb4.6,baz=291,slow=8.6,SNR=4.0						
QUIF	Quistinic	57.40	43	eP	P	22 32 08.6	+0.1
	19nm,1.0s,mb4.8						
QUIF	Quistinic	57.40	43	eP	P	22 32 08.6	+0.1
	9.6nm,1.0s,mb4.8						
ROSF	Rostrenen	57.43	42	eP	P	22 32 08.9	+0.2
	5.8nm,0.7s,mb4.5						
ROSF	Rostrenen	57.43	42	eP	P	22 32 08.9	+0.2
	2.9nm,0.6s,mb4.5						
SGMF	Saint Gilles	57.88	43	eP	P	22 32 12.0	+0.2
ETSF	Etsaut	58.29	49	eP	P	22 32 15.6	+0.9
EPF	Esparros	58.96	49	eP	P	22 32 20.4	+1.0
	14nm,0.8s,mb4.7						
EPF	Esparros	58.96	49	eP	P	22 32 20.4	+1.0
	6.8nm,0.8s,mb4.7						
GRR	Gorron	59.01	43	eP	P	22 32 19.9	+0.1
	9.1nm,0.8s,mb4.6						
GRR	Gorron	59.01	43	eP	P	22 32 19.9	+0.1
	4.6nm,0.8s,mb4.6						
MFF	Saint Martin d	59.15	45	eP	P	22 32 21.2	+0.5
	4.8nm,0.6s,mb4.4						
MFF	Saint Martin d	59.15	45	eP	P	22 32 21.2	+0.5
	2.4nm,0.6s,mb4.4						
FLN	La Foliniere	59.33	42	eP	P	22 32 22.2	+0.2
	13nm,0.9s,mb4.7						
FLN	La Foliniere	59.33	42	eP	P	22 32 22.2	+0.2
	6.5nm,0.9s,mb4.7						
EKA	Eskdalemuir Ar	59.38	34	P	P	22 32 22.6	+0.3
	1.8nm,0.7s,mb4.2,baz=256,slow=5.4,SNR=13						
YKA	Yellowknife Ar	59.49	334	P	P	22 32 21.9	-1.1
	2.4nm,0.6s,mb4.4,baz=106,slow=7.4,SNR=14						
YKA	Yellowknife Ar	59.49	334	P	P	22 32 21.9	-1.1
LDF	La Druitiere	59.53	43	eP	P	22 32 23.5	+0.1
MTLF	Montolieu	60.36	49	eP	P	22 32 29.3	+0.3
TORD	Torodi Ar. Bea	61.13	83	P	P	22 32 34.3	0.0
	2.8nm,0.9s,mb4.4,baz=288,slow=7.3,SNR=9.6						
BGF	Bois d'Agland	61.19	45	eP	P	22 32 35.4	+0.7
AVF	Avril sur Loir	61.56	45	eP	P	22 32 37.1	-0.1
	6.8nm,0.7s,mb4.6						
AVF	Avril sur Loir	61.56	45	eP	P	22 32 37.1	-0.1
	3.4nm,0.7s,mb4.6						
SSF	Saint Saulge	61.70	45	eP	P	22 32 37.9	-0.3
SMF	Signal de Mont	61.88	45	eP	P	22 32 39.4	+0.1
LOR	Lormes	61.97	45	eP	P	22 32 39.5	-0.4
	7.7nm,0.6s,mb4.7						
LOR	Lormes	61.97	45	eP	P	22 32 39.5	-0.4
	3.8nm,0.6s,mb4.7						
VIVF	Saint-Julien-l	62.27	47	eP	P	22 32 42.9	+0.9
GIVF	Givet	62.97	41	eP	P	22 32 46.5	-0.1
ORIF	Oris-en-Rattie	63.13	47	eP	P	22 32 48.5	+0.8
ORIF				eR			
	37nm,21.0s						
HAU	Haudompre	63.72	44	eP	P	22 32 51.2	-0.4
LPL	La Plagne	63.78	47	eP	P	22 32 53.0	+1.0
LPG	La Plagne	63.79	47	eP	P	22 32 53.2	+1.1
HINF	Hinteralfeld	64.04	44	eP	P	22 32 53.1	-0.6
	9.4nm,1.0s,mb4.5						
HINF	Hinteralfeld	64.04	44	eP	P	22 32 53.1	-0.6
	4.7nm,1.0s,mb4.5						
CDF	Champ du Feu	64.38	44	eP	P	22 32 55.6	-0.3
	7.3nm,0.9s,mb4.4						
CDF	Champ du Feu	64.38	44	eP	P	22 32 55.6	-0.3
	3.7nm,0.9s,mb4.4						
PGF	Pioggiola	65.28	50	eP	P	22 33 01.8	0.0
	12nm,0.9s,mb4.6						
PGF	Pioggiola	65.28	50	eP	P	22 33 01.8	0.0
	5.8nm,0.9s,mb4.6						
NB2	NORSAR Subarra	68.03	30	P	P	22 33 19.9	+0.5
	comp=Z,3.7nm,0.8s,mb4.5,baz=261,slow=6.5						
NOA	NORSAR Array B	68.03	30	P	P	22 33 20.0	+0.6
	comp=Z,3.0nm,0.7s,mb4.4,baz=262,slow=6.3,SNR=19						
CLL	Collm	68.25	41	⇓P	P	22 33 20.9	+0.1
	comp=Z,logA/T=0.9,mb4.7						
CLL				e		22 33 31.0	
CLL	Collm	68.25	41	⇓iP	P	22 33 20.9	+0.1
	comp=Z,5.0nm,0.7s,mb4.7						
CLL				ex	x	22 33 31.0	
GERES	GERESS Array B	68.66	43	P	P	22 33 23.2	-0.1
	comp=Z,0.8nm,0.7s,mb3.8,baz=273,slow=5.1,SNR=8.1						
BRG	Berggiesshubel	68.83	41	i P	P	22 33 24.7	+0.3
	comp=Z,1.9nm,0.7s,mb4.2						
HFS	Hagfors	69.15	31	P	P	22 33 26.5	+0.1
	comp=Z,1.4nm,0.6s,mb4.0,baz=222,slow=4.0,SNR=7.3						
VRAC	Vranov	70.55	43	P	P	22 33 33.7	-1.3
	comp=Z,2.7nm,0.5s,mb4.5,baz=271,slow=6.4,SNR=4.5						
ILAR	Eielson Array	73.90	334	P	P	22 33 54.0	-1.0
	comp=Z,1.0nm,0.8s,mb3.8,baz=129,slow=2.8,SNR=7.8						
FINES	FINESS Array B	75.21	30	P	P	22 34 02.3	-0.3
	comp=Z,3.4nm,1.0s,mb4.2,baz=267,slow=3.6,SNR=8.7						
KAF	Kangasniemi	75.25	29	ep	P	22 34 02.2	-0.6
	comp=Z,2.8nm,0.6s,mb4.4						
JOF	Joensuu	77.44	28	ep	P	22 34 07.6	-7.7
AKASG	Malin Array Be	78.50	40	P	P	22 34 21.3	+0.1
	comp=Z,0.3nm,0.4s,mb3.6,baz=261,slow=6.2,SNR=5.9						
AKASG	Malin Array Be	78.50	40	P	P	22 34 21.3	+0.1
BRTR	Keskin Array B	84.03	51	P	P	22 34 50.9	+0.3
	comp=Z,0.7nm,0.5s,mb4.0,baz=258,slow=5.8,SNR=4.4						
WMQ	Urumqi	114.41	24	PKP	PKiKP	22 41 05.4	+5.6
HHC	Hu-ho-hao-te	123.34	6	ePKP	PKPdf	22 41 22.2	+5.2
HHC				PP	PP	22 43 07.2	+10
CD2	Chengdu	131.53	17	ePKP	PKPdf	22 41 35.5	+2.9

ISCJB 05 22:24:04.1±0.3, 4935N±002×683E±003, h0km, Error ellipse: s-maj=2.7km s-min=2.4km az=18.6

BGR 05 22:24:05.9±0.4, 4937N×687E, h1km, ML1.8/2, Error ellipse: s-maj=7.8km s-min=4.4km az=33.0

CSEM 05 22:24:06.0±0.1, 4937N×691E, h1km, ML2.6/10, Error ellipse: s-maj=1.2km s-min=0.9km az=111.0

LDG 05 22:24:06.0±0.1, 4937N×691E, h1km, Md2.7/4, Ml2.6/11, Error ellipse: s-maj=2.4km s-min=1.8km az=102.0, Suspected Mining induced.

NEIC 05 22:24:06.0, 4937N×691E, h1km, ML1.9(STR), ML2.6(LDG), After LDG.

ISC 05 22:24:05.0±0.3, 4935N±002×685E±003, h0km, n47, σ1.08/94, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	Ruppelstein	0.38	21	Pg	Pg	22 24 12.6	+0.3
RUP				Sg	Sg	22 24 17.7	+0.5
WLF	Walferdange	0.55	305	ePg	Pg	22 24 17.0	+1.3
	SNR=2.9						
WLF				eSg	Sg	22 24 22.7	-0.1
	SNR=3.7						
WLF	Walferdange	0.55	305	eP	Pg	22 24 16.7	+1.0
WLF				eS	Sg	22 24 24.3	+1.5
ABH	Alteburg	0.70	40	Pg	Pg	22 24 18.2	-0.3
ABH				Sg	Sg	22 24 28.3	+0.7
CDF	Champ du Feu	0.98	163	ePg	Pg	22 24 25.5	+1.7
CDF				eSg	Sg	22 24 37.5	+1.0
	14nm,0.2s						
CDF	Champ du Feu	0.98	163	ePn	Pn	22 24 24.7	-1.3
CDF				ePg	Pg	22 24 25.5	+1.7
CDF				eSg	Sg	22 24 37.5	+1.0
CDF	Champ du Feu	0.98	163	ePg	Pg	22 24 25.5	+1.7
CDF				eSg	Sg	22 24 37.5	+1.0
	6.8nm,0.2s						
ECH	Echery	1.15	170	Pn	Pn	22 24 28.3	-0.1
ECH				Sg	Sg	22 24 43.3	+1.2
RFYF	Reffroy	1.16	232	ePg	Pg	22 24 29.1	+1.9
RFYF				eSg	Sg	22 24 44.5	+2.3
	14nm,0.2s						
RFYF	Reffroy	1.16	232	ePg	Pg	22 24 29.1	+1.9
RFYF				eSg	Sg	22 24 44.5	+2.3
	7.1nm,0.2s						
THEF	They Montfort	1.26	207	Pn	Pn	22 24 29.8	-0.1
THEF				Sg	Sg	22 24 47.0	+1.5
TNS	Taunus Mts	1.36	49	ePg	Pg	22 24 30.7	-0.3
	SNR=2.7						
TNS				eSg	Sg	22 24 47.8	-0.9
	SNR=2.4						
HAU	Haudompre	1.39	194	ePg	Pg	22 24 32.4	+0.8
HAU				eSg	Sg	22 24 50.5	+1.0
	10nm,0.2s						
HAU	Haudompre	1.39	194	ePn	Pn	22 24 31.3	-0.3
HAU				ePg	Pg	22 24 32.4	+0.8
HAU				eSg	Sg	22 24 50.5	+1.0
HAU	Haudompre	1.39	194	ePg	Pg	22 24 32.4	+0.8
HAU				eSg	Sg	22 24 50.5	+1.0
	5.2nm,0.2s						
BFO	Black Forest	1.41	136	ePg	Pg	22 24 32.6	+0.5
	SNR=5.3						
BFO				eSg	Sg	22 24 50.1	-0.4
	SNR=4.1						
BFO	Black Forest	1.41	136	ePn	Pn	22 24 33.4	+1.3
BFO				eS	Sg	22 24 50.7	+0.2
BFO	Black Forest	1.41	136	ePn	Pn	22 24 33.4	+1.4
BFO				Sg	Sg	22 24 50.1	-0.4
	SNR=4.1						
BFO				eS	Sg	22 24 50.7	+0.2
MEZF	Maizieres J'vi	1.46	235	ePg	Pg	22 24 33.7	+0.7
MEZF				eSg	Sg	22 24 55.2	+3.4
	7.9nm,0.3s						
MEZF	Maizieres J'vi	1.46	235	ePg	Pg	22 24 33.7	+0.7
MEZF				eSg	Sg	22 24 55.2	+3.4
	4.0nm,0.3s						
GIVF	Givet	1.51	301	ePg	Pg	22 24 33.6	-0.5
GIVF				eSg	Sg	22 24 54.1	+0.4
	26nm,0.6s						
GIVF	Givet	1.51	301	ePg	Pg	22 24 33.6	-0.5
GIVF				eSg	Sg	22 24 54.1	+0.4
	13nm,0.6s						
HINF	Hinteralfeld	1.53	180	ePg	Pg	22 24 35.1	+0.6
HINF				eSn	Sn	22 24 52.6	-1.7
HINF				eSg	Sg	22 24 55.6	+1.3
	13nm,0.2s						
HINF	Hinteralfeld	1.53	180	ePg	Pg	22 24 35.1	+0.6
HINF				eSn	Sn	22 24 52.6	-1.7
HINF				eSg	Sg	22 24 55.6	+1.3
	6.5nm,0.2s						
SFTF	Sexfontaines	1.66	227	ePg	Pg	22 24 37.4	+0.6
SFTF				eSg	Sg	22 24 59.8	+1.5
	4.6nm,0.3s						
SFTF	Sexfontaines	1.66	227	ePg	Pg	22 24 37.4	+0.6
SFTF				eSg	Sg	22 24 59.8	+1.5
	2.3nm,0.3s						
BAIF	Baives	1.85	294	ePg	Pg	22 24 41.0	+0.4
BAIF				eSg	Sg	22 25 05.2	+0.5
	5.8nm,0.5s						
BAIF	Baives	1.85	294	ePn	Pn	22 24 37.9	-0.2
BAIF				ePg	Pg	22 24 41.0	+0.4
BAIF				eSg	Sg	22 25 05.2	+0.5
BAIF	Baives	1.85	294	ePg	Pg	22 24 41.0	+0.4
BAIF				eSg	Sg	22 25 05.2	+0.5
	2.9nm,0.5s						
CABF	La Chapelle	2.79	191	ePn	Pn	22 24 50.4	-0.5
LOR	Lormes	2.88	225	ePn	Pn	22 24 51.0	-1.2
LOR				eSn	Sn	22 25 25.9	-1.7
LOR				eSg	Sg	22 25 36.3	-1.4
	6.0nm,0.4s						
LOR	Lormes	2.88	225	ePn	Pn	22 24 51.0	-1.2
LOR				eSn	Sn	22 25 25.9	-1.7
LOR				eSg	Sg	22 25 36.3	-1.4
	3.0nm,0.4s						
SSF	Saint Saulge	3.20	226	ePg	Pg	22 25 04.5	-1.9
SSF				eSg	Sg	22 25 46.4	-1.4
	6.7nm,0.6s						
SSF	Saint Saulge	3.20	226	ePn	Pn	22 24 55.6	-1.0
SSF				ePg	Pg	22 25 04.5	-1.9
SSF				eSg	Sg	22 25 46.4	-1.4
SSF	Saint Saulge	3.20	226	ePg	Pg	22 25 04.5	-1.9
SSF				eSg	Sg	22 25 46.4	-1.4
	3.3nm,0.6s						
SMF	Signal de Mont	3.38	218	ePn	Pn	22 24 58.3	-0.7
SMF				eSn	Sn	22 25 37.9	-1.8
AVF	Avril sur Loir	3.47	224	ePn	Pn	22 24 59.1	-1.2
AVF				eSn	Sn	22 25 41.5	-0.6
HYF	Humbligny	3.50	235	ePn	Pn	22 25 00.5	-0.1
HYF				ePg	Pg	22 25 13.3	+1.2
LPL	La Plagne	3.84	181	ePg	Pg	22 25 17.8	-0.8
LPG	La Plagne	3.85	181	ePn	Pn	22 25 04.8	-0.8
BGF	Bois d'Agland	3.88	225	ePn	Pn	22 25 05.6	-0.3
BGF				eSn	Sn	22 25 49.0	-3.1
GEC2	GERESS Array S	4.53	94	ePn	Pn	22 25 15.2	+0.3
	SNR=4.6						
LDF	La Druitiere	4.65	263	ePn	Pn	22 25 16.3	-0.2
GRR	Gorron	5.17	262	ePn	Pn	22 25 24.2	+0.5
SBF	Sospel	5.50	176	ePn	Pn	22 25 26.8	-1.4
SGMF	Saint Gilles	6.31	264	ePn	Pn	22 25 38.4	-0.9
EPF	Esparros	7.76	218	ePg	Pg	22 26 30.0	-3.8

PRE 05 22:37:25.5±1.5, 2143S×3370E, h5km, ML3.9, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	Messina	3.53	254	eP	Pn	22 38 22.3	+1.4
MSNA				eS	Sn	22 39 02.8	-0.3
MSNA				AML	AML	22 39 17.6	
	comp=Z,128nm,0.4s						
POGA	Pongola	6.21	197	eP	Pn	22 38 57.3	-0.5
POGA				eS	Sn	22 40 06.1	-3.1
POGA				AML	AML	22 40 50.6	
	comp=Z,15nm,0.5s						
SLR	Silverton	6.56	228	eS	Sn	22 40 15.7	-2.1
SLR				AML	AML	22 41 05.3	
	comp=Z,42nm,0.5s						
KSR	Koster	7.63	233	eP	Pn	22 39 18.9	+1.7
KSR				eS	Sn	22 40 41.1	-3.0
KSR				AML	AML	22 41 28.5	
	comp=Z,16nm,0.5s						
LBTB	Lobatse	8.26	243	eP	Pn	22 39 26.3	+0.4
LBTB				eS	Sn	22 40 56.7	-2.8
LBTB				AML	AML	22 41 43.7	
	comp=Z,16nm,0.5s						
SWZ	Schweizer	9.54	231	eP	Pn	22 39 45.1	+1.7
SWZ				eS	Sn	22 41 25.9	-5.0
SWZ				AML	AML	22 41 46.1	
	comp=Z,4.8nm,0.4s						
KSD	Kokstad	9.85	202	eP	Pn	22 39 49.4	+1.6
KSD				eS	Sn	22 41 33.3	-5.5
KSD				AML	AML	22 41 58.5	
	comp=Z,1.9nm,0.8s						
BOSA	Boshof	10.47	225	eP	Pn	22 39 58.0	+1.7
BOSA				eS	Sn	22 41 48.5	-5.4
BOSA				AML	AML	22 42 59.1	
	comp=Z,8.5nm,0.6s						

MDD 05 22:37:30.2±1.6, 3645N×772W, h0km, mbLg1.6/3, Error ellipse: s-maj=14.8km s-min=9.1km az=22.0, PRXIMO

INMG 05 22:37:31.6±0.7, 3627N×782W, h31km, ML1.6, Error ellipse: s-maj=6.8km s-min=3.1km az=23.0

CSEM 05 22:37:32.8±0.6, 3649N×768W, h35km, ML1.6, Error ellipse: s-maj=12.6km s-min=6.9km az=29.0, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	El Granado	1.05	8	P	Pn	22 37 52.0	+0.9
	0.4nm,0.0s,SNR=7.9						
EGRO				S	Sn	22 38 05.8	+1.4
	5.0nm,0.2s,SNR=7.9						
EGRO	El Granado	1.05	8	P	Pn	22 37 52.0	+1.0
	0.4nm,0.0s,SNR=7.9						
EGRO				S	Sn	22 38 05.8	+1.4
	5.0nm,0.2s,SNR=7.9						
PTEO	Sao Teotonio	1.34	322	eP	Pn	22 37 54.5	-0.5
PTEO				eS	Sn	22 38 11.6	-0.1
EMIN	Mina Concepcio	1.50	32	P	Pn	22 37 58.0	+0.7
	0.1nm,0.0s,SNR=7.9						
EMIN				S	Sn	22 38 16.8	+1.1
	1.9nm,0.1s,SNR=11						
EMIN	Mina Concepcio	1.50	32	P	Pn	22 37 58.0	+0.7
	0.1nm,0.0s,SNR=7.9						
EMIN				S	Sn	22 38 16.8	+1.2
	1.9nm,0.1s,SNR=11						
ESPR	Espera	1.51	75	P	Pn	22 37 57.8	+0.4
	0.2nm,0.1s,SNR=7.9						
ESPR				S	Sn	22 38 17.1	+1.3
	3.4nm,0.3s,SNR=7.9						
ESPR	Espera	1.51	75	P	Pn	22 37 57.8	+0.4
	0.2nm,0.1s,SNR=7.9						
ESPR				S	Sn	22 38 17.1	+1.3
	3.4nm,0.3s,SNR=7.9						
EBAD	Badajoz	2.32	13	P	Pn	22 38 09.0	+0.6
	0.4nm,0.1s,SNR=7.9						
EBAD				S	Sn	22 38 36.8	+1.0
	0.5nm,0.1s,SNR=7.9						
EBAD	Badajoz	2.32	13	P	Pn	22 38 09.0	+0.5
	0.4nm,0.1s,SNR=7.9						
EBAD				S	Sn	22 38 36.8	+1.0
	0.5nm,0.1s,SNR=7.9						
EADA	Adamuz	2.98	55	S	Sn	22 38 52.8	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.98**	**55**	S	Sn	22 38 52.8	+0.7
	0.8nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**3.17**	**350**	*e*Pn	Pn	22 38 20.8	+0.6
PCBR	**Castelo Branco**	**3.35**	**3**	*e*Pn	Pn	22 38 23.3	+0.7
PCBR				*e*Sn	Sn	22 39 02.1	+1.0

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*ISCJB **05** 22:39:57.4±0.3, 46.28N±0.01×2.06E±0.02, h6km±2km, Error ellipse: s-maj=2.4km s-min=2.3km az=109.0*
*CSEM **05** 22:40:00.7±0.0, 46.23N×2.12E, h10km, ML3.0/32, Error ellipse: s-maj=1.0km s-min=0.8km az=132.0*
*LDG **05** 22:40:00.5±0.1, 46.23N×2.09E, h6km, Ml2.9/33, Error ellipse: s-maj=1.1km s-min=1.0km az=165.0*
*STR **05** 22:40:01.0±0.2, 46.18N×2.12E, h10km±1km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **05** 22:40:04.1, 46.14N×1.72E, h0km, ML2.9(STR), ML2.9(LDG), After MDD.*
*MDD **05** 22:40:04.1±3.1, 46.14N×1.72E, h0km, mb3.4/2, Error ellipse: s-maj=22.5km s-min=20.2km az=48.0*
ISC 05 22:39:58.9±0.2, **46.24N**±0.01×**2.08E**±0.02, **h15**km±2km, **n95**, σ**1.13**/208, **France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TCF	**Toulx Ste Croi**	**0.10**	**63**	*e*Pg	**Pg**	**22 40 03.2**	**+1.1**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**22 40 05.3**	**+0.8**
	602nm,0.2s						
TCF	**Toulx Ste Croi**	**0.10**	**63**	*e*Pg	**Pg**	**22 40 03.2**	**+1.1**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**22 40 05.3**	**+0.8**
	301nm,0.2s						
BGF	**Bois d'Agland**	**0.62**	**59**	*e*Pg	**Pg**	**22 40 12.3**	**+1.3**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**22 40 20.3**	**+1.0**
	323nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**0.62**	**59**	*e*Pg	**Pg**	**22 40 12.3**	**+1.3**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**22 40 20.3**	**+1.0**
	161nm,0.3s,SNR=1.0						
AGO	**Saint Agoulin**	**0.76**	**104**	Pg	**Pg**	**22 40 14.5**	**+0.9**
AGO				Sg	**Sg**	**22 40 24.9**	**+1.3**
PYM	**Petit Puy Mans**	**0.81**	**127**	Pg	**Pg**	**22 40 15.6**	**+0.9**
PYM				Sg	**Sg**	**22 40 25.8**	**+0.4**
CFF	**Clermont-Ferra**	**0.86**	**123**	Pg	**Pg**	**22 40 17.0**	**+1.4**
FRNF	**Fournols**	**0.92**	**158**	Pg	**Pg**	**22 40 17.4**	**+0.7**
FRNF				Sg	**Sg**	**22 40 29.1**	**+0.4**
RJF	**Les Rejaudoux**	**1.01**	**203**	*e*Pn	**Pn**	**22 40 19.0**	**+0.4**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**22 40 32.1**	**+0.4**
	112nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**1.01**	**203**	*e*Pn	**Pn**	**22 40 19.0**	**+0.4**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**22 40 32.1**	**+0.4**
	56nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**1.04**	**58**	*e*Pn	**Pn**	**22 40 20.2**	**+1.3**
AVF				*e*Sg	**Sg**	**22 40 32.9**	**+0.3**
	48nm,0.3s						
AVF	**Avril sur Loir**	**1.04**	**58**	*e*Pg	**Pg**	**22 40 19.6**	**+0.6**
AVF				*e*Pn	**Pn**	**22 40 20.2**	**+1.3**
AVF				*e*Sg	**Sg**	**22 40 32.9**	**+0.3**
AVF	**Avril sur Loir**	**1.04**	**58**	*e*Pn	**Pn**	**22 40 20.2**	**+1.3**
AVF				*e*Sg	**Sg**	**22 40 32.9**	**+0.3**
	24nm,0.3s						
HYF	**Humbligny**	**1.10**	**20**	*e*Pn	**Pn**	**22 40 21.4**	**+1.6**
HYF				*e*Sg	**Sg**	**22 40 34.7**	**+0.2**
PLDF	**La Plantade**	**1.11**	**104**	Pg	**Pg**	**22 40 21.1**	**+0.8**
SSF	**Saint Saulge**	**1.28**	**50**	*e*Pg	**Pg**	**22 40 24.2**	**+0.6**
SSF				*e*Sn	**Sn**	**22 40 40.4**	**+1.2**
	58nm,0.3s						
SSF	**Saint Saulge**	**1.28**	**50**	*e*Pn	**Pn**	**22 40 23.2**	**+0.9**
SSF				*e*Pg	**Pg**	**22 40 24.2**	**+0.6**
SSF				*e*Sn	**Sn**	**22 40 40.4**	**+1.2**
SSF	**Saint Saulge**	**1.28**	**50**	*e*Pg	**Pg**	**22 40 24.2**	**+0.6**
SSF				*e*Sn	**Sn**	**22 40 40.4**	**+1.2**
	29nm,0.3s						
SMF	**Signal de Mont**	**1.29**	**71**	*e*Pg	**Pg**	**22 40 24.2**	**+0.6**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**22 40 39.0**	**-0.3**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**22 40 40.0**	**-0.4**
	36nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**1.29**	**71**	*e*Pg	**Pg**	**22 40 24.2**	**+0.6**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**22 40 39.0**	**-0.3**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**22 40 40.0**	**-0.4**
	18nm,0.2s,SNR=1.0						
CAF	**Calviac**	**1.31**	**180**	*e*Pg	**Pg**	**22 40 24.9**	**+0.7**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**22 40 41.1**	**+1.1**
	56nm,0.2s,SNR=1.0						
CAF	**Calviac**	**1.31**	**180**	*e*Pn	**Pn**	**22 40 23.4**	**+0.7**
CAF				*e*Pg	**Pg**	**22 40 24.9**	**+0.7**
CAF				*e*Sn	**Sn**	**22 40 41.1**	**+1.1**
CAF	**Calviac**	**1.31**	**180**	*e*Pg	**Pg**	**22 40 24.9**	**+0.7**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**22 40 41.1**	**+1.1**
	28nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**1.58**	**284**	*e*Pg	**Pg**	**22 40 29.6**	**+0.4**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**22 40 49.7**	**0.0**
	33nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**1.58**	**284**	*e*Pn	**Pn**	**22 40 27.8**	**+1.5**
MFF				*e*Pg	**Pg**	**22 40 29.6**	**+0.4**
MFF				*e*Sg	**Sg**	**22 40 49.7**	**0.0**
MFF	**Saint Martin d**	**1.58**	**284**	*e*Pg	**Pg**	**22 40 29.6**	**+0.4**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**22 40 49.7**	**0.0**
	17nm,0.2s,SNR=1.0						
LOR	**Lormes**	**1.60**	**49**	*e*Pg	**Pg**	**22 40 29.5**	**-0.1**
LOR				*e*Sg	**Sg**	**22 40 49.1**	**-1.3**
	32nm,0.2s,SNR=1.0						
LOR	**Lormes**	**1.60**	**49**	*e*Pn	**Pn**	**22 40 27.2**	**+0.6**
LOR				*e*Pg	**Pg**	**22 40 29.5**	**-0.1**
LOR				*e*Sg	**Sg**	**22 40 49.1**	**-1.3**
LOR	**Lormes**	**1.60**	**49**	*e*Pg	**Pg**	**22 40 29.5**	**-0.1**
LOR				*e*Sg	**Sg**	**22 40 49.1**	**-1.3**
	16nm,0.2s,SNR=1.0						
LFF	**La Frestale**	**1.60**	**216**	*e*Pg	**Pg**	**22 40 30.0**	**+0.3**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**22 40 47.5**	**+0.4**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**22 40 50.3**	**-0.2**
	34nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**1.60**	**216**	*e*Pn	**Pn**	**22 40 27.3**	**+0.6**
LFF				*e*Pg	**Pg**	**22 40 30.0**	**+0.3**
LFF				*e*Sn	**Sn**	**22 40 47.5**	**+0.4**
LFF				*e*Sg	**Sg**	**22 40 50.3**	**-0.2**
LFF	**La Frestale**	**1.60**	**216**	*e*Pg	**Pg**	**22 40 30.0**	**+0.3**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**22 40 47.5**	**+0.4**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**22 40 50.3**	**-0.2**
	17nm,0.3s,SNR=1.0						
LCHF	**La Chataignera**	**1.99**	**283**	Pn	**Pn**	**22 40 33.9**	**+1.9**
VIVF	**Saint-Julien-l**	**2.29**	**126**	*e*Pg	**Pg**	**22 40 43.2**	**+0.4**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**22 41 10.9**	**-1.6**
	16nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.29**	**126**	*e*Pn	**Pn**	**22 40 37.5**	**+1.4**
VIVF				*e*Pg	**Pg**	**22 40 43.2**	**+0.4**
VIVF				*e*Sg	**Sg**	**22 41 10.9**	**-1.6**
VIVF	**Saint-Julien-l**	**2.29**	**126**	*e*Pg	**Pg**	**22 40 43.2**	**+0.4**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**22 41 10.9**	**-1.6**
	8.1nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.50**	**149**	*e*Pg	**Pg**	**22 40 46.0**	**-0.9**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**22 41 17.9**	**-1.4**
	13nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**2.50**	**149**	*e*Pg	**Pg**	**22 40 46.0**	**-0.9**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**22 41 17.9**	**-1.4**
	6.4nm,0.4s,SNR=1.0						
LDF	**La Druitiere**	**2.79**	**328**	*e*Pg	**Pg**	**22 40 53.1**	**+0.8**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**22 41 16.5**	**+0.1**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**22 41 28.0**	**-0.4**
	12nm,0.4s,SNR=1.0						
LDF	**La Druitiere**	**2.79**	**328**	*e*Pn	**Pn**	**22 40 44.1**	**+1.1**
LDF				*e*Pg	**Pg**	**22 40 53.1**	**+0.8**
LDF				*e*Sn	**Sn**	**22 41 16.5**	**+0.1**
LDF				*e*Sg	**Sg**	**22 41 28.0**	**-0.4**
LDF	**La Druitiere**	**2.79**	**328**	*e*Pg	**Pg**	**22 40 53.1**	**+0.8**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**22 41 16.5**	**+0.1**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**22 41 28.0**	**-0.4**
	5.9nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**2.80**	**81**	*e*Pn	**Pn**	**22 40 44.0**	**+0.9**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**22 41 16.8**	**+0.1**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**22 41 27.8**	**-1.0**
	8.4nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**2.80**	**81**	*e*Pn	**Pn**	**22 40 44.0**	**+0.9**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**22 41 16.8**	**+0.1**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**22 41 27.8**	**-1.0**
	4.2nm,0.3s,SNR=1.0						
SFTF	**Sexfontaines**	**2.82**	**45**	*e*Pg	**Pg**	**22 40 53.4**	**+0.5**
SFTF				*e*Sn	**Sn**	**22 41 15.5**	**-1.6**
SFTF				*e*Sg	**Sg**	**22 41 28.9**	**-0.5**
	8.4nm,0.2s						
SFTF	**Sexfontaines**	**2.82**	**45**	*e*Pn	**Pn**	**22 40 44.0**	**+0.6**
SFTF				*e*Pg	**Pg**	**22 40 53.4**	**+0.5**
SFTF				*e*Sn	**Sn**	**22 41 15.5**	**-1.6**
SFTF				*e*Sg	**Sg**	**22 41 28.9**	**-0.5**
SFTF	**Sexfontaines**	**2.82**	**45**	*e*Pg	**Pg**	**22 40 53.4**	**+0.5**
SFTF				*e*Sn	**Sn**	**22 41 15.5**	**-1.6**
SFTF				*e*Sg	**Sg**	**22 41 28.9**	**-0.5**
	4.2nm,0.2s						
MTLF	**Montolieu**	**2.90**	**178**	*e*Pg	**Pg**	**22 40 54.6**	**+0.2**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**22 41 31.2**	**-0.8**
	12nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**2.90**	**178**	*e*Pg	**Pg**	**22 40 54.6**	**+0.2**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**22 41 31.2**	**-0.8**
	6.1nm,0.3s,SNR=1.0						
GRR	**Gorron**	**2.93**	**318**	*e*Pg	**Pg**	**22 40 56.6**	**+1.5**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**22 41 19.8**	**-0.1**
	SNR=1.0						
GRR				*e*Sg	**Sg**	**22 41 33.0**	**-0.1**
	8.5nm,0.2s,SNR=1.0						
GRR	**Gorron**	**2.93**	**318**	*e*Pn	**Pn**	**22 40 45.1**	**+0.1**
GRR				*e*Pg	**Pg**	**22 40 56.6**	**+1.5**
GRR				*e*Sn	**Sn**	**22 41 19.8**	**-0.1**
GRR				*e*Sg	**Sg**	**22 41 33.0**	**-0.1**
GRR	**Gorron**	**2.93**	**318**	*e*Pg	**Pg**	**22 40 56.6**	**+1.5**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**22 41 19.8**	**-0.1**
	SNR=1.0						
GRR				*e*Sg	**Sg**	**22 41 33.0**	**-0.1**
	4.2nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.98**	**115**	*e*Pn	**Pn**	**22 40 47.7**	**+2.1**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**22 41 32.8**	**-1.8**
	8.2nm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.98**	**115**	*e*Pn	**Pn**	**22 40 47.7**	**+2.1**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**22 41 32.8**	**-1.8**
	4.1nm,0.5s,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.04**	**41**	*e*Pg	**Pg**	**22 40 57.0**	**0.0**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**22 41 35.5**	**-0.9**
	20nm,0.4s						
MEZF	**Maizieres J'vi**	**3.04**	**41**	*e*Pg	**Pg**	**22 40 57.0**	**0.0**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**22 41 35.5**	**-0.9**
	9.8nm,0.4s						
FLN	**La Foliniere**	**3.06**	**326**	*e*Pn	**Pn**	**22 40 47.6**	**+0.9**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**22 41 36.8**	**-0.4**
	6.2nm,0.3s,SNR=1.0						
FLN	**La Foliniere**	**3.06**	**326**	*e*Pn	**Pn**	**22 40 47.6**	**+0.9**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**22 41 36.8**	**-0.4**
	3.1nm,0.3s,SNR=1.0						
RFYF	**Reffroy**	**3.32**	**43**	*e*Pg	**Pg**	**22 41 02.3**	**-0.2**
RFYF				*e*Sg	**Sg**	**22 41 45.3**	**-0.3**
	8.0nm,0.2s						
RFYF	**Reffroy**	**3.32**	**43**	*e*Pg	**Pg**	**22 41 02.3**	**-0.2**
RFYF				*e*Sg	**Sg**	**22 41 45.3**	**-0.3**
	4.0nm,0.2s						
LPL	**La Plagne**	**3.33**	**101**	*e*Pg	**Pg**	**22 41 03.3**	**+0.6**
LPL				*e*Sn	**Sn**	**22 41 28.8**	**-1.0**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**22 41 44.4**	**-1.5**
	4.5nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**3.33**	**101**	*e*Pg	**Pg**	**22 41 03.3**	**+0.6**
LPL				*e*Sn	**Sn**	**22 41 28.8**	**-1.0**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**22 41 44.4**	**-1.5**
	2.2nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**3.35**	**101**	*e*Pg	**Pg**	**22 41 03.1**	**0.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**22 41 44.7**	**-1.8**
	10nm,0.5s,SNR=1.0						
LPG	**La Plagne**	**3.35**	**101**	*e*Pg	**Pg**	**22 41 03.1**	**0.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**22 41 44.7**	**-1.8**
	5.1nm,0.5s,SNR=1.0						
HAU	**Haudompre**	**3.41**	**57**	*e*Pg	**Pg**	**22 41 03.8**	**-0.4**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**22 41 29.4**	**-2.3**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**22 41 47.9**	**-0.5**
	6.6nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**3.41**	**57**	*e*Pg	**Pg**	**22 41 03.8**	**-0.4**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**22 41 29.4**	**-2.3**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**22 41 47.9**	**-0.5**
	3.3nm,0.3s,SNR=1.0						
EPF	**Esparros**	**3.44**	**202**	*e*Sn	**Sn**	**22 41 29.7**	**-2.7**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**22 41 48.6**	**-0.7**
	8.4nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**3.63**	**63**	*e*Pg	**Pg**	**22 41 08.5**	**+0.1**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**22 41 54.2**	**-1.2**
	6.2nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.63**	**63**	*e*Pg	**Pg**	**22 41 08.5**	**+0.1**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**22 41 54.2**	**-1.2**
	3.1nm,0.3s,SNR=1.0						
SGMF	**Saint Gilles**	**3.74**	**304**	*e*Pn	**Pn**	**22 40 57.6**	**+1.5**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**22 41 38.8**	**-1.1**
	6.0nm,0.4s,SNR=1.0						
SGMF				*e*Sg	**Sg**	**22 41 58.9**	**-0.2**
	5.1nm,0.4s						
SGMF	**Saint Gilles**	**3.74**	**304**	*e*Pn	**Pn**	**22 40 57.6**	**+1.5**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**22 41 38.8**	**-1.1**
	3.0nm,0.4s,SNR=1.0						
SGMF				*e*Sg	**Sg**	**22 41 58.9**	**-0.2**
	2.5nm,0.4s						
EBIE	**Bielsa**	**3.81**	**202**	Pn	**Pn**	**22 41 00.4**	**+3.4**
	SNR=7.9						
EBIE				Pg	**Pg**	**22 41 10.9**	**-1.0**
	1.4nm,0.2s,SNR=7.9						
EBIE				Sn	**Sn**	**22 41 44.1**	**+2.5**
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg		22 41 59.3	
	1.3nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**3.81**	**202**	Pn	**Pn**	**22 41 00.4**	**+3.3**
EBIE	**Bielsa**	**3.81**	**202**	Pg	**Pg**	**22 41 10.9**	**-1.0**
ETSF	**Etsaut**	**3.83**	**210**	*e*Sg	**Sg**	**22 42 01.5**	**-0.5**
	9.6nm,0.3s						
ETSF	**Etsaut**	**3.83**	**210**	*e*Sg	**Sg**	**22 42 01.5**	**-0.5**
	4.8nm,0.3s						
EALK	**Alkurruntz**	**3.95**	**221**	Pg	**Pg**	**22 41 12.4**	**-2.2**
	0.8nm,0.1s,SNR=4.0						
EALK				Sn	**Sn**	**22 41 43.2**	**-2.0**
	0.8nm,0.1s,SNR=7.9						
EALK				Lg		22 42 02.6	
	17nm,0.7s,SNR=7.9						
QUIF	**Quistinic**	**3.95**	**297**	*e*Pn	**Pn**	**22 41 00.0**	**+1.0**
	SNR=1.0						
QUIF				*e*Sg	**Sg**	**22 42 03.7**	**-2.1**
	7.4nm,0.3s						
QUIF	**Quistinic**	**3.95**	**297**	*e*Pn	**Pn**	**22 41 00.0**	**+1.0**
	SNR=1.0						
QUIF				*e*Sg	**Sg**	**22 42 03.7**	**-2.1**
	3.7nm,0.3s						
ELIZ	**Elizondo**	**4.01**	**221**	Pg	**Pg**	**22 41 14.3**	**-1.3**
	1.0nm,0.2s,SNR=7.9						
ELIZ				Sn	**Sn**	**22 41 44.7**	**-1.7**
	0.5nm,0.1s,SNR=7.9						
ELIZ				Lg		22 42 04.9	
	4.1nm,0.6s,SNR=7.9						
BAIF	**Baives**	**4.08**	**20**	*e*Sg	**Sg**	**22 42 08.2**	**-1.7**
	4.0nm,0.4s						
BAIF	**Baives**	**4.08**	**20**	*e*Sg	**Sg**	**22 42 08.2**	**-1.7**
	2.0nm,0.4s						
CDF	**Champ du Feu**	**4.15**	**57**	*e*Pg	**Pg**	**22 41 17.1**	**-1.3**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**22 42 10.7**	**-1.5**
	3.8nm,0.3s						
CDF	**Champ du Feu**	**4.15**	**57**	*e*Pn	**Pn**	**22 41 01.0**	**-0.7**
CDF				*e*Pg	**Pg**	**22 41 17.1**	**-1.3**
CDF				*e*Sg	**Sg**	**22 42 10.7**	**-1.5**
CDF	**Champ du Feu**	**4.15**	**57**	*e*Pg	**Pg**	**22 41 17.1**	**-1.3**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**22 42 10.7**	**-1.5**
	1.9nm,0.3s						
ROSF	**Rostrenen**	**4.20**	**302**	*e*Pn	**Pn**	**22 41 03.6**	**+1.2**
	SNR=1.0						
ROSF				*e*Sn	**Sn**	**22 41 48.4**	**-2.8**
	1.3nm,0.2s,SNR=1.0						
ROSF				*e*Sg	**Sg**	**22 42 11.2**	**-2.5**
	3.7nm,0.3s						
ROSF	**Rostrenen**	**4.20**	**302**	*e*Pn	**Pn**	**22 41 03.6**	**+1.2**
	SNR=1.0						
ROSF				*e*Sn	**Sn**	**22 41 48.4**	**-2.8**
	0.6nm,0.2s,SNR=1.0						
ROSF				*e*Sg	**Sg**	**22 42 11.2**	**-2.5**
	1.9nm,0.3s						
EMIR	**Miracle**	**4.34**	**185**	Pn	**Pn**	**22 41 08.3**	**+4.0**
	0.2nm,0.1s,SNR=4.0						
EMIR				Sn	**Sn**	**22 42 00.9**	**+6.2**
	0.9nm,0.1s,SNR=7.9						
EMIR				Lg		22 42 19.0	
	2.2nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**4.34**	**185**	Pn	**Pn**	**22 41 08.3**	**+4.0**
ESAC	**San Caprasio**	**4.88**	**203**	Lg		22 42 36.6	
	5.9nm,0.2s,SNR=4.0						
EPOB	**Poblet**	**4.94**	**189**	Lg		22 42 37.6	
	1.0nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**4.94**	**235**	Pn	**Pn**	**22 41 14.3**	**+1.7**
	0.8nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**22 42 07.8**	**-1.7**
	0.0nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**4.94**	**235**	Pn	**Pn**	**22 41 14.3**	**+1.7**
ELAN				Sn	**Sn**	**22 42 07.8**	**-1.7**
ERTA	**Horta de San J**	**5.43**	**194**	Lg		22 42 51.5	
	0.4nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**5.96**	**243**	Sn	**Sn**	**22 42 31.0**	**-3.6**
	0.4nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**7.18**	**249**	Sn	**Sn**	**22 42 58.9**	**-5.7**
	0.3nm,0.2s,SNR=7.9						

ISC 05 22:43:45.8±5.1, **39.4N**±0.4×**74.3E**±0.2, **h113**km, **n8**, σ**0.68**/9, **Southern Xinjiang**

KRSC 05 22:52:21, 55.96N×164.11E, h5km, ML3.7, Komandorsky Islands region

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*IDC **05** 23:47:57.2±11.0, 6.82N×126.63E, h76km±109km, mb3.6/9, mb1 3.8/9, mb1mx3.6/20, mbtmp3.9/9, Error ellipse: s-maj=77.1km s-min=20.6km az=73.0*
*ISCJB **05** 23:47:58.2±0.8, 6.79N±0.06×126.64E±0.10, h103km±6km, mb4.0/16, Error ellipse: s-maj=16.8km s-min=7.8km az=135.5*
*NEIC **05** 23:48:00.3±1.3, 6.81N×126.56E, h105km±11km, mb4.1/10, Error ellipse: s-maj=26.5km s-min=6.7km az=70.0*
*MAN **05** 23:48:05.8, 7.01N×126.20E, h35km, mb3.2, ML4.5, MS5.8*
ISC 05 23:47:59.6±0.7, **6.80N**±0.06×**126.63E**±0.09, **h97**km±6km, **n37**, σ**1.02**/43, **mb4.0**/16, **2C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.39**	**292**	*e*P	**Pn**	**23 48 13.0**	**-1.3**
MATI				*e*S	**Sn**	**23 48 23.4**	**-1.8**
DAV	**Davao City (W)**	**1.07**	**285**	*e*Pn	**Pn**	**23 48 21.0**	**+0.5**
DAV				*e*Sn	**Sn**	**23 48 36.4**	**0.0**
DMPH	**Davao City--Mi**	**1.14**	**284**	⇑ *i*P	**Pn**	**23 48 21.4**	**+0.1**
DMPH				*i* S	**Sn**	**23 48 39.2**	**+1.4**
KCP	**Kidapawan**	**1.54**	**278**	⇓ *e*P	**Pn**	**23 48 24.5**	**-1.6**
KCP				*i* S	**Sn**	**23 48 46.6**	**+0.4**
BUKP	**Musuan**	**1.89**	**305**	*e*P	**Pn**	**23 48 30.4**	**-0.1**
BUKP				*e*S	**Sn**	**23 48 54.3**	**+0.2**
BUTP	**Butuan**	**2.37**	**335**	*e*P	**Pn**	**23 48 38.7**	**+1.9**
CGP	**Cagayan de Oro**	**2.52**	**311**	*i* S	**Sn**	**23 49 08.1**	**-0.9**
SCPH	**Surigao**	**3.17**	**339**	⇑ *e*P	**Pn**	**23 48 49.7**	**+2.2**
PAGZ	**Pagadian**	**3.38**	**288**	*e*P	**Pn**	**23 48 50.5**	**+0.2**
TBP	**Tagbilaran**	**3.97**	**317**	*e*P	**Pn**	**23 49 07.4**	**+9.2**
TBP				*e*S	**Sn**	**23 49 51.4**	**+7.8**
KAKA	**Kakadu**	**20.23**	**163**	*e*P	**P**	**23 52 26.6**	**-0.2**
	6.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**24.76**	**182**	*e*P	**P**	**23 53 11.7**	**-0.4**
	5.4nm,0.8s,mb4.0						
FITZ	**Fitzroy Crossi**	**24.76**	**182**	P	**P**	**23 53 11.2**	**-0.9**
	2.8nm,0.7s,mb3.8,baz=15,slow=13,SNR=16						
WRAB	**Tennant Creek**	**27.63**	**164**	P	**P**	**23 53 40.8**	**+2.8**
WRA	**Warramunga Arr**	**27.64**	**164**	P	**P**	**23 53 39.1**	**+1.2**
	0.4nm,0.5s,mb3.2,baz=44,slow=21,SNR=2.9						
WB2	**Warramunga Arr**	**27.64**	**164**	*e*P	**P**	**23 53 42.4**	**+4.4**
WB2	**Warramunga Arr**	**27.64**	**164**	*e*P	**P**	**23 53 39.4**	**+1.3**
MBWA	**Marble Bar**	**28.60**	**194**	*e*P	**P**	**23 53 46.4**	**-0.1**
	1.4nm,0.4s,mb3.9						
ASAR	**Alice Springs**	**31.10**	**167**	P	**P**	**23 54 08.5**	**-0.2**
	0.3nm,0.3s,mb3.5,baz=340,slow=7.2,SNR=8.8						
CTAO	**Charters Tower**	**32.97**	**145**	*e*P	**P**	**23 54 24.7**	**-0.2**
	2.0nm,0.4s,mb4.3						
KLBR	**Kellerberrin**	**39.10**	**192**	*e*P	**P**	**23 55 17.3**	**0.0**
	50nm,1.9s,mb5.0						
LSA	**Lhasa**	**40.39**	**309**	*e*P	**P**	**23 55 28.1**	**+0.1**
NWAO	**Narrogin (SRO)**	**40.50**	**192**	P	**P**	**23 55 29.9**	**+1.0**
	4.1nm,0.3s,mb4.7,baz=25,slow=8.0,SNR=8.4						
NWAO	**Narrogin (SRO)**	**40.50**	**192**	*e*P	**P**	**23 55 30.1**	**+1.2**
	4.4nm,0.3s,mb4.8						
STKA	**Stephens Creek**	**41.03**	**160**	P	**P**	**23 55 32.4**	**-0.8**
	0.5nm,0.3s,mb3.8,baz=336,slow=10.0,SNR=3.6						
STKA	**Stephens Creek**	**41.03**	**160**	P	**P**	**23 55 32.4**	**-0.8**
ULN	**Ulaanbaatar**	**44.19**	**341**	*e*P	**P**	**23 56 00.3**	**+1.5**
	1.1nm,0.5s,mb3.8						
SONM	**Songino Array**	**44.38**	**341**	P	**P**	**23 56 01.4**	**+1.2**
	0.2nm,0.3s,mb3.3,baz=158,slow=9.2,SNR=4.1						
MKAR	**Makanchi Array**	**55.01**	**324**	P	**P**	**23 57 20.0**	**-0.9**
	0.7nm,0.5s,mb4.0,baz=114,slow=7.3,SNR=22						
MKAR				PcP	PcP	23 58 21.7	+0.3
	1.8nm,0.6s,baz=116,slow=4.4,SNR=11						
YAK	**Yakutsk**	**55.16**	**2**	P	**P**	**23 57 21.0**	**-0.9**
KURK	**Kurchatov**	**59.12**	**327**	*e*P	**P**	**23 57 49.5**	**-0.4**
	0.9nm,0.4s,mb4.2						
BRVK	**Borovoye**	**64.79**	**326**	P	**P**	**23 58 27.0**	**-0.8**
CHKZ	**Chkalovo**	**64.86**	**327**	*e*P	**P**	**23 58 27.9**	**-0.4**
	0.4nm,0.4s,mb3.6						
ZRNK	**Zerenda**	**65.45**	**326**	*e*P	**P**	**23 58 30.8**	**-1.3**
	1.4nm,0.5s,mb4.0						
KAF	**Kangasniemi**	**88.84**	**332**	*e*p	**P**	**00 00 38.2**	**-4.6**
FINES	**FINESS Array B**	**89.09**	**332**	P	**P**	**00 00 43.5**	**-0.4**
	1.1nm,0.7s,mb4.0,baz=88,slow=4.3,SNR=7.2						
NOA	**NORSAR Array B**	**96.01**	**334**	P	**P**	**00 01 14.9**	**-0.9**
	0.5nm,0.8s,mb4.0,baz=66,slow=4.6,SNR=3.5						

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*ISCJB **06** 00:38:15.5±0.7, 13.85N±0.06×145.12E±0.10, h117km±5km, mb4.1/25, Error ellipse: s-maj=15.9km s-min=9.5km az=164.9*
*IDC **06** 00:38:15.6±0.6, 13.87N×145.12E, h107km±5km, mb3.7/12, mb1 3.9/12, mb1mx3.8/20, mbtmp4.1/12, Error ellipse: s-maj=26.4km s-min=15.3km az=100.0*
*NEIC **06** 00:38:17.1±0.9, 13.84N×145.19E, h121km±8km, mb4.3/13, Error ellipse: s-maj=12.8km s-min=7.7km az=82.0*
ISC 06 00:38:16.5±0.7, **13.86N**±0.06×**145.2E**±0.1, **h111**km±5km, **n43**, σ**1.01**/41, **mb4.1**/25, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.40**	**227**	P	**Pn**	**00 38 33.6**	**+0.7**
	1µm,0.3s,baz=81,slow=1.4,SNR=361						
GUMO				S	**Sn**	**00 38 44.3**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	2µm,0.3s,baz=358,slow=23,SNR=52						
GUMO	Guam	0.40	227	P	Pn	00 38 33.6	+0.7
GUMO				S	Sn	00 38 44.3	-0.9
JOW	Kunigami	20.39	312	P	P	00 42 47.1	+2.7
	5.5nm,0.5s,baz=118,slow=17,SNR=5.2						
PMG	Port Moresby	23.20	175	eP	P	00 43 12.8	-0.7
	12nm,0.6s,mb4.4						
NACB	Ninganchiao	24.49	298	eP	P	00 43 25.4	+0.2
YHNB	Yeheng	24.86	299	eP	P	00 43 29.9	+1.4
TATO	Taipei	24.87	300	eP	P	00 43 27.8	-0.9
	31nm,0.6s,mb4.9						
INCN	Inchon	28.74	328	P	P	00 44 03.7	+0.4
YSS	Yuzh-Sakhalins	33.05	357	P	P	00 44 41.7	+0.5
MDJ	Mudanjiang	33.40	340	eP	P	00 44 44.7	+0.4
	3.2nm,0.3s,mb4.6						
CTAO	Charters Tower	33.76	178	eP	P	00 44 48.8	+1.4
	3.2nm,0.5s,mb4.4						
WRAB	Tennant Creek	35.23	198	eP	P	00 45 01.1	+1.0
	4.4nm,0.8s,mb4.3						
WB2	Warramunga Arr	35.24	198	eP	P	00 44 60.0	-0.2
WRA	Warramunga Arr	35.24	198	P	P	00 44 59.6	-0.6
	1.4nm,0.7s,mb3.9,baz=20,slow=9.4,SNR=4.6						
ASAR	Alice Springs	38.89	197	P	P	00 45 30.8	-0.2
	0.3nm,0.5s,mb3.4,baz=19,slow=12,SNR=6.0						
HIA	Hailar	41.02	335	P	P	00 45 49.1	+0.5
MBWA	Marble Bar	42.84	216	eP	P	00 46 03.6	+0.2
	0.5nm,0.4s,mb3.6						
STKA	Stephens Creek	45.61	184	P	P	00 46 24.7	-0.8
	1.5nm,0.4s,mb4.1,baz=346,slow=10,SNR=5.3						
STKA	Stephens Creek	45.61	184	eP	P	00 46 25.4	-0.1
ULN	Ulaanbaatar	46.32	325	P	P	00 46 32.2	+1.1
SONM	Songino Array	46.67	325	P	P	00 46 34.3	+0.4
	0.2nm,0.5s,baz=130,slow=6.6,SNR=4.3						
SONM				PcP	PcP	00 48 06.2	+0.4
	0.2nm,0.5s,baz=154,slow=2.4,SNR=3.9						
YAK	Yakutsk	49.36	350	eP	P	00 46 53.8	-0.7
	14nm,0.4s,mb5.2						
MKAR	Makanchi Array	61.49	316	P	P	00 48 21.2	-0.2
	0.7nm,0.5s,mb4.0,baz=92,slow=8.4,SNR=12						
KDAK	Kodiak Island	63.69	32	P	P	00 48 35.6	-0.4
	2.3nm,0.3s,mb4.5,baz=287,slow=2.5,SNR=10.0						
KURK	Kurchatov	64.56	320	eP	P	00 48 41.4	-0.3
	1.5nm,0.4s,mb4.2						
ILAR	Eielson Array	68.20	25	P	P	00 49 02.9	-2.0
	1.0nm,0.5s,mb3.9,baz=259,slow=6.5,SNR=14						
CHKZ	Chkalovo	69.80	322	eP	P	00 49 13.5	-1.3
BRVK	Borovoye	69.96	322	eP	P	00 49 15.5	-0.2
	1.3nm,0.8s,mb3.8						
ZRNK	Zerenda	70.72	322	eP	P	00 49 19.8	-0.6
	0.5nm,0.2s,mb4.0						
INK	Inuvik	74.00	22	eP	P	00 49 39.2	-0.7
	1.3nm,0.6s,mb3.8						
YBH	Yreka Blue Hor	82.47	49	eP	P	00 50 28.4	+1.8
	5.0nm,1.3s,mb4.2						
YKA	Yellowknife Ar	82.48	27	P	P	00 50 25.8	-0.8
	0.9nm,0.4s,mb4.0,baz=285,slow=5.1,SNR=7.2						
BMO	Blue Mountains	85.59	45	eP	P	00 50 43.3	+0.9
	4.7nm,1.0s,mb4.4						
NVAR	Mina Array Bea	86.52	51	P	P	00 50 48.4	+1.4
	0.8nm,0.4s,mb4.0,baz=282,slow=7.3,SNR=4.4						
ARCES	ARCESS Array B	86.91	342	P	P	00 50 48.1	-0.7
	2.1nm,0.9s,mb4.1,baz=35,slow=15,SNR=4.6						
HLID	Hailey	87.95	46	eP	P	00 50 54.0	+0.2
	100nm,1.2s						
JOF	Joensuu	88.17	335	ep	P	00 50 52.5	-2.3
	0.6nm,0.4s,mb4.0						
FINES	FINESS Array B	91.04	335	P	P	00 51 06.1	-2.1
	0.4nm,0.4s,mb3.9,baz=67,slow=4.4,SNR=8.1						
PDAR	Pinedale Array	91.57	45	P	P	00 51 11.7	+1.0
	0.5nm,0.6s,mb3.9,baz=255,slow=3.0,SNR=6.2						
TORD	Torodi Ar. Bea	134.95	305	PKP	PKPdf	00 57 21.9	-0.5
	0.6nm,0.5s,baz=64,slow=1.2,SNR=7.4						
DBIC	Dimbokro	143.92	303	PKP	PKPdf	00 57 37.7	-0.9
	3.0nm,0.3s,baz=177,slow=17,SNR=26						
DBIC	Dimbokro	143.92	303	PKP	PKPdf	00 57 37.7	-0.9
LPAZ	La Paz	147.78	99	PKP	PKPdf	00 57 43.8	-1.4
	0.3nm,0.3s,baz=326,slow=3.6,SNR=3.0						
LPAZ				PKPbc	PKPbc	00 57 50.9	+2.6
	0.4nm,0.3s,baz=306,slow=2.3,SNR=5.9						

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*IDC **06** 00:58:05.5±13.0, 7.31S×110.70E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/16, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=263.8km s-min=187.8km az=8.0*

*ISCJB **06** 00:58:08.3±0.6, 7.3S±0.1×110.7E±0.1, h33km, mb3.6/7, Error ellipse: s-maj=19.3km s-min=10.5km az=77.0*

*NEIC **06** 00:58:10.4±0.4, 7.31S×110.66E, h35km, mb3.7/4, Error ellipse: s-maj=16.0km s-min=9.1km az=219.0*

NEIC Felt [III] at Yogyakarta.

ISC 06 00:58:10.6±0.6**, 7.3S**±0.1×**110.65E**±0.10**, h35**km**, n16, σ0.85**/14**, mb3.6**/7**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COCO	West Island	14.45	249	ePn	Pn	01 01 31.8	-0.8
FITZ	Fitzroy Crossi	18.12	128	P	Pn	01 02 18.1	-1.3
	0.1nm,0.3s,baz=291,slow=17,SNR=3.2						
WRA	Warramunga Arr	26.18	121	P	P	01 03 41.6	-0.2
	0.4nm,0.3s,mb3.4,baz=302,slow=7.8,SNR=3.3						
WRAB	Tennant Creek	26.18	121	eP	P	01 03 42.9	+1.1
	0.6nm,0.3s,mb3.6						
WB2	Warramunga Arr	26.19	121	P	P	01 03 42.6	+0.8
ASAR	Alice Springs	27.61	129	P	P	01 03 54.5	-0.1
	0.3nm,0.4s,mb3.2,baz=300,slow=8.4,SNR=5.1						
ENH	Enshi	37.38	358	P	P	01 05 19.0	-1.0
STKA	Stephens Creek	37.79	134	P	P	01 05 23.4	0.0
	4.2nm,0.5s,mb4.4,baz=301,slow=7.8,SNR=12						
TAU	Tasmania Unive	47.91	144	P	P	01 06 44.7	-0.7
KURK	Kurchatov	64.08	338	eP	P	01 08 41.4	+0.3
	0.4nm,0.4s,mb3.8						
BRVK	Borovoye	69.18	335	eP	P	01 09 12.5	-1.1
	0.3nm,0.5s,mb3.5						
CHKZ	Chkalovo	69.50	336	eP	P	01 09 16.4	+0.9
	0.2nm,0.3s,mb3.5						
EIL	Elat	81.31	301	P	P	01 10 24.3	+0.9
SNAA	Sanae	90.30	197	P	P	01 11 09.1	+1.3
MSU	Marysvale	130.48	45	ePKPdf	PKPdf	01 17 16.9	-0.6
SRU	San Rafael	131.33	43	ePKPdf	PKPdf	01 17 19.5	+0.4

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*IDC **06** 01:04:38.7±0.9, 22.57S×175.10W, h0km, mb4.4/13, mb1 4.6/13, mb1mx4.4/19, mbtmp4.4/13, MS3.9/5, Ms1 3.9/5, ms1mx3.3/25, Error ellipse: s-maj=39.0km s-min=17.2km az=153.0*

*BJI **06** 01:04:39.6, 23.50S×174.80W, h20km, mB5.3, mb5.0, Ms4.7, Msz4.4*

*ISCJB **06** 01:04:40.8±0.5, 23.41S±0.08×174.87W±0.09, h33km, mb4.6/23, MS3.9/7, Error ellipse: s-maj=13.1km s-min=10.5km az=105.9*

*MOS **06** 01:04:40.6±1.7, 23.42S×174.91W, h33km, mb4.6/5, Error ellipse: s-maj=14.6km s-min=12.4km az=63.6*

*NEIC **06** 01:04:42.6±0.4, 23.46S×174.84W, h35km, mb4.7/10, Error ellipse: s-maj=10.7km s-min=8.3km az=130.0*

ISC 06 01:04:43.0±0.4**, 23.49S**±0.08×**174.82W**±0.09**, h35**km**, n78, σ1.13**/58**, mb4.6**/23**, MS3.9**/7**, 1C-3D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	6.38	205	eP	Pn	01 06 13.0	-1.4
AFI	Afiamalu	9.95	17	Pn	Pn	01 06 48.1	-15
	5.4nm,0.3s,baz=267,slow=23,SNR=3.2						
AFI				Sn	Sn	01 08 24.9	-29
	9.7nm,0.3s,baz=151,slow=19,SNR=2.8						
AFI	Afiamalu	9.95	17	P	Pn	01 07 02.4	-1.0
RAR	Rarotonga	14.11	84	Pn	Pn	01 07 50.7	-9.4
	5.5nm,0.3s,baz=240,slow=5.0,SNR=8.0						
DZM	Mont Dzumac	17.34	271	P	Pn	01 08 47.7	+5.6
	0.3nm,0.3s,baz=89,slow=18,SNR=5.1						
TBI	Tubuai	23.27	95	eLQ		01 13 48.9	
	342nm,39.5s						
TBI				eLR	LR	01 14 40.5	
	184nm,35.8s						
PPT	Papeete	24.35	81	eLQ		01 14 11.2	
	311nm,25.2s						
PPT				eLR	LR	01 15 09.8	
	153nm,21.2s						
PPT	Papeete	24.35	81	LR	LR	01 17 10.3	
	comp=Z,267nm,20.2s,MS3.7,baz=300,slow=31						
HNR	Honiara	27.88	296	eP	P	01 10 29.8	+0.5
HNR				pmax	pmax		
	comp=Z,149nm,0.9s,mb5.6						
HNR	Honiara	27.88	296	eP	P	01 10 29.8	+0.5
	comp=Z,149nm,0.9s,mb5.6						
ARMA	Armidale	30.61	250	eP	P	01 10 58.0	+4.4
CTA	Charters Tower	36.23	268	eP	P	01 11 42.3	-0.2
	comp=Z,5.1nm,1.1s,mb4.4						
CTA	Charters Tower	36.23	268	P	P	01 11 42.3	-0.2
	comp=Z,4.5nm,0.6s,mb4.6,baz=95,slow=12,SNR=4.0						
CTA	Charters Tower	36.23	268	eP	P	01 11 42.3	-0.2
CTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CTAO	Charters Tower	36.23	268	eP	P	01 11 42.5	0.0
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
CTAO	Charters Tower	36.23	268	eP	P	01 11 42.5	0.0
	comp=Z,5.9nm,0.8s,mb4.6						
PMG	Port Moresby	38.92	285	P	P	01 12 03.8	-1.4
	comp=Z,17nm,0.8s,mb4.8,baz=297,slow=0.9,SNR=4.1						
PMG	Port Moresby	38.92	285	eP	P	01 12 04.4	-0.8
PMG				pmax	pmax		
	comp=Z,19nm,0.8s						
PMG	Port Moresby	38.92	285	eP	P	01 12 04.4	-0.8
	comp=Z,19nm,0.8s,mb4.9						
STKA	Stephens Creek	39.28	248	⇓iP	P	01 12 11.7	+3.4
	comp=Z,2.8nm,0.4s,mb4.3						
STKA	Stephens Creek	39.28	248	P	P	01 12 10.8	+2.5
	comp=Z,3.5nm,0.5s,mb4.4,baz=92,slow=11,SNR=16						
STKA	Stephens Creek	39.28	248	eP	P	01 12 11.8	+3.6
AS31	Alice Springs	46.78	259	eP	P	01 13 09.6	+0.7
ASAR	Alice Springs	46.78	259	P	P	01 13 09.4	+0.5
	comp=Z,9.7nm,0.9s,mb4.7,baz=91,slow=8.3,SNR=60						
ASAR				LR	LR	01 31 12.1	
	comp=Z,104nm,20.1s,MS3.8,baz=174,slow=34						
ASPA	Alice Springs	46.78	259	eP	P	01 13 09.9	+1.0
WB2	Warramunga Arr	47.16	264	eP	P	01 13 10.8	-1.1
WB2	Warramunga Arr	47.16	264	eP	P	01 13 11.4	-0.5
WRAB	Tennant Creek	47.16	264	eP	P	01 13 11.7	-0.2
WRAB				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
WRAB	Tennant Creek	47.16	264	eP	P	01 13 11.7	-0.2
	comp=Z,11nm,0.8s,mb4.8						
WRA	Warramunga Arr	47.17	264	P	P	01 13 10.4	-1.6
	comp=Z,4.2nm,0.8s,mb4.4,baz=100,slow=8.0,SNR=13						
FORT	Forrest	50.89	249	eP	P	01 13 42.5	+2.0
	comp=Z,20nm,0.5s,mb5.3						
KAKA	Kakadu	51.02	272	eP	P	01 13 40.2	-1.2
	comp=Z,17nm,1.2s,mb4.9						
SBA	Scott Base	55.13	185	P	P	01 14 10.8	-0.9
VNDA	Vanda	55.24	186	eP	P	01 14 10.8	-1.7
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VNDA	Vanda	55.24	186	eP	P	01 14 10.8	-1.7
	comp=Z,0.8nm,0.5s,mb4.0						
FITZ	Fitzroy Crossi	55.59	264	P	P	01 14 15.5	+0.5
	comp=Z,3.1nm,0.9s,mb4.3,baz=110,slow=13,SNR=6.5						
MBWA	Marble Bar	60.11	258	P	P	01 14 47.3	+0.6
QSPA	South Pole Qui	66.60	180	P	P	01 15 29.9	+0.3
MJAR	Matsushiro Arr	74.36	322	P	P	01 16 13.1	-3.9
	comp=Z,2.0nm,0.6s,mb4.2,baz=155,slow=6.2,SNR=4.7						
MAJO	Matsushiro	74.36	322	eP	P	01 16 17.1	+0.1
ASAJ	Asahikawa	77.76	330	LR	LR	01 45 03.0	
	comp=Z,61nm,21.1s,MS3.9,baz=356,slow=32						
MAW	Mawson	79.75	199	P	P	01 16 52.5	+5.2
	comp=Z,1.9nm,0.5s,mb4.3,baz=129,slow=7.7,SNR=6.2						
YSS	Yuzh-Sakhalins	79.89	332	eP	P	01 16 44.8	-3.2
KS15	Wonju Array Si	81.08	317	P	P	01 16 54.6	+0.1
NVAR	Mina Array Bea	81.22	42	P	P	01 16 54.8	-0.4
	comp=Z,3.0nm,0.9s,mb4.2,baz=214,slow=7.5,SNR=11						
TPNV	Topopah Spring	81.58	44	eP	P	01 16 57.5	+0.4
TPNV				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
TPNV	Topopah Spring	81.58	44	eP	P	01 16 57.5	+0.4
	comp=Z,2.5nm,1.0s,mb4.1						
NJ2	Nanjing	84.04	309	eP	P	01 17 09.9	0.0
NJ2				AP	pP	01 17 15.0	-5.9
NJ2				XP	sP	01 17 17.2	-7.7
NJ2				PP	PP	01 20 26.3	+2.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,480nm,5.7s						
NJ2				LR	LR		
	comp=N,2µm,23.6s						
NJ2				LR	LR		
	comp=E,1µm,23.0s						
SYO	Syowa Base	84.45	192	⇑ePcP	PcP	01 17 15.4	-0.1
MDJ	Mudanjiang	84.65	324	P	P	01 17 11.1	-1.8
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.8						
MDJ				LR	LR		
	comp=E,23nm,28.3s,MS3.5						
MDJ				LR	LR		
	comp=N,21nm,28.8s,MS3.5						
MDJ				LR	LR		
	comp=Z,25nm,18.6s						
MDJ	Mudanjiang	84.65	324	eP	P	01 17 12.1	-0.8
SNAA	Sanae	84.94	177	eP	P	01 17 15.6	+1.2
SNAA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SNAA	Sanae	84.94	177	eP	P	01 17 15.6	+1.2
	comp=Z,2.4nm,1.0s,mb4.3						
PLCA	Paso Flores	85.09	132	LR	LR	01 47 33.4	
	comp=Z,48nm,21.1s,MS3.9,baz=186,slow=30						
PLCA	Paso Flores	85.09	132	P	P	01 17 15.8	+0.6
ANMO	Albuquerque	87.01	50	P	P	01 17 24.8	+0.2
	comp=Z,2.1nm,0.9s,mb4.4,baz=228,slow=8.0						
ANMO	Albuquerque	87.01	50	eP	P	01 17 25.3	+0.7
PSI	Prapat	87.67	274	P	P	01 17 28.6	+0.8
	comp=Z,8.9nm,0.9s,mb5.0,baz=206,slow=6.4,SNR=6.7						
PDAR	Pinedale Array	89.15	42	P	P	01 17 34.4	-0.5
	comp=Z,0.8nm,0.9s,mb4.0,baz=219,slow=1.9,SNR=6.0						
BJT	Baijiatuau	90.07	314	P	P	01 17 38.8	-0.3
ILAR	Eielson Array	90.59	12	P	P	01 17 37.4	-4.2
	comp=Z,0.8nm,0.8s,mb4.1,baz=214,slow=6.3,SNR=5.5						
DAWY	Dawson	91.54	15	eP	P	01 17 48.2	+2.2
HHC	Hu-ho-hao-te	93.54	313	eP	P	01 17 58.1	+2.9
HHC				XP	sP	01 18 04.5	-5.8
HHC				PP	PP	01 21 46.3	+6.4
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.7						
HHC				AMB	AMB		
	comp=Z,100nm,5.0s						
LVC	Limon Verde	94.65	117	LR	LR	01 51 10.1	
	comp=Z,83nm,18.9s,MS4.2,baz=174,slow=29						
CD2	Chengdu	94.86	301	eP	P	01 18 01.2	-0.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
WMQ	Urumqi	111.10	310	PKP	PKiKP	01 23 13.1	+0.4
WMQ				PP	PP	01 23 56.4	+4.7
WMQ				PP	PP		
	comp=Z,23nm,9.8s						
WMQ				LR	LR		
	comp=N,47nm,19.0s,MS4.2						
WMQ				LR	LR		
	comp=E,35nm,17.9s,MS4.2						
WMQ				LR	LR		
	comp=Z,39nm,19.5s,MS4.0						
GOF	Gofitskoye	142.50	314	ePKIKP	PKPdf	01 24 17.5	+5.5
SUW	Suwalki	146.64	341	ePKP2	PKPab	01 24 19.7	-2.3
AKASG	Malin Array Be	147.03	332	PKPbc	PKPbc	01 24 20.4	-1.6
	comp=Z,3.4nm,0.7s,baz=40,slow=4.0,SNR=12						
MALT	Malatya	148.07	305	⇓iP	PKPbc	01 24 26.3	+1.5
MALT	Malatya	148.07	305	ePKP	PKPbc	01 24 25.6	+0.8
BRTR	Keskin Array B	151.02	311	PKPbc	PKPbc	01 24 31.3	-0.8
	comp=Z,1.1nm,0.8s,baz=141,slow=3.3,SNR=5.0						
BURAR	Bucovina Array	151.09	331	⇓iP	PKPbc	01 24 32.5	+0.3
CLL	Collm	151.57	350	ePKPbc	PKPbc	01 24 34.0	+0.7
	comp=Z,4.0nm,0.8s						
CLL				ePKPab	PKPab	01 24 42.0	0.0
CLL	Collm	151.57	350	ePKIKP	PKPbc	01 24 34.0	+0.7
CLL				e		01 24 42.0	
CLL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRG	Berggiesshubel	151.82	348	eP	PKPbc	01 24 33.1	-0.8
	comp=Z,1.9nm,0.9s						
BRG	Berggiesshubel	151.82	348	ePKIKP	PKPbc	01 24 33.1	-0.8
BRG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GERES	GERESS Array B	153.81	347	PKPbc	PKPbc	01 24 36.3	-2.0
	comp=Z,0.5nm,0.8s,baz=96,slow=5.4,SNR=3.5						

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*CSEM **06** 01:15:04.5, 25.98S×177.75W, h33km, mb5.9*

*SZGRF **06** 01:15:14.1, 22.69S×179.06W, h33km, South of Fiji Islands*

*MOS **06** 01:15:54.6±1.2, 24.51S×179.52W, h413km, mb4.6/8, Error ellipse: s-maj=14.4km s-min=11.6km az=146.8*

*BJI **06** 01:15:59.8, 24.60S×179.50W, h462km, mB4.8, mb4.8*

*ISCJB **06** 01:15:59.3±0.8, 24.69S±0.04×179.68W±0.06, h460km±8km, mb4.6/37, Error ellipse: s-maj=9.0km s-min=6.7km az=12.9*

*IDC **06** 01:15:59.8±1.0, 24.57S×179.65W, h454km±10km, mb4.1/15, mb1 4.3/18, mb1mx4.2/21, mbtmp5.0/18, Error ellipse: s-maj=12.6km s-min=10.4km az=3.0*

*NEIC **06** 01:15:59.8±0.3, 24.58S×179.53W, mb4.8/24, Error ellipse: s-maj=10.0km s-min=8.4km az=143.0*

*BGS **06** 01:16:03.7±4.1, 24.38S×179.62W, h446km, mb5.0(NEIC)*

ISC 06 01:16:00.9±0.7**, 24.83S**±0.04×**179.55W**±0.06**, h472**km±7km**, h451**km±4.3km**:pP-P, n191, σ1.10**/112**, mb4.6**/37**, 1C-42D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	4.64	162	P	P	01 17 24.2	+1.2
	305nm,0.3s,baz=279,slow=5.3,SNR=9.7						
RAO				S	S	01 18 28.5	-1.5
	284nm,0.3s,baz=106,slow=23,SNR=4.7						
RAO	Raoul Island	4.64	162	eP	P	01 17 24.2	+1.2
RAO				eS	S	01 18 19.7	-10
AFI	Afiamalu	13.10	35	P	P	01 18 48.3	-3.1
	16nm,0.3s,baz=228,slow=14,SNR=4.6						
AFI				S	S	01 20 59.2	-13
	34nm,0.3s,baz=217,slow=21,SNR=8.2						
AFI	Afiamalu	13.10	35	eP	P	01 18 45.0	-6.3
AFI				eS	S	01 20 58.2	-14
AFI				pmax	pmax		
	comp=Z,58nm,0.6s						
AFI	Afiamalu	13.10	35	eP	P	01 18 45.0	-6.4
	comp=Z,58nm,0.6s						
AFI				eS	S	01 20 58.2	-14
DZM	Mont Dzumac	13.14	279	⇑iP	P	01 18 52.8	+1.0
DZM	Mont Dzumac	13.14	279	P	P	01 18 53.8	+1.9
	comp=Z,4.9nm,0.3s,baz=92,slow=13,SNR=53						
NOUC	Port Laguerre	13.26	279	eP	P	01 18 54.7	+1.6
PUZ	Puketiti	13.34	188	PN	P	01 18 53.4	-0.6
URZ	Urewera	13.69	191	P	P	01 18 57.5	-0.2
	comp=Z,45nm,0.3s,baz=2.6,slow=4.2,SNR=42						
URZ				S	S	01 21 22.9	-0.7
	comp=Z,4.0nm,0.3s,baz=72,slow=19,SNR=6.2						
URZ	Urewera	13.69	191	ePN	P	01 18 55.8	-1.9
MWZ	Matawai	13.70	190	ePN	P	01 18 56.1	-1.6
BKZ	Black Stump Fm	14.69	192	ePN	P	01 19 06.8	-1.4
FWVZ	Far West T-bar	14.97	195	ePN	P	01 19 12.5	+1.2
MRZ	Mangatainoka R	16.31	193	ePN	P	01 19 24.1	-1.2
KIW	Kapiti Island	16.65	195	ePN	P	01 19 28.6	-0.3
SNZO	South Karori	17.12	195	eP	P	01 19 31.8	-2.0
	comp=Z,44nm,0.8s						
SNZO				eS	S	01 22 29.8	+0.3
QRZ	Quartz Range	17.28	201	PN	P	01 19 35.7	+0.2
THZ	Tophouse	18.02	199	ePN	P	01 19 41.8	-1.1
THZ				eSN	S	01 22 42.8	-1.4
DSZ	Denniston Nort	18.34	201	ePN	P	01 19 45.6	-0.3
LTZ	Lake Taylor	19.14	199	ePN	P	01 19 52.9	-0.3
LTZ				eSN	S	01 23 02.4	-0.1
RPZ	Rata Peaks	20.35	200	P	P	01 20 05.2	+0.9
	comp=Z,7.6nm,0.3s,baz=8.9,slow=1.7,SNR=5.8						
LBZ	Lake Benmore	21.23	201	PN	P	01 20 11.6	-0.6
JCZ	Jackson Bay	21.45	204	ePN	P	01 20 14.2	0.0
ARMA	Armidale	26.10	251	⇓iP	P	01 20 57.9	+2.2
CNB	Canberra Magne	28.75	241	eP	P	01 21 21.2	+2.1
	comp=Z,9.3nm,0.5s,mb4.5						
CTA	Charters Tower	31.90	272	⇓iP	P	01 21 46.9	+0.6
	comp=Z,71nm,0.6s,mb5.3						
CTA	Charters Tower	31.90	272	P	P	01 21 46.8	+0.5
	comp=Z,100nm,0.6s,mb5.4,baz=98,slow=10,SNR=101						
CTA	Charters Tower	31.90	272	⇓iP	P	01 21 46.9	+0.6
CTA				pmax	pmax		
	comp=Z,71nm,0.6s						
CTAO	Charters Tower	31.90	272	eP	P	01 21 47.0	+0.7
CTAO				pmax	pmax		
	comp=Z,87nm,0.6s,mb5.4						
CTAO	Charters Tower	31.90	272	eP	P	01 21 47.0	+0.7
	comp=Z,87nm,0.6s,mb5.4						
TOO	Toolangi	32.30	238	⇓iP	P	01 21 51.0	+1.3
	comp=Z,20nm,0.7s,mb4.7						
TOO	Toolangi	32.30	238	⇓iP	P	01 21 51.0	+1.3
TOO				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.7						
TAU	Tasmania Unive	32.61	228	eP	P	01 21 53.8	+1.4
TAU				pmax	pmax		
	comp=Z,16nm,0.5s,mb4.7						
TAU	Tasmania Unive	32.61	228	eP	P	01 21 53.8	+1.4
	comp=Z,16nm,0.5s,mb4.7						
STKA	Stephens Creek	34.77	249	⇓iP	P	01 22 11.9	+1.3
	comp=Z,23nm,0.3s,mb5.1						
STKA	Stephens Creek	34.77	249	P	P	01 22 11.9	+1.3
	comp=Z,29nm,0.4s,mb5.1,baz=91,slow=9.4,SNR=182						
PMG	Port Moresby	35.19	290	P	P	01 22 13.4	-0.8
	comp=Z,38nm,0.8s,mb4.9,baz=96,slow=5.1,SNR=10						
PMG	Port Moresby	35.19	290	eP	P	01 22 13.8	-0.3
PMG				pmax	pmax		
	comp=Z,43nm,1.0s						
PMG	Port Moresby	35.19	290	eP	P	01 22 13.8	-0.3
	comp=Z,43nm,1.0s,mb4.8						
AS31	Alice Springs	42.30	262	eP	P	01 23 12.4	+0.4
AS31				ePcS	PcS	01 28 46.0	-1.8
AS31				eS	S	01 28 58.0	+0.3
ASAR	Alice Springs	42.30	262	P	P	01 23 12.3	+0.3
	comp=Z,26nm,0.6s,mb4.8,baz=99,slow=7.8,SNR=226						
ASAR				S	S	01 28 57.0	-0.8
	comp=Z,1.2nm,0.8s,baz=96,slow=16,SNR=5.6						
ASPA	Alice Springs	42.30	262	eP	P	01 23 12.4	+0.4
ASPA				ePCS	PcS	01 28 46.0	-1.9
ASPA				eS	S	01 28 58.0	+0.2
WB2	Warramunga Arr	42.75	267	⇓iP	P	01 23 14.9	-0.6
WB2				eS	S	01 29 01.9	-2.3
WRAB	Tennant Creek	42.75	267	eP	P	01 23 15.3	-0.3
WRAB				pmax	pmax		
	comp=Z,122nm,0.8s,mb5.4						
WRAB	Tennant Creek	42.75	267	eP	P	01 23 15.3	-0.3
	comp=Z,122nm,0.8s,mb5.4						
WRA	Warramunga Arr	42.76	267	P	P	01 23 14.9	-0.7
	comp=Z,57nm,0.5s,mb5.3,baz=103,slow=8.0,SNR=112						
WRA				PcP	PcP	01 24 57.4	+0.8
	comp=Z,4.5nm,0.8s,baz=105,slow=3.9,SNR=4.7						
WRA				ScP	ScP	01 28 06.4	+4.2
	comp=Z,4.1nm,1.1s,baz=101,slow=4.3,SNR=8.3						
WRA				S	S	01 29 02.4	-2.0
	comp=Z,3.7nm,0.9s,baz=102,slow=15,SNR=5.8						
WRA	Warramunga Arr	42.76	267	P	P	01 23 14.9	-0.7
WRA						01 24 57.4	
WRA				S	S	01 29 02.4	-2.0
FORT	Forrest	46.38	250	⇓iP	P	01 23 43.4	-0.3
	comp=Z,102nm,0.4s,mb5.6						
KAKA	Kakadu	46.80	276	eP	P	01 23 46.2	-0.7
	comp=Z,36nm,0.7s,mb4.9						
FITZ	Fitzroy Crossi	51.17	266	eP	P	01 24 19.6	+0.2
	comp=Z,102nm,0.8s,mb5.2						
FITZ				i		01 24 59.9	
FITZ	Fitzroy Crossi	51.17	266	P	P	01 24 19.7	+0.4
	comp=Z,65nm,0.8s,mb5.0,baz=94,slow=5.9,SNR=79						
SBA	Scott Base	53.48	184	eP	P	01 24 40.1	+4.1
SBA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0						
SBA	Scott Base	53.48	184	eP	P	01 24 40.0	+4.0
	comp=Z,6.8nm,0.8s,mb4.0						
VNDA	Vanda	53.50	185	P	P	01 24 38.8	+2.7
	comp=Z,1.5nm,0.5s,baz=7.3,slow=7.3,SNR=11						
VNDA				PcP	PcP	01 25 36.6	+0.9
	comp=Z,1.5nm,0.7s,baz=9.4,slow=4.7,SNR=5.0						
KLBR	Kellerberrin	55.01	248	⇓iP	P	01 24 46.6	-0.3
	comp=Z,86nm,0.8s,mb5.1						
NWAO	Narrogin (SRO)	55.23	246	P	P	01 24 48.6	+0.2
	comp=Z,17nm,0.7s,mb4.5,baz=92,slow=5.3,SNR=8.1						
MBWA	Marble Bar	55.62	261	eP	P	01 24 51.1	0.0
	comp=Z,21nm,0.4s,mb4.8						
MUN	Mundaring	56.24	247	⇓iP	P	01 24 55.8	+0.4
CASY	Casey	59.46	206	⇓iP	P	01 25 18.1	+0.7
CASY	Casey	59.46	206	eP	P	01 25 18.0	+0.6
	comp=Z,10nm,0.3s,mb4.6						
QSPA	South Pole Qui	65.26	180	eP	P	01 25 56.8	+1.7
	comp=Z,7.5nm,0.5s,mb4.6						
KKM	Kota Kinabalu	69.56	287	eP	P	01 26 21.7	+0.1
MJAR	Matsushiro Arr	72.89	325	P	P	01 26 40.2	-1.0
	comp=Z,5.4nm,0.6s,mb4.2,baz=160,slow=5.5,SNR=12						
MAJO	Matsushiro	72.89	325	eP	P	01 26 39.7	-1.5
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.3						
MAJO	Matsushiro	72.89	325	eP	P	01 26 39.7	-1.4
	comp=Z,5.8nm,0.6s,mb4.3						
MAW	Mawson	77.03	200	⇓iP	P	01 27 06.1	+1.7
	comp=Z,10.0nm,0.6s,mb4.5						

MAW	**Mawson**	**77.03**	**200**	P	**P**	**01 27 06.1**	**+1.7**
	comp=Z,13nm,0.6s,mb4.6,baz=130,slow=6.7,SNR=48						
MAW	**Mawson**	**77.03**	**200**	⇓*i*P	**P**	**01 27 06.1**	**+1.7**
MAW				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS	**Yuzh-Sakhalins**	**79.14**	**335**	*e*P	**P**	**01 27 15.8**	**0.0**
KS15	**Wonju Array Si**	**79.23**	**320**	P	**P**	**01 27 15.0**	**-1.3**
SSE	**Sheshan**	**79.41**	**311**	P	**P**	**01 27 13.9**	**-3.3**
SSE				AMB	AMB		
	comp=Z,29nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,91nm,4.9s						
NJ2	**Nanjing**	**81.57**	**311**	*e*P	**P**	**01 27 27.6**	**-1.0**
NJ2				AP	pP	01 29 07.8	-4.4
NJ2				PP	PP	01 30 42.4	-0.7
NJ2				S	S	01 36 59.0	-2.0
NJ2				SKS		01 37 01.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,550nm,6.2s						
SYO	**Syowa Base**	**82.21**	**193**	⇑*e*P	**P**	**01 27 31.8**	**0.0**
SYO	**Syowa Base**	**82.21**	**193**	⇓*e*PcP	PcP	01 27 36.6	+0.8
MDJ	**Mudanjiang**	**83.26**	**326**	P	**P**	**01 27 37.3**	**+0.2**
MDJ				AP	pP	01 29 15.4	-5.9
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,44nm,3.7s						
CMB	**Columbia Colle**	**83.59**	**43**	*e*P	**P**	**01 27 39.0**	**+0.2**
CMB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
CMB	**Columbia Colle**	**83.59**	**43**	*e*P	**P**	**01 27 39.0**	**+0.2**
	comp=Z,1.8nm,0.6s,mb3.8						
SNAA	**Sanae**	**83.74**	**179**	*e*P	**P**	**01 27 38.6**	**-0.9**
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SNAA	**Sanae**	**83.74**	**179**	*e*P	**P**	**01 27 38.6**	**-0.9**
	comp=Z,1.9nm,0.8s,mb3.7						
VNA1	**Neumayer--Stat**	**84.59**	**177**	*e*P	**P**	**01 27 44.7**	**+1.0**
VNA1				*e*		01 27 46.4	
VNA1				*e*		01 29 35.4	
CN2	**Changchun**	**84.87**	**323**	*e*P	**P**	**01 27 44.7**	**-0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
CN2				AMB	AMB		
	comp=Z,170nm,5.0s						
NVAR	**Mina Array Bea**	**85.13**	**44**	P	**P**	**01 27 46.5**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=219,slow=7.4,SNR=5.0						
TUC	**Tucson**	**86.76**	**52**	*e*P	**P**	**01 27 56.0**	**+1.8**
TUC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
TUC	**Tucson**	**86.76**	**52**	*e*P	**P**	**01 27 56.0**	**+1.8**
	comp=Z,2.8nm,0.8s,mb4.0						
PLCA	**Paso Flores**	**87.33**	**134**	P	**P**	**01 27 59.5**	**+2.6**
	comp=Z,1.0nm,0.8s,mb3.6,baz=246,slow=4.5,SNR=3.8						
MA2	**Magadan**	**87.57**	**345**	P	**P**	**01 27 56.9**	**-1.1**
BJT	**Baijiatuau**	**87.97**	**316**	P	**P**	**01 27 59.0**	**-0.9**
BJT				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BJT	**Baijiatuau**	**87.97**	**316**	P	**P**	**01 27 59.0**	**-0.8**
	comp=Z,6.4nm,0.5s,mb4.6						
XAN	**Xi'an**	**89.63**	**308**	P	**P**	**01 28 08.2**	**+0.6**
XAN				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.9						
KMI	**Kunming**	**90.05**	**298**	P	**P**	**01 28 10.7**	**+1.2**
KMI				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
ANMO	**Albuquerque**	**91.20**	**52**	P	**P**	**01 28 15.3**	**+0.4**
	comp=Z,1.4nm,1.0s,mb3.9,baz=178,slow=18,SNR=4.4						
ANMO				pP	pP	01 30 00.1	-0.9
	comp=Z,1.2nm,0.9s,baz=273,slow=7.4,SNR=1.9						
HHC	**Hu-ho-hao-te**	**91.36**	**315**	*e*P	**P**	**01 28 16.3**	**+0.7**
HHC				AP	pP	01 29 58.9	-2.8
HHC				PP	PP	01 32 03.1	+2.1
HHC				S		01 38 33.0	
HHC				PS	PS	01 40 48.6	-0.5
HHC				AMB	AMB		
	comp=Z,18nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,80nm,4.9s						
HIA	**Hailar**	**91.39**	**325**	*e*P	**P**	**01 28 14.7**	**-1.0**
CD2	**Chengdu**	**91.93**	**303**	*e*P	**P**	**01 28 17.0**	**-1.2**
CD2				AP	pP	01 29 58.9	-5.5
CD2				PP	PP	01 32 05.7	+0.3
CD2				SKS		01 38 06.0	
CD2				S		01 38 37.1	
CD2				SS	SS	01 45 01.3	+0.6
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
CD2				AMB	AMB		
	comp=Z,40nm,9.2s						
PDAR	**Pinedale Array**	**93.07**	**44**	P	**P**	**01 28 22.7**	**-0.7**
	comp=Z,0.7nm,1.0s,mb3.7,baz=228,slow=3.8,SNR=5.5						
PDAR				pP	pP	01 30 08.4	-1.3
	comp=Z,0.5nm,0.9s,baz=289,slow=2.8,SNR=3.7						
BILL	**Bilibino**	**93.18**	**355**	*e*P	**P**	**01 28 22.4**	**-1.5**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
TRQA	**Tornquist**	**94.34**	**135**	*e*P	**P**	**01 28 31.4**	**+2.1**
WMQ	**Urumqi**	**108.64**	**310**	PDIF	Pdif	01 29 32.7	-0.3
WMQ				PP	PP	01 34 11.3	+1.0
WMQ				PP	PP		
	comp=Z,401nm,11.2s						
MKAR	**Makanchi Array**	**113.08**	**312**	PKiKP	PKiKP	01 33 42.4	-1.5
	comp=Z,0.8nm,0.5s,baz=64,slow=2.8,SNR=6.9						
KURK	**Kurchatov**	**116.15**	**316**	*e*PKIKP	PKPdf	01 33 48.3	-1.5
CHKZ	**Chkalovo**	**121.27**	**319**	*e*PKIKP	PKPdf	01 33 58.0	-1.6
BVAR	**Borovoye Array**	**121.40**	**318**	PKP	PKPdf	01 33 58.7	-1.2
	comp=Z,3.2nm,0.4s,baz=109,slow=1.0,SNR=21						
BRVK	**Borovoye**	**121.46**	**318**	*e*PKIKP	PKPdf	01 33 58.8	-1.2
BOSA	**Boshof**	**121.75**	**206**	PKP	PKPdf	01 34 01.7	+1.1
	comp=Z,1.9nm,0.6s,baz=203,slow=9.7,SNR=4.8						
ZRNK	**Zerenda**	**122.24**	**318**	*e*PKIKP	PKPdf	01 34 00.3	-1.2
AKTK	**Aktyubinsk**	**129.25**	**316**	PKP	PKPdf	01 34 13.8	-1.1
AKTO	**Aktyubinsk**	**129.25**	**316**	PKP	PKPdf	01 34 13.8	-1.1
	comp=Z,2.1nm,0.6s,baz=115,slow=4.6,SNR=8.3						
KEV	**Kevo**	**132.40**	**348**	*e*pkp	PKPdf	01 34 16.8	-4.1
ARCES	**ARCESS Array B**	**132.87**	**348**	PKhKP		01 34 12.1	
	comp=Z,1.3nm,0.7s,baz=94,slow=1.2,SNR=5.2						
ARCES				PKP	PKPdf	01 34 20.1	-1.7
	comp=Z,3.5nm,0.6s,baz=91,slow=2.2,SNR=21						
ARCES				SKPbc	SKPbc	01 37 04.8	+0.1
	comp=Z,5.4nm,0.8s,baz=55,slow=4.6,SNR=7.2						
ARCES	**ARCESS Array B**	**132.87**	**348**	PKHKP		01 34 12.1	
ARCES						01 34 20.1	
ARCES	**ARCESS Array B**	**132.87**	**348**	PKP		01 34 12.1	
ARCES				PKP	PKPdf	01 34 20.1	-1.7
ARCES				SKPbc	SKPbc	01 37 04.8	+0.1
KMBO	**Kilima Mbogo**	**135.99**	**240**	SKPbc	SKPbc	01 37 17.3	+2.6
	comp=Z,2.0nm,0.9s,baz=85,slow=5.9,SNR=4.0						
JOF	**Joensuu**	**136.74**	**340**	*e*pkp	PKPdf	01 34 26.0	-2.9
JOF	**Joensuu**	**136.74**	**340**	*e*pkp	SKPbc	01 37 14.5	-2.3
KAF	**Kangasniemi**	**138.85**	**342**	*e*pkp		01 34 22.7	
KAF	**Kangasniemi**	**138.85**	**342**	*e*pkp		01 37 21.6	
FINES	**FINESS Array B**	**139.45**	**341**	PKhKP		01 34 22.4	
	comp=Z,0.7nm,0.5s,baz=59,slow=4.1,SNR=10						
FINES				PKP	PKPdf	01 34 34.0	+0.1
	comp=Z,1.4nm,0.4s,baz=116,slow=4.0,SNR=11						
FINES				SKPbc	SKPbc	01 37 24.2	-0.2
	comp=Z,2.5nm,0.5s,baz=57,slow=3.0,SNR=14						
FINES	**FINESS Array B**	**139.45**	**341**	PKHKP		01 34 22.4	
FINES						01 34 34.0	
FINES	**FINESS Array B**	**139.45**	**341**	PKP		01 34 22.4	
FINES				PKP	PKPdf	01 34 34.0	+0.1
FINES				SKPbc	SKPbc	01 37 24.2	-0.2
CUKT	**Cukurca**	**141.31**	**299**	*e*P	PKPdf	01 34 33.3	-4.0
NB2	**NORSAR Subarra**	**143.05**	**351**	PKP		01 34 36.0	
	comp=Z,5.6nm,0.8s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**143.05**	**351**	PKhKP		01 34 35.9	
	comp=Z,4.2nm,0.8s,baz=16,slow=2.4,SNR=28						
NOA				SKPbc	SKPbc	01 37 34.1	+0.5
	comp=Z,1.2nm,0.7s,baz=16,slow=4.2,SNR=7.1						
NAO01	**NORSAR Array S**	**143.29**	**351**	*e*PKPdf	PKPdf	01 34 37.1	-3.6
MALT	**Malatya**	**145.21**	**302**	*e*PKIKP	PKPdf	01 34 42.5	-1.6
AKASG	**Malin Array Be**	**145.97**	**327**	PKPbc	PKPbc	01 34 45.2	-1.9
	comp=Z,3.8nm,0.3s,baz=43,slow=3.9,SNR=36						
AKASG				pPKPbc		01 36 37.1	
	comp=Z,2.5nm,0.8s,baz=38,slow=3.7,SNR=3.4						
AKASG	**Malin Array Be**	**145.97**	**327**	PKPbc	PKPbc	01 34 45.2	-1.9
AKASG				pPKPbc		01 36 37.1	
ORE	**Reay**	**146.17**	**4**	⇓*e*P	PKPdf	01 34 46.2	+0.5
ORE	**Reay**	**146.17**	**4**	⇓*e*P	PKPdf	01 34 46.2	+0.5
SUW	**Suwalki**	**146.27**	**336**	*e*PKP	PKPdf	01 34 46.8	+0.9
GAZ	**Gaziantep**	**146.37**	**300**	*e*P	PKPbc	01 34 48.6	+0.4
BNN	**Bunyan**	**147.06**	**304**	*i* P	PKPbc	01 34 50.9	+0.8
MCD	**Coleburn Disti**	**147.16**	**4**	⇓*e*P	PKPdf	01 34 48.8	+1.4
MCD	**Coleburn Disti**	**147.16**	**4**	⇓*e*P	PKPdf	01 34 48.8	+1.4
KOZT	**Kozan**	**147.39**	**301**	*e*P	PKPbc	01 34 51.9	+0.9
HTY	**Hatay**	**147.41**	**299**	*e*P	PKPbc	01 34 51.1	0.0
BR131	**Keskin Array S**	**148.46**	**306**	*e*PKPdf	PKPbc	01 34 52.6	-1.1
BRTR	**Keskin Array B**	**148.46**	**306**	PKPbc	PKPbc	01 34 53.5	-0.2
	comp=Z,4.7nm,0.7s,baz=140,slow=4.3,SNR=27						
BRTR				PKPab	PKPab	01 34 58.8	0.0
	comp=Z,4.9nm,0.7s,baz=90,slow=3.4,SNR=13						
EAB	**Aberfoyle**	**148.47**	**5**	⇓*e*P	PKPbc	01 34 52.6	-1.1
EAB	**Aberfoyle**	**148.47**	**5**	⇓*e*P	PKPbc	01 34 52.6	-1.1
SAFT	**Safranbolu**	**148.63**	**309**	*e*P	PKPbc	01 34 52.8	-1.3
PGBU	**Glenifferbraes**	**148.84**	**5**	*e*P	PKPbc	01 34 53.5	-1.1
PGBU	**Glenifferbraes**	**148.84**	**5**	*e*P	PKPbc	01 34 53.5	-1.1
ESY	**Stoneypath**	**148.86**	**3**	⇓*e*P	PKPbc	01 34 53.3	-1.3
ESY	**Stoneypath**	**148.86**	**3**	⇓*e*P	PKPbc	01 34 53.3	-1.3
EAU	**Auchinoon**	**148.88**	**4**	⇓*e*P	PKPbc	01 34 53.7	-1.0
EAU	**Auchinoon**	**148.88**	**4**	⇓*e*P	PKPbc	01 34 53.7	-1.0
EBL	**Broad Law**	**148.98**	**4**	⇓*e*P	PKPbc	01 34 54.0	-1.0
EBL	**Broad Law**	**148.98**	**4**	⇓*e*P	PKPbc	01 34 54.0	-1.0
ANTO	**Ankara**	**149.03**	**307**	*e*PKHKP		01 34 50.8	
LVV	**L'vov**	**149.04**	**330**	*e*PKHKP	PKPbc	01 34 53.1	-2.0
IKL	**Isikli**	**149.34**	**300**	P	PKPbc	01 34 56.2	+0.4
KWP	**Kalwaria**	**149.77**	**331**	*e*PKP	PKPbc	01 34 56.7	-0.2
CSS	**Prodhromos**	**149.88**	**297**	*e*PKPbc	PKPbc	01 34 57.0	-0.1
BSEG	**Bad Segeberg**	**150.00**	**348**	*e*PKPbc	PKPbc	01 34 56.6	-0.8
KIZT	**Kizilcal**	**150.02**	**305**	*i* P	PKPbc	01 34 57.7	+0.2
XDE	**Dent Fell**	**150.21**	**5**	⇓*e*P	PKPbc	01 34 56.6	-1.3
XDE	**Dent Fell**	**150.21**	**5**	⇓*e*P	PKPbc	01 34 56.6	-1.3
GIM	**North Isle of**	**150.34**	**6**	⇓*e*P	PKPbc	01 34 56.9	-1.4
GIM	**North Isle of**	**150.34**	**6**	⇓*e*P	PKPbc	01 34 56.9	-1.4
OJC	**Ojcow**	**150.54**	**334**	*e*PKP	PKPbc	01 34 58.3	-0.4
RUE	**Ruedersdorf**	**150.59**	**343**	*e*PKPbc	PKPbc	01 34 58.1	-0.7
DCN	**Croghan**	**150.93**	**10**	⇓*i*P	PKPbc	01 34 58.3	-1.3
NIE	**Niedzica**	**150.96**	**333**	*e*PKP	PKPbc	01 35 00.0	+0.4
DLF	**Lyons Farm**	**151.09**	**9**	⇓*i*P	PKPbc	01 34 58.5	-1.4
LHO	**Holmfirth**	**151.27**	**3**	⇓*e*P	PKPbc	01 34 59.2	-1.1
LHO	**Holmfirth**	**151.27**	**3**	⇓*e*P	PKPbc	01 34 59.2	-1.1
KSP	**Ksiaz**	**151.29**	**339**	*e*PKP	PKPbc	01 35 00.4	0.0
NRDL	**Niedersach Rie**	**151.41**	**348**	*e*PKPbc	PKPbc	01 34 59.5	-1.2
SBD1	**Bryn Du**	**151.82**	**5**	⇓*e*P	PKPbc	01 35 00.5	-1.1
SBD1	**Bryn Du**	**151.82**	**5**	⇓*e*P	PKPbc	01 35 00.5	-1.1
CLL	**Collm**	**151.85**	**343**	*e*PKPbc	PKPbc	01 35 00.9	-0.8
CLL	**Collm**	**151.85**	**343**	⇓*i*PKPbc	PKPbc	01 35 01.0	-0.7
	comp=Z,20nm,0.7s						
CLL	**Collm**	**151.85**	**343**	⇓*i*PKIKP	PKPbc	01 35 01.0	-0.7
CLL				pmax	pmax		
	comp=Z,20nm,0.7s						
CLZ	**Clausthal**	**151.98**	**347**	*e*PKPbc	PKPbc	01 35 01.6	-0.3
BRG	**Berggiesshubel**	**151.99**	**342**	*e*PKPbc	PKPbc	01 35 01.4	-0.6
BRG	**Berggiesshubel**	**151.99**	**342**	*i* PKP	PKPbc	01 35 01.6	-0.4
	comp=Z,7.2nm,0.6s						
BRG	**Berggiesshubel**	**151.99**	**342**	*i* PKIKP	PKPbc	01 35 01.6	-0.4
BRG				pmax	pmax		
	comp=Z,7.0nm,0.6s						
FBE	**Freiberg**	**152.11**	**342**	*e*PKPbc	PKPbc	01 35 01.7	-0.5
ELL	**Elmali**	**152.15**	**302**	*e*P	PKPbc	01 35 00.9	-1.4
MOX	**Moxa**	**152.82**	**344**	*e*PKPbc	PKPbc	01 35 03.3	-0.5
MOX	**Moxa**	**152.82**	**344**	*e*PKP	PKPbc	01 35 03.1	-0.7
MOX				*e*		01 35 15.8	
WERD	**Werda**	**152.82**	**343**	*e*PKPbc	PKPbc	01 35 03.3	-0.5
HSA	**Swansea**	**152.89**	**6**	⇓*e*P	PKPbc	01 35 02.8	-1.2
HSA	**Swansea**	**152.89**	**6**	⇓*e*P	PKPbc	01 35 02.8	-1.2
GUNZ	**Gunzen**	**152.89**	**343**	*e*PKPbc	PKPbc	01 35 03.6	-0.3
SKP1	**Kophill**	**153.13**	**2**	⇓*e*P	PKPbc	01 35 03.1	-1.3
SKP1	**Kophill**	**153.13**	**2**	⇓*e*P	PKPbc	01 35 03.1	-1.3
GERES	**GERESS Array B**	**153.86**	**340**	PKPbc	PKPbc	01 35 05.4	-0.7
	comp=Z,1.1nm,0.6s,baz=90,slow=2.9,SNR=5.1						
GERES				PKPab	PKPab	01 35 20.4	-1.1
	comp=Z,0.6nm,0.4s,baz=35,slow=4.9,SNR=3.6						
DOU	**Dourbes**	**154.57**	**354**	PKPbc	PKPbc	01 35 06.3	-1.2
DOU				PKPab	PKPab	01 35 22.1	-2.5
TORD	**Torodi Ar. Bea**	**168.32**	**186**	PKP	PKPdf	01 35 12.8	0.0
	comp=Z,2.0nm,0.8s,baz=60,slow=0.3,SNR=11						
TORD				PKPab	PKPab	01 36 25.6	+0.8
	comp=Z,2.5nm,0.6s,baz=169,slow=4.0,SNR=21						

NEIC 06 01:21:51.1, 5313N×16491W, h27km, mb3.9/1, ML3.5(AEIC), After AEIC., Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**1.13**	**333**	P	Pn	01 22 09.3	-1.8
AKUT				S	Sn	01 22 24.0	-1.7
UNV	**Unalaska Valle**	**1.19**	**308**	P	Pn	01 22 10.4	-1.6
UNV				S	Sn	01 22 25.3	-2.0
AKLV	**Akutan Long Va**	**1.21**	**329**	P	Pn	01 22 10.4	-1.8
FALS	**False Pass**	**1.94**	**26**	P	Pn	01 22 20.8	-1.5
OKCD	**Okmok Cone D**	**1.95**	**280**	P	Pn	01 22 21.9	-0.5
SDPT	**Sand Point**	**3.42**	**48**	P	Pn	01 22 41.4	-1.2
NEW	**Newport**	**30.20**	**80**	*e*P	P	01 28 00.1	+1.0
ELK	**Elko**	**35.39**	**90**	*e*P	P	01 28 45.5	+1.0
	1.4nm,0.9s						

*PRU **06** 01:32:05.9, 4331N×2059E, h0km*
*CSEM **06** 01:32:08.1±0.1, 4357N×2031E, h2km, ML3.5, Error ellipse: s-maj=1.2km s-min=1.0km az=101.0*
*ISCJB **06** 01:32:08.0±0.3, 4349N±001×2029E±002, h6km±2km, Error ellipse: s-maj=2.3km s-min=2.0km az=177.4*
*BEO **06** 01:32:09.2±0.3, 4353N×2032E, h15km±1km*
*SKO **06** 01:32:09.0, 4353N×2043E, h5km, M2.3, ML3.7*
*THE **06** 01:32:10.3, 4358N×2031E, h23km, ML3.5*
*NEIC **06** 01:32:12.3, 4336N×20.12E, h9km, MD3.7(SOF), ML3.3(PDG), ML3.7(BUC), After PDG.*
*VIE **06** 01:32:12.2±1.5, 4370N×2029E, h10km, Error ellipse: s-maj=19.6km s-min=10.6km az=38.0, 127 km S of Beograd*
*PDG **06** 01:32:12.3±0.2, 4336N×20.12E, h9km±1km*
*SOF **06** 01:32:14.5, 4345N×2109E, h5km, MD3.7*

ISC 06 01:32:08.9±0.3, 4348N±001×2032E±002, h2km±2km, n147, σ0.89/198, 22C-32D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJES	**Sjenica**	**0.35**	**232**	Pg	**Pg**	**01 32 15.0**	**-0.5**
SJES				Sg	**Sg**	**01 32 19.9**	**-0.1**
GRUS	**Gruza**	**0.50**	**35**	*i* Pg	**Pg**	**01 32 18.6**	**+0.2**
GRUS				Sg	**Sg**	**01 32 25.8**	**+0.9**
DIVS	**Divcibare**	**0.66**	**339**	*i* Pg	**Pg**	**01 32 21.5**	**-0.1**
DIVS				Sg	**Sg**	**01 32 30.4**	**+0.3**
DIVS	**Divcibare**	**0.66**	**339**	*e*Pg	**Pg**	**01 32 21.4**	**-0.1**
DIVS				*e*Sg	**Sg**	**01 32 29.9**	**-0.2**
IVA	**Berane**	**0.68**	**207**	⇓*i*Pg	**Pg**	**01 32 22.2**	**+0.2**
IVA				*e*Sg	**Sg**	**01 32 30.2**	**-0.6**
PLE	**Pljevlja**	**0.69**	**258**	⇓*i*Pg	**Pg**	**01 32 22.1**	**0.0**
PLE				*e*Sg	**Sg**	**01 32 31.0**	**0.0**
BBLS	**Bajina Basta -**	**0.76**	**301**	*i* Pg	**Pg**	**01 32 23.7**	**+0.2**
BBLS				Sg	**Sg**	**01 32 34.9**	**+1.5**
PVY	**Plav**	**0.92**	**196**	⇑*i*Pg	**Pg**	**01 32 26.5**	**0.0**
PVY				*e*Sg	**Sg**	**01 32 38.7**	**+0.2**
SVIS	**Svilajnac**	**1.04**	**38**	*i* Pg	**Pg**	**01 32 28.3**	**-0.6**
SVIS				Sg	**Sg**	**01 32 44.2**	**+1.8**
UPM	**Unac-Piva**	**1.06**	**255**	⇓*i*Pg	**Pg**	**01 32 29.1**	**-0.1**
UPM				*e*Sg	**Sg**	**01 32 43.1**	**+0.1**
UPM	**Unac-Piva**	**1.06**	**255**	⇓*i*Pg	**Pg**	**01 32 29.1**	**-0.2**
UPM				*e*Sg	**Sg**	**01 32 43.2**	**+0.1**
NKY	**Niksic**	**1.17**	**236**	⇓*i*Pg	**Pg**	**01 32 30.9**	**-0.5**
NKY				*e*Sg	**Sg**	**01 32 46.2**	**-0.4**
TTG	**Podgorica**	**1.31**	**217**	⇑*i*Pg	**Pg**	**01 32 33.0**	**-1.0**
TTG				*e*Sg	**Sg**	**01 32 50.8**	**-0.1**
BEO	**Belgrade**	**1.34**	**4**	*i* Pn	**Pn**	**01 32 33.9**	**-0.8**
BEO				Sg	**Sg**	**01 32 52.6**	**+0.5**
BRY	**Bratogost**	**1.42**	**246**	⇓*i*Pg	**Pg**	**01 32 34.9**	**-1.2**
BRY				*e*Sg	**Sg**	**01 32 55.3**	**+0.8**
SDA	**Shkodra**	**1.55**	**203**	*i* Pn	**Sn**	**01 32 56.1**	**-2.2**
BUM	**Brajici-Budva**	**1.57**	**222**	⇑*i*Pg	**Pg**	**01 32 37.8**	**-1.3**
BUM				*e*Sg	**Sg**	**01 32 59.8**	**+0.3**
HCY	**Herceg Novi**	**1.69**	**233**	⇓*i*Pg	**Pg**	**01 32 39.2**	**-2.1**
HCY				*e*Sg	**Sg**	**01 33 03.0**	**-0.1**
ULC	**Ulcinj**	**1.71**	**208**	⇓*i*Pg	**Pg**	**01 32 41.2**	**-0.4**
ULC				*e*Sg	**Sg**	**01 33 03.7**	**-0.1**
FGSL	**Fruska Gora**	**1.71**	**348**	Pn	**Pn**	**01 32 38.8**	**-1.0**
SKO	**Skopje**	**1.72**	**151**	*e*Pb	**Pb**	**01 32 40.0**	**-1.2**
SKO				*e*Sb	**Sb**	**01 33 02.9**	**-0.4**
SKO	**Skopje**	**1.72**	**151**	⇑*i*Pn	**Pn**	**01 32 40.0**	**+0.1**
SKO	**Skopje**	**1.72**	**151**	⇑*i*Pn	**Pn**	**01 32 40.0**	**+0.1**
QSH	**Qafa e Shtames**	**1.98**	**189**	*i* Pn	**Pg**	**01 32 46.2**	**-0.7**
QSH				*i* Sn	**Sg**	**01 33 17.2**	**+4.6**
STON	**Ston**	**2.01**	**253**	*i* Pn	**Pn**	**01 32 44.8**	**+0.9**
STON				*i* Sn	**Sn**	**01 33 12.3**	**+2.8**
VTS	**Vitosha**	**2.30**	**112**	*e*Pn	**Pn**	**01 32 47.6**	**-0.3**
VTS				*e*Sn	**Sn**	**01 33 15.6**	**-1.1**
VTS	**Vitosha**	**2.30**	**112**	⇑*i*P	**Pn**	**01 32 47.6**	**-0.3**
BZS	**Buzias**	**2.33**	**23**	⇑*i*P	**Pn**	**01 32 47.1**	**-1.2**
BZS	**Buzias**	**2.33**	**23**	P	**Pn**	**01 32 47.2**	**-1.1**
BZS	**Buzias**	**2.33**	**23**	P	**Pn**	**01 32 47.2**	**-1.1**
OHR	**Ohrid**	**2.40**	**171**	*i* Pn	**Pn**	**01 32 49.1**	**-0.1**
OHR				*i* Sn	**Sg**	**01 33 25.6**	**-0.3**
	comp=N,418nm,1.0s						
OHR				*e*Lg		01 33 26.0	
	comp=E,646nm,1.2s						
OHR	**Ohrid**	**2.40**	**171**	*i* Pn	**Pn**	**01 32 49.0**	**-0.2**
OHR				*i* Sn	**Sg**	**01 33 25.5**	**-0.4**
BIA	**Bitola**	**2.57**	**163**	*i* Pn	**Pn**	**01 32 51.8**	**+0.2**
BIA				*i* Sn	**Sg**	**01 33 32.1**	**+0.6**
BIA	**Bitola**	**2.57**	**163**	*e*Pn	**Pn**	**01 32 51.9**	**+0.3**
GZR	**Gura Zlata**	**2.60**	**42**	⇓*i*P	**Pn**	**01 32 51.1**	**-0.9**
GZR	**Gura Zlata**	**2.60**	**42**	⇓P	**Pn**	**01 32 51.1**	**-0.8**
KKB	**Krupnik**	**2.60**	**127**	*e*P	**Pn**	**01 32 52.8**	**+0.8**
KKB				*e*Pg	**Pg**	**01 32 59.2**	**+0.4**
VAY	**Valandovo**	**2.73**	**142**	*e*Pn	**Pn**	**01 32 53.0**	**-0.8**
VAY	**Valandovo**	**2.73**	**142**	*i* Pn	**Pn**	**01 32 52.8**	**-0.9**
FNA	**Florina**	**2.81**	**163**	*e*Pn	**Pn**	**01 32 55.2**	**+0.3**
GRG	**Griva**	**2.96**	**148**	*e*Pn	**Pn**	**01 32 57.1**	**+0.1**
PGB	**Panagyurishte**	**2.97**	**107**	*e*P	**Pb**	**01 33 01.8**	**-0.8**
PKSM	**Moragy**	**2.98**	**337**	⇓*i*P	**Pn**	**01 32 56.3**	**-0.9**
PKSM	**Moragy**	**2.98**	**337**	P	**Pn**	**01 32 56.5**	**-0.7**
PKSM	**Moragy**	**2.98**	**337**	⇑*i*Pn	**Pn**	**01 32 56.3**	**-0.9**
PKSM	**Moragy**	**2.98**	**337**	*e*Pg	**Pg**	**01 33 05.9**	**-0.1**
KNT	**Kendrikon**	**3.01**	**140**	*e*Pn	**Pn**	**01 32 57.3**	**-0.3**
MMB	**Musomiste**	**3.15**	**126**	*e*P	**Pn**	**01 33 00.1**	**+0.5**
PKS6	**Bocsa**	**3.16**	**351**	⇑*i*P	**Pn**	**01 32 59.3**	**-0.4**
KZN	**Kozani**	**3.35**	**161**	*e*P	**Pn**	**01 33 02.9**	**+0.5**
NVR	**Nevrokopi**	**3.38**	**128**	*e*P	**Pn**	**01 33 02.6**	**-0.1**
SRS	**Serrai**	**3.39**	**133**	*e*Pn	**Pn**	**01 33 02.5**	**-0.4**
SRS				*e*Sn	**Sn**	**01 33 43.6**	**0.0**
PKSN	**Nyarlorinc**	**3.43**	**355**	⇓*i*P	**Pn**	**01 33 03.2**	**-0.2**
SISC	**Sisak**	**3.45**	**307**	*e*Pn	**Pn**	**01 33 06.0**	**+2.2**
SISC				Sg	**Sg**	**01 33 56.5**	**-3.4**
SISC	**Sisak**	**3.45**	**307**	*e*Pn	**Pn**	**01 33 05.9**	**+2.2**
SISC				Sg	**Sg**	**01 33 56.4**	**-3.4**
SOH	**Sokhos**	**3.49**	**139**	*e*Pn	**Pn**	**01 33 04.0**	**-0.2**
PLD	**Plovdiv**	**3.51**	**112**	*e*P	**Pg**	**01 33 15.0**	**-1.2**
PKS8	**Sarbogard**	**3.59**	**342**	⇑*i*P	**Pn**	**01 33 04.8**	**-0.8**
FGMS	**Monte Sant'Ang**	**3.68**	**243**	Pn	**Pn**	**01 33 08.1**	**+1.3**
RZN	**Rozhen**	**3.71**	**117**	*e*P	**Pn**	**01 33 07.7**	**+0.4**
DRGR		**3.72**	**26**	⇑*i*P	**Pn**	**01 33 06.4**	**-1.0**
DRGR		**3.72**	**26**	⇓*i*P	**Pn**	**01 33 06.8**	**-0.6**
DRGR		**3.72**	**26**	P	**Pn**	**01 33 06.8**	**-0.6**
DRGR		**3.72**	**26**	P	**Pn**	**01 33 06.8**	**-0.6**
LIT	**Litokhoron**	**3.75**	**154**	*e*Pn	**Pn**	**01 33 08.0**	**+0.2**
LIT	**Litokhoron**	**3.75**	**154**	*e*Pn	**Pn**	**01 33 07.9**	**+0.1**
SG1	**Sgolgore (BA)**	**3.78**	**227**	*e*Pn	**Pn**	**01 33 07.9**	**-0.3**
KEK	**Kerkira**	**3.79**	**186**	*e*P	**Pb**	**01 33 14.6**	**-1.9**
PLG	**Polygyros**	**3.88**	**142**	*e*P	**Pn**	**01 33 09.6**	**-0.1**
VOIR		**3.91**	**58**	⇓*i*P	**Pn**	**01 33 10.6**	**+0.6**
VOIR		**3.91**	**58**	⇓P	**Pn**	**01 33 10.6**	**+0.5**
RGNG	**Rignano Grg**	**3.93**	**244**	Pn	**Pn**	**01 33 10.8**	**+0.5**
IGT	**Igoumenitsa**	**3.95**	**180**	*e*Pn	**Pn**	**01 33 11.0**	**+0.5**
SZH	**Strazhica**	**4.10**	**91**	*e*P	**Pn**	**01 33 13.8**	**+1.2**
BUD	**Budapest**	**4.10**	**348**	⇑*i*P	**Pn**	**01 33 12.2**	**-0.5**
BUD				*e*S	**Sn**	**01 34 02.3**	**+1.0**
	comp=E,1.7nm,0.2s						
PKSG		**4.14**	**342**	⇓*e*P	**Pn**	**01 33 12.6**	**-0.5**
PKSG				*e*S	**Sn**	**01 34 02.0**	**-0.1**
	comp=E,1.3nm,0.4s						
BOJS	**Bojanci**	**4.15**	**301**	*e*Pn	**Pn**	**01 33 13.4**	**+0.1**
FG2	**Serracapriola**	**4.16**	**248**	Pn	**Pn**	**01 33 14.4**	**+1.0**
KDZ	**Kurdzhali**	**4.19**	**114**	*e*P	**Pg**	**01 33 25.3**	**-3.9**
FG4	**Candela**	**4.26**	**238**	Pn	**Pn**	**01 33 15.5**	**+0.6**
FG5	**Orsara di Pugl**	**4.34**	**241**	Pn	**Pn**	**01 33 16.6**	**+0.7**
DOBS	**Dobrina**	**4.36**	**309**	*i* Pn	**Pn**	**01 33 16.2**	**0.0**
PENC	**Penc**	**4.37**	**351**	⇓*i*P	**Pn**	**01 33 16.0**	**-0.3**
CIGN	**Sant'Elia a Pi**	**4.39**	**247**	Pn	**Pn**	**01 33 17.6**	**+0.9**
PSZ	**Piszkesteto**	**4.45**	**356**	⇓*i*Pn	**Pn**	**01 33 19.3**	**+1.9**
PSZ				*e*		01 34 05.1	
PSZ	**Piszkesteto**	**4.45**	**356**	⇓*i*P	**Pn**	**01 33 16.6**	**-0.8**
PSZ	**Piszkesteto**	**4.45**	**356**	P	**Pn**	**01 33 16.6**	**-0.7**
PSZ	**Piszkesteto**	**4.45**	**356**	P	**Pn**	**01 33 16.6**	**-0.8**
PSZ				*e*Sn	**Sn**	**01 34 05.1**	**-4.6**
SRO2	**Moca**	**4.49**	**343**	*e*PN	**Pn**	**01 33 17.9**	**-0.1**
SRO2				*e*SN	**Sn**	**01 34 10.9**	**+0.1**
MLR	**Muntele Rosu**	**4.50**	**62**	⇓*i*P	**Pn**	**01 33 21.6**	**+3.5**
MLR	**Muntele Rosu**	**4.50**	**62**	⇓P	**Pn**	**01 33 21.6**	**+3.5**
RDO	**Rodhopi**	**4.52**	**119**	*e*P	**Pn**	**01 33 18.2**	**-0.2**
SRO1	**Iza**	**4.52**	**342**	*e*PN	**Pn**	**01 33 18.8**	**+0.4**
SRO1				*e*SN	**Sn**	**01 34 10.5**	**-1.1**
SLCN	**Sala Consilina**	**4.66**	**230**	Pn	**Pn**	**01 33 20.6**	**+0.2**
AGG	**Agios Georgios**	**4.71**	**161**	*e*Pn	**Pn**	**01 33 21.2**	**+0.3**
JMB	**Yambol**	**4.71**	**100**	*e*Pn	**Pn**	**01 33 20.8**	**-0.2**
KNDS	**Knezji Dol**	**4.71**	**298**	*i* Pn	**Pn**	**01 33 22.1**	**+1.0**
KNDS				*e*Sn	**Sn**	**01 34 15.7**	**-0.6**
SGO	**Sicignano**	**4.74**	**234**	Pn	**Pn**	**01 33 21.2**	**-0.2**
CUC	**Castrocucco**	**4.85**	**226**	Pn	**Pn**	**01 33 25.3**	**+2.4**
LJU	**Ljubljana**	**4.85**	**304**	*e*Pn	**Pn**	**01 33 23.2**	**+0.2**
MGR	**Morigerati**	**4.88**	**228**	Pn	**Pn**	**01 33 23.2**	**-0.2**
RNI2	**Rionero Sannit**	**4.88**	**251**	Pn	**Pn**	**01 33 24.5**	**+1.1**
INTR	**Introdacqua**	**4.95**	**255**	Pn	**Pn**	**01 33 24.1**	**-0.1**
TERO	**Teramo**	**4.99**	**262**	Pn	**Pn**	**01 33 25.5**	**+0.6**
ARSA	**Arzberg**	**5.06**	**320**	⇑*i*Sn	**Sn**	**01 34 20.3**	**-4.6**
ARSA	**Arzberg**	**5.06**	**320**	*i* Pn	**Pn**	**01 33 25.5**	**-0.3**
	SNR=20						
ARSA				⇑*i*Sn	**Sn**	**01 34 22.3**	**-2.5**
ARSA	**Arzberg**	**5.06**	**320**	*i* Pn	**Pn**	**01 33 25.5**	**-0.3**
ARSA				*i* Sn	**Sn**	**01 34 20.2**	**-4.6**
ARSA	**Arzberg**	**5.06**	**320**	*i* Pn	**Pn**	**01 33 25.5**	**-0.3**
ARSA				*i* Sn	**Sn**	**01 34 20.2**	**-4.7**
OBKA	**Obir**	**5.09**	**308**	⇓*i*Sn	**Sn**	**01 34 22.7**	**-2.9**
OBKA	**Obir**	**5.09**	**308**	*i* Pn	**Pn**	**01 33 26.6**	**+0.4**
	SNR=13						
OBKA				⇑*i*Sn	**Sn**	**01 34 23.6**	**-2.0**
OBKA	**Obir**	**5.09**	**308**	*i* Pn	**Pn**	**01 33 26.6**	**+0.4**
OBKA				*i* Sn	**Sn**	**01 34 22.7**	**-2.9**
OBKA	**Obir**	**5.09**	**308**	*i* Pn	**Pn**	**01 33 26.5**	**+0.3**
OBKA				*i* Sn	**Sn**	**01 34 22.7**	**-2.8**
PLOR	**Plostina**	**5.10**	**60**	⇑*i*P	**Pn**	**01 33 26.4**	**0.0**
VYHS	**Vyhne**	**5.12**	**349**	*e*PN	**Pn**	**01 33 26.3**	**-0.3**
VYHS				*e*SN	**Sn**	**01 34 25.4**	**-0.9**
SDI	**San Donato**	**5.12**	**252**	Pn	**Pn**	**01 33 27.3**	**+0.7**
VRI	**Vrincioaia**	**5.16**	**60**	⇓*i*P	**Pn**	**01 33 28.9**	**+1.8**
VRI	**Vrincioaia**	**5.16**	**60**	⇓P	**Pn**	**01 33 28.9**	**+1.8**
RFI	**Roccamonfina**	**5.17**	**247**	Pn	**Pn**	**01 33 28.7**	**+1.4**
PRD	**Provadia**	**5.17**	**91**	*e*P	**Pn**	**01 33 27.3**	**-0.1**
CING	**Cingoli**	**5.19**	**271**	Pn	**Pn**	**01 33 27.8**	**+0.2**
	comp=E,24nm,0.6s						
AQU	**L'Aquila**	**5.20**	**260**	⇓*i*P	**Pn**	**01 33 27.4**	**-0.4**
AQU	**L'Aquila**	**5.20**	**260**	⇓P	**Pn**	**01 33 27.4**	**-0.3**
AQU				Pn	**Pn**	**01 33 28.6**	**+0.8**
AQU	**L'Aquila**	**5.20**	**260**	Pn	**Pn**	**01 33 28.6**	**+0.8**
ZST	**Bratislava**	**5.22**	**336**	*e*PN	**Pn**	**01 33 28.0**	**0.0**
VOY	**Vojsko**	**5.24**	**301**	*e*Pn	**Pn**	**01 33 29.7**	**+1.5**
VOY				*e*Sn	**Sn**	**01 34 26.7**	**-2.5**
NRCA	**Norcia**	**5.31**	**265**	Pn	**Pn**	**01 33 29.7**	**+0.5**
	comp=E,5.5nm,0.2s						
ARV	**Arcevia**	**5.37**	**273**	Pn	**Pn**	**01 33 30.1**	**+0.1**
	comp=E,3.7nm,0.2s						
BURAR	**Bucovina Array**	**5.38**	**38**	⇓*i*P	**Pn**	**01 33 30.6**	**+0.4**
BURAR	**Bucovina Array**	**5.38**	**38**	⇓P	**Pn**	**01 33 30.6**	**+0.4**
SNTG	**Esanatoglia**	**5.38**	**270**	Pn	**Pn**	**01 33 30.3**	**+0.1**
	comp=E,5.5nm,0.2s						
SMOL	**Smolenice**	**5.42**	**339**	*e*PN	**Pn**	**01 33 30.8**	**0.0**
SMOL				*e*SN	**Sn**	**01 34 30.8**	**-2.9**
FIAM	**Fiamignano**	**5.43**	**260**	Pn	**Pn**	**01 33 32.0**	**+1.1**
	comp=E,28nm,0.6s						
CONA	**Conrad Observa**	**5.43**	**327**	⇓*i*Pn	**Pn**	**01 33 30.2**	**-0.7**
	SNR=6.6						
CONA				⇓*i*Sn	**Sn**	**01 34 33.4**	**-0.6**
CRVS	**Cervenica-Dubn**	**5.48**	**8**	*e*PN	**Pn**	**01 33 31.5**	**-0.1**
CERT	**Cerreto**	**5.62**	**257**	Pn	**Pn**	**01 33 34.6**	**+1.1**
	comp=E,16nm,0.4s						
STHS	**Stebnicka Huta**	**5.97**	**6**	*e*PN	**Pn**	**01 33 38.9**	**+0.6**
MOA	**Molln**	**6.09**	**318**	⇓*i*Sn	**Sn**	**01 34 45.5**	**-4.7**
MOA	**Molln**	**6.09**	**318**	⇑*i*Pn	**Pn**	**01 33 40.3**	**+0.4**
	SNR=10						
MOA				⇓*i*Sn	**Sn**	**01 34 48.8**	**-1.4**
MOA	**Molln**	**6.09**	**318**	⇑*i*Pn	**Pn**	**01 33 40.3**	**+0.4**
MOA				*i* Sn	**Sn**	**01 34 45.5**	**-4.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WTTA	**Wattenberg**	**7.19**	**305**	⇑*i*Sn	**Sn**	**01 35 14.5**	**-2.8**
WTTA	**Wattenberg**	**7.19**	**305**	⇑*i*Pn	**Pn**	**01 33 56.2**	**+1.2**
WTTA				⇑*i*Sn	**Sn**	**01 35 18.5**	**+1.3**
WTTA	**Wattenberg**	**7.19**	**305**	⇑*i*Pn	**Pn**	**01 33 56.2**	**+1.2**
WTTA				*i* Sn	**Sn**	**01 35 14.5**	**-2.8**
KHC	**Kasperske Hory**	**7.33**	**323**	*e*PN	**Pn**	**01 33 57.7**	**+0.8**
KHC				*e*SN	**Sn**	**01 35 17.7**	**-3.0**
DPC	**Dobruska-Polom**	**7.39**	**340**	*e*PN	**Pn**	**01 33 58.4**	**+0.5**
TOS	**Tosya**	**10.45**	**99**	*e*P	**Pn**	**01 34 48.6**	**+8.8**
KAMT	**Kaman**	**10.87**	**108**	*i* P	**Pn**	**01 34 54.1**	**+8.6**
CORM	**Corum**	**11.18**	**102**	*e*P	**Pn**	**01 34 51.1**	**+1.3**

IDC 06 01:38:35.5±2.0**,1487S×6673E,h0**^{km}**,mb3.7**/5**,mb1 3.7**/5**, mb1mx3.5**/19**,mbtmp3.7**/5**,MS3.4**/3**,Ms1 3.4**/3**, ms1mx3.1**/18**,Error ellipse: s-maj=77.6km s-min=34.5km az=43.0,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**32.16**	**292**	LR	LR	01 56 37.2	
	comp=Z,37nm,18.3s,baz=277,slow=34						
BOSA	**Boshof**	**40.67**	**243**	LR	LR	02 00 22.2	
	comp=Z,58nm,19.1s,baz=275,slow=32						
MAW	**Mawson**	**52.76**	**182**	LR	LR	02 04 41.5	
	comp=Z,65nm,19.7s,baz=248,slow=30						
BRTR	**Keskin Array B**	**62.45**	**332**	P	P	01 49 01.2	+0.7
	0.6nm,0.7s,baz=159,slow=8.6,SNR=3.2						
MKAR	**Makanchi Array**	**62.95**	**12**	P	P	01 49 03.3	-0.5
	0.4nm,0.5s,baz=206,slow=8.0,SNR=4.9						
ASAR	**Alice Springs**	**63.53**	**109**	P	P	01 49 08.4	+0.7
	0.2nm,0.3s,baz=280,slow=5.5,SNR=4.3						
SONM	**Songino Array**	**71.75**	**27**	P	P	01 50 00.3	+0.7
	0.4nm,0.6s,baz=214,slow=5.8,SNR=4.2						
AKASG	**Malin Array Be**	**73.08**	**336**	P	P	01 50 07.5	-0.1
	0.2nm,0.3s,baz=147,slow=5.5,SNR=5.0						
PDAR	**Pinedale Array**	**152.01**	**354**	PKPbc	PKPbc	01 58 32.9	+0.2
	1.4nm,0.7s,baz=67,slow=2.6,SNR=16						

*MDD **06** 02:06:26.9±2.0,3650N×965W, h0^{km}, mbLg2.2/6, Error ellipse: s-maj=17.6km s-min=14.9km az=75.0, PRXIMO*
*ISCJB **06** 02:06:27.7±1.6,3657N±008×948W±009, h10^{km}, Error ellipse: s-maj=12.3km s-min=9.0km az=80.5*
*INMG **06** 02:06:27.9±0.8,3646N×971W, h10^{km}, ML1.5, Error ellipse: s-maj=5.4km s-min=3.9km az=72.0*
ISC 06 02:06:27.7±1.5**,3653N**±007×**956W**±009**,h10**^{km}**,n11, σ0**^{s}**60**/21**,West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.22**	**33**	*e*P	**Pn**	**02 06 51.0**	**+0.3**
PTEO				*e*S	**Sb**	**02 07 08.1**	**+1.6**
PTEO							
	8.2nm,0.3s						
EGRO	**El Granado**	**1.94**	**58**	P	**Pn**	**02 07 01.1**	**+0.5**
	0.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**02 07 25.8**	**+0.7**
	6.3nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**2.01**	**41**	*e*Pn	**Pn**	**02 07 01.9**	**+0.2**
PBEJ				*e*Sn	**Sn**	**02 07 27.6**	**+0.7**
PBEJ							
	2.0nm,0.1s						
EMIN	**Mina Concepcio**	**2.62**	**61**	P	**Pn**	**02 07 10.1**	**+0.1**
	0.1nm,0.1s,SNR=8.3						
EMIN				S	**Sn**	**02 07 41.6**	**-0.1**
	1.6nm,0.2s,SNR=5.0						
ESPR	**Espera**	**2.99**	**82**	P	**Pn**	**02 07 15.4**	**+0.3**
	0.3nm,0.1s,SNR=6.0						
ESPR				S	**Sn**	**02 07 50.9**	**-0.2**
	12nm,0.3s,SNR=5.0						
EBAD	**Badajoz**	**3.00**	**41**	P	**Pn**	**02 07 15.1**	**-0.2**
	0.6nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**02 07 51.5**	**+0.1**
	1.5nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**3.21**	**16**	*e*Pn	**Pn**	**02 07 17.8**	**-0.4**
PTOM				*e*Sn	**Sn**	**02 07 56.0**	**-0.6**
PCBR	**Castelo Branco**	**3.69**	**26**	*e*Pn	**Pn**	**02 07 24.5**	**-0.3**
PCBR				*e*Sn	**Sn**	**02 08 07.2**	**-1.1**
EADA	**Adamuz**	**4.29**	**66**	P	**Pn**	**02 07 33.5**	**+0.5**
	0.1nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**02 08 22.2**	**-0.9**
	1.1nm,0.1s,SNR=7.9						
EQES	**Quesada**	**5.33**	**74**	S	**Sn**	**02 08 48.3**	**-0.5**
	0.8nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.41**	**53**	P	**Pn**	**02 07 48.7**	**+0.2**
	1.0nm,0.1s,baz=238,slow=13,SNR=5.6						
ESDC				S	**Sn**	**02 08 50.2**	**-0.7**
	0.6nm,0.1s,baz=240,slow=24,SNR=7.9						

IDC 06 02:35:37.8±16.0**,2401S×17974E,h602**^{km}±151^{km}**, mb3.1**/6**,mb1 3.2**/6**,mb1mx3.1**/13**,mbtmp4.1**/6**,Error ellipse: s-maj=175.3km s-min=44.1km az=48.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.23**	**271**	P	P	02 41 10.3	+0.5
	3.6nm,0.3s,baz=102,slow=12,SNR=10.0						
STKA	**Stephens Creek**	**34.46**	**248**	P	P	02 41 37.0	+0.1
	1.0nm,0.4s,baz=76,slow=8.3,SNR=3.6						
ASAR	**Alice Springs**	**41.78**	**261**	P	P	02 42 36.4	+0.4
	1.0nm,0.3s,baz=94,slow=7.1,SNR=13						
WRA	**Warramunga Arr**	**42.16**	**266**	P	P	02 42 38.7	-0.2
	2.0nm,0.5s,baz=97,slow=8.5,SNR=7.0						
VNDA	**Vanda**	**54.25**	**185**	P	P	02 44 07.7	-0.8
	0.2nm,0.3s,baz=356,slow=5.6,SNR=2.3						
MAW	**Mawson**	**77.56**	**200**	P	P	02 46 32.5	-0.3
	1.4nm,0.6s,baz=138,slow=10,SNR=4.4						
TORD	**Torodi Ar. Bea**	**169.04**	**190**	PKPab	PKPab	02 55 52.9	+0.2
	1.1nm,1.1s,baz=193,slow=3.2,SNR=4.8						

IDC 06 02:55:28.6±2.0**,399S×15100E,h0**^{km}**,mb3.6**/3**,mb1 3.9**/4**, mb1mx3.7**/13**,mbtmp3.7**/4**,ML2.6**/1**,MS3.5**/3**,Ms1 3.5**/3**, ms1mx3.1**/13**,Error ellipse: s-maj=138.5km s-min=25.1km az=123.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.59**	**215**	Pn	Pn	02 57 05.9	-0.9
	0.8nm,0.3s,baz=22,slow=16,SNR=2.5						
PMG				LR	LR	02 59 15.9	
	comp=Z,113nm,18.4s,baz=12,slow=34						
WRA	**Warramunga Arr**	**22.70**	**224**	P	P	03 00 32.2	+0.5
	1.4nm,0.8s,baz=48,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**25.59**	**219**	P	P	03 00 59.5	0.0
	1.3nm,0.9s,baz=53,slow=8.9,SNR=7.6						
STKA	**Stephens Creek**	**29.11**	**197**	LR	LR	03 11 16.4	
	comp=Z,172nm,21.9s,baz=206,slow=33						
MJAR	**Matsushiro Arr**	**42.05**	**345**	LR	LR	03 17 13.2	
	comp=Z,86nm,19.2s,baz=120,slow=31						
ILAR	**Eielson Array**	**82.10**	**22**	P	P	03 07 49.6	-1.3
	0.4nm,0.6s,baz=246,slow=6.8,SNR=7.3						
TORD	**Torodi Ar. Bea**	**148.35**	**289**	PKPbc	PKPbc	03 15 19.2	+2.4
	0.8nm,0.8s,baz=87,slow=1.7,SNR=8.3						

IDC 06 03:00:07.5±18.0**,2678S×17847W,h450**^{km}±186^{km}**, mb3.2**/5**,mb1 3.4**/5**,mb1mx3.2**/13**,mbtmp4.1**/5**,Error ellipse: s-maj=95.9km s-min=23.5km az=55.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.01**	**263**	P	P	03 07 26.1	+0.3
	1.3nm,0.5s,baz=95,slow=7.1,SNR=25						
WRA	**Warramunga Arr**	**43.66**	**269**	P	P	03 07 30.8	0.0
	2.6nm,0.8s,baz=105,slow=7.6,SNR=7.7						
VNDA	**Vanda**	**51.65**	**185**	P	P	03 08 30.6	-0.6
	0.8nm,0.5s,baz=1.3,slow=7.3,SNR=8.9						
FITZ	**Fitzroy Crossi**	**52.03**	**267**	P	P	03 08 34.2	+0.3
	3.4nm,0.8s,baz=143,slow=10,SNR=4.0						
MAW	**Mawson**	**75.55**	**200**	P	P	03 11 04.1	-0.7
	0.6nm,0.5s,baz=141,slow=6.5,SNR=3.8						
ARCES	**ARCESS Array B**	**134.97**	**348**	PKP	PKPdf	03 18 33.3	-1.2
	2.3nm,1.0s,baz=62,slow=2.1,SNR=3.5						
FINES	**FINESS Array B**	**141.60**	**341**	PKhKP		03 18 40.0	
	0.6nm,0.8s,baz=96,slow=6.7,SNR=4.0						
NB2	**NORSAR Subarra**	**145.12**	**352**	PKP	PKPdf	03 18 52.1	-0.6
	comp=Z,0.8nm,0.5s,baz=7.3,slow=3.8						
NOA	**NORSAR Array B**	**145.12**	**352**	PKPbc	PKPbc	03 18 51.8	-1.6
	comp=Z,1.9nm,0.9s,baz=14,slow=2.5,SNR=8.4						
AKASG	**Malin Array Be**	**148.12**	**326**	PKPbc	PKPbc	03 19 01.2	-0.4
	comp=Z,0.7nm,0.4s,baz=40,slow=3.6,SNR=5.7						

IDC 06 03:57:13.8±3.3**,407S×15231E,h0**^{km}**,mb3.7**/3**,mb1 3.9**/3**, mb1mx3.8**/14**,mbtmp3.7**/3**,Error ellipse: s-maj=136.3km s-min=44.4km az=122.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.57**	**227**	P	P	04 02 26.4	+0.2
	1.3nm,0.4s,baz=52,slow=10.0,SNR=8.3						
ASAR	**Alice Springs**	**26.37**	**221**	P	P	04 02 52.3	+0.6
	0.3nm,0.4s,baz=55,slow=8.8,SNR=3.4						
FITZ	**Fitzroy Crossi**	**29.59**	**240**	P	P	04 03 21.1	+0.7
	1.4nm,0.8s,baz=45,slow=14,SNR=3.7						
TORD	**Torodi Ar. Bea**	**149.62**	**289**	PKPbc	PKPbc	04 17 05.6	+0.4
	0.4nm,0.3s,baz=82,slow=2.2,SNR=16						

*BGS **06** 03:57:41.8,3808N×7320E, h24^{km}, mb5.3*
*IDC **06** 03:57:49.1±0.4,3908N×7180E, h0^{km}, mb5.3/25, mb1 5.4/29, mb1mx5.4/29, mbtmp5.3/29, ML5.1/4, MS5.5/29, Ms1 5.5/29, ms1mx5.4/33, Error ellipse: s-maj=10.6km s-min=10.0km az=121.0*
*NEIC **06** 03:57:50.7±0.1,39.12N×7184E, h7^{km}, mb5.7/221, ME5.8, MS5.7/124, MW5.7, Error ellipse: s-maj=3.5km s-min=2.0km az=8.0, Moment Tensor Solution. s33 Moment tensor: Scale 10^{17}Nm; M_{rr}1.33; $M_{\theta\theta}$-3.75; $M_{\phi\phi}$2.41; $M_{r\theta}$0.09; $M_{\theta\phi}$-3.77; $M_{\phi r}$0.50; Best double couple: $M_0$4.90000×10^{17} NP1:ϕ_s20.00000°,δ86.00000°, λ7.00000°. NP2:ϕ_s289.00000°,δ83.00000°,λ176.00000°. Principal axes: T 4.2600, Plg8.0000°, Azm245.0000°; N 1.2900, Plg82.0000°, Azm47.0000°; P -5.5500, Plg2.0000°, Azm155.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s33.00000°,δ56.00000°,λ37.00000°. NP2: ϕ_s280.00000°,δ60.00000°,λ140.00000°. Principal axes: T Plg48.0000°, Azm245.0000°; N Plg0.0000°, Azm0.0000°; P Plg2.0000°, Azm337.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Dushanbe. Also felt at Tashkent, Uzbekistan.
*BJI **06** 03:57:51.4,3921N×7173E, h27^{km}, mB6.0, mb5.4, ML6.0, Ms6.1, Msz5.8*
*MOS **06** 03:57:51.1±0.9,39.13N×7181E, h20^{km}, mb5.8/133, MS5.6/64, Error ellipse: s-maj=5.3km s-min=2.7km az=42.7*
*ISCJB **06** 03:57:51.6±0.1,3902N±001×7177E±001, h24^{km}, mb5.6/321, MS5.7/184, Error ellipse: s-maj=2.1km s-min=1.5km az=40.7*
*NNC **06** 03:57:53.4±2.1,3944N×7158E, h0^{km}, mb6.0, mpv6.3, Error ellipse: s-maj=18.2km s-min=12.3km az=3.0*
*HRVD **06** 03:57:53.5±0.1,3922N×7170E, h13^{km}, MW5.8/105, Centroid moment Tensor Solution. LP body waves: s95,c193;Mantle waves: s105,c298; Half duration: 1^{s}9 Moment tensor: Scale 10^{17}Nm; M_{rr}3.37±.07; $M_{\theta\theta}$-5.24±.06; $M_{\phi\phi}$1.87±.06; $M_{r\theta}$-0.12±.14; $M_{\theta\phi}$-3.65±.05; $M_{\phi r}$1.01±.17; Best double couple: $M_0$5.58000×10^{17} NP1:ϕ_s283.00000°,δ59.00000°,λ146.00000°. NP2: ϕ_s32.00000°,δ62.00000°,λ36.00000°. Principal axes: T 4.3720, Plg45.0000°, Azm249.0000°; N 2.4160, Plg45.0000°, Azm65.0000°; P -6.7880, Plg2.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*CRAAG **06** 03:57:54.1,3918N×7173E, Mb5.7*
*SZGRF **06** 03:57:57.9,3980N×7156E, h33^{km}, mb5.5, MS5.4, Tajikistan*
ISC 06 03:57:53.6±0.1**,3909N**±001×**7180E**±001**,h25**^{km}**, h25**^{km}±1.1^{km}**:pP-P,n1444,σ0**^{s}**98**/1422**,mb5.6**/319**, MS5.7**/184**,334C-145D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.27**	**81**	⇑P	**Pn**	**03 58 45.8**	**+2.7**
KSH				*e*S	**Sn**	**03 59 28.3**	**+7.1**
KSH				LR	LR		
	comp=Z,216μm,8.3s						
AML	**Almayashu**	**3.36**	**25**	P	**Pn**	**03 58 46.0**	**+1.5**
	SNR=352						
UCH	**Uchtor**	**3.75**	**32**	P	**Pn**	**03 58 51.8**	**+2.0**
	SNR=529						
EKS2	**Erkin-Say**	**3.87**	**22**	P	**Pn**	**03 58 53.0**	**+1.6**
	SNR=3138						
KZA	**Kyzart**	**3.98**	**40**	P	**Pn**	**03 58 54.8**	**+1.8**
	SNR=1582						
AAK	**Ala-Archa**	**4.09**	**29**	P	**Pn**	**03 58 56.4**	**+1.9**
	SNR=2125						
AAK	**Ala-Archa**	**4.09**	**29**	Pn	**Pn**	**03 58 55.6**	**+1.2**
	comp=Z,28μm,0.4s						
AAK	**Ala-Archa**	**4.09**	**29**	P	**Pn**	**03 58 55.5**	**+1.0**
	SNR=2572						
AAK	**Ala-Archa**	**4.09**	**29**	*e*Pn	**Pn**	**03 58 55.3**	**+0.9**
AAK				*e*Sn	**Sn**	**03 59 39.1**	**-2.4**
KK31	**Karatay Array**	**4.13**	**347**	⇑Pn	**Pn**	**03 58 55.8**	**+0.8**
	comp=Z,6μm,0.7s,baz=180,slow=13						
KK31				⇑Sn	**Sn**	**03 59 47.1**	**+4.7**
	comp=Z,4μm,0.6s,baz=174,slow=24,SNR=5.7						
KBK	**Karagaybulak**	**4.29**	**33**	P	**Pn**	**03 58 59.7**	**+2.5**
	SNR=1926						
FRU	**Bishkek**	**4.30**	**29**κ	*i*PN	**Pn**	**03 58 59.0**	**+1.6**
FRU				*i*		03 59 52.0	
FRU				pmax	pmax		
	comp=Z,21μm,4.0s						
FRU				smax			
	comp=E,205μm,3.0s						
CHMS	**Chumysh**	**4.50**	**29**	P	**Pn**	**03 59 02.0**	**+1.9**
	SNR=3485						
ULHL	**Ulahol**	**4.62**	**46**	P	**Pn**	**03 59 03.2**	**+1.4**
	SNR=203						
USP	**Ospenovka**	**4.64**	**25**	P	**Pn**	**03 59 03.5**	**+1.4**
	SNR=787						
TKM2	**Tokmak 2**	**4.79**	**36**	P	**Pn**	**03 59 05.9**	**+1.9**
	SNR=2928						
TKM2	**Tokmak 2**	**4.79**	**36**	⇑Pn	**Pn**	**03 59 06.5**	**+2.4**
	comp=E,3μm,0.7s						
TKM2				⇑Sn	**Sn**	**03 59 53.4**	**-5.2**
TKM2				⇑Lg		04 00 12.9	
	comp=E,8μm,1.4s						
CEP	**Cherat**	**5.25**	**179**	⇑P	**Pn**	**03 59 15.2**	**+4.7**
CHCP	**Chirah Chowk**	**5.55**	**167**	⇓P	**Pn**	**03 59 19.3**	**+4.8**
NIL	**Nilore**	**5.55**	**167**	Pn	**Pn**	**03 59 20.0**	**+5.4**
	comp=E,9μm,0.7s						
KNDC	**Almaty**	**5.67**	**42**	⇑Pn	**Pn**	**03 59 20.6**	**+4.4**
KNDC				⇑Pg	**Pb**	**03 59 35.1**	**+3.3**
KNDC				⇑Lg		04 00 48.3	
AAA	**Alma-Ata**	**5.70**	**41**	*i* PN	**Pb**	**03 59 33.0**	**+0.7**
DLH	**Dalhousie**	**7.36**	**151**	*e*P	**Pn**	**03 59 41.0**	**+1.7**
DRP	**Derazinda**	**7.44**	**191**	P	**Pn**	**03 59 43.6**	**+3.1**
PONG	**Pong**	**7.88**	**153**	*e*P	**Pn**	**03 59 47.0**	**+0.5**
PONG				*e*x	**Sn**	**04 01 21.0**	**+6.1**
BHK	**Bhakra**	**8.53**	**152**	*e*P	**Pn**	**04 00 04.4**	**+8.9**
BHK				*e*S	**Sn**	**04 01 40.2**	**+9.3**
SDNR	**Sundarnagar**	**8.67**	**149**	*e*P	**Pn**	**03 59 59.0**	**+1.7**
SMLA	**Simla**	**9.07**	**149**	*e*P	**Pn**	**04 00 04.5**	**+1.6**
SMLA				AMb	AMB	04 00 13.8	
	comp=Z,1μm,1.1s						
SMLA				*e*S	**Sn**	**04 01 37.6**	**-6.6**
KLP	**Kalpa**	**9.19**	**143**	*e*P	**Pn**	**04 00 05.2**	**+0.6**
KLP				*e*S	**Sn**	**04 01 41.2**	**-5.9**
KKR	**Kurukshetra**	**10.00**	**154**	*e*P	**Pn**	**04 00 15.3**	**-0.3**
DDI	**Dehra Dun**	**10.14**	**148**	*e*P	**Pn**	**04 00 17.8**	**+0.2**
DDI				*e*x	**Sn**	**04 02 07.2**	**-3.3**
ASH	**Ashkhabad**	**10.60**	**268**	*e*P	**Pn**	**04 00 20.0**	**-3.9**
ASH				*i* S	**Sn**	**04 02 18.0**	**-3.7**
JOSI	**Joshimath**	**10.63**	**141**	*e*x	x	04 00 13.8	
JOSI				*e*S	**Sn**	**04 02 14.5**	**-7.9**
ABKT	**Ailbek**	**10.79**	**268**	Pn	**Pn**	**04 00 24.5**	**-1.9**
	comp=Z,3μm,0.6s,SNR=37						
VAN	**Vannovskaya**	**10.79**	**268**	P	**Pn**	**04 00 24.1**	**-2.3**
MK05	**Makanchi Array**	**10.87**	**42**	⇑Pn	**Pn**	**04 00 28.5**	**+0.9**
	comp=Z,250nm,0.9s						
MK05				⇑Lg		04 03 29.9	
	comp=Z,3μm,1.6s						
MKAR	**Makanchi Array**	**10.87**	**42**	Pn	**Pn**	**04 00 28.1**	**+0.5**
	comp=Z,5.3nm,0.3s,baz=230,slow=13,SNR=94						
MKAR				Lg		04 03 32.1	
	comp=Z,18nm,0.3s,baz=229,slow=26,SNR=6.4						
NDI	**New Delhi**	**11.31**	**155**	*e*P	**Pn**	**04 00 33.8**	**+0.3**
NDI				*e*S	**Sn**	**04 02 32.1**	**-6.9**
AYAN	**Aya Nagar**	**11.46**	**156**	*e*P	**Pn**	**04 00 35.8**	**+0.1**
AYAN				AMb	AMB	04 00 39.2	
	comp=Z,477nm,0.9s						
AYAN				*e*x	**Sn**	**04 02 42.7**	**-0.2**
KHET	**Khetri**	**11.48**	**162**	*e*P	**Pn**	**04 00 35.9**	**0.0**
KHET				AMb	AMB	04 00 46.9	
	comp=Z,230nm,1.6s						
KHET				*e*x	**Sn**	**04 02 43.3**	**+0.1**
BISR	**Bishrakh**	**11.49**	**154**	*e*P	**Pn**	**04 00 35.4**	**-0.5**
BISR				AMb	AMB	04 00 42.2	
	comp=Z,13nm,1.2s						
SONA	**Sohna**	**11.67**	**156**	*e*P	**Pn**	**04 00 38.9**	**+0.5**
SONA				AMb	AMB	04 00 45.8	
	comp=Z,620nm,1.0s						
SONA				*e*S	**Sn**	**04 02 40.4**	**-7.5**
PTH	**Pithoragarh**	**11.78**	**141**	*e*P	**Pn**	**04 00 40.3**	**+0.4**
PTH				*e*x	**Sn**	**04 02 49.8**	**-0.8**
LGTI	**Lohaghat**	**11.88**	**142**	*i* P	**Pn**	**04 00 39.0**	**-2.3**
LGTI				*e*x	**Sn**	**04 02 49.8**	**-3.1**
JASL	**Jaisalmer**	**12.15**	**184**	*e*x	**Pn**	**04 00 48.8**	**+3.7**
KURK	**Kurchatov**	**12.58**	**20**	⇓Pn	**Pn**	**04 00 47.7**	**-3.2**
	comp=Z,314nm,1.5s						
KURK				⇑Lg		04 04 21.9	
	comp=Z,4μm,1.7s						
KURK	**Kurchatov**	**12.58**	**20**	Pn	**Pn**	**04 00 47.6**	**-3.3**
	comp=Z,2μm,0.9s,SNR=100						
KURK	**Kurchatov**	**12.58**	**20**	P	**Pn**	**04 00 47.8**	**-3.1**
	SNR=221						
KURK	**Kurchatov**	**12.58**	**20**	*e*P	**Pn**	**04 00 47.7**	**-3.2**
KURK				*e*		04 03 06.0	
KURK				pmax	pmax		
	comp=Z,750nm,1.3s						
KURK	**Kurchatov**	**12.58**	**20**	*e*Pn	**Pn**	**04 00 47.7**	**-3.2**
	comp=Z,752nm,1.4s						
KURK				*e*Sn	**Sn**	**04 03 06.0**	**-4.2**
AJM	**Ajmer**	**12.80**	**168**	*e*P	**Pn**	**04 00 53.6**	**-0.3**
AJM				AMb	AMB	04 00 57.2	
	comp=Z,349nm,0.7s						
AJM				*e*S	**Sn**	**04 03 05.8**	**-10**
WMQ	**Urumqi**	**12.82**	**63**	P	**Pn**	**04 00 56.6**	**+2.4**
WMQ				AP		04 01 02.1	
WMQ				XP		04 01 06.2	
WMQ				PP		04 01 07.1	
WMQ				S	**Sn**	**04 03 19.4**	**+3.3**
WMQ				XS		04 03 28.1	
WMQ				PCP	PcP	04 06 31.4	+2.6
WMQ				SCP	ScP	04 10 01.5	+1.2
WMQ				AMB	AMB		
	comp=Z,289nm,1.0s						
WMQ				AMB	AMB		
	comp=Z,2μm,4.4s						
WMQ				LR	LR		
	comp=N,67μm,10.0s						
WMQ				LR	LR		
	comp=E,40μm,8.4s						
WMQ				LR	LR		
	comp=Z,72μm,11.4s						
AGRA	**Agra**	**12.89**	**155**	*e*P	**Pn**	**04 00 55.4**	**+0.2**
AGRA				AMb	AMB	04 00 59.1	
	comp=Z,1μm,0.8s						
AGRA				*e*S	**Sn**	**04 03 07.6**	**-10**
AB31	**Akbulak array**	**13.24**	**324**	⇓Pn	**Pn**	**04 00 56.6**	**-3.3**
	comp=Z,168nm,0.5s						
AB31				⇓Sn	**Sn**	**04 03 19.6**	**-6.7**
	comp=Z,1μm,0.8s,baz=144,slow=23,SNR=5.7						
AB31	**Akbulak array**	**13.24**	**324**	*i* P	**Pn**	**04 00 56.6**	**-3.3**
VOSK	**Vostochnaya**	**13.65**	**358**	⇑Pn	**Pn**	**04 01 01.5**	**-4.0**
	comp=Z,270nm,1.1s						
VOSK				⇑Lg		04 04 53.2	
	comp=Z,10μm,2.7s						
BVA0	**Borovoye Array**	**13.97**	**356**	Pn	**Pn**	**04 01 06.2**	**-3.7**
	comp=Z,70nm,1.1s,baz=167,slow=10,SNR=829						
BVA0				⇑Lg		04 05 10.2	
	comp=Z,822nm,2.1s,baz=159,slow=28,SNR=3.7						
BVAR	**Borovoye Array**	**13.97**	**356**	Pn	**Pn**	**04 01 05.3**	**-4.6**
	comp=Z,12nm,0.3s,baz=163,slow=14,SNR=129						
BVAR				Sn	**Sn**	**04 03 38.0**	**-6.2**
	comp=Z,7.5nm,0.3s,baz=166,slow=24,SNR=2.3						
BVAR				Lg		04 05 10.3	
	comp=Z,9.9nm,0.3s,baz=157,slow=27,SNR=3.6						
BVAR				LR	LR	04 06 57.0	
	comp=Z,52μm,21.5s,baz=319,slow=39						
BVAR	**Borovoye Array**	**13.97**	**356**	P	**Pn**	**04 01 05.3**	**-4.6**
BVAR						04 03 38.0	
ZRNK	**Zerenda**	**14.00**	**353**	⇑Pn	**Pn**	**04 01 07.8**	**-2.4**
	comp=Z,222nm,0.7s						
ZRNK				⇓Lg		04 05 07.6	
	comp=Z,7μm,1.9s						
ZRNK	**Zerenda**	**14.00**	**353**	*e*P	**Pn**	**04 01 06.9**	**-3.4**
ZRNK				*e*		04 03 41.1	
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ZRNK	**Zerenda**	**14.00**	**353**	*e*Pn	**Pn**	**04 01 06.9**	**-3.4**
	comp=Z,7.9nm,0.5s						
ZRNK				*e*Sn	**Sn**	**04 03 41.1**	**-3.7**
BRVK	**Borovoye**	**14.01**	**356**	Pn	**Pn**	**04 01 06.2**	**-4.2**
	comp=Z,2μm,0.6s,SNR=75						
BRVK	**Borovoye**	**14.01**	**356**	P	**Pn**	**04 01 06.7**	**-3.8**
	SNR=271						
BRVK	**Borovoye**	**14.01**	**356**	*e*P	**Pn**	**04 01 06.6**	**-3.8**
BRVK				pmax	pmax		
	comp=Z,280nm,1.0s						
BRVK	**Borovoye**	**14.01**	**356**	*e*Pn	**Pn**	**04 01 06.6**	**-3.9**
	comp=Z,444nm,0.9s						
CHKZ	**Chkalovo**	**14.61**	**357**	⇑Pn	**Pn**	**04 01 14.3**	**-4.4**
	comp=Z,207nm,0.8s						
CHKZ				⇓Lg		04 05 28.9	
	comp=Z,4μm,1.4s						
CHKZ	**Chkalovo**	**14.61**	**357**	*e*P	**Pn**	**04 01 14.1**	**-4.6**
CHKZ				pmax	pmax		
	comp=Z,126nm,0.3s						
CHKZ	**Chkalovo**	**14.61**	**357**	*e*Pn	**Pn**	**04 01 14.1**	**-4.6**
	comp=Z,126nm,0.3s						
CHKZ				*e*S	**Sn**	**04 04 14.3**	**+14**
AKTK	**Aktyubinsk**	**14.96**	**324**	Pn	**Pn**	**04 01 19.2**	**-4.0**
AKTK				Sn	**Sn**	**04 04 04.6**	**-3.5**
AKTK				LR	LR	04 07 38.0	
AKTO	**Aktyubinsk**	**14.96**	**324**	⇓Pn	**Pn**	**04 01 20.1**	**-3.2**
	comp=Z,128nm,0.8s						
AKTO				⇑Sn	**Sn**	**04 04 05.1**	**-3.0**
	comp=Z,56nm,1.2s						
AKTO	**Aktyubinsk**	**14.96**	**324**	Pn	**Pn**	**04 01 19.2**	**-4.1**
	comp=Z,21nm,0.3s,baz=135,slow=14,SNR=196						
AKTO				Sn	**Sn**	**04 04 04.6**	**-3.5**
	comp=Z,24nm,0.3s,baz=359,slow=19,SNR=14						
AKTO				LR	LR	04 07 38.0	
	comp=Z,45μm,18.7s,baz=273,slow=39						
AKTO	**Aktyubinsk**	**14.96**	**324**	P	**Pn**	**04 01 19.2**	**-4.1**
AKTO						04 04 04.6	
KOLN	**Koldanda**	**14.96**	**135**	*e*P	**Pn**	**04 01 18.6**	**-4.8**
	comp=Z,563nm,0.9s						
KOLN				*e*S	**Sn**	**04 04 03.7**	**-4.6**
GKN	**Gorkha**	**15.37**	**132**	*e*P	**Pn**	**04 01 24.3**	**-4.4**
	comp=Z,632nm,0.4s						
GKN				*e*S	**Sn**	**04 04 12.5**	**-5.6**
KKN	**Kakani**	**15.90**	**131**	*e*P	**Pn**	**04 01 30.6**	**-5.0**
	comp=Z,672nm,0.5s						
KKN				*e*S	**Sn**	**04 04 26.3**	**-4.8**
DMN	**Daman**	**15.94**	**132**	*e*P	**Pn**	**04 01 31.0**	**-5.1**
	comp=Z,515nm,0.7s						
DMN				*e*S	**Sn**	**04 04 26.2**	**-5.8**
ALBI	**Allahabad**	**16.12**	**146**	*e*x	**Pn**	**04 01 32.5**	**-6.0**
PKI	**Pulchoki**	**16.14**	**131**	*e*P	**Pn**	**04 01 34.4**	**-4.3**
	comp=Z,633nm,0.6s						
PKI				*e*S	**Sn**	**04 04 31.8**	**-5.1**
GUN	**Gumba**	**16.17**	**129**	*e*P	**Pn**	**04 01 34.8**	**-4.3**
	comp=Z,772nm,0.8s						
GUN				*e*S	**Sn**	**04 04 33.2**	**-4.4**
BHPL	**Bhopal**	**16.51**	**162**	*e*P	**Pn**	**04 01 41.7**	**-1.6**
BHPL				AMb	AMB	04 01 47.4	
	comp=Z,280nm,1.0s						
BHPL				*e*x	x	04 04 32.8	
JIRN	**Jiri**	**16.54**	**129**	*e*P	**Pn**	**04 01 39.2**	**-4.6**
	comp=Z,508nm,0.6s						
JIRN				*e*S	**Sn**	**04 04 41.5**	**-5.1**
BHV	**Bhavnagar**	**17.29**	**179**	*e*P	**Pn**	**04 01 53.0**	**-0.1**
JBP	**Jabalpur**	**17.33**	**154**	⇓*i*P	**Pn**	**04 01 52.2**	**-1.5**
JBP				*e*x	x	04 02 14.9	
	comp=Z,606nm,1.8s						
JBP				*e*x	x	04 04 53.9	
NVS	**Novosibirsk**	**17.55**	**22**	*i* P	**Pn**	**04 01 55.9**	**-0.5**
NVS				*i* S	**Sn**	**04 05 13.3**	**+2.3**
NVS				pmax	pmax		
	comp=Z,425nm,0.9s						
NVS				pmax	pmax		
	comp=N,1μm,1.7s						

NVS pmax pmax
comp=E,127nm,1.0s
NVS smax
comp=N,2μm,2.2s
NVS smax
comp=E,1μm,2.4s
GTK Gangtok 18.28 125 *e*P **Pn 04 02 05.0 -0.4**
LSA Lhasa 18.48 115 P **Pn 04 02 08.5 +0.7**
LSA S **Sn 04 05 30.1 -3.5**
LSA LR LR
comp=N,15μm,11.3s
LSA LR LR
comp=E,18μm,11.3s
LSA LR LR
comp=Z,18μm,11.9s
LSA Lhasa 18.48 115 *e*P **Pn 04 02 08.6 +0.8**
LSA pmax pmax
comp=Z,198nm,1.0s
LSA Lhasa 18.48 115 *e*P **Pn 04 02 08.6 +0.7**
comp=Z,198nm,1.0s
MAK Makhachkala 18.72 290*c* *i*P **Pn 04 02 09.2 -1.5**
MAK *i* S **Sn 04 05 40.3 +1.0**
MAK pmax pmax
comp=Z,615nm,1.3s
MAK MLR MLR
comp=Z,27μm,13.0s
AKL Akola 18.87 165 *ex* **Pn 04 02 21.3 +8.8**
AKL *i* x x 04 02 21.4
AKL AMb AMB 04 02 35.1
comp=Z,420nm,1.8s
AKL *i* x **Sn 04 05 40.3 -2.6**
NGP Nagpur 18.93 159 *e*P **Pn 04 02 12.1 -1.2**
NGP *ex* x 04 02 25.5
comp=Z,355nm,1.4s
NGP *ex* **Sn 04 05 33.7 -11**
SVE Sverdlovsk 19.21 341⇓ *i*P **Pn 04 02 14.9 -1.8**
SVE *e*S **Sn 04 05 40.0 -11**
SVE pmax pmax
comp=N,4μm,5.0s
SVE pmax pmax
comp=E,4μm,5.0s
SVE pmax pmax
comp=Z,5μm,5.0s
SVE smax
comp=N,6μm,7.0s
SVE smax
comp=E,16μm,7.0s
WSAR Wadi Sarin 19.37 219 P **Pn 04 02 15.7 -2.9**
comp=E,5.5nm,0.3s,baz=22,slow=7.5,SNR=35
WSAR LR LR 04 11 34.1
comp=E,10μm,18.6s,baz=31,slow=43
BOK Bokaro 19.38 138 *e*P **Pn 04 02 16.9 -1.8**
BOK AMb AMB 04 02 22.9
comp=Z,340nm,0.9s
BOK *ex* x 04 05 38.2
BIDO Bidbid 19.39 221 P **Pn 04 02 18.5 -0.3**
SNR=9.0
ARU Arti 19.44 338 P **Pn 04 02 17.4 -2.0**
comp=E,2μm,0.5s,SNR=50
ARU Arti 19.44 338 *e*P **Pn 04 02 18.0 -1.4**
ARU *e*S **Sn 04 05 58.0 +1.3**
ARU MLR MLR
comp=Z,35μm,20.0s
ARU MLR MLR
comp=N,22μm,19.0s
ARU MLR MLR
comp=E,18μm,22.0s
ARU Arti 19.44 338 *e*P **Pn 04 02 17.7 -1.6**
comp=E,378nm,0.8s
ASHO Ashiyiah 19.58 227 P **Pn 04 02 22.0 +1.0**
SNR=29
WBK Wadi Bani Khal 19.74 217 P **Pn 04 02 22.5 -0.5**
SNR=16
HOQ Hoqain 19.76 223 P **Pn 04 02 22.9 -0.4**
SNR=17
SMDO Samad 19.81 220 P **Pn 04 02 22.6 -1.2**
SNR=23
BOM Bombay 20.14 177 *i* P **P 04 02 25.1 -0.7**
BOM *e*P 04 02 25.5
BOM *ex* x 04 02 29.6
comp=Z,291nm,1.6s
BOM *i* S **S 04 06 11.7 +1.0**
DGRG David-gareji 20.28 285 P **P 04 02 27.1 -0.2**
DGRG S **S 04 06 03.4 -10**
JMDO Jabal Madar 20.36 219 P **P 04 02 29.1 +1.0**
SNR=11
ARQ Araqi 20.38 224⇓ P **P 04 02 29.9 +1.6**
SNR=12
BSY Bisya 20.51 222 P **P 04 02 30.4 +0.6**
SNR=19
POO Poona 20.56 174⇑ *i*P **P 04 02 30.0 -0.3**
comp=Z,260nm,1.0s
POO *i* x x 04 02 51.0
POO *i* x x 04 03 02.0
POO *i* S **S 04 06 20.0 +0.9**
MTA Mtatsminda 20.71 286 P **P 04 02 31.6 -0.4**
MTA S **S 04 06 16.4 -5.5**
TBLG Delisi 20.75 286 P **P 04 02 32.9 +0.5**
TBLG S **S 04 06 18.9 -3.8**
TBLG Delisi 20.75 286 *e*P **P 04 02 32.8 +0.5**
TBLG *e*S **S 04 06 18.9 -3.8**
GNI Garni 20.85 282 P **P 04 02 35.0 +1.5**
GNI Garni 20.85 282 P **P 04 02 34.1 +0.6**
comp=Z,102nm,0.6s,baz=357,slow=2.3,SNR=38
GNI Garni 20.85 282 P **P 04 02 35.3 +1.8**
SNR=121
GNI Garni 20.85 282 *e*P **P 04 02 34.3 +0.9**
comp=Z,663nm,0.9s
GNI LR LR
comp=Z,7μm,20.0s,MS5.0
LATR Latur 21.01 167 *e*P **P 04 02 34.0 -1.2**
GOR Gori 21.21 287 P **P 04 02 38.4 +1.1**
ZEI Tsey 21.36 289 *e*P **P 04 02 37.1 -1.8**
ZEI *e*S **S 04 06 39.0 +4.2**
CLDR Caldiran 21.61 279 P **P 04 02 44.8 +3.2**
SHL Shillong 21.61 123 *ex* **P 04 02 49.1 +7.4**
GTA Gaotai 21.67 80⇑ *i*P **P 04 02 43.3 +1.1**
GTA AP 04 02 45.7
GTA PP 04 03 11.2
GTA PPP 04 03 20.8
GTA PCP PcP 04 06 40.4 -2.5
GTA S **S 04 06 44.2 +3.4**
GTA XS sS 04 06 50.3 -1.6
GTA SCP ScP 04 10 13.3 -5.1
GTA SCS ScS 04 13 59.0 -3.7
GTA AMB AMB
comp=Z,163nm,1.0s,mb5.4
GTA AMB AMB
comp=Z,4μm,5.3s
GTA LR LR
comp=N,28μm,14.1s,MS6.0
GTA LR LR
comp=E,26μm,14.1s,MS6.0
GTA LR LR
comp=Z,18μm,13.7s,MS5.6
ONI Oni 21.69 288 P **P 04 02 42.8 +0.3**
ONI S **S 04 06 47.4 +6.1**
AKH Akhalkalaki 21.69 285 P **P 04 02 44.1 +1.6**
AKH S **S 04 06 46.9 +5.6**
CAL Calcutta 21.70 135 *e*P **P 04 02 42.0 -0.7**
CAL AMP 04 02 47.6
comp=Z,826nm,0.3s
CAL *e*S **S 04 06 43.5 +2.0**
CAL *e*S **S 04 06 45.5 +4.0**
KAD Karad 21.80 174 *e*P **P 04 02 43.1 -0.6**
KAD AMb AMB 04 02 53.5
comp=Z,191nm,1.1s,mb5.4
KAD *ex* x 04 06 51.3
UMR Umm Al-Rimmam 22.00 252 *e*P **P 04 02 45.4 -0.3**
UMR AMb AMB 04 02 50.2
comp=Z,197nm,0.7s,mb5.7
KARS Kars 22.06 283 P **P 04 02 49.2 +2.8**
HAKT HAKKARI 22.06 275 *i* P **P 04 02 47.0 +0.5**
TVAN Van 22.10 278 *i* P **P 04 02 48.6 +1.7**
GOF Gofitskoye 22.10 295 *e*P **P 04 02 45.6 -1.3**
GOF pmax pmax
comp=Z,447nm,0.7s,mb6.0
MIB Mutribah 22.14 253 *e*P **P 04 02 47.3 -0.1**
MIB AMb AMB 04 02 55.7
comp=Z,485nm,0.9s,mb5.9
CUKT Cukurca 22.21 274 P **P 04 02 49.0 +1.0**
KIV Kislovodsk 22.27 292 P **P 04 02 47.4 -1.3**
comp=Z,1μm,0.6s,mb6.5,SNR=30
KIV Kislovodsk 22.27 292 P **P 04 02 47.9 -0.8**
SNR=72
KIV Kislovodsk 22.27 292 *e*P **P 04 02 47.7 -1.0**
KIV *e*S **S 04 06 50.0 -2.6**
KIV pmax pmax
comp=Z,1μm,3.7s
KIV pmax pmax
comp=Z,282nm,1.0s,mb5.7
KIV MLR MLR
comp=Z,13μm,15.0s,MS5.5
KIV Kislovodsk 22.27 292 *e*P **P 04 02 47.0 -1.7**
comp=Z,503nm,0.8s,mb6.0
KIV LR LR
comp=Z,10μm,21.0s,MS5.2
BWNR Bhubaneshwar 22.28 143 *e*P **P 04 02 48.0 -0.8**
BWNR *ex* x 04 06 47.0
QRN Al-Qurain 22.29 250 *e*P **P 04 02 47.9 -0.9**
QRN AMb AMB 04 02 53.0
comp=Z,125nm,1.1s,mb5.3
HYB Hyderabad 22.38 163 *i* P **P 04 02 51.0 +1.1**
HYB *e*S **S 04 06 52.0 -2.7**
HYB LR LR 04 11 28.0
comp=Z,54nm,16.0s
HYB Hyderabad 22.38 163 *e*P **P 04 02 49.5 -0.4**
HYB *e*S **S 04 06 52.0 -2.7**
RDF Al-Radifah 22.45 251 *e*P **P 04 02 49.4 -1.2**
RDF AMb AMB 04 02 56.1
comp=Z,101nm,0.9s,mb5.3
NAY Al-Naaiem 22.51 252 *e*P **P 04 02 50.6 -0.6**
NAY AMb AMB 04 03 01.6
comp=Z,259nm,0.9s,mb5.7
RST Umm Al-Ruwaisa 22.55 252 *e*P **P 04 02 50.4 -1.3**
RST AMb AMB 04 02 57.6
comp=Z,194nm,0.7s,mb5.7
SOKR Solikamsk 22.61 340*c* *i*P **P 04 02 52.2 -0.1**
SOKR pmax pmax
comp=Z,740nm,1.4s,mb5.9
BHD Baghdad 22.84 264 *ex* x 04 02 52.5
BHD *ex* x 04 03 41.5
BHD *ex* x 04 06 56.0
BHD *ex* x 04 10 48.5
BHD *ex* x 04 11 58.0
BHD *ex* x 04 14 04.0
MSL Mosul 22.85 272 *ex* x 04 02 53.0
MSL *i* x x 04 03 19.0
MSL *i* x x 04 03 34.0
MSL *ex* x 04 06 51.0
MSL *ex* x 04 07 05.0
MSL *ex* x 04 08 11.0
MSL *ex* x 04 11 04.0
MSL *ex* x 04 12 36.0
MSL *ex* x 04 14 18.0
BCA Borcka 23.09 286 P **P 04 02 58.0 +0.5**
ERZM Erzurum 23.45 282 *i* P **P 04 03 02.4 +1.3**
EZM Erzurum 23.45 282 P **P 04 03 03.8 +2.7**
VIS Vishakhapatnam 23.54 152 *e*P **P 04 03 00.3 -1.6**
VIS AMb AMB 04 03 15.2
comp=Z,365nm,1.4s,mb5.6
VIS *ex* x 04 07 20.4
BTMT Batman 23.65 277 P **P 04 03 03.0 0.0**
BNGL BINGOL 23.76 279 *i* P **P 04 03 04.0 0.0**
MOY Mondy 23.87 49 *e*P **P 04 03 05.1 +0.1**
MOY pmax pmax
comp=Z,1μm,2.2s,mb6.0
BEST Besiri 23.88 277 *i* P **P 04 03 05.7 +0.6**
VRHR Novokhopersk 24.27 310 *e*P **P 04 03 07.9 -0.8**
VRHR *e*S **S 04 07 26.5 +0.5**
VRHR pmax pmax
comp=Z,130nm,0.7s,mb5.5
VRHR pmax pmax
comp=N,180nm,1.5s
VRHR pmax pmax
comp=E,250nm,1.9s
VRHR smax
comp=E,740nm,2.0s
VRHR smax
comp=Z,300nm,1.5s
VRHR smax
comp=N,650nm,2.2s
VRHR MLR MLR
comp=Z,12μm,12.0s,MS5.6
VRHR MLR MLR
comp=N,4μm,10.0s,MS5.6
VRHR MLR MLR
comp=E,9μm,11.0s,MS5.6
BINT Bingol 24.29 279 *e*P **P 04 03 06.8 -2.0**
MARD Mardin 24.39 276 *i* P **P 04 03 10.5 +0.8**
SOC Sochi 24.42 291*c* *i*P **P 04 03 09.8 -0.2**
SOC *e* 04 03 41.9
SOC *e*PPP 04 03 52.7
SOC *e* 04 06 49.2
SOC *i* S **S 04 07 32.3 +3.9**
SOC *e*SSS 04 08 22.4
SOC pmax pmax
comp=Z,3μm,3.6s
SOC pmax pmax
comp=Z,225nm,1.3s,mb5.4
SOC MLR MLR
comp=Z,9μm,14.0s,MS5.4
EZC Erzincan 24.65 282 P **P 04 03 17.3 +5.2**
ZAK Zakamensk 24.86 53 *e*P **P 04 03 14.4 +0.3**
ZAK pmax pmax
comp=Z,145nm,1.5s,mb5.3
PECR Pechory 25.13 322⇓ *i*P **P 04 03 15.0 -1.5**
PECR *e*S **S 04 07 38.0 -1.9**
PECR *e*SS 04 08 34.0
PECR pmax pmax
comp=N,1μm,4.0s
PECR pmax pmax
comp=Z,3μm,4.0s
PECR smax
comp=N,10μm,11.0s
PECR MLR MLR
comp=Z,32μm,19.0s,MS5.9
PECR MLR MLR
comp=N,12μm,16.0s
TLY Talaya 25.44 50 P **P 04 03 20.0 +0.7**
comp=N,559nm,0.9s,mb6.1,SNR=51
LZH Lanzhou 25.50 87⇑ P **P 04 03 20.7 +0.9**
LZH AP pP 04 03 27.5 +0.3
LZH XP sP 04 03 30.6 +0.2
LZH PP 04 03 59.8
LZH S **S 04 07 44.2 -1.4**
LZH XS sS 04 07 54.7 -3.2
LZH SS 04 08 45.6
LZH SCP ScP 04 10 30.1 +1.4
LZH SCS ScS 04 14 17.2 -0.4
LZH AMB AMB
comp=Z,587nm,1.5s,mb5.9
LZH AMB AMB
comp=Z,2μm,5.9s
LZH LR LR
comp=N,18μm,9.8s
LZH LR LR
comp=Z,24μm,16.5s,MS5.8
ELZG Elazig 25.51 279 *i* P **P 04 03 21.5 +1.6**
GRSN GIRESUNGRSN 25.67 285 *i* P **P 04 03 21.4 +0.1**
VRSR Storozhevoye 25.77 309 *e*P **P 04 03 20.7 -1.6**
VRSR *e*S **S 04 07 47.5 -2.5**
VRSR pmax pmax
comp=N,70nm,0.9s
VRSR pmax pmax
comp=Z,180nm,0.9s,mb5.6
VRSR pmax pmax
comp=E,250nm,0.8s
VRSR smax
comp=N,1μm,7.2s
VRSR smax
comp=Z,2μm,6.9s
VRSR smax
comp=E,7μm,8.0s
VRSR MLR MLR
comp=Z,7μm,14.0s,MS5.3
VRSR MLR MLR
comp=N,38μm,17.0s,MS6.1
VRSR MLR MLR
comp=E,7μm,12.0s,MS6.1
URFA Urfa 25.87 277 *e*P **P 04 03 25.3 +2.1**
VOR Voronezh 25.91 310 *e*P **P 04 03 21.5 -2.0**
VOR pmax pmax
comp=N,250nm,2.2s
VOR pmax pmax
comp=Z,590nm,2.2s,mb5.7
MYA Malataya 25.98 279 *e*P **P 04 03 25.8 +1.6**
MALT Malatya 25.98 279⇓ *i*P **P 04 03 26.5 +2.3**
MALT Malatya 25.98 279 P **P 04 03 25.6 +1.4**
MALT pmax pmax
comp=Z,330nm,1.3s,mb5.7
MALT Malatya 25.98 279 *e*P **P 04 03 25.6 +1.4**
comp=Z,329nm,1.3s,mb5.7
IRK Irkutsk 25.98 49 *e*P **P 04 03 24.2 0.0**
IRK *e*S **S 04 07 51.6 -1.7**
IRK pmax pmax
comp=Z,343nm,2.1s,mb5.5
ANN Anapa 26.06 294*c* *i*P **P 04 03 24.5 -0.4**
ANN *i* pP 04 03 30.1 -2.3
ANN *i* PPP 04 04 06.5
ANN *i* S **S 04 07 56.8 +2.2**
ANN *e* 04 08 10.6
ANN pmax pmax
comp=Z,163nm,0.8s,mb5.6
ANN MLR MLR
comp=Z,5μm,12.0s,MS5.2
ANN Anapa 26.06 294 *i* P **P 04 03 24.7 -0.2**
MNGI Mangalore 26.18 173 *e*P **P 04 03 25.8 -0.2**
MNGI *i* x x 04 08 13.6
ATAB Bozova 26.27 277 *i* P **P 04 03 28.1 +1.2**
WHFO Wadi Hawf 26.29 222 P **P 04 03 28.1 +1.1**
SNR=20
SONM Songino Array 26.41 59 P **P 04 03 27.3 -0.7**
comp=Z,103nm,0.8s,mb5.4,baz=269,slow=9.9,SNR=114
SONM PcP PcP 04 06 52.9 -0.2
comp=Z,12nm,0.7s,baz=208,slow=1.7,SNR=4.1
SONM ScP ScP 04 10 34.5 +3.2
comp=Z,7.8nm,0.8s,baz=227,slow=3.6,SNR=6.6
SONM LR LR 04 14 51.3
comp=Z,28μm,18.1s,MS5.9,baz=268,slow=39
SONM Songino Array 26.41 59 P **P 04 03 27.3 -0.7**
SONM 04 06 52.9
SVSK Karacayir 26.77 283 *e*P **P 04 03 33.6 +2.3**
ULN Ulaanbaatar 26.85 59 P **P 04 03 32.6 +0.6**
SNR=103
ULN P 04 03 32.7
SNR=132
ULN Ulaanbaatar 26.85 59 *e*P **P 04 03 32.1 +0.1**
comp=Z,370nm,1.4s,mb5.7
ULN LR LR
comp=Z,16μm,22.0s,MS5.5
GZT Gaziantep 26.86 277 *i* P **P 04 03 33.1 +0.9**
MDRS Chennai 26.97 162⇓ *e*P **P 04 03 31.2 -2.0**
MDRS *ex* x 04 04 13.8
ABTO Aybut 27.00 222 P **P 04 03 33.9 +0.5**
SNR=12
GAZ Gaziantep 27.18 277 *e*P **P 04 03 37.5 +2.5**
KVT Kavak 27.31 286 *e*P **P 04 03 35.0 -1.2**
CD2 Chengdu 27.31 98 P **P 04 03 37.4 +1.2**
CD2 AP pP 04 03 44.5 +0.8
CD2 XP sP 04 03 47.9 +1.1
CD2 PP 04 04 24.7
CD2 PCP PcP 04 06 57.6 +2.3
CD2 S **S 04 08 14.7 +0.4**
CD2 SS 04 09 29.6
CD2 AMB AMB
comp=Z,180nm,1.0s,mb5.6
CD2 AMB AMB
comp=Z,560nm,4.4s
CD2 LR LR
comp=N,11μm,16.8s
CD2 LR LR
comp=Z,11μm,12.0s,MS5.7
DIKM Dikmen 27.83 287 *e*P **P 04 03 40.9 +0.1**
COBT Iskenderun 28.09 276 *i* P **P 04 03 44.7 +1.5**
MOS Moscow 28.11 318 *e*P **P 04 03 42.7 -0.7**
MOS *e*PPP 04 04 45.6
MOS *e*S **S 04 08 28.6 +1.7**
MOS *e*SS 04 09 53.3
MOS pmax pmax
comp=N,700nm,3.6s
MOS pmax pmax
comp=Z,1μm,3.6s
MOS pmax pmax
comp=E,1μm,3.8s
MOS pmax pmax
comp=Z,317nm,1.1s,mb5.9
MOS pmax pmax
comp=E,200nm,1.0s
MOS smax
comp=E,8μm,7.4s
MOS MLR MLR
comp=E,15μm,16.0s
MOS MLR MLR
comp=Z,22μm,16.0s,MS5.8
BOYT Boyabat 28.12 287 *i* P **P 04 03 42.8 -0.6**
KOZT Kozan 28.17 278 *e*P **P 04 03 43.4 -0.5**
CTKT Corum 28.32 285 *i* P **P 04 03 46.4 +1.1**
CEYT Ceyhan 28.35 277 *e*P **P 04 03 48.5 +3.0**
SIM Simferopol' 28.42 294*d* *i*P **P 04 03 46.3 +0.2**
SIM *i* S **S 04 08 32.0 +0.3**
SIM pmax pmax
comp=Z,306nm,1.4s,mb5.7
SIM Simferopol' 28.42 294 *i* P **P 04 03 46.5 +0.4**
OBN Obninsk 28.45 316 P **P 04 03 45.1 -1.3**
comp=Z,1μm,1.0s,mb6.5,SNR=15
OBN Obninsk 28.45 316*c* *i*P **P 04 03 45.9 -0.5**
OBN *e* 04 03 57.6
OBN *i* 04 04 39.6
OBN *i* S **S 04 08 32.4 +0.1**
OBN pmax pmax
comp=Z,79nm,1.3s,mb5.2
OBN MLR MLR
comp=Z,12μm,16.0s,MS5.6
OBN Obninsk 28.45 316 *e*P **P 04 03 45.8 -0.6**
comp=Z,342nm,1.0s,mb5.9
OBN LR LR
comp=Z,10μm,21.0s,MS5.4
CORM Corum 28.52 284 *e*P **P 04 03 48.5 +1.5**
AVNT Avonos 28.62 281 *i* P **P 04 03 49.1 +1.3**
CDAG Cicekdag 28.81 283 *i* P **P 04 03 47.5 -2.1**
KARA Karaisali 28.82 278 *e*P **P 04 03 47.6 -2.0**
TOS Tosya 28.83 286 *e*P **P 04 03 51.6 +1.8**
ASF Jabal al Asfar 29.07 267 P **P 04 03 51.4 -0.5**
comp=Z,7.3nm,0.9s,baz=288,slow=3.2,SNR=28
ASF LR LR 04 16 32.9
comp=Z,3μm,18.1s,MS5.0,baz=109,slow=39
CANT Cankiri 29.20 285 *e*P **P 04 03 55.2 +2.2**
BTO Baotou 29.23 75 *e*P **P 04 03 52.7 -0.6**
BTO S **S 04 08 42.0 -2.5**
BALT Daday 29.24 287 *i* P **P 04 03 53.8 +0.4**
MERS Mersin 29.34 278 *e*P **P 04 03 57.5 +3.3**
BR131 Keskin Array S 29.35 284 *e*P **P 04 03 55.0 +0.6**
comp=Z,44nm,0.8s,mb5.2
BR131 LR LR
comp=Z,4μm,20.0s,MS5.0
BRTR Keskin Array B 29.35 284 P **P 04 03 54.6 +0.3**
comp=Z,42nm,0.8s,mb5.2,baz=94,slow=7.8,SNR=68
BRTR LR LR 04 18 04.4
comp=Z,4μm,18.3s,MS5.1,baz=256,slow=41
KAMT Kaman 29.36 283 *e*P **P 04 03 51.9 -2.6**
ELDT Eldivan 29.37 285 *i* P **P 04 03 54.9 +0.4**
BHL Bhannes 29.39 271 *e*P **P 04 03 55.5 +0.8**
KMI Kunming 29.51 109 P **P 04 03 57.3 +1.5**
KMI PP PP 04 04 51.3 -11
KMI PCP PcP 04 07 05.4 +4.7
KMI S **S 04 08 48.0 -0.9**
KMI PCS PcS 04 10 46.9 +3.1
KMI LR LR
comp=N,7μm,12.2s,MS5.6
KMI LR LR
comp=E,7μm,16.4s,MS5.6
KMI LR LR
comp=Z,7μm,14.0s,MS5.5
KLMR Klimovskoe 29.58 328*c* *i*P **P 04 03 55.7 -0.7**
KLMR *e* 04 04 49.7
KLMR *e*S **S 04 08 50.8 +0.8**
KLMR pmax pmax
comp=Z,150nm,4.5s
KLMR pmax pmax
comp=Z,150nm,1.5s,mb5.5
KLMR MLR MLR
comp=Z,16μm,16.0s,MS5.8
MEST Erdemli 29.71 277 *i* P **P 04 03 57.7 +0.2**
SAFT Safranbolu 29.80 287 *e*P **P 04 03 59.7 +1.4**
ANTO Ankara 29.96 284 *e*P **P 04 04 00.6 +0.8**
ANTO Ankara 29.96 284⇓ *i*P **P 04 04 01.0 +1.2**
ANTO Ankara 29.96 284 P **P 04 04 01.0 +1.2**
SNR=20
ANTO P 04 04 01.3
SNR=30
ANTO Ankara 29.96 284 *e*P **P 04 04 00.7 +0.9**
ANTO pmax pmax

comp=Z,304nm,1.5s,mb5.8
ANTO MLR MLR

comp=Z,4µm,20.0s,MS5.1
ANTO Ankara 29.96 284 *e*P **P 04 04 00.7 +1.0**
comp=Z,304nm,1.5s,mb5.8
ANTO LR LR

comp=Z,4µm,20.0s,MS5.1
XAN Xi'an 30.10 88 P **P 04 03 59.5 -1.5**
XAN AP pP 04 04 13.6 +5.2
XAN PP PP 04 05 04.8 -4.3
XAN S **S 04 09 00.7 +2.6**
XAN AMB AMB

comp=Z,32nm,1.0s,mb5.0
XAN AMB AMB

comp=Z,616nm,5.7s
XAN LR LR

comp=N,10µm,14.1s,MS5.8
XAN LR LR

comp=E,14µm,15.1s,MS5.8
XAN LR LR

comp=Z,16µm,17.5s,MS5.7
IKL Isikli 30.16 277 *e*P **P 04 04 02.0 +0.4**
HHC Hu-ho-hao-te 30.35 74 *e*P **P 04 04 03.7 +0.5**
HHC AP pP 04 04 13.5 +2.8
HHC XP sP 04 04 17.1 +3.3
HHC PP PP 04 05 05.8 -6.0
HHC S **S 04 09 05.5 +3.5**
HHC XS sS 04 09 19.8 +5.5
HHC SCS ScS 04 14 34.1 -5.4
HHC AMB AMB

comp=Z,78nm,1.7s,mb5.2
HHC AMB AMB

comp=Z,1µm,4.3s
HHC LR LR

comp=N,12µm,14.3s,MS5.9
HHC LR LR

comp=E,16µm,13.7s,MS5.9
HHC LR LR

comp=Z,19µm,13.1s,MS5.9
SGKT Sivrigoynuk 30.38 286 *i*P **P 04 04 04.8 +1.3**
ERMK Ermenek 30.64 278 *i*P **P 04 04 05.0 -0.8**
KONT Konya--Tatoy 30.72 281 *e*P **P 04 04 06.2 -0.3**
KDHN Kadinhani 30.76 282 *i*P **P 04 04 04.8 -2.0**
CSS Prodhromos 30.83 274 *e*P **P 04 04 05.7 -1.8**
comp=Z,27nm,1.1s,mb5.0
KIZT Kizilcal 30.86 282 *e*P **P 04 04 09.6 +1.8**
MDU Mudurnu 31.03 286 *e*P **P 04 04 11.0 +1.8**
HENT Hendek 31.20 286 *i*P **P 04 04 06.7 -4.0**
CM31 Chiang Mai Arr 31.24 123 *e*P **P 04 04 10.7 -0.4**
CM31 LR LR

comp=Z,7µm,19.0s,MS5.3
ESKT Eskisehir 31.50 284 *i*P **P 04 04 13.1 -0.2**
EIL Elat 31.65 264 *e*P **P 04 04 14.8 +0.1**
comp=Z,529nm,0.8s,mb6.4
MUKL Al Mukalla 31.67 226⇓*e*P **P 04 04 16.5 +1.7**
GYA Guiyang 31.71 103⇑*i*P **P 04 04 14.7 -0.5**
GYA AP pP 04 04 19.8 -2.9
GYA PP PP 04 05 19.2 -7.8
GYA S **S 04 09 22.2 -1.1**
GYA SS SS 04 11 10.9 -29
GYA AMB AMB

comp=Z,30nm,0.8s,mb5.2
GYA AMB AMB

comp=Z,1µm,3.6s
GYA LR LR

comp=N,4µm,16.0s,MS5.6
GYA LR LR

comp=E,9µm,16.0s,MS5.6
GYA LR LR

comp=Z,7µm,16.0s,MS5.5
BORA Eskisehir 31.72 285 *i*P **P 04 04 13.9 -1.4**
AKASG Malin Array Be 31.89 305 P **P 04 04 15.4 -1.4**
comp=Z,8.2nm,0.3s,mb5.0,baz=82,slow=8.6,SNR=45
AKASG PcP PcP 04 07 05.9 -1.1
comp=Z,11nm,0.7s,baz=78,slow=3.9,SNR=4.2
AKASG LR LR 04 19 28.1
comp=Z,2µm,20.5s,MS4.7,baz=95,slow=41
AKASG Malin Array Be 31.89 305 P **P 04 04 15.4 -1.4**
AKASG 04 07 05.9
KIS Kishinev 32.06 298*de*P **P 04 04 16.0 -2.3**
KIS *i* 04 04 27.0
KIS *i* 04 05 22.0
KIS *e*PPP 04 05 39.0
KIS *i*S **S 04 09 29.0 +0.2**
KIS *e*SSS 04 11 38.0
KIS *i* 04 14 44.0
KIS pmax pmax

comp=E,1µm,4.0s
KIS pmax pmax

comp=Z,1µm,4.0s
KIS pmax pmax

comp=Z,1µm,13.0s
KIS smax

comp=N,2µm,6.0s
KIS MLR MLR

comp=Z,11µm,13.0s,MS5.7
KIS MLR MLR

comp=N,4µm,11.0s,MS5.7
KIS MLR MLR

comp=E,8µm,14.0s,MS5.7
KIS MLR MLR

comp=Z,11µm,16.0s
ADVT Abdulvahap 32.15 286 *e*P **P 04 04 18.0 -1.0**
ISP Isparta 32.16 281 *e*P **P 04 04 17.1 -2.0**
ISP Isparta 32.16 281⇓*i*P **P 04 04 22.2 +3.0**
ISP Isparta 32.16 281 P **P 04 04 22.4 +3.2**
ISP pmax pmax

comp=Z,63nm,0.8s,mb5.5
ISP Isparta 32.16 281 *e*P **P 04 04 17.6 -1.6**
comp=Z,64nm,0.8s,mb5.5
TKTP Tekketepe 32.25 281 *i*P **P 04 04 19.7 -0.3**
YLV Yalova 32.39 286 *e*P **P 04 04 20.5 -0.7**
KLYT Kilyos 32.51 288 *e*P **P 04 04 21.4 -0.8**
TIRR Tirgusor 32.51 294⇑*i*P **P 04 04 22.8 +0.6**
TIRR Tirgusor 32.51 294 ⇑P **P 04 04 22.8 +0.6**
GDZ Gediz 32.63 284 *i*P **P 04 04 21.9 -1.3**
ULDT Uludag 32.66 286 *i*P **P 04 04 23.4 -0.1**
PALK Pallekele 32.68 163 *e*P **P 04 04 24.4 +0.7**
comp=Z,22nm,1.0s,mb5.0
PALK LR LR

comp=Z,4µm,20.0s,MS5.1
ELL Elmali 32.92 279 *e*P **P 04 04 24.3 -1.6**
BOD Bodaibo 32.97 41⇑*i*P **P 04 04 25.8 -0.4**
BOD pmax pmax

comp=Z,251nm,1.2s,mb6.0
ELBA Catalca 32.98 288 *i*P **P 04 04 26.0 -0.3**
PBA Port Blair 33.06 140 *ex* x 04 04 05.6
PBA *ex* x 04 04 18.4

comp=Z,390nm,1.6s
PBA *e*S **S 04 09 41.0 -3.3**
MNK Minsk 33.20 312 *e*P **P 04 04 26.0 -2.2**
MNK *e* 04 05 40.0
MNK *e*S **S 04 09 40.0 -6.5**
MNK MLR MLR

comp=Z,27µm,9.0s
MNK MLR MLR

comp=E,24µm,9.0s
MNK MLR MLR

comp=N,10µm,8.0s
PUL Pulkovo 33.21 322⇑*i*P **P 04 04 27.8 -0.6**
PUL *e*S **S 04 09 47.4 +0.7**
PUL pmax pmax

comp=Z,147nm,0.4s,mb6.3
PUL smax

comp=N,1µm,1.1s
DNZL Cakiroluk 33.32 281 *i*P **P 04 04 29.4 +0.1**
BNT Bandirma 33.52 286 *e*P **P 04 04 32.3 +1.3**
VRI Vrincioaia 33.57 297⇓*i*P **P 04 04 32.8 +1.4**
VRI Vrincioaia 33.57 297 P **P 04 04 32.9 +1.4**
BTOK Tokmak 33.57 285 *i*P **P 04 04 31.1 -0.4**
FETY Fethiye 33.59 279 *e*P **P 04 04 29.8 -1.9**
PLOR Plostina 33.62 296⇑*i*P **P 04 04 33.2 +1.3**
BALB Balikesir 33.71 285 *e*P **P 04 04 32.3 -0.4**
ISR Istrita 33.77 295⇑*i*P **P 04 04 34.7 +1.5**
IDID Didziasalis 33.95 314 *e*P **P 04 04 34.3 -0.5**
IDID AMb AMB 04 04 42.8
comp=Z,2µm,0.9s
BJI Beijing 33.96 74 P **P 04 04 35.2 +0.4**
BJI S **S 04 10 06.5 +8.3**
BJI AMB AMB

comp=Z,32nm,0.8s,mb5.3
BJI LR LR

comp=N,15µm,13.8s,MS6.0
BJI LR LR

comp=E,16µm,15.2s,MS6.0
BJI LR LR

comp=Z,13µm,19.9s,MS5.7
BJT Baijiatuao 33.96 74 *e*P **P 04 04 35.1 +0.3**
BJT pmax pmax

comp=Z,110nm,1.2s
BJT MLR MLR

comp=Z,24µm,19.0s
BJT Baijiatuao 33.96 74 *e*P **P 04 04 35.1 +0.3**
comp=Z,110nm,1.2s,mb5.7
BJT LR LR

comp=Z,24µm,19.0s,MS5.9
JOF Joensuu 33.98 328 *ep* **P 04 04 34.2 -0.9**
comp=Z,28nm,0.5s,mb5.5
JOF Joensuu 33.98 328 *e*P **P**
JOF pmax pmax

comp=Z,28nm,0.5s,mb5.5
NST Nakhon Sawan 34.06 125 P **P 04 04 31.0 -4.7**
comp=Z,67nm,1.0s,mb5.5
EDRB Edirne 34.09 289 *e*P **P 04 04 31.5 -4.6**
JMB Yambol 34.10 290 *e*P **P 04 04 37.3 +1.2**
MLR Muntele Rosu 34.15 296⇑*i*P **P 04 04 37.4 +0.9**
MLR Muntele Rosu 34.15 296 P **P 04 04 38.3 +1.8**
AYDN Tasoluk 34.22 282 *i*P **P 04 04 37.1 0.0**
BUC1 Bucharest 34.22 294 P **P 04 04 39.3 +2.2**
CANB Canakkale 34.23 286 *e*P **P 04 04 37.4 +0.1**
IIGN Ignalina 34.25 314 *e*P **P 04 04 37.0 -0.4**
IIGN AMb AMB 04 04 41.7
comp=Z,2µm,0.8s
IZAR Zarasai 34.30 314 *e*P **P 04 04 37.6 -0.3**
IZAR AMb AMB 04 04 46.0
comp=Z,3µm,1.2s
DHBB Dhamar BB 34.32 232⇑*e*P **P 04 04 39.9 +1.9**
DHBB AMb AMB 04 04 41.7
comp=Z,145nm,1.1s,mb5.8
LBOS 34.34 230 *e*P **P 04 04 40.1 +1.9**
LBOS AMb AMB 04 04 41.2
comp=Z,96nm,0.9s,mb5.7
ISAL Salakas 34.34 314 *e*P **P 04 04 37.4 -0.7**
ISAL AMb AMB 04 04 46.3
comp=Z,2µm,0.8s
MLSB Milas 34.40 281 *e*P **P 04 04 35.7 -3.0**
ARG Arkhangelos 34.45 279 P **P 04 04 39.5 +0.3**
KDAG Bornova 34.48 283 *i*P **P 04 04 39.5 +0.1**
BURAR Bucovina Array 34.48 300⇓*i*P **P 04 04 39.6 +0.2**
BURAR Bucovina Array 34.48 300⇓P **P 04 04 39.6 +0.2**
IZM Izmir 34.48 283 *e*P **P 04 04 39.0 -0.4**
VSU Vasula 34.60 319⇑*i*P **P 04 04 40.1 -0.3**
DAT Datca 34.72 280 *e*P **P 04 04 37.4 -4.1**
ENEZ Enez 34.75 288 *e*P **P 04 04 41.6 -0.2**
VOIR 34.78 296⇑*i*P **P 04 04 42.8 +0.8**
VOIR 34.78 296 ⇑P **P 04 04 42.9 +0.9**
MTUR Matau 34.79 296⇑*i*P **P 04 04 44.0 +1.9**
MTUR Matau 34.79 296 P **P 04 04 43.6 +1.5**
ALN Alexandroupoli 34.80 288 *e*P **P 04 04 42.8 +0.7**
KDZ Kurdzhali 35.11 289 *i*P **P 04 04 43.8 -1.0**
RDO Rodhopi 35.12 288 P **P 04 04 45.3 +0.4**
LVV L'vov 35.19 304 *i*P **P 04 04 45.7 +0.2**
LVV *e* 04 06 06.5
LVV *i*S **S 04 10 18.1 +0.8**
LVV *e*SS SS 04 12 33.1 -18
LVV MLR MLR

comp=Z,15µm,15.0s,MS5.9
HIA Hailar 35.31 57 *e*P **P 04 04 46.5 -0.1**
HIA pmax pmax

comp=Z,201nm,1.6s
HIA MLR MLR

comp=Z,9µm,19.0s
HIA Hailar 35.31 57 *e*P **P 04 04 46.5 -0.1**
comp=Z,201nm,1.6s,mb5.8
HIA LR LR

comp=Z,9µm,19.0s,MS5.5
KKTK Khon Kaen 35.33 121 PN **P 04 04 46.0 -0.7**
APA Apatity 35.52 336⇑*i*P **P 04 04 48.2 -0.1**
APA *i* 04 07 20.0
APA *i*S **S 04 10 20.0 -2.3**
APA pmax pmax

comp=Z,26nm,1.0s,mb5.1
APA MLR MLR

comp=Z,36µm,8.0s
PLD Plovdiv 35.54 290 *i*P **P 04 04 47.3 -1.2**
RZN Rozhen 35.61 290 *i*P **P 04 04 47.3 -1.8**
WHN Wuhan 35.69 91 ⇑P **P 04 04 50.8 +1.0**
WHN S **S 04 10 27.0 +2.0**
WHN LR LR

comp=Z,22µm,20.4s,MS5.9
TIA Tai'an 35.72 80 P **P 04 04 50.2 +0.1**
TIA S **S 04 10 30.0 +4.6**
TIA AMB AMB

comp=Z,221nm,1.2s,mb6.0
TIA AMB AMB

comp=Z,1µm,4.0s
TIA LR LR

comp=N,11µm,13.0s,MS5.9
TIA LR LR

comp=E,10µm,13.0s,MS5.9
FINES FINESS Array B 35.73 324 P **P 04 04 49.0 -1.2**
comp=E,20nm,0.4s,mb5.4,baz=114,slow=9.1,SNR=83
FINES PcP PcP 04 07 18.6 +0.7
comp=E,21nm,0.7s,baz=96,slow=5.6,SNR=3.2
FINES LR LR 04 20 19.2
comp=E,16µm,18.3s,MS5.8,baz=103,slow=38
FINES FINESS Array B 35.73 324 P **P 04 04 49.0 -1.2**
FINES 04 07 18.6
KAF Kangasniemi 35.83 325 *ep* **P 04 04 49.6 -1.4**
baz=104,slow=8.6
PGB Panagyurishte 35.84 291 *i*P **P 04 04 50.8 -0.3**
SUW Suwalki 35.85 311 *e*P **P 04 04 50.6 -0.6**
comp=Z,0.7nm,2.4s
SUW *e*PP PP 04 06 12.6 -0.2
SUW *e*S **S 04 10 23.4 -4.0**
SUW *e*sS sS 04 10 29.4 -10
SUW L 04 21 01.6
comp=Z,10nm,21.3s
SUW Suwalki 35.85 311⇑*e*P **P 04 04 50.6 -0.6**
SUW *e* 04 06 12.6
SUW *e*S **S 04 10 23.4 -4.0**
SUW *e**SS sS 04 10 29.4 -10
SUW pmax pmax

comp=Z,700nm,2.4s,mb6.2
SUW MLR MLR

comp=Z,10µm,21.3s,MS5.6
SUW Suwalki 35.85 311⇑*e*P **P 04 04 50.6 -0.6**
SUW *e*PP PP 04 06 12.6 -0.2
SUW *e*S **S 04 10 23.4 -4.0**
SUW *e*SS **S 04 10 29.4 +2.0**
KWP Kalwaria 36.05 303 *e*P **P 04 04 53.5 +0.6**
comp=Z,1.3nm,2.6s
KWP L 04 20 51.2
comp=Z,9.4nm,21.1s
KWP Kalwaria 36.05 303⇑*e*P **P 04 04 53.5 +0.6**
KWP pmax pmax

comp=Z,1µm,2.6s,mb6.4
KWP MLR MLR

comp=Z,9µm,21.1s,MS5.5
NNT Nongplab 36.17 129 P **P 04 04 55.5 +1.6**
MEF Metsahovi 36.19 322 P **P 04 04 53.3 -0.8**
DRGR 36.25 299⇓*i*P **P 04 04 55.2 +0.6**
DRGR 36.25 299 P **P 04 04 55.6 +0.9**
MMB Musomiste 36.36 290 *i*P **P 04 04 53.6 -1.9**
KOLS Kolonicke sedl 36.37 302 *e*P **P 04 04 56.2 +0.6**
KOLS *e* 04 06 14.1
KOLS *e*S **S 04 10 30.7 -4.7**
KOLS *e*SS SS 04 12 54.9 -20
KOLS Kolonicke sedl 36.37 302 *e*P **P 04 04 56.2 +0.6**
comp=Z,36nm,0.9s,mb5.3
KOLS *e*PP PP 04 06 14.1 -4.5
KOLS *e*S **S 04 10 30.7 -4.7**
KOLS *e*SS SS 04 12 54.9 -20
KOLS LR LR

comp=Z,4µm,17.8s,MS5.2
UZH Uzhgorod 36.38 302 *i*P **P 04 04 55.0 -0.7**
VTS Vitosha 36.53 291 *e*P **P 04 04 57.1 +0.2**
VTS Vitosha 36.53 291 *i*P **P 04 04 55.7 -1.3**
VTS Vitosha 36.53 291⇑*i*P **P 04 04 57.5 +0.5**
VTS Vitosha 36.53 291 P **P 04 04 58.4 +1.4**
KKB Krupnik 36.77 290 *i*P **P 04 04 59.0 0.0**
SOH Sokhos 36.80 289 *e*P **P 04 04 59.1 -0.3**
LAST Lasithi 36.84 279 *e*P **P 04 05 00.2 +0.6**
CRVS Cervenica-Dubn 36.91 302 *e*P **P 04 05 00.2 0.0**
CRVS *e* 04 06 19.5
CRVS *e*S **S 04 10 41.4 -2.2**
CRVS *e* 04 13 10.3
CRVS Cervenica-Dubn 36.91 302 *e*P **P 04 05 00.2 0.0**
comp=Z,18nm,1.0s,mb4.9
CRVS *e*PP PP 04 06 19.5 -5.0
CRVS *e*S **S 04 10 41.5 -2.1**
CRVS *e*SS SS 04 13 10.3 -15
CRVS LR LR

comp=Z,4µm,22.0s,MS5.1
STHS Stebnicka Huta 37.02 303 *i*P **P 04 05 00.9 -0.3**
STHS pmax pmax

comp=Z,27nm,1.1s,mb5.0
STHS Stebnicka Huta 37.02 303 *i*P **P 04 05 00.9 -0.3**
comp=Z,27nm,1.1s,mb5.0
OUL Oulu 37.04 330 P **P 04 04 59.9 -1.4**
KNT Kendrikon 37.06 289 *e*P **P 04 05 01.5 0.0**
WAR Warsaw 37.08 308 *e*P **P 04 05 02.0 +0.3**
WAR *e*PP PP 04 06 30.3 +4.0
WAR L 04 20 40.1

comp=Z,10nm,22.2s
THE Thessaloniki 37.14 288 *e*P **P 04 05 01.5 -0.7**
BZS Buzias 37.15 297⇓*i*P **P 04 05 03.1 +0.8**
BZS Buzias 37.15 297 P **P 04 05 03.5 +1.2**
VAY Valandovo 37.27 290 *e*P **P 04 05 00.8 -2.4**
VAY Valandovo 37.27 290 *i*P **P 04 05 03.2 0.0**
VAY Valandovo 37.27 290 P **P 04 05 03.6 +0.4**
XOR Xorichti 37.29 286 *e*P **P 04 05 03.8 +0.3**
GRG Griva 37.48 289 *e*P **P 04 05 05.2 +0.2**
UBT Ubonrachathani 37.58 120 P **P 04 05 08.0 +2.1**
ATD Arta Tunnel 37.62 231 LR LR 04 23 32.6
comp=Z,8µm,18.6s,MS5.5,baz=50,slow=41
LIT Litokhoron 37.62 288 *e*P **P 04 05 05.4 -0.8**
NIE Niedzica 37.62 303 *e*P **P 04 05 07.1 +0.8**
OJC Ojcow 37.91 305 *e*P **P 04 05 08.4 -0.3**
OJC *e*PP PP 04 06 35.9 +0.5
OJC *e*S **S 04 11 00.0 +1.3**
OJC L 04 23 27.8

comp=Z,58nm,18.7s
SKO Skopje 37.94 291 *i*P **P 04 05 10.2 +1.2**
KARN Karanos 37.95 280 *e*P **P 04 05 09.2 +0.2**
GVD Gavdhos 38.02 279 *e*P **P 04 05 08.7 -0.9**
comp=Z,232nm,1.1s,mb5.8
AGG Agios Georgios 38.03 286 *e*P **P 04 05 09.6 -0.1**
PSZ Piszkesteto 38.04 301⇑*e*P **P 04 05 10.8 +1.0**
PSZ Piszkesteto 38.04 301⇓*i*P **P 04 05 10.5 +0.7**
PSZ Piszkesteto 38.04 301 *e*P **P 04 05 10.1 +0.3**
PSZ pmax pmax

comp=Z,66nm,0.9s,mb5.4
PSZ Piszkesteto 38.04 301 *e*P **P 04 05 10.1 +0.3**
comp=Z,66nm,0.9s,mb5.4
GRUS Gruza 38.07 294⇑*i*P **P 04 05 10.4 +0.3**
BEO Belgrade 38.09 296⇑*i*P **P 04 05 11.7 +1.5**
BIA Bitola 38.25 289 *i*P **P 04 05 11.1 -0.5**
FNA Florina 38.27 289 *e*P **P 04 05 11.2 -0.6**
DL2 Dalian 38.33 74 P **P 04 05 13.0 +0.8**
DL2 PP PP 04 06 48.0 +8.0
DL2 S **S 04 11 11.0 +5.9**
DL2 AMB AMB

comp=Z,62nm,0.9s,mb5.3
DL2 AMB AMB

comp=Z,1µm,5.0s
DL2 LR LR

comp=N,8µm,15.0s
QIZ Qiongzhong 38.43 110⇓P **P 04 05 14.5 +1.4**
QIZ AP pP 04 05 19.4 -1.3
QIZ PPP 04 07 00.3
QIZ S **S 04 11 00.3 -6.4**
QIZ XS sS 04 11 18.9 -0.2
QIZ AMB AMB

comp=Z,41nm,2.0s,mb4.8
QIZ AMB AMB

comp=Z,1µm,5.7s
QIZ LR LR

comp=N,8µm,17.7s,MS5.8
QIZ LR LR

comp=E,10µm,19.1s,MS5.8
QIZ LR LR

comp=Z,7µm,19.7s,MS5.5
QIZ Qiongzhong 38.43 110 *e*P **P 04 05 14.7 +1.6**
comp=Z,50nm,1.0s,mb5.2
QIZ LR LR

comp=Z,7µm,20.0s,MS5.5
LIKS Likavka 38.44 303 *e*P **P 04 05 07.6 -5.6**
LIKS pmax pmax

comp=Z,31nm,0.7s,mb5.2
LIKS Likavka 38.44 303 *e*P **P 04 05 07.6 -5.6**
comp=Z,31nm,0.7s,mb5.1
DIVS Divcibare 38.54 295⇑*i*P **P 04 05 14.2 +0.2**
DIVS Divcibare 38.54 295 *e*P **P 04 05 14.2 +0.2**
NJ2 Nanjing 38.56 86 *e*P **P 04 05 14.2 0.0**
NJ2 AP pP 04 05 26.5 +4.7
NJ2 XP sP 04 05 31.5 +6.6
NJ2 PP PP 04 06 47.2 +4.5
NJ2 S **S 04 11 07.0 -1.7**
NJ2 XS sS 04 11 23.0 +1.8
NJ2 AMB AMB

comp=Z,80nm,0.9s,mb5.5
NJ2 AMB AMB

comp=Z,380nm,3.7s
NJ2 LR LR

comp=N,17µm,13.6s,MS6.2
NJ2 LR LR

comp=E,15µm,13.0s,MS6.2
NJ2 LR LR

comp=Z,14µm,12.9s,MS6.0
CLNS Chul'man 38.60 45 *e*P **P 04 05 14.3 -0.2**
CLNS *e* 04 06 41.8
CLNS *e* 04 07 23.5
CLNS *e*S **S 04 11 11.9 +2.6**
CLNS pmax pmax

comp=N,24nm,0.9s
CLNS pmax pmax

comp=E,54nm,0.9s
CLNS pmax pmax

comp=Z,71nm,0.9s,mb5.4
CLNS pmax pmax

comp=Z,19nm,0.6s,mb5.0
CLNS pmax pmax

comp=N,39nm,0.9s
CLNS pmax pmax

comp=E,50nm,1.2s
CLNS smax

comp=N,31nm,0.9s
CLNS smax

comp=Z,13nm,0.8s
CLNS smax

comp=E,14nm,1.0s
CLNS MLR MLR

comp=N,14µm,13.0s,MS6.3
CLNS MLR MLR

comp=E,31µm,13.0s,MS6.3
CLNS MLR MLR

comp=Z,41µm,13.0s,MS6.4
OHR Ohrid 38.61 290 *i*P **P 04 05 12.8 -1.8**
GZH Guangzhou 38.63 102 P **P 04 05 12.5 -2.2**
GZH S **S 04 11 06.7 -2.9**
GZH LR LR

comp=N,12µm,20.7s,MS5.8
GZH LR LR

comp=E,8µm,21.9s,MS5.8
GZH LR LR

comp=Z,9µm,13.9s
KEV Kevo 38.66 337 *ep* **P 04 05 12.2 -2.8**
comp=Z,14nm,0.7s,mb4.8
KEV Kevo 38.66 337 P **P 04 05 14.6 -0.4**
KEV pmax pmax

comp=Z,110nm,1.2s,mb5.5
BUD Budapest 38.67 300⇑*e*P **P 04 05 16.1 +1.0**
BUD Budapest 38.67 300 P **P 04 05 15.8 +0.7**
VYHS Vyhne 38.68 302 *e*P **P 04 05 15.4 +0.2**
VYHS pmax pmax

comp=Z,113nm,2.0s,mb5.2
VYHS Vyhne 38.68 302 *e*P **P 04 05 15.4 +0.2**
comp=Z,113nm,2.0s,mb5.2
VYHS *e*PP PP 04 06 50.4 +6.5
VYHS *e*S **S 04 11 09.0 -1.4**
VYHS *e*SS SS 04 13 46.8 -14
IVA Berane 38.86 293⇑*i*P **P 04 05 17.9 +1.2**
PVY Plav 38.87 292⇑*i*P **P 04 05 16.5 -0.2**
ITM Ithomi 38.88 283 P **P 04 05 16.4 -0.5**
RAC Raciborz 38.95 304 *e*P **P 04 05 17.4 0.0**
RAC *e* 04 06 45.5
RAC MLR MLR

comp=Z,10µm,19.5s,MS5.7
PKS8 Sarbogard 38.99 299⇑*e*P **P 04 05 18.0 +0.2**
OKC Ostrava-Krasne 39.00 304 *e*P **P 04 05 17.6 -0.2**
OKC *e*S **S 04 11 17.9 +2.7**

OKC AMS AMS 04 24 20.0
comp=Z,8µm,12.1s
OKC Ostrava-Krasne 39.00 304 *e*P **P** **04 05 17.6 -0.2**
OKC *e*S **S** **04 11 17.9 +2.7**
BBLS Bajina Basta - 39.00 294⇑ *i*P **P** **04 05 19.3 +1.4**
BBLS Bajina Basta - 39.00 294 P **P** **04 05 19.7 +1.8**
SNY Shenyang 39.01 69 ⇑P **P** **04 05 17.5 -0.4**
SNY PP PP 04 06 45.9 -1.6
SNY S **S** **04 11 15.9 +0.6**
SNY AMB AMB
comp=Z,59nm,2.3s,mb4.9
SNY AMB AMB
comp=Z,1µm,5.2s
SNY LR LR
comp=E,15µm,13.5s
SNY LR LR
comp=Z,19µm,12.2s,MS6.1
ARCES ARCESS Array B 39.02 336 P **P** **04 05 16.6 -1.4**
comp=Z,36nm,0.6s,mb5.3,baz=112,slow=6.9,SNR=140
ARCES LR LR 04 22 30.4
comp=Z,30µm,19.0s,MS6.1,baz=127,slow=38
ARE0 ARCESS Array S 39.02 336 *e*P **P** **04 05 17.2 -0.8**
SRO2 Moca 39.06 301 *e*P **P** **04 05 14.2 -4.2**
SRO2 pmax pmax
comp=Z,64nm,0.8s,mb5.4
SRO Srobarova 39.11 301 *i* P **P** **04 05 20.2 +1.5**
SRO pmax pmax
comp=Z,292nm,1.7s,mb5.7
SRO Srobarova 39.11 301 *i* P **P** **04 05 20.2 +1.5**
comp=Z,292nm,1.7s,mb5.7
PKSG 39.11 300⇑ *e*P **P** **04 05 19.6 +0.8**
PKSM Moragy 39.11 298⇑ *i*P **P** **04 05 18.8 0.0**
PKSM Moragy 39.11 298 P **P** **04 05 19.5 +0.7**
PLE Pljevlja 39.12 294⇑ *i*P **P** **04 05 20.8 +1.9**
SRO1 Iza 39.17 301 *e*P **P** **04 05 20.2 +0.9**
SRO1 pmax pmax
comp=Z,91nm,1.1s,mb5.4
TIR Tirane 39.24 290 P **P** **04 05 20.6 +0.8**
IGT Igoumenitsa 39.37 288 *e*P **P** **04 05 19.5 -1.5**
LKD Levkas 39.37 286 *e*P **P** **04 05 19.5 -1.5**
MORC Moravsky Berou 39.39 304⇑ *i*P **P** **04 05 21.0 -0.1**
MORC Moravsky Berou 39.39 304 P **P** **04 05 20.7 -0.4**
MORC pmax pmax
comp=Z,90nm,1.2s,mb5.4
MORC Moravsky Berou 39.39 304 *e*P **P** **04 05 20.5 -0.7**
comp=Z,52nm,1.2s,mb5.1
TTG Podgorica 39.42 292⇑ *i*P **P** **04 05 21.4 0.0**
UPM Unac-Piva 39.49 294⇑ *i*P **P** **04 05 22.9 +1.0**
NKY Niksic 39.52 293⇑ *i*P **P** **04 05 23.0 +0.8**
SRN Sarande 39.52 288 *i* p **P** **04 05 21.2 -1.0**
KTK1 Kautokeino 39.52 335 *e*P **P** **04 05 21.8 -0.5**
KTK1 AMb AMB 04 05 37.3
comp=Z,228nm,1.7s,mb5.6
KTK1 Kautokeino 39.52 335 *e*P **P** **04 05 21.8 -0.5**
comp=Z,228nm,1.7s,mb5.6
ULC Ulcinj 39.53 292⇑ *i*P **P** **04 05 23.2 +0.8**
SMOL Smolenice 39.60 302 *e*P **P** **04 05 23.6 +0.7**
HKC Hong Kong 39.70 102 *i* P **P** **04 05 26.0 +2.3**
HKC *i* S **S** **04 11 34.0 +8.3**
BUM Brajici-Budva 39.71 292⇑ *i*P **P** **04 05 24.1 +0.3**
KEK Kerkira 39.72 288 P **P** **04 05 21.0 -2.9**
BRY Bratogost 39.82 293⇑ *i*P **P** **04 05 25.6 +0.8**
ZST Bratislava 39.86 302 *e*P **P** **04 05 25.6 +0.6**
ZST *e*PP PP 04 06 58.9 +2.1
ZST *e*S **S** **04 11 21.7 -6.5**
ZST *e* 04 14 17.2
ZST Bratislava 39.86 302 *e*P **P** **04 05 25.6 +0.6**
comp=Z,26nm,1.0s,mb4.9
ZST *e*PP PP 04 06 58.9 +2.1
ZST *e*S **S** **04 11 21.7 -6.5**
ZST *e*SS SS 04 14 17.2 -7.7
ZST LR LR
comp=Z,8µm,11.7s,MS5.8
CN2 Changchun 39.90 65 *e*P **P** **04 05 25.2 -0.2**
CN2 PCP PcP 04 07 31.8 +1.1
CN2 *e*S **S** **04 11 28.8 0.0**
CN2 *e*SS SS 04 14 18.0 -7.7
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.1
CN2 AMB AMB
comp=Z,740nm,4.0s
CN2 LR LR
comp=N,23µm,18.0s,MS6.1
CN2 LR LR
comp=E,8µm,18.0s,MS6.1
CN2 LR LR
comp=Z,19µm,12.0s
HCY Herceg Novi 39.96 292⇑ *i*P **P** **04 05 25.8 -0.1**
VRAC Vranov 40.06 303⇑ *i*P **P** **04 05 26.4 -0.3**
VRAC Vranov 40.06 303 P **P** **04 05 27.5 +0.8**
KSP Ksiaz 40.09 306 *e*P **P** **04 05 27.3 +0.4**
comp=Z,1.0nm,3.3s
KSP *e*PP PP 04 07 01.3 +2.0
KSP *e*S **S** **04 11 29.7 -1.9**
KSP *e*sS sS 04 11 33.4 -11
KSP L 04 19 57.3
comp=Z,12nm,32.7s
KSP Ksiaz 40.09 306⇑ *e*P **P** **04 05 27.3 +0.4**
KSP *e**PP pP 04 05 29.9 -4.6
KSP *e* 04 07 01.6
KSP *e*S **S** **04 11 33.0 +1.4**
KSP MLR MLR
comp=N,47µm,23.3s
KSP MLR MLR
comp=Z,12µm,19.6s,MS5.8
KSP Ksiaz 40.09 306⇑ *e*P **P** **04 05 27.3 +0.4**
KSP *e*PP pP 04 05 29.9 -4.6
KSP *e*PP PP 04 07 01.6 +2.3
KSP *e*S **S** **04 11 33.0 +1.4**
KSP LR LR
comp=Z,12µm,19.6s,MS5.8
DPC Dobruska-Polom 40.12 305 *e*P **P** **04 05 27.6 +0.4**
DPC *e*PP PP 04 06 57.3 -2.3
DPC *e*S **S** **04 11 34.0 +2.0**
DPC AMS AMS 04 24 40.0
comp=Z,10µm,14.1s
KRUC Moravsky 40.22 303 P **P** **04 05 28.6 +0.6**
UPC Upice 40.30 305 *e*P **P** **04 05 28.8 +0.1**
UPC *e*PP PP 04 07 09.4 +7.8
STON Ston 40.43 293 *i* P **P** **04 05 29.7 -0.1**
BSD Bornholm Skovb 40.69 312⇑ *i*P **P** **04 05 30.5 -1.4**
comp=Z,55nm,0.8s,mb5.2
BSD *i* 04 07 03.2
BSD *i* S **S** **04 11 39.7 -0.9**
BSD *i* S **S** **04 11 41.0 +0.4**
BSD
comp=Z,10µm,18.0s
BSD Bornholm Skovb 40.69 312⇑ *i*P **P** **04 05 30.5 -1.4**
BSD *i* 04 07 03.2
BSD *i* S **S** **04 11 39.7 -0.9**
BSD pmax pmax
comp=Z,55nm,0.8s,mb5.2
BSD MLR MLR
comp=Z,10µm,18.0s,MS5.7
BSD Bornholm Skovb 40.69 312⇑ *i*P **P** **04 05 30.5 -1.4**
comp=Z,55nm,0.8s,mb5.2
BSD *i* 04 07 03.2
BSD *i* S **S** **04 11 39.7 -0.9**
BSD *i* S **S** **04 11 41.0 +0.4**
CONA Conrad Observa 40.72 301⇑ *i*P **P** **04 05 31.9 -0.3**
comp=Z,557nm,2.3s,mb5.8,SNR=28
SSE Sheshan 40.77 86 P **P** **04 05 32.8 +0.2**
SSE PP PP 04 07 06.6 -0.1
SSE S **S** **04 11 42.5 +0.7**
SSE SS SS 04 14 43.5 +0.5
SSE AMB AMB
comp=Z,141nm,0.8s,mb5.7
SSE AMB AMB
comp=Z,790nm,5.9s
SSE LR LR
comp=N,7µm,16.5s,MS5.7
SSE LR LR
comp=E,4µm,16.5s,MS5.7
SSE LR LR
comp=Z,8µm,13.8s,MS5.7
TREC Trest 40.78 303 *e*P **P** **04 05 33.0 +0.4**
TREC AMS AMS 04 25 10.0
comp=Z,7µm,12.5s
LCI Lecce 40.79 289 P **P** **04 05 33.7 +1.0**
SISC Sisak 40.81 298 P **P** **04 05 33.5 +0.6**
SNG Songkhla 41.01 133 P **P** **04 05 35.0 +0.4**
comp=Z,500nm,1.0s,mb6.1
ARSA Arzberg 41.06 300⇑ *i*P **P** **04 05 33.9 -1.0**
comp=Z,577nm,3.4s,SNR=23

ARSA Arzberg 41.06 300 P **P** **04 05 35.1 +0.1**
TRO Tromso 41.18 335⇑ *i*P **P** **04 05 33.8 -2.1**
TRO AMb AMB 04 05 50.9
comp=Z,157nm,1.6s,mb5.4
TRO *e*PP PP 04 07 09.4 -1.7
TRO *e*S **S** **04 11 48.1 +0.3**
TRO AMS AMS 04 23 59.3
comp=Z,20µm,22.0s,MS5.9
TRO Tromso 41.18 335 *e*P **P** **04 05 33.3 -2.6**
TRO LR LR
comp=Z,20µm,22.0s,MS5.9
GROS Grobnik 41.21 299 *e*P **P** **04 05 35.6 -0.6**
PVCC Panska Ves 41.21 305 *e*P **P** **04 05 36.2 0.0**
PVCC *e*PP PP 04 07 13.3 +1.8
PVCC *e*S **S** **04 11 46.8 -1.5**
PVCC AMS AMS 04 25 30.0
comp=Z,10µm,12.4s
SLAT Slait 41.27 247 *i* P **P** **04 05 35.9 -0.8**
baz=47,slow=10
SLAT AMb AMB 04 05 50.7
comp=Z,57nm,1.7s,mb4.9
SLAT *i* S PP 04 07 11.5 -0.6
DOBS Dobrina 41.30 299 *e*P **P** **04 05 36.5 -0.3**
PRU Pruhonice 41.30 305 *e*P **P** **04 05 37.0 +0.1**
PRU *e*PP PP 04 07 13.3 +0.9
PRU *e*S **S** **04 11 52.4 +2.8**
PRU AMS AMS 04 25 30.0
comp=Z,8µm,12.6s
PRA Prague 41.36 305 P **P** **04 05 37.0 -0.4**
CRES Cresnjev 41.37 298 *e*P **P** **04 05 37.1 -0.4**
PERS Pernice 41.44 300 *e*P **P** **04 05 38.5 +0.4**
HFA0 Hagfors New Ar 41.46 320 P **P** **04 05 35.9 -2.4**
RUE Ruedersdorf 41.51 308 *e*P **P** **04 05 38.2 -0.4**
comp=Z,93nm,1.2s,mb5.3
RUE Ruedersdorf 41.51 308 *e*P **P** **04 05 38.7 +0.1**
comp=Z,52nm,0.8s,mb5.2
YAK Yakutsk 41.51 37*c i*P **P** **04 05 37.7 -0.9**
YAK *e**PP pP 04 05 46.4 +0.1
YAK *e* 04 07 16.5
YAK *e* 04 07 34.3
YAK *e*PPP 04 07 43.5
YAK *i*S **S** **04 11 53.5 +0.8**
YAK *i* 04 15 38.3
YAK pmax pmax
comp=Z,257nm,0.9s,mb5.9
YAK pmax pmax
comp=N,16nm,1.4s
YAK pmax pmax
comp=E,257nm,1.6s
YAK pmax pmax
comp=Z,41nm,1.2s,mb4.9
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=E,43nm,1.3s
YAK smax
comp=Z,21nm,1.2s
YAK smax
comp=N,45nm,1.4s
YAK smax
comp=E,80nm,1.8s
YAK MLR MLR
comp=Z,10µm,15.0s,MS5.8
YAK MLR MLR
comp=N,3µm,18.0s
YAK MLR MLR
comp=E,6µm,12.0s
YAK Yakutsk 41.51 37 *e*P **P** **04 05 37.6 -1.0**
comp=E,536nm,0.9s,mb6.2
YAK LR LR
comp=Z,12µm,19.0s,MS5.8
BRG Berggiesshubel 41.57 306 *e*P **P** **04 05 39.5 +0.4**
comp=Z,222nm,1.9s,mb5.5
BRG Berggiesshubel 41.57 306 *i* P **P** **04 05 38.6 -0.5**
comp=Z,45nm,0.9s,mb5.1
BRG *i* pP 04 05 46.9 +0.1
comp=Z,48nm,0.8s
BRG PP PP 04 07 12.0 -3.4
BRG *i* PCP PcP 04 07 36.1 +0.1
comp=Z,25nm,1.0s
BRG *e*SCP ScP 04 11 30.9 +6.4
comp=Z,20nm,1.5s
BRG S **S** **04 11 53.0 -0.6**
BRG SS SS 04 14 54.0 -4.8
BRG
comp=N,4µm,10.8s
BRG
comp=E,4µm,13.0s
BRG
comp=Z,6µm,14.8s
BRG Berggiesshubel 41.57 306 *i* P **P** **04 05 38.7 -0.4**
BRG *i* pP 04 05 46.8 0.0
BRG 04 07 12.0
BRG *i* 04 07 36.2
BRG S **S** **04 11 53.0 -0.6**
BRG SS SS 04 14 54.0 -4.8
BRG pmax pmax
comp=Z,45nm,0.9s,mb5.1
BRG MLR MLR
comp=N,4µm,10.8s,MS5.6
BRG MLR MLR
comp=E,4µm,13.0s,MS5.6
BRG MLR MLR
BRG Berggiesshubel 41.57 306 *i* P **P** **04 05 38.6 -0.5**
comp=Z,45nm,0.9s,mb5.1
BRG *i* pP 04 05 46.9 +0.1
BRG PP PP 04 07 12.0 -3.4
BRG *i* PcP PcP 04 07 36.1 +0.1
BRG *e*ScP ScP 04 11 30.9 +6.4
BRG S **S** **04 11 53.0 -0.6**
BRG SS SS 04 14 54.0 -4.8
BRG LR LR
comp=Z,6µm,14.8s,MS5.6
BOJS Bojanci 41.57 298 *i* P **P** **04 05 39.7 +0.5**
BOJS *e*PcP PP 04 07 15.1 -0.3
RGN Rugen 41.63 312 *e*P **P** **04 05 39.8 +0.1**
comp=Z,519nm,1.3s,mb6.0
RGN Rugen 41.63 312 *e*P **P** **04 05 39.7 0.0**
comp=Z,399nm,1.0s,mb6.0
QZH Quanzhou 41.66 96⇑ *i*P **P** **04 05 40.4 +0.5**
QZH PP PP 04 07 20.2 +3.8
QZH S **S** **04 11 53.0 -2.0**
QZH AMB AMB
comp=Z,90nm,0.9s,mb5.4
QZH AMB AMB
comp=Z,3µm,4.5s
QZH LR LR
comp=N,16µm,15.7s,MS6.2
QZH LR LR
comp=E,18µm,16.9s,MS6.2
QZH LR LR
comp=Z,13µm,13.9s,MS6.0
MOA Molln 41.80 301⇑ *i*P **P** **04 05 40.5 -0.5**
comp=Z,422nm,2.5s,mb5.6,SNR=31
MOA Molln 41.80 301 P **P** **04 05 40.9 -0.1**
OBKA Obir 41.85 299⇑ *i*P **P** **04 05 41.3 -0.1**
comp=Z,1µm,3.7s,SNR=34
OBKA Obir 41.85 299 P **P** **04 05 42.0 +0.6**
FBE Freiberg 41.93 306 *e*P **P** **04 05 42.5 +0.4**
comp=Z,130nm,1.2s,mb5.4
LJU Ljubljana 41.96 299 *e*P **P** **04 05 42.9 +0.6**
LJU *e*S **S** **04 12 04.1 +4.7**
LJU *e* 04 15 09.2
LJU Ljubljana 41.96 299 *e*P **P** **04 05 42.9 +0.6**
LJU *e*S **S** **04 12 04.1 +4.7**
FGMS Monte Sant'Ang 41.98 292 P **P** **04 05 42.9 +0.4**
GEC2 GERESS Array S 42.00 303 *e*P **P** **04 05 43.4 +0.7**
comp=Z,95nm,1.0s,mb5.4
GEC2 *e*pP pP 04 05 50.9 +0.6
GEC2 *e*sP sP 04 05 54.2 +0.8
GEC2 *e*PP PP 04 07 18.5 -1.6
GEC2 *e*PPP 04 07 49.0
GEC2 *e*S **S** **04 12 03.0 +3.0**
GEC2 *e*SS SS 04 15 07.3 -0.1
GEC2 *e*SSS 04 15 52.7
GEC2 *e*LR LR 04 18 11.2
GEC2 *e*L 04 24 05.8
comp=Z,8µm,22.0s
GERES GERESS Array B 42.00 303 P **P** **04 05 43.1 +0.4**
comp=Z,20nm,0.6s,mb4.9,baz=65,slow=7.5,SNR=178
GERES LR LR 04 24 40.3
comp=Z,7µm,21.3s,MS5.5,baz=86,slow=38
KHC Kasperske Hory 42.04 304 *e*P **P** **04 05 42.9 -0.1**
KHC *e*PP PP 04 07 24.2 +3.8

KHC *e*S **S** **04 12 04.7 +4.1**
KHC AMS AMS 04 25 30.0
comp=Z,7µm,13.1s
ORI Oriolo Calabro 42.09 290 P **P** **04 05 43.5 +0.1**
COP Copenhagen 42.09 313⇑ *i*P **P** **04 05 43.5 +0.1**
comp=Z,63nm,0.8s,mb5.3
COP *i* 04 07 21.2
COP *i* S **S** **04 12 04.6 +3.3**
COP
comp=Z,6µm,18.0s
COP Copenhagen 42.09 313⇑ *i*P **P** **04 05 43.5 +0.1**
COP *i* 04 07 21.2
COP *i* S **S** **04 12 04.6 +3.3**
COP pmax pmax
comp=Z,63nm,0.8s,mb5.3
COP MLR MLR
comp=Z,6µm,18.0s,MS5.5
CLL Collm 42.11 307 ⇑P **P** **04 05 43.5 0.0**
comp=Z,logA/T=1.9,mb5.3
CLL *i* *SP sP 04 05 46.9 -7.3
CLL *e*PP PP 04 07 19.0 -2.2
CLL *e* 04 07 31.0
CLL *e*PPP 04 07 50.0
CLL *e* 04 07 56.0
CLL *e*S **S** **04 12 03.0 +1.4**
CLL *e* 04 14 34.0
CLL *e* 04 14 57.0
CLL *e* 04 16 44.0
CLL Collm 42.11 307⇑ *i*P **P** **04 05 43.5 0.0**
comp=Z,60nm,0.8s,mb5.3
CLL *i* sP sP 04 05 46.9 -7.3
CLL *e*PP PP 04 07 19.0 -2.2
CLL *ex* x 04 07 31.0
CLL *e*PPP 04 07 50.0
CLL *e*(PPPP) 04 07 56.0
CLL *e*S **S** **04 12 03.0 +1.4**
CLL *ex* x 04 14 34.0
CLL *ex* x 04 14 57.0
CLL *e*(SS) 04 15 24.0
CLL *ex* x 04 16 44.0
CLL Collm 42.11 307⇑ *i*P **P** **04 05 43.5 0.0**
CLL *i* 04 05 46.9
CLL *e*S **S** **04 12 03.0 +1.4**
CLL pmax pmax
comp=Z,60nm,0.8s,mb5.3
CLL MLR MLR
comp=Z,8µm,13.4s,MS5.8
CLL Collm 42.11 307⇑ *i*P **P** **04 05 43.5 0.0**
comp=Z,60nm,0.8s,mb5.3
CLL *i* 04 05 46.9
CLL *e*S **S** **04 12 03.0 +1.4**
CLL LR LR
comp=Z,8µm,13.4s,MS5.8
TIP Timpagrande 42.12 288 *e*P **P** **04 05 43.2 -0.5**
TIP *e*PcP PcP 04 07 33.0 -4.9
PTRP Pietrapertosa 42.23 290 P **P** **04 05 45.7 +1.1**
RGNG Rignano Grg 42.26 292 P **P** **04 05 45.0 +0.3**
VOY Vojsko 42.39 299 *e*P **P** **04 05 45.9 0.0**
VOY *e* 04 05 50.9
FG4 Candela 42.45 291 P **P** **04 05 47.4 +1.0**
GRI Girifalco 42.49 288 P **P** **04 05 46.2 -0.4**
WET Wettzell 42.49 304 *e*P **P** **04 05 47.2 +0.5**
comp=Z,74nm,0.9s,mb5.3
WET Wettzell 42.49 304 *e*P **P** **04 05 47.2 +0.5**
WET pmax pmax
comp=Z,74nm,0.9s,mb5.3
STOK Stokkvaagen 42.49 329 *e*P **P** **04 05 45.3 -1.4**
STOK AMb AMB 04 05 59.2
comp=Z,108nm,1.9s,mb5.1
STOK Stokkvaagen 42.49 329 *e*P **P** **04 05 45.3 -1.4**
comp=Z,108nm,1.9s,mb5.2
INCN Inchon 42.52 74 P **P** **04 05 47.5 +0.6**
SNR=6.4
INCN Inchon 42.52 74 *e*P **P** **04 05 46.6 -0.3**
comp=Z,106nm,1.0s,mb5.5
INCN LR LR
comp=Z,8µm,21.0s,MS5.6
KBA Koelnbreinsper 42.55 301⇑ *i*P **P** **04 05 46.9 -0.2**
comp=Z,581nm,2.9s,mb5.8,SNR=34
KBA Koelnbreinsper 42.55 301 P **P** **04 05 47.3 +0.1**
TANN Tannenbergstha 42.56 306 *e*P **P** **04 05 47.7 +0.4**
comp=Z,134nm,1.7s,mb5.4
CUC Castrocucco 42.57 290 P **P** **04 05 46.7 -0.6**
KULM Kulim 42.58 135 *e*P **P** **04 05 47.5 +0.1**
MRLC Muro Lucano 42.58 291 P **P** **04 05 48.6 +1.2**
SLCN Sala Consilina 42.59 290 P **P** **04 05 47.9 +0.5**
FG5 Orsara di Pugl 42.59 292 P **P** **04 05 48.7 +1.2**
NKC Novy Kostel 42.60 305 *e*P **P** **04 05 47.8 +0.3**
NKC *e*PP PP 04 07 29.2 +2.7
NKC *e*S **S** **04 12 12.2 +3.4**
NKC AMS AMS 04 25 00.0
comp=Z,8µm,13.1s
NKC Novy Kostel 42.60 305 *e*P **P** **04 05 47.8 +0.3**
NKC *e*PP PP 04 07 29.2 +2.7
NKC *e*S **S** **04 12 12.2 +3.4**
ROBS Robic 42.61 299 *e*P **P** **04 05 47.5 -0.1**
ROBS *e*S **S** **04 12 11.6 +2.6**
MDJ Mudanjiang 42.62 63 P **P** **04 05 47.3 -0.5**
MDJ AP pP 04 05 53.5 -1.9
MDJ XP sP 04 05 56.1 -2.4
MDJ PP PP 04 07 26.2 -0.6
MDJ PCP PcP 04 07 39.2 -0.4
MDJ SCP ScP 04 11 29.2 +0.4
MDJ PCS PcS 04 11 31.6 -0.1
MDJ S **S** **04 12 08.3 -0.9**
MDJ XS sS 04 12 20.6 -1.2
MDJ SCS ScS 04 15 46.8 -0.7
MDJ AMB AMB
comp=Z,26nm,1.0s,mb4.9
MDJ AMB AMB
comp=Z,460nm,4.6s
MDJ LR LR
comp=N,18µm,25.2s,MS5.9
MDJ LR LR
comp=E,5µm,25.7s,MS5.9
MDJ LR LR
comp=Z,21µm,16.1s
MDJ Mudanjiang 42.62 63 *e*P **P** **04 05 47.1 -0.7**
comp=Z,43nm,0.8s,mb5.2
MDJ LR LR
comp=Z,20µm,19.0s,MS6.0
LOF Lofoten 42.64 332⇓ *i*P **P** **04 05 48.6 +0.7**
LOF AMb AMB 04 06 03.6
comp=Z,147nm,1.4s,mb5.5
LOF Lofoten 42.64 332 *e*P **P** **04 05 48.6 +0.7**
comp=Z,147nm,1.4s,mb5.5
GUNZ Gunzen 42.65 305 *e*P **P** **04 05 48.5 +0.5**
comp=Z,141nm,1.8s,mb5.4
WERD Werda 42.66 306 *e*P **P** **04 05 48.3 +0.3**
comp=Z,52nm,1.2s,mb5.1
NSS Namsos 42.67 327⇑ *i*P **P** **04 05 44.5 -3.5**
NSS *e*PP PP 04 07 32.2 +5.0
NSS *e*SS SS 04 15 18.7 -1.8
NSS AMS AMS 04 24 26.1
comp=Z,9µm,18.9s,MS5.7
NSS Namsos 42.67 327 *e*P **P** **04 05 44.6 -3.5**
NSS LR LR
comp=Z,9µm,18.9s,MS5.7
PTCC Patocco-Chiusa 42.68 300 P **P** **04 05 47.7 -0.5**
MGR Morigerati 42.72 290 P **P** **04 05 48.5 0.0**
NB2 NORSAR Subarra 42.73 321 P **P** **04 05 47.0 -1.6**
comp=Z,52nm,0.8s,mb5.3,baz=92,slow=8.6
NOA NORSAR Array B 42.73 321 P **P** **04 05 47.0 -1.6**
comp=Z,26nm,0.6s,mb5.1,baz=92,slow=8.0,SNR=155
NOA PP PP 04 07 28.7 +0.8
comp=Z,23nm,0.8s,baz=101,slow=9.5,SNR=3.8
NOA LR LR 04 24 35.8
comp=Z,11µm,19.2s,MS5.8,baz=90,slow=38
NOA NORSAR Array B 42.73 321 P **P** **04 05 47.0 -1.6**
NOA 04 07 28.7
NOA NORSAR Array B 42.73 321 P **P** **04 05 47.0 -1.6**
NOA PP PP 04 07 28.7 +0.8
NOA LR LR 04 24 35.8
SGO Sicignano 42.77 291 P **P** **04 05 49.2 +0.2**
GMNA Gemona 42.79 299 P **P** **04 05 49.2 +0.1**
ROTZ Rotzenmuhle 42.82 305 *e*P **P** **04 05 50.2 +0.8**
comp=Z,71nm,1.4s,mb5.2
MANZ Manzenberg 42.85 305 *e*P **P** **04 05 50.4 +0.8**
comp=Z,122nm,1.8s,mb5.3
NAO01 NORSAR Array S 42.88 321 *e*P **P** **04 05 47.9 -1.9**
comp=Z,17nm,0.7s,mb4.9
NAO01 LR LR
comp=Z,17µm,20.0s,MS5.9
PSB1 Pescosannita 42.94 292 P **P** **04 05 50.5 +0.2**

OSL **Oslo** 42.94 320 *e*P **P** **04 05 55.1 +4.8**
BJO **Bjornoya** 42.96 342 AMS AMS 04 25 42.3
comp=Z,9µm,16.8s,MS5.8
SOI **Samo** 43.00 287 P **P** **04 05 50.7 -0.1**
FVI **Forni Avoltri** 43.03 300 P **P** **04 05 50.3 -0.7**
MOX **Moxa** 43.06 306 *e*P **P** **04 05 51.6 +0.3**
comp=Z,66nm,1.1s,mb5.3
MOX **Moxa** 43.06 306 *e*P **P** **04 05 51.5 +0.2**
comp=Z,177nm,1.7s,mb5.5
MOX *e* 04 07 35.4
MOX
comp=Z,6µm,21.0s
MOX **Moxa** 43.06 306 *e*P **P** **04 05 51.5 +0.2**
MOX *e* 04 07 35.4
MOX pmax pmax
comp=Z,177nm,1.7s,mb5.5
MOX MLR MLR
comp=Z,6µm,21.0s,MS5.5
KLR **Kul'dur** 43.14 56⇓*i*P **P** **04 05 48.2 -3.7**
KLR *e*S **S** **04 12 10.0 -6.8**
KLR *e*SS SS 04 15 18.5 -11
KLR pmax pmax
comp=E,500nm,2.8s
KLR pmax pmax
comp=Z,750nm,2.8s,mb5.9
KLR pmax pmax
comp=E,900nm,6.0s
KLR pmax pmax
comp=Z,2µm,6.0s
KLR MLR MLR
comp=E,12µm,14.0s
KLR MLR MLR
comp=Z,25µm,14.0s,MS6.3
TIXI **Tiksi** 43.14 23 *e*P **P** **04 05 48.7 -3.3**
TIXI *e*S **S** **04 12 13.5 -3.3**
TIXI *e*SS SS 04 15 23.1 -6.8
TIXI pmax pmax
comp=Z,965nm,2.5s,mb6.1
TIXI pmax pmax
comp=E,48nm,0.8s
TIXI pmax pmax
comp=Z,178nm,0.8s,mb5.8
TIXI pmax pmax
comp=N,21nm,0.9s
TIXI MLR MLR
comp=E,6µm,13.0s,MS5.8
TIXI MLR MLR
comp=Z,14µm,13.0s,MS6.0
TIXI MLR MLR
comp=N,6µm,18.0s,MS5.8
TIXI **Tiksi** 43.14 23⇑*i*P **P** **04 05 50.6 -1.4**
TIXI LR LR
comp=Z,5µm,19.0s,MS5.4
AOI **Ancona** 43.17 295 P **P** **04 05 52.2 0.0**
SCLL **Scilla** 43.19 287 P **P** **04 05 53.4 +1.0**
MIDA **Miranda** 43.22 293 P **P** **04 05 53.3 +0.7**
MTTG **Motta San Giov** 43.29 287 P **P** **04 05 53.7 +0.5**
INTR **Introdacqua** 43.37 293 P **P** **04 05 53.1 -0.7**
SEST **Monte Rota** 43.38 300 P **P** **04 05 53.4 -0.4**
TERO **Teramo** 43.41 294 P **P** **04 05 54.2 +0.1**
BSEG **Bad Segeberg** 43.44 311 *e*P **P** **04 05 54.7 +0.4**
comp=Z,141nm,1.2s,mb5.6
KS15 **Wonju Array Si** 43.47 74 *e*P **P** **04 05 53.8 -0.8**
GRA1 **Grafenberg Arr** 43.47 305 *e*P **P** **04 05 55.8 +1.2**
comp=Z,127nm,0.9s,mb5.7
GRA1 *e*PP PP 04 07 34.0 -1.8
GRA1 *e*S **S** **04 12 24.2 +2.7**
GRA1 *e*S **S** **04 12 24.7 +3.2**
GRA1 *e*SS SS 04 15 43.0 +6.8
GRA1 LR LR
comp=Z,7µm,29.8s,MS5.4
GRF **Grafenberg Arr** 43.47 305 *e*P **P** **04 05 55.8 +1.2**
comp=Z,127nm,0.9s,mb5.7
GRF *e*PP PP 04 07 34.0 -1.8
GRF *e*S **S** **04 12 24.2 +2.7**
GRF *e*S **S** **04 12 24.7 +3.2**
GRF *e*SS SS 04 15 43.0 +6.8
GRF *e*L 04 22 28.3
comp=Z,7µm,29.8s
GRF **Grafenberg Arr** 43.47 305 *e*P **P** **04 05 55.8 +1.2**
GRF *e* 04 07 34.0
GRF *e*S **S** **04 12 24.2 +2.7**
GRF pmax pmax
comp=Z,127nm,0.9s,mb5.7
GRF **Grafenberg Arr** 43.47 305 *e*P **P** **04 05 55.8 +1.2**
GRF *e* 04 07 34.0
GRF *e*S **S** **04 12 24.2 +2.7**
GRF pmax pmax
comp=Z,127nm,0.9s,mb5.7
GRF **Grafenberg Arr** 43.47 305 *e*P **P** **04 05 55.8 +1.2**
comp=Z,127nm,0.9s,mb5.7
GRF *e*PP PP 04 07 34.0 -1.8
GRF *e*S **S** **04 12 24.2 +2.7**
GRF *e*S **S** **04 12 24.7 +3.2**
GRF *e*SS SS 04 15 43.0 +6.8
GRF LR LR
comp=Z,7µm,29.8s,MS5.4
CING **Cingoli** 43.50 295 P **P** **04 05 54.9 0.0**
KONO **Kongsberg** 43.51 319 *e*P **P** **04 05 53.9 -1.1**
KONO *e*S **S** **04 12 22.6 +0.4**
KONO **Kongsberg** 43.51 319 P **P** **04 05 54.0 -0.9**
KONO pmax pmax
comp=Z,54nm,0.8s,mb5.3
KONO **Kongsberg** 43.51 319 *e*P **P** **04 05 53.9 -1.0**
comp=Z,54nm,0.8s,mb5.3
KONO LR LR
comp=Z,12µm,19.0s,MS5.8
RFI **Roccamonfina** 43.51 292 P **P** **04 05 55.9 +0.9**
SDI **San Donato** 43.52 293 P **P** **04 05 55.8 +0.8**
PESA **Pesaro** 43.61 296 P **P** **04 05 57.3 +1.6**
VVLD **Villa Vallelon** 43.61 293 P **P** **04 05 56.1 +0.4**
AQU **L'Aquila** 43.63 294⇑*i*P **P** **04 05 56.3 +0.4**
AQU **L'Aquila** 43.63 294 *e*P **P** **04 05 55.9 0.0**
AQU pmax pmax
comp=Z,136nm,1.0s,mb5.6
AQU **L'Aquila** 43.63 294 *e*P **P** **04 05 55.9 0.0**
comp=Z,136nm,1.0s,mb5.6
ARV **Arcevia** 43.65 296 P **P** **04 05 56.2 +0.2**
WTTA **Wattenberg** 43.66 301⇑*i*P **P** **04 05 55.3 -0.8**
comp=Z,529nm,2.5s,mb5.8,SNR=24
WTTA **Wattenberg** 43.66 301⇑*i*P **P** **04 05 55.3 -0.8**
WTTA pmax pmax
comp=Z,529nm,2.5s,mb5.8
CLZ **Clausthal** 43.66 308 *e*P **P** **04 05 56.4 +0.2**
comp=Z,108nm,1.4s,mb5.4
CLZ **Clausthal** 43.66 308 *e*P **P** **04 05 56.4 +0.2**
CLZ pmax pmax
comp=Z,108nm,1.4s,mb5.4
WATA **Walderalm** 43.68 301 *i*P **P** **04 05 56.2 -0.1**
comp=Z,63nm,1.0s,mb5.3,SNR=9.8
NRCA **Norcia** 43.70 295 P **P** **04 05 56.8 +0.3**
BRES **Bressanone** 43.71 300 P **P** **04 05 55.7 -0.8**
FUR **Furstenfeldbru** 43.71 302 *e*P **P** **04 05 57.3 +0.8**
comp=Z,203nm,0.9s,mb5.8
FUR **Furstenfeldbru** 43.71 302 *e*P **P** **04 05 57.3 +0.8**
FUR pmax pmax
comp=Z,203nm,0.9s,mb5.8
NRDL **Niedersach Rie** 43.74 309 *e*P **P** **04 05 57.2 +0.5**
comp=Z,204nm,1.3s,mb5.7
SLNA **Salina** 43.75 288 P **P** **04 05 56.9 +0.1**
PSI **Prapat** 43.75 139 LR LR 04 25 33.8
comp=Z,7µm,21.3s,MS5.5,baz=327,slow=38
DOMB **Dombas** 43.79 323⇓*i*P **P** **04 05 56.3 -0.9**
DOMB AMb AMB 04 06 12.0
comp=Z,116nm,1.4s,mb5.4
DOMB **Dombas** 43.79 323 *e*P **P** **04 05 56.3 -0.9**
comp=Z,116nm,1.4s,mb5.4
FIAM **Fiamignano** 43.86 294 P **P** **04 05 58.1 +0.4**
MUD **Monsted U'grnd** 43.87 315⇑*i*P **P** **04 05 57.9 +0.1**
comp=Z,75nm,1.1s,mb5.3
MUD *i* 04 07 37.4
MUD *i*S **S** **04 12 31.0 +3.6**
MUD *i* 04 15 33.0
MUD
comp=Z,8µm,16.0s
MUD **Monsted U'grnd** 43.87 315⇑*i*P **P** **04 05 57.9 +0.1**
MUD *i*S **S** **04 12 31.0 +3.6**
MUD pmax pmax
comp=Z,75nm,1.1s,mb5.3
MUD MLR MLR
comp=Z,8µm,16.0s,MS5.7
MUD **Monsted U'grnd** 43.87 315⇑*i*P **P** **04 05 57.9 +0.1**
comp=Z,75nm,1.1s,mb5.3
MUD *i* 04 07 37.4
MUD *i*S **S** **04 12 31.0 +3.6**
MUD *i* 04 15 33.0
RSM **Repubblica di** 43.88 296 P **P** **04 05 59.0 +1.1**
TATO **Taipei** 43.89 93 PFAKE
TATO LR LR
comp=Z,6µm,19.0s,MS5.6
CTI **Castel Tesino** 43.91 299 P **P** **04 05 57.2 -1.0**
SQTA **Sankt Quirin** 43.95 301⇓*i*P **P** **04 05 57.9 -0.5**
comp=Z,28nm,0.8s,mb5.0,SNR=13
SQTA **Sankt Quirin** 43.95 301 P **P** **04 05 58.4 -0.1**
GTTG **Guttingen** 43.96 308 *e*P **P** **04 05 58.9 +0.4**
comp=Z,141nm,1.1s,mb5.6
YHNB **Yeheng** 43.96 94 *e*P **P** **04 06 00.2 +1.7**
MOTA **Moosalm** 43.99 301⇓*i*P **P** **04 05 58.1 -0.7**
comp=Z,63nm,0.9s,mb5.4,SNR=32
MOTA **Moosalm** 43.99 301 P **P** **04 05 58.6 -0.2**
MURB **Monte Urbino** 44.01 295 P **P** **04 05 59.6 +0.7**
CERT **Cerreto** 44.05 293 P **P** **04 05 59.4 +0.2**
SSY **Sortino** 44.05 286 P **P** **04 05 59.4 +0.2**
UBBA **Unterbreizbach** 44.05 306 *e*P **P** **04 05 59.9 +0.6**
comp=Z,65nm,1.2s,mb5.2
VENT **Ventotene** 44.07 292 P **P** **04 05 59.9 +0.5**
APPI **Appiano** 44.10 300 P **P** **04 05 58.4 -1.3**
BADI **Badiali** 44.13 296 P **P** **04 06 01.1 +1.2**
MNS **Montasola** 44.14 294 P **P** **04 05 59.6 -0.4**
MTCE **Montecelio** 44.20 294 P **P** **04 06 00.0 -0.4**
RDP **Rocca di Papa** 44.29 293 P **P** **04 06 01.0 -0.2**
HVZN **Vizzini** 44.31 286 P **P** **04 06 02.1 +0.8**
SFI **Santa Sofia** 44.31 296 P **P** **04 06 02.0 +0.7**
CRE **Caprese Michel** 44.31 296 P **P** **04 06 01.7 +0.3**
HDH **Heidenheim-Cha** 44.33 303 P **P** **04 06 02.3 +0.8**
LAV9 **Lanuvio** 44.33 293 P **P** **04 06 02.6 +1.1**
MA9 **Marino** 44.33 293 P **P** **04 06 02.1 +0.6**
HMDC **Modica** 44.34 286 P **P** **04 06 02.2 +0.7**
NACB **Ninganchiao** 44.39 94 *e*P **P** **04 06 03.3 +1.3**
ROM9 **Roma** 44.41 293 P **P** **04 06 03.0 +0.8**
VMG **Vicchio** 44.50 297 P **P** **04 06 04.1 +1.2**
MOL **Molde** 44.51 323⇑*i*P **P** **04 06 02.1 -0.8**
MOL *e*SS SS 04 15 53.6 -2.9
MOL AMS AMS 04 26 09.0
comp=Z,17µm,20.1s,MS6.0
MOL **Molde** 44.51 323 *e*P **P** **04 06 02.2 -0.8**
MOL LR LR
comp=Z,17µm,20.1s,MS6.0
GIB **Gibilmanna** 44.54 288 P **P** **04 06 02.5 -0.6**
SIND **Sindeldorf** 44.56 304 P **P** **04 06 03.9 +0.5**
UBR **Ueberruh** 44.58 302 P **P** **04 06 03.7 +0.2**
SEI **Scarperia** 44.61 297 P **P** **04 06 04.9 +1.2**
VLA **Vladivostok** 44.62 65⇑*e*P **P** **04 06 03.9 +0.1**
BRMO **Bormio** 44.68 300 P **P** **04 06 03.4 -0.9**
MABI **Malga Bissina** 44.68 300 P **P** **04 06 03.9 -0.4**
TOLF **Tolfa** 44.71 294 P **P** **04 06 04.1 -0.5**
FNVD **Fontana Vidola** 44.74 297 P **P** **04 06 05.8 +1.0**
SAL **Salo** 44.78 299 P **P** **04 06 05.5 +0.4**
SNART **Snartemo** 44.80 317 *e*P **P** **04 06 04.6 -0.6**
ZCCA **Zocca** 44.80 297 P **P** **04 06 06.7 +1.5**
CSNT **Castellina Chi** 44.81 296 P **P** **04 06 04.7 -0.7**
DAVA **Damuels** 44.82 302⇓*i*P **P** **04 06 04.5 -0.9**
comp=Z,577nm,2.4s,mb6.0,SNR=86
DAVA **Damuels** 44.82 302 P **P** **04 06 05.4 0.0**
HLG **Helgoland** 44.83 312 *e*P **P** **04 06 05.7 +0.2**
comp=Z,216nm,1.4s,mb5.8
BUCH **Bad Urach** 44.91 303 P **P** **04 06 06.8 +0.7**
USI **Ustica** 44.92 289 P **P** **04 06 06.6 +0.4**
STU **Stuttgart** 44.95 304 *e*P **P** **04 06 06.9 +0.5**
comp=Z,79nm,0.9s,mb5.5
STU **Stuttgart** 44.95 304 *e*P **P** **04 06 06.6 +0.2**
STU pmax pmax
comp=Z,54nm,0.6s,mb5.5
STU **Stuttgart** 44.95 304 *e*P **P** **04 06 06.6 +0.2**
comp=Z,54nm,0.6s,mb5.5
TOD **Tromm** 45.03 305 *e*P **P** **04 06 07.2 +0.1**
SWS **Schriesheim-Wi** 45.12 305 P **P** **04 06 08.3 +0.5**
SPB4 **Spitsbergen Ar** 45.13 346 *e*P **P** **04 06 08.3 +0.4**
TNS **Taunus Mts** 45.13 306 *e*P **P** **04 06 08.2 +0.3**
comp=Z,35nm,0.8s,mb5.2
TNS **Taunus Mts** 45.13 306 *e*P **P** **04 06 08.2 +0.3**
TNS pmax pmax
comp=Z,35nm,0.8s,mb5.2
GUT **Gutenstein** 45.15 303 P **P** **04 06 08.4 +0.4**
ERBM **Eremo** 45.17 297 P **P** **04 06 09.3 +1.1**
IBBN **Ibbenburen** 45.19 309 *e*P **P** **04 06 08.5 +0.2**
comp=Z,184nm,1.3s,mb5.8
MAON **Monte Argentar** 45.22 295 P **P** **04 06 08.0 -0.6**
VLC **Villacollemand** 45.26 297 *e*P **P** **04 06 08.9 +0.1**
comp=Z,146nm,0.8s,mb5.9
PII **Pisa** 45.28 297 P **P** **04 06 08.0 -1.1**
VDL **Val di Lei** 45.28 301⇑P **P** **04 06 09.0 -0.1**
CLTB **Caltabellotta** 45.28 287 P **P** **04 06 08.8 -0.3**
SISB **Singen-Schiene** 45.33 302 P **P** **04 06 09.5 0.0**
SPAK **Spaichingen-Ko** 45.36 303 *e*P **P** **04 06 09.8 +0.1**
TUE **Stuetta** 45.37 301 P **P** **04 06 08.6 -1.2**
HABR **Khabarovsk** 45.43 57 *e*P **P** **04 06 11.2 +1.0**
HABR *e*S **S** **04 12 54.3 +4.3**
HABR pmax pmax
comp=Z,97nm,1.0s,mb5.6
HABR MLR MLR
comp=Z,9µm,12.6s,MS5.9
WILA **Wila** 45.43 302⇑P **P** **04 06 09.4 -0.9**
LLS **Linth-Limmern** 45.50 301⇑P **P** **04 06 10.2 -0.6**
KTD **Kalmit** 45.55 305 *e*P **P** **04 06 11.8 +0.6**
BFO **Black Forest** 45.60 303 P **P** **04 06 11.8 +0.2**
comp=Z,538nm,0.7s,mb6.6,SNR=20
BFO **Black Forest** 45.60 303 *e*P **P** **04 06 11.7 +0.1**
comp=Z,128nm,1.5s,mb5.6
BFO **Black Forest** 45.60 303 *e*P **P** **04 06 11.7 +0.1**
BFO pmax pmax
comp=Z,128nm,1.5s,mb5.6
BER **Bergen** 45.62 320 *e*P **P** **04 06 11.2 -0.6**
BER AMb AMB 04 06 27.1
comp=Z,95nm,1.0s,mb5.7
BER *e*PP PP 04 08 00.0 +1.2
BER *e*S **S** **04 12 51.7 -1.2**
BER *e*SS SS 04 16 17.4 +0.2
BER AMS AMS 04 26 40.9
comp=Z,10µm,17.4s,MS5.8
BER **Bergen** 45.62 320 *e*P **P** **04 06 11.2 -0.6**
BER pmax pmax
comp=Z,95nm,1.0s,mb5.7
BER MLR MLR
comp=Z,10µm,17.4s,MS5.8
BER **Bergen** 45.62 320 *e*P **P** **04 06 11.2 -0.6**
comp=Z,95nm,1.0s,mb5.7
BER LR LR
comp=Z,10µm,17.4s,MS5.8
SLE **Schleitheim** 45.62 303⇑P **P** **04 06 11.7 -0.1**
BUG **Bochum--Univer** 45.64 308 *e*P **P** **04 06 12.1 +0.2**
comp=Z,119nm,1.3s,mb5.7
ZUR **Zurich** 45.66 302⇑P **P** **04 06 11.8 -0.3**
MUO **Muotathal** 45.72 301⇑P **P** **04 06 11.5 -1.0**
BOB **Bobbio (Coli)** 45.74 298 P **P** **04 06 12.6 -0.1**
WIT **Witteveen** 45.76 310 *e*P **P** **04 06 13.4 +0.6**
ABH **Alteburg** 45.77 306 *e*P **P** **04 06 13.2 +0.3**
WTSB **Winterswijk** 45.83 309 *e*P **P** **04 06 13.5 0.0**
comp=Z,141nm,1.9s,mb5.6
STR **Strasbourg** 45.91 304 *e*P **P** **04 06 14.6 +0.5**
FELD **Feldberg im Sc** 45.92 303⇓*e*P **P** **04 06 13.9 -0.2**
SULZ **Sulz-Cheisache** 45.93 302⇑P **P** **04 06 13.9 -0.3**
KIZ **Kirchzarten** 45.96 303 P **P** **04 06 14.2 -0.2**
LIBD **Limburg** 46.12 303 *e*P **P** **04 06 15.2 -0.5**
RUP **Ruppelstein** 46.12 305 *e*P **P** **04 06 15.7 0.0**
KBS **Kingsbay** 46.24 347 *e*P **P** **04 06 15.8 -0.8**
KBS AMb AMB 04 06 31.7
comp=Z,116nm,1.9s,mb5.5
KBS *e*S **S** **04 12 59.7 -2.0**
KBS *e*SS SS 04 16 28.8 +1.6
KBS AMS AMS 04 28 45.7
comp=Z,6µm,19.2s,MS5.5
KBS **Kingsbay** 46.24 347 *e*P **P** **04 06 14.7 -1.9**
comp=Z,116nm,0.8s,mb5.9
KBS LR LR
comp=Z,11µm,20.0s,MS5.8
DGAR **Diego Garcia** 46.27 179 PFAKE
DGAR LR LR
comp=Z,4µm,19.0s,MS5.4
CDF **Champ du Feu** 46.27 304 *e*P **P** **04 06 16.7 -0.2**
comp=Z,211nm,1.2s,mb5.7
CDF **Champ du Feu** 46.27 304 *e*P **P** **04 06 16.7 -0.2**
CDF pmax pmax
comp=Z,106nm,1.2s,mb5.7
CDF **Champ du Feu** 46.27 304 *e*P **P** **04 06 16.7 -0.2**
comp=Z,106nm,1.2s,mb5.6
BBS **Basel-Blauen** 46.34 302 *e*P **P** **04 06 16.9 -0.6**
ECH **Echery** 46.39 303 *e*P **P** **04 06 17.5 -0.3**
MMK **Mattmark** 46.40 300⇑P **P** **04 06 17.3 -0.6**
MCGN **Macugnaga** 46.41 300 P **P** **04 06 17.0 -1.0**
MOF **Molkenrain** 46.49 303 *e*P **P** **04 06 18.4 -0.2**
ORO **Oropa** 46.50 300 P **P** **04 06 17.2 -1.5**
LKBD **Leukerbad** 46.54 301⇓P **P** **04 06 17.9 -1.1**
MEM **Membach** 46.58 307 P **P** **04 06 19.6 +0.2**
comp=Z,17nm,1.0s,mb4.9
HGN **Heimansgroeve** 46.60 307⇑*e*P **P** **04 06 19.4 0.0**
comp=Z,71nm,2.8s,mb5.1
HGN *ex* x 04 08 25.5
HGN *e*S **S** **04 13 08.7 +1.8**
HGN *e*SS SS 04 16 38.1 +5.1
CORF **Corte** 46.66 295 *e*P **P** **04 06 19.7 -0.2**
HINF **Hinteralfeld** 46.69 303 *e*P **P** **04 06 19.6 -0.5**
comp=Z,104nm,0.8s,mb5.5
HINF **Hinteralfeld** 46.69 303 *e*P **P** **04 06 19.6 -0.5**
HINF pmax pmax
comp=Z,52nm,0.8s,mb5.5
HINF **Hinteralfeld** 46.69 303 *e*P **P** **04 06 19.6 -0.5**
comp=Z,52nm,0.8s,mb5.5
PGF **Pioggiola** 46.69 295 *e*P **P** **04 06 19.9 -0.3**
comp=Z,253nm,0.9s,mb5.8
PGF **Pioggiola** 46.69 295 *e*P **P** **04 06 19.9 -0.3**
PGF pmax pmax
comp=Z,127nm,0.9s,mb5.8
PGF **Pioggiola** 46.69 295 *e*P **P** **04 06 19.9 -0.3**
comp=Z,127nm,0.9s,mb5.8
WLF **Walferdange** 46.70 306 *e*P **P** **04 06 20.9 +0.7**
comp=Z,148nm,1.3s,mb5.8
WLF **Walferdange** 46.70 306 P **P** **04 06 21.0 +0.7**
comp=Z,40nm,0.9s,mb5.3
WLF AP pP 04 06 28.2 +0.3
WLF **Walferdange** 46.70 306 *e*P **P** **04 06 20.9 +0.7**
WLF pmax pmax
comp=Z,43nm,0.6s,mb5.6
WLF **Walferdange** 46.70 306 *e*P **P** **04 06 20.9 +0.7**
comp=Z,43nm,0.6s,mb5.5
FIN **Finale Ligure** 46.74 298 P **P** **04 06 19.7 -0.9**
BEBN **Eben Emael** 46.75 307 P **P** **04 06 20.7 +0.1**
DIX **Grande Dixence** 46.76 301⇓P **P** **04 06 20.8 0.0**
LOMF **Lomont** 46.82 302 *e*P **P** **04 06 20.5 -0.7**
HAU **Haudompre** 46.97 303 *e*P **P** **04 06 22.0 -0.4**
comp=Z,96nm,0.8s,mb5.5
HAU *e*R
comp=Z,5µm,19.8s
HAU **Haudompre** 46.97 303 *e*P **P** **04 06 22.0 -0.4**
HAU pmax pmax
comp=Z,48nm,0.8s,mb5.5
HAU MLR MLR
comp=Z,5µm,19.8s,MS5.5
HAU **Haudompre** 46.97 303 *e*P **P** **04 06 22.0 -0.4**
comp=Z,48nm,0.8s,mb5.5
HAU LR LR
comp=Z,5µm,19.8s,MS5.5
DGI **Dorgali Grotta** 46.98 292 P **P** **04 06 22.3 -0.1**
IMI **Imperia** 47.05 298 P **P** **04 06 23.5 +0.5**
BCLA **Clavier** 47.06 307 P **P** **04 06 23.4 +0.3**
comp=Z,8,8nm,0.8s,mb4.7
BCLA AP pP 04 06 30.8 0.0
EMV **Vieux Emosson** 47.11 301⇓P **P** **04 06 23.6 +0.1**
RSP **Reno Superiore** 47.12 299 P **P** **04 06 21.7 -1.9**
THEF **They Montfort** 47.15 304 *e*P **P** **04 06 23.7 -0.1**
DOI **San Damiano** 47.32 298 P **P** **04 06 23.8 -1.3**
STV **Sta Anna Valdi** 47.34 298 P **P** **04 06 24.7 -0.6**
AUTN **L'Aution** 47.34 298 *e*P **P** **04 06 26.1 +0.8**
LPG **La Plagne** 47.37 300 *e*P **P** **04 06 26.0 +0.5**
comp=Z,234nm,0.8s,mb5.8
LPG **La Plagne** 47.37 300 *e*P **P** **04 06 26.0 +0.5**
LPG pmax pmax
comp=Z,117nm,0.8s,mb5.9
LPG **La Plagne** 47.37 300 *e*P **P** **04 06 26.0 +0.5**
comp=Z,117nm,0.8s,mb5.9
LPL **La Plagne** 47.38 300 *e*P **P** **04 06 25.9 +0.4**
comp=Z,193nm,0.7s,mb5.8
LPL **La Plagne** 47.38 300 *e*P **P** **04 06 25.9 +0.4**
LPL pmax pmax
comp=Z,96nm,0.7s,mb5.8
LPL **La Plagne** 47.38 300 *e*P **P** **04 06 25.9 +0.4**
comp=Z,96nm,0.7s,mb5.8
SBF **Sospel** 47.38 298 *e*P **P** **04 06 25.8 +0.2**
comp=Z,1µm,1.2s,mb6.3
SBF **Sospel** 47.38 298 *e*P **P** **04 06 25.8 +0.2**
SBF pmax pmax
comp=Z,530nm,1.2s,mb6.3
SBF **Sospel** 47.38 298 *e*P **P** **04 06 25.8 +0.2**
comp=Z,530nm,1.2s,mb6.3
ABRA **Dolores** 47.40 102 *e*P **P** **04 06 23.9 -1.8**
VSL **Villasalto** 47.42 291 *e*P **P** **04 06 26.5 +0.6**
comp=Z,42nm,0.9s,mb5.4
LUCF **Luceram** 47.43 298 *e*P **P** **04 06 26.5 +0.5**
GIVF **Givet** 47.44 306 *e*P **P** **04 06 26.2 +0.2**
comp=Z,56nm,0.7s,mb5.3
GIVF **Givet** 47.44 306 *e*P **P** **04 06 26.2 +0.2**
GIVF pmax pmax
comp=Z,28nm,0.7s,mb5.3
GIVF **Givet** 47.44 306 *e*P **P** **04 06 26.2 +0.2**
comp=Z,28nm,0.7s,mb5.3
REVF **Revere** 47.46 297 *e*P **P** **04 06 26.4 +0.2**
TOUF **Mont Tournerai** 47.46 298 *e*P **P** **04 06 27.0 +0.8**
CABF **La Chapelle** 47.50 302 *e*P **P** **04 06 26.3 -0.2**
comp=Z,123nm,0.6s,mb5.8
CABF **La Chapelle** 47.50 302 *e*P **P** **04 06 26.3 -0.2**
CABF pmax pmax
comp=Z,62nm,0.6s,mb5.8
CABF **La Chapelle** 47.50 302 *e*P **P** **04 06 26.3 -0.2**
comp=Z,62nm,0.6s,mb5.8
BNI **Bardonecchia** 47.55 299 P **P** **04 06 26.0 -0.9**
BNI pmax pmax
comp=Z,240nm,1.2s,mb6.1
BNI **Bardonecchia** 47.55 299 *e*P **P** **04 06 26.2 -0.6**
comp=Z,244nm,1.2s,mb6.1
BOLP **Bolinao** 47.56 104 *e*P **P** **04 06 29.2 +2.2**
MVIF **Mont Vial** 47.56 298 *e*P **P** **04 06 27.2 +0.2**
UCC **Uccle** 47.56 307 P **P** **04 06 26.9 -0.1**
UCC PP PP 04 08 16.6 -2.0
DOU **Dourbes** 47.58 306 P **P** **04 06 27.7 +0.6**
comp=Z,12nm,0.8s,mb5.0
DOU AP pP 04 06 35.8 +1.0
SURF **Saint Ours** 47.62 299 *e*P **P** **04 06 27.2 -0.2**
APYP **Conner** 47.67 102 *e*P **P** **04 06 29.7 +1.9**
SNF **Seneffe** 47.68 307 P **P** **04 06 28.2 +0.3**
comp=Z,12nm,0.9s,mb4.9
SNF AP pP 04 06 36.4 +0.8
BAIF **Baives** 47.83 306 *e*P **P** **04 06 29.3 +0.2**
comp=Z,100nm,0.8s,mb5.6
BAIF **Baives** 47.83 306 *e*P **P** **04 06 29.3 +0.2**
BAIF pmax pmax
comp=Z,50nm,0.8s,mb5.6
BAIF **Baives** 47.83 306 *e*P **P** **04 06 29.3 +0.2**
comp=Z,50nm,0.8s,mb5.6
GDM **Grand'Maison** 47.88 300 *e*P **P** **04 06 30.0 +0.5**
FRF **La Foret Royal** 48.02 297 *e*P **P** **04 06 30.2 -0.3**
comp=Z,211nm,0.8s,mb5.9
FRF **La Foret Royal** 48.02 297 *e*P **P** **04 06 30.2 -0.3**
FRF pmax pmax
comp=Z,105nm,0.8s,mb5.9
FRF **La Foret Royal** 48.02 297 *e*P **P** **04 06 30.2 -0.3**
comp=Z,105nm,0.8s,mb5.9
SGCP **Mt. Cagua** 48.06 101 *e*P **P** **04 06 32.1 +1.2**
ORIF **Oris-en-Rattie** 48.13 299 *e*P **P** **04 06 30.6 -0.8**
comp=Z,48nm,0.6s,mb5.4
ORIF *e*R
comp=Z,8µm,21.0s
ORIF **Oris-en-Rattie** 48.13 299 *e*P **P** **04 06 30.6 -0.8**
ORIF pmax pmax
comp=Z,24nm,0.6s,mb5.4
ORIF **Oris-en-Rattie** 48.13 299 *e*P **P** **04 06 30.6 -0.8**
comp=Z,24nm,0.6s,mb5.4
LMR **La Mourre** 48.18 297 *e*P **P** **04 06 31.3 -0.5**
STOF **St-Etienne Org** 48.39 298 *e*P **P** **04 06 33.7 +0.3**
TAVF **Tavernes** 48.41 298 *e*P **P** **04 06 32.7 -0.8**
VILF **Villemus** 48.57 298 *e*P **P** **04 06 35.6 +0.9**
SMRF **Simiane la Rot** 48.62 298 *e*P **P** **04 06 35.1 -0.1**
comp=Z,190nm,1.0s,mb5.8
SMRF **Simiane la Rot** 48.62 298 *e*P **P** **04 06 35.1 -0.1**
comp=Z,190nm,1.0s,mb6.1
PUYF **Puyloubier** 48.68 298 *e*P **P** **04 06 35.6 0.0**
BERF **Bertagne** 48.76 297 *e*P **P** **04 06 36.7 +0.5**
LOR **Lormes** 48.79 303 *e*P **P** **04 06 35.3 -1.1**
comp=Z,56nm,0.7s,mb5.4
LOR *e*R
comp=Z,4µm,17.0s
LOR **Lormes** 48.79 303 *e*P **P** **04 06 35.3 -1.1**
LOR pmax pmax
comp=Z,28nm,0.7s,mb5.4

LOR MLR MLR
comp=Z,4µm,17.0s,MS5.5
LOR Lormes 48.79 303 *e*P **P 04 06 35.3 -1.1**
comp=Z,28nm,0.7s,mb5.4
LOR LR LR
comp=Z,4µm,17.0s,MS5.5
TREF Trevaresse 48.87 298 *e*P **P 04 06 37.9 +0.8**
GELF Grande-Etoile 48.91 298 *e*P **P 04 06 36.7 -0.7**
PRAF Pradon 48.96 298 *e*P **P 04 06 38.4 +0.7**
VIVF Saint-Julien-I 48.96 300 *e*P **P 04 06 36.9 -0.9**
comp=Z,88nm,0.7s,mb5.6
VIVF Saint-Julien-I 48.96 300 *e*P **P 04 06 36.9 -0.9**
VIVF pmax pmax
comp=Z,44nm,0.7s,mb5.6
VIVF Saint-Julien-I 48.96 300 *e*P **P 04 06 36.9 -0.9**
comp=Z,44nm,0.7s,mb5.6
SMF Signal de Mont 48.98 302 *e*P **P 04 06 36.8 -1.1**
comp=Z,67nm,0.5s,mb5.6
SMF Signal de Mont 48.98 302 *e*P **P 04 06 36.8 -1.1**
SMF pmax pmax
comp=Z,34nm,0.5s,mb5.6
SMF Signal de Mont 48.98 302 *e*P **P 04 06 36.8 -1.1**
comp=Z,34nm,0.5s,mb5.6
SSF Saint Saulge 49.08 303 *e*P **P 04 06 38.0 -0.7**
comp=Z,59nm,0.8s,mb5.4
SSF Saint Saulge 49.08 303 *e*P **P 04 06 38.0 -0.7**
SSF pmax pmax
comp=Z,29nm,0.8s,mb5.4
SSF Saint Saulge 49.08 303 *e*P **P 04 06 38.0 -0.7**
comp=Z,30nm,0.8s,mb5.4
BALP Baler 49.21 104 *e*P **P 04 06 42.1 +2.4**
AVF Avril sur Loir 49.26 302 *e*P **P 04 06 39.3 -0.7**
comp=Z,206nm,0.8s,mb5.9
AVF Avril sur Loir 49.26 302 *e*P **P 04 06 39.3 -0.7**
AVF pmax pmax
comp=Z,103nm,0.8s,mb5.9
AVF Avril sur Loir 49.26 302 *e*P **P 04 06 39.3 -0.7**
comp=Z,103nm,0.8s,mb5.9
PLDF La Plantade 49.33 301 *e*P **P 04 06 40.0 -0.6**
HYF Humbligny 49.58 303 *e*P **P 04 06 42.5 0.0**
AGO Saint Agoulin 49.62 302 *e*P **P 04 06 43.1 +0.2**
BGF Bois d'Agland 49.66 302 *e*P **P 04 06 42.6 -0.5**
comp=Z,117nm,0.7s,mb5.7
BGF Bois d'Agland 49.66 302 *e*P **P 04 06 42.6 -0.5**
BGF pmax pmax
comp=Z,59nm,0.7s,mb5.7
BGF Bois d'Agland 49.66 302 *e*P **P 04 06 42.6 -0.5**
comp=Z,58nm,0.7s,mb5.7
LWH Whinny Nab 49.74 313⇑ *e*P **P 04 06 43.3 -0.4**
LWH Whinny Nab 49.74 313⇑ *e*P **P 04 06 43.3 -0.4**
LASF Ste Croix 49.77 299 *e*P **P 04 06 44.3 +0.4**
comp=Z,302nm,1.0s,mb6.0
LBL Lubilhac 49.80 301 *e*P **P 04 06 44.2 0.0**
CMAH Djebel Manchou 49.93 289 P **P 04 06 47.0 +1.8**
ABSA Djebel Ababsia 50.03 288 P **P 04 06 48.0 +2.1**
TCF Toulx Ste Croi 50.16 302 *e*P **P 04 06 46.9 0.0**
comp=Z,183nm,1.0s,mb5.8
TCF Toulx Ste Croi 50.16 302 *e*P **P 04 06 46.9 0.0**
TCF pmax pmax
comp=Z,91nm,1.0s,mb5.8
TCF Toulx Ste Croi 50.16 302 *e*P **P 04 06 46.9 0.0**
comp=Z,91nm,1.0s,mb5.8
MLA1 Latheron 50.32 318⇑ *e*P **P 04 06 46.9 -1.3**
MLA1 Latheron 50.32 318⇑ *e*P **P 04 06 46.9 -1.3**
MME1 Meikle Cairn 50.33 317⇑ *e*P **P 04 06 46.8 -1.4**
MME1 Meikle Cairn 50.33 317⇑ *e*P **P 04 06 46.8 -1.4**
MCD Coleburn Disti 50.42 318⇑ *e*P **P 04 06 47.8 -1.1**
MCD Coleburn Disti 50.42 318⇑ *e*P **P 04 06 47.8 -1.1**
SKP1 Kophill 50.48 310⇑ *e*P **P 04 06 48.2 -1.1**
SKP1 Kophill 50.48 310⇑ *e*P **P 04 06 48.2 -1.1**
JMIC Jan Mayen 50.49 335 *e*P **P 04 06 49.6 +0.2**
JMIC *e*PP PP 04 08 44.9 -0.3
JMIC *e*S **S 04 14 02.2 +0.4**
JMIC AMS AMS 04 28 47.9
comp=Z,8µm,20.7s,MS5.7
JMIC Jan Mayen 50.49 335 *e*P **P 04 06 49.8 +0.3**
JMIC LR LR
comp=Z,8µm,20.7s,MS5.7
KBI1 Birley Grange 50.50 312⇑ *e*P **P 04 06 48.7 -0.8**
KBI1 Birley Grange 50.50 312⇑ *e*P **P 04 06 48.7 -0.8**
CKFL Kef-Lekhel 50.54 289 P **P 04 06 51.0 +1.2**
LHO Holmfirth 50.61 312⇑ *e*P **P 04 06 49.5 -0.8**
LHO Holmfirth 50.61 312⇑ *e*P **P 04 06 49.5 -0.8**
CAF Calviac 50.70 301 *e*P **P 04 06 50.8 -0.2**
comp=Z,136nm,1.0s,mb5.5
CAF Calviac 50.70 301 *e*P **P 04 06 50.8 -0.2**
CAF pmax pmax
comp=Z,68nm,1.0s,mb5.5
CAF Calviac 50.70 301 *e*P **P 04 06 50.8 -0.2**
comp=Z,68nm,1.0s,mb5.5
EBL Broad Law 50.72 315⇑ *e*P **P 04 06 50.3 -0.8**
EBL Broad Law 50.72 315⇑ *e*P **P 04 06 50.3 -0.8**
KWE Weaver Farm 50.74 312⇑ *e*P **P 04 06 50.5 -0.8**
KWE Weaver Farm 50.74 312⇑ *e*P **P 04 06 50.5 -0.8**
CASM Ain Smara 50.77 289 P **P 04 06 53.0 +1.5**
EDI Edinburgh 50.77 315⇑ *e*P **P 04 06 50.8 -0.7**
EDI Edinburgh 50.77 315⇑ *e*P **P 04 06 50.8 -0.7**
YSS Yuzh-Sakhalins 50.84 57α *i*P **P 04 06 51.0 -1.1**
YSS *e* 04 08 53.0
YSS *e*S **S 04 14 03.0 -3.7**
YSS *e*PS 04 14 14.0
YSS *e* 04 16 40.0
YSS pmax pmax
comp=Z,140nm,1.1s,mb5.8
YSS pmax pmax
comp=Z,1µm,5.0s
YSS MLR MLR
comp=Z,114µm,19.0s
YSS MLR MLR
comp=N,4µm,16.0s,MS5.8
YSS MLR MLR
comp=E,6µm,15.0s,MS5.8
YSS Yuzh-Sakhalins 50.84 57 *e*P **P 04 06 51.5 -0.5**
comp=E,308nm,1.5s,mb6.0
YSS LR LR
comp=Z,7µm,20.0s,MS5.7
BDL Dobcross Hall 50.91 314⇑ *e*P **P 04 06 52.2 -0.4**
BDL Dobcross Hall 50.91 314⇑ *e*P **P 04 06 52.2 -0.4**
ESK Eskdalemuir 50.92 315 P **P 04 06 51.6 -1.1**
comp=Z,222nm,0.8s,mb6.1,SNR=12
ESK Eskdalemuir 50.92 315 *e*P **P 04 06 51.3 -1.4**
ESK pmax pmax
comp=Z,66nm,0.9s,mb5.6
ESK MLR MLR
comp=Z,9µm,20.0s,MS5.8
ESK Eskdalemuir 50.92 315 *e*P **P 04 06 51.3 -1.4**
comp=Z,66nm,0.9s,mb5.6
ESK LR LR
comp=Z,9µm,20.0s,MS5.8
EAU Auchinoon 50.93 315⇑ *e*P **P 04 06 52.0 -0.7**
EAU Auchinoon 50.93 315⇑ *e*P **P 04 06 52.0 -0.7**
RJF Les Rejaudoux 50.94 301 *e*P **P 04 06 53.0 +0.2**
comp=Z,81nm,0.8s,mb5.4
RJF *e*R
comp=Z,6µm,22.0s
RJF Les Rejaudoux 50.94 301 *e*P **P 04 06 53.0 +0.2**
RJF pmax pmax
comp=Z,41nm,0.8s,mb5.4
RJF MLR MLR
comp=Z,6µm,22.0s,MS5.5
RJF Les Rejaudoux 50.94 301 *e*P **P 04 06 53.0 +0.2**
comp=Z,40nm,0.8s,mb5.4
RJF LR LR
comp=Z,6µm,22.0s,MS5.5
LDF La Druitiere 50.96 306 *e*P **P 04 06 51.9 -1.0**
comp=Z,196nm,0.8s,mb5.8
LDF La Druitiere 50.96 306 *e*P **P 04 06 51.9 -1.0**
LDF pmax pmax
comp=Z,98nm,0.8s,mb5.8
LDF La Druitiere 50.96 306 *e*P **P 04 06 51.9 -1.0**
comp=Z,98nm,0.8s,mb5.8
SJAF Saint Jean de 50.98 297 *e*P **P 04 06 53.0 -0.1**
BHH Howats Hill 50.99 314⇑ *e*P **P 04 06 52.2 -1.0**
BHH Howats Hill 50.99 314⇑ *e*P **P 04 06 52.2 -1.0**
KMBO Kilima Mbogo 51.05 227 P **P 04 06 53.5 -0.2**
comp=Z,31nm,0.9s,mb5.2,baz=31,slow=10,SNR=22
KMBO LR LR 04 29 49.6
comp=Z,4µm,21.0s,MS5.4,baz=39,slow=38
KMBO Kilima Mbogo 51.05 227 P **P 04 06 55.8 +2.2**
SNR=18
KMBO Kilima Mbogo 51.05 227 P **P 04 06 55.3 +1.6**
KMBO pmax pmax
comp=Z,32nm,1.0s
KMBO Kilima Mbogo 51.05 227 *e*P **P 04 06 55.2 +1.6**
comp=Z,32nm,1.0s,mb5.2

KMBO LR LR
comp=Z,3µm,21.0s,MS5.3
LRDF Laroque-de-Fa 51.05 298 *e*P **P 04 06 53.8 +0.1**
CKE Keswick 51.05 314⇑ *e*P **P 04 06 52.8 -0.9**
CKE Keswick 51.05 314⇑ *e*P **P 04 06 52.8 -0.9**
BBO1 Bothel 51.09 314⇑ *e*P **P 04 06 53.4 -0.6**
BBO1 Bothel 51.09 314⇑ *e*P **P 04 06 53.4 -0.6**
DFRA Djebel Bou Aff 51.10 289 P **P 04 06 56.0 +2.0**
SIW Isle of Wight 51.12 309⇑ *e*P **P 04 06 53.4 -0.8**
SIW Isle of Wight 51.12 309⇑ *e*P **P 04 06 53.4 -0.8**
SWN1 Swindon 51.13 310 *e*P **P 04 06 53.8 -0.5**
SWN1 Swindon 51.13 310 *e*P **P 04 06 53.8 -0.5**
FLN La Foliniere 51.13 306 *e*P **P 04 06 53.4 -0.8**
comp=Z,113nm,0.8s,mb5.6
FLN *e*R
comp=Z,5µm,22.5s
FLN La Foliniere 51.13 306 *e*P **P 04 06 53.4 -0.8**
FLN pmax pmax
comp=Z,56nm,0.8s,mb5.5
FLN MLR MLR
comp=Z,5µm,22.5s,MS5.5
FLN La Foliniere 51.13 306 *e*P **P 04 06 53.4 -0.8**
comp=Z,56nm,0.8s,mb5.5
FLN LR LR
comp=Z,5µm,22.5s,MS5.5
MTLF Montolieu 51.13 299 *e*P **P 04 06 54.2 -0.1**
comp=Z,188nm,1.0s,mb5.7
MTLF Montolieu 51.13 299 *e*P **P 04 06 54.2 -0.1**
MTLF pmax pmax
comp=Z,94nm,1.0s,mb5.7
MTLF Montolieu 51.13 299 *e*P **P 04 06 54.2 -0.1**
comp=Z,94nm,1.0s,mb5.7
CDU1 Dunnerdale 51.17 313⇑ *e*P **P 04 06 53.5 -1.1**
CDU1 Dunnerdale 51.17 313⇑ *e*P **P 04 06 53.5 -1.1**
FILF Fillols 51.17 298 *e*P **P 04 06 55.3 +0.7**
BWH Wardlaw 51.21 315⇑ *e*P **P 04 06 54.4 -0.5**
BWH Wardlaw 51.21 315⇑ *e*P **P 04 06 54.4 -0.5**
XDE Dent Fell 51.29 314⇑ *e*P **P 04 06 54.6 -0.9**
XDE AMb AMB 04 06 59.6
comp=Z,95nm,1.7s,mb5.5
XDE Dent Fell 51.29 314⇑ *e*P **P 04 06 54.6 -0.9**
XDE AMb AMB 04 06 59.6
comp=Z,95nm,1.7s,mb5.5
EAB Aberfoyle 51.33 316⇑ *e*P **P 04 06 54.8 -0.9**
EAB Aberfoyle 51.33 316⇑ *e*P **P 04 06 54.8 -0.9**
KSM Kuching 51.33 127 *e*P **P 04 06 55.9 +0.2**
CARF Carcanieres 51.43 298 *e*P **P 04 06 56.4 -0.1**
MAJO Matsushiro 51.45 71 P **P 04 06 55.5 -1.2**
MAJO pmax pmax
comp=Z,110nm,0.9s,mb5.8
MAJO Matsushiro 51.45 71 *e*P **P 04 06 55.3 -1.4**
comp=Z,117nm,0.9s,mb5.8
MAJO LR LR
comp=Z,3µm,20.0s,MS5.3
MAT Matsushiro 51.45 71 P **P 04 06 55.8 -0.9**
MAT S **S 04 14 13.0 -2.1**
MAT Matsushiro 51.45 71 *e*P **P 04 06 56.0 -0.7**
MAT *e*S **S 04 14 14.0 -1.1**
MAT pmax pmax
comp=Z,34nm,0.8s,mb5.3
MAT MLR MLR
comp=Z,6µm,19.0s,MS5.7
MAT Matsushiro 51.45 71 *e*P **P 04 06 56.0 -0.7**
comp=Z,34nm,0.8s,mb5.3
MAT *e*S **S 04 14 14.0 -1.1**
MAT LR LR
comp=Z,6µm,19.0s,MS5.7
MJAR Matsushiro Arr 51.46 71 P **P 04 06 55.7 -1.0**
comp=Z,72nm,0.9s,mb5.6,baz=294,slow=9.3,SNR=56
MJAR LR LR 04 31 07.7
comp=Z,5µm,18.1s,MS5.6,baz=270,slow=39
GRR Gorron 51.48 306 *e*P **P 04 06 55.9 -1.0**
comp=Z,178nm,0.7s,mb5.8
GRR Gorron 51.48 306 *e*P **P 04 06 55.9 -1.0**
GRR pmax pmax
comp=Z,89nm,0.7s,mb5.8
GRR Gorron 51.48 306 *e*P **P 04 06 55.9 -1.0**
comp=Z,89nm,0.7s,mb5.8
HLM1 Long Mynd 51.49 311⇑ *e*P **P 04 06 56.3 -0.6**
HLM1 AMb AMB 04 06 58.8
comp=Z,67nm,1.6s,mb5.3
HLM1 Long Mynd 51.49 311⇑ *e*P **P 04 06 56.3 -0.6**
HLM1 AMb AMB 04 06 58.8
comp=Z,67nm,1.6s,mb5.3
SWK Warminster 51.51 309⇑ *e*P **P 04 06 55.9 -1.2**
SWK Warminster 51.51 309⇑ *e*P **P 04 06 55.9 -1.2**
KAC Achnashellach 51.51 318⇑ *e*P **P 04 06 56.1 -0.9**
KAC Achnashellach 51.51 318⇑ *e*P **P 04 06 56.1 -0.9**
LFF La Frestale 51.58 301 *e*P **P 04 06 57.1 -0.5**
comp=Z,180nm,0.8s,mb5.8
LFF La Frestale 51.58 301 *e*P **P 04 06 57.1 -0.5**
LFF pmax pmax
comp=Z,90nm,0.8s,mb5.8
LFF La Frestale 51.58 301 *e*P **P 04 06 57.1 -0.5**
comp=Z,90nm,0.8s,mb5.8
CKHR Kef el Ahmar 51.59 289 P **P 04 07 00.0 +2.4**
SET Setif 51.59 289 P **P 04 07 00.0 +2.3**
SBD1 Bryn Du 51.60 312⇑ *e*P **P 04 06 56.8 -1.0**
SBD1 Bryn Du 51.60 312⇑ *e*P **P 04 06 56.8 -1.0**
MFF Saint Martin d 51.60 303 *e*P **P 04 06 57.0 -0.8**
comp=Z,134nm,1.1s,mb5.5
MFF Saint Martin d 51.60 303 *e*P **P 04 06 57.0 -0.8**
MFF pmax pmax
comp=Z,67nm,1.1s,mb5.5
MFF Saint Martin d 51.60 303 *e*P **P 04 06 57.0 -0.8**
comp=Z,67nm,1.1s,mb5.5
VALF Valcebollere 51.60 298 *e*P **P 04 06 58.3 +0.5**
HGH Gray Hill 51.70 310⇑ *e*P **P 04 06 57.5 -0.9**
HGH AMb AMB 04 07 00.2
comp=Z,173nm,1.7s,mb5.7
HGH Gray Hill 51.70 310⇑ *e*P **P 04 06 57.5 -0.9**
HGH AMb AMB 04 07 00.2
comp=Z,173nm,1.7s,mb5.7
MCH1 Michaelchurch 51.70 311⇑ *e*P **P 04 06 57.9 -0.7**
MCH1 Michaelchurch 51.70 311⇑ *e*P **P 04 06 57.9 -0.7**
KPL Plockton 51.74 318⇑ *e*P **P 04 06 58.0 -0.8**
KPL Plockton 51.74 318⇑ *e*P **P 04 06 58.0 -0.8**
KKM Kota Kinabalu 51.79 118 *e*P **P 04 07 00.2 +1.0**
KKM *e*pP pP 04 07 07.9 +0.9
HTR Trewern Hill 51.84 311⇑ *e*P **P 04 06 58.6 -1.0**
HTR AMb AMB 04 07 01.3
comp=Z,142nm,1.5s,mb5.7
HTR Trewern Hill 51.84 311⇑ *e*P **P 04 06 58.6 -1.0**
HTR AMb AMB 04 07 01.3
comp=Z,142nm,1.5s,mb5.7
WPM1 Penmaenmawr 51.87 312⇑ *e*P **P 04 06 59.3 -0.4**
WPM1 Penmaenmawr 51.87 312⇑ *e*P **P 04 06 59.3 -0.4**
GlM North Isle of 51.90 314⇑ *e*P **P 04 06 59.6 -0.4**
GlM North Isle of 51.90 314⇑ *e*P **P 04 06 59.6 -0.4**
KAR1 Arisaig 51.94 317⇑ *e*P **P 04 06 59.0 -1.2**
KAR1 Arisaig 51.94 317⇑ *e*P **P 04 06 59.0 -1.2**
MA2 Magadan 51.95 39c *i*P **P 04 06 59.6 -0.8**
MA2 *e* 04 08 10.2
MA2 *e* 04 09 04.8
MA2 *e*S **S 04 14 21.1 -0.8**
MA2 *e* 04 16 47.9
MA2 pmax pmax
comp=Z,200nm,1.6s,mb5.8
MA2 MLR MLR
comp=Z,5µm,15.0s,MS5.7
MA2 Magadan 51.95 39 *e*P **P 04 06 59.6 -0.7**
comp=Z,166nm,1.3s,mb5.8
MA2 LR LR
comp=Z,3µm,19.0s,MS5.4
ETOS Mallorca 52.03 294 P **P 04 07 01.7 +0.7**
comp=Z,536nm,2.4s,mb6.0
MLS Moulis 52.04 298 *e*P **P 04 07 00.8 -0.2**
SALF Salau 52.04 298 *e*P **P 04 07 00.4 -0.7**
WIM Isle of Man 52.06 314⇑ *e*P **P 04 07 00.3 -0.8**
WIM AMb AMB 04 07 03.3
comp=Z,112nm,1.3s,mb5.6
WIM Isle of Man 52.06 314⇑ *e*P **P 04 07 00.3 -0.8**
WIM AMb AMB 04 07 03.3
comp=Z,112nm,1.3s,mb5.6
YLL Llanberis 52.06 312⇑ *e*P **P 04 07 00.2 -0.9**
YLL Llanberis 52.06 312⇑ *e*P **P 04 07 00.2 -0.9**
EMIR Miracle 52.12 297 P **P 04 07 01.3 -0.4**
comp=Z,505nm,2.1s,mb6.1
WLF1 Llynfaes 52.15 312⇑ *e*P **P 04 07 01.0 -0.8**
WLF1 AMb AMB 04 07 02.8
comp=Z,54nm,2.0s,mb5.1
WLF1 Llynfaes 52.15 312⇑ *e*P **P 04 07 01.0 -0.8**
WLF1 AMb AMB 04 07 02.8
comp=Z,54nm,2.0s,mb5.1

WCB1 Church Bay 52.21 313⇑ *e*P **P 04 07 01.0 -1.3**
WCB1 AMb AMB 04 07 04.2
comp=Z,78nm,1.6s,mb5.4
WCB1 Church Bay 52.21 313⇑ *e*P **P 04 07 01.0 -1.3**
WCB1 AMb AMB 04 07 04.2
comp=Z,78nm,1.6s,mb5.4
YRE Yr Eifl 52.25 312⇑ *e*P **P 04 07 01.5 -1.2**
YRE Yr Eifl 52.25 312⇑ *e*P **P 04 07 01.5 -1.2**
YRC Rhoscolyn 52.26 312⇑ *e*P **P 04 07 01.5 -1.2**
YRC AMb AMB 04 07 06.4
comp=Z,42nm,1.0s,mb5.3
YRC Rhoscolyn 52.26 312⇑ *e*P **P 04 07 01.5 -1.2**
YRC AMb AMB 04 07 06.4
comp=Z,42nm,1.0s,mb5.3
DAG Danmarks Havn 52.44 343⇓ *i*P **P 04 07 02.6 -1.4**
comp=Z,61nm,0.6s,mb5.7
DAG
comp=Z,4µm,23.0s
DAG Danmarks Havn 52.44 343⇓ *e*P **P 04 07 02.6 -1.4**
DAG pmax pmax
comp=Z,61nm,0.6s,mb5.7
DAG MLR MLR
comp=E,4µm,23.0s
DAG MLR MLR
comp=Z,4µm,23.0s,MS5.4
DAG Danmarks Havn 52.44 343⇓ *e*P **P 04 07 02.6 -1.4**
comp=Z,61nm,0.6s,mb5.7
DAG LR LR
comp=Z,4µm,23.0s,MS5.4
EPF Esparros 52.53 299 *e*P **P 04 07 03.7 -0.9**
comp=Z,64nm,0.7s,mb5.3
EPF Esparros 52.53 299 *e*P **P 04 07 03.7 -0.9**
EPF pmax pmax
comp=Z,32nm,0.7s,mb5.4
EPF Esparros 52.53 299 *e*P **P 04 07 03.7 -0.9**
comp=Z,32nm,0.7s,mb5.4
SGMF Saint Gilles 52.60 306 *e*P **P 04 07 04.6 -0.6**
comp=Z,166nm,0.7s,mb5.8
SGMF Saint Gilles 52.60 306 *e*P **P 04 07 04.6 -0.6**
SGMF pmax pmax
comp=Z,83nm,0.7s,mb5.8
SGMF Saint Gilles 52.60 306 *e*P **P 04 07 04.6 -0.6**
comp=Z,83nm,0.7s,mb5.8
RESF Ens 52.61 299 *e*P **P 04 07 05.9 +0.6**
EPOB Poblet 52.65 297 P **P 04 07 05.7 +0.1**
comp=Z,575nm,2.5s,mb6.1
DYA Yadsworthy 52.74 309⇑ *e*P **P 04 07 04.9 -1.3**
DYA Yadsworthy 52.74 309⇑ *e*P **P 04 07 04.9 -1.3**
EBIE Bielsa 52.79 298 P **P 04 07 06.8 +0.2**
comp=Z,341nm,2.1s,mb5.9
VIEF Viey 52.80 299 *e*P **P 04 07 07.0 +0.4**
ERM Erimo 52.83 62 P **P 04 07 06.0 -0.9**
comp=Z,757nm,0.9s,mb6.6,SNR=5.2
EGRA Graus 52.85 298 P **P 04 07 07.1 +0.1**
comp=Z,32nm,0.7s,mb5.4
REYF Montagne du Re 53.01 299 *e*P **P 04 07 10.0 +1.8**
ROSF Rostrenen 53.02 306 *e*P **P 04 07 07.5 -0.8**
comp=Z,108nm,0.7s,mb5.6
ROSF Rostrenen 53.02 306 *e*P **P 04 07 07.5 -0.8**
ROSF pmax pmax
comp=Z,54nm,0.7s,mb5.6
ROSF Rostrenen 53.02 306 *e*P **P 04 07 07.5 -0.8**
comp=Z,54nm,0.7s,mb5.6
ABA Alger-Bouzarea 53.07 291 P **P 04 07 08.0 -0.7**
QUIF Quistinic 53.10 306 *e*P **P 04 07 08.1 -0.8**
comp=Z,103nm,0.6s,mb5.6
QUIF Quistinic 53.10 306 *e*P **P 04 07 08.1 -0.8**
QUIF pmax pmax
comp=Z,51nm,0.6s,mb5.6
QUIF Quistinic 53.10 306 *e*P **P 04 07 08.1 -0.8**
comp=Z,51nm,0.6s,mb5.6
ETSF Etsaut 53.19 299 *e*P **P 04 07 09.7 +0.2**
comp=Z,218nm,0.9s,mb5.8
ETSF Etsaut 53.19 299 *e*P **P 04 07 09.7 +0.2**
ETSF pmax pmax
comp=Z,109nm,0.9s,mb5.8
ETSF Etsaut 53.19 299 *e*P **P 04 07 09.7 +0.2**
comp=Z,109nm,0.9s,mb5.8
ATE Arette 53.21 299 *e*P **P 04 07 08.9 -0.8**
CSA1 St Austell 53.35 309⇑ *e*P **P 04 07 09.8 -0.9**
CSA1 St Austell 53.35 309⇑ *e*P **P 04 07 09.8 -0.9**
DLF Lyons Farm 53.37 313 *e*P **P 04 07 08.7 -2.1**
EIBI Ibiza 53.38 294 P **P 04 07 11.4 +0.5**
comp=Z,904nm,2.6s,mb6.2
EMHD Djebel Mahouad 53.39 290 P **P 04 07 11.0 0.0**
LARF Larrau 53.43 299 *e*P **P 04 07 11.8 +0.5**
OSSF Osses 53.53 300 *e*P **P 04 07 11.6 -0.4**
ESAC San Caprasio 53.58 298 P **P 04 07 12.5 +0.1**
comp=Z,901nm,2.2s,mb6.3
CRQ2 Rosemanowes 2 53.58 309⇑ *e*P **P 04 07 11.6 -0.8**
CRQ2 AMb AMB 04 07 16.1
comp=Z,61nm,1.5s,mb5.3
CRQ2 Rosemanowes 2 53.58 309⇑ *e*P **P 04 07 11.6 -0.8**
CRQ2 AMb AMB 04 07 16.1
comp=Z,61nm,1.5s,mb5.3
CMA1 Manaccan 53.58 309⇑ *e*P **P 04 07 11.5 -0.9**
CMA1 Manaccan 53.58 309⇑ *e*P **P 04 07 11.5 -0.9**
CGH1 Goonhilly 53.62 309⇑ *e*P **P 04 07 11.3 -1.4**
CGH1 Goonhilly 53.62 309⇑ *e*P **P 04 07 11.3 -1.4**
EALK Alkurruntz 53.71 300 P **P 04 07 14.2 +0.8**
comp=Z,27nm,1.4s,mb5.0
ELIZ Elizondo 53.74 300 P **P 04 07 13.6 0.0**
ELIZ pmax pmax
comp=Z,30nm,0.6s,mb5.4
ELIZ Elizondo 53.74 300 P **P 04 07 13.6 0.0**
comp=Z,30nm,0.6s,mb5.4
DCN Croghan 53.77 313 *e*P **P 04 07 12.1 -1.7**
YUK Yuzh-Kuril'sk 53.91 59⇑ *i*P **P 04 07 14.0 -0.8**
YUK *e* 04 07 19.0
YUK S ScS 04 17 03.0 +0.5
YUK pmax pmax
comp=Z,2µm,2.0s
YUK pmax pmax
comp=E,2µm,3.0s
YUK MLR MLR
comp=E,16µm,14.0s,MS6.3
YUK MLR MLR
comp=Z,16µm,14.0s,MS6.2
YUK MLR MLR
comp=N,8µm,13.0s,MS6.3
EMOS Mosqueruela 54.12 296 P **P 04 07 17.3 +0.9**
comp=N,743nm,2.6s,mb6.2
EBNR Beni Rached 54.39 291 P **P 04 07 19.5 +1.2**
ECHA Ech Chlef 54.57 291 P **P 04 07 20.0 +0.4**
EBEN Beniarda 54.62 294 P **P 04 07 21.1 +1.0**
comp=N,553nm,2.4s,mb6.2
ECHE Chera 54.78 295 P **P 04 07 22.2 +1.0**
ECHE pmax pmax
comp=Z,63nm,0.6s,mb5.8
ECHE Chera 54.78 295 P **P 04 07 22.2 +1.0**
comp=Z,63nm,0.6s,mb5.8
EANR 'Ain N'Sour 54.85 291 P **P 04 07 22.0 +0.3**
ETRT Tiaret 54.95 290 P **P 04 07 23.0 +0.6**
ELAN Lanestosa 55.00 300 P **P 04 07 23.1 +0.4**
comp=Z,205nm,0.7s,mb6.3
ETOR Torete 55.03 297 P **P 04 07 22.9 -0.1**
ETOR pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
ETOR Torete 55.03 297 P **P 04 07 22.9 -0.1**
comp=Z,9.3nm,0.6s,mb5.0
ETOB Tobarra 55.59 295 P **P 04 07 28.1 +1.1**
comp=Z,1µm,3.3s
PAGZ Pagadian 55.65 110 *e*P **P 04 07 28.3 +0.9**
CART Cartagena 55.65 293 *e*P **P 04 07 27.4 -0.1**
comp=Z,124nm,0.6s,mb6.1
EMUR La Murta 55.71 294 P **P 04 07 27.6 -0.3**
comp=Z,761nm,2.6s,mb6.3
VAL Valentia 55.96 312 *e*P **P 04 07 28.3 -1.3**
BILL Bilibino 56.01 27c *i*P **P 04 07 30.0 0.0**
BILL *i* 04 08 28.2
BILL *i* 04 09 34.1
BILL *i*S **S 04 15 19.7 +2.9**
BILL *i*SS SS 04 19 08.7 +5.7
BILL pmax pmax
comp=Z,44nm,1.2s,mb5.4
BILL MLR MLR
comp=Z,12µm,16.0s,MS6.1
BILL Bilibino 56.01 27 *e*P **P 04 07 29.6 -0.4**
comp=Z,40nm,0.8s,mb5.5
BILL LR LR
comp=Z,11µm,20.0s,MS6.0
ODJA Bouhanifia 56.04 290 P **P 04 07 34.0 +3.8**
COCO West Island 56.10 150 PFAKE 04 07 40.0 +9.3
COCO LR LR
comp=Z,3µm,19.0s,MS5.4

EARI Arriondas 56.16 301 P **P** **04 07 31.0 -0.1**
comp=Z,727nm,3.2s

EVIA Vianos 56.26 295 P **P** **04 07 32.6 +0.8**
EVIA pmax pmax
comp=E,94nm,0.6s,mb6.0

EVIA Vianos 56.26 295 P **P** **04 07 32.6 +0.8**
comp=Z,94nm,0.6s,mb6.0

ALE Alert 56.54 354 P **P** **04 07 33.8 0.0**
comp=Z,161nm,0.7s,mb6.2,SNR=10

GUD Guadarrama 56.55 298 P **P** **04 07 34.1 +0.2**
GUD pmax pmax
comp=Z,30nm,0.6s,mb5.5

GUD Guadarrama 56.55 298 P **P** **04 07 34.1 +0.2**
comp=Z,30nm,0.6s,mb5.5

EHUE Huescar 56.69 294 P **P** **04 07 34.9 +0.1**
EHUE pmax pmax
comp=E,54nm,0.8s,mb5.6

EHUE Huescar 56.69 294 P **P** **04 07 34.9 +0.1**
comp=Z,54nm,0.8s,mb5.6

BORG Borgarnes 56.70 329 *e*P **P** **04 07 35.6 +0.7**
comp=Z,22nm,0.7s,mb5.3

BORG LR LR
comp=Z,8μm,19.0s,MS5.8

ENIJ Nijar 56.79 293 P **P** **04 07 35.5 0.0**
ENIJ pmax pmax
comp=Z,10.0nm,0.5s,mb5.1

ENIJ Nijar 56.79 293 P **P** **04 07 35.5 -0.1**
comp=Z,9.9nm,0.5s,mb5.1

ESDC Sonseca Array 56.84 297 P **P** **04 07 35.3 -0.6**
comp=Z,28nm,0.7s,mb5.4,baz=56,slow=7.2,SNR=69

ESDC PcP PcP 04 08 31.1 -0.3
comp=Z,13nm,0.8s,baz=57,slow=3.4,SNR=4.5

ESDC LR LR 04 36 17.8
comp=Z,2μm,18.6s,MS5.3,baz=55,slow=41

ESDC Sonseca Array 56.84 297 P **P** **04 07 35.3 -0.7**
comp=E,58nm,0.6s,mb5.8

ESLA Sonseca Array 56.84 297 *e*P **P** **04 07 35.6 -0.3**
comp=Z,23nm,1.0s,mb5.2

ESLA LR LR
comp=Z,12μm,19.0s,MS6.0

EQES Quesada 57.03 294 P **P** **04 07 37.8 +0.5**
comp=Z,1μm,3.3s

EBER Berja 57.31 293 P **P** **04 07 39.5 +0.2**
comp=Z,728nm,2.5s,mb6.3

EBAN Banos Encina 57.38 295 P **P** **04 07 40.2 +0.5**
EBAN pmax pmax
comp=Z,90nm,0.6s,mb6.0

EBAN Banos Encina 57.38 295 P **P** **04 07 40.2 +0.4**
comp=Z,90nm,0.6s,mb6.0

EPON Pontenova 57.44 302 P **P** **04 07 40.1 0.0**
comp=Z,499nm,2.4s,mb6.1

SKR Severo-Kuril's 57.76 48 *e*P **P** **04 07 37.5 -4.9**
SKR pmax pmax
comp=E,90nm,1.0s

SKR pmax pmax
comp=Z,130nm,1.0s,mb5.9

SKR MLR MLR
comp=N,13μm,16.0s,MS6.2

SKR MLR MLR
comp=E,8μm,16.0s,MS6.2

SKR MLR MLR
comp=Z,9μm,16.0s,MS6.0

ECAL Calabor 57.76 300 P **P** **04 07 42.8 +0.4**
comp=Z,496nm,2.2s,mb6.2

DAV Davao City (W) 57.78 109 PFAKE 04 07 50.0 +7.5
DAV LR LR
comp=Z,5μm,22.0s,MS5.5

PBRG Braganca 57.82 300 *e*P **P** **04 07 43.6 +0.8**
comp=Z,59nm,1.8s,mb5.3

EGUA Guajares 57.82 293 P **P** **04 07 42.7 -0.1**
EGUA pmax pmax
comp=Z,8.0nm,0.7s,mb4.9

EGUA Guajares 57.82 293 P **P** **04 07 42.7 -0.1**
comp=Z,7.6nm,0.7s,mb4.8

ERON Agron 57.91 294 P **P** **04 07 42.8 -0.6**
comp=Z,53nm,0.6s,mb5.8

EADA Adamuz 57.93 295 P **P** **04 07 42.9 -0.8**
comp=Z,503nm,2.4s,mb6.1

ELOJ Sierra Loja 58.10 294 P **P** **04 07 43.8 -1.0**
ELOJ pmax pmax
comp=Z,33nm,0.6s,mb5.5

ELOJ Sierra Loja 58.10 294 P **P** **04 07 43.8 -1.0**
comp=Z,33nm,0.6s,mb5.5

PET Petropavlovsk 58.25 45α *i*P **P** **04 07 43.6 -2.2**
PET *i* S **S** **04 15 42.2 -4.1**
PET *e* 04 17 30.8
PET *e*SS SS 04 19 37.5 -0.7
PET pmax pmax
comp=Z,300nm,3.8s

PET pmax pmax
comp=Z,800nm,4.1s

PET pmax pmax
comp=Z,101nm,1.1s,mb5.8

PET smax
comp=E,400nm,20.9s

PET smax
comp=N,600nm,21.7s

PET smax
comp=N,500nm,20.9s

PET MLR MLR
comp=Z,6μm,14.0s,MS5.9

PET MLR MLR
comp=Z,5μm,15.0s

PET Petropavlovsk 58.25 45 *e*P **P** **04 07 43.2 -2.6**
comp=Z,119nm,1.1s,mb5.8

PET LR LR
comp=Z,4μm,19.0s,MS5.5

STS Santiago 58.56 302 P **P** **04 07 47.7 -0.3**
STS pmax pmax
comp=Z,28nm,0.6s,mb5.5

STS Santiago 58.56 302 P **P** **04 07 47.7 -0.3**
comp=Z,28nm,0.6s,mb5.5

ELOB Lobios 58.68 301 P **P** **04 07 49.4 +0.6**
comp=Z,700nm,2.2s,mb6.3

PVRL Vila Real 58.71 300 *e*P **P** **04 07 49.3 +0.3**
comp=Z,51nm,1.3s,mb5.4

PCAB Cabril 58.73 300 *e*P **P** **04 07 49.7 +0.5**
comp=Z,118nm,0.8s,mb6.0

EMIJ Mijas 58.80 294 P **P** **04 07 48.3 -1.5**
comp=Z,83nm,0.9s,mb5.8

EMAZ Mazaricos 58.81 302 P **P** **04 07 49.9 +0.1**
comp=Z,368nm,2.0s,mb6.1

SUMG Summit 58.83 341 *e*P **P** **04 07 49.9 0.0**
comp=Z,220nm,0.8s,mb6.2

MTE Manteigas 58.98 299 *e*P **P** **04 07 51.6 +0.6**
comp=Z,118nm,1.2s,mb5.8

MTE *e*S **S** **04 15 56.6 +0.7**
MTE *e*LQ 04 23 54.5
MTE *e*LR LR 04 26 58.8
comp=Z,2μm,18.0s

MTE Manteigas 58.98 299 *e*P **P** **04 07 51.0 +0.1**
comp=Z,107nm,0.6s,mb6.0

PVIS Viseu 59.08 299 *e*P **P** **04 07 52.1 +0.5**
comp=Z,116nm,1.9s,mb5.6

PCBR Castelo Branco 59.19 298 *e*P **P** **04 07 53.4 +1.0**
comp=Z,65nm,1.5s,mb5.4

EJIF Jimena Fronter 59.35 294 P **P** **04 07 52.6 -0.9**
EJIF pmax pmax
comp=Z,44nm,0.9s,mb5.5

EJIF Jimena Fronter 59.35 294 P **P** **04 07 52.6 -0.9**
comp=Z,44nm,0.9s,mb5.5

PTO Porto 59.37 300 *e*P **P** **04 07 54.4 +0.8**
comp=Z,52nm,1.1s,mb5.5

EBAD Badajoz 59.37 297 P **P** **04 07 52.6 -1.1**
comp=Z,628nm,2.4s,mb6.2

ESPR Espera 59.43 295 P **P** **04 07 53.8 -0.3**
comp=Z,184nm,1.2s,mb6.0

EMIN Mina Concepcio 59.59 296 P **P** **04 07 55.4 +0.2**
comp=Z,278nm,1.6s,mb6.0

PTOM Tomar 59.93 298 *e*P **P** **04 07 58.0 +0.5**
comp=Z,129nm,1.8s,mb5.7

EVO Evora 60.16 297 *e*P **P** **04 07 59.7 +0.6**
comp=Z,53nm,0.9s,mb5.2

EVO *e*R
comp=Z,4μm,22.5s

EGRO El Granado 60.27 296 P **P** **04 08 00.1 +0.3**
comp=Z,586nm,2.4s,mb6.2

PBEJ Beja 60.30 297 *e*P **P** **04 08 00.4 +0.4**
comp=Z,81nm,1.9s,mb5.4

PLOU Loures 60.78 298 *e*P **P** **04 08 04.2 +0.9**
comp=Z,135nm,1.3s,mb5.9

PTEO Sao Teotonio 61.13 296 *e*P **P** **04 08 07.1 +1.4**
comp=Z,108nm,1.9s,mb5.7

SFJD Kangerlussuaq 65.58 339⇑ *i*P **P** **04 08 34.4 -0.7**
comp=Z,120nm,0.9s,mb5.9

SFJD *i* S S 04 17 19.3 +0.4
SFJD *i* 04 21 30.7
SFJD
comp=Z,3μm,22.0s

SFJD Kangerlussuaq 65.58 339⇑ *i*P **P** **04 08 34.4 -0.7**
SFJD *i* S S 04 17 19.3 +0.4
SFJD *i* 04 21 30.7
SFJD pmax pmax
comp=Z,120nm,0.9s,mb5.9

SFJD MLR MLR
comp=Z,3μm,22.0s,MS5.4

TNA Tin City 65.93 23 *e*P **P** **04 08 36.9 -0.5**
comp=Z,75nm,1.4s,mb5.5

TNA LR LR
comp=Z,2μm,20.0s,MS5.3

RES Resolute Bay 66.17 356 *e*P **P** **04 08 38.3 -0.6**
RES pmax pmax
comp=Z,33nm,0.9s,mb5.4

RES Resolute Bay 66.17 356 *e*P **P** **04 08 38.3 -0.6**
comp=Z,1μm,0.9s

TORD Torodi Ar. Bea 66.43 268 P **P** **04 08 38.9 -1.7**
comp=Z,50nm,0.7s,mb5.7,baz=47,slow=5.9,SNR=226

TORD PKP2bc 04 37 20.3
comp=Z,2.7nm,1.2s,baz=227,slow=3.5,SNR=4.4

TORD Torodi Ar. Bea 66.43 268 P **P** **04 08 38.9 -1.7**
TORD ⇑ *e* 04 37 20.3
SMY Shemya 66.57 40 *e*P **P** **04 08 40.8 -0.7**
SMY pmax pmax
comp=Z,319nm,1.4s,mb6.2

SMY MLR MLR
comp=Z,3μm,21.0s,MS5.4

SMY Shemya 66.57 40 *e*P **P** **04 08 40.8 -0.7**
comp=Z,334nm,1.4s,mb6.2

SMY LR LR
comp=Z,2μm,21.0s,MS5.3

LSZ Lusaka 67.70 226 P **P** **04 08 50.3 +1.6**
SNR=8.3

LSZ Lusaka 67.70 226 P **P** **04 08 49.0 +0.3**
LSZ pmax pmax
comp=Z,51nm,1.2s,mb5.4

LSZ Lusaka 67.70 226 *e*P **P** **04 08 48.9 +0.2**
comp=Z,51nm,1.3s,mb5.4

LSZ LR LR
comp=Z,3μm,19.0s,MS5.5

PMPS Porto Santo 68.77 296 *e*P **P** **04 08 56.3 +1.0**
comp=Z,285nm,1.5s,mb6.0

AMKA Amchitka 69.96 40 *e*P **P** **04 09 02.3 -0.5**
INK Inuvik 71.25 10 P **P** **04 09 09.6 -1.0**
INK pmax pmax
comp=Z,100nm,0.9s

INK Inuvik 71.25 10 *e*P **P** **04 09 09.6 -1.0**
comp=Z,3μm,0.9s

EBAJ Bajamar 71.30 292 P **P** **04 09 11.2 +0.4**
comp=Z,766nm,2.1s,mb6.3

TTA Tatalina 71.38 21 *e*P **P** **04 09 10.8 -0.6**
CCAN Las Canadas 71.67 292 P **P** **04 09 15.0 +1.9**
comp=Z,26nm,0.7s,mb5.3

COLA College 71.82 17 P **P** **04 09 12.9 -1.1**
COLA pmax pmax
comp=Z,94nm,0.9s,mb5.7

COLA College 71.82 17 *e*P **P** **04 09 13.1 -0.9**
comp=Z,94nm,0.9s,mb5.7

COLA LR LR
comp=Z,3μm,20.0s,MS5.6

ILAR Eielson Array 72.12 16 P **P** **04 09 13.6 -2.2**
comp=Z,23nm,0.9s,mb5.1,baz=312,slow=5.5,SNR=138

SVW2 Sparrevohn 72.97 22 *e*P **P** **04 09 20.9 0.0**
DAWY Dawson 74.26 14 *e*P **P** **04 09 27.4 -1.1**
PMR Palmer 74.32 19 P **P** **04 09 27.0 -1.8**
PMR pmax pmax
comp=Z,68nm,0.8s,mb5.6

PMR Palmer 74.32 19 *e*P **P** **04 09 27.6 -1.2**
comp=Z,115nm,1.0s,mb5.8

SML Sawmill 74.33 19 *e*P **P** **04 09 27.6 -1.3**
MENT Mentasta 74.41 16 *e*P **P** **04 09 28.4 -1.0**
UNV Unalaska Valle 74.72 32 PFAKE 04 09 40.0 +8.9
UNV LR LR
comp=Z,10μm,20.0s,MS6.1

MBWA Marble Bar 74.85 134 *e*P **P** **04 09 32.0 +0.2**
comp=Z,70nm,0.8s,mb5.6

MBWA *e*pP pP 04 09 39.5 -0.4
MBWA LR LR
comp=Z,2μm,20.0s,MS5.5

SLKM Skilak Lake 74.95 20 P **P** **04 09 30.9 -1.6**
SLKM Skilak Lake 74.95 20 *e*P **P** **04 09 30.6 -1.9**
DBIC Dimbokro 75.47 267 P **P** **04 09 34.4 -1.1**
comp=Z,11nm,0.8s,mb4.8,baz=17,slow=7.3,SNR=16

DBIC LR LR 04 46 35.1
comp=Z,2μm,20.2s,MS5.5,baz=212,slow=39

DBIC Dimbokro 75.47 267 P **P** **04 09 35.7 +0.2**
DBIC pmax pmax
comp=Z,33nm,0.9s

DBIC Dimbokro 75.47 267 *e*P **P** **04 09 35.1 -0.4**
comp=Z,33nm,0.9s,mb5.3

DBIC LR LR
comp=Z,3μm,21.0s,MS5.5

LIC Lamto 75.88 267 *e*P **P** **04 09 37.1 -0.7**
comp=Z,93nm,1.0s,mb5.4

LIC *e*R
comp=Z,3μm,19.5s

LIC Lamto 75.88 267 *e*P **P** **04 09 37.1 -0.7**
comp=Z,46nm,1.0s,mb5.4

LIC LR LR
comp=Z,2μm,19.5s,MS5.4

CHGN Chignik 75.89 26 *e*P **P** **04 09 36.5 -1.4**
FITZ Fitzroy Crossi 75.94 128⇑ *i*P **P** **04 09 38.1 -0.1**
comp=Z,33nm,0.9s,mb5.3

FITZ Fitzroy Crossi 75.94 128 P **P** **04 09 37.6 -0.6**
comp=Z,34nm,1.0s,mb5.2,baz=317,slow=4.9,SNR=19

FITZ LR LR 04 45 27.3
comp=Z,997nm,19.3s,MS5.1,baz=322,slow=38

EYAK Cordova Ski Ar 76.06 18 *e*P **P** **04 09 38.3 -0.5**
KAKA Kakadu 76.40 119 *e*P **P** **04 09 42.5 +1.7**
comp=Z,25nm,0.7s,mb5.2

KDAK Kodiak Island 76.57 23 P **P** **04 09 40.5 -1.2**
comp=Z,514nm,0.8s,mb6.5,SNR=17

KDAK Kodiak Island 76.57 23 *e*P **P** **04 09 40.5 -1.2**
comp=Z,57nm,0.8s,mb5.6

KDAK LR LR
comp=Z,1μm,21.0s,MS5.1

TSUM Tsumeb 77.01 232 *e*P **P** **04 09 44.5 +0.3**
comp=Z,54nm,1.3s,mb5.3

TSUM LR LR
comp=Z,3μm,21.0s,MS5.6

LBTB Lobatse 77.02 222 P **P** **04 09 44.7 +0.4**
comp=Z,54nm,0.9s,mb5.5,baz=38,slow=5.5

LBTB Lobatse 77.02 222 P **P** **04 09 45.3 +1.0**
LBTB pmax pmax
comp=Z,68nm,1.0s,mb5.5

LBTB Lobatse 77.02 222 *e*P **P** **04 09 44.7 +0.5**
comp=Z,68nm,0.9s,mb5.6

LBTB LR LR
comp=Z,2μm,19.0s,MS5.4

YKA Yellowknife Ar 78.63 3 P **P** **04 09 52.2 -1.0**
comp=Z,24nm,0.6s,mb5.3,baz=350,slow=5.6,SNR=128

YKA PKKPbc PKKPbc 04 28 45.8 -2.4
comp=Z,1.2nm,0.6s,baz=176,slow=2.1,SNR=9.3

YKA LR LR 04 48 34.3
comp=Z,4μm,18.3s,MS5.8,baz=0.0,slow=39

YKA Yellowknife Ar 78.63 3 P **P** **04 09 52.2 -1.0**
YKA PKKPbc PKKPbc 04 28 45.9 -2.4
YKA LR LR 04 48 34.3
SKAG Skagway 79.27 14 *e*P **P** **04 09 57.2 +0.5**
comp=Z,212nm,2.1s,mb5.7

SCHQ Schefferville 79.97 337 P **P** **04 09 59.6 -0.9**
comp=Z,18nm,0.8s,mb5.0,baz=33,slow=5.5,SNR=26

SCHQ LR LR 04 45 02.1
comp=Z,5μm,21.6s,MS5.8,baz=34,slow=35

SCHQ Schefferville 79.97 337 *e*P **P** **04 09 59.9 -0.7**
comp=Z,44nm,0.8s,mb5.4

SCHQ *e*pP pP 04 10 07.1 -1.5
SCHQ LR LR
comp=Z,9μm,22.0s,MS6.1

BOSA Boshof 80.13 220 P **P** **04 10 00.5 -0.9**
comp=Z,77nm,1.0s,mb5.6,baz=40,slow=5.6,SNR=37

BOSA LR LR 04 51 15.1
comp=Z,1μm,18.8s,MS5.3,baz=38,slow=40

BOSA Boshof 80.13 220 P **P** **04 10 01.8 +0.4**
BOSA pmax pmax
comp=Z,67nm,1.0s,mb5.5

BOSA Boshof 80.13 220 *e*P **P** **04 10 01.4 0.0**
comp=Z,67nm,0.9s,mb5.6

BOSA LR LR
comp=Z,2μm,20.0s,MS5.4

DLBC Dease Lake 81.14 11 *e*P **P** **04 10 07.1 +0.3**
SIT Sitka 81.52 15 *e*P **P** **04 10 09.2 +0.4**
SIT pmax pmax
comp=Z,97nm,1.5s,mb5.5

SIT Sitka 81.52 15 *e*P **P** **04 10 09.2 +0.4**
comp=Z,97nm,1.5s,mb5.5

WAKE Wake Island 81.72 72 PFAKE 04 10 20.0 +10
WAKE LR LR
comp=Z,2μm,20.0s,MS5.4

FCC Fort Churchill 81.80 353 *e*P **P** **04 10 09.9 -0.4**
FCC pmax pmax
comp=Z,142nm,1.3s,mb5.7

FCC Fort Churchill 81.80 353 *e*P **P** **04 10 09.9 -0.4**
comp=Z,142nm,1.3s,mb5.7

MUN Mundaring 81.86 143 *e*P **P** **04 10 09.6 -1.0**
KLBR Kellerberrin 82.28 142 *e*P **P** **04 10 11.5 -1.3**
comp=Z,40nm,1.1s,mb5.3

WRA Warramunga Arr 82.83 123 P **P** **04 10 15.3 -0.4**
comp=Z,30nm,0.8s,mb5.4,baz=324,slow=5.0,SNR=111

WRA PKKPbc PKKPbc 04 28 39.6 +0.8
comp=Z,2.2nm,0.7s,baz=136,slow=2.3,SNR=10

WRA LR LR 04 51 48.0
comp=Z,850nm,21.3s,MS5.1,baz=315,slow=39

WRAB Tennant Creek 82.83 123 P **P** **04 10 15.0 -0.7**
comp=Z,604nm,0.7s,SNR=16

WRAB Tennant Creek 82.83 123 *e*P **P** **04 10 15.1 -0.6**
WRAB *e*PP pP 04 10 23.2 -0.7
WRAB pmax pmax
comp=Z,153nm,0.9s,mb6.0

WRAB MLR MLR
comp=Z,1μm,19.0s,MS5.4

WRAB Tennant Creek 82.83 123 *e*P **P** **04 10 15.1 -0.7**
comp=Z,104nm,0.9s,mb5.9

WRAB *e*pP pP 04 10 23.2 -0.7
WRAB LR LR
comp=Z,1μm,19.0s,MS5.4

WB2 Warramunga Arr 82.84 123 *e*P **P** **04 10 14.5 -1.3**
WB2 *e* pP 04 10 23.2 -0.7
NWAO Narrogin (SRO) 83.13 143 LR LR 04 45 34.0
comp=Z,1μm,19.7s,MS5.3,baz=329,slow=34

NWAO Narrogin (SRO) 83.13 143 *e*P **P** **04 10 16.1 -1.2**
NWAO *e*PP pP 04 10 24.7 -0.7
NWAO pmax pmax
comp=Z,37nm,1.1s

NWAO MLR MLR
comp=Z,1μm,20.0s

NWAO Narrogin (SRO) 83.13 143 *e*P **P** **04 10 16.1 -1.1**
comp=Z,37nm,1.1s,mb5.3

NWAO *e*pP pP 04 10 24.7 -0.7
NWAO LR LR
comp=Z,1μm,20.0s,MS5.3

CRAG Craig 83.44 14 *e*P **P** **04 10 18.0 -0.8**
comp=Z,41nm,1.1s,mb5.4

PMG Port Moresby 84.71 107 LR LR 04 50 13.7
comp=Z,812nm,19.7s,MS5.1,baz=297,slow=37

PMG Port Moresby 84.71 107 *e*P **P** **04 10 25.7 +0.4**
PMG *e*PP pP 04 10 33.1 -0.4
PMG pmax pmax
comp=Z,61nm,0.9s

PMG MLR MLR
comp=Z,992nm,20.0s

PMG Port Moresby 84.71 107 *e*P **P** **04 10 25.7 +0.4**
comp=Z,61nm,0.9s,mb5.7

PMG *e*pP pP 04 10 33.1 -0.4
PMG LR LR
comp=Z,992nm,20.0s,MS5.2

ASPA Alice Springs 85.22 126⇑ *i*P **P** **04 10 27.5 -0.4**
ASPA *e* pP 04 10 33.8 -2.3
ASPA *e* 04 10 43.6
AS31 Alice Springs 85.23 126⇑ *i*P **P** **04 10 27.5 -0.4**
AS31 *e* pP 04 10 33.8 -2.3
AS31 *e* 04 10 43.6
ASAR Alice Springs 85.23 126 P **P** **04 10 27.4 -0.5**
comp=Z,14nm,0.7s,mb5.2,baz=320,slow=5.1,SNR=91

ASAR PKKPbc PKKPbc 04 28 33.9 +0.6
comp=Z,1.8nm,0.6s,baz=124,slow=2.6,SNR=18

ASAR LR LR 04 50 40.2
comp=Z,2μm,21.8s,MS5.4,baz=331,slow=37

SUR Sutherland 85.42 221 *e*P **P** **04 10 30.1 +1.2**
comp=Z,21nm,0.9s,mb5.3

SUR LR LR
comp=Z,3μm,20.0s,MS5.6

FFC Flin Flon 86.41 356 P **P** **04 10 32.7 -1.1**
comp=Z,348nm,0.9s,mb6.6,SNR=35

FFC Flin Flon 86.41 356 *e*P **P** **04 10 32.9 -0.8**
comp=Z,129nm,1.3s,mb6.0

FFC LR LR
comp=Z,3μm,19.0s,MS5.8

FORT Forrest 87.00 134 *e*P **P** **04 10 36.4 -0.3**
comp=Z,101nm,0.8s,mb6.1

MIDW Midway 87.07 56 PFAKE 04 10 50.0 +13
MIDW LR LR
comp=Z,1μm,22.0s,MS5.3

EDM Edmonton 87.96 3 *e*P **P** **04 10 40.8 -0.5**
ULM Lac du Bonnet 90.38 352 P **P** **04 10 51.6 -1.0**
comp=Z,8.1nm,0.8s,mb5.1,baz=7.9,slow=4.8,SNR=22

ULM LR LR 04 56 25.0
comp=Z,5μm,18.3s,MS6.0,baz=9.5,slow=39

ULM Lac du Bonnet 90.38 352 *e*P **P** **04 10 51.5 -1.1**
comp=Z,21nm,0.8s,mb5.5

ULM LR LR
comp=Z,6μm,19.0s,MS6.1

LBNH Lisbon 90.83 335 *e*P **P** **04 10 55.2 +0.5**
LBNH pmax pmax
comp=Z,17nm,1.0s,mb5.3

LBNH MLR MLR
comp=Z,6μm,21.0s,MS6.0

LBNH Lisbon 90.83 335 *e*P **P** **04 10 55.2 +0.5**
comp=Z,17nm,1.0s,mb5.3

LBNH LR LR
comp=Z,5μm,21.0s,MS6.0

FRNY Flat Rock 90.83 336 *e*P **P** **04 10 54.4 -0.4**
OZB Mount Ozzard 91.00 11 P **P** **04 10 56.4 +0.9**
CTA Charters Tower 91.05 115⇑ *i*P **P** **04 10 56.3 +0.5**
comp=Z,15nm,0.9s,mb5.3

CTA *e* pP 04 11 03.7 -0.3
CTA Charters Tower 91.05 115 P **P** **04 10 56.2 +0.5**
comp=Z,18nm,0.8s,mb5.4,baz=322,slow=5.5,SNR=5.6

CTA Charters Tower 91.05 115⇑ *i*P **P** **04 10 56.3 +0.5**
CTA *e* pP 04 11 03.7 -0.3
CTA pmax pmax
comp=Z,15nm,0.9s

CTAO Charters Tower 91.05 115 *e*P **P** **04 10 56.0 +0.2**
CTAO pmax pmax
comp=Z,120nm,1.3s,mb6.1

CTAO MLR MLR
comp=Z,2μm,19.0s,MS5.5

CTAO Charters Tower 91.05 115 *e*P **P** **04 10 56.0 +0.2**
comp=Z,120nm,1.3s,mb6.1

CTAO LR LR
comp=Z,2μm,19.0s,MS5.5

LONY Lake Ozonia 91.33 337 *e*P **P** **04 10 57.4 +0.3**
comp=Z,64nm,1.2s,mb5.8

PNT Penticton 91.40 7 P **P** **04 10 57.7 +0.3**
HNH Hanover 91.42 335 *e*P **P** **04 10 57.2 -0.3**
comp=Z,2.6nm,1.2s

A05A Maple Falls 91.44 9 ⇓P **P** **04 10 57.0 -0.6**
baz=91

A05A ⇓S S 04 21 28.4 -27
baz=91

MIV Mineville/With 91.50 336 *e*P **P** **04 10 58.0 +0.2**
PGC Sidney 91.60 10 *e*P **P** **04 10 57.6 -0.7**
comp=Z,316nm,1.6s,mb6.4

A04A Legoe Bay, Lum 91.63 10 ⇓P **P** **04 10 58.6 +0.2**
baz=91

A04A ⇓S S 04 21 31.4 -26
baz=91

NCB Newcomb 91.81 336 PFAKE 04 11 10.0 +11
NCB LR LR
comp=Z,2μm,20.0s,MS5.7

CMW Cultus Mountai 92.00 9 P **P** **04 11 00.5 +0.4**
EYMN Ely 92.08 349 *e*P **P** **04 10 59.6 -0.9**
comp=Z,884nm,1.1s

EYMN LR LR
comp=Z,68μm,20.0s

WALA Waterton Lakes 92.09 4 *e*P **P** **04 11 00.6 0.0**
comp=Z,54nm,1.1s,mb5.8

OBC Olympics--Boni 92.11 11 P **P** **04 11 02.2 +1.6**
C03A Quillayute Air 92.13 11 ⇓P **P** **04 11 02.2 +1.4**
baz=92

C03A ⇑S S 04 21 34.3 -27
baz=92

B05A Bryant 92.16 9⇑P **P** **04 11 00.9 +0.1**
baz=92,SNR=17

B05A ⇓S S 04 21 35.5 -26
baz=92

ACCN Adirondack Com 92.16 336 *e*P **P** **04 11 01.3 +0.4**
ACCN *e*pP pP 04 11 06.9 -2.2
B04A Port Angeles 92.17 10 ⇓P **P** **04 11 01.4 +0.5**
baz=92

B04A ⇑S S 04 21 34.2 -28

baz=92
HRV Harvard--Oak R 92.24 334 PFAKE 04 11 10.0 +8.7
HRV LR LR
comp=Z,3μm,19.0s,MS5.8
JCW Jim Creek 92.25 9 P **P 04 11 01.1 -0.2**
WES Weston 92.26 334 PFAKE 04 11 10.0 +8.6
WES LR LR
comp=Z,2μm,19.0s,MS5.6
C04A Brinnon 92.58 10 ⇑P **P 04 11 03.3 +0.5**
baz=92
C04A ⇑S S 04 21 37.1 -29
baz=92
NEW Newport 92.67 6 *e*P **P 04 11 03.2 0.0**
NEW pmax pmax
comp=Z,40nm,1.1s
NEW MLR MLR
comp=Z,6μm,19.0s
NEW Newport 92.67 6 *e*P **P 04 11 03.2 0.0**
comp=Z,38nm,1.1s,mb5.7
NEW LR LR
comp=Z,5μm,19.0s,MS6.0
C05A Tolt Reservoir 92.77 9 ⇑P **P 04 11 03.4 -0.3**
baz=92,SNR=12
C05A ⇑S S 04 21 37.5 -30
baz=92
RMW Rattlesnake Mo 92.98 9 P **P 04 11 05.2 +0.5**
D03A Wishkah Elem. 93.06 11 ⇑P **P 04 11 05.6 +0.5**
baz=93
D03A ⇓S S 04 21 40.7 -29
baz=93
D04A Dobbs Creek Ra 93.20 10 ⇓P **P 04 11 06.0 +0.3**
baz=93
D04A ⇑S S 04 21 42.4 -29
baz=93
D05A Enumclaw 93.23 9 ⇓P **P 04 11 06.5 +0.7**
baz=93,SNR=9.8
D05A ⇑S S 04 21 40.9 -30
baz=93
BSMT Bassoo Peak 93.24 4 P **P 04 11 06.6 +0.7**
EGMT Eagleton 93.26 1 *e*P **P 04 11 05.8 -0.2**
comp=Z,40nm,1.1s,mb5.8
EGMT LR LR
comp=Z,7μm,19.0s,MS6.1
RVC Mount Rainier- 93.47 9 P **P 04 11 08.1 +1.2**
FMW Mount Fremont 93.52 9 P **P 04 11 07.4 +0.3**
E03A Lebam 93.64 11 ⇑P **P 04 11 08.3 +0.5**
baz=93
E03A ⇑S S 04 21 42.8 -32
baz=93
EBG Ellensburg 93.67 8 P **P 04 11 08.2 +0.3**
LON Longmire 93.68 9 P **P 04 11 08.3 +0.4**
E04A Onalaska 93.72 10 ⇑P **P 04 11 08.7 +0.6**
baz=93
E04A ⇑S S 04 21 43.4 -32
baz=93
E05A Randle 93.87 9 ⇑P **P 04 11 08.5 -0.3**
baz=94,SNR=8.1
E05A ⇓S S 04 21 43.1 -34
baz=94
BINY Binghamton 93.96 337 *e*P **P 04 11 08.8 -0.4**
comp=Z,36nm,1.4s,mb5.6
BINY LR LR
comp=Z,3μm,20.0s,MS5.7
F03A Seaside 94.25 11 ⇑P **P 04 11 11.1 +0.6**
baz=94
F03A ⇓S S 04 21 47.5 -33
baz=94
CHMT Chamberlain Mo 94.26 3 *e*P **P 04 11 10.2 -0.4**
LVP Lakeview Peak 94.27 10 P **P 04 11 11.6 +1.0**
HAWA Hanford 94.30 8 *e*P **P 04 11 10.8 +0.1**
comp=Z,9.9nm,1.0s,mb5.2
HAWA LR LR
comp=Z,3μm,21.0s,MS5.7
MSO Missoula 94.31 4 *e*P **P 04 11 10.7 -0.1**
comp=Z,25nm,1.4s,mb5.5
MSO LR LR
comp=Z,4μm,20.0s,MS5.8
MTMW Mount Mitchell 94.34 10 P **P 04 11 11.7 +0.7**
F04A Amboy 94.40 10 ⇑P **P 04 11 11.4 +0.1**
baz=94,SNR=8.2
F04A ⇓S S 04 21 46.1 -36
baz=94
HNR Honiara 94.44 98 LR LR 04 56 05.4
comp=Z,773nm,18.5s,MS5.2,baz=356,slow=37
HNR Honiara 94.44 98 PFAKE 04 11 20.0 +8.6
HNR LR LR
comp=Z,1μm,21.0s,MS5.3
HRY Holter Researc 94.52 3 *e*P **P 04 11 11.9 +0.1**
F05A White Salmon 94.58 9 ⇓P **P 04 11 12.0 0.0**
baz=94
F05A ⇓S S 04 21 47.6 -36
baz=94
LAO LASA Array 94.59 359 *e*P **P 04 11 12.8 +0.7**
comp=Z,60nm,0.9s,mb6.0
LAO LR LR
comp=Z,2μm,19.0s,MS5.7
G04A Mulino 95.11 10 ⇓P **P 04 11 14.7 +0.2**
baz=95
G04A ⇑S S 04 21 51.2 -37
baz=95
VFP Flag Point 95.13 9 P **P 04 11 15.3 +0.7**
ERPA Erie 95.20 339 PFAKE 04 11 20.0 +5.1
ERPA LR LR
comp=Z,4μm,20.0s,MS5.9
G05A Wamic 95.22 9 ⇑P **P 04 11 15.0 0.0**
baz=95
G05A ⇑S S 04 21 53.0 -36
baz=95
LCCM Lewis and Clar 95.39 3 P **P 04 11 16.2 +0.5**
H02A Toledo 95.41 11 ⇑P **P 04 11 13.6 -2.2**
baz=95
GCMT Greycliff 95.49 1 *e*P **P 04 11 16.8 +0.6**
H03A Soap Creek Ran 95.51 11 ⇑P **P 04 11 16.4 +0.1**
baz=95
H03A ⇓S S 04 21 53.8 -38
baz=95
BOZ Bozeman (W) 95.59 2 *e*P **P 04 11 17.2 +0.5**
BOZ pmax pmax
comp=Z,17nm,0.9s,mb5.5
BOZ MLR MLR
comp=Z,2μm,20.0s,MS5.6
BOZ Bozeman (W) 95.59 2 *e*P **P 04 11 17.2 +0.6**
comp=Z,17nm,0.9s,mb5.5
BOZ LR LR
comp=Z,2μm,20.0s,MS5.6
COR Corvallis 95.60 11 PFAKE 04 11 30.0 +13
COR LR LR
comp=Z,509nm,20.0s,MS5.0
H04A Detroit Lake 95.66 10 ⇑P **P 04 11 17.0 0.0**
baz=95
H04A ⇑S S 04 21 54.2 -38
baz=95
STKA Stephens Creek 95.81 127 *e*P **P 04 11 17.6 -0.1**
comp=Z,3.3nm,0.6s,mb4.9
STKA Stephens Creek 95.81 127 P **P 04 11 17.1 -0.5**
comp=Z,2.1nm,0.6s,mb4.8,baz=277,slow=6.7,SNR=4.5
STKA LR LR 04 56 59.6
comp=Z,1μm,19.7s,MS5.5,baz=317,slow=37
H05A Madras 95.82 9 ⇑P **P 04 11 18.3 +0.6**
baz=95
H05A ⇑S S 04 21 54.9 -39
baz=95
DLMT Dillon 95.84 3 *e*P **P 04 11 18.2 +0.4**
comp=Z,46nm,1.3s,mb5.8
SSPA Standing Stone 95.97 337 *e*P **P 04 11 17.9 -0.5**
comp=Z,20nm,1.0s,mb5.5
SSPA *e*pP pP 04 11 26.7 +0.1
SSPA LR LR
comp=Z,1μm,22.0s,MS5.3
AAM Ann Arbor 95.98 342 PFAKE 04 11 30.0 +12
AAM LR LR
comp=Z,3μm,20.0s,MS5.8
BMO Blue Mountains 96.04 7 *e*P **P 04 11 18.2 -0.5**
comp=Z,125nm,1.2s,mb6.2
BMO LR LR
comp=Z,4μm,22.0s,MS5.8
I02A Mapleton 96.09 11 ⇓P **P 04 11 19.2 +0.3**
baz=96
I02A ⇑S S 04 21 57.2 -39
baz=96
I03A Eugene 96.20 11 ⇓P **P 04 11 19.3 -0.2**
baz=96
I03A ⇑S S 04 21 57.5 -40
baz=96
I05A Bend 96.29 9 ⇓P **P 04 11 20.4 +0.6**
baz=96
I05A ⇓S S 04 21 57.6 -41
baz=96
MCMT McKenzie Canyo 96.36 3 *e*P **P 04 11 20.5 +0.3**
QLMT Earthquake Lak 96.41 2 *e*P **P 04 11 21.0 +0.6**
YMR Madison River 96.59 2 *e*P **P 04 11 22.3 +1.1**
comp=Z,17nm,1.2s,mb5.3
YMR LR LR
comp=Z,5μm,20.0s,MS6.0
I06A Prineville 96.64 9 ⇓P **P 04 11 22.3 +0.8**
baz=96,SNR=7.3
I06A ⇑S S 04 22 00.2 -41
baz=96
LKWY Lake 96.70 2 PFAKE 04 11 30.0 +8.3
LKWY LR LR
comp=Z,16μm,19.0s,MS6.5
J02A Umpqua 96.75 11 ⇑P **P 04 11 22.8 +0.8**
baz=96
YFT Old Faithful 96.81 2 *e*P **P 04 11 24.2 +2.0**
J03A Ideyld Park 96.84 11 ⇑P **P 04 11 21.8 -0.5**
baz=96
J03A ⇑S S 04 21 59.1 -44
baz=96
RSSD Black Hills 97.09 357 *e*P **P 04 11 23.6 +0.1**
RSSD pmax pmax
comp=Z,13nm,0.8s,mb5.4
RSSD MLR MLR
comp=Z,1μm,20.0s,MS5.3
RSSD Black Hills 97.09 357 *e*P **P 04 11 23.6 +0.2**
comp=Z,11nm,0.8s,mb5.3
RSSD LR LR
comp=Z,942nm,20.0s,MS5.3
K01A Sixes 97.16 12 ⇓P **P 04 11 23.6 -0.2**
baz=97
K01A ⇑S S 04 22 03.1 -42
baz=97
J07A Hines 97.31 8 ⇑P **P 04 11 24.5 +0.1**
baz=97
J07A ⇓S S 04 22 04.3 -43
baz=97
J06A Christmas Vall 97.33 9 ⇓P **P 04 11 24.6 +0.1**
baz=97,SNR=16
J06A ⇓S S 04 22 03.9 -43
baz=97
K02A Glendale 97.35 11 ⇑P **P 04 11 24.7 +0.1**
baz=97
K02A ⇓S S 04 22 03.5 -44
baz=97
IMW Indian Meadow 97.36 2 *e*P **P 04 11 26.9 +2.2**
comp=Z,17nm,0.9s,mb5.5
J08A Circle Bar Ran 97.41 8 ⇑P **P 04 11 25.4 +0.5**
baz=97
J08A ⇓S S 04 22 02.9 -45
baz=97
MCWV Mont Chateau 97.44 338 *e*P **P 04 11 24.8 -0.2**
comp=Z,24nm,1.0s,mb5.6
MCWV LR LR
comp=Z,10μm,22.0s,MS6.2
MOOW Moose Ponds 97.51 2 *e*P **P 04 11 25.2 -0.1**
comp=Z,5.9nm,0.9s,mb5.1
HLID Hailey 97.54 5 *e*P **P 04 11 26.0 +0.5**
comp=Z,14nm,1.4s,mb5.3
HLID LR LR
comp=Z,6μm,21.0s,MS6.1
HUMO Hull Mountain 97.59 11 *e*P **P 04 11 25.9 +0.1**
comp=Z,17nm,1.5s,mb5.3
HUMO LR LR
comp=Z,2μm,19.0s,MS5.7
HUMO Hull Mountain 97.59 11 ⇑P **P 04 11 25.8 +0.1**
baz=97
HUMO ⇑S S 04 22 03.4 -46
baz=97
LOHW Long Hollow 97.65 2 *e*P **P 04 11 27.1 +1.1**
comp=Z,6.0nm,1.0s,mb5.1
K04A Chilquin 97.76 10 ⇓P **P 04 11 26.4 -0.1**
baz=97
K04A ⇑S S 04 22 05.8 -45
baz=97
ACSO Alum Creek Sta 97.76 341 *e*P **P 04 11 26.2 -0.3**
comp=Z,32nm,1.2s,mb5.7
ACSO LR LR
comp=Z,3μm,20.0s,MS5.7
K06A Valley Falls 97.76 9 ⇓P **P 04 11 27.2 +0.7**
baz=97
K06A ⇓S S 04 22 07.2 -44
baz=97
SNOW Snow King Moun 97.80 2 *e*P **P 04 11 27.8 +1.1**
comp=Z,13nm,1.1s,mb5.4
REDW Red Top Meadow 97.90 2 *e*P **P 04 11 27.7 +0.6**
comp=Z,28nm,1.6s,mb5.5
L02A Cave Junction 97.93 12 ⇑P **P 04 11 28.4 +1.1**
baz=98
L02A ⇓S S 04 22 06.3 -46
baz=98
CBN Corbin 98.03 336 PFAKE 04 11 40.0 +12
CBN LR LR
comp=Z,5μm,22.0s,MS6.0
M01C Crescent City 98.15 12 ⇓P **P 04 11 28.8 +0.5**
baz=98
M01C ⇓S S 04 22 08.9 -45
baz=98
L04A Klamath Falls 98.17 10 ⇑P **P 04 11 27.5 -0.8**
baz=98
L04A ⇓S S 04 22 06.8 -47
baz=98
BBSR BB Station 98.23 324 PFAKE 04 11 40.0 +11
BBSR LR LR
comp=Z,2μm,22.0s,MS5.5
SCIA State Center 98.24 349 *e*P **P 04 11 26.8 -1.8**
comp=Z,32nm,1.2s,mb5.7
WVOR Wild Horse Val 98.31 8 PFAKE 04 11 40.0 +11
WVOR LR LR
comp=Z,5μm,20.0s,MS6.0
L05A Lakeview 98.43 9 ⇑P **P 04 11 29.7 +0.2**
baz=98
L05A ⇑S S 04 22 10.1 -46
baz=98
YBH Yreka Blue Hor 98.48 11 PFAKE 04 11 40.0 +10
YBH LR LR
comp=Z,2μm,20.0s,MS5.5
YBH Yreka Blue Hor 98.48 11 ⇓P **P 04 11 29.2 -0.5**
baz=98
YBH ⇑S S 04 22 08.8 -48
baz=98
AHID Auburn Hatcher 98.48 2 PFAKE 04 11 40.0 +10
AHID LR LR
comp=Z,6μm,19.0s,MS6.1
BW06 Boulder Array 98.52 1 *e*P **P 04 11 29.5 -0.4**
comp=Z,8.9nm,1.3s,mb5.1
BW06 LR LR
comp=Z,4μm,22.0s,MS5.9
PDAR Pinedale Array 98.52 1 P **P 04 11 29.5 -0.4**
comp=Z,2.5nm,0.9s,mb4.8,baz=4.9,slow=5.2,SNR=15
PDAR PP PP 04 15 23.0 -7.4
comp=Z,1.2nm,1.0s,baz=2.2,slow=4.7,SNR=2.5
PDAR PKiKP PKiKP 04 16 01.5 -0.2
comp=Z,1.0nm,0.7s,baz=84,slow=2.8,SNR=6.6
PDAR PKKPbc PKKPbc 04 27 57.1 -2.1
comp=Z,0.7nm,0.6s,baz=170,slow=2.6,SNR=7.4
PDAR PKPPKP 04 36 15.7
comp=Z,0.3nm,0.9s,baz=116,slow=3.4,SNR=4.1
PDAR LR LR 04 59 30.1
comp=Z,3μm,21.5s,MS5.8,baz=5.8,slow=38
PDAR Pinedale Array 98.52 1 P **P 04 11 29.5 -0.4**
PDAR PP PP 04 15 23.0 -7.4
M04C Macdoel 98.56 10 ⇑P **P 04 11 30.3 +0.2**
baz=98
M04C ⇑S S 04 22 10.7 -47
baz=98
L07A Adell 98.64 8 ⇑P **P 04 11 30.8 +0.4**
baz=98,SNR=9.5
L07A ⇑S S 04 22 11.3 -47
baz=98
M02C Callahan 98.79 11 ⇑P **P 04 11 31.8 +0.7**
baz=98
M02C ⇑S S 04 22 11.2 -48
baz=98
L09A Wilkinson Ranc 98.81 7 ⇑P **P 04 11 31.9 +0.6**
baz=98
L09A ⇑S S 04 22 12.9 -47
baz=98
M05C Lookout 99.07 10 ⇑P **P 04 11 32.0 -0.4**
baz=99
M05C ⇑S S 04 22 13.0 -49
baz=99
JCC Jacoby Creek 99.17 12 ⇑P **P 04 11 33.2 +0.4**
baz=99
JCC ⇓S S 04 22 13.7 -49
baz=99
M07A Soldier Meadow 99.28 8 ⇑P **P 04 11 33.5 +0.2**
baz=99
M07A ⇑S S 04 22 15.3 -48
baz=99
N02C Big Bar 99.28 12 ⇑P **P 04 11 32.5 -0.8**
baz=99
N02C ⇓S S 04 22 12.3 -51
baz=99
M06C Likely Place G 99.31 9 ⇓P **P 04 11 33.2 -0.2**
baz=99
M06C ⇓S S 04 22 14.6 -49
baz=99
M08A Happy Creek Ra 99.31 8 ⇑P **P 04 11 34.2 +0.8**
baz=99
M08A ⇑S S 04 22 15.4 -48
baz=99
HVU Hansel Valley 99.41 3 *e*P **P 04 11 32.7 -1.2**
HVU pmax pmax
comp=Z,6.0nm,0.8s,mb5.2
HVU Hansel Valley 99.41 3 *e*P **P 04 11 32.7 -1.1**
comp=Z,5.8nm,0.8s,mb5.2
M10A I.L. Ranch, Tu 99.41 6 ⇓P **P 04 11 34.7 +0.8**
baz=99
M10A ⇑S S 04 22 16.4 -48
baz=99
M09A Marrel Ranch, 99.43 7 ⇓P **P 04 11 34.6 +0.6**
baz=99,SNR=10
HATC Hat Creek Radi 99.56 10 ⇓P **P 04 11 34.4 -0.1**
baz=99
HATC ⇑S S 04 22 16.8 -49
baz=99
M11A Holland Ranch, 99.56 6 ⇓P **P 04 11 35.8 +1.2**
baz=99
M11A ⇓S S 04 22 15.4 -50
baz=99
RWWY Rawlins 99.60 359 *e*Pdif Pdif 04 11 33.5 -1.2
comp=Z,58nm,1.4s
HWUT Hardware Ranch 99.63 3 *e*Pdif Pdif 04 11 35.7 +0.8
comp=Z,11nm,0.8s
HWUT LR LR
comp=Z,6μm,20.0s,MS6.1
WDC Whiskeytown Da 99.64 11 PFAKE 04 11 40.0 +5.1
WDC LR LR
comp=Z,2μm,21.0s,MS5.6
WDC Whiskeytown Da 99.64 11 ⇓P Pdif 04 11 34.1 -0.8
baz=99
WDC ⇓S S 04 22 14.7 -52
baz=99
M12A Wells 99.64 5 ⇑P Pdif 04 11 35.8 +0.9
baz=99
M12A ⇑S S 04 22 16.0 -51
baz=99
M13A Montello 99.75 5 ⇑P Pdif 04 11 36.6 +1.2
baz=99
M13A ⇓S S 04 22 16.5 -51
baz=99
ELFS Eagle Lake Fie 99.85 10 ⇑P Pdif 04 11 36.3 +0.5
baz=99
ELFS ⇓S S 04 22 17.0 -51
baz=99
O01C Eel River Cons 99.87 12 ⇑P Pdif 04 11 36.7 +0.8
baz=99
O01C ⇑S S 04 22 17.6 -51
baz=99
BLA Blacksburg 99.88 338 PFAKE 04 11 50.0 +14
BLA LR LR
comp=Z,7μm,22.0s,MS6.1
SPUT South Promonto 99.89 3 *e*Pdif Pdif 04 11 36.8 +0.8
N09A Rock Creek Ran 99.98 7 ⇓P Pdif 04 11 36.9 +0.5
baz=100
N09A ⇓S SKSac 04 22 16.8 +3.2
baz=100
O02C Red Bluff 99.99 11 ⇑P Pdif 04 11 36.2 -0.2
baz=100
O02C ⇓S SKSac 04 22 17.6 +4.1
baz=100
N08A GE Springer Mi 99.99 8 ⇑P Pdif 04 11 36.8 +0.3
baz=100
N08A ⇑S SKSac 04 22 17.9 +4.3
baz=100
O04C Chester 100.10 10 ⇓P Pdif 04 11 36.5 -0.4
baz=100
O04C ⇓S SKSac 04 22 17.5 +3.5
baz=100
TCUT Toone Canyon 100.12 2 *e*Pdif Pdif 04 11 38.8 +1.8
N11A Elko Archery C 100.18 6 ⇑P Pdif 04 11 37.3 0.0
baz=100
N11A ⇓S SKSac 04 22 16.8 +2.3
baz=100
N12A Clover Valley, 100.19 5 ⇑P Pdif 04 11 38.0 +0.6
baz=100
N12A ⇑S SKSac 04 22 18.0 +3.4
baz=100
N10A Dunphy 100.21 6 ⇑P Pdif 04 11 38.1 +0.6
baz=100
N10A ⇓S SKSac 04 22 18.0 +3.4
baz=100
BGU Big Grassy Mou 100.24 4 *e*Pdif Pdif 04 11 38.3 +0.7
N13A Wendover, West 100.25 5 ⇑P Pdif 04 11 37.8 +0.2
baz=100
N13A ⇑S SKSac 04 22 18.2 +3.4
baz=100
O03C Acorn Hollow, 100.28 11 ⇓S SKSac 04 22 18.6 +3.6
baz=100
ELK Elko 100.29 5 *e*P Pdif 04 11 39.4 +1.6
ELK pmax pmax
comp=Z,10.0nm,1.2s
ELK Elko 100.29 5 *e*Pdif Pdif 04 11 39.4 +1.6
comp=Z,10.0nm,1.2s
O06A Flanigan 100.41 9 ⇓P Pdif 04 11 38.9 +0.6
baz=100
O06A ⇓S SKSac 04 22 19.2 +3.6
baz=100
BMN Battle Mountai 100.43 7 PFAKE 04 11 50.0 +12
BMN LR LR
comp=Z,3μm,20.0s,MS5.8
WCI Wyandotte Cave 100.47 343 *e*P Pdif 04 11 38.0 -0.6
WCI MLR MLR
comp=Z,955nm,19.0s,MS5.3
O05C Quincy 100.47 10 ⇑P Pdif 04 11 37.7 -0.9
baz=100
O05C ⇓S SKSac 04 22 18.7 +2.8
baz=100
GASB Alder Springs 100.52 11 ⇓P Pdif 04 11 39.0 +0.2
baz=100
GASB ⇑S SKSac 04 22 20.5 +4.3
baz=100
O07A Toulon 100.53 8 ⇑P Pdif 04 11 38.9 0.0
baz=100
O07A ⇑S SKSac 04 22 20.5 +4.3
baz=100
P01C Double 8 Ranch 100.60 12 ⇑P Pdif 04 11 39.7 +0.5
baz=100
O10A Cortez Mining, 100.64 6 ⇓P Pdif 04 11 40.2 +0.9
baz=100
O10A ⇑S SKSac 04 22 21.3 +4.5
baz=100
O09A Fish Creek Ran 100.69 7 ⇓P Pdif 04 11 39.9 +0.3
baz=100
O09A ⇓S SKSac 04 22 21.5 +4.5
baz=100
ORV Oroville 100.79 10 ⇑P Pdif 04 11 39.9 -0.1
baz=100
ORV ⇓S SKSac 04 22 19.8 +2.4
baz=100
DAU Daniels Canyon 100.83 2 *e*P Pdif 04 11 43.4 +3.2
O11A Cowboy Ranch, 100.86 6 ⇑P Pdif 04 11 40.4 0.0
baz=100
O11A ⇑S SKSac 04 22 20.9 +3.1
baz=100
DUG Dugway 100.98 4 *e*P Pdif 04 11 41.5 +0.6
DUG pmax pmax
comp=Z,10.0nm,1.3s
DUG MLR MLR
comp=Z,4μm,20.0s,MS6.0
DUG Dugway 100.98 4 *e*Pdif Pdif 04 11 41.5 +0.6
comp=Z,10.0nm,1.3s
DUG LR LR
comp=Z,4μm,20.0s,MS6.0
SUTB Sutter Butte 101.07 11 ⇑P Pdif 04 11 39.7 -1.6
baz=101
SUTB ⇑S SKSac 04 22 21.3 +2.5
baz=101
P08A Dixie Valley 101.08 8 ⇓P Pdif 04 11 41.5 +0.2
baz=101
P08A ⇑S SKSac 04 22 23.8 +4.9
baz=101
HOPS Hopland 101.11 12 PFAKE 04 11 50.0 +8.6
HOPS LR LR

comp=Z,2µm,19.0s,MS5.7
MPU Maple Canyon 101.21 3 PFAKE 04 11 50.0 +8.1
MPU LR LR
comp=Z,9µm,20.0s,MS6.3
BEKR Beckwourth 101.25 351 ⇑P Pdif 04 11 39.4
baz=100
WCN Washoe City 101.27 9 ⇓P Pdif 04 11 42.5 +0.3
baz=101
WCN ⇑S SKSac 04 22 23.0 +3.2
baz=101
P10A Eureka 101.31 7 ⇑P Pdif 04 11 42.5 +0.2
baz=101
P10A ⇑S SKSac 04 22 24.5 +4.6
baz=101
P09A Austin 101.31 7 ⇑P Pdif 04 11 42.4 0.0
baz=101
MNRC McLaughlin Nat 101.32 11 ⇓P Pdif 04 11 41.8 -0.6
baz=101
MNRC ⇓S SKSac 04 22 25.1 +5.1
baz=101
ISCO Idaho Springs 101.45 358 *e*P Pdif 04 11 43.6 +0.6
ISCO pmax pmax
comp=Z,7.0nm,1.3s
ISCO MLR MLR
comp=Z,3µm,20.0s,MS5.8
ISCO Idaho Springs 101.45 358 *e*Pdif Pdif 04 11 43.6 +0.6
comp=Z,6.2nm,1.3s
ISCO LR LR
comp=Z,2µm,20.0s,MS5.7
Q04C Lincoln 101.51 10 ⇓P Pdif 04 11 43.4 +0.2
baz=101
Q04C ⇓S SKSac 04 22 25.7 +4.8
baz=101
P12A McGill 101.58 5 ⇓P Pdif 04 11 44.0 +0.5
baz=101
P12A ⇓S SKSac 04 22 25.7 +4.5
baz=101
CCM Cathedral Cave 101.67 346 *e*P Pdif 04 11 43.3 -0.6
CCM pmax pmax
comp=Z,4.0nm,0.8s
CCM MLR MLR
comp=Z,691nm,19.0s,MS5.2
CCM Cathedral Cave 101.67 346 *e*Pdif Pdif 04 11 43.3 -0.6
comp=Z,3.7nm,0.8s
CCM LR LR
comp=Z,691nm,19.0s,MS5.2
LAVA Lava Cap Winer 101.68 10 ⇓P Pdif 04 11 44.5 +0.5
baz=101
LAVA ⇓S SKSac 04 22 25.4 +3.6
baz=101
Q07A Schurz 101.74 8 ⇑S SKSac 04 22 26.5 +4.4
baz=101
R05C Kirkwood Meado 101.82 9 ⇓P Pdif 04 11 44.9 +0.3
baz=101
R05C ⇓S SKSac 04 22 27.4 +4.9
baz=101
Q08A Gabbs 101.92 8 ⇓P Pdif 04 11 45.3 +0.3
baz=102
Q08A ⇑S SKSac 04 22 26.2 +3.3
baz=102
Q12A Willow Creek R 102.01 5 ⇑P Pdif 04 11 46.1 +0.6
baz=102
Q12A ⇓S SKSac 04 22 26.6 +3.2
baz=102
R06C Coleville 102.08 9 ⇑P Pdif 04 11 46.1 +0.3
baz=102
R06C ⇑S SKSac 04 22 27.1 +3.5
baz=102
SMCO Snowmass 102.10 359 *e*Pdif Pdif 04 11 46.9 +1.1
comp=Z,4.8nm,1.0s
Q11A Duckwater 102.14 6 ⇑S SKSac 04 22 25.8 +1.9
baz=102
R04C Big Horse Ranc 102.15 10 ⇑P Pdif 04 11 45.9 -0.1
baz=102
R04C ⇑S SKSac 04 22 26.7 +2.7
baz=102
NVAR Mina Array Bea 102.30 8 P Pdif 04 11 47.8 +1.0
comp=Z,2.3nm,1.0s,baz=21,slow=3.2,SNR=9.4
NVAR PP PP 04 16 01.0 +1.9
comp=Z,1.1nm,0.8s,baz=8.5,slow=6.7,SNR=2.4
NVAR PKiKP PKiKP 04 16 10.2 +1.7
comp=Z,0.6nm,0.6s,baz=335,slow=4.0,SNR=5.2
NVAR PKKPbc PKKPbc 04 27 50.2 +1.8
comp=Z,0.8nm,0.7s,baz=168,slow=5.3,SNR=5.7
NVAR Mina Array Bea 102.30 8 P Pdif 04 11 47.8 +1.0
NVAR PP PP 04 16 01.0 +1.9
BDM Black Diamond 102.31 11 ⇓P Pdif 04 11 45.9 -0.8
baz=102
FARB Farallon Islan 102.39 12 ⇑P Pdif 04 11 45.6 -1.5
baz=102
CMB Columbia Colle 102.44 10 PFAKE 04 12 00.0 +13
CMB LR LR
comp=Z,2µm,19.0s,MS5.6
CMB Columbia Colle 102.44 10 ⇓P Pdif 04 11 47.2 -0.1
baz=102
CMB ⇓S SKSac 04 22 28.5 +3.1
baz=102
R07C Lee Vining 102.55 9 ⇓S SKSac 04 22 31.1 +5.2
baz=102
R09A Tonopah 102.62 7 ⇓P Pdif 04 11 48.0 -0.2
baz=102
R09A ⇑S SKSac 04 22 29.0 +2.8
baz=102
R10A Warm Springs 102.64 7 ⇓S SKSac 04 22 30.2 +3.9
baz=102
S06C San Francisco 102.66 9 ⇑P Pdif 04 11 48.1 -0.2
baz=102
TPH Tonopah 102.77 7 PFAKE 04 12 00.0 +11
TPH LR LR
comp=Z,3µm,19.0s,MS5.9
WVT Waverly 102.83 343 *e*P Pdif 04 11 48.4 -0.7
WVT pmax pmax
comp=Z,13nm,1.3s
WVT MLR MLR
comp=Z,3µm,19.0s,MS5.9
WVT Waverly 102.83 343 *e*Pdif Pdif 04 11 48.4 -0.7
comp=Z,13nm,1.3s
WVT LR LR
comp=Z,3µm,19.0s,MS5.9
S04C Ingram Canyon, 102.83 11 ⇑S SKSac 04 22 31.8 +4.6
baz=102
MYNC Murphy 102.92 340 PFAKE 04 12 00.0 +11
MYNC LR LR
comp=Z,4µm,20.0s,MS5.9
S09A Goldfield 103.11 7 ⇓P Pdif 04 11 51.4 +1.1
baz=103
S09A ⇑S SKSac 04 22 33.1 +4.6
baz=103
S05C Merced 103.12 10 ⇑P Pdif 04 11 50.4 0.0
baz=103
S05C ⇑S SKSac 04 22 33.4 +4.8
baz=103
KCC Kaiser Creek 103.28 9 ⇓P Pdif 04 11 50.1 -1.0
baz=103
KCC ⇑S SKSac 04 22 33.5 +4.3
baz=103
PACP Pacheco Peak 103.32 11 ⇑P Pdif 04 11 52.1 +0.9
baz=103
SDCO Great Sand Dun 103.50 358 PFAKE 04 12 00.0 +7.9
SDCO LR LR
comp=Z,7µm,20.0s,MS6.2
T05C Eagle Field, D 103.52 10 ⇑P Pdif 04 11 52.9 +0.7
baz=103
SAO San Andreas Ge 103.54 11 PFAKE 04 12 00.0 +7.8
SAO LR LR
comp=Z,3µm,20.0s,MS5.9
T06C Millerton Lake 103.54 9 ⇓S SKSac 04 22 35.0 +4.5
baz=103
TIN Tinemaha 103.67 8 ⇓S SKSac 04 22 36.1 +5.0
baz=103
HELL Mitchell Peak, 103.95 9 ⇓S SKSac 04 22 36.0 +3.6
baz=104
TPNV Topopah Spring 103.97 7 PFAKE 04 12 00.0 +5.8
TPNV LR LR
comp=Z,4µm,21.0s,MS5.9
PLAL Pickwick Lake 103.98 343 PFAKE 04 12 00.0 +5.8
PLAL LR LR
comp=Z,3µm,21.0s,MS5.8
U04C Hernandez Rese 104.03 10 ⇑P Pdif 04 11 54.5 +0.1
baz=104
U10A Ash Meadows, A 104.49 7 ⇓P Pdif 04 11 56.8 +0.3
baz=104
U12A Valley of Fire 104.62 5 ⇑P Pdif 04 11 57.1 0.0
baz=104
U12A ⇑S SKSac 04 22 40.6 +5.1
baz=104
OXF Oxford 104.73 344 PFAKE 04 12 10.0 +12
OXF LR LR
comp=Z,3µm,19.0s,MS5.9
V04C Ramage Ranch, 104.73 11 ⇑P Pdif 04 11 58.2 +0.6
baz=104
V04C ⇑S SKSac 04 22 42.4 +6.5
baz=104
ISA Isabella 105.02 9 ⇓P Pdif 04 11 58.7 -0.1
baz=105
V11A Goodsprings 105.15 6 ⇓P Pdif 04 12 00.3 +0.9
baz=105
V11A ⇑S SKSac 04 22 42.7 +4.8
baz=105
V12A Nelson 105.30 6 ⇑P Pdif 04 12 00.7 +0.6
baz=105
V12A ⇑S SKSac 04 22 41.5 +2.9
baz=105
MIAR Mount Ida 105.49 348 PFAKE 04 16 20.0 +5.6
MIAR LR LR
comp=Z,4µm,20.0s,MS6.0
TUQ Turquoise Mtn. 105.50 7 ⇑S SKSac 04 22 39.3 -0.1
baz=105
GSC Goldstone 105.55 7 ⇑S SKSac 04 22 45.4 +5.7
baz=105
WUAZ Wupatki 105.71 3 PFAKE 04 16 30.0 +15
WUAZ LR LR
comp=Z,3µm,19.0s,MS5.9
W12A Cal Nev Ari 105.72 6 ⇓S SKSac 04 22 44.5 +4.1
baz=105
W14A Seligman 105.93 4 ⇓P PKiKP 04 16 16.9 +1.7
baz=106
W14A ⇑S SKSac 04 22 46.7 +5.3
baz=106
W15A Williams 106.01 3 ⇑P PKiKP 04 16 17.1 +1.8
baz=106
W15A ⇓S SKSac 04 22 45.6 +4.0
baz=106
AMTX Amarillo 106.15 354 PFAKE 04 16 30.0 +14
AMTX LR LR
comp=Z,3µm,19.0s,MS5.9
ANMO Albuquerque 106.31 359 *e*P Pdif 04 12 07.1 +2.5
ANMO pmax pmax
comp=Z,5.0nm,1.3s
ANMO Albuquerque 106.31 359 *e*Pdif Pdif 04 12 07.1 +2.6
comp=Z,5.5nm,1.3s
TAU Tasmania Unive 106.44 132 PFAKE 04 16 30.0 +14
TAU LR LR
comp=Z,3µm,22.0s,MS5.8
MAW Mawson 106.58 184 Pdiff Pdif 04 12 07.7 +1.9
comp=Z,2.5nm,0.8s,baz=29,slow=7.5,SNR=6.0
MAW PKiKP PKiKP 04 16 16.7 +0.3
comp=Z,1.8nm,0.6s,baz=345,slow=3.9,SNR=4.6
MAW Mawson 106.58 184 *e*P Pdif 04 12 10.1 +4.3
comp=Z,2.5nm,0.8s
MAW PKPdf PKiKP 04 16 16.7 +0.3
X14A Yava 106.68 4 ⇑P PKiKP 04 16 20.8 +4.3
baz=106
X14A ⇓S SKSac 04 22 48.1 +3.4
baz=106
X15A Humboldt 106.70 3 ⇓P PKiKP 04 16 22.5 +5.9
baz=106
X15A ⇓S SKSac 04 22 50.5 +5.8
baz=106
Y14A Wickenburg 107.20 4 ⇑P PKiKP 04 16 19.6 +2.1
baz=107
Y14A ⇑S SKSac 04 22 52.0 +5.1
baz=107
PFO Pinyon Flat Ob 107.27 7 ⇑P PKiKP 04 16 20.5 +2.9
baz=107
SNCC San Nicolas Is 107.27 10 ⇑P PKiKP 04 16 21.0 +3.3
baz=107
Y12C Blythe 107.29 6 ⇓S SKSac 04 22 52.2 +4.9
baz=107
Z14A Wintersburg 107.78 4 ⇑P PKiKP 04 16 21.0 +2.4
baz=107
Z14A ⇓S SKSac 04 22 53.1 +3.7
baz=107
GLA Glamis 107.96 6 ⇓P PKiKP 04 16 22.1 +3.2
baz=108
GLA ⇓S SKSac 04 22 56.4 +6.2
baz=108
NATX Nacogdoches 108.40 348 PFAKE 04 16 30.0 +10
NATX LR LR
comp=Z,4µm,20.0s,MS5.9
115A Sonoran Desert 108.48 4 ⇓P PKiKP 04 16 21.3 +1.4
baz=108
115A ⇓S SKSac 04 22 58.6 +6.1
baz=108
DWPF Disney 108.63 335 PFAKE 04 16 30.0 +10
DWPF LR LR
comp=Z,569nm,22.0s,MS5.1
116A Eloy 108.64 3 ⇑P PKiKP 04 16 22.6 +2.4
baz=108
TUC Tucson 108.92 2 *e*PKP PKiKP 04 16 20.7 -0.1
JCT Junction City 110.35 352 *e*PKP PKiKP 04 16 23.7 +0.2
JCT LR LR
comp=Z,5µm,20.0s,MS6.0
HKT Hockley 110.36 349 PFAKE 04 16 30.0 +6.6
HKT LR LR
comp=Z,670nm,20.0s,MS5.2
TEIG Tepich 118.12 339 *e*PKPdf PKPdf 04 16 38.6 +0.3
SDV Santo Domingo 120.88 315 *e*PKPdf PKPdf 04 16 43.4 -0.2
SNAA Sanae 122.04 201 *e*PKPdf PKPdf 04 16 44.1 -1.7
CMIG Matias Romero 122.74 345 PKKPbc PKKPbc 04 26 40.2 +0.3
comp=Z,1.8nm,0.8s,baz=31,slow=5.4,SNR=4.1
BDFB Brasilia 122.75 276 PKP PKPdf 04 16 48.1 +1.0
comp=Z,1.0nm,0.3s,baz=242,slow=2.7,SNR=3.8
BDFB PP PP 04 18 22.6 -2.5
comp=Z,2.5nm,0.8s,baz=100,slow=9.9,SNR=2.2
BDFB PKKPbc PKKPbc 04 26 41.0 +1.2
comp=Z,3.6nm,1.0s,baz=323,slow=4.2,SNR=4.1
ROSC El Rosal 126.23 316 PKP PKPdf 04 16 55.2 +1.3
comp=Z,40nm,0.6s,baz=118,slow=9.7,SNR=32
JTS JuntasAbangare 126.32 331 *e*PKPdf PKPdf 04 16 53.6 -0.4
VNDA Vanda 127.81 164 PKhKP 04 16 49.8
comp=Z,1.4nm,0.9s,baz=319,slow=4.7,SNR=4.2
VNDA PKP PKPdf 04 16 55.2 -1.6
comp=Z,6.1nm,1.0s,baz=277,slow=4.2,SNR=20
VNDA Vanda 127.81 164 PKP PKPdf 04 16 49.8 -7.1
VNDA *e*PKPdf PKPdf 04 16 55.3 -1.6
QSPA South Pole Qui 128.88 180 *e*P PKPdf 04 16 58.8 -0.1
SAML Samuel 129.84 294 *e*PKPdf PKPdf 04 17 00.9 +0.2
OTAV Otavalo 132.31 318 *e*PKPdf PKPdf 04 17 06.9 +1.5
CPUP Villa Florida 135.87 271 PKhKP 04 16 58.8
comp=Z,0.9nm,0.5s,baz=21,slow=1.1,SNR=7.7
CPUP PKP PKPdf 04 17 10.6 -1.5
comp=Z,8.7nm,0.6s,baz=51,slow=2.3,SNR=27
CPUP PP PP 04 19 50.0 -0.8
comp=Z,1.9nm,0.7s,baz=65,slow=8.0,SNR=2.6
CPUP Villa Florida 135.87 271 PKP 04 16 58.8
CPUP *e*PKPdf PKPdf 04 17 10.6 -1.5
PPT Papeete 138.20 71 *e*PP PP 04 20 10.8 +5.5
comp=Z,111nm,22.8s
PPT Papeete 138.20 71 *e*LR LR 05 01 59.1
comp=Z,2µm,26.2s
LPAZ La Paz 138.33 292 PKP PKPdf 04 17 18.1 +1.4
comp=Z,5.6nm,0.7s,baz=65,slow=4.3,SNR=6.5
LPAZ PP PP 04 20 04.4 -1.7
comp=Z,0.9nm,0.9s,baz=66,slow=20,SNR=2.0
LPAZ La Paz 138.33 292 *e*PKPpre 04 17 14.2
LPAZ *e*PKPdf PKPdf 04 17 17.4 +0.8
LPAZ PKP PKPdf 04 17 18.1 +1.4
LPAZ PP PP 04 20 04.4 -1.7
TAOE Nuku Hiva Isla 138.47 52 *e*LR LR 05 01 59.6
comp=Z,6µm,22.2s
ARE Arequipa 140.85 295 P PKPdf 04 17 16.0 -5.2
NNA Nana 141.25 306 *e*PKPpre 04 17 20.3
TBI Tubuai 141.73 78 *e*SS SS 04 38 59.7 +2.7
comp=Z,236nm,35.8s
TBI *e*LR LR 05 03 37.0
comp=Z,1µm,29.5s
LVC Limon Verde 142.81 285 *e*PKPpre 04 17 20.8
TRQA Tornquist 144.15 257 *e*PKPdf PKPdf 04 17 24.6 -2.5
MDZ Mendoza 147.75 269 *e*P PKPdf 04 17 36.1 +2.9
TLL Tololo Astrono 148.15 275 *e*P PKPdf 04 17 35.5 +1.7
CMCH Combarbala 148.74 273 *e*P PKPdf 04 17 37.5 +2.7
FCH Farellones 149.03 269 *e*P PKPdf 04 17 36.4 +1.1
CLCH Cerro Calan 149.25 269 *e*P PKPdf 04 17 36.7 +1.1
PLCA Paso Flores 151.22 255 PKP PKPdf 04 17 38.3 -0.4
comp=Z,22nm,1.0s,baz=171,slow=1.9,SNR=17
PLCA PKPbc PKPbc 04 17 44.5 -0.2
comp=Z,23nm,0.8s,baz=138,slow=2.3,SNR=48
PLCA Paso Flores 151.22 255 *e*PKPdf PKPdf 04 17 39.3 +0.6
PLCA *e*PKPbc PKPbc 04 17 45.0 +0.3
RKT Rikitea 152.23 63 *e*PKPbc PKPbc 04 17 46.5 -0.5
comp=Z,110nm,1.1s
RKT Rikitea 152.23 63 *e*LR LR 05 08 30.9
comp=Z,929nm,24.8s

MAN 06 04:06:39.0, 1055N×12204E, h5km, MS4.5, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**2.57**	**79**	*e*P	Pn	04 07 21.9	+0.6
IPIL	**Ipil**	**2.79**	**169**	*e*P	Pn	04 07 24.7	+0.4
MSLP	**Maasin**	**2.80**	**98**	*e*P	Pn	04 07 27.1	+2.6
BUTP	**Butuan**	**3.86**	**114**	*e*P	Pn	04 07 36.5	-2.5
BUKP	**Musuan**	**3.99**	**131**	*e*P	Pn	04 07 42.1	+1.3

*IDC **06** 04:13:39.1±0.9, 3923N×7152E, h0km, mb3.9/13, mb1 4.1/15, mb1mx4.0/24, mbtmp3.9/15, ML3.4/2, Error ellipse: s-maj=21.6km s-min=17.4km az=169.0*
*NEIC **06** 04:13:41.1±0.6, 3923N×7151E, h10km, mb4.6/9, Error ellipse: s-maj=10.8km s-min=7.5km az=148.0*
*ISCJB **06** 04:13:43.3±1.4, 3920N±007×7152E±009, h43km±14km, mb4.1/21, Error ellipse: s-maj=15.1km s-min=7.4km az=85.9*
*MOS **06** 04:13:43.4±0.9, 3937N×7148E, h33km, mb4.7/8, Error ellipse: s-maj=13.1km s-min=7.8km az=107.4*
*NNC **06** 04:13:43.4±2.9, 3945N×7153E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=26.7km s-min=15.2km az=4.0*

ISC 06 04:13:44.0±2.5, 3917N±006×7146E±007, h32km±19km,
n71, σ1s07/78, mb4.1/21, 5C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.41**	**29**	P	**Pn**	**04 14 36.4**	**+1.4**
	SNR=27						
UCH	**Uchtor**	**3.83**	**36**	P	**Pn**	**04 14 41.7**	**+0.9**
	SNR=23						
EKS2	**Erkin-Say**	**3.90**	**26**	P	**Pn**	**04 14 43.2**	**+1.4**
	SNR=22						
KK31	**Karatay Array**	**3.99**	**350**	⇓Pn	**Pn**	**04 14 44.8**	**+1.9**
	139nm,0.7s,baz=164,slow=12,SNR=108						
KK31				⇑Sn	**Sn**	**04 15 35.5**	**+6.8**
	28nm,0.3s,baz=176,slow=26,SNR=4.9						
KZA	**Kyzart**	**4.09**	**44**	P	**Pn**	**04 14 44.8**	**+0.5**
	SNR=6.8						
AAK	**Ala-Archa**	**4.15**	**33**	P	**Pn**	**04 14 45.6**	**+0.5**
	SNR=12						
AAK	**Ala-Archa**	**4.15**	**33**	*e*Pn	**Pn**	**04 14 44.4**	**-0.8**
AAK				*e*Sn	**Sn**	**04 15 27.2**	**-5.4**
KBK	**Karagaybulak**	**4.37**	**36**	P	**Pn**	**04 14 49.3**	**+1.1**
	SNR=7.3						
CHMS	**Chumysh**	**4.56**	**32**	P	**Pn**	**04 14 51.7**	**+0.9**
	SNR=23						
USP	**Ospenovka**	**4.69**	**28**	P	**Pn**	**04 14 53.0**	**+0.4**
	SNR=43						
ULHL	**Ulahol**	**4.75**	**48**	P	**Pn**	**04 14 52.5**	**-1.0**
	SNR=19						
TKM2	**Tokmak 2**	**4.88**	**39**	P	**Pn**	**04 14 55.9**	**+0.7**
	SNR=7.8						
TKM2	**Tokmak 2**	**4.88**	**39**	⇑Pn	**Pn**	**04 14 55.6**	**+0.4**
	1.4nm,0.5s						
TKM2				⇑Lg		04 16 07.4	
	15nm,0.8s						
MKAR	**Makanchi Array**	**10.99**	**43**	Pn	**Pn**	**04 16 17.6**	**-1.4**
	0.1nm,0.3s,baz=250,slow=7.5,SNR=1.9						
KURK	**Kurchatov**	**12.60**	**21**	*e*P	**Pn**	**04 16 40.0**	**-1.0**
AB31	**Akbulak array**	**13.02**	**324**	⇓Pn	**Pn**	**04 16 46.0**	**-0.7**
	6.6nm,0.6s,baz=130,slow=12,SNR=62						
AB31				⇑Sn	**Sn**	**04 19 09.6**	**-0.8**
	28nm,0.9s,baz=134,slow=23,SNR=9.8						
BVAR	**Borovoye Array**	**13.87**	**357**	Pn	**Pn**	**04 16 55.0**	**-3.5**
	0.3nm,0.3s,baz=153,slow=10.0,SNR=4.2						
ZRNK	**Zerenda**	**13.88**	**354**	*e*P	**Pn**	**04 16 58.6**	**0.0**
CHKZ	**Chkalovo**	**14.52**	**358**	*e*P	**Pn**	**04 17 06.2**	**-1.0**
AKTK	**Aktyubinsk**	**14.73**	**324**	Pn	**Pn**	**04 17 09.4**	**-0.7**
AKTK				Sn	**Sn**	**04 19 50.0**	**-2.2**
AKTO	**Aktyubinsk**	**14.73**	**324**	⇑Pn	**Pn**	**04 17 09.8**	**-0.4**
	3.6nm,2.1s						
AKTO				⇓Sn	**Sn**	**04 19 54.5**	**+2.2**
	1.4nm,1.4s						
AKTO	**Aktyubinsk**	**14.73**	**324**	Pn	**Pn**	**04 17 09.4**	**-0.8**
	0.5nm,0.3s,baz=119,slow=19,SNR=7.0						
AKTO				Sn	**Sn**	**04 19 50.0**	**-2.2**
	0.3nm,0.3s,baz=212,slow=14,SNR=3.4						
KOLN	**Koldanda**	**15.21**	**135**	*e*P	**Pn**	**04 17 07.1**	**-9.4**
GKN	**Gorkha**	**15.62**	**132**	*e*P	**Pn**	**04 17 17.1**	**-4.7**
	16nm,0.5s						
GKN				*e*S	**Sn**	**04 20 00.7**	**-13**
KKN	**Kakani**	**16.16**	**131**	*e*P	**Pn**	**04 17 26.4**	**-2.3**
DMN	**Daman**	**16.19**	**131**	*e*P	**Pn**	**04 17 23.9**	**-5.2**
GUN	**Gumba**	**16.43**	**129**	*e*P	**Pn**	**04 17 31.0**	**-1.1**
JIRN	**Jiri**	**16.80**	**129**	*e*P	**Pn**	**04 17 36.8**	**0.0**
GNI	**Garni**	**20.57**	**281**	P	**P**	**04 18 21.7**	**+1.5**
	3.4nm,0.4s,baz=60,slow=16,SNR=2.8						
BRTR	**Keskin Array B**	**29.07**	**283**	P	**P**	**04 19 42.2**	**+0.7**
	0.8nm,0.8s,mb3.5,baz=82,slow=8.9,SNR=4.3						
AKASG	**Malin Array Be**	**31.63**	**305**	P	**P**	**04 20 02.8**	**-1.3**
	0.5nm,0.3s,mb3.8,baz=81,slow=8.2,SNR=5.9						
FINES	**FINESS Array B**	**35.51**	**324**	P	**P**	**04 20 37.6**	**-0.3**
	1.2nm,0.6s,mb4.0,baz=118,slow=7.8,SNR=6.2						
ARCES	**ARCESS Array B**	**38.83**	**336**	P	**P**	**04 21 05.8**	**-0.2**
	4.3nm,0.9s,mb4.2,baz=96,slow=7.4,SNR=4.9						
GERES	**GERESS Array B**	**41.74**	**303**	P	**P**	**04 21 30.7**	**+0.6**
	1.3nm,0.6s,mb3.8,baz=61,slow=8.0,SNR=11						
NB2	**NORSAR Subarra**	**42.50**	**321**	P	**P**	**04 21 35.7**	**-0.6**
	comp=Z,1.0nm,0.7s,mb3.5,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**42.50**	**321**	P	**P**	**04 21 35.2**	**-1.1**
	comp=Z,1.4nm,0.7s,mb3.7,baz=92,slow=8.0,SNR=4.7						
HINF	**Hinteralfeld**	**46.42**	**303**	*e*P	**P**	**04 22 07.9**	**+0.3**
	comp=Z,5.7nm,0.7s,mb4.3						
HINF	**Hinteralfeld**	**46.42**	**303**	*e*P	**P**	**04 22 07.9**	**+0.3**
HINF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
HINF	**Hinteralfeld**	**46.42**	**303**	*e*P	**P**	**04 22 07.9**	**+0.3**
	comp=Z,2.8nm,0.7s,mb4.3						
HAU	**Haudompre**	**46.70**	**303**	*e*P	**P**	**04 22 10.2**	**+0.4**
LPG	**La Plagne**	**47.10**	**300**	*e*P	**P**	**04 22 14.3**	**+1.4**
	comp=Z,15nm,1.0s,mb4.6						
LPG	**La Plagne**	**47.10**	**300**	*e*P	**P**	**04 22 14.3**	**+1.4**
LPG				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
LPG	**La Plagne**	**47.10**	**300**	*e*P	**P**	**04 22 14.3**	**+1.4**
	comp=Z,7.5nm,1.0s,mb4.6						
LPL	**La Plagne**	**47.10**	**300**	*e*P	**P**	**04 22 14.3**	**+1.3**
	comp=Z,8.4nm,0.6s,mb4.6						
LPL	**La Plagne**	**47.10**	**300**	*e*P	**P**	**04 22 14.3**	**+1.3**
LPL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LPL	**La Plagne**	**47.10**	**300**	*e*P	**P**	**04 22 14.3**	**+1.3**
	comp=Z,4.2nm,0.6s,mb4.5						
FRF	**La Foret Royal**	**47.74**	**297**	*e*P	**P**	**04 22 17.9**	**-0.1**
SMF	**Signal de Mont**	**48.71**	**302**	*e*P	**P**	**04 22 25.6**	**+0.2**
AVF	**Avril sur Loir**	**48.99**	**302**	*e*P	**P**	**04 22 27.8**	**+0.2**
	comp=Z,8.1nm,0.6s,mb4.6						
AVF	**Avril sur Loir**	**48.99**	**302**	*e*P	**P**	**04 22 27.8**	**+0.2**
AVF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
AVF	**Avril sur Loir**	**48.99**	**302**	*e*P	**P**	**04 22 27.8**	**+0.2**
	comp=Z,4.1nm,0.6s,mb4.6						
TCF	**Toulx Ste Croi**	**49.89**	**302**	*e*P	**P**	**04 22 35.1**	**+0.6**
	comp=Z,5.1nm,0.7s,mb4.4						
TCF	**Toulx Ste Croi**	**49.89**	**302**	*e*P	**P**	**04 22 35.1**	**+0.6**
TCF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
TCF	**Toulx Ste Croi**	**49.89**	**302**	*e*P	**P**	**04 22 35.1**	**+0.6**
	comp=Z,2.5nm,0.7s,mb4.3						
LDF	**La Druitiere**	**50.69**	**306**	*e*P	**P**	**04 22 40.4**	**-0.1**
	comp=Z,9.5nm,0.7s,mb4.5						
LDF	**La Druitiere**	**50.69**	**306**	*e*P	**P**	**04 22 40.4**	**-0.1**
LDF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
LDF	**La Druitiere**	**50.69**	**306**	*e*P	**P**	**04 22 40.4**	**-0.1**
	comp=Z,4.8nm,0.7s,mb4.5						
GRR	**Gorron**	**51.22**	**305**	*e*P	**P**	**04 22 44.2**	**-0.3**
	comp=Z,11nm,0.7s,mb4.6						
GRR	**Gorron**	**51.22**	**305**	*e*P	**P**	**04 22 44.2**	**-0.3**
GRR				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
GRR	**Gorron**	**51.22**	**305**	*e*P	**P**	**04 22 44.2**	**-0.3**
	comp=Z,5.3nm,0.6s,mb4.7						
LFF	**La Frestale**	**51.31**	**301**	*e*P	**P**	**04 22 45.9**	**+0.8**
	comp=Z,7.1nm,0.6s,mb4.5						
LFF	**La Frestale**	**51.31**	**301**	*e*P	**P**	**04 22 45.9**	**+0.8**
LFF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LFF	**La Frestale**	**51.31**	**301**	*e*P	**P**	**04 22 45.9**	**+0.8**
	comp=Z,3.5nm,0.6s,mb4.5						
ESDC	**Sonseca Array**	**56.56**	**296**	P	**P**	**04 23 23.4**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=60,slow=6.3,SNR=4.1						

SUMG	**Summit**	**58.66**	**341**	*e*P	**P**	**04 23 38.2**	**-0.1**
	comp=Z,2.9nm,0.6s,mb4.5						
TORD	**Torodi Ar. Bea**	**66.17**	**268**	P	**P**	**04 24 28.0**	**-0.5**
	comp=Z,0.8nm,0.5s,mb4.0,baz=51,slow=5.5,SNR=16						
ILAR	**Eielson Array**	**72.11**	**16**	P	**P**	**04 25 03.0**	**-2.4**
	comp=Z,0.7nm,0.8s,mb3.6,baz=297,slow=4.7,SNR=5.6						
YKA	**Yellowknife Ar**	**78.56**	**3**	P	**P**	**04 25 40.7**	**-1.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=350,slow=5.7,SNR=6.6						
YKA	**Yellowknife Ar**	**78.56**	**3**	P	**P**	**04 25 40.7**	**-1.6**
WRA	**Warramunga Arr**	**83.10**	**122**	P	**P**	**04 26 07.8**	**+1.2**
	comp=Z,0.6nm,0.4s,mb3.9,baz=326,slow=4.9,SNR=4.5						
ASAR	**Alice Springs**	**85.49**	**125**	P	**P**	**04 26 20.1**	**+1.4**
	comp=Z,0.9nm,0.8s,mb3.9,baz=314,slow=4.9,SNR=4.7						

KRSC 06 04:14:49, 4955N×15610E, h279km, ML3.7, Kuril Islands

PRE 06 04:14:58.8±1.4**, 2637S×2752E, h2km, ML3.7, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**0.66**	**80**	*e*P	Pg	04 15 10.7	-0.8
ERPM				*e*S	Sg	04 15 17.9	-2.2
ERPM				AML	AML	04 15 25.8	
	comp=Z,663nm,0.9s						
KSR	**Koster**	**0.76**	**312**	*e*P	Pg	04 15 12.7	-0.6
KSR				*e*S	Sg	04 15 24.1	+1.0
KSR				AML	AML	04 15 29.0	
	comp=Z,754nm,0.4s						
SLR	**Silverton**	**0.93**	**48**	*e*P	Pg	04 15 17.2	+0.5
SLR				*e*S	Sg	04 15 29.6	+0.9
SLR				AML	AML	04 15 34.4	
	comp=Z,1μm,0.1s						
SWZ	**Schweizer**	**2.12**	**247**	*e*P	Pn	04 15 35.8	+0.6
SWZ				*e*S	Sn	04 16 02.1	+0.1
SWZ				AML	AML	04 16 04.8	
	comp=Z,562nm,0.4s						
LBTB	**Lobatse**	**2.19**	**307**	*e*P	Pn	04 15 37.0	+0.7
LBTB				*e*S	Sn	04 16 04.9	+1.0
LBTB				AML	AML	04 16 07.1	
	comp=Z,308nm,0.4s						
BOSA	**Boshof**	**3.01**	**221**	*e*P	Pn	04 15 47.8	+0.3
BOSA				*e*S	Sn	04 16 24.7	+0.7
BOSA				AML	AML	04 16 33.0	
	comp=Z,183nm,0.4s						
POGA	**Pongola**	**3.79**	**106**	*e*P	Pn	04 16 00.5	+2.3
POGA				*e*S	Sn	04 16 44.9	+1.5
POGA				AML	AML	04 17 03.3	
	comp=Z,200nm,0.6s						
KSD	**Kokstad**	**4.48**	**159**	*e*P	Pn	04 16 08.6	+0.8
KSD				*e*S	Sn	04 16 58.2	-2.2
KSD				AML	AML	04 17 21.9	
	comp=Z,93nm,0.4s						
HVD	**Hendrik Verwoe**	**4.58**	**202**	*e*P	Pn	04 16 09.1	0.0
HVD				*e*S	Sn	04 16 55.0	-7.9
HVD				AML	AML	04 17 26.6	
	comp=Z,67nm,0.6s						
MSNA	**Messina**	**4.61**	**30**	*e*P	Pn	04 16 08.8	-0.7
MSNA				*e*S	Sn	04 17 00.4	-3.2
MSNA				AML	AML	04 17 28.2	
	comp=Z,95nm,0.4s						
GRM	**Grahamstown**	**6.98**	**187**	*e*P	Pn	04 16 43.9	+1.9
GRM				*e*S	Sn	04 17 59.6	-2.3
GRM				AML	AML	04 18 42.7	
	comp=Z,39nm,0.6s						
SUR	**Sutherland**	**8.37**	**223**	*e*P	Pn	04 17 01.9	+0.7
SUR				*e*S	Sn	04 18 33.0	-3.2
KOMG	**Komaggas**	**9.50**	**247**	*e*P	Pn	04 17 18.1	+1.6
CER	**Ceres**	**9.97**	**224**	*e*S	Sn	04 19 10.8	-4.8
CER				AML	AML	04 20 05.3	
	comp=Z,19nm,1.0s						

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*ISCJB **06** 04:17:40.2±0.3, 3889N±004×7158E±004, h10km, mb4.1/28, MS4.9/4, Error ellipse: s-maj=5.1km s-min=4.4km az=20.1*

*IDC **06** 04:17:40.6±0.8, 3902N×7184E, h0km, mb4.0/15, mb1 4.2/20, mb1mx4.2/28, mbtmp4.1/20, ML4.1/5, MS4.7/1, Ms1 4.7/1, ms1mx3.4/40, Error ellipse: s-maj=16.9km s-min=13.9km az=169.0*

*NEIC **06** 04:17:42.7±0.5, 3916N×7178E, h10km, mb4.3/11, Error ellipse: s-maj=8.9km s-min=7.0km az=138.0*

*MOS **06** 04:17:44.7±1.2, 3924N×7168E, h33km, mb4.4/9, Error ellipse: s-maj=12.4km s-min=7.1km az=105.6*

*NNC **06** 04:17:47.1±3.2, 3951N×7151E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=30.8km s-min=14.3km az=4.0*

*BJI **06** 04:17:51.3, 3971N×7260E, h10km, mB5.0, mb4.4, ML4.0, Ms4.7, Msz4.3*

ISC 06 04:17:42.0±0.3**, 3892N**±004×**7161E**±004**, h10km, n92, σ1s44**/103**, mb4.1**/28**, MS4.9**/4**, 10C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.44**	**79**	P	**Pn**	**04 18 38.1**	**+2.5**
KSH				SG	**Sn**	**04 19 19.7**	**+3.2**
KSH				Smax			
	comp=N,955nm,0.8s						
KSH				Smax			
	comp=E,1μm,0.9s						
AML	**Almayashu**	**3.58**	**26**	P	**Pn**	**04 18 38.4**	**+0.9**
	SNR=32						
UCH	**Uchtor**	**3.97**	**33**	P	**Pn**	**04 18 44.6**	**+1.6**
	SNR=88						
EKS2	**Erkin-Say**	**4.08**	**23**	P	**Pn**	**04 18 45.5**	**+1.0**
	SNR=17						
KZA	**Kyzart**	**4.20**	**40**	P	**Pn**	**04 18 47.6**	**+1.6**
	SNR=21						
KK31	**Karatay Array**	**4.26**	**349**	⇑Pn	**Pn**	**04 18 47.9**	**+1.0**
	comp=E,105nm,0.4s,baz=166,slow=12,SNR=339						
KK31				⇑Sn	**Sn**	**04 19 39.3**	**+2.7**
	comp=E,129nm,0.4s						
AAK	**Ala-Archa**	**4.30**	**30**	P	**Pn**	**04 18 49.0**	**+1.5**
	SNR=27						
AAK	**Ala-Archa**	**4.30**	**30**	*e*Pn	**Pn**	**04 18 48.0**	**+0.5**
AAK				*e*Sn	**Sn**	**04 19 38.4**	**+0.6**
KBK	**Karagaybulak**	**4.51**	**33**	P	**Pn**	**04 18 52.5**	**+2.1**
	SNR=28						
CHMS	**Chumysh**	**4.72**	**29**	P	**Pn**	**04 18 54.7**	**+1.6**
	SNR=67						
ULHL	**Ulahol**	**4.84**	**45**	P	**Pn**	**04 18 55.7**	**+0.8**
	SNR=14						
USP	**Ospenovka**	**4.86**	**26**	P	**Pn**	**04 18 55.9**	**+0.8**
	SNR=119						
TKM2	**Tokmak 2**	**5.01**	**36**	P	**Pn**	**04 18 58.5**	**+1.3**
	SNR=15						
TKM2	**Tokmak 2**	**5.01**	**36**	⇑Pn	**Pn**	**04 18 58.8**	**+1.6**
	comp=E,5.4nm,0.5s						
TKM2				⇑Sn	**Sn**	**04 19 54.2**	**-0.9**
TKM2				⇓Lg		04 20 09.4	
	comp=E,15nm,0.6s						
MKAR	**Makanchi Array**	**11.10**	**41**	Pn	**Pn**	**04 20 19.6**	**-1.2**
	comp=E,0.2nm,0.3s,baz=238,slow=11,SNR=3.1						
MKAR				Lg		04 23 23.7	
	comp=E,0.5nm,0.3s,baz=239,slow=29,SNR=4.7						
AB31	**Akbulak array**	**13.29**	**325**	⇑Pn	**Pn**	**04 20 49.1**	**-1.6**
	comp=E,5.4nm,0.4s,baz=127,slow=14,SNR=38						
AB31				⇑Sn	**Sn**	**04 23 12.8**	**-5.7**
	comp=E,10nm,0.6s,baz=131,slow=25,SNR=7.1						
BVA0	**Borovoye Array**	**14.13**	**357**	⇑Pn	**Pn**	**04 20 58.4**	**-3.7**
	comp=E,2.1nm,0.8s,baz=158,slow=14,SNR=7.1						
BVAR	**Borovoye Array**	**14.13**	**357**	Pn	**Pn**	**04 20 58.4**	**-3.8**
	comp=E,0.4nm,0.3s,baz=185,slow=10,SNR=5.4						
BVAR				Lg		04 25 03.8	
	comp=E,0.1nm,0.3s,baz=190,slow=29,SNR=2.7						
ZRNK	**Zerenda**	**14.15**	**354**	⇑Pn	**Pn**	**04 21 02.4**	**0.0**
	comp=E,6.7nm,0.6s						
ZRNK	**Zerenda**	**14.15**	**354**	*e*P	**Pn**	**04 21 00.6**	**-1.8**
ZRNK				pmax	pmax		
	comp=Z,13nm,0.8s						
ZRNK	**Zerenda**	**14.15**	**354**	*e*Pn	**Pn**	**04 21 00.6**	**-1.8**
	comp=Z,13nm,0.8s						
BRVK	**Borovoye**	**14.17**	**357**	P	**Pn**	**04 20 58.2**	**-4.5**
CHKZ	**Chkalovo**	**14.77**	**358**	⇑Pn	**Pn**	**04 21 07.4**	**-3.6**
	comp=Z,14nm,1.4s						
CHKZ	**Chkalovo**	**14.77**	**358**	*e*Pn	**Pn**	**04 21 07.3**	**-3.7**
KOLN	**Koldanda**	**14.95**	**134**	*e*P	**Pn**	**04 21 10.6**	**-2.8**
	comp=Z,5.8nm,0.4s						
AKTK	**Aktyubinsk**	**15.00**	**325**	Pn	**Pn**	**04 21 13.1**	**-1.0**
AKTK				Sn	**Sn**	**04 23 54.2**	**-6.1**
AKTO	**Aktyubinsk**	**15.00**	**325**	⇑Pn	**Pn**	**04 21 13.1**	**-1.0**
	comp=Z,0.8nm,0.8s						
AKTO				⇓Sn	**Sn**	**04 23 58.6**	**-1.7**
	comp=Z,0.5nm,0.9s						
AKTO	**Aktyubinsk**	**15.00**	**325**	Pn	**Pn**	**04 21 13.1**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=132,slow=14,SNR=7.0						
AKTO				Sn	**Sn**	**04 23 54.2**	**-6.1**
	comp=Z,0.4nm,0.3s,baz=282,slow=15,SNR=2.7						
GKN	**Gorkha**	**15.37**	**131**	*e*P	**Pn**	**04 21 18.1**	**-0.8**
	comp=Z,28nm,0.4s						
KKN	**Kakani**	**15.91**	**130**	*e*P	**Pn**	**04 21 24.4**	**-1.5**
DMN	**Daman**	**15.94**	**131**	*e*P	**Pn**	**04 21 23.7**	**-2.6**
	comp=Z,22nm,0.6s						
PKI	**Pulchoki**	**16.14**	**130**	*e*P	**Pn**	**04 21 25.9**	**-3.1**
	comp=Z,20nm,0.6s						
GUN	**Gumba**	**16.18**	**128**	*e*P	**Pn**	**04 21 28.9**	**-0.5**
	comp=Z,24nm,0.7s						
JIRN	**Jiri**	**16.55**	**128**	*e*P	**Pn**	**04 21 32.9**	**-1.3**
	comp=Z,15nm,0.6s						
ZAL	**Zalesovo**	**17.51**	**27**	P	**Pn**	**04 21 44.5**	**-1.6**
	comp=Z,4.6nm,0.3s,baz=258,slow=8.9,SNR=18						
WSAR	**Wadi Sarin**	**19.15**	**219**	P	**Pn**	**04 22 09.2**	**+2.9**
	comp=Z,0.4nm,0.3s,baz=18,slow=18,SNR=4.1						
ARU	**Arti**	**19.54**	**338**	⇓*i*P	**Pn**	**04 22 09.7**	**-1.2**
ARU				*e*S	**Sn**	**04 25 36.8**	**-13**
ARU				pmax	pmax		
	comp=Z,13nm,0.9s						
ARU	**Arti**	**19.54**	**338**	*e*P	**Pn**	**04 22 09.7**	**-1.2**
	comp=Z,12nm,0.7s						
GNI	**Garni**	**20.74**	**282**	P	**P**	**04 22 26.0**	**+3.3**
	comp=Z,3.9nm,0.4s,baz=31,slow=9.6,SNR=3.1						
GNI	**Garni**	**20.74**	**282**	*e*P	**P**	**04 22 25.2**	**+2.5**
GNI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GNI	**Garni**	**20.74**	**282**	*e*P	**P**	**04 22 25.2**	**+2.5**
	comp=Z,9.7nm,0.6s						
ZEI	**Tsey**	**21.27**	**289**	*e*P	**P**	**04 22 35.9**	**+7.4**
ZEI				*e**PP		04 22 50.4	
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.3						
GTA	**Gaotai**	**21.84**	**80**	*e*P	**P**	**04 22 37.0**	**+2.4**
GTA				AP		04 22 44.0	
GTA				XP	sP	04 22 47.5	+8.8
GTA				S	**S**	**04 26 33.0**	**-2.9**
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
GTA				LR	LR		
	comp=N,2μm,15.6s						
GTA				LR	LR		
	comp=E,2μm,9.1s						
GTA				LR	LR		
	comp=Z,2μm,12.6s,MS4.7						
KIV	**Kislovodsk**	**22.20**	**292**	*e*P	**P**	**04 22 47.0**	**+8.6**
KIV				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.4						
SONM	**Songino Array**	**26.62**	**59**	P	**P**	**04 23 19.7**	**-0.9**
	comp=Z,1.9nm,0.9s,mb3.6,baz=260,slow=8.9,SNR=4.9						
BR131	**Keskin Array S**	**29.24**	**284**	*e*P	**P**	**04 23 46.7**	**+2.6**
	comp=Z,1.0nm,0.5s,mb3.8						
BRTR	**Keskin Array B**	**29.24**	**284**	P	**P**	**04 23 46.7**	**+2.6**
	comp=Z,2.3nm,0.9s,mb3.9,baz=91,slow=8.6,SNR=6.6						
HHC	**Hu-ho-hao-te**	**30.54**	**73**	*e*P	**P**	**04 24 00.7**	**+5.2**
HHC				XP	sP	04 24 06.8	+7.0
AKASG	**Malin Array Be**	**31.87**	**306**	P	**P**	**04 24 07.6**	**+0.4**
	comp=Z,0.6nm,0.4s,mb3.8,baz=82,slow=8.4,SNR=6.7						
JOF	**Joensuu**	**34.04**	**328**	*e*p	**P**	**04 24 26.4**	**+0.2**
	comp=Z,1.1nm,0.4s,mb4.1						
JOF	**Joensuu**	**34.04**	**328**	*e*P	**P**	**04 24 26.4**	**+0.2**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	**FINESS Array B**	**35.78**	**324**	P	**P**	**04 24 41.3**	**+0.1**
	comp=Z,1.0nm,0.4s,mb4.1,baz=115,slow=8.7,SNR=13						
NJ2	**Nanjing**	**38.73**	**85**	*e*P	**P**	**04 25 13.4**	**+7.2**
NJ2				S	**S**	**04 31 00.0**	**-3.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2				LR	LR		
	comp=N,3μm,11.6s,MS5.5						
NJ2				LR	LR		
	comp=E,3μm,11.0s,MS5.5						
ARCES	**ARCESS Array B**	**39.11**	**336**	P	**P**	**04 25 08.2**	**-1.2**
	comp=E,1.8nm,0.5s,mb4.1,baz=103,slow=8.4,SNR=23						
ARE0	**ARCESS Array S**	**39.11**	**336**	*e*P	**P**	**04 25 07.8**	**-1.6**
MORC	**Moravsky Berou**	**39.36**	**304**	P	**P**	**04 25 09.0**	**-2.6**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
MORC	**Moravsky Berou**	**39.36**	**304**	P	**P**	**04 25 09.0**	**-2.6**
	comp=Z,1.8nm,0.7s,mb3.9						
GERES	**GERESS Array B**	**41.97**	**303**	P	**P**	**04 25 34.6**	**+1.5**
	comp=Z,0.4nm,0.5s,mb3.4,baz=41,slow=6.5,SNR=4.5						
NB2	**NORSAR Subarra**	**42.77**	**321**	P	**P**	**04 25 38.9**	**-0.7**
	comp=Z,1.7nm,0.7s,mb3.9,baz=91,slow=8.6						
NOA	**NORSAR Array B**	**42.77**	**321**	P	**P**	**04 25 38.6**	**-1.0**
	comp=Z,1.7nm,0.6s,mb3.9,baz=92,slow=8.0,SNR=12						
MDJ	**Mudanjiang**	**42.83**	**63**	P	**P**	**04 25 40.6**	**+0.5**
MDJ				PCP	PcP	04 27 34.2	+3.0
MDJ				SCP	ScP	04 31 24.8	+2.6
MDJ				PCS	PcS	04 31 25.8	+2.4
MDJ				S	**S**	**04 32 01.9**	**-2.5**
MDJ				AMB	AMB		
	comp=Z,9.0nm,2.5s,mb4.1						
MDJ				LR	LR		
	comp=N,863nm,17.9s,MS4.9						
MDJ				LR	LR		
	comp=E,852nm,16.4s,MS4.9						
MDJ				LR	LR		
	comp=Z,2μm,11.2s						
NAO01	**NORSAR Array S**	**42.92**	**321**	P	**P**	**04 25 39.2**	**-1.6**
	comp=Z,2.6nm,0.7s,mb4.1						
PSI	**Prapat**	**43.73**	**138**	LR	LR	04 44 04.3	
	comp=Z,928nm,20.7s,MS4.7,baz=215,slow=36						
LPG	**La Plagne**	**47.32**	**300**	*e*P	**P**	**04 26 17.1**	**+1.3**
	comp=Z,11nm,0.8s,mb4.5						
LPG	**La Plagne**	**47.32**	**300**	*e*P	**P**	**04 26 17.1**	**+1.3**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LPG	**La Plagne**	**47.32**	**300**	*e*P	**P**	**04 26 17.1**	**+1.3**
	comp=Z,5.5nm,0.8s,mb4.5						
SBF	**Sospel**	**47.33**	**298**	*e*P	**P**	**04 26 16.9**	**+1.0**
	comp=Z,20nm,0.7s,mb4.9						
SBF	**Sospel**	**47.33**	**298**	*e*P	**P**	**04 26 16.9**	**+1.0**
SBF				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
SBF	**Sospel**	**47.33**	**298**	*e*P	**P**	**04 26 16.9**	**+1.0**
	comp=Z,10nm,0.7s,mb4.9						
LPL	**La Plagne**	**47.33**	**300**	*e*P	**P**	**04 26 17.3**	**+1.4**
FRF	**La Foret Royal**	**47.96**	**298**	*e*P	**P**	**04 26 21.3**	**+0.5**
AVF	**Avril sur Loir**	**49.22**	**303**	*e*P	**P**	**04 26 30.4**	**-0.1**
	comp=Z,3.4nm,0.5s,mb4.3						
AVF	**Avril sur Loir**	**49.22**	**303**	*e*P	**P**	**04 26 30.4**	**-0.1**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
AVF	**Avril sur Loir**	**49.22**	**303**	*e*P	**P**	**04 26 30.4**	**-0.1**
	comp=Z,1.7nm,0.5s,mb4.3						
TCF	**Toulx Ste Croi**	**50.12**	**302**	*e*P	**P**	**04 26 38.1**	**+0.7**
LDF	**La Druitiere**	**50.93**	**306**	*e*P	**P**	**04 26 43.1**	**-0.4**
	comp=Z,4.7nm,0.5s,mb4.4						
LDF	**La Druitiere**	**50.93**	**306**	*e*P	**P**	**04 26 43.1**	**-0.4**
LDF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
LDF	**La Druitiere**	**50.93**	**306**	*e*P	**P**	**04 26 43.1**	**-0.4**
	comp=Z,2.3nm,0.5s,mb4.4						
GRR	**Gorron**	**51.46**	**306**	*e*P	**P**	**04 26 47.1**	**-0.3**
	comp=Z,2.5nm,0.4s,mb4.2						
GRR	**Gorron**	**51.46**	**306**	*e*P	**P**	**04 26 47.1**	**-0.3**
GRR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
GRR	**Gorron**	**51.46**	**306**	*e*P	**P**	**04 26 47.1**	**-0.3**
	comp=Z,1.3nm,0.4s,mb4.2						
SGMF	**Saint Gilles**	**52.58**	**306**	*e*P	**P**	**04 26 55.7**	**-0.1**
ETSF	**Etsaut**	**53.14**	**299**	*e*P	**P**	**04 27 00.7**	**+0.8**
ESDC	**Sonseca Array**	**56.78**	**297**	P	**P**	**04 27 25.5**	**-0.8**
	comp=Z,1.2nm,0.6s,mb4.1,baz=61,slow=7.6,SNR=4.5						
SUMG	**Summit**	**58.94**	**341**	*e*P	**P**	**04 27 41.9**	**+0.5**
	comp=Z,4.2nm,0.6s,mb4.7						
TORD	**Torodi Ar. Bea**	**66.27**	**268**	P	**P**	**04 28 31.9**	**+1.5**
	comp=Z,1.4nm,0.4s,mb4.3,baz=47,slow=5.7,SNR=53						
ILAR	**Eielson Array**	**72.32**	**16**	P	**P**	**04 29 06.3**	**-1.6**
	comp=Z,0.9nm,0.8s,mb3.8,baz=318,slow=6.1,SNR=8.3						
KDAK	**Kodiak Island**	**76.78**	**23**	P	**P**	**04 29 32.3**	**-1.4**
	comp=Z,2.6nm,0.7s,mb4.3,baz=321,slow=6.5,SNR=4.3						
YKA	**Yellowknife Ar**	**78.81**	**3**	P	**P**	**04 29 44.0**	**-1.0**
	comp=Z,1.2nm,0.7s,mb3.9,baz=353,slow=5.2,SNR=7.0						
YKA	**Yellowknife Ar**	**78.81**	**3**	P	**P**	**04 29 44.0**	**-1.1**
WRA	**Warramunga Arr**	**82.87**	**123**	P	**P**	**04 30 06.5**	**-0.2**
	comp=Z,0.3nm,0.3s,mb3.8,baz=322,slow=4.9,SNR=11						
ASAR	**Alice Springs**	**85.25**	**125**	P	**P**	**04 30 19.3**	**+0.4**
	comp=Z,0.3nm,0.5s,mb3.7,baz=319,slow=4.7,SNR=3.0						

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*IDC **06** 04:21:25.9±1.1, 005S×9690E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/20, mbtmp3.8/9, ML3.2/1, Error ellipse: s-maj=40.4km s-min=19.0km az=54.0*

*ISCJB **06** 04:21:29.6±0.8, 013N±010×971E±01, h33km, mb3.9/9, Error ellipse: s-maj=18.0km s-min=13.1km az=131.4*

*NEIC **06** 04:21:30.7±0.6, 006N×9706E, h30km, mb4.2/1, Error ellipse: s-maj=14.4km s-min=11.1km az=66.0*

ISC 06 04:21:32.2±0.8**, 016N**±010×**972E**±01**, h35km, n14, σ0s85**/13**, mb3.9**/9**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.16**	**34**	Pn	**Pn**	**04 22 19.1**	**-0.2**
	2.4nm,0.3s,baz=212,slow=8.0,SNR=18						
KULM	**Kulim**	**6.17**	**34**	*e*Pn	**Pn**	**04 23 01.0**	**+0.2**
KKM	**Kota Kinabalu**	**19.89**	**73**	*e*P	**Pn**	**04 26 00.9**	**-1.3**
WRA	**Warramunga Arr**	**41.52**	**121**	P	**P**	**04 29 15.7**	**-0.3**
	0.9nm,0.9s,mb3.4,baz=305,slow=9.0,SNR=2.3						
WRAB	**Tennant Creek**	**41.53**	**121**	*e*P	**P**	**04 29 16.2**	**+0.2**
	3.2nm,0.7s,mb4.1						
ASAR	**Alice Springs**	**42.80**	**126**	P	**P**	**04 29 27.8**	**+1.3**
	0.4nm,0.6s,mb3.3,baz=304,slow=7.1,SNR=4.4						
SONM	**Songino Array**	**48.16**	**8**	P	**P**	**04 30 10.2**	**+1.3**
	0.5nm,0.5s,mb3.8,baz=191,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**48.24**	**346**	P	**P**	**04 30 10.5**	**+1.0**
	0.8nm,0.6s,mb4.0,baz=154,slow=8.7,SNR=4.3						
STKA	**Stephens Creek**	**52.69**	**132**	P	**P**	**04 30 42.8**	**-0.3**
	3.9nm,0.9s,mb4.3,baz=309,slow=6.5,SNR=4.1						
ZAL	**Zalesovo**	**54.57**	**351**	P	**P**	**04 30 56.9**	**+0.1**
	1.9nm,0.4s,mb4.5,baz=293,slow=7.1,SNR=4.4						
BRTR	**Keskin Array B**	**69.79**	**313**	P	**P**	**04 32 37.8**	**-1.1**
	0.5nm,0.7s,mb3.6,baz=146,slow=9.7,SNR=2.5						
AKASG	**Malin Array Be**	**76.06**	**323**	P	**P**	**04 33 15.0**	**-1.0**
	1.0nm,0.6s,mb3.9,baz=88,slow=5.4,SNR=5.7						
AKASG	**Malin Array Be**	**76.06**	**323**	P	**P**	**04 33 15.0**	**-1.0**
CPUP	**Villa Florida**	**144.21**	**221**	PKP	PKPdf	04 41 02.9	-1.4
	1.7nm,0.8s,baz=109,slow=3.0,SNR=6.4						

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*IDC **06** 04:38:56.4±5.5, 502N×12758E, h202km±56km, mb3.6/10, mb1 3.6/10, mb1mx3.5/21, mbtmp4.1/10, MS4.5/1, Ms1 4.5/1, ms1mx3.1/31, Error ellipse: s-maj=35.5km s-min=11.9km az=75.0*

*ISCJB **06** 04:38:57.8±2.0, 500N±010×1276E±02, h231km±21km, mb3.9/15, Error ellipse: s-maj=33.6km s-min=10.7km az=138.8*

*NEIC **06** 04:38:57.8±4.3, 505N×12764E, h214km±44km, mb4.2/5, Error ellipse: s-maj=27.6km s-min=9.2km az=75.0*

*MAN **06** 04:39:35.0, 750N×12550E, h13km, MS0.4*

ISC 06 04:38:58.4±2.1**, 505N**±010×**1276E**±02**, h220km**±22km**, n22, σ0s75**/20**, mb3.9**/15**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.32**	**324**	*e*P	**Pn**	**04 39 52.1**	**+10**
BUKP	**Musuan**	**3.79**	**318**	*e*P	**Pn**	**04 39 46.4**	**-12**
BUTP	**Butuan**	**4.37**	**333**	*e*P	**Pn**	**04 40 00.5**	**-4.9**
IPIL	**Ipil**	**5.71**	**299**	*e*P	**Pn**	**04 40 22.2**	**-0.1**
JOW	**Kunigami**	**21.67**	**2**	P	**P**	**04 43 31.9**	**+0.2**
	13nm,1.1s,mb4.4,baz=144,slow=8.8,SNR=4.2						
FITZ	**Fitzroy Crossi**	**23.09**	**185**	P	**P**	**04 43 44.1**	**-0.7**
	1.3nm,0.4s,mb3.8,baz=15,slow=12,SNR=6.0						
PMG	**Port Moresby**	**24.19**	**126**	P	**P**	**04 43 54.4**	**-0.3**
	7.6nm,0.9s,mb4.3,baz=324,slow=18,SNR=2.8						
WRAB	**Tennant Creek**	**25.69**	**165**	*e*P	**P**	**04 44 10.5**	**+2.2**
	4.2nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**25.70**	**165**	P	**P**	**04 44 07.8**	**-0.6**
	1.9nm,0.5s,mb4.0,baz=346,slow=10,SNR=13						
ASAR	**Alice Springs**	**29.19**	**168**	P	**P**	**04 44 39.5**	**+0.2**
	0.3nm,0.4s,mb3.2,baz=351,slow=7.5,SNR=6.0						
BJT	**Baijiatuau**	**36.31**	**345**	*e*P	**P**	**04 45 40.7**	**-0.3**
	2.7nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**39.06**	**161**	P	**P**	**04 46 03.6**	**-0.4**
	1.7nm,0.5s,mb3.8,baz=6.8,slow=9.2,SNR=6.0						
ULN	**Ulaanbaatar**	**46.16**	**341**	*e*P	**P**	**04 47 01.2**	**+0.3**
	2.9nm,0.8s,mb3.7						
SONM	**Songino Array**	**46.35**	**340**	P	**P**	**04 47 02.4**	**-0.1**
	1.6nm,0.6s,mb3.6,baz=155,slow=8.9,SNR=13						
DZM	**Mont Dzumac**	**46.58**	**127**	LR	LR	05 04 48.6	
	comp=Z,583nm,20.8s,baz=21,slow=33						
MKAR	**Makanchi Array**	**57.00**	**324**	P	**P**	**04 48 20.8**	**-0.3**
	3.2nm,0.5s,mb4.2,baz=116,slow=7.1,SNR=15						
MKAR				pP	pP	04 48 59.8	-11
	1.0nm,0.5s,baz=112,slow=7.9,SNR=4.0						
KURK	**Kurchatov**	**61.12**	**327**	*e*P	**P**	**04 48 50.8**	**+1.5**
	3.0nm,0.5s,mb4.2						
ZRNK	**Zerenda**	**67.45**	**326**	*e*P	**P**	**04 49 30.4**	**0.0**
	3.2nm,0.5s,mb4.2						
ILAR	**Eielson Array**	**83.53**	**25**	P	**P**	**04 51 01.8**	**+0.2**
	0.3nm,0.4s,mb3.3,baz=255,slow=6.0,SNR=7.7						
ARCES	**ARCESS Array B**	**89.52**	**340**	P	**P**	**04 51 29.4**	**-1.2**
	2.6nm,0.8s,mb4.1,baz=77,slow=6.4,SNR=5.1						
ARCES	**ARCESS Array B**	**89.52**	**340**	P	**P**	**04 51 29.4**	**-1.2**
TORD	**Torodi Ar. Bea**	**123.35**	**289**	PKP	PKPdf	04 57 30.9	+1.8
	0.6nm,0.7s,baz=71,slow=1.6,SNR=6.4						

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*IDC **06** 04:41:50.3±0.9, 3898N×7177E, h0km, mb3.8/11, mb1 4.1/15, mb1mx4.0/25, mbtmp3.9/15, ML3.9/4, Error ellipse: s-maj=18.8km s-min=15.6km az=174.0*

*NEIC **06** 04:41:52.3±0.7, 3908N×7169E, h10km, Error ellipse: s-maj=11.6km s-min=10.1km az=144.0*

*MOS **06** 04:41:54.4±1.3, 3920N×7167E, h33km, mb3.6/1, Error ellipse: s-maj=17.1km s-min=8.0km az=89.1*

*NNC **06** 04:41:56.9±2.9, 3952N×7153E, h0km, mb4.2, mpv4.2, Error ellipse: s-maj=28.1km s-min=17.1km az=1.0*

*ISCJB **06** 04:41:59.9±1.7, 394N±01×7174E±008, h78km±14km, mb3.6/14, Error ellipse: s-maj=19.6km s-min=9.1km az=40.5*

ISC 06 04:42:01.5±1.8**, 395N**±01×**7168E**±008**, h74km**±14km**, n52, σ1s20**/55**, mb3.6**/14**, 12C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.07**	**29**	P	**Pn**	**04 42 48.5**	**+0.8**
	SNR=74						
UCH	**Uchtor**	**3.50**	**37**	P	**Pn**	**04 42 54.5**	**+1.0**
	SNR=78						
EKS2	**Erkin-Say**	**3.57**	**26**	P	**Pn**	**04 42 55.4**	**+1.0**
	SNR=54						
KK31	**Karatay Array**	**3.74**	**347**	⇓Pn	**Pn**	**04 42 57.7**	**+0.9**
	30nm,0.5s,baz=168,slow=12,SNR=311						
KK31				⇑Sn	**Sn**	**04 43 46.9**	**+7.1**
	54nm,0.6s						
KK31				⇑Lg		04 44 00.1	
	77nm,0.6s,baz=0.0,slow=0.1,SNR=5.2						
KZA	**Kyzart**	**3.76**	**45**	P	**Pn**	**04 42 57.4**	**+0.2**
	SNR=28						
AAK	**Ala-Archa**	**3.81**	**33**	P	**Pn**	**04 42 58.9**	**+1.1**
	SNR=56						
AAK	**Ala-Archa**	**3.81**	**33**	*e*Pn	**Pn**	**04 42 57.9**	**+0.1**
KBK	**Karagaybulak**	**4.03**	**37**	P	**Pn**	**04 43 02.3**	**+1.5**
	SNR=34						
CHMS	**Chumysh**	**4.22**	**32**	P	**Pn**	**04 43 04.5**	**+1.2**
	SNR=57						
USP	**Ospenovka**	**4.35**	**28**	P	**Pn**	**04 43 06.0**	**+0.8**
	SNR=19						
ULHL	**Ulahol**	**4.44**	**50**	P	**Pn**	**04 43 05.6**	**-0.7**
	SNR=21						
TKM2	**Tokmak 2**	**4.54**	**39**	P	**Pn**	**04 43 08.2**	**+0.4**
	SNR=45						
TKM2	**Tokmak 2**	**4.54**	**39**	⇑Pn	**Pn**	**04 43 08.2**	**+0.5**
	31nm,0.8s						
TKM2				⇑Lg		04 44 20.9	
	68nm,1.1s						
MK05	**Makanchi Array**	**10.66**	**43**	⇑Pn	**Pn**	**04 44 31.2**	**-0.1**
	5.6nm,1.1s						
MKAR	**Makanchi Array**	**10.66**	**43**	Pn	**Pn**	**04 44 30.4**	**-0.9**
	0.2nm,0.3s,baz=228,slow=14,SNR=18						
KURK	**Kurchatov**	**12.27**	**21**	*e*P	**Pn**	**04 44 50.5**	**-2.6**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KURK	**Kurchatov**	**12.27**	**21**	*e*Pn	**Pn**	**04 44 50.5**	**-2.7**
	comp=Z,5.3nm,1.0s						
AB31	**Akbulak array**	**12.88**	**323**	⇓Pn	**Pn**	**04 44 59.8**	**-1.8**
	comp=Z,4.1nm,0.6s,baz=130,slow=12,SNR=85						
AB31				⇑Sn	**Sn**	**04 47 20.1**	**-3.0**
	comp=Z,5.6nm,0.6s,baz=135,slow=26,SNR=9.9						
VOSK	**Vostochnaya**	**13.27**	**358**	⇑Pn	**Pn**	**04 45 03.1**	**-3.6**
	comp=Z,3.6nm,1.4s						
VOSK				⇓Lg		04 48 52.7	
	comp=Z,13nm,1.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**13.60**	**357**	⇑Pn	**Pn**	**04 45 16.8**	**+5.8**
	comp=Z,0.8nm,0.8s,baz=146,slow=11,SNR=8.8						
BVAR	**Borovoye Array**	**13.60**	**357**	Pn	**Pn**	**04 45 08.2**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=165,slow=12,SNR=7.9						
ZRNK	**Zerenda**	**13.62**	**353**	⇑Pn	**Pn**	**04 45 10.2**	**-1.1**
	comp=Z,3.1nm,0.8s						
ZRNK	**Zerenda**	**13.62**	**353**	*e*P	**Pn**	**04 45 10.8**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZRNK	**Zerenda**	**13.62**	**353**	*e*Pn	**Pn**	**04 45 10.8**	**-0.5**
	comp=Z,3.8nm,0.6s						
BRVK	**Borovoye**	**13.63**	**356**	*e*P	**Pn**	**04 45 10.7**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BRVK	**Borovoye**	**13.63**	**356**	*e*Pn	**Pn**	**04 45 10.7**	**-0.8**
	comp=Z,4.2nm,1.1s						
BRVK				*e*P		04 45 19.5	
CHKZ	**Chkalovo**	**14.24**	**357**	⇑Pn	**Pn**	**04 45 19.1**	**-0.3**
	comp=Z,2.8nm,1.1s						
CHKZ	**Chkalovo**	**14.24**	**357**	*e*P	**Pn**	**04 45 19.2**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CHKZ	**Chkalovo**	**14.24**	**357**	*e*Pn	**Pn**	**04 45 19.2**	**-0.2**
	comp=Z,2.3nm,0.7s						
AKTK	**Aktyubinsk**	**14.60**	**323**	Pn	**Pn**	**04 45 22.5**	**-1.6**
AKTO	**Aktyubinsk**	**14.60**	**323**	⇑Pn	**Pn**	**04 45 22.8**	**-1.3**
	comp=Z,2.4nm,0.8s						
AKTO				⇑Sn	**Sn**	**04 48 05.4**	**+0.7**
	comp=Z,1.5nm,0.7s						
AKTO	**Aktyubinsk**	**14.60**	**323**	Pn	**Pn**	**04 45 22.5**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=130,slow=13,SNR=9.7						
ZAL	**Zalesovo**	**17.00**	**27**	P	**Pn**	**04 45 53.9**	**-0.6**
	comp=Z,3.6nm,0.3s,baz=264,slow=9.3,SNR=20						
ZAK	**Zakamensk**	**24.71**	**53**	*e*P	**P**	**04 47 11.2**	**-4.5**
ZAK				*e*		04 47 15.7	
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.3						
SONM	**Songino Array**	**26.30**	**60**	P	**P**	**04 47 29.5**	**-0.6**
	comp=Z,1.5nm,0.9s,mb3.4,baz=272,slow=9.7,SNR=8.6						
BRTR	**Keskin Array B**	**29.17**	**283**	P	**P**	**04 47 55.1**	**-0.6**
	comp=Z,0.7nm,0.8s,mb3.4,baz=347,slow=5.9,SNR=3.0						
FINES	**FINESS Array B**	**35.38**	**324**	P	**P**	**04 48 50.6**	**+0.7**
	comp=Z,0.3nm,0.3s,mb3.6,baz=118,slow=9.0,SNR=5.5						
ARCES	**ARCESS Array B**	**38.64**	**336**	P	**P**	**04 49 18.1**	**+0.5**
	comp=Z,1.4nm,0.5s,mb4.0,baz=106,slow=8.9,SNR=11						
GERES	**GERESS Array B**	**41.72**	**303**	P	**P**	**04 49 44.2**	**+1.1**
	comp=Z,0.4nm,0.5s,mb3.4,baz=52,slow=8.6,SNR=5.0						
KHC	**Kasperske Hory**	**41.76**	**303**	*e*P	**P**	**04 49 45.0**	**+1.6**
NB2	**NORSAR Subarra**	**42.38**	**321**	P	**P**	**04 49 48.9**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.4,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**42.38**	**321**	P	**P**	**04 49 48.4**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.4,baz=91,slow=7.9,SNR=3.5						
HINF	**Hinteralfeld**	**46.41**	**303**	*e*P	**P**	**04 50 21.4**	**+0.8**
LPG	**La Plagne**	**47.10**	**300**	*e*P	**P**	**04 50 27.8**	**+1.8**
LPL	**La Plagne**	**47.11**	**300**	*e*P	**P**	**04 50 27.8**	**+1.7**
	comp=Z,6.0nm,0.6s,mb4.2						
CABF	**La Chapelle**	**47.23**	**301**	*e*P	**P**	**04 50 28.1**	**+1.1**
AVF	**Avril sur Loir**	**48.98**	**302**	*e*P	**P**	**04 50 41.2**	**+0.7**
	comp=Z,7.0nm,0.8s,mb4.3						
TORD	**Torodi Ar. Bea**	**66.35**	**268**	P	**P**	**04 52 41.4**	**-1.0**
	comp=Z,0.4nm,0.4s,mb3.6,baz=48,slow=5.8,SNR=15						
ILAR	**Eielson Array**	**71.79**	**16**	P	**P**	**04 53 15.5**	**-0.5**
	comp=Z,0.8nm,1.0s,mb3.5,baz=292,slow=4.2,SNR=5.6						
YKA	**Yellowknife Ar**	**78.27**	**3**	P	**P**	**04 53 53.9**	**+0.6**
	comp=Z,0.8nm,0.6s,mb3.6,baz=351,slow=5.6,SNR=6.3						
WRA	**Warramunga Arr**	**83.11**	**123**	P	**P**	**04 54 16.9**	**-2.3**
	comp=Z,0.6nm,0.5s,mb3.7,baz=324,slow=4.9,SNR=6.3						
ASAR	**Alice Springs**	**85.52**	**126**	P	**P**	**04 54 28.9**	**-2.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=324,slow=5.4,SNR=4.8						

*IDC **06** 04:46:20.6±25.0, 5190N×17784E, h0^{km}, mb4.0/5, mb1 4.0/5, mb1mx3.6/24, mbtmp4.0/5, Error ellipse: s-maj=591.0km s-min=66.1km az=155.0*

*ISCJB **06** 04:46:36.8±0.6, 523N±02×1771E±0.1, h117^{km}±10^{km}, mb4.1/10, Error ellipse: s-maj=37.4km s-min=9.1km az=34.3*

*NEIC **06** 04:46:38.7, 5201N×17694E, h125^{km}, mb4.2/6, After AEIC.*

ISC 06 04:46:37.8±0.7**, 523N**±02×**1771E**±01**, h112**^{km}±10^{km}**, n15,** σ**0^{s}52**/17**, mb4.1**/10**, Rat Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.66**	**122**	P	**Pn**	**04 47 06.5**	**-0.1**
AMKA				S	**Sn**	**04 47 28.5**	**0.0**
SMY	**Shemya**	**1.87**	**285**	*e*Pn	**Pn**	**04 47 09.4**	**+0.2**
SMY				*e*Sn	**Sn**	**04 47 33.0**	**-0.1**
KDAK	**Kodiak Island**	**18.15**	**60**	*e*P	**P**	**04 50 41.0**	**-0.4**
	3.0nm,0.5s						
DAWY	**Dawson**	**25.26**	**45**	*e*P	**P**	**04 51 54.6**	**+1.1**
INK	**Inuvik**	**28.24**	**37**	*e*P	**P**	**04 52 15.5**	**-4.6**
	3.7nm,1.1s,mb3.8						
SONM	**Songino Array**	**43.94**	**294**	P	**P**	**04 54 34.5**	**+1.0**
	1.2nm,0.6s,mb3.8,baz=60,slow=8.2,SNR=6.3						
KURK	**Kurchatov**	**56.52**	**311**	*e*P	**P**	**04 56 08.3**	**0.0**
	2.0nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**57.44**	**306**	P	**P**	**04 56 14.1**	**-0.8**
	0.3nm,0.3s,mb3.9,baz=51,slow=7.2,SNR=4.0						
CHKZ	**Chkalovo**	**57.95**	**318**	*e*P	**P**	**04 56 17.9**	**-0.5**
	1.7nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**58.52**	**317**	P	**P**	**04 56 22.5**	**+0.2**
	2.4nm,0.3s,mb4.7,baz=55,slow=6.5,SNR=19						
BRVK	**Borovoye**	**58.54**	**317**	*e*P	**P**	**04 56 22.6**	**+0.2**
	2.4nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**59.14**	**318**	*e*P	**P**	**04 56 26.5**	**-0.1**
	2.5nm,0.5s,mb4.5						
AKTK	**Aktyubinsk**	**65.43**	**322**	P	**P**	**04 57 08.7**	**+0.1**
AKTO	**Aktyubinsk**	**65.43**	**322**	P	**P**	**04 57 08.7**	**+0.1**
	1.3nm,0.6s,mb4.0,baz=54,slow=7.0,SNR=3.8						
NOA	**NORSAR Array B**	**66.47**	**353**	P	**P**	**04 57 14.3**	**-0.9**
	0.5nm,0.6s,mb3.5,baz=9.0,slow=6.4,SNR=3.4						

*ISCJB **06** 04:51:54.6±0.5, 3931N±003×3664E±003, h6^{km}±6^{km}, Error ellipse: s-maj=4.4km s-min=4.1km az=141.9*

*CSEM **06** 04:51:54.9±0.1, 3936N×3664E, h15^{km}, MD3.5, Error ellipse: s-maj=2.4km s-min=2.0km az=166.0*

*ISK **06** 04:51:55.0, 3935N×3664E, h15^{km}, MD3.5*

ISC 06 04:51:55.7±0.4**, 3933N**±003×**3663E**±003**, h14**^{km}±6^{km}**, n15,** σ**0^{s}77**/25**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SVST	**Sivas**	**0.50**	**29**	*e*P	**Pg**	**04 52 05.3**	**-0.3**
SVST				*i* S	**Sg**	**04 52 13.6**	**+1.2**
SVSK	**Karacayir**	**0.65**	**26**	*i* PG	**Pg**	**04 52 07.4**	**-0.9**
SVSK				*i* SG	**Sg**	**04 52 17.4**	**+0.5**
BNN	**Bunyan**	**0.78**	**232**	PG	**Pg**	**04 52 10.1**	**-0.7**
BNN				SG	**Sg**	**04 52 22.5**	**+1.5**
TOKT	**Tokat**	**0.99**	**356**	PG	**Pg**	**04 52 14.2**	**-0.6**
TOKT				SG	**Sg**	**04 52 28.3**	**+0.6**
YOZ	**Yozgat**	**1.06**	**287**	PG	**Pg**	**04 52 16.2**	**+0.1**
AVNT	**Avonos**	**1.49**	**249**	*e*P	**Pg**	**04 52 24.3**	**0.0**
AVNT				*i* S	**Sg**	**04 52 43.1**	**-0.6**
MYA	**Malataya**	**1.72**	**125**	PN	**Pn**	**04 52 25.7**	**+0.4**
MYA				SN	**Sn**	**04 52 47.8**	**+0.7**
CORM	**Corum**	**1.76**	**299**	*e*PN	**Pn**	**04 52 25.9**	**+0.1**
CDAG	**Cicekdag**	**1.77**	**280**	*i* P	**Pg**	**04 52 29.4**	**-0.3**
CDAG				*i* S	**Sg**	**04 52 54.2**	**+1.5**
ELZG	**Elazig**	**2.02**	**114**	*i* P	**Pb**	**04 52 31.0**	**-1.1**
ELZG				*i* S	**Sg**	**04 53 00.0**	**-0.5**
GZT	**Gaziantep**	**2.10**	**159**	*i* P	**Pg**	**04 52 35.3**	**-0.7**
GZT				*i* S	**Sg**	**04 53 04.0**	**+0.6**
KAMT	**Kaman**	**2.26**	**272**	*e*PN	**Pn**	**04 52 33.0**	**+0.3**
EZC	**Erzincan**	**2.50**	**79**	*e*PN	**Pn**	**04 52 31.2**	**-4.7**
TOS	**Tosya**	**2.62**	**311**	*e*PN	**Pn**	**04 52 37.6**	**-0.1**
ELDT	**Eldivan**	**2.72**	**296**	*i* P	**Pb**	**04 52 43.8**	**-0.4**
ELDT				*i* S	**Sg**	**04 53 21.6**	**-1.5**

*IDC **06** 05:07:51.5±1.1, 904N×7102W, h0^{km}, mb3.7/3, mb1 4.0/4, mb1mx3.5/22, mbtmp3.8/4, Error ellipse: s-maj=44.0km s-min=7.7km az=26.0*

*ISCJB **06** 05:07:53.8±0.9, 916N±003×7079W±004, h4^{km}±7^{km}, mb3.6/4, Error ellipse: s-maj=6.8km s-min=4.7km az=52.3*

*NEIC **06** 05:07:53.1±2.7, 895N×7100W, h12^{km}±16^{km}, Error ellipse: s-maj=35.6km s-min=21.8km az=193.0*

*FUNV **06** 05:07:54.7, 914N×7082W, h5^{km}, MW3.5*

ISC 06 05:07:54.4±0.6**, 915N**±003×**7082W**±004**, h7**^{km}±6^{km}**, n21,** σ**0^{s}87**/28**, mb3.6**/4**, 1C, Venezuela**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.33**	**145**	Pg	**Pg**	**05 08 00.4**	**-0.3**
	baz=345,slow=9.4						
SDV				Lg		05 08 05.0	
	3μm,0.3s,baz=202,slow=14,SNR=228						
SDV	**Santo Domingo**	**0.33**	**145**	Pg	**Pg**	**05 08 00.4**	**-0.3**
SDV				Lg		05 08 05.0	
VIGV	**El Vigia**	**0.62**	**240**	⇑*i*P	**Pg**	**05 08 06.2**	**-0.1**
VIGV				*e*S	**Sg**	**05 08 15.3**	**+1.0**
SOCV	**Socops**	**0.86**	**182**	*e*P	**Pg**	**05 08 10.7**	**-0.3**
SOCV				*e*S	**Sg**	**05 08 22.6**	**+0.4**
QARV	**Quebrada Arrib**	**1.09**	**16**	*e*P	**Pg**	**05 08 14.5**	**-0.7**
QARV				*e*S	**Sg**	**05 08 30.1**	**+0.8**
CURV	**Curarigua**	**1.21**	**45**	*e*P	**Pg**	**05 08 16.2**	**-1.2**
SANV	**Sanarito**	**1.32**	**75**	*e*P	**Pn**	**05 08 18.8**	**-0.4**
SANV				*e*S	**Sb**	**05 08 36.6**	**+0.2**
DABV	**Dabajuro**	**1.77**	**6**	*e*P	**Pn**	**05 08 25.9**	**+0.5**
DABV				*e*S	**Sn**	**05 08 48.8**	**+0.8**
SIQV	**Siquisique**	**1.79**	**34**	*e*P	**Pn**	**05 08 26.4**	**+0.7**
SIQV				*e*S	**Sn**	**05 08 49.4**	**+0.7**
ELOV	**Elorza**	**2.52**	**148**	*e*P	**Pn**	**05 08 36.2**	**+0.6**
BAUV	**El Baul**	**2.76**	**94**	*e*P	**Pn**	**05 08 39.4**	**+0.4**
MONV	**Montecano**	**2.91**	**17**	*e*P	**Pn**	**05 08 40.7**	**-0.4**
MONV				*e*S	**Sn**	**05 09 15.7**	**-0.6**
CAOV	**Caicara del Or**	**4.81**	**112**	*e*P	**Pn**	**05 09 06.0**	**-1.3**
ROSC	**El Rosal**	**5.51**	**219**	Pn	**Pn**	**05 09 22.2**	**+5.4**
	3.7nm,0.3s,baz=98,slow=22,SNR=9.7						
ROSC				Sn	**Sn**	**05 10 26.1**	**+5.7**
	3.6nm,0.3s,baz=258,slow=22,SNR=3.3						
PCRV	**Puerto La Cruz**	**6.18**	**80**	Pn	**Pn**	**05 09 28.3**	**+2.2**
	1.9nm,0.3s,baz=275,slow=6.8,SNR=12						
PCRV				Sn	**Sn**	**05 10 37.5**	**+0.5**
	2.5nm,0.3s,baz=124,slow=16,SNR=3.5						
LPAZ	**La Paz**	**25.42**	**174**	P	**P**	**05 13 27.5**	**+5.0**
	0.4nm,0.6s,mb3.1,baz=337,slow=7.7,SNR=3.3						
ULM	**Lac du Bonnet**	**45.94**	**338**	P	**P**	**05 16 15.8**	**-1.9**
	0.9nm,0.5s,mb4.0,baz=141,slow=8.2,SNR=4.7						
PDAR	**Pinedale Array**	**47.61**	**321**	P	**P**	**05 16 30.5**	**-0.4**
	0.5nm,0.4s,mb3.9,baz=128,slow=11,SNR=11						
TORD	**Torodi Ar. Bea**	**71.05**	**79**	P	**P**	**05 19 11.8**	**-1.2**
	0.4nm,0.7s,mb3.4,baz=286,slow=6.7,SNR=8.7						
ASAR	**Alice Springs**	**152.31**	**236**	PKPbc	PKPbc	05 27 49.8	-1.2
	0.6nm,0.6s,baz=104,slow=2.6,SNR=5.6						
WRA	**Warramunga Arr**	**153.43**	**243**	PKPbc	PKPbc	05 27 51.8	-1.6
	0.8nm,0.5s,baz=106,slow=2.6,SNR=9.5						

CASC 06 05:10:34.2±2.1**, 954N**×**7872W, h59**^{km}±15^{km}**, MD3.7, 5C-2D, Panama**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UPA	**Univ. de Panam**	**0.97**	**235**	⇑*e*P	Pn	05 10 52.8	+1.0
UPA				*e*S	Sn	05 11 06.4	+1.6
ACLA	**Agua Clara, Si**	**0.98**	**260**	⇑*i*P	Pn	05 10 51.3	-0.6
ACLA				*e*S	Sn	05 11 04.7	-0.4
ZANG	**Zanguenga, Cho**	**1.27**	**243**	⇓*i*P	Pn	05 10 56.1	+0.4
ZANG				*e*S	Sn	05 11 13.9	+2.1
PINA	**Piqa, Costa Ab**	**1.35**	**258**	⇑*i*P	Pn	05 10 57.8	+0.9
PINA				*e*S	Sn	05 11 15.3	+1.5
ACH	**Altos**	**1.47**	**234**	⇑*i*P	Pn	05 10 58.2	-0.3
ACH				*e*S	Sn	05 11 16.2	-0.6
AZU	**Azuero**	**2.32**	**222**	⇑*i*P	Pn	05 11 09.9	0.0
AZU				*e*S	Sn	05 11 36.6	-0.7
BUS	**Buena Vista**	**4.96**	**271**	*e*P	Pn	05 11 47.4	+1.2
URSC	**Urasca**	**4.99**	**274**	*e*P	Pn	05 11 46.8	+0.3
URSC				*e*S	Sn	05 12 44.0	+1.1
LCR2	**La Lucha 2**	**5.21**	**273**	⇓*e*P	Pn	05 11 50.9	+1.4
LCR2				*e*S	Sn	05 12 49.9	+1.6
PRS1	**Puriscal**	**5.53**	**275**	*e*P	Pn	05 11 55.7	+1.9
CGA2	**Cerro Gallo 2**	**5.68**	**275**	*e*P	Pn	05 11 57.6	+1.6

*ISCJB **06** 05:10:38.9±2.7, 393N±02×7140E±0.10, h10^{km}, Error ellipse: s-maj=28.6km s-min=10.3km az=11.8*

*NNC **06** 05:10:40.8±4.0, 3939N×7147E, h9^{km}±9^{km}, mb3.5, mpv3.0, Error ellipse: s-maj=29.3km s-min=23.3km az=33.0*

ISC 06 05:10:38.4±2.4**, 391N**±02×**715E**±01**, h10**^{km}**, n10,** σ**1^{s}11**/14**, 7C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.45**	**29**	P	**Pn**	**05 11 32.8**	**+0.6**
	SNR=18						
UCH	**Uchtor**	**3.87**	**36**	P	**Pn**	**05 11 38.3**	**+0.3**
	SNR=17						
EKS2	**Erkin-Say**	**3.94**	**26**	P	**Pn**	**05 11 39.4**	**+0.4**
	SNR=8.0						
KK31	**Karatay Array**	**4.03**	**350**	⇓Pn	**Pn**	**05 11 41.6**	**+1.4**
	6.8nm,0.3s,baz=160,slow=12,SNR=155						
KK31				⇓Sn	**Sn**	**05 12 31.1**	**+3.6**
	6.5nm,0.8s,baz=161,slow=22,SNR=4.1						
KK31				⇑Lg		05 12 41.3	
	5.4nm,0.4s,baz=156,slow=32,SNR=3.6						
CHMS	**Chumysh**	**4.60**	**32**	P	**Pn**	**05 11 48.4**	**+0.4**
	SNR=9.3						
USP	**Ospenovka**	**4.73**	**28**	P	**Pn**	**05 11 49.8**	**0.0**
	SNR=11						
ULHL	**Ulahol**	**4.79**	**48**	P	**Pn**	**05 11 49.4**	**-1.2**
	SNR=6.3						
TKM2	**Tokmak 2**	**4.92**	**38**	⇑Pn	**Pn**	**05 11 52.8**	**+0.4**
	0.2nm,0.5s						
TKM2				⇓Sn	**Sn**	**05 12 48.0**	**-1.3**
	1.0nm,0.6s						
TKM2				⇑Lg		05 13 03.3	
	0.8nm,0.5s						
AB31	**Akbulak array**	**13.04**	**325**	⇑Pn	**Pn**	**05 13 43.0**	**-0.8**
	1.2nm,0.7s,baz=129,slow=14,SNR=10						
AB31				⇑Sn	**Sn**	**05 16 03.4**	**-5.5**
	0.4nm,0.4s,baz=128,slow=26,SNR=2.6						
AKTO	**Aktyubinsk**	**14.76**	**324**	⇑Pn	**Pn**	**05 14 13.5**	**+6.3**
AKTO				⇑Sn	**Sn**	**05 16 48.9**	**-1.8**

*ISCJB **06** 05:17:38.7±2.3, 389N±02×712E±0.1, h10^{km}, Error ellipse: s-maj=24.0km s-min=9.9km az=33.3*

*NNC **06** 05:17:44.5±3.0, 3930N×7142E, h13^{km}±13^{km}, mb3.7, mpv3.1, Error ellipse: s-maj=16.1km s-min=13.6km az=66.0*

ISC 06 05:17:42.6±2.1**, 390N**±01×**7135E**±009**, h10**^{km}**, n12,** σ**1^{s}06**/16**, 5C-4D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.58**	**29**	P	**Pn**	**05 18 38.5**	**+0.5**
	SNR=12						
UCH	**Uchtor**	**4.00**	**36**	P	**Pn**	**05 18 43.7**	**-0.2**
	SNR=18						
EKS2	**Erkin-Say**	**4.07**	**26**	P	**Pn**	**05 18 45.2**	**+0.4**
	SNR=6.2						
KK31	**Karatay Array**	**4.12**	**351**	⇓Pn	**Pn**	**05 18 46.7**	**+1.2**
	7.1nm,0.3s,baz=160,slow=12,SNR=136						
KK31				⇑Sn	**Sn**	**05 19 36.0**	**+2.3**
	3.3nm,0.3s,baz=171,slow=23,SNR=4.3						
KK31				⇑Lg		05 19 47.8	
	7.8nm,0.4s,baz=152,slow=24,SNR=7.8						
KZA	**Kyzart**	**4.25**	**43**	P	**Pn**	**05 18 46.3**	**-1.1**
	SNR=9.8						
AAK	**Ala-Archa**	**4.32**	**33**	P	**Pn**	**05 18 49.0**	**+0.7**
	SNR=15						
KBK	**Karagaybulak**	**4.54**	**36**	P	**Pn**	**05 18 52.1**	**+0.9**
	SNR=11						
CHMS	**Chumysh**	**4.73**	**32**	P	**Pn**	**05 18 54.2**	**+0.4**
	SNR=11						
USP	**Ospenovka**	**4.86**	**28**	P	**Pn**	**05 18 55.9**	**+0.3**
	SNR=15						
TKM2	**Tokmak 2**	**5.04**	**38**	⇓Pn	**Pn**	**05 18 57.7**	**-0.5**
	0.5nm,0.6s						
TKM2				⇑Sn	**Sn**	**05 19 54.2**	**-2.3**
TKM2				⇓Lg		05 20 12.8	
	1.6nm,0.7s						
AB31	**Akbulak array**	**13.08**	**325**	Pn	**Pn**	**05 20 47.3**	**-1.1**
	1.7nm,0.7s,baz=132,slow=14,SNR=24						
AB31				⇓Sn	**Sn**	**05 23 09.6**	**-4.4**
	4.2nm,1.0s,baz=138,slow=23,SNR=6.1						
AKTO	**Aktyubinsk**	**14.80**	**325**	⇑Pn	**Pn**	**05 21 12.0**	**+0.2**
AKTO				⇑Sn	**Sn**	**05 23 54.3**	**-1.5**

*ISCJB **06** 05:27:03.8±2.6, 392N±02×718E±02, h10^{km}, Error ellipse: s-maj=24.1km s-min=14.7km az=54.3*

*NNC **06** 05:27:05.1±4.0, 3934N×7160E, h10^{km}±9^{km}, mb3.1, mpv2.6, Error ellipse: s-maj=27.3km s-min=19.9km az=4.0*

ISC 06 05:27:03.5±2.5**, 391N**±02×**717E**±01**, h10**^{km}**, n10,** σ**0^{s}69**/12**, 7C, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.45**	**26**	P	**Pn**	**05 27 57.4**	**+0.2**
	SNR=21						
UCH	**Uchtor**	**3.84**	**33**	P	**Pn**	**05 28 02.7**	**0.0**
	SNR=9.3						
KZA	**Kyzart**	**4.08**	**41**	P	**Pn**	**05 28 06.0**	**+0.2**
	SNR=7.2						
KK31	**Karatay Array**	**4.15**	**348**	⇑Pn	**Pn**	**05 28 07.3**	**+0.5**
	3.2nm,0.4s,baz=162,slow=12,SNR=13						
KK31				⇑Sn	**Sn**	**05 28 55.5**	**+0.2**
	4.0nm,0.5s,baz=177,slow=26,SNR=5.3						
KK31				⇑Lg		05 29 07.7	
	11nm,0.8s,baz=156,slow=31,SNR=6.1						
AAK	**Ala-Archa**	**4.18**	**30**	P	**Pn**	**05 28 08.2**	**+0.9**
	SNR=5.5						
KBK	**Karagaybulak**	**4.38**	**34**	P	**Pn**	**05 28 10.6**	**+0.6**
	SNR=5.3						
CHMS	**Chumysh**	**4.59**	**30**	P	**Pn**	**05 28 12.9**	**0.0**
	SNR=9.0						
USP	**Ospenovka**	**4.73**	**26**	P	**Pn**	**05 28 14.1**	**-0.7**
	SNR=6.8						
TKM2	**Tokmak 2**	**4.88**	**36**	⇑Pn	**Pn**	**05 28 16.0**	**-0.9**
	0.1nm,0.4s						
TKM2				⇑Sn	**Sn**	**05 29 13.0**	**-0.4**
TKM2				⇑Lg		05 29 27.7	
	0.7nm,0.6s						
AB31	**Akbulak array**	**13.21**	**324**	⇑Pn	**Pn**	**05 30 07.5**	**-3.6**
	0.2nm,0.3s,baz=129,slow=14,SNR=5.4						

*IDC **06** 05:30:31.0±0.8, 3899N×7186E, h0^{km}, mb3.9/13, mb1 4.1/18, mb1mx4.1/26, mbtmp4.0/18, ML3.7/5, MS3.6/2, Ms1 3.7/2, ms1mx2.8/34, Error ellipse: s-maj=16.3km s-min=13.7km az=171.0*

*NEIC **06** 05:30:33.3±0.5, 3916N×7189E, h10^{km}, mb4.4/11, Error ellipse: s-maj=8.8km s-min=6.7km az=146.0*

*NNC **06** 05:30:34.5±2.9, 3932N×7134E, h1^{km}±16^{km}, mb4.2, mpv3.9, Error ellipse: s-maj=19.8km s-min=13.8km az=33.0*

*ISCJB **06** 05:30:35.5±0.8, 3893N±003×7182E±006, h45^{km}±8^{km}, mb4.1/26, MS3.6/2, Error ellipse: s-maj=8.4km s-min=4.5km az=133.7*

*BJI **06** 05:30:37.2, 3923N×7228E, h10^{km}, mb4.5, ML4.0, Ms3.8, Msz3.6*

*MOS **06** 05:30:38.9±1.4, 3941N×7183E, h59^{km}, mb4.6/11, Error ellipse: s-maj=9.5km s-min=5.5km az=99.8*

*SZGRF **06** 05:30:42.5, 3931N×7130E, h33^{km}, mb4.3, Tajikistan*

ISC 06 05:30:32.7±1.7**, 3887N**±003×**7171E**±004**, h9**^{km}±11^{km}**, n114,** σ**1^{s}29**/127**, mb4.1**/26**, MS3.6**/2**, 11C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.37**	**78**	PG	**Pb**	**05 31 30.5**	**-2.2**
KSH				SG	**Sb**	**05 32 14.3**	**+0.5**
KSH				Smax			
	comp=N,834nm,1.0s						
KSH				Smax			
	comp=E,2μm,1.3s						
AML	**Almayashu**	**3.59**	**24**	P	**Pn**	**05 31 30.0**	**+1.5**
	SNR=39						
UCH	**Uchtor**	**3.98**	**32**	P	**Pn**	**05 31 35.1**	**+1.3**
	SNR=46						
EKS2	**Erkin-Say**	**4.10**	**22**	P	**Pn**	**05 31 36.4**	**+0.8**
	SNR=11						
KZA	**Kyzart**	**4.19**	**39**	P	**Pn**	**05 31 38.4**	**+1.6**
	SNR=31						
AAK	**Ala-Archa**	**4.31**	**28**	P	**Pn**	**05 31 39.7**	**+1.2**
	SNR=60						
AAK	**Ala-Archa**	**4.31**	**28**	*e*Pn	**Pn**	**05 31 38.4**	**-0.1**
KK31	**Karatay Array**	**4.33**	**348**	⇑Pn	**Pn**	**05 31 38.0**	**-0.6**
	comp=E,43nm,0.4s,baz=0.0,slow=0.1,SNR=8.5						
KK31				⇑Sn	**Sn**	**05 32 28.3**	**-0.9**
	comp=E,163nm,0.8s,baz=165,slow=30,SNR=3.5						
KK31	**Karatay Array**	**4.33**	**348**	*i* PN	**Pn**	**05 31 38.1**	**-0.5**
KBK	**Karagaybulak**	**4.51**	**32**	P	**Pn**	**05 31 42.6**	**+1.4**
	SNR=73						
FRU	**Bishkek**	**4.53**	**28**	*e*PN	**Pn**	**05 31 42.2**	**+0.8**
FRU				*e*S	**Sn**	**05 32 35.0**	**+0.8**
FRU				pmax	pmax		
	comp=Z,240nm,1.6s						
FRU				smax			
	comp=E,700nm,1.8s						
CHMS	**Chumysh**	**4.72**	**28**	P	**Pn**	**05 31 45.0**	**+0.9**
	SNR=88						
ULHL	**Ulahol**	**4.83**	**44**	P	**Pn**	**05 31 46.7**	**+1.2**
	SNR=8.2						
USP	**Ospenovka**	**4.87**	**25**	P	**Pn**	**05 31 46.5**	**+0.4**
	SNR=49						
TKM2	**Tokmak 2**	**5.00**	**35**	P	**Pn**	**05 31 49.1**	**+1.1**
	SNR=34						
TKM2	**Tokmak 2**	**5.00**	**35**	⇑Pn	**Pn**	**05 31 48.9**	**+1.0**
	comp=E,3.0nm,0.6s						
TKM2				⇑Lg		05 33 05.3	
	comp=E,14nm,0.8s						
DLH	**Dalhousie**	**7.20**	**150**	*e*x	**Sn**	**05 33 50.0**	**+10**
DLH				*e*x	x	05 33 59.0	
KLP	**Kalpa**	**9.06**	**142**	*e*P	**Pn**	**05 32 48.2**	**+4.5**
KLP				*e*S	**Sn**	**05 34 27.5**	**+1.7**
KLP				AML	AML	05 34 41.0	
	comp=N,138nm,0.7s						
KLP				AML	AML	05 34 44.7	
	comp=E,132nm,0.8s						
JOSI	**Joshimath**	**10.51**	**140**	*e*P	**Pn**	**05 32 57.9**	**-5.6**
JOSI				*e*S	**Sn**	**05 34 49.2**	**-12**
JOSI				AML	AML	05 35 02.1	
	comp=N,143nm,0.8s						
JOSI				AML	AML	05 35 04.3	
	comp=E,115nm,0.4s						
MK05	**Makanchi Array**	**11.09**	**41**	⇓Pn	**Pn**	**05 33 12.7**	**+1.3**
	comp=E,6.2nm,0.9s						
MKAR	**Makanchi Array**	**11.09**	**41**	Pn	**Pn**	**05 33 10.2**	**-1.1**
	comp=E,0.1nm,0.3s,baz=225,slow=14,SNR=21						
NDI	**New Delhi**	**11.14**	**154**	*e*x	**Sn**	**05 35 09.0**	**-7.8**
KHET	**Khetri**	**11.29**	**161**	*e*P	**Pn**	**05 33 17.3**	**+3.0**
KHET				*e*S	**Sn**	**05 35 19.3**	**-1.2**
KHET				AML	AML	05 35 35.0	
	comp=E,9μm,0.3s						
KHET				AML	AML	05 35 36.5	
	comp=N,8.1nm,0.1s						
SONA	**Sohna**	**11.50**	**156**	*e*P	**Pn**	**05 33 21.2**	**+4.2**
SONA				*e*S	**Sn**	**05 35 23.8**	**-1.7**
SONA				AML	AML	05 35 33.5	
	comp=N,33nm,0.3s						
SONA				AML	AML	05 35 35.3	
	comp=E,23nm,0.4s						
LGTI	**Lohaghat**	**11.75**	**141**	*e*P	**Pn**	**05 33 26.0**	**+5.5**
LGTI				*e*x	x	05 35 40.5	
AGRA	**Agra**	**12.72**	**154**	*e*S	**Sn**	**05 35 51.6**	**-4.0**
AGRA				AML	AML	05 36 06.1	
	comp=N,44nm,0.3s						
AGRA				AML	AML	05 36 06.2	
	comp=E,60nm,0.3s						
KURK	**Kurchatov**	**12.81**	**20**	*e*P	**Pn**	**05 33 30.1**	**-4.9**
KURK				pmax	pmax		
	comp=Z,11nm,1.1s						
KURK	**Kurchatov**	**12.81**	**20**	*e*Pn	**Pn**	**05 33 30.1**	**-4.9**
	comp=Z,11nm,1.1s						
AB31	**Akbulak array**	**13.38**	**325**	⇑Pn	**Pn**	**05 33 38.9**	**-3.8**
	comp=Z,6.1nm,0.5s,baz=129,slow=11,SNR=84						
AB31				⇓Sn	**Sn**	**05 36 01.8**	**-10**
	comp=Z,15nm,0.7s,baz=277,slow=82,SNR=2.9						
VOSK	**Vostochnaya**	**13.87**	**358**	⇑Pn	**Pn**	**05 33 44.1**	**-5.3**
	comp=Z,3.1nm,0.8s						
VOSK				⇑Lg		05 37 39.0	
	comp=Z,38nm,1.4s						
VOSK	**Vostochnaya**	**13.87**	**358**	*i* P	**Pn**	**05 33 44.1**	**-5.3**
BVA0	**Borovoye Array**	**14.19**	**357**	⇑Pn	**Pn**	**05 33 49.0**	**-4.8**
	comp=Z,1.8nm,1.4s,baz=164,slow=16,SNR=23						
BVAR	**Borovoye Array**	**14.19**	**357**	Pn	**Pn**	**05 33 48.3**	**-5.5**
	comp=Z,0.2nm,0.3s,baz=166,slow=14,SNR=17						
BVAR				LR	LR	05 39 36.8	
	comp=Z,289nm,20.2s,baz=115,slow=39						
ZRNK	**Zerenda**	**14.21**	**353**	⇓Pn	**Pn**	**05 33 50.7**	**-3.4**
	comp=Z,3.6nm,0.7s						
ZRNK				⇓Lg		05 37 52.2	
	comp=Z,40nm,1.6s						
ZRNK	**Zerenda**	**14.21**	**353**	*e*P	**Pn**	**05 33 50.8**	**-3.2**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ZRNK	**Zerenda**	**14.21**	**353**	*e*Pn	**Pn**	**05 33 50.8**	**-3.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,5.4nm,0.7s						
BRVK	**Borovoye**	**14.23**	**356**	eP	**Pn**	**05 33 50.7**	**-3.6**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK	**Borovoye**	**14.23**	**356**	ePn	**Pn**	**05 33 50.6**	**-3.6**
	comp=Z,4.8nm,0.6s						
CHKZ	**Chkalovo**	**14.83**	**357**	⇑Pn	**Pn**	**05 33 57.5**	**-5.0**
	comp=Z,3.7nm,1.0s						
CHKZ				⇓Lg		05 37 59.2	
	comp=Z,33nm,1.6s						
CHKZ	**Chkalovo**	**14.83**	**357**	eP	**Pn**	**05 33 57.5**	**-5.0**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHKZ	**Chkalovo**	**14.83**	**357**	ePn	**Pn**	**05 33 57.5**	**-5.1**
	comp=Z,3.8nm,0.8s						
KOLN	**Koldanda**	**14.86**	**135**	eP	**Pn**	**05 34 00.7**	**-2.2**
	comp=Z,9.1nm,0.5s						
AKTK	**Aktyubinsk**	**15.09**	**324**	Pn	**Pn**	**05 34 02.5**	**-3.6**
AKTK				Sn	**Sn**	**05 36 46.5**	**-6.7**
AKTO	**Aktyubinsk**	**15.09**	**324**	⇑Pn	**Pn**	**05 34 02.2**	**-3.9**
	comp=Z,2.2nm,0.5s						
AKTO				⇑Sn	**Sn**	**05 36 44.9**	**-8.4**
	comp=Z,2.7nm,0.8s						
AKTO	**Aktyubinsk**	**15.09**	**324**	Pn	**Pn**	**05 34 02.5**	**-3.6**
	comp=Z,0.8nm,0.3s,baz=137,slow=13,SNR=11						
AKTO				Sn	**Sn**	**05 36 46.5**	**-6.7**
	comp=Z,0.6nm,0.3s,baz=346,slow=23,SNR=9.4						
GKN	**Gorkha**	**15.28**	**131**	eP	**Pn**	**05 34 08.2**	**-0.3**
	comp=Z,35nm,0.7s						
KKN	**Kakani**	**15.81**	**130**	eP	**Pn**	**05 34 14.8**	**-0.7**
	comp=Z,22nm,0.6s						
DMN	**Daman**	**15.84**	**131**	eP	**Pn**	**05 34 15.3**	**-0.6**
PKI	**Pulchoki**	**16.05**	**131**	eP	**Pn**	**05 34 17.5**	**-1.1**
	comp=Z,28nm,0.7s						
GUN	**Gumba**	**16.09**	**129**	eP	**Pn**	**05 34 19.6**	**+0.6**
	comp=Z,21nm,0.6s						
JIRN	**Jiri**	**16.46**	**128**	eP	**Pn**	**05 34 23.6**	**-0.2**
	comp=Z,11nm,0.4s						
ZAL	**Zalesovo**	**17.52**	**26**	P	**Pn**	**05 34 33.7**	**-3.4**
	comp=Z,1.4nm,0.3s,baz=262,slow=11,SNR=16						
NVS	**Novosibirsk**	**17.77**	**22**	i P	**Pn**	**05 34 38.7**	**-1.6**
WSAR	**Wadi Sarin**	**19.16**	**219**	P	**Pn**	**05 34 58.9**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=350,slow=11,SNR=3.1						
ARU	**Arti**	**19.61**	**338**	eP	**Pn**	**05 35 00.1**	**-2.5**
ARU				eS	**Sn**	**05 38 34.9**	**-8.0**
ARU	**Arti**	**19.61**	**338**	eP	**Pn**	**05 34 59.2**	**-3.5**
	comp=Z,12nm,0.8s						
GTA	**Gaotai**	**21.77**	**80**	eP	**P**	**05 35 26.6**	**+1.9**
GTA				AP		05 35 32.2	
GTA				XP	sP	05 35 35.1	+6.5
GTA				PP		05 35 54.4	
GTA				S	**S**	**05 39 26.9**	**+1.4**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb3.9						
GTA				LR	LR		
	comp=N,179nm,14.8s,MS3.7						
GTA				LR	LR		
	comp=E,160nm,16.3s,MS3.7						
GTA				LR	LR		
	comp=Z,151nm,13.7s,MS3.6						
ZAK	**Zakamensk**	**25.05**	**52**	eP	**P**	**05 35 56.3**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.3						
LZH	**Lanzhou**	**25.58**	**86**	eP	**P**	**05 36 03.8**	**+1.8**
LZH				AP	pP	05 36 07.2	+2.3
LZH				XP	sP	05 36 08.5	+2.4
LZH				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.5						
SONM	**Songino Array**	**26.58**	**59**	P	**P**	**05 36 10.0**	**-1.0**
	comp=Z,1.4nm,0.6s,mb3.6,baz=258,slow=9.5,SNR=9.9						
BR131	**Keskin Array S**	**29.33**	**284**	eP	**P**	**05 36 37.8**	**+2.1**
	comp=Z,2.4nm,0.8s,mb4.0						
BRTR	**Keskin Array B**	**29.33**	**284**	P	**P**	**05 36 36.8**	**+1.1**
	comp=Z,2.3nm,0.9s,mb3.9,baz=81,slow=7.6,SNR=7.2						
AKASG	**Malin Array Be**	**31.96**	**306**	P	**P**	**05 36 58.4**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.7,baz=83,slow=7.4,SNR=6.6						
BOD	**Bodaibo**	**33.18**	**41**	eP	**P**	**05 37 07.9**	**-1.6**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
JOF	**Joensuu**	**34.13**	**328**	ep	**P**	**05 37 16.3**	**-1.5**
	comp=Z,1.6nm,0.7s,mb4.1						
JOF	**Joensuu**	**34.13**	**328**	eP	**P**	**05 37 16.3**	**-1.5**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
FINES	**FINESS Array B**	**35.87**	**324**	P	**P**	**05 37 32.1**	**-0.7**
	comp=Z,1.3nm,0.5s,mb4.1,baz=114,slow=8.5,SNR=9.4						
ARCES	**ARCESS Array B**	**39.19**	**336**	P	**P**	**05 37 59.4**	**-1.5**
	comp=Z,1.9nm,0.6s,mb4.0,baz=110,slow=9.2,SNR=12						
ARCES	**ARCESS Array B**	**39.19**	**336**	P	**P**	**05 37 59.4**	**-1.5**
BRG	**Berggiesshubel**	**41.64**	**306**	eP	**P**	**05 38 22.6**	**+1.3**
	comp=Z,3.4nm,1.1s,mb3.9						
BRG	**Berggiesshubel**	**41.64**	**306**	eP	**P**	**05 38 22.6**	**+1.4**
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9						
GERES	**GERESS Array B**	**42.06**	**303**	P	**P**	**05 38 25.1**	**+0.4**
	comp=Z,0.9nm,0.6s,mb3.6,baz=75,slow=7.3,SNR=8.4						
KHC	**Kasperske Hory**	**42.10**	**304**	eP	**P**	**05 38 26.0**	**+1.0**
NB2	**NORSAR Subarra**	**42.85**	**321**	P	**P**	**05 38 29.8**	**-1.3**
	comp=Z,0.9nm,0.5s,mb3.8,baz=91,slow=7.9						
NOA	**NORSAR Array B**	**42.85**	**321**	P	**P**	**05 38 29.2**	**-1.9**
	comp=Z,0.9nm,0.6s,mb3.7,baz=93,slow=7.9,SNR=5.3						
NOA				LR	LR	05 57 45.8	
	comp=Z,62nm,18.2s,MS3.5,baz=270,slow=38						
GRA1	**Grafenberg Arr**	**43.53**	**305**	eP	**P**	**05 38 38.0**	**+1.4**
	comp=Z,6.0nm,1.1s,mb4.2						
GRF	**Grafenberg Arr**	**43.53**	**305**	eP	**P**	**05 38 38.0**	**+1.4**
	comp=Z,6.0nm,1.1s,mb4.2						
GRF	**Grafenberg Arr**	**43.53**	**305**	eP	**P**	**05 38 38.0**	**+1.4**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
GRF	**Grafenberg Arr**	**43.53**	**305**	eP	**P**	**05 38 38.0**	**+1.4**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
CDF	**Champ du Feu**	**46.33**	**304**	eP	**P**	**05 38 59.3**	**+0.4**
PGF	**Pioggiola**	**46.72**	**296**	eP	**P**	**05 39 02.6**	**+0.6**
HINF	**Hinteralfeld**	**46.75**	**303**	eP	**P**	**05 39 02.4**	**+0.3**
LPG	**La Plagne**	**47.42**	**300**	eP	**P**	**05 39 08.6**	**+1.2**
SBF	**Sospel**	**47.42**	**298**	eP	**P**	**05 39 08.4**	**+1.0**
LPL	**La Plagne**	**47.42**	**300**	eP	**P**	**05 39 08.5**	**+1.1**
	comp=Z,10nm,0.7s,mb4.6						
LPL	**La Plagne**	**47.42**	**300**	eP	**P**	**05 39 08.5**	**+1.1**
LPL				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
LPL	**La Plagne**	**47.42**	**300**	eP	**P**	**05 39 08.5**	**+1.1**
	comp=Z,5.1nm,0.7s,mb4.6						
CABF	**La Chapelle**	**47.56**	**302**	eP	**P**	**05 39 09.3**	**+0.8**
	comp=Z,28nm,1.2s,mb4.9						
CABF	**La Chapelle**	**47.56**	**302**	eP	**P**	**05 39 09.3**	**+0.8**
CABF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
CABF	**La Chapelle**	**47.56**	**302**	eP	**P**	**05 39 09.3**	**+0.8**
	comp=Z,14nm,1.2s,mb4.9						
LOR	**Lormes**	**48.85**	**303**	eP	**P**	**05 39 17.9**	**-0.5**
	comp=Z,5.4nm,0.7s,mb4.4						
LOR	**Lormes**	**48.85**	**303**	eP	**P**	**05 39 17.9**	**-0.5**
LOR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
LOR	**Lormes**	**48.85**	**303**	eP	**P**	**05 39 17.9**	**-0.5**
	comp=Z,2.7nm,0.7s,mb4.4						
SMF	**Signal de Mont**	**49.03**	**302**	eP	**P**	**05 39 19.3**	**-0.6**
AVF	**Avril sur Loir**	**49.31**	**303**	eP	**P**	**05 39 22.2**	**+0.2**
	comp=Z,13nm,0.9s,mb4.7						
AVF	**Avril sur Loir**	**49.31**	**303**	eP	**P**	**05 39 22.2**	**+0.2**
AVF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
AVF	**Avril sur Loir**	**49.31**	**303**	eP	**P**	**05 39 22.2**	**+0.2**
	comp=Z,6.4nm,0.9s,mb4.7						
LASF	**Ste Croix**	**49.81**	**299**	eP	**P**	**05 39 26.7**	**+0.9**
TCF	**Toulx Ste Croi**	**50.22**	**302**	eP	**P**	**05 39 29.5**	**+0.6**
	comp=Z,7.3nm,0.8s,mb4.5						
TCF	**Toulx Ste Croi**	**50.22**	**302**	eP	**P**	**05 39 29.5**	**+0.6**
TCF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
TCF	**Toulx Ste Croi**	**50.22**	**302**	eP	**P**	**05 39 29.5**	**+0.6**
	comp=Z,3.7nm,0.8s,mb4.5						
CAF	**Calviac**	**50.75**	**301**	eP	**P**	**05 39 33.8**	**+0.9**
LDF	**La Druitiere**	**51.03**	**306**	eP	**P**	**05 39 34.8**	**-0.2**
MTLF	**Montolieu**	**51.18**	**299**	eP	**P**	**05 39 37.0**	**+0.9**
GRR	**Gorron**	**51.56**	**306**	eP	**P**	**05 39 38.6**	**-0.4**
MJAR	**Matsushiro Arr**	**51.60**	**70**	P	**P**	**05 39 38.1**	**-1.2**
	comp=Z,0.9nm,0.4s,mb4.0,baz=276,slow=11,SNR=4.7						
ROSF	**Rostrenen**	**53.10**	**306**	eP	**P**	**05 39 50.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**66.35**	**268**	P	**P**	**05 41 22.3**	**+0.6**
	comp=Z,1.0nm,0.6s,mb4.0,baz=48,slow=5.7,SNR=14						
INK	**Inuvik**	**71.48**	**10**	eP	**P**	**05 41 52.1**	**-1.5**
INK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
INK	**Inuvik**	**71.48**	**10**	eP	**P**	**05 41 52.1**	**-1.5**
	comp=Z,4.4nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**72.35**	**16**	P	**P**	**05 41 57.2**	**-1.6**
	comp=Z,1.3nm,1.0s,mb3.8,baz=316,slow=6.1,SNR=4.9						
YKA	**Yellowknife Ar**	**78.86**	**3**	P	**P**	**05 42 34.6**	**-1.5**
	comp=Z,1.8nm,0.8s,mb4.1,baz=349,slow=5.8,SNR=6.5						
WRA	**Warramunga Arr**	**82.78**	**123**	P	**P**	**05 42 56.4**	**-0.7**
	comp=Z,1.7nm,0.8s,mb4.1,baz=324,slow=5.0,SNR=7.9						
ASAR	**Alice Springs**	**85.16**	**126**	P	**P**	**05 43 08.9**	**-0.3**
	comp=Z,0.7nm,0.7s,mb3.9,baz=331,slow=5.5,SNR=6.3						

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*ISCJB **06** 05:48:50.6±2.3, 393N±02×7131E±008, h10km, Error ellipse: s-maj=24.1km s-min=7.7km az=18.9*
*NNC **06** 05:48:52.4±3.7, 3947N×7148E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=32.6km s-min=14.8km az=170.0*
ISC 06 05:48:51.3±2.2**, 392N**±02×**7136E**±008**, h10km, n14, σ0.80**/18**, 7C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.40**	**31**	P	**Pn**	**05 49 44.3**	**-0.1**
	SNR=11						
UCH	**Uchtor**	**3.84**	**38**	P	**Pn**	**05 49 50.3**	**-0.1**
	SNR=39						
EKS2	**Erkin-Say**	**3.89**	**27**	P	**Pn**	**05 49 51.3**	**+0.1**
	SNR=16						
KK31	**Karatay Array**	**3.93**	**351**	⇑Pn	**Pn**	**05 49 54.0**	**+2.4**
	19nm,0.3s,baz=141,slow=11,SNR=210						
KK31				⇓Sn	**Sn**	**05 50 43.8**	**+6.1**
	9.3nm,0.3s,baz=170,slow=24,SNR=5.4						
KZA	**Kyzart**	**4.11**	**45**	P	**Pn**	**05 49 54.2**	**+0.1**
	SNR=9.7						
AAK	**Ala-Archa**	**4.15**	**34**	P	**Pn**	**05 49 55.8**	**+1.1**
	SNR=14						
KBK	**Karagaybulak**	**4.38**	**37**	P	**Pn**	**05 49 58.6**	**+0.8**
	SNR=16						
CHMS	**Chumysh**	**4.56**	**33**	P	**Pn**	**05 50 00.6**	**+0.3**
	SNR=25						
USP	**Ospenovka**	**4.68**	**29**	P	**Pn**	**05 50 01.6**	**-0.4**
	SNR=18						
ULHL	**Ulahol**	**4.78**	**49**	P	**Pn**	**05 50 01.6**	**-1.8**
	SNR=8.0						
TKM2	**Tokmak 2**	**4.89**	**40**	P	**Pn**	**05 50 04.7**	**-0.1**
	SNR=13						
TKM2	**Tokmak 2**	**4.89**	**40**	⇑Pn	**Pn**	**05 50 04.6**	**-0.2**
	0.8nm,0.5s						
TKM2				⇑Sn	**Sn**	**05 51 01.1**	**-0.4**
	1.8nm,0.6s						
TKM2				⇓Lg		05 51 15.3	
	5.7nm,0.8s						
AB31	**Akbulak array**	**12.93**	**325**	⇑Pn	**Pn**	**05 51 54.9**	**-0.1**
	1.6nm,0.5s,baz=135,slow=12,SNR=34						
AB31				⇑Sn	**Sn**	**05 54 18.6**	**-0.3**
	4.2nm,0.6s,baz=151,slow=20,SNR=7.7						
AKTO	**Aktyubinsk**	**14.64**	**324**	⇑Pn	**Pn**	**05 52 17.8**	**-0.7**
	0.1nm,0.8s						
AKTO				⇑Sn	**Sn**	**05 55 00.5**	**-0.3**
	0.1nm,0.7s						

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*IDC **06** 05:57:04.2±1.1, 3890N×7174E, h0km, mb3.7/10, mb1 3.9/14, mb1mx3.8/25, mbtmp3.7/14, ML3.5/4, Error ellipse: s-maj=21.9km s-min=17.1km az=172.0*
*NEIC **06** 05:57:06.5±0.9, 3908N×7159E, h10km, Error ellipse: s-maj=14.0km s-min=11.8km az=159.0*
*ISCJB **06** 05:57:07.2±0.4, 3923N±004×7127E±006, h10km, mb3.5/11, Error ellipse: s-maj=6.8km s-min=4.9km az=141.9*
*MOS **06** 05:57:08.3±1.6, 39.13N×7148E, h33km, mb3.5/1, Error ellipse: s-maj=17.3km s-min=8.0km az=85.4*
*NNC **06** 05:57:09.4±2.7, 3909N×7129E, h26km±50km, mb4.1, mpv3.6, Error ellipse: s-maj=43.2km s-min=17.3km az=169.0*
ISC 06 05:57:09.3±0.5**, 3925N**±004×**7132E**±006**, h10km, n42, σ1.26**/48**, mb3.5**/11**, 4C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.40**	**31**	P	**Pn**	**05 58 04.1**	**+1.8**
	SNR=30						
UCH	**Uchtor**	**3.84**	**38**	P	**Pn**	**05 58 09.1**	**+0.8**
	SNR=40						
EKS2	**Erkin-Say**	**3.88**	**28**	P	**Pn**	**05 58 10.2**	**+1.3**
	SNR=23						
KK31	**Karatay Array**	**3.90**	**351**	⇑Pn	**Pb**	**05 58 12.2**	**-5.8**
	22nm,0.3s,baz=172,slow=12,SNR=386						
KK31				⇑Sn	**Sb**	**05 59 03.5**	**-1.7**
	45nm,0.4s,baz=173,slow=17,SNR=7.1						
KZA	**Kyzart**	**4.11**	**45**	P	**Pn**	**05 58 12.8**	**+0.6**
	SNR=10.0						
AAK	**Ala-Archa**	**4.15**	**34**	P	**Pn**	**05 58 14.8**	**+2.2**
	SNR=11						
AAK	**Ala-Archa**	**4.15**	**34**	ePn	**Pn**	**05 58 12.1**	**-0.6**
FRU	**Bishkek**	**4.36**	**34**	ePN	**Pn**	**05 58 18.2**	**+2.6**
FRU				pmax	pmax		
	comp=Z,70nm,1.6s						
KBK	**Karagaybulak**	**4.37**	**38**	P	**Pn**	**05 58 16.9**	**+1.2**
	SNR=35						
CHMS	**Chumysh**	**4.55**	**34**	P	**Pn**	**05 58 19.2**	**+1.0**
	SNR=17						
USP	**Ospenovka**	**4.67**	**30**	P	**Pn**	**05 58 20.7**	**+0.9**
	SNR=37						
ULHL	**Ulahol**	**4.79**	**50**	P	**Pn**	**05 58 20.3**	**-1.1**
	SNR=15						
TKM2	**Tokmak 2**	**4.89**	**40**	P	**Pn**	**05 58 23.2**	**+0.4**
	SNR=25						
TKM2	**Tokmak 2**	**4.89**	**40**	⇓Pn	**Pn**	**05 58 23.1**	**+0.3**
	comp=Z,1.2nm,0.6s						
CEP	**Cherat**	**5.44**	**175**	P	**Pn**	**05 58 30.1**	**-0.3**
CEP				S	**Sn**	**05 59 17.0**	**-16**
CHCP	**Chirah Chowk**	**5.80**	**164**	P	**Pn**	**05 58 35.7**	**+0.4**
THW	**Thamme Wali**	**6.45**	**177**	P	**Pn**	**05 58 44.7**	**+0.4**
SDNR	**Sundarnagar**	**9.00**	**147**	eP	**Pn**	**05 59 20.0**	**+0.7**
MKAR	**Makanchi Array**	**11.01**	**43**	Pn	**Pn**	**05 59 45.1**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=228,slow=13,SNR=10						
AB31	**Akbulak array**	**12.89**	**325**	Pn	**Pn**	**06 00 12.8**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=134,slow=13,SNR=52						
AB31				⇑Sn	**Sn**	**06 02 35.6**	**-0.3**
	comp=Z,4.3nm,0.5s,baz=137,slow=25,SNR=5.2						
BVAR	**Borovoye Array**	**13.79**	**358**	Pn	**Pn**	**06 00 23.3**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=163,slow=12,SNR=5.7						
ZRNK	**Zerenda**	**13.79**	**354**	eP	**Pn**	**06 00 23.6**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZRNK	**Zerenda**	**13.79**	**354**	ePn	**Pn**	**06 00 23.6**	**-1.3**
	comp=Z,4.1nm,0.5s						
BRVK	**Borovoye**	**13.83**	**357**	eP	**Pn**	**06 00 23.3**	**-2.0**
CHKZ	**Chkalovo**	**14.44**	**358**	eP	**Pn**	**06 00 33.1**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	**Chkalovo**	**14.44**	**358**	ePn	**Pn**	**06 00 33.1**	**-0.5**
	comp=Z,1.1nm,0.6s						
AKTK	**Aktyubinsk**	**14.60**	**324**	Pn	**Pn**	**06 00 35.7**	**-0.2**
AKTK				Sn	**Sn**	**06 03 20.6**	**+2.8**
AKTO	**Aktyubinsk**	**14.60**	**324**	⇓Pn	**Pn**	**06 00 36.6**	**+0.7**
AKTO				⇑Sn	**Sn**	**06 03 18.9**	**+1.1**
	comp=Z,0.1nm,0.7s						
AKTO	**Aktyubinsk**	**14.60**	**324**	Pn	**Pn**	**06 00 35.7**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=131,slow=16,SNR=5.9						
AKTO				Sn	**Sn**	**06 03 20.6**	**+2.8**
	comp=Z,0.5nm,0.3s,baz=186,slow=18,SNR=4.4						
ZAL	**Zalesovo**	**17.32**	**28**	P	**Pn**	**06 01 10.1**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=250,slow=11,SNR=9.6						
ZAK	**Zakamensk**	**25.06**	**53**	eP	**P**	**06 02 30.1**	**-3.7**
ZAK				e		06 03 13.5	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.3						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.4						
SONM	**Songino Array**	**26.64**	**60**	P	**P**	**06 02 43.1**	**-5.0**
	comp=Z,0.8nm,0.8s,mb3.3,baz=263,slow=8.8,SNR=3.9						
AKASG	**Malin Array Be**	**31.49**	**305**	P	**P**	**06 03 31.3**	**+0.1**
	comp=Z,0.5nm,0.3s,mb3.8,baz=79,slow=8.3,SNR=4.2						
AKASG	**Malin Array Be**	**31.49**	**305**	P	**P**	**06 03 31.3**	**+0.1**
FINES	**FINESS Array B**	**35.38**	**324**	P	**P**	**06 04 05.0**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.7,baz=122,slow=9.5,SNR=6.3						
ARCES	**ARCESS Array B**	**38.72**	**336**	P	**P**	**06 04 33.4**	**0.0**
	comp=Z,0.4nm,0.2s,mb3.7,baz=111,slow=9.4,SNR=11						
GERES	**GERESS Array B**	**41.60**	**303**	P	**P**	**06 04 57.8**	**+0.5**
	comp=Z,0.4nm,0.3s,mb3.6,baz=64,slow=6.1,SNR=3.9						
NOA	**NORSAR Array B**	**42.37**	**321**	P	**P**	**06 05 03.3**	**-0.3**
	comp=Z,0.2nm,0.5s,mb3.0,baz=112,slow=6.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**66.06**	**268**	P	**P**	**06 07 55.5**	**-0.7**
	comp=Z,0.4nm,0.5s,mb3.7,baz=48,slow=5.8,SNR=8.8						
ILAR	**Eielson Array**	**72.07**	**16**	P	**P**	**06 08 30.6**	**-3.0**
	comp=Z,0.5nm,0.9s,mb3.4,baz=302,slow=8.0,SNR=4.8						
YKA	**Yellowknife Ar**	**78.49**	**3**	P	**P**	**06 09 08.4**	**-2.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=351,slow=5.4,SNR=6.4						
WRA	**Warramunga Arr**	**83.24**	**122**	P	**P**	**06 09 30.6**	**-5.4**
	comp=Z,0.6nm,0.8s,mb3.7,baz=328,slow=4.9,SNR=2.9						

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*IDC **06** 05:57:48.3±0.9, 3894N×7175E, h0km, mb4.0/13, mb1 4.2/17, mb1mx4.1/27, mbtmp4.1/17, ML4.0/4, Error ellipse: s-maj=18.7km s-min=14.7km az=3.0*
*ISCJB **06** 05:57:49.3±0.5, 3921N±005×7167E±005, h10km, mb4.1/18, MS3.3/1, Error ellipse: s-maj=7.6km s-min=5.2km az=45.8*
*BJI **06** 05:57:50.3, 39.10N×7180E, h10km, mb4.3, ML3.8, Ms3.8, Msz3.4*
*NEIC **06** 05:57:50.3±0.5, 39.11N×7179E, h10km, mb4.5/5, Error ellipse: s-maj=8.4km s-min=7.2km az=150.0*
*NNC **06** 05:57:52.8±3.7, 3932N×7133E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=29.6km s-min=22.5km az=14.0*
*MOS **06** 05:57:52.5±0.8, 3922N×7174E, h33km, mb4.6/5, Error ellipse: s-maj=14.4km s-min=7.4km az=97.2*
ISC 06 05:57:50.9±0.4**, 3918N**±005×**7168E**±005**, h10km, n49, σ0.93**/56**, mb4.1**/18**, MS3.3**/1**, 6C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.34**	**83**	ePG	**Pb**	**05 58 46.0**	**-4.3**
KSH				S	**Sb**	**05 59 30.5**	**-0.5**
KSH				Smax			
	comp=N,505nm,0.7s						
KSH				Smax			
	comp=E,586nm,0.7s						
KK31	**Karatay Array**	**4.01**	**348**	⇑Pn	**Pb**	**05 58 56.6**	**-5.2**
	comp=E,29nm,0.3s,baz=170,slow=13,SNR=13						
KK31				⇑Sn	**Sb**	**05 59 46.5**	**-3.8**
	comp=E,105nm,0.5s,baz=169,slow=21,SNR=6.8						
AAK	**Ala-Archa**	**4.05**	**31**	ePN	**Pn**	**05 58 53.2**	**+0.2**
AAK				e		05 59 08.3	
TKM2	**Tokmak 2**	**4.76**	**37**	⇑Pn	**Pn**	**05 59 07.0**	**+4.3**
	comp=E,0.9nm,0.3s						
TKM2				⇑Lg		06 00 18.7	
	comp=E,3.7nm,0.5s						
SDNR	**Sundarnagar**	**8.80**	**149**	eS	**Sn**	**06 01 37.0**	**-0.3**
MKAR	**Makanchi Array**	**10.87**	**42**	Pn	**Pn**	**06 00 29.4**	**+3.0**
	comp=E,0.3nm,0.3s,baz=220,slow=13,SNR=12						
AB31	**Akbulak array**	**13.11**	**324**	⇑Pn	**Pn**	**06 00 55.8**	**-1.3**
	comp=E,3.9nm,0.4s,baz=137,slow=12,SNR=9.9						
AB31				⇑Sn	**Sn**	**06 03 19.8**	**-3.2**
	comp=E,9.6nm,0.6s,baz=135,slow=24,SNR=8.0						
BVAR	**Borovoye Array**	**13.87**	**357**	Pn	**Pn**	**06 01 07.1**	**-0.5**
	comp=E,0.6nm,0.3s,baz=173,slow=13,SNR=6.3						
ZRNK	**Zerenda**	**13.89**	**353**	eP	**Pn**	**06 01 08.7**	**+0.9**
BRVK	**Borovoye**	**13.91**	**356**	eP	**Pn**	**06 01 08.2**	**+0.1**
CHKZ	**Chkalovo**	**14.52**	**357**	eP	**Pn**	**06 01 15.9**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CHKZ	**Chkalovo**	**14.52**	**357**	ePn	**Pn**	**06 01 15.9**	**-0.4**
	comp=Z,4.7nm,1.0s						
AKTK	**Aktyubinsk**	**14.82**	**324**	Pn	**Pn**	**06 01 20.6**	**+0.1**
AKTK				Sn	**Sn**	**06 04 04.8**	**-0.1**
AKTO	**Aktyubinsk**	**14.82**	**324**	⇓Pn	**Pn**	**06 01 20.3**	**-0.2**
	comp=Z,0.2nm,0.7s						
AKTO				⇓Sn	**Sn**	**06 04 01.5**	**-3.3**
	comp=Z,0.2nm,0.7s						
AKTO	**Aktyubinsk**	**14.82**	**324**	Pn	**Pn**	**06 01 20.6**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=129,slow=15,SNR=6.8						
AKTO				Sn	**Sn**	**06 04 04.8**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=193,slow=19,SNR=6.5						
ZAL	**Zalesovo**	**17.25**	**27**	P	**Pn**	**06 01 51.6**	**-0.2**
	comp=Z,2.1nm,0.3s,baz=250,slow=9.4,SNR=13						
NVS	**Novosibirsk**	**17.49**	**23**	i P	**Pn**	**06 01 56.3**	**+1.4**
ARU	**Arti**	**19.32**	**338**	eP	**Pn**	**06 02 18.0**	**+0.8**
ARU				pmax	pmax		
	comp=Z,17nm,1.0s						
ARU	**Arti**	**19.32**	**338**	eP	**Pn**	**06 02 18.0**	**+0.8**
	comp=Z,17nm,1.0s						
GNI	**Garni**	**20.74**	**281**	P	**P**	**06 02 33.4**	**+1.8**
	comp=Z,2.4nm,0.3s,baz=192,slow=18,SNR=3.2						
GTA	**Gaotai**	**21.74**	**80**	eP	**P**	**06 02 43.3**	**+0.9**
GTA				AP		06 02 47.1	
GTA				XP	sP	06 02 49.4	+2.8
GTA				PP		06 03 10.9	
GTA				PPP		06 03 21.5	
GTA				S	**S**	**06 06 44.9**	**+2.0**
GTA				XS	sS	06 06 50.3	+2.8
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.2						
GTA				LR	LR		
	comp=N,149nm,9.9s						
GTA				LR	LR		
	comp=E,148nm,10.3s						
GTA				LR	LR		
	comp=Z,70nm,11.0s,MS3.3						
SONM	**Songino Array**	**26.44**	**60**	P	**P**	**06 03 27.3**	**-0.6**
	comp=Z,2.2nm,0.7s,mb3.8,baz=261,slow=8.5,SNR=12						
SONM				PcP	PcP	06 06 51.9	-1.1
	comp=Z,0.6nm,0.7s,baz=224,slow=4.0,SNR=3.7						
AKASG	**Malin Array Be**	**31.76**	**305**	P	**P**	**06 04 14.9**	**-0.2**
	comp=Z,1.1nm,0.4s,mb4.1,baz=79,slow=8.4,SNR=7.7						
BOD	**Bodaibo**	**32.96**	**41**	eP	**P**	**06 04 25.1**	**-0.6**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
FINES	**FINESS Array B**	**35.60**	**324**	P	**P**	**06 04 48.9**	**+0.3**
	comp=Z,0.8nm,0.4s,mb4.0,baz=115,slow=10.0,SNR=7.1						
ARCES	**ARCESS Array B**	**38.89**	**336**	P	**P**	**06 05 16.0**	**-0.5**
	comp=Z,0.5nm,0.3s,mb3.7,baz=111,slow=9.1,SNR=10						
GERES	**GERESS Array B**	**41.87**	**303**	P	**P**	**06 05 42.5**	**+1.2**
	comp=Z,1.8nm,0.5s,mb4.0,baz=285,slow=28,SNR=7.3						
NB2	**NORSAR Subarra**	**42.60**	**321**	P	**P**	**06 05 47.8**	**+0.7**
	comp=Z,0.4nm,0.4s,mb3.5,baz=92,slow=8.6						
NOA	**NORSAR Array B**	**42.60**	**321**	P	**P**	**06 05 46.8**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.5,baz=107,slow=7.8,SNR=4.4						
DAVOX	**Davos**	**44.81**	**301**	P	**P**	**06 06 04.5**	**-0.4**
	comp=Z,2.6nm,0.5s,mb4.4,baz=166,slow=17,SNR=2.8						
LPG	**La Plagne**	**47.24**	**300**	eP	**P**	**06 06 25.2**	**+1.1**
LPL	**La Plagne**	**47.25**	**300**	eP	**P**	**06 06 25.4**	**+1.3**
	comp=Z,5.7nm,0.6s,mb4.4						
LPL	**La Plagne**	**47.25**	**300**	eP	**P**	**06 06 25.4**	**+1.3**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LPL	**La Plagne**	**47.25**	**300**	eP	**P**	**06 06 25.4**	**+1.3**
	comp=Z,2.8nm,0.6s,mb4.4						
LOR	**Lormes**	**48.66**	**303**	eP	**P**	**06 06 34.7**	**-0.4**
SMF	**Signal de Mont**	**48.85**	**302**	eP	**P**	**06 06 36.3**	**-0.2**
	comp=Z,5.1nm,0.5s,mb4.5						
SMF	**Signal de Mont**	**48.85**	**302**	eP	**P**	**06 06 36.3**	**-0.2**
SMF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
SMF	**Signal de Mont**	**48.85**	**302**	eP	**P**	**06 06 36.3**	**-0.2**
	comp=Z,2.5nm,0.5s,mb4.5						
AVF	**Avril sur Loir**	**49.13**	**302**	eP	**P**	**06 06 38.7**	**0.0**
	comp=Z,2.8nm,0.5s,mb4.3						
AVF	**Avril sur Loir**	**49.13**	**302**	eP	**P**	**06 06 38.7**	**0.0**
AVF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
AVF	**Avril sur Loir**	**49.13**	**302**	eP	**P**	**06 06 38.7**	**0.0**
	comp=Z,1.4nm,0.5s,mb4.2						
TORD	**Torodi Ar. Bea**	**66.34**	**268**	P	**P**	**06 08 39.5**	**-0.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=51,slow=5.4,SNR=7.2						
COLA	**College**	**71.76**	**17**	eP	**P**	**06 09 13.4**	**0.0**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
COLA	**College**	**71.76**	**17**	eP	**P**	**06 09 13.4**	**0.0**
	comp=Z,4.9nm,0.8s,mb4.5						
ILAR	**Eielson Array**	**72.06**	**16**	P	**P**	**06 09 14.6**	**-0.6**
	comp=Z,1.0nm,0.8s,mb3.8,baz=299,slow=5.5,SNR=8.4						
YKA	**Yellowknife Ar**	**78.55**	**3**	P	**P**	**06 09 52.0**	**-0.5**
	comp=Z,1.1nm,0.5s,mb4.1,baz=350,slow=5.3,SNR=8.9						
YKA	**Yellowknife Ar**	**78.55**	**3**	P	**P**	**06 09 52.0**	**-0.5**
WRA	**Warramunga Arr**	**82.97**	**123**	P	**P**	**06 10 14.7**	**-1.4**
	comp=Z,3.1nm,1.0s,mb4.3,baz=323,slow=5.1,SNR=7.8						
ASAR	**Alice Springs**	**85.36**	**126**	P	**P**	**06 10 27.0**	**-1.3**
	comp=Z,0.6nm,0.6s,mb3.9,baz=323,slow=5.5,SNR=5.9						

NNC 06 06:15:16.6±5.9**, 3907N**×**7106E, h0km, mb3.2, mpv2.7, 6C, Error ellipse: s-maj=47.4km s-min=38.2km az=80.0, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.05**	**354**	⇑Pn	Pn	06 16 22.3	+2.4
	4.5nm,0.4s,baz=156,slow=11,SNR=48						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KK31				⇑Sn	Sn	06 17 11.5	+3.6
	2.4nm,0.3s						
KK31				⇑Lg		06 17 25.3	
	6.0nm,0.4s						
TKM2	Tokmak 2	5.16	40	⇑Pn	Pn	06 16 33.5	-1.5
	0.1nm,0.5s						
AB31	Akbulak array	12.92	326	⇑Pn	Pn	06 18 24.1	+2.7
	0.3nm,0.4s,baz=136,slow=14,SNR=8.9						
AB31				⇑Sn	Sn	06 20 45.1	-0.8
	1.3nm,0.7s,baz=143,slow=22,SNR=4.4						

*NIED **06** 06:17:00,36.20N×140.00E,h59km,Mw3.9 Best double couple: $M_0$7.29000×10^{14} NP1:ϕ_s60.00000°,δ73.00000°, λ77.00000°. NP2:ϕ_s277.00000°,δ22.00000°,λ125.00000°.*
*MOS **06** 06:17:26.5±0.8,36.07N×140.04E,h64km,mb4.5/4,Error ellipse: s-maj=19.0km s-min=11.0km az=128.1*
*ISCJB **06** 06:17:26.8±0.4,36.10N±0.03×140.07E±0.05,h62km±3km, mb4.0/17,Error ellipse: s-maj=7.2km s-min=5.4km az=16.3*
*IDC **06** 06:17:27.9±1.8,36.07N×139.99E,h54km±16km,mb3.6/13, mb1 3.8/15,mb1mx3.7/24,mbtmp3.9/15,ML4.2/2,Error ellipse: s-maj=22.6km s-min=10.2km az=77.0*
*JMA **06** 06:17:28.1±0.1,36.14N×140.03E,h50km±1km,M4.0 Broadband fault plane solution: P waves. NP1: ϕ_s249.00000°,δ18.00000°,λ117.00000°. NP2: ϕ_s41.00000°,δ74.00000°,λ82.00000°. Principal axes: T Plg60.0000°, Azm300.0000°; N Plg8.0000°, Azm44.0000°; P Plg29.0000°, Azm138.0000°;*
JMA Felt III J1.
*NEIC **06** 06:17:28.1,36.14N×140.03E,h50km,mb4.4/4,After JMA.*
NEIC Recorded [3 JMA] in Ibaraki and Tochigi; [2 JMA] in Gumma and Saitama; [1 JMA] in Chiba, Fukushima, Kanagawa and Tokyo Prefectures.
ISC 06 06:17:27.9±0.4**,36.11N**±0.03×**140.05E**±0.05**,h55**km±3km**, n43,**σ0.9s**76**/53**,mb4.0**/17**,1C-8D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.17	46	⇑P	Pn	06 17 36.4	-0.1
JYT				S	Sn	06 17 41.9	-0.8
JAG	Ashikaga	0.57	303	⇓P	Pn	06 17 40.0	-0.2
JAG				S	Sn	06 17 48.2	-1.0
JKT	Katashina	0.92	316	⇓P	Pn	06 17 44.4	-0.2
JKT				S	Sn	06 17 56.9	0.0
JRY	Ryogami san	0.93	264	⇓P	Pn	06 17 44.9	+0.1
JRY				S	Sn	06 17 56.8	-0.5
JOD2	Odawara 2	1.15	223	P	Pn	06 17 48.5	+0.8
JOD2				S	Sn	06 18 02.8	+0.3
JFY	Yanaizu	1.32	348	⇓P	Pn	06 17 50.4	+0.4
BSO3	Boso 3	1.36	164	⇓P	Pn	06 17 51.0	+0.4
JYN	Shimob	1.37	244	P	Pn	06 17 52.1	+1.5
JHK	Hiroka	1.40	324	⇓P	Pn	06 17 51.4	+0.3
JFK	Kawauchi	1.42	28	⇓P	Pn	06 17 51.3	0.0
JFT	Otama	1.42	9	⇓P	Pn	06 17 51.7	+0.3
JFT				S	Sn	06 18 09.1	+0.1
MJAR	Matsushiro Arr	1.54	287	P	Pn	06 17 52.7	-0.4
	97nm,0.3s,baz=88,slow=9.1,SNR=608						
MJAR	Matsushiro Arr	1.54	287	P	Pn	06 17 52.7	-0.4
MAJO	Matsushiro	1.55	287	ePn	Pn	06 17 52.9	-0.2
MAJO				eSn	Sn	06 18 04.7	-7.4
MAT	Matsushiro	1.55	287	P	Pn	06 17 53.4	+0.3
MAT				S	Sn	06 18 13.0	+1.0
MAT	Matsushiro	1.55	287	eP	Pn	06 17 53.0	-0.1
MAT				eS	Sn	06 18 14.0	+2.0
JHJ	Hachijo jima 2	2.99	184	P	Pn	06 18 12.9	+0.1
	72nm,0.3s,baz=82,slow=21,SNR=22						
JHJ				S	Sn	06 18 46.0	-1.5
	113nm,0.3s,baz=51,slow=24,SNR=6.6						
ASAJ	Asahikawa	8.23	13	P	Pn	06 19 26.1	+1.5
	3.0nm,0.3s,baz=209,slow=19,SNR=4.1						
ASAJ	Asahikawa	8.23	13	P	Pn	06 19 26.1	+1.5
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
SONM	Songino Array	27.41	306	P	P	06 23 07.7	-0.6
	comp=Z,0.5nm,0.5s,mb3.3,baz=107,slow=9.7,SNR=5.5						
BOD	Bodaibo	27.75	330	eP	P	06 23 08.4	-2.8
ZAL	Zalesovo	41.74	313	P	P	06 25 11.5	-0.1
	comp=Z,1.1nm,0.5s,mb3.8,baz=21,slow=11,SNR=5.0						
ZAL				PcP	PcP	06 27 07.2	+0.1
	comp=Z,0.9nm,0.4s,baz=230,slow=4.6,SNR=3.3						
MKAR	Makanchi Array	43.68	303	P	P	06 25 27.4	+0.1
	comp=Z,1.7nm,0.7s,mb3.9,baz=90,slow=9.4,SNR=13						
MKAR				PcP	PcP	06 27 13.4	-0.2
	comp=Z,0.4nm,0.6s,baz=81,slow=3.5,SNR=3.5						
KURK	Kurchatov	45.64	309	eP	P	06 25 42.9	0.0
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KURK	Kurchatov	45.64	309	eP	P	06 25 42.9	0.0
	comp=Z,5.0nm,0.7s,mb4.5						
CHKZ	Chkalovo	50.14	313	P	P	06 26 17.2	-0.5
CHKZ				e		06 27 35.7	
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
CHKZ	Chkalovo	50.14	313	P	P	06 26 17.2	-0.5
	comp=Z,1.1nm,0.5s,mb4.1						
CHKZ				ePcP	PcP	06 27 35.7	-0.8
BVAR	Borovoye Array	50.38	313	P	P	06 26 20.2	+0.7
	comp=Z,0.5nm,0.4s,mb3.9,baz=208,slow=38,SNR=4.9						
ILAR	Eielson Array	50.86	32	P	P	06 26 23.1	-0.1
	comp=Z,0.6nm,0.7s,mb3.6,baz=242,slow=9.9,SNR=7.1						
ZRNK	Zerenda	51.22	313	eP	P	06 26 25.8	0.0
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
ZRNK	Zerenda	51.22	313	eP	P	06 26 25.8	0.0
	comp=Z,1.6nm,0.4s,mb4.3						
FITZ	Fitzroy Crossi	55.62	197	P	P	06 26 57.9	-0.1
	comp=Z,1.8nm,0.6s,mb4.3,baz=173,slow=22,SNR=6.2						
WRAB	Tennant Creek	56.00	186	eP	P	06 27 01.1	+0.3
WRAB				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
WRAB	Tennant Creek	56.00	186	eP	P	06 27 01.1	+0.3
	comp=Z,5.1nm,1.0s,mb4.5						
WRA	Warramunga Arr	56.01	186	P	P	06 27 00.4	-0.5
	comp=Z,1.1nm,0.5s,mb4.2,baz=0.6,slow=7.6,SNR=18						
ASAR	Alice Springs	59.74	187	P	P	06 27 28.2	+1.3
	comp=Z,0.5nm,0.6s,mb3.7,baz=12,slow=12,SNR=8.4						
ARCES	ARCESS Array B	64.47	339	P	P	06 27 58.6	0.0
	comp=Z,2.1nm,1.0s,mb4.1,baz=64,slow=9.6,SNR=3.8						
FINES	FINESS Array B	69.11	332	P	P	06 28 27.8	-0.4
	comp=Z,0.7nm,0.6s,mb3.8,baz=64,slow=9.7,SNR=3.8						
AKASG	Malin Array Be	74.35	322	P	P	06 28 58.2	-1.5
	comp=Z,0.7nm,0.6s,mb3.8,baz=46,slow=5.8,SNR=5.8						
AKASG	Malin Array Be	74.35	322	P	P	06 28 58.2	-1.5
NB2	NORSAR Subarra	74.61	337	P	P	06 29 00.6	-0.6
	comp=Z,0.9nm,0.5s,mb4.0,baz=41,slow=5.9						
NOA	NORSAR Array B	74.61	337	P	P	06 28 59.8	-1.4
	comp=Z,1.0nm,0.5s,mb4.0,baz=40,slow=5.8,SNR=6.9						
NVAR	Mina Array Bea	76.42	52	P	P	06 29 12.9	+1.4
	comp=Z,0.5nm,0.7s,mb3.5,baz=283,slow=7.3,SNR=4.2						

*IDC **06** 06:26:02.5±0.6,39.01N×71.77E,h0km,mb4.3/19, mb1 4.5/23,mb1mx4.4/27,mbtmp4.3/23,ML3.9/3,MS3.8/6, Ms1 3.8/6,ms1mx3.2/36,Error ellipse: s-maj=13.5km s-min=12.1km az=175.0*
*NEIC **06** 06:26:05.0±0.2,39.16N×71.80E,h10km,mb4.7/36,Error ellipse: s-maj=5.9km s-min=4.7km az=180.0*
*NNC **06** 06:26:04.5±2.7,39.27N×71.58E,h0km,mb4.6,mpv4.8, Error ellipse: s-maj=22.0km s-min=15.5km az=171.0*
*BJI **06** 06:26:05.5,39.17N×71.50E,h32km,mB4.9,mb4.7,ML4.1, Ms4.4,Msz4.2*
*MOS **06** 06:26:06.5±1.0,39.25N×71.82E,h31km,mb4.8/39,Error ellipse: s-maj=7.9km s-min=4.8km az=120.2*
*ISCJB **06** 06:26:07.3±0.5,39.00N±0.02×71.77E±0.03,h44km±4km, mb4.5/71,MS3.7/10,Error ellipse: s-maj=4.4km s-min=3.5km az=102.7*
*SZGRF **06** 06:26:12.1,39.42N×71.67E,h33km,Tajikistan*
ISC 06 06:26:09.3±0.4**,39.11N**±0.02×**71.76E**±0.03**,h44**km±4km**, n235,σ1.9s13**/261**,mb4.5**/71**,MS3.7**/10**,87C-7D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	3.29	82	eP	Pn	06 27 00.2	+1.9
KSH				eS	Sn	06 27 42.1	+5.9
KSH				LR	LR		
	comp=N,14µm,5.0s						
KSH				LR	LR		
	comp=E,8µm,4.0s						
KSH				LR	LR		
	comp=Z,4µm,5.4s						
AML	Almayashu	3.35	25	P	Pn	06 27 00.6	+1.4
	SNR=69						
UCH	Uchtor	3.75	33	P	Pn	06 27 06.3	+1.7
	SNR=261						
EKS2	Erkin-Say	3.86	23	P	Pn	06 27 07.7	+1.6
	SNR=116						
KZA	Kyzart	3.98	41	P	Pn	06 27 09.3	+1.5
	SNR=127						
AAK	Ala-Archa	4.08	30	P	Pn	06 27 11.0	+1.9
	SNR=109						
AAK	Ala-Archa	4.08	30	ePn	Pn	06 27 09.9	+0.7
AAK				eSn	Sn	06 27 52.6	-3.1
KK31	Karatay Array	4.10	347	⇓Pn	Pn	06 27 09.3	-0.1
	comp=Z,123nm,0.5s,baz=176,slow=13,SNR=736						
KK31				⇑Sn	Sn	06 28 00.8	+4.8
	comp=Z,164nm,0.3s,baz=172,slow=22,SNR=9.4						
KBK	Karagaybulak	4.29	33	P	Pn	06 27 14.5	+2.5
	SNR=88						
FRU	Bishkek	4.30	29	ePN	Pn	06 27 14.8	+2.6
FRU				i		06 28 08.0	
FRU				pmax	pmax		
	comp=Z,520nm,1.8s						
FRU				smax			
	comp=E,2µm,1.4s						
CHMS	Chumysh	4.49	29	P	Pn	06 27 16.8	+2.0
	SNR=80						
ULHL	Ulahol	4.63	46	P	Pn	06 27 17.7	+1.1
	SNR=24						
USP	Ospenovka	4.64	26	P	Pn	06 27 18.3	+1.5
	SNR=108						
TKM2	Tokmak 2	4.78	36	P	Pn	06 27 20.6	+1.7
	SNR=91						
TKM2	Tokmak 2	4.78	36	⇓Pn	Pn	06 27 20.6	+1.8
	comp=E,86nm,0.7s						
KNDC	Almaty	5.68	42	⇑Lg		06 29 01.3	
	comp=E,618nm,1.1s						
DLH	Dalhousie	7.39	151	eP	Pn	06 27 56.0	+1.4
DLH				ex	Sn	06 29 25.0	+7.9
PONG	Pong	7.92	153	eP	Pn	06 28 03.0	+1.2
PONG				ex	Sn	06 29 37.0	+7.0
SDNR	Sundarnagar	8.71	149	eP	Pn	06 28 13.4	+0.8
SDNR				eS	Sn	06 29 47.2	-2.2
KLP	Kalpa	9.23	143	eP	Pn	06 28 19.6	-0.3
KLP				eS	Sn	06 29 56.5	-5.8
KLP				AML	AML	06 30 12.0	
	comp=E,147nm,0.6s						
KLP				AML	AML	06 30 12.5	
	comp=N,171nm,0.6s						
JOSI	Joshimath	10.67	141	ex	Pn	06 28 21.4	-18
JOSI				ex	Sn	06 30 26.8	-11
JOSI				AML	AML	06 30 37.2	
	comp=N,188nm,1.0s						
JOSI				AML	AML	06 30 43.1	
	comp=E,412nm,0.6s						
MKAR	Makanchi Array	10.88	42	Pn	Pn	06 28 42.9	+0.5
	comp=E,0.3nm,0.3s,baz=226,slow=13,SNR=24						
MKAR				Lg		06 31 43.4	
	comp=E,0.4nm,0.3s,baz=250,slow=26,SNR=2.6						
MK05	Makanchi Array	10.88	42	⇑Pn	Pn	06 28 43.5	+1.2
	comp=E,7.5nm,0.8s						
NDI	New Delhi	11.34	155	eP	Pn	06 28 47.0	-1.7
NDI				ex	Sn	06 30 53.0	-1.1
KHET	Khetri	11.51	162	eP	Pn	06 28 49.6	-1.4
KHET				eS	Sn	06 30 53.0	-5.2
KHET				AML	AML	06 31 12.5	
	comp=E,17µm,0.6s						
SONA	Sohna	11.70	156	eP	Pn	06 28 52.7	-0.9
SONA				eS	Sn	06 30 56.1	-6.7
SONA				AML	AML	06 31 06.6	
	comp=N,59nm,0.3s						
SONA				AML	AML	06 31 06.6	
	comp=E,71nm,0.5s						
LGTI	Lohaghat	11.92	141	eP	Pn	06 28 55.0	-1.5
LGTI				ex	Sn	06 31 09.0	+1.0
KURK	Kurchatov	12.57	20	ePn	Pn	06 29 02.0	-3.5
KURK				eSn	Sn	06 31 20.4	-3.6
WMQ	Urumqi	12.84	63	P	Pn	06 29 09.0	-0.2
WMQ				PP		06 29 19.3	
WMQ				S	Sn	06 31 31.4	+0.8
WMQ				SS		06 31 46.1	
WMQ				PCP	PcP	06 34 45.5	+3.5
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.5s						
WMQ				AMB	AMB		
	comp=Z,185nm,5.2s						
WMQ				LR	LR		
	comp=N,413nm,5.0s						
WMQ				LR	LR		
	comp=E,279nm,5.6s						
WMQ				LR	LR		
	comp=Z,368nm,5.2s						
AGRA	Agra	12.93	155	eP	Pn	06 29 09.0	-1.3
AGRA				eS	Sn	06 31 24.6	-8.2
AGRA				AML	AML	06 31 35.8	
	comp=N,67nm,0.4s						
AGRA				AML	AML	06 31 36.5	
	comp=E,47nm,0.5s						
AB31	Akbulak array	13.20	324	⇑Pn	Pn	06 29 10.1	-4.0
	comp=E,8.6nm,0.5s						
AB31				⇓Sn	Sn	06 31 33.7	-5.7
	comp=E,70nm,0.7s						
VOSK	Vostochnaya	13.62	358	⇑Pn	Pn	06 29 15.6	-4.2
	comp=E,8.7nm,0.8s						
VOSK				⇓Lg		06 33 15.7	
	comp=E,55nm,1.6s						
BVA0	Borovoye Array	13.95	357	⇑Pn	Pn	06 29 19.8	-4.5
	comp=E,3.4nm,0.9s,baz=153,slow=9.4,SNR=9.8						
BVAR	Borovoye Array	13.95	357	Pn	Pn	06 29 20.4	-3.9
	comp=E,0.6nm,0.3s,baz=173,slow=13,SNR=25						
BVAR				Sn	Sn	06 31 54.0	-3.6
	comp=E,0.6nm,0.3s,baz=171,slow=22,SNR=3.8						
BVAR				Lg		06 33 25.9	
	comp=E,0.4nm,0.3s,baz=175,slow=21,SNR=2.5						
BVAR				LR	LR	06 35 09.7	
	comp=E,412nm,22.0s,baz=58,slow=39						
BVAR	Borovoye Array	13.95	357	P	Pn	06 29 20.4	-3.8
BVAR						06 31 54.0	
ZRNK	Zerenda	13.97	353	⇑Pn	Pn	06 29 21.4	-3.2
	comp=E,15nm,1.2s						
ZRNK				⇑Lg		06 33 24.5	
	comp=E,81nm,1.6s						
ZRNK	Zerenda	13.97	353	ePn	Pn	06 29 21.7	-2.9
ZRNK				eSn	Sn	06 31 54.4	-3.8
BRVK	Borovoye	13.98	356	eP	Pn	06 29 21.1	-3.7
CHKZ	Chkalovo	14.59	357	⇑Pn	Pn	06 29 28.6	-4.3
	comp=E,5.8nm,0.7s						
CHKZ				⇓Lg		06 33 43.8	
	comp=E,36nm,1.1s						
CHKZ	Chkalovo	14.59	357	ePn	Pn	06 29 30.0	-2.9
AKTK	Aktyubinsk	14.92	324	Pn	Pn	06 29 33.4	-3.8
AKTK				Sn	Sn	06 32 16.9	-4.3
AKTK				LR	LR	06 35 49.7	
AKTO	Aktyubinsk	14.92	324	⇓Pn	Pn	06 29 34.7	-2.5
	comp=E,0.6nm,0.8s						
AKTO				⇑Sn	Sn	06 32 17.3	-3.9
	comp=E,7.7nm,0.8s						
AKTO	Aktyubinsk	14.92	324	Pn	Pn	06 29 33.4	-3.8
	comp=E,1.3nm,0.3s,baz=129,slow=15,SNR=14						
AKTO				Sn	Sn	06 32 16.9	-4.3
	comp=E,0.9nm,0.3s,baz=235,slow=8.8,SNR=8.6						
AKTO				LR	LR	06 35 49.7	
	comp=E,461nm,18.4s,baz=139,slow=39						
AKTO	Aktyubinsk	14.92	324	P	Pn	06 29 33.4	-3.8
AKTO						06 32 16.9	
KOLN	Koldanda	15.01	135	eP	Pn	06 29 32.5	-5.9
	comp=E,20nm,0.5s						
KOLN				eS	S	06 32 14.7	-25
GKN	Gorkha	15.41	132	eP	Pn	06 29 38.3	-5.3
GKN				eS	S	06 32 24.8	-23
KKN	Kakani	15.94	131	eP	Pn	06 29 45.5	-5.0
KKN				eS	S	06 32 36.7	-22
DMN	Daman	15.98	132	eP	Pn	06 29 46.1	-4.8
PKI	Pulchoki	16.18	131	eP	Pn	06 29 48.0	-5.5
	comp=E,48nm,0.7s						
GUN	Gumba	16.21	129	eP	Pn	06 29 49.5	-4.4
JIRN	Jiri	16.58	129	eP	Pn	06 29 54.1	-4.5
	comp=E,18nm,0.3s						
ZAL	Zalesovo	17.29	27	P	Pn	06 30 06.8	-0.5
	comp=E,0.4nm,0.3s,baz=17,slow=13,SNR=3.1						
ZAL	Zalesovo	17.29	27	P	Pn	06 30 06.8	-0.5
NVS	Novosibirsk	17.54	22	eP	Pn	06 30 08.0	-2.4
NVS				i S	S	06 33 23.4	-7.6
NVS				pmax	pmax		
	comp=N,38nm,1.8s						
NVS				pmax	pmax		
	comp=Z,22nm,1.8s						
NVS				smax			
	comp=N,37nm,2.1s						
NVS				smax			
	comp=E,6.0nm,1.0s						
LSA	Lhasa	18.52	115	eP	Pn	06 30 21.9	-0.6
SVE	Sverdlovsk	19.18	341	eP	Pn	06 30 29.0	-1.4
SVE				pmax	pmax		
	comp=Z,40nm,1.3s						
SVE				MLR	MLR		
	comp=N,400nm,11.0s						
SVE				MLR	MLR		
	comp=E,400nm,11.0s						
SVE				MLR	MLR		
	comp=Z,500nm,11.0s						
WSAR	Wadi Sarin	19.37	219	P	Pn	06 30 32.0	-0.7
	comp=Z,0.6nm,0.3s,baz=36,slow=8.2,SNR=5.4						
ARU	Arti	19.40	338	⇓iP	Pn	06 30 31.3	-1.8
ARU				eS	S	06 34 08.2	-0.5
ARU				pmax	pmax		
	comp=Z,18nm,0.9s						
ARU				MLR	MLR		
	comp=Z,300nm,19.0s						
ARU				MLR	MLR		
	comp=N,200nm,20.0s						
ARU				MLR	MLR		
	comp=E,100nm,17.0s						
ARU	Arti	19.40	338	ePn	Pn	06 30 32.0	-1.1
	comp=E,20nm,0.8s						
GNI	Garni	20.81	281	P	P	06 30 47.5	+0.5
	comp=E,9.9nm,0.5s,baz=93,slow=7.9,SNR=6.0						
GNI	Garni	20.81	281	P	P	06 30 47.5	+0.6
GNI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GNI	Garni	20.81	281	eP	P	06 30 48.4	+1.5
	comp=Z,25nm,0.8s						
ZEI	Tsey	21.32	289	eP	P	06 30 53.6	+1.2
ZEI				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.5						
GTA	Gaotai	21.70	80	eP	P	06 30 57.2	+0.8
GTA				AP		06 31 01.6	
GTA				PP		06 31 23.9	
GTA				PPP		06 31 33.4	
GTA				S	S	06 34 58.0	+4.0
GTA				XS	sS	06 35 03.3	-7.9
GTA				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.3						
GTA				AMB	AMB		
	comp=Z,75nm,4.6s						
GTA				LR	LR		
	comp=N,173nm,8.4s						
GTA				LR	LR		
	comp=E,134nm,9.5s						
GTA				LR	LR		
	comp=Z,97nm,16.0s,MS3.3						
GOF	Gofitskoye	22.06	295	eP	P	06 30 57.2	-3.1
KIV	Kislovodsk	22.23	292	eP	P	06 31 03.9	+1.7
KIV				eS	S	06 35 05.3	+0.8
KIV				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.5						
KIV				MLR	MLR		
	comp=Z,66nm,14.0s,MS3.2						
ZAK	Zakamensk	24.87	53	eP	P	06 31 27.2	-0.6
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb3.9						
LZH	Lanzhou	25.53	87	eP	P	06 31 34.5	+0.8
LZH				PP		06 32 13.5	
LZH				eS	S	06 35 58.4	+0.2
LZH				eSS		06 36 59.7	
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,98nm,5.6s						
LZH				LR	LR		
	comp=E,709nm,9.7s						
LZH				LR	LR		
	comp=Z,1µm,14.2s,MS4.7						
VRSR	Storozhevoye	25.73	309	eP	P	06 31 35.0	-0.6
VRSR				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.5						
VRSR				pmax	pmax		
	comp=N,5.0nm,0.7s						
VRSR				pmax	pmax		
	comp=E,2.0nm,0.3s						
MALT	Malatya	25.94	279	eP	P	06 31 38.8	+1.3
MALT				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0						
MALT	Malatya	25.94	279	eP	P	06 31 38.8	+1.3
	comp=Z,2.5nm,0.4s,mb4.1						
ANN	Anapa	26.02	294	eP	P	06 31 30.7	-7.5
ANN				pmax	pmax		
	comp=Z,64nm,1.3s,mb5.0						
SONM	Songino Array	26.42	59	P	P	06 31 41.9	+0.1
	comp=Z,2.2nm,0.8s,mb3.8,baz=260,slow=8.4,SNR=15						
SONM				PcP	PcP	06 35 06.1	-0.2
	comp=Z,0.9nm,0.7s,baz=242,slow=3.1,SNR=5.2						
ULN	Ulaanbaatar	26.86	59	eP	P	06 31 46.3	+0.5
ULN				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.3						
ULN	Ulaanbaatar	26.86	59	eP	P	06 31 46.3	+0.5
	comp=Z,13nm,1.3s,mb4.3						
CD2	Chengdu	27.35	98	P	P	06 31 49.6	-0.6
CD2				PP		06 32 36.3	
CD2				S	S	06 36 26.2	-0.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
CD2				AMB	AMB		
	comp=Z,60nm,5.2s						
CD2				LR	LR		
	comp=E,140nm,19.2s						
CD2				LR	LR		
	comp=Z,130nm,15.6s,MS3.6						
OBN	Obninsk	28.41	316	⇑eP	P	06 32 01.0	+1.3
OBN				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.5						
BRTR	Keskin Array B	29.31	283	P	P	06 32 08.0	+0.4
	comp=Z,2.5nm,0.8s,mb4.0,baz=83,slow=7.6,SNR=8.6						
KMI	Kunming	29.55	109	P	P	06 32 12.9	+3.1
KMI				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
HHC	Hu-ho-hao-te	30.37	74	eP	P	06 32 17.3	+0.3
HHC				PP	PP	06 33 16.2	-10
HHC				S	S	06 37 14.6	+0.1
HHC				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.7						
HHC				AMB	AMB		
	comp=Z,77nm,5.0s						
AKASG	Malin Array Be	31.85	305	P	P	06 32 29.4	-0.6
	comp=Z,1.9nm,0.5s,mb4.2,baz=82,slow=7.4,SNR=15						
AKASG	Malin Array Be	31.85	305	P	P	06 32 29.4	-0.6
BOD	Bodaibo	32.97	41	eP	P	06 32 39.1	-0.7
BOD				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
JOF	Joensuu	33.94	328	ep	P	06 32 47.4	-0.9
BJI	Beijing	33.98	74	P	P	06 32 48.0	-0.6
FINES	FINESS Array B	35.69	324	P	P	06 33 02.0	-1.4
	comp=Z,1.7nm,0.6s,mb4.2,baz=116,slow=9.5,SNR=16						
FINES				LR	LR	06 48 32.5	
	comp=Z,144nm,18.6s,MS3.8,baz=91,slow=38						
WHN	Wuhan	35.72	91	eP	P	06 33 07.0	+3.3
OJC	Ojcow	37.87	304	eP	P	06 33 22.2	+0.3
NJ2	Nanjing	38.60	86	eP	P	06 33 28.8	+0.8
NJ2				PP	PP	06 34 59.7	+2.8
NJ2				S	S	06 39 24.0	+2.8
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,400nm,3.8s						
KEV	Kevo	38.62	337	ep	P	06 33 24.4	-3.8
ARCES	ARCESS Array B	38.98	336	P	P	06 33 31.0	-0.3
	comp=Z,3.7nm,0.7s,mb4.2,baz=111,slow=7.8,SNR=23						
ARCES				LR	LR	06 50 33.1	
	comp=Z,226nm,21.2s,MS4.0,baz=103,slow=38						
ARE0	ARCESS Array S	38.98	336	eP	P	06 33 31.3	+0.1
CN2	Changchun	39.92	65	eP	P	06 33 38.6	-0.5
CN2				eS	S	06 39 40.8	-0.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
DPC	Dobruska-Polom	40.08	305	eP	P	06 33 40.5	+0.1
UPC	Upice	40.26	305	eP	P	06 33 42.7	+0.8
SSE	Sheshan	40.80	86	P	P	06 33 45.7	-0.7
SSE				AMB	AMB		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,20nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,111nm,6.0s						
PRU	Pruhonice	41.26	305	eP	P	06 33 49.9	-0.2
YAK	Yakutsk	41.51	37	eP	P	06 33 51.8	-0.4
YAK				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.5						
YAK				pmax	pmax		
	comp=N,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,11nm,1.4s						
BRG	Berggiesshubel	41.53	306	eP	P	06 33 52.9	+0.5
	comp=E,2.4nm,0.7s,mb3.9						
BRG	Berggiesshubel	41.53	306	eP	P	06 33 52.9	+0.6
BRG				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
GERES	GERESS Array B	41.96	303	P	P	06 33 55.9	0.0
	comp=Z,2.3nm,0.6s,mb4.0,baz=67,slow=7.4,SNR=18						
GERES				LR	LR	06 55 37.8	
	comp=Z,68nm,19.3s,MS3.5,baz=336,slow=42						
KHC	Kasperske Hory	42.00	303	eP	P	06 33 56.5	+0.3
MDJ	Mudanjiang	42.64	63	P	P	06 33 59.6	-1.8
MDJ				SCP	ScP	06 39 43.7	+3.6
MDJ				PCS	PcS	06 39 44.8	-0.2
MDJ				S	S	06 40 21.2	-0.2
MDJ				SS	SS	06 43 31.1	-1.6
MDJ				SCS	ScS	06 44 01.6	+2.7
MDJ				AMB	AMB		
	comp=Z,7.0nm,2.2s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,74nm,4.0s						
MDJ				LR	LR		
	comp=N,67nm,28.6s,MS3.5						
MDJ				LR	LR		
	comp=E,44nm,24.2s,MS3.5						
MDJ				LR	LR		
	comp=Z,73nm,22.0s,MS3.5						
NB2	NORSAR Subarra	42.69	321	P	P	06 34 00.1	-1.7
	comp=Z,1.6nm,0.6s,mb3.9,baz=92,slow=8.6						
NOA	NORSAR Array B	42.69	321	P	P	06 34 00.5	-1.3
	comp=Z,2.7nm,0.8s,mb4.1,baz=92,slow=8.0,SNR=12						
NOA				LR	LR	06 52 57.8	
	comp=Z,88nm,21.9s,MS3.6,baz=255,slow=38						
NOA	NORSAR Array B	42.69	321	P	P	06 34 00.5	-1.3
NOA				LR	LR	06 52 57.8	
TIXI	Tiksi	43.13	23	eP	P	06 34 04.6	-0.8
GRA1	Grafenberg Arr	43.43	305	eP	P	06 34 09.1	+1.3
	comp=Z,11nm,0.8s,mb4.6						
GRF	Grafenberg Arr	43.43	305	eP	P	06 34 09.1	+1.3
	comp=Z,11nm,0.8s,mb4.6						
GRF	Grafenberg Arr	43.43	305	eP	P	06 34 09.1	+1.3
GRF				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.6						
GRF	Grafenberg Arr	43.43	305	eP	P	06 34 09.1	+1.3
GRF				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.6						
CDF	Champ du Feu	46.23	304	⇑iP	P	06 34 30.3	+0.3
	comp=Z,8.7nm,0.9s,mb4.4						
CDF	Champ du Feu	46.23	304	⇑iP	P	06 34 30.3	+0.3
CDF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
CDF	Champ du Feu	46.23	304	⇑iP	P	06 34 30.3	+0.3
	comp=Z,4.3nm,0.9s,mb4.4						
HINF	Hinteralfeld	46.65	303	⇑iP	P	06 34 33.3	0.0
	comp=Z,7.3nm,0.5s,mb4.6						
HINF	Hinteralfeld	46.65	303	⇑iP	P	06 34 33.3	0.0
HINF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
HINF	Hinteralfeld	46.65	303	⇑iP	P	06 34 33.3	0.0
	comp=Z,3.7nm,0.5s,mb4.6						
PGF	Pioggiola	46.65	295	⇑iP	P	06 34 33.6	+0.2
WLF	Walferdange	46.66	306	eP	P	06 34 33.5	+0.1
WLF				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9						
WLF	Walferdange	46.66	306	eP	P	06 34 33.5	+0.1
	comp=Z,7.2nm,0.4s,mb5.0						
HAU	Haudompre	46.93	303	⇑iP	P	06 34 35.6	+0.1
LPG	La Plagne	47.33	300	⇑iP	P	06 34 39.8	+1.2
	comp=Z,17nm,0.7s,mb4.8						
LPG	La Plagne	47.33	300	⇑iP	P	06 34 39.8	+1.2
LPG				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
LPG	La Plagne	47.33	300	⇑iP	P	06 34 39.8	+1.2
	comp=Z,8.4nm,0.7s,mb4.8						
LPL	La Plagne	47.34	300	⇑iP	P	06 34 39.7	+1.0
	comp=Z,18nm,0.6s,mb4.9						
LPL	La Plagne	47.34	300	⇑iP	P	06 34 39.7	+1.0
LPL				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
LPL	La Plagne	47.34	300	⇑iP	P	06 34 39.7	+1.0
	comp=Z,8.9nm,0.6s,mb4.9						
SBF	Sospel	47.34	298	⇑iP	P	06 34 39.3	+0.6
	comp=Z,54nm,0.9s,mb5.2						
SBF	Sospel	47.34	298	⇑iP	P	06 34 39.3	+0.6
SBF				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.2						
SBF	Sospel	47.34	298	⇑iP	P	06 34 39.3	+0.6
	comp=Z,27nm,0.9s,mb5.2						
GIVF	Givet	47.40	306	⇑iP	P	06 34 39.9	+0.7
CABF	La Chapelle	47.46	302	⇑iP	P	06 34 40.5	+0.8
	comp=Z,13nm,0.7s,mb4.7						
CABF	La Chapelle	47.46	302	⇑iP	P	06 34 40.5	+0.8
CABF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
CABF	La Chapelle	47.46	302	⇑iP	P	06 34 40.5	+0.8
	comp=Z,6.3nm,0.7s,mb4.7						
BAIF	Baives	47.79	306	⇑iP	P	06 34 43.0	+0.8
	comp=Z,12nm,0.7s,mb4.7						
BAIF	Baives	47.79	306	⇑iP	P	06 34 43.0	+0.8
BAIF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
BAIF	Baives	47.79	306	⇑iP	P	06 34 43.0	+0.8
	comp=Z,5.8nm,0.7s,mb4.7						
FRF	La Foret Royal	47.98	297	⇑iP	P	06 34 43.8	+0.1
ORIF	Oris-en-Rattie	48.09	299	⇑iP	P	06 34 44.4	-0.1
	comp=Z,7.9nm,0.6s,mb4.6						
ORIF	Oris-en-Rattie	48.09	299	⇑iP	P	06 34 44.4	-0.1
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
ORIF	Oris-en-Rattie	48.09	299	⇑iP	P	06 34 44.4	-0.1
	comp=Z,4.0nm,0.6s,mb4.6						
LMR	La Mourre	48.14	297	⇑iP	P	06 34 45.0	0.0
SMRF	Simiane la Rot	48.58	298	⇑iP	P	06 34 48.8	+0.4
LOR	Lormes	48.75	303	⇑iP	P	06 34 48.9	-0.7
	comp=Z,7.0nm,0.8s,mb4.5						
LOR	Lormes	48.75	303	⇑iP	P	06 34 48.9	-0.7
LOR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
LOR	Lormes	48.75	303	⇑iP	P	06 34 48.9	-0.7
	comp=Z,3.5nm,0.8s,mb4.4						
VIVF	Saint-Julien-l	48.92	300	⇑iP	P	06 34 51.4	+0.4
	comp=Z,16nm,0.7s,mb4.8						
VIVF	Saint-Julien-l	48.92	300	⇑iP	P	06 34 51.4	+0.4
VIVF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
VIVF	Saint-Julien-l	48.92	300	⇑iP	P	06 34 51.4	+0.4
	comp=Z,7.8nm,0.7s,mb4.8						
SMF	Signal de Mont	48.94	302	⇑iP	P	06 34 51.0	-0.1
	comp=Z,11nm,0.6s,mb4.8						
SMF	Signal de Mont	48.94	302	⇑iP	P	06 34 51.0	-0.1
SMF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
SMF	Signal de Mont	48.94	302	⇑iP	P	06 34 51.0	-0.1
	comp=Z,5.7nm,0.6s,mb4.8						
SSF	Saint Saulge	49.04	303	⇑iP	P	06 34 51.6	-0.2
	comp=Z,7.4nm,0.8s,mb4.5						
SSF	Saint Saulge	49.04	303	⇑iP	P	06 34 51.6	-0.2
SSF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
SSF	Saint Saulge	49.04	303	⇑iP	P	06 34 51.6	-0.2
	comp=Z,3.7nm,0.8s,mb4.5						
AVF	Avril sur Loir	49.22	302	⇑iP	P	06 34 53.2	0.0
	comp=Z,20nm,0.7s,mb5.0						
AVF	Avril sur Loir	49.22	302	⇑iP	P	06 34 53.2	0.0
AVF				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
AVF	Avril sur Loir	49.22	302	⇑iP	P	06 34 53.2	0.0
	comp=Z,10nm,0.7s,mb5.0						
BGF	Bois d'Agland	49.62	302	⇑iP	P	06 34 56.2	-0.1
	comp=Z,15nm,0.7s,mb4.8						
BGF	Bois d'Agland	49.62	302	⇑iP	P	06 34 56.2	-0.1
BGF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
BGF	Bois d'Agland	49.62	302	⇑iP	P	06 34 56.2	-0.1
	comp=Z,7.4nm,0.7s,mb4.8						
LASF	Ste Croix	49.73	299	⇑iP	P	06 34 57.8	+0.7
	comp=Z,14nm,0.8s,mb4.8						
TCF	Toulx Ste Croi	50.12	302	⇑iP	P	06 35 00.5	+0.4
	comp=Z,11nm,0.7s,mb4.7						
TCF	Toulx Ste Croi	50.12	302	⇑iP	P	06 35 00.5	+0.4
TCF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
TCF	Toulx Ste Croi	50.12	302	⇑iP	P	06 35 00.5	+0.4
	comp=Z,5.7nm,0.7s,mb4.7						
CAF	Calviac	50.66	301	⇑iP	P	06 35 04.8	+0.7
	comp=Z,8.0nm,0.8s,mb4.4						
CAF	Calviac	50.66	301	⇑iP	P	06 35 04.8	+0.7
CAF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CAF	Calviac	50.66	301	⇑iP	P	06 35 04.8	+0.7
	comp=Z,4.0nm,0.8s,mb4.4						
ESK	Eskdalemuir	50.88	315	eP	P	06 35 04.4	-1.5
RJF	Les Rejaudoux	50.90	301	⇑iP	P	06 35 06.8	+0.9
LDF	La Druitiere	50.92	306	eP	P	06 35 05.8	-0.3
KMBO	Kilima Mbogo	51.05	227	P	P	06 35 08.2	+1.1
	comp=Z,3.2nm,1.0s,mb4.2,baz=26,slow=9.8,SNR=5.6						
FLN	La Foliniere	51.09	306	⇑iP	P	06 35 07.0	-0.4
MTLF	Montolieu	51.09	299	⇑iP	P	06 35 07.9	+0.5
	comp=Z,8.6nm,0.6s,mb4.5						
MTLF	Montolieu	51.09	299	⇑iP	P	06 35 07.9	+0.5
MTLF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
MTLF	Montolieu	51.09	299	⇑iP	P	06 35 07.9	+0.5
	comp=Z,4.3nm,0.6s,mb4.6						
GRR	Gorron	51.45	306	⇑iP	P	06 35 09.7	-0.4
	comp=Z,17nm,0.7s,mb4.8						
GRR	Gorron	51.45	306	⇑iP	P	06 35 09.7	-0.4
GRR				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
GRR	Gorron	51.45	306	⇑iP	P	06 35 09.7	-0.4
	comp=Z,8.6nm,0.7s,mb4.8						
MAJO	Matsushiro	51.48	71	eP	P	06 35 09.5	-0.8
MJAR	Matsushiro Arr	51.48	71	P	P	06 35 09.3	-1.0
	comp=Z,2.0nm,0.5s,mb4.3,baz=294,slow=8.2,SNR=5.8						
LFF	La Frestale	51.54	301	⇑iP	P	06 35 11.3	+0.6
	comp=Z,14nm,0.6s,mb4.8						
LFF	La Frestale	51.54	301	⇑iP	P	06 35 11.3	+0.6
LFF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
LFF	La Frestale	51.54	301	⇑iP	P	06 35 11.3	+0.6
	comp=Z,7.3nm,0.6s,mb4.8						
MFF	Saint Martin d	51.56	303	eP	P	06 35 10.8	-0.1
KKM	Kota Kinabalu	51.83	118	eP	P	06 35 14.1	+1.2
EPF	Esparros	52.48	299	⇑iP	P	06 35 17.8	0.0
SGMF	Saint Gilles	52.56	306	⇑iP	P	06 35 18.3	-0.1
	comp=Z,8.8nm,0.4s,mb4.7						
ROSF	Rostrenen	52.98	306	⇑iP	P	06 35 21.2	-0.3
	comp=Z,8.4nm,0.5s,mb4.7						
ROSF	Rostrenen	52.98	306	⇑iP	P	06 35 21.2	-0.3
ROSF				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
ROSF	Rostrenen	52.98	306	⇑iP	P	06 35 21.2	-0.3
	comp=Z,4.2nm,0.4s,mb4.7						
QUIF	Quistinic	53.06	306	⇑iP	P	06 35 21.6	-0.4
ETSF	Etsaut	53.15	299	⇑iP	P	06 35 23.3	+0.6
	comp=Z,12nm,0.7s,mb4.6						
ETSF	Etsaut	53.15	299	⇑iP	P	06 35 23.3	+0.6
ETSF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
ETSF	Etsaut	53.15	299	⇑iP	P	06 35 23.3	+0.6
	comp=Z,6.1nm,0.7s,mb4.6						
BILL	Bilibino	56.01	27	⇑eP	P	06 35 44.2	+0.8
BILL				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.3						
ESDC	Sonseca Array	56.80	297	P	P	06 35 49.0	0.0
	comp=Z,1.8nm,0.5s,mb4.3,baz=59,slow=7.3,SNR=6.9						
SUMG	Summit	58.80	341	eP	P	06 36 03.9	+0.8
	comp=Z,6.9nm,0.8s,mb4.7						
TORD	Torodi Ar. Bea	66.40	268	P	P	06 36 52.4	-1.3
	comp=Z,2.1nm,0.5s,mb4.4,baz=53,slow=5.7,SNR=23						
TORD	Torodi Ar. Bea	66.40	268	P	P	06 36 52.4	-1.3
INK	Inuvik	71.23	10	eP	P	06 37 24.1	+0.3
INK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
INK	Inuvik	71.23	10	eP	P	06 37 24.1	+0.3
	comp=Z,10.0nm,1.1s,mb4.7						
ILAR	Eielson Array	72.11	16	P	P	06 37 27.6	-1.5
	comp=Z,3.5nm,1.0s,mb4.2,baz=306,slow=5.5,SNR=21						
DAWY	Dawson	74.25	14	eP	P	06 37 41.4	-0.3
PMR	Palmer	74.30	19	eP	P	06 37 41.3	-0.8
PMR				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
PMR	Palmer	74.30	19	eP	P	06 37 41.3	-0.8
	comp=Z,9.0nm,1.2s,mb4.6						
SML	Sawmill	74.32	19	eP	P	06 37 41.5	-0.6
MBWA	Marble Bar	74.89	134	eP	P	06 37 48.5	+3.0
FITZ	Fitzroy Crossi	75.99	128	P	P	06 37 51.2	-0.5
	comp=Z,3.6nm,1.0s,mb4.2,baz=143,slow=20,SNR=3.1						
KDAK	Kodiak Island	76.56	23	P	P	06 37 55.0	0.0
	baz=299,slow=9.1,SNR=1.8						
TSUM	Tsumeb	77.00	232	eP	P	06 38 00.9	+3.4
YKW3	Yellowknife Ar	78.54	3	eP	P	06 38 06.1	0.0
YKA	Yellowknife Ar	78.61	3	P	P	06 38 06.2	-0.2
	comp=Z,1.6nm,0.4s,mb4.3,baz=348,slow=5.6,SNR=13						
SCHQ	Schefferville	79.93	337	P	P	06 38 13.4	-0.2
	comp=Z,2.3nm,1.0s,mb4.1,baz=100,slow=5.0,SNR=3.9						
BOSA	Boshof	80.13	220	P	P	06 38 14.6	-0.1
	comp=Z,4.7nm,0.8s,mb4.5,baz=70,slow=6.5,SNR=6.7						
BOSA	Boshof	80.13	220	P	P	06 38 14.6	-0.1
FCC	Fort Churchill	81.77	353	eP	P	06 38 25.0	+1.5
WRA	Warramunga Arr	82.88	123	P	P	06 38 28.3	-0.9
	comp=Z,3.8nm,0.7s,mb4.5,baz=325,slow=4.9,SNR=23						
WB2	Warramunga Arr	82.88	123	eP	P	06 38 28.7	-0.6
PMG	Port Moresby	84.75	106	eP	P	06 38 37.9	-0.9
ASAR	Alice Springs	85.27	126	P	P	06 38 41.2	-0.2
	comp=Z,2.0nm,0.7s,mb4.3,baz=312,slow=5.0,SNR=17						
FFC	Flin Flon	86.38	356	eP	P	06 38 46.8	-0.1
FFC				e*PP	pP	06 38 58.6	-1.4
FFC				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.8						
FFC	Flin Flon	86.38	356	eP	P	06 38 46.8	-0.1
	comp=Z,5.7nm,0.9s,mb4.8						
FFC				epP	pP	06 38 58.6	-1.4
EDM	Edmonton	87.93	3	eP	P	06 38 54.9	+0.5
ULM	Lac du Bonnet	90.35	352	eP	P	06 39 03.7	-2.1
	comp=Z,1.1nm,0.7s,mb4.3						
NEW	Newport	92.65	6	eP	P	06 39 16.5	+0.1
NEW				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NEW	Newport	92.65	6	eP	P	06 39 16.5	+0.1
	comp=Z,2.2nm,0.6s,mb4.8						
CHMT	Chamberlain Mo	94.24	3	eP	P	06 39 22.9	-0.9
LAO	LASA Array	94.56	359	eP	P	06 39 26.4	+1.2
BOZ	Bozeman (W)	95.57	2	eP	P	06 39 31.1	+1.3
REDW	Red Top Meadow	97.87	2	eP	P	06 39 40.9	+0.7
	comp=Z,1.0nm,0.6s,mb4.5						
CPUP	Villa Florida	135.84	271	PKP	PKPdf	06 45 24.4	-0.7
	comp=Z,0.8nm,0.6s,baz=13,slow=2.8,SNR=5.4						
CPUP	Villa Florida	135.84	271	PKIKP	PKPdf	06 45 24.5	-0.7
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PLCA	Paso Flores	151.19	255	PKPbc	PKPbc	06 45 57.8	0.0
	comp=Z,2.6nm,0.8s,baz=79,slow=2.8,SNR=4.4						
PLCA	Paso Flores	151.19	255	PKIKP	PKPbc	06 45 57.8	0.0
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.8s						

IDC ***06*** *06:56:29.3±0.8, 3895N×7169E, h0km, mb4.0/11, mb1 4.2/15, mb1mx4.1/25, mbtmp4.0/15, ML3.8/4, Error ellipse: s-maj=15.8km s-min=15.3km az=6.0*
NNC ***06*** *06:56:30.9±2.7, 3919N×7136E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=23.5km s-min=16.8km az=23.0*
NEIC ***06*** *06:56:32.0±0.6, 3915N×7171E, h10km, mb4.6/6, Error ellipse: s-maj=12.0km s-min=8.4km az=149.0*
BJI ***06*** *06:56:31.9, 3920N×7170E, h10km, mB4.9, mb4.5, ML3.8*
ISCJB ***06*** *06:56:34.6±0.9, 3907N±004×7164E±006, h45km±9km, mb4.1/25, Error ellipse: s-maj=8.8km s-min=5.9km az=90.4*
MOS ***06*** *06:56:36.0±1.3, 3935N×7173E, h48km, mb4.6/9, Error ellipse: s-maj=10.6km s-min=6.2km az=97.4*
ISC 06 06:56:36.2±0.7**, 3919N**±004×**7156E**±005**, h37**km±7km**, n93, σ1§46**/104**, mb4.1**/25**, 12C-5D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	3.36	28	P	Pn	06 57 28.5	+2.3
	SNR=20						
KSH	Kashi	3.44	83	eP	Pn	06 57 28.1	+0.9
KSH				eS	Sn	06 58 06.1	-0.6
UCH	Uchtor	3.78	36	P	Pn	06 57 34.0	+2.1
	SNR=80						
EKS2	Erkin-Say	3.86	25	P	Pn	06 57 35.2	+2.2
	SNR=58						
KK31	Karatay Array	3.99	349	⇑Pn	Pn	06 57 36.9	+2.0
	14nm,0.3s,baz=165,slow=12,SNR=408						
KK31				⇓Sn	Sn	06 58 28.2	+7.7
	68nm,0.5s,baz=170,slow=22,SNR=9.8						
KZA	Kyzart	4.03	43	P	Pn	06 57 36.7	+1.4
	SNR=18						
AAK	Ala-Archa	4.10	32	P	Pn	06 57 38.5	+2.2
	SNR=41						
AAK	Ala-Archa	4.10	32	ePn	Pn	06 57 36.7	+0.3
AAK				eSn	Sn	06 58 27.7	+4.7
KBK	Karagaybulak	4.31	35	P	Pn	06 57 42.1	+2.9
	SNR=72						
CHMS	Chumysh	4.51	31	P	Pn	06 57 44.0	+2.1
	SNR=22						
USP	Ospenovka	4.64	28	P	Pn	06 57 45.6	+1.8
	SNR=53						
ULHL	Ulahol	4.69	48	P	Pn	06 57 45.1	+0.6
	SNR=27						
TKM2	Tokmak 2	4.82	38	P	Pn	06 57 48.0	+1.8
	SNR=27						
TKM2	Tokmak 2	4.82	38	⇓Pn	Pn	06 57 47.9	+1.7
	6.2nm,0.9s						
TKM2				⇑Lg		06 59 08.6	
	7.8nm,0.8s						
SDNR	Sundarnagar	8.85	148	eP	Pn	06 58 39.6	-1.9
SDNR				eS	Sn	07 00 18.0	-1.9
MK02	Makanchi Array	10.92	43	⇑Pn	Pn	06 59 10.5	+0.6
	4.7nm,0.9s						
MKAR	Makanchi Array	10.93	42	Pn	Pn	06 59 10.2	+0.3
	0.2nm,0.3s,baz=227,slow=14,SNR=16						
KURK	Kurchatov	12.56	21	⇓Pn	Pn	06 59 29.1	-3.2
	4.8nm,1.0s						
KURK				⇑Lg		07 03 04.3	
	16nm,1.4s						
KURK	Kurchatov	12.56	21	eP	Pn	06 59 29.4	-2.9
KURK				e		07 01 50.2	
KURK				pmax	pmax		
	comp=Z,21nm,1.4s						
KURK	Kurchatov	12.56	21	ePn	Pn	06 59 29.4	-2.9
	comp=Z,21nm,1.4s						
KURK				eSn	Sn	07 01 50.2	-0.6
AB31	Akbulak array	13.05	324	⇑Pn	Pn	06 59 37.3	-1.8
	comp=Z,5.5nm,0.6s,baz=137,slow=12,SNR=56						
AB31				⇑Sn	Sn	07 02 00.0	-2.8
	comp=Z,67nm,1.3s,baz=140,slow=22,SNR=18						
VOSK	Vostochnaya	13.55	358	⇑Pn	Pn	06 59 42.2	-3.6
	comp=Z,4.9nm,1.4s						
BVA0	Borovoye Array	13.87	357	⇑Pn	Pn	06 59 47.8	-2.4
	comp=Z,1.5nm,1.1s,baz=171,slow=6.2,SNR=23						
BVAR	Borovoye Array	13.87	357	Pn	Pn	06 59 47.1	-3.1
	comp=Z,0.2nm,0.3s,baz=163,slow=11,SNR=18						
BVAR				Sn	Sn	07 02 19.0	-3.7
	comp=Z,0.2nm,0.3s,baz=158,slow=23,SNR=3.9						
BVAR				Lg		07 03 50.5	
	comp=Z,0.1nm,0.3s,baz=169,slow=24,SNR=2.9						
BVAR	Borovoye Array	13.87	357	P	Pn	06 59 47.1	-3.0
BVAR						07 02 19.1	
ZRNK	Zerenda	13.88	354	⇑Pn	Pn	06 59 49.4	-0.9
	comp=Z,3.3nm,0.9s						
ZRNK				⇓Lg		07 03 51.0	
	comp=Z,28nm,1.5s						
ZRNK	Zerenda	13.88	354	eP	Pn	06 59 49.1	-1.2
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZRNK	Zerenda	13.88	354	ePn	Pn	06 59 49.1	-1.2
	comp=Z,3.0nm,0.6s						
BRVK	Borovoye	13.90	357	eP	Pn	06 59 48.2	-2.4
BRVK				e		07 02 19.3	
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRVK	Borovoye	13.90	357	ePn	Pn	06 59 48.2	-2.4
	comp=Z,2.5nm,0.7s						
BRVK				eSn	Sn	07 02 19.2	-4.4
CHKZ	Chkalovo	14.51	358	⇓Pn	Pn	06 59 56.2	-2.7
	comp=Z,3.7nm,1.1s						
CHKZ				⇑Lg		07 04 15.9	
	comp=Z,14nm,1.2s						
CHKZ	Chkalovo	14.51	358	eP	Pn	06 59 57.7	-1.2
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CHKZ	Chkalovo	14.51	358	ePn	Pn	06 59 57.6	-1.3
	comp=Z,3.3nm,0.7s						
AKTK	Aktyubinsk	14.77	324	Pn	Pn	07 00 00.5	-1.9
AKTK				Sn	Sn	07 02 44.0	-0.7
AKTO	Aktyubinsk	14.77	324	⇑Sn	Sn	07 02 43.7	-1.0
	comp=Z,0.5nm,0.8s						
AKTO	Aktyubinsk	14.77	324	Pn	Pn	07 00 00.5	-1.9
	comp=Z,0.6nm,0.3s,baz=133,slow=15,SNR=9.0						
AKTO				Sn	Sn	07 02 44.0	-0.7
	comp=Z,0.4nm,0.3s,baz=232,slow=12,SNR=7.3						
KOLN	Koldanda	15.17	135	eP	Pn	07 00 00.5	-7.1
	comp=Z,4.5nm,0.2s						
GKN	Gorkha	15.57	132	eP	Pn	07 00 07.4	-5.5
	comp=Z,15nm,0.5s						
KKN	Kakani	16.11	131	eP	Pn	07 00 13.7	-6.1
	comp=Z,16nm,0.6s						
DMN	Daman	16.14	132	eP	Pn	07 00 13.9	-6.3
PKI	Pulchoki	16.35	131	eP	Pn	07 00 16.9	-5.9
	comp=Z,16nm,0.6s						
GUN	Gumba	16.38	129	eP	Pn	07 00 18.6	-4.6
JIRN	Jiri	16.75	129	eP	Pn	07 00 21.7	-6.2
	comp=Z,8.2nm,0.4s						
ZAL	Zalesovo	17.29	27	P	Pn	07 00 32.6	-2.1
	comp=Z,2.3nm,0.3s,baz=255,slow=10,SNR=15						
NVS	Novosibirsk	17.53	23	i P	Pn	07 00 37.6	0.0
SVE	Sverdlovsk	19.06	341	eP	Pn	07 00 57.0	+0.7
SVE				MLR	MLR		
	comp=N,200nm,14.0s						
SVE				MLR	MLR		
	comp=E,200nm,14.0s						
SVE				MLR	MLR		
	comp=Z,300nm,14.0s						
ARU	Arti	19.28	338	⇑iP	Pn	07 00 57.6	-1.3
ARU				eS	S	07 04 33.3	-0.6
ARU				pmax	pmax		
	comp=Z,16nm,0.8s						
GNI	Garni	20.64	281	eP	P	07 01 16.0	+3.5
GNI				pmax	pmax		
	comp=Z,19µm,1.3s						
GTA	Gaotai	21.84	80	eP	P	07 01 24.4	-0.9
GTA				AP		07 01 29.0	
GTA				XP	sP	07 01 31.7	-8.0
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.0						
ZAK	Zakamensk	24.95	53	eP	P	07 01 54.9	-1.1
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.5						
LZH	Lanzhou	25.68	87	eP	P	07 02 03.5	+0.9
LZH				AP	pP	07 02 08.6	-4.4
LZH				XP	sP	07 02 10.5	-7.0
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.5						
SONM	Songino Array	26.52	60	P	P	07 02 09.0	-1.2
	comp=Z,1.2nm,0.8s,mb3.5,baz=259,slow=8.7,SNR=8.2						
OBN	Obninsk	28.25	316	eP	P	07 02 27.4	+1.7
OBN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
BRTR	Keskin Array B	29.14	283	P	P	07 02 34.9	+1.2
	comp=Z,0.9nm,0.7s,mb3.6,baz=81,slow=7.9,SNR=4.5						
BOD	Bodaibo	33.02	42	eP	P	07 03 05.7	-2.1
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
FINES	FINESS Array B	35.54	324	P	P	07 03 29.6	-0.1
	comp=Z,0.5nm,0.4s,mb3.8,baz=113,slow=9.0,SNR=7.7						
NJ2	Nanjing	38.74	86	eP	P	07 03 58.0	+1.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
ARCES	ARCESS Array B	38.85	336	P	P	07 03 57.8	0.0
	comp=Z,0.9nm,0.5s,mb3.8,baz=109,slow=8.2,SNR=11						
GERES	GERESS Array B	41.79	303	P	P	07 04 22.5	+0.4
	comp=Z,1.0nm,0.5s,mb3.7,baz=64,slow=6.1,SNR=7.5						
KHC	Kasperske Hory	41.83	303	eP	P	07 04 24.0	+1.7
NB2	NORSAR Subarra	42.53	321	P	P	07 04 27.8	-0.3
	comp=Z,0.5nm,0.5s,mb3.5,baz=92,slow=8.6						
NOA	NORSAR Array B	42.53	321	P	P	07 04 27.4	-0.7
	comp=Z,1.4nm,0.8s,mb3.7,baz=92,slow=8.0,SNR=5.5						
HINF	Hinteralfeld	46.48	303	eP	P	07 05 00.3	+0.8
	comp=Z,6.1nm,0.7s,mb4.4						
HINF	Hinteralfeld	46.48	303	eP	P	07 05 00.3	+0.8
HINF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
HINF	Hinteralfeld	46.48	303	eP	P	07 05 00.3	+0.8

	comp=Z,3.0nm,0.6s,mb4.4						
LPG	La Plagne	47.16	300	eP	P	07 05 07.3	+2.4
LPL	La Plagne	47.16	300	eP	P	07 05 06.8	+1.9
	comp=Z,7.0nm,0.5s,mb4.5						
LPL	La Plagne	47.16	300	eP	P	07 05 06.8	+1.9
LPL				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
LPL	La Plagne	47.16	300	eP	P	07 05 06.8	+1.9
	comp=Z,3.5nm,0.5s,mb4.5						
CABF	La Chapelle	47.29	301	eP	P	07 05 07.4	+1.5
	comp=Z,8.1nm,0.7s,mb4.5						
CABF	La Chapelle	47.29	301	eP	P	07 05 07.4	+1.5
CABF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
CABF	La Chapelle	47.29	301	eP	P	07 05 07.4	+1.5
	comp=Z,4.1nm,0.7s,mb4.5						
ORIF	Oris-en-Rattie	47.91	299	eP	P	07 05 11.2	+0.4
LMR	La Mourre	47.97	297	eP	P	07 05 12.0	+0.8
VIVF	Saint-Julien-l	48.75	300	eP	P	07 05 17.0	-0.2
	comp=Z,11nm,0.8s,mb4.6						
VIVF	Saint-Julien-l	48.75	300	eP	P	07 05 17.0	-0.2
VIVF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
VIVF	Saint-Julien-l	48.75	300	eP	P	07 05 17.0	-0.2
	comp=Z,5.6nm,0.8s,mb4.7						
AVF	Avril sur Loir	49.05	302	eP	P	07 05 20.2	+0.7
	comp=Z,7.7nm,0.7s,mb4.6						
AVF	Avril sur Loir	49.05	302	eP	P	07 05 20.2	+0.7
AVF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
AVF	Avril sur Loir	49.05	302	eP	P	07 05 20.2	+0.7
	comp=Z,3.8nm,0.7s,mb4.5						
LASF	Ste Croix	49.55	299	eP	P	07 05 24.7	+1.4
	comp=Z,25nm,1.1s,mb4.9						
TCF	Toulx Ste Croi	49.95	302	eP	P	07 05 27.5	+1.1
RJF	Les Rejaudoux	50.73	301	eP	P	07 05 33.6	+1.4
SGMF	Saint Gilles	52.39	306	eP	P	07 05 45.2	+0.5
	comp=Z,16nm,0.9s,mb4.7						
SGMF	Saint Gilles	52.39	306	eP	P	07 05 45.2	+0.5
SGMF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
SGMF	Saint Gilles	52.39	306	eP	P	07 05 45.2	+0.5
	comp=Z,8.3nm,0.9s,mb4.7						
BILL	Bilibino	56.01	27	eP	P	07 06 09.6	-1.4
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
TORD	Torodi Ar. Bea	66.25	268	P	P	07 07 19.7	-0.7
	comp=Z,0.8nm,0.5s,mb4.0,baz=55,slow=5.6,SNR=12						
ILAR	Eielson Array	72.08	16	P	P	07 07 55.5	-1.0
	comp=Z,1.2nm,0.9s,mb3.8,baz=300,slow=4.9,SNR=9.0						
YKA	Yellowknife Ar	78.55	3	P	P	07 08 33.2	-0.5
	comp=Z,2.1nm,0.8s,mb4.1,baz=351,slow=5.9,SNR=6.9						
YKA	Yellowknife Ar	78.55	3	P	P	07 08 33.2	-0.5
WRA	Warramunga Arr	83.05	123	P	P	07 08 55.7	-2.0
	comp=Z,1.8nm,0.7s,mb4.2,baz=323,slow=5.0,SNR=12						
ASAR	Alice Springs	85.44	125	P	P	07 09 08.1	-1.8
	comp=Z,0.8nm,0.7s,mb4.0,baz=310,slow=4.9,SNR=6.5						

*IDC **06** 07:01:46.7±0.8, 3908N×7182E, h0^{km}, mb4.1/12, mb1 4.3/15, mb1mx4.1/24, mbtmp4.1/15, ML3.9/3, MS3.3/5, Ms1 3.3/5, ms1mx2.9/36, Error ellipse: s-maj=18.7km s-min=16.2km az=7.0*

*NEIC **06** 07:01:48.6±0.6, 39.16N×7179E, h10^{km}, mb4.5/3, Error ellipse: s-maj=12.8km s-min=8.3km az=179.0*

*NNC **06** 07:01:49.3±4.2, 3931N×7160E, h0^{km}, mb4.2, mpv4.0, Error ellipse: s-maj=30.3km s-min=16.3km az=168.0*

*MOS **06** 07:01:50.3±1.1, 3905N×7177E, h33^{km}, mb4.7/6, Error ellipse: s-maj=10.8km s-min=7.4km az=84.6*

*BJI **06** 07:01:50.6, 3950N×7189E, h9^{km}, mB4.5, mb4.5, ML3.9, Ms3.8, Msz3.9*

*ISCJB **06** 07:01:50.4±0.8, 3889N±004×7176E±006, h41^{km}±8^{km}, mb4.2/21, MS3.5/3, Error ellipse: s-maj=8.2km s-min=5.4km az=102.6*

ISC 06 07:01:51.0±1.6, **3886N**±004×**7169E**±005, **h32**^{km}±12^{km}, **n85**, σ1§**27**/88, **mb4.2**/21, **MS3.5**/3, **11C-5D**, **Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	3.39	78	eP	Pn	07 02 44.2	+2.5
KSH				eS	Sn	07 03 18.5	-2.3
KSH				LR	LR		
	comp=N,8μm,5.6s						
KSH				LR	LR		
	comp=E,5μm,2.7s						
KSH				LR	LR		
	comp=Z,2μm,4.0s						
AML	Almayashu	3.60	24	P	Pn	07 02 45.8	+1.2
	SNR=33						
UCH	Uchtor	3.99	32	P	Pn	07 02 50.9	+1.0
	SNR=51						
EKS2	Erkin-Say	4.11	22	P	Pn	07 02 52.0	+0.4
	SNR=25						
KZA	Kyzart	4.21	39	P	Pn	07 02 53.9	+1.0
	SNR=17						
AAK	Ala-Archa	4.33	29	P	Pn	07 02 55.5	+0.9
	SNR=28						
AAK	Ala-Archa	4.33	29	ePN	Pn	07 02 54.6	+0.1
KK31	Karatay Array	4.33	348	⇑Pn	Pn	07 02 54.1	-0.5
	comp=Z,110nm,0.7s,baz=220,slow=6.3,SNR=236						
KK31				⇓Sn	Sn	07 03 44.5	+0.5
	comp=Z,130nm,0.7s,baz=167,slow=21,SNR=5.7						
KBK	Karagaybulak	4.53	32	P	Pn	07 02 59.5	+2.2
	SNR=42						
FRU	Bishkek	4.55	28	ePN	Pn	07 02 58.6	+1.1
FRU				i S	Sn	07 04 03.4	+14
FRU				pmax	pmax		
	comp=Z,250nm,1.8s						
FRU				smax			
	comp=E,1μm,1.6s						
CHMS	Chumysh	4.74	28	P	Pn	07 03 01.1	+0.9
	SNR=74						
ULHL	Ulahol	4.84	44	P	Pn	07 03 02.2	+0.6
	SNR=38						
USP	Ospenovka	4.89	25	P	Pn	07 03 02.7	+0.5
	SNR=70						
TKM2	Tokmak 2	5.02	35	P	Pn	07 03 04.7	+0.7
	SNR=17						
TKM2	Tokmak 2	5.02	35	⇑Pn	Pn	07 03 04.7	+0.6
	comp=E,5.1nm,0.7s						
TKM2				⇑Sn	Sn	07 04 01.9	+0.9
	comp=E,9.1nm,0.7s						
TKM2				⇑Lg		07 04 16.6	
	comp=E,13nm,0.8s						
KNDC	Almaty	5.90	41	⇑Lg		07 04 45.7	
	comp=E,61nm,0.8s						
MK02	Makanchi Array	11.09	41	⇑Pn	Pn	07 04 26.8	-0.5
	comp=E,6.9nm,0.8s						
MKAR	Makanchi Array	11.10	41	Pn	Pn	07 04 24.4	-3.1
	comp=E,0.2nm,0.3s,baz=263,slow=22,SNR=3.7						
NDI	New Delhi	11.14	154	ex	Pn	07 04 32.0	+4.0
KURK	Kurchatov	12.82	20	⇑Lg		07 08 20.7	
	comp=E,18nm,1.0s						
KURK	Kurchatov	12.82	20	eP	Pn	07 04 47.8	-3.2
AB31	Akbulak array	13.37	325	⇓Pn	Pn	07 04 54.2	-4.3
	comp=E,3.9nm,0.6s,baz=130,slow=13,SNR=38						
AB31				⇑Sn	Sn	07 07 15.7	-10
	comp=E,37nm,1.1s,baz=144,slow=22,SNR=13						
VOSK	Vostochnaya	13.87	358	⇑Lg		07 08 44.9	
	comp=E,47nm,2.0s						
BVA0	Borovoye Array	14.20	357	⇑Lg		07 09 07.8	
	comp=E,4.0nm,1.6s,baz=40,slow=74,SNR=4.7						
BVAR	Borovoye Array	14.20	357	Pn	Pn	07 05 03.1	-6.6
	comp=E,0.2nm,0.3s,baz=138,slow=9.0,SNR=2.8						
BVAR				Lg		07 09 08.8	
	comp=E,0.2nm,0.3s,baz=146,slow=26,SNR=2.9						
BVAR				LR	LR	07 10 37.1	
	comp=E,128nm,19.4s,baz=133,slow=38						
ZRNK	Zerenda	14.21	353	⇓Lg		07 09 09.4	
	comp=E,13nm,1.1s						
BRVK	Borovoye	14.23	357	eP	Pn	07 05 04.5	-5.7
BRVK				pmax	pmax		
	comp=Z,8μm,1.3s						
CHKZ	Chkalovo	14.84	357	⇑Lg		07 09 20.3	
	comp=Z,28nm,1.4s						
KOLN	Koldanda	14.87	135	eP	Pn	07 05 18.5	-0.3
	comp=Z,15nm,0.6s						
AKTK	Aktyubinsk	15.09	324	Pn	Pn	07 05 19.9	-1.9
AKTK				Sn	Sn	07 08 00.2	-7.6
AKTK				LR	LR	07 12 01.2	
AKTO	Aktyubinsk	15.09	324	⇓Pn	Pn	07 05 20.2	-1.6
	comp=Z,0.3nm,0.8s						
AKTO				⇓Sn	Sn	07 07 59.5	-8.3
	comp=Z,0.4nm,0.9s						
AKTO	Aktyubinsk	15.09	324	Pn	Pn	07 05 19.9	-1.9
	comp=Z,0.9nm,0.3s,baz=122,slow=16,SNR=6.5						
AKTO				Sn	Sn	07 08 00.2	-7.6
	comp=Z,0.3nm,0.3s,baz=184,slow=16,SNR=8.9						
AKTO				LR	LR	07 12 01.2	
	comp=Z,51nm,19.2s,baz=66,slow=41						
AKTO	Aktyubinsk	15.09	324	P	Pn	07 05 19.9	-1.9
AKTO						07 08 00.2	
GKN	Gorkha	15.28	131	eP	Pn	07 05 23.3	-1.0
	comp=Z,23nm,0.5s						
KKN	Kakani	15.82	130	eP	Pn	07 05 30.4	-0.9
	comp=Z,22nm,0.6s						
DMN	Daman	15.85	131	eP	Pn	07 05 30.9	-0.8
	comp=Z,18nm,0.7s						
PKI	Pulchoki	16.06	130	eP	Pn	07 05 33.2	-1.1
	comp=Z,28nm,0.8s						
GUN	Gumba	16.09	129	eP	Pn	07 05 34.5	-0.3
	comp=Z,8.0nm,0.3s						
JIRN	Jiri	16.46	128	eP	Pn	07 05 39.4	-0.1
	comp=Z,11nm,0.4s						
ZAL	Zalesovo	17.53	26	P	Pn	07 05 50.6	-2.3
	comp=Z,3.0nm,0.3s,baz=256,slow=9.4,SNR=20						
ZAL				LR	LR	07 11 53.9	
	comp=Z,65nm,18.2s,baz=256,slow=35						
NVS	Novosibirsk	17.79	22	eP	Pn	07 05 55.9	-0.1
SVE	Sverdlovsk	19.40	341	eP	Pn	07 06 12.2	-3.4
SVE				pmax	pmax		
	comp=Z,32nm,1.5s						
SVE				MLR	MLR		
	comp=N,300nm,11.0s						
SVE				MLR	MLR		
	comp=E,200nm,11.0s						
SVE				MLR	MLR		
	comp=Z,400nm,11.0s						
ARU	Arti	19.62	338	eSS	Sn	07 09 54.9	-2.5
GNI	Garni	20.81	282	eP	P	07 06 31.3	+1.7
GNI				pmax	pmax		
	comp=Z,12μm,1.0s						
GTA	Gaotai	21.79	80	eP	P	07 06 41.5	+1.3
GTA				AP		07 06 47.0	
GTA				XP	sP	07 06 49.7	-3.2
GTA				PP		07 07 08.1	
GTA				S	S	07 10 41.7	+2.4
GTA				XS	sS	07 10 47.8	-5.3
GTA				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,93nm,6.1s						
GTA				LR	LR		
	comp=N,154nm,15.6s,MS3.6						
GTA				LR	LR		
	comp=E,89nm,13.3s,MS3.6						
GTA				LR	LR		
	comp=Z,111nm,12.5s,MS3.5						
KIV	Kislovodsk	22.28	293	eP	P	07 06 47.6	+2.2
KIV				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.5						
KIV				MLR	MLR		
	comp=Z,45nm,9.0s						
MOY	Mondy	24.09	48	eP	P	07 07 05.2	+1.7
ZAK	Zakamensk	25.07	52	eP	P	07 07 12.4	-0.1
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.8						
SONM	Songino Array	26.59	59	P	P	07 07 25.9	-0.4
	comp=Z,3.4nm,1.0s,mb3.8,baz=261,slow=10,SNR=12						
SONM				PcP	PcP	07 10 50.5	+0.6
	comp=Z,0.5nm,0.6s,baz=232,slow=4.0,SNR=3.6						
ULN	Ulaanbaatar	27.04	59	eP	P	07 07 29.5	-0.8
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
ULN	Ulaanbaatar	27.04	59	eP	P	07 07 29.5	-0.7
	comp=Z,5.5nm,1.1s,mb4.0						
BRTR	Keskin Array B	29.32	284	P	P	07 07 52.6	+2.0
	comp=Z,0.9nm,0.7s,mb3.6,baz=24,slow=9.9,SNR=3.6						
BOD	Bodaibo	33.19	41	eP	P	07 08 23.1	-1.6
BOD				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
JOF	Joensuu	34.13	328	ep	P	07 08 29.1	-3.7
WHN	Wuhan	35.78	90	P	P	07 08 52.0	+5.0
FINES	FINESS Array B	35.86	324	P	P	07 08 47.5	-0.3
	comp=Z,0.8nm,0.5s,mb3.9,baz=124,slow=9.5,SNR=5.1						
FINES				LR	LR	07 24 15.8	
	comp=Z,97nm,20.1s,MS3.6,baz=342,slow=38						
FINES	FINESS Array B	35.86	324	P	P	07 08 47.5	-0.3
FINES				LR	LR	07 24 15.8	
KAF	Kangasniemi	35.97	325	ep	P	07 08 50.6	+1.9
NJ2	Nanjing	38.67	85	eP	P	07 09 19.6	+8.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
ARCES	ARCESS Array B	39.19	336	P	P	07 09 14.4	-1.6
	comp=Z,3.2nm,0.9s,mb4.0,baz=99,slow=7.5,SNR=5.4						
YAK	Yakutsk	41.74	37	eP	P	07 09 35.6	-1.4
YAK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.4						
YAK				pmax	pmax		
	comp=N,2.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.8s						
GERES	GERESS Array B	42.06	303	P	P	07 09 40.0	+0.4
	comp=E,0.5nm,0.4s,mb3.5,baz=60,slow=8.0,SNR=6.1						
GERES				LR	LR	07 29 31.9	
	comp=E,63nm,18.4s,MS3.5,baz=107,slow=40						
KHC	Kasperske Hory	42.09	304	eP	P	07 09 40.0	+0.1
NB2	NORSAR Subarra	42.85	321	P	P	07 09 45.1	-1.0
	comp=Z,2.7nm,1.0s,mb3.9,baz=90,slow=7.9						
NOA	NORSAR Array B	42.85	321	P	P	07 09 44.0	-2.1
	comp=Z,0.9nm,0.7s,mb3.6,baz=92,slow=7.8,SNR=3.9						
LPG	La Plagne	47.41	300	eP	P	07 10 23.8	+1.5
	comp=Z,21nm,1.1s,mb4.7						
LPG	La Plagne	47.41	300	eP	P	07 10 23.8	+1.5
LPG				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
LPG	La Plagne	47.41	300	eP	P	07 10 23.8	+1.5
	comp=Z,10nm,1.1s,mb4.7						
BAIF	Baives	47.90	307	eP	P	07 10 27.2	+1.1
LOR	Lormes	48.84	303	eP	P	07 10 33.0	-0.3
AVF	Avril sur Loir	49.31	303	eP	P	07 10 37.3	+0.4
	comp=Z,9.5nm,0.8s,mb4.6						
AVF	Avril sur Loir	49.31	303	eP	P	07 10 37.3	+0.4
AVF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
AVF	Avril sur Loir	49.31	303	eP	P	07 10 37.3	+0.4
	comp=Z,4.8nm,0.8s,mb4.6						
MJAR	Matsushiro Arr	51.61	70	P	P	07 10 53.6	-0.7
	comp=Z,3.3nm,0.9s,mb4.2,baz=295,slow=9.2,SNR=5.0						
MFF	Saint Martin d	51.66	303	eP	P	07 10 54.8	+0.2
SGMF	Saint Gilles	52.67	306	eP	P	07 11 02.3	+0.2
QUIF	Quistinic	53.16	306	eP	P	07 11 05.8	0.0
TORD	Torodi Ar. Bea	66.34	268	P	P	07 12 37.8	+1.3
	comp=Z,1.1nm,0.6s,mb4.1,baz=47,slow=4.9,SNR=8.3						
ILAR	Eielson Array	72.36	16	P	P	07 13 12.7	-1.1
	comp=Z,2.1nm,0.9s,mb4.0,baz=313,slow=6.2,SNR=12						
SML	Sawmill	74.58	18	eP	P	07 13 25.5	-1.2
SML				e		07 13 31.0	
YKA	Yellowknife Ar	78.86	3	P	P	07 13 50.0	-0.9
	comp=Z,1.9nm,0.8s,mb4.1,baz=350,slow=5.8,SNR=8.4						
YKA	Yellowknife Ar	78.86	3	P	P	07 13 50.0	-0.9
WRA	Warramunga Arr	82.78	123	P	P	07 14 13.0	+1.1
	comp=Z,2.5nm,0.8s,mb4.3,baz=323,slow=5.0,SNR=14						
ASAR	Alice Springs	85.16	126	P	P	07 14 24.8	+0.8
	comp=Z,1.3nm,0.8s,mb4.1,baz=312,slow=5.3,SNR=10.0						
EDM	Edmonton	88.19	3	eP	P	07 14 38.4	-0.3

KRSC 06 07:14:59, 5367N×16087E, h25^{km}, ML3.8, Near east coast of Kamchatka Peninsula

*IDC **06** 07:17:01.3±0.6, 638S×15537E, h181^{km}±4^{km}, mb4.7/18, mb1 4.8/19, mb1mx4.8/21, mbtmp5.2/19, MS3.7/2, Ms1 3.7/2, ms1mx3.1/20, Error ellipse: s-maj=11.2km s-min=8.0km az=102.0*

*BJI **06** 07:17:01.0, 622S×15547E, h191^{km}, mB5.0, mb5.1*

*ISCJB **06** 07:17:02.4±0.1, 633S±003×15529E±003, h198^{km}, mb5.0/89, Error ellipse: s-maj=4.5km s-min=3.6km az=115.0*

*HRVD **06** 07:17:02.9±0.3, 644S×15540E, h178^{km}±2^{km}, MW5.1/74, Centroid moment Tensor Solution. LP body waves: s40,c45; Mantle waves: s74,c100; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.46±.15; $M_{\theta\theta}$3.50±.21; $M_{\phi\phi}$0.95±.20; $M_{r\theta}$-3.37±.16; $M_{\theta\phi}$-0.30±.25; $M_{\phi r}$-0.20±.17; Best double couple: $M_0$5.22700×10^{16} NP1:ϕ_s280.00000°, δ25.00000°, λ-82.00000°. NP2: ϕ_s91.00000°, δ65.00000°, λ-94.00000°. Principal axes: T 4.7470, Plg20.0000°, Azm183.0000°; N 0.9560, Plg3.0000°, Azm92.0000°; P -5.7080, Plg70.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **06** 07:17:02.9±0.1, 634S×15541E, mb5.0/38 Error ellipse: s-maj=6.3km s-min=4.4km az=121.0*

*MOS **06** 07:17:04.5±1.2, 626S×15527E, h210^{km}, mb5.2/29, Error ellipse: s-maj=9.0km s-min=6.5km az=81.2*

ISC 06 07:17:04.2±0.1, **634S**±003×**15534E**±003, **h200**^{km}, **h200**^{km}±2.3^{km}**:pP-P**, **n442**, σ0§**77**/347, **mb5.0**/88, **63C-82D**, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.51	124	LR	LR	07 19 43.7	
	comp=Z,377nm,18.4s,baz=2.5,slow=30						
HNR	Honiara	5.51	124	eP	Pn	07 18 27.1	+2.1
HNR				pmax	pmax		
	comp=Z,252nm,0.8s						
HNR	Honiara	5.51	124	ePn	Pn	07 18 27.1	+2.1
	comp=Z,252nm,0.8s						
PMG	Port Moresby	8.65	249	P	Pn	07 19 07.8	+1.9
	comp=Z,3.1nm,0.3s,baz=68,slow=7.5,SNR=5.5						
PMG				S	Sn	07 20 51.1	+8.2
	comp=Z,2.6nm,0.3s,baz=169,slow=14,SNR=3.0						
PMG	Port Moresby	8.65	249	P	Pn	07 19 07.8	+2.0
PMG				S	Sn	07 20 51.1	+8.1
PMG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PMG				smax			
	comp=N,3.0nm,0.3s						
PMG	Port Moresby	8.65	249	ePn	Pn	07 19 07.9	+2.1
PMG				eS	Sn	07 20 43.6	+0.6
CTA	Charters Tower	16.27	212	eP	Pn	07 20 43.1	+1.5
	comp=N,55nm,0.6s						
CTA				esP	sP	07 21 44.6	+5.9
CTA				i S	S	07 23 58.4	+17
CTA	Charters Tower	16.27	212	P	Pn	07 20 43.0	+1.4
	comp=N,5.8nm,0.3s,baz=40,slow=12,SNR=78						
CTA	Charters Tower	16.27	212	eP	Pn	07 20 43.1	+1.5
CTA				pmax	pmax		
	comp=Z,55nm,0.6s						
CTAO	Charters Tower	16.27	212	eP	Pn	07 20 41.6	0.0
NOUC	Port Laguerre	18.92	147	eP	P	07 21 08.7	-1.1
DZM	Mont Dzumac	18.97	147	P	P	07 21 09.4	-1.0
	comp=Z,15nm,0.3s,baz=266,slow=7.5,SNR=119						
DZM				LR	LR	07 26 53.9	
	comp=Z,554nm,21.9s,baz=21,slow=31						
KAKA	Kakadu	23.44	253	eP	P	07 21 55.4	0.0
	comp=Z,117nm,0.4s,mb5.8						
KAKA				eS	S	07 25 54.8	+1.1
ARMA	Armidale	24.21	188	eP	P	07 22 02.8	+0.4
WRAB	Tennant Creek	24.45	234	P	P	07 22 05.6	+1.0
	comp=Z,470nm,0.5s						
WRAB	Tennant Creek	24.45	234	eP	P	07 22 05.4	+0.8
WB2	Warramunga Arr	24.46	234	eP	P	07 22 05.3	+0.6
WB2				epP		07 22 45.8	
WB2				eS	S	07 26 10.2	+0.3
WRA	Warramunga Arr	24.47	234	P	P	07 22 05.6	+0.9
	comp=Z,34nm,0.4s,mb5.3,baz=58,slow=9.8,SNR=185						
WRA				S	S	07 26 10.5	+0.4
	comp=Z,7.5nm,0.9s,baz=56,slow=13,SNR=10						
AS31	Alice Springs	26.86	228	⇑iP	P	07 22 26.3	+0.1
AS31				eS	S	07 26 46.6	-1.1
ASAR	Alice Springs	26.86	228	P	P	07 22 26.4	+0.2
	comp=Z,25nm,0.6s,mb5.0,baz=56,slow=9.3,SNR=129						
ASAR				pP	pP	07 23 02.9	-3.6
	comp=Z,6.0nm,0.5s,baz=64,slow=10.0,SNR=3.1						
ASAR				S	S	07 26 46.9	-0.9
	comp=Z,12nm,1.1s,baz=41,slow=20,SNR=7.0						
ASAR	Alice Springs	26.86	228	P	P	07 22 26.4	+0.2
ASAR				pP	pP	07 23 02.9	-3.6
ASAR				S	S	07 26 46.9	-0.9
ASPA	Alice Springs	26.86	228	⇑iP	P	07 22 26.3	0.0
ASPA				eS	S	07 26 46.6	-1.2
STKA	Stephens Creek	28.47	205	eP	P	07 22 40.1	-0.4
	comp=Z,6.5nm,0.4s,mb4.6						
STKA	Stephens Creek	28.47	205	P	P	07 22 40.3	-0.2
	comp=Z,8.5nm,0.6s,mb4.5,baz=27,slow=9.4,SNR=11						
STKA				pP	pP	07 23 16.1	-4.9
	comp=Z,4.7nm,0.5s,baz=44,slow=9.6,SNR=2.2						
FITZ	Fitzroy Crossi	31.23	245	eP	P	07 23 04.3	-0.6
	comp=Z,58nm,0.4s,mb5.6						
FITZ				eS	S	07 27 53.9	-2.3
TOO	Toolangi	32.36	195	eP	P	07 23 15.1	+0.4
	comp=Z,7.9nm,0.7s,mb4.3						
TOO	Toolangi	32.36	195	eP	P	07 23 15.1	+0.4
TOO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.4						
MSLP	Maasin	34.48	298	eP	P	07 23 40.4	+7.4
FORT	Forrest	35.30	223	⇑iP	P	07 23 40.2	+0.2
	comp=Z,124nm,0.5s,mb5.7						
FORT				eS	S	07 28 58.4	-0.5
TAU	Tasmania Unive	37.10	190	P	P	07 23 56.5	+1.2
	comp=Z,356nm,0.5s,mb6.2,SNR=14						
URZ	Urewera	37.41	151	P	P	07 23 56.8	-1.1
	comp=Z,7.0nm,0.5s,mb4.5,baz=176,slow=7.1,SNR=13						
MBWA	Marble Bar	37.47	243	eP	P	07 23 58.4	0.0
	comp=Z,42nm,0.6s,mb5.2						
RPZ	Rata Peaks	39.71	162	P	P	07 24 16.4	-0.6
	comp=Z,41nm,0.7s,mb5.0,baz=187,slow=0.1,SNR=11						
KKM	Kota Kinabalu	40.94	287	eP	P	07 24 27.3	+0.2
JOW	Kunigami	42.12	323	P	P	07 24 37.0	+0.2
	comp=Z,28nm,0.5s,mb4.9,baz=159,slow=9.0,SNR=16						
KLBR	Kellerberrin	43.16	230	⇓iP	P	07 24 44.2	-0.9
	comp=Z,28nm,0.4s,mb5.0						
KLBR				eS	S	07 30 53.9	-2.4
NWAO	Narrogin (SRO)	44.18	228	P	P	07 24 52.9	-0.3
	comp=Z,13nm,0.5s,mb4.5,baz=70,slow=5.7,SNR=14						
NWAO	Narrogin (SRO)	44.18	228	eP	P	07 24 52.9	-0.3
MUN	Mundaring	44.51	230	eP	P	07 24 55.7	-0.1
NACB	Ninganchiao	44.74	314	eP	P	07 24 58.5	+0.9
YHNB	Yeheng	45.21	314	eP	P	07 25 01.9	+0.7
MJAR	Matsushiro Arr	45.58	341	P	P	07 25 03.2	-1.0
	comp=Z,24nm,0.7s,mb4.6,baz=164,slow=7.8,SNR=43						
MJAR				PcP	PcP	07 26 38.9	-0.2
	comp=Z,7.9nm,0.8s,baz=164,slow=3.7,SNR=7.1						
MJAR	Matsushiro Arr	45.58	341	P	P	07 25 03.2	-1.0
MJAR				PcP	PcP	07 26 38.9	-0.2
MAJO	Matsushiro	45.58	341	eP	P	07 25 03.5	-0.7
MAJO				pmax	pmax		
	comp=Z,39nm,0.7s,mb4.8						
MAJO	Matsushiro	45.58	341	eP	P	07 25 03.5	-0.7
	comp=Z,38nm,0.7s,mb4.8						
MAT	Matsushiro	45.58	341	P	P	07 25 03.3	-0.9
MAT	Matsushiro	45.58	341	eP	P	07 25 03.0	-1.2
MAT				pmax	pmax		
	comp=Z,29nm,0.7s,mb4.7						
MAT	Matsushiro	45.58	341	eP	P	07 25 03.0	-1.2
	comp=Z,29nm,0.7s,mb4.7						
KSM	Kuching	45.62	278	eP	P	07 25 04.9	+0.4
QZH	Quanzhou	47.38	312	P	P	07 25 19.1	+0.9
QZH				AMB	AMB		
	comp=Z,110nm,0.8s,mb5.2						
SSE	Sheshan	49.51	321	P	P	07 25 35.5	+1.1
SSE				AP	pP	07 26 21.5	+3.2
SSE				PCP	PcP	07 26 53.9	+0.7
SSE				S	S	07 32 26.9	+0.4
SSE				AMB	AMB		
	comp=Z,29nm,0.8s,mb4.7						
SSE				AMB	AMB		
	comp=Z,164nm,5.5s						
SSE				LR	LR		
	comp=N,37nm,19.9s						
SSE				LR	LR		
	comp=E,61nm,19.8s						
SSE				LR	LR		
	comp=Z,60nm,18.1s						
KS15	Wonju Array Si	50.53	332	eP	P	07 25 42.2	+0.2
INCN	Inchon	51.16	331	P	P	07 25 47.9	+1.1
	SNR=8.0						
INCN	Inchon	51.16	331	eP	P	07 25 47.4	+0.6
ASAJ	Asahikawa	51.52	348	P	P	07 25 49.8	+0.3
	comp=Z,28nm,0.7s,mb4.8,baz=215,slow=11,SNR=20						
ASAJ	Asahikawa	51.52	348	P	P	07 25 49.8	+0.4
ASAJ				pmax	pmax		
	comp=Z,28nm,0.7s						
NJ2	Nanjing	51.63	320	eP	P	07 25 51.1	+0.9
NJ2				AP	pP	07 26 36.4	+1.9
NJ2				XP	sP	07 26 59.6	+3.0
NJ2				S	S	07 32 55.0	-0.7
NJ2				XS	sS	07 34 15.0	+1.9
NJ2				AMB	AMB		

comp=Z,60nm,1.2s,mb4.9
NJ2 AMB AMB
comp=Z,400nm,3.8s
NJ2 LR LR
comp=N,17µm,13.6s
NJ2 LR LR
comp=E,15µm,13.0s
NJ2 LR LR
comp=Z,14µm,12.9s
VLA Vladivostok 53.63 339 *i* P **P 07 26 04.9 0.0**
VLA pmax pmax
comp=Z,113µm,1.3s
WHN Wuhan 53.71 315 ⇓P **P 07 26 05.7 +0.2**
YSS Yuzh-Sakhalins 54.22 349 ⇓*i*P **P 07 26 09.8 +0.6**
YSS *e* 07 27 11.0
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 54.22 349 *e*P **P 07 26 09.6 +0.4**
comp=Z,81nm,1.1s,mb5.2
DL2 Dalian 54.79 328 P **P 07 26 13.4 +0.1**
DL2 AMB AMB
comp=Z,30nm,1.0s,mb4.8
MDJ Mudanjiang 55.76 338 P **P 07 26 20.4 +0.2**
MDJ AP pP 07 27 05.5 +0.4
MDJ PCP PcP 07 27 16.6 -0.2
MDJ XP sP 07 27 27.7 +0.7
MDJ PP PP 07 28 27.0 +0.2
MDJ SCP ScP 07 30 56.0 -0.6
MDJ PCS PcS 07 31 17.1 -0.3
MDJ S **S 07 33 51.8 +0.6**
MDJ XS sS 07 35 10.7 +1.0
MDJ AMB AMB
comp=Z,59nm,1.3s,mb5.0
MDJ AMB AMB
comp=Z,120nm,4.1s
MDJ Mudanjiang 55.76 338 *e*P **P 07 26 20.4 +0.3**
comp=Z,75nm,1.1s,mb5.1
PMOR Pomariorio Ree 56.32 104 *e*P **P 07 26 24.0 -0.1**
comp=Z,41nm,1.1s,mb4.9
PMOR *e*pP pP 07 27 06.1 -3.1
comp=Z,22nm,1.0s
VAH Vaihoa 56.59 104 *e*P **P 07 26 25.3 -0.7**
comp=Z,21nm,0.8s,mb4.8
CN2 Changchun 56.75 334 *e*P **P 07 26 27.5 +0.3**
CN2 *e*AP pP 07 27 14.0 +1.7
CN2 *e*S **S 07 34 01.5 -2.6**
CN2 AMB AMB
comp=Z,50nm,1.1s,mb5.1
GYA Guiyang 57.33 307 ⇓*i*P **P 07 26 31.8 +0.6**
GYA AP pP 07 27 18.4 +2.0
GYA XP sP 07 27 40.9 +2.6
GYA PP PP 07 28 43.3 +2.6
GYA SCP ScP 07 31 02.8 -0.7
GYA S **S 07 34 10.7 -1.0**
GYA XS sS 07 35 32.0 +1.3
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,110nm,4.2s
GYA LR LR
comp=N,470nm,18.9s
GYA LR LR
comp=E,450nm,18.7s
GYA LR LR
comp=Z,490nm,19.0s
HABR Khabarovsk 57.41 344 *e*P **P 07 26 32.5 +0.7**
HABR *e*S **S 07 34 15.3 +2.5**
HABR pmax pmax
comp=Z,161nm,1.5s,mb5.4
BJT Baijiatuau 58.56 325 *e*P **P 07 26 39.8 0.0**
BJT pmax pmax
comp=Z,8.0nm,0.5s
BJT Baijiatuau 58.56 325 *e*P **P 07 26 39.8 0.0**
comp=Z,7.7nm,0.5s,mb4.6
KLR Kul'dur 59.05 342 ⇑*i*P **P 07 26 40.2 -2.9**
KLR *e* pP 07 27 23.8 -4.8
KLR pmax pmax
comp=E,57nm,1.6s
KLR pmax pmax
comp=Z,130nm,1.6s,mb5.3
PET Petropavlovsk 59.20 2 *e*P **P 07 26 43.8 -0.4**
PET *e**PP pP 07 27 29.9 +0.2
PET *e**SP sP 07 27 51.4 0.0
PET *e*S **S 07 34 36.1 +0.1**
PET *e*SS SS 07 38 37.6 +3.9
PET pmax pmax
comp=Z,52nm,0.6s,mb5.3
PET pmax pmax
comp=Z,100nm,13.4s
PET pmax pmax
comp=Z,21nm,0.5s,mb5.0
PET pmax pmax
comp=Z,100nm,16.0s
PET Petropavlovsk 59.20 2 *e*P **P 07 26 43.8 -0.4**
XAN Xi'an 59.47 316 P **P 07 26 45.9 -0.1**
XAN AMB AMB
comp=Z,29nm,0.8s,mb5.0
KMI Kunming 59.93 304 P **P 07 26 50.6 +1.4**
KMI AP pP 07 27 32.6 -2.2
KMI XP sP 07 27 58.5 +2.0
KMI PP PP 07 29 08.1 +4.4
KMI S **S 07 34 48.0 +2.7**
KMI XS sS 07 36 05.8 +0.9
KMI SS SS 07 38 44.9 -0.3
KMI AMB AMB
comp=Z,28nm,0.9s,mb4.9
KMI AMB AMB
comp=Z,152nm,5.2s
KMI LR LR
comp=N,166nm,22.5s
KMI LR LR
comp=E,143nm,19.2s
KMI LR LR
comp=Z,194nm,18.4s
CD2 Chengdu 61.65 310 ⇑*i*P **P 07 27 00.5 -0.3**
CD2 AP pP 07 27 47.9 +1.3
CD2 XP sP 07 28 10.1 +1.8
CD2 PP PP 07 29 21.3 +2.4
CD2 SCP ScP 07 31 19.9 -2.8
CD2 PCS PcS 07 31 41.2 -2.2
CD2 S **S 07 35 06.1 -1.0**
CD2 XS sS 07 36 28.1 +1.1
CD2 SS SS 07 39 13.1 +1.1
CD2 AMB AMB
comp=Z,50nm,0.5s,mb5.4
CD2 AMB AMB
comp=Z,100nm,9.6s
HHC Hu-ho-hao-te 61.77 323 *e*P **P 07 27 02.5 +1.0**
HHC AP pP 07 27 49.6 +2.2
HHC XP sP 07 28 11.6 +2.5
HHC PP PP 07 29 23.6 +3.7
HHC S **S 07 35 07.6 -0.9**
HHC XS sS 07 36 29.8 +1.3
HHC SS SS 07 39 15.1 +1.2
HHC AMB AMB
comp=Z,43nm,0.8s,mb5.1
HHC AMB AMB
comp=Z,100nm,5.2s
BTO Baotou 62.54 322 *e*P **P 07 27 06.9 +0.2**
HIA Hailar 63.47 335 *e*P **P 07 27 13.3 +0.5**
HIA pmax pmax
comp=Z,47nm,0.9s
HIA Hailar 63.47 335 *e*P **P 07 27 13.3 +0.5**
comp=Z,47nm,0.9s,mb5.1
LZH Lanzhou 64.09 315 ⇓P **P 07 27 18.0 +1.2**
LZH AP pP 07 28 05.7 +2.7
LZH XP sP 07 28 28.3 +3.7
LZH PP PP 07 29 43.8 +3.5
LZH PPP 07 31 18.2
LZH S **S 07 35 37.2 -0.1**
LZH XS sS 07 37 00.5 +2.6
LZH SS SS 07 39 52.3 +2.2
LZH AMB AMB
comp=Z,54nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,237nm,7.6s
LZH LR LR
comp=E,257nm,16.5s
LZH LR LR
comp=Z,428nm,18.3s
MA2 Magadan 65.80 357 *e*P **P 07 27 26.9 -1.0**
MA2 *e**PP pP 07 28 15.9 +1.6
MA2 *e*S S 07 35 53.7 -4.6
MA2 *e*SSS 07 43 21.0
MA2 pmax pmax
comp=Z,40nm,0.7s,mb5.2
MA2 Magadan 65.80 357 *e*P **P 07 27 27.3 -0.5**
comp=Z,32nm,0.8s,mb5.0
CASY Casey 67.32 198 *e*P **P 07 27 36.6 -0.9**
CLNS Chul'man 67.71 342 *e*P **P 07 27 40.7 +0.8**
CLNS pmax pmax
comp=Z,68nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,33nm,1.1s
CLNS pmax pmax
comp=E,15nm,0.9s
ULN Ulaanbaatar 68.63 327 P **P 07 27 46.9 +1.2**
SNR=59
ULN Ulaanbaatar 68.63 327 *e*P **P 07 27 46.3 +0.6**
SONM Songino Array 68.97 327 P **P 07 27 48.8 +1.0**
comp=E,63nm,0.6s,mb5.4,baz=142,slow=6.3,SNR=410
YAK Yakutsk 70.99 348 *e*P **P 07 27 59.8 -0.2**
YAK pmax pmax
comp=Z,32nm,1.2s,mb4.8
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,11nm,1.1s,mb4.4
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK Yakutsk 70.99 348 *e*P **P 07 27 59.7 -0.3**
comp=E,23nm,0.5s,mb5.1
YAK *e*P 07 27 60.0
VNDA Vanda 71.22 179 P **P 07 28 00.7 -0.7**
comp=E,8.8nm,0.7s,mb4.5,baz=335,slow=6.8,SNR=40
SBA Scott Base 71.73 177 *e*P **P 07 28 04.9 +0.5**
SBA pmax pmax
comp=Z,24nm,1.0s,mb4.8
SBA Scott Base 71.73 177 *e*P **P 07 28 04.9 +0.5**
comp=Z,24nm,1.0s,mb4.8
BOD Bodaibo 72.13 338 ⇑*i*P **P 07 28 05.9 -0.9**
BOD pmax pmax
comp=Z,31nm,1.3s,mb4.8
TLY Talaya 72.67 329 P **P 07 28 10.9 +0.9**
comp=Z,251nm,1.1s,mb5.8,SNR=26
IRK Irkutsk 72.69 330 *e*P **P 07 28 09.4 -0.7**
IRK pmax pmax
comp=Z,117nm,1.2s,mb5.4
CHGN Chignik 73.02 25 *e*P **P 07 28 10.2 -1.9**
MIR Mirnyy 73.42 202 *d i*P **P 07 28 15.0 +0.6**
MIR pmax pmax
comp=Z,427nm,1.0s,mb6.0
MOY Mondy 74.03 328 *e*P **P 07 28 18.7 +0.7**
MOY pmax pmax
comp=Z,71nm,1.3s,mb5.1
BILL Bilibino 74.60 4 *d i*P **P 07 28 20.7 -0.6**
BILL *i* 07 28 33.4
BILL *i **PP pP 07 29 06.4 -2.4
BILL pmax pmax
comp=Z,75nm,1.0s,mb5.3
BILL Bilibino 74.60 4 *e*P **P 07 28 20.9 -0.4**
comp=Z,80nm,1.1s,mb5.3
JIRN Jiri 74.74 301 ⇓*i*P **P 07 28 22.8 +0.8**
comp=Z,31nm,0.6s,mb5.1
GUN Gumba 75.07 301 ⇓*i*P **P 07 28 24.7 +0.8**
comp=Z,75nm,0.7s,mb5.4
PKI Pulchoki 75.38 300 ⇓*i*P **P 07 28 25.0 -0.7**
KKN Kakani 75.55 301 ⇓*i*P **P 07 28 26.9 +0.2**
comp=Z,35nm,0.6s,mb5.2
DMN Daman 75.65 300 ⇓*i*P **P 07 28 27.8 +0.6**
comp=Z,101nm,1.0s,mb5.4
GKN Gorkha 76.16 301 ⇓*i*P **P 07 28 30.3 +0.2**
comp=Z,107nm,1.1s,mb5.4
KDAK Kodiak Island 76.43 26 P **P 07 28 30.0 -1.6**
comp=Z,155nm,0.8s,mb5.7,SNR=6.7
KDAK Kodiak Island 76.43 26 P **P 07 28 30.8 -0.8**
comp=Z,29nm,1.0s,mb4.9,baz=223,slow=2.9,SNR=22
KDAK Kodiak Island 76.43 26 *e*P **P 07 28 30.7 -0.9**
TNA Tin City 76.61 15 *e*P **P 07 28 32.0 -0.7**
TNA *e*P 07 28 32.1
KOLN Koldanda 76.98 300 ⇓*i*P **P 07 28 34.8 +0.1**
comp=Z,34nm,0.8s,mb5.0
SVW2 Sparrevohn 77.27 22 *e*P **P 07 28 35.9 -0.4**
TTA Tatalina 78.29 21 *e*P **P 07 28 41.6 -0.4**
WMQ Urumqi 78.58 317 P **P 07 28 44.0 +0.5**
WMQ AP pP 07 29 33.5 +1.9
WMQ XP sP 07 29 55.2 +2.5
WMQ PP PP 07 31 46.0 +1.9
WMQ AMB AMB
comp=Z,51nm,2.3s,mb4.8
WMQ AMB AMB
comp=Z,241nm,6.8s
SLKM Skilak Lake 79.01 24 *e*P **P 07 28 45.0 -0.9**
TIXI Tiksi 79.76 352 *e*P **P 07 28 48.5 -1.4**
TIXI pmax pmax
comp=Z,4µm,0.8s
PMR Palmer 80.06 24 *e*P **P 07 28 50.4 -1.1**
PMR pmax pmax
comp=Z,39nm,0.6s,mb5.2
PMR Palmer 80.06 24 *e*P **P 07 28 50.4 -1.1**
comp=Z,39nm,0.6s,mb5.2
SML Sawmill 80.49 24 *e*P **P 07 28 52.8 -1.0**
EYAK Cordova Ski Ar 80.89 25 *e*P **P 07 28 55.3 -0.7**
COLA College 82.35 21 *e*P **P 07 29 01.9 -1.7**
COLA *e**PP pP 07 29 48.7 -3.4
COLA pmax pmax
comp=Z,55nm,1.0s,mb5.1
COLA College 82.35 21 *e*P **P 07 29 01.9 -1.7**
comp=Z,55nm,1.0s,mb5.1
COLA *e*pP pP 07 29 48.6 -3.4
MENT Mentasta 82.92 24 *e*P **P 07 29 05.6 -0.9**
MK02 Makanchi Array 83.12 319 ⇑P **P 07 29 07.5 -0.1**
comp=Z,9.0nm,0.7s,mb4.6
MKAR Makanchi Array 83.14 319 P **P 07 29 07.2 -0.5**
comp=Z,9.9nm,0.8s,mb4.6,baz=101,slow=6.3,SNR=43
QSPA South Pole Qui 83.63 180 ⇓*i*P **P 07 29 09.4 -0.8**
comp=Z,48nm,0.7s,mb5.3
ZAL Zalesovo 83.84 326 P **P 07 29 10.2 -1.0**
comp=Z,5.0nm,0.7s,mb4.3,baz=2.7,slow=5.8,SNR=20
NVS Novosibirsk 84.99 326 *i* P **P 07 29 15.6 -1.4**
NVS pmax pmax
comp=N,28nm,1.6s
NVS pmax pmax
comp=Z,70nm,1.6s,mb5.1
NVS pmax pmax
comp=E,45nm,1.4s
MAW Mawson 85.13 203 ⇓*i*P **P 07 29 16.8 -0.9**
comp=E,11nm,0.6s,mb4.8
MAW Mawson 85.13 203 P **P 07 29 16.3 -1.4**
comp=E,12nm,0.6s,mb4.8,baz=86,slow=6.6,SNR=65
MAW Mawson 85.13 203 ⇓*i*P **P 07 29 16.8 -0.9**
MAW pmax pmax
comp=Z,11nm,0.6s
SKAG Skagway 85.13 29 *e*P **P 07 29 17.3 -0.4**
comp=Z,39nm,1.3s,mb5.0
DAWY Dawson 85.16 24 *e*P **P 07 29 17.9 +0.1**
KSH Kashi 85.85 310 *e*P **P 07 29 23.1 +1.9**
KSH *e*AP pP 07 30 13.4 +3.3
KSH *e*PP PP 07 32 46.9 +3.3
KSH *e*SKS 07 39 25.8
KSH *e*S S 07 39 35.3 -2.0
KSH *e*XS sS 07 41 02.9 +0.4
KSH *e*SS SS 07 45 24.8 +5.7
KSH AMB AMB
comp=Z,217nm,4.7s
KSH LR LR
comp=N,408nm,4.3s
KSH LR LR
comp=E,475nm,4.8s
KSH LR LR
comp=Z,304nm,31.6s
KURK Kurchatov 86.53 322 P **P 07 29 23.4 -1.1**
comp=Z,70nm,0.5s,mb5.7,SNR=6.5
KURK Kurchatov 86.53 322 ⇑P **P 07 29 23.2 -1.3**
comp=Z,13nm,1.4s,mb4.5
KURK Kurchatov 86.53 322 P **P 07 29 24.0 -0.6**
SNR=8.6
KURK Kurchatov 86.53 322 *e*P **P 07 29 23.4 -1.1**
KURK pmax pmax
comp=Z,27nm,1.3s,mb4.8
KURK Kurchatov 86.53 322 *e*P **P 07 29 23.4 -1.1**
comp=Z,27nm,1.3s,mb4.8
KURK *e*pP pP 07 30 09.8 -3.7
AAK Ala-Archa 87.55 313 *e*P **P 07 29 28.3 -1.1**
AAK pmax pmax
comp=Z,13µm,2.5s
N02C Big Bar 87.60 49 ⇓P **P 07 29 30.0 +0.3**
baz=88
L02A Cave Junction 87.62 47 ⇓P **P 07 29 29.9 +0.1**
baz=88
I02A Mapleton 87.80 45 ⇓P **P 07 29 30.6 -0.1**
baz=88
K02A Glendale 87.82 47 ⇓P **P 07 29 29.8 -0.9**
baz=88
GASB Alder Springs 87.83 50 ⇑P **P 07 29 30.2 -0.6**
baz=88
J02A Umpqua 87.87 46 ⇓P **P 07 29 30.3 -0.6**
baz=88
O02C Red Bluff 87.87 49 ⇓P **P 07 29 30.9 -0.1**
baz=88
MNRC McLaughlin Nat 87.91 51 ⇓P **P 07 29 31.2 +0.1**
baz=88
M02C Callahan 88.03 48 ⇓P **P 07 29 31.9 +0.2**
baz=88
C03A Quillayute Air 88.07 42 ⇑P **P 07 29 32.6 +0.8**
baz=88
WDC Whiskeytown Da 88.13 49 *e*P **P 07 29 31.6 -0.6**
WDC Whiskeytown Da 88.13 49 ⇓P **P 07 29 32.1 -0.1**
baz=88
HUMO Hull Mountain 88.17 47 *e*P **P 07 29 32.6 +0.3**
HUMO *e*pP pP 07 30 21.6 +0.1
HUMO Hull Mountain 88.17 47 ⇓P **P 07 29 32.4 0.0**
baz=88
YBH Yreka Blue Hor 88.20 48 *e*P **P 07 29 33.0 +0.5**
YBH *e**PP pP 07 30 22.3 +0.7
YBH Yreka Blue Hor 88.20 48 ⇓P **P 07 29 32.3 -0.2**
baz=88
J03A Ideyld Park 88.30 46 ⇓P **P 07 29 33.5 +0.5**
baz=88
H03A Soap Creek Ran 88.31 45 ⇑P **P 07 29 32.6 -0.4**
baz=88
F03A Seaside 88.35 44 ⇓P **P 07 29 32.5 -0.7**
baz=88
O03C Acorn Hollow, 88.41 50 ⇓P **P 07 29 33.3 -0.2**
baz=88
D03A Wishkah Elem. 88.43 42 ⇑P **P 07 29 33.1 -0.5**
baz=88
E03A Lebam 88.47 43 ⇑P **P 07 29 33.1 -0.6**
baz=88,SNR=7.5
SUTB Sutter Butte 88.47 50 ⇓P **P 07 29 33.3 -0.5**
baz=88
PACP Pacheco Peak 88.51 53 ⇑P **P 07 29 33.6 -0.4**
baz=88
S04C Ingram Canyon, 88.55 52 ⇓P **P 07 29 34.4 +0.2**
baz=89
ORV Oroville 88.75 50 ⇓P **P 07 29 34.4 -0.6**
baz=89
B04A Port Angeles 88.79 42 ⇑P **P 07 29 34.7 -0.5**
baz=89
M04C Macdoel 88.85 48 ⇑P **P 07 29 35.6 0.0**
baz=89
L04A Klamath Falls 88.88 48 ⇓P **P 07 29 35.4 -0.3**
baz=89
PKD Parkfield 88.94 54 ⇑P **P 07 29 35.8 -0.2**
baz=89
G04A Mulino 88.97 44 ⇑P **P 07 29 35.6 -0.5**
baz=89
HATC Hat Creek Radi 88.98 49 ⇓P **P 07 29 35.9 -0.2**
baz=89
R04C Big Horse Ranc 88.98 52 ⇑P **P 07 29 35.3 -0.8**
baz=89
T05C Eagle Field, D 88.98 53 ⇑P **P 07 29 35.7 -0.4**
baz=89
C04A Brinnon 89.08 42 ⇓P **P 07 29 35.8 -0.8**
baz=89
H04A Detroit Lake 89.08 45 ⇑P **P 07 29 35.4 -1.3**
baz=89
F04A Amboy 89.14 44 ⇑P **P 07 29 36.0 -0.9**
baz=89
GNW Green Mountain 89.15 42 *e*P **P 07 29 36.7 -0.2**
O04C Chester 89.18 49 ⇓P **P 07 29 37.0 -0.1**
baz=89,SNR=6.1
LAVA Lava Cap Winer 89.20 51 ⇓P **P 07 29 36.8 -0.4**
baz=89
O05C Quincy 89.25 50 ⇓P **P 07 29 36.9 -0.6**
baz=89
M05C Lookout 89.30 48 ⇓P **P 07 29 37.5 -0.2**
baz=89
S05C Merced 89.31 52 ⇑P **P 07 29 37.3 -0.4**
baz=89
CMB Columbia Colle 89.37 52 ⇓P **P 07 29 37.7 -0.3**
baz=89
L05A Lakeview 89.63 48 ⇓P **P 07 29 39.3 +0.1**
baz=90
D05A Enumclaw 89.64 43 ⇑P **P 07 29 38.5 -0.7**
baz=90
I05A Bend 89.65 46 ⇓P **P 07 29 38.8 -0.5**
baz=90
E05A Randle 89.69 43 ⇑P **P 07 29 38.4 -1.0**
baz=90
R05C Kirkwood Meado 89.71 51 ⇓P **P 07 29 39.6 0.0**
baz=90
B05A Bryant 89.75 41 ⇑P **P 07 29 39.1 -0.7**
baz=90
H05A Madras 89.75 45 ⇑P **P 07 29 39.0 -0.8**
baz=90
T06C Millerton Lake 89.76 53 ⇓P **P 07 29 39.9 +0.1**
baz=90
S06C San Francisco 89.77 52 ⇑P **P 07 29 39.9 +0.1**
baz=90
M06C Likely Place G 89.77 49 ⇓P **P 07 29 40.0 +0.1**
baz=90
G05A Wamic 89.79 45 ⇓P **P 07 29 39.9 0.0**
baz=90
F05A White Salmon 89.79 44 ⇑P **P 07 29 39.5 -0.5**
baz=90
A05A Maple Falls 89.88 41 ⇑P **P 07 29 40.8 +0.4**
baz=90
P06A Stead Airport, 89.99 50 ⇓P **P 07 29 41.5 +0.6**
baz=90
WCN Washoe City 90.04 51 ⇑P **P 07 29 41.6 +0.5**
baz=90
O06A Flanigan 90.11 50 P **P 07 29 41.8 +0.3**
baz=90,SNR=8.0
R06C Coleville 90.17 51 ⇓P **P 07 29 42.2 +0.5**
baz=90
K06A Valley Falls 90.17 47 P **P 07 29 41.6 -0.2**
baz=90,SNR=5.2
WAKR Walker 90.18 51 *e*P **P 07 29 42.6 +0.8**
HELL Mitchell Peak, 90.26 53 ⇑P **P 07 29 42.2 0.0**
baz=90,SNR=6.2
J06A Christmas Vall 90.31 47 ⇓P **P 07 29 41.6 -0.7**
baz=90,SNR=8.5
I06A Prineville 90.37 46 P **P 07 29 42.4 -0.2**
baz=90,SNR=10
R07C Lee Vining 90.43 52 ⇑P **P 07 29 43.4 +0.5**
baz=90
MLAC Mammoth Lakes 90.53 52 ⇓P **P 07 29 44.1 +0.7**
baz=90
ISA Isabella 90.57 54 ⇓P **P 07 29 43.7 +0.1**
baz=91
MTUM Tungsten Hills 90.71 53 *e*P **P 07 29 45.4 +1.2**
Q07A Schurz 90.72 51 ⇑P **P 07 29 44.6 +0.3**
baz=91
MWC Mount Wilson 90.72 56 *e*P **P 07 29 45.2 +0.9**
L07A Adell 90.73 48 ⇑P **P 07 29 44.4 +0.1**
baz=91,SNR=7.6
P07A Fallon 90.74 50 ⇓P **P 07 29 44.6 +0.2**
baz=91
M07A Soldier Meadow 90.77 49 P **P 07 29 44.9 +0.4**
baz=91,SNR=13
O07A Toulon 90.83 50 ⇓P **P 07 29 44.8 0.0**
baz=91,SNR=15
TIN Tinemaha 90.94 53 ⇑P **P 07 29 45.5 +0.3**
baz=91
CWC Cottonwood Cre 90.98 54 ⇓P **P 07 29 45.8 +0.4**
baz=91
NVAR Mina Array Bea 91.05 52 P **P 07 29 46.2 +0.5**
comp=Z,18nm,1.0s,mb5.0,baz=252,slow=6.1,SNR=70
MNV Mina 91.17 52 *e*P **P 07 29 46.8 +0.5**
HAWA Hanford 91.19 44 *e*P **P 07 29 46.2 -0.2**
WVOR Wild Horse Val 91.30 48 *e*P **P 07 29 46.8 -0.2**
WVOR *e**PP pP 07 30 37.9 +1.7
WVOR pmax pmax
comp=Z,13nm,1.2s,mb4.7
WVOR Wild Horse Val 91.30 48 *e*P **P 07 29 46.8 -0.2**
comp=Z,13nm,1.2s,mb4.7
WVOR *e*pP pP 07 30 37.9 +1.7
DAC Darwin (Calif) 91.35 54 *e*P **P 07 29 48.3 +1.1**
DAC pmax pmax
comp=Z,29nm,1.2s,mb5.1
DAC Darwin (Calif) 91.35 54 *e*P **P 07 29 48.3 +1.1**
comp=Z,30nm,1.2s,mb5.1
109C Camp Elliot, M 91.36 57 ⇑P **P 07 29 48.0 +0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=91						
M08A	Happy Creek Ra	91.37	49	⇓P	P	07 29 47.4	+0.1
	baz=91,SNR=7.1						
P08A	Dixie Valley	91.38	50	⇑P	P	07 29 48.1	+0.8
	baz=91						
Q08A	Gabbs	91.39	51	P	P	07 29 47.9	+0.5
	baz=91,SNR=22						
N08A	GE Springer Mi	91.47	49	⇓P	P	07 29 47.9	+0.2
	baz=92,SNR=32						
J08A	Circle Bar Ran	91.54	47	⇓P	P	07 29 47.6	-0.5
	baz=92,SNR=9.6						
VOSK	Vostochnaya	91.58	323	⇓P	P	07 29 46.1	-2.1
	comp=Z,10nm,1.2s,mb4.6						
S09A	Goldfield	91.81	52	⇑P	P	07 29 49.5	+0.2
	baz=92,SNR=36						
TPH	Tonopah	91.85	52	eP	P	07 29 50.5	+1.0
TPH				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
TPH	Tonopah	91.85	52	eP	P	07 29 50.5	+1.0
	comp=Z,25nm,1.2s,mb5.0						
GSC	Goldstone	91.88	55	eP	P	07 29 50.5	+0.9
GSC	Goldstone	91.88	55	⇓P	P	07 29 49.6	0.0
	baz=92						
CHKZ	Chkalovo	91.93	324	⇓P	P	07 29 47.9	-2.0
	comp=Z,11nm,0.9s,mb4.8						
CHKZ	Chkalovo	91.93	324	eP	P	07 29 48.0	-1.9
CHKZ				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
CHKZ	Chkalovo	91.93	324	eP	P	07 29 48.0	-1.9
	comp=Z,15nm,1.1s,mb4.8						
N09A	Rock Creek Ran	91.94	49	⇓P	P	07 29 50.0	+0.1
	baz=92						
L09A	Wilkinson Ranc	91.97	48	⇑P	P	07 29 49.7	-0.3
	baz=92,SNR=6.2						
Q09A	Carvers	91.97	51	⇓P	P	07 29 50.5	+0.4
	baz=92,SNR=7.7						
PFO	Pinyon Flat Ob	91.98	57	eP	P	07 29 50.5	+0.4
PFO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
PFO	Pinyon Flat Ob	91.98	57	eP	P	07 29 50.5	+0.4
	comp=Z,7.8nm,0.7s,mb4.8						
PFO	Pinyon Flat Ob	91.98	57	⇑P	P	07 29 50.8	+0.7
	baz=92,SNR=5.8						
BVA0	Borovoye Array	91.98	323	⇑P	P	07 29 48.7	-1.4
	comp=Z,3.1nm,1.4s,mb4.1,baz=120,slow=6.3,SNR=27						
R09A	Tonopah	91.99	52	⇓P	P	07 29 50.6	+0.5
	baz=92,SNR=9.9						
BRVK	Borovoye	92.05	323	P	P	07 29 49.7	-0.7
	SNR=6.8						
BRVK	Borovoye	92.05	323	eP	P	07 29 49.4	-1.0
BRVK				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.8						
BRVK	Borovoye	92.05	323	eP	P	07 29 49.4	-1.0
	comp=Z,17nm,1.5s,mb4.7						
M09A	Marrel Ranch,	92.06	49	⇑P	P	07 29 51.0	+0.5
	baz=92						
P09A	Austin	92.08	51	⇓P	P	07 29 50.8	+0.2
	baz=92						
O09A	Fish Creek Ran	92.11	50	⇑P	P	07 29 51.0	+0.2
	baz=92,SNR=26						
BMN	Battle Mountai	92.12	50	eP	P	07 29 51.1	+0.4
BMN				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
BMN	Battle Mountai	92.12	50	eP	P	07 29 51.1	+0.3
	comp=Z,18nm,0.9s,mb5.0						
U10A	Ash Meadows, A	92.38	54	⇑P	P	07 29 52.6	+0.6
	baz=92						
TPNV	Topopah Spring	92.50	53	eP	P	07 29 53.4	+0.9
BMO	Blue Mountains	92.55	45	eP	P	07 29 51.8	-0.9
R10A	Warm Springs	92.60	52	⇑P	P	07 29 53.7	+0.7
	baz=93,SNR=8.0						
TUQ	Turquoise Mtn.	92.61	55	⇑P	P	07 29 53.5	+0.6
	baz=93						
P10A	Eureka	92.61	51	⇓P	P	07 29 53.3	+0.3
	baz=93						
O10A	Cortez Mining,	92.65	50	⇑P	P	07 29 53.8	+0.6
	baz=93						
N10A	Dunphy	92.69	50	⇑P	P	07 29 53.9	+0.5
	baz=93						
M10A	I.L. Ranch, Tu	92.75	49	⇓P	P	07 29 53.6	-0.1
	baz=93						
ZRNK	Zerenda	92.80	323	⇑P	P	07 29 52.4	-1.4
	comp=Z,16nm,1.6s,mb4.8						
ZRNK	Zerenda	92.80	323	eP	P	07 29 52.4	-1.5
ZRNK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
ZRNK	Zerenda	92.80	323	eP	P	07 29 52.4	-1.5
	comp=Z,13nm,1.1s,mb4.9						
NEW	Newport	93.04	42	eP	P	07 29 53.9	-1.1
NEW				pmax	pmax		
	comp=Z,11nm,1.1s						
NEW	Newport	93.04	42	eP	P	07 29 53.9	-1.1
	comp=Z,11nm,1.1s,mb4.8						
V11A	Goodsprings	93.05	54	⇓P	P	07 29 55.5	+0.5
	baz=93,SNR=7.2						
SYO	Syowa Base	93.05	199	⇑eP	P	07 29 53.0	-2.0
SYO	Syowa Base	93.05	199	⇓ePcP	PcP	07 29 54.8	-0.8
U11A	Corn Creek	93.14	54	⇓P	P	07 29 56.0	+0.5
	baz=93						
P11A	Circle Ranch,	93.15	51	⇑P	P	07 29 56.1	+0.6
	baz=93						
Q11A	Duckwater	93.16	51	⇑P	P	07 29 56.2	+0.7
	baz=93,SNR=29						
GLA	Glamis	93.28	57	eP	P	07 29 57.8	+1.7
GLA	Glamis	93.28	57	⇑P	P	07 29 56.9	+0.9
	baz=93,SNR=6.3						
O11A	Cowboy Ranch,	93.28	50	⇓P	P	07 29 56.5	+0.5
	baz=93,SNR=20						
N11A	Elko Archery C	93.28	49	⇑P	P	07 29 56.1	0.0
	baz=93						
M11A	Holland Ranch,	93.30	49	⇓P	P	07 29 56.6	+0.5
	baz=93						
SHPR	Sheep Range	93.33	54	eP	P	07 29 57.3	+1.0
W12A	Cal Nev Ari	93.45	55	⇓P	P	07 29 57.3	+0.5
	baz=93						
V12A	Nelson	93.50	55	P	P	07 29 58.0	+0.9
	baz=94,SNR=6.7						
Y12C	Blythe	93.59	57	⇓P	P	07 29 58.2	+0.7
	baz=94						
ELK	Elko	93.65	50	eP	P	07 29 58.1	+0.3
ELK				pmax	pmax		
	comp=Z,16nm,1.3s						
ELK	Elko	93.65	50	eP	P	07 29 58.0	+0.2
	comp=Z,16nm,1.3s,mb4.9						
P12A	McGill	93.79	51	⇑P	P	07 29 59.0	+0.6
	baz=94,SNR=16						
N12A	Clover Valley,	93.81	49	⇑P	P	07 29 58.9	+0.4
	baz=94						
Q12A	Willow Creek R	93.82	51	⇓P	P	07 29 59.3	+0.8
	baz=94,SNR=8.1						
U12A	Valley of Fire	93.82	54	⇓P	P	07 29 59.3	+0.8
	baz=94,SNR=7.8						
M12A	Wells	93.96	49	⇑P	P	07 29 59.5	+0.3
	baz=94						
N13A	Wendover, West	94.45	50	⇓P	P	07 30 01.3	-0.2
	baz=94						
HLID	Hailey	94.50	47	eP	P	07 30 01.8	+0.1
M13A	Montello	94.51	49	⇑P	P	07 30 01.6	-0.2
	baz=94						
BSMT	Bassoo Peak	94.57	43	eP	P	07 30 01.5	-0.5
CCUT	Cedar City	94.85	53	eP	P	07 30 04.4	+1.1
Y14A	Wickenburg	94.87	57	⇓P	P	07 30 04.1	+0.7
	baz=95						
Z14A	Wintersburg	94.88	57	⇑P	P	07 30 04.5	+1.1
	baz=95						
W14A	Seligman	94.90	55	⇓P	P	07 30 04.4	+0.9
	baz=95						
X14A	Yava	95.00	56	⇑P	P	07 30 04.8	+0.8
	baz=95						
115A	Sonoran Desert	95.43	58	⇑P	P	07 30 06.7	+0.8
	baz=95						
X15A	Humboldt	95.54	56	⇑P	P	07 30 07.2	+0.8
	baz=96						
W15A	Williams	95.56	55	⇓P	P	07 30 07.5	+0.9
	baz=96						
YKW3	Yellowknife Ar	95.60	28	eP	P	07 30 06.0	-0.7
YKA	Yellowknife Ar	95.60	28	P	P	07 30 05.9	-0.8
	comp=Z,9.9nm,0.7s,mb5.1,baz=267,slow=4.6,SNR=53						
YKA				pP	pP	07 30 52.5	-3.5
	comp=Z,1.6nm,0.8s,baz=266,slow=4.5,SNR=2.0						
YKA	Yellowknife Ar	95.60	28	P	P	07 30 05.9	-0.8
YKA				pP	pP	07 30 52.5	-3.5
MCMT	McKenzie Canyo	95.71	46	eP	P	07 30 07.2	0.0
EDM	Edmonton	95.82	37	eP	P	07 30 06.8	-0.9
MSU	Marysvale	95.85	52	eP	P	07 30 09.3	+1.5
116A	Eloy	95.86	58	⇓P	P	07 30 08.2	+0.4
	baz=96						
DLMT	Dillon	95.92	45	eP	P	07 30 07.8	-0.4
	comp=Z,1.4nm,0.6s,mb4.4						
WUAZ	Wupatki	96.31	55	eP	P	07 30 10.9	+1.0
	comp=Z,4.4nm,0.8s,mb4.7						
HWUT	Hardware Ranch	96.48	49	eP	P	07 30 10.3	-0.4
	comp=Z,3.4nm,0.6s,mb4.8						
BOZ	Bozeman (W)	96.61	45	eP	P	07 30 10.2	-1.1
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.4						
BOZ	Bozeman (W)	96.61	45	eP	P	07 30 10.2	-1.0
	comp=Z,1.6nm,0.8s,mb4.3						
TMUT	Trail Mountain	96.64	51	eP	P	07 30 11.7	+0.3
IMW	Indian Meadow	97.03	47	eP	P	07 30 14.4	+1.2
EGMT	Eagleton	97.95	42	eP	P	07 30 16.5	-0.8
BW06	Boulder Array	98.01	48	eP	P	07 30 16.9	-0.7
	comp=Z,5.8nm,1.0s,mb4.9						
PDAR	Pinedale Array	98.01	48	P	P	07 30 16.2	-1.3
	comp=Z,3.2nm,0.9s,mb4.6,baz=262,slow=3.0,SNR=24						
PDAR				PP	PP	07 34 18.7	-0.3
	comp=Z,0.8nm,0.9s,baz=275,slow=6.7,SNR=4.3						
ARU	Arti	98.99	326	eP	P	07 30 18.4	-3.6
ARU				pmax	pmax		
	comp=Z,3μm,1.0s						
SMCO	Snowmass	99.93	51	ePdif	Pdif	07 30 27.3	+1.2
	comp=Z,6.6nm,1.0s						
LAO	LASA Array	100.37	44	ePdif	Pdif	07 30 28.0	-0.1
GDL2	Guadalupe Moun	102.06	59	ePdif	Pdif	07 30 37.7	+2.2
ARCES	ARCESS Array B	109.06	343	PKiKP	PKiKP	07 35 08.4	-1.5
	comp=Z,1.1nm,0.5s,baz=77,slow=2.6,SNR=11						
KAF	Kangasniemi	113.02	337	ep	PKiKP	07 35 15.0	-2.4
FINES	FINESS Array B	113.48	336	PKiKP	PKiKP	07 35 16.8	-1.6
	comp=Z,0.9nm,0.5s,baz=117,slow=0.4,SNR=7.3						
FINES				PP	PP	07 36 10.1	-2.6
	comp=Z,2.8nm,0.9s,baz=52,slow=12,SNR=4.3						
PLCA	Paso Flores	117.03	142	PKP	PKPdf	07 35 23.8	-1.4
	comp=Z,2.3nm,0.9s,baz=331,slow=6.2,SNR=4.2						
PLCA				PKKPbc	PKKPbc	07 45 51.2	+0.7
	comp=Z,2.9nm,0.8s,baz=67,slow=3.7,SNR=6.6						
PLCA	Paso Flores	117.03	142	PKP	PKPdf	07 35 23.8	-1.4
PLCA				PKKPbc	PKKPbc	07 45 51.2	+0.7
AKASG	Malin Array Be	117.20	325	PKP	PKPdf	07 35 24.1	-1.3
	comp=Z,3.6nm,0.6s,baz=64,slow=2.3,SNR=5.7						
AKASG				PP	PP	07 36 35.8	-2.9
	comp=Z,0.1nm,0.3s,baz=50,slow=7.2,SNR=5.7						
BR131	Keskin Array S	118.20	312	ePKPdf	PKPdf	07 35 27.2	-0.2
BRTR	Keskin Array B	118.20	312	PKP	PKPdf	07 35 26.4	-1.0
	comp=Z,2.6nm,0.6s,baz=126,slow=3.0,SNR=10						
HFS	Hagfors	119.02	339	PKP	PKPdf	07 35 28.0	-1.0
	comp=Z,1.5nm,0.4s,baz=101,slow=6.0,SNR=9.2						
NB2	NORSAR Subarra	119.19	341	PKPdf	PKPdf	07 35 28.0	-1.3
	comp=Z,3.0nm,0.8s,baz=42,slow=2.0						
NOA	NORSAR Array B	119.19	341	PKP	PKPdf	07 35 27.9	-1.4
	comp=Z,2.0nm,0.7s,baz=45,slow=1.9,SNR=11						
JTS	JuntasAbangare	120.28	82	PKP	PKPdf	07 35 29.5	-1.9
	comp=Z,1.2nm,0.4s,baz=120,slow=23,SNR=3.7						
JTS	JuntasAbangare	120.28	82	PKP	PKPdf	07 35 29.5	-1.9
BOSA	Boshof	120.69	231	PKP	PKPdf	07 35 31.8	-0.4
	comp=Z,3.2nm,0.7s,baz=275,slow=9.4,SNR=7.6						
SCHQ	Schefferville	121.04	27	PKP	PKPdf	07 35 31.6	-1.2
	comp=Z,1.6nm,0.7s,baz=236,slow=19,SNR=3.9						
OKC	Ostrava-Krasne	123.76	328	ePKP	PKPdf	07 35 38.1	0.0
CFAA	Coronel Fontan	123.87	135	PKP	PKPdf	07 35 37.0	-1.3
	comp=Z,0.3nm,0.5s,baz=271,slow=7.5						
CFAA				pPKP	pPKPdf	07 36 24.2	-5.7
	comp=Z,0.4nm,0.7s,baz=270,slow=3.5,SNR=4.4						
VYHS	Vyhne	124.16	326	ePKP	PKPdf	07 35 39.0	+0.2
DPC	Dobruska-Polom	124.39	329	ePKP	PKPdf	07 35 39.8	+0.5
DPC				ex	x	07 37 27.0	
UPC	Upice	124.45	330	ePKP	PKPdf	07 35 39.7	+0.3
BSEG	Bad Segeberg	124.75	336	ePKPdf	PKPdf	07 35 40.4	+0.4
PVCC	Panska Ves	125.16	330	ePKP	PKPdf	07 35 40.7	0.0
BRG	Berggiesshubel	125.24	331	ePKPdf	PKPdf	07 35 41.2	+0.3
BRG	Berggiesshubel	125.24	331	i PKP	PKPdf	07 35 41.0	+0.1
	comp=Z,9.1nm,1.1s						
BRG	Berggiesshubel	125.24	331	i PKIKP	PKPdf	07 35 41.0	+0.1
BRG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CLL	Collm	125.40	332	ePKPdf	PKPdf	07 35 41.0	-0.2
CLL	Collm	125.40	332	i PKIKP	PKPdf	07 35 40.8	-0.4
	comp=Z,logA/T=1.1						
CLL	Collm	125.40	332	i PKPdf	PKPdf	07 35 40.8	-0.4
	comp=Z,11nm,0.9s						
CLL	Collm	125.40	332	i PKIKP	PKPdf	07 35 40.8	-0.4
CLL				pmax	pmax		
	comp=Z,11nm,0.9s						
TREC	Trest	125.47	329	ePKP	PKPdf	07 35 41.4	+0.1
FBE	Freiberg	125.49	331	ePKPdf	PKPdf	07 35 41.5	+0.1
PRU	Pruhonice	125.52	330	ePKP	PKPdf	07 35 41.3	-0.1
NRDL	Niedersach Rie	125.87	335	ePKPdf	PKPdf	07 35 42.6	+0.5
CLZ	Clausthal	126.22	334	ePKPdf	PKPdf	07 35 43.5	+0.7
TANN	Tannenbergstha	126.25	331	ePKPdf	PKPdf	07 35 43.1	+0.3
WERD	Werda	126.30	332	ePKPdf	PKPdf	07 35 43.3	+0.4
GUNZ	Gunzen	126.35	331	ePKPdf	PKPdf	07 35 43.7	+0.7
GUNZ				ePP	PP	07 37 42.6	+2.0
NKC	Novy Kostel	126.38	331	ePKP	PKPdf	07 35 43.3	+0.2
MOX	Moxa	126.49	332	ePKPdf	PKPdf	07 35 43.7	+0.4
MOX	Moxa	126.49	332	ePKP	PKPdf	07 35 43.8	+0.5
KHC	Kasperske Hory	126.55	330	ePKP	PKPdf	07 35 43.5	+0.1
GEC2	GERESS Array S	126.67	329	ePKPdf	PKPdf	07 35 44.0	+0.4
GERES	GERESS Array B	126.67	329	PKP	PKPdf	07 35 43.2	-0.4
	comp=Z,6.0nm,0.7s,baz=70,slow=1.6,SNR=38						
MANZ	Manzenberg	126.71	331	ePKPdf	PKPdf	07 35 44.0	+0.3
ROTZ	Rotzenmuhle	126.81	331	ePKPdf	PKPdf	07 35 44.2	+0.3
WET	Wettzell	126.89	330	ePKPdf	PKPdf	07 35 44.4	+0.3
UBBA	Unterbreizbach	127.11	333	ePKPdf	PKPdf	07 35 44.9	+0.4
GRA1	Grafenberg Arr	127.33	331	ePKPdf	PKPdf	07 35 45.1	+0.2
GRF	Grafenberg Arr	127.33	331	ePKPdf	PKPdf	07 35 45.1	+0.2
BUG	Bochum--Univer	127.84	335	ePKPdf	PKPdf	07 35 46.2	+0.3
BOJS	Bojanci	127.89	325	ePKPbc	PKPdf	07 35 46.2	+0.2
VISS	Visnje	127.94	326	ePKPbc	PKPdf	07 35 46.1	+0.1
LVC	Limon Verde	128.03	125	PKP	PKPdf	07 35 46.6	+0.4
	comp=Z,2.4nm,0.7s,baz=33,slow=9.4,SNR=3.8						
TNS	Taunus Mts	128.23	333	ePKPdf	PKPdf	07 35 47.1	+0.5
BCLA	Clavier	129.43	336	PKP	PKPdf	07 35 49.2	+0.3
BFO	Black Forest	129.64	332	ePKPdf	PKPdf	07 35 48.6	-0.7
GIVF	Givet	129.87	336	ePKIKP	PKPdf	07 35 50.7	+1.0
DOU	Dourbes	129.97	336	PKP	PKPdf	07 35 51.2	+1.3
CDF	Champ du Feu	130.07	333	ePKIKP	PKPdf	07 35 50.6	+0.5
BAIF	Baives	130.16	336	ePKIKP	PKPdf	07 35 51.2	+0.9
HINF	Hinteralfeld	130.70	332	ePKIKP	PKPdf	07 35 51.8	+0.5
HAU	Haudompre	130.79	333	ePKIKP	PKPdf	07 35 52.2	+0.7
LPAZ	La Paz	131.47	118	PKP	PKPdf	07 35 53.4	+0.6
	comp=Z,1.5nm,0.5s,baz=88,slow=1.8,SNR=13						
LPAZ				SKPbc	SKPbc	07 39 02.4	+3.2
	comp=Z,1.6nm,0.6s,baz=357,slow=3.3,SNR=7.6						
CABF	La Chapelle	131.94	332	ePKIKP	PKPdf	07 35 54.5	+0.9
LPL	La Plagne	132.42	330	ePKIKP	PKPdf	07 35 56.2	+1.6
	comp=Z,10.0nm,0.7s						
LPG	La Plagne	132.42	330	ePKIKP	PKPdf	07 35 56.2	+1.6
	comp=Z,13nm,0.8s						
LOR	Lormes	132.46	334	ePKIKP	PKPdf	07 35 54.9	+0.3
	comp=Z,4.5nm,0.5s						
SSF	Saint Saulge	132.77	334	ePKIKP	PKPdf	07 35 55.9	+0.7
BNI	Bardonecchia	132.77	330	ePKIKP	PKPdf	07 35 56.0	+0.8
SMF	Signal de Mont	132.94	333	ePKIKP	PKPdf	07 35 56.6	+1.1
FLN	La Foliniere	133.02	338	ePKIKP	PKPdf	07 35 56.7	+1.0
	comp=Z,23nm,1.0s						
LDF	La Druitiere	133.02	338	ePKIKP	PKPdf	07 35 56.6	+0.9
AVF	Avril sur Loir	133.05	334	ePKIKP	PKPdf	07 35 56.5	+0.8
SBF	Sospel	133.22	328	ePKIKP	PKPdf	07 35 57.1	+1.0
PGF	Pioggiola	133.25	326	ePKIKP	PKPdf	07 35 56.5	+0.4
	comp=Z,20nm,0.7s						
ORIF	Oris-en-Rattie	133.26	330	ePKIKP	PKPdf	07 35 56.5	+0.4
	comp=Z,21nm,0.8s						
FRF	La Foret Royal	133.84	328	ePKIKP	PKPdf	07 35 58.3	+1.1
VIVF	Saint-Julien-l	133.90	331	ePKIKP	PKPdf	07 35 58.7	+1.4
TCF	Toulx Ste Croi	133.94	334	ePKIKP	PKPdf	07 35 58.7	+1.3
	comp=Z,25nm,1.0s						
LMR	La Mourre	134.07	328	ePKIKP	PKPdf	07 35 58.8	+1.1
	comp=Z,23nm,0.8s						
CPUP	Villa Florida	134.63	137	PKP	PKPdf	07 35 58.2	-0.5
	comp=Z,0.9nm,0.7s,baz=358,slow=0.9,SNR=5.4						
MFF	Saint Martin d	134.67	336	ePKIKP	PKPdf	07 35 59.3	+0.5
	comp=Z,27nm,1.2s						
RJF	Les Rejaudoux	135.01	334	ePKIKP	PKPdf	07 36 00.2	+0.8
MTLF	Montolieu	136.21	332	ePKIKP	PKPdf	07 36 02.4	+0.8
	comp=Z,3.7nm,0.6s						
SIV	San Ignacio	137.68	122	PKP	PKPdf	07 36 04.2	-0.2
	comp=Z,1.1nm,0.5s,baz=252,slow=5.2,SNR=11						
SIV				SKPbc	SKPbc	07 39 21.3	+2.1
	comp=Z,1.8nm,0.7s,baz=252,slow=4.6,SNR=8.2						
HUMP	Col San Antoni	138.18	70	ePKPdf	PKPdf	07 36 05.9	+0.6
SAML	Samuel	138.71	111	ePKPdf	PKPdf	07 36 05.9	-0.4
ESDC	Sonseca Array	141.94	334	PKhKP		07 36 07.5	
	comp=Z,0.6nm,0.4s,baz=23,slow=3.9,SNR=6.6						
PVIS	Viseu	142.62	339	ePKPdf	PKPdf	07 36 10.3	-3.0
MTE	Manteigas	142.77	338	ePKPdf	PKPdf	07 36 11.1	-2.5
EHUE	Huescar	142.79	331	PKIKP	PKPdf	07 36 10.5	-3.1
EQES	Quesada	143.04	331	P	PKPdf	07 36 11.4	-2.6
EBAN	Banos Encina	143.09	332	PKIKP	PKPdf	07 36 11.6	-2.5
PCBR	Castelo Branco	143.24	338	ePKPdf	PKPdf	07 36 13.0	-1.4
EADA	Adamuz	143.45	333	P	PKPdf	07 36 12.2	-2.6
EBER	Berja	143.66	330	P	PKPdf	07 36 12.8	-2.4
ECOG	Cogollos-Vega	143.69	331	PKIKP	PKPdf	07 36 12.3	-2.9
PTOM	Tomar	143.78	339	ePKPdf	PKPdf	07 36 14.2	-1.1
EBAD	Badajoz	143.99	336	P	PKPdf	07 36 13.8	-1.9
ERON	Agron	144.01	331	P	PKPdf	07 36 13.9	-1.8
EGUA	Guajares	144.04	331	PKIKP	PKPdf	07 36 14.3	-1.5
ELOJ	Sierra Loja	144.08	331	PKIKP	PKPdf	07 36 14.4	-1.5
EALB	Alboran	144.48	329	P	PKPdf	07 36 15.4	-1.2
EVO	Evora	144.58	337	ePKIKP	PKPdf	07 36 16.6	-0.1
	comp=Z,88nm,0.9s						
EMIN	Mina Concepcio	144.69	335	P	PKPdf	07 36 16.9	-0.1
EMIJ	Mijas	144.84	332	P	PKPdf	07 36 15.9	-1.3
PLML	Palmela	144.89	338	ePKPdf	PKPdf	07 36 18.7	+1.4
PBEJ	Beja	144.96	337	ePKPdf	PKPdf	07 36 18.3	+0.9
ESPR	Espera	145.09	333	P	PKPbc	07 36 18.6	+1.1
EGRO	El Granado	145.23	336	P	PKPdf	07 36 18.7	+0.8
EJIF	Jimena Fronter	145.26	332	PKP2	PKPab	07 36 19.0	+0.6
PTEO	Sao Teotonio	145.71	337	ePKPdf	PKPdf	07 36 20.6	+1.9
BDFB	Brasilia	148.19	134	PKP	PKPdf	07 36 21.6	-1.3
	comp=Z,6.1nm,0.5s,baz=180,slow=4.0,SNR=3.5						
BDFB				PKPbc	PKPbc	07 36 26.0	-0.3
	comp=Z,6.1nm,0.5s,baz=256,slow=1.3,SNR=18						
BDFB				pPKPbc	pPKPbc	07 37 12.4	-5.2
	comp=Z,8.7nm,0.9s,baz=240,slow=3.4,SNR=4.6						
TORD	Torodi Ar. Bea	153.17	287	PKP	PKPdf	07 36 30.2	-0.3
	comp=Z,2.4nm,0.6s,baz=359,slow=1.5,SNR=21						
TORD				PKPbc	PKPbc	07 36 37.7	-0.4
	comp=Z,6.9nm,0.5s,baz=72,slow=2.0,SNR=47						
TORD				PKPab	PKPab	07 36 50.6	0.0
	comp=Z,5.5nm,0.6s,baz=76,slow=4.0,SNR=9.7						
TORD				pPKPbc	pPKPbc	07 37 24.2	-5.3
	comp=Z,4.6nm,0.7s,baz=76,slow=2.0,SNR=4.2						
TORD	Torodi Ar. Bea	153.17	287	PKP	PKPdf	07 36 30.2	-0.3
TORD				PKPbc	PKPbc	07 36 37.7	-0.4
TORD				PKPab	PKPab	07 36 50.6	0.0
TORD				pPKPbc	pPKPbc	07 37 24.2	-5.3

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*GII **06** 07:20:14.8±0.1, 3085N×3500E, h0^{km}, ML2.5/4*
*ISCJB **06** 07:20:15.8±0.4, 3084N±002×3499E±003, h7^{km}±4^{km}, Error ellipse: s-maj=5.0km s-min=3.2km az=20.0*
*HLW **06** 07:20:16.0, 3095N×3495E, h10^{km}, Mb2.5*
ISC 06 07:20:16.3±0.4**, 3085N**±002×**3498E**±004**, h10**^{km}±3^{km}**, n23, σ0^{s}90**/34**, 5C-1D, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASH	Mash'abbe Sade	0.23	312	Pg	Pg	07 20 20.6	-0.3
MASH				Sg	Sg	07 20 25.3	+1.2
SVTA	Shivta	0.32	285	Pg	Pg	07 20 22.4	-0.4
RTMM	Retamin	0.33	309	Pg	Pg	07 20 22.3	-0.5
ZFRI	Zfri	0.34	150	Pg	Pg	07 20 22.6	-0.4
PRNI	Paran	0.49	178	Pg	Pg	07 20 25.8	-0.2
PRNI				Sg	Sg	07 20 34.1	+1.7
KZIT	Kziot	0.51	277	Pg	Pg	07 20 25.9	-0.2
KZIT				Sg	Sg	07 20 34.5	+1.6
MZDA	Masada	0.57	35	Pg	Pg	07 20 26.1	-1.2
MZDA				Sg	Sg	07 20 35.3	+0.5
HRFI	Mount Harif	0.81	177	Pg	Pg	07 20 31.1	-0.8
HRFI				Sg	Sg	07 20 43.7	+1.2
DRGI	Dragot	0.82	25	Pg	Pg	07 20 31.5	-0.7
MKRJ	Makawir	0.90	39	Pg	Pg	07 20 33.2	-0.6
MBH	Mount Berech	1.05	183	Pg	Pg	07 20 36.0	-0.5
MBH				Sg	Sg	07 20 51.0	+0.8
EIL	Elat	1.17	181	Pg	Pg	07 20 37.7	-1.2
HNKL	Nakhl	1.26	224	⇑P	Pn	07 20 39.5	-0.5
HNKL				S	Sb	07 20 56.8	+0.4
SLTI	Sal'it	1.39	2	Pn	Pn	07 20 41.5	-0.3
SLTI				Sn	Sn	07 21 02.1	+1.8
HMDT	Nahal Hemdat	1.48	18	Pn	Pn	07 20 42.4	-0.6
HMDT				Sn	Sn	07 21 02.9	+0.5
AMAG	Maghara	1.54	263	⇑eP	Pn	07 20 42.6	-1.3
AMAG				S	Sn	07 21 02.1	-1.8
MMLI	Mount Malkishu	1.63	13	Pn	Pn	07 20 44.6	-0.5
MMLI				Sn	Sn	07 21 07.9	+1.6
HBST	Basata	1.64	188	⇓P	Pn	07 20 46.0	+0.8
OFRI	'Ofer	1.77	0	Pn	Pn	07 20 46.9	-0.2
SUZ		2.11	242	⇑eP	Pn	07 20 51.1	-0.6
HDHB	Dhahab	2.14	189	⇑P	Pn	07 20 52.1	0.0
MMC5	Mount Meron ar	2.19	10	Pn	Pn	07 20 53.4	+0.6
HKAT	Jabal Katrina	2.47	201	⇑P	Pn	07 20 57.0	+0.4

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*BJI **06** 07:34:21.0, 680N×73.10W, h151^{km}, mB5.0*
*FUNV **06** 07:34:22.4, 663N×7322W, h160^{km}, MW4.4*
*ISCJB **06** 07:34:23.0±0.2, 678N±003×7297W±003, h163^{km}±2^{km}, mb4.2/47, Error ellipse: s-maj=5.4km s-min=3.0km az=87.1*
*IDC **06** 07:34:24.1±0.5, 678N×7294W, h159^{km}±5^{km}, mb3.9/13, mb1 4.1/18, mb1mx3.9/26, mbtmp4.4/18, Error ellipse: s-maj=10.0km s-min=6.4km az=120.0*
*NEIC **06** 07:34:25.0, 684N×73.11W, h151^{km}, mb4.4/39, After RSNC.*
ISC 06 07:34:24.3±0.2**, 678N**±003×**7296W**±003**, h156**^{km}±2^{km}**, h158**^{km}±2.6^{km}**:pP-P, n215, σ0^{s}76**/222**, mb4.2**/47**, 50C-39D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.26	239	⇓iP	Pn	07 34 45.8	+0.5
BARC				eS	Sn	07 35 00.7	-0.7
RUSC	La Rusia	0.85	188	⇓iP	Pn	07 34 49.8	+1.4
RUSC				eS	Sn	07 35 08.0	+1.1
OCAC	Ocana	1.50	346	⇑iP	Pn	07 34 53.6	-0.6
OCAC				eS	Sn	07 35 16.0	-1.2
ROSC	El Rosal	2.35	216	P	Pn	07 35 05.6	+1.8
	337nm,0.3s,baz=288,slow=7.7,SNR=446						
ROSC				S	Sn	07 35 35.6	+1.3
	579nm,0.3s,baz=99,slow=21,SNR=13						
ROSC	El Rosal	2.35	216	⇓iP	Pn	07 35 05.5	+1.8
ROSC				eS	Sn	07 35 34.9	+0.7
SOCV	Socops	2.57	54	eP	Pn	07 35 08.1	+1.7
SOCV				eS	Sn	07 35 40.3	+1.4
VIGV	El Vigia	2.59	37	⇑iP	Pn	07 35 07.8	+1.1
VIGV				eS	Sn	07 35 40.5	+1.1
HELC	Santa Helena	2.63	258	eP	Pn	07 35 05.8	-1.5
HELC				eS	Sn	07 35 38.5	-1.9
SDV	Santo Domingo	3.11	48	P	Pn	07 35 14.7	+1.5
	116nm,0.3s,baz=236,slow=5.6,SNR=377						
SDV				S	Sn	07 35 51.1	-0.1
	253nm,0.3s,baz=76,slow=22,SNR=26						
SDV	Santo Domingo	3.11	48	ePn	Pn	07 35 14.7	+1.4
SDV				eSn	Sn	07 35 51.1	0.0
TOLC	Tolima	3.22	228	eP	Pn	07 35 14.7	+0.2
TOLC				eS	Sn	07 35 53.6	0.0
PRAC	Prado	3.62	212	eP	Pn	07 35 19.1	-0.7
PRAC				eS	Sn	07 36 01.3	-1.5
VIRV	Villa del Rosa	3.74	8	⇑iP	Pn	07 35 20.0	-1.3
QARV	Quebrada Arrib	4.17	35	⇑iP	Pn	07 35 27.7	+0.8
QARV				eS	Sn	07 36 15.2	-0.4
CURV	Curarigua	4.37	42	eP	Pn	07 35 30.1	+0.5
CURV				eS	Sn	07 36 20.0	-0.3
SOLC	Bahia Solano	4.49	265	eP	Pn	07 35 29.7	-1.4
DABV	Dabajuro	4.71	29	eP	Pn	07 35 34.2	+0.2
DABV				eS	Sn	07 36 26.0	-2.3
TEPV	Terepaima	4.89	49	i P	Pn	07 35 37.0	+0.7
TEPV				eS	Sn	07 36 32.0	-0.5
SIQV	Siquisique	4.95	39	⇑iP	Pn	07 35 37.1	0.0
SIQV				eS	Sn	07 36 32.8	-1.1
BAUV	El Baul	5.32	66	eP	Pn	07 35 41.6	-0.4
FLOC	Florencia	5.87	207	eP	Pn	07 35 48.5	-0.7
JACV	Jacura	5.91	43	eP	Pn	07 35 50.4	+0.5
MONV	Montecano	5.93	30	eP	Pn	07 35 49.3	-0.7
TURV	Turiamo	6.24	54	eP	Pn	07 35 54.1	0.0
CRUC	La Cruz	6.58	217	eP	Pn	07 35 59.8	+1.1
CAOV	Caicara del Or	6.61	85	eP	Pn	07 35 57.8	-1.2
CAOV				eS	Sn	07 37 10.0	-3.4
OTAV	Otavalo	8.50	220	ePn	Pn	07 36 23.2	-1.0
OTAV				eSn	Sn	07 37 59.1	+0.3
PCRV	Puerto La Cruz	8.90	67	P	Pn	07 36 30.1	+0.6
	2.9nm,0.3s,baz=316,slow=5.7,SNR=16						
PCRV				S	Sn	07 38 08.4	0.0
	7.4nm,0.3s,baz=153,slow=16,SNR=7.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JTS	JuntasAbangare	12.37	287	P	Pn	07 37 15.3	+0.3
	0.5nm,0.3s,baz=65,slow=4.6,SNR=32						
JTS	JuntasAbangare	12.37	287	ePn	Pn	07 37 15.8	+0.8
MPR	Mayaguez	12.70	26	ePn	Pn	07 37 18.0	-1.4
CPD	Cerro la Pandu	13.13	31	ePn	Pn	07 37 23.8	-1.1
LMGC	Las Mercedes	13.78	344	eP	Pn	07 37 36.0	+2.9
HLGC	Holguin	14.35	348	eP	Pn	07 37 44.8	+4.5
ATAH	Atahualpa	14.72	202	P	Pn	07 37 48.6	+3.7
	1.1nm,0.3s,baz=32,slow=4.6,SNR=5.6						
SAML	Samuel	18.41	148	eP	P	07 38 28.6	+1.1
	12nm,0.4s						
SAML				eS	S	07 41 54.2	+4.6
NNA	Nana	19.04	192	eP	P	07 38 33.6	-0.7
	11nm,0.6s						
TEIG	Tepich	19.99	313	eP	P	07 38 44.8	+0.2
	11nm,0.5s						
LPAZ	La Paz	23.41	168	P	P	07 39 19.6	+0.5
	5.2nm,0.8s,mb4.0,baz=346,slow=9.9,SNR=18						
LPAZ	La Paz	23.41	168	eP	P	07 39 19.8	+0.7
	2.7nm,0.6s,mb3.9						
CMIG	Matias Romero	23.75	298	P	P	07 39 22.6	+0.4
	0.7nm,0.3s,mb3.6,baz=138,slow=20,SNR=4.5						
SIV	San Ignacio	25.50	153	P	P	07 39 37.9	-0.2
	3.4nm,0.9s,mb3.9,baz=332,slow=10,SNR=9.9						
SIV				pP	pP	07 40 12.0	+1.7
	3.5nm,0.6s,baz=326,slow=8.2,SNR=6.5						
LRAL	Lakeview Retre	29.20	335	eP	P	07 40 12.5	+1.3
	4.7nm,0.8s,mb4.3						
LVC	Limon Verde	29.47	172	P	P	07 40 13.0	-0.5
	1.9nm,0.6s,mb4.0,baz=15,slow=6.2,SNR=3.4						
LVC	Limon Verde	29.47	172	eP	P	07 40 13.4	-0.1
	3.3nm,0.9s,mb4.1						
PLAL	Pickwick Lake	31.34	336	eP	P	07 40 30.6	+0.7
	9.7nm,0.9s,mb4.5						
WVT	Waverly	32.24	337	eP	P	07 40 37.5	-0.3
	4.9nm,0.3s,mb4.7						
BDFB	Brasilia	33.26	132	P	P	07 40 48.1	+1.4
	3.9nm,0.5s,mb4.4,baz=292,slow=9.7,SNR=13						
MIAR	Mount Ida	33.55	328	eP	P	07 40 47.9	-1.3
	2.7nm,0.9s,mb4.0						
WCI	Wyandotte Cave	33.56	341	eP	P	07 40 49.9	+0.5
	7.4nm,0.6s,mb4.6						
USIN	University of	33.80	339	eP	P	07 40 52.2	+0.9
SIUC	Southern Illin	34.16	337	eP	P	07 40 55.0	+0.5
BLO	Bloomington	34.50	341	eP	P	07 40 58.1	+0.7
FVM	French Village	34.88	335	eP	P	07 41 00.5	-0.1
	15nm,0.8s,mb4.7						
FVM				epP	pP	07 41 34.3	+0.5
CCM	Cathedral Cave	35.28	335	eP	P	07 41 04.0	-0.1
	18nm,0.6s,mb4.9						
CCM				epP	pP	07 41 36.0	-1.3
CPUP	Villa Florida	36.23	156	P	P	07 41 08.9	-3.3
	1.0nm,0.7s,mb3.6,baz=334,slow=8.5,SNR=6.5						
CPUP	Villa Florida	36.23	156	eP	P	07 41 09.4	-2.8
	6.9nm,0.9s,mb4.3						
LTX	Lajitas	36.61	312	eP	P	07 41 15.2	-0.2
	4.2nm,0.7s,mb4.2						
CFAA	Coronel Fontan	38.43	174	P	P	07 41 29.0	-1.7
	0.1nm,0.3s,mb2.9,baz=3.2,slow=7.5,SNR=4.3						
CFAA	Coronel Fontan	38.43	174	P	P	07 41 29.0	-1.7
AMTX	Amarillo	38.49	321	eP	P	07 41 31.1	-0.1
	12nm,0.8s,mb4.6						
SCIA	State Center	39.34	336	eP	P	07 41 37.8	-0.5
ANMO	Albuquerque	41.66	317	eP	P	07 41 58.0	+0.7
	1.2nm,0.5s,mb3.8						
LAZ	Ladron	41.82	316	eP	P	07 41 59.5	+0.9
TUC	Tucson	43.40	311	eP	P	07 42 11.6	+0.3
	1.1nm,0.5s,mb3.7						
EYMN	Ely	43.96	342	eP	P	07 42 15.3	-0.5
	14nm,0.6s,mb4.8						
ISCO	Idaho Springs	44.04	323	eP	P	07 42 17.4	+1.0
	6.1nm,0.9s,mb4.2						
116A	Eloy	44.20	311	⇓P	P	07 42 18.0	+0.2
	baz=44,SNR=5.2						
SMCO	Snowmass	44.48	322	eP	P	07 42 20.9	+0.9
115A	Sonoran Desert	44.66	311	⇓P	P	07 42 21.8	+0.4
	baz=45,SNR=8.1						
WUAZ	Wupatki	45.37	315	eP	P	07 42 28.1	+1.2
	16nm,0.9s,mb4.6						
X15A	Humboldt	45.49	313	P	P	07 42 28.8	+0.8
	baz=45,SNR=8.7						
Z14A	Wintersburg	45.50	311	⇑P	P	07 42 28.4	+0.4
	baz=45						
Y14A	Wickenburg	45.80	312	⇑P	P	07 42 30.5	+0.2
	baz=46,SNR=10						
W15A	Williams	45.84	314	⇓P	P	07 42 31.1	+0.5
	baz=46						
X14A	Yava	45.96	312	⇑P	P	07 42 32.0	+0.4
	baz=46,SNR=5.4						
W14A	Seligman	46.44	313	⇑P	P	07 42 36.2	+0.9
	baz=46						
SRU	San Rafael	46.68	319	eP	P	07 42 37.9	+0.7
GLA	Glamis	46.79	310	eP	P	07 42 38.9	+0.9
GLA	Glamis	46.79	310	⇑P	P	07 42 38.0	0.0
	baz=47,SNR=5.5						
Y12C	Blythe	46.85	311	⇑P	P	07 42 38.7	+0.1
	baz=47						
PLCA	Paso Flores	47.32	178	P	P	07 42 41.3	-0.9
	0.9nm,0.4s,mb3.7,baz=310,slow=9.8,SNR=4.0						
ULM	Lac du Bonnet	47.38	340	P	P	07 42 41.6	-1.1
	8.1nm,0.5s,mb4.6,baz=142,slow=7.1,SNR=29						
ULM	Lac du Bonnet	47.38	340	eP	P	07 42 41.6	-1.0
	8.6nm,0.6s,mb4.6						
MSU	Marysvale	47.45	318	eP	P	07 42 44.0	+0.9
W12A	Cal Nev Ari	47.78	312	⇑P	P	07 42 46.0	+0.2
	baz=48						
DAU	Daniels Canyon	47.87	320	eP	P	07 42 47.2	+0.8
V12A	Nelson	47.96	313	⇓P	P	07 42 47.5	+0.3
	baz=48,SNR=7.7						
SCHQ	Schefferville	48.17	5	P	P	07 42 48.5	-0.2
	4.0nm,0.6s,mb4.3,baz=191,slow=6.7,SNR=22						
SCHQ	Schefferville	48.17	5	eP	P	07 42 49.0	+0.3
	4.0nm,0.6s,mb4.2						
BW06	Boulder Array	48.21	324	eP	P	07 42 48.8	-0.2
PDAR	Pinedale Array	48.21	324	P	P	07 42 48.9	-0.2
	2.9nm,0.7s,mb4.0,baz=126,slow=8.8,SNR=25						
TCUT	Toone Canyon	48.36	321	eP	P	07 42 51.0	+0.8
V11A	Goodsprings	48.43	313	⇑P	P	07 42 51.0	+0.2
	baz=48						
TUQ	Turquoise Mtn.	48.62	312	⇓P	P	07 42 52.2	+0.1
	baz=48						
HWUT	Hardware Ranch	48.74	321	eP	P	07 42 52.9	-0.2
	5.6nm,0.7s,mb4.3						
DUG	Dugway	48.75	319	eP	P	07 42 54.0	+0.8
GSC	Goldstone	49.21	312	eP	P	07 42 57.5	+0.8
GSC	Goldstone	49.21	312	⇑P	P	07 42 57.1	+0.4
	baz=49						
REDW	Red Top Meadow	49.33	324	eP	P	07 42 57.7	+0.2
	10nm,0.7s,mb4.6						
REDW				epP	pP	07 43 31.5	-1.2
REDW				ePP	PP	07 44 57.6	+4.7
LOHW	Long Hollow	49.33	324	eP	P	07 42 57.9	+0.4
	5.9nm,0.6s,mb4.4						
MOOW	Moose Ponds	49.49	324	eP	P	07 42 58.7	-0.1
	4.2nm,0.8s,mb4.1						
MOOW				epP	pP	07 43 35.4	+1.3
Q12A	Willow Creek R	49.50	317	⇓P	P	07 42 59.3	+0.4
	baz=49,SNR=5.7						
TPNV	Topopah Spring	49.52	314	eP	P	07 42 59.4	+0.4
	5.5nm,0.9s,mb4.2						
HVU	Hansel Valley	49.59	321	eP	P	07 42 59.8	+0.3
	9.1nm,1.1s,mb4.3						
RRI2	Red Ridge	49.59	324	eP	P	07 43 08.6	+9.0
	12nm,0.6s,mb4.7						
IMW	Indian Meadow	49.70	324	eP	P	07 43 01.6	+1.2
	5.6nm,0.6s,mb4.4						
P12A	McGill	49.77	317	⇑P	P	07 43 01.0	+0.1
	baz=50						
Q11A	Duckwater	49.97	316	⇑P	P	07 43 02.3	-0.1
	baz=50						
N13A	Wendover, West	50.00	319	⇑P	P	07 43 02.9	+0.2
	baz=50						
GCMT	Greycliff	50.15	327	eP	P	07 43 04.2	+0.4
R10A	Warm Springs	50.16	315	⇑P	P	07 43 04.0	+0.2
	baz=50						
DAC	Darwin (Calif)	50.20	312	eP	P	07 43 00.1	-4.1
	3.5nm,0.6s,mb4.2						
M13A	Montello	50.24	320	P	P	07 43 04.7	+0.2
	baz=50,SNR=13						
QLMT	Earthquake Lak	50.54	325	eP	P	07 43 07.5	+0.8
N12A	Clover Valley,	50.54	319	⇑P	P	07 43 06.7	0.0
	baz=50						
S09A	Goldfield	50.55	314	P	P	07 43 07.2	+0.4
	baz=50,SNR=5.6						
O11A	Cowboy Ranch,	50.59	318	⇓P	P	07 43 07.4	+0.4
	baz=50,SNR=5.6						
ELK	Elko	50.62	319	eP	P	07 43 07.6	+0.3
R09A	Tonopah	50.68	315	⇓P	P	07 43 08.1	+0.4
	baz=51						
M12A	Wells	50.75	320	⇓P	P	07 43 08.1	-0.2
	baz=51,SNR=5.8						
P10A	Eureka	50.89	317	⇑P	P	07 43 09.6	+0.3
	baz=51						
N11A	Elko Archery C	50.99	318	⇑P	P	07 43 09.7	-0.3
	baz=51						
BOZ	Bozeman (W)	51.14	326	eP	P	07 43 11.2	0.0
	3.6nm,0.6s,mb4.2						
O10A	Cortez Mining,	51.23	317	⇓P	P	07 43 12.0	+0.1
	baz=51						
M11A	Holland Ranch,	51.33	319	⇑P	P	07 43 12.9	+0.3
	baz=51						
MCMT	McKenzie Canyo	51.35	324	eP	P	07 43 13.8	+1.1
MCMT				epP	pP	07 43 48.3	+0.1
HELL	Mitchell Peak,	51.42	312	⇑P	P	07 43 13.5	+0.3
	baz=51						
Q08A	Gabbs	51.56	315	⇑P	P	07 43 14.4	+0.1
	baz=52,SNR=6.3						
HLID	Hailey	51.57	322	eP	P	07 43 14.9	+0.5
	3.2nm,0.7s,mb4.1						
NVAR	Mina Array Bea	51.63	315	P	P	07 43 15.3	+0.5
	1.7nm,0.6s,mb3.9,baz=120,slow=7.8,SNR=19						
O09A	Fish Creek Ran	51.64	317	⇓P	P	07 43 15.3	+0.4
	baz=52,SNR=11						
LRM	Limekiln Ridge	51.71	325	eP	P	07 43 15.9	+0.5
M10A	I.L. Ranch, Tu	51.86	319	⇑P	P	07 43 16.7	+0.2
	baz=52						
HRY	Holter Researc	51.90	327	eP	P	07 43 16.5	-0.3
R07C	Lee Vining	52.02	314	⇓P	P	07 43 17.7	0.0
	baz=52						
N09A	Rock Creek Ran	52.19	318	⇑P	P	07 43 18.8	-0.1
	baz=52						
N08A	GE Springer Mi	52.56	317	⇓P	P	07 43 21.2	-0.5
	baz=52						
O07A	Toulon	52.79	316	⇑P	P	07 43 23.2	-0.1
	baz=53						
L09A	Wilkinson Ranc	52.84	319	⇓P	P	07 43 24.0	+0.2
	baz=53,SNR=18						
R05C	Kirkwood Meado	53.01	314	⇑P	P	07 43 25.7	+0.8
	baz=53						
M08A	Happy Creek Ra	53.04	318	⇑P	P	07 43 25.1	-0.1
	baz=53,SNR=5.6						
MSO	Missoula	53.13	326	eP	P	07 43 25.8	-0.1
	0.8nm,0.6s,mb3.6						
O06A	Flanigan	53.45	316	⇑P	P	07 43 27.8	-0.3
	baz=53						
R04C	Big Horse Ranc	53.45	313	⇓P	P	07 43 28.4	+0.2
	baz=53						
LAVA	Lava Cap Winer	53.50	314	⇓P	P	07 43 28.0	-0.6
	baz=53						
M07A	Soldier Meadow	53.54	318	⇑P	P	07 43 28.7	-0.2
	baz=53,SNR=8.7						
L07A	Adell	53.94	318	⇓P	P	07 43 31.8	+0.1
	baz=54,SNR=13						
J08A	Circle Bar Ran	54.00	320	⇓P	P	07 43 31.9	-0.3
	baz=54						
O05C	Quincy	54.12	315	⇑P	P	07 43 32.9	-0.2
	baz=54						
BSMT	Bassoo Peak	54.19	326	eP	P	07 43 34.3	+0.7
M06C	Likely Place G	54.34	317	⇑P	P	07 43 33.9	-0.7
	baz=54						
ORV	Oroville	54.36	315	⇑P	P	07 43 34.6	-0.2
	baz=54						
O04C	Chester	54.39	316	⇑P	P	07 43 35.1	+0.1
	baz=54,SNR=5.7						
SUTB	Sutter Butte	54.44	314	⇓P	P	07 43 35.2	-0.2
	baz=54						
J07A	Hines	54.55	320	⇑P	P	07 43 35.7	-0.5
	baz=54						
HATC	Hat Creek Radi	54.85	316	⇑P	P	07 43 37.7	-0.6
	baz=55						
M05C	Lookout	54.87	317	⇓P	P	07 43 37.8	-0.6
	baz=55,SNR=9.8						
K06A	Valley Falls	54.89	319	⇑P	P	07 43 38.7	+0.1
	baz=55						
J06A	Christmas Vall	55.03	319	⇓P	P	07 43 39.0	-0.7
	baz=55						
I06A	Prineville	55.39	320	⇑P	P	07 43 42.3	+0.1
	baz=55,SNR=6.0						
M04C	Macdoel	55.51	317	⇑P	P	07 43 42.7	-0.3
	baz=55,SNR=5.2						
P01C	Double 8 Ranch	55.64	314	⇓P	P	07 43 44.1	+0.2
	baz=56						
L04A	Klamath Falls	55.71	317	⇑P	P	07 43 43.7	-0.8
	baz=56						
M02C	Callahan	56.04	316	⇓P	P	07 43 45.9	-0.9
	baz=56						
YBH	Yreka Blue Hor	56.09	316	eP	P	07 43 45.6	-1.5
	2.6nm,0.6s,mb4.2						
YBH	Yreka Blue Hor	56.09	316	⇑P	P	07 43 45.6	-1.5
	baz=56						
N02C	Big Bar	56.14	315	⇓P	P	07 43 46.5	-1.0
	baz=56						
I05A	Bend	56.17	320	⇓P	P	07 43 47.4	-0.3
	baz=56						
HUMO	Hull Mountain	56.61	317	eP	P	07 43 48.9	-2.0
	0.6nm,0.5s,mb3.7						
JCC	Jacoby Creek	56.64	315	⇓P	P	07 43 50.9	-0.2
	baz=56						
G05A	Wamic	56.69	321	⇓P	P	07 43 51.4	0.0
	baz=57						
J03A	Ideyld Park	56.93	318	⇑P	P	07 43 51.9	-1.2
	baz=57						
HOOD	Mount Hood Mea	56.94	321	eP	P	07 43 54.3	+1.2
H04A	Detroit Lake	56.99	320	⇑P	P	07 43 53.4	-0.1
	baz=57,SNR=6.7						
K02A	Glendale	57.03	317	⇓P	P	07 43 53.2	-0.7
	baz=57						
J02A	Umpqua	57.33	318	⇓P	P	07 43 55.8	-0.2
	baz=57						
I03A	Eugene	57.39	319	⇓P	P	07 43 56.4	0.0
	baz=57						
G04A	Mulino	57.41	320	⇑P	P	07 43 55.9	-0.6
	baz=57						
E05A	Randle	57.58	322	⇓P	P	07 43 57.5	-0.1
	baz=58						
F04A	Amboy	57.70	321	⇓P	P	07 43 58.0	-0.5
	baz=58						
H03A	Soap Creek Ran	57.70	319	⇑P	P	07 43 58.5	+0.1
	baz=58						
I02A	Mapleton	57.77	319	⇓P	P	07 43 59.0	+0.1
	baz=58						
D05A	Enumclaw	58.01	323	⇑P	P	07 43 59.9	-0.7
	baz=58						
F03A	Seaside	58.41	321	⇓P	P	07 44 03.5	+0.1
	baz=58						
D04A	Dobbs Creek Ra	58.46	322	⇑P	P	07 44 03.1	-0.7
	baz=58						
B05A	Bryant	58.58	324	⇓P	P	07 44 03.9	-0.7
	baz=58						
E03A	Lebam	58.68	321	⇓P	P	07 44 05.4	+0.1
	baz=59						
C04A	Brinnon	58.84	323	⇑P	P	07 44 05.8	-0.7
	baz=59						
A05A	Maple Falls	58.93	324	⇑P	P	07 44 05.7	-1.3
	baz=59						
YKA	Yellowknife Ar	63.36	340	P	P	07 44 36.1	-0.8
	6.2nm,0.6s,mb4.6,baz=133,slow=6.6,SNR=45						
YKA				pP	pP	07 45 13.2	-0.5
	1.3nm,0.7s,baz=126,slow=7.7,SNR=3.3						
YKA	Yellowknife Ar	63.36	340	P	P	07 44 36.1	-0.8
YKA				pP	pP	07 45 13.2	-0.5
YKW3	Yellowknife Ar	63.41	340	eP	P	07 44 36.3	-0.9
DLBC	Dease Lake	67.44	331	eP	P	07 45 03.8	+0.7
SUMG	Summit	69.00	11	eP	P	07 45 12.7	-0.1
	2.9nm,0.5s,mb4.3						
INK	Inuvik	73.13	340	eP	P	07 45 37.2	-0.4
	2.4nm,0.6s,mb4.1						
TORD	Torodi Ar. Bea	73.59	78	P	P	07 45 39.5	-0.9
	0.1nm,0.3s,mb3.0,baz=282,slow=6.0,SNR=4.4						
TORD				pP	pP	07 46 19.3	+1.1
	0.6nm,1.0s,baz=273,slow=5.0,SNR=1.9						
ILAR	Eielson Array	77.07	335	P	P	07 45 59.5	-0.8
	1.1nm,0.7s,mb3.6,baz=122,slow=4.2,SNR=11						
SML	Sawmill	77.16	332	eP	P	07 46 00.5	-0.2
PMR	Palmer	77.50	332	eP	P	07 46 02.0	-0.5
	3.0nm,0.9s,mb3.9						
ARCES	ARCESS Array B	86.66	20	P	P	07 46 49.0	-1.3
	1.4nm,0.8s,mb3.8,baz=275,slow=5.6,SNR=4.2						
ARU	Arti	105.56	26	PKPdf	PKiKP	07 52 30.3	+1.4
ZRNK	Zerenda	112.33	24	ePKPdf	PKiKP	07 52 35.8	-5.8
CHKZ	Chkalovo	112.41	22	ePKPdf	PKiKP	07 52 33.7	-8.0
MDJ	Mudanjiang	124.96	340	PKP	PKPdf	07 53 06.3	+0.5
MDJ				PP	PP		
	comp=Z,49nm,4.0s						
KSH	Kashi	125.71	29	ePKP	PKPdf	07 52 59.0	-8.2
WMQ	Urumqi	126.68	17	PKP	PKPdf	07 53 09.4	+0.3
CN2	Changchun	126.97	343	ePKP	PKPdf	07 53 08.6	-1.1
HHC	Hu-ho-hao-te	132.43	355	ePKP	PKPdf	07 53 19.6	-0.4
HHC				PP	PP	07 55 47.5	+2.5
HHC				SKS	SKSdf	08 00 12.7	-4.0
HHC				SKKS	SKKSac	08 02 22.3	-3.3
HHC				SS	SS	08 13 10.7	-0.7
HHC				LR	LR		
	comp=E,268nm,36.9s						
LZH	Lanzhou	137.26	4	ePKP	PKPdf	07 53 28.5	-0.5
LZH				APKP		07 54 26.4	
NJ2	Nanjing	139.78	344	ePKP	PKPdf	07 53 33.5	-0.1
CD2	Chengdu	142.40	5	ePKP	PKPdf	07 53 35.1	-3.2
ASAR	Alice Springs	149.22	234	PKPbc	PKPbc	07 53 54.8	+0.5
	comp=E,1.1nm,0.5s,baz=120,slow=3.3,SNR=12						
WRAB	Tennant Creek	150.45	241	PKPdf	PKPdf	07 53 52.0	+0.1
WRAB				PKPbc	PKPbc	07 53 58.2	+0.9
WRAB				PKPab	PKPab	07 54 05.4	+1.0
WRA	Warramunga Arr	150.46	241	PKPbc	PKPbc	07 53 57.6	+0.2
	comp=E,1.3nm,0.4s,baz=110,slow=2.4,SNR=31						

*CSEM **06** 07:37:28.6±0.8, 3846N×2852W, h5km±3km, ML1.3, Error ellipse: s-maj=3.5km s-min=1.8km az=16.0, After PDA*

*PDA **06** 07:37:28.6±0.8, 3846N×2852W, h5km±3km, MD2.7, ML1.3, Error ellipse: s-maj=3.5km s-min=1.8km az=16.0*

SVSA 06 07:37:28.6±0.8, 3846N×2852W, h5km±3km, MD2.7, ML1.3, Error ellipse: s-maj=3.5km s-min=1.8km az=16.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCND	Candelaria	0.05	73	*i* P	Pg	07 37 29.7	-0.1
PCND				*i* S	Sg	07 37 31.2	+0.5
PCND							
	69nm,0.1s						
PICO	Pico	0.09	58	eP	Pg	07 37 30.5	0.0
PICO				eS	Sg	07 37 31.6	-0.1
HOR	Horta	0.11	310	eP	Pg	07 37 30.7	-0.2
HOR				eS	Sg	07 37 32.8	+0.3
PBOI	Pico dos Bois	0.12	99	eP	Pg	07 37 30.7	-0.3
PBOI				eS	Sg	07 37 32.9	+0.3
PBOI							
	21nm,0.1s						
PTEI	Pico do Teixo	0.13	73	eS	Sg	07 37 33.5	+0.4
PTEI							
	25nm,0.1s						
CALA	Caldeira	0.19	312	eP	Pg	07 37 32.2	-0.1
CALA				eS	Sg	07 37 35.1	+0.2
PID	Ribeirinha	0.32	92	erx		07 37 30.6	
ROSA	Rosais	0.34	39	eP	Pg	07 37 34.6	-0.6
ROSA				eS	Sg	07 37 39.5	-0.2
PAMA	Santo Amaro	0.35	50	eP	Pg	07 37 35.1	-0.2
PAMA				eS	Sg	07 37 39.7	-0.2
PAMA							
	25nm,0.2s						
PAMA	Santo Amaro	0.35	50	eP	Pg	07 37 35.1	-0.2
PAMA				eS	Sg	07 37 39.7	-0.2
PMAN	Manadas	0.38	62	erx	Sg	07 37 38.8	-2.1

HLW 06 07:39:40.4, 3442N×2755E, h33km, Mb3.5, 3C-1D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SLUM		3.52	215	⇓P	Pn	07 40 32.7	0.0
SLUM				S	Sn	07 41 10.3	-2.9
HBRG	Burj al ‘Arab	4.29	153	⇑P	Pn	07 40 43.2	-0.2
SWA1		5.37	197	⇑P	Pn	07 40 58.4	+0.2
SWA1				S	Sn	07 41 55.7	-3.2
SWA2		5.46	200	⇑P	Pn	07 40 59.7	+0.3

*IDC **06** 07:40:41.2±0.9, 796S×12482E, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.1/16, mbtmp4.2/8, MS3.8/2, Ms1 3.8/2, ms1mx3.0/24, Error ellipse: s-maj=71.2km s-min=17.6km az=72.0*

*ISCJB **06** 07:40:43.0±0.6, 823S±006×12489E±009, h33km, mb4.2/11, MS3.8/1, Error ellipse: s-maj=14.6km s-min=5.8km az=123.0*

*NEIC **06** 07:40:44.7±0.7, 806S×12547E, h35km, mb4.5/4, Error ellipse: s-maj=28.8km s-min=9.9km az=65.0*

ISC 06 07:40:44.9±0.6, 807S±007×1254E±01, h35km, n26, σ1ˢ29/30, mb4.2/11, MS3.8/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	8.35	124	eP	Pn	07 42 48.3	+4.9
	49nm,0.5s						
KAKA				eS	Sn	07 44 27.6	+11
FITZ	Fitzroy Crossi	9.98	179	eP	Pn	07 43 03.0	-2.7
	12nm,0.5s						
FITZ				eS	Sn	07 44 55.7	-0.7
FITZ	Fitzroy Crossi	9.98	179	Pn	Pn	07 43 02.8	-2.9
	0.3nm,0.3s,baz=36,slow=13,SNR=15						
FITZ				Sn	Sn	07 44 51.7	-4.7
	1.4nm,0.3s,baz=46,slow=11,SNR=3.6						
WRAB	Tennant Creek	14.65	145	ePn	Pn	07 44 08.4	-1.3
	43nm,0.8s						
WRA	Warramunga Arr	14.66	145	Pn	Pn	07 44 07.9	-1.8
	0.6nm,0.3s,baz=317,slow=13,SNR=24						
WRA				Sn	Sn	07 46 51.4	+0.5
	1.4nm,0.3s,baz=312,slow=24,SNR=7.7						
WB2	Warramunga Arr	14.66	145	eP	Pn	07 44 07.8	-2.0
WB2				eS	Sn	07 46 51.7	+0.7
ASPA	Alice Springs	17.53	153	eP	Pn	07 44 48.1	+1.6
ASPA				eS	S	07 48 00.0	-7.7
AS31	Alice Springs	17.54	153	eP	Pn	07 44 48.1	+1.6
AS31				eS	S	07 48 00.0	-7.7
ASAR	Alice Springs	17.54	153	P	Pn	07 44 46.5	0.0
	0.3nm,0.3s,baz=318,slow=10,SNR=24						
ASAR				S	S	07 48 02.6	-5.1
	0.5nm,0.3s,baz=314,slow=19,SNR=5.5						
ASAR				LR	LR	07 52 14.1	
	comp=Z,226nm,21.1s,baz=181,slow=39						
FORT	Forrest	22.73	174	eP	P	07 45 43.7	-0.1
	16nm,0.5s,mb4.7						
CTA	Charters Tower	23.48	123	P	pP	07 46 00.6	-0.4
	5.1nm,0.8s,baz=338,slow=13,SNR=5.6						
KLBR	Kellerberrin	24.46	196	eP	P	07 46 02.2	+1.8
	17nm,1.1s,mb4.4						
NWAO	Narrogin (SRO)	25.86	196	P	P	07 46 13.9	+0.8
	5.9nm,0.8s,mb4.2,baz=25,slow=5.6,SNR=3.6						
STKA	Stephens Creek	28.09	150	eP	P	07 46 35.2	+1.9
	4.1nm,0.8s,mb4.1						
STKA	Stephens Creek	28.09	150	P	P	07 46 37.5	+4.3
	3.8nm,0.6s,mb4.2,baz=325,slow=10,SNR=9.4						
PSI	Prapat	28.50	291	LR	LR	07 57 12.5	
	comp=Z,265nm,22.0s,MS3.8,baz=61,slow=36						
SONM	Songino Array	58.14	345	P	P	07 50 35.3	+0.3
	0.8nm,0.6s,mb4.0,baz=163,slow=7.4,SNR=5.5						
MKAR	Makanchi Array	66.69	329	P	P	07 51 31.3	-1.0
	2.0nm,0.7s,mb4.3,baz=141,slow=7.8,SNR=11						
MKAR	Makanchi Array	66.69	329	P	P	07 51 31.3	-1.0
ZAL	Zalesovo	70.59	336	P	P	07 51 56.1	-0.4
	1.4nm,0.5s,mb4.2,baz=359,slow=3.4,SNR=6.2						
KURK	Kurchatov	71.11	331	eP	P	07 51 59.9	+0.2
	4.2nm,0.8s,mb4.4						
VNDA	Vanda	71.98	172	P	P	07 52 08.0	+3.0
	1.7nm,0.7s,mb4.1,baz=315,slow=7.9,SNR=9.4						
BVAR	Borovoye Array	76.58	329	P	P	07 52 31.4	-0.3
	0.4nm,0.4s,mb3.7,baz=123,slow=11,SNR=4.1						
AKTO	Aktyubinsk	82.15	323	P	P	07 53 02.4	+0.3
	2.3nm,0.7s,mb4.2,baz=130,slow=6.7,SNR=8.9						
TORD	Torodi Ar. Bea	124.50	280	PKP	PKPdf	07 59 41.4	+1.0
	0.6nm,0.6s,baz=74,slow=0.9,SNR=6.6						
CPUP	Villa Florida	145.71	176	PKPbc	PKPbc	08 00 22.8	+2.8
	0.7nm,0.6s,baz=185,slow=6.4,SNR=5.5						

IDC 06 07:43:57.8±6.1, 1974S×17683W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/15, mbtmp4.0/4, MS3.9/3, Ms1 3.9/3, ms1mx3.1/22, Error ellipse: s-maj=175.4km s-min=96.6km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.11	244	P	P	07 51 26.2	-0.6
	1.0nm,0.4s,baz=93,slow=11,SNR=4.7						
ASAR	Alice Springs	45.77	256	P	P	07 52 21.6	+0.6
	2.2nm,0.8s,baz=95,slow=8.5,SNR=8.7						
WRA	Warramunga Arr	45.80	261	P	P	07 52 21.6	+0.3
	1.2nm,0.6s,baz=96,slow=7.5,SNR=13						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	54.23	262	P	P	07 53 26.1	+0.9
	0.6nm,0.4s,baz=68,slow=11,SNR=4.4						
PLCA	Paso Flores	88.99	133	LR	LR	08 31 49.5	
	comp=Z,55nm,18.6s,baz=180,slow=32						
JTS	JuntasAbangare	95.16	81	LR	LR	08 31 59.8	
	comp=Z,55nm,19.2s,baz=337,slow=30						
ATAH	Atahualpa	95.53	99	LR	LR	08 32 38.4	
	comp=Z,65nm,20.5s,baz=275,slow=31						
AKASG	Malin Array Be	142.87	332	PKP	PKPdf	08 03 32.4	-0.9
	0.9nm,0.5s,baz=43,slow=4.4,SNR=7.3						

*NIED **06** 08:23:00, 3850N×14210E, h32km, Mw3.4 Best double couple: $M_0$1.68000×10^{14} NP1:ϕ_s22.00000°, δ79.00000°, λ38.00000°. NP2:ϕ_s284.00000°, δ53.00000°, λ166.00000°.*

JMA 06 08:23:47.4±0.1**, 3847N×14213E, h40km±1km, M3.6, 7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.61	269	⇓P	Pn	08 23 59.6	-0.1
JIO				S	Sn	08 24 07.9	-0.5
OFUJ	Ofunato	0.71	330	⇓P	Pn	08 24 01.0	+0.1
OFUJ				S	Sn	08 24 10.5	-0.2
JMK	Ichinoseki	0.86	304	⇓P	Pn	08 24 03.2	+0.2
JOU	Okura	1.16	265	⇓P	Pn	08 24 07.5	+0.4
JOU				eS	Sn	08 24 22.3	+0.6
JOM	Ohasama	1.20	327	⇓P	Pn	08 24 08.2	+0.6
JOM				eS	Sn	08 24 23.5	+0.9
JMM	Marumori	1.21	241	⇓P	Pn	08 24 07.4	-0.5
JYK	Kaneyama	1.46	288	⇓P	Pn	08 24 11.9	+0.7
JFK	Kawauchi	1.48	222	P	Pn	08 24 11.1	-0.5
JYS	Shirataka	1.64	262	P	Pn	08 24 14.3	+0.6
JFT	Otama	1.71	237	P	Pn	08 24 15.4	+0.8
MAT	Matsushiro	3.67	240	P	Pn	08 24 43.8	+2.3
MAT				eS	Sn	08 25 24.0	+0.5

*IDC **06** 08:28:19.3±0.8, 9.15N×7093W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/22, mbtmp3.8/6, ML3.7/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/24, Error ellipse: s-maj=32.8km s-min=7.2km az=44.0*

*ISCJB **06** 08:28:20.6±1.0, 9.13N±0.03×7082W±0.03, h13km±7km, mb3.6/5, MS4.0/1, Error ellipse: s-maj=5.8km s-min=4.6km az=29.9*

*FUNV **06** 08:28:21.0, 9.15N×7084W, h5km, MW3.4*

*NEIC **06** 08:28:25.0±1.1, 888N×7055W, h10km, mb3.3/2, Error ellipse: s-maj=21.1km s-min=12.9km az=170.0*

ISC 06 08:28:20.6±0.7**, 916N**±003×**7083W**±003**, h4km**±5km**, n26, σ0s98**/31**, mb3.6**/5**, MS4.0**/1**, 1C, Venezuela**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	0.33	144	Pg	Pg	08 28 27.1	+0.1
	906nm,0.3s,baz=345,slow=7.5,SNR=3472						
SDV				Lg		08 28 31.5	
	baz=35,slow=16						
SDV	Santo Domingo	0.33	144	Pg	Pg	08 28 27.1	0.0
SDV				Lg		08 28 31.5	
VIGV	El Vigia	0.61	239	⇑iP	Pg	08 28 32.5	+0.1
VIGV				eS	Sg	08 28 41.1	+0.7
SOCV	Socops	0.87	182	eP	Pg	08 28 37.0	-0.3
SOCV				eS	Sg	08 28 48.8	+0.2
QARV	Quebrada Arrib	1.08	16	eP	Pg	08 28 41.0	-0.4
QARV				eS	Sg	08 28 56.4	+0.9
CURV	Curarigua	1.21	45	eP	Pg	08 28 42.6	-1.1
DABV	Dabajuro	1.76	6	eP	Pn	08 28 52.2	+0.4
DABV				eS	Sn	08 29 15.3	+0.6
SIQV	Siquisique	1.79	34	eP	Pn	08 28 53.0	+0.8
TEPV	Terepaima	1.80	64	eS	Sn	08 29 16.2	+0.5
VIRV	Villa del Rosa	2.05	311	i P	Pn	08 28 54.7	-1.1
VIRV				eS	Sn	08 29 21.4	-0.4
ELOV	Elorza	2.52	148	eP	Pn	08 29 02.6	+0.3
BAUV	El Baul	2.76	94	eP	Pn	08 29 05.5	-0.1
MONV	Montecano	2.91	17	eP	Pn	08 29 07.2	-0.4
CAOV	Caicara del Or	4.82	112	eP	Pn	08 29 32.2	-1.7
ROSC	El Rosal	5.51	219	Pn	Pn	08 29 48.1	+4.8
	4.0nm,0.3s,baz=287,slow=18,SNR=12						
ROSC				Sn	Sn	08 30 55.1	+8.0
	3.6nm,0.3s,baz=235,slow=22,SNR=7.0						
PCRV	Puerto La Cruz	6.19	80	Pn	Pn	08 29 54.1	+1.4
	1.5nm,0.3s,baz=168,slow=4.4,SNR=10						
PCRV				Sn	Sn	08 31 03.4	-0.5
	5.6nm,0.3s,baz=10,slow=23,SNR=7.2						
PCRV				LR	LR	08 32 45.9	
	comp=Z,117nm,19.9s,baz=271,slow=42						
SAML	Samuel	19.53	157	eP	Pn	08 32 47.9	-2.4
	1.8nm,0.8s						
SAML				eSn	Sn	08 36 23.8	-6.0
LPAZ	La Paz	25.42	174	P	P	08 33 51.5	+2.3
	0.6nm,0.6s,mb3.3,baz=317,slow=9.4,SNR=5.1						
LPAZ	La Paz	25.42	174	P	P	08 33 51.1	+1.9
	0.4nm,0.6s,mb3.1						
ULM	Lac du Bonnet	45.93	338	P	P	08 36 42.6	-1.7
	1.6nm,0.5s,mb4.2,baz=150,slow=8.0,SNR=5.0						
PDAR	Pinedale Array	47.60	321	P	P	08 36 57.0	-0.5
	0.7nm,0.5s,mb4.0,baz=127,slow=11,SNR=11						
NVAR	Mina Array Bea	51.53	312	P	P	08 37 27.8	+0.3
	0.4nm,0.8s,mb3.4,baz=119,slow=8.9,SNR=3.5						
TORD	Torodi Ar. Bea	71.06	79	P	P	08 39 41.5	+1.7
	0.2nm,0.5s,mb3.4,baz=289,slow=6.4,SNR=5.0						
RAR	Rarotonga	92.28	249	LR	LR	09 14 01.6	
	comp=Z,63nm,21.5s,MS4.0,baz=280,slow=30						
ASAR	Alice Springs	152.30	236	PKPbc	PKPbc	08 48 16.4	-1.2
	0.8nm,0.6s,baz=119,slow=2.9,SNR=4.2						
WRA	Warramunga Arr	153.43	243	PKPbc	PKPbc	08 48 19.1	-1.0
	0.5nm,0.4s,baz=105,slow=2.8,SNR=18						

*ISCJB **06** 08:43:27.3±2.7, 387N±02×714E±02, h10km, Error ellipse: s-maj=27.5km s-min=14.8km az=52.5*

*NNC **06** 08:43:35.6±4.2, 3945N×7157E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=41.5km s-min=24.0km az=0.0*

ISC 06 08:43:23.2±3.9**, 384N**±02×**709E**±02**, h10km, n11, σ0s81**/13**, 6C, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.26	29	P	Pn	08 44 28.1	+0.1
	SNR=19						
KK31	Karatay Array	4.68	356	⇑Pn	Pn	08 44 37.1	+3.3
	3.4nm,0.3s,baz=168,slow=13,SNR=74						
KK31				⇑Sn	Sn	08 45 28.4	+0.3
	2.5nm,0.3s						
UCH	Uchtor	4.68	35	P	Pn	08 44 33.6	-0.2
	SNR=20						
EKS2	Erkin-Say	4.75	26	P	Pn	08 44 34.7	-0.1
	SNR=7.4						
KZA	Kyzart	4.92	41	P	Pn	08 44 37.5	+0.3
	SNR=7.0						
KBK	Karagaybulak	5.22	35	P	Pn	08 44 41.5	+0.3
	SNR=6.7						
CHMS	Chumysh	5.41	31	P	Pn	08 44 43.6	-0.3
	SNR=11						
USP	Ospenovka	5.54	28	P	Pn	08 44 45.2	-0.5
	SNR=12						
TKM2	Tokmak 2	5.72	37	P	Pn	08 44 47.6	-0.6
	SNR=6.3						
TKM2	Tokmak 2	5.72	37	⇑Pn	Pn	08 44 47.5	-0.6
	0.3nm,0.6s						
TKM2				⇑Lg		08 45 58.4	
	0.8nm,0.8s						
AB31	Akbulak array	13.39	327	⇑Pn	Pn	08 46 39.0	+5.8
	0.7nm,0.7s,baz=130,slow=14,SNR=7.8						
AB31				⇑Sn	Sn	08 49 01.4	-0.7
	1.2nm,0.8s,baz=133,slow=26,SNR=3.3						

IDC 06 08:46:15.4±3.4**, 487S×15036E, h0km, mb4.0**/3**, mb1 4.3**/4**, mb1mx3.8**/15**, mbtmp4.1**/4**, ML3.2**/1**, MS3.8**/8**, Ms1 3.7**/8**, ms1mx3.5**/15**, Error ellipse: s-maj=108.5km s-min=38.4km az=115.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.52	215	Pn	Pn	08 47 39.4	+0.7
	4.9nm,0.3s,baz=41,slow=7.2,SNR=13						
PMG				Sn	Sn	08 48 46.3	+3.4
	2.5nm,0.3s,baz=87,slow=21,SNR=3.6						
PMG				LR	LR	08 49 41.6	
	comp=Z,519nm,20.8s,baz=213,slow=37						
GUMO	Guam	19.13	343	LR	LR	08 57 00.2	
	comp=Z,149nm,21.7s,baz=101,slow=34						
WB2	Warramunga Arr	21.62	225	eP	P	08 51 06.9	-0.1
WRA	Warramunga Arr	21.63	225	P	P	08 51 06.9	-0.2
	2.2nm,0.5s,baz=49,slow=10,SNR=25						
DZM	Mont Dzumac	23.13	139	LR	LR	08 58 47.8	
	comp=Z,356nm,21.6s,baz=201,slow=32						
ASAR	Alice Springs	24.52	219	P	P	08 51 35.9	-0.6
	2.4nm,0.6s,baz=55,slow=8.4,SNR=30						
ASAR				LR	LR	09 01 10.8	
	comp=Z,150nm,19.6s,baz=42,slow=36						
FITZ	Fitzroy Crossi	27.52	239	eP	P	08 52 04.7	+1.2
	5.9nm,0.8s						
FITZ	Fitzroy Crossi	27.52	239	P	P	08 52 04.7	+1.1
	3.3nm,0.7s,baz=12,slow=13,SNR=6.5						
FITZ				LR	LR	09 04 07.7	
	comp=Z,100nm,19.0s,baz=257,slow=39						
STKA	Stephens Creek	28.10	196	LR	LR	09 02 20.4	
	comp=Z,229nm,21.5s,baz=22,slow=34						
AFI	Afiamalu	38.37	106	LR	LR	09 07 37.2	
	comp=Z,77nm,19.8s,baz=245,slow=33						
URZ	Urewera	41.20	147	LR	LR	09 06 52.8	
	comp=Z,703nm,20.8s,baz=191,slow=30						
TORD	Torodi Ar. Bea	148.01	287	PKPbc	PKPbc	09 06 03.6	+0.9
	0.4nm,0.8s,baz=58,slow=3.0,SNR=4.3						

WEL 06 08:57:19.5±0.5**, 3824S×17840E, h12km, ML3.8**/5**, 1D, Error ellipse: s-maj=4.3km s-min=2.3km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	0.20	327	⇓P*	Pg	08 57 23.8	0.0
PUZ				SG	Sg	08 57 27.1	+0.3
MXZ	Matakaoa Point	0.68	354	P*	Pb	08 57 32.5	-0.7
MXZ				S*	Sb	08 57 42.7	+0.1
MWZ	Matawai	0.69	262	P*	Pb	08 57 32.6	-0.7
MWZ				S*	Sb	08 57 42.4	-0.5
KNZ	Kokohu	0.96	216	P*	Pb	08 57 36.9	-1.2
URZ	Urewera	1.01	269	P*	Pb	08 57 37.7	-1.2
URZ				S*	Sb	08 57 51.6	-0.6
WIZ	White Island	1.19	306	P*	Pb	08 57 39.7	-2.3
TAZ	Tarawera	1.49	270	PN	Pn	08 57 45.5	-0.5
BKZ	Black Stump Fm	1.75	238	PN	Pn	08 57 48.3	-1.4
MRZ	Mangatainoka R	3.25	221	ePN	Pn	08 58 06.2	-4.1
MRZ				SN	Sn	08 58 43.7	-5.2
MQZ	McQueen's Vall	6.98	217	SN	Sn	09 00 09.6	-11

IDC 06 09:09:13.7±3.8**, 478S×15009E, h0km, mb3.5**/2**, mb1 3.8**/3**, mb1mx3.6**/14**, mbtmp3.7**/3**, ML2.7**/1**, MS3.8**/1**, Ms1 3.8**/1**, ms1mx2.9**/18**, Error ellipse: s-maj=142.4km s-min=39.4km az=113.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.43	212	Pn	Pn	09 10 37.6	+1.7
	1.7nm,0.3s,baz=49,slow=12,SNR=6.7						
PMG				Sn	Sn	09 11 40.7	+1.5
	baz=348,slow=20,SNR=1.9						
WRA	Warramunga Arr	21.50	224	P	P	09 14 04.4	+0.3
	1.4nm,0.7s,baz=50,slow=10.0,SNR=18						
ASAR	Alice Springs	24.41	218	P	P	09 14 33.3	-0.5
	1.0nm,0.6s,baz=56,slow=8.1,SNR=21						
CBIJ	Chichi jima	32.60	347	LR	LR	09 27 00.9	
	comp=Z,158nm,18.8s,baz=146,slow=33						
TORD	Torodi Ar. Bea	147.72	287	PKPbc	PKPbc	09 29 01.3	+1.1
	0.6nm,0.8s,baz=90,slow=3.3,SNR=3.1						

*NEIC **06** 09:13:11.4±0.7, 605S×15532E, h80km, mb4.5/3, Error ellipse: s-maj=18.9km s-min=11.8km az=126.0*

*ISCJB **06** 09:13:20.5±2.5, 63S±0.1×1554E±0.1, h187km±25km, mb4.1/11, Error ellipse: s-maj=22.9km s-min=12.7km az=83.5*

*IDC **06** 09:13:25.1±2.5, 640S×15544E, h220km±25km, mb3.6/8, mb1 3.8/10, mb1mx3.7/16, mbtmp4.2/10, MS2.7/1, Ms1 2.7/1, ms1mx2.4/17, Error ellipse: s-maj=22.1km s-min=11.6km az=122.0*

ISC 06 09:13:23.7±2.1**, 64S**±01×**1554E**±01**, h202km**±22km**, n23, σ0s90**/23**, mb4.0**/11**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.44	125	LR	LR	09 16 24.2	
	comp=Z,66nm,19.4s,baz=357,slow=33						
PMG	Port Moresby	8.72	249	ePn	Pn	09 15 13.2	-13
	16nm,0.9s						
CTA	Charters Tower	16.30	212	P	P	09 17 02.4	+1.7
	0.5nm,0.3s,baz=32,slow=14,SNR=6.2						
CTA	Charters Tower	16.30	212	P	P	09 17 02.4	+1.7
CTAO	Charters Tower	16.30	212	Pn	Pn	09 17 00.2	-1.3
DZM	Mont Dzumac	18.92	147	P	P	09 17 29.4	+0.1
	2.7nm,0.3s,baz=329,slow=11,SNR=22						
KAKA	Kakadu	23.51	253	eP	P	09 18 16.2	+0.8
	4.8nm,0.3s,mb4.6						
WRAB	Tennant Creek	24.51	235	eP	P	09 18 25.3	+0.7
	23nm,1.4s,mb4.6						
WB2	Warramunga Arr	24.52	235	eP	P	09 18 25.1	+0.5
WRA	Warramunga Arr	24.52	235	P	P	09 18 25.0	+0.4
	1.8nm,0.3s,mb4.1,baz=62,slow=9.6,SNR=38						
WRA				S	S	09 22 31.3	+1.1
	0.5nm,0.8s,baz=13,slow=26,SNR=3.5						
AS31	Alice Springs	26.91	228	eP	P	09 18 45.4	-0.6
ASAR	Alice Springs	26.91	228	P	P	09 18 45.6	-0.4
	0.8nm,0.3s,mb3.8,baz=55,slow=9.6,SNR=21						
ASAR				S	S	09 23 06.2	-1.6
	0.3nm,0.5s,baz=55,slow=15,SNR=4.1						
ASPA	Alice Springs	26.91	228	eP	P	09 18 45.4	-0.7
FITZ	Fitzroy Crossi	31.30	245	eP	P	09 19 24.2	-0.6
	11nm,1.4s,mb4.3						
FITZ	Fitzroy Crossi	31.30	245	P	P	09 19 24.2	-0.6
	1.8nm,0.3s,mb4.2,baz=62,slow=8.7,SNR=24						
MBWA	Marble Bar	37.53	243	eP	P	09 20 17.8	-0.5
	11nm,1.0s,mb4.4						
MJAR	Matsushiro Arr	45.61	341	P	P	09 21 23.1	-0.6
	1.8nm,0.8s,mb3.5,baz=152,slow=6.4,SNR=4.7						
SONM	Songino Array	69.02	327	P	P	09 24 08.4	+1.0
	3.3nm,0.5s,mb4.2,baz=143,slow=6.6,SNR=16						
SML	Sawmill	80.47	24	eP	P	09 25 12.8	-0.3
SML				ePcP	PcP	09 25 22.5	+3.2
ILAR	Eielson Array	82.62	21	P	P	09 25 22.6	-1.7
	1.3nm,0.8s,mb3.7,baz=250,slow=6.5,SNR=12						
MKAR	Makanchi Array	83.19	319	P	P	09 25 27.6	+0.4
	0.2nm,0.3s,mb3.4,baz=99,slow=9.1,SNR=3.4						
NVAR	Mina Array Bea	91.00	52	P	P	09 26 06.2	+1.3
	0.7nm,0.7s,mb3.7,baz=238,slow=4.1,SNR=6.2						
TORD	Torodi Ar. Bea	153.25	287	PKPbc	PKPbc	09 32 57.5	-0.1
	0.3nm,0.3s,baz=52,slow=2.2,SNR=8.9						

*IDC **06** 10:08:53.3±0.8, 3888N×7181E, h0km, mb4.0/13, mb1 4.2/17, mb1mx4.1/25, mbtmp4.1/17, ML4.1/4, MS2.9/4, Ms1 2.9/4, ms1mx2.5/33, Error ellipse: s-maj=15.0km s-min=13.1km az=17.0*

*NEIC **06** 10:08:55.7±0.4, 39.12N×7186E, h10km, mb4.5/27, Error ellipse: s-maj=7.4km s-min=5.3km az=159.0*

*BJI **06** 10:08:57.3, 3880N×7176E, h10km, mB4.9, mb4.7, ML3.6, Ms4.4, Msz4.0*

*NNC **06** 10:08:57.8±4.2, 3938N×7153E, h3km±24km, mb4.0, mpv3.9, Error ellipse: s-maj=25.1km s-min=22.3km az=6.0*

*MOS **06** 10:09:00.0±0.9, 3927N×7181E, h51km, mb4.7/27, Error ellipse: s-maj=8.8km s-min=5.2km az=113.3*

*ISCJB **06** 10:09:00.5±0.6, 39.19N±0.03×7172E±0.04, h56km±6km, mb4.3/46, MS3.1/3, Error ellipse: s-maj=5.5km s-min=4.8km az=142.7*

ISC 06 10:09:02.3±0.5**, 3923N**±003×**7170E**±004**, h55km**±5km**, n170, σ1s04**/179**, mb4.3**/46**, MS3.1**/3**, 35C-4D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.27	27	P	Pn	10 09 51.9	+0.9
	SNR=81						
KSH	Kashi	3.32	84	eP	Pn	10 09 51.6	-0.1
KSH				eS	Sn	10 10 28.7	-1.3
KSH				LR	LR		
	comp=N,4μm,5.6s						
KSH				LR	LR		
	comp=E,3μm,4.4s						
KSH				LR	LR		
	comp=Z,721nm,4.9s						
UCH	Uchtor	3.68	35	P	Pn	10 09 57.7	+1.2
	SNR=100						
EKS2	Erkin-Say	3.77	24	P	Pn	10 09 59.0	+1.2
	SNR=49						
KZA	Kyzart	3.92	42	P	Pn	10 10 00.5	+0.6
	SNR=28						
KK31	Karatay Array	3.97	347	⇑Pn	Pn	10 10 01.0	+0.4
	comp=Z,44nm,0.3s,baz=172,slow=13,SNR=957						
KK31				⇑Sn	Sn	10 10 51.5	+5.7
	comp=Z,124nm,0.6s,baz=171,slow=22,SNR=5.1						
KK31	Karatay Array	3.97	347	ePN	Pn	10 10 01.3	+0.7
AAK	Ala-Archa	4.00	31	P	Pn	10 10 02.7	+1.6
	SNR=44						
AAK	Ala-Archa	4.00	31	ePn	Pn	10 10 01.4	+0.4
AAK				eSn	Sn	10 10 48.1	+1.4
KBK	Karagaybulak	4.21	35	P	Pn	10 10 05.4	+1.5
	SNR=79						
CHMS	Chumysh	4.41	31	P	Pn	10 10 08.0	+1.4
	SNR=44						
USP	Ospenovka	4.55	27	P	Pn	10 10 09.6	+1.0
	SNR=76						
ULHL	Ulahol	4.58	47	P	Pn	10 10 09.0	+0.1
	SNR=28						
TKM2	Tokmak 2	4.72	37	P	Pn	10 10 11.6	+0.8
	SNR=48						
TKM2	Tokmak 2	4.72	37	⇑Pn	Pn	10 10 11.5	+0.7
	comp=Z,1.8nm,0.4s						
TKM2				⇑Lg		10 11 29.4	
	comp=Z,25nm,1.1s						
CEP	Cherat	5.40	178	P	Pn	10 10 21.4	+1.2
KNDC	Almaty	5.62	43	⇓Lg		10 11 52.4	
	comp=Z,138nm,0.8s						
CHCP	Chirah Chowk	5.71	167	P	Pn	10 10 25.1	+0.7
THW	Thamme Wali	6.43	180	P	Pn	10 10 33.6	-0.6
DRP	Derazinda	7.57	190	P	Pn	10 10 48.2	-1.7
SDNR	Sundarnagar	8.83	149	eP	Pn	10 11 03.3	-3.9
SDNR				eS	Sn	10 12 43.6	-1.7
MK02	Makanchi Array	10.81	42	⇑Pn	Pn	10 11 30.0	-4.3
	comp=Z,1.7nm,0.6s						
MKAR	Makanchi Array	10.82	42	Pn	Pn	10 11 34.6	+0.3
	comp=Z,0.3nm,0.3s,baz=229,slow=14,SNR=12						
MKAR				Lg		10 14 41.4	
	comp=Z,0.2nm,0.3s,baz=245,slow=17,SNR=3.1						
KURK	Kurchatov	12.47	21	⇑Pn	Pn	10 11 53.0	-4.0
	comp=Z,2.0nm,1.0s						
KURK				⇑Lg		10 15 23.6	
	comp=Z,17nm,1.2s						
KURK	Kurchatov	12.47	21	eP	Pn	10 11 54.2	-2.8
KURK	Kurchatov	12.47	21	ePn	Pn	10 11 53.8	-3.2
	comp=Z,2.7nm,0.6s						
WMQ	Urumqi	12.83	64	P	Pn	10 12 03.1	+1.3
WMQ				AP		10 12 11.3	
WMQ				PP		10 12 14.1	
WMQ				XP		10 12 18.0	
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.1s						
WMQ				AMB	AMB		
	comp=Z,30nm,4.0s						
WMQ				LR	LR		
	comp=N,612nm,11.0s						
WMQ				LR	LR		
	comp=E,459nm,9.9s						
WMQ				LR	LR		
	comp=Z,566nm,11.5s						
AB31	Akbulak array	13.08	324	⇑Pn	Pn	10 12 01.8	-3.4
	comp=Z,14nm,0.7s,baz=132,slow=13,SNR=124						
AB31				⇓Sn	Sn	10 14 25.0	-4.0
	comp=Z,44nm,0.7s						
AB31	Akbulak array	13.08	324	eP	Pn	10 12 01.8	-3.4
BVA0	Borovoye Array	13.82	357	⇑Pn	Pn	10 12 10.6	-4.7
	comp=Z,0.5nm,0.5s,baz=160,slow=12,SNR=16						
BVA0				⇑Lg		10 16 16.5	
	comp=Z,2.8nm,1.6s,baz=187,slow=23,SNR=5.5						
BVAR	Borovoye Array	13.82	357	Pn	Pn	10 12 12.1	-3.3
	comp=Z,0.7nm,0.3s,baz=164,slow=12,SNR=13						
BVAR				Sn	Sn	10 14 46.5	-0.7
	comp=Z,0.5nm,0.3s,baz=168,slow=23,SNR=3.8						
BVAR				LR	LR	10 18 01.5	
	comp=Z,71nm,21.9s,baz=230,slow=39						
BVAR	Borovoye Array	13.82	357	P	Pn	10 12 12.1	-3.3
BVAR						10 14 46.5	
ZRNK	Zerenda	13.85	353	⇑Pn	Pn	10 12 13.5	-2.2
	comp=Z,3.1nm,0.5s						
ZRNK				⇑Lg		10 16 14.9	
	comp=Z,8.8nm,1.1s						
ZRNK	Zerenda	13.85	353	eP	Pn	10 12 13.0	-2.6
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ZRNK	Zerenda	13.85	353	ePn	Pn	10 12 13.0	-2.6
	comp=Z,6.0nm,0.6s						
BRVK	Borovoye	13.86	356	eP	Pn	10 12 12.6	-3.3
BRVK				e		10 14 47.4	
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	Borovoye	13.86	356	ePn	Pn	10 12 12.6	-3.3
	comp=Z,4.0nm,0.6s						
BRVK				eSn	Sn	10 14 47.4	-0.7
CHKZ	Chkalovo	14.47	357	⇓Pn	Pn	10 12 20.5	-3.4
	comp=Z,2.2nm,0.7s						
CHKZ				⇑Lg		10 16 25.1	
	comp=Z,22nm,1.8s						
CHKZ	Chkalovo	14.47	357	eP	Pn	10 12 23.0	-0.9
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHKZ	Chkalovo	14.47	357	ePn	Pn	10 12 23.0	-0.8
	comp=Z,2.9nm,0.6s						
AKTK	Aktyubinsk	14.79	324	Pn	Pn	10 12 25.5	-2.6
AKTK				Sn	Sn	10 15 09.7	-1.0
AKTK				LR	LR	10 18 39.0	
AKTO	Aktyubinsk	14.79	324	⇑Pn	Pn	10 12 26.1	-2.0
	comp=Z,0.1nm,0.5s						
AKTO				⇑Sn	Sn	10 15 06.7	-4.1
	comp=Z,0.5nm,0.8s						
AKTO	Aktyubinsk	14.79	324	Pn	Pn	10 12 25.5	-2.6
	comp=Z,0.9nm,0.3s,baz=122,slow=16,SNR=16						
AKTO				Sn	Sn	10 15 09.7	-1.0
	comp=Z,1.1nm,0.3s,baz=172,slow=12,SNR=8.5						
AKTO				LR	LR	10 18 39.0	
	comp=Z,51nm,20.8s,baz=140,slow=39						
AKTO	Aktyubinsk	14.79	324	P	Pn	10 12 25.5	-2.6
AKTO						10 15 09.7	
KOLN	Koldanda	15.12	136	eP	Pn	10 12 24.0	-8.4
	comp=Z,7.5nm,0.4s						
GKN	Gorkha	15.52	132	eP	Pn	10 12 29.8	-7.8
	comp=Z,25nm,0.4s						
GKN				eS	S	10 15 15.4	-26
KKN	Kakani	16.06	131	eP	Pn	10 12 36.8	-7.6
	comp=Z,19nm,0.5s						
DMN	Daman	16.09	132	eP	Pn	10 12 36.9	-7.9
PKI	Pulchoki	16.30	131	eP	Pn	10 12 41.1	-6.3
	comp=Z,22nm,0.7s						
GUN	Gumba	16.32	130	eP	Pn	10 12 42.4	-5.3
	comp=Z,17nm,0.5s						
JIRN	Jiri	16.69	129	eP	Pn	10 12 46.4	-6.0
	comp=Z,18nm,0.5s						
ZAL	Zalesovo	17.20	27	P	Pn	10 12 58.7	0.0
	comp=Z,2.7nm,0.3s,baz=262,slow=9.6,SNR=21						
ZAL	Zalesovo	17.20	27	P	Pn	10 12 58.7	0.0
NVS	Novosibirsk	17.44	23	i P	Pn	10 13 02.2	+0.6
NVS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
NVS				pmax	pmax		
	comp=N,10.0nm,1.0s						
SVE	Sverdlovsk	19.05	341	eP	Pn	10 13 20.5	-0.7
SVE				MLR	MLR		
	comp=N,100nm,18.0s						
SVE				MLR	MLR		
	comp=E,200nm,18.0s						
SVE				MLR	MLR		
	comp=Z,500nm,18.0s						
ARU	Arti	19.27	338	⇓iP	Pn	10 13 23.2	-0.6
ARU				eS	S	10 16 56.5	-1.2
ARU				pmax	pmax		
	comp=Z,13nm,1.0s						
ARU	Arti	19.27	338	eP	Pn	10 13 23.1	-0.7
	comp=Z,8.3nm,0.8s						
GNI	Garni	20.74	281	P	P	10 13 39.9	+1.6
	comp=Z,11nm,0.7s,baz=15,slow=9.6,SNR=3.8						
GNI				LR	LR	10 22 16.2	
	comp=Z,32nm,19.8s,MS2.7,baz=170,slow=38						
GNI	Garni	20.74	281	eP	P	10 13 40.0	+1.7
GNI				pmax	pmax		
	comp=Z,15nm,0.8s						
GNI	Garni	20.74	281	eP	P	10 13 40.0	+1.7
	comp=Z,15nm,0.8s						
ZEI	Tsey	21.24	289	eP	P	10 13 44.9	+1.3
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.2						
GTA	Gaotai	21.72	81	eP	P	10 13 48.6	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTA				AP		10 13 53.9	
GTA				XP	sP	10 13 57.3	-11
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb3.8						
KIV	Kislovodsk	22.15	292	eP	P	10 13 52.2	-1.1
KIV				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.6						
KIV	Kislovodsk	22.15	292	eP	P	10 13 52.2	-1.1
	comp=Z,15nm,0.6s,mb4.6						
ZAK	Zakamensk	24.84	53	eP	P	10 14 17.2	-2.2
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.5						
SONM	Songino Array	26.40	60	P	P	10 14 33.0	-0.6
	comp=Z,1.6nm,0.8s,mb3.6,baz=260,slow=9.6,SNR=8.9						
CD2	Chengdu	27.41	98	eP	P	10 14 43.3	+0.7
OBN	Obninsk	28.30	316	eP	P	10 14 52.1	+1.6
BRTR	Keskin Array B	29.24	283	P	P	10 14 59.8	+0.9
	comp=Z,1.4nm,0.8s,mb3.8,baz=102,slow=8.4,SNR=5.9						
HHC	Hu-ho-hao-te	30.38	74	eP	P	10 15 11.4	+2.4
HHC				AP	pP	10 15 23.5	+0.7
HHC				PP	PP	10 16 11.6	-6.7
HHC				S	S	10 20 07.1	+1.4
HHC				XS	sS	10 20 27.0	-2.1
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,109nm,5.0s						
HHC				LR	LR		
	comp=N,153nm,20.2s,MS3.8						
HHC				LR	LR		
	comp=E,160nm,19.0s,MS3.8						
AKASG	Malin Array Be	31.74	305	P	P	10 15 20.6	-0.3
	comp=E,1.7nm,0.3s,mb4.3,baz=80,slow=8.3,SNR=12						
BOD	Bodaibo	32.91	42	eP	P	10 15 30.3	-0.9
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
FINES	FINESS Array B	35.57	324	P	P	10 15 54.5	+0.3
	comp=Z,0.8nm,0.3s,mb4.1,baz=119,slow=8.4,SNR=15						
FINES				LR	LR	10 32 12.7	
	comp=Z,15nm,21.6s,MS2.7,baz=9.2,slow=39						
FINES	FINESS Array B	35.57	324	P	P	10 15 54.5	+0.2
FINES				LR	LR	10 32 12.7	
VYHS	Vyhne	38.53	302	eP	pP	10 16 25.9	-7.5
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.0						
VYHS	Vyhne	38.53	302	eP	pP	10 16 25.9	-7.5
	comp=Z,5.3nm,1.5s						
NJ2	Nanjing	38.63	86	eP	P	10 16 21.2	+1.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
ARCES	ARCESS Array B	38.85	336	P	P	10 16 22.0	-0.1
	comp=Z,1.6nm,0.6s,mb3.9,baz=112,slow=8.2,SNR=12						
MORC	Moravsky Berou	39.24	304	eP	P	10 16 25.9	+0.6
MORC				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
MORC	Moravsky Berou	39.24	304	eP	P	10 16 25.9	+0.5
	comp=Z,1.7nm,0.4s,mb4.1						
YAK	Yakutsk	41.44	37	eP	P	10 16 42.5	-1.0
GERES	GERESS Array B	41.86	303	P	P	10 16 47.7	+0.8
	comp=Z,2.1nm,0.6s,mb4.0,baz=82,slow=9.6,SNR=14						
KHC	Kasperske Hory	41.89	303	eP	P	10 16 48.0	+0.8
NB2	NORSAR Subarra	42.57	321	P	P	10 16 52.3	-0.4
	comp=Z,1.1nm,0.4s,mb3.9,baz=88,slow=8.6						
NOA	NORSAR Array B	42.57	321	P	P	10 16 52.6	-0.1
	comp=Z,1.5nm,0.6s,mb3.9,baz=92,slow=8.1,SNR=9.0						
KONO	Kongsberg	43.35	319	eP	P	10 16 58.4	-0.6
KONO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
KONO	Kongsberg	43.35	319	eP	P	10 16 58.4	-0.6
	comp=Z,4.0nm,0.6s,mb4.3						
CDF	Champ du Feu	46.12	304	eP	P	10 17 21.5	+0.4
HINF	Hinteralfeld	46.54	303	eP	P	10 17 24.5	+0.2
	comp=Z,3.9nm,0.6s,mb4.2						
HINF	Hinteralfeld	46.54	303	eP	P	10 17 24.5	+0.2
HINF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
HINF	Hinteralfeld	46.54	303	eP	P	10 17 24.5	+0.2
	comp=Z,2.0nm,0.6s,mb4.2						
PGF	Pioggiola	46.56	295	eP	P	10 17 24.7	+0.2
HAU	Haudompre	46.82	303	eP	P	10 17 26.8	+0.3
LPG	La Plagne	47.23	300	eP	P	10 17 30.4	+0.7
	comp=Z,11nm,0.6s,mb4.6						
LPG	La Plagne	47.23	300	eP	P	10 17 30.4	+0.7
LPG				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
LPG	La Plagne	47.23	300	eP	P	10 17 30.4	+0.7
	comp=Z,5.3nm,0.6s,mb4.7						
LPL	La Plagne	47.23	300	eP	P	10 17 30.4	+0.6
	comp=Z,18nm,0.7s,mb4.8						
LPL	La Plagne	47.23	300	eP	P	10 17 30.4	+0.6
LPL				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
LPL	La Plagne	47.23	300	eP	P	10 17 30.4	+0.6
	comp=Z,9.1nm,0.7s,mb4.8						
SBF	Sospel	47.24	297	eP	P	10 17 30.8	+1.0
GIVF	Givet	47.29	306	eP	P	10 17 31.0	+0.8
CABF	La Chapelle	47.36	301	eP	P	10 17 31.7	+1.0
	comp=Z,9.1nm,0.7s,mb4.5						
CABF	La Chapelle	47.36	301	eP	P	10 17 31.7	+1.0
CABF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
CABF	La Chapelle	47.36	301	eP	P	10 17 31.7	+1.0
	comp=Z,4.6nm,0.7s,mb4.5						
BAIF	Baives	47.68	306	eP	P	10 17 34.1	+0.9
FRF	La Foret Royal	47.88	297⇑	iP	P	10 17 35.1	+0.3
	comp=Z,7.1nm,0.4s,mb4.7						
LMR	La Mourre	48.05	297	eP	P	10 17 36.5	+0.4
SMRF	Simiane la Rot	48.49	298	eP	P	10 17 40.0	+0.6
LOR	Lormes	48.64	303⇑	iP	P	10 17 40.1	-0.5
	comp=Z,4.8nm,0.6s,mb4.4						
LOR	Lormes	48.64	303⇑	iP	P	10 17 40.1	-0.5
LOR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
LOR	Lormes	48.64	303⇑	iP	P	10 17 40.1	-0.5
	comp=Z,2.4nm,0.6s,mb4.4						
VIVF	Saint-Julien-l	48.82	300	eP	P	10 17 42.1	+0.1
	comp=Z,3.8nm,0.5s,mb4.4						
VIVF	Saint-Julien-l	48.82	300	eP	P	10 17 42.1	+0.1
VIVF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
VIVF	Saint-Julien-l	48.82	300	eP	P	10 17 42.1	+0.1
	comp=Z,1.9nm,0.5s,mb4.4						
SMF	Signal de Mont	48.83	302⇑	iP	P	10 17 42.1	0.0
	comp=Z,10nm,0.5s,mb4.8						
SMF	Signal de Mont	48.83	302⇑	iP	P	10 17 42.1	0.0
SMF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
SMF	Signal de Mont	48.83	302⇑	iP	P	10 17 42.1	0.0
	comp=Z,5.1nm,0.5s,mb4.8						
SSF	Saint Saulge	48.93	303⇑	iP	P	10 17 42.8	-0.1
	comp=Z,4.2nm,0.5s,mb4.4						
SSF	Saint Saulge	48.93	303⇑	iP	P	10 17 42.8	-0.1
SSF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
SSF	Saint Saulge	48.93	303⇑	iP	P	10 17 42.8	-0.1
	comp=Z,2.1nm,0.5s,mb4.4						
AVF	Avril sur Loir	49.11	302⇑	iP	P	10 17 44.4	+0.2
	comp=Z,12nm,0.6s,mb4.8						
AVF	Avril sur Loir	49.11	302⇑	iP	P	10 17 44.4	+0.2
AVF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
AVF	Avril sur Loir	49.11	302⇑	iP	P	10 17 44.4	+0.2
	comp=Z,6.0nm,0.6s,mb4.8						
BGF	Bois d'Agland	49.52	302	eP	P	10 17 47.3	0.0
	comp=Z,8.0nm,0.5s,mb4.7						
BGF	Bois d'Agland	49.52	302	eP	P	10 17 47.3	0.0
BGF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
BGF	Bois d'Agland	49.52	302	eP	P	10 17 47.3	0.0
	comp=Z,4.0nm,0.5s,mb4.7						
LASF	Ste Croix	49.63	299	eP	P	10 17 49.1	+0.9
TCF	Toulx Ste Croi	50.02	302⇑	iP	P	10 17 51.6	+0.5
	comp=Z,9.9nm,0.7s,mb4.6						
TCF	Toulx Ste Croi	50.02	302⇑	iP	P	10 17 51.6	+0.5
TCF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
TCF	Toulx Ste Croi	50.02	302⇑	iP	P	10 17 51.6	+0.5
	comp=Z,4.9nm,0.7s,mb4.7						
CAF	Calviac	50.55	300	eP	P	10 17 55.9	+0.7
RJF	Les Rejaudoux	50.80	301	eP	P	10 17 57.8	+0.8
	comp=Z,4.6nm,0.5s,mb4.3						
RJF	Les Rejaudoux	50.80	301	eP	P	10 17 57.8	+0.8
RJF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
RJF	Les Rejaudoux	50.80	301	eP	P	10 17 57.8	+0.8
	comp=Z,2.3nm,0.5s,mb4.4						
LDF	La Druitiere	50.81	306⇑	iP	P	10 17 56.9	-0.2
	comp=Z,9.8nm,0.5s,mb4.7						
LDF	La Druitiere	50.81	306⇑	iP	P	10 17 56.9	-0.2
LDF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
LDF	La Druitiere	50.81	306⇑	iP	P	10 17 56.9	-0.2
	comp=Z,4.9nm,0.5s,mb4.7						
FLN	La Foliniere	50.98	306	eP	P	10 17 58.4	0.0
MTLF	Montolieu	50.99	298	eP	P	10 17 59.1	+0.6
GRR	Gorron	51.34	305	eP	P	10 18 00.8	-0.3
	comp=Z,10nm,0.7s,mb4.6						
GRR	Gorron	51.34	305	eP	P	10 18 00.8	-0.3
GRR				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
GRR	Gorron	51.34	305	eP	P	10 18 00.8	-0.3
	comp=Z,5.1nm,0.7s,mb4.6						
LFF	La Frestale	51.44	301	eP	P	10 18 02.5	+0.7
	comp=Z,13nm,0.5s,mb4.8						
LFF	La Frestale	51.44	301	eP	P	10 18 02.5	+0.7
LFF				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
LFF	La Frestale	51.44	301	eP	P	10 18 02.5	+0.7
	comp=Z,6.3nm,0.5s,mb4.8						
MFF	Saint Martin d	51.46	303	eP	P	10 18 01.7	-0.3
	comp=Z,2.1nm,0.3s,mb4.2						
MJAR	Matsushiro Arr	51.48	71	P	P	10 17 59.5	-2.6
	comp=Z,1.4nm,0.9s,mb3.9,baz=291,slow=10,SNR=4.3						
EPF	Esparros	52.39	299	eP	P	10 18 08.4	-0.5
SGMF	Saint Gilles	52.45	306	eP	P	10 18 09.4	0.0
	comp=Z,7.3nm,0.5s,mb4.6						
SGMF	Saint Gilles	52.45	306	eP	P	10 18 09.4	0.0
SGMF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
SGMF	Saint Gilles	52.45	306	eP	P	10 18 09.4	0.0
	comp=Z,3.7nm,0.5s,mb4.6						
ROSF	Rostrenen	52.88	306	eP	P	10 18 12.4	-0.1
	comp=Z,12nm,0.6s,mb4.7						
ROSF	Rostrenen	52.88	306	eP	P	10 18 12.4	-0.1
ROSF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
ROSF	Rostrenen	52.88	306	eP	P	10 18 12.4	-0.1
	comp=Z,6.1nm,0.6s,mb4.7						
QUIF	Quistinic	52.95	306⇑	iP	P	10 18 12.8	-0.2
ETSF	Etsaut	53.05	299	eP	P	10 18 14.4	+0.6
SUMG	Summit	58.67	341	eP	P	10 18 54.6	+0.7
	comp=Z,4.9nm,0.7s,mb4.7						
TORD	Torodi Ar. Bea	66.36	268	P	P	10 19 44.4	-0.9
	comp=Z,1.5nm,0.5s,mb4.3,baz=50,slow=5.6,SNR=37						
INK	Inuvik	71.12	10	eP	P	10 20 14.4	-0.5
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	Inuvik	71.12	10	eP	P	10 20 14.3	-0.6
	comp=Z,1.8nm,0.6s,mb4.2						
COLA	College	71.70	17	eP	P	10 20 17.9	-0.5
COLA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
COLA	College	71.70	17	eP	P	10 20 17.9	-0.5
	comp=Z,2.8nm,0.7s,mb4.3						
ILAR	Eielson Array	72.00	16	P	P	10 20 19.4	-0.9
	comp=Z,0.9nm,0.8s,mb3.8,baz=310,slow=5.9,SNR=9.9						
PMR	Palmer	74.21	19	eP	P	10 20 32.1	-1.1
PMR				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
PMR	Palmer	74.21	19	eP	P	10 20 32.1	-1.1
	comp=Z,2.2nm,0.9s,mb4.1						
SML	Sawmill	74.22	19	eP	P	10 20 32.5	-0.8
YKA	Yellowknife Ar	78.49	3	P	P	10 20 57.2	-0.2
	comp=Z,2.0nm,0.6s,mb4.2,baz=351,slow=6.1,SNR=9.5						
YKA	Yellowknife Ar	78.49	3	P	P	10 20 57.2	-0.3
WRA	Warramunga Arr	82.98	123	P	P	10 21 20.0	-1.5
	comp=Z,0.4nm,0.5s,mb3.7,baz=316,slow=6.5,SNR=9.9						
ASAR	Alice Springs	85.37	126	P	P	10 21 32.2	-1.4
	comp=Z,0.6nm,0.7s,mb3.8,baz=329,slow=5.5,SNR=5.6						

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*ISCJB **06** 10:14:33.8±0.6, 59.01N±0.05×18.23E±0.08, h0km, Error ellipse: s-maj=8.4km s-min=3.9km az=114.0*
*CSEM **06** 10:14:34.0±0.3, 59.03N×18.18E, h1km±1km, ML2.7, Error ellipse: s-maj=8.7km s-min=3.7km az=112.0, Mining explosion.*
*UPP **06** 10:14:34.2, 58.99N×18.19E, h0km, ML2.7, Mining explosion.*
*HEL **06** 10:14:35.4±0.1, 59.01N×18.15E, h0km, ML1.9, ML2.7(UPP), Explosion*
*IDC **06** 10:14:37.8±2.7, 59.21N×18.12E, h0km, mb1 2.8/3, mb1mx2.8/21, mbtmp2.7/3, ML2.6/2, Error ellipse: s-maj=34.8km s-min=9.3km az=179.0*
ISC 06 10:14:34.4±0.6**, 59.03N**±0.05×**18.22E**±0.06**, h0**km**, n30, σ1.08/41, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NYNU	Nynaeshamn	0.11	259	i P	Pg	10 14 36.3	-0.2
NRTU	Norrtaelje	0.69	18	i P	Pg	10 14 47.8	+0.2
ESKU	Eskilstuna	0.96	283	eP	Pg	10 14 52.1	-0.7
BACU	Backbrunna	1.00	326	eP	Pg	10 14 53.3	-0.3
FLYU	Flymyra	1.12	351	eP	Pg	10 14 55.7	-0.1
GRAU	Graesoe	1.32	7	eP	Pg	10 14 59.5	-0.2
OSTU	Oestervaala	1.33	336	eP	Pg	10 14 59.3	-0.5
AAL	Aland	1.47	37	eP	Pn	10 15 01.8	-0.2
AAL				eS	Sg	10 15 21.5	+0.1
LNKU	Linkoeping	1.63	242	eP	Pn	10 15 03.6	-0.7
VSTU	Vaestervik	1.63	214	eP	Pn	10 15 03.6	-0.7
NRAU	Nora	1.72	290	eP	Pn	10 15 05.8	+0.3
ASKU	Askersund	1.76	267	eP	Pn	10 15 06.1	0.0
BYXU	Byxelkrok	1.86	201	eP	Pn	10 15 07.5	+0.1
FALU	Falun	1.90	322	eP	Pn	10 15 09.2	+1.1
FALU	Falun	1.90	322	P	Pn	10 15 09.1	+1.0
IGGU	Iggoen	1.91	347	eP	Pn	10 15 09.4	+1.3
RAF	Rauma	2.68	40	eP	Pn	10 15 20.1	+1.4
RAF				eS	Sn	10 15 53.2	+1.3
RAF				eSG	Sg	10 15 58.0	-2.4
RAF				MSG		10 16 01.3	
	comp=Z,2.4nm,0.1s						
RAF	Rauma	2.68	40	P	Pn	10 15 20.1	+1.4
RAF				S	Sn	10 15 53.1	+1.2
MEF	Metsahovi	3.36	67	eSG	Sg	10 16 20.3	-1.9
MEF				MSG		10 16 20.7	
	comp=Z,3.7nm,0.2s						
MEF	Metsahovi	3.36	67	Sg	Sg	10 16 20.3	-1.9
	comp=Z,3.7nm,0.2s						
NOA	NORSAR Array B	4.05	303	Pn	Pn	10 15 37.8	+0.2
	comp=Z,0.1nm,0.3s,baz=168,slow=19,SNR=2.3						
NOA				Lg		10 16 38.9	
	comp=Z,0.5nm,0.3s,baz=103,slow=18,SNR=3.9						
PVF	Pernaja	4.15	65	eSG	Sg	10 16 44.1	-3.6
PVF				MSG		10 16 46.2	
	comp=Z,2.1nm,0.2s						
PVF	Pernaja	4.15	65	Sg	Sg	10 16 44.1	-3.7
	comp=Z,2.1nm,0.2s						
VAF	Ylistaro	4.57	26	eSG	Sg	10 16 57.8	-3.5
VAF	Ylistaro	4.57	26	Sg	Sg	10 16 57.7	-3.6
FIA0	FINESS Array S	4.61	55	eP	Pn	10 15 47.3	+2.1
FIA0				eS	Sn	10 16 39.8	+0.3
FIA0				eSG	Sg	10 16 57.9	-4.4
FIA0	FINESS Array S	4.61	55	P	Pn	10 15 47.2	+2.0
FIA0				S	Sn	10 16 39.7	+0.3
FIA0				Sg	Sg	10 16 57.9	-4.4
FINES	FINESS Array B	4.61	55	Pn	Pn	10 15 47.2	+2.0
	comp=Z,0.1nm,0.3s,baz=244,slow=13,SNR=10						
FINES				Sn	Sn	10 16 40.0	+0.6
	comp=Z,0.4nm,0.3s,baz=244,slow=21,SNR=7.8						
FINES				Lg		10 16 59.2	
	comp=Z,0.6nm,0.3s,baz=242,slow=22,SNR=9.0						
KAF	Kangasniemi	5.05	49	eP	Pn	10 15 52.4	+1.1
KAF				eS	Sn	10 16 50.3	0.0
KAF				eSB	Sb	10 17 06.3	+1.5
ARCES	ARCESS Array B	11.00	14	Pn	Pn	10 17 11.1	-1.9
	comp=Z,0.1nm,0.3s,baz=186,slow=13,SNR=6.6						

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*NIED **06** 10:20:00, 43.10N×145.80E, h47km, Mw3.6 Best double couple: M₀2.50000×10¹⁴ NP1:φs25.00000°, δ65.00000°, λ76.00000°. NP2:φs235.00000°, δ28.00000°, λ117.00000°.*
*IDC **06** 10:20:16.3±2.8, 43.27N×146.42E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.4/22, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=52.9km s-min=37.4km az=152.0*
*ISCJB **06** 10:20:22.7±1.2, 43.14N±0.07×145.9E±0.1, h51km±7km, mb3.5/3, Error ellipse: s-maj=15.0km s-min=8.0km az=85.9*
*JMA **06** 10:20:24.0±0.1, 43.14N×145.84E, h45km±1km, M3.6*
JMA Felt II J1.
*MOS **06** 10:20:28.1±0.9, 43.90N×145.83E, h79km, mb4.1/1, Error ellipse: s-maj=39.6km s-min=27.5km az=114.8*
ISC 06 10:20:23.9±1.1**, 43.17N**±0.07×**145.88E**±0.09**, h46**km±7km**, n14, σ0.73/22, mb3.5/3, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.22	334	P	Pn	10 20 32.0	0.0
NEM2				eS	Sn	10 20 37.3	-0.3
YUK	Yuzh-Kuril'sk	0.86	359	i PN	Pn	10 20 39.4	-0.3
YUK				i S	Sn	10 20 50.9	-0.3
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				pmax	pmax		
	comp=N,320nm,0.4s						
YUK				pmax	pmax		
	comp=E,360nm,0.3s						
YUK				smax			
	comp=N,7μm,0.5s						
YUK				smax			
	comp=E,6μm,0.2s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,800nm,0.5s						
JAK	Akkeshi	0.88	259	P	Pn	10 20 39.4	-0.5
JAK				eS	Sn	10 20 51.0	-0.6
JNK	Nakash	0.94	297	P	Pn	10 20 40.5	-0.2
JNK				eS	Sn	10 20 52.4	-0.7
JRA	Rausu	0.94	325	P	Pn	10 20 41.1	+0.3
JRA				eS	Sn	10 20 54.0	+0.9
JOB	Onbets	1.52	261	P	Pn	10 20 48.3	-0.3
JOB				eS	Sn	10 21 06.6	-0.6
JAR	Ashorobuto	1.54	275	P	Pn	10 20 49.1	+0.1
JAR				eS	Sn	10 21 07.9	+0.1
JTKR	Abashiri--Toko	1.64	300	P	Pn	10 20 51.3	+1.0
ASAJ	Asahikawa	2.56	293	Pn	Pn	10 21 04.8	+1.8
	comp=E,9.6nm,0.3s,baz=112,slow=14,SNR=32						
ASAJ				Sn	Sn	10 21 39.5	+6.7
	comp=E,6.9nm,0.3s,baz=58,slow=33,SNR=8.0						
MJAR	Matsushiro Arr	8.86	224	Pn	Pn	10 22 30.5	+1.2
	comp=E,0.1nm,0.3s,baz=46,slow=11,SNR=2.2						
SONM	Songino Array	27.84	293	P	P	10 26 09.6	+0.6
	comp=E,0.3nm,0.5s,mb3.2,baz=96,slow=9.1,SNR=3.1						
FINES	FINESS Array B	64.97	333	P	P	10 30 57.5	-1.4
	comp=E,0.4nm,0.4s,mb3.8,baz=42,slow=5.9,SNR=3.9						
NOA	NORSAR Array B	69.81	338	P	P	10 31 29.1	-0.4
	comp=E,0.7nm,0.7s,mb3.7,baz=35,slow=6.2,SNR=3.4						
NOA	NORSAR Array B	69.81	338	P	P	10 31 29.1	-0.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

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*ISCJB **06** 10:24:07.2±2.5, 20.2S±0.1×175.9W±0.1, h139km±27km, mb4.1/8, Error ellipse: s-maj=26.1km s-min=20.0km az=117.0*
*IDC **06** 10:24:09.1±3.3, 20.15S×175.82W, h146km±35km, mb3.8/5, mb1 4.0/7, mb1mx3.7/18, mbtmp4.3/7, Error ellipse: s-maj=37.9km s-min=19.9km az=140.0*
*NEIC **06** 10:24:09.1±1.6, 20.14S×175.84W, h146km±18km, mb4.5/6, Error ellipse: s-maj=16.1km s-min=12.5km az=148.0*
ISC 06 10:24:09.2±2.2**, 20.2S**±0.1×**175.8W**±0.1**, h145**km±25km**, n16, σ0.51/17, mb4.1/8, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.32	32	P	Pn	10 25 53.4	-0.1
	1.5nm,0.3s,baz=198,slow=20,SNR=3.0						
AFI				S	Sn	10 27 09.1	-6.2
	8.5nm,0.3s,baz=86,slow=24,SNR=6.7						
URZ	Urewera	19.04	197	P	P	10 28 20.2	+0.1
	3.1nm,0.3s,baz=271,slow=1.1,SNR=16						
CTA	Charters Tower	35.57	263	eP	P	10 30 53.3	+0.8
	5.9nm,0.4s,mb4.6						
CTA	Charters Tower	35.57	263	P	P	10 30 53.4	+0.9
	8.1nm,0.4s,mb4.7,baz=77,slow=7.5,SNR=14						
CTAO	Charters Tower	35.57	263	eP	P	10 30 53.2	+0.7
	7.7nm,0.4s,mb4.7						
AS31	Alice Springs	46.59	256	eP	P	10 32 22.9	+0.4
ASAR	Alice Springs	46.60	256	P	P	10 32 22.4	-0.2
	3.2nm,0.7s,mb4.0,baz=93,slow=8.3,SNR=51						
ASPA	Alice Springs	46.60	256	eP	P	10 32 22.9	+0.3
WB2	Warramunga Arr	46.67	261	eP	P	10 32 22.3	-0.9
WRAB	Tennant Creek	46.68	261	eP	P	10 32 22.7	-0.5
	5.3nm,0.3s,mb4.7						
WRA	Warramunga Arr	46.69	261	P	P	10 32 22.6	-0.6
	3.1nm,0.4s,mb4.3,baz=96,slow=5.3,SNR=73						
FITZ	Fitzroy Crossi	55.11	262	eP	P	10 33 26.8	+0.6
	14nm,1.8s,mb4.4						
FITZ	Fitzroy Crossi	55.11	262	P	P	10 33 26.9	+0.7
	1.1nm,0.7s,mb3.7,baz=153,slow=17,SNR=4.4						
QSPA	South Pole Qui	69.89	180	eP	P	10 35 04.7	+0.4
	3.6nm,0.7s,mb4.2						
NVAR	Mina Array Bea	79.39	42	P	P	10 35 59.4	+0.3
	0.5nm,0.6s,mb3.3,baz=225,slow=8.5,SNR=5.0						
SNAA	Sanae	88.27	178	eP	P	10 36 43.4	-0.7
	0.5nm,0.6s,mb3.5						

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*ISCJB **06** 10:43:09.9±1.6, 61.65N±0.07×31.2E±0.2, h0km, Error ellipse: s-maj=13.9km s-min=6.2km az=74.6*
*HEL **06** 10:43:13.8±0.4, 61.68N×31.06E, h0km, ML2.1, ML2.1(NAO), Explosion*
*NAO **06** 10:43:16.9±2.4, 61.85N×30.41E, ML2.1*
*BER **06** 10:43:17.7±3.6, 61.91N×30.45E, h0km, ML2.1(NAO), Suspected explosion*
*IDC **06** 10:43:17.9±2.5, 61.79N×30.45E, h0km, mb1 2.9/3, mb1mx2.9/21, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=25.5km s-min=10.0km az=139.0*
ISC 06 10:43:12.3±1.5**, 61.68N**±0.06×**31.1E**±0.2**, h0**km**, n15, σ1.03/25, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOF	Joensuu	1.24	4	eP	Pg	10 43 36.4	+0.3
JOF				eS	Sg	10 43 51.8	-0.5
KAF	Kangasniemi	2.33	283	eP	Pn	10 43 52.8	+0.9
KAF				eS	Sn	10 44 20.6	-0.6
KAF				MSG		10 44 22.1	
	comp=Z,4.7nm,0.1s						
FIA0	FINESS Array S	2.44	267	eP	Pn	10 43 54.4	+1.1
FIA0				eS	Sn	10 44 24.0	+0.1
FIA0	FINESS Array S	2.44	267	Pn	Pn	10 43 54.4	+1.0
	baz=91,slow=16						
FIA0				Lg		10 44 23.4	
	baz=67,slow=28						
FINES	FINESS Array B	2.44	267	Pg	Pn	10 43 54.2	+0.9
	comp=Z,3.8nm,0.3s,baz=81,slow=17,SNR=148						
FINES				Lg		10 44 23.8	
	comp=Z,3.6nm,0.3s,baz=82,slow=27,SNR=25						
SUF	Sumiainen	2.56	296	eP	Pn	10 43 56.8	+1.8
SUF				eS	Sn	10 44 27.3	+0.4
SUF				MSG		10 44 29.1	
	comp=Z,12nm,0.2s						
PVF	Pernaja	2.81	248	eP	Pn	10 43 59.2	+0.8
PVF				eS	Sn	10 44 32.0	-1.0
KJN	Kajaani	2.88	328	eP	Pn	10 44 01.4	+2.0
KJN				eS	Sn	10 44 34.8	+0.1
KJN				MSG		10 44 39.4	
	comp=Z,8.3nm,0.2s						
ARA0	ARCESS Array S	8.22	346	Pn	Pn	10 45 11.6	-1.2
	baz=161,slow=14						
ARA0				Sn	Sn	10 46 39.4	-7.0
	baz=163,slow=28						
ARA0				Lg		10 47 20.6	
	baz=160,slow=37						
ARA0	ARCESS Array S	8.22	346	eP	Pn	10 45 11.6	-1.2
ARA0				eS	Sn	10 46 39.4	-7.0
ARA0				e		10 47 20.6	
ARCES	ARCESS Array B	8.22	346	Pn	Pn	10 45 11.8	-1.0
	comp=Z,0.0nm,0.3s,baz=156,slow=14,SNR=5.8						
ARCES				Sn	Sn	10 46 40.4	-5.9
	comp=Z,0.1nm,0.3s,baz=166,slow=24,SNR=2.9						
HFS	Hagfors	8.64	267	eP	Pn	10 45 16.9	-1.7
HFS	Hagfors	8.64	267	Pn	Pn	10 45 17.7	-0.9
	comp=Z,0.2nm,0.3s,baz=91,slow=12,SNR=4.1						
HFS				Sn	Sn	10 46 50.2	-6.6
	comp=Z,0.2nm,0.3s,baz=86,slow=25,SNR=3.2						
HFS	Hagfors	8.64	267	Pn	Pn	10 45 16.9	-1.7
	baz=83,slow=16						
NOA	NORSAR Array B	9.59	275	Pn	Pn	10 45 30.2	-1.3

comp=Z,0.2nm,0.3s,baz=83,slow=11,SNR=2.3

*MOS **06** 10:44:34.8±0.7, 4430N×1010E, h10km, mb4.0/3, Error ellipse: s-maj=7.7km s-min=5.8km az=124.2*
*CSEM **06** 10:44:35.0±0.1, 4433N×1012E, h15km, ML3.4/8, Error ellipse: s-maj=1.3km s-min=0.9km az=14.0*
*ROM **06** 10:44:35.3±0.1, 4430N×1009E, h5km, Md2.8/19, Ml2.7/9, Error ellipse: s-maj=2.0km s-min=1.4km az=18.0*
*ISCJB **06** 10:44:35.6±0.2, 4429N±002×1007E±002, h14km±2km, mb4.0/2, MS2.4/1, Error ellipse: s-maj=2.7km s-min=2.2km az=159.2*
*NEIC **06** 10:44:35.3, 4430N×1009E, h5km, ML2.7(ROM), ML3.2(LDG), After ROM.*
*GEN **06** 10:44:36.2, 4433N×1016E, h11km, ML2.0*
*LDG **06** 10:44:36.1±0.1, 4430N×1029E, h7km, Ml3.2/17, Error ellipse: s-maj=3.3km s-min=3.0km az=8.0*
*VIE **06** 10:44:37.2±0.2, 4430N×1028E, h10km, mb3.1/3, ML2.8/5, Error ellipse: s-maj=2.1km s-min=1.6km az=85.0*

ISC 06 10:44:36.3±0.2**, 4428N**±002×**1008E**±002**, h12**km±2km**, n97,** σ**1.09**/164**, mb4.0**/2**, MS2.4**/1**, 5C-6D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BACM		0.00	315	P	Pg	10 44 38.9	+0.5
VALM		0.14	59	P	Pg	10 44 38.7	-1.0
VINC	Vinca	0.15	158	P	Pg	10 44 40.2	+0.4
CODM		0.20	305	P	Pg	10 44 41.1	+0.5
GRAM		0.21	358	P	Pg	10 44 40.2	-0.7
SARO	Sassorosso	0.25	111	P	Pg	10 44 40.9	-0.7
VLC	Villacollemand	0.25	117	Pg	Pg	10 44 41.0	-0.6
VLC				Sg	Sg	10 44 45.1	0.0
	3μm,0.7s						
VLC	Villacollemand	0.25	117	ePg	Pg	10 44 41.0	-0.6
VLC				eSg	Sg	10 44 45.1	0.0
ERBM	Eremo	0.28	59	Pg	Pg	10 44 40.8	-1.3
ERBM				Sg	Sg	10 44 44.8	-1.2
	2μm,0.8s						
GSCL	Gusciola	0.38	78	⇓iPg	Pg	10 44 42.6	-1.2
GSCL				Sg	Sg	10 44 49.1	+0.3
SC2M	Scurtabr	0.41	288	P	Pg	10 44 45.1	+0.7
MAIM		0.47	140	P	Pg	10 44 45.2	-0.3
PII	Pisa	0.64	149	Pg	Pg	10 44 48.7	-0.1
PII				Sg	Sg	10 44 58.2	+1.0
ZCCA	Zocca	0.65	83	Pg	Pg	10 44 48.9	-0.1
ZCCA				Sg	Sg	10 44 59.1	+1.6
	34nm,0.5s						
BOB	Bobbio (Coli)	0.67	318	Pg	Pg	10 44 48.0	-1.2
BOB				Sg	Sg	10 44 58.8	+0.8
	450nm,0.5s						
FNVD	Fontana Vidola	0.76	98	Pg	Pg	10 44 49.9	-1.1
FNVD				Sg	Sg	10 45 01.4	+0.4
	380nm,0.8s						
GENL	Genova Univers	0.80	280	P	Pg	10 44 51.9	0.0
GROG	Isola di Gorgo	0.86	189	Pg	Pg	10 44 53.0	+0.1
GROG				Sg	Sg	10 45 05.9	+1.8
	425nm,0.6s						
SEI	Scarperia	0.95	103	Pg	Pg	10 44 53.4	-1.2
SEI				Sg	Sg	10 45 07.2	+0.2
VMG	Vicchio	1.10	106	Pg	Pg	10 44 57.3	-0.2
VMG				Sg	Sg	10 45 12.2	+0.3
	145nm,0.6s						
PCP	Pian Castagno	1.13	284	P	Pb	10 44 57.4	-0.3
CSNT	Castellina Chi	1.19	132	Pg	Pn	10 44 57.7	-1.0
CSNT				Sg	Sn	10 45 15.8	+1.0
	98nm,0.5s						
QLNO	Quiliano	1.24	273	Pg	Pn	10 44 59.0	-0.5
QLNO				Sg	Sn	10 45 16.8	+0.7
GRFL	Gerfalco	1.30	150	Pg	Pn	10 45 01.5	+1.2
GRFL				Sg	Sn	10 45 17.1	-0.5
	19nm,0.4s						
FIN	Finale Ligure	1.34	268	Pg	Pn	10 45 00.3	-0.5
FIN				Sg	Sn	10 45 18.1	-0.5
	65nm,0.3s						
FIN	Finale Ligure	1.34	268	P	Pn	10 44 59.6	-1.2
FIN	Finale Ligure	1.34	268	Pg	Pn	10 45 00.3	-0.5
FIN				Sg	Sn	10 45 18.1	-0.5
	65nm,0.3s						
SALO	Salr	1.38	13	Pg	Pn	10 45 01.8	+0.5
RORO		1.46	264	P	Pn	10 45 01.2	-1.2
CRE	Caprese Michel	1.50	115	Pg	Pn	10 45 03.1	0.0
	126nm,1.0s						
MDI	Monti di Nese	1.52	350	Pg	Pn	10 45 03.8	+0.5
MDI				Sg	Sn	10 45 25.0	+2.0
	115nm,0.7s						
MAGA	Magasa	1.55	14	Pg	Pn	10 45 02.7	-1.0
	271nm,0.5s						
ROB	Roburent	1.58	271	P	Pn	10 45 03.5	-0.6
ROB				S	Sn	10 45 22.7	-1.8
IMI	Imperia	1.62	258	Pg	Pn	10 45 04.3	-0.3
	80nm,0.6s						
MONE	Monesi	1.68	264	P	Pn	10 45 04.8	-0.7
MONE				S	Sn	10 45 24.6	-2.3
NEGI	Negi	1.76	257	P	Pn	10 45 05.3	-1.3
PGF	Pioggiola	1.90	205	ePg	Pg	10 45 12.4	-0.3
PGF				eSn	Sn	10 45 30.6	-1.7
PGF				eSg	Sg	10 45 38.4	+1.1
	30nm,0.6s						
PGF	Pioggiola	1.90	205	eP	Pn	10 45 08.6	+0.2
PGF				e		10 45 30.6	
PGF	Pioggiola	1.90	205	ePn	Pn	10 45 08.6	+0.2
PGF				ePg	Pg	10 45 12.4	-0.3
PGF				eSn	Sn	10 45 30.6	-1.7
PGF				eSg	Sg	10 45 38.4	+1.1
PGF	Pioggiola	1.90	205	ePg	Pg	10 45 12.4	-0.3
PGF				eSn	Sn	10 45 30.6	-1.7
PGF				eSg	Sg	10 45 38.4	+1.1
	15nm,0.6s						
ENR	Entracque	1.91	269	P	Pn	10 45 08.3	-0.3
SBF	Sospel	1.95	259	ePg	Pg	10 45 14.7	+1.0
	SNR=1.0						
SBF				eSn	Sn	10 45 33.5	0.0
SBF				eSg	Sg	10 45 41.3	+2.4
	125nm,0.5s						
SBF	Sospel	1.95	259	eP	Pn	10 45 08.9	-0.2
SBF				e		10 45 33.5	
SBF	Sospel	1.95	259	ePn	Pn	10 45 08.9	-0.2
SBF				ePg	Pg	10 45 14.7	+1.0
SBF				eSn	Sn	10 45 33.5	0.0
SBF				eSg	Sg	10 45 41.3	+2.4
SBF	Sospel	1.95	259	ePg	Pg	10 45 14.7	+1.0
	SNR=1.0						
SBF				eSn	Sn	10 45 33.5	0.0
SBF				eSg	Sg	10 45 41.3	+2.4
	63nm,0.5s						
STV	Sta Anna Valdi	1.98	270	P	Pn	10 45 09.3	-0.3
TRAV		2.07	308	P	Pn	10 45 10.1	-0.7
PZZ	Prazzo	2.14	277	P	Pn	10 45 11.4	-0.5
RSP	Reno Superiore	2.19	295	P	Pn	10 45 12.1	-0.4
RRL	Cesana Torines	2.44	286	P	Pn	10 45 17.5	+1.6
BNI	Bardonecchia	2.54	289	Pn	Pn	10 45 17.9	+0.5
BNI				ePg	Pg	10 45 23.4	-1.7
BNI				eS	Sn	10 45 50.0	+1.7
BNI	Bardonecchia	2.54	289	Pn	Pn	10 45 17.9	+0.5
BNI	Bardonecchia	2.54	289	ePg	Pg	10 45 23.4	-1.7
FRF	La Foret Royal	2.58	255	ePn	Pn	10 45 17.6	-0.2
	SNR=1.0						
FRF				eSn	Sn	10 45 47.6	-1.5
	23nm,0.3s,SNR=1.0						
FRF	La Foret Royal	2.58	255	ePn	Pn	10 45 17.6	-0.2
	SNR=1.0						
FRF				eSn	Sn	10 45 47.6	-1.5
	11nm,0.3s,SNR=1.0						
LPG	La Plagne	2.66	299	ePg	Pg	10 45 23.4	-3.9
	SNR=1.0						
LPG				eSn	Sn	10 45 52.5	+1.4
	35nm,0.6s,SNR=1.0						
LPG	La Plagne	2.66	299	ePn	Pn	10 45 20.2	+1.3
LPG				ePg	Pg	10 45 23.4	-3.9
LPG				eSn	Sn	10 45 52.5	+1.4
LPG	La Plagne	2.66	299	ePg	Pg	10 45 23.4	-3.9
	SNR=1.0						
LPL	La Plagne	2.68	299	ePn	Pn	10 45 20.6	+1.4
LPL				eSn	Sn	10 45 53.4	+1.8
	20nm,0.5s,SNR=1.0						
LMR	La Mourre	2.75	251	ePn	Pn	10 45 19.9	-0.3
	SNR=1.0						
LMR				eSn	Sn	10 45 51.7	-1.6
	15nm,0.3s,SNR=1.0						
LMR	La Mourre	2.75	251	ePn	Pn	10 45 19.9	-0.3
	SNR=1.0						
LMR				eSn	Sn	10 45 51.7	-1.6
	7.7nm,0.3s,SNR=1.0						
DAVA	Damuels	3.01	357	⇓ePn	Pn	10 45 25.4	+1.6
	SNR=43						
DAVA				⇑iSn	Sn	10 46 01.4	+1.6
SQTA	Sankt Quirin	3.05	15	⇓iPn	Pn	10 45 25.4	+1.1
	SNR=11						
SQTA				⇑iSn	Sn	10 46 01.9	+1.2
SQTA	Sankt Quirin	3.05	15	⇓ePn	Pn	10 45 25.4	+1.1
SQTA				iSn	Sn	10 46 01.9	+1.2
ORIF	Oris-en-Rattie	3.06	284	ePn	Pn	10 45 26.6	+2.1
MOTA	Moosalm	3.15	13	iPn	Pn	10 45 27.2	+1.5
	SNR=12						
MOTA				⇓iSn	Sn	10 46 04.2	+1.0
MOTA	Moosalm	3.15	13	iPn	Pn	10 45 27.2	+1.5
MOTA				iSn	Sn	10 46 04.2	+1.0
WTTA	Wattenberg	3.18	20	⇑iPn	Pn	10 45 26.7	+0.5
WTTA				⇑iSn	Sn	10 46 04.6	+0.6
VOY	Vojsko	3.22	56	e(Pn)	Pn	10 45 25.0	-1.7
VOY				e		10 46 03.3	
VOY				e		10 46 08.8	
VOY				e		10 46 16.6	
SMRF	Simiane la Rot	3.25	266	ePn	Pn	10 45 28.7	+1.6
SMRF				eSn	Sn	10 46 08.0	+2.2
	17nm,0.5s,SNR=1.0						
CABF	La Chapelle	3.65	311	ePn	Pn	10 45 34.5	+1.9
	SNR=1.0						
CABF				eSn	Sn	10 46 14.5	-1.1
	15nm,0.7s						
BOJS	Bojanci	3.88	70	iPn	Pn	10 45 34.5	-1.2
BOJS				eSn	Sn	10 46 22.2	+1.0
VIVF	Saint-Julien-l	3.90	280	ePn	Pn	10 45 35.9	-0.2
HINF	Hinteralfeld	4.19	329	ePn	Pn	10 45 39.9	-0.1
	SNR=1.0						
HINF				eSn	Sn	10 46 27.2	-1.7
	8.4nm,0.4s						
LASF	Ste Croix	4.48	270	ePn	Pn	10 45 44.1	+0.2
LASF				eSn	Sn	10 46 36.2	+0.3
HAU	Haudompre	4.54	327	ePn	Pn	10 45 45.0	+0.2
	SNR=1.0						
HAU				eSn	Sn	10 46 36.3	-1.2
	17nm,0.5s						
CDF	Champ du Feu	4.57	336	ePn	Pn	10 45 44.6	-0.6
CDF				eSn	Sn	10 46 35.2	-3.0
	14nm,0.6s						
CDF	Champ du Feu	4.57	336	ePn	Pn	10 45 44.6	-0.6
CDF				eSn	Sn	10 46 35.2	-3.0
	6.8nm,0.6s						
MOA	Molln	4.61	38	⇓iPn	Pn	10 45 45.5	-0.3
MOA				⇑iSn	Sn	10 46 39.2	-0.1
SMF	Signal de Mont	4.99	301	ePn	Pn	10 45 52.3	+1.4
SMF				eSn	Sn	10 46 47.1	-1.3
	34nm,0.7s						
LOR	Lormes	5.28	307	ePn	Pn	10 45 55.7	+0.8
LOR				eSn	Sn	10 46 54.6	-1.1
	9.5nm,0.4s						
AVF	Avril sur Loir	5.35	300	ePn	Pn	10 45 56.1	+0.2
	2.9nm,0.3s,SNR=1.0						
AVF				eSn	Sn	10 46 55.7	-1.8
	4.7nm,0.4s						
AVF	Avril sur Loir	5.35	300	ePn	Pn	10 45 56.1	+0.2
	1.5nm,0.3s,SNR=1.0						
KHC	Kasperske Hory	5.42	25	ePN	Pn	10 45 55.5	-1.4
KHC				SN	Sn	10 47 02.0	+2.8
KHC				SG	Sg	10 47 26.5	-3.8
KHC	Kasperske Hory	5.42	25	eP	Pn	10 45 55.5	-1.4
KHC				e		10 47 02.0	
KHC	Kasperske Hory	5.42	25	eP	Pn	10 45 55.5	-1.4
KHC				e	Sn	10 47 02.0	+2.8
KHC				e	Sg	10 47 26.5	-3.8
MEZF	Maizieres J'vi	5.47	322	ePn	Pn	10 45 56.2	-1.4
BGF	Bois d'Agland	5.58	297	ePn	Pn	10 46 00.4	+1.4
BGF				eSn	Sn	10 47 01.2	-1.8
	13nm,0.4s						
CAF	Calviac	5.76	279	ePn	Pn	10 46 02.4	+0.9
MTLF	Montolieu	5.76	263	ePn	Pn	10 46 01.8	+0.2
TCF	Toulx Ste Croi	5.90	293	ePn	Pn	10 46 05.2	+1.7
TCF				eSn	Sn	10 47 10.9	-0.2
	7.2nm,0.5s						
PSZ	Piszkesteto	7.74	58	eP	Pn	10 46 21.4	-7.3
PSZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PSZ	Piszkesteto	7.74	58	ePn	Pn	10 46 21.4	-7.3
	comp=Z,5.0nm,0.9s						
PUL	Pulkovo	19.76	31	eP	Pn	10 49 06.8	-0.8
PUL				pmax	pmax		
	comp=Z,56nm,0.8s						
OBN	Obninsk	20.15	48	eP	P	10 49 09.1	-1.2
OBN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KIV	Kislovodsk	23.34	79	eP	P	10 49 44.5	+0.1
KIV				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
KIV				MLR	MLR		
	comp=Z,10.0nm,14.0s,MS2.4						
ARU	Arti	32.55	51	eP	P	10 51 07.4	+0.3
ARU				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						

*IDC **06** 11:38:41.1±0.8, 365S×14001E, h0km, mb4.2/7, mb1 4.4/9, mb1mx4.2/14, mbtmp4.3/9, ML3.7/2, MS3.8/8, Ms1 3.8/8, ms1mx3.5/19, Error ellipse: s-maj=28.1km s-min=19.5km az=74.0*
*ISCJB **06** 11:38:44.3±2.5, 399S±004×1396E±0.1, h19km±18km, mb4.5/14, MS4.0/5, Error ellipse: s-maj=17.0km s-min=6.9km az=18.2*
*BJI **06** 11:38:46.4, 390S×13990E, h30km, mB4.9, mb4.5, Ms4.5, Msz4.2*
*NEIC **06** 11:38:46.4±0.6, 392S×13988E, h30km, mb4.2/9, Error ellipse: s-maj=15.0km s-min=9.5km az=75.0*

ISC 06 11:38:45.3±2.5**, 396S**±004×**13980E**±009**, h16**km±16km**, n45,** σ**1.18**/43**, mb4.5**/14**, MS4.0**/5**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	9.09	127	Pn	Pn	11 40 54.3	-1.4
	1.2nm,0.3s,baz=286,slow=7.4,SNR=8.8						
PMG				LR	LR	11 45 03.0	
	comp=Z,362nm,19.5s,baz=30,slow=42						
PMG	Port Moresby	9.09	127	ePn	Pn	11 40 54.0	-1.7
	94nm,0.8s						
KAKA	Kakadu	11.34	219	eP	Pn	11 41 27.7	+1.1
	73nm,0.6s						
KAKA				eS	Sn	11 43 32.2	-0.8
WRAB	Tennant Creek	16.74	198	ePn	Pn	11 42 38.1	-1.0
	26nm,0.6s						
WB2	Warramunga Arr	16.75	198	eP	Pn	11 42 38.4	-0.8
WB2				eS	Sn	11 45 40.0	-4.9
WRA	Warramunga Arr	16.76	198	Pn	Pn	11 42 37.9	-1.4
	0.8nm,0.3s,baz=20,slow=13,SNR=33						
WRA				Sn	Sn	11 45 43.0	-2.0
	0.8nm,0.3s,baz=14,slow=22,SNR=4.9						
WRA				Lg		11 47 39.9	
	0.9nm,0.3s,baz=24,slow=34,SNR=4.3						
WRA				LR	LR	11 49 35.2	
	comp=Z,342nm,18.8s,baz=345,slow=38						
CTA	Charters Tower	17.22	159	eP	Pn	11 42 45.4	+0.3
	8.8nm,1.0s						
CTA	Charters Tower	17.22	159	P	Pn	11 42 45.8	+0.8
	0.4nm,0.3s,baz=329,slow=11,SNR=3.3						
CTA				Lg		11 47 49.2	
	0.2nm,0.3s,baz=245,slow=23,SNR=4.3						
CTAO	Charters Tower	17.22	159	eP	Pn	11 42 45.4	+0.4
	16nm,1.1s						
GUMO	Guam	18.14	16	LR	LR	11 49 35.2	
	comp=Z,198nm,19.5s,baz=356,slow=37						
FITZ	Fitzroy Crossi	19.74	224	eP	Pn	11 43 15.2	-0.6
	22nm,0.8s						
FITZ				eS	Sn	11 46 47.5	-10
FITZ	Fitzroy Crossi	19.74	224	P	Pn	11 43 15.4	-0.4
	14nm,0.7s,baz=50,slow=11,SNR=51						
FITZ				S	Sn	11 46 50.1	-7.2
	5.1nm,0.4s,baz=225,slow=22,SNR=5.8						
FITZ				Lg		11 49 18.8	
	24nm,0.8s,baz=352,slow=24,SNR=3.7						
FITZ				LR	LR	11 51 41.3	
	comp=Z,225nm,18.6s,baz=233,slow=39						
AS31	Alice Springs	20.40	196	eP	P	11 43 23.1	+1.6
AS31				eS	S	11 47 13.5	+4.1
ASAR	Alice Springs	20.40	196	P	P	11 43 23.2	+1.8
	29nm,0.7s,baz=29,slow=9.5,SNR=176						
ASAR				S	S	11 47 11.1	+1.7
	5.5nm,0.8s,baz=14,slow=25,SNR=5.6						
ASAR				Lg		11 49 31.8	
	6.2nm,0.9s,baz=10,slow=28,SNR=3.0						
ASPA	Alice Springs	20.41	196	eP	P	11 43 23.1	+1.6
ASPA				eS	S	11 47 13.5	+4.0
KKM	Kota Kinabalu	25.57	293	eP	P	11 44 14.4	+1.0
MBWA	Marble Bar	25.94	227	eP	P	11 44 20.4	+3.6
	3.3nm,0.4s,mb4.2						
STKA	Stephens Creek	27.82	177	eP	P	11 44 35.9	+2.2
	6.8nm,1.3s,mb4.1						
STKA	Stephens Creek	27.82	177	P	P	11 44 35.7	+2.0
	0.7nm,0.6s,mb3.5,baz=342,slow=14,SNR=2.8						
PSI	Prapat	41.40	279	P	P	11 46 30.8	0.0
	11nm,0.8s,mb4.6,baz=63,slow=6.5,SNR=6.8						
AFI	Afiamalu	48.75	105	LR	LR	12 05 07.7	
	comp=Z,133nm,19.8s,MS3.9,baz=17,slow=33						
CD2	Chengdu	48.83	318	eP	P	11 47 29.4	-0.4
HHC	Hu-ho-hao-te	51.53	333	eP	P	11 47 52.4	+2.1
HHC				AP	pP	11 48 02.3	+6.9
HHC				XP	sP	11 48 05.2	+7.8
HHC				PP	PP	11 49 53.5	+5.9
HHC				S	S	11 55 10.4	+0.3
HHC				PS		11 55 47.1	
HHC				SCS	ScS	11 57 38.2	-1.8
HHC				AMB	AMB		
	comp=Z,92nm,5.7s						
HHC				LR	LR		
	comp=N,168nm,19.0s,MS4.2						
HHC				LR	LR		
	comp=E,175nm,21.4s,MS4.2						
SONM	Songino Array	59.31	334	P	P	11 48 44.3	-1.9
	comp=E,0.3nm,0.4s,mb3.7,baz=155,slow=7.8,SNR=4.0						
SONM				LR	LR	12 12 50.5	
	comp=E,71nm,19.4s,MS3.8,baz=151,slow=35						
JIRN	Jiri	60.44	305	eP	P	11 48 54.1	0.0
GUN	Gumba	60.79	305	eP	P	11 48 56.6	+0.1
KKN	Kakani	61.24	305	eP	P	11 48 59.5	0.0
	comp=E,14nm,0.8s,mb5.1						
DMN	Daman	61.31	304	eP	P	11 48 59.8	-0.2
	comp=E,20nm,0.8s,mb5.3						
GKN	Gorkha	61.85	305	eP	P	11 49 03.3	-0.3
	comp=E,19nm,0.7s,mb5.3						
KOLN	Koldanda	62.62	304	eP	P	11 49 08.5	-0.3
	comp=E,15nm,0.9s,mb5.1						
PPT	Papeete	70.34	107	eLR	LR	12 12 24.3	
	comp=E,138nm,27.0s						
PPT	Papeete	70.34	107	LR	LR	12 19 10.8	
	comp=E,104nm,18.6s,MS4.1,baz=323,slow=35						
MKAR	Makanchi Array	71.44	322	P	P	11 50 03.5	-1.3
	comp=E,1.3nm,0.7s,mb4.0,baz=88,slow=9.8,SNR=5.9						
CHKZ	Chkalovo	81.04	326	P	P	11 51 00.1	+0.7
	comp=E,1.4nm,0.7s,mb4.0						
MAW	Mawson	81.39	202	LR	LR	12 25 33.7	
	comp=E,65nm,21.2s,MS4.0,baz=243,slow=34						
ZRNK	Zerenda	81.72	325	eP	P	11 51 00.9	-2.1
	comp=E,1.9nm,0.8s,mb4.1						
QSPA	South Pole Qui	86.00	180	eP	P	11 51 24.9	0.0
	comp=E,3.9nm,0.8s,mb4.7						
ILAR	Eielson Array	86.51	24	P	P	11 51 22.4	-4.9
	comp=E,0.7nm,0.6s,mb4.0,baz=266,slow=5.3,SNR=14						
ARU	Arti	88.43	327	eP	P	11 51 37.1	+0.4
	comp=E,8.6nm,0.5s,mb5.2						
DBIC	Dimbokro	144.72	276	PKP	PKPdf	11 58 20.3	-0.9
	comp=E,7.2nm,0.6s,baz=70,slow=3.9,SNR=14						
DBIC	Dimbokro	144.72	276	ePKPdf	PKPdf	11 58 20.1	-1.1
CPUP	Villa Florida	145.62	152	PKPbc	PKPbc	11 58 21.9	-1.1
	comp=E,2.9nm,0.8s,baz=242,slow=2.4,SNR=7.0						
CPUP	Villa Florida	145.62	152	ePKPdf	PKPdf	11 58 21.9	-0.9
LPAZ	La Paz	145.83	127	PKPbc	PKPbc	11 58 24.2	+0.5
	comp=E,4.8nm,0.8s,baz=278,slow=1.8,SNR=20						
LPAZ	La Paz	145.83	127	ePKPdf	PKPdf	11 58 24.5	+1.3

MAN 06 11:59:20.9, 1135N×12567E, h1km, mb2.6, ML4.1, MS2.0, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLP	Palo	0.70	254	eP	Pg	11 59 34.5	+0.1
OCLP	Ormoc	1.08	254	eP	Pg	11 59 41.9	+0.2
MSLP	Maasin	1.45	213	eP	Pn	11 59 48.7	+0.4
MSLP				eS	Sg	12 00 09.2	+1.7
SCPH	Surigao	1.57	186	⇓eP	Pn	11 59 49.3	-0.6
PVCP	Virac	2.67	327	eP	Pn	12 00 06.1	+1.0
BUKP	Musuan	3.50	190	eP	Pn	12 00 17.9	+1.3
PAGZ	Pagadian	4.15	213	eP	Pn	12 00 27.5	+2.1

MAN 06 12:03:42.6, 1144N×12535E, h12km, mb1.8, ML3.6, MS2.9, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	Borongan	0.18	27	eP	Pg	12 03 47.5	+0.9
PLP	Palo	0.46	234	eP	Pg	12 03 52.6	+1.0
PLP				eS	Sg	12 04 02.6	+4.9
OCLP	Ormoc	0.82	242	eP	Sg	12 04 20.8	+11
MSLP	Maasin	1.38	201	eP	Pn	12 04 07.5	-0.2
OTRP	Odiongan	3.39	286	eP	Pn	12 04 36.6	+1.3

*ISCJB **06** 12:32:04.2±2.3, 387N±02×713E±0.1, h10km, Error ellipse: s-maj=23.3km s-min=12.9km az=30.2*
*NNC **06** 12:32:12.0±4.8, 3944N×7155E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=41.3km s-min=22.8km az=166.0*

ISC 06 12:32:05.9±2.3**, 387N**±02×**713E**±01**, h10**km**, n13,** σ**0.76**/16**, 6C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	3.88	27	P	Pn	12 33 04.6	-1.0
	SNR=23						
UCH	Uchtor	4.29	34	P	Pn	12 33 11.4	+0.3
	SNR=16						
EKS2	Erkin-Say	4.38	24	P	Pn	12 33 11.9	-0.5
	SNR=6.5						
KK31	Karatay Array	4.45	352	⇑Pn	Pn	12 33 14.5	+1.1
	6.5nm,0.3s,baz=166,slow=12,SNR=119						
KK31				⇑Sn	Sn	12 34 05.3	0.0
	7.9nm,0.3s,baz=164,slow=22,SNR=5.8						
KZA	Kyzart	4.52	40	P	Pn	12 33 14.5	+0.2
	SNR=6.2						
AAK	Ala-Archa	4.62	30	P	Pn	12 33 16.2	+0.6
	SNR=5.2						
KBK	Karagaybulak	4.82	34	P	Pn	12 33 19.9	+1.4
	SNR=10						
CHMS	Chumysh	5.02	30	P	Pn	12 33 20.9	-0.4
	SNR=21						
USP	Ospenovka	5.16	27	P	Pn	12 33 22.2	-0.9
	SNR=20						
TKM2	Tokmak 2	5.32	36	P	Pn	12 33 25.1	-0.3
	SNR=9.5						
TKM2	Tokmak 2	5.32	36	⇑Pn	Pn	12 33 25.0	-0.4
	0.3nm,0.5s						
TKM2				⇓Lg		12 34 36.5	
	1.3nm,0.6s						
AB31	Akbulak array	13.35	326	⇑Pn	Pn	12 35 14.9	-0.5
	0.8nm,0.4s,baz=130,slow=14,SNR=28						
AB31				⇓Sn	Sn	12 37 36.1	-7.8
	2.3nm,0.6s,baz=124,slow=23,SNR=7.3						
AKTO	Aktyubinsk	15.07	325	⇑Pn	Pn	12 35 38.9	+0.2
AKTO				⇑Sn	Sn	12 38 20.5	-5.1
	0.1nm,0.8s						

*NEIC **06** 12:43:16.5±3.5, 1735S×17840W, h538km±35km, mb4.0/2, Error ellipse: s-maj=33.8km s-min=27.1km az=113.0*
*IDC **06** 12:43:19.7±7.4, 1744S×17850W, h572km±69km, mb3.0/5, mb1 3.2/6, mb1mx3.1/16, mbtmp4.0/6, Error ellipse: s-maj=107.3km s-min=34.2km az=135.0*
*ISCJB **06** 12:43:20.6±4.6, 174S±03×1787W±03, h599km±52km, mb3.8/8, Error ellipse: s-maj=46.4km s-min=37.7km az=68.1*

ISC 06 12:43:16.3±4.4**, 174S**±03×**1783W**±03**, h539**km±44km**, n14,** σ**0.61**/12**, mb3.8**/8**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.06	250	P	P	12 46 26.3	-0.2
	0.5nm,0.3s,baz=101,slow=19,SNR=5.1						
STKA	Stephens Creek	38.94	241	eP	P	12 49 56.7	+0.8
	1.6nm,0.3s,mb4.0						
STKA	Stephens Creek	38.94	241	P	P	12 49 56.6	+0.7
	1.0nm,0.4s,mb3.7,baz=72,slow=16,SNR=6.0						
WB2	Warramunga Arr	44.78	259	eP	P	12 50 41.6	-0.4
WRA	Warramunga Arr	44.80	259	P	P	12 50 41.7	-0.4
	0.4nm,0.4s,mb3.3,baz=94,slow=7.6,SNR=22						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA				PcP	PcP	12 52 10.1	-2.3
	0.4nm,0.8s,baz=89,slow=3.5,SNR=5.3						
ASAR	**Alice Springs**	**45.00**	**254**	P	**P**	**12 50 44.1**	**+0.5**
	2.3nm,0.4s,mb4.1,baz=89,slow=7.8,SNR=75						
ASAR				PcP	PcP	12 52 13.3	+0.2
	0.5nm,0.4s,baz=105,slow=4.0,SNR=6.7						
ASPA	**Alice Springs**	**45.00**	**254**	eP	**P**	**12 50 44.4**	**+0.7**
FORT	**Forrest**	**50.29**	**244**	eP	**P**	**12 51 22.6**	**-0.7**
	4.2nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	**53.18**	**260**	P	**P**	**12 51 44.8**	**+0.7**
	3.6nm,1.1s,mb3.6,baz=269,slow=16,SNR=3.7						
KLBR	**Kellerberrin**	**59.12**	**243**	eP	**P**	**12 52 23.8**	**-1.2**
	25nm,1.5s,mb4.2						
QSPA	**South Pole Qui**	**72.66**	**180**	eP	**P**	**12 53 49.5**	**+0.2**
	3.6nm,0.9s,mb3.8						
ILAR	**Eielson Array**	**85.37**	**13**	P	**P**	**12 54 56.6**	**0.0**
	0.4nm,0.3s,mb3.4,baz=227,slow=6.4,SNR=9.8						
BRTR	**Keskin Array B**	**144.47**	**315**	PKP	PKPdf	13 01 51.2	-0.1
	1.4nm,0.9s,baz=90,slow=2.5,SNR=4.5						
GERES	**GERESS Array B**	**147.13**	**345**	PKPbc	PKPbc	13 01 59.5	+0.6
	0.8nm,0.5s,baz=321,slow=1.7,SNR=7.1						

*ISCJB **06** 12:53:25.6±2.2, 38.8N±0.2×71.2E±0.1, h10km, Error ellipse: s-maj=23.1km s-min=11.1km az=34.3*
*NNC **06** 12:53:31.8±3.8, 39.35N×71.46E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=31.3km s-min=26.4km az=166.0*
ISC 06 12:53:27.5±2.3**, 38.8N**±0.2×**71.2E**±0.1**, h10km, n13, σ0s.99**/16**, 6C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.84**	**28**	P	**Pn**	**12 54 28.0**	**+1.4**
	SNR=10						
UCH	**Uchtor**	**4.26**	**35**	P	**Pn**	**12 54 32.1**	**-0.3**
	SNR=22						
EKS2	**Erkin-Say**	**4.34**	**26**	P	**Pn**	**12 54 33.1**	**-0.4**
	SNR=5.9						
KK31	**Karatay Array**	**4.36**	**353**	⇓Pn	**Pn**	**12 54 35.4**	**+1.6**
	5.5nm,0.2s,baz=167,slow=12,SNR=116						
KK31				⇑Sn	**Sn**	**12 55 25.6**	**+1.0**
	12nm,0.5s,baz=175,slow=23,SNR=5.3						
KZA	**Kyzart**	**4.51**	**42**	P	**Pn**	**12 54 35.3**	**-0.4**
	SNR=16						
AAK	**Ala-Archa**	**4.58**	**32**	P	**Pn**	**12 54 37.4**	**+0.5**
	SNR=7.2						
KBK	**Karagaybulak**	**4.80**	**35**	P	**Pn**	**12 54 39.2**	**-0.6**
	SNR=8.5						
CHMS	**Chumysh**	**4.99**	**31**	P	**Pn**	**12 54 42.2**	**-0.2**
	SNR=14						
USP	**Ospenovka**	**5.12**	**28**	P	**Pn**	**12 54 43.5**	**-0.8**
	SNR=12						
TKM2	**Tokmak 2**	**5.30**	**37**	P	**Pn**	**12 54 46.0**	**-0.7**
	SNR=9.7						
TKM2	**Tokmak 2**	**5.30**	**37**	⇑Pn	**Pn**	**12 54 46.0**	**-0.8**
	0.4nm,0.5s						
TKM2				⇑Lg		12 55 56.3	
	0.9nm,0.6s						
AB31	**Akbulak array**	**13.24**	**326**	⇑Pn	**Pn**	**12 56 35.8**	**+0.3**
	1.5nm,0.7s,baz=133,slow=13,SNR=16						
AB31				⇑Sn	**Sn**	**12 58 59.1**	**-3.7**
	1.7nm,0.7s,baz=166,slow=22,SNR=5.2						
AKTO	**Aktyubinsk**	**14.96**	**325**	⇓Pn	**Pn**	**12 56 59.7**	**+0.8**
	0.2nm,1.4s						
AKTO				⇑Sn	**Sn**	**12 59 42.1**	**-2.5**

IDC 06 13:18:23.6±50.0**, 23.74S**×**174.29W, h0km, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.6**/13**, mbtmp3.6**/3**, Error ellipse: s-maj=946.9km s-min=182.2km az=89.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.64**	**248**	P	P	13 25 56.0	-1.0
	2.2nm,0.9s,baz=105,slow=13,SNR=5.3						
ASAR	**Alice Springs**	**47.21**	**259**	P	P	13 26 58.8	+0.7
	0.3nm,0.4s,baz=95,slow=7.3,SNR=26						
WRA	**Warramunga Arr**	**47.63**	**264**	P	P	13 27 02.4	+1.0
	0.6nm,1.0s,baz=101,slow=7.5,SNR=6.6						

*MOS **06** 13:57:35.4±0.5, 34.25N×142.10E, h16km, mb4.5/6, Error ellipse: s-maj=27.7km s-min=10.4km az=126.1*
*ISCJB **06** 13:57:37.7±0.6, 34.11N±0.05×141.75E±0.07, h20km, mb4.1/15, MS3.7/1, Error ellipse: s-maj=8.9km s-min=6.0km az=130.0*
*IDC **06** 13:57:37.5±0.9, 34.04N×141.65E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/21, mbtmp3.8/9, ML3.6/1, MS3.3/2, Ms1 3.4/2, ms1mx2.9/26, Error ellipse: s-maj=21.7km s-min=16.8km az=93.0*
*NEIC **06** 13:57:40.5±0.5, 34.05N×141.51E, mb4.3/6, Error ellipse: s-maj=15.5km s-min=7.8km az=62.0*
*JMA **06** 13:57:40.6±0.4, 34.16N×141.59E, h70km±3km, M3.3*
ISC 06 13:57:39.5±1.6**, 34.12N**±0.05×**141.67E**±0.07**, h17km**±9km**, h21km**±1.4km**:pP-P, n47, σ0s.92**/53**, mb4.1**/15**, MS3.7**/1**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.78**	**313**	P	**Pg**	**13 57 55.8**	**+1.1**
BSO3	**Boso 3**	**1.17**	**306**	P	**Pn**	**13 58 00.4**	**-0.6**
BSO4	**Boso 4**	**1.40**	**309**	P	**Pn**	**13 58 04.3**	**+0.2**
CHOJ	**Chosi**	**1.71**	**337**	P	**Pn**	**13 58 07.6**	**-0.9**
TATJ	**Tateyama 2**	**1.72**	**302**	P	**Pn**	**13 58 08.6**	**0.0**
JHJ2	**Mitsune**	**1.84**	**237**	P	**Pn**	**13 58 10.6**	**+0.3**
JHJ	**Hachijo jima 2**	**1.86**	**238**	Pn	**Pn**	**13 58 10.8**	**+0.3**
	165nm,0.3s,baz=139,slow=5.8,SNR=48						
JHJ				Sn	**Sn**	**13 58 33.7**	**+0.1**
	118nm,0.3s,baz=238,slow=23,SNR=7.2						
JIM2	**Oshima 3**	**1.94**	**288**	P	**Pn**	**13 58 10.7**	**-0.9**
JIZS	**Izushimoda**	**2.38**	**285**	P	**Pn**	**13 58 17.0**	**-0.7**
JOD2	**Odawara 2**	**2.41**	**299**	P	**Pn**	**13 58 17.4**	**-0.7**
JYN	**Shimob**	**2.91**	**299**	P	**Pn**	**13 58 24.7**	**-0.3**
JAG	**Ashikaga**	**2.92**	**322**	P	**Pn**	**13 58 24.9**	**-0.3**
MJAR	**Matsushiro Arr**	**3.72**	**312**	Pn	**Pn**	**13 58 36.4**	**+0.4**
	4.3nm,0.3s,baz=120,slow=14,SNR=36						
MJAR				Sn	**Sn**	**13 59 22.5**	**+3.1**
	3.6nm,0.3s,baz=139,slow=15,SNR=5.2						
MJAR				LR	LR	14 00 10.1	
	comp=Z,198nm,20.6s,baz=160,slow=41						
MJAR	**Matsushiro Arr**	**3.72**	**312**	P	**Pn**	**13 58 36.4**	**+0.4**
MJAR						13 59 22.5	
MAJO	**Matsushiro**	**3.72**	**312**	ePn	**Pn**	**13 58 36.8**	**+0.7**
MAJO				eSn	**Sn**	**13 59 19.1**	**-0.3**
MAT	**Matsushiro**	**3.72**	**312**	P	**Pn**	**13 58 36.4**	**+0.3**
MAT				S	**Sn**	**13 59 19.6**	**+0.2**
MAT	**Matsushiro**	**3.72**	**312**	eP	**Pn**	**13 58 36.0**	**-0.1**
MAT				eS	**Sn**	**13 59 20.0**	**+0.6**
ASAJ	**Asahikawa**	**10.01**	**4**	Pn	**Pn**	**13 59 59.4**	**-3.1**
	0.6nm,0.3s,baz=248,slow=14,SNR=4.3						
ASAJ				Sn	**Sn**	**14 01 46.0**	**-8.3**
	0.5nm,0.3s,baz=24,slow=22,SNR=6.2						
ASAJ	**Asahikawa**	**10.01**	**4**	P	**Pn**	**13 59 59.4**	**-3.0**
ASAJ						14 01 46.0	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ULN	**Ulaanbaatar**	**29.24**	**308**	eP	**P**	**14 03 41.0**	**+0.6**
ULN				e		14 06 41.1	
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.2						
ULN	**Ulaanbaatar**	**29.24**	**308**	eP	**P**	**14 03 41.0**	**+0.6**
	comp=Z,5.1nm,1.1s,mb4.2						
ULN				ePcP	PcP	14 06 41.1	-6.1
SONM	**Songino Array**	**29.66**	**308**	P	**P**	**14 03 45.3**	**+1.2**
	comp=Z,2.2nm,0.6s,mb4.1,baz=108,slow=8.5,SNR=16						
ZAK	**Zakamensk**	**32.30**	**312**	eP	**P**	**14 04 08.0**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.9						
MKAR	**Makanchi Array**	**45.89**	**305**	P	**P**	**14 06 01.8**	**+0.9**
	comp=Z,2.0nm,0.7s,mb4.2,baz=80,slow=9.7,SNR=12						
JIRN	**Jiri**	**47.55**	**278**	eP	**P**	**14 06 18.4**	**+4.4**
GUN	**Gumba**	**47.72**	**278**	eP	**P**	**14 06 18.9**	**+3.7**
KURK	**Kurchatov**	**47.93**	**310**	eP	**P**	**14 06 16.0**	**-0.9**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
KURK	**Kurchatov**	**47.93**	**310**	eP	**P**	**14 06 16.0**	**-0.9**
	comp=Z,9.5nm,1.1s,mb4.7						
PKI	**Pulchoki**	**48.23**	**278**	eP	**P**	**14 06 18.6**	**-0.6**
KKN	**Kakani**	**48.25**	**279**	eP	**P**	**14 06 19.1**	**-0.3**
	comp=Z,14nm,0.8s,mb5.0						
DMN	**Daman**	**48.46**	**278**	eP	**P**	**14 06 19.3**	**-1.7**
ILAR	**Eielson Array**	**51.86**	**31**	P	**P**	**14 06 48.0**	**+1.3**
	comp=Z,1.1nm,1.0s,mb3.7,baz=244,slow=8.0,SNR=5.5						
CHKZ	**Chkalovo**	**52.48**	**315**	eP	**P**	**14 06 50.5**	**-0.8**
CHKZ				e*PP	pP	14 06 56.9	0.0
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**52.48**	**315**	eP	**P**	**14 06 50.5**	**-0.8**
	comp=Z,2.4nm,0.8s,mb4.2						
CHKZ				epP	pP	14 06 56.9	0.0
BRVK	**Borovoye**	**52.77**	**314**	eP	**P**	**14 06 52.9**	**-0.6**
BRVK				e*PP	pP	14 06 58.3	-0.7
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**52.77**	**314**	eP	**P**	**14 06 52.9**	**-0.6**
	comp=Z,1.6nm,0.7s,mb4.1						
BRVK				epP	pP	14 06 58.3	-0.8
ZRNK	**Zerenda**	**53.55**	**314**	eP	**P**	**14 06 58.8**	**-0.4**
ZRNK				e*PP	pP	14 07 05.2	+0.4
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**53.55**	**314**	eP	**P**	**14 06 58.8**	**-0.5**
	comp=Z,2.8nm,0.8s,mb4.2						
ZRNK				epP	pP	14 07 05.2	+0.4
FITZ	**Fitzroy Crossi**	**54.13**	**199**	eP	**P**	**14 07 04.1**	**+0.6**
	comp=Z,6.2nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**54.13**	**199**	P	**P**	**14 07 03.7**	**+0.2**
	comp=Z,1.9nm,0.9s,mb4.0,baz=140,slow=17,SNR=5.2						
WB2	**Warramunga Arr**	**54.21**	**188**	eP	**P**	**14 07 04.2**	**+0.1**
WRA	**Warramunga Arr**	**54.21**	**189**	P	**P**	**14 07 03.9**	**-0.2**
	comp=Z,1.2nm,0.5s,mb4.1,baz=5.4,slow=7.6,SNR=31						
ASAR	**Alice Springs**	**57.94**	**188**	P	**P**	**14 07 30.8**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=357,slow=6.3,SNR=17						
NB2	**NORSAR Subarra**	**76.95**	**338**	P	**P**	**14 09 30.2**	**-0.8**
	comp=Z,0.4nm,0.6s,mb3.5,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**76.95**	**338**	P	**P**	**14 09 30.5**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=40,slow=5.6,SNR=4.1						
NOA				LR	LR	14 47 06.9	
	comp=Z,36nm,18.8s,MS3.7,baz=25,slow=39						
NOA	**NORSAR Array B**	**76.95**	**338**	P	**P**	**14 09 30.5**	**-0.5**
NOA				LR	LR	14 47 06.9	
PDAR	**Pinedale Array**	**79.57**	**45**	P	**P**	**14 09 48.1**	**+2.6**
	comp=Z,0.3nm,0.6s,mb3.4,baz=260,slow=2.6,SNR=3.4						

*CSEM **06** 14:04:48.1±0.1, 59.04N×18.19E, h2km, ML3.0, Error ellipse: s-maj=4.9km s-min=2.8km az=141.0, Mining explosion.*
*UPP **06** 14:04:48.1, 59.00N×18.18E, h0km, ML3.0, Mining explosion.*
HEL 06 14:04:49.2±0.1**, 59.01N**×**18.16E, h0km, ML1.9, ML3.0**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.08**	**270**	i P	Pg	14 04 50.1	-0.6
NRTU	**Norrtaelje**	**0.72**	**20**	i P	Pg	14 05 01.6	-1.3
ESKU	**Eskilstuna**	**0.94**	**285**	eP	Pg	14 05 05.8	-1.4
BACU	**Backbrunna**	**1.01**	**328**	eP	Pg	14 05 07.1	-1.4
FLYU	**Flymyra**	**1.14**	**353**	eP	Pg	14 05 09.8	-1.2
OSTU	**Oestervaala**	**1.33**	**337**	eP	Pg	14 05 13.3	-1.5
GOTU	**Gotland**	**1.34**	**171**	eP	Pg	14 05 12.4	-2.5
GRAU	**Graesoe**	**1.35**	**8**	eP	Pg	14 05 13.3	-1.8
FORU	**Forsmark**	**1.39**	**0**	eP	Pg	14 05 13.9	-1.9
AAL	**Aland**	**1.50**	**38**	eP	Pn	14 05 15.6	-1.8
LNKU	**Linkoeping**	**1.59**	**242**	eP	Pn	14 05 17.5	-1.2
VSTU	**Vaestervik**	**1.60**	**213**	eP	Pn	14 05 17.4	-1.3
NRAU	**Nora**	**1.70**	**291**	eP	Pn	14 05 19.4	-0.7
ASKU	**Askersund**	**1.73**	**268**	eP	Pn	14 05 19.9	-0.6
BYXU	**Byxelkrok**	**1.82**	**200**	eP	Pn	14 05 21.3	-0.5
FALU	**Falun**	**1.90**	**323**	eP	Pn	14 05 23.0	+0.1
IGGU	**Iggoen**	**1.92**	**348**	eP	Pn	14 05 23.2	+0.1
IGGU	**Iggoen**	**1.92**	**348**	P	Pn	14 05 23.2	+0.1
EKSU	**Eksjoe**	**2.08**	**228**	eP	Pn	14 05 25.8	+0.4
OSKU	**Oskarshamn**	**2.12**	**212**	eP	Pn	14 05 26.3	+0.4
NASU	**Vaermlandsnaes**	**2.58**	**270**	P	Pn	14 05 33.6	+1.4
RAF	**Rauma**	**2.72**	**40**	eP	Pn	14 05 33.8	-0.2
RAF				eS	Sn	14 06 07.5	-0.1
RAF				MSG		14 06 15.7	
	comp=Z,3.4nm,0.2s						
RAF	**Rauma**	**2.72**	**40**	P	Pn	14 05 33.8	-0.3
RAF				S	Sn	14 06 07.5	-0.1
	comp=Z,3.4nm,0.2s						
PVF	**Pernaja**	**4.19**	**65**	eP	Pn	14 06 03.2	+8.9
PVF				eSB	Sb	14 06 55.4	+0.5
PVF				MSG		14 07 01.7	
	comp=Z,2.0nm,0.2s						
KEF	**Keuruu**	**4.58**	**43**	eP	Pn	14 06 00.0	+0.3
KEF				eS	Sn	14 06 52.0	-1.7
KEF				MSG		14 07 14.3	
	comp=Z,1.7nm,0.2s						
KEF	**Keuruu**	**4.58**	**43**	P	Pn	14 06 00.0	+0.3
KEF				S	Sn	14 06 51.9	-1.8
	comp=Z,1.7nm,0.2s						
VAF	**Ylistaro**	**4.61**	**27**	eSG	Sg	14 07 11.2	-6.0
FIA0	**FINESS Array S**	**4.64**	**55**	eP	Pn	14 06 00.9	+0.3
FIA0				eS	Sn	14 06 53.0	-2.2
FIA0	**FINESS Array S**	**4.64**	**55**	P	Pn	14 06 00.8	+0.2
FIA0				S	Sn	14 06 53.0	-2.2
KAF	**Kangasniemi**	**5.09**	**49**	eP	Pn	14 06 06.3	-0.3
KAF				eS	Sn	14 07 04.4	-1.7
KAF	**Kangasniemi**	**5.09**	**49**	P	Pn	14 06 06.3	-0.4
SUF	**Sumiainen**	**5.40**	**43**	eP	Pn	14 06 10.7	-0.2
SUF				eS	Sn	14 07 10.7	-3.0

*IDC **06** 14:07:27.9±1.4, 13.21N×50.45E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/21, mbtmp3.9/10, ML4.4/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/21, Error ellipse: s-maj=33.2km s-min=24.4km az=171.0*
*CSEM **06** 14:07:29.5±0.1, 13.47N×50.26E, h12km, ML3.3, Error ellipse: s-maj=5.4km s-min=3.8km az=22.0*
*NEIC **06** 14:07:30.9±0.9, 13.45N×50.32E, h10km, mb4.0/3, Error ellipse: s-maj=18.7km s-min=16.2km az=165.0*
*ISCJB **06** 14:07:31.9±1.9, 13.39N±0.09×50.18E±0.10, h35km±18km, mb3.9/12, Error ellipse: s-maj=16.4km s-min=14.2km az=129.2*
*DHMR **06** 14:07:34.8±1.6, 13.37N×49.65E, h3km±68km, ML3.3*
ISC 06 14:07:34.2±3.8**, 13.48N**±0.10×**50.18E**±0.07**, h34km**±29km**, n27, σ0s.93**/26**, mb3.9**/12**, 3C, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.49**	**312**	i P	**Pn**	**14 07 57.3**	**-1.2**
MUKL				i S	**Sn**	**14 08 16.8**	**0.0**
MUKL				AML	AML	14 08 18.1	
	comp=N,891nm,0.2s						
BDHA	**Al Bayda'**	**4.51**	**277**	⇑iP	**Pn**	**14 08 40.7**	**+0.6**
BDHA				AML	AML	14 08 47.1	
	comp=Z,53nm,0.4s						
BDHA				i S	**Sn**	**14 09 30.3**	**-1.0**
LBOS		**4.80**	**275**	⇑iP	**Pn**	**14 08 44.3**	**+0.1**
TRBA	**At Turbah**	**5.90**	**268**	⇑iP	**Pn**	**14 08 58.0**	**-1.2**
ATD	**Arta Tunnel**	**7.41**	**256**	Pn	**Pn**	**14 09 21.2**	**+1.2**
	comp=Z,5.7nm,0.3s,baz=86,slow=22,SNR=20						
WSAR	**Wadi Sarin**	**12.59**	**38**	LR	LR	14 14 51.0	
	comp=Z,113nm,20.1s,baz=43,slow=35						
KMBO	**Kilima Mbogo**	**19.36**	**222**	LR	LR	14 19 04.4	
	comp=Z,84nm,18.6s,baz=73,slow=36						
ASF	**Jabal al Asfar**	**22.23**	**329**	P	**P**	**14 12 31.8**	**+3.9**
	comp=Z,1.1nm,0.5s,mb3.6,baz=69,slow=8.6,SNR=3.0						
MALT	**Malatya**	**26.85**	**339**	P	**P**	**14 13 12.3**	**+0.7**
	comp=Z,1.5nm,0.6s,mb3.7						
MALT	**Malatya**	**26.85**	**339**	P	**P**	**14 13 12.3**	**+0.8**
GNI	**Garni**	**27.00**	**351**	LR	LR	14 25 58.4	
	comp=Z,80nm,19.6s,baz=164,slow=41						
DGAR	**Diego Garcia**	**30.33**	**132**	eP	**P**	**14 13 42.6**	**+0.1**
	comp=Z,304nm,1.2s						
PALK	**Pallekele**	**30.63**	**99**	P	**P**	**14 13 39.8**	**-5.4**
	comp=Z,11nm,1.0s,mb4.6						
PALK	**Pallekele**	**30.63**	**99**	P	**P**	**14 13 39.8**	**-5.4**
	comp=Z,11nm,1.0s,mb4.6						
TIP	**Timpagrande**	**39.03**	**317**	P	**P**	**14 14 57.1**	**-0.5**
TIP	**Timpagrande**	**39.03**	**317**	P	**P**	**14 14 57.1**	**-0.5**
AKASG	**Malin Array Be**	**40.85**	**340**	P	**P**	**14 15 13.3**	**+0.6**
	comp=Z,0.4nm,0.4s,mb3.4,baz=151,slow=6.8,SNR=5.5						
MKAR	**Makanchi Array**	**42.75**	**33**	P	**P**	**14 15 27.8**	**-0.4**
	comp=Z,0.2nm,0.3s,mb3.4,baz=222,slow=9.0,SNR=3.0						
KURK	**Kurchatov**	**43.74**	**26**	P	**P**	**14 15 35.5**	**-0.7**
	comp=Z,1.3nm,0.7s,mb3.8						
KURK	**Kurchatov**	**43.74**	**26**	P	**P**	**14 15 35.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**47.12**	**276**	P	**P**	**14 16 04.6**	**+1.7**
	comp=Z,1.1nm,0.9s,mb3.8,baz=99,slow=7.4,SNR=3.7						
FINES	**FINESS Array B**	**50.97**	**345**	P	**P**	**14 16 33.1**	**+0.7**
	comp=Z,2.6nm,0.7s,mb4.3,baz=142,slow=9.6,SNR=12						
NB2	**NORSAR Subarra**	**55.22**	**338**	P	**P**	**14 17 04.1**	**+0.3**
	comp=Z,0.4nm,0.7s,mb3.6,baz=140,slow=9.3						
NOA	**NORSAR Array B**	**55.22**	**338**	P	**P**	**14 17 03.6**	**-0.1**
	comp=Z,0.8nm,0.8s,mb3.8,baz=131,slow=7.2,SNR=4.3						
SONM	**Songino Array**	**57.62**	**42**	P	**P**	**14 17 21.2**	**+0.3**
	comp=Z,0.8nm,0.8s,mb3.8,baz=247,slow=7.4,SNR=4.0						
ARCES	**ARCESS Array B**	**58.15**	**350**	P	**P**	**14 17 25.1**	**+0.5**
	comp=Z,1.7nm,0.9s,mb4.1,baz=155,slow=15,SNR=4.7						
WRA	**Warramunga Arr**	**89.17**	**111**	P	**P**	**14 20 24.0**	**-2.3**
	comp=Z,1.3nm,0.8s,mb4.3,baz=300,slow=3.8,SNR=4.7						

*ISCJB **06** 14:11:27.7±1.0, 43.04N±0.07×125.50W±0.10, h10km, mb3.2/2, MS3.0/2, Error ellipse: s-maj=13.0km s-min=7.3km az=84.7*
*IDC **06** 14:11:28.6±2.1, 43.19N×125.23W, h0km, mb3.2/3, mb1 3.5/5, mb1mx3.3/24, mbtmp3.1/5, ML3.0/3, MS3.2/6, Ms1 3.2/6, ms1mx3.0/12, Error ellipse: s-maj=48.2km s-min=15.6km az=53.0*
*NEIC **06** 14:11:28.4±1.1, 42.97N×125.47W, h10km, Error ellipse: s-maj=14.8km s-min=8.1km az=55.0*
ISC 06 14:11:28.3±2.5**, 43.10N**±0.08×**125.5W**±0.1**, h3km**±14km**, n25, σ1s.11**/23**, mb3.2**/2**, MS3.0**/2**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**0.88**	**104**	ePg	**Pg**	**14 11 45.4**	**+0.3**
KEBM				eSg	**Sg**	**14 11 55.9**	**-0.6**
KBO	**Bosley Butte**	**1.28**	**133**	ePg	**Pg**	**14 11 49.3**	**-3.6**
DBO	**Dodson Butte**	**1.64**	**88**	P	**Pn**	**14 11 57.6**	**-0.4**
HUMO	**Hull Mountain**	**1.92**	**104**	ePn	**Pn**	**14 12 00.0**	**-1.9**
HUMO				eSn	**Pg**	**14 12 12.4**	**+7.2**
KRMB	**Red Mountain**	**1.96**	**143**	ePn	**Pn**	**14 11 56.3**	**-6.1**
BBOR	**Butler Butte**	**2.07**	**95**	P	**Pn**	**14 12 04.1**	**+0.2**
YBH	**Yreka Blue Hor**	**2.47**	**123**	Pn	**Pn**	**14 12 08.5**	**-0.9**
	0.5nm,0.3s,baz=286,slow=9.3,SNR=7.1						
YBH	**Yreka Blue Hor**	**2.47**	**123**	ePn	**Pn**	**14 12 08.1**	**-1.2**
YBH				ePg	**Pg**	**14 12 16.3**	**+0.7**
BROR	**Big Rock Looko**	**2.50**	**61**	P	**Pn**	**14 12 09.8**	**+0.1**
IRO	**Indian Ridge**	**2.52**	**68**	P	**Pn**	**14 12 10.6**	**+0.5**
BUOR	**Burton Butte**	**2.53**	**108**	P	**Pn**	**14 12 11.8**	**+1.6**
SSOR	**Sweet Springs**	**2.81**	**50**	P	**Pn**	**14 12 14.0**	**0.0**
BKCOR	**Black Crater**	**3.00**	**65**	P	**Pn**	**14 12 17.4**	**+0.6**
OHCM	**Honcut**	**4.82**	**140**	Pn	**Pn**	**14 12 40.8**	**-1.0**
BMO	**Blue Mountains**	**6.16**	**71**	Pn	**Pn**	**14 12 58.3**	**-1.8**
NVAR	**Mina Array Bea**	**7.17**	**128**	Pn	**Pn**	**14 13 16.1**	**+2.1**
	0.1nm,0.3s,baz=300,slow=13,SNR=3.3						
NEW	**Newport**	**7.81**	**46**	LR	LR	14 16 58.7	
	comp=Z,141nm,18.5s,baz=258,slow=43						
BBB	**Bella Bella**	**9.27**	**350**	LR	LR	14 16 37.5	
	comp=Z,98nm,21.3s,baz=231,slow=34						
PDAR	**Pinedale Array**	**11.69**	**86**	Pn	**Pn**	**14 14 17.9**	**+2.0**
	0.0nm,0.3s,baz=320,slow=8.3,SNR=2.4						
DLBC	**Dease Lake**	**15.62**	**351**	LR	LR	14 20 19.1	
	comp=Z,67nm,19.4s,baz=305,slow=34						
ANMO	**Albuquerque**	**16.85**	**112**	LR	LR	14 22 54.1	
	comp=Z,257nm,19.4s,baz=91,slow=41						
YKA	**Yellowknife Ar**	**20.46**	**15**	P	**P**	**14 16 06.9**	**-0.1**
	0.3nm,0.6s,baz=202,slow=11,SNR=2.6						
ULM	**Lac du Bonnet**	**21.44**	**60**	LR	LR	14 25 45.2	
	comp=Z,64nm,18.6s,MS3.0,baz=170,slow=40						
ILAR	**Eielson Array**	**24.86**	**338**	P	**P**	**14 16 52.5**	**+0.6**
	0.4nm,0.8s,mb3.0,baz=155,slow=12,SNR=4.1						
INK	**Inuvik**	**25.63**	**353**	P	**P**	**14 16 58.0**	**-1.0**
	1.5nm,1.0s,mb3.5,baz=156,slow=7.5,SNR=3.0						
INK				LR	LR	14 26 11.8	
	comp=Z,53nm,19.9s,MS3.1,baz=98,slow=35						

*TIF **06** 14:29:40.7, 42.43N×43.85E, h13km±1km*
*MOS **06** 14:29:41.5±0.8, 42.44N×43.84E, h10km, mb4.0/1, Error ellipse: s-maj=13.2km s-min=5.3km az=93.3*
*ISCJB **06** 14:29:42.2±0.3, 42.40N±0.02×43.80E±0.03, h13km, Error ellipse: s-maj=3.6km s-min=2.4km az=140.1*
ISC 06 14:29:41.7±0.4**, 42.41N**±0.02×**43.78E**±0.03**, h1km**±4km**, n29, σ1s.08**/54**, 5C-4D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.30**	**305**	P	**Sg**	**14 29 53.4**	**+2.2**
ZEI	**Tsey**	**0.37**	**14**	⇓iPG	**Pg**	**14 29 48.4**	**-0.4**
ZEI				i S	**Sg**	**14 29 54.5**	**+0.9**
AMRG		**0.49**	**283**	P	**Pg**	**14 29 50.9**	**-0.2**
AMRG				S	**Sg**	**14 29 59.4**	**+2.0**
GOR	**Gori**	**0.49**	**150**	P	**Pg**	**14 29 51.2**	**+0.1**
GOR				S	**Sg**	**14 29 59.2**	**+1.7**
DIGR	**Digorskoe uzhe**	**0.51**	**343**	⇑iPG	**Pg**	**14 29 50.0**	**-1.5**
DIGR				i S	**Sg**	**14 29 57.3**	**-0.8**
KORR	**Kora**	**0.71**	**17**	⇑iPG	**Pg**	**14 29 54.4**	**-0.9**
KORR				i S	**Sg**	**14 30 04.8**	**+0.3**
ARNR	**Ardon**	**0.86**	**25**	⇓iPG	**Pg**	**14 29 57.4**	**-0.8**
ARNR				i S	**Sg**	**14 30 09.9**	**+0.5**
VLKR	**Vladikavkaz**	**0.92**	**46**	⇑iPG	**Pg**	**14 29 58.7**	**-0.6**
VLKR				i S	**Sg**	**14 30 12.3**	**+1.1**
TBLG	**Delisi**	**0.99**	**133**	P	**Pg**	**14 29 59.9**	**-0.7**
TBLG				S	**Sg**	**14 30 15.1**	**+1.7**
TBLG	**Delisi**	**0.99**	**133**	ePG	**Pg**	**14 29 59.8**	**-0.8**
TBLG				eS	**Sg**	**14 30 15.1**	**+1.7**
SNJR	**Sundja**	**1.01**	**49**	⇓iPG	**Pg**	**14 30 00.4**	**-0.6**
SNJR				i S	**Sg**	**14 30 15.2**	**+1.2**
AKH	**Akhalkalaki**	**1.02**	**192**	P	**Pg**	**14 30 00.7**	**-0.6**
AKH				S	**Sg**	**14 30 15.5**	**+1.0**
KMSR	**Komsomolskaya**	**1.03**	**21**	⇓iPG	**Pg**	**14 30 00.5**	**-1.0**
KMSR				i S	**Sg**	**14 30 15.3**	**+0.4**
MTA	**Mtatsminda**	**1.04**	**133**	P	**Pg**	**14 30 00.6**	**-1.0**
MTA				S	**Sg**	**14 30 17.2**	**+2.1**
BTKR	**Batakoyurt**	**1.11**	**30**	⇑iPG	**Pg**	**14 30 02.2**	**-0.9**
BTKR				i S	**Sg**	**14 30 18.2**	**+0.7**
PRTR	**Priterechnaya**	**1.39**	**15**	⇑iPG	**Pn**	**14 30 06.4**	**-1.8**
PRTR				i S	**Sg**	**14 30 25.6**	**-0.8**
KUBR	**Kubataba**	**1.42**	**349**	ePG	**Pn**	**14 30 08.3**	**-0.2**
KUBR				eS	**Sg**	**14 30 28.7**	**+1.5**
DGRG	**David-gareji**	**1.53**	**128**	P	**Pg**	**14 30 10.2**	**-0.8**
DGRG				S	**Sg**	**14 30 34.4**	**+3.5**
DGRG	**David-gareji**	**1.53**	**128**	P	**Pg**	**14 30 10.2**	**-0.8**
DGRG				S	**Sg**	**14 30 31.8**	**+1.0**
SHAR	**Shatzhatmas**	**1.56**	**329**	ePG	**Pn**	**14 30 10.0**	**-0.5**
SHAR				eS	**Sn**	**14 30 31.1**	**-0.2**
PYA	**Pyatigorsk**	**1.71**	**342**	ePN	**Pn**	**14 30 12.6**	**+0.1**
PYA				eS	**Sn**	**14 30 35.8**	**+0.9**
KIV0	**Kislovodsk Arr**	**1.74**	**333**	ePN	**Pn**	**14 30 12.9**	**0.0**
KIV0				eS	**Sn**	**14 30 36.2**	**+0.5**
KIV	**Kislovodsk**	**1.74**	**333**	i PN	**Pn**	**14 30 12.8**	**-0.2**
KIV				i S	**Sn**	**14 30 36.8**	**+1.1**
KIV				pmax	pmax		
	comp=Z,158μm,1.3s						
BEYR	**Belyy Ugol+**	**1.75**	**337**	ePN	**Pn**	**14 30 13.4**	**+0.3**
BEYR				eS	**Sn**	**14 30 36.5**	**+0.5**
NAGR	**Nagutskaya**	**2.17**	**340**	ePN	**Pn**	**14 30 20.6**	**+1.7**
GNI	**Garni**	**2.37**	**162**	i PN	**Pb**	**14 30 23.9**	**-1.3**
GNI				i S	**Sg**	**14 30 56.3**	**-1.6**
GNI				pmax	Sb		
	comp=Z,35μm,0.8s						
GOF	**Gofitskoye**	**2.70**	**349**	ePN	**Pg**	**14 30 31.8**	**-1.7**
GOF				eS	**Sg**	**14 31 07.8**	**-0.7**
GOF				pmax	pmax		
	comp=Z,118nm,0.6s						
GOF				smax			
	comp=E,724nm,1.3s						
SOC	**Sochi**	**3.20**	**293**	ePN	**Pn**	**14 30 31.4**	**-1.7**
SOC				e		14 31 20.3	
SOC				pmax	pmax		
	comp=Z,14nm,0.8s						
SOC				MLR	MLR		
	comp=Z,95nm,7.0s						
ANN	**Anapa**	**5.19**	**300**	ePN	**Pn**	**14 30 57.0**	**-3.4**
ANN				pmax	pmax		
	comp=Z,98nm,1.4s						

KRSC 06 14:41:16, 49.61N×156.47E, h4km, ML3.5, Kuril Islands

*UPP **06** 15:09:13.8, 59.00N×18.19E, h0km, ML2.8, Mining explosion.*
*CSEM **06** 15:09:14.0±0.2, 59.05N×18.13E, h1km, ML2.8, Error ellipse: s-maj=6.7km s-min=3.0km az=122.0, Mining explosion.*

HEL 06 15:09:14.9±0.1**,5901N**×**1816E,h0**^{km}**,ML2.0,ML2.8**(UPP)**, Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.08**	**270**	*i* P	Pg	15 09 15.9	-0.5
NRTU	**Norrtaelje**	**0.72**	**20**	*i* P	Pg	15 09 27.3	-1.4
ESKU	**Eskilstuna**	**0.94**	**285**	*e*P	Pg	15 09 31.6	-1.3
BACU	**Backbrunna**	**1.01**	**328**	*e*P	Pg	15 09 32.9	-1.3
FLYU	**Flymyra**	**1.14**	**353**	*e*P	Pg	15 09 35.2	-1.5
OSTU	**Oestervaala**	**1.33**	**338**	*e*P	Pg	15 09 38.8	-1.7
GOTU	**Gotland**	**1.34**	**170**	*e*P	Pg	15 09 37.9	-2.7
GRAU	**Graesoe**	**1.35**	**8**	*e*P	Pg	15 09 39.0	-1.7
FORU	**Forsmark**	**1.39**	**0**	*e*P	Pg	15 09 39.8	-1.7
AAL	**Aland**	**1.50**	**38**	*e*P	Pn	15 09 41.3	-1.8
LNKU	**Linkoeping**	**1.59**	**242**	*e*P	Pn	15 09 43.1	-1.2
VSTU	**Vaestervik**	**1.60**	**213**	*e*P	Pn	15 09 43.1	-1.3
NRAU	**Nora**	**1.70**	**291**	*e*P	Pn	15 09 45.4	-0.4
ASKU	**Askersund**	**1.73**	**268**	*e*P	Pn	15 09 45.6	-0.6
BYXU	**Byxelkrok**	**1.82**	**200**	*e*P	Pn	15 09 47.0	-0.5
FALU	**Falun**	**1.90**	**323**	*e*P	Pn	15 09 48.7	+0.1
IGGU	**Iggoen**	**1.92**	**348**	*e*P	Pn	15 09 49.0	+0.1
EKSU	**Eksjoe**	**2.08**	**228**	*e*P	Pn	15 09 51.5	+0.5
OSKU	**Oskarshamn**	**2.12**	**212**	*e*P	Pn	15 09 52.0	+0.4
NASU	**Vaermlandsnaes**	**2.58**	**270**	P	Pn	15 09 58.8	+1.0
RAF	**Rauma**	**2.72**	**40**	*e*P	Pn	15 09 59.5	-0.2
RAF				*e*S	Sn	15 10 33.4	0.0
RAF				MSG		15 10 41.5	
	comp=Z,2.7nm,0.1s						
RAF	**Rauma**	**2.72**	**40**	P	Pn	15 09 59.5	-0.3
RAF				S	Sn	15 10 33.3	0.0
	comp=Z,2.7nm,0.1s						
PVF	**Pernaja**	**4.19**	**65**	*e*SG	Sg	15 11 24.2	-5.3
PVF				MSG		15 11 27.4	
	comp=Z,2.5nm,0.2s						
PVF	**Pernaja**	**4.19**	**65**	Sg	Sg	15 11 24.2	-5.3
	comp=Z,2.5nm,0.2s						
VAF	**Ylistaro**	**4.61**	**27**	*e*P	Pn	15 10 26.5	+0.7
VAF				*e*SG	Sg	15 11 37.5	-5.5
VAF				MSG		15 11 39.6	
	comp=Z,2.1nm,0.2s						
VAF	**Ylistaro**	**4.61**	**27**	P	Pn	15 10 26.4	+0.6
VAF				Sg	Sg	15 11 37.4	-5.5
	comp=Z,2.1nm,0.2s						
FIA0	**FINESS Array S**	**4.64**	**55**	*e*P	Pn	15 10 26.1	-0.2
FIA0				*e*S	Sn	15 11 19.6	-1.3
FIA0				*e*SG	Sg	15 11 37.3	-6.8
FIA0				MSG		15 11 41.6	
	comp=Z,1.8nm,0.2s						
FIA0	**FINESS Array S**	**4.64**	**55**	P	Pn	15 10 26.1	-0.2
FIA0				S	Sn	15 11 19.5	-1.4
FIA0				Sg	Sg	15 11 37.2	-6.9
	comp=Z,1.8nm,0.2s						
KAF	**Kangasniemi**	**5.09**	**49**	*e*P	Pn	15 10 32.0	-0.4
KAF				*e*S	Sn	15 11 30.1	-1.7
SUF	**Sumiainen**	**5.40**	**43**	*e*P	Pn	15 10 36.2	-0.4
SUF				*e*S	Sn	15 11 36.5	-2.9
KU4	**Liikasenvaara**	**9.04**	**31**	*e*P	Pn	15 11 25.9	-0.8

*ISCJB **06** 15:11:23.5±0.5,2474S±009×1336W±010,h10^{km}, mb4.4/21,MS4.4/11,Error ellipse: s-maj=13.7km s-min=11.4km az=90.1*

*NEIC **06** 15:11:25.2±0.5,2472S×1342W,h10^{km},mb4.8/12,Error ellipse: s-maj=13.9km s-min=12.3km az=126.0*

*HRVD **06** 15:11:25.2±0.4,2485S×1343W,h19^{km}±1^{km},MW5.1/40, Centroid moment Tensor Solution. LP body waves: s11,c12;Mantle waves: s40,c61; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.12±.54; $M_{\theta\theta}$1.07±.32; $M_{\phi\phi}$4.06±.33; $M_{r\theta}$-1.77±.89; $M_{\theta\phi}$-0.63±.21; $M_{\phi r}$2.86±.68; Best double couple: $M_0$5.72300×10^{16} NP1:ϕ_s355.00000°,δ28.00000°,λ-75.00000°. NP2: ϕ_s158.00000°,δ63.00000°,λ-98.00000°. Principal axes: T 5.1850, Plg17.0000°, Azm254.0000°; N 1.0860, Plg7.0000°, Azm161.0000°; P -6.2610, Plg71.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **06** 15:11:27.7±1.1,2443S×1367W,h0^{km},mb4.1/10, mb1 4.1/10,mb1mx4.0/20,mbtmp4.1/10,MS4.4/11, Ms1 4.4/11,ms1mx4.1/26 Error ellipse: s-maj=37.9km s-min=20.0km az=160.0*

ISC 06 15:11:25.7±0.5**,2478S**±009×**1335W**±010**,h10**^{km}**,n42,** σ**1.55**/35**,mb4.4**/21**,MS4.4**/11**,Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**32.33**	**16**	P	**P**	**15 17 56.2**	**+1.2**
	2.3nm,0.7s,mb4.1,baz=185,slow=10,SNR=3.9						
DBIC				LR	LR	15 27 53.4	
	comp=Z,376nm,19.3s,MS4.1,baz=184,slow=31						
DBIC	**Dimbokro**	**32.33**	**16**	P	**P**	**15 17 56.2**	**+1.1**
DBIC				*e*P		15 17 56.4	
DBIC				LR	LR	15 27 53.4	
BDFB	**Brasilia**	**33.69**	**279**	P	**P**	**15 18 07.8**	**+0.9**
	2.6nm,0.7s,mb4.3,baz=135,slow=5.7,SNR=3.4						
BDFB				LR	LR	15 30 01.1	
	comp=Z,1µm,18.4s,MS4.6,baz=120,slow=33						
BOSA	**Boshof**	**34.61**	**105**	P	**P**	**15 18 21.7**	**+6.9**
	8.8nm,1.0s,mb4.6,baz=260,slow=10,SNR=5.1						
BOSA				LR	LR	15 30 36.0	
	comp=Z,604nm,18.6s,MS4.4,baz=251,slow=33						
BOSA	**Boshof**	**34.61**	**105**	*e*P	**P**	**15 18 16.8**	**+1.9**
	17nm,1.2s,mb4.8						
BOSA				LR	LR	15 30 36.0	
LBTB	**Lobatse**	**35.25**	**99**	*e*P	**P**	**15 18 22.2**	**+1.8**
	7.5nm,1.0s,mb4.6						
CPUP	**Villa Florida**	**39.56**	**258**	P	**P**	**15 18 58.2**	**+1.2**
	0.4nm,0.4s,mb3.5,baz=109,slow=8.5,SNR=3.3						
CPUP	**Villa Florida**	**39.56**	**258**	*e*P	**P**	**15 18 56.9**	**0.0**
	48nm,1.5s,mb5.0						
LSZ	**Lusaka**	**40.03**	**84**	P	**P**	**15 19 05.1**	**+4.3**
	10nm,0.6s,mb4.7						
TOA0	**Torodi Ar. Sit**	**40.45**	**23**	*e*P	**P**	**15 19 05.2**	**+0.9**
TORD	**Torodi Ar. Bea**	**40.45**	**23**	P	**P**	**15 19 05.6**	**+1.3**
	9.0nm,1.1s,mb4.4,baz=204,slow=9.0,SNR=18						
TORD				LR	LR	15 32 38.6	
	comp=Z,567nm,18.8s,MS4.5,baz=190,slow=32						
SIV	**San Ignacio**	**45.39**	**272**	P	**P**	**15 19 46.2**	**+1.8**
	2.8nm,0.9s,mb4.1,baz=92,slow=7.0,SNR=12						
SNAA	**Sanae**	**47.30**	**175**	*e*P	**P**	**15 19 58.0**	**-1.4**
	1.7nm,0.9s,mb4.0						
PLCA	**Paso Flores**	**49.83**	**237**	LR	LR	15 40 02.2	
	comp=Z,527nm,18.2s,MS4.6,baz=142,slow=34						
SAML	**Samuel**	**49.93**	**279**	*e*P	**P**	**15 20 20.1**	**+0.5**
	12nm,1.3s,mb4.8						
LPAZ	**La Paz**	**51.71**	**268**	LR	LR	15 40 45.0	
	comp=Z,308nm,19.7s,MS4.3,baz=241,slow=34						
LPAZ	**La Paz**	**51.71**	**268**	*e*P	**P**	**15 20 32.4**	**-0.6**
	5.9nm,1.0s,mb4.5						
KMBO	**Kilima Mbogo**	**54.20**	**72**	LR	LR	15 44 02.3	
	comp=Z,422nm,18.2s,MS4.5,baz=99,slow=36						
MAW	**Mawson**	**62.10**	**155**	*e*P	**P**	**15 21 45.5**	**-1.2**
	6.1nm,0.9s,mb4.7						
ESDC	**Sonseca Array**	**64.71**	**8**	LR	LR	15 46 06.0	
	comp=Z,144nm,20.4s,MS4.2,baz=290,slow=32						
SDV	**Santo Domingo**	**65.06**	**294**	*e*P	**P**	**15 22 06.3**	**+0.1**
	9.5nm,0.9s,mb4.8						
QSPA	**South Pole Qui**	**65.44**	**180**	*e*P	**P**	**15 22 08.4**	**-0.3**
	15nm,1.2s,mb4.9						
ROSC	**El Rosal**	**66.14**	**288**	LR	LR	15 49 26.1	
	comp=Z,424nm,20.3s,MS4.6,baz=17,slow=35						
ETSF	**Etsaut**	**68.36**	**10**	*e*P	**P**	**15 22 24.9**	**-2.4**
EPF	**Esparros**	**68.64**	**11**	*e*P	**P**	**15 22 26.7**	**-2.4**
LFF	**La Frestale**	**70.56**	**11**	*e*P	**P**	**15 22 39.7**	**-1.2**
CAF	**Calviac**	**70.78**	**12**	*e*P	**P**	**15 22 40.1**	**-2.2**
ORIF	**Oris-en-Rattie**	**71.55**	**14**	*e*P	**P**	**15 22 45.9**	**-1.0**
LPG	**La Plagne**	**72.29**	**15**	*e*P	**P**	**15 22 51.0**	**-0.4**
	21nm,1.0s,mb4.7						
LPG	**La Plagne**	**72.29**	**15**	*e*P	**P**	**15 22 51.0**	**-0.4**
	10nm,1.0s,mb4.7						
LPL	**La Plagne**	**72.31**	**15**	*e*P	**P**	**15 22 51.2**	**-0.3**
	20nm,1.0s,mb4.7						
LPL	**La Plagne**	**72.31**	**15**	*e*P	**P**	**15 22 51.2**	**-0.3**
	9.8nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**72.77**	**12**	*e*P	**P**	**15 22 49.2**	**-5.0**
AVF	**Avril sur Loir**	**72.81**	**12**	*e*P	**P**	**15 22 48.2**	**-6.3**
	24nm,1.3s,mb4.7						
SSF	**Saint Saulge**	**73.10**	**12**	*e*P	**P**	**15 22 53.3**	**-2.9**
GIVF	**Givet**	**76.27**	**12**	*e*P	**P**	**15 23 12.4**	**-2.2**
BRTR	**Keskin Array B**	**77.71**	**35**	P	**P**	**15 23 25.3**	**+2.6**
	0.8nm,0.8s,mb3.7,baz=184,slow=9.9,SNR=4.7						
AKASG	**Malin Array Be**	**84.03**	**26**	P	**P**	**15 24 00.1**	**+3.7**
	1.3nm,0.7s,mb4.2,baz=223,slow=5.4,SNR=3.1						
HFS	**Hagfors**	**87.45**	**13**	P	**P**	**15 24 15.8**	**+2.4**
	0.6nm,0.8s,mb3.9,baz=206,slow=9.6,SNR=1.9						
FINES	**FINESS Array B**	**91.61**	**18**	P	**P**	**15 24 36.2**	**+3.3**
	2.2nm,1.0s,mb4.4,baz=184,slow=22,SNR=3.8						
SFJD	**Kangerlussuaq**	**95.67**	**346**	LR	LR	15 59 20.4	
	comp=Z,107nm,21.2s,MS4.3,slow=30						
FRB	**Frobisher Bay**	**98.19**	**338**	LR	LR	15 59 20.8	
	comp=Z,111nm,20.0s,MS4.3,baz=74,slow=29						

*CSEM **06** 15:11:32.6,1036S×16500E,h33^{km},mb5.5*

*BJI **06** 15:11:34.9,1022S×16531E,h61^{km},mB5.7,mb5.5,Ms5.2, Msz5.1*

*ISCJB **06** 15:11:35.9±0.1,1046S±003×16503E±003,h67^{km}, mb5.3/111,Error ellipse: s-maj=4.5km s-min=3.9km az=150.8*

*NEIC **06** 15:11:36.7±0.1,1048S×16512E,mb5.3/67,MW5.7,Error ellipse: s-maj=6.8km s-min=4.6km az=143.0,Moment Tensor Solution. s41 Moment tensor: Scale 10^{17}Nm; M_{rr}4.46; $M_{\theta\theta}$0.10; $M_{\phi\phi}$-4.57; $M_{r\theta}$1.53; $M_{\theta\phi}$-0.63; $M_{\phi r}$2.18; Best double couple: $M_0$5.30000×10^{17} NP1:ϕ_s21.00000°, δ60.00000°,λ104.00000°. NP2:ϕ_s175.00000°,δ33.00000°, λ67.00000°. Principal axes: T 5.3200, Plg71.0000°, Azm323.0000°; N -0.0700, Plg12.0000°, Azm194.0000°; P -5.2500, Plg14.0000°, Azm101.0000°;*

*HRVD **06** 15:11:36.7±0.1,1052S×16499E,h75^{km},MW5.7/102, Centroid moment Tensor Solution. LP body waves: s101,c207;Mantle waves: s102,c284; Half duration: 1.8 Moment tensor: Scale 10^{17}Nm; M_{rr}3.90±.05; $M_{\theta\theta}$0.86±.04; $M_{\phi\phi}$-4.76±.04; $M_{r\theta}$1.32±.04; $M_{\theta\phi}$0.68±.04; $M_{\phi r}$1.89±.04; Best double couple: $M_0$4.99800×10^{17} NP1:ϕ_s152.00000°, δ38.00000°,λ56.00000°. NP2:ϕ_s13.00000°,δ59.00000°, λ114.00000°. Principal axes: T 4.8150, Plg67.0000°, Azm329.0000°; N 0.3680, Plg20.0000°, Azm180.0000°; P -5.1820, Plg11.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*IDC **06** 15:11:37.5±0.8,1044S×16508E,h71^{km}±6^{km},mb4.8/17, mb1 4.9/19,mb1mx4.9/20,mbtmp5.1/19,MS4.9/16, Ms1 4.8/16,ms1mx4.7/21 Error ellipse: s-maj=14.5km s-min=11.3km az=95.0*

*CRAAG **06** 15:11:37.0,1045S×16504E,Mb5.4*

*SZGRF **06** 15:11:39.2,953S×16552E,h66^{km},Santa Cruz Islands*

*MOS **06** 15:11:40.0±1.5,1040S×16494E,h104^{km},mb5.4/38, MS4.9/10,Error ellipse: s-maj=8.1km s-min=7.6km az=75.8*

ISC 06 15:11:37.9±0.1**,1047S**±003×**16512E**±003**,h68**^{km}**,h68**^{km}±.7^{km}**:pP-P,n491,** σ**1.01**/332**,mb5.3**/111**,63C-46D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.20**	**281**	P	**Pn**	**15 12 55.5**	**+2.4**
	2µm,0.3s,baz=130,slow=0.5,SNR=407						
HNR	**Honiara**	**5.20**	**281⇓**	*e*P	**Pn**	**15 12 54.9**	**+1.8**
HNR				*e*		15 13 55.8	
HNR				pmax	pmax		
	comp=Z,10µm,0.7s						
HNR	**Honiara**	**5.20**	**281⇓**	*e*Pn	**Pn**	**15 12 54.9**	**+1.9**
	comp=Z,12µm,0.7s						
HNR				*e*Sn	**Sn**	**15 13 55.8**	**+4.2**
BKM	**Butte a Klehm**	**7.77**	**157⇑**	*i*P	**Pn**	**15 13 28.9**	**+0.6**
BKM				S	**Sn**	**15 14 52.3**	**-2.5**
DZM	**Mont Dzumac**	**11.61**	**174**	*e*S	**Sn**	**15 16 22.3**	**-6.2**
DZM	**Mont Dzumac**	**11.61**	**174**	P	**Pn**	**15 14 22.8**	**+2.2**
	comp=Z,15nm,0.3s,baz=52,slow=18,SNR=210						
DZM				S	**Sn**	**15 16 24.8**	**-3.6**
	comp=Z,9.8nm,0.3s,baz=340,slow=22,SNR=5.4						
DZM				LR	LR	15 18 06.6	
	comp=Z,5µm,20.0s,baz=23,slow=33						
FUNA	**Funafuti**	**14.02**	**83**	*e*Pn	**Pn**	**15 14 52.0**	**-1.2**
PMG	**Port Moresby**	**17.72**	**272**	P	**Pn**	**15 15 40.0**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=58,slow=6.6,SNR=12						
PMG	**Port Moresby**	**17.72**	**272**	P	**Pn**	**15 15 40.0**	**0.0**
PMG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PMG	**Port Moresby**	**17.72**	**272**	*e*P	**Pn**	**15 15 41.2**	**+1.3**
	comp=Z,243nm,1.3s						
CTA	**Charters Tower**	**20.54**	**240⇓**	*i*P	**P**	**15 16 10.5**	**-0.2**
	comp=Z,35nm,0.8s						
CTA				*e*		15 16 24.5	
CTA				*e*S	**S**	**15 19 58.4**	**+1.8**
CTA	**Charters Tower**	**20.54**	**240**	P	**P**	**15 16 10.6**	**-0.1**
	comp=Z,42nm,0.7s,baz=67,slow=11,SNR=44						
CTA				LR	LR	15 22 52.9	
	comp=Z,3µm,19.7s,baz=58,slow=33						
CTA	**Charters Tower**	**20.54**	**240⇓**	*i*P	**P**	**15 16 10.5**	**-0.2**
CTA				*e*S	**S**	**15 19 58.4**	**+1.8**
CTA				pmax	pmax		
	comp=Z,35nm,0.8s						
CTAO	**Charters Tower**	**20.54**	**240**	*e*P	**P**	**15 16 10.1**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,370nm,1.4s						
CTAO	**Charters Tower**	**20.54**	**240**	*e*P	**P**	**15 16 10.1**	**-0.5**
	comp=Z,370nm,1.4s						
CTAO				*e*pP		15 16 24.1	
AFI	**Afiamalu**	**22.84**	**101**	P	**P**	**15 16 36.5**	**+1.3**
	comp=Z,14nm,0.5s,mb4.5,baz=245,slow=19,SNR=4.4						
AFI				LR	LR	15 23 37.2	
	comp=Z,8µm,21.0s,baz=254,slow=31						
ARMA	**Armidale**	**23.49**	**210**	*e*P	**P**	**15 16 41.8**	**+0.4**
ARMA				*e*		15 16 55.9	
ARMA				*e*S	**S**	**15 20 54.9**	**+5.0**
OUZ	**Omahuta**	**25.82**	**164**	*e*PN	**P**	**15 17 04.0**	**+1.3**
CNB	**Canberra Magne**	**28.59**	**208**	*e*P	**P**	**15 17 27.6**	**+0.1**
	comp=Z,16nm,0.6s,mb4.8						
CNB				*e*pP	pP	15 17 48.9	+5.0
CNB				*e*PCP	PcP	15 20 37.7	+0.6
URZ	**Urewera**	**29.69**	**161**	P	**P**	**15 17 39.1**	**+1.9**
	comp=Z,34nm,0.6s,mb5.1,baz=41,slow=6.8,SNR=23						
URZ				LR	LR	15 28 04.4	
	comp=Z,2µm,20.2s,baz=338,slow=33						
BKZ	**Black Stump Fm**	**30.33**	**162**	PN	**P**	**15 17 42.9**	**+0.1**
STKA	**Stephens Creek**	**30.44**	**222**	*e*P	**P**	**15 17 44.5**	**+0.6**
	comp=Z,24nm,0.6s,mb5.0						
STKA				*e*pP	pP	15 18 01.1	+0.8
STKA				*e*PCP	PcP	15 20 41.7	-0.1
STKA	**Stephens Creek**	**30.44**	**222**	P	**P**	**15 17 44.4**	**+0.5**
	comp=Z,24nm,0.6s,mb5.0,baz=31,slow=9.2,SNR=123						
STKA				PcP	PcP	15 20 41.9	0.0
	comp=Z,12nm,0.6s,baz=346,slow=3.3,SNR=4.7						
STKA				LR	LR	15 29 13.7	
	comp=Z,3µm,18.1s,baz=42,slow=35						
WRAB	**Tennant Creek**	**31.10**	**249**	P	**P**	**15 17 49.3**	**-0.3**
	comp=Z,71nm,1.0s,mb5.3,SNR=6.0						
WRAB	**Tennant Creek**	**31.10**	**249**	*e*P	**P**	**15 17 46.4**	**-3.2**
WRAB				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.2						
WRAB	**Tennant Creek**	**31.10**	**249**	*e*P	**P**	**15 17 46.4**	**-3.2**
	comp=Z,43nm,0.9s,mb5.2						
WRAB				*e*pP	pP	15 18 03.0	-3.1
WB2	**Warramunga Arr**	**31.10**	**249**	*e*P	**P**	**15 17 47.8**	**-1.9**
WB2				*e*PCP	PcP	15 20 43.8	+0.2
WB2				*e*PCS	PcS	15 24 27.2	-0.5
WRA	**Warramunga Arr**	**31.11**	**249**	P	**P**	**15 17 47.9**	**-1.8**
	comp=Z,6.1nm,0.6s,mb4.5,baz=82,slow=9.0,SNR=39						
WRA				PcP	PcP	15 20 43.6	0.0
	comp=Z,7.9nm,0.5s,baz=73,slow=3.2,SNR=15						
WRA				PKiKP	PKiKP	15 28 11.8	-1.7
	comp=Z,1.1nm,0.6s,baz=2.8,slow=0.4,SNR=16						
WRA	**Warramunga Arr**	**31.11**	**249**	P	**P**	**15 17 47.9**	**-1.8**
WRA				PcP	PcP	15 20 43.6	0.0
GUMO	**Guam**	**31.23**	**320**	LR	LR	15 29 24.1	
	comp=Z,2µm,18.6s,baz=144,slow=34						
THZ	**Tophouse**	**31.91**	**169**	PN	**P**	**15 17 58.0**	**+1.2**
KAKA	**Kakadu**	**32.08**	**263**	*e*P	**P**	**15 17 56.2**	**-2.1**
	comp=Z,52nm,0.4s,mb5.6						
KAKA				*e*PCP	PcP	15 20 46.2	0.0
TOO	**Toolangi**	**32.25**	**210**	*e*P	**P**	**15 18 00.4**	**+0.6**
	comp=Z,23nm,0.6s,mb5.1						
TOO	**Toolangi**	**32.25**	**210**	*e*P	**P**	**15 18 00.4**	**+0.6**
TOO				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.1						
AS31	**Alice Springs**	**32.51**	**242**	*e*P	**P**	**15 17 59.3**	**-2.7**
AS31				*e*PcP	PcP	15 20 45.2	-2.2
ASAR	**Alice Springs**	**32.51**	**242**	P	**P**	**15 17 59.9**	**-2.2**
	comp=Z,7.9nm,0.6s,mb4.7,baz=63,slow=10,SNR=94						
ASAR				PcP	PcP	15 20 46.9	-0.5
	comp=Z,10nm,0.6s,baz=64,slow=2.7,SNR=15						
ASAR				PKiKP	PKiKP	15 28 13.2	-1.2
	comp=Z,0.7nm,0.6s,baz=96,slow=1.4,SNR=10.0						
ASAR				LR	LR	15 30 35.5	
	comp=Z,1µm,18.3s,baz=73,slow=35						
ASAR	**Alice Springs**	**32.51**	**242**	P	**P**	**15 17 59.9**	**-2.2**
ASAR				PcP	PcP	15 20 46.9	-0.5
ASPA	**Alice Springs**	**32.51**	**242**	*e*P	**P**	**15 17 59.3**	**-2.7**
ASPA				*e*PCP	PcP	15 20 45.2	-2.2
LTZ	**Lake Taylor**	**32.79**	**170**	PN	**P**	**15 18 05.3**	**+0.9**
RPZ	**Rata Peaks**	**33.52**	**172**	P	**P**	**15 18 10.5**	**-0.4**
	comp=Z,9.7nm,0.6s,mb4.8,baz=280,slow=8.9,SNR=17						
FITZ	**Fitzroy Crossi**	**38.94**	**254**	*e*P	**P**	**15 18 55.2**	**-1.9**
	comp=Z,24nm,0.6s,mb5.2						
FITZ				*e*PCP	PcP	15 21 06.7	+0.3
FITZ	**Fitzroy Crossi**	**38.94**	**254**	LR	LR	15 34 21.1	
	comp=Z,2µm,18.9s,baz=73,slow=35						
FORT	**Forrest**	**39.88**	**234**	*e*P	**P**	**15 19 05.2**	**+0.4**
	comp=Z,18nm,0.7s,mb5.0						
SCPH	**Surigao**	**44.26**	**296⇓**	*e*P	**P**	**15 19 40.9**	**+0.4**
PPT	**Papeete**	**44.43**	**104**	*e*S	**S**	**15 26 08.9**	**-2.8**
	comp=Z,804nm,26.8s						
PPT				*e*LQ		15 30 38.5	
	comp=Z,2µm,23.5s						
PPT				*e*LR	LR	15 32 11.6	
	comp=Z,5µm,23.2s,baz=277						
PPT	**Papeete**	**44.43**	**104**	LR	LR	15 34 16.4	
	comp=Z,2µm,20.0s,baz=254,slow=30						
PAE	**Paea**	**44.43**	**105**	*e*P	**P**	**15 19 43.3**	**+1.4**
	comp=Z,41nm,0.8s,mb5.2						
TVO	**Taravao**	**44.75**	**105**	*e*P	**P**	**15 19 46.2**	**+1.7**
	comp=Z,74nm,0.8s,mb5.5						
MBWA	**Marble Bar**	**44.80**	**251**	*e*P	**P**	**15 19 44.3**	**-0.6**
	comp=Z,7.2nm,0.6s,mb4.6						
MBWA				*e*pP	pP	15 20 01.5	-0.5
MBWA				*e*PcP	PcP	15 21 24.8	-1.0
MSLP	**Maasin**	**44.97**	**296**	*e*P	**P**	**15 19 45.8**	**-0.4**
TBI	**Tubuai**	**45.12**	**112**	*e*S	**S**	**15 26 19.1**	**-2.5**
	comp=Z,554nm,27.2s						
TBI				*e*LQ		15 30 36.4	
	comp=Z,5µm,29.8s						
TBI				*e*LR	LR	15 32 52.3	
	comp=Z,12µm,29.8s,baz=283						
PMOR	**Pomariorio Ree**	**45.99**	**101**	*e*P	**P**	**15 19 54.1**	**-0.1**
	comp=Z,17nm,0.7s,mb4.9						
PMOR				*e*pP	pP	15 20 11.4	0.0
	comp=Z,53nm,1.2s						
KLBR	**Kellerberrin**	**48.50**	**237**	*e*P	**P**	**15 20 13.8**	**0.0**
	comp=Z,12nm,0.5s,mb5.0						
TSM	**Tawau**	**49.28**	**285**	P	**P**	**15 20 21.0**	**+1.3**
NWAO	**Narrogin (SRO)**	**49.28**	**235**	*e*P	**P**	**15 20 19.0**	**-0.7**
NWAO				pmax	pmax		
	comp=Z,11nm,0.6s						
NWAO	**Narrogin (SRO)**	**49.28**	**235**	*e*P	**P**	**15 20 18.9**	**-0.8**
	comp=Z,11nm,0.6s,mb5.0						
NWAO				*e*pP	pP	15 20 34.1	-3.0
MUN	**Mundaring**	**49.87**	**237**	*e*P	**P**	**15 20 25.9**	**+1.7**
KKM	**Kota Kinabalu**	**51.38**	**286**	P	**P**	**15 20 37.1**	**+1.5**
KKM	**Kota Kinabalu**	**51.38**	**286**	*e*P	**P**	**15 20 35.8**	**+0.1**
MJAR	**Matsushiro Arr**	**53.18**	**333**	P	**P**	**15 20 48.3**	**-0.6**
	comp=Z,15nm,0.6s,mb5.2,baz=173,slow=7.5,SNR=50						
MJAR				LR	LR	15 41 05.2	
	comp=Z,824nm,20.5s,baz=160,slow=33						
MAJO	**Matsushiro**	**53.18**	**333**	*e*P	**P**	**15 20 47.3**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,43nm,0.6s,mb5.7						
MAJO	**Matsushiro**	**53.18**	**333**	*e*P	**P**	**15 20 47.3**	**-1.6**
	comp=Z,43nm,0.6s,mb5.7						
MAJO				*e*pP	pP	15 21 06.8	+0.3
MAT	**Matsushiro**	**53.18**	**333**	P	**P**	**15 20 48.3**	**-0.6**
MAT				S	**S**	**15 28 25.6**	**+11**
MAT	**Matsushiro**	**53.18**	**333**	*e*P	**P**	**15 20 48.0**	**-0.9**
MAT				*e*S	**S**	**15 28 26.0**	**+11**
MAT				pmax	pmax		
	comp=Z,58nm,1.0s,mb5.6						
MAT	**Matsushiro**	**53.18**	**333**	*e*P	**P**	**15 20 48.0**	**-0.9**
	comp=Z,58nm,1.0s,mb5.6						
MAT				*e*S	**S**	**15 28 26.0**	**+11**
TAOE	**Nuku Hiva Isla**	**53.93**	**93**	*e*LQ		15 34 24.3	
	comp=Z,4µm,25.2s						
TAOE				*e*LR	LR	15 36 39.1	
	comp=Z,9µm,28.4s,baz=273						
NACB	**Ninganchiao**	**54.70**	**310**	*e*P	**P**	**15 20 59.3**	**-0.7**
YHNB	**Yeheng**	**55.14**	**310**	*e*P	**P**	**15 21 02.4**	**-0.7**
KSM	**Kuching**	**55.80**	**279**	*e*P	**P**	**15 21 07.3**	**-0.6**
KSM				*e*pP	pP	15 21 25.4	-0.2
QZH	**Quanzhou**	**57.41**	**309⇑**	*i*P	**P**	**15 21 21.0**	**+1.7**
QZH				XP	sP	15 21 44.9	+0.1
QZH				S	**S**	**15 29 13.8**	**+2.8**
QZH				PS		15 29 42.6	
QZH				AMB	AMB		
	comp=Z,690nm,1.9s,mb6.4						
QZH				LR	LR		
	comp=Z,3µm,26.9s						
RKT	**Rikitea**	**58.37**	**111**	*e*S	**S**	**15 29 22.6**	**-0.9**
	comp=Z,1µm,28.0s						
RKT				*e*LQ		15 36 15.3	
	comp=Z,3µm,34.0s						
RKT				*e*LR	LR	15 38 50.1	
	comp=Z,6µm,30.0s						
DRV	**Dumont d'Urvil**	**58.64**	**191**	P	**P**	**15 21 28.0**	**+0.1**
DRV				S	**S**	**15 29 34.0**	**+6.9**
SSE	**Sheshan**	**59.01**	**316**	P	**P**	**15 21 30.5**	**0.0**
SSE				AP	pP	15 21 49.1	+0.8
SSE				XP	sP	15 21 56.8	+0.8
SSE				PP	PP	15 23 41.9	+0.4
SSE				S	**S**	**15 29 31.0**	**-0.9**
SSE				XS	sS	15 30 02.7	+0.6
SSE				SS	SS	15 33 27.1	+0.5
SSE				AMB	AMB		
	comp=Z,53nm,0.9s,mb5.6						
SSE				AMB	AMB		
	comp=Z,638nm,6.7s						
SSE				LR	LR		
	comp=N,908nm,20.6s						
SSE				LR	LR		
	comp=E,874nm,20.7s						
SSE				LR	LR		
	comp=Z,2µm,18.6s						
KS15	**Wonju Array Si**	**59.07**	**326**	*e*P	**P**	**15 21 30.6**	**-0.3**
INCN	**Inchon**	**59.80**	**325**	P	**P**	**15 21 37.3**	**+1.4**
	SNR=5.8						
INCN	**Inchon**	**59.80**	**325**	*e*P	**P**	**15 21 36.2**	**+0.3**
	comp=Z,123nm,1.4s,mb5.7						
INCN				*e*pP	pP	15 21 55.0	+1.2
YSS	**Yuzh-Sakhalins**	**60.55**	**343α**	*i*P	**P**	**15 21 41.8**	**+0.7**
YSS				*e**SP	sP	15 22 05.0	-1.6
YSS				*e*S	**S**	**15 29 53.0**	**+1.3**
YSS				*e*PS		15 30 23.0	
YSS				pmax	pmax		
	comp=Z,200nm,1.4s,mb6.0						
YSS				pmax	pmax		
	comp=Z,900nm,5.0s						
YSS	**Yuzh-Sakhalins**	**60.55**	**343**	*e*P	**P**	**15 21 41.6**	**+0.6**
	comp=Z,156nm,1.3s,mb5.9						
YSS				*e*pP	pP	15 21 59.0	+0.1
GZH	**Guangzhou**	**60.66**	**304**	P	**P**	**15 21 40.7**	**-1.1**
GZH				S	**S**	**15 29 50.8**	**-2.2**
GZH				LR	LR		
	comp=N,477nm,21.0s						
GZH				LR	LR		
	comp=E,805nm,15.4s						
GZH				LR	LR		
	comp=Z,1µm,18.5s						
NJ2	**Nanjing**	**61.18**	**316**	*e*P	**P**	**15 21 46.1**	**+0.8**
NJ2				AP	pP	15 22 02.1	-1.1
NJ2				XP	sP	15 22 09.8	-1.1
NJ2				PP	PP	15 24 03.8	+3.2
NJ2				S	**S**	**15 30 01.0**	**+1.3**
NJ2				XS	sS	15 30 29.0	-1.1
NJ2				AMB	AMB		
	comp=Z,130nm,1.3s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,790nm,10.1s						
NJ2				LR	LR		
	comp=N,4µm,24.0s						
NJ2				LR	LR		
	comp=E,3µm,23.0s						
NJ2				LR	LR		
	comp=Z,7µm,19.4s						
VLA	**Vladivostok**	**61.35**	**333**	*i* P	**P**	**15 21 47.2**	**+0.7**
SKR	**Severo-Kuril's**	**61.40**	**353**	*e*P	**P**	**15 21 43.0**	**-3.8**
SKR				*e*		15 30 03.0	
SKR				MLR	MLR		
	comp=N,2µm,20.0s						

SKR MLR MLR
comp=E,1µm,20.0s
SKR MLR MLR
comp=Z,2µm,20.0s
QIZ Qiongzhong 61.87 298 P P **15 21 51.7 +1.7**
QIZ XP sP 15 22 14.3 -1.3
QIZ S S **15 30 11.1 +2.7**
QIZ XS sS 15 30 37.7 -1.1
QIZ AMB AMB
comp=Z,63nm,1.8s,mb5.3
QIZ AMB AMB
comp=Z,816nm,3.7s
QIZ LR LR
comp=E,1µm,23.0s
QIZ LR LR
comp=Z,2µm,24.1s
KGM Kluang 62.73 278 P P **15 21 57.0 +1.3**
SMY Shemya 63.41 6 *e*P P **15 21 58.9 -1.3**
SMY pmax pmax
comp=Z,124nm,0.7s,mb6.0
SMY Shemya 63.41 6 *e*P P **15 21 58.9 -1.3**
comp=Z,124nm,0.7s,mb6.0
PET Petropavlovsk 63.48 356 ⇑*i*P P **15 22 00.2 -0.5**
PET *i*S S **15 30 29.2 +0.6**
PET *e*PS 15 30 48.9
PET *i*SS SS 15 34 37.4 +0.8
PET pmax pmax
comp=Z,61nm,0.8s,mb5.6
PET pmax pmax
comp=Z,600nm,6.0s
PET pmax pmax
comp=Z,600nm,16.2s
PET smax
comp=E,400nm,11.4s
PET smax
comp=E,500nm,21.1s
PET MLR MLR
comp=Z,500nm,20.0s
PET MLR MLR
comp=Z,600nm,18.0s
PET Petropavlovsk 63.48 356 *e*P P **15 22 00.3 -0.4**
comp=Z,163nm,1.4s,mb5.8
PET *e*pP pP 15 22 18.5 -0.2
WHN Wuhan 63.55 312 ⇑P P **15 22 01.0 -0.2**
WHN S S **15 30 24.0 -5.5**
WHN LR LR
comp=Z,5µm,35.8s
MDJ Mudanjiang 63.55 332 P P **15 22 01.6 +0.4**
MDJ AP pP 15 22 17.7 -1.5
MDJ XP sP 15 22 24.7 -2.1
MDJ PCP PcP 15 22 37.2 0.0
MDJ PP PP 15 24 21.9 +0.3
MDJ S S **15 30 33.2 +3.7**
MDJ XS sS 15 31 00.5 +0.4
MDJ SCS ScS 15 31 48.8 +0.4
MDJ SS SS 15 34 40.0 +2.2
MDJ AMB AMB
comp=Z,53nm,1.8s,mb5.1
MDJ AMB AMB
comp=Z,768nm,6.0s
MDJ LR LR
comp=N,879nm,31.3s
MDJ LR LR
comp=E,470nm,34.6s
MDJ LR LR
comp=Z,1µm,32.9s
MDJ Mudanjiang 63.55 332 *e*P P **15 22 01.3 +0.1**
comp=Z,238nm,1.9s,mb5.7
DL2 Dalian 63.65 323 ⇑*i*P P **15 22 01.5 -0.3**
DL2 XP sP 15 22 25.2 -2.3
DL2 S S **15 30 34.0 +3.3**
DL2 XS sS 15 30 55.6 -5.7
DL2 SS SS 15 34 38.6 -0.6
DL2 AMB AMB
comp=Z,50nm,1.2s,mb5.2
DL2 AMB AMB
comp=Z,360nm,6.3s
DL2 LR LR
comp=N,300nm,24.8s
DL2 LR LR
comp=E,200nm,24.5s
DL2 LR LR
comp=Z,570nm,27.0s
HABR Khabarovsk 64.42 338 ⇑*i*P P **15 22 06.9 0.0**
HABR *e*S S **15 30 40.0 -0.3**
HABR pmax pmax
comp=Z,145nm,1.4s,mb5.6
SNY Shenyang 64.52 327 ⇓P P **15 22 07.8 +0.3**
SNY XP sP 15 22 26.8 -6.4
SNY AMB AMB
comp=Z,45nm,1.8s,mb5.0
SNY AMB AMB
comp=Z,1µm,4.6s
SNY LR LR
comp=N,599nm,16.5s
SNY LR LR
comp=E,682nm,19.2s
SNY LR LR
comp=Z,776nm,28.5s
TIA Tai'an 64.78 318 *e*P P **15 22 08.3 -0.9**
UBT Ubonrachathani 64.78 292 ⇑P P **15 22 10.8 +1.6**
CN2 Changchun 64.93 329 *e*P P **15 22 10.2 0.0**
CN2 *e*AP pP 15 22 26.5 -1.8
CN2 *e*XP sP 15 22 33.4 -2.5
CN2 *e*S S **15 30 47.1 +0.6**
CN2 AMB AMB
comp=Z,70nm,1.5s,mb5.3
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,410nm,20.0s
CN2 LR LR
comp=E,510nm,20.0s
CN2 LR LR
comp=Z,640nm,21.0s
IPM Ipoh 65.52 280 P P **15 22 15.2 +1.2**
KULM Kulim 66.07 281 *e*P P **15 22 17.5 0.0**
KULM *e*pP pP 15 22 34.1 -1.6
KLR Kul'dur 66.29 337 ⇓*i*P P **15 22 16.1 -2.8**
KLR *e*S S 15 31 21.5 +18
KLR pmax pmax
comp=E,100nm,1.8s
KLR pmax pmax
comp=Z,220nm,1.8s,mb5.7
KLR pmax pmax
comp=Z,1µm,8.0s
SNG Songkhla 66.56 283 P P **15 22 22.0 +1.3**
CASY Casey 66.69 201 *e*P P **15 22 19.8 -1.7**
VNDA Vanda 67.06 181 P P **15 22 23.6 -0.3**
comp=Z,13nm,0.7s,mb4.8,baz=356,slow=6.7,SNR=49
VNDA LR LR 15 46 11.5
comp=Z,230nm,19.1s,baz=18,slow=31
VNDA Vanda 67.06 181 *e*P P **15 22 23.3 -0.5**
VNDA pmax pmax
comp=Z,66nm,1.4s
VNDA Vanda 67.06 181 *e*P P **15 22 23.3 -0.5**
comp=Z,66nm,1.4s,mb5.3
VNDA *e*pP pP 15 22 40.8 -1.2
KKTK Khon Kaen 67.13 293 P P **15 22 25.0 +0.7**
SBA Scott Base 67.38 180 *e*P P **15 22 26.1 +0.3**
SBA pmax pmax
comp=Z,78nm,1.2s,mb5.4
SBA Scott Base 67.38 180 *e*P P **15 22 26.1 +0.2**
comp=Z,78nm,1.2s,mb5.4
GYA Guiyang 67.59 304 ⇑*i*P P **15 22 28.0 +0.8**
GYA XP sP 15 22 51.3 -1.6
GYA PP PP 15 25 00.6 +3.8
GYA SCP 15 26 50.2
GYA S S 15 31 21.4 +2.7
GYA XS sS 15 31 49.0 -0.5
GYA SCS ScS 15 32 17.9 -1.6
GYA SS SS 15 35 45.4 +5.0
GYA AMB AMB
comp=Z,70nm,0.7s,mb5.6
GYA AMB AMB
comp=Z,580nm,5.7s
GYA LR LR
comp=N,370nm,18.2s
GYA LR LR
comp=E,820nm,19.7s
GYA LR LR
comp=Z,1µm,18.6s
BJT Baijiatuau 67.64 321 *e*P P **15 22 27.4 -0.1**
BJT pmax pmax
comp=Z,177nm,1.5s
BJT Baijiatuau 67.64 321 *e*P P **15 22 27.4 -0.1**
comp=Z,177nm,1.5s,mb5.7
BJI Beijing 67.65 321 P P **15 22 27.8 +0.2**
BJI S S 15 31 11.4 -8.1
BJI AMB AMB
comp=Z,72nm,1.4s,mb5.3
BJI LR LR
comp=N,1µm,24.4s
BJI LR LR
comp=E,1µm,28.3s
BJI LR LR
comp=Z,3µm,38.7s
UNV Unalaska Valle 68.45 18 *e*P P **15 22 31.1 -1.5**
comp=Z,92nm,0.7s,mb5.7
XAN Xi'an 69.28 312 P P **15 22 38.0 +0.3**
XAN AP pP 15 22 55.3 -0.7
XAN S S 15 31 35.7 -3.1
XAN AMB AMB
comp=Z,42nm,0.9s,mb5.3
XAN AMB AMB
comp=Z,657nm,9.0s
XAN LR LR
comp=N,478nm,23.1s
XAN LR LR
comp=E,707nm,24.0s
XAN LR LR
comp=Z,2µm,24.8s
NST Nakhon Sawan 69.38 291 P P **15 22 39.0 +0.7**
comp=Z,50nm,0.8s,mb5.4
FALS False Pass 70.26 19 *e*P P **15 22 42.6 -1.1**
FALS *e*pP pP 15 23 02.9 +0.8
KMI Kunming 70.30 301 P P **15 22 45.7 +1.7**
KMI AP pP 15 23 03.6 +1.3
KMI PCP PcP 15 23 05.8 +0.5
KMI XP sP 15 23 10.5 +0.7
KMI PP PP 15 25 25.8 +5.5
KMI S S 15 31 55.8 +5.1
KMI SKS 15 32 38.1
KMI SCS ScS 15 32 40.6 -0.1
KMI AMB AMB
comp=Z,127nm,1.5s,mb5.5
KMI AMB AMB
comp=Z,828nm,7.4s
KMI LR LR
comp=N,474nm,16.6s
KMI LR LR
comp=E,534nm,18.2s
KMI LR LR
comp=Z,1µm,21.4s
MA2 Magadan 70.76 352 *c i*P P **15 22 45.3 -1.5**
MA2 *e* pP 15 23 04.5 -0.6
MA2 *e**PP pP 15 23 14.6 +10
MA2 *e**SP sP 15 23 24.4 +12
MA2 *e*S S 15 31 50.4 -5.7
MA2 *e*SS SS 15 36 26.0 -3.3
MA2 pmax pmax
comp=Z,40nm,0.7s,mb5.4
MA2 Magadan 70.76 352 *e*P P **15 22 45.4 -1.4**
comp=Z,21nm,0.7s,mb5.1
HHC Hu-ho-hao-te 71.00 320 *e*P P **15 22 49.3 +1.1**
HHC AP pP 15 23 09.6 +3.1
HHC PP PP 15 25 29.9 +3.6
HHC S S 15 31 59.4 +0.5
HHC SKS 15 32 42.3
HHC SS SS 15 36 35.4 +2.5
HHC AMB AMB
comp=Z,78nm,1.3s,mb5.4
HHC AMB AMB
comp=Z,926nm,7.0s
HHC LR LR
comp=N,904nm,22.6s
HHC LR LR
comp=E,1µm,28.5s
HHC LR LR
comp=Z,2µm,32.1s
HIA Hailar 71.57 331 *e*P P **15 22 51.7 0.0**
HIA pmax pmax
comp=Z,123nm,1.2s
HIA Hailar 71.57 331 *e*P P **15 22 51.7 0.0**
comp=Z,123nm,1.2s,mb5.6
SDPT Sand Point 71.62 20 *e*P P **15 22 50.0 -2.0**
comp=Z,174nm,1.6s,mb5.6
SDPT LR LR
comp=Z,500nm,23.0s
CD2 Chengdu 71.77 307 ⇑*i*P P **15 22 52.7 -0.2**
CD2 AP pP 15 23 10.9 -0.3
CD2 XP sP 15 23 18.0 -0.8
CD2 PP PP 15 25 34.7 +1.8
CD2 S S 15 32 07.2 -0.5
CD2 XS sS 15 32 37.9 -1.0
CD2 PS 15 32 45.7
CD2 SS SS 15 36 45.7 +1.0
CD2 AMB AMB
comp=Z,80nm,0.8s,mb5.6
CD2 AMB AMB
comp=Z,450nm,8.4s
CD2 LR LR
comp=E,720nm,27.6s
CD2 LR LR
comp=Z,800nm,28.8s
BTO Baotou 71.85 319 *e*P P **15 22 53.4 0.0**
CHGN Chignik 73.08 20 *e*P P **15 22 58.8 -1.9**
MIR Mirnyy 73.36 203 *c i*P P **15 23 02.0 -0.3**
MIR *i* pP 15 23 20.0 -0.7
MIR pmax pmax
comp=Z,420nm,1.9s,mb5.9
LZH Lanzhou 73.92 312 ⇑P P **15 23 07.0 +1.4**
LZH PCP PcP 15 23 22.5 +1.8
LZH AP pP 15 23 25.4 +1.4
LZH XP sP 15 23 32.1 +0.5
LZH PP PP 15 25 54.5 +3.3
LZH PPP 15 27 40.2
LZH S S 15 32 34.2 +2.0
LZH XS sS 15 33 02.5 -1.0
LZH SKS 15 33 04.7
LZH PS 15 33 15.6
LZH SS SS 15 37 21.3 +3.7
LZH AMB AMB
comp=Z,72nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,536nm,8.6s
LZH LR LR
comp=N,1µm,15.7s
LZH LR LR
comp=Z,2µm,18.5s
CLNS Chul'man 74.81 338 *e*P P **15 23 11.9 +1.1**
CLNS pmax pmax
comp=N,38nm,1.0s
CLNS pmax pmax
comp=E,19nm,1.0s
CLNS pmax pmax
comp=Z,67nm,1.0s,mb5.3
KDAK Kodiak Island 76.27 22 P P **15 23 19.0 -0.1**
comp=Z,90nm,0.8s,mb5.5,SNR=6.2
KDAK Kodiak Island 76.27 22 *e*P P **15 23 18.3 -0.9**
comp=Z,255nm,2.1s,mb5.6
YAK Yakutsk 77.37 344 *e*P P **15 23 24.8 -0.5**
YAK *e* 15 23 37.3
YAK *e* 15 26 17.1
YAK *e*PPP 15 28 06.6
YAK *e*S S 15 33 07.7 -2.6
YAK *e* 15 34 08.8
YAK pmax pmax
comp=Z,87nm,1.0s,mb5.4
YAK pmax pmax
comp=N,29nm,1.3s
YAK pmax pmax
comp=E,23nm,1.4s
YAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
YAK pmax pmax
comp=N,3.0nm,1.5s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK smax
comp=E,46nm,10.5s
YAK smax
comp=N,56nm,9.9s
YAK MLR MLR
comp=N,173nm,17.0s
YAK MLR MLR
comp=E,184nm,17.0s
YAK MLR MLR
comp=Z,260nm,17.0s
YAK Yakutsk 77.37 344 *e*P P **15 23 24.7 -0.7**
comp=Z,143nm,0.7s,mb5.8
ULN Ulaanbaatar 77.47 324 P P **15 23 26.8 +0.9**
SNR=69
ULN Ulaanbaatar 77.47 324 *e*P P **15 23 26.3 +0.4**
ULN pmax pmax
comp=Z,130nm,0.7s,mb5.8
ULN Ulaanbaatar 77.47 324 *e*P P **15 23 26.3 +0.4**
comp=Z,130nm,0.7s,mb5.8
ULN *e*pP pP 15 23 45.6 +1.2
SVW2 Sparrevohn 77.76 18 *e*P P **15 23 27.0 -0.5**
SVW2 *e*pP pP 15 23 46.3 +0.3
SONM Songino Array 77.84 324 P P **15 23 28.4 +0.4**
comp=Z,46nm,0.6s,mb5.4,baz=151,slow=8.9,SNR=236
SONM PKKPbc PKKPbc 15 42 29.1 +0.4
comp=Z,0.4nm,0.6s,baz=255,slow=3.2,SNR=4.4
SONM LR LR 15 56 30.9
comp=Z,591nm,20.8s,baz=120,slow=35
GTA Gaotai 78.22 314 ⇑*i*P P **15 23 31.3 +1.3**
GTA AP pP 15 23 51.3 +2.7
GTA S S 15 33 21.1 +1.7
GTA SKS 15 33 35.1
GTA AMB AMB
comp=Z,82nm,0.8s,mb5.5
GTA AMB AMB
comp=Z,794nm,5.7s
GTA LR LR
comp=N,440nm,22.8s
GTA LR LR
comp=E,721nm,22.8s
GTA LR LR
comp=Z,1µm,23.6s
BILL Bilibino 78.31 0 *c i*P P **15 23 30.0 -0.5**
BILL *i* 15 23 54.5
BILL *e*S S 15 33 23.8 +3.4
BILL pmax pmax
comp=Z,149nm,1.2s,mb5.6
BILL Bilibino 78.31 0 *e*P P **15 23 29.9 -0.6**
comp=Z,70nm,0.8s,mb5.4
BILL *e*pP pP 15 23 47.5 -1.7
TTA Tatalina 79.06 17 *e*P P **15 23 33.9 -0.7**
TTA pmax pmax
comp=Z,168nm,1.5s,mb5.7
TTA Tatalina 79.06 17 *e*P P **15 23 33.9 -0.8**
comp=Z,168nm,1.5s,mb5.7
TTA *e*pP pP 15 23 53.2 0.0
SLKM Skilak Lake 79.09 21 *e*P P **15 23 33.0 -1.8**
SLKM *e*pP pP 15 23 51.8 -1.6
QSPA South Pole Qui 79.53 180 *e*P P **15 23 36.7 -0.5**
comp=Z,65nm,0.7s,mb5.6
BOD Bodaibo 79.75 335 *e*P P **15 23 37.4 -1.0**
BOD pmax pmax
comp=Z,45nm,1.6s,mb5.0
PMR Palmer 80.23 20 *e*P P **15 23 40.2 -0.8**
PMR pmax pmax
comp=Z,5.0nm,0.3s,mb4.8
PMR Palmer 80.23 20 *e*P P **15 23 40.2 -0.8**
comp=Z,4.5nm,0.3s,mb4.8
SML Sawmill 80.65 20 *e*P P **15 23 41.2 -2.1**
SML *e*pP pP 15 24 01.2 -0.8
EYAK Cordova Ski Ar 80.73 22 *e*P P **15 23 42.8 -0.9**
ZAK Zakamensk 80.88 325 ⇓*e*P P **15 23 44.1 -0.4**
ZAK pmax pmax
comp=Z,34nm,0.9s,mb5.2
ZAK pmax pmax
comp=Z,15nm,1.3s,mb4.7
IRK Irkutsk 81.24 327 *e*P P **15 23 44.5 -1.9**
IRK *e* 15 24 16.1
IRK pmax pmax
comp=Z,97nm,2.0s,mb5.3
TLY Talaya 81.31 326 P P **15 23 46.2 -0.5**
comp=Z,365nm,0.7s,mb6.3,SNR=29
LSA Lhasa 81.53 302 *e*P P **15 23 49.4 +1.5**
LSA pmax pmax
comp=Z,30nm,0.7s,mb5.2
LSA Lhasa 81.53 302 *e*P P **15 23 49.4 +1.5**
comp=Z,30nm,0.7s,mb5.2
P01C Double 8 Ranch 82.72 48 ⇓P P **15 23 55.2 +1.0**
baz=83
HOPS Hopland 82.75 48 ⇓P P **15 23 54.5 +0.2**
baz=83
BNLO Ben Lomond (Sa 82.81 50 ⇑P P **15 23 54.6 0.0**
baz=83
KHMM Horse Mountain 82.92 46 P P **15 23 55.4 +0.2**
COLA College 82.93 18 *e*P P **15 23 50.6 -4.7**
COLA pmax pmax
comp=Z,23nm,0.6s,mb5.2
COLA College 82.93 18 *e*P P **15 23 50.6 -4.6**
comp=Z,23nm,0.6s,mb5.2
MENT Mentasta 83.02 21 *e*P P **15 23 55.1 -0.6**
HAST UC Hastings Re 83.05 51 ⇑P P **15 23 57.1 +1.3**
baz=83
ILAR Eielson Array 83.17 19 P P **15 23 55.2 -1.2**
comp=Z,17nm,0.6s,mb5.0,baz=228,slow=6.6,SNR=142
ILAR pP pP 15 24 13.8 -1.5
comp=Z,3.1nm,0.6s,baz=134,slow=43,SNR=4.3
GASB Alder Springs 83.23 48 ⇑P P **15 23 58.1 +1.4**
baz=83
O02C Red Bluff 83.36 47 ⇓P P **15 23 58.4 +1.0**
baz=84
PACP Pacheco Peak 83.44 51 ⇑P P **15 23 58.7 +0.8**
baz=84
S04C Ingram Canyon, 83.56 50 ⇓P P **15 23 59.2 +0.7**
baz=84
WDC Whiskeytown Da 83.67 47 *e*P P **15 23 57.5 -1.5**
WDC pmax pmax
comp=Z,34nm,1.5s,mb5.0
WDC Whiskeytown Da 83.67 47 *e*P P **15 23 57.5 -1.5**
comp=Z,34nm,1.5s,mb5.0
WDC Whiskeytown Da 83.67 47 ⇑P P **15 23 59.9 +0.8**
baz=84
M02C Callahan 83.72 46 ⇑P P **15 23 59.6 +0.3**
baz=84
K02A Glendale 83.74 45 ⇑P P **15 23 58.8 -0.6**
baz=84
J02A Umpqua 83.90 44 ⇑P P **15 24 01.0 +0.8**
baz=84
YBH Yreka Blue Hor 83.93 46 *e*P P **15 24 00.3 -0.1**
YBH pmax pmax
comp=Z,42nm,1.5s
YBH Yreka Blue Hor 83.93 46 *e*P P **15 24 00.3 -0.1**
comp=Z,42nm,1.5s,mb5.0
YBH *e*pP pP 15 24 18.4 -0.8
YBH Yreka Blue Hor 83.93 46 ⇑P P **15 24 00.7 +0.3**
baz=84
OHCM Honcut 84.03 48 *e*P P **15 24 00.9 0.0**
OHCM *e*pP pP 15 24 19.0 -0.7
HUMO Hull Mountain 84.06 45 *e*P P **15 24 00.6 -0.4**
comp=Z,17nm,1.1s,mb4.8
HUMO *e*pP pP 15 24 18.7 -1.1
HUMO Hull Mountain 84.06 45 ⇑P P **15 24 01.0 0.0**
baz=84
ORV Oroville 84.09 48 ⇑P P **15 24 01.1 0.0**
baz=84
SKAG Skagway 84.30 26 *e*P P **15 24 02.8 +0.6**
comp=Z,44nm,1.2s,mb5.2
SKAG LR LR
comp=Z,2µm,22.0s
J03A Ideyld Park 84.31 44 ⇓P P **15 24 03.0 +0.7**
baz=84
CMB Columbia Colle 84.44 50 *e*P P **15 24 02.6 -0.4**
CMB pmax pmax
comp=Z,14nm,1.4s,mb4.6
CMB Columbia Colle 84.44 50 *e*P P **15 24 02.6 -0.3**
comp=Z,14nm,1.4s,mb4.6
CMB *e*pP pP 15 24 20.1 -1.7
CMB Columbia Colle 84.44 50 ⇑P P **15 24 03.1 +0.1**
baz=85
HATC Hat Creek Radi 84.52 47 ⇓P P **15 24 03.7 +0.3**
baz=85
H03A Soap Creek Ran 84.54 43 ⇓P P **15 24 04.0 +0.5**
baz=85
M04C Macdoel 84.56 46 ⇓P P **15 24 04.1 +0.5**
baz=85
R05C Kirkwood Meado 84.87 49 ⇑P P **15 24 05.8 +0.6**
baz=85
C03A Quillayute Air 84.89 39 ⇑P P **15 24 06.8 +1.6**
baz=85
M05C Lookout 84.92 47 ⇓P P **15 24 05.5 +0.2**
baz=85
ELFS Eagle Lake Fie 84.98 47 ⇑P P **15 24 06.3 +0.6**
baz=85
E03A Lebam 85.02 41 ⇑P P **15 24 06.2 +0.4**
baz=85
MAW Mawson 85.02 202 *e*P P **15 24 05.0 -0.9**
comp=Z,21nm,0.8s,mb5.1
MAW Mawson 85.02 202 P P **15 24 04.9 -1.0**

comp=Z,22nm,0.6s,mb5.2,baz=104,slow=6.8,SNR=38
MAW LR LR 15 56 17.4

comp=Z,260nm,18.5s,baz=80,slow=32
MAW Mawson 85.02 202 *e*P **P** **15 24 05.0 -0.9**
MAW pmax pmax

comp=Z,21nm,0.8s
HELL Mitchell Peak, 85.08 51 ⇑P **P** **15 24 06.1 -0.1**
baz=85

JIRN Jiri 85.17 299 *e*P **P** **15 24 07.4 +0.8**
comp=Z,166nm,1.1s,mb5.9

DAWY Dawson 85.24 21 *e*P **P** **15 24 06.4 -0.6**
DAWY *ep*P pP 15 24 24.8 -1.1

H04A Detroit Lake 85.28 43 ⇑P **P** **15 24 07.7 +0.5**
baz=85

R06C Coleville 85.29 50 ⇓P **P** **15 24 08.0 +0.8**
baz=85

L05A Lakeview 85.36 46 ⇑P **P** **15 24 08.4 +0.8**
baz=86

TIXI Tiksi 85.41 349 *e*P **P** **15 24 04.3 -3.5**
TIXI *e*S 15 34 19.1
TIXI pmax pmax

comp=Z,94nm,1.7s,mb5.4
R07C Lee Vining 85.46 50 ⇓P **P** **15 24 09.2 +1.1**
baz=86

O06A Flanigan 85.50 48 ⇓P **P** **15 24 08.9 +0.6**
baz=86

GUN Gumba 85.50 299 *e*P **P** **15 24 08.8 +0.5**
comp=Z,67nm,0.7s,mb5.7

F04A Amboy 85.55 42 ⇓P **P** **15 24 09.4 +0.9**
baz=86

MTUM Tungsten Hills 85.62 51 *e*P **P** **15 24 09.2 +0.4**
MTUM *ep*P pP 15 24 25.5 -2.2

PAHR Pah Rah Range 85.69 49 *e*P **P** **15 24 09.0 -0.2**
comp=Z,35nm,1.5s,mb5.1
PAHR *ep*P pP 15 24 26.2 -1.8

PKI Pulchoki 85.82 299 *e*P **P** **15 24 10.2 +0.3**
comp=Z,289nm,1.4s,mb6.0

PGC Sidney 85.84 39 *e*P **P** **15 24 07.6 -2.3**
comp=Z,50nm,1.2s,mb5.3
PGC *ep*P pP 15 24 26.2 -2.5

PALK Pallekele 85.86 278 P **P** **15 24 11.3 +1.3**
comp=Z,143nm,0.7s,mb6.0,SNR=5.1

PALK Pallekele 85.86 278 *e*P **P** **15 24 11.2 +1.2**
comp=Z,15nm,0.7s,mb5.0

H05A Madras 85.92 43 ⇓P **P** **15 24 11.2 +0.8**
baz=86

KKN Kakani 85.99 299 *e*P **P** **15 24 10.9 +0.2**
comp=Z,303nm,1.3s,mb6.1

K06A Valley Falls 86.00 45 ⇓P **P** **15 24 10.7 -0.1**
baz=86

G05A Wamic 86.05 43 ⇓P **P** **15 24 11.1 +0.2**
baz=86

DMN Daman 86.09 299 *e*P **P** **15 24 11.7 +0.5**
comp=Z,368nm,1.3s,mb6.2

NVAR Mina Array Bea 86.12 50 P **P** **15 24 11.8 +0.4**
comp=Z,4.1nm,0.9s,mb4.4,baz=229,slow=5.1,SNR=24
NVAR PKKPbc PKKPbc 15 42 11.7 +1.9

comp=Z,0.5nm,0.6s,baz=84,slow=4.5,SNR=4.6
E05A Randle 86.19 41 ⇑P **P** **15 24 11.2 -0.5**
baz=86

O07A Toulon 86.19 48 ⇑P **P** **15 24 11.8 +0.1**
baz=86

J06A Christmas Vall 86.22 45 ⇑P **P** **15 24 12.1 +0.3**
baz=86

MNV Mina 86.24 50 *e*P **P** **15 24 11.7 -0.2**
MNV pmax pmax

comp=Z,28nm,1.4s,mb5.0
MNV Mina 86.24 50 *e*P **P** **15 24 11.7 -0.2**
comp=Z,28nm,1.4s,mb5.0
MNV *ep*P pP 15 24 28.9 -1.9

D05A Enumclaw 86.25 41 ⇑P **P** **15 24 11.8 -0.2**
baz=86

PFO Pinyon Flat Ob 86.26 55 ⇑P **P** **15 24 12.0 0.0**
baz=86

A04A Legoe Bay, Lum 86.32 39 ⇑P **P** **15 24 12.3 0.0**
baz=86

M07A Soldier Meadow 86.34 47 ⇑P **P** **15 24 12.5 +0.1**
baz=86

L07A Adell 86.41 46 ⇑P **P** **15 24 13.2 +0.4**
baz=86

B05A Bryant 86.54 40 ⇓P **P** **15 24 13.9 +0.5**
baz=87

GKN Gorkha 86.59 299 *e*P **P** **15 24 13.5 -0.1**
comp=Z,177nm,1.2s,mb5.9

C05A Tolt Reservoir 86.61 40 ⇑P **P** **15 24 13.4 -0.3**
baz=87

S09A Goldfield 86.75 51 ⇓P **P** **15 24 14.3 -0.1**
baz=87

M08A Happy Creek Ra 86.93 47 ⇓P **P** **15 24 15.2 -0.1**
baz=87

R09A Tonopah 87.00 50 ⇑P **P** **15 24 15.7 0.0**
baz=87

WVOR Wild Horse Val 87.03 46 *e*P **P** **15 24 15.3 -0.5**
WVOR pmax pmax

comp=Z,38nm,1.5s,mb5.1
WVOR Wild Horse Val 87.03 46 *e*P **P** **15 24 15.3 -0.5**
comp=Z,38nm,1.5s,mb5.1
WVOR *ep*P pP 15 24 32.6 -2.0

TUQ Turquoise Mtn. 87.15 53 ⇓P **P** **15 24 16.5 +0.2**
baz=87

TPNV Topopah Spring 87.29 52 *e*P **P** **15 24 16.5 -0.5**
TPNV pmax pmax

comp=Z,39nm,1.9s,mb5.0
TPNV Topopah Spring 87.29 52 *e*P **P** **15 24 16.5 -0.5**
comp=Z,39nm,1.9s,mb5.0

N09A Rock Creek Ran 87.38 48 ⇓P **P** **15 24 18.2 +0.7**
baz=88

J08A Circle Bar Ran 87.42 45 ⇓P **P** **15 24 16.9 -0.8**
baz=88

KOLN Koldanda 87.43 299 *e*P **P** **15 24 17.1 -0.6**
comp=Z,199nm,1.6s,mb5.8

GLA Glamis 87.44 56 ⇓P **P** **15 24 17.7 -0.1**
baz=88

O09A Fish Creek Ran 87.44 49 ⇓P **P** **15 24 18.1 +0.4**
baz=88

M09A Marrel Ranch, 87.59 47 ⇓P **P** **15 24 18.5 0.0**
baz=88

HAWA Hanford 87.60 42 *e*P **P** **15 24 17.9 -0.6**
comp=Z,1.7nm,1.4s
HAWA *ep*P pP 15 24 37.0 -0.4

L09A Wilkinson Ranc 87.60 47 ⇓P **P** **15 24 18.4 -0.1**
baz=88

Y12C Blythe 87.86 55 ⇑P **P** **15 24 21.0 +1.3**
baz=88

V12A Nelson 88.08 53 ⇓P **P** **15 24 21.7 +1.0**
baz=88

Q11A Duckwater 88.24 50 ⇓P **P** **15 24 22.2 +0.6**
baz=88

WMQ Urumqi 88.25 315 P **P** **15 24 22.8 +1.2**
WMQ AP pP 15 24 39.9 -0.7
WMQ XP sP 15 24 46.6 -1.4
WMQ PP PP 15 27 53.1 +3.5
WMQ SKS 15 34 44.0
WMQ S 15 34 50.9
WMQ XS sS 15 35 30.1 -2.9
WMQ AMB AMB

comp=Z,71nm,0.7s,mb5.8
WMQ AMB AMB

comp=Z,351nm,6.0s
WMQ LR LR

comp=N,568nm,18.2s
WMQ LR LR

comp=E,737nm,24.5s
WMQ LR LR

comp=Z,643nm,20.0s
U12A Valley of Fire 88.49 53 ⇓P **P** **15 24 23.2 +0.5**
baz=89

O11A Cowboy Ranch, 88.56 49 ⇓P **P** **15 24 23.4 +0.3**
baz=89

BMO Blue Mountains 88.64 44 *e*P **P** **15 24 22.8 -0.7**
BMO *e**SP sP 15 24 52.5 +2.7
BMO pmax pmax

comp=Z,29nm,1.6s,mb5.1
BMO Blue Mountains 88.64 44 *e*P **P** **15 24 22.8 -0.6**
comp=Z,29nm,1.6s,mb5.1
BMO *ep*P pP 15 24 42.1 -0.3
BMO *es*P sP 15 24 52.5 +2.6

M11A Holland Ranch, 88.80 48 ⇓P **P** **15 24 25.0 +0.8**
baz=89

Q12A Willow Creek R 88.91 50 ⇑P **P** **15 24 25.7 +1.0**
baz=89

KRAR Krasnoyarsk 88.91 328 *e*P **P** **15 24 20.8 -3.9**
ELK Elko 89.03 48 *e*P **P** **15 24 24.6 -0.7**
ELK pmax pmax

comp=Z,23nm,1.6s
ELK Elko 89.03 48 *e*P **P** **15 24 24.6 -0.6**
comp=Z,23nm,1.6s,mb5.0
ELK pP pP 15 24 42.5 -1.7

Z14A Wintersburg 89.04 56 ⇑P **P** **15 24 26.1 +0.8**
baz=89

Y14A Wickenburg 89.13 55 ⇓P **P** **15 24 26.7 +0.9**
baz=89

N12A Clover Valley, 89.20 48 ⇓P **P** **15 24 26.9 +0.8**
baz=89

X14A Yava 89.34 55 ⇓P **P** **15 24 27.5 +0.8**
baz=89

W14A Seligman 89.36 54 ⇑P **P** **15 24 27.6 +0.8**
baz=89

M12A Wells 89.43 48 ⇑P **P** **15 24 27.1 0.0**
baz=90

115A Sonoran Desert 89.48 57 ⇑P **P** **15 24 28.1 +0.7**
baz=90

INK Inuvik 89.56 19 *e*P **P** **15 24 26.8 -1.0**
INK pmax pmax

comp=Z,24nm,1.6s
INK Inuvik 89.56 19 *e*P **P** **15 24 26.8 -0.9**
comp=Z,24nm,1.6s,mb5.1

CCUT Cedar City 89.67 52 *e*P **P** **15 24 28.4 +0.1**
CCUT *ep*P pP 15 24 44.8 -2.4

HYB Hyderabad 89.85 288 *i* P **P** **15 24 29.0 -0.1**
HYB Hyderabad 89.85 288 *e*P **P** **15 24 26.0 -3.1**

X15A Humboldt 89.87 55 ⇑P **P** **15 24 29.4 +0.3**
baz=90

116A Eloy 89.89 57 ⇓P **P** **15 24 30.0 +0.7**
baz=90

M13A Montello 89.96 48 ⇑P **P** **15 24 30.6 +1.0**
baz=90

W15A Williams 90.00 54 ⇓P **P** **15 24 31.7 +1.9**
baz=90

HLID Hailey 90.32 46 *e*P **P** **15 24 30.7 -0.6**
comp=Z,7.7nm,1.0s,mb4.8

TUC Tucson 90.59 57 *e*P **P** **15 24 33.4 +0.8**
TUC pmax pmax

comp=Z,20nm,1.8s,mb5.0
TUC Tucson 90.59 57 *e*P **P** **15 24 33.4 +0.8**
comp=Z,20nm,1.8s,mb5.0
TUC *ep*P pP 15 24 52.2 +0.6

DUG Dugway 90.69 49 *e*P **P** **15 24 32.7 -0.3**
DUG pmax pmax

comp=Z,8.0nm,1.1s,mb4.8
DUG Dugway 90.69 49 *e*P **P** **15 24 32.7 -0.4**
comp=Z,8.3nm,1.1s,mb4.8

BGU Big Grassy Mou 90.70 49 *e*P **P** **15 24 32.4 -0.6**
WUAZ Wupatki 90.78 54 *e*P **P** **15 24 33.3 -0.1**
comp=Z,24nm,1.5s,mb5.1
WUAZ *ep*P pP 15 24 52.5 +0.1

MSU Marysvale 90.80 51 *e*P **P** **15 24 33.6 +0.1**
MSU *ep*P pP 15 24 51.4 -1.1

HVU Hansel Valley 91.08 48 *e*P **P** **15 24 34.6 -0.2**
HVU pmax pmax

comp=Z,30nm,1.3s,mb5.3
HVU Hansel Valley 91.08 48 *e*P **P** **15 24 34.6 -0.2**
comp=Z,30nm,1.3s,mb5.3

CHMT Chamberlain Mo 91.91 43 *e*P **P** **15 24 37.5 -1.1**
CHMT *ep*P pP 15 24 57.7 +0.1

HWUT Hardware Ranch 91.92 48 P **P** **15 24 37.5 -1.3**
TCUT Toone Canyon 91.94 49 *e*P **P** **15 24 39.6 +0.8**
DLMT Dillon 92.00 44 *e*P **P** **15 24 38.9 -0.2**
comp=Z,32nm,1.1s,mb5.5
DLMT *ep*P pP 15 24 57.2 -0.8

SYO Syowa Base 92.15 197‖ *e*P **P** **15 24 36.2 -3.6**
SYO Syowa Base 92.15 197‖ *ep*P pP 15 24 55.8 -3.0

RRI2 Red Ridge 92.46 47 *e*P **P** **15 24 39.5 -1.7**
comp=Z,9.3nm,1.0s,mb5.0

MKAR Makanchi Array 92.68 317 P **P** **15 24 41.9 -0.3**
comp=Z,34nm,0.6s,mb5.9,baz=85,slow=6.2,SNR=235
MKAR pP pP 15 25 01.4 +0.2

comp=Z,16nm,0.7s,baz=86,slow=5.0,SNR=5.6
MKAR PKKP PKKPbc 15 41 52.6 -1.1

comp=Z,3.3nm,0.6s,baz=274,slow=3.0,SNR=26
BOZ Bozeman (W) 92.73 44 *e*P **P** **15 24 41.9 -0.6**
BOZ pmax pmax

comp=Z,10.0nm,1.0s,mb5.1
BOZ Bozeman (W) 92.73 44 *e*P **P** **15 24 41.9 -0.5**
comp=Z,9.7nm,1.0s,mb5.1

ZAL Zalesovo 92.74 324 P **P** **15 24 41.0 -1.5**
comp=Z,13nm,0.5s,mb5.5,baz=359,slow=5.3,SNR=46
ZAL pP pP 15 25 01.2 -0.2

comp=Z,3.4nm,0.6s,baz=18,slow=5.2,SNR=2.8
ZAL PKKPbc PKKPbc 15 41 52.4 -1.1

comp=Z,2.0nm,0.3s,baz=194,slow=4.8,SNR=4.9
ZAL LR LR 16 10 12.3

comp=Z,654nm,18.1s,baz=0.0,slow=38
ZAL Zalesovo 92.74 324 P **P** **15 24 41.0 -1.5**
ZAL 15 41 52.4

HRY Holter Researc 92.81 43 *e*P **P** **15 24 42.5 -0.4**
HRY *ep*P pP 15 25 02.0 +0.2

IMW Indian Meadow 92.85 46 *e*P **P** **15 24 43.9 +0.9**
comp=Z,8.0nm,1.0s,mb5.0

MOOW Moose Ponds 92.95 46 *e*P **P** **15 24 42.1 -1.4**
comp=Z,32nm,2.1s,mb5.3

LOHW Long Hollow 93.03 46 *e*P **P** **15 24 42.8 -1.0**
comp=Z,2.3nm,0.6s,mb4.7

NDI New Delhi 93.13 298 *e*P **P** **15 24 42.0 -2.3**
PDAR Pinedale Array 93.62 47 P **P** **15 24 45.1 -1.4**
comp=Z,0.8nm,0.6s,mb4.3,baz=268,slow=4.3,SNR=9.7
PDAR PKKPbc PKKPbc 15 41 50.4 -0.9

comp=Z,0.9nm,0.6s,baz=94,slow=4.8,SNR=13
PDAR LR LR 15 59 53.2

comp=Z,316nm,19.8s,baz=267,slow=31
NVS Novosibirsk 93.84 325‖ *e*P **P** **15 24 45.7 -1.9**
NVS pmax pmax

comp=Z,62nm,1.7s,mb5.7
NVS pmax pmax

comp=N,18nm,1.6s
NVS pmax pmax

comp=E,34nm,1.6s
YKA Yellowknife Ar 94.75 27 P **P** **15 24 49.6 -2.1**
comp=E,1.4nm,0.7s,mb4.5,baz=256,slow=4.1,SNR=8.9
YKA PKKPbc PKKPbc 15 41 46.9 -1.4

comp=E,0.3nm,0.5s,baz=78,slow=2.7,SNR=5.5
YKA LR LR 16 03 57.2

comp=E,495nm,19.5s,baz=270,slow=33
KURK Kurchatov 95.81 320 P **P** **15 24 55.8 -0.8**
comp=E,131nm,1.3s,mb6.2,SNR=17
KURK Kurchatov 95.81 320 P **P** **15 24 55.2 -1.4**
SNR=18
KURK Kurchatov 95.81 320 *e*P **P** **15 24 54.3 -2.3**
KURK pmax pmax

comp=Z,90nm,1.6s,mb6.0
KURK Kurchatov 95.81 320 *e*P **P** **15 24 54.3 -2.3**
comp=Z,90nm,1.6s,mb6.0

SNAA Sanae 97.65 184 *e*P **P** **15 25 02.5 -2.4**
SNAA pmax pmax

comp=Z,6.0nm,0.9s
SNAA Sanae 97.65 184 *e*P **P** **15 25 02.5 -2.4**
comp=Z,5.6nm,0.9s,mb5.1

VNA1 Neumayer--Stat 98.94 182 *e*P **P** **15 25 09.7 -1.0**
VNA1 *e* pP 15 25 28.1 -1.7
CHKZ Chkalovo 101.01 323 *e*P Pdif 15 25 17.8 -2.1
CHKZ pmax pmax

comp=Z,15nm,1.3s
CHKZ Chkalovo 101.01 323 *e*Pdif Pdif 15 25 17.8 -2.1
comp=Z,15nm,1.3s

BVAR Borovoye Array 101.12 322 PP PP 15 29 21.4 -8.3
comp=Z,1.0nm,0.7s,baz=85,slow=6.6,SNR=3.7
BVAR PKKPbc PKKPbc 15 41 30.6 -0.1

comp=Z,0.8nm,0.6s,baz=265,slow=3.1,SNR=5.8
BRVK Borovoye 101.19 322 P Pdif 15 25 20.0 -0.6
SNR=6.6
BRVK Borovoye 101.19 322 *e*P Pdif 15 25 19.2 -1.5
BRVK pmax pmax

comp=Z,8.0nm,1.2s
BRVK Borovoye 101.19 322 *e*Pdif Pdif 15 25 19.2 -1.4
comp=Z,7.9nm,1.2s

ZRNK Zerenda 101.95 322 *e*P Pdif 15 25 21.8 -2.3
ZRNK pmax pmax

comp=Z,5.0nm,0.7s
ZRNK Zerenda 101.95 322 *e*Pdif Pdif 15 25 21.8 -2.3
comp=Z,5.4nm,0.7s
ZRNK *ep*P PP 15 29 27.3 -8.7

AKTK Aktyubinsk 108.89 320 Pdif Pdif 15 25 54.4 -0.6
AKTK PKPdf PKiKP 15 29 58.8 -0.6
AKTK PKKPbc PKKPbc 15 41 06.0 -1.1

AKTO Aktyubinsk 108.89 320 Pdiff Pdif 15 25 54.4 -0.6
comp=Z,0.9nm,0.6s,baz=109,slow=12,SNR=4.3
AKTO PKiKP PKiKP 15 29 58.8 -0.6

comp=Z,1.2nm,0.6s,baz=74,slow=4.3,SNR=5.4
AKTO PKKPbc PKKPbc 15 41 06.0 -1.1

comp=Z,0.8nm,0.6s,baz=220,slow=3.4,SNR=4.8
CFAA Coronel Fontan 114.00 131 PKP PKiKP 15 30 07.1 -1.9
comp=Z,0.2nm,0.4s,baz=232,slow=11,SNR=4.4
ARCES **ARCESS Array B 115.62 345** PKP PKPdf 15 30 10.7 -1.5

comp=Z,2.4nm,0.5s,baz=79,slow=2.4,SNR=31
ARCES PKKPbc PKKPbc 15 40 43.5 -1.3

comp=Z,2.6nm,0.6s,baz=233,slow=1.6,SNR=26
LVC Limon Verde 117.70 122 PKP PKPdf 15 30 16.3 +0.2
comp=Z,3.1nm,0.6s,baz=254,slow=3.4,SNR=7.5
GNI Garni 119.81 310 *i* PKIKP PKPdf 15 30 22.1 +1.9
SCHQ Schefferville 119.86 32 PKKPbc PKKPbc 15 40 29.6 0.0
comp=Z,2.5nm,0.6s,baz=152,slow=5.5,SNR=9.3

OBN Obninsk 120.00 329‖ *i* PKIKP PKPdf 15 30 19.9 -0.7
OBN *e* 15 31 48.6
OBN pmax pmax

comp=Z,13nm,0.7s
OBN MLR MLR

comp=Z,400nm,21.0s
KIV Kislovodsk 120.39 315 *i* PKIKP PKPdf 15 30 19.1 -2.2
KIV *e* 15 31 46.5
KIV *e*SP SP 15 41 26.2 -5.2
KIV *e*PS PS 15 41 33.8 -5.6
KIV *e*SS SS 15 48 08.8 -2.7
KIV pmax pmax

comp=Z,8.0nm,1.0s
KIV MLR MLR

comp=Z,333nm,20.0s
LPAZ La Paz 120.99 116 PKP PKPdf 15 30 23.4 +0.9
comp=Z,5.6nm,0.6s,baz=280,slow=2.8,SNR=37
LPAZ La Paz 120.99 116 PKP PKPdf 15 30 23.4 +0.9
FINES FINESS Array B 121.01 338 PKP PKPdf 15 30 21.3 -1.2
comp=Z,1.4nm,0.5s,baz=61,slow=3.3,SNR=19

SOC Sochi 122.55 315 *i* P Pdif 15 27 07.4 +12
SOC *i* 15 30 22.0
SOC *e* 15 30 59.2
SOC *e* 15 32 01.9
SOC *e*PS PS 15 41 49.2 -9.4
SOC *e* 15 43 16.9
CPUP Villa Florida 124.87 132 PKP PKPdf 15 30 29.3 -0.6
comp=Z,6.7nm,0.6s,baz=287,slow=1.6,SNR=33
CPUP Villa Florida 124.87 132 PKP PKPdf 15 30 29.3 -0.7
SDV Santo Domingo 125.08 86 *e*PKPdf PKPdf 15 30 29.8 -0.5
BOSA Boshof 125.11 224 PKP PKPdf 15 30 30.2 -0.2
comp=Z,15nm,0.6s,baz=140,slow=2.0,SNR=52
NB2 NORSAR Subarra125.99 345 PKPdf PKPdf 15 30 30.1 -2.0
comp=Z,2.3nm,0.8s,baz=32,slow=2.0
NOA NORSAR Array B 125.99 345 PKP PKPdf 15 30 30.5 -1.6
comp=Z,1.1nm,0.7s,baz=40,slow=2.0,SNR=10.0
AKASG Malin Array Be 126.05 327 PKP PKPdf 15 30 30.4 -1.8
comp=Z,2.8nm,0.7s,baz=52,slow=1.7,SNR=20
AKASG PP PP 15 32 24.6 -1.9

comp=Z,0.3nm,0.3s,baz=49,slow=7.0,SNR=4.8
HFS Hagfors 126.06 343 PKP PKPdf 15 30 30.0 -2.2
comp=Z,2.5nm,0.8s,baz=76,slow=6.3,SNR=5.3
KMBO Kilima Mbogo 126.88 261 PKP PKPdf 15 30 34.6 +0.9
comp=Z,2.4nm,0.9s,baz=55,slow=21,SNR=5.2
LBTB Lobatse 127.08 228 *e*PKIKP PKPdf 15 30 34.1 0.0
SIV San Ignacio 127.26 119 PKP PKPdf 15 30 34.5 0.0
comp=Z,4.5nm,0.6s,baz=249,slow=1.9,SNR=33
ASF Jabal al Asfar 127.72 303 PKP PKPdf 15 30 35.1 -0.3
comp=Z,1.9nm,0.7s,baz=305,slow=5.1,SNR=3.7
BR131 Keskin Array S 128.12 313 *e*P PKPdf 15 30 35.0 -1.1
BRTR Keskin Array B 128.12 313 PKP PKPdf 15 30 36.2 +0.1
comp=Z,1.7nm,0.6s,baz=131,slow=5.1,SNR=8.3
BRTR PP PP 15 32 37.6 -2.5

comp=Z,2.1nm,1.0s,baz=130,slow=5.0,SNR=5.6
SAML Samuel 128.21 110 *e*PKPdf PKPdf 15 30 35.8 -0.5
SAML *ep*P 15 30 54.0
MMAI Mount Meron Ar 128.75 304 PKP PKPdf 15 30 37.6 +0.2
comp=Z,3.9nm,0.7s,baz=79,slow=4.3,SNR=6.1
LSZ Lusaka 130.26 240 *e*PKIKP PKPdf 15 30 41.2 +1.0
RGN Rugen 130.67 339 *e*PP PP 15 32 53.5 -3.3
RGN Rugen 130.67 339 *e*PP PP 15 32 53.5 -3.3
RUE Ruedersdorf 132.12 337 *e*PP PP 15 33 02.9 -3.2
RUE Ruedersdorf 132.12 337 *e*PP PP 15 33 02.9 -3.2
OKC Ostrava-Krasne 132.18 332 *e*PP PP 15 32 41.6 -25
OKC AMS AMS 16 24 50.0

comp=Z,700nm,24.9s
BSEG Bad Segeberg 132.21 340 *e*PP PP 15 33 03.6 -3.1
BSEG Bad Segeberg 132.21 340 *e*PP PP 15 33 03.6 -3.1
PSZ Piszkesteto 132.61 329‖ *e*PP PP 15 33 10.9 +1.7
DPC Dobruska-Polom 132.65 333 *e*PP PP 15 32 47.1 -22
VYHS Vyhne 132.77 330 *e*PKP PKPdf 15 30 44.1 -0.8
HLG Helgoland 132.78 342 *e*PP PP 15 33 07.1 -3.2
HLG Helgoland 132.78 342 *e*PP PP 15 33 07.1 -3.2
PVCC Panska Ves 133.28 334 *e*PP PP 15 33 01.5 -12
PVCC AMS AMS 16 28 00.0

comp=Z,800nm,24.8s
BRG Berggiesshubel 133.29 335 *e*PKPdf PKPdf 15 30 46.4 +0.5
BRG *e*PP PP 15 33 10.6 -3.0
BRG Berggiesshubel 133.29 335 *e*PKP PKPdf 15 30 46.4 +0.5
comp=Z,1.9nm,0.4s
BRG *e* 15 30 48.0

comp=Z,7.5nm,1.4s
BRG PP PP 15 33 07.0 -6.6
BRG

comp=N,342nm,21.2s
BRG

comp=E,206nm,26.9s
BRG

comp=Z,363nm,21.8s
BRG Berggiesshubel 133.29 335 *e*PKIKP PKPdf 15 30 46.4 +0.5
BRG pmax pmax

comp=Z,2.0nm,0.4s
BRG pmax pmax

comp=Z,8.0nm,1.4s
BRG MLR MLR

comp=N,342nm,21.2s
BRG MLR MLR

comp=E,206nm,26.9s
BRG MLR MLR

comp=Z,363nm,21.8s
BRG Berggiesshubel 133.29 335 *e*PKP PKPdf 15 30 46.4 +0.5
BRG *e* 15 30 48.0
BRG PP PP 15 33 07.0 -6.6
BRG LR LR

comp=Z,360nm,21.8s
CLL Collm 133.33 336 *e*PKPdf PKPdf 15 30 45.1 -0.9
comp=Z,14nm,1.5s
CLL *ep*PKPdf pPKPdf 15 31 06.3 +0.6
CLL *es*PKPdf 15 31 12.3
CLL *e*PP PP 15 33 11.0 -2.9
CLL *e*SKPdf SKPdf 15 34 12.3 -2.8
CLL *e*PKSdf 15 34 18.4
CLL *e*PPS 15 45 13.3
CLL *e*LR LR 16 14 56.2
CLL *e*L 16 27 16.8

comp=Z,547nm,22.0s
CLL Collm 133.33 336 *e*PKIKP PKPdf 15 30 45.0 -1.0
comp=Z,logA/T=1.1
CLL *e* 15 31 06.0
CLL *e*PP PP 15 33 11.0 -2.9
CLL *e**SPP 15 33 39.0
CLL *e* 15 34 11.0
CLL *e*PKS 15 34 17.0
CLL *e* 15 34 47.0
CLL *e*PPS 15 45 13.0
CLL Collm 133.33 336 *e*PKPdf PKPdf 15 30 45.0 -1.0
comp=Z,26nm,1.9s
CLL *ep*PKiKP 15 31 06.0
CLL *e*PP PP 15 33 11.0 -2.9
CLL *es*PP 15 33 39.0
CLL *e*SKPdf SKPdf 15 34 11.0 -4.1
CLL *e*PKSab 15 34 17.0
CLL *es*SKPdf 15 34 47.0
CLL *e*PPS 15 45 13.0
CLL Collm 133.33 336 *e*PKIKP PKPdf 15 30 45.0 -1.0
CLL pmax pmax

comp=Z,26nm,1.9s
CLL MLR MLR

comp=Z,600nm,22.8s
CLL Collm 133.33 336 *e*PKP PKPdf 15 30 45.0 -1.0
CLL *ep*PKP pPKPdf 15 31 06.0 +0.3
CLL *e*SKPdf SKPdf 15 34 11.0 -4.1
CLL LR LR

comp=Z,600nm,22.8s
BUD Budapest 133.34 329‖ *e*PP PP 15 33 14.2 +0.3
NRDL Niedersach Rie 133.47 339 *e*PP PP 15 33 11.5 -3.2
NRDL *ep*PP 15 33 36.1
NRDL Niedersach Rie 133.47 339 *e*PP PP 15 33 11.5 -3.2
NRDL *ep*PP 15 33 36.1
FBE Freiberg 133.49 336 *e*PKPdf PKPdf 15 30 47.1 +0.8
PRU Pruhonice 133.70 334 *e*PP PP 15 33 00.4 -16
PRU AMS AMS 16 25 50.0

comp=Z,800nm,26.7s
TREC Trest 133.79 333 *e*PP PP 15 33 04.0 -13
TREC AMS AMS 16 30 30.0

comp=Z,600nm,22.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CLZ	**Clausthal**	**133.91**	**338**	*e*PKPdf	PKPdf	15 30 47.7	+0.6
CLZ				*e*PP	PP	15 33 14.8	-2.7
TANN	**Tannenbergstha**	**134.24**	**336**	*e*PKPdf	PKPdf	15 30 49.1	+1.4
TANN				*e*PP	PP	15 33 16.9	-2.7
WERD	**Werda**	**134.28**	**336**	*e*PKPdf	PKPdf	15 30 49.6	+1.8
GTTG	**Gvttingen**	**134.29**	**338**	*e*PP	PP	15 33 16.9	-3.1
GTTG	**Gvttingen**	**134.29**	**338**	*e*PP	PP	15 33 16.9	-3.1
EKA	**Eskdalemuir Ar**	**134.30**	**351**	PKhKP		15 30 33.6	
	comp=Z,0.7nm,0.7s,baz=354,slow=2.5,SNR=4.3						
EKA				PKP	PKPdf	15 30 46.7	-1.1
	comp=Z,0.7nm,0.6s,baz=344,slow=1.8,SNR=4.5						
GUNZ	**Gunzen**	**134.34**	**336**	*e*PKPdf	PKPdf	15 30 48.3	+0.4
MOX	**Moxa**	**134.40**	**337**	*e*PKPdf	PKPdf	15 30 49.7	+1.7
MOX				*e*PP	PP	15 33 17.7	-2.9
MOX				*e*pPP		15 33 41.8	
MOX	**Moxa**	**134.40**	**337**	*e*PKP	PKPdf	15 30 50.0	+2.0
MOX							
	comp=Z,200nm,22.0s						
IBBN	**Ibbenburen**	**134.42**	**341**	*e*PP	PP	15 33 17.5	-3.2
IBBN	**Ibbenburen**	**134.42**	**341**	*e*PP	PP	15 33 17.5	-3.2
MANZ	**Manzenberg**	**134.72**	**336**	*e*PKPdf	PKPdf	15 30 48.4	-0.2
MANZ				*e*PP	PP	15 33 20.6	-2.1
KHC	**Kasperske Hory**	**134.76**	**334**	*e*PP	PP	15 33 04.0	-19
KHC				AMS	AMS	16 29 30.0	
	comp=Z,700nm,22.5s						
ROTZ	**Rotzenmuhle**	**134.85**	**335**	*e*PKPdf	PKPdf	15 30 49.7	+0.8
ROTZ				*e*PP	PP	15 33 21.1	-2.4
UBBA	**Unterbreizbach**	**134.87**	**338**	*e*PP	PP	15 33 20.8	-2.8
UBBA	**Unterbreizbach**	**134.87**	**338**	*e*PP	PP	15 33 20.8	-2.8
GEC2	**GERESS Array S**	**134.92**	**333**	*e*PKPdf	PKPdf	15 30 49.1	+0.1
GEC2				*e*PP	PP	15 33 21.1	-2.8
GERES	**GERESS Array B**	**134.92**	**333**	PKP	PKPdf	15 30 47.5	-1.4
	comp=Z,1.8nm,0.7s,baz=75,slow=1.5,SNR=11						
WET	**Wettzell**	**135.05**	**334**	*e*PKPdf	PKPdf	15 30 49.2	0.0
WET				*e*PP	PP	15 33 22.1	-2.6
WET				*e*pPP		15 33 45.0	
WET	**Wettzell**	**135.05**	**334**	*e*PKIKP	PKPdf	15 30 49.2	0.0
WET				*e*		15 33 22.1	
GRA1	**Grafenberg Arr**	**135.31**	**336**	*e*PKPdf	PKPdf	15 30 50.0	+0.3
GRA1				*e*PP	PP	15 33 23.5	-2.9
GRF	**Grafenberg Arr**	**135.31**	**336**	*e*PKPdf	PKPdf	15 30 50.0	+0.3
GRF				*e*PP	PP	15 33 23.5	-2.9
GRFO	**Grafenberg**	**135.31**	**336**	*e*PP	PP	15 33 23.5	-2.9
GRFO	**Grafenberg**	**135.31**	**336**	*e*PP	PP	15 33 23.5	-2.9
BUG	**Bochum--Univer**	**135.31**	**340**	*e*PP	PP	15 33 23.0	-3.4
BUG	**Bochum--Univer**	**135.31**	**340**	*e*PP	PP	15 33 23.0	-3.4
TNS	**Taunus Mts**	**135.93**	**339**	*e*PP	PP	15 33 27.3	-3.0
TNS	**Taunus Mts**	**135.93**	**339**	*e*PP	PP	15 33 27.3	-3.0
FUR	**Furstenfeldbru**	**136.48**	**335**	*e*PP	PP	15 33 30.9	-2.8
FUR	**Furstenfeldbru**	**136.48**	**335**	*e*PP	PP	15 33 30.9	-2.8
ABH	**Alteburg**	**136.54**	**339**	PKP	PKPdf	15 30 53.7	+1.7
BOJS	**Bojanci**	**136.60**	**329**	*e*PKPdf	PKPdf	15 30 52.6	+0.5
STU	**Stuttgart**	**136.84**	**337**	*e*PP	PP	15 33 33.1	-2.9
STU	**Stuttgart**	**136.84**	**337**	*e*PP	PP	15 33 33.1	-2.9
RUP	**Ruppelstein**	**136.86**	**339**	PKIKP	PKPdf	15 30 53.7	+1.1
WLF	**Walferdange**	**137.20**	**340**	*e*PP	PP	15 33 35.8	-2.5
WLF	**Walferdange**	**137.20**	**340**	*e*PP	PP	15 33 35.8	-2.5
BFO	**Black Forest**	**137.53**	**337**	*e*PP	PP	15 33 37.0	-3.3
BFO	**Black Forest**	**137.53**	**337**	*e*PP	PP	15 33 37.0	-3.3
CDF	**Champ du Feu**	**137.86**	**338**	*e*PKP1	PKPdf	15 30 47.0	-7.4
FELD	**Feldberg im Sc**	**138.03**	**337**	PKP	PKPdf	15 30 54.8	0.0
DAVOX	**Davos**	**138.15**	**334**	PKhKP		15 30 47.3	
	comp=Z,3.9nm,0.5s,baz=296,slow=4.3,SNR=4.3						
BDFB	**Brasilia**	**138.17**	**128**	PKhKP		15 30 46.2	
	comp=Z,5.8nm,0.6s,baz=194,slow=2.6,SNR=9.2						
MOF	**Molkenrain**	**138.38**	**338**	PKP	PKPdf	15 30 55.7	+0.3
HINF	**Hinteralfeld**	**138.52**	**338**	*e*PKP1	PKPdf	15 30 50.9	-4.7
	comp=Z,5.2nm,0.6s						
HAU	**Haudompre**	**138.54**	**338**	*e*PKP1	PKPdf	15 30 50.7	-5.0
	comp=Z,5.9nm,0.6s						
HAU				*e*R			
	comp=Z,695nm,22.0s						
HAU	**Haudompre**	**138.54**	**338**	*e*PKP	PKPdf	15 30 50.7	-5.0
HAU				LR	LR		
	comp=Z,700nm,22.0s						
CABF	**La Chapelle**	**139.81**	**338**	*e*PKP1	PKPdf	15 30 50.1	-7.9
	comp=Z,6.9nm,0.7s						
FLN	**La Foliniere**	**139.97**	**345**	*e*PKP1	PKPdf	15 30 50.8	-7.5
	comp=Z,9.4nm,0.6s						
LDF	**La Druitiere**	**140.04**	**345**	*e*PKP1	PKPdf	15 30 50.9	-7.5
LOR	**Lormes**	**140.04**	**340**	⇑*i*PKP1	PKPdf	15 30 51.5	-6.9
	comp=Z,7.1nm,0.7s						
LOR				*e*R			
	comp=Z,574nm,22.0s						
SSF	**Saint Saulge**	**140.34**	**340**	*e*PKP1	PKPdf	15 30 52.7	-6.3
	comp=Z,7.2nm,0.6s						
GRR	**Gorron**	**140.41**	**345**	*e*PKP1	PKPdf	15 30 53.8	-5.3
	comp=Z,11nm,0.6s						
SMF	**Signal de Mont**	**140.59**	**340**	*e*PKP1	PKPdf	15 30 53.2	-6.2
	comp=Z,8.4nm,0.8s						
SGMF	**Saint Gilles**	**140.94**	**347**	*e*PKP1	PKPdf	15 30 56.9	-3.2
	comp=Z,19nm,0.9s						
BGF	**Bois d'Agland**	**141.00**	**340**	*e*PKP1	PKPdf	15 30 53.6	-6.6
	comp=Z,11nm,0.6s						
ROSF	**Rostrenen**	**141.02**	**348**	*e*PKP1	PKPdf	15 30 57.0	-3.2
	comp=Z,11nm,0.8s						
ORIF	**Oris-en-Rattie**	**141.30**	**336**	⇑*i*PKP1	PKPdf	15 30 55.0	-5.7
	comp=Z,15nm,0.7s						
ORIF				*e*R			
	comp=Z,482nm,22.0s						
TCF	**Toulx Ste Croi**	**141.44**	**341**	*e*PKP1	PKPdf	15 30 55.0	-6.0
	comp=Z,10nm,0.8s						
SBF	**Sospel**	**141.52**	**334**	*e*PKP1	PKPdf	15 30 53.9	-7.2
	comp=Z,32nm,0.6s						
VIVF	**Saint-Julien-l**	**141.82**	**337**	*e*PKP1	PKPdf	15 30 56.5	-5.1
PGF	**Pioggiola**	**141.84**	**331**	*e*PKP1	PKPdf	15 30 55.7	-6.0
	comp=Z,20nm,0.7s						
MFF	**Saint Martin d**	**141.87**	**343**	⇑*i*PKP1	PKPdf	15 30 56.5	-5.2
	comp=Z,12nm,0.6s						
LBL	**Lubilhac**	**142.02**	**339**	PKP	PKPdf	15 30 59.1	-2.9
FRF	**La Foret Royal**	**142.10**	**334**	⇑*i*PKP1	PKPdf	15 30 57.2	-4.9
	comp=Z,17nm,0.6s						
SMRF	**Simiane la Rot**	**142.21**	**336**	*e*PKP1	PKPdf	15 30 58.4	-3.9
	comp=Z,11nm,0.7s						
LMR	**La Mourre**	**142.34**	**334**	⇑*i*PKP1	PKPdf	15 30 58.3	-4.3
	comp=Z,24nm,0.7s						
RJF	**Les Rejaudoux**	**142.54**	**341**	*e*PKP1	PKPdf	15 30 58.7	-4.2
	comp=Z,32nm,0.8s						
RJF				*e*R			
	comp=Z,372nm,20.5s						
RJF	**Les Rejaudoux**	**142.54**	**341**	*e*PKP	PKPdf	15 30 58.7	-4.2
RJF				LR	LR		
	comp=Z,370nm,20.5s						
CAF	**Calviac**	**142.70**	**340**	⇑*i*PKP1	PKPdf	15 30 59.4	-3.8
	comp=Z,12nm,0.7s						
LASF	**Ste Croix**	**142.79**	**337**	*e*PKP1	PKPdf	15 31 01.0	-2.4
	comp=Z,81nm,1.4s						
LFF	**La Frestale**	**143.12**	**341**	*e*PKP1	PKPdf	15 31 00.5	-3.4
	comp=Z,66nm,0.7s						
VSL	**Villasalto**	**143.92**	**327**	*e*PKPdf	PKPdf	15 31 02.7	-2.6
MTLF	**Montolieu**	**144.03**	**339**	⇑*i*PKP1	PKPdf	15 31 04.0	-1.5
	comp=Z,171nm,0.8s						
LRDF	**Laroque-de-Fa**	**144.26**	**338**	PKP	PKPdf	15 31 05.1	-0.8
LRDF	**Laroque-de-Fa**	**144.26**	**338**	PKP	PKPdf	15 31 04.7	-1.2
LRDF				PKP	PKPdf	15 31 05.1	-0.8
SJAF	**Saint Jean de**	**144.52**	**337**	PKP	PKPdf	15 31 06.2	-0.2
FILF	**Fillols**	**144.58**	**338**	PKP	PKPdf	15 31 05.5	-1.0
CARF	**Carcanieres**	**144.62**	**338**	PKP	PKPdf	15 31 05.3	-1.3
VALF	**Valcebollere**	**144.92**	**338**	PKP	PKPdf	15 31 06.6	-0.5
EPF	**Esparros**	**144.95**	**340**	*e*PKP1	PKPdf	15 31 06.9	-0.2
	comp=Z,36nm,0.8s						
RESF	**Ens**	**145.15**	**340**	PKP	PKPdf	15 31 08.1	+0.6
REYF	**Montagne du Re**	**145.15**	**341**	PKP	PKPdf	15 31 08.5	+1.0
VIEF	**Viey**	**145.19**	**341**	PKP	PKPdf	15 31 08.1	+0.6
ATE	**Arette**	**145.24**	**342**	PKP	PKPdf	15 31 07.2	-0.4
ETSF	**Etsaut**	**145.36**	**341**	*e*PKP1	PKPbc	15 31 08.8	+1.0
	comp=Z,31nm,0.6s						
LARF	**Larrau**	**145.37**	**342**	PKP	PKPdf	15 31 07.8	-0.1
CMAH	**Djebel Manchou**	**147.07**	**326**	P	PKPdf	15 31 15.0	+4.3
ABSA	**Djebel Ababsia**	**147.29**	**325**	P	PKPdf	15 31 14.5	+3.4
CASM	**Ain Smara**	**147.84**	**326**	P	PKPdf	15 31 17.0	+5.0
DFRA	**Djebel Bou Aff**	**147.96**	**327**	P	PKPdf	15 31 16.5	+4.3
PBRG	**Braganca**	**147.98**	**348**	*e*PKPbc	PKPbc	15 31 16.5	+1.1
CTEI	**Djebel Teioual**	**148.03**	**326**	P	PKPdf	15 31 17.0	+4.7
PCAB	**Cabril**	**148.30**	**350**	*e*PKPbc	PKPbc	15 31 18.1	+1.9
SET	**Setif**	**148.47**	**328**	P	PKPdf	15 31 18.0	+4.9
ABA	**Alger-Bouzarea**	**149.19**	**331**	P	PKPdf	15 31 20.0	+5.8
PVIS	**Viseu**	**149.25**	**350**	*e*PKPbc	PKPbc	15 31 19.1	+0.5
ESDC	**Sonseca Array**	**149.34**	**343**	PKPbc	PKPbc	15 31 19.0	+0.2
	comp=Z,6.1nm,0.7s,baz=23,slow=2.8,SNR=9.8						
ESDC				PKPab	PKPab	15 31 25.0	+1.3
	comp=Z,4.9nm,0.6s,baz=16,slow=4.0,SNR=15						
ESLA	**Sonseca Array**	**149.34**	**343**	*e*PKPbc	PKPbc	15 31 17.7	-1.2
MTE	**Manteigas**	**149.49**	**349**	*e*PKPdf	PKPdf	15 31 14.8	+0.1
MTE	**Manteigas**	**149.49**	**349**	*e*PKPdf	PKPdf	15 31 15.6	+0.9
MTE				*e*PKPbc	PKPbc	15 31 19.1	-0.2
EMHD	**Djebel Mahouad**	**149.71**	**331**	P	PKPdf	15 31 21.0	+6.0
PCBR	**Castelo Branco**	**150.02**	**349**	*e*PKPbc	PKPbc	15 31 21.1	+0.6
PTOM	**Tomar**	**150.41**	**350**	*e*PKPbc	PKPbc	15 31 22.5	+1.0
EANR	**'Ain N'Sour**	**150.78**	**333**	P	PKPdf	15 31 22.5	+5.8
ETRT	**Tiaret**	**151.15**	**332**	P	PKPdf	15 31 24.5	+7.2
MDT	**Midelt**	**155.83**	**338**	PKP	PKPdf	15 31 24.4	+0.4
	comp=Z,2.3nm,0.8s,baz=280,slow=2.9,SNR=3.9						
MDT				PKPab	PKPab	15 31 50.2	-0.8
	comp=Z,6.3nm,0.9s,baz=50,slow=4.4,SNR=8.3						
TORD	**Torodi Ar. Bea**	**163.56**	**281**	PKP	PKPdf	15 31 32.4	-0.3
	comp=Z,3.2nm,0.6s,baz=20,slow=0.8,SNR=16						
TORD				PKPab	PKPab	15 32 25.1	+0.5
	comp=Z,5.0nm,0.8s,baz=76,slow=3.9,SNR=8.4						
TORD				PP	PP	15 36 08.0	-1.9
	comp=Z,6.8nm,1.3s,baz=105,slow=3.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**163.56**	**281**	PKP	PKPdf	15 31 32.4	-0.3
TORD				PKPab	PKPab	15 32 25.1	+0.5
TORD				PP	PP	15 36 08.0	-1.9
DBIC	**Dimbokro**	**169.39**	**250**	PKP	PKPdf	15 31 36.3	-0.9
	comp=Z,4.3nm,0.7s,baz=98,slow=1.4,SNR=8.8						
DBIC				PKPab	PKPab	15 32 50.9	+0.5
	comp=Z,3.5nm,0.6s,baz=101,slow=7.5,SNR=8.9						

GUC 06 15:18:00.4±0.4, 2867S×7113W, h46km±4km, ML4.1, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.34**	**74**	*e*P	Pn	15 18 15.7	+6.1
VACH				*i* S	Sn	15 18 26.0	+10
LCO	**Las Campanas**	**0.51**	**132**	*e*P	Pn	15 18 14.1	+2.6
LCO				*i* S	Sn	15 18 21.6	+2.1
LCO				AML	AML	15 18 26.1	
	comp=E,4µm,0.5s						
CPCH	**Copiapo**	**1.47**	**28**	*e*P	Pn	15 18 25.1	+0.6
CPCH				*i* S	Sn	15 18 48.7	+6.1
CPCH				AML	AML	15 18 56.5	
	comp=E,5µm,0.1s						
TLL	**Tololo Astrono**	**1.52**	**169**	⇓*e*P	Pn	15 18 26.3	+1.2
TLL				*i* S	Sn	15 18 46.2	+2.5
TLL				AML	AML	15 18 53.5	
	comp=N,4µm,0.8s						
CDCH	**Caldera**	**1.61**	**10**	*e*P	Pn	15 18 26.9	+0.6
CDCH				*i* S	Sn	15 18 47.0	+1.1
CRCH	**Chaqaral**	**2.36**	**11**	⇓*e*P	Pn	15 18 37.3	+0.8
CMCH	**Combarbala**	**2.50**	**177**	⇓*i*P	Pn	15 18 38.0	-0.6
CMCH				AML	AML	15 19 21.1	
	comp=E,4µm,0.5s						

ISCJB ***06*** *15:26:08.0±3.5, 58S±0.1×1506E±03, h83km±26km, mb3.8/4, Error ellipse: s-maj=51.8km s-min=21.7km az=12.4*
IDC ***06*** *15:26:08.2±7.4, 563S×15062E, h81km±50km, mb3.4/4, mb1 3.7/5, mb1mx3.5/15, mbtmp3.8/5, ML3.2/1, Error ellipse: s-maj=103.5km s-min=36.2km az=104.0*
NEIC ***06*** *15:26:10.2±2.7, 582S×15057E, h86km±20km, mb4.5/2, Error ellipse: s-maj=36.5km s-min=16.0km az=96.0*
ISC 06 15:26:09.9±3.3, 58S±01×1506E±03, h81km±24km, n16, σ0.77/17, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.94**	**223**	P	**Pn**	**15 27 21.3**	**-0.3**
	6.6nm,0.3s,baz=55,slow=5.9,SNR=34						
PMG				S	**Sn**	**15 28 26.8**	**+9.3**
	1.5nm,0.3s,baz=16,slow=19,SNR=4.3						
PMG	**Port Moresby**	**4.94**	**223**	P	**Pn**	**15 27 21.3**	**-0.3**
PMG				*e*Sn	**Sn**	**15 28 24.9**	**+7.4**
CTAO	**Charters Tower**	**14.82**	**196**	P	**Pn**	**15 29 35.7**	**+0.6**
	3.2nm,0.8s						
WRAB	**Tennant Creek**	**21.14**	**227**	*e*P	**P**	**15 30 47.8**	**-0.3**
	5.5nm,0.8s,mb3.9						
WB2	**Warramunga Arr**	**21.14**	**227**	*e*P	**P**	**15 30 48.1**	**-0.1**
WRA	**Warramunga Arr**	**21.15**	**227**	P	**P**	**15 30 47.9**	**-0.4**
	1.3nm,0.5s,mb3.5,baz=51,slow=11,SNR=17						
AS31	**Alice Springs**	**23.95**	**220**	*e*P	**P**	**15 31 17.3**	**+0.8**
ASAR	**Alice Springs**	**23.95**	**220**	P	**P**	**15 31 16.9**	**+0.4**
	1.0nm,0.6s,baz=53,slow=8.5,SNR=39						
ASPA	**Alice Springs**	**23.95**	**220**	*e*P	**P**	**15 31 17.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**27.25**	**241**	*e*P	**P**	**15 31 46.8**	**+0.4**
	6.7nm,0.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.25**	**241**	P	**P**	**15 31 46.8**	**+0.4**
	7.3nm,1.2s,mb4.1,baz=66,slow=10.0,SNR=6.8						
STKA	**Stephens Creek**	**27.28**	**197**	P	**P**	**15 31 45.3**	**-1.3**
MBWA	**Marble Bar**	**33.57**	**240**	P	**P**	**15 32 41.6**	**-0.5**
	50nm,1.6s						
KS15	**Wonju Array Si**	**47.95**	**336**	P	**P**	**15 34 41.5**	**+1.3**
SONM	**Songino Array**	**66.02**	**329**	P	**P**	**15 36 46.4**	**-1.4**
	0.3nm,0.4s,mb3.5,baz=145,slow=5.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**148.49**	**286**	PKPbc	PKPbc	15 45 44.1	-3.1
	0.6nm,0.7s,baz=55,slow=3.2,SNR=3.6						

NNC 06 15:27:51.7±4.2, 3922N×7133E, h0km, mb3.4, mpv2.9, 6C, Error ellipse: s-maj=30.9km s-min=30.3km az=112.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**3.93**	**351**	⇑Pn	Pn	15 28 55.7	+2.4
	2.5nm,0.3s,baz=157,slow=10,SNR=59						
KK31				⇑Sn	Sn	15 29 47.2	+7.1
	1.4nm,0.3s,baz=180,slow=24,SNR=4.5						
TKM2	**Tokmak 2**	**4.91**	**40**	⇑Pn	Pn	15 29 05.4	-1.4
	0.8nm,0.8s						
TKM2				⇑Sn	Sn	15 30 04.1	-0.2
	0.3nm,0.6s						
AB31	**Akbulak array**	**12.92**	**325**	⇑Pn	Pn	15 30 57.5	+0.9
	0.6nm,0.6s,baz=93,slow=9.7,SNR=7.7						
AB31				⇑Sn	Sn	15 33 20.1	-0.9
	2.3nm,0.9s,baz=133,slow=25,SNR=3.7						

PRU ***06*** *15:32:54.2, 5028N×1886E, h0km*
WAR 06 15:32:53.9, 5025N×1896E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.54**	**92**	*e*Pg	Pg	15 33 04.3	+0.1
OJC				*e*Sg	Sg	15 33 12.2	+1.0
OKC	**Ostrava-Krasne**	**0.66**	**232**	*e*PG	Pg	15 33 06.4	-0.2
OKC				*e*SG	Sg	15 33 15.3	+0.1
	44nm,1.0s						
NIE	**Niedzica**	**1.21**	**133**	*e*Pg	Pg	15 33 17.0	0.0
NIE				*e*Sg	Sg	15 33 33.8	+1.1
DPC	**Dobruska-Polom**	**1.69**	**275**	*e*PG	Pg	15 33 23.3	-3.1
DPC				*e*SG	Sg	15 33 45.4	-2.9
	27nm,0.6s						
VYHS	**Vyhne**	**1.76**	**183**	*e*PN	Pn	15 33 25.0	-0.6
VYHS				*e*SN	Sn	15 33 47.0	-1.6
KSP	**Ksiaz**	**1.80**	**290**	*e*Pn	Pn	15 33 27.0	+0.8
KSP				*e*Sn	Sn	15 33 50.9	+1.1
KSP	**Ksiaz**	**1.80**	**290**	*e*Pg	Pg	15 33 26.9	-1.6
KSP				*e*Sg	Sg	15 33 50.4	-1.4
UPC	**Upice**	**1.91**	**279**	*e*SG	Sg	15 33 53.4	-1.7
CRVS	**Cervenica-Dubn**	**2.11**	**129**	*e*PN	Pg	15 33 33.2	-1.2
CRVS				*e*SN	Sg	15 34 00.8	-1.0
PRU	**Pruhonice**	**2.85**	**267**	*e*SG	Sg	15 34 22.2	-3.4
BRG	**Berggiesshubel**	**3.26**	**283**	SG	Sg	15 34 35.0	-3.7
	1.9nm,0.6s						
KHC	**Kasperske Hory**	**3.67**	**254**	*e*PG	Pg	15 34 02.0	-2.2
KHC				*e*x	Sg	15 34 46.0	-5.8
CLL	**Collm**	**3.93**	**288**	*e*SG	Sg	15 34 58.0	-2.1

ISCJB ***06*** *15:43:23.3±0.4, 5902N±004×1829E±007, h0km, Error ellipse: s-maj=6.4km s-min=3.6km az=99.0*
CSEM ***06*** *15:43:23.9±0.1, 5905N×1808E, h2km, ML2.8, Error ellipse: s-maj=3.7km s-min=1.6km az=124.0, Mining explosion.*
UPP ***06*** *15:43:23.8, 5900N×1819E, h0km, ML2.8, Mining explosion.*
HEL ***06*** *15:43:24.9±0.1, 5901N×1815E, h0km, ML2.0, ML2.8(UPP), Explosion*
IDC ***06*** *15:43:26.9±1.9, 5920N×1808E, h0km, mb1 2.7/4, mb1mx2.7/22, mbtmp2.6/4, ML2.1/4, Error ellipse: s-maj=25.8km s-min=7.0km az=178.0*
ISC 06 15:43:24.1±0.4, 5902N±004×1821E±006, h0km, n36, σ1.04/47, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.11**	**260**	*i* P	**Pg**	**15 43 25.8**	**-0.3**
NRTU	**Norrtaelje**	**0.69**	**18**	*i* P	**Pg**	**15 43 37.3**	**-0.1**
ESKU	**Eskilstuna**	**0.96**	**283**	*e*P	**Pg**	**15 43 41.6**	**-0.9**
BACU	**Backbrunna**	**1.00**	**327**	*e*P	**Pg**	**15 43 42.8**	**-0.5**
FLYU	**Flymyra**	**1.12**	**352**	*e*P	**Pg**	**15 43 45.2**	**-0.4**
GRAU	**Graesoe**	**1.33**	**7**	*e*P	**Pg**	**15 43 48.9**	**-0.6**
OSTU	**Oestervaala**	**1.33**	**336**	*e*P	**Pg**	**15 43 48.8**	**-0.7**
GOTU	**Gotland**	**1.36**	**172**	*e*P	**Pg**	**15 43 48.0**	**-2.0**
FORU	**Forsmark**	**1.37**	**359**	*e*P	**Pg**	**15 43 49.7**	**-0.6**
AAL	**Aland**	**1.47**	**37**	*e*P	**Pn**	**15 43 51.3**	**-0.5**
LNKU	**Linkoeping**	**1.62**	**242**	*e*P	**Pn**	**15 43 53.1**	**-0.8**
VSTU	**Vaestervik**	**1.63**	**213**	*e*P	**Pn**	**15 43 53.1**	**-0.8**
NRAU	**Nora**	**1.71**	**290**	*e*P	**Pn**	**15 43 55.2**	**+0.1**
ASKU	**Askersund**	**1.75**	**267**	*e*P	**Pn**	**15 43 55.5**	**-0.2**
BYXU	**Byxelkrok**	**1.85**	**201**	*e*P	**Pn**	**15 43 57.0**	**0.0**
FALU	**Falun**	**1.90**	**322**	*e*P	**Pn**	**15 43 58.7**	**+0.9**
IGGU	**Iggoen**	**1.91**	**347**	*e*P	**Pn**	**15 43 58.6**	**+0.7**
EKSU	**Eksjoe**	**2.11**	**228**	*e*P	**Pn**	**15 44 01.4**	**+0.8**
OSKU	**Oskarshamn**	**2.15**	**212**	*e*P	**Pn**	**15 44 01.9**	**+0.8**
HFS	**Hagfors**	**2.55**	**298**	Pn	**Pn**	**15 44 07.1**	**+0.5**
	0.4nm,0.3s,baz=114,slow=14,SNR=31						
HFS				Lg		15 44 41.2	
	0.2nm,0.3s,baz=114,slow=27,SNR=5.6						
NASU	**Vaermlandsnaes**	**2.60**	**270**	P	**Pn**	**15 44 09.2**	**+1.8**
RAF	**Rauma**	**2.69**	**40**	*e*P	**Pn**	**15 44 09.5**	**+1.0**
RAF				*e*S	**Sn**	**15 44 43.2**	**+1.4**
RAF				MSG		15 44 51.3	
	comp=Z,3.6nm,0.2s						
RAF	**Rauma**	**2.69**	**40**	P	**Pn**	**15 44 09.5**	**+1.0**
RAF				S	**Sn**	**15 44 43.1**	**+1.3**
	comp=Z,3.6nm,0.2s						
NOA	**NORSAR Array B**	**4.05**	**303**	Pn	**Pn**	**15 44 26.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=132,slow=13,SNR=2.1						
NOA				Lg		15 45 30.2	
	comp=Z,0.5nm,0.3s,baz=129,slow=17,SNR=5.6						
PVF	**Pernaja**	**4.16**	**65**	*e*SG	**Sg**	**15 45 34.1**	**-3.6**
PVF				MSG		15 45 35.8	
	comp=Z,2.5nm,0.2s						
PVF	**Pernaja**	**4.16**	**65**	Sg	**Sg**	**15 45 34.1**	**-3.6**
	comp=Z,2.5nm,0.2s						
KEF	**Keuruu**	**4.55**	**43**	*e*P	**Pn**	**15 44 35.7**	**+1.5**
KEF				*e*S	**Sn**	**15 45 26.8**	**-1.1**
KEF				MSG		15 45 49.9	
	comp=Z,1.7nm,0.2s						
KEF	**Keuruu**	**4.55**	**43**	P	**Pn**	**15 44 35.7**	**+1.5**
KEF				S	**Sn**	**15 45 26.7**	**-1.1**
	comp=Z,1.7nm,0.2s						
VAF	**Ylistaro**	**4.58**	**26**	*e*P	**Pn**	**15 44 36.2**	**+1.6**
VAF				*e*SG	**Sg**	**15 45 46.8**	**-4.4**
VAF	**Ylistaro**	**4.58**	**26**	P	**Pn**	**15 44 36.1**	**+1.5**
VAF				Sg	**Sg**	**15 45 46.7**	**-4.5**
FIA0	**FINESS Array S**	**4.61**	**55**	*e*P	**Pn**	**15 44 36.7**	**+1.7**
FIA0				*e*S	**Sn**	**15 45 28.6**	**-0.7**
FIA0	**FINESS Array S**	**4.61**	**55**	P	**Pn**	**15 44 36.7**	**+1.7**
FIA0				S	**Sn**	**15 45 28.5**	**-0.8**
FINES	**FINESS Array B**	**4.61**	**55**	Pn	**Pn**	**15 44 36.4**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=245,slow=13,SNR=11						
FINES				Sn	**Sn**	**15 45 30.4**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=248,slow=20,SNR=8.0						
FINES				Lg		15 45 47.8	
	comp=Z,0.6nm,0.3s,baz=247,slow=23,SNR=9.7						
KAF	**Kangasniemi**	**5.06**	**49**	*e*P	**Pn**	**15 44 42.0**	**+0.9**
KAF				*e*S	**Sn**	**15 45 39.7**	**-0.5**
SUF	**Sumiainen**	**5.37**	**43**	*e*P	**Pn**	**15 44 46.3**	**+0.9**
SUF				*e*S	**Sn**	**15 45 46.2**	**-1.6**
ARCES	**ARCESS Array B**	**11.01**	**14**	Pn	**Pn**	**15 46 00.1**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=187,slow=13,SNR=8.6						

NNC 06 15:55:26.8±9.6, 3928N×7157E, h11km±21km, mb3.1, mpv2.7, 2C-3D, Error ellipse: s-maj=59.4km s-min=39.1km az=32.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**3.91**	**349**	⇓Pn	Pn	15 56 30.0	+3.3
	2.1nm,0.3s,baz=193,slow=16,SNR=79						
KK31				⇑Sn	Sn	15 57 19.7	+7.2
	2.5nm,0.3s,baz=186,slow=26,SNR=4.9						
KK31				⇑Lg		15 57 31.8	
	3.0nm,0.4s,baz=171,slow=32,SNR=4.9						
TKM2	**Tokmak 2**	**4.75**	**39**	⇓Pn	Pn	15 56 40.5	+2.3
	0.2nm,0.6s						
TKM2				⇓Lg		15 57 52.1	
	0.5nm,0.6s						
AB31	**Akbulak array**	**12.98**	**324**	Sn	Sn	16 00 53.9	-1.6
	0.8nm,0.6s,baz=129,slow=26,SNR=3.8						

KRSC 06 15:55:47, 5167N×15864E, h28km, ML3.8, Near east coast of Kamchatka Peninsula

ISCJB ***06*** *16:05:41.6±2.1, 388N±0.1×716E±0.1, h116km±30km, Error ellipse: s-maj=25.2km s-min=16.2km az=59.8*
NNC ***06*** *16:05:42.4±4.3, 3932N×7155E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=34.9km s-min=18.7km az=165.0*
ISC 06 16:05:43.0±2.4, 389N±02×716E±02, h130km±39km, n12, σ0.63/16, 7C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.63**	**26**	P	**Pn**	**16 06 37.6**	**-0.3**
	SNR=18						
UCH	**Uchtor**	**4.03**	**33**	P	**Pn**	**16 06 42.9**	**-0.2**
	SNR=19						
EKS2	**Erkin-Say**	**4.14**	**23**	P	**Pn**	**16 06 44.7**	**+0.2**
	SNR=5.6						
KZA	**Kyzart**	**4.25**	**40**	P	**Pn**	**16 06 45.5**	**-0.6**
	SNR=8.1						
KK31	**Karatay Array**	**4.30**	**350**	⇑Pn	**Pn**	**16 06 46.2**	**-0.5**
	6.9nm,0.5s,baz=171,slow=13,SNR=146						
KK31				⇑Sn	**Sn**	**16 07 37.1**	**+1.0**
	15nm,0.5s,baz=168,slow=23,SNR=10.0						
KBK	**Karagaybulak**	**4.56**	**33**	P	**Pn**	**16 06 51.0**	**+0.8**
	SNR=8.6						
CHMS	**Chumysh**	**4.77**	**29**	P	**Pn**	**16 06 53.4**	**+0.4**
	SNR=6.2						
ULHL	**Ulahol**	**4.90**	**45**	P	**Pn**	**16 06 53.9**	**-0.7**
	SNR=12						
USP	**Ospenovka**	**4.91**	**26**	P	**Pn**	**16 06 55.1**	**+0.2**
	SNR=14						
TKM2	**Tokmak 2**	**5.06**	**36**	⇑Pn	**Pn**	**16 06 57.2**	**+0.3**
	0.4nm,0.6s						
TKM2				⇓Sn	**Sn**	**16 07 54.1**	**-0.3**
	0.7nm,0.7s						
TKM2				⇑Lg		16 08 09.0	
	0.8nm,0.7s						
AB31	**Akbulak array**	**13.31**	**325**	⇑Pn	**Pn**	**16 08 46.5**	**-0.2**
	0.5nm,0.4s,baz=133,slow=14,SNR=16						
AB31				⇑Sn	**Sn**	**16 11 08.7**	**-4.9**
	0.7nm,0.5s,baz=150,slow=22,SNR=3.1						
AKTO	**Aktyubinsk**	**15.02**	**325**	⇑Pn	**Pn**	**16 09 09.6**	**+1.1**
AKTO				⇓Sn	**Sn**	**16 11 53.8**	**-1.2**
	0.4nm,2.4s						

NEIC ***06*** *16:07:03.8, 2866S×7129W, h36km, ML3.4(GUC), After GUC.*
GUC 06 16:07:03.8±0.6, 2866S×7129W, h36km±3km, MD3.6, ML3.4, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.47**	**80**	*e*P	Pn	16 07 13.9	-0.1
VACH				*i* S	Sn	16 07 21.4	+0.3
VACH				AML	AML	16 07 23.0	
	comp=E,3µm,0.1s						
VACH	**Vallenar**	**0.47**	**80**	*e*P	Pn	16 07 13.9	-0.1
VACH				*i* S	Sn	16 07 21.4	+0.3
LCO	**Las Campanas**	**0.62**	**125**	⇓*i*P	Pn	16 07 16.9	+0.8
LCO				*i* S	Sn	16 07 26.3	+1.4
CPCH	**Copiapo**	**1.53**	**33**	*e*P	Pn	16 07 29.8	+1.1
CPCH				*i* S	Sn	16 07 50.2	+2.9
CPCH				AML	AML	16 07 53.8	
	comp=N,2µm,0.1s						
CPCH	**Copiapo**	**1.53**	**33**	*e*P	Pn	16 07 29.8	+1.1
CPCH				*i* S	Sn	16 07 50.2	+2.9
TLL	**Tololo Astrono**	**1.56**	**165**	*e*P	Pn	16 07 31.1	+2.0
TLL				*i* S	Sn	16 07 51.9	+3.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLL				AML	AML	16 07 59.7	
	comp=E,472nm,0.5s						
TLL	Tololo Astrono	1.56	165	eP	Pn	16 07 31.1	+2.0
TLL				i S	Sn	16 07 51.9	+3.8
CDCH	Caldera	1.63	14	eP	Pn	16 07 29.6	-0.4

*BJI **06** 16:11:07.2, 1540S×7030W, h184km, mB4.8*
*NEIC **06** 16:11:07.3±1.0, 1541S×7035W, h184km±11km, mb4.5/11, Error ellipse: s-maj=14.1km s-min=10.5km az=57.0*
*ISCJB **06** 16:11:09.7±0.8, 1547S±007×702W±0.1, h227km±9km, mb4.0/11, Error ellipse: s-maj=16.4km s-min=10.7km az=136.3*
*IDC **06** 16:11:10.0±1.2, 1558S×7023W, h220km±12km, mb3.4/4, mb1 3.7/8, mb1mx3.4/22, mbtmp4.1/8, Error ellipse: s-maj=22.7km s-min=16.9km az=73.0*
ISC 06 16:11:07.2±0.8**, 1543S**±007×**7040W**±007**, h179**km±9km**, n33, σ1.36**/30**, mb4.1**/11**, 2C, Southern Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.34	112	P	Pn	16 11 54.0	+6.1
	baz=308,slow=9.5						
LPAZ				S	Sn	16 12 25.3	+5.7
	28nm,0.3s,baz=169,slow=19,SNR=11						
LPAZ	La Paz	2.34	112	⇑ePn	Pn	16 11 54.0	+6.0
LPAZ				eSn	Sn	16 12 25.6	+6.0
NNA	Nana	7.13	298	ePn	Pn	16 12 48.2	-0.8
NNA				eSn	Sn	16 14 07.9	-1.5
LVC	Limon Verde	7.29	169	P	Pn	16 12 53.1	+2.1
	14nm,0.3s,baz=343,slow=8.6,SNR=118						
LVC				S	Sn	16 14 10.1	-2.9
	22nm,0.3s,baz=140,slow=19,SNR=22						
LVC	Limon Verde	7.29	169	ePn	Pn	16 12 52.5	+1.5
	28nm,0.3s						
LVC				eSn	Sn	16 13 55.3	-18
SIV	San Ignacio	9.00	95	P	Pn	16 13 13.0	-0.5
	0.8nm,0.3s,baz=274,slow=8.7,SNR=18						
SAML	Samuel	9.55	48	⇑iPn	Pn	16 13 21.4	+0.7
	22nm,1.0s						
ATAH	Atahualpa	11.47	316	P	Pn	16 13 49.2	+3.5
	0.6nm,0.3s,baz=132,slow=7.8,SNR=5.6						
CFAA	Coronel Fontan	16.23	173	P	Pn	16 14 45.0	-0.1
	0.0nm,0.3s,baz=333,slow=18,SNR=2.0						
CPUP	Villa Florida	16.32	134	P	Pn	16 14 45.4	-0.9
	1.5nm,0.3s,baz=305,slow=9.3,SNR=18						
CPUP	Villa Florida	16.32	134	eP	Pn	16 14 45.0	-1.3
	26nm,0.6s						
OTAV	Otavalo	17.48	332	eP	Pn	16 15 02.4	+2.3
	5.8nm,0.7s						
TRQA	Tornquist	23.74	163	P	P	16 16 05.3	+2.3
	3.1nm,1.0s,mb3.8						
PLCA	Paso Flores	25.22	180	P	P	16 16 16.0	-0.4
	10nm,1.3s,mb4.2						
WCI	Wyandotte Cave	55.41	345	P	P	16 20 18.8	-4.1
	12nm,0.6s,mb4.8						
PDAR	Pinedale Array	68.17	330	P	P	16 21 48.2	+0.2
	0.5nm,0.4s,mb3.6,baz=123,slow=8.5,SNR=8.3						
ULM	Lac du Bonnet	69.13	343	P	P	16 21 52.5	-1.4
	1.0nm,0.4s,mb3.9,baz=143,slow=10,SNR=2.9						
CMB	Columbia Colle	70.89	320	P	P	16 22 05.7	+1.1
	3.3nm,0.5s,mb4.3						
HLID	Hailey	71.17	328	P	P	16 22 07.0	+0.6
	2.0nm,1.1s,mb3.8						
MCMT	McKenzie Canyo	71.30	330	eP	P	16 22 07.8	+0.7
TORD	Torodi Ar. Bea	76.75	72	P	P	16 22 36.3	-2.4
	0.7nm,0.7s,mb3.4,baz=279,slow=3.5,SNR=4.3						
YKA	Yellowknife Ar	85.02	341	P	P	16 23 20.5	-1.9
	0.6nm,0.5s,mb3.6,baz=135,slow=5.3,SNR=5.0						
DLBC	Dease Lake	88.18	333	P	P	16 23 38.2	+0.4
LBTB	Lobatse	88.87	116	eP	P	16 23 41.0	+0.1
	41nm,1.8s,mb5.1						
ESK	Eskdalemuir	90.18	32	eP	P	16 23 42.0	-5.1
	7.0nm,0.9s,mb4.6						
WRA	Warramunga Arr	137.26	215	PKP	PKPdf	16 30 08.4	-0.7
	0.2nm,0.7s,baz=144,slow=1.7,SNR=2.6						
WMQ	Urumqi	146.10	29	PKP	PKPdf	16 30 24.4	-0.4
MDJ	Mudanjiang	146.34	334	PKP	PKPdf	16 30 24.2	-1.0
MDJ				PP	PP		
	comp=Z,52nm,4.9s						
SONM	Songino Array	147.57	4	PKPbc	PKPbc	16 30 29.8	-0.5
	comp=Z,0.6nm,0.6s,baz=348,slow=2.2,SNR=4.4						
HHC	Hu-ho-hao-te	154.61	357	ePKP	PKPdf	16 30 33.5	-4.5
LZH	Lanzhou	158.79	13	ePKP	PKPdf	16 30 39.7	-3.7
LZH				APKP		16 31 30.5	
LZH				XPKP		16 31 50.4	
NJ2	Nanjing	161.43	335	ePKP	PKPdf	16 30 48.5	+2.2
NJ2				PKS		16 34 20.0	
NJ2				SKS	SKSdf	16 37 35.0	+0.6
NJ2				PP	PP		
	comp=Z,200nm,8.4s						
NJ2				LR	LR		
	comp=N,110nm,23.0s						
NJ2				LR	LR		
	comp=E,240nm,20.5s						
NJ2				LR	LR		
	comp=Z,20μm,22.7s						
KMI	Kunming	168.41	33	PKP	PKPdf	16 30 49.9	-2.4

IDC 06 16:12:32.7±7.8**, 551N×9533E, h0**km**, mb3.5**/3**, mb1 3.6**/3**, mb1mx3.4**/20**, mbtmp3.5**/3**, Error ellipse: s-maj=405.1km s-min=29.2km az=57.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	42.64	347	P	P	16 20 30.8	0.0
	0.5nm,0.5s,baz=152,slow=6.4,SNR=5.0						
WRA	Warramunga Arr	45.95	125	P	P	16 20 58.3	+1.0
	0.6nm,1.0s,baz=304,slow=9.4,SNR=5.8						
ASAR	Alice Springs	47.51	129	P	P	16 21 09.4	-0.1
	0.2nm,0.4s,baz=295,slow=7.7,SNR=7.7						

*ISCJB **06** 16:21:41.9±0.7, 5902N±005×1830E±007, h0km, Error ellipse: s-maj=7.7km s-min=4.2km az=129.3*
*CSEM **06** 16:21:42.1±0.1, 5904N×1820E, h1km, ML2.7, Error ellipse: s-maj=5.0km s-min=2.4km az=125.0, Mining explosion.*
*UPP **06** 16:21:42.5, 5898N×1821E, h0km, ML2.7, Mining explosion.*
*HEL **06** 16:21:43.7±0.1, 5900N×18.15E, h0km, ML2.0, ML2.7(UPP), Explosion*
ISC 06 16:21:42.8±0.6**, 5903N**±005×**1821E**±006**, h0**km**, n21, σ0.99**/32**, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NYNU	Nynaeshamn	0.11	259	i P	Pg	16 21 44.8	-0.1
NRTU	Norrtaelje	0.69	18	i P	Pg	16 21 56.2	+0.2
UPP	Uppsala	0.89	341	eP	Pg	16 21 59.9	+0.1
ESKU	Eskilstuna	0.96	283	eP	Pg	16 22 00.4	-0.8
BACU	Backbrunna	1.00	326	eP	Pg	16 22 01.8	-0.3
FLYU	Flymyra	1.12	352	eP	Pg	16 22 04.4	+0.2
OSTU	Oestervaala	1.33	336	eP	Pg	16 22 07.7	-0.5
OSTU				eS	Sg	16 22 25.8	+0.4
LNKU	Linkoeping	1.63	242	eP	Pn	16 22 12.2	-0.5
VSTU	Vaestervik	1.63	214	eP	Pn	16 22 12.0	-0.7
ASKU	Askersund	1.76	267	eP	Pn	16 22 14.5	0.0
RAF	Rauma	2.68	40	eP	Pn	16 22 28.3	+1.1
RAF				eS	Sn	16 23 01.6	+1.2
RAF				eSG	Sg	16 23 07.1	-1.9
RAF				MSG		16 23 10.2	
	comp=Z,3.4nm,0.2s						
RAF	Rauma	2.68	40	P	Pn	16 22 28.3	+1.1
RAF				S	Sn	16 23 01.5	+1.1
RAF				Sg	Sg	16 23 07.1	-1.9
	comp=Z,3.4nm,0.2s						
PVF	Pernaja	4.16	65	eS	Sn	16 23 36.9	+0.1
PVF				eSG	Sg	16 23 53.4	-3.0
PVF				MSG		16 23 54.7	
	comp=Z,2.4nm,0.2s						
PVF	Pernaja	4.16	65	S	Sn	16 23 36.9	+0.1
PVF				Sg	Sg	16 23 53.3	-3.0
	comp=Z,2.4nm,0.2s						
VAF	Ylistaro	4.58	26	eSG	Sg	16 24 05.5	-4.3
VAF				MSG		16 24 08.6	
	comp=Z,2.0nm,0.2s						
VAF	Ylistaro	4.58	26	Sg	Sg	16 24 05.5	-4.3
	comp=Z,2.0nm,0.2s						
FIA0	FINESS Array S	4.61	55	eP	Pn	16 22 56.0	+2.3
FIA0				eS	Sn	16 23 48.0	0.0
FIA0	FINESS Array S	4.61	55	P	Pn	16 22 55.9	+2.2
FIA0				S	Sn	16 23 47.9	0.0
KAF	Kangasniemi	5.05	49	eP	Pn	16 23 00.9	+1.1
KAF				eS	Sn	16 23 58.3	-0.5
KAF	Kangasniemi	5.05	49	P	Pn	16 23 00.8	+1.0
SUF	Sumiainen	5.36	43	eP	Pn	16 23 05.5	+1.5
SUF				eS	Sn	16 24 05.3	-1.2

*ISCJB **06** 16:23:59.7±0.4, 7.19N±008×3420W±009, h10km, mb4.2/21, MS4.1/5, Error ellipse: s-maj=14.3km s-min=9.5km az=71.6*
*IDC **06** 16:24:00.6±0.7, 723N×3423W, h0km, mb4.0/12, mb1 4.1/12, mb1mx4.0/24, mbtmp4.0/12, MS4.1/5, Ms1 4.2/5, ms1mx3.6/27, Error ellipse: s-maj=26.1km s-min=15.3km az=138.0*
*NEIC **06** 16:24:01.3±0.4, 720N×3425W, h10km, mb4.6/13, Error ellipse: s-maj=14.5km s-min=9.5km az=124.0*
ISC 06 16:24:02.0±0.4**, 720N**±008×**3421W**±009**, h10**km**, n32, σ1.06**/30**, mb4.2**/21**, MS4.1**/5**, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	13.05	187	ePn	Pn	16 27 06.3	-1.0
	20nm,1.0s						
BDFB	Brasilia	26.49	211	P	P	16 29 39.6	+0.2
	5.2nm,0.7s,mb4.2,baz=46,slow=7.4,SNR=7.1						
BDFB				LR	LR	16 39 12.5	
	comp=Z,506nm,19.3s,MS4.1,baz=76,slow=34						
DBIC	Dimbokro	29.14	89	P	P	16 30 03.5	+0.4
	2.3nm,0.8s,mb4.0,baz=297,slow=15,SNR=4.4						
DBIC	Dimbokro	29.14	89	eP	P	16 30 03.4	+0.2
	3.0nm,0.9s,mb4.0						
SAML	Samuel	33.03	241	eP	P	16 30 37.4	0.0
	7.0nm,1.2s,mb4.5						
SIV	San Ignacio	35.19	229	P	P	16 30 57.1	+1.0
	5.2nm,0.8s,mb4.5,baz=75,slow=9.2,SNR=21						
TOA0	Torodi Ar. Sit	35.80	78	eP	P	16 31 01.0	-0.4
TORD	Torodi Ar. Bea	35.80	78	P	P	16 31 01.5	+0.1
	1.9nm,0.7s,mb4.2,baz=270,slow=8.6,SNR=11						
CPUP	Villa Florida	40.18	213	P	P	16 31 39.0	+0.7
	0.9nm,0.6s,mb3.7,baz=18,slow=8.8,SNR=4.9						
CPUP	Villa Florida	40.18	213	eP	P	16 31 36.1	-2.2
	14nm,1.0s,mb4.6						
LPAZ	La Paz	40.88	235	P	P	16 31 45.9	+1.8
	4.1nm,0.9s,mb4.1,baz=64,slow=6.6,SNR=12						
LPAZ				LR	LR	16 49 19.5	
	comp=Z,153nm,18.2s,MS3.9,baz=295,slow=37						
LPAZ	La Paz	40.88	235	eP	P	16 31 44.4	+0.3
	8.1nm,1.1s,mb4.3						
LPAZ				LR	LR	16 49 19.5	
SCHQ	Schefferville	54.20	337	P	P	16 33 27.9	+0.3
	2.1nm,0.8s,mb4.2,baz=151,slow=4.5,SNR=5.8						
SCHQ	Schefferville	54.20	337	P	P	16 33 27.4	-0.2
	6.5nm,0.9s,mb4.6						
BORG	Borgarnes	58.17	6	P	P	16 33 54.9	-1.1
	26nm,1.1s,mb5.2						
PLCA	Paso Flores	58.23	212	LR	LR	16 59 07.9	
	comp=Z,472nm,18.7s,MS4.6,baz=40,slow=36						
PSZ	Piszkesteto	61.09	38	P	P	16 34 16.8	+0.7
	2.9nm,0.6s,mb4.6						
NB2	NORSAR Subarra	63.41	23	P	P	16 34 32.1	+0.4
	comp=Z,1.0nm,0.8s,mb4.0,baz=233,slow=6.9						
NOA	NORSAR Array B	63.41	23	P	P	16 34 32.5	+0.9
	comp=Z,1.2nm,0.9s,mb4.0,baz=233,slow=6.5,SNR=3.9						
NOA				LR	LR	16 59 31.7	
	comp=Z,105nm,19.1s,MS4.0,baz=245,slow=34						
NOA	NORSAR Array B	63.41	23	P	P	16 34 32.5	+0.9
NOA				LR	LR	16 59 31.7	
SUMG	Summit	65.37	359	P	P	16 34 43.0	-1.5
	comp=Z,4.6nm,0.9s,mb4.5						
AKASG	Malin Array Be	67.78	38	P	P	16 35 00.4	+0.5
	comp=Z,0.3nm,0.3s,mb3.9,baz=254,slow=6.4,SNR=4.2						
BRTR	Keskin Array B	68.42	50	P	P	16 35 05.2	+1.2
	comp=Z,1.7nm,1.1s,mb4.0,baz=344,slow=7.7,SNR=4.6						
FCC	Fort Churchill	68.55	331	eP	P	16 35 01.7	-3.0
	comp=Z,5.0nm,0.8s,mb4.5						
KEV	Kevo	73.56	19	eP	P	16 35 31.7	-3.5
	comp=Z,8.9nm,1.1s,mb4.6						
PDAR	Pinedale Array	74.39	312	P	P	16 35 39.1	-0.9
	comp=Z,0.6nm,0.7s,mb3.6,baz=94,slow=6.0,SNR=6.3						
HWUT	Hardware Ranch	75.81	311	P	P	16 35 48.4	+0.2
	comp=Z,2.8nm,0.7s,mb4.3						
DLMT	Dillon	76.76	315	P	P	16 35 56.3	+2.7
	comp=Z,5.8nm,1.1s,mb4.4						
GNI	Garni	76.96	51	LR	LR	17 09 40.0	
	comp=Z,75nm,21.2s,MS4.0,baz=92,slow=36						
YKA	Yellowknife Ar	79.22	332	P	P	16 36 07.5	+0.3
	comp=Z,0.8nm,0.8s,mb3.7,baz=97,slow=5.0,SNR=3.5						
YKA	Yellowknife Ar	79.22	332	P	P	16 36 07.5	+0.2
SNAA	Sanae	81.37	170	eP	P	16 36 18.5	-0.4
	comp=Z,1.3nm,1.0s,mb3.8						

*ISCJB **06** 16:40:56.7±1.1, 3764N±006×2090E±008, h10km, Error ellipse: s-maj=10.8km s-min=5.5km az=93.8*
*NEIC **06** 16:40:56.8, 3766N×2090E, h5km, MD3.5(ATH), After ATH.*
*ATH **06** 16:40:56.8, 3766N×2090E, h5km, MD3.5/6*
*CSEM **06** 16:40:57.6±0.3, 3770N×2091E, h0km±1km, MD3.5, Error ellipse: s-maj=6.2km s-min=2.3km az=19.0*
*THE **06** 16:41:01.0, 3788N×2106E, h10km, ML3.0*
ISC 06 16:40:57.3±1.1**, 3765N**±006×**2089E**±008**, h10**km**, n14, σ0.79**/18**, Ionian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.58	336	ePG	Pg	16 41 07.6	-1.0
VLS				eSB	Sg	16 41 16.7	+0.5
RLS	Riolos of Patr	0.62	48	ePG	Pg	16 41 08.1	-1.1
RLS				eSB	Sg	16 41 17.4	+0.1
ITM	Ithomi	0.95	119	ePG	Pg	16 41 14.4	-1.1
LKD	Levkas	1.08	350	ePg	Pg	16 41 17.1	-0.9
LKD				eSg	Sg	16 41 30.9	-1.1
LKD	Levkas	1.08	350	ePg	Pg	16 41 17.0	-1.0
LKD				eSg	Sg	16 41 30.9	-1.1
EVR	Evrytania	1.46	29	ePB	Pn	16 41 25.0	+1.3
AGG	Agios Georgios	1.78	39	ePg	Pn	16 41 28.9	+0.8
VLI	Veliai	1.88	119	ePN	Pg	16 41 33.4	+0.1
IGT	Igoumenitsa	1.94	347	ePb	Pb	16 41 32.4	-0.2
JAN	Janina	2.01	359	ePG	Pb	16 41 34.0	+0.1
MEV	Metsovon	2.15	7	ePb	Pn	16 41 34.2	+0.9
KEK	Kerkira	2.23	338	ePG	Pb	16 41 38.2	+0.5
XOR	Xorichti	2.49	46	ePn	Pn	16 41 38.3	+0.4
FNA	Florina	3.16	7	ePn	Pn	16 41 47.7	+0.7

*IDC **06** 16:41:14.5±1.0, 354N×12695E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.0/19, mbtmp4.1/8, Error ellipse: s-maj=99.8km s-min=15.5km az=71.0*
*ISCJB **06** 16:41:18.2±1.7, 364N±007×1272E±0.1, h47km±16km, mb4.2/18, Error ellipse: s-maj=24.3km s-min=8.7km az=140.5*
*NEIC **06** 16:41:27.8±3.8, 340N×12676E, h122km±35km, mb4.2/11, Error ellipse: s-maj=30.7km s-min=8.5km az=63.0*
*MAN **06** 16:41:44.3, 629N×12648E, h211km, MS6.1*
ISC 06 16:41:21.4±1.3**, 361N**±006×**1271E**±01**, h58**km±12km**, n32, σ0.99**/32**, mb4.2**/18**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	Mati	3.43	345	eP	Pn	16 42 14.4	+2.1
BUKP	Musuan	4.71	334	eP	Pn	16 42 28.9	-1.1
BUTP	Butuan	5.53	344	eP	Pn	16 42 32.8	-8.4
PAGZ	Pagadian	5.62	319	eP	Pn	16 42 39.8	-2.6
IPIL	Ipil	6.15	313	eP	Pn	16 42 49.8	+0.2
KKM	Kota Kinabalu	11.14	283	ePn	Pn	16 43 58.8	+0.9
KSM	Kuching	16.94	263	Pn	Pn	16 45 14.6	+0.2
FITZ	Fitzroy Crossi	21.62	184	eP	P	16 46 06.7	+0.1
	4.2nm,0.8s,mb3.9						
FITZ	Fitzroy Crossi	21.62	184	P	P	16 46 06.1	-0.5
	1.4nm,0.4s,mb3.7,baz=292,slow=22,SNR=9.8						
WRAB	Tennant Creek	24.45	163	eP	P	16 46 34.4	-0.3
	27nm,1.0s,mb4.6						
WRA	Warramunga Arr	24.45	163	P	P	16 46 34.7	0.0
	10nm,0.7s,mb4.4,baz=344,slow=10.0,SNR=42						
WB2	Warramunga Arr	24.46	163	eP	P	16 46 34.8	0.0
WB2	Warramunga Arr	24.46	163	eP	P	16 46 34.2	-0.6
KULM	Kulim	26.45	275	P	P	16 46 48.4	-4.4
AS31	Alice Springs	27.90	167	eP	P	16 47 04.3	-1.6
ASAR	Alice Springs	27.90	167	P	P	16 47 06.0	+0.1
	1.2nm,0.6s,mb3.7,baz=345,slow=6.8,SNR=27						
ASPA	Alice Springs	27.90	167	eP	P	16 47 05.9	0.0
FORT	Forrest	34.21	179	eP	P	16 48 01.7	+0.4
	4.7nm,0.7s,mb4.5						
STKA	Stephens Creek	37.88	160	eP	P	16 48 33.8	+1.1
	5.0nm,0.7s,mb4.3						
STKA	Stephens Creek	37.88	160	P	P	16 48 33.5	+0.9
	7.6nm,0.8s,mb4.5,baz=334,slow=6.6,SNR=21						
LSA	Lhasa	42.82	311	P	P	16 49 13.1	-0.4
	2.0nm,0.7s,mb4.0						
ULN	Ulaanbaatar	47.36	342	eP	P	16 49 50.4	+0.9
	1.2nm,0.6s,mb4.0						
SONM	Songino Array	47.54	341	P	P	16 49 52.5	+1.5
	0.7nm,0.7s,mb3.8,baz=160,slow=9.9,SNR=5.3						
SONM				PcP	PcP	16 51 22.5	+2.3
	0.3nm,0.7s,baz=158,slow=4.7,SNR=2.7						
MKAR	Makanchi Array	57.88	325	P	P	16 51 07.9	+0.6
	0.4nm,0.3s,mb3.9,baz=124,slow=8.0,SNR=8.9						
YAK	Yakutsk	58.32	1	P	P	16 51 09.2	-1.1
	6.9nm,0.8s,mb4.7						
KURK	Kurchatov	62.05	327	eP	P	16 51 35.1	-0.7
	2.6nm,0.8s,mb4.4						
BVAR	Borovoye Array	67.64	327	P	P	16 52 12.5	+0.4
	0.7nm,0.7s,mb3.8,baz=123,slow=11,SNR=5.0						
BRVK	Borovoye	67.71	327	eP	P	16 52 10.5	-2.1
	0.8nm,0.6s,mb3.9						
ZRNK	Zerenda	68.36	326	eP	P	16 52 16.8	+0.1
	2.5nm,0.8s,mb4.3						
CASY	Casey	70.75	187	P	P	16 52 27.1	-4.2
	4.7nm,1.1s,mb4.3						
VNDA	Vanda	83.26	173	P	P	16 53 42.6	+1.0
	1.7nm,0.8s,mb4.1						
ARCES	ARCESS Array B	90.70	340	P	P	16 54 18.0	+0.2
	1.7nm,0.8s,mb4.4,baz=76,slow=6.4,SNR=4.9						

*ISCJB **06** 16:58:25.4±4.4, 56S±02×1508E±03, h57km±32km, mb3.8/6, Error ellipse: s-maj=47.0km s-min=26.9km az=46.5*
*NEIC **06** 16:58:29.0±4.2, 568S×15070E, h71km±29km, mb4.2/1, Error ellipse: s-maj=45.5km s-min=27.2km az=100.0*
*IDC **06** 16:58:30.8±6.3, 566S×15063E, h87km±48km, mb3.5/5, mb1 3.8/6, mb1mx3.6/14, mbtmp3.9/6, ML3.1/1, MS3.6/4, Ms1 3.6/4, ms1mx3.3/14, Error ellipse: s-maj=53.8km s-min=32.1km az=92.0*
ISC 06 16:58:27.0±4.2**, 57S**±02×**1510E**±03**, h58**km±30km**, n16, σ1.00**/13**, mb3.8**/6**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.28	225	P	Pn	16 59 42.7	-0.6
	4.9nm,0.3s,baz=33,slow=8.1,SNR=19						
PMG				S	Sn	17 00 44.1	+1.4
	1.1nm,0.3s,baz=151,slow=19,SNR=3.1						
PMG				LR	LR	17 01 47.2	
	comp=Z,372nm,20.9s,baz=19,slow=39						
HNR	Honiara	9.67	113	LR	LR	17 03 58.3	
	comp=Z,337nm,20.8s,baz=180,slow=33						
GUMO	Guam	20.07	343	LR	LR	17 08 50.3	
	comp=Z,96nm,21.0s,baz=254,slow=31						
WRAB	Tennant Creek	21.48	227	eP	P	17 03 09.3	-1.4
	12nm,0.9s,mb4.2						
WB2	Warramunga Arr	21.48	227	eP	P	17 03 11.4	+0.6
WRA	Warramunga Arr	21.49	227	P	P	17 03 09.1	-1.8
	4.0nm,0.8s,mb3.8,baz=50,slow=10,SNR=22						
DZM	Mont Dzumac	22.14	139	LR	LR	17 10 20.7	
	comp=Z,418nm,20.9s,baz=58,slow=32						
AS31	Alice Springs	24.27	221	eP	P	17 03 39.6	+0.9
ASAR	Alice Springs	24.28	221	P	P	17 03 38.2	-0.5
	3.3nm,0.8s,mb3.8,baz=55,slow=8.6,SNR=18						
ASPA	Alice Springs	24.28	221	eP	P	17 03 39.6	+0.8
FITZ	Fitzroy Crossi	27.63	241	eP	P	17 04 09.2	+0.2
	9.4nm,0.8s,mb4.5						
FITZ	Fitzroy Crossi	27.63	241	P	P	17 04 08.3	-0.7
	4.2nm,0.9s,mb4.1,baz=75,slow=12,SNR=9.2						
MBWA	Marble Bar	33.94	240	eP	P	17 05 03.7	-1.0
SONM	Songino Array	66.09	329	P	P	17 09 09.1	+1.1
	0.3nm,0.7s,mb3.5,baz=141,slow=7.1,SNR=3.7						
VNDA	Vanda	72.03	178	P	P	17 09 45.3	+0.5
	0.2nm,0.4s,mb3.4,baz=343,slow=6.9,SNR=2.8						
TORD	Torodi Ar. Bea	148.80	286	PKPbc	PKPbc	17 18 07.0	-0.9
	0.9nm,0.8s,baz=87,slow=2.3,SNR=5.2						

*CSEM **06** 17:02:33.1±0.1, 5902N×1822E, h2km, ML2.7, Error ellipse: s-maj=4.8km s-min=2.7km az=128.0, Mining explosion.*
*UPP **06** 17:02:33.3, 5898N×1820E, h0km, ML2.7, Mining explosion.*
HEL 06 17:02:34.4±0.1**, 5899N×1819E, h0**km**, ML2.0, ML2.7**(UPP)**, Explosion, Baltic Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRTU	Norrtaelje	0.72	18	i P	Pg	17 02 47.0	-1.3
ESKU	Eskilstuna	0.95	285	eP	Pg	17 02 51.2	-1.5
BACU	Backbrunna	1.03	328	eP	Pg	17 02 52.5	-1.5
BACU	Backbrunna	1.03	328	P	Pg	17 02 52.5	-1.6
FLYU	Flymyra	1.15	352	eP	Pg	17 02 54.9	-1.6
OSTU	Oestervaala	1.35	337	eP	Pg	17 02 58.7	-1.6
OSTU				eS	Sg	17 03 16.6	-1.3
GRAU	Graesoe	1.36	7	eP	Pg	17 02 58.6	-1.8
FORU	Forsmark	1.40	360	eP	Pn	17 02 59.4	-1.8
AAL	Aland	1.50	37	eP	Pn	17 03 01.0	-1.6
AAL				eS	Sg	17 03 21.0	-1.7
VSTU	Vaestervik	1.59	214	eP	Pn	17 03 02.8	-1.0
LNKU	Linkoeping	1.60	242	eP	Pn	17 03 02.8	-1.1
NRAU	Nora	1.72	291	eP	Pn	17 03 05.0	-0.5
NRAU				eS	Sn	17 03 27.6	-0.6
NRAU	Nora	1.72	291	P	Pn	17 03 05.0	-0.5
NRAU				S	Sn	17 03 27.5	-0.6
ASKU	Askersund	1.74	268	eP	Pn	17 03 05.3	-0.6
FALU	Falun	1.92	323	eP	Pn	17 03 08.4	0.0
IGGU	Iggoen	1.94	347	eP	Pn	17 03 08.6	+0.1
RAF	Rauma	2.72	40	eP	Pn	17 03 19.0	-0.3
RAF				eS	Sn	17 03 52.7	-0.2
RAF	Rauma	2.72	40	P	Pn	17 03 19.0	-0.3
RAF				S	Sn	17 03 52.6	-0.3
PVF	Pernaja	4.18	65	eSG	Sg	17 04 44.0	-4.7
PVF				MSG		17 04 45.5	
	comp=Z,2.2nm,0.2s						
PVF	Pernaja	4.18	65	Sg	Sg	17 04 44.0	-4.8
	comp=Z,2.2nm,0.2s						
VAF	Ylistaro	4.61	26	eP	Pn	17 03 46.4	+1.0
VAF				eSG	Sg	17 04 57.6	-5.0
VAF				MSG		17 04 59.3	
	comp=Z,1.7nm,0.2s						
VAF	Ylistaro	4.61	26	P	Pn	17 03 46.3	+0.9
VAF				Sg	Sg	17 04 57.5	-5.1
	comp=Z,1.7nm,0.2s						
FIA0	FINESS Array S	4.64	55	eP	Pn	17 03 46.4	+0.6
FIA0				eS	Sn	17 04 38.7	-1.6
FIA0				MSG		17 05 01.1	
	comp=Z,1.5nm,0.2s						
FIA0	FINESS Array S	4.64	55	P	Pn	17 03 46.3	+0.6
FIA0				S	Sn	17 04 38.6	-1.7
	comp=Z,1.5nm,0.2s						
KAF	Kangasniemi	5.08	49	eP	Pn	17 03 51.6	-0.2
KAF				eS	Sn	17 04 49.5	-1.8
SUF	Sumiainen	5.40	43	eP	Pn	17 03 55.2	-0.9
SUF				eS	Sn	17 04 56.1	-2.8

*MOS **06** 17:02:54.3±1.6, 3701N×7177E, h102km, mb3.9/1, Error ellipse: s-maj=33.4km s-min=11.9km az=95.5*
*IDC **06** 17:02:57.2±8.3, 37.18N×7191E, h96km±81km, mb3.3/4, mb1 3.4/7, mb1mx3.1/23, mbtmp3.6/7, ML3.4/3, Error ellipse: s-maj=70.1km s-min=57.6km az=98.0*
*NEIC **06** 17:02:58.0±2.7, 3724N×7194E, h102km±24km, mb3.6/2, Error ellipse: s-maj=25.1km s-min=22.1km az=171.0*
*ISCJB **06** 17:02:58.1±1.3, 3732N±007×719E±0.1, h114km±17km, mb3.6/5, Error ellipse: s-maj=20.6km s-min=5.7km az=124.9*
*NNC **06** 17:03:08.3±4.1, 3839N×7068E, h0km, mb3.3, mpv3.5, Error ellipse: s-maj=40.3km s-min=34.9km az=23.0*
ISC 06 17:02:59.0±1.1**, 3732N**±006×**719E**±01**, h107**km±15km**, n31, σ0.94**/38**, mb3.6**/5**, 4C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.67	20	PN	Pn	17 04 20.6	-0.2
DLH	Dalhousie	5.83	144	eS	Sn	17 05 31.0	+2.7

KK31	**Karatay Array**	**5.87**	**350**	Pn	**Pn**	**17 04 23.2**	**-0.3**
	2.4nm,0.3s,baz=177,slow=13,SNR=117						
KK31				⇓Sn	**Sn**	**17 05 23.2**	**-6.2**
	20nm,0.7s,baz=168,slow=22,SNR=16						
SDNR	**Sundarnagar**	**7.16**	**143**	*e*P	**Pn**	**17 04 43.6**	**+2.6**
SDNR				*e*S	**Sn**	**17 06 00.4**	**-0.4**
KLP	**Kalpa**	**7.80**	**136**	*e*P	**Pn**	**17 04 53.2**	**+3.5**
KLP				*e*S	**Sn**	**17 06 12.1**	**-4.3**
KLP				AML	AML	17 06 24.3	
	comp=N,78nm,0.3s						
KLP				AML	AML	17 06 24.4	
	comp=E,47nm,0.6s						
SONA	**Sohna**	**10.04**	**153**	*e*S	**Sn**	**17 07 09.0**	**-1.8**
MKAR	**Makanchi Array**	**12.21**	**36**	P	**Pn**	**17 05 49.2**	**+0.1**
	comp=E,0.1nm,0.3s,baz=227,slow=14,SNR=2.8						
KOLN	**Koldanda**	**13.71**	**131**	*e*P	**Pn**	**17 06 08.8**	**0.0**
	comp=E,7.8nm,0.3s						
GKN	**Gorkha**	**14.19**	**127**	*e*P	**Pn**	**17 06 14.0**	**-0.9**
	comp=E,14nm,0.3s						
AB31	**Akbulak array**	**14.74**	**328**	⇑Pn	**Pn**	**17 06 18.8**	**-3.2**
	comp=E,0.3nm,0.3s,baz=134,slow=14,SNR=16						
AB31				⇑Sn	**Sn**	**17 08 45.4**	**-19**
	comp=E,1.6nm,0.6s,baz=158,slow=23,SNR=6.2						
KKN	**Kakani**	**14.74**	**126**	*e*P	**Pn**	**17 06 21.6**	**-0.4**
	comp=E,13nm,0.6s						
DMN	**Daman**	**14.76**	**127**	*e*P	**Pn**	**17 06 22.4**	**+0.2**
	comp=E,5.8nm,0.3s						
PKI	**Pulchoki**	**14.98**	**127**	*e*P	**Pn**	**17 06 25.3**	**+0.3**
GUN	**Gumba**	**15.05**	**125**	*e*P	**Pn**	**17 06 26.1**	**+0.2**
	comp=E,12nm,0.4s						
JIRN	**Jiri**	**15.42**	**125**	*e*P	**Pn**	**17 06 30.5**	**-0.1**
	comp=E,13nm,0.4s						
BVAR	**Borovoye Array**	**15.74**	**357**	P	**Pn**	**17 06 34.7**	**+0.2**
	comp=E,0.2nm,0.3s,baz=162,slow=10,SNR=5.5						
ZRNK	**Zerenda**	**15.76**	**354**	*e*P	**Pn**	**17 06 35.3**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZRNK	**Zerenda**	**15.76**	**354**	*e*P	**Pn**	**17 06 35.3**	**+0.5**
	comp=Z,2.0nm,0.5s						
AKTK	**Aktyubinsk**	**16.45**	**327**	P	**Pn**	**17 06 43.8**	**+0.4**
AKTK				S	**S**	**17 09 33.6**	**-17**
AKTO	**Aktyubinsk**	**16.45**	**327**	⇑Pn	**Pn**	**17 06 43.7**	**+0.3**
	comp=Z,0.1nm,0.8s						
AKTO				⇑Sn	**Sn**	**17 09 33.2**	**-13**
	comp=Z,0.2nm,1.5s						
AKTO	**Aktyubinsk**	**16.45**	**327**	P	**Pn**	**17 06 43.8**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=126,slow=13,SNR=16						
AKTO				S	**S**	**17 09 33.6**	**-17**
	comp=Z,0.2nm,0.3s,baz=37,slow=20,SNR=4.9						
ARU	**Arti**	**21.11**	**339**	*e*P	**P**	**17 07 34.5**	**-0.4**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb3.7						
ARU	**Arti**	**21.11**	**339**	*e*P	**P**	**17 07 34.5**	**-0.3**
	comp=Z,4.6nm,1.2s,mb3.7						
JOF	**Joensuu**	**35.52**	**329**	*e*p	**P**	**17 09 41.3**	**-4.2**
SANT	**Santorini**	**36.88**	**283**	P	**P**	**17 09 57.8**	**+0.8**
	comp=Z,69nm,0.9s						
FINES	**FINESS Array B**	**37.21**	**325**	P	**P**	**17 09 59.7**	**-0.1**
	comp=Z,0.4nm,0.3s,mb3.8,baz=126,slow=9.2,SNR=7.4						
FINES	**FINESS Array B**	**37.21**	**325**	P	**P**	**17 09 59.7**	**-0.1**
ARCES	**ARCESS Array B**	**40.66**	**337**	P	**P**	**17 10 28.9**	**+0.3**
	comp=Z,0.8nm,0.8s,mb3.6,baz=110,slow=10,SNR=4.1						
NOA	**NORSAR Array B**	**44.16**	**322**	P	**P**	**17 10 56.9**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.5,baz=95,slow=7.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**66.45**	**269**	P	**P**	**17 13 36.7**	**0.0**
	comp=Z,0.5nm,0.6s,mb3.5,baz=54,slow=5.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**66.45**	**269**	P	**P**	**17 13 36.7**	**0.0**

IDC 06 17:22:20.1±1.0**, 2638N×9106E, h48**km±10km**, mb3.3**/5**, mb1 3.5**/5**, mb1mx3.2**/20**, mbtmp3.5**/5**, Error ellipse: s-maj=46.4km s-min=17.4km az=62.0, Northeastern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**21.53**	**343**	P	P	17 27 04.4	-0.8
	1.4nm,0.8s,baz=154,slow=11,SNR=9.1						
MKAR				pP	pP	17 27 17.6	+1.2
	1.6nm,0.7s,baz=159,slow=9.5,SNR=6.2						
SONM	**Songino Array**	**24.57**	**25**	P	P	17 27 35.7	+0.2
	0.4nm,0.4s,baz=213,slow=9.5,SNR=8.8						
FINES	**FINESS Array B**	**55.26**	**328**	pP	pP	17 31 59.1	-2.6
	0.7nm,0.6s,baz=91,slow=11,SNR=2.3						
WRA	**Warramunga Arr**	**62.32**	**133**	P	P	17 32 37.8	+0.3
	0.4nm,0.4s,baz=324,slow=7.1,SNR=10						
NOA	**NORSAR Array B**	**62.41**	**327**	pP	pP	17 32 49.1	-2.5
	0.6nm,0.7s,baz=79,slow=9.5,SNR=3.7						
GERES	**GERESS Array B**	**62.52**	**313**	P	P	17 32 39.0	+0.2
	0.2nm,0.4s,baz=87,slow=8.0,SNR=3.0						
GERES				pP	pP	17 32 52.1	-0.2
	0.3nm,0.5s,baz=83,slow=8.0,SNR=3.0						
ASAR	**Alice Springs**	**64.75**	**136**	P	P	17 32 54.0	+0.4
	0.3nm,0.5s,baz=316,slow=6.3,SNR=16						
ASAR				pP	pP	17 33 07.2	+0.1
	0.3nm,0.5s,baz=315,slow=6.6,SNR=2.2						

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*ISCJB **06** 17:22:39.3±4.4, 54S±02×1503E±04, h66km±31km, mb3.8/6, Error ellipse: s-maj=59.9km s-min=26.1km az=22.1*
*NEIC **06** 17:22:40.9±3.3, 550S×15049E, h74km±23km, mb4.3/2, Error ellipse: s-maj=40.4km s-min=18.9km az=100.0*
*IDC **06** 17:22:43.2±6.9, 548S×150.19E, h82km±48km, mb3.4/4, mb1 3.6/5, mb1mx3.4/15, mbtmp3.8/5, ML3.0/1, MS3.5/3, Ms1 3.5/3, ms1mx2.8/20, Error ellipse: s-maj=104.4km s-min=37.7km az=105.0*
ISC 06 17:22:40.4±4.3**, 55S**±02×**1505E**±04**, h66**km±30km**, n16, σ0^{s}57**/13**, mb3.8**/6**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.12**	**220**	P	**Pn**	**17 23 54.5**	**0.0**
	4.6nm,0.3s,baz=28,slow=13,SNR=16						
PMG				S	**Sn**	**17 24 59.9**	**+7.6**
	2.3nm,0.3s,baz=90,slow=20,SNR=3.1						
HNR	**Honiara**	**10.14**	**113**	LR	LR	17 28 29.2	
	comp=Z,151nm,19.5s,baz=3.5,slow=33						
GUMO	**Guam**	**19.77**	**344**	LR	LR	17 32 59.9	
	comp=Z,58nm,19.8s,baz=138,slow=31						
WRAB	**Tennant Creek**	**21.29**	**226**	*e*P	**P**	**17 27 21.1**	**-0.4**
	18nm,1.1s,mb4.3						
WB2	**Warramunga Arr**	**21.30**	**226**	*e*P	**P**	**17 27 21.7**	**+0.2**
WRA	**Warramunga Arr**	**21.31**	**226**	P	**P**	**17 27 21.0**	**-0.6**
	2.2nm,0.7s,mb3.6,baz=51,slow=10,SNR=12						
AS31	**Alice Springs**	**24.14**	**220**	*e*P	**P**	**17 27 51.1**	**+1.0**
ASAR	**Alice Springs**	**24.14**	**220**	P	**P**	**17 27 50.1**	**0.0**
	1.0nm,0.5s,mb3.4,baz=56,slow=8.5,SNR=34						
ASPA	**Alice Springs**	**24.14**	**220**	*e*P	**P**	**17 27 51.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**27.34**	**241**	*e*P	**P**	**17 28 18.4**	**-0.7**
	4.2nm,0.9s,mb4.0						
FITZ	**Fitzroy Crossi**	**27.34**	**241**	P	**P**	**17 28 18.4**	**-0.7**
	2.6nm,0.7s,mb3.9,baz=51,slow=16,SNR=6.1						
STKA	**Stephens Creek**	**27.55**	**197**	LR	LR	17 39 33.0	
	comp=Z,314nm,21.6s,baz=21,slow=37						
SONM	**Songino Array**	**65.72**	**329**	P	**P**	**17 33 18.5**	**+0.5**
	0.4nm,0.9s,mb3.2,baz=134,slow=6.2,SNR=2.9						
KURK	**Kurchatov**	**82.92**	**322**	P	**P**	**17 34 57.6**	**-0.3**
QSPA	**South Pole Qui**	**84.48**	**180**	*e*P	**P**	**17 35 05.4**	**-0.6**
	4.0nm,1.3s,mb4.1						
TORD	**Torodi Ar. Bea**	**148.34**	**286**	PKPbc	PKPbc	17 42 18.8	-0.3
	0.5nm,0.8s,baz=79,slow=3.5,SNR=3.0						

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*ISCJB **06** 17:43:08.2±3.4, 39.1N±02×716E±02, h127km±35km, Error ellipse: s-maj=46.1km s-min=14.9km az=72.9*
*NNC **06** 17:43:08.1±3.6, 3930N×7149E, h15km±16km, mb3.4, mpv3.3, Error ellipse: s-maj=23.8km s-min=19.9km az=80.0*
ISC 06 17:43:09.3±4.6**, 391N**±04×**716E**±03**, h158**km±56km**, n14, σ0^{s}67**/17**, 9C, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.41**	**27**	P	**Pn**	**17 44 01.2**	**-0.9**
	SNR=22						
UCH	**Uchtor**	**3.82**	**35**	P	**Pn**	**17 44 07.1**	**-0.3**
	SNR=26						
EKS2	**Erkin-Say**	**3.91**	**24**	P	**Pn**	**17 44 08.7**	**+0.2**
	SNR=12						
KK31	**Karatay Array**	**4.06**	**349**	⇑Pn	**Pn**	**17 44 10.6**	**+0.1**
	10nm,0.5s,baz=169,slow=12,SNR=130						
KK31				⇑Sn	**Sn**	**17 44 59.0**	**+0.8**
	3.5nm,0.3s,baz=171,slow=23,SNR=4.1						
KK31				⇑Lg		17 45 12.1	
	7.7nm,0.5s,baz=169,slow=32,SNR=4.3						
KZA	**Kyzart**	**4.06**	**42**	P	**Pn**	**17 44 09.9**	**-0.6**
	SNR=15						
AAK	**Ala-Archa**	**4.14**	**31**	P	**Pn**	**17 44 12.1**	**+0.5**
	SNR=13						
KBK	**Karagaybulak**	**4.35**	**35**	P	**Pn**	**17 44 15.3**	**+1.0**
	SNR=12						
CHMS	**Chumysh**	**4.55**	**31**	P	**Pn**	**17 44 17.1**	**+0.2**
	SNR=18						
USP	**Ospenovka**	**4.69**	**27**	P	**Pn**	**17 44 18.7**	**0.0**
	SNR=10						
ULHL	**Ulahol**	**4.72**	**47**	P	**Pn**	**17 44 18.2**	**-0.9**
	SNR=11						
TKM2	**Tokmak 2**	**4.86**	**37**	P	**Pn**	**17 44 21.5**	**+0.5**
	SNR=7.0						
TKM2	**Tokmak 2**	**4.86**	**37**	⇑Pn	**Pn**	**17 44 20.9**	**0.0**
	1.2nm,0.8s						
TKM2				⇑Lg		17 45 31.8	
	2.2nm,0.8s						
AB31	**Akbulak array**	**13.12**	**324**	⇑Pn	**Pn**	**17 46 10.7**	**+1.1**
	0.7nm,0.5s,baz=119,slow=11,SNR=23						
AB31				⇑Sn	**Sn**	**17 48 33.6**	**-1.2**
	0.6nm,0.4s,baz=127,slow=26,SNR=7.5						
AKTO	**Aktyubinsk**	**14.83**	**324**	⇑Pn	**Pn**	**17 46 36.1**	**+5.0**
	0.1nm,0.8s						
AKTO				⇑Sn	**Sn**	**17 49 15.8**	**-0.2**

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*ISCJB **06** 17:56:28.7±0.9, 473N±0.1×15153E±009, h169km±11km, mb3.8/16, Error ellipse: s-maj=18.5km s-min=8.9km az=140.9*
*BJI **06** 17:56:29.3, 4728N×15160E, h192km, mB4.5, mb4.3*
*NEIC **06** 17:56:31.9±1.3, 4752N×15144E, h172km±13km, mb4.1/3, Error ellipse: s-maj=12.0km s-min=8.6km az=151.0*
*IDC **06** 17:56:31.9±2.8, 4753N×15142E, h170km±26km, mb3.5/13, mb1 3.6/15, mb1mx3.5/25, mbtmp3.9/15, Error ellipse: s-maj=19.6km s-min=13.3km az=156.0*
*MOS **06** 17:56:32.3±0.7, 4755N×15134E, h193km, mb4.2/2, Error ellipse: s-maj=17.8km s-min=14.0km az=78.1*
ISC 06 17:56:29.9±0.9**, 473N**±01×**1514E**±01**, h164**km±11km**, n47, σ1^{s}35**/53**, mb3.8**/16**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**5.56**	**235**	P	**Pn**	**17 57 51.7**	**+0.9**
NEM2	**Nemuro 2**	**5.62**	**227**	P	**Pn**	**17 57 49.8**	**-1.8**
NEM2				*e*S	**Sn**	**17 58 50.4**	**-5.3**
YSS	**Yuzh-Sakhalins**	**5.92**	**270**	*e*PN	**Pn**	**17 57 58.0**	**+2.3**
YSS	**Yuzh-Sakhalins**	**5.92**	**270**	*e*Pn	**Pn**	**17 57 57.2**	**+1.5**
JTKR	**Abashiri--Toko**	**6.24**	**240**	P	**Pn**	**17 58 01.8**	**+2.0**
JAK	**Akkeshi**	**6.42**	**230**	P	**Pn**	**17 58 00.6**	**-1.6**
JAK				*e*S	**Sn**	**17 59 09.2**	**-5.5**
JAR	**Ashorobuto**	**6.72**	**236**	P	**Pn**	**17 58 08.0**	**+1.8**
JOB	**Onbets**	**6.94**	**233**	P	**Pn**	**17 58 09.1**	**0.0**
JOB				*e*S	**Sn**	**17 59 24.9**	**-2.3**
ASAJ	**Asahikawa**	**6.95**	**246**	P	**Pn**	**17 58 12.8**	**+3.5**
	2.0nm,0.3s,baz=62,slow=14,SNR=16						
ASAJ	**Asahikawa**	**6.95**	**246**	P	**Pn**	**17 58 12.7**	**+3.4**
ASAJ	**Asahikawa**	**6.95**	**246**	PN	**Pn**	**17 58 12.8**	**+3.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JKK2	**Kamakawa 2**	**6.99**	**244**	P	**Pn**	**17 58 11.9**	**+2.2**
JCH	**Churui**	**7.39**	**234**	P	**Pn**	**17 58 14.5**	**-0.6**
JCH				*e*S	**Sn**	**17 59 32.6**	**-5.4**
JNBK	**Urakawa-nobuka**	**7.95**	**234**	P	**Pn**	**17 58 21.3**	**-1.2**
JNBK				*e*S	**Sn**	**17 59 44.7**	**-6.7**
JKB	**Kayabe**	**9.18**	**238**	P	**Pn**	**17 58 38.1**	**-0.6**
JKB				*e*S	**Sn**	**18 00 15.4**	**-5.4**
MJAR	**Matsushiro Arr**	**14.55**	**227**	P	**Pn**	**17 59 52.9**	**+4.8**
	comp=Z,0.2nm,0.3s,baz=26,slow=12,SNR=4.8						
MDJ	**Mudanjiang**	**15.41**	**268**	P	**Pn**	**17 59 57.5**	**-1.1**
MDJ				S	**S**	**18 02 46.9**	**-3.3**
MDJ				PCP	PcP	18 04 44.4	-6.8
MDJ				SCP	ScP	18 08 08.7	-1.1
MDJ				PCS	PcS	18 08 27.3	+0.8
MDJ				SCS	ScS	18 11 46.9	-1.3
MDJ				AMB	AMB		
	comp=Z,3.0nm,2.1s						
MDJ				AMB	AMB		
	comp=Z,39nm,5.3s						
MDJ				LR	LR		
	comp=N,56nm,7.0s						
MDJ				LR	LR		
	comp=E,49nm,7.5s						
MDJ				LR	LR		
	comp=Z,108nm,6.8s						
YAK	**Yakutsk**	**19.23**	**328**	*e*P	**P**	**18 00 42.0**	**+0.6**
	comp=Z,25nm,0.8s						
KS15	**Wonju Array Si**	**19.92**	**249**	*e*P	**P**	**18 00 50.4**	**+1.6**
NJ2	**Nanjing**	**29.08**	**250**	*e*P	**P**	**18 02 17.2**	**+2.4**
HHC	**Hu-ho-hao-te**	**29.11**	**272**	*e*P	**P**	**18 02 16.7**	**+1.6**
HHC				AP	pP	18 02 52.9	+3.5
HHC				XP	sP	18 03 13.7	+5.4
HHC				PP	PP	18 03 17.8	-6.3
HHC				S	**S**	**18 06 53.7**	**-1.1**
HHC				XS	sS	18 07 57.8	+2.5
HHC				SS	SS	18 08 38.6	-27
HHC				SCS	ScS	18 12 37.2	-2.0
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.0						
SONM	**Songino Array**	**30.06**	**288**	P	**P**	**18 02 24.3**	**+0.8**
	comp=Z,0.6nm,0.7s,mb3.5,baz=78,slow=8.2,SNR=5.1						
KDAK	**Kodiak Island**	**34.65**	**51**	P	**P**	**18 03 01.7**	**-1.8**
	comp=Z,0.9nm,0.4s,mb3.7,baz=233,slow=2.2,SNR=3.7						
SML	**Sawmill**	**36.37**	**44**	*e*P	**P**	**18 03 17.6**	**-0.5**
ILAR	**Eielson Array**	**36.84**	**39**	P	**P**	**18 03 20.9**	**-1.2**
	comp=Z,1.6nm,1.1s,mb3.5,baz=269,slow=8.3,SNR=4.1						
CD2	**Chengdu**	**39.78**	**263**	*e*P	**P**	**18 03 44.4**	**-2.3**
INK	**Inuvik**	**41.80**	**33**	P	**P**	**18 04 03.6**	**+0.4**
	comp=Z,2.5nm,0.6s,mb4.0,baz=295,slow=9.0,SNR=9.0						
INK	**Inuvik**	**41.80**	**33**	P	**P**	**18 04 03.6**	**+0.4**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**41.80**	**33**	*e*P	**P**	**18 04 03.1**	**-0.1**
	comp=Z,3.6nm,0.8s,mb4.0						
WMQ	**Urumqi**	**43.65**	**290**	P	**P**	**18 04 19.6**	**+1.5**
WMQ				AP	pP	18 04 58.0	+3.8
WMQ				XP	sP	18 05 17.8	+5.2
WMQ				PP	PP	18 06 05.3	+2.3
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,33nm,4.1s						
MKAR	**Makanchi Array**	**45.66**	**296**	P	**P**	**18 04 34.4**	**+0.4**
	comp=Z,1.1nm,0.6s,mb3.7,baz=57,slow=7.2,SNR=13						
MKAR				PcP	PcP	18 06 10.1	+0.8
	comp=Z,0.9nm,0.6s,baz=59,slow=5.8,SNR=6.4						
MKAR	**Makanchi Array**	**45.66**	**296**	P	**P**	**18 04 34.4**	**+0.4**
MKAR				PcP	PcP	18 06 10.1	+0.8
KURK	**Kurchatov**	**46.09**	**303**	*e*P	**P**	**18 04 37.0**	**-0.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
KURK	**Kurchatov**	**46.09**	**303**	*e*P	**P**	**18 04 37.0**	**-0.4**
	comp=Z,2.8nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**49.61**	**308**	P	**P**	**18 05 04.5**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.6,baz=46,slow=7.8,SNR=8.4						
BVAR				PcP	PcP	18 06 24.1	+0.6
	comp=Z,0.9nm,0.5s,baz=75,slow=3.2,SNR=6.9						
ZRNK	**Zerenda**	**50.38**	**309**	*e*P	**P**	**18 05 09.9**	**-0.3**
YKA	**Yellowknife Ar**	**51.17**	**36**	P	**P**	**18 05 16.0**	**-0.1**
	comp=Z,0.9nm,0.5s,mb3.6,baz=300,slow=6.7,SNR=6.8						
FINES	**FINESS Array B**	**63.04**	**334**	P	**P**	**18 06 38.3**	**-1.1**
	comp=Z,0.5nm,0.5s,mb3.6,baz=55,slow=7.2,SNR=5.2						
FINES				PcP	PcP	18 07 15.9	+0.2
	comp=Z,0.8nm,0.5s,baz=103,slow=4.1,SNR=6.3						
NVAR	**Mina Array Bea**	**63.19**	**62**	P	**P**	**18 06 41.5**	**+1.0**
	comp=Z,0.9nm,0.5s,mb3.8,baz=296,slow=8.1,SNR=7.3						
NB2	**NORSAR Subarra**	**67.32**	**340**	P	**P**	**18 07 06.4**	**-0.6**
	comp=Z,1.1nm,0.7s,mb3.8,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**67.32**	**340**	P	**P**	**18 07 06.5**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.6,baz=28,slow=6.3,SNR=4.7						
AKASG	**Malin Array Be**	**70.43**	**325**	P	**P**	**18 07 25.5**	**-0.7**
	comp=Z,0.5nm,0.3s,mb3.7,baz=34,slow=6.1,SNR=6.6						
ASAR	**Alice Springs**	**72.39**	**197**	P	**P**	**18 07 40.1**	**+2.2**
	comp=Z,0.4nm,0.5s,mb3.5,baz=9.5,slow=6.0,SNR=8.4						
SCHQ	**Schefferville**	**73.23**	**22**	P	**P**	**18 07 43.1**	**+0.2**
	comp=Z,2.4nm,0.4s,mb4.2,baz=324,slow=5.0,SNR=10						
KHC	**Kasperske Hory**	**77.22**	**333**	*e*P	**P**	**18 08 11.5**	**+5.8**
CPUP	**Villa Florida**	**149.17**	**57**	PKPbc	PKPbc	18 15 59.3	+0.5
	comp=Z,1.2nm,0.5s,baz=301,slow=5.3,SNR=7.9						
PLCA	**Paso Flores**	**149.40**	**93**	PKPbc	PKPbc	18 15 59.9	+0.5
	comp=Z,1.4nm,0.7s,baz=45,slow=18,SNR=3.4						

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*IDC **06** 18:28:40.7±11.0, 646N×12595E, h75km±110km, mb3.7/7, mb1 3.9/7, mb1mx3.6/18, mbtmp4.0/7, Error ellipse: s-maj=57.7km s-min=26.0km az=73.0*
*ISCJB **06** 18:28:47.7±0.4, 623N±006×12605E±007, h146km±5km, mb4.0/12, Error ellipse: s-maj=12.6km s-min=7.7km az=113.0*
*NEIC **06** 18:28:48.5±0.8, 643N×126.17E, h148km±7km, mb4.4/7, Error ellipse: s-maj=18.3km s-min=7.4km az=64.0*
*MAN **06** 18:28:48.9, 622N×12599E, h131km, mb4.2, ML5.1, MS1.9*
ISC 06 18:28:49.2±0.4**, 626N**±006×**12602E**±007**, h142**km±4km**, n48, σ0^{s}93**/50**, mb4.0**/12**, 2C-5D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.72**	**19**	*e*P	**Pn**	**18 29 10.3**	**-0.7**
MATI				*e*S	**Sn**	**18 29 28.4**	**+0.9**
DAV	**Davao City (W)**	**0.91**	**331**	⇓*i*P	**Pn**	**18 29 12.0**	**-0.4**
DAV	**Davao City (W)**	**0.91**	**331**	*e*P	**Pn**	**18 29 11.9**	**-0.5**
DAV				*e*S	**Sn**	**18 29 28.9**	**-1.3**
DMPH	**Davao City--Mi**	**0.96**	**328**	⇓*i*P	**Pn**	**18 29 12.3**	**-0.5**
DMPH				*i* S	**Sn**	**18 29 30.4**	**-0.5**
KCP	**Kidapawan**	**1.19**	**309**	⇓*i*P	**Pn**	**18 29 14.9**	**0.0**
KCP				*i* S	**Sn**	**18 29 34.7**	**+0.2**
BUKP	**Musuan**	**1.87**	**329**	*e*P	**Pn**	**18 29 22.4**	**+0.1**
CTBH	**Cotabato--PC H**	**2.00**	**298**	⇓*i*P	**Pn**	**18 29 23.0**	**-0.8**
CTBH				*i* S	**Sn**	**18 29 48.8**	**-1.7**
CGP	**Cagayan de Oro**	**2.54**	**329**	*e*P	**Pn**	**18 29 30.1**	**-0.3**
CGP				*i* S	**Sn**	**18 30 00.4**	**-1.9**
BUTP	**Butuan**	**2.72**	**352**	*e*P	**Pn**	**18 29 33.4**	**+0.8**
PAGZ	**Pagadian**	**3.06**	**301**	*e*P	**Pn**	**18 29 37.2**	**+0.2**
DCPH	**Dipolog City**	**3.51**	**311**	⇑*e*P	**Pn**	**18 29 43.8**	**+1.0**
SCPH	**Surigao**	**3.54**	**351**	⇓*e*P	**Pn**	**18 29 43.5**	**+0.4**
IPIL	**Ipil**	**3.75**	**294**	*e*P	**Pn**	**18 29 45.9**	**0.0**
MSLP	**Maasin**	**4.01**	**343**	*e*P	**Pn**	**18 29 49.5**	**+0.1**
SNPH	**Sibulan**	**4.12**	**318**	*e*P	**Pn**	**18 29 52.5**	**+1.7**
LLP	**Lapu-Lapu**	**4.51**	**333**	*e*P	**Pn**	**18 29 56.2**	**+0.2**
LLP				*e*S	**Sn**	**18 30 42.5**	**-5.4**
OCLP	**Ormoc**	**4.96**	**344**	*e*P	**Pn**	**18 30 03.1**	**+1.3**
PLP	**Palo**	**4.98**	**348**	*e*P	**Pn**	**18 30 02.6**	**+0.5**
GUIM	**Jordan**	**5.51**	**322**	*e*P	**Pn**	**18 30 10.9**	**+1.7**
RCP	**Roxas**	**6.18**	**329**	⇑*e*P	**Pn**	**18 30 18.9**	**+0.7**
CUYO	**Cuyo Island**	**6.73**	**313**	*e*P	**Pn**	**18 30 27.1**	**+1.6**
TSM	**Tawau**	**8.35**	**257**	P	**Pn**	**18 30 53.9**	**+6.7**
KKM	**Kota Kinabalu**	**9.76**	**269**	P	**Pn**	**18 31 00.6**	**-5.3**
KSM	**Kuching**	**16.38**	**254**	*e*P	**Pn**	**18 32 32.7**	**+1.8**
KAKA	**Kakadu**	**19.90**	**161**	*e*P	**P**	**18 33 09.8**	**+0.3**
	39nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.21**	**181**	*e*P	**P**	**18 33 53.3**	**+0.7**
	5.7nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**24.21**	**181**	P	**P**	**18 33 52.6**	**0.0**
	1.0nm,0.4s,mb3.7,baz=332,slow=21,SNR=11						
PMG	**Port Moresby**	**26.19**	**126**	P	**P**	**18 34 10.2**	**-0.2**
	19nm,1.0s,mb4.7,baz=277,slow=14,SNR=3.7						
WRAB	**Tennant Creek**	**27.29**	**163**	P	**P**	**18 34 19.6**	**-0.7**
	28nm,1.5s,mb4.7						
WRA	**Warramunga Arr**	**27.30**	**163**	P	**P**	**18 34 19.6**	**-0.8**
	1.1nm,0.5s,mb3.8,baz=344,slow=10.0,SNR=15						
WB2	**Warramunga Arr**	**27.30**	**163**	*e*P	**P**	**18 34 20.6**	**+0.2**
AS31	**Alice Springs**	**30.73**	**166**	*e*P	**P**	**18 34 50.8**	**+0.1**
ASPA	**Alice Springs**	**30.73**	**166**	*e*P	**P**	**18 34 50.8**	**+0.1**
ASAR	**Alice Springs**	**30.73**	**166**	P	**P**	**18 34 50.5**	**-0.3**
	1.4nm,0.5s,mb3.9,baz=344,slow=7.2,SNR=22						
KLBR	**Kellerberrin**	**38.46**	**191**	*e*P	**P**	**18 35 57.2**	**+0.1**
	52nm,1.7s,mb4.9						
STKA	**Stephens Creek**	**40.73**	**160**	*e*P	**P**	**18 36 16.5**	**+0.6**
	3.8nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**40.73**	**160**	P	**P**	**18 36 16.4**	**+0.4**
	4.9nm,0.8s,mb4.2,baz=336,slow=10.0,SNR=7.6						
SONM	**Songino Array**	**44.69**	**341**	P	**P**	**18 36 44.6**	**-3.2**
	0.1nm,0.4s,mb2.8,baz=166,slow=7.0,SNR=3.1						
MKAR	**Makanchi Array**	**55.09**	**325**	P	**P**	**18 38 06.0**	**-0.3**
	0.6nm,0.8s,mb3.4,baz=118,slow=6.9,SNR=4.8						
MKAR				pP	pP	18 38 19.3	-20
	0.7nm,0.4s,baz=114,slow=7.1,SNR=9.7						
MKAR	**Makanchi Array**	**55.09**	**325**	P	**P**	**18 38 06.0**	**-0.3**
MKAR				pP	pP	18 38 19.3	-20
ZAL	**Zalesovo**	**58.03**	**333**	pP	pP	18 38 39.6	-21
	0.7nm,0.4s,baz=329,slow=12,SNR=3.7						
KURK	**Kurchatov**	**59.24**	**327**	*e*P	**P**	**18 38 35.0**	**-0.5**
	2.3nm,0.8s,mb4.1						
BVAR	**Borovoye Array**	**64.83**	**327**	pP	pP	18 39 25.7	-21
	0.5nm,0.5s,baz=134,slow=13,SNR=5.3						
ZRNK	**Zerenda**	**65.56**	**326**	*e*P	**P**	**18 39 14.9**	**-2.6**
	1.8nm,0.6s,mb4.1						
BRTR	**Keskin Array B**	**87.87**	**310**	P	**P**	**18 41 21.5**	**-1.0**
	1.2nm,0.9s,mb3.7,baz=110,slow=7.0,SNR=5.0						
FINES	**FINESS Array B**	**89.28**	**332**	pP	pP	18 41 41.9	-23
	0.3nm,0.5s,baz=86,slow=5.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**121.44**	**289**	PKP	PKPdf	18 47 26.0	+0.4
	1.1nm,0.8s,baz=35,slow=1.3,SNR=6.5						
TORD	**Torodi Ar. Bea**	**121.44**	**289**	PKP	PKPdf	18 47 26.0	+0.4

IDC 06 18:41:26.7±37.0**, 601N×12679E, h0**km**, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.6**/19**, mbtmp3.7**/4**, Error ellipse: s-maj=627.6km s-min=106.1km az=160.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.98**	**183**	P	P	18 46 44.4	+1.5
	1.6nm,0.8s,baz=3.2,slow=18,SNR=3.2						
WRA	**Warramunga Arr**	**26.84**	**164**	P	P	18 47 08.5	-0.3
	0.6nm,0.4s,baz=342,slow=10,SNR=15						
ASAR	**Alice Springs**	**30.30**	**167**	P	P	18 47 39.5	-0.1
	0.3nm,0.5s,baz=354,slow=7.5,SNR=8.7						
STKA	**Stephens Creek**	**40.23**	**160**	P	P	18 49 05.2	+0.2
	1.9nm,0.9s,baz=0.0,slow=10,SNR=5.9						

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*ISCJB **06** 18:50:06.0±0.5, 50.14N±003×1835E±003, h0km, Error ellipse: s-maj=4.6km s-min=2.8km az=23.9*
*VIE **06** 18:50:08.6±0.7, 4974N×1853E, h0km, mb1.7/2, ML2.5/3, Error ellipse: s-maj=4.1km s-min=3.3km az=83.0 23 km ESE of Ostrava Suspected Mining induced.*
*CSEM **06** 18:50:08.5±0.2, 5008N×1839E, h2km, ML3.1/6, Error ellipse: s-maj=4.3km s-min=2.3km az=5.0*
*WAR **06** 18:50:08.0, 5008N×1844E, ML2.4, Mining Induced*
*PRU **06** 18:50:08.4, 50.12N×1836E, h0km*
*IPEC **06** 18:50:08.0±0.1, 50.10N×1842E, h9km±1km, ML2.0/3, Error ellipse: s-maj=1.6km s-min=0.7km az=162.0*
ISC 06 18:50:07.4±0.5**, 5011N**±003×**1838E**±003**, h0**km**, n25, σ0^{s}99**/44**, 1C-1D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.12**	**256**	*e*Pg	**Pg**	**18 50 11.6**	**+1.9**
RAC				*e*Sg	**Sg**	**18 50 14.6**	**+3.3**
OKC	**Ostrava-Krasne**	**0.31**	**208**	*e*PG	**Pg**	**18 50 14.2**	**+0.8**
OKC				*e*SG	**Sg**	**18 50 19.1**	**+1.6**
	71nm,0.5s						
OKC	**Ostrava-Krasne**	**0.31**	**208**	*e*Pg	**Pg**	**18 50 14.0**	**+0.6**
OKC				*e*Sg	**Sg**	**18 50 18.8**	**+1.3**
MORC	**Moravsky Berou**	**0.64**	**238**	*e*Pg	**Pg**	**18 50 20.0**	**+0.4**
MORC				*e*Sg	**Sg**	**18 50 29.2**	**+1.4**
	26nm,0.1s						
OJC	**Ojcow**	**0.92**	**83**	*e*Pg	**Pg**	**18 50 24.9**	**-0.1**
OJC				*e*Sg	**Sg**	**18 50 36.5**	**-0.4**
OJC	**Ojcow**	**0.92**	**83**	*e*Pg	**Pg**	**18 50 24.6**	**-0.4**
OJC				*e*Sg	**Sg**	**18 50 36.9**	**0.0**
DPC	**Dobruska-Polom**	**1.34**	**281**	*e*PG	**Pg**	**18 50 33.5**	**+0.4**
DPC				*e*SG	**Sg**	**18 50 51.8**	**+1.3**
	25nm,0.2s						
DPC	**Dobruska-Polom**	**1.34**	**281**	*e*Pn	**Pn**	**18 50 33.3**	**0.0**
DPC	**Dobruska-Polom**	**1.34**	**281**	*e*Pg	**Pg**	**18 50 33.5**	**+0.4**
DPC				*e*Sg	**Sg**	**18 50 51.4**	**+0.9**
VRAC	**Vranov**	**1.41**	**236**	*e*Pn	**Pn**	**18 50 33.7**	**-0.6**
VRAC				*e*Sg	**Sg**	**18 50 52.5**	**-0.2**
	20nm,0.2s						
NIE	**Niedzica**	**1.44**	**118**	*e*Pg	**Pg**	**18 50 34.8**	**-0.1**
NIE				*e*Sg	**Sg**	**18 50 54.4**	**+0.9**
KSP	**Ksiaz**	**1.52**	**300**	*e*Pg	**Pg**	**18 50 35.8**	**-0.7**
KSP				*e*Sg	**Sg**	**18 50 57.8**	**+1.6**
UPC	**Upice**	**1.57**	**285**	*e*PG	**Pg**	**18 50 38.3**	**+0.9**
VYHS	**Vyhne**	**1.65**	**169**	*e*PN	**Pn**	**18 50 36.9**	**-0.7**
VYHS				*e*SN	**Sn**	**18 50 59.3**	**-0.2**
VYHS	**Vyhne**	**1.65**	**169**	*e*Pn	**Pn**	**18 50 36.8**	**-0.8**
VYHS				*e*Sn	**Sn**	**18 50 59.3**	**-0.2**
KRUC	**Moravsky**	**1.67**	**232**	*e*Pn	**Pn**	**18 50 37.3**	**-0.5**
KRUC				*e*Sg	**Sg**	**18 50 59.8**	**-1.1**
	12nm,0.2s						
CRVS	**Cervenica-Dubn**	**2.35**	**120**	*e*PN	**Pn**	**18 50 51.1**	**+3.9**
CRVS				*e*		18 51 25.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRU	**Pruhonice**	**2.48**	**269**	*e*PG	**Pg**	**18 50 53.7**	**-1.1**
PRU				*e*SG	**Sg**	**18 51 25.8**	**-1.1**
	6.8nm,0.2s						
PVCC	**Panska Ves**	**2.48**	**281**	*e*PG	**Pg**	**18 50 54.4**	**-0.4**
KOLS	**Kolonicke sedl**	**2.80**	**113**	*e*PG	**Pg**	**18 51 01.4**	**+0.4**
KOLS				*e*		18 51 44.5	
BRG	**Berggiesshubel**	**2.93**	**287**	PG	**Pg**	**18 51 01.9**	**-1.7**
BRG				SG	**Sg**	**18 51 41.9**	**+0.3**
	2.5nm,0.5s						
KHC	**Kasperske Hory**	**3.27**	**254**	*e*PN	**Pn**	**18 50 59.8**	**-0.1**
KHC				*e*PG	**Pg**	**18 51 08.0**	**-2.1**
KHC				*e*SG	**Sg**	**18 51 51.4**	**-1.1**
	7.6nm,0.4s						
MOA	**Molln**	**3.53**	**232**	⇓*i*Pn	**Pn**	**18 51 02.9**	**-0.6**
MOA				⇑*i*Sg	**Sg**	**18 52 00.6**	**-0.2**
	comp=Z,6.6nm,0.6s						
CLL	**Collm**	**3.62**	**291**	*i* SG	**Sg**	**18 52 04.9**	**+1.2**
NKC	**Novy Kostel**	**3.81**	**274**	*e*SG	**Sg**	**18 52 09.1**	**-0.8**
	5.0nm,0.3s						

*IDC **06** 18:51:07.5±1.4, 0.58N×96.89E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.8/21, mbtmp3.9/9, ML3.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.2/25, Error ellipse: s-maj=48.8km s-min=17.9km az=58.0*
*ISCJB **06** 18:51:10.6±0.8, 0.7N±0.1×97.0E±0.1, h33km, mb4.0/10, Error ellipse: s-maj=18.4km s-min=12.9km az=117.4*
*NEIC **06** 18:51:12.1±0.6, 0.66N×96.97E, h30km, mb4.2/2, Error ellipse: s-maj=15.1km s-min=10.8km az=62.0*
ISC 06 18:51:13.2±0.8**, 0.7N**±0.1×**97.0E**±0.1**, h35km, n18, σ0.94**/17**, mb4.0**/10**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.82**	**43**	Pn	**Pn**	**18 51 55.1**	**-0.6**
	3.0nm,0.3s,baz=229,slow=8.7,SNR=10						
PSI				LR	LR	18 52 35.7	
	comp=Z,273nm,19.5s,baz=236,slow=30						
KULM	**Kulim**	**5.82**	**39**	*e*P	**Pn**	**18 52 36.4**	**-0.5**
LSA	**Lhasa**	**29.36**	**350**	*e*P	**P**	**18 57 15.3**	**+2.5**
	2.9nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**41.94**	**121**	P	**P**	**18 59 00.3**	**-0.2**
	1.4nm,0.9s,mb3.6,baz=304,slow=8.8,SNR=10						
BJT	**Baijiatuau**	**42.83**	**22**	*e*P	**P**	**18 59 09.1**	**+1.4**
ASAR	**Alice Springs**	**43.26**	**127**	P	**P**	**18 59 11.1**	**0.0**
	1.3nm,0.9s,mb3.6,baz=305,slow=8.4,SNR=7.5						
SONM	**Songino Array**	**47.63**	**9**	P	**P**	**18 59 46.8**	**+1.0**
	1.3nm,0.9s,mb4.0,baz=191,slow=7.2,SNR=9.7						
MKAR	**Makanchi Array**	**47.66**	**346**	P	**P**	**18 59 47.0**	**+1.0**
	2.2nm,0.6s,mb4.4,baz=164,slow=8.4,SNR=30						
HIA	**Hailar**	**52.16**	**19**	P	**P**	**19 00 20.0**	**-0.1**
KURK	**Kurchatov**	**52.21**	**345**	*e*P	**P**	**19 00 19.8**	**-0.7**
STKA	**Stephens Creek**	**53.17**	**132**	P	**P**	**19 00 28.1**	**+0.4**
	1.5nm,0.9s,mb3.9,baz=280,slow=22,SNR=4.3						
ZAL	**Zalesovo**	**53.99**	**351**	P	**P**	**19 00 33.8**	**+0.1**
	2.7nm,0.4s,mb4.5,baz=52,slow=12,SNR=4.3						
BVAR	**Borovoye Array**	**56.64**	**341**	P	**P**	**19 00 52.3**	**-0.5**
	0.6nm,0.5s,mb3.9,baz=128,slow=11,SNR=5.8						
BRVK	**Borovoye**	**56.70**	**341**	P	**P**	**19 00 50.9**	**-2.3**
ZRNK	**Zerenda**	**57.04**	**340**	*e*P	**P**	**19 00 54.9**	**-0.7**
CHKZ	**Chkalovo**	**57.12**	**342**	*e*P	**P**	**19 00 55.9**	**-0.2**
	2.3nm,0.8s,mb4.3						
CHKZ				*e*	pP	19 01 04.2	-2.5
ARCES	**ARCESS Array B**	**82.92**	**340**	P	**P**	**19 03 34.0**	**-0.3**
	1.5nm,0.8s,mb4.1,baz=90,slow=4.9,SNR=4.8						
CPUP	**Villa Florida**	**144.52**	**222**	PKPdf	PKPdf	19 10 46.1	+0.3
CPUP				*e*		19 10 54.0	

*ISCJB **06** 19:09:31.2±0.6, 45.09S±0.06×167.43E±0.09, h123km±5km, mb3.5/2, Error ellipse: s-maj=12.1km s-min=7.9km az=80.6*
*WEL **06** 19:09:32.7±0.2, 45.17S×167.29E, h114km±1km, ML4.3/11, Error ellipse: s-maj=2.5km s-min=1.1km az=90.0*
*NEIC **06** 19:09:32.5, 45.16S×167.29E, h116km, MG4.4(WEL), After WEL.*
*IDC **06** 19:09:33.9±7.3, 44.92S×167.58E, h131km±79km, mb3.0/2, mb1 3.3/2, mb1mx3.1/10, mbtmp3.4/2, Error ellipse: s-maj=101.7km s-min=33.8km az=28.0*
ISC 06 19:09:32.2±0.6**, 45.10S**±0.06×**167.44E**±0.09**, h118**km±6km**, n41, σ0.90**/48**, mb3.5**/2**, 7C-1D, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.42**	**208**	⇑PN	**Pn**	**19 09 48.7**	**-0.8**
DCZ				SN	**Sn**	**19 10 00.6**	**-1.9**
DCZ	**Deep Cove**	**0.42**	**208**	P	**Pn**	**19 09 48.8**	**-0.7**
DCZ				S	**Sn**	**19 10 00.8**	**-1.7**
MSZ	**Milford Sound**	**0.55**	**39**	PN	**Pn**	**19 09 51.3**	**+1.0**
MSZ				SN	**Sn**	**19 10 04.9**	**+1.0**
MSZ	**Milford Sound**	**0.55**	**39**	P	**Pn**	**19 09 51.3**	**+1.0**
MSZ				S	**Sn**	**19 10 05.0**	**+1.1**
MLZ	**Mavora Lakes**	**0.57**	**116**	⇑PN	**Pn**	**19 09 50.7**	**+0.3**
MLZ				SN	**Sn**	**19 10 04.0**	**-0.1**
MLZ	**Mavora Lakes**	**0.57**	**116**	P	**Pn**	**19 09 50.7**	**+0.3**
MLZ				S	**Sn**	**19 10 04.1**	**0.0**
WHZ	**Wether Hill Ro**	**0.87**	**156**	⇑PN	**Pn**	**19 09 52.9**	**+0.1**
WHZ				SN	**Sn**	**19 10 07.4**	**-0.9**
WHZ	**Wether Hill Ro**	**0.87**	**156**	P	**Pn**	**19 09 52.9**	**+0.1**
WKZ	**Wanaka**	**1.15**	**77**	⇑PN	**Pn**	**19 09 57.0**	**+1.4**
WKZ	**Wanaka**	**1.15**	**77**	P	**Pn**	**19 09 57.0**	**+1.4**
EAZ	**Earnscleugh**	**1.33**	**96**	⇑PN	**Pn**	**19 09 58.6**	**+1.1**
EAZ	**Earnscleugh**	**1.33**	**96**	P	**Pn**	**19 09 58.6**	**+1.1**
JCZ	**Jackson Bay**	**1.40**	**43**	⇑PN	**Pn**	**19 09 59.4**	**+1.2**
JCZ	**Jackson Bay**	**1.40**	**43**	P	**Pn**	**19 09 59.4**	**+1.1**
TUZ	**Tuapeka**	**1.76**	**120**	PN	**Pn**	**19 10 03.4**	**+0.8**
TUZ	**Tuapeka**	**1.76**	**120**	P	**Pn**	**19 10 03.4**	**+0.8**
APZ	**The Paps**	**1.77**	**168**	PN	**Pn**	**19 10 02.4**	**-0.3**
SYZ	**Scrubby Hill**	**1.86**	**141**	PN	**Pn**	**19 10 04.4**	**+0.5**
LBZ	**Lake Benmore**	**2.08**	**71**	⇑PN	**Pn**	**19 10 06.8**	**+0.2**
LBZ	**Lake Benmore**	**2.08**	**71**	P	**Pn**	**19 10 06.8**	**+0.2**
FOZ	**Fox Glacier**	**2.23**	**47**	PN	**Pn**	**19 10 09.2**	**+0.8**
FOZ	**Fox Glacier**	**2.23**	**47**	*e*P	**Pn**	**19 10 09.6**	**+1.2**
ODZ	**Otahua Downs**	**2.27**	**90**	⇓PN	**Pn**	**19 10 09.3**	**+0.4**
ODZ	**Otahua Downs**	**2.27**	**90**	*e*P	**Pn**	**19 10 09.3**	**+0.3**
HHSZ	**Highcliff Hill**	**2.35**	**111**	PN	**Pn**	**19 10 10.8**	**+0.8**
RPZ	**Rata Peaks**	**2.94**	**63**	P	**Pn**	**19 10 17.4**	**-0.2**
	0.2nm,0.3s,baz=182,slow=23,SNR=20						
RPZ				S	**Sn**	**19 10 51.7**	**-0.8**
	1.1nm,0.3s,baz=16,slow=24,SNR=40						
WVZ	**Waitaha Valley**	**3.12**	**51**	*e*PN	**Pn**	**19 10 19.1**	**-0.9**
WVZ	**Waitaha Valley**	**3.12**	**51**	*e*P	**Pn**	**19 10 19.8**	**-0.2**
MQZ	**McQueen's Vall**	**3.99**	**71**	*e*PN	**Pn**	**19 10 31.0**	**-0.5**
MQZ	**McQueen's Vall**	**3.99**	**71**	*e*P	**Pn**	**19 10 31.3**	**-0.2**
LTZ	**Lake Taylor**	**4.19**	**58**	*e*PN	**Pn**	**19 10 33.1**	**-1.1**
LTZ	**Lake Taylor**	**4.19**	**58**	*e*P	**Pn**	**19 10 33.4**	**-0.8**
DSZ	**Denniston Nort**	**4.62**	**45**	*e*PN	**Pn**	**19 10 39.1**	**-0.9**
DSZ	**Denniston Nort**	**4.62**	**45**	P	**Pn**	**19 10 39.0**	**-1.0**
THZ	**Tophouse**	**5.19**	**52**	*e*PN	**Pn**	**19 10 46.2**	**-1.5**
THZ	**Tophouse**	**5.19**	**52**	*e*P	**Pn**	**19 10 46.7**	**-1.0**
QRZ	**Quartz Range**	**5.67**	**43**	*e*P	**Pn**	**19 10 54.1**	**-0.1**
WIZ	**White Island**	**10.53**	**47**	P	**Pn**	**19 11 57.3**	**-2.5**
ASAR	**Alice Springs**	**34.61**	**297**	P	**P**	**19 16 10.6**	**+0.7**
	0.5nm,0.8s,mb3.4,baz=129,slow=7.3,SNR=5.1						
WRA	**Warramunga Arr**	**37.11**	**302**	P	**P**	**19 16 31.3**	**+0.2**
	0.3nm,0.4s,mb3.5,baz=138,slow=7.7,SNR=8.1						
TORD	**Torodi Ar. Bea**	**145.91**	**205**	PKPbc	PKPbc	19 28 58.0	+0.1
	0.4nm,0.7s,baz=136,slow=1.8,SNR=4.9						

IDC 06 19:20:26.7±8.2**, 1.43S**×**120.48E, h59**km±79km**, mb3.2**/4**, mb1 3.5**/5**, mb1mx3.3**/17**, mbtmp3.6**/5**, ML3.6**/1**, Error ellipse: s-maj=140.5km s-min=25.8km az=65.0, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.32**	**163**	P	Pn	19 24 22.9	-1.4
	0.2nm,0.3s,baz=6.6,slow=15,SNR=13						
WRA	**Warramunga Arr**	**22.85**	**145**	P	P	19 25 24.8	0.0
	1.6nm,0.7s,baz=320,slow=10,SNR=10						
ASAR	**Alice Springs**	**25.65**	**151**	P	P	19 25 52.5	+1.7
	0.9nm,0.8s,baz=344,slow=14,SNR=9.5						
ASAR				PcP	PcP	19 29 19.1	-0.9
	0.2nm,0.5s,baz=350,slow=1.4,SNR=5.2						
SONM	**Songino Array**	**50.58**	**348**	P	P	19 29 19.4	+0.1
	0.3nm,0.6s,baz=152,slow=6.5,SNR=2.0						
MKAR	**Makanchi Array**	**58.55**	**330**	P	P	19 30 17.5	+0.5
	0.8nm,1.0s,baz=141,slow=9.3,SNR=2.5						

*BJI **06** 19:32:52.7, 39.20N×70.96E, h10km, mB4.9, mb4.1, ML3.8*
*IDC **06** 19:32:57.3±1.1, 38.86N×71.75E, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.8/24, mbtmp3.8/12, ML3.6/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/28, Error ellipse: s-maj=20.7km s-min=16.6km az=17.0*
*NEIC **06** 19:33:00.2±0.6, 39.08N×71.66E, h10km, mb4.3/9, Error ellipse: s-maj=11.8km s-min=7.8km az=157.0*
*ISCJB **06** 19:33:00.3±2.3, 39.01N±0.06×71.57E±0.07, h25km±17km, mb4.0/20, Error ellipse: s-maj=11.1km s-min=6.9km az=85.5*
*NNC **06** 19:33:01.1±3.4, 39.26N×71.41E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=27.2km s-min=22.0km az=123.0*
*MOS **06** 19:33:05.6±1.1, 39.43N×71.72E, h57km, mb4.4/9, Error ellipse: s-maj=11.7km s-min=6.9km az=105.8*
ISC 06 19:33:05.9±1.2**, 39.26N**±0.08×**71.61E**±0.07**, h49**km±10km**, n92, σ1.23**/97**, mb4.0**/20**, 10C-5D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.28**	**28**	P	**Pn**	**19 33 56.4**	**+1.6**
	SNR=51						
KSH	**Kashi**	**3.39**	**84**	*e*P	**Pn**	**19 33 55.7**	**-0.6**
KSH				S	**Sn**	**19 34 41.3**	**+6.0**
KSH				Smax			
	comp=N,261nm,1.0s						
KSH				Smax			
	comp=E,250nm,0.8s						
UCH	**Uchtor**	**3.70**	**36**	P	**Pn**	**19 34 02.1**	**+1.6**
	SNR=61						
EKS2	**Erkin-Say**	**3.77**	**25**	P	**Pn**	**19 34 03.3**	**+1.7**
	SNR=14						
KK31	**Karatay Array**	**3.93**	**348**	⇑Pn	**Pn**	**19 34 05.3**	**+1.6**
	comp=E,18nm,0.3s,baz=170,slow=12,SNR=900						
KK31				⇑Sn	**Sn**	**19 34 56.9**	**+8.3**
	comp=E,44nm,0.5s,baz=171,slow=22,SNR=6.2						
KZA	**Kyzart**	**3.95**	**43**	P	**Pn**	**19 34 04.8**	**+0.9**
	SNR=16						
AAK	**Ala-Archa**	**4.02**	**32**	P	**Pn**	**19 34 06.9**	**+2.0**
	SNR=16						
AAK	**Ala-Archa**	**4.02**	**32**	*e*P	**Pn**	**19 34 05.6**	**+0.7**
KBK	**Karagaybulak**	**4.23**	**36**	P	**Pn**	**19 34 09.9**	**+2.1**
	SNR=37						
CHMS	**Chumysh**	**4.43**	**31**	P	**Pn**	**19 34 12.2**	**+1.7**
	SNR=77						
USP	**Ospenovka**	**4.56**	**28**	P	**Pn**	**19 34 13.8**	**+1.5**
	SNR=101						
ULHL	**Ulahol**	**4.61**	**48**	P	**Pn**	**19 34 13.3**	**+0.3**
	SNR=15						
TKM2	**Tokmak 2**	**4.74**	**38**	P	**Pn**	**19 34 16.1**	**+1.3**
	SNR=11						
TKM2	**Tokmak 2**	**4.74**	**38**	⇑Pn	**Pn**	**19 34 15.6**	**+0.8**
	comp=E,1.0nm,0.5s						
TKM2				⇓Lg		19 35 28.1	
	comp=E,3.9nm,0.7s						
KNDC	**Almaty**	**5.65**	**44**	⇑Lg		19 35 57.3	
	comp=E,112nm,1.1s						
MKAR	**Makanchi Array**	**10.85**	**43**	Pn	**Pn**	**19 35 38.4**	**-0.1**
	comp=E,0.1nm,0.3s,baz=238,slow=11,SNR=5.8						
KURK	**Kurchatov**	**12.48**	**21**	⇓Lg		19 39 29.0	
	comp=E,6.6nm,1.4s						
KURK	**Kurchatov**	**12.48**	**21**	P	**Pn**	**19 35 57.4**	**-3.3**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**12.48**	**21**	P	**Pn**	**19 35 57.4**	**-3.3**
	comp=Z,1.1nm,0.6s						
AB31	**Akbulak array**	**13.02**	**324**	Pn	**Pn**	**19 36 06.0**	**-2.1**
	comp=Z,4.5nm,0.6s,baz=131,slow=12,SNR=62						
AB31				⇑Sn	**Sn**	**19 38 28.4**	**-2.9**
	comp=Z,5.6nm,0.6s,baz=135,slow=22,SNR=12						
VOSK	**Vostochnaya**	**13.47**	**358**	⇑Pn	**Pn**	**19 36 12.5**	**-1.9**
	comp=Z,1.4nm,0.8s						
BVA0	**Borovoye Array**	**13.79**	**357**	⇑Pn	**Pn**	**19 36 17.1**	**-1.6**
	comp=Z,0.7nm,1.2s,baz=165,slow=13,SNR=8.5						
BVA0				⇓Lg		19 40 17.9	
	comp=Z,1.4nm,1.1s						
BVAR	**Borovoye Array**	**13.79**	**357**	Pn	**Pn**	**19 36 16.7**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=164,slow=12,SNR=5.9						
BVAR				LR	LR	19 42 25.5	
	comp=Z,32nm,19.8s,baz=322,slow=40						
ZRNK	**Zerenda**	**13.81**	**353**	⇑Pn	**Pn**	**19 36 17.7**	**-1.3**
	comp=Z,3.5nm,1.4s						
ZRNK	**Zerenda**	**13.81**	**353**	*e*P	**Pn**	**19 36 17.1**	**-1.9**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZRNK	**Zerenda**	**13.81**	**353**	*e*P	**Pn**	**19 36 17.1**	**-1.9**
	comp=Z,1.9nm,0.5s						
BRVK	**Borovoye**	**13.83**	**357**	*e*P	**Pn**	**19 36 16.8**	**-2.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**13.83**	**357**	*e*P	**Pn**	**19 36 16.8**	**-2.5**
	comp=Z,2.5nm,0.8s						
CHKZ	**Chkalovo**	**14.44**	**358**	⇑Pn	**Pn**	**19 36 27.2**	**-0.1**
	comp=Z,2.7nm,1.2s						
CHKZ	**Chkalovo**	**14.44**	**358**	*e*P	**Pn**	**19 36 25.3**	**-2.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	**Chkalovo**	**14.44**	**358**	*e*P	**Pn**	**19 36 25.3**	**-2.0**
	comp=Z,1.3nm,0.6s						
AKTK	**Aktyubinsk**	**14.73**	**324**	Pn	**Pn**	**19 36 29.9**	**-1.4**
AKTK				Sn	**Sn**	**19 39 13.1**	**-0.1**
AKTO	**Aktyubinsk**	**14.73**	**324**	⇓Pn	**Pn**	**19 36 29.8**	**-1.4**
	comp=Z,0.1nm,0.6s						
AKTO				⇑Sn	**Sn**	**19 39 13.1**	**-0.1**
	comp=Z,0.2nm,0.8s						
AKTO	**Aktyubinsk**	**14.73**	**324**	Pn	**Pn**	**19 36 29.9**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=138,slow=16,SNR=12						
AKTO				Sn	**Sn**	**19 39 13.1**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=153,slow=12,SNR=8.7						
GKN	**Gorkha**	**15.59**	**132**	*e*P	**Pn**	**19 36 34.4**	**-8.0**
	comp=Z,13nm,0.5s						
KKN	**Kakani**	**16.13**	**131**	*e*P	**Pn**	**19 36 41.6**	**-7.6**
	comp=Z,10nm,0.5s						
DMN	**Daman**	**16.16**	**132**	*e*P	**Pn**	**19 36 42.1**	**-7.5**
	comp=Z,4.3nm,0.4s						
PKI	**Pulchoki**	**16.36**	**131**	*e*P	**Pn**	**19 36 45.3**	**-6.9**
GUN	**Gumba**	**16.39**	**129**	*e*P	**Pn**	**19 36 47.3**	**-5.3**
JIRN	**Jiri**	**16.76**	**129**	*e*P	**Pn**	**19 36 52.2**	**-5.0**
	comp=Z,6.8nm,0.4s						
SVE	**Sverdlovsk**	**19.00**	**341**	*e*P	**Pn**	**19 37 19.8**	**-4.8**
ARU	**Arti**	**19.23**	**338**	⇓*i*P	**Pn**	**19 37 27.0**	**-0.2**
ARU				*e*S	**S**	**19 41 01.6**	**+0.6**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARU	**Arti**	**19.23**	**338**	*e*P	**Pn**	**19 37 26.6**	**-0.6**
	comp=Z,10nm,1.1s						
GTA	**Gaotai**	**21.79**	**81**	*e*P	**P**	**19 37 52.8**	**-0.8**
GTA				AP		19 37 58.8	
GTA				XP	sP	19 38 02.0	-9.3
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb3.5						
KIV	**Kislovodsk**	**22.07**	**292**	*e*P	**P**	**19 38 02.9**	**+6.3**
KIV				pmax	pmax		
	comp=Z,4µm,1.0s						
ZAK	**Zakamensk**	**24.88**	**53**	*e*P	**P**	**19 38 23.1**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.4						
SONM	**Songino Array**	**26.45**	**60**	P	**P**	**19 38 37.0**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=266,slow=9.4,SNR=7.3						
AKASG	**Malin Array Be**	**31.67**	**305**	P	**P**	**19 39 24.9**	**+0.3**
	comp=Z,0.7nm,0.3s,mb3.9,baz=80,slow=8.3,SNR=6.5						
BOD	**Bodaibo**	**32.94**	**42**	*e*P	**P**	**19 39 34.2**	**-1.5**
BOD				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
FINES	**FINESS Array B**	**35.51**	**324**	P	**P**	**19 39 58.3**	**+0.4**
	comp=Z,1.3nm,0.8s,mb3.9,baz=111,slow=8.5,SNR=10						
NJ2	**Nanjing**	**38.70**	**86**	*e*P	**P**	**19 40 22.3**	**-2.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
ARCES	**ARCESS Array B**	**38.80**	**336**	P	**P**	**19 40 26.5**	**+0.7**
	comp=Z,1.4nm,0.7s,mb3.8,baz=110,slow=9.3,SNR=12						
ARCES	**ARCESS Array B**	**38.80**	**336**	P	**P**	**19 40 26.5**	**+0.7**
GERES	**GERESS Array B**	**41.79**	**303**	P	**P**	**19 40 50.4**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.5,baz=73,slow=11,SNR=4.1						
KHC	**Kasperske Hory**	**41.82**	**303**	*e*P	**P**	**19 40 52.0**	**+1.2**
NB2	**NORSAR Subarra**	**42.50**	**321**	P	**P**	**19 40 56.4**	**0.0**
	comp=Z,0.3nm,0.5s,mb3.3,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**42.50**	**321**	P	**P**	**19 40 55.6**	**-0.7**
	comp=Z,0.6nm,0.6s,mb3.5,baz=91,slow=8.1,SNR=4.6						
HINF	**Hinteralfeld**	**46.47**	**303**	*e*P	**P**	**19 41 28.6**	**+0.6**
	comp=Z,2.1nm,0.5s,mb4.0						
HINF	**Hinteralfeld**	**46.47**	**303**	*e*P	**P**	**19 41 28.6**	**+0.6**
HINF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
HINF	**Hinteralfeld**	**46.47**	**303**	*e*P	**P**	**19 41 28.6**	**+0.6**
	comp=Z,1.0nm,0.5s,mb4.0						
LPG	**La Plagne**	**47.16**	**300**	*e*P	**P**	**19 41 34.5**	**+1.1**
LPL	**La Plagne**	**47.16**	**300**	*e*P	**P**	**19 41 34.9**	**+1.5**
BAIF	**Baives**	**47.61**	**306**	*e*P	**P**	**19 41 38.1**	**+1.2**
	comp=Z,3.6nm,0.5s,mb4.4						
BAIF	**Baives**	**47.61**	**306**	*e*P	**P**	**19 41 38.1**	**+1.2**
BAIF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
BAIF	**Baives**	**47.61**	**306**	*e*P	**P**	**19 41 38.1**	**+1.2**
	comp=Z,1.8nm,0.5s,mb4.4						
FRF	**La Foret Royal**	**47.81**	**297**	*e*P	**P**	**19 41 39.1**	**+0.7**
ORIF	**Oris-en-Rattie**	**47.91**	**299**	*e*P	**P**	**19 41 39.4**	**+0.1**
LMR	**La Mourre**	**47.97**	**297**	*e*P	**P**	**19 41 40.4**	**+0.7**
LOR	**Lormes**	**48.57**	**303**	*e*P	**P**	**19 41 44.1**	**-0.2**
	comp=Z,2.8nm,0.6s,mb4.2						
LOR	**Lormes**	**48.57**	**303**	*e*P	**P**	**19 41 44.1**	**-0.2**
LOR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
LOR	**Lormes**	**48.57**	**303**	*e*P	**P**	**19 41 44.1**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.2						
SMF	**Signal de Mont**	**48.76**	**302**	*e*P	**P**	**19 41 46.2**	**+0.4**
	comp=Z,3.4nm,0.4s,mb4.4						
SMF	**Signal de Mont**	**48.76**	**302**	*e*P	**P**	**19 41 46.2**	**+0.4**
SMF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
SMF	**Signal de Mont**	**48.76**	**302**	*e*P	**P**	**19 41 46.2**	**+0.4**
	comp=Z,1.7nm,0.4s,mb4.4						
SSF	**Saint Saulge**	**48.86**	**303**	*e*P	**P**	**19 41 46.9**	**+0.4**
	comp=Z,2.1nm,0.6s,mb4.1						
SSF	**Saint Saulge**	**48.86**	**303**	*e*P	**P**	**19 41 46.9**	**+0.4**
SSF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
SSF	**Saint Saulge**	**48.86**	**303**	*e*P	**P**	**19 41 46.9**	**+0.4**
	comp=Z,1.0nm,0.6s,mb4.0						
AVF	**Avril sur Loir**	**49.04**	**302**	*e*P	**P**	**19 41 48.5**	**+0.6**
	comp=Z,4.8nm,0.5s,mb4.5						
AVF	**Avril sur Loir**	**49.04**	**302**	*e*P	**P**	**19 41 48.5**	**+0.6**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
AVF	**Avril sur Loir**	**49.04**	**302**	*e*P	**P**	**19 41 48.5**	**+0.6**
	comp=Z,2.4nm,0.5s,mb4.5						
TCF	**Toulx Ste Croi**	**49.95**	**302**	*e*P	**P**	**19 41 55.7**	**+0.9**
LDF	**La Druitiere**	**50.74**	**305**	*e*P	**P**	**19 42 01.0**	**+0.2**
	comp=Z,4.6nm,0.5s,mb4.4						
LDF	**La Druitiere**	**50.74**	**305**	*e*P	**P**	**19 42 01.0**	**+0.2**
LDF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
LDF	**La Druitiere**	**50.74**	**305**	*e*P	**P**	**19 42 01.0**	**+0.2**
	comp=Z,2.3nm,0.5s,mb4.4						
GRR	**Gorron**	**51.27**	**305**	*e*P	**P**	**19 42 04.9**	**+0.1**
SGMF	**Saint Gilles**	**52.38**	**306**	*e*P	**P**	**19 42 13.5**	**+0.4**
	comp=Z,5.9nm,0.7s,mb4.4						
SGMF	**Saint Gilles**	**52.38**	**306**	*e*P	**P**	**19 42 13.5**	**+0.4**
SGMF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
SGMF	**Saint Gilles**	**52.38**	**306**	*e*P	**P**	**19 42 13.5**	**+0.4**
	comp=Z,3.0nm,0.6s,mb4.4						
ROSF	**Rostrenen**	**52.80**	**306**	*e*P	**P**	**19 42 16.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**66.29**	**268**	P	**P**	**19 43 48.8**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=55,slow=4.9,SNR=10						
YKA	**Yellowknife Ar**	**78.47**	**3**	P	**P**	**19 45 01.4**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=351,slow=5.4,SNR=5.9						
WRA	**Warramunga Arr**	**83.05**	**123**	P	**P**	**19 45 24.0**	**-2.1**
	comp=Z,0.3nm,0.5s,mb3.6,baz=315,slow=6.6,SNR=6.4						

GUC 06 19:48:53.3±0.5**, 33.13S**×**70.27W, h5**km±3km**, MD3.7, ML2.3, 2C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.20**	**185**	*e*P	Pg	19 48 56.8	-0.4
FCH				*i* S	Sg	19 49 00.0	+0.1
FCH				AML	AML	19 49 02.2	
	comp=E,848nm,0.7s						
CLCH	**Cerro Calan**	**0.35**	**220**	*e*P	Pg	19 49 00.3	+0.2
CLCH				*i* S	Sg	19 49 05.5	+0.9
CLCH				AML	AML	19 49 09.7	
	comp=N,768nm,0.5s						
PEL	**Peldehue**	**0.35**	**267**	⇓*e*P	Pg	19 49 00.1	0.0
PEL				*i* S	Sg	19 49 05.2	+0.6
PEL				AML	AML	19 49 12.4	
	comp=N,447nm,0.5s						
JACH	**Jahuel**	**0.52**	**328**	⇓*i*P	Pg	19 49 03.6	+0.3
JACH				*i* S	Sg	19 49 11.2	+1.1
PCH	**Pirque**	**0.53**	**202**	⇑*i*P	Pg	19 49 03.7	+0.1
PCH				*i* S	Sg	19 49 11.8	+1.4
ROCH	**El Roble**	**0.64**	**284**	*i* P	Pg	19 49 02.4	-3.2
TACH	**Talagante**	**0.77**	**227**	⇓*i*P	Pg	19 49 07.6	-0.4
CHCH	**Chadas Angostu**	**0.86**	**202**	⇑*i*P	Pg	19 49 09.3	-0.6
CHCH				*i* S	Sg	19 49 21.6	+0.5
CACH	**El Canelo**	**1.02**	**195**	*e*P	Pg	19 49 12.5	-0.4
LCCH	**Las Cruces**	**1.14**	**252**	⇓*i*P	Pg	19 49 14.4	-0.8
CICH	**Cipreses**	**1.20**	**186**	⇓*i*P	Pg	19 49 15.5	-0.7
CICH				*i* S	Sg	19 49 32.6	+0.8

IDC 06 19:54:28.2±2.9**, 4.65N**×**95.00E, h0**km**, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.3**/20**, mbtmp3.5**/4**, Error ellipse: s-maj=171.3km s-min=28.8km az=51.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.40**	**347**	P	P	20 02 32.7	+0.2
	0.3nm,0.5s,baz=168,slow=6.7,SNR=6.0						
WRA	**Warramunga Arr**	**45.74**	**124**	P	P	20 02 51.6	+0.5
	0.4nm,0.5s,baz=302,slow=9.3,SNR=7.2						
FINES	**FINESS Array B**	**75.94**	**332**	P	P	20 06 16.8	-0.1
	0.2nm,0.3s,baz=117,slow=6.6,SNR=5.1						
ARCES	**ARCESS Array B**	**78.57**	**340**	P	P	20 06 31.1	-0.4
	0.7nm,0.8s,baz=110,slow=6.8,SNR=4.0						

IDC 06 19:56:08.3±56.0**, 22.14S**×**177.46W, h0**km**, mb4.1**/3**, mb1 4.3**/3**, mb1mx3.9**/13**, mbtmp4.1**/3**, Error ellipse: s-maj=1032.0km s-min=145.8km az=85.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.87**	**267**	*e*P	P	20 02 57.9	+5.3
	2.8nm,0.3s						
STKA	**Stephens Creek**	**37.56**	**246**	*e*P	P	20 03 23.1	-1.2
	3.6nm,0.8s						
STKA	**Stephens Creek**	**37.56**	**246**	P	P	20 03 23.2	-1.1
	1.7nm,0.4s,baz=94,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**44.66**	**258**	P	P	20 04 23.1	+0.4
	0.5nm,0.3s,baz=91,slow=6.4,SNR=18						
ASPA	**Alice Springs**	**44.66**	**258**	*e*P	P	20 04 23.1	+0.4
WB2	**Warramunga Arr**	**44.89**	**264**	*e*P	P	20 04 26.0	+1.5
WRA	**Warramunga Arr**	**44.90**	**264**	P	P	20 04 26.1	+1.5
	1.7nm,0.4s,baz=98,slow=8.3,SNR=44						
FORT	**Forrest**	**49.13**	**248**	*e*P	P	20 04 54.6	-3.1
	3.5nm,0.4s						

*ISCJB **06** 20:27:32.2±0.5, 39.28N±0.03×21.53E±0.04, h11km±7km, Error ellipse: s-maj=5.9km s-min=5.1km az=84.8*
*CSEM **06** 20:27:33.1±0.1, 39.29N×21.53E, h15km, ML2.0, Error ellipse: s-maj=2.5km s-min=1.9km az=3.0*
*THE **06** 20:27:33.1, 39.29N×21.52E, h4km, ML2.0*
*ATH **06** 20:27:33.0, 39.18N×21.43E, h5km, MD2.7/4*
*NEIC **06** 20:27:33.0, 39.18N×21.43E, h5km, MD2.7(ATH), After ATH.*
ISC 06 20:27:32.6±0.5**, 39.27N**±0.03×**21.53E**±0.04**, h20**km±7km**, n11, σ0.76**/16**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.41**	**148**	*e*PG	**Pg**	**20 27 40.5**	**-0.8**
EVR				*e*SB	**Sb**	**20 27 47.0**	**-0.2**
MEV	**Metsovon**	**0.56**	**336**	*e*Pg	**Pg**	**20 27 43.4**	**-0.5**
JAN	**Janina**	**0.65**	**307**	*e*PG	**Pg**	**20 27 45.5**	**0.0**
AGG	**Agios Georgios**	**0.67**	**111**	*e*Pg	**Pg**	**20 27 45.9**	**0.0**
AGG				*e*Sg	**Sg**	**20 27 55.8**	**+0.9**
LKD	**Levkas**	**0.88**	**231**	*e*Pg	**Pg**	**20 27 49.9**	**0.0**
LKD				*e*Sg	**Sg**	**20 28 02.6**	**+1.0**
IGT	**Igoumenitsa**	**0.96**	**286**	*e*Pg	**Pg**	**20 27 51.1**	**-0.2**
KZN	**Kozani**	**1.05**	**10**	*e*PB	**Pb**	**20 27 55.5**	**+3.3**
LIT	**Litokhoron**	**1.12**	**42**	*e*Pg	**Pg**	**20 27 53.7**	**-0.6**
LIT				*e*Sg	**Sg**	**20 28 09.7**	**+0.7**
XOR	**Xorichti**	**1.30**	**85**	*e*Pg	**Pg**	**20 27 57.2**	**-0.5**
VLS	**Valsamata**	**1.31**	**214**	*e*PB	**Pb**	**20 27 56.5**	**-0.1**
GRG	**Griva**	**1.81**	**21**	*e*Pb	**Pb**	**20 28 03.9**	**-1.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GRG				eSb	Sb	20 28 28.1	+0.7

IDC 06 20:40:51.2±1.4**, 1959N**×**14614E, h0^{km}, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.4**/19**, mbtmp3.5**/3**, Error ellipse: s-maj=79.3km s-min=33.4km az=102.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.95	197	P	P	20 48 35.1	-0.4
	0.4nm,0.4s,baz=17,slow=8.7,SNR=8.4						
ASAR	Alice Springs	44.62	196	P	P	20 49 06.2	+1.0
	0.3nm,0.8s,baz=19,slow=7.1,SNR=3.3						
FINES	FINESS Array B	86.25	335	P	P	20 53 34.8	+0.1
	0.2nm,0.4s,baz=64,slow=4.4,SNR=4.3						
LPAZ	La Paz	147.26	90	PKPbc	PKPbc	21 00 37.2	+0.7
	2.0nm,0.5s,baz=336,slow=5.8,SNR=14						

*NEIC **06** 20:43:24.1, 3850N×12346W, h0^{km}, MW3.7(BRK), After NCEDC.*
*ISCJB **06** 20:43:25.0±0.6, 3848N±002×12345W±004, h29^{km}±4^{km}, Error ellipse: s-maj=5.9km s-min=2.7km az=137.7*
ISC 06 20:43:25.2±0.7**, 3849N**±002×**12344W**±004**, h19^{km}**±4^{km}**, n69, σ0^{s}87**/92**, 30C-39D, Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MCCM	Marconi Confer	0.56	128	eP	Pg	20 43 36.0	-0.4
MCCM	Marconi Confer	0.56	128	⇓P	Pg	20 43 36.1	-0.3
	baz=0.6,SNR=140						
MCCM				⇓S	Sg	20 43 44.4	+0.5
	baz=0.6						
HOPS	Hopland	0.58	29	ePn	Pn	20 43 36.0	-2.4
HOPS	Hopland	0.58	29	⇓P	Pg	20 43 36.1	-0.6
	baz=0.6,SNR=1000						
HOPS				⇓S	Sg	20 43 45.0	+0.5
	baz=0.6						
NSHM	Saint Helena R	0.65	87	eP	Pb	20 43 36.7	-1.3
CVS	Carmenet Viney	0.78	100	⇑P	Pb	20 43 39.6	-0.6
	baz=0.8,SNR=188						
CVS				⇑S	Sb	20 43 51.3	+0.9
	baz=0.8						
FARB	Farallon Islan	0.86	156	P	Pb	20 43 41.6	0.0
	baz=0.9,SNR=178						
FARB				⇓S	Sb	20 43 53.7	+1.0
	baz=0.9						
MNRC	McLaughlin Nat	0.87	63	⇑P	Pb	20 43 41.2	-0.5
	baz=0.9,SNR=428						
P01C	Double 8 Ranch	0.98	4	⇓P	Pb	20 43 42.3	-1.3
	baz=1.0,SNR=132						
P01C				⇓S	Sb	20 43 55.9	-0.3
	baz=1.0						
Q03C	Winters	1.13	82	⇑P	Pn	20 43 45.8	-0.2
	baz=1.1						
Q03C				⇑S	Sb	20 44 00.2	-0.1
	baz=1.1						
SAC	San Andreas	1.21	138	eP	Pn	20 43 46.2	-1.0
GASB	Alder Springs	1.28	25	⇑P	Pn	20 43 47.8	-0.4
	baz=1.3,SNR=130						
GASB				⇓S	Sn	20 44 04.4	-0.5
	baz=1.3						
KIPM	Iron Peak	1.32	358	eP	Pn	20 43 47.0	-1.6
BDM	Black Diamond	1.35	113	⇓P	Pn	20 43 48.4	-0.6
	baz=1.4,SNR=36						
JRSC	Jasper Ridge	1.44	139	⇑P	Pn	20 43 49.5	-0.8
	baz=1.5,SNR=87						
JRSC				⇓S	Sn	20 44 08.6	0.0
	baz=1.5						
SUTB	Sutter Butte	1.48	60	⇑P	Pn	20 43 49.9	-1.0
	baz=1.5						
SUTB				⇑S	Sn	20 44 09.0	-0.7
	baz=1.5						
WENL	Wente Brothers	1.58	123	⇓P	Pn	20 43 52.4	+0.1
	baz=1.6,SNR=11						
WENL				⇓S	Sn	20 44 11.1	-1.0
	baz=1.6						
Q04C	Lincoln	1.65	77	⇓P	Pn	20 43 52.8	-0.3
	baz=1.7						
Q04C				⇑S	Sn	20 44 12.7	-1.0
	baz=1.7						
O01C	Eel River Cons	1.68	350	⇑P	Pn	20 43 53.0	-0.6
	baz=1.7						
BNLO	Ben Lomond (Sa	1.69	143	P	Pn	20 43 53.0	-0.7
	baz=1.7,SNR=106						
BNLO				⇓S	Sn	20 44 13.6	-1.1
	baz=1.7						
OHCM	Honcut	1.74	60	eP	Pn	20 43 52.8	-1.6
O02C	Red Bluff	1.76	16	⇓P	Pn	20 43 54.3	-0.4
	baz=1.8,SNR=32						
ORV	Oroville	1.84	54	⇑P	Pn	20 43 55.3	-0.5
	baz=1.8						
ORV				⇑S	Sn	20 44 18.1	-0.5
	baz=1.8						
S04C	Ingram Canyon,	1.93	120	⇓P	Pn	20 43 56.9	-0.2
	baz=2.0,SNR=43						
R04C	Big Horse Ranc	1.97	96	⇑P	Pn	20 43 57.1	-0.5
	baz=2.0,SNR=16						
R04C				⇓S	Sn	20 44 20.8	-1.1
	baz=2.0						
LAVA	Lava Cap Winer	2.13	82	⇓P	Pn	20 44 00.2	+0.4
	baz=2.1,SNR=16						
WDC	Whiskeytown Da	2.20	18	ePn	Pn	20 44 00.7	-0.1
WDC	Whiskeytown Da	2.20	18	⇑P	Pn	20 44 00.9	+0.2
	baz=2.2,SNR=37						
PACP	Pacheco Peak	2.25	130	⇓P	Pn	20 44 01.1	-0.4
	baz=2.3,SNR=18						
N02C	Big Bar	2.33	2	⇓P	Pn	20 44 02.2	-0.3
	baz=2.3						
SAO	San Andreas Ge	2.34	137	ePn	Pn	20 44 00.9	-1.7
JCC	Jacoby Creek	2.37	349	⇓S	Sn	20 44 31.2	-0.4
	baz=2.4						
KHMM	Horse Mountain	2.39	355	Pn	Pn	20 44 04.8	+1.4
CMB	Columbia Colle	2.44	100	ePn	Pn	20 44 04.0	-0.1
CMB	Columbia Colle	2.44	100	⇑P	Pn	20 44 04.0	-0.1
	baz=2.5,SNR=32						
CMB				⇓S	Sn	20 44 34.1	+0.7
	baz=2.5						
O05C	Quincy	2.44	52	⇑P	Pn	20 44 04.7	+0.6
	baz=2.4						
HAST	UC Hastings Re	2.58	144	⇓P	Pn	20 44 05.0	-0.9
	baz=2.6,SNR=165						
HAST				⇓S	Sn	20 44 36.4	-0.4
	baz=2.6						
O04C	Chester	2.58	44	⇑P	Pn	20 44 07.8	+1.9
	baz=2.6						
R05C	Kirkwood Meado	2.64	84	⇑P	Pn	20 44 07.7	+1.0
	baz=2.7,SNR=51						
S05C	Merced	2.71	114	P	Pn	20 44 07.5	-0.2
	baz=2.7,SNR=16						
S05C				⇓S	Sn	20 44 40.3	+0.4
	baz=2.7						
T05C	Eagle Field, D	2.71	125	⇑P	Pn	20 44 08.2	+0.5
	baz=2.7						
LRV	Little Rabbit	2.82	136	eP	Pn	20 44 09.4	+0.1
S06C	San Francisco	2.89	101	⇓P	Pn	20 44 11.6	+1.4
	baz=2.9,SNR=20						
S06C				⇑S	Sn	20 44 45.0	+0.5
	baz=2.9						
M02C	Callahan	2.93	9	⇓P	Pn	20 44 10.6	-0.2
	baz=2.9						
WCN	Washoe City	2.98	73	⇓P	Pn	20 44 12.6	+1.1
	baz=3.0						
U04C	Hernandez Rese	3.00	134	⇓P	Pn	20 44 11.6	-0.1
	baz=3.0						
V03C	Hunter Liggett	3.02	144	⇓P	Pn	20 44 11.5	-0.5
	baz=3.0,SNR=20						
KRMB	Red Mountain	3.05	353	ePn	Pn	20 44 13.2	+0.8
R06C	Coleville	3.13	88	⇓P	Pn	20 44 15.2	+1.8
	baz=3.1						
YBH	Yreka Blue Hor	3.29	10	ePn	Pn	20 44 16.6	+0.9
YBH	Yreka Blue Hor	3.29	10	⇓P	Pn	20 44 16.4	+0.7
	baz=3.3						
YBH				⇓S	Sn	20 44 54.8	+0.6
	baz=3.3						
T06C	Millerton Lake	3.30	115	⇑P	Pn	20 44 16.6	+0.7
	baz=3.3,SNR=8.8						
PAHR	Pah Rah Range	3.38	68	ePn	Pn	20 44 18.1	+1.1
PKD	Parkfield	3.43	137	⇑P	Pn	20 44 17.0	-0.7
	baz=3.5,SNR=38						
PKD				⇓S	Sn	20 44 58.2	+0.3
	baz=3.5						
KCC	Kaiser Creek	3.46	108	⇑S	Sn	20 44 59.1	+0.7
	baz=3.5						
V04C	Ramage Ranch,	3.51	143	⇓P	Pn	20 44 19.6	+0.9
	baz=3.5						
V04C				⇑S	Sn	20 44 59.7	0.0
	baz=3.5						
L02A	Cave Junction	3.67	358	⇑P	Pn	20 44 21.6	+0.7
	baz=3.7						
O07A	Toulon	3.91	63	⇓P	Pn	20 44 25.0	+0.8
	baz=3.9						
HELL	Mitchell Peak,	3.94	116	⇑P	Pn	20 44 25.7	+1.0
	baz=4.0						
HELL				⇓S	Sn	20 45 11.0	+0.5
	baz=4.0						
MTUM	Tungsten Hills	4.01	105	ePn	Pn	20 44 28.0	+2.3
HUMO	Hull Mountain	4.13	5	ePn	Pn	20 44 29.4	+2.2
HUMO	Hull Mountain	4.13	5	⇑P	Pn	20 44 28.6	+1.4
	baz=4.1						
MNV	Mina	4.15	89	ePn	Pn	20 44 26.8	-0.7
K02A	Glendale	4.28	359	⇑P	Pn	20 44 29.9	+0.6
	baz=4.3						
K02A				⇓S	Sn	20 45 19.4	+0.7
	baz=4.3						
ISA	Isabella	4.87	124	ePn	Pn	20 44 39.0	+1.6
ISA	Isabella	4.87	124	⇑P	Pn	20 44 39.1	+1.7
	baz=4.9						
J03A	Ideyld Park	4.89	4	⇓P	Pn	20 44 42.0	+4.3
	baz=4.9						
DAC	Darwin (Calif)	5.15	114	ePn	Pn	20 44 40.9	-0.4
	37nm,1.4s						
GSC	Goldstone	6.19	119	ePn	Pn	20 44 56.0	+0.4

*ISCJB **06** 20:46:31.2±0.6, 3021S±006×1792W±02, h170^{km}±11^{km}, mb3.8/5, Error ellipse: s-maj=26.5km s-min=6.6km az=35.9*
*IDC **06** 20:46:32.9±0.7, 2946S×17864W, h218^{km}±11^{km}, mb3.3/4, mb1 3.5/4, mb1mx3.4/12, mbtmp3.9/4, Error ellipse: s-maj=44.7km s-min=23.1km az=36.0*
*NEIC **06** 20:46:32.9±0.8, 3018S×17931W, h165^{km}±10^{km}, mb4.5/1, Error ellipse: s-maj=20.1km s-min=9.9km az=103.0*
ISC 06 20:46:32.3±0.6**, 3028S**±007×**1793W**±02**, h156^{km}**±10^{km}**, n43, σ1^{s}23**/52**, mb3.8**/5**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.59	50	P	Pn	20 47 04.1	+0.8
	222nm,0.3s,baz=230,slow=23,SNR=15						
RAO				S	Sn	20 47 26.3	-0.7
	314nm,0.3s,baz=102,slow=23,SNR=7.0						
PUZ	Puketiti	8.03	194	SN	Sn	20 50 01.8	+6.4
MWZ	Matawai	8.45	197	ePN	Pn	20 48 33.3	+1.8
MWZ				SN	Sn	20 50 12.7	+7.2
MWZ	Matawai	8.45	197	eP	Pn	20 48 33.7	+2.2
URZ	Urewera	8.49	199	P	Pn	20 48 34.6	+2.5
	2.6nm,0.3s,baz=279,slow=5.2,SNR=16						
URZ				S	Sn	20 50 11.5	+4.9
	6.9nm,0.3s,baz=152,slow=10,SNR=17						
URZ	Urewera	8.49	199	ePN	Pn	20 48 34.3	+2.2
URZ				SN	Sn	20 50 14.0	+7.5
URZ	Urewera	8.49	199	P	Pn	20 48 34.6	+2.5
KNZ	Kokohu	9.06	195	ePN	Pn	20 48 40.3	+0.6
KNZ	Kokohu	9.06	195	P	Pn	20 48 40.8	+1.1
BKZ	Black Stump Fm	9.51	200	ePN	Pn	20 48 44.9	-0.8
BKZ	Black Stump Fm	9.51	200	eP	Pn	20 48 47.0	+1.3
PXZ	Pawanui	10.22	197	ePN	Pn	20 48 54.1	-0.9
BFZ	Birch Farm	10.98	198	SN	Sn	20 51 06.5	-0.1
MRZ	Mangatainoka R	11.16	200	ePN	Pn	20 49 05.0	-2.4
MRZ				SN	Sn	20 51 08.9	-1.9
MRZ	Mangatainoka R	11.16	200	eP	Pn	20 49 05.8	-1.6
TIWZ	Tintock	11.17	199	SN	Sn	20 51 12.7	+1.6
KIW	Kapiti Island	11.55	202	ePN	Pn	20 49 10.3	-2.2
KIW				SN	Sn	20 51 20.2	0.0
KIW	Kapiti Island	11.55	202	P	Pn	20 49 10.8	-1.7
CAW	Cannon Point	11.72	201	ePN	Pn	20 49 11.9	-2.9
CAW				SN	Sn	20 51 24.9	+0.5
CAW	Cannon Point	11.72	201	P	Pn	20 49 12.9	-1.8
TCW	Tory Channel	12.08	204	ePN	Pn	20 49 16.4	-3.0
TCW				SN	Sn	20 51 32.5	-0.4
TUWZ	Tuamarina	12.39	204	ePN	Pn	20 49 24.4	+1.0
TUWZ				SN	Sn	20 51 40.4	0.0
NNZ	Nelson	12.41	207	ePN	Pn	20 49 26.0	+2.3
NNZ				SN	Sn	20 51 40.7	-0.3
NNZ	Nelson	12.41	207	eP	Pn	20 49 25.5	+1.8
THZ	Tophouse	13.06	207	ePN	Pn	20 49 32.9	+0.9
KHZ	Kahutara	13.40	203	ePN	Pn	20 49 36.9	+0.6
KHZ	Kahutara	13.40	203	eP	Pn	20 49 36.6	+0.3
DSZ	Denniston Nort	13.50	210	ePN	Pn	20 49 37.3	-0.3
DSZ				SN	Sn	20 52 07.3	+0.2
LTZ	Lake Taylor	14.18	206	ePN	Pn	20 49 44.7	-1.4
LTZ	Lake Taylor	14.18	206	eP	Pn	20 49 44.9	-1.2
MQZ	McQueen's Vall	14.85	203	SN	Sn	20 52 33.0	-6.4
DZM	Mont Dzumac	15.17	299	P	Pn	20 50 05.1	+6.7
	1.0nm,0.3s,baz=64,slow=21,SNR=8.8						
FOZ	Fox Glacier	15.89	210	ePN	Pn	20 50 04.7	-2.6
JCZ	Jackson Bay	16.70	211	eP	Pn	20 50 18.7	+1.5
STKA	Stephens Creek	33.40	257	P	P	20 52 57.1	+1.3
	1.7nm,0.7s,mb3.9,baz=77,slow=18,SNR=2.7						
ASAR	Alice Springs	41.98	267	P	P	20 54 07.5	-0.3
	0.2nm,0.4s,mb3.1,baz=107,slow=7.4,SNR=4.9						
WRAB	Tennant Creek	42.95	273	P	P	20 54 15.5	-0.3
WRA	Warramunga Arr	42.96	273	P	P	20 54 15.3	-0.5
	1.1nm,0.4s,mb3.8,baz=110,slow=8.1,SNR=16						
VNDA	Vanda	48.10	185	P	P	20 54 57.0	+0.8
	1.1nm,0.5s,mb3.7,baz=4.2,slow=7.7,SNR=15						
VNDA	Vanda	48.10	185	P	P	20 54 57.0	+0.8
QSPA	South Pole Qui	59.83	180	eP	P	20 56 20.6	-0.5
	4.6nm,0.7s,mb4.4						
FINES	FINESS Array B	144.64	339	PKP	PKPdf	21 05 41.2	-9.0
	0.9nm,0.3s,baz=59,slow=3.8,SNR=23						
TORD	Torodi Ar. Bea	162.92	183	PKPab	PKPab	21 07 02.5	-3.5
	0.7nm,0.7s,baz=185,slow=2.7,SNR=6.9						

*ISCJB **06** 21:05:41.3±0.4, 4054N±003×2429E±003, h10^{km}, Error ellipse: s-maj=4.2km s-min=3.2km az=9.8*
*THE **06** 21:05:42.5, 4055N×2427E, h11^{km}, ML2.5*
*CSEM **06** 21:05:42.6±0.1, 4054N×2427E, h25^{km}, MD3.3, Error ellipse: s-maj=2.4km s-min=2.1km az=10.0*
*ATH **06** 21:05:42.0, 4058N×2427E, h36^{km}±3^{km}, MD3.3/6*
*SOF **06** 21:05:43.0, 4065N×2431E, h2^{km}, MD3.0*
ISC 06 21:05:41.5±0.4**, 4055N**±002×**2428E**±003**, h2^{km}**±5^{km}**, n48, σ1^{s}30**/58**, 2C-6D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLG	Polygyros	0.66	255	⇑iPN	Pg	21 05 55.5	+1.3
PLG				eSN	Sg	21 06 04.2	+1.4
SOH	Sokhos	0.76	291	ePg	Pg	21 05 56.8	+0.8
SOH				eSg	Sg	21 06 07.4	+1.7
SRS	Serrai	0.77	317	ePg	Pg	21 05 56.7	+0.5
NVR	Nevrokopi	0.86	338	ePN	Pg	21 05 58.3	+0.4
NVR				eSN	Sg	21 06 09.9	+0.9
LIA	Limnos Island	0.95	133	ePN	Pg	21 06 01.0	+1.3
LIA				eSN	Sg	21 06 13.7	+1.7
THE	Thessaloniki	1.01	275	ePg	Pg	21 06 01.1	+0.4
MMB	Musomiste	1.12	338	i P	Pg	21 06 02.0	-0.9
MMB	Musomiste	1.12	338	i P	Pg	21 06 02.7	-0.2
MMB	Musomiste	1.12	338	i P	Pg	21 06 02.7	-0.2
RDO	Rodhopi	1.12	58	ePN	Pn	21 06 03.0	-1.2
RDO				eSN	Sn	21 06 17.4	-2.7
RZN	Rozhen	1.18	16	i P	Pg	21 06 03.9	-0.2
RZN	Rozhen	1.18	16	i P	Pg	21 06 03.8	-0.3
KNT	Kendrikon	1.21	300	ePg	Pg	21 06 04.5	-0.2
KNT				eSg	Sg	21 06 21.2	+0.8
ALN	Alexandroupoli	1.38	75	ePg	Pg	21 06 06.7	-1.2
ALN				eSg	Sg	21 06 26.2	+0.3
KDZ	Kurdzhali	1.39	38	i P	Pn	21 06 07.5	-0.4
AOS	Alonnisos	1.42	193	ePg	Pg	21 06 07.2	-1.4
LIT	Litokhoron	1.44	252	ePg	Pg	21 06 07.2	-1.9
XOR	Xorichti	1.45	216	ePg	Pg	21 06 07.7	-1.6
GRG	Griva	1.48	286	ePg	Pg	21 06 08.2	-1.7
NEO	Neokhori	1.49	214	ePN	Pn	21 06 08.3	-0.9
VAY	Valandovo	1.51	301	ePn	Pn	21 06 08.8	-0.6
VAY				eSn	Sn	21 06 29.6	0.0
VAY	Valandovo	1.51	301	ePn	Pn	21 06 08.8	-0.7
VAY				eSn	Sn	21 06 29.6	-0.1
PLD	Plovdiv	1.58	11	i P	Pn	21 06 12.4	+1.9
PLD	Plovdiv	1.58	11	i P	Pn	21 06 12.6	+2.1
KKB	Krupnik	1.59	326	i P	Pn	21 06 10.9	+0.2
KKB	Krupnik	1.59	326	i P	Pn	21 06 11.3	+0.6
DIM	Dimitrovgrad	1.77	32	i P	Pn	21 06 16.0	+3.0
DIM	Dimitrovgrad	1.77	32	i P	Pn	21 06 15.9	+2.9
PGB	Panagyurishte	2.00	358	i P	Pn	21 06 18.9	+2.7
PRK	Paraskevi	2.01	130	ePB	Pn	21 06 16.5	+0.1
AGG	Agios Georgios	2.15	225	ePn	Pn	21 06 17.6	-0.7
VTS	Vitosha	2.19	339	i P	Pg	21 06 22.5	-0.9
VTS	Vitosha	2.19	339	i P	Pg	21 06 23.1	-0.3
VTS	Vitosha	2.19	339	⇓iP	Pg	21 06 22.7	-0.7
VTS				S	Sg	21 06 50.3	-1.5
FNA	Florina	2.22	277	ePn	Pn	21 06 18.6	-0.7
JMB	Yambol	2.58	41	i P	Pg	21 06 30.6	-0.2
SZH	Strazhica	2.98	24	i P	Pn	21 06 30.2	+0.5
MTUR	Matau	4.71	7	⇓iP	Pg	21 07 09.6	-2.0
TIRR	Tirgusor	4.95	37	S	Sn	21 07 48.6	-6.1
GZR	Gura Zlata	4.96	348	⇓iP	Pb	21 07 11.1	+2.1
GZR	Gura Zlata	4.96	348	S	Sg	21 08 18.1	-2.7
MLR	Muntele Rosu	5.08	13	⇑iP	Pb	21 07 17.3	+6.2
MLR	Muntele Rosu	5.08	13	S	Sg	21 08 27.2	+2.5
BZS	Buzias	5.42	340	S	Sg	21 08 33.7	-2.0
PLOR	Plostina	5.57	17	⇓iP	Pn	21 07 06.7	+1.4
VRI	Vrincioaia	5.60	18	⇓iP	Pn	21 07 11.1	+5.3
DRGR		6.34	350	⇓iP	Pg	21 07 43.4	+0.5
DRGR		6.34	350	S	Sg	21 09 00.6	-4.4

*NEIC **06** 21:35:18.8, 3097S×7053W, h128^{km}, MG3.8(GUC), After GUC.*
GUC 06 21:35:18.8±0.8**, 3097S**×**7053W, h128^{km}**±6^{km}**, MD3.5, ML3.8, 9C-7D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMCH	Combarbala	0.45	243	⇑iP	Pn	21 35 37.9	+0.6
CMCH				i S	Sn	21 35 52.1	+0.8
CMCH				AML	AML	21 35 52.9	
	comp=N,7μm,0.1s						
OVCH	Ovalle	0.68	302	⇑iP	Pn	21 35 40.0	+1.2
OVCH				i S	Sn	21 35 55.4	+1.5
OVCH				AML	AML	21 35 57.0	
	comp=E,2μm,0.3s						
OVCH	Ovalle	0.68	302	⇑iP	Pn	21 35 40.0	+1.2
OVCH				i S	Sn	21 35 55.4	+1.5
TLL	Tololo Astrono	0.83	343	⇑iP	Pn	21 35 41.1	+1.1
TLL				i S	Sn	21 35 57.1	+1.0
TLL				AML	AML	21 35 58.0	
	comp=N,2μm,0.3s						
TLL	Tololo Astrono	0.83	343	⇑iP	Pn	21 35 41.1	+1.1
TLL				i S	Sn	21 35 57.1	+1.0
JACH	Jahuel	1.71	182	⇓iP	Pn	21 35 49.9	+0.8
JACH				i S	Sn	21 36 13.5	+1.2
LCO	Las Campanas	1.96	356	eP	Pn	21 35 53.2	+1.0
LCO				i S	Sn	21 36 18.1	+0.5
PEL	Peldehue	2.17	183	⇑iP	Pn	21 35 55.1	+0.3
PEL				i S	Sn	21 36 22.9	+0.6
PEL				AML	AML	21 36 31.3	
	comp=N,398nm,0.2s						
PEL	Peldehue	2.17	183	⇑iP	Pn	21 35 55.1	+0.3
PEL				i S	Sn	21 36 22.9	+0.6
FCH	Farellones	2.36	175	⇓iP	Pn	21 35 58.4	+1.3
FCH				i S	Sn	21 36 28.1	+1.6
FCH				AML	AML	21 36 32.0	
	comp=E,345nm,0.2s						
VACH	Vallenar	2.40	355	eP	Pn	21 35 58.4	+0.8
VACH				i S	Sn	21 36 27.7	+0.4
VACH				AML	AML	21 36 29.6	
	comp=N,2μm,0.0s						
VACH	Vallenar	2.40	355	eP	Pn	21 35 58.4	+0.8
VACH				i S	Sn	21 36 27.7	+0.4
CLCH	Cerro Calan	2.42	180	⇑iP	Pn	21 35 58.7	+0.9
CLCH				i S	Sn	21 36 28.8	+0.9
CLCH				AML	AML	21 36 35.5	
	comp=E,316nm,0.4s						
CLCH				AML	AML	21 36 36.3	
	comp=E,402nm,0.4s						
RCDM	Rinconada Maip	2.52	185	⇓iP	Pn	21 35 59.6	+0.5
RCDM				i S	Sn	21 36 30.7	+0.5
RCDM				AML	AML	21 36 35.0	
	comp=E,321nm,0.2s						
RCDM	Rinconada Maip	2.52	185	⇓iP	Pn	21 35 59.6	+0.5
RCDM				i S	Sn	21 36 30.7	+0.5
PCH	Pirque	2.64	180	eP	Pn	21 36 01.4	+0.7
PCH				i S	Sn	21 36 34.3	+1.4
LCCH	Las Cruces	2.65	199	⇓iP	Pn	21 36 01.3	+0.5
TACH	Talagante	2.70	187	⇓iP	Pn	21 36 01.5	+0.1
CHCH	Chadas Angostu	2.96	182	⇓iP	Pn	21 36 04.9	+0.2
CHCH				i S	Sn	21 36 40.4	+0.3
LNV	Longovilo	3.07	194	eP	Pn	21 36 05.7	-0.5
LNV				i S	Sn	21 36 41.8	-1.0
CICH	Cipreses	3.34	178	⇑iP	Pn	21 36 10.8	+1.1
TRQA	Tornquist	9.98	137	eP	Pn	21 37 35.1	-3.8
	comp=E,4.6nm,0.7s						

*ROM **06** 21:47:31.6±0.2, 4265N×1206E, h3^{km}±2^{km}, Md3.2/30, Ml3.2/20, Error ellipse: s-maj=1.6km s-min=1.3km az=39.0*
*CSEM **06** 21:47:31.4±0.1, 4267N×1207E, h12^{km}, ML3.8/9, Ms3.0, Error ellipse: s-maj=1.2km s-min=0.9km az=42.0*
*ISCJB **06** 21:47:31.2±0.2, 4269N±002×1208E±002, h3^{km}, Error ellipse: s-maj=2.5km s-min=1.9km az=95.7*
*NEIC **06** 21:47:31.6, 4265N×1206E, h3^{km}, ML2.8(LDG), ML3.2(ROM), After ROM.*
NEIC Felt [V] at Bolsena and Orvieto and [IV] at Montefiascone.
*VIE **06** 21:47:32.4±0.5, 4265N×12.12E, h10^{km}, mb2.7/7, ML3.0/8, Ms3.0/1, Error ellipse: s-maj=4.6km s-min=2.4km az=40.0*
*LDG **06** 21:47:34.5±0.2, 4263N×12.13E, h10^{km}, Ml2.8/6, Error ellipse: s-maj=7.6km s-min=4.4km az=40.0*
ISC 06 21:47:32.6±0.2**, 4265N**±002×**1207E**±002**, h8^{km}**±2^{km}**, n62, σ1^{s}04**/97**, 8C-10D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LATE	Laterza	0.20	261	Pg	Pg	21 47 36.5	-0.2
LATE				Sg	Sg	21 47 39.8	+0.3
	14μm,0.3s						
SACS	San Casciano d	0.24	329	Pg	Pg	21 47 36.8	-0.5
SACS				Sg	Sg	21 47 40.7	+0.2
	12μm,0.7s						
ARCI	Arcidosso	0.49	295	Pg	Pg	21 47 41.2	-0.8
ARCI				Sg	Sg	21 47 49.7	+1.3
	641nm,0.3s						
MNS	Montasola	0.52	120	Pg	Pg	21 47 42.5	-0.2
MNS				Sg	Sg	21 47 51.0	+1.5
	2μm,0.5s						
TOLF	Tolfa	0.58	185	Pg	Pg	21 47 43.5	-0.4
TOLF				Sg	Sg	21 47 53.5	+2.0
	2μm,0.7s						
MURB	Monte Urbino	0.70	28	Pg	Pg	21 47 45.3	-0.8
MURB				Sg	Sg	21 47 56.6	+1.4
MAON	Monte Argentar	0.73	253	Pg	Pg	21 47 45.6	-1.0
MAON				Sg	Sg	21 47 57.0	+0.8
	974nm,0.7s						
NRCA	Norcia	0.79	76	Pg	Pg	21 47 46.8	-1.0
NRCA				Sg	Sg	21 47 59.4	+1.3
MTCE	Montecelio	0.80	141	Pg	Pg	21 47 47.7	-0.2
MTCE				Sg	Sg	21 47 59.8	+1.5
	1μm,0.7s						
FIAM	Fiamignano	0.86	116	Pg	Pg	21 47 48.3	-0.8
FIAM				Sg	Sg	21 48 02.2	+1.9
	991nm,0.8s						
BADI	Badiali	0.87	8	Pg	Pg	21 47 48.6	-0.8
BADI				Sg	Sg	21 48 03.1	+2.4
	197μm,21.0s						
SNTG	Esanatoglia	0.88	46	Pg	Pg	21 47 49.1	-0.4
SNTG				Sg	Sg	21 48 03.5	+2.5
	235nm,0.4s						
GRFL	Gerfalco	0.95	302	Pg	Pg	21 47 50.4	-0.4
GRFL				Sg	Sg	21 48 04.9	+1.7
	128nm,0.8s						
CERT	Cerreto	0.97	136	Pg	Pg	21 47 50.8	-0.4
CERT				Sg	Sg	21 48 05.8	+2.0
	1μm,0.6s						
CRE	Caprese Michel	0.98	355	Pg	Pg	21 47 50.8	-0.6
CRE				Sg	Sg	21 48 05.8	+1.7
	648nm,0.7s						
MA9	Marino	0.98	153	Pg	Pg	21 47 51.7	+0.3
	235nm,0.4s						
CAMP	Campotosto	0.99	96	Pg	Pg	21 47 50.9	-0.8
	743nm,0.7s						
CSNT	Castellina Chi	1.00	326	Pg	Pg	21 47 50.8	-1.1
	163nm,0.6s						
RDP	Rocca di Papa	1.01	151	Pg	Pg	21 47 52.0	0.0
	1μm,0.5s						
AQU	L'Aquila	1.02	106	Pg	Pg	21 47 51.6	-0.7
ARV	Arcevia	1.06	36	Pg	Pg	21 47 51.8	-1.2
	598nm,1.0s						

LAV9	Lanuvio	1.07	154	Pg	Pg	21 47 53.4	+0.2
	396nm,0.3s						
CING	Cingoli	1.10	48	Pg	Pg	21 47 53.0	-0.7
	825nm,0.8s						
TERO	Teramo	1.13	91	Pg	Pg	21 47 53.2	-1.1
	612nm,0.7s						
FSSB	Fossombrone	1.17	26	Pg	Pg	21 47 54.1	-0.9
	160nm,0.4s						
FAGN	Fagnano	1.18	108	Pg	Pg	21 47 54.8	-0.5
	783nm,0.6s						
GUAR	Guarcino	1.25	132	Pg	Pg	21 47 55.7	-1.0
	504nm,0.7s						
SFI	Santa Sofia	1.27	353	Pg	Pg	21 47 55.8	-1.1
	272nm,0.7s						
RSM	Repubblica di	1.31	12	Pg	Pg	21 47 57.3	-0.5
	261nm,0.6s						
VCEL	Villa Celiera	1.33	100	Pg	Pg	21 47 57.6	-0.5
	667nm,1.0s						
VMG	Vicchio	1.37	344	Pg	Pg	21 47 57.4	-1.5
	843nm,0.8s						
GIUL	Giuliano Di Ro	1.40	141	Pg	Pg	21 47 57.5	-1.9
GIUL				Sg	Sg	21 48 17.2	-0.4
	230nm,0.7s						
PGF	Pioggiola	2.27	269	ePn	Pn	21 48 09.6	-0.8
PGF				eSn	Sn	21 48 39.9	+1.4
	22nm,0.6s						
SBF	Sospel	3.60	291	ePn	Pn	21 48 28.6	0.0
SBF				eSn	Sn	21 49 09.3	-2.0
	18nm,0.7s						
SBF	Sospel	3.60	291	ePn	Pn	21 48 28.6	0.0
SBF				eSn	Sn	21 49 09.3	-2.0
	9.2nm,0.7s						
VOY	Vojsko	3.63	20	ePn	Pn	21 48 27.9	-1.1
VOY				e		21 48 43.2	
VOY				eSn	Sn	21 49 11.9	-0.1
FRF	La Foret Royal	4.08	285	ePn	Pn	21 48 35.8	+0.6
FRF				eSn	Sn	21 49 20.7	-2.4
	2.9nm,0.4s						
FRF	La Foret Royal	4.08	285	ePn	Pn	21 48 35.8	+0.6
FRF				eSn	Sn	21 49 20.7	-2.4
	1.5nm,0.4s						
LMR	La Mourre	4.14	281	ePn	Pn	21 48 34.3	-1.7
LMR				eSn	Sn	21 49 21.3	-3.3
	3.0nm,0.4s						
LMR	La Mourre	4.14	281	ePn	Pn	21 48 34.3	-1.7
LMR				eSn	Sn	21 49 21.3	-3.3
	1.5nm,0.4s						
SISC	Sisak	4.19	46	Sg	Sg	21 49 38.1	-9.2
SISC	Sisak	4.19	46	Sg	Sg	21 49 38.0	-9.2
OBKA	Obir	4.25	24	⇑iPn	Pn	21 48 38.2	+0.6
OBKA				⇓iSn	Sn	21 49 28.7	+1.4
KBA	Koelnbreinsper	4.52	11	⇑iPn	Pn	21 48 40.9	-0.5
KBA				⇓iSn	Sn	21 49 34.7	+0.7
SQTA	Sankt Quirin	4.62	353	⇓iPn	Pn	21 48 43.0	+0.4
SQTA				⇓iSn	Sn	21 49 37.8	+1.5
WTTA	Wattenberg	4.63	356	⇑iPn	Pn	21 48 43.1	+0.3
WTTA				⇓iSn	Sn	21 49 37.3	+0.7
MOTA	Moosalm	4.75	352	⇑iPn	Pn	21 48 44.9	+0.5
MOTA				⇓iSn	Sn	21 49 40.7	+1.1
LPG	La Plagne	4.78	308	ePn	Pn	21 48 45.7	+0.9
LPL	La Plagne	4.80	309	ePn	Pn	21 48 45.9	+0.8
DAVA	Damuels	4.89	342	⇓iPn	Pn	21 48 46.4	0.0
DAVA				⇓iSn	Sn	21 49 44.0	+0.8
SMRF	Simiane la Rot	4.92	288	ePn	Pn	21 48 47.4	+0.6
ORIF	Oris-en-Rattie	5.03	299	ePn	Pn	21 48 50.0	+1.8
ARSA	Arzberg	5.21	27	⇑iPn	Pn	21 48 50.4	-0.4
ARSA				⇑iSn	Sn	21 49 49.1	-2.0
MOA	Molln	5.43	16	⇓iPn	Pn	21 48 53.5	-0.3
MOA				⇓iSn	Sn	21 49 55.4	-1.0
VIVF	Saint-Julien-l	5.80	295	ePn	Pn	21 48 58.8	0.0
CONA	Conrad Observa	5.92	26	⇑iPn	Pn	21 48 59.9	-0.6
CONA				⇑iSn	Sn	21 50 08.4	-0.1
LASF	Ste Croix	6.16	286	ePn	Pn	21 49 04.0	+0.2
CDF	Champ du Feu	6.68	331	ePn	Pn	21 49 10.2	-0.7
CDF				eSn	Sn	21 50 21.3	-5.8
	2.3nm,0.4s						
SMF	Signal de Mont	7.10	307	ePn	Pn	21 49 16.7	0.0
LOR	Lormes	7.43	311	ePn	Pn	21 49 21.7	+0.4
LOR				eSn	Sn	21 50 40.4	-5.4
	0.8nm,0.3s						
CAF	Calviac	7.59	291	ePn	Pn	21 49 23.9	+0.4
MOX	Moxa	8.01	358	e(P)	Pn	21 49 33.4	+4.2
MOX				e		21 50 07.6	

LDG 06 21:55:13.4±1.4, 4232N×1246E, h10^{km}, Ml2.6/2, Error ellipse: s-maj=32.9km s-min=18.9km az=131.0
CSEM 06 21:55:15.9±0.1, 4267N×1206E, h12^{km}, ML3.4/10, Error ellipse: s-maj=1.2km s-min=1.0km az=30.0
ROM 06 21:55:16.3±0.2, 4265N×1205E, h5^{km}±2^{km}, Md2.7/16, Ml2.7/18, Error ellipse: s-maj=1.4km s-min=1.3km az=32.0
NEIC 06 21:55:16.3, 4265N×1205E, h5^{km}, ML2.6(LDG), ML2.7(ROM), After ROM.
ISCJB 06 21:55:17.2±0.3, 4265N±002×1201E±002, h18^{km}±4^{km}, Error ellipse: s-maj=3.8km s-min=2.9km az=55.6
ISC 06 21:55:17.1±0.3, 4265N±002×1206E±002, h11^{km}±3^{km}, n34, σ0^{s}99/52, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LATE	Laterza	0.19	258	Pg	Pg	21 55 21.2	0.0
LATE				Sg	Sg	21 55 24.1	+0.2
	5μm,0.3s						
SACS	San Casciano d	0.22	331	Pg	Pg	21 55 21.4	-0.4
SACS				Sg	Sg	21 55 25.1	+0.2
	3μm,0.4s						
ARCI	Arcidosso	0.47	295	Pg	Pg	21 55 25.9	-0.4
ARCI				Sg	Sg	21 55 33.5	+0.9
	266nm,0.3s						
MNS	Montasola	0.54	120	Pg	Pg	21 55 27.0	-0.5
MNS				Sg	Sg	21 55 35.4	+0.8
	397nm,0.5s						
TOLF	Tolfa	0.59	184	Pg	Pg	21 55 28.1	-0.5
TOLF				Sg	Sg	21 55 37.6	+1.3
	623nm,0.8s						
MURB	Monte Urbino	0.70	29	Pg	Pg	21 55 29.6	-1.1
MURB				Sg	Sg	21 55 41.0	+1.1
	2μm,0.3s						
MAON	Monte Argentar	0.72	252	Pg	Pg	21 55 30.1	-0.9
MAON				Sg	Sg	21 55 41.3	+0.9
	311nm,0.7s						
NRCA	Norcia	0.80	77	Pg	Pg	21 55 31.7	-0.9
NRCA				Sg	Sg	21 55 43.9	+0.8
	52nm,0.2s						
MTCE	Montecelio	0.81	141	Pg	Pg	21 55 32.6	-0.2
MTCE				Sg	Sg	21 55 44.4	+1.1
	235nm,0.7s						
BADI	Badiali	0.87	9	Pg	Pg	21 55 33.2	-0.7
BADI				Sg	Sg	21 55 46.8	+1.6
	4μm,5.5s						
FIAM	Fiamignano	0.88	116	Pg	Pg	21 55 33.2	-0.8
FIAM				Sg	Sg	21 55 46.4	+1.0
	347nm,1.2s						
SNTG	Esanatoglia	0.89	47	Pg	Pg	21 55 33.5	-0.7
SNTG				Sg	Sg	21 55 46.7	+0.9
	72nm,0.4s						
GRFL	Gerfalco	0.93	302	Pg	Pg	21 55 34.9	-0.2
	38nm,0.7s						
CRE	Caprese Michel	0.97	356	Pg	Pg	21 55 35.2	-0.6
CRE				Sg	Sg	21 55 50.0	+1.6
	200nm,0.7s						
CERT	Cerreto	0.98	135	Pg	Pg	21 55 35.2	-0.9
CERT				Sg	Sg	21 55 50.3	+1.4
	213nm,0.6s						
CSNT	Castellina Chi	0.99	326	Pg	Pg	21 55 35.2	-1.0
CSNT				Sg	Sg	21 55 50.0	+0.9
	59nm,0.4s						
CAMP	Campotosto	1.01	96	Pg	Pg	21 55 35.8	-0.7
CAMP				Sg	Sg	21 55 51.6	+2.0
	109nm,0.6s						
AQU	L'Aquila	1.04	106	Pg	Pg	21 55 36.3	-0.8
	135nm,0.8s						
ARV	Arcevia	1.06	37	Pg	Pg	21 55 36.4	-1.2
	61nm,0.6s						
CING	Cingoli	1.10	49	Pg	Pg	21 55 37.8	-0.6
	167nm,0.6s						
TERO	Teramo	1.14	91	Pg	Pg	21 55 37.9	-1.2
	150nm,0.5s						
FSSB	Fossombrone	1.17	27	Pg	Pg	21 55 38.3	-1.2
	38nm,0.2s						
FAGN	Fagnano	1.20	108	Pg	Pg	21 55 39.8	-0.3
	196nm,0.5s						
SFI	Santa Sofia	1.26	353	Pg	Pg	21 55 40.2	-1.1
	113nm,0.9s						
GUAR	Guarcino	1.27	132	Pg	Pg	21 55 41.0	-0.5
	114nm,0.7s						
PGF	Pioggiola	2.26	268	ePn	Pn	21 55 53.8	-0.6
PGF				eSn	Sn	21 56 22.6	+0.3
	8.1nm,0.5s						
SBF	Sospel	3.58	291	ePn	Pn	21 56 11.7	-1.0
FRF	La Foret Royal	4.06	285	ePn	Pn	21 56 17.8	-1.4
LMR	La Mourre	4.12	281	ePn	Pn	21 56 18.3	-1.8
LPG	La Plagne	4.76	308	ePn	Pn	21 56 29.8	+0.9
LPL	La Plagne	4.79	309	ePn	Pn	21 56 30.6	+1.4
LPL				eSn	Sn	21 57 26.6	+2.0
	1.7nm,0.5s						
SMRF	Simiane la Rot	4.91	288	ePn	Pn	21 56 31.0	+0.1
ORIF	Oris-en-Rattie	5.01	299	ePn	Pn	21 56 34.1	+1.8
CDF	Champ du Feu	6.67	331	ePn	Pn	21 56 54.7	-0.3

NEIC 06 21:56:35.2, 3824S×17939E, h14^{km}, ML3.8(WEL), After WEL.
WEL 06 21:56:35.0±0.3, 3824S×17940E, h12^{km}, ML3.8/6, 1C, Error ellipse: s-maj=2.7km s-min=1.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	0.91	280	⇑P*	Pb	21 56 51.9	-0.9
PUZ				S*	Sb	21 57 04.1	-0.8
PUZ	Puketiti	0.91	280	P	Pg	21 56 51.9	-0.7
PUZ				S	Sg	21 57 04.1	-0.5
MXZ	Matakaoa Point	1.10	308	P*	Pb	21 56 54.8	-1.1
MXZ	Matakaoa Point	1.10	308	P	Pb	21 56 55.0	-0.9
MWZ	Matawai	1.47	266	PN	Pn	21 57 00.4	-0.9
KNZ	Kokohu	1.56	240	PN	Pn	21 57 01.9	-0.6
KNZ	Kokohu	1.56	240	P	Pn	21 57 01.9	-0.6
URZ	Urewera	1.80	269	PN	Pn	21 57 05.2	-0.6
URZ				SN	Sn	21 57 27.4	-1.2
URZ	Urewera	1.80	269	P	Pn	21 57 05.3	-0.5
TAZ	Tarawera	2.27	269	PN	Pn	21 57 12.4	+0.1
MRZ	Mangatainoka R	3.82	230	ePN	Pn	21 57 31.6	-1.9
MRZ	Mangatainoka R	3.82	230	eP	Pn	21 57 31.6	-2.0
MQZ	McQueen's Vall	7.47	221	SN	Sn	21 59 39.7	-8.7

NNC 06 22:03:15.1±5.3, 3935N×7172E, h9^{km}±10^{km}, mb3.4, mpv3.0, 6C-1D, Error ellipse: s-maj=36.5km s-min=32.1km az=2.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	3.86	347	⇓Pn	Pn	22 04 17.5	+3.0
	2.8nm,0.5s,baz=157,slow=11,SNR=47						
KK31				⇑Sn	Sn	22 05 07.9	+7.9
	1.8nm,0.3s,baz=172,slow=22,SNR=5.7						
KK31				⇑Lg		22 05 18.1	
	4.7nm,0.5s,baz=240,slow=12,SNR=4.4						
TKM2	Tokmak 2	4.62	38	⇑Pn	Pn	22 04 27.6	+2.6
	1.9nm,1.4s						
TKM2				⇑Lg		22 05 38.1	
	1.2nm,1.0s						
AB31	Akbulak array	12.99	324	⇑Pn	Pn	22 06 19.5	-0.3
	0.7nm,0.8s,baz=131,slow=13,SNR=9.8						
AB31				⇑Sn	Sn	22 08 40.1	-4.2
	1.3nm,0.7s,baz=130,slow=24,SNR=6.7						
DFRA	Djebel Bou Aff	50.95	289	P	P	22 12 52.5	+36

IDC 06 22:17:06.8±0.8, 1365N×9302E, h0^{km}, mb4.1/11, mb1 4.3/11, mb1mx4.0/21, mbtmp4.1/11, MS3.6/3, Ms1 3.6/3, ms1mx3.0/36, Error ellipse: s-maj=57.3km s-min=15.5km az=48.0
ISCJB 06 22:17:08.1±2.1, 1323N±006×9247E±008, h27^{km}±16^{km}, mb4.2/23, MS3.6/6, Error ellipse: s-maj=14.5km s-min=8.2km az=109.9
BJI 06 22:17:10.3, 1326N×9259E, h30^{km}, mB4.9, mb4.5, Ms4.0, Msz3.9
NEIC 06 22:17:11.5±0.4, 1375N×9308E, h30^{km}, mb4.2/9, Error ellipse: s-maj=23.2km s-min=6.9km az=52.0
ISC 06 22:17:10.4±1.9, 1324N±007×9241E±008, h27^{km}±14^{km}, h34^{km}±1.7^{km}:pP-P, n49, σ1^{s}19/51, mb4.2/23, MS3.6/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	8.15	50	ePn	Pn	22 18 58.2	-8.7
CM31				eSn	Sn	22 20 08.9	-29
VIS	Vishakhapatnam	9.82	298	i P	Pn	22 19 31.6	+1.8
VIS				i S	Sn	22 21 10.8	-8.4
KULM	Kulim	11.33	133	Pn	Pn	22 19 51.4	+0.9
KMI	Kunming	15.32	38	P	Pn	22 20 44.8	+0.1
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s						
JIRN	Jiri	15.48	339	eP	Pn	22 20 47.5	+0.7
PKI	Pulchoki	15.69	336	eP	Pn	22 20 50.6	+1.0
GUN	Gumba	15.82	338	eP	Pn	22 20 49.9	-1.3
DMN	Daman	15.84	336	eP	Pn	22 20 51.9	+0.4
KKN	Kakani	15.94	336	eP	Pn	22 20 52.5	-0.2
GKN	Gorkha	16.38	335	eP	Pn	22 20 56.6	-1.9
LSA	Lhasa	16.42	356	ePn	Pn	22 20 59.1	+0.1
	comp=Z,3.3nm,0.6s						
KOLN	Koldanda	16.64	332	eP	Pn	22 21 01.4	-0.3
CD2	Chengdu	20.46	29	eP	P	22 21 45.5	-0.4
CD2				PP		22 22 06.4	
CD2				S	S	22 25 27.2	-6.4
CD2				SS		22 25 57.4	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				LR	LR		
	comp=N,130nm,9.6s						
CD2				LR	LR		
	comp=Z,160nm,9.6s						
NJ2	Nanjing	30.62	48	eP	P	22 23 25.1	+2.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
WMQ	Urumqi	30.75	353	P	P	22 23 25.9	+2.6
WMQ				AP	pP	22 23 35.4	+4.1
WMQ				XP	sP	22 23 39.4	+4.8
WMQ				PP	PP	22 24 27.5	-5.4
WMQ				AMB	AMB		
	comp=Z,1.0nm,1.0s,mb3.6						
WMQ				AMB	AMB		
	comp=Z,16nm,4.4s						
WMQ				LR	LR		
	comp=N,103nm,10.1s						
WMQ				LR	LR		
	comp=E,77nm,9.0s						
WMQ				LR	LR		
	comp=Z,114nm,10.6s,MS3.8						
HHC	Hu-ho-hao-te	32.21	28	eP	P	22 23 38.8	+2.6
HHC				AP	pP	22 23 48.3	+4.1
HHC				XP	sP	22 23 52.5	+5.0
HHC				PP	PP	22 24 46.6	-2.6
HHC				S	S	22 28 48.6	+1.0
HHC				XS	sS	22 29 04.1	+3.3
HHC				SS	SS	22 30 43.0	-23
HHC				SCS	ScS	22 34 04.6	-0.5
HHC				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,102nm,6.4s						
HHC				LR	LR		
	comp=N,206nm,20.2s,MS3.9						
HHC				LR	LR		
	comp=E,154nm,21.4s,MS3.9						
HHC				LR	LR		
	comp=Z,134nm,17.8s,MS3.7						
MKAR	Makanchi Array	34.52	348	P	P	22 23 55.1	-1.2
	comp=Z,1.5nm,0.8s,mb4.0,baz=156,slow=6.2,SNR=9.5						
JOW	Kunigami	36.17	63	LR	LR	22 41 44.1	
	comp=Z,67nm,19.6s,MS3.4,baz=81,slow=42						
ULN	Ulaanbaatar	36.62	17	eP	P	22 24 08.2	-6.2
	comp=Z,1.9nm,0.4s,mb4.3						
KURK	Kurchatov	39.03	346	eP	P	22 24 33.4	-1.3
	comp=Z,2.3nm,0.9s,mb3.9						
BRVK	Borovoye	43.46	341	eP	P	22 25 10.7	-0.4
	comp=Z,0.5nm,0.4s,mb3.6						
ZRNK	Zerenda	43.79	340	eP	P	22 25 13.0	-0.8
ZRNK				epP	pP	22 25 24.0	+2.1
CHKZ	Chkalovo	43.88	341	eP	P	22 25 13.5	-1.0
CHKZ				epP	pP	22 25 23.4	+0.7
MDJ	Mudanjiang	44.49	38	P	P	22 25 20.1	+0.7
MDJ				AP	pP	22 25 28.0	+0.4
MDJ				XP	sP	22 25 32.8	+2.0
MDJ				PCP	PcP	22 27 02.5	0.0
MDJ				PP	PP	22 27 04.3	+0.9
MDJ				SCP	ScP	22 30 52.1	-0.6
MDJ				PCS	PcS	22 30 56.2	+0.4
MDJ				S	S	22 31 54.0	+1.1
MDJ				XS	sS	22 32 09.9	+3.5
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.5s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,36nm,3.9s						
MDJ				LR	LR		
	comp=N,31nm,19.1s,MS3.4						
MDJ				LR	LR		
	comp=E,31nm,20.3s,MS3.4						
MDJ				LR	LR		
	comp=Z,35nm,19.1s,MS3.3						
FITZ	Fitzroy Crossi	45.21	133	eP	P	22 25 24.9	-0.2
	comp=Z,7.9nm,1.1s,mb4.5						
FITZ	Fitzroy Crossi	45.21	133	P	P	22 25 24.5	-0.7
	comp=Z,3.0nm,0.8s,mb4.2,baz=333,slow=14,SNR=4.7						
WRA	Warramunga Arr	52.81	128	P	P	22 26 22.4	-1.0
	comp=Z,3.4nm,0.8s,mb4.3,baz=307,slow=8.3,SNR=14						
WRAB	Tennant Creek	52.82	128	eP	P	22 26 22.9	-0.4
	comp=Z,4.9nm,0.4s,mb4.8						
WB2	Warramunga Arr	52.82	128	eP	P	22 26 22.8	-0.6
WB2	Warramunga Arr	52.82	128	eP	P	22 26 23.0	-0.4
ASAR	Alice Springs	54.69	132	P	P	22 26 37.2	+0.1
	comp=Z,3.7nm,0.5s,mb4.6,baz=308,slow=6.6,SNR=47						
BR131	Keskin Array S	57.71	309	eP	P	22 27 00.8	+2.2
	comp=Z,1.5nm,0.8s,mb4.1						
BRTR	Keskin Array B	57.71	309	P	P	22 27 01.2	+2.5
	comp=Z,2.4nm,0.8s,mb4.3,baz=116,slow=7.7,SNR=13						
PMG	Port Moresby	58.83	110	LR	LR	22 54 46.0	
	comp=Z,167nm,19.7s,MS4.2,baz=41,slow=39						
AKASG	Malin Array Be	62.94	320	P	P	22 27 34.0	-0.4
	comp=Z,0.2nm,0.3s,mb3.7,baz=93,slow=4.4,SNR=6.2						
AKASG	Malin Array Be	62.94	320	P	P	22 27 34.0	-0.5
STKA	Stephens Creek	65.04	135	eP	P	22 27 43.7	-4.5
	comp=Z,1.3nm,0.3s,mb4.4						
JOF	Joensuu	65.31	334	ep	P	22 27 48.8	-1.2
	comp=Z,3.2nm,0.7s,mb4.5						
FINES	FINESS Array B	67.21	331	P	P	22 28 01.7	-0.5
	comp=Z,1.5nm,0.7s,mb4.1,baz=101,slow=8.0,SNR=12						
FINES				LR	LR	23 02 58.0	
	comp=Z,22nm,20.6s,MS3.4,baz=180,slow=41						
FINES	FINESS Array B	67.21	331	P	P	22 28 01.7	-0.5
FINES				LR	LR	23 02 58.0	
KAF	Kangasniemi	67.28	332	ep	P	22 28 00.3	-2.3
	comp=Z,2.1nm,0.7s,mb4.3						
ARCES	ARCESS Array B	69.68	340	P	P	22 28 17.2	-0.4
	comp=Z,0.6nm,0.4s,mb3.9,baz=92,slow=6.7,SNR=13						
ARCES	ARCESS Array B	69.68	340	P	P	22 28 17.2	-0.4
GERES	GERESS Array B	72.74	317	P	P	22 28 38.2	+2.1
	comp=Z,3.0nm,0.8s,mb4.3,baz=85,slow=5.6,SNR=17						
NB2	NORSAR Subarra	74.26	330	P	P	22 28 44.6	-0.4
	comp=Z,0.7nm,0.6s,mb3.8,baz=89,slow=5.9						
NOA	NORSAR Array B	74.26	330	P	P	22 28 44.9	-0.1
	comp=Z,1.1nm,0.7s,mb3.9,baz=90,slow=5.7,SNR=8.7						
LPG	La Plagne	77.67	314	eP	P	22 29 06.3	+1.8
	comp=Z,9.7nm,0.8s,mb4.5						
LPG	La Plagne	77.67	314	eP	P	22 29 06.3	+1.8
	comp=Z,4.8nm,0.8s,mb4.5						
TORD	Torodi Ar. Bea	87.73	283	P	P	22 30 01.2	+4.4
	comp=Z,0.7nm,0.7s,mb4.0,baz=89,slow=4.0,SNR=6.9						

IDC 06 22:20:41.2±1.9, 191N×12779E, h0^{km}, mb3.8/4, mb1 4.0/4, mb1mx3.7/15, mbtmp3.8/4, Error ellipse: s-maj=140.6km s-min=23.7km az=66.0
ISCJB 06 22:20:43.7±0.9, 20N±02×1279E±03, h33^{km}, mb3.9/6, Error ellipse: s-maj=53.2km s-min=11.2km az=135.5
NEIC 06 22:20:45.9±0.8, 190N×12781E, h35^{km}, mb4.1/2, Error ellipse: s-maj=47.6km s-min=9.0km az=67.0
ISC 06 22:20:46.1±0.9, 19N±02×1279E±04, h35^{km}, n13, σ0^{s}75/13, mb3.9/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	Tennant Creek	22.64	164	eP	P	22 25 43.9	0.0
	8.5nm,0.3s,mb4.7						
WRA	Warramunga Arr	22.64	164	P	P	22 25 43.3	-0.7
	1.7nm,0.4s,mb3.8,baz=343,slow=11,SNR=8.9						
WB2	Warramunga Arr	22.64	164	eP	P	22 25 43.8	-0.2
WB2	Warramunga Arr	22.64	164	eP	P	22 25 44.0	0.0
MBWA	Marble Bar	24.28	199	P	P	22 25 59.5	-0.4
ASAR	Alice Springs	26.11	167	P	P	22 26 18.2	+1.7
	0.4nm,0.3s,mb3.5,baz=346,slow=12,SNR=6.8						
STKA	Stephens Creek	36.05	160	P	P	22 27 43.8	-0.3
	2.4nm,0.5s,mb4.4,baz=330,slow=9.2,SNR=9.6						
LSA	Lhasa	44.47	312	P	P	22 28 54.3	+0.5
MKAR	Makanchi Array	59.67	325	P	P	22 30 47.4	+0.6
	0.2nm,0.3s,mb3.6,baz=124,slow=6.9,SNR=6.7						
MKAR	Makanchi Array	59.67	325	P	P	22 30 47.4	+0.6
KURK	Kurchatov	63.86	328	eP	P	22 31 14.9	-0.1
	0.5nm,0.6s,mb3.7						
BRVK	Borovoye	69.51	327	P	P	22 31 51.4	+0.3
ZRNK	Zerenda	70.16	327	P	P	22 31 53.6	-1.5

CSEM 06 22:39:07.2±0.8, 3904N×2925W, h5^{km}, ML1.9, Error ellipse: s-maj=8.8km s-min=4.7km az=90.0, After PDA
PDA 06 22:39:07.2±0.8, 3904N×2925W, h5^{km}, MD3.2, ML1.9, Error ellipse: s-maj=8.8km s-min=4.7km az=90.0
SVSA 06 22:39:07.2±0.8, 3904N×2925W, h5^{km}, MD3.2, ML1.9, Error ellipse: s-maj=8.8km s-min=4.7km az=90.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CALA	Caldeira	0.63	137	eS	Sg	22 39 25.8	-1.6
HOR	Horta	0.71	136	eS	Sg	22 39 27.4	-2.5
PCND	Candelaria	0.84	133	eS	Sg	22 39 31.1	-3.1
PCND							
	29nm,0.2s						
PICO	Pico	0.84	130	eP	Pg	22 39 20.9	-2.4
PICO				eS	Sg	22 39 30.9	-3.3
ROSA	Rosais	0.85	112	eP	Pg	22 39 20.7	-2.8
ROSA				eS	Sg	22 39 30.6	-4.0
PTEI	Pico do Teixo	0.89	128	eS	Sg	22 39 32.6	-3.1
PTEI							
	27nm,0.1s						
PAMA	Santo Amaro	0.91	113	erx		22 39 33.5	
PBOI	Pico dos Bois	0.91	131	eS	Sg	22 39 32.8	-3.7
PBOI							
	18nm,0.2s						
PGRA	Graciosa	0.99	90	eS	Sg	22 39 34.6	-4.4
PGRA							
	5.0nm,0.4s						
PID	Ribeirinha	1.07	124	eP	Pg	22 39 24.1	-3.6
PID				eS	Sg	22 39 35.8	-5.7

IDC 06 22:56:51.7±1.4, 492S×12601E, h0^{km}, mb3.8/4, mb1 4.0/5, mb1mx3.8/17, mbtmp3.9/5, ML3.6/1, MS4.1/1, Ms1 4.1/1, ms1mx2.2/27, Error ellipse: s-maj=134.8km s-min=23.0km az=72.0
ISCJB 06 22:56:54.6±0.6, 51S±01×1257E±03, h33^{km}, mb3.8/4, MS3.9/1, Error ellipse: s-maj=48.7km s-min=8.7km az=133.0
NEIC 06 22:56:57.0±0.4, 505S×12583E, h35^{km}, mb4.0/2, Error ellipse: s-maj=31.0km s-min=5.8km az=67.0
ISC 06 22:56:57.0±0.6, 51S±01×1258E±03, h35^{km}, n17, σ0^{s}33/15, mb3.8/4, MS3.9/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.97	181	Pn	Pn	22 59 58.6	-0.2
	0.3nm,0.3s,baz=17,slow=17,SNR=6.7						
WRAB	Tennant Creek	16.97	151	eP	Pn	23 00 51.5	-0.1
	8.6nm,0.7s						
WRA	Warramunga Arr	16.97	151	Pn	Pn	23 00 44.6	-7.0
	0.4nm,0.3s,baz=344,slow=9.9,SNR=5.7						
WB2	Warramunga Arr	16.98	151	eP	Pn	23 00 51.6	-0.1
AS31	Alice Springs	20.08	158	eP	P	23 01 27.5	0.0
ASPA	Alice Springs	20.08	158	eP	P	23 01 27.5	+0.1
ASAR	Alice Springs	20.09	158	P	P	23 01 27.6	+0.2
	5.0nm,0.6s,baz=346,slow=12,SNR=54						
PSI	Prapat	27.97	286	LR	LR	23 15 10.6	
	comp=Z,316nm,18.3s,MS3.9,baz=167,slow=39						
STKA	Stephens Creek	30.51	153	P	P	23 03 07.0	+0.2
SONM	Songino Array	55.36	344	P	P	23 06 27.1	-0.4
	0.6nm,0.7s,mb3.7,baz=152,slow=6.8,SNR=4.9						
MKAR	Makanchi Array	64.36	328	P	P	23 07 30.0	+0.7

	1.1nm,0.6s,mb4.1,baz=112,slow=7.8,SNR=14						
KURK	**Kurchatov**	**68.72**	**330**	*e*P	**P**	**23 07 57.1**	**0.0**
BVAR	**Borovoye Array**	**74.23**	**329**	P	**P**	**23 08 29.5**	**-0.8**
	0.4nm,0.7s,mb3.5,baz=120,slow=8.7,SNR=3.3						
BRVK	**Borovoye**	**74.30**	**329**	*e*P	**P**	**23 08 31.1**	**+0.3**
CHKZ	**Chkalovo**	**74.45**	**330**	P	**P**	**23 08 31.6**	**0.0**
ZRNK	**Zerenda**	**74.91**	**328**	*e*P	**P**	**23 08 34.3**	**+0.1**
	0.8nm,0.4s,mb4.0						
CPUP	**Villa Florida**	**148.66**	**175**	PKPbc	PKPbc	23 16 41.8	+1.4
	0.3nm,0.3s,baz=191,slow=4.0,SNR=3.7						

*NIED **06** 23:07:00, 40.20N×142.50E, h38km, Mw3.6 Best double couple: $M_0$2.91000×10^14 NP1:ϕ_s17.00000°, δ87.00000°, λ105.00000°. NP2:ϕ_s118.00000°, δ15.00000°, λ11.00000°.*
*IDC **06** 23:07:03.0±3.6, 40.49N×142.67E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.5/22, mbtmp3.7/6, ML3.6/1, MS3.5/2, Ms1 3.5/2, ms1mx2.6/31, Error ellipse: s-maj=76.3km s-min=38.6km az=118.0*
*ISCJB **06** 23:07:07.2±1.2, 40.12N±0.05×142.5E±0.1, h51km±8km, mb3.9/10, MS3.5/2, Error ellipse: s-maj=15.0km s-min=8.3km az=159.2*
*JMA **06** 23:07:07.5±0.1, 40.15N×142.49E, h34km±1km, M3.7*
JMA Felt I J1.
*NEIC **06** 23:07:13.1±2.3, 39.93N×142.52E, h101km±36km, mb4.1/5, Error ellipse: s-maj=47.9km s-min=17.1km az=165.0*
ISC 06 23:07:07.7±1.4, **40.14N**±0.06×**142.5E**±0.1, **h40**km±11km, **n24**, σ**0.65**/30, **mb3.9**/10, **MS3.5**/2, **7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.54**	**248**	⇓P	**Pn**	**23 07 18.4**	**-0.5**
JTH				S	**Sn**	**23 07 26.3**	**-0.5**
MIYJ	**Miyakonagasawa**	**0.78**	**224**	⇓P	**Pn**	**23 07 21.7**	**-0.4**
MIYJ				S	**Sn**	**23 07 31.7**	**-0.9**
JANG	**Nango**	**0.80**	**287**	⇓P	**Pn**	**23 07 21.8**	**-0.7**
JANG				S	**Sn**	**23 07 31.9**	**-1.3**
JKZ	**Kuzumaki**	**0.92**	**261**	⇓P	**Pn**	**23 07 24.1**	**0.0**
JKZ				*e*S	**Sn**	**23 07 35.7**	**-0.5**
JOM	**Ohasama**	**1.15**	**235**	⇓P	**Pn**	**23 07 27.9**	**+0.6**
JOM				S	**Sn**	**23 07 42.8**	**+1.0**
OFUJ	**Ofunato**	**1.24**	**212**	P	**Pn**	**23 07 29.0**	**+0.5**
JTM	**Tenmabayashi**	**1.28**	**301**	⇓P	**Pn**	**23 07 29.4**	**+0.4**
JTM				*e*S	**Sn**	**23 07 45.2**	**+0.2**
JAH	**Hinai**	**1.44**	**273**	⇓P	**Pn**	**23 07 32.1**	**+0.9**
JAH				S	**Sn**	**23 07 50.4**	**+1.5**
MJAR	**Matsushiro Arr**	**4.94**	**225**	Pn	**Pn**	**23 08 22.9**	**+3.6**
	2.0nm,0.3s,baz=34,slow=12,SNR=16						
MAJO	**Matsushiro**	**4.94**	**225**	*e*Pn	**Pn**	**23 08 19.9**	**+0.7**
MAT	**Matsushiro**	**4.94**	**225**	P	**Pn**	**23 08 18.9**	**-0.4**
MAT				*e*S	**Sn**	**23 09 14.5**	**-0.6**
GUMO	**Guam**	**26.53**	**175**	LR	LR	23 22 05.8	
	comp=Z,82nm,18.4s,MS3.3,baz=81,slow=34						
SONM	**Songino Array**	**26.91**	**299**	P	**P**	**23 12 45.5**	**+0.5**
	0.2nm,0.3s,mb3.1,baz=107,slow=8.6,SNR=3.2						
LSA	**Lhasa**	**42.87**	**272**	P	**P**	**23 15 02.0**	**+0.1**
MKAR	**Makanchi Array**	**43.27**	**300**	P	**P**	**23 15 05.1**	**-0.1**
	0.3nm,0.4s,mb3.3,baz=67,slow=11,SNR=6.8						
KURK	**Kurchatov**	**44.76**	**306**	*e*P	**P**	**23 15 17.1**	**0.0**
	1.5nm,0.7s,mb3.9						
KURK				*e*		23 15 20.4	
CHKZ	**Chkalovo**	**48.87**	**311**	*e*P	**P**	**23 15 49.3**	**0.0**
	1.9nm,0.3s,mb4.6						
BVAR	**Borovoye Array**	**49.17**	**311**	P	**P**	**23 15 51.9**	**+0.3**
	1.3nm,0.4s,mb4.3,baz=74,slow=9.1,SNR=16						
BRVK	**Borovoye**	**49.22**	**311**	*e*P	**P**	**23 15 52.1**	**+0.1**
	0.6nm,0.3s,mb4.1						
ZRNK	**Zerenda**	**49.99**	**311**	*e*P	**P**	**23 15 58.0**	**+0.1**
	0.8nm,0.2s,mb4.4						
INK	**Inuvik**	**51.24**	**28**	*e*P	**P**	**23 16 07.3**	**0.0**
	1.2nm,0.7s,mb3.9						
HFS	**Hagfors**	**71.62**	**336**	P	**P**	**23 18 24.0**	**-0.9**
	0.3nm,0.3s,mb3.7,baz=35,slow=5.4,SNR=4.9						
NOA	**NORSAR Array B**	**71.66**	**337**	P	**P**	**23 18 24.6**	**-0.5**
	0.3nm,0.7s,mb3.4,baz=37,slow=6.2,SNR=3.8						
PDAR	**Pinedale Array**	**74.89**	**47**	LR	LR	23 48 05.7	
	comp=Z,34nm,20.5s,MS3.6,baz=343,slow=33						

*NNC **06** 23:25:34.3±5.3, 39.27N×71.62E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=40.8km s-min=37.1km az=141.0*
*ISCJB **06** 23:25:35.1±4.9, 39.3N±0.4×71.3E±0.2, h10km, Error ellipse: s-maj=54.4km s-min=10.8km az=29.0*
ISC 06 23:25:37.1±5.0, **39.3N**±0.4×**71.4E**±0.2, **h10**km, **n12**, σ**0.69**/13, **4C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.33**	**31**	P	**Pn**	**23 26 29.2**	**-0.1**
	SNR=7.3						
UCH	**Uchtor**	**3.77**	**38**	P	**Pn**	**23 26 35.0**	**-0.2**
	SNR=13						
KK31	**Karatay Array**	**3.87**	**350**	⇑Pn	**Pn**	**23 26 38.1**	**+1.5**
	3.5nm,0.3s,baz=172,slow=12,SNR=77						
KK31				⇓Lg		23 27 39.2	
	5.4nm,0.5s,baz=161,slow=27,SNR=4.9						
KZA	**Kyzart**	**4.04**	**45**	P	**Pn**	**23 26 38.5**	**-0.5**
	SNR=6.4						
AAK	**Ala-Archa**	**4.08**	**34**	P	**Pn**	**23 26 40.6**	**+1.0**
	SNR=8.0						
KBK	**Karagaybulak**	**4.31**	**37**	P	**Pn**	**23 26 43.3**	**+0.6**
	SNR=15						
CHMS	**Chumysh**	**4.49**	**33**	P	**Pn**	**23 26 44.9**	**-0.3**
	SNR=21						
USP	**Ospenovka**	**4.61**	**29**	P	**Pn**	**23 26 46.6**	**-0.2**
	SNR=7.2						
TKM2	**Tokmak 2**	**4.82**	**40**	P	**Pn**	**23 26 48.5**	**-1.2**
	SNR=6.8						
TKM2	**Tokmak 2**	**4.82**	**40**	⇑Pn	**Pn**	**23 26 49.2**	**-0.5**
	0.8nm,0.8s						
TKM2				⇑Lg		23 28 01.4	
	0.5nm,0.7s						
AB31	**Akbulak array**	**12.89**	**324**	⇓Pn	**Pn**	**23 28 40.1**	**-0.3**
	1.2nm,0.8s,baz=150,slow=7.8,SNR=14						
AB31				⇓Sn	**Sn**	**23 31 03.4**	**-0.5**
	0.6nm,0.7s,baz=138,slow=24,SNR=4.4						
AKTO	**Aktyubinsk**	**14.61**	**324**	⇑Pn	**Pn**	**23 29 09.9**	**+6.1**
	0.1nm,1.2s						

*BJI **06** 23:26:55.0, 65.30N×160.70W, h10km, mB5.2, mb4.5, Ms4.6, Msz4.3*
*ISCJB **06** 23:26:57.8±1.4, 65.14N±0.05×160.73W±0.08, h9km±8km, mb4.4/31, MS3.5/6, Error ellipse: s-maj=8.8km s-min=4.6km az=49.3*
*MOS **06** 23:26:57.6±0.8, 65.13N×160.80W, h10km, mb4.7/13, Error ellipse: s-maj=19.9km s-min=8.7km az=103.7*
*NEIC **06** 23:26:58.0, 65.29N×160.73W, h5km, mb4.5/10, ML4.5(AEIC), ML4.8(PMR), After AEIC.*
NEIC Felt [III] at Koyuk. Felt at Nome.
*IDC **06** 23:26:59.9±0.9, 65.31N×161.15W, h0km, mb4.1/14, mb1 4.3/17, mb1mx4.2/22, mbtmp4.2/17, ML4.2/3, MS3.3/6, Ms1 3.3/6, ms1mx2.9/29, Error ellipse: s-maj=21.0km s-min=11.9km az=32.0*
ISC 06 23:26:60.0±1.5, **65.19N**±0.05×**160.75W**±0.07, **h12**km±9km, **h14**km±3.4km**:pP-P**, **n77**, σ**1.05**/89, **mb4.4**/31, **MS3.5**/6, **4C-2D, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNA	**Tin City**	**3.03**	**280**	P	**Pn**	**23 27 46.7**	**-1.0**
TNA				S	**Sn**	**23 28 24.1**	**+0.2**
TTA	**Tatalina**	**3.08**	**135**	P	**Pn**	**23 27 48.1**	**-0.4**
TTA				S	**Sn**	**23 28 26.3**	**+1.1**
KTH	**Kantishna Hill**	**4.57**	**107**	P	**Pn**	**23 28 09.4**	**+0.4**
SVW2	**Sparrevohn**	**4.73**	**148**	*e*P	**Pn**	**23 28 09.5**	**-1.6**
COLD	**Coldfoot**	**4.74**	**60**	P	**Pn**	**23 28 10.8**	**-0.4**
COLA	**College**	**5.47**	**87**	*e*P	**Pn**	**23 28 21.0**	**-0.4**
COLA				*e*		23 29 24.0	
COLA				pmax	pmax		
	comp=Z,62nm,0.6s						
COLA	**College**	**5.47**	**87**	*e*Pn	**Pn**	**23 28 21.0**	**-0.4**
	comp=Z,62nm,0.6s						
COLA				*e*Sn	**Sn**	**23 29 24.0**	**-0.3**
ILAR	**Eielson Array**	**5.90**	**88**	Pn	**Pn**	**23 28 26.2**	**-1.0**
	comp=Z,1.7nm,0.3s,baz=272,slow=15,SNR=43						
PMR	**Palmer**	**6.34**	**119**	*e*P	**Pn**	**23 28 33.5**	**+0.2**
PMR				*e*		23 29 44.0	
PMR				pmax	pmax		
	comp=Z,64nm,0.7s						
PMR	**Palmer**	**6.34**	**119**	*e*Pn	**Pn**	**23 28 33.5**	**+0.1**
	comp=Z,64nm,0.7s						
PMR				*e*Sn	**Sn**	**23 29 44.0**	**-1.7**
RC01	**Rabbit Creek A**	**6.46**	**124**	P	**Pn**	**23 28 35.2**	**+0.2**
SML	**Sawmill**	**6.51**	**116**	P	**Pn**	**23 28 35.7**	**+0.1**
SLKM	**Skilak Lake**	**6.72**	**129**	P	**Pn**	**23 28 38.9**	**+0.3**
SEW	**Seward**	**7.28**	**129**	P	**Pn**	**23 28 46.3**	**+0.1**
EYAK	**Cordova Ski Ar**	**8.28**	**117**	*e*Pn	**Pn**	**23 29 02.2**	**+2.4**
EYAK				*e*Sn	**Sn**	**23 30 26.4**	**-6.8**
KDAK	**Kodiak Island**	**8.39**	**149**	Pn	**Pn**	**23 29 01.4**	**0.0**
	comp=Z,5.3nm,0.3s,baz=355,slow=7.9,SNR=29						
KDAK				Lg		23 31 19.5	
	comp=Z,0.7nm,0.3s,baz=128,slow=14,SNR=4.1						
KDAK	**Kodiak Island**	**8.39**	**149**	P	**Pn**	**23 29 00.5**	**-0.9**
DAWY	**Dawson**	**9.23**	**87**	*e*Pn	**Pn**	**23 29 11.8**	**-1.1**
DAWY				*e*Sn	**Sn**	**23 30 51.9**	**-4.8**
INK	**Inuvik**	**11.15**	**62**	Pn	**Pn**	**23 29 41.1**	**+1.9**
	comp=Z,1.3nm,0.3s,baz=255,slow=16,SNR=27						
INK				Sn	**Sn**	**23 31 41.5**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=216,slow=22,SNR=1.6						
INK				Lg		23 32 53.2	
	comp=Z,0.3nm,0.3s,baz=189,slow=4.3,SNR=3.4						
INK				LR	LR	23 34 16.4	
	comp=Z,132nm,21.8s,baz=104,slow=39						
INK	**Inuvik**	**11.15**	**62**	P	**Pn**	**23 29 41.2**	**+2.0**
INK						23 31 41.5	
BILL	**Bilibino**	**13.30**	**297**	*e*P	**Pn**	**23 30 09.0**	**+0.4**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,100nm,12.0s						
DLBC	**Dease Lake**	**15.88**	**101**	Pn	**Pn**	**23 30 51.2**	**+7.9**
	comp=Z,0.2nm,0.3s,baz=284,slow=14,SNR=7.1						
DLBC				Lg		23 35 16.9	
	comp=Z,0.0nm,0.3s,baz=168,slow=27,SNR=2.6						
DLBC				LR	LR	23 38 11.5	
	comp=Z,60nm,19.7s,baz=340,slow=42						
DLBC	**Dease Lake**	**15.88**	**101**	Pn	**Pn**	**23 30 51.2**	**+7.9**
DLBC				Lg		23 35 16.9	
DLBC				LR	LR	23 38 11.5	
YKA	**Yellowknife Ar**	**20.16**	**76**	P	**P**	**23 31 35.2**	**+1.0**
	comp=Z,5.3nm,0.9s,baz=299,slow=11,SNR=6.6						
TIXI	**Tiksi**	**25.20**	**316**	*e*P	**P**	**23 32 24.6**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.6						
WVOR	**Wild Horse Val**	**32.73**	**113**	*e*P	**P**	**23 33 32.1**	**-0.4**
WVOR				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
WVOR	**Wild Horse Val**	**32.73**	**113**	*e*P	**P**	**23 33 32.1**	**-0.4**
	comp=Z,4.7nm,0.4s,mb4.8						
BOZ	**Bozeman (W)**	**32.88**	**102**	*e*P	**P**	**23 33 32.8**	**-1.0**
BOZ				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
BOZ	**Bozeman (W)**	**32.88**	**102**	*e*P	**P**	**23 33 32.8**	**-1.0**
	comp=Z,6.2nm,1.1s,mb4.5						
ULM	**Lac du Bonnet**	**35.89**	**83**	P	**P**	**23 34 02.6**	**+2.8**
	comp=Z,3.3nm,0.7s,mb4.4,baz=314,slow=10,SNR=5.4						
NVAR	**Mina Array Bea**	**36.32**	**116**	P	**P**	**23 34 06.3**	**+2.7**
	comp=Z,0.8nm,0.8s,mb3.7,baz=325,slow=7.7,SNR=4.0						
FRB	**Frobisher Bay**	**36.41**	**48**	P	**P**	**23 34 04.8**	**+0.5**
	comp=Z,10nm,0.6s,mb5.0,baz=316,slow=10,SNR=4.8						
SRU	**San Rafael**	**38.77**	**107**	*e*P	**P**	**23 34 16.3**	**-8.1**
SRU				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
SRU	**San Rafael**	**38.77**	**107**	*e*P	**P**	**23 34 16.3**	**-8.0**
	comp=Z,9.4nm,0.8s,mb4.6						
ECSD	**EROS,Sioux Fal**	**40.71**	**90**	*e*P	**P**	**23 34 30.4**	**-10**
MDJ	**Mudanjiang**	**42.32**	**276**	P	**P**	**23 34 51.8**	**-1.9**
MDJ				AP	pP	23 34 54.9	-2.4
MDJ				PP	PP	23 36 29.2	-2.5
MDJ				PCP	PcP	23 36 44.7	-2.5
MDJ				SCP	ScP	23 40 37.7	0.0
MDJ				S	**S**	**23 41 13.2**	**-1.3**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,68nm,5.0s						
MDJ				LR	LR		
	comp=Z,44nm,18.2s,MS3.4						
SCHQ	**Schefferville**	**43.71**	**57**	P	**P**	**23 35 07.3**	**+2.4**
	comp=Z,3.2nm,0.8s,mb4.1,baz=330,slow=10,SNR=4.4						
SCHQ				LR	LR	23 54 35.2	
	comp=Z,30nm,21.3s,MS3.2,baz=145,slow=38						
SCHQ	**Schefferville**	**43.71**	**57**	P	**P**	**23 35 07.3**	**+2.4**
SCHQ				LR	LR	23 54 35.2	
CN2	**Changchun**	**44.72**	**279**	*e*P	**P**	**23 35 13.7**	**+0.7**
CN2				*e*S	**S**	**23 41 50.1**	**+0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
KEV	**Kevo**	**45.22**	**356**	*e*p	**P**	**23 35 16.8**	**-0.2**
	comp=Z,1.9nm,0.6s,mb4.1						
KEV	**Kevo**	**45.22**	**356**	*e*P	**P**	**23 35 16.8**	**-0.2**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
ARCES	**ARCESS Array B**	**45.48**	**357**	P	**P**	**23 35 19.0**	**-0.1**
	comp=Z,4.2nm,1.0s,mb4.2,baz=358,slow=7.3,SNR=5.8						
ARCES				LR	LR	23 53 04.5	
	comp=Z,31nm,21.2s,MS3.2,baz=81,slow=34						
SONM	**Songino Array**	**49.02**	**297**	P	**P**	**23 35 48.1**	**+1.5**
	comp=Z,1.1nm,0.7s,mb4.0,baz=31,slow=7.5,SNR=9.2						
SONM				LR	LR	23 57 17.2	
	comp=Z,78nm,18.3s,MS3.7,baz=324,slow=37						
BJI	**Beijing**	**51.68**	**284**	P	**P**	**23 36 07.0**	**+0.2**
JOF	**Joensuu**	**51.88**	**353**	*e*p	**P**	**23 36 07.9**	**-0.4**
	comp=Z,5.2nm,0.6s,mb4.6						
JOF	**Joensuu**	**51.88**	**353**	*e*P	**P**	**23 36 07.9**	**-0.4**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
KAF	**Kangasniemi**	**52.90**	**356**	*e*p	**P**	**23 36 15.7**	**-0.1**
	comp=Z,6.5nm,0.6s,mb4.7						
KAF	**Kangasniemi**	**52.90**	**356**	*e*P	**P**	**23 36 15.7**	**-0.1**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
KLMR	**Klimovskoe**	**53.36**	**348**	*e*P	**P**	**23 36 19.6**	**+0.4**
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.5						
FINES	**FINESS Array B**	**53.57**	**356**	P	**P**	**23 36 21.1**	**+0.2**
	comp=Z,3.3nm,0.8s,mb4.3,baz=26,slow=7.4,SNR=20						
FINES				LR	LR	00 00 38.5	
	comp=Z,23nm,19.6s,MS3.2,baz=55,slow=38						
NB2	**NORSAR Subarra**	**53.94**	**5**	P	**P**	**23 36 23.4**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=354,slow=6.9						
NOA	**NORSAR Array B**	**53.94**	**5**	P	**P**	**23 36 23.9**	**+0.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=356,slow=7.1,SNR=6.7						
SVE	**Sverdlovsk**	**54.32**	**333**	*e*P	**P**	**23 36 26.0**	**-0.2**
ARU	**Arti**	**55.08**	**335**	⇑*i*P	**P**	**23 36 31.5**	**-0.2**
ARU				*e*		23 38 39.8	
ARU				*e*PPP		23 39 42.6	
ARU				*e*S	**S**	**23 44 14.4**	**+0.3**
ARU				*e*SS	SS	23 48 01.1	+3.2
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
ARU	**Arti**	**55.08**	**335**	*e*P	**P**	**23 36 30.9**	**-0.9**
	comp=Z,5.2nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**55.11**	**325**	*e*P	**P**	**23 36 30.4**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**55.11**	**325**	*e*P	**P**	**23 36 30.4**	**-1.6**
	comp=Z,4.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**55.72**	**319**	*e*P	**P**	**23 36 34.4**	**-2.0**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**55.72**	**319**	*e*P	**P**	**23 36 34.4**	**-2.0**
	comp=Z,3.9nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**56.16**	**326**	*e*P	**P**	**23 36 37.5**	**-2.0**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
ZRNK	**Zerenda**	**56.16**	**326**	*e*P	**P**	**23 36 37.5**	**-2.1**
	comp=Z,1.5nm,0.7s,mb4.1						
NJ2	**Nanjing**	**57.41**	**276**	*e*P	**P**	**23 36 48.0**	**-0.4**
NJ2				AP	pP	23 36 58.1	+5.9
NJ2				PP	PP	23 38 57.0	+1.2
NJ2				S	**S**	**23 44 41.0**	**-4.1**
NJ2				XS	sS	23 44 58.0	+6.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,440nm,5.1s						
MKAR	**Makanchi Array**	**58.18**	**314**	P	**P**	**23 36 53.5**	**-0.3**
	comp=Z,1.8nm,0.8s,mb4.2,baz=46,slow=6.9,SNR=14						
GTA	**Gaotai**	**58.69**	**297**	*e*P	**P**	**23 36 58.3**	**+0.9**
GTA				AP	pP	23 37 01.8	+0.7
GTA				XP	sP	23 37 04.2	+1.7
GTA				S	**S**	**23 45 04.3**	**+2.5**
GTA				XS	sS	23 45 11.5	+3.5
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.4						
GTA				AMB	AMB		
	comp=Z,137nm,3.7s						
GTA				LR	LR		
	comp=N,147nm,13.3s,MS4.3						
GTA				LR	LR		
	comp=E,108nm,15.2s,MS4.3						
GTA				LR	LR		
	comp=Z,96nm,11.8s,MS4.2						
CLL	**Collm**	**63.74**	**4**	*e*P	**P**	**23 37 28.0**	**-3.6**
AKASG	**Malin Array Be**	**64.19**	**353**	P	**P**	**23 37 34.4**	**-0.1**
	comp=Z,3.3nm,0.5s,mb4.7,baz=6.0,slow=6.2,SNR=20						
KWP	**Kalwaria**	**65.48**	**358**	*e*P	**P**	**23 37 43.6**	**+0.6**
KWP				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
KWP	**Kalwaria**	**65.48**	**358**	*e*P	**P**	**23 37 43.6**	**+0.6**
	comp=Z,3.3nm,0.6s,mb4.5						
GERES	**GERESS Array B**	**66.22**	**4**	P	**P**	**23 37 48.8**	**+1.0**
	comp=Z,0.5nm,0.5s,mb3.8,baz=2.3,slow=4.9,SNR=5.7						
BURAR	**Bucovina Array**	**67.44**	**356**	⇓*i*P	**P**	**23 37 56.1**	**+0.6**
DRGR		**68.33**	**357**	⇑*i*P	**P**	**23 38 01.3**	**+0.2**
PLOR	**Plostina**	**69.15**	**354**	⇓*i*P	**P**	**23 38 07.1**	**+0.9**
BZS	**Buzias**	**69.52**	**358**	⇑*i*P	**P**	**23 38 08.9**	**+0.4**
GZR	**Gura Zlata**	**69.72**	**357**	⇑*i*P	**P**	**23 38 10.7**	**+0.9**
KMI	**Kunming**	**70.16**	**287**	P	**P**	**23 38 13.0**	**+0.6**
KMI				AP	pP	23 38 17.7	+1.5
KMI				XP	sP	23 38 20.4	+2.8
KMI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
ESDC	**Sonseca Array**	**73.91**	**18**	P	**P**	**23 38 35.4**	**+0.5**
	comp=Z,0.8nm,0.6s,mb3.8,baz=355,slow=6.5,SNR=4.7						
BRTR	**Keskin Array B**	**74.82**	**349**	P	**P**	**23 38 39.3**	**-0.9**
	comp=Z,0.8nm,0.9s,mb3.7,baz=22,slow=4.3,SNR=4.2						

*IDC **06** 23:44:00.6±1.1, 38.94N×71.79E, h0km, mb3.8/10, mb1 3.9/13, mb1mx3.9/23, mbtmp3.8/13, ML3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.3/33, Error ellipse: s-maj=19.8km s-min=15.5km az=170.0*
*NEIC **06** 23:44:03.9±0.5, 39.24N×71.69E, h10km, mb4.4/20, Error ellipse: s-maj=9.5km s-min=6.0km az=158.0*
*NNC **06** 23:44:03.5±4.0, 39.26N×71.61E, h8km±8km, mb4.0, mpv4.0, Error ellipse: s-maj=30.5km s-min=21.9km az=17.0*
*ISCJB **06** 23:44:06.2±0.3, 39.29N±0.04×71.56E±0.03, h33km, mb4.1/37, MS3.6/3, Error ellipse: s-maj=5.3km s-min=3.6km az=147.4*
*MOS **06** 23:44:09.4±1.0, 39.49N×71.69E, h62km, mb4.5/19, Error ellipse: s-maj=9.0km s-min=5.9km az=116.8*
*BJI **06** 23:44:10.1, 39.53N×72.22E, h30km, mB4.9, mb4.4, ML3.7, Ms4.0, Msz3.8*
ISC 06 23:44:08.3±0.3, **39.29N**±0.03×**71.53E**±0.03, **h35**km, **n134**, σ**1.15**/150, **mb4.1**/37, **MS3.6**/3, **23C-5D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.28**	**29**	P	**Pn**	**23 44 58.4**	**+1.2**
	SNR=161						
KSH	**Kashi**	**3.45**	**85**	*e*P	**Pn**	**23 44 57.9**	**-1.6**
KSH				SG	**Sn**	**23 45 44.6**	**+5.5**
KSH				Smax			
	comp=N,369nm,0.6s						
KSH				Smax			
	comp=E,353nm,0.6s						
UCH	**Uchtor**	**3.70**	**37**	P	**Pn**	**23 45 04.1**	**+1.1**
	SNR=148						
EKS2	**Erkin-Say**	**3.77**	**26**	P	**Pn**	**23 45 05.4**	**+1.5**
	SNR=90						
KK31	**Karatay Array**	**3.88**	**349**	⇑Pn	**Pn**	**23 45 07.7**	**+2.2**
	comp=E,83nm,0.5s,baz=172,slow=13,SNR=1466						
KK31				⇑Sn	**Sn**	**23 45 59.6**	**+10**
	comp=E,28nm,0.3s,baz=159,slow=17,SNR=5.1						
KK31				⇑Lg		23 46 10.4	
	comp=E,55nm,0.4s,baz=164,slow=28,SNR=5.0						
KZA	**Kyzart**	**3.96**	**44**	P	**Pn**	**23 45 07.0**	**+0.4**
	SNR=91						
AAK	**Ala-Archa**	**4.02**	**33**	P	**Pn**	**23 45 08.8**	**+1.4**
	SNR=56						
AAK	**Ala-Archa**	**4.02**	**33**	*e*Pn	**Pn**	**23 45 07.8**	**+0.4**
AAK				*e*Sn	**Sn**	**23 45 54.0**	**+0.8**
FRU	**Bishkek**	**4.24**	**32**	⇓*i*PN	**Pn**	**23 45 12.0**	**+1.6**
FRU				*e*		23 46 05.6	
FRU				pmax	pmax		
	comp=Z,270nm,1.6s						
FRU				smax			
	comp=E,530nm,1.8s						
KBK	**Karagaybulak**	**4.24**	**36**	P	**Pn**	**23 45 12.0**	**+1.6**
	SNR=64						
CHMS	**Chumysh**	**4.43**	**32**	P	**Pn**	**23 45 14.4**	**+1.4**
	SNR=134						
USP	**Ospenovka**	**4.56**	**28**	P	**Pn**	**23 45 15.9**	**+1.1**
	SNR=151						
ULHL	**Ulahol**	**4.63**	**49**	P	**Pn**	**23 45 15.5**	**-0.3**
	SNR=44						
TKM2	**Tokmak 2**	**4.75**	**39**	P	**Pn**	**23 45 18.2**	**+0.8**
	SNR=84						
TKM2	**Tokmak 2**	**4.75**	**39**	⇓Pn	**Pn**	**23 45 18.0**	**+0.6**
	comp=E,2.7nm,0.5s						
TKM2				⇑Lg		23 46 29.6	
	comp=E,14nm,0.8s						
MKAR	**Makanchi Array**	**10.86**	**43**	Pn	**Pn**	**23 46 40.9**	**-0.4**
	comp=E,0.4nm,0.3s,baz=218,slow=15,SNR=16						
MKAR				Lg		23 49 43.4	
	comp=E,0.2nm,0.3s,baz=246,slow=26,SNR=3.4						
KURK	**Kurchatov**	**12.47**	**21**	⇑Pn	**Pn**	**23 47 00.1**	**-3.1**
	comp=E,3.7nm,0.9s						
KURK				⇓Lg		23 50 32.0	
	comp=E,11nm,0.9s						
KURK	**Kurchatov**	**12.47**	**21**	*e*P	**Pn**	**23 46 59.9**	**-3.3**
KURK				*e*		23 49 20.8	
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KURK	**Kurchatov**	**12.47**	**21**	*e*Pn	**Pn**	**23 46 59.9**	**-3.3**
	comp=Z,7.2nm,0.8s						
KURK				*e*Sn	**Sn**	**23 49 20.8**	**0.0**
WMQ	**Urumqi**	**12.92**	**64**	P	**Pn**	**23 47 11.3**	**+1.9**
WMQ				PP		23 47 22.4	
WMQ				S	**Sn**	**23 49 32.6**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,196nm,5.0s						
WMQ				LR	LR		
	comp=N,122nm,8.0s						
WMQ				LR	LR		
	comp=E,188nm,9.7s						
WMQ				LR	LR		
	comp=Z,316nm,10.6s						
AB31	**Akbulak array**	**12.95**	**324**	⇑Pn	**Pn**	**23 47 09.4**	**-0.5**
	comp=Z,2.3nm,0.3s,baz=132,slow=13,SNR=97						
AB31				⇑Sn	**Sn**	**23 49 29.8**	**-2.9**
	comp=Z,13nm,0.5s,baz=143,slow=19,SNR=16						
VOSK	**Vostochnaya**	**13.44**	**359**	⇑Pn	**Pn**	**23 47 13.3**	**-3.2**
	comp=Z,4.5nm,1.5s						
VOSK				⇑Lg		23 51 11.9	
	comp=Z,13nm,1.2s						
BVA0	**Borovoye Array**	**13.76**	**357**	⇑Pn	**Pn**	**23 47 19.2**	**-1.6**
	comp=Z,0.8nm,1.1s,baz=175,slow=13,SNR=9.8						
BVAR	**Borovoye Array**	**13.76**	**357**	Pn	**Pn**	**23 47 18.5**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=170,slow=10,SNR=12						
BVAR				Lg		23 51 23.3	
	comp=Z,0.2nm,0.3s,baz=150,slow=27,SNR=3.5						
BVAR				LR	LR	23 53 02.0	
	comp=Z,102nm,21.5s,baz=133,slow=38						
ZRNK	**Zerenda**	**13.77**	**354**	⇑Pn	**Pn**	**23 47 19.8**	**-1.2**
	comp=Z,2.5nm,0.6s						
ZRNK				⇑Lg		23 51 21.2	
	comp=Z,20nm,1.9s						
ZRNK	**Zerenda**	**13.77**	**354**	*e*P	**Pn**	**23 47 19.9**	**-1.1**
ZRNK				*e*		23 49 52.6	
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZRNK	**Zerenda**	**13.77**	**354**	*e*Pn	**Pn**	**23 47 19.9**	**-1.2**
	comp=Z,3.7nm,0.6s						
ZRNK				*e*Sn	**Sn**	**23 49 52.6**	**0.0**
BRVK	**Borovoye**	**13.80**	**357**	*e*P	**Pn**	**23 47 18.9**	**-2.5**
BRVK				*e*		23 49 52.2	
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**13.80**	**357**	*e*Pn	**Pn**	**23 47 18.9**	**-2.4**
	comp=Z,2.3nm,0.6s						
BRVK				*e*Sn	**Sn**	**23 49 52.2**	**-1.0**
CHKZ	**Chkalovo**	**14.40**	**358**	⇓Pn	**Pn**	**23 47 26.8**	**-2.9**
	comp=Z,4.0nm,1.1s						

CHKZ ⇓Lg 23 51 41.7
comp=Z,14nm,1.4s
CHKZ Chkalovo 14.40 358 *e*P **Pn** **23 47 27.4 -2.2**
CHKZ *e* 23 50 09.9
CHKZ pmax pmax
comp=Z,3.0nm,0.5s
CHKZ Chkalovo 14.40 358 *e*Pn **Pn** **23 47 27.4 -2.2**
comp=Z,2.9nm,0.5s
CHKZ *e*Sn **Sn** **23 50 09.9 +1.9**
AKTK Aktyubinsk 14.67 324 Pn **Pn** **23 47 32.8 -0.5**
AKTK Sn **Sn** **23 50 14.2 -0.3**
AKTO Aktyubinsk 14.67 324 ⇑Pn **Pn** **23 47 32.6 -0.6**
comp=Z,0.1nm,0.6s
AKTO ⇑Sn **Sn** **23 50 14.1 -0.4**
comp=Z,0.2nm,0.7s
AKTO Aktyubinsk 14.67 324 Pn **Pn** **23 47 32.8 -0.5**
comp=Z,0.5nm,0.3s,baz=130,slow=17,SNR=9.8
AKTO Sn **Sn** **23 50 14.2 -0.3**
comp=Z,1.1nm,0.3s,baz=344,slow=21,SNR=12
GKN Gorkha 15.66 132 *e*P **Pn** **23 47 37.0 -9.3**
comp=Z,14nm,0.5s
KKN Kakani 16.19 131 *e*P **Pn** **23 47 44.1 -9.0**
comp=Z,8.4nm,0.5s
GUN Gumba 16.46 129 *e*P **Pn** **23 47 48.7 -7.8**
JIRN Jiri 16.83 129 *e*P **Pn** **23 47 52.9 -8.3**
NVS Novosibirsk 17.44 23 *i*P **Pn** **23 48 05.3 -3.5**
NVS pmax pmax
comp=N,11nm,1.5s
NVS pmax pmax
comp=Z,11nm,1.5s
ARU Arti 19.17 338 *e*P **Pn** **23 48 29.4 -0.5**
ARU *e*S **S** **23 52 03.0 -1.2**
GNI Garni 20.60 281 P **P** **23 48 46.7 +2.3**
comp=Z,11nm,0.9s,baz=203,slow=18,SNR=3.2
GTA Gaotai 21.84 81 *e*P **P** **23 48 54.4 -3.3**
GTA AP 23 49 00.2
GTA S **S** **23 52 49.5 -7.5**
GTA XS sS 23 53 05.1 -6.8
GTA AMB AMB
comp=Z,3.0nm,1.3s,mb3.6
GTA AMB AMB
comp=Z,84nm,3.8s
GTA LR LR
comp=N,147nm,9.1s
GTA LR LR
comp=E,108nm,13.3s
GTA LR LR
comp=Z,105nm,12.2s,MS3.5
KIV Kislovodsk 22.00 292 *e*P **P** **23 48 59.6 +0.2**
KIV pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
KIV Kislovodsk 22.00 292 *e*P **P** **23 48 59.6 +0.1**
comp=Z,7.5nm,0.7s,mb4.2
ZAK Zakamensk 24.91 53 *e*P **P** **23 49 26.0 -1.9**
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.4
MALT Malatya 25.74 278 P **P** **23 49 35.1 -0.4**
SONM Songino Array 26.48 60 P **P** **23 49 39.0 -3.2**
comp=Z,0.5nm,0.5s,mb3.3,baz=273,slow=10,SNR=5.4
ULN Ulaanbaatar 26.93 60 P **P** **23 49 46.3 +0.1**
CD2 Chengdu 27.55 98 *e*P **P** **23 49 50.3 -1.5**
BR131 Keskin Array S 29.10 283 *e*P **P** **23 50 05.6 0.0**
BRTR Keskin Array B 29.10 283 P **P** **23 50 06.8 +1.1**
comp=Z,0.8nm,0.8s,mb3.5,baz=103,slow=9.3,SNR=5.0
HHC Hu-ho-hao-te 30.49 74 *e*P **P** **23 50 18.0 +0.1**
HHC AP pP 23 50 29.9 +1.9
HHC XP sP 23 50 35.8 +3.6
HHC PP PP 23 51 16.9 -10
HHC S **S** **23 55 12.3 -4.6**
HHC PCS PcS 23 56 59.8 -0.4
HHC AMB AMB
comp=Z,12nm,0.5s,mb4.9
HHC AMB AMB
comp=Z,149nm,5.1s
HHC LR LR
comp=N,204nm,17.8s,MS3.9
HHC LR LR
comp=E,130nm,18.4s,MS3.9
HHC LR LR
comp=Z,180nm,17.2s,MS3.8
AKASG Malin Array Be 31.60 305 P **P** **23 50 27.6 -0.1**
comp=Z,0.9nm,0.4s,mb3.9,baz=82,slow=7.6,SNR=6.9
JOF Joensuu 33.70 328 *e*p **P** **23 50 47.4 +1.3**
HIA Hailar 35.38 58 *e*P **P** **23 50 59.1 -1.5**
FINES FINESS Array B 35.44 324 P **P** **23 51 00.8 -0.4**
comp=Z,0.6nm,0.3s,mb4.0,baz=112,slow=8.5,SNR=14
ARCES ARCESS Array B 38.75 336 P **P** **23 51 28.8 -0.4**
comp=Z,0.7nm,0.4s,mb3.7,baz=112,slow=8.7,SNR=12
NJ2 Nanjing 38.76 86 *e*P **P** **23 51 31.9 +2.6**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
BRG Berggiesshubel 41.28 306 *e*P **P** **23 51 51.2 +1.0**
comp=Z,2.6nm,0.8s,mb3.9
BRG Berggiesshubel 41.28 306 *e*P **P** **23 51 51.2 +1.0**
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
GERES GERESS Array B 41.72 303 P **P** **23 51 54.8 +1.0**
comp=Z,1.2nm,0.5s,mb3.8,baz=67,slow=8.1,SNR=16
KHC Kasperske Hory 41.75 303 *e*P **P** **23 51 55.0 +0.9**
NB2 NORSAR Subarra 42.44 321 P **P** **23 51 59.0 -0.7**
comp=Z,0.3nm,0.4s,mb3.3,baz=93,slow=8.6
NOA NORSAR Array B 42.44 321 P **P** **23 51 59.3 -0.4**
comp=Z,0.2nm,0.4s,mb3.1,baz=101,slow=7.2,SNR=3.9
MDJ Mudanjiang 42.72 63 P **P** **23 52 01.0 -1.0**
MDJ AP pP 23 52 14.2 +1.9
MDJ XP sP 23 52 20.3 +3.9
MDJ PP PP 23 53 40.6 -0.8
MDJ PCP PcP 23 53 52.2 -1.0
MDJ SCP ScP 23 57 37.9 -3.5
MDJ PCS PcS 23 57 44.5 -0.9
MDJ S **S** **23 58 20.8 -2.4**
MDJ AMB AMB
comp=Z,6.0nm,1.6s,mb4.1
MDJ AMB AMB
comp=Z,24nm,4.3s
MDJ LR LR
comp=N,30nm,18.4s,MS3.4
MDJ LR LR
comp=E,30nm,15.8s,MS3.4
MDJ LR LR
comp=Z,40nm,18.1s,MS3.4
CDF Champ du Feu 45.98 303 *e*P **P** **23 52 28.4 +0.4**
HINF Hinteralfeld 46.40 303 *e*P **P** **23 52 31.4 +0.1**
comp=Z,2.6nm,0.5s,mb4.2
HINF Hinteralfeld 46.40 303 *e*P **P** **23 52 31.4 +0.1**
HINF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
HINF Hinteralfeld 46.40 303 *e*P **P** **23 52 31.4 +0.1**
comp=Z,1.3nm,0.4s,mb4.2
PGF Pioggiola 46.41 295 *e*P **P** **23 52 32.1 +0.7**
HAU Haudompre 46.68 303 *e*P **P** **23 52 33.1 -0.4**
comp=Z,4.4nm,0.7s,mb4.2
HAU Haudompre 46.68 303 *e*P **P** **23 52 33.1 -0.4**
HAU pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
HAU Haudompre 46.68 303 *e*P **P** **23 52 33.1 -0.4**
comp=Z,2.2nm,0.7s,mb4.2
LPG La Plagne 47.09 300 *e*P **P** **23 52 37.8 +1.1**
comp=Z,10nm,0.7s,mb4.6
LPG La Plagne 47.09 300 *e*P **P** **23 52 37.8 +1.1**
LPG pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LPG La Plagne 47.09 300 *e*P **P** **23 52 37.8 +1.1**
comp=Z,5.2nm,0.7s,mb4.6
LPL La Plagne 47.09 300 *e*P **P** **23 52 37.2 +0.4**
comp=Z,8.9nm,0.6s,mb4.5
LPL La Plagne 47.09 300 *e*P **P** **23 52 37.2 +0.4**
LPL pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LPL La Plagne 47.09 300 *e*P **P** **23 52 37.2 +0.4**
comp=Z,4.4nm,0.6s,mb4.6
SBF Sospel 47.10 297 *e*P **P** **23 52 38.7 +1.9**
CABF La Chapelle 47.22 301 *e*P **P** **23 52 37.8 +0.1**
comp=Z,7.5nm,0.8s,mb4.3
CABF La Chapelle 47.22 301 *e*P **P** **23 52 37.8 +0.1**
CABF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CABF La Chapelle 47.22 301 *e*P **P** **23 52 37.8 +0.1**
comp=Z,3.8nm,0.8s,mb4.4
MEZF Maizieres J'vi 47.39 304 *e*P **P** **23 52 39.8 +0.7**
comp=Z,8.7nm,0.7s,mb4.5
MEZF Maizieres J'vi 47.39 304 *e*P **P** **23 52 39.8 +0.7**
comp=Z,8.7nm,0.7s,mb4.8
BAIF Baives 47.54 306 *e*P **P** **23 52 40.9 +0.7**
comp=Z,9.4nm,0.9s,mb4.5
BAIF Baives 47.54 306 *e*P **P** **23 52 40.9 +0.7**
BAIF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
BAIF Baives 47.54 306 *e*P **P** **23 52 40.9 +0.7**
comp=Z,4.7nm,0.9s,mb4.5
FRF La Foret Royal 47.74 297 *e*P **P** **23 52 42.0 +0.2**
SMRF Simiane la Rot 48.34 298 *e*P **P** **23 52 46.9 +0.5**
LOR Lormes 48.50 303 *e*P **P** **23 52 47.0 -0.7**
comp=Z,6.0nm,0.8s,mb4.4
LOR Lormes 48.50 303 *e*P **P** **23 52 47.0 -0.7**
LOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
LOR Lormes 48.50 303 *e*P **P** **23 52 47.0 -0.7**
comp=Z,3.0nm,0.8s,mb4.4
VIVF Saint-Julien-l 48.68 299 *e*P **P** **23 52 49.4 +0.4**
comp=Z,3.3nm,0.6s,mb4.2
VIVF Saint-Julien-l 48.68 299 *e*P **P** **23 52 49.4 +0.4**
VIVF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
VIVF Saint-Julien-l 48.68 299 *e*P **P** **23 52 49.4 +0.4**
comp=Z,1.6nm,0.6s,mb4.2
SMF Signal de Mont 48.69 302⇑*i*P **P** **23 52 49.1 0.0**
comp=Z,5.0nm,0.5s,mb4.5
SMF Signal de Mont 48.69 302⇑*i*P **P** **23 52 49.1 0.0**
SMF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
SMF Signal de Mont 48.69 302⇑*i*P **P** **23 52 49.1 0.0**
comp=Z,2.5nm,0.5s,mb4.5
SSF Saint Saulge 48.79 303⇑*i*P **P** **23 52 49.7 -0.2**
comp=Z,2.9nm,0.7s,mb4.1
SSF Saint Saulge 48.79 303⇑*i*P **P** **23 52 49.7 -0.2**
SSF pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
SSF Saint Saulge 48.79 303⇑*i*P **P** **23 52 49.7 -0.2**
comp=Z,1.5nm,0.7s,mb4.1
AVF Avril sur Loir 48.97 302⇑*i*P **P** **23 52 51.3 0.0**
comp=Z,7.8nm,0.6s,mb4.6
AVF Avril sur Loir 48.97 302⇑*i*P **P** **23 52 51.3 0.0**
AVF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
AVF Avril sur Loir 48.97 302⇑*i*P **P** **23 52 51.3 0.0**
comp=Z,3.9nm,0.6s,mb4.6
HYF Humbligny 49.30 303 *e*P **P** **23 52 53.1 -0.7**
BGF Bois d'Agland 49.37 302 *e*P **P** **23 52 54.2 -0.1**
LASF Ste Croix 49.48 299 *e*P **P** **23 52 55.9 +0.7**
comp=Z,8.4nm,0.8s,mb4.5
TCF Toulx Ste Croi 49.88 302 *e*P **P** **23 52 58.5 +0.3**
comp=Z,5.7nm,0.7s,mb4.4
TCF Toulx Ste Croi 49.88 302 *e*P **P** **23 52 58.5 +0.3**
TCF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
TCF Toulx Ste Croi 49.88 302 *e*P **P** **23 52 58.5 +0.3**
comp=Z,2.8nm,0.6s,mb4.5
RJF Les Rejaudoux 50.65 301 *e*P **P** **23 53 04.8 +0.7**
LDF La Druitiere 50.67 305 *e*P **P** **23 53 03.8 -0.4**
comp=Z,4.2nm,0.5s,mb4.3
LDF La Druitiere 50.67 305 *e*P **P** **23 53 03.8 -0.4**
LDF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
LDF La Druitiere 50.67 305 *e*P **P** **23 53 03.8 -0.4**
comp=Z,2.1nm,0.5s,mb4.3
MTLF Montolieu 50.85 298 *e*P **P** **23 53 05.9 +0.3**
comp=Z,5.3nm,0.8s,mb4.2
MTLF Montolieu 50.85 298 *e*P **P** **23 53 05.9 +0.3**
MTLF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MTLF Montolieu 50.85 298 *e*P **P** **23 53 05.9 +0.3**
comp=Z,2.7nm,0.8s,mb4.2
GRR Gorron 51.20 305 *e*P **P** **23 53 07.7 -0.4**
LFF La Frestale 51.29 301 *e*P **P** **23 53 09.4 +0.5**
comp=Z,8.6nm,0.7s,mb4.5
LFF La Frestale 51.29 301 *e*P **P** **23 53 09.4 +0.5**
LFF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
LFF La Frestale 51.29 301 *e*P **P** **23 53 09.4 +0.5**
comp=Z,4.3nm,0.7s,mb4.5
MFF Saint Martin d 51.32 303 *e*P **P** **23 53 08.4 -0.6**
SGMF Saint Gilles 52.31 306 *e*P **P** **23 53 16.3 -0.2**
QUIF Quistinic 52.81 305 *e*P **P** **23 53 19.7 -0.5**
comp=Z,15nm,0.9s,mb4.6
QUIF Quistinic 52.81 305 *e*P **P** **23 53 19.7 -0.5**
QUIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
QUIF Quistinic 52.81 305 *e*P **P** **23 53 19.7 -0.5**
comp=Z,7.4nm,0.9s,mb4.6
ETSF Etsaut 52.91 299 *e*P **P** **23 53 21.2 +0.3**
ESDC Sonseca Array 56.56 296 P **P** **23 53 47.2 -0.1**
comp=Z,0.8nm,0.6s,mb3.9,baz=54,slow=7.2,SNR=5.9
TORD Torodi Ar. Bea 66.23 268 P **P** **23 54 51.4 -1.3**
comp=Z,1.1nm,0.5s,mb4.2,baz=46,slow=5.6,SNR=30
ILAR Eielson Array 71.98 16 P **P** **23 55 30.6 +2.2**
comp=Z,0.5nm,0.8s,mb3.5,baz=324,slow=4.5,SNR=4.3
WRAB Tennant Creek 83.12 123 *e*P **P** **23 56 29.6 -0.9**
comp=Z,0.5nm,0.4s,mb3.9
ASAR Alice Springs 85.51 125 P **P** **23 56 39.6 -3.1**
comp=Z,0.3nm,0.7s,mb3.6,baz=311,slow=4.4,SNR=3.0

HLW 06 23:52:17.1, 3347N×2779E, h44km, Mb3.5, 10C-2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HMAT	**Matruh**	**2.44**	**194**	⇓*i*P	Pn	23 52 55.5	+1.1
HMAT				S	Sn	23 53 21.7	-1.3
SLUM		**2.94**	**229**⇓*e*P		Pn	23 53 00.9	-0.3
SWA1		**4.55**	**204** ⇑P		Pn	23 53 23.9	+0.5
SWA1				S	Sn	23 54 12.2	-2.9
SWA1		**4.55**	**204**	P	Pn	23 53 23.9	+0.4
SWA1				S	Sn	23 54 12.2	-2.9
SWA2		**4.66**	**206**⇑*e*P		Pn	23 53 25.4	+0.4
AYT	**Al 'Ayyat**	**4.72**	**142** ⇑P		Pn	23 53 26.4	+0.6
HSAF	**As Saff**	**5.01**	**139**⇑*i*P		Pn	23 53 30.4	+0.7
GLL	**Jalalah**	**5.12**	**138** ⇑P		Pn	23 53 31.8	+0.5
AWBH		**5.22**	**169** P		Pn	23 53 33.4	+0.8
AMAG	**Maghara**	**5.39**	**120** ⇑P		Pn	23 53 35.1	+0.1
SUZ		**5.62**	**129** ⇑P		Pn	23 53 38.5	+0.5
HKAT	**Jabal Katrina**	**7.26**	**131** ⇑P		Pn	23 54 01.5	+1.0
HHRG	**Al Ghardaqah**	**7.98**	**140** ⇑P		Pn	23 54 11.2	+0.7
HDK1	**Dakhla**	**8.02**	**170** ⇑P		Pn	23 54 12.5	+1.4

*ISCJB **06** 23:52:50.9±2.2, 58S±0.1×1507E±0.1, h110km±22km, mb3.8/8, Error ellipse: s-maj=26.8km s-min=14.0km az=126.7*
*NEIC **06** 23:52:51.3±1.5, 574S×15060E, h94km±16km, mb4.2/4, Error ellipse: s-maj=19.3km s-min=10.9km az=146.0*
*IDC **06** 23:52:51.4±6.8, 573S×15068E, h101km±49km, mb3.6/5, mb1 3.7/6, mb1mx3.5/13, mbtmp3.9/6, MS3.5/3, Ms1 3.5/3, ms1mx2.9/23, Error ellipse: s-maj=67.2km s-min=32.0km az=96.0*

ISC 06 23:52:52.2±1.9, 58S±02×1507E±01, h105km±19km, n18, σ1§05/16, mb3.8/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.04**	**224**	P	**Pn**	**23 54 03.4**	**-2.0**
	3.2nm,0.3s,baz=54,slow=10,SNR=5.2						
PMG				S	**Sn**	**23 55 04.4**	**+2.0**
	0.4nm,0.3s,baz=190,slow=6.8,SNR=2.0						
HNR	**Honiara**	**9.89**	**112**	LR	LR	23 58 39.0	
	comp=Z,91nm,20.5s,baz=357,slow=35						
HNR	**Honiara**	**9.89**	**112**	P	**Pn**	**23 55 11.9**	**+0.6**
WRAB	**Tennant Creek**	**21.23**	**227**	*e*P	**P**	**23 57 29.3**	**-0.4**
	8.4nm,1.0s,mb4.0						
WB2	**Warramunga Arr**	**21.24**	**227**	*e*P	**P**	**23 57 29.6**	**-0.1**
WRA	**Warramunga Arr**	**21.25**	**227**	P	**P**	**23 57 29.3**	**-0.5**
	2.1nm,0.6s,mb3.7,baz=48,slow=10.0,SNR=8.3						
DZM	**Mont Dzumac**	**22.26**	**138**	LR	LR	00 04 01.9	
	comp=Z,240nm,19.4s,baz=206,slow=30						
ASAR	**Alice Springs**	**24.04**	**221**	P	**P**	**23 57 58.1**	**+0.6**
	1.7nm,0.7s,mb3.5,baz=55,slow=8.4,SNR=15						
STKA	**Stephens Creek**	**27.35**	**197**	P	**P**	**23 58 26.7**	**-0.6**
	2.2nm,0.8s,mb3.7,baz=32,slow=9.5,SNR=3.2						
FITZ	**Fitzroy Crossi**	**27.35**	**241**	*e*P	**P**	**23 58 26.9**	**-0.5**
	6.9nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.35**	**241**	P	**P**	**23 58 26.4**	**-1.0**
	2.9nm,0.8s,mb3.9,baz=41,slow=9.3,SNR=4.7						
MBWA	**Marble Bar**	**33.67**	**240**	*e*P	**P**	**23 59 23.9**	**+1.0**
	4.9nm,0.8s,mb4.4						
SONM	**Songino Array**	**66.02**	**329**	P	**P**	**00 03 28.1**	**+0.6**
	0.5nm,0.6s,mb3.5,baz=120,slow=8.5,SNR=3.7						
LSA	**Lhasa**	**67.05**	**305**	P	**P**	**00 03 36.0**	**+1.9**
DLH	**Dalhousie**	**80.31**	**304**	*e*P	**P**	**00 05 00.0**	**+8.4**
KURK	**Kurchatov**	**83.22**	**322**	P	**P**	**00 05 06.0**	**-0.8**
MAW	**Mawson**	**83.89**	**203**	LR	LR	00 40 38.1	
	comp=Z,35nm,20.2s,baz=239,slow=34						
CHKZ	**Chkalovo**	**88.73**	**324**	*e*P	**P**	**00 05 33.0**	**-0.9**
	0.5nm,0.5s,mb3.8						

*CSEM **07** 00:25:48.9±0.9, 3867N×2907W, h2km±9km, ML1.3, Error ellipse: s-maj=9.9km s-min=8.0km az=88.0, After PDA*
*PDA **07** 00:25:48.9±0.9, 3867N×2907W, h2km±9km, MD3.0, ML1.3, Error ellipse: s-maj=9.9km s-min=8.0km az=88.0*

SVSA 07 00:25:48.9±0.9, 3867N×2907W, h2km±9km, MD3.0, ML1.3, Error ellipse: s-maj=9.9km s-min=8.0km az=88.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.23**	**111**	*e*S	Sg	00 25 56.3	0.0
PTCA							
	19nm,0.2s						
PCED	**Cedros**	**0.29**	**97**	*i*P	Pg	00 25 54.0	-0.5
PCED				*e*S	Sg	00 25 58.0	-0.2
PCED							
	33nm,0.2s						
PCED	**Cedros**	**0.29**	**97**	*e*S	Sg	00 25 58.0	-0.2
CALA	**Caldeira**	**0.30**	**106**	*e*S	Sg	00 25 58.8	+0.3
PCND	**Candelaria**	**0.51**	**112**	*e*S	Sg	00 26 04.6	-0.8
PCND							
	9.1nm,0.1s						
PICO	**Pico**	**0.53**	**108**	*e*P	Pg	00 25 58.4	-0.7
PICO				*e*S	Sg	00 26 05.5	-0.5
PTEI	**Pico do Teixo**	**0.58**	**107**	*e*S	Sg	00 26 07.0	-0.7
PTEI							
	9.4nm,0.1s						
PBOI	**Pico dos Bois**	**0.59**	**113**	*e*S	Sg	00 26 06.6	-1.3
PBOI							
	12nm,0.2s						
ROSA	**Rosais**	**0.65**	**85**	*e*P	Pg	00 26 00.1	-1.3
ROSA				*e*S	Sg	00 26 08.3	-1.5
PMAN	**Manadas**	**0.77**	**92**	*e*rx		00 26 12.0	
PID	**Ribeirinha**	**0.78**	**106**	*e*S	Sg	00 26 12.0	-1.9

*NEIC **07** 00:43:18.0, 3308S×7056W, h90km, MG4.0(GUC), After GUC.*

GUC 07 00:43:18.0±0.8, 3308S×7056W, h90km±2km, MD3.8, ML4.0, 13C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**0.13**	**238**⇑*i*P		Pn	00 43 31.1	+0.4
PEL				*i*S	Sn	00 43 40.6	+0.5
PEL				AML	AML	00 43 41.6	
	comp=E,14μm,0.3s						
PEL	**Peldehue**	**0.13**	**238**⇑*i*P		Pn	00 43 31.1	+0.4
PEL				*i*S	Sn	00 43 40.6	+0.5
CLCH	**Cerro Calan**	**0.32**	**177**⇓*i*P		Pn	00 43 31.0	-0.5
CLCH				*i*S	Sn	00 43 42.0	+0.6
CLCH				AML	AML	00 43 43.8	
	comp=E,7μm,0.2s						
DSCH	**Colegio Aleman**	**0.32**	**182**	*e*P	Pn	00 43 31.0	-0.5
DSCH				*i*S	Sn	00 43 41.4	-0.1
FCH	**Farellones**	**0.34**	**138**⇑*i*P		Pn	00 43 32.3	+0.7
FCH				*i*S	Sn	00 43 43.2	+1.6
FCH				AML	AML	00 43 43.7	
	comp=N,11μm,0.3s						
STL	**Santa Lucia**	**0.36**	**191**⇓*i*P		Pn	00 43 31.4	-0.3
STL				*i*S	Sn	00 43 41.8	-0.2
SAN	**Santiago**	**0.39**	**193**⇑*i*P		Pn	00 43 32.2	+0.3
SAN				*i*S	Sn	00 43 42.5	+0.3
SAN				AML	AML	00 43 43.2	
	comp=N,5μm,0.4s						
SAN	**Santiago**	**0.39**	**193**⇑*i*P		Pn	00 43 32.2	+0.3
SAN				*i*S	Sn	00 43 42.5	+0.3
JACH	**Jahuel**	**0.40**	**355**⇑*i*P		Pn	00 43 32.5	+0.6
JACH				*i*S	Sn	00 43 43.1	+0.9
ROCH	**El Roble**	**0.40**	**285** *i*P		Pn	00 43 32.4	+0.5
ROCH				*i*S	Sn	00 43 43.3	+1.0
FSR	**Penalolen**	**0.40**	**177** *i*P		Pn	00 43 32.8	+0.8
FSR				*i*S	Sn	00 43 43.5	+1.2
FSR				AML	AML	00 43 44.5	
	comp=N,8μm,0.8s						
FSR	**Penalolen**	**0.40**	**177** *i*P		Pn	00 43 32.8	+0.8
FSR				*i*S	Sn	00 43 43.5	+1.2
RCDM	**Rinconada Maip**	**0.46**	**207** *e*P		Pn	00 43 32.3	-0.1
RCDM				*e*S	Sn	00 43 43.1	0.0
RCDM				AML	AML	00 43 44.1	
	comp=E,13μm,0.2s						
RCDM	**Rinconada Maip**	**0.46**	**207** *e*P		Pn	00 43 32.3	-0.1
RCDM				*e*S	Sn	00 43 43.1	0.0
ANTU	**Antumapu**	**0.49**	**188** *e*P		Pn	00 43 32.7	0.0
ANTU				*i*S	Sn	00 43 43.8	+0.2
ANTU				AML	AML	00 43 44.5	
	comp=N,8μm,0.2s						
ANTU	**Antumapu**	**0.49**	**188** *e*P		Pn	00 43 32.7	0.0
ANTU				*i*S	Sn	00 43 43.8	+0.2
PCH	**Pirque**	**0.54**	**176**⇑*i*P		Pn	00 43 33.6	+0.6
PCH				*i*S	Sn	00 43 45.1	+0.9
SJCH	**San Jose de Ma**	**0.59**	**163**⇑*i*P		Pn	00 43 33.5	+0.1
SJCH				*i*S	Sn	00 43 45.4	+0.5
SJCH				AML	AML	00 43 46.2	
	comp=E,11μm,0.2s						
SJCH	**San Jose de Ma**	**0.59**	**163**⇑*i*P		Pn	00 43 33.5	+0.1
SJCH				*i*S	Sn	00 43 45.4	+0.5
TACH	**Talagante**	**0.66**	**209**⇑*i*P		Pn	00 43 34.2	+0.1
TACH				*i*S	Sn	00 43 46.0	-0.1
YECH	**El Yeso**	**0.71**	**146**	AML	AML	00 43 50.1	
	comp=E,4μm,0.4s						
CHCH	**Chadas Angostu**	**0.86**	**185**⇑*i*P		Pn	00 43 36.4	+0.4
CHCH				*i*S	Sn	00 43 50.3	+0.7
IHA	**Instituto Hidr**	**0.91**	**273**⇑*i*P		Pn	00 43 36.8	+0.1
IHA				*i*S	Sn	00 43 51.1	+0.4
LCCH	**Las Cruces**	**0.94**	**245**⇓*i*P		Pn	00 43 37.2	+0.3
LCCH				*i*S	Sn	00 43 51.5	+0.4
CACH	**El Canelo**	**1.04**	**182** *i*P		Pn	00 43 39.3	+1.2
CACH				*i*S	Sn	00 43 54.8	+1.6
LNV	**Longovilo**	**1.13**	**219**⇑*i*P		Pn	00 43 39.0	-0.2
LNV				*i*S	Sn	00 43 55.2	+0.1
CICH	**Cipreses**	**1.25**	**175** *e*P		Pn	00 43 41.3	+0.7
CICH				*i*S	Sn	00 43 58.6	+1.1
MDZ	**Mendoza**	**1.45**	**83** *e*P		Pn	00 43 44.3	+1.3
MDZ				*e*		00 43 54.4	
MDZ				S	Sn	00 44 05.1	+3.1
SFDO	**San Fernando**	**1.58**	**194** *e*P		Pn	00 43 45.2	+0.5
SFDO				*i*S	Sn	00 44 05.8	+0.8
CMCH	**Combarbala**	**1.94**	**349**⇓*i*P		Pn	00 43 49.6	+0.3
CMCH				*i*S	Sn	00 44 13.6	+0.4
CMCH				AML	AML	00 44 20.6	
	comp=N,3μm,0.5s						
CMCH	**Combarbala**	**1.94**	**349**⇓*i*P		Pn	00 43 49.6	+0.3
CMCH				*i*S	Sn	00 44 13.6	+0.4
TLL	**Tololo Astrono**	**2.91**	**356**	AML	AML	00 44 56.8	
	comp=E,946nm,0.4s						
PLCA	**Paso Flores**	**7.64**	**180**	Pn	Pn	00 45 05.3	-1.2
TRQA	**Tornquist**	**8.57**	**128** *e*Pn		Pn	00 45 19.7	+0.5
	comp=E,14nm,1.1s						
CPUP	**Villa Florida**	**13.31**	**63**	Pn	Pn	00 46 23.0	-0.2
LPAZ	**La Paz**	**16.86**	**8** *e*Pn		Pn	00 47 09.4	+1.1
	comp=E,0.1nm,0.2s						

*ISCJB **07** 01:02:38.8±1.5, 274S×02×1763W±0.2, h110km±15km, mb4.4/14, Error ellipse: s-maj=40.3km s-min=14.6km az=94.2*
*NEIC **07** 01:02:39.6±1.5, 2741S×17619W, h120km±14km, mb4.4/6, Error ellipse: s-maj=36.3km s-min=15.1km az=137.0*
*BJI **07** 01:02:39.5, 2740S×17620W, h119km, mB4.9, mb4.8*
*IDC **07** 01:02:44.3±9.3, 2499S×17717W, h106km±77km, mb3.8/6, mb1 4.0/7, mb1mx3.8/14, mbtmp4.1/7, ML3.3/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/16, Error ellipse: s-maj=42.5km s-min=28.9km az=132.0*

ISC 07 01:02:36.2±1.8, 281S±01×1754W±02, h113km±13km, n32, σ1§69/22, mb4.4/14, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.56**	**241**	LR	LR	01 04 42.1	
	comp=Z,670nm,18.4s,baz=227,slow=27						
RAO	**Raoul Island**	**2.56**	**241**	*e*Pn	**Pn**	**01 03 17.7**	**+1.2**
AFI	**Afiamalu**	**14.46**	**14**	*e*P	**Pn**	**01 05 53.7**	**-1.7**
	12nm,0.2s						
DZM	**Mont Dzumac**	**17.53**	**286**	P	**Pn**	**01 06 16.6**	**-17**
	0.1nm,0.3s,baz=94,slow=14,SNR=3.6						

CTAO	Charters Tower	35.83	274	eP	P	01 09 20.2	-4.6
	4.9nm,0.3s,mb4.9						
STKA	Stephens Creek	37.32	253	P	P	01 09 41.9	+4.4
	1.6nm,0.5s,mb4.2,baz=109,slow=9.9,SNR=5.5						
STKA	Stephens Creek	37.32	253	eP	P	01 09 42.0	+4.6
AS31	Alice Springs	45.62	263	eP	P	01 10 46.3	+1.2
ASAR	Alice Springs	45.62	263	P	P	01 10 44.0	-1.2
	1.0nm,0.4s,mb3.9,baz=88,slow=6.6,SNR=29						
ASPA	Alice Springs	45.62	263	eP	P	01 10 46.3	+1.2
WB2	Warramunga Arr	46.39	269	eP	P	01 10 48.0	-3.2
WRAB	Tennant Creek	46.40	269	eP	P	01 10 48.8	-2.4
	3.7nm,0.5s,mb4.4						
WRA	Warramunga Arr	46.40	269	P	P	01 10 48.0	-3.3
	1.9nm,0.4s,mb4.2,baz=104,slow=7.8,SNR=5.8						
VNDA	Vanda	50.67	186	eP	P	01 11 22.4	-1.6
	1.5nm,0.3s,mb4.5						
CASY	Casey	58.29	207	eP	P	01 12 18.8	-0.3
	1.0nm,0.6s,mb4.0						
MBWA	Marble Bar	58.83	261	eP	P	01 12 23.9	+1.1
	0.9nm,0.5s,mb4.1						
MAW	Mawson	75.31	200	P	pP	01 14 28.4	-7.1
	2.7nm,0.6s,baz=138,slow=9.4,SNR=16						
NVAR	Mina Array Bea	84.95	41	P	P	01 15 02.1	+3.4
	0.4nm,0.6s,mb3.5,baz=207,slow=7.6,SNR=4.0						
NJ2	Nanjing	86.52	309	eP	P	01 15 07.1	+0.6
NJ2				AP	pP	01 15 35.9	+0.2
NJ2				XP	sP	01 15 47.9	+0.2
NJ2				PP	PP	01 18 32.0	+2.5
NJ2				S		01 25 33.0	
NJ2				XS	sS	01 26 23.0	-0.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,200nm,5.2s						
NJ2				LR	LR		
	comp=N,900nm,21.1s						
NJ2				LR	LR		
	comp=E,2µm,22.1s						
NJ2				LR	LR		
	comp=Z,1µm,23.8s						
MDJ	Mudanjiang	88.05	324	P	P	01 15 15.6	+1.8
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.4s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,34nm,6.4s						
PDAR	Pinedale Array	92.84	42	P	P	01 15 39.6	+3.6
	comp=Z,0.6nm,0.9s,mb3.9,baz=242,slow=3.2,SNR=5.6						
KMI	Kunming	94.86	296	P	P	01 15 49.6	+4.2
KMI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb5.3						
HHC	Hu-ho-hao-te	96.30	313	eP	P	01 15 53.5	+1.6
HHC				AP	pP	01 16 19.9	-1.5
HHC				S		01 27 00.9	
HHC				XS	sS	01 27 47.6	-5.7
HHC				AMB	AMB		
	comp=Z,21nm,0.5s						
HHC				AMB	AMB		
	comp=Z,153nm,5.3s						
HHC				LR	LR		
	comp=N,162nm,26.2s						
HHC				LR	LR		
	comp=E,189nm,22.6s						
HHC				LR	LR		
	comp=Z,193nm,16.1s						
CD2	Chengdu	96.83	301	eP	P	01 15 52.8	-1.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,40nm,9.2s						
WMQ	Urumqi	113.59	308	PKP	PKiKP	01 21 01.9	+0.8
WMQ				PP	PP		
	comp=Z,81nm,10.2s						
WMQ				LR	LR		
	comp=N,61nm,20.3s						
WMQ				LR	LR		
	comp=E,46nm,19.2s						
WMQ				LR	LR		
	comp=Z,54nm,20.8s						
ARCES	ARCESS Array B	136.75	349	PKP	PKPdf	01 21 46.1	+0.9
	comp=Z,2.3nm,1.0s,baz=38,slow=1.6,SNR=6.2						
FINES	FINESS Array B	143.67	343	PKP	PKPdf	01 22 01.2	+3.5
	comp=Z,0.3nm,0.4s,baz=57,slow=5.1,SNR=4.9						
NB2	NORSAR Subarra	146.72	354	PKP	PKPdf	01 22 03.0	0.0
	comp=Z,0.5nm,0.7s,baz=13,slow=3.6						
NOA	NORSAR Array B	146.72	354	PKhKP		01 22 02.5	
	comp=Z,0.7nm,0.8s,baz=19,slow=2.5,SNR=4.1						
AKASG	Malin Array Be	150.71	327	PKPbc	PKPbc	01 22 13.6	-1.5
	comp=Z,1.5nm,0.4s,baz=42,slow=4.2,SNR=9.2						
ASF	Jabal al Asfar	151.87	286	PKPbc	PKPbc	01 22 21.4	+3.7
	comp=Z,1.1nm,0.7s,baz=48,slow=15,SNR=3.4						
MMAI	Mount Meron Ar	153.11	288	PKPbc	PKPbc	01 22 24.4	+4.0
	comp=Z,2.6nm,0.5s,baz=80,slow=6.5,SNR=11						

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*IDC **07** 01:02:28.9±6.9, 3559N×7086E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.5/22, mbtmp3.8/6, ML3.6/2, Error ellipse: s-maj=157.1km s-min=38.4km az=110.0*
*MOS **07** 01:02:32.4±1.2, 3571N×7083E, h32km, mb4.1/3, Error ellipse: s-maj=25.7km s-min=9.8km az=93.7*
*NEIC **07** 01:02:34.8±1.5, 3574N×7080E, h35km, mb3.1/2, Error ellipse: s-maj=25.3km s-min=13.4km az=143.0*
*ISCJB **07** 01:02:40.4±0.8, 36.17N±0.04×70.8E±0.1, h82km±14km, mb3.9/5, Error ellipse: s-maj=15.9km s-min=6.0km az=13.2*
*NNC **07** 01:02:44.6±12.0, 3650N×7021E, h78km±314km, mb3.4, mpv3.4, Error ellipse: s-maj=98.8km s-min=80.9km az=175.0*
ISC 07 01:02:41.5±0.7, **3614N**±004×**707E**±01, **h80**km±12km, **n40**, σ**1s06**/45, **mb3.9**/5, **3C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.51	157	⇑P	Pn	01 03 20.7	+0.6
CEP				S	Sn	01 03 51.0	+1.2
CHCP	Chirah Chowk	3.24	139	P	Pn	01 03 29.1	-0.9
THW	Thamme Wali	3.44	166	P	Pn	01 03 33.1	+0.3
SARP	Sargodha	4.51	158	P	Pn	01 03 45.2	-2.1
AML	Almayashu	6.42	20	P	Pn	01 04 13.8	+0.5
	SNR=41						
UCH	Uchtor	6.76	25	P	Pn	01 04 18.2	+0.2
	SNR=8.8						
EKS2	Erkin-Say	6.93	19	P	Pn	01 04 21.3	+0.9
	SNR=8.7						
KK31	Karatay Array	6.96	359	⇓P	Pn	01 04 20.7	0.0
	3.4nm,0.3s,baz=180,slow=12,SNR=130						
KK31				⇑S	Sn	01 05 34.4	-4.0
	7.7nm,0.5s,baz=187,slow=27,SNR=10						
SDNR	Sundarnagar	6.96	130	eP	Pn	01 04 30.0	+9.3
SDNR				eS	Sn	01 05 29.0	-9.3
AAK	Ala-Archa	7.11	23	P	Pn	01 04 23.4	+0.6
	SNR=5.6						
AAK	Ala-Archa	7.11	23	eP	Pn	01 04 22.2	-0.6
AAK				e		01 05 41.4	
AAK				pmax	pmax		
	comp=Z,7.0nm,0.3s						
AAK	Ala-Archa	7.11	23	ePn	Pn	01 04 22.2	-0.7
	comp=Z,7.3nm,0.3s						
AAK				eSn	Sn	01 05 41.4	-0.8
CHMS	Chumysh	7.53	23	P	Pn	01 04 28.3	-0.2
	SNR=6.4						
USP	Ospenovka	7.69	21	P	Pn	01 04 32.1	+1.3
	SNR=12						
TKM2	Tokmak 2	7.75	28	⇓P	Pn	01 04 31.2	-0.3
	comp=Z,0.4nm,0.6s						
TKM2				⇑S	Sn	01 05 57.4	-0.3
	comp=Z,0.5nm,0.8s						
AB31	Akbulak array	15.30	332	P	Pn	01 06 10.9	-1.9
	comp=Z,1.2nm,0.3s,baz=163,slow=12,SNR=76						
AB31				⇓S	S	01 08 50.8	-22
	comp=Z,1.0nm,0.5s,baz=146,slow=24,SNR=4.4						
KURK	Kurchatov	15.65	19	P	Pn	01 06 18.0	+0.8
ZRNK	Zerenda	16.86	356	eP	Pn	01 06 33.9	+1.6
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZRNK	Zerenda	16.86	356	eP	Pn	01 06 33.9	+1.7
	comp=Z,0.8nm,0.5s						
BVAR	Borovoye Array	16.89	359	P	Pn	01 06 31.8	-0.9
	comp=Z,0.1nm,0.3s,baz=157,slow=12,SNR=4.4						
BRVK	Borovoye	16.92	359	eP	Pn	01 06 31.5	-1.6
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	Borovoye	16.92	359	eP	Pn	01 06 31.5	-1.6
	comp=Z,0.6nm,0.4s						
AKTK	Aktyubinsk	16.98	331	P	Pn	01 06 33.5	-0.4
AKTO	Aktyubinsk	16.98	331	P	Pn	01 06 33.5	-0.4
	comp=Z,0.3nm,0.3s,baz=154,slow=15,SNR=13						
CHKZ	Chkalovo	17.54	360	P	Pn	01 06 42.0	+1.4
KIV	Kislovodsk	22.76	299	eP	P	01 07 36.3	-0.7
KIV	Kislovodsk	22.76	299	eP	P	01 07 36.3	-0.7
ULN	Ulaanbaatar	29.17	55	P	P	01 08 33.7	-1.4
FINES	FINESS Array B	37.66	326	P	P	01 09 50.7	+1.9
	comp=Z,0.9nm,0.7s,mb3.7,baz=119,slow=10.0,SNR=6.5						
FINES	FINESS Array B	37.66	326	P	P	01 09 50.7	+2.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	37.66	326	P	P	01 09 50.7	+1.9
ARCES	ARCESS Array B	41.39	338	P	P	01 10 21.4	+1.7
	comp=Z,1.3nm,0.6s,mb3.9,baz=107,slow=7.9,SNR=9.9						
ARCES	ARCESS Array B	41.39	338	P	P	01 10 21.4	+1.6
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	ARCESS Array B	41.39	338	P	P	01 10 21.4	+1.7
TIP	Timpagrande	42.30	291	P	P	01 10 28.2	+1.0
NB2	NORSAR Subarra	44.53	323	P	P	01 10 45.6	+0.5
	comp=Z,0.7nm,0.5s,mb3.6,baz=96,slow=7.9						
NOA	NORSAR Array B	44.53	323	P	P	01 10 45.6	+0.5
	comp=Z,0.9nm,0.6s,mb3.7,baz=97,slow=7.8,SNR=8.0						
NOA	NORSAR Array B	44.53	323	P	P	01 10 45.6	+0.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WLF	Walferdange	47.77	308	eP	P	01 11 10.1	-0.4
	comp=Z,3.3nm,0.3s,mb4.6						
TORD	Torodi Ar. Bea	65.48	269	P	P	01 13 14.6	-1.5
	comp=Z,0.4nm,0.5s,mb3.5,baz=50,slow=4.4,SNR=3.7						

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*ISCJB **07** 01:06:04.5±0.5, 3935N±002×23.18E±004, h9km±4km, Error ellipse: s-maj=5.8km s-min=3.7km az=162.2*
*ATH **07** 01:06:04.6, 3928N×2320E, h15km, MD3.2/13, ML3.2*
*NEIC **07** 01:06:04.6, 3928N×2320E, h15km, ML3.2(ATH), After ATH.*
*THE **07** 01:06:05.2, 3927N×23.15E, h9km, ML2.5*
*CSEM **07** 01:06:05.2±0.1, 3929N×23.17E, h5km, ML3.2, Error ellipse: s-maj=2.2km s-min=1.8km az=79.0*
ISC 07 01:06:05.0±0.4, **3933N**±002×**2318E**±005, **h11**km±3km, **n29**, σ**1s12**/39, **1C-1D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	Xorichti	0.04	13	ePg	Pg	01 06 08.2	+1.1
NEO	Neokhori	0.04	126	⇓iPB	Pg	01 06 07.5	+0.4
NEO				eSB	Sg	01 06 09.1	+0.5
AOS	Alonnisos	0.57	106	ePg	Pg	01 06 15.9	-0.1
AOS	Alonnisos	0.57	106	ePg	Pg	01 06 15.9	-0.1
LKR	Lokris	0.69	192	⇑iPB	Pb	01 06 17.0	-2.1
LKR				eSN	Sg	01 06 26.2	-1.3
AGG	Agios Georgios	0.73	245	ePg	Pg	01 06 18.1	-1.0
AGG				eSg	Sg	01 06 28.0	-0.6
LIT	Litokhoron	0.94	325	ePg	Pg	01 06 23.5	+0.5
LIT				eSg	Sg	01 06 37.5	+2.3
PLG	Polygyros	1.06	11	ePN	Pn	01 06 25.4	-0.4
PLG				eSN	Sn	01 06 40.0	-0.5
EVR	Evrytania	1.15	249	ePN	Pn	01 06 26.4	-0.5
THE	Thessaloniki	1.31	353	ePg	Pg	01 06 29.3	-0.8
MGER	Gerania Oros	1.34	177	ePN	Pn	01 06 29.0	-0.6
PTL	Penteli	1.39	157	ePN	Pn	01 06 30.0	-0.2
ATH	Athens Observa	1.42	163	ePN	Pn	01 06 30.3	-0.4
KZN	Kozani	1.46	312	ePN	Pn	01 06 33.0	+1.8
SOH	Sokhos	1.50	5	ePg	Pg	01 06 32.5	-1.2
SOH				eSg	Sg	01 06 53.4	+0.3
KVR	Kavouri	1.57	163	ePN	Pn	01 06 33.0	+0.3
NAIG	Nisos Aigina	1.59	171	ePN	Pn	01 06 33.5	+0.5
NAIG				eSN	Sn	01 06 55.5	+2.0
GRG	Griva	1.73	340	ePb	Pb	01 06 35.4	-1.3
SRS	Serrai	1.81	10	ePb	Pb	01 06 36.6	-1.5
KNT	Kendrikon	1.84	353	ePb	Pb	01 06 37.4	-1.3
RLS	Riolos of Patr	1.85	227	ePN	Pn	01 06 37.3	+0.7
FNA	Florina	2.01	317	ePn	Pn	01 06 39.1	+0.3
VAY	Valandovo	2.04	347	i Pn	Pn	01 06 40.1	+0.9
VAY				eSn	Sn	01 07 03.8	-0.9
BIA	Bitola	2.21	320	i Pn	Pn	01 06 44.3	+2.8
BIA				eSn	Sn	01 07 19.2	+10
BIA	Bitola	2.21	320	i Pn	Pn	01 06 44.2	+2.7
VLS	Valsamata	2.33	241	ePN	Pn	01 06 45.2	+2.0
PRK	Paraskevi	2.40	91	ePN	Pn	01 06 45.4	+1.2
OHR	Ohrid	2.55	315	ePn	Pn	01 06 45.3	-0.9
OHR				eSn	Sn	01 07 31.8	+15
OHR	Ohrid	2.55	315	ePn	Pn	01 06 45.2	-1.0

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*ISCJB **07** 01:07:26.9±1.6, 3838S±006×17943E±009, h15km±10km, mb4.0/6, Error ellipse: s-maj=11.6km s-min=10.6km az=121.5*
*WEL **07** 01:07:28.9±0.3, 3823S×17938E, h12km, ML4.3/9, Error ellipse: s-maj=2.7km s-min=1.6km az=90.0*
*NEIC **07** 01:07:29.3, 3823S×17933E, h12km, mb4.2/3, ML4.1(WEL), After WEL.*
*IDC **07** 01:07:30.3±4.1, 3767S×17892E, h0km, mb3.9/3, mb1 4.1/3, mb1mx4.0/11, mbtmp3.9/3, Error ellipse: s-maj=123.3km s-min=29.2km az=147.0*
ISC 07 01:07:27.8±1.5, **3832S**±005×**17931E**±007, **h5**km±8km, **n32**, σ**0s94**/40, **mb4.0**/6, **1C, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	0.86	286	⇑P*	Pb	01 07 45.4	+0.2
PUZ				S*	Sb	01 07 57.4	+0.3
MXZ	Matakaoa Point	1.09	314	P*	Pb	01 07 48.3	-0.9
MXZ				S*	Sb	01 08 02.7	-1.0
MXZ	Matakaoa Point	1.09	314	P	Pg	01 07 48.3	-0.4
MXZ				S	Sg	01 08 02.8	-0.1
MWZ	Matawai	1.40	269	PN	Pn	01 07 53.9	-0.1
MWZ				SN	Sn	01 08 13.1	+0.3
MWZ	Matawai	1.40	269	P	Pn	01 07 53.9	-0.1
MWZ				S	Sg	01 08 13.1	+0.4
KNZ	Kokohu	1.46	241	PN	Pn	01 07 55.2	+0.5
KNZ	Kokohu	1.46	241	eP	Pn	01 07 55.2	+0.5
URZ	Urewera	1.73	271	Pn	Pn	01 07 58.7	+0.2
	40nm,0.3s,baz=107,slow=5.3,SNR=149						
URZ				Sn	Sn	01 08 20.4	-0.6
	68nm,0.3s,baz=2.3,slow=13,SNR=10						
URZ	Urewera	1.73	271	PN	Pn	01 07 58.8	+0.3
URZ				SN	Sn	01 08 21.3	+0.3
URZ	Urewera	1.73	271	P	Pn	01 07 58.8	+0.3
TAZ	Tarawera	2.20	271	PN	Pn	01 08 05.8	+0.8
BKZ	Black Stump Fm	2.36	248	PN	Pn	01 08 07.8	+0.7
BKZ	Black Stump Fm	2.36	248	P	Pn	01 08 08.0	+0.9
FWVZ	Far West T-bar	3.08	251	PN	Pn	01 08 18.0	+0.9
FWVZ	Far West T-bar	3.08	251	eP	Pn	01 08 18.4	+1.4
TRVZ	Turoa	3.09	250	PN	Pn	01 08 18.0	+0.8
TSZ	Takapari Road	3.12	235	PN	Pn	01 08 17.2	-0.5
TSZ	Takapari Road	3.12	235	P	Pn	01 08 17.4	-0.3
HIZ	Hauiti	3.50	265	PN	Pn	01 08 23.6	+0.8
HIZ	Hauiti	3.50	265	P	Pn	01 08 24.0	+1.1
MRZ	Mangatainoka R	3.71	230	PN	Pn	01 08 24.9	-0.8
MRZ				SN	Sn	01 09 08.3	-1.5
MRZ	Mangatainoka R	3.71	230	eP	Pn	01 08 25.0	-0.8
MRZ				S	Sn	01 09 08.3	-1.6
PAWZ	Paruwai Farm	4.27	223	P	Pn	01 08 31.6	-1.9
THZ	Tophouse	5.99	233	eP	Pn	01 08 56.7	-0.4
STKA	Stephens Creek	31.36	270	P	P	01 13 51.1	+1.8
	1.6nm,0.5s,mb4.1,baz=84,slow=12,SNR=4.2						
VNDA	Vanda	40.01	186	eP	P	01 15 02.0	-1.5
	2.7nm,0.6s,mb4.2						
ASAR	Alice Springs	41.16	277	P	P	01 15 12.1	-1.0
	0.7nm,0.5s,mb3.5,baz=127,slow=8.2,SNR=9.9						
WB2	Warramunga Arr	42.86	282	eP	P	01 15 27.9	+1.0
WRAB	Tennant Creek	42.87	282	eP	P	01 15 26.9	-0.1
	3.3nm,0.4s,mb4.4						
WRA	Warramunga Arr	42.87	282	P	P	01 15 26.4	-0.6
	1.1nm,0.6s,mb3.8,baz=122,slow=7.6,SNR=3.9						
QSPA	South Pole Qui	51.80	180	eP	P	01 16 39.3	+2.7
	2.9nm,0.9s,mb4.2						
ARCES	ARCESS Array B	145.72	344	PKPbc	PKPbc	01 27 07.9	+0.2
	1.9nm,0.6s,baz=42,slow=3.8,SNR=14						

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*ATH **07** 01:18:30.9, 3929N×2321E, h15km±1km, MD2.8/7, ML3.1*
*NEIC **07** 01:18:30.9, 3929N×2321E, h15km, ML3.1(ATH), After ATH.*
*ISCJB **07** 01:18:31.0±0.5, 3931N±003×23.16E±004, h14km±3km, Error ellipse: s-maj=5.6km s-min=5.0km az=145.1*
*THE **07** 01:18:31.6, 3927N×23.15E, h9km, ML2.1*
*CSEM **07** 01:18:31.2±0.1, 3930N×23.18E, h15km, ML3.1, Error ellipse: s-maj=2.3km s-min=2.0km az=117.0*
ISC 07 01:18:31.1±0.4, **3931N**±003×**2320E**±005, **h14**km±3km, **n16**, σ**0s92**/23, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	Neokhori	0.02	109	ePB	Pg	01 18 33.8	+0.2
NEO				eSB	Sg	01 18 35.4	+0.1
XOR	Xorichti	0.05	354	ePg	Pg	01 18 34.3	+0.5
XOR				eSg	Sg	01 18 36.1	+0.4
AOS	Alonnisos	0.55	105	ePg	Pg	01 18 42.3	+0.4
LKR	Lokris	0.68	193	ePB	Pb	01 18 43.3	-1.4
LKR				eSN	Sg	01 18 52.8	-0.6
AGG	Agios Georgios	0.73	247	ePg	Pg	01 18 44.5	-0.9
AGG				eSg	Sg	01 18 54.5	-0.6
LIT	Litokhoron	0.96	325	ePg	Pg	01 18 49.7	+0.1
LIT				eSg	Sg	01 19 03.9	+1.7
PLG	Polygyros	1.08	10	ePN	Pn	01 18 51.8	+0.1
PLG				eSN	Sn	01 19 05.5	-0.9
EVR	Evrytania	1.15	250	ePN	Pn	01 18 52.7	-0.1
PTL	Penteli	1.37	157	ePN	Pn	01 18 56.5	+0.8
ATH	Athens Observa	1.40	163	ePN	Pn	01 18 56.0	-0.2
SOH	Sokhos	1.51	4	ePg	Pg	01 18 58.7	-1.4
KVR	Kavouri	1.55	163	ePN	Pn	01 18 59.5	+1.3
NAIG	Nisos Aigina	1.57	172	ePN	Pn	01 19 00.0	+1.5
SRS	Serrai	1.83	9	ePb	Pb	01 19 02.9	-1.4
KNT	Kendrikon	1.86	353	ePb	Pb	01 19 03.7	-1.2
FNA	Florina	2.03	317	ePn	Pn	01 19 05.3	+0.4
FNA				eSn	Sn	01 19 31.4	+1.5

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*ISCJB **07** 01:19:15.4±0.6, 3932N±004×23.16E±006, h15km, Error ellipse: s-maj=7.2km s-min=5.6km az=55.1*
*CSEM **07** 01:19:16.2±0.1, 3930N×23.18E, h15km, ML1.8, Error ellipse: s-maj=3.0km s-min=2.2km az=79.0*
*THE **07** 01:19:16.6, 3931N×23.14E, h13km, ML1.8*
*NEIC **07** 01:19:16.3, 3928N×2337E, h4km, ML3.1(ATH), After ATH.*
*ATH **07** 01:19:16.3, 3928N×2337E, h4km, MD2.8/4, ML3.1*
ISC 07 01:19:15.3±0.8, **3931N**±004×**2320E**±007, **h20**km±5km, **n9**, σ**0s81**/13, **1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	Neokhori	0.02	85	⇑iPG	Pg	01 19 18.9	+0.1
NEO				eSG	Sg	01 19 20.5	-0.6
XOR	Xorichti	0.06	356	ePg	Pg	01 19 19.5	+0.6
XOR				eSg	Sg	01 19 21.3	-0.1
AOS	Alonnisos	0.55	104	ePg	Pg	01 19 27.8	+1.5
AGG	Agios Georgios	0.73	248	ePg	Pg	01 19 29.8	+0.1
AGG				eSg	Sg	01 19 40.0	+0.5
LIT	Litokhoron	0.96	326	ePg	Pg	01 19 34.0	-0.1
PLG	Polygyros	1.08	10	ePG	Pg	01 19 37.0	+0.6
PLG				eSG	Sg	01 19 51.0	+0.3
PTL	Penteli	1.36	157	ePB	Pb	01 19 40.0	0.0
ATH	Athens Observa	1.39	163	ePG	Pg	01 19 41.0	-1.2
SOH	Sokhos	1.52	4	ePg	Pg	01 19 42.6	-2.0

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*ISCJB **07** 01:21:10.6±0.5, 4076N±002×3298E±002, h2km±4km, Error ellipse: s-maj=3.5km s-min=3.0km az=139.7*
*CSEM **07** 01:21:10.2±0.2, 4073N×3299E, h3km, MD3.6, Error ellipse: s-maj=1.6km s-min=1.2km az=178.0*
*ISK **07** 01:21:10.3, 4074N×3300E, h3km, MD3.6*
*MOS **07** 01:21:21.1±2.6, 41.13N×33.26E, h10km, mb4.0/1, Error ellipse: s-maj=25.1km s-min=10.9km az=107.9*
ISC 07 01:21:11.2±0.5, **4075N**±002×**3300E**±002, **h1**km±4km, **n51**, σ**0s89**/66, **6C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	Eldivan	0.42	129	i P	Pg	01 21 19.1	-0.1
ELDT				i S	Sg	01 21 23.4	-1.3
CANT	Cankiri	0.49	107	i PG	Pg	01 21 20.8	+0.2
CANT				i SG	Sg	01 21 28.3	+1.3
SAFT	Safranbolu	0.54	334	i PG	Pg	01 21 22.1	+0.5
SGKT	Sivrigoynuk	0.74	256	i P	Pg	01 21 25.6	+0.1
SGKT				i S	Sg	01 21 34.0	-1.1
SGKT	Sivrigoynuk	0.74	256	i P	Pg	01 21 25.6	+0.1
TOS	Tosya	0.82	70	i PG	Pg	01 21 26.1	-0.9
TOS				i SG	Sg	01 21 38.7	+1.0
BALT	Daday	0.83	20	i P	Pg	01 21 27.6	+0.5
BALT				i S	Sg	01 21 37.3	-0.7
LOD	Lodumlu	0.88	192	i PG	Pg	01 21 27.6	-0.6
LOD				i SG	Sg	01 21 40.2	+0.6
ANTO	Ankara	0.90	190	PG	Pg	01 21 28.0	-0.4
KDZE	Karadeniz Ereo	1.31	296	i PN	Pn	01 21 36.2	-0.4
CORM	Corum	1.37	114	i PN	Pn	01 21 37.4	0.0
CORM				i SN	Sn	01 21 57.2	+1.0
MDU	Mudurnu	1.39	259	i PN	Pn	01 21 37.2	-0.6
BZK	Bozkurt	1.42	32	ePN	Pn	01 21 37.7	-0.5
KAMT	Kaman	1.49	158	i PN	Pn	01 21 38.2	-0.9
BYBT	Boyabat	1.51	61	i PN	Pn	01 21 39.2	-0.2
CDAG	Cicekdag	1.54	137	i P	Pn	01 21 39.0	-0.8
CDAG				i S	Sn	01 21 59.2	-1.3
BOYT	Boyabat	1.58	65	i P	Pn	01 21 40.1	-0.3
BOYT				i S	Sn	01 22 01.6	+0.1
HENT	Hendek	1.60	273	i P	Pn	01 21 40.7	+0.1
HENT				i S	Sn	01 22 04.3	+2.4
DIKM	Dikmen	1.92	62	ePN	Pn	01 21 45.5	+0.4
KIZT	Kizilcal	2.06	205	ePN	Pn	01 21 46.6	-0.4
YOZ	Yozgat	2.09	121	i PN	Pn	01 21 47.7	+0.3
GPA	Golpazari	2.10	258	PN	Pn	01 21 47.4	-0.2
KVT	Kavak	2.33	81	ePN	Pn	01 21 50.6	-0.1
KDHN	Kadinhani	2.33	197	i P	Pn	01 21 50.5	-0.2
KDHN				i S	Sn	01 22 25.2	+5.2
ADVT	Abdulvahap	2.51	264	ePN	Pn	01 21 53.2	+0.1
HRT	Hereke	2.53	273	ePN	Pn	01 21 52.7	-0.8
TOKT	Tokat	2.73	98	ePN	Pn	01 21 55.9	-0.3
YLV	Yalova	2.77	267	ePN	Pn	01 21 56.5	-0.2
ALT	Altintas	2.80	234	ePN	Pn	01 21 56.9	-0.2
KONT	Konya--Tatoy	2.85	190	ePN	Pn	01 21 57.2	-0.6
BNN	Bunyan	2.90	130	ePN	Pn	01 21 59.0	+0.5
ISK	Istanbul-Kandi	3.00	277	ePN	Pn	01 22 00.4	+0.4
SVSK	Karacayir	3.17	104	ePN	Pn	01 22 01.7	-0.5
ISP	Isparta	3.49	214	ePN	Pn	01 22 07.2	+0.6
BCK	Bucak	3.79	211	ePN	Pn	01 22 10.7	0.0
SEV	Sevastopol'	3.82	7	eP	Pn	01 22 14.8	+3.6
SEV				eS	Sn	01 22 55.4	-1.3
SEV				smax			
	comp=N,20nm,0.6s						
SEV				smax			
	comp=E,10.0nm,0.6s						
YAL	Yalta	3.83	12	eP	Pn	01 22 14.9	+3.6
YAL				eS	Sn	01 22 55.6	-1.3
YAL				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YAL				smax			
	comp=N,20nm,0.6s						
YAL				smax			
	comp=E,30nm,0.6s						
MERS	Mersin	4.06	163	ePN	Pn	01 22 14.7	+0.3
BALB	Balikesir	4.08	256	ePN	Pn	01 22 14.5	-0.2
SIM	Simferopol'	4.27	11	P	Pn	01 22 20.3	+2.9
SIM				eS	Sn	01 23 17.0	+9.2
SIM				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SIM				MLR	MLR		
	comp=Z,17nm,8.0s						
SUDU	Sudak	4.39	19	eP	Pn	01 22 22.5	+3.5
SUDU				eS	Sn	01 23 10.5	-0.2
SUDU				pmax	pmax		
	comp=Z,20nm,0.5s						
SUDU				smax			
	comp=E,30nm,0.6s						
SUDU				smax			
	comp=N,30nm,0.5s						
ELL	Elmali	4.67	212	ePN	Pn	01 22 23.3	+0.4
MALT	Malatya	4.85	118	⇑iP	Pb	01 22 39.9	+2.9
FETY	Fethiye	5.13	218	ePN	Pn	01 22 30.9	+1.8
EZN	Ezine	5.19	262	ePN	Pn	01 22 30.5	+0.5
EZC	Erzincan	5.31	99	ePN	Pn	01 22 28.1	-3.5
VRI	Vrincioaia	6.86	320	⇑iP	Pn	01 23 01.7	+8.8
PLOR	Plostina	6.89	320	⇑iP	Pb	01 23 11.8	+0.1
MLR	Muntele Rosu	7.00	315	⇑iP	Pb	01 23 09.9	-3.8
VOIR		7.47	311	⇑iP	Pn	01 23 11.9	+11
BURAR	Bucovina Array	8.85	323	⇑iP	Pn	01 23 20.4	+0.2

*NEIC **07** 01:42:34.9,2728S×7122W,h6^{km},ML3.7(GUC),After GUC.*

GUC 07 01:42:34.9±0.6**,2728S×7122W,h6**^{km}±2^{km}**,MD3.6,ML3.7, 1C-3D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.41**	**60**	⇓*i*P	Pg	01 42 43.6	+0.9
CDCH				*i* S	Sg	01 42 49.4	+1.3
CPCH	**Copiapo**	**0.78**	**96**	⇓*i*P	Pg	01 42 50.1	+0.2
CPCH				*i* S	Sg	01 43 01.7	+1.8
CPCH				AML	AML	01 43 03.1	
	comp=E,9μm,0.1s						
CPCH	**Copiapo**	**0.78**	**96**	⇓*i*P	Pg	01 42 50.1	+0.2
CPCH				*i* S	Sg	01 43 01.7	+1.8
CRCH	**Chaqaral**	**1.07**	**30**	*i* P	Pg	01 42 54.6	-1.0
CRCH				*i* S	Sg	01 43 10.0	+0.5
LCO	**Las Campanas**	**1.79**	**165**	⇑*i*P	Pn	01 43 06.5	+0.2
LCO				*i* S	Sn	01 43 31.1	+1.7
TLL	**Tololo Astrono**	**2.90**	**173**	AML	AML	01 44 15.2	
	comp=N,138nm,0.6s						

NNC 07 01:45:31.7±2.6**,3703N×7088E,h209**^{km}±38^{km}**,mb2.3, mpv3.3,3C-3D,Error ellipse: s-maj=26.1km s-min=15.5km az=24.0,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.08**	**357**	⇓P	Pn	01 46 59.9	-0.1
	3.1nm,0.3s,baz=182,slow=13,SNR=59						
KK31				⇑S	Sn	01 48 10.7	+0.6
	4.2nm,0.6s,baz=180,slow=20,SNR=9.4						
TKM2	**Tokmak 2**	**6.91**	**30**	⇑P	Pn	01 47 10.7	-0.1
	0.4nm,0.6s						
TKM2				⇑S	Sn	01 48 30.5	+0.9
	0.3nm,0.7s						
AB31	**Akbulak array**	**14.58**	**330**	⇓P	Pn	01 48 49.2	+0.9
	0.3nm,0.4s,baz=154,slow=13,SNR=12						
AB31				⇓S	S	01 51 29.5	-0.6
	0.6nm,0.6s,baz=166,slow=22,SNR=3.3						

*PDG **07** 01:55:00.7±0.2,4101N×2040E,h0^{km}*
*SKO **07** 01:55:01.0,4109N×2038E,h9^{km},M2.1,ML2.6*
*ATH **07** 01:55:01.0,41.15N×2034E,h15^{km}±8^{km},MD3.3/4*
*THE **07** 01:55:01.8,41.15N×2041E,h1^{km},ML2.6*
*ISCJB **07** 01:55:01.8±0.4,4105N±002×2040E±003,h0^{km}±4^{km}, Error ellipse: s-maj=4.0km s-min=2.3km az=107.6*
*NEIC **07** 01:55:01.0,41.15N×2034E,h15^{km},MD2.9(PDG), MD3.3(ATH),After ATH.*
*TIR **07** 01:55:02.2,4091N×2038E,h33^{km},Ml2.8*
*CSEM **07** 01:55:03.0±0.1,4103N×2052E,h2^{km},ML2.6,Error ellipse: s-maj=2.5km s-min=1.6km az=43.0*

ISC 07 01:55:02.8±0.4**,4106N**±002×**2041E**±003**,h7**^{km}±3^{km}**,n37,** σ**1**^{s}**27**/62**,Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.30**	**79**	*i* Pg	**Pg**	**01 55 07.7**	**-0.9**
OHR				*i* Sg	**Sg**	**01 55 13.9**	**+1.3**
OHR				*e*Lg		01 55 14.0	
	comp=E,659nm,0.4s						
OHR				*e*Lg		01 55 14.1	
	comp=N,1μm,0.3s						
OHR	**Ohrid**	**0.30**	**79**	*e*Pg	**Pg**	**01 55 07.8**	**-0.9**
TIR	**Tirane**	**0.51**	**305**	*e*Pg	**Pg**	**01 55 09.9**	**-2.6**
TIR				*e*Sg	**Sg**	**01 55 17.4**	**-1.8**
KBN	**Korca**	**0.52**	**146**	*i* Pg	**Pg**	**01 55 12.4**	**-0.4**
KBN				*i* Sg	**Sg**	**01 55 21.9**	**+2.3**
QSH	**Qafa e Shtames**	**0.60**	**321**	*i* pg?	**Pg**	**01 55 12.2**	**-2.2**
QSH				*i* Sg	**Sg**	**01 55 22.2**	**-0.1**
BIA	**Bitola**	**0.69**	**93**	*i* Pg	**Pg**	**01 55 14.6**	**-1.6**
BIA				*i* Sg	**Sg**	**01 55 25.7**	**+0.6**
BIA				*e*Lg		01 55 26.4	
	comp=N,167nm,0.3s						
BIA				*e*Lg		01 55 26.6	
	comp=E,122nm,0.3s						
BIA	**Bitola**	**0.69**	**93**	*i* Pg	**Pg**	**01 55 14.5**	**-1.6**
BIA				*i* Sg	**Sg**	**01 55 25.6**	**+0.5**
FNA	**Florina**	**0.78**	**110**	*e*Pg	**Pg**	**01 55 16.9**	**-0.9**
FNA				*e*Sg	**Sg**	**01 55 28.9**	**+1.0**
TPE	**Tepelena**	**0.82**	**202**	*i* Pg	**Pg**	**01 55 16.4**	**-2.1**
TPE				*i* Sg	**Sg**	**01 55 30.7**	**+1.5**
LSK	**Leskovik**	**0.92**	**171**	*i* Pg	**Pg**	**01 55 18.1**	**-2.3**
LSK				*i* Sg	**Sg**	**01 55 33.2**	**+0.9**
KKS	**Kukesi**	**1.02**	**0**	*i* Pg	**Pg**	**01 55 23.7**	**+1.3**
KKS				*i* Sg	**Sg**	**01 55 38.5**	**+2.9**
SKO	**Skopje**	**1.20**	**40**	*e*Pg	**Pg**	**01 55 24.0**	**-1.8**
SKO				*e*Sg	**Sg**	**01 55 41.1**	**-0.2**
SKO	**Skopje**	**1.20**	**40**	*i* Pg	**Pn**	**01 55 24.4**	**-1.5**
SKO				*e*Lg		01 55 42.0	
	comp=N,156nm,0.3s						
SKO				*e*Lg		01 55 42.1	
	comp=E,110nm,0.7s						
ULC	**Ulcinj**	**1.26**	**317**	*e*Pg	**Pn**	**01 55 24.1**	**-2.7**
ULC				*e*Sg	**Sg**	**01 55 45.3**	**+2.0**
KZN	**Kozani**	**1.28**	**125**	*e*PN	**Pn**	**01 55 26.6**	**-0.5**
KZN				*e*SN	**Sn**	**01 55 46.0**	**+1.6**
KEK	**Kerkira**	**1.42**	**199**	*e*PN	**Pn**	**01 55 28.8**	**-0.2**
JAN	**Janina**	**1.44**	**166**	*e*PN	**Pn**	**01 55 30.5**	**+1.2**
GRG	**Griva**	**1.51**	**93**	*e*Pg	**Pn**	**01 55 29.4**	**-0.9**
IGT	**Igoumenitsa**	**1.52**	**182**	*e*Pg	**Pg**	**01 55 30.5**	**-1.5**
PVY	**Plav**	**1.57**	**348**	*e*Pn	**Pn**	**01 55 30.0**	**-1.1**
PVY				*e*Sn	**Sg**	**01 55 55.9**	**+2.6**
TTG	**Podgorica**	**1.62**	**328**	*e*Pn	**Pn**	**01 55 31.2**	**-0.5**
TTG				*e*Sn	**Sg**	**01 55 56.8**	**+1.9**
TTG	**Podgorica**	**1.62**	**328**	*e*Pn	**Pn**	**01 55 31.2**	**-0.6**
TTG				*e*Sn	**Sg**	**01 55 56.8**	**+1.9**
VAY	**Valandovo**	**1.65**	**80**	*e*Pn	**Pn**	**01 55 32.1**	**-0.1**
VAY				*e*Lg		01 55 57.9	
	comp=E,39nm,0.6s						
VAY				*e*Lg		01 56 01.1	
	comp=N,33nm,0.6s						
BUM	**Brajici-Budva**	**1.68**	**318**	*e*Pn	**Pn**	**01 55 32.4**	**-0.2**
BUM				*e*Sn	**Sg**	**01 55 58.2**	**+1.3**
LIT	**Litokhoron**	**1.85**	**120**	*e*Pb	**Pn**	**01 55 34.5**	**-0.4**
IVA	**Berane**	**1.85**	**348**	*e*Pn	**Pn**	**01 55 35.2**	**+0.2**
IVA				*e*Sn	**Sg**	**01 56 02.5**	**+0.1**
KNT	**Kendrikon**	**1.88**	**86**	*e*Pb	**Pn**	**01 55 34.4**	**-1.0**
HCY	**Herceg Novi**	**2.00**	**315**	*e*Pn	**Pn**	**01 55 36.8**	**-0.2**
HCY				*e*Sn	**Sb**	**01 56 05.7**	**+1.2**
NKY	**Niksic**	**2.05**	**329**	*e*Pn	**Pn**	**01 55 38.0**	**+0.3**
NKY				*e*Sn	**Sb**	**01 56 07.3**	**+1.3**
BRY	**Bratogost**	**2.31**	**324**	*e*Pn	**Pn**	**01 55 41.6**	**+0.3**
BRY				*e*Sn	**Sb**	**01 56 14.1**	**+0.5**
LKD	**Levkas**	**2.35**	**175**	*e*Pn	**Pn**	**01 55 42.1**	**+0.3**
EVR	**Evrytania**	**2.39**	**153**	*e*PB	**Pn**	**01 55 43.0**	**+0.6**
PLE	**Pljevlja**	**2.40**	**342**	*e*Pn	**Pn**	**01 55 42.5**	**+0.1**
PLE				*e*Sn	**Sb**	**01 56 16.0**	**0.0**
PLG	**Polygyros**	**2.41**	**105**	*e*PB	**Pn**	**01 55 43.3**	**+0.7**
UPM	**Unac-Piva**	**2.42**	**333**	*e*Pn	**Pn**	**01 55 43.6**	**+0.8**
UPM				*e*Sn	**Sb**	**01 56 16.5**	**-0.2**
AGG	**Agios Georgios**	**2.51**	**143**	*e*Pn	**Pn**	**01 55 44.3**	**+0.3**
AGG				*e*Sn	**Sn**	**01 56 17.2**	**+2.3**
DIVS	**Divcibare**	**3.06**	**354**	*e*Pn	**Pn**	**01 55 49.5**	**-2.0**
DIVS				*e*Sn	**Sn**	**01 56 26.6**	**-1.8**

*ISCJB **07** 01:55:51.2±1.5,160S±0.1×16791E±009,h169^{km}±10^{km}, mb4.6/12,Error ellipse: s-maj=25.2km s-min=13.7km az=32.4*
*IDC **07** 01:55:52.6±3.8,1602S×16793E,h163^{km}±26^{km},mb4.2/6, mb1 4.2/7,mb1mx3.8/17,mbtmp4.6/7,Error ellipse: s-maj=41.4km s-min=21.2km az=35.0*
*NEIC **07** 01:55:52.9±1.8,1602S×16796E,h170^{km}±16^{km},mb4.6/11, Error ellipse: s-maj=18.2km s-min=9.9km az=195.0*

ISC 07 01:55:52.8±1.4**,161S**±01×**16795E**±009**,h166**^{km}±10^{km}**, n27,**σ**0**^{s}**63**/27**,mb4.6**/13**,1D,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.62**	**170**	⇓*i*P	**Pn**	**01 56 24.7**	**-0.1**
BKM				S	**Sn**	**01 56 49.2**	**+7.0**
DZM	**Mont Dzumac**	**6.14**	**193**	P	**Pn**	**01 57 21.5**	**0.0**
	2.3nm,0.3s,baz=72,slow=21,SNR=18						
AFI	**Afiamalu**	**19.70**	**86**	P	**P**	**02 00 09.4**	**+0.1**
CTA	**Charters Tower**	**21.00**	**256**	*e*P	**P**	**02 00 26.1**	**+2.9**
	7.6nm,0.6s,mb4.2						
CTA	**Charters Tower**	**21.00**	**256**	P	**P**	**02 00 24.1**	**+0.8**
	10nm,0.6s,mb4.3,baz=95,slow=13,SNR=12						
CTAO	**Charters Tower**	**21.00**	**256**	*e*P	**P**	**02 00 24.4**	**+1.1**
	9.9nm,0.6s,mb4.3						
PMG	**Port Moresby**	**21.32**	**286**	P	**P**	**02 00 27.3**	**+0.8**
	28nm,0.9s,mb4.6,baz=128,slow=6.5,SNR=5.8						
PMG	**Port Moresby**	**21.32**	**286**	*e*P	**P**	**02 00 27.4**	**+0.8**
	30nm,0.9s,mb4.6						
URZ	**Urewera**	**23.54**	**162**	P	**P**	**02 00 48.7**	**+0.8**
	6.1nm,0.6s,mb4.3,baz=120,slow=20,SNR=4.3						
STKA	**Stephens Creek**	**28.66**	**232**	*e*P	**P**	**02 01 34.0**	**+0.1**
	5.3nm,1.1s,mb4.2						
STKA	**Stephens Creek**	**28.66**	**232**	P	**P**	**02 01 34.2**	**+0.2**
	4.7nm,0.8s,mb4.3,baz=61,slow=9.4,SNR=8.6						
WB2	**Warramunga Arr**	**32.15**	**258**	*e*P	**P**	**02 02 04.0**	**-0.7**
WB2	**Warramunga Arr**	**32.15**	**258**	*e*P	**P**	**02 02 04.2**	**-0.5**
WRAB	**Tennant Creek**	**32.15**	**258**	*e*P	**P**	**02 02 04.0**	**-0.6**
	8.1nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**32.16**	**258**	P	**P**	**02 02 04.2**	**-0.6**
	5.9nm,0.7s,mb4.4,baz=88,slow=8.6,SNR=25						
AS31	**Alice Springs**	**32.84**	**251**	*e*P	**P**	**02 02 10.4**	**-0.2**
ASAR	**Alice Springs**	**32.84**	**251**	P	**P**	**02 02 10.8**	**+0.2**
	41nm,0.7s,mb5.3,baz=76,slow=9.0,SNR=494						
ASAR				ScP	ScP	02 08 20.8	+0.9
	1.0nm,0.8s,baz=81,slow=2.0,SNR=6.3						
ASPA	**Alice Springs**	**32.84**	**251**	*e*P	**P**	**02 02 10.4**	**-0.3**
KAKA	**Kakadu**	**34.53**	**271**	*e*P	**P**	**02 02 24.3**	**-1.0**
	13nm,0.5s,mb4.8						
FORT	**Forrest**	**39.20**	**241**	*e*P	**P**	**02 03 04.7**	**0.0**
	13nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**40.43**	**261**	*e*P	**P**	**02 03 15.2**	**+0.4**
	31nm,0.4s,mb5.3						
MBWA	**Marble Bar**	**45.84**	**256**	*e*P	**P**	**02 03 58.9**	**+0.7**
	31nm,0.8s,mb5.0						
VNDA	**Vanda**	**61.55**	**182**	*e*P	**P**	**02 05 52.3**	**0.0**
SBA	**Scott Base**	**61.81**	**180**	*e*P	**P**	**02 05 54.9**	**+0.8**
QSPA	**South Pole Qui**	**73.97**	**180**	*e*P	**P**	**02 07 09.7**	**-0.2**
	4.6nm,0.7s,mb4.3						
SNAA	**Sanae**	**92.26**	**183**	*e*P	**P**	**02 08 42.5**	**-1.4**
	0.6nm,0.5s,mb3.9						
ARCES	**ARCESS Array B**	**121.70**	**345**	PKP	PKPdf	02 14 25.9	-1.0
	1.1nm,0.7s,baz=47,slow=3.4,SNR=5.6						

*ISCJB **07** 02:16:04.4±1.5,3335S±006×1786W±02,h10^{km},mb4.4/6, MS4.7/3,Error ellipse: s-maj=28.7km s-min=6.9km az=20.7*
*IDC **07** 02:16:05.2±1.2,3328S×17860W,h0^{km},mb4.5/3, mb1 4.6/4,mb1mx4.1/14,mbtmp4.5/4,ML4.4/1,MS4.3/4, Ms1 4.3/4,ms1mx3.5/22,Error ellipse: s-maj=33.7km s-min=30.1km az=153.0*
*NEIC **07** 02:16:06.4±12.0,3328S×17860W,h10^{km}±74^{km},mb4.5/4, Error ellipse: s-maj=42.3km s-min=15.0km az=224.0*

ISC 07 02:16:05.2±1.4**,3335S**±006×**1784W**±02**,h10**^{km}**,n49,** σ**1**^{s}**32**/43**,mb4.4**/6**,MS4.7**/3**,1C,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.11**	**6**	LR	LR	02 17 52.8	
	comp=Z,622nm,19.8s,baz=196,slow=26						
MXZ	**Matakaoa Point**	**4.98**	**211**	PN	**Pn**	**02 17 21.2**	**+1.2**
MXZ				SN	**Sn**	**02 18 19.0**	**+1.4**
MXZ	**Matakaoa Point**	**4.98**	**211**	*e*P	**Pn**	**02 17 21.2**	**+1.2**
PUZ	**Puketiti**	**5.43**	**209**	PN	**Pn**	**02 17 28.0**	**+1.8**
PUZ				SN	**Sn**	**02 18 30.5**	**+1.8**
PUZ	**Puketiti**	**5.43**	**209**	*e*P	**Pn**	**02 17 28.0**	**+1.8**
MWZ	**Matawai**	**5.96**	**212**	PN	**Pn**	**02 17 34.4**	**+0.9**
MWZ				SN	**Sn**	**02 18 42.8**	**+1.0**
MWZ	**Matawai**	**5.96**	**212**	*e*P	**Pn**	**02 17 34.4**	**+0.9**
MWZ				S	**Sn**	**02 18 42.0**	**+0.2**
URZ	**Urewera**	**6.10**	**215**	Pn	**Pn**	**02 17 36.1**	**+0.7**
	9.1nm,0.3s,baz=297,slow=3.5,SNR=23						
URZ				Sn	**Sn**	**02 18 45.0**	**-0.1**
	16nm,0.3s,baz=167,slow=21,SNR=19						
URZ	**Urewera**	**6.10**	**215**	PN	**Pn**	**02 17 36.5**	**+1.2**
URZ	**Urewera**	**6.10**	**215**	P	**Pn**	**02 17 36.5**	**+1.2**
KNZ	**Kokohu**	**6.48**	**208**	PN	**Pn**	**02 17 40.5**	**-0.1**
KNZ	**Kokohu**	**6.48**	**208**	*e*P	**Pn**	**02 17 40.5**	**-0.1**
OUZ	**Omahuta**	**6.86**	**252**	PN	**Pn**	**02 17 51.6**	**+5.8**
OUZ	**Omahuta**	**6.86**	**252**	*e*P	**Pn**	**02 17 51.6**	**+5.8**
BKZ	**Black Stump Fm**	**7.11**	**214**	PN	**Pn**	**02 17 49.8**	**+0.6**
BKZ	**Black Stump Fm**	**7.11**	**214**	*e*P	**Pn**	**02 17 49.8**	**+0.5**
BKZ				S	**Sn**	**02 19 07.8**	**-2.3**
PXZ	**Pawanui**	**7.67**	**208**	PN	**Pn**	**02 17 55.9**	**-1.0**
MRZ	**Mangatainoka R**	**8.73**	**212**	*e*PN	**Pn**	**02 18 09.1**	**-2.4**
MRZ	**Mangatainoka R**	**8.73**	**212**	*e*P	**Pn**	**02 18 09.5**	**-2.0**
MTW	**Mount Morrison**	**9.17**	**210**	P	**Pn**	**02 18 14.6**	**-3.0**
KIW	**Kapiti Island**	**9.19**	**213**	P	**Pn**	**02 18 15.0**	**-2.8**
NNZ	**Nelson**	**10.21**	**217**	*e*PN	**Pn**	**02 18 29.3**	**-2.4**
NNZ				SN	**Sn**	**02 20 17.4**	**-8.8**
THZ	**Tophouse**	**10.85**	**217**	*e*PN	**Pn**	**02 18 37.4**	**-3.1**
THZ				SN	**Sn**	**02 20 32.7**	**-9.3**
THZ	**Tophouse**	**10.85**	**217**	*e*P	**Pn**	**02 18 38.2**	**-2.4**
LTZ	**Lake Taylor**	**11.93**	**215**	SN	**Sn**	**02 20 56.8**	**-12**
CTA	**Charters Tower**	**34.02**	**284**	P	**P**	**02 22 50.9**	**+1.6**
	2.5nm,0.5s,mb4.4,baz=125,slow=11,SNR=7.7						
CTAO	**Charters Tower**	**34.02**	**284**	*e*P	**P**	**02 22 50.3**	**+1.1**
	2.9nm,0.5s,mb4.5						
AS31	**Alice Springs**	**42.67**	**270**	*e*P	**P**	**02 24 02.1**	**+0.1**
ASAR	**Alice Springs**	**42.67**	**270**	P	**P**	**02 24 02.5**	**+0.5**
	5.8nm,0.7s,mb4.4,baz=110,slow=7.5,SNR=66						
ASPA	**Alice Springs**	**42.67**	**270**	*e*P	**P**	**02 24 02.1**	**+0.1**
WB2	**Warramunga Arr**	**43.91**	**275**	*e*P	**P**	**02 24 11.8**	**-0.2**
WB2	**Warramunga Arr**	**43.91**	**275**	*e*P	**P**	**02 24 11.6**	**-0.4**
WRAB	**Tennant Creek**	**43.92**	**275**	*e*P	**P**	**02 24 11.6**	**-0.5**
	6.5nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**43.92**	**275**	P	**P**	**02 24 12.0**	**-0.1**
	3.6nm,0.5s,mb4.4,baz=117,slow=7.4,SNR=12						
FITZ	**Fitzroy Crossi**	**52.05**	**272**	⇑*i*P	**P**	**02 25 14.9**	**-0.1**
	6.0nm,0.8s,mb4.6						
CASY	**Casey**	**52.38**	**209**	*e*P	**P**	**02 25 18.7**	**+1.2**
	0.8nm,0.6s,mb3.8						
CMIG	**Matias Romero**	**94.00**	**72**	LR	LR	03 02 21.8	
	comp=Z,752nm,21.7s,MS5.1,baz=148,slow=30						
ATAH	**Atahualpa**	**94.51**	**101**	LR	LR	03 02 21.8	
	comp=Z,199nm,21.1s,MS4.5,baz=328,slow=29						
ANMO	**Albuquerque**	**95.69**	**52**	LR	LR	03 02 20.9	
	comp=Z,118nm,21.1s,MS4.3,baz=253,slow=29						
ARCES	**ARCESS Array B**	**141.37**	**347**	PKhKP		02 35 30.6	
	3.4nm,1.1s,baz=57,slow=4.6,SNR=3.8						
JOF	**Joensuu**	**144.99**	**337**	*e*p	PKPdf	02 35 40.6	-2.0
KAF	**Kangasniemi**	**147.17**	**339**	*e*p	PKPdf	02 35 43.9	-2.5
	1.6nm,0.5s						
FINES	**FINESS Array B**	**147.76**	**338**	PKPbc	PKPbc	02 35 49.7	-0.4
	0.7nm,0.4s,baz=47,slow=4.8,SNR=15						
FINES	**FINESS Array B**	**147.76**	**338**	PKPbc	PKPbc	02 35 49.7	-0.4
NB2	**NORSAR Subarra**	**151.59**	**350**	PKP	PKPdf	02 35 59.4	+6.0
	comp=Z,1.1nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.59**	**350**	PKPbc	PKPbc	02 35 59.7	+0.1
	comp=Z,0.7nm,0.6s,baz=12,slow=4.5,SNR=9.6						
DBIC	**Dimbokro**	**152.79**	**166**	PKPbc	PKPbc	02 36 05.1	+2.7
	comp=Z,1.4nm,0.6s,baz=214,slow=14,SNR=3.6						
DBIC	**Dimbokro**	**152.79**	**166**	PKPbc	PKPbc	02 36 05.1	+2.7
TORD	**Torodi Ar. Bea**	**159.89**	**180**	PKPab	PKPab	02 36 46.4	+2.7
	comp=Z,0.5nm,0.9s,baz=179,slow=1.9,SNR=6.7						

OTT 07 02:41:29.6±1.1**,6162N×6498W,h18**^{km}**,MN2.9**/2**,36km northeast from Resolution Island, Nu,Hudson Strait region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**2.70**	**324**	PN	Pn	02 42 12.0	0.0
FRB				PG	Pg	02 42 17.2	-4.1
FRB				SN	Sn	02 42 43.5	-0.7
FRB				SG	Sg	02 42 50.1	-6.2
FRB				Trac		02 42 52.1	
	comp=Z,10.0nm,0.1s						
KUQ	**Kuujjuaa**	**3.92**	**208**	PG	Pg	02 42 39.4	-5.3
KUQ				SN	Sn	02 43 14.0	-0.4
KUQ				SG	Sg	02 43 30.8	-4.6
KUQ				Trac		02 43 32.6	
	comp=Z,6.6nm,0.2s						
SCHQ	**Schefferville**	**6.87**	**189**	SN	Sn	02 44 23.9	-3.2
SCHQ				SG	Sn	02 44 52.9	+26
LG4Q	**La Grande 4**	**9.38**	**215**	PN	Pn	02 43 39.4	-4.3
LG4Q				SN	Sn	02 45 18.8	-10
YOSQ	**Ashton Mining**	**9.60**	**207**	SN	Sn	02 45 25.1	-9.0
QILN	**Qililugaq Expl**	**10.59**	**308**	PN	Pn	02 43 56.6	-3.6
QILN				SN	Sn	02 45 48.0	-10
QILN				LG		02 46 50.8	
GIFN	**Gifford Fjord,**	**10.79**	**328**	PN	Pn	02 43 59.5	-3.6
GIFN				SN	Sn	02 45 51.3	-12
GIFN				LG		02 46 56.7	
WEMQ	**Wemindji, Queb**	**11.07**	**225**	PN	Pn	02 44 10.6	+3.7
WEMQ				SN	Sn	02 45 59.2	-11
WEMQ				LG		02 47 06.6	
SILO	**Sutton Inlier**	**12.71**	**245**	SN	Sn	02 46 38.6	-12

*IDC **07** 02:59:23.3±15.0,2079S×17828W,h616^{km}±168^{km}, mb3.2/4,mb1 3.4/5,mb1mx3.1/15,mbtmp4.4/5,Error ellipse: s-maj=235.6km s-min=56.3km az=53.0*

NEIC 07 02:59:26.0±6.9**,2109S×17875W,h600**^{km}**,mb3.9**/4**,Error ellipse: s-maj=145.0km s-min=21.5km az=53.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.48**	**191**	P	P	03 02 56.8	-0.1
	1.7nm,0.3s,baz=310,slow=6.6,SNR=6.8						
CTA	**Charters Tower**	**32.74**	**265**	*e*P	P	03 05 11.7	+0.8
	3.3nm,0.7s						
CTA	**Charters Tower**	**32.74**	**265**	P	P	03 05 11.7	+0.8
	3.3nm,0.3s,baz=102,slow=8.9,SNR=7.3						
CTAO	**Charters Tower**	**32.74**	**265**	*e*P	P	03 05 11.5	+0.6
	0.9nm,0.4s						
STKA	**Stephens Creek**	**36.90**	**245**	*e*P	P	03 05 46.1	+0.7
	2.5nm,1.1s						
STKA	**Stephens Creek**	**36.90**	**245**	P	P	03 05 46.0	+0.6
	1.2nm,0.4s,baz=88,slow=12,SNR=6.6						
STKA	**Stephens Creek**	**36.90**	**245**	*e*P	P	03 05 45.5	+0.1
AS31	**Alice Springs**	**43.70**	**257**	*e*P	P	03 06 39.7	+0.4
ASAR	**Alice Springs**	**43.70**	**257**	P	P	03 06 39.8	+0.4
	3.9nm,0.8s,baz=95,slow=7.7,SNR=45						
ASPA	**Alice Springs**	**43.70**	**257**	*e*P	P	03 06 39.7	+0.3
WB2	**Warramunga Arr**	**43.81**	**263**	*e*P	P	03 06 40.1	-0.1
WRAB	**Tennant Creek**	**43.82**	**263**	*e*P	P	03 06 40.0	-0.2
	1.0nm,0.3s						
WRA	**Warramunga Arr**	**43.83**	**263**	P	P	03 06 40.4	+0.1
	1.4nm,0.3s,baz=95,slow=8.4,SNR=8.9						
FITZ	**Fitzroy Crossi**	**52.26**	**263**	*e*P	P	03 07 43.8	+1.0
	8.3nm,1.0s						

FUNV 07 03:20:00.3,916N×7089W,h5^{km}**,MW3.8,9C-2D, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIGV	**El Vigia**	**0.56**	**236**	⇑*e*P	Pg	03 20 11.6	+0.5
VIGV				*e*S	Sg	03 20 19.6	+1.2
SOCV	**Socops**	**0.87**	**178**	⇑*e*P	Pg	03 20 16.0	-0.9
SOCV				*e*S	Sg	03 20 27.3	-0.9
QARV	**Quebrada Arrib**	**1.10**	**19**	⇑*e*P	Pg	03 20 19.7	-1.8
QARV				*e*S	Sg	03 20 35.5	-0.3
CURV	**Curarigua**	**1.25**	**47**	⇑*e*P	Pg	03 20 21.5	-2.8
CURV				*e*S	Sg	03 20 39.1	-1.5
DABV	**Dabajuro**	**1.77**	**8**	⇑*e*P	Pn	03 20 31.2	-0.4
DABV				*e*S	Sn	03 20 55.1	+0.6
SIQV	**Siquisique**	**1.83**	**36**	⇑*e*P	Pn	03 20 31.5	-0.9
SIQV				*e*S	Sn	03 20 55.8	-0.1
TEPV	**Terepaima**	**1.86**	**64**	⇑*e*P	Pn	03 20 32.5	-0.3
TEPV				*e*S	Sn	03 20 55.7	-0.9
VIRV	**Villa del Rosa**	**2.00**	**312**	⇓*e*P	Pn	03 20 33.8	-1.0
VIRV				*e*S	Sn	03 20 59.8	-0.5
ELOV	**Elorza**	**2.56**	**147**	⇑*e*P	Pn	03 20 41.7	-0.7
ELOV				*e*S	Sn	03 21 12.9	-0.9
JACV	**Jacura**	**2.79**	**46**	*e*P	Pn	03 20 45.4	-0.2
JACV				*e*S	Sn	03 21 18.4	-1.3
BAUV	**El Baul**	**2.82**	**94**	*e*P	Pn	03 20 44.7	-1.4
BAUV				*e*S	Sn	03 21 19.2	-1.2
MONV	**Montecano**	**2.92**	**18**	⇑*e*P	Pn	03 20 46.0	-1.4
MONV				*e*S	Sn	03 21 20.9	-2.1
TURV	**Turiamo**	**3.27**	**67**	⇓*e*P	Pn	03 20 51.3	-0.9
MERV	**Las Mercedes**	**4.54**	**88**	*e*P	Pn	03 21 08.5	-1.1
BIRV	**Birongo**	**4.74**	**74**	*e*P	Pn	03 21 11.9	-0.5
CAOV	**Caicara del Or**	**4.87**	**112**	*e*P	Pn	03 21 11.2	-3.0
CUPV	**Cœpira**	**5.11**	**79**	*e*P	Pn	03 21 16.7	-0.8
PRGV	**PARIAGUAN**	**6.18**	**93**	*e*P	Pn	03 21 30.5	-1.8
PCRV	**Puerto La Cruz**	**6.25**	**80**	*e*P	Pn	03 21 33.0	-0.1
GUNV	**Guanoco**	**7.90**	**82**	*e*P	Pn	03 21 54.7	-1.1

*IDC **07** 03:28:52.4±0.7,2688N×5584E,h0^{km},mb4.0/17, mb1 4.0/19,mb1mx4.0/26,mbtmp4.0/19,ML3.6/2,MS3.1/4, Ms1 3.1/4,ms1mx2.7/34,Error ellipse: s-maj=17.4km s-min=15.0km az=110.0*
*ISCJB **07** 03:28:52.6±0.3,2685N±003×5579E±004,h10^{km}, mb4.0/29,MS3.4/5,Error ellipse: s-maj=5.5km s-min=4.0km az=74.3*
*CSEM **07** 03:28:54.0±0.1,2680N×5581E,h20^{km},mb4.1/8,Error ellipse: s-maj=3.8km s-min=3.0km az=87.0*
*MOS **07** 03:28:55.5±1.2,2683N×5580E,h33^{km},mb4.2/23,Error ellipse: s-maj=13.7km s-min=8.2km az=94.1*
*THR **07** 03:28:56.6±0.5,2700N×5605E,h12^{km}±2^{km},ML3.9*
*BJI **07** 03:28:57.2,27.10N×5600E,h14^{km},mB4.9,mb4.5,Ms4.2, Msz4.1*
*TEH **07** 03:28:57.9,2675N×5561E,h18^{km},Mn4.1*
*NEIC **07** 03:28:57.2,2706N×5604E,h14^{km},mb4.0/9,ML3.9(THR), MN4.1(TEH),After THR.*

ISC 07 03:28:54.8±0.3**,2689N**±003×**5586E**±004**,h10**^{km}**,n108,** σ**1**^{s}**28**/114**,mb4.0**/29**,MS3.4**/5**,2C-1D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.58**	**28**	*e*PG	**Pg**	**03 29 05.0**	**-1.0**
BNDS	**Bandar-Abbas**	**0.58**	**28**	Pg	**Pg**	**03 29 04.0**	**-2.0**
BNDS				Sg	**Sg**	**03 29 10.0**	**-3.6**
BANOM	**Banah**	**1.04**	**158**	⇑P	**Pg**	**03 29 15.4**	**+0.7**
	SNR=1821						
ASHO	**Ashiyiah**	**2.20**	**175**	⇑P	**Pn**	**03 29 33.8**	**+2.5**
	SNR=176						
GHIR	**Ghir-Karzin**	**2.91**	**299**	*e*PN	**Pn**	**03 29 46.0**	**+4.9**
GHIR				AML	AML	03 31 00.7	
	comp=E,446nm,0.6s						
GHIR				AML	AML	03 31 02.2	
	comp=N,363nm,0.6s						
GHIR	**Ghir-Karzin**	**2.91**	**299**	Pn	**Pn**	**03 29 45.0**	**+3.9**
GHIR				Sg	**Sg**	**03 30 29.0**	**+0.8**
KRBR	**Kerman**	**3.18**	**14**	*e*Pn	**Pn**	**03 29 46.9**	**+2.1**
KRBR				Sn	**Sn**	**03 30 23.2**	**+0.3**
KRBR				AML	AML	03 30 38.0	
	comp=N,357nm,0.6s						
KRBR				AML	AML	03 30 38.4	
	comp=E,356nm,0.6s						
KRBR	**Kerman**	**3.18**	**14**	Pn	**Pn**	**03 29 46.0**	**+1.2**
KRBR	**Kerman**	**3.18**	**14**	*e*Pn	**Pn**	**03 29 46.9**	**+2.1**
	SNR=47						
KRBR				Sn	**Sn**	**03 30 23.2**	**+0.4**
	SNR=47						
ISRV	**Sarvestan**	**3.47**	**316**	*e*Pn	**Pn**	**03 29 51.7**	**+2.8**
ISRV				*e*Sn	**Sn**	**03 30 29.0**	**-1.0**
IMOK	**Mook**	**3.52**	**308**	*e*Pn	**Pn**	**03 29 53.7**	**+4.2**
SHI	**Shiraz**	**4.03**	**314**	*e*Pn	**Pg**	**03 30 11.1**	**-0.9**
WSAR	**Wadi Sarin**	**4.42**	**145**	Pn	**Pn**	**03 30 02.1**	**+0.3**
	comp=E,4.0nm,0.3s,baz=145,slow=8.3,SNR=37						
WSAR				Sn	**Sn**	**03 30 51.5**	**-1.7**
	comp=E,5.8nm,0.3s,baz=0.0,slow=20,SNR=3.0						
WSAR				LR	LR	03 31 51.5	
	comp=E,231nm,18.7s,baz=216,slow=40						
WSAR	**Wadi Sarin**	**4.42**	**145**	Pn	**Pn**	**03 30 02.1**	**+0.3**
WSAR				Sn	**Sn**	**03 30 51.5**	**-1.7**
IBAF	**Bafgh**	**4.69**	**357**	*e*Pn	**Pn**	**03 30 07.0**	**+1.4**
IBAF	**Bafgh**	**4.69**	**357**	Pn	**Pn**	**03 30 06.9**	**+1.3**
WBK	**Wadi Bani Khal**	**5.11**	**146**	⇓P	**Pn**	**03 30 11.4**	**+0.1**
	SNR=7.0						
ZHSF	**Zahedan**	**5.11**	**57**	*e*PN	**Pn**	**03 30 12.4**	**+1.1**
ZHSF	**Zahedan**	**5.11**	**57**	Pn	**Pn**	**03 30 12.0**	**+0.7**
ICHK	**Chekchek**	**5.49**	**347**	*e*Pn	**Pn**	**03 30 18.0**	**+1.5**
IGAR	**Garneh**	**6.22**	**330**	*e*Pn	**Pn**	**03 30 30.6**	**+4.0**
IZEF	**Zefreh**	**6.73**	**334**	*e*Pn	**Pn**	**03 30 34.0**	**+0.5**
IZEF	**Zefreh**	**6.73**	**334**	Pn	**Pn**	**03 30 33.9**	**+0.4**
IPIR	**Pirpir**	**7.21**	**324**	*e*Pn	**Pn**	**03 30 41.2**	**+1.0**
QRN	**Al-Qurain**	**7.28**	**287**	AML	AML	03 32 03.6	
	comp=Z,78nm,0.3s						
IKLH	**Kalahroud**	**7.41**	**331**	*e*Pn	**Pn**	**03 30 43.6**	**+0.7**
RDF	**Al-Radifah**	**7.63**	**287**	AML	AML	03 32 08.4	
	comp=Z,21nm,0.4s						
UMR	**Umm Al-Rimmam**	**7.66**	**292**	*e*P	**Pn**	**03 30 47.1**	**+0.7**
UMR				AML	AML	03 32 12.7	
	comp=Z,40nm,0.3s						
NAY	**Al-Naaiem**	**7.97**	**289**	*e*P	**Pn**	**03 30 51.1**	**+0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NAY				AML	AML	03 32 19.2	
	comp=Z,18nm,0.5s						
MIB	**Mutribah**	**8.05**	**293**	*e*P	**Pn**	**03 30 52.4**	**+0.7**
MIB				AML	AML	03 32 23.9	
	comp=Z,65nm,0.5s						
RST	**Umm Al-Ruwaisa**	**8.24**	**290**	*e*P	**Pn**	**03 30 54.4**	**0.0**
RST				AML	AML	03 32 27.1	
	comp=Z,28nm,0.4s						
IFIR	**Firoozkooh**	**9.12**	**344**	*e*Pn	**Pn**	**03 31 07.8**	**+1.4**
IFIR	**Firoozkooh**	**9.12**	**344**	Pn	**Pn**	**03 31 08.2**	**+1.8**
ISHM	**Shahmirzad**	**9.16**	**347**	*e*Pn	**Pn**	**03 31 05.7**	**-1.2**
IRAZ	**Razeghan**	**9.89**	**331**	*e*Pn	**Pn**	**03 31 12.6**	**-4.4**
IKOM	**Komasi**	**10.22**	**317**	*e*Pn	**Pn**	**03 31 22.1**	**+0.6**
IKOM	**Komasi**	**10.22**	**317**	Pn	**Pn**	**03 31 22.0**	**+0.5**
IVIS	**Veys**	**10.86**	**317**	*e*Pn	**Pn**	**03 31 29.5**	**-0.7**
GNI	**Garni**	**16.13**	**328**	Pn	**Pn**	**03 32 46.1**	**+4.5**
	comp=Z,0.5nm,0.3s,baz=180,slow=20,SNR=2.2						
GNI	**Garni**	**16.13**	**328**	P	**Pn**	**03 32 46.1**	**+4.5**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASF	**Jabal al Asfar**	**17.32**	**292**	P	**Pn**	**03 32 54.7**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=243,slow=6.8,SNR=2.3						
ZEI	**Tsey**	**18.61**	**331**	*e*P	**Pn**	**03 33 15.3**	**+2.8**
KIV	**Kislovodsk**	**20.09**	**331**	*e*P	**P**	**03 33 31.2**	**+2.8**
KIV				pmax	pmax		
	comp=Z,25nm,0.8s						
KIV	**Kislovodsk**	**20.09**	**331**	*e*P	**P**	**03 33 31.2**	**+2.8**
	comp=Z,25nm,0.8s						
KIV	**Kislovodsk**	**20.09**	**331**	*e*P	**P**	**03 33 31.2**	**+2.8**
	comp=Z,25nm,0.8s						
AAK	**Ala-Archa**	**21.86**	**39**	*e*P	**P**	**03 33 50.3**	**+2.8**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
AAK	**Ala-Archa**	**21.86**	**39**	*e*P	**P**	**03 33 50.3**	**+2.8**
	comp=Z,6.2nm,0.9s,mb4.0						
BR131	**Keskin Array S**	**22.49**	**310**	*e*P	**P**	**03 33 56.4**	**+2.2**
	comp=Z,4.4nm,0.7s,mb4.0						
BRTR	**Keskin Array B**	**22.49**	**310**	P	**P**	**03 33 54.8**	**+0.5**
	comp=Z,2.2nm,0.8s,mb3.7,baz=126,slow=14,SNR=5.9						
BRTR	**Keskin Array B**	**22.49**	**310**	P	**P**	**03 33 54.8**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKTK	**Aktyubinsk**	**23.57**	**3**	P	**P**	**03 34 05.1**	**-0.5**
AKTK				LR	LR	03 44 52.6	
AKTK	**Aktyubinsk**	**23.57**	**3**	P	**P**	**03 34 05.1**	**-0.5**
AKTO	**Aktyubinsk**	**23.57**	**3**	P	**P**	**03 34 05.1**	**-0.5**
	comp=Z,2.0nm,0.6s,mb3.8,baz=180,slow=10,SNR=8.5						
AKTO				LR	LR	03 44 52.6	
	comp=Z,25nm,20.4s,MS2.7,baz=43,slow=41						
AKTO	**Aktyubinsk**	**23.57**	**3**	P	**P**	**03 34 05.1**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
AKTO				MLR	MLR		
	comp=Z,25nm,20.4s,MS2.7						
ZRNK	**Zerenda**	**27.82**	**17**	*e*P	**P**	**03 34 42.6**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9						
ZRNK	**Zerenda**	**27.82**	**17**	*e*P	**P**	**03 34 42.6**	**-1.6**
	comp=Z,2.9nm,1.0s,mb3.9						
ZRNK	**Zerenda**	**27.82**	**17**	*e*P	**P**	**03 34 42.6**	**-1.5**
	comp=Z,2.9nm,1.0s,mb3.9						
BRVK	**Borovoye**	**28.27**	**19**	*e*P	**P**	**03 34 47.2**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
BRVK	**Borovoye**	**28.27**	**19**	*e*P	**P**	**03 34 47.2**	**-0.9**
	comp=Z,1.6nm,0.8s,mb3.7						
BRVK	**Borovoye**	**28.27**	**19**	*e*P	**P**	**03 34 47.2**	**-0.9**
	comp=Z,1.6nm,0.8s,mb3.7						
BVAR	**Borovoye Array**	**28.27**	**19**	P	**P**	**03 34 47.3**	**-0.8**
	comp=Z,2.8nm,0.7s,mb4.0,baz=190,slow=7.4,SNR=12						
BVAR				LR	LR	03 46 46.3	
	comp=Z,49nm,18.7s,MS3.1,baz=356,slow=38						
BVAR	**Borovoye Array**	**28.27**	**19**	P	**P**	**03 34 47.3**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR				MLR	MLR		
	comp=Z,49nm,18.7s						
MKAR	**Makanchi Array**	**28.79**	**39**	P	**P**	**03 34 52.1**	**-0.7**
	comp=Z,0.5nm,0.6s,mb3.5,baz=224,slow=7.4,SNR=4.7						
MKAR	**Makanchi Array**	**28.79**	**39**	P	**P**	**03 34 52.1**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	**Chkalovo**	**28.91**	**18**	*e*P	**P**	**03 34 53.7**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
CHKZ	**Chkalovo**	**28.91**	**18**	*e*P	**P**	**03 34 53.7**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.8						
CHKZ	**Chkalovo**	**28.91**	**18**	*e*P	**P**	**03 34 53.7**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.8						
KURK	**Kurchatov**	**29.45**	**30**	*e*P	**P**	**03 34 59.6**	**+1.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
KURK	**Kurchatov**	**29.45**	**30**	*e*P	**P**	**03 34 59.5**	**+1.0**
	comp=Z,1.1nm,0.6s,mb3.8						
KURK	**Kurchatov**	**29.45**	**30**	*e*P	**P**	**03 34 59.5**	**+0.9**
	comp=Z,1.1nm,0.6s,mb3.8						
WMQ	**Urumqi**	**30.73**	**48**	P	**P**	**03 35 12.0**	**+2.1**
WMQ				AP	pP	03 35 16.4	+3.4
WMQ				XP	sP	03 35 19.0	+4.8
WMQ				PP	PP	03 36 11.5	-7.7
WMQ				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,18nm,4.1s						
WMQ				LR	LR		
	comp=N,93nm,14.0s,MS3.7						
WMQ				LR	LR		
	comp=E,70nm,12.9s,MS3.7						
WMQ				LR	LR		
	comp=Z,97nm,14.5s,MS3.6						
AKASG	**Malin Array Be**	**31.26**	**327**	P	**P**	**03 35 12.8**	**-1.9**
	comp=Z,1.5nm,0.7s,mb4.0,baz=136,slow=8.1,SNR=4.5						
AKASG	**Malin Array Be**	**31.26**	**327**	P	**P**	**03 35 12.8**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KMBO	**Kilima Mbogo**	**33.13**	**216**	P	**P**	**03 35 30.9**	**-0.1**
	comp=Z,2.6nm,0.9s,mb4.2,baz=31,slow=10,SNR=5.6						
KMBO	**Kilima Mbogo**	**33.13**	**216**	P	**P**	**03 35 30.9**	**-0.1**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAL	**Zalesovo**	**34.42**	**30**	P	**P**	**03 35 40.5**	**-1.7**
	comp=Z,1.5nm,0.3s,mb4.4,baz=231,slow=8.6,SNR=4.6						
ZAL	**Zalesovo**	**34.42**	**30**	P	**P**	**03 35 40.5**	**-1.7**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
GERES	**GERESS Array B**	**39.19**	**315**	P	**P**	**03 36 21.8**	**-1.1**
	comp=Z,0.3nm,0.4s,mb3.3,baz=72,slow=8.6,SNR=4.2						
KHC	**Kasperske Hory**	**39.36**	**316**	*e*P	**P**	**03 36 23.5**	**-0.8**
JOF	**Joensuu**	**39.49**	**343**	*e*p	**P**	**03 36 23.8**	**-1.6**
	comp=Z,0.8nm,0.4s,mb3.8						
JOF	**Joensuu**	**39.49**	**343**	*e*P	**P**	**03 36 23.8**	**-1.6**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
FINES	**FINESS Array B**	**39.92**	**338**	P	**P**	**03 36 27.8**	**-1.1**
	comp=Z,1.2nm,0.6s,mb3.8,baz=138,slow=9.9,SNR=9.8						
FINES	**FINESS Array B**	**39.92**	**338**	P	**P**	**03 36 27.8**	**-1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KMI	**Kunming**	**41.98**	**82**	P	**P**	**03 36 47.4**	**+1.5**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.5						
SONM	**Songino Array**	**44.36**	**48**	P	**P**	**03 37 06.1**	**+0.9**
	comp=Z,0.6nm,0.7s,mb3.5,baz=252,slow=8.2,SNR=5.1						
SONM	**Songino Array**	**44.36**	**48**	P	**P**	**03 37 06.1**	**+0.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**45.40**	**331**	P	**P**	**03 37 11.0**	**-2.4**
	comp=Z,1.1nm,0.8s,mb3.7,baz=116,slow=8.6						
NOA	**NORSAR Array B**	**45.40**	**331**	P	**P**	**03 37 11.8**	**-1.6**
	comp=Z,1.0nm,0.8s,mb3.7,baz=120,slow=8.0,SNR=3.7						
NOA	**NORSAR Array B**	**45.40**	**331**	P	**P**	**03 37 11.9**	**-1.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KEV	**Kevo**	**46.05**	**347**	*e*p	**P**	**03 37 16.8**	**-1.8**
	comp=Z,2.8nm,0.6s,mb4.4						
KEV	**Kevo**	**46.05**	**347**	*e*P	**P**	**03 37 16.8**	**-1.8**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ARCES	**ARCESS Array B**	**46.20**	**346**	P	**P**	**03 37 19.1**	**-0.6**
	comp=Z,1.1nm,0.8s,mb3.9,baz=162,slow=8.4,SNR=7.1						
ARCES	**ARCESS Array B**	**46.20**	**346**	P	**P**	**03 37 19.2**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**46.20**	**346**	P	**P**	**03 37 19.1**	**-0.7**
HHC	**Hu-ho-hao-te**	**47.55**	**58**	*e*P	**P**	**03 37 31.7**	**+1.3**
HHC				XP	sP	03 37 38.6	+3.8
HHC				PP	PP	03 39 22.1	+0.3
HHC				S	**S**	**03 44 24.7**	**-0.7**
HHC				XS	sS	03 44 33.2	+2.6
HHC				SCS	ScS	03 47 20.9	-3.4
HHC				AMB	AMB		
	comp=Z,126nm,5.5s						
HHC				LR	LR		
	comp=N,186nm,25.0s,MS4.1						
HHC				LR	LR		
	comp=E,178nm,25.0s,MS4.1						
HHC				LR	LR		
	comp=Z,218nm,16.6s						
BOD	**Bodaibo**	**50.78**	**36**	*e*P	**P**	**03 37 50.9**	**-4.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.1						
TORD	**Torodi Ar. Bea**	**52.34**	**266**	P	**P**	**03 38 06.3**	**-0.4**
	comp=Z,7.3nm,0.6s,mb4.8,baz=65,slow=7.4,SNR=212						
NJ2	**Nanjing**	**54.41**	**68**	*e*P	**P**	**03 38 24.0**	**+2.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
DBIC	**Dimbokro**	**60.94**	**262**	P	**P**	**03 39 07.4**	**-0.5**
	comp=Z,3.1nm,0.9s,mb4.5,baz=23,slow=10,SNR=4.4						
DBIC	**Dimbokro**	**60.94**	**262**	P	**P**	**03 39 07.4**	**-0.5**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BOSA	**Boshof**	**62.51**	**210**	P	**P**	**03 39 17.7**	**-0.8**
	comp=Z,2.7nm,0.7s,mb4.5,baz=34,slow=7.3,SNR=4.1						
BOSA				LR	LR	04 05 13.2	
	comp=Z,23nm,21.9s,MS3.3,baz=180,slow=35						
SUMG	**Summit**	**65.88**	**341**	*e*P	**P**	**03 39 40.3**	**-0.3**
	comp=Z,7.0nm,1.0s,mb4.7						
SUMG	**Summit**	**65.88**	**341**	*e*P	**P**	**03 39 40.3**	**-0.3**
	comp=Z,7.0nm,1.0s,mb4.7						
ILAR	**Eielson Array**	**86.94**	**10**	P	**P**	**03 41 38.4**	**-1.6**
	comp=Z,1.3nm,0.6s,mb4.3,baz=312,slow=5.3,SNR=16						
ILAR	**Eielson Array**	**86.94**	**10**	P	**P**	**03 41 38.4**	**-1.6**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**90.56**	**116**	P	**P**	**03 41 56.5**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.9,baz=299,slow=4.7,SNR=4.1						
ASAR	**Alice Springs**	**90.56**	**116**	P	**P**	**03 41 56.6**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**90.56**	**116**	P	**P**	**03 41 56.5**	**-0.6**

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*IDC **07** 03:37:59.5±1.4, 20.31N×120.77E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/20, mbtmp3.7/6, Error ellipse: s-maj=144.1km s-min=19.6km az=66.0*

*ISCJB **07** 03:38:06.5±2.6, 20.3N±0.4×120.8E±0.9, h70km±26km, mb3.6/6, Error ellipse: s-maj=159.8km s-min=20.3km az=131.6*

ISC 07 03:38:07.7±2.5**, 20.3N**±0.4×**120.6E**±0.9**, h62**km±28km**, n7, σ0.56**/7**, mb3.6**/6**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.79**	**156**	*e*P	**Pn**	**03 38 50.0**	**+0.1**
SONM	**Songino Array**	**29.82**	**341**	P	**P**	**03 44 08.3**	**-0.5**
	0.2nm,0.4s,mb3.2,baz=156,slow=7.9,SNR=2.9						
MKAR	**Makanchi Array**	**40.88**	**319**	P	**P**	**03 45 43.2**	**-0.4**
	0.4nm,0.5s,mb3.3,baz=103,slow=9.3,SNR=4.9						
WRA	**Warramunga Arr**	**42.16**	**161**	P	**P**	**03 45 53.9**	**-0.1**
	2.9nm,0.7s,mb4.0,baz=342,slow=8.9,SNR=7.5						
ASAR	**Alice Springs**	**45.54**	**163**	P	**P**	**03 46 21.0**	**-0.2**
	0.6nm,0.7s,mb3.6,baz=349,slow=7.2,SNR=5.6						
BVAR	**Borovoye Array**	**50.42**	**323**	P	**P**	**03 46 59.1**	**+0.2**
	0.8nm,0.6s,mb4.0,baz=119,slow=8.4,SNR=3.5						
FINES	**FINESS Array B**	**74.56**	**330**	P	**P**	**03 49 40.7**	**+0.8**
	0.4nm,0.5s,mb3.6,baz=41,slow=7.4,SNR=4.7						

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*IPEC **07** 03:58:41.3±0.3, 51.59N×16.23E, h0km, ML2.3/3, Error ellipse: s-maj=1.9km s-min=1.5km az=43.0*

*ISCJB **07** 03:58:42.1±0.4, 51.41N±0.02×16.06E±0.03, h0km, Error ellipse: s-maj=3.3km s-min=2.2km az=31.6*

*NEIC **07** 03:58:42.5±0.4, 51.56N×16.11E, h5km, ML2.9(FUR), ML3.0(SZGRF), Error ellipse: s-maj=5.1km s-min=4.7km az=86.0*

*PRU **07** 03:58:43.8, 51.44N×16.11E, h0km, Felt In Harrachov*

*CSEM **07** 03:58:43.1±0.1, 51.50N×16.13E, h1km, ML3.3/7, Error ellipse: s-maj=2.0km s-min=1.3km az=25.0*

*IDC **07** 03:58:43.9±0.7, 51.48N×15.86E, h0km, mb1 3.2/8, mb1mx3.1/25, mbtmp3.1/8, ML2.9/7, Error ellipse: s-maj=13.5km s-min=6.7km az=99.0*

*BGR **07** 03:58:43.1±0.5, 51.45N×16.16E, h1km, ML3.0/13, Error ellipse: s-maj=5.6km s-min=4.4km az=126.0*

*WAR **07** 03:58:44.0, 51.47N×16.11E, ML2.7, Mining Induced*

*VIE **07** 03:58:45.5±0.7, 51.28N×16.12E, h0km, mb2.5/6, ML2.9/6, Error ellipse: s-maj=4.7km s-min=4.3km az=134.0 65 km WNW of Breslau Suspected Mining induced.*

ISC 07 03:58:42.2±0.3**, 51.50N**±0.02×**16.13E**±0.02**, h0**km**, n62, σ1.09**/117**, 5C-3D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**171**	*i* Pg	**Pg**	**03 58 55.7**	**+0.8**
KSP				*e*Sg	**Sg**	**03 59 04.3**	**+0.7**
KSP				*e*L		03 59 08.5	
KSP	**Ksiaz**	**0.67**	**171**	*e*Pg	**Pg**	**03 58 55.7**	**+0.8**
KSP				*e*Sg	**Sg**	**03 59 04.3**	**+0.7**
UPC	**Upice**	**1.00**	**184**	*e*PG	**Pg**	**03 59 01.6**	**+0.3**
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*PG	**Pg**	**03 59 04.5**	**+0.1**
DPC				*e*SG	**Sg**	**03 59 19.0**	**-0.4**
	54nm,0.3s						
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*Pg	**Pg**	**03 59 04.5**	**+0.1**
DPC				*e*Sg	**Sg**	**03 59 19.6**	**+0.2**
PVCC	**Panska Ves**	**1.39**	**226**	*e*Pg	**Pg**	**03 59 08.8**	**+0.1**
PVCC				*e*Sg	**Sg**	**03 59 28.2**	**+1.5**
BRG	**Berggiesshubel**	**1.51**	**246**	*e*Pg	**Pg**	**03 59 11.1**	**0.0**
BRG				*e*Sg	**Sg**	**03 59 31.7**	**+0.9**
BRG	**Berggiesshubel**	**1.51**	**246**	PN	**Pn**	**03 59 10.0**	**-0.5**
BRG				PG	**Pg**	**03 59 11.3**	**+0.1**
BRG				SG	**Sg**	**03 59 31.7**	**+0.9**
	63nm,0.3s						
RUE	**Ruedersdorf**	**1.75**	**305**	*e*Pn	**Pn**	**03 59 13.6**	**-0.2**
RUE				*e*Sg	**Sg**	**03 59 40.9**	**+2.4**
RUE	**Ruedersdorf**	**1.75**	**305**	*e*Pn	**Pn**	**03 59 13.6**	**-0.2**
RUE				*e*Sg	**Sg**	**03 59 40.9**	**+2.4**
PRU	**Pruhonice**	**1.82**	**214**	*e*PN	**Pn**	**03 59 14.9**	**+0.2**
PRU				*e*SN	**Sn**	**03 59 33.2**	**-5.3**
PRU				*e*SG	**Sg**	**03 59 39.9**	**-0.7**
	38nm,0.6s						
FBE	**Freiberg**	**1.84**	**253**	*e*Pn	**Pn**	**03 59 17.1**	**+2.1**
FBE				*e*Sg	**Sg**	**03 59 41.5**	**+0.2**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**03 59 15.5**	**-0.9**
MORC				*e*Sg	**Sg**	**03 59 44.0**	**-0.7**
	16nm,0.2s						
CLL	**Collm**	**1.97**	**266**	*e*Pn	**Pn**	**03 59 16.6**	**-0.2**
CLL	**Collm**	**1.97**	**266**	*i* Pn	**Pn**	**03 59 16.5**	**-0.2**
CLL				*i* Pg	**Pg**	**03 59 19.3**	**-0.6**
CLL				*i* x	x	03 59 23.4	
CLL				*i* Sg	**Sg**	**03 59 45.7**	**+0.3**
	comp=Z,22nm,0.6s						
CLL	**Collm**	**1.97**	**266**	*i* Pn	**Pn**	**03 59 16.5**	**-0.2**
CLL				*i* Pg	**Pg**	**03 59 19.3**	**-0.6**
CLL				*i* Sg	**Sg**	**03 59 45.7**	**+0.3**
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*PG	**Pg**	**03 59 22.0**	**-0.5**
OKC				*e*SG	**Sg**	**03 59 48.4**	**-1.3**
VRAC	**Vranov**	**2.21**	**172**	Pn	**Pn**	**03 59 21.4**	**+1.2**
	comp=Z,1.7nm,0.3s,baz=328,slow=15,SNR=12						
VRAC				Lg		03 59 52.0	
	comp=Z,5.2nm,0.3s,baz=89,slow=23,SNR=10						
VRAC	**Vranov**	**2.21**	**172**	*e*Pn	**Pn**	**03 59 21.0**	**+0.9**
VRAC				*e*Sg	**Sg**	**03 59 53.4**	**+0.1**
	comp=Z,23nm,0.3s						
TREC	**Trest**	**2.25**	**191**	*e*PN	**Pn**	**03 59 22.2**	**+1.6**
TREC				*e*PG	**Pg**	**03 59 24.5**	**-0.7**
KRUC	**Moravsky**	**2.45**	**176**	*e*Pn	**Pn**	**03 59 24.5**	**+1.2**
KRUC				*e*Sg	**Sg**	**04 00 00.7**	**-0.1**
	comp=Z,13nm,0.2s						
TANN	**Tannenbergstha**	**2.56**	**246**	*e*Pn	**Pn**	**03 59 25.5**	**+0.6**
TANN				*e*Sg	**Sg**	**04 00 03.5**	**-0.9**
WERD	**Werda**	**2.64**	**248**	*e*Pn	**Pn**	**03 59 26.5**	**+0.5**
WERD				*e*Sg	**Sg**	**04 00 06.3**	**-0.6**
OJC	**Ojcow**	**2.66**	**117**	*e*Pn	**Pn**	**03 59 24.9**	**-1.3**
OJC				*e*Pg	**Pg**	**03 59 33.1**	**+0.1**
OJC				*e*Sg	**Sg**	**04 00 09.0**	**+1.5**
NKC	**Novy Kostel**	**2.66**	**243**	*e*PN	**Pn**	**03 59 26.5**	**+0.3**
NKC				*e*PG	**Pg**	**03 59 32.0**	**-1.1**
NKC				*e*SG	**Sg**	**04 00 07.5**	**0.0**
	comp=Z,55nm,0.3s						
GUNZ	**Gunzen**	**2.66**	**246**	*e*Pn	**Pn**	**03 59 27.0**	**+0.8**
GUNZ				*e*Sg	**Sg**	**04 00 07.0**	**-0.6**
KHC	**Kasperske Hory**	**2.88**	**216**	*e*PN	**Pn**	**03 59 29.8**	**+0.5**
KHC				*e*PG	**Pg**	**03 59 35.7**	**-1.7**
KHC				*e*SN	**Sn**	**04 00 04.0**	**-0.7**
KHC				*e*SG	**Sg**	**04 00 12.9**	**-1.9**
	comp=Z,15nm,0.4s						
MANZ	**Manzenberg**	**2.97**	**241**	*e*Pn	**Pn**	**03 59 31.2**	**+0.7**
MANZ				*e*Sg	**Sg**	**04 00 17.5**	**-0.2**
MOX	**Moxa**	**2.97**	**255**	*e*Pn	**Pn**	**03 59 30.8**	**+0.3**
MOX				*e*Sg	**Sg**	**04 00 17.6**	**-0.1**
MOX	**Moxa**	**2.97**	**255**	*e*Pg	**Pg**	**03 59 39.6**	**+0.4**
MOX				*e*Sg	**Sg**	**04 00 19.1**	**+1.4**
MOX	**Moxa**	**2.97**	**255**	*e*Pg	**Pg**	**03 59 39.6**	**+0.4**
MOX				Sg	**Sg**	**04 00 17.6**	**-0.1**
MOX				*e*SG	**Sg**	**04 00 19.1**	**+1.4**
MOX	**Moxa**	**2.97**	**255**	*e*PG	**Pg**	**03 59 39.6**	**+0.4**
ROTZ	**Rotzenmuhle**	**3.04**	**237**	*e*Pn	**Pn**	**03 59 32.3**	**+0.8**
ROTZ				*e*Sg	**Sg**	**04 00 18.3**	**-1.5**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn	**Pn**	**03 59 33.0**	**+0.9**
GEC2				*e*Sg	**Sg**	**04 00 20.7**	**-0.6**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn	**Pn**	**03 59 33.0**	**+0.9**
GEC2				*e*Sg	**Sg**	**04 00 20.7**	**-0.5**
GERES	**GERESS Array B**	**3.08**	**211**	Pn	**Pn**	**03 59 33.0**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=24,slow=13,SNR=26						
GERES				Pg	**Pg**	**03 59 39.1**	**-2.2**
	comp=Z,3.9nm,0.3s,baz=28,slow=16,SNR=36						
GERES				Lg		04 00 16.2	
	comp=Z,6.2nm,0.3s,baz=32,slow=27,SNR=9.9						
GERES	**GERESS Array B**	**3.08**	**211**	Pg	**Pg**	**03 59 39.1**	**-2.2**
WET	**Wettzell**	**3.15**	**223**	*e*Pn	**Pn**	**03 59 33.4**	**+0.4**
WET				*e*Sg	**Sg**	**04 00 21.0**	**-2.3**
WET	**Wettzell**	**3.15**	**223**	*e*Pn	**Pn**	**03 59 33.4**	**+0.4**
WET				*e*Sg	**Sg**	**04 00 21.0**	**-2.3**
NIE	**Niedzica**	**3.39**	**126**	*e*P	**Pg**	**03 59 45.5**	**-1.6**
NIE				*e*S	**Sg**	**04 00 30.2**	**-0.9**
VYHS	**Vyhne**	**3.48**	**149**	*e*PN	**Pn**	**03 59 37.4**	**-0.1**
VYHS				*e*		03 59 50.7	
VYHS	**Vyhne**	**3.48**	**149**	*e*SG	**Sg**	**04 00 32.7**	**-1.3**
VYHS	**Vyhne**	**3.48**	**149**	*e*Pn	**Pn**	**03 59 37.4**	**-0.1**
VYHS				*e*		03 59 50.7	
VYHS				*e*Sg	**Sg**	**04 00 32.7**	**-1.3**
CONA	**Conrad Observa**	**3.58**	**183**	⇓*i*Pn	**Pn**	**03 59 39.9**	**+1.0**
CONA				⇓*i*Sg	**Sg**	**04 00 35.2**	**-2.0**
	comp=Z,14nm,0.4s						
GRA1	**Grafenberg Arr**	**3.61**	**242**	*e*Pn	**Pn**	**03 59 39.5**	**+0.1**
GRA1				*e*Sg	**Sg**	**04 00 38.2**	**-0.1**
GRA1	**Grafenberg Arr**	**3.61**	**242**	Pn	**Pn**	**03 59 39.5**	**+0.1**
GRA1				Sg	**Sg**	**04 00 38.2**	**-0.1**
GRF	**Grafenberg Arr**	**3.61**	**242**	*e*Pn	**Pn**	**03 59 39.5**	**+0.1**
GRF				*e*Sg	**Sg**	**04 00 38.2**	**0.0**
GRF	**Grafenberg Arr**	**3.61**	**242**	*e*Pn	**Pn**	**03 59 39.5**	**+0.1**
GRF				*e*Sg	**Sg**	**04 00 38.2**	**-0.1**
BSD	**Bornholm Skovb**	**3.69**	**349**	*i* P	**Pn**	**03 59 39.7**	**-0.8**
BSD				*i* S	**Sn**	**04 00 21.5**	**-3.2**
MOA	**Molln**	**3.85**	**199**	⇑*i*Pn	**Pn**	**03 59 43.4**	**+0.8**
MOA				⇓*i*Sg	**Sg**	**04 00 47.0**	**+1.2**
	comp=Z,18nm,0.7s						
KECS	**Kecovo**	**4.12**	**135**	*e*PN	**Pn**	**03 59 47.6**	**+1.2**
KECS				*e*		03 59 55.4	
ARSA	**Arzberg**	**4.27**	**186**	⇑*i*Pn	**Pn**	**03 59 50.5**	**+2.1**
ARSA				⇑*i*Sg	**Sg**	**04 00 60.0**	**+0.5**
	comp=Z,14nm,0.6s						
CRVS	**Cervenica-Dubn**	**4.30**	**125**	*e*PN	**Pn**	**03 59 51.4**	**+2.6**
CRVS				*e*		04 00 05.1	
KOLS	**Kolonicke sedl**	**4.71**	**121**	*e*PN	**Pn**	**03 59 57.1**	**+2.7**
KOLS				*e*		04 00 16.1	
KBA	**Koelnbreinsper**	**4.79**	**203**	⇑*i*Pn	**Pn**	**03 59 56.3**	**+0.8**
KBA				⇑*i*Sg	**Sg**	**04 01 16.3**	**+0.4**
	comp=Z,5.2nm,0.5s						
DAVOX	**Davos**	**6.25**	**223**	Pn	**Pn**	**04 00 16.7**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=63,slow=11,SNR=2.8						
AKASG	**Malin Array Be**	**8.28**	**90**	Pn	**Pn**	**04 00 44.3**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=282,slow=12,SNR=3.3						
HFS	**Hagfors**	**8.76**	**352**	Pn	**Pn**	**04 00 48.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=183,slow=22,SNR=4.1						
HFS				Sn	**Sn**	**04 02 25.7**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=183,slow=26,SNR=2.8						
NOA	**NORSAR Array B**	**9.94**	**346**	Pn	**Pn**	**04 01 03.9**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=166,slow=11,SNR=2.4						
FINES	**FINESS Array B**	**11.37**	**25**	Pn	**Pn**	**04 01 24.8**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=214,slow=9.8,SNR=4.5						
FINES	**FINESS Array B**	**11.37**	**25**	Pn	**Pn**	**04 01 24.8**	**-1.0**
ARCES	**ARCESS Array B**	**18.63**	**10**	Pn	**Pn**	**04 02 57.8**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=196,slow=12,SNR=12						

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*ISCJB **07** 04:20:17.7±1.3, 17.8S±0.3×178.5W±0.2, h577km±22km, mb4.2/12, Error ellipse: s-maj=54.7km s-min=15.6km az=119.4*

*NEIC **07** 04:20:18.4±0.9, 17.83S×178.49W, h570km±13km, mb4.1/4, Error ellipse: s-maj=38.4km s-min=10.8km az=150.0*

*IDC **07** 04:20:18.6±2.0, 17.80S×178.50W, h566km±28km, mb3.5/7, mb1 3.7/9, mb1mx3.4/18, mbtmp4.5/9, Error ellipse: s-maj=59.7km s-min=16.4km az=150.0*

ISC 07 04:20:18.6±1.2**, 17.8S**±0.3×**178.5W**±0.2**, h572**km±18km**, n21, σ0.65**/21**, mb4.2**/12**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.52**	**60**	P	**P**	**04 22 11.9**	**-0.4**
	3.2nm,0.3s,baz=69,slow=6.9,SNR=4.3						
DZM	**Mont Dzumac**	**14.80**	**251**	P	**P**	**04 23 26.3**	**+0.5**
	0.8nm,0.3s,baz=71,slow=14,SNR=12						
CNB	**Canberra Magne**	**33.44**	**232**	*e*P	**P**	**04 26 11.7**	**+0.7**
	6.2nm,0.5s,mb4.4						
PMG	**Port Moresby**	**34.40**	**279**	P	**P**	**04 26 20.2**	**+1.2**
	15nm,0.7s,mb4.6,baz=336,slow=5.3,SNR=3.9						
PMG	**Port Moresby**	**34.40**	**279**	*e*P	**P**	**04 26 20.2**	**+1.2**
	24nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**38.62**	**241**	*e*P	**P**	**04 26 54.2**	**+0.5**
	5.0nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**04 26 54.3**	**+0.6**
	6.6nm,0.5s,mb4.5,baz=94,slow=9.4,SNR=25						
STKA	**Stephens Creek**	**38.62**	**241**	*e*P	**P**	**04 26 53.9**	**+0.2**
WB2	**Warramunga Arr**	**44.59**	**259**	*e*P	**P**	**04 27 40.0**	**-0.6**
WRAB	**Tennant Creek**	**44.59**	**259**	*e*P	**P**	**04 27 39.8**	**-0.8**
	5.3nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**44.60**	**259**	P	**P**	**04 27 40.3**	**-0.4**
	3.4nm,0.5s,mb4.1,baz=94,slow=7.0,SNR=23						
AS31	**Alice Springs**	**44.76**	**254**	*e*P	**P**	**04 27 41.7**	**-0.3**
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**04 27 42.0**	**0.0**
	28nm,0.6s,mb5.0,baz=88,slow=8.4,SNR=504						
ASPA	**Alice Springs**	**44.77**	**254**	*e*P	**P**	**04 27 41.9**	**-0.1**
KAKA	**Kakadu**	**47.53**	**269**	*e*P	**P**	**04 28 02.9**	**0.0**
	6.8nm,0.4s,mb4.5						
FORT	**Forrest**	**50.00**	**245**	*e*P	**P**	**04 28 20.4**	**-0.7**
	9.4nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**52.99**	**260**	*e*P	**P**	**04 28 43.0**	**+0.3**
	9.9nm,1.4s,mb4.0						
FITZ	**Fitzroy Crossi**	**52.99**	**260**	P	**P**	**04 28 43.0**	**+0.3**
	0.9nm,0.3s,mb3.6,baz=127,slow=5.1,SNR=13						
MBWA	**Marble Bar**	**58.05**	**256**	*e*P	**P**	**04 29 17.1**	**-0.6**
	2.2nm,0.4s,mb3.7						
ILAR	**Eielson Array**	**85.82**	**13**	P	**P**	**04 31 57.5**	**-0.7**
	0.3nm,0.4s,mb3.3,baz=227,slow=5.7,SNR=6.1						
PDAR	**Pinedale Array**	**87.33**	**43**	P	**P**	**04 32 06.7**	**+1.4**
	0.6nm,0.7s,mb3.3,baz=239,slow=4.3,SNR=6.2						

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*ISCJB **07** 04:26:35.8±1.4, 5.27N±0.08×123.8E±0.2, h537km±19km, mb4.2/26, Error ellipse: s-maj=27.3km s-min=7.8km az=135.6*

*BJI **07** 04:26:35.7, 5.34N×123.69E, h522km, mB4.5, mb4.1*

*NEIC **07** 04:26:36.5±1.1, 5.30N×123.77E, h532km±13km, mb4.4/12, Error ellipse: s-maj=21.6km s-min=6.0km az=65.0*

*IDC **07** 04:26:38.5±3.3, 5.30N×123.89E, h556km±43km, mb3.5/9, mb1 3.6/9, mb1mx3.3/20, mbtmp4.5/9, Error ellipse: s-maj=54.1km s-min=13.2km az=71.0*

ISC 07 04:26:37.1±1.4**, 5.26N**±0.08×**123.7E**±0.2**, h536**km±18km**, n33, σ0.84**/32**, mb4.2**/26**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**7.53**	**276**	*e*Pn	**P**	**04 28 29.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**23.29**	**175**	*e*P	**P**	**04 30 57.4**	**-6.0**
	7.3nm,0.9s,mb4.3						
NJ2	**Nanjing**	**27.04**	**351**	*e*P	**P**	**04 31 36.6**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**27.12**	**158**	*e*P	**P**	**04 31 36.3**	**-1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,8.8nm,0.4s,mb4.7						
WRA	Warramunga Arr	27.13	158	P	P	04 31 36.5	-0.8
	comp=Z,7.2nm,0.4s,mb4.6,baz=334,slow=10,SNR=27						
KMI	Kunming	28.21	317	P	P	04 31 48.9	+2.1
KMI				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.1						
AS31	Alice Springs	30.41	161	*e*P	P	04 32 06.0	+0.2
ASPA	Alice Springs	30.41	161	*e*P	P	04 32 06.0	+0.1
ASAR	Alice Springs	30.41	161	P	P	04 32 06.0	+0.2
	comp=Z,8.7nm,0.5s,mb4.5,baz=341,slow=7.2,SNR=208						
CD2	Chengdu	31.68	326	*e*P	P	04 32 15.5	-1.2
CTAO	Charters Tower	33.53	139	*e*P	P	04 32 32.5	+0.1
	comp=Z,4.3nm,0.6s,mb4.2						
BJT	Baijiatuau	35.27	350	*e*P	P	04 32 46.0	-1.0
	comp=Z,4.5nm,0.5s,mb4.2						
FORT	Forrest	36.07	174	*e*P	P	04 32 54.2	+0.6
	comp=Z,14nm,0.5s,mb4.7						
HHC	Hu-ho-hao-te	37.08	345	*e*P	P	04 33 02.5	+0.6
HHC				AP	pP	04 34 34.0	-0.6
HHC				XP	sP	04 35 31.7	-4.1
HHC				S	S	04 38 10.9	+1.2
HHC				PCS	PcS	04 38 56.7	-0.6
HHC				XS	sS	04 41 02.7	+2.3
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,134nm,4.6s						
KLBR	Kellerberrin	37.09	188	*e*P	P	04 33 02.2	+0.2
	comp=Z,44nm,1.5s,mb4.8						
NWAO	Narrogin (SRO)	38.48	189	P	P	04 33 14.2	+0.9
	comp=Z,3.7nm,0.4s,mb4.3,baz=14,slow=9.4,SNR=6.5						
MDJ	Mudanjiang	39.53	7	P	P	04 33 22.6	+0.8
MDJ				PP	PP	04 35 08.5	-0.6
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,94nm,7.5s						
GTA	Gaotai	40.29	331	*e*P	P	04 33 29.0	+1.1
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.0						
STKA	Stephens Creek	40.66	156	*e*P	P	04 33 31.4	+0.6
	comp=Z,3.2nm,0.4s,mb4.2						
STKA	Stephens Creek	40.66	156	P	P	04 33 31.6	+0.7
	comp=Z,5.0nm,0.5s,mb4.3,baz=324,slow=9.0,SNR=14						
ULN	Ulaanbaatar	44.79	344	*e*P	P	04 34 03.1	0.0
	comp=Z,3.5nm,0.5s,mb4.2						
SONM	Songino Array	44.95	343	P	P	04 34 04.5	+0.1
	comp=Z,2.0nm,0.6s,mb3.8,baz=157,slow=8.8,SNR=17						
SONM				PcP	PcP	04 35 34.4	+0.2
	comp=Z,0.4nm,0.7s,baz=52,slow=3.2,SNR=3.6						
WMQ	Urumqi	49.78	326	P	P	04 34 41.9	+1.3
WMQ				AP	pP	04 36 23.9	+2.7
WMQ				PP	PP	04 36 46.1	+3.6
WMQ				XP	sP	04 37 22.0	+2.0
WMQ				AMB	AMB		
	comp=Z,14nm,1.9s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,88nm,4.6s						
MKAR	Makanchi Array	54.62	326	P	P	04 35 15.7	+0.4
	comp=Z,3.5nm,0.5s,mb3.9,baz=118,slow=7.7,SNR=41						
MKAR				PcP	PcP	04 36 09.7	-0.4
	comp=Z,1.5nm,0.5s,baz=107,slow=3.2,SNR=8.9						
MKAR				ScP	ScP	04 39 05.0	-12
	comp=Z,0.6nm,0.4s,baz=112,slow=7.5,SNR=6.5						
KURK	Kurchatov	58.87	328	*e*P	P	04 35 44.4	-0.1
	comp=Z,16nm,0.6s,mb4.4						
BRVK	Borovoye	64.50	328	*e*P	P	04 36 20.9	-0.3
	comp=Z,3.3nm,0.7s,mb3.9						
CHKZ	Chkalovo	64.61	328	*e*P	P	04 36 20.9	-1.0
	comp=Z,5.1nm,1.1s,mb3.9						
ZRNK	Zerenda	65.14	327	*e*P	P	04 36 24.6	-0.6
	comp=Z,8.4nm,0.6s,mb4.3						
BRTR	Keskin Array B	86.75	309	P	P	04 38 24.1	-0.4
	comp=Z,1.1nm,0.7s,mb3.6,baz=114,slow=4.4,SNR=6.2						
ARCES	ARCESS Array B	87.99	340	P	P	04 38 28.8	-1.4
	comp=Z,2.4nm,0.8s,mb4.0,baz=75,slow=8.5,SNR=5.4						
FINES	FINESS Array B	89.08	332	P	P	04 38 33.6	-1.6
	comp=Z,0.6nm,0.6s,mb3.6,baz=70,slow=4.6,SNR=6.0						
TORD	Torodi Ar. Bea	119.61	288	PKP	PKPdf	04 44 26.7	+0.5
	comp=Z,0.5nm,0.5s,baz=69,slow=1.7,SNR=14						
TORD	Torodi Ar. Bea	119.61	288	PKP	PKPdf	04 44 26.7	+0.5

*NEIC **07** 04:53:48.6, 5105N×17941E, h20km, mb4.2/11, ML3.8(AEIC), After AEIC.*
*ISCJB **07** 04:53:49.8±0.8, 513N±0.1×17939E±008, h46km±4km, mb4.2/24, MS3.6/3, Error ellipse: s-maj=23.9km s-min=8.4km az=175.8*
*MOS **07** 04:53:52.0±1.0, 5159N×17949E, h55km, mb4.4/17, Error ellipse: s-maj=17.6km s-min=12.8km az=94.7*
*IDC **07** 04:53:54.7±5.9, 5160N×17950E, h63km±52km, mb3.8/14, mb1 4.0/15, mb1mx3.8/25, mbtmp4.1/15, ML4.4/1, MS3.5/3, Ms1 3.5/3, ms1mx2.9/30, Error ellipse: s-maj=32.8km s-min=16.0km az=178.0*
ISC 07 04:53:50.4±1.1**, 513N**±02×**17933E**±008**, h41**km±5km**, n67, σ1ˢ10**/61**, mb4.2**/24**, MS3.6**/3**, Rat Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.12	352	P	Pn	04 53 56.3	-0.9
AMKA				S	Sn	04 54 01.8	-0.1
SMY	Shemya	3.55	297	P	Pn	04 54 46.2	+3.2
ATKA	Atka Island	4.13	74	P	Pn	04 54 50.9	-0.1
SPIA	Saint Paul Isl	8.51	42	P	Pn	04 55 52.3	+1.3
SVW2	Sparrevohn	16.98	45	*e*Pn	Pn	04 57 45.7	+0.9
KDAK	Kodiak Island	17.47	57	P	Pn	04 57 48.9	-2.0
	1.3nm,0.3s,baz=256,slow=6.2,SNR=16						
KDAK	Kodiak Island	17.47	57	P	Pn	04 57 48.9	-2.0
TTA	Tatalina	17.64	39	*e*P	Pn	04 57 54.5	+1.5
TTA				pmax	pmax		
	comp=Z,15nm,1.4s						
TTA	Tatalina	17.64	39	*e*Pn	Pn	04 57 54.5	+1.6
	comp=Z,15nm,1.4s						
SLKM	Skilak Lake	19.26	49	*e*P	Pn	04 58 12.7	+0.1
ILAR	Eielson Array	22.08	39	P	P	04 58 40.0	-1.8
	comp=Z,0.9nm,0.7s,mb3.3,baz=254,slow=11,SNR=14						
ILAR	Eielson Array	22.08	39	P	P	04 58 40.1	-1.7
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DAWY	Dawson	25.00	43	*e*P	P	04 59 12.0	+1.7
ASAJ	Asahikawa	25.53	268	P	P	04 59 18.9	+3.8
	comp=Z,5.5nm,0.5s,mb4.4,baz=15,slow=16,SNR=4.6						
ASAJ	Asahikawa	25.53	268	P	P	04 59 19.0	+3.9
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.5s						
INK	Inuvik	28.23	35	P	P	04 59 39.6	+0.2
	comp=Z,1.1nm,0.4s,mb3.8,baz=242,slow=12,SNR=5.9						
INK	Inuvik	28.23	35	P	P	04 59 39.6	+0.2
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	Inuvik	28.23	35	*e*P	P	04 59 39.0	-0.4
	comp=Z,1.4nm,0.4s,mb3.9						
KLR	Kul'dur	30.08	285	*e*P	P	04 59 53.5	-2.3
YKA	Yellowknife Ar	36.16	46	P	P	05 00 48.0	-0.8
	comp=Z,1.2nm,0.5s,mb4.1,baz=282,slow=7.4,SNR=7.6						
YKA	Yellowknife Ar	36.16	46	P	P	05 00 48.0	-0.8
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	36.16	46	P	P	05 00 48.0	-0.8
BOD	Bodaibo	37.11	306	*e*P	P	05 00 56.0	-0.8
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
NEW	Newport	40.02	68	P	P	05 01 21.0	-0.3
	comp=Z,1.3nm,0.4s,mb4.0,baz=280,slow=11,SNR=4.1						
NEW	Newport	40.02	68	P	P	05 01 21.0	-0.3
NEW				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NEW	Newport	40.02	68	*e*P	P	05 01 20.5	-0.8
	comp=Z,1.7nm,0.5s,mb4.0						
HLID	Hailey	44.10	73	*e*P	P	05 01 54.5	0.0
	comp=Z,3.7nm,1.3s,mb4.0						
BOZ	Bozeman (W)	44.60	69	*e*P	P	05 01 58.0	-0.5
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
BOZ	Bozeman (W)	44.60	69	*e*P	P	05 01 58.0	-0.5
	comp=Z,2.1nm,0.6s,mb4.1						
NVAR	Mina Array Bea	44.73	81	P	P	05 02 01.8	+2.2
	comp=Z,0.5nm,0.5s,mb3.6,baz=289,slow=8.5,SNR=2.7						
NVAR	Mina Array Bea	44.73	81	P	P	05 02 01.8	+2.2
SONM	Songino Array	45.65	296	P	P	05 02 08.6	+1.7
	comp=Z,0.8nm,0.5s,mb3.9,baz=57,slow=7.8,SNR=9.3						
SONM				LR	LR	05 22 56.7	
	comp=Z,91nm,19.9s,MS3.7,baz=61,slow=38						
SONM	Songino Array	45.65	296	P	P	05 02 08.6	+1.7
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,91nm,20.0s						
TPAW	Teton Pass	46.21	71	*e*P	P	05 02 11.9	+0.6
	comp=Z,1.9nm,0.7s,mb4.1						
TPNV	Topopah Spring	46.93	82	*e*P	P	05 02 17.1	+0.2
TPNV				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
TPNV	Topopah Spring	46.93	82	*e*P	P	05 02 17.1	+0.1
	comp=Z,2.1nm,0.8s,mb4.1						
BW06	Boulder Array	47.46	71	*e*P	P	05 02 20.6	-0.5
	comp=Z,2.4nm,0.6s,mb4.3						
PDAR	Pinedale Array	47.46	71	P	P	05 02 20.9	-0.1
	comp=Z,3.3nm,0.6s,mb4.5,baz=323,slow=3.6,SNR=39						
ULM	Lac du Bonnet	50.73	56	LR	LR	05 24 31.3	
	comp=Z,52nm,18.3s,MS3.6,baz=14,slow=36						
NVS	Novosibirsk	53.42	314	*e*P	P	05 03 05.7	-0.4
ARCES	ARCESS Array B	58.00	349	P	P	05 03 38.1	-0.9
	comp=Z,2.0nm,0.9s,mb4.1,baz=21,slow=8.3,SNR=8.5						
ARCES	ARCESS Array B	58.00	349	P	P	05 03 38.1	-0.9
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	Kurchatov	58.25	313	*e*P	P	05 03 41.3	+0.6
KURK				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.1						
KURK	Kurchatov	58.25	313	*e*P	P	05 03 41.3	+0.6
	comp=Z,10.0nm,0.5s,mb5.1						
MKAR	Makanchi Array	59.18	307	P	P	05 03 47.4	+0.2
	comp=Z,1.3nm,0.3s,mb4.4,baz=44,slow=6.1,SNR=14						
MKAR	Makanchi Array	59.18	307	P	P	05 03 47.4	+0.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHKZ	Chkalovo	59.65	319	*e*P	P	05 03 51.0	+0.6
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
CHKZ	Chkalovo	59.65	319	*e*P	P	05 03 51.0	+0.6
	comp=Z,3.6nm,0.6s,mb4.6						
ZRNK	Zerenda	60.84	319	*e*P	P	05 03 59.4	+0.9
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.0						
ZRNK	Zerenda	60.84	319	*e*P	P	05 03 59.4	+0.9
	comp=Z,6.8nm,0.6s,mb5.0						
JOF	Joensuu	63.40	344	*e*p	P	05 04 14.2	-1.5
	comp=Z,2.1nm,0.5s,mb4.5						
JOF	Joensuu	63.40	344	*e*P	P	05 04 14.2	-1.5
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
FINES	FINESS Array B	65.63	346	P	P	05 04 28.9	-1.4
	comp=Z,1.0nm,0.7s,mb4.0,baz=30,slow=8.8,SNR=7.4						
FINES				LR	LR	05 38 01.6	
	comp=Z,23nm,20.0s,MS3.4,baz=8.3,slow=40						
FINES	FINESS Array B	65.63	346	P	P	05 04 28.9	-1.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,23nm,20.0s						
NB2	NORSAR Subarra	67.65	354	P	P	05 04 42.6	-0.5
	comp=Z,4.6nm,0.8s,mb4.6,baz=7.2,slow=6.5						
NOA	NORSAR Array B	67.65	354	P	P	05 04 42.8	-0.3
	comp=Z,2.8nm,0.7s,mb4.4,baz=8.2,slow=6.3,SNR=16						
NOA	NORSAR Array B	67.65	354	P	P	05 04 42.8	-0.3
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	Malin Array Be	75.29	341	P	P	05 05 28.8	-0.4
	comp=Z,1.1nm,0.3s,mb4.2,baz=19,slow=6.2,SNR=6.1						
AKASG	Malin Array Be	75.29	341	P	P	05 05 28.8	-0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRTR	Keskin Array B	84.56	334	P	P	05 06 20.1	+0.9
	comp=Z,1.0nm,0.7s,mb4.1,baz=60,slow=3.1,SNR=4.4						
BRTR	Keskin Array B	84.56	334	P	P	05 06 20.2	+1.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MAW	Mawson	145.67	217	PKP	PKPdf	05 13 23.6	-0.7
	comp=Z,0.9nm,0.6s,baz=194,slow=22,SNR=6.1						
MAW	Mawson	145.67	217	PKIKP	PKPdf	05 13 23.6	-0.7
MAW				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LBTB	Lobatse	146.97	313	PKPbc	PKPbc	05 13 29.5	+1.0
	comp=Z,6.7nm,1.0s,baz=58,slow=15,SNR=6.0						
LBTB	Lobatse	146.97	313	PKP2	PKPab	05 13 29.5	-0.5
LBTB				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LBTB	Lobatse	146.97	313	PKPbc	PKPbc	05 13 29.5	+1.0
BOSA	Boshof	150.17	309	PKPbc	PKPbc	05 13 36.8	0.0
	comp=Z,4.7nm,0.9s,baz=141,slow=10.0,SNR=4.3						

*ISCJB **07** 05:01:23.8±0.6, 41.19N±003×4568E±003, h10km, Error ellipse: s-maj=4.9km s-min=3.3km az=163.6*
*MOS **07** 05:01:23.7±1.2, 4126N×4572E, h10km, mb4.3/1, Error ellipse: s-maj=12.6km s-min=7.2km az=91.9*
*TIF **07** 05:01:25.5, 4126N×4541E, h10km±2km*
*CSEM **07** 05:01:26.0, 4137N×4535E, h5km, ML3.2, After NSSP*
*NSSP **07** 05:01:26.0, 4137N×4535E, h5km, ML3.2*
ISC 07 05:01:24.3±0.5**, 4119N**±003×**4570E**±003**, h10**km**, n23, σ1ˢ40**/45**, 3D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DGRG	David-gareji	0.36	317	P	Pg	05 01 30.6	-0.9
DGRG				S	Sg	05 01 35.8	-0.5
MTA	Mtatsminda	0.85	307	P	Pg	05 01 38.0	-2.7
MTA				S	Sg	05 01 47.7	-4.0
TBLG	Delisi	0.91	307	P	Pg	05 01 38.9	-2.8
TBLG				S	Sg	05 01 49.4	-4.2
TBLG	Delisi	0.91	307	*e*PG	Pg	05 01 38.8	-2.9
TBLG				*e*S	Sg	05 01 49.3	-4.2
GNI	Garni	1.27	216	*i* PG	Pg	05 01 49.8	+1.2
GNI				*i* S	Sb	05 02 08.9	+4.4
KMKR	Kumukh	1.41	47⇓	*i*PG	Pg	05 01 50.0	-1.4
KMKR				*i* S	Sn	05 02 10.0	+1.3
KMKR				pmax	pmax		
	comp=Z,221nm,0.2s						
GOR	Gori	1.44	304	P	Pn	05 01 49.9	-0.5
GOR				S	Sn	05 02 06.4	-2.9
BTLR	Botlikh	1.53	15⇓	*i*PG	Pn	05 01 48.8	-2.8
BTLR				*i* S	Sn	05 02 08.8	-2.7
BTLR				pmax	pmax		
	comp=Z,176nm,0.8s						
AKT	Akhty	1.56	78	*e*PG	Pn	05 01 51.5	-0.5
AKT				*i* S	Sn	05 02 13.0	+0.8
AKT				pmax	pmax		
	comp=Z,158nm,0.2s						
NARZ	Nor Artik	1.67	245	P	Pn	05 01 54.6	+1.0
NARZ				S	Sn	05 02 16.2	+1.2
AKH	Akhalkalaki	1.68	278	P	Pn	05 01 52.4	-1.3
AKH				S	Sn	05 02 13.1	-2.2
UNCR	Uncukul	1.73	28	*i* PN	Pn	05 01 52.5	-1.9
UNCR				*i* S	Sn	05 02 15.0	-1.6
UNCR				pmax	pmax		
	comp=Z,107nm,0.2s						
URKR	Urkarakh	1.75	55	*e*PN	Pn	05 01 54.0	-0.6
URKR				*e*S	Sn	05 02 19.0	+2.0
URKR				pmax	pmax		
	comp=Z,92nm,0.3s						
SNJR	Sundja	2.00	341	*e*PN	Pn	05 01 59.1	+1.1
SNJR				*e*S	Sn	05 02 25.3	+2.2
VLKR	Vladikavkaz	2.01	338	*e*PN	Pn	05 01 59.2	+0.9
VLKR				*e*S	Sn	05 02 25.2	+1.8
DBC	Dubki	2.02	24⇓	*i*PN	Pn	05 01 56.0	-2.3
DBC				*i* S	Sn	05 02 24.0	+0.4
DBC				pmax	pmax		
	comp=Z,43nm,0.4s						
ZEI	Tsey	2.08	320	*e*PN	Pn	05 01 59.0	-0.2
ONI	Oni	2.18	310	P	Pn	05 02 00.9	+0.2
ONI				S	Sn	05 02 28.1	+0.4
KORR	Kora	2.25	328	*e*PN	Pn	05 02 01.8	+0.2
KORR				*e*S	Sn	05 02 30.3	+0.8
ARNR	Ardon	2.27	333	*e*PN	Pn	05 02 02.4	+0.7
ARNR				*e*S	Sn	05 02 31.0	+1.3
AMRG		2.33	306	P	Pn	05 02 02.4	-0.2
AMRG				S	Sn	05 02 31.9	+0.5
BTKR	Batakoyurt	2.35	339	*e*PN	Pn	05 02 03.9	+1.0
BTKR				*e*S	Sn	05 02 33.5	+1.7
KMSR	Komsomolskaya	2.42	335	*e*PN	Pn	05 02 04.7	+0.8
KMSR				*e*S	Sn	05 02 34.8	+1.2

*NEIC **07** 05:18:56.1, 2006N×6921W, h25km, MD3.8(RSPR), After RSPR.*
RSPR 07 05:18:56.1, 2006N×6921W, h25km±41km**, MD3.8**/7**, 8C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSP	Las Mesas	2.74	133⇑	*e*P	Pn	05 19 36.5	-2.1
LSP				*e*S	Sn	05 20 06.2	-4.6
LRS	Lares	2.84	128⇑	*e*P	Pn	05 19 38.2	-1.7
LRS				*e*S	Sn	05 20 11.7	-1.6
MGP	Maguayo	2.86	135⇑	*e*P	Pn	05 19 38.5	-1.6
MGP				*e*S	Sn	05 20 11.2	-2.6
AOPR	Arecibo Observ	2.88	126⇑	*e*P	Pn	05 19 38.8	-1.6
AOPR				*e*S	Sn	05 20 12.4	-1.9
CELP	Cerrillos	3.17	128⇑	*e*P	Pn	05 19 43.7	-0.8
CELP				*e*S	Sn	05 20 19.6	-1.9
OBIP	Obispado Ponce	3.17	129	*e*S	Sn	05 20 19.5	-2.0
SJG	San Juan	3.48	123	*e*S	Sn	05 20 27.6	-1.4
CBYP	Canovanas	3.63	119⇑	*e*P	Pn	05 19 50.4	-0.4
CBYP				*e*S	Sn	05 20 30.1	-2.8
HUMP	Col San Antoni	3.70	120⇑	*e*P	Pn	05 19 49.7	-2.0
HUMP				*e*S	Sn	05 20 29.8	-4.8
MTP	Monte Pirata	3.97	119⇑	*e*P	Pn	05 19 53.6	-1.7

CASC 07 05:22:41.7±2.5**, 1234N**×**8749W, h65**km±23km**, MD3.5, ML3.3, 1C-4D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.56	51⇓	*e*P	Pn	05 22 55.4	+0.7
CRIN				*e*S	Sn	05 23 05.7	+1.5
LEON	Leon	0.59	83⇓	*e*P	Pn	05 22 54.9	-0.1
LEON				*e*S	Sn	05 23 04.8	0.0
TELN	Telica	0.70	68	*e*P	Pn	05 22 54.2	-2.0
TELN				*e*S	Sn	05 23 08.0	+1.1
MIRN	Miramar	0.77	83	*e*P	Pn	05 22 57.3	+0.2
MIRN				*e*S	Sn	05 23 09.7	+1.2
CNGN	Cerro Negro	0.79	79	*e*P	Pn	05 22 57.9	+0.5
CNGN				*e*S	Sn	05 23 10.7	+1.8
COPN	Copaltepe	0.90	100	*e*P	Pn	05 22 58.8	+0.2
COPN				*e*S	Sn	05 23 11.9	+0.7
CNCH	Conchagua	0.99	340⇓	*e*P	x	05 23 26.5	
CNCH				*e*S	x	05 23 39.9	
APYN	Apoyeque	1.12	95	*e*P	Pn	05 23 02.1	+0.6
APYN				*e*S	Sn	05 23 17.1	+0.9
XAVN	Gruta Xavier	1.16	99	*e*P	Pn	05 22 59.7	-2.3
XAVN				*e*S	Sn	05 23 17.2	+0.1
TISN	Laguna Tiscapa	1.21	99	*e*P	Pn	05 23 03.2	+0.5
TISN				*e*S	Sn	05 23 18.6	+0.2
MGAN	Managua	1.23	99⇓	*e*P	Pn	05 23 03.2	+0.3
MGAN				*e*S	Sn	05 23 19.9	+1.0
MGAN				*i*		05 23 20.5	
	comp=N,443nm,0.2s						
TICN	Ticuantepe	1.27	104	*e*P	Pn	05 23 04.4	+0.9
TICN				*e*S	Sn	05 23 20.9	+1.1
PYTN	Playitas	1.41	82	*e*P	Pn	05 23 05.8	+0.5
PYTN				*e*S	Sn	05 23 24.3	+1.1
APON	Apoyo	1.46	107	*e*P	Pn	05 23 07.2	+1.3
APON			⇑	*e*S	Sn	05 23 24.0	-0.2
LCBS	La Ceiba	1.95	312	*e*P	x	05 23 40.2	
LCBS				*e*S	x	05 24 02.6	

*IDC **07** 05:28:01.3±1.6, 687S×12972E, h0km, mb4.3/2, mb1 4.6/5, mb1mx4.1/15, mbtmp4.5/5, ML4.6/3, Error ellipse: s-maj=85.7km s-min=23.1km az=71.0*
*NEIC **07** 05:28:06.6±1.4, 699S×12973E, h43km±15km, mb4.3/5, Error ellipse: s-maj=17.4km s-min=9.6km az=64.0*
*ISCJB **07** 05:28:16.1±1.6, 748S±008×1297E±0.1, h166km±17km, mb4.1/7, Error ellipse: s-maj=23.1km s-min=10.6km az=137.9*
ISC 07 05:28:09.5±2.2**, 72S**±01×**1295E**±01**, h70**km±24km**, n20, σ1ˢ58**/30**, mb4.1**/7**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.19	153	*e*P	Pn	05 29 42.4	+4.2
	34nm,0.3s						
KAKA				*e*S	Sn	05 30 48.5	+1.0
FITZ	Fitzroy Crossi	11.48	199	*e*P	Pn	05 30 51.8	+1.4
	22nm,0.3s						
FITZ				*e*S	Sn	05 32 51.4	-5.5
FITZ	Fitzroy Crossi	11.48	199	Pn	Pn	05 30 51.7	+1.3
	6.0nm,0.3s,baz=31,slow=11,SNR=93						
FITZ				Sn	Sn	05 32 53.7	-3.2
	8.3nm,0.3s,baz=1.2,slow=23,SNR=6.5						
WRAB	Tennant Creek	13.50	160	*e*Pn	Pn	05 31 17.1	-0.7
	9.6nm,0.3s						
WRAB				*e*Sn	Sn	05 33 33.4	-13
WRA	Warramunga Arr	13.50	160	Pn	Pn	05 31 17.7	-0.2
	2.8nm,0.3s,baz=324,slow=14,SNR=44						
WRA				Sn	Sn	05 33 40.9	-5.3
	8.2nm,0.3s,baz=338,slow=21,SNR=22						
WB2	Warramunga Arr	13.51	160	*e*P	Pn	05 31 17.6	-0.3
WB2				*e*S	Sn	05 33 38.8	-7.5
WB2	Warramunga Arr	13.51	160	*e*Pn	Pn	05 31 17.1	-0.8
WB2				*e*Sn	Sn	05 33 38.5	-7.8
MBWA	Marble Bar	16.80	213	*e*Pn	Pn	05 32 02.8	+2.7
AS31	Alice Springs	16.91	166	*e*Pn	Pn	05 32 01.1	-0.4
AS31				*e*Sn	Sn	05 34 57.6	-11
ASAR	Alice Springs	16.91	166	Pn	Pn	05 32 02.8	+1.3
	1.1nm,0.3s,baz=342,slow=9.4,SNR=52						
ASAR				Sn	Sn	05 35 04.7	-4.0
	1.3nm,0.3s,baz=350,slow=26,SNR=9.8						
ASPA	Alice Springs	16.91	166	*e*P	Pn	05 32 02.4	+0.9
ASPA				*e*S	S	05 35 00.7	-14
KKM	Kota Kinabalu	18.69	314	*e*P	Pn	05 32 21.7	-1.4
FORT	Forrest	23.50	183	*e*P	P	05 33 14.7	+1.7
	10nm,0.6s,mb4.3						
KLBR	Kellerberrin	26.64	203	*e*P	P	05 33 43.4	+1.9
	33nm,1.5s,mb4.6						
STKA	Stephens Creek	27.02	157	P	P	05 33 47.2	+2.3
	3.2nm,0.7s,mb4.0,baz=344,slow=8.4,SNR=5.7						
STKA	Stephens Creek	27.02	157	*e*P	P	05 33 46.7	+1.9
ULN	Ulaanbaatar	58.30	342	*e*P	P	05 37 57.1	+0.1
	1.4nm,0.7s,mb4.1						
MKAR	Makanchi Array	68.13	327	P	P	05 39 02.2	+0.2
	2.1nm,0.6s,mb4.1,baz=128,slow=7.9,SNR=16						
KURK	Kurchatov	72.44	329	*e*P	P	05 39 27.5	-0.8
	2.3nm,0.8s,mb4.1						
ZRNK	Zerenda	78.67	328	*e*P	P	05 40 03.0	-0.9
	0.7nm,0.6s,mb3.7						

*NEIC **07** 06:30:14.3, 3740S×17760E, h116km, MG4.3(WEL), After WEL.*
WEL 07 06:30:14.5±0.3**, 3742S**×**17758E, h116**km±2km**, ML4.3**/7**, Error ellipse: s-maj=2.0km s-min=1.7km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.33	251	PN	Pn	06 30 30.5	-0.5
WIZ	White Island	0.33	251	P	Pn	06 30 30.5	-0.5
MXZ	Matakaoa Point	0.60	104	PN	Pn	06 30 32.6	0.0
MXZ				SN	Sn	06 30 47.0	+0.8
MXZ	Matakaoa Point	0.60	104	P	Pn	06 30 32.6	0.0
MXZ				S	Sn	06 30 47.0	+0.8
PUZ	Puketiti	0.84	141	PN	Pn	06 30 34.6	0.0
PUZ				SN	Sn	06 30 49.4	-0.4
PUZ	Puketiti	0.84	141	P	Pn	06 30 34.6	0.0
PUZ				S	Sn	06 30 49.4	-0.5
MWZ	Matawai	0.92	182	PN	Pn	06 30 35.3	+0.1
MWZ				SN	Sn	06 30 51.0	0.0
MWZ	Matawai	0.92	182	P	Pn	06 30 35.3	0.0
MWZ				S	Sn	06 30 51.0	0.0
URZ	Urewera	0.92	204	PN	Pn	06 30 35.2	-0.1
URZ				SN	Sn	06 30 50.9	-0.1
URZ	Urewera	0.92	204	P	Pn	06 30 35.2	-0.1
EDRZ	Edgecumbe	0.96	224	PN	Pn	06 30 35.8	+0.2
EDRZ				SN	Sn	06 30 51.9	+0.2
EDRZ	Edgecumbe	0.96	224	P	Pn	06 30 35.8	+0.1
TAZ	Tarawera	1.17	226	P	Pn	06 30 38.5	+0.6
PATZ	Paeroa	1.42	227	PN	Pn	06 30 41.3	+0.7
PATZ	Paeroa	1.42	227	P	Pn	06 30 41.3	+0.6
KNZ	Kokohu	1.60	177	PN	Pn	06 30 42.5	-0.3
KNZ	Kokohu	1.60	177	P	Pn	06 30 42.5	-0.3
KUZ	Kuaotunu	1.63	294	PN	Pn	06 30 42.7	-0.4
KUZ	Kuaotunu	1.63	294	P	Pn	06 30 42.2	-1.0
BKZ	Black Stump Fm	1.94	206	PN	Pn	06 30 46.3	-0.6
BKZ	Black Stump Fm	1.94	206	P	Pn	06 30 46.3	-0.7
RITZ	Rihia Road	2.06	221	PN	Pn	06 30 48.9	+0.4
RITZ	Rihia Road	2.06	221	P	Pn	06 30 48.9	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NGZ	Ngauruhoe	2.34	221	PN	Pn	06 30 52.3	+0.2
HIZ	Hauiti	2.41	242	PN	Pn	06 30 53.5	+0.6
HIZ	Hauiti	2.41	242	P	Pn	06 30 54.0	+1.0
FWVZ	Far West T-bar	2.43	220	PN	Pn	06 30 52.9	-0.3
FWVZ	Far West T-bar	2.43	220	P	Pn	06 30 52.9	-0.3
MOVZ	Moawhango	2.45	215	PN	Pn	06 30 52.2	-1.2
MOVZ	Moawhango	2.45	215	P	Pn	06 30 52.2	-1.2
WNVZ	Wahianoa	2.46	219	PN	Pn	06 30 53.0	-0.5
WNVZ	Wahianoa	2.46	219	P	Pn	06 30 53.0	-0.6
TRVZ	Turoa	2.46	220	PN	Pn	06 30 53.6	0.0
MTVZ	Mangateitei	2.57	220	PN	Pn	06 30 54.6	-0.3
PXZ	Pawanui	2.67	192	PN	Pn	06 30 54.3	-1.9
TSZ	Takapari Road	2.92	205	PN	Pn	06 30 57.6	-2.0
TSZ	Takapari Road	2.92	205	eP	Pn	06 30 57.6	-2.0
WAZ	Wanganui	3.09	220	PN	Pn	06 31 01.2	-0.7
WAZ	Wanganui	3.09	220	eP	Pn	06 30 58.7	-3.1
MRZ	Mangatainoka R	3.59	205	P	Pn	06 31 05.5	-2.9
KIW	Kapiti Island	4.01	210	P	Pn	06 31 11.0	-3.1
MTW	Mount Morrison	4.07	203	P	Pn	06 31 11.0	-3.8
CAW	Cannon Point	4.17	207	P	Pn	06 31 12.6	-3.5
MSWZ	Moikau Station	4.38	204	P	Pn	06 31 14.8	-4.2
MRW	Makara Radio	4.41	210	P	Pn	06 31 15.9	-3.5
SNZO	South Karori	4.48	209	eP	Pn	06 31 16.1	-4.2
TCW	Tory Channel	4.57	213	P	Pn	06 31 17.6	-4.0
NNZ	Nelson	5.00	219	eP	Pn	06 31 23.2	-4.1
BSWZ	Blackbirch Sta	5.16	213	P	Pn	06 31 25.2	-4.2
QRZ	Quartz Range	5.20	228	eP	Pn	06 31 26.5	-3.4
THZ	Tophouse	5.64	218	eP	Pn	06 31 31.7	-4.3
DSZ	Denniston Nort	6.21	224	eP	Pn	06 31 40.1	-3.6
LTZ	Lake Taylor	6.72	216	eP	Pn	06 31 44.3	-6.3
MQZ	McQueen's Vall	7.31	209	eP	Pn	06 31 51.5	-7.1
ODZ	Otahua Downs	9.23	212	eP	Pn	06 32 18.8	-5.8

*NEIC **07** 07:15:10.8, 37.66S×176.79E, h165km, MG4.1(WEL), After WEL.*

WEL 07 07:15:10.7±0.2**, 37.62S×176.74E, h162**km±1km**, ML3.9**/14**, Error ellipse: s-maj=2.2km s-min=1.8km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAZ	Tarawera	0.64	197	P	Pn	07 15 35.4	+1.3
URZ	Urewera	0.70	156	PN	Pn	07 15 34.6	+0.1
URZ				SN	Sn	07 15 52.9	+0.2
PATZ	Paeroa	0.85	207	PN	Pn	07 15 36.1	+0.6
MWZ	Matawai	0.94	139	PN	Pn	07 15 36.2	+0.1
MWZ				SN	Sn	07 15 55.9	+0.2
MXZ	Matakaoa Point	1.24	88	PN	Pn	07 15 38.8	+0.1
MXZ				SN	Sn	07 16 00.0	-0.1
MXZ	Matakaoa Point	1.24	88	P	Pn	07 15 38.8	+0.1
PUZ	Puketiti	1.28	111	PN	Pn	07 15 38.9	-0.1
PUZ				SN	Sn	07 16 00.0	-0.8
PUZ	Puketiti	1.28	111	eP	Pn	07 15 38.9	-0.1
BKZ	Black Stump Fm	1.55	187	PN	Pn	07 15 41.7	0.0
BKZ				SN	Sn	07 16 05.5	0.0
BKZ	Black Stump Fm	1.55	187	P	Pn	07 15 41.7	0.0
KNZ	Kokohu	1.58	153	PN	Pn	07 15 42.2	+0.3
KNZ				SN	Sn	07 16 05.8	-0.1
KNZ	Kokohu	1.58	153	P	Pn	07 15 42.2	+0.3
NGZ	Ngauruhoe	1.79	210	PN	Pn	07 15 44.9	+0.7
NGZ	Ngauruhoe	1.79	210	P	Pn	07 15 44.9	+0.7
TUVZ	Tukino	1.85	207	PN	Pn	07 15 45.4	+0.5
TUVZ	Tukino	1.85	207	P	Pn	07 15 45.4	+0.5
FWVZ	Far West T-bar	1.88	209	PN	Pn	07 15 45.8	+0.6
FWVZ	Far West T-bar	1.88	209	eP	Pn	07 15 45.8	+0.6
WNVZ	Wahianoa	1.93	207	PN	Pn	07 15 46.0	+0.3
WNVZ	Wahianoa	1.93	207	P	Pn	07 15 46.0	+0.3
MOVZ	Moawhango	1.94	203	PN	Pn	07 15 45.6	-0.3
MOVZ	Moawhango	1.94	203	P	Pn	07 15 45.6	-0.3
PXZ	Pawanui	2.41	178	PN	Pn	07 15 50.5	-0.7
TSZ	Takapari Road	2.51	194	PN	Pn	07 15 51.6	-0.9
TSZ	Takapari Road	2.51	194	P	Pn	07 15 51.6	-0.9
WAZ	Wanganui	2.54	212	PN	Pn	07 15 52.7	0.0
WAZ	Wanganui	2.54	212	eP	Pn	07 15 52.7	-0.1
MRZ	Mangatainoka R	3.17	196	PN	Pn	07 15 58.7	-1.9
MRZ	Mangatainoka R	3.17	196	eP	Pn	07 15 58.7	-1.9
KIW	Kapiti Island	3.53	203	PN	Pn	07 16 02.8	-2.4
KIW	Kapiti Island	3.53	203	P	Pn	07 16 02.8	-2.4
MTW	Mount Morrison	3.66	195	P	Pn	07 16 03.7	-3.1
CAW	Cannon Point	3.71	200	PN	Pn	07 16 05.2	-2.4
CAW	Cannon Point	3.71	200	P	Pn	07 16 05.0	-2.5
MRW	Makara Radio	3.93	203	P	Pn	07 16 07.6	-2.7
MSWZ	Moikau Station	3.96	196	P	Pn	07 16 07.6	-3.1
SNZO	South Karori	4.00	203	P	Pn	07 16 08.2	-3.1
BHW	Baring Head	4.05	200	P	Pn	07 16 08.9	-2.9
TCW	Tory Channel	4.06	207	P	Pn	07 16 09.1	-2.9
BSWZ	Blackbirch Sta	4.65	208	P	Pn	07 16 16.6	-3.0
THZ	Tophouse	5.08	214	eP	Pn	07 16 22.6	-2.8
KHZ	Kahutara	5.38	206	eP	Pn	07 16 25.7	-3.6
MQZ	McQueen's Vall	6.83	206	eP	Pn	07 16 42.9	-5.5

*IDC **07** 07:26:06.3±0.5, 15.16S×173.54W, h0km, mb5.3/13, mb1 5.5/15, mb1mx5.5/16, mbtmp5.3/15, ML5.2/1, MS5.4/23, Ms1 5.4/23, ms1mx5.3/30, Error ellipse: s-maj=21.8km s-min=13.4km az=134.0*

*CRAAG **07** 07:26:07.5, 15.28S×173.41W, Mb5.9*

*ISCJB **07** 07:26:10.3±0.2, 15.26S±0.04×173.58W±0.03, h35km, mb5.5/131, MS5.8/206, Error ellipse: s-maj=5.9km s-min=3.8km az=127.8*

*BJI **07** 07:26:11.0, 15.20S×173.60W, h35km, mB5.7, mb5.2, Ms5.6, Msz5.5*

*HRVD **07** 07:26:12.5±0.1, 15.24S×173.44W, h53km±1km, MW6.0/108, Centroid moment Tensor Solution. LP body waves: s100,c221;Mantle waves: s108,c318; Half duration: 2^{s}5 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.18±.01; $M_{\theta\theta}$0.29±.01; $M_{\phi\phi}$-0.11±.01; $M_{r\theta}$-1.29±.02; $M_{\theta\phi}$0.08±.01; $M_{\phi r}$0.18±.01; Best double couple: $M_0$1.32800×10^{18} NP1:ϕ_s229.00000°,δ7.00000°,λ-139.00000°. NP2: ϕ_s98.00000°,δ85.00000°,λ-84.00000°. Principal axes: T 1.3700, Plg40.0000°, Azm183.0000°; N -0.0840, Plg6.0000°, Azm278.0000°; P -1.2860, Plg49.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **07** 07:26:12.9±1.4, 14.66S×173.58W, h33km, mb5.9/67, MS5.9/38 Error ellipse: s-maj=9.7km s-min=6.9km az=63.7*

*NEIC **07** 07:26:12.5±0.2, 15.24S×173.61W, h35km, mb5.7/89, ME5.6, MS5.9/156, MW6.0, Error ellipse: s-maj=8.7km s-min=5.2km az=148.0, Moment Tensor Solution. s66 Moment tensor: Scale 10^{18}Nm; M_{rr}0.05; $M_{\theta\theta}$-0.09; $M_{\phi\phi}$0.04; $M_{r\theta}$-1.06; $M_{\theta\phi}$0.03; $M_{\phi r}$0.27; Best double couple: $M_0$1.10000×10^{18} NP1:ϕ_s284.00000°,δ88.00000°, λ90.00000°. NP2:ϕ_s96.00000°,δ2.00000°,λ81.00000°. Principal axes: T 1.0700, Plg47.0000°, Azm195.0000°; N 0.0400, Plg0.0000°, Azm104.0000°; P -1.1100, Plg43.0000°, Azm14.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s105.00000°,δ7.00000°, λ90.00000°. NP2:ϕ_s285.00000°,δ83.00000°,λ90.00000°. Principal axes: T Plg52.0000°, Azm195.0000°; N Plg0.0000°, Azm0.0000°; P Plg38.0000°, Azm15.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Apia, Samoa.

*SZGRF **07** 07:26:15.5, 14.87S×173.04W, h43km, mb6.0, Samoa Islands region*

*ORF **07** 07:26:50.2, 5.09N×168.92W, h30km, mb6.3*

ISC 07 07:26:12.4±0.2**, 15.29S**±0.04×**173.57W**±0.03**, h37**km**, h37**km±1.0km**:pP-P, n921,** σ0^{s}**93**/439**, mb5.5**/131**, MS5.8**/206**, 182C-191D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.21	52	Pn	Pn	07 26 42.8	-3.9
	4µm,0.3s,baz=199,slow=1.2,SNR=2566						
AFI				Sn	Sn	07 27 03.2	-10
	18µm,0.3s,baz=4.5,slow=21,SNR=12						
AFI				LR	LR	07 27 28.0	
	comp=Z,156µm,20.7s,baz=315,slow=39						
AFI	Afiamalu	2.21	52	P	Pn	07 26 42.8	-3.8
AFI						08 27 03.2	
AFI	Afiamalu	2.21	52	ePn	Pn	07 26 41.7	-4.9
AFI				eSn	Sn	07 27 01.0	-12
FUNA	Funafuti	9.75	313	ePn	Pn	07 28 29.0	-1.2
RAR	Rarotonga	14.37	116	Pn	Pn	07 29 31.4	-1.8
	11nm,0.3s,baz=261,slow=8.6,SNR=22						
RAR				Sn	Sn	07 32 03.2	-8.1
	9.1nm,0.3s,baz=136,slow=19,SNR=4.8						
RAR				LR	LR	07 34 24.1	
	comp=Z,6µm,18.4s,baz=301,slow=35						
BKM	Butte a Klehm	17.60	260	iP	Pn	07 30 22.2	+7.5
DZM	Mont Dzumac	20.09	247	eP	P	07 30 42.8	+0.1
DZM	Mont Dzumac	20.09	247	P	P	07 30 43.3	+0.6
	33nm,0.8s,baz=68,slow=19,SNR=18						
DZM				S	S	07 34 36.9	+11
	4.9nm,0.9s,baz=147,slow=21,SNR=1.7						
DZM				LR	LR	07 36 27.4	
	comp=Z,4µm,20.1s,MS4.8,baz=80,slow=31						
PAE	Paea	23.13	99	eP	P	07 31 14.5	-0.7
	164nm,1.1s,mb5.4						
PPT	Papeete	23.13	99	eP	P	07 31 14.7	-0.5
	144nm,1.3s,mb5.3						
PPT	Papeete	23.13	99	eLQ		07 35 52.7	
	29µm,31.0s						
PPT				eLR	LR	07 36 33.5	
	7µm,27.2s						
PPT	Papeete	23.13	99	P	P	07 31 16.5	+1.3
	123nm,1.1s,mb5.2,baz=260,slow=9.8,SNR=4.1						
PPT				LR	LR	07 37 53.4	
	comp=Z,2µm,20.5s,baz=268,slow=31						
TVO	Taravao	23.44	99	eP	P	07 31 17.9	-0.6
	246nm,1.3s,mb5.5						
TBI	Tubuai	24.10	113	eLQ		07 36 23.5	
	19µm,27.5s						
TBI	Tubuai	24.10	113	eP	P	07 31 24.5	0.0
	336nm,1.0s,mb5.7						
TBI				eLR	LR	07 37 11.2	
	18µm,27.5s,baz=287						
URZ	Urewera	24.32	198	P	P	07 31 28.5	+2.0
	30nm,0.4s,mb5.1,baz=69,slow=2.8,SNR=20						
URZ				LR	LR	07 40 14.2	
	comp=Z,41µm,19.1s,MS5.9,baz=38,slow=35						
PMOR	Pomariorio Ree	24.79	93	eP	P	07 31 30.8	+0.1
	701nm,1.3s,mb6.0						
VAH	Vaihoa	25.03	93	eP	P	07 31 32.9	0.0
	523nm,1.3s,mb5.9						
HNR	Honiara	26.50	280	LR	LR	07 41 13.3	
	comp=Z,3µm,18.6s,MS4.8,baz=177,slow=34						
HNR	Honiara	26.50	280	PFAKE		07 32 00.0	+14
HNR				LR	LR		
	comp=Z,3µm,19.0s,MS4.9						
SNZO	South Karori	27.85	199	eP	P	07 31 58.7	+0.3
SNZO				epP	pP	07 32 07.1	-1.8
SNZO				esP	sP	07 32 10.1	-3.3
SNZO				LR	LR		
	comp=Z,31µm,19.0s,MS5.9						
TAOE	Nuku Hiva Isla	33.27	83	eS	S	07 38 06.1	+2.1
	comp=Z,15µm,28.8s						
TAOE				eLR	LR	07 41 29.1	
	comp=Z,41µm,25.5s,baz=259						
ARMA	Armidale	35.26	239	eP	P	07 33 02.7	-0.7
ARMA				esP	sP	07 33 20.1	+1.6
RKT	Rikitea	37.19	108	eS	S	07 39 05.4	+1.3
	comp=Z,2µm,29.2s						
RKT				eLQ		07 41 54.5	
	comp=Z,8µm,24.2s						
RKT				eLR	LR	07 43 11.7	
	comp=Z,6µm,29.0s						
CTA	Charters Tower	38.51	257	eP	P	07 33 29.5	-1.5
	comp=Z,10nm,0.6s,mb4.7						
CTA				esP	sP	07 33 47.3	+1.1
CTA	Charters Tower	38.51	257	LR	LR	07 47 38.1	
	comp=Z,4µm,19.0s,MS5.2,baz=86,slow=34						
CTA	Charters Tower	38.51	257	eP	P	07 33 29.5	-1.5
CTA				e*SP	sP	07 33 47.3	+1.1
CTA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CTAO	Charters Tower	38.51	257	eP	P	07 33 32.5	+1.4
	comp=Z,23nm,0.8s,mb5.0						
CTAO				LR	LR		
	comp=Z,4µm,21.0s,MS5.2						
CNB	Canberra Magne	38.69	232	eP	P	07 33 31.9	-0.7
	comp=Z,129nm,1.6s,mb5.4						
CNB				esP	sP	07 33 47.5	-0.2
PMG	Port Moresby	38.76	274	LR	LR	07 47 30.4	
	comp=Z,4µm,18.4s,MS5.3,baz=86,slow=33						
PMG	Port Moresby	38.76	274	eP	P	07 33 33.0	-0.1
	comp=Z,53nm,1.2s,mb5.2						
PMG				LR	LR		
	comp=Z,4µm,20.0s,MS5.2						
POHA	Pohakuloa	39.08	28	PFAKE		07 33 50.0	+14
POHA				LR	LR		
	comp=Z,13µm,20.0s,MS5.8						
WAKE	Wake Island	39.48	330	eP	P	07 33 38.5	-0.7
	comp=Z,831nm,1.1s,mb6.4						
WAKE				LR	LR		
	comp=Z,10µm,22.0s,MS5.6						
PTCN	Pitcairn Islan	41.80	111	PFAKE		07 34 10.0	+12
PTCN				LR	LR		
	comp=Z,5µm,22.0s,MS5.4						
TOO	Toolangi	42.41	231	eP	P	07 34 02.5	-0.8
	comp=Z,36nm,1.0s,mb5.0						
TOO				esP	sP	07 34 19.8	+1.3
TOO	Toolangi	42.41	231	eP	P	07 34 02.5	-0.8
TOO				e*SP	sP	07 34 19.8	+1.3
TOO				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.0						
TAU	Tasmania Unive	43.29	223	PFAKE		07 34 20.0	+10
TAU				LR	LR		
	comp=Z,13µm,19.0s,MS5.9						
MIDW	Midway	43.40	355	eP	P	07 34 12.3	+1.0
	comp=Z,350nm,1.2s,mb6.0						
MIDW				LR	LR		
	comp=Z,12µm,20.0s,MS5.8						
STKA	Stephens Creek	43.95	240	eP	P	07 34 15.8	+0.1
	comp=Z,15nm,0.8s,mb4.8						
STKA				esP	sP	07 34 33.7	+2.7
STKA	Stephens Creek	43.95	240	P	P	07 34 15.7	0.0
	comp=Z,21nm,0.9s,mb4.9,baz=87,slow=8.9,SNR=25						
STKA				LR	LR	07 49 56.3	
	comp=Z,8µm,21.8s,MS5.6,baz=75,slow=32						
WB2	Warramunga Arr	49.70	257	eP	P	07 34 59.0	-1.6
WB2				esP	sP	07 35 16.4	+0.4
WRAB	Tennant Creek	49.70	257	P	P	07 34 59.6	-1.1
	comp=Z,447nm,0.9s,mb6.5,SNR=28						
WRAB	Tennant Creek	49.70	257	eP	P	07 34 59.7	-0.9
	comp=Z,146nm,1.0s,mb6.0						
WRAB				LR	LR		
	comp=Z,6µm,19.0s,MS5.7						
WRA	Warramunga Arr	49.71	257	P	P	07 34 59.8	-0.9
	comp=Z,20nm,0.3s,mb5.6,baz=95,slow=6.3,SNR=203						
WRA				LR	LR	07 54 09.1	
	comp=Z,5µm,21.9s,MS5.5,baz=90,slow=34						
AS31	Alice Springs	49.99	252	eP	P	07 35 01.4	-1.5
AS31				esP	sP	07 35 18.9	+0.7
ASAR	Alice Springs	49.99	252	P	P	07 35 01.5	-1.4
	comp=Z,80nm,0.6s,mb5.9,baz=86,slow=7.4,SNR=573						
ASAR				LR	LR	07 54 43.4	
	comp=Z,12µm,21.4s,MS5.8,baz=97,slow=34						
ASAR				PKPPKP		08 05 52.9	
	comp=Z,1.1nm,1.1s,baz=146,slow=0.5,SNR=4.2						
ASPA	Alice Springs	49.99	252	eP	P	07 35 01.4	-1.5
ASPA				esP	sP	07 35 18.9	+0.6
GUMO	Guam	50.13	303	LR	LR	07 52 55.9	
	comp=Z,2µm,20.3s,MS5.1,baz=114,slow=32						
KAKA	Kakadu	52.34	266	eP	P	07 35 19.7	-0.8
	comp=Z,30nm,0.6s,mb5.4						
FORT	Forrest	55.32	243	eP	P	07 35 40.5	-1.8
	comp=Z,41nm,0.6s,mb5.6						
FORT				esP	sP	07 35 58.2	+0.4
FITZ	Fitzroy Crossi	58.07	258	eP	P	07 36 03.9	+2.1
	comp=Z,12nm,0.6s,mb5.1						
FITZ	Fitzroy Crossi	58.07	258	LR	LR	07 59 18.7	
	comp=Z,4µm,20.2s,MS5.5,baz=330,slow=34						
DRV	Dumont d'Urvil	59.65	200	P	P	07 36 10.0	-2.8
DRV	Dumont d'Urvil	59.65	200	PP	PP	07 38 24.0	-0.6
DRV				S	S	07 44 18.0	-2.5
RPN	Rapa Nui	60.49	113	PFAKE		07 36 30.0	+11
RPN				LR	LR		
	comp=Z,1µm,20.0s,MS5.1						
MBWA	Marble Bar	63.23	254	eP	P	07 36 36.4	-0.6
	comp=Z,20nm,0.6s,mb5.4						
MBWA				LR	LR		
	comp=Z,6µm,20.0s,MS5.7						
SBA	Scott Base	63.35	185	eP	P	07 36 39.1	+1.3
	comp=Z,108nm,1.3s,mb5.8						
SBA				LR	LR		
	comp=Z,4µm,20.0s,MS5.5						
VNDA	Vanda	63.47	186	P	P	07 36 39.5	+0.9
	comp=Z,12nm,0.7s,mb5.2,baz=5.6,slow=6.7,SNR=62						
VNDA				LR	LR	07 58 10.9	
	comp=Z,2µm,21.7s,MS5.3,baz=28,slow=30						
VNDA				PKPPKP		08 05 32.2	
	comp=Z,0.8nm,0.8s,baz=106,slow=8.8,SNR=5.3						
VNDA	Vanda	63.47	186	eP	P	07 36 38.0	-0.5
	comp=Z,134nm,1.5s,mb5.8						
VNDA				LR	LR		
	comp=Z,3µm,19.0s,MS5.5						
KLBR	Kellerberrin	64.14	242	eP	P	07 36 41.7	-1.3
	comp=Z,37nm,0.9s,mb5.4						
KLBR				esP	sP	07 36 58.9	+0.3
DAV	Davao City (W)	64.24	286	PFAKE		07 37 00.0	+16
DAV				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
NWAO	Narrogin (SRO)	64.53	241	PFAKE		07 37 00.0	+14
NWAO				LR	LR		
	comp=Z,6µm,22.0s,MS5.8						
MUN	Mundaring	65.44	242	eP	P	07 36 51.4	0.0
MUN				esP	sP	07 37 08.2	+1.1
SMY	Shemya	68.57	352	PFAKE		07 37 20.0	+8.7
SMY				LR	LR		
	comp=Z,20µm,21.0s,MS6.3						
MJAR	Matsushiro Arr	68.74	320	P	P	07 37 12.7	+0.3
	comp=Z,25nm,1.0s,mb5.1,baz=150,slow=4.7,SNR=30						
MJAR				LR	LR	08 01 53.0	
	comp=Z,5µm,22.0s,MS5.8,baz=130,slow=31						
MAJO	Matsushiro	68.75	320	eP	P	07 37 12.8	+0.4
MAJO				pmax	pmax		
	comp=Z,46nm,1.1s,mb5.3						
MAJO				MLR	MLR		
	comp=Z,7µm,22.0s,MS5.9						
MAJO	Matsushiro	68.75	320	eP	P	07 37 12.8	+0.4
	comp=Z,46nm,1.1s,mb5.3						
MAJO				LR	LR		
	comp=Z,7µm,22.0s,MS5.9						
MAT	Matsushiro	68.75	320	P	P	07 37 12.4	0.0
MAT				S	S	07 46 14.0	+0.9
MAT	Matsushiro	68.75	320	eP	P	07 37 12.0	-0.4
MAT				eS	S	07 46 14.0	+0.9
MAT				pmax	pmax		
	comp=Z,78nm,1.5s,mb5.4						
MAT				MLR	MLR		
	comp=Z,7µm,22.0s,MS5.8						
MAT	Matsushiro	68.75	320	eP	P	07 37 12.0	-0.4
	comp=Z,78nm,1.5s,mb5.4						
MAT				eS	S	07 46 14.0	+0.9
MAT				LR	LR		
	comp=Z,7µm,22.0s,MS5.8						
UNV	Unalaska Valle	69.12	4	eP	P	07 37 12.9	-1.8
	comp=Z,233nm,0.9s,mb6.1						
UNV				LR	LR		
	comp=Z,12µm,22.0s,MS6.1						
AKUT	Akutan	69.46	5	eP	P	07 37 17.4	+0.6
YUK	Yuzh-Kuril'sk	69.68	330	eP	P	07 37 19.0	+0.8
YUK				S	S	07 46 15.0	-9.1
YUK				pmax	pmax		
	comp=Z,2µm,5.0s						
YUK				smax			
	comp=N,2µm,4.0s						
YUK				smax			
	comp=E,2µm,4.0s						
JOW	Kunigami	70.28	306	LR	LR	08 02 16.3	
	comp=E,4µm,21.4s,MS5.7,baz=212,slow=31						
CASY	Casey	70.44	205	eP	P	07 37 21.8	-1.0
	comp=E,86nm,1.4s,mb5.5						
CASY				LR	LR		
	comp=Z,7µm,21.0s,MS5.9						
SNCC	San Nicolas Is	70.62	46	PFAKE		07 37 40.0	+16
SNCC				LR	LR		
	comp=Z,10µm,20.0s,MS6.0						
SNCC	San Nicolas Is	70.62	46	⇓P	P	07 37 23.4	-0.5
	baz=71						
SNCC				⇓S	S	07 46 37.5	+2.3
	baz=71						
SKR	Severo-Kuril's	70.86	340	eP	P	07 37 20.5	-4.9
FARB	Farallon Islan	70.93	40	⇑P	P	07 37 25.4	-0.4
	baz=71						
FARB				⇑S	S	07 46 40.2	+1.4
	baz=71						
TGY	Tagaytay City	71.03	291	LR	LR	08 03 27.0	
	comp=Z,18nm,19.7s,baz=113,slow=32						
V03C	Hunter Liggett	71.06	43	⇑P	P	07 37 26.7	+0.1
	baz=71,SNR=5.7						
V03C				⇑S	S	07 46 43.1	+2.9
	baz=71						
HAST	UC Hastings Re	71.07	42	⇑P	P	07 37 26.4	-0.2
	baz=71,SNR=18						
HAST				⇓S	S	07 46 43.7	+3.4
	baz=71						
V04C	Ramage Ranch,	71.07	43	⇑P	P	07 37 26.4	-0.3
	baz=71,SNR=5.4						
V04C				⇑S	S	07 46 41.6	+1.2
	baz=71						
BNLO	Ben Lomond (Sa	71.11	41	⇑P	P	07 37 26.2	-0.7
	baz=71						
BNLO				⇑S	S	07 46 43.0	+2.2
	baz=71						
SBC	Santa Barbara	71.16	45	⇑P	P	07 37 27.5	+0.2
	baz=71						
SBC				⇑S	S	07 46 44.7	+3.3
	baz=71						
SDPT	Sand Point	71.23	8	eP	P	07 37 27.1	-0.5
	comp=Z,218nm,1.1s,mb6.0						
SDPT				LR	LR		
	comp=Z,10µm,23.0s,MS6.0						
SAC	San Andreas	71.23	41	P	P	07 37 29.7	+2.0
SAC	San Andreas	71.23	41	eP	P	07 37 28.8	+1.2
JRSC	Jasper Ridge	71.23	41	⇑P	P	07 37 27.9	+0.2
	baz=71,SNR=6.1						
JRSC				⇑S	S	07 46 43.1	+0.8
	baz=71						
MCCM	Marconi Confer	71.28	40	⇓P	P	07 37 28.3	+0.3
	baz=72						
MCCM				⇓S	S	07 46 44.3	+1.5
	baz=72						
SAO	San Andreas Ge	71.36	42	eP	P	07 37 29.6	+1.2
SAO				e*PP	pP	07 37 38.7	-1.1
SAO				pmax	pmax		
	comp=Z,68nm,0.9s,mb5.6						
SAO				MLR	MLR		
	comp=Z,8µm,20.0s,MS6.0						
SAO	San Andreas Ge	71.36	42	eP	P	07 37 29.6	+1.2
	comp=Z,68nm,0.9s,mb5.6						
SAO				epP	pP	07 37 38.7	-1.1
SAO				LR	LR		
	comp=Z,8µm,20.0s,MS6.0						
LRV	Little Rabbit	71.44	42	eP	P	07 37 29.6	+0.7
PKD	Parkfield	71.47	43	⇑P	P	07 37 28.6	-0.5
	baz=72,SNR=10						
PKD				⇑S	S	07 46 46.6	+1.6
	baz=72						
PTRM	Twissleman Ran	71.52	44	eP	P	07 37 30.9	+1.5
U04C	Hernandez Rese	71.55	43	⇓P	P	07 37 30.6	+1.0
	baz=72,SNR=22						
U04C				⇑S	S	07 46 48.1	+2.2
	baz=72						
PACP	Pacheco Peak	71.61	42	⇑P	P	07 37 30.0	+0.1
	baz=72,SNR=34						
PACP				⇑S	S	07 46 48.2	+1.6
	baz=72						
CVS	Carmenet Viney	71.67	40	⇓P	P	07 37 30.4	+0.1
	baz=72,SNR=7.1						
CVS				⇑S	S	07 46 49.8	+2.5
	baz=72						
WENL	Wente Brothers	71.67	41	⇓P	P	07 37 30.2	-0.1
	baz=72,SNR=5.7						
WENL				⇓S	S	07 46 50.3	+3.0
	baz=72						
HOPS	Hopland	71.69	39	eP	P	07 37 31.7	+1.3
	comp=Z,209nm,1.2s,mb5.9						
HOPS				LR	LR		
	comp=Z,9µm,21.0s,MS6.0						
HOPS	Hopland	71.69	39	⇑P	P	07 37 30.5	+0.1
	baz=72,SNR=19						
HOPS				⇑S	S	07 46 51.0	+3.4
	baz=72						
FMP	Fort Macarthur	71.73	46	⇓P	P	07 37 30.0	-0.6
	baz=72						
FMP				⇑S	S	07 46 50.6	+2.6
	baz=72						
BDM	Black Diamond	71.80	41	⇑P	P	07 37 31.5	+0.4
	baz=72,SNR=5.7						
BDM				⇓S	S	07 46 50.1	+1.3
	baz=72						
P01C	Double 8 Ranch	71.82	39	⇓P	P	07 37 30.6	-0.6
	baz=72,SNR=17						
P01C				⇓S	S	07 46 50.8	+1.7
	baz=72						

V05C Boulder Hill, 71.85 44 ⇓P P 07 37 31.3 -0.1
baz=72
V05C ⇑S S 07 46 52.1 +2.7
baz=72
S04C Ingram Canyon, 71.87 41 ⇑P P 07 37 31.4 -0.1
baz=72,SNR=30
S04C ⇑S S 07 46 49.6 -0.1
baz=72
OSI Osito Adit 71.93 45 ⇑P P 07 37 31.5 -0.4
baz=72
OSI ⇑S S 07 46 50.8 +0.5
baz=72
T05C Eagle Field, D 71.94 42 ⇓P P 07 37 31.9 0.0
baz=72,SNR=7.8
T05C ⇑S S 07 46 52.9 +2.5
baz=72
KIPM Iron Peak 71.95 38 eP P 07 37 33.6 +1.6
O01C Eel River Cons 71.95 38 ⇓P P 07 37 32.1 0.0
baz=72,SNR=8.7
O01C ⇑S S 07 46 51.3 +0.8
baz=72
U05C Westside ANR, 71.97 43 ⇓P P 07 37 31.6 -0.5
baz=72
U05C ⇑S S 07 46 53.6 +2.8
baz=72
MNRC McLaughlin Nat 72.00 40 ⇓P P 07 37 32.0 -0.3
baz=72,SNR=44
MNRC ⇑S S 07 46 52.8 +1.7
baz=72
PET Petropavlovsk 72.12 343 *d iP* **P 07 37 31.2 -1.8**
PET *e* pP 07 37 42.7 -1.7
PET pmax pmax
comp=N,200nm,5.7s
PET pmax pmax
comp=Z,600nm,5.6s
PET pmax pmax
comp=Z,55nm,1.4s,mb5.3
PET pmax pmax
comp=N,200nm,15.0s
PET pmax pmax
comp=Z,400nm,13.2s
PET pmax pmax
comp=E,100nm,11.9s
PET pmax pmax
comp=Z,49nm,1.0s,mb5.4
PET pmax pmax
comp=N,500nm,8.3s
PET pmax pmax
comp=E,600nm,9.0s
PET pmax pmax
comp=Z,2µm,6.6s
PET pmax pmax
comp=E,500nm,11.0s
PET Petropavlovsk 72.12 343 *eP* **P 07 37 33.1 +0.1**
comp=E,98nm,1.4s,mb5.5
PET *ep*P pP 07 37 42.9 -1.5
PET LR LR
comp=Z,3µm,19.0s,MS5.6
Q03C Winters 72.12 40 ⇑P P 07 37 33.0 0.0
baz=72
Q03C ⇑S S 07 46 55.5 +3.0
baz=72
109C Camp Elliot, M 72.12 47 ⇑P P 07 37 31.9 -1.1
baz=72,SNR=6.0
109C ⇑S S 07 46 53.9 +1.4
baz=72
SPIA Saint Paul Isl 72.24 2 eP P 07 37 33.7 0.0
JCC Jacoby Creek 72.26 37 ⇑P P 07 37 32.9 -0.9
baz=72,SNR=10
JCC ⇑S S 07 46 54.9 +0.8
baz=72
GASB Alder Springs 72.31 39 ⇓P P 07 37 33.8 -0.4
baz=72,SNR=37
GASB ⇑S S 07 46 56.7 +2.0
baz=72
S05C Merced 72.42 42 ⇑P P 07 37 34.5 -0.4
baz=73,SNR=17
S05C ⇓S S 07 46 56.8 +0.8
baz=73
CHGN Chignik 72.44 9 eP P 07 37 34.6 -0.3
KHMM Horse Mountain 72.47 37 eP P 07 37 36.5 +1.4
R04C Big Horse Ranc 72.57 41 ⇓P P 07 37 35.1 -0.6
baz=73,SNR=7.3
R04C ⇓S S 07 46 58.2 +0.5
baz=73
O02C Red Bluff 72.59 38 ⇓P P 07 37 36.3 +0.4
baz=73,SNR=53
O02C ⇓S S 07 47 00.1 +2.2
baz=73
SUTB Sutter Butte 72.62 40 P P 07 37 35.5 -0.5
baz=73,SNR=34
SUTB ⇓S S 07 46 58.0 -0.2
baz=73
T06C Millerton Lake 72.63 43 ⇑P P 07 37 35.7 -0.4
baz=73,SNR=12
T06C ⇓S S 07 46 58.5 +0.2
baz=73
Q04C Lincoln 72.64 40 ⇓P P 07 37 36.1 0.0
baz=73,SNR=10
Q04C ⇑S S 07 46 59.1 +0.6
baz=73
ISA Isabella 72.69 44 eP P 07 37 36.9 +0.5
ISA pmax pmax
comp=Z,87nm,1.8s,mb5.4
ISA MLR MLR
comp=Z,3µm,21.0s,MS5.5
ISA Isabella 72.69 44 eP P 07 37 36.9 +0.5
comp=Z,87nm,1.8s,mb5.4
ISA LR LR
comp=Z,3µm,21.0s,MS5.5
ISA Isabella 72.69 44 ⇓P P 07 37 36.7 +0.3
baz=73,SNR=26
ISA ⇓S S 07 46 59.5 +0.6
baz=73
N02C Big Bar 72.69 38 ⇓P P 07 37 36.3 -0.1
baz=73,SNR=25
N02C ⇑S S 07 47 00.1 +1.2
baz=73
KKM Kota Kinabalu 72.69 281 eP P 07 37 39.0 +2.6
KRMB Red Mountain 72.78 37 eP P 07 37 37.4 +0.5
CMB Columbia Colle 72.79 41 P P 07 37 36.9 -0.1
CMB pmax pmax
comp=Z,83nm,0.9s,mb5.7
CMB Columbia Colle 72.79 41 eP P 07 37 36.6 -0.4
comp=Z,83nm,0.9s,mb5.7
CMB LR LR
comp=Z,8µm,20.0s,MS6.0
CMB Columbia Colle 72.79 41 ⇓P P 07 37 36.3 -0.7
baz=73,SNR=64
CMB ⇓S S 07 47 00.4 +0.3
baz=73
M01C Crescent City 72.86 36 ⇓P P 07 37 37.7 +0.3
baz=73,SNR=9.6
M01C ⇓S S 07 47 03.4 +2.4
baz=73
OHCM Honcut 72.87 40 eP P 07 37 37.6 +0.1
HELL Mitchell Peak, 72.89 43 ⇓P P 07 37 37.0 -0.6
baz=73,SNR=35
HELL ⇓S S 07 47 02.2 +0.9
baz=73
O03C Acorn Hollow, 72.94 39 ⇑P P 07 37 37.8 -0.1
baz=73,SNR=13
O03C ⇓S S 07 47 03.6 +1.7
baz=73
PFO Pinyon Flat Ob 72.97 47 P P 07 37 39.6 +1.6
comp=Z,155nm,1.2s,mb5.8,SNR=7.7
PFO Pinyon Flat Ob 72.97 47 eP P 07 37 38.5 +0.5
PFO pmax pmax
comp=Z,53nm,1.3s,mb5.3
PFO MLR MLR
comp=Z,12µm,20.0s,MS6.2
PFO Pinyon Flat Ob 72.97 47 eP P 07 37 38.5 +0.4
comp=Z,53nm,1.3s,mb5.3
PFO LR LR
comp=Z,12µm,20.0s,MS6.2
PFO Pinyon Flat Ob 72.97 47 ⇑P P 07 37 38.1 +0.1
baz=73,SNR=14
PFO ⇑S S 07 47 04.6 +2.4
baz=73
LAVA Lava Cap Winer 72.99 41 ⇑P P 07 37 37.6 -0.6
baz=73,SNR=25
LAVA ⇑S S 07 47 03.8 +1.4
baz=73
WDC Whiskeytown Da 72.99 38 P P 07 37 38.3 +0.1
WDC pmax pmax
comp=Z,160nm,1.4s,mb5.8
WDC Whiskeytown Da 72.99 38 eP P 07 37 38.1 -0.1
comp=Z,156nm,1.4s,mb5.8
WDC LR LR
comp=Z,9µm,20.0s,MS6.1
WDC Whiskeytown Da 72.99 38 ⇑P P 07 37 38.0 -0.2
baz=73,SNR=46
WDC ⇓S S 07 47 03.7 +1.2
baz=73
ORV Oroville 73.00 40 ⇓P P 07 37 37.5 -0.7
baz=73,SNR=45
ORV ⇓S S 07 47 03.9 +1.4
baz=73
KBO Bosley Butte 73.04 36 eP P 07 37 39.0 +0.5
S06C San Francisco 73.04 42 ⇑P P 07 37 38.4 -0.2
baz=73,SNR=7.8
S06C ⇓S S 07 47 03.9 +0.9
baz=73
KCC Kaiser Creek 73.07 43 ⇓P P 07 37 38.6 -0.1
baz=73,SNR=7.9
KCC ⇓S S 07 47 05.2 +2.0
baz=73
K01A Sixes 73.29 36 ⇑P P 07 37 40.4 +0.5
baz=74,SNR=12
K01A ⇓S S 07 47 09.1 +3.3
baz=74
YSS Yuzh-Sakhalins 73.30 330 ⇓*eP* **P 07 37 39.0 -1.0**
YSS *e* pP 07 37 51.5 0.0
YSS *e**SP sP 07 37 54.0 -1.8
YSS */* S S 07 47 08.0 +2.1
YSS *e*PS 07 47 36.0
YSS *e*PPS 07 47 54.0
YSS *e*SS SS 07 51 48.0 -0.2
YSS pmax pmax
comp=Z,150nm,1.0s,mb5.9
YSS pmax pmax
comp=N,30nm,0.9s
YSS pmax pmax
comp=N,50nm,1.0s
YSS smax
comp=E,800nm,12.0s
YSS smax
comp=E,2µm,14.0s
YSS Yuzh-Sakhalins 73.30 330 *eP* **P 07 37 41.0 +1.0**
comp=E,139nm,1.0s,mb5.8
YSS LR LR
comp=Z,5µm,22.0s,MS5.8
M02C Callahan 73.31 37 ⇑P P 07 37 39.9 -0.2
baz=74,SNR=58
M02C ⇑S S 07 47 08.5 +2.4
baz=74
L02A Cave Junction 73.36 36 ⇓P P 07 37 40.4 0.0
baz=74,SNR=21
L02A ⇑S S 07 47 09.8 +3.2
baz=74
R05C Kirkwood Meado 73.38 41 ⇑P P 07 37 40.3 -0.1
baz=74,SNR=55
R05C ⇑S S 07 47 08.1 +1.3
baz=74
CWC Cottonwood Cre 73.39 44 ⇑P P 07 37 40.4 -0.1
baz=74,SNR=14
CWC ⇓S S 07 47 07.8 +0.9
baz=74
KEBM Edson Butte 73.40 36 eP P 07 37 41.7 +1.0
MLAC Mammoth Lakes 73.56 43 ⇓P P 07 37 41.7 +0.1
baz=74,SNR=11
MLAC ⇓S S 07 47 11.6 +2.8
baz=74
MTUM Tungsten Hills 73.58 43 eP P 07 37 42.0 +0.4
O05C Quincy 73.60 40 ⇑P P 07 37 41.5 -0.2
baz=74,SNR=15
O05C ⇑S S 07 47 09.9 +0.6
baz=74
YBH Yreka Blue Hor 73.61 37 eP P 07 37 42.0 +0.1
comp=Z,135nm,0.9s,mb5.9
YBH LR LR
comp=Z,9µm,22.0s,MS6.0
YBH Yreka Blue Hor 73.61 37 P P 07 37 42.0 +0.2
baz=74,SNR=116
YBH ⇑S S 07 47 11.5 +2.1
baz=74
DAC Darwin (Calif) 73.62 44 eP P 07 37 42.5 +0.6
DAC pmax pmax
comp=Z,68nm,1.4s,mb5.4
DAC MLR MLR
comp=Z,15µm,21.0s,MS6.2
DAC Darwin (Calif) 73.62 44 eP P 07 37 42.5 +0.6
comp=Z,68nm,1.4s,mb5.4
DAC LR LR
comp=Z,15µm,21.0s,MS6.2
GSC Goldstone 73.63 45 ⇑P P 07 37 41.9 0.0
baz=74,SNR=31
GSC ⇓S S 07 47 11.2 +1.6
baz=74
TIN Tinemaha 73.63 43 ⇓P P 07 37 41.5 -0.4
baz=74,SNR=6.1
TIN ⇑S S 07 47 10.8 +1.1
baz=74
R06C Coleville 73.67 41 ⇑P P 07 37 42.6 +0.4
baz=74,SNR=35
R06C ⇓S S 07 47 12.5 +2.4
baz=74
R07C Lee Vining 73.68 42 ⇓P P 07 37 42.0 -0.3
baz=74,SNR=32
R07C ⇑S S 07 47 13.1 +2.8
baz=74
O04C Chester 73.71 39 ⇓P P 07 37 42.1 -0.3
baz=74,SNR=67
O04C ⇓S S 07 47 10.8 +0.2
baz=74
HATC Hat Creek Radi 73.78 39 ⇑P P 07 37 42.9 0.0
baz=74,SNR=26
HATC ⇑S S 07 47 13.7 +2.3
baz=74
K02A Glendale 73.81 36 ⇓P P 07 37 42.7 -0.3
baz=74,SNR=34
K02A ⇓S S 07 47 14.9 +3.2
baz=74
GLA Glamis 73.84 48 ⇓P P 07 37 43.0 -0.2
baz=74,SNR=32
GLA ⇓S S 07 47 13.4 +1.3
baz=74
LBCM Butte Creek Ri 73.86 39 P P 07 37 43.0 -0.4
WCN Washoe City 73.93 41 P P 07 37 43.6 -0.1
baz=74,SNR=94
WCN ⇓S S 07 47 15.8 +2.7
baz=74
LTIM Timbered Crate 73.99 38 P P 07 37 44.1 +0.1
HUMO Hull Mountain 74.02 36 eP P 07 37 44.4 +0.2
comp=Z,116nm,1.2s,mb5.7
HUMO LR LR
comp=Z,8µm,22.0s,MS6.0
HUMO Hull Mountain 74.02 36 ⇑P P 07 37 44.2 0.0
baz=74,SNR=60
HUMO ⇑S S 07 47 16.1 +2.1
baz=74
P06A Stead Airport, 74.06 40 ⇓P P 07 37 44.2 -0.2
baz=74,SNR=12
P06A ⇓S S 07 47 16.8 +2.3
baz=74
ELFS Eagle Lake Fie 74.11 39 ⇑P P 07 37 44.5 -0.2
baz=74,SNR=20
ELFS ⇓S S 07 47 17.8 +2.8
baz=74
J02A Umpqua 74.15 36 ⇑P P 07 37 44.7 -0.3
baz=74,SNR=32
J02A ⇓S S 07 47 18.1 +2.6
baz=74
M04C Macdoel 74.15 38 ⇓P P 07 37 44.7 -0.3
baz=74,SNR=85
M04C ⇑S S 07 47 17.1 +1.6
baz=74
BUOR Burton Butte 74.22 37 P P 07 37 45.5 +0.1
M05C Lookout 74.30 38 ⇓P P 07 37 45.6 -0.3
baz=74,SNR=51
M05C ⇑S S 07 47 19.2 +2.0
baz=74
TUQ Turquoise Mtn. 74.31 46 ⇓P P 07 37 45.8 -0.1
baz=74,SNR=50
TUQ ⇑S S 07 47 19.1 +1.8
baz=74
Q07A Schurz 74.32 41 ⇓P P 07 37 45.9 -0.1
baz=74
Q07A ⇓S S 07 47 19.3 +1.8
baz=74
NVAR Mina Array Bea 74.36 42 P P 07 37 46.0 -0.1
comp=Z,69nm,0.8s,mb5.6,baz=219,slow=8.1,SNR=154
L04A Klamath Falls 74.36 37 ⇓P P 07 37 45.8 -0.4
baz=74,SNR=88
L04A ⇓S S 07 47 19.6 +1.7
baz=74
O06A Flanigan 74.39 40 ⇓P P 07 37 46.0 -0.5
baz=75,SNR=68
O06A ⇓S S 07 47 19.9 +1.7
baz=75
PAHR Pah Rah Range 74.40 41 eP P 07 37 46.6 +0.1
comp=Z,118nm,1.0s,mb5.8
RNO Roman Nose 74.41 35 P P 07 37 47.8 +1.3
I02A Mapleton 74.41 35 ⇓P P 07 37 46.4 -0.2
baz=75,SNR=36
I02A ⇓S S 07 47 21.1 +2.7
baz=75
Y12C Blythe 74.42 48 ⇑P P 07 37 46.5 -0.1
baz=75,SNR=31
Y12C ⇑S S 07 47 20.4 +1.9
baz=75
VSP Spence Mountai 74.43 37 P P 07 37 48.4 +1.8
NACB Ninganchiao 74.44 301 eP P 07 37 49.0 +2.3
MNV Mina 74.45 42 P P 07 37 46.5 -0.3
MNV pmax pmax
comp=Z,140nm,1.0s,mb5.8
MNV Mina 74.45 42 eP P 07 37 46.4 -0.4
comp=Z,136nm,1.1s,mb5.8
MNV LR LR
comp=Z,10µm,20.0s,MS6.1
J03A Ideyld Park 74.49 36 ⇑P P 07 37 47.7 +0.7
baz=75,SNR=24
J03A ⇑S S 07 47 22.6 +3.2
baz=75
HOG Hogback Mounta 74.51 37 P P 07 37 48.1 +1.0
U10A Ash Meadows, A 74.55 45 ⇓P P 07 37 47.2 -0.1
baz=75
U10A ⇑S S 07 47 22.8 +2.7
baz=75
M06C Likely Place G 74.61 39 ⇓P P 07 37 47.4 -0.3
baz=75,SNR=82
M06C ⇓S S 07 47 22.7 +2.0
baz=75
P07A Fallon 74.61 41 ⇑P P 07 37 47.5 -0.2
baz=75
P07A ⇑S S 07 47 22.7 +2.0
baz=75
S09A Goldfield 74.67 43 ⇑P P 07 37 47.7 -0.3
baz=75,SNR=56
S09A ⇓S S 07 47 22.2 +0.9
baz=75
I03A Eugene 74.70 35 ⇑P P 07 37 47.7 -0.5
baz=75,SNR=25
I03A ⇑S S 07 47 23.0 +1.4
baz=75
K04A Chilquin 74.73 37 ⇓P P 07 37 48.4 0.0
baz=75,SNR=22
K04A ⇑S S 07 47 23.9 +1.9
baz=75
H02A Toledo 74.76 34 ⇑P P 07 37 48.4 -0.2
baz=75,SNR=9.0
H02A ⇓S S 07 47 24.3 +2.1
baz=75
QSPA South Pole Qui 74.76 180 ⇑*iP* **P 07 37 48.8 +0.3**
comp=Z,64nm,0.9s,mb5.5
QSPA LR LR
comp=Z,3µm,20.0s,MS5.6
YHNB Yeheng 74.83 301 *eP* **P 07 37 50.8 +1.8**
YHNB *ep*P pP 07 38 01.3 +0.9
Q08A Gabbs 74.84 42 ⇑P P 07 37 48.6 -0.4
baz=75,SNR=91
Q08A ⇓S S 07 47 25.7 +2.5
baz=75
KDAK Kodiak Island 74.84 11 P P 07 37 49.0 0.0
comp=Z,515nm,1.0s,mb6.4,SNR=15
V11A Goodsprings 74.86 46 ⇑P P 07 37 49.0 -0.1
baz=75,SNR=11
V11A ⇑S S 07 47 26.0 +2.5
baz=75
TPH Tonopah 74.86 43 eP P 07 37 49.2 +0.1
comp=Z,159nm,1.0s,mb5.9
TPH LR LR
comp=Z,10µm,20.0s,MS6.1
TATO Taipei 74.87 302 PFAKE 07 38 00.0 +11
TATO LR LR
comp=Z,2µm,22.0s,MS5.5
TPNV Topopah Spring 74.89 44 eP P 07 37 49.2 -0.1
comp=Z,49nm,0.8s,mb5.5
TPNV LR LR
comp=Z,16µm,21.0s,MS6.3
L05A Lakeview 74.91 38 ⇓P P 07 37 49.7 +0.3
baz=75,SNR=130
L05A ⇓S S 07 47 26.6 +2.7
baz=75
W12A Cal Nev Ari 74.97 46 ⇑P P 07 37 49.8 +0.1
baz=75,SNR=15
W12A ⇑S S 07 47 27.3 +2.7
baz=75
O07A Toulon 74.98 40 ⇑P P 07 37 49.2 -0.6
baz=75,SNR=142
O07A ⇑S S 07 47 26.0 +1.2
baz=75
R09A Tonopah 75.05 43 ⇓P P 07 37 49.8 -0.4
baz=75,SNR=67
R09A ⇓S S 07 47 27.4 +1.8
baz=75
COR Corvallis 75.08 35 eP P 07 37 51.8 +1.4
comp=Z,84nm,1.2s,mb5.5
COR LR LR
comp=Z,7µm,22.0s,MS5.9
H03A Soap Creek Ran 75.14 35 ⇑P P 07 37 50.0 -0.7
baz=75,SNR=34
H03A ⇓S S 07 47 28.3 +1.7
baz=75
U11A Corn Creek 75.20 45 ⇓P P 07 37 50.8 -0.2
baz=75,SNR=11
U11A ⇓S S 07 47 29.9 +2.7
baz=75
V12A Nelson 75.20 46 ⇓P P 07 37 50.9 -0.2
baz=75,SNR=31
V12A ⇑S S 07 47 29.7 +2.4
baz=75
P08A Dixie Valley 75.22 41 ⇑P P 07 37 51.4 +0.2
baz=75,SNR=40
P08A ⇓S S 07 47 30.1 +2.7
baz=75
Q09A Carvers 75.31 42 ⇑P P 07 37 51.6 -0.1
baz=76,SNR=18
Q09A ⇑S S 07 47 31.6 +3.1
baz=76
Z14A Wintersburg 75.36 49 ⇓P P 07 37 51.9 -0.1
baz=76,SNR=25
Z14A ⇓S S 07 47 31.0 +2.0
baz=76
O08A Rochester Mine 75.51 41 ⇑P P 07 37 52.9 0.0
baz=76
O08A ⇓S S 07 47 32.0 +1.4
baz=76
M07A Soldier Meadow 75.51 39 P P 07 37 52.8 -0.1
baz=76,SNR=123
M07A ⇓S S 07 47 32.3 +1.6
baz=76
115A Sonoran Desert 75.56 50 ⇓P P 07 37 52.9 -0.2
baz=76,SNR=21
115A ⇑S S 07 47 34.1 +2.9
baz=76
R10A Warm Springs 75.58 43 ⇑P P 07 37 53.4 +0.1
baz=76,SNR=85
R10A ⇓S S 07 47 33.9 +2.4
baz=76
Y14A Wickenburg 75.60 48 ⇓P P 07 37 53.4 0.0
baz=76
Y14A ⇑S S 07 47 34.1 +2.5
baz=76
K06A Valley Falls 75.70 38 ⇓P P 07 37 53.9 0.0
baz=76,SNR=61
K06A ⇑S S 07 47 34.2 +1.4
baz=76
P09A Austin 75.74 42 ⇓P P 07 37 54.1 -0.1
baz=76,SNR=25
P09A ⇑S S 07 47 35.0 +1.9
baz=76
H04A Detroit Lake 75.76 35 ⇑P P 07 37 53.5 -0.7
baz=76,SNR=70
H04A ⇓S S 07 47 34.0 +0.6
baz=76
L07A Adell 75.78 39 ⇓P P 07 37 55.0 +0.6
baz=76,SNR=143
L07A ⇑S S 07 47 35.3 +1.7
baz=76
U12A Valley of Fire 75.79 46 ⇓P P 07 37 54.4 0.0
baz=76,SNR=51
U12A ⇓S S 07 47 36.2 +2.5
baz=76

BKCOR **Black Crater** 75.79 36 P P 07 37 55.4 +1.0
N08A GE Springer Mi 75.80 40 P P 07 37 54.3 -0.2
baz=76,SNR=102
N08A ⇑S S 07 47 34.7 +0.8
baz=76
F03A Seaside 75.81 33 ⇓P P 07 37 54.1 -0.5
baz=76,SNR=15
F03A ⇑S S 07 47 36.0 +2.1
baz=76
116A Eloy 75.88 50 ⇓P P 07 37 55.3 +0.3
baz=76,SNR=8.1
116A ⇓S S 07 47 37.9 +3.1
baz=76
G04A Mulino 75.92 35 ⇑P P 07 37 54.8 -0.4
baz=76,SNR=17
G04A ⇓S S 07 47 36.4 +1.2
baz=76
X14A Yava 75.95 48 ⇓P P 07 37 55.5 +0.1
baz=76,SNR=52
X14A ⇑S S 07 47 38.3 +2.8
baz=76
I05A Bend 75.95 36 ⇓P P 07 37 55.3 -0.1
baz=76,SNR=43
I05A ⇓S S 07 47 37.3 +1.8
baz=76
KS15 Wonju Array Si 75.98 316 *e*P P 07 37 57.7 +2.2
M08A Happy Creek Ra 76.03 39 ⇓P P 07 37 55.8 -0.1
baz=76,SNR=110
M08A ⇑S S 07 47 38.0 +1.5
baz=76
J06A Christmas Vall 76.03 37 ⇑P P 07 37 55.1 -0.8
baz=76,SNR=182
J06A ⇑S S 07 47 37.8 +1.3
baz=76
O09A Fish Creek Ran 76.05 41 P P 07 37 56.0 +0.1
baz=76,SNR=91
O09A ⇑S S 07 47 36.8 +0.2
baz=76
BMN Battle Mountai 76.18 41 P P 07 37 56.7 0.0
BMN pmax pmax
comp=Z,100nm,1.0s,mb5.7
BMN Battle Mountai 76.18 41 *e*P P 07 37 56.6 0.0
comp=Z,101nm,0.9s,mb5.8
BMN LR LR
comp=Z,7µm,20.0s,MS6.0
W14A Seligman 76.18 47 P P 07 37 57.5 +0.8
baz=76,SNR=101
W14A ⇑S S 07 47 42.6 +4.6
baz=76
E03A Lebam 76.20 33 ⇑P P 07 37 56.1 -0.7
baz=76,SNR=20
E03A ⇓S S 07 47 39.0 +0.7
baz=76
P10A Eureka 76.21 42 ⇓P P 07 37 56.8 0.0
baz=76
P10A ⇓S S 07 47 39.4 +1.1
baz=76
N09A Rock Creek Ran 76.22 40 P P 07 37 56.6 -0.3
baz=76,SNR=69
N09A ⇓S S 07 47 39.8 +1.2
baz=76
H05A Madras 76.27 36 ⇑P P 07 37 56.8 -0.4
baz=76,SNR=50
H05A ⇓S S 07 47 39.4 +0.3
baz=76
Q11A Duckwater 76.31 43 ⇑P P 07 37 57.2 -0.2
baz=76,SNR=97
Q11A ⇑S S 07 47 41.0 +1.5
baz=76
F04A Amboy 76.42 34 ⇑P P 07 37 57.2 -0.8
baz=77,SNR=15
F04A ⇑S S 07 47 40.7 +0.1
baz=77
X15A Humboldt 76.42 48 ⇑P P 07 37 58.7 +0.6
baz=77,SNR=123
X15A ⇑S S 07 47 43.0 +2.3
baz=77
WVOR Wild Horse Val 76.45 39 *e*P P 07 37 58.2 0.0
WVOR pmax pmax
comp=Z,130nm,1.0s,mb5.8
WVOR Wild Horse Val 76.45 39 *e*P P 07 37 57.9 -0.3
comp=Z,132nm,1.1s,mb5.8
WVOR LR LR
comp=Z,13µm,20.0s,MS6.2
D03A Wishkah Elem. 76.46 32 ⇑P P 07 37 58.3 0.0
baz=77,SNR=11
D03A ⇓S S 07 47 44.2 +3.0
baz=77
O10A Cortez Mining, 76.56 41 ⇑P P 07 37 58.4 -0.4
baz=77
O10A ⇑S S 07 47 42.6 +0.5
baz=77
G05A Wamic 76.59 35 ⇓P P 07 37 58.6 -0.4
baz=77,SNR=24
G05A ⇑S S 07 47 42.9 +0.4
baz=77
M09A Marrel Ranch, 76.59 40 ⇑P P 07 37 58.5 -0.5
baz=77,SNR=65
M09A ⇑S S 07 47 44.3 +1.8
baz=77
J07A Hines 76.60 37 ⇓P P 07 37 58.3 -0.8
baz=77,SNR=72
J07A ⇑S S 07 47 42.7 0.0
baz=77
C03A Quillayute Air 76.61 31 ⇑P P 07 37 59.4 +0.4
baz=77
C03A ⇑S S 07 47 44.0 +1.3
baz=77
VLA Vladivostok 76.61 322 ⇓*e*P P 07 37 57.5 -1.6
P11A Circle Ranch, 76.63 42 ⇑P P 07 37 59.0 -0.2
baz=77,SNR=18
P11A ⇓S S 07 47 43.5 +0.5
baz=77
E04A Onalaska 76.68 33 ⇑P P 07 37 59.3 -0.2
baz=77
E04A ⇑S S 07 47 44.9 +1.4
baz=77
W15A Williams 76.74 48 ⇑P P 07 38 00.3 +0.4
baz=77,SNR=14
W15A ⇓S S 07 47 47.3 +3.0
baz=77
N10A Dunphy 76.79 41 ⇑P P 07 37 59.7 -0.4
baz=77
N10A ⇓S S 07 47 45.7 +1.0
baz=77
L09A Wilkinson Ranc 76.80 39 ⇓P P 07 37 59.8 -0.4
baz=77,SNR=56
L09A ⇑S S 07 47 45.2 +0.4
baz=77
INCN Inchon 76.85 315 *e*P P 07 38 03.2 +2.7
comp=Z,45nm,0.9s,mb5.4
INCN LR LR
comp=Z,2µm,19.0s,MS5.4
F05A White Salmon 76.91 34 ⇑P P 07 38 00.3 -0.5
baz=77,SNR=18
F05A ⇑S S 07 47 45.9 -0.1
baz=77
Q12A Willow Creek R 76.96 43 ⇓P P 07 38 01.0 -0.1
baz=77,SNR=44
Q12A ⇓S S 07 47 47.1 +0.5
baz=77
D04A Dobbs Creek Ra 76.97 33 ⇑P P 07 38 00.5 -0.6
baz=77
D04A ⇑S S 07 47 47.8 +1.1
baz=77
O11A Cowboy Ranch, 77.01 42 ⇑P P 07 38 01.1 -0.2
baz=77,SNR=61
O11A ⇓S S 07 47 47.4 +0.3
baz=77
KSM Kuching 77.01 275 *e*P P 07 38 03.9 +2.5
J08A Circle Bar Ran 77.08 38 ⇑P P 07 38 01.3 -0.5
baz=77,SNR=108
J08A ⇓S S 07 47 48.3 +0.4
baz=77
P12A McGill 77.14 43 ⇓P P 07 38 01.7 -0.4
baz=77
P12A ⇓S S 07 47 48.8 +0.3
baz=77
CCUT Cedar City 77.17 45 *e*P P 07 38 02.5 +0.2
E05A Randle 77.17 34 ⇑P P 07 38 01.6 -0.6
baz=77,SNR=51
E05A ⇓S S 07 47 47.9 -1.0
baz=77
M10A I.L. Ranch, Tu 77.21 40 ⇑P P 07 38 02.2 -0.3
baz=77,SNR=33
M10A ⇑S S 07 47 49.5 +0.2
baz=77
B04A Port Angeles 77.22 32 ⇓P P 07 38 02.3 -0.2
baz=77
B04A ⇓S S 07 47 49.4 0.0
baz=77
ARUT Antelope Range 77.24 45 *e*P P 07 38 02.7 +0.1
C04A Brinnon 77.27 32 ⇑P P 07 38 01.7 -1.1
baz=78
C04A ⇓S S 07 47 50.2 +0.3
baz=78
N11A Elko Archery C 77.33 41 ⇓P P 07 38 02.2 -1.0
baz=78
N11A ⇑S S 07 47 50.2 -0.4
baz=78
D05A Enumclaw 77.44 33 ⇓P P 07 38 03.4 -0.4
baz=78,SNR=32
D05A ⇓S S 07 47 50.4 -1.4
baz=78
MIR Mirnyy 77.46 204 *d i*P P 07 38 04.0 +0.1
MIR pmax pmax
comp=Z,520nm,2.2s,mb6.1
SVW2 Sparrevohn 77.47 9 *e*P P 07 38 02.6 -1.4
WUAZ Wupatki 77.55 48 *e*P P 07 38 04.8 +0.4
comp=Z,202nm,1.5s,mb5.8
WUAZ LR LR
comp=Z,12µm,22.0s,MS6.2
ELK Elko 77.61 41 P P 07 38 04.7 0.0
ELK pmax pmax
comp=Z,77nm,1.0s
ELK Elko 77.61 41 *e*P P 07 38 04.1 -0.6
comp=Z,77nm,1.0s,mb5.6
ELK LR LR
comp=Z,7µm,22.0s,MS6.0
PGC Sidney 77.63 31 *e*P P 07 38 04.3 -0.5
comp=Z,104nm,1.1s,mb5.7
M11A Holland Ranch, 77.63 41 ⇑P P 07 38 04.5 -0.3
baz=78
M11A ⇓S S 07 47 53.8 -0.1
baz=78
SSE Sheshan 77.75 307 P P 07 38 08.2 +2.7
SSE AP pP 07 38 20.2 +3.1
SSE XP sP 07 38 24.7 +3.4
SSE PP PP 07 41 03.3 +2.1
SSE S S 07 47 58.0 +2.8
SSE SS SS 07 52 58.9 +3.2
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,143nm,8.3s
SSE LR LR
comp=N,2µm,21.0s,MS5.6
SSE LR LR
comp=E,3µm,21.0s,MS5.6
SSE LR LR
comp=Z,4µm,24.5s,MS5.6
N12A Clover Valley, 77.79 41 ⇑P P 07 38 05.3 -0.4
baz=78,SNR=74
N12A ⇑S S 07 47 55.0 -0.7
baz=78
SLKM Skilak Lake 77.83 12 *e*P P 07 38 05.2 -0.8
SFJM Santa Fe 77.86 65 *i*P P 07 38 08.0 +1.9
C05A Tolt Reservoir 77.92 33 ⇑P P 07 38 05.3 -1.2
baz=78,SNR=22
C05A ⇑S S 07 47 55.5 -1.5
baz=78
A04A Legoe Bay, Lum 78.05 32 ⇑P P 07 38 06.2 -1.0
baz=78
A04A ⇓S S 07 47 57.5 -0.9
baz=78
B05A Bryant 78.07 32 ⇓P P 07 38 06.5 -0.8
baz=78,SNR=13
B05A ⇓S S 07 47 58.1 -0.5
baz=78
HABR Khabarovsk 78.15 328 ⇑*i*P P 07 38 10.3 +2.6
HABR *e*P pP 07 38 20.6 +1.3
HABR *e*S S 07 48 02.8 +3.3
HABR pmax pmax
comp=Z,193nm,1.7s,mb5.8
HABR MLR MLR
comp=Z,1µm,16.8s,MS5.3
M12A Wells 78.18 41 ⇓P P 07 38 07.5 -0.4
baz=78,SNR=90
M12A ⇓S S 07 47 59.0 -0.7
baz=78
HAWA Hanford 78.28 35 *e*P P 07 38 08.0 -0.5
comp=Z,8.8nm,1.4s,mb4.5
HAWA LR LR
comp=Z,532nm,22.0s,MS4.8
CRAG Craig 78.30 22 *e*P P 07 38 09.4 +0.9
comp=Z,122nm,1.7s,mb5.6
CRAG LR LR
comp=Z,6µm,20.0s,MS5.9
N13A Wendover, West 78.33 42 ⇓P P 07 38 08.2 -0.5
baz=78,SNR=74
N13A ⇓S S 07 48 01.4 0.0
baz=78
MSU Marysvale 78.46 45 P P 07 38 10.4 +0.9
MSU Marysvale 78.46 45 *e*P P 07 38 09.9 +0.5
A05A Maple Falls 78.54 32 ⇓P P 07 38 08.0 -1.9
baz=79
A05A ⇑S S 07 48 01.9 -1.8
baz=79
M13A Montello 78.62 41 ⇓P P 07 38 09.5 -0.9
baz=79,SNR=14
M13A ⇓S S 07 48 05.4 +0.9
baz=79
BMO Blue Mountains 78.64 37 *e*P P 07 38 09.2 -1.2
comp=Z,110nm,1.5s,mb5.6
BMO LR LR
comp=Z,7µm,22.0s,MS5.9
SIT Sitka 78.77 20 P P 07 38 11.7 +0.5
SIT pmax pmax
comp=Z,63nm,1.2s,mb5.4
SIT Sitka 78.77 20 *e*P P 07 38 11.5 +0.3
comp=Z,63nm,1.2s,mb5.4
SIT LR LR
comp=Z,13µm,22.0s,MS6.2
EYAK Cordova Ski Ar 78.81 14 *e*P P 07 38 11.2 -0.2
MDJ Mudanjiang 78.83 322 P P 07 38 12.5 +1.0
MDJ AP pP 07 38 22.4 -0.6
MDJ XP sP 07 38 26.2 -1.1
MDJ PP PP 07 41 11.4 +1.2
MDJ S S 07 48 09.5 +2.7
MDJ SS SS 07 53 14.6 +2.7
MDJ AMB AMB
comp=Z,22nm,1.8s,mb4.8
MDJ AMB AMB
comp=Z,1µm,8.8s
MDJ LR LR
comp=N,3µm,30.9s,MS5.7
MDJ LR LR
comp=E,4µm,30.9s,MS5.7
MDJ LR LR
comp=Z,7µm,30.1s,MS5.8
MDJ Mudanjiang 78.83 322 PFAKE 07 38 20.0 +8.5
MDJ LR LR
comp=Z,8µm,22.0s,MS6.0
DUG Dugway 78.89 43 P P 07 38 11.7 -0.1
DUG pmax pmax
comp=Z,73nm,1.0s,mb5.6
DUG Dugway 78.89 43 *e*P P 07 38 11.3 -0.5
comp=Z,73nm,1.0s,mb5.6
DUG LR LR
comp=Z,8µm,21.0s,MS6.0
PMR Palmer 79.04 12 *e*P P 07 38 11.5 -1.1
PMR pmax pmax
comp=Z,82nm,1.2s,mb5.5
PMR MLR MLR
comp=Z,4µm,21.0s,MS5.8
PMR Palmer 79.04 12 *e*P P 07 38 11.5 -1.1
comp=Z,82nm,1.2s,mb5.5
PMR LR LR
comp=Z,4µm,21.0s,MS5.8
ZAIG Zacatecas 79.10 63 *i*P P 07 38 14.2 +1.3
BGU Big Grassy Mou 79.12 42 *e*P P 07 38 12.7 -0.4
TTA Tatalina 79.16 8 *e*P P 07 38 12.6 -0.7
NLU North Lily Min 79.26 43 *e*P P 07 38 15.0 +1.2
DIV Divide 79.32 13 *e*P P 07 38 12.4 -1.7
comp=Z,481nm,1.3s,mb6.3
DIV LR LR
comp=Z,26µm,22.0s,MS6.5
SML Sawmill 79.40 12 *e*P P 07 38 14.4 -0.2
SML Sawmill 79.40 12 P P 07 38 11.9 -2.7
TMUT Trail Mountain 79.51 44 *e*P P 07 38 16.0 +0.8
NOQ North Oquirrh 79.58 43 *e*P P 07 38 16.9 +1.3
comp=Z,119nm,1.1s,mb5.7
MPU Maple Canyon 79.58 44 *e*P P 07 38 16.4 +0.8
comp=Z,59nm,1.0s,mb5.5
MPU LR LR
comp=Z,13µm,21.0s,MS6.2
HLID Hailey 79.64 39 *e*P P 07 38 15.6 -0.3
comp=Z,96nm,1.0s,mb5.7
HLID LR LR
comp=Z,676nm,20.0s,MS5.0
SPUT South Promonto 79.70 42 *e*P P 07 38 17.2 +1.0
HVU Hansel Valley 79.73 42 P P 07 38 16.3 -0.1
HVU pmax pmax
comp=Z,75nm,1.0s,mb5.6
HVU Hansel Valley 79.73 42 *e*P P 07 38 16.1 -0.3
comp=Z,75nm,1.0s,mb5.6
CTU Camp Tracy 79.84 43 *e*P P 07 38 18.1 +1.1
comp=Z,47nm,0.9s,mb5.4
SRU San Rafael 79.88 45 P P 07 38 17.4 +0.2
SRU pmax pmax
comp=Z,98nm,1.1s,mb5.7
SRU San Rafael 79.88 45 *e*P P 07 38 16.7 -0.5
comp=Z,98nm,1.2s,mb5.6
NJ2 Nanjing 79.96 307 *e*P P 07 38 20.0 +2.3
NJ2 AP pP 07 38 30.5 +1.3
NJ2 XP sP 07 38 34.1 +0.6
NJ2 PP PP 07 41 23.8 +4.2
NJ2 S S 07 48 19.0 +0.2
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
NJ2 AMB AMB
comp=Z,230nm,5.4s
NJ2 LR LR
comp=N,1µm,21.5s,MS5.4
NJ2 LR LR
comp=E,1µm,23.1s,MS5.4
NJ2 LR LR
comp=Z,1µm,22.3s,MS5.2
MA2 Magadan 80.00 342 *de*P P 07 38 16.9 -1.0
MA2 pmax pmax
comp=Z,80nm,1.0s,mb5.6
MA2 pmax pmax
comp=N,30nm,1.1s
MA2 Magadan 80.00 342 *e*P P 07 38 17.0 -0.9
comp=N,48nm,0.9s,mb5.4
MA2 LR LR
comp=Z,3µm,21.0s,MS5.6
DAU Daniels Canyon 80.03 43 P P 07 38 18.7 +0.7
DAU Daniels Canyon 80.03 43 *e*P P 07 38 18.1 +0.1
LAZ Ladron 80.11 50 *e*P P 07 38 20.6 +2.1
Y22C IRIS PASSCAL I 80.13 51 ⇑P P 07 38 19.0 +0.4
baz=80
Y22C ⇓S S 07 48 24.3 +3.8
baz=80
LENM Lemitar 80.13 51 *e*P P 07 38 20.5 +1.9
PLIG Platanillo 80.25 68 *e*P P 07 38 22.4 +3.2
TCUT Toone Canyon 80.28 43 *e*P P 07 38 19.2 -0.2
KLR Kul'dur 80.33 327 *e*P P 07 38 16.8 -2.8
KLR *e* pP 07 38 28.8 -2.4
KLR *e*S S 07 48 20.0 -2.6
KLR pmax pmax
comp=Z,74nm,1.8s,mb5.3
KLR smax
comp=N,1µm,14.0s
KLR smax
comp=E,2µm,14.0s
BNM Barren Site 80.38 51 *e*P P 07 38 19.5 -0.4
HWUT Hardware Ranch 80.42 42 PFAKE 07 38 30.0 +10
HWUT LR LR
comp=Z,11µm,20.0s,MS6.2
LPM Los Pinos Moun 80.45 51 *e*P P 07 38 22.1 +1.8
LTX Lajitas 80.69 56 P P 07 38 23.0 +1.4
LTX pmax pmax
comp=Z,130nm,1.3s,mb5.7
LTX Lajitas 80.69 56 *e*P P 07 38 22.2 +0.7
comp=Z,133nm,1.4s,mb5.7
LTX LR LR
comp=Z,5µm,20.0s,MS5.9
SKAG Skagway 80.69 19 *e*P P 07 38 22.1 +0.6
comp=Z,119nm,1.7s,mb5.5
SKAG LR LR
comp=Z,14µm,23.0s,MS6.3
NEW Newport 80.71 34 P P 07 38 21.5 -0.2
NEW pmax pmax
comp=Z,13nm,0.8s
NEW Newport 80.71 34 *e*P P 07 38 21.3 -0.3
comp=Z,12nm,0.8s,mb4.9
NEW LR LR
comp=Z,6µm,22.0s,MS5.9
TNA Tin City 80.72 2 PFAKE 07 38 30.0 +8.3
TNA LR LR
comp=Z,2µm,20.0s,MS5.5
ANMO Albuquerque 80.86 50 P P 07 38 22.9 +0.4
ANMO pmax pmax
comp=Z,94nm,1.4s
ANMO Albuquerque 80.86 50 *e*P P 07 38 22.7 +0.3
comp=Z,94nm,1.4s,mb5.5
ANMO LR LR
comp=Z,8µm,22.0s,MS6.0
CN2 Changchun 80.89 320 *e*P P 07 38 23.5 +0.9
CN2 *e*AP pP 07 38 34.1 -0.1
CN2 PP PP 07 41 30.6 +3.3
CN2 *e*S S 07 48 28.4 -0.1
CN2 *e*SS SS 07 53 44.8 +2.1
CN2 AMB AMB
comp=Z,50nm,0.9s,mb5.4
CN2 AMB AMB
comp=Z,1µm,8.0s
CN2 LR LR
comp=N,2µm,21.0s,MS5.7
CN2 LR LR
comp=E,3µm,21.0s,MS5.7
CN2 LR LR
comp=Z,4µm,25.0s,MS5.7
DL2 Dalian 80.98 314 P P 07 38 24.0 +0.9
DL2 AP pP 07 38 34.6 -0.1
DL2 S S 07 48 30.4 +1.0
DL2 SS SS 07 53 49.3 +5.2
DL2 AMB AMB
comp=Z,30nm,1.4s,mb5.0
DL2 AMB AMB
comp=Z,630nm,8.8s
DL2 LR LR
comp=N,520nm,23.7s,MS5.1
DL2 LR LR
comp=E,960nm,26.2s,MS5.1
DL2 LR LR
comp=Z,2µm,25.5s,MS5.2
MCK McKinley 81.04 11 P P 07 38 21.8 -1.6
MCK pmax pmax
comp=Z,46nm,0.8s,mb5.5
MCK McKinley 81.04 11 *e*P P 07 38 21.7 -1.8
comp=Z,46nm,0.8s,mb5.5
MCK LR LR
comp=Z,6µm,21.0s,MS5.9
SNY Shenyang 81.08 318 ⇓P P 07 38 24.2 +0.6
SNY AP pP 07 38 37.1 +1.9
SNY XP sP 07 38 41.7 +2.2
SNY PP PP 07 41 31.1 +2.2
SNY S S 07 48 34.6 +4.2
SNY AMB AMB
comp=Z,36nm,2.3s,mb4.9
SNY LR LR
comp=N,584nm,32.3s
SNY LR LR
comp=E,2µm,26.4s
SNY LR LR
comp=Z,3µm,28.8s,MS5.4
MCMT McKenzie Canyo 81.27 39 *e*P P 07 38 24.7 0.0
AHID Auburn Hatcher 81.30 41 *e*P P 07 38 26.1 +1.2
AHID LR LR
comp=Z,5µm,19.0s,MS5.9
MENT Mentasta 81.38 13 *e*P P 07 38 24.4 -0.8
DLBC Dease Lake 81.66 21 *e*P P 07 38 26.4 -0.3
DCID1 Drake Creek 81.67 41 *e*P P 07 38 28.3 +1.6
MSO Missoula 81.69 37 PFAKE 07 38 40.0 +13
MSO LR LR
comp=Z,5µm,22.0s,MS5.8
CHMT Chamberlain Mo 82.13 37 *e*P P 07 38 27.7 -1.5
QLMT Earthquake Lak 82.14 39 *e*P P 07 38 29.6 +0.4
COLA College 82.28 11 P P 07 38 28.2 -1.8
COLA pmax pmax
comp=Z,89nm,0.8s,mb5.8
COLA College 82.28 11 *e*P P 07 38 28.4 -1.6
COLA LR LR
comp=Z,9µm,20.0s,MS6.1
BW06 Boulder Array 82.29 42 *e*P P 07 38 29.3 -0.7
comp=Z,210nm,1.8s,mb5.8
BW06 LR LR
comp=Z,9µm,20.0s,MS6.1

PDAR Pinedale Array 82.29 42 P **P** **07 38 29.1 -0.9**
comp=Z,24nm,0.8s,mb5.2,baz=214,slow=2.9,SNR=123
PDAR LR LR 08 09 24.8
comp=Z,7μm,19.7s,MS6.0,baz=254,slow=32
YFT Old Faithful 82.31 40 *e*P **P** **07 38 33.0 +2.9**
OXX Oaxaca 82.33 70 *e*P **P** **07 38 35.0 +4.8**
YMR Madison River 82.34 40 *e*P **P** **07 38 32.3 +2.0**
comp=Z,291nm,1.6s,mb6.0
YMR LR LR
comp=Z,6μm,21.0s,MS5.9
ILAR Eielson Array 82.36 11 P **P** **07 38 28.1 -2.3**
comp=Z,21nm,0.7s,mb5.2,baz=229,slow=6.9,SNR=101
ILAR Eielson Array 82.36 11 P **P** **07 38 28.1 -2.3**
ILAR pmax pmax
comp=Z,21nm,0.7s
BOZ Bozeman (W) 82.43 39 *e*P **P** **07 38 30.1 -0.7**
BOZ *e**PP pP 07 38 41.2 -1.2
BOZ pmax pmax
comp=Z,88nm,1.3s,mb5.5
BOZ MLR MLR
comp=Z,8μm,21.0s,MS6.0
BOZ Bozeman (W) 82.43 39 *e*P **P** **07 38 30.1 -0.7**
comp=Z,88nm,1.3s,mb5.5
BOZ *e*pP pP 07 38 41.2 -1.2
BOZ LR LR
comp=Z,8μm,21.0s,MS6.0
LKWY Lake 82.64 40 PFAKE 07 38 40.0 +8.2
LKWY LR LR
comp=Z,6μm,19.0s,MS6.0
QIZ Qiongzhong 82.71 292 P **P** **07 38 33.7 +1.5**
QIZ XP sP 07 38 46.3 -1.8
QIZ S S 07 48 49.8 +2.6
QIZ SS SS 07 54 13.5 +3.7
QIZ AMB AMB
comp=Z,29nm,2.1s,mb4.9
QIZ AMB AMB
comp=Z,323nm,10.3s
QIZ LR LR
comp=E,2μm,23.7s
QIZ LR LR
comp=Z,3μm,26.0s,MS5.5
QIZ Qiongzhong 82.71 292 PFAKE 07 38 40.0 +7.8
QIZ LR LR
comp=Z,1μm,22.0s,MS5.2
SDCO Great Sand Dun 82.76 48 PFAKE 07 38 40.0 +7.5
SDCO LR LR
comp=Z,8μm,20.0s,MS6.1
HRY Holter Researc 82.86 38 *e*P **P** **07 38 32.3 -0.7**
WALA Waterton Lakes 82.92 35 *e*P **P** **07 38 33.3 0.0**
comp=Z,72nm,1.4s,mb5.5
TIA Tai'an 83.01 310 P **P** **07 38 36.5 +2.7**
TIA S S 07 48 48.5 -1.7
TIA LR LR
comp=N,1μm,21.0s,MS5.6
TIA LR LR
comp=E,3μm,22.0s,MS5.6
RWWY Rawlins 83.33 44 *e*P **P** **07 38 36.3 +0.9**
comp=E,178nm,1.0s,mb6.0
PAYG Puerto Ayora 83.35 89 PFAKE 07 38 50.0 +14
PAYG LR LR
comp=Z,1μm,20.0s,MS5.2
DAWY Dawson 83.35 14 *e*P **P** **07 38 34.1 -1.4**
ISCO Idaho Springs 83.57 46 *e*P **P** **07 38 36.9 +0.2**
comp=Z,295nm,2.0s,mb6.1
ISCO LR LR
comp=Z,9μm,20.0s,MS6.1
GCMT Greycliff 83.69 39 *e*P **P** **07 38 38.8 +1.5**
CMIG Matías Romero 84.00 71 *e*P **P** **07 38 41.4 +2.5**
JCT Junction City 84.22 56 PFAKE 07 38 50.0 +10
JCT LR LR
comp=Z,5μm,20.0s,MS5.8
PHWY Pilot Hill 84.33 45 *e*P **P** **07 38 40.2 -0.3**
PMSA Palmer Station 84.35 156 PFAKE 07 38 50.0 +9.4
PMSA LR LR
comp=Z,4μm,20.0s,MS5.8
BILL Bilibino 84.37 353 *d i*P **P** **07 38 39.5 -1.3**
BILL *e* 07 41 56.1
BILL *i*S S 07 49 03.4 -0.6
BILL *e*SS SS 07 54 26.1 -8.3
BILL pmax pmax
comp=Z,92nm,1.2s,mb5.8
BILL Bilibino 84.37 353 *i*P **P** **07 38 39.6 -1.2**
BILL LR LR
comp=Z,12μm,22.0s,MS6.2
AMTX Amarillo 84.41 52 *e*P **P** **07 38 41.5 +0.5**
comp=Z,147nm,1.2s,mb6.0
EGMT Eagleton 84.74 37 PFAKE 07 38 50.0 +7.4
EGMT LR LR
comp=Z,557nm,19.0s,MS5.0
BJT Baijiatuau 85.27 314 *e*P **P** **07 38 46.5 +1.3**
BJT *e**PP pP 07 38 57.8 +0.9
BJT pmax pmax
comp=Z,14nm,0.8s
BJT MLR MLR
comp=Z,2μm,22.0s
BJT Baijiatuau 85.27 314 *e*P **P** **07 38 46.5 +1.3**
comp=Z,14nm,0.8s,mb5.2
BJT *e*pP pP 07 38 57.8 +0.9
BJT LR LR
comp=Z,2μm,22.0s,MS5.5
BJI Beijing 85.27 314 P **P** **07 38 45.0 -0.3**
BJI S S 07 49 04.2 -8.7
BJI SS SS 07 54 47.2 -0.4
BJI AMB AMB
comp=Z,21nm,2.2s,mb4.9
BJI LR LR
comp=N,1μm,28.8s,MS5.4
BJI LR LR
comp=E,2μm,26.7s,MS5.4
BJI LR LR
comp=Z,3μm,38.2s
EDM Edmonton 85.48 32 P **P** **07 38 44.8 -1.5**
LAO LASA Array 86.23 40 *e*P **P** **07 38 50.2 +0.2**
comp=Z,129nm,1.2s,mb6.0
LAO *e*pP pP 07 39 03.4 +1.8
LAO LR LR
comp=Z,3μm,20.0s,MS5.7
COCO West Island 86.46 258 PFAKE 07 39 00.0 +8.8
COCO LR LR
comp=Z,2μm,20.0s,MS5.6
RSSD Black Hills 86.49 43 P **P** **07 38 50.8 -0.5**
RSSD pmax pmax
comp=Z,140nm,1.5s,mb6.0
RSSD Black Hills 86.49 43 *e*P **P** **07 38 50.6 -0.7**
comp=Z,142nm,1.5s,mb6.0
RSSD LR LR
comp=Z,5μm,20.0s,MS5.9
HIA Hailar 87.00 323 *e*P **P** **07 38 54.3 +0.5**
HIA *e**PP pP 07 39 06.6 +1.1
HIA pmax pmax
comp=Z,97nm,1.6s
HIA MLR MLR
comp=Z,6μm,22.0s
HIA Hailar 87.00 323 *e*P **P** **07 38 54.3 +0.5**
comp=Z,97nm,1.6s,mb5.8
HIA *e*pP pP 07 39 06.6 +1.1
HIA LR LR
comp=Z,6μm,22.0s,MS6.0
HKT Hockley 87.26 58 *e*P **P** **07 38 56.4 +1.3**
HKT *e**PP pP 07 39 08.3 +1.6
HKT pmax pmax
comp=Z,107nm,1.5s,mb5.8
HKT MLR MLR
comp=Z,4μm,21.0s,MS5.8
HKT Hockley 87.26 58 *e*P **P** **07 38 56.4 +1.3**
comp=Z,107nm,1.5s,mb5.8
HKT *e*pP pP 07 39 08.3 +1.6
HKT LR LR
comp=Z,4μm,21.0s,MS5.8
GYA Guiyang 87.84 298⇑ *i*P **P** **07 39 00.2 +2.4**
GYA AP pP 07 39 11.3 +1.8
GYA XP sP 07 39 15.0 +1.2
GYA SKS 07 49 25.2
GYA S S 07 49 41.7 +3.8
GYA AMB AMB
comp=Z,60nm,1.2s,mb5.7
GYA AMB AMB
comp=Z,480nm,9.2s
GYA LR LR
comp=N,450nm,18.2s,MS5.4
GYA LR LR
comp=E,1μm,17.8s,MS5.4
GYA LR LR
comp=Z,1μm,18.0s,MS5.4
MAW Mawson 87.85 199 P **P** **07 38 57.5 -0.3**
comp=Z,34nm,0.6s,mb5.7,baz=129,slow=6.6,SNR=74
MAW LR LR 08 15 41.8
comp=Z,11μm,20.4s,MS6.2,baz=129,slow=34
MAW Mawson 87.85 199 *e*P **P** **07 38 57.1 -0.7**
comp=Z,38nm,0.7s,mb5.7
CLNS Chul'man 88.05 331 *e*P **P** **07 38 58.1 -0.8**
CLNS *e**PP pP 07 39 06.0 -4.5
CLNS pmax pmax
comp=Z,46nm,0.8s,mb5.8
CLNS pmax pmax
comp=N,22nm,1.0s
CLNS pmax pmax
comp=E,22nm,1.0s
CLNS pmax pmax
comp=Z,14nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,0.8s
CLNS MLR MLR
comp=Z,3μm,18.0s,MS5.8
CLNS MLR MLR
comp=N,2μm,17.0s,MS5.7
CLNS MLR MLR
comp=E,2μm,18.0s,MS5.7
INK Inuvik 88.20 14 P **P** **07 38 58.6 -0.9**
INK pmax pmax
comp=Z,52nm,1.2s
INK Inuvik 88.20 14 *e*P **P** **07 38 58.4 -1.1**
comp=Z,52nm,1.3s,mb5.6
XAN Xi'an 88.43 306 P **P** **07 39 02.8 +2.2**
XAN PP PP 07 42 28.9 +0.2
XAN AMB AMB
comp=Z,29nm,1.3s,mb5.3
XAN AMB AMB
comp=Z,162nm,5.2s
XAN LR LR
comp=N,712nm,22.8s,MS5.3
XAN LR LR
comp=E,1μm,21.8s,MS5.3
XAN LR LR
comp=Z,2μm,22.8s,MS5.4
NATX Nacogdoches 88.80 57 *e*P **P** **07 39 05.3 +2.9**
comp=Z,137nm,1.2s,mb6.2
NATX *e*pP pP 07 39 16.1 +2.0
NATX LR LR
comp=Z,5μm,20.0s,MS5.9
HHC Hu-ho-hao-te 88.83 313 *e*P **P** **07 39 04.3 +1.8**
HHC AP pP 07 39 14.9 +0.7
HHC XP sP 07 39 18.5 +0.1
HHC PP PP 07 42 36.5 +4.6
HHC SKS 07 49 27.4
HHC S S 07 49 47.6 +0.4
HHC XS sS 07 50 05.5 -1.1
HHC SS SS 07 55 38.4 -1.3
HHC AMB AMB
comp=Z,36nm,1.2s,mb5.6
HHC AMB AMB
comp=Z,649nm,3.8s
HHC LR LR
comp=N,743nm,23.8s,MS5.2
HHC LR LR
comp=E,1μm,27.4s,MS5.2
HHC LR LR
comp=Z,2μm,26.2s,MS5.4
YAK Yakutsk 88.94 337 *e*P **P** **07 39 03.3 +0.3**
YAK *e**PP pP 07 39 14.1 -0.6
YAK *e* 07 42 30.3
YAK *e*S S 07 49 28.2 -20
YAK *e**SS sS 07 49 44.4 -23
YAK *e* 07 50 57.5
YAK pmax pmax
comp=Z,37nm,1.2s,mb5.6
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,12nm,1.2s
YAK pmax pmax
comp=Z,24nm,1.4s,mb5.3
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=E,20nm,1.5s
YAK smax
comp=N,194nm,12.1s
YAK smax
comp=Z,99nm,12.9s
YAK smax
comp=E,272nm,12.5s
YAK Yakutsk 88.94 337⇓ *e*P **P** **07 39 01.0 -2.0**
YAK LR LR
comp=Z,3μm,22.0s,MS5.6
PLCA Paso Flores 89.71 132 LR LR 08 11 52.7
comp=Z,3μm,20.1s,MS5.7,baz=229,slow=31
PLCA Paso Flores 89.71 132 *e*P **P** **07 39 06.5 -0.1**
comp=Z,129nm,1.9s,mb5.9
PLCA LR LR
comp=Z,4μm,21.0s,MS5.8
BTO Baotou 89.84 312 *e*P **P** **07 39 08.1 +0.9**
BTO LR LR
comp=N,99nm,13.2s,MS4.6
BTO LR LR
comp=E,69nm,10.1s,MS4.6
YKA Yellowknife Ar 90.06 23 P **P** **07 39 07.1 -1.2**
comp=E,13nm,0.8s,mb5.3,baz=239,slow=4.5,SNR=33
YKA LR LR 08 14 13.0
comp=E,6μm,19.6s,MS6.1,baz=220,slow=32
YKA Yellowknife Ar 90.06 23 P **P** **07 39 07.1 -1.2**
YKA LR LR 08 14 13.0
MIAR Mount Ida 90.55 54 *e*P **P** **07 39 11.6 +1.0**
comp=E,84nm,1.9s,mb5.8
MIAR LR LR
comp=Z,514nm,19.0s,MS5.0
KMI Kunming 90.83 296 P **P** **07 39 15.5 +3.7**
KMI AP pP 07 39 26.9 +3.4
KMI XP sP 07 39 31.6 +3.8
KMI SKS 07 49 42.1
KMI S S 07 50 03.6 -2.2
KMI XS sS 07 50 20.2 -5.0
KMI AMB AMB
comp=Z,12nm,1.1s,mb5.1
KMI AMB AMB
comp=Z,259nm,4.7s
KMI LR LR
comp=N,588nm,21.5s,MS5.3
KMI LR LR
comp=E,1μm,23.4s,MS5.3
KMI LR LR
comp=Z,3μm,37.7s
TEIG Tepich 90.90 69 *e*P **P** **07 39 10.8 -1.4**
comp=Z,46nm,1.2s,mb5.7
TEIG LR LR
comp=Z,662nm,21.0s,MS5.0
ECSD EROS,Sioux Fal 91.30 45 *e*P **P** **07 39 13.6 -0.4**
JTS JuntasAbangare 91.35 80 *e*P **P** **07 39 16.0 +1.7**
JTS *e**PP pP 07 39 29.2 +3.2
JTS pmax pmax
comp=Z,663nm,2.0s
JTS MLR MLR
comp=Z,3μm,20.0s
JTS JuntasAbangare 91.35 80 *e*P **P** **07 39 15.9 +1.7**
comp=Z,663nm,2.0s,mb6.6
JTS *e*pP pP 07 39 29.2 +3.2
JTS LR LR
comp=Z,3μm,20.0s,MS5.7
CD2 Chengdu 91.61 301⇑ *i*P **P** **07 39 15.4 -0.1**
CD2 AP pP 07 39 26.0 -1.2
CD2 XP sP 07 39 29.9 -1.5
CD2 PP PP 07 42 56.6 +2.6
CD2 SKS 07 49 43.7
CD2 S S 07 50 10.9 -2.0
CD2 XS sS 07 50 28.4 -4.0
CD2 PS PS 07 51 29.4 +2.9
CD2 SS SS 07 56 22.4 +2.5
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb5.1
CD2 AMB AMB
comp=Z,250nm,9.6s
CD2 LR LR
comp=N,1μm,21.6s
CD2 LR LR
comp=Z,1μm,28.8s
FFC Flin Flon 92.10 33 P **P** **07 39 17.0 -0.7**
comp=Z,101nm,1.4s,mb6.0,SNR=7.3
FFC Flin Flon 92.10 33 *e*P **P** **07 39 17.6 -0.1**
FFC *e**PP pP 07 39 29.1 -0.4
FFC pmax pmax
comp=Z,120nm,1.9s,mb5.9
FFC MLR MLR
comp=Z,4μm,22.0s,MS5.8
FFC Flin Flon 92.10 33 *e*P **P** **07 39 17.6 -0.1**
comp=Z,120nm,1.9s,mb5.9
FFC *e*pP pP 07 39 29.1 -0.3
FFC LR LR
comp=Z,4μm,22.0s,MS5.8
CM31 Chiang Mai Arr 92.42 288 PFAKE 07 39 30.0 +11
CM31 LR LR
comp=Z,2μm,22.0s,MS5.4
SYO Syowa Base 92.68 191⇓ *e*P **P** **07 39 18.0 -2.4**
LZH Lanzhou 93.02 306 *e*P **P** **07 39 24.5 +2.5**
LZH AP pP 07 39 35.1 +1.4
LZH XP sP 07 39 39.6 +1.6
LZH PP PP 07 43 10.6 +5.5
LZH SKS 07 49 54.3
LZH S S 07 50 25.4 -0.1
LZH XS sS 07 50 43.1 -1.9
LZH PS PS 07 51 47.2 +5.0
LZH SS SS 07 56 44.5 +4.3
LZH AMB AMB
comp=Z,67nm,1.3s,mb5.9
LZH AMB AMB
comp=Z,423nm,8.7s
LZH LR LR
comp=N,1μm,16.7s
LZH LR LR
comp=Z,2μm,19.6s,MS5.5
SNAA Sanae 93.03 177 *e*P **P** **07 39 21.9 -0.1**
SNAA *e* 07 39 22.4
SNAA *e* 07 39 23.5
SNAA *e* 07 39 25.9
SNAA *e* pP 07 39 31.5 -2.2
SNAA *e* pP 07 39 35.9 +2.2
SNAA *e* 07 39 39.6
SNAA *e* 07 40 00.4
SCIA State Center 93.08 47 *e*P **P** **07 39 23.6 +1.3**
EFI East Falkland 93.08 146 PFAKE 07 39 30.0 +7.7
EFI LR LR
comp=Z,5μm,22.0s,MS5.9
NNA Nana 93.25 103 PFAKE 07 39 40.0 +17
NNA LR LR
comp=Z,2μm,21.0s,MS5.5
CCM Cathedral Cave 93.39 52 *e*P **P** **07 39 22.9 -0.8**
comp=Z,34nm,1.3s,mb5.6
CCM LR LR
comp=Z,6μm,22.0s,MS6.0
VNA1 Neumayer--Stat 93.68 175 *e*P **P** **07 39 25.6 +0.6**
VNA1 *e* 07 39 26.0
VNA1 *e* 07 39 29.8
VNA1 *e* pP 07 39 35.1 -1.6
VNA1 *e* pP 07 39 39.0 +2.3
VNA1 *e* 07 39 43.6
VNA1 *e* 07 51 8.8
BOD Bodaibo 93.75 329 *e*P **P** **07 39 22.7 -2.6**
BOD pmax pmax
comp=Z,12nm,1.1s,mb5.2
OXF Oxford 93.83 55 *e*P **P** **07 39 25.9 +0.2**
OXF *e**PP pP 07 39 37.5 +0.1
OXF pmax pmax
comp=Z,109nm,1.2s,mb6.2
OXF MLR MLR
comp=Z,6μm,19.0s,MS6.0
OXF Oxford 93.83 55 *e*P **P** **07 39 25.9 +0.2**
comp=Z,109nm,1.2s,mb6.2
OXF *e*pP pP 07 39 37.5 +0.1
OXF LR LR
comp=Z,6μm,19.0s,MS6.0
ULM Lac du Bonnet 93.95 39 P **P** **07 39 25.6 -0.6**
comp=Z,6.2nm,0.8s,mb5.1,baz=249,slow=7.1,SNR=10
ULM PP PP 07 43 11.0 -1.4
comp=Z,3.9nm,0.8s,baz=254,slow=7.6,SNR=4.1
ULM LR LR 08 16 43.6
comp=Z,8μm,19.5s,MS6.2,baz=250,slow=32
ULM Lac du Bonnet 93.95 39 *e*P **P** **07 39 25.4 -0.9**
comp=Z,7.4nm,0.8s,mb5.2
ULM *e*pP pP 07 39 36.3 -1.7
ULM LR LR
comp=Z,12μm,20.0s,MS6.3
FVM French Village 93.99 52 P **P** **07 39 25.3 -1.1**
FVM pmax pmax
comp=Z,57nm,1.3s,mb5.8
FVM French Village 93.99 52 *e*P **P** **07 39 25.1 -1.3**
comp=Z,57nm,1.3s,mb5.8
NVL N'lazarevskaya 94.08 182 *d i*P **P** **07 39 28.7 +1.8**
NVL *e*S S 07 49 56.3 -39
NVL *e* 07 50 37.5
NVL *e*SS SS 07 57 14.4 +19
NVL pmax pmax
comp=Z,46nm,1.8s,mb5.6
NVL MLR MLR
comp=Z,4μm,19.2s,MS5.9
ULN Ulaanbaatar 94.24 318⇓ *e*P **P** **07 39 28.1 +0.5**
ULN LR LR
comp=Z,3μm,22.0s,MS5.7
SONM Songino Array 94.65 318 P **P** **07 39 31.0 +1.5**
comp=Z,2.6nm,0.9s,mb4.7,baz=115,slow=4.2,SNR=14
SONM PP PP 07 43 17.6 -0.2
comp=Z,2.8nm,1.1s,baz=111,slow=8.1,SNR=5.4
SONM LR LR 08 17 10.1
comp=Z,2μm,21.3s,MS5.5,baz=96,slow=32
SONM Songino Array 94.65 318 P **P** **07 39 31.0 +1.5**
SONM 07 43 17.6
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM pmax pmax
comp=Z,3.0nm,1.1s
TIXI Tiksi 94.85 344 *e*P **P** **07 39 27.5 -2.9**
TIXI *e*S S 07 49 56.5 -45
TIXI *e* 07 51 55.3
TIXI *e*SS SS 07 56 56.6 -10
TIXI pmax pmax
comp=Z,15nm,1.1s,mb5.3
TIXI MLR MLR
comp=Z,977nm,19.0s,MS5.3
TIXI Tiksi 94.85 344 *e*P **P** **07 39 29.9 -0.5**
TIXI LR LR
comp=Z,4μm,22.0s,MS5.8
OTAV Otavalo 95.00 91 PFAKE 07 39 40.0 +8.9
OTAV LR LR
comp=Z,856nm,19.0s,MS5.2
PLAL Pickwick Lake 95.01 55 *e*P **P** **07 39 31.9 +0.8**
comp=Z,47nm,1.3s,mb5.8
PLAL *e*pP pP 07 39 44.1 +1.2
PLAL LR LR
comp=Z,3μm,20.0s,MS5.7
LRAL Lakeview Retre 95.38 57 PFAKE 07 39 40.0 +7.2
LRAL LR LR
comp=Z,3μm,20.0s,MS5.7
WVT Waverly 95.50 54 *e*P **P** **07 39 34.5 +1.1**
WVT *e**PP pP 07 39 44.6 -0.5
WVT pmax pmax
comp=Z,12nm,1.3s,mb5.2
WVT MLR MLR
comp=Z,5μm,21.0s,MS6.0
WVT Waverly 95.50 54 *e*P **P** **07 39 34.5 +1.1**
comp=Z,12nm,1.3s,mb5.2
WVT *e*pP pP 07 39 44.6 -0.5
WVT LR LR
comp=Z,5μm,21.0s,MS6.0
EYMN Ely 96.00 42 *e*P **P** **07 39 35.2 -0.4**
comp=Z,34nm,1.3s,mb5.6
EYMN LR LR
comp=Z,6μm,22.0s,MS6.0
TRQA Tornquist 96.87 132 PFAKE 07 39 50.0 +10
TRQA LR LR
comp=Z,3μm,22.0s,MS5.7
GTA Gaotai 96.98 309 *e*P **P** **07 39 39.9 -0.2**
GTA AP pP 07 39 50.4 -1.4
GTA XP sP 07 39 54.7 -1.4
GTA PP PP 07 43 38.8 +3.0
GTA PPP 07 45 44.3
GTA SKS 07 50 12.8
GTA S S 07 50 56.1 -3.8
GTA XS sS 07 51 14.4 -5.1
GTA PS PS 07 52 28.9 +3.3
GTA SS SS 07 57 33.1 -3.3
GTA AMB AMB
comp=Z,4.0nm,1.2s,mb4.7
GTA AMB AMB
comp=Z,134nm,6.1s
GTA LR LR
comp=N,1μm,23.2s,MS5.5
GTA LR LR

comp=E,2µm,24.7s,MS5.5
GTA LR LR
comp=Z,3µm,24.3s,MS5.7
WCI Wyandotte Cave 97.20 52 PFAKE 07 39 50.0 +8.9
WCI LR LR
comp=Z,6µm,21.0s,MS6.0
LVC Limon Verde 97.21 116 PFAKE 07 39 50.0 +8.9
LVC LR LR
comp=Z,2µm,19.0s,MS5.6
ZAK Zakamensk 97.33 320 *e*P **P 07 39 42.2 +0.5**
ZAK pmax pmax
comp=Z,4.0nm,1.5s,mb4.6
DWPF Disney 98.89 63 PFAKE 07 40 00.0 +11
DWPF LR LR
comp=Z,1µm,21.0s,MS5.5
LPAZ La Paz 100.01 110 PFAKE 07 40 10.0 +16
LPAZ LR LR
comp=Z,654nm,20.0s,MS5.1
AAM Ann Arbor 100.06 49 PFAKE 07 40 10.0 +16
AAM LR LR
comp=Z,3µm,21.0s,MS5.8
ACSO Alum Creek Sta 100.15 51 PFAKE 07 40 10.0 +16
ACSO LR LR
comp=Z,4µm,21.0s,MS5.9
BLA Blacksburg 101.54 54 PFAKE 07 40 10.0 +10
BLA LR LR
comp=Z,334nm,20.0s,MS4.8
RES Resolute Bay 101.67 15 P Pdif 07 40 01.2 +0.2
HOPE Hope Point 101.67 156 PFAKE 07 40 10.0 +9.0
HOPE LR LR
comp=Z,3µm,22.0s,MS5.7
LSA Lhasa 101.91 298 PFAKE 07 40 10.0 +7.9
LSA LR LR
comp=Z,1µm,22.0s,MS5.4
MCWV Mont Chateau 102.41 52 PFAKE 07 40 20.0 +16
MCWV LR LR
comp=Z,9µm,22.0s,MS6.3
ERPA Erie 102.70 50 PFAKE 07 40 20.0 +14
ERPA LR LR
comp=Z,5µm,20.0s,MS6.0
SSPA Standing Stone 104.05 51 PFAKE 07 40 20.0 +8.4
SSPA LR LR
comp=Z,6µm,20.0s,MS6.1
CBN Corbin 104.09 54 PFAKE 07 40 20.0 +8.2
CBN LR LR
comp=Z,7µm,22.0s,MS6.2
SDV Santo Domingo 104.70 85 PFAKE 07 40 30.0 +15
SDV LR LR
comp=Z,546nm,21.0s,MS5.1
CPUP Villa Florida 105.51 123 PFAKE 07 44 40.0 +8.6
CPUP LR LR
comp=Z,276nm,20.0s,MS4.8
BINY Binghamton 105.67 50 PFAKE 07 44 40.0 +8.3
BINY LR LR
comp=Z,7µm,20.0s,MS6.2
WMQ Urumqi 106.67 312 PDIF Pdif 07 40 24.5 +1.2
WMQ PP PP 07 44 53.0 +4.2
WMQ S Sdif 07 52 18.6 -2.5
WMQ SS SS 07 59 52.0 +1.4
WMQ PP PP
comp=Z,611nm,10.5s
WMQ LR LR
comp=N,1µm,23.2s,MS5.4
WMQ LR LR
comp=E,883nm,25.0s,MS5.4
WMQ LR LR
comp=Z,1µm,23.2s,MS5.4
SAML Samuel 106.96 104 PFAKE 07 44 50.0 +16
SAML LR LR
comp=Z,1µm,21.0s,MS5.4
PALK Pallekele 107.00 273 PFAKE 07 44 50.0 +16
PALK LR LR
comp=Z,2µm,20.0s,MS5.6
NCB Newcomb 107.12 48 PFAKE 07 44 50.0 +16
NCB LR LR
comp=Z,9µm,22.0s,MS6.3
LBNH Lisbon 108.80 48 PFAKE 07 44 50.0 +12
LBNH LR LR
comp=Z,11µm,20.0s,MS6.4
HRV Harvard--Oak R 108.96 50 PFAKE 07 44 50.0 +12
HRV LR LR
comp=Z,6µm,20.0s,MS6.2
ZAL Zalesovo 109.04 322 PKiKP PKiKP 07 44 38.3 +0.3
comp=Z,1.2nm,0.2s,baz=196,slow=2.2,SNR=4.4
ZAL PP PP 07 45 00.1 -6.1
comp=Z,1.4nm,0.6s,baz=328,slow=4.4,SNR=5.8
WES Weston 109.13 50 PFAKE 07 44 50.0 +12
WES LR LR
comp=Z,5µm,19.0s,MS6.1
MKAR Makanchi Array 110.63 315 PKiKP PKiKP 07 44 40.4 -0.6
comp=Z,2.3nm,0.8s,baz=46,slow=3.5,SNR=7.7
MKAR Makanchi Array 110.63 315 *i* PKIKP PKiKP 07 44 40.4 -0.6
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 110.63 315 PKPdf PKiKP 07 44 40.4 -0.6
DGAR Diego Garcia 110.81 256 PFAKE 07 44 50.0 +8.7
DGAR LR LR
comp=Z,3µm,20.0s,MS5.9
SCHQ Schefferville 111.99 37 PFAKE 07 45 00.0 +16
SCHQ LR LR
comp=Z,4µm,19.0s,MS6.1
KURK Kurchatov 112.94 319 *i* PKIKP PKiKP 07 44 44.2 -1.2
KURK MLR MLR
comp=Z,3µm,22.0s,MS5.8
BBSR BB Station 113.82 61 PFAKE 07 45 00.0 +13
BBSR LR LR
comp=Z,2µm,21.0s,MS5.7
KBS Kingsbay 116.28 359 *e*PP PP 07 45 57.1 -0.7
KBS *i* 07 55 32.6
KBS AMS AMS 08 27 44.6
comp=Z,900nm,22.5s,MS5.3
KBS Kingsbay 116.28 359 PFAKE 07 45 00.0 +8.2
KBS LR LR
comp=Z,2µm,22.0s,MS5.7
AAK Ala-Archa 116.28 310 *e*PKIKP PKPdf 07 44 52.2 +0.4
AAK MLR MLR
comp=Z,2µm,22.0s,MS5.7
DAG Danmarks Havn 117.14 6⇓ *i*P PKPdf 07 44 52.7 -0.8
comp=Z,5.6nm,0.2s
DAG
comp=Z,3µm,23.0s
DAG Danmarks Havn 117.14 6⇓ *e*PKIKP PKPdf 07 44 52.7 -0.8
DAG pmax pmax
comp=Z,6.0nm,0.2s
DAG MLR MLR
comp=Z,4µm,23.0s,MS5.9
DAG MLR MLR
comp=N,4µm,22.0s,MS6.0
DAG MLR MLR
comp=E,2µm,20.0s,MS6.0
CHKZ Chkalovo 117.42 323 *e*PKIKP PKPdf 07 44 53.0 -1.0
BRVK Borovoye 117.75 322 PKIKP PKPdf 07 44 54.3 -0.3
BRVK Borovoye 117.75 322⇑ *e*PKP PKPdf 07 44 52.2 -2.4
BRVK LR LR
comp=Z,2µm,22.0s,MS5.7
BDFB Brasilia 118.07 117 PFAKE 07 45 10.0 +15
BDFB LR LR
comp=Z,2µm,22.0s,MS5.7
ZRNK Zerenda 118.52 322 *e*PKIKP PKPdf 07 44 55.0 -1.1
ZRNK *e* 07 45 09.7
BJO Bjornoya 120.36 356 *e*PP PP 07 46 22.3 -3.7
BJO AMS AMS 08 33 05.2
comp=Z,2µm,19.4s,MS5.8
SVE Sverdlovsk 121.95 328 *i* PKIKP PKPdf 07 45 00.0 -2.7
SVE *e* 07 46 34.0
SVE *e*PPP 07 49 08.0
SVE *e* 07 52 04.0
SOKR Solikamsk 122.61 332 *d* PKIKP PKPdf 07 45 04.2 +0.2
SOKR PS PS 07 56 32.3 -4.3
SOKR SS SS 08 03 11.3 -9.0
ARU Arti 123.16 328 *i* PKIKP PKPdf 07 45 03.6 -1.4
ARU *e* 07 46 45.8
ARU *e*PPP 07 49 21.3
ARU *e* 07 52 01.1
ARU *e*SP SP 07 56 34.3 -2.7
ARU *e*PS PS 07 56 44.3 +2.8
ARU *e*SS SS 08 03 22.0 -5.3
ARU *e*SSS 08 07 55.5
ARU Arti 123.16 328⇑ *i*PKP PKPdf 07 45 04.1 -0.9
ARU LR LR
comp=Z,3µm,21.0s,MS5.9
JMIC Jan Mayen 123.58 6 *e*PP PP 07 46 45.8 -2.1
JMIC AMS AMS 08 31 34.2
comp=Z,3µm,23.9s,MS5.9
KEV Kevo 124.06 352 *e*p PKPdf 07 45 04.5 -2.2
comp=Z,15nm,0.8s
KEV Kevo 124.06 352 PKIKP PKPdf 07 45 05.6 -1.1
KEV Kevo 124.06 352 *e*P PKPdf 07 45 04.5 -2.2
KEV LR LR
comp=Z,2µm,20.0s,MS5.9
LVZ Lovozero 124.35 347 *i* PKIKP PKPdf 07 45 05.7 -1.6
LVZ *e* 07 52 04.9
LVZ *e*PS PS 07 56 48.3 -3.7
LVZ *e*SS SS 08 03 40.7 -1.7
LVZ *e*SSS 08 08 16.4
LVZ pmax pmax
comp=Z,28nm,1.4s
LVZ pmax pmax
comp=N,6.0nm,1.2s
LVZ pmax pmax
comp=E,9.0nm,1.1s
LVZ Lovozero 124.35 347 PFAKE 07 45 20.0 +13
LVZ LR LR
comp=Z,3µm,20.0s,MS5.9
ARCES ARCESS Array B 124.47 352 PKP PKPdf 07 45 06.0 -1.6
comp=Z,22nm,0.7s,baz=0.0,slow=1.3,SNR=44
ARCES ARCESS Array B 124.47 352 PKIKP PKPdf 07 45 06.0 -1.5
ARCES pmax pmax
comp=Z,22nm,0.7s
APA Apatity 124.89 348⇓ *i*PKIKP PKPdf 07 45 07.2 -1.1
APA *i* 07 45 21.0
APA *i* 07 52 04.0
APA *i* SS SS 08 04 02.0 +13
APA pmax pmax
comp=Z,16nm,0.8s
APA MLR MLR
comp=Z,2µm,21.0s,MS5.9
TRO Tromso 125.12 355 *e*PP PP 07 46 53.8 -4.4
TRO AMS AMS 08 31 57.2
comp=Z,2µm,20.7s,MS5.7
BORG Borgarnes 127.09 15 PFAKE 07 45 20.0 +7.5
BORG LR LR
comp=Z,7µm,21.0s,MS6.3
JOF Joensuu 129.32 346 *e*p PKPdf 07 45 15.1 -1.7
PECR Pechory 130.03 334 *e*PKIKP PKPdf 07 45 20.0 +1.8
PECR *e* 07 47 36.6
SUR Sutherland 130.64 196 PFAKE 07 45 30.0 +11
SUR LR LR
comp=Z,5µm,21.0s,MS6.2
KAF Kangasniemi 131.14 348 *e*p PKPdf 07 45 17.6 -2.7
comp=Z,16nm,0.9s
KAF Kangasniemi 131.14 348 *e*PKIKP PKPdf 07 45 17.6 -2.7
KAF pmax pmax
comp=Z,16nm,0.9s
FINES FINES Array B 131.80 347 PKhKP 07 45 09.9
comp=Z,1.3nm,0.8s,baz=90,slow=2.7,SNR=7.3
FINES PKP PKPdf 07 45 20.1 -1.3
comp=Z,4.8nm,0.8s,baz=90,slow=1.9,SNR=16
FINES FINES Array B 131.80 347 PKHKP 07 45 10.0
FINES 07 45 20.2
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES FINES Array B 131.80 347 PKP PKPdf 07 45 20.1 -1.3
BOSA Boshof 132.71 203 PFAKE 07 45 40.0 +17
BOSA LR LR
comp=Z,4µm,22.0s,MS6.0
MOS Moscow 133.07 336 *e*PKIKP PKPdf 07 45 23.6 -0.3
MOS *i* 07 45 35.7
MOS *e* 07 47 52.9
RCBR Riachuelo 133.11 113 PFAKE 07 45 40.0 +16
RCBR LR LR
comp=Z,2µm,22.0s,MS5.8
OBN Obninsk 133.94 336 *i* PKIKP PKPdf 07 45 25.2 -0.3
OBN *e* 07 47 56.8
OBN *e* 07 52 33.3
OBN *e*PS PS 07 58 15.4 +0.1
OBN *i* SS SS 08 05 36.5 -4.2
OBN pmax pmax
comp=Z,41nm,1.6s
OBN MLR MLR
comp=Z,2µm,19.0s,MS5.8
OBN Obninsk 133.94 336⇓ *e*PKP PKPdf 07 45 25.2 -0.3
OBN LR LR
comp=Z,2µm,21.0s,MS5.8
NB2 NORSAR Subarra134.18 357 PKPdf PKPdf 07 45 25.2 -0.8
comp=Z,40nm,1.7s,baz=6.3,slow=1.9
NOA NORSAR Array B134.18 357 PKhKP 07 45 13.1
comp=Z,1.7nm,0.9s,baz=30,slow=2.0,SNR=5.0
NOA PKP PKPdf 07 45 25.3 -0.7
comp=Z,5.5nm,0.8s,baz=13,slow=4.0,SNR=14
NOA NORSAR Array B134.18 357 PKHKP 07 45 13.1
NOA 07 45 25.3
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA NORSAR Array B134.18 357 PKP PKPdf 07 45 25.3 -0.6
VSU Vasula 134.32 345⇑ *e*PKIKP PKPdf 07 45 26.2 0.0
NAO01 NORSAR Array S 134.39 357 *e*PKPdf PKPdf 07 45 29.2 +2.8
NAO01 *e*pPKPdf pPKPdf 07 45 39.8 +1.4
NAO01 LR LR
comp=Z,2µm,19.0s,MS5.9
BER Bergen 134.96 1 *e*PP PP 07 48 02.0 -0.2
BER AMS AMS 08 42 47.2
comp=Z,2µm,18.4s,MS5.8
VOR Voronezh 135.22 331 PKIKP pPKPdf 07 45 40.0 0.0
VOR pmax pmax
comp=Z,250nm,2.2s
MAK Makhachkala 135.39 317 *i* P Pdif 07 42 29.0 -2.0
MAK *i* 07 45 26.6
MAK *i* 07 48 04.4
MAK *e*PPP 07 51 07.9
MAK *e*SS SS 08 05 55.9 -2.3
MAK MLR MLR
comp=Z,3µm,20.0s,MS6.0
MAK MLR MLR
comp=N,4µm,23.0s,MS6.3
MAK MLR MLR
comp=E,5µm,21.0s,MS6.3
KONO Kongsberg 135.65 358 PKIKP PKPdf 07 45 29.5 +0.8
KONO *e* 07 45 45.7
KONO Kongsberg 135.65 358⇑ *e*PKP PKPdf 07 45 27.7 -1.0
KONO LR LR
comp=Z,2µm,21.0s,MS5.9
LBTB Lobatse 135.80 205 PFAKE 07 45 40.0 +11
LBTB LR LR
comp=Z,3µm,21.0s,MS6.0
MNK Minsk 137.47 342 *e*PKIKP PKPdf 07 45 27.0 -5.1
KIV Kislovodsk 138.01 320 *i* PKIKP PKPdf 07 45 34.4 +1.3
KIV MLR MLR
comp=Z,2µm,20.0s,MS5.9
GNI Garni 138.47 314⇑ *e*PKIKP PKPdf 07 45 35.1 +1.2
GNI MLR MLR
comp=Z,2µm,22.0s
MUD Monsted U'grnd 138.86 358 *i* P PKPdf 07 45 40.9 +6.3
MUD *i* 07 48 24.5
MUD *i* 07 55 27.1
MUD
comp=Z,2µm,20.0s
MUD Monsted U'grnd 138.86 358 *i* PKIKP PKPdf 07 45 40.9 +6.3
MUD *i* 07 48 24.5
MUD MLR MLR
comp=Z,2µm,20.0s,MS5.9
ESK Eskdalemuir 139.36 8 PFAKE 07 45 50.0 +14
ESK LR LR
comp=Z,5µm,20.0s,MS6.3
COP Copenhagen 139.42 355 *i* P 07 45 56.4
COP *i* 07 48 42.7
COP
comp=Z,790nm,22.0s
BSD Bornholm Skovb 139.71 352 *i* P PKPdf 07 45 37.2 +1.0
comp=Z,24nm,1.0s
BSD *i* 07 45 52.7
BSD *i* 07 48 42.0
BSD *i* S SKKSac 07 55 21.2 -1.6
BSD *i* 08 00 52.2
BSD
comp=Z,2µm,20.0s
BSD Bornholm Skovb 139.71 352 *i* PKIKP PKPdf 07 45 37.2 +1.0
BSD *i* 07 45 52.7
BSD *i* 08 00 52.2
BSD pmax pmax
comp=Z,24nm,1.0s
BSD MLR MLR
comp=Z,2µm,20.0s,MS5.8
BSD Bornholm Skovb 139.71 352 *i* P PKPdf 07 45 37.2 +1.0
BSD *i* 07 45 52.7
BSD *i* 07 48 42.0
BSD *i* S SKKSac 07 55 21.2 -1.6
BSD *i* 08 00 52.2
SOC Sochi 140.01 322 *d* PKIKP PKPdf 07 45 41.1 +4.3
SOC *e* 07 48 35.3
SOC *e*SS SS 08 06 42.0 -11
SOC pmax pmax
comp=Z,41nm,1.1s
SOC MLR MLR
comp=Z,4µm,20.0s,MS6.2
AKASG Malin Array Be 140.17 337 PKhKP 07 45 30.7
comp=Z,3.6nm,0.8s,baz=30,slow=3.4,SNR=8.4
AKASG Malin Array Be 140.17 337 PKHKP 07 45 30.7
AKASG pmax pmax
comp=Z,4.0nm,0.8s
HAKT HAKKARI 140.29 311 *i* P PKPdf 07 45 31.0 -6.3
ANN Anapa 140.61 325 *i* PKIKP PKPdf 07 45 45.1 +7.3
ANN *e* 07 48 41.1
ANN *e*PPP 07 51 41.1
ANN *e*SS SS 08 07 00.3 +0.3
ANN pmax pmax
comp=Z,377nm,8.6s
ANN MLR MLR
comp=N,3µm,22.0s,MS6.0
ANN MLR MLR
comp=E,1µm,22.0s,MS6.0
ANN MLR MLR
comp=Z,1µm,22.0s,MS5.6
BSEG Bad Segeberg 141.32 356 *e*PKPbc PKPdf 07 45 34.3 -4.8
SIM Simferopol' 142.31 327 *ce*PKIKP PKPdf 07 45 49.4 +8.5
SIM *e* 07 48 56.0
SIM pmax pmax
comp=Z,120nm,9.0s
SIM MLR MLR
comp=Z,3µm,21.0s,MS6.0
ADH Angra Heroismo 142.36 45 *i* LR LR 08 32 37.5
MARD Mardin 142.50 312 *i* P PKPdf 07 45 30.7 -11
LVV L'vov 142.70 341 *e*PKIKP PKPdf 07 45 50.1 +8.5
LVV *i* 07 48 58.3
NRDL Niedersach Rie 142.76 356 *e*PKPbc PKPdf 07 45 38.5 -3.2
IBBN Ibbenburen 143.05 359 *e*PKPbc PKPdf 07 45 40.2 -2.0
KWP Kalwaria 143.26 342 *e*PKP PKPdf 07 45 40.7 -1.9
KIS Kishinev 143.30 334 *e*PKIKP PKPdf 07 45 43.0 +0.4
KIS *e*PPP 07 52 00.0
KIS pmax pmax
comp=Z,4µm,25.0s
CLZ Clausthal 143.40 356 *e*PKPbc PKPdf 07 45 40.1 -2.7
WTSB Winterswijk 143.41 360 *e*PKP PKPdf 07 45 40.9 -1.9
comp=Z,55nm,2.1s
OJC Ojcow 143.51 346 *e*PKPdf PKPdf 07 45 40.4 -2.6
OJC *e*PP PP 07 48 56.3 +1.4
OJC *e*SKKSac SKKSac 07 55 41.9 -2.9
OJC *e*SS SS 08 07 32.1 -1.4
OJC L 08 45 39.9
comp=Z,26nm,23.0s
OJC Ojcow 143.51 346 *e*PKIKP PKPdf 07 45 40.4 -2.6
OJC *e* 07 48 56.3
OJC *e*SS SS 08 07 32.1 -1.4
KSP Ksiaz 143.65 349 *i* PKIKP PKPdf 07 45 46.0 +2.8
KSP *e* 07 45 53.4
KSP *e* 07 48 51.0
KSP *e*PPP 07 52 15.0
KSP *e*PPS 08 01 26.0
KSP *e*SS SS 08 07 28.0 -7.2
KSP Ksiaz 143.65 349 *e*PKP PKPdf 07 45 41.7 -1.6
KSP *e*PKPdf PKPdf 07 45 46.0 +2.8
KSP *e*pPKP pPKPdf 07 45 53.4 -1.9
KSP *e*PP PP 07 48 51.0 -4.7
KSP *e*PPP 07 52 15.0
KSP *e*SKKS SKKSac 07 55 45.0 -0.7
KSP *e*SKSP 07 59 03.0
KSP *e*PPS 08 01 26.0
KSP *e*SS SS 08 07 28.0 -7.2
KSP LR LR
comp=Z,9µm,24.0s,MS6.5
MALT Malatya 143.66 315⇑ *i*P PKPdf 07 45 44.4 +1.1
MALT Malatya 143.66 315 P PKPdf 07 45 44.2 +0.9
CLL Collm 143.68 353 *e*PKPpre 07 45 40.0
CLL *e*PKPdf PKPdf 07 45 41.8 -1.5
CLL *e*pPKP pPKPdf 07 45 55.4 0.0
CLL *e*PP PP 07 48 53.5 -2.4
CLL *e*PPP 07 52 12.9
CLL *e*SKKSac SKKSac 07 55 45.2 -0.6
CLL *e*PPS 08 01 31.1
CLL *e*SS SS 08 07 34.3 -1.2
CLL *e*SSS 08 13 00.7
CLL *e*LR LR 08 33 38.6
CLL *e*L 08 47 25.6
comp=Z,3µm,22.0s
CLL Collm 143.68 353 *e* PKPdf 07 45 40.0 -3.3
CLL *i* PKIKP PKPdf 07 45 41.8 -1.5
CLL *i* 07 45 46.9
CLL *i* *PPKP 07 45 53.9
CLL *e* 07 48 24.0
CLL *e*PP PP 07 48 53.0 -2.9
CLL *e* 07 49 15.0
CLL *e* 07 49 41.0
CLL *e*PPP 07 52 12.0
CLL *e* 07 55 41.0
CLL *e*PPS 08 01 31.0
CLL *e*SS SS 08 07 42.0 +6.5
CLL *e*SSS 08 13 10.0
CLL Collm 143.68 353 *e*PKPpre 07 45 40.0
comp=Z,7.0nm,0.8s
CLL *i* PKPdf PKPdf 07 45 41.8 -1.5
comp=Z,23nm,0.9s
CLL *i* PKiKP PKiKP 07 45 46.9 +0.2
CLL *i* pPKPdf pPKPdf 07 45 53.9 -1.5
CLL *ex* x 07 48 24.0
CLL *e*PP PP 07 48 53.0 -2.9
CLL *e*SKPdf SKPdf 07 49 15.0 +0.2
CLL *e*(sPKSbc) 07 49 41.0
CLL *e*PPP 07 52 12.0
CLL *ex* x 07 53 54.0
CLL *e*SKKSac SKKSac 07 55 41.0 -4.8
CLL *ex* x 07 56 08.0
CLL *e*(PKKSbc) 07 57 28.0
CLL *e*PSKS 07 59 12.0
CLL *e*PPS 08 01 31.0
CLL *e*SS SS 08 07 42.0 +6.5
CLL *ex* x 08 09 18.0
CLL *e*SSS 08 13 10.0
CLL *ex* x 08 22 12.0
CLL *ex* x 08 23 18.0
CLL LmV 08 47 00.0
comp=Z,3µm,21.5s
CLL LmH 08 49 00.0
comp=N,2µm,21.5s
CLL LmH 08 49 00.0
comp=E,2µm,19.7s
CLL Collm 143.68 353 *i* PKIKP PKPdf 07 45 41.8 -1.5
CLL *i* 07 45 46.9
CLL pmax pmax
comp=Z,23nm,0.9s
CLL Collm 143.68 353 *i* PKP PKPdf 07 45 41.8 -1.5
CLL *i* 07 45 46.9
CLL *e*SKP 07 49 15.0
CLL *e*SKKS SKKSac 07 55 41.0 -4.8
BUG Bochum--Univer 143.93 359 *e*PKPbc PKPdf 07 45 42.4 -1.3
BRG Berggiesshubel 143.99 352 *e*PKPbc PKPdf 07 45 41.1 -2.7
BRG Berggiesshubel 143.99 352 *e*PKP PKPdf 07 45 41.0 -2.8
comp=Z,1.6nm,0.8s
BRG *i* 07 45 43.1
comp=Z,11nm,0.9s
BRG *i* 07 45 56.0
BRG *i* 07 48 59.0
BRG *e* 07 48 59.4
comp=Z,43nm,2.1s
BRG *e* 07 49 39.0
BRG *e*SKKS SKKSac 07 55 49.0 +1.4
BRG *e* 07 59 00.0
BRG SS SS 08 07 57.0 +18
BRG
comp=N,2µm,22.1s
BRG
comp=E,1µm,22.4s
BRG
comp=Z,2µm,21.5s
BRG Berggiesshubel 143.99 352 *e*PKIKP PKPdf 07 45 41.0 -2.8
BRG *i* 07 45 56.0
BRG *i* 07 48 59.0
BRG pmax pmax

comp=Z,2.0nm,0.8s
BRG pmax pmax
comp=Z,11nm,0.9s
BRG pmax pmax
comp=Z,43nm,2.1s
BRG MLR MLR
comp=N,2µm,22.1s,MS5.9
BRG MLR MLR
comp=E,1µm,22.4s,MS5.9
BRG MLR MLR
comp=Z,2µm,21.5s,MS5.8
BRG Berggiesshubel 143.99 352 ePKP PKPdf 07 45 41.0 -2.8
BRG i 07 45 43.1
BRG i 07 45 56.0
BRG i 07 48 59.0
BRG e 07 48 59.4
BRG e 07 49 39.0
BRG eSKKS SKKSac 07 55 49.0 +1.4
BRG e 07 59 00.0
BRG SS SS 08 07 57.0 +18
BRG LR LR
comp=Z,2µm,21.5s,MS5.8
RAC Raciborz 144.00 347 eP PKPdf 07 45 43.5 -0.4
RAC LR LR
comp=Z,6µm,23.7s,MS6.3
TSUM Tsumeb 144.01 198 ePKPdf PKPdf 07 45 46.6 +2.7
TSUM LR LR
comp=Z,3µm,22.0s,MS6.0
KOLS Kolonicke sedl 144.02 342 ePKP PKPdf 07 45 48.6 +4.7
FBE Freiberg 144.02 353 ePKPbc PKPdf 07 45 41.4 -2.5
UPC Upice 144.02 350 ePKP PKPdf 07 45 41.6 -2.3
UPC epPKP pPKPdf 07 45 53.9 -2.1
DPC Dobruska-Polom 144.12 349 ePKP PKPdf 07 45 42.4 -1.7
DPC epPKP pPKPdf 07 45 54.0 -2.1
DPC ePP PP 07 49 05.2 +6.7
DPC eSKKS SKKSac 07 55 45.2 -3.1
DPC ex x 07 59 05.7
DPC AMS AMS 08 45 10.0
comp=Z,5µm,22.8s
DPC Dobruska-Polom 144.12 349 ePKIKP PKPdf 07 45 42.4 -1.7
DPC e 07 45 54.0
DPC e 07 49 05.2
DPC MLR MLR
comp=Z,5µm,22.8s,MS6.2
NIE Niedzica 144.12 344 ePKP PKPdf 07 45 43.5 -0.6
BURAR Bucovina Array 144.20 338⇓ iP PKPdf 07 45 43.0 -1.2
BURAR Bucovina Array 144.20 338⇓ P PKPdf 07 45 43.0 -1.2
PVCC Panska Ves 144.24 351 ePKP PKPdf 07 45 44.0 -0.3
PVCC ePP PP 07 49 02.9 +3.6
PVCC AMS AMS 08 48 00.0
PVCC Panska Ves 144.24 351 ePKP PKPdf 07 45 44.0 -0.3
PVCC eSKP 07 49 02.9
OKC Ostrava-Krasne 144.24 347 ePKP PKPdf 07 45 43.2 -1.1
OKC epPKP pPKPdf 07 45 54.8 -1.6
OKC ePP PP 07 49 02.1 +2.8
OKC AMS AMS 08 44 40.0
comp=Z,4µm,23.5s
OKC Ostrava-Krasne 144.24 347 ePKP PKPdf 07 45 43.2 -1.1
OKC e 07 45 54.8
OKC eSKP 07 49 02.1
CRVS Cervenica-Dubn 144.28 343 ePKP PKPdf 07 45 45.9 +1.6
MORC Moravsky Berou 144.43 348⇑ iP PKPdf 07 45 44.2 -0.4
MORC Moravsky Berou 144.43 348 P PKPdf 07 45 44.3 -0.3
UBBA Unterbreizbach 144.44 356 ePKPbc PKPdf 07 45 43.0 -1.6
MOX Moxa 144.48 354 ePKPbc PKPdf 07 45 43.5 -1.2
MOX epPKPbc 07 45 55.9
MOX Moxa 144.48 354 ePKP PKPdf 07 45 43.8 -0.9
MOX e 07 45 56.1
MOX
comp=Z,2µm,22.0s
UCC Uccle 144.54 2 PKP PKPdf 07 45 43.5 -1.3
UCC APKP 07 45 55.5
BEBN Eben Emael 144.58 1 PKP PKPdf 07 45 44.9 0.0
BEBN APKP 07 45 56.1
WERD Werda 144.61 354 ePKPbc PKPdf 07 45 43.7 -1.2
WERD epPKPbc 07 45 56.6
HGN Heimansgroeve 144.61 1 ePKP PKPdf 07 45 44.0 -0.9
comp=Z,75nm,1.8s
HGN ex x 07 45 54.0
comp=Z,177nm,2.2s
TANN Tannenbergstha 144.62 353 ePKPbc PKPdf 07 45 43.5 -1.4
MENF Mencas 144.65 5 PKP PKPdf 07 45 45.0 0.0
GUNZ Gunzen 144.69 353 ePKPbc PKPdf 07 45 43.8 -1.3
GUNZ epPKPbc 07 45 56.7
GZT Gaziantep 144.74 314 i P PKPdf 07 45 44.9 -0.3
PRU Pruhonice 144.77 351 ePKP PKPdf 07 45 44.5 -0.7
PRU epPKP pPKPdf 07 45 56.3 -1.0
PRU ePP PP 07 49 06.8 +4.4
PRU eSKKP 07 55 49.7
PRU ex x 07 59 05.2
PRU AMS AMS 08 48 40.0
comp=Z,6µm,21.8s
PRU Pruhonice 144.77 351 ePKIKP PKPdf 07 45 44.5 -0.7
PRU e 07 45 56.3
PRU e 07 49 06.8
PRU MLR MLR
comp=Z,6µm,21.8s,MS6.3
MEM Membach 144.77 0 PKP PKPdf 07 45 44.2 -0.9
MEM APKP 07 45 56.0
MEM XPKP 07 46 02.5
NKC Novy Kostel 144.80 353 ePKP PKPdf 07 45 44.7 -0.6
NKC epPKP pPKPdf 07 45 57.4 +0.1
NKC AMS AMS 08 47 10.0
comp=Z,3µm,22.5s
NKC Novy Kostel 144.80 353 ePKP PKPdf 07 45 44.7 -0.6
NKC e 07 45 57.4
SNF Seneffe 144.83 2 PKP PKPdf 07 45 44.6 -0.7
SNF APKP 07 45 56.3
SNF XPKP 07 46 02.5
KECS Kecovo 144.93 344 i PKP PKPdf 07 45 44.2 -1.3
KECS e 07 45 58.7
BCLA Clavier 144.95 1 PKP PKPdf 07 45 44.7 -0.8
BCLA APKP 07 45 56.5
CFR Carcaliu 145.02 333⇓ iP PKPbc 07 45 47.4 +2.4
CFR Carcaliu 145.02 333⇓ P PKPbc 07 45 47.4 +2.4
VRAC Vranov 145.07 348⇓ iP PKPbc 07 45 46.8 +1.6
VRAC Vranov 145.07 348 P PKPbc 07 45 45.8 +0.6
VRI Vrincioaia 145.07 335⇑ iP PKPbc 07 45 45.7 +0.5
VRI Vrincioaia 145.07 335 P PKPbc 07 45 46.5 +1.3
MANZ Manzenberg 145.09 354 ePKPbc PKPbc 07 45 45.4 +0.2
DOU Dourbes 145.25 2 PKP PKPdf 07 45 45.9 -0.1
DOU APKP 07 45 57.7
DOU XPKiKP 07 46 04.4
GIVF Givet 145.25 2 ePKP1 PKPbc 07 45 45.3 -0.5
comp=Z,120nm,0.9s
BAIF Baives 145.27 3 ePKP1 PKPbc 07 45 45.6 -0.3
comp=Z,224nm,1.0s
TREC Trest 145.28 350 ePKP PKPdf 07 45 45.9 -0.2
TREC AMS AMS 08 47 40.0
comp=Z,4µm,22.5s
ROTZ Rotzenmuhle 145.29 353 ePKPbc PKPbc 07 45 46.1 +0.2
ROTZ epPKPbc pPKPbc 07 45 58.9 +1.1
VYHS Vyhne 145.34 345 ePKP PKPdf 07 45 45.8 -0.4
VYHS e 07 45 59.2
KMBO Kilima Mbogo 145.43 245 PKPbc PKPbc 07 45 46.9 +0.5
comp=Z,21nm,1.2s,baz=121,slow=3.4,SNR=13
KMBO Kilima Mbogo 145.43 245 PKHKP 07 45 46.9
KMBO pmax pmax
comp=Z,21nm,1.2s
TIRR Tirgusor 145.46 332⇑ iP PKPdf 07 45 47.3 +0.9
TIRR Tirgusor 145.46 332 PKIKP PKPdf 07 45 47.4 +1.0
TIRR Tirgusor 145.46 332 ePKPdf PKPdf 07 45 43.6 -2.8
GRF Grafenberg Arr 145.46 355 ePKPbc PKPbc 07 45 46.6 +0.1
GRF epPKPbc pPKPbc 07 45 59.6 +1.2
GRF eL 08 49 26.0
comp=Z,3µm,22.0s
ABH Alteburg 145.49 359 PKP PKPdf 07 45 47.1 +0.7
HARR Harsova 145.50 333⇑ iP PKPdf 07 45 47.2 +0.8
HARR Harsova 145.50 333⇑ P PKPdf 07 45 47.2 +0.8
PSZ Piszkesteto 145.61 344⇓ ePKP PKPdf 07 45 47.3 +0.7
PSZ Piszkesteto 145.61 344⇓ iP PKPdf 07 45 47.5 +0.9
PSZ Piszkesteto 145.61 344 ePKPab PKPab 07 45 47.3 +0.1
SMOL Smolenice 145.65 347 ePKP PKPdf 07 45 47.6 +0.9
SMOL e 07 46 01.4
SMOL e 07 46 08.7
SMOL Smolenice 145.65 347 ePKIKP PKPdf 07 45 47.6 +0.9
SMOL e 07 46 01.4
RUP Ruppelstein 145.67 359 PKIKP PKPdf 07 45 47.3 +0.5
MLR Muntele Rosu 145.70 335⇓ iP PKPdf 07 45 47.8 +1.0
MLR Muntele Rosu 145.70 335 P PKPdf 07 45 47.5 +0.7
WLF Walferdange 145.71 0 PKP PKPdf 07 45 48.5 +1.7
WLF APKP 07 46 00.1
WLF XPKiKP 07 46 06.3
WLF E 07 46 29.4
TOD Tromm 145.72 357 PKIKP PKPdf 07 45 47.7 +0.9
KHC Kasperske Hory 145.74 352 ePKP PKPdf 07 45 47.0 +0.1
KHC epPKP pPKPdf 07 45 58.3 -0.6
KHC eSKP 07 49 17.6
KHC eSKKS SKKSac 07 55 55.5 -2.1
KHC AMS AMS 08 48 20.0
comp=Z,5µm,21.9s
KHC Kasperske Hory 145.74 352 ePKIKP PKPdf 07 45 47.0 +0.1
KHC e 07 45 58.3
KHC MLR MLR
comp=Z,5µm,21.9s,MS6.2
DRGR 145.78 340⇑ iP PKPdf 07 45 47.1 +0.2
DRGR 145.78 340 P PKPdf 07 45 47.1 +0.2
WET Wettzell 145.82 352 epPKPbc pPKPbc 07 46 00.4 +0.9
WET Wettzell 145.82 352 epPKPbc pPKPbc 07 46 00.4 +0.9
BR131 Keskin Array S 145.96 321 PFAKE 07 46 00.0 +13
BR131 LR LR
comp=Z,1µm,22.0s,MS5.7
BRTR Keskin Array B 145.96 321 PKPbc PKPbc 07 45 48.2 +0.2
comp=Z,49nm,0.8s,baz=84,slow=2.0,SNR=34
GEC2 GERESS Array S 146.00 351 ePKPbc PKPbc 07 45 47.5 -0.6
GEC2 epPKPbc pPKPbc 07 46 00.8 +0.7
GERES GERESS Array B 146.00 351 PKPbc PKPbc 07 45 47.6 -0.6
comp=Z,32nm,0.7s,baz=29,slow=3.0,SNR=106
GERES GERESS Array B 146.00 351 PKIKP PKPdf 07 45 47.6 +0.3
GERES pmax pmax
comp=Z,32nm,0.7s
ZST Bratislava 146.02 347 ePKP PKPdf 07 45 48.9 +1.6
ZST e 07 45 59.5
ZST e 07 46 08.4
ZST Bratislava 146.02 347 ePKIKP PKPdf 07 45 48.9 +1.6
ZST e 07 45 59.5
KTD Kalmit 146.03 358 PKIKP PKPdf 07 45 49.0 +1.6
COBT Iskenderun 146.06 314 i P PKPdf 07 45 48.0 +0.6
ROSF Rostrenen 146.09 12 ePKP1 PKPbc 07 45 47.5 -0.9
comp=Z,61nm,0.9s
VOIR 146.09 336⇑ iP PKPdf 07 45 49.5 +2.0
VOIR 146.09 336⇑ P PKPdf 07 45 49.5 +2.0
SRO Srobarova 146.11 346 ePKP PKPdf 07 45 51.1 +3.6
SRO e 07 46 02.0
SRO Srobarova 146.11 346 ePKP PKPdf 07 45 51.2 +3.7
SRO e 07 46 02.0
SRO2 Moca 146.13 345 ePKP 07 46 02.7
SRO2 e 07 46 10.6
FLN La Foliniere 146.14 8 ePKP1 PKPbc 07 45 47.8 -0.7
comp=Z,132nm,1.0s
FLN eR
comp=Z,10µm,22.0s
FLN La Foliniere 146.14 8 ePKP PKPdf 07 45 47.8 +0.3
FLN LR LR
comp=Z,10µm,22.0s,MS6.5
PSN Preselentsi 146.16 331 P PKPdf 07 45 50.0 +2.4
SRO1 Iza 146.17 346 ePKP 07 46 03.0
SRO1 e 07 46 10.8
BUD Budapest 146.24 345 ePKP PKPdf 07 45 50.6 +2.9
MTUR Matau 146.26 336 PKP2 PKPab 07 45 50.7 +1.0
SGMF Saint Gilles 146.30 11 ePKP1 PKPbc 07 45 48.2 -0.8
comp=Z,115nm,0.8s
LDF La Druitiere 146.35 8 ePKP1 PKPbc 07 45 48.4 -0.8
comp=Z,132nm,1.0s
SGKT Sivrigoynuk 146.36 324 i P PKPdf 07 45 50.2 +2.2
ANTO Ankara 146.38 322 PKPdf PKPdf 07 45 49.4 +1.5
ANTO Ankara 146.38 322⇑ iP PKPdf 07 45 51.3 +3.3
ANTO Ankara 146.38 322 P PKPdf 07 45 50.6 +2.6
ANTO LR LR
comp=Z,1µm,20.0s,MS5.7
GRR Gorron 146.45 9 ePKP1 PKPbc 07 45 49.0 -0.5
comp=Z,69nm,0.7s
QUIF Quistinic 146.51 12 ePKP1 PKPbc 07 45 48.8 -0.8
comp=Z,88nm,0.9s
CONA Conrad Observa 146.53 348⇑ iPKPbc PKPbc 07 45 49.2 -0.5
comp=Z,2µm,2.8s,SNR=29
STU Stuttgart 146.53 357 ePKPbc PKPbc 07 45 49.9 +0.2
STU epPKPbc pPKPbc 07 46 02.6 +0.9
STU Stuttgart 146.53 357 ePKPab PKPab 07 45 51.6 +0.8
STU epPKPdf pPKPdf 07 46 02.9 +2.6
HENT Hendek 146.85 325 i P PKPdf 07 45 48.3 -0.4
MEZF Maizieres J'vi 146.86 2 ePKP1 PKPbc 07 45 50.7 +0.1
comp=Z,137nm,1.1s
MOA Molln 146.89 350 i P PKPdf 07 45 50.8 +2.0
comp=Z,2µm,3.0s,SNR=20
PRD Provadia 146.90 331 eP pPKPdf 07 45 58.3 -2.6
CDF Champ du Feu 146.96 359 ePKP1 PKPbc 07 45 50.9 0.0
comp=Z,280nm,1.0s
GZR Gura Zlata 146.97 339⇓ iP PKPdf 07 45 51.0 +2.0
GZR Gura Zlata 146.97 339⇓ P PKPdf 07 45 51.0 +2.0
BFO Black Forest 147.01 358 ePKPbc PKPbc 07 45 50.9 -0.2
BFO epPKPbc pPKPbc 07 46 04.2 +1.1
THEF They Montfort 147.15 1 PKP PKPdf 07 45 51.9 +2.6
ECH Echery 147.16 359 PKP PKPdf 07 45 51.6 +2.3
BZS Buzias 147.17 340⇓ iP PKPdf 07 45 50.8 +1.5
BZS Buzias 147.17 340 P PKPdf 07 45 51.4 +2.1
LIBD Limburg 147.22 359 PKP2 PKPab 07 45 52.1 -1.3
SPAK Spaichingen-Ko 147.22 357 PKP PKPdf 07 45 52.1 +2.7
ARSA Arzberg 147.24 349⇑ iP PKPdf 07 45 50.9 +1.5
comp=Z,2µm,4.7s,SNR=30
HAU Haudompre 147.37 0 ePKP1 PKPbc 07 45 52.0 -0.1
comp=Z,170nm,0.9s
HAU eR
comp=Z,3µm,22.2s
HAU Haudompre 147.37 0 ePKP PKPdf 07 45 52.0 +2.4
HAU LR LR
comp=Z,3µm,22.3s,MS6.1
FELD Feldberg im Sc 147.48 358⇓ eP PKPdf 07 45 52.7 +2.9
SZH Strazhica 147.50 333 eP pPKPdf 07 45 59.0 -2.9
PKSM Moragy 147.51 344⇑ iP PKPdf 07 45 50.0 +0.1
PKSM Moragy 147.51 344 P PKPdf 07 45 50.2 +0.4
MOF Molkenrain 147.52 359 PKP PKPdf 07 45 52.7 +2.8
HINF Hinteralfeld 147.56 359 ePKP1 PKPbc 07 45 52.2 -0.4
comp=Z,92nm,1.0s
KDHN Kadinhani 147.64 321 i P PKPdf 07 45 51.6 +1.6
DJES Djerdap 147.72 338 i PKP pPKPdf 07 45 57.2 -5.1
ESKT Eskisehir 147.75 323 i P PKPdf 07 45 51.1 +0.9
WATA Walderalm 147.76 353⇑ iP PKPdf 07 45 51.9 +1.6
comp=Z,141nm,1.4s
KBA Koelnbreinsper 147.78 351 i P PKPdf 07 45 51.7 +1.4
comp=Z,487nm,2.2s,SNR=37
MOTA Moosalm 147.80 354⇓ iP PKPdf 07 45 52.3 +2.0
comp=Z,476nm,2.0s,SNR=20
PVL Pavlikeni 147.80 334 eP PKPdf 07 45 55.0 +4.7
WTTA Wattenberg 147.82 353⇓ iP PKPdf 07 45 50.9 +0.5
comp=Z,867nm,2.2s,SNR=28
JMB Yambol 147.84 331 eP PKPdf 07 45 55.0 +4.6
BBS Basel-Blauen 147.90 359 PKP2 PKPab 07 45 54.5 -1.6
PERS Pernice 147.91 349 ePKPdf PKPdf 07 45 51.7 +1.2
PERS e 07 46 05.1
SQTA Sankt Quirin 147.91 354⇑ iP PKPdf 07 45 52.4 +1.9
comp=Z,324nm,1.7s,SNR=11
HYF Humbligny 147.96 5 ePKP1 PKPbc 07 45 53.8 +0.1
DAVA Damuels 147.97 356⇓ iP PKPdf 07 45 53.0 +2.4
comp=Z,974nm,2.2s,SNR=31
DAVA Damuels 147.97 356⇓ iP PKPdf 07 45 53.0 +2.4
LOMF Lomont 148.03 359 PKP PKPdf 07 45 54.0 +3.3
LOR Lormes 148.04 3 ePKP1 PKPbc 07 45 53.6 -0.3
comp=Z,150nm,0.9s
LOR eR
comp=Z,8µm,21.5s
LOR Lormes 148.04 3 ePKP PKPdf 07 45 53.6 +2.9
LOR LR LR
comp=Z,8µm,21.5s,MS6.5
OBKA Obir 148.14 349⇓ iP PKPdf 07 45 52.7 +1.8
comp=Z,574nm,2.8s,SNR=18
SSF Saint Saulge 148.23 4 ePKP1 PKPbc 07 45 54.5 +0.1
comp=Z,252nm,1.0s
ULDT Uludag 148.29 326 i P PKPdf 07 45 52.4 +1.3
MFF Saint Martin d 148.30 9 ePKP1 PKPbc 07 45 54.2 -0.4
comp=Z,147nm,1.0s
GOLS Golise 148.41 348 ePKPdf PKPdf 07 45 52.4 +1.1
PTCC Patocco-Chiusa 148.44 351 PKP PKPdf 07 45 51.9 +0.5
AVF Avril sur Loir 148.49 4 ePKP1 PKPbc 07 45 54.8 -0.3
comp=Z,141nm,1.0s
CADS Cadrg 148.55 350 ePKPdf PKPdf 07 45 52.7 +1.2
CADS e 07 45 55.8
CADS e 07 49 39.9
GMNA Gemona 148.58 351 PKP PKPdf 07 45 52.1 +0.5
LJU Ljubljana 148.59 349 ePKPdf PKPdf 07 45 52.7 +1.1
LJU e 07 45 56.6
LJU e 07 46 07.6
CRES Cresnjev 148.62 348 ePKPdf PKPdf 07 45 53.5 +1.8
CRES e 07 45 56.8
CRES e 07 46 07.8

APPI Appiano 148.64 354 PKP PKPdf 07 45 47.6 -4.1
SMF Signal de Mont 148.66 3 ePKP1 PKPbc 07 45 55.4 -0.1
comp=Z,151nm,1.0s
BGF Bois d'Agland 148.68 5 ePKP1 PKPbc 07 45 55.5 -0.1
comp=Z,194nm,1.0s
VOY Vojsko 148.71 350 ePKPdf PKPdf 07 45 52.8 +1.0
VOY e 07 45 56.3
VOY e 07 46 04.8
SISC Sisak 148.76 346 P PKPdf 07 45 54.0 +2.1
CABF La Chapelle 148.77 0 ePKP1 PKPbc 07 45 56.5 +0.7
comp=Z,407nm,1.0s
TUE Stuetta 148.81 356 PKP PKPdf 07 45 53.2 +1.2
GDZ Gediz 148.82 324 i P PKPdf 07 45 52.7 +0.7
PGB Panagyurishte 148.84 334 P PKPdf 07 45 57.3 +1.3
TCF Toulx Ste Croi 148.89 6 ePKP1 PKPbc 07 45 55.9 -0.2
comp=Z,152nm,1.1s
CSS Prodhromos 148.90 314 ePKPbc PKPbc 07 45 59.5 +3.4
BOJS Bojanci 148.97 348 ePKPdf PKPdf 07 45 52.4 +0.1
BOJS e 07 45 58.3
BOJS e 07 46 09.2
BOJS e 07 56 15.3
BOJS e 07 59 34.2
BOJS e 08 02 15.7
BOJS e 08 08 26.9
PLD Plovdiv 148.98 333 i P PKPbc 07 45 57.6 +1.3
GRUS Gruza 149.00 340 i PKP PKPdf 07 45 54.8 +2.5
CTI Castel Tesino 149.02 353 PKIKP PKPdf 07 45 53.4 +1.1
TKTP Tekketepe 149.03 322 i P PKPdf 07 45 54.2 +1.8
DIVS Divcibare 149.05 341 i PKP PKPdf 07 45 54.5 +2.1
ASCN Ascension 149.07 137 PFAKE 07 46 10.0 +18
ASCN LR LR
comp=Z,2µm,20.0s,MS5.8
KNDS Knezji Dol 149.12 349 ePKPdf PKPdf 07 45 54.3 +1.8
MABI Malga Bissina 149.13 354 PKP PKPbc 07 45 56.8 +0.1
VTS Vitosha 149.20 335 P PKPbc 07 45 57.5 +0.6
VTS Vitosha 149.20 335⇑ iP PKPbc 07 45 57.6 +0.7
AGO Saint Agoulin 149.20 4 PKP PKPbc 07 45 57.2 +0.3
RZN Rozhen 149.31 333 eP PKPbc 07 45 56.9 -0.2
PLDF La Plantade 149.32 4 PKP PKPbc 07 45 57.2 0.0
RDO Rodhopi 149.36 331 eP PKPbc 07 45 54.0 +1.1
EMAZ Mazaricos 149.43 23 PKP PKPdf 07 45 55.4 +2.4
BBLS Bajina Basta - 149.44 341 i PKP PKPdf 07 45 53.8 +0.8
PYM Petit Puy Mans 149.49 5 PKP PKPbc 07 45 57.9 +0.3
STS Santiago 149.64 22 PKIKP PKPbc 07 45 56.5 -1.5
EPON Pontenova 149.74 20 PKP PKPbc 07 45 58.1 -0.1
COLF Collangettes 149.78 4 PKP PKPbc 07 46 00.3 +2.0
RJF Les Rejaudoux 149.79 7 ePKP1 PKPbc 07 45 58.4 +0.1
comp=Z,154nm,1.4s
RJF eR
comp=Z,7µm,22.5s
RJF Les Rejaudoux 149.79 7 ePKP PKPbc 07 45 58.4 +0.1
RJF LR LR
comp=Z,7µm,22.5s,MS6.4
FRNF Fournols 149.82 5 PKP PKPbc 07 45 59.4 +1.0
MMB Musomiste 149.82 334 P PKPbc 07 45 58.5 +0.1
KKB Krupnik 149.86 335 P PKPbc 07 45 59.0 +0.5
LPL La Plagne 149.86 360 ePKP1 PKPbc 07 45 59.7 +1.2
comp=Z,175nm,1.0s
LPG La Plagne 149.88 360 ePKP1 PKPbc 07 45 59.9 +1.3
comp=Z,200nm,0.9s
PLE Pljevlja 149.93 341 ePKP PKPbc 07 45 58.2 -0.4
LBL Lubilhac 150.03 4 PKP PKPbc 07 45 59.7 +0.8
LFF La Frestale 150.05 8 ePKP1 PKPbc 07 45 59.1 +0.1
comp=Z,96nm,0.9s
GRN Grenoble 150.13 1 PKP PKPbc 07 46 00.3 +1.1
GDM Grand'Maison 150.18 0 PKP PKPbc 07 46 00.4 +1.1
IVA Berane 150.18 340⇓ iPKP PKPbc 07 45 58.6 -0.7
UPM Unac-Piva 150.19 341⇓ iPKP PKPbc 07 45 57.7 -1.6
CAF Calviac 150.22 6 ePKP1 PKPbc 07 45 59.6 +0.2
comp=Z,52nm,1.0s
BNI Bardonecchia 150.33 360 ePKPdf PKPdf 07 45 56.0 +1.6
BNI ePKPbc PKPbc 07 46 00.7 +1.1
EARI Arriondas 150.36 17 PKP PKPdf 07 45 56.1 +1.6
PVY Plav 150.40 340⇓ iPKP PKPbc 07 45 59.1 -0.7
SKO Skopje 150.42 337 i PKP PKPbc 07 46 00.7 +0.9
PRK Paraskevi 150.46 328 eP PKPbc 07 46 00.5 +0.6
ORIF Oris-en-Rattie 150.46 1 ePKP1 PKPbc 07 46 00.7 +0.8
comp=Z,117nm,1.1s
ORIF eR
comp=Z,4µm,20.5s
VIVF Saint-Julien-l 150.49 3 ePKP1 PKPbc 07 46 00.7 +0.7
comp=Z,246nm,1.2s
BOB Bobbio (Coli) 150.50 356 PKHKP PKPbc 07 45 58.8 -1.2
NKY Niksic 150.52 341⇓ iPKP PKPbc 07 45 59.0 -1.1
VAY Valandovo 150.53 335 i PKP PKPbc 07 45 59.3 -0.8
KDAG Bornova 150.54 325 i P PKPdf 07 45 56.2 +1.5
BRY Bratogost 150.58 342⇓ iPKP PKPbc 07 45 59.1 -1.1
ELOB Lobios 150.71 22 PKP PKPbc 07 45 59.7 -0.8
TTG Podgorica 150.78 340⇓ iPKP PKPbc 07 46 00.2 -0.5
OG26 St.-Nazaire-De 150.79 2 PKP PKPbc 07 46 02.0 +1.3
PCAB Cabril 150.85 23 ePKPbc PKPbc 07 46 02.6 +1.7
PCAS Cabril 150.85 23 ePKPab pPKPbc 07 46 14.5 +1.4
STON Ston 150.85 343 i P PKPdf 07 45 51.0 -4.2
ELAN Lanestosa 150.90 15 PKP PKPbc 07 46 00.4 -0.6
SURF Saint Ours 150.90 359 PKP PKPbc 07 46 02.6 +1.6
PLG Polygyros 150.93 333 eP PKPbc 07 45 59.3 -1.8
FNVD Fontana Vidola 150.94 353 PKP PKPbc 07 45 58.5 -2.6
HCY Herceg Novi 151.01 341⇓ iPKP PKPbc 07 45 59.8 -1.5
OG25 Le Caire 151.01 1 PKP PKPbc 07 45 59.0 -2.2
BUM Brajici-Budva 151.01 341⇓ iPKP PKPbc 07 46 00.5 -0.8
VLC Villacollemand 151.03 354 ePKPbc PKPbc 07 46 02.5 +1.3
ECAL Calabor 151.11 21 PKP PKPdf 07 45 58.6 +3.0
FIN Finale Ligure 151.13 357 PKIKP PKPbc 07 46 00.5 -1.0
ULC Ulcinj 151.20 340⇓ iPKP PKPbc 07 46 00.4 -1.3
LASF Ste Croix 151.22 4 ePKP1 PKPbc 07 46 02.4 +0.7
comp=Z,229nm,1.2s
PBRG Braganca 151.23 21 ePKPbc PKPbc 07 46 03.3 +1.6
PBRG Braganca 151.23 21 ePKPab pPKPbc 07 46 14.7 +0.9
BIA Bitola 151.28 336 i PKP PKPbc 07 46 01.3 -0.6
PVRL Vila Real 151.35 23 ePKPab PKPab 07 46 12.0 +1.8
TOUF Mont Tournerai 151.36 359 PKP PKPbc 07 46 02.4 +0.3
AUTN L'Aution 151.37 358 PKP PKPbc 07 46 02.9 +0.8
SAOF Saorge 151.38 358 PKP PKPbc 07 46 02.7 +0.6
STOF St-Etienne Org 151.38 1 PKP PKPbc 07 46 03.5 +1.4
SMRF Simiane la Rot 151.40 1 ePKP1 PKPbc 07 46 03.2 +1.1
comp=Z,199nm,1.0s
OHR Ohrid 151.40 337 i PKP PKPbc 07 46 01.8 -0.4
LUCF Luceram 151.48 359 PKP PKPbc 07 46 03.0 +0.7
MVIF Mont Vial 151.48 359 PKP PKPbc 07 46 03.4 +1.1
SBF Sospel 151.50 358 ePKP1 PKPbc 07 46 02.4 0.0
comp=Z,206nm,1.0s
VILF Villemus 151.52 1 PKP PKPbc 07 46 03.7 +1.3
ARG Arkhangelos 151.55 321 eP PKPbc 07 46 04.3 +1.8
PRAF Pradon 151.56 2 PKP PKPbc 07 46 04.8 +2.3
LARF Larrau 151.62 11 PKP PKPbc 07 46 03.1 +0.4
LARF Larrau 151.62 11 PKP PKPbc 07 46 03.6 +0.9
ATE Arette 151.63 11 PKP PKPbc 07 46 02.9 +0.2
REVF Revere 151.63 359 PKP PKPbc 07 46 02.9 +0.2
TAVF Tavernes 151.76 1 PKP PKPbc 07 46 04.0 +1.0
PVIS Viseu 151.76 23 ePKPab PKPab 07 46 15.2 +3.2
MTLF Montolieu 151.81 7 ePKP1 PKPbc 07 46 03.4 +0.3
comp=Z,126nm,1.4s
FRF La Foret Royal 151.82 360 ePKP1 PKPbc 07 46 03.2 +0.1
comp=Z,161nm,1.3s
ETSF Etsaut 151.84 11 ePKP1 PKPbc 07 46 03.8 +0.7
comp=Z,147nm,1.2s
PUYF Puyloubier 151.84 1 PKP PKPbc 07 46 05.3 +2.1
GELF Grande-Etoile 151.98 2 PKP PKPbc 07 46 04.8 +1.3
MLS Moulis 152.05 8 PKP PKPbc 07 46 04.4 +0.8
LMR La Mourre 152.05 360 ePKP1 PKPbc 07 46 03.7 +0.1
comp=Z,170nm,1.3s
BERF Bertagne 152.06 1 PKP PKPbc 07 46 04.2 +0.5
MTE Manteigas 152.17 23 ePKPdf PKPdf 07 46 00.5 +3.3
MTE Manteigas 152.17 23 ePKPbc PKPbc 07 46 05.5 +1.6
MTE Manteigas 152.17 23 ePKPab PKPab 07 46 16.3 +2.6
MTE Manteigas 152.17 23 eSS SS 08 09 41.2 +30
MTE Manteigas 152.17 23 eLQ 08 29 56.7
MTE eLR LR 08 36 44.8
comp=Z,5µm,21.3s
AQU L'Aquila 152.37 349 ePKIKP PKPbc 07 46 04.8 +0.5
MNS Montasola 152.46 350 PKIKP PKPdf 07 45 59.9 +2.3
PTOM Tomar 152.50 25 ePKPab PKPab 07 46 17.5 +2.5
KARP Karpathos 152.58 321 eP PKPdf 07 46 00.0 +2.2
PTL Penteli 152.59 329 eP PKPbc 07 46 04.7 -0.1
JAN Janina 152.63 335 eP PKPbc 07 46 04.0 -0.9
PCBR Castelo Branco 152.68 24 ePKPbc PKPbc 07 46 07.8 +2.8
PGF Pioggiola 152.74 356 ePKP1 PKPbc 07 46 05.2 0.0
PLOU Loures 152.79 27 ePKPab PKPab 07 46 18.9 +2.6
EVR Evrytania 152.85 333 eP PKPbc 07 46 05.4 0.0
MIDA Miranda 152.88 347 PKP PKPdf 07 45 59.2 +0.9
CORF Corte 152.98 356 PKP PKPbc 07 46 05.7 0.0
KEK Kerkira 153.00 337 eP PKPbc 07 46 06.5 +0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NAIG	**Nisos Aigina**	**153.00**	**329**	*e*P	PKPbc	07 46 05.5	-0.2
GUD	**Guadarrama**	**153.11**	**18**	PKIKP	PKPdf	07 45 59.9	+1.3
ETOR	**Torete**	**153.51**	**15**	PKIKP	PKPbc	07 46 05.1	-1.8
EVO	**Evora**	**153.58**	**26**	*e*PKIKP	PKPdf	07 45 59.3	0.0
EVO				*e*R			
	comp=Z,7μm,20.8s						
EBAD	**Badajoz**	**153.80**	**24**	PKP	PKPdf	07 46 02.8	+3.2
VLS	**Valsamata**	**153.99**	**334**	*e*P	PKPbc	07 46 06.2	-1.7
ESDC	**Sonseca Array**	**154.06**	**19**	PKPbc	PKPbc	07 46 08.4	+0.4
	comp=Z,1.1nm,0.5s,baz=339,slow=2.0,SNR=9.9						
ESDC				PKPab	PKPab	07 46 21.5	-0.1
	comp=Z,11nm,0.8s,baz=328,slow=3.4,SNR=18						
ESDC	**Sonseca Array**	**154.06**	**19**	PKP	PKPdf	07 46 04.2	+4.2
ESLA	**Sonseca Array**	**154.06**	**19**	*e*PKPab	PKPab	07 46 22.1	+0.4
ESLA				LR	LR		
	comp=Z,12μm,21.0s,MS6.7						
PBEJ	**Beja**	**154.06**	**26**	*e*PKPab	PKPab	07 46 22.2	+0.6
PTEO	**Sao Teotonio**	**154.08**	**28**	*e*PKPab	PKPab	07 46 21.7	0.0
ITM	**Ithomi**	**154.21**	**331**	*e*P	PKPbc	07 46 08.5	+0.1
TIP	**Timpagrande**	**154.53**	**341**	PKP	PKPdf	07 46 03.9	+3.3
TIP				*e*PKPbc	PKPbc	07 46 09.8	+0.7
EGRO	**El Granado**	**154.64**	**26**	PKP	PKPbc	07 46 04.4	-4.9
EMIN	**Mina Concepcio**	**154.78**	**25**	PKP	PKPdf	07 46 01.7	+0.8
EADA	**Adamuz**	**155.22**	**21**	PKP	PKPdf	07 46 04.6	+3.0
EVIA	**Vianos**	**155.44**	**17**	PKIKP	PKPdf	07 46 05.1	+3.2
EBAN	**Banos Encina**	**155.49**	**20**	PKIKP	PKPdf	07 46 05.6	+3.7
SOI	**Samo**	**155.76**	**341**	PKIKP	PKPdf	07 46 05.1	+2.8
ESPR	**Espera**	**155.88**	**25**	PKP	PKPdf	07 46 05.9	+3.4
EQES	**Quesada**	**156.05**	**19**	PKP	PKPdf	07 46 05.9	+3.2
EHUE	**Huescar**	**156.18**	**18**	PKIKP	PKPdf	07 46 05.5	+2.7
EJIF	**Jimena Fronter**	**156.40**	**25**	PKIKP	PKPdf	07 46 06.0	+2.9
EBNR	**Beni Rached**	**158.63**	**11**	P	PKPab	07 46 35.0	-6.3
CMAH	**Djebel Manchou**	**158.73**	**358**	P	PKPab	07 46 46.0	+4.3
ECHA	**Ech Chlef**	**158.74**	**11**	P		07 46 28.0	
DFRA	**Djebel Bou Aff**	**158.82**	**1**	P	PKPab	07 46 43.0	+0.9
EANR	**'Ain N'Sour**	**158.88**	**12**	P		07 46 26.0	
EMHD	**Djebel Mahouad**	**158.94**	**8**	P	PKPab	07 46 44.0	+1.4
CASM	**Ain Smara**	**159.11**	**360**	P	PKPab	07 46 45.0	+1.6
SET	**Setif**	**159.15**	**2**	P	PKPab	07 46 48.0	+4.5
CTEI	**Djebel Teioual**	**159.31**	**0**	P	PKPab	07 46 45.5	+1.3
CKHR	**Kef el Ahmar**	**159.34**	**2**	P	PKPab	07 46 47.0	+2.7
ETRT	**Tiaret**	**159.46**	**12**	P	pPKPdf	07 46 22.0	+3.0
LIC	**Lamto**	**165.60**	**127**	*e*PKIKP	PKPdf	07 46 12.6	-0.4
	comp=Z,30nm,1.1s						
LIC				*e*R			
	comp=Z,6μm,21.8s						
LIC	**Lamto**	**165.60**	**127**	*e*PKPdf	PKPdf	07 46 12.6	-0.4
LIC				LR	LR		
	comp=Z,3μm,21.8s						
DBIC	**Dimbokro**	**166.01**	**127**	PKP	PKPdf	07 46 11.9	-1.4
	comp=Z,4.6nm,0.9s,baz=308,slow=1.5,SNR=5.8						
DBIC	**Dimbokro**	**166.01**	**127**	PKP	PKPdf	07 46 11.9	-1.4
DBIC				LR	LR		
	comp=Z,4μm,22.0s						
TORD	**Torodi Ar. Bea**	**174.94**	**114**	PKP	PKPdf	07 46 17.1	-1.0
	comp=Z,9.4nm,1.2s,baz=319,slow=1.4,SNR=17						
TORD				PKPab	PKPab	07 47 53.2	+0.1
	comp=Z,0.6nm,0.7s,baz=157,slow=36,SNR=3.1						
TORD				PP	PP	07 51 48.2	+2.6
	comp=Z,5.3nm,1.3s,baz=268,slow=4.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**174.94**	**114**	PKP	PKPdf	07 46 17.1	-1.0
TORD				PKPab	PKPab	07 47 53.2	+0.1
TORD				PP	PP	07 51 48.2	+2.6

NNC 07 07:52:22.8±4.9**, 3917N×7098E, h15**^{km}±32^{km}**, mb3.0, mpv2.5, 6C-1D, Error ellipse: s-maj=45.3km s-min=26.5km az=17.0, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**3.95**	**355**	⇓Pn	Pn	07 53 26.0	+3.3
	1.5nm,0.5s,baz=178,slow=12,SNR=22						
KK31				⇑Sn	Sn	07 54 14.9	+6.2
	1.6nm,0.3s,baz=185,slow=25,SNR=4.9						
KK31				⇑Lg		07 54 27.9	
	5.5nm,0.5s,baz=165,slow=26,SNR=5.2						
TKM2	**Tokmak 2**	**5.12**	**42**	⇑Pn	Pn	07 53 36.9	-2.0
	0.1nm,0.5s						
TKM2				⇑Sn	Sn	07 54 39.8	+2.0
	0.3nm,0.7s						
AB31	**Akbulak array**	**12.80**	**326**	⇑Pn	Pn	07 55 26.4	+2.2
	0.4nm,0.6s,baz=142,slow=14,SNR=5.1						
AB31				⇑Sn	Sn	07 57 43.8	-2.6
	1.0nm,0.7s,baz=134,slow=24,SNR=3.7						

IDC 07 08:02:16.2±11.0**, 1096N×12484E, h160**^{km}±118^{km}**, mb3.4**/4**, mb1 3.5**/5**, mb1mx3.2**/21**, mbtmp4.0**/5**, Error ellipse: s-maj=126.0km s-min=18.8km az=83.0, Leyte**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**16.12**	**11**	P	Pn	08 05 53.1	-0.6
	1.1nm,0.3s,baz=126,slow=19,SNR=5.4						
JOW				S	S	08 08 56.5	+3.5
	0.8nm,0.3s,baz=116,slow=23,SNR=2.2						
FITZ	**Fitzroy Crossi**	**28.89**	**178**	P	P	08 08 00.3	+0.5
	7.0nm,1.3s,baz=8.1,slow=14,SNR=5.2						
WRA	**Warramunga Arr**	**32.10**	**163**	P	P	08 08 28.6	+0.6
	0.7nm,0.7s,baz=344,slow=10,SNR=7.4						
ASAR	**Alice Springs**	**35.54**	**166**	P	P	08 08 57.5	-0.2
	0.4nm,0.5s,baz=344,slow=7.2,SNR=8.9						
FINES	**FINESS Array B**	**84.62**	**332**	P	P	08 14 31.4	-0.2
	0.2nm,0.3s,baz=85,slow=2.3,SNR=5.4						

IDC 07 08:18:58.4±1.7**, 454N×12713E, h0**^{km}**, mb3.9**/5**, mb1 4.1**/5**, mb1mx3.8**/19**, mbtmp3.9**/5**, Error ellipse: s-maj=94.6km s-min=22.8km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.55**	**184**	P	P	08 23 59.7	-0.2
	3.0nm,0.8s,baz=42,slow=15,SNR=3.6						
WRA	**Warramunga Arr**	**25.34**	**164**	P	P	08 24 25.9	-1.0
	4.8nm,0.7s,baz=345,slow=11,SNR=38						
WB2	**Warramunga Arr**	**25.34**	**164**	*e*P	P	08 24 25.8	-1.1
ASAR	**Alice Springs**	**28.80**	**167**	P	P	08 24 58.9	+0.9
	0.4nm,0.5s,baz=341,slow=9.5,SNR=12						
STKA	**Stephens Creek**	**38.75**	**160**	*e*P	P	08 26 27.2	+2.9
	1.7nm,0.9s						
STKA	**Stephens Creek**	**38.75**	**160**	P	P	08 26 25.6	+1.3
	1.2nm,0.4s,baz=342,slow=9.8,SNR=6.1						
MKAR	**Makanchi Array**	**57.12**	**325**	P	P	08 28 46.8	+0.1
	0.4nm,0.5s,baz=134,slow=8.3,SNR=2.8						

KRSC 07 08:19:59, 4892N×15614E, h103^{km}**, ML3.8, East of Kuril Islands**

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*TRN **07** 08:43:02.4, 1463N×6107W, h19^{km}, MD3.5*
TRN Felt (II) & (III) in Martinique.
*ISCJB **07** 08:43:04.0±0.5, 1465N±002×6106W±006, h14^{km}±3^{km}, Error ellipse: s-maj=9.9km s-min=3.4km az=161.4*
*NEIC **07** 08:43:05.6, 1472N×6106W, h1^{km}, MD3.5(TRN), After TRN.*
ISC 07 08:43:04.0±0.5**, 1464N**±002×**6106W**±007**, h15**^{km}±2^{km}**, n24,** σ**0**^{s}**49**/35**, 6C-3D, Windward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BVM	**Bellevue**	**0.09**	**0**	⇑*i*P	**Pg**	**08 43 07.0**	**-0.1**
FDF	**Fort de France**	**0.12**	**317**	⇓*i*P	**Pg**	**08 43 07.4**	**-0.1**
FDF				S	**Sg**	**08 43 09.4**	**-0.6**
BIM	**Bigot**	**0.13**	**183**	⇑*i*P	**Pg**	**08 43 07.6**	**+0.1**
PML	**Morne Lenard**	**0.18**	**319**	*e*P	**Pg**	**08 43 08.5**	**+0.2**
CRM	**Caravelle**	**0.18**	**53**	⇑*i*P	**Pg**	**08 43 08.3**	**0.0**
GBMF	**Grand Be**	**0.18**	**327**	⇑*i*P	**Pg**	**08 43 08.5**	**+0.2**
MVM	**Montagne Vaucl**	**0.19**	**119**	⇑*i*P	**Pg**	**08 43 08.6**	**+0.2**
BAMF	**Morne Balai**	**0.19**	**334**	⇑*i*P	**Pg**	**08 43 08.7**	**+0.3**
PCM	**Pelee Case Pet**	**0.22**	**320**	*e*P	**Pg**	**08 43 09.2**	**+0.3**
PCM				S	**Sg**	**08 43 11.7**	**-0.6**
DBCT	**Belle View Cho**	**0.68**	**336**	*e*P	**Pg**	**08 43 17.4**	**+0.2**
DBCT				*e*S	**Sg**	**08 43 26.2**	**0.0**
DWS	**Wesley**	**0.95**	**345**	*e*P	**Pb**	**08 43 22.5**	**+0.3**
DWS				*e*S	**Sb**	**08 43 34.4**	**-0.2**
DWS	**Wesley**	**0.95**	**345**	*e*P	**Pb**	**08 43 22.5**	**+0.3**
DWS				*e*S	**Sb**	**08 43 35.8**	**+1.3**
BBL	**Barber's Block**	**0.96**	**336**	⇓*e*P	**Pb**	**08 43 22.2**	**-0.1**
SSV	**Crater Summit**	**1.31**	**185**	*e*P	**Pn**	**08 43 27.4**	**-0.4**
SSV				*e*S	**Sb**	**08 43 44.8**	**-0.3**
TBG	**Guadaloupe-3**	**1.33**	**335**	*e*P	**Pn**	**08 43 27.8**	**-0.2**
SVV	**Soufriere Volc**	**1.33**	**186**	*e*P	**Pn**	**08 43 28.4**	**+0.5**
SVV				*e*S	**Sn**	**08 43 45.1**	**-0.3**
SVB	**Belmont**	**1.38**	**188**	*e*P	**Pn**	**08 43 28.9**	**+0.2**
SVB				*e*S	**Sn**	**08 43 46.9**	**+0.3**
DOG	**Dongo Capester**	**1.48**	**339**	*e*P	**Pn**	**08 43 30.7**	**+0.6**
FCV	**Fort Charlotte**	**1.49**	**187**	*e*P	**Pn**	**08 43 30.6**	**+0.4**
FCV				*e*S	**Sn**	**08 43 48.8**	**-0.6**
FCV	**Fort Charlotte**	**1.49**	**187**	*e*P	**Pn**	**08 43 30.6**	**+0.4**
FCV				*e*S	**Sn**	**08 43 48.8**	**-0.6**
SCG	**Saint Claude**	**1.50**	**337**	⇓*e*P	**Pn**	**08 43 30.8**	**+0.4**
LZG	**Guadaloupe-1**	**1.64**	**335**	*e*P	**Pn**	**08 43 33.3**	**+1.1**
DEG	**La Desirade**	**1.66**	**0**	*e*P	**Pn**	**08 43 31.5**	**-1.0**
DEG				*e*S	**Sn**	**08 43 52.4**	**-1.2**
SEG	**Port Louis**	**1.80**	**346**	*e*P	**Pn**	**08 43 34.3**	**-0.2**

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*IDC **07** 08:59:52.1±3.4, 6462N×3178E, h0^{km}, mb1 2.9/3, mb1mx2.8/21, mbtmp2.7/3, ML2.6/3, Error ellipse: s-maj=50.3km s-min=12.6km az=98.0*
*ISCJB **07** 08:59:53.0±1.2, 6471N±003×306E±02, h0^{km}, Error ellipse: s-maj=12.2km s-min=4.3km az=22.1*
*HEL **07** 08:59:54.8±0.2, 6472N×3066E, h0^{km}, ML2.1, Explosion*
ISC 07 08:59:54.8±1.1**, 6475N**±003×**305E**±02**, h0**^{km}**, n11,** σ**0**^{s}**96**/21**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSF	**Maaselka**	**1.31**	**334**	*e*P	**Pg**	**09 00 19.4**	**-0.5**
MSF				*e*S	**Sg**	**09 00 37.0**	**+0.1**
KJN	**Kajaani**	**1.36**	**242**	*e*P	**Pg**	**09 00 19.7**	**-1.2**
KJN				*e*S	**Sg**	**09 00 38.3**	**-0.3**
KU4	**Liikasenvaara**	**1.67**	**348**	*e*P	**Pn**	**09 00 25.1**	**-0.1**
KU4				*e*S	**Sn**	**09 00 47.2**	**0.0**
OUL	**Oulu**	**1.97**	**282**	*e*P	**Pn**	**09 00 30.8**	**+1.4**
OUL				*e*S	**Sn**	**09 00 57.3**	**+2.5**
SUF	**Sumiainen**	**2.79**	**225**	*e*P	**Pn**	**09 00 41.6**	**+0.9**
SUF				*e*S	**Sn**	**09 01 16.1**	**+1.0**
SUF				MSG		09 01 21.3	
	comp=Z,4.8nm,0.4s						
KAF	**Kangasniemi**	**3.24**	**217**	*e*P	**Pn**	**09 00 47.4**	**+0.6**
KAF				*e*S	**Sn**	**09 01 25.2**	**-0.8**
KEF	**Keuruu**	**3.60**	**227**	*e*P	**Pn**	**09 00 52.5**	**+0.6**
KEF				*e*S	**Sn**	**09 01 35.0**	**-0.1**
KEF				*e*SG	**Sg**	**09 01 48.1**	**-2.4**
KEF				MSG		09 01 52.3	
	comp=Z,4.4nm,0.3s						
FIA0	**FINESS Array S**	**3.87**	**213**	*e*P	**Pn**	**09 00 55.8**	**+0.4**
FIA0				*e*S	**Sn**	**09 01 41.6**	**0.0**
FIA0				MSG		09 02 02.1	
	comp=Z,3.4nm,0.3s						
FINES	**FINESS Array B**	**3.87**	**213**	Pn	**Pn**	**09 00 55.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=38,slow=14,SNR=7.5						
FINES				Lg		09 01 53.0	
	comp=Z,1.2nm,0.3s,baz=42,slow=27,SNR=11						
ARCES	**ARCESS Array B**	**5.18**	**340**	Pn	**Pn**	**09 01 13.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=154,slow=13,SNR=22						
ARCES				Sn	**Sn**	**09 02 12.4**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=145,slow=18,SNR=2.9						
NOA	**NORSAR Array B**	**9.52**	**256**	Pn	**Pn**	**09 02 13.3**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=62,slow=12,SNR=2.7						

PRE 07 09:08:52.4±1.2**, 2136S×3356E, h5**^{km}**, ML3.9, Mozambique**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**6.24**	**196**	*e*P	Pn	09 10 26.0	+0.9
POGA				*e*S	Sn	09 11 33.0	-3.8
POGA				AML	AML	09 11 38.5	
	comp=Z,11nm,0.4s						
LBTB	**Lobatse**	**8.18**	**242**	*e*P	Pn	09 10 52.3	+0.6
LBTB				*e*S	Sn	09 12 21.5	-3.0
LBTB				AML	AML	09 13 11.9	
	comp=Z,19nm,0.6s						
BOSA	**Boshof**	**10.43**	**225**	*e*P	Pn	09 11 24.0	+1.5
BOSA				*e*S	Sn	09 13 14.6	-5.2
BOSA				AML	AML	09 13 34.5	
	comp=Z,3.7nm,0.5s						

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*ISCJB **07** 09:41:16.3±1.2, 6763N±005×345E±02, h0^{km}, Error ellipse: s-maj=9.7km s-min=6.5km az=151.2*
*CSEM **07** 09:41:16.6±0.8, 6748N×3457E, h2^{km}, ML2.1, Error ellipse: s-maj=17.2km s-min=8.9km az=82.0, Mining explosion.*
*HEL **07** 09:41:17.6±0.5, 6762N×3451E, h0^{km}, ML2.0, ML2.1(BER), ML2.5(NAO), Explosion*
*NAO **07** 09:41:17.0±2.3, 6760N×3441E, ML2.5*
ISC 07 09:41:17.5±1.2**, 6760N**±004×**344E**±02**, h0**^{km}**, n20,** σ**1**^{s}**17**/36**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.55**	**271**	*i* P	**Pg**	**09 41 27.6**	**-0.5**
APA0				*i* S	**Sg**	**09 41 35.0**	**-0.2**
APA0				*e*RG		09 41 38.1	
APA0	**Apatity Array**	**0.55**	**271**	Pg	**Pg**	**09 41 27.6**	**-0.5**
	baz=94,slow=16						
APA0				Lg		09 41 35.0	
	baz=61,slow=37						
APA0				Rg		09 41 38.1	
	baz=87,slow=37						
APA0	**Apatity Array**	**0.55**	**271**	Pg	**Pg**	**09 41 27.5**	**-0.6**
	SNR=90						
KU4	**Liikasenvaara**	**2.27**	**239**	*e*P	**Pn**	**09 41 57.9**	**+1.5**
KU4				*e*S	**Sn**	**09 42 26.2**	**+1.1**
KU4	**Liikasenvaara**	**2.27**	**239**	P	**Pn**	**09 41 57.8**	**+1.5**
KU4				S	**Sn**	**09 42 26.2**	**+1.1**
MSF	**Maaselka**	**2.73**	**234**	*e*P	**Pn**	**09 42 03.9**	**+1.3**
MSF				*e*S	**Sn**	**09 42 37.9**	**+1.6**
SGF	**Sodankyl**	**3.04**	**271**	*e*P	**Pn**	**09 42 07.0**	**+0.1**
SGF				*e*S	**Sn**	**09 42 45.1**	**+1.2**
SGF				MSG		09 42 58.8	
	comp=Z,2.6nm,0.3s						
SGF	**Sodankyl**	**3.04**	**271**	P	**Pn**	**09 42 07.0**	**+0.1**
SGF				S	**Sn**	**09 42 45.1**	**+1.1**
	comp=Z,2.6nm,0.3s						
KEV	**Kevo**	**3.47**	**312**	*e*P	**Pn**	**09 42 13.7**	**+0.9**
KEV				*e*S	**Sn**	**09 42 54.1**	**-0.4**
KEV				MSG		09 43 06.6	
	comp=Z,5.5nm,0.3s						
KEV	**Kevo**	**3.47**	**312**	P	**Pn**	**09 42 13.6**	**+0.9**
KEV				S	**Sn**	**09 42 54.1**	**-0.4**
	comp=Z,5.5nm,0.3s						
ARA0	**ARCESS Array S**	**3.81**	**305**	Pn	**Pn**	**09 42 16.8**	**-0.6**
	baz=121,slow=14						
ARA0				Sn	**Sn**	**09 43 00.7**	**-2.2**
	baz=119,slow=22						
ARA0				Lg		09 43 13.3	
	baz=102,slow=28						
ARA0	**ARCESS Array S**	**3.81**	**305**	*e*P	**Pn**	**09 42 16.8**	**-0.6**
ARA0				*e*S	**Sn**	**09 43 00.7**	**-2.2**
ARA0				*e*SG	**Sg**	**09 43 13.3**	**-6.5**
ARA0	**ARCESS Array S**	**3.81**	**305**	Pn	**Pn**	**09 42 16.8**	**-0.6**
	SNR=50						
ARA0				Sn	**Sn**	**09 43 00.6**	**-2.2**
	SNR=50						
OUL	**Oulu**	**4.26**	**238**	*e*S	**Sn**	**09 43 13.4**	**-0.8**
OUL	**Oulu**	**4.26**	**238**	S	**Sn**	**09 43 13.3**	**-0.9**
KTK1	**Kautokeino**	**4.39**	**294**	*e*P	**Pn**	**09 42 26.8**	**+1.5**
KTK1				AML	AML	09 43 34.5	
	comp=Z,8.5nm,0.3s						
KJN	**Kajaani**	**4.48**	**221**	*e*P	**Pn**	**09 42 26.9**	**+0.2**
KJN				*e*S	**Sn**	**09 43 17.8**	**-1.7**
KJN	**Kajaani**	**4.48**	**221**	P	**Pn**	**09 42 26.8**	**+0.1**
KJN				S	**Sn**	**09 43 17.8**	**-1.7**
JOF	**Joensuu**	**4.88**	**197**	*e*P	**Pn**	**09 42 31.6**	**-0.6**
JOF				*e*S	**Sn**	**09 43 27.1**	**-2.3**
KIF	**Kilpisjarvi**	**5.25**	**292**	*e*S	**Sn**	**09 43 37.0**	**-1.4**
KIF				*e*SB	**Sb**	**09 43 54.1**	**+0.5**

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*ISCJB **07** 09:42:39.3±0.6, 1073N±003×6169W±003, h78^{km}±8^{km}, Error ellipse: s-maj=6.0km s-min=4.3km az=88.6*
*FUNV **07** 09:42:39.1, 1082N×6150W, h31^{km}, MW3.6*
*NEIC **07** 09:42:42.3, 1096N×6160W, h22^{km}, MD3.4(TRN), After TRN.*
*TRN **07** 09:42:42.3, 1096N×6160W, h23^{km}, MD3.4*
ISC 07 09:42:40.5±0.6**, 1075N**±003×**6169W**±003**, h66**^{km}±9^{km}**, n28,** σ**1**^{s}**13**/50**, 1C-1D, Trinidad**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.30**	**110**	*e*P	**Pn**	**09 42 50.3**	**-0.8**
TRN				*e*S	**Sn**	**09 42 55.7**	**-3.2**
TPP	**Pointe-a-Pierr**	**0.49**	**152**	*e*P	**Pn**	**09 42 54.4**	**+1.6**
GUIV	**Guiria**	**0.54**	**259**	⇓*e*P	**Pn**	**09 42 53.0**	**-0.2**
GUIV				*e*S	**Sn**	**09 43 02.4**	**-0.2**
SIPA	**Siparia**	**0.63**	**164**	*e*P	**Pn**	**09 42 58.8**	**+4.5**
BUAY	**Buenos Aires**	**0.64**	**180**	*e*P	**Pn**	**09 42 59.8**	**+5.4**
TBH	**Brigand Hill**	**0.67**	**113**	*e*P	**Pn**	**09 42 54.9**	**+0.2**
TBH				*e*S	**Sn**	**09 43 06.2**	**+1.2**
TBH	**Brigand Hill**	**0.67**	**113**	*e*P	**Pn**	**09 42 54.9**	**+0.2**
TBH				*e*S	**Sn**	**09 43 06.2**	**+1.2**
TPR	**Prospect**	**0.99**	**64**	*e*P	**Pn**	**09 42 58.8**	**+0.1**
TPR				*e*S	**Sn**	**09 43 10.9**	**-1.3**
BOT	**Bacolet**	**1.04**	**66**	*e*P	**Pn**	**09 42 59.8**	**+0.5**
GUNV	**Guanoco**	**1.37**	**245**	*e*P	**Pn**	**09 43 04.9**	**+1.4**
GUNV				*e*S	**Sn**	**09 43 23.0**	**+2.2**
GRW	**Mount Saint Ca**	**1.40**	**1**	*e*P	**Pn**	**09 43 03.5**	**-0.5**
GRW				*e*S	**Sn**	**09 43 19.1**	**-2.5**
GRHS	**Sauteurs**	**1.47**	**2**	*e*P	**Pn**	**09 43 04.3**	**-0.6**
GRHS				*e*S	**Sn**	**09 43 21.7**	**-1.5**
CRUV	**Carupano**	**1.52**	**267**	⇑*i*P	**Pn**	**09 43 05.8**	**+0.2**
CRUV				*e*S	**Sn**	**09 43 25.7**	**+1.1**
ITEV	**Isla Los Testi**	**1.54**	**293**	*e*P	**Pn**	**09 43 05.4**	**-0.4**
ITEV				*e*S	**Sn**	**09 43 24.5**	**-0.4**
GRSS	**Sisters**	**1.54**	**3**	*e*P	**Pn**	**09 43 06.2**	**+0.4**
ORIV	**Oritupano**	**2.38**	**226**	*e*P	**Pn**	**09 43 18.2**	**+1.0**
ORIV				*e*S	**Sn**	**09 43 46.5**	**+1.2**
SVB	**Belmont**	**2.54**	**10**	*e*P	**Pn**	**09 43 28.3**	**+8.9**
SVB				*e*S	**Sn**	**09 43 51.8**	**+2.6**
SVV	**Soufriere Volc**	**2.59**	**10**	*e*P	**Pn**	**09 43 28.9**	**+8.8**
SVV				*e*S	**Sn**	**09 43 53.1**	**+2.6**
PCRV	**Puerto La Cruz**	**2.96**	**259**	*e*P	**Pn**	**09 43 25.8**	**+0.8**
PCRV				*e*S	**Sn**	**09 43 59.3**	**0.0**
IBAV	**Isla La Blanqu**	**3.03**	**291**	*e*P	**Pn**	**09 43 26.1**	**+0.1**
IBAV				*e*S	**Sn**	**09 44 01.0**	**-0.1**
GURV	**El Guri**	**3.27**	**205**	*e*P	**Pn**	**09 43 29.4**	**0.0**
GURV				*e*S	**Sn**	**09 44 05.4**	**-1.8**
PRGV	**PARIAGUAN**	**3.52**	**236**	*e*P	**Pn**	**09 43 33.1**	**+0.3**
PRGV				*e*S	**Sn**	**09 44 13.8**	**+0.6**
CUPV	**Cœpira**	**4.09**	**261**	*e*P	**Pn**	**09 43 41.0**	**+0.5**
CUPV				*e*S	**Sn**	**09 44 26.8**	**-0.3**
BIRV	**Birongo**	**4.51**	**267**	*e*P	**Pn**	**09 43 46.5**	**+0.2**
MERV	**Las Mercedes**	**4.78**	**252**	*e*P	**Pn**	**09 43 49.9**	**0.0**
MERV				*e*S	**Sn**	**09 44 42.9**	**-1.1**
LUEV	**Luepa**	**4.88**	**177**	*e*P	**Pn**	**09 43 50.1**	**-1.2**
LUEV				*e*S	**Sn**	**09 44 41.6**	**-4.9**
CAOV	**Caicara del Or**	**5.70**	**234**	*e*P	**Pn**	**09 44 01.8**	**-0.7**
CAOV				*e*S	**Sn**	**09 45 03.9**	**-2.8**
BAUV	**El Baul**	**6.51**	**255**	*e*P	**Pn**	**09 44 13.3**	**-0.4**
BAUV				*e*S	**Sn**	**09 45 23.4**	**-3.2**

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*IDC **07** 10:06:07.8±0.4, 1072S×16439E, h0^{km}, mb5.2/15, mb1 5.3/19, mb1mx5.3/20, mbtmp5.2/19, ML5.1/4, MS4.6/15, Ms1 4.6/15, ms1mx4.4/22, Error ellipse: s-maj=15.4km s-min=14.8km az=146.0*
*BJI **07** 10:06:10.9, 1044S×16433E, h18^{km}, mB5.3, mb5.3, Ms5.0, Msz4.6*
*ISCJB **07** 10:06:11.2±0.1, 1082S±003×16423E±003, h30^{km}, mb5.3/105, MS4.7/39, Error ellipse: s-maj=4.7km s-min=3.7km az=150.3*
*MOS **07** 10:06:12.8±1.4, 1073S×16423E, h43^{km}, mb5.3/59, MS4.6/12, Error ellipse: s-maj=7.8km s-min=7.0km az=64.4*
*NEIC **07** 10:06:13.4±0.1, 1077S×16429E, mb5.2/57, MS4.8/9, Error ellipse: s-maj=5.7km s-min=3.9km az=143.0*
*HRVD **07** 10:06:13.4±0.2, 1069S×16428E, h28^{km}±1^{km}, MW5.3/84, Centroid moment Tensor Solution. LP body waves: s60,c95;Mantle waves: s84,c140; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.17±.03; $M_{\theta\theta}$-0.37±.02; $M_{\phi\phi}$0.53±.02; $M_{r\theta}$0.10±.04; $M_{\theta\phi}$0.73±.02; $M_{\phi r}$-0.71±.05; Best double couple: $M_0$1.11500×10^{17} NP1:ϕ_s254.00000°, δ49.00000°, λ-6.00000°. NP2: ϕ_s348.00000°, δ86.00000°, λ-139.00000°. Principal axes: T 1.1930, Plg24.0000°, Azm113.0000°; N -0.1580, Plg49.0000°, Azm353.0000°; P -1.0360, Plg31.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CRAAG **07** 10:06:17.0, 1089S×16409E, Mb5.4*
ISC 07 10:06:13.4±0.1**, 1080S**±003×**16428E**±003**, h32**^{km}**, h32**^{km}±1.0^{km}**:pP-P, n504,** σ**0**^{s}**81**/333**, mb5.3**/105**, MS4.7**/39**, 53C-66D, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.48**	**287**	Pn	**Pn**	**10 07 20.1**	**+1.0**
	2μm,0.3s,baz=104,slow=3.0,SNR=359						
HNR				Sn	**Sn**	**10 08 13.2**	**+3.1**
	366nm,0.3s,baz=275,slow=17,SNR=3.5						
HNR	**Honiara**	**4.48**	**287**	P	**Pn**	**10 07 20.1**	**+1.1**
HNR						11 08 13.2	
HNR				smax			
	comp=N,367nm,0.3s						
HNR	**Honiara**	**4.48**	**287**	⇑*i*Pn	**Pn**	**10 07 20.0**	**+1.0**
HNR				*e*Sn	**Sn**	**10 08 12.7**	**+2.7**
BKM	**Butte a Klehm**	**7.83**	**151**	⇑*i*P	**Pn**	**10 08 05.2**	**+0.1**
DZM	**Mont Dzumac**	**11.39**	**170**	*e*P	**Pn**	**10 08 54.5**	**+0.6**
DZM				*e*S	**Sn**	**10 10 58.2**	**-1.8**
DZM	**Mont Dzumac**	**11.39**	**170**	Pn	**Pn**	**10 08 55.0**	**+1.1**
	comp=N,11nm,0.3s,baz=22,slow=21,SNR=114						
DZM				LR	LR	10 12 32.2	
	comp=N,3μm,18.4s,baz=8.1,slow=34						
NOUC	**Port Laguerre**	**11.40**	**170**	*e*P	**Pn**	**10 08 55.0**	**+1.1**
FUNA	**Funafuti**	**14.87**	**83**	*e*Pn	**Pn**	**10 09 38.8**	**-2.5**
PMG	**Port Moresby**	**16.92**	**273**	Pn	**Pn**	**10 10 09.5**	**+1.9**
	comp=N,0.5nm,0.3s,baz=100,slow=10,SNR=5.2						
PMG	**Port Moresby**	**16.92**	**273**	P	**Pn**	**10 10 09.5**	**+1.9**
PMG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PMG	**Port Moresby**	**16.92**	**273**	*e*P	**Pn**	**10 10 09.5**	**+1.9**
	comp=Z,177nm,1.1s						
CTA	**Charters Tower**	**19.66**	**240**	*e*P	**Pn**	**10 10 41.2**	**+0.1**
	comp=Z,381nm,0.9s						
CTA	**Charters Tower**	**19.66**	**240**	P	**Pn**	**10 10 41.2**	**+0.1**
	comp=Z,16nm,0.3s,baz=68,slow=12,SNR=194						
CTA				LR	LR	10 17 19.0	
	comp=Z,2μm,19.1s,baz=57,slow=34						
CTA	**Charters Tower**	**19.66**	**240**	P	**Pn**	**10 10 41.2**	**+0.1**
CTA				pmax	pmax		
	comp=Z,16nm,0.3s						
CTA				MLR	MLR		
	comp=Z,2μm,19.1s						
CTAO	**Charters Tower**	**19.66**	**240**	*e*P	**Pn**	**10 10 41.3**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,469nm,0.9s						
CTAO	**Charters Tower**	**19.66**	**240**	*e*Pn	**Pn**	**10 10 41.3**	**+0.2**
	comp=Z,469nm,0.9s						
ARMA	**Armidale**	**22.79**	**209**	⇓*i*P	**P**	**10 11 14.7**	**+1.5**
AFI	**Afiamalu**	**23.58**	**100**	P	**P**	**10 11 18.7**	**-2.6**
	comp=Z,100nm,1.0s,mb5.2,baz=108,slow=21,SNR=10						
AFI				LR	LR	10 18 57.0	
	comp=Z,4μm,18.5s,MS4.9,baz=275,slow=33						
AFI	**Afiamalu**	**23.58**	**100**	*e*P	**P**	**10 11 18.8**	**-2.5**
AFI				pmax	pmax		
	comp=Z,113nm,1.0s,mb5.2						
AFI	**Afiamalu**	**23.58**	**100**	*e*P	**P**	**10 11 18.8**	**-2.5**
	comp=Z,113nm,1.0s,mb5.2						
RAO	**Raoul Island**	**24.77**	**140**	P	**P**	**10 11 31.0**	**-1.1**
	comp=Z,241nm,0.8s,mb5.8,baz=270,slow=20,SNR=2.4						
RAO	**Raoul Island**	**24.77**	**140**	P	**P**	**10 11 31.0**	**-1.1**
RAO				pmax	pmax		
	comp=Z,241nm,0.8s,mb5.8						
RIV	**Riverview**	**25.88**	**206**	⇓*i*P	**P**	**10 11 44.4**	**+2.2**
CNB	**Canberra Magne**	**27.92**	**207**	⇓*i*P	**P**	**10 12 02.0**	**+1.4**
	comp=Z,51nm,0.9s,mb5.2						
STKA	**Stephens Creek**	**29.65**	**222**	*e*P	**P**	**10 12 16.7**	**+0.8**
	comp=Z,95nm,0.8s,mb5.6						
STKA	**Stephens Creek**	**29.65**	**222**	P	**P**	**10 12 16.8**	**+0.9**
	comp=Z,109nm,0.8s,mb5.7,baz=37,slow=10.0,SNR=162						
STKA				LR	LR	10 23 23.6	
	comp=Z,3μm,18.6s,MS4.9,baz=125,slow=35						
URZ	**Urewera**	**29.66**	**159**	P	**P**	**10 12 19.0**	**+3.0**
	comp=Z,35nm,0.9s,mb5.1,baz=348,slow=5.6,SNR=15						
WRAB	**Tennant Creek**	**30.21**	**249**	*e*P	**P**	**10 12 19.4**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,84nm,0.8s,mb5.5						

WRAB Tennant Creek 30.21 249 *e*P **P** **10 12 19.4 -1.5**
comp=Z,84nm,0.8s,mb5.5
WB2 Warramunga Arr 30.21 249⇓*i*P **P** **10 12 19.5 -1.4**
WB2 *e*S **S** **10 17 16.3 -1.9**
WRA Warramunga Arr 30.23 249 P **P** **10 12 19.7 -1.3**
comp=Z,75nm,0.8s,mb5.5,baz=78,slow=9.1,SNR=226
WRA PKiKP PKiKP 10 22 52.0 -1.0
comp=Z,0.3nm,0.7s,baz=13,slow=0.7,SNR=5.6
KAKA Kakadu 31.23 263⇓*i*P **P** **10 12 27.8 -2.0**
comp=Z,55nm,0.5s,mb5.6
TOO Toolangi 31.56 209⇓*i*P **P** **10 12 34.3 +1.5**
comp=Z,52nm,0.7s,mb5.5
TOO Toolangi 31.56 209⇓*i*P **P** **10 12 34.3 +1.5**
TOO pmax pmax
comp=Z,52nm,0.7s,mb5.5
AS31 Alice Springs 31.63 242⇓*i*P **P** **10 12 31.7 -1.7**
ASAR Alice Springs 31.63 242 P **P** **10 12 32.0 -1.3**
comp=Z,14nm,0.6s,mb5.0,baz=63,slow=9.9,SNR=308
ASAR LR LR 10 24 42.6
comp=Z,1μm,18.8s,MS4.6,baz=74,slow=35
ASAR Alice Springs 31.63 242 P **P** **10 12 32.1 -1.3**
ASAR pmax pmax
comp=Z,14nm,0.6s
ASAR MLR MLR
comp=Z,1μm,18.8s
ASPA Alice Springs 31.63 242⇓*i*P **P** **10 12 31.7 -1.7**
FITZ Fitzroy Crossi 38.06 254⇓*i*P **P** **10 13 27.4 -1.5**
comp=Z,339nm,0.9s,mb6.1
FORT Forrest 39.02 234⇓*i*P **P** **10 13 36.1 -0.8**
comp=Z,105nm,0.8s,mb5.6
MBWA Marble Bar 43.92 251 *e*P **P** **10 14 15.7 -1.4**
comp=Z,27nm,0.7s,mb5.1
PAE Paea 45.15 104 *e*P **P** **10 14 26.8 -0.1**
comp=Z,187nm,1.3s,mb5.8
PPT Papeete 45.15 104 *e*LQ 10 25 07.1
comp=Z,2μm,27.5s
PPT *e*LR LR 10 27 11.6
comp=Z,1μm,21.2s,baz=281
PPT Papeete 45.15 104 LR LR 10 29 26.1
comp=Z,1μm,18.1s,MS4.9,baz=64,slow=31
TVO Taravao 45.47 104 *e*P **P** **10 14 29.9 +0.5**
comp=Z,116nm,0.8s,mb5.8
TBI Tubuai 45.75 112 *e*LQ 10 25 41.9
comp=Z,1μm,30.0s
TBI Tubuai 45.75 112 *e*P **P** **10 14 32.7 +1.0**
comp=Z,212nm,0.8s,mb6.1
TBI Tubuai 45.75 112 *e*LR LR 10 27 34.4
comp=Z,2μm,29.5s,baz=280
PMOR Pomariorio Ree 46.73 100 *e*P **P** **10 14 39.6 +0.2**
comp=Z,352nm,1.4s,mb6.1
VAH Vaihoa 46.99 101 *e*P **P** **10 14 41.3 -0.1**
comp=Z,126nm,1.1s,mb5.7
KLBR Kellerberrin 47.63 237 *e*P **P** **10 14 44.9 -1.5**
comp=Z,24nm,0.8s,mb5.3
NWAO Narrogin (SRO) 48.41 235 *e*P **P** **10 14 51.8 -0.6**
NWAO *e* 10 16 46.1
NWAO pmax pmax
comp=Z,28nm,0.9s
NWAO Narrogin (SRO) 48.41 235 *e*P **P** **10 14 51.8 -0.6**
comp=Z,28nm,0.9s,mb5.3
NWAO *e*PP PP 10 16 46.1 +0.9
TSM Tawau 48.57 286 P **P** **10 14 53.0 -0.6**
MUN Mundaring 49.00 237 *e*P **P** **10 14 56.4 -0.6**
KKM Kota Kinabalu 50.69 287 P **P** **10 15 11.8 +2.0**
KKM Kota Kinabalu 50.69 287 *e*P **P** **10 15 09.4 -0.4**
JOW Kunigami 51.20 318 LR LR 10 32 35.2
comp=Z,610nm,19.6s,MS4.6,baz=136,slow=31
MJAR Matsushiro Arr 53.10 334 P **P** **10 15 27.0 -0.7**
comp=Z,24nm,0.9s,mb5.1,baz=164,slow=7.6,SNR=47
MJAR LR LR 10 36 29.9
comp=Z,314nm,18.1s,MS4.4,baz=165,slow=34
MJAR Matsushiro Arr 53.10 334 P **P** **10 15 27.0 -0.8**
MJAR LR LR 10 36 29.9
MAJO Matsushiro 53.11 334 *e*P **P** **10 15 27.4 -0.4**
MAJO pmax pmax
comp=Z,11nm,0.5s,mb5.0
MAJO Matsushiro 53.11 334 *e*P **P** **10 15 27.4 -0.4**
comp=Z,11nm,0.5s,mb5.0
MAT Matsushiro 53.11 334 P **P** **10 15 27.1 -0.7**
MAT S **S** **10 23 00.0 +4.0**
MAT Matsushiro 53.11 334 *e*P **P** **10 15 27.0 -0.8**
MAT *e*S **S** **10 23 01.0 +5.0**
MAT pmax pmax
comp=Z,25nm,1.0s,mb5.1
MAT Matsushiro 53.11 334 *e*P **P** **10 15 27.0 -0.8**
comp=Z,25nm,1.0s,mb5.1
MAT *e*S **S** **10 23 01.0 +5.0**
NACB Ninganchiao 54.28 310 *e*P **P** **10 15 36.5 +0.1**
TAOE Nuku Hiva Isla 54.73 93 *e*LR LR 10 31 28.3
comp=Z,2μm,27.4s
YHNB Yeheng 54.73 311 *e*P **P** **10 15 39.8 +0.1**
KSM Kuching 55.05 279 *e*P **P** **10 15 41.4 -0.6**
QZH Quanzhou 56.98 309⇑*i*P **P** **10 15 56.9 +1.1**
QZH *e*S **S** **10 23 46.6 -1.2**
QZH AMB AMB
comp=Z,170nm,1.1s,mb6.0
SSE Sheshan 58.69 317 P **P** **10 16 07.7 0.0**
SSE PCP PcP 10 16 56.5 -0.9
SSE S **S** **10 24 09.9 -0.3**
SSE SCS ScS 10 25 54.2 -0.9
SSE SS SS 10 28 05.3 +2.0
SSE AMB AMB
comp=Z,85nm,0.8s,mb5.8
SSE AMB AMB
comp=Z,195nm,4.2s
SSE LR LR
comp=N,165nm,18.0s,MS4.5
SSE LR LR
comp=E,268nm,18.0s,MS4.5
SSE LR LR
comp=Z,311nm,17.1s,MS4.5
KS15 Wonju Array Si 58.89 327 *e*P **P** **10 16 09.5 +0.4**
RKT Rikitea 59.02 110 *e*P **P** **10 16 10.4 +0.4**
comp=Z,48nm,0.8s,mb5.6
RKT Rikitea 59.02 110 *e*LR LR 10 33 35.7
comp=Z,2μm,28.8s
INCN Inchon 59.60 326 *e*P **P** **10 16 14.8 +0.7**
comp=Z,34nm,0.8s,mb5.4
YSS Yuzh-Sakhalins 60.63 343⇓*e*P **P** **10 16 21.0 -0.1**
YSS S **S** **10 24 36.0 +0.8**
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.5
YSS pmax pmax
comp=N,20nm,1.0s
YSS pmax pmax
comp=E,20nm,1.0s
YSS MLR MLR
comp=Z,400nm,18.0s,MS4.6
NJ2 Nanjing 60.84 316 *e*P **P** **10 16 23.1 +0.5**
NJ2 PP PP 10 18 38.8 +2.0
NJ2 S **S** **10 24 32.0 -6.0**
NJ2 AMB AMB
comp=Z,70nm,0.9s,mb5.8
NJ2 AMB AMB
comp=Z,200nm,5.2s
NJ2 LR LR
comp=N,1μm,21.1s,MS5.4
NJ2 LR LR
comp=E,3μm,22.1s,MS5.4
NJ2 LR LR
comp=Z,330nm,23.8s,MS4.4
VLA Vladivostok 61.27 333 *e*P **P** **10 16 24.1 -1.4**
VLA pmax pmax
comp=Z,43nm,1.2s,mb5.5
QIZ Qiongzhong 61.30 299 P **P** **10 16 25.8 +0.1**
QIZ XP sP 10 16 39.7 +0.4
QIZ S **S** **10 24 43.1 -0.7**
QIZ XS sS 10 25 00.8 +0.7
QIZ AMB AMB
comp=Z,42nm,1.3s,mb5.4
QIZ AMB AMB
comp=Z,133nm,4.3s
QIZ LR LR
comp=E,504nm,23.1s
KGM Kluang 61.96 278 P **P** **10 16 31.9 +1.8**
WHN Wuhan 63.16 312 ⇑P **P** **10 16 38.5 +0.4**
WHN AMB AMB
comp=Z,460nm,1.4s
DL2 Dalian 63.43 324 P **P** **10 16 40.1 +0.2**
DL2 AMB AMB
comp=Z,30nm,0.7s,mb5.5
MDJ Mudanjiang 63.47 333 P **P** **10 16 40.6 +0.4**
MDJ AP pP 10 16 49.5 -0.6
MDJ XP sP 10 16 53.2 -0.7
MDJ S **S** **10 25 13.4 +2.3**
MDJ SS SS 10 29 20.4 +2.0
MDJ AMB AMB
comp=Z,35nm,1.1s,mb5.4
MDJ AMB AMB
comp=Z,143nm,7.5s
MDJ LR LR
comp=N,253nm,35.0s,MS4.3
MDJ LR LR
comp=E,252nm,36.8s,MS4.3
MDJ LR LR
comp=Z,138nm,36.8s,MS3.9
MDJ Mudanjiang 63.47 333 *e*P **P** **10 16 40.5 +0.3**
comp=Z,48nm,1.1s,mb5.5
HABR Khabarovsk 64.43 339 *e*P **P** **10 16 46.9 +0.4**
HABR S **S** **10 25 20.8 -2.2**
HABR pmax pmax
comp=Z,65nm,1.1s,mb5.6
HABR MLR MLR
comp=Z,240nm,20.0s,MS4.4
TIA Tai'an 64.48 319 *e*P **P** **10 16 46.5 -0.3**
IPM Ipoh 64.77 280 P **P** **10 16 49.6 +0.9**
CN2 Changchun 64.80 330 *e*P **P** **10 16 49.0 +0.1**
CN2 *e*AP pP 10 16 57.9 -0.9
CN2 PP PP 10 19 14.2 +2.6
CN2 *e*S **S** **10 25 27.5 -0.1**
CN2 AMB AMB
comp=Z,50nm,0.8s,mb5.6
CN2 LR LR
comp=N,400nm,16.0s,MS4.9
CN2 LR LR
comp=E,400nm,16.0s,MS4.9
CN2 LR LR
comp=Z,330nm,19.0s,MS4.5
CASY Casey 66.09 201 *e*P **P** **10 16 57.1 -0.1**
KLR Kul'dur 66.27 337 *e*P **P** **10 16 55.2 -3.2**
PSI Prapat 66.42 278 LR LR 10 48 52.6
comp=Z,348nm,18.9s,MS4.6,baz=292,slow=39
VNDA Vanda 66.72 181 P **P** **10 17 02.1 +0.8**
comp=Z,26nm,0.8s,mb5.3,baz=351,slow=6.9,SNR=133
VNDA LR LR 10 43 42.7
comp=Z,362nm,19.5s,MS4.6,baz=350,slow=34
VNDA Vanda 66.72 181 *e*P **P** **10 17 01.9 +0.6**
comp=Z,35nm,0.9s,mb5.4
SBA Scott Base 67.05 179 *e*P **P** **10 17 05.0 +1.6**
SBA pmax pmax
comp=Z,83nm,1.2s,mb5.6
SBA Scott Base 67.05 179 *e*P **P** **10 17 05.0 +1.6**
comp=Z,83nm,1.2s,mb5.6
GYA Guiyang 67.10 305⇓*i*P **P** **10 17 04.2 +0.5**
GYA AP pP 10 17 14.3 +0.7
GYA XP sP 10 17 18.0 +0.6
GYA PP PP 10 19 34.9 +3.2
GYA SCP 10 21 32.7
GYA PCS 10 21 38.6
GYA S S 10 25 56.0 +0.5
GYA XS sS 10 26 08.6 -3.4
GYA PS 10 26 18.3
GYA SS SS 10 30 10.7 -4.1
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,250nm,6.3s
GYA LR LR
comp=N,260nm,18.5s,MS4.7
GYA LR LR
comp=E,300nm,17.0s,MS4.7
GYA LR LR
comp=Z,370nm,17.7s,MS4.7
BJI Beijing 67.40 322 P **P** **10 17 04.5 -1.1**
BJI S S 10 26 04.9 +5.8
BJI AMB AMB
comp=Z,20nm,1.2s,mb5.0
BJI AMB AMB
comp=Z,180nm,4.1s
BJI LR LR
comp=N,309nm,22.3s,MS4.6
BJI LR LR
comp=E,327nm,23.2s,MS4.6
BJI LR LR
comp=Z,297nm,32.9s
NST Nakhon Sawan 68.74 292 P **P** **10 17 04.8 -9.2**
comp=Z,3.3nm,0.7s,mb4.4
XAN Xi'an 68.90 313 P **P** **10 17 15.0 0.0**
XAN AP pP 10 17 22.7 -2.3
XAN AMB AMB
comp=Z,48nm,1.0s,mb5.4
NANT Nan 69.24 295⇓P **P** **10 17 18.0 +0.9**
comp=Z,175nm,0.5s,mb6.2
KMI Kunming 69.77 302 P **P** **10 17 21.6 +1.2**
KMI AP pP 10 17 31.2 +0.8
KMI XP sP 10 17 36.6 +2.5
KMI PCP PcP 10 17 45.4 +2.5
KMI PP PP 10 19 51.9 -3.0
KMI PPP 10 21 34.9
KMI S S 10 26 30.5 +3.2
KMI AMB AMB
comp=Z,46nm,1.3s,mb5.2
KMI AMB AMB
comp=Z,279nm,4.5s
KMI LR LR
comp=N,261nm,20.3s,MS4.8
KMI LR LR
comp=E,475nm,19.6s,MS4.8
KMI LR LR
comp=Z,452nm,23.9s,MS4.6
HHC Hu-ho-hao-te 70.72 320 *e*P **P** **10 17 27.2 +1.0**
HHC AP pP 10 17 37.0 +0.8
HHC XP sP 10 17 41.8 +1.8
HHC PP PP 10 20 08.1 +5.1
HHC S S 10 26 42.9 +4.4
HHC PS 10 27 11.5
HHC SCS ScS 10 27 24.5 -2.9
HHC SS SS 10 31 13.3 +2.6
HHC AMB AMB
comp=Z,34nm,0.8s,mb5.3
HHC AMB AMB
comp=Z,219nm,4.8s
HHC LR LR
comp=N,325nm,22.6s,MS4.7
HHC LR LR
comp=E,362nm,21.4s,MS4.7
HHC LR LR
comp=Z,368nm,23.2s,MS4.6
MA2 Magadan 70.98 353 P **P** **10 17 34.9 +7.1**
MA2 pmax pmax
comp=Z,30nm,1.0s,mb5.2
CD2 Chengdu 71.32 308⇓*i*P **P** **10 17 30.0 +0.2**
CD2 AP pP 10 17 40.1 +0.3
CD2 XP sP 10 17 45.0 +1.4
CD2 PP PP 10 20 10.5 +2.3
CD2 S S 10 26 45.0 -0.4
CD2 XS sS 10 27 02.0 +0.1
CD2 PS 10 27 17.9
CD2 SS SS 10 31 23.0 +3.2
CD2 AMB AMB
comp=Z,60nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,180nm,6.2s
CD2 LR LR
comp=E,240nm,18.0s
CD2 LR LR
comp=Z,170nm,20.4s,MS4.3
HIA Hailar 71.46 331 *e*P **P** **10 17 31.0 +0.3**
HIA *e* pP 10 17 38.7 -2.0
HIA pmax pmax
comp=Z,67nm,1.2s
HIA MLR MLR
comp=Z,335nm,20.0s
HIA Hailar 71.46 331 *e*P **P** **10 17 31.0 +0.3**
comp=Z,67nm,1.2s,mb5.5
HIA *e* pP 10 17 38.7 -1.9
HIA LR LR
comp=Z,335nm,20.0s,MS4.6
MIR Mirnyy 72.73 203*d*i*P **P** **10 17 40.0 +1.7**
MIR pmax pmax
comp=Z,300nm,1.5s,mb6.0
LZH Lanzhou 73.53 313⇓P **P** **10 17 44.5 +1.5**
LZH AP pP 10 17 54.6 +1.5
LZH XP sP 10 17 58.5 +1.7
LZH PP PP 10 20 31.2 +4.1
LZH PPP 10 22 15.7
LZH *e*S S 10 27 12.3 +1.6
LZH XS sS 10 27 28.8 +1.5
LZH SKS 10 27 43.6
LZH PS 10 27 50.3
LZH *e*SS SS 10 31 58.6 +4.8
LZH AMB AMB
comp=Z,45nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,194nm,7.6s
LZH LR LR
comp=N,591nm,16.7s
LZH LR LR
comp=Z,983nm,18.2s,MS5.1
CLNS Chul'man 74.82 339 *e*P **P** **10 17 50.7 +0.1**
CLNS pmax pmax
comp=Z,26nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,11nm,0.7s
CLNS pmax pmax
comp=E,8.0nm,0.9s
KDAK Kodiak Island 76.89 22 *e*P **P** **10 18 01.5 -0.8**
comp=E,22nm,1.0s,mb5.0
ULN Ulaanbaatar 77.27 325 *e*P **P** **10 18 05.2 +0.7**
ULN pmax pmax
comp=Z,35nm,0.9s,mb5.3
ULN Ulaanbaatar 77.27 325 *e*P **P** **10 18 05.2 +0.8**
comp=Z,35nm,0.9s,mb5.3
YAK Yakutsk 77.46 344 *e*P **P** **10 18 05.5 -0.1**
YAK *e**PP pP 10 18 13.1 -2.6
YAK *e* 10 20 59.5
YAK *e*S S 10 27 50.5 -3.7
YAK *e* 10 28 23.2
YAK pmax pmax
comp=Z,32nm,0.8s,mb5.3
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK smax
comp=N,29nm,8.2s
YAK smax
comp=E,97nm,13.3s
YAK MLR MLR
comp=Z,148nm,18.0s,MS4.3
YAK MLR MLR
comp=N,141nm,24.0s
YAK MLR MLR
comp=E,80nm,17.0s
SONM Songino Array 77.63 324 P **P** **10 18 06.9 +0.4**
comp=E,17nm,0.8s,mb5.0,baz=145,slow=7.0,SNR=111
SONM LR LR 10 49 25.9
comp=E,244nm,21.2s,MS4.5,baz=217,slow=34
GTA Gaotai 77.86 314 *e*P **P** **10 18 08.9 +1.1**
GTA AP pP 10 18 17.5 -0.4
GTA XP sP 10 18 21.8 +0.2
GTA PP PP 10 21 08.3 +4.7
GTA PPP 10 22 57.8
GTA S S 10 28 00.9 +2.4
GTA SKS 10 28 16.4
GTA AMB AMB
comp=Z,39nm,1.2s,mb5.2
GTA AMB AMB
comp=Z,209nm,5.7s
GTA LR LR
comp=N,166nm,14.4s,MS4.7
GTA LR LR
comp=E,209nm,17.9s,MS4.7
GTA LR LR
comp=Z,305nm,19.8s,MS4.6
SVW2 Sparrevohn 78.33 19 *e*P **P** **10 18 10.7 +0.3**
QSPA South Pole Qui 79.20 180⇓*i*P **P** **10 18 15.7 +0.5**
comp=Z,66nm,0.9s,mb5.6
TTA Tatalina 79.61 17 *e*P **P** **10 18 18.0 +0.6**
SLKM Skilak Lake 79.69 21 *e*P **P** **10 18 17.4 -0.4**
BOD Bodaibo 79.70 335 *e*P **P** **10 18 15.1 -2.8**
BOD pmax pmax
comp=Z,13nm,1.4s,mb4.7
ZAK Zakamensk 80.68 325⇑*i*P **P** **10 18 22.3 -0.9**
ZAK *e* 10 21 21.4
ZAK pmax pmax
comp=Z,10.0nm,1.3s
ZAK pmax pmax
comp=Z,2.0nm,1.8s
PMR Palmer 80.83 21 *e*P **P** **10 18 23.3 -0.6**
PMR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PMR Palmer 80.83 21 *e*P **P** **10 18 23.3 -0.6**
comp=Z,9.1nm,0.8s,mb4.8
LSA Lhasa 81.01 303 *e*P **P** **10 18 25.3 +0.4**
LSA Lhasa 81.01 303 *e*P **P** **10 18 25.8 +0.9**
LSA *e* pP 10 18 35.5 +0.4
LSA pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
LSA Lhasa 81.01 303 *e*P **P** **10 18 25.8 +0.9**
comp=Z,6.7nm,0.4s,mb4.9
LSA *e* pP 10 18 35.5 +0.4
SML Sawmill 81.25 21 *e*P **P** **10 18 25.9 -0.3**
EYAK Cordova Ski Ar 81.35 23 *e*P **P** **10 18 26.7 0.0**
DIV Divide 81.72 22 *e*P **P** **10 18 28.6 -0.1**
comp=Z,113nm,1.0s,mb5.8
MCK McKinley 82.38 19 *e*P **P** **10 18 31.1 -1.0**
MCK pmax pmax
comp=Z,31nm,1.2s,mb5.1
MCK McKinley 82.38 19 *e*P **P** **10 18 31.1 -1.1**
comp=Z,31nm,1.2s,mb5.1
COLA College 83.51 19 *e*P **P** **10 18 36.8 -1.2**
COLA pmax pmax
comp=Z,79nm,1.0s,mb5.8
COLA College 83.51 19 *e*P **P** **10 18 36.8 -1.1**
comp=Z,79nm,1.0s,mb5.8
MENT Mentasta 83.62 21 *e*P **P** **10 18 39.1 +0.5**
BNLO Ben Lomond (Sa 83.66 50⇑P **P** **10 18 39.0 +0.3**
baz=84
SIT Sitka 83.72 29 *e*P **P** **10 18 37.9 -1.2**
SIT pmax pmax
comp=Z,28nm,1.1s,mb5.3
SIT Sitka 83.72 29 *e*P **P** **10 18 37.9 -1.2**
comp=Z,28nm,1.1s,mb5.3
KHMM Horse Mountain 83.74 47 *e*P **P** **10 18 39.9 +0.7**
ILAR Eielson Array 83.74 19 P **P** **10 18 38.3 -0.9**
comp=Z,13nm,0.8s,mb5.1,baz=233,slow=6.6,SNR=106
ILAR Eielson Array 83.74 19 P **P** **10 18 38.3 -0.9**
ILAR pmax pmax
comp=Z,13nm,0.8s
MNRC McLaughlin Nat 84.01 49⇓P **P** **10 18 41.8 +1.2**
baz=84
V03C Hunter Liggett 84.02 52⇑P **P** **10 18 41.4 +0.8**
baz=84
N02C Big Bar 84.02 47⇓P **P** **10 18 42.1 +1.5**
baz=84
O02C Red Bluff 84.18 47⇓P **P** **10 18 41.8 +0.3**
baz=84
L02A Cave Junction 84.27 45⇓P **P** **10 18 42.3 +0.5**
baz=84
PACP Pacheco Peak 84.29 51⇓P **P** **10 18 41.9 -0.1**
baz=84
MAW Mawson 84.41 202 *e*P **P** **10 18 42.6 0.0**
comp=Z,10nm,1.0s,mb4.9
MAW Mawson 84.41 202 P **P** **10 18 42.9 +0.4**
comp=Z,10nm,0.9s,mb5.0,baz=98,slow=6.9,SNR=16
MAW LR LR 10 53 27.5
comp=Z,158nm,22.0s,MS4.4,baz=72,slow=34
WDC Whiskeytown Da 84.49 47 *e*P **P** **10 18 43.0 0.0**
WDC pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
WDC Whiskeytown Da 84.49 47 *e*P **P** **10 18 43.0 -0.1**
comp=Z,6.5nm,0.9s,mb4.8
WDC Whiskeytown Da 84.49 47⇓P **P** **10 18 43.3 +0.3**
baz=85
M02C Callahan 84.54 46⇑P **P** **10 18 43.6 +0.3**
baz=85
K02A Glendale 84.56 45⇑P **P** **10 18 43.4 +0.1**
baz=85
SUTB Sutter Butte 84.61 49⇑P **P** **10 18 42.9 -0.7**
baz=85
JIRN Jiri 84.62 299 *e*P **P** **10 18 44.3 +0.7**
comp=Z,80nm,1.2s,mb5.7
I02A Mapleton 84.75 44⇓P **P** **10 18 44.6 +0.3**
baz=85
YBH Yreka Blue Hor 84.75 46 *e*P **P** **10 18 44.2 -0.1**
YBH pmax pmax
comp=Z,13nm,1.0s
YBH Yreka Blue Hor 84.75 46 *e*P **P** **10 18 44.2 -0.1**
comp=Z,13nm,1.0s,mb5.0
YBH Yreka Blue Hor 84.75 46⇑P **P** **10 18 44.6 +0.3**

baz=85
OHCM Honcut 84.86 49 *e*P **P 10 18 43.7 -1.2**
HUMO Hull Mountain 84.87 45 *e*P **P 10 18 44.7 -0.2**
comp=Z,19nm,1.1s,mb5.1
HUMO Hull Mountain 84.87 45 ⇓P **P 10 18 45.4 +0.4**
baz=85
ORV Oroville 84.92 48 ⇓P **P 10 18 44.4 -0.7**
baz=85
GUN Gumba 84.95 300 *e*P **P 10 18 46.0 +0.7**
comp=Z,136nm,1.2s,mb5.9
SKAG Skagway 84.96 26 *e*P **P 10 18 45.4 0.0**
comp=Z,28nm,1.0s,mb5.3
PALK Pallekele 85.09 278 *e*P **P 10 18 47.5 +1.5**
I03A Eugene 85.11 44 ⇑P **P 10 18 46.6 +0.5**
baz=85
S05C Merced 85.12 51 ⇑P **P 10 18 45.8 -0.4**
baz=85
J03A Ideyld Park 85.12 44 ⇑P **P 10 18 45.9 -0.3**
baz=85
PKI Pulchoki 85.26 299 *e*P **P 10 18 47.2 +0.3**
comp=Z,108nm,1.2s,mb5.8
CMB Columbia Colle 85.28 50 *e*P **P 10 18 46.4 -0.6**
CMB pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
CMB Columbia Colle 85.28 50 *e*P **P 10 18 46.4 -0.6**
comp=Z,5.3nm,0.8s,mb4.7
CMB Columbia Colle 85.28 50 ⇓P **P 10 18 46.6 -0.4**
baz=85
COR Corvallis 85.30 43 *e*P **P 10 18 46.5 -0.6**
COR pmax pmax
comp=Z,23nm,1.1s,mb5.2
COR Corvallis 85.30 43 *e*P **P 10 18 46.5 -0.6**
comp=Z,23nm,1.1s,mb5.2
H03A Soap Creek Ran 85.34 43 ⇓P **P 10 18 47.2 -0.1**
baz=85
HATC Hat Creek Radi 85.35 47 ⇓P **P 10 18 47.2 -0.1**
baz=85
M04C Macdoel 85.38 46 ⇓P **P 10 18 47.2 -0.3**
baz=86
KKN Kakani 85.43 299 *e*P **P 10 18 48.0 +0.3**
O04C Chester 85.46 48 ⇑P **P 10 18 47.7 -0.2**
baz=86
O05C Quincy 85.47 48 ⇓P **P 10 18 47.5 -0.5**
baz=86
L04A Klamath Falls 85.47 46 ⇑P **P 10 18 47.9 -0.1**
baz=86
DMN Daman 85.53 299 *e*P **P 10 18 48.8 +0.6**
comp=Z,136nm,1.2s,mb6.0
F03A Seaside 85.60 42 ⇓P **P 10 18 49.0 +0.5**
baz=86
C03A Quillayute Air 85.66 40 ⇓P **P 10 18 49.9 +1.0**
baz=86
R05C Kirkwood Meado 85.71 49 ⇓P **P 10 18 48.8 -0.3**
baz=86
M05C Lookout 85.74 47 ⇓P **P 10 18 49.4 +0.2**
baz=86
E03A Lebam 85.81 41 ⇓P **P 10 18 49.7 +0.1**
baz=86
DAWY Dawson 85.85 22 *e*P **P 10 18 49.5 -0.3**
DAWY *e* 10 18 55.3
D03A Wishkah Elem. 85.88 41 ⇑P **P 10 18 50.5 +0.6**
baz=86
HELL Mitchell Peak, 85.93 52 ⇑P **P 10 18 50.0 -0.2**
baz=86
GKN Gorkha 86.03 299 *e*P **P 10 18 50.4 -0.3**
G04A Mulino 86.06 43 ⇓P **P 10 18 50.9 +0.1**
baz=86
H04A Detroit Lake 86.08 43 ⇑P **P 10 18 50.9 -0.1**
baz=86
WCN Washoe City 86.13 49 ⇓P **P 10 18 51.3 +0.1**
baz=86
WAKR Walker 86.13 50 *e*P **P 10 18 51.7 +0.5**
WAKR *e*pP pP 10 19 03.3 +1.9
M06C Likely Place G 86.17 47 ⇓P **P 10 18 51.7 +0.3**
baz=86
L05A Lakeview 86.18 46 ⇓P **P 10 18 51.7 +0.3**
baz=86
O06A Flanigan 86.33 48 ⇑P **P 10 18 52.1 -0.1**
baz=86
F04A Amboy 86.34 42 ⇓P **P 10 18 52.4 +0.2**
baz=86
B04A Port Angeles 86.37 40 ⇓P **P 10 18 51.3 -1.1**
baz=86
PAHR Pah Rah Range 86.52 49 *e*P **P 10 18 53.1 0.0**
I05A Bend 86.54 44 ⇑P **P 10 18 53.7 +0.5**
baz=87
C04A Brinnon 86.59 40 ⇑P **P 10 18 53.9 +0.4**
baz=87
PGC Sidney 86.61 39 *e*P **P 10 18 53.4 -0.1**
GNW Green Mountain 86.63 40 *e*P **P 10 18 53.5 -0.2**
HOOD Mount Hood Mea 86.65 43 *e*P **P 10 18 54.5 +0.7**
H05A Madras 86.72 44 ⇑P **P 10 18 54.0 -0.1**
baz=87
K06A Valley Falls 86.82 46 ⇓P **P 10 18 54.6 0.0**
baz=87
G05A Wamic 86.85 43 ⇓P **P 10 18 54.5 -0.2**
baz=87
KOLN Koldanda 86.87 299 *e*P **P 10 18 54.2 -0.6**
comp=Z,20nm,0.8s,mb5.4
DLBC Dease Lake 86.88 29 *e*P **P 10 18 54.3 -0.5**
F05A White Salmon 86.96 42 ⇓P **P 10 18 55.6 +0.3**
baz=87
NVAR Mina Array Bea 86.97 50 P **P 10 18 55.6 +0.3**
comp=Z,4.0nm,0.8s,mb4.7,baz=226,slow=5.6,SNR=18
E05A Randle 86.98 42 ⇑P **P 10 18 55.7 +0.3**
baz=87
LON Longmire 87.01 41 *e*P **P 10 18 55.4 -0.1**
O07A Toulon 87.03 48 ⇓P **P 10 18 55.8 +0.2**
baz=87
J06A Christmas Vall 87.03 45 ⇑P **P 10 18 55.1 -0.5**
baz=87
D05A Enumclaw 87.04 41 ⇑P **P 10 18 55.7 0.0**
baz=87
MNV Mina 87.08 50 *e*P **P 10 18 55.3 -0.5**
MNV *e* 10 22 18.4
MNV pmax pmax
comp=Z,12nm,1.3s,mb5.0
MNV Mina 87.08 50 *e*P **P 10 18 55.3 -0.5**
comp=Z,12nm,1.3s,mb5.0
MNV *e*PP PP 10 22 18.4 -1.1
A04A Legoe Bay, Lum 87.10 39 ⇑P **P 10 18 55.8 -0.1**
baz=87
PFO Pinyon Flat Ob 87.12 55 ⇑P **P 10 18 55.7 -0.3**
baz=87
M07A Soldier Meadow 87.17 47 ⇓P **P 10 18 56.1 -0.1**
baz=87
L07A Adell 87.23 46 ⇓P **P 10 18 56.6 0.0**
baz=87
B05A Bryant 87.32 40 ⇑P **P 10 18 57.3 +0.3**
baz=87
Q08A Gabbs 87.37 50 ⇑P **P 10 18 57.0 -0.2**
baz=87
C05A Tolt Reservoir 87.40 41 ⇑P **P 10 18 57.8 +0.4**
baz=88
A05A Maple Falls 87.58 39 ⇑P **P 10 18 58.1 -0.1**
baz=88
S09A Goldfield 87.59 51 ⇑P **P 10 18 58.2 -0.1**
baz=88
J07A Hines 87.65 45 ⇓P **P 10 18 58.6 0.0**
baz=88
N08A GE Springer Mi 87.75 48 ⇑P **P 10 18 59.0 -0.1**
baz=88
M08A Happy Creek Ra 87.76 47 ⇑P **P 10 18 58.7 -0.4**
baz=88
R09A Tonopah 87.85 51 ⇑P **P 10 18 59.0 -0.6**
baz=88
WVOR Wild Horse Val 87.85 46 *e*P **P 10 18 59.3 -0.2**
WVOR pmax pmax
comp=Z,16nm,1.1s,mb5.2
WVOR Wild Horse Val 87.85 46 *e*P **P 10 18 59.3 -0.2**
comp=Z,16nm,1.1s,mb5.2
WMQ Urumqi 87.91 315 P **P 10 19 00.7 +0.9**
WMQ AP pP 10 19 11.3 +1.2
WMQ XP sP 10 19 15.2 +1.4
WMQ PP PP 10 22 29.8 +3.7
WMQ SKS 10 29 24.2
WMQ S 10 29 40.0
WMQ XS sS 10 29 57.6 -0.1
WMQ PS 10 30 48.8
WMQ SS SS 10 35 31.8 +3.5
WMQ AMB AMB
comp=Z,45nm,2.0s,mb5.3
WMQ AMB AMB
comp=Z,220nm,6.2s
WMQ LR LR
comp=N,843nm,23.0s,MS5.2
WMQ LR LR
comp=E,632nm,21.9s,MS5.2
WMQ LR LR
comp=Z,837nm,23.5s,MS5.1
TUQ Turquoise Mtn. 88.01 54 ⇓P **P 10 18 59.9 -0.4**
baz=88
TPNV Topopah Spring 88.14 52 *e*P **P 10 19 00.7 -0.2**
TPNV pmax pmax
comp=Z,29nm,1.8s,mb5.2
TPNV MLR MLR
comp=Z,915nm,19.0s,MS5.2
TPNV Topopah Spring 88.14 52 *e*P **P 10 19 00.7 -0.2**
comp=Z,29nm,1.8s,mb5.2
TPNV LR LR
comp=Z,915nm,19.0s,MS5.2
J08A Circle Bar Ran 88.23 45 ⇓P **P 10 19 01.3 -0.1**
baz=88
O09A Fish Creek Ran 88.27 49 ⇑P **P 10 19 01.5 -0.1**
baz=88
GLA Glamis 88.30 56 *e*P **P 10 19 02.3 +0.6**
GLA Glamis 88.30 56 ⇑P **P 10 19 02.1 +0.4**
baz=88
HAWA Hanford 88.39 42 *e*P **P 10 19 01.8 -0.3**
comp=Z,0.6nm,0.9s
L09A Wilkinson Ranc 88.43 47 ⇑P **P 10 19 02.2 0.0**
baz=88
R10A Warm Springs 88.45 51 ⇓P **P 10 19 02.6 +0.3**
baz=88
Y12C Blythe 88.72 55 ⇓P **P 10 19 03.9 +0.2**
baz=89
SHPR Sheep Range 88.88 53 *e*P **P 10 19 05.2 +0.9**
V12A Nelson 88.93 53 ⇑P **P 10 19 04.1 -0.5**
baz=89
Q11A Duckwater 89.08 50 ⇓P **P 10 19 05.4 0.0**
baz=89
M10A I.L. Ranch, Tu 89.11 48 ⇑P **P 10 19 05.5 +0.1**
baz=89
P11A Circle Ranch, 89.18 50 ⇓P **P 10 19 05.8 0.0**
baz=89
U12A Valley of Fire 89.34 53 ⇑P **P 10 19 06.6 0.0**
baz=89
O11A Cowboy Ranch, 89.39 49 ⇑P **P 10 19 06.9 0.0**
baz=90
BMO Blue Mountains 89.45 44 *e*P **P 10 19 06.7 -0.4**
BMO pmax pmax
comp=Z,24nm,1.6s,mb5.3
BMO Blue Mountains 89.45 44 *e*P **P 10 19 06.7 -0.4**
comp=Z,24nm,1.6s,mb5.3
M11A Holland Ranch, 89.63 48 ⇓P **P 10 19 08.6 +0.7**
baz=90
Q12A Willow Creek R 89.75 50 ⇑P **P 10 19 08.6 +0.1**
baz=90
P12A McGill 89.79 50 ⇓P **P 10 19 08.8 +0.2**
baz=90
ELK Elko 89.86 49 *e*P **P 10 19 07.7 -1.3**
ELK pmax pmax
comp=Z,3.0nm,1.0s
ELK Elko 89.86 49 *e*P **P 10 19 07.7 -1.3**
comp=Z,3.5nm,1.0s,mb4.6
Z14A Wintersburg 89.91 56 ⇓P **P 10 19 09.8 +0.6**
baz=90
Y14A Wickenburg 90.00 56 ⇓P **P 10 19 10.3 +0.7**
baz=90
N12A Clover Valley, 90.03 48 ⇓P **P 10 19 10.6 +0.8**
baz=90
INK Inuvik 90.14 19 P **P 10 19 10.5 +0.2**
INK pmax pmax
comp=Z,13nm,1.0s
INK Inuvik 90.14 19 P **P 10 19 10.5 +0.2**
comp=Z,13nm,1.0s,mb5.2
X14A Yava 90.20 55 ⇑P **P 10 19 11.2 +0.6**
baz=90
W14A Seligman 90.22 54 ⇓P **P 10 19 11.2 +0.6**
baz=90
M12A Wells 90.26 48 ⇑P **P 10 19 11.4 +0.5**
baz=90
115A Sonoran Desert 90.35 57 ⇑P **P 10 19 11.9 +0.6**
baz=90
NEW Newport 90.50 41 *e*P **P 10 19 11.4 -0.6**
NEW pmax pmax
comp=Z,10.0nm,1.2s
NEW MLR MLR
comp=Z,341nm,19.0s
NEW Newport 90.50 41 *e*P **P 10 19 11.3 -0.6**
comp=Z,10nm,1.2s,mb5.0
NEW LR LR
comp=Z,341nm,19.0s,MS4.8
ARUT Antelope Range 90.52 52 *e*P **P 10 19 11.8 -0.3**
CCUT Cedar City 90.52 52 *e*P **P 10 19 12.6 +0.6**
N13A Wendover, West 90.65 49 ⇓P **P 10 19 13.2 +0.5**
baz=91
X15A Humboldt 90.73 55 ⇓P **P 10 19 13.6 +0.6**
baz=91
M13A Montello 90.80 48 ⇑P **P 10 19 13.5 +0.1**
baz=91
W15A Williams 90.86 54 ⇓P **P 10 19 14.6 +1.0**
baz=91
HLID Hailey 91.14 46 *e*P **P 10 19 15.4 +0.4**
comp=Z,7.0nm,0.9s,mb5.0
HLID LR LR
comp=Z,442nm,21.0s,MS4.9
TUC Tucson 91.46 58 *e*P **P 10 19 16.5 0.0**
TUC pmax pmax
comp=Z,7.0nm,1.4s,mb4.8
TUC Tucson 91.46 58 *e*P **P 10 19 16.5 0.0**
comp=Z,6.5nm,1.4s,mb4.8
DUG Dugway 91.53 49 *e*P **P 10 19 16.6 -0.2**
DUG pmax pmax
comp=Z,10.0nm,1.4s,mb5.0
DUG MLR MLR
comp=Z,303nm,19.0s,MS4.8
DUG Dugway 91.53 49 *e*P **P 10 19 16.6 -0.2**
comp=Z,10nm,1.4s,mb5.0
DUG LR LR
comp=Z,303nm,19.0s,MS4.8
BGU Big Grassy Mou 91.53 49 *e*P **P 10 19 17.0 +0.2**
BGU PP PP 10 22 54.9 -0.1
SYO Syowa Base 91.59 197⇑ *e*P **P 10 19 16.6 -0.5**
SYO Syowa Base 91.59 197⇓ *e*pP pP 10 19 25.6 -1.7
WUAZ Wupatki 91.64 54 *e*P **P 10 19 17.8 +0.5**
comp=Z,7.6nm,0.9s,mb5.0
MSU Marysvale 91.65 51 *e*P **P 10 19 18.5 +1.2**
HVU Hansel Valley 91.91 48 *e*P **P 10 19 19.3 +0.8**
BSMT Bassoo Peak 91.91 42 *e*P **P 10 19 18.4 -0.1**
NLU North Lily Min 92.03 50 *e*P **P 10 19 19.4 +0.3**
MKAR Makanchi Array 92.36 317 P **P 10 19 20.4 -0.2**
comp=Z,17nm,0.9s,mb5.4,baz=94,slow=6.2,SNR=86
MKAR Makanchi Array 92.36 317 P **P 10 19 20.4 -0.2**
MKAR pmax pmax
comp=Z,17nm,0.9s
MCMT McKenzie Canyo 92.52 45 *e*P **P 10 19 21.4 +0.1**
ZAL Zalesovo 92.53 324 P **P 10 19 19.9 -1.4**
comp=Z,3.0nm,0.8s,mb4.8,baz=359,slow=6.5,SNR=19
ZAL LR LR
comp=Z,264nm,21.7s,MS4.7,baz=6.3,slow=34
CHMT Chamberlain Mo 92.71 43 *e*P **P 10 19 21.2 -1.0**
DAU Daniels Canyon 92.74 50 *e*P **P 10 19 22.6 +0.2**
HWUT Hardware Ranch 92.75 48 *e*P **P 10 19 22.5 0.0**
comp=Z,5.7nm,0.9s,mb5.0
WALA Waterton Lakes 92.76 41 *e*P **P 10 19 22.7 +0.3**
comp=Z,9.1nm,1.0s,mb5.2
DLMT Dillon 92.81 44 *e*P **P 10 19 22.8 +0.1**
LRM Limekiln Ridge 93.01 44 *e*P **P 10 19 23.8 +0.2**
DCID1 Drake Creek 93.43 46 *e*P **P 10 19 32.7 +7.2**
DCID1 *e*pP pP 10 19 42.7 +6.8
BOZ Bozeman (W) 93.54 44 *e*P **P 10 19 25.9 -0.1**
BOZ pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
BOZ Bozeman (W) 93.54 44 *e*P **P 10 19 25.9 -0.1**
comp=Z,7.8nm,1.0s,mb5.1
TPAW Teton Pass 93.58 47 *e*P **P 10 19 26.4 +0.1**
comp=Z,3.2nm,0.8s,mb4.8
TPAW *e*PP PP 10 23 09.9 -1.1
HRY Holter Researc 93.62 43 *e*P **P 10 19 26.0 -0.4**
REDW Red Top Meadow 93.62 47 *e*P **P 10 19 32.3 +5.9**
comp=Z,18nm,1.5s,mb5.3
NVS Novosibirsk 93.64 325 *e*P **P 10 19 24.9 -1.6**
NVS pmax pmax
comp=N,7.0nm,1.3s
NVS pmax pmax
comp=E,10.0nm,1.3s
NVS pmax pmax
comp=Z,15nm,1.3s,mb5.3
IMW Indian Meadow 93.67 46 *e*P **P 10 19 27.3 +0.7**
comp=Z,5.7nm,1.1s,mb4.9
MOOW Moose Ponds 93.78 46 *e*P **P 10 19 27.1 0.0**
comp=Z,1.7nm,0.7s,mb4.6
EDM Edmonton 94.03 37 *e*P **P 10 19 27.2 -1.1**
BW06 Boulder Array 94.44 47 *e*P **P 10 19 30.1 0.0**
PDAR Pinedale Array 94.44 47 P **P 10 19 29.2 -0.9**
comp=Z,1.0nm,0.8s,mb4.3,baz=266,slow=4.5,SNR=9.2
PDAR LR LR 10 56 11.8
comp=Z,263nm,19.6s,MS4.7,baz=280,slow=32
BNM Barren Site 95.22 56 *e*P **P 10 19 33.6 -0.2**
YKA Yellowknife Ar 95.42 27 P **P 10 19 32.7 -2.0**
comp=Z,3.2nm,0.9s,mb4.8,baz=249,slow=4.3,SNR=6.6
YKA LR LR 10 55 35.2
comp=Z,400nm,20.9s,MS4.9,baz=250,slow=31
YKA Yellowknife Ar 95.42 27 P **P 10 19 32.7 -2.0**
YKA LR LR 10 55 35.2
ANMO Albuquerque 95.49 56 *e*P **P 10 19 34.9 -0.1**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO Albuquerque 95.49 56 *e*P **P 10 19 34.9 -0.1**
comp=Z,4.2nm,1.3s,mb4.7
KURK Kurchatov 95.54 320 *e*P **P 10 19 33.8 -1.4**
KURK pmax pmax
comp=Z,5.0nm,0.4s,mb5.3
KURK MLR MLR
comp=Z,189nm,20.0s,MS4.6
KURK Kurchatov 95.54 320 *e*P **P 10 19 33.8 -1.4**
comp=Z,4.6nm,0.4s,mb5.3
KURK LR LR
comp=Z,189nm,20.0s,MS4.6
GDL2 Guadalupe Moun 96.80 59 *e*P **P 10 19 46.9 +5.9**
AAK Ala-Archa 97.06 312 *e*P **P 10 19 39.9 -2.2**
AAK *i* 10 20 01.5
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb4.7
SNAA Sanae 97.26 184 *e*P **P 10 19 41.4 -1.6**
SNAA *e* pP 10 19 52.3 -1.0
SNAA *e* 10 19 56.3
SNAA *e* 10 20 07.6
SNAA *e* 10 23 37.8
SNAA Sanae 97.26 184 *e*P **P 10 19 41.4 -1.6**
SNAA pmax pmax
comp=Z,5.0nm,1.1s
SNAA Sanae 97.26 184 *e*P **P 10 19 41.4 -1.6**
comp=Z,5.0nm,1.1s,mb4.9
VNA1 Neumayer--Stat 98.58 183 *e*P **P 10 19 47.3 -1.7**
VNA1 *e* pP 10 19 57.9 -1.4
VNA1 *e* 10 20 02.6
VNA1 *e* 10 20 14.9
VNA1 *e* 14 31 32.7
VNA1 *e* 14 31 35.3
BRVK Borovoye 100.94 322 *e*P Pdif 10 19 58.5 -1.0
MIAR Mount Ida 106.00 57 PFAKE 10 24 50.0 +16
MIAR LR LR
comp=Z,425nm,20.0s,MS5.0
KEV Kevo 115.20 345 *e*p PKiKP 10 24 49.5 -1.9
comp=Z,5.2nm,0.8s
KEV Kevo 115.20 345 *e*PKIKP PKiKP 10 24 49.5 -1.9
KEV pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 115.73 345 PKP PKPdf 10 24 50.9 -1.5
comp=Z,6.3nm,0.6s,baz=73,slow=1.9,SNR=64
ARCES PKKPbc PKKPbc 10 35 22.9 -1.5
comp=Z,1.1nm,0.6s,baz=149,slow=2.6,SNR=10
ARCES ARCESS Array B 115.73 345 PKIKP PKPdf 10 24 50.9 -1.5
ARCES 10 35 22.9
ARCES pmax pmax
comp=Z,6.0nm,0.6s
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 115.73 345 PKP PKPdf 10 24 50.9 -1.5
ARCES PKKPbc PKKPbc 10 35 22.9 -1.5
JOF Joensuu 118.17 338 *e*p PKPdf 10 24 55.2 -1.9
comp=Z,10nm,0.9s
JOF Joensuu 118.17 338 *e*PKIKP PKPdf 10 24 55.2 -1.9
JOF pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 119.85 328 *i* PKIKP PKPdf 10 24 59.9 -0.5
OBN *e*SS SS 10 42 38.5 -8.6
OBN pmax pmax
comp=Z,12nm,1.0s
KIV Kislovodsk 120.04 315 *i* PKIKP PKPdf 10 24 59.5 -1.2
KIV pmax pmax
comp=Z,7.0nm,0.9s
KAF Kangasniemi 120.50 339 *e*p PKPdf 10 24 59.4 -2.2
FINES FINESS Array B 121.02 338 PKP PKPdf 10 25 01.4 -1.2
comp=Z,5.0nm,0.8s,baz=116,slow=4.4,SNR=22
FINES FINESS Array B 121.02 338 PKIKP PKPdf 10 25 01.4 -1.2
FINES pmax pmax
comp=Z,5.0nm,0.8s
LPAZ La Paz 121.58 117 PKP PKPdf 10 25 05.3 +1.6
comp=Z,1.0nm,0.7s,baz=315,slow=2.5,SNR=5.4
LPAZ La Paz 121.58 117 PKIKP PKPdf 10 25 05.3 +1.6
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
BOSA Boshof 124.30 224 PKP PKPdf 10 25 08.5 -0.4
comp=Z,3.7nm,0.8s,baz=108,slow=6.4,SNR=4.5
BOSA Boshof 124.30 224 PKIKP PKPdf 10 25 08.5 -0.4
BOSA pmax pmax
comp=Z,4.0nm,0.8s
MALT Malatya 124.59 309 *e*PKIKP PKPdf 10 25 08.5 -0.9
CPUP Villa Florida 125.25 133 PKP PKPdf 10 25 10.3 -0.4
comp=Z,1.5nm,0.7s,baz=152,slow=1.8,SNR=5.0
CPUP Villa Florida 125.25 133 PKIKP PKPdf 10 25 10.4 -0.3
CPUP pmax pmax
comp=Z,2.0nm,0.7s
CPUP Villa Florida 125.25 133 *e*PKPdf PKPdf 10 25 09.0 -1.7
AKASG Malin Array Be 125.87 326 PKP PKPdf 10 25 11.0 -0.9
comp=Z,7.0nm,0.8s,baz=61,slow=2.3,SNR=24
AKASG PP PP 10 27 01.9 -2.9
comp=Z,0.2nm,0.3s,baz=49,slow=5.2,SNR=4.0
AKASG Malin Array Be 125.87 326 PKIKP PKPdf 10 25 11.0 -0.9
AKASG 10 27 02.0
AKASG pmax pmax
comp=Z,7.0nm,0.8s
NB2 NORSAR Subarra126.08 344 PKPdf PKPdf 10 25 11.1 -1.2
comp=Z,5.6nm,0.7s,baz=33,slow=2.0
NOA NORSAR Array B126.08 344 PKP PKPdf 10 25 11.2 -1.1
comp=Z,6.0nm,0.8s,baz=34,slow=1.9,SNR=26
NOA NORSAR Array B126.08 344 PKIKP PKPdf 10 25 11.3 -1.0
NOA pmax pmax
comp=Z,6.0nm,0.8s
HFS Hagfors 126.13 342 PKP PKPdf 10 25 11.0 -1.4
comp=Z,6.9nm,0.8s,baz=180,slow=1.3,SNR=17
HFS Hagfors 126.13 342 PKIKP PKPdf 10 25 11.0 -1.4
HFS pmax pmax
comp=Z,7.0nm,0.8s
NAO01 NORSAR Array S126.34 344 PKPdf PKPdf 10 25 12.1 -0.7
BRTR Keskin Array B 127.74 312 PKP PKPdf 10 25 15.7 +0.2
comp=Z,3.4nm,1.0s,baz=111,slow=2.8,SNR=9.7
BRTR PP PP 10 27 15.2 -2.0
comp=Z,3.2nm,1.1s,baz=90,slow=3.7,SNR=5.8
BRTR Keskin Array B 127.74 312 PKIKP PKPdf 10 25 15.7 +0.2
BRTR 10 27 15.2
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR pmax pmax
comp=Z,3.0nm,1.1s
KOLS Kolonicke sedl 130.59 328 *e*PKP PKPdf 10 25 22.6 +1.7
CRVS Cervenica-Dubn 131.03 328 *e*PKP PKPdf 10 25 23.0 +1.3
BSEG Bad Segeberg 132.24 339 *e*PKPdf PKPdf 10 25 23.5 -0.5
DPC Dobruska-Polom 132.57 333 *e*PKPdf PKPdf 10 25 24.9 +0.3
UPC Upice 132.60 333 *e*PKPdf PKPdf 10 25 24.9 +0.2
UPC *ep*PKP pPKPdf 10 25 34.8 -0.5
VYHS Vyhne 132.63 329 *e*PKP PKPdf 10 25 25.6 +0.8
VRAC Vranov 133.18 331 PKP PKPdf 10 25 25.4 -0.3
comp=Z,2.2nm,0.3s,baz=38,slow=14,SNR=3.9
VRAC Vranov 133.18 331 PKIKP PKPdf 10 25 25.4 -0.4
VRAC pmax pmax
comp=Z,2.0nm,0.3s
PVCC Panska Ves 133.22 334 *e*PKPdf PKPdf 10 25 26.5 +0.6
PVCC *ep*PKP pPKPdf 10 25 37.2 +0.8
BRG Berggiesshubel 133.24 335 *e*PKPdf PKPdf 10 25 26.7 +0.8
CLL Collm 133.30 336 *e*PKPdf PKPdf 10 25 26.3 +0.3
CLL Collm 133.30 336 *i* PKIKP PKPdf 10 25 26.8 +0.8
comp=Z,logA/T=1.1
CLL *e* 10 25 32.0
CLL *e*PP PP 10 27 53.0 -0.2
CLL *e*SS SS 10 45 42.0 +6.9
CLL Collm 133.30 336 *i* PKPdf PKPdf 10 25 26.8 +0.8
comp=Z,9.0nm,0.7s
CLL *ex* x 10 25 32.0
CLL *e*PP PP 10 27 53.0 -0.2
CLL *e*SS SS 10 45 42.0 +6.9
CLL Collm 133.30 336 *i* PKIKP PKPdf 10 25 26.8 +0.8
CLL pmax pmax
comp=Z,9.0nm,0.7s
CLL MLR MLR
comp=Z,200nm,17.3s,MS4.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CLL	**Collm**	**133.30**	**336**	i PKP	PKPdf	10 25 26.8	+0.8
CLL				e		10 25 32.0	
CLL				LR	LR		
	comp=Z,200nm,17.3s,MS4.9						
FBE	**Freiberg**	**133.45**	**335**	ePKPdf	PKPdf	10 25 26.9	+0.6
NRDL	**Niedersach Rie**	**133.48**	**338**	ePKPdf	PKPdf	10 25 27.7	+1.4
PRU	**Pruhonice**	**133.63**	**333**	ePKPdf	PKPdf	10 25 26.9	+0.3
CLZ	**Clausthal**	**133.91**	**338**	ePKPdf	PKPdf	10 25 27.5	+0.3
TANN	**Tannenbergstha**	**134.20**	**335**	ePKPdf	PKPdf	10 25 28.1	+0.4
GUNZ	**Gunzen**	**134.29**	**335**	ePKPdf	PKPdf	10 25 28.1	+0.2
NKC	**Novy Kostel**	**134.35**	**335**	ePKPdf	PKPdf	10 25 28.3	+0.3
MOX	**Moxa**	**134.37**	**336**	ePKPdf	PKPdf	10 25 27.7	-0.3
MOX	**Moxa**	**134.37**	**336**	ePKP	PKPdf	10 25 27.8	-0.2
CONA	**Conrad Observa**	**134.49**	**330**	⇑iPKiKP	PKiKP	10 25 28.6	-1.1
	comp=Z,7.6nm,0.7s						
EKA	**Eskdalemuir Ar**	**134.49**	**350**	PKP	PKPdf	10 25 27.0	-1.2
	comp=Z,1.1nm,0.6s,baz=18,slow=2.5,SNR=4.3						
EKA	**Eskdalemuir Ar**	**134.49**	**350**	PKIKP	PKPdf	10 25 27.0	-1.2
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MANZ	**Manzenberg**	**134.68**	**335**	ePKPdf	PKPdf	10 25 29.0	+0.4
KHC	**Kasperske Hory**	**134.69**	**333**	ePKPdf	PKPdf	10 25 28.6	0.0
ROTZ	**Rotzenmuhle**	**134.80**	**335**	ePKPdf	PKPdf	10 25 29.3	+0.5
GEC2	**GERESS Array S**	**134.84**	**333**	ePKPdf	PKPdf	10 25 28.9	0.0
GERES	**GERESS Array B**	**134.84**	**333**	PKP	PKPdf	10 25 28.5	-0.4
	comp=Z,4.1nm,0.8s,baz=48,slow=2.0,SNR=24						
GERES	**GERESS Array B**	**134.84**	**333**	PKIKP	PKPdf	10 25 28.5	-0.4
GERES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
UBBA	**Unterbreizbach**	**134.87**	**337**	ePKPdf	PKPdf	10 25 30.1	+1.2
WET	**Wettzell**	**134.99**	**334**	ePKPdf	PKPdf	10 25 29.3	+0.1
GRA1	**Grafenberg Arr**	**135.27**	**335**	ePKPdf	PKPdf	10 25 29.7	0.0
GRF	**Grafenberg Arr**	**135.27**	**335**	ePKPdf	PKPdf	10 25 29.7	0.0
BUG	**Bochum--Univer**	**135.34**	**340**	ePKPdf	PKPdf	10 25 27.9	-1.9
GROS	**Grobnik**	**135.68**	**329**	ePKPdf	PKPdf	10 25 31.0	+0.6
PERS	**Pernice**	**135.75**	**330**	ePKPdf	PKPdf	10 25 31.4	+0.9
KBA	**Koelnbreinsper**	**136.29**	**331**	⇑iP	PKPdf	10 25 31.0	-0.6
	comp=Z,9.8nm,1.1s						
TOD	**Tromm**	**136.30**	**337**	PKIKP	PKPdf	10 25 32.8	+1.2
ABH	**Alteburg**	**136.54**	**338**	PKP	PKPdf	10 25 33.3	+1.2
VOJS	**Vojsko**	**136.78**	**330**	ePKPdf	PKPdf	10 25 32.4	-0.2
RUP	**Ruppelstein**	**136.87**	**338**	PKIKP	PKPdf	10 25 34.3	+1.6
WTTA	**Wattenberg**	**136.94**	**333**	⇑iP	PKPdf	10 25 32.9	+0.1
	comp=Z,12nm,0.9s						
GIVF	**Givet**	**137.30**	**341**	ePKP1	PKPdf	10 25 29.3	-4.2
BFO	**Black Forest**	**137.51**	**336**	ePKPdf	PKPdf	10 25 31.0	-2.9
BAIF	**Baives**	**137.54**	**341**	ePKP1	PKPdf	10 25 29.7	-4.2
	comp=Z,16nm,1.0s						
DAVA	**Damuels**	**137.70**	**334**	⇑iP	PKPdf	10 25 32.1	-2.1
	comp=Z,8.9nm,1.1s						
CDF	**Champ du Feu**	**137.86**	**337**	ePKP1	PKPdf	10 25 30.1	-4.4
DAVOX	**Davos**	**138.09**	**334**	PKP	PKPdf	10 25 34.8	-0.2
	comp=Z,12nm,0.8s,baz=48,slow=3.2,SNR=9.1						
HINF	**Hinteralfeld**	**138.51**	**337**	ePKP1	PKPdf	10 25 31.4	-4.3
HAU	**Haudompre**	**138.54**	**338**	ePKP1	PKPdf	10 25 31.5	-4.3
HAU				eR			
	comp=Z,183nm,19.2s						
HAU	**Haudompre**	**138.54**	**338**	ePKP	PKPdf	10 25 31.5	-4.3
HAU				LR	LR		
	comp=Z,180nm,19.3s,MS4.8						
MEZF	**Maizieres J'vi**	**138.59**	**339**	ePKP1	PKPdf	10 25 32.2	-3.7
BDFB	**Brasilia**	**138.61**	**129**	PKP	PKPdf	10 25 38.8	+2.9
	comp=Z,1.5nm,0.6s,baz=149,slow=5.9,SNR=3.1						
BDFB	**Brasilia**	**138.61**	**129**	PKIKP	PKPdf	10 25 38.8	+2.9
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CABF	**La Chapelle**	**139.80**	**337**	ePKP1	PKPdf	10 25 34.9	-3.1
	comp=Z,23nm,0.9s						
LOR	**Lormes**	**140.07**	**339**	ePKP1	PKPdf	10 25 34.7	-3.8
	comp=Z,18nm,1.0s						
LOR				eR			
	comp=Z,189nm,19.8s						
LOR	**Lormes**	**140.07**	**339**	ePKP	PKPdf	10 25 34.7	-3.8
LOR				LR	LR		
	comp=Z,190nm,19.8s,MS4.8						
FLN	**La Foliniere**	**140.07**	**344**	ePKP1	PKPdf	10 25 34.6	-4.0
	comp=Z,24nm,0.8s						
LDF	**La Druitiere**	**140.13**	**344**	ePKP1	PKPdf	10 25 34.5	-4.2
	comp=Z,26nm,1.1s						
SSF	**Saint Saulge**	**140.37**	**339**	ePKP1	PKPdf	10 25 35.6	-3.5
	comp=Z,23nm,1.1s						
LPL	**La Plagne**	**140.43**	**335**	ePKP1	PKPdf	10 25 36.1	-3.1
	comp=Z,21nm,1.0s						
LPG	**La Plagne**	**140.44**	**335**	ePKP1	PKPdf	10 25 36.3	-2.9
	comp=Z,20nm,0.9s						
GRR	**Gorron**	**140.52**	**344**	ePKP1	PKPdf	10 25 35.7	-3.7
	comp=Z,14nm,0.9s						
SMF	**Signal de Mont**	**140.61**	**339**	ePKP1	PKPdf	10 25 35.9	-3.6
	comp=Z,14nm,1.0s						
AVF	**Avril sur Loir**	**140.65**	**339**	ePKP1	PKPdf	10 25 35.7	-3.9
BNI	**Bardonecchia**	**140.83**	**335**	ePKIKP	PKPdf	10 25 38.1	-1.8
SGMF	**Saint Gilles**	**141.07**	**346**	ePKP1	PKPdf	10 25 36.6	-3.8
	comp=Z,34nm,1.1s						
ROSF	**Rostrenen**	**141.16**	**347**	ePKP1	PKPdf	10 25 36.7	-3.8
	comp=Z,33nm,1.1s						
ORIF	**Oris-en-Rattie**	**141.27**	**335**	ePKP1	PKPdf	10 25 37.6	-3.1
	comp=Z,17nm,0.8s						
ORIF				eR			
	comp=Z,188nm,22.8s						
TCF	**Toulx Ste Croi**	**141.48**	**340**	ePKP1	PKPdf	10 25 37.9	-3.2
	comp=Z,25nm,1.0s						
VIVF	**Saint-Julien-l**	**141.81**	**336**	ePKP1	PKPdf	10 25 38.3	-3.4
LBL	**Lubilhac**	**142.03**	**338**	ePKIKP	PKPdf	10 25 38.2	-3.9
RJF	**Les Rejaudoux**	**142.58**	**340**	ePKP1	PKPdf	10 25 39.6	-3.4
	comp=Z,12nm,0.8s						
RJF				eR			
	comp=Z,130nm,22.8s						
RJF	**Les Rejaudoux**	**142.58**	**340**	ePKP	PKPdf	10 25 39.6	-3.4
RJF				LR	LR		
	comp=Z,130nm,22.8s,MS4.6						
CAF	**Calviac**	**142.72**	**339**	ePKP1	PKPdf	10 25 40.4	-2.9
LASF	**Ste Croix**	**142.78**	**336**	ePKP1	PKPdf	10 25 39.4	-4.0
	comp=Z,49nm,1.1s						
LFF	**La Frestale**	**143.16**	**340**	ePKP1	PKPdf	10 25 41.5	-2.6
MTLF	**Montolieu**	**144.03**	**338**	ePKP1	PKPdf	10 25 43.6	-2.0
	comp=Z,87nm,1.0s						
SJAF	**Saint Jean de**	**144.50**	**336**	PKP	PKPdf	10 25 45.8	-0.6
MLS	**Moulis**	**144.78**	**338**	PKP	PKPdf	10 25 46.3	-0.6
VALF	**Valcebollere**	**144.91**	**337**	PKP	PKPdf	10 25 47.0	-0.1
EPF	**Esparros**	**144.98**	**339**	ePKP1	PKPdf	10 25 46.2	-1.1
	comp=Z,37nm,1.0s						
LABF	**Labassere**	**145.06**	**340**	PKP	PKPdf	10 25 49.9	+2.5
RESF	**Ens**	**145.18**	**339**	PKP	PKPdf	10 25 48.5	+0.9
VIEF	**Viey**	**145.22**	**340**	PKP	PKPdf	10 25 48.3	+0.6
ATE	**Arette**	**145.28**	**341**	PKP	PKPdf	10 25 48.1	+0.3
EBIE	**Bielsa**	**145.35**	**339**	PKP	PKPdf	10 25 48.3	+0.4
ETSF	**Etsaut**	**145.40**	**340**	ePKP1	PKPbc	10 25 48.6	+0.6
	comp=Z,112nm,0.9s						
EALK	**Alkurruntz**	**145.42**	**342**	PKP	PKPdf	10 25 47.6	-0.4
ELIZ	**Elizondo**	**145.48**	**342**	PKIKP	PKPdf	10 25 48.1	0.0
EMIR	**Miracle**	**145.52**	**337**	PKP	PKPdf	10 25 48.5	+0.4
EGRA	**Graus**	**145.72**	**339**	PKP	PKPdf	10 25 50.2	+1.7
ELAN	**Lanestosa**	**145.97**	**344**	PKP	PKPdf	10 25 49.2	+0.2
EPOB	**Poblet**	**146.17**	**337**	PKP	PKPdf	10 25 49.7	+0.4
EARI	**Arriondas**	**146.36**	**346**	PKP	PKPdf	10 25 50.0	+0.4
ESAC	**San Caprasio**	**146.42**	**339**	PKP	PKPdf	10 25 50.8	+1.1
EPON	**Pontenova**	**146.75**	**349**	PKP	PKPdf	10 25 52.0	+1.7
ETOS	**Mallorca**	**146.79**	**333**	PKP	PKPdf	10 25 51.9	+1.6
ERTA	**Horta de San J**	**146.79**	**338**	PKP	PKPdf	10 25 49.2	-1.1
CMAH	**Djebel Manchou**	**146.87**	**325**	P	PKPdf	10 25 52.0	+1.5
ABSA	**Djebel Ababsia**	**147.09**	**324**	P	PKPbc	10 25 53.5	+0.5
CKFL	**Kef-Lekhel**	**147.43**	**325**	P	PKPbc	10 25 54.5	+0.6
STS	**Santiago**	**147.43**	**350**	PKP2	PKPbc	10 25 54.3	+0.4
EMAZ	**Mazaricos**	**147.44**	**351**	PKP	PKPdf	10 25 52.8	+1.4
EMOS	**Mosqueruela**	**147.61**	**338**	PKP	PKPdf	10 25 53.3	+1.5
CASM	**Ain Smara**	**147.66**	**325**	P	PKPbc	10 25 55.0	+0.5
ETOR	**Torete**	**147.76**	**340**	PKP2	PKPbc	10 25 54.7	-0.1
DFRA	**Djebel Bou Aff**	**147.79**	**326**	P	PKPbc	10 25 56.5	+1.6
CTEI	**Djebel Teioual**	**147.84**	**325**	P	PKPbc	10 25 55.5	+0.4
PBRG	**Braganca**	**148.13**	**347**	ePKPdf	PKPdf	10 25 52.6	0.0
SET	**Setif**	**148.30**	**326**	P	PKPbc	10 25 58.0	+1.7
ELOB	**Lobios**	**148.33**	**349**	PKP	PKPdf	10 25 55.7	+2.8
CKHR	**Kef el Ahmar**	**148.38**	**326**	P	PKPbc	10 25 57.0	+0.5
ECHE	**Chera**	**148.47**	**338**	PKP2	PKPbc	10 25 56.7	0.0
PCAB	**Cabril**	**148.48**	**349**	ePKPbc	PKPbc	10 25 57.9	+1.2
GUD	**Guadarrama**	**148.57**	**343**	PKP2	PKPbc	10 25 57.5	+0.5
PVRL	**Vila Real**	**148.84**	**348**	ePKPbc	PKPbc	10 25 58.3	+0.7
EBEN	**Beniarda**	**148.96**	**336**	PKP	PKPbc	10 25 57.3	-0.6
ABA	**Alger-Bouzarea**	**149.07**	**330**	P	PKPbc	10 25 59.0	+0.8
PTO	**Porto**	**149.14**	**349**	ePKPbc	PKPbc	10 25 59.0	+0.6
ESDC	**Sonseca Array**	**149.41**	**342**	PKPbc	PKPbc	10 25 59.7	+0.6
	comp=Z,9.3nm,0.8s,baz=19,slow=2.1,SNR=31						
ESDC	**Sonseca Array**	**149.41**	**342**	PKP	PKPbc	10 25 58.6	-0.4
ESLA	**Sonseca Array**	**149.41**	**342**	ePKPbc	PKPbc	10 25 59.5	+0.4
PVIS	**Viseu**	**149.41**	**348**	ePKPbc	PKPbc	10 25 59.5	+0.4
ETOB	**Tobarra**	**149.52**	**338**	PKP	PKPbc	10 25 58.9	-0.5
EMHD	**Djebel Mahouad**	**149.58**	**329**	P	PKPbc	10 26 00.0	+0.5
MTE	**Manteigas**	**149.65**	**348**	ePKPbc	PKPbc	10 26 00.5	+0.8
MTE	**Manteigas**	**149.65**	**348**	ePKPbc	PKPbc	10 25 59.8	+0.1
EMUR	**La Murta**	**150.10**	**337**	PKP	PKPbc	10 26 00.1	-0.7
PCBR	**Castelo Branco**	**150.17**	**347**	ePKPbc	PKPbc	10 26 01.3	+0.4
EBNR	**Beni Rached**	**150.21**	**331**	P	PKPbc	10 26 03.0	+2.0
ECHA	**Ech Chlef**	**150.40**	**331**	P	PKPbc	10 26 02.0	+0.5
PTOM	**Tomar**	**150.58**	**348**	ePKPbc	PKPbc	10 26 02.4	+0.5
EANR	**'Ain N'Sour**	**150.69**	**331**	P	PKPbc	10 26 02.5	+0.3
EADA	**Adamuz**	**150.98**	**342**	PKP	PKPbc	10 26 02.3	-0.6
ETRT	**Tiaret**	**151.04**	**330**	P	PKPbc	10 26 04.0	+1.0
EBAD	**Badajoz**	**151.10**	**346**	PKP	PKPbc	10 26 02.1	-1.0
PBEJ	**Beja**	**151.99**	**347**	ePKPbc	PKPbc	10 26 05.8	+0.6
TORD	**Torodi Ar. Bea**	**162.81**	**280**	PKP	PKPdf	10 26 12.4	+0.3
	comp=Z,4.0nm,1.0s,baz=2.8,slow=1.1,SNR=17						
TORD				PKPab	PKPab	10 27 01.9	+0.7
	comp=Z,2.0nm,0.7s,baz=83,slow=3.6,SNR=7.6						
DBIC	**Dimbokro**	**168.51**	**250**	PKP	PKPdf	10 26 17.1	+0.2
	comp=Z,3.9nm,0.8s,baz=142,slow=1.4,SNR=7.4						
DBIC	**Dimbokro**	**168.51**	**250**	PKIKP	PKPdf	10 26 17.1	+0.3
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.8s						

MDD ***07*** *10:57:55.9±1.6, 3562N×938W, h0km, mbLg2.9/17, Error ellipse: s-maj=14.5km s-min=9.9km az=46.0, PRXIMO*
ISCJB ***07*** *10:57:57.5±1.0, 3582N±004×917W±006, h10km, Error ellipse: s-maj=7.7km s-min=4.9km az=95.2*
CSEM ***07*** *10:57:57.4±0.6, 3555N×895W, h5km, ML3.8/5, Error ellipse: s-maj=10.9km s-min=7.2km az=49.0*
IGIL ***07*** *10:57:57.3, 3560N×950W, h10km, ML2.9*
INMG ***07*** *10:57:57.2±0.8, 3544N×955W, h31km, ML2.8, Error ellipse: s-maj=4.4km s-min=3.0km az=65.0*
ISC 07 10:57:58.0±0.9**, 3575N**±004×**923W**±005**, h10**km**, n41, σ1ˢ10**/86**, 1C, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.62**	**16**	eP	**Pn**	**10 58 27.1**	**+0.4**
MORF				eS	**Sn**	**10 58 49.0**	**+1.4**
MORF				eS	**Sn**	**10 58 49.0**	**+1.4**
MORF				AML	AML	10 58 50.9	
	comp=E,100nm,0.2s						
MORF	**Marmelete**	**1.62**	**16**	eP	**Pn**	**10 58 27.1**	**+0.4**
MORF				eS	**Sn**	**10 58 49.0**	**+1.4**
PTEO	**Sao Teotonio**	**1.84**	**13**	ePn	**Pn**	**10 58 29.8**	**+0.2**
PTEO				eSn	**Sn**	**10 58 54.4**	**+1.5**
PTEO							
	comp=E,23nm,0.1s						
PTEO	**Sao Teotonio**	**1.84**	**13**	ePn	**Pn**	**10 58 29.8**	**+0.2**
PTEO				eSn	**Sn**	**10 58 54.4**	**+1.5**
	comp=E,23nm,0.1s						
EGRO	**El Granado**	**2.27**	**38**	P	**Pn**	**10 58 36.5**	**+1.0**
	comp=E,1.3nm,0.1s,SNR=7.8						
EGRO				S	**Sn**	**10 59 06.0**	**+2.4**
	comp=E,29nm,0.1s,SNR=5.7						
EGRO	**El Granado**	**2.27**	**38**	P	**Pn**	**10 58 36.5**	**+1.0**
	comp=E,1.3nm,0.1s,SNR=7.8						
EGRO				S	**Sn**	**10 59 05.9**	**+2.4**
	comp=E,29nm,0.1s,SNR=5.7						
PBEJ	**Beja**	**2.52**	**25**	ePn	**Pn**	**10 58 40.3**	**+1.3**
PBEJ				eSn	**Sn**	**10 59 11.6**	**+1.8**
PBEJ							
	comp=E,16nm,0.2s						
PBEJ	**Beja**	**2.52**	**25**	ePn	**Pn**	**10 58 40.3**	**+1.3**
PBEJ				eSn	**Sn**	**10 59 11.6**	**+1.8**
	comp=E,16nm,0.2s						
EMIN	**Mina Concepcio**	**2.88**	**45**	P	**Pn**	**10 58 44.3**	**+0.4**
	comp=E,1.2nm,0.2s,SNR=13						
EMIN				S	**Sn**	**10 59 20.2**	**+1.6**
	comp=E,6.1nm,0.1s,SNR=5.7						
EMIN	**Mina Concepcio**	**2.88**	**45**	P	**Pn**	**10 58 44.3**	**+0.4**
	comp=E,1.2nm,0.2s,SNR=13						
EMIN				S	**Sn**	**10 59 20.2**	**+1.7**
	comp=E,6.1nm,0.1s,SNR=5.7						
ESPR	**Espera**	**2.94**	**67**	P	**Pn**	**10 58 44.7**	**-0.2**
	comp=E,2.4nm,0.1s,SNR=6.4						
ESPR				S	**Sn**	**10 59 20.8**	**+0.6**
	comp=E,15nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.94**	**67**	P	**Pn**	**10 58 44.7**	**-0.1**
	comp=E,2.4nm,0.1s,SNR=6.4						
ESPR				S	**Sn**	**10 59 20.8**	**+0.6**
	comp=E,15nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**3.12**	**76**	P	**Pn**	**10 58 47.0**	**-0.3**
	comp=E,3.9nm,0.1s,SNR=4.0						
EJIF				S	**Sn**	**10 59 23.8**	**-0.9**
	comp=E,1.3nm,0.1s						
PLOU	**Loures**	**3.13**	**1**	ePn	**Pn**	**10 58 46.9**	**-0.5**
PLOU				eSn	**Sn**	**10 59 24.0**	**-0.8**
PLOU							
	comp=E,10nm,0.1s						
PLOU	**Loures**	**3.13**	**1**	ePn	**Pn**	**10 58 46.9**	**-0.5**
PLOU				eSn	**Sn**	**10 59 24.0**	**-0.8**
	comp=E,10nm,0.1s						
PESTR	**Estremoz**	**3.38**	**22**	ePn	**Pn**	**10 58 51.0**	**+0.2**
PESTR				eSn	**Sn**	**10 59 31.6**	**+0.7**
EBAD	**Badajoz**	**3.48**	**30**	P	**Pn**	**10 58 53.0**	**+0.7**
	comp=E,3.4nm,0.1s,SNR=14						
EBAD				S	**Sn**	**10 59 35.5**	**+2.0**
	comp=E,21nm,0.3s						
EBAD	**Badajoz**	**3.48**	**30**	P	**Pn**	**10 58 53.0**	**+0.8**
	comp=E,3.4nm,0.1s,SNR=14						
EBAD				S	**Sn**	**10 59 35.5**	**+2.0**
	comp=E,21nm,0.3s						
PTOM	**Tomar**	**3.92**	**9**	eSn	**Sn**	**10 59 43.3**	**-0.9**
PTOM				eSg	**Sg**	**11 00 05.7**	**+1.9**
PTOM							
	comp=E,78nm,0.6s						
PTOM	**Tomar**	**3.92**	**9**	eSn	**Sn**	**10 59 43.3**	**-0.9**
PTOM				eSg	**Sg**	**11 00 05.7**	**+1.9**
	comp=E,78nm,0.6s						
PCBR	**Castelo Branco**	**4.31**	**18**	ePn	**Pn**	**10 59 04.3**	**+0.6**
PCBR				eSn	**Sn**	**10 59 54.2**	**+0.2**
PCBR				eSg	**Sg**	**11 00 21.4**	**+4.9**
PCBR							
	comp=E,11nm,0.3s						
PCBR	**Castelo Branco**	**4.31**	**18**	ePn	**Pn**	**10 59 04.3**	**+0.6**
PCBR				eSn	**Sn**	**10 59 54.2**	**+0.2**
PCBR				eSg	**Sg**	**11 00 21.4**	**+4.9**
	comp=E,11nm,0.3s						
EADA	**Adamuz**	**4.44**	**56**	⇑P	**Pn**	**10 59 05.9**	**+0.5**
	comp=E,2.1nm,0.1s,SNR=18						
EADA				S	**Sn**	**10 59 57.6**	**+0.5**
	comp=E,11nm,0.1s						
EADA	**Adamuz**	**4.44**	**56**	P	**Pn**	**10 59 06.0**	**+0.6**
	comp=E,2.1nm,0.1s,SNR=18						
EADA				S	**Sn**	**10 59 57.6**	**+0.5**
	comp=E,11nm,0.1s						
MTE	**Manteigas**	**4.83**	**15**	ePn	**Pn**	**10 59 11.3**	**+0.5**
MTE				eSn	**Sn**	**11 00 06.1**	**-0.6**
MTE				eSg	**Sg**	**11 00 26.4**	**-6.7**
MTE							
	comp=E,14nm,0.4s						
MTE	**Manteigas**	**4.83**	**15**	ePn	**Pn**	**10 59 11.3**	**+0.5**
MTE				eSn	**Sn**	**11 00 06.1**	**-0.6**
EQUE	**Quentar**	**4.88**	**71**	P	**Pn**	**10 59 11.7**	**+0.2**
	comp=E,1.2nm,0.3s,SNR=7.9						
EQUE				S	**Sn**	**11 00 08.0**	**-0.1**
	comp=E,1.7nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**4.98**	**59**	P	**Pn**	**10 59 12.8**	**-0.1**
	comp=E,2.0nm,0.1s,SNR=7.9						
EBAN				S	**Sn**	**11 00 09.4**	**-1.1**
	comp=E,2.5nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**5.07**	**12**	ePn	**Pn**	**10 59 13.9**	**-0.1**
PVIS				eSn	**Sn**	**11 00 11.2**	**-1.4**
PVIS				eSg	**Sg**	**11 00 27.8**	**-13**
PVIS							
	comp=E,16nm,0.3s						
PVIS	**Viseu**	**5.07**	**12**	ePn	**Pn**	**10 59 13.9**	**-0.1**
PVIS				eSn	**Sn**	**11 00 11.2**	**-1.4**
EQES	**Quesada**	**5.35**	**66**	P	**Pn**	**10 59 18.7**	**+0.8**
	comp=E,1.3nm,0.2s,SNR=4.0						
EQES				S	**Sn**	**11 00 18.5**	**-1.0**
	comp=E,1.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.35**	**66**	P	**Pn**	**10 59 18.7**	**+0.8**
	comp=E,1.3nm,0.2s,SNR=4.0						
EQES				S	**Sn**	**11 00 18.5**	**-1.1**
	comp=E,1.4nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**5.72**	**45**	S	**Sn**	**11 00 28.0**	**-0.8**
	comp=E,3.2nm,0.2s,baz=231,slow=24,SNR=7.9						
PCAB	**Cabril**	**6.03**	**9**	ePn	**Pn**	**10 59 26.8**	**-0.4**
PCAB				eSn	**Sn**	**11 00 33.4**	**-2.8**
PCAB							
	comp=E,6.1nm,0.3s						
ELOB	**Lobios**	**6.18**	**8**	P	**Pn**	**10 59 28.8**	**-0.5**
	comp=E,2.1nm,0.2s,SNR=27						
ELOB				S	**Sn**	**11 00 37.6**	**-2.4**
	comp=E,1.7nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**6.35**	**17**	ePn	**Pn**	**10 59 31.5**	**-0.2**
PBRG				eSn	**Sn**	**11 00 42.6**	**-1.6**
PBRG				eSg	**Sg**	**11 01 10.4**	**-11**
PBRG							
	comp=E,2.9nm,0.4s						
ECAL	**Calabor**	**6.48**	**17**	P	**Pn**	**10 59 33.9**	**+0.5**
	comp=E,1.9nm,0.2s,SNR=9.0						
ECAL				S	**Sn**	**11 00 46.7**	**-0.7**
	comp=E,4.2nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**6.78**	**62**	P	**Pn**	**10 59 37.0**	**-0.5**
	comp=E,1.1nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**11 00 52.5**	**-2.3**
	comp=E,3.0nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**6.78**	**62**	P	**Pn**	**10 59 37.0**	**-0.5**
	comp=E,1.1nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**7.19**	**1**	P	**Pn**	**10 59 41.2**	**-2.1**
	comp=E,2.1nm,0.2s,SNR=7.9						
EMAZ				S	**Sn**	**11 00 59.9**	**-5.1**
	comp=E,1.2nm,0.1s,SNR=7.9						
ETOR	**Torete**	**7.58**	**46**	P	**Pn**	**10 59 49.6**	**+1.1**
	comp=E,0.3nm,0.2s,SNR=7.9						
ETOR				S	**Sn**	**11 01 12.8**	**-1.6**
	comp=E,1.9nm,0.4s,SNR=7.9						

CASC 07 11:06:05.8±2.3**, 1371N**×**9107W, h23**km±9km**, MD3.8, 6C-3D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.76**	**52**	⇑eP	Pb	11 06 20.7	+0.4
IXG				eS	Sb	11 06 32.3	+2.1
TP2	**Tecpan 2**	**1.07**	**3**	⇑eP	Pn	11 06 25.2	-0.1
TP2				eS	Sb	11 06 40.6	+1.5
RTR	**El Retiro**	**1.40**	**82**	⇓eP	x	11 06 59.7	
RTR				eS	x	11 07 18.4	
RBDL	**Robledal**	**1.41**	**73**	⇑eP	x	11 07 00.1	
RBDL				eS	x	11 07 19.2	
SBLS	**San Blas**	**1.42**	**85**	eP	x	11 06 59.6	
SBLS				eS	x	11 07 18.6	
SNJE	**San Jose**	**1.44**	**83**	⇓eP	x	11 06 60.0	
SNJE				eS	x	11 07 19.0	
BOQS	**Boqueron**	**1.74**	**89**	⇑eP	x	11 07 04.1	
BOQS				eS	x	11 07 25.7	
SNET	**Serv Nac Est T**	**1.79**	**90**	eP	x	11 06 35.4	
LFRS	**El Faro**	**1.96**	**92**	⇓eP	x	11 07 07.4	
LFRS				eS	x	11 07 32.0	
LBRS	**Las Brisas**	**1.97**	**89**	⇑eP	x	11 07 08.7	
LBRS				eS	x	11 07 35.9	
LCBS	**La Ceiba**	**2.04**	**91**	⇑eP	x	11 07 08.8	
LCBS				eS	x	11 07 35.0	
SNVI	**San Vicente**	**2.17**	**92**	eP	x	11 07 10.8	
SNVI				eS	x	11 07 38.3	

IDC 07 11:14:40.5±3.6**, 1660S**×**17549W, h0**km**, mb4.3**/3**, mb1 4.5**/3**, mb1mx4.0**/14**, mbtmp4.3**/3**, Error ellipse: s-maj=161.3km s-min=74.7km az=154.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.70**	**241**	eP	P	11 22 31.8	+0.9
	1.4nm,0.5s						
STKA	**Stephens Creek**	**41.70**	**241**	P	P	11 22 31.7	+0.8
	1.7nm,0.5s,baz=103,slow=8.5,SNR=7.6						
WB2	**Warramunga Arr**	**47.61**	**258**	eP	P	11 23 18.6	+0.5
WRA	**Warramunga Arr**	**47.62**	**258**	P	P	11 23 18.5	+0.2
	1.6nm,0.7s,baz=97,slow=7.1,SNR=48						
WRA				PcP	PcP	11 24 48.5	+0.6
	0.4nm,0.4s,baz=87,slow=3.4,SNR=4.7						
ASAR	**Alice Springs**	**47.83**	**253**	P	P	11 23 19.9	+0.1
	7.9nm,0.6s,baz=88,slow=9.0,SNR=192						
ASAR				PcP	PcP	11 24 48.9	+0.2
	0.5nm,0.4s,baz=106,slow=3.9,SNR=7.6						
ASPA	**Alice Springs**	**47.84**	**253**	eP	P	11 23 19.8	-0.1

NIED ***07*** *11:15:00, 4330N×14680E, h77km, Mw4.1 Best double couple: $M_0$1.58000×10^{15} NP1:ϕ_s217.00000°, δ85.00000°, λ-99.00000°. NP2:ϕ_s100.00000°, δ10.00000°, λ-28.00000°.*
BJI ***07*** *11:15:19.5, 4256N×14736E, h34km, mB4.9, mb4.7, Ms4.7, Msz4.3*
ISCJB ***07*** *11:15:29.7±0.7, 4335N±005×14689E±006, h73km±4km, mb4.5/26, Error ellipse: s-maj=9.0km s-min=5.8km az=98.4*
MOS ***07*** *11:15:30.3±1.0, 4336N×14688E, h85km, mb4.6/15, Error ellipse: s-maj=13.9km s-min=9.5km az=102.5*
JMA ***07*** *11:15:31.2±0.1, 4328N×14681E, h63km±2km, M4.6*
JMA Felt I J1.
NEIC ***07*** *11:15:33.1±1.2, 4339N×14664E, h84km±11km, mb4.7/6, Error ellipse: s-maj=12.2km s-min=10.0km az=131.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
IDC ***07*** *11:15:33.3±2.4, 4333N×14678E, h87km±20km, mb4.0/13, mb1 4.1/15, mb1mx3.9/23, mbtmp4.2/15, Error ellipse: s-maj=19.6km s-min=17.1km az=168.0*
ISC 07 11:15:30.5±0.7**, 4337N**±005×**14692E**±006**, h64**km±5km**, n80, σ1ˢ01**/97**, mb4.5**/26**, 3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.86**	**270**	P	**Pn**	**11 15 46.8**	**-0.1**
NEM2				eS	**Sn**	**11 15 58.2**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**1.02**	**311**	⇓iPN	**Pn**	**11 15 49.0**	**+0.1**
YUK				i S	**Sn**	**11 16 02.0**	**-0.6**
YUK				pmax	pmax		
	comp=Z,8μm,0.4s						
YUK				pmax	pmax		
	comp=N,3μm,0.3s						
YUK				pmax	pmax		
	comp=E,2μm,0.3s						
YUK				pmax	pmax		
	comp=Z,11μm,0.2s						
YUK				smax			
	comp=N,11μm,0.5s						
YUK				smax			
	comp=E,6μm,0.4s						
YUK				smax			
	comp=N,26μm,0.8s						
YUK				smax			
	comp=E,10μm,0.6s						
JRA	**Rausu**	**1.42**	**294**	P	**Pn**	**11 15 54.7**	**+0.4**
JRA				eS	**Sn**	**11 16 12.5**	**+0.4**
JNK	**Nakash**	**1.61**	**279**	P	**Pn**	**11 15 56.7**	**-0.1**
JNK				eS	**Sn**	**11 16 15.4**	**-1.3**
JAK	**Akkeshi**	**1.67**	**258**	P	**Pn**	**11 15 57.2**	**-0.3**
JAK				eS	**Sn**	**11 16 16.4**	**-1.5**
KUR	**Kuril'sk**	**1.99**	**20**	ePN	**Pn**	**11 15 59.9**	**-1.9**
KUR				eS	**Sn**	**11 16 23.0**	**-2.7**
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,140nm,0.5s						
KUR				smax			
	comp=N,520nm,0.5s						
KUR				smax			
	comp=E,680nm,0.5s						
JTKR	**Abashiri--Toko**	**2.27**	**286**	P	**Pn**	**11 16 06.7**	**+1.1**
JTKR				eS	**Sn**	**11 16 33.4**	**+0.9**
JAR	**Ashorobuto**	**2.30**	**269**	P	**Pn**	**11 16 06.5**	**+0.4**
JAR				eS	**Sn**	**11 16 32.7**	**-0.5**
JOB	**Onbets**	**2.30**	**259**	P	**Pn**	**11 16 06.2**	**+0.1**
JOB				eS	**Sn**	**11 16 32.4**	**-1.0**
JMP	**Maruseppu**	**2.66**	**285**	P	**Pn**	**11 16 12.2**	**+1.2**
JMP				eS	**Sn**	**11 16 42.8**	**+0.8**
JCH	**Churui**	**2.71**	**255**	P	**Pn**	**11 16 11.3**	**-0.4**
JCH				eS	**Sn**	**11 16 41.9**	**-1.5**
JKK2	**Kamakawa 2**	**3.07**	**281**	P	**Pn**	**11 16 18.0**	**+1.4**
JEM	**Erimo**	**3.08**	**245**	P	**Pn**	**11 16 17.6**	**+0.8**
JFR	**Furan**	**3.16**	**268**	P	**Pn**	**11 16 19.0**	**+1.1**
JFR				eS	**Sn**	**11 16 54.9**	**+0.5**
ASAJ	**Asahikawa**	**3.22**	**285**	P	**Pn**	**11 16 20.8**	**+2.1**
	comp=E,14nm,0.3s,baz=103,slow=11,SNR=62						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAJ				S	**Sn**	**11 16 57.6**	**+1.9**
	comp=E,16nm,0.3s,baz=291,slow=30,SNR=10						
ASAJ	**Asahikawa**	**3.22**	**285**	PN	**Pn**	**11 16 20.8**	**+2.2**
ASAJ				S	**Sn**	**11 16 57.7**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,14nm,0.3s						
ASAJ				smax			
	comp=N,16nm,0.3s						
JNBK	**Urakawa-nobuka**	**3.25**	**252**	P	**Pn**	**11 16 19.0**	**0.0**
JNBK				*e*S	**Sn**	**11 16 54.5**	**-2.0**
YSS	**Yuzh-Sakhalins**	**4.64**	**322**	⇓*i*PN	**Pn**	**11 16 39.7**	**+1.7**
YSS				*e*S	**Sn**	**11 17 30.0**	**-0.6**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				smax			
	comp=E,90nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.64**	**322**	*e*Pn	**Pn**	**11 16 39.3**	**+1.3**
YSS				*e*Sn	**Sn**	**11 17 31.2**	**+0.6**
MAJO	**Matsushiro**	**9.54**	**227**	PN	**Pn**	**11 17 46.6**	**+1.5**
MJAR	**Matsushiro Arr**	**9.54**	**227**	P	**Pn**	**11 17 44.9**	**-0.2**
	comp=E,0.4nm,0.3s,baz=30,slow=13,SNR=5.8						
HIA	**Hailar**	**19.61**	**297**	P	**Pn**	**11 19 50.2**	**-5.3**
NJ2	**Nanjing**	**24.79**	**252**	*e*P	**P**	**11 20 39.9**	**-6.4**
NJ2				AP		11 20 49.2	
NJ2				XP	sP	11 20 53.2	-16
NJ2				PP		11 21 17.7	
NJ2				S	**S**	**11 25 00.0**	**-4.2**
NJ2				XS	sS	11 25 16.0	-15
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,120nm,4.2s						
NJ2				LR	LR		
	comp=N,600nm,13.1s						
NJ2				LR	LR		
	comp=E,1μm,14.1s						
NJ2				LR	LR		
	comp=Z,630nm,13.8s						
ULN	**Ulaanbaatar**	**28.02**	**293**	*e*P	**P**	**11 21 15.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**28.02**	**293**	*e*P	**P**	**11 21 15.7**	**+0.3**
	comp=Z,18nm,1.0s,mb4.7						
SONM	**Songino Array**	**28.46**	**293**	P	**P**	**11 21 19.7**	**+0.4**
	comp=Z,10.0nm,0.6s,mb4.6,baz=90,slow=8.4,SNR=94						
SONM	**Songino Array**	**28.46**	**293**	P	**P**	**11 21 19.7**	**+0.4**
SONM				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MCK	**McKinley**	**41.04**	**38**	P	**P**	**11 23 10.6**	**+3.1**
ILAR	**Eielson Array**	**41.90**	**36**	P	**P**	**11 23 15.0**	**+0.5**
	comp=Z,2.3nm,0.8s,mb3.8,baz=252,slow=6.3,SNR=18						
ILAR	**Eielson Array**	**41.90**	**36**	P	**P**	**11 23 15.0**	**+0.5**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**44.61**	**298**	P	**P**	**11 23 36.4**	**0.0**
	comp=Z,11nm,0.7s,mb4.8,baz=76,slow=9.2,SNR=66						
MKAR	**Makanchi Array**	**44.61**	**298**	P	**P**	**11 23 36.4**	**0.0**
MKAR				pmax	pmax		
	comp=Z,11nm,0.7s						
MKAR	**Makanchi Array**	**44.61**	**298**	P	**P**	**11 23 36.4**	**0.0**
DAWY	**Dawson**	**45.20**	**36**	*e*P	**P**	**11 23 41.8**	**+0.7**
KURK	**Kurchatov**	**45.60**	**304**	*e*P	**P**	**11 23 43.2**	**-1.0**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
KURK	**Kurchatov**	**45.60**	**304**	*e*P	**P**	**11 23 43.1**	**-1.1**
	comp=Z,3.3nm,0.4s,mb4.6						
INK	**Inuvik**	**46.82**	**30**	P	**P**	**11 23 54.7**	**+0.9**
	comp=Z,7.2nm,0.5s,mb4.9,baz=313,slow=7.5,SNR=33						
INK	**Inuvik**	**46.82**	**30**	P	**P**	**11 23 54.7**	**+0.9**
INK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
INK	**Inuvik**	**46.82**	**30**	*e*P	**P**	**11 23 54.4**	**+0.7**
	comp=Z,9.1nm,0.8s,mb4.8						
ZRNK	**Zerenda**	**50.42**	**310**	*e*P	**P**	**11 24 21.0**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**50.42**	**310**	*e*P	**P**	**11 24 21.0**	**-0.4**
	comp=Z,2.7nm,0.8s,mb4.3						
JIRN	**Jiri**	**50.78**	**273**	*e*P	**P**	**11 24 24.9**	**+0.8**
GUN	**Gumba**	**50.87**	**273**	*e*P	**P**	**11 24 25.8**	**+1.0**
	comp=Z,28nm,0.6s,mb5.4						
AAK	**Ala-Archa**	**51.37**	**296**	*e*P	**P**	**11 24 28.1**	**-0.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
KKN	**Kakani**	**51.37**	**274**	*e*P	**P**	**11 24 29.2**	**+0.6**
PKI	**Pulchoki**	**51.40**	**273**	*e*P	**P**	**11 24 28.0**	**-0.8**
DMN	**Daman**	**51.60**	**274**	*e*P	**P**	**11 24 31.0**	**+0.7**
	comp=Z,11nm,0.5s,mb5.0						
GKN	**Gorkha**	**51.72**	**274**	*e*P	**P**	**11 24 31.2**	**+0.1**
KOLN	**Koldanda**	**52.60**	**275**	*e*P	**P**	**11 24 38.0**	**+0.3**
	comp=Z,6.5nm,0.4s,mb4.9						
ARU	**Arti**	**54.51**	**317**	⇓*i*P	**P**	**11 24 50.4**	**-1.3**
ARU				*e*		11 26 53.4	
ARU				*e*PPP		11 28 07.1	
ARU				*e*S	**S**	**11 32 28.3**	**+2.4**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
ARU	**Arti**	**54.51**	**317**	*e*P	**P**	**11 24 50.7**	**-0.9**
	comp=Z,7.5nm,0.9s,mb4.7						
RES	**Resolute Bay**	**55.38**	**17**	*e*P	**P**	**11 24 57.8**	**-0.2**
YKA	**Yellowknife Ar**	**56.22**	**34**	P	**P**	**11 25 04.4**	**+0.5**
	comp=Z,1.2nm,0.7s,mb4.0,baz=304,slow=7.3,SNR=4.3						
KEV	**Kevo**	**59.01**	**339**	*e*p	**P**	**11 25 22.4**	**-1.2**
ARCES	**ARCESS Array B**	**59.55**	**340**	P	**P**	**11 25 26.6**	**-0.6**
	comp=Z,0.7nm,0.4s,mb4.1,baz=54,slow=7.2,SNR=20						
ARCES	**ARCESS Array B**	**59.55**	**340**	P	**P**	**11 25 26.6**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JOF	**Joensuu**	**62.35**	**332**	*e*p	**P**	**11 25 44.8**	**-1.4**
	comp=Z,6.3nm,0.6s,mb4.9						
JOF	**Joensuu**	**62.35**	**332**	*e*P	**P**	**11 25 44.8**	**-1.4**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.9						
WRA	**Warramunga Arr**	**64.05**	**193**	P	**P**	**11 25 57.4**	**-0.1**
	comp=Z,0.5nm,0.7s,mb3.7,baz=7.3,slow=6.8,SNR=3.1						
WRA	**Warramunga Arr**	**64.05**	**193**	P	**P**	**11 25 57.4**	**-0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SUMG	**Summit**	**64.30**	**2**	*e*P	**P**	**11 25 59.6**	**+0.4**
	comp=Z,9.2nm,0.7s,mb4.9						
KAF	**Kangasniemi**	**64.58**	**333**	*e*p	**P**	**11 25 58.2**	**-2.8**
FINES	**FINESS Array B**	**65.14**	**333**	P	**P**	**11 26 03.8**	**-0.8**
	comp=Z,5.6nm,0.7s,mb4.7,baz=51,slow=7.6,SNR=27						
FINES	**FINESS Array B**	**65.14**	**333**	P	**P**	**11 26 03.8**	**-0.8**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.7s						
OBN	**Obninsk**	**65.52**	**324**	*e*P	**P**	**11 26 06.3**	**-0.8**
OBN				*e*		11 26 33.2	
OBN				pmax	pmax		
	comp=Z,25nm,1.5s,mb5.0						
KIV	**Kislovodsk**	**69.89**	**312**	*e*P	**P**	**11 26 33.1**	**-1.5**
KIV				*e*	pP	11 26 52.5	+0.5
KIV				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
NB2	**NORSAR Subarra**	**69.90**	**339**	P	**P**	**11 26 33.9**	**-0.7**
	comp=Z,3.4nm,0.5s,mb4.5,baz=33,slow=6.2						
NOA	**NORSAR Array B**	**69.90**	**339**	P	**P**	**11 26 33.9**	**-0.7**
	comp=Z,1.7nm,0.5s,mb4.3,baz=34,slow=6.7,SNR=25						
NOA	**NORSAR Array B**	**69.90**	**339**	P	**P**	**11 26 33.9**	**-0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PDAR	**Pinedale Array**	**70.29**	**50**	P	**P**	**11 26 38.2**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=304,slow=1.6,SNR=3.2						
AKASG	**Malin Array Be**	**71.79**	**324**	P	**P**	**11 26 45.5**	**-0.5**
	comp=Z,2.5nm,0.4s,mb4.5,baz=39,slow=6.0,SNR=14						
AKASG	**Malin Array Be**	**71.79**	**324**	P	**P**	**11 26 45.6**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
CLL	**Collm**	**77.58**	**332**	P	**P**	**11 27 19.0**	**-0.5**
	comp=Z,logA/T=0.8,mb4.5						
CLL	**Collm**	**77.58**	**332**	*e*P	**P**	**11 27 19.0**	**-0.5**
	comp=Z,5.0nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**77.69**	**314**	P	**P**	**11 27 20.8**	**+0.6**
	comp=Z,1.4nm,0.7s,mb4.0,baz=69,slow=2.7,SNR=5.4						
BRTR	**Keskin Array B**	**77.69**	**314**	P	**P**	**11 27 20.8**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**79.41**	**331**	P	**P**	**11 27 29.6**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=18,slow=5.6,SNR=6.3						
GERES	**GERESS Array B**	**79.41**	**331**	P	**P**	**11 27 29.6**	**0.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BDFB	**Brasilia**	**149.57**	**29**	PKPbc	PKPbc	11 35 14.2	+1.6
	comp=Z,1.5nm,0.4s,baz=116,slow=5.0,SNR=4.3						
BDFB	**Brasilia**	**149.57**	**29**	PKP2	PKPab	11 35 14.2	-3.5
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.4s						

OTT 07 11:16:51.7±0.4**,6346N**×**8811W,h18**km**,MN2.7**/6**,130km east from Chesterfield Inlet, Nu Boothia Ungava Seismic Zone.,Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YRTN	**Rankin Inlet**	**1.93**	**252**	PN	Pn	11 17 16.2	-7.3
YRTN				SG	Sg	11 17 47.1	-6.7
QILN	**Qililugaq Expl**	**3.30**	**12**	PN	Pn	11 17 41.6	-0.7
QILN				PG	Pg	11 17 49.4	-5.5
QILN				SN	Sn	11 18 19.5	-1.6
QILN				SG	Sg	11 18 33.7	-3.9
QILN				Trac		11 18 34.8	
	comp=Z,11nm,0.2s						
SRLN	**Sarcpa Lake, N**	**5.48**	**19**	PN	Pn	11 18 11.6	-0.8
SRLN				SN	Sn	11 19 12.4	-2.5
SRLN				SG	Sg	11 19 40.8	-6.6
SRLN				Trac		11 19 49.1	
	comp=Z,5.4nm,0.2s						
FCC	**Fort Churchill**	**5.53**	**214**	PN	Pn	11 18 12.4	-0.6
FCC				SN	Sn	11 19 11.7	-4.4
FCC				Trac		11 19 40.3	
	comp=Z,5.2nm,0.3s						
FCC				SG	Sg	11 19 40.6	-8.4
AP3N	**Apex site 3 Nu**	**6.20**	**12**	PN	Pn	11 18 21.1	-1.2
AP3N				SN	Sn	11 19 23.9	-8.9
AP3N				LG		11 20 01.9	
AP3N				SG	Sn	11 20 02.6	+30
AP3N				Trac		11 20 04.0	
	comp=Z,3.7nm,0.5s						
ILON	**Igloolik, Nuna**	**6.45**	**20**	PN	Pn	11 18 24.9	-0.8
ILON				SN	Sn	11 19 34.4	-4.5
ILON				LG		11 20 11.3	
ILON				Trac		11 20 13.2	
	comp=Z,3.6nm,0.5s						
GIFN	**Gifford Fjord,**	**7.05**	**18**	PN	Pn	11 18 32.5	-1.5
GIFN				SN	Sn	11 19 48.8	-4.8
GIFN				LG		11 20 28.1	
GIFN				Trac		11 20 31.1	
	comp=Z,4.3nm,0.8s						
SILO	**Sutton Inlier**	**9.15**	**168**	PN	Pn	11 19 02.6	-0.2
SILO				SN	Sn	11 20 41.5	-3.8
SILO				LG		11 21 33.6	
VIMO	**Victor Mine**	**10.91**	**166**	PN	Pn	11 19 24.2	-2.7
VIMO				SN	Sn	11 21 20.6	-7.9
FFC	**Flin Flon**	**11.26**	**225**	SN	Sn	11 21 27.8	-9.3

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*ISCJB **07** 11:33:17.8±1.6,596N±0.1×225E±0.1,h0km,Error ellipse: s-maj=19.5km s-min=6.1km az=151.5*
*HEL **07** 11:33:19.9±0.5,5942N×2280E,h0km,ML1.9,Explosion*
*IDC **07** 11:33:20.5±2.9,5962N×2277E,h0km,mb1 3.0/3, mb1mx2.9/21,mbtmp2.9/3,ML2.5/3,Error ellipse: s-maj=37.9km s-min=9.1km az=157.0*
ISC 07 11:33:19.8±1.4**,596N**±01×**2254E**±010**,h0**km**,n8,**σ**1ˢ30**/15**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.12**	**56**	*e*P	**Pg**	**11 33 40.0**	**-1.2**
MEF				*e*S	**Sg**	**11 33 54.8**	**-0.8**
PVF	**Pernaja**	**1.91**	**59**	*e*P	**Pn**	**11 33 53.8**	**+0.2**
PVF				*e*S	**Sn**	**11 34 17.2**	**-1.1**
FIA0	**FINESS Array S**	**2.54**	**42**	*e*P	**Pn**	**11 34 03.2**	**+1.1**
FIA0				*e*S	**Sn**	**11 34 35.3**	**+1.5**
FINES	**FINESS Array B**	**2.54**	**42**	Pn	**Pn**	**11 34 03.7**	**+1.5**
	0.4nm,0.3s,baz=230,slow=15,SNR=16						
FINES				Lg		11 34 36.6	
	1.7nm,0.3s,baz=237,slow=27,SNR=17						
KAF	**Kangasniemi**	**3.12**	**35**	*e*P	**Pn**	**11 34 11.2**	**+1.1**
KAF				*e*S	**Sn**	**11 34 48.1**	**+0.1**
KAF				MSG		11 34 59.0	
	comp=Z,2.2nm,0.4s						
SUF	**Sumiainen**	**3.58**	**28**	*e*P	**Pn**	**11 34 17.7**	**+1.3**
SUF				*e*S	**Sn**	**11 35 01.8**	**+2.3**
SUF				*e*SG	**Sg**	**11 35 13.1**	**-1.6**
SUF				MSG		11 35 14.2	
	comp=Z,2.5nm,0.4s						
NOA	**NORSAR Array B**	**5.81**	**289**	Pn	**Pn**	**11 34 46.0**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=100,slow=11,SNR=2.7						
NOA				Sn	**Sn**	**11 35 54.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=106,slow=16,SNR=2.4						
ARCES	**ARCESS Array B**	**10.05**	**6**	Pn	**Pn**	**11 35 42.5**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=181,slow=15,SNR=8.6						

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*KRSC **07** 11:56:04,6077N×16654E,h29km,ML4.3*
*ISCJB **07** 11:56:06.2±0.3,6080N±004×16566E±0.10,h10km, mb4.1/22,MS3.8/11,Error ellipse: s-maj=7.4km s-min=4.6km az=59.8*
*IDC **07** 11:56:06.6±0.8,6085N×16564E,h0km,mb3.9/13, mb1 4.1/13,mb1mx4.0/23,mbtmp3.9/13,MS3.6/9, Ms1 3.6/9,ms1mx3.3/34,Error ellipse: s-maj=24.5km s-min=16.9km az=173.0*
*MOS **07** 11:56:07.5±1.0,6086N×16567E,h19km,mb4.3/18,Error ellipse: s-maj=16.5km s-min=7.6km az=82.0*
*BJI **07** 11:56:08.6,6090N×16570E,h10km,mB4.6,mb4.4,Ms4.7, Msz4.5*
*NEIC **07** 11:56:08.6±1.0,6095N×16574E,h10km,mb4.3/8,Error ellipse: s-maj=30.3km s-min=7.4km az=176.0*
ISC 07 11:56:07.8±0.3**,6084N**±004×**16564E**±009**,h10**km**,n63,** σ**1ˢ19**/65**,mb4.1**/22**,MS3.8**/11**,1C,Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**4.88**	**199**	P	**Pn**	**11 57 20.7**	**-0.5**
KBTR				S	**Sn**	**11 58 16.0**	**-1.7**
KLY	**Klyuchi**	**5.24**	**212**	P	**Pn**	**11 57 27.6**	**+1.4**
MKZ	**Mys Kozlova**	**6.64**	**200**	P	**Pn**	**11 57 46.0**	**+0.6**
MKZ				S	**Sn**	**11 59 01.6**	**+0.4**
BILL	**Bilibino**	**7.23**	**2**	*e*PN	**Pn**	**11 57 54.6**	**+1.1**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BILL				pmax	pmax		
	comp=Z,26nm,0.9s						
BILL				pmax	pmax		
	comp=N,114nm,1.0s						
MA2	**Magadan**	**7.52**	**267**	*ce*PN	**Pn**	**11 57 58.4**	**+1.0**
MA2				pmax	pmax		
	comp=N,10.0nm,0.5s						
MA2				pmax	pmax		
	comp=E,50nm,0.5s						
MA2				pmax	pmax		
	comp=Z,50nm,0.5s						
MA2	**Magadan**	**7.52**	**267**	*e*P	**Pn**	**11 57 57.9**	**+0.5**
	comp=Z,67nm,0.7s						
MA2				*e*Sn	**Sn**	**11 59 20.2**	**-2.5**
SPN	**Mys Shipunski**	**8.35**	**204**	P	**Pn**	**11 58 11.0**	**+2.2**
SPN				S	**Sn**	**11 59 41.4**	**-1.7**
NLC	**Nalytchevo**	**8.42**	**207**	P	**Pn**	**11 58 11.8**	**+2.0**
PET	**Petropavlovsk**	**8.71**	**209**	*e*PN	**Pn**	**11 58 07.9**	**-6.0**
YAK	**Yakutsk**	**17.10**	**290**	*e*P	**Pn**	**12 00 11.1**	**+4.2**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
YAK	**Yakutsk**	**17.10**	**290**	*e*P	**Pn**	**12 00 10.1**	**+3.2**
	comp=E,27nm,0.6s						
TIXI	**Tiksi**	**17.96**	**322**	*e*P	**Pn**	**12 00 18.1**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TIXI				MLR	MLR		
	comp=Z,174nm,11.0s						
TTA	**Tatalina**	**18.01**	**67**	*e*P	**Pn**	**12 00 19.5**	**+1.3**
TTA				pmax	pmax		
	comp=Z,23nm,1.5s						
TTA	**Tatalina**	**18.01**	**67**	*e*P	**Pn**	**12 00 19.5**	**+1.3**
	comp=Z,23nm,1.5s						
MCK	**McKinley**	**20.98**	**62**	*e*P	**P**	**12 00 49.2**	**-1.9**
MCK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MCK	**McKinley**	**20.98**	**62**	*e*P	**P**	**12 00 49.2**	**-1.8**
	comp=Z,10nm,0.8s						
COLA	**College**	**21.20**	**59**	*e*P	**P**	**12 00 53.5**	**0.0**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.0						
COLA	**College**	**21.20**	**59**	*e*P	**P**	**12 00 53.5**	**0.0**
	comp=Z,7.5nm,0.9s,mb4.0						
HABR	**Khabarovsk**	**21.36**	**248**	*e*P	**P**	**12 00 57.4**	**+2.2**
HABR				*e*S	**S**	**12 04 54.9**	**+2.7**
HABR				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.2						
PMR	**Palmer**	**21.46**	**68**	P	**P**	**12 00 57.5**	**+1.2**
ILAR	**Eielson Array**	**21.63**	**59**	P	**P**	**12 00 57.5**	**-0.6**
	comp=Z,4.3nm,0.6s,mb4.1,baz=274,slow=11,SNR=66						
ILAR	**Eielson Array**	**21.63**	**59**	P	**P**	**12 00 57.5**	**-0.6**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ASAJ	**Asahikawa**	**21.66**	**230**	LR	LR	12 09 27.7	
	comp=Z,183nm,20.3s,MS3.5,baz=169,slow=37						
KLR	**Kul'dur**	**22.34**	**254**	*e*P	**P**	**12 01 04.0**	**-1.8**
KLR				MLR	MLR		
	comp=Z,800nm,13.0s,MS4.3						
DAWY	**Dawson**	**24.95**	**59**	*e*P	**P**	**12 01 29.4**	**-1.8**
BOD	**Bodaibo**	**25.95**	**286**	*e*P	**P**	**12 01 40.5**	**+0.2**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
INK	**Inuvik**	**26.09**	**48**	P	**P**	**12 01 42.0**	**+0.4**
	comp=Z,2.4nm,0.5s,mb4.0,baz=309,slow=14,SNR=13						
INK	**Inuvik**	**26.09**	**48**	*e*P	**P**	**12 01 41.9**	**+0.3**
INK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
INK	**Inuvik**	**26.09**	**48**	*e*P	**P**	**12 01 41.9**	**+0.3**
	comp=Z,7.0nm,1.0s,mb4.2						
MJAR	**Matsushiro Arr**	**29.90**	**228**	LR	LR	12 15 33.9	
	comp=Z,169nm,18.5s,MS3.7,baz=20,slow=39						
SONM	**Songino Array**	**35.61**	**276**	P	**P**	**12 03 07.3**	**+1.7**
	comp=Z,0.5nm,0.5s,mb3.7,baz=64,slow=7.0,SNR=4.9						
SONM				LR	LR	12 18 21.9	
	comp=Z,189nm,18.4s,MS3.9,baz=46,slow=38						
SONM	**Songino Array**	**35.61**	**276**	P	**P**	**12 03 07.3**	**+1.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,189nm,18.5s						
NJ2	**Nanjing**	**41.82**	**248**	*e*P	**P**	**12 03 57.2**	**-0.5**
NJ2				AP	pP	12 04 07.0	+6.2
NJ2				XP	sP	12 04 11.0	+8.9
NJ2				PP	PP	12 05 38.0	+3.6
NJ2				S	**S**	**12 10 13.0**	**-2.3**
NJ2				XS	sS	12 10 29.0	+8.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,244nm,5.6s						
NJ2				LR	LR		
	comp=N,3μm,25.5s,MS5.2						
NJ2				LR	LR		
	comp=E,2μm,24.1s,MS5.2						
NJ2				LR	LR		
	comp=Z,3μm,25.0s,MS5.1						
WALA	**Waterton Lakes**	**44.76**	**67**	*e*P	**P**	**12 04 20.8**	**-0.6**
KURK	**Kurchatov**	**46.43**	**299**	*e*P	**P**	**12 04 34.1**	**-0.6**
KURK				*e*		12 06 23.2	
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
KURK	**Kurchatov**	**46.43**	**299**	*e*P	**P**	**12 04 34.1**	**-0.5**
	comp=Z,4.3nm,0.6s,mb4.6						
KURK				*e*PP	PP	12 06 23.2	-0.4
ARCES	**ARCESS Array B**	**46.84**	**342**	P	**P**	**12 04 37.2**	**-0.7**
	comp=Z,1.0nm,0.6s,mb4.0,baz=37,slow=9.3,SNR=6.9						
ARCES				LR	LR	12 26 23.7	
	comp=Z,41nm,19.3s,MS3.4,baz=359,slow=39						
ARCES	**ARCESS Array B**	**46.84**	**342**	P	**P**	**12 04 37.2**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,41nm,19.3s						
ARCES	**ARCESS Array B**	**46.84**	**342**	P	**P**	**12 04 37.2**	**-0.7**
ARCES				LR	LR	12 26 23.7	
MKAR	**Makanchi Array**	**47.74**	**293**	P	**P**	**12 04 44.5**	**-0.4**
	comp=Z,0.7nm,0.4s,mb4.0,baz=45,slow=7.7,SNR=7.3						
MKAR	**Makanchi Array**	**47.74**	**293**	P	**P**	**12 04 44.5**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**48.10**	**306**	P	**P**	**12 04 48.0**	**+0.3**
	comp=Z,4.1nm,0.8s,mb4.5,baz=53,slow=7.0,SNR=14						
BVAR	**Borovoye Array**	**48.10**	**306**	P	**P**	**12 04 48.0**	**+0.3**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRVK	**Borovoye**	**48.12**	**306**	*e*P	**P**	**12 04 48.1**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BRVK	**Borovoye**	**48.12**	**306**	*e*P	**P**	**12 04 48.1**	**+0.3**
	comp=Z,1.6nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**48.70**	**307**	*e*P	**P**	**12 04 52.8**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
ZRNK	**Zerenda**	**48.70**	**307**	*e*P	**P**	**12 04 52.8**	**+0.4**
	comp=Z,6.3nm,1.1s,mb4.6						
ARU	**Arti**	**49.83**	**316**	*e*P	**P**	**12 05 00.4**	**-0.5**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
NVAR	**Mina Array Bea**	**50.78**	**80**	P	**P**	**12 05 09.8**	**+1.6**
	comp=Z,0.6nm,0.7s,mb3.6,baz=330,slow=5.2,SNR=2.6						
PDAR	**Pinedale Array**	**51.50**	**70**	P	**P**	**12 05 12.8**	**-0.8**
	comp=Z,1.5nm,1.0s,mb3.9,baz=343,slow=4.6,SNR=8.8						
PDAR				LR	LR	12 29 46.7	
	comp=Z,83nm,18.1s,MS3.8,baz=358,slow=39						
FINES	**FINESS Array B**	**54.16**	**337**	P	**P**	**12 05 32.6**	**-0.6**
	comp=Z,1.0nm,0.8s,mb3.8,baz=253,slow=2.0,SNR=4.6						
FINES				LR	LR	12 33 08.5	
	comp=Z,41nm,18.4s,MS3.5,baz=345,slow=41						
FINES	**FINESS Array B**	**54.16**	**337**	P	**P**	**12 05 32.6**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,41nm,18.4s						
AAK	**Ala-Archa**	**54.47**	**295**	*e*P	**P**	**12 05 36.2**	**+0.8**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
AKTO	**Aktyubinsk**	**54.87**	**312**	LR	LR	12 32 09.5	
	comp=Z,96nm,18.2s,MS3.9,baz=213,slow=39						
NOA	**NORSAR Array B**	**56.86**	**345**	P	**P**	**12 05 51.9**	**-0.7**
	comp=Z,0.8nm,0.5s,mb4.0,baz=14,slow=7.3,SNR=3.5						
NOA				LR	LR	12 30 21.5	
	comp=Z,24nm,19.3s,MS3.3,baz=290,slow=36						
NOA	**NORSAR Array B**	**56.86**	**345**	P	**P**	**12 05 51.9**	**-0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA				MLR	MLR		
	comp=Z,24nm,19.3s						
NOA	**NORSAR Array B**	**56.86**	**345**	P	**P**	**12 05 51.9**	**-0.7**
NOA				LR	LR	12 30 21.5	
HFS	**Hagfors**	**57.42**	**344**	LR	LR	12 29 31.6	
	comp=Z,44nm,21.4s,MS3.5,baz=1.8,slow=35						
AKASG	**Malin Array Be**	**63.43**	**331**	P	**P**	**12 06 36.2**	**-1.4**
	comp=Z,0.5nm,0.4s,mb4.0,baz=26,slow=6.2,SNR=4.8						
AKASG	**Malin Array Be**	**63.43**	**331**	P	**P**	**12 06 36.3**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**84.37**	**209**	P	**P**	**12 08 39.3**	**-0.9**
	comp=Z,1.1nm,0.8s,mb4.0,baz=11,slow=5.6,SNR=8.7						
WRA	**Warramunga Arr**	**84.37**	**209**	P	**P**	**12 08 39.3**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**88.06**	**209**	P	**P**	**12 08 58.6**	**+0.2**
	comp=Z,0.4nm,0.8s,mb3.7,baz=12,slow=4.7,SNR=3.5						

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*ISCJB **07** 12:08:28.8±3.1,382N±02×707E±0.1,h10km,Error ellipse: s-maj=29.8km s-min=9.8km az=33.6*
*NNC **07** 12:08:33.2±5.0,3828N×7091E,h0km,mb3.5,mpv3.4, Error ellipse: s-maj=38.1km s-min=32.5km az=16.0*
ISC 07 12:08:29.4±3.0**,381N**±02×**706E**±01**,h10**km**,n12,**σ**0ˢ46**/16**, 5C-2D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.70**	**29**	P	**Pn**	**12 09 39.8**	**-0.5**
	SNR=26						
KK31	**Karatay Array**	**5.05**	**359**	Pn	**Pn**	**12 09 49.5**	**+4.4**
	14nm,0.3s,baz=170,slow=13,SNR=205						
KK31				⇑Sn	**Sn**	**12 10 50.6**	**+7.2**
	35nm,0.8s,baz=155,slow=27,SNR=4.5						
UCH	**Uchtor**	**5.12**	**34**	P	**Pn**	**12 09 46.6**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	SNR=18						
EKS2	Erkin-Say	5.19	27	P	Pn	12 09 47.0	-0.1
	SNR=16						
KZA	Kyzart	5.36	40	P	Pn	12 09 49.5	+0.1
	SNR=14						
KBK	Karagaybulak	5.66	34	P	Pn	12 09 54.5	+1.0
	SNR=8.4						
CHMS	Chumysh	5.85	31	P	Pn	12 09 55.9	-0.3
	SNR=9.7						
USP	Ospenovka	5.98	28	P	Pn	12 09 57.4	-0.5
	SNR=14						
TKM2	Tokmak 2	6.16	36	P	Pn	12 10 00.2	-0.2
	SNR=7.4						
TKM2	Tokmak 2	6.16	36	⇓Pn	Pn	12 09 59.9	-0.5
	0.4nm,0.6s						
TKM2				⇑Sn	Sn	12 11 10.9	0.0
	3.0nm,0.7s						
AB31	Akbulak array	13.59	329	⇑Pn	Pn	12 11 50.5	+8.2
	1.0nm,0.5s,baz=130,slow=13,SNR=21						
AB31				⇑Sn	Sn	12 14 13.1	-0.2
	1.0nm,0.5s,baz=125,slow=26,SNR=9.1						
AKTO	Aktyubinsk	15.30	328	⇓Pn	Pn	12 12 13.3	+8.0
	0.1nm,1.1s						
AKTO				⇑Sn	Sn	12 14 55.1	+0.2
	0.1nm,1.5s						

*IDC **07** 12:12:05.8±2.3, 5928N×2298E, h0^{km}, mb1 3.1/4, mb1mx3.0/21, mbtmp3.1/4, ML2.7/4, Error ellipse: s-maj=28.6km s-min=10.1km az=159.0*
*ISCJB **07** 12:12:07.3±0.5, 5964N±005×2269E±005, h0^{km}, Error ellipse: s-maj=7.2km s-min=3.5km az=152.1*
*NAO **07** 12:12:08.2±1.2, 5962N×2278E, ML2.2*
*HEL **07** 12:12:08.5±0.1, 5959N×2267E, h0^{km}, ML1.8, ML2.0(UPP), ML2.2(NAO), Explosion*
*BER **07** 12:12:08.9±4.2, 5962N×2273E, h0^{km}, ML2.2(NAO), Suspected explosion*
ISC 07 12:12:08.1±0.5, **5964N**±004×**2272E**±005, **h0^{km}, n28, σ1§23**/42, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	1.02	55	eP	Pg	12 12 27.5	-0.1
MEF				eS	Sg	12 12 40.6	-0.4
PVF	Pernaja	1.81	59	eP	Pn	12 12 41.1	+0.5
PVF				eS	Sn	12 13 03.2	-1.1
NRTU	Norrtaelje	2.08	273	eP	Pn	12 12 44.0	-0.1
GRAU	Graesoe	2.21	290	eP	Pn	12 12 45.9	-0.2
VSU	Vasula	2.39	118	eP	Pn	12 12 49.0	+0.6
VSU				eSB	Sb	12 13 20.2	-1.8
VSU	Vasula	2.39	118	Pn	Pn	12 12 49.0	+0.5
VSU				Lg		12 13 20.6	
FIA0	FINESS Array S	2.45	41	eP	Pn	12 12 51.9	+2.5
FIA0				eS	Sn	12 13 21.9	+1.9
FIA0	FINESS Array S	2.45	41	Pn	Pn	12 12 51.0	+1.6
	baz=220,slow=14						
FIA0				Lg		12 13 23.6	
	baz=212,slow=28						
FINES	FINESS Array B	2.45	41	Pn	Pn	12 12 51.1	+1.8
	1.0nm,0.3s,baz=214,slow=15,SNR=30						
FINES				Lg		12 13 23.4	
	1.1nm,0.3s,baz=214,slow=15,SNR=4.5						
FLYU	Flymyra	2.49	283	eP	Pn	12 12 49.8	0.0
NYNU	Nynaeshamn	2.50	257	eP	Pn	12 12 50.4	+0.4
BACU	Backbrunna	2.85	277	eP	Pn	12 12 54.9	+0.1
OSTU	Oestervaala	2.87	284	eP	Pn	12 12 55.7	+0.5
IGGU	Iggoen	2.96	297	eP	Pn	12 12 56.7	+0.3
KAF	Kangasniemi	3.04	34	eP	Pn	12 13 00.4	+3.0
KAF				eS	Sn	12 13 36.4	+2.0
KAF				eSG	Sg	12 13 44.0	-1.6
KAF				MSG		12 13 46.1	
	comp=Z,1.8nm,0.2s						
ESKU	Eskilstuna	3.26	265	eP	Pn	12 13 00.6	+0.1
SUF	Sumiainen	3.50	27	eP	Pn	12 13 05.5	+1.7
SUF				eS	Sn	12 13 46.8	+0.8
SUF				eSG	Sg	12 13 57.3	-3.4
SUF				MSG		12 13 57.9	
	comp=Z,1.9nm,0.2s						
FALU	Falun	3.56	287	eP	Pn	12 13 04.6	+0.1
HEMU	Hemsoen	3.80	325	eP	Pn	12 13 09.2	+1.3
HFS	Hagfors	4.57	280	eP	Pn	12 13 18.7	+0.2
HFS				eS	Sn	12 14 10.6	-1.8
HFS				eSG	Sg	12 14 26.9	-8.1
HFS	Hagfors	4.57	280	Pn	Pn	12 13 18.1	-0.4
	comp=Z,0.4nm,0.3s,baz=91,slow=15,SNR=20						
HFS				Sn	Sn	12 14 10.0	-2.4
	comp=Z,0.4nm,0.3s,baz=96,slow=25,SNR=4.3						
HFS				Lg		12 14 26.1	
	comp=Z,0.7nm,0.3s,baz=91,slow=36,SNR=6.4						
HFS	Hagfors	4.57	280	Pn	Pn	12 13 18.7	+0.2
	baz=102,slow=12						
HFS				Sn	Sn	12 14 10.6	-1.8
	baz=94,slow=28						
HFS				Lg		12 14 26.9	
	baz=104,slow=37						
NB2	NORSAR Subarra	5.88	289	Pn	Pn	12 13 35.3	-1.2
	baz=96,slow=14						
NB2	NORSAR Subarra	5.88	289	eP	Pn	12 13 35.3	-1.2
NOA	NORSAR Array B	5.88	289	Pn	Pn	12 13 34.8	-1.8
	comp=Z,0.4nm,0.3s,baz=95,slow=12,SNR=2.3						
NOA				Sn	Sn	12 14 45.5	+0.8
	comp=Z,0.3nm,0.3s,baz=114,slow=14,SNR=2.4						
ARA0	ARCESS Array S	10.00	6	Pn	Pn	12 14 31.5	-1.5
	baz=180,slow=14						
ARA0	ARCESS Array S	10.00	6	eP	Pn	12 14 31.5	-1.5
ARCES	ARCESS Array B	10.00	6	Pn	Pn	12 14 31.6	-1.4
	comp=Z,0.2nm,0.3s,baz=185,slow=14,SNR=11						
ARCES				Sn	Sn	12 16 23.7	-2.2
	comp=Z,0.1nm,0.3s,baz=186,slow=23,SNR=3.4						

*ISCJB **07** 12:21:31.6±0.5, 2309S±006×6897W±0.10, h110^{km}±7^{km}, mb3.5/3, Error ellipse: s-maj=16.1km s-min=7.7km az=59.9*
*NEIC **07** 12:21:32.0±0.7, 2298S×6925W, h99^{km}±9^{km}, mb4.2/1, Error ellipse: s-maj=16.5km s-min=11.4km az=112.0*
*IDC **07** 12:21:32.9±1.1, 2286S×69.10W, h103^{km}±5^{km}, mb3.4/3, mb1 3.4/7, mb1mx3.3/18, mbtmp3.7/7, Error ellipse: s-maj=27.2km s-min=25.2km az=73.0*
*GUC **07** 12:21:33.4±0.6, 23.19S×6922W, h110^{km}, MD3.9, ML3.7*
ISC 07 12:21:32.8±0.6, **2312S**±006×**6897W**±010, **h103^{km}**±7^{km}, **n20**, σ**1§31**/28, **mb3.5**/3, **1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.51	6	P	Pn	12 21 49.1	+0.2
	2µm,0.3s,baz=186,slow=4.9						
LVC				S	Sn	12 22 01.4	+0.3
	996nm,0.3s,baz=309,slow=21,SNR=76						
LVC	Limon Verde	0.51	6	eP	Pn	12 21 48.4	-0.6
LVC				eS	Sn	12 22 01.5	+0.4
CEN1	Los Morros	1.16	257	eP	Pn	12 21 56.2	+1.1
CEN1				i S	Sn	12 22 13.3	+1.3
CEN1				AML	AML	12 22 15.9	
	comp=E,973nm,0.3s						
ANCH	Antofagasta	1.43	247	eP	Pn	12 21 53.9	-4.4
ANCH				i S	Sn	12 22 12.0	-5.7
ANCH				AML	AML	12 22 15.3	
	comp=N,2µm,0.1s						
ANCH	Antofagasta	1.43	247	eP	Pn	12 21 53.9	-4.4
ANCH				i S	Sn	12 22 12.0	-5.7
CPN1	Cerro Paranal	1.99	221	eP	Pn	12 22 05.0	-0.3
CPN1				i S	Sn	12 22 29.4	-0.7
CPN1				AML	AML	12 22 30.9	
	comp=N,1µm,0.4s						
CRCH	Chaqaral	3.54	205	⇓iP	Pn	12 22 26.3	+0.6
CRCH				i S	Sn	12 23 03.9	-2.9
CDCH	Caldera	4.28	203	i P	Pn	12 22 43.3	+7.6
LPAZ	La Paz	6.85	7	P	Pn	12 23 09.8	-0.7
	comp=N,0.4nm,0.3s,baz=199,slow=5.6,SNR=12						
LPAZ	La Paz	6.85	7	eP	Pn	12 23 09.3	-1.2
LPAZ				P		12 23 09.8	
CFAA	Coronel Fontan	8.47	176	P	Pn	12 23 31.5	-1.1
	comp=N,0.2nm,0.3s,baz=356,slow=15,SNR=8.0						
CFAA				S	Sn	12 25 00.9	-5.6
	comp=N,0.1nm,0.3s,baz=229,slow=20,SNR=3.5						
SIV	San Ignacio	10.28	48	P	Pn	12 23 54.5	-2.7
	comp=N,1.2nm,0.3s,baz=247,slow=11,SNR=17						
SIV				S	Sn	12 25 41.4	-9.1
	comp=N,0.3nm,0.3s,baz=144,slow=21,SNR=4.6						
CPUP	Villa Florida	11.05	109	P	Pn	12 24 11.5	+3.8
	comp=N,0.3nm,0.3s,baz=265,slow=12,SNR=4.3						
TRQA	Tornquist	16.05	160	P	Pn	12 25 12.6	+0.2
	comp=N,28nm,1.9s						
PLCA	Paso Flores	17.61	184	P	Pn	12 25 34.0	+2.6
	comp=N,0.1nm,0.3s,baz=336,slow=10.0,SNR=2.7						
BDFB	Brasilia	21.11	73	P	P	12 26 10.5	+1.5
	comp=N,2.0nm,0.5s,mb3.7,baz=253,slow=9.6,SNR=3.1						
PDAR	Pinedale Array	75.48	330	P	P	12 33 04.3	-1.3
	comp=N,0.2nm,0.6s,mb3.0,baz=137,slow=8.0,SNR=2.6						
TORD	Torodi Ar. Bea	77.96	70	P	P	12 33 20.3	+0.8
	comp=N,0.6nm,0.5s,mb3.6,baz=259,slow=5.1,SNR=4.6						
TORD				pP	pP	12 33 47.1	+1.1
	comp=N,0.5nm,0.4s,baz=250,slow=5.8,SNR=2.9						
TORD	Torodi Ar. Bea	77.96	70	P	P	12 33 20.3	+0.8
TORD				pP	pP	12 33 47.1	+1.1
WRA	Warramunga Arr	131.53	210	PKP	PKPdf	12 40 34.3	+1.1
	comp=N,0.6nm,1.0s,baz=156,slow=1.8,SNR=6.0						

BJI 07 12:30:25.6, 3813N×11269E, h15^{km}, ML3.5, Ms3.4, Msz3.3, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HHC	Hu-ho-hao-te	2.85	343	ePG	Pg	12 31 15.2	-5.1
HHC				SG	Sg	12 31 48.7	-8.5
HHC				Smax			
	comp=N,310nm,0.5s						
HHC				Smax			
	comp=E,191nm,0.4s						
BTO	Baotou	3.22	321	ePG	Pg	12 31 18.7	-8.7
BTO				SG	Sg	12 31 58.2	-11
BJI	Beijing	3.32	54	PG	Pg	12 31 23.6	-5.5
BJI				SG	Sg	12 32 06.2	-5.9
BJI				Smax			
	comp=N,121nm,0.7s						
BJI				Smax			
	comp=E,141nm,0.6s						
TIA	Tai'an	4.03	117	P	Pn	12 31 25.9	-0.8
TIA				PG	Pg	12 31 36.5	-6.2
TIA				SG	Sg	12 32 27.3	-7.6
TIA				Smax			
	comp=N,43nm,0.6s						
TIA				Smax			
	comp=E,45nm,0.7s						
XAN	Xi'an	5.10	218	P	Pn	12 31 37.9	-3.5
XAN				PG	Pg	12 31 54.4	-8.8
XAN				S	Sn	12 32 45.5	+5.5
XAN				SG	Sg	12 33 03.0	-6.2
XAN				Smax			
	comp=N,17nm,0.6s						
XAN				Smax			
	comp=E,16nm,0.8s						
LZH	Lanzhou	7.36	257	eP	Pn	12 32 17.0	+4.6
LZH				eS	Sn	12 33 41.8	+6.2
LZH				Smax			
	comp=N,43nm,1.2s						
LZH				Smax			
	comp=E,39nm,1.1s						
LZH				LR	LR		
	comp=E,162nm,6.6s						
LZH				LR	LR		
	comp=Z,215nm,10.2s						

IDC 07 12:57:31.7±8.5, **505S**×**15082E, h90^{km}**±59^{km}, **mb3.8**/2, **mb1 3.9**/3, **mb1mx3.4**/14, **mbtmp4.0**/3, **ML2.5**/1, **MS3.4**/2, **Ms1 3.4**/2, **ms1mx3.0**/14, **Error ellipse: s-maj=123.0km s-min=55.2km az=119.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.65	220	P	Pn	12 58 51.7	-1.3
	0.8nm,0.3s,baz=190,slow=11,SNR=3.7						
PMG				S	Sn	12 59 58.3	+1.8
	2.3nm,0.3s,baz=34,slow=20,SNR=4.6						
CTA	Charters Tower	15.59	196	LR	LR	13 05 47.7	
	comp=Z,92nm,21.9s,baz=312,slow=32						
WRA	Warramunga Arr	21.82	226	P	P	13 02 16.6	0.0
	3.6nm,0.5s,baz=51,slow=10,SNR=42						
ASAR	Alice Springs	24.66	220	P	P	13 02 44.3	+0.3
	3.4nm,0.6s,baz=57,slow=8.7,SNR=44						
MJAR	Matsushiro Arr	43.03	345	LR	LR	13 20 14.3	
	comp=Z,83nm,18.4s,baz=140,slow=32						
TORD	Torodi Ar. Bea	148.50	287	PKPbc	PKPbc	13 17 08.8	+0.9
	0.2nm,0.3s,baz=90,slow=1.9,SNR=6.0						
TORD				pPKPbc	pPKPbc	13 17 20.5	-12
	0.7nm,0.6s,baz=85,slow=2.8,SNR=4.8						

*NEIC **07** 12:58:52.4, 3227S×7174W, h10^{km}, ML2.8(GUC), After GUC.*
GUC 07 12:58:52.4±0.7, **3227S**×**7174W, h10^{km}**±3^{km}, **MD3.8, ML2.8, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.44	27	⇓iP	Pg	12 59 01.6	+0.7
CHNG				i S	Sg	12 59 08.2	+1.4
JACH	Jahuel	1.05	113	⇑iP	Pg	12 59 11.8	-0.8
JACH				i S	Sg	12 59 26.1	-0.1
LCCH	Las Cruces	1.21	173	eP	Pb	12 59 13.8	-1.6
LCCH				i S	Sb	12 59 29.9	-1.1
PEL	Peldehue	1.24	135	eP	Pn	12 59 14.7	-1.1
PEL				i S	Sb	12 59 31.7	-0.2
PEL				AML	AML	12 59 32.9	
	comp=E,369nm,0.5s						
PEL	Peldehue	1.24	135	eP	Pn	12 59 14.7	-1.1
PEL				i S	Sb	12 59 31.7	-0.2
RCDM	Rinconada Maip	1.44	147	eP	Pn	12 59 17.9	-0.7
RCDM				i S	Sn	12 59 37.1	-0.5
RCDM				AML	AML	12 59 37.8	
	comp=E,267nm,0.1s						
TACH	Talagante	1.53	154	i P	Pn	12 59 19.8	0.0
FCH	Farellones	1.61	131	eP	Pn	12 59 21.0	+0.1
FCH				i S	Sn	12 59 42.4	+0.7
FCH				AML	AML	12 59 45.0	
	comp=E,98nm,0.2s						
PCH	Pirque	1.69	143	eP	Pn	12 59 22.3	+0.3
PCH				i S	Sn	12 59 44.5	+0.7
CHCH	Chadas Angostu	1.89	152	i P	Pn	12 59 24.7	0.0
TLL	Tololo Astrono	2.25	21	eP	Pn	12 59 30.8	+1.1
TLL				i S	Sn	13 00 00.6	+3.1
TLL				AML	AML	13 00 05.5	
	comp=E,150nm,0.5s						
TLL	Tololo Astrono	2.25	21	eP	Pn	12 59 30.8	+1.1
TLL				i S	Sn	13 00 00.6	+3.1

IDC 07 13:02:31.2±1.1, **145N**×**12388E, h0^{km}, mb4.1**/5, **mb1 4.2**/5, **mb1mx3.9**/18, **mbtmp4.1**/5, **Error ellipse: s-maj=169.2km s-min=18.6km az=66.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.60	155	P	P	13 07 43.8	-0.1
	7.3nm,0.4s,baz=336,slow=9.9,SNR=24						
ASAR	Alice Springs	26.80	159	P	P	13 08 13.3	+0.4
	1.2nm,0.5s,baz=341,slow=7.4,SNR=13						
STKA	Stephens Creek	37.16	155	P	P	13 09 43.3	-0.4
	0.9nm,0.4s,baz=324,slow=8.7,SNR=3.6						
SONM	Songino Array	48.63	344	P	P	13 11 17.4	+0.7
	1.4nm,0.7s,baz=159,slow=8.6,SNR=10.0						
MKAR	Makanchi Array	57.86	327	P	P	13 12 24.6	0.0
	0.9nm,0.5s,baz=121,slow=7.8,SNR=6.8						

*NNC **07** 13:11:53.0±2.3, 39.18N×7132E, h0^{km}, mb3.3, mpv2.9, Error ellipse: s-maj=18.9km s-min=12.9km az=13.0*
*ISCJB **07** 13:11:53.6±2.3, 389N±0.1×715E±02, h129^{km}±29^{km}, Error ellipse: s-maj=26.3km s-min=17.2km az=62.1*
ISC 07 13:11:54.3±2.5, **389N**±02×**714E**±02, **h126^{km}**±45^{km}, **n9**, σ**1§25**/13, **4C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.70	27	P	Pn	13 12 49.1	-0.8
	SNR=39						
UCH	Uchtor	4.11	34	P	Pn	13 12 54.4	-1.0
	SNR=14						
EKS2	Erkin-Say	4.20	25	P	Pn	13 12 57.8	+1.2
	SNR=5.0						
KK31	Karatay Array	4.29	351	Pn	Pn	13 12 58.1	+0.4
	3.8nm,0.3s,baz=169,slow=12,SNR=86						
KK31				⇑Sn	Sn	13 13 49.2	+2.3
	6.7nm,0.4s,baz=171,slow=22,SNR=4.7						
KZA	Kyzart	4.34	41	P	Pn	13 12 59.0	+0.5
	SNR=9.2						
USP	Ospenovka	4.98	27	P	Pn	13 13 06.1	-0.9
	SNR=12						
TKM2	Tokmak 2	5.14	37	⇓Pn	Pn	13 13 08.1	-1.1
	0.4nm,0.7s						
TKM2				⇑Sn	Sn	13 14 07.7	+0.2
	0.6nm,0.7s						
AB31	Akbulak array	13.24	325	Pn	Pn	13 14 58.4	+1.0
	1.1nm,0.6s,baz=134,slow=13,SNR=14						
AB31				⇓Sn	Sn	13 17 21.6	-1.8
	1.5nm,0.6s,baz=136,slow=24,SNR=7.5						
AKTO	Aktyubinsk	14.96	325	⇑Pn	Pn	13 15 22.6	+3.4
	0.1nm,0.9s						
AKTO				⇑Sn	Sn	13 18 03.6	-1.1

*IDC **07** 13:12:54.9±1.9, 3533N×992W, h0^{km}, mb3.9/3, mb1 4.1/5, mb1mx3.6/26, mbtmp4.1/5, ML5.0/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/28, Error ellipse: s-maj=54.8km s-min=23.9km az=91.0*
*NEIC **07** 13:12:57.4±0.3, 3530N×972W, h10^{km}, MN4.3(MDD), Error ellipse: s-maj=4.0km s-min=3.2km az=135.0*
*CSEM **07** 13:12:57.9, 35.17N×961W, h40^{km}, ML5.4*
*ISCJB **07** 13:12:58.7±0.3, 3542N±002×930W±003, h10^{km}, mb3.7/3, Error ellipse: s-maj=3.3km s-min=2.3km az=129.9*
*MDD **07** 13:13:00.2±0.8, 3543N×951W, h0^{km}, mbLg4.4/41, Error ellipse: s-maj=8.1km s-min=5.3km az=76.0, PRXIMO*
*SFS **07** 13:13:01.0, 3551N×945W, h0^{km}, ML5.1*
*IGIL **07** 13:13:02.9, 3549N×957W, h12^{km}, ML4.5*
*LDG **07** 13:13:03.5±0.2, 3542N×957W, h32^{km}, Ml4.1/13, Error ellipse: s-maj=5.0km s-min=3.0km az=48.0*
*INMG **07** 13:13:03.7±1.6, 3540N×957W, h31^{km}, MD3.6, ML4.1, Error ellipse: s-maj=5.1km s-min=3.0km az=61.0*
*CNRM **07** 13:13:03.6, 35.18N×949W, h30^{km}, MD4.1*
*STR **07** 13:13:20.7±0.4, 3643N×825W, h10^{km}±1^{km}, Ml4.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 07 13:13:01.2±0.3, **3547N**±002×**928W**±003, **h10^{km}, n221**, σ**1§62**/399, **mb3.7**/3, **14C-1D, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	Marmelete	1.91	15	eP	Pn	13 13 34.4	+0.6
MORF				eS	Sn	13 13 57.0	-0.8
MORF				eS	Sn	13 13 57.0	-0.8
MORF				AML	AML	13 13 58.3	
	comp=E,4µm,0.2s						
MORF	Marmelete	1.91	15	eP	Pn	13 13 34.4	+0.6
MORF				eS	Sn	13 13 57.0	-0.8
PTEO	Sao Teotonio	2.12	12	ePn	Pn	13 13 37.3	+0.5
PTEO				eSn	Sn	13 14 01.9	-1.3
PTEO							
	comp=E,2µm,0.3s						
PTEO	Sao Teotonio	2.12	12	P	Pn	13 13 37.2	+0.4
PTEO				S	Sn	13 14 01.8	-1.4
PTEO	Sao Teotonio	2.12	12	ePn	Pn	13 13 37.3	+0.5
PTEO				eSn	Sn	13 14 01.9	-1.3
	comp=E,2µm,0.3s						
RTC	Rabat Centre	2.48	126	i P	Pn	13 13 42.0	+0.3
RTC				i S	Sn	13 14 08.0	-4.1
ERIP	Rio Piedras	2.51	40	⇑P	Pn	13 13 43.8	+1.7
	comp=E,207nm,0.1s,SNR=18						
ERIP				S	Sn	13 14 13.1	+0.4
	comp=E,895nm,0.2s,SNR=7.9						
ERIP	Rio Piedras	2.51	40	⇑P	Pn	13 13 43.8	+1.7
ERIP				S	Sn	13 14 13.1	+0.4
EGRO	El Granado	2.52	35	⇑P	Pn	13 13 44.0	+1.7
	comp=E,127nm,0.1s,SNR=18						
EGRO				S	Sn	13 14 13.6	+0.5
	comp=E,1µm,0.2s						
EGRO	El Granado	2.52	35	P	Pn	13 13 44.0	+1.7
	comp=E,127nm,0.1s,SNR=18						
EGRO				S	Sn	13 14 13.6	+0.6
	comp=E,1µm,0.2s						
AVE	Averroes	2.66	144	P	Pn	13 13 42.5	-1.6
AVE				S	Sn	13 14 12.5	-3.9
SFS	San Fernando	2.69	67	P	Pn	13 13 47.5	+3.0
SFS				S	Sn	13 14 19.4	+2.3
SFS	San Fernando	2.69	67	i P	Pn	13 13 47.5	+3.0
SFS				eS	Sn	13 14 19.4	+2.3
TSY	Tnine Yamani	2.71	91	i P	Pn	13 13 47.5	+2.7
TSY				i S	Sn	13 14 19.0	+1.4
CNIL	Conil	2.77	70	P	Pn	13 13 49.1	+3.4
CNIL				S	Sn	13 14 21.8	+2.7
CNIL	Conil	2.77	70	i P	Pn	13 13 49.1	+3.4
CNIL				eS	Sn	13 14 21.8	+2.6
SCRT	Cerro San Cris	2.78	64	P	Pn	13 13 48.2	+2.5
SCRT				S	Sn	13 14 24.9	+5.7
SCRT	Cerro San Cris	2.78	64	eP	Pn	13 13 48.2	+2.5
PBEJ	Beja	2.80	24	ePn	Pn	13 13 46.9	+0.9
PBEJ				eSn	Sn	13 14 18.8	-1.0
PBEJ							
	comp=E,560nm,0.1s						
PBEJ	Beja	2.80	24	P	Pn	13 13 46.8	+0.8
PBEJ	Beja	2.80	24	ePn	Pn	13 13 46.9	+0.9
PBEJ				eSn	Sn	13 14 18.8	-1.0
	comp=E,560nm,0.1s						
RSA	Sarsar	2.89	101	i P	Pn	13 13 48.5	+1.2
RSA				i S	Sn	13 14 22.0	-0.1
GIBL	Gibalbin	3.01	62	P	Pn	13 13 51.9	+2.9
GIBL				S	Sn	13 14 28.4	+3.3
GIBL	Gibalbin	3.01	62	i P	Pn	13 13 51.8	+2.9
GIBL				eS	Sn	13 14 28.4	+3.4
MOMI	Momias	3.02	72	P	Pn	13 13 52.5	+3.4
MOMI				S	Sn	13 14 24.3	-1.0
MOMI	Momias	3.02	72	i P	Pn	13 13 52.5	+3.4
MOMI				eS	Sn	13 14 24.3	-1.0
PLML	Palmela	3.10	6	ePn	Pn	13 13 50.5	+0.3
PLML				eSn	Sn	13 14 25.5	-1.7
ESPR	Espera	3.11	62	⇑P	Pn	13 13 52.1	+1.9
	comp=E,270nm,0.2s,SNR=18						
ESPR				S	Sn	13 14 28.8	+1.4
	comp=E,1µm,0.3s						
ESPR	Espera	3.11	62	P	Pn	13 13 52.1	+1.8
	comp=E,270nm,0.2s,SNR=18						
ESPR				S	Sn	13 14 28.8	+1.4
	comp=E,1µm,0.3s						
EMIN	Mina Concepcio	3.11	42	⇑P	Pn	13 13 51.7	+1.3
	comp=E,82nm,0.1s,SNR=18						
EMIN				S	Sn	13 14 27.7	+0.1
	comp=E,284nm,0.1s						
EMIN	Mina Concepcio	3.11	42	P	Pn	13 13 51.7	+1.3
	comp=E,82nm,0.1s,SNR=18						
EMIN				S	Sn	13 14 27.7	+0.1
	comp=E,284nm,0.1s						
MDAL	Dalia	3.13	81	i P	Pn	13 13 53.5	+3.0
MDAL				i S	Sn	13 14 28.0	+0.1
EJIF	Jimena Fronter	3.25	71	⇑P	Pn	13 13 55.0	+2.8
	comp=E,157nm,0.2s,SNR=18						
EJIF				S	Sn	13 14 32.0	+1.1
	comp=E,84nm,0.4s						
LIS	Lisbon	3.25	2	eP	Pn	13 13 51.8	-0.4
LIS				eS	Sn	13 14 27.6	-3.3
LIS				eS	Sn	13 14 27.6	-3.3
LIS				AML	AML	13 14 29.0	
	comp=N,2µm,0.3s						
LIS	Lisbon	3.25	2	eP	Pn	13 13 51.8	-0.4
LIS				eS	Sn	13 14 27.6	-3.3
INMG	Instituto de M	3.31	2	ePn	Pn	13 13 53.0	0.0
INMG				eSn	Sn	13 14 30.8	-1.5
PLOU	Loures	3.42	2	ePn	Pn	13 13 53.8	-0.7
PLOU				eSn	Sn	13 14 31.5	-3.6
PLOU							
	comp=N,403nm,0.1s						
PLOU	Loures	3.42	2	P	Pn	13 13 45.8	-8.7
PLOU				S	Sn	13 14 23.5	-12
LIJA	Lijar	3.45	64	P	Pn	13 13 57.5	+2.5
LIJA				S	Sn	13 14 34.6	-1.3
LIJA	Lijar	3.45	64	i P	Pn	13 13 57.5	+2.5
LIJA				eS	Sn	13 14 34.7	-1.3
REAL	Reales	3.46	72	⇓P	Pn	13 13 58.1	+3.0
REAL				S	Sn	13 14 32.5	-3.6
REAL	Reales	3.46	72	i P	Pn	13 13 58.1	+3.0
REAL				i S	Sn	13 14 32.5	-3.6
PESTR	Estremoz	3.66	21	ePn	Pn	13 13 58.3	+0.5
PESTR				eSn	Sn	13 14 39.1	-1.9
PESTR							
	comp=N,226nm,0.2s						
PESTR	Estremoz	3.66	21	ePn	Pn	13 13 58.3	+0.5
PESTR				eSn	Sn	13 14 39.1	-1.9
	comp=N,226nm,0.2s						

ALMR Almeirim 3.73 8 *e*P **Pn** 13 13 58.9 +0.1
ALMR *e*S **Sn** 13 14 39.9 -2.9
ALMR *e*S **Sn** 13 14 39.9 -2.9
ALMR AML AML 13 14 42.7
comp=N,1µm,0.6s
ALMR Almeirim 3.73 8 *e*P **Pn** 13 13 58.9 +0.1
ALMR *e*S **Sn** 13 14 39.9 -2.8
TGT Taghat 3.75 111 *i*P **Pn** 13 14 00.0 +0.9
TGT *i*S **Sn** 13 14 41.0 -2.3
EBAD Badajoz 3.75 28 ⇑P **Pn** 13 13 59.8 +0.7
comp=N,70nm,0.1s,SNR=18
EBAD S **Sn** 13 14 43.0 -0.4
comp=N,813nm,0.2s
EBAD Badajoz 3.75 28 P **Pn** 13 13 59.8 +0.7
comp=N,70nm,0.1s,SNR=18
EBAD S **Sn** 13 14 43.0 -0.4
comp=N,813nm,0.2s
EMIJ Mijas 3.82 72 ⇑P **Pn** 13 14 01.1 +1.1
comp=N,75nm,0.3s,SNR=18
EMIJ S **Sn** 13 14 45.5 +0.5
comp=N,141nm,0.3s
EMIJ Mijas 3.82 72 P **Pn** 13 14 01.1 +1.1
comp=N,75nm,0.3s,SNR=18
EMIJ S **Sn** 13 14 45.5 +0.5
comp=N,141nm,0.3s
CIA Chichaoua 3.91 173 P **Pn** 13 13 58.5 -2.9
CIA S **Sn** 13 14 38.0 -9.4
CIA Chichaoua 3.91 173 *i*P **Pn** 13 13 58.5 -2.9
MIF Mishlifen 3.93 120 *i*P **Pn** 13 14 03.0 +1.4
MIF *e*S **Sn** 13 14 45.0 -2.7
IFR Ifrane 3.94 118 P **Pn** 13 14 01.5 -0.3
KIB El Ksiba 3.94 136 *i*P **Pn** 13 14 01.0 -0.8
KIB *i*S **Sn** 13 14 43.0 -5.1
TZC Tazercounte 4.04 144 *i*P **Pn** 13 14 02.0 -1.2
TZC *i*S **Sn** 13 14 45.0 -5.6
MAL Malaga 4.14 71 *e*P **Pn** 13 14 05.6 +1.1
MAL *e*S **Sn** 13 14 52.1 -0.9
PTOM Tomar 4.20 9 *e*Pn **Pn** 13 14 05.5 +0.2
PTOM *e*Sn **Sn** 13 14 51.0 -3.5
PTOM
comp=N,537nm,0.3s
PTOM Tomar 4.20 9 *e*Pn **Pn** 13 14 05.5 +0.2
PTOM *e*Sn **Sn** 13 14 51.0 -3.5
comp=N,537nm,0.3s
CZD Col de Zad 4.27 123 *i*P **Pn** 13 14 06.5 +0.3
CZD *i*S **Sn** 13 14 53.0 -3.1
MPAL Palemas 4.37 92 *i*P **Pn** 13 14 09.5 +1.8
MPAL *i*S **Sn** 13 14 58.0 -0.7
OUK Oukaimeden 4.41 164 P **Pn** 13 14 05.0 -3.1
OUK S **Sn** 13 14 49.0 -11
OUK Oukaimeden 4.41 164 *i*P **Pn** 13 14 05.0 -3.1
TZK Tazeka 4.42 107 *i*P **Pn** 13 14 08.5 +0.2
TZK *i*S **Sn** 13 14 57.0 -2.7
ELOJ Sierra Loja 4.47 66 P **Pn** 13 14 11.2 +2.2
comp=N,50nm,0.2s,SNR=50
ELOJ S **Sn** 13 15 01.8 +0.7
comp=N,36nm,0.2s,SNR=7.5
ELOJ Sierra Loja 4.47 66 P **Pn** 13 14 11.2 +2.2
comp=N,50nm,0.2s,SNR=50
ELOJ S **Sn** 13 15 01.8 +0.7
comp=N,36nm,0.2s,SNR=7.5
TOU Touzarine 4.55 95 *i*P **Pn** 13 14 11.5 +1.3
TOU *i*S **Sn** 13 15 01.0 -2.2
PCBR Castelo Branco 4.60 18 *e*Pn **Pn** 13 14 11.2 +0.4
PCBR *e*Sn **Sn** 13 15 01.6 -2.6
PCBR
comp=N,418nm,0.3s
PCBR Castelo Branco 4.60 18 P **Pn** 13 14 11.1 +0.3
PCBR S **Sn** 13 15 01.6 -2.6
PCBR Castelo Branco 4.60 18 *e*Pn **Pn** 13 14 11.2 +0.4
PCBR *e*Sn **Sn** 13 15 01.6 -2.6
comp=N,418nm,0.3s
EADA Adamuz 4.64 53 ⇑P **Pn** 13 14 13.0 +1.7
comp=N,180nm,0.3s,SNR=18
EADA S **Sn** 13 15 04.7 -0.5
comp=N,302nm,0.1s,SNR=15
EADA Adamuz 4.64 53 P **Pn** 13 14 13.0 +1.7
comp=N,180nm,0.3s,SNR=18
EADA S **Sn** 13 15 04.7 -0.6
comp=N,302nm,0.1s,SNR=15
MDT Midelt 4.69 123 Pn **Pn** 13 14 12.2 +0.2
comp=N,9.5nm,0.3s,baz=4.9,slow=8.5,SNR=650
MDT Sn **Sn** 13 15 02.5 -4.0
comp=N,102nm,0.3s,baz=137,slow=6.5,SNR=33
ERON Agron 4.69 69 P **Pn** 13 14 14.5 +2.4
comp=N,25nm,0.2s,SNR=34
ERON S **Sn** 13 15 06.9 +0.4
comp=N,52nm,0.3s,SNR=8.7
EGUA Guajares 4.83 72 P **Pn** 13 14 14.7 +0.8
comp=N,9.6nm,0.3s,SNR=7.9
EGUA S **Sn** 13 15 10.2 +0.4
comp=N,13nm,0.2s,SNR=7.9
TIO Tiouine 4.83 159 P **Pn** 13 14 11.5 -2.5
TIO S **Sn** 13 15 04.0 -6.0
ECOG Cogollos-Vega 4.96 67 P **Pn** 13 14 18.0 +2.3
comp=N,34nm,0.1s,SNR=29
ECOG S **Sn** 13 15 14.1 +1.1
comp=N,62nm,0.2s,SNR=8.2
AOF Agadir Oufela 5.02 183 *i*P **Pn** 13 14 11.5 -5.0
EQUE Quentar 5.03 68 P **Pn** 13 14 18.6 +1.9
comp=N,16nm,0.1s,SNR=74
EQUE S **Sn** 13 15 16.3 +1.5
comp=N,124nm,0.4s,SNR=6.8
AFS Agadir Fac de 5.04 182 P **Pn** 13 14 12.5 -4.3
AFS S **Sn** 13 15 02.0 -13
AFS Agadir Fac de 5.04 182 *i*P **Pn** 13 14 12.5 -4.3
EALB Alboran 5.11 83 P **Pn** 13 14 18.3 +0.5
comp=N,12nm,0.1s,SNR=7.9
EALB S **Sn** 13 15 14.8 -2.0
comp=N,81nm,0.2s,SNR=7.9
EALB Alboran 5.11 83 P **Pn** 13 14 18.3 +0.5
comp=N,12nm,0.1s,SNR=7.9
EALB S **Sn** 13 15 14.8 -2.0
comp=N,81nm,0.2s,SNR=7.9
MTE Manteigas 5.11 15 *e*Pn **Pn** 13 14 17.9 0.0
MTE *e*Sn **Sn** 13 15 13.5 -3.5
MTE
comp=N,290nm,0.2s
MTE Manteigas 5.11 15 P **Pn** 13 14 17.8 -0.1
MTE S **Sn** 13 15 13.5 -3.5
MTE Manteigas 5.11 15 *e*Pn **Pn** 13 14 17.9 0.0
MTE *e*Sn **Sn** 13 15 13.5 -3.5
comp=N,290nm,0.2s
EBAN Banos Encina 5.17 57 P **Pn** 13 14 20.0 +1.4
comp=N,67nm,0.1s,SNR=180
EBAN S **Sn** 13 15 17.0 -1.3
comp=N,194nm,0.5s,SNR=14
EMEL Melilla 5.17 90 P **Pn** 13 14 19.7 +1.1
comp=N,103nm,0.1s,SNR=7.9
EMEL S **Sn** 13 15 17.3 -1.1
comp=N,307nm,0.2s,SNR=7.9
EMLI Melilla 5.18 90 P **Pn** 13 14 19.7 +1.0
comp=N,103nm,0.1s,SNR=7.9
EMLI S **Sn** 13 15 17.3 -1.2
comp=N,307nm,0.2s,SNR=7.9
ZFT Errachidia 5.35 128 *i*P **Pn** 13 14 21.5 +0.4
ZFT *i*S **Sn** 13 15 18.0 -4.7
PVIS Viseu 5.36 11 *e*Pn **Pn** 13 14 20.9 -0.3
PVIS *e*Sn **Sn** 13 15 19.0 -3.9
PVIS
comp=N,128nm,0.1s
PVIS Viseu 5.36 11 P **Pn** 13 14 20.8 -0.4
PVIS S **Sn** 13 15 19.0 -3.9
PVIS Viseu 5.36 11 *e*Pn **Pn** 13 14 20.9 -0.3
PVIS *e*Sn **Sn** 13 15 19.0 -3.9
comp=N,128nm,0.1s
EBER Berja 5.37 73 P **Pn** 13 14 22.2 +0.9
comp=N,22nm,0.2s,SNR=58
EBER S **Sn** 13 15 24.4 +1.3
comp=N,86nm,0.4s,SNR=7.9
EBER Berja 5.37 73 P **Pn** 13 14 22.2 +0.9
EBER S **Sn** 13 15 23.3 +0.1
EBER Berja 5.37 73 P **Pn** 13 14 22.2 +0.9
comp=N,22nm,0.2s,SNR=58
EBER S **Sn** 13 15 23.3 +0.1
comp=N,86nm,0.4s,SNR=4.8
ZAI Zaio 5.38 93 *i*P **Pn** 13 14 22.5 +1.1
ZAI *i*S **Sn** 13 15 21.0 -2.4
EQES Quesada 5.51 63 P **Pn** 13 14 24.9 +1.6
comp=N,31nm,0.2s,SNR=67
EQES S **Sn** 13 15 26.6 -0.2
comp=N,130nm,0.4s,SNR=4.9
EQES Quesada 5.51 63 P **Pn** 13 14 25.0 +1.6
EQES S **Sn** 13 15 26.6 -0.2
comp=N,130nm,0.4s,SNR=4.9

YBT Youssef Ben Ta 5.61 183 P **Pn** 13 14 19.5 -5.2
YBT S **Sn** 13 15 16.0 -13
PTO Porto 5.69 5 *e*Pn **Pn** 13 14 24.4 -1.4
PTO *e*Sn **Sn** 13 15 25.2 -5.9
PTO
comp=N,174nm,0.1s
PTO Porto 5.69 5 *e*Pn **Pn** 13 14 24.4 -1.4
PTO *e*Sn **Sn** 13 15 25.2 -5.9
comp=N,174nm,0.1s
EHUE Huescar 5.87 64 P **Pn** 13 14 29.5 +1.3
comp=N,29nm,0.1s,SNR=7.9
EHUE S **Sn** 13 15 35.4 -0.2
comp=N,53nm,0.3s,SNR=7.9
ENIJ Nijar 5.92 73 P **Pn** 13 14 30.5 +1.7
comp=N,17nm,0.3s,SNR=13
ENIJ S **Sn** 13 15 36.6 -0.1
comp=N,13nm,0.4s,SNR=7.9
ENIJ Nijar 5.92 73 P **Pn** 13 14 30.5 +1.6
comp=N,17nm,0.3s,SNR=13
ENIJ S **Sn** 13 15 36.6 -0.1
comp=N,13nm,0.4s,SNR=7.9
PVRL Vila Real 5.93 12 *e*Pn **Pn** 13 14 28.5 -0.6
PVRL *e*Sn **Sn** 13 15 31.9 -5.2
PVRL
comp=N,206nm,0.1s
PVRL Vila Real 5.93 12 S **Sn** 13 15 31.9 -5.2
ESDC Sonseca Array 5.96 44 Pn **Pn** 13 14 30.6 +1.2
comp=N,28nm,0.3s,baz=229,slow=13,SNR=185
ESDC Sn **Sn** 13 15 35.2 -2.5
comp=N,10nm,0.3s,baz=230,slow=17,SNR=4.5
ESDC Sonseca Array 5.96 44 P **Pn** 13 14 30.6 +1.1
comp=N,67nm,0.1s,baz=231,slow=13,SNR=7.9
ESDC S **Sn** 13 15 36.0 -1.7
comp=N,95nm,0.2s,baz=232,slow=23,SNR=7.9
ESLA Sonseca Array 5.96 44 *e*Pn **Pn** 13 14 30.3 +0.8
comp=N,5.1nm,0.4s
ESLA *e*Sn **Sn** 13 15 33.4 -4.4
ESLA Sonseca Array 5.96 44 *e*Pn **Pn** 13 14 30.3 +0.8
comp=N,5.1nm,0.4s
EVIA Vianos 6.28 58 P **Pn** 13 14 34.7 +0.8
comp=N,26nm,0.1s,SNR=96
EVIA S **Sn** 13 15 43.6 -2.1
comp=N,56nm,0.2s,SNR=9.8
PMPS Porto Santo 6.31 250 *e*Pn **Pn** 13 14 25.1 -9.2
PMPS *e*Sn **Sn** 13 15 28.6 -18
PMPS
comp=N,82nm,0.3s
PMPS Porto Santo 6.31 250 P **Pn** 13 14 25.0 -9.3
PMPS S **Sn** 13 15 28.1 -18
PCAB Cabril 6.31 9 *e*Pn **Pn** 13 14 33.3 -1.0
PCAB *e*Sn **Sn** 13 15 40.8 -5.7
PCAB
comp=N,93nm,0.2s
ELOB Lobios 6.46 8 ⇑P **Pn** 13 14 35.4 -1.1
comp=N,38nm,0.1s,SNR=18
ELOB S **Sn** 13 15 45.6 -4.6
comp=N,107nm,0.1s,SNR=5.6
ELOB Lobios 6.46 8 ⇑P **Pn** 13 14 35.4 -1.0
ELOB S **Sn** 13 15 45.6 -4.6
GUD Guadarrama 6.56 37 ⇑P **Pn** 13 14 38.6 +0.8
comp=N,21nm,0.2s,SNR=18
GUD S **Sn** 13 15 50.8 -1.9
comp=N,76nm,0.4s,SNR=13
PBRG Braganca 6.63 17 *e*Pn **Pn** 13 14 39.0 +0.2
PBRG *e*Sn **Sn** 13 15 49.8 -4.6
PBRG
comp=N,124nm,0.3s
PBRG Braganca 6.63 17 P **Pn** 13 14 38.6 -0.2
PBRG S **Sn** 13 15 49.8 -4.6
ECAL Calabor 6.77 16 P **Pn** 13 14 40.2 -0.4
comp=N,51nm,0.2s,SNR=119
ECAL S **Sn** 13 15 53.7 -4.0
comp=N,222nm,0.5s,SNR=4.6
EMUR La Murta 6.89 67 P **Pn** 13 14 43.7 +1.5
comp=N,20nm,0.4s,SNR=12
EMUR S **Sn** 13 15 58.9 -1.7
comp=N,55nm,0.5s,SNR=6.5
EMUR La Murta 6.89 67 P **Pn** 13 14 43.7 +1.5
comp=N,20nm,0.4s,SNR=12
EMUR S **Sn** 13 15 58.9 -1.7
comp=N,55nm,0.5s,SNR=6.5
PMAR Madeira 6.89 249 *e*Pn **Pn** 13 14 33.3 -9.0
PMAR *e*Sn **Sn** 13 15 43.7 -17
PMAR
comp=N,143nm,0.2s
PMAR Madeira 6.89 249 P **Pn** 13 14 33.2 -9.1
ETOB Tobarra 6.95 61 P **Pn** 13 14 43.6 +0.5
comp=N,36nm,0.1s,SNR=18
ETOB S **Sn** 13 15 59.3 -2.9
comp=N,60nm,0.1s,SNR=4.6
ETOB Tobarra 6.95 61 P **Pn** 13 14 43.6 +0.5
comp=N,36nm,0.1s,SNR=18
CART Cartagena 7.00 70 P **Pn** 13 14 44.6 +0.9
CART S **Sn** 13 16 01.2 -2.2
CART Cartagena 7.00 70 *i*P **Pn** 13 14 44.6 +0.9
CART *i*S **Sn** 13 16 01.2 -2.1
EFAM Famara 7.27 211 P **Pn** 13 14 39.7 -7.8
comp=N,2.6nm,0.2s,SNR=4.0
EFAM S **Sn** 13 15 53.7 -16
comp=N,46nm,0.3s,SNR=11
STS Santiago 7.43 4 P **Pn** 13 14 48.1 -1.6
comp=N,22nm,0.1s,SNR=7.4
STS S **Sn** 13 16 07.4 -6.7
comp=N,18nm,0.2s,SNR=7.9
EMAZ Mazaricos 7.48 2 ⇑P **Pn** 13 14 48.0 -2.3
comp=N,49nm,0.1s,SNR=18
EMAZ S **Sn** 13 16 06.0 -9.1
comp=N,44nm,0.2s,SNR=4.9
ECHE Chera 7.78 56 P **Pn** 13 14 55.8 +1.3
comp=N,4.6nm,0.2s,SNR=16
ECHE S **Sn** 13 16 21.1 -1.6
comp=N,6.9nm,0.2s,SNR=4.0
ECHE Chera 7.78 56 P **Pn** 13 14 55.8 +1.3
ECHE S **Sn** 13 16 21.1 -1.6
ETOR Torete 7.81 45 ⇑P **Pn** 13 14 56.6 +1.7
comp=N,24nm,0.3s,SNR=18
ETOR S **Sn** 13 16 19.0 -4.3
comp=N,75nm,0.3s,SNR=7.9
CFUE Fuerteventura 7.86 211 P **Pn** 13 14 50.4 -5.2
comp=N,6.3nm,0.1s,SNR=7.9
CFUE S **Sn** 13 16 07.1 -18
comp=N,44nm,0.1s,SNR=7.9
EBEN Beniarda 7.93 63 P **Pn** 13 14 57.2 +0.7
comp=N,7.4nm,0.1s,SNR=37
EBEN S **Sn** 13 16 23.1 -3.2
comp=N,32nm,0.3s,SNR=7.9
EBEN Beniarda 7.93 63 P **Pn** 13 14 57.2 +0.7
comp=N,7.4nm,0.1s,SNR=37
EPON Pontenova 8.02 11 P **Pn** 13 14 57.5 -0.3
comp=N,5.7nm,0.1s,SNR=19
EPON S **Sn** 13 16 22.5 -6.1
comp=N,25nm,0.3s,SNR=7.9
EPON Pontenova 8.02 11 P **Pn** 13 14 57.5 -0.3
EPON S **Sn** 13 16 22.5 -6.1
CFTV Fuerteventura 8.13 211 P **Pn** 13 14 50.8 -8.4
comp=N,1.2nm,0.2s,SNR=7.9
CFTV S **Sn** 13 16 12.9 -18
comp=N,12nm,0.2s,SNR=12
EARI Arriondas 8.44 21 P **Pn** 13 15 04.7 +1.2
comp=N,2.7nm,0.2s,SNR=23
EARI S **Sn** 13 16 35.2 -3.5
comp=N,9.7nm,0.3s,SNR=5.8
EARI Arriondas 8.44 21 P **Pn** 13 15 04.7 +1.2
comp=N,2.7nm,0.2s,SNR=23
EMOS Mosqueruela 8.51 52 P **Pn** 13 15 06.5 +2.1
comp=N,2.3nm,0.1s,SNR=21
EMOS S **Sn** 13 16 38.4 -2.1
comp=N,29nm,0.4s,SNR=6.2
EMOS Mosqueruela 8.51 52 P **Pn** 13 15 06.5 +2.0
comp=N,2.3nm,0.1s,SNR=21
ELAN Lanestosa 8.98 29 P **Pn** 13 15 12.3 +1.4
comp=N,3.0nm,0.2s,SNR=9.1
ELAN S **Sn** 13 16 46.6 -5.5
comp=N,18nm,0.2s,SNR=5.4
ELAN Lanestosa 8.98 29 P **Pn** 13 15 12.3 +1.4
comp=N,3.0nm,0.2s,SNR=9.1
EOSO Osorio 9.10 218 S **Sn** 13 16 35.8 -19
comp=N,26nm,0.3s,SNR=7.9
EBAJ Bajamar 9.14 223 S **Sn** 13 16 36.0 -20
comp=N,24nm,0.3s,SNR=7.9
EIBI Ibiza 9.19 64 P **Pn** 13 15 13.9 +0.2
comp=N,3.9nm,0.2s,SNR=11
EIBI S **Sn** 13 16 52.3 -4.9
comp=N,16nm,0.2s,SNR=7.1
EIBI Ibiza 9.19 64 P **Pn** 13 15 13.9 +0.1
comp=N,3.9nm,0.2s,SNR=11
ESAC San Caprasio 9.30 45 P **Pn** 13 15 17.8 +2.5
comp=N,35nm,0.3s,SNR=18
ESAC S **Sn** 13 16 58.0 -2.0
comp=N,102nm,0.3s,SNR=5.7
ESAC San Caprasio 9.30 45 P **Pn** 13 15 17.8 +2.4
comp=N,35nm,0.3s,SNR=18
ERTA Horta de San J 9.34 51 P **Pn** 13 15 18.0 +2.1
comp=N,2.4nm,0.1s,SNR=6.3
ERTA S **Sn** 13 17 00.4 -0.6
comp=N,6.8nm,0.2s,SNR=12
ERTA Horta de San J 9.34 51 P **Pn** 13 15 18.0 +2.1
ERTA S **Sn** 13 17 00.4 -0.6
EARA Aranguren 9.43 37 P **Pn** 13 15 20.1 +2.9
comp=N,13nm,0.3s,SNR=7.9
EARA S **Sn** 13 16 59.5 -3.7
comp=N,39nm,0.5s,SNR=7.9
IPRE Itoiz 9.57 38 P **Pn** 13 15 20.0 +1.0
comp=N,2.9nm,0.2s,SNR=7.9
IPRE S **Sn** 13 17 03.5 -3.1
comp=N,8.4nm,0.3s,SNR=4.6
IUSE Utxeti 9.58 36 P **Pn** 13 15 21.5 +2.3
comp=N,3.9nm,0.2s,SNR=7.9
IUSE S **Sn** 13 17 05.0 -1.9
comp=N,3.2nm,0.1s,SNR=7.9
CHIO Chio 9.64 224 S **Sn** 13 16 47.3 -21
comp=N,37nm,0.2s,SNR=7.9
ELIZ Elizondo 9.75 36 P **Pn** 13 15 22.9 +1.3
comp=N,8.3nm,0.2s,SNR=20
ELIZ S **Sn** 13 17 07.5 -3.6
comp=N,7.1nm,0.2s,SNR=6.9
EALK Alkurruntz 9.81 36 P **Pn** 13 15 23.6 +1.3
comp=N,11nm,0.3s,SNR=22
EALK S **Sn** 13 17 07.9 -4.5
comp=N,87nm,0.5s,SNR=8.5
EGOM La Gomera 9.92 225 S **Sn** 13 16 53.5 -22
comp=N,20nm,0.1s,SNR=5.5
LARF Larrau 9.92 38 P **Pn** 13 15 25.0 +1.1
OSSF Osses 9.95 36 P **Pn** 13 15 25.5 +1.3
EPOB Poblet 10.03 51 P **Pn** 13 15 27.2 +1.9
comp=N,3.1nm,0.1s,SNR=13
EPOB S **Sn** 13 17 15.7 -2.2
comp=N,20nm,0.6s,SNR=7.9
EPOB Poblet 10.03 51 P **Pn** 13 15 27.2 +1.9
comp=N,3.1nm,0.1s
ETSF Etsaut 10.04 40 *e*Pn **Pn** 13 15 26.4 +0.9
ETSF *e*Sn **Sn** 13 17 10.3 -7.9
comp=N,16nm,0.2s
ETSF Etsaut 10.04 40 Pn **Pn** 13 15 26.4 +0.9
ETSF Sn **Sn** 13 17 10.3 -7.9
comp=N,7.9nm,0.2s
EGRA Graus 10.06 45 P **Pn** 13 15 27.2 +1.5
comp=N,16nm,0.3s,SNR=5.3
EGRA S **Sn** 13 17 14.3 -4.3
comp=N,5.6nm,0.2s,SNR=5.3
ORDF Ordiarp 10.08 37 P **Pn** 13 15 27.5 +1.5
ORDF S **Sn** 13 17 14.8 -4.3
ATE Arette 10.10 39 P **Pn** 13 15 27.7 +1.4
ATE S **Sn** 13 17 14.9 -4.8
EBIE Bielsa 10.28 43 P **Pn** 13 15 30.5 +1.8
comp=N,30nm,0.4s,SNR=53
EBIE S **Sn** 13 17 19.5 -4.4
comp=N,21nm,0.3s,SNR=8.5
EBIE Bielsa 10.28 43 P **Pn** 13 15 30.5 +1.8
comp=N,30nm,0.4s
VIEF Viey 10.34 41 P **Pn** 13 15 31.3 +1.7
VIEF S **Sn** 13 17 20.8 -4.8
RESF Ens 10.46 43 P **Pn** 13 15 33.6 +2.3
RESF S **Sn** 13 17 23.8 -4.7
LABF Labassere 10.48 41 P **Pn** 13 15 33.3 +1.8
LABF S **Sn** 13 17 25.2 -3.8
ETOS Mallorca 10.51 62 P **Pn** 13 15 33.5 +1.5
comp=N,1.6nm,0.2s,SNR=5.5
ETOS S **Sn** 13 17 24.6 -5.1
comp=N,3.1nm,0.2s,SNR=7.9
ETOS Mallorca 10.51 62 P **Pn** 13 15 33.5 +1.6
comp=N,1.6nm,0.2s
EPF Esparros 10.61 42 *e*Pn **Pn** 13 15 35.3 +2.0
EPF *e*Sn **Sn** 13 17 27.5 -4.7
comp=N,11nm,0.2s
EPF Esparros 10.61 42 Pn **Pn** 13 15 35.3 +2.0
EPF Sn **Sn** 13 17 27.5 -4.7
comp=N,5.4nm,0.2s
EMIR Miracle 10.62 49 P **Pn** 13 15 35.0 +1.6
comp=N,8.5nm,0.2s,SNR=7.9
EMIR S **Sn** 13 17 28.7 -3.6
comp=N,32nm,0.3s,SNR=7.9
EMIR Miracle 10.62 49 P **Pn** 13 15 35.0 +1.6
comp=N,8.5nm,0.2s
MLS Moulis 10.98 44 S **Sn** 13 17 37.0 -4.3
MTLF Montolieu 11.87 45 *e*Pn **Pn** 13 15 52.1 +1.7
MTLF *e*Sn **Sn** 13 17 56.6 -6.3
comp=N,4.7nm,0.3s
MTLF Montolieu 11.87 45 Pn **Pn** 13 15 52.1 +1.7
MTLF Sn **Sn** 13 17 56.6 -6.3
comp=N,2.3nm,0.3s
RJF Les Rejaudoux 12.81 37 *e*Pn **Pn** 13 16 03.6 +0.3
RJF *e*Sn **Sn** 13 18 18.6 -7.3
comp=N,3.6nm,0.2s
RJF Les Rejaudoux 12.81 37 *e*Pn **Pn** 13 16 03.6 +0.3
RJF *e*Sn **Sn** 13 18 18.6 -7.3
comp=N,1.8nm,0.2s
CAF Calviac 12.81 39 *e*Pn **Pn** 13 16 03.7 +0.3
CAF *e*Sn **Sn** 13 18 18.3 -7.8
comp=N,2.4nm,0.2s
CAF Calviac 12.81 39 *e*Pn **Pn** 13 16 03.7 +0.3
CAF *e*Sn **Sn** 13 18 18.3 -7.8
comp=N,1.2nm,0.2s
MFF Saint Martin d 13.08 29 *e*Pn **Pn** 13 16 07.5 +0.5
MFF *e*Sn **Sn** 13 18 24.2 -8.4
comp=N,4.3nm,0.3s
MFF Saint Martin d 13.08 29 *e*Pn **Pn** 13 16 07.5 +0.5
MFF *e*Sn **Sn** 13 18 24.2 -8.4
comp=N,2.2nm,0.3s
QUIF Quistinic 13.25 18 *e*Pn **Pn** 13 16 09.1 -0.2
QUIF *e*Sn **Sn** 13 18 27.9 -8.8
comp=N,2.6nm,0.2s
QUIF Quistinic 13.25 18 *e*Pn **Pn** 13 16 09.1 -0.2
QUIF *e*Sn **Sn** 13 18 27.9 -8.8
comp=N,1.3nm,0.2s
LASF Ste Croix 13.26 46 *e*Pn **Pn** 13 16 09.9 +0.4
LASF *e*Sn **Sn** 13 18 31.2 -5.7
comp=N,4.2nm,0.4s
LASF Ste Croix 13.26 46 Pn **Pn** 13 16 09.9 +0.4
LASF Sn **Sn** 13 18 31.2 -5.7
comp=N,2.1nm,0.4s
ROSF Rostrenen 13.61 17 *e*Pn **Pn** 13 16 14.3 0.0
ROSF *e*Sn **Sn** 13 18 36.8 -8.8
comp=N,2.1nm,0.2s
ROSF Rostrenen 13.61 17 *e*Pn **Pn** 13 16 14.3 0.0
ROSF *e*Sn **Sn** 13 18 36.8 -8.8
comp=N,1.0nm,0.2s
SGMF Saint Gilles 13.72 19 *e*Pn **Pn** 13 16 15.0 -0.8
SGMF *e*Sn **Sn** 13 18 40.2 -8.0
comp=N,3.2nm,0.3s
SGMF Saint Gilles 13.72 19 *e*Pn **Pn** 13 16 15.0 -0.8
SGMF *e*Sn **Sn** 13 18 40.2 -8.0
comp=N,1.6nm,0.3s
TCF Toulx Ste Croi 13.86 35 *e*Pn **Pn** 13 16 16.8 -0.9
TCF *e*Sn **Sn** 13 18 41.8 -10
VIVF Saint-Julien-l 14.19 44 *e*Pn **Pn** 13 16 23.3 +1.1
SMRF Simiane la Rot 14.23 49 *e*Pn **Pn** 13 16 25.1 +2.3
GRR Gorron 14.34 23 *e*Pn **Pn** 13 16 23.8 -0.5
GRR *e*Sn **Sn** 13 18 53.9 -9.5
comp=N,2.8nm,0.3s
GRR Gorron 14.34 23 *e*Pn **Pn** 13 16 23.8 -0.5
GRR *e*Sn **Sn** 13 18 53.9 -9.5
comp=N,1.4nm,0.3s
LDF La Druitiere 14.76 25 *e*Pn **Pn** 13 16 29.9 -0.1
LDF *e*Sn **Sn** 13 19 05.2 -8.5
comp=N,2.5nm,0.3s
LDF La Druitiere 14.76 25 *e*Pn **Pn** 13 16 29.9 -0.1
LDF *e*Sn **Sn** 13 19 05.2 -8.5
comp=N,1.2nm,0.3s
AVF Avril sur Loir 14.77 36 *e*Pn **Pn** 13 16 31.3 +1.3
HYF Humbligny 14.78 33 *e*Pn **Pn** 13 16 30.1 -0.2
FLN La Foliniere 14.79 23 *e*Pn **Pn** 13 16 30.1 -0.3
FLN *e*Sn **Sn** 13 19 05.9 -8.4
comp=N,2.1nm,0.3s
FLN La Foliniere 14.79 23 *e*Pn **Pn** 13 16 30.1 -0.3
FLN *e*Sn **Sn** 13 19 05.9 -8.4
comp=N,1.0nm,0.3s
SSF Saint Saulge 15.03 36 *e*Pn **Pn** 13 16 33.2 -0.5
LPL La Plagne 15.76 46 *e*Pn **Pn** 13 16 43.2 0.0
CABF La Chapelle 16.05 41 *e*Pn **Pn** 13 16 48.0 +1.1
DAVOX Davos 18.28 46 LR LR 13 23 46.0
comp=N,37nm,20.4s,baz=265,slow=35
GERES GERESS Array B 21.55 45 LR LR 13 25 41.5

comp=N,26nm,18.8s,baz=273,slow=35
TORD Torodi Ar. Bea 24.33 153 P **P** **13 18 15.4 -3.6**
comp=N,2.9nm,0.8s,mb3.8,baz=338,slow=9.6,SNR=18
DBIC Dimbokro 28.95 171 P **P** **13 18 56.0 -4.6**
comp=N,2.2nm,0.9s,mb3.9,baz=345,slow=12,SNR=3.5
ARCES ARCESS Array B 39.06 19 P **P** **13 20 25.9 -2.3**
comp=N,0.5nm,0.6s,mb3.4,baz=226,slow=12,SNR=5.4
WRA Warramunga Arr 144.50 74 PKP PKPdf 13 32 32.5 -5.3
comp=N,0.4nm,0.8s,baz=313,slow=2.7,SNR=5.0
ASAR Alice Springs 146.08 80 PKPbc PKPbc 13 32 38.1 -3.3
comp=N,0.8nm,1.1s,baz=308,slow=2.9,SNR=4.8

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*NEIC **07** 13:19:04.8, 3749S×73.13W, h69km, MG4.0(GUC), After GUC.*
NEIC Felt at Concepcion and Lota.
GUC 07 13:19:04.8±0.5, 3749S×7313W, h69km±27km, ML4.0, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCHI	**Chillan**	**1.22**	**44**	⇓*i*P	Pn	13 19 26.2	+0.1
CCHI				*e*S	Sn	13 19 42.9	+0.9
CCHI				AML	AML	13 19 46.0	
	comp=N,2μm,0.3s						
CCHI	**Chillan**	**1.22**	**44**	⇓*i*P	Pn	13 19 26.2	+0.1
CCHI				*e*S	Sn	13 19 42.9	+0.9
TMU	**Temuco**	**1.31**	**162**	*e*P	Pn	13 19 27.5	+0.3
TMU				*i* S	Sn	13 19 44.8	+0.8
CNCO	**Chanco**	**1.82**	**16**	*e*P	Pn	13 19 34.9	+0.9
CNCO				*e*S	Sn	13 19 56.5	+0.4
CNCO				AML	AML	13 20 03.0	
	comp=E,2μm,0.2s						
CNCO	**Chanco**	**1.82**	**16**	*e*P	Pn	13 19 34.9	+0.9
CNCO				*e*S	Sn	13 19 56.5	+0.4
LNCH	**Linares**	**2.05**	**37**	*e*P	Pn	13 19 37.6	+0.5
LNCH				*e*S	Sn	13 20 02.4	+0.7
LNCH				AML	AML	13 20 12.9	
	comp=E,1μm,0.6s						
LNCH	**Linares**	**2.05**	**37**	*e*P	Pn	13 19 37.6	+0.5
LNCH				*e*S	Sn	13 20 02.4	+0.7
TALC	**Talca**	**2.41**	**30**	*e*P	Pn	13 19 43.5	+1.6
TALC				*e*S	Sn	13 20 12.0	+1.5
TALC				AML	AML	13 20 26.3	
	comp=E,2μm,0.4s						
TALC	**Talca**	**2.41**	**30**	*e*P	Pn	13 19 43.5	+1.6
TALC				*e*S	Sn	13 20 12.0	+1.5
SFDO	**San Fernando**	**3.34**	**31**	*e*P	Pn	13 19 51.8	-2.9
PLCA	**Paso Flores**	**3.81**	**149**	*e*P	Pn	13 20 02.0	+1.1
TACH	**Talagante**	**4.23**	**26**	*e*P	Pn	13 20 03.9	-2.8
PCH	**Pirque**	**4.41**	**30**	⇓*i*P	Pn	13 20 06.8	-2.5

NNC 07 13:39:16.1±3.5, 3720N×7118E, h245km±41km, mb2.3, mpv3.2, 1C-3D, Error ellipse: s-maj=36.9km s-min=23.5km az=24.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.92**	**355**	P	Pn	13 40 43.1	+0.1
	5.0nm,0.3s,baz=181,slow=14,SNR=101						
KK31				⇓S	S	13 41 52.8	+0.4
	6.0nm,0.5s,baz=177,slow=25,SNR=4.4						
TKM2	**Tokmak 2**	**6.64**	**29**	⇓P	Pn	13 40 51.8	-0.3
	0.2nm,0.6s						
TKM2				⇑S	S	13 42 09.9	+1.0
	0.9nm,0.8s						
AB31	**Akbulak array**	**14.55**	**329**	P	Pn	13 42 31.3	+0.3
	1.5nm,0.6s,baz=137,slow=12,SNR=16						
AB31				⇓S	S	13 45 11.7	-0.1
	0.9nm,0.8s						

IDC 07 13:44:10.1±9.1, 200N×12630E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=178.7km s-min=141.3km az=73.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.19**	**160**	P	P	13 49 19.0	+0.6
	1.2nm,0.7s,baz=339,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**26.56**	**164**	P	P	13 49 50.2	+0.6
	0.3nm,0.6s,baz=357,slow=7.4,SNR=5.0						
STKA	**Stephens Creek**	**36.68**	**158**	P	P	13 51 18.2	-0.4
	2.0nm,0.9s,baz=333,slow=9.0,SNR=3.2						

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*BJI **07** 14:12:04.4, 4459N×10237E, h10km, mB4.9, mb4.8, ML5.5, Ms5.2, Msz4.9*
*LDG **07** 14:12:05.1±0.1, 4464N×10227E, h10km, Mb5.3/32, Ms4.4/7, Error ellipse: s-maj=6.8km s-min=3.0km az=137.0*
*IDC **07** 14:12:05.3±0.4, 4455N×10238E, h0km, mb4.7/25, mb1 4.8/28, mb1mx4.8/29, mbtmp4.7/28, ML3.9/3, MS4.4/21, Ms1 4.4/21, ms1mx4.2/29, Error ellipse: s-maj=11.8km s-min=9.3km az=9.0*
*ISCJB **07** 14:12:06.1±0.1, 4455N±002×10223E±002, h10km, mb5.0/207, MS4.6/55, Error ellipse: s-maj=2.6km s-min=2.3km az=19.1*
*SZGRF **07** 14:12:07.8, 4364N×10189E, h33km, mb5.1, MS4.5, Mongolia*
*NEIC **07** 14:12:07.1±0.1, 4455N×10235E, h10km, mb5.1/130, Error ellipse: s-maj=3.8km s-min=2.7km az=191.0*
*HRVD **07** 14:12:07.1±0.2, 4454N×10236E, h18km±1km, MW5.0/79, Centroid moment Tensor Solution. LP body waves: s25,c28;Mantle waves: s79,c120; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.52±.15; $M_{\theta\theta}$0.41±.10; $M_{\phi\phi}$-1.93±.12; $M_{r\theta}$2.13±.30; $M_{\theta\phi}$2.88±.09; $M_{r\phi}$0.01±.23; Best double couple: M_o3.98300×10^{16} NP1:ϕ_s5.00000°, δ53.00000°, λ158.00000°. NP2:ϕ_s108.00000°, δ73.00000°, λ39.00000°. Principal axes: T 3.8310, Plg40.0000°, Azm333.0000°; N 0.3090, Plg48.0000°, Azm128.0000°; P -4.1350, Plg13.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **07** 14:12:08.5±0.8, 4461N×10227E, h29km, mb5.3/104, MS4.6/47 Error ellipse: s-maj=6.7km s-min=3.9km az=121.4*
ISC 07 14:12:07.4±0.8, 4458N±002×10235E±002, h9km±5km, n602, σ0.98/635, mb5.0/207, MS4.6/54, 95C-45D, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**4.30**	**39**	Pn	**Pn**	**14 13 13.3**	**+0.3**
	145nm,0.3s,baz=215,slow=15,SNR=465						
SONM				Pg	**Pb**	**14 13 24.0**	**+0.8**
	292nm,0.3s,baz=220,slow=19,SNR=44						
SONM				Sn	**Sn**	**14 14 01.7**	**-1.6**
	191nm,0.3s,baz=228,slow=16,SNR=5.7						
SONM				Lg		14 14 19.0	
	453nm,0.3s,baz=219,slow=31,SNR=8.0						
SONM				LR	LR	14 14 49.5	
	comp=Z,2μm,19.2s,baz=217,slow=38						
SONM	**Songino Array**	**4.30**	**39**	P	**Pn**	**14 13 13.3**	**+0.3**
SONM				SN	**Sn**	**14 14 01.7**	**-1.6**
SONM	**Songino Array**	**4.30**	**39**	Pn	**Pn**	**14 13 13.3**	**+0.3**
SONM				Pg	**Pb**	**14 13 24.0**	**+0.8**
SONM				Sn	**Sn**	**14 14 01.7**	**-1.6**
SONM				Lg		14 14 19.0	
SONM				LR	LR	14 14 49.5	
ULN	**Ulaanbaatar**	**4.64**	**43**	*e*Pn	**Pn**	**14 13 17.8**	**+0.2**
ULN				*e*Pg	**Pb**	**14 13 30.7**	**+1.8**
ULN				*e*Sg	**Sb**	**14 14 29.3**	**+4.6**
GTA	**Gaotai**	**5.49**	**201**	P	**Pn**	**14 13 29.3**	**0.0**
GTA				PG	**Pb**	**14 13 46.0**	**+2.5**
GTA				S	**Sn**	**14 14 32.5**	**-0.1**
GTA				SG	**Sg**	**14 14 59.0**	**-4.8**
GTA				Smax			
	comp=N,4μm,1.1s						
GTA				Smax			
	comp=E,3μm,1.2s						
GTA				LR	LR		
	comp=N,20μm,8.4s						
GTA				LR	LR		
	comp=E,33μm,9.1s						
GTA				LR	LR		
	comp=Z,15μm,9.1s						
ZAK	**Zakamensk**	**5.84**	**6**	⇑*i*P	**Pn**	**14 13 35.0**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,366nm,0.9s						
BTO	**Baotou**	**6.91**	**122**	*e*P	**Pn**	**14 13 48.4**	**-0.4**
BTO				*e*PG	**Pb**	**14 14 11.6**	**+4.0**
MOY	**Mondy**	**7.15**	**353**	*e*P	**Pn**	**14 13 43.0**	**-9.1**
MOY				pmax	pmax		
	comp=Z,711nm,0.6s						
TLY	**Talaya**	**7.16**	**6**	Pn	**Pn**	**14 13 53.2**	**+0.9**
	comp=Z,3μm,0.4s,SNR=92						
HHC	**Hu-ho-hao-te**	**7.74**	**116**	*e*P	**Pn**	**14 13 59.3**	**-0.9**
HHC				S	**Sn**	**14 15 24.1**	**-3.8**
HHC				Smax			
	comp=N,2μm,1.0s						
HHC				Smax			
	comp=E,2μm,1.3s						
HHC				LR	LR		
	comp=N,14μm,7.1s						
HHC				LR	LR		
	comp=E,15μm,6.5s						
HHC				LR	LR		
	comp=Z,12μm,8.9s						
IRK	**Irkutsk**	**7.78**	**9**	*e*P	**Pn**	**14 14 02.3**	**+1.6**
IRK				pmax	pmax		
	comp=Z,278nm,0.8s						
LZH	**Lanzhou**	**8.55**	**172**	⇑P	**Pn**	**14 14 10.5**	**-0.9**
LZH				AP		14 14 17.4	
LZH				XP		14 14 22.5	
LZH				S	**Sn**	**14 15 46.6**	**-1.4**
LZH				XS		14 15 56.5	
LZH				SS		14 16 01.1	
LZH				AMB	AMB		
	comp=Z,168nm,1.0s						
LZH				AMB	AMB		
	comp=Z,583nm,4.2s						
LZH				Smax			
	comp=N,3μm,1.2s						
LZH				Smax			
	comp=E,2μm,1.2s						
LZH				LR	LR		
	comp=N,12μm,6.7s						
LZH				LR	LR		
	comp=Z,15μm,8.5s						
WMQ	**Urumqi**	**10.55**	**271**	P	**Pn**	**14 14 40.9**	**+2.2**
WMQ				AP		14 14 43.5	
WMQ				XP		14 14 45.7	
WMQ				PP		14 14 49.3	
WMQ				S	**Sn**	**14 16 39.6**	**+2.6**
WMQ				XS		14 16 44.6	
WMQ				SS		14 16 53.9	
WMQ				PCP	PcP	14 20 44.7	+1.9
WMQ				SCP	ScP	14 24 15.3	0.0
WMQ				SCS	ScS	14 27 49.0	-1.3
WMQ				AMB	AMB		
	comp=Z,80nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,268nm,4.0s						
WMQ				LR	LR		
	comp=N,27μm,5.0s						
WMQ				LR	LR		
	comp=E,17μm,4.4s						
WMQ				LR	LR		
	comp=Z,11μm,4.5s						
BJI	**Beijing**	**11.20**	**109**	P	**Pn**	**14 14 48.3**	**+0.8**
BJI				LR	LR		
	comp=N,17μm,9.4s						
BJI				LR	LR		
	comp=E,6μm,9.4s						
BJI				LR	LR		
	comp=Z,1μm,14.2s						
BJT	**Baijiatuau**	**11.20**	**109**	*e*Pn	**Pn**	**14 14 44.0**	**-3.6**
BJT				*e*S	**Sn**	**14 16 46.0**	**-7.0**
XAN	**Xi'an**	**11.68**	**152**	P	**Pn**	**14 14 50.5**	**-3.7**
XAN				LG2		14 18 10.4	
XAN				LR	LR		
	comp=N,5μm,8.5s						
XAN				LR	LR		
	comp=E,3μm,7.5s						
XAN				LR	LR		
	comp=Z,8μm,12.5s						
HIA	**Hailar**	**12.78**	**62**	*e*P	**Pn**	**14 15 07.1**	**-2.1**
HIA				pmax	pmax		
	comp=Z,24nm,0.8s						
HIA	**Hailar**	**12.78**	**62**	*e*Pn	**Pn**	**14 15 07.1**	**-2.1**
	comp=Z,24nm,0.8s						
KRAR	**Krasnoyarsk**	**12.94**	**336**	*e*P	**Pn**	**14 15 11.1**	**-0.2**
CD2	**Chengdu**	**13.69**	**175**	⇑*i*P	**Pn**	**14 15 22.2**	**+0.6**
CD2				AP		14 15 25.0	
CD2				XP		14 15 28.0	
CD2				PP		14 15 33.0	
CD2				S	**Sn**	**14 17 56.4**	**+2.7**
CD2				XS		14 18 01.6	
CD2				SS		14 18 12.2	
CD2				AMB	AMB		
	comp=Z,70nm,1.3s						
CD2				AMB	AMB		
	comp=Z,150nm,4.2s						
CD2				LR	LR		
	comp=E,10μm,12.0s						
CD2				LR	LR		
	comp=Z,3μm,9.6s						
TIA	**Tai'an**	**14.01**	**122**	*e*P	**Pn**	**14 15 27.3**	**+1.4**
TIA				LR	LR		
	comp=N,2μm,9.0s						
TIA				LR	LR		
	comp=E,3μm,10.0s						
MKAR	**Makanchi Array**	**14.19**	**286**	Pn	**Pn**	**14 15 27.0**	**-1.5**
	comp=E,0.4nm,0.3s,baz=92,slow=14,SNR=18						
ZAL	**Zalesovo**	**14.76**	**316**	Pn	**Pn**	**14 15 35.6**	**-0.7**
	comp=E,0.4nm,0.3s,baz=352,slow=11,SNR=22						
ZAL				Lg		14 19 44.0	
	comp=E,0.7nm,0.3s,baz=98,slow=24,SNR=3.8						
BOD	**Bodaibo**	**15.11**	**25**	*e*P	**Pn**	**14 15 41.0**	**+0.1**
BOD				pmax	pmax		
	comp=Z,36nm,1.1s						
DL2	**Dalian**	**15.46**	**105**	P	**Pn**	**14 15 42.9**	**-2.6**
DL2				*e*S	**Sn**	**14 18 30.3**	**-6.5**
DL2				LG1		14 19 57.3	
DL2				LG2		14 20 22.6	
DL2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
DL2				LR	LR		
	comp=N,3μm,13.0s						
DL2				LR	LR		
	comp=E,2μm,10.3s						
DL2				LR	LR		
	comp=Z,2μm,10.3s						
NVS	**Novosibirsk**	**16.02**	**317**	*e*P	**Pn**	**14 15 51.0**	**-1.8**
NVS				*e*S	**Sn**	**14 18 47.9**	**-2.6**
NVS				pmax	pmax		
	comp=N,45nm,1.4s						
NVS				pmax	pmax		
	comp=E,84nm,1.4s						
NVS				pmax	pmax		
	comp=Z,71nm,1.4s						
NVS				smax			
	comp=N,48nm,1.3s						
NVS				smax			
	comp=E,32nm,1.3s						
CN2	**Changchun**	**16.58**	**85**	*e*P	**Pn**	**14 15 58.3**	**-1.7**
CN2				*e*XP	sP	14 16 03.8	-2.6
CN2				*e*S	**Sn**	**14 19 01.6**	**-2.6**
CN2				AMB	AMB		
	comp=Z,20nm,1.2s						
CN2				LR	LR		
	comp=N,8μm,12.0s						
CN2				LR	LR		
	comp=E,2μm,12.0s						
CN2				LR	LR		
	comp=Z,3μm,15.0s						
WHN	**Wuhan**	**16.91**	**142**	⇑P	**Pn**	**14 16 02.0**	**-2.1**
WHN				LR	LR		
	comp=Z,5μm,12.8s						
KURK	**Kurchatov**	**17.09**	**299**	Pn	**Pn**	**14 16 05.2**	**-1.2**
	comp=Z,515nm,0.8s,SNR=67						
KURK	**Kurchatov**	**17.09**	**299**	⇑P	**Pn**	**14 16 04.9**	**-1.5**
	SNR=62						
KURK	**Kurchatov**	**17.09**	**299**	⇑*e*P	**Pn**	**14 16 04.2**	**-2.2**
KURK				pmax	pmax		
	comp=Z,91nm,0.9s						
KURK	**Kurchatov**	**17.09**	**299**	⇑*e*Pn	**Pn**	**14 16 04.2**	**-2.2**
	comp=Z,91nm,0.9s						
LSA	**Lhasa**	**17.30**	**215**	P	**Pn**	**14 16 08.2**	**-0.8**
LSA				S	**Sn**	**14 19 22.6**	**+1.1**
LSA				LR	LR		
	comp=N,2μm,16.8s						
LSA				LR	LR		
	comp=E,3μm,17.2s						
LSA				LR	LR		
	comp=Z,2μm,12.9s						
LSA	**Lhasa**	**17.30**	**215**	⇓*e*P	**Pn**	**14 16 08.2**	**-0.8**
LSA				*e*		14 19 25.3	
LSA				pmax	pmax		
	comp=E,18nm,0.8s						
LSA	**Lhasa**	**17.30**	**215**	⇓*e*Pn	**Pn**	**14 16 08.2**	**-0.8**
	comp=E,18nm,0.8s						
LSA				*e*Sn	**Sn**	**14 19 25.3**	**+3.8**
NJ2	**Nanjing**	**17.96**	**129**	*e*P	**Pn**	**14 16 19.1**	**+1.8**
NJ2				PP		14 16 33.6	
NJ2				S	**Sn**	**14 19 37.0**	**-0.6**
NJ2				AMB	AMB		
	comp=Z,30nm,1.2s						
NJ2				AMB	AMB		
	comp=Z,200nm,3.8s						
NJ2				LR	LR		
	comp=N,3μm,12.1s						
NJ2				LR	LR		
	comp=E,3μm,16.0s						
NJ2				LR	LR		
	comp=Z,1μm,18.0s						
AAA	**Alma-Ata**	**18.33**	**275**	*i* P	**Pn**	**14 16 23.5**	**+1.8**
AAA				pmax	pmax		
	comp=Z,2μm,1.9s						
AAA				MLR	MLR		
	comp=Z,37μm,10.7s						
GYA	**Guiyang**	**18.41**	**168**	⇑*i*P	**Pn**	**14 16 22.4**	**-0.4**
GYA				S	**Sn**	**14 19 47.4**	**-1.1**
GYA				AMB	AMB		
	comp=Z,30nm,1.5s						
GYA				AMB	AMB		
	comp=Z,200nm,5.4s						
GYA				LR	LR		
	comp=N,2μm,8.7s						
GYA				LR	LR		
	comp=E,2μm,7.5s						
GYA				LR	LR		
	comp=Z,3μm,12.6s						
CLNS	**Chul'man**	**18.72**	**41**	*e*P	**Pn**	**14 16 26.5**	**0.0**
CLNS				pmax	pmax		
	comp=Z,37nm,0.8s						
CLNS				pmax	pmax		
	comp=N,24nm,0.7s						
CLNS				pmax	pmax		
	comp=E,39nm,1.0s						
CLNS				pmax	pmax		
	comp=N,30nm,1.1s						
CLNS				pmax	pmax		
	comp=E,24nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,27nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,2μm,14.0s						
CLNS				MLR	MLR		
	comp=N,1μm,13.0s						
CLNS				MLR	MLR		
	comp=E,2μm,14.0s						
TKM2	**Tokmak 2**	**19.37**	**275**	P	**Pn**	**14 16 35.1**	**+0.7**
	SNR=14						
MDJ	**Mudanjiang**	**19.38**	**80**	P	**Pn**	**14 16 32.2**	**-2.3**
MDJ				AP	pP	14 16 35.6	-0.4
MDJ				XP	sP	14 16 37.0	-0.2
MDJ				S	**Sn**	**14 20 09.9**	**-1.9**
MDJ				AMB	AMB		
	comp=Z,26nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,220nm,8.5s						
MDJ				LR	LR		
	comp=N,5μm,14.8s						
MDJ				LR	LR		
	comp=E,1μm,11.2s						
MDJ				LR	LR		
	comp=Z,1μm,11.2s						
MDJ	**Mudanjiang**	**19.38**	**80**	*e*P	**Pn**	**14 16 33.2**	**-1.3**
	comp=Z,99nm,1.7s						
KMI	**Kunming**	**19.41**	**179**	P	**Pn**	**14 16 32.2**	**-2.7**
KMI				AP	pP	14 16 40.0	+3.6
KMI				XP	sP	14 16 44.2	+6.6
KMI				PP		14 16 47.6	
KMI				S	**Sn**	**14 20 02.1**	**-10**
KMI				XS	sS	14 20 14.5	-2.9
KMI				SS		14 20 29.0	
KMI				SSS		14 20 39.9	
KMI				AMB	AMB		
	comp=Z,73nm,1.2s						
KMI				LR	LR		
	comp=N,2μm,12.3s						
KMI				LR	LR		
	comp=E,9μm,14.2s						
KMI				LR	LR		
	comp=Z,3μm,9.6s						
KZA	**Kyzart**	**19.84**	**272**	P	**Pn**	**14 16 41.5**	**+1.5**
	SNR=12						
CHMS	**Chumysh**	**19.95**	**275**	P	**Pn**	**14 16 41.1**	**-0.2**
	SNR=13						
SSE	**Sheshan**	**20.00**	**126**	P	**Pn**	**14 16 42.2**	**+0.3**
SSE				AP	pP	14 16 45.2	+2.4
SSE				XP	sP	14 16 46.6	+2.6
SSE				S	**Sn**	**14 20 21.4**	**-5.4**
SSE				XS	sS	14 20 28.1	-1.2
SSE				AMB	AMB		
	comp=Z,27nm,1.0s						
SSE				AMB	AMB		
	comp=Z,243nm,6.0s						
SSE				LR	LR		
	comp=N,2μm,16.4s						
SSE				LR	LR		
	comp=E,2μm,16.4s						
SSE				LR	LR		
	comp=Z,2μm,15.0s						
USP	**Ospenovka**	**20.07**	**276**	P	**P**	**14 16 41.9**	**+1.0**
	SNR=33						
FRU	**Bishkek**	**20.09**	**275**	*e*P	**P**	**14 16 42.0**	**+0.9**
FRU				*e*S	**S**	**14 20 29.0**	**+2.2**
FRU				MLR	MLR		
	comp=Z,3μm,16.0s,MS4.8						
KSH	**Kashi**	**20.19**	**265**	*e*P	**P**	**14 16 45.6**	**+3.4**
KSH				*e*AP		14 16 51.8	
KSH				*e*XP	sP	14 16 53.0	+6.9
KSH				*e*PP		14 17 05.0	
KSH				*e*S	**S**	**14 20 30.8**	**+2.0**
KSH				*e*SS		14 20 55.0	
KSH				*e*PCP	PcP	14 20 59.7	+3.1
KSH				*e*SCP	ScP	14 24 31.1	-1.9
KSH				*e*SCS	ScS	14 28 14.2	-1.5
KSH				AMB	AMB		
	comp=Z,38nm,1.1s						
KSH				LR	LR		
	comp=N,2μm,8.2s						
KSH				LR	LR		
	comp=E,4μm,7.7s						
KSH				LR	LR		
	comp=Z,2μm,8.5s						
AAK	**Ala-Archa**	**20.23**	**274**	P	**P**	**14 16 44.4**	**+1.7**
	SNR=8.7						
AAK	**Ala-Archa**	**20.23**	**274**	Pn	**P**	**14 16 43.8**	**+1.1**
	comp=Z,198nm,0.7s,SNR=8.1						
AAK	**Ala-Archa**	**20.23**	**274**	⇓P	**P**	**14 16 42.5**	**-0.1**
	SNR=13						
AAK	**Ala-Archa**	**20.23**	**274**	⇑*i*P	**P**	**14 16 42.3**	**-0.4**
AAK				*e*S	**S**	**14 20 28.1**	**-1.5**
AAK				pmax	pmax		
	comp=Z,24nm,0.8s						
AAK	**Ala-Archa**	**20.23**	**274**	⇑*i*P	**P**	**14 16 42.3**	**-0.4**
	comp=Z,24nm,0.8s						
AAK				*e*S	**S**	**14 20 28.1**	**-1.5**
UCH	**Uchtor**	**20.32**	**273**	P	**P**	**14 16 46.0**	**+2.3**
	SNR=45						
KS15	**Wonju Array Si**	**20.50**	**101**	*e*P	**P**	**14 16 45.2**	**-0.4**
KLR	**Kul'dur**	**20.55**	**66**	*e*P	**P**	**14 16 43.4**	**-2.8**
KLR				*e*		14 17 10.8	
KLR				*e*S	**S**	**14 20 36.0**	**-0.1**
KLR				MLR	MLR		
	comp=E,3μm,12.0s						
KLR				MLR	MLR		
	comp=Z,5μm,12.0s,MS5.1						
EKS2	**Erkin-Say**	**20.73**	**275**	P	**P**	**14 16 49.0**	**+0.9**
	SNR=13						
SHL	**Shillong**	**20.77**	**208**	*e*P	**P**	**14 16 48.5**	**-0.1**
AML	**Almayashu**	**20.93**	**273**	P	**P**	**14 16 51.9**	**+1.6**
	SNR=46						
GUN	**Gumba**	**21.21**	**224**	*e*P	**P**	**14 16 53.7**	**+0.4**
	comp=Z,138nm,0.6s,mb5.5						

JIRN Jiri 21.27 223 *e*P P **14 16 54.4 +0.5**
comp=Z,327nm,1.1s,mb5.6
VLA Vladivostok 21.31 83 *e*P P **14 16 55.7 +1.3**
VLA pmax pmax
comp=Z,56nm,1.7s,mb4.6
KKN Kakani 21.61 225 *e*P P **14 16 57.5 -0.1**
comp=Z,322nm,0.6s,mb5.9
PKI Pulchoki 21.73 224 *e*P P **14 16 59.0 +0.1**
comp=Z,305nm,0.7s,mb5.9
GKN Gorkha 21.77 226 *e*P P **14 16 58.7 -0.6**
comp=Z,190nm,1.0s,mb5.5
DMN Daman 21.85 225 *e*P P **14 17 00.4 +0.2**
comp=Z,358nm,1.2s,mb5.7
KOLN Koldanda 22.50 228 *e*P P **14 17 06.6 -0.5**
comp=Z,203nm,1.1s,mb5.5
BVAR Borovoye Array 22.53 303 P P **14 17 06.7 -0.7**
comp=Z,50nm,0.7s,mb5.0,baz=108,slow=9.8,SNR=141
BVAR S **S** **14 21 15.5 +0.7**
comp=Z,0.6nm,0.5s,baz=325,slow=39,SNR=1.8
BVAR Lg 14 24 06.3
comp=Z,8.3nm,0.9s,baz=101,slow=21,SNR=3.8
BVAR LR LR 14 26 16.2
comp=Z,1μm,18.2s,MS4.3,baz=316,slow=38
BVAR Borovoye Array 22.53 303 P P **14 17 06.7 -0.7**
BVAR S **S** **14 21 15.5 +0.7**
BVAR pmax pmax
comp=Z,50nm,0.7s
BVAR smax
comp=N,1.0nm,0.5s
BVAR MLR MLR
comp=Z,1μm,18.2s
BVAR Borovoye Array 22.53 303 P P **14 17 06.7 -0.7**
BVAR S **S** **14 21 15.5 +0.7**
BVAR Lg 14 24 06.3
BVAR LR LR 14 26 16.2
BRVK Borovoye 22.60 303 P P **14 17 07.4 -0.7**
comp=Z,806nm,0.8s,SNR=27
BRVK Borovoye 22.60 303⇑P P **14 17 07.5 -0.6**
SNR=58
BRVK Borovoye 22.60 303⇑*i*P P **14 17 07.1 -1.0**
BRVK *e*S **S** **14 21 11.9 -4.2**
BRVK pmax pmax
comp=Z,68nm,0.8s,mb5.1
BRVK Borovoye 22.60 303⇑*i*P P **14 17 07.1 -1.0**
comp=Z,68nm,0.8s,mb5.1
BRVK *e*S **S** **14 21 11.9 -4.2**
HABR Khabarovsk 22.74 68⇓*i*P P **14 17 10.5 +0.9**
HABR *e*S **S** **14 21 18.9 +0.2**
HABR pmax pmax
comp=Z,104nm,1.5s,mb5.0
HABR MLR MLR
comp=Z,837nm,8.2s
KLP Kalpa 22.91 244 *e*P P **14 17 11.8 +0.3**
KLP AMb AMB 14 17 21.4
comp=Z,116nm,0.8s,mb5.4
LGTI Lohaghat 23.12 237 *e*P P **14 17 14.7 +1.0**
GZH Guangzhou 23.25 154 P P **14 17 10.7 -4.4**
GZH S **S** **14 21 20.6 -6.5**
GZH LR LR
comp=N,3μm,11.1s
GZH LR LR
comp=E,2μm,9.3s
GZH LR LR
comp=Z,5μm,12.6s,MS5.2
ZRNK Zerenda 23.34 303⇑*i*P P **14 17 14.8 -1.2**
ZRNK *e*S **S** **14 21 29.8 +1.2**
ZRNK pmax pmax
comp=Z,33nm,0.8s,mb4.8
ZRNK Zerenda 23.34 303⇑*i*P P **14 17 14.8 -1.2**
comp=Z,33nm,0.8s,mb4.8
ZRNK *e*S **S** **14 21 29.8 +1.2**
YAK Yakutsk 23.63 33*c i*P P **14 17 17.1 -1.8**
YAK *e**PP 14 17 30.3
YAK *e*S **S** **14 21 32.3 -0.9**
YAK *e**SS sS 14 21 47.4 +10
YAK pmax pmax
comp=Z,64nm,1.5s,mb4.8
YAK pmax pmax
comp=N,32nm,1.4s
YAK pmax pmax
comp=E,57nm,1.5s
YAK pmax pmax
comp=Z,22nm,1.3s,mb4.4
YAK pmax pmax
comp=N,11nm,1.6s
YAK pmax pmax
comp=E,18nm,1.4s
YAK smax
comp=N,4.0nm,1.3s
YAK smax
comp=Z,4.0nm,0.8s
YAK smax
comp=E,3.0nm,1.0s
YAK MLR MLR
comp=Z,1μm,13.0s,MS4.6
YAK MLR MLR
comp=N,601nm,12.0s,MS4.6
YAK MLR MLR
comp=E,1μm,14.0s,MS4.6
YAK Yakutsk 23.63 33⇑*e*P P **14 17 17.1 -1.8**
comp=E,88nm,1.1s,mb5.1
SDNR Sundarnagar 23.76 245 *e*P P **14 17 20.2 +0.1**
SMLA Simla 23.87 244 *e*P P **14 17 20.7 -0.4**
SMLA AMb AMB 14 17 24.7
comp=Z,90nm,1.2s,mb5.1
BOK Bokaro 24.71 218 *e*P P **14 17 28.5 -0.3**
BOK AMb AMB 14 17 32.6
comp=Z,53nm,1.9s,mb4.8
YHNB Yeheng 25.18 136 *e*P P **14 17 34.2 +1.2**
NDI New Delhi 25.51 240 *e*P P **14 17 36.6 +0.5**
NDI AMb AMB 14 17 39.4
comp=Z,96nm,1.5s,mb5.1
NDI *e*S **S** **14 22 05.0 +1.5**
BHGR Bahadurgarh 25.68 240 *e*P P **14 17 37.9 +0.3**
AYAN Aya Nagar 25.71 240 *e*P P **14 17 36.6 -1.3**
AYAN AMb AMB 14 17 41.1
comp=Z,76nm,1.2s,mb5.1
NANT Nan 25.74 184⇑P P **14 17 39.0 +0.9**
comp=Z,225nm,0.6s,mb5.9
SONA Sohna 25.90 240 *e*P P **14 17 39.0 -0.6**
SONA AMb AMB 14 17 44.2
comp=Z,40nm,0.5s,mb5.2
AGRA Agra 26.12 237 *e*P P **14 17 41.4 -0.2**
QIZ Qiongzhong 26.23 164 P P **14 17 42.8 +0.2**
QIZ XP sP 14 17 46.9 +0.3
QIZ S **S** **14 22 13.4 -1.4**
QIZ XS sS 14 22 23.0 +3.5
QIZ AMB AMB
comp=Z,43nm,1.4s,mb4.8
QIZ LR LR
comp=N,2μm,13.4s
QIZ LR LR
comp=Z,3μm,14.0s,MS5.0
KUDL Kundal 26.34 240 *e*P P **14 17 42.6 -1.0**
KUDL *e*P 14 17 42.7
KUDL AMb AMB 14 17 48.9
comp=Z,45nm,1.5s,mb4.8
KHET Khetri 26.82 241 *e*P P **14 17 47.5 -0.4**
KHET AMb AMB 14 18 08.9
comp=Z,20nm,1.8s,mb4.3
JOW Kunigami 27.33 122 LR LR 14 29 42.4
comp=Z,938nm,18.8s,MS4.4,baz=110,slow=39
YSS Yuzh-Sakhalins 28.07 71 P P **14 18 05.0 +5.9**
YSS S **S** **14 22 48.0 +4.1**
YSS MLR MLR
comp=N,2μm,12.0s
YSS MLR MLR
comp=Z,1μm,12.0s,MS4.8
KKTK Khon Kaen 28.15 179 P P **14 18 02.0 +2.2**
comp=Z,309nm,0.9s,mb5.9
MAJO Matsushiro 28.22 94 P P **14 18 01.3 +0.8**
MAJO pmax pmax
comp=Z,9.0nm,1.1s,mb4.3
MAJO Matsushiro 28.22 94 P P **14 18 01.3 +0.8**
comp=Z,8.8nm,1.1s,mb4.3
MJAR Matsushiro Arr 28.23 94 P P **14 18 03.7 +3.2**
comp=Z,2.4nm,0.8s,baz=304,slow=9.2,SNR=6.5
MJAR LR LR 14 29 40.7
comp=Z,270nm,19.0s,baz=300,slow=37
MJAR Matsushiro Arr 28.23 94 P P **14 18 03.7 +3.2**
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR MLR MLR
comp=Z,270nm,19.0s
ASAJ Asahikawa 28.59 77 P P **14 18 01.7 -2.0**
comp=Z,8.9nm,1.1s,mb4.4,baz=289,slow=13,SNR=5.0
ASAJ S **S** **14 22 54.0 +2.0**
comp=Z,1.0nm,0.7s,baz=304,slow=24,SNR=1.5
ASAJ LR LR 14 28 34.9
comp=Z,671nm,19.6s,MS4.2,baz=122,slow=35
ASAJ Asahikawa 28.59 77 P P **14 18 01.7 -2.0**
ASAJ S **S** **14 22 54.1 +2.1**
ASAJ pmax pmax
comp=Z,9.0nm,1.1s
ASAJ smax
comp=N,1.0nm,0.7s
ASAJ MLR MLR
comp=Z,671nm,19.6s
SVE Sverdlovsk 28.65 310⇑*e*P P **14 18 03.8 -0.5**
SVE *e*SS SS 14 24 21.0 -33
SVE pmax pmax
comp=Z,60nm,2.1s,mb5.0
SVE MLR MLR
comp=N,800nm,14.0s,MS4.8
SVE MLR MLR
comp=E,2μm,14.0s,MS4.8
SVE MLR MLR
comp=Z,2μm,14.0s,MS4.9
AJM Ajmer 28.68 240 *e*P P **14 18 05.2 +0.7**
AJM AMb AMB 14 18 09.3
comp=Z,19nm,1.8s,mb4.5
BHPL Bhopal 29.47 232 *e*P P **14 18 10.5 -1.1**
BHPL AMb AMB 14 18 14.4
comp=Z,31nm,1.1s,mb5.0
ARU Arti 29.75 309 P P **14 18 13.9 -0.1**
comp=Z,118nm,0.9s,mb5.6,SNR=5.5
ARU Arti 29.75 309⇑*i*P P **14 18 13.6 -0.4**
ARU *e* 14 19 08.7
ARU *e*PPP 14 19 18.3
ARU *e* 14 21 16.5
ARU *e*S **S** **14 23 09.9 -0.3**
ARU *e*SS SS 14 24 37.8 -39
ARU *e*SSS 14 24 58.9
ARU pmax pmax
comp=Z,18nm,0.9s,mb4.8
ARU MLR MLR
comp=Z,700nm,19.0s,MS4.3
ARU MLR MLR
comp=N,100nm,12.5s
ARU MLR MLR
comp=E,500nm,16.0s
ARU Arti 29.75 309⇑*i*P P **14 18 13.2 -0.8**
comp=E,36nm,1.3s,mb4.9
TIXI Tiksi 30.00 16 *e*P P **14 18 11.6 -4.7**
TIXI *e*S **S** **14 23 04.3 -10**
TIXI pmax pmax
comp=Z,16nm,0.9s,mb4.8
TIXI MLR MLR
comp=Z,989nm,10.0s,MS4.8
AKTK Aktyubinsk 30.16 297 P P **14 18 17.2 -0.5**
AKTK Lg 14 28 00.8
AKTO Aktyubinsk 30.16 297 P P **14 18 17.2 -0.5**
comp=Z,8.6nm,1.0s,mb4.4,baz=92,slow=8.2,SNR=19
AKTO Lg 14 28 00.8
comp=Z,4.0nm,1.1s,baz=302,slow=7.9,SNR=3.0
NGP Nagpur 30.27 227 *e*P P **14 18 18.8 +0.1**
NGP AMb AMB 14 18 20.3
comp=Z,49nm,1.2s,mb5.1
SOKR Solikamsk 31.04 315*c i*P P **14 18 25.6 +0.1**
SOKR 14 19 20.8
SOKR SS SS 14 25 08.4 -35
SOKR pmax pmax
comp=Z,20nm,1.0s,mb4.9
SOKR MLR MLR
comp=Z,600nm,16.0s,MS4.3
AKL Akola 31.73 230 *ex* x 14 18 40.5
AKL AMb AMB 14 18 44.7
comp=Z,99nm,1.2s,mb5.5
MA2 Magadan 32.49 45 *e*P P **14 18 39.1 +0.9**
MA2 *e*S **S** **14 23 52.1 -1.1**
MA2 pmax pmax
comp=Z,10.0nm,0.1s,mb5.6
HYB Hyderabad 33.65 224 *i* P P **14 18 48.0 -0.3**
HYB Hyderabad 33.65 224 *e*P P **14 18 48.0 -0.3**
BOM Bombay 35.52 233 *ex* x 14 18 38.1
BOM *ex* x 14 19 04.8
CBIJ Chichi jima 36.28 105 LR LR 14 34 11.1
comp=Z,312nm,21.8s,MS4.0,baz=232,slow=37
PET Petropavlovsk 37.16 56 *e*P P **14 19 17.4 -1.2**
PET *e* 14 20 45.3
PET *e*S **S** **14 25 11.3 +6.2**
PET pmax pmax
comp=Z,100nm,1.6s,mb5.4
PET pmax pmax
comp=Z,45nm,1.2s,mb5.2
PET pmax pmax
comp=Z,100nm,13.2s
PET smax
comp=E,200nm,5.7s
PET MLR MLR
comp=Z,800nm,17.0s,MS4.6
PET MLR MLR
comp=Z,700nm,17.0s
PECR Pechory 37.79 309 *e*P P **14 19 23.6 -0.2**
PECR *e* 14 20 49.4
PECR pmax pmax
comp=Z,700nm,1.6s,mb6.1
PECR MLR MLR
comp=E,800nm,15.0s,MS4.9
PECR MLR MLR
comp=Z,1μm,15.0s,MS4.8
PECR MLR MLR
comp=N,1μm,13.0s,MS4.9
MAK Makhachkala 39.01 288 *e*P P **14 19 34.0 -0.1**
MAK MLR MLR
comp=Z,910nm,10.0s,MS4.9
KLMR Klimovskoe 39.68 317*c i*P P **14 19 39.0 -0.7**
KLMR pmax pmax
comp=Z,80nm,1.5s,mb5.2
KLMR pmax pmax
comp=Z,30nm,4.3s
KLMR MLR MLR
comp=Z,820nm,19.0s,MS4.6
BILL Bilibino 39.98 32 *e*P P **14 19 41.9 -0.3**
BILL *e* 14 21 14.6
BILL pmax pmax
comp=Z,44nm,1.2s,mb5.1
BILL MLR MLR
comp=Z,400nm,18.0s,MS4.3
VRHR Novokhopersk 40.25 302 *e*P P **14 19 44.1 -0.3**
VRHR pmax pmax
comp=Z,30nm,0.4s,mb5.4
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.4s
GOF Gofitskoye 41.24 292 *e*P P **14 19 52.8 +0.2**
GOF pmax pmax
comp=Z,52nm,0.8s,mb5.2
WSAR Wadi Sarin 41.45 254 P P **14 19 55.4 +1.0**
comp=Z,12nm,0.9s,mb4.5,baz=79,slow=11,SNR=3.8
MOS Moscow 41.46 309 *e*P P **14 19 53.2 -1.2**
MOS *e* 14 21 29.7
MOS pmax pmax
comp=Z,68nm,1.0s,mb5.2
MOS MLR MLR
comp=N,900nm,16.0s
MOS MLR MLR
comp=Z,900nm,16.0s,MS4.7
ZEI Tsey 41.53 289 *e*P P **14 19 54.3 -0.7**
ZEI *e**PP pP 14 20 03.7 +5.8
ZEI pmax pmax
comp=Z,19nm,0.7s,mb4.8
VOR Voronezh 41.54 303 *e*P P **14 19 53.3 -1.8**
VOR pmax pmax
comp=Z,90nm,1.5s,mb5.2
VRSR Storozhevoye 41.69 302 *e*P P **14 19 56.0 -0.3**
VRSR pmax pmax
comp=N,10.0nm,0.6s
VRSR pmax pmax
comp=Z,50nm,0.6s,mb5.3
VRSR pmax pmax
comp=E,50nm,0.7s
PSI Prapat 41.71 185 P P **14 19 56.5 0.0**
comp=E,9.1nm,0.9s,mb4.4,baz=331,slow=6.0,SNR=5.9
PSI PcP PcP 14 21 53.5 +0.6
comp=E,9.2nm,0.9s,baz=192,slow=6.8,SNR=4.3
PSI Prapat 41.71 185 P P **14 19 56.5 0.0**
PSI 14 21 53.5
PSI pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
PSI pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
KIV Kislovodsk 41.88 291 P P **14 19 59.2 +1.3**
comp=Z,256nm,0.9s,mb5.8,SNR=6.2
KIV Kislovodsk 41.88 291⇑P P **14 19 58.8 +0.9**
SNR=9.4
KIV Kislovodsk 41.88 291*c i*P P **14 19 58.6 +0.7**
KIV *e* 14 21 35.8
KIV *e* 14 21 53.1
KIV *e*S **S** **14 26 12.8 -3.2**
KIV *e*SS SS 14 29 17.7 -4.6
KIV pmax pmax
comp=Z,45nm,1.0s,mb5.0
KIV MLR MLR
comp=Z,800nm,18.0s,MS4.6
KIV Kislovodsk 41.88 291⇑*e*P P **14 19 58.1 +0.2**
comp=Z,42nm,1.0s,mb5.0
APA Apatity 41.89 328 *e*P P **14 20 00.0 +2.1**
APA *i* 14 21 35.8
APA *e*S **S** **14 26 18.0 +1.9**
APA pmax pmax
comp=Z,11nm,0.6s,mb4.7
APA MLR MLR
comp=Z,1μm,14.0s,MS5.0
GNI Garni 42.04 285⇑P P **14 20 01.1 +2.0**
SNR=5.6
GNI Garni 42.04 285 *e*P P **14 20 00.3 +1.1**
GNI pmax pmax
comp=Z,43nm,1.0s
GNI Garni 42.04 285 *e*P P **14 20 00.3 +1.2**
comp=Z,43nm,1.0s,mb5.0
OBN Obninsk 42.19 309*c i*P P **14 19 59.6 -0.8**
OBN *e* 14 21 41.7
OBN *e* 14 21 53.9
OBN *e*SS SS 14 29 21.4 -6.9
OBN pmax pmax
comp=Z,72nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,600nm,18.0s,MS4.5
OBN Obninsk 42.19 309 *e*P P **14 19 59.3 -1.1**
comp=Z,64nm,1.1s,mb5.2
JOF Joensuu 43.27 321 *e*p P **14 20 07.7 -1.4**
comp=Z,8.6nm,0.7s,mb4.6
JOF Joensuu 43.27 321 *e*P P **14 20 07.7 -1.4**
JOF pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
KSM Kuching 43.49 168 *e*P P **14 20 12.8 +1.8**
SOC Sochi 44.01 292 *e*P P **14 20 12.0 -3.1**
SOC *e* 14 21 51.6
SOC *e*PPP 14 22 36.7
SOC *e*S **S** **14 26 38.7 -8.5**
SOC *e*SS SS 14 29 59.8 -4.2
SOC pmax pmax
comp=Z,24nm,0.8s,mb5.0
SOC MLR MLR
comp=Z,806nm,16.0s,MS4.7
KEV Kevo 44.06 331 *ep* P **14 20 09.4 -6.1**
ERZM Erzurum 44.47 286 *i* P P **14 20 21.0 +2.1**
ARCES ARCESS Array B 44.60 331 P P **14 20 19.4 -0.4**
comp=Z,5.9nm,0.8s,mb4.5,baz=89,slow=11,SNR=17
ARCES PcP PcP 14 22 01.8 -0.9
comp=Z,4.2nm,0.7s,baz=49,slow=3.7,SNR=6.3
ARCES LR LR 14 41 04.7
comp=Z,644nm,19.0s,MS4.6,baz=280,slow=39
ARCES ARCESS Array B 44.60 331 P P **14 20 19.5 -0.4**
ARCES 14 22 01.8
ARCES pmax pmax
comp=Z,6.0nm,0.8s
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES MLR MLR
comp=Z,644nm,19.0s
MSL Mosul 44.98 281 *ex* x 14 20 21.5
ANN Anapa 45.02 294 *ep* P **14 20 22.6 -0.6**
ANN *e*S **S** **14 27 00.0 -1.8**
ANN pmax pmax
comp=Z,107nm,1.1s,mb5.6
ANN MLR MLR
comp=Z,761nm,14.0s,MS4.8
BHD Baghdad 45.61 276 *ex* x 14 20 25.0
KAF Kangasniemi 45.70 320 *ep* P **14 20 26.7 -1.9**
comp=Z,11nm,1.0s,mb4.7
KAF Kangasniemi 45.70 320 *e*P P **14 20 26.7 -1.9**
KAF pmax pmax
comp=Z,11nm,1.0s,mb4.7
FINES FINESS Array B 45.98 320 P P **14 20 29.7 -1.1**
comp=Z,11nm,1.0s,mb4.8,baz=77,slow=8.4,SNR=24
FINES PcP PcP 14 22 06.0 -1.4
comp=Z,3.9nm,0.8s,baz=106,slow=6.2,SNR=3.7
FINES PP PP 14 22 19.0 +0.5
comp=Z,3.1nm,0.7s,baz=94,slow=8.9,SNR=3.7
FINES LR LR 14 41 30.5
comp=Z,512nm,18.5s,MS4.5,baz=327,slow=38
FINES FINESS Array B 45.98 320 P P **14 20 29.8 -1.0**
FINES 14 22 06.0
FINES 14 22 19.0
FINES FINESS Array B 45.98 320 P P **14 20 29.8 -1.1**
FINES PcP PcP 14 22 06.0 -1.4
FINES PP PP 14 22 19.0 +0.5
FINES LR LR 14 41 30.5
ELZG Elazig 46.76 286 *i* P P **14 20 39.0 +2.0**
SIM Simferopol' 47.10 296 P P **14 20 39.3 -0.3**
SIM pmax pmax
comp=Z,19nm,0.9s,mb5.0
SIM MLR MLR
comp=Z,500nm,19.0s,MS4.5
MALT Malatya 47.23 286 *e*P P **14 20 42.1 +1.5**
MALT pmax pmax
comp=Z,21nm,1.1s,mb5.0
MALT Malatya 47.23 286 *e*P P **14 20 42.1 +1.5**
comp=Z,21nm,1.1s,mb5.0
GUMO Guam 47.51 117 LR LR 14 38 49.5
comp=Z,326nm,22.0s,MS4.3,baz=58,slow=34
AKASG Malin Array Be 47.80 305 P P **14 20 44.1 -0.9**
comp=Z,14nm,0.7s,mb5.1,baz=56,slow=8.0,SNR=40
AKASG LR LR 14 41 58.0
comp=Z,410nm,18.6s,MS4.4,baz=95,slow=38
AKASG Malin Array Be 47.80 305 P P **14 20 44.2 -0.8**
AKASG pmax pmax
comp=Z,14nm,0.7s
AKASG MLR MLR
comp=Z,410nm,18.6s
BOYT Boyabat 48.15 291 *i* P P **14 20 48.7 +1.0**
GZT Gaziantep 48.30 285 *i* P P **14 20 50.4 +1.5**
BALT Daday 49.11 292 *i* P P **14 20 56.5 +1.4**
AVNT Avonos 49.45 288 *i* P P **14 20 58.3 +0.6**
BR131 Keskin Array S 49.80 290 *e*P P **14 21 00.7 +0.2**
comp=Z,24nm,0.9s,mb5.2
BRTR Keskin Array B 49.81 290 P P **14 21 00.8 +0.4**
comp=Z,18nm,0.8s,mb5.1,baz=83,slow=6.9,SNR=57
BRTR LR LR 14 42 32.1
comp=Z,232nm,20.1s,MS4.2,baz=52,slow=37
BRTR Keskin Array B 49.81 290 P P **14 21 00.9 +0.5**
BRTR pmax pmax
comp=Z,18nm,0.8s
BRTR MLR MLR
comp=Z,232nm,20.1s
SUW Suwalki 49.92 311 *e*P P **14 21 00.0 -1.3**
SUW pmax pmax
comp=Z,24nm,0.8s,mb5.3
SUW Suwalki 49.92 311 *e*P P **14 20 60.0 -1.3**
comp=Z,24nm,0.8s,mb5.3
SGKT Sivrigoynuk 50.45 292 *i* P P **14 21 05.2 -0.1**
MEST Erdemli 51.05 286 *i* P P **14 21 09.6 -0.3**
LVV L'vov 51.20 306 *e*P P **14 21 10.7 -0.3**
VRI Vrincioaia 51.36 300⇓*i*P P **14 21 12.7 +0.5**
VRI Vrincioaia 51.36 300⇓P P **14 21 12.7 +0.5**
BURAR Bucovina Array 51.48 303⇑*i*P P **14 21 13.0 -0.1**
BURAR Bucovina Array 51.48 303⇑P P **14 21 13.0 -0.1**
ESKT Eskisehir 51.78 291 *i* P P **14 21 15.1 -0.2**
ERMK Ermenek 51.86 287 *i* P P **14 21 16.0 +0.1**
MLR Muntele Rosu 52.02 300⇓*i*P P **14 21 17.6 +0.5**
MLR Muntele Rosu 52.02 300⇓P P **14 21 17.6 +0.5**
KWP Kalwaria 52.05 306 *e*P P **14 21 17.6 +0.3**
ULDT Uludag 52.60 293 *i* P P **14 21 21.3 -0.1**
VOIR 52.60 300⇓*i*P P **14 21 21.9 +0.4**
VOIR 52.60 300⇓P P **14 21 21.9 +0.4**
KOLS Kolonicke sedl 52.62 305 *e*P P **14 21 21.3 -0.3**
KOLS pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KOLS Kolonicke sedl 52.62 305 *e*P P **14 21 21.3 -0.3**
comp=Z,7.9nm,1.0s,mb4.6
NB2 NORSAR Subarra 52.83 322 P P **14 21 21.9 -1.3**
comp=Z,32nm,1.1s,mb5.2,baz=62,slow=7.4
NOA NORSAR Array B 52.83 322 P P **14 21 21.9 -1.3**
comp=Z,17nm,0.9s,mb5.0,baz=63,slow=7.3,SNR=38

NOA PcP PcP 14 22 30.8 -1.6
comp=Z,1.3nm,0.8s,baz=64,slow=1.3,SNR=3.4
NOA LR LR 14 45 35.5
comp=Z,971nm,18.8s,MS4.9,baz=60,slow=38
NOA NORSAR Array B 52.83 322 P **P 14 21 21.9 -1.3**
NOA 14 22 30.8
NOA pmax pmax
comp=Z,17nm,0.9s
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA MLR MLR
comp=Z,971nm,18.8s
ISP Isparta 52.87 289 P **P 14 21 22.0 -1.4**
ISP pmax pmax
comp=Z,69nm,1.3s,mb5.4
ISP Isparta 52.87 289 P **P 14 21 21.9 -1.4**
comp=Z,69nm,1.3s,mb5.4
TKTP Tekketepe 52.89 290 *i* P **P 14 21 23.9 +0.3**
NAO01 NORSAR Array S 53.06 322 *eP* **P 14 21 23.1 -1.8**
comp=Z,21nm,1.0s,mb5.0
NAO01 *e*PcP PcP 14 22 31.3 -2.0
CRVS Cervenica-Dubn 53.11 305 *eP* **P 14 21 24.4 -0.8**
CRVS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CRVS Cervenica-Dubn 53.11 305 *eP* **P 14 21 24.4 -0.8**
comp=Z,3.5nm,0.8s,mb4.3
DRGR 53.38 303⇑*iP* **P 14 21 27.3 +0.1**
DRGR 53.38 303 P **P 14 21 27.8 +0.6**
DAG Danmarks Havn 53.43 346⇑*iP* **P 14 21 26.1 -1.4**
comp=Z,1.3nm,0.6s,mb4.0
DAG Danmarks Havn 53.43 346⇑*iP* **P 14 21 26.1 -1.4**
DAG pmax pmax
comp=Z,1.0nm,0.6s
OJC Ojcow 53.45 308 *eP* **P 14 21 27.3 -0.4**
NIE Niedzica 53.53 306 *eP* **P 14 21 28.8 +0.5**
BSD Bornholm Skovb 53.78 315 *iP* **P 14 21 28.9 -1.2**
comp=Z,20nm,1.0s,mb5.0
BSD Bornholm Skovb 53.78 315 *iP* **P 14 21 28.9 -1.2**
BSD pmax pmax
comp=Z,20nm,1.0s,mb5.0
KECS Kecovo 53.88 305 *eP* **P 14 21 30.8 -0.1**
KECS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KECS Kecovo 53.88 305 *eP* **P 14 21 30.8 -0.1**
comp=Z,6.4nm,0.9s,mb4.5
GZR Gura Zlata 54.02 301⇑*iP* **P 14 21 32.1 +0.2**
GZR Gura Zlata 54.02 301 ⇑P **P 14 21 32.1 +0.2**
EIL Elat 54.30 278 *eP* **P 14 21 34.3 +0.4**
comp=Z,417nm,1.2s
PSZ Piszkesteto 54.50 305⇑*eP* **P 14 21 35.9 +0.5**
PSZ Piszkesteto 54.50 305 P **P 14 21 36.4 +1.0**
PSZ Piszkesteto 54.50 305 *eP* **P 14 21 35.1 -0.2**
comp=Z,12nm,1.0s,mb4.9
OKC Ostrava-Krasne 54.56 308⇑*eP* **P 14 21 35.2 -0.6**
OKC AMS AMS 14 46 00.0
comp=Z,700nm,15.7s
BZS Buzias 54.62 302⇑*iP* **P 14 21 36.3 +0.1**
BZS Buzias 54.62 302 P **P 14 21 36.5 +0.3**
COP Copenhagen 54.76 316 *iP* **P 14 21 37.3 +0.1**
comp=Z,20nm,1.2s,mb5.0
COP *i* 14 23 30.1
COP *i* 14 41 59.4
COP
comp=Z,260nm,18.0s
COP Copenhagen 54.76 316 *eP* **P 14 21 37.3 +0.1**
COP pmax pmax
comp=Z,20nm,1.2s,mb5.0
COP MLR MLR
comp=Z,270nm,18.0s,MS4.4
COP Copenhagen 54.76 316 *eP* **P 14 21 37.3 +0.1**
comp=Z,20nm,1.2s,mb5.0
COP *i* 14 23 30.1
COP *i* 14 41 59.4
COP LR LR
comp=Z,270nm,18.0s,MS4.4
VYHS Vyhne 54.83 306 *eP* **P 14 21 37.7 -0.1**
comp=Z,10nm,0.9s,mb4.9
VYHS LR LR
comp=Z,300nm,22.5s,MS4.3
MORC Moravsky Berou 54.94 308⇑*iP* **P 14 21 38.5 0.0**
MORC Moravsky Berou 54.94 308 P **P 14 21 38.9 +0.3**
KSP Ksiaz 55.10 310 *eP* **P 14 21 39.8 0.0**
KSP Ksiaz 55.10 310 *eP* **P 14 21 39.3 -0.5**
KSP LR LR
comp=Z,1μm,17.5s,MS5.0
VTS Vitosha 55.17 298⇑*iP* **P 14 21 40.7 +0.4**
VTS Vitosha 55.17 298 P **P 14 21 40.8 +0.5**
DPC Dobruska-Polom 55.33 309⇑*iP* **P 14 21 41.7 +0.3**
DPC AMS AMS 14 46 30.0
comp=Z,500nm,13.3s
UPC Upice 55.43 309⇑*iP* **P 14 21 42.0 -0.1**
VRAC Vranov 55.70 308⇑*iP* **P 14 21 44.3 +0.2**
VRAC Vranov 55.70 308 P **P 14 21 44.6 +0.5**
MUD Monsted U'grnd 55.96 318⇑*iP* **P 14 21 45.8 -0.1**
comp=Z,68nm,1.4s,mb5.5
MUD
comp=Z,450nm,17.0s
MUD Monsted U'grnd 55.96 318⇑*iP* **P 14 21 45.8 -0.1**
MUD pmax pmax
comp=Z,68nm,1.4s,mb5.5
MUD MLR MLR
comp=Z,450nm,17.0s,MS4.6
ZST Bratislava 55.98 306 *eP* **P 14 21 46.5 +0.4**
comp=Z,10.0nm,1.0s,mb4.8
ZST LR LR
comp=Z,600nm,13.0s,MS4.9
PKSM Moragy 56.10 304⇑*iP* **P 14 21 46.6 -0.3**
PKSM Moragy 56.10 304 P **P 14 21 46.9 0.0**
PVCC Panska Ves 56.21 310⇑*iP* **P 14 21 47.8 +0.1**
PVCC AMS AMS 14 47 10.0
TTA Tatalina 56.22 33 *eP* **P 14 21 42.5 -5.3**
TTA pmax pmax
comp=Z,18nm,1.1s,mb5.0
TTA Tatalina 56.22 33 *eP* **P 14 21 42.5 -5.3**
comp=Z,18nm,1.1s,mb5.0
TREC Trest 56.34 308⇑*iP* **P 14 21 48.5 -0.1**
TREC AMS AMS 14 46 30.0
comp=Z,700nm,12.9s
BRG Berggiesshubel 56.38 310 *eP* **P 14 21 48.5 -0.4**
comp=Z,20nm,1.1s,mb5.1
BRG Berggiesshubel 56.38 310 *eP* **P 14 21 48.5 -0.3**
comp=Z,12nm,1.1s,mb4.9
BRG
comp=N,243nm,16.3s
BRG
comp=E,286nm,11.2s
BRG
comp=Z,485nm,13.9s
PRU Pruhonice 56.50 309⇑*eP* **P 14 21 49.6 -0.2**
PRU AMS AMS 14 46 10.0
comp=Z,500nm,13.5s
CLL Collm 56.66 311 *eP* **P 14 21 50.3 -0.6**
comp=Z,23nm,0.9s,mb5.2
CLL Collm 56.66 311 ⇑P **P 14 21 50.4 -0.5**
comp=Z,logA/T=1.4,mb5.2
CLL *e*PP PP 14 23 54.0 -2.9
CLL Collm 56.66 311⇑*iP* **P 14 21 50.4 -0.5**
comp=Z,23nm,0.9s,mb5.2
CLL *e*PP PP 14 23 54.0 -2.9
CLL Collm 56.66 311⇑*iP* **P 14 21 50.4 -0.5**
CLL pmax pmax
comp=Z,23nm,0.9s,mb5.2
CLL MLR MLR
comp=Z,700nm,11.4s,MS5.0
CLL Collm 56.66 311⇑*iP* **P 14 21 50.4 -0.5**
comp=Z,23nm,0.9s,mb5.2
CLL LR LR
comp=Z,700nm,11.4s,MS5.0
FBE Freiberg 56.67 311 *eP* **P 14 21 50.7 -0.3**
comp=Z,18nm,1.1s,mb5.0
BSEG Bad Segeberg 56.70 315 *eP* **P 14 21 51.1 0.0**
comp=Z,33nm,1.1s,mb5.3
BSEG Bad Segeberg 56.70 315 *eP* **P 14 21 51.1 0.0**
BSEG pmax pmax
comp=Z,33nm,1.1s,mb5.3
CONA Conrad Observa 56.83 307⇓*iP* **P 14 21 52.8 +0.7**
comp=Z,49nm,1.2s,mb5.4,SNR=22
SVW2 Sparrevohn 57.40 34 *eP* **P 14 21 56.4 +0.2**
TANN Tannenbergstha 57.42 311 *eP* **P 14 21 55.8 -0.5**
comp=Z,11nm,1.0s,mb4.8
KHC Kasperske Hory 57.49 309⇑*iP* **P 14 21 56.6 -0.2**
KHC AMS AMS 14 47 50.0
comp=Z,500nm,18.2s
GUNZ Gunzen 57.52 311 *eP* **P 14 21 56.9 -0.1**
comp=Z,18nm,0.9s,mb5.1
NKC Novy Kostel 57.52 310 ⇑AMS AMS 14 49 00.0
comp=Z,900nm,14.4s
NRDL Niedersach Rie 57.56 314 *eP* **P 14 21 58.5 +1.2**
comp=Z,31nm,1.1s,mb5.2
GEC2 GERESS Array S 57.57 309 *eP* **P 14 21 57.0 -0.3**
comp=Z,9.0nm,1.0s,mb4.8
GEC2 GERESS Array S 57.57 309 *eP* **P 14 21 57.0 -0.3**
GEC2 pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
GERES GERESS Array B 57.57 309 P **P 14 21 56.7 -0.7**
comp=Z,5.6nm,0.9s,mb4.6,baz=54,slow=6.9,SNR=32
GERES PcP PcP 14 22 49.6 -1.0
comp=Z,1.1nm,0.7s,baz=50,slow=4.2,SNR=4.1
GERES LR LR 14 48 19.9
comp=Z,659nm,20.1s,MS4.7,baz=69,slow=38
GERES GERESS Array B 57.57 309 P **P 14 21 56.7 -0.6**
GERES 14 22 49.6
GERES pmax pmax
comp=Z,6.0nm,0.9s
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,659nm,20.1s
MOX Moxa 57.76 311 *eP* **P 14 21 58.4 -0.2**
comp=Z,23nm,1.0s,mb5.2
MOX Moxa 57.76 311 *eP* **P 14 21 58.3 -0.3**
comp=Z,29nm,1.2s,mb5.2
MOX
comp=Z,500nm,19.0s
MOX Moxa 57.76 311 *eP* **P 14 21 58.3 -0.3**
MOX pmax pmax
comp=Z,29nm,1.2s,mb5.2
MOX MLR MLR
comp=Z,500nm,19.0s,MS4.6
CLZ Clausthal 57.77 313 *eP* **P 14 21 58.8 0.0**
comp=Z,28nm,1.0s,mb5.2
CLZ Clausthal 57.77 313 *eP* **P 14 21 58.8 0.0**
CLZ pmax pmax
comp=Z,28nm,1.0s,mb5.2
MOA Molln 57.78 307⇑*iP* **P 14 21 59.3 +0.4**
comp=Z,25nm,1.5s,mb5.0
GROS Grobnik 57.82 305 *eP* **P 14 21 58.3 -0.8**
MANZ Manzenberg 57.84 310 *eP* **P 14 21 59.4 +0.2**
comp=Z,7.0nm,0.9s,mb4.7
WET Wettzell 57.87 309 *eP* **P 14 21 59.3 -0.1**
comp=Z,15nm,1.1s,mb4.9
WET Wettzell 57.87 309 *eP* **P 14 21 59.3 -0.1**
WET pmax pmax
comp=Z,15nm,1.1s,mb4.9
ROTZ Rotzenmuhle 57.91 310 *eP* **P 14 21 59.9 +0.2**
comp=Z,17nm,1.0s,mb5.0
PERS Pernice 57.95 306 *eP* **P 14 21 59.6 -0.4**
COLA College 58.06 28 *eP* **P 14 22 00.4 -0.4**
COLA pmax pmax
comp=Z,47nm,1.2s,mb5.4
COLA College 58.06 28 *eP* **P 14 22 00.4 -0.4**
comp=Z,47nm,1.2s,mb5.4
GTTG Gyttingen 58.15 313 *eP* **P 14 22 01.4 0.0**
comp=Z,34nm,0.9s,mb5.4
MCK McKinley 58.38 30 *eP* **P 14 22 01.8 -1.2**
MCK pmax pmax
comp=Z,27nm,1.4s,mb5.1
MCK McKinley 58.38 30 *eP* **P 14 22 01.8 -1.2**
comp=Z,27nm,1.4s,mb5.1
ILAR Eielson Array 58.44 28 P **P 14 22 02.6 -0.8**
comp=Z,10nm,0.7s,mb5.0,baz=286,slow=5.7,SNR=54
ILAR PP PP 14 24 12.1 -0.7
comp=Z,3.2nm,0.9s,baz=311,slow=7.1,SNR=5.0
ILAR Eielson Array 58.44 28 P **P 14 22 02.7 -0.8**
ILAR 14 24 12.1
ILAR pmax pmax
comp=Z,10.0nm,0.7s
ILAR pmax pmax
comp=Z,3.0nm,0.9s
GRA1 Grafenberg Arr 58.48 310 *eP* **P 14 22 03.9 +0.2**
comp=Z,46nm,0.9s,mb5.5
GRA1 LR LR
comp=Z,400nm,21.1s,MS4.5
GRF Grafenberg Arr 58.48 310 *eP* **P 14 22 03.9 +0.2**
comp=Z,46nm,0.9s,mb5.5
GRF *e*L 14 49 40.8
comp=Z,411nm,21.1s
GRF Grafenberg Arr 58.48 310 *eP* **P 14 22 03.9 +0.2**
GRF pmax pmax
comp=Z,46nm,0.9s,mb5.5
GRF MLR MLR
comp=Z,400nm,21.1s,MS4.5
GRF Grafenberg Arr 58.48 310 *eP* **P 14 22 03.9 +0.2**
GRF pmax pmax
comp=Z,46nm,0.9s,mb5.5
GRF MLR MLR
comp=Z,400nm,21.1s,MS4.5
BOJS Bojanci 58.48 305 *eP* **P 14 22 03.4 -0.4**
UBBA Unterbreizbach 58.52 312 *eP* **P 14 22 03.8 -0.2**
comp=Z,6.0nm,0.9s,mb4.6
KBA Koelnbreinsper 58.73 307 *iP* **P 14 22 05.9 +0.5**
comp=Z,43nm,1.3s,mb5.3,SNR=18
KBA Koelnbreinsper 58.73 307 *iP* **P 14 22 06.0 +0.5**
KBA pmax pmax
comp=Z,43nm,1.3s,mb5.3
IBBN Ibbenburen 58.87 314 *eP* **P 14 22 06.5 0.0**
comp=Z,20nm,0.6s,mb5.3
WTSB Winterswijk 59.55 314 *eP* **P 14 22 10.6 -0.5**
comp=Z,35nm,1.3s,mb5.2
WTTA Wattenberg 59.60 308⇑*iP* **P 14 22 11.5 +0.1**
comp=Z,43nm,1.3s,mb5.3,SNR=9.0
WTTA Wattenberg 59.60 308⇑*iP* **P 14 22 11.5 0.0**
WTTA pmax pmax
comp=Z,43nm,1.3s,mb5.3
BUG Bochum--Univer 59.61 314 *eP* **P 14 22 11.8 +0.3**
comp=Z,30nm,1.0s,mb5.3
PMR Palmer 59.62 32 *eP* **P 14 22 11.2 -0.5**
PMR pmax pmax
comp=Z,40nm,1.6s,mb5.2
PMR Palmer 59.62 32 *eP* **P 14 22 11.2 -0.5**
comp=Z,40nm,1.6s,mb5.2
SML Sawmill 59.79 31 *eP* **P 14 22 10.8 -2.0**
SQTA Sankt Quirin 59.86 308⇑*iP* **P 14 22 13.5 +0.2**
comp=Z,21nm,1.0s,mb5.1
SQTA Sankt Quirin 59.86 308⇑*iP* **P 14 22 13.5 +0.2**
SQTA pmax pmax
comp=Z,21nm,1.0s,mb5.1
INK Inuvik 59.99 21 P **P 14 22 13.5 -0.6**
comp=Z,5.8nm,0.6s,mb4.8,baz=337,slow=6.6,SNR=17
INK Inuvik 59.99 21 P **P 14 22 13.5 -0.7**
INK pmax pmax
comp=Z,6.0nm,0.6s
INK Inuvik 59.99 21 *eP* **P 14 22 13.1 -1.0**
comp=Z,5.9nm,0.6s,mb4.8
SUMG Summit 59.99 347 *eP* **P 14 22 13.3 -0.9**
comp=Z,12nm,0.9s,mb4.9
DAVA Damuels 60.57 309⇑*iP* **P 14 22 18.4 +0.2**
comp=Z,29nm,1.4s,mb5.2
KDAK Kodiak Island 60.59 36 P **P 14 22 16.9 -1.4**
comp=Z,3.8nm,0.4s,mb4.9,baz=332,slow=3.2,SNR=8.2
KDAK Kodiak Island 60.59 36 P **P 14 22 16.9 -1.4**
HGN Heimansgroeve 60.69 314⇓*eP* **P 14 22 18.5 -0.5**
comp=Z,26nm,0.8s,mb5.4
MEM Membach 60.74 313 P **P 14 22 19.0 -0.3**
BFO Black Forest 60.82 310 *eP* **P 14 22 19.1 -0.8**
comp=Z,14nm,1.0s,mb5.0
BFO Black Forest 60.82 310 *eP* **P 14 22 19.1 -0.8**
BFO pmax pmax
comp=Z,14nm,1.0s,mb5.0
TIP Timpagrande 61.13 298 P **P 14 22 21.0 -1.0**
DIV Divide 61.17 31 *eP* **P 14 22 21.3 -0.9**
comp=Z,174nm,1.3s,mb6.0
BCLA Clavier 61.21 314 P **P 14 22 22.1 -0.4**
CDF Champ du Feu 61.35 311 *eP* **P 14 22 22.9 -0.5**
comp=Z,17nm,0.8s,mb4.9
CDF Champ du Feu 61.35 311 *eP* **P 14 22 22.9 -0.5**
CDF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
CDF Champ du Feu 61.35 311 *eP* **P 14 22 22.9 -0.5**
comp=Z,8.5nm,0.8s,mb4.9
DAWY Dawson 61.36 26 *eP* **P 14 22 22.3 -1.2**
AQU L'Aquila 61.36 302 *eP* **P 14 22 23.9 +0.4**
AQU pmax pmax
comp=Z,40nm,1.0s,mb5.5
AQU L'Aquila 61.36 302 *eP* **P 14 22 23.9 +0.4**
comp=Z,40nm,1.0s,mb5.5
UCC Uccle 61.48 314 P **P 14 22 23.6 -0.7**
EYAK Cordova Ski Ar 61.56 31 *eP* **P 14 22 22.0 -2.8**
GIVF Givet 61.65 313 *eP* **P 14 22 25.3 -0.2**
SNF Seneffe 61.69 314 P **P 14 22 25.4 -0.3**
SNF AP pP 14 22 28.0 -0.8
DOU Dourbes 61.77 314 P **P 14 22 26.3 0.0**
DOU AP pP 14 22 28.4 -0.9
HINF Hinteralfeld 61.93 311 *eP* **P 14 22 26.7 -0.6**
BAIF Baives 61.99 314 *eP* **P 14 22 27.4 -0.4**
HAU Haudompre 62.09 311 *eP* **P 14 22 27.9 -0.5**
comp=Z,52nm,0.9s,mb5.3
HAU *e*R
comp=Z,737nm,17.2s
HAU Haudompre 62.09 311 *eP* **P 14 22 27.9 -0.5**
HAU pmax pmax
comp=Z,26nm,0.9s,mb5.4
HAU MLR MLR
comp=Z,740nm,17.3s,MS4.9
HAU Haudompre 62.09 311 *eP* **P 14 22 27.9 -0.5**
comp=Z,26nm,0.9s,mb5.4
HAU LR LR
comp=Z,740nm,17.3s,MS4.9
MEZF Maizieres J'vi 62.49 312 *eP* **P 14 22 30.9 -0.2**
comp=Z,25nm,0.9s,mb5.1
MEZF Maizieres J'vi 62.49 312 *eP* **P 14 22 30.9 -0.2**
comp=Z,25nm,0.9s,mb5.3
CABF La Chapelle 63.07 310 *eP* **P 14 22 34.2 -0.8**
KAKA Kakadu 63.23 147 *eP* **P 14 22 36.6 +0.6**
comp=Z,34nm,1.4s,mb5.3
LPL La Plagne 63.37 308 *eP* **P 14 22 37.1 +0.1**
comp=Z,28nm,0.8s,mb5.1
LPL La Plagne 63.37 308 *eP* **P 14 22 37.1 +0.1**
LPL pmax pmax
comp=Z,14nm,0.8s,mb5.1
LPL La Plagne 63.37 308 *eP* **P 14 22 37.1 +0.1**
comp=Z,14nm,0.8s,mb5.1
LPG La Plagne 63.37 308 *eP* **P 14 22 37.1 +0.1**
comp=Z,33nm,0.9s,mb5.2
LPG La Plagne 63.37 308 *eP* **P 14 22 37.1 +0.1**
LPG pmax pmax
comp=Z,16nm,0.9s,mb5.2
LPG La Plagne 63.37 308 *eP* **P 14 22 37.1 +0.1**
comp=Z,16nm,0.9s,mb5.2
BNI Bardonecchia 63.68 308 *eP* **P 14 22 37.2 -1.8**
BNI pmax pmax
comp=Z,32nm,1.0s,mb5.3
BNI Bardonecchia 63.68 308 *eP* **P 14 22 37.2 -1.8**
comp=Z,32nm,1.0s,mb5.3
PGF Pioggiola 63.87 305 *eP* **P 14 22 39.7 -0.6**
comp=Z,57nm,0.9s,mb5.3
PGF Pioggiola 63.87 305 *eP* **P 14 22 39.7 -0.6**
PGF pmax pmax
comp=Z,28nm,0.9s,mb5.3
PGF Pioggiola 63.87 305 *eP* **P 14 22 39.7 -0.6**
comp=Z,28nm,0.9s,mb5.3
LOR Lormes 63.88 311 *eP* **P 14 22 38.9 -1.4**
comp=Z,42nm,1.0s,mb5.1
LOR *e*R
comp=Z,594nm,17.2s
LOR Lormes 63.88 311 *eP* **P 14 22 38.9 -1.4**
LOR pmax pmax
comp=Z,21nm,1.0s,mb5.1
LOR MLR MLR
comp=Z,590nm,17.3s,MS4.8
LOR Lormes 63.88 311 *eP* **P 14 22 38.9 -1.4**
comp=Z,21nm,1.0s,mb5.1
LOR LR LR
comp=Z,590nm,17.3s,MS4.8
SBF Sospel 63.98 307 *eP* **P 14 22 40.3 -0.7**
comp=Z,81nm,1.0s,mb5.4
SBF Sospel 63.98 307 *eP* **P 14 22 40.3 -0.7**
SBF pmax pmax
comp=Z,40nm,1.0s,mb5.4
SBF Sospel 63.98 307 *eP* **P 14 22 40.3 -0.7**
comp=Z,40nm,1.0s,mb5.4
SSF Saint Saulge 64.19 311 *eP* **P 14 22 41.4 -1.0**
ORIF Oris-en-Rattie 64.21 308 *eP* **P 14 22 42.1 -0.4**
comp=Z,47nm,0.9s,mb5.2
ORIF *e*R
comp=Z,892nm,20.2s
ORIF Oris-en-Rattie 64.21 308 *eP* **P 14 22 42.1 -0.4**
ORIF pmax pmax
comp=Z,24nm,0.9s,mb5.2
ORIF Oris-en-Rattie 64.21 308 *eP* **P 14 22 42.1 -0.4**
comp=Z,24nm,0.9s,mb5.2
SMF Signal de Mont 64.27 311 *eP* **P 14 22 42.1 -0.8**
comp=Z,48nm,1.0s,mb5.2
SMF Signal de Mont 64.27 311 *eP* **P 14 22 42.1 -0.8**
SMF pmax pmax
comp=Z,24nm,1.0s,mb5.2
SMF Signal de Mont 64.27 311 *eP* **P 14 22 42.1 -0.8**
comp=Z,24nm,1.0s,mb5.2
AVF Avril sur Loir 64.44 311 *eP* **P 14 22 43.2 -0.8**
comp=Z,26nm,0.8s,mb5.0
AVF Avril sur Loir 64.44 311 *eP* **P 14 22 43.2 -0.8**
AVF pmax pmax
comp=Z,13nm,0.8s,mb5.0
AVF Avril sur Loir 64.44 311 *eP* **P 14 22 43.2 -0.8**
comp=Z,13nm,0.8s,mb5.0
FRF La Foret Royal 64.62 307 *eP* **P 14 22 44.2 -1.0**
LMR La Mourre 64.83 307 *eP* **P 14 22 45.7 -0.9**
BGF Bois d'Agland 64.86 311 *eP* **P 14 22 46.0 -0.8**
comp=Z,11nm,0.5s,mb4.8
BGF Bois d'Agland 64.86 311 *eP* **P 14 22 46.0 -0.8**
BGF pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
BGF Bois d'Agland 64.86 311 *eP* **P 14 22 46.0 -0.8**
comp=Z,5.5nm,0.5s,mb4.8
VIVF Saint-Julien-l 64.93 309 *eP* **P 14 22 46.4 -0.8**
SMRF Simiane la Rot 64.97 308 *eP* **P 14 22 47.0 -0.5**
LDF La Druitiere 65.13 314 *eP* **P 14 22 47.5 -1.0**
comp=Z,83nm,1.0s,mb5.4
LDF La Druitiere 65.13 314 *eP* **P 14 22 47.5 -1.0**
LDF pmax pmax
comp=Z,41nm,1.0s,mb5.4
LDF La Druitiere 65.13 314 *eP* **P 14 22 47.5 -1.0**
comp=Z,41nm,1.0s,mb5.4
FLN La Foliniere 65.20 315 *eP* **P 14 22 48.0 -1.0**
comp=Z,72nm,0.9s,mb5.4
FLN *e*R
comp=Z,806nm,17.8s
FLN La Foliniere 65.20 315 *eP* **P 14 22 48.0 -1.0**
FLN pmax pmax
comp=Z,36nm,0.9s,mb5.4
FLN MLR MLR
comp=Z,810nm,17.8s,MS5.0
FLN La Foliniere 65.20 315 *eP* **P 14 22 48.0 -1.0**
comp=Z,36nm,0.9s,mb5.4
FLN LR LR
comp=Z,810nm,17.8s,MS5.0
TCF Toulx Ste Croi 65.37 311 *eP* **P 14 22 49.5 -0.6**
comp=Z,37nm,0.9s,mb5.1
TCF Toulx Ste Croi 65.37 311 *eP* **P 14 22 49.5 -0.6**
TCF pmax pmax
comp=Z,18nm,0.9s,mb5.1
TCF Toulx Ste Croi 65.37 311 *eP* **P 14 22 49.5 -0.6**
comp=Z,18nm,0.9s,mb5.1
GRR Gorron 65.64 315 *eP* **P 14 22 50.8 -1.0**
comp=Z,65nm,0.9s,mb5.3
GRR Gorron 65.64 315 *eP* **P 14 22 50.8 -1.0**
GRR pmax pmax
comp=Z,33nm,0.9s,mb5.4
GRR Gorron 65.64 315 *eP* **P 14 22 50.8 -1.0**
comp=Z,33nm,0.9s,mb5.4
LASF Ste Croix 65.87 309 *eP* **P 14 22 52.9 -0.4**
comp=Z,29nm,0.9s,mb5.0
FITZ Fitzroy Crossi 65.90 156 *eP* **P 14 22 52.0 -1.5**
comp=Z,14nm,0.6s,mb5.2
SKAG Skagway 66.03 28 *eP* **P 14 22 55.1 +0.7**
comp=Z,44nm,1.6s,mb5.2
CAF Calviac 66.32 310 *eP* **P 14 22 56.1 -0.1**
comp=Z,20nm,1.0s,mb4.8
CAF Calviac 66.32 310 *eP* **P 14 22 56.1 -0.1**
CAF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CAF Calviac 66.32 310 *eP* **P 14 22 56.1 -0.1**
comp=Z,10nm,1.0s,mb4.8
RJF Les Rejaudoux 66.37 311 *eP* **P 14 22 56.2 -0.3**
comp=Z,54nm,1.0s,mb5.2
RJF *e*R
comp=Z,318nm,19.8s
RJF Les Rejaudoux 66.37 311 *eP* **P 14 22 56.2 -0.3**
RJF pmax pmax
comp=Z,27nm,1.0s,mb5.2
RJF MLR MLR
comp=Z,320nm,19.8s,MS4.5
RJF Les Rejaudoux 66.37 311 *eP* **P 14 22 56.2 -0.3**
comp=Z,27nm,1.0s,mb5.2
RJF LR LR
comp=Z,320nm,19.8s,MS4.5
MFF Saint Martin d 66.42 313 *eP* **P 14 22 56.6 -0.2**
comp=Z,90nm,1.1s,mb5.4
MFF Saint Martin d 66.42 313 *eP* **P 14 22 56.6 -0.2**

MFF pmax pmax
comp=Z,45nm,1.1s,mb5.4
MFF Saint Martin d 66.42 313 *e*P **P 14 22 56.6 -0.2**
comp=Z,45nm,1.1s,mb5.4
SGMF Saint Gilles 66.58 315 *e*P **P 14 22 56.8 -1.1**
comp=Z,50nm,0.9s,mb5.2
SGMF Saint Gilles 66.58 315 *e*P **P 14 22 56.8 -1.1**
SGMF pmax pmax
comp=Z,25nm,0.9s,mb5.2
SGMF Saint Gilles 66.58 315 *e*P **P 14 22 56.8 -1.1**
comp=Z,25nm,0.9s,mb5.2
SFJD Kangerlussuaq 66.86 349⇑*i*P **P 14 22 58.6 -1.1**
comp=Z,14nm,0.6s,mb5.2
SFJD
comp=Z,280nm,19.0s
SFJD Kangerlussuaq 66.86 349⇑*i*P **P 14 22 58.6 -1.1**
SFJD pmax pmax
comp=Z,14nm,0.6s,mb5.2
SFJD MLR MLR
comp=Z,280nm,19.0s,MS4.5
ROSF Rostrenen 66.89 316 *e*P **P 14 22 59.0 -0.8**
comp=Z,42nm,1.1s,mb5.1
ROSF Rostrenen 66.89 316 *e*P **P 14 22 59.0 -0.8**
ROSF pmax pmax
comp=Z,21nm,1.1s,mb5.1
ROSF Rostrenen 66.89 316 *e*P **P 14 22 59.0 -0.8**
comp=Z,21nm,1.1s,mb5.1
LFF La Frestale 67.03 311 *e*P **P 14 23 00.8 +0.1**
comp=Z,92nm,0.9s,mb5.5
LFF La Frestale 67.03 311 *e*P **P 14 23 00.8 +0.1**
LFF pmax pmax
comp=Z,46nm,0.9s,mb5.5
LFF La Frestale 67.03 311 *e*P **P 14 23 00.8 +0.1**
comp=Z,46nm,0.9s,mb5.5
QUIF Quistinic 67.11 315 *e*P **P 14 23 00.4 -0.8**
comp=Z,63nm,1.1s,mb5.2
QUIF Quistinic 67.11 315 *e*P **P 14 23 00.4 -0.8**
QUIF pmax pmax
comp=Z,31nm,1.1s,mb5.2
QUIF Quistinic 67.11 315 *e*P **P 14 23 00.4 -0.8**
comp=Z,32nm,1.1s,mb5.3
PMG Port Moresby 67.25 131 LR LR 14 53 11.7
comp=Z,221nm,18.9s,MS4.4,baz=44,slow=37
MTLF Montolieu 67.25 309 *e*P **P 14 23 01.7 -0.5**
comp=Z,44nm,1.3s,mb5.0
MTLF Montolieu 67.25 309 *e*P **P 14 23 01.7 -0.5**
MTLF pmax pmax
comp=Z,22nm,1.3s,mb5.0
MTLF Montolieu 67.25 309 *e*P **P 14 23 01.7 -0.5**
comp=Z,22nm,1.3s,mb5.0
MBWA Marble Bar 67.32 162 *e*P **P 14 23 01.5 -1.0**
comp=Z,55nm,1.3s,mb5.4
EPF Esparros 68.50 310 *e*P **P 14 23 09.0 -1.0**
comp=Z,20nm,0.9s,mb4.8
EPF Esparros 68.50 310 *e*P **P 14 23 09.0 -1.0**
EPF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
EPF Esparros 68.50 310 *e*P **P 14 23 09.0 -1.0**
comp=Z,10nm,0.9s,mb4.8
DLBC Dease Lake 68.57 27 *e*P **P 14 23 10.9 +0.5**
EBIE Bielsa 68.83 309 P **P 14 23 12.3 +0.3**
comp=Z,19nm,0.8s,mb5.1
ETSF Etsaut 69.08 310 *e*P **P 14 23 12.8 -0.8**
comp=Z,17nm,0.8s,mb4.7
ETSF Etsaut 69.08 310 *e*P **P 14 23 12.8 -0.8**
ETSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ETSF Etsaut 69.08 310 *e*P **P 14 23 12.8 -0.8**
comp=Z,8.3nm,0.8s,mb4.7
EPOB Poblet 69.19 308 P **P 14 23 13.8 -0.5**
comp=Z,10nm,0.8s,mb4.8
ETOS Mallorca 69.24 306 P **P 14 23 14.3 -0.3**
comp=Z,19nm,0.8s,mb5.1
YKA Yellowknife Ar 69.25 17 P **P 14 23 13.8 -0.8**
comp=Z,12nm,0.8s,mb4.8,baz=332,slow=6.3,SNR=20
YKA LR LR 14 54 53.8
comp=Z,179nm,18.2s,MS4.3,baz=310,slow=37
EALK Alkurruntz 69.38 311 P **P 14 23 15.4 -0.1**
comp=Z,10.0nm,0.9s,mb4.8
ELIZ Elizondo 69.43 311 P **P 14 23 15.2 -0.6**
ELIZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ELIZ Elizondo 69.43 311 P **P 14 23 15.2 -0.5**
comp=Z,5.7nm,0.8s,mb4.5
ELAN Lanestosa 70.41 312 P **P 14 23 22.1 +0.3**
comp=Z,18nm,1.0s,mb5.0
WRAB Tennant Creek 70.54 148 P **P 14 23 23.0 +0.4**
comp=Z,145nm,1.2s,mb5.8,SNR=7.0
WRAB Tennant Creek 70.54 148 *e*P **P 14 23 22.9 +0.3**
WRAB pmax pmax
comp=Z,66nm,1.3s,mb5.4
WRAB Tennant Creek 70.54 148 *e*P **P 14 23 22.9 +0.3**
comp=Z,66nm,1.3s,mb5.4
WRA Warramunga Arr 70.54 148 P **P 14 23 21.4 -1.3**
comp=Z,17nm,1.0s,mb4.9,baz=343,slow=6.3,SNR=24
WRA Warramunga Arr 70.54 148 P **P 14 23 21.4 -1.2**
WRA pmax pmax
comp=Z,17nm,1.0s
WB2 Warramunga Arr 70.55 148 *e*P **P 14 23 21.6 -1.0**
EARI Arriondas 71.30 313 P **P 14 23 26.9 -0.3**
comp=Z,14nm,1.0s,mb4.8
EPON Pontenova 72.29 314 P **P 14 23 32.7 -0.5**
comp=Z,17nm,0.9s,mb5.0
ETOB Tobarra 72.51 307 P **P 14 23 35.3 +0.9**
comp=Z,8.2nm,0.8s,mb4.7
GUD Guadarrama 72.58 310 P **P 14 23 35.5 +0.6**
GUD pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
GUD Guadarrama 72.58 310 P **P 14 23 35.5 +0.6**
comp=Z,10nm,0.8s,mb4.8
EVIA Vianos 73.05 308 P **P 14 23 37.9 +0.2**
EVIA pmax pmax
comp=Z,18nm,0.8s,mb5.0
EVIA Vianos 73.05 308 P **P 14 23 37.9 +0.2**
comp=Z,18nm,0.8s,mb5.1
ECAL Calabor 73.06 313 P **P 14 23 37.5 -0.3**
comp=Z,5.7nm,0.7s,mb4.6
ESDC Sonseca Array 73.15 309 P **P 14 23 37.9 -0.4**
comp=Z,5.8nm,0.8s,mb4.5,baz=46,slow=5.5,SNR=16
ESDC LR LR 15 01 47.8
comp=Z,176nm,18.1s,MS4.4,baz=55,slow=41
ESDC Sonseca Array 73.15 309 P **P 14 23 38.1 -0.1**
comp=Z,6.0nm,0.8s,mb4.6
ESLA Sonseca Array 73.15 309 *e*P **P 14 23 35.9 -2.4**
comp=Z,5.5nm,1.3s,mb4.3
PBRG Braganca 73.16 312 *e*P **P 14 23 38.2 -0.1**
comp=Z,19nm,1.2s,mb4.9
KMBO Kilima Mbogo 73.31 251 P **P 14 23 39.4 +0.2**
comp=Z,5.6nm,1.0s,mb4.5,baz=22,slow=9.4,SNR=6.8
KMBO LR LR 14 59 20.2
comp=Z,104nm,19.5s,MS4.1,baz=95,slow=39
KMBO Kilima Mbogo 73.31 251 P **P 14 23 39.4 +0.2**
KMBO pmax pmax
comp=Z,6.0nm,1.0s
KMBO MLR MLR
comp=Z,104nm,19.5s
KMBO Kilima Mbogo 73.31 251 *e*P **P 14 23 39.7 +0.5**
comp=Z,7.5nm,1.1s,mb4.5
AS31 Alice Springs 73.79 150 *e*P **P 14 23 40.7 -1.3**
ASPA Alice Springs 73.79 150 *e*P **P 14 23 40.7 -1.3**
ASAR Alice Springs 73.79 150 P **P 14 23 41.1 -0.9**
comp=Z,11nm,0.8s,mb4.8,baz=335,slow=5.3,SNR=46
ASAR Alice Springs 73.79 150 P **P 14 23 41.2 -0.8**
ASAR pmax pmax
comp=Z,11nm,0.8s
ELOB Lobios 73.80 313 P **P 14 23 42.5 +0.4**
comp=Z,13nm,0.9s,mb4.8
PCAB Cabril 73.90 313 *e*P **P 14 23 43.4 +0.7**
comp=Z,34nm,1.4s,mb5.1
EQES Quesada 73.95 307 P **P 14 23 43.2 +0.2**
comp=Z,8.7nm,0.9s,mb4.7
EADA Adamuz 74.55 309 P **P 14 23 46.6 +0.1**
comp=Z,10nm,0.8s,mb4.8
MTE Manteigas 74.58 312 *e*P **P 14 23 47.0 +0.3**
comp=Z,21nm,1.0s,mb5.0
MTE Manteigas 74.58 312 *e*LQ 14 50 24.0
MTE *e*LR LR 14 52 27.1
comp=Z,255nm,18.4s
EBAD Badajoz 75.47 310 P **P 14 23 52.1 +0.3**
comp=Z,20nm,0.9s,mb5.0
EMIJ Mijas 75.79 307 P **P 14 23 52.3 -1.3**
comp=Z,3.8nm,0.5s,mb4.6
EMIN Mina Concepcio 76.00 309 P **P 14 23 54.7 -0.1**
comp=Z,6.9nm,0.8s,mb4.6
ESPR Espera 76.19 308 P **P 14 23 56.3 +0.4**
comp=Z,19nm,0.8s,mb5.1
PBEJ Beja 76.46 310 *e*P **P 14 23 58.0 +0.5**
comp=Z,16nm,1.4s,mb4.8
KLBR Kellerberrin 77.09 167 *e*P **P 14 23 57.9 -3.1**
comp=Z,20nm,0.8s,mb5.1
MUN Mundaring 77.23 168 *e*P **P 14 24 01.4 -0.4**
EDM Edmonton 77.89 21 *e*P **P 14 24 05.2 -0.3**
NWAO Narrogin (SRO) 78.32 167 *e*P **P 14 24 07.4 -0.4**
NWAO pmax pmax
comp=Z,33nm,1.3s
NWAO Narrogin (SRO) 78.32 167 *e*P **P 14 24 07.4 -0.5**
comp=Z,33nm,1.3s,mb5.1
FORT Forrest 78.58 158 *e*P **P 14 24 07.5 -1.8**
comp=Z,36nm,1.1s,mb5.2
FFC Flin Flon 78.94 14 P **P 14 24 10.8 -0.4**
comp=Z,149nm,0.7s,mb6.0,SNR=8.4
FFC Flin Flon 78.94 14 *e*P **P 14 24 09.9 -1.3**
FFC pmax pmax
comp=Z,27nm,1.0s,mb5.1
FFC Flin Flon 78.94 14 *e*P **P 14 24 09.9 -1.3**
comp=Z,27nm,1.0s,mb5.1
A04A Legoe Bay, Lum 79.06 29⇓P **P 14 24 12.5 +0.6**
baz=79
B05A Bryant 79.67 28⇑P **P 14 24 15.8 +0.6**
baz=80
C04A Brinnon 79.83 29⇑P **P 14 24 18.6 +2.4**
baz=80
D03A Wishkah Elem. 80.06 30⇑P **P 14 24 18.5 +1.1**
baz=80
C05A Colt Reservoir 80.30 28⇓P **P 14 24 19.4 +0.7**
baz=80
SCHQ Schefferville 80.54 354 P **P 14 24 18.9 -1.0**
comp=Z,9.3nm,0.8s,mb4.8,baz=10,slow=6.2,SNR=10
SCHQ Schefferville 80.54 354 P **P 14 24 18.9 -1.0**
E05A Randle 81.25 29⇓P **P 14 24 23.7 0.0**
baz=81
NEW Newport 81.27 25 *e*P **P 14 24 23.4 -0.5**
NEW pmax pmax
comp=Z,13nm,1.0s
NEW Newport 81.27 25 *e*P **P 14 24 23.4 -0.5**
comp=Z,13nm,1.0s,mb4.8
HAWA Hanford 82.16 28 *e*P **P 14 24 28.2 -0.3**
comp=Z,1.6nm,1.4s
G04A Mulino 82.16 30⇑P **P 14 24 30.0 +1.4**
baz=82
H04A Detroit Lake 82.72 30⇓P **P 14 24 31.5 0.0**
baz=82
H05A Madras 83.09 30⇓P **P 14 24 33.6 +0.2**
baz=83
MSO Missoula 83.52 24 *e*P **P 14 24 35.0 -0.6**
comp=Z,9.9nm,1.0s,mb4.9
J03A Ideyld Park 83.57 31⇓P **P 14 24 36.4 +0.5**
baz=83
CHMT Chamberlain Mo 83.64 24 *e*P **P 14 24 35.9 -0.4**
K02A Glendale 83.88 32⇓P **P 14 24 38.5 +1.0**
baz=84
STKA Stephens Creek 84.07 147 *e*P **P 14 24 37.0 -1.4**
comp=Z,5.9nm,0.9s,mb4.7
STKA Stephens Creek 84.07 147 P **P 14 24 36.4 -2.1**
comp=Z,4.7nm,0.5s,mb4.9,baz=330,slow=6.5,SNR=7.3
HRY Holter Researc 84.22 23 *e*P **P 14 24 39.0 -0.2**
HUMO Hull Mountain 84.22 32⇑P **P 14 24 40.2 +1.0**
baz=84
ULM Lac du Bonnet 84.24 12 P **P 14 24 37.5 -1.8**
comp=Z,3.0nm,0.6s,mb4.6,baz=21,slow=5.8,SNR=4.7
ULM LR LR 15 03 10.9
comp=Z,178nm,19.3s,MS4.5,baz=30,slow=36
BMO Blue Mountains 84.25 27 *e*P **P 14 24 38.9 -0.4**
comp=Z,13nm,1.2s,mb4.9
J06A Christmas Vall 84.69 30⇓P **P 14 24 41.6 0.0**
baz=84
J07A Hines 84.88 29⇑P **P 14 24 43.2 +0.6**
baz=85
L04A Klamath Falls 85.00 31⇑P **P 14 24 44.1 +1.0**
baz=85
K06A Valley Falls 85.05 30⇑P **P 14 24 44.2 +0.8**
baz=85
YBH Yreka Blue Hor 85.07 32⇓P **P 14 24 44.5 +1.0**
baz=85
J08A Circle Bar Ran 85.18 29⇓P **P 14 24 44.5 +0.5**
baz=85
DLMT Dillon 85.24 24 *e*P **P 14 24 43.6 -0.8**
comp=Z,22nm,1.2s,mb5.2
BOZ Bozeman (W) 85.25 23 *e*P **P 14 24 44.5 +0.1**
BOZ pmax pmax
comp=Z,17nm,1.4s,mb5.0
BOZ Bozeman (W) 85.25 23 *e*P **P 14 24 44.5 +0.1**
comp=Z,17nm,1.4s,mb5.0
M02C Callahan 85.31 32⇓P **P 14 24 45.4 +0.7**
baz=85
M04C Macdoel 85.36 32⇓P **P 14 24 45.9 +1.0**
baz=85
L05A Lakeview 85.50 31⇑P **P 14 24 46.3 +0.7**
baz=85
N02C Big Bar 85.62 33⇓P **P 14 24 47.1 +0.9**
baz=85
MCMT Mcmzie Canyo 85.65 24 *e*P **P 14 24 45.9 -0.5**
GCMT Greycliff 85.66 22 *e*P **P 14 24 46.4 0.0**
WVOR Wild Horse Val 85.94 29 *e*P **P 14 24 47.8 0.0**
WVOR pmax pmax
comp=Z,12nm,1.1s,mb5.0
WVOR Wild Horse Val 85.94 29 *e*P **P 14 24 47.8 0.0**
comp=Z,12nm,1.1s,mb5.0
M05C Lookout 85.98 31⇓P **P 14 24 48.7 +0.7**
baz=86
L07A Adell 86.06 30⇑P **P 14 24 49.5 +1.1**
baz=86
QLMT Earthquake Lak 86.06 23 *e*P **P 14 24 47.5 -0.9**
WDC Whiskeytown Da 86.13 33⇓P **P 14 24 49.0 +0.3**
baz=86
HLID Hailey 86.33 26 *e*P **P 14 24 50.5 +0.8**
comp=Z,5.5nm,1.1s,mb4.7
HATC Hat Creek Radi 86.33 32⇑P **P 14 24 50.3 +0.6**
baz=86
O02C Red Bluff 86.38 33⇓P **P 14 24 50.6 +0.7**
baz=86
L09A Wilkinson Ranc 86.64 29⇓P **P 14 24 51.9 +0.6**
baz=86
M07A Soldier Meadow 86.67 30⇑P **P 14 24 52.3 +0.9**
baz=86
P01C Double 8 Ranch 86.77 34⇑P **P 14 24 52.7 +0.8**
baz=86
GASB Alder Springs 86.86 33⇑P **P 14 24 53.5 +1.2**
baz=86
M08A Happy Creek Ra 86.90 29⇑P **P 14 24 53.8 +1.3**
baz=87
O04C Chester 86.91 32⇑P **P 14 24 53.4 +0.9**
baz=87
IMW Indian Meadow 87.06 23 *e*P **P 14 24 54.9 +1.6**
comp=Z,20nm,1.3s,mb5.2
EYMN Ely 87.06 9 *e*P **P 14 24 49.7 -3.6**
comp=Z,14nm,1.3s,mb5.0
MOOW Moose Ponds 87.25 23 *e*P **P 14 24 54.5 +0.3**
comp=Z,13nm,1.4s,mb5.0
HOPS Hopland 87.28 34⇑P **P 14 24 55.5 +1.1**
baz=87
ORV Oroville 87.41 32⇓P **P 14 24 54.7 -0.3**
baz=87
TPAW Teton Pass 87.43 24 *e*P **P 14 24 55.7 +0.6**
comp=Z,4.5nm,0.8s,mb4.8
O06A Flanigan 87.51 31⇑P **P 14 24 56.4 +0.9**
baz=87
N08A GE Springer Mi 87.58 30⇓P **P 14 24 56.5 +0.7**
baz=87
MNRC McLaughlin Nat 87.63 33⇑P **P 14 24 56.7 +0.6**
baz=87
N09A Rock Creek Ran 87.73 29⇑P **P 14 24 57.2 +0.7**
baz=87
M11A Holland Ranch, 87.80 28⇓P **P 14 24 58.3 +1.4**
baz=88
O07A Toulon 87.86 30⇓P **P 14 24 58.2 +1.0**
baz=88
M12A Wells 88.10 27⇑P **P 14 24 59.5 +1.1**
baz=88
TORD Torodi Ar. Bea 88.31 287 P **P 14 24 58.9 -0.5**
comp=Z,3.9nm,1.2s,mb4.5,baz=37,slow=4.5,SNR=12
TORD LR LR 15 08 43.6
comp=Z,147nm,21.6s,MS4.4,baz=20,slow=38
LAVA Lava Cap Winer 88.39 32⇓P **P 14 25 00.8 +1.1**
baz=88
M13A Montello 88.39 27⇑P **P 14 25 00.1 +0.4**
baz=88
O09A Fish Creek Ran 88.45 29⇑P **P 14 25 01.4 +1.5**
baz=88
PDAR Pinedale Array 88.49 23 P **P 14 24 59.6 -0.5**
comp=Z,1.1nm,0.8s,mb4.2,baz=353,slow=3.1,SNR=11
PDAR LR LR 15 06 20.2
comp=Z,246nm,19.6s,MS4.6,baz=346,slow=37
P08A Dixie Valley 88.56 30⇑P **P 14 25 02.3 +1.8**
baz=88
O10A Cortez Mining, 88.58 29⇓P **P 14 25 03.1 +2.5**
baz=88
ELK Elko 88.60 28 *e*P **P 14 25 01.5 +0.8**
ELK pmax pmax
comp=Z,13nm,1.3s
ELK Elko 88.60 28 *e*P **P 14 25 01.5 +0.8**
comp=Z,13nm,1.3s,mb5.1
RSSD Black Hills 88.62 19 *e*P **P 14 25 00.6 -0.2**
RSSD pmax pmax
comp=Z,27nm,1.3s,mb5.4
RSSD Black Hills 88.62 19 *e*P **P 14 25 00.6 -0.2**
comp=Z,27nm,1.3s,mb5.4
R05C Kirkwood Meado 88.70 32⇓P **P 14 25 02.0 +0.9**
baz=88
HWUT Hardware Ranch 88.98 25 *e*P **P 14 25 02.8 +0.3**
comp=Z,12nm,1.1s,mb5.2
O11A Cowboy Ranch, 89.01 28⇓P **P 14 25 03.6 +1.0**
baz=88
BGU Big Grassy Mou 89.15 26 *e*P **P 14 25 03.3 +0.1**
Q08A Gabbs 89.35 30⇓P **P 14 25 05.2 +1.0**
baz=89
TCUT Toone Canyon 89.47 25 *e*P **P 14 25 05.2 +0.4**
P11A Circle Ranch, 89.50 28⇑P **P 14 25 06.1 +1.1**
baz=89
NVAR Mina Array Bea 89.60 31 P **P 14 25 06.4 +1.0**
comp=Z,3.7nm,0.8s,mb4.8,baz=332,slow=3.1,SNR=24
R07C Lee Vining 89.62 31⇓P **P 14 25 07.6 +2.1**
baz=89
MNV Mina 89.65 31 *e*P **P 14 25 06.3 +0.7**
MNV pmax pmax
comp=Z,12nm,1.4s,mb5.0
MNV Mina 89.65 31 *e*P **P 14 25 06.3 +0.7**
comp=Z,12nm,1.4s,mb5.0
RWWY Rawlins 90.13 22 *e*P **P 14 25 07.8 -0.1**
comp=Z,24nm,1.5s,mb5.3
Q11A Duckwater 90.16 29⇑P **P 14 25 09.5 +1.5**
baz=90
R09A Tonopah 90.21 30⇑P **P 14 25 09.1 +0.9**
baz=90
Q12A Willow Creek R 90.27 28⇓P **P 14 25 09.7 +1.2**
baz=90
NLU North Lily Min 90.33 26 *e*P **P 14 25 08.9 +0.1**
ECSD EROS,Sioux Fal 90.47 14 *e*P **P 14 25 08.8 -0.6**
S09A Goldfield 90.62 30⇓P **P 14 25 11.1 +1.0**
baz=90
HELL Mitchell Peak, 90.87 32⇓P **P 14 25 12.4 +1.1**
baz=91
PHWY Pilot Hill 90.94 21 *e*P **P 14 25 12.7 +1.1**
MSU Marysvale 91.62 26 *e*P **P 14 25 15.7 +0.9**
TPNV Topopah Spring 91.66 30 *e*P **P 14 25 14.7 -0.2**
TPNV pmax pmax
comp=Z,5.0nm,1.1s,mb4.8
TPNV Topopah Spring 91.66 30 *e*P **P 14 25 14.7 -0.3**
comp=Z,5.0nm,1.1s,mb4.8
U10A Ash Meadows, A 92.10 30⇓P **P 14 25 19.1 +2.1**
baz=92
ACCN Adirondack Com 92.36 357 *e*P **P 14 25 17.5 -0.7**
SMCO Snowmass 92.54 22 *e*P **P 14 25 19.9 +0.9**
comp=Z,15nm,1.0s,mb5.4
GSC Goldstone 92.92 31⇑P **P 14 25 22.3 +1.5**
baz=93
TUQ Turquoise Mtn. 93.12 30⇑P **P 14 25 23.2 +1.5**
baz=93
V12A Nelson 93.24 30⇓P **P 14 25 23.9 +1.7**
baz=93
W14A Seligman 94.33 28⇑P **P 14 25 29.3 +2.1**
baz=94
PFO Pinyon Flat Ob 94.56 32⇓P **P 14 25 30.0 +1.6**
baz=94
WUAZ Wupatki 94.61 27 *e*P **P 14 25 29.6 +1.0**
comp=Z,9.0nm,1.1s,mb5.1
X14A Yava 95.06 29⇓P **P 14 25 32.7 +2.1**
baz=95
SSPA Standing Stone 95.17 0 *e*P **P 14 25 27.7 -3.5**
comp=Z,28nm,0.9s,mb5.7
X15A Humboldt 95.27 28⇑P **P 14 25 32.6 +1.0**
baz=95
ANMO Albuquerque 96.64 23 *e*P **P 14 25 38.5 +0.7**
ANMO pmax pmax
comp=Z,8.0nm,1.4s
ANMO Albuquerque 96.64 23 *e*P **P 14 25 38.5 +0.7**
comp=Z,7.6nm,1.4s,mb4.9
DBIC Dimbokro 97.43 287 LR LR 15 15 48.3
comp=Z,116nm,18.5s,MS4.4,baz=30,slow=39
VNDA Vanda 127.14 166 PKP PKPdf 14 31 08.0 -4.0
comp=Z,0.9nm,1.0s,baz=297,slow=2.3,SNR=2.7
VNDA Vanda 127.14 166 PKIKP PKPdf 14 31 08.0 -4.0
VNDA pmax pmax
comp=Z,1.0nm,1.0s
VNDA Vanda 127.14 166 PKP PKPdf 14 31 08.0 -4.1
SAML Samuel 142.35 336 *e*PKPdf PKPdf 14 31 35.2 -5.1
LPAZ La Paz 150.68 341 PKP PKPdf 14 31 54.8 +0.5
comp=Z,8.8nm,1.0s,baz=15,slow=7.3,SNR=18
LPAZ PKPbc PKPbc 14 31 59.9 +0.1
comp=Z,8.8nm,1.0s,baz=23,slow=5.7,SNR=19
LPAZ La Paz 150.68 341 PKIKP PKPdf 14 31 54.8 +0.5
LPAZ 14 31 59.9
LPAZ pmax pmax
comp=Z,9.0nm,1.0s
LPAZ pmax pmax
comp=Z,9.0nm,1.0s
LPAZ La Paz 150.68 341 *e*PKPdf PKPdf 14 31 54.6 +0.3
LPAZ *e*PKPbc PKPbc 14 31 59.8 0.0
CPUP Villa Florida 155.51 311 PKPab PKPab 14 32 26.5 -0.6
comp=Z,4.0nm,0.8s,baz=26,slow=4.5,SNR=6.4
CPUP Villa Florida 155.51 311 *e*PKIKP PKPdf 14 32 00.3 -1.0
CPUP *e* 14 32 09.3
CPUP *e* 14 32 26.4
CPUP Villa Florida 155.51 311 *e*PKPdf PKPdf 14 32 00.3 -1.0
CPUP *e*PKPbc PKPdf 14 32 09.3 +8.0
CPUP *e*PKPab PKPab 14 32 26.4 -0.7
CPUP PKPab PKPab 14 32 26.5 -0.6

NIED ***07*** *14:44:00, 34.70N×137.50E, h300km, Mw3.9 Best double couple: M0 8.87000×10^14 NP1: φ183.00000°, δ76.00000°, λ134.00000°. NP2: φ287.00000°, δ46.00000°, λ20.00000°.*
ISCJB ***07*** *14:44:24.9±0.3, 34.65N±0.05×137.49E±0.06, h313km±2km, mb3.7/15, Error ellipse: s-maj=7.8km s-min=7.5km az=48.4*
BJI ***07*** *14:44:24.0, 34.90N×137.61E, h295km*
IDC ***07*** *14:44:25.9±0.7, 34.63N×137.49E, h300km±9km, mb3.3/8, mb1 3.4/10, mb1mx3.2/24, mbtmp4.0/10, Error ellipse: s-maj=27.7km s-min=8.8km az=69.0*
JMA ***07*** *14:44:25.7±0.2, 34.69N×137.53E, h311km±2km, M3.7*
NEIC ***07*** *14:44:25.5±0.5, 34.56N×137.41E, h300km±6km, mb3.6/5, Error ellipse: s-maj=10.0km s-min=9.0km az=101.0*
ISC 07 14:44:25.9±0.3, 34.67N±0.05×137.50E±0.06, h307km±2km, n52, σ0.81/62, mb3.7/15, 8C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HMMJ	**Hamamatsu 2**	**0.26**	**46**	⇑P		**Pn**	**14 45 05.3**	**+0.4**
HMMJ				S		**S**	**14 45 35.4**	**-0.4**
JHMK	**Hamakita**	**0.26**	**57**	P		**Pn**	**14 45 04.8**	**-0.1**
JIE	**Ise**	**0.71**	**247**	P		**Pn**	**14 45 06.5**	**+0.6**
JIE				S		**S**	**14 45 37.9**	**+0.2**
TK01	**Tokai 1**	**0.91**	**175**	S		**S**	**14 45 40.3**	**+1.3**
JYN	**Shimob**	**1.19**	**46**	⇓P		**Pn**	**14 45 08.5**	**+0.6**
JGM	**Miyama**	**1.21**	**328**	⇑P		**Pn**	**14 45 08.7**	**+0.7**
JGM				S		**S**	**14 45 41.3**	**-0.2**
JOD2	**Odawara 2**	**1.44**	**65**	⇓P		**Pn**	**14 45 09.8**	**+0.5**
JIM2	**Oshima 3**	**1.60**	**88**	P		**Pn**	**14 45 10.6**	**+0.2**
JWY	**Kouya**	**1.64**	**254**	⇑P		**Pn**	**14 45 11.3**	**+0.7**
JWY				*e*S		**S**	**14 45 45.8**	**-0.4**
JRY	**Ryogami san**	**1.77**	**40**	⇓P		**Pn**	**14 45 12.3**	**+0.8**
JRY				S		**S**	**14 45 47.3**	**-0.6**
JWT	**Wachi**	**1.82**	**290**	⇑P		**Pn**	**14 45 12.4**	**+0.5**
JKG	**Kaga**	**1.86**	**330**	⇑P		**Pn**	**14 45 12.5**	**+0.3**
JWZ	**Kozaga**	**1.86**	**233**	⇑P		**Pn**	**14 45 12.4**	**+0.1**
MAJO	**Matsushiro**	**1.95**	**17**	*e*Pn		**Pn**	**14 45 12.7**	**-0.2**
MAT	**Matsushiro**	**1.95**	**17**	P		**Pn**	**14 45 13.2**	**+0.3**
MAT				S		**S**	**14 45 49.4**	**-1.0**
MAT	**Matsushiro**	**1.95**	**17**	*e*P		**Pn**	**14 45 13.0**	**+0.1**
MAT				*e*S		**S**	**14 45 49.0**	**-1.4**
MJAR	**Matsushiro Arr** 7.9nm,0.3s,baz=331,slow=23,SNR=71	**1.95**	**17**	P		**Pn**	**14 45 13.2**	**+0.2**
MJAR				S		**S**	**14 45 49.3**	**-1.1**
	2.7nm,0.3s,baz=190,slow=14,SNR=20							
JAG	**Ashikaga**	**2.37**	**42**	⇓P		**Pn**	**14 45 15.5**	**-0.8**
JHJ	**Hachijo jima 2** 16nm,0.3s,baz=208,slow=23,SNR=5.9	**2.45**	**128**	P		**Pn**	**14 45 16.9**	**-0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ				S	S	14 45 58.3	+0.4
	22nm,0.3s,baz=224,slow=23,SNR=3.3						
JSZ	Suzu	2.77	358	⇑P	Pn	14 45 20.0	+0.1
BSO1	Boso 1	2.87	89	P	Pn	14 45 19.7	-1.2
JHS	Saijyo	3.62	276	⇑P	Pn	14 45 28.8	+0.4
KS15	Wonju Array Si	8.26	292	*e*Pn	Pn	14 46 21.7	-0.9
ASAJ	Asahikawa	10.22	21	P	Pn	14 46 46.3	-0.4
	0.8nm,0.3s,baz=203,slow=16,SNR=7.6						
ASAJ				S	S	14 48 31.8	-10
	0.6nm,0.3s,baz=137,slow=31,SNR=4.5						
YSS	Yuzh-Sakhalins	12.89	16	P	Pn	14 47 11.9	-7.2
TATO	Taipei	16.90	239	P	P	14 48 03.6	+0.4
	95nm,1.3s						
YHNB	Yeheng	17.17	239	P	P	14 48 04.1	-2.1
NACB	Ninganchiao	17.34	237	P	P	14 48 05.8	-2.2
BJT	Baijiatuau	17.76	294	P	P	14 48 10.4	-2.2
XAN	Xi'an	23.57	277	P	P	14 49 09.8	+0.2
ULN	Ulaanbaatar	26.21	309	*e*P	P	14 49 35.1	+1.8
	1.8nm,0.6s,mb3.7						
SONM	Songino Array	26.62	309	P	P	14 49 38.8	+1.9
	2.6nm,0.9s,mb3.7,baz=114,slow=8.8,SNR=14						
NIKO	Nikolski	41.72	47	P	P	14 51 45.8	+0.3
MKAR	Makanchi Array	42.73	304	P	P	14 51 54.2	+0.7
	1.2nm,0.7s,mb3.2,baz=76,slow=11,SNR=12						
JIRN	Jiri	44.06	275	*e*P	P	14 52 04.6	+0.4
	17nm,0.5s,mb4.6						
PKI	Pulchoki	44.74	276	*e*P	P	14 52 09.4	-0.1
KKN	Kakani	44.76	276	*e*P	P	14 52 10.1	+0.5
KURK	Kurchatov	44.93	310	*e*P	P	14 52 10.1	-0.8
	2.0nm,0.6s,mb3.5						
KOLN	Koldanda	46.15	277	*e*P	P	14 52 20.2	-0.2
	9.9nm,0.9s,mb4.2						
BVAR	Borovoye Array	49.84	313	P	P	14 52 48.9	+0.4
	0.6nm,0.4s,mb3.3,baz=82,slow=11,SNR=4.0						
ZRNK	Zerenda	50.67	313	P	P	14 52 54.9	+0.2
	0.9nm,0.5s,mb3.4						
WRAB	Tennant Creek	54.38	184	*e*P	P	14 53 21.2	-0.5
	3.7nm,0.4s,mb4.1						
WB2	Warramunga Arr	54.39	184	*e*P	P	14 53 21.4	-0.4
WRA	Warramunga Arr	54.39	184	P	P	14 53 21.4	-0.3
	2.5nm,0.4s,mb3.9,baz=360,slow=7.6,SNR=95						
INK	Inuvik	57.92	26	P	P	14 53 45.8	-0.8
	1.1nm,0.7s,mb3.4						
AS31	Alice Springs	58.12	184	*e*P	P	14 53 47.8	-0.1
ASAR	Alice Springs	58.12	184	P	P	14 53 47.9	0.0
	0.6nm,0.3s,mb3.5,baz=359,slow=6.3,SNR=46						
ASPA	Alice Springs	58.12	184	*e*P	P	14 53 47.8	-0.1
STKA	Stephens Creek	66.31	176	P	P	14 54 42.0	+0.1
	1.3nm,0.6s,mb3.8,baz=350,slow=8.0,SNR=4.2						
STKA	Stephens Creek	66.31	176	P	P	14 54 40.6	-1.3
FINES	FINESS Array B	69.39	331	P	P	14 55 01.2	+0.2
	0.4nm,0.4s,mb3.5,baz=58,slow=7.5,SNR=7.0						
PDAR	Pinedale Array	81.58	43	P	P	14 56 11.8	+2.0
	0.4nm,0.7s,mb3.3,baz=318,slow=2.0,SNR=4.7						

MAN 07 15:56:33.5, 1022N×12594E, h15^{km}, mb3.3, ML4.5, MS2.7, 2C, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.62	226	⇑*e*P	Pg	15 56 45.8	+0.1
SCPH				*e*S	Sg	15 56 57.4	+3.3
MSLP	Maasin	1.07	265	*e*P	Pb	15 56 53.1	-0.6
MSLP				*e*S	Sb	15 57 09.6	+2.1
BUTP	Butuan	1.28	194	*e*P	Pn	15 56 55.1	-1.8
BUTP				*e*S	Sb	15 57 14.2	+0.5
PLP	Palo	1.33	315	*e*P	Pn	15 56 56.5	-1.0
PLP				*e*S	Sn	15 57 15.4	+0.4
OCLP	Ormoc	1.55	302	*e*P	Pn	15 57 00.6	0.0
LLP	Lapu-Lapu	1.95	273	⇑*i*P	Pn	15 57 06.5	+0.4
LLP				*i* S	Sn	15 57 31.9	+1.7
TBP	Tagbilaran	2.12	256	*e*P	Pn	15 57 17.9	+10
TBP				*e*S	Sn	15 57 44.1	+10
CGP	Cagayan de Oro	2.15	215	*e*P	Pn	15 57 07.9	-0.8
CGP				*e*S	Sn	15 57 35.9	+0.9
BUKP	Musuan	2.48	201	*e*P	Pn	15 57 14.0	+0.6
BUKP				*e*S	Sn	15 57 47.0	+3.6
MATI	Mati	3.27	175	*e*P	Pn	15 57 25.7	+1.5
GUIM	Jordan	3.32	277	*e*P	Pn	15 57 25.6	+0.7
PAGZ	Pagadian	3.46	227	*e*P	Pn	15 57 27.9	+1.1
PVCP	Virac	3.78	333	*e*P	Pn	15 57 28.3	-3.0
IPIL	Ipil	4.12	234	*e*P	Pn	15 57 36.7	+0.9
ENPP	El Nido	6.48	279	*e*P	Pn	15 58 09.7	+1.4

*NNC **07** 16:27:29.9±3.8, 3966N×7561E, h0^{km}, mb3.9, mpv3.5, Error ellipse: s-maj=36.2km s-min=18.9km az=138.0*
*ISCJB **07** 16:27:34.1±0.5, 3973N±004×7571E±009, h91^{km}±7^{km}, Error ellipse: s-maj=12.7km s-min=5.8km az=137.3*
*BJI **07** 16:27:36.9, 4010N×7621E, h32^{km}, ML3.6*
ISC 07 16:27:35.1±0.5, **3970N**±004×**7565E**±009, **h86**^{km}±7^{km}, **n24**, σ**0^{s}91**/28, **7C-3D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	Kashi	0.31	126	⇓*i*PG	Pn	16 27 48.0	-0.1
KSH				SG	Sn	16 27 58.0	+0.2
KSH				Smax			
	comp=N,4μm,0.4s						
KSH				Smax			
	comp=E,3μm,0.2s						
KZA	Kyzart	2.39	353	P	Pn	16 28 10.4	-1.9
	SNR=494						
ULHL	Ulahol	2.58	10	P	Pn	16 28 13.2	-1.7
	SNR=396						
UCH	Uchtor	2.67	342	P	Pn	16 28 15.3	-0.7
	SNR=70						
AML	Almayashu	2.84	329	P	Pn	16 28 19.1	+0.7
	SNR=47						
KBK	Karagaybulak	3.00	350	P	Pn	16 28 20.8	+0.3
	SNR=15						
AAK	Ala-Archa	3.06	344	P	Pn	16 28 21.2	0.0
	SNR=40						
TKM2	Tokmak 2	3.22	359	P	Pn	16 28 22.5	-0.9
	SNR=13						
TKM2	Tokmak 2	3.22	359	⇑Pn	Pn	16 28 21.9	-1.5
	comp=E,1.7nm,0.3s						
TKM2				⇑Sn	Sn	16 29 02.4	+1.6
	comp=E,29nm,0.7s						
EKS2	Erkin-Say	3.28	335	P	Pn	16 28 25.3	+1.1
	SNR=10						
CHMS	Chumysh	3.36	349	P	Pn	16 28 24.5	-0.9
	SNR=15						
KNDC	Almaty	3.65	15	⇓Pn	Pn	16 28 30.9	+1.6
	comp=E,45nm,0.5s						
KNDC				⇑Sn	Sn	16 29 14.7	+3.5
	comp=E,330nm,0.8s						
USP	Ospenovka	3.67	347	P	Pn	16 28 28.8	-0.7
	SNR=18						
KK31	Karatay Array	5.15	313	Pn	Pn	16 28 50.6	+1.0
	comp=E,1.6nm,0.7s,baz=124,slow=12,SNR=13						
KK31				⇑Pg	Pn	16 29 06.5	+17
	comp=E,3.7nm,0.4s,baz=121,slow=16,SNR=9.0						
KK31				⇑Lg		16 30 12.1	
	comp=E,9.3nm,0.5s,baz=124,slow=29,SNR=4.2						
MK02	Makanchi Array	8.57	32	⇓Pn	Pn	16 29 31.6	-4.7
	comp=E,2.8nm,0.9s						
MK02				⇑Lg		16 31 59.0	
	comp=E,15nm,1.2s						
WMQ	Urumqi	9.89	62	P	Pn	16 29 54.5	+0.2
WMQ				S	Sn	16 31 43.2	-0.3
KURK	Kurchatov	11.21	10	⇑Lg		16 33 25.5	
	comp=E,5.7nm,0.9s						
KOLN	Koldanda	13.61	149	*e*P	Pn	16 30 44.9	+0.6
	comp=E,7.9nm,0.4s						
GKN	Gorkha	13.84	145	*e*P	Pn	16 30 47.6	+0.3
	comp=E,11nm,0.3s						
KKN	Kakani	14.31	143	*e*P	Pn	16 30 53.4	-0.1
	comp=E,7.8nm,0.5s						
DMN	Daman	14.39	144	*e*P	Pn	16 30 54.2	-0.3
GUN	Gumba	14.50	141	*e*P	Pn	16 30 56.2	+0.3
	comp=E,16nm,0.4s						
PKI	Pulchoki	14.56	143	*e*P	Pn	16 30 56.6	-0.1
	comp=E,12nm,0.3s						
JIRN	Jiri	14.86	141	*e*P	Pn	16 31 00.3	-0.2
	comp=E,11nm,0.4s						

*IDC **07** 16:41:29.1±2.3, 802S×11721E, h0^{km}, mb3.8/5, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=153.3km s-min=19.2km az=54.0*
*ISCJB **07** 16:41:33.8±3.6, 83S±0.1×117.1E±0.1, h64^{km}±35^{km}, mb4.2/9, Error ellipse: s-maj=29.7km s-min=15.7km az=95.0*
*NEIC **07** 16:41:34.5±2.4, 824S×11708E, h48^{km}±26^{km}, mb4.4/7, Error ellipse: s-maj=26.8km s-min=13.6km az=221.0*
ISC 07 16:41:34.0±2.5, **82S**±01×**1171E**±01, **h40**^{km}±25^{km}, **n22**, σ**1^{s}13**/24, **mb4.2**/9, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.91	141	*e*P	Pn	16 44 33.5	-1.3
	11nm,1.1s						
FITZ				*e*S	Sn	16 46 48.6	-8.5
FITZ	Fitzroy Crossi	12.91	141	Pn	Pn	16 44 35.7	+0.8
	0.2nm,0.3s,baz=351,slow=21,SNR=6.9						
FITZ				Sn	Sn	16 46 54.9	-2.2
	0.3nm,0.3s,baz=171,slow=22,SNR=4.3						
MBWA	Marble Bar	13.17	169	*e*Pn	Pn	16 44 37.9	-0.5
MBWA				*e*Sn	Sn	16 46 48.5	-15
KAKA	Kakadu	15.74	108	*e*P	Pn	16 45 14.7	+1.8
	5.8nm,0.7s						
WRA	Warramunga Arr	20.39	127	P	P	16 46 07.4	0.0
	1.5nm,0.3s,baz=301,slow=12,SNR=32						
WRAB	Tennant Creek	20.39	127	*e*P	P	16 46 06.5	-0.9
	11nm,0.7s						
WRAB				*e*		16 46 22.2	
WB2	Warramunga Arr	20.40	127	*e*P	P	16 46 07.4	-0.1
ASPA	Alice Springs	22.29	136	*e*P	P	16 46 28.6	+0.8
AS31	Alice Springs	22.29	136	*e*P	P	16 46 28.0	+0.2
ASAR	Alice Springs	22.29	136	P	P	16 46 28.4	+0.6
	1.2nm,0.5s,mb3.6,baz=314,slow=9.7,SNR=26						
FORT	Forrest	24.72	157	*e*P	P	16 46 53.7	+2.2
	7.7nm,0.7s,mb4.3						
PMG	Port Moresby	29.73	95	*e*P	P	16 47 34.8	-1.6
STKA	Stephens Creek	32.80	139	P	P	16 48 03.6	+0.1
SONM	Songino Array	56.55	351	P	P	16 51 13.2	+0.8
	1.1nm,0.8s,mb4.0,baz=169,slow=8.4,SNR=7.2						
MKAR	Makanchi Array	62.87	334	P	P	16 51 57.2	+1.3
	2.5nm,0.7s,mb4.5,baz=149,slow=7.0,SNR=18						
MKAR	Makanchi Array	62.87	334	P	P	16 51 57.2	+1.3
KURK	Kurchatov	67.43	335	*e*P	P	16 52 25.7	+0.2
	3.4nm,0.8s,mb4.4						
ZAL	Zalesovo	67.60	340	P	P	16 52 25.1	-1.5
	0.7nm,0.5s,mb4.0,baz=209,slow=2.8,SNR=4.8						
YAK	Yakutsk	70.66	6	P	P	16 52 44.7	-0.9
	5.0nm,0.9s,mb4.4						
ZRNK	Zerenda	73.28	332	*e*P	P	16 53 01.5	+0.3
	3.0nm,0.7s,mb4.3						
MALT	Malatya	86.22	309	P	P	16 54 08.1	-3.3
	2.4nm,0.9s,mb4.4						
DBIC	Dimbokro	122.46	273	P	PKPdf	17 00 31.5	+6.5

*CSEM **07** 16:51:23.1±1.4, 3860N×2873W, h2^{km}±2^{km}, ML2.1, Error ellipse: s-maj=3.6km s-min=3.0km az=148.0, After PDA*
*PDA **07** 16:51:23.1±1.4, 3860N×2873W, h2^{km}±2^{km}, MD2.8, ML2.1, Error ellipse: s-maj=3.6km s-min=3.0km az=148.0*
SVSA 07 16:51:23.1±1.4, **3860N**×**2873W**, **h2**^{km}±2^{km}, **MD2.8, ML2.1, Error ellipse: s-maj=3.6km s-min=3.0km az=148.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CALA	Caldeira	0.03	133	*i* P	Pg	16 51 23.5	-0.3
CALA				*e*S	Sg	16 51 25.0	+0.7
CALA	Caldeira	0.03	133	*e*S	Sg	16 51 25.0	+0.7
PCED	Cedros	0.03	40	*i* P	Pg	16 51 23.7	-0.2
PCED				*i* S	Sg	16 51 25.0	+0.6
PCED							
	911nm,0.1s						
PCED	Cedros	0.03	40	*i* S	Sg	16 51 25.0	+0.6
PTCA	Ponta do Capel	0.06	252	*i* P	Pg	16 51 24.2	0.0
PTCA				*e*S	Sg	16 51 25.8	+0.8
PTCA							
	829nm,0.1s						
PTCA	Ponta do Capel	0.06	252	*e*S	Sg	16 51 25.8	+0.8
HOR	Horta	0.11	134	*e*P	Pg	16 51 24.8	-0.4
HOR				*e*S	Sg	16 51 27.0	+0.3
PCND	Candelaria	0.25	122	*e*P	Pg	16 51 27.4	-0.5
PICO	Pico	0.26	113	*e*P	Pg	16 51 27.8	-0.3
PICO				*e*S	Sg	16 51 31.9	+0.4
PTEI	Pico do Teixo	0.31	110	*e*P	Pg	16 51 28.6	-0.5
PBOI	Pico dos Bois	0.32	121	*e*P	Pg	16 51 29.4	+0.1
ROSA	Rosais	0.40	73	*e*P	Pg	16 51 30.1	-0.7
ROSA				*e*S	Sg	16 51 35.3	-0.7
PAMA	Santo Amaro	0.44	80	*e*P	Pg	16 51 31.1	-0.4
PAMA				*e*S	Sg	16 51 37.2	0.0
PAMA							
	15nm,0.2s						
PAMA	Santo Amaro	0.44	80	*e*P	Pg	16 51 31.1	-0.4
PAMA				*e*S	Sg	16 51 37.2	0.0
PMAN	Manadas	0.50	86	*e*S	Sg	16 51 39.1	-0.2
PMAN							
	96nm,0.1s						
PID	Ribeirinha	0.51	108	*i* P	Pg	16 51 32.0	-0.8
PID				*e*S	Sg	16 51 38.7	-0.6
PID	Ribeirinha	0.51	108	*e*S	Sg	16 51 38.7	-0.6

IDC 07 16:51:41.5±1.4, **2105S**×**6828W**, **h122**^{km}±17^{km}, **mb3.4**/1, **mb1 3.4**/5, **mb1mx3.3**/17, **mbtmp3.9**/5, **Error ellipse: s-maj=45.6km s-min=15.5km az=110.0, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.66	201	P	Pn	16 52 12.0	+1.0
	44nm,0.3s,baz=28,slow=9.6,SNR=9.8						
LVC				S	Sn	16 52 33.8	+0.4
	31nm,0.3s,baz=113,slow=20,SNR=11						
LPAZ	La Paz	4.74	2	P	Pn	16 52 52.0	+1.0
	0.6nm,0.3s,baz=186,slow=8.2,SNR=13						
SIV	San Ignacio	8.49	55	P	Pn	16 53 41.2	-0.4
	3.8nm,0.3s,baz=251,slow=11,SNR=46						
PLCA	Paso Flores	19.71	185	P	P	16 56 03.0	+1.6
	0.1nm,0.3s,baz=6.7,slow=8.7,SNR=5.4						
BDFB	Brasilia	19.97	78	P	P	16 56 05.7	+1.7
	0.6nm,0.3s,baz=256,slow=4.2,SNR=3.2						
TORD	Torodi Ar. Bea	76.65	70	P	P	17 03 18.5	-0.3
	0.3nm,0.4s,baz=246,slow=5.1,SNR=6.9						

*VIE **07** 16:57:39.9±0.8, 4399N×1101E, h10^{km}, mb2.6/3, ML2.7/5, Error ellipse: s-maj=7.3km s-min=2.8km az=168.0*
*CSEM **07** 16:57:40.5±0.1, 4423N×1092E, h15^{km}, ML2.8/6, Error ellipse: s-maj=1.4km s-min=1.2km az=5.0*
*GEN **07** 16:57:41.0, 4420N×1099E, h14^{km}, ML2.0*
*NEIC **07** 16:57:41.7, 44.19N×1093E, h10^{km}, ML2.8(ROM), ML2.9(LDG), After ROM.*
*ROM **07** 16:57:41.7±0.1, 44.19N×1093E, h10^{km}±1^{km}, Md2.7/9, Ml2.8/9, Error ellipse: s-maj=2.3km s-min=1.6km az=155.0*
*ISCJB **07** 16:57:41.7±0.2, 44.17N±002×1089E±002, h22^{km}±2^{km}, Error ellipse: s-maj=3.8km s-min=2.6km az=0.4*
*LDG **07** 16:57:43.8±0.6, 4407N×11.13E, h27^{km}, Md2.9/3, Ml2.9/11, Error ellipse: s-maj=12.1km s-min=6.1km az=100.0*
ISC 07 16:57:41.9±0.3, **4416N**±002×**1089E**±002, **h17**^{km}±2^{km}, **n65**, σ**1^{s}24**/103, **8C-4D, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PZZT	Monte Pizzetto	0.03	223	Pg	Pg	16 57 44.5	-0.3
PZZT				Sg	Sg	16 57 46.8	0.0
	4μm,0.2s						
FNVD	Fontana Vidola	0.17	85	Pg	Pg	16 57 45.0	-1.2
FNVD				Sg	Sg	16 57 47.8	-1.3
	5μm,0.2s						
ZCCA	Zocca	0.20	17	⇓*i*Pg	Pg	16 57 46.2	-0.6
GSCL	Gusciola	0.29	312	⇓*i*Pg	Pg	16 57 47.9	-0.3
GSCL				Sg	Sg	16 57 53.1	+0.6
SEI	Scarperia	0.35	107	Pg	Pg	16 57 48.3	-0.9
SEI				Sg	Sg	16 57 54.7	+0.6
	900nm,0.2s						
SARO	Sassorosso	0.35	275	P	Pg	16 57 49.2	-0.1
SARO				S	Sg	16 57 54.9	+0.7
VLC	Villacollemand	0.36	271	Pg	Pg	16 57 49.3	-0.1
VLC				Sg	Sg	16 57 56.1	+1.6
	835nm,0.6s						
VLC	Villacollemand	0.36	271	*e*Pg	Pg	16 57 49.3	-0.1
VLC				*e*Sg	Sg	16 57 55.4	+0.9
VLC				Sg	Sg	16 57 56.1	+1.6
VLC	Villacollemand	0.36	271	Pg	Pg	16 57 49.3	-0.1
VLC				*e*Sg	Sg	16 57 55.4	+0.9
MAIM		0.38	230	P	Pg	16 57 49.7	0.0
ERBM	Eremo	0.43	308	Pg	Pg	16 57 50.6	-0.1
ERBM				Sg	Sg	16 57 58.7	+2.1
	531nm,0.7s						
VALM		0.50	293	P	Pg	16 57 51.6	-0.3
VALM				S	Sg	16 57 58.9	+0.2
PII	Pisa	0.51	212	Pg	Pg	16 57 52.0	0.0
PII				Sg	Sg	16 58 00.2	+1.3
VMG	Vicchio	0.51	112	Pg	Pg	16 57 51.5	-0.5
	124nm,0.2s						
VINC	Vinca	0.53	269	P	Pg	16 57 52.3	-0.2
BACM		0.60	282	P	Pg	16 57 53.4	-0.4
GRAM		0.68	300	P	Pg	16 57 54.7	-0.6
SFI	Santa Sofia	0.73	110	Pg	Pg	16 57 56.2	0.0
SFI				Sg	Sg	16 58 06.9	+1.0
	71nm,0.3s						
CSNT	Castellina Chi	0.74	157	Pg	Pg	16 57 56.9	+0.5
CSNT				Sg	Sg	16 58 07.4	+1.2
	157nm,0.6s						
CODM		0.79	288	P	Pb	16 57 56.5	-0.6
SC2M	Scurtabr	1.01	285	P	Pb	16 58 00.3	-0.6
GRFL	Gerfalco	1.01	177	Pg	Pg	16 58 02.0	+0.6
	14nm,0.3s						
GROG	Isola di Gorgo	1.03	225	Pg	Pg	16 58 02.1	+0.3
	226nm,1.0s						
BOB	Bobbio (Coli)	1.20	301	Pg	Pg	16 58 04.2	-0.9
	164nm,0.5s						
ARV	Arcevia	1.62	113	Pg	Pg	16 58 11.1	-2.0
	13nm,0.4s						
MAGA	Magasa	1.63	353	Pg	Pg	16 58 10.8	-2.5
	164nm,0.5s						
PCP	Pian Castagno	1.73	284	P	Pn	16 58 10.6	-0.6
PCP				S	Sn	16 58 30.1	-2.8
SNTG	Esanatoglia	1.74	120	Pg	Pg	16 58 10.6	-4.7
	142nm,1.4s						
FIN	Finale Ligure	1.93	273	P	Pn	16 58 12.4	-1.6
FIN	Finale Ligure	1.93	273	Pg	Pg	16 58 14.6	-4.4
	22nm,0.4s						
FIN				S	Sn	16 58 33.8	-4.1
CTI	Castel Tesino	1.97	16	Pg	Pg	16 58 15.0	-4.7
	58nm,0.2s						
RORO		2.04	270	P	Pn	16 58 14.0	-1.4
PGF	Pioggiola	2.12	221	*e*Pn	Pn	16 58 16.8	+0.2
	SNR=1.0						
PGF				*e*Sn	Sn	16 58 39.8	-2.7
	3.4nm,0.2s						
PGF	Pioggiola	2.12	221	*e*Pn	Pn	16 58 16.8	+0.2
	SNR=1.0						
PGF				*e*Sn	Sn	16 58 39.8	-2.7
	1.7nm,0.2s						
ROB	Roburent	2.18	275	P	Pn	16 58 16.2	-1.2
ROB				S	Sn	16 58 41.0	-3.0
MUGIO	Muggio	2.20	324	Pg	Pg	16 58 19.4	-4.7
MONE	Monesi	2.26	269	P	Pn	16 58 18.2	-0.3
NEGI	Negi	2.32	264	P	Pn	16 58 17.6	-1.8
ENR	Entracque	2.50	273	P	Pn	16 58 20.9	-0.9
SBF	Sospel	2.51	265	*e*Pn	Pn	16 58 22.9	+0.9
	SNR=1.0						
SBF				*e*Sn	Sn	16 58 50.7	-1.5
	13nm,0.2s,SNR=1.0						
SBF	Sospel	2.51	265	*e*Pn	Pn	16 58 22.9	+0.9
	SNR=1.0						
SBF				*e*Sn	Sn	16 58 50.7	-1.5
	6.5nm,0.2s,SNR=1.0						
STV	Sta Anna Valdi	2.57	273	P	Pn	16 58 22.2	-0.5
PZZ	Prazzo	2.74	279	P	Pn	16 58 24.6	-0.6
KNDS	Knezji Dol	2.83	60	*i* Pn	Pn	16 58 25.5	-1.0
VOY	Vojsko	2.83	48	*e*Pn	Pn	16 58 25.4	-1.0
VOY				*e*Sn	Sn	16 58 58.8	-1.4
CADS	Cadrg	2.89	43	*i* Pn	Pn	16 58 26.1	-1.1
SQTA	Sankt Quirin	3.07	4	⇑*i*Pn	Pn	16 58 31.2	+1.5
SQTA				⇑*i*Sn	Sn	16 59 11.0	+4.9
FRF	La Foret Royal	3.13	261	*e*Pn	Pn	16 58 31.8	+1.4
	SNR=1.0						
FRF				*e*Sn	Sn	16 59 07.7	+0.3
	6.1nm,0.2s						
FRF	La Foret Royal	3.13	261	*e*Pn	Pn	16 58 31.8	+1.4
	SNR=1.0						
FRF				*e*Sn	Sn	16 59 07.7	+0.3
	3.0nm,0.2s						
WTTA	Wattenberg	3.15	9	⇑*i*Pn	Pn	16 58 32.8	+2.1
WTTA				⇑*i*Sn	Sn	16 59 12.1	+4.0
LPG	La Plagne	3.24	296	*e*Pn	Pn	16 58 34.3	+2.3
	SNR=1.0						
LPG				*e*Sn	Sn	16 59 11.0	+0.9
	6.3nm,0.5s						
LMR	La Mourre	3.28	257	*e*Pn	Pn	16 58 33.7	+1.2
	SNR=1.0						
LMR				*e*Sn	Sn	16 59 08.7	-2.5
	2.6nm,0.2s,SNR=1.0						
LMR	La Mourre	3.28	257	*e*Pn	Pn	16 58 33.7	+1.2
	SNR=1.0						
LMR				*e*Sn	Sn	16 59 08.7	-2.5
	1.3nm,0.2s,SNR=1.0						
OBKA	Obir	3.49	46	⇑*i*Pn	Pn	16 58 35.4	0.0
OBKA				⇓*i*Sn	Sn	16 59 18.4	+2.1
ORIF	Oris-en-Rattie	3.67	284	*e*Pn	Pn	16 58 40.5	+2.7
ORIF				*e*Sn	Sn	16 59 23.4	+2.7
	9.0nm,0.6s						
CABF	La Chapelle	4.18	308	*e*Pn	Pn	16 58 46.0	+1.1
	SNR=1.0						
CABF				*e*Sn	Sn	16 59 34.5	+1.1
MOA	Molln	4.38	31	⇑*i*Pn	Pn	16 58 48.3	+0.7
MOA				⇑*i*Sn	Sn	16 59 40.9	+2.7
ARSA	Arzberg	4.48	45	⇑*i*Pn	Pn	16 58 48.7	-0.4
ARSA				⇓*i*Sn	Sn	16 59 42.7	+1.9
VIVF	Saint-Julien-l	4.50	281	*e*Pn	Pn	16 58 52.7	+3.3
HINF	Hinteralfeld	4.62	324	*e*Pn	Pn	16 58 51.3	+0.4
	SNR=1.0						
HINF				*e*Sn	Sn	16 59 42.2	-2.0
	3.2nm,0.3s,SNR=1.0						
CDF	Champ du Feu	4.94	331	*e*Pn	Pn	16 58 56.1	+0.7
	SNR=1.0						
CDF				*e*Sn	Sn	16 59 49.4	-2.7
	1.1nm,0.2s						
HAU	Haudompre	4.98	322	*e*Pn	Pn	16 58 57.0	+1.1
	SNR=1.0						
HAU				*e*Sn	Sn	16 59 51.3	-1.9
	6.2nm,0.4s,SNR=1.0						
LOR	Lormes	5.83	305	*e*Pn	Pn	16 59 08.5	+1.0
	SNR=1.0						
LOR				*e*Sn	Sn	17 00 14.3	+0.3
	2.3nm,0.3s						
BGF	Bois d'Agland	6.16	296	*e*Pn	Pn	16 59 13.6	+1.5
MTLF	Montolieu	6.34	266	*e*Pn	Pn	16 59 16.0	+1.5

*ISCJB **07** 17:04:16.6±0.5, 3832S±005×176.11E±008, h197^{km}±4^{km}, mb3.5/7, Error ellipse: s-maj=11.5km s-min=6.9km az=66.8*
*IDC **07** 17:04:16.7±1.4, 3832S×176.15E, h177^{km}±18^{km}, mb3.3/3, mb1 3.5/3, mb1mx3.3/12, mbtmp3.8/3, Error ellipse: s-maj=105.8km s-min=41.9km az=172.0*
*WEL **07** 17:04:18.6±0.4, 38.18S×176.13E, h177^{km}±3^{km}, ML4.8/25, Error ellipse: s-maj=2.8km s-min=2.3km az=90.0*
*NEIC **07** 17:04:19.0, 3821S×176.13E, h174^{km}, MG4.8(WEL), After WEL.*
ISC 07 17:04:17.5±0.5, **3833S**±005×**17611E**±008, **h190**^{km}±4^{km}, **n102**, σ**1^{s}05**/109, **mb3.7**/7, **North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PATZ	Paeroa	0.13	115	PN	Pn	17 04 42.5	0.0
PATZ	Paeroa	0.13	115	P	Pn	17 04 42.5	0.0
TAZ	Tarawera	0.33	74	PN	Pn	17 04 43.0	+0.1
WHTZ	Whakaora	0.36	199	PN	Pn	17 04 43.3	+0.3
LIRZ	Lichensteins R	0.39	34	PN	Pn	17 04 42.3	-0.7
LIRZ	Lichensteins R	0.39	34	P	Pn	17 04 42.3	-0.8
LIRZ				S	Sn	17 04 52.3	-10
WATZ	Wairara	0.48	217	PN	Pn	17 04 43.7	+0.3
WATZ	Wairara	0.48	217	P	Pn	17 04 43.7	+0.3
EDRZ	Edgecumbe	0.54	67	PN	Pn	17 04 42.9	-0.7
EDRZ				SN	Sn	17 05 04.5	+0.8
EDRZ	Edgecumbe	0.54	67	P	Pn	17 04 42.9	-0.7
MARZ	Manawahe	0.56	53	PN	Pn	17 04 43.0	-0.7
MARZ	Manawahe	0.56	53	P	Pn	17 04 43.0	-0.7
HATZ	Hinemaiaia	0.57	181	PN	Pn	17 04 44.0	+0.3
HATZ				SN	Sn	17 05 02.4	-1.5
HATZ	Hinemaiaia	0.57	181	P	Pn	17 04 44.0	+0.3
HATZ				S	Sn	17 05 02.4	-1.6
RATZ	Rangitukua	0.60	206	PN	Pn	17 04 44.2	+0.3
RATZ	Rangitukua	0.60	206	P	Pn	17 04 44.2	+0.3
TGRZ	Tauranga	0.60	12	PN	Pn	17 04 42.7	-1.2
TGRZ				SN	Sn	17 05 01.5	-2.8
TGRZ	Tauranga	0.60	12	P	Pn	17 04 42.7	-1.2

TGRZ S Sn 17 05 01.5 -2.8
RITZ Rihia Road 0.68 197 PN **Pn 17 04 45.1 +0.8**
RITZ Rihia Road 0.68 197 P **Pn 17 04 45.1 +0.8**
KATZ Kakaramea 0.73 206 PN **Pn 17 04 45.1 +0.6**
KATZ Kakaramea 0.73 206 P **Pn 17 04 45.1 +0.6**
URZ Urewera 0.79 86 P **Pn 17 04 43.9 -1.0**
265nm,0.3s,baz=270,slow=4.5,SNR=2536
URZ S **Sn** 17 05 02.5 -3.5
547nm,0.3s,baz=111,slow=18,SNR=78
URZ Urewera 0.79 86 PN **Pn 17 04 44.1 -0.8**
URZ Urewera 0.79 86 P **Pn 17 04 44.1 -0.8**
KRVZ Karewarewa 0.85 205 PN **Pn 17 04 45.8 +0.5**
WTVZ West Tongariro 0.89 207 PN **Pn 17 04 46.2 +0.7**
WTVZ West Tongariro 0.89 207 P **Pn 17 04 46.2 +0.7**
BKZ Black Stump Fm 0.89 160 PN **Pn 17 04 46.3 +0.7**
BKZ Black Stump Fm 0.89 160 P **Pn 17 04 46.3 +0.8**
OTVZ Oturere 0.91 202 PN **Pn 17 04 46.6 +1.0**
TWVZ Taurewa 0.91 215 PN **Pn 17 04 46.4 +0.7**
TWVZ Taurewa 0.91 215 P **Pn 17 04 46.4 +0.8**
NGZ Ngauruhoe 0.94 205 PN **Pn 17 04 46.5 +0.7**
NGZ Ngauruhoe 0.94 205 P **Pn 17 04 46.5 +0.7**
WPVZ Whakapapa 0.98 206 PN **Pn 17 04 46.8 +0.7**
WPVZ Whakapapa 0.98 206 P **Pn 17 04 46.8 +0.7**
HIZ Hauiti 1.00 259 PN **Pn 17 04 46.2 0.0**
HIZ Hauiti 1.00 259 P **Pn 17 04 46.2 0.0**
TUVZ Tukino 1.01 200 PN **Pn 17 04 47.3 +1.1**
TUVZ Tukino 1.01 200 P **Pn 17 04 47.3 +1.0**
FWVZ Far West T-bar 1.03 205 PN **Pn 17 04 47.1 +0.7**
FWVZ Far West T-bar 1.03 205 P **Pn 17 04 47.1 +0.7**
DRZ Dome Shelter 1.04 204 P **Pn 17 04 47.9 +1.4**
WNVZ Wahianoa 1.08 202 PN **Pn 17 04 47.8 +1.0**
WNVZ Wahianoa 1.08 202 P **Pn 17 04 47.8 +1.0**
MOVZ Moawhango 1.12 194 P **Pn 17 04 47.8 +0.7**
MWZ Matawai 1.12 91 PN **Pn 17 04 46.9 -0.2**
MWZ Matawai 1.12 91 P **Pn 17 04 46.9 -0.2**
PKVZ Pokaka 1.13 211 PN **Pn 17 04 48.0 +0.8**
WIZ White Island 1.17 47 PN **Pn 17 04 46.1 -1.4**
WIZ White Island 1.17 47 P **Pn 17 04 46.1 -1.4**
VRZ Vera Road 1.32 232 P **Pn 17 04 49.7 +0.9**
KNZ Kokohu 1.41 120 PN **Pn 17 04 50.4 +0.8**
KNZ Kokohu 1.41 120 P **Pn 17 04 50.4 +0.9**
RAEZ Rainy Point 1.65 234 P **Pn 17 04 53.0 +1.3**
WAZ Wanganui 1.68 211 P **Pn 17 04 53.0 +1.0**
PUZ Puketiti 1.71 82 P **Pn 17 04 51.8 -0.5**
TSZ Takapari Road 1.74 184 P **Pn 17 04 53.7 +1.1**
PXZ Pawanui 1.80 161 PN **Pn 17 04 54.7 +1.5**
NEZ North Egmont 1.83 238 P **Pn 17 04 55.1 +1.5**
PKE Pukeiti 1.87 242 P **Pn 17 04 55.0 +1.1**
MXZ Matakaoa Point 1.90 67 PN **Pn 17 04 53.6 -0.6**
MXZ Matakaoa Point 1.90 67 P **Pn 17 04 53.6 -0.6**
NRZ Ngariki Road 1.98 239 PN **Pn 17 04 56.0 +0.9**
NRZ Ngariki Road 1.98 239 P **Pn 17 04 56.0 +1.0**
BFZ Birch Farm 2.36 177 P **Pn 17 05 00.0 +0.8**
MRZ Mangatainoka R 2.37 190 P **Pn 17 04 59.9 +0.6**
TIWZ Tintock 2.46 184 PN **Pn 17 05 00.9 +0.7**
KIW Kapiti Island 2.70 200 P **Pn 17 05 03.0 -0.1**
MTW Mount Morrison 2.87 189 P **Pn 17 05 05.1 0.0**
CAW Cannon Point 2.89 196 PN **Pn 17 05 05.3 0.0**
CAW Cannon Point 2.89 196 P **Pn 17 05 05.3 -0.1**
TRWZ Traveller 3.09 186 PN **Pn 17 05 07.8 +0.1**
MRW Makara Radio 3.10 200 P **Pn 17 05 07.5 -0.3**
PAWZ Paruwai Farm 3.10 190 P **Pn 17 05 07.6 -0.2**
WEL Wellington 3.13 199 P **Pn 17 05 07.9 -0.3**
MSWZ Moikau Station 3.16 192 P **Pn 17 05 08.2 -0.3**
SNZO South Karori 3.17 199 P **Pn 17 05 08.2 -0.5**
SNZO *e*Sn **Sn 17 05 44.9 -3.8**
TCW Tory Channel 3.21 205 P **Pn 17 05 08.6 -0.6**
BHW Baring Head 3.22 197 P **Pn 17 05 08.9 -0.4**
NNZ Nelson 3.57 215 *e*P **Pn 17 05 12.5 -1.1**
QRZ Quartz Range 3.73 227 P **Pn 17 05 13.9 -1.6**
BSWZ Blackbirch Sta 3.79 206 P **Pn 17 05 15.7 -0.7**
THZ Tophouse 4.22 215 *e*P **Pn 17 05 20.5 -1.2**
KHZ Kahutara 4.53 205 P **Pn 17 05 25.0 -0.7**
DSZ Denniston Nort 4.75 223 *e*P **Pn 17 05 26.5 -2.0**
LTZ Lake Taylor 5.33 212 *e*P **Pn 17 05 34.0 -1.9**
CRLZ Canterbury Las 5.87 206 *e*P **Pn 17 05 40.7 -2.2**
MQZ McQueen's Vall 5.98 205 *e*P **Pn 17 05 41.9 -2.4**
WVZ Waitaha Valley 6.26 219 *e*P **Pn 17 05 46.2 -1.8**
LBZ Lake Benmore 7.52 214 *e*P **Pn 17 06 02.7 -1.7**
JCZ Jackson Bay 7.98 222 *e*P **Pn 17 06 08.5 -1.9**
HNR Honiara 32.23 329 *e*P **P 17 10 23.4 -4.5**
73nm,0.9s
ASAR Alice Springs 38.67 280 P **P 17 11 24.5 +1.8**
0.8nm,0.5s,mb3.6,baz=120,slow=6.5,SNR=11
VNDA Vanda 39.77 185 P **P 17 11 38.3 +6.5**
2.0nm,1.2s,mb3.6
WRA Warramunga Arr 40.42 285 P **P 17 11 36.7 -0.5**
0.2nm,0.5s,mb3.0,baz=123,slow=8.4,SNR=5.2
CASY Casey 45.87 211 *e*P **P 17 12 22.0 +1.3**
2.5nm,0.8s,mb3.9
FITZ Fitzroy Crossi 48.17 280 P **P 17 12 39.1 +0.6**
1.9nm,1.1s,mb3.6,baz=246,slow=20,SNR=2.9
QSPA South Pole Qui 51.80 180 *e*P **P 17 13 10.8 +5.0**
3.3nm,0.4s,mb4.3
SNAA Sanae 70.31 180 *e*P **P 17 15 11.8 +1.5**
1.3nm,1.0s,mb3.6
ARCES ARCESS Array B 145.00 342 PKPbc PKPdf 17 23 30.1 -1.9
2.3nm,1.0s,baz=66,slow=2.2,SNR=3.5

IDC 07 17:29:06.6±60.0**, 1676S×17605W, h0km, mb4.1**/3**, mb1 4.3**/3**, mb1mx3.8**/13**, mbtmp4.1**/3**, Error ellipse: s-maj=1130.0km s-min=178.9km az=79.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.15**	**241**	P	P	17 36 53.6	+1.1
	0.7nm,0.5s,baz=96,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**47.06**	**258**	P	P	17 37 39.8	-0.1
	0.7nm,0.6s,baz=98,slow=7.3,SNR=16						
ASAR	**Alice Springs**	**47.27**	**253**	P	P	17 37 41.9	+0.3
	6.9nm,0.6s,baz=89,slow=7.9,SNR=256						

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*IDC **07** 17:43:30.7±0.7, 16.17N×96.36W, h0km, mb4.6/18, mb1 4.7/19, mb1mx4.6/21, mbtmp4.6/19, ML4.4/1, MS4.1/20, Ms1 4.1/20, ms1mx4.0/28, Error ellipse: s-maj=19.9km s-min=13.2km az=62.0*
*BJI **07** 17:43:30.3, 16.10N×96.00W, h6km, mB5.5, Ms4.7, Msz4.7*
*NEIC **07** 17:43:32.4±1.3, 16.07N×95.97W, h7km±8km, mb5.0/102, MS4.4/6, MD4.7(MEX), Error ellipse: s-maj=6.8km s-min=4.5km az=49.0*
*HRVD **07** 17:43:32.3±0.6, 16.08N×95.97W, h29km±1km, MW5.0/52, Centroid moment Tensor Solution. LP body waves: s37,c46;Mantle waves: s52,c82; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.79±.20; $M_{\theta\theta}$-2.59±.12; $M_{\phi\phi}$-0.19±.15; $M_{r\theta}$2.40±.17; $M_{\theta\phi}$0.60±.12; $M_{\phi r}$-1.09±.25; Best double couple: $M_0$3.81600×10^{16} NP1:ϕ_s276.00000°,δ24.00000°,λ77.00000°. NP2: ϕ_s111.00000°,δ67.00000°,λ96.00000°. Principal axes: T 3.8700, Plg68.0000°, Azm32.0000°; N -0.1020, Plg5.0000°, Azm289.0000°; P -3.7620, Plg22.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **07** 17:43:33.5±0.7, 16.12N±0.03×96.00W±0.03, h19km±5km, mb4.8/138, MS4.3/32 Error ellipse: s-maj=6.7km s-min=3.2km az=72.0*
*MEX **07** 17:43:35.0±0.6, 15.77N×96.27W, h30km±10km, MD4.8*
*MOS **07** 17:43:36.0±0.9, 16.26N×96.00W, h33km, mb5.1/55, MS4.4/7, Error ellipse: s-maj=8.2km s-min=5.3km az=94.2*
*SZGRF **07** 17:43:41.5, 15.78N×94.47W, h33km, mb4.7, MS4.4, Near coast of Oaxaca, Mexico*
ISC 07 17:43:32.9±0.9**, 16.10N**±0.03×**95.93W**±0.03**, h4km**±6km**, n449,** σ1**$01**/440**, mb4.8**/140**, MS4.3**/32**, 51C-47D, Oaxaca**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HUIG Huatulco 0.37 208⇑*i*P **Pg 17 43 39.3 -0.8**
HUIG *i* S **Sg 17 43 43.0 -2.0**
VHO Vista Hermosa 1.24 321 *i* P **Pb 17 43 56.1 -0.7**
VHO *i* S **Sb 17 44 12.4 -0.6**
OXX Oaxaca 1.24 322 *i* P **Pb 17 43 56.5 -0.3**
OXX *i* S **Sb 17 44 15.0 +1.9**
CMIG Matias Romero 1.40 45 Pn **Pn 17 44 02.1 +2.9**
459nm,0.3s,baz=236,slow=11,SNR=621
CMIG Sn **Sn 17 44 25.1 +7.0**
3μm,0.3s,baz=240,slow=14,SNR=15
CMIG Matias Romero 1.40 45 *e*P **Pn 17 44 02.1 +2.9**
PNIG Pinotepa 2.13 278 *e*P **Pn 17 44 03.8 -5.5**
PNIG *i* S **Sn 17 44 25.0 -11**
UTMO Huajuapan 2.49 314 *e*P **Pn 17 44 13.6 -0.5**
UTMO *i* S **Sn 17 44 39.7 -5.2**
SCX San Cristobal 3.22 78 *i* P **Pn 17 44 30.0 +5.8**
SCX *i* S **Sn 17 45 11.0 +8.0**
LVIG Laguna Verde 3.63 353 *e*P **Pn 17 44 29.0 -0.8**
ACX Acapulco 3.90 282 *i* P **Pn 17 44 29.0 -4.6**
PPM Popocatepetl 3.92 319 *e*P **Pn 17 44 34.5 +0.8**
PPM *i* S **Sn 17 45 17.6 -2.5**
PPM Popocatepetl 3.92 319 *e*P **Pn 17 44 34.5 +0.8**
PPM *i* S **Sn 17 45 20.6 +0.5**
MEIG Mezcala 3.97 298 *e*P **Pn 17 44 32.7 -1.8**
MEIG *i* S **Sn 17 45 15.0 -6.5**
YAIG Yautepec 4.07 313 *e*P **Pn 17 44 35.0 -0.8**
YAIG *i* S **Sn 17 45 20.6 -3.2**
PLIG Platanillo 4.11 304 *e*P **Pn 17 44 35.6 -0.8**
PLIG *i* S **Sn 17 45 18.1 -6.7**
CAIG El Cayaco 4.27 283 *e*P **Pn 17 44 32.4 -6.2**
CAIG *i* S **Sn 17 45 19.5 -9.3**
IIZ Mezontepec 4.41 315 *e*P **Pn 17 44 37.2 -3.3**
IIZ *i* S **Sn 17 45 26.8 -5.4**
UNM Universidad Na 4.46 316 *e*P **Pn 17 44 39.0 -2.2**
UNM *e*P 17 44 41.0
UNM *e*P 17 44 41.0
UNM *i* S **Sn 17 45 29.7 -3.9**
UNM *i* S **Sn 17 45 29.7 -3.8**
UNM Universidad Na 4.46 316 *e*P **Pn 17 44 41.0 -0.2**
UNM *i* S **Sn 17 45 29.7 -3.8**
SCIG 5.35 57 *i* P **Pn 17 44 56.0 +2.6**
SCIG *i* S **Sn 17 46 01.5 +6.1**
ZIIG Zihuatanejo 5.51 287 *i* S **Sn 17 45 49.2 -10**
MOIG Morelia 6.14 306 *i* P **Pn 17 45 02.5 -1.8**
MOIG *i* S **Sn 17 46 07.4 -7.6**
RBDL Robledal 6.34 107 *e*P x 17 45 43.2
RBDL *e*S x 17 46 56.7
SBLS San Blas 6.49 109 *e*P x 17 45 45.1
SBLS *e*S x 17 46 59.4
LCBS La Ceiba 7.14 109 *e*P x 17 46 04.2
LCBS *e*S x 17 47 26.1
LNIG Linares 9.36 340 *e*P **Pn 17 45 50.2 +1.8**
JTS JuntasAbangare 12.14 117 Pn **Pn 17 46 30.8 +4.2**
2.1nm,0.3s,baz=304,slow=18,SNR=7.9
JTS JuntasAbangare 12.14 117 Pn **Pn 17 46 30.8 +4.2**
PRS1 Puriscal 12.84 117 *e*P **Pn 17 46 40.4 +4.2**
LCR2 La Lucha 2 13.22 117 *e*P **Pn 17 46 44.8 +3.5**
URSC Urasca 13.37 116 *e*P **Pn 17 46 46.8 +3.5**
BUS Buena Vista 13.53 117 *e*P **Pn 17 46 49.0 +3.5**
HKT Hockley 13.79 0 *e*P **Pn 17 46 49.5 +0.5**
HKT pmax pmax
comp=Z,43nm,1.3s
HKT Hockley 13.79 0 *e*Pn **Pn 17 46 49.5 +0.5**
comp=Z,43nm,1.3s
JCT Junction City 14.75 347 *e*P **Pn 17 47 05.3 +3.2**
JCT pmax pmax
comp=Z,56nm,0.8s
JCT Junction City 14.75 347 *e*Pn **Pn 17 47 05.3 +3.2**
comp=Z,56nm,0.8s
LTX Lajitas 14.97 333 *e*P **Pn 17 47 06.1 +0.9**
LTX pmax pmax
comp=Z,8.0nm,0.7s
LTX Lajitas 14.97 333 *e*Pn **Pn 17 47 06.1 +0.9**
comp=Z,8.2nm,0.7s
NATX Nacogdoches 15.63 4 *e*Pn **Pn 17 47 09.3 -4.6**
comp=Z,141nm,1.0s
MGV Manicaragua 16.21 66 *e*P **Pn 17 47 23.2 +1.8**
CCCC Cccc 17.94 71 *e*P **Pn 17 47 46.6 +3.5**
MIAR Mount Ida 18.49 6 *e*P **Pn 17 47 49.3 -0.6**
MIAR pmax pmax
comp=Z,111nm,1.1s
MIAR Mount Ida 18.49 6 *e*P **Pn 17 47 49.3 -0.6**
comp=Z,111nm,1.1s
UALR University of 18.87 9 *e*P **Pn 17 47 54.1 -0.4**
comp=Z,110nm,0.9s
OXF Oxford 19.25 17 *e*P **Pn 17 47 55.5 -3.6**
OXF *e*S **Sn 17 51 24.2 -11**
OXF pmax pmax
comp=Z,87nm,0.9s
OXF Oxford 19.25 17 *e*P **Pn 17 47 55.5 -3.6**
comp=Z,86nm,0.9s
OXF *e*S **Sn 17 51 24.2 -11**
AMTX Amarillo 19.40 346 *e*P **Pn 17 48 00.8 -0.2**
comp=Z,114nm,1.1s
HBAR Harrisburg 19.94 13 *e*P **Pn 17 48 06.4 -1.0**
BNM Barren Site 20.39 334 *e*P **P 17 48 12.0 +1.4**
LPM Los Pinos Moun 20.53 334 *e*P **P 17 48 13.4 +1.3**
LENM Lemitar 20.55 333 *e*P **P 17 48 13.6 +1.2**
LENM *e* 17 48 22.5
LAZ Ladron 20.83 333 *e*P **P 17 48 16.7 +1.3**
GLAT Glass 20.94 15 *e*P **P 17 48 14.7 -1.9**
ANMO Albuquerque 21.01 335 P **P 17 48 17.1 -0.2**
comp=Z,6.8nm,0.8s,mb4.0,baz=157,slow=11,SNR=14
ANMO LR LR 17 57 22.1
comp=Z,834nm,18.5s,MS4.2,baz=160,slow=40
ANMO Albuquerque 21.01 335 *e*P **P 17 48 17.8 +0.5**
ANMO pmax pmax
comp=Z,17nm,0.8s
ANMO Albuquerque 21.01 335 *e*P **P 17 48 17.8 +0.4**
comp=Z,17nm,0.8s,mb4.4
TUC Tucson 21.03 323⇑*e*P **P 17 48 18.3 +0.7**
TUC pmax pmax
comp=Z,30nm,1.1s,mb4.5
TUC Tucson 21.03 323⇑*e*P **P 17 48 18.3 +0.8**
comp=Z,30nm,1.1s,mb4.5
PARMO Parma 21.20 14 *e*P **P 17 48 18.3 -1.1**
WVT Waverly 21.21 18 *e*P **P 17 48 18.6 -0.9**
WVT *e*S **S 17 52 09.1 -6.6**
WVT pmax pmax
comp=Z,58nm,1.1s,mb4.8
WVT Waverly 21.21 18 *e*P **P 17 48 18.6 -0.9**
comp=Z,58nm,1.1s,mb4.8
WVT *e*S **S 17 52 09.1 -6.6**
116A Eloy 21.75 322 ⇑P **P 17 48 26.3 +1.0**
baz=22
CPCT Cooper Cave 21.80 26 *e*P **P 17 48 25.1 -0.8**
115A Sonoran Desert 22.17 321 ⇓P **P 17 48 30.7 +1.0**
baz=22,SNR=6.3
FVM French Village 22.33 11 *e*P **P 17 48 30.2 -1.3**
FVM pmax pmax
comp=Z,15nm,0.6s,mb4.6
FVM French Village 22.33 11 *e*P **P 17 48 30.2 -1.3**
comp=Z,15nm,0.6s,mb4.6
USIN University of 22.97 17 *e*P **P 17 48 38.0 -0.2**
comp=Z,164nm,1.4s,mb5.3
Z14A Wintersburg 23.06 321 ⇓P **P 17 48 39.5 +0.3**
baz=23
TZTN Tazewell 23.14 26⇑*e*P **P 17 48 38.7 -1.4**
TZTN *e*pP 17 49 05.6
X15A Humboldt 23.45 324 ⇓P **P 17 48 44.1 +0.8**
baz=24
Y14A Wickenburg 23.49 322 ⇑P **P 17 48 43.8 0.0**
baz=24,SNR=13
WCI Wyandotte Cave 23.62 19 *e*P **P 17 48 43.7 -1.4**
WCI *e* 17 48 55.6
WCI pmax pmax
comp=Z,116nm,0.9s,mb5.3
WCI Wyandotte Cave 23.62 19 *e*P **P 17 48 43.7 -1.4**
comp=Z,116nm,0.9s,mb5.3
WCI *e* 17 48 55.6
WUAZ Wupatki 23.76 327⇑*e*P **P 17 48 46.9 +0.6**
comp=Z,66nm,0.9s,mb5.1
X14A Yava 23.81 323 ⇑P **P 17 48 47.2 +0.5**
baz=24
ROSC El Rosal 23.96 115 P **P 17 48 52.2 +4.0**
comp=Z,18nm,0.7s,mb4.6,baz=85,slow=12,SNR=5.6
W15A Williams 23.98 325 ⇓P **P 17 48 49.3 +1.0**
baz=24,SNR=9.3
GLA Glamis 24.02 318 ⇑P **P 17 48 49.0 +0.3**
baz=24,SNR=7.1
Y12C Blythe 24.28 320 ⇑P **P 17 48 51.6 +0.5**
baz=24
BLO Bloomington 24.42 18 *e*P **P 17 48 51.8 -0.5**
BLO pmax pmax
comp=Z,58nm,0.7s,mb5.1
BLO Bloomington 24.42 18 *e*P **P 17 48 51.8 -0.5**
comp=Z,58nm,0.7s,mb5.1
W14A Seligman 24.45 324 ⇓P **P 17 48 54.1 +1.5**
baz=24
SMCO Snowmass 24.94 339 *e*P **P 17 48 57.3 +0.2**
comp=Z,31nm,1.1s,mb4.8
ISCO Idaho Springs 25.08 342 *e*P **P 17 48 57.1 -1.3**
ISCO pmax pmax
comp=Z,29nm,1.0s,mb4.8
ISCO Idaho Springs 25.08 342 *e*P **P 17 48 57.1 -1.3**
comp=Z,29nm,1.0s,mb4.8
BLA Blacksburg 25.11 30 *e*P **P 17 48 57.9 -0.8**
BLA pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
BLA Blacksburg 25.11 30 *e*P **P 17 48 57.9 -0.8**
comp=Z,2.7nm,0.9s,mb3.8
FWV Forest Hill 25.22 29 *e*P **P 17 48 58.9 -0.8**
PFO Pinyon Flat Ob 25.43 317 *e*P **P 17 49 01.6 +0.1**
PFO pmax pmax
comp=Z,14nm,1.0s,mb4.5
PFO Pinyon Flat Ob 25.43 317 *e*P **P 17 49 01.6 +0.1**
comp=Z,14nm,1.0s,mb4.4
PFO Pinyon Flat Ob 25.43 317 ⇓P **P 17 49 02.2 +0.7**
baz=26
W12A Cal Nev Ari 25.55 322 ⇑P **P 17 49 03.0 +0.4**
baz=26
SDV Santo Domingo 25.70 103 P **P 17 49 05.1 +1.1**
comp=Z,13nm,0.3s,mb4.9,baz=182,slow=24,SNR=3.7
SDV LR LR 18 00 52.8
comp=Z,309nm,19.2s,MS3.9,baz=350,slow=40
V12A Nelson 25.83 323 ⇓P **P 17 49 05.7 +0.5**
baz=26,SNR=5.4
U12A Valley of Fire 26.15 324 ⇑P **P 17 49 08.7 +0.6**
baz=26
V11A Goodsprings 26.25 322 ⇓P **P 17 49 09.4 +0.5**
baz=26
TUQ Turquoise Mtn. 26.27 321 ⇑P **P 17 49 09.7 +0.5**
baz=26,SNR=12
MSU Marysvale 26.50 331 *e*P **P 17 49 11.8 +0.5**
ACSO Alum Creek Sta 26.55 23 *e*P **P 17 49 10.9 -0.8**
comp=Z,20nm,0.8s,mb4.7
ARUT Antelope Range 26.56 328 *e*P **P 17 49 12.9 +1.1**
TMUT Trail Mountain 26.70 333 *e*P **P 17 49 13.5 +0.5**
GSC Goldstone 26.72 320 ⇓P **P 17 49 13.7 +0.5**
baz=27
U10A Ash Meadows, A 27.18 322 ⇓P **P 17 49 18.1 +0.7**
baz=27
RWWY Rawlins 27.29 341⇑*i*P **P 17 49 19.0 +0.6**
comp=Z,32nm,1.1s,mb4.8
TPNV Topopah Spring 27.49 323⇑*e*P **P 17 49 20.9 +0.8**
TPNV pmax pmax
comp=Z,12nm,0.9s,mb4.4
TPNV Topopah Spring 27.49 323⇑*e*P **P 17 49 20.9 +0.8**
comp=Z,12nm,0.9s,mb4.4
ECSD EROS,Sioux Fal 27.55 359 *e*P **P 17 49 19.3 -1.4**
DAU Daniels Canyon 27.65 334 *e*P **P 17 49 19.6 -1.9**
ISA Isabella 28.00 318 ⇑P **P 17 49 24.8 +0.1**
baz=28
AAM Ann Arbor 28.16 20 *e*P **P 17 49 24.4 -1.7**
AAM pmax pmax
comp=Z,50nm,0.8s,mb5.2
AAM Ann Arbor 28.16 20 *e*P **P 17 49 24.4 -1.8**
comp=Z,50nm,0.8s,mb5.2
Q12A Willow Creek R 28.22 328 ⇑P **P 17 49 27.0 +0.3**
baz=28
TCUT Toone Canyon 28.30 335⇑*i*P **P 17 49 28.4 +1.0**
R10A Warm Springs 28.46 325 ⇑P **P 17 49 29.3 +0.5**
baz=28
Q11A Duckwater 28.51 326 ⇑P **P 17 49 29.6 +0.4**
baz=29
S09A Goldfield 28.58 323 ⇓P **P 17 49 29.6 -0.3**
baz=29,SNR=7.5
P12A McGill 28.59 328 ⇓P **P 17 49 30.7 +0.7**
baz=29
HWUT Hardware Ranch 28.77 335 *e*P **P 17 49 30.6 -1.1**
comp=Z,5.8nm,0.8s,mb4.4
ATAH Atahualpa 28.78 142 P **P 17 49 35.9 +4.2**
comp=Z,2.3nm,0.4s,mb4.2,baz=158,slow=16,SNR=1.7
ATAH LR LR 17 59 08.3
comp=Z,183nm,18.9s,MS3.7,baz=305,slow=32
BGU Big Grassy Mou 28.83 332 *e*P **P 17 49 32.2 +0.1**
R09A Tonopah 28.85 324 ⇓P **P 17 49 33.0 +0.7**
baz=29,SNR=6.1
ALLY Alegheny Colle 28.87 25 *e*P **P 17 49 24.4 -8.1**
HELL Mitchell Peak, 28.98 319 ⇑P **P 17 49 34.2 +0.8**
baz=29,SNR=6.6
PDAR Pinedale Array 29.03 339 P **P 17 49 32.8 -1.1**
comp=Z,2.4nm,0.7s,mb4.0,baz=138,slow=7.7,SNR=24
PDAR LR LR 18 03 19.2
comp=Z,265nm,19.8s,MS3.9,baz=351,slow=41
SSPA Standing Stone 29.03 29 *e*P **P 17 49 30.7 -3.2**
comp=Z,11nm,0.9s,mb4.6
P11A Circle Ranch, 29.08 327 ⇑P **P 17 49 35.0 +0.7**
baz=29
N13A Wendover, West 29.31 331 ⇑P **P 17 49 37.1 +0.7**
baz=29
Q09A Carvers 29.33 325 ⇓P **P 17 49 37.4 +0.9**
baz=29
HVU Hansel Valley 29.42 334 *e*P **P 17 49 37.1 -0.2**
HVU *e* 17 49 46.0
HVU pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
HVU Hansel Valley 29.42 334 *e*P **P 17 49 37.1 -0.2**
comp=Z,9.8nm,0.8s,mb4.6
HVU *e* 17 49 46.0
O11A Cowboy Ranch, 29.46 328 ⇑P **P 17 49 38.4 +0.6**
baz=30
P10A Eureka 29.50 327 ⇑P **P 17 49 39.0 +1.0**
baz=30
V04C Ramage Ranch, 29.56 316 ⇓P **P 17 49 39.0 +0.5**
baz=30
KCC Kaiser Creek 29.57 320 ⇑P **P 17 49 38.7 0.0**
baz=30
MNV Mina 29.60 323 *e*P **P 17 49 39.4 +0.4**
MNV pmax pmax
comp=Z,15nm,1.0s,mb4.7
MNV Mina 29.60 323 *e*P **P 17 49 39.4 +0.4**
comp=Z,15nm,1.0s,mb4.7
M13A Montello 29.69 332 P **P 17 49 40.6 +0.8**
baz=30,SNR=17
N12A Clover Valley, 29.71 330 ⇓P **P 17 49 41.0 +1.1**
baz=30
Q08A Gabbs 29.77 324 ⇓P **P 17 49 41.5 +1.1**
baz=30,SNR=6.4
R07C Lee Vining 29.90 322 ⇓P **P 17 49 42.8 +1.2**
baz=30
REDW Red Top Meadow 30.00 338 *e*P **P 17 49 42.5 0.0**
comp=Z,21nm,1.0s,mb4.8
M12A Wells 30.09 331 ⇑P **P 17 49 43.9 +0.7**
baz=30,SNR=5.1
TPAW Teton Pass 30.15 338 *e*P **P 17 49 44.1 +0.2**
comp=Z,25nm,1.2s,mb4.8
RRI2 Red Ridge 30.16 337 P **P 17 49 41.4 -2.5**
comp=Z,8.6nm,0.8s,mb4.5
S05C Merced 30.22 319 ⇓P **P 17 49 44.1 -0.3**
baz=30
O09A Fish Creek Ran 30.29 327 ⇑P **P 17 49 45.5 +0.5**
baz=30
MOOW Moose Ponds 30.30 338 *e*P **P 17 49 44.5 -0.7**
comp=Z,8.5nm,0.8s,mb4.5
Q07A Schurz 30.32 323 ⇑P **P 17 49 46.4 +1.0**
baz=30
R06C Coleville 30.42 322 ⇓P **P 17 49 47.1 +0.9**
baz=30
BMN Battle Mountai 30.49 327 *e*P **P 17 49 45.8 -1.0**
BMN pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
BMN Battle Mountai 30.49 327 *e*P **P 17 49 45.8 -1.0**
comp=Z,4.4nm,0.8s,mb4.2
IMW Indian Meadow 30.50 338 *e*P **P 17 49 46.6 -0.3**
comp=Z,18nm,1.3s,mb4.8
M11A Holland Ranch, 30.51 330 ⇑P **P 17 49 47.7 +0.7**
baz=31
CMB Columbia Colle 30.68 320 *e*P **P 17 49 47.6 -0.9**
CMB pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
CMB Columbia Colle 30.68 320 *e*P **P 17 49 47.6 -0.9**
comp=Z,6.6nm,0.9s,mb4.5
CMB Columbia Colle 30.68 320 ⇓P **P 17 49 48.7 +0.2**
baz=31
R05C Kirkwood Meado 30.91 321 ⇓P **P 17 49 51.6 +1.0**
baz=31
M10A I.L. Ranch, Tu 30.95 329 ⇑P **P 17 49 51.6 +0.7**
baz=31
N09A Rock Creek Ran 30.95 327 ⇓P **P 17 49 51.5 +0.6**
baz=31
WCN Washoe City 31.11 323 ⇑P **P 17 49 53.0 +0.6**
baz=31
BINY Binghamton 31.14 29 P **P 17 49 50.9 -1.6**
comp=Z,11nm,0.8s,mb4.7
R04C Big Horse Ranc 31.16 320 ⇑P **P 17 49 53.8 +1.1**
baz=31
YMR Madison River 31.18 339 P **P 17 49 53.2 +0.2**
comp=Z,8.9nm,0.7s,mb4.7
O07A Toulon 31.20 325 ⇓P **P 17 49 53.5 +0.5**
baz=31
N08A GE Springer Mi 31.22 326 ⇑P **P 17 49 53.5 +0.2**

baz=31
M09A Marrel Ranch, 31.33 328 ⇑P P **17 49 55.2 +1.0**
baz=31,SNR=5.6
LAVA Lava Cap Winer 31.35 321 ⇓P P **17 49 55.1 +0.7**
baz=31
JRSC Jasper Ridge 31.47 317 ⇓P P **17 49 56.7 +1.2**
baz=32
HLID Hailey 31.57 334 *e*P P **17 49 56.6 +0.2**
comp=Z,9.0nm,0.9s,mb4.6
O06A Flanigan 31.73 324 P P **17 49 59.0 +1.2**
baz=32,SNR=14
GCMT Greycliff 31.76 342 *e*P P **17 49 58.1 0.0**
L09A Wilkinson Ranc 31.88 328 ⇓P P **17 49 59.3 +0.2**
baz=32
SADO Sadowa 31.90 23 P P **17 49 58.4 -0.8**
comp=Z,39nm,0.9s,mb5.2,baz=237,slow=9.0,SNR=22
EYMN Ely 31.97 6 *e*P P **17 49 56.6 -3.2**
comp=Z,14nm,0.7s,mb4.9
MCMT McKenzie Canyo 32.00 337 *e*P P **17 50 01.7 +1.6**
M07A Soldier Meadow 32.21 326 ⇑P P **17 50 02.3 +0.3**
baz=32
O05C Quincy 32.22 322 ⇓P P **17 50 03.0 +0.9**
baz=32
BOZ Bozeman (W) 32.27 339 *e*P P **17 49 56.8 -5.7**
BOZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BOZ Bozeman (W) 32.27 339 *e*P P **17 49 56.8 -5.7**
comp=Z,5.1nm,0.7s,mb4.5
SUTB Sutter Butte 32.28 321 ⇑P P **17 50 03.0 +0.4**
baz=32
ORV Oroville 32.31 321 ⇑P P **17 50 03.5 +0.6**
baz=32
DLMT Dillon 32.36 338 *e*P P **17 50 04.2 +0.8**
comp=Z,40nm,0.9s,mb5.2
LCCM Lewis and Clar 32.52 339 P P **17 50 06.0 +1.3**
ELFS Eagle Lake Fie 32.55 324 ⇓P P **17 50 05.7 +0.8**
baz=33
WVOR Wild Horse Val 32.67 328 *e*P P **17 50 04.7 -1.3**
WVOR pmax pmax
comp=Z,26nm,1.2s,mb5.0
WVOR Wild Horse Val 32.67 328 *e*P P **17 50 04.7 -1.4**
comp=Z,26nm,1.2s,mb5.0
L07A Adell 32.74 327 P P **17 50 07.2 +0.6**
baz=33,SNR=6.9
M06C Likely Place G 32.79 325 ⇓P P **17 50 07.7 +0.6**
baz=33,SNR=6.5
HRY Holter Researc 33.27 340 *e*P P **17 50 08.8 -2.5**
HRY *e* 17 50 20.3
J08A Circle Bar Ran 33.27 329 ⇑P P **17 50 11.9 +0.6**
baz=33,SNR=9.2
NCB Newcomb 33.33 29 *e*P P **17 50 08.5 -3.2**
comp=Z,14nm,0.9s,mb4.9
LTIM Timbered Crate 33.34 324 P P **17 50 12.6 +0.7**
L05A Lakeview 33.56 325 ⇓P P **17 50 14.3 +0.5**
baz=34,SNR=16
LONY Lake Ozonia 33.66 28 *e*P P **17 50 13.0 -1.6**
LASM Arnica Sink 33.67 324 P P **17 50 15.7 +1.0**
J07A Hines 33.70 329 ⇓P P **17 50 14.9 -0.1**
baz=34
MIV Mineville/With 33.73 30 *e*P P **17 50 11.7 -3.6**
K06A Valley Falls 33.77 327 ⇑P P **17 50 15.6 0.0**
baz=34
BMO Blue Mountains 33.86 332 *e*P P **17 50 13.2 -3.1**
comp=Z,21nm,1.6s,mb4.8
CHMT Chamberlain Mo 33.93 339 *e*P P **17 50 16.3 -0.7**
CHMT *e* 17 50 25.1
CHMT *e*PP PP 17 51 47.7 +14
M04C Macdoel 33.94 324 ⇓P P **17 50 17.2 +0.1**
baz=34
J06A Christmas Vall 34.03 328 ⇑P P **17 50 17.6 -0.3**
baz=34
ULM Lac du Bonnet 34.06 0 P P **17 50 16.4 -1.7**
comp=Z,15nm,1.0s,mb4.9,baz=190,slow=9.6,SNR=10
ULM LR LR 18 06 28.1
comp=Z,83nm,18.5s,MS3.5,baz=116,slow=40
ULM Lac du Bonnet 34.06 0 *e*P P **17 50 16.0 -2.1**
comp=Z,25nm,0.9s,mb5.2
ULM *e* 17 50 24.4
MSO Missoula 34.10 338 *e*P P **17 50 17.7 -0.8**
comp=Z,6.8nm,0.9s,mb4.6
N02C Big Bar 34.18 322 ⇑P P **17 50 19.3 +0.1**
baz=34
M02C Callahan 34.27 323 ⇓P P **17 50 19.6 -0.3**
baz=34
FRNY Flat Rock 34.28 29 *e*P P **17 50 18.7 -1.4**
YBH Yreka Blue Hor 34.40 323 P P **17 50 17.1 -4.0**
comp=Z,1.7nm,0.6s,mb4.1,baz=53,slow=9.2,SNR=5.9
YBH Yreka Blue Hor 34.40 323 ⇓P P **17 50 21.1 0.0**
baz=34
JCC Jacoby Creek 34.61 321 ⇓P P **17 50 22.9 0.0**
baz=35
VIPM Ingram Point 35.17 329 P P **17 50 27.9 +0.2**
M01C Crescent City 35.30 322 ⇓P P **17 50 29.3 +0.4**
baz=35
BROR Big Rock Looko 35.94 327 P P **17 50 34.1 -0.3**
J02A Umpqua 35.95 325 ⇓P P **17 50 34.3 -0.1**
baz=36
KEBM Edson Butte 36.06 324 *e*P P **17 50 32.4 -3.0**
H04A Detroit Lake 36.09 328 ⇑P P **17 50 35.1 -0.5**
baz=36,SNR=7.5
K01A Sixes 36.10 323 ⇑P P **17 50 36.0 +0.3**
baz=36
I03A Eugene 36.18 326 ⇑P P **17 50 35.8 -0.6**
baz=36
VLL Laurance Lake 36.38 329 P P **17 50 39.5 +1.4**
I02A Mapleton 36.50 325 ⇓P P **17 50 39.0 -0.1**
baz=36
F05A White Salmon 36.57 330 ⇓P P **17 50 40.2 +0.4**
baz=37
G04A Mulino 36.60 328 ⇓P P **17 50 39.7 -0.3**
baz=37
H03A Soap Creek Ran 36.66 327 ⇓P P **17 50 40.4 -0.1**
baz=37
H02A Toledo 37.04 326 ⇓P P **17 50 44.1 +0.3**
baz=37
F04A Amboy 37.08 329 ⇑P P **17 50 43.9 -0.2**
baz=37
E05A Randle 37.20 330 ⇓P P **17 50 45.4 +0.3**
baz=37
ETW Entiat 37.32 333 P P **17 50 46.5 +0.5**
C05A Tolt Reservoir 37.99 332 ⇑P P **17 50 51.0 -0.8**
baz=38
A04A Legoe Bay, Lum 39.21 332 ⇑P P **17 51 01.4 -0.7**
baz=39
EDM Edmonton 39.49 344 *e*P P **17 51 01.6 -2.8**
SAML Samuel 40.87 125 *e*P P **17 51 14.0 -1.8**
comp=Z,20nm,1.1s,mb4.7
SAML *e* 17 51 21.2
LPAZ La Paz 42.28 138 P P **17 51 30.9 +3.5**
comp=Z,3.4nm,0.9s,mb4.0,baz=342,slow=12,SNR=13
LPAZ LR LR 18 08 01.5
comp=Z,122nm,18.4s,MS3.8,baz=316,slow=34
LPAZ La Paz 42.28 138 *e*P P **17 51 31.7 +4.3**
LPAZ pmax pmax
comp=Z,4.0nm,0.6s
LPAZ La Paz 42.28 138 *e*P P **17 51 31.7 +4.3**
comp=Z,4.3nm,0.6s,mb4.3
SCHQ Schefferville 44.70 24 P P **17 51 45.0 -1.9**
comp=Z,14nm,0.9s,mb4.8,baz=220,slow=5.4,SNR=9.8
SCHQ LR LR 18 13 28.3
comp=Z,268nm,19.0s,MS4.2,baz=251,slow=40
SCHQ Schefferville 44.70 24 *e*P P **17 51 45.4 -1.5**
comp=Z,22nm,0.9s,mb5.0
YKA Yellowknife Ar 48.17 348 P P **17 52 10.9 -3.2**
comp=Z,4.1nm,0.8s,mb4.5,baz=155,slow=7.4,SNR=8.9
YKA LR LR 18 13 37.5
comp=Z,248nm,18.1s,MS4.2,baz=180,slow=38
YKA Yellowknife Ar 48.17 348 P P **17 52 10.9 -3.2**
YKA LR LR 18 13 37.5
DLBC Dease Lake 49.23 337 *e*P P **17 52 23.1 +0.8**
RKT Rikitea 54.57 225 *e*LR LR 18 08 38.1
comp=Z,304nm,28.2s
DAWY Dawson 56.34 339 *e*P P **17 53 12.7 -2.2**
CPUP Villa Florida 56.45 138 P P **17 53 13.8 -1.9**
comp=Z,0.4nm,0.5s,mb3.8,baz=258,slow=6.8,SNR=3.7
BDFB Brasilia 56.84 121 P P **17 53 18.0 -0.5**
comp=Z,2.3nm,0.4s,mb4.5,baz=277,slow=8.0,SNR=4.8
EYAK Cordova Ski Ar 56.90 333 P P **17 53 14.9 -4.0**
INK Inuvik 57.38 344 *e*P P **17 53 21.1 -1.2**
INK pmax pmax
comp=Z,17nm,0.9s
INK Inuvik 57.38 344 *e*P P **17 53 21.1 -1.2**
comp=Z,17nm,0.9s,mb5.1
ILAR Eielson Array 59.44 337 P P **17 53 34.0 -2.6**
comp=Z,4.9nm,0.9s,mb4.5,baz=142,slow=4.5,SNR=30
PLCA Paso Flores 61.26 158 P P **17 53 48.0 -1.0**
comp=Z,1.7nm,0.7s,mb4.3,baz=168,slow=1.7,SNR=3.6
PLCA LR LR 18 14 42.0
comp=Z,174nm,20.8s,MS4.2,baz=360,slow=30
SVW2 Sparrevohn 61.52 332 *e*P P **17 53 49.6 -1.3**
PPT Papeete 62.56 240 *e*LR LR 18 12 20.2
comp=Z,318nm,23.8s,baz=59
PPT Papeete 62.56 240 LR LR 18 13 55.5
comp=Z,142nm,18.2s,MS4.2,baz=311,slow=29
SUMG Summit 65.26 16 *e*P P **17 54 14.0 -1.6**
comp=Z,77nm,1.8s,mb5.4
TBI Tubuai 65.39 234 *e*LR LR 18 13 38.7
comp=Z,348nm,27.8s,baz=52
DAG Danmarks Havn 71.52 14⇓*i*P P **17 54 54.2 -0.6**
comp=Z,4.1nm,0.7s,mb4.5
DAG Danmarks Havn 71.52 14⇓*e*P P **17 54 54.2 -0.6**
DAG pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
DAG Danmarks Havn 71.52 14⇓*e*P P **17 54 54.2 -0.6**
comp=Z,4.1nm,0.7s,mb4.5
RAR Rarotonga 72.77 241 LR LR 18 21 50.4
comp=Z,203nm,18.2s,MS4.4,baz=86,slow=32
DCN Croghan 76.46 38⇑*i*P P **17 55 23.5 -0.2**
DLF Lyons Farm 76.91 38 *e*P P **17 55 26.6 +0.3**
EMAZ Mazaricos 77.02 49 P P **17 55 27.4 +0.5**
comp=Z,9.7nm,0.8s,mb4.8
STS Santiago 77.34 49 P P **17 55 29.2 +0.5**
STS pmax pmax
comp=Z,11nm,0.4s,mb5.1
STS Santiago 77.34 49 P P **17 55 29.2 +0.6**
comp=Z,11nm,0.4s,mb5.1
PTOM Tomar 78.04 52 *e*P P **17 55 33.3 +0.7**
comp=Z,22nm,0.8s,mb5.1
BILL Bilibino 78.10 338 *e*P P **17 55 31.6 -1.3**
BILL *e* 17 55 39.2
BILL pmax pmax
comp=Z,21nm,1.6s,mb4.8
PVIS Viseu 78.22 51 *e*P P **17 55 34.0 +0.4**
comp=Z,30nm,0.8s,mb5.3
PVRL Vila Real 78.24 50 *e*P P **17 55 34.2 +0.5**
comp=Z,16nm,0.9s,mb5.0
EPON Pontenova 78.26 48 P P **17 55 33.0 -0.9**
comp=Z,28nm,1.0s,mb5.1
MTE Manteigas 78.54 51 *e*P P **17 55 35.7 +0.3**
comp=Z,27nm,0.8s,mb5.2
MTE Manteigas 78.54 51 *e*LR LR 18 21 44.0
comp=Z,250nm,22.0s
PCBR Castelo Branco 78.70 52 *e*P P **17 55 36.8 +0.5**
comp=Z,36nm,1.2s,mb5.2
PBEJ Beja 78.77 54 *e*P P **17 55 37.3 +0.7**
comp=Z,16nm,0.9s,mb5.0
ECAL Calabor 78.83 49 P P **17 55 37.5 +0.6**
comp=Z,8.0nm,0.5s,mb4.9
PBRG Braganca 78.86 50 *e*P P **17 55 37.6 +0.5**
comp=Z,16nm,1.6s,mb4.7
EGRO El Granado 79.17 54 P P **17 55 39.7 +0.8**
comp=Z,17nm,0.8s,mb5.0
EARI Arriondas 79.66 48 P P **17 55 40.8 -0.7**
comp=Z,28nm,1.1s,mb5.1
EMIN Mina Concepcio 79.75 54 P P **17 55 42.7 +0.7**
comp=Z,9.0nm,0.7s,mb4.8
ROSF Rostrenen 79.89 43 *e*P P **17 55 42.4 -0.3**
comp=Z,16nm,0.9s,mb4.6
ROSF Rostrenen 79.89 43 *e*P P **17 55 42.4 -0.3**
ROSF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ROSF Rostrenen 79.89 43 *e*P P **17 55 42.4 -0.3**
comp=Z,7.8nm,0.9s,mb4.6
QUIF Quistinic 80.05 43 *e*P P **17 55 43.1 -0.5**
comp=Z,20nm,0.9s,mb4.7
QUIF Quistinic 80.05 43 *e*P P **17 55 43.1 -0.5**
QUIF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
QUIF Quistinic 80.05 43 *e*P P **17 55 43.1 -0.5**
comp=Z,9.9nm,0.9s,mb4.7
SGMF Saint Gilles 80.37 43 *e*P P **17 55 44.6 -0.8**
ESPR Espera 80.58 54 P P **17 55 48.1 +1.6**
comp=Z,4.8nm,0.5s,mb4.7
AFI Afiamalu 80.66 253 LR LR 18 25 34.9
comp=Z,139nm,19.5s,MS4.3,baz=168,slow=31
EJIF Jimena Fronter 80.98 55 P P **17 55 48.6 0.0**
GUD Guadarrama 81.02 50 P P **17 55 50.1 +1.3**
GUD pmax pmax
comp=Z,19nm,0.8s,mb5.1
GUD Guadarrama 81.02 50 P P **17 55 50.1 +1.3**
comp=Z,19nm,0.8s,mb5.1
EADA Adamuz 81.27 53 P P **17 55 50.1 -0.1**
comp=Z,10nm,0.8s,mb4.8
ESDC Sonseca Array 81.38 51 P P **17 55 51.0 +0.3**
comp=Z,7.7nm,0.7s,mb4.7,baz=292,slow=4.7,SNR=33
ESDC LR LR 18 27 33.1
comp=Z,170nm,21.2s,MS4.4,baz=300,slow=32
ESDC Sonseca Array 81.38 51 P P **17 55 51.3 +0.5**
comp=Z,7.7nm,0.8s,mb4.7
ESLA Sonseca Array 81.38 51 *e*P P **17 55 50.9 +0.1**
comp=Z,0.7nm,0.6s,mb3.8
GRR Gorron 81.44 42 *e*P P **17 55 50.6 -0.5**
comp=Z,42nm,0.7s,mb5.2
GRR Gorron 81.44 42 *e*P P **17 55 50.6 -0.5**
GRR pmax pmax
comp=Z,21nm,0.7s,mb5.2
GRR Gorron 81.44 42 *e*P P **17 55 50.6 -0.5**
comp=Z,21nm,0.7s,mb5.2
EMIJ Mijas 81.50 54 P P **17 55 52.2 +0.8**
comp=Z,14nm,1.0s,mb4.8
FLN La Foliniere 81.59 42 *e*P P **17 55 51.5 -0.3**
comp=Z,54nm,0.8s,mb5.2
FLN *e*R
comp=Z,345nm,19.2s
FLN La Foliniere 81.59 42 *e*P P **17 55 51.5 -0.3**
FLN pmax pmax
comp=Z,27nm,0.8s,mb5.2
FLN MLR MLR
comp=Z,350nm,19.3s,MS4.7
FLN La Foliniere 81.59 42 *e*P P **17 55 51.5 -0.3**
comp=Z,27nm,0.8s,mb5.2
FLN LR LR
comp=Z,350nm,19.3s,MS4.7
ELOJ Sierra Loja 81.84 54 P P **17 55 54.0 +0.8**
ELOJ pmax pmax
comp=Z,14nm,0.9s,mb4.9
ELOJ Sierra Loja 81.84 54 P P **17 55 54.0 +0.8**
comp=Z,14nm,0.9s,mb4.9
LDF La Druitiere 81.86 42 *e*P P **17 55 53.0 -0.3**
comp=Z,37nm,0.8s,mb5.0
LDF La Druitiere 81.86 42 *e*P P **17 55 53.0 -0.3**
LDF pmax pmax
comp=Z,19nm,0.8s,mb5.1
LDF La Druitiere 81.86 42 *e*P P **17 55 53.0 -0.3**
comp=Z,19nm,0.8s,mb5.1
EBAN Banos Encina 81.88 53 P P **17 55 52.4 -1.0**
EBAN pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
EBAN Banos Encina 81.88 53 P P **17 55 52.4 -1.0**
comp=Z,5.9nm,0.6s,mb4.7
ERON Agron 82.14 54 P P **17 55 55.9 +1.2**
comp=Z,5.1nm,0.4s,mb4.8
ECOG Cogollos-Vega 82.26 54 P P **17 55 56.9 +1.5**
ECOG pmax pmax
comp=Z,21nm,0.7s,mb5.2
ECOG Cogollos-Vega 82.26 54 P P **17 55 56.9 +1.5**
comp=Z,21nm,0.7s,mb5.2
MFF Saint Martin d 82.37 44 *e*P P **17 55 55.5 -0.4**
comp=Z,16nm,0.9s,mb4.7
MFF Saint Martin d 82.37 44 *e*P P **17 55 55.5 -0.4**
MFF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MFF Saint Martin d 82.37 44 *e*P P **17 55 55.5 -0.4**
comp=Z,7.9nm,0.9s,mb4.6
EQES Quesada 82.51 53 P P **17 55 57.5 +0.8**
comp=Z,9.9nm,0.7s,mb5.0
EVIA Vianos 82.74 52 P P **17 55 58.7 +0.8**
EVIA pmax pmax
comp=Z,19nm,0.7s,mb5.2
EVIA Vianos 82.74 52 P P **17 55 58.7 +0.8**
comp=Z,19nm,0.7s,mb5.2
EBER Berja 82.88 54 P P **17 55 59.7 +1.1**
comp=Z,29nm,0.7s,mb5.4
ETSF Etsaut 83.06 47 *e*P P **17 55 59.8 +0.3**
comp=Z,27nm,0.8s,mb5.0
ETSF Etsaut 83.06 47 *e*P P **17 55 59.8 +0.3**
ETSF pmax pmax
comp=Z,14nm,0.8s,mb5.0
ETSF Etsaut 83.06 47 *e*P P **17 55 59.8 +0.3**
comp=Z,14nm,0.8s,mb5.0
LFF La Frestale 83.41 45 *e*P P **17 56 01.2 -0.1**
comp=Z,37nm,0.8s,mb5.2
LFF La Frestale 83.41 45 *e*P P **17 56 01.2 -0.1**
LFF pmax pmax
comp=Z,18nm,0.8s,mb5.2
LFF La Frestale 83.41 45 *e*P P **17 56 01.2 -0.1**
comp=Z,18nm,0.8s,mb5.2
EBIE Bielsa 83.61 48 P P **17 56 02.9 +0.5**
comp=Z,14nm,0.7s,mb5.2
EPF Esparros 83.66 47 *e*P P **17 56 02.6 0.0**
comp=Z,20nm,1.0s,mb4.9
EPF Esparros 83.66 47 *e*P P **17 56 02.6 0.0**
EPF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
EPF Esparros 83.66 47 *e*P P **17 56 02.6 0.0**
comp=Z,10nm,1.0s,mb4.9
EMOS Mosqueruela 83.80 50 P P **17 56 04.4 +1.0**
comp=Z,21nm,0.9s,mb5.3
RJF Les Rejaudoux 83.84 45 *e*P P **17 56 03.0 -0.5**
comp=Z,24nm,0.8s,mb5.0
RJF *e*R
comp=Z,290nm,19.8s
RJF Les Rejaudoux 83.84 45 *e*P P **17 56 03.0 -0.5**
RJF pmax pmax
comp=Z,12nm,0.8s,mb5.1
RJF MLR MLR
comp=Z,290nm,19.8s,MS4.7
RJF Les Rejaudoux 83.84 45 *e*P P **17 56 03.0 -0.5**
comp=Z,12nm,0.8s,mb5.1
RJF LR LR
comp=Z,290nm,19.8s,MS4.7
EGRA Graus 83.87 48 P P **17 56 04.5 +0.8**
comp=Z,9.5nm,0.6s,mb5.1
TCF Toulx Ste Croi 84.02 44 *e*P P **17 56 03.9 -0.6**
comp=Z,27nm,1.3s,mb4.9
TCF Toulx Ste Croi 84.02 44 *e*P P **17 56 03.9 -0.6**
TCF pmax pmax
comp=Z,14nm,1.3s,mb4.9
TCF Toulx Ste Croi 84.02 44 *e*P P **17 56 03.9 -0.6**
comp=Z,14nm,1.3s,mb4.9
NB2 NORSAR Subarra 84.10 28 P P **17 56 05.1 +0.2**
comp=Z,0.7nm,0.7s,mb3.9,baz=300,slow=5.3
NOA NORSAR Array B 84.10 28 P P **17 56 05.4 +0.5**
comp=Z,7.1nm,0.8s,mb4.8,baz=296,slow=5.0,SNR=23
NOA LR LR 18 31 44.3
comp=Z,69nm,21.0s,MS4.0,baz=315,slow=34
BAIF Baives 84.16 40 *e*P P **17 56 04.9 -0.3**
CAF Calviac 84.32 45 *e*P P **17 56 05.4 -0.6**
comp=Z,17nm,0.9s,mb4.9
CAF Calviac 84.32 45 *e*P P **17 56 05.4 -0.6**
CAF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
CAF Calviac 84.32 45 *e*P P **17 56 05.4 -0.6**
comp=Z,8.5nm,0.9s,mb4.9
BGF Bois d'Agland 84.36 43 *e*P P **17 56 05.6 -0.6**
DOU Dourbes 84.39 40 P P **17 56 06.6 +0.3**
comp=Z,3.2nm,1.0s,mb4.4
GIVF Givet 84.53 39 *e*P P **17 56 07.1 +0.1**
AVF Avril sur Loir 84.62 43 *e*P P **17 56 06.7 -0.8**
comp=Z,22nm,1.3s,mb4.8
AVF Avril sur Loir 84.62 43 *e*P P **17 56 06.7 -0.8**
AVF pmax pmax
comp=Z,11nm,1.3s,mb4.8
AVF Avril sur Loir 84.62 43 *e*P P **17 56 06.7 -0.8**
comp=Z,11nm,1.3s,mb4.8
SSF Saint Saulge 84.64 43 *e*P P **17 56 07.0 -0.6**
comp=Z,53nm,1.4s,mb5.2
SSF Saint Saulge 84.64 43 *e*P P **17 56 07.0 -0.6**
SSF pmax pmax
comp=Z,26nm,1.4s,mb5.2
SSF Saint Saulge 84.64 43 *e*P P **17 56 07.0 -0.6**
comp=Z,26nm,1.4s,mb5.2
BCLA Clavier 84.72 39 P P **17 56 08.0 0.0**
comp=Z,5.4nm,1.0s,mb4.6
LOR Lormes 84.81 42 *e*P P **17 56 07.9 -0.6**
comp=Z,61nm,1.2s,mb5.3
LOR *e*R
comp=Z,210nm,22.2s
LOR Lormes 84.81 42 *e*P P **17 56 07.9 -0.6**
LOR pmax pmax
comp=Z,30nm,1.2s,mb5.3
LOR MLR MLR
comp=Z,210nm,22.3s,MS4.5
LOR Lormes 84.81 42 *e*P P **17 56 07.9 -0.6**
comp=Z,30nm,1.2s,mb5.3
LOR LR LR
comp=Z,210nm,22.3s,MS4.5
MTLF Montolieu 84.89 46 *e*P P **17 56 08.7 -0.2**
comp=Z,18nm,0.8s,mb4.9
MTLF Montolieu 84.89 46 *e*P P **17 56 08.7 -0.2**
MTLF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
MTLF Montolieu 84.89 46 *e*P P **17 56 08.7 -0.2**
comp=Z,9.3nm,0.8s,mb5.0
HGN Heimansgroeve 84.98 39⇑*e*P P **17 56 09.4 +0.1**
comp=Z,19nm,0.9s,mb5.2
SMF Signal de Mont 84.99 43 *e*P P **17 56 08.6 -0.8**
comp=Z,40nm,1.3s,mb5.1
SMF Signal de Mont 84.99 43 *e*P P **17 56 08.6 -0.8**
SMF pmax pmax
comp=Z,20nm,1.3s,mb5.1
SMF Signal de Mont 84.99 43 *e*P P **17 56 08.6 -0.8**
comp=Z,20nm,1.3s,mb5.1
MEM Membach 85.08 39 P P **17 56 10.3 +0.5**
comp=Z,5.2nm,1.0s,mb4.6
MEZF Maizieres J'vi 85.18 41 *e*P P **17 56 10.0 -0.3**
ARCES ARCESS Array B 85.31 18 P P **17 56 09.0 -2.0**
comp=Z,3.7nm,0.8s,mb4.6,baz=299,slow=2.5,SNR=13
ARCES LR LR 18 34 22.0
comp=Z,112nm,21.5s,MS4.2,baz=285,slow=36
WLF Walferdange 85.48 40 *e*P P **17 56 12.2 +0.4**
comp=Z,15nm,0.9s,mb5.1
WLF Walferdange 85.48 40 P P **17 56 12.3 +0.4**
comp=Z,6.3nm,0.8s,mb4.8
HFS Hagfors 85.58 28 P P **17 56 11.6 -0.7**
comp=Z,3.0nm,1.0s,mb4.5,baz=198,slow=4.4,SNR=4.2
LASF Ste Croix 85.80 45 *e*P P **17 56 13.0 -0.4**
comp=Z,38nm,1.0s,mb5.3
VIVF Saint-Julien-l 86.10 44 *e*P P **17 56 14.5 -0.4**
comp=Z,23nm,1.1s,mb5.0
VIVF Saint-Julien-l 86.10 44 *e*P P **17 56 14.5 -0.4**
VIVF pmax pmax
comp=Z,12nm,1.1s,mb5.0
VIVF Saint-Julien-l 86.10 44 *e*P P **17 56 14.5 -0.4**
comp=Z,12nm,1.1s,mb5.0
HAU Haudompre 86.16 41 *e*P P **17 56 14.8 -0.4**
comp=Z,30nm,1.0s,mb5.2
HAU *e*R
comp=Z,162nm,19.2s
HAU Haudompre 86.16 41 *e*P P **17 56 14.8 -0.4**
HAU pmax pmax
comp=Z,15nm,1.0s,mb5.2
HAU MLR MLR
comp=Z,160nm,19.3s,MS4.4
HAU Haudompre 86.16 41 *e*P P **17 56 14.8 -0.4**
comp=Z,15nm,1.0s,mb5.2
HAU LR LR
comp=Z,160nm,19.3s,MS4.4
BSEG Bad Segeberg 86.37 35 *e*P P **17 56 16.3 0.0**
comp=Z,6.0nm,0.7s,mb4.9
BSEG Bad Segeberg 86.37 35 *e*P P **17 56 16.3 0.0**
BSEG pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
CABF La Chapelle 86.46 42 *e*P P **17 56 16.4 -0.3**
comp=Z,19nm,0.9s,mb5.0
CABF La Chapelle 86.46 42 *e*P P **17 56 16.4 -0.3**
CABF pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
CABF La Chapelle 86.46 42 *e*P P **17 56 16.4 -0.3**
comp=Z,9.4nm,0.9s,mb5.0
HINF Hinteralfeld 86.54 41 *e*P P **17 56 16.4 -0.7**
comp=Z,14nm,1.0s,mb4.8
HINF Hinteralfeld 86.54 41 *e*P P **17 56 16.4 -0.7**
HINF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
HINF Hinteralfeld 86.54 41 *e*P P **17 56 16.4 -0.7**
comp=Z,6.9nm,1.0s,mb4.8
CDF Champ du Feu 86.60 41 *e*P P **17 56 16.9 -0.5**
comp=Z,16nm,1.1s,mb4.8
CDF Champ du Feu 86.60 41 *e*P P **17 56 16.9 -0.5**
CDF pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
CDF Champ du Feu 86.60 41 *e*P P **17 56 16.9 -0.5**
comp=Z,7.8nm,1.1s,mb4.8
NRDL Niedersach Rie 86.81 36 *e*P P **17 56 17.5 -0.9**
comp=Z,6.0nm,0.9s,mb4.8
ORIF Oris-en-Rattie 86.89 44 *e*P P **17 56 19.2 +0.4**
comp=Z,28nm,1.3s,mb5.0
ORIF *e*R
comp=Z,268nm,19.8s
ORIF Oris-en-Rattie 86.89 44 *e*P P **17 56 19.2 +0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ORIF				pmax	pmax		
	comp=Z,14nm,1.3s,mb5.0						
ORIF	**Oris-en-Rattie**	**86.89**	**44**	*e*P	**P**	**17 56 19.2**	**+0.4**
	comp=Z,14nm,1.3s,mb5.0						
SMRF	**Simiane la Rot**	**87.00**	**45**	*e*P	**P**	**17 56 19.7**	**+0.4**
	comp=Z,72nm,1.3s,mb5.4						
SMRF	**Simiane la Rot**	**87.00**	**45**	*e*P	**P**	**17 56 19.7**	**+0.4**
	comp=Z,72nm,1.3s,mb5.7						
CLZ	**Clausthal**	**87.20**	**37**	*e*P	**P**	**17 56 20.4**	**+0.1**
	comp=Z,4.0nm,0.8s,mb4.7						
CLZ	**Clausthal**	**87.20**	**37**	*e*P	**P**	**17 56 20.4**	**+0.1**
CLZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
LPL	**La Plagne**	**87.26**	**43**	*e*P	**P**	**17 56 21.1**	**+0.5**
LPG	**La Plagne**	**87.28**	**43**	*e*P	**P**	**17 56 21.3**	**+0.6**
TIXI	**Tiksi**	**87.40**	**347**	*e*P	**P**	**17 56 19.0**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,16nm,2.5s,mb4.8						
LMR	**La Mourre**	**87.86**	**45**	*e*P	**P**	**17 56 22.8**	**-0.7**
GRA1	**Grafenberg Arr**	**88.54**	**38**	*e*P	**P**	**17 56 27.5**	**+0.8**
	comp=Z,3.0nm,0.8s,mb4.7						
GRA1				LR	LR		
	comp=Z,100nm,18.1s,MS4.3						
GRF	**Grafenberg Arr**	**88.54**	**38**	*e*P	**P**	**17 56 27.5**	**+0.8**
	comp=Z,3.0nm,0.8s,mb4.7						
GRF				*e*L		18 37 09.7	
	comp=Z,130nm,18.1s						
GRF	**Grafenberg Arr**	**88.54**	**38**	*e*P	**P**	**17 56 27.5**	**+0.8**
GRF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
GRF				MLR	MLR		
	comp=Z,100nm,18.1s,MS4.3						
GRF	**Grafenberg Arr**	**88.54**	**38**	*e*P	**P**	**17 56 27.5**	**+0.8**
GRF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
GRF				MLR	MLR		
	comp=Z,100nm,18.1s,MS4.3						
WERD	**Werda**	**88.88**	**37**	*e*P	**P**	**17 56 28.3**	**0.0**
	comp=Z,3.0nm,1.0s,mb4.6						
CLL	**Collm**	**88.92**	**36**	*e*P	**P**	**17 56 28.2**	**-0.3**
	comp=Z,5.0nm,1.1s,mb4.8						
GUNZ	**Gunzen**	**88.92**	**37**	*e*P	**P**	**17 56 29.3**	**+0.8**
	comp=Z,6.0nm,1.2s,mb4.8						
MANZ	**Manzenberg**	**88.95**	**38**	*e*P	**P**	**17 56 28.5**	**-0.1**
	comp=Z,6.0nm,1.3s,mb4.8						
TANN	**Tannenbergstha**	**88.98**	**37**	*e*P	**P**	**17 56 28.5**	**-0.3**
	comp=Z,6.0nm,1.3s,mb4.8						
ROTZ	**Rotzenmuhle**	**89.09**	**38**	*e*P	**P**	**17 56 29.1**	**-0.2**
	comp=Z,2.0nm,0.9s,mb4.5						
LIC	**Lamto**	**89.16**	**84**	*e*P	**P**	**17 56 28.9**	**-0.7**
	comp=Z,20nm,1.1s,mb5.1						
LIC				*e*R			
	comp=Z,109nm,19.8s						
LIC	**Lamto**	**89.16**	**84**	*e*P	**P**	**17 56 28.9**	**-0.7**
	comp=Z,9.8nm,1.1s,mb5.0						
LIC				LR	LR		
	comp=Z,50nm,19.8s,MS3.9						
DBIC	**Dimbokro**	**89.20**	**83**	LR	LR	18 31 29.0	
	comp=Z,77nm,20.4s,MS4.1,baz=270,slow=32						
FBE	**Freiberg**	**89.29**	**37**	*e*P	**P**	**17 56 30.0**	**-0.2**
	comp=Z,3.0nm,0.9s,mb4.6						
BRG	**Berggiesshubel**	**89.64**	**37**	*e*P	**P**	**17 56 31.7**	**-0.2**
	comp=Z,6.0nm,1.0s,mb4.9						
BRG	**Berggiesshubel**	**89.64**	**37**	*e*P	**P**	**17 56 31.6**	**-0.3**
	comp=Z,3.9nm,1.1s,mb4.7						
BRG				*e*		17 56 40.5	
	comp=Z,3.8nm,1.2s						
BRG	**Berggiesshubel**	**89.64**	**37**	*e*P	**P**	**17 56 31.6**	**-0.3**
BRG				*e*		17 56 40.5	
BRG				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.7						
BRG				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.6						
WET	**Wettzell**	**89.75**	**38**	*e*P	**P**	**17 56 32.5**	**+0.1**
	comp=Z,4.0nm,0.9s,mb4.8						
WET	**Wettzell**	**89.75**	**38**	*e*P	**P**	**17 56 32.5**	**+0.1**
WET				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
PGF	**Pioggiola**	**89.84**	**46**	*e*P	**P**	**17 56 32.5**	**-0.3**
	comp=Z,69nm,1.3s,mb5.5						
PGF	**Pioggiola**	**89.84**	**46**	*e*P	**P**	**17 56 32.5**	**-0.3**
PGF				pmax	pmax		
	comp=Z,35nm,1.3s,mb5.5						
PGF	**Pioggiola**	**89.84**	**46**	*e*P	**P**	**17 56 32.5**	**-0.3**
	comp=Z,35nm,1.3s,mb5.5						
KHC	**Kasperske Hory**	**90.17**	**38**	*e*P	**P**	**17 56 35.0**	**+0.6**
FINES	**FINESS Array B**	**90.18**	**24**	P	**P**	**17 56 32.6**	**-1.7**
	comp=Z,0.6nm,0.7s,mb4.1,baz=9.5,slow=2.3,SNR=7.2						
FINES				LR	LR	18 38 45.7	
	comp=Z,66nm,18.1s,MS4.1,baz=358,slow=37						
GEC2	**GERESS Array S**	**90.37**	**38**	*e*P	**P**	**17 56 35.5**	**+0.2**
	comp=Z,2.0nm,0.9s,mb4.5						
GEC2	**GERESS Array S**	**90.37**	**38**	*e*P	**P**	**17 56 35.5**	**+0.2**
GEC2				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.5						
GERES	**GERESS Array B**	**90.37**	**38**	P	**P**	**17 56 34.2**	**-1.0**
	comp=Z,1.4nm,0.9s,mb4.3,baz=343,slow=4.2,SNR=8.1						
GERES				PP	PP	18 00 06.3	-3.0
	comp=Z,0.6nm,0.8s,baz=318,slow=1.8,SNR=3.7						
GERES				LR	LR	18 38 00.1	
	comp=Z,248nm,18.4s,MS4.7,baz=284,slow=36						
GERES	**GERESS Array B**	**90.37**	**38**	P	**P**	**17 56 34.2**	**-1.1**
GERES						18 00 06.3	
TORD	**Torodi Ar. Bea**	**93.55**	**75**	P	**P**	**17 56 48.8**	**-1.2**
	comp=Z,1.0nm,1.0s,mb4.2,baz=278,slow=4.0,SNR=3.2						
TORD				LR	LR	18 33 59.9	
	comp=Z,157nm,21.0s,MS4.5,baz=295,slow=32						
YAK	**Yakutsk**	**94.24**	**340**	*e*P	**P**	**17 56 52.1**	**-1.1**
YAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.7						
AKASG	**Malin Array Be**	**98.00**	**32**	PP	PP	18 01 03.7	-5.2
	comp=Z,0.2nm,0.3s,baz=307,slow=7.4,SNR=4.1						
AKASG				LR	LR	18 43 27.3	
	comp=Z,95nm,19.4s,MS4.3,baz=290,slow=37						
OBN	**Obninsk**	**98.48**	**25**	*e*P	**P**	**17 57 12.5**	**+0.1**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.5						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.5						
BJI	**Beijing**	**116.65**	**333**	PKP	PKPdf	18 02 11.0	-7.2
MKAR	**Makanchi Array**	**117.38**	**1**	PKP	PKPdf	18 02 16.8	-2.8
	comp=Z,0.5nm,0.7s,baz=354,slow=1.2,SNR=5.3						
MKAR				PP	PP	18 03 32.1	+1.3
	comp=Z,0.7nm,0.9s,baz=342,slow=1.5,SNR=3.6						
HHC	**Hu-ho-hao-te**	**117.86**	**337**	*e*PKP	PKPdf	18 02 19.1	-1.4
HHC				PP	PP	18 03 37.5	+3.4
HHC				SKS	SKSdf	18 09 26.0	-7.3
HHC				SKKS	SKKSac	18 10 25.4	-10
HHC				SS	SS	18 19 40.1	-7.7
HHC				LR	LR		
	comp=Z,112nm,22.6s,MS4.4						
NJ2	**Nanjing**	**121.66**	**325**	*e*PKP	PKPdf	18 02 29.5	+1.6
NJ2				PP	PP	18 04 07.0	+6.8
NJ2				PKS		18 06 05.0	
NJ2				SKS	SKSdf	18 09 37.0	-3.6
NJ2				SKKS	SKKSac	18 10 55.0	-5.5
NJ2				PP	PP		
	comp=Z,200nm,6.2s						
NJ2				LR	LR		
	comp=Z,2µm,21.7s,MS5.7						
LZH	**Lanzhou**	**124.83**	**341**	*e*PKP	PKPdf	18 02 30.5	-3.4
LZH				LR	LR		
	comp=Z,248nm,20.2s,MS4.9						
STKA	**Stephens Creek**	**125.73**	**242**	*e*PKIKP	PKPdf	18 02 41.2	+5.5
	comp=Z,4.7nm,0.8s						
STKA	**Stephens Creek**	**125.73**	**242**	PKP	PKPdf	18 02 33.6	-2.0
	comp=Z,1.2nm,0.8s,baz=146,slow=9.1,SNR=2.8						
STKA	**Stephens Creek**	**125.73**	**242**	PKP	PKPdf	18 02 33.6	-2.0
STKA				*e*PKPdf	PKPdf	18 02 41.2	+5.5
MAW	**Mawson**	**126.73**	**170**	PKP	PKPdf	18 02 35.2	-2.4
	comp=Z,1.4nm,0.8s,baz=312,slow=13,SNR=3.6						
CD2	**Chengdu**	**129.57**	**338**	*e*PKP	PKPdf	18 02 37.2	-5.8
WB2	**Warramunga Arr**	**132.17**	**258**	*e*PKIKP	PKPdf	18 02 54.7	+6.8
WRA	**Warramunga Arr**	**132.18**	**258**	PKP	PKPdf	18 02 46.2	-1.8
	comp=Z,0.7nm,0.8s,baz=94,slow=3.7,SNR=5.0						
GYA	**Guiyang**	**132.34**	**332**	*e*PKP	PKPdf	18 02 47.9	-0.3
GYA				PKS		18 06 22.8	
GYA				SKKS	SKKSac	18 12 07.2	-0.7
GYA				PP	PP		
	comp=Z,110nm,7.8s						
GYA				LR	LR		
	comp=Z,120nm,20.6s,MS4.6						
ASAR	**Alice Springs**	**132.73**	**253**	PKP	PKPdf	18 02 46.9	-2.1
	comp=Z,0.4nm,0.8s,baz=112,slow=2.9,SNR=6.2						
KMI	**Kunming**	**135.17**	**336**	PKP	PKPdf	18 02 51.5	-2.0
KMI				PP	PP	18 05 30.1	+1.2
KMI				SS	SS	18 23 18.4	-5.7
KMI				PP	PP		
	comp=Z,174nm,5.8s						
KMI				LR	LR		
	comp=Z,154nm,17.9s,MS4.8						
KLBR	**Kellerberrin**	**145.72**	**237**	*e*PKIKP	PKPdf	18 03 17.7	+5.1
	comp=Z,25nm,1.1s						
MBWA	**Marble Bar**	**145.89**	**256**	*e*PKPdf	PKPdf	18 03 10.9	-1.9
HYB	**Hyderabad**	**146.25**	**10**	*i* PKP	PKPdf	18 03 12.0	-1.5
MUN	**Mundaring**	**146.83**	**236**	*e*PKIKP	PKPdf	18 03 21.6	+7.2
KSM	**Kuching**	**148.75**	**302**	*e*PKPbc	PKPbc	18 03 20.1	-1.4

*ISCJB **07** 18:00:02.2±0.6, 3396N±002×3501E±005, h32km, Error ellipse: s-maj=6.2km s-min=2.9km az=23.6*
*GII **07** 18:00:02.1±1.2, 3387N×3487E, h9km±1km, ML2.4/6, Mw2.8/5*
*CSEM **07** 18:00:03.3±0.4, 3391N×3494E, h30km, Mw2.8, Error ellipse: s-maj=8.8km s-min=3.5km az=125.0*
*GRAL **07** 18:00:03.4±0.5, 3393N×3500E, h32km±9km, MD3.1*
*NSSC **07** 18:00:05.2, 3400N×3529E, h32km±3km*
ISC 07 18:00:03.2±0.8**, 3395N**±002×**3503E**±005**, h34**km±5km**, n24, σ0ˢ78**/43**, 6D, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.52**	**95**	*i* Pg	**Pb**	**18 00 13.7**	**-0.4**
BHL				*i* Sg	**Sb**	**18 00 21.6**	**0.0**
MATL	**Matirih**	**0.52**	**152**	*i* Pg	**Pb**	**18 00 13.3**	**-0.9**
RCY	**Rachaya**	**0.80**	**125**	*i* Pg	**Pn**	**18 00 18.1**	**+0.1**
RCY				*i* Sg	**Sn**	**18 00 29.1**	**+0.3**
HWQ	**Hawqa**	**0.82**	**66**	*i* Pg	**Pn**	**18 00 18.8**	**+0.4**
HWQ				*i* Sg	**Sn**	**18 00 30.1**	**+0.7**
HNTI	**Hanita**	**0.87**	**172**	Pg	**Pn**	**18 00 17.9**	**-1.2**
HNTI				Sg	**Sn**	**18 00 28.8**	**-1.8**
KSDI	**Kefar Szold**	**0.92**	**145**	Pg	**Pn**	**18 00 19.5**	**-0.2**
BRBR	**Barbar**	**0.93**	**125**	⇑P	**Pn**	**18 00 20.3**	**+0.4**
BRBR				⇓S	**Sn**	**18 00 31.3**	**-0.8**
MMA0	**Mount Meron ar**	**0.98**	**162**	Pg	**Pn**	**18 00 20.0**	**-0.5**
MMA0				Sg	**Sn**	**18 00 32.0**	**-1.3**
QASN	**Qassioun**	**1.11**	**112**	⇑P	**Pn**	**18 00 22.3**	**-0.1**
QASN				⇓S	**Sn**	**18 00 35.0**	**-1.6**
TOTH	**TOTAH**	**1.30**	**116**	⇑P	**Pn**	**18 00 26.0**	**+1.0**
TOTH				⇑S	**Sn**	**18 00 41.1**	**0.0**
OFRI	**‘Ofer**	**1.32**	**182**	Pg	**Pn**	**18 00 24.5**	**-0.8**
OFRI				Sg	**Sn**	**18 00 41.0**	**-0.8**
TCHB	**Talchebab**	**1.50**	**148**	⇑P	**Pn**	**18 00 28.4**	**+0.8**
TCHB				⇓S	**Sn**	**18 00 46.9**	**+0.9**
BIDA	**Albida**	**1.50**	**45**	⇑P	**Pn**	**18 00 28.0**	**+0.2**
MMLI	**Mount Malkishu**	**1.54**	**168**	Pn	**Pn**	**18 00 28.3**	**0.0**
MMLI				Sn	**Sn**	**18 00 47.2**	**+0.1**
SLTI	**Sal’it**	**1.70**	**180**	Pn	**Pn**	**18 00 30.2**	**-0.3**
SLTI				Sn	**Sn**	**18 00 50.7**	**-0.4**
HMDT	**Nahal Hemdat**	**1.74**	**166**	Pn	**Pn**	**18 00 31.3**	**+0.3**
HMDT				Sn	**Sn**	**18 00 53.4**	**+1.4**
SALA	**Sala**	**1.88**	**130**	⇓P	**Pn**	**18 00 34.1**	**+1.2**
SALA				⇑S	**Sn**	**18 00 56.6**	**+1.1**
SLNF	**Slenfeh**	**1.91**	**30**	⇑P	**Pn**	**18 00 33.8**	**+0.4**
SLNF				⇑S	**Sn**	**18 00 55.0**	**-1.2**
WRDH	**Warideh**	**1.93**	**36**	⇓P	**Pn**	**18 00 34.1**	**+0.6**
WRDH				⇑S	**Sn**	**18 00 55.4**	**-1.2**
ARNB	**Al Arnab**	**2.06**	**22**	⇑P	**Pn**	**18 00 36.3**	**+0.9**
ARNB				⇑S	**Sn**	**18 00 59.4**	**-0.4**
DRGI	**Dragot**	**2.37**	**173**	Pn	**Pn**	**18 00 40.4**	**+0.8**
BTCH	**Batrach**	**2.39**	**29**	⇑P	**Pn**	**18 00 40.5**	**+0.6**
BTCH				⇓S	**Sn**	**18 01 07.5**	**-0.5**
AMAZ	**Amatzia**	**2.41**	**182**	Pn	**Pn**	**18 00 40.6**	**+0.4**
AMAZ				Sn	**Sn**	**18 01 08.9**	**+0.4**
MKRJ	**Makawir**	**2.44**	**168**	Pn	**Pn**	**18 00 41.6**	**+1.0**

NEIC 07 18:13:44.5, 5720N×**15409W, h51**km**, ML3.5**(PMR)**, ML3.5**(AEIC)**, After AEIC., Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.00**	**54**	P	Pn	18 14 01.6	-0.6
KDAK				S	Sn	18 14 14.7	-0.6
CHGN	**Chignik**	**2.55**	**251**	P	Pn	18 14 22.1	-1.2
SEW	**Seward**	**3.79**	**38**	P	Pn	18 14 38.4	-1.9
SLKM	**Skilak Lake**	**3.88**	**30**	P	Pn	18 14 40.1	-1.4
SVW2	**Sparrevohn**	**3.98**	**350**	P	Pn	18 14 42.3	-0.7
SDPT	**Sand Point**	**4.02**	**245**	P	Pn	18 14 42.0	-1.4
RC01	**Rabbit Creek A**	**4.50**	**28**	P	Pn	18 14 48.8	-1.3
PMR	**Palmer**	**5.08**	**28**	*e*P	Pn	18 14 56.8	-1.2
SML	**Sawmill**	**5.47**	**30**	P	Pn	18 15 01.5	-1.9
EYAK	**Cordova Ski Ar**	**5.47**	**49**	P	Pn	18 15 01.5	-2.0
DIV	**Divide**	**5.81**	**44**	P	Pn	18 15 06.5	-1.6
BMRM	**Bremner River**	**6.18**	**48**	P	Pn	18 15 11.1	-2.0
MCK	**McKinley**	**7.03**	**19**	*e*Pn	Pn	18 15 23.5	-1.2
PNL	**Peninsula**	**8.10**	**66**	P	Pn	18 15 37.6	-1.7
DAWY	**Dawson**	**9.95**	**40**	*e*Pn	Pn	18 16 03.7	-1.1
INK	**Inuvik**	**14.48**	**31**	*e*Pn	Pn	18 17 04.9	-1.5

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*CSEM **07** 18:40:10.9±0.8, 3862N×2856W, h10km, ML0.9, Error ellipse: s-maj=3.7km s-min=2.2km az=129.0, After PDA*
*PDA **07** 18:40:10.9±0.8, 3862N×2856W, h10km, MD2.7, ML0.9, Error ellipse: s-maj=3.7km s-min=2.2km az=129.0*
SVSA 07 18:40:10.9±0.8**, 3862N**×**2856W, h10**km**, MD2.7, ML0.9, Error ellipse: s-maj=3.7km s-min=2.2km az=129.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOR	**Horta**	**0.11**	**213**	*e*P	Pg	18 40 13.2	-0.4
HOR				*e*S	Sg	18 40 15.2	-0.3
PICO	**Pico**	**0.16**	**139**	*e*P	Pg	18 40 14.0	-0.3
PICO				*e*S	Sg	18 40 16.8	+0.1
PCND	**Candelaria**	**0.17**	**154**	*e*S	Sg	18 40 17.1	+0.1
PCND							
	17nm,0.1s						
ROSA	**Rosais**	**0.27**	**68**	*e*P	Pg	18 40 15.8	-0.5
ROSA				*e*S	Sg	18 40 19.5	-0.4
PMAN	**Manadas**	**0.36**	**88**	*e*S	Sg	18 40 21.8	-1.2
PMAN							
	9.1nm,0.2s						
PID	**Ribeirinha**	**0.39**	**117**	*e*S	Sg	18 40 22.3	-1.3

NNC 07 18:46:15.2±3.9**, 3681N**×**7014E, h0**km**, mb3.4, mpv3.6, 2C-2D, Error ellipse: s-maj=42.5km s-min=27.1km az=112.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.29**	**2**	P	Pn	18 47 49.0	-0.1
	1.3nm,0.2s,baz=176,slow=12,SNR=50						
KK31				⇓S	Sn	18 49 03.1	+1.4
	0.8nm,0.3s,baz=183,slow=24,SNR=6.6						
AB31	**Akbulak array**	**14.48**	**332**	⇑P	Pn	18 49 41.8	+0.5
	0.5nm,0.3s,baz=153,slow=12,SNR=22						
AB31				⇑S	Sn	18 52 22.5	0.0
	0.3nm,0.4s						
AKTO	**Aktyubinsk**	**16.17**	**331**	⇓P	Pn	18 50 03.7	0.0
	0.3nm,2.0s						

IDC 07 19:08:35.0±1.7**, 2949S**×**17778W, h80**km±9km**, mb3.9**/2**, mb1 4.2**/2**, mb1mx3.6**/11**, mbtmp4.2**/2**, MS3.7**/10**, Ms1 3.6**/10**, ms1mx3.4**/21**, Error ellipse: s-maj=64.0km s-min=35.1km az=179.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.26**	**333**	P	Pn	19 08 33.9	-13
	5µm,0.3s,baz=99,slow=8.6,SNR=138						
DZM	**Mont Dzumac**	**16.00**	**294**	LR	LR	19 17 09.2	
	comp=Z,445nm,18.5s,baz=206,slow=32						
RAR	**Rarotonga**	**18.23**	**67**	LR	LR	19 17 10.4	
	comp=Z,26nm,19.6s,baz=272,slow=28						
TBI	**Tubuai**	**26.05**	**83**	*e*LQ		19 19 31.2	
	322nm,23.2s						
TBI				*e*LR	LR	19 20 30.2	
	251nm,30.8s						
PPT	**Papeete**	**28.37**	**72**	*e*LR	LR	19 21 37.1	
	182nm,25.5s						
PPT	**Papeete**	**28.37**	**72**	LR	LR	19 23 20.6	
	comp=Z,95nm,19.0s,baz=162,slow=31						
HNR	**Honiara**	**28.86**	**309**	LR	LR	19 23 44.0	
	comp=Z,117nm,19.9s,baz=180,slow=32						
STKA	**Stephens Creek**	**34.88**	**256**	P	P	19 15 15.7	-2.8
	7.0nm,1.1s,baz=106,slow=9.1,SNR=3.3						
STKA				LR	LR	19 27 10.2	
	comp=Z,128nm,20.4s,baz=124,slow=32						
PMG	**Port Moresby**	**38.40**	**294**	LR	LR	19 26 50.4	
	comp=Z,82nm,21.8s,baz=208,slow=28						
ASAR	**Alice Springs**	**43.35**	**266**	P	P	19 16 29.1	0.0
	2.8nm,0.9s,baz=123,slow=7.9,SNR=18						
ASAR				pP	pP	19 16 49.9	+1.3
	1.2nm,0.6s,baz=98,slow=7.5,SNR=3.6						
ASAR				LR	LR	19 32 01.9	
	comp=Z,124nm,20.2s,baz=178,slow=32						
WRA	**Warramunga Arr**	**44.26**	**271**	P	P	19 16 36.0	-0.4
	4.5nm,1.0s,baz=110,slow=7.9,SNR=14						
WRA				pP	pP	19 16 56.5	+0.6
	1.5nm,0.7s,baz=110,slow=7.6,SNR=3.1						
GUMO	**Guam**	**55.97**	**315**	LR	LR	19 36 59.6	
	comp=Z,122nm,19.4s,baz=89,slow=30						
MAW	**Mawson**	**73.23**	**200**	LR	LR	19 49 24.5	
	comp=Z,79nm,21.6s,baz=241,slow=34						
PLCA	**Paso Flores**	**82.99**	**133**	LR	LR	19 49 23.3	
	comp=Z,56nm,21.9s,baz=187,slow=30						
ARCES	**ARCESS Array B**	**137.74**	**348**	PKP	PKPdf	19 27 52.2	+2.4
	0.3nm,0.4s,baz=98,slow=1.7,SNR=4.5						
FINES	**FINESS Array B**	**144.35**	**341**	PKP	PKPdf	19 28 00.6	-1.1
	1.1nm,0.5s,baz=61,slow=3.9,SNR=18						
FINES				pPKP	pPKPdf	19 28 21.4	-2.9
	0.9nm,0.5s,baz=83,slow=4.8,SNR=3.3						
AKASG	**Malin Array Be**	**150.68**	**324**	PKPbc	PKPbc	19 28 18.4	+0.7
	0.5nm,0.4s,baz=51,slow=2.2,SNR=7.2						
TORD	**Torodi Ar. Bea**	**163.73**	**178**	PKPab	PKPab	19 29 20.4	-0.6
	0.9nm,0.9s,baz=167,slow=3.3,SNR=4.1						

IDC 07 19:09:09.7±1.8**, 492N**×**12765E, h0**km**, mb3.7**/5**, mb1 3.8**/5**, mb1mx3.6**/19**, mbtmp3.7**/5**, Error ellipse: s-maj=105.9km s-min=21.9km az=69.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.96**	**185**	P	P	19 14 16.4	+0.7
	1.9nm,0.9s,baz=22,slow=16,SNR=3.8						
WRA	**Warramunga Arr**	**25.57**	**165**	P	P	19 14 41.0	+0.7
	0.8nm,0.6s,baz=344,slow=10.0,SNR=13						
ASAR	**Alice Springs**	**29.07**	**168**	P	P	19 15 11.6	-0.1
	0.2nm,0.9s,baz=348,slow=6.7,SNR=4.2						
STKA	**Stephens Creek**	**38.93**	**161**	P	P	19 16 36.7	-0.5
	1.3nm,0.7s,baz=331,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**57.11**	**324**	P	P	19 18 58.0	+0.2
	0.7nm,0.3s,baz=108,slow=7.3,SNR=27						

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*NIED **07** 19:17:00, 40.10N×142.40E, h41km, Mw3.8 Best double couple: M0 6.18000×10^14 NP1:φs30.00000°, δ75.00000°, λ101.00000°. NP2:φs174.00000°, δ19.00000°, λ56.00000°.*
*MOS **07** 19:17:53.9±1.1, 4027N×14266E, h56km, mb4.0/8, Error ellipse: s-maj=19.1km s-min=10.7km az=85.2*
*ISCJB **07** 19:17:54.1±1.1, 40.18N±0.04×1425E±0.1, h49km±8km, mb3.9/9, Error ellipse: s-maj=14.4km s-min=7.3km az=172.7*
*JMA **07** 19:17:55.1±0.1, 40.15N×142.44E, h35km±1km, M3.9*
JMA Felt I J1.
*IDC **07** 19:17:56.6±3.2, 40.18N×142.66E, h65km±26km, mb3.5/6, mb1 3.6/8, mb1mx3.4/21, mbtmp3.8/8, ML3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx1.8/34, Error ellipse: s-maj=42.4km s-min=21.5km az=91.0*
*NEIC **07** 19:17:57.0±4.0, 40.16N×142.62E, h68km±30km, mb4.3/2, Error ellipse: s-maj=45.4km s-min=16.6km az=69.0*
NEIC Recorded [1 JMA] in Iwate Prefecture.
ISC 07 19:17:54.9±1.0**, 4018N**±004×**1425E**±01**, h42**km±8km**, n35, σ1ˢ05**/44**, mb3.9**/9**, 7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.53**	**243**	⇓P	**Pn**	**19 18 05.5**	**-0.6**
JTH				S	**Sn**	**19 18 13.0**	**-1.0**
JANG	**Nango**	**0.76**	**285**	⇓P	**Pn**	**19 18 08.9**	**-0.3**
JANG				S	**Sn**	**19 18 18.6**	**-0.9**
MIYJ	**Miyakonagasawa**	**0.79**	**220**	⇓P	**Pn**	**19 18 08.8**	**-0.7**
MIYJ				S	**Sn**	**19 18 18.5**	**-1.6**
JKZ	**Kuzumaki**	**0.90**	**258**	⇓P	**Pn**	**19 18 11.2**	**+0.1**
JKZ				S	**Sn**	**19 18 22.6**	**-0.3**
JOM	**Ohasama**	**1.15**	**233**	⇓P	**Pn**	**19 18 14.9**	**+0.4**
JOM				*e*S	**Sn**	**19 18 29.3**	**+0.2**
JTM	**Tenmabayashi**	**1.24**	**300**	⇓P	**Pn**	**19 18 16.4**	**+0.7**
JTM				S	**Sn**	**19 18 32.3**	**+1.2**
OFUJ	**Ofunato**	**1.26**	**210**	⇓P	**Pn**	**19 18 16.1**	**+0.1**
OFUJ				*e*S	**Sn**	**19 18 32.1**	**+0.4**
ASAJ	**Asahikawa**	**3.94**	**1**	P	**Pn**	**19 18 54.4**	**+1.6**
	3.5nm,0.3s,baz=220,slow=9.7,SNR=32						
ASAJ	**Asahikawa**	**3.94**	**1**	P	**Pn**	**19 18 54.4**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MAJO	**Matsushiro**	**4.94**	**224**	*e*P	**Pn**	**19 19 09.3**	**+2.7**
MAJO				pmax	pmax		
	comp=Z,17nm,0.6s						
MAJO	**Matsushiro**	**4.94**	**224**	*e*P	**Pn**	**19 19 09.3**	**+2.8**
	comp=Z,17nm,0.6s						
MAT	**Matsushiro**	**4.94**	**224**	P	**Pn**	**19 19 09.2**	**+2.6**
MAT				*e*S	**Sn**	**19 20 10.2**	**+7.7**
MAT	**Matsushiro**	**4.94**	**224**	*e*P	**Pn**	**19 19 10.0**	**+3.4**
MAT				S	**Sn**	**19 20 16.0**	**+14**
MAT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MAT	**Matsushiro**	**4.94**	**224**	*e*P	**Pn**	**19 19 10.0**	**+3.4**
	comp=Z,10.0nm,0.6s						
MAT				S	**Sn**	**19 20 16.0**	**+14**
MJAR	**Matsushiro Arr**	**4.94**	**224**	P	**Pn**	**19 19 09.7**	**+3.1**
	comp=Z,2.0nm,0.3s,baz=32,slow=14,SNR=47						
MJAR				LR	LR	19 21 19.1	
	comp=Z,99nm,21.6s,baz=220,slow=40						
MJAR	**Matsushiro Arr**	**4.94**	**224**	P	**Pn**	**19 19 09.7**	**+3.1**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,99nm,21.6s						
YSS	**Yuzh-Sakhalins**	**6.78**	**2**	P	**Pn**	**19 19 29.8**	**-1.9**
BOD	**Bodaibo**	**25.41**	**324**	*e*P	**P**	**19 23 17.9**	**-0.4**
BOD				*e*		19 23 31.8	
BOD				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
BOD				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
SONM	**Songino Array**	**26.87**	**299**	P	**P**	**19 23 32.1**	**+0.6**
	comp=Z,0.6nm,0.5s,mb3.4,baz=101,slow=9.2,SNR=8.0						
SONM	**Songino Array**	**26.87**	**299**	P	**P**	**19 23 32.1**	**+0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**40.49**	**310**	P	**P**	**19 25 29.4**	**-0.2**
	comp=Z,0.9nm,0.5s,mb3.8,baz=21,slow=13,SNR=3.4						
ZAL	**Zalesovo**	**40.49**	**310**	P	**P**	**19 25 29.4**	**-0.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**43.23**	**299**	P	**P**	**19 25 52.1**	**+0.3**
	comp=Z,0.7nm,0.5s,mb3.7,baz=76,slow=11,SNR=13						
MKAR	**Makanchi Array**	**43.23**	**299**	P	**P**	**19 25 52.2**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**44.71**	**306**	*e*P	**P**	**19 26 03.4**	**-0.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
KURK	**Kurchatov**	**44.71**	**306**	*e*P	**P**	**19 26 03.4**	**-0.4**
	comp=Z,3.7nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**49.95**	**311**	*e*P	**P**	**19 26 45.1**	**+0.6**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
ZRNK	**Zerenda**	**49.95**	**311**	*e*P	**P**	**19 26 45.1**	**+0.6**
	comp=Z,2.6nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**60.29**	**189**	P	**P**	**19 27 58.4**	**-0.7**
	comp=Z,0.5nm,0.7s,mb3.6,baz=6.7,slow=7.3,SNR=5.4						
WRA	**Warramunga Arr**	**60.29**	**189**	P	**P**	**19 27 58.4**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**61.36**	**339**	P	**P**	**19 28 05.0**	**-1.4**
	comp=Z,1.4nm,1.0s,mb4.0,baz=31,slow=5.7,SNR=4.1						
ARCES	**ARCESS Array B**	**61.36**	**339**	P	**P**	**19 28 05.0**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**64.01**	**189**	pP	pP	19 28 37.1	+0.8
	comp=Z,0.2nm,0.4s,baz=1.4,slow=6.6,SNR=2.3						
NOA	**NORSAR Array B**	**71.61**	**337**	P	**P**	**19 29 11.6**	**-0.3**
	comp=Z,0.8nm,0.8s,mb3.7,baz=42,slow=8.3,SNR=3.5						
NOA	**NORSAR Array B**	**71.61**	**337**	P	**P**	**19 29 11.6**	**-0.3**
NOA				pmax	pmax		

comp=Z,1.0nm,0.8s

IDC 07 19:27:40.3±4.2**,2929S**×**17787W,h0km,mb3.5**/2**, mb1 3.8**/2**,mb1mx3.5**/12**,mbtmp3.5**/2**,Error ellipse: s-maj=83.9km s-min=24.0km az=70.0,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	0.06	312	Pn	Pg	19 27 48.6	+7.2
	2µm,0.3s,baz=111,slow=4.3,SNR=43						
ASAR	Alice Springs	43.30	266	P	P	19 35 44.5	+0.8
	0.5nm,0.6s,baz=102,slow=8.4,SNR=8.3						
WRA	Warramunga Arr	44.19	271	P	P	19 35 52.1	+1.3
	0.6nm,0.7s,baz=110,slow=8.0,SNR=5.5						
FINES	FINESS Array B	144.15	341	PKP	PKPdf	19 47 17.1	-0.9
	0.4nm,0.6s,baz=345,slow=4.8,SNR=3.9						

IDC 07 19:35:23.6±5.3**,2921S**×**17771W,h0km,mb3.7**/2**, mb1 3.9**/2**,mb1mx3.6**/12**,mbtmp3.7**/2**,MS3.7**/2**,Ms1 3.7**/2**, ms1mx2.8**/31**,Error ellipse: s-maj=219.7km s-min=31.6km az=153.0,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	0.18	256	Pn	Pg	19 35 33.6	+6.4
	3µm,0.3s,baz=66,slow=16,SNR=41						
PMG	Port Moresby	38.34	294	LR	LR	19 54 00.2	
	comp=Z,106nm,19.5s,baz=61,slow=29						
ASAR	Alice Springs	43.44	266	P	P	19 43 29.1	+1.0
	0.7nm,0.6s,baz=99,slow=7.4,SNR=16						
WRA	Warramunga Arr	44.31	271	P	P	19 43 35.5	+0.2
	0.5nm,0.5s,baz=109,slow=7.9,SNR=8.3						
KDAK	Kodiak Island	89.19	13	LR	LR	20 23 31.6	
	comp=Z,37nm,19.9s,baz=300,slow=32						
FINES	FINESS Array B	144.11	341	PKP	PKPdf	19 55 00.5	-0.8
	1.0nm,0.9s,baz=58,slow=4.7,SNR=5.1						

*ATH **07** 19:41:45.3,3878N×2148E,h57km±5km,MD3.2/7*
*NEIC **07** 19:41:45.3,3878N×2148E,h57km,MD3.2(ATH),After ATH.*
*ISCJB **07** 19:41:46.4±0.9,3876N±004×2150E±005,h56km±14km, Error ellipse: s-maj=7.3km s-min=6.8km az=144.0*
*CSEM **07** 19:41:46.2±0.2,3872N×2150E,h46km±3km,MD3.2,Error ellipse: s-maj=3.7km s-min=2.8km az=142.0*
*THE **07** 19:41:47.3,3884N×2147E,h15km,ML2.4*
ISC 07 19:41:47.0±0.8**,3876N**±004×**2150E**±005**,h51**km±16km**, n13,**σ0s**64**/18**,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	Evrytania	0.29	58	*e*P	Pn	19 41 55.3	-0.8
LKD	Levkas	0.66	266	*e*Pg	Pn	19 41 59.8	-0.5
LKD				*e*Sg	Sn	19 42 09.6	-0.3
AGG	Agios Georgios	0.70	68	*e*Pg	Pn	19 42 00.8	0.0
AGG				*e*Sg	Sn	19 42 11.2	+0.4
RLS	Riolos of Patr	0.70	182	*e*P	Pn	19 42 00.1	-0.7
RLS				*e*S	Sn	19 42 11.5	+0.7
VLS	Valsamata	0.92	231	*e*P	Pn	19 42 02.9	-0.8
VLS				*e*S	Sn	19 42 17.0	+1.1
JAN	Janina	1.02	331	*e*P	Pn	19 42 04.7	-0.4
IGT	Igoumenitsa	1.19	311	*e*Pg	Pn	19 42 07.6	+0.4
IGT				*e*Sg	Sn	19 42 23.3	+1.0
NEO	Neokhori	1.45	67	*e*P	Pn	19 42 10.7	-0.1
LIT	Litokhoron	1.54	30	*e*Pg	Pn	19 42 12.4	+0.3
ITM	Ithomi	1.62	168	*e*P	Pn	19 42 12.9	-0.2
KEK	Kerkira	1.62	306	*e*P	Pn	19 42 12.0	-1.2
FNA	Florina	2.02	357	*e*Pb	Pn	19 42 19.3	+0.7
VLI	Veliai	2.34	150	*e*P	Pn	19 42 23.4	+0.4

*ISCJB **07** 19:48:27.8±0.7,4239N±003×829W±007,h15km±8km, Error ellipse: s-maj=8.2km s-min=5.2km az=0.4*
*CSEM **07** 19:48:28.1±0.1,4231N×843W,h20km,ML2.5,Error ellipse: s-maj=3.1km s-min=1.8km az=77.0*
*NEIC **07** 19:48:28.2,4234N×840W,h19km,MG2.6(MDD),After MDD.*
*MDD **07** 19:48:28.3±0.3,4234N×841W,h16km±4km,mbLg2.6/20, Error ellipse: s-maj=5.5km s-min=1.8km az=69.0,PRXIMO*
*INMG **07** 19:48:28.4±1.5,4234N×841W,h15km±5km,ML2.5,Error ellipse: s-maj=6.1km s-min=2.3km az=80.0*
ISC 07 19:48:27.0±0.6**,4231N**±002×**836W**±007**,h16**km±4km**,n41,** σ**1s24**/59**,1D,Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELOB	Lobios	0.49	153	⇓Pg	Pg	19 48 38.4	+1.6
	49nm,0.3s,SNR=18						
ELOB				Lg		19 48 45.6	
	181nm,0.1s,SNR=96						
ELOB	Lobios	0.49	153	Pg	Pg	19 48 38.4	+1.6
	49nm,0.3s,SNR=18						
ELOB				Lg		19 48 45.6	
	181nm,0.1s,SNR=96						
STS	Santiago	0.60	346	Pg	Pg	19 48 39.1	+0.3
	9.7nm,0.2s,SNR=20						
STS				Lg		19 48 45.9	
	344nm,0.2s						
STS	Santiago	0.60	346	Pg	Pg	19 48 39.1	+0.3
STS				Lg		19 48 45.9	
PCAB	Cabril	0.64	158	*e*Pg	Pg	19 48 41.0	+1.4
PCAB				*e*Sg	Sg	19 48 50.1	+1.9
PCAB							
	206nm,0.2s						
PCAB	Cabril	0.64	158	*e*Pg	Pg	19 48 41.0	+1.4
PCAB				*e*Sg	Sg	19 48 50.1	+1.9
	206nm,0.2s						
EMAZ	Mazaricos	0.79	325	Pg	Pg	19 48 41.6	-0.7
	32nm,0.2s,SNR=110						
EMAZ				Lg		19 48 52.0	
	129nm,0.1s,SNR=41						
EMAZ	Mazaricos	0.79	325	Pg	Pg	19 48 41.6	-0.8
	32nm,0.2s,SNR=110						
EMAZ				Lg		19 48 52.0	
	129nm,0.1s,SNR=41						
PVRL	Vila Real	1.14	155	*e*P	Pn	19 48 49.3	+1.1
PVRL				*e*S	Sb	19 49 04.6	+1.9
PVRL							
	78nm,0.1s						
PVRL	Vila Real	1.14	155	*e*P	Pn	19 48 49.3	+1.1
PVRL				*e*S	Sb	19 49 04.6	+1.9
	78nm,0.1s						
PTO	Porto	1.18	189	*e*S	Sb	19 49 04.9	+0.9
ECAL	Calabor	1.26	106	Pg	Pg	19 48 50.0	-1.3
	30nm,0.2s,SNR=7.9						
ECAL				Lg		19 49 08.5	
	107nm,0.2s						
ECAL	Calabor	1.26	106	Pg	Pg	19 48 50.0	-1.3
	30nm,0.2s,SNR=7.9						
PBRG	Braganca	1.30	112	*e*P	Pn	19 48 52.3	+1.8
PBRG				*e*S	Sn	19 49 09.3	+1.7
PBRG							
	27nm,0.1s						
PBRG	Braganca	1.30	112	*e*P	Pn	19 48 52.3	+1.8
PBRG				*e*S	Sn	19 49 09.3	+1.7
	27nm,0.1s						
EPON	Pontenova	1.35	41	Pn	Pn	19 48 50.0	-1.2
	1.0nm,0.1s,SNR=15						
EPON				Pg	Pg	19 48 53.2	+0.1
	3.8nm,0.1s,SNR=7.9						
EPON				Lg		19 49 10.0	
	21nm,0.2s						
PVIS	Viseu	1.63	168	*e*Pg	Pg	19 48 57.8	-0.5
PVIS				*e*Sg	Sg	19 49 19.5	+0.1
PVIS							
	26nm,0.1s						
PVIS	Viseu	1.63	168	*e*Pg	Pg	19 48 57.8	-0.5
PVIS				*e*Sg	Sg	19 49 19.5	+0.1
MTE	Manteigas	2.00	162	*e*Pg	Pg	19 49 04.8	-0.6
MTE				*e*Sg	Sg	19 49 30.0	-1.4
MTE							
	55nm,0.5s						
EARI	Arriondas	2.52	66	Pn	Pn	19 49 08.0	+0.8
	3.9nm,1.0s,SNR=12						
EARI				Pg	Pg	19 49 14.4	-0.9
	2.5nm,0.3s,SNR=12						
EARI				Sn	Sn	19 49 37.5	-0.1
	1.0nm,0.3s,SNR=4.0						
EARI				Lg		19 49 48.1	
	4.1nm,0.2s						
EARI	Arriondas	2.52	66	Pn	Pn	19 49 08.0	+0.8
	3.9nm,1.0s,SNR=12						
EARI	Arriondas	2.52	66	Pg	Pg	19 49 14.4	-0.9
	2.5nm,0.3s,SNR=12						
EARI				Sn	Sn	19 49 37.5	-0.1
	SNR=4.0						
PCBR	Castelo Branco	2.55	165	*e*Sg	Sg	19 49 48.2	-0.8
PCBR							
	26nm,0.4s						
PCBR	Castelo Branco	2.55	165	Lg		19 49 48.2	
	13nm,0.4s						
PTOM	Tomar	2.69	181	*e*Sg	Sg	19 49 52.1	-1.2
PTOM							
	19nm,0.3s						
PTOM	Tomar	2.69	181	Lg		19 49 52.1	
	9.7nm,0.3s						
GUD	Guadarrama	3.57	116	Sn	Sn	19 50 03.1	-0.3
	1.6nm,0.2s,SNR=4.0						
GUD				Lg		19 50 19.5	
	3.2nm,0.4s						
GUD	Guadarrama	3.57	116	Sn	Sn	19 50 02.5	-0.9
	SNR=4.0						
EBAD	Badajoz	3.69	163	Pn	Pn	19 49 25.2	+1.8
	0.6nm,0.1s,SNR=4.0						
EBAD				Sn	Sn	19 50 04.7	-1.8
	0.3nm,0.3s,SNR=7.9						
EBAD				Lg		19 50 24.2	
	3.1nm,0.2s,SNR=5.3						
EBAD	Badajoz	3.69	163	Pn	Pn	19 49 25.2	+1.8
EBAD				Sn	Sn	19 50 04.7	-1.8
EBAD				Lg		19 50 23.2	
EBAD	Badajoz	3.69	163	Pn	Pn	19 49 25.2	+1.9
	SNR=7.9						
EBAD				Sn	Sn	19 50 04.7	-1.8
	SNR=7.9						
ELAN	Lanestosa	3.74	74	Pn	Pn	19 49 25.2	+1.2
	0.9nm,0.4s,SNR=7.9						
ELAN				Sn	Sn	19 50 06.5	-1.2
	5.0nm,0.3s,SNR=7.9						
ELAN				Lg		19 50 24.4	
	4.8nm,0.4s,SNR=4.5						
ELAN	Lanestosa	3.74	74	Pn	Pn	19 49 24.5	+0.5
ELAN				Sn	Sn	19 50 06.5	-1.2
ELAN				Lg		19 50 24.4	
ELAN	Lanestosa	3.74	74	Pn	Pn	19 49 24.5	+0.5
	SNR=7.9						
ELAN				Sn	Sn	19 50 06.6	-1.1
	SNR=7.9						
PBEJ	Beja	4.29	175	*e*Sg	Sg	19 50 41.5	-3.3
EMIN	Mina Concepcio	4.71	164	Pn	Pn	19 49 37.4	0.0
	0.1nm,0.2s,SNR=4.0						
EMIN				Sn	Sn	19 50 28.1	-3.6
	0.8nm,0.4s,SNR=7.9						
EMIN				Lg		19 50 55.0	
	1.5nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	4.71	164	Pn	Pn	19 49 37.4	0.0
EMIN				Sn	Sn	19 50 28.1	-3.6
EMIN				Lg		19 50 54.5	
EMIN	Mina Concepcio	4.71	164	Pn	Pn	19 49 37.4	0.0
	SNR=4.0						
EMIN				Sn	Sn	19 50 28.1	-3.6
	SNR=7.9						
EGRO	El Granado	4.81	172	Lg		19 50 58.9	
	2.9nm,0.3s,SNR=4.9						
ETOR	Torete	4.95	105	Lg		19 51 02.5	
	4.1nm,0.5s,SNR=7.9						
EADA	Adamuz	5.04	144	Sn	Sn	19 50 38.1	-1.8
	0.7nm,0.2s,SNR=7.9						
EADA				Lg		19 51 04.0	
	1.9nm,0.3s,SNR=7.9						

*ISCJB **07** 20:01:35.0±0.3,2681N±003×5576E±004,h10km, mb4.1/39,MS3.1/1,Error ellipse: s-maj=4.8km s-min=3.8km az=163.0*
*IDC **07** 20:01:35.2±0.9,2684N×5582E,h0km,mb4.0/18, mb1 4.1/21,mb1mx4.0/30,mbtmp4.0/21,ML3.6/3,MS2.8/3, Ms1 2.8/3,ms1mx2.5/33,Error ellipse: s-maj=18.0km s-min=16.1km az=173.0*
*CSEM **07** 20:01:36.0±0.1,2683N×5576E,h20km,mb4.3/22,Error ellipse: s-maj=3.3km s-min=2.9km az=127.0*
*NEIC **07** 20:01:37.3,2686N×5585E,h14km,mb4.3/23, ML3.7(THR),After THR.*
*MOS **07** 20:01:37.4±0.7,2674N×5580E,h33km,mb4.4/30,Error ellipse: s-maj=13.7km s-min=5.5km az=127.8*
*THR **07** 20:01:37.8±0.5,2686N×5585E,h19km±3km,ML3.7*
*TEH **07** 20:01:40.3,2682N×5584E,h15km,Mn3.9*
ISC 07 20:01:36.9±0.3**,2683N**±002×**5581E**±004**,h10**km**,n145,** σ**1s10**/156**,mb4.1**/39**,MS3.1**/1**,11C-4D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.65	30	*e*PG	Pg	20 01 49.5	+0.1
BNDS				*e*Sg	Sg	20 01 58.6	+0.6
BANOM	Banah	1.01	154	⇑P	Pg	20 01 57.3	+1.0
	SNR=21						
BANOM				⇑S	Sg	20 02 13.3	+3.9
ASHO	Ashiyiah	2.15	174	⇑P	Pn	20 02 15.3	+2.5
	SNR=41						
GHIR	Ghir-Karzin	2.89	301	*e*PN	Pn	20 02 25.4	+2.4
GHIR				AML	AML	20 03 30.2	
	comp=E,305nm,0.6s						
GHIR				AML	AML	20 03 35.5	
	comp=N,247nm,0.6s						
KRBR	Kerman	3.25	15	*e*PN	Pn	20 02 29.8	+2.0
KRBR				Sn	Sn	20 03 07.5	+0.9
KRBR				AML	AML	20 03 23.4	
	comp=E,184nm,0.6s						
KRBR				AML	AML	20 03 29.5	
	comp=N,203nm,0.6s						
KRBR	Kerman	3.25	15	*e*Pn	Pn	20 02 29.8	+1.9
	SNR=54						
KRBR				Sn	Sn	20 03 07.5	+0.9
	SNR=54						
ISRV	Sarvestan	3.48	317	*e*Pn	Pn	20 02 33.9	+2.9
ISRV				*e*Sn	Sn	20 03 13.8	+1.5
HOQ	Hoqain	3.51	157	⇑P	Pn	20 02 31.3	-0.2
HOQ	Hoqain	3.51	157	P	Pn	20 02 31.3	-0.2
IMOK	Mook	3.51	310	*e*Pn	Pn	20 02 34.2	+2.7
IMOK				*e*Sn	Sn	20 03 14.7	+1.6
ARQ	Araqi	3.54	169	⇑P	Pn	20 02 34.0	+2.1
	SNR=11						
WSAR	Wadi Sarin	4.40	144	Pn	Pn	20 02 44.9	+1.2
	comp=N,1.3nm,0.3s,baz=286,slow=8.7,SNR=28						
WSAR				Sn	Sn	20 03 33.8	-1.3
	comp=N,2.2nm,0.3s,baz=192,slow=17,SNR=3.7						
WSAR				LR	LR	20 04 45.1	
	comp=N,109nm,19.1s,baz=182,slow=43						
WSAR	Wadi Sarin	4.40	144	Pn	Pn	20 02 44.9	+1.2
WSAR				Sn	Sn	20 03 33.8	-1.3
WSAR				LR	LR	20 04 45.1	
WSAR	Wadi Sarin	4.40	144	Pn	Pn	20 02 44.9	+1.2
WSAR				Sn	Sn	20 03 33.8	-1.2
IMEH	Mehriz	4.66	347	*e*Pn	Pn	20 02 50.2	+2.9
IMEH				*e*Sn	Sn	20 03 41.5	+0.1
IBAF	Bafgh	4.74	358	*e*Pn	Pn	20 02 50.8	+2.4
IBAF				*e*Sn	Sn	20 03 43.3	-0.2
ZHSF	Zahedan	5.18	57	*e*PN	Pn	20 02 56.3	+1.8
ISAD	Sadrabad	5.39	340	*e*Sn	Sn	20 03 58.5	-0.9
NASN	Na'in	6.49	337	*e*PN	Pn	20 03 14.7	+2.3
UMR	Umm Al-Rimmam	7.64	293	*e*P	Pn	20 03 29.1	+1.0
UMR				AML	AML	20 04 55.3	
	comp=Z,37nm,0.4s						
NAY	Al-Naaiem	7.94	290	*e*P	Pn	20 03 33.3	+0.9
NAY				AML	AML	20 05 01.3	
	comp=Z,7.8nm,0.7s						
MIB	Mutribah	8.03	294	*e*P	Pn	20 03 34.4	+0.9
MIB				AML	AML	20 05 02.6	
	comp=Z,21nm,0.5s						
RST	Umm Al-Ruwaisa	8.22	291	*e*P	Pn	20 03 36.9	+0.8
RST				AML	AML	20 05 08.4	
	comp=Z,14nm,0.4s						
WHFO	Wadi Hawf	9.07	192	⇓P	Pn	20 03 49.9	+2.1
ABTO	Aybut	9.72	194	⇑P	Pn	20 03 56.9	+0.2
ABTO				⇓S	Sn	20 05 37.6	-8.3
GNI	Garni	16.15	328	LR	LR	20 11 37.4	
	comp=Z,15nm,18.7s,baz=349,slow=37						
ASF	Jabal al Asfar	17.29	292	P	Pn	20 05 38.4	+0.1
	comp=Z,0.2nm,0.3s,baz=260,slow=6.1,SNR=3.5						
MALT	Malatya	18.55	312	*e*P	Pn	20 05 55.4	+1.5
MALT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MALT	Malatya	18.55	312	*e*P	Pn	20 05 55.4	+1.5
	comp=Z,4.7nm,0.8s						
MALT	Malatya	18.55	312	*e*P	Pn	20 05 55.4	+1.5
	comp=Z,4.7nm,0.8s						
MMAI	Mount Meron Ar	18.72	294	P	Pn	20 05 55.8	-0.1
	comp=Z,0.5nm,0.3s,baz=103,slow=16,SNR=5.9						
KIV	Kislovodsk	20.11	332	*e*P	P	20 06 12.7	+1.9
KIV				pmax	pmax		
	comp=Z,42nm,1.4s						
KIV	Kislovodsk	20.11	332	*e*P	P	20 06 12.7	+1.9
	comp=Z,42nm,1.4s						
KIV	Kislovodsk	20.11	332	*e*P	P	20 06 12.6	+1.8
	comp=Z,42nm,1.4s						
BR131	Keskin Array S	22.48	310	*e*P	P	20 06 37.6	+1.2
	comp=Z,1.5nm,0.5s,mb3.7						
BR131	Keskin Array S	22.48	310	*e*P	P	20 06 37.6	+1.3
	comp=Z,1.5nm,0.5s,mb3.7						
BRTR	Keskin Array B	22.48	310	P	P	20 06 37.7	+1.4
	comp=Z,1.8nm,0.6s,mb3.7,baz=128,slow=13,SNR=9.0						
BRTR	Keskin Array B	22.48	310	P	P	20 06 37.7	+1.4
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKTK	Aktyubinsk	23.63	4	P	P	20 06 48.2	-0.1
AKTK	Aktyubinsk	23.63	4	P	P	20 06 48.2	-0.1
AKTO	Aktyubinsk	23.63	4	P	P	20 06 48.2	-0.1
	comp=Z,1.7nm,0.6s,mb3.6,baz=167,slow=9.9,SNR=7.2						
AKTO	Aktyubinsk	23.63	4	P	P	20 06 48.2	-0.1
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
IDI	Anoyia	27.71	295	P	P	20 07 26.3	+1.1
	comp=Z,4.3nm,0.6s,mb4.3,baz=59,slow=5.9,SNR=4.6						
BVAR	Borovoye Array	28.34	19	P	P	20 07 30.8	0.0
	comp=Z,2.5nm,0.8s,mb3.9,baz=193,slow=6.1,SNR=11						
BVAR				LR	LR	20 18 55.8	
	comp=Z,49nm,20.4s,MS3.1,baz=309,slow=37						
BVAR	Borovoye Array	28.34	19	P	P	20 07 30.8	-0.1
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVAR				MLR	MLR		
	comp=Z,49nm,20.4s						
MKAR	Makanchi Array	28.87	39	P	P	20 07 35.5	0.0
	comp=Z,0.3nm,0.4s,mb3.4,baz=217,slow=8.4,SNR=7.0						
MKAR	Makanchi Array	28.87	39	P	P	20 07 35.5	-0.1
AKASG	Malin Array Be	31.28	327	P	P	20 07 56.1	-0.8
	comp=Z,1.9nm,0.5s,mb4.2,baz=134,slow=8.4,SNR=20						
AKASG	Malin Array Be	31.28	327	P	P	20 07 56.1	-0.8
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKBB	Malin Array Si	31.28	327	*e*P	P	20 07 56.2	-0.7
KOLS	Kolonicke sedl	34.03	319	*e*P	P	20 08 21.2	+0.2
ZAL	Zalesovo	34.49	30	P	P	20 08 24.1	-0.9
	comp=Z,2.2nm,0.6s,mb4.3,baz=244,slow=6.1,SNR=9.1						
ZAL	Zalesovo	34.49	30	P	P	20 08 24.1	-0.9
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KECS	Kecovo	34.89	318	*e*P	P	20 08 29.0	+0.6
KECS				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
KECS	Kecovo	34.89	318	*e*P	P	20 08 29.0	+0.6
	comp=Z,2.7nm,0.9s,mb4.2						
OJC	Ojcow	36.06	320	*e*P	P	20 08 38.7	+0.2
OKC	Ostrava-Krasne	36.85	319	*e*P	P	20 08 44.9	-0.4
VRAC	Vranov	37.57	317	P	P	20 08 51.1	-0.2
	comp=Z,2.5nm,0.7s,mb4.0,baz=81,slow=8.3,SNR=4.0						
VRAC	Vranov	37.57	317	P	P	20 08 51.1	-0.3
VRAC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DPC	Dobruska-Polom	38.13	319	*e*P	P	20 08 55.4	-0.7
UPC	Upice	38.38	319	*e*P	P	20 08 57.9	-0.3
GERES	GERESS Array B	39.20	316	P	P	20 09 04.8	-0.3
	comp=Z,0.8nm,0.6s,mb3.7,baz=111,slow=7.2,SNR=8.4						
GERES	GERESS Array B	39.20	316	P	P	20 09 04.8	-0.2
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KHC	Kasperske Hory	39.36	316	*e*P	P	20 09 06.3	-0.1
JOF	Joensuu	39.52	343	*e*p	P	20 09 06.9	-0.9
FINES	FINESS Array B	39.95	338	P	P	20 09 10.8	-0.5
	comp=Z,1.0nm,0.5s,mb3.8,baz=139,slow=12,SNR=15						
FINES	FINESS Array B	39.95	338	P	P	20 09 10.9	-0.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WTTA	Wattenberg	40.07	313	⇑*i*P	P	20 09 12.1	-0.3
	comp=Z,5.3nm,0.5s,mb4.5						
WTTA	Wattenberg	40.07	313	⇑*i*P	P	20 09 12.1	-0.2
WTTA				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
SQTA	Sankt Quirin	40.34	312	⇑*i*P	P	20 09 14.2	-0.4
	comp=Z,2.9nm,0.6s,mb4.2						
SQTA	Sankt Quirin	40.34	312	⇑*i*P	P	20 09 14.2	-0.4
SQTA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
MOTA	Moosalm	40.44	312	⇓*i*P	P	20 09 15.1	-0.3
	comp=Z,1.9nm,0.7s,mb3.9						
MOTA	Moosalm	40.44	312	⇓*i*P	P	20 09 15.1	-0.3
MOTA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
CLL	Collm	40.45	319	*e*P	P	20 09 15.0	-0.4
CLL				*e*pP	pP	20 09 20.0	+1.4
DAVA	Damuels	41.24	312	⇑*i*P	P	20 09 21.5	-0.4
	comp=Z,9.0nm,0.7s,mb4.5						
SBF	Sospel	42.32	307	*e*P	P	20 09 29.7	-1.1
	comp=Z,23nm,0.9s,mb4.5						
SBF	Sospel	42.32	307	*e*P	P	20 09 29.7	-1.1
SBF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.5						
SBF	Sospel	42.32	307	*e*P	P	20 09 29.7	-1.1
	comp=Z,12nm,0.9s,mb4.5						
LPG	La Plagne	43.03	309	*e*P	P	20 09 35.8	-0.8
	comp=Z,5.3nm,0.6s,mb4.2						
LPG	La Plagne	43.03	309	*e*P	P	20 09 35.8	-0.8
LPG				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
LPG	La Plagne	43.03	309	*e*P	P	20 09 35.8	-0.8
	comp=Z,2.7nm,0.6s,mb4.2						
LPL	La Plagne	43.05	309	*e*P	P	20 09 35.3	-1.4
	comp=Z,6.0nm,0.6s,mb4.2						
LPL	La Plagne	43.05	309	*e*P	P	20 09 35.3	-1.4
LPL				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
LPL	La Plagne	43.05	309	*e*P	P	20 09 35.3	-1.4
	comp=Z,3.0nm,0.6s,mb4.2						
CDF	Champ du Feu	43.19	313	*e*P	P	20 09 36.5	-1.4
HINF	Hinteralfeld	43.35	312	*e*P	P	20 09 38.0	-1.2
CABF	La Chapelle	43.66	310	*e*P	P	20 09 41.2	-0.5
	comp=Z,5.5nm,0.7s,mb4.1						
CABF	La Chapelle	43.66	310	*e*P	P	20 09 41.2	-0.5
CABF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
CABF	La Chapelle	43.66	310	*e*P	P	20 09 41.2	-0.5
	comp=Z,2.8nm,0.7s,mb4.1						
HAU	Haudompre	43.72	312	*e*P	P	20 09 40.9	-1.3
HFS	Hagfors	43.91	331	P	P	20 09 43.0	-0.7
	comp=Z,1.2nm,0.7s,mb3.8,baz=128,slow=9.6,SNR=7.9						
HFS	Hagfors	43.91	331	P	P	20 09 43.0	-0.7
HFS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	Songino Array	44.44	48	P	P	20 09 49.0	+1.1
	comp=Z,0.6nm,0.6s,mb3.5,baz=257,slow=8.2,SNR=6.9						
SONM	Songino Array	44.44	48	P	P	20 09 49.0	+1.1
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LASF	Ste Croix	44.91	306	*e*P	P	20 09 51.2	-0.5
SMF	Signal de Mont	45.19	310	*e*P	P	20 09 53.0	-0.9
	comp=Z,7.7nm,0.7s,mb4.3						
SMF	Signal de Mont	45.19	310	*e*P	P	20 09 53.0	-0.9
SMF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
SMF	Signal de Mont	45.19	310	*e*P	P	20 09 53.0	-0.9
	comp=Z,3.8nm,0.7s,mb4.3						
LOR	Lormes	45.26	311	*e*P	P	20 09 53.2	-1.3
	comp=Z,3.7nm,0.7s,mb4.0						
LOR	Lormes	45.26	311	*e*P	P	20 09 53.2	-1.3
LOR				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
LOR	Lormes	45.26	311	*e*P	P	20 09 53.2	-1.3
	comp=Z,1.9nm,0.7s,mb4.0						
NB2	NORSAR Subarra	45.42	331	P	P	20 09 54.3	-1.4
	comp=Z,0.8nm,0.6s,mb3.7,baz=116,slow=7.9						
NOA	NORSAR Array B	45.42	331	P	P	20 09 54.9	-0.8
	comp=Z,1.2nm,0.8s,mb3.8,baz=116,slow=7.9,SNR=5.5						
NOA	NORSAR Array B	45.42	331	P	P	20 09 54.9	-0.8
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SSF	Saint Saulge	45.47	311	*e*P	P	20 09 55.4	-0.8
	comp=Z,5.8nm,0.6s,mb4.3						
SSF	Saint Saulge	45.47	311	*e*P	P	20 09 55.4	-0.8
SSF				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,3.0nm,0.6s,mb4.3						
SSF	Saint Saulge	45.47	311	eP	P	20 09 55.4	-0.8
	comp=Z,2.9nm,0.6s,mb4.3						
AVF	Avril sur Loir	45.54	310	eP	P	20 09 55.7	-1.0
	comp=Z,4.6nm,0.7s,mb4.2						
AVF	Avril sur Loir	45.54	310	eP	P	20 09 55.7	-1.0
AVF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
AVF	Avril sur Loir	45.54	310	eP	P	20 09 55.7	-1.0
	comp=Z,2.3nm,0.7s,mb4.2						
BGF	Bois d'Agland	45.86	310	eP	P	20 09 58.6	-0.7
	comp=Z,5.5nm,0.6s,mb4.3						
BGF	Bois d'Agland	45.86	310	eP	P	20 09 58.6	-0.7
BGF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BGF	Bois d'Agland	45.86	310	eP	P	20 09 58.6	-0.7
	comp=Z,2.8nm,0.6s,mb4.4						
MTLF	Montolieu	46.05	305	eP	P	20 10 00.9	+0.2
	comp=Z,15nm,1.0s,mb4.6						
MTLF	Montolieu	46.05	305	eP	P	20 10 00.9	+0.2
MTLF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MTLF	Montolieu	46.05	305	eP	P	20 10 00.9	+0.2
	comp=Z,7.5nm,1.0s,mb4.6						
ARCES	ARCESS Array B	46.24	346	P	P	20 10 01.6	-0.6
	comp=Z,0.8nm,0.9s,mb3.6,baz=134,slow=8.8,SNR=6.9						
ARCES	ARCESS Array B	46.24	346	P	P	20 10 01.6	-0.6
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CAF	Calviac	46.26	308	eP	P	20 10 02.1	-0.3
	comp=Z,6.8nm,0.7s,mb4.4						
CAF	Calviac	46.26	308	eP	P	20 10 02.1	-0.3
CAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
CAF	Calviac	46.26	308	eP	P	20 10 02.1	-0.3
	comp=Z,3.4nm,0.7s,mb4.4						
TCF	Toulx Ste Croi	46.27	309	eP	P	20 10 02.0	-0.5
	comp=Z,3.2nm,0.6s,mb4.2						
TCF	Toulx Ste Croi	46.27	309	eP	P	20 10 02.0	-0.5
TCF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
TCF	Toulx Ste Croi	46.27	309	eP	P	20 10 02.0	-0.5
	comp=Z,1.6nm,0.6s,mb4.2						
RJF	Les Rejaudoux	46.67	308	eP	P	20 10 05.0	-0.6
	comp=Z,5.1nm,0.7s,mb4.3						
RJF	Les Rejaudoux	46.67	308	eP	P	20 10 05.0	-0.6
RJF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
RJF	Les Rejaudoux	46.67	308	eP	P	20 10 05.0	-0.6
	comp=Z,2.5nm,0.7s,mb4.3						
LFF	La Frestale	47.20	307	eP	P	20 10 09.6	-0.1
EPF	Esparros	47.41	305	eP	P	20 10 10.1	-1.3
ETSF	Etsaut	48.07	305	eP	P	20 10 15.9	-0.6
	comp=Z,14nm,1.0s,mb4.6						
ETSF	Etsaut	48.07	305	eP	P	20 10 15.9	-0.6
ETSF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
ETSF	Etsaut	48.07	305	eP	P	20 10 15.9	-0.6
	comp=Z,6.9nm,1.0s,mb4.6						
LDF	La Druitiere	48.08	312	eP	P	20 10 15.3	-1.3
	comp=Z,2.9nm,0.5s,mb4.2						
LDF	La Druitiere	48.08	312	eP	P	20 10 15.3	-1.3
LDF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
LDF	La Druitiere	48.08	312	eP	P	20 10 15.3	-1.3
	comp=Z,1.5nm,0.5s,mb4.3						
FLN	La Foliniere	48.33	313	eP	P	20 10 16.9	-1.6
SGMF	Saint Gilles	49.67	312	eP	P	20 10 28.0	-0.8
QUIF	Quistinic	50.06	311	eP	P	20 10 30.7	-1.0
ESDC	Sonseca Array	50.75	301	P	P	20 10 37.3	+0.3
	comp=Z,0.9nm,0.6s,mb3.9,baz=67,slow=7.9,SNR=5.1						
BOD	Bodaibo	50.85	36	eP	P	20 10 35.5	-2.3
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
TORD	Torodi Ar. Bea	52.29	266	P	P	20 10 48.6	+0.2
	comp=Z,2.4nm,0.6s,mb4.3,baz=63,slow=7.2,SNR=33						
BOSA	Boshof	62.44	210	P	P	20 12 00.1	0.0
	comp=Z,5.0nm,1.1s,mb4.6,baz=26,slow=17,SNR=5.2						
BOSA	Boshof	62.44	210	P	P	20 12 00.2	0.0
BOSA				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6						
ILAR	Eielson Array	87.00	10	P	P	20 14 20.2	-2.1
	comp=Z,0.6nm,0.6s,mb4.0,baz=305,slow=4.6,SNR=6.7						
ILAR	Eielson Array	87.00	10	P	P	20 14 20.3	-2.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*IDC **07** 20:04:57.2±0.5, 29.26S×177.92W, h0km, mb4.5/13, mb1 4.7/13, mb1mx4.7/15, mbtmp4.5/13, MS4.8/13, Ms1 4.8/13, ms1mx4.6/19, Error ellipse: s-maj=18.8km s-min=5.3km az=92.0*

*MOS **07** 20:04:58.4±1.4, 29.44S×178.12W, h14km, mb4.9/26, MS5.0/4, Error ellipse: s-maj=14.1km s-min=12.0km az=71.7*

*NEIC **07** 20:04:59.7±1.6, 29.48S×177.99W, h14km±9km, mb5.0/21, Error ellipse: s-maj=14.7km s-min=9.4km az=152.0*

*HRVD **07** 20:04:59.7±0.2, 29.50S×178.09W, h12km, MW5.3/81, Centroid moment Tensor Solution. LP body waves: s61,c108;Mantle waves: s81,c150; Half duration: $1^{s}1$ Moment tensor: Scale 10^{17}Nm; M_{rr}-0.97±.02; $M_{\theta\theta}$0.28±.02; $M_{\phi\phi}$0.68±.02; $M_{r\theta}$0.08±.04; $M_{\theta\phi}$0.50±.01; $M_{\phi r}$0.28±.05; Best double couple: $M_0$1.03900×10^{17} NP1:ϕ_s39.00000°,δ37.00000°,λ-82.00000°. NP2: ϕ_s209.00000°,δ53.00000°,λ-96.00000°. Principal axes: T 1.0650, Plg8.0000°, Azm303.0000°; N -0.0500, Plg5.0000°, Azm213.0000°; P -1.0140, Plg81.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **07** 20:05:00.3, 29.45S×177.95W, h29km, mB5.6, mb5.0, Ms5.1, Msz4.9*

*ISCJB **07** 20:05:01.9±0.2, 29.63S±0.06×178.21W±0.06, h33km, mb4.9/41, MS4.8/20, Error ellipse: s-maj=9.6km s-min=6.0km az=96.6*

*SZGRF **07** 20:05:10.9, 27.98S×179.86E, h33km, Kermadec Islands region*

ISC 07 20:05:03.7±0.2**, 29.59S**±0.06×**178.13W**±0.06**, h35km, n216, σ$1^{s}11$**/111**, mb4.9**/41**, MS4.8**/20**, 18C-19D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	0.38	29	Pn	Pn	20 05 04.7	-8.0
	14µm,0.3s,baz=218,slow=2.9,SNR=594						
RAO	Raoul Island	0.38	29	eP	Pn	20 05 04.3	-8.5
URZ	Urewera	9.51	203	Pn	Pn	20 07 11.7	-6.4
	1.2nm,0.3s,baz=75,slow=18,SNR=6.4						
URZ				Sn	Sn	20 09 03.3	-0.4
	4.3nm,0.3s,baz=178,slow=20,SNR=8.2						
URZ				LR	LR	20 10 58.2	
	comp=Z,3µm,18.7s,baz=45,slow=36						
DZM	Mont Dzumac	15.77	295	eP	Pn	20 08 39.4	-3.7
DZM	Mont Dzumac	15.77	295	Pn	Pn	20 08 49.3	+6.3
	0.4nm,0.3s,baz=87,slow=17,SNR=8.0						
DZM				LR	LR	20 13 21.2	
	comp=Z,9µm,21.6s,baz=121,slow=32						
RAR	Rarotonga	18.55	67	LR	LR	20 14 30.5	
	comp=Z,2µm,21.7s,baz=249,slow=31						
ARMA	Armidale	26.17	261	eP	P	20 10 37.6	+2.9
TBI	Tubuai	26.36	83	eLQ		20 15 48.9	
	5µm,25.5s						
TBI				eLR	LR	20 17 07.9	
	6µm,29.0s,baz=247						
PPT	Papeete	28.69	72	eLQ		20 16 41.4	
	4µm,24.8s						
PPT				eLR	LR	20 18 06.5	
	5µm,27.8s,baz=240						
PPT	Papeete	28.69	72	LR	LR	20 19 11.7	
	comp=Z,1µm,21.4s,MS4.5,baz=246,slow=30						
CTA	Charters Tower	33.56	278	⇓iP	P	20 11 41.7	+1.4
	38nm,1.4s,mb5.1						
CTA	Charters Tower	33.56	278	P	P	20 11 41.5	+1.2
	22nm,0.7s,mb5.2,baz=107,slow=10,SNR=22						
CTA				LR	LR	20 23 24.7	
	comp=Z,4µm,19.5s,MS5.2,baz=88,slow=33						
CTA	Charters Tower	33.56	278	⇓iP	P	20 11 41.7	+1.4
CTA				pmax	pmax		
	comp=Z,39nm,1.4s						
CTAO	Charters Tower	33.56	278	eP	P	20 11 41.6	+1.3
CTAO				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.3						
CTAO	Charters Tower	33.56	278	eP	P	20 11 41.6	+1.4
	comp=Z,35nm,0.9s,mb5.3						
STKA	Stephens Creek	34.56	256	eP	P	20 11 50.0	+1.1
	comp=Z,16nm,0.9s,mb5.0						
STKA	Stephens Creek	34.56	256	P	P	20 11 51.0	+2.1
	comp=Z,13nm,0.7s,mb5.0,baz=98,slow=9.1,SNR=24						
STKA				PcP	PcP	20 14 23.2	+0.2
	comp=Z,2.1nm,0.6s,baz=134,slow=14,SNR=3.5						
STKA				LR	LR	20 23 57.9	
	comp=Z,1µm,18.8s,MS4.7,baz=72,slow=33						
PMG	Port Moresby	38.16	295	LR	LR	20 25 22.6	
	comp=Z,3µm,18.8s,MS5.1,baz=58,slow=32						
RKT	Rikitea	39.03	91	eS	S	20 18 18.8	-4.9
	comp=Z,366nm,26.5s						
RKT				eLR	LR	20 22 52.7	
	comp=Z,4µm,27.2s						
TAOE	Nuku Hiva Isla	41.10	68	eLR	LR	20 23 48.0	
	comp=Z,5µm,27.4s						
AS31	Alice Springs	43.05	266	eP	P	20 13 00.3	+0.4
ASAR	Alice Springs	43.05	266	P	P	20 13 00.2	+0.3
	comp=Z,12nm,0.6s,mb4.8,baz=99,slow=7.9,SNR=191						
ASAR				PcP	PcP	20 14 50.5	+0.8
	comp=Z,2.9nm,0.6s,baz=123,slow=3.7,SNR=8.7						
ASAR				LR	LR	20 30 13.5	
	comp=Z,4µm,18.6s,MS5.3,baz=106,slow=35						
ASAR	Alice Springs	43.05	266	P	P	20 13 00.2	+0.3
ASAR						20 14 50.5	
ASAR				pmax	pmax		
	comp=Z,12nm,0.6s						
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ASAR				MLR	MLR		
	comp=Z,4µm,18.6s						
ASPA	Alice Springs	43.05	266	eP	P	20 13 00.3	+0.3
WB2	Warramunga Arr	43.95	271	eP	P	20 13 07.2	0.0
WRAB	Tennant Creek	43.95	271	eP	P	20 13 07.0	-0.3
WRAB				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.1						
WRAB	Tennant Creek	43.95	271	eP	P	20 13 07.0	-0.2
	comp=Z,42nm,1.0s,mb5.1						
WRA	Warramunga Arr	43.96	271	P	P	20 13 07.3	0.0
	comp=Z,19nm,0.8s,mb4.9,baz=110,slow=8.0,SNR=98						
WRA				PcP	PcP	20 14 51.6	-1.1
	comp=Z,2.9nm,1.1s,baz=112,slow=3.1,SNR=3.1						
WRA	Warramunga Arr	43.96	271	P	P	20 13 07.3	0.0
WRA						20 14 51.6	
WRA				pmax	pmax		
	comp=Z,19nm,0.8s						
WRA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
FORT	Forrest	46.15	254	eP	P	20 13 24.4	-0.3
	comp=Z,31nm,0.7s,mb5.3						
KAKA	Kakadu	48.69	279	eP	P	20 13 46.6	+2.2
	comp=Z,8.2nm,0.7s,mb4.9						
SBA	Scott Base	48.84	184	eP	P	20 13 47.2	+1.6
SBA				pmax	pmax		
	comp=Z,244nm,2.1s,mb5.9						
SBA	Scott Base	48.84	184	eP	P	20 13 47.2	+1.7
	comp=Z,244nm,2.1s,mb5.9						
VNDA	Vanda	48.89	186	P	P	20 13 47.3	+1.3
	comp=Z,2.1nm,0.9s,mb4.2,baz=14,slow=7.0,SNR=10						
VNDA				LR	LR	20 32 06.7	
	comp=Z,158nm,19.2s,MS4.0,baz=32,slow=33						
VNDA	Vanda	48.89	186	eP	P	20 13 46.1	+0.1
VNDA				pmax	pmax		
	comp=Z,27nm,1.7s						
VNDA	Vanda	48.89	186	eP	P	20 13 46.1	+0.1
	comp=Z,27nm,1.7s,mb5.0						
FITZ	Fitzroy Crossi	52.25	269	eP	P	20 14 12.1	+0.7
	comp=Z,13nm,0.9s,mb4.9						
CASY	Casey	55.80	208	eP	P	20 14 34.8	-2.5
MBWA	Marble Bar	56.20	263	P	P	20 14 41.6	+1.5
	comp=Z,8.1nm,0.8s,mb4.8						
QSPA	South Pole Qui	60.52	180	eP	P	20 15 13.5	+3.2
	comp=Z,24nm,1.1s,mb5.2						
MAW	Mawson	73.03	201	eP	P	20 16 27.7	-2.2
	comp=Z,2.5nm,0.8s,mb4.2						
MAW	Mawson	73.03	201	P	P	20 16 28.9	-1.0
	comp=Z,1.4nm,0.7s,mb4.0,baz=122,slow=10,SNR=4.1						
MAW				LR	LR	20 46 42.7	
	comp=Z,707nm,20.0s,MS4.9,baz=105,slow=34						
MAW	Mawson	73.03	201	eP	P	20 16 27.7	-2.2
MAW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MJAR	Matsushiro Arr	77.51	325	P	P	20 16 54.4	-1.3
	comp=Z,3.5nm,0.9s,mb4.3,baz=157,slow=5.6,SNR=11						
MJAR	Matsushiro Arr	77.51	325	P	P	20 16 54.4	-1.3
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MAT	Matsushiro	77.51	325	P	P	20 16 53.8	-1.9
MAT				eS	S	20 26 29.4	-15
MAT	Matsushiro	77.51	325	eP	P	20 16 54.0	-1.7
MAT				pmax	pmax		
	comp=Z,33nm,1.6s,mb5.0						
MAT	Matsushiro	77.51	325	eP	P	20 16 54.0	-1.7
	comp=Z,33nm,1.6s,mb5.0						
SYO	Syowa Base	77.88	193	⇑eP	P	20 16 55.5	-2.3
SYO	Syowa Base	77.88	193	⇓ePcP	PcP	20 17 05.4	-2.1
SNAA	Sanae	78.97	178	⇓iP	P	20 17 02.3	-1.5
SNAA				e		20 17 04.1	
SNAA				e	pP	20 17 11.0	-3.7
SNAA				e	pP	20 17 14.7	0.0
SNAA				e		20 17 18.1	
SNAA	Sanae	78.97	178	eP	P	20 17 01.8	-2.0
SNAA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SNAA	Sanae	78.97	178	eP	P	20 17 01.8	-2.0
	comp=Z,4.1nm,0.8s,mb4.4						
VNA1	Neumayer--Stat	79.78	177	⇓iP	P	20 17 07.6	-0.6
VNA1				e		20 17 09.4	
VNA1				e		20 17 14.9	
VNA1				e	pP	20 17 17.9	-1.3
ASAJ	Asahikawa	81.67	333	P	P	20 17 17.7	-0.6
	comp=Z,4.5nm,0.8s,mb4.5,baz=220,slow=11,SNR=4.9						
ASAJ	Asahikawa	81.67	333	P	P	20 17 17.7	-0.6
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PLCA	Paso Flores	83.14	133	P	P	20 17 27.3	+1.3
	comp=Z,4.1nm,1.2s,mb4.3,baz=306,slow=8.3,SNR=3.6						
PLCA				LR	LR	20 45 21.3	
	comp=Z,915nm,21.8s,MS5.1,baz=218,slow=29						
PLCA	Paso Flores	83.14	133	P	P	20 17 27.3	+1.3
PLCA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
PLCA				MLR	MLR		
	comp=Z,915nm,21.8s						
YSS	Yuzh-Sakhalins	83.97	334	κeP	P	20 17 29.0	-1.2
YSS				e		20 29 06.0	
YSS	Yuzh-Sakhalins	83.97	334	eP	P	20 17 29.5	-0.7
	comp=Z,12nm,0.8s,mb5.1						
LPIG	La Paz	84.20	58	LR	LR	20 45 04.8	
	comp=Z,293nm,21.0s,MS4.6,baz=244,slow=29						
PET	Petropavlovsk	84.72	346	eP	P	20 17 37.1	+3.1
PET				pmax	pmax		
	comp=Z,100nm,12.7s						
PET				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.7						
CVS	Carmenet Viney	85.25	41	⇓P	P	20 17 37.9	+1.1
	baz=85						
S04C	Ingram Canyon,	85.33	42	⇓P	P	20 17 37.9	+0.9
	baz=85						
NJ2	Nanjing	85.63	311	eP	P	20 17 36.1	-2.5
NJ2				PP	PP	20 20 57.5	-0.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,400nm,5.8s						
NJ2				LR	LR		
	comp=Z,1µm,18.0s,MS5.4						
VLA	Vladivostok	85.67	326	eP	P	20 17 34.9	-3.9
VLA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.7						
ISA	Isabella	85.80	45	⇓P	P	20 17 39.6	+0.1
	baz=86						
GASB	Alder Springs	86.01	40	⇑P	P	20 17 41.1	+0.7
	baz=86						
HELL	Mitchell Peak,	86.14	44	⇑P	P	20 17 41.3	+0.2
	baz=86						
O02C	Red Bluff	86.34	39	⇑P	P	20 17 42.7	+0.6
	baz=86						
N02C	Big Bar	86.51	38	⇑P	P	20 17 43.1	+0.2
	baz=87						
GSC	Goldstone	86.60	46	⇓P	P	20 17 43.9	+0.5
	baz=87						
WDC	Whiskeytown Da	86.75	39	⇓P	P	20 17 44.5	+0.4
	baz=87						
R05C	Kirkwood Meado	86.86	42	⇓P	P	20 17 45.6	+1.0
	baz=87						
MLAC	Mammoth Lakes	86.88	43	⇓P	P	20 17 44.9	+0.2
	baz=87						
M02C	Callahan	87.15	38	⇓P	P	20 17 46.6	+0.5
	baz=87						
YBH	Yreka Blue Hor	87.46	38	P	P	20 17 46.0	-1.5
	comp=Z,1.2nm,0.5s,mb4.4,baz=206,slow=4.1,SNR=4.7						
YBH	Yreka Blue Hor	87.46	38	P	P	20 17 46.0	-1.6
YBH				pmax	pmax		
	comp=Z,1.0nm,0.5s						
U10A	Ash Meadows, A	87.61	45	⇑P	P	20 17 49.0	+0.7
	baz=88						
NVAR	Mina Array Bea	87.72	43	P	P	20 17 48.3	-0.5
	comp=Z,2.0nm,0.6s,mb4.5,baz=209,slow=5.9,SNR=13						
K02A	Glendale	87.77	37	⇑P	P	20 17 50.5	+1.4
	baz=88						
MNV	Mina	87.81	43	eP	P	20 17 49.0	-0.2
MNV				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.5						
MNV	Mina	87.81	43	eP	P	20 17 49.0	-0.3
	comp=Z,1.9nm,0.7s,mb4.4						
MDJ	Mudanjiang	87.89	326	P	P	20 17 49.1	-0.5
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.1s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,199nm,6.5s						
MDJ				LR	LR		
	comp=E,303nm,29.1s						
MDJ				LR	LR		
	comp=Z,334nm,26.9s,MS4.6						
HUMO	Hull Mountain	87.94	37	eP	P	20 17 48.5	-1.4
	comp=Z,15nm,1.5s,mb5.0						
TPNV	Topopah Spring	88.00	45	eP	P	20 17 50.7	+0.6
TPNV				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.6						
TPNV	Topopah Spring	88.00	45	eP	P	20 17 50.7	+0.6
	comp=Z,3.4nm,0.8s,mb4.6						
HABR	Khabarovsk	88.28	331	⇑eP	P	20 17 52.0	+0.5
HABR				pmax	pmax		
	comp=Z,46nm,1.6s,mb5.5						
R09A	Tonopah	88.33	44	⇓P	P	20 17 51.9	+0.2
	baz=88						
O07A	Toulon	88.53	41	⇓P	P	20 17 52.1	-0.5
	baz=89						
TUC	Tucson	88.69	51	eP	P	20 17 54.4	+1.0
TUC				pmax	pmax		
	comp=Z,16nm,1.5s,mb5.1						
TUC	Tucson	88.69	51	eP	P	20 17 54.4	+1.0
	comp=Z,16nm,1.5s,mb5.1						
L05A	Lakeview	88.70	39	⇑P	P	20 17 53.5	+0.1
	baz=89						
W14A	Seligman	88.92	48	⇑P	P	20 17 55.6	+1.2
	baz=89						
X15A	Humboldt	89.03	49	⇑P	P	20 17 56.0	+1.0
	baz=89						
SNY	Shenyang	89.10	321	eP	P	20 17 54.4	-0.9
SNY				AMB	AMB		
	comp=Z,15nm,1.4s,mb5.1						
SNY				AMB	AMB		
	comp=Z,174nm,4.7s						
SNY				LR	LR		
	comp=N,383nm,20.4s						
SNY				LR	LR		
	comp=Z,403nm,19.6s,MS4.8						
M07A	Soldier Meadow	89.17	40	⇑P	P	20 17 56.4	+0.7
	baz=89						
H03A	Soap Creek Ran	89.22	36	⇑P	P	20 17 55.9	0.0
	baz=89						
N08A	GE Springer Mi	89.36	41	⇑P	P	20 17 56.4	-0.1
	baz=90						
CN2	Changchun	89.43	323	eP	P	20 17 56.5	-0.4
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.3						
CN2				AMB	AMB		
	comp=Z,400nm,5.0s						
CN2				LR	LR		
	comp=N,300nm,19.0s,MS4.9						
CN2				LR	LR		
	comp=E,300nm,19.0s,MS4.9						
CN2				LR	LR		
	comp=Z,500nm,23.0s,MS4.9						
L07A	Adell	89.50	40	⇓P	P	20 17 57.5	+0.3
	baz=90						
O09A	Fish Creek Ran	89.51	42	⇓P	P	20 17 57.4	+0.1
	baz=90						
K06A	Valley Falls	89.52	39	⇑P	P	20 17 57.5	+0.2
	baz=90						
J06A	Christmas Vall	89.88	38	⇑P	P	20 17 58.4	-0.6
	baz=90						
WUAZ	Wupatki	90.21	49	eP	P	20 17 59.8	-0.8
	comp=Z,8.4nm,1.2s,mb5.0						
KLR	Kul'dur	90.28	330	eP	P	20 17 56.8	-4.0
ELK	Elko	91.02	43	eP	P	20 18 04.0	-0.3
GYA	Guiyang	91.05	300	P	P	20 18 04.6	+0.2
GYA				PP	PP	20 21 45.5	+4.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,90nm,4.9s						
M13A	Montello	92.04	43	⇑P	P	20 18 08.9	0.0
	baz=92						
BJI	Beijing	92.27	316	P	P	20 18 07.6	-2.5
BJI				AMB	AMB		
	comp=Z,10.0nm,1.9s,mb4.8						
BJI				AMB	AMB		
	comp=Z,279nm,6.1s						
BJI				LR	LR		
	comp=N,375nm,16.6s,MS5.0						
BJI				LR	LR		
	comp=E,353nm,19.0s,MS5.0						
BJI				LR	LR		
	comp=Z,1µm,36.7s						
BMO	Blue Mountains	92.48	38	eP	P	20 18 10.4	-0.6
	comp=Z,2.9nm,1.1s,mb4.5						
KMI	Kunming	93.36	297	P	P	20 18 16.3	+1.2
KMI				PP	PP	20 22 05.0	+5.8
KMI				AMB	AMB		
	comp=Z,6.0nm,1.8s,mb4.7						
KMI				AMB	AMB		
	comp=Z,126nm,6.4s						
KMI				LR	LR		
	comp=N,241nm,17.7s,MS4.9						
KMI				LR	LR		
	comp=E,339nm,19.3s,MS4.9						
KMI				LR	LR		
	comp=Z,312nm,17.7s,MS4.8						
CD2	Chengdu	95.56	302	eP	P	20 18 23.1	-2.1
CD2				PP	PP	20 22 18.8	+2.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,60nm,9.6s						
CD2				LR	LR		
	comp=E,200nm,24.0s						
CD2				LR	LR		
	comp=Z,270nm,20.4s,MS4.7						
HHC	Hu-ho-hao-te	95.59	314	eP	P	20 18 25.9	+0.6
HHC				PP	PP	20 22 21.4	+4.8
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.7						
HHC				AMB	AMB		
	comp=Z,175nm,5.0s						
PDAR	Pinedale Array	95.62	44	P	P	20 18 23.6	-1.9
	comp=Z,0.3nm,0.6s,mb3.9,baz=222,slow=1.2,SNR=3.1						
ILAR	Eielson Array	97.16	13	P	P	20 18 30.1	-2.4
	comp=Z,0.7nm,0.8s,mb4.2,baz=217,slow=6.0,SNR=5.6						
ILAR	Eielson Array	97.16	13	P	P	20 18 30.1	-2.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LZH	Lanzhou	98.15	307	eP	P	20 18 36.7	-0.2
LZH				PP	PP	20 22 41.3	+5.0
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,55nm,9.3s						
LZH				LR	LR		
	comp=E,203nm,18.7s						
LZH				LR	LR		
	comp=Z,372nm,19.8s,MS4.9						
LPAZ	La Paz	98.58	114	LR	LR	20 53 41.5	
	comp=Z,170nm,21.4s,MS4.5,baz=224,slow=30						
YAK	Yakutsk	100.46	338	eP	Pdif	20 18 47.5	+0.3
YAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WMQ	Urumqi	112.64	309	PKP	PKiKP	20 23 34.8	-1.6
MKAR	Makanchi Array	117.16	310	PKP	PKPdf	20 23 42.6	-2.4
	comp=Z,0.9nm,0.5s,baz=210,slow=0.5,SNR=16						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MKAR	Makanchi Array	117.16	310	PKIKP	PKPdf	20 23 42.6	-2.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BOSA	Boshof	117.96	203	PKP	PKPdf	20 23 46.4	-0.2
	comp=Z,3.0nm,1.1s,baz=212,slow=6.3,SNR=3.8						
BOSA	Boshof	117.96	203	PKIKP	PKPdf	20 23 46.4	-0.2
BOSA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KURK	Kurchatov	120.41	314	ePKIKP	PKPdf	20 23 48.7	-2.6
AAK	Ala-Archa	121.56	304	ePKIKP	PKPdf	20 23 51.1	-2.4
BVAR	Borovoye Array	125.75	316	PKP	PKPdf	20 23 59.4	-2.1
	comp=Z,2.7nm,0.5s,baz=83,slow=1.0,SNR=19						
BVAR	Borovoye Array	125.75	316	PKIKP	PKPdf	20 23 59.4	-2.1
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BRVK	Borovoye	125.81	316	ePKIKP	PKPdf	20 23 59.5	-2.1
ZRNK	Zerenda	126.58	316	ePKIKP	PKPdf	20 24 00.7	-2.4
SVE	Sverdlovsk	131.20	321	ePKIKP	PKPdf	20 24 10.0	-1.9
SVE				MLR	MLR		
	comp=N,100nm,16.0s,MS4.8						
SVE				MLR	MLR		
	comp=E,100nm,16.0s,MS4.8						
SVE				MLR	MLR		
	comp=Z,400nm,16.0s,MS5.2						
ARU	Arti	132.39	321	i PKIKP	PKPdf	20 24 11.7	-2.5
ARU	Arti	132.39	321	ePKPdf	PKPdf	20 24 11.9	-2.3
AKTO	Aktyubinsk	133.47	313	PKP	PKPdf	20 24 15.2	-1.0
	comp=Z,1.8nm,0.6s,baz=112,slow=5.6,SNR=10						
AKTO	Aktyubinsk	133.47	313	PKIKP	PKPdf	20 24 15.2	-1.0
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	ARCESS Array B	137.78	348	PKhKP		20 24 16.3	
	comp=Z,0.7nm,0.6s,baz=20,slow=3.9,SNR=4.4						
ARCES				PKP	PKPdf	20 24 21.6	-2.6
	comp=Z,2.5nm,0.6s,baz=23,slow=0.7,SNR=12						
ARCES	ARCESS Array B	137.78	348	PKIKP	PKPdf	20 24 16.3	-7.9
ARCES						20 24 21.6	
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
JOF	Joensuu	141.62	339	epkp	PKPdf	20 24 23.8	-7.4
KAF	Kangasniemi	143.75	341	epkp	PKPdf	20 24 30.3	-4.7
CLDR	Caldiran	144.28	297	eP	PKPdf	20 24 34.8	-1.1
FIA1	FINESS Array S	144.34	340	ePKPpre		20 24 31.4	
FINES	FINESS Array B	144.35	340	PKP	PKPdf	20 24 31.6	-4.5
	comp=Z,8.8nm,0.5s,baz=64,slow=3.1,SNR=84						
FINES	FINESS Array B	144.35	340	PKIKP	PKPdf	20 24 31.6	-4.4
FINES				pmax	pmax		
	comp=Z,9.0nm,0.5s						
OBN	Obninsk	144.44	326	i PKIKP	PKPdf	20 24 32.9	-3.3
OBN				pmax	pmax		
	comp=Z,48nm,1.4s						
HAKT	HAKKARI	144.48	294	i P	PKPdf	20 24 33.9	-2.3
CUKT	Cukurca	144.56	294	eP	PKPdf	20 24 32.7	-3.7
VOR	Voronezh	144.63	319	PKIKP	PKPdf	20 24 32.0	-4.5
VOR				pmax	pmax		
	comp=Z,70nm,1.9s						
KIV	Kislovodsk	144.67	305	ePKIKP	PKPdf	20 24 34.1	-2.5
KIV				pmax	pmax		
	comp=Z,29nm,1.9s						
VANB	Van	144.71	296	eP	PKPdf	20 24 35.6	-1.0
VRSR	Storozhevoye	144.84	319	ePKIKP	PKPdf	20 24 33.6	-3.3
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=N,6.0nm,0.6s						
VRSR				pmax	pmax		
	comp=E,3.0nm,0.7s						
BCA	Borcka	145.83	301	i P	PKPdf	20 24 37.1	-1.5
ERZM	Erzurum	146.19	298	i P	PKPdf	20 24 40.3	+1.1
EZM	Erzurum	146.20	298	eP	PKPdf	20 24 40.0	+0.8
BNGL	BINGOL	146.44	297	i P	PKPdf	20 24 40.8	+1.2
MARD	Mardin	146.81	294	i P	PKPdf	20 24 38.4	-1.8
SOC	Sochi	146.86	305c	iPKP2	PKPab	20 24 41.2	-2.3
SOC				pmax	pmax		
	comp=Z,29nm,1.1s						
BINT	Bingol	146.96	297	eP	PKPdf	20 24 46.3	+5.8
EZC	Erzincan	147.40	298	eP	PKPdf	20 24 41.5	+0.2
NB2	NORSAR Subarra	147.94	351	PKP	PKPdf	20 24 42.4	+0.3
	comp=Z,54nm,1.7s,baz=9.4,slow=2.9						
NOA	NORSAR Array B	147.94	351	PKPbc	PKPbc	20 24 40.0	-5.2
	comp=Z,3.2nm,0.6s,baz=15,slow=4.2,SNR=17						
NOA	NORSAR Array B	147.94	351	PKIKP	PKPdf	20 24 40.0	-2.1
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ANN	Anapa	148.15	308	i PKIKP	PKPdf	20 24 40.0	-2.5
ANN				pmax	pmax		
	comp=Z,207nm,4.8s						
URFA	Urfa	148.37	294	eP	PKPdf	20 24 44.4	+1.5
GRSN	GIRESUNGRSN	148.41	301	i P	PKPdf	20 24 46.7	+3.8
MALT	Malatya	148.62	296	ePKP2	PKPab	20 24 46.1	-4.4
MNK	Minsk	148.85	330	ePKIKP	PKPdf	20 24 43.0	-0.6
GZT	Gaziantep	149.37	294	i P	PKPdf	20 24 47.5	+3.1
SVSK	Karacayir	149.53	299	eP	PKPdf	20 24 46.8	+2.1
GAZ	Gaziantep	149.66	294	eP	PKPdf	20 24 48.7	+3.8
ASF	Jabal al Asfar	149.91	284	PKPbc	PKPbc	20 24 49.5	-0.6
	comp=Z,1.7nm,0.4s,baz=32,slow=3.3,SNR=11						
ASF	Jabal al Asfar	149.91	284	PKP2	PKPbc	20 24 49.5	-0.7
ASF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SIM	Simferopol'	150.34	310	ePKIKP	PKPbc	20 24 50.7	-0.5
SIM				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SIM				pmax	pmax		
	comp=Z,14nm,1.0s						
AKASG	Malin Array Be	150.59	323	PKPbc	PKPbc	20 24 49.4	-2.4
	comp=Z,6.4nm,0.6s,baz=48,slow=3.5,SNR=40						
AKASG	Malin Array Be	150.59	323	PKIKP	PKPdf	20 24 49.4	+3.0
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AKBB	Malin Array Si	150.59	323	ePKIKP	PKPdf	20 24 49.9	+3.5
MMAI	Mount Meron Ar	151.21	285	PKPbc	PKPbc	20 24 52.9	-0.4
	comp=Z,6.5nm,0.5s,baz=64,slow=7.8,SNR=18						
AVNT	Avonos	151.34	297	i P	PKPdf	20 24 51.8	+4.3
CDAG	Cicekdag	151.57	299	i P	PKPdf	20 24 51.1	+3.2
BR131	Keskin Array S	152.11	300	ePKPbc	PKPbc	20 24 54.0	-1.3
BRTR	Keskin Array B	152.11	300	PKPbc	PKPbc	20 24 53.9	-1.4
	comp=Z,1.3nm,0.6s,baz=143,slow=5.8,SNR=8.4						
BRTR	Keskin Array B	152.11	300	PKIKP	PKPbc	20 24 53.9	-1.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KOLS	Kolonicke sedl	155.18	327	ePKP	PKPab	20 25 13.6	-4.4
KOLS				e		20 25 28.6	
KOLS				e		20 25 28.6	
KOLS	Kolonicke sedl	155.18	327	e	PKPab	20 25 13.6	-4.4
CRVS	Cervenica-Dubn	155.59	328	ePKP	PKPab	20 25 18.4	-1.3
CRVS				e		20 25 29.7	
KSP	Ksiaz	156.17	337	ePKP	PKPab	20 25 20.4	-1.8
KSP				e		20 25 30.7	
DBIC	Dimbokro	156.34	163	PKP	PKPdf	20 24 55.0	+0.3
	comp=Z,1.9nm,0.8s,baz=124,slow=8.3,SNR=3.6						
DBIC	Dimbokro	156.34	163	PKIKP	PKPdf	20 24 55.0	+0.4
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KECS	Kecovo	156.34	328	ePKP	PKPab	20 25 20.9	-2.0
UPC	Upice	156.55	337	ePKPDF	PKPdf	20 24 49.5	-5.4
UPC				ePKPAB	PKPab	20 25 22.5	-1.3
DPC	Dobruska-Polom	156.57	336	ePKPDF	PKPdf	20 24 49.8	-5.1
DPC				ePKPAB	PKPab	20 25 22.4	-1.5
CLL	Collm	156.76	342	ePKPdf	PKPdf	20 24 53.7	-1.5
CLL				ePKPdif	pPKPdf	20 25 05.4	-1.2
CLL				ePKPab	PKPab	20 25 23.0	-1.7
	comp=Z,13nm,1.6s						
CLL	Collm	156.76	342	i PKPdif		20 25 05.5	
	comp=Z,9.0nm,1.5s						
CLL				i PKPab	PKPab	20 25 23.0	-1.7
	comp=Z,14nm,1.7s						
CLL				i x	x	20 25 32.4	
CLL	Collm	156.76	342	i PKIKP	pPKPdf	20 25 05.5	-1.1
CLL				pmax	pmax		
	comp=Z,9.0nm,1.5s						
CLL				pmax	pmax		
	comp=Z,14nm,1.7s						
CLZ	Clausthal	156.89	346	ePKPab	PKPab	20 25 23.5	-1.8
BRG	Berggiesshubel	156.89	340	ePKPab	PKPab	20 25 23.6	-1.7
BRG	Berggiesshubel	156.89	340	ePKP	PKPdf	20 24 53.9	-1.4
	comp=Z,2.3nm,1.1s						
BRG				e		20 25 23.2	
	comp=Z,22nm,2.2s						
BRG	Berggiesshubel	156.89	340	ePKIKP	PKPdf	20 24 53.9	-1.4
BRG				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BRG				pmax	pmax		
	comp=Z,22nm,2.2s						
PVCC	Panska Ves	157.00	339	ePKPAB	PKPab	20 25 24.2	-1.6
FBE	Freiberg	157.01	341	ePKPab	PKPab	20 25 24.2	-1.6
VYHS	Vyhne	157.07	330	ePKP	PKPab	20 25 24.5	-1.6
VYHS				e		20 25 36.3	
PRU	Pruhonice	157.48	338	ePKPDF	PKPdf	20 24 53.7	-2.4
PRU				ePKPAB	PKPab	20 25 26.4	-1.4
TANN	Tannenbergstha	157.72	342	ePKPab	PKPab	20 25 27.8	-1.1
WERD	Werda	157.73	342	ePKPab	PKPab	20 25 27.9	-1.0
GUNZ	Gunzen	157.80	342	ePKPab	PKPab	20 25 27.7	-1.5
NKC	Novy Kostel	157.88	342	ePKPAB	PKPab	20 25 27.9	-1.7
ROTZ	Rotzenmuhle	158.37	342	ePKPab	PKPab	20 25 30.2	-1.5
KHC	Kasperske Hory	158.53	339	ePKPDF	PKPdf	20 24 55.7	-1.7
KHC				ePKPAB	PKPab	20 25 29.1	-3.3
GRF	Grafenberg Arr	158.70	343	ePKPab	PKPab	20 25 31.3	-1.8
WET	Wettzell	158.74	340	ePKPab	PKPab	20 25 32.2	-1.1
GEC2	GERESS Array S	158.75	338	ePKPab	PKPab	20 25 32.0	-1.3
GERES	GERESS Array B	158.75	338	PKPab	PKPab	20 25 31.7	-1.6
	comp=Z,0.4nm,0.6s,baz=34,slow=5.0,SNR=4.7						
WLF	Walferdange	159.69	352	ePKPab	PKPab	20 25 37.7	+0.3
BFO	Black Forest	160.64	347	ePKPab	PKPab	20 25 40.0	-1.5
TORD	Torodi Ar. Bea	163.64	179	PKP	PKPdf	20 25 02.3	-0.5
	comp=Z,0.8nm,0.8s,baz=346,slow=3.1,SNR=5.5						
TORD				PKPab	PKPab	20 25 53.9	-0.8
	comp=Z,2.3nm,0.6s,baz=174,slow=2.5,SNR=15						
ESDC	Sonseca Array	168.85	24	PKPab	PKPab	20 26 16.4	-1.3
	comp=Z,0.4nm,0.5s,baz=318,slow=4.2,SNR=4.2						

IDC ***07*** *20:10:52.5±0.9, 2681N×5581E, h0^{km}, mb3.8/14, mb1 3.9/16, mb1mx3.8/26, mbtmp3.8/16, ML3.6/2, Error ellipse: s-maj=18.9km s-min=18.2km az=165.0*

ISCJB ***07*** *20:10:53.2±0.4, 2687N±003×5572E±004, h10^{km}, mb3.8/16, Error ellipse: s-maj=5.2km s-min=4.2km az=110.1*

KISR ***07*** *20:10:54.8±1.3, 2677N×5554E, h33^{km}, ML3.8*

CSEM ***07*** *20:10:54.9±0.1, 2682N×5585E, h30^{km}, ML3.4, Error ellipse: s-maj=3.7km s-min=2.9km az=131.0*

MOS ***07*** *20:10:55.0±1.1, 2671N×5580E, h33^{km}, mb4.0/11, Error ellipse: s-maj=21.8km s-min=12.3km az=102.8*

THR ***07*** *20:10:57.6±0.7, 2704N×5577E, h14^{km}±12^{km}, ML3.4*

NEIC ***07*** *20:10:58.4, 27.13N×5577E, h15^{km}, mb3.9/2, ML3.4(THR), After THR.*

TEH ***07*** *20:11:00.0, 2687N×5576E, h27^{km}, Mn3.6*

ISC 07 20:10:54.9±0.3**, 2687N**±003×**5577E**±004**, h10**^{km}**, n52, σ1**^{s}**26**/64**, mb3.8**/16**, 2C-3D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.64	34	ePG	Pg	20 11 07.7	+0.5
BNDS				eSg	Sg	20 11 15.1	-0.5
BANOM	Banah	1.06	153	⇓S	Sg	20 11 29.5	+0.5
ASHO	Ashiyiah	2.19	173	⇑P	Pn	20 11 32.6	+1.2
	SNR=35						
GHIR	Ghir-Karzin	2.84	300	ePN	Pn	20 11 43.6	+3.3
GHIR				AML	AML	20 12 44.1	
	comp=E,164nm,0.5s						
GHIR				AML	AML	20 12 53.0	
	comp=N,151nm,0.7s						
KRBR	Kerman	3.22	16	ePn	Pn	20 11 48.2	+2.6
KRBR				eSg	Sg	20 12 33.4	-5.0
KRBR				AML	AML	20 12 53.2	
	comp=N,120nm,0.6s						
KRBR				AML	AML	20 13 00.1	
	comp=E,114nm,0.6s						
KRBR	Kerman	3.22	16	ePn	Pn	20 11 48.2	+2.7
	SNR=52						
KRBR				eSg	Sg	20 12 33.4	-5.0
	SNR=90						
ISRV	Sarvestan	3.43	318	ePn	Pn	20 11 51.5	+3.1
ISRV				eSn	Sn	20 12 29.1	+0.1
IMOK	Mook	3.46	309	ePn	Pn	20 11 51.5	+2.7
IMOK				eSn	Sn	20 12 30.1	+0.2
WSAR	Wadi Sarin	4.45	144	Pn	Pn	20 12 02.3	-0.1
	comp=E,2.0nm,0.3s,baz=318,slow=12,SNR=32						
WSAR				Sn	Sn	20 12 52.7	-1.6
	comp=E,3.8nm,0.3s,baz=268,slow=14,SNR=6.0						
WSAR	Wadi Sarin	4.45	144	Pn	Pn	20 12 02.3	-0.1
WSAR				Sn	Sn	20 12 52.7	-1.6
IMEH	Mehriz	4.62	348	ePn	Pn	20 12 07.5	+2.8
IMEH				eSn	Sn	20 12 57.7	-0.6
IBAF	Bafgh	4.71	358	ePn	Pn	20 12 08.5	+2.6
IBAF				eSn	Sn	20 12 59.7	-0.9
ISAD	Sadrabad	5.34	341	eSn	Sn	20 13 14.4	-1.9
NASN	Na'in	6.44	337	ePN	Pn	20 12 31.9	+2.2
QRN	Al-Qurain	7.20	287	eP	Pn	20 12 40.1	-0.1
QRN				eS	Sn	20 13 59.8	-2.1
UMR	Umm Al-Rimmam	7.59	292	eP	Pn	20 12 46.5	+1.0
UMR				AML	AML	20 14 13.8	
	comp=Z,16nm,0.4s						
NAY	Al-Naaiem	7.89	289	eP	Pn	20 12 51.3	+1.6
NAY				eS	Sn	20 14 17.6	-1.5
NAY				AML	AML	20 14 19.0	
	comp=Z,6.8nm,0.4s						
MIB	Mutribah	7.98	293	eP	Pn	20 12 52.2	+1.3
MIB				eS	Sn	20 14 19.4	-1.8
MIB				AML	AML	20 14 19.9	
	comp=Z,12nm,0.5s						
RST	Umm Al-Ruwaisa	8.17	291	eP	Pn	20 12 53.5	+0.1
RST				AML	AML	20 14 26.6	
	comp=Z,10nm,0.5s						
MMAI	Mount Meron Ar	18.67	294	P	Pn	20 15 13.5	+0.2
	comp=Z,0.2nm,0.3s,baz=57,slow=28,SNR=4.6						
KIV	Kislovodsk	20.06	332	eP	P	20 15 29.6	+1.4
KIV				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BRTR	Keskin Array B	22.43	310	P	P	20 15 55.1	+1.3
	comp=Z,1.3nm,0.7s,mb3.5,baz=129,slow=13,SNR=4.9						
BRTR	Keskin Array B	22.43	310	P	P	20 15 55.1	+1.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKTK	Aktyubinsk	23.59	4	P	P	20 16 06.3	+0.3
AKTO	Aktyubinsk	23.59	4	P	P	20 16 06.3	+0.3
	comp=Z,1.1nm,0.7s,mb3.4,baz=182,slow=8.4,SNR=5.7						
AKTO	Aktyubinsk	23.59	4	P	P	20 16 06.3	+0.3
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.4						
BVAR	Borovoye Array	28.31	19	P	P	20 16 46.3	-2.4
	comp=Z,1.5nm,0.7s,mb3.7,baz=266,slow=5.8,SNR=6.0						
BVAR	Borovoye Array	28.31	19	P	P	20 16 46.3	-2.4
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	28.86	39	P	P	20 16 52.5	-1.1
	comp=Z,0.3nm,0.5s,mb3.3,baz=225,slow=12,SNR=4.4						
MKAR	Makanchi Array	28.86	39	P	P	20 16 52.5	-1.1
AKASG	Malin Array Be	31.23	327	P	P	20 17 13.7	-0.8
	comp=Z,1.3nm,0.5s,mb4.0,baz=135,slow=8.4,SNR=15						
AKASG	Malin Array Be	31.23	327	P	P	20 17 13.7	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	Zalesovo	34.48	30	P	P	20 17 42.3	-0.6
	comp=Z,1.2nm,0.4s,mb4.1,baz=236,slow=7.3,SNR=6.2						
ZAL	Zalesovo	34.48	30	P	P	20 17 42.3	-0.6
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES	GERESS Array B	39.14	315	P	P	20 18 22.3	-0.3
	comp=Z,0.4nm,0.5s,mb3.4,baz=99,slow=8.8,SNR=6.5						
KHC	Kasperske Hory	39.31	316	eP	P	20 18 24.0	0.0
FINES	FINESS Array B	39.90	338	P	P	20 18 28.4	-0.6
	comp=Z,0.8nm,0.5s,mb3.7,baz=156,slow=12,SNR=12						
FINES	FINESS Array B	39.90	338	P	P	20 18 28.4	-0.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SQTA	Sankt Quirin	40.29	312	⇓iP	P	20 18 31.7	-0.5
	comp=Z,1.5nm,0.6s,mb3.9						
SQTA	Sankt Quirin	40.29	312	⇓iP	P	20 18 31.7	-0.5
SQTA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
DAVA	Damuels	41.18	312	⇑iP	P	20 18 39.1	-0.5
	comp=Z,2.1nm,0.6s,mb3.9						
SONM	Songino Array	44.44	48	P	P	20 19 06.6	+0.6
	comp=Z,0.5nm,0.7s,mb3.4,baz=228,slow=7.1,SNR=4.8						
SONM	Songino Array	44.44	48	P	P	20 19 06.6	+0.6
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	45.37	331	P	P	20 19 12.5	-0.9
	comp=Z,0.5nm,0.6s,mb3.5,baz=117,slow=7.9,SNR=3.5						
NOA	NORSAR Array B	45.37	331	P	P	20 19 12.5	-0.9
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ESDC	Sonseca Array	50.70	301	P	P	20 19 54.5	-0.1
	comp=Z,0.4nm,0.5s,mb3.6,baz=70,slow=7.7,SNR=4.5						
BOD	Bodaibo	50.85	36	eP	P	20 19 51.4	-4.3
TORD	Torodi Ar. Bea	52.25	266	P	P	20 20 06.4	+0.2
	comp=Z,2.0nm,0.6s,mb4.2,baz=62,slow=7.1,SNR=29						
BOSA	Boshof	62.45	210	P	P	20 21 16.2	-2.1
	comp=Z,4.0nm,1.0s,mb4.5,baz=27,slow=4.5,SNR=4.1						
BOSA	Boshof	62.45	210	P	P	20 21 16.2	-2.1
BOSA				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
ILAR	Eielson Array	86.97	10	P	P	20 23 39.2	-1.1
	comp=Z,0.5nm,0.7s,mb3.9,baz=276,slow=4.9,SNR=4.5						
ILAR	Eielson Array	86.97	10	P	P	20 23 39.2	-1.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

MOS ***07*** *20:16:39.8±0.8, 5.15S×15154E, h33^{km}, mb5.2/26, MS4.9/4, Error ellipse: s-maj=11.7km s-min=7.6km az=79.9*

BJI ***07*** *20:16:39.4, 572S×152.12E, h73^{km}, mB5.1, mb4.8, Ms4.8, Msz4.6*

IDC ***07*** *20:16:41.7±1.7, 539S×15157E, h45^{km}±14^{km}, mb4.5/21, mb1 4.6/22, mb1mx4.6/24, mbtmp4.8/22, ML4.2/1, MS4.5/8, Ms1 4.4/8, ms1mx4.2/20, Error ellipse: s-maj=17.3km s-min=8.8km az=123.0*

ISCJB ***07*** *20:16:41.6±1.3, 542S±005×15160E±004, h55^{km}±11^{km}, mb4.9/73, MS4.6/18, Error ellipse: s-maj=7.7km s-min=5.8km az=157.1*

HRVD ***07*** *20:16:44.9±0.3, 584S×15176E, h34^{km}±1^{km}, MW5.2/56, Centroid moment Tensor Solution. LP body waves: s40,c53;Mantle waves: s56,c83; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.05±.34; $M_{\theta\theta}$-5.34±.20; $M_{\phi\phi}$0.28±.22; $M_{r\theta}$3.94±.28; $M_{\theta\phi}$-1.07±.18; $M_{\phi r}$-2.69±.36; Best double couple: $M_0$7.09900×10^{16} NP1:ϕ_s239.00000°, δ33.00000°, λ48.00000°. NP2: ϕ_s105.00000°, δ66.00000°, λ113.00000°. Principal axes: T 7.5290, Plg62.0000°, Azm51.0000°; N -0.8620, Plg21.0000°, Azm276.0000°; P -6.6690, Plg18.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***07*** *20:16:44.9±1.0, 538S×15158E, h74^{km}±9^{km}, mb4.9/33 Error ellipse: s-maj=6.5km s-min=5.2km az=126.0*

ISC 07 20:16:43.9±1.1**, 544S**±004×**15165E**±004**, h61**^{km}±9^{km}**, h85**^{km}±3.0^{km}**:pP-P, n325, σ0**^{s}**87**/263**, mb4.9**/73**, 49C-49D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.94	228	P	Pn	20 18 08.9	-0.3
	37nm,0.3s,baz=51,slow=8.9,SNR=117						
PMG				S	Sn	20 19 14.3	-1.6
	26nm,0.3s,baz=174,slow=18,SNR=3.7						
PMG	Port Moresby	5.94	228	eP	Pn	20 18 09.7	+0.5
PMG				pmax	pmax		
	comp=Z,270nm,0.8s						
PMG	Port Moresby	5.94	228	eP	Pn	20 18 09.7	+0.4
	comp=Z,270nm,0.8s						
CTA	Charters Tower	15.47	199	eP	Pn	20 20 20.7	+2.4
	comp=Z,18nm,1.8s						
CTA	Charters Tower	15.47	199	P	Pn	20 20 21.1	+2.8
	comp=Z,0.4nm,0.3s,baz=17,slow=14,SNR=4.5						
CTA	Charters Tower	15.47	199	eP	Pn	20 20 20.7	+2.4
CTA				pmax	pmax		
	comp=Z,18nm,1.8s						
CTAO	Charters Tower	15.47	199	P	Pn	20 20 21.7	+3.4
KAKA	Kakadu	20.28	248	eP	P	20 21 14.0	-0.5
	comp=Z,30nm,0.5s						
KAKA				eS	S	20 25 09.9	+11
DZM	Mont Dzumac	21.87	141	P	P	20 21 30.5	-1.0
	comp=Z,23nm,0.9s,mb4.6,baz=15,slow=18,SNR=6.4						
DZM				LR	LR	20 29 01.9	
	comp=Z,2μm,18.9s,baz=114,slow=34						
WRAB	Tennant Creek	22.15	228	eP	P	20 21 34.9	+0.4
WRAB				pmax	pmax		
	comp=Z,63nm,0.9s,mb5.0						
WRAB	Tennant Creek	22.15	228	eP	P	20 21 34.9	+0.4
	comp=Z,63nm,0.9s,mb5.0						
WB2	Warramunga Arr	22.15	228	eP	P	20 21 34.1	-0.4
WB2				eS	S	20 25 35.4	+0.3
WRA	Warramunga Arr	22.16	228	P	P	20 21 34.0	-0.7
	comp=Z,28nm,0.8s,mb4.7,baz=52,slow=10,SNR=78						
WRA				S	S	20 25 35.1	-0.2
	comp=Z,11nm,1.1s,baz=52,slow=17,SNR=7.8						
WRA				ScP	ScP	20 29 05.2	+3.6
	comp=Z,2.9nm,1.1s,baz=63,slow=2.7,SNR=4.8						
WRA	Warramunga Arr	22.16	228	P	P	20 21 34.0	-0.6
WRA				S	S	20 25 35.1	-0.2
ARMA	Armidale	24.84	180	eP	P	20 22 06.2	+5.7
AS31	Alice Springs	24.90	222	eP	P	20 22 01.2	+0.1
AS31				eS	S	20 26 24.1	+4.1
ASAR	Alice Springs	24.91	222	P	P	20 22 01.2	+0.1
	comp=Z,28nm,0.8s,mb4.8,baz=57,slow=8.7,SNR=172						
ASAR				S	S	20 26 21.2	+1.2
	comp=Z,2.5nm,1.1s,baz=59,slow=15,SNR=3.7						
ASAR				ScP	ScP	20 29 11.2	+2.2
	comp=Z,1.0nm,0.7s,baz=45,slow=2.8,SNR=5.8						
ASAR	Alice Springs	24.91	222	P	P	20 22 01.2	+0.1
ASAR				S	S	20 26 21.2	+1.2
ASPA	Alice Springs	24.91	222	eP	P	20 22 01.2	+0.1
ASPA				eS	S	20 26 24.1	+4.1
STKA	Stephens Creek	27.93	198	eP	P	20 22 30.1	+1.8
	comp=Z,5.4nm,0.9s,mb4.2						
STKA	Stephens Creek	27.93	198	P	P	20 22 27.5	-0.8
	comp=Z,4.4nm,1.0s,mb4.0,baz=22,slow=14,SNR=4.2						
STKA				LR	LR	20 32 38.0	
	comp=Z,648nm,19.1s,baz=16,slow=34						
FITZ	Fitzroy Crossi	28.35	241	eP	P	20 22 31.4	-0.6
	comp=Z,70nm,0.9s,mb5.3						
FITZ				eS	S	20 27 16.2	+1.9
FITZ	Fitzroy Crossi	28.35	241	P	P	20 22 31.2	-0.8
	comp=Z,72nm,1.0s,mb5.2,baz=73,slow=9.8,SNR=42						
FORT	Forrest	33.57	219	eP	P	20 23 17.5	-0.5
	comp=Z,17nm,0.8s,mb5.0						
MBWA	Marble Bar	34.66	240	eP	P	20 23 27.8	+0.3
AFI	Afiamalu	36.98	106	LR	LR	20 35 46.7	
	comp=Z,296nm,18.9s,baz=160,slow=31						
URZ	Urewera	40.03	148	LR	LR	20 38 30.5	
	comp=Z,846nm,18.1s,baz=343,slow=33						
KLBR	Kellerberrin	41.03	226	eP	P	20 24 21.6	+0.5
	comp=Z,17nm,0.8s,mb4.7						
YHNB	Yeheng	42.00	317	eP	P	20 24 30.4	+1.3
NWAO	Narrogin (SRO)	42.12	225	LR	LR	20 43 08.7	
	comp=Z,830nm,19.2s,baz=298,slow=38						
MJAR	Matsushiro Arr	43.62	344	P	P	20 24 40.0	-2.1
	comp=Z,3.6nm,0.9s,mb4.1,baz=167,slow=8.2,SNR=7.2						
MAT	Matsushiro	43.62	344	P	P	20 24 39.8	-2.4
MAT				S	S	20 30 57.0	-10
MAT	Matsushiro	43.62	344	eP	P	20 24 40.0	-2.2
MAT				eS	S	20 30 58.0	-9.3
SSE	Sheshan	46.55	323	P	P	20 25 05.9	+0.5
SSE				AP	pP	20 25 27.9	+6.8
SSE				XP	sP	20 25 37.9	+10
SSE				PCP	PcP	20 26 35.3	-3.5
SSE				S	S	20 31 53.6	+4.0
SSE				AMB	AMB		
	comp=Z,22nm,0.9s,mb5.1						
SSE				AMB	AMB		
	comp=Z,150nm,6.6s						
SSE				LR	LR		
	comp=N,263nm,17.2s						
SSE				LR	LR		
	comp=E,173nm,17.2s						
SSE				LR	LR		
	comp=Z,407nm,20.5s						
NJ2	Nanjing	48.63	322	eP	P	20 25 19.6	-2.0
NJ2				AP	pP	20 25 42.8	+5.5
NJ2				XP	sP	20 25 54.1	+10
NJ2				PP	PP	20 27 13.6	-1.3
NJ2				S	S	20 32 12.0	-7.1
NJ2				XS	sS	20 32 52.0	+6.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,1μm,5.0s						
NJ2				LR	LR		
	comp=N,2μm,22.1s						
NJ2				LR	LR		
	comp=E,5μm,23.0s						
NJ2				LR	LR		
	comp=Z,7μm,24.0s						
INCN	Inchon	48.66	333	P	P	20 25 21.8	+0.1
ASAJ	Asahikawa	50.00	351	P	P	20 25 31.1	-1.0
	comp=Z,6.7nm,1.1s,mb4.6,baz=228,slow=15,SNR=3.9						
YSS	Yuzh-Sakhalins	52.76	352	eP	P	20 25 54.3	+1.7

SNY Shenyang 53.56 334 *e*P P **20 26 02.5 +4.0**
SNY AMB AMB
comp=Z,175nm,2.5s,mb5.5
MDJ Mudanjiang 53.63 341 P P **20 26 00.2 +1.2**
MDJ AP pP 20 26 19.9 +4.9
MDJ XP sP 20 26 29.5 +7.6
MDJ PCP PcP 20 27 05.2 +0.4
MDJ S **S** **20 33 28.7 +0.6**
MDJ XS sS 20 34 03.9 +8.8
MDJ SS SS 20 37 12.1 +2.9
MDJ AMB AMB
comp=Z,4.0nm,0.9s,mb4.3
MDJ AMB AMB
comp=Z,74nm,7.5s
MDJ LR LR
comp=N,376nm,21.2s
MDJ LR LR
comp=Z,499nm,19.7s
GYA Guiyang 53.88 308 P P **20 26 02.8 +2.0**
GYA AP pP 20 26 25.0 +8.1
GYA PP PP 20 28 03.9 +1.4
GYA S **S** **20 33 27.0 -4.5**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,100nm,7.3s
GYA LR LR
comp=N,320nm,18.2s
GYA LR LR
comp=E,380nm,18.4s
GYA LR LR
comp=Z,580nm,17.3s
CN2 Changchun 54.42 337 *e*P P **20 26 08.0 +3.2**
HABR Khabarovsk 55.63 347 *e*P P **20 26 12.2 -1.3**
HABR *e*S **S** **20 33 51.6 -3.3**
BJI Beijing 55.80 327 P P **20 26 18.0 +3.3**
XAN Xi'an 56.30 317 P P **20 26 18.0 -0.3**
XAN AMB AMB
comp=Z,12nm,1.2s,mb4.8
KMI Kunming 56.40 305 P P **20 26 20.9 +1.9**
KMI AP pP 20 26 40.9 +5.8
KMI XP sP 20 26 49.2 +7.2
KMI PP PP 20 28 24.4 -0.6
KMI PPP 20 29 43.4
KMI S **S** **20 34 01.6 -3.6**
KMI XS sS 20 34 35.0 +2.6
KMI SS SS 20 37 52.6 -0.3
KMI AMB AMB
comp=Z,9.0nm,1.2s,mb4.7
KMI AMB AMB
comp=Z,105nm,5.4s
KMI LR LR
comp=N,260nm,16.0s
KMI LR LR
comp=E,212nm,16.9s
KMI LR LR
comp=Z,155nm,16.9s
CD2 Chengdu 58.29 311 ⇓ *i*P P **20 26 33.0 +0.7**
CD2 PP PP 20 28 45.9 +4.1
CD2 S **S** **20 34 21.2 -8.8**
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CD2 AMB AMB
comp=Z,100nm,9.0s
CD2 LR LR
comp=E,220nm,19.2s
CD2 LR LR
comp=Z,250nm,20.4s
PPT Papeete 58.63 107 *e*LR LR 20 43 46.8
comp=Z,139nm,22.0s
PPT Papeete 58.63 107 LR LR 20 48 22.6
comp=Z,239nm,19.6s,baz=298,slow=32
HHC Hu-ho-hao-te 58.91 325 *e*P P **20 26 37.6 +1.0**
HHC AP pP 20 26 58.0 +5.2
HHC XP sP 20 27 06.9 +7.2
HHC PP PP 20 28 51.0 +3.7
HHC S **S** **20 34 35.9 -2.1**
HHC PS 20 35 02.0
HHC SCS ScS 20 36 19.3 -1.7
HHC AMB AMB
comp=Z,17nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,150nm,5.7s
HHC LR LR
comp=N,394nm,22.6s
HHC LR LR
comp=E,440nm,23.8s
HHC LR LR
comp=Z,845nm,24.4s
TBI Tubuai 59.34 114 *e*LR LR 20 44 10.5
comp=Z,295nm,30.8s
PMOR Pomariorio Ree 60.09 104 *e*P P **20 26 45.2 +0.4**
comp=Z,72nm,1.1s,mb5.6
LZH Lanzhou 60.90 317 *e*P P **20 26 51.6 +1.4**
LZH AP pP 20 27 14.5 +8.0
LZH PP PP 20 29 08.7 +3.8
LZH PPP 20 30 38.2
LZH *e*S **S** **20 35 01.5 -2.0**
LZH PS 20 35 30.6
LZH XS sS 20 35 42.4 +11
LZH *e*SS SS 20 39 03.2 -0.3
LZH AMB AMB
comp=Z,27nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,116nm,7.4s
LZH LR LR
comp=N,452nm,17.5s
LZH LR LR
comp=Z,493nm,18.7s
GTA Gaotai 65.35 318 *e*P P **20 27 20.6 +0.8**
GTA AP pP 20 27 41.0 +4.8
GTA XP sP 20 27 49.2 +6.2
GTA PP PP 20 29 47.8 +3.7
GTA PPP 20 31 23.6
GTA S S 20 35 59.3 +0.1
GTA PS 20 36 32.8
GTA XS sS 20 36 33.9 +6.9
GTA SS SS 20 40 16.0 +2.9
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.6
GTA AMB AMB
comp=Z,100nm,5.7s
GTA LR LR
comp=N,135nm,18.6s
GTA LR LR
comp=E,179nm,19.0s
GTA LR LR
comp=Z,269nm,20.5s
ULN Ulaanbaatar 65.94 329 ⇑P P **20 27 24.2 +0.7**
SNR=7.9
ULN Ulaanbaatar 65.94 329 *e*P P **20 27 23.7 +0.2**
ULN pmax pmax
comp=Z,13nm,1.0s,mb4.9
ULN Ulaanbaatar 65.94 329 *e*P P **20 27 23.7 +0.2**
comp=Z,13nm,1.0s,mb4.9
SONM Songino Array 66.26 328 P P **20 27 26.1 +0.5**
comp=Z,8.5nm,0.7s,mb4.9,baz=134,slow=5.6,SNR=48
CASY Casey 67.07 197 *e*P P **20 27 29.6 -1.1**
LSA Lhasa 67.66 305 P P **20 27 36.2 +1.7**
LSA Lhasa 67.66 305 *e*P P **20 27 35.7 +1.2**
LSA pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
LSA Lhasa 67.66 305 *e*P P **20 27 35.7 +1.2**
comp=Z,7.0nm,0.7s,mb4.8
YAK Yakutsk 69.38 349 *e*P P **20 27 47.4 +2.2**
YAK *e* pP 20 28 02.2 +0.4
YAK *e**PP pP 20 28 08.8 +7.0
YAK *e*S S 20 36 42.4 -5.1
YAK *e* 20 37 17.1
YAK pmax pmax
comp=Z,11nm,1.3s,mb4.6
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=E,1.0nm,1.0s
YAK pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
YAK pmax pmax
comp=N,2.0nm,1.3s
YAK pmax pmax
comp=E,2.0nm,1.5s
YAK smax
comp=N,2.0nm,1.2s
YAK smax
comp=Z,3.0nm,0.7s
YAK smax
comp=E,1.0nm,0.9s
ZAK Zakamensk 69.45 329 ⇑ *e*P P **20 27 45.7 +0.1**
ZAK pmax pmax
comp=Z,14nm,1.0s,mb4.8
BOD Bodaibo 69.98 340 *e*P P **20 27 46.5 -2.4**
BOD pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
JIRN Jiri 71.14 302 *e*P P **20 27 56.8 +0.9**
comp=Z,6.8nm,0.6s,mb4.8
MOY Mondy 71.38 329 *e*P P **20 27 58.0 +0.6**
GUN Gumba 71.47 302 *e*P P **20 27 58.8 +0.8**
comp=Z,40nm,0.9s,mb5.4
PKI Pulchoki 71.78 301 *e*P P **20 28 00.5 +0.7**
KKN Kakani 71.95 301 *e*P P **20 28 00.9 +0.1**
comp=Z,21nm,0.9s,mb5.1
DMN Daman 72.05 301 *e*P P **20 28 02.0 +0.6**
comp=Z,49nm,1.0s,mb5.4
VNDA Vanda 72.23 178 P P **20 28 03.2 +0.7**
comp=Z,2.2nm,0.8s,mb4.1,baz=315,slow=5.7,SNR=12
VNDA Vanda 72.23 178 *e*P P **20 28 01.6 -1.0**
GKN Gorkha 72.56 301 *e*P P **20 28 03.9 -0.5**
comp=Z,29nm,0.9s,mb5.2
SBA Scott Base 72.80 177 P P **20 28 04.2 -1.7**
MIR Mirnyy 72.92 201 *d i*P P **20 28 07.0 +0.4**
MIR *i* pP 20 28 25.0 +1.7
MIR pmax pmax
comp=Z,110nm,1.0s,mb5.7
KOLN Koldanda 73.38 301 *e*P P **20 28 09.1 -0.2**
comp=Z,24nm,0.8s,mb5.2
KDAK Kodiak Island 77.27 27 P P **20 28 31.4 -0.2**
comp=Z,7.0nm,0.8s,mb4.6,baz=180,slow=14,SNR=4.0
KRAR Krasnoyarsk 77.77 331 *e*P P **20 28 32.2 -2.2**
KRAR pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
TIXI Tiksi 78.38 353 *e*P P **20 28 36.6 -1.2**
TIXI pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
MKAR Makanchi Array 80.06 319 P P **20 28 46.5 -0.5**
comp=Z,7.5nm,0.9s,mb4.6,baz=99,slow=6.3,SNR=41
ZAL Zalesovo 81.06 327 P P **20 28 50.5 -1.7**
comp=Z,3.3nm,0.5s,mb4.5,baz=6.1,slow=6.6,SNR=17
SML Sawmill 81.18 25 *e*P P **20 28 51.6 -1.3**
MCK McKinley 81.90 23 *e*P P **20 28 55.3 -1.4**
MCK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MCK McKinley 81.90 23 *e*P P **20 28 55.2 -1.5**
comp=Z,8.0nm,1.0s,mb4.6
NVS Novosibirsk 82.24 327 *e*P P **20 28 56.3 -2.2**
NVS pmax pmax
comp=Z,20nm,1.7s,mb4.8
NVS pmax pmax
comp=E,32nm,1.3s
COLA College 82.87 22 *e*P P **20 29 00.4 -1.4**
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
COLA College 82.87 22 *e*P P **20 29 00.4 -1.4**
comp=Z,6.0nm,0.8s,mb4.7
ILAR Eielson Array 83.19 22 P P **20 29 01.6 -1.8**
comp=Z,4.9nm,0.7s,mb4.6,baz=246,slow=6.7,SNR=40
TKM2 Tokmak 2 83.55 314 P P **20 29 05.8 +0.5**
SNR=8.9
KURK Kurchatov 83.57 322 P P **20 29 05.4 0.0**
SNR=8.9
KURK Kurchatov 83.57 322 *e*P P **20 29 04.2 -1.2**
KURK pmax pmax
comp=Z,24nm,1.1s,mb5.2
KURK Kurchatov 83.57 322 *e*P P **20 29 04.2 -1.2**
comp=Z,24nm,1.1s,mb5.2
KZA Kyzart 83.61 313 P P **20 29 07.6 +2.0**
SNR=11
KBK Karagaybulak 83.95 314 P P **20 29 08.3 +1.0**
SNR=5.9
CHMS Chumysh 84.17 314 P P **20 29 08.9 +0.4**
SNR=8.8
UCH Uchtor 84.17 313 P P **20 29 10.1 +1.6**
SNR=15
FRU Bishkek 84.23 314 *e*P P **20 29 09.0 +0.2**
FRU pmax pmax
comp=Z,30nm,1.5s,mb5.2
AAK Ala-Archa 84.28 314 ⇓P P **20 29 09.2 +0.2**
SNR=5.8
AAK Ala-Archa 84.28 314 *e*P P **20 29 08.6 -0.4**
AAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
AAK Ala-Archa 84.28 314 *e*P P **20 29 08.6 -0.4**
comp=Z,8.3nm,0.8s,mb4.9
USP Ospenovka 84.41 314 P P **20 29 10.5 +0.8**
SNR=19
QSPA South Pole Qui 84.52 180 *e*P P **20 29 09.4 -0.8**
comp=Z,5.6nm,0.8s,mb4.8
MAW Mawson 84.54 203 *e*P P **20 29 09.4 -0.9**
comp=Z,5.2nm,1.2s,mb4.5
MAW Mawson 84.54 203 P P **20 29 08.6 -1.7**
comp=Z,2.5nm,0.9s,mb4.3,baz=88,slow=7.7,SNR=4.3
MAW LR LR 21 03 52.9
comp=Z,279nm,18.5s,baz=69,slow=34
MAW Mawson 84.54 203 *e*P P **20 29 09.4 -0.9**
MAW pmax pmax
comp=Z,5.0nm,1.2s
AML Almayashu 84.75 313 P P **20 29 12.9 +1.5**
SNR=36
EKS2 Erkin-Say 84.80 314 P P **20 29 13.0 +1.4**
SNR=23
DAWY Dawson 85.84 24 *e*P P **20 29 16.1 -0.7**
DLBC Dease Lake 88.52 31 P P **20 29 30.1 +0.4**
comp=Z,6.7nm,0.9s,mb5.0,baz=266,slow=7.1,SNR=10
DLBC Dease Lake 88.52 31 *e*P P **20 29 29.8 0.0**
BVAR Borovoye Array 89.07 323 P P **20 29 30.9 -1.4**
comp=Z,10nm,0.9s,mb5.2,baz=108,slow=4.8,SNR=43
BRVK Borovoye 89.14 323 ⇑P P **20 29 32.1 -0.5**
SNR=8.9
BRVK Borovoye 89.14 323 *e*P P **20 29 31.2 -1.5**
BRVK pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
BRVK Borovoye 89.14 323 *e*P P **20 29 31.2 -1.4**
comp=Z,8.9nm,1.1s,mb5.0
JCC Jacoby Creek 89.23 49 ⇓P P **20 29 33.2 +0.1**
baz=89
INK Inuvik 89.46 21 P P **20 29 32.6 -1.5**
comp=Z,2.8nm,0.9s,mb4.6,baz=271,slow=5.0,SNR=6.0
INK Inuvik 89.46 21 *e*P P **20 29 32.5 -1.7**
INK pmax pmax
comp=Z,8.0nm,1.2s
INK Inuvik 89.46 21 *e*P P **20 29 32.5 -1.7**
comp=Z,7.6nm,1.2s,mb4.9
KHMM Horse Mountain 89.47 49 P P **20 29 35.2 +1.0**
L02A Cave Junction 89.73 48 ⇑P P **20 29 35.9 +0.4**
baz=90
I02A Mapleton 89.81 46 ⇑P P **20 29 35.9 +0.1**
baz=90,SNR=5.5
C03A Quillayute Air 89.84 42 ⇑P P **20 29 36.4 +0.4**
baz=90,SNR=5.9
ZRNK Zerenda 89.88 323 *e*P P **20 29 33.7 -2.4**
ZRNK pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
ZRNK Zerenda 89.88 323 *e*P P **20 29 33.7 -2.5**
comp=Z,7.5nm,0.9s,mb5.0
K02A Glendale 89.89 47 ⇓P P **20 29 36.0 -0.2**
baz=90,SNR=7.6
J02A Umpqua 89.91 47 ⇑P P **20 29 36.3 0.0**
baz=90,SNR=8.7
MPOR Mary's Peak 90.08 45 P P **20 29 37.7 +0.6**
GASB Alder Springs 90.08 50 ⇓P P **20 29 37.6 +0.5**
baz=90
O02C Red Bluff 90.09 50 ⇑P P **20 29 37.5 +0.3**
baz=90
CVS Carmenet Viney 90.12 52 ⇓P P **20 29 37.7 +0.4**
baz=90
JRSC Jasper Ridge 90.19 53 ⇓P P **20 29 37.7 +0.1**
baz=90
M02C Callahan 90.19 49 P P **20 29 38.2 +0.6**
baz=90,SNR=11
I03A Eugene 90.20 46 ⇑P P **20 29 37.5 -0.1**
baz=90,SNR=5.2
MNRC McLaughlin Nat 90.20 51 ⇑P P **20 29 38.3 +0.7**
baz=90
BNLO Ben Lomond (Sa 90.21 53 ⇑P P **20 29 38.1 +0.5**
baz=90
F03A Seaside 90.25 44 ⇓P P **20 29 37.9 +0.1**
baz=90
HUMO Hull Mountain 90.26 47 *e*P P **20 29 38.2 +0.3**
comp=Z,28nm,1.0s,mb5.5
HUMO Hull Mountain 90.26 47 ⇑P P **20 29 38.3 +0.4**
baz=90,SNR=13
D03A Wishkah Elem. 90.27 43 ⇑P P **20 29 38.1 +0.2**
baz=90
H03A Soap Creek Ran 90.28 45 ⇑P P **20 29 38.2 +0.2**
baz=90,SNR=8.7
WDC Whiskeytown Da 90.33 49 ⇓P P **20 29 38.1 -0.1**
baz=90
E03A Lebam 90.33 43 ⇓P P **20 29 38.0 -0.3**
baz=90,SNR=6.4
YBH Yreka Blue Hor 90.34 48 P P **20 29 39.4 +1.1**
comp=Z,12nm,1.0s,mb5.2,baz=183,slow=2.7,SNR=17
YBH Yreka Blue Hor 90.34 48 *e*P P **20 29 38.6 +0.3**
YBH pmax pmax
comp=Z,23nm,1.2s
YBH Yreka Blue Hor 90.34 48 *e*P P **20 29 38.6 +0.4**
comp=Z,23nm,1.2s,mb5.4
YBH Yreka Blue Hor 90.34 48 ⇑P P **20 29 38.2 0.0**
baz=90,SNR=14
J03A Ideyld Park 90.35 47 ⇑P P **20 29 38.6 +0.2**
baz=90,SNR=9.8
B04A Port Angeles 90.57 42 ⇓P P **20 29 39.2 -0.2**
baz=91
BROR Big Rock Looko 90.83 46 P P **20 29 40.5 0.0**
HBO Huckleberry Mo 90.87 46 P P **20 29 41.0 +0.3**
E04A Onalaska 90.92 43 ⇓P P **20 29 40.8 -0.1**
baz=91
G04A Mulino 90.92 45 ⇓P P **20 29 40.6 -0.3**
baz=91
IRO Indian Ridge 90.94 46 P P **20 29 40.9 -0.2**
M04C Macdoel 90.99 48 ⇓P P **20 29 41.3 0.0**
baz=91,SNR=8.1
L04A Klamath Falls 91.00 48 ⇓P P **20 29 41.3 -0.1**
baz=91,SNR=5.1
ORV Oroville 91.00 51 ⇓P P **20 29 41.0 -0.3**
baz=91
F04A Amboy 91.04 44 ⇑P P **20 29 41.0 -0.6**
baz=91
H04A Detroit Lake 91.06 45 ⇓P P **20 29 41.0 -0.6**
baz=91
K04A Chilguin 91.16 47 ⇓P P **20 29 41.8 -0.3**
baz=91
A04A Legoe Bay, Lum 91.18 41 ⇑P P **20 29 41.8 -0.3**
baz=91,SNR=11
M05C Lookout 91.46 49 ⇓P P **20 29 43.1 -0.3**
baz=92,SNR=5.9
D05A Enumclaw 91.48 43 ⇑P P **20 29 43.5 -0.1**
baz=92
LAVA Lava Cap Winer 91.51 51 ⇓P P **20 29 43.6 -0.1**
baz=92
B05A Bryant 91.53 42 ⇑P P **20 29 43.2 -0.6**
baz=92
E05A Randle 91.57 44 ⇓P P **20 29 43.3 -0.7**
baz=92
ELFS Eagle Lake Fie 91.70 50 ⇑P P **20 29 44.9 +0.3**
baz=92
F05A White Salmon 91.70 44 ⇓P P **20 29 44.4 -0.2**
baz=92
CMB Columbia Colle 91.72 52 *e*P P **20 29 45.4 +0.7**
CMB pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
CMB Columbia Colle 91.72 52 *e*P P **20 29 45.4 +0.8**
comp=Z,6.8nm,1.0s,mb4.9
CMB Columbia Colle 91.72 52 ⇓P P **20 29 44.7 0.0**
baz=92
G05A Wamic 91.73 45 ⇑P P **20 29 44.5 -0.3**
baz=92
C05A Tolt Reservoir 91.74 42 ⇓P P **20 29 44.3 -0.5**
baz=92
H05A Madras 91.74 45 ⇓P P **20 29 44.4 -0.3**
baz=92
L05A Lakeview 91.77 48 ⇓P P **20 29 45.2 +0.3**
baz=92,SNR=7.9
S06C San Francisco 92.12 52 ⇑P P **20 29 46.7 +0.1**
baz=92
T06C Millerton Lake 92.16 53 ⇓P P **20 29 46.8 +0.1**
baz=92
VIPM Ingram Point 92.16 46 P P **20 29 47.0 +0.3**
K06A Valley Falls 92.27 47 ⇓P P **20 29 47.1 -0.2**
baz=92
WCN Washoe City 92.32 51 ⇓P P **20 29 47.9 +0.4**
baz=92
O06A Flanigan 92.34 50 ⇑P P **20 29 47.8 +0.2**
baz=92
J06A Christmas Vall 92.38 47 ⇑P P **20 29 47.6 -0.1**
baz=92
EBG Ellensburg 92.42 43 P P **20 29 48.2 +0.3**
TBM Table Mountain 92.42 43 P P **20 29 47.9 0.0**
R06C Coleville 92.49 52 ⇑P P **20 29 48.5 +0.3**
baz=92
HELL Mitchell Peak, 92.68 54 ⇑P P **20 29 49.2 +0.1**
baz=93
R07C Lee Vining 92.77 52 ⇑P P **20 29 49.9 +0.3**
baz=93
L07A Adell 92.87 48 ⇓P P **20 29 50.3 +0.3**
baz=93
M07A Soldier Meadow 92.95 49 ⇓P P **20 29 50.4 0.0**
baz=93
J07A Hines 93.00 47 ⇑P P **20 29 50.3 -0.3**
baz=93
ISA Isabella 93.04 55 ⇑P P **20 29 50.7 -0.1**
baz=93
O07A Toulon 93.07 50 ⇑P P **20 29 50.9 0.0**
baz=93
HAWA Hanford 93.09 44 *e*P P **20 29 51.1 +0.1**
comp=Z,0.8nm,1.0s,mb4.1
TIN Tinemaha 93.34 53 ⇓P P **20 29 52.4 +0.2**
baz=93
NVAR Mina Array Bea 93.38 52 P P **20 29 52.7 +0.4**
comp=Z,7.2nm,0.8s,mb5.1,baz=254,slow=6.1,SNR=6.9
CWC Cottonwood Cre 93.41 54 ⇓P P **20 29 52.5 -0.1**
baz=94
WVOR Wild Horse Val 93.42 48 *e*P P **20 29 53.1 +0.6**
WVOR pmax pmax
comp=Z,6.0nm,0.5s,mb5.3
WVOR Wild Horse Val 93.42 48 *e*P P **20 29 53.1 +0.6**
comp=Z,5.7nm,0.5s,mb5.3
MNV Mina 93.50 52 *e*P P **20 29 53.2 +0.3**
MNV pmax pmax
comp=Z,31nm,1.5s,mb5.5
MNV Mina 93.50 52 *e*P P **20 29 53.2 +0.3**
comp=Z,31nm,1.5s,mb5.5
M08A Happy Creek Ra 93.54 49 ⇓P P **20 29 53.6 +0.5**
baz=94
J08A Circle Bar Ran 93.61 47 ⇓P P **20 29 53.3 -0.1**
baz=94
P08A Dixie Valley 93.65 51 ⇑P P **20 29 53.6 0.0**
baz=94
N08A GE Springer Mi 93.68 50 ⇑P P **20 29 54.0 +0.2**
baz=94
Q08A Gabbs 93.70 51 ⇓P P **20 29 53.9 0.0**
baz=94
L09A Wilkinson Ranc 94.11 48 ⇓P P **20 29 55.6 -0.1**
baz=94
N09A Rock Creek Ran 94.15 50 ⇑P P **20 29 56.2 +0.3**
baz=94
S09A Goldfield 94.19 53 ⇓P P **20 29 56.4 +0.3**
baz=94
R09A Tonopah 94.34 52 ⇑P P **20 29 57.2 +0.4**
baz=94
O09A Fish Creek Ran 94.36 50 ⇑P P **20 29 57.2 +0.4**
baz=94
GSC Goldstone 94.37 55 ⇓P P **20 29 57.3 +0.4**
baz=94
BMO Blue Mountains 94.54 46 *e*P P **20 29 56.9 -0.8**
BMO pmax pmax
comp=Z,15nm,1.1s,mb5.3
BMO Blue Mountains 94.54 46 *e*P P **20 29 56.9 -0.7**
comp=Z,15nm,1.1s,mb5.3
PFO Pinyon Flat Ob 94.56 57 ⇑P P **20 29 58.1 +0.3**
baz=95
U10A Ash Meadows, A 94.82 54 ⇓P P **20 29 59.5 +0.5**
baz=95
NEW Newport 94.84 42 P P **20 29 58.5 -0.5**
comp=Z,11nm,0.9s,mb5.3,baz=255,slow=2.2,SNR=8.7
P10A Eureka 94.89 51 ⇑P P **20 29 59.1 -0.2**
baz=95
TPNV Topopah Spring 94.92 53 *e*P P **20 29 58.3 -1.1**
TPNV pmax pmax
comp=Z,11nm,1.1s,mb5.2
TPNV Topopah Spring 94.92 53 *e*P P **20 29 58.3 -1.1**
comp=Z,11nm,1.1s,mb5.2
TUQ Turquoise Mtn. 95.10 55 ⇓P P **20 30 00.3 +0.1**
baz=95
P11A Circle Ranch, 95.44 51 ⇑P P **20 30 01.8 0.0**
baz=96
Q11A Duckwater 95.48 52 ⇓P P **20 30 02.3 +0.3**
baz=96
M11A Holland Ranch, 95.49 49 ⇓P P **20 30 01.9 -0.1**
baz=96
V11A Goodsprings 95.52 55 ⇑P P **20 30 02.0 -0.1**
baz=96

ELK	Elko	95.88	50	eP	P	20 30 03.9	+0.1
ELK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ELK	Elko	95.88	50	eP	P	20 30 03.9	+0.1
	comp=Z,5.1nm,1.1s,mb4.9						
V12A	Nelson	95.99	55	⇑P	P	20 30 04.6	+0.3
	baz=96						
N12A	Clover Valley,	96.03	50	⇑P	P	20 30 04.6	+0.1
	baz=96						
P12A	McGill	96.08	51	⇑P	P	20 30 05.1	+0.4
	baz=96						
Q12A	Willow Creek R	96.13	51	⇑P	P	20 30 05.3	+0.4
	baz=96						
M12A	Wells	96.14	49	⇑P	P	20 30 05.0	+0.1
	baz=96						
Y12C	Blythe	96.17	57	⇑P	P	20 30 05.5	+0.3
	baz=96						
ARU	Arti	96.21	326	⇓iP	P	20 30 03.4	-1.9
ARU				e		20 33 57.0	
ARU				eS		20 40 31.1	
ARU				eSS	SS	20 47 46.3	-6.4
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
ARU				MLR	MLR		
	comp=Z,400nm,22.0s						
ARU				MLR	MLR		
	comp=N,50nm,19.0s						
ARU				MLR	MLR		
	comp=E,300nm,22.0s						
ARU	Arti	96.21	326	eP	P	20 30 02.1	-3.2
	comp=E,4.1nm,0.9s,mb4.9						
U12A	Valley of Fire	96.26	54	⇓P	P	20 30 06.1	+0.6
	baz=96						
BSMT	Bassoo Peak	96.39	43	P	P	20 30 06.0	-0.2
AKTK	Aktyubinsk	96.48	320	P	P	20 30 04.9	-1.6
AKTO	Aktyubinsk	96.48	320	P	P	20 30 04.9	-1.6
	comp=E,1.7nm,0.9s,mb4.5,baz=57,slow=7.3,SNR=5.0						
YKA	Yellowknife Ar	96.53	28	LR	LR	21 07 26.0	
	comp=E,210nm,19.7s,baz=290,slow=32						
HLID	Hailey	96.57	47	eP	P	20 30 06.7	-0.2
	comp=E,3.6nm,0.8s,mb4.8						
M13A	Montello	96.70	49	⇑P	P	20 30 07.7	+0.2
	baz=97						
WALA	Waterton Lakes	96.99	41	eP	P	20 30 08.9	0.0
	comp=E,37nm,1.5s,mb5.6						
EDM	Edmonton	97.33	37	eP	P	20 30 09.8	-0.5
W15A	Williams	98.08	55	⇑P	P	20 30 14.8	+1.1
	baz=98						
BOZ	Bozeman (W)	98.56	45	eP	P	20 30 15.8	-0.1
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.9						
BOZ	Bozeman (W)	98.56	45	eP	P	20 30 15.8	-0.1
	comp=Z,2.7nm,0.8s,mb4.8						
TMUT	Trail Mountain	98.95	51	eP	P	20 30 18.7	+1.1
IMW	Indian Meadow	99.09	47	ePdif	P	20 30 19.6	+1.4
	comp=Z,4.3nm,0.9s,mb5.0						
MOOW	Moose Ponds	99.23	47	eP	P	20 30 18.6	-0.3
	comp=Z,2.4nm,0.9s,mb4.7						
PDAR	Pinedale Array	100.13	48	P	Pdif	20 30 22.4	-0.5
	comp=Z,4.0nm,0.9s,baz=275,slow=2.8,SNR=30						
PDAR				PP	PP	20 34 29.6	+0.7
	comp=Z,0.5nm,0.8s,baz=292,slow=7.8,SNR=4.4						
BRTR	Keskin Array B	114.87	311	PKP	PKiKP	20 35 17.4	-0.2
	comp=Z,1.1nm,0.9s,baz=67,slow=3.2,SNR=4.6						
NB2	NORSAR Subarra	117.12	340	PKPdf	PKPdf	20 35 22.0	0.0
	comp=Z,0.9nm,0.9s,baz=44,slow=1.9						
NOA	NORSAR Array B	117.12	340	PKP	PKPdf	20 35 20.9	-1.1
	comp=Z,1.3nm,0.9s,baz=47,slow=1.9,SNR=3.7						
KOLS	Kolonicke sedl	119.17	324	ePKP	PKPdf	20 35 25.7	-0.2
OKC	Ostrava-Krasne	121.03	327	AMS	AMS	21 27 20.0	
	comp=Z,300nm,24.0s						
VYHS	Vyhne	121.36	325	ePKP	PKPdf	20 35 29.2	-0.9
DPC	Dobruska-Polom	121.73	328	ePKPdf	PKPdf	20 35 30.6	-0.2
DPC				AMS	AMS	21 36 40.0	
	comp=Z,400nm,25.5s						
UPC	Upice	121.80	328	ePKPdf	PKPdf	20 35 30.4	-0.6
BSEG	Bad Segeberg	122.39	334	ePKPdf	PKPdf	20 35 31.9	-0.2
PVCC	Panska Ves	122.54	329	ePKPdf	PKPdf	20 35 32.3	-0.1
BRG	Berggiesshubel	122.65	330	ePKPdf	PKPdf	20 35 32.3	-0.3
BRG	Berggiesshubel	122.65	330	eP	PKPdf	20 35 32.1	-0.5
	comp=Z,4.6nm,1.0s						
BRG	Berggiesshubel	122.65	330	ePKIKP	PKPdf	20 35 32.1	-0.5
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TREC	Trest	122.78	327	AMS	AMS	21 34 50.0	
	comp=Z,300nm,22.3s						
CLL	Collm	122.85	330	ePKPdf	PKPdf	20 35 32.5	-0.5
	comp=Z,9.0nm,1.2s						
CLL				epPKPdf	pPKPdf	20 35 56.7	+5.8
CLL	Collm	122.85	330	i PKIKP	PKPdf	20 35 32.6	-0.4
	comp=Z,logA/T=0.8						
CLL	Collm	122.85	330	i PKPdf	PKPdf	20 35 32.6	-0.4
	comp=Z,8.0nm,1.2s						
CLL	Collm	122.85	330	i PKIKP	PKPdf	20 35 32.6	-0.4
CLL				pmax	pmax		
	comp=Z,8.0nm,1.2s						
CLL	Collm	122.85	330	i PKP	PKPdf	20 35 32.6	-0.4
CLL				i pPKP	pPKPdf	20 35 57.6	+6.8
PRU	Pruhonice	122.87	328	ePKPdf	PKPdf	20 35 32.3	-0.7
PRU				AMS	AMS	21 30 40.0	
	comp=Z,300nm,15.8s						
FBE	Freiberg	122.92	330	ePKPdf	PKPdf	20 35 32.9	-0.2
CONA	Conrad Observa	123.34	326	⇓iPKiKP	PKiKP	20 35 33.7	-0.5
	comp=Z,3.8nm,0.8s						
NRDL	Niedersach Rie	123.45	333	ePKPdf	PKPdf	20 35 35.0	+0.9
TANN	Tannenbergstha	123.67	330	ePKPdf	PKPdf	20 35 34.3	-0.3
WERD	Werda	123.73	330	ePKPdf	PKPdf	20 35 34.4	-0.3
CLZ	Clausthal	123.77	332	ePKPdf	PKPdf	20 35 34.7	0.0
GUNZ	Gunzen	123.77	330	ePKPdf	PKPdf	20 35 34.7	-0.1
NKC	Novy Kostel	123.80	330	ePKPdf	PKPdf	20 35 35.0	+0.2
KHC	Kasperske Hory	123.89	328	ePKPdf	PKPdf	20 35 34.9	-0.1
KHC				AMS	AMS	21 29 50.0	
	comp=Z,400nm,19.3s						
MOX	Moxa	123.95	330	ePKPdf	PKPdf	20 35 34.3	-0.8
GEC2	GERESS Array S	123.99	328	ePKPdf	PKPdf	20 35 34.7	-0.5
GERES	GERESS Array B	123.99	328	PKP	PKPdf	20 35 35.0	-0.2
	comp=Z,2.6nm,0.7s,baz=66,slow=1.6,SNR=28						
MANZ	Manzenberg	124.12	330	ePKPdf	PKPdf	20 35 35.3	-0.1
ROTZ	Rotzenmuhle	124.21	329	ePKPdf	PKPdf	20 35 35.3	-0.3
WET	Wettzell	124.25	328	ePKPdf	PKPdf	20 35 35.5	-0.2
IBBN	Ibbenburen	124.63	334	ePKPdf	PKPdf	20 35 36.8	+0.4
GRF	Grafenberg Arr	124.75	330	ePKPdf	PKPdf	20 35 36.2	-0.4
BUG	Bochum--Univer	125.45	333	ePKPdf	PKPdf	20 35 37.9	-0.1
WTTA	Wattenberg	126.05	327	⇓iP	PKPdf	20 35 39.1	0.0
	comp=Z,11nm,0.9s						
MOTA	Moosalm	126.29	328	⇑iP	PKPdf	20 35 39.1	-0.4
	comp=Z,6.0nm,1.0s						
DAVA	Damuels	126.97	328	⇓iP	PKPdf	20 35 40.9	0.0
	comp=Z,7.1nm,0.9s						
BFO	Black Forest	127.08	330	ePKPdf	PKPdf	20 35 40.6	-0.5
GIVF	Givet	127.50	334	ePKIKP	PKPdf	20 35 41.5	-0.4
CDF	Champ du Feu	127.55	331	ePKIKP	PKPdf	20 35 41.0	-1.0
	comp=Z,16nm,1.4s						
BAIF	Baives	127.80	334	ePKIKP	PKPdf	20 35 41.9	-0.6
HINF	Hinteralfeld	128.16	330	ePKIKP	PKPdf	20 35 42.1	-1.0
	comp=Z,19nm,1.1s						
HAU	Haudompre	128.28	331	ePKIKP	PKPdf	20 35 42.9	-0.5
	comp=Z,22nm,1.1s						
MEZF	Maizieres J'vi	128.55	332	ePKIKP	PKPdf	20 35 43.7	-0.2
CABF	La Chapelle	129.37	330	ePKIKP	PKPdf	20 35 45.3	-0.1
	comp=Z,18nm,1.1s						
LPL	La Plagne	129.78	328	ePKIKP	PKPdf	20 35 46.2	0.0
LPG	La Plagne	129.78	328	ePKIKP	PKPdf	20 35 46.3	+0.1
	comp=Z,9.1nm,0.9s						
LOR	Lormes	129.99	332	ePKIKP	PKPdf	20 35 46.1	-0.5
SSF	Saint Saulge	130.31	332	ePKIKP	PKPdf	20 35 47.0	-0.2
	comp=Z,8.0nm,0.8s						
SMF	Signal de Mont	130.45	331	ePKIKP	PKPdf	20 35 47.0	-0.5
SBF	Sospel	130.48	326	ePKIKP	PKPdf	20 35 47.0	-0.6
AVF	Avril sur Loir	130.57	332	ePKIKP	PKPdf	20 35 47.9	+0.2
ORIF	Oris-en-Rattie	130.63	328	ePKIKP	PKPdf	20 35 48.5	+0.7
	comp=Z,7.7nm,0.7s						
LDF	La Druitiere	130.75	336	ePKIKP	PKPdf	20 35 47.5	-0.6
	comp=Z,22nm,1.3s						
FLN	La Foliniere	130.77	336	ePKIKP	PKPdf	20 35 47.6	-0.5
BGF	Bois d'Agland	130.98	332	ePKIKP	PKPdf	20 35 47.8	-0.7
FRF	La Foret Royal	131.11	326	ePKIKP	PKPdf	20 35 49.3	+0.5
	comp=Z,39nm,1.2s						
GRR	Gorron	131.22	336	ePKIKP	PKPdf	20 35 48.7	-0.3
LMR	La Mourre	131.34	326	ePKIKP	PKPdf	20 35 49.7	+0.5
	comp=Z,46nm,1.2s						
TCF	Toulx Ste Croi	131.48	332	ePKIKP	PKPdf	20 35 50.1	+0.6
	comp=Z,12nm,0.9s						
SGMF	Saint Gilles	132.00	337	ePKIKP	PKPdf	20 35 50.1	-0.3
	comp=Z,16nm,1.0s						
MFF	Saint Martin d	132.31	334	ePKIKP	PKPdf	20 35 50.8	-0.2
	comp=Z,7.2nm,0.9s						
CAF	Calviac	132.55	331	ePKIKP	PKPdf	20 35 51.0	-0.5
	comp=Z,9.0nm,1.0s						
LFF	La Frestale	133.17	332	ePKIKP	PKPdf	20 35 53.0	+0.4
LPAZ	La Paz	135.11	119	PKP	PKPdf	20 35 58.4	+2.1
	comp=Z,1.9nm,0.8s,baz=51,slow=0.9,SNR=10						
LPAZ	La Paz	135.11	119	ePKPdf	PKPdf	20 35 57.6	+1.4
TOA0	Torodi Ar. Sit	149.40	287	ePKPbc	PKPbc	20 36 26.4	+0.4
TORD	Torodi Ar. Bea	149.40	287	PKP	PKPdf	20 36 21.9	+0.4
	comp=Z,29nm,1.1s,baz=42,slow=1.2,SNR=15						
TORD				PKPbc	PKPbc	20 36 26.4	+0.5
	comp=Z,43nm,0.8s,baz=61,slow=1.1,SNR=41						
TORD	Torodi Ar. Bea	149.40	287	PKP	PKPdf	20 36 21.9	+0.4
TORD				PKPbc	PKPbc	20 36 26.4	+0.5
BDFB	Brasilia	151.40	137	PKP	PKPdf	20 36 26.3	+1.7
	comp=Z,11nm,0.9s,baz=180,slow=4.0,SNR=2.7						
BDFB				PKPbc	PKPbc	20 36 31.3	+0.6
	comp=Z,10nm,0.9s,baz=154,slow=2.9,SNR=13						
DBIC	Dimbokro	156.60	274	PKPab	PKPab	20 37 02.8	+1.6
	comp=Z,7.7nm,0.9s,baz=87,slow=3.3,SNR=6.2						

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*CSEM **07** 20:19:45.3±0.2, 35.17N×3.80W, h12km, MD2.6, Error ellipse: s-maj=8.3km s-min=5.7km az=96.0*
*CNRM **07** 20:19:46.5, 35.23N×3.80W, h14km, MD2.6*
MDD 07 20:19:47.2±0.6**, 35.17N×3.83W, h16**km±7km**, mbLg1.8**/4**, Error ellipse: s-maj=9.1km s-min=5.6km az=116.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPAL	Palemas	0.11	300	i P	Pg	20 19 49.5	-1.2
TOU	Touzarine	0.22	164	P	Pg	20 19 52.0	-0.2
TOU				S	Sg	20 19 56.0	+0.4
TOU	Touzarine	0.22	164	i P	Pg	20 19 52.0	-0.2
ZAI	Zaio	0.91	102	i P	Pb	20 20 02.5	-2.1
ZAI				i S	Sb	20 20 15.0	-1.4
EALB	Alboran	1.00	40	P	Pb	20 20 05.9	-0.3
	2.9nm,0.2s,SNR=7.9						
EALB				S	Sb	20 20 19.1	0.0
	9.5nm,0.2s,SNR=7.9						
EALB	Alboran	1.00	40	P	Pb	20 20 05.9	-0.3
	2.9nm,0.2s,SNR=7.9						
EALB				S	Sb	20 20 19.1	-0.1
	9.5nm,0.2s,SNR=7.9						
TZK	Tazeka	1.12	195	i P	Pb	20 20 07.5	-0.6
TZK				i S	Sb	20 20 22.0	-0.4
EMIJ	Mijas	1.59	331	P	Pn	20 20 12.9	-1.7
	0.4nm,0.1s,SNR=5.5						
EMIJ				S	Sn	20 20 31.4	-3.3
	3.8nm,0.3s,SNR=7.9						
EGUA	Guajares	1.67	7	P	Pn	20 20 14.8	-1.0
	0.3nm,0.2s,SNR=7.9						
EGUA				S	Sn	20 20 34.6	-2.3
	0.8nm,0.3s,SNR=7.9						
EBER	Berja	1.88	24	P	Pn	20 20 18.8	+0.1
	0.4nm,0.1s,SNR=7.9						
EBER				S	Sn	20 20 42.6	+0.5
	2.3nm,0.2s,SNR=6.8						
EBER	Berja	1.88	24	P	Pn	20 20 18.8	+0.1
	0.4nm,0.1s,SNR=7.9						
EBER				S	Sn	20 20 42.6	+0.5
	2.3nm,0.2s,SNR=6.8						
EQES	Quesada	2.70	13	P	Pn	20 20 29.7	-0.2
	0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	20 21 04.5	+2.3
	2.0nm,0.2s,SNR=7.9						
EQES	Quesada	2.70	13	P	Pn	20 20 29.7	-0.2
	0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	20 21 04.5	+2.3
	2.0nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	3.46	319	P	Pn	20 20 38.5	-1.9
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	20 21 17.1	-3.9
	0.4nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	3.46	319	P	Pn	20 20 38.5	-1.9
	0.2nm,0.1s,SNR=7.9						

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*IDC **07** 20:42:33.1±2.6, 2.69N×96.35E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/20, mbtmp3.9/4, Error ellipse: s-maj=73.4km s-min=24.8km az=47.0*
*ISCJB **07** 20:42:35.1±1.5, 2.6N±0.2×96.3E±0.1, h33km, mb4.0/6, Error ellipse: s-maj=31.8km s-min=15.4km az=51.4*
*NEIC **07** 20:42:36.5±1.3, 2.59N×96.27E, h30km, mb4.0/2, Error ellipse: s-maj=27.7km s-min=13.3km az=207.0*
ISC 07 20:42:37.6±1.5**, 2.6N**±0.2×**96.3E**±0.1**, h35km, n8, σ0.81**/8**, mb4.0**/6**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	2.63	86	Pn	Pn	20 43 16.1	-1.4
	1.4nm,0.3s,baz=261,slow=13,SNR=6.8						
KULM	Kulim	5.08	59	eP	Pn	20 43 52.1	+0.8
KULM				e		20 43 58.9	
WRA	Warramunga Arr	43.56	123	P	P	20 50 38.9	+0.8
	0.7nm,0.6s,mb3.6,baz=302,slow=9.0,SNR=5.3						
MKAR	Makanchi Array	45.64	347	P	P	20 50 54.9	+0.3
	2.4nm,0.7s,mb4.2,baz=157,slow=6.6,SNR=17						
SONM	Songino Array	45.86	9	P	P	20 50 57.0	+0.7
	0.7nm,0.6s,mb3.8,baz=190,slow=9.7,SNR=6.3						
KURK	Kurchatov	50.18	345	eP	P	20 51 29.5	-0.2
	2.0nm,1.0s,mb4.1						
ZAL	Zalesovo	52.00	351	P	P	20 51 43.5	+0.1
	1.6nm,0.5s,mb4.2,baz=284,slow=4.9,SNR=9.1						
ZRNK	Zerenda	55.00	340	eP	P	20 52 04.2	-1.2
	1.1nm,0.9s,mb3.9						

IDC 07 20:51:46.6±1.6**, 29.28S×177.84W, h0km, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.9**/12**, mbtmp4.0**/3**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.7**/31**, Error ellipse: s-maj=62.5km s-min=13.6km az=26.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	0.07	290	Pn	Pg	20 51 55.3	+7.3
	3μm,0.3s,baz=93,slow=9.5,SNR=85						
RAO				Sn	Sg	20 51 58.7	+10
	5μm,0.3s,baz=210,slow=20,SNR=66						
DZM	Mont Dzumac	15.87	293	LR	LR	21 00 30.7	
	comp=Z,238nm,19.3s,baz=267,slow=33						
STKA	Stephens Creek	34.88	255	P	P	20 58 41.4	+1.7
	2.0nm,0.9s,baz=102,slow=14,SNR=3.8						
ASAR	Alice Springs	43.32	266	P	P	20 59 52.0	+1.8
	1.4nm,0.9s,baz=105,slow=7.3,SNR=10						
WRA	Warramunga Arr	44.20	271	P	P	20 59 59.0	+1.6
	1.5nm,0.8s,baz=110,slow=8.1,SNR=14						
FINES	FINESS Array B	144.14	341	PKP	PKPdf	21 11 23.1	-1.2
	0.5nm,0.6s,baz=47,slow=6.1,SNR=7.3						

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*PRE **07** 20:57:03.6±1.5, 26.92S×26.81E, h2km, ML3.8*
*ISCJB **07** 20:57:04.3±1.1, 26.95S±0.03×26.80E±0.03, h9km±7km, mb3.8/6, Error ellipse: s-maj=5.2km s-min=4.0km az=50.9*
*NEIC **07** 20:57:05.7±0.6, 26.88S×26.74E, h5km, mb4.0/1, Error ellipse: s-maj=17.1km s-min=7.7km az=101.0*
*IDC **07** 20:57:05.2±1.1, 26.88S×26.74E, h0km, mb3.8/5, mb1 4.1/11, mb1mx3.9/27, mbtmp4.1/11, ML3.7/5, Error ellipse: s-maj=26.9km s-min=13.4km az=88.0*
ISC 07 20:57:04.4±0.8**, 26.94S**±0.02×**26.81E**±0.03**, h2**km±6km**, n33, σ0.94**/59**, mb3.8**/6**, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSR	Koster	1.09	4	eP	Pg	20 57 24.2	-1.1
KSR				eS	Sg	20 57 38.7	-0.7
KSR				AML	AML	20 57 44.2	
	comp=Z,771nm,0.5s						
SWZ	Schweizer	1.34	259	eP	Pg	20 57 29.8	-0.3
SWZ				eS	Sg	20 57 47.4	-0.1
SWZ				AML	AML	20 57 50.7	
	comp=Z,2μm,0.6s						
ERPM	east rand prop	1.46	62	eP	Pn	20 57 31.5	-0.3
ERPM				eS	Sb	20 57 50.9	-0.4
ERPM				AML	AML	20 57 53.8	
	comp=Z,627nm,0.2s						
SEK	Senekal	1.56	152	eP	Pn	20 57 33.9	+0.7
SEK				eS	Sn	20 57 54.2	+0.3
SEK				AML	AML	20 57 56.1	
	comp=Z,1μm,0.2s						
SLR	Silverton	1.79	48	eP	Pn	20 57 36.2	-0.1
SLR				eS	Sn	20 57 59.8	+0.3
SLR				AML	AML	20 58 02.0	
	comp=Z,2μm,0.4s						
BOSA	Boshof	2.16	219	eP	Pn	20 57 42.3	+0.9
BOSA				eS	Sn	20 58 08.6	-0.2
BOSA				AML	AML	20 58 23.2	
	comp=Z,357nm,0.4s						
BOSA	Boshof	2.16	219	Pn	Pn	20 57 42.5	+1.0
	comp=Z,35nm,0.3s,baz=42,slow=15,SNR=846						
BOSA				Sn	Sn	20 58 12.3	+3.4
	comp=Z,116nm,0.3s,baz=317,slow=21,SNR=20						
BOSA				Rg		20 58 22.0	
	comp=Z,300nm,0.3s,baz=320,slow=9.3,SNR=14						
BOSA	Boshof	2.16	219	ePn	Pn	20 57 42.2	+0.8
BOSA				ePb	Pb	20 57 44.8	+0.5
BOSA				ePg	Pg	20 57 48.4	+2.5
BOSA				eSn	Sn	20 58 08.3	-0.5
BOSA				eSg	Sg	20 58 13.0	-0.9
LBTB	Lobatse	2.21	330	eP	Pn	20 57 42.0	-0.1
LBTB				eS	Sn	20 58 09.3	-0.7
LBTB				AML	AML	20 58 13.9	
	comp=Z,544nm,0.5s						
LBTB	Lobatse	2.21	330	Pn	Pn	20 57 43.2	+1.1
	comp=Z,56nm,0.3s,baz=164,slow=13,SNR=391						
LBTB				Lg		20 58 12.8	
	comp=Z,207nm,0.3s,baz=64,slow=21,SNR=45						
LBTB				Rg		20 58 21.7	
	comp=Z,192nm,0.5s,baz=19,slow=23,SNR=21						
LBTB	Lobatse	2.21	330	eP	Pn	20 57 43.0	+0.9
LBTB				eS	Sn	20 58 10.7	+0.8
HVD	Hendrik Verwoe	3.83	197	eP	Pn	20 58 05.2	+0.8
HVD				eS	Sn	20 58 48.6	-1.4
HVD				AML	AML	20 59 12.3	
	comp=Z,115nm,0.4s						
KSD	Kokstad	4.25	148	eP	Pn	20 58 10.7	+0.4
KSD				eS	Sn	20 58 58.6	-1.9
KSD				AML	AML	20 59 19.2	
	comp=Z,187nm,0.7s						
POGA	Pongola	4.30	97	eP	Pn	20 58 11.7	+0.8
POGA				eS	Sn	20 59 01.6	0.0
POGA				AML	AML	20 59 26.5	
	comp=Z,208nm,0.4s						
GRM	Grahamstown	6.36	182	eP	Pn	20 58 39.1	-0.1
GRM				eS	Sn	20 59 49.3	-3.0
GRM				AML	AML	21 00 28.4	
	comp=Z,45nm,0.4s						
MATP	Matopo	6.67	14	Pn	Pn	20 58 43.6	+0.2
	comp=Z,3.9nm,0.3s,baz=193,slow=13,SNR=88						
MATP				Pg	Pg	20 59 06.4	-5.8
	comp=Z,2.3nm,0.3s,baz=214,slow=14,SNR=5.2						
MATP				Sn	Sn	20 59 55.2	-4.8
	comp=Z,4.8nm,0.3s,baz=128,slow=12,SNR=4.5						
MATP				Lg		21 00 28.9	
	comp=Z,18nm,0.3s,baz=134,slow=8.8,SNR=9.4						
MATP	Matopo	6.67	14	Pn	Pn	20 58 43.6	+0.2
MATP				Pg	Pg	20 59 06.4	-5.8
MATP				Sn	Sn	20 59 55.2	-4.8
MATP				Lg		21 00 28.9	
SUR	Sutherland	7.52	222	eP	Pn	20 58 55.1	0.0
SUR				eS	Sn	21 00 18.1	-2.9
SUR	Sutherland	7.52	222	Pn	Pn	20 58 56.0	+0.8
	comp=Z,5.6nm,0.3s,baz=60,slow=12,SNR=31						
SUR				Sn	Sn	21 00 17.3	-3.7
	comp=Z,2.4nm,0.3s,baz=329,slow=20,SNR=6.4						
SUR				Lg		21 01 00.1	
	comp=Z,14nm,0.3s,baz=138,slow=21,SNR=7.7						
SUR	Sutherland	7.52	222	ePn	Pn	20 58 55.9	+0.8
SUR				eSn	Sn	21 00 18.4	-2.6
CER	Ceres	9.12	224	eP	Pn	20 59 16.8	-0.4
CER				eS	Sn	21 00 55.8	-4.6
CER				AML	AML	21 01 31.4	
	comp=Z,6.8nm,0.4s						
TSUM	Tsumeb	11.46	310	Pn	Pn	20 59 48.1	-1.0
	comp=Z,1.4nm,0.3s,baz=142,slow=12,SNR=17						
TSUM				Sn	Sn	21 01 50.9	-6.8
	comp=Z,0.5nm,0.3s,baz=246,slow=20,SNR=3.1						
TSUM				Lg		21 03 01.0	
	comp=Z,1.7nm,0.3s,baz=52,slow=13,SNR=5.0						
TSUM	Tsumeb	11.46	310	ePn	Pn	20 59 48.4	-0.7
	comp=Z,6.2nm,0.6s						
TSUM				eSn	Sn	21 01 48.8	-8.9
LSZ	Lusaka	11.68	7	Pn	Pn	20 59 50.9	-1.2
	comp=Z,1.8nm,0.3s,baz=190,slow=12,SNR=32						
TORD	Torodi Ar. Bea	46.72	325	P	P	21 05 34.9	+0.1
	comp=Z,1.2nm,0.7s,mb4.0,baz=147,slow=6.4,SNR=24						
TORD	Torodi Ar. Bea	46.72	325	P	P	21 05 34.9	0.0
SNAA	Sanae	47.70	192	eP	P	21 05 43.4	+0.9
	comp=Z,0.7nm,0.5s,mb4.0						
ESDC	Sonseca Array	72.22	336	P	P	21 08 31.7	+0.7
	comp=Z,0.5nm,0.5s,mb3.7,baz=164,slow=5.6,SNR=5.2						
VNDA	Vanda	72.40	171	P	P	21 08 32.7	+0.6
	comp=Z,0.2nm,0.6s,mb3.2,baz=288,slow=6.1,SNR=3.2						
VNDA	Vanda	72.40	171	P	P	21 08 32.7	+0.6
LPAZ	La Paz	87.03	253	P	P	21 09 52.9	+1.4
	comp=Z,0.6nm,0.5s,mb4.1,baz=218,slow=4.3,SNR=4.6						
FINES	FINESS Array B	88.07	360	P	P	21 09 56.9	+0.4
	comp=Z,0.4nm,0.5s,mb4.0,baz=148,slow=11,SNR=5.6						
NVAR	Mina Array Bea	148.66	300	PKPbc	PKPbc	21 16 55.8	+2.6
	comp=Z,1.1nm,0.5s,baz=51,slow=2.6,SNR=4.7						

IDC 07 21:11:16.5±3.4**, 5.70S×146.52E, h0km, mb3.4**/2**, mb1 3.7**/4**, mb1mx3.5**/14**, mbtmp3.5**/4**, ML3.1**/2**, Error ellipse: s-maj=69.0km s-min=50.3km az=88.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.73	170	Pn	Pn	21 12 16.0	+0.7
	4.6nm,0.3s,baz=360,slow=10,SNR=16						
PMG				Sn	Sn	21 12 57.0	-3.0
	5.8nm,0.3s,baz=357,slow=9.9,SNR=4.5						
WRA	Warramunga Arr	18.46	219	P	Pn	21 15 32.2	-1.5
	0.1nm,0.3s,baz=40,slow=12,SNR=7.8						
ASAR	Alice Springs	21.60	213	P	P	21 16 09.4	+1.5
	0.4nm,0.4s,baz=49,slow=9.2,SNR=8.7						
STKA	Stephens Creek	26.44	189	P	P	21 16 54.6	-0.4
	1.2nm,0.7s,baz=32,slow=9.5,SNR=3.0						
TORD	Torodi Ar. Bea	144.56	285	PKP	PKPdf	21 30 56.0	+1.1
	0.2nm,0.4s,baz=61,slow=3.6,SNR=10						

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*BJI **07** 21:13:12.9, 7.56S×129.94E, h66km, mB5.2, mb5.2, Ms4.7, Msz4.4*
*MOS **07** 21:13:14.8±0.8, 6.85S×129.57E, h33km, mb5.4/41, MS4.5/10, Error ellipse: s-maj=12.3km s-min=5.6km az=108.7*
*IDC **07** 21:13:17.6±2.6, 6.85S×129.56E, h44km±23km, mb4.9/20, mb1 4.9/21, mb1mx4.9/22, mbtmp5.1/21, ML5.6/3, MS4.6/12, Ms1 4.6/12, ms1mx4.1/29, Error ellipse: s-maj=18.2km s-min=9.1km az=55.0*
*ISCJB **07** 21:13:18.8±0.2, 7.01S±0.03×129.65E±0.05, h72km, mb5.2/92, Error ellipse: s-maj=7.1km s-min=3.3km az=146.0*
*HRVD **07** 21:13:24.4±0.3, 6.81S×129.59E, h118km±3km, MW5.1/59, Centroid moment Tensor Solution. LP body waves: s27,c29;Mantle waves: s59,c91; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.24±.21; $M_{\theta\theta}$-3.73±.28; $M_{\phi\phi}$0.49±.31; $M_{r\theta}$1.68±.17; $M_{\theta\phi}$-2.51±.21; $M_{\phi r}$2.22±.17; Best double couple: $M_0$5.04400×10^{16} NP1:ϕ_s271.00000°, δ35.00000°, λ131.00000°. NP2: ϕ_s44.00000°, δ64.00000°, λ65.00000°. Principal axes: T 4.4860, Plg62.0000°, Azm275.0000°; N 1.1180, Plg22.0000°, Azm55.0000°; P -5.6020, Plg16.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 21:13:24.4±0.8, 6.94S×129.54E, h107km±7km, mb5.1/29 Error ellipse: s-maj=6.4km s-min=4.2km az=69.0*
ISC 07 21:13:20.8±0.2**, 7.01S**±0.03×**129.70E**±0.05**, h74km, h74**km±2.2km**:pP-P, n430, σ1.12**/255**, mb5.2**/91**, 35C-42D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAI	Ambon	3.63	336	P	Pn	21 14 20.1	+5.5
	4μm,0.8s						
KAKA	Kakadu	6.27	155	⇓iP	Pn	21 14 54.3	+3.6
	614nm,0.3s						
KAKA				eS	Sn	21 16 01.3	+0.4
SWI	Sorong	6.31	14	P	Pn	21 14 55.7	+4.6
	328nm,1.0s						
KAPI	Kappang	10.09	281	Pn	Pn	21 15 53.4	+11
	648nm,0.6s,SNR=6.7						

FITZ Fitzroy Crossi 11.71 199 *e*P **Pn 21 16 03.0 -1.9**
608nm,0.5s
FITZ *e*S Sn 21 17 43.0 -31
FITZ Fitzroy Crossi 11.71 199 P **Pn 21 16 03.0 -1.8**
47nm,0.3s,baz=30,slow=12,SNR=158
JAY Jayapura 11.84 68 P **Pn 21 16 13.3 +6.6**
36nm,0.8s
WRAB Tennant Creek 13.61 161 Pn **Pn 21 16 29.0 -1.5**
2µm,0.6s
WRAB Tennant Creek 13.61 161 *e*P **Pn 21 16 29.2 -1.3**
WRAB pmax pmax
comp=Z,364nm,0.8s
WRAB Tennant Creek 13.61 161 *e*P **Pn 21 16 29.2 -1.3**
comp=Z,364nm,0.8s
WRAB *e*S **Sn 21 18 49.0 -11**
WRA Warramunga Arr 13.62 161 P **Pn 21 16 29.3 -1.3**
comp=Z,30nm,0.3s,baz=344,slow=13,SNR=268
WRA S **Sn 21 18 48.9 -11**
comp=Z,25nm,0.3s,baz=333,slow=23,SNR=12
WRA LR LR 21 22 14.4
comp=Z,2µm,18.6s,baz=335,slow=39
WB2 Warramunga Arr 13.62 161 *e*P **Pn 21 16 29.3 -1.4**
WB2 *e*S **Sn 21 18 49.9 -10**
BUKP Musuan 15.50 343 *e*P **Pn 21 17 00.2 +5.2**
PAGZ Pagadian 16.05 337 *e*P **Pn 21 17 05.2 +3.3**
TSM Tawau 16.29 313 P **Pn 21 17 09.3 +4.3**
TSM Tawau 16.29 313 P **Pn 21 17 08.9 +4.0**
AS31 Alice Springs 17.04 167 *e*P **Pn 21 17 14.1 -0.1**
AS31 *e*S **S 21 20 14.3 -14**
ASAR Alice Springs 17.04 167 P **Pn 21 17 14.3 +0.1**
comp=Z,17nm,0.3s,baz=339,slow=9.5,SNR=264
ASAR S **S 21 20 17.1 -12**
comp=Z,6.8nm,0.3s,baz=358,slow=29,SNR=5.9
ASAR LR LR 21 24 25.4
comp=Z,3µm,18.7s,baz=334,slow=39
ASAR Alice Springs 17.04 167 P **Pn 21 17 14.4 +0.1**
ASAR S **S 21 20 17.2 -12**
ASAR pmax pmax
comp=Z,17nm,0.3s
ASAR smax
comp=N,7.0nm,0.3s
ASAR MLR MLR
comp=Z,3µm,18.7s
ASPA Alice Springs 17.04 167 *e*P **Pn 21 17 14.1 -0.2**
ASPA *e*S **S 21 20 14.3 -14**
MBWA Marble Bar 17.05 213 P **Pn 21 17 20.6 +6.2**
SNR=6.4
MBWA Marble Bar 17.05 213 *e*P **Pn 21 17 15.0 +0.7**
comp=Z,0.7nm,0.5s
MBWA *e*S S 21 19 34.7 -54
PMG Port Moresby 17.45 99 P **Pn 21 17 25.1 +5.9**
comp=Z,2.6nm,0.3s,baz=310,slow=7.7,SNR=9.8
PMG Port Moresby 17.45 99 *e*P **Pn 21 17 24.6 +5.4**
TBP Tagbilaran 17.58 341 *e*P **Pn 21 17 33.5 +13**
KKM Kota Kinabalu 18.69 314 P **Pn 21 17 35.8 +1.5**
KKM Kota Kinabalu 18.69 314 *e*P **Pn 21 17 35.3 +1.1**
CUYO Cuyo Island 19.74 334 *e*P **Pn 21 17 48.7 +2.1**
PPR Puerto Princes 19.94 327⇓ *e*P **Pn 21 17 48.2 -0.8**
CTA Charters Tower 20.66 131 *e*P **P 21 17 58.3 +3.8**
comp=Z,35nm,1.0s
CTA Charters Tower 20.66 131 P **P 21 17 54.9 +0.4**
comp=Z,11nm,0.7s,baz=308,slow=12,SNR=2.4
CTA S **S 21 21 48.8 +7.6**
comp=Z,12nm,0.8s,baz=210,slow=20,SNR=2.0
CTA Charters Tower 20.66 131 P **P 21 17 54.9 +0.4**
CTA S **S 21 21 48.8 +7.6**
CTA pmax pmax
comp=Z,11nm,0.7s
CTA smax
comp=N,12nm,0.8s
CTAO Charters Tower 20.66 131 *e*P **P 21 17 56.6 +2.1**
CTAO pmax pmax
comp=Z,68nm,1.1s
CTAO Charters Tower 20.66 131 *e*P **P 21 17 56.6 +2.1**
comp=Z,68nm,1.1s
OTRP Odiongan 20.71 338 *e*P **P 21 17 59.6 +4.6**
KSM Kuching 21.11 293 *e*P **P 21 18 02.1 +2.8**
BUSP Coron 21.12 333 *e*P **P 21 18 03.7 +4.2**
JCJI Jatiwangi 21.29 270 P **P 21 18 03.4 +2.2**
comp=Z,158nm,1.0s,mb5.3
LUBP Lubang 22.65 336 *e*P **P 21 18 16.3 +0.6**
CBJI Citeko 22.70 270 P **P 21 18 12.8 -3.4**
comp=Z,356nm,0.9s,mb5.7
TGY Tagaytay City 22.71 337 P **P 21 18 17.7 +1.3**
comp=Z,1µm,0.7s,baz=224,slow=2.4,SNR=28
FORT Forrest 23.69 184 *e*P **P 21 18 27.1 +1.4**
comp=Z,221nm,0.8s,mb5.5
FORT *e*S **S 21 22 35.0 -0.3**
KLBR Kellerberrin 26.88 203⇑ *i*P **P 21 18 55.7 +1.1**
comp=Z,50nm,0.7s,mb5.2
KLBR *e*S **S 21 23 24.5 -1.4**
STKA Stephens Creek 27.11 157⇓ *i*P **P 21 18 58.4 +1.7**
comp=Z,15nm,0.5s,mb4.8
STKA *e*S S 21 24 05.3 +36
STKA Stephens Creek 27.11 157 P **P 21 18 58.6 +1.9**
comp=Z,18nm,0.5s,mb4.8,baz=327,slow=9.2,SNR=50
STKA LR LR 21 30 19.9
comp=Z,2µm,18.7s,baz=87,slow=37
KGM Kluang 27.81 288 P **P 21 19 03.4 +0.5**
MUN Mundaring 27.84 205⇑ *i*P **P 21 19 04.2 +0.9**
MUN *e*S **S 21 23 50.5 +9.4**
NWAO Narrogin (SRO) 28.26 203 P **P 21 19 08.2 +1.2**
comp=Z,16nm,0.5s,mb4.8,baz=16,slow=9.3,SNR=26
NWAO S **S 21 23 56.1 +8.3**
comp=Z,29nm,1.0s,baz=333,slow=11,SNR=2.1
NWAO LR LR 21 30 21.5
comp=Z,1µm,18.6s,baz=9.8,slow=36
NWAO Narrogin (SRO) 28.26 203 P **P 21 19 08.3 +1.3**
NWAO S **S 21 23 56.1 +8.3**
NWAO pmax pmax
comp=Z,16nm,0.5s
NWAO smax
comp=N,29nm,1.0s
NWAO MLR MLR
comp=Z,1µm,18.6s
NWAO Narrogin (SRO) 28.26 203 *e*P **P 21 19 08.2 +1.2**
comp=Z,38nm,0.7s,mb5.0
IPM Ipoh 30.81 291 P **P 21 19 19.4 -10**
ARMA Armidale 31.07 141 *e*P **P 21 19 36.3 +4.4**
KULM Kulim 31.46 292 *e*P **P 21 19 35.0 -0.2**
PSI Prapat 32.23 287 P **P 21 19 41.1 -0.9**
comp=Z,141nm,0.8s,mb5.8,baz=143,slow=4.5,SNR=51
PSI LR LR 21 34 22.7
comp=Z,2µm,21.4s,baz=132,slow=40
PSI Prapat 32.23 287 P **P 21 19 41.1 -0.9**
PSI pmax pmax
comp=Z,141nm,0.8s,mb5.8
PSI MLR MLR
comp=Z,2µm,21.4s
QIZ Qiongzhong 32.45 323 P **P 21 19 44.0 +0.1**
QIZ XP sP 21 20 09.3 -0.6
QIZ PP PP 21 21 00.5 +2.1
QIZ S **S 21 24 56.6 +3.4**
QIZ XS sS 21 25 23.3 +0.1
QIZ SCP ScP 21 26 04.3 -2.5
QIZ AMB AMB
comp=Z,17nm,0.8s,mb4.8
QIZ AMB AMB
comp=Z,99nm,4.3s
QIZ LR LR
comp=E,369nm,17.8s
QIZ LR LR
comp=Z,512nm,18.3s
YHNB Yeheng 32.52 346 *e*P **P 21 19 43.8 -0.7**
TSI Tuntungan 32.78 288 P **P 21 19 48.1 +1.2**
comp=Z,127nm,0.9s,mb5.8
CNB Canberra Magne 33.46 150 *e*P **P 21 19 56.6 +3.8**
comp=Z,36nm,1.5s,mb5.0
TOO Toolangi 33.63 157 *e*P **P 21 19 57.5 +3.2**
comp=Z,6.8nm,0.6s,mb4.7
TOO Toolangi 33.63 157 *e*P **P 21 19 57.5 +3.2**
TOO pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
JOW Kunigami 33.67 358 P **P 21 19 55.9 +1.2**
comp=Z,53nm,0.8s,mb5.4,baz=185,slow=9.9,SNR=5.9
GZH Guangzhou 33.92 332 P **P 21 19 57.8 +1.0**
GZH S **S 21 25 17.4 +1.3**
GZH LR LR
comp=N,560nm,17.3s
GZH LR LR
comp=E,389nm,14.8s
GZH LR LR
comp=Z,696nm,18.8s
KKTK Khon Kaen 35.29 311⇓PN **P 21 20 09.4 +0.8**
NST Nakhon Sawan 36.95 308 P **P 21 20 22.0 -0.8**
comp=Z,48nm,1.0s,mb5.4
NANT Nan 38.41 312⇑ P **P 21 20 35.5 +0.5**
comp=Z,1µm,0.4s
DZM Mont Dzumac 38.45 117 P **P 21 20 37.9 +2.4**
comp=Z,7.2nm,0.7s,mb4.6,baz=275,slow=16,SNR=7.3
SSE Sheshan 38.76 348 P **P 21 20 40.6 +2.6**
SSE AP pP 21 20 59.7 +3.9
SSE PP PP 21 22 11.4 +3.4
SSE S **S 21 26 33.4 +3.5**
SSE XS sS 21 27 05.8 +5.5
SSE SCS ScS 21 30 42.4 +1.7
SSE AMB AMB
comp=Z,14nm,0.6s,mb5.0
SSE AMB AMB
comp=Z,29nm,4.7s
SSE LR LR
comp=N,82nm,18.8s
SSE LR LR
comp=E,161nm,18.8s
SSE LR LR
comp=Z,179nm,19.9s
CHRT Chiangrai 39.76 313 PG **P 21 20 47.0 +0.7**
CHRT SG pP 21 21 16.5 +12
GYA Guiyang 40.08 327⇑ *i*P **P 21 20 49.1 +0.1**
GYA AP pP 21 21 07.0 +0.2
GYA XP sP 21 21 16.1 +0.8
GYA PP PP 21 22 25.0 +2.6
GYA PCP PcP 21 22 53.1 +0.7
GYA S **S 21 26 47.9 -1.8**
GYA AMB AMB
comp=Z,30nm,0.7s,mb5.2
GYA AMB AMB
comp=Z,230nm,6.0s
GYA LR LR
comp=N,500nm,17.4s
GYA LR LR
comp=E,440nm,16.5s
GYA LR LR
comp=Z,500nm,17.8s
NJ2 Nanjing 40.20 346 *e*P **P 21 20 47.8 -2.2**
NJ2 AP pP 21 21 01.0 -6.8
NJ2 S **S 21 26 49.0 -2.5**
NJ2 AMB AMB
comp=Z,30nm,0.7s,mb5.2
NJ2 AMB AMB
comp=Z,200nm,3.8s
NJ2 LR LR
comp=N,1µm,22.1s
NJ2 LR LR
comp=E,2µm,18.0s
NJ2 LR LR
comp=Z,2µm,18.9s
KMI Kunming 41.34 322 P **P 21 21 00.4 +1.1**
KMI AP pP 21 21 19.9 +2.6
KMI XP sP 21 21 28.1 +2.4
KMI PP PP 21 22 38.7 +2.7
KMI PCP PcP 21 22 58.2 +1.8
KMI PPP 21 23 13.4
KMI S **S 21 27 09.5 +1.1**
KMI XS sS 21 27 36.4 -2.6
KMI SS SS 21 30 11.5 -3.1
KMI AMB AMB
comp=Z,34nm,1.1s,mb5.1
KMI AMB AMB
comp=Z,86nm,4.2s
KMI LR LR
comp=N,220nm,22.3s
KMI LR LR
comp=E,355nm,19.2s
KMI LR LR
comp=Z,326nm,20.2s
MJAR Matsushiro Arr 44.05 10 P **P 21 21 20.3 -1.0**
comp=Z,24nm,0.9s,mb4.9,baz=189,slow=9.1,SNR=59
MJAR Matsushiro Arr 44.05 10 P **P 21 21 20.3 -1.0**
MJAR pmax pmax
comp=Z,24nm,0.9s
MAJO Matsushiro 44.06 10 *e*P **P 21 21 19.8 -1.5**
MAJO pmax pmax
comp=Z,34nm,0.9s,mb5.1
MAJO Matsushiro 44.06 10 *e*P **P 21 21 19.8 -1.5**
comp=Z,34nm,0.9s,mb5.1
MAT Matsushiro 44.06 10 P **P 21 21 20.4 -0.9**
MAT *e*S **S 21 27 50.0 +1.7**
MAT Matsushiro 44.06 10 *e*P **P 21 21 20.0 -1.3**
MAT pmax pmax
comp=Z,24nm,0.9s,mb4.9
MAT Matsushiro 44.06 10 *e*P **P 21 21 20.0 -1.3**
comp=Z,24nm,0.9s,mb4.9
KS15 Wonju Array Si 44.26 358 *e*P **P 21 21 23.6 +0.7**
CD2 Chengdu 45.16 328 P **P 21 21 30.0 -0.1**
CD2 PCP PcP 21 23 08.8 -0.5
CD2 PP PP 21 23 18.1 +1.3
CD2 SCP ScP 21 26 49.8 -5.5
CD2 PCS PcS 21 27 01.4 -1.8
CD2 S **S 21 28 00.7 -3.5**
CD2 AMB AMB
comp=Z,20nm,1.0s,mb4.8
CD2 AMB AMB
comp=Z,120nm,5.3s
CD2 LR LR
comp=E,220nm,13.2s
CD2 LR LR
comp=Z,290nm,15.6s
XAN Xi'an 45.33 336 P **P 21 21 30.5 -0.9**
XAN AMB AMB
comp=Z,26nm,1.0s,mb4.9
XAN LR LR
comp=N,164nm,16.4s
XAN LR LR
comp=E,158nm,17.7s
XAN LR LR
comp=Z,407nm,17.3s
BJT Baijiatuau 48.44 346 *e*P **P 21 21 55.7 0.0**
BJT pmax pmax
comp=Z,20nm,0.6s
BJT Baijiatuau 48.44 346 *e*P **P 21 21 55.7 +0.1**
comp=Z,20nm,0.6s,mb5.1
BJI Beijing 48.46 346 P **P 21 21 55.7 -0.1**
BJI AMB AMB
comp=Z,50nm,0.7s,mb5.5
BJI LR LR
comp=N,260nm,13.6s
BJI LR LR
comp=E,254nm,13.6s
BJI LR LR
comp=Z,293nm,31.1s
SNY Shenyang 48.93 354⇑ *i*P **P 21 21 59.2 -0.2**
SNY AP pP 21 22 18.1 +0.3
SNY XP sP 21 22 27.0 +0.9
SNY S **S 21 28 58.8 +1.0**
SNY XS sS 21 29 30.1 +1.0
SNY AMB AMB
comp=Z,28nm,0.8s,mb5.2
SNY AMB AMB
comp=Z,187nm,5.9s
SNY LR LR
comp=E,231nm,18.4s
SNY LR LR
comp=Z,290nm,19.0s
LZH Lanzhou 49.28 332 *e*P **P 21 22 02.6 +0.5**
LZH AP pP 21 22 20.3 -0.2
LZH XP sP 21 22 29.7 +0.9
LZH PP PP 21 23 58.5 +2.0
LZH PPP 21 24 54.6
LZH *e*S **S 21 29 04.1 +1.4**
LZH XS sS 21 29 34.9 +0.9
LZH SS SS 21 32 32.1 -2.9
LZH AMB AMB
comp=Z,63nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,203nm,5.7s
LZH LR LR
comp=E,789nm,15.7s
LZH LR LR
comp=Z,1µm,17.8s
VLA Vladivostok 49.94 2 *i*P **P 21 22 07.2 +0.1**
HHC Hu-ho-hao-te 50.46 342 *e*P **P 21 22 11.5 +0.4**
HHC PP PP 21 24 11.6 +4.3
HHC S **S 21 29 14.3 -5.0**
HHC SCS ScS 21 31 46.5 -8.6
HHC AMB AMB
comp=Z,26nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,161nm,4.9s
HHC LR LR
comp=N,203nm,22.6s
HHC LR LR
comp=E,354nm,16.7s
HHC LR LR
comp=Z,216nm,22.6s
CN2 Changchun 50.72 356 *e*P **P 21 22 12.6 -0.4**
CN2 *e*AP pP 21 22 28.5 -3.0
CN2 *e*S **S 21 29 22.3 -0.6**
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.3
CN2 LR LR
comp=N,200nm,19.0s
CN2 LR LR
comp=E,200nm,19.0s
CN2 LR LR
comp=Z,300nm,19.0s
PALK Pallekele 50.89 285 *e*P **P 21 22 13.1 -1.2**
MDJ Mudanjiang 51.39 360 P **P 21 22 18.3 +0.3**
MDJ AP pP 21 22 35.7 -0.9
MDJ XP sP 21 22 44.3 -0.6
MDJ PCP PcP 21 23 31.5 -0.2
MDJ PCS PcS 21 27 29.1 -0.5
MDJ S **S 21 29 33.3 +1.2**
MDJ AMB AMB
comp=Z,20nm,0.8s,mb5.2
MDJ AMB AMB
comp=Z,151nm,11.5s
MDJ LR LR
comp=N,249nm,17.3s
MDJ LR LR
comp=Z,257nm,17.3s
MDJ Mudanjiang 51.39 360 *e*P **P 21 22 18.0 0.0**
comp=Z,15nm,0.7s,mb5.1
LSA Lhasa 52.00 317 *e*P **P 21 22 23.3 +0.7**
LSA pmax pmax
comp=Z,32nm,0.7s,mb5.5
LSA Lhasa 52.00 317 *e*P **P 21 22 23.3 +0.7**
comp=Z,32nm,0.7s,mb5.5
GTA Gaotai 53.84 331⇑ *i*P **P 21 22 36.3 +0.2**
GTA AP pP 21 22 56.5 +1.7
GTA XP sP 21 23 05.0 +2.0
GTA PCP PcP 21 23 41.2 +0.2
GTA PCS PcS 21 27 38.0 -2.3
GTA S **S 21 30 06.3 +0.8**
GTA PS 21 30 28.4
GTA XS sS 21 30 37.9 +0.7
GTA SS SS 21 33 47.3 0.0
GTA AMB AMB
comp=Z,22nm,0.7s,mb5.3
GTA AMB AMB
comp=Z,155nm,4.9s
GTA LR LR
comp=N,224nm,18.6s
GTA LR LR
comp=E,181nm,18.6s
GTA LR LR
comp=Z,187nm,17.1s
JIRN Jiri 54.37 311 *e*P **P 21 22 40.0 0.0**
comp=Z,49nm,0.7s,mb5.7
GUN Gumba 54.74 311 *e*P **P 21 22 42.9 +0.3**
comp=Z,63nm,0.5s,mb5.9
PKI Pulchoki 54.91 311 *e*P **P 21 22 43.7 -0.2**
comp=Z,44nm,0.6s,mb5.7
YSS Yuzh-Sakhalins 54.97 11⇑ *e*P **P 21 22 44.0 -0.3**
YSS Yuzh-Sakhalins 54.97 11 *e*P **P 21 22 44.1 -0.2**
comp=Z,13nm,0.6s,mb5.2
KKN Kakani 55.12 311 *e*P **P 21 22 45.2 -0.2**
comp=Z,27nm,0.5s,mb5.6
DMN Daman 55.16 311 *e*P **P 21 22 45.7 +0.1**
comp=Z,65nm,0.8s,mb5.7
HABR Khabarovsk 55.45 4 *e*P **P 21 22 48.2 +0.4**
HABR *e*S **S 21 30 31.7 +4.6**
HABR pmax pmax
comp=Z,31nm,0.6s,mb5.5
GKN Gorkha 55.72 311 *e*P **P 21 22 49.5 -0.2**
comp=Z,63nm,0.5s,mb5.9
KLR Kul'dur 56.03 2 *e*P **P 21 22 49.2 -2.8**
KLR pmax pmax
comp=Z,64nm,1.8s,mb5.3
HYB Hyderabad 56.05 296 *i*P **P 21 22 50.5 -1.6**
HYB *e* 21 22 54.5
HYB *e*pP pP 21 23 19.5 +8.7
HYB Hyderabad 56.05 296 *e*P **P 21 22 50.5 -1.6**
KOLN Koldanda 56.38 310 *e*P **P 21 22 54.5 +0.1**
HIA Hailar 56.72 352 *e*P **P 21 22 56.5 -0.3**
ULN Ulaanbaatar 58.19 342 P **P 21 23 08.2 +1.1**
SNR=17
ULN Ulaanbaatar 58.19 342⇑ *i*P **P 21 23 07.9 +0.8**
ULN Ulaanbaatar 58.19 342 *e*P **P 21 23 07.7 +0.6**
comp=Z,32nm,0.7s,mb5.5
SONM Songino Array 58.36 342 P **P 21 23 08.7 +0.3**
comp=Z,14nm,0.8s,mb5.1,baz=155,slow=5.4,SNR=79
SONM PKP2bc 21 52 57.9
comp=Z,1.5nm,0.7s,baz=258,slow=1.6,SNR=4.0
SONM Songino Array 58.36 342 P **P 21 23 08.7 +0.3**
SONM ⇑ *e* 21 52 57.9
CASY Casey 60.64 189 *e*P **P 21 23 24.4 +0.3**
comp=Z,8.0nm,0.8s,mb4.8
ZAK Zakamensk 61.58 341⇓ *i*P **P 21 23 30.0 -0.4**
ZAK pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
NDI New Delhi 61.76 308 *e*P **P 21 23 29.0 -2.6**
TLY Talaya 62.59 342 P **P 21 23 37.9 +0.7**
comp=Z,140nm,0.9s,mb5.9,SNR=12
IRK Irkutsk 62.90 343 *e*P **P 21 23 38.8 -0.4**
IRK pmax pmax
comp=Z,59nm,1.9s,mb5.2
SDNR Sundarnagar 63.23 310 *e*P **P 21 23 40.0 -1.4**
WMQ Urumqi 63.24 327 P **P 21 23 43.0 +1.5**
WMQ AP pP 21 24 02.5 +1.9
WMQ XP sP 21 24 11.2 +2.4
WMQ PCP PcP 21 24 19.5 +1.3
WMQ PP PP 21 26 04.3 +3.0
WMQ SCP ScP 21 28 13.5 -0.4
WMQ S **S 21 32 06.9 -0.7**
WMQ AMB AMB
comp=Z,75nm,0.8s,mb5.7
WMQ AMB AMB
comp=Z,121nm,4.0s
WMQ LR LR
comp=N,274nm,15.5s
WMQ LR LR
comp=E,165nm,17.1s
WMQ LR LR
comp=Z,146nm,10.6s
MOY Mondy 63.43 340 *e*P **P 21 23 43.4 +0.7**
MOY pmax pmax
comp=Z,59nm,1.9s,mb5.2
MIR Mirnyy 64.55 195*d i*P **P 21 23 52.5 +2.4**
MIR pmax pmax
comp=Z,110nm,1.0s,mb5.6
PET Petropavlovsk 64.66 19 *e*P **P 21 23 50.8 0.0**
PET pmax pmax
comp=Z,15nm,0.8s,mb4.9
PET Petropavlovsk 64.66 19 *e*P **P 21 23 50.8 +0.1**
comp=Z,15nm,0.8s,mb4.9
BOD Bodaibo 65.86 351 *i*P **P 21 23 57.7 -0.8**
BOD pmax pmax
comp=Z,21nm,1.2s,mb4.8
NIL Nilore 67.00 311 P **P 21 24 07.6 +1.8**
comp=Z,113nm,0.6s,mb5.9,SNR=5.6
MKAR Makanchi Array 68.07 327 P **P 21 24 12.4 -0.2**
comp=Z,38nm,0.5s,mb5.5,baz=113,slow=8.0,SNR=484
MKAR PKPPKP 21 52 25.4
comp=Z,0.4nm,0.7s,baz=243,slow=5.3,SNR=4.2
MA2 Magadan 68.47 11⇓ *e*P **P 21 24 15.5 +0.4**
YAK Yakutsk 68.84 360 *e*P **P 21 24 17.1 -0.2**
YAK *e**PP pP 21 24 29.2 -7.5
YAK *e* 21 24 44.4
YAK *e*S S 21 33 09.9 -5.6
YAK *e* 21 34 05.5
YAK pmax pmax
comp=Z,80nm,1.0s,mb5.5
YAK pmax pmax
comp=N,21nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.6s
YAK pmax pmax
comp=Z,20nm,0.8s,mb5.0
YAK pmax pmax
comp=N,11nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK smax
comp=N,14nm,1.5s

YAK smax
comp=Z,4.0nm,0.7s
YAK smax
comp=E,7.0nm,1.1s
YAK MLR MLR
comp=Z,1μm,63.0s
YAK MLR MLR
comp=N,294nm,38.0s
YAK MLR MLR
comp=E,161nm,31.0s
YAK Yakutsk 68.84 360 *e*P **P 21 24 16.6 -0.7**
comp=E,147nm,0.8s,mb5.9
KZA Kyzart 69.59 320 P **P 21 24 23.1 +1.1**
SNR=16
TKM2 Tokmak 2 69.80 321 P **P 21 24 23.7 +0.4**
SNR=24
KBK Karagaybulak 70.08 320 P **P 21 24 25.6 +0.7**
SNR=12
UCH Uchtor 70.14 320 P **P 21 24 26.5 +1.1**
SNR=21
AAK Ala-Archa 70.36 320 P **P 21 24 27.3 +0.6**
SNR=7.7
AAK Ala-Archa 70.36 320 P **P 21 24 26.7 0.0**
SNR=9.0
AAK Ala-Archa 70.36 320 *e*P **P 21 24 26.1 -0.6**
AAK pmax pmax
comp=Z,42nm,1.1s,mb5.2
AAK Ala-Archa 70.36 320 *e*P **P 21 24 26.1 -0.6**
comp=Z,42nm,1.1s,mb5.2
CHMS Chumysh 70.38 320 P **P 21 24 26.4 -0.4**
SNR=8.4
FRU Bishkek 70.38 320 *e*P **P 21 24 27.0 +0.2**
FRU pmax pmax
comp=Z,40nm,2.0s,mb4.9
AML Almayashu 70.62 319 P **P 21 24 29.3 +1.0**
SNR=27
USP Ospenovka 70.67 321 P **P 21 24 28.9 +0.3**
SNR=17
EKS2 Erkin-Say 70.83 320 P **P 21 24 30.4 +0.8**
SNR=23
ZAL Zalesovo 71.46 334 P **P 21 24 32.0 -1.3**
comp=Z,15nm,0.5s,mb5.0,baz=344,slow=5.8,SNR=71
ZAL Zalesovo 71.46 334 P **P 21 24 32.1 -1.3**
ZAL pmax pmax
comp=Z,15nm,0.5s
KURK Kurchatov 72.37 329 P **P 21 24 38.9 +0.1**
comp=Z,264nm,1.2s,mb5.9,SNR=39
KURK Kurchatov 72.37 329 P **P 21 24 38.7 -0.1**
SNR=22
KURK Kurchatov 72.37 329 *e*P **P 21 24 38.4 -0.4**
KURK pmax pmax
comp=Z,48nm,1.0s,mb5.3
KURK Kurchatov 72.37 329 *e*P **P 21 24 38.4 -0.4**
comp=Z,48nm,1.0s,mb5.3
VNDA Vanda 72.47 173 P **P 21 24 39.4 0.0**
comp=Z,3.9nm,0.7s,mb4.3,baz=320,slow=6.7,SNR=49
VNDA LR LR 21 56 22.6
comp=Z,749nm,18.5s,baz=339,slow=36
VNDA Vanda 72.47 173 P **P 21 24 39.4 0.0**
VNDA pmax pmax
comp=Z,4.0nm,0.7s
VNDA MLR MLR
comp=Z,749nm,18.5s
VNDA Vanda 72.47 173 P **P 21 24 39.4 0.0**
VNDA LR LR 21 56 22.6
NVS Novosibirsk 72.75 334 *e*P **P 21 24 39.7 -1.4**
NVS *e* 21 33 52.8
NVS *e* 21 34 41.2
NVS pmax pmax
comp=N,22nm,1.0s
NVS pmax pmax
comp=E,27nm,1.0s
NVS pmax pmax
comp=Z,42nm,1.0s,mb5.2
KK31 Karatay Array 73.15 319 *i* P **P 21 24 43.2 -0.3**
MAW Mawson 74.83 201 *e*P **P 21 24 53.7 +0.5**
comp=Z,19nm,0.6s,mb5.0
MAW Mawson 74.83 201 P **P 21 24 53.8 +0.6**
comp=Z,25nm,0.6s,mb5.1,baz=77,slow=6.3,SNR=108
MAW LR LR 21 56 47.6
comp=Z,416nm,20.1s,baz=64,slow=35
MAW Mawson 74.83 201 P **P 21 24 53.8 +0.6**
MAW pmax pmax
comp=Z,25nm,0.6s
MAW MLR MLR
comp=Z,416nm,20.1s
WBK Wadi Bani Khal 75.14 296 ⇓P **P 21 24 55.6 +0.5**
SNR=6.3
WSAR Wadi Sarin 75.60 296 P **P 21 24 58.0 +0.3**
comp=Z,29nm,0.6s,mb5.2,baz=110,slow=6.8,SNR=33
JMDO Jabal Madar 75.86 295 P **P 21 24 59.2 0.0**
SNR=6.3
SMDO Samad 76.08 296 ⇓P **P 21 24 59.0 -1.4**
SNR=27
BIDO Bidbid 76.12 296 ⇑P **P 21 25 00.7 +0.1**
SNR=57
HOQ Hoggin 76.86 296 ⇓P **P 21 25 05.1 +0.3**
SNR=10.0
BVAR Borovoye Array 77.92 328 P **P 21 25 10.0 -0.7**
comp=Z,22nm,0.9s,mb4.9,baz=129,slow=5.9,SNR=94
BVAR Borovoye Array 77.92 328 P **P 21 25 10.0 -0.7**
BVAR pmax pmax
comp=Z,22nm,0.9s
BRVK Borovoye 77.99 328 P **P 21 25 10.3 -0.8**
comp=Z,221nm,0.8s,mb5.9,SNR=14
BRVK Borovoye 77.99 328 P **P 21 25 10.8 -0.3**
SNR=18
BRVK Borovoye 77.99 328 *e*P **P 21 25 10.4 -0.7**
BRVK pmax pmax
comp=Z,25nm,1.1s,mb4.9
BRVK Borovoye 77.99 328 *e*P **P 21 25 10.4 -0.7**
comp=Z,25nm,1.1s,mb4.9
BRVK *e* 21 25 44.2
BRVK *e* 21 25 50.0
ASHO Ashiyiah 78.23 297 ⇑P **P 21 25 11.8 -0.6**
SNR=9.9
TIXI Tiksi 78.50 360 *e*P **P 21 25 10.6 -3.3**
TIXI pmax pmax
comp=Z,17nm,0.7s,mb5.0
TIXI Tiksi 78.50 360 *e*P **P 21 25 12.5 -1.4**
ZRNK Zerenda 78.61 327 *e*P **P 21 25 13.4 -1.2**
ZRNK pmax pmax
comp=Z,47nm,0.9s,mb5.3
ZRNK Zerenda 78.61 327 *e*P **P 21 25 13.4 -1.2**
comp=Z,47nm,0.9s,mb5.3
ZRNK *e* 21 25 48.1
ZRNK *e* 21 25 53.7
TBI Tubuai 78.87 112 *e*LR LR 21 49 27.1
comp=Z,455nm,25.5s
WHFO Wadi Hawf 78.89 290 ⇓P **P 21 25 15.4 -0.6**
SNR=9.6
PAE Paea 79.10 107 *e*P **P 21 25 19.6 +2.4**
comp=Z,67nm,1.1s,mb5.4
PPT Papeete 79.11 107 *e*LR LR 21 49 28.5
comp=Z,276nm,23.5s
ABKT Ailbek 79.99 310 P **P 21 25 22.5 +0.4**
comp=Z,140nm,0.9s,mb5.8,SNR=14
PMOR Pomariorio Ree 80.91 104 *e*P **P 21 25 29.7 +2.7**
comp=Z,43nm,0.9s,mb5.3
AB31 Akbulak array 82.33 322 ⇑*e*P **P 21 25 33.7 -0.8**
QSPA South Pole Qui 82.96 180 ⇑*i*P **P 21 25 37.3 -0.4**
comp=Z,21nm,0.8s,mb5.0
SYO Syowa Base 83.54 201 ⇓*e*P **P 21 25 40.1 -0.6**
SYO Syowa Base 83.54 201 ⇓*e*PcP PcP 21 25 45.0 +0.2
AKTK Aktyubinsk 83.90 322 P **P 21 25 41.9 -0.7**
AKTO Aktyubinsk 83.90 322 P **P 21 25 41.9 -0.7**
comp=Z,14nm,0.5s,mb5.1,baz=108,slow=6.8,SNR=57
AKTO Aktyubinsk 83.90 322 P **P 21 25 41.9 -0.6**
AKTO pmax pmax
comp=Z,15nm,0.5s,mb5.1
SVE Sverdlovsk 84.62 329 ⇑*i*P **P 21 25 45.5 -0.7**
SVE pmax pmax
comp=Z,120nm,1.4s,mb5.6
ARU Arti 85.56 328 P **P 21 25 48.5 -2.4**
comp=Z,311nm,0.7s,mb6.3,SNR=22
ARU Arti 85.56 328 ⇑*i*P **P 21 25 48.9 -2.0**
ARU *e* 21 29 07.4
ARU *e*S 21 36 08.8
ARU *e*SS SS 21 41 48.8 -5.0
ARU pmax pmax
comp=Z,45nm,0.8s,mb5.5
ARU Arti 85.56 328 *e*P **P 21 25 48.7 -2.2**
comp=Z,44nm,0.8s,mb5.5
NAY Al-Naaiem 86.85 300 *e*P **P 21 25 56.0 -1.2**
NAY AMb AMB 21 25 58.1
comp=Z,58nm,1.0s,mb5.5
MIB Mutribah 86.86 300 *e*P **P 21 25 56.2 -1.1**
MIB AMb AMB 21 25 58.4
comp=Z,91nm,1.2s,mb5.6
RST Umm Al-Ruwaisa 87.10 300 *e*P **P 21 25 57.4 -1.1**
RST AMb AMB 21 25 59.2
comp=Z,83nm,0.9s,mb5.6
SOKR Solikamsk 87.47 331 *c i*P **P 21 25 58.2 -2.0**
SOKR pmax pmax
comp=Z,30nm,1.1s,mb5.1
SVW2 Sparrevohn 88.79 28 *e*P **P 21 26 07.4 +0.9**
GNI Garni 90.63 310 P **P 21 26 15.8 +0.7**
comp=Z,1.8nm,0.4s,mb4.6,baz=170,slow=6.1,SNR=3.3
GNI LR LR 22 11 36.9
comp=Z,127nm,21.5s,baz=305,slow=39
GNI Garni 90.63 310 P **P 21 26 15.8 +0.7**
GNI pmax pmax
comp=Z,2.0nm,0.4s
GNI MLR MLR
comp=Z,127nm,21.5s
ZEI Tsey 91.64 313 *e*P **P 21 26 19.3 -0.4**
ZEI *e* 21 30 00.3
ZEI pmax pmax
comp=Z,19nm,0.9s,mb5.3
RKT Rikitea 92.15 113 *e*LR LR 21 55 39.0
comp=Z,307nm,25.2s
KMBO Kilima Mbogo 92.29 269 P **P 21 26 22.9 +0.1**
comp=Z,2.9nm,0.8s,mb4.5,baz=42,slow=6.7,SNR=11
KMBO LR LR 22 05 42.2
comp=Z,302nm,20.4s,baz=96,slow=34
KMBO Kilima Mbogo 92.29 269 *e*P **P 21 26 23.5 +0.7**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 92.29 269 *e*P **P 21 26 23.5 +0.7**
comp=Z,4.3nm,0.9s,mb4.7
KMBO *e* 21 26 52.2
MCK McKinley 92.43 26 *e*P **P 21 26 21.9 -1.5**
MCK pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
MCK McKinley 92.43 26 *e*P **P 21 26 21.9 -1.5**
comp=Z,4.2nm,0.8s,mb4.7
ILAR Eielson Array 93.49 25 P **P 21 26 25.9 -2.4**
comp=Z,3.4nm,0.8s,mb4.7,baz=268,slow=5.0,SNR=20
ILAR PKKPbc PKKPbc 21 43 33.4 -0.5
comp=Z,1.1nm,0.7s,baz=278,slow=1.3,SNR=8.5
ILAR Eielson Array 93.49 25 P **P 21 26 25.9 -2.4**
ILAR pmax pmax
comp=Z,3.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
MALT Malatya 95.29 308 ⇓*i*P **P 21 26 36.4 -0.1**
MALT Malatya 95.29 308 *e*P **P 21 26 35.4 -1.1**
MALT pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
MALT Malatya 95.29 308 *e*P **P 21 26 35.4 -1.2**
comp=Z,3.2nm,0.9s,mb4.8
SNAA Sanae 95.58 194 *e*P **P 21 26 37.9 0.0**
SNAA *e* 21 26 39.0
SNAA *e* 21 26 39.8
SNAA *e* pP 21 26 56.9 -1.1
SNAA *e* 21 27 06.5
SNAA *e* 21 27 11.6
SNAA *e* 21 27 14.3
SNAA *e* 21 27 22.3
SNAA *e* 21 27 52.4
SNAA Sanae 95.58 194 *e*P **P 21 26 37.6 -0.3**
SNAA pmax pmax
comp=Z,10.0nm,0.9s
SNAA Sanae 95.58 194 *e*P **P 21 26 37.6 -0.2**
comp=Z,9.6nm,0.9s,mb5.2
SNAA *e* 21 27 06.3
ASF Jabal al Asfar 96.05 302 P **P 21 26 40.5 +0.5**
comp=Z,5.8nm,0.8s,mb5.0,baz=324,slow=0.6,SNR=12
ASF LR LR 22 15 14.9
comp=Z,218nm,20.1s,baz=141,slow=39
ASF Jabal al Asfar 96.05 302 P **P 21 26 40.5 +0.5**
ASF pmax pmax
comp=Z,6.0nm,0.8s
ASF MLR MLR
comp=Z,219nm,20.1s
KLMR Klimovskoe 96.16 331 *e*P **P 21 26 36.4 -4.1**
KLMR pmax pmax
comp=Z,10.0nm,1.4s,mb5.0
ANN Anapa 96.50 314 *e*P **P 21 26 39.1 -2.9**
ANN pmax pmax
comp=Z,95nm,1.7s,mb6.0
DAWY Dawson 96.66 26 *e*P **P 21 26 42.1 -0.6**
DAWY *e* 21 27 16.6
MMAI Mount Meron Ar 97.37 302 LR LR 22 16 34.9
comp=Z,250nm,19.8s,baz=110,slow=39
OBN Obninsk 97.49 325 *c i*P **P 21 26 43.7 -2.8**
OBN pmax pmax
comp=Z,26nm,1.6s,mb5.4
OBN Obninsk 97.49 325 ⇑*e*P **P 21 26 43.7 -2.8**
VNA1 Neumayer--Stat 97.55 193 *e*P **P 21 26 47.1 +0.3**
VNA1 *e* pP 21 27 07.3 +0.3
VNA1 *e* 21 27 22.4
INK Inuvik 98.99 22 PKKPbc PKKPbc 21 43 17.7 -1.3
comp=Z,2.3nm,0.6s,baz=66,slow=1.6,SNR=6.6
BRTR Keskin Array B 99.09 309 P **P 21 26 51.5 -2.1**
comp=Z,1.8nm,0.8s,mb4.7,baz=137,slow=4.7,SNR=8.9
BRTR LR LR 22 19 37.5
comp=Z,155nm,21.7s,baz=114,slow=40
BRTR Keskin Array B 99.09 309 P **P 21 26 51.6 -2.1**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR MLR MLR
comp=Z,155nm,21.7s
BOSA Boshof 99.20 240 P **P 21 26 54.7 +0.6**
comp=Z,2.0nm,0.8s,mb4.7,baz=96,slow=9.2,SNR=3.0
BOSA Boshof 99.20 240 P **P 21 26 54.7 +0.5**
BOSA pmax pmax
comp=Z,2.0nm,0.8s,mb4.7
BOSA Boshof 99.20 240 P **P 21 26 54.7 +0.5**
JOF Joensuu 100.03 333 *e*p Pdif 21 26 54.1 -3.8
comp=Z,10nm,0.7s
JOF Joensuu 100.03 333 *e*P Pdif 21 26 54.1 -3.8
JOF pmax pmax
comp=Z,10.0nm,0.7s
ARCES ARCESS Array B 101.49 340 P Pdif 21 27 02.0 -2.3
comp=Z,3.5nm,0.8s,baz=80,slow=6.8,SNR=16
ARCES PKiKP PKiKP 21 31 27.1 -1.0
comp=Z,1.4nm,0.8s,baz=132,slow=1.3,SNR=4.6
ARCES PKKPbc PKKPbc 21 43 11.3 -0.6
comp=Z,0.8nm,0.4s,baz=253,slow=4.6,SNR=22
ARCES ARCESS Array B 101.49 340 P Pdif 21 27 02.1 -2.2
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES pmax pmax
comp=Z,1.0nm,0.8s
ARCES pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 102.03 320 P Pdif 21 27 04.1 -2.7
comp=Z,2.2nm,0.8s,baz=71,slow=4.5,SNR=8.8
AKASG PP PP 21 31 21.3 +2.4
comp=Z,1.1nm,0.7s,baz=82,slow=7.2,SNR=4.0
AKASG Malin Array Be 102.03 320 P Pdif 21 27 04.1 -2.6
AKASG 21 31 21.3
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 102.03 320 P Pdif 21 27 04.1 -2.7
AKASG PP PP 21 31 21.3 +2.4
KAF Kangasniemi 102.42 332 *e*p Pdif 21 27 04.9 -3.6
FINES FINESS Array B 102.63 331 P Pdif 21 27 06.3 -3.1
comp=Z,1.2nm,0.8s,baz=104,slow=3.9,SNR=5.8
FINES PKiKP PKiKP 21 31 29.4 -0.7
comp=Z,1.2nm,0.7s,baz=90,slow=3.1,SNR=6.0
FINES FINESS Array B 102.63 331 P Pdif 21 27 06.4 -3.0
FINES *i* 21 31 29.4
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES pmax pmax
comp=Z,1.0nm,0.7s
VRI Vrincioaia 104.03 315 ⇑*i*P Pdif 21 27 20.1 +4.4
MLR Muntele Rosu 104.61 315 ⇓*i*P Pdif 21 27 17.4 -0.8
BURAR Bucovina Array 104.91 317 ⇑*i*P Pdif 21 27 19.5 -0.1
B05A Bryant 107.31 42 ⇓P PKiKP 21 31 39.6 +0.9
baz=107
J03A Ideyld Park 107.38 47 ⇑P PKiKP 21 31 39.5 +0.6
baz=108
HUMO Hull Mountain 107.48 48 ⇓P PKiKP 21 31 39.5 +0.5
baz=108
M02C Callahan 107.69 49 ⇓P PKiKP 21 31 40.4 +1.0
baz=108
YKA Yellowknife Ar 107.90 26 PKiKP PKiKP 21 31 37.9 -1.8
comp=Z,1.5nm,0.7s,baz=291,slow=1.5,SNR=5.3
YKA PKKPbc PKKPbc 21 42 51.6 -0.9
comp=Z,1.8nm,0.7s,baz=104,slow=2.7,SNR=6.3
YKA Yellowknife Ar 107.90 26 PKPdf PKiKP 21 31 37.9 -1.9
YKA PKKPbc PKKPbc 21 42 51.6 -0.9
MNRC McLaughlin Nat 108.27 51 ⇑P PKiKP 21 31 41.8 +1.3
baz=108
L05A Lakeview 109.11 48 ⇓P PKiKP 21 31 43.2 +1.1
baz=109
PACP Pacheco Peak 109.37 53 ⇓P PKiKP 21 31 43.8 +1.3
baz=110
K06A Valley Falls 109.43 47 ⇓P PKiKP 21 31 43.4 +0.8
baz=110
J06A Christmas Vall 109.43 47 ⇓P PKiKP 21 31 43.4 +0.8
baz=110
NB2 NORSAR Subarra1 109.66 333 Pdif Pdif 21 27 38.1 -2.6
comp=Z,2.8nm,1.0s,baz=68,slow=4.4
NOA NORSAR Array B 109.66 333 Pdiff Pdif 21 27 38.8 -1.9
comp=Z,1.6nm,0.9s,baz=67,slow=4.6,SNR=5.2
NOA PKiKP PKiKP 21 31 41.4 -1.7
comp=Z,1.7nm,0.8s,baz=256,slow=3.5,SNR=7.4
NOA PKKPbc PKKPbc 21 42 47.2 +0.3
comp=Z,1.2nm,0.8s,baz=68,slow=3.3,SNR=5.6
NOA NORSAR Array B 109.66 333 P Pdif 21 27 38.8 -1.9
NOA 21 42 47.3
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA pmax pmax
comp=Z,1.0nm,0.8s
DPC Dobruska-Polom 110.21 321 *e*PKP PKiKP 21 31 43.8 -0.3
UPC Upice 110.36 321 *e*PKP PKiKP 21 31 44.0 -0.4
O07A Toulon 110.84 50 ⇓P PKiKP 21 31 46.0 +0.7
baz=111
SNCC San Nicolas Is 111.18 57 ⇓P PKiKP 21 31 46.8 +0.9
baz=111
PRU Pruhonice 111.41 321 *e*PKP PKiKP 21 31 45.9 -0.5
NVAR Mina Array Bea 111.54 52 PKiKP PKiKP 21 31 48.0 +1.4
comp=Z,1.1nm,0.6s,baz=221,slow=0.6,SNR=8.2
NVAR PKKPbc PKKPbc 21 42 42.2 +1.4
comp=Z,0.6nm,0.6s,baz=96,slow=5.6,SNR=4.7
NVAR PKKPab PKKPab 21 42 51.3 +0.7
comp=Z,1.2nm,0.8s,baz=109,slow=5.0,SNR=3.9
NVAR Mina Array Bea 111.54 52 PKPdf PKiKP 21 31 48.0 +1.4
NVAR PKKPbc PKKPbc 21 42 42.2 +1.4
NVAR PKKPab PKKPab 21 42 51.3 +0.7
BRG Berggiesshubel 111.54 322 *e*PKiKP PKiKP 21 31 46.1 -0.5
BRG Berggiesshubel 111.54 322 *e*PKP PKiKP 21 31 46.0 -0.6
comp=Z,1.7nm,0.7s
BRG
comp=N,149nm,22.8s
BRG
comp=E,149nm,18.4s
BRG
comp=Z,228nm,22.1s
N09A Rock Creek Ran 111.75 49 ⇓P PKiKP 21 31 48.2 +1.1
baz=112
CLL Collm 111.98 323 *e*PKiKP PKiKP 21 31 46.5 -1.0
CLL Collm 111.98 323 ⇓*i*PKiKP PKiKP 21 31 46.7 -0.8
comp=Z,3.0nm,0.7s
CLL *i* PP PP 21 32 26.9 -5.0
CLL Collm 111.98 323 ⇓*i*PKiKP PKiKP 21 31 46.7 -0.8
CLL *i* 21 32 26.9
CLL pmax pmax
comp=Z,3.0nm,0.7s
GEC2 GERESS Array S 112.24 320 *e*PKiKP PKiKP 21 31 47.0 -1.0
GEC2 GERESS Array S 112.24 320 *i*PKiKP PKiKP 21 31 47.0 -1.0
GERES GERESS Array B 112.24 320 PKiKP PKiKP 21 31 46.9 -1.0
comp=Z,3.5nm,0.6s,baz=66,slow=1.7,SNR=24
GERES PP PP 21 32 27.2 -6.5
comp=Z,1.5nm,0.7s,baz=75,slow=1.5,SNR=6.0
GERES PKPab PKKPab 21 42 49.5 +2.1
comp=Z,0.5nm,0.8s,baz=221,slow=5.8,SNR=3.9
GERES GERESS Array B 112.24 320 *i*PKiKP PKiKP 21 31 46.9 -1.1
GERES pmax pmax
comp=Z,4.0nm,0.6s
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.8s
KHC Kasperske Hory 112.24 320 *e*PKP PKiKP 21 31 47.3 -0.7
S09A Goldfield 112.49 52 ⇑P PKiKP 21 31 50.2 +1.7
baz=113
TANN Tannenbergstha 112.57 322 *e*PKiKP PKiKP 21 31 48.3 -0.3
WERD Werda 112.66 322 *e*PKiKP PKiKP 21 31 48.7 -0.1
GUNZ Gunzen 112.67 322 *e*PKiKP PKiKP 21 31 48.6 -0.2
WET Wettzell 112.68 321 *e*PKiKP PKiKP 21 31 47.7 -1.1
WET Wettzell 112.68 321 *i*PKiKP PKiKP 21 31 47.7 -1.1
BSEG Bad Segeberg 112.69 326 *e*PKiKP PKiKP 21 31 48.6 -0.2
BSEG Bad Segeberg 112.69 326 *i*PKiKP PKiKP 21 31 48.6 -0.2
MANZ Manzenberg 112.92 322 *e*PKiKP PKiKP 21 31 49.1 -0.2
MOX Moxa 113.02 322 *e*PKiKP PKiKP 21 31 49.2 -0.3
GSC Goldstone 113.17 55 ⇑P PKiKP 21 31 51.4 +1.6
baz=113
O11A Cowboy Ranch, 113.28 49 ⇓P PKiKP 21 31 51.2 +1.3
baz=113
NRDL Niedersach Rie 113.31 325 *e*PKiKP PKiKP 21 31 50.8 +0.8
CLZ Clausthal 113.38 324 *e*PKiKP PKiKP 21 31 49.6 -0.5
CLZ Clausthal 113.38 324 *i*PKiKP PKiKP 21 31 49.6 -0.5
U10A Ash Meadows, A 113.39 53 ⇓P PKiKP 21 31 51.8 +1.6
baz=114
HLID Hailey 113.48 45 *e*PKiKP PKiKP 21 31 51.5 +1.1
HLID *e*PP PP 21 32 36.7 -5.8
Q11A Duckwater 113.52 51 ⇓P PKiKP 21 31 51.9 +1.5
baz=114
GRA1 Grafenberg Arr 113.55 321 *e*PKPdf PKiKP 21 31 49.8 -0.7
GRF Grafenberg Arr 113.55 321 *e*PKiKP PKiKP 21 31 49.8 -0.7
GRF Grafenberg Arr 113.55 321 *i*PKiKP PKiKP 21 31 49.8 -0.7
M12A Wells 113.58 48 ⇓P PKiKP 21 31 51.7 +1.2
baz=114
N12A Clover Valley, 113.60 48 ⇓P PKiKP 21 31 51.8 +1.2
baz=114
PFO Pinyon Flat Ob 113.69 56 ⇓P PKiKP 21 31 52.0 +1.2
baz=114
TUQ Turquoise Mtn. 113.87 54 ⇑P PKiKP 21 31 52.7 +1.6
baz=114
P12A McGill 113.97 50 ⇑P PKiKP 21 31 52.1 +0.9
baz=114
FUR Furstenfeldbru 113.98 320 *e*PKiKP PKiKP 21 31 50.7 -0.6
FUR Furstenfeldbru 113.98 320 *i*PKiKP PKiKP 21 31 50.7 -0.6
WTTA Wattenberg 114.01 319 ⇑*i*P PKiKP 21 31 50.8 -0.6
comp=Z,7.0nm,0.7s
Q12A Willow Creek R 114.11 50 ⇑P PKiKP 21 31 52.7 +1.2
baz=114
M13A Montello 114.14 48 ⇓P PKiKP 21 31 52.6 +1.0
baz=114
U11A Corn Creek 114.15 53 ⇑P PKiKP 21 31 53.5 +1.8
baz=114
V11A Goodsprings 114.20 54 ⇓P PKiKP 21 31 53.3 +1.6
baz=114
MOTA Moosalm 114.33 319 ⇓*i*P PKiKP 21 31 51.1 -0.9
comp=Z,3.6nm,0.8s
MOTA Moosalm 114.33 319 ⇓*i*P PKiKP 21 31 51.1 -0.9
V12A Nelson 114.68 54 ⇓P PKiKP 21 31 54.3 +1.7
baz=115
U12A Valley of Fire 114.81 53 ⇓P PKiKP 21 31 54.7 +1.8
baz=115
HVU Hansel Valley 115.06 47 *e*PKiKP PKiKP 21 31 53.9 +0.5
BGU Big Grassy Mou 115.08 48 *e*PKiKP PKiKP 21 31 54.2 +0.8
DAVA Damuels 115.14 319 ⇑*i*P PKiKP 21 31 53.0 -0.5
comp=Z,15nm,1.0s
BFO Black Forest 115.80 321 *e*PKiKP PKiKP 21 31 53.6 -1.2
BFO Black Forest 115.80 321 *i*PKiKP PKPdf 21 31 53.6 -1.2
TPAW Teton Pass 115.93 45 *e*PKPdf PKPdf 21 31 56.1 +1.0
HWUT Hardware Ranch 115.99 47 *e*PKPpre PKPdf 21 31 55.6 +0.4
MOOW Moose Ponds 116.00 45 *e*PKPdf PKPdf 21 31 55.9 +0.7
REDW Red Top Meadow 116.04 45 *e*PKPdf PKPdf 21 31 56.3 +1.0
W14A Seligman 116.20 54 ⇓P PKPdf 21 31 57.4 +1.8
baz=116
MSU Marysvale 116.25 50 *e*PKiKP PKPdf 21 31 57.3 +1.6
CDF Champ du Feu 116.43 321 *e*PKiKP PKPdf 21 31 54.6 -1.4
comp=Z,3.5nm,0.7s
X14A Yava 116.48 55 ⇓P PKPdf 21 31 57.4 +1.3
baz=117
Y14A Wickenburg 116.48 56 ⇑P PKPdf 21 31 56.9 +0.8
baz=117
Z14A Wintersburg 116.62 56 ⇑P PKPdf 21 31 58.1 +1.7
baz=117
HINF Hinteralfeld 116.90 321 *e*PKiKP PKPdf 21 31 55.5 -1.4
comp=Z,12nm,0.6s
X15A Humboldt 117.01 55 ⇓P PKPdf 21 31 58.5 +1.4
baz=117
PDAR Pinedale Array 117.11 45 PKP PKPdf 21 31 57.6 +0.3
comp=Z,5.2nm,0.7s,baz=285,slow=1.2,SNR=35
PDAR PKKPbc PKKPbc 21 42 22.2 +0.3
comp=Z,0.8nm,0.8s,baz=96,slow=4.0,SNR=6.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PGF	**Pioggiola**	**117.14**	**314**	*e*PKIKP	PKPdf	21 31 56.4	-1.0
HAU	**Haudompre**	**117.15**	**321**	*e*PKIKP	PKPdf	21 31 56.1	-1.3
	comp=Z,14nm,0.9s						
SRU	**San Rafael**	**117.37**	**50**	*e*PKIKP	PKPdf	21 31 58.5	+0.7
WUAZ	**Wupatki**	**117.51**	**54**	*e*PKPdf	PKPdf	21 31 59.2	+1.2
BAIF	**Baives**	**117.66**	**324**	*e*PKIKP	PKPdf	21 31 57.6	-0.8
MEZF	**Maizieres J'vi**	**117.77**	**322**	*e*PKIKP	PKPdf	21 31 57.8	-0.8
LPG	**La Plagne**	**117.77**	**318**	*e*PKIKP	PKPdf	21 31 58.1	-0.5
	comp=Z,14nm,0.7s						
LPL	**La Plagne**	**117.78**	**318**	*e*PKIKP	PKPdf	21 31 58.0	-0.6
	comp=Z,15nm,0.6s						
116A	**Eloy**	**117.79**	**57**	⇑P	PKPdf	21 31 60.0	+1.3
	baz=118						
CABF	**La Chapelle**	**117.82**	**320**	*e*PKIKP	PKPdf	21 31 58.1	-0.6
	comp=Z,22nm,0.6s						
SBF	**Sospel**	**117.84**	**316**	*e*PKIKP	PKPdf	21 31 57.7	-1.0
ORIF	**Oris-en-Rattie**	**118.55**	**318**	*e*PKIKP	PKPdf	21 31 59.3	-0.8
	comp=Z,13nm,0.7s						
TUC	**Tucson**	**118.60**	**57**	*e*PKIKP	PKPdf	21 32 01.3	+1.1
LOR	**Lormes**	**118.99**	**321**	*e*PKIKP	PKPdf	21 31 59.7	-1.2
	comp=Z,6.7nm,0.7s						
SMRF	**Simiane la Rot**	**119.07**	**317**	*e*PKIKP	PKPdf	21 32 00.6	-0.5
RWWY	**Rawlins**	**119.10**	**46**	*e*PKPdf	PKPdf	21 32 01.7	+0.6
SMF	**Signal de Mont**	**119.24**	**320**	*e*PKIKP	PKPdf	21 32 00.3	-1.1
	comp=Z,3.9nm,0.6s						
SSF	**Saint Saulge**	**119.29**	**321**	*e*PKIKP	PKPdf	21 32 00.7	-0.8
	comp=Z,19nm,0.8s						
VIVF	**Saint-Julien-l**	**119.37**	**318**	*e*PKIKP	PKPdf	21 32 00.8	-0.9
	comp=Z,15nm,0.9s						
MVCO	**Mesa Verde**	**119.39**	**51**	*e*PKPdf	PKPdf	21 32 03.0	+1.3
AVF	**Avril sur Loir**	**119.50**	**321**	*e*PKIKP	PKPdf	21 32 00.7	-1.2
	comp=Z,10.0nm,0.8s						
BGF	**Bois d'Agland**	**119.91**	**320**	*e*PKIKP	PKPdf	21 32 02.1	-0.6
	comp=Z,29nm,0.7s						
SMCO	**Snowmass**	**120.02**	**49**	*e*PKPdf	PKPdf	21 32 04.6	+1.7
LASF	**Ste Croix**	**120.20**	**317**	*e*PKIKP	PKPdf	21 32 02.5	-0.8
TCF	**Toulx Ste Croi**	**120.42**	**320**	*e*PKIKP	PKPdf	21 32 02.9	-0.8
	comp=Z,15nm,0.8s						
RSSD	**Black Hills**	**120.47**	**42**	*e*PKIKP	PKPdf	21 32 03.3	-0.5
ISCO	**Idaho Springs**	**120.83**	**48**	*e*PKIKP	PKPdf	21 32 05.7	+1.2
LDF	**La Druitiere**	**120.84**	**324**	*e*PKIKP	PKPdf	21 32 03.5	-1.0
	comp=Z,19nm,1.1s						
FLN	**La Foliniere**	**120.98**	**324**	*e*PKIKP	PKPdf	21 32 03.7	-1.1
	comp=Z,14nm,0.9s						
CAF	**Calviac**	**121.06**	**319**	*e*PKIKP	PKPdf	21 32 04.6	-0.3
	comp=Z,20nm,1.0s						
RJF	**Les Rejaudoux**	**121.26**	**320**	*e*PKIKP	PKPdf	21 32 04.0	-1.3
GRR	**Gorron**	**121.38**	**324**	*e*PKIKP	PKPdf	21 32 04.7	-0.8
ANMO	**Albuquerque**	**121.55**	**53**	*e*PKPdf	PKPdf	21 32 06.7	+0.8
MTLF	**Montolieu**	**121.58**	**317**	*e*PKIKP	PKPdf	21 32 05.1	-0.8
	comp=Z,19nm,1.0s						
MFF	**Saint Martin d**	**121.76**	**321**	*e*PKIKP	PKPdf	21 32 05.3	-1.0
	comp=Z,23nm,0.7s						
LFF	**La Frestale**	**121.91**	**319**	*e*PKIKP	PKPdf	21 32 06.1	-0.5
	comp=Z,20nm,0.9s						
SGMF	**Saint Gilles**	**122.43**	**324**	*e*PKIKP	PKPdf	21 32 06.5	-1.0
	comp=Z,22nm,0.9s						
ETOS	**Mallorca**	**122.44**	**313**	PKP	PKPdf	21 32 07.0	-0.6
ULM	**Lac du Bonnet**	**122.62**	**33**	PKP	PKPdf	21 32 07.0	-0.9
	comp=Z,8.8nm,0.7s,baz=296,slow=3.3,SNR=17						
ULM	**Lac du Bonnet**	**122.62**	**33**	*e*PKPdf	PKPdf	21 32 06.6	-1.3
ROSF	**Rostrenen**	**122.81**	**324**	*e*PKIKP	PKPdf	21 32 07.1	-1.2
	comp=Z,7.8nm,0.7s						
QUIF	**Quistinic**	**122.95**	**324**	*e*PKIKP	PKPdf	21 32 07.6	-0.9
	comp=Z,13nm,0.9s						
EPF	**Esparros**	**122.96**	**317**	*e*PKIKP	PKPdf	21 32 07.8	-0.8
	comp=Z,6.1nm,0.6s						
EPOB	**Poblet**	**123.11**	**315**	PKP	PKPdf	21 32 09.6	+0.8
EBIE	**Bielsa**	**123.23**	**317**	PKP	PKPdf	21 32 10.1	+1.0
ETSF	**Etsaut**	**123.62**	**318**	*e*PKIKP	PKPdf	21 32 09.1	-0.7
	comp=Z,18nm,1.1s						
EMOS	**Mosqueruela**	**124.58**	**315**	PKP	PKPdf	21 32 12.7	+1.0
LTX	**Lajitas**	**125.19**	**59**	*e*PKIKP	PKPdf	21 32 13.7	+0.9
ECHE	**Chera**	**125.23**	**314**	PKIKP	PKPdf	21 32 13.3	+0.4
ELAN	**Lanestosa**	**125.37**	**319**	PKP	PKPdf	21 32 13.8	+0.6
ECSD	**EROS,Sioux Fal**	**125.49**	**40**	*e*PKPdf	PKPdf	21 32 12.9	-0.5
ETOR	**Torete**	**125.50**	**316**	PKIKP	PKPdf	21 32 13.9	+0.5
EMUR	**La Murta**	**126.09**	**312**	PKP	PKPdf	21 32 13.1	-1.5
EYMN	**Ely**	**126.30**	**33**	*e*PKPdf	PKPdf	21 32 14.2	-0.7
EVIA	**Vianos**	**126.70**	**314**	PKIKP	PKPdf	21 32 16.5	+0.8
GUD	**Guadarrama**	**127.01**	**317**	PKIKP	PKPdf	21 32 17.7	+1.4
ENIJ	**Nijar**	**127.13**	**312**	PKIKP	PKPdf	21 32 16.9	+0.4
ESDC	**Sonseca Array**	**127.30**	**315**	PKP	PKPdf	21 32 17.2	+0.3
	comp=Z,0.3nm,0.6s,baz=354,slow=6.5,SNR=5.9						
ESDC				PP	PP	21 34 17.1	0.0
	comp=Z,1.9nm,0.8s,baz=66,slow=6.6,SNR=4.8						
EBER	**Berja**	**127.66**	**312**	PKP	PKPdf	21 32 17.6	0.0
EBAN	**Banos Encina**	**127.81**	**314**	PKIKP	PKPdf	21 32 17.9	+0.1
EALB	**Alboran**	**128.13**	**311**	PKP	PKPdf	21 32 21.2	+2.7
JCT	**Junction City**	**128.15**	**57**	*e*PKIKP	PKPdf	21 32 19.2	+0.7
EGUA	**Guajares**	**128.19**	**312**	PKIKP	PKPdf	21 32 18.5	-0.1
ERON	**Agron**	**128.29**	**312**	PKP	PKPdf	21 32 17.7	-1.0
EADA	**Adamuz**	**128.38**	**314**	PKP	PKPdf	21 32 19.4	+0.5
ELOJ	**Sierra Loja**	**128.49**	**313**	PKIKP	PKPdf	21 32 19.1	0.0
TOA0	**Torodi Ar. Sit**	**128.52**	**281**	*e*PKPdf	PKPdf	21 32 19.1	0.0
TORD	**Torodi Ar. Bea**	**128.52**	**281**	PKhKP		21 32 10.1	
	comp=Z,0.4nm,0.6s,baz=103,slow=0.9,SNR=4.9						
TORD				PKP	PKPdf	21 32 19.3	+0.1
	comp=Z,10nm,0.6s,baz=79,slow=1.8,SNR=52						
TORD	**Torodi Ar. Bea**	**128.52**	**281**	PKP	PKPdf	21 32 19.3	+0.1
PLCA	**Paso Flores**	**128.97**	**160**	PKP	PKPdf	21 32 21.6	+1.5
	comp=Z,12nm,0.9s,baz=163,slow=2.2,SNR=17						
PLCA	**Paso Flores**	**128.97**	**160**	PKIKP	PKPdf	21 32 21.6	+1.6
PLCA				pmax	pmax		
	comp=Z,12nm,0.9s						
SCHQ	**Schefferville**	**130.50**	**13**	SKPbc	SKPbc	21 35 35.4	-4.6
	comp=Z,4.7nm,0.8s,baz=0.0,slow=10,SNR=3.6						
MIAR	**Mount Ida**	**131.69**	**49**	*e*PKIKP	PKPdf	21 32 26.5	+1.3
CCM	**Cathedral Cave**	**131.79**	**44**	*e*PKIKP	PKPdf	21 32 25.3	-0.1
DBIC	**Dimbokro**	**134.89**	**272**	PKhKP		21 32 22.0	
	comp=Z,0.9nm,0.4s,baz=153,slow=4.5,SNR=4.5						
DBIC				PKP	PKPdf	21 32 31.5	+0.3
	comp=Z,10nm,0.5s,baz=77,slow=2.1,SNR=23						
DBIC				SKPbc	SKPbc	21 35 48.6	-6.6
	comp=Z,4.9nm,0.8s,baz=109,slow=4.0,SNR=4.8						
DBIC	**Dimbokro**	**134.89**	**272**	PKP	PKPdf	21 32 31.5	+0.3
DBIC				SKPbc	SKPbc	21 35 48.6	-6.5
LIC	**Lamto**	**135.03**	**272**	*e*PKIKP	PKPdf	21 32 31.0	-0.5
	comp=Z,22nm,0.6s						
WVT	**Waverly**	**135.11**	**44**	*e*PKIKP	PKPdf	21 32 31.2	-0.4
PLAL	**Pickwick Lake**	**135.52**	**46**	*e*PKPdf	PKPdf	21 32 31.4	-1.0
LRAL	**Lakeview Retre**	**137.26**	**48**	*e*PKPdf	PKPdf	21 32 35.6	0.0
CFAA	**Coronel Fontan**	**137.95**	**157**	PKhKP		21 32 28.0	
	comp=Z,0.7nm,0.5s,baz=238,slow=3.5,SNR=7.9						
CFAA				PKP	PKPdf	21 32 38.0	+1.1
	comp=Z,1.9nm,0.5s,baz=227,slow=2.7,SNR=14						
CFAA				SKPbc	SKPbc	21 35 58.9	-5.5
	comp=Z,0.3nm,0.4s,baz=190,slow=1.0,SNR=4.2						
CFAA	**Coronel Fontan**	**137.95**	**157**	PKP	PKPdf	21 32 38.0	+1.1
CFAA				SKPbc	SKPbc	21 35 58.9	-5.5
SSPA	**Standing Stone**	**138.44**	**32**	*e*PKPdf	PKPdf	21 32 37.5	-0.3
MVL	**Millersville**	**139.71**	**31**	*e*PKPdf	PKPdf	21 32 40.1	0.0
LVC	**Limon Verde**	**145.38**	**149**	PKPbc	PKPab	21 32 53.2	+2.8
	comp=Z,60nm,0.7s,baz=252,slow=2.9,SNR=76						
LVC	**Limon Verde**	**145.38**	**149**	*e*PKPdf	PKPab	21 32 53.0	+2.6
JTS	**JuntasAbangare**	**145.60**	**82**	*e*PKP2	PKPab	21 32 51.8	+0.6
CPUP	**Villa Florida**	**146.16**	**169**	PKPbc	PKPbc	21 32 52.5	0.0
	comp=Z,56nm,0.6s,baz=182,slow=1.8,SNR=148						
CPUP				SKP		21 36 21.4	
	comp=Z,5.6nm,1.0s,baz=163,slow=4.2,SNR=3.1						
CPUP	**Villa Florida**	**146.16**	**169**	PKIKP	PKPdf	21 32 52.6	+1.1
CPUP						21 36 21.4	
CPUP				pmax	pmax		
	comp=Z,56nm,0.6s						
CPUP				pmax	pmax		
	comp=N,6.0nm,1.0s						
CPUP	**Villa Florida**	**146.16**	**169**	*e*PKPdf	PKPdf	21 32 52.5	+1.0
NNA	**Nana**	**147.55**	**125**	*e*PKPdf	PKPdf	21 32 55.0	+1.2
NNA				*e*PKPbc	PKPbc	21 32 57.3	+0.7
ARE	**Arequipa**	**148.64**	**138**	*e*PKP2	PKPab	21 33 02.0	-1.2
CAM4	**Nova Friburgo**	**149.84**	**194**	⇑*i*P	PKPbc	21 33 04.1	+1.7
CAM4				*i*		21 33 07.6	
CAM4				*i*		21 33 14.7	
VAO	**Valinhos**	**149.99**	**186**	⇑*i*P	PKPbc	21 33 04.1	+1.3
VAO				*i*		21 33 06.3	
VAO				*i*		21 33 09.0	
VAO				*i*		21 33 38.8	
LPAZ	**La Paz**	**150.89**	**143**	PKP	PKPdf	21 33 01.9	+2.7
	comp=N,10nm,1.0s,baz=228,slow=0.7,SNR=43						
LPAZ				PKPbc	PKPbc	21 33 07.6	+2.7
	comp=N,21nm,0.5s,baz=219,slow=1.9,SNR=91						
LPAZ	**La Paz**	**150.89**	**143**	*e*PKPdf	PKPdf	21 33 01.5	+2.3
LPAZ				*e*PKPbc	PKPbc	21 33 07.4	+2.5
SIV	**San Ignacio**	**154.78**	**155**	PKP	PKPdf	21 33 06.1	+1.2
	comp=N,5.8nm,0.8s,baz=197,slow=2.2,SNR=12						
SIV				PKPab	PKPab	21 33 30.7	+1.9
	comp=N,12nm,0.6s,baz=214,slow=4.4,SNR=15						
BDFB	**Brasilia**	**157.38**	**186**	PKP	PKPdf	21 33 09.7	+1.4
	comp=N,7.7nm,0.9s,baz=176,slow=2.2,SNR=8.1						
BDFB				PKPab	PKPab	21 33 41.0	+1.0
	comp=N,2.2nm,0.5s,baz=157,slow=7.7,SNR=3.7						
BDFB	**Brasilia**	**157.38**	**186**	PKIKP	PKPdf	21 33 09.7	+1.4
BDFB						21 33 41.0	
BDFB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SAML	**Samuel**	**159.60**	**141**	*e*PKPdf	PKPdf	21 33 12.3	+1.3

MEX 07 21:38:17.0±0.7**,1703N**×**9834W,h20**km±69km**,MD3.7,1C, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.67**	**162**	⇑*i*P	Pb	21 38 27.6	-2.3
PNIG				*i* S	Sb	21 38 36.6	-2.2
UTMO	**Huajuapan**	**0.94**	**33**	*i* P	Pb	21 38 32.3	-2.4
UTMO				*i* S	Sb	21 38 42.2	-4.5
MEIG	**Mezcala**	**1.51**	**306**	*i* P	Pn	21 38 40.9	-2.1
MEIG				*i* S	Sn	21 38 56.2	-5.9
ACX	**Acapulco**	**1.52**	**264**	*i* P	Pn	21 38 40.5	-2.5
ACX				*i* S	Sn	21 38 54.0	-8.3
VHO	**Vista Hermosa**	**1.53**	**88**	*i* P	Pn	21 38 39.7	-3.5
VHO				*i* S	Sn	21 38 57.9	-4.6
TPIG	**Tehuac#an**	**1.66**	**34**	*e*P	Pn	21 38 42.2	-2.8
TPIG				*i* S	Sn	21 39 01.2	-4.5
PLIG	**Platanillo**	**1.75**	**321**	*i* P	Pn	21 38 44.0	-2.2
PLIG				*i* S	Sn	21 39 01.3	-6.7
PPM	**Popocatepetl**	**2.04**	**352**	*e*P	Pn	21 38 48.0	-2.3
PPM				*i* S	Sn	21 39 09.7	-5.5

PRE 07 21:48:49.3±1.4**,2132S**×**3313E,h5**km**,ML4.5, Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**6.18**	**193**	*e*P	Pn	21 50 22.0	+0.9
POGA				*e*S	Sn	21 51 28.5	-3.6
POGA				AML	AML	21 51 37.8	
	comp=Z,51nm,0.4s						
KSR	**Koster**	**7.28**	**231**	*e*P	Pn	21 50 38.0	+1.7
KSR				*e*S	Sn	21 51 57.0	-2.4
KSR				AML	AML	21 52 15.9	
	comp=Z,28nm,0.4s						
LBTB	**Lobatse**	**7.85**	**241**	*e*P	Pn	21 50 45.2	+1.1
LBTB				*e*S	Sn	21 52 09.1	-4.1
LBTB				AML	AML	21 53 14.5	
	comp=Z,65nm,0.6s						
SEK	**Senekal**	**8.58**	**215**	*e*P	Pn	21 50 54.9	+0.8
SEK				*e*S	Sn	21 52 26.9	-4.3
SEK				AML	AML	21 53 44.5	
	comp=Z,51nm,0.8s						
SWZ	**Schweizer**	**9.20**	**229**	*e*P	Pn	21 51 03.6	+1.0
SWZ				*e*S	Sn	21 52 43.0	-3.6
SWZ				AML	AML	21 52 55.4	
	comp=Z,20nm,0.7s						
KSD	**Kokstad**	**9.77**	**199**	*e*P	Pn	21 51 10.8	+0.4
KSD				*e*S	Sn	21 52 55.7	-4.7
KSD				AML	AML	21 54 16.6	
	comp=Z,27nm,0.7s						
BOSA	**Boshof**	**10.18**	**223**	*e*P	Pn	21 51 17.5	+1.4
BOSA				*e*S	Sn	21 53 06.2	-4.4
BOSA				AML	AML	21 53 42.0	
	comp=Z,9.3nm,0.6s						
SUR	**Sutherland**	**15.55**	**222**	*e*P	Pn	21 52 32.2	+3.1
SUR				*e*S	Sn	21 55 13.5	-8.2

SZGRF ***07*** *21:49:32.3,1546N×9321W,h33km,mb4.9,Near coast of Chiapas, Mexico*
IDC ***07*** *21:49:42.0±1.2,1688N×9389W,h88km±15km,mb4.2/25, mb1 4.3/25,mb1mx4.3/29,mbtmp4.5/25,MS3.2/3, Ms1 3.2/3,ms1mx2.8/40,Error ellipse: s-maj=30.8km s-min=12.1km az=60.0*
ISCJB ***07*** *21:49:42.1±0.4,1661N±005×9427W±003,h116km±3km, mb4.5/92,Error ellipse: s-maj=7.6km s-min=4.5km az=11.8*
BJI ***07*** *21:49:42.2,1670N×9430W,h122km,mB5.1*
MOS ***07*** *21:49:43.1±0.9,1680N×9390W,h111km,mb4.7/43,Error ellipse: s-maj=10.3km s-min=6.6km az=82.6*
MEX ***07*** *21:49:43.9±1.6,1662N×9430W,h123km±15km,MD4.7*
NEIC ***07*** *21:49:44.2,1666N×9434W,h123km,mb4.5/36, MD4.5(MEX),After MEX.*
ISC 07 21:49:43.1±0.4**,1661N**±005×**9426W**±003**,h113**km±3km**, h119**km±3.4km**:pP-P,n237,**σ**1**ș**14**/248**,mb4.5**/92**,2C, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.76**	**309**	P	**Pn**	**21 50 02.8**	**+0.5**
	baz=111,slow=5.9						
CMIG				S	**Sn**	**21 50 15.8**	**-0.9**
	2μm,0.3s,baz=233,slow=20,SNR=147						
CMIG	**Matias Romero**	**0.76**	**309**	⇑*i*P	**Pn**	**21 50 02.8**	**+0.5**
CMIG				*i* S	**Sn**	**21 50 16.2**	**-0.6**
SCX	**San Cristobal**	**1.56**	**85**	*i* P	**Pn**	**21 50 13.3**	**+2.5**
SCX				*i* S	**Sn**	**21 50 33.5**	**+1.6**
HUIG	**Huatulco**	**1.96**	**245**	*i* P	**Pn**	**21 50 14.6**	**-1.1**
HUIG				*i* S	**Sn**	**21 50 39.6**	**-1.0**
OXX	**Oaxaca**	**2.40**	**282**	*e*P	**Pn**	**21 50 22.2**	**+0.9**
OXX				*i* S	**Sn**	**21 50 50.6**	**-0.1**
VHO	**Vista Hermosa**	**2.41**	**281**	*i* P	**Pn**	**21 50 22.4**	**+1.0**
VHO				*i* S	**Sn**	**21 50 50.5**	**-0.3**
VHO	**Vista Hermosa**	**2.41**	**281**	*i* P	**Pn**	**21 50 22.4**	**+1.0**
VHO				*i* S	**Sn**	**21 50 49.8**	**-1.1**
UTMO	**Huajuapan**	**3.60**	**290**	*e*P	**Pn**	**21 50 38.0**	**+1.0**
UTMO				*i* S	**Sn**	**21 51 17.3**	**-1.5**
LVIG	**Laguna Verde**	**3.71**	**327**	*i* P	**Pn**	**21 50 36.6**	**-2.0**
LVIG				*i* S	**Sn**	**21 51 16.5**	**-5.1**
LVIG	**Laguna Verde**	**3.71**	**327**	*i* P	**Pn**	**21 50 36.6**	**-2.0**
LVIG				*i* S	**Sn**	**21 51 14.5**	**-7.0**
PNIG	**Pinotepa**	**3.71**	**267**	*i* P	**Pn**	**21 50 37.1**	**-1.5**
PNIG				*i* S	**Sn**	**21 51 19.1**	**-2.6**
PNIG	**Pinotepa**	**3.71**	**267**	*e*P	**Pn**	**21 50 37.6**	**-1.0**
PNIG				*i* S	**Sn**	**21 51 17.3**	**-4.4**
SCIG		**3.75**	**51**	*i* P	**Pn**	**21 50 39.0**	**-0.2**
SCIG				*i* S	**Sn**	**21 51 20.8**	**-1.7**
PPM	**Popocatepetl**	**4.82**	**301**	*i* P	**Pn**	**21 50 56.4**	**+2.9**
PPM				*i* S	**Sn**	**21 51 45.8**	**-2.4**
YAIG	**Yautepec**	**5.10**	**297**	*e*P	**Pn**	**21 50 58.3**	**+1.1**
YAIG				*i* S	**Sn**	**21 51 53.6**	**-1.3**
YAIG	**Yautepec**	**5.10**	**297**	*e*P	**Pn**	**21 50 59.0**	**+1.8**
YAIG				*i* S	**Sn**	**21 51 47.1**	**-7.8**
YAIG				*i* S	**Sn**	**21 51 50.6**	**-4.3**
MEIG	**Mezcala**	**5.28**	**285**	*i* P	**Pn**	**21 51 01.0**	**+1.2**
MEIG				*i* S	**Sn**	**21 51 57.0**	**-2.4**
PLIG	**Platanillo**	**5.30**	**290**	*i* P	**Pn**	**21 51 00.0**	**0.0**
PLIG				*i* S	**Sn**	**21 51 56.8**	**-3.1**
PLIG	**Platanillo**	**5.30**	**290**	*i* P	**Pn**	**21 51 01.8**	**+1.8**
PLIG				*i* S	**Sn**	**21 51 53.1**	**-6.9**
IIZ	**Mezontepec**	**5.39**	**299**	*e*P	**Pn**	**21 51 03.4**	**+2.2**
IIZ				*i* S	**Sn**	**21 51 55.7**	**-6.3**
ACX	**Acapulco**	**5.42**	**273**	*i* P	**Pn**	**21 51 00.2**	**-1.4**
CAIG	**El Cayaco**	**5.77**	**275**	*i* P	**Pn**	**21 51 05.1**	**-1.1**
CAIG				*i* S	**Sn**	**21 52 07.7**	**-3.4**
TEIG	**Tepich**	**6.72**	**57**	*e*P	**Pn**	**21 51 17.7**	**-1.5**
	87nm,0.5s						
ZIIG	**Zihuatanejo**	**6.96**	**279**	*i* P	**Pn**	**21 51 23.0**	**+0.6**
SFJM	**Santa Fe**	**9.17**	**296**	*i* P	**Pn**	**21 51 55.5**	**+3.1**
JTS	**JuntasAbangare**	**11.02**	**124**	P	**Pn**	**21 52 19.0**	**+1.8**
	3.5nm,0.3s,baz=314,slow=19,SNR=8.5						
JTS				LR	LR	21 56 24.3	
	comp=Z,68nm,21.6s,baz=259,slow=37						
JTS	**JuntasAbangare**	**11.02**	**124**	P	**Pn**	**21 52 19.0**	**+1.7**
JTS				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JTS				MLR	MLR		
	comp=Z,69nm,21.6s						
JTS	**JuntasAbangare**	**11.02**	**124**	*e*P	**Pn**	**21 52 19.4**	**+2.1**
	comp=Z,11nm,0.3s						
HKT	**Hockley**	**13.36**	**354**	*e*P	**Pn**	**21 52 49.0**	**+0.9**
HKT				pmax	pmax		
	comp=Z,76nm,1.8s						
HKT	**Hockley**	**13.36**	**354**	*e*P	**Pn**	**21 52 49.0**	**+1.0**
	comp=Z,76nm,1.8s						
JCT	**Junction City**	**14.71**	**341**	*e*P	**Pn**	**21 53 07.6**	**+2.2**
JCT				pmax	pmax		
	comp=Z,55nm,0.5s						
JCT	**Junction City**	**14.71**	**341**	*e*P	**Pn**	**21 53 07.6**	**+2.2**
	comp=Z,55nm,0.5s						
NATX	**Nacogdoches**	**15.09**	**359**	*e*P	**Pn**	**21 53 10.2**	**0.0**
	comp=Z,61nm,0.5s						
LTX	**Lajitas**	**15.33**	**327**	*e*P	**Pn**	**21 53 15.0**	**+1.8**
LTX				pmax	pmax		
	comp=Z,11nm,0.8s						
LTX	**Lajitas**	**15.33**	**327**	*e*P	**Pn**	**21 53 15.0**	**+1.8**
	comp=Z,11nm,0.8s						
LPIG	**La Paz**	**16.78**	**299**	LR	LR	22 00 47.4	
	comp=Z,54nm,20.0s,baz=36,slow=39						
AMTX	**Amarillo**	**19.37**	**341**	*e*P	**P**	**21 54 00.4**	**+0.5**
	comp=Z,53nm,0.5s						
WVT	**Waverly**	**20.26**	**15**	*e*P	**P**	**21 54 08.0**	**-1.5**
WVT				pmax	pmax		
	comp=Z,8.0nm,0.5s						
WVT	**Waverly**	**20.26**	**15**	*e*P	**P**	**21 54 08.0**	**-1.5**
	comp=Z,8.1nm,0.5s						
CPCT	**Cooper Cave**	**20.68**	**23**	*e*P	**P**	**21 54 08.7**	**-5.2**
ANMO	**Albuquerque**	**21.28**	**331**	P	**P**	**21 54 22.8**	**+2.5**
	comp=Z,2.8nm,0.7s,mb3.7,baz=153,slow=11,SNR=7.7						
ANMO	**Albuquerque**	**21.28**	**331**	P	**P**	**21 54 22.8**	**+2.5**
ANMO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ANMO	**Albuquerque**	**21.28**	**331**	*e*P	**P**	**21 54 22.7**	**+2.3**
	comp=Z,3.2nm,0.6s,mb3.8						
TUC	**Tucson**	**21.64**	**319**	*e*P	**P**	**21 54 26.4**	**+2.2**
TUC				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.1						
TUC	**Tucson**	**21.64**	**319**	*e*P	**P**	**21 54 26.4**	**+2.2**
	comp=Z,9.6nm,1.0s,mb4.1						
WCI	**Wyandotte Cave**	**22.65**	**16**	*e*P	**P**	**21 54 32.3**	**-2.5**
WCI				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb4.5						
WCI	**Wyandotte Cave**	**22.65**	**16**	*e*P	**P**	**21 54 32.3**	**-2.5**
	comp=Z,9.5nm,0.4s,mb4.5						
BLO	**Bloomington**	**23.47**	**15**	*e*P	**P**	**21 54 40.9**	**-1.5**
BLO				pmax	pmax		
	comp=Z,27nm,0.6s,mb4.8						
BLO	**Bloomington**	**23.47**	**15**	*e*P	**P**	**21 54 40.9**	**-1.5**
	comp=Z,27nm,0.6s,mb4.8						
MVCO	**Mesa Verde**	**24.07**	**331**	*e*P	**P**	**21 54 49.9**	**+2.0**
MVCO				*e*		21 55 14.0	
WUAZ	**Wupatki**	**24.24**	**324**	P	**P**	**21 54 51.4**	**+2.1**
WUAZ				*e*pP		21 55 21.6	
SMCO	**Snowmass**	**25.08**	**336**	*e*P	**P**	**21 54 59.5**	**+2.5**
	comp=Z,7.2nm,0.8s,mb4.2						
SMCO				*e*pP	pP	21 55 24.1	+2.7
ISCO	**Idaho Springs**	**25.13**	**339**	*e*P	**P**	**21 54 58.7**	**+1.3**
ISCO				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
ISCO	**Idaho Springs**	**25.13**	**339**	*e*P	**P**	**21 54 58.7**	**+1.3**
	comp=Z,4.6nm,0.7s,mb4.0						
RWWY	**Rawlins**	**27.36**	**339**	*e*P	**P**	**21 55 20.0**	**+2.4**
	comp=Z,15nm,1.4s,mb4.3						
RWWY				*e*pP	pP	21 55 43.4	+1.2
PDAR	**Pinedale Array**	**29.16**	**337**	P	**P**	**21 55 34.6**	**+1.1**
	comp=Z,0.7nm,0.6s,mb3.5,baz=126,slow=11,SNR=8.6						
REDW	**Red Top Meadow**	**30.17**	**336**	*e*P	**P**	**21 55 43.8**	**+1.4**
	comp=Z,11nm,1.1s,mb4.4						
REDW				*e*pP	pP	21 56 07.7	+0.4
MNV	**Mina**	**30.19**	**321**	P	**P**	**21 55 46.2**	**+3.6**
MNV				*e**PP	pP	21 56 14.0	+6.5
NVAR	**Mina Array Bea**	**30.28**	**321**	P	**P**	**21 55 46.3**	**+2.9**
	comp=Z,0.6nm,0.5s,mb3.5,baz=129,slow=9.9,SNR=6.4						
TPAW	**Teton Pass**	**30.32**	**336**	*e*P	**P**	**21 55 45.4**	**+1.7**
	comp=Z,7.6nm,1.0s,mb4.3						
TPAW				*e*pP	pP	21 56 11.2	+2.6
SADO	**Sadowa**	**30.83**	**21**	P	**P**	**21 55 44.8**	**-3.4**
	comp=Z,4.1nm,0.6s,mb4.3,baz=219,slow=7.1,SNR=4.9						
HLID	**Hailey**	**31.85**	**332**	*e*P	**P**	**21 55 58.7**	**+1.5**
	comp=Z,5.4nm,1.4s,mb4.1						
HLID				*e*pP	pP	21 56 26.1	+3.9
ULM	**Lac du Bonnet**	**33.58**	**358**	P	**P**	**21 56 10.2**	**-2.1**
	comp=Z,5.6nm,0.5s,mb4.6,baz=171,slow=9.0,SNR=10						
MSO	**Missoula**	**34.27**	**336**	*e*P	**P**	**21 56 19.1**	**+0.9**
	comp=Z,3.9nm,0.9s,mb4.2						
NEW	**Newport**	**36.71**	**334**	P	**P**	**21 56 40.2**	**+1.2**
	comp=Z,2.0nm,0.4s,mb4.4,baz=180,slow=11,SNR=3.5						
NEW				LR	LR	22 11 34.9	
	comp=Z,132nm,21.8s,baz=320,slow=36						
NEW	**Newport**	**36.71**	**334**	P	**P**	**21 56 40.3**	**+1.2**
NEW				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NEW				MLR	MLR		
	comp=Z,132nm,21.8s						
SAML	**Samuel**	**39.88**	**127**	*e*P	**P**	**21 57 04.4**	**-1.3**
	comp=Z,4.7nm,0.4s,mb4.7						
LPAZ	**La Paz**	**41.63**	**140**	P	**P**	**21 57 23.1**	**+3.1**
	comp=Z,3.5nm,0.6s,mb4.2,baz=334,slow=10.0,SNR=22						
LPAZ	**La Paz**	**41.63**	**140**	*e*P	**P**	**21 57 22.7**	**+2.7**
LPAZ				*e**PP	pP	21 58 02.3	+16
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LPAZ	**La Paz**	**41.63**	**140**	*e*P	**P**	**21 57 22.7**	**+2.7**
	comp=Z,3.6nm,0.7s,mb4.2						
LPAZ				*e*pP	pP	21 58 02.3	+17
YKA	**Yellowknife Ar**	**48.01**	**347**	P	**P**	**21 58 10.0**	**-0.6**
	comp=Z,15nm,0.8s,mb4.9,baz=150,slow=7.6,SNR=42						
YKA				PP	PP	22 00 01.7	-1.9
	comp=Z,1.7nm,0.9s,baz=142,slow=10,SNR=2.7						
YKA	**Yellowknife Ar**	**48.01**	**347**	P	**P**	**21 58 10.0**	**-0.6**
YKA						22 00 01.7	
YKA				pmax	pmax		
	comp=Z,15nm,0.8s						
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA	**Yellowknife Ar**	**48.01**	**347**	P	**P**	**21 58 10.0**	**-0.6**
YKA				PP	PP	22 00 01.7	-1.9
FRB	**Frobisher Bay**	**50.31**	**15**	P	**P**	**21 58 26.4**	**-1.7**
	comp=Z,3.6nm,0.6s,mb4.5,baz=227,slow=12,SNR=3.2						
FRB	**Frobisher Bay**	**50.31**	**15**	P	**P**	**21 58 26.4**	**-1.7**
FRB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BDFB	**Brasilia**	**55.76**	**123**	P	**P**	**21 59 09.6**	**+1.6**
	comp=Z,14nm,0.7s,mb5.1,baz=299,slow=8.3,SNR=20						
BDFB	**Brasilia**	**55.76**	**123**	P	**P**	**21 59 09.6**	**+1.5**
BDFB				pmax	pmax		
	comp=Z,15nm,0.7s						
CPUP	**Villa Florida**	**55.77**	**139**	P	**P**	**21 59 08.5**	**+0.3**
	comp=Z,0.9nm,0.4s,mb4.1,baz=304,slow=8.6,SNR=6.2						
CPUP	**Villa Florida**	**55.77**	**139**	P	**P**	**21 59 08.5**	**+0.3**
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SFJD	**Kangerlussuaq**	**57.73**	**19**	P	**P**	**21 59 20.0**	**-1.9**
	comp=Z,8.0nm,0.6s,mb4.9,baz=150,slow=2.6,SNR=5.4						
SFJD	**Kangerlussuaq**	**57.73**	**19**	P	**P**	**21 59 20.0**	**-2.0**
SFJD				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
RES	**Resolute Bay**	**58.08**	**360**	*e*P	**P**	**21 59 22.7**	**-1.8**
ILAR	**Eielson Array**	**59.59**	**337**	P	**P**	**21 59 35.2**	**+0.4**
	comp=Z,1.8nm,0.6s,mb4.3,baz=151,slow=4.3,SNR=15						
ILAR	**Eielson Array**	**59.59**	**337**	P	**P**	**21 59 35.3**	**+0.4**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SUMG	**Summit**	**64.33**	**16**	*e*P	**P**	**22 00 05.8**	**-0.7**
	comp=Z,15nm,0.6s,mb5.0						
EKA	**Eskdalemuir Ar**	**77.14**	**36**	P	**P**	**22 01 23.8**	**-0.4**
	comp=Z,7.7nm,0.7s,mb4.6,baz=278,slow=5.9,SNR=36						
EKA	**Eskdalemuir Ar**	**77.14**	**36**	P	**P**	**22 01 23.8**	**-0.3**
EKA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ROSF	**Rostrenen**	**78.43**	**43**	*e*P	**P**	**22 01 30.5**	**-0.8**
	comp=Z,15nm,1.0s,mb4.4						
ROSF	**Rostrenen**	**78.43**	**43**	*e*P	**P**	**22 01 30.5**	**-0.8**
ROSF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
ROSF	**Rostrenen**	**78.43**	**43**	*e*P	**P**	**22 01 30.5**	**-0.8**
	comp=Z,7.6nm,1.0s,mb4.4						
QUIF	**Quistinic**	**78.59**	**43**	*e*P	**P**	**22 01 31.5**	**-0.7**
	comp=Z,14nm,0.8s,mb4.5						
QUIF	**Quistinic**	**78.59**	**43**	*e*P	**P**	**22 01 31.5**	**-0.7**
QUIF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
QUIF	**Quistinic**	**78.59**	**43**	*e*P	**P**	**22 01 31.5**	**-0.7**
	comp=Z,7.2nm,0.8s,mb4.5						
SGMF	**Saint Gilles**	**78.91**	**43**	*e*P	**P**	**22 01 33.6**	**-0.4**
ESDC	**Sonseca Array**	**79.82**	**52**	P	**P**	**22 01 39.6**	**+0.7**
	comp=Z,0.9nm,0.7s,mb3.7,baz=287,slow=4.5,SNR=4.8						
GRR	**Gorron**	**79.99**	**43**	*e*P	**P**	**22 01 39.3**	**-0.5**
	comp=Z,31nm,0.8s,mb4.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GRR	Gorron	79.99	43	eP	P	22 01 39.3	-0.5
GRR				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
GRR	Gorron	79.99	43	eP	P	22 01 39.3	-0.5
	comp=Z,15nm,0.8s,mb4.9						
FLN	La Foliniere	80.14	42	eP	P	22 01 40.1	-0.5
	comp=Z,16nm,0.7s,mb4.7						
FLN	La Foliniere	80.14	42	eP	P	22 01 40.1	-0.5
FLN				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
FLN	La Foliniere	80.14	42	eP	P	22 01 40.1	-0.5
	comp=Z,8.2nm,0.7s,mb4.7						
LDF	La Druitiere	80.41	42	eP	P	22 01 41.5	-0.6
	comp=Z,16nm,0.8s,mb4.6						
MFF	Saint Martin d	80.89	44	eP	P	22 01 44.1	-0.5
ETSF	Etsaut	81.53	48	eP	P	22 01 47.8	-0.2
	comp=Z,6.2nm,0.7s,mb4.2						
LFF	La Frestale	81.92	46	eP	P	22 01 49.4	-0.6
	comp=Z,17nm,0.8s,mb4.6						
EPF	Esparros	82.14	48	eP	P	22 01 50.7	-0.5
	comp=Z,11nm,0.9s,mb4.4						
RJF	Les Rejaudoux	82.35	45	eP	P	22 01 51.7	-0.6
	comp=Z,15nm,0.8s,mb4.6						
TCF	Toulx Ste Croi	82.54	44	eP	P	22 01 52.6	-0.7
BAIF	Baives	82.75	40	eP	P	22 01 53.9	-0.4
	comp=Z,25nm,0.9s,mb4.7						
CAF	Calviac	82.82	45	eP	P	22 01 54.2	-0.5
	comp=Z,6.9nm,0.7s,mb4.3						
CAF	Calviac	82.82	45	eP	P	22 01 54.2	-0.5
CAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
CAF	Calviac	82.82	45	eP	P	22 01 54.2	-0.5
	comp=Z,3.5nm,0.7s,mb4.3						
BGF	Bois d'Agland	82.89	44	eP	P	22 01 54.4	-0.7
	comp=Z,13nm,0.6s,mb4.6						
BGF	Bois d'Agland	82.89	44	eP	P	22 01 54.4	-0.7
BGF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
BGF	Bois d'Agland	82.89	44	eP	P	22 01 54.4	-0.7
	comp=Z,6.5nm,0.6s,mb4.6						
NB2	NORSAR Subarra	82.90	28	P	P	22 01 55.7	+0.6
	comp=Z,1.5nm,0.7s,mb3.9,baz=298,slow=5.3						
NOA	NORSAR Array B	82.90	28	P	P	22 01 55.6	+0.6
	comp=Z,12nm,0.7s,mb4.8,baz=292,slow=5.1,SNR=62						
NOA	NORSAR Array B	82.90	28	P	P	22 01 55.7	+0.6
NOA				pmax	pmax		
	comp=Z,13nm,0.7s						
DOU	Dourbes	82.98	40	P	P	22 01 55.7	+0.2
	comp=Z,5.6nm,0.8s,mb4.5						
GIVF	Givet	83.11	40	eP	P	22 01 55.9	-0.3
AVF	Avril sur Loir	83.16	43	eP	P	22 01 55.5	-0.9
	comp=Z,5.9nm,0.7s,mb4.2						
AVF	Avril sur Loir	83.16	43	eP	P	22 01 55.5	-0.9
AVF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
AVF	Avril sur Loir	83.16	43	eP	P	22 01 55.5	-0.9
	comp=Z,3.0nm,0.7s,mb4.2						
SSF	Saint Saulge	83.18	43	eP	P	22 01 55.8	-0.8
	comp=Z,8.1nm,0.7s,mb4.3						
SSF	Saint Saulge	83.18	43	eP	P	22 01 55.8	-0.8
SSF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
SSF	Saint Saulge	83.18	43	eP	P	22 01 55.8	-0.8
	comp=Z,4.1nm,0.7s,mb4.4						
BCLA	Clavier	83.31	39	P	P	22 01 57.7	+0.4
	comp=Z,6.3nm,0.8s,mb4.5						
LOR	Lormes	83.35	43	eP	P	22 01 56.5	-0.9
	comp=Z,13nm,0.9s,mb4.5						
LOR	Lormes	83.35	43	eP	P	22 01 56.5	-0.9
LOR				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
LOR	Lormes	83.35	43	eP	P	22 01 56.5	-0.9
	comp=Z,6.6nm,0.9s,mb4.5						
MTLF	Montolieu	83.38	47	eP	P	22 01 56.8	-0.8
	comp=Z,7.1nm,0.7s,mb4.3						
SMF	Signal de Mont	83.52	43	eP	P	22 01 57.5	-0.8
	comp=Z,6.0nm,0.7s,mb4.2						
HGN	Heimansgroeve	83.59	39	eP	P	22 01 59.0	+0.3
	comp=Z,11nm,1.0s,mb4.6						
MEM	Membach	83.68	39	P	P	22 01 59.6	+0.5
WTSB	Winterswijk	83.72	38	⇑eP	P	22 01 59.5	+0.2
	comp=Z,16nm,1.1s,mb4.8						
WLF	Walferdange	84.07	40	P	P	22 02 00.8	-0.2
IBBN	Ibbenburen	84.16	37	eP	P	22 02 01.9	+0.3
	comp=Z,22nm,1.1s,mb4.9						
BUG	Bochum--Univer	84.17	38	eP	P	22 02 01.8	+0.2
LASF	Ste Croix	84.30	46	eP	P	22 02 01.6	-0.7
	comp=Z,24nm,1.1s,mb4.7						
ARCES	ARCESS Array B	84.34	18	P	P	22 02 02.5	0.0
	comp=Z,12nm,0.7s,mb4.9,baz=291,slow=5.2,SNR=93						
ARCES	ARCESS Array B	84.34	18	P	P	22 02 02.5	0.0
ARCES				pmax	pmax		
	comp=Z,13nm,0.7s						
HFS	Hagfors	84.37	29	P	P	22 02 02.9	+0.2
	comp=Z,11nm,0.8s,mb4.7,baz=222,slow=2.0,SNR=24						
HFS	Hagfors	84.37	29	P	P	22 02 02.9	+0.3
HFS				pmax	pmax		
	comp=Z,11nm,0.8s						
VIVF	Saint-Julien-l	84.62	45	eP	P	22 02 03.0	-0.9
	comp=Z,18nm,1.0s,mb4.6						
KEV	Kevo	84.66	17	ep	P	22 02 02.4	-1.7
	comp=Z,15nm,0.9s,mb4.9						
KEV	Kevo	84.66	17	eP	P	22 02 02.4	-1.7
KEV				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
HAU	Haudompre	84.72	42	eP	P	22 02 04.1	-0.3
	comp=Z,25nm,0.7s,mb4.9						
CABF	La Chapelle	85.00	43	eP	P	22 02 04.9	-0.9
	comp=Z,14nm,1.0s,mb4.6						
CABF	La Chapelle	85.00	43	eP	P	22 02 04.9	-0.9
CABF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
CABF	La Chapelle	85.00	43	eP	P	22 02 04.9	-0.9
	comp=Z,7.1nm,1.0s,mb4.5						
BSEG	Bad Segeberg	85.04	35	eP	P	22 02 06.4	+0.4
	comp=Z,39nm,1.0s,mb5.3						
BSEG	Bad Segeberg	85.04	35	eP	P	22 02 06.4	+0.4
BSEG				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.3						
HINF	Hinteralfeld	85.11	42	eP	P	22 02 05.7	-0.6
CDF	Champ du Feu	85.18	41	eP	P	22 02 06.3	-0.4
	comp=Z,24nm,1.2s,mb4.7						
ORIF	Oris-en-Rattie	85.41	45	eP	P	22 02 07.2	-0.6
	comp=Z,14nm,1.0s,mb4.6						
ORIF	Oris-en-Rattie	85.41	45	eP	P	22 02 07.2	-0.6
ORIF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ORIF	Oris-en-Rattie	85.41	45	eP	P	22 02 07.2	-0.6
	comp=Z,7.3nm,1.0s,mb4.6						
NRDL	Niedersach Rie	85.45	36	eP	P	22 02 09.0	+1.0
	comp=Z,20nm,1.0s,mb5.0						
SMRF	Simiane la Rot	85.51	46	eP	P	22 02 07.7	-0.6
GTTG	Gvttingen	85.71	37	eP	P	22 02 10.1	+0.8
	comp=Z,31nm,1.5s,mb5.0						
LPL	La Plagne	85.79	44	eP	P	22 02 09.1	-0.6
	comp=Z,5.8nm,0.6s,mb4.4						
LPL	La Plagne	85.79	44	eP	P	22 02 09.1	-0.6
LPL				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LPL	La Plagne	85.79	44	eP	P	22 02 09.1	-0.6
	comp=Z,2.9nm,0.6s,mb4.4						
LPG	La Plagne	85.81	44	eP	P	22 02 09.4	-0.4
CLZ	Clausthal	85.84	37	eP	P	22 02 10.5	+0.5
	comp=Z,21nm,1.2s,mb4.9						
CLZ	Clausthal	85.84	37	eP	P	22 02 10.5	+0.5
CLZ				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
BFO	Black Forest	85.86	41	eP	P	22 02 09.6	-0.5
	comp=Z,8.0nm,1.2s,mb4.5						
BFO	Black Forest	85.86	41	eP	P	22 02 09.6	-0.5
BFO				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
UBBA	Unterbreizbach	86.00	38	eP	P	22 02 12.1	+1.4
	comp=Z,16nm,1.6s,mb4.7						
LMR	La Mourre	86.36	46	eP	P	22 02 11.9	-0.6
	comp=Z,27nm,0.9s,mb4.9						
FRF	La Foret Royal	86.38	46	eP	P	22 02 11.9	-0.7
	comp=Z,46nm,1.1s,mb5.0						
SBF	Sospel	86.81	45	eP	P	22 02 13.9	-0.8
MOX	Moxa	87.01	38	eP	P	22 02 15.4	-0.3
	comp=Z,15nm,1.5s,mb4.7						
MOX	Moxa	87.01	38	eP	P	22 02 16.6	+0.9
	comp=Z,18nm,1.6s,mb4.8						
MOX	Moxa	87.01	38	eP	P	22 02 16.6	+0.9
MOX				pmax	pmax		
	comp=Z,18nm,1.6s,mb4.8						
GRF	Grafenberg Arr	87.14	39	eP	P	22 02 16.9	+0.6
	comp=Z,7.0nm,0.9s,mb4.6						
GRF	Grafenberg Arr	87.14	39	eP	P	22 02 16.9	+0.6
GRF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
DAVOX	Davos	87.40	42	P	P	22 02 19.5	+2.0
	comp=Z,3.4nm,0.8s,mb4.3,baz=320,slow=8.7,SNR=6.1						
WERD	Werda	87.50	38	eP	P	22 02 18.0	0.0
	comp=Z,11nm,1.4s,mb4.6						
LIC	Lamto	87.52	84	eP	P	22 02 17.3	-0.8
	comp=Z,10.0nm,0.7s,mb4.7						
GUNZ	Gunzen	87.55	38	eP	P	22 02 18.5	+0.3
	comp=Z,13nm,1.5s,mb4.7						
DBIC	Dimbokro	87.55	84	P	P	22 02 19.0	+0.7
	comp=Z,2.7nm,0.4s,mb4.6,baz=280,slow=7.9,SNR=14						
DBIC	Dimbokro	87.55	84	P	P	22 02 19.0	+0.7
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.4s						
CLL	Collm	87.56	37	eP	P	22 02 18.3	0.0
	comp=Z,5.0nm,0.8s,mb4.6						
CLL	Collm	87.56	37	P	P	22 02 18.3	0.0
	comp=Z,logA/T=0.8,mb4.6						
CLL	Collm	87.56	37	i P	P	22 02 18.3	0.0
	comp=Z,5.0nm,0.8s,mb4.6						
CLL	Collm	87.56	37	i P	P	22 02 18.3	0.0
CLL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
MANZ	Manzenberg	87.56	38	eP	P	22 02 18.8	+0.5
	comp=Z,3.0nm,1.0s,mb4.3						
TANN	Tannenbergstha	87.60	38	eP	P	22 02 19.8	+1.3
	comp=Z,7.0nm,1.0s,mb4.7						
NKC	Novy Kostel	87.67	38	eP	P	22 02 19.0	+0.2
FBE	Freiberg	87.92	37	eP	P	22 02 20.5	+0.5
	comp=Z,3.0nm,0.6s,mb4.5						
BRG	Berggiesshubel	88.28	37	eP	P	22 02 21.9	+0.2
	comp=Z,4.0nm,0.8s,mb4.5						
BRG	Berggiesshubel	88.28	37	eP	P	22 02 21.8	+0.1
	comp=Z,29nm,0.9s,mb5.3						
BRG	Berggiesshubel	88.28	37	eP	P	22 02 21.8	+0.1
BRG				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.3						
PGF	Pioggiola	88.34	46	eP	P	22 02 21.3	-0.7
	comp=Z,20nm,0.9s,mb4.8						
WET	Wettzell	88.35	39	eP	P	22 02 22.3	+0.2
	comp=Z,4.0nm,0.8s,mb4.5						
WET	Wettzell	88.35	39	eP	P	22 02 22.3	+0.2
WET				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KAF	Kangasniemi	88.77	24	ep	P	22 02 22.0	-2.0
	baz=301,slow=4.6						
KHC	Kasperske Hory	88.78	39	eP	P	22 02 24.2	+0.1
GEC2	GERESS Array S	88.97	39	eP	P	22 02 25.1	+0.1
	comp=Z,6.0nm,1.2s,mb4.5						
GEC2	GERESS Array S	88.97	39	eP	P	22 02 25.1	+0.1
GEC2				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
GERES	GERESS Array B	88.97	39	P	P	22 02 25.1	+0.1
	comp=Z,1.7nm,0.8s,mb4.2,baz=306,slow=4.6,SNR=16						
GERES	GERESS Array B	88.97	39	P	P	22 02 25.1	+0.1
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PRU	Pruhonice	89.00	38	eP	P	22 02 24.9	-0.2
FINES	FINESS Array B	89.06	25	P	P	22 02 24.7	-0.7
	comp=Z,1.3nm,0.5s,mb4.2,baz=288,slow=1.1,SNR=20						
FINES	FINESS Array B	89.06	25	P	P	22 02 24.7	-0.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GKP	Gorka Klasztor	89.08	34	eP	P	22 02 25.4	-0.1
UPC	Upice	89.63	37	eP	P	22 02 28.5	+0.5
KSP	Ksiaz	89.64	36	eP	P	22 02 28.8	+0.7
TREC	Trest	89.85	38	eP	P	22 02 28.9	-0.2
DPC	Dobruska-Polom	89.87	37	eP	P	22 02 29.6	+0.4
JOF	Joensuu	90.15	22	ep	P	22 02 28.3	-2.2
	comp=Z,5.2nm,0.8s,mb4.7						
JOF	Joensuu	90.15	22	eP	P	22 02 28.3	-2.2
JOF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
VRAC	Vranov	90.49	38	P	P	22 02 32.3	+0.3
	comp=Z,1.6nm,0.6s,mb4.3,baz=330,slow=11,SNR=3.8						
VRAC	Vranov	90.49	38	P	P	22 02 32.3	+0.2
VRAC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZST	Bratislava	91.29	39	eP	P	22 02 36.7	+0.9
ZST				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.8						
SUW	Suwalki	91.80	32	eP	P	22 02 36.4	-1.7
TORD	Torodi Ar. Bea	91.87	76	P	P	22 02 38.4	-0.1
	comp=Z,0.3nm,0.4s,mb3.9,baz=294,slow=4.8,SNR=6.4						
OJC	Ojcow	91.91	36	eP	P	22 02 38.8	+0.2
VYHS	Vyhne	92.18	38	eP	P	22 02 40.7	+0.8
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.5						
NIE	Niedzica	92.59	36	eP	P	22 02 42.8	+1.0
CRVS	Cervenica-Dubn	93.50	37	eP	P	22 02 46.0	0.0
CRVS				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.5						
KWP	Kalwaria	93.83	36	eP	P	22 02 48.4	+0.9
KOLS	Kolonicke sedl	93.95	36	eP	P	22 02 48.7	+0.7
KOLS				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.6						
KOLS	Kolonicke sedl	93.95	36	eP	P	22 02 48.7	+0.7
	comp=Z,2.7nm,0.9s,mb4.6						
AKASG	Malin Array Be	96.73	32	P	P	22 02 59.2	-1.5
	comp=Z,0.6nm,0.4s,mb4.4,baz=294,slow=3.8,SNR=4.6						
AKASG	Malin Array Be	96.73	32	P	P	22 02 59.2	-1.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	Makanchi Array	116.82	3	PP	PP	22 09 13.7	-10
	comp=Z,0.4nm,0.8s,baz=19,slow=9.3,SNR=3.2						
BJI	Beijing	116.91	334	PKP	PKPdf	22 08 18.0	+3.7
HHC	Hu-ho-hao-te	118.01	338	ePKP	PKPdf	22 08 17.5	+1.1
HHC				PP	PP	22 09 36.9	+4.6
HHC				SKS	SKSdf	22 15 17.6	-0.5
HHC				SKKS	SKKSac	22 16 18.3	-3.5
WMQ	Urumqi	119.84	358	PKP	PKPdf	22 08 21.3	+1.3
NJ2	Nanjing	122.13	327	ePKP	PKPdf	22 08 24.8	+0.4
NJ2				PP	PP	22 10 07.0	+6.4
NJ2				PKS		22 12 00.0	
NJ2				SKS	SKSdf	22 15 25.0	-0.9
NJ2				PP	PP		
	comp=Z,100nm,7.2s						
NJ2				LR	LR		
	comp=N,1μm,23.4s						
NJ2				LR	LR		
	comp=E,2μm,22.5s						
NJ2				LR	LR		
	comp=Z,4μm,22.0s						
BOSA	Boshof	123.41	114	PKP	PKPdf	22 08 27.6	+0.8
	comp=Z,2.8nm,0.8s,baz=19,slow=19,SNR=5.4						
LZH	Lanzhou	124.86	342	ePKP	PKPdf	22 08 29.5	-0.1
LZH				XPKP		22 09 13.5	
LZH				LR	LR		
	comp=N,143nm,18.3s						
LZH				LR	LR		
	comp=Z,294nm,20.1s						
CD2	Chengdu	129.68	340	ePKP	PKPdf	22 08 31.7	-7.1
WRA	Warramunga Arr	133.85	258	PKP	PKPdf	22 08 49.1	+2.4
	comp=Z,0.5nm,0.8s,baz=20,slow=0.9,SNR=7.6						
KMI	Kunming	135.33	338	PKP	PKPdf	22 08 49.7	+0.3

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*ISCJB **07** 21:56:37.1±0.4, 4556N±005×2650E±005, h140km, Error ellipse: s-maj=7.1km s-min=4.7km az=174.5*
*BUC **07** 21:56:37.7±1.0, 4557N×2647E, h140km±8km, MD3.5/2, Error ellipse: s-maj=7.9km s-min=6.2km az=6.0*
*CSEM **07** 21:56:38.1±1.4, 4554N×2646E, h136km±12km, MD3.5/2, Error ellipse: s-maj=14.3km s-min=10.0km az=29.0, After BUC*
*NEIC **07** 21:56:38.4, 4555N×2647E, h135km, MD2.9(BUC), After BUC.*
ISC 07 21:56:38.1±1.0**, 4556N**±005×**2650E**±005**, h137**km±7km**,**
n21, σ0ˢ65/38**, 12C-7D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLOR	Plostina	0.31	20	⇑iP	Pn	21 56 57.1	0.0
PLOR				i S	Sn	21 57 11.7	+0.2
VRI	Vrincioaia	0.35	27	⇑iP	Pn	21 56 57.4	+0.2
VRI				i S	Sn	21 57 11.9	+0.2
VRI	Vrincioaia	0.35	27	⇑P	Pn	21 56 57.5	+0.2
VRI				S	Sn	21 57 12.0	+0.2
VRI	Vrincioaia	0.35	27	⇑iP	Pn	21 56 57.4	+0.2
VRI				i S	Sn	21 57 11.7	0.0
MLR	Muntele Rosu	0.40	260	⇑iP	Pn	21 56 57.8	+0.4
MLR				i S	Sn	21 57 12.6	+0.5
MLR	Muntele Rosu	0.40	260	⇑P	Pn	21 56 57.8	+0.4
MLR				S	Sn	21 57 12.8	+0.7
GHRR		0.81	51	⇓iP	Pn	21 57 00.2	+0.2
GHRR				i S	Sn	21 57 17.1	+0.4
TUDR		0.82	87	⇑iP	Pn	21 57 00.4	+0.3
TUDR				i S	Sn	21 57 16.9	+0.1
VARR		1.00	71	⇓iP	Pn	21 57 02.1	+0.4
VARR				i S	Sn	21 57 19.3	-0.3
VOIR		1.03	264	⇑iP	Pn	21 57 01.5	-0.4
VOIR				i S	Sn	21 57 18.5	-1.5
VOIR		1.03	264	⇓P	Pn	21 57 01.7	-0.2
VOIR				S	Sn	21 57 20.2	+0.2
ONCR	Oncesti	1.05	30	⇑iP	Pn	21 57 01.8	-0.3
ONCR				i S	Sn	21 57 19.6	-0.8
MTUR	Matau	1.07	252	i S	Sn	21 57 20.6	0.0
CFR	Carcaliu	1.22	108	⇑iP	Pn	21 57 04.0	+0.3
CFR				i S	Sn	21 57 22.9	-0.3
TIRR	Tirgusor	1.75	128	⇓iP	Pn	21 57 10.1	+0.6
TIRR				i S	Sn	21 57 32.8	-0.7
TIRR	Tirgusor	1.75	128	⇓P	Pn	21 57 10.2	+0.7
TIRR				S	Sn	21 57 33.4	0.0
IAS	Iasi	1.79	24	i S	Sn	21 57 32.5	-1.9
BURAR	Bucovina Array	2.24	337	⇓iP	Pn	21 57 16.1	+0.7
BURAR				i S	Sn	21 57 45.5	+1.5
BURAR	Bucovina Array	2.24	337	⇓P	Pn	21 57 16.2	+0.9
GZR	Gura Zlata	2.62	268	⇑P	Pn	21 57 20.4	+0.2
GZR				S	Sn	21 57 51.9	-0.6
BZS	Buzias	3.43	273	⇑iP	Pn	21 57 29.5	-1.0

IDC 07 22:07:46.5±1.7**, 2562N**×**9504E, h0**km**, mb3.6**/5**, mb1 3.8**/5**, mb1mx3.5**/22**, mbtmp3.6**/5**, Error ellipse: s-maj=80.5km s-min=19.7km az=67.0, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	23.45	338	P	P	22 12 58.1	+0.6
	0.8nm,0.7s,baz=141,slow=9.3,SNR=10						
SONM	Songino Array	23.92	19	P	P	22 13 02.1	+0.1
	0.2nm,0.4s,baz=207,slow=9.1,SNR=2.2						
ZAL	Zalesovo	29.30	348	P	P	22 13 49.7	-0.8
	0.5nm,0.3s,baz=184,slow=4.5,SNR=3.0						
WRA	Warramunga Arr	59.24	136	P	P	22 17 49.8	+0.3
	0.7nm,0.6s,baz=322,slow=7.4,SNR=11						
ASAR	Alice Springs	61.78	139	P	P	22 18 07.3	+0.4
	0.6nm,0.4s,baz=321,slow=6.8,SNR=11						

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*IDC **07** 22:32:20.3±3.0, 624S×15499E, h92km±27km, mb4.3/14, mb1 4.4/17, mb1mx4.4/19, mbtmp4.6/17, MS3.3/1, Ms1 3.3/1, ms1mx2.5/17, Error ellipse: s-maj=17.6km s-min=13.7km az=141.0*
*ISCJB **07** 22:32:21.2±1.4, 631S±007×15505E±005, h115km±13km, mb4.4/25, Error ellipse: s-maj=11.1km s-min=7.8km az=160.9*
*MOS **07** 22:32:21.0±1.0, 6.18S×155.08E, h112km, mb4.4/5, Error ellipse: s-maj=14.8km s-min=10.8km az=56.8*
*NEIC **07** 22:32:23.5±1.1, 629S×15502E, h122km±10km, mb4.5/13, Error ellipse: s-maj=9.0km s-min=7.3km az=136.0*
ISC 07 22:32:22.9±1.2**, 629S**±006×**15506E**±005**, h116**km±11km**,**
n65, σ0ˢ87/66**, mb4.4**/25**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	5.76	123	P	Pn	22 33 44.7	-1.3
	14nm,0.3s,baz=247,slow=3.0,SNR=3.6						
HNR				S	Sn	22 34 49.5	-1.2
	18nm,0.3s,baz=92,slow=18,SNR=3.0						
HNR	Honiara	5.76	123	eP	Pn	22 33 45.4	-0.6
HNR				e		22 34 50.4	
HNR				pmax	pmax		
	comp=Z,188nm,1.0s						
HNR	Honiara	5.76	123	ePn	Pn	22 33 45.4	-0.5
	comp=Z,188nm,1.0s						
HNR				eSn	Sn	22 34 50.4	-0.4
PMG	Port Moresby	8.42	248	P	Pn	22 34 23.2	+1.2
	comp=Z,12nm,0.3s,baz=65,slow=8.6,SNR=28						
PMG				S	Sn	22 35 59.9	+4.7
	comp=Z,9.1nm,0.3s,baz=7.7,slow=22,SNR=13						
PMG	Port Moresby	8.42	248	eP	Pn	22 34 23.7	+1.7
PMG				e		22 35 55.1	
PMG				pmax	pmax		
	comp=Z,109nm,0.7s						
PMG	Port Moresby	8.42	248	ePn	Pn	22 34 23.7	+1.6
	comp=Z,109nm,0.7s						
PMG				eSn	Sn	22 35 55.1	-0.1
CTA	Charters Tower	16.16	211	eP	Pn	22 36 04.6	+1.3
	comp=Z,9.3nm,0.7s						
CTA	Charters Tower	16.16	211	P	Pn	22 36 03.9	+0.6
	comp=Z,0.7nm,0.3s,baz=20,slow=12,SNR=11						
CTA	Charters Tower	16.16	211	eP	Pn	22 36 04.6	+1.3
CTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CTAO	Charters Tower	16.16	211	eP	Pn	22 36 04.1	+0.8
CTAO				pmax	pmax		
	comp=Z,35nm,1.1s						
CTAO	Charters Tower	16.16	211	eP	Pn	22 36 04.1	+0.8
	comp=Z,35nm,1.1s						
NOUC	Port Laguerre	19.10	146	eP	P	22 36 36.7	+0.1
DZM	Mont Dzumac	19.16	146	eP	P	22 36 37.7	+0.6
DZM	Mont Dzumac	19.16	146	P	P	22 36 38.2	+1.1
	comp=Z,1.9nm,0.3s,baz=340,slow=9.9,SNR=19						
KAKA	Kakadu	23.19	252	eP	P	22 37 18.8	-0.6
	comp=Z,16nm,0.6s,mb4.5						
ARMA	Armidale	24.21	187	eP	P	22 37 29.4	+0.7
WRAB	Tennant Creek	24.26	234	eP	P	22 37 29.3	+0.2
WRAB				pmax	pmax		
	comp=Z,130nm,0.6s,mb5.4						
WRAB	Tennant Creek	24.26	234	eP	P	22 37 29.3	+0.2
	comp=Z,130nm,0.6s,mb5.4						
WB2	Warramunga Arr	24.27	234	eP	P	22 37 29.6	+0.4
WRA	Warramunga Arr	24.27	234	P	P	22 37 29.8	+0.6
	comp=Z,82nm,0.5s,mb5.3,baz=57,slow=9.9,SNR=276						
WRA				PcP	PcP	22 41 06.7	+0.5
	comp=Z,1.1nm,0.5s,baz=59,slow=2.2,SNR=4.8						
AS31	Alice Springs	26.69	227	eP	P	22 37 50.6	-0.5
ASAR	Alice Springs	26.69	227	P	P	22 37 50.8	-0.3
	comp=Z,4.0nm,0.4s,mb4.3,baz=58,slow=9.3,SNR=102						
ASAR				PcP	PcP	22 41 12.3	+0.6
	comp=Z,1.2nm,0.6s,baz=56,slow=2.3,SNR=5.3						
ASPA	Alice Springs	26.69	227	eP	P	22 37 50.7	-0.4
STKA	Stephens Creek	28.39	205	eP	P	22 38 05.9	-0.4
	comp=Z,7.7nm,0.7s,mb4.3						
STKA	Stephens Creek	28.39	205	P	P	22 38 05.8	-0.4
	comp=Z,7.7nm,0.6s,mb4.4,baz=5.0,slow=9.3,SNR=25						
STKA	Stephens Creek	28.39	205	eP	P	22 38 05.8	-0.5
FITZ	Fitzroy Crossi	31.00	245	eP	P	22 38 28.4	-0.9
	comp=Z,17nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	31.00	245	P	P	22 38 28.6	-0.7
	comp=Z,12nm,0.7s,mb4.8,baz=75,slow=8.4,SNR=36						
FITZ				LR	LR	22 51 21.2	
	comp=Z,48nm,18.7s,baz=91,slow=37						
FORT	Forrest	35.14	223	eP	P	22 39 04.7	-0.6
	comp=Z,10nm,0.5s,mb4.9						
MBWA	Marble Bar	37.25	243	eP	P	22 39 22.6	-0.6
	comp=Z,7.4nm,0.8s,mb4.7						
URZ	Urewera	37.58	151	P	P	22 39 26.9	+0.9
	comp=Z,13nm,0.8s,mb4.8,baz=340,slow=6.5,SNR=9.2						
KLBR	Kellerberrin	42.99	229	eP	P	22 40 09.4	-1.2
	comp=Z,978nm,5.3s						
KSM	Kuching	45.34	278	eP	P	22 40 29.4	0.0
MAJO	Matsushiro	45.45	341	eP	P	22 40 28.2	-2.0
KS15	Wonju Array Si	50.36	332	eP	P	22 41 10.2	+2.2
MA2	Magadan	65.75	358	P	P	22 42 54.1	-1.2
MA2				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.8						
MA2	Magadan	65.75	358	P	P	22 42 54.1	-1.1
	comp=Z,8.0nm,0.5s,mb4.8						
CASY	Casey	67.28	198	eP	P	22 43 04.0	-1.0
	comp=Z,1.0nm,0.5s,mb3.9						
ULN	Ulaanbaatar	68.45	327	eP	P	22 43 13.0	+0.6
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
ULN	Ulaanbaatar	68.45	327	eP	P	22 43 13.0	+0.6
	comp=Z,5.3nm,1.0s,mb4.3						
SONM	Songino Array	68.79	327	P	P	22 43 14.9	+0.5
	comp=Z,2.7nm,0.5s,mb4.4,baz=143,slow=5.5,SNR=31						
VNDA	Vanda	71.28	178	P	P	22 43 29.7	0.0
	comp=Z,0.8nm,0.7s,mb3.6,baz=323,slow=5.8,SNR=9.2						
VNDA	Vanda	71.28	178	eP	P	22 43 30.9	+1.3
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VNDA	Vanda	71.28	178	eP	P	22 43 30.9	+1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.7nm,0.7s,mb3.6						
ZAK	**Zakamensk**	**71.94**	**328**	*e*P	**P**	**22 43 33.5**	**-0.1**
ZAK				*e*	pP	22 43 59.6	-3.0
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.6						
KDAK	**Kodiak Island**	**76.51**	**26**	P	**P**	**22 44 00.5**	**+0.3**
	comp=Z,5.6nm,0.9s,mb4.3,baz=234,slow=8.7,SNR=4.2						
KDAK	**Kodiak Island**	**76.51**	**26**	P	**P**	**22 44 00.5**	**+0.3**
SLKM	**Skilak Lake**	**79.08**	**24**	*e*P	**P**	**22 44 14.8**	**+0.4**
MCK	**McKinley**	**81.39**	**22**	*e*P	**P**	**22 44 26.3**	**-0.4**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
MCK	**McKinley**	**81.39**	**22**	*e*P	**P**	**22 44 26.3**	**-0.4**
	comp=Z,2.7nm,0.9s,mb4.1						
ILAR	**Eielson Array**	**82.70**	**22**	P	**P**	**22 44 32.6**	**-1.0**
	comp=Z,1.2nm,0.6s,mb3.9,baz=232,slow=6.7,SNR=10.0						
MKAR	**Makanchi Array**	**82.93**	**319**	P	**P**	**22 44 34.7**	**-0.1**
	comp=Z,4.0nm,0.8s,mb4.3,baz=91,slow=6.1,SNR=33						
ZAL	**Zalesovo**	**83.65**	**326**	P	**P**	**22 44 36.8**	**-1.7**
	comp=Z,1.6nm,0.5s,mb4.1,baz=347,slow=6.3,SNR=5.6						
QSPA	**South Pole Qui**	**83.68**	**180**	*e*P	**P**	**22 44 38.5**	**-0.1**
	comp=Z,4.6nm,0.8s,mb4.4						
MAW	**Mawson**	**85.06**	**203**	P	**P**	**22 44 45.8**	**+0.2**
	comp=Z,2.8nm,0.7s,mb4.3,baz=104,slow=6.7,SNR=14						
MAW	**Mawson**	**85.06**	**203**	*e*P	**P**	**22 44 45.4**	**-0.2**
MAW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAW	**Mawson**	**85.06**	**203**	*e*P	**P**	**22 44 45.4**	**-0.2**
	comp=Z,4.0nm,0.8s,mb4.4						
DLBC	**Dease Lake**	**87.51**	**31**	*e*P	**P**	**22 44 58.7**	**+1.2**
NVAR	**Mina Array Bea**	**91.24**	**52**	P	**P**	**22 45 16.9**	**+1.9**
	comp=Z,3.9nm,0.9s,mb4.5,baz=252,slow=5.0,SNR=17						
NVAR	**Mina Array Bea**	**91.24**	**52**	P	**P**	**22 45 16.9**	**+1.9**
YKA	**Yellowknife Ar**	**95.69**	**28**	P	**P**	**22 45 35.6**	**+0.1**
	comp=Z,2.9nm,0.7s,mb4.8,baz=266,slow=4.5,SNR=11						
PDAR	**Pinedale Array**	**98.18**	**48**	P	**P**	**22 45 47.2**	**+0.5**
	comp=Z,0.6nm,0.6s,mb4.3,baz=251,slow=2.7,SNR=5.4						
GERES	**GERESS Array B**	**126.49**	**329**	PKP	PKPdf	22 51 12.7	+0.5
	comp=Z,0.6nm,0.6s,baz=48,slow=2.0,SNR=7.2						
TORD	**Torodi Ar. Bea**	**152.90**	**287**	PKPbc	PKPbc	22 52 06.3	0.0
	comp=Z,2.4nm,0.8s,baz=68,slow=1.8,SNR=19						
TORD	**Torodi Ar. Bea**	**152.90**	**287**	PKPbc	PKPbc	22 52 06.3	0.0

*IDC **07** 22:54:53.0±3.0, 3620S×7433W, h0^{km}, mb3.4/4, mb1 3.5/6, mb1mx3.5/17, mbtmp3.4/6, ML3.3/2, Error ellipse: s-maj=65.0km s-min=26.1km az=88.0*
*ISCJB **07** 22:54:55.2±4.7, 36.17S±007×742W±02, h21^{km}±35^{km}, mb3.6/3, Error ellipse: s-maj=25.9km s-min=11.0km az=2.7*
*NEIC **07** 22:54:59.6±2.5, 36.17S×7408W, h35^{km}, Error ellipse: s-maj=50.5km s-min=14.0km az=88.0*
ISC 07 22:54:57.3±4.8**, 3617S**±007×**744W**±02**, h25**^{km}±37^{km}**, n6, σ0^{s}85**/8**, mb3.6**/3**, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.44**	**148**	Pn	**Pn**	**22 56 16.8**	**0.0**
	0.5nm,0.3s,baz=321,slow=11,SNR=8.1						
PLCA				Sn	**Sn**	**22 57 18.9**	**+0.4**
	0.7nm,0.3s,baz=228,slow=21,SNR=3.1						
CFAA	**Coronel Fontan**	**6.82**	**50**	Pn	**Pn**	**22 56 34.9**	**-0.9**
	0.1nm,0.3s,baz=223,slow=12,SNR=28						
CFAA				Sn	**Sn**	**22 57 52.8**	**+0.2**
	0.2nm,0.3s,baz=338,slow=22,SNR=6.3						
LPAZ	**La Paz**	**20.56**	**17**	P	**P**	**22 59 35.1**	**+1.1**
	0.4nm,0.6s,baz=174,slow=9.2,SNR=2.2						
SIV	**San Ignacio**	**23.32**	**34**	P	**P**	**23 00 03.8**	**+0.3**
	0.2nm,0.4s,mb2.9,baz=234,slow=15,SNR=2.3						
DBIC	**Dimbokro**	**77.66**	**72**	P	**P**	**23 06 50.8**	**-0.7**
	1.8nm,0.8s,mb4.1,baz=218,slow=2.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**86.72**	**71**	P	**P**	**23 07 38.5**	**-0.4**
	0.4nm,0.7s,mb3.7,baz=226,slow=4.0,SNR=4.6						

*NIED **07** 23:02:00, 30.10N×13130E, h32^{km}, Mw3.9 Best double couple: $M_0$7.06000×10^{14} NP1:ϕ_s11.00000°, δ84.00000°, λ63.00000°. NP2:ϕ_s269.00000°, δ28.00000°, λ167.00000°.*
*IDC **07** 23:02:52.7±1.2, 3024N×131.11E, h0^{km}, mb3.7/6, mb1 3.8/8, mb1mx3.6/23, mbtmp3.7/8, ML3.3/2, Error ellipse: s-maj=30.8km s-min=18.8km az=116.0*
*JMA **07** 23:02:55.9±0.1, 30.14N×13131E, h32^{km}±1^{km}, M3.6*
*NEIC **07** 23:02:55.9, 30.14N×13131E, h32^{km}, MG3.6(JMA), After JMA.*
*ISCJB **07** 23:02:56.1±0.8, 30.13N±005×13131E±007, h46^{km}±7^{km}, mb3.8/8, Error ellipse: s-maj=11.7km s-min=5.4km az=64.8*
ISC 07 23:02:56.8±1.2**, 3015N**±004×**13125E**±006**, h30**^{km}±7^{km}**, n22, σ0^{s}94**/30**, mb3.8**/8**, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.56**	**335**	P	**Pb**	**23 03 07.6**	**-0.5**
JTN				*e*S	**Sb**	**23 03 15.9**	**0.0**
JKC	**Kuchinoerabu**	**0.97**	**289**	P	**Pn**	**23 03 14.6**	**+0.3**
JKC				*e*S	**Sn**	**23 03 27.8**	**+0.7**
JTSR	**Tashiro 2**	**1.06**	**344**	P	**Pn**	**23 03 15.1**	**-0.5**
JTSR				*e*S	**Sn**	**23 03 29.3**	**0.0**
JNN	**Nakanoshima**	**1.23**	**256**	P	**Pn**	**23 03 18.4**	**+0.4**
JNN				*e*S	**Sn**	**23 03 34.8**	**+1.2**
JNAR	**Kushima--Naru**	**1.38**	**1**	P	**Pn**	**23 03 20.0**	**0.0**
JSU	**Suzuyama**	**1.52**	**333**	P	**Pn**	**23 03 21.9**	**0.0**
JTZ	**Takazaki**	**1.75**	**355**	P	**Pn**	**23 03 25.3**	**+0.1**
JTZ				*e*S	**Sn**	**23 03 47.7**	**+1.2**
JSJ	**Shimokoshiki**	**2.02**	**320**	P	**Pn**	**23 03 28.4**	**-0.4**
JZO	**Okuchi**	**2.06**	**344**	P	**Pn**	**23 03 29.9**	**+0.5**
JTSN	**Tsuno**	**2.10**	**6**	P	**Pn**	**23 03 29.8**	**-0.2**
JTSN				*e*S	**Sn**	**23 03 55.6**	**+0.5**
JAM	**Amami Oshima**	**2.25**	**220**	P	**Pn**	**23 03 33.0**	**+1.0**
JOW	**Kunigami**	**4.21**	**219**	Pn	**Pn**	**23 03 57.1**	**-1.9**
	3.3nm,0.3s,baz=118,slow=28,SNR=4.4						
JOW				Sn	**Sn**	**23 04 48.0**	**+0.8**
	7.8nm,0.3s,baz=127,slow=27,SNR=5.9						
MJAR	**Matsushiro Arr**	**8.63**	**41**	P	**Pn**	**23 05 01.1**	**+1.4**
	0.5nm,0.3s,baz=234,slow=12,SNR=6.6						
MJAR				S	**Sn**	**23 06 37.1**	**+1.1**
	0.4nm,0.3s,baz=238,slow=13,SNR=5.6						
SONM	**Songino Array**	**26.00**	**320**	P	**P**	**23 08 26.3**	**-0.7**
	0.5nm,0.4s,mb3.4,baz=144,slow=11,SNR=7.0						
MKAR	**Makanchi Array**	**41.08**	**308**	P	**P**	**23 10 37.1**	**-0.6**
	0.4nm,0.5s,mb3.3,baz=86,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**53.56**	**177**	P	**P**	**23 12 16.6**	**+1.7**
	0.2nm,0.6s,mb3.2,baz=14,slow=12,SNR=4.1						
ARCES	**ARCESS Array B**	**67.35**	**338**	P	**P**	**23 13 48.0**	**-1.1**
	0.9nm,0.8s,mb3.9,baz=55,slow=8.0,SNR=6.7						
JOF	**Joensuu**	**67.92**	**331**	*e*p	**P**	**23 13 50.7**	**-2.0**
	2.2nm,0.4s,mb4.5						
KAF	**Kangasniemi**	**70.37**	**331**	*e*p	**P**	**23 14 05.8**	**-2.0**
	2.3nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**70.78**	**331**	P	**P**	**23 14 09.7**	**-0.6**
	1.6nm,0.5s,mb4.2,baz=79,slow=6.5,SNR=25						
NB2	**NORSAR Subarra**	**76.97**	**334**	P	**P**	**23 14 45.6**	**-1.0**
	comp=Z,0.1nm,0.6s,mb2.9,baz=54,slow=6.2						
NOA	**NORSAR Array B**	**76.97**	**334**	P	**P**	**23 14 45.9**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.6,baz=50,slow=5.8,SNR=4.3						

*MOS **07** 23:15:50.4±0.8, 670N×12683E, h133^{km}, mb4.7/10, Error ellipse: s-maj=35.4km s-min=10.3km az=110.0*
*ISCJB **07** 23:15:51.8±0.8, 665N±006×1268E±0.1, h147^{km}±6^{km}, mb4.3/29, Error ellipse: s-maj=18.0km s-min=7.8km az=135.5*
*MAN **07** 23:15:51.9, 647N×12678E, h120^{km}, mb3.6, ML4.7, MS1.9*
*IDC **07** 23:15:51.4±5.7, 670N×12687E, h126^{km}±50^{km}, mb3.8/14, mb1 3.9/14, mb1mx3.8/21, mbtmp4.2/14, Error ellipse: s-maj=42.1km s-min=12.7km az=75.0*
*NEIC **07** 23:15:53.7±1.1, 667N×12672E, h147^{km}±9^{km}, mb4.5/8, Error ellipse: s-maj=28.9km s-min=6.3km az=72.0*
ISC 07 23:15:53.2±0.8**, 666N**±006×**1268E**±01**, h142**^{km}±6^{km}**, n63, σ0^{s}77**/63**, mb4.3**/29**, 2C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.58**	**299**	*e*P	**Pn**	**23 16 12.6**	**-1.4**
MATI	**Mati**	**0.58**	**299**	*e*P	**Pn**	**23 16 12.5**	**-1.5**
DAV	**Davao City (W)**	**1.25**	**289**	*e*P	**Pn**	**23 16 20.0**	**+0.5**
DAV	**Davao City (W)**	**1.25**	**289**	*e*Pn	**Pn**	**23 16 19.7**	**+0.2**
DAV				*e*Sn	**Sn**	**23 16 40.4**	**+0.9**
KCP	**Kidapawan**	**1.70**	**282**	⇓*i*P	**Pn**	**23 16 23.6**	**-0.8**
KCP				*i* S	**Sn**	**23 16 46.8**	**-1.4**
BUKP	**Musuan**	**2.08**	**306**	*e*P	**Pn**	**23 16 28.6**	**-0.1**
BUKP	**Musuan**	**2.08**	**306**	*e*P	**Pn**	**23 16 28.3**	**-0.4**
BUTP	**Butuan**	**2.56**	**334**	*e*P	**Pn**	**23 16 39.9**	**+5.3**
SCPH	**Surigao**	**3.35**	**338**	⇑*e*P	**Pn**	**23 16 46.5**	**+1.8**
PAGZ	**Pagadian**	**3.56**	**290**	*e*P	**Pn**	**23 16 47.3**	**-0.1**
PAGZ	**Pagadian**	**3.56**	**290**	*e*P	**Pn**	**23 16 47.7**	**+0.3**
IPIL	**Ipil**	**4.31**	**285**	*e*P	**Pn**	**23 16 58.1**	**+0.8**
NACB	**Ninganchiao**	**18.11**	**345**	P	**P**	**23 19 55.0**	**+1.0**
KAKA	**Kakadu**	**20.05**	**164**	*e*P	**P**	**23 20 15.6**	**+0.4**
	6.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**24.63**	**183**	*e*P	**P**	**23 21 00.3**	**-0.1**
	5.3nm,0.8s,mb4.1						
FITZ	**Fitzroy Crossi**	**24.63**	**183**	P	**P**	**23 21 00.4**	**0.0**
	2.3nm,0.9s,mb3.7,baz=5.7,slow=10,SNR=6.9						
WRA	**Warramunga Arr**	**27.47**	**164**	P	**P**	**23 21 25.6**	**-0.2**
	0.5nm,0.6s,mb3.4,baz=335,slow=11,SNR=5.1						
WRA				PcP	PcP	23 24 41.5	+0.8
	1.0nm,0.3s,baz=307,slow=4.4,SNR=9.2						
WB2	**Warramunga Arr**	**27.47**	**164**	*e*P	**P**	**23 21 27.9**	**+2.0**
WB2	**Warramunga Arr**	**27.47**	**164**	*e*P	**P**	**23 21 28.4**	**+2.6**
AS31	**Alice Springs**	**30.94**	**167**	*e*P	**P**	**23 21 56.3**	**-0.3**
ASAR	**Alice Springs**	**30.94**	**167**	P	**P**	**23 21 56.8**	**+0.2**
	1.0nm,0.3s,mb4.0,baz=339,slow=7.2,SNR=29						
ASAR				PcP	PcP	23 24 50.4	+0.9
	1.4nm,0.4s,baz=349,slow=2.6,SNR=17						
ASPA	**Alice Springs**	**30.94**	**167**	*e*P	**P**	**23 21 56.3**	**-0.3**
NWAO	**Narrogin (SRO)**	**40.40**	**192**	P	**P**	**23 23 18.0**	**+0.8**
	6.6nm,0.6s,mb4.5,baz=29,slow=9.8,SNR=11						
NWAO	**Narrogin (SRO)**	**40.40**	**192**	*e*P	**P**	**23 23 17.8**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,13nm,0.9s						
NWAO	**Narrogin (SRO)**	**40.40**	**192**	*e*P	**P**	**23 23 17.8**	**+0.6**
	comp=Z,13nm,0.9s,mb4.5						
JIRN	**Jiri**	**43.75**	**303**	*e*P	**P**	**23 23 44.8**	**+0.5**
	comp=Z,24nm,0.6s,mb5.0						
GUN	**Gumba**	**44.09**	**304**	*e*P	**P**	**23 23 47.9**	**+0.8**
	comp=Z,32nm,0.8s,mb5.0						
PKI	**Pulchoki**	**44.37**	**303**	*e*P	**P**	**23 23 49.8**	**+0.5**
ULN	**Ulaanbaatar**	**44.37**	**341**	*e*P	**P**	**23 23 49.2**	**-0.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
ULN	**Ulaanbaatar**	**44.37**	**341**	*e*P	**P**	**23 23 49.2**	**-0.1**
	comp=Z,2.2nm,0.8s,mb3.8						
KKN	**Kakani**	**44.55**	**303**	*e*P	**P**	**23 23 51.0**	**+0.3**
	comp=Z,21nm,0.8s,mb4.8						
SONM	**Songino Array**	**44.56**	**340**	P	**P**	**23 23 51.3**	**+0.5**
	comp=Z,0.6nm,0.5s,mb3.5,baz=158,slow=8.8,SNR=7.5						
SONM				PcP	PcP	23 25 32.4	+1.0
	comp=Z,0.9nm,0.4s,baz=151,slow=2.7,SNR=8.7						
DMN	**Daman**	**44.63**	**303**	*e*P	**P**	**23 23 51.5**	**+0.1**
	comp=Z,29nm,0.9s,mb4.9						
GKN	**Gorkha**	**45.16**	**303**	*e*P	**P**	**23 23 55.6**	**+0.1**
KOLN	**Koldanda**	**45.94**	**302**	*e*P	**P**	**23 24 02.0**	**+0.3**
MKAR	**Makanchi Array**	**55.20**	**324**	P	**P**	**23 25 11.9**	**+0.7**
	comp=Z,3.3nm,0.5s,mb4.4,baz=115,slow=7.5,SNR=84						
MKAR				PcP	PcP	23 26 10.9	+0.5
	comp=Z,2.8nm,0.8s,baz=108,slow=4.0,SNR=9.4						
YAK	**Yakutsk**	**55.30**	**2**	*e*P	**P**	**23 25 11.7**	**-0.1**
YAK				pmax	pmax		
	comp=Z,14nm,0.4s,mb5.0						
KRAR	**Krasnoyarsk**	**56.05**	**338**	*e*P	**P**	**23 25 17.6**	**+0.4**
KRAR				pmax	pmax		
	comp=Z,18nm,0.5s,mb5.2						
ZAL	**Zalesovo**	**58.02**	**332**	P	**P**	**23 25 30.8**	**-0.2**
	comp=Z,2.7nm,0.4s,mb4.5,baz=342,slow=4.0,SNR=8.2						
KURK	**Kurchatov**	**59.32**	**327**	*e*P	**P**	**23 25 39.7**	**-0.3**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
KURK	**Kurchatov**	**59.32**	**327**	*e*P	**P**	**23 25 39.7**	**-0.3**
	comp=Z,4.9nm,0.6s,mb4.5						
TIXI	**Tiksi**	**64.93**	**1**	*e*P	**P**	**23 26 17.1**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.0						
BRVK	**Borovoye**	**64.98**	**326**	*e*P	**P**	**23 26 17.8**	**0.0**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
BRVK	**Borovoye**	**64.98**	**326**	*e*P	**P**	**23 26 17.8**	**0.0**
	comp=Z,5.1nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**65.65**	**326**	*e*P	**P**	**23 26 22.2**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.9						
ZRNK	**Zerenda**	**65.65**	**326**	*e*P	**P**	**23 26 22.2**	**+0.1**
	comp=Z,12nm,0.6s,mb4.9						
ARU	**Arti**	**72.50**	**327**	⇑*i*P	**P**	**23 27 04.0**	**-0.3**
ARU				*e*		23 29 48.4	
ARU				*e*PPP		23 31 30.9	
ARU				*e*S	S	23 36 16.8	-0.2
ARU				*e*SS	SS	23 41 00.2	+1.7
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.1						
ARU	**Arti**	**72.50**	**327**	*e*P	**P**	**23 27 04.1**	**-0.2**
	comp=Z,3.9nm,0.5s,mb4.4						
GNI	**Garni**	**79.65**	**309**	*e*P	**P**	**23 27 41.8**	**-3.0**
GNI				pmax	pmax		
	comp=Z,20nm,1.3s						
VRHR	**Novokhopersk**	**81.81**	**321**	*e*P	**P**	**23 27 56.3**	**0.0**
VRHR				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
VRHR				pmax	pmax		
	comp=N,7.0nm,0.9s						
VRHR				pmax	pmax		
	comp=E,3.0nm,0.5s						
ILAR	**Eielson Array**	**82.46**	**26**	P	**P**	**23 27 59.1**	**-0.5**
	comp=E,1.0nm,0.6s,mb3.6,baz=240,slow=5.6,SNR=11						
VRSR	**Storozhevoye**	**83.34**	**321**	*e*P	**P**	**23 28 04.1**	**-0.1**
VRSR				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
VRSR				pmax	pmax		
	comp=N,8.0nm,1.0s						
VRSR				pmax	pmax		
	comp=E,5.0nm,0.7s						
OBN	**Obninsk**	**84.70**	**325**	*d i*P	**P**	**23 28 10.9**	**-0.2**
OBN				*i* *PP	pP	23 28 55.7	+8.9
OBN				pmax	pmax		
	comp=Z,22nm,1.6s,mb4.6						
VNDA	**Vanda**	**86.31**	**173**	P	**P**	**23 28 18.6**	**-0.4**
	comp=Z,0.5nm,0.7s,mb3.4,baz=328,slow=6.3,SNR=4.9						
JOF	**Joensuu**	**86.60**	**333**	*e*p	**P**	**23 28 17.7**	**-2.8**
ARCES	**ARCESS Array B**	**87.73**	**340**	P	**P**	**23 28 25.3**	**-0.6**
	comp=Z,1.6nm,0.5s,mb4.1,baz=89,slow=5.4,SNR=17						
BRTR	**Keskin Array B**	**88.19**	**310**	P	**P**	**23 28 28.2**	**+0.2**
	comp=Z,1.3nm,0.9s,mb3.8,baz=142,slow=5.7,SNR=4.3						
FINES	**FINESS Array B**	**89.28**	**332**	P	**P**	**23 28 33.0**	**-0.2**
	comp=Z,0.7nm,0.4s,mb3.9,baz=96,slow=5.0,SNR=14						
AKASG	**Malin Array Be**	**89.66**	**321**	P	**P**	**23 28 34.2**	**-0.8**
	comp=Z,0.4nm,0.4s,mb3.7,baz=67,slow=3.9,SNR=7.2						
AKASG	**Malin Array Be**	**89.66**	**321**	P	**P**	**23 28 34.2**	**-0.8**
NOA	**NORSAR Array B**	**96.19**	**334**	P	**P**	**23 29 04.1**	**-1.0**
	comp=Z,0.5nm,0.8s,mb3.9,baz=66,slow=4.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**122.01**	**290**	PKP	PKPdf	23 34 31.6	+0.9
	comp=Z,1.1nm,0.3s,baz=56,slow=1.8,SNR=75						
DBIC	**Dimbokro**	**129.95**	**284**	PKP	PKPdf	23 34 47.8	+1.9
	comp=Z,0.6nm,0.5s,baz=129,slow=9.0,SNR=4.1						

*CSEM **07** 23:38:34.8±0.7, 3863N×2854W, h4^{km}±5^{km}, ML1.0, Error ellipse: s-maj=2.0km s-min=1.3km az=171.0, After PDA*
*PDA **07** 23:38:34.8±0.7, 3863N×2854W, h4^{km}±5^{km}, MD2.8, ML1.0, Error ellipse: s-maj=2.0km s-min=1.3km az=171.0*
SVSA 07 23:38:34.8±0.7**, 3863N**×**2854W, h4**^{km}±5^{km}**, MD2.8, ML1.0, Error ellipse: s-maj=2.0km s-min=1.3km az=171.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.13**	**215**	*e*S	Sg	23 38 39.1	+0.1
PCED	**Cedros**	**0.13**	**269**	*i* P	Pg	23 38 37.1	-0.3
PCED				*e*S	Sg	23 38 39.4	+0.3
PCED							
	7.6nm,0.1s						
PCED	**Cedros**	**0.13**	**269**	*e*S	Sg	23 38 39.4	+0.3
CALA	**Caldeira**	**0.14**	**249**	*e*S	Sg	23 38 39.4	0.0
PICO	**Pico**	**0.16**	**146**	*e*P	Pg	23 38 37.8	-0.1
PICO				*e*S	Sg	23 38 40.1	+0.1
ROSA	**Rosais**	**0.25**	**69**	*e*P	Pg	23 38 39.6	0.0
ROSA				*e*S	Sg	23 38 42.6	-0.3
PID	**Ribeirinha**	**0.38**	**120**	*e*S	Sg	23 38 46.8	-0.2

*ISCJB **07** 23:48:07.6±0.5, 3135S±005×13842E±005, h10^{km}, Error ellipse: s-maj=7.8km s-min=4.0km az=72.9*
*IDC **07** 23:48:11.1±3.4, 3123S×13855E, h0^{km}, mb1 4.2/5, mb1mx3.9/14, mbtmp4.0/5, ML3.9/5, Error ellipse: s-maj=62.3km s-min=18.0km az=35.0*
*NEIC **07** 23:48:13.0, 3138S×13868E, h19^{km}, mb3.8/2, ML4.0(AUST), After AUST.*
*AUST **07** 23:48:13.6, 3138S×13868E, h19^{km}, ML4.0*
ISC 07 23:48:10.1±0.5**, 3138S**±004×**13843E**±004**, h10**^{km}**, n33, σ1^{s}40**/63**, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOO	**Buckleboo**	**2.47**	**234**	*e*P	**Pn**	**23 48 55.6**	**+5.2**
BBOO				*e*S	**Sn**	**23 49 28.8**	**+8.2**
	83nm,0.2s						
STKA	**Stephens Creek**	**2.74**	**101**	*e*P	**Pn**	**23 48 53.9**	**-0.3**
STKA				*e*S	**Sn**	**23 49 26.9**	**-0.5**
	236nm,0.6s						
STKA	**Stephens Creek**	**2.74**	**101**	Pn	**Pn**	**23 48 54.2**	**+0.1**
	3.7nm,0.3s,baz=287,slow=12,SNR=38						
STKA				Pg	**Pg**	**23 49 00.6**	**-2.1**
	37nm,0.3s,baz=289,slow=17,SNR=87						
STKA				Sn	**Sn**	**23 49 30.6**	**+3.3**
	63nm,0.3s,baz=20,slow=22,SNR=12						
ARPS	**Mount Arapiles**	**6.08**	**153**	*e*P	**Pn**	**23 49 40.6**	**+0.6**
ARPS				*e*S	**Sn**	**23 50 46.5**	**-3.0**
	57nm,0.4s						
ARPS	**Mount Arapiles**	**6.08**	**153**	*e*P	**Pn**	**23 49 40.6**	**+0.6**
	57nm,0.4s						
ARPS				*e*S	**Sn**	**23 50 46.5**	**-3.0**
CMSA	**Cobar Meteorol**	**6.20**	**93**	*e*P	**Pn**	**23 49 41.1**	**-0.6**
CMSA				*e*S	**Sn**	**23 50 53.9**	**+1.2**
	26nm,0.5s						
CMSA	**Cobar Meteorol**	**6.20**	**93**	*e*P	**Pn**	**23 49 41.1**	**-0.6**
	26nm,0.5s						
CMSA				*e*S	**Sn**	**23 50 53.9**	**+1.2**
QLP	**Quilpie**	**6.97**	**48**	*e*P	**Pn**	**23 49 53.8**	**+1.5**
TOO	**Toolangi**	**8.49**	**139**	*e*P	**Pn**	**23 50 12.6**	**-0.5**
TOO				*e*S	**Sn**	**23 51 43.6**	**-5.4**
	4.6nm,0.4s						
TOO	**Toolangi**	**8.49**	**139**	*e*P	**Pn**	**23 50 12.6**	**-0.5**
	4.6nm,0.4s						
TOO				*e*S	**Sn**	**23 51 43.6**	**-5.4**
AS31	**Alice Springs**	**8.67**	**331**	*e*P	**Pn**	**23 50 18.6**	**+3.0**
AS31				*e*S	**Sn**	**23 51 51.7**	**-1.7**
ASAR	**Alice Springs**	**8.67**	**331**	Pn	**Pn**	**23 50 18.1**	**+2.6**
	1.1nm,0.3s,baz=148,slow=13,SNR=81						
ASAR				Sn	**Sn**	**23 51 53.7**	**+0.4**
	3.0nm,0.3s,baz=150,slow=23,SNR=11						
ASPA	**Alice Springs**	**8.67**	**331**	*e*P	**Pn**	**23 50 18.6**	**+3.0**
ASPA				*e*S	**Sn**	**23 51 51.7**	**-1.7**
YNG	**Young**	**8.87**	**112**	*e*P	**Pn**	**23 50 18.8**	**+0.4**
	11nm,1.3s						
YNG				*e*S	**Sn**	**23 52 05.1**	**+6.7**
	4.7nm,0.3s						
FORT	**Forrest**	**8.92**	**271**	*e*P	**Pn**	**23 50 23.4**	**+4.4**
FORT				*e*S	**Sn**	**23 51 59.1**	**-0.4**
	26nm,0.5s						
FORT	**Forrest**	**8.92**	**271**	*e*P	**Pn**	**23 50 23.4**	**+4.4**
	26nm,0.5s						
FORT				*e*S	**Sn**	**23 51 59.1**	**-0.4**
CNB	**Canberra Magne**	**9.95**	**116**	*e*P	**Pn**	**23 50 32.1**	**-1.0**
CNB				*e*S	**Sn**	**23 52 31.2**	**+6.4**
	5.4nm,0.5s						
CNB	**Canberra Magne**	**9.95**	**116**	*e*P	**Pn**	**23 50 32.1**	**-1.0**
	5.4nm,0.5s						
CNB				*e*S	**Sn**	**23 52 31.2**	**+6.4**
RMQ	**Roma**	**10.27**	**64**	*e*P	**Pn**	**23 50 41.2**	**+3.7**
	3.7nm,0.4s						
QIS	**Mount Isa**	**10.83**	**6**	*e*P	**Pn**	**23 50 46.4**	**+1.3**
QIS				*e*S	**Sn**	**23 52 43.7**	**-2.6**
	10nm,0.9s						
QIS	**Mount Isa**	**10.83**	**6**	*e*P	**Pn**	**23 50 46.4**	**+1.3**
	10nm,0.9s						
QIS				*e*S	**Sn**	**23 52 43.7**	**-2.6**
WB2	**Warramunga Arr**	**11.96**	**341**	*e*P	**Pn**	**23 51 01.4**	**+0.7**
WB2				*e*S	**Sn**	**23 53 08.4**	**-5.8**
WRA	**Warramunga Arr**	**11.97**	**341**	Pn	**Pn**	**23 51 01.8**	**+1.1**
	2.2nm,0.3s,baz=158,slow=13,SNR=12						
WRA				Sn	**Sn**	**23 53 10.7**	**-3.6**
	0.8nm,0.3s,baz=168,slow=24,SNR=6.3						
WRAB	**Tennant Creek**	**11.97**	**341**	*e*Pn	**Pn**	**23 51 02.0**	**+1.2**
	19nm,0.5s						
WRAB				*e*		23 51 06.5	
CTA	**Charters Tower**	**13.26**	**34**	*e*P	**Pn**	**23 51 12.2**	**-6.2**
CTA				*e*S	**Sn**	**23 53 39.8**	**-6.1**
	2.6nm,0.4s						
CTA	**Charters Tower**	**13.26**	**34**	Pn	**Pn**	**23 51 18.7**	**+0.3**
	0.7nm,0.3s,baz=209,slow=16,SNR=4.5						
CTA	**Charters Tower**	**13.26**	**34**	*e*P	**Pn**	**23 51 12.2**	**-6.2**
	2.6nm,0.4s						
CTA				*e*S	**Sn**	**23 53 39.8**	**-6.1**
CTAO	**Charters Tower**	**13.26**	**34**	*e*Pn	**Pn**	**23 51 18.8**	**+0.4**
	4.2nm,0.7s						
CTAO				*e*Sn	**Sn**	**23 53 45.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**17.58**	**316**	*e*P	**Pn**	**23 52 14.8**	**-0.3**
FITZ				*e*S	**Sn**	**23 55 21.6**	**-9.3**
	3.9nm,1.1s						
FITZ	**Fitzroy Crossi**	**17.58**	**316**	Pn	**Pn**	**23 52 16.0**	**+0.9**
	0.4nm,0.3s,baz=16,slow=17,SNR=8.6						
FITZ				Sn	**Sn**	**23 55 19.3**	**-12**
	0.2nm,0.3s,baz=324,slow=19,SNR=2.5						
FITZ	**Fitzroy Crossi**	**17.58**	**316**	*e*P	**Pn**	**23 52 14.8**	**-0.3**
	3.9nm,1.1s						
FITZ				*e*S	**Sn**	**23 55 21.6**	**-9.3**
MEEK	**Meekatharra**	**17.96**	**280**	*e*P	**Pn**	**23 52 19.5**	**-0.4**
MEEK				*e*S	**Sn**	**23 55 28.3**	**-12**
	2.8nm,0.2s						
MEEK	**Meekatharra**	**17.96**	**280**	*e*P	**Pn**	**23 52 19.5**	**-0.4**
	2.8nm,0.2s						
MEEK				*e*S	**Sn**	**23 55 28.3**	**-12**

*IDC **08** 00:04:31.3±1.3, 2873N×5202E, h0^{km}, mb3.8/7, mb1 3.7/10, mb1mx3.6/25, mbtmp3.7/10, ML3.4/3, MS2.6/2, Ms1 2.6/2, ms1mx2.2/26, Error ellipse: s-maj=27.0km s-min=22.5km az=143.0*
*THR **08** 00:04:32.6±0.8, 2883N×5176E, h25^{km}±6^{km}, ML3.6*
*ISCJB **08** 00:04:32.1±0.5, 2884N±004×5186E±003, h10^{km}, mb3.7/7, Error ellipse: s-maj=5.2km s-min=3.7km az=44.0*
*CSEM **08** 00:04:33.2±0.1, 2881N×5187E, h16^{km}, ML3.6, Error ellipse: s-maj=2.6km s-min=1.8km az=30.0*
*TEH **08** 00:04:33.4, 2875N×5185E, h6^{km}, Mn3.6*
*NEIC **08** 00:04:36.2±0.6, 2881N×5200E, h35^{km}, mb3.6/2, ML3.7(THR), MN3.6(TEH), Error ellipse: s-maj=12.4km s-min=7.6km az=217.0*
ISC 08 00:04:33.8±0.9**, 2883N**±004×**5188E**±004**, h10**^{km}±6^{km}**, n46, σ0^{s}94**/61**, mb3.7**/7**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOK	**Mook**	**0.76**	**73**	*e*Pg	**Pg**	**00 04 46.7**	**-1.8**
IMOK				*e*Sg	**Sg**	**00 04 58.8**	**+0.4**
GHIR	**Ghir-Karzin**	**1.11**	**119**	*e*Pg	**Pg**	**00 04 54.4**	**-0.8**
GHIR				*e*Sg	**Sg**	**00 05 11.2**	**+1.5**
GHIR				AML	AML	00 05 17.1	
	comp=N,1µm,0.4s						
GHIR				AML	AML	00 05 17.2	
	comp=E,2µm,0.5s						
GHIR	**Ghir-Karzin**	**1.11**	**119**	*e*Pg	**Pg**	**00 04 53.0**	**-2.2**
GHIR				*e*Sg	**Sg**	**00 05 10.0**	**+0.4**
GHIR	**Ghir-Karzin**	**1.11**	**119**	*e*Pg	**Pg**	**00 04 54.4**	**-0.8**
	SNR=95						
GHIR				*e*Sg	**Sg**	**00 05 11.2**	**+1.6**
	SNR=95						
ISRV	**Sarvestan**	**1.21**	**63**	*e*Pg	**Pg**	**00 04 55.9**	**-1.1**
ISRV				*e*Sg	**Sg**	**00 05 13.8**	**+1.0**
IMEH	**Mehriz**	**3.48**	**42**	*e*Pn	**Pn**	**00 05 29.0**	**+1.0**
IMEH				*e*Sn	**Sn**	**00 06 09.4**	**+0.1**
IPIR	**Pirpir**	**3.94**	**348**	*e*Pn	**Pn**	**00 05 34.6**	**+0.3**
IPIR				*e*Sn	**Sn**	**00 06 20.1**	**-0.4**
NASN	**Na'in**	**4.04**	**11**	*e*PN	**Pn**	**00 05 35.7**	**+0.1**
NASN	**Na'in**	**4.04**	**11**	*e*Pn	**Pn**	**00 05 35.0**	**-0.6**
ICHK	**Chekchek**	**4.04**	**32**	*e*Pn	**Pn**	**00 05 36.6**	**+0.9**
ICHK				*e*Sn	**Sn**	**00 06 23.4**	**+0.3**
BNDS	**Bandar-Abbas**	**4.05**	**110**	*e*Pn	**Pn**	**00 05 36.6**	**+0.8**
BNDS				Sn	**Sn**	**00 06 23.5**	**+0.3**
BNDS	**Bandar-Abbas**	**4.05**	**110**	*e*Pn	**Pn**	**00 05 35.0**	**-0.8**
IZEF	**Zefreh**	**4.07**	**5**	*e*Pn	**Pn**	**00 05 36.9**	**+0.8**
IZEF				*e*Sn	**Sn**	**00 06 23.6**	**-0.2**
IBAF	**Bafgh**	**4.21**	**48**	*e*Pn	**Pn**	**00 05 38.8**	**+0.7**
IBAF				*e*Sn	**Sn**	**00 06 26.7**	**-0.6**
KRBR	**Kerman**	**4.41**	**74**	*e*PN	**Pn**	**00 05 41.5**	**+0.8**
KRBR				AML	AML	00 07 07.3	
	comp=E,51nm,0.6s						
KRBR				AML	AML	00 07 08.5	
	comp=N,45nm,0.8s						

KRBR	Kerman	4.41	74	ePn	Pn	00 05 41.0	+0.2
KRBR				eSg	Sg	00 06 50.0	-5.4
KRBR	Kerman	4.41	74	ePn	Pn	00 05 41.5	+0.8
	SNR=54						
KRBR				eSg	Sg	00 06 50.0	-5.4
IKLH	Kalahroud	4.48	357	ePn	Pn	00 05 42.4	+0.6
IKLH				eSn	Sn	00 06 33.1	-0.9
ASAO	Ashtian	5.92	345	ePn	Pn	00 06 01.4	-0.1
ASAO				AML	AML	00 07 11.6	
	comp=E,25nm,0.6s						
ASAO				AML	AML	00 07 29.4	
	comp=N,28nm,0.6s						
ASAO	Ashtian	5.92	345	ePn	Pn	00 06 00.0	-1.5
DAMV	Damavand	6.78	1	ePn	Pn	00 06 13.4	0.0
DAMV	Damavand	6.78	1	ePn	Pn	00 06 13.0	-0.4
ZHSF	Zahedan	7.81	82	ePn	Pn	00 06 28.4	+1.0
WSAR	Wadi Sarin	8.23	131	Pn	Pn	00 06 30.9	-2.3
	comp=N,0.6nm,0.3s,baz=314,slow=8.4,SNR=13						
WSAR				Sn	Sn	00 07 59.1	-7.3
	comp=N,0.6nm,0.3s,baz=109,slow=20,SNR=3.5						
WSAR				LR	LR	00 10 02.7	
	comp=N,56nm,18.6s,baz=119,slow=41						
WSAR	Wadi Sarin	8.23	131	Pn	Pn	00 06 31.0	-2.3
WSAR				Sn	Sn	00 07 59.1	-7.3
GNI	Garni	12.73	334	LR	LR	00 12 08.0	
	comp=N,16nm,19.5s,baz=349,slow=36						
MMAI	Mount Meron Ar	14.74	291	Pn	Pn	00 08 03.7	+1.4
	comp=N,0.2nm,0.3s,baz=315,slow=57,SNR=2.9						
CSS	Prodhromos	16.89	296	Pn	Pn	00 08 30.9	+0.7
	comp=N,17nm,1.1s						
CSS	Prodhromos	16.89	296	Pn	Pn	00 08 30.9	+0.7
	comp=N,17nm,1.1s						
BR131	Keskin Array S	18.55	311	P	Pn	00 08 50.1	-0.7
	comp=N,1.0nm,0.6s						
BR131	Keskin Array S	18.55	311	P	Pn	00 08 50.1	-0.7
	comp=N,1.0nm,0.6s						
BRTR	Keskin Array B	18.55	311	P	Pn	00 08 52.0	+1.3
	comp=N,0.1nm,0.3s,baz=125,slow=12,SNR=4.1						
BRTR	Keskin Array B	18.55	311	P	Pn	00 08 52.0	+1.2
AKTK	Aktyubinsk	22.07	10	P	P	00 09 28.5	-0.4
AKTO	Aktyubinsk	22.07	10	P	P	00 09 28.5	-0.4
	comp=N,1.6nm,0.8s,mb3.5,baz=208,slow=12,SNR=6.0						
OBN	Obninsk	28.50	341	P	P	00 10 30.0	+0.8
OBN	Obninsk	28.50	341	P	P	00 10 30.0	+0.8
MKAR	Makanchi Array	29.72	45	P	P	00 10 38.6	-1.5
	comp=N,0.6nm,0.6s,mb3.5,baz=248,slow=6.4,SNR=5.7						
JOF	Joensuu	36.63	344	ep	P	00 11 39.0	-1.3
FINES	FINESS Array B	36.84	340	P	P	00 11 40.6	-1.5
	comp=N,0.5nm,0.7s,mb3.5,baz=145,slow=11,SNR=7.4						
NB2	NORSAR Subarra	42.02	332	P	P	00 12 27.5	+2.2
	comp=Z,0.7nm,0.7s,mb3.4,baz=124,slow=7.9						
NOA	NORSAR Array B	42.02	332	P	P	00 12 26.5	+1.3
	comp=Z,0.4nm,0.7s,mb3.1,baz=75,slow=7.0,SNR=3.1						
NOA	NORSAR Array B	42.02	332	P	P	00 12 26.5	+1.2
ARCES	ARCESS Array B	43.49	347	P	P	00 12 37.4	+0.2
	comp=Z,1.1nm,0.9s,mb3.6,baz=149,slow=7.4,SNR=3.5						
TORD	Torodi Ar. Bea	49.03	262	P	P	00 13 20.6	-0.2
	comp=Z,1.3nm,0.5s,mb4.2,baz=57,slow=8.8,SNR=14						
DBIC	Dimbokro	57.77	259	P	P	00 14 25.2	+0.2
	comp=Z,6.6nm,1.2s,mb4.5,baz=166,slow=4.2,SNR=3.5						

MEX 08 01:06:03.3±0.8**, 1596N**×**9707W, h20**^{km}**, MD3.5, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.95	101	eP	Pb	01 06 18.3	-2.8
HUIG				i S	Sb	01 06 29.7	-3.5
VHO	Vista Hermosa	1.15	16	i P	Pn	01 06 20.8	-3.5
VHO				i S	Sb	01 06 34.8	-4.2
OXX	Oaxaca	1.17	17	i P	Pn	01 06 22.0	-2.4
OXX				i S	Sb	01 06 36.0	-3.4
UTMO	Huajuapan	1.99	340	i P	Pn	01 06 33.8	-1.9
TPIG	Tehuac#an	2.46	354	i P	Pn	01 06 40.8	-1.5
TPIG				i S	Sn	01 07 07.5	-4.3

*SOF **08** 01:15:46.3, 4194N×2336E, h20^{km}, MD2.9*
*ISCJB **08** 01:15:47.0±0.4, 4192N±002×2334E±004, h2^{km}, Error ellipse: s-maj=4.5km s-min=2.9km az=47.3*
*CSEM **08** 01:15:47.2±0.1, 4195N×2337E, h12^{km}, MD2.9, Error ellipse: s-maj=2.2km s-min=1.3km az=123.0*
*NEIC **08** 01:15:48.2, 4190N×2331E, h2^{km}, MD2.9(SOF), After THE.*
*THE **08** 01:15:48.2, 4190N×2331E, h2^{km}, ML2.6*
*SKO **08** 01:15:48.6, 4191N×2331E, h8^{km}, M2.4, ML2.9*
ISC 08 01:15:47.9±0.4**, 4191N**±002×**2334E**±004**, h2**^{km}±5^{km}**, n33,** σ**0^{s}83**/44**, 9C-1D, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	Krupnik	0.20	257	Pg	Pg	01 15 51.7	0.0
MMB	Musomiste	0.43	137	i Pg	Pg	01 15 57.0	+0.8
VTS	Vitosha	0.69	352	ePg	Pg	01 16 01.0	-0.1
VTS				eSg	Sg	01 16 11.0	+1.0
VTS	Vitosha	0.69	352	i Pg	Pg	01 16 00.4	-0.7
VTS	Vitosha	0.69	352	⇑iP	Pg	01 16 01.2	+0.1
VTS				eSg	Sg	01 16 11.0	+0.9
SRS	Serrai	0.81	166	ePg	Pg	01 16 03.4	-0.1
SRS				eSg	Sg	01 16 15.3	+1.2
KNT	Kendrikon	0.82	204	ePg	Pg	01 16 03.5	-0.1
KNT				eSg	Sg	01 16 14.2	+0.1
VAY	Valandovo	0.82	225	ePg	Pg	01 16 03.7	0.0
VAY	Valandovo	0.82	225	i Pg	Pg	01 16 03.7	0.0
VAY				i Sg	Sg	01 16 14.5	+0.2
VAY				eLg		01 16 14.7	
	comp=N,412nm,0.6s						
VAY				eLg		01 16 14.8	
	comp=E,238nm,0.5s						
VAY	Valandovo	0.82	225	ePg	Pg	01 16 03.7	0.0
VAY				i Sg	Sg	01 16 14.5	+0.1
PGB	Panagyurishte	0.89	44	Pg	Pg	01 16 04.2	-0.8
PLD	Plovdiv	1.04	79	Pg	Pg	01 16 07.0	-0.8
RZN	Rozhen	1.05	102	ePg	Pg	01 16 07.7	-0.4
SOH	Sokhos	1.09	179	ePg	Pg	01 16 08.4	-0.4
SOH				eSg	Sg	01 16 23.5	+0.7
GRG	Griva	1.18	217	ePg	Pg	01 16 10.2	-0.4
GRG				eSg	Sg	01 16 26.5	+0.5
THE	Thessaloniki	1.31	193	ePg	Pg	01 16 12.6	-0.4
KDZ	Kurdzhali	1.58	99	Pg	Pn	01 16 15.2	-1.7
DIM	Dimitrovgrad	1.64	84	Pg	Pn	01 16 18.2	+0.4
BIA	Bitola	1.75	240	ePb	Pn	01 16 18.3	-1.0
BIA				eSb	Sb	01 16 42.0	-1.2
BIA	Bitola	1.75	240	i Pn	Pn	01 16 18.2	-1.1
BIA				i Sn	Sn	01 16 43.6	+1.4
BIA				eLg		01 16 45.0	
	comp=N,16nm,0.4s						
BIA				eLg		01 16 45.4	
	comp=E,7.0nm,0.2s						
BIA	Bitola	1.75	240	i Pn	Pn	01 16 18.2	-1.1
BIA				i Sn	Sn	01 16 43.5	+1.3
FNA	Florina	1.86	233	ePb	Pn	01 16 19.8	-0.9
SZH	Strazhica	2.35	54	eP	Pn	01 16 32.0	+4.5
XOR	Xorichti	2.54	183	ePn	Pn	01 16 29.8	-0.4
GZR	Gura Zlata	3.51	354	⇑iP	Pg	01 16 55.2	+0.1
GZR	Gura Zlata	3.51	354	⇑P	Pg	01 16 55.2	+0.1
BZS	Buzias	3.91	342	⇑iP	Pg	01 17 03.7	+0.8
BZS	Buzias	3.91	342	⇑P	Pg	01 17 03.7	+0.9
MLR	Muntele Rosu	4.05	27	⇓iP	Pn	01 16 54.9	+4.1
PLOR	Plostina	4.61	30	⇑iP	Pn	01 16 59.8	+1.2
VRI	Vrincioaia	4.65	31	⇑iP	Pn	01 17 00.6	+1.4
VRI	Vrincioaia	4.65	31	⇑P	Pn	01 17 00.6	+1.4
DRGR		4.90	355	⇑iP	Pg	01 17 20.5	-1.4

*ISCJB **08** 01:28:49.5±0.4, 2874S±004×6340W±006, h535^{km}±5^{km}, mb4.0/25, Error ellipse: s-maj=7.9km s-min=5.8km az=11.6*
*BJI **08** 01:28:49.7, 2870S×6340W, h526^{km}, mB4.7*
*IDC **08** 01:28:49.6±0.5, 2868S×6346W, h532^{km}±5^{km}, mb3.7/10, mb1 3.8/17, mb1mx3.8/21, mbtmp4.7/17, Error ellipse: s-maj=11.9km s-min=10.8km az=132.0*
*NEIC **08** 01:28:49.7±0.3, 2872S×6336W, mb4.3/18, Error ellipse: s-maj=7.7km s-min=4.2km az=117.0*
*GUC **08** 01:28:52.0±1.7, 2871S×6366W, h526^{km}, MD4.3*
ISC 08 01:28:50.4±0.3**, 2871S**±004×**6346W**±005**, h532**^{km}±4^{km}**, h527**^{km}±2.5^{km}**: pP-P, n89,** σ**0^{s}75**/79**, mb4.0**/25**, 10C-11D, Santiago del Estero Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.04	234	P	P	01 30 19.9	+0.5
	8.7nm,0.3s,baz=63,slow=9.5,SNR=304						
CFAA				S	S	01 31 30.9	-1.3
	6.8nm,0.3s,baz=315,slow=22,SNR=68						
CFAA	Coronel Fontan	5.04	234	P	P	01 30 19.9	+0.5
CFAA				S	S	01 31 30.9	-1.3
CPUP	Villa Florida	5.94	68	P	P	01 30 28.2	+0.8
	13nm,0.3s,baz=235,slow=8.9,SNR=124						
CPUP				S	S	01 31 47.9	+1.0
	1.5nm,0.3s,baz=225,slow=17,SNR=2.1						
MDZ	Mendoza	6.23	227	⇑iP	P	01 30 30.2	0.0
MDZ				S	S	01 31 52.1	+0.2
TLL	Tololo Astrono	6.57	255	⇑iP	P	01 30 34.3	+0.9
TLL				i S	S	01 31 57.8	0.0
CDCH	Caldera	6.72	282	⇑iP	P	01 30 35.0	+0.2
CMCH	Combarbala	6.99	248	⇓iP	P	01 30 37.3	-0.2
CMCH				i S	S	01 32 04.2	-1.1
JACH	Jahuel	7.31	235	⇓iP	P	01 30 41.2	+0.6
JACH	Jahuel	7.31	235	⇓iP	P	01 30 41.3	+0.7
FCH	Farellones	7.45	230	⇑iP	P	01 30 43.3	+1.3
PEL	Peldehue	7.62	233	⇓iP	P	01 30 43.8	+0.2
PEL				i S	S	01 32 16.6	0.0
CLCH	Cerro Calan	7.66	231	⇑iP	P	01 30 44.7	+0.7
CLCH				i S	S	01 32 18.3	+1.0
ROCH	El Roble	7.76	235	⇓iP	P	01 30 45.1	0.0
PCH	Pirque	7.78	229	⇓iP	P	01 30 46.0	+0.8
LVC	Limon Verde	7.81	320	P	P	01 30 46.6	+1.1
	9.5nm,0.3s,baz=143,slow=5.7,SNR=36						
LVC				S	S	01 32 17.3	-2.8
	42nm,0.3s,baz=294,slow=20,SNR=38						
RCDM	Rinconada Maip	7.90	231	eP	P	01 30 46.6	+0.1
CEN1	Los Morros	8.04	310	⇑iP	P	01 30 48.0	+0.1
CEN1				eS	S	01 32 23.6	-0.8
CHCH	Chadas Angostu	8.06	228	⇓iP	P	01 30 48.3	+0.2
TACH	Talagante	8.08	231	⇓iP	P	01 30 48.0	-0.3
CACH	El Canelo	8.14	227	⇑iP	P	01 30 49.2	+0.3
CICH	Cipreses	8.16	225	⇓iP	P	01 30 49.5	+0.4
LCCH	Las Cruces	8.42	234	⇓iP	P	01 30 51.5	-0.2
LNV	Longovilo	8.58	230	⇑iP	P	01 30 52.5	-0.8
SFDO	San Fernando	8.72	226	⇓iP	P	01 30 54.5	-0.3
TRQA	Tornquist	9.41	173	⇑iP	P	01 31 00.3	-1.6
	68nm,0.8s						
SIV	San Ignacio	12.85	10	P	P	01 31 37.1	-0.5
	5.4nm,0.3s,baz=202,slow=9.1,SNR=178						
LPAZ	La Paz	13.09	340	P	P	01 31 40.4	+0.3
	14nm,0.3s,baz=142,slow=8.0,SNR=350						
LPAZ				S	S	01 33 58.0	-2.0
	0.6nm,0.3s,baz=85,slow=24,SNR=8.1						
LPAZ	La Paz	13.09	340	P	P	01 31 40.4	+0.3
LPAZ				S	S	01 33 58.0	-2.0
PLCA	Paso Flores	13.33	204	P	P	01 31 41.0	-1.6
	2.3nm,0.3s,baz=19,slow=11,SNR=69						
PLCA	Paso Flores	13.33	204	eP	P	01 31 41.0	-1.6
	44nm,0.9s						
ARE	Arequipa	14.26	327	eP	P	01 31 53.0	+0.7
ARE				e		01 34 30.0	
BDFB	Brasilia	19.30	51	P	P	01 32 40.7	-0.2
	2.6nm,0.3s,baz=234,slow=7.2,SNR=29						
BAO	Brasilia Array	19.32	51	P	P	01 32 41.0	-0.1
SAML	Samuel	19.66	1	eP	P	01 32 43.2	-0.9
	10nm,0.8s						
ROSC	El Rosal	34.97	341	P	P	01 34 58.2	+0.3
	3.4nm,0.4s,mb4.2,baz=172,slow=8.2,SNR=2.6						
VNA1	Neumayer--Stat	51.86	160	eP	P	01 37 09.6	+0.4
VNA1				e		01 38 13.4	
VNA1				e		01 38 44.9	
SNAA	Sanae	53.87	160	eP	P	01 37 22.6	-1.0
SNAA				e		01 38 20.0	
QSPA	South Pole Qui	61.52	180	eP	P	01 38 15.2	-0.3
	20nm,1.3s,mb4.4						
QSPA				ePcP	PcP	01 38 51.9	+0.7
QSPA				pP	pP	01 40 00.5	-1.3
DBIC	Dimbokro	66.46	68	P	P	01 38 46.6	-0.4
	3.6nm,0.3s,mb4.3,baz=214,slow=5.8,SNR=57						
ELN	Prospectdale	67.56	345	eP	P	01 38 53.7	-0.1
SYO	Syowa Base	68.02	158	⇑eP	P	01 38 55.6	-1.0
JCT	Junction City	68.30	327	eP	P	01 38 57.8	-0.5
	6.0nm,0.7s,mb4.2						
VNDA	Vanda	70.61	189	P	P	01 39 12.2	+0.1
	1.4nm,0.9s,mb3.5,baz=151,slow=5.0,SNR=9.1						
BNM	Barren Site	74.67	324	eP	P	01 39 36.4	+0.9
LPM	Los Pinos Moun	74.80	324	eP	P	01 39 37.2	+1.0
ANMO	Albuquerque	75.21	325	eP	P	01 39 38.8	+0.3
	3.8nm,0.8s,mb3.9						
TORD	Torodi Ar. Bea	75.43	66	P	P	01 39 39.3	-0.4
	7.3nm,0.7s,mb4.2,baz=276,slow=6.5,SNR=65						
TORD				pP	pP	01 41 31.0	-0.9
	1.9nm,0.9s,baz=260,slow=5.0,SNR=3.6						
BOSA	Boshof	75.82	115	P	P	01 39 41.2	-0.7
	5.5nm,0.6s,mb4.2,baz=225,slow=6.2,SNR=16						
MAW	Mawson	76.00	161	P	P	01 39 42.4	-0.5
	6.7nm,1.1s,mb4.0,baz=239,slow=10,SNR=8.8						
WUAZ	Wupatki	78.23	322	eP	P	01 39 55.0	0.0
	19nm,1.4s,mb4.2						
ISCO	Idaho Springs	78.63	328	eP	P	01 39 58.0	+0.8
	3.4nm,0.7s,mb3.8						
SMCO	Snowmass	78.78	327	eP	P	01 39 59.4	+1.4
	5.9nm,0.6s,mb4.1						
CCUT	Cedar City	80.81	322	eP	P	01 40 10.0	+1.4
RWWY	Rawlins	80.87	328	eP	P	01 40 09.0	+0.1
	17nm,1.0s,mb4.4						
MSU	Marysvale	80.89	323	eP	P	01 40 09.8	+0.8
TPNV	Topopah Spring	81.97	320	eP	P	01 40 14.7	+0.1
	3.3nm,1.0s,mb3.7						
TPNV				epP	pP	01 42 09.8	+0.6
DUG	Dugway	82.46	324	eP	P	01 40 17.1	0.0
	1.5nm,0.7s,mb3.5						
PDAR	Pinedale Array	82.80	328	P	P	01 40 18.6	-0.2
	2.8nm,0.6s,mb4.0,baz=128,slow=7.9,SNR=29						
HWUT	Hardware Ranch	82.89	326	eP	P	01 40 19.3	+0.1
	6.3nm,1.0s,mb4.1						
HWUT				epP	pP	01 42 15.3	+1.2
SCHQ	Schefferville	83.24	358	P	P	01 40 19.9	-1.1
	1.2nm,0.7s,mb3.5,baz=183,slow=15,SNR=3.6						
ULM	Lac du Bonnet	83.70	340	P	P	01 40 22.0	-1.3
	3.1nm,0.8s,mb3.9,baz=83,slow=3.8,SNR=6.7						
TPAW	Teton Pass	84.01	327	eP	P	01 40 24.9	+0.2
	4.0nm,0.9s,mb4.0						
TPAW				epP	pP	01 42 21.1	+1.0
ELK	Elko	84.13	323	eP	P	01 40 25.5	+0.2
	7.0nm,0.8s,mb4.2						
NVAR	Mina Array Bea	84.17	320	P	P	01 40 25.5	-0.1
	1.3nm,0.8s,mb3.5,baz=179,slow=3.8,SNR=10						
IMW	Indian Meadow	84.31	328	eP	P	01 40 26.3	0.0
	7.6nm,0.8s,mb4.3						
HLID	Hailey	85.75	326	eP	P	01 40 33.8	+0.6
	8.2nm,1.0s,mb4.3						
DLMT	Dillon	86.20	328	eP	P	01 40 35.8	+0.4
	11nm,1.0s,mb4.5						
ASAR	Alice Springs	125.31	200	PKP	PKPdf	01 46 49.9	-0.8
	2.0nm,0.5s,baz=137,slow=1.7,SNR=34						
ASPA	Alice Springs	125.31	200	eP	PKPdf	01 46 50.3	-0.4
WB2	Warramunga Arr	128.67	202	eP	PKPdf	01 46 56.8	-0.3
WRA	Warramunga Arr	128.67	202	PKP	PKPdf	01 46 56.5	-0.6
	2.9nm,0.7s,baz=171,slow=1.7,SNR=16						
WRA				pPKP	pPKPdf	01 49 00.8	-1.1
	1.2nm,0.8s,baz=185,slow=2.1,SNR=4.6						
ZRNK	Zerenda	137.67	42	ePKPdf	PKPdf	01 47 12.9	-1.1
USP	Ospenovka	143.41	55	P	PKPdf	01 47 22.6	-1.6
	SNR=5.4						
AAK	Ala-Archa	143.50	56	P	PKPdf	01 47 23.4	-1.0
	SNR=6.0						
AAK	Ala-Archa	143.50	56	ePKPdf	PKPdf	01 47 22.2	-2.2
UCH	Uchtor	143.57	57	P	PKPdf	01 47 23.6	-1.0
	SNR=12						
CHMS	Chumysh	143.63	56	P	PKPdf	01 47 23.2	-1.4
	SNR=7.0						
KBK	Karagaybulak	143.83	56	P	PKPdf	01 47 24.5	-0.5
	SNR=15						
KURK	Kurchatov	144.04	42	ePKPdf	PKPdf	01 47 24.4	-1.0
KURK				epPKPdf	pPKPdf	01 49 30.1	-0.3
TKM2	Tokmak 2	144.26	55	P	PKPdf	01 47 25.5	-0.2
	SNR=16						
ZAL	Zalesovo	145.80	34	PKPbc	PKPbc	01 47 27.4	-2.7
	5.3nm,0.6s,baz=166,slow=4.3,SNR=23						
MKAR	Makanchi Array	147.79	47	PKPbc	PKPbc	01 47 32.2	-3.2
	6.8nm,0.7s,baz=316,slow=3.3,SNR=36						
MKAR				pPKPbc	pPKPbc	01 49 36.9	-1.8
	3.4nm,0.7s,baz=321,slow=3.1,SNR=17						
WMQ	Urumqi	152.46	49	PKP	PKPdf	01 47 34.1	-4.8
SONM	Songino Array	159.34	20	PKP	PKPdf	01 47 47.5	-0.3
	2.0nm,0.9s,baz=196,slow=1.4,SNR=11						
CN2	Changchun	163.33	337	ePKP	PKPdf	01 47 54.5	+2.5
LZH	Lanzhou	167.00	52	ePKP	PKPdf	01 47 52.5	-2.5
CD2	Chengdu	168.68	76	ePKP	PKPdf	01 47 52.1	-4.0
BJI	Beijing	168.69	1	PKP	PKPdf	01 47 52.0	-4.2
NJ2	Nanjing	176.11	330	ePKP	PKPdf	01 48 01.4	+2.1

*TIF **08** 02:03:19.8, 4303N×4747E, h21^{km}±49^{km}*
*CSEM **08** 02:03:29.2, 4305N×4849E, h0^{km}, mb3.9, After NNC*
MOS 08 02:03:21.0±1.8**, 4297N**×**4697E, h7**^{km}**, mb4.5**/1**, 3C-6D, Error ellipse: s-maj=7.6km s-min=5.3km az=35.2, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	Dubki	0.11	294	ePG	Pg	02 03 24.7	+1.2
DBC				S	Sg	02 03 32.5	+7.3
BUJR	Buynaksk	0.18	146	PG	Pg	02 03 26.0	+1.4
BUJR				S	Sg	02 03 30.7	+3.6
UNCR	Uncukul	0.29	207	⇓iPG	Pg	02 03 26.6	-0.1
UNCR				i S	Sg	02 03 34.3	+3.8
MAK	Makhachkala	0.39	92	ePG	Pg	02 03 29.4	+0.8
MAK				e		02 03 33.5	
MAK				pmax	pmax		
	comp=Z,52nm,0.1s						
MAK				smax			
	comp=N,3µm,0.3s						
MAK				smax			
	comp=E,3µm,0.3s						
GNBR	Gunib	0.58	181	⇑iPG	Pg	02 03 34.0	+1.7
GNBR				eS	Sg	02 03 44.0	+4.1
GNBR				pmax	pmax		
	comp=Z,114nm,0.2s						
BTLR	Botlikh	0.63	241	i PG	Pg	02 03 32.5	-0.7
BTLR				eS	Sg	02 03 45.0	+3.6
BTLR				pmax	pmax		
	comp=Z,316nm,0.3s						
KMKR	Kumukh	0.85	174	ePG	Pg	02 03 39.0	+1.7
KMKR				i S	Sg	02 03 54.0	+5.7
KMKR				pmax	pmax		
	comp=Z,221nm,0.2s						
DRN	Derbent	1.38	133	⇑iPG	Pg	02 03 47.5	+0.1
DRN				i S	Sb	02 04 07.5	+2.6
DRN				pmax	pmax		
	comp=Z,173nm,0.2s						
SNJR	Sundja	1.59	274	ePG	Pg	02 03 51.5	+0.1
SNJR				i S	Sn	02 04 14.5	+4.2
AKT	Akhty	1.59	159	ePG	Pg	02 03 48.0	-3.6
AKT				i S	Sn	02 04 12.5	+2.0
AKT				pmax	pmax		
	comp=Z,303nm,0.3s						
VLKR	Vladikavkaz	1.69	273	ePN	Pn	02 03 53.1	+2.2
VLKR				eS	Sn	02 04 17.2	+4.5
TRKR	Terskaya	1.80	295	ePN	Pn	02 03 53.5	+1.1
TRKR				i S	Sn	02 04 18.0	+2.5
BTKR	Batakoyurt	1.82	283	⇓iPN	Pn	02 03 54.4	+1.7
BTKR				eS	Sn	02 04 19.7	+3.6
DGRG	David-gareji	1.93	219	P	Pn	02 03 59.9	+5.6
DGRG				S	Sn	02 04 27.4	+8.6
ARNR	Ardon	1.98	277	⇓iPN	Pn	02 03 57.0	+2.0
ARNR				eS	Sn	02 04 24.0	+3.9
KMSR	Komsomolskaya	2.00	282	ePN	Pn	02 03 56.9	+1.7
KMSR				eS	Sn	02 04 23.9	+3.4
MTA	Mtatsminda	2.06	232	P	Pn	02 04 00.3	+4.3
MTA				S	Sn	02 04 30.3	+8.3
TBLG	Delisi	2.07	234	P	Pn	02 04 00.2	+4.1
TBLG				S	Sn	02 04 31.0	+8.8
TBLG	Delisi	2.07	234	ePN	Pn	02 04 00.2	+4.1
TBLG				eS	Sn	02 04 30.9	+8.7
PRTR	Priterechnaya	2.11	293	ePN	Pn	02 03 57.8	+1.1
PRTR				i S	Sn	02 04 25.4	+2.2
KORR	Kora	2.13	274	⇑iPN	Pn	02 03 59.1	+2.1
KORR				eS	Sn	02 04 27.7	+4.0
ZEI	Tsey	2.27	266	ePN	Pn	02 04 00.0	+1.1
ZEI				e		02 04 32.6	
ZEI				pmax	pmax		
	comp=Z,101nm,0.2s						
ZEI				smax			
	comp=N,427nm,0.3s						
GOR	Gori	2.34	246	P	Pn	02 04 04.8	+5.0
GOR				S	Sn	02 04 37.8	+9.1
DIGR	Digorskoe uzhe	2.49	269	ePN	Pn	02 04 04.1	+2.2
DIGR				i S	Sn	02 04 36.3	+3.7
ONI	Oni	2.62	263	P	Pn	02 04 06.7	+2.9
ONI				S	Sn	02 04 44.1	+8.3
KUBR	Kubataba	2.73	289	ePN	Pn	02 04 05.8	+0.6
AMRG		2.86	262	P	Pn	02 04 11.3	+4.3
AMRG				S	Sn	02 04 56.4	+15
AKH	Akhalkalaki	3.02	240	P	Pn	02 04 16.3	+7.1
AKH				S	Sn	02 04 57.5	+12
PYA	Pyatigorsk	3.04	292	ePN	Pn	02 04 09.2	-0.3
PYA				eS	Sn	02 04 45.7	-0.4
BEYR	Belyy Ugol+	3.20	290	ePN	Pn	02 04 10.0	-1.6
BEYR				eS	Sn	02 04 49.3	-0.7
SHAR	Shatzhatmas	3.23	285	ePN	Pn	02 04 11.9	-0.2
SHAR				eS	Sn	02 04 50.7	-0.1
KIV0	Kislovodsk Arr	3.27	289	ePN	Pn	02 04 12.3	-0.3
KIV0				eS	Sn	02 04 51.8	+0.1
KIV	Kislovodsk	3.27	289	ePN	Pn	02 04 12.8	+0.1
KIV				i		02 04 51.4	
KIV				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KIV				smax			
	comp=N,39nm,0.6s						
GNI	Garni	3.28	211	ePN	Pn	02 04 17.1	+4.3
NAGR	Nagutskaya	3.39	297	ePN	Pn	02 04 19.1	+4.8
GOF	Gofitskoye	3.52	308	ePN	Pn	02 04 21.7	+5.6
GOF				eS	Sn	02 05 12.9	+15
GOF				pmax	pmax		
	comp=Z,30nm,0.8s						
GOF				smax			
	comp=N,600nm,0.9s						
GOF				smax			
	comp=E,480nm,0.9s						
SOC	Sochi	5.33	279	ePN	Pn	02 04 40.3	-0.7
SOC				e		02 05 42.9	
SOC				pmax	pmax		
	comp=Z,18nm,0.7s						
ANN	Anapa	7.13	288	eP	Pn	02 05 07.8	+2.1
ANN				eS	Sn	02 06 33.7	+6.8
ANN				pmax	pmax		
	comp=Z,43nm,0.9s						
AB31	Akbulak array	10.97	51	P	Pn	02 05 55.1	-3.3
	comp=Z,1.0nm,0.3s,baz=239,slow=11,SNR=48						
AB31				⇓S	Sn	02 07 50.5	-11
	comp=Z,1.1nm,0.3s,baz=243,slow=28,SNR=4.8						
OBN	Obninsk	13.91	334	eP	Pn	02 06 41.8	+3.2
KK31	Karatay Array	17.20	82	⇓P	Pn	02 07 17.4	-4.3
	comp=Z,1.6nm,0.8s,baz=281,slow=14,SNR=3.6						
KK31				⇓S	Sn	02 10 16.5	-17
	comp=Z,0.7nm,0.5s,baz=268,slow=25,SNR=4.0						
JOF	Joensuu	21.98	341	ep	P	02 08 13.4	-2.1

*ISCJB **08** 02:27:24.6±0.3, 4261N±001×1255E±002, h10^{km}, Error ellipse: s-maj=2.6km s-min=2.0km az=137.3*
*CSEM **08** 02:27:24.4±0.1, 4262N×1259E, h15^{km}, ML3.5/8, Error ellipse: s-maj=1.2km s-min=0.9km az=71.0*
*ROM **08** 02:27:24.2±0.2, 4261N×1257E, h9^{km}±3^{km}, Md2.8/24, Ml2.8/19, Error ellipse: s-maj=1.1km s-min=0.8km az=74.0*
*NEIC **08** 02:27:24.2, 4261N×1257E, h9^{km}, ML2.4(LDG), ML2.8(ROM), After ROM.*
*LDG **08** 02:27:25.9±0.2, 4260N×1259E, h10^{km}, Ml2.4/2, Error ellipse: s-maj=5.1km s-min=4.1km az=67.0*
ISC 08 02:27:25.4±0.3**, 4261N**±001×**1255E**±002**, h10**^{km}**, n37,** σ**1^{s}10**/61**, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNS	Montasola	0.24	157	Pg	Pg	02 27 30.2	-0.1
MNS				Sg	Sg	02 27 34.3	+0.6
	2µm,0.4s						
NRCA	Norcia	0.47	61	Pg	Pg	02 27 33.8	-0.8
NRCA				Sg	Sg	02 27 41.3	+0.5
SACS	San Casciano d	0.53	297	Pg	Pg	02 27 35.2	-0.5
SACS				Sg	Sg	02 27 43.6	+0.9
	278nm,0.5s						
FIAM	Fiamignano	0.54	129	Pg	Pg	02 27 35.2	-0.6
FIAM				Sg	Sg	02 27 44.1	+1.2
	441nm,0.4s						
LATE	Laterza	0.55	271	Pg	Pg	02 27 36.1	0.0
LATE				Sg	Sg	02 27 45.4	+2.0
	802nm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MTCE	Montecelio	0.60	167	Pg	Pg	02 27 36.6	-0.4
MTCE				Sg	Sg	02 27 46.1	+1.2
	348nm,0.4s						
MURB	Monte Urbino	0.65	358	Pg	Pg	02 27 38.1	+0.1
MURB				Sg	Sg	02 27 48.6	+2.0
	690nm,0.5s						
AQU	L'Aquila	0.68	112	Pg	Pg	02 27 38.2	-0.3
	381nm,0.4s						
AQU	L'Aquila	0.68	112	*e*Pg	Pg	02 27 38.0	-0.5
AQU				*e*Sg	Sg	02 27 46.8	-0.5
AQU	L'Aquila	0.68	112	*e*Pg	Pg	02 27 38.0	-0.5
AQU				*e*Sg	Sg	02 27 46.8	-0.5
TOLF	Tolfa	0.68	217	Pg	Pg	02 27 37.9	-0.7
TOLF				Sg	Sg	02 27 48.7	+1.2
	354nm,0.4s						
SNTG	Esanatoglia	0.71	24	Pg	Pg	02 27 38.0	-1.0
SNTG				Sg	Sg	02 27 50.5	+2.3
	163nm,0.6s						
CERT	Cerreto	0.73	154	Pg	Pg	02 27 38.9	-0.6
CERT				Sg	Sg	02 27 49.9	+0.8
	587nm,0.6s						
TERO	Teramo	0.78	89	Pg	Pg	02 27 39.1	-1.2
TERO				Sg	Sg	02 27 51.1	+0.7
	358nm,0.7s						
ARCI	Arcidosso	0.83	287	Pg	Pg	02 27 41.7	+0.3
	114nm,0.9s						
FAGN	Fagnano	0.84	114	Pg	Pg	02 27 40.9	-0.6
	701nm,0.4s						
MA9	Marino	0.84	175	Pg	Pg	02 27 41.1	-0.5
MA9				Sg	Sg	02 27 54.5	+1.9
	441nm,0.4s						
RDP	Rocca di Papa	0.86	172	Pg	Pg	02 27 41.8	-0.1
	1μm,0.5s						
CING	Cingoli	0.90	31	Pg	Pg	02 27 41.7	-1.0
CING				Sg	Sg	02 27 55.4	+1.0
	261nm,0.6s						
ARV	Arcevia	0.93	18	Pg	Pg	02 27 42.3	-1.0
ARV				Sg	Sg	02 27 58.0	+2.5
	180nm,0.8s						
ARVD	Arcevia	0.93	18	Pg	Pg	02 27 42.5	-0.8
ARVD				Sg	Sg	02 27 58.1	+2.6
	147nm,0.7s						
LAV9	Lanuvio	0.94	173	Pg	Pg	02 27 43.1	-0.3
LAV9				Sg	Sg	02 27 57.6	+2.0
	1μm,0.4s						
VCEL	Villa Celiera	0.97	102	Pg	Pg	02 27 43.7	-0.4
	364nm,0.6s						
GUAR	Guarcino	0.99	145	Pg	Pg	02 27 44.0	-0.4
	217nm,0.4s						
FSSB	Fossombrone	1.09	9	Pg	Pg	02 27 45.9	-0.5
	54nm,0.3s						
CRE	Caprese Michel	1.10	337	Pg	Pg	02 27 46.2	-0.4
	21nm,0.4s						
INTR	Introdacqua	1.17	120	Pg	Pg	02 27 46.1	-1.7
	308nm,0.6s						
GIUL	Giuliano Di Ro	1.17	153	Pg	Pg	02 27 46.6	-1.3
GIUL				Sg	Sg	02 28 04.5	+1.4
	177nm,0.5s						
CSNT	Castellina Chi	1.27	313	Pg	Pg	02 27 48.2	-1.5
CSNT				Sg	Sg	02 28 08.6	+2.5
	47nm,0.6s						
SDI	San Donato	1.30	133	Pg	Pg	02 27 49.8	-0.5
	53nm,0.4s						
SFI	Santa Sofia	1.40	338	Pg	Pg	02 27 51.6	-0.5
PGF	Pioggiola	2.63	270	*e*Pn	Pn	02 28 07.1	-0.7
PGF				*e*Sn	Sn	02 28 38.2	-1.5
	4.9nm,0.5s						
PGF	Pioggiola	2.63	270	*e*Pn	Pn	02 28 07.1	-0.7
PGF				*e*Sn	Sn	02 28 38.2	-1.5
	2.5nm,0.5s						
FRF	La Foret Royal	4.43	284	*e*Pn	Pn	02 28 31.3	-1.3
LMR	La Mourre	4.50	281	*e*Pn	Pn	02 28 32.6	-0.9
LMR				*e*Sn	Sn	02 29 21.8	-4.0
	0.8nm,0.3s						
LMR	La Mourre	4.50	281	*e*Pn	Pn	02 28 32.6	-0.9
LMR				*e*Sn	Sn	02 29 21.8	-4.0
	0.4nm,0.3s						
SMRF	Simiane la Rot	5.27	287	*e*Pn	Pn	02 28 43.9	-0.3

*ISCJB **08** 03:43:12.6±0.9, 5143N±004×1609E±004, h0km, Error ellipse: s-maj=6.4km s-min=3.5km az=31.4*
*IPEC **08** 03:43:13.3±0.3, 5152N×1627E, h0km, ML1.8/3, Error ellipse: s-maj=1.9km s-min=1.5km az=40.0*
*CSEM **08** 03:43:15.2±0.3, 5143N×1610E, h0km, ML2.8/6, Error ellipse: s-maj=4.4km s-min=2.2km az=20.0*
*PRU **08** 03:43:15.1, 5142N×1609E, h0km*
ISC 08 03:43:13.7±0.9, **5146N**±004×**1610E**±004, **h0km, n17, σ0s.91**/33, **Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	169	*e*Pg	Pg	03 43 26.8	+1.0
KSP				*e*Sg	Sg	03 43 35.5	+1.5
KSP	Ksiaz	0.63	169	*e*Pg	Pg	03 43 26.5	+0.7
KSP				*e*Sg	Sg	03 43 34.8	+0.8
UPC	Upice	0.96	183	*e*PG	Pg	03 43 32.8	+0.7
DPC	Dobruska-Polom	1.12	173	*e*PG	Pg	03 43 35.6	+0.4
DPC				*e*SG	Sg	03 43 50.1	+0.3
	12nm,0.6s						
DPC	Dobruska-Polom	1.12	173	*e*Pg	Pg	03 43 35.6	+0.4
DPC				*e*Sg	Sg	03 43 50.3	+0.5
PVCC	Panska Ves	1.34	227	*e*PG	Pg	03 43 39.7	+0.2
PVCC	Panska Ves	1.34	227	*e*Pg	Pg	03 43 40.0	+0.5
PVCC				*e*Sg	Sg	03 43 59.3	+2.4
PRU	Pruhonice	1.78	214	*e*PG	Pg	03 43 47.2	-0.6
PRU				*e*SG	Sg	03 44 11.3	+0.5
	6.0nm,0.4s						
MORC	Moravsky Berou	1.92	151	*e*Pn	Pn	03 43 47.5	-0.2
MORC				*e*Sg	Sg	03 44 13.5	-1.9
	8.6nm,0.3s						
CLL	Collm	1.95	267	*i* Pg	Pg	03 43 50.1	-0.9
CLL				*i* x	x	03 43 54.5	
CLL				*i* Sg	Sg	03 44 16.2	-0.1
	comp=Z,8.0nm,0.4s						
OKC	Ostrava-Krasne	2.08	140	*e*PG	Pg	03 43 54.3	+0.6
OKC				*e*SG	Sg	03 44 20.0	-0.7
VRAC	Vranov	2.18	171	*e*Pn	Pn	03 43 51.9	+0.7
VRAC				*e*Sg	Sg	03 44 23.0	-0.7
	comp=Z,5.3nm,0.2s						
TREC	Trest	2.21	190	*e*PG	Pg	03 43 52.7	-3.3
KRUC	Moravsky	2.41	175	*e*Pn	Pn	03 43 54.8	+0.4
KRUC				*e*Sg	Sg	03 44 30.7	-0.5
	comp=Z,3.5nm,0.2s						
NKC	Novy Kostel	2.62	243	*e*PN	Pn	03 43 57.8	+0.5
NKC				*e*PG	Pg	03 44 03.6	-0.4
NKC				*e*SG	Sg	03 44 38.1	+0.1
	comp=Z,11nm,0.3s						
OJC	Ojcow	2.65	117	*e*Pg	Pg	03 44 04.4	-0.2
OJC				*e*Sg	Sg	03 44 39.8	+0.8
KHC	Kasperske Hory	2.84	216	*e*PN	Pn	03 44 00.2	-0.1
KHC				*e*PG	Pg	03 44 06.1	-2.0
KHC				*e*SG	Sg	03 44 44.2	-0.7
	comp=Z,3.9nm,0.5s						

MAN 08 03:52:05.8, 931N×12230E, h30km, mb2.1, ML3.8, MS8.7, 1C, Negros

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.93	88	⇑*i*P	Pn	03 52 22.5	-0.3
SNPH				*i* S	Sn	03 52 34.5	-0.6
PAGZ	Pagadian	1.81	143	*e*P	Pn	03 52 35.1	+0.3
PAGZ				*e*S	Sn	03 52 56.7	-0.1
CUYO	Cuyo Island	1.98	321	*e*P	Pn	03 52 38.0	+0.7
CUYO				*e*S	Sn	03 53 00.6	-0.4

*IDC **08** 03:58:11.0±1.2, 4550N×2667E, h0km, mb3.6/2, mb1 3.6/7, mb1mx3.4/23, mbtmp3.5/7, ML3.5/5, Error ellipse: s-maj=28.9km s-min=16.0km az=95.0*
*THE **08** 03:58:17.7, 4576N×2655E, h73km, ML3.5*
*MOS **08** 03:58:17.4±0.6, 4577N×2665E, h85km, mb3.8/1, Error ellipse: s-maj=7.6km s-min=4.8km az=92.2*
*CSEM **08** 03:58:17.2±0.1, 4574N×2662E, h80km, mb3.3, Error ellipse: s-maj=1.5km s-min=1.4km az=129.0*
*ISCJB **08** 03:58:17.0±0.2, 4579N±002×2665E±002, h93km±2km, mb3.4/2, Error ellipse: s-maj=3.1km s-min=2.8km az=149.7*
*BUC **08** 03:58:17.7±0.7, 4577N×2664E, h90km±8km, MD4.3/2, Error ellipse: s-maj=5.3km s-min=4.8km az=73.0*
*NEIC **08** 03:58:19.3, 4575N×2671E, h70km, MD3.5(SOF), After BUC.*
*SOF **08** 03:58:21.0, 4565N×2655E, h46km, MD3.5*
*NAO **08** 03:58:37.0, 4722N×2506E, h33km, mb3.7*
ISC 08 03:58:18.3±0.3, **4578N**±002×**2666E**±002, **h85km**±3km, **n122, σ0s.99**/180, **mb3.4**/2, **25C-19D, Romania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLOR	Plostina	0.07	352	⇑P	Pn	03 58 30.0	-0.3
PLOR				S	Sn	03 58 38.6	-0.6
PLOR	Plostina	0.07	352	⇑*i*P	Pn	03 58 30.0	-0.3
PLOR				*i* S	Sn	03 58 38.1	-1.1
VRI	Vrincioaia	0.10	28	⇑*i*P	Pn	03 58 30.2	-0.2
VRI				*i* S	Sn	03 58 39.6	+0.3
VRI	Vrincioaia	0.10	28	⇑P	Pn	03 58 30.2	-0.2
VRI				S	Sn	03 58 38.5	-0.8
VRI	Vrincioaia	0.10	28	P	Pn	03 58 29.8	-0.5
VRI	Vrincioaia	0.10	28	P	Pn	03 58 30.2	-0.2
VRI				*i* S	Sn	03 58 39.3	0.0
BRD	Bordesti	0.34	132	⇑*i*P	Pn	03 58 30.4	-1.0
BRD	Bordesti	0.34	132	P	Pn	03 58 30.5	-0.9
BRD	Bordesti	0.34	132	P	Pn	03 58 30.5	-0.9
PETR		0.40	98	⇑*i*P	Pn	03 58 32.5	+0.7
PETR				*i* S	Sn	03 58 42.8	+1.0
GRER		0.46	151	⇑*i*P	Pn	03 58 33.5	+1.3
GRER				*i* S	Sn	03 58 45.3	+2.8
MLR	Muntele Rosu	0.58	240	⇑*i*P	Pn	03 58 33.3	+0.1
MLR				*i* S	Sn	03 58 43.7	-0.6
MLR	Muntele Rosu	0.58	240	⇑P	Pn	03 58 33.4	+0.2
MLR				S	Sn	03 58 43.8	-0.5
MLR	Muntele Rosu	0.58	240	P	Pn	03 58 33.3	+0.1
MLR	Muntele Rosu	0.58	240	P	Pn	03 58 33.3	+0.1
MLR				S	Sn	03 58 43.8	-0.5
ISR	Istrita	0.67	187	⇑*i*P	Pn	03 58 33.8	-0.3
ISR				*i* S	Sn	03 58 44.1	-1.7
ISR	Istrita	0.67	187	⇑P	Pn	03 58 33.9	-0.2
OZUR		0.69	297	⇑*i*P	Pn	03 58 33.7	-0.5
OZUR				*i* S	Sn	03 58 44.3	-1.8
TESR		0.73	359	⇓*i*P	Pn	03 58 34.8	+0.1
TESR				*i* S	Sn	03 58 46.2	-0.6
TUDR		0.73	105	⇑*i*P	Pn	03 58 34.8	+0.1
TUDR				*i* S	Sn	03 58 46.7	-0.2
ONCR	Oncesti	0.80	31	⇑*i*P	Pn	03 58 35.8	+0.4
ONCR				*i* S	Sn	03 58 48.3	+0.1
VARR		0.84	83	⇑*i*P	Pn	03 58 36.8	+1.0
VARR				*i* S	Sn	03 58 49.3	+0.4
SECR		0.86	210	⇓*i*P	Pn	03 58 36.9	+0.9
SECR				*i* S	Sn	03 58 50.4	+1.1
FULR		0.91	190	⇓*i*P	Pn	03 58 37.5	+0.9
FULR				*i* S	Sn	03 58 51.6	+1.3
DOPR	Dopca	0.91	282	⇑*i*P	Pn	03 58 36.5	-0.1
DOPR				*i* S	Sn	03 58 49.7	-0.6
KGL	Cahul	1.08	83	⇑*i*P	Pn	03 58 38.4	-0.2
	1μm,0.8s						
KGL				*i* S	Sn	03 58 54.0	+0.2
	4μm,1.0s						
SULR		1.14	195	⇓*i*P	Pn	03 58 39.0	-0.3
SULR				*i* S	Sn	03 58 55.0	-0.1
VOIR		1.19	254	⇑*i*P	Pn	03 58 39.5	-0.3
VOIR				*i* S	Sn	03 58 54.6	-1.4
VOIR		1.19	254	⇑P	Pn	03 58 39.6	-0.3
VOIR				S	Sn	03 58 55.0	-1.1
VOIR		1.19	254	⇑*i*P	Pn	03 58 39.5	-0.3
VOIR				S	Sn	03 58 55.0	-1.0
CFR	Carcaliu	1.20	120	⇑*i*P	Pn	03 58 40.0	0.0
CFR				*i* S	Sn	03 58 55.1	-1.3
MTUR	Matau	1.26	244	⇓*i*P	Pn	03 58 41.9	+1.2
MTUR				*i* S	Sn	03 59 00.3	+2.7
MTUR	Matau	1.26	244	P	Pn	03 58 42.0	+1.3
MTUR	Matau	1.26	244	P	Pn	03 58 41.9	+1.1
AMRR		1.27	158	⇓*i*P	Pn	03 58 41.4	+0.6
AMRR				*i* S	Sn	03 58 58.1	+0.3
BUC1	Bucharest	1.50	198	⇓*i*P	Pn	03 58 44.2	+0.4
BUC1				*i* S	Sn	03 59 02.7	-0.5
BUC1	Bucharest	1.50	198	P	Pn	03 58 44.2	+0.3
IAS	Iasi	1.54	23	⇓*i*P	Pn	03 58 45.1	+0.8
IAS				*i* S	Sn	03 59 03.8	-0.2
IAS	Iasi	1.54	23	S	Sn	03 59 04.4	+0.4
TIRR	Tirgusor	1.81	136	⇓*i*P	Pn	03 58 48.4	+0.5
TIRR				S	Sn	03 59 09.1	-1.2
TIRR				S	Sn	03 59 09.1	-1.2
TIRR	Tirgusor	1.81	136	⇓*i*P	Pn	03 58 48.4	+0.5
TIRR				*i* S	Sn	03 59 09.1	-1.2
TIRR	Tirgusor	1.81	136	P	Pn	03 58 48.4	+0.6
TIRR				S	Sn	03 59 09.2	-1.1
TIRR	Tirgusor	1.81	136	P	Pn	03 58 48.4	+0.5
TIRR				S	Sn	03 59 09.2	-1.1
KIS	Kishinev	1.92	50	*e*P	Pn	03 58 49.0	-0.3
KIS				*i* S	Sn	03 59 12.0	-0.9
KIS				smax			
	comp=N,1μm,0.8s						
KIS				smax			
	comp=E,1μm,1.0s						
KIS	Kishinev	1.92	50	*e*P	Pn	03 58 49.0	-0.3
KIS				*i* S	Sn	03 59 12.0	-0.9
	comp=E,1μm,0.8s						
BURAR	Bucovina Array	2.09	332	⇓*i*P	Pn	03 58 52.9	+1.5
BURAR				*i* S	Sn	03 59 19.8	+3.1
ZIMR		2.32	204	⇓*i*P	Pn	03 58 54.2	-0.3
ZIMR		2.32	204	⇓*i*P	Pn	03 58 54.3	-0.2
ZIMR				S	Sn	03 59 20.1	-2.2
ZIMR		2.32	204	⇓*i*P	Pn	03 58 54.3	-0.2
ZIMR				*i* S	Sn	03 59 20.1	-2.2
ZIMR				*i* S	Sn	03 59 20.1	-2.2
PSN	Preselentsi	2.36	152	*i* P	Pn	03 58 56.2	+1.1
CRAR	CRAIOVA	2.50	235	⇓*i*P	Pn	03 59 01.8	+4.9
CRAR				*i* S	Sn	03 59 25.4	-1.2
SZH	Strazhica	2.57	192	*i* P	Pn	03 58 57.6	-0.3
PRD	Provadia	2.64	168	*i* P	Pn	03 58 59.9	+1.1
PVL	Pavlikeni	2.74	201	*i* P	Pn	03 59 01.7	+1.6
GZR	Gura Zlata	2.76	263	⇓*i*P	Pn	03 59 00.8	+0.4
GZR				*i* S	Sn	03 59 31.3	-1.5
GZR	Gura Zlata	2.76	263	⇓P	Pn	03 59 00.8	+0.4
DRGR		2.92	292	⇑*i*P	Pn	03 59 02.5	-0.1
DRGR				*i* S	Sn	03 59 35.1	-1.7
DRGR		2.92	292	P	Pn	03 59 02.8	+0.2
DRGR		2.92	292	P	Pn	03 59 02.6	0.0
DRGR		2.92	292	P	Pn	03 59 02.6	0.0
DRGR				S	Sn	03 59 35.8	-1.0
JMB	Yambol	3.32	181	*e*Pn	Pn	03 59 07.7	-0.3
JMB	Yambol	3.32	181	*i* P	Pn	03 59 07.6	-0.4
BZS	Buzias	3.54	269	⇓*i*P	Pn	03 59 11.2	+0.2
BZS				*i* S	Sn	03 59 51.2	-0.6
BZS	Buzias	3.54	269	P	Pn	03 59 12.4	+1.4
PGB	Panagyurishte	3.70	210	*i* P	Pn	03 59 13.7	+0.6
DIM	Dimitrovgrad	3.82	193	*i* P	Pn	03 59 14.6	-0.2
PLD	Plovdiv	3.94	202	*i* P	Pn	03 59 15.5	-0.9
VTS	Vitosha	4.04	219	⇑*i*P	Pn	03 59 17.7	-0.1
VTS				*i* S	Sn	03 59 59.3	-4.7
VTS	Vitosha	4.04	219	P	Pn	03 59 18.4	+0.6
VTS	Vitosha	4.04	219	*e*Pn	Pn	03 59 16.8	-1.0
VTS	Vitosha	4.04	219	*i* P	Pn	03 59 17.9	+0.1
KDZ	Kurdzhali	4.23	193	*i* P	Pn	03 59 20.9	+0.6
RZN	Rozhen	4.33	200	*i* P	Pn	03 59 22.0	+0.3
KOLS	Kolonicke sedl	4.34	318	*e*PN	Pn	03 59 23.1	+1.3
LVV	L'vov	4.41	337	*e*P	Pn	03 59 24.9	+2.1
LVV				*e*S	Sn	04 00 13.4	+0.5
LVV				MLR	MLR		
	comp=Z,10.0nm,1.1s						
LVV				MLR	MLR		
	comp=N,20nm,0.9s						
LVV				MLR	MLR		
	comp=E,30nm,1.6s						
LVV	L'vov	4.41	337	P	Pn	03 59 24.9	+2.1
KWP	Kalwaria	4.69	327	*e*Pn	Pn	03 59 28.6	+2.0
KKB	Krupnik	4.69	215	*i* P	Pn	03 59 27.3	+0.6
MMB	Musomiste	4.70	208	*i* P	Pn	03 59 27.0	+0.2
CRVS	Cervenica-Dubn	4.72	313	*e*PN	Pn	03 59 28.5	+1.5
ALN	Alexandroupoli	4.90	185	*e*Pn	Pn	03 59 29.5	0.0
KECS	Kecovo	5.01	305	*e*PN	Pn	03 59 31.1	+0.2
KECS				*e*SN	Sn	04 00 25.5	-2.0
DIVS	Divcibare	5.03	253	*e*Pn	Pn	03 59 30.7	-0.5
SEV	Sevastopol'	5.11	102	⇓*i*P	Pn	03 59 32.8	+0.5
SEV				*e*S	Sn	04 00 27.0	-2.9
SEV				pmax	pmax		
	comp=Z,50nm,0.4s						
SEV				smax			
	comp=N,120nm,0.6s						
SEV				smax			
	comp=E,70nm,0.6s						
SEV	Sevastopol'	5.11	102	P	Pn	03 59 32.0	-0.3
PSZ	Piszkesteto	5.11	297	⇑*i*P	Pn	03 59 32.2	-0.1
PSZ				*i* S	Sn	04 00 25.2	-4.8
PSZ	Piszkesteto	5.11	297	*e*P	Pn	03 59 32.2	-0.1
PSZ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PSZ	Piszkesteto	5.11	297	*e*Pn	Pn	03 59 32.2	-0.1
	comp=Z,5.2nm,0.6s						
SRS	Serrai	5.17	207	*e*Pn	Pn	03 59 33.1	-0.1
AKASG	Malin Array Be	5.21	18	Pn	Pn	03 59 33.1	-0.6
	comp=Z,2.7nm,0.3s,baz=206,slow=12,SNR=10						
AKASG				Sn	Sn	04 00 27.5	-5.0
	comp=Z,11nm,0.3s,baz=122,slow=19,SNR=4.4						
AKASG				Lg		04 00 58.3	
	comp=Z,9.4nm,0.3s,baz=202,slow=29,SNR=7.7						
AKASG	Malin Array Be	5.21	18	P	Pn	03 59 33.1	-0.6
AKASG						04 00 27.5	
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKASG				smax			
	comp=N,11nm,0.3s						
AKBB	Malin Array Si	5.21	18	*e*Pn	Pn	03 59 33.9	+0.2
SIM	Simferopol'	5.32	96	*e*P	Pn	03 59 36.5	+1.3
SIM				*e*S	Sn	04 00 33.0	-2.1
SIM				pmax	pmax		
	comp=Z,50nm,0.3s						
SIM				smax			
	comp=N,80nm,1.0s						
SIM				smax			
	comp=E,140nm,1.0s						
SIM	Simferopol'	5.32	96	P	Pn	03 59 36.0	+0.8
VAY	Valandovo	5.36	215	*e*Pn	Pn	03 59 35.7	0.0
VAY	Valandovo	5.36	215	*e*Pg	Pn	04 00 11.1	+35
VAY				*e*Sg	Sn	04 00 30.6	-5.5
VAY	Valandovo	5.36	215	*e*Pn	Pn	03 59 35.7	0.0
VAY				*e*Sg	Sn	04 00 30.5	-5.6
KNT	Kendrikon	5.37	212	*e*Pn	Pn	03 59 36.1	+0.2
YAL	Yalta	5.46	101	*e*P	Pn	03 59 38.0	+1.0
YAL				*e*S	Sn	04 00 37.0	-1.4
YAL				pmax	pmax		
	comp=Z,20nm,0.4s						
YAL				smax			
	comp=N,50nm,0.4s						
YAL				smax			
	comp=E,40nm,0.4s						
YAL	Yalta	5.46	101	P	Pn	03 59 38.0	+1.0
SOH	Sokhos	5.51	207	*e*Pn	Pn	03 59 37.6	-0.2
ALU	Alushta	5.58	99	*e*P	Pn	03 59 39.6	+0.9
ALU				*e*S	Sn	04 00 40.1	-1.3
ALU				pmax	pmax		
	comp=Z,20nm,0.4s						
ALU				smax			
	comp=N,60nm,0.4s						
ALU				smax			
	comp=E,80nm,0.4s						
ALU	Alushta	5.58	99	P	Pn	03 59 39.0	+0.3
PKSM	Moragy	5.61	277	⇑*i*P	Pn	03 59 32.2	-6.9
PKSM				*i* S	Sn	04 00 25.2	-17
PKSM	Moragy	5.61	277	P	Pn	03 59 39.4	+0.3
PKSM	Moragy	5.61	277	P	Pn	03 59 39.4	+0.3
GRG	Griva	5.74	214	*e*Pn	Pn	03 59 40.8	0.0
SUDU	Sudak	5.95	96	*i* P	Pn	03 59 45.4	+1.7
SUDU				*e*S	Sn	04 00 49.2	-1.2
SUDU				pmax	pmax		
	comp=Z,40nm,0.4s						
SUDU				smax			
	comp=E,100nm,0.5s						
SUDU				smax			
	comp=N,120nm,0.7s						
SUDU	Sudak	5.95	96	P	Pn	03 59 45.0	+1.3
VYHS	Vyhne	5.99	300	*e*Pn	Pn	03 59 43.0	-1.3
	comp=N,1.2nm,0.5s						
VYHS				*e*		04 00 51.9	
BRTR	Keskin Array B	7.93	137	Pn	Pn	04 00 06.9	-3.9
	comp=N,0.1nm,0.3s,baz=101,slow=22,SNR=4.7						
BRTR				Sn	Sn	04 01 34.0	-5.0
	comp=N,0.2nm,0.3s,baz=12,slow=21,SNR=3.3						
FINES	FINESS Array B	15.70	359	Pn	Pn	04 01 48.9	-5.5
	comp=N,0.2nm,0.3s,baz=172,slow=12,SNR=13						
FINES	FINESS Array B	15.70	359	Pn	Pn	04 01 48.9	-5.5
HFS	Hagfors	16.31	336	Pn	Pn	04 02 01.4	-0.7
	comp=N,0.4nm,0.3s,baz=141,slow=13,SNR=20						
KAF	Kangasniemi	16.36	359	*e*p	Pn	04 01 54.1	-8.6
	comp=N,0.5nm,0.3s						
JOF	Joensuu	17.38	7	*e*p	Pn	04 02 11.5	-3.7
	comp=N,2.0nm,0.5s						
JOF	Joensuu	17.38	7	*e*P	Pn	04 02 11.5	-3.7
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	NORSAR Subarra	17.77	335	P	Pn	04 02 18.0	-1.9
	comp=Z,1.3nm,0.6s,baz=144,slow=14						
NOA	NORSAR Array B	17.77	335	Pn	Pn	04 02 18.3	-1.6
	comp=Z,0.4nm,0.3s,baz=144,slow=12,SNR=5.5						
ARCES	ARCESS Array B	23.82	359	P	P	04 03 28.7	+5.3
	comp=Z,0.4nm,0.5s,mb3.0,baz=177,slow=11,SNR=5.7						
TORD	Torodi Ar. Bea	38.79	221	P	P	04 05 34.9	+0.3
	comp=Z,0.6nm,0.4s,mb3.8,baz=30,slow=8.8,SNR=35						
TORD	Torodi Ar. Bea	38.79	221	P	P	04 05 34.9	+0.3

*IDC **08** 04:11:19.7±1.0, 231N×9688E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/22, mbtmp3.8/10, ML3.4/1, MS3.6/4, Ms1 3.6/4, ms1mx3.2/26, Error ellipse: s-maj=31.2km s-min=17.3km az=39.0*
*ISCJB **08** 04:11:22.4±0.7, 23N±01×9683E±007, h33km, mb3.9/12, MS3.6/3, Error ellipse: s-maj=15.4km s-min=8.9km az=29.4*
*NEIC **08** 04:11:24.2±0.6, 235N×9695E, h30km, mb4.1/3, Error ellipse: s-maj=16.4km s-min=10.3km az=219.0*
ISC 08 04:11:24.9±0.7, **24N**±01×**9688E**±007, **h35km, n20, σ1s.08**/18, **mb3.9**/12, **MS3.6**/3, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.09	78	Pn	Pn	04 11 56.1	-1.3
	12nm,0.3s,baz=260,slow=4.7,SNR=32						
PSI				Sn	Sn	04 12 23.6	+1.4
	31nm,0.3s,baz=286,slow=15,SNR=7.2						
PSI				LR	LR	04 13 01.9	
	comp=Z,2μm,18.1s,baz=261,slow=49						
KULM	Kulim	4.76	52	*e*Pn	Pn	04 12 32.9	-1.2
WRA	Warramunga Arr	42.92	123	P	P	04 19 20.7	+0.5
	1.2nm,0.4s,mb4.0,baz=303,slow=9.0,SNR=16						
WRAB	Tennant Creek	42.93	123	*e*P	P	04 19 19.0	-1.2
	2.6nm,0.5s,mb4.2						
WB2	Warramunga Arr	42.94	123	*e*P	P	04 19 21.2	+1.0
ASAR	Alice Springs	44.35	128	P	P	04 19 30.9	-0.7
	0.3nm,0.5s,mb3.3,baz=294,slow=7.0,SNR=4.1						
SONM	Songino Array	46.04	9	P	P	04 19 44.9	-0.1
	0.5nm,0.3s,mb3.9,baz=191,slow=9.7,SNR=5.9						
SONM				LR	LR	04 41 37.1	
	comp=Z,98nm,18.9s,MS3.8,baz=285,slow=39						
MKAR	Makanchi Array	46.05	346	P	P	04 19 45.4	+0.3
	0.6nm,0.4s,mb3.8,baz=153,slow=8.2,SNR=6.1						
ZAL	Zalesovo	52.36	351	P	P	04 20 35.1	+1.7
	1.6nm,0.3s,mb4.4,baz=310,slow=5.2,SNR=4.3						
ZRNK	Zerenda	55.46	340	*e*P	P	04 20 55.2	-0.8
	1.5nm,1.0s,mb4.0						
CHKZ	Chkalovo	55.53	341	*e*P	P	04 20 56.3	-0.2
	1.3nm,0.5s,mb4.2						
AKTK	Aktyubinsk	58.06	332	P	P	04 21 13.3	-1.1
AKTO	Aktyubinsk	58.06	332	P	P	04 21 13.3	-1.1
	0.7nm,0.4s,mb4.1,baz=122,slow=6.3,SNR=4.6						
KMBO	Kilima Mbogo	59.71	267	LR	LR	04 43 10.7	
	comp=Z,44nm,20.9s,MS3.6,baz=180,slow=32						
BOSA	Boshof	75.08	240	LR	LR	04 53 32.3	
	comp=Z,29nm,19.5s,MS3.6,baz=191,slow=34						
FINES	FINESS Array B	78.83	332	P	P	04 23 24.0	-0.2
	1.0nm,0.8s,mb3.8,baz=136,slow=26,SNR=8.8						
FINES	FINESS Array B	78.83	332	P	P	04 23 24.0	-0.2
ARCES	ARCESS Array B	81.34	340	P	P	04 23 39.5	+1.8
	0.9nm,0.5s,mb4.0,baz=96,slow=4.9,SNR=6.1						
GERES	GERESS Array B	83.73	319	P	P	04 23 51.8	+1.6
	0.5nm,0.9s,mb3.6,baz=127,slow=8.5,SNR=3.8						
CPUP	Villa Florida	145.63	224	PKPbc	PKPbc	04 31 00.3	+0.6
	0.4nm,0.5s,baz=61,slow=2.7,SNR=3.7						

*ISCJB **08** 04:18:03.0±0.5, 4550N±008×1470E±01, h213km±7km, mb3.7/26, Error ellipse: s-maj=14.3km s-min=10.0km az=103.0*
*MOS **08** 04:18:03.4±1.0, 4573N×14707E, h211km, mb3.8/16, Error ellipse: s-maj=19.5km s-min=11.8km az=79.2*

*JMA **08** 04:18:04.7±0.6, 45.14N×147.57E, h183km, M4.3*
*IDC **08** 04:18:04.4±2.1, 45.77N×147.14E, h199km±20km, mb3.5/13, mb1 3.7/14, mb1mx3.5/23, mbtmp4.0/14, Error ellipse: s-maj=15.6km s-min=11.7km az=117.0*
*NEIC **08** 04:18:06.1±1.1, 45.82N×147.03E, h215km±9km, mb3.9/13, Error ellipse: s-maj=11.7km s-min=9.0km az=160.0*
ISC 08 04:18:04.0±0.5**, 45.49N**±0.08×**147.0E**±0.1**, h210**km±8km**, n74,** σ1^{s}24/69**, mb3.7**/26**, 1C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	1.67	210	⇓*i*PN	Pn	04 18 39.9	-0.1
YUK				*i* S		04 19 07.8	
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
YUK				smax			
	comp=N,380nm,0.5s						
YUK				smax			
	comp=E,760nm,0.6s						
JRA	Rausu	2.05	221	P	Pn	04 18 43.6	-0.1
NEM2	Nemuro 2	2.31	203	P	Pn	04 18 44.1	-2.3
NEM2				*e*S		04 19 14.4	
JNK	Nakash	2.51	221	P	Pn	04 18 49.0	+0.5
JTKR	Abashiri--Toko	2.68	237	P	Pn	04 18 51.7	+1.3
JAK	Akkeshi	3.00	214	P	Pn	04 18 53.5	-0.5
JAK				*e*S		04 19 31.3	
JAR	Ashorobuto	3.19	228	P	Pn	04 18 58.4	+2.1
YSS	Yuzh-Sakhalins	3.29	298	⇑*e*PN	Pn	04 18 58.7	+1.2
YSS				*e*		04 19 43.0	
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS				pmax	pmax		
	comp=E,50nm,0.9s						
YSS	Yuzh-Sakhalins	3.29	298	*e*Pn	Pn	04 18 58.6	+1.1
ASAJ	Asahikawa	3.42	248	P	Pn	04 19 02.1	+3.1
	comp=E,1.3nm,0.3s,baz=77,slow=14,SNR=14						
ASAJ	Asahikawa	3.42	248	PN	Pn	04 19 02.2	+3.1
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JKK2	Kamakawa 2	3.44	243	P	Pn	04 19 02.2	+3.0
JWK2	Keihoku	3.60	269	P	Pn	04 19 05.3	+4.1
JCH	Churui	3.89	224	P	Pn	04 19 05.6	+0.9
JCH				*e*S		04 19 51.5	
JFR	Furan	3.93	235	P	Pn	04 19 07.4	+2.2
JNBK	Urakawa-nobuka	4.44	225	P	Pn	04 19 11.5	-0.1
JKB	Kayabe	5.63	232	P	Pn	04 19 27.4	+0.8
JKB				*e*S		04 20 31.1	
JOT	Ohata	5.97	229	P	Pn	04 19 30.7	-0.2
JOT				*e*S		04 20 37.1	
JMK	Ichinoseki	7.81	215	P	Pn	04 19 54.8	0.0
JMK				*e*S		04 21 17.7	
COLA	College	39.74	37	*e*P	P	04 25 14.8	-1.3
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.9						
COLA	College	39.74	37	*e*P	P	04 25 14.8	-1.3
	comp=Z,2.9nm,0.6s,mb3.9						
ILAR	Eielson Array	40.16	37	P	P	04 25 18.0	-1.5
	comp=Z,0.9nm,0.4s,mb3.5,baz=281,slow=11,SNR=14						
ILAR				pP	pP	04 26 00.7	-3.0
	comp=Z,1.3nm,1.0s,baz=271,slow=8.2,SNR=4.1						
ILAR	Eielson Array	40.16	37	P	P	04 25 18.0	-1.5
ILAR				*PP	pP	04 26 00.7	-3.0
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR	Makanchi Array	43.71	296	P	P	04 25 50.0	+1.8
	comp=Z,0.4nm,0.4s,mb3.1,baz=57,slow=8.8,SNR=3.3						
MKAR				PcP	PcP	04 27 33.9	+2.6
	comp=Z,0.8nm,0.6s,baz=66,slow=4.5,SNR=5.0						
MKAR	Makanchi Array	43.71	296	P	P	04 25 50.0	+1.8
MKAR						04 27 33.9	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	Inuvik	44.96	31	P	P	04 25 56.6	-1.6
	comp=Z,1.8nm,0.5s,mb3.6,baz=357,slow=8.7,SNR=18						
INK	Inuvik	44.96	31	P	P	04 25 56.6	-1.6
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	Inuvik	44.96	31	*e*P	P	04 25 56.2	-1.9
	comp=Z,2.1nm,0.6s,mb3.6						
ZRNK	Zerenda	49.13	308	*e*P	P	04 26 29.9	-0.4
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.4						
ZRNK	Zerenda	49.13	308	*e*P	P	04 26 29.9	-0.4
	comp=Z,0.9nm,0.5s,mb3.4						
RES	Resolute Bay	53.33	17	*e*P	P	04 27 00.1	-1.4
RES				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.8						
RES	Resolute Bay	53.33	17	*e*P	P	04 27 00.1	-1.4
	comp=Z,1.9nm,0.5s,mb3.8						
YKA	Yellowknife Ar	54.42	34	P	P	04 27 08.5	-0.9
	comp=Z,0.7nm,0.4s,mb3.5,baz=303,slow=7.5,SNR=7.5						
YKA				PcP	PcP	04 28 11.0	+0.8
	comp=Z,0.4nm,0.6s,baz=301,slow=3.6,SNR=4.3						
YKA	Yellowknife Ar	54.42	34	P	P	04 27 08.5	-0.9
YKA						04 28 11.0	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	Yellowknife Ar	54.42	34	P	P	04 27 08.5	-0.9
YKA				PcP	PcP	04 28 11.1	+0.8
KEV	Kevo	57.05	339	*e*p	P	04 27 25.3	-2.8
ARCES	ARCESS Array B	57.58	339	P	P	04 27 29.9	-1.9
	comp=Z,0.4nm,0.5s,mb3.3,baz=46,slow=8.7,SNR=5.3						
JOF	Joensuu	60.50	332	*e*p	P	04 27 47.1	-4.7
	comp=Z,0.5nm,0.4s,mb3.5						
JOF	Joensuu	60.50	332	*e*P	P	04 27 47.1	-4.7
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
NEW	Newport	61.27	49	*e*P	P	04 27 57.0	0.0
NEW				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NEW	Newport	61.27	49	*e*P	P	04 27 57.0	+0.1
	comp=Z,0.9nm,0.4s,mb3.8						
FINES	FINESS Array B	63.28	333	P	P	04 28 09.6	-0.7
	comp=Z,1.9nm,0.5s,mb4.0,baz=50,slow=7.2,SNR=26						
FINES	FINESS Array B	63.28	333	P	P	04 28 09.6	-0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FFC	Flin Flon	64.37	37	*e*P	P	04 28 17.0	-0.4
FFC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
FFC	Flin Flon	64.37	37	*e*P	P	04 28 17.0	-0.4
	comp=Z,4.5nm,0.9s,mb4.1						
HRY	Holter Researc	65.04	48	*e*P	P	04 28 22.2	+0.5
BOZ	Bozeman (W)	65.84	49	*e*P	P	04 28 27.5	+0.7
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
BOZ	Bozeman (W)	65.84	49	*e*P	P	04 28 27.5	+0.7
	comp=Z,3.5nm,0.6s,mb4.2						
WRA	Warramunga Arr	66.13	193	P	P	04 28 31.2	+2.5
	comp=Z,1.3nm,0.6s,mb3.8,baz=9.0,slow=6.7,SNR=16						
WRA	Warramunga Arr	66.13	193	P	P	04 28 31.2	+2.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVAR	Mina Array Bea	66.75	58	P	P	04 28 32.8	+0.2
	comp=Z,1.4nm,0.7s,mb3.7,baz=309,slow=5.4,SNR=13						
MOOW	Moose Ponds	67.57	50	*e*P	P	04 28 38.8	+1.0
	comp=Z,1.4nm,0.7s,mb3.7						
TPAW	Teton Pass	67.63	50	*e*P	P	04 28 39.0	+0.9
	comp=Z,3.8nm,0.9s,mb4.0						
NB2	NORSAR Subarra	67.94	339	P	P	04 28 39.4	-0.7
	comp=Z,0.6nm,0.5s,mb3.5,baz=30,slow=6.5						
NOA	NORSAR Array B	67.94	339	P	P	04 28 39.7	-0.4
	comp=Z,0.6nm,0.4s,mb3.6,baz=30,slow=6.5,SNR=6.3						
NOA	NORSAR Array B	67.94	339	P	P	04 28 39.7	-0.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	Hagfors	68.05	337	P	P	04 28 40.0	-0.7
	comp=Z,0.9nm,0.6s,mb3.6,baz=39,slow=5.7,SNR=10.0						
HFS	Hagfors	68.05	337	P	P	04 28 40.0	-0.7
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HWUT	Hardware Ranch	68.55	52	*e*P	P	04 28 44.8	+0.9
	comp=Z,1.5nm,0.5s,mb3.9						
BW06	Boulder Array	68.87	50	*e*P	P	04 28 46.0	+0.1
	comp=Z,2.2nm,0.9s,mb3.8						
PDAR	Pinedale Array	68.87	50	P	P	04 28 46.2	+0.4
	comp=Z,1.9nm,0.7s,mb3.9,baz=314,slow=1.3,SNR=18						
ASAR	Alice Springs	69.85	193	P	P	04 28 55.1	+3.3
	comp=Z,0.9nm,0.6s,mb3.6,baz=8.7,slow=5.5,SNR=18						
ASAR	Alice Springs	69.85	193	P	P	04 28 55.2	+3.4
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	70.12	323	P	P	04 28 54.0	+0.5
	comp=Z,0.8nm,0.4s,mb3.7,baz=38,slow=6.3,SNR=5.6						
AKASG	Malin Array Be	70.12	323	P	P	04 28 54.0	+0.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ANMO	Albuquerque	76.06	54	*e*P	P	04 29 28.7	+0.4
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ANMO	Albuquerque	76.06	54	*e*P	P	04 29 28.7	+0.5
	comp=Z,0.8nm,0.7s,mb3.5						
LTX	Lajitas	81.77	56	*e*P	P	04 30 00.3	+1.0
LTX				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
LTX	Lajitas	81.77	56	*e*P	P	04 30 00.3	+1.1
	comp=Z,3.3nm,0.8s,mb4.0						
BDFB	Brasilia	147.67	28	PKPbc	PKPbc	04 37 25.9	+2.4
	comp=Z,0.9nm,0.4s,baz=65,slow=3.1,SNR=4.3						
BDFB	Brasilia	147.67	28	PKP2	PKPab	04 37 26.0	-0.4
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PLCA	Paso Flores	152.35	94	PKPbc	PKPbc	04 37 36.5	+1.6
	comp=Z,1.4nm,0.7s,baz=99,slow=2.7,SNR=6.1						
PLCA	Paso Flores	152.35	94	PKIKP	PKPbc	04 37 36.5	+1.6
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PLCA	Paso Flores	152.35	94	PKPbc	PKPbc	04 37 36.5	+1.6

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*ISCJB **08** 04:19:35.4±0.4, 38.41N±0.02×21.34E±0.03, h5km, mb3.4/4, Error ellipse: s-maj=3.7km s-min=3.3km az=121.2*
*ATH **08** 04:19:35.0, 38.46N×21.36E, h5km±3km, MD3.6/10*
*NEIC **08** 04:19:35.0, 38.46N×21.36E, h5km, MD3.6(ATH), After ATH.*
*CSEM **08** 04:19:36.5±0.1, 38.43N×21.34E, h0km±1km, MD3.6, Error ellipse: s-maj=2.5km s-min=1.9km az=64.0*
*THE **08** 04:19:36.3, 38.42N×21.35E, h10km, ML3.1*
*IDC **08** 04:19:41.6±2.5, 38.49N×21.26E, h63km±31km, mb3.2/4, mb1 3.2/7, mb1mx3.1/25, mbtmp3.3/7, ML3.2/3, Error ellipse: s-maj=26.1km s-min=16.0km az=68.0*
ISC 08 04:19:36.1±0.5**, 38.41N**±0.02×**21.37E**±0.03**, h1**km±4km**, n37,** σ1^{s}29/48**, mb3.4**/4**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.36	168	*e*PB	Pg	04 19 43.2	+0.2
RLS				*e*SB	Sg	04 19 49.7	+1.9
EVR	Evrytania	0.61	34	*e*PB	Pg	04 19 46.6	-1.1
EVR				*e*SB	Sg	04 19 54.3	-1.3
LKD	Levkas	0.64	298	*e*Pg	Pg	04 19 47.8	-0.4
LKD				*e*Sg	Sg	04 19 57.3	+0.8
VLS	Valsamata	0.66	249	*e*PB	Pg	04 19 47.9	-0.8
VLS				*e*SB	Sg	04 19 58.0	+0.8
AGG	Agios Georgios	0.97	51	*e*Pg	Pg	04 19 54.4	-0.2
AGG				*e*Sg	Sg	04 20 08.6	+1.4
LKR	Lokris	1.30	79	*e*PB	Pb	04 20 00.3	-1.0
JAN	Janina	1.30	342	*e*PG	Pn	04 19 58.6	-2.9
ITM	Ithomi	1.31	160	*e*PB	Pb	04 20 00.9	-0.6
MEV	Metsovon	1.37	355	*e*Pg	Pg	04 20 01.9	-0.5
MEV				*e*Sg	Sg	04 20 21.8	+1.5
IGT	Igoumenitsa	1.38	324	*e*Pg	Pg	04 20 01.8	-0.7
IGT				*e*Sg	Sg	04 20 21.3	+0.9
NEO	Neokhori	1.70	58	*e*PG	Pn	04 20 06.3	-0.6
XOR	Xorichti	1.71	56	*e*Pb	Pn	04 20 06.7	-0.4
KEK	Kerkira	1.78	317	*e*PN	Pn	04 20 08.2	+0.2
KEK				*e*SN	Sn	04 20 32.5	+1.1
LIT	Litokhoron	1.90	27	*e*Pb	Pn	04 20 09.5	-0.1
KZN	Kozani	1.92	9	*e*PN	Pn	04 20 11.1	+1.2
VLI	Veliai	2.10	143	*e*PN	Pn	04 20 14.2	+1.8
KYTH	Kithira	2.51	148	*e*PG	Pg	04 20 22.5	-1.7
PLG	Polygyros	2.53	39	*e*PN	Pn	04 20 18.1	-0.3
BIA	Bitola	2.60	359	*e*Pn	Pn	04 20 21.5	+2.2
BIA				*e*Sn	Sn	04 21 00.7	+9.1
GRG	Griva	2.66	17	*e*Pn	Pn	04 20 20.4	+0.2
OHR	Ohrid	2.73	351	*e*Pn	Pg	04 20 27.9	-0.5
SOH	Sokhos	2.85	32	*e*Pn	Pn	04 20 22.4	-0.3
KNT	Kendrikon	2.99	23	*e*Pn	Pn	04 20 24.8	+0.2
VAY	Valandovo	3.05	17	*e*Pn	Pn	04 20 28.0	+2.6
VAY				*e*Sn	Sn	04 21 05.8	+3.2
NVR	Nevrokopi	3.50	32	*e*PB	Pn	04 20 33.2	+1.5
MMB	Musomiste	3.65	29	*e*P	Pn	04 20 32.5	-1.3
TIP	Timpagrande	3.68	283	*e*Pn	Pn	04 20 33.0	-1.2
TIP	Timpagrande	3.68	283	*e*Pn	Pn	04 20 33.0	-1.2
IDI	Anoyia	4.21	137	P	Pn	04 20 44.2	+2.8
	0.7nm,0.3s,baz=42,slow=8.2,SNR=6.2						
IDI				S	Sn	04 21 35.1	+3.9
	0.7nm,0.3s,baz=297,slow=22,SNR=3.0						
BRTR	Keskin Array B	9.63	78	P	Pn	04 21 58.3	+2.5
	0.1nm,0.3s,baz=257,slow=12,SNR=2.6						
GERES	GERESS Array B	11.81	334	P	Pn	04 22 24.3	-1.3
	0.1nm,0.3s,baz=284,slow=33,SNR=4.0						
HFS	Hagfors	22.28	350	P	P	04 24 33.7	-1.0
	0.8nm,0.5s,mb3.4,baz=167,slow=13,SNR=5.5						
NB2	NORSAR Subarra	23.52	348	P	P	04 24 46.9	-1.0
	comp=Z,0.4nm,0.6s,mb3.1,baz=159,slow=9.3						
NOA	NORSAR Array B	23.52	348	P	P	04 24 44.7	-3.1
	comp=Z,0.4nm,0.6s,mb3.2,baz=159,slow=8.8,SNR=4.6						
NOA	NORSAR Array B	23.52	348	P	P	04 24 44.7	-3.1
TORD	Torodi Ar. Bea	30.64	220	P	P	04 25 50.4	-1.5
	comp=Z,0.3nm,0.6s,mb3.4,baz=33,slow=8.8,SNR=7.1						
MKAR	Makanchi Array	44.61	59	P	P	04 27 47.9	-2.1
	comp=Z,0.5nm,0.4s,mb3.8,baz=281,slow=7.3,SNR=5.1						

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*NIED **08** 05:02:00, 41.50N×142.10E, h59km, Mw4.1 Best double couple: Mo1.34000×10^{15} NP1:φs84.00000°, δ54.00000°, λ114.00000°. NP2:φs227.00000°, δ43.00000°, λ61.00000°.*
*MOS **08** 05:02:43.7±0.7, 41.58N×142.10E, h70km, mb4.4/19, Error ellipse: s-maj=16.2km s-min=8.0km az=79.6*
*BJI **08** 05:02:43.9, 42.33N×142.27E, h74km, mB4.7, mb4.5, Ms4.0, Msz3.4*
*ISCJB **08** 05:02:43.0±0.4, 41.54N±0.03×142.10E±0.04, h63km±3km, mb4.2/33, Error ellipse: s-maj=6.0km s-min=4.1km az=88.0*
*JMA **08** 05:02:43.2±0.1, 41.52N×142.12E, h56km±3km, M4.2 Broadband fault plane solution: P waves. NP1: φs203.00000°, δ14.00000°, λ15.00000°. NP2:φs98.00000°, δ86.00000°, λ103.00000°. Principal axes: T Plg47.0000°, Azm22.0000°; N Plg13.0000°, Azm277.0000°; P Plg40.0000°, Azm176.0000°;*
JMA Felt I J1.
*NEIC **08** 05:02:45.2±0.2, 41.60N×142.07E, mb4.2/14 Error ellipse: s-maj=7.5km s-min=4.7km az=121.0*
NEIC Recorded [1 JMA] in the Tomakomai area and in southwestern Hokkaido. Also recorded [1 JMA] in Aomori and Iwate Prefectures, Honshu.
*IDC **08** 05:02:45.7±0.8, 41.55N×142.06E, h68km±6km, mb3.8/17, mb1 4.0/19, mb1mx3.9/25, mbtmp4.1/19, MS3.1/3, Ms1 3.2/3, ms1mx2.6/34, Error ellipse: s-maj=14.7km s-min=9.3km az=111.0*
ISC 08 05:02:43.9±0.4**, 41.55N**±0.03×**142.10E**±0.04**, h56**km±3km**, h65**km±2.0km**: pP-P, n86,** σ0^{s}92/96**, mb4.2**/33**, MS3.5**/2**, 4C-5D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	Ohata	0.81	258	⇑P	Pn	05 02 58.8	-0.5
JKB	Kayabe	0.87	293	⇓P	Pn	05 02 59.6	-0.5
JKB				S	Sn	05 03 11.7	-0.2
JNBK	Urakawa-nobuka	0.87	34	⇓P	Pn	05 02 59.2	-1.0
JEM	Erimo	0.92	59	P	Pn	05 02 59.9	-0.8
JEM				S	Sn	05 03 12.3	-0.8
JTM	Tenmabayashi	1.09	226	⇑P	Pn	05 03 02.8	-0.2
JTM				S	Sn	05 03 17.4	+0.2
JNB	Noboribetsu	1.21	319	⇓P	Pn	05 03 04.1	-0.5
JNB				S	Sn	05 03 19.7	-0.3
JANG	Nango	1.26	201	⇑P	Pn	05 03 04.3	-1.0
JANG				S	Sn	05 03 19.9	-1.3
JEW	Eniwo	1.37	340	⇓P	Pn	05 03 07.3	+0.5
JEW				*e*S	Sn	05 03 25.1	+1.2
JCH	Churui	1.42	41	P	Pn	05 03 07.5	+0.1
JCH				*e*S	Sn	05 03 25.7	+0.7
JFR	Furan	1.65	13	⇓P	Pn	05 03 10.3	-0.2
JOSM	Okushiri--Mats	2.03	286	P	Pn	05 03 15.5	-0.2
JOSM				S	Sn	05 03 39.8	-0.2
ASAJ	Asahikawa	2.59	8	P	Pn	05 03 24.4	+1.1
	96nm,0.3s,baz=210,slow=11,SNR=181						
ASAJ				S	Sn	05 03 56.6	+3.0
	59nm,0.3s,baz=23,slow=27,SNR=12						
ASAJ				LR	LR	05 04 55.1	
	comp=Z,375nm,21.0s,baz=218,slow=50						
ASAJ	Asahikawa	2.59	8	P	Pn	05 03 24.5	+1.2
ASAJ				S	Sn	05 03 56.6	+3.0
ASAJ				pmax	pmax		
	comp=Z,96nm,0.3s						
ASAJ				smax			
	comp=N,59nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,375nm,21.0s						
YUK	Yuzh-Kuril'sk	3.72	47	*e*P	Pn	05 03 38.5	-0.3
YUK				*e*S	Sn	05 04 19.5	-1.8
YUK				pmax	pmax		
	comp=Z,360nm,0.5s						
YUK				smax			
	comp=N,1µm,0.5s						
YUK				smax			
	comp=E,580nm,0.5s						
YUK				smax			
	comp=N,2µm,2.0s						
YUK				smax			
	comp=E,2µm,1.0s						
YSS	Yuzh-Sakhalins	5.42	5	⇑*e*P	Pn	05 04 04.1	+2.0
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS	Yuzh-Sakhalins	5.42	5	*e*Pn	Pn	05 04 04.4	+2.2
	comp=Z,42nm,0.6s						
MAJO	Matsushiro	5.85	212	*e*P	Pn	05 04 09.9	+1.9
MAJO				pmax	pmax		
	comp=Z,22nm,0.6s						
MAJO	Matsushiro	5.85	212	*e*Pn	Pn	05 04 09.9	+1.9
	comp=Z,22nm,0.6s						
MAT	Matsushiro	5.85	212	P	Pn	05 04 09.8	+1.8
MAT	Matsushiro	5.85	212	*e*P	Pn	05 04 10.0	+2.0
MAT				pmax	pmax		
	comp=Z,12nm,0.6s						
MAT	Matsushiro	5.85	212	*e*P	Pn	05 04 10.0	+2.0
	comp=Z,12nm,0.6s						
MJAR	Matsushiro Arr	5.85	212	P	Pn	05 04 10.4	+2.4
	comp=Z,2.9nm,0.3s,baz=22,slow=15,SNR=30						
MJAR				LR	LR	05 06 42.9	
	comp=Z,173nm,21.8s,baz=0.0,slow=41						
MJAR	Matsushiro Arr	5.85	212	P	Pn	05 04 10.4	+2.4
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,173nm,21.8s						
KLR	Kul'dur	10.57	320	*e*P	Pn	05 05 18.1	+5.5
SKR	Severo-Kuril's	13.32	42	*e*P	Pn	05 05 42.8	-7.3
HHC	Hu-ho-hao-te	22.93	278	*e*P	P	05 07 41.5	-1.7
HHC				AP		05 07 54.8	
HHC				PP		05 08 12.1	
HHC				S	S	05 11 42.0	-7.0
HHC				SS		05 12 28.0	
HHC				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb4.4						
HHC				AMB	AMB		
	comp=Z,159nm,6.0s						
HHC				LR	LR		
	comp=N,136nm,16.0s,MS3.9						
HHC				LR	LR		
	comp=E,332nm,16.6s,MS3.9						
HHC				LR	LR		
	comp=Z,101nm,15.5s,MS3.4						
SONM	Songino Array	25.98	296	P	P	05 08 12.1	+0.8
	comp=Z,1.1nm,0.7s,mb3.5,baz=77,slow=8.0,SNR=9.1						
SONM	Songino Array	25.98	296	P	P	05 08 12.1	+0.8
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CD2	Chengdu	32.46	263	*e*P	P	05 09 08.2	-0.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
KMI	Kunming	36.38	256	P	P	05 09 49.1	+6.4
KMI				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.7						
ZAL	Zalesovo	39.41	308	P	P	05 10 08.6	+0.3
	comp=Z,1.3nm,0.4s,mb4.1,baz=5.1,slow=7.4,SNR=5.2						
ZAL				pP	pP	05 10 25.2	+2.6
	comp=Z,1.6nm,0.4s,baz=35,slow=6.9,SNR=2.6						
ZAL	Zalesovo	39.41	308	P	P	05 10 08.6	+0.4
ZAL				*PP	pP	05 10 25.2	+2.6
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	Makanchi Array	42.31	298	P	P	05 10 32.4	+0.2
	comp=Z,0.5nm,0.4s,mb3.5,baz=75,slow=9.4,SNR=6.3						
MKAR				pP	pP	05 10 48.8	+2.1
	comp=Z,0.6nm,0.4s,baz=91,slow=8.5,SNR=2.7						
MKAR	Makanchi Array	42.31	298	P	P	05 10 32.4	+0.3
MKAR				*PP	pP	05 10 48.8	+2.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KDAK	Kodiak Island	43.46	45	P	P	05 10 41.5	+0.1
	comp=Z,6.9nm,0.8s,mb4.4,baz=325,slow=4.2,SNR=5.7						
KDAK	Kodiak Island	43.46	45	*e*P	P	05 10 40.9	-0.5
	comp=Z,6.6nm,0.8s,mb4.4						
KURK	Kurchatov	43.69	305	*e*P	P	05 10 42.5	-0.7
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
KURK	Kurchatov	43.69	305	*e*P	P	05 10 42.5	-0.7
	comp=Z,2.5nm,0.6s,mb4.1						
MCK	McKinley	44.63	36	*e*P	P	05 10 50.4	-0.4
MCK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.2						
MCK	McKinley	44.63	36	*e*P	P	05 10 50.4	-0.4
	comp=Z,4.8nm,1.2s,mb4.2						
COLA	College	45.02	35	*e*P	P	05 10 54.4	+0.5
COLA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
COLA	College	45.02	35	*e*P	P	05 10 54.4	+0.5
	comp=Z,12nm,0.8s,mb4.8						
ILAR	Eielson Array	45.44	35	P	P	05 10 57.1	0.0
	comp=Z,5.7nm,0.9s,mb4.4,baz=261,slow=7.4,SNR=33						
ILAR	Eielson Array	45.44	35	P	P	05 10 57.2	0.0
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHKZ	Chkalovo	47.70	310	*e*P	P	05 11 14.6	-0.3
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
CHKZ	Chkalovo	47.70	310	*e*P	P	05 11 14.6	-0.3
	comp=Z,1.3nm,0.4s,mb4.3						
BVAR	Borovoye Array	48.02	310	P	P	05 11 17.4	+0.1
	comp=Z,1.9nm,0.4s,mb4.5,baz=75,slow=9.0,SNR=12						
BVAR				pP	pP	05 11 34.5	+2.4
	comp=Z,1.1nm,0.5s,baz=60,slow=8.9,SNR=2.9						
BVAR	Borovoye Array	48.02	310	P	P	05 11 17.4	0.0
BVAR				*PP	pP	05 11 34.5	+2.4
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZRNK	Zerenda	48.84	310	*e*P	P	05 11 23.9	+0.2
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ZRNK	Zerenda	48.84	310	*e*P	P	05 11 23.9	+0.2
	comp=Z,1.8nm,0.6s,mb4.3						
INK	Inuvik	50.15	29	P	P	05 11 34.0	+0.4
	comp=Z,4.7nm,0.6s,mb4.7,baz=279,slow=8.9,SNR=11						
INK	Inuvik	50.15	29	P	P	05 11 34.1	+0.4
INK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
INK	Inuvik	50.15	29	*e*P	P	05 11 33.6	-0.1
	comp=Z,4.1nm,0.6s,mb4.6						
RES	Resolute Bay	58.10	15	*e*P	P	05 12 30.6	-0.9
RES				*e**PP	pP	05 12 46.3	-0.4
RES				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
RES	Resolute Bay	58.10	15	*e*P	P	05 12 30.6	-0.9
	comp=Z,6.6nm,0.6s,mb4.8						
RES				*e*pP	pP	05 12 46.2	-0.4
KEV	Kevo	59.42	339	*e*p	P	05 12 38.6	-2.1
	comp=Z,1.2nm,0.6s,mb4.1						
KEV	Kevo	59.42	339	*e*P	P	05 12 38.6	-2.1
KEV				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
YKA	Yellowknife Ar	59.66	32	P	P	05 12 42.3	0.0
	comp=Z,1.1nm,0.8s,mb4.0,baz=304,slow=6.8,SNR=6.8						
ARCES	ARCESS Array B	59.97	339	P	P	05 12 44.3	-0.2
	comp=Z,1.0nm,0.8s,mb3.9,baz=51,slow=8.4,SNR=5.0						
ARCES	ARCESS Array B	59.97	339	P	P	05 12 44.3	-0.2
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	Warramunga Arr	61.60	188	P	P	05 12 55.7	+0.1
	comp=Z,0.9nm,0.4s,mb4.3,baz=7.8,slow=7.7,SNR=34						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	61.60	188	P	P	05 12 55.7	+0.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JOF	Joensuu	62.25	331	ep	P	05 12 58.3	-1.6
	comp=Z,2.3nm,0.5s,mb4.6						
JOF	Joensuu	62.25	331	eP	P	05 12 58.3	-1.6
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
KAF	Kangasniemi	64.56	332	ep	P	05 13 11.6	-3.5
	comp=Z,1.6nm,0.5s,mb4.3,baz=47,slow=6.2						
KAF	Kangasniemi	64.56	332	eP	P	05 13 11.6	-3.5
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
FINES	FINESS Array B	65.08	332	P	P	05 13 18.3	-0.3
	comp=Z,1.8nm,0.6s,mb4.3,baz=52,slow=7.6,SNR=23						
FINES	FINESS Array B	65.08	332	P	P	05 13 18.3	-0.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	Alice Springs	65.33	188	P	P	05 13 20.9	+0.7
	comp=Z,0.6nm,0.7s,mb3.7,baz=3.7,slow=5.0,SNR=13						
ASAR	Alice Springs	65.33	188	P	P	05 13 20.9	+0.7
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	NORSAR Subarra	70.23	337	P	P	05 13 50.6	-0.4
	comp=Z,0.8nm,0.5s,mb3.9,baz=36,slow=6.5						
NOA	NORSAR Array B	70.23	337	P	P	05 13 50.6	-0.4
	comp=Z,1.1nm,0.6s,mb4.0,baz=36,slow=6.1,SNR=6.4						
NOA				LR	LR	05 47 04.1	
	comp=Z,15nm,19.1s,MS3.3,baz=130,slow=38						
NOA	NORSAR Array B	70.23	337	P	P	05 13 50.7	-0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,15nm,19.1s						
HLID	Hailey	70.94	48	eP	P	05 13 56.0	+0.7
	comp=Z,0.9nm,0.8s,mb3.8						
HLID				epP	pP	05 14 12.4	+1.5
AKASG	Malin Array Be	71.07	322	P	P	05 13 55.8	-0.3
	comp=Z,1.3nm,0.5s,mb4.1,baz=45,slow=6.5,SNR=6.9						
AKASG	Malin Array Be	71.07	322	P	P	05 13 55.8	-0.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BOZ	Bozeman (W)	71.13	45	eP	P	05 13 56.8	+0.3
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BOZ	Bozeman (W)	71.13	45	eP	P	05 13 56.8	+0.3
	comp=Z,1.3nm,0.7s,mb4.0						
NVAR	Mina Array Bea	71.89	55	P	P	05 14 02.2	+1.1
	comp=Z,1.5nm,0.7s,mb4.0,baz=308,slow=4.3,SNR=12						
NVAR				pP	pP	05 14 20.2	+3.5
	comp=Z,0.6nm,0.6s,baz=314,slow=3.1,SNR=3.6						
NVAR	Mina Array Bea	71.89	55	P	P	05 14 02.2	+1.1
NVAR				pP	pP	05 14 20.2	+3.5
MOOW	Moose Ponds	72.85	46	eP	P	05 14 07.5	+0.8
	comp=Z,1.9nm,0.9s,mb4.0						
BW06	Boulder Array	74.15	47	eP	P	05 14 14.8	+0.4
	comp=Z,2.1nm,0.8s,mb4.1						
PDAR	Pinedale Array	74.15	47	P	P	05 14 15.1	+0.7
	comp=Z,1.5nm,0.6s,mb4.1,baz=281,slow=1.3,SNR=15						
SCHQ	Schefferville	80.86	16	P	P	05 14 51.9	+0.1
	comp=Z,1.5nm,0.6s,mb4.1,baz=284,slow=4.2,SNR=5.8						
SNAA	Sanae	145.21	199	e	PKPbc	05 22 14.6	-0.3
SNAA				e		05 22 30.7	
SNAA	Sanae	145.21	199	ePKPbc	PKPbc	05 22 13.4	-1.5
SNAA				epPKPdf	pPKPdf	05 22 30.2	-1.6

IDC 08 05:09:30.3±3.3, 2369N×14445E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.8/5, MS3.3/1, Ms1 3.3/1, ms1mx2.5/32, Error ellipse: s-maj=142.0km s-min=24.0km az=79.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	38.59	318	LR	LR	05 33 45.9	
	comp=Z,39nm,19.5s,baz=266,slow=38						
WRA	Warramunga Arr	44.48	194	P	P	05 17 42.5	-0.7
	0.8nm,0.6s,baz=17,slow=9.0,SNR=18						
ASAR	Alice Springs	48.18	193	P	P	05 18 13.8	+1.5
	0.2nm,0.4s,baz=16,slow=8.6,SNR=4.0						
MKAR	Makanchi Array	54.24	312	P	P	05 18 57.7	-0.2
	0.6nm,0.4s,baz=76,slow=7.6,SNR=4.0						
BVAR	Borovoye Array	61.94	319	P	P	05 19 51.3	-0.5
	3.7nm,0.8s,baz=86,slow=8.0,SNR=12						
JOF	Joensuu	79.03	335	ep	P	05 21 36.9	+0.7
	1.5nm,0.5s						
FINES	FINESS Array B	81.89	335	P	P	05 21 52.2	+0.7
	0.3nm,0.4s,baz=98,slow=10.0,SNR=3.4						

KRSC 08 05:10:23, 6021N×16650E, h8km, ML3.7, Eastern Siberia

PRE 08 05:23:57.5±1.8, 2143S×3272E, h5km, ML3.6, Mozambique

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
POGA	Pongola	6.00	189	eP	Pn	05 25 26.7	-0.2
POGA				eS	Sn	05 26 33.5	-2.5
POGA				AML	AML	05 27 25.7	
	comp=Z,16nm,0.6s						
LBTB	Lobatse	7.46	240	eP	Pn	05 25 48.9	+1.9
LBTB				eS	Sn	05 27 08.6	-3.3
LBTB				AML	AML	05 27 41.2	
	comp=Z,3.4nm,0.5s						
SWZ	Schweizer	8.84	228	eP	Pn	05 26 08.0	+2.1
SWZ				eS	Sn	05 27 42.6	-3.3
SWZ				AML	AML	05 28 54.5	
	comp=Z,5.6nm,0.7s						
BOSA	Boshof	9.85	222	eP	Pn	05 26 20.3	+0.6
BOSA				eS	Sn	05 28 05.2	-5.4
BOSA				AML	AML	05 29 26.1	
	comp=Z,4.1nm,0.8s						

*ISCJB **08** 05:59:22.5±0.9, 38.16N±003×2279E±004, h13km±6km, Error ellipse: s-maj=6.1km s-min=5.3km az=62.9*
*CSEM **08** 05:59:22.7±0.2, 38.13N×2270E, h2km, ML2.9, Error ellipse: s-maj=4.2km s-min=3.9km az=55.0*
*NEIC **08** 05:59:22.7, 38.11N×2270E, h16km, ML2.9(ATH), After ATH.*
*ATH **08** 05:59:22.7, 38.11N×2270E, h16km±2km, MD3.2/8, ML2.9*
*THE **08** 05:59:24.3, 3821N×2282E, h1km, ML2.6*
ISC 08 05:59:22.8±0.8, 3812N±004×2276E±005, h15km±6km, n17, σ1.03/24, Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MGER	Gerania Oros	0.42	108	ePB	Pg	05 59 31.5	+0.3
LKR	Lokris	0.56	19	ePN	Pg	05 59 33.5	-0.4
LKR				eSN	Sg	05 59 42.9	+1.5
NAIG	Nisos Aigina	0.68	122	ePN	Pn	05 59 36.5	-1.4
ATH	Athens Observa	0.77	101	ePN	Pn	05 59 38.7	-0.4
ATH				eSN	Sn	05 59 50.2	-0.2
AGG	Agios Georgios	0.96	340	ePg	Pg	05 59 40.9	-0.6
AGG				eSg	Sg	05 59 54.3	+0.3
RLS	Riolos of Patr	1.02	267	ePN	Pn	05 59 41.5	-1.1
RLS				eSN	Sn	05 59 54.6	-2.1
EVR	Evrytania	1.09	317	ePN	Pn	05 59 43.0	-0.6
EVR				eSN	Sn	05 59 58.0	-0.4
ITM	Ithomi	1.15	215	ePN	Pn	05 59 43.9	-0.4
NEO	Neokhori	1.24	17	ePN	Pn	05 59 46.3	+0.7
XOR	Xorichti	1.29	15	ePg	Pg	05 59 47.0	-0.7
XOR				eSg	Sg	06 00 04.3	-0.2
AOS	Alonnisos	1.37	40	ePg	Pg	05 59 48.0	-1.2
AOS				eSg	Sg	06 00 06.3	-0.7
VLI	Veliai	1.41	174	ePN	Pn	05 59 48.6	+0.7
VLS	Valsamata	1.71	273	ePN	Pn	05 59 53.5	+1.4
LKD	Levkas	1.76	290	ePb	Pb	05 59 55.4	+0.6
KYTH	Kithira	1.85	173	ePN	Pn	05 59 56.4	+2.4
MEV	Metsovon	2.05	325	ePn	Pn	05 59 58.7	+2.0
PLG	Polygyros	2.31	13	ePN	Pn	06 00 01.5	+1.1

*LDG **08** 06:07:32.3±0.2, 4806N×803E, h2km, Md2.1/3, Ml1.9/2, Error ellipse: s-maj=3.9km s-min=2.7km az=104.0*
STR 08 06:07:32.9±0.2, 4807N×799E, h2km±1km, Ml1.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ECH	Echery	0.58	285	Pg	Pg	06 07 43.9	0.0
ECH				Sg	Sg	06 07 51.8	+0.4
CDF	Champ du Feu	0.59	306	ePg	Pg	06 07 43.9	-0.3
CDF				eSg	Sg	06 07 51.6	-0.2
	4.7nm,0.2s						
HINF	Hinteralfeld	0.81	252	ePg	Pg	06 07 47.8	-0.5
HINF				eSg	Sg	06 07 58.7	-0.1
	3.7nm,0.3s						
HAU	Haudompre	1.10	267	ePg	Pg	06 07 53.3	-0.8
HAU				eSg	Sg	06 08 07.6	-0.8
	6.2nm,0.3s						

MEX 08 06:08:06.8±0.5, 1695N×9950W, h7km±4km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.41	259	i P	Pg	06 08 14.5	-0.1
ACX				i S	Sg	06 08 20.0	0.0
CAIG	El Cayaco	0.74	278	i P	Pg	06 08 19.6	-1.4
CAIG				i S	Sg	06 08 29.7	-1.0
MEIG	Mezcala	0.98	353	i P	Pg	06 08 22.9	-2.8
MEIG				i S	Sg	06 08 36.1	-2.2

*ISCJB **08** 06:20:50.9±1.0, 2533S±009×1796E±0.1, h515km±12km, mb4.1/13, Error ellipse: s-maj=16.5km s-min=12.2km az=103.4*
*IDC **08** 06:20:51.0±1.2, 2523S×17956E, h502km±11km, mb3.6/10, mb1 3.7/11, mb1mx3.6/16, mbtmp4.5/11, Error ellipse: s-maj=18.2km s-min=12.2km az=1.0*
*NEIC **08** 06:20:51.9±1.3, 2536S×17951E, h510km±12km, mb4.4/4, Error ellipse: s-maj=29.1km s-min=12.6km az=46.0*
ISC 08 06:20:51.8±1.0, 2543S±009×1796E±01, h513km±11km, n31, σ0.82/26, mb4.1/13, 2C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.40	150	P	P	06 22 15.3	+1.0
	151nm,0.3s,baz=322,slow=23,SNR=6.7						
DZM	Mont Dzumac	12.51	283	P	P	06 23 36.3	+0.7
	0.8nm,0.3s,baz=339,slow=21,SNR=8.5						
URZ	Urewera	12.96	189	P	P	06 23 39.3	-1.1
	5.4nm,0.3s,baz=32,slow=3.4,SNR=29						
URZ				S	S	06 25 58.2	-8.9
	1.8nm,0.3s,baz=249,slow=23,SNR=8.2						
CTA	Charters Tower	31.16	273	P	P	06 26 29.1	+0.8
	27nm,0.5s,mb5.0,baz=96,slow=11,SNR=71						
STKA	Stephens Creek	33.84	250	P	P	06 26 50.1	-1.0
	1.8nm,0.4s,mb3.9,baz=80,slow=15,SNR=4.9						
PMG	Port Moresby	34.69	292	P	P	06 26 57.6	-0.5
	7.2nm,0.6s,mb4.4,baz=134,slow=3.7,SNR=6.4						
AS31	Alice Springs	41.45	262⇑	iP	P	06 27 53.9	+0.6
AS31				eS	S	06 33 31.8	+0.7
ASAR	Alice Springs	41.45	262	P	P	06 27 53.6	+0.3
	4.8nm,0.5s,mb4.3,baz=87,slow=7.4,SNR=83						
ASAR				S	S	06 33 32.0	+0.9
	1.5nm,0.8s,baz=99,slow=16,SNR=10.0						
ASPA	Alice Springs	41.45	262⇑	iP	P	06 27 53.9	+0.6
ASPA				eS	S	06 33 31.8	+0.6
WB2	Warramunga Arr	41.96	268⇓	iP	P	06 27 57.0	-0.3
WRAB	Tennant Creek	41.96	268	eP	P	06 27 56.4	-0.9
	15nm,0.9s,mb4.5						
WRA	Warramunga Arr	41.97	268	P	P	06 27 57.1	-0.3
	8.9nm,0.7s,mb4.4,baz=99,slow=6.8,SNR=110						
WRA				ScP	ScP	06 32 45.0	+2.8
	1.6nm,0.9s,baz=109,slow=4.0,SNR=5.9						
WRA				S	S	06 33 38.2	-0.3
	2.0nm,1.0s,baz=106,slow=14,SNR=5.0						
KAKA	Kakadu	46.11	277	eP	P	06 28 28.6	-0.9
	40nm,1.6s,mb4.7						
FITZ	Fitzroy Crossi	50.37	267	eP	P	06 29 01.7	+0.4
	9.3nm,1.2s,mb4.1						
FITZ	Fitzroy Crossi	50.37	267	P	P	06 29 01.6	+0.3
	3.7nm,0.7s,mb3.9,baz=298,slow=19,SNR=10						
VNDA	Vanda	52.83	185	P	P	06 29 20.1	+1.1
	0.6nm,0.8s,mb3.0,baz=339,slow=6.5,SNR=5.0						
QSPA	South Pole Qui	64.66	180	eP	P	06 30 40.1	+1.4
	6.6nm,0.7s,mb4.2						
MJAR	Matsushiro Arr	72.96	326	P	P	06 31 27.5	-1.3
	1.6nm,0.8s,mb3.5,baz=159,slow=5.0,SNR=4.0						
MAW	Mawson	76.19	201	P	P	06 31 47.9	+0.9
	1.3nm,0.6s,mb3.5,baz=129,slow=10.0,SNR=11						
SNAA	Sanae	83.15	179	e	P	06 32 23.0	-0.7
SNAA				e		06 32 24.2	
SNAA				e		06 32 25.2	
SNAA				e		06 32 27.7	
SNAA				e		06 32 38.8	
NVAR	Mina Array Bea	86.10	44	P	P	06 32 37.8	-0.3
	1.7nm,0.8s,mb3.7,baz=209,slow=7.1,SNR=12						
ARCES	ARCESS Array B	133.31	348	PKhKP		06 39 00.8	
	0.6nm,0.8s,baz=90,slow=1.3,SNR=4.2						
ARCES				PKP	PKPdf	06 39 08.1	-1.2
	0.8nm,0.6s,baz=70,slow=2.7,SNR=9.3						
ARCES				SKPbc	SKPbc	06 41 49.7	+0.4
	1.8nm,0.6s,baz=44,slow=4.2,SNR=12						
FINES	FINESS Array B	139.77	341	PKhKP		06 39 12.0	
	0.5nm,0.5s,baz=64,slow=4.4,SNR=5.4						
FINES				PKP	PKPdf	06 39 21.9	+0.7
	0.4nm,0.3s,baz=126,slow=1.9,SNR=6.8						
FINES				SKPbc	SKPbc	06 42 08.3	-0.1
	2.4nm,0.8s,baz=90,slow=3.8,SNR=13						
NB2	NORSAR Subarra	143.53	351	PKP	PKPdf	06 39 24.2	-3.7
	comp=Z,2.8nm,0.7s,baz=21,slow=3.8						
NOA	NORSAR Array B	143.53	351	PKP	PKPdf	06 39 24.5	-3.3
	comp=Z,2.7nm,0.8s,baz=22,slow=3.9,SNR=13						
HFS	Hagfors	143.97	348	PKP	PKPdf	06 39 25.8	-2.8
	comp=Z,5.2nm,0.4s,baz=53,slow=3.7,SNR=67						
AKASG	Malin Array Be	146.04	326	PKPbc	PKPbc	06 39 32.2	-1.9
	comp=Z,0.5nm,0.3s,baz=38,slow=3.4,SNR=5.9						
MMAI	Mount Meron Ar	147.97	292	PKPbc	PKPbc	06 39 40.4	+1.2
	comp=Z,3.1nm,0.6s,baz=81,slow=5.2,SNR=7.3						
EKA	Eskdalemuir Ar	150.06	3	PKPbc	PKPbc	06 39 42.6	-1.7
	comp=Z,0.8nm,0.5s,baz=3.7,slow=3.0,SNR=4.8						
CLL	Collm	152.20	342	i PKPbc	PKPbc	06 39 48.5	-0.6
	comp=Z,4.0nm,0.7s						
TORD	Torodi Ar. Bea	167.62	190	PKP	PKPdf	06 39 57.8	-1.1
	comp=Z,1.6nm,1.2s,baz=85,slow=1.8,SNR=4.0						
TORD				PKPab	PKPab	06 41 09.6	+0.9
	comp=Z,2.3nm,1.0s,baz=178,slow=3.5,SNR=8.3						

*IPEC **08** 06:35:37.9±0.3, 5158N×1624E, h0km, ML1.8/3, Error ellipse: s-maj=2.0km s-min=1.5km az=37.0*
*ISCJB **08** 06:35:38.1±1.1, 5146N±005×1607E±006, h0km, Error ellipse: s-maj=7.7km s-min=4.1km az=63.5*
*CSEM **08** 06:35:38.3±0.4, 5156N×1621E, h2km, ML2.9/5, Error ellipse: s-maj=5.7km s-min=3.1km az=28.0*
*PRU **08** 06:35:39.0, 5150N×16.16E, h0km*
ISC 08 06:35:37.6±1.1, 5154N±005×1618E±006, h0km, n16, σ0.90/28, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.70	174	ePg	Pg	06 35 52.3	+1.3
KSP				eSg	Sg	06 36 01.5	+1.4
KSP	Ksiaz	0.70	174	ePg	Pg	06 35 52.2	+1.2
KSP				eSg	Sg	06 36 01.0	+0.9
UPC	Upice	1.03	186	ePG	Pg	06 35 58.2	+0.7
DPC	Dobruska-Polom	1.19	175	ePG	Pg	06 36 01.1	+0.6
DPC				eSG	Sg	06 36 16.5	+0.6
	14nm,0.4s						
DPC	Dobruska-Polom	1.19	175	ePg	Pg	06 36 01.2	+0.7
DPC				eSg	Sg	06 36 16.6	+0.7
PVCC	Panska Ves	1.43	226	ePG	Pg	06 36 05.4	+0.3
PVCC	Panska Ves	1.43	226	ePg	Pg	06 36 05.3	+0.2
PVCC				eSg	Sg	06 36 24.7	+1.1
BRG	Berggiesshubel	1.55	246	PG	Pg	06 36 07.2	-0.2
PRU	Pruhonice	1.86	214	ePG	Pg	06 36 13.0	-0.4
PRU				eSG	Sg	06 36 36.6	-1.0
	14nm,0.4s						
MORC	Moravsky Berou	1.96	153	ePn	Pn	06 36 12.8	+0.6
MORC				eSg	Sg	06 36 40.4	-0.4
	5.8nm,0.2s						
CLL	Collm	2.00	265	ePn	Pn	06 36 12.0	-0.7
CLL				i Pg	Pg	06 36 15.9	-0.1
CLL				i x	x	06 36 19.2	
CLL				i Sg	Sg	06 36 42.5	+0.6
	comp=Z,8.0nm,0.6s						
OKC	Ostrava-Krasne	2.11	143	eSG	Sg	06 36 44.2	-1.3
VRAC	Vranov	2.25	173	ePn	Pn	06 36 17.0	+0.9
VRAC				eSg	Sg	06 36 49.6	-0.2
	comp=Z,5.0nm,0.2s						
KRUC	Moravsky	2.48	177	eSg	Sg	06 36 57.0	-0.4
	comp=Z,4.6nm,0.2s						
NKC	Novy Kostel	2.70	243	eSG	Sg	06 37 04.9	+0.6
	comp=Z,10nm,0.3s						
KHC	Kasperske Hory	2.93	216	ePN	Pn	06 36 24.2	-1.2
KHC				ePG	Pg	06 36 31.2	-2.5
KHC				eSG	Sg	06 37 10.5	-1.2
	comp=Z,4.1nm,0.6s						

*ISCJB **08** 07:14:06.2±0.3, 49.14N±002×684E±003, h0km, Error ellipse: s-maj=3.1km s-min=2.5km az=1.3*
*CSEM **08** 07:14:08.2±0.1, 49.15N×688E, h1km, ML2.6/13, Error ellipse: s-maj=1.4km s-min=1.0km az=88.0*
*NEIC **08** 07:14:08.2, 49.14N×690E, h1km, ML2.6(LDG), After LDG.*
*LDG **08** 07:14:08.2±0.1, 49.14N×690E, h1km, Md2.7/3, Ml2.6/12, Error ellipse: s-maj=1.7km s-min=1.3km az=76.0, Suspected Mining induced.*
*BGR **08** 07:14:08.4±0.5, 49.18N×686E, h1km, ML1.8/3, Error ellipse: s-maj=8.9km s-min=4.4km az=43.0*
*BNS **08** 07:14:08.8±0.8, 49.14N×700E, h1km, ML1.6*
ISC 08 07:14:07.2±0.3, 4913N±002×684E±003, h0km, n38, σ1.02/80, Germany

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WLF	Walferdange	0.70	320	ePg	Pg	07 14 21.8	+1.3
	SNR=3.1						
WLF				eSg	Sg	07 14 28.9	-0.7
WLF	Walferdange	0.70	320	ePg	Pg	07 14 21.5	+1.0
WLF				eSg	Sg	07 14 30.9	+1.3
WLF	Walferdange	0.70	320	Pg	Pg	07 14 21.8	+1.3
	SNR=3.1						
WLF				eSg	Sg	07 14 30.9	+1.3
CDF	Champ du Feu	0.78	158	ePn	Pn	07 14 24.4	-1.0
CDF				eSg	Sg	07 14 33.8	+1.6
	20nm,0.2s						
CDF	Champ du Feu	0.78	158	ePg	Pg	07 14 22.8	+0.7
CDF				ePn	Pn	07 14 24.4	-1.0
CDF				eSg	Sg	07 14 33.8	+1.6
CDF	Champ du Feu	0.78	158	ePn	Pn	07 14 24.4	-1.0
CDF				eSg	Sg	07 14 33.8	+1.6
	9.9nm,0.2s						
RFYF	Reffroy	1.03	241	ePg	Pg	07 14 28.6	+1.6
RFYF				eSg	Sg	07 14 42.1	+1.7
	30nm,0.3s						
RFYF	Reffroy	1.03	241	ePg	Pg	07 14 28.6	+1.6
RFYF				eSg	Sg	07 14 42.1	+1.7
	15nm,0.3s						
BGG	Burgeitz	1.12	17	ePg	Pg	07 14 29.0	+0.3
HILG	Hillesheim	1.17	355	ePg	Pg	07 14 30.1	+0.5
HAU	Haudompre	1.17	196	ePn	Pn	07 14 30.2	-0.7
HAU				eSg	Sg	07 14 46.5	+1.6
	13nm,0.3s						
HAU	Haudompre	1.17	196	ePn	Pn	07 14 30.2	-0.7
HAU				eSg	Sg	07 14 46.5	+1.6
	6.4nm,0.3s						
BFO	Black Forest	1.27	129	ePg	Pg	07 14 32.5	+0.9
	SNR=2.6						
BFO				eSg	Sg	07 14 48.8	+0.7
HINF	Hinteralfeld	1.32	180	ePg	Pg	07 14 33.3	+0.9
HINF				eSg	Sg	07 14 50.4	+0.9
	18nm,0.2s						
HINF	Hinteralfeld	1.32	180	ePg	Pg	07 14 33.3	+0.9
HINF				eSg	Sg	07 14 50.4	+0.9
	9.1nm,0.2s						
MEZF	Maizieres J'vi	1.34	243	ePn	Pn	07 14 32.8	-0.3
MEZF				eSg	Sg	07 14 52.0	+1.8
	13nm,0.4s						
MEZF	Maizieres J'vi	1.34	243	ePn	Pn	07 14 32.8	-0.3
MEZF				eSg	Sg	07 14 52.0	+1.8
	6.4nm,0.4s						
STB	Steinbach	1.46	0	ePg	Pg	07 14 35.4	+0.1
STB				eSg	Sg	07 14 53.8	-0.4
	8.2nm,0.5s						
TNS	Taunus Mts	1.51	43	ePn	Pn	07 14 35.0	-0.5
	SNR=0.7						
TNS				ePg	Pg	07 14 35.7	-0.4
	SNR=2.2						
TNS				eSg	Sg	07 14 54.7	-1.1
SFTF	Sexfontaines	1.51	233	ePn	Pn	07 14 35.3	-0.2
SFTF				eSg	Sg	07 14 56.8	+1.0
	12nm,0.3s						
SFTF	Sexfontaines	1.51	233	ePn	Pn	07 14 35.3	-0.2
SFTF				eSg	Sg	07 14 56.8	+1.0
	5.9nm,0.3s						
GIVF	Givet	1.63	307	ePn	Pn	07 14 37.0	-0.2
GIVF				eSg	Sg	07 15 00.7	+1.1
	15nm,0.4s						
GIVF	Givet	1.63	307	ePn	Pn	07 14 37.0	-0.2
GIVF				eSg	Sg	07 15 00.7	+1.1
	7.6nm,0.4s						
BAIF	Baives	1.95	299	ePg	Pg	07 14 44.5	0.0
BAIF				eSg	Sg	07 15 10.4	+0.6
	6.4nm,0.4s						
BAIF	Baives	1.95	299	ePn	Pn	07 14 41.4	-0.1
BAIF				ePg	Pg	07 14 44.5	0.0
BAIF				eSg	Sg	07 15 10.4	+0.6
BAIF	Baives	1.95	299	ePg	Pg	07 14 44.5	0.0
BAIF				eSg	Sg	07 15 10.4	+0.6
	3.2nm,0.4s						
CABF	La Chapelle	2.57	192	ePn	Pn	07 14 49.5	-0.6
CABF				eSg	Sg	07 15 29.4	-0.5
	17nm,1.0s						
CABF	La Chapelle	2.57	192	ePn	Pn	07 14 49.5	-0.6
CABF				eSg	Sg	07 15 29.4	-0.5
	8.6nm,1.0s						
LOR	Lormes	2.73	228	ePg	Pg	07 14 59.7	+0.2
LOR				eSn	Sn	07 15 23.9	-2.1
LOR				eSg	Sg	07 15 33.7	-1.2
	7.0nm,0.4s						
LOR	Lormes	2.73	228	ePn	Pn	07 14 50.9	-1.4
LOR				ePg	Pg	07 14 59.7	+0.2
LOR				eSn	Sn	07 15 23.9	-2.1
LOR				eSg	Sg	07 15 33.7	-1.2
LOR	Lormes	2.73	228	ePg	Pg	07 14 59.7	+0.2
LOR				eSn	Sn	07 15 23.9	-2.1
LOR				eSg	Sg	07 15 33.7	-1.2
	3.5nm,0.4s						
SSF	Saint Saulge	3.05	228	ePn	Pn	07 14 55.8	-0.8
SMF	Signal de Mont	3.20	220	ePn	Pn	07 14 57.6	-1.2
SMF				eSg	Sg	07 15 49.1	-1.0
	3.4nm,0.3s						
SMF	Signal de Mont	3.20	220	ePn	Pn	07 14 57.6	-1.2
SMF				eSg	Sg	07 15 49.1	-1.0
	1.7nm,0.3s						
AVF	Avril sur Loir	3.31	226	ePn	Pn	07 14 58.7	-1.6
BGF	Bois d'Agland	3.72	228	ePn	Pn	07 15 05.1	-0.8
BGF				eSn	Sn	07 15 47.8	-2.7
BGF				eSg	Sg	07 16 06.1	-0.7
	7.2nm,0.4s						
BGF	Bois d'Agland	3.72	228	ePn	Pn	07 15 05.1	-0.8
BGF				eSn	Sn	07 15 47.8	-2.7
BGF				eSg	Sg	07 16 06.1	-0.7
	3.6nm,0.4s						
GEC2	GERESS Array S	4.53	91	ePn	Pn	07 15 17.6	+0.6
	SNR=1.7						

IDC 08 07:14:27.8±17.0, 2076S×17411W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/17, mbtmp4.1/5, MS3.7/1, Ms1 3.7/1, ms1mx2.6/26, Error ellipse: s-maj=319.6km s-min=143.3km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.09	264	P	P	07 21 40.9	+1.1
	5.1nm,0.9s,baz=100,slow=12,SNR=4.2						
STKA	Stephens Creek	40.97	245	P	P	07 22 12.3	+0.1
	0.9nm,0.4s,baz=72,slow=9.6,SNR=3.9						
ASAR	Alice Springs	48.00	256	P	P	07 23 08.2	-0.2
	1.5nm,0.6s,baz=101,slow=7.4,SNR=26						
ASPA	Alice Springs	48.00	256	eP	P	07 23 08.3	-0.2
WB2	Warramunga Arr	48.16	261	eP	P	07 23 09.3	-0.4
WRA	Warramunga Arr	48.17	261	P	P	07 23 09.4	-0.3
	0.8nm,0.3s,baz=97,slow=8.1,SNR=63						
WRA				LR	LR	07 40 37.2	
	comp=Z,76nm,20.3s,baz=115,slow=33						
FITZ	Fitzroy Crossi	56.60	262	eP	P	07 24 13.4	+1.1
	6.9nm,1.5s						
FITZ	Fitzroy Crossi	56.60	262	P	P	07 24 13.4	+1.0
	0.6nm,0.4s,baz=50,slow=18,SNR=9.1						

*ISCJB **08** 07:15:31.7±0.7, 24.10S±007×669W±0.1, h191km±14km,*

mb3.3/1, Error ellipse: s-maj=17.6km s-min=10.7km az=174.4

*IDC **08** 07:15:32.9±1.4, 2403S×6692W, h184km±14km, mb3.2/1, mb1 3.4/7, mb1mx3.3/19, mbtmp3.8/7, Error ellipse: s-maj=21.7km s-min=17.7km az=173.0*

*NEIC **08** 07:15:32.7±0.7, 2407S×6689W, h181km±20km, mb4.3/1, Error ellipse: s-maj=15.3km s-min=11.2km az=107.0*

ISC 08 07:15:32.7±0.7**, 2409S**±007×**669W**±01**, h183**km±14km**, n15, σ0.60**/16**, mb3.3**/1**, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.35**	**308**	P	**Pn**	**07 16 14.3**	**+0.4**
	32nm,0.3s,baz=130,slow=6.3,SNR=373						
LVC				S	**Sn**	**07 16 46.1**	**+0.3**
	46nm,0.3s,baz=224,slow=3.6,SNR=6.7						
CFAA	**Coronel Fontan**	**7.58**	**189**	P	**Pn**	**07 17 15.1**	**-5.4**
	baz=6.3,slow=9.2						
CFAA				S	**Sn**	**07 18 39.7**	**-6.0**
	0.2nm,0.3s,baz=204,slow=8.5,SNR=9.2						
CFAA	**Coronel Fontan**	**7.58**	**189**	P	**Pn**	**07 17 15.1**	**-5.4**
CFAA				S	**Sn**	**07 18 39.7**	**-6.0**
LPAZ	**La Paz**	**7.84**	**351**	P	**Pn**	**07 17 24.6**	**+0.7**
	0.4nm,0.3s,baz=164,slow=6.2,SNR=17						
LPAZ				S	**Sn**	**07 18 51.1**	**-0.9**
	0.1nm,0.3s,baz=317,slow=19,SNR=4.4						
CPUP	**Villa Florida**	**8.96**	**106**	P	**Pn**	**07 17 38.7**	**+0.1**
	0.3nm,0.3s,baz=274,slow=12,SNR=5.3						
CPUP	**Villa Florida**	**8.96**	**106**	P	**Pn**	**07 17 38.7**	**+0.1**
SIV	**San Ignacio**	**9.74**	**35**	P	**Pn**	**07 17 47.9**	**-0.9**
	0.5nm,0.3s,baz=220,slow=12,SNR=15						
TRQA	**Tornquist**	**14.55**	**164**	ePn	**Pn**	**07 18 50.0**	**0.0**
	20nm,1.5s						
PLCA	**Paso Flores**	**16.88**	**190**	P	**Pn**	**07 19 17.6**	**-0.8**
	0.1nm,0.3s,baz=326,slow=17,SNR=2.8						
BDFB	**Brasilia**	**19.64**	**68**	P	**P**	**07 19 48.1**	**+0.7**
	0.9nm,0.3s,baz=248,slow=11,SNR=19						
SNAA	**Sanae**	**59.24**	**161**	e	**P**	**07 25 14.6**	**-0.2**
SNAA				e		07 25 15.5	
TORD	**Torodi Ar. Bea**	**76.52**	**69**	P	**P**	**07 27 03.1**	**+0.5**
	0.3nm,0.4s,mb3.3,baz=261,slow=5.8,SNR=10						
ASAR	**Alice Springs**	**128.41**	**205**	PKP	PKPdf	07 34 18.1	+0.5
	0.4nm,0.7s,baz=131,slow=1.9,SNR=4.6						
WRA	**Warramunga Arr**	**131.59**	**207**	PKP	PKPdf	07 34 24.0	+0.4
	0.3nm,0.4s,baz=154,slow=1.7,SNR=9.6						
MKAR	**Makanchi Array**	**146.54**	**40**	PKPbc	PKPbc	07 34 51.7	-0.8
	0.6nm,0.4s,baz=316,slow=3.3,SNR=6.4						

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*GUC **08** 07:43:26.0±1.1, 3709S×7183W, h98km±9km, ML5.1*

*ISCJB **08** 07:43:26.9±0.4, 3708S±003×7159W±005, h91km±2km, mb4.5/31, Error ellipse: s-maj=7.0km s-min=4.1km az=22.4*

*MOS **08** 07:43:27.6±0.9, 3703S×7142W, h99km, mb4.8/12, Error ellipse: s-maj=19.5km s-min=8.1km az=96.2*

*NEIC **08** 07:43:28.0, 3701S×7153W, h98km, mb4.7/23, After GUC.*

NEIC Felt [III] at Bulnes, Chillan, Concepcion, Linares, Los Angeles, Parral and Talca; [II] at Cauquenes and Mulchen.

*IDC **08** 07:43:28.1±0.6, 3704S×7167W, h92km±5km, mb4.3/14, mb1 4.2/17, mb1mx4.2/20, mbtmp4.5/17, MS3.5/7, Ms1 3.5/7, ms1mx3.2/25, Error ellipse: s-maj=17.4km s-min=10.9km az=96.0*

*BJI **08** 07:43:28.0, 3700S×7150W, h98km, mB4.9*

ISC 08 07:43:27.9±0.4**, 3708S**±003×**7167W**±005**, h88**km±2km**, h93**km±1.7km**:pP-P, n233, σ0.76**/226**, mb4.5**/31**, 44C-48D, Southern Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.58**	**326**	⇑iP	**Pn**	**07 43 43.9**	**+0.8**
CCHI				iS	**Sn**	**07 43 55.5**	**+1.1**
CCHI				AML	AML	07 43 56.4	
	comp=N,41μm,0.6s						
CCHI	**Chillan**	**0.58**	**326**	⇑iP	**Pn**	**07 43 43.9**	**+0.8**
CCHI				iS	**Sn**	**07 43 55.5**	**+1.1**
LNCH	**Linares**	**1.23**	**3**	⇑iP	**Pn**	**07 43 50.6**	**+0.4**
LNCH				iS	**Sn**	**07 44 08.1**	**+1.1**
LNCH				AML	AML	07 44 08.7	
	comp=N,38μm,0.8s						
LNCH	**Linares**	**1.23**	**3**	⇑iP	**Pn**	**07 43 50.6**	**+0.4**
LNCH				iS	**Sn**	**07 44 08.1**	**+1.1**
CNCO	**Chanco**	**1.51**	**332**	⇑iP	**Pn**	**07 43 52.9**	**-0.8**
CNCO				iS	**Sn**	**07 44 12.0**	**-1.2**
CNCO				AML	AML	07 44 17.6	
	comp=N,21μm,0.2s						
CNCO	**Chanco**	**1.51**	**332**	⇑iP	**Pn**	**07 43 52.9**	**-0.8**
CNCO				iS	**Sn**	**07 44 12.0**	**-1.2**
TALC	**Talca**	**1.68**	**1**	⇑iP	**Pn**	**07 43 55.8**	**-0.1**
TALC				iS	**Sn**	**07 44 16.8**	**-0.3**
TALC				AML	AML	07 44 17.6	
	comp=E,33μm,0.1s						
TALC	**Talca**	**1.68**	**1**	⇑iP	**Pn**	**07 43 55.8**	**-0.1**
TALC				iS	**Sn**	**07 44 16.8**	**-0.3**
TMU	**Temuco**	**1.81**	**204**	eP	**Pn**	**07 43 56.4**	**-1.0**
TMU				iS	**Sn**	**07 44 18.2**	**-1.7**
CTCH	**Constitucion**	**1.85**	**341**	⇑iP	**Pn**	**07 43 57.6**	**-0.4**
CTCH				iS	**Sn**	**07 44 20.4**	**-0.6**
CTCH				AML	AML	07 44 28.8	
	comp=E,63μm,0.7s						
CTCH	**Constitucion**	**1.85**	**341**	⇑iP	**Pn**	**07 43 57.6**	**-0.4**
CTCH				iS	**Sn**	**07 44 20.4**	**-0.6**
SFDO	**San Fernando**	**2.52**	**12**	⇓iP	**Pn**	**07 44 07.2**	**+0.3**
CICH	**Cipreses**	**2.94**	**21**	⇑iP	**Pn**	**07 44 14.1**	**+1.5**
VLCH	**Valdivia**	**2.99**	**204**	eP	**Pn**	**07 44 08.1**	**-5.0**
VLCH				iS	**Sn**	**07 44 41.8**	**-6.3**
CACH	**El Canelo**	**3.08**	**17**	⇑iP	**Pn**	**07 44 15.2**	**+0.7**
LNV	**Longovilo**	**3.13**	**4**	⇑iP	**Pn**	**07 44 14.6**	**-0.5**
CHCH	**Chadas Angostu**	**3.25**	**15**	⇑iP	**Pn**	**07 44 16.9**	**+0.2**
PCH	**Pirque**	**3.58**	**16**	⇑iP	**Pn**	**07 44 21.4**	**+0.2**
SJCH	**San Jose de Ma**	**3.60**	**18**	eP	**Pn**	**07 44 21.6**	**+0.2**
SJCH				iS	**Sn**	**07 45 03.4**	**+0.5**
ANTU	**Antumapu**	**3.61**	**14**	eP	**Pn**	**07 44 21.4**	**-0.1**
ANTU				iS	**Sn**	**07 45 03.5**	**+0.4**
YECH	**El Yeso**	**3.65**	**21**	eP	**Pn**	**07 44 23.0**	**+0.9**
YECH				iS	**Sn**	**07 45 06.5**	**+2.4**
RCDM	**Rinconada Maip**	**3.65**	**11**	eP	**Pn**	**07 44 21.3**	**-0.9**
RCDM				iS	**Sn**	**07 45 03.4**	**-0.8**
FSR	**Penalolen**	**3.71**	**15**	eP	**Pn**	**07 44 23.3**	**+0.2**
FSR				iS	**Sn**	**07 45 06.5**	**+0.8**
STL	**Santa Lucia**	**3.73**	**13**	eP	**Pn**	**07 44 22.2**	**-1.0**
STL				iS	**Sn**	**07 45 04.9**	**-1.3**
PLCA	**Paso Flores**	**3.75**	**167**	P	**Pn**	**07 44 24.6**	**+1.1**
	comp=E,18nm,0.3s,baz=332,slow=13,SNR=475						
PLCA				S	**Sn**	**07 45 12.7**	**+6.2**
	comp=E,5.6nm,0.3s,baz=336,slow=8.7,SNR=3.8						
PLCA				LR	LR	07 45 44.4	
	comp=E,502nm,20.8s,baz=306,slow=36						
PLCA	**Paso Flores**	**3.75**	**167**	ePn	**Pn**	**07 44 24.6**	**+1.2**
DSCH	**Colegio Aleman**	**3.79**	**14**	eP	**Pn**	**07 44 23.1**	**-0.9**
DSCH				iS	**Sn**	**07 45 07.2**	**-0.2**
CLCH	**Cerro Calan**	**3.79**	**14**	⇑iP	**Pn**	**07 44 23.9**	**-0.1**
FCH	**Farellones**	**3.91**	**17**	eP	**Pn**	**07 44 25.8**	**+0.1**
FCH				eS	**Sn**	**07 45 11.9**	**+1.4**
PEL	**Peldehue**	**4.01**	**12**	⇓iP	**Pn**	**07 44 26.7**	**-0.4**
PEL				iS	**Sn**	**07 45 12.5**	**-0.4**
CFAA	**Coronel Fontan**	**6.16**	**28**	P	**Pn**	**07 44 54.7**	**-1.5**
	comp=E,0.4nm,0.3s,baz=215,slow=10,SNR=135						
CFAA				S	**Sn**	**07 46 03.5**	**-1.7**
	comp=E,1.5nm,0.3s,baz=51,slow=18,SNR=4.0						
CFAA	**Coronel Fontan**	**6.16**	**28**	P	**Pn**	**07 44 54.7**	**-1.5**
CFAA				S	**Sn**	**07 46 03.5**	**-1.7**
TRQA	**Tornquist**	**7.76**	**100**	ePn	**Pn**	**07 45 19.9**	**+1.9**
LVC	**Limon Verde**	**14.62**	**10**	P	**Pn**	**07 46 49.2**	**-1.0**
	comp=E,0.4nm,0.3s,baz=245,slow=8.0,SNR=4.5						
LVC				LR	LR	07 52 43.1	
	comp=E,143nm,21.8s,baz=204,slow=38						
LVC	**Limon Verde**	**14.62**	**10**	ePn	**Pn**	**07 46 51.1**	**+0.9**
	comp=E,19nm,0.6s						
CPUP	**Villa Florida**	**16.22**	**53**	P	**Pn**	**07 47 11.4**	**+1.0**
	comp=E,0.6nm,0.3s,baz=209,slow=10,SNR=8.3						
CPUP	**Villa Florida**	**16.22**	**53**	eP	**Pn**	**07 47 08.8**	**-1.6**
CPUP				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CPUP	**Villa Florida**	**16.22**	**53**	ePn	**Pn**	**07 47 08.8**	**-1.7**
	comp=Z,7.9nm,0.5s						
EFI	**East Falkland**	**17.49**	**151**	eP	**Pn**	**07 47 24.8**	**-1.2**
ARE	**Arequipa**	**20.54**	**0**	eP	**P**	**07 48 01.0**	**+1.8**
LPAZ	**La Paz**	**20.95**	**10**	P	**P**	**07 48 05.2**	**+1.6**
	comp=Z,8.5nm,0.6s,baz=181,slow=9.6,SNR=33						
LPAZ	**La Paz**	**20.95**	**10**	eP	**P**	**07 48 03.0**	**-0.6**
LPAZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
LPAZ	**La Paz**	**20.95**	**10**	eP	**P**	**07 48 03.0**	**-0.6**
	comp=Z,9.4nm,0.7s						
SIV	**San Ignacio**	**23.01**	**27**	P	**P**	**07 48 24.0**	**-1.3**
	comp=Z,35nm,0.7s,mb4.8,baz=210,slow=9.1,SNR=169						
SIV				pP		07 48 45.2	
	comp=Z,6.2nm,0.6s,baz=155,slow=7.2,SNR=3.3						
PMSA	**Palmer Station**	**28.10**	**173**	eP	**P**	**07 49 12.4**	**+1.1**
SAML	**Samuel**	**29.05**	**17**	eP	**P**	**07 49 18.1**	**-1.5**
	comp=Z,2.3nm,0.7s,mb3.9						
BDFB	**Brasilia**	**29.93**	**51**	P	**P**	**07 49 26.4**	**-1.2**
	comp=Z,2.1nm,0.6s,mb4.0,baz=222,slow=3.7,SNR=6.5						
BDFB				pP	pP	07 49 48.6	+1.0
	comp=Z,3.0nm,0.7s,baz=207,slow=7.1,SNR=3.2						
BDFB				LR	LR	08 03 11.3	
	comp=Z,66nm,19.4s,baz=203,slow=40						
BDFB	**Brasilia**	**29.93**	**51**	P	**P**	**07 49 26.4**	**-1.1**
BDFB				*PP	pP	07 49 48.6	+0.9
OTAV	**Otavalo**	**37.66**	**349**	eP	**P**	**07 50 35.7**	**+1.3**
ROSC	**El Rosal**	**41.79**	**356**	P	**P**	**07 51 10.3**	**+1.6**
	comp=Z,10nm,0.7s,mb4.7,baz=151,slow=4.5,SNR=8.2						
RCBR	**Riachuelo**	**45.08**	**55**	eP	**P**	**07 51 30.3**	**-4.8**
VNA1	**Neumayer--Stat**	**46.74**	**156**	⇓iP	**P**	**07 51 49.9**	**+1.8**
VNA1				e		07 51 52.0	
VNA1				e		07 51 55.9	
VNA1				e	pP	07 52 09.9	+0.6
VNA1				e		07 52 20.3	
SNAA	**Sanae**	**48.63**	**157**	⇓iP	**P**	**07 52 02.6**	**-0.2**
SNAA				e		07 52 05.8	
SNAA				e		07 52 10.5	
SNAA				e	pP	07 52 25.0	+0.9
SNAA				e		07 52 36.1	
SNAA	**Sanae**	**48.63**	**157**	eP	**P**	**07 52 02.7**	**-0.1**
SNAA				e*PP	pP	07 52 24.6	+0.5
SNAA				e*SP	sP	07 52 36.3	+2.3
SNAA				pmax	pmax		
	comp=Z,12nm,0.9s						
SNAA	**Sanae**	**48.63**	**157**	eP	**P**	**07 52 02.7**	**0.0**
	comp=Z,12nm,0.9s,mb4.8						
SNAA				epP	pP	07 52 24.6	+0.5
SNAA				esP	sP	07 52 36.3	+2.3
JTS	**JuntasAbangare**	**48.74**	**342**	P	**P**	**07 52 03.9**	**+0.3**
	comp=Z,3.3nm,0.7s,mb4.4,baz=67,slow=8.2,SNR=4.0						
JTS	**JuntasAbangare**	**48.74**	**342**	P	**P**	**07 52 03.9**	**+0.3**
QSPA	**South Pole Qui**	**53.16**	**180**	eP	**P**	**07 52 37.0**	**+0.3**
	comp=Z,9.4nm,0.8s,mb4.9						
CMIG	**Matias Romero**	**58.16**	**334**	LR	LR	08 13 20.1	
	comp=Z,43nm,19.4s,baz=313,slow=31						
TEIG	**Tepich**	**59.11**	**342**	eP	**P**	**07 53 18.2**	**-0.9**
VNDA	**Vanda**	**61.15**	**192**	P	**P**	**07 53 33.4**	**+0.4**
	comp=Z,1.4nm,1.0s,mb3.9,baz=146,slow=2.8,SNR=5.8						
SYO	**Syowa Base**	**62.90**	**158**	⇓eP	**P**	**07 53 41.0**	**-3.7**
SYO	**Syowa Base**	**62.90**	**158**	⇓epP	pP	07 54 05.0	-2.0
MAW	**Mawson**	**70.15**	**163**	P	**P**	**07 54 30.1**	**-0.8**
	comp=Z,2.8nm,0.7s,mb4.2,baz=218,slow=6.9,SNR=6.0						
MAW				pP	pP	07 54 53.5	0.0
	comp=Z,2.8nm,0.7s,baz=216,slow=8.1,SNR=4.1						
MAW				LR	LR	08 26 03.1	
	comp=Z,66nm,18.1s,baz=65,slow=36						
MAW	**Mawson**	**70.15**	**163**	P	**P**	**07 54 30.1**	**-0.8**
MAW				*PP	pP	07 54 53.5	0.0
HKT	**Hockley**	**70.42**	**338**	eP	**P**	**07 54 31.8**	**-0.8**
HKT				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.5						
HKT	**Hockley**	**70.42**	**338**	eP	**P**	**07 54 31.8**	**-0.8**
	comp=Z,11nm,1.5s,mb4.5						
LTX	**Lajitas**	**72.57**	**331**	eP	**P**	**07 54 45.1**	**-0.4**
SUR	**Sutherland**	**73.10**	**118**	P	**P**	**07 54 50.6**	**+2.0**
	comp=Z,6.9nm,0.7s,mb4.6,baz=245,slow=7.1,SNR=9.4						
CPCT	**Cooper Cave**	**73.15**	**349**	eP	**P**	**07 54 48.0**	**-0.9**
TZTN	**Tazewell**	**74.08**	**350**	eP	**P**	**07 54 53.0**	**-1.4**
DBIC	**Dimbokro**	**75.91**	**70**	P	**P**	**07 55 05.3**	**+0.5**
	comp=Z,9.4nm,0.6s,mb4.7,baz=201,slow=5.0,SNR=21						
DBIC	**Dimbokro**	**75.91**	**70**	eP	**P**	**07 55 02.5**	**-2.4**
DBIC				pmax	pmax		
	comp=Z,20nm,1.0s						
DBIC	**Dimbokro**	**75.91**	**70**	eP	**P**	**07 55 02.5**	**-2.4**
	comp=Z,20nm,1.0s,mb4.8						
FVM	**French Village**	**76.68**	**345**	eP	**P**	**07 55 07.8**	**-1.4**
FVM				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
FVM	**French Village**	**76.68**	**345**	eP	**P**	**07 55 07.8**	**-1.4**
	comp=Z,13nm,1.0s,mb4.6						
AMTX	**Amarillo**	**76.85**	**335**	eP	**P**	**07 55 09.6**	**-0.6**
CCM	**Cathedral Cave**	**76.92**	**344**	eP	**P**	**07 55 09.3**	**-1.3**
BNM	**Barren Site**	**77.99**	**331**	eP	**P**	**07 55 16.4**	**-0.2**
TUC	**Tucson**	**78.11**	**327**	eP	**P**	**07 55 17.5**	**+0.3**
BOSA	**Boshof**	**78.39**	**117**	P	**P**	**07 55 19.1**	**+0.3**
	comp=Z,6.0nm,0.6s,mb4.5,baz=241,slow=4.1,SNR=9.6						
BOSA				pP	pP	07 55 42.9	+1.1
	comp=Z,2.5nm,0.7s,baz=212,slow=11,SNR=1.9						
BOSA				LR	LR	08 28 40.1	
	comp=Z,45nm,18.3s,baz=351,slow=35						
BOSA	**Boshof**	**78.39**	**117**	eP	**P**	**07 55 19.7**	**+0.9**
BOSA				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
BOSA	**Boshof**	**78.39**	**117**	eP	**P**	**07 55 19.7**	**+0.9**
	comp=Z,10.0nm,0.9s,mb4.5						
LAZ	**Ladron**	**78.41**	**331**	eP	**P**	**07 55 19.6**	**+0.7**
ANMO	**Albuquerque**	**78.63**	**331**	eP	**P**	**07 55 19.7**	**-0.4**
ANMO				pmax	pmax		
	comp=Z,11nm,1.2s						
ANMO	**Albuquerque**	**78.63**	**331**	eP	**P**	**07 55 19.7**	**-0.4**
	comp=Z,11nm,1.2s,mb4.6						
116A	**Eloy**	**78.72**	**326**	⇑P	**P**	**07 55 20.8**	**+0.2**
	baz=79						
QUA2	**Belchertown**	**78.99**	**359**	eP	**P**	**07 55 21.6**	**-0.5**
	comp=Z,3.9nm,0.7s,mb4.3						
HRV	**Harvard--Oak R**	**79.21**	**0**	eP	**P**	**07 55 23.4**	**+0.1**
HRV				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
HRV	**Harvard--Oak R**	**79.21**	**0**	eP	**P**	**07 55 23.4**	**+0.1**
	comp=Z,13nm,1.0s,mb4.7						
Z14A	**Wintersburg**	**79.96**	**326**	⇓P	**P**	**07 55 27.3**	**0.0**
	baz=80						
ACCN	**Adirondack Com**	**80.11**	**359**	eP	**P**	**07 55 27.6**	**-0.6**
HNH	**Hanover**	**80.41**	**360**	eP	**P**	**07 55 29.8**	**0.0**
Y14A	**Wickenburg**	**80.47**	**326**	⇓P	**P**	**07 55 30.2**	**+0.2**
	baz=81,SNR=6.4						
GLA	**Glamis**	**80.56**	**324**	eP	**P**	**07 55 30.7**	**+0.2**
GLA	**Glamis**	**80.56**	**324**	⇓P	**P**	**07 55 31.0**	**+0.4**
	baz=81						
X15A	**Humboldt**	**80.60**	**327**	⇓P	**P**	**07 55 31.4**	**+0.6**
	baz=81						
LBTB	**Lobatse**	**80.75**	**114**	eP	**P**	**07 55 30.0**	**-1.6**
LBTB				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.0						
LBTB	**Lobatse**	**80.75**	**114**	eP	**P**	**07 55 30.0**	**-1.6**
	comp=Z,14nm,0.6s,mb5.0						
X14A	**Yava**	**80.86**	**327**	⇓P	**P**	**07 55 32.6**	**+0.5**
	baz=81						
LBNH	**Lisbon**	**80.94**	**360**	eP	**P**	**07 55 32.7**	**+0.1**
LBNH				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
LBNH	**Lisbon**	**80.94**	**360**	eP	**P**	**07 55 32.6**	**+0.1**
	comp=Z,9.8nm,1.0s,mb4.6						
Y12C	**Blythe**	**81.00**	**325**	⇑P	**P**	**07 55 33.5**	**+0.6**
	baz=81						
W15A	**Williams**	**81.20**	**327**	⇓P	**P**	**07 55 34.5**	**+0.6**
	baz=82						
109C	**Camp Elliot, M**	**81.51**	**323**	⇓P	**P**	**07 55 35.8**	**+0.3**
	baz=82						
FRNY	**Flat Rock**	**81.56**	**359**	eP	**P**	**07 55 34.9**	**-0.9**
W14A	**Seligman**	**81.57**	**327**	⇓P	**P**	**07 55 36.8**	**+0.9**
	baz=82						
PFO	**Pinyon Flat Ob**	**81.78**	**324**	eP	**P**	**07 55 37.8**	**+0.8**
PFO	**Pinyon Flat Ob**	**81.78**	**324**	⇑P	**P**	**07 55 37.8**	**+0.8**
	baz=82						
W12A	**Cal Nev Ari**	**82.44**	**326**	⇑P	**P**	**07 55 40.8**	**+0.3**
	baz=83						
SMCO	**Snowmass**	**82.56**	**333**	eP	**P**	**07 55 41.2**	**+0.2**
	comp=Z,16nm,1.1s,mb4.8						
V12A	**Nelson**	**82.79**	**326**	⇓P	**P**	**07 55 42.5**	**+0.2**
	baz=83,SNR=7.0						
TUQ	**Turquoise Mtn.**	**83.04**	**325**	⇓P	**P**	**07 55 44.2**	**+0.7**
	baz=83						
U12A	**Valley of Fire**	**83.24**	**326**	P	**P**	**07 55 44.9**	**+0.3**
	baz=84,SNR=5.1						
GSC	**Goldstone**	**83.33**	**324**	⇓P	**P**	**07 55 45.5**	**+0.4**
	baz=84						
SHPR	**Sheep Range**	**83.58**	**326**	eP	**P**	**07 55 46.8**	**+0.5**
U11A	**Corn Creek**	**83.61**	**326**	⇓P	**P**	**07 55 47.3**	**+0.9**
	baz=84						
CCUT	**Cedar City**	**83.67**	**328**	eP	**P**	**07 55 47.1**	**+0.3**
CCUT				epP	pP	07 56 12.0	+1.9
CCUT				esP	sP	07 56 20.6	+1.1
PHWY	**Pilot Hill**	**83.91**	**335**	eP	**P**	**07 55 47.8**	**-0.2**
U10A	**Ash Meadows, A**	**84.03**	**325**	⇑P	**P**	**07 55 49.1**	**+0.4**
	baz=84						
TMUT	**Trail Mountain**	**84.27**	**330**	eP	**P**	**07 55 50.1**	**+0.2**
ISA	**Isabella**	**84.42**	**323**	eP	**P**	**07 55 51.6**	**+1.0**
ISA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ISA	**Isabella**	**84.42**	**323**	eP	**P**	**07 55 51.6**	**+1.0**
	comp=Z,6.7nm,1.0s,mb4.4						
ISA	**Isabella**	**84.42**	**323**	⇑P	**P**	**07 55 51.0**	**+0.5**
	baz=85						
TPNV	**Topopah Spring**	**84.43**	**326**	eP	**P**	**07 55 51.2**	**+0.5**
TPNV				e*PP	pP	07 56 16.1	+2.1
RWWY	**Rawlins**	**84.86**	**334**	eP	**P**	**07 55 52.4**	**-0.4**
RWWY				epP	pP	07 56 18.1	+1.9
TOA0	**Torodi Ar. Sit**	**84.99**	**70**	eP	**P**	**07 55 52.0**	**-1.5**
TOA0				epP	pP	07 56 17.6	+0.8
TORD	**Torodi Ar. Bea**	**84.99**	**70**	P	**P**	**07 55 53.5**	**0.0**
	comp=Z,7.2nm,0.9s,mb4.6,baz=228,slow=4.3,SNR=29						
TORD				pP	pP	07 56 18.0	+1.2
	comp=Z,3.2nm,0.8s,baz=249,slow=4.6,SNR=4.2						
TORD				LR	LR	08 32 57.5	
	comp=Z,26nm,18.6s,baz=65,slow=35						
TORD	**Torodi Ar. Bea**	**84.99**	**70**	P	**P**	**07 55 53.5**	**0.0**
TORD				pP	pP	07 56 18.0	+1.2
TORD				LR	LR	08 32 57.5	
MPU	**Maple Canyon**	**85.05**	**330**	eP	**P**	**07 55 53.7**	**-0.1**
	comp=Z,10.0nm,1.0s,mb4.7						
NLU	**North Lily Min**	**85.18**	**330**	eP	**P**	**07 55 54.5**	**+0.1**
DAU	**Daniels Canyon**	**85.25**	**331**	eP	**P**	**07 55 55.1**	**+0.4**
S09A	**Goldfield**	**85.51**	**325**	P	**P**	**07 55 56.3**	**+0.2**
	baz=86,SNR=7.1						
Q12A	**Willow Creek R**	**85.54**	**328**	⇓P	**P**	**07 55 56.6**	**+0.4**
	baz=86						
R10A	**Warm Springs**	**85.56**	**326**	⇑P	**P**	**07 55 56.9**	**+0.6**
	baz=86						
V04C	**Ramage Ranch,**	**85.56**	**322**	⇓P	**P**	**07 55 57.0**	**+0.7**
	baz=86						
PKD	**Parkfield**	**85.64**	**322**	⇓P	**P**	**07 55 57.2**	**+0.5**
	baz=86						
Q11A	**Duckwater**	**85.74**	**327**	⇓P	**P**	**07 55 57.4**	**+0.2**
	baz=86						
R09A	**Tonopah**	**85.86**	**326**	⇑P	**P**	**07 55 58.0**	**+0.2**
	baz=86,SNR=8.6						
TCUT	**Toone Canyon**	**85.91**	**331**	eP	**P**	**07 55 57.9**	**-0.1**
P12A	**McGill**	**85.94**	**328**	⇓P	**P**	**07 55 58.0**	**-0.1**
	baz=86						
RSSD	**Black Hills**	**85.99**	**337**	eP	**P**	**07 55 57.6**	**-0.8**
RSSD				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
RSSD	**Black Hills**	**85.99**	**337**	eP	**P**	**07 55 57.6**	**-0.8**
	comp=Z,12nm,0.8s,mb4.9						
U04C	**Hernandez Rese**	**86.09**	**322**	⇑P	**P**	**07 55 59.4**	**+0.5**
	baz=86						
KCC	**Kaiser Creek**	**86.16**	**324**	⇓P	**P**	**07 55 59.4**	**+0.2**
	baz=86						
MLAC	**Mammoth Lakes**	**86.18**	**324**	⇓P	**P**	**07 56 00.0**	**+0.7**
	baz=86						
P11A	**Circle Ranch,**	**86.36**	**327**	⇑P	**P**	**07 56 00.3**	**+0.1**
	baz=87						
HWUT	**Hardware Ranch**	**86.39**	**331**	eP	**P**	**07 56 00.2**	**-0.2**
Q09A	**Carvers**	**86.40**	**326**	⇓P	**P**	**07 56 00.7**	**+0.3**
	baz=87						
MNV	**Mina**	**86.51**	**325**	eP	**P**	**07 56 01.2**	**+0.2**
NVAR	**Mina Array Bea**	**86.58**	**325**	P	**P**	**07 56 01.6**	**+0.3**
	comp=Z,3.2nm,0.8s,mb4.3,baz=147,slow=6.3,SNR=29						
NVAR				pP	pP	07 56 25.1	+0.4
	comp=Z,0.7nm,0.7s,baz=145,slow=7.0,SNR=2.5						
BW06	**Boulder Array**	**86.64**	**333**	eP	**P**	**07 56 00.8**	**-0.8**
PDAR	**Pinedale Array**	**86.64**	**333**	P	**P**	**07 56 00.8**	**-0.9**
	comp=Z,2.2nm,0.9s,mb4.1,baz=156,slow=4.9,SNR=20						
S05C	**Merced**	**86.66**	**323**	⇑P	**P**	**07 56 02.0**	**+0.3**
	baz=87						
P10A	**Eureka**	**86.73**	**327**	⇓P	**P**	**07 56 02.2**	**+0.1**
	baz=87						
Q08A	**Gabbs**	**86.76**	**326**	⇓P	**P**	**07 56 01.7**	**-0.5**
	baz=87,SNR=6.7						
N13A	**Wendover, West**	**86.80**	**329**	⇓P	**P**	**07 56 01.7**	**-0.7**
	baz=87						
O11A	**Cowboy Ranch,**	**86.81**	**328**	⇓P	**P**	**07 56 02.5**	**0.0**
	baz=87						
P09A	**Austin**	**86.97**	**326**	⇑P	**P**	**07 56 02.7**	**-0.5**
	baz=87						
HVU	**Hansel Valley**	**87.01**	**331**	eP	**P**	**07 56 03.0**	**-0.4**
ELK	**Elko**	**87.14**	**328**	eP	**P**	**07 56 03.8**	**-0.2**
ELK				e*PP	pP	07 56 25.5	-2.0
ELK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ELK	**Elko**	**87.14**	**328**	eP	**P**	**07 56 03.8**	**-0.2**
	comp=Z,6.9nm,1.2s,mb4.5						
ELK				epP	pP	07 56 25.5	-2.0
N12A	**Clover Valley,**	**87.14**	**329**	⇓P	**P**	**07 56 03.5**	**-0.6**
	baz=88						
R06C	**Coleville**	**87.18**	**324**	⇑P	**P**	**07 56 05.1**	**+0.8**
	baz=88						
M13A	**Montello**	**87.21**	**329**	⇑P	**P**	**07 56 03.6**	**-0.8**
	baz=88						
Q07A	**Schurz**	**87.22**	**325**	⇓P	**P**	**07 56 04.6**	**+0.2**
	baz=88						
O09A	**Fish Creek Ran**	**87.50**	**327**	⇑P	**P**	**07 56 05.4**	**-0.3**
	baz=88						
P08A	**Dixie Valley**	**87.50**	**326**	⇓P	**P**	**07 56 05.7**	**-0.1**
	baz=88						
M12A	**Wells**	**87.56**	**329**	⇓P	**P**	**07 56 05.6**	**-0.5**
	baz=88						
R05C	**Kirkwood Meado**	**87.62**	**324**	⇑P	**P**	**07 56 06.9**	**+0.6**
	baz=88						
TPAW	**Teton Pass**	**87.78**	**333**	eP	**P**	**07 56 06.8**	**-0.3**
	comp=Z,6.7nm,0.9s,mb4.7						
TPAW				epP	pP	07 56 31.9	+1.3
LAVA	**Lava Cap Winer**	**87.98**	**324**	⇑P	**P**	**07 56 07.9**	**-0.1**
	baz=88						
IMW	**Indian Meadow**	**88.12**	**333**	eP	**P**	**07 56 09.5**	**+0.7**
	comp=Z,7.1nm,1.0s,mb4.7						
N09A	**Rock Creek Ran**	**88.20**	**327**	⇑P	**P**	**07 56 09.6**	**+0.5**
	baz=88						
O07A	**Toulon**	**88.24**	**326**	⇑P	**P**	**07 56 09.3**	**0.0**
	baz=88,SNR=5.4						
P06A	**Stead Airport,**	**88.32**	**325**	⇓P	**P**	**07 56 09.9**	**+0.3**
	baz=89						
M10A	**I.L. Ranch, Tu**	**88.33**	**328**	⇑P	**P**	**07 56 09.4**	**-0.3**
	baz=89						
Q04C	**Lincoln**	**88.34**	**323**	⇓P	**P**	**07 56 10.2**	**+0.4**
	baz=89						
N08A	**GE Springer Mi**	**88.41**	**327**	⇓P	**P**	**07 56 09.6**	**-0.5**
	baz=89,SNR=7.4						
OHCM	**Honcut**	**88.79**	**324**	eP	**P**	**07 56 16.0**	**+4.2**
ORV	**Oroville**	**88.97**	**324**	⇑P	**P**	**07 56 12.7**	**0.0**
	baz=89						
M08A	**Happy Creek Ra**	**89.06**	**327**	⇓P	**P**	**07 56 13.4**	**+0.2**
	baz=89,SNR=5.6						
M07A	**Soldier Meadow**	**89.36**	**326**	⇓P	**P**	**07 56 14.4**	**-0.2**
	baz=90						
O04C	**Chester**	**89.38**	**324**	⇓P	**P**	**07 56 14.4**	**-0.2**
	baz=90						
ULM	**Lac du Bonnet**	**89.54**	**345**	P	**P**	**07 56 13.5**	**-1.9**
	comp=Z,7.1nm,0.7s,mb4.9,baz=181,slow=4.8,SNR=12						
ULM	**Lac du Bonnet**	**89.54**	**345**	eP	**P**	**07 56 13.7**	**-1.7**
	comp=Z,13nm,1.0s,mb5.0						
ULM				epP	pP	07 56 38.1	-0.9
GASB	**Alder Springs**	**89.62**	**323**	⇓P	**P**	**07 56 16.9**	**+1.1**
	baz=90						
MCMT	**McKenzie Canyo**	**89.63**	**332**	eP	**P**	**07 56 15.5**	**-0.3**
M06C	**Likely Place G**	**89.80**	**325**	⇓P	**P**	**07 56 16.7**	**+0.1**
	baz=90						
HATC	**Hat Creek Radi**	**89.95**	**325**	⇓P	**P**	**07 56 17.0**	**-0.3**
	baz=90						
L07A	**Adell**	**89.95**	**327**	⇓P	**P**	**07 56 17.4**	**+0.1**
	baz=90						
DLMT	**Dillon**	**89.99**	**332**	eP	**P**	**07 56 18.0**	**+0.6**
	comp=Z,16nm,1.6s,mb4.9						
M05C	**Lookout**	**90.23**	**325**	⇑P	**P**	**07 56 18.5**	**-0.1**
	baz=90						
L05A	**Lakeview**	**90.64**	**326**	⇓P	**P**	**07 56 20.7**	**+0.3**
	baz=91						
J08A	**Circle Bar Ran**	**90.66**	**328**	P	**P**	**07 56 20.8**	**+0.2**
	baz=91,SNR=11						
M04C	**Macdoel**	**90.88**	**325**	⇑P	**P**	**07 56 21.6**	**0.0**
	baz=91						
K06A	**Valley Falls**	**90.98**	**326**	⇓P	**P**	**07 56 22.0**	**-0.1**
	baz=91						
J07A	**Hines**	**91.02**	**327**	⇑P	**P**	**07 56 22.3**	**0.0**
	baz=91						
J06A	**Christmas Vall**	**91.29**	**327**	⇓P	**P**	**07 56 23.3**	**-0.2**
	baz=92						
I05A	**Bend**	**92.51**	**327**	⇑P	**P**	**07 56 29.4**	**+0.2**
	baz=93						

H04A	Detroit Lake	93.32	327	⇑P	P	07 56 32.0	-0.9
	baz=94						
H03A	Soap Creek Ran	93.81	326	⇓P	P	07 56 34.9	-0.2
	baz=94						
G04A	Mulino	93.87	327	⇑P	P	07 56 35.3	-0.1
	baz=94						
E05A	Randle	94.62	328	⇑P	P	07 56 38.6	-0.3
	baz=95						
GERES	GERESS Array B	114.08	46	PKP	PKiKP	08 01 53.9	-2.9
	comp=Z,0.7nm,0.7s,baz=222,slow=1.8,SNR=6.1						
ASAR	Alice Springs	114.95	206	PKP	PKiKP	08 01 57.2	-1.2
	comp=Z,0.5nm,0.7s,baz=139,slow=1.7,SNR=6.4						
ILAR	Eielson Array	117.06	332	PKP	PKPdf	08 02 00.6	-2.0
	comp=Z,0.6nm,0.8s,baz=189,slow=2.0,SNR=5.7						
WRA	Warramunga Arr	118.20	208	PKP	PKPdf	08 02 03.7	-1.0
	comp=Z,0.8nm,0.4s,baz=153,slow=1.9,SNR=23						
AKASG	Malin Array Be	124.02	49	PKP	PKPdf	08 02 13.6	-2.3
	comp=Z,1.3nm,0.6s,baz=266,slow=2.7,SNR=7.2						
ARCES	ARCESS Array B	126.67	26	PKP	PKPdf	08 02 18.9	-2.0
	comp=Z,0.8nm,0.7s,baz=281,slow=3.1,SNR=7.0						
OBN	Obninsk	129.44	45	ePKIKP	PKPdf	08 02 24.5	-1.7
TIXI	Tiksi	143.77	349	i PKIKP	PKPdf	08 02 47.3	-5.4
ZRNK	Zerenda	148.47	47	ePKIKP	PKPdf	08 03 00.0	-0.6
ZRNK				e		08 03 03.7	
BRVK	Borovoye	149.18	47	ePKP2	PKPbc	08 03 04.2	-1.9
CHKZ	Chkalovo	149.20	45	ePKIKP	PKPdf	08 03 00.6	-1.2
CHKZ				e		08 03 05.4	
CHKZ	Chkalovo	149.20	45	ePKPdf	PKPdf	08 03 00.6	-1.2
CHKZ				ePKPbc	PKPbc	08 03 05.4	-0.8
CHKZ				ePKPab	PKPab	08 03 09.0	-1.8
YAK	Yakutsk	151.72	339	ePKIKP	PKPbc	08 03 10.1	-2.0
YAK				pmax	pmax		
	comp=Z,26nm,0.9s						
YAK	Yakutsk	151.72	339	ePKPbc	PKPbc	08 03 10.2	-1.9
YSS	Yuzh-Sakhalins	152.78	302	PKIKP	PKPbc	08 03 12.8	-1.7
AAK	Ala-Archa	153.56	67	ePKIKP	PKPbc	08 03 12.9	-3.3
MJAR	Matsushiro Arr	156.11	278	PKPab	PKPab	08 03 39.1	-0.8
	comp=Z,1.1nm,0.6s,baz=127,slow=1.6,SNR=4.1						
ZAL	Zalesovo	156.59	36	PKP	PKPdf	08 03 10.9	-1.7
	comp=Z,1.2nm,0.6s,baz=222,slow=2.3,SNR=6.4						
ZAL				pPKP	pPKPdf	08 03 36.2	-1.0
	comp=Z,1.0nm,0.7s,baz=222,slow=6.3,SNR=1.5						
MKAR	Makanchi Array	158.42	55	PKP	PKPdf	08 03 13.6	-1.3
	comp=Z,1.4nm,0.7s,baz=298,slow=2.6,SNR=10						
MKAR				pPKP	pPKPdf	08 03 39.1	-0.4
	comp=Z,1.0nm,0.7s,baz=306,slow=4.2,SNR=3.5						
MKAR				PKPab	PKPab	08 03 49.0	-0.9
	comp=Z,1.8nm,0.6s,baz=278,slow=3.6,SNR=9.0						
MKAR				pPKPab	pPKPab	08 04 13.0	-0.5
	comp=Z,2.6nm,0.7s,baz=305,slow=4.3,SNR=5.5						
BOD	Bodaibo	158.92	352	ePKP2	PKPab	08 03 49.3	-2.7
BOD				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WMQ	Urumqi	162.94	60	PKP	PKPdf	08 03 18.6	-1.1
WMQ				PP	PP	08 07 55.5	+1.1
WMQ				PP	PP		
	comp=Z,136nm,11.3s						
WMQ				LR	LR		
	comp=N,48nm,23.0s						
WMQ				LR	LR		
	comp=E,36nm,21.9s						
WMQ				LR	LR		
	comp=Z,62nm,23.5s						
CN2	Changchun	165.35	303	ePKP	PKPdf	08 03 21.7	-0.2
KMI	Kunming	167.16	157	PKP	PKPdf	08 03 25.4	+2.1
SONM	Songino Array	169.16	7	PKPab	PKPab	08 04 36.4	-0.6
	comp=Z,1.3nm,0.7s,baz=356,slow=4.2,SNR=7.5						
NJ2	Nanjing	169.98	243	ePKP	PKPdf	08 03 23.8	-1.4
NJ2				XPKP		08 04 01.4	
NJ2				PKS		08 06 55.0	
NJ2				PP	PP	08 08 33.0	+2.3
NJ2				SKS	SKSdf	08 10 16.0	-4.7
NJ2				PP	PP		
	comp=Z,330nm,5.4s						
NJ2				LR	LR		
	comp=N,2μm,22.0s						
NJ2				LR	LR		
	comp=E,1μm,21.5s						
NJ2				LR	LR		
	comp=Z,2μm,22.1s						
CD2	Chengdu	172.77	147	ePKP	PKPdf	08 03 23.3	-3.3
CD2				APKP		08 03 50.3	
CD2				XPKP		08 04 00.8	
CD2				PP	PP	08 08 44.0	-0.5
CD2				SKS	SKSdf	08 10 15.0	-6.8
CD2				SKKS	SKKSac	08 15 19.8	-3.2
CD2				SS	SS	08 29 46.0	-4.0
CD2				PP	PP		
	comp=Z,80nm,9.0s						
CD2				LR	LR		
	comp=N,180nm,18.0s						
CD2				LR	LR		
	comp=Z,180nm,14.4s						
BJI	Beijing	173.18	298	PKP	PKPdf	08 03 26.0	-0.7
HHC	Hu-ho-hao-te	175.47	327	ePKP	PKPdf	08 03 26.1	-1.4
HHC				PP	PP	08 09 00.0	+2.4
HHC				SKS	SKSdf	08 10 19.1	-3.4
LZH	Lanzhou	176.26	104	ePKP	PKPdf	08 03 26.6	-1.1
LZH				APKP		08 03 53.7	
LZH				XPKP		08 04 03.6	

*ISCJB **08** 07:50:03.4±0.3, 3152S±002×6943W±005, h122^{km}±4^{km}, mb4.0/7, Error ellipse: s-maj=6.6km s-min=3.9km az=3.2*
*GUC **08** 07:50:03.6±0.8, 3154S×6966W, h144^{km}±8^{km}, ML4.1*
*NEIC **08** 07:50:03.8±0.4, 3154S×6934W, h116^{km}±8^{km}, mb4.2/1, Error ellipse: s-maj=9.1km s-min=5.6km az=95.0*
*IDC **08** 07:50:04.3±1.3, 3169S×6935W, h117^{km}±9^{km}, mb3.8/6, mb1 3.8/9, mb1mx3.7/16, mbtmp4.1/9, Error ellipse: s-maj=27.3km s-min=21.7km az=130.0*
ISC 08 07:50:04.4±0.3**, 3152S**±002×**6943W**±005**, h116**^{km}±4^{km}**,**
n55, σ0^{s}87/84**, mb4.0**/7**, 16C-10D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	1.02	95	P	Pn	07 50 26.5	+0.3
	44nm,0.3s,baz=272,slow=8.0,SNR=966						
CFAA				S	Sn	07 50 42.2	-0.4
	123nm,0.3s,baz=288,slow=12,SNR=165						
CFAA	Coronel Fontan	1.02	95	P	Pn	07 50 26.5	+0.3
CFAA				S	Sn	07 50 42.2	-0.4
CMCH	Combarbala	1.39	284	⇓iP	Pn	07 50 30.3	0.0
CMCH				iS	Sn	07 50 50.5	+0.6
CMCH				AML	AML	07 50 55.1	
	comp=E,11μm,0.9s						
CMCH	Combarbala	1.39	284	⇓iP	Pn	07 50 30.3	0.0
CMCH				iS	Sn	07 50 50.5	+0.6
MDZ	Mendoza	1.44	160	⇓iP	Pn	07 50 30.5	-0.4
MDZ				i		07 50 52.1	
MDZ				iS	Sn	07 50 54.3	+3.3
JACH	Jahuel	1.52	220	⇑iP	Pn	07 50 32.2	+0.4
JACH				iS	Sn	07 50 53.4	+0.7
OVCH	Ovalle	1.77	300	⇑iP	Pn	07 50 34.6	-0.2
OVCH				iS	Sn	07 50 57.4	-0.6
OVCH				AML	AML	07 50 58.1	
	comp=N,3μm,0.4s						
OVCH	Ovalle	1.77	300	⇑iP	Pn	07 50 34.6	-0.2
OVCH				iS	Sn	07 50 57.4	-0.6
TLL	Tololo Astrono	1.80	318	⇑iP	Pn	07 50 35.9	+0.8
TLL				iS	Sn	07 50 59.7	+1.2
TLL				AML	AML	07 51 02.3	
	comp=N,2μm,0.7s						
TLL	Tololo Astrono	1.80	318	⇑iP	Pn	07 50 35.9	+0.8
TLL				iS	Sn	07 50 59.7	+1.2
CHNG	Los Chungos	1.81	258	iP	Pn	07 50 34.2	-1.0
CHNG				iS	Sn	07 50 57.1	-1.5
CHNG				AML	AML	07 51 05.2	
	comp=E,1μm,0.8s						
PEL	Peldehue	1.94	213	⇑iP	Pn	07 50 36.9	0.0
PEL				iS	Sn	07 51 01.5	-0.1
PEL				AML	AML	07 51 04.1	
	comp=E,3μm,0.8s						
PEL	Peldehue	1.94	213	⇑iP	Pn	07 50 36.9	0.0
PEL				iS	Sn	07 51 01.5	-0.1
FCH	Farellones	1.95	202	⇑iP	Pn	07 50 38.0	+1.1
FCH				iS	Sn	07 51 03.7	+1.9
FCH				AML	AML	07 51 05.1	
	comp=E,1μm,0.3s						
ROCH	El Roble	1.98	222	⇑iP	Pn	07 50 37.0	-0.3
CLCH	Cerro Calan	2.09	206	⇑iP	Pn	07 50 39.1	+0.3
CLCH				iS	Sn	07 51 05.6	+0.5
CLCH				AML	AML	07 51 07.9	
	comp=E,2μm,0.8s						
CLCH				AML	AML	07 51 08.1	
	comp=E,2μm,0.7s						
DSCH	Colegio Aleman	2.11	207	⇑iP	Pn	07 50 38.6	-0.4
DSCH				iS	Sn	07 51 05.5	0.0
DSCH				AML	AML	07 51 05.8	
	comp=N,108nm,0.5s						
FSR	Penalolen	2.16	205	⇑iP	Pn	07 50 40.1	+0.4
FSR				eS	Sn	07 51 07.5	+0.8
FSR				AML	AML	07 51 09.4	
	comp=N,1μm,0.7s						
FSR	Penalolen	2.16	205	⇑iP	Pn	07 50 40.1	+0.4
FSR				eS	Sn	07 51 07.5	+0.8
STL	Santa Lucia	2.17	208	⇓iP	Pn	07 50 39.3	-0.4
STL				iS	Sn	07 51 06.5	-0.3
STL				AML	AML	07 51 08.5	
	comp=N,405nm,0.4s						
SAN	Santiago	2.19	208	iS	Sn	07 51 07.5	+0.1
SAN				AML	AML	07 51 09.2	
	comp=N,821nm,0.9s						
SJCH	San Jose de Ma	2.26	200	eP	Pn	07 50 41.0	+0.2
SJCH				eS	Sn	07 51 10.4	+1.6
SJCH				AML	AML	07 51 15.7	
	comp=N,521nm,0.4s						
SJCH	San Jose de Ma	2.26	200	eP	Pn	07 50 41.0	+0.2
SJCH				eS	Sn	07 51 10.4	+1.6
ANTU	Antumapu	2.28	206	⇓iP	Pn	07 50 41.2	0.0
ANTU				iS	Sn	07 51 09.8	+0.3
ANTU				AML	AML	07 51 12.3	
	comp=N,844nm,0.4s						
ANTU	Antumapu	2.28	206	⇓iP	Pn	07 50 41.2	0.0
ANTU				iS	Sn	07 51 09.8	+0.3
RCDM	Rinconada Maip	2.29	210	eP	Pn	07 50 41.0	-0.2
RCDM				iS	Sn	07 51 09.4	0.0
RCDM				AML	AML	07 51 10.8	
	comp=E,2μm,0.1s						
RCDM	Rinconada Maip	2.29	210	eP	Pn	07 50 41.0	-0.2
RCDM				iS	Sn	07 51 09.4	0.0
PCH	Pirque	2.29	203	⇑iP	Pn	07 50 41.6	+0.3
TACH	Talagante	2.48	211	⇓iP	Pn	07 50 43.1	-0.6
TACH				iS	Sn	07 51 13.3	-0.7
CHCH	Chadas Angostu	2.62	203	⇑iP	Pn	07 50 45.4	-0.1
CHCH				iS	Sn	07 51 17.3	+0.1
LCCH	Las Cruces	2.66	222	⇓iP	Pn	07 50 45.2	-0.9
LCCH				iS	Sn	07 51 16.4	-1.8
CACH	El Canelo	2.77	201	eP	Pn	07 50 47.5	0.0
CACH				eS	Sn	07 51 21.5	+0.7
CICH	Cipreses	2.92	196	eP	Pn	07 50 49.7	+0.3
CICH				eS	Sn	07 51 24.6	+0.5
VACH	Vallenar	3.15	338	⇓iP	Pn	07 50 52.5	-0.1
VACH				iS	Sn	07 51 29.6	-0.1
VACH				AML	AML	07 51 30.6	
	comp=N,1μm,0.5s						
VACH	Vallenar	3.15	338	⇓iP	Pn	07 50 52.5	-0.1
VACH				iS	Sn	07 51 29.6	-0.1
SFDO	San Fernando	3.36	203	⇑iP	Pn	07 50 54.3	-1.0
SFDO				iS	Sn	07 51 32.7	-2.0
LVC	Limon Verde	8.88	3	P	Pn	07 52 08.0	-1.8
	comp=N,1.2nm,0.3s,baz=201,slow=9.4,SNR=7.2						
TRQA	Tornquist	8.94	139	ePn	Pn	07 52 08.7	-2.0
PLCA	Paso Flores	9.24	185	P	Pn	07 52 11.3	-3.4
	comp=N,0.1nm,0.3s,baz=221,slow=17,SNR=2.0						
PLCA	Paso Flores	9.24	185	P	Pn	07 52 11.3	-3.4
CPUP	Villa Florida	11.79	67	P	Pn	07 52 45.1	-3.6
	comp=N,0.6nm,0.3s,baz=189,slow=13,SNR=3.0						
LPAZ	La Paz	15.21	5	P	Pn	07 53 34.9	+2.0
	comp=N,0.3nm,0.3s,baz=177,slow=11,SNR=18						
SIV	San Ignacio	17.23	28	P	Pn	07 53 57.9	0.0
	comp=N,0.3nm,0.3s,baz=222,slow=15,SNR=7.7						
BDFB	Brasilia	25.12	56	P	P	07 55 18.3	-0.2
	comp=N,3.1nm,0.8s,mb3.8,baz=186,slow=5.3,SNR=5.1						
SNAA	Sanae	53.07	159	e	P	07 59 09.6	-0.1
SNAA				e		07 59 10.8	
SNAA				e		07 59 17.0	
SNAA	Sanae	53.07	159	eP	P	07 59 09.4	-0.3
	comp=N,2.2nm,0.8s,mb4.2						
DBIC	Dimbokro	72.29	70	P	P	08 01 17.6	+0.4
	comp=N,2.0nm,0.4s,mb4.3,baz=215,slow=6.4,SNR=8.7						
TORD	Torodi Ar. Bea	81.28	69	P	P	08 02 08.0	+0.2
	comp=N,3.6nm,0.7s,mb4.3,baz=283,slow=6.0,SNR=27						
PDAR	Pinedale Array	82.60	331	P	P	08 02 15.4	+0.8
	comp=N,0.8nm,0.7s,mb3.6,baz=123,slow=5.2,SNR=6.8						
NVAR	Mina Array Bea	83.16	323	P	P	08 02 18.7	+1.2
	comp=N,0.6nm,0.7s,mb3.5,baz=140,slow=6.8,SNR=5.2						
ULM	Lac du Bonnet	84.72	343	P	P	08 02 25.0	-0.4
	comp=N,1.9nm,0.8s,mb4.1,baz=298,slow=15,SNR=3.2						
ASAR	Alice Springs	120.76	205	PKP	PKPdf	08 08 42.0	-0.7
	comp=N,0.2nm,0.6s,baz=180,slow=2.9,SNR=4.5						
WRA	Warramunga Arr	123.98	207	PKP	PKPdf	08 08 48.8	-0.2
	comp=N,0.2nm,0.5s,baz=172,slow=1.7,SNR=12						
ZAL	Zalesovo	150.96	32	PKPbc	PKPbc	08 09 43.5	0.0
	comp=N,5.1nm,0.7s,baz=189,slow=2.7,SNR=16						
MKAR	Makanchi Array	153.47	47	PKPbc	PKPbc	08 09 49.2	+0.1
	comp=N,1.2nm,0.7s,baz=306,slow=2.9,SNR=6.6						
MKAR				PKPab	PKPab	08 10 01.9	0.0
	comp=N,0.6nm,0.4s,baz=343,slow=3.8,SNR=5.0						

*NEIC **08** 07:52:45.7, 1574N×9454W, h15^{km}, MD4.3(MEX), After MEX.*
MEX 08 07:52:45.5±0.8**, 1574N**×**9454W, h20**^{km}±93^{km}**, MD4.4,**
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.39	346	iP	Pn	07 53 06.1	-3.6
CMIG				iS	Sn	07 53 23.6	-3.9
HUIG	Huatulco	1.51	271	eP	Pn	07 53 08.4	-3.0
HUIG				iS	Sn	07 53 26.4	-4.2
SCX	San Cristobal	2.08	61	iP	Pn	07 53 17.2	-2.0
SCX				iS	Sn	07 53 40.0	-4.6
SCX	San Cristobal	2.08	61	iP	Pn	07 53 17.2	-2.0
SCX				iS	Sn	07 53 42.2	-2.4
OXX	Oaxaca	2.49	303	iP	Pn	07 53 24.8	0.0
OXX				iS	Sn	07 53 49.0	-5.6
VHO	Vista Hermosa	2.49	303	eP	Pn	07 53 24.0	-0.9
VHO				iS	Sn	07 53 51.9	-2.8
UTMO	Huajuapan	3.76	304	eP	Pn	07 53 41.8	-0.5
IIZ	Mezontepec	5.65	308	iP	Pn	07 54 05.8	-2.5
IIZ				iS	Sn	07 55 06.2	-6.4

*ISCJB **08** 08:06:51.6±0.5, 1692S±005×6950W±005, h177^{km}±5^{km}, mb4.1/14, Error ellipse: s-maj=9.3km s-min=7.8km az=72.8*
*NEIC **08** 08:06:52.9±0.6, 1686S×6944W, h170^{km}±7^{km}, mb4.1/12, Error ellipse: s-maj=10.7km s-min=9.1km az=49.0*
*IDC **08** 08:06:55.3±1.0, 1660S×6924W, h187^{km}±5^{km}, mb3.7/9, mb1 3.8/11, mb1mx3.7/21, mbtmp4.2/11, Error ellipse: s-maj=23.5km s-min=13.5km az=28.0*
ISC 08 08:06:52.7±0.5**, 1693S**±005×**6951W**±005**, h170**^{km}±5^{km}**,**
n34, σ1^{s}19/38**, mb4.1**/14**, 2C, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.46	64	P	Pn	08 07 25.4	+2.0
	53nm,0.3s,baz=274,slow=7.6,SNR=2166						
LPAZ				S	Sn	08 07 48.5	+1.4
	30nm,0.3s,baz=275,slow=20,SNR=15						
LPAZ	La Paz	1.46	64	⇑iP	Pn	08 07 25.5	+2.1
LPAZ				eSn	Sn	08 07 49.1	+2.0
ARE	Arequipa	1.96	283	⇑iP	Pn	08 07 28.1	-0.5
ARE				iS	Sn	08 07 55.6	-0.7
LVC	Limon Verde	5.68	174	P	Pn	08 08 16.5	+1.1
	38nm,0.3s,baz=322,slow=11,SNR=354						
LVC				S	Sn	08 09 19.0	-1.1
	13nm,0.3s,baz=138,slow=19,SNR=10.0						
LVC	Limon Verde	5.68	174	ePn	Pn	08 08 16.4	+1.1
	110nm,0.3s						
LVC				eSn	Sn	08 09 18.9	-1.2
SIV	San Ignacio	8.14	85	P	Pn	08 08 46.4	-1.4
	14nm,0.3s,baz=269,slow=10,SNR=109						
SIV				S	Sn	08 10 14.0	-4.8
	baz=1.2,slow=23,SNR=4.1						
NNA	Nana	8.64	304	ePn	Pn	08 08 51.0	-3.3
	19nm,0.3s						
SAML	Samuel	10.04	39	ePn	Pn	08 09 11.5	-1.3
	1.6nm,0.7s						
CFAA	Coronel Fontan	14.66	176	P	Pn	08 10 11.7	-0.2
	0.2nm,0.3s,baz=356,slow=12,SNR=17						
CPUP	Villa Florida	14.68	132	P	Pn	08 10 14.1	+2.0
	0.2nm,0.3s,baz=280,slow=10,SNR=3.0						
CPUP	Villa Florida	14.68	132	Pn	Pn	08 10 12.7	+0.6
	4.2nm,0.7s						
OTAV	Otavalo	19.20	332	eP	P	08 11 05.5	+2.0
	6.9nm,1.0s						
BDFB	Brasilia	20.67	90	P	P	08 11 18.9	-0.4
	4.5nm,0.4s,baz=259,slow=10.0,SNR=12						
BDFB	Brasilia	20.67	90	eP	P	08 11 18.6	-0.6
	7.5nm,0.5s						
PLCA	Paso Flores	23.74	182	P	P	08 11 52.8	+3.5
	3.0nm,1.0s,mb3.8,baz=340,slow=12,SNR=4.3						
RCBR	Riachuelo	34.68	75	eP	P	08 13 26.3	+0.3
	32nm,1.4s,mb4.8						
RCBR				epP	pP	08 13 57.9	-4.0
CMIG	Matias Romero	42.05	322	P	P	08 14 28.0	+0.5
	1.6nm,0.5s,mb3.9,baz=117,slow=11,SNR=3.4						
DWPF	Disney	46.24	345	eP	P	08 14 54.3	-6.4
	357nm,2.0s						
DWPF				epP	pP	08 15 31.4	-7.0
DWPF				ePcP	PcP	08 16 24.7	-8.7
DWPF				ePP	PP	08 16 40.9	-11
ANMO	Albuquerque	62.40	326	eP	P	08 16 57.3	-0.1
	1.0nm,0.6s,mb3.8						
DBIC	Dimbokro	68.06	75	P	P	08 17 33.2	-0.5
	2.6nm,0.5s,mb4.3,baz=146,slow=18,SNR=9.3						
DBIC	Dimbokro	68.06	75	eP	P	08 17 33.7	-0.1
	2.8nm,0.4s,mb4.3						
DBIC				e		08 20 00.5	
ARUT	Antelope Range	68.31	324	eP	P	08 17 36.7	+1.3
RSSD	Black Hills	68.46	334	eP	P	08 17 36.4	+0.1
	2.3nm,0.9s,mb3.9						
PDAR	Pinedale Array	69.89	330	P	P	08 17 45.0	-0.1
	1.0nm,0.4s,mb3.9,baz=122,slow=8.6,SNR=18						
HWUT	Hardware Ranch	70.03	328	P	P	08 17 46.2	+0.3
	1.7nm,0.5s,mb4.0						
ULM	Lac du Bonnet	70.81	342	P	P	08 17 48.5	-2.2
	3.2nm,0.6s,mb4.3,baz=143,slow=5.7,SNR=13						
NVAR	Mina Array Bea	71.57	321	P	P	08 17 56.6	+1.4
	0.5nm,0.7s,mb3.4,baz=155,slow=4.7,SNR=5.6						
HLID	Hailey	72.90	328	P	P	08 18 04.2	+1.1
	0.8nm,0.5s,mb3.7						
HLID				ePP	PP	08 20 39.4	-8.2
TOA0	Torodi Ar. Sit	76.40	72	eP	P	08 18 22.9	-0.4
TORD	Torodi Ar. Bea	76.40	72	P	P	08 18 22.8	-0.4
	2.2nm,0.6s,mb4.0,baz=258,slow=5.4,SNR=25						
YKA	Yellowknife Ar	86.71	341	P	P	08 19 16.5	-0.8
	1.7nm,0.5s,mb4.2,baz=134,slow=5.0,SNR=29						
BORG	Borgarnes	89.29	19	eP	P	08 19 28.0	-1.5
	40nm,1.5s,mb5.1						
WRA	Warramunga Arr	136.51	214	PKP	PKPdf	08 25 57.2	+2.8
	0.5nm,1.0s,baz=174,slow=0.8,SNR=4.2						
SONM	Songino Array	149.00	5	PKPbc	PKPbc	08 26 21.3	+0.8
	0.8nm,0.4s,baz=322,slow=2.8,SNR=5.7						

*IDC **08** 08:25:49.8±2.1, 6.18S×12995E, h0^{km}, mb4.3/1, mb1 4.1/4, mb1mx3.8/15, mbtmp4.0/4, ML3.8/3, MS4.2/1, Ms1 4.2/1, ms1mx2.5/27, Error ellipse: s-maj=92.3km s-min=27.2km az=77.0*
*ISCJB **08** 08:26:08.0±2.1, 7.0S±0.1×129.7E±0.1, h188^{km}±23^{km}, mb4.0/1, Error ellipse: s-maj=22.5km s-min=15.7km az=142.9*
ISC 08 08:25:58.9±3.0**, 68S**±02×**1294E**±02**, h35**^{km}**, n9, σ0^{s}50**/14**,**
mb4.3/1**, MS4.1**/1**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.62	153	eP	Pn	08 27 40.0	+6.4
	20nm,0.2s						
KAKA				eS	Sn	08 28 47.9	+0.1
FITZ	Fitzroy Crossi	11.85	198	eP	Pn	08 28 51.8	+6.5
	4.1nm,0.9s						
FITZ				eS	Sn	08 30 55.5	-0.8
FITZ	Fitzroy Crossi	11.85	198	Pn	Pn	08 28 51.1	+5.7
	0.4nm,0.3s,baz=30,slow=13,SNR=15						
FITZ				Sn	Sn	08 30 57.0	+0.7
	0.7nm,0.3s,baz=165,slow=20,SNR=6.8						
WRA	Warramunga Arr	13.95	160	Pn	Pn	08 29 13.6	-0.3
	0.3nm,0.3s,baz=344,slow=14,SNR=22						
WRA				Sn	Sn	08 31 41.6	-5.8
	0.6nm,0.3s,baz=329,slow=24,SNR=6.3						
WB2	Warramunga Arr	13.95	160	eP	Pn	08 29 13.3	-0.6
WB2				e		08 29 19.3	
WB2				eS	Sn	08 31 41.6	-5.9
ASAR	Alice Springs	17.35	166	P	Pn	08 29 58.7	+0.5
	0.6nm,0.3s,baz=351,slow=12,SNR=40						
ASAR				S	S	08 33 04.2	-14
	0.1nm,0.3s,baz=354,slow=26,SNR=3.5						
ASPA	Alice Springs	17.35	166	eP	Pn	08 29 58.5	+0.3
HNR	Honiara	30.34	97	LR	LR	08 42 32.9	
	comp=Z,433nm,21.5s,MS4.1,baz=20,slow=34						
MKAR	Makanchi Array	67.71	327	P	P	08 36 47.8	-4.8
	1.3nm,0.4s,mb4.3,baz=117,slow=8.2,SNR=9.9						

*ISCJB **08** 08:41:35.9±0.5, 24.13S±003×6694W±005, h171^{km}±6^{km}, mb3.8/8, Error ellipse: s-maj=8.2km s-min=5.0km az=30.3*
*IDC **08** 08:41:38.0±1.1, 2402S×6689W, h177^{km}±8^{km}, mb3.7/6, mb1 3.9/11, mb1mx3.7/18, mbtmp4.1/11, Error ellipse: s-maj=15.8km s-min=12.5km az=23.0*
*GUC **08** 08:41:39.8±0.6, 2422S×6725W, h180^{km}, ML4.5*
*NEIC **08** 08:41:39.8, 2422S×6725W, h180^{km}, mb4.4/9, After GUC.*
ISC 08 08:41:36.9±0.5**, 2412S**±003×**6694W**±005**, h163**^{km}±6^{km}**,**
n37, σ1^{s}32/48**, mb3.8**/8**, 5C-2D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.35	309	P	Pn	08 42 20.2	+3.4
	baz=118,slow=6.6						
LVC				S	Sn	08 42 50.6	+2.9
	54nm,0.3s,baz=252,slow=20,SNR=16						
LVC	Limon Verde	2.35	309	⇑iP	Pn	08 42 20.1	+3.2
LVC				eSn	Sn	08 42 47.3	-0.5
CEN1	Los Morros	3.08	283	⇓iP	Pn	08 42 28.9	+3.2
CEN1				iS	Sn	08 43 05.8	+2.3
CEN1				AML	AML	08 43 08.9	
	comp=N,435nm,0.2s						
CPN1	Cerro Paranal	3.20	260	⇑iP	Pn	08 42 29.4	+2.2
CPN1				iS	Sn	08 43 07.0	+0.7
CPN1				AML	AML	08 43 08.1	
	comp=E,1μm,0.2s						
ANCH	Antofagasta	3.21	277	⇑iP	Pn	08 42 26.5	-0.8
ANCH				iS	Sn	08 43 03.9	-2.6
ANCH				AML	AML	08 43 06.5	
	comp=N,963nm,0.4s						
ANCH	Antofagasta	3.21	277	⇑iP	Pn	08 42 26.5	-0.8
ANCH				iS	Sn	08 43 03.9	-2.6
CRCH	Chaqaral	4.00	236	⇑iP	Pn	08 42 39.1	+1.6
CRCH				iS	Sn	08 43 24.3	-0.4
CPCH	Copiapo	4.46	223	iP	Pn	08 42 42.7	-0.7
CPCH				iS	Sn	08 43 33.4	-1.9
CDCH	Caldera	4.58	229	iP	Pn	08 42 45.1	+0.1
CDCH				iS	Sn	08 43 36.1	-2.0
LCO	Las Campanas	5.92	214	eP	Pn	08 43 03.2	+0.6
LCO				iS	Sn	08 44 08.8	-1.0
CFAA	Coronel Fontan	7.54	188	P	Pn	08 43 25.4	+1.4
	comp=N,0.2nm,0.3s,baz=9.1,slow=13,SNR=44						
CFAA				S	Sn	08 44 46.6	-1.9
	comp=N,0.8nm,0.3s,baz=219,slow=14,SNR=21						
LPAZ	La Paz	7.87	352	P	Pn	08 43 30.0	+1.5
	comp=N,3.0nm,0.3s,baz=146,slow=9.4,SNR=98						
LPAZ				S	Sn	08 44 55.2	-1.2
	comp=N,0.5nm,0.3s,baz=291,slow=15,SNR=5.2						
LPAZ	La Paz	7.87	352	⇓iP	Pn	08 43 29.9	+1.5
	comp=N,8.3nm,0.4s						
LPAZ				eSn	Sn	08 44 55.7	-0.7
CPUP	Villa Florida	8.97	106	P	Pn	08 43 43.8	+0.7
	comp=N,0.6nm,0.3s,baz=261,slow=11,SNR=6.4						
CPUP	Villa Florida	8.97	106	ePn	Pn	08 43 44.0	+1.0
	comp=N,13nm,0.5s						
SIV	San Ignacio	9.78	35	P	Pn	08 43 53.3	-0.4
	comp=N,0.8nm,0.3s,baz=222,slow=12,SNR=18						
SIV				S	Sn	08 45 40.4	-1.9
	baz=212,slow=8.8,SNR=3.6						
TRQA	Tornquist	14.52	164	eP	Pn	08 44 58.0	+3.3
	comp=N,3.9nm,0.5s						
NNA	Nana	15.30	320	ePn	Pn	08 45 03.5	-0.8
	comp=N,55nm,1.3s						
SAML	Samuel	15.51	14	eP	Pn	08 45 05.9	-0.9
	comp=N,3.7nm,0.6s						
PLCA	Paso Flores	16.84	190	eP	Pn	08 45 24.7	+1.7
	comp=N,158nm,2.7s						
BDFB	Brasilia	19.68	68	P	P	08 45 54.0	+0.7
	comp=N,2.3nm,0.3s,baz=249,slow=10,SNR=51						
BDFB	Brasilia	19.68	68	eP	P	08 45 53.9	+0.6

comp=N,24nm,0.6s
BAO Brasilia Array 19.70 68 P **P 08 45 53.0 -0.5**
SNAA Sanae 59.22 161 *e* **P 08 51 21.1 +0.3**
SNAA *e* 08 51 23.3
SNAA *e* 08 51 24.8
SNAA *e* 08 51 26.6
SNAA Sanae 59.22 161 *e*P **P 08 51 20.9 0.0**
comp=N,0.6nm,0.4s,mb3.8
JCT Junction City 62.77 328 *e*P **P 08 51 44.5 -0.4**
comp=N,3.7nm,0.7s,mb4.3
CCUT Cedar City 75.29 323 *e*P **P 08 53 03.5 +1.6**
TORD Torodi Ar. Bea 76.56 69 P **P 08 53 08.6 -0.5**
comp=N,0.8nm,0.4s,mb3.7,baz=264,slow=6.4,SNR=16
PDAR Pinedale Array 77.28 329 P **P 08 53 12.9 -0.2**
comp=N,0.5nm,0.6s,mb3.3,baz=132,slow=7.7,SNR=7.7
ULM Lac du Bonnet 78.36 342 P **P 08 53 17.6 -1.5**
comp=N,2.7nm,0.5s,mb4.1,baz=153,slow=6.0,SNR=10
NVAR Mina Array Bea 78.67 321 P **P 08 53 21.4 +0.6**
comp=N,0.3nm,0.6s,mb3.1,baz=157,slow=13,SNR=4.6
MCMT McKenzie Canyo 80.39 329 *e*P **P 08 53 30.6 +0.5**
MCMT *e*pP pP 08 54 11.6 +1.4
BOSA Boshof 80.63 117 P **P 08 53 31.9 +0.5**
comp=N,2.1nm,0.9s,mb3.8,baz=193,slow=7.4,SNR=4.7
YKA Yellowknife Ar 94.25 340 P **P 08 54 36.0 -1.5**
comp=N,0.8nm,0.5s,mb4.1,baz=132,slow=4.7,SNR=14
ASAR Alice Springs 128.37 205 PKP PKPdf 09 00 24.0 0.0
comp=N,0.4nm,0.7s,baz=137,slow=2.1,SNR=6.4
WRA Warramunga Arr 131.55 207 PKP PKPdf 09 00 30.2 +0.1
comp=N,0.3nm,0.5s,baz=156,slow=1.7,SNR=10
WRA SKPbc SKPbc 09 03 38.1 -2.2
comp=N,0.3nm,0.6s,baz=147,slow=3.2,SNR=5.4
MKAR Makanchi Array 146.58 40 PKPbc PKPbc 09 00 56.6 -2.4
comp=N,1.6nm,0.6s,baz=286,slow=0.9,SNR=13

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*ISCJB **08** 08:43:49.4±0.5, 10.52N±0.04×125.55E±0.09, h137km±4km, mb4.0/14, Error ellipse: s-maj=14.7km s-min=6.4km az=161.9*
*NEIC **08** 08:43:52.7±2.3, 10.51N×125.44E, h155km±20km, mb4.5/5, Error ellipse: s-maj=46.3km s-min=8.5km az=69.0*
*MAN **08** 08:43:52.7, 10.48N×125.39E, h106km, mb3.2, ML4.5, MS2.4*
*IDC **08** 08:43:53.7±3.1, 10.44N×125.30E, h159km±26km, mb3.7/9, mb1 3.8/10, mb1mx3.6/22, mbtmp4.2/10, Error ellipse: s-maj=63.3km s-min=11.8km az=71.0*
ISC 08 08:43:50.7±0.5**, 10.52N**±0.04×**125.51E**±0.09**, h132**km±3km**, n36, σ0^{s}95**/43**, mb4.0**/14**, 4C-1D, Leyte**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
SCPH Surigao 0.73 182⇑*e*P **Pn 08 44 12.1 +0.6**
SCPH *i* S **Sn 08 44 25.5 -1.7**
MSLP Maasin 0.75 239 *e*P **Pn 08 44 11.7 +0.1**
MSLP *e*S **Sn 08 44 25.9 -1.5**
PLP Palo 0.83 321 *e*P **Pn 08 44 11.9 -0.3**
PLP *e*S **Sn 08 44 27.2 -1.3**
OCLP Ormoc 1.03 301 *e*P **Pn 08 44 14.6 +0.6**
BESP Borongan 1.07 356 *e*P **Pn 08 44 15.0 +0.5**
BESP *e*S **Sn 08 44 32.9 +0.4**
LLP Lapu-Lapu 1.53 263⇑*e*P **Pn 08 44 19.0 -0.2**
LLP *e*S **Sn 08 44 53.1 +12**
BUTP Butuan 1.55 176 *e*P **Pn 08 44 20.7 +1.3**
TBP Tagbilaran 1.82 243 *e*P **Pn 08 44 32.0 +9.4**
TBP *e*S **Sn 08 44 55.4 +8.4**
CGP Cagayan de Oro 2.21 201 *e*P **Pn 08 44 27.0 -0.2**
CGP *e*S **Sn 08 44 54.1 -1.2**
BUKP Musuan 2.66 190 *e*P **Pn 08 44 34.2 +1.3**
GUIM Jordan 2.87 272 *e*P **Pn 08 44 36.9 +1.2**
RCP Roxas 2.90 291 *e*P **Pn 08 44 36.6 +0.5**
PVCP Virac 3.33 337 *e*P **Pn 08 44 41.4 -0.3**
PAGZ Pagadian 3.39 219 *e*P **Pn 08 44 43.9 +1.5**
TGY Tagaytay City 5.71 309 P **Pn 08 45 15.3 +2.0**
25nm,0.3s,baz=278,slow=4.6,SNR=5.0
KAKA Kakadu 24.09 163 *e*P **P 08 48 53.2 -0.6**
5.2nm,0.6s,mb4.2
FITZ Fitzroy Crossi 28.44 180 *e*P **P 08 49 33.1 +0.2**
8.2nm,1.0s,mb4.4
FITZ Fitzroy Crossi 28.44 180 P **P 08 49 32.9 0.0**
4.5nm,0.9s,mb4.2,baz=351,slow=13,SNR=3.4
WRA Warramunga Arr 31.50 164 P **P 08 49 59.3 -0.6**
0.4nm,0.4s,mb3.5,baz=342,slow=8.3,SNR=12
WRA PcP PcP 08 52 50.5 +0.8
0.5nm,0.7s,baz=334,slow=2.5,SNR=4.6
WB2 Warramunga Arr 31.50 164 *e*P **P 08 49 59.6 -0.3**
AS31 Alice Springs 34.95 166 *e*P **P 08 50 30.8 +0.9**
ASPA Alice Springs 34.95 166 *e*P **P 08 50 30.8 +0.9**
ASAR Alice Springs 34.95 166 P **P 08 50 30.5 +0.6**
1.8nm,0.4s,mb4.0,baz=348,slow=7.1,SNR=32
ASAR S **S 08 55 50.3 -1.5**
0.7nm,0.8s,baz=346,slow=15,SNR=4.8
FORT Forrest 41.13 177 *e*P **P 08 51 22.5 +0.8**
19nm,0.5s,mb5.0
KLBR Kellerberrin 42.53 190 *e*P **P 08 51 32.3 -0.7**
33nm,1.6s,mb4.7
NWAO Narrogin (SRO) 43.92 190 P **P 08 51 43.8 -0.4**
4.0nm,0.6s,mb4.2,baz=135,slow=16,SNR=4.5
STKA Stephens Creek 44.88 160 *e*P **P 08 51 53.1 +1.3**
2.3nm,1.0s,mb3.8
STKA Stephens Creek 44.88 160 P **P 08 51 52.8 +1.0**
3.9nm,0.5s,mb4.3,baz=336,slow=4.5,SNR=12
MKAR Makanchi Array 51.38 323 P **P 08 52 41.9 +0.2**
0.3nm,0.2s,mb3.5,baz=143,slow=8.8,SNR=3.9
MKAR PcP PcP 08 53 54.2 -0.3
1.2nm,0.7s,baz=108,slow=4.0,SNR=4.8
AB31 Akbulak array 66.20 319 ⇓Pn **P 08 54 23.0 -1.2**
0.1nm,0.3s,mb3.1
AB31 ⇑Lg pP 08 54 55.6 -0.6
3.1nm,0.8s,baz=358,slow=26,SNR=4.2
AKTO Aktyubinsk 67.65 320 ⇑Lg 08 54 18.0
0.1nm,0.9s
JOF Joensuu 82.63 333 *e*p **P 08 55 57.0 -2.1**
1.1nm,0.5s,mb3.8
ARCES ARCESS Array B 83.70 340 P **P 08 56 04.1 -0.5**
0.4nm,0.5s,mb3.5,baz=86,slow=6.4,SNR=9.7
FINES FINESS Array B 85.32 332 P **P 08 56 12.0 -0.8**
0.6nm,0.4s,mb3.7,baz=84,slow=4.7,SNR=18
VNDA Vanda 90.27 173 P **P 08 56 36.2 -0.2**
1.4nm,0.9s,mb3.9,baz=306,slow=3.6,SNR=5.9
VNDA Vanda 90.27 173 P **P 08 56 36.2 -0.2**

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*BJI **08** 09:05:24.3, 65.85N×169.84W, h6km, mB5.0, mb4.7, Ms4.6, Msz4.2*
*MOS **08** 09:05:25.5±1.0, 65.81N×169.55W, h14km, mb4.7/34, Error ellipse: s-maj=13.9km s-min=6.7km az=97.6*
*ISCJB **08** 09:05:25.8±0.2, 65.92N±0.03×169.60W±0.05, h10km, mb4.4/64, MS4.4/7, Error ellipse: s-maj=5.2km s-min=2.6km az=38.3*
*IDC **08** 09:05:25.4±0.8, 65.78N×169.74W, h0km, mb4.1/16, mb1 4.3/18, mb1mx4.3/22, mbtmp4.1/18, ML3.6/2, MS3.9/1, Ms1 3.9/1, ms1mx2.8/37, Error ellipse: s-maj=23.7km s-min=13.2km az=12.0*
*NERS **08** 09:05:26.3, 65.80N×169.92W, h33km, MSH4.1*
*NEIC **08** 09:05:26.8±0.2, 65.80N×169.68W, h10km, mb4.5/35, ML4.5(AEIC), Error ellipse: s-maj=5.9km s-min=2.9km az=209.0*
ISC 08 09:05:27.1±0.2**, 65.91N**±0.03×**169.64W**±0.05**, h10**km**, (h15**km±2.4km**:pP-P), n258, σ0^{s}81**/272**, mb4.4**/64**, MS4.4**/7**, 46C-48D, Eastern Siberia**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
LAVR Lavrentia 0.66 240⇓*i*Pg **Pg 09 05 37.0 -2.8**
LAVR Pgmax 09 05 39.8
600nm,0.2s
LAVR Pgmax 09 05 39.8
20μm,0.2s
LAVR Pgmax 09 05 39.8
3μm,0.2s
LAVR *e*Sg **Sg 09 05 45.1 -3.3**
LAVR Sgmax 09 05 50.6
15μm,0.3s
LAVR Sgmax 09 05 50.6
30μm,0.3s
TNA Tin City 0.79 116 P **Pg 09 05 39.0 -3.5**
TNA S **Sg 09 05 52.9 +0.1**
PRVR Provideniya 2.10 227 *e*Pg **Pn 09 06 02.6 +0.3**
PRVR *e*Sg **Sn 09 06 28.3 -0.1**
TTA Tatalina 6.61 111 P **Pn 09 07 03.6 -0.8**
TTA S **Sn 09 08 16.1 -3.7**
COLD Coldfoot 7.85 72 P **Pn 09 07 21.0 -0.4**
SVW2 Sparrevohn 7.92 121 *e*Pn **Pn 09 07 21.8 -0.5**
KTH Kantishna Hill 8.34 98 P **Pn 09 07 27.0 -1.1**
KTH S **Sn 09 09 00.5 -1.8**
TRF Thorofare Moun 8.64 98 P **Pn 09 07 31.3 -0.9**
TRF S **Sn 09 09 06.7 -3.0**
SPIA Saint Paul Isl 8.77 182 P **Pn 09 07 30.6 -3.4**
MCK McKinley 9.08 94 P **Pn 09 07 37.4 -0.8**
COLA College 9.13 87 P **Pn 09 07 37.2 -1.8**
COLA S **Sn 09 09 16.7 -5.2**
ILAR Eielson Array 9.56 86 Pn **Pn 09 07 43.1 -1.7**
3.5nm,0.3s,baz=284,slow=15,SNR=92
ILAR Sn **Sn 09 09 25.8 -6.5**
0.2nm,0.3s,baz=288,slow=15,SNR=2.5
BILL Bilibino 9.65 294 *i* P **Pn 09 07 48.5 +2.5**
PMR Palmer 10.04 106 *e*P **Pn 09 07 51.4 +0.1**
PMR pmax pmax
comp=Z,5.0nm,0.3s
PMR Palmer 10.04 106 *e*P **Pn 09 07 51.4 +0.1**
comp=Z,5.0nm,0.3s
SML Sawmill 10.23 104 *e*Pn **Pn 09 07 43.4 -11**
SLKM Skilak Lake 10.27 113 *e*P **Pn 09 07 53.5 -1.1**
KDAK Kodiak Island 11.42 127 Pn **Pn 09 08 10.6 +0.3**
comp=Z,4.1nm,0.3s,baz=340,slow=11,SNR=28
KDAK Kodiak Island 11.42 127 *e*Pn **Pn 09 08 11.1 +0.8**
comp=Z,44nm,0.9s
MENT Mentasta 11.55 93 *e*P **Pn 09 08 11.9 -0.1**
DAWY Dawson 12.86 84 *e*Pn **Pn 09 08 29.3 -0.7**
INK Inuvik 14.12 64 Pn **Pn 09 08 47.8 +0.7**
comp=Z,0.5nm,0.3s,baz=283,slow=12,SNR=7.2
INK Sn **Sn 09 11 15.4 -8.4**
comp=Z,0.1nm,0.3s,baz=115,slow=15,SNR=2.0
INK Inuvik 14.12 64 P **Pn 09 08 47.2 0.0**
INK pmax pmax
comp=Z,16nm,0.8s
INK Inuvik 14.12 64 Pn **Pn 09 08 47.2 0.0**
comp=Z,16nm,0.8s
SKAG Skagway 16.84 96 *e*P **Pn 09 09 23.6 +0.7**
comp=Z,9.6nm,0.9s
SUUS Susuman 18.27 280 *e* **Pn 09 09 41.0 +0.3**
SUUS *e* 09 15 22.8
OCHR Omchak 18.95 277 *e* **Pn 09 09 49.4 +0.4**
OCHR *e* 09 15 46.1
DLBC Dease Lake 19.63 93 P **Pn 09 09 54.1 -3.0**
comp=Z,0.1nm,0.3s,baz=303,slow=12,SNR=4.6
TIXI Tiksi 22.03 312⇓*i*P **P 09 10 21.8 +0.1**
TIXI pmax pmax
comp=Z,11nm,0.8s,mb4.3
YKA Yellowknife Ar 23.53 72 P **P 09 10 37.4 -0.2**
comp=Z,3.2nm,0.7s,mb3.9,baz=299,slow=9.4,SNR=14
YKA PcP PcP 09 14 21.3 -1.5
comp=Z,2.1nm,0.6s,baz=309,slow=2.3,SNR=14
YAK Yakutsk 25.98 290 *e*P **P 09 11 01.6 +1.6**
YAK pmax pmax
comp=Z,18nm,0.7s,mb4.7
A04A Legoe Bay, Lum 29.67 102 ⇑P **P 09 11 32.6 -0.4**
baz=30
B04A Port Angeles 29.88 104 ⇑P **P 09 11 34.9 +0.1**
baz=30
B05A Bryant 30.28 102 ⇑P **P 09 11 38.6 +0.2**
baz=30
C04A Brinnon 30.37 104 ⇓P **P 09 11 39.4 +0.2**
baz=30
C05A Tolt Reservoir 30.91 102 ⇑P **P 09 11 44.2 +0.3**
baz=31
D04A Dobbs Creek Ra 30.93 104 ⇓P **P 09 11 44.4 +0.3**
baz=31
E03A Lebam 31.09 106 ⇓P **P 09 11 45.7 +0.2**
baz=31
D05A Enumclaw 31.19 103 ⇑P **P 09 11 47.1 +0.7**
baz=31
E05A Randle 31.79 104 ⇑P **P 09 11 52.3 +0.6**
baz=32
F04A Amboy 32.05 105 ⇓P **P 09 11 54.1 +0.1**
baz=32
G04A Mulino 32.62 106 ⇑P **P 09 11 59.0 0.0**
baz=32
H03A Soap Creek Ran 32.74 107 ⇑P **P 09 12 00.4 +0.3**
baz=33
G05A Wamic 33.05 105 ⇑P **P 09 12 02.9 +0.1**
baz=33
H04A Detroit Lake 33.17 106 ⇑P **P 09 12 03.8 0.0**
baz=33,SNR=5.2
HABR Khabarovsk 33.27 266 *e*P **P 09 12 02.7 -1.9**
HABR *e*S **S 09 17 24.7 -0.1**
I03A Eugene 33.34 108 ⇓P **P 09 12 05.9 +0.6**
baz=33
H05A Madras 33.58 105 ⇑P **P 09 12 08.3 +1.0**
baz=33
J02A Umpqua 33.73 109 ⇓P **P 09 12 09.5 +0.8**
baz=34
I05A Bend 33.97 106 ⇑P **P 09 12 11.0 +0.3**
baz=34
J03A Ideyld Park 33.97 108 ⇓P **P 09 12 09.9 -0.8**
baz=34
K02A Glendale 34.27 109 ⇓P **P 09 12 12.7 -0.7**
baz=34
HUMO Hull Mountain 34.62 109 ⇓P **P 09 12 17.1 +0.8**
baz=34
L02A Cave Junction 34.75 110 ⇑P **P 09 12 18.0 +0.4**
baz=35
M01C Crescent City 34.82 111 ⇑P **P 09 12 18.5 +0.4**
baz=35
J06A Christmas Vall 35.18 105 P **P 09 12 22.0 +0.8**
baz=35,SNR=9.2
L04A Klamath Falls 35.41 108 ⇓P **P 09 12 23.8 +0.6**
baz=35
J07A Hines 35.41 104 ⇑P **P 09 12 23.4 +0.2**
baz=35
YBH Yreka Blue Hor 35.46 110 ⇓P **P 09 12 24.5 +0.8**
baz=35
K06A Valley Falls 35.52 106 ⇑P **P 09 12 24.9 +0.7**
baz=35
M02C Callahan 35.70 110 ⇓P **P 09 12 26.6 +0.9**
baz=36
JCC Jacoby Creek 35.74 112 ⇓P **P 09 12 26.7 +0.6**
baz=36
J08A Circle Bar Ran 35.75 103 ⇓P **P 09 12 26.5 +0.4**
baz=36
M04C Macdoel 35.76 109 ⇓P **P 09 12 26.6 +0.4**
baz=36
L05A Lakeview 35.92 107 ⇓P **P 09 12 28.5 +0.9**
baz=36,SNR=9.0
N02C Big Bar 36.01 111 ⇑P **P 09 12 29.1 +0.8**
baz=36
M05C Lookout 36.39 108 ⇓P **P 09 12 32.1 +0.5**
baz=36,SNR=6.0
O01C Eel River Cons 36.41 112 ⇓P **P 09 12 32.6 +0.9**
baz=36
WVOR Wild Horse Val 36.46 105 *e*P **P 09 12 33.0 +0.8**
WVOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
WVOR Wild Horse Val 36.46 105 *e*P **P 09 12 33.0 +0.8**
comp=Z,2.8nm,0.8s,mb4.2
WDC Whiskeytown Da 36.52 110 ⇑P **P 09 12 32.9 +0.3**
baz=36
L07A Adell 36.53 106 ⇑P **P 09 12 33.7 +0.9**
baz=36
BOZ Bozeman (W) 36.64 94 *e*P **P 09 12 33.3 -0.4**
BOZ pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
BOZ Bozeman (W) 36.64 94 *e*P **P 09 12 33.3 -0.4**
comp=Z,6.0nm,1.1s,mb4.3
HATC Hat Creek Radi 36.73 109 ⇓P **P 09 12 35.0 +0.5**
baz=37
O02C Red Bluff 36.77 111 ⇓P **P 09 12 35.4 +0.6**
baz=37
M06C Likely Place G 36.78 108 ⇓P **P 09 12 35.7 +0.7**
baz=37,SNR=5.1
MCMT McKenzie Canyo 36.81 96 *e*P **P 09 12 34.6 -0.6**
M07A Soldier Meadow 37.14 106 ⇑P **P 09 12 38.7 +0.7**
baz=37,SNR=12
HLID Hailey 37.22 99 *e*P **P 09 12 38.9 +0.3**
comp=Z,4.3nm,0.9s,mb4.3
O04C Chester 37.30 109 ⇓P **P 09 12 40.1 +0.8**
baz=37,SNR=12
M08A Happy Creek Ra 37.40 105 ⇓P **P 09 12 40.9 +0.7**
baz=37,SNR=6.0
O05C Quincy 37.68 109 ⇓P **P 09 12 42.9 +0.3**
baz=38
M09A Marrel Ranch, 37.79 104 ⇓P **P 09 12 44.2 +0.7**
baz=38
ORV Oroville 37.80 110 ⇓P **P 09 12 42.9 -0.8**
baz=38,SNR=5.3
O06A Flanigan 37.93 108 ⇑P **P 09 12 45.0 +0.3**
baz=38
SUTB Sutter Butte 37.97 111 ⇑P **P 09 12 44.8 -0.3**
baz=38
LAO LASA Array 38.01 88 *e*P **P 09 12 45.2 -0.2**
comp=Z,28nm,1.1s,mb4.9
N08A GE Springer Mi 38.07 105 ⇑P **P 09 12 46.4 +0.6**
baz=38,SNR=7.7
M10A I.L. Ranch, Tu 38.07 103 ⇑P **P 09 12 46.7 +0.8**
baz=38
N09A Rock Creek Ran 38.25 105 ⇓P **P 09 12 47.9 +0.6**
baz=38
O07A Toulon 38.30 107 ⇑P **P 09 12 48.5 +0.7**
baz=38,SNR=5.4
P06A Stead Airport, 38.31 108 ⇑P **P 09 12 48.3 +0.4**
baz=38
Q03C Winters 38.41 111 ⇑P **P 09 12 49.3 +0.6**
baz=38
Q04C Lincoln 38.47 110 ⇓P **P 09 12 49.2 0.0**
baz=38
MDJ Mudanjiang 38.61 267 P **P 09 12 52.0 +1.6**
MDJ AMB AMB
comp=Z,3.0nm,0.5s,mb4.3
MDJ AMB AMB
comp=Z,90nm,3.8s
RRI2 Red Ridge 38.65 96 *e*P **P 09 13 00.7 +10**
WCN Washoe City 38.70 108 ⇓P **P 09 12 51.1 0.0**
baz=39
LAVA Lava Cap Winer 38.78 110 ⇑P **P 09 12 51.3 -0.6**
baz=39
M12A Wells 38.81 102 ⇓P **P 09 12 52.8 +0.7**
baz=39
O09A Fish Creek Ran 38.96 105 ⇑P **P 09 12 54.1 +0.7**
baz=39,SNR=9.2
P08A Dixie Valley 39.02 106 ⇑P **P 09 12 54.6 +0.8**
baz=39
R05C Kirkwood Meado 39.09 109 ⇓P **P 09 12 54.3 -0.1**
baz=39,SNR=5.5
M13A Montello 39.16 101 ⇓P **P 09 12 55.5 +0.4**
baz=39
N12A Clover Valley, 39.24 102 ⇓P **P 09 12 56.4 +0.7**
baz=39
ELK Elko 39.25 102 *e*P **P 09 12 55.5 -0.3**
ELK pmax pmax
comp=Z,2.0nm,0.9s
ELK Elko 39.25 102 *e*P **P 09 12 55.5 -0.3**
comp=Z,2.3nm,0.9s,mb3.9
WENL Wente Brothers 39.39 112 ⇑P **P 09 12 57.1 +0.2**
baz=39
ULM Lac du Bonnet 39.39 76 P **P 09 12 56.4 -0.6**
comp=Z,3.8nm,0.6s,mb4.3,baz=320,slow=6.5,SNR=8.3
JRSC Jasper Ridge 39.40 113 ⇑P **P 09 12 57.2 +0.2**
baz=39
R06C Coleville 39.49 109 ⇓P **P 09 12 57.7 -0.1**
baz=39
N13A Wendover, West 39.57 101 ⇓P **P 09 12 58.8 +0.4**
baz=39
O11A Cowboy Ranch, 39.60 103 ⇑P **P 09 12 59.4 +0.7**
baz=40,SNR=5.2
P10A Eureka 39.72 105 ⇓P **P 09 13 00.3 +0.6**
baz=40
Q08A Gabbs 39.79 107 P **P 09 13 00.9 +0.7**
baz=40,SNR=8.1
PDAR Pinedale Array 39.85 95 P **P 09 13 00.9 +0.1**
comp=Z,1.9nm,0.6s,mb4.0,baz=338,slow=5.5,SNR=20
NVAR Mina Array Bea 40.02 108 P **P 09 13 02.6 +0.4**
comp=Z,3.7nm,0.7s,mb4.2,baz=326,slow=6.7,SNR=15
P11A Circle Ranch, 40.06 104 ⇑P **P 09 13 02.8 +0.3**
baz=40
S05C Merced 40.17 110 ⇑P **P 09 13 03.0 -0.5**
baz=40
P12A McGill 40.47 103 ⇑P **P 09 13 06.1 +0.2**
baz=40
MLAC Mammoth Lakes 40.51 109 ⇑P **P 09 13 06.2 0.0**
baz=40
HAST UC Hastings Re 40.55 113 ⇓P **P 09 13 06.3 -0.2**
baz=40
R09A Tonopah 40.67 106 ⇓P **P 09 13 07.5 0.0**
baz=40
Q11A Duckwater 40.70 104 P **P 09 13 08.4 +0.5**
baz=41,SNR=8.4
Q12A Willow Creek R 40.87 103 ⇓P **P 09 13 09.6 +0.4**
baz=41
R10A Warm Springs 40.93 106 ⇓P **P 09 13 09.9 +0.2**
baz=41
CN2 Changchun 40.98 270 *e*P **P 09 13 09.5 -0.6**
RSSD Black Hills 41.00 89 *e*P **P 09 13 10.3 0.0**
RSSD 09 14 44.4
RSSD pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
RSSD Black Hills 41.00 89 *e*P **P 09 13 10.3 0.0**
comp=Z,5.4nm,0.9s,mb4.2
RSSD PP PP 09 14 44.4 -0.4
S09A Goldfield 41.06 107 ⇑P **P 09 13 10.7 0.0**
baz=41,SNR=7.2
MAJO Matsushiro 41.98 252 *e*P **P 09 13 17.0 -1.3**
MAJO pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
MAJO Matsushiro 41.98 252 *e*P **P 09 13 17.0 -1.3**
comp=Z,9.1nm,0.8s,mb4.5
MAT Matsushiro 41.98 252 P **P 09 13 16.0 -2.3**
MAT Matsushiro 41.98 252 *e*P **P 09 13 16.0 -2.3**
MAT pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
MAT Matsushiro 41.98 252 *e*P **P 09 13 16.0 -2.3**
comp=Z,6.0nm,0.8s,mb4.3
MJAR Matsushiro Arr 41.98 252 P **P 09 13 16.7 -1.6**
comp=Z,5.6nm,0.7s,mb4.3,baz=22,slow=7.8,SNR=16
TPNV Topopah Spring 42.11 106 *e*P **P 09 13 18.5 -0.9**
TPNV pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
TPNV Topopah Spring 42.11 106 *e*P **P 09 13 18.4 -0.9**
comp=Z,2.3nm,0.8s,mb3.9
MSU Marysvale 42.38 101 *e*P **P 09 13 21.7 +0.1**
SRU San Rafael 42.54 99 *e*P **P 09 13 22.2 -0.7**
SRU pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
SRU San Rafael 42.54 99 *e*P **P 09 13 22.2 -0.7**
comp=Z,9.1nm,1.1s,mb4.4
PHWY Pilot Hill 42.76 92 *e*P **P 09 13 24.5 -0.2**
GSC Goldstone 43.33 108 ⇓P **P 09 13 29.2 -0.1**
baz=43
TUQ Turquoise Mtn. 43.56 107 ⇓P **P 09 13 31.0 -0.1**
baz=43
V12A Nelson 43.72 106 ⇑P **P 09 13 31.4 -1.0**
baz=44
ISCO Idaho Springs 43.96 94 *e*P **P 09 13 34.6 +0.3**
ISCO pmax pmax
comp=Z,12nm,1.3s,mb4.5
ISCO Idaho Springs 43.96 94 *e*P **P 09 13 34.6 +0.2**
comp=Z,12nm,1.3s,mb4.5
KEV Kevo 44.11 352 *e*p **P 09 13 34.4 -1.2**
comp=Z,3.0nm,0.6s,mb4.2
KEV Kevo 44.11 352 *e*P **P 09 13 34.4 -1.2**
KEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
ARCES ARCESS Array B 44.41 352 P **P 09 13 39.8 +1.7**
comp=Z,2.2nm,0.9s,mb3.9,baz=22,slow=6.9,SNR=9.7
ARCES PcP PcP 09 15 20.5 -1.2
comp=Z,1.4nm,0.6s,baz=20,slow=3.9,SNR=8.7
ARCES ARCESS Array B 44.41 352 P **P 09 13 39.8 +1.7**
ARCES PcP PcP 09 15 20.5 -1.2
W14A Seligman 44.88 104 ⇑P **P 09 13 41.9 +0.1**
baz=45
ULN Ulaanbaatar 45.06 289 *e*P **P 09 13 45.3 +2.1**
WUAZ Wupatki 45.29 103 *e*P **P 09 13 45.5 +0.5**
comp=Z,6.2nm,1.0s,mb4.4
SONM Songino Array 45.34 290 P **P 09 13 46.2 +0.8**
comp=Z,3.7nm,0.8s,mb4.3,baz=35,slow=7.7,SNR=16
SONM PcP PcP 09 15 24.4 -0.4
comp=Z,1.7nm,0.7s,baz=36,slow=1.0,SNR=6.6
109C Camp Elliot, M 45.34 110 ⇑P **P 09 13 44.9 -0.5**
baz=45
Y12C Blythe 45.59 107 ⇑P **P 09 13 46.8 -0.6**
baz=46
X14A Yava 45.60 105 ⇓P **P 09 13 47.5 0.0**
baz=46
X15A Humboldt 45.84 104 ⇑P **P 09 13 49.3 -0.1**
baz=46
Y14A Wickenburg 46.02 105 ⇓P **P 09 13 50.2 -0.5**
baz=46
GLA Glamis 46.08 108 ⇑P **P 09 13 50.9 -0.4**
baz=46,SNR=5.6
SCHQ Schefferville 46.28 51 P **P 09 13 52.7 -0.1**
comp=Z,1.8nm,0.8s,mb4.0,baz=325,slow=16,SNR=2.2
SCHQ PcP PcP 09 15 27.0 -1.2
comp=Z,3.7nm,0.9s,baz=25,slow=7.9,SNR=5.5
SCHQ Schefferville 46.28 51 P **P 09 13 52.7 -0.1**
SCHQ PcP PcP 09 15 27.0 -1.2
Z14A Wintersburg 46.55 106 ⇓P **P 09 13 53.9 -1.0**
baz=46
115A Sonoran Desert 47.41 105 ⇑P **P 09 14 01.8 +0.1**

baz=47
116A Eloy 47.75 105 ⇑P **P** **09 14 03.7 -0.5**
baz=48
ZAL Zalesovo 47.91 310 P **P** **09 14 04.9 -0.6**
comp=Z,2.9nm,0.8s,mb4.3,baz=80,slow=8.9,SNR=12
ZAL LR LR 09 34 07.1
comp=Z,135nm,21.1s,MS3.9,baz=78,slow=36
ZAL Zalesovo 47.91 310 P **P** **09 14 04.9 -0.6**
ZAL LR LR 09 34 07.1
BJI Beijing 47.92 276 P **P** **09 14 05.8 +0.2**
BNM Barren Site 48.39 99 *e*P **P** **09 14 09.0 -0.2**
HHC Hu-ho-hao-te 49.11 280 *e*P **P** **09 14 13.6 -1.2**
HHC XP sP 09 14 19.8 +0.7
HHC PP PP 09 16 08.6 +0.2
HHC PCS PcS 09 19 34.4 -0.2
HHC S **S** **09 21 13.1 -6.7**
HHC SCS ScS 09 24 00.8 -6.3
HHC AMB AMB
comp=Z,15nm,0.5s,mb5.3
HHC AMB AMB
comp=Z,83nm,4.2s
HHC LR LR
comp=N,218nm,19.0s,MS4.4
HHC LR LR
comp=E,345nm,19.0s,MS4.4
HHC LR LR
comp=Z,174nm,16.6s,MS4.1
AMTX Amarillo 49.78 94 *e*P **P** **09 14 19.6 -0.3**
comp=Z,6.8nm,0.8s,mb4.7
JOF Joensuu 50.55 348 *e*p **P** **09 14 24.8 -1.0**
comp=Z,2.3nm,0.6s,mb4.3
JOF Joensuu 50.55 348 *e*P **P** **09 14 24.8 -1.0**
JOF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
KAF Kangasniemi 51.74 351 *e*p **P** **09 14 33.2 -1.5**
comp=Z,3.4nm,0.5s,mb4.5,baz=4.5,slow=7.1
KAF Kangasniemi 51.74 351 *e*P **P** **09 14 33.2 -1.5**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
CHKZ Chkalovo 52.28 319 *e*P **P** **09 14 37.9 -0.8**
CHKZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CHKZ Chkalovo 52.28 319 *e*P **P** **09 14 37.9 -0.8**
comp=Z,3.6nm,0.6s,mb4.5
FINES FINESS Array B 52.42 351 P **P** **09 14 39.4 -0.3**
comp=Z,1.2nm,0.5s,mb4.1,baz=26,slow=6.6,SNR=14
KURK Kurchatov 52.61 312 *e*P **P** **09 14 40.6 -0.5**
ARU Arti 52.68 329 ⇓*i*P **P** **09 14 43.1 +1.4**
ARU *e* 09 16 39.1
ARU *e*S **S** **09 22 12.9 +3.6**
ARU *e*SS SS 09 25 52.6 +4.9
ARU pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRVK Borovoye 52.92 319 *e*P **P** **09 14 43.1 -0.4**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BRVK Borovoye 52.92 319 *e*P **P** **09 14 43.1 -0.3**
comp=Z,3.9nm,0.8s,mb4.4
NB2 NORSAR Subarra 53.35 359 P **P** **09 14 46.8 +0.2**
comp=Z,1.8nm,0.9s,mb4.0,baz=0.5,slow=7.4
NOA NORSAR Array B 53.35 359 P **P** **09 14 47.0 +0.3**
comp=Z,1.4nm,0.9s,mb3.9,baz=358,slow=7.4,SNR=5.0
ZRNK Zerenda 53.36 320 *e*P **P** **09 14 46.0 -0.7**
ZRNK 09 15 53.9
ZRNK 09 16 46.3
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ZRNK Zerenda 53.36 320 *e*P **P** **09 14 46.0 -0.7**
comp=Z,3.5nm,0.8s,mb4.3
ZRNK PcP PcP 09 15 53.9 -0.1
ZRNK PP PP 09 16 46.3 -0.7
MIAR Mount Ida 53.39 86 *e*P **P** **09 14 45.8 -1.1**
MIAR pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
MIAR Mount Ida 53.39 86 *e*P **P** **09 14 45.8 -1.1**
comp=Z,8.7nm,1.2s,mb4.6
SSE Sheshan 53.57 265 P **P** **09 14 44.9 -3.3**
SSE AMB AMB
comp=Z,25nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,316nm,5.7s
NJ2 Nanjing 53.69 268 *e*P **P** **09 14 52.4 +3.3**
NJ2 AP pP 09 14 58.5 +6.2
NJ2 XP sP 09 15 01.3 +7.8
NJ2 PP PP 09 16 55.0 +5.1
NJ2 S **S** **09 22 25.0 +2.0**
NJ2 XS sS 09 22 35.0 +6.7
NJ2 AMB AMB
comp=Z,40nm,0.7s,mb5.5
NJ2 AMB AMB
comp=Z,400nm,4.8s
NJ2 LR LR
comp=N,1μm,21.1s,MS5.3
NJ2 LR LR
comp=E,2μm,19.0s,MS5.3
NJ2 LR LR
comp=Z,2μm,17.9s,MS5.2
JCT Junction City 54.38 95 *e*P **P** **09 14 53.5 -0.7**
JCT pmax pmax
comp=Z,11nm,0.7s,mb4.9
JCT Junction City 54.38 95 *e*P **P** **09 14 53.5 -0.6**
comp=Z,11nm,0.7s,mb4.9
MKAR Makanchi Array 54.89 307 P **P** **09 14 56.5 -1.3**
comp=Z,0.9nm,0.7s,mb3.9,baz=38,slow=8.2,SNR=6.0
GTA Gaotai 55.00 289 *e*P **P** **09 14 58.3 -0.3**
GTA AP pP 09 15 01.4 -0.4
GTA XP sP 09 15 03.7 +0.7
GTA PP PP 09 17 04.4 +2.7
GTA PPP 09 18 16.2
GTA S **S** **09 22 40.9 +0.2**
GTA XS sS 09 22 47.7 +1.8
GTA PS 09 22 51.1
GTA SS SS 09 26 22.9 -1.4
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.5
GTA AMB AMB
comp=Z,88nm,4.9s
GTA LR LR
comp=N,129nm,16.3s,MS4.3
GTA LR LR
comp=E,195nm,16.7s,MS4.3
GTA LR LR
comp=Z,115nm,12.9s,MS4.1
WMQ Urumqi 55.66 301 P **P** **09 15 05.6 +2.2**
WMQ AP pP 09 15 09.7 +3.1
WMQ XP sP 09 15 12.1 +4.3
WMQ PP PP 09 17 11.5 +3.9
WMQ AMB AMB
comp=Z,7.0nm,1.9s,mb4.4
WMQ AMB AMB
comp=Z,55nm,6.2s
WMQ LR LR
comp=N,132nm,21.2s,MS4.1
WMQ LR LR
comp=E,99nm,20.1s,MS4.1
WMQ LR LR
comp=Z,131nm,21.7s,MS4.0
LZH Lanzhou 56.29 284 *e*P **P** **09 15 07.8 -0.1**
LZH AP pP 09 15 10.3 -0.8
LZH XP sP 09 15 11.6 -0.7
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,120nm,4.5s
LZH LR LR
comp=E,430nm,14.3s
LZH LR LR
comp=Z,772nm,15.5s,MS4.9
WHN Wuhan 56.86 271 *e*P **P** **09 15 09.7 -2.3**
CD2 Chengdu 60.86 281 *e*P **P** **09 15 41.4 +1.7**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
AAK Ala-Archa 61.10 311 *e*P **P** **09 15 41.8 +0.4**
AAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.7
AKASG Malin Array Be 62.82 347 P **P** **09 15 52.0 -1.0**
comp=Z,1.4nm,0.5s,mb4.4,baz=7.3,slow=6.3,SNR=9.8
BAIF Baives 64.27 4 *e*P **P** **09 16 02.8 +0.3**
comp=Z,19nm,1.1s,mb4.7
BAIF Baives 64.27 4 *e*P **P** **09 16 02.8 +0.3**
BAIF pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
BAIF Baives 64.27 4 *e*P **P** **09 16 02.8 +0.3**
comp=Z,9.7nm,1.1s,mb4.8
KHC Kasperske Hory 65.27 358 *e*P **P** **09 16 11.0 +2.0**

FLN La Foliniere 65.36 8 *e*P **P** **09 16 09.1 -0.5**
comp=Z,7.3nm,0.5s,mb4.6
FLN La Foliniere 65.36 8 *e*P **P** **09 16 09.1 -0.5**
FLN pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
FLN La Foliniere 65.36 8 *e*P **P** **09 16 09.1 -0.5**
comp=Z,3.7nm,0.5s,mb4.7
LDF La Druitiere 65.54 8 *e*P **P** **09 16 10.2 -0.6**
comp=Z,19nm,1.0s,mb4.8
LDF La Druitiere 65.54 8 *e*P **P** **09 16 10.2 -0.6**
LDF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
LDF La Druitiere 65.54 8 *e*P **P** **09 16 10.2 -0.6**
comp=Z,9.4nm,1.0s,mb4.8
GERES GERESS Array B 65.55 358 P **P** **09 16 11.0 +0.2**
comp=Z,0.7nm,0.5s,mb4.0,baz=0.0,slow=4.0,SNR=7.9
ROSF Rostrenen 65.60 10 *e*P **P** **09 16 11.1 -0.1**
comp=Z,14nm,0.8s,mb4.7
ROSF Rostrenen 65.60 10 *e*P **P** **09 16 11.1 -0.1**
ROSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ROSF Rostrenen 65.60 10 *e*P **P** **09 16 11.1 -0.1**
comp=Z,7.1nm,0.8s,mb4.8
GRR Gorron 65.71 8 *e*P **P** **09 16 11.6 -0.3**
SGMF Saint Gilles 65.73 9 *e*P **P** **09 16 11.9 -0.2**
CDF Champ du Feu 65.99 2 *e*P **P** **09 16 13.7 0.0**
comp=Z,4.7nm,0.7s,mb4.3
CDF Champ du Feu 65.99 2 *e*P **P** **09 16 13.7 0.0**
CDF pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
CDF Champ du Feu 65.99 2 *e*P **P** **09 16 13.7 0.0**
comp=Z,2.3nm,0.7s,mb4.3
HAU Haudompre 66.38 3 *e*P **P** **09 16 16.1 -0.1**
KMI Kunming 66.39 279 P **P** **09 16 15.4 -0.9**
KMI AP pP 09 16 21.4 +1.9
KMI XP sP 09 16 22.9 +2.2
KMI PP PP 09 18 46.2 +3.8
KMI S S 09 25 04.0 -2.3
KMI XS sS 09 25 11.4 -0.2
KMI SS SS 09 29 20.6 -2.2
KMI SSS 09 32 31.6
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
KMI AMB AMB
comp=Z,155nm,5.1s
KMI LR LR
comp=N,181nm,17.0s,MS4.5
KMI LR LR
comp=E,217nm,16.3s,MS4.5
KMI LR LR
comp=Z,170nm,18.6s,MS4.3
HINF Hinteralfeld 66.57 3 *e*P **P** **09 16 17.3 -0.2**
LOR Lormes 67.04 5 *e*P **P** **09 16 20.0 -0.4**
SSF Saint Saulge 67.24 5 *e*P **P** **09 16 21.7 0.0**
comp=Z,4.7nm,0.6s,mb4.4
SSF Saint Saulge 67.24 5 *e*P **P** **09 16 21.7 0.0**
SSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
SSF Saint Saulge 67.24 5 *e*P **P** **09 16 21.7 0.0**
comp=Z,2.3nm,0.6s,mb4.4
AVF Avril sur Loir 67.50 5 *e*P **P** **09 16 23.2 -0.2**
comp=Z,6.5nm,0.8s,mb4.4
AVF Avril sur Loir 67.50 5 *e*P **P** **09 16 23.2 -0.2**
AVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
AVF Avril sur Loir 67.50 5 *e*P **P** **09 16 23.2 -0.2**
comp=Z,3.3nm,0.8s,mb4.4
MFF Saint Martin d 67.53 8 *e*P **P** **09 16 23.3 -0.2**
SMF Signal de Mont 67.67 5 *e*P **P** **09 16 24.1 -0.3**
comp=Z,19nm,1.0s,mb4.8
SMF Signal de Mont 67.67 5 *e*P **P** **09 16 24.1 -0.3**
SMF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
SMF Signal de Mont 67.67 5 *e*P **P** **09 16 24.1 -0.3**
comp=Z,9.6nm,1.0s,mb4.8
BGF Bois d'Agland 67.72 6 *e*P **P** **09 16 24.5 -0.2**
CABF La Chapelle 67.76 3 *e*P **P** **09 16 25.2 +0.2**
comp=Z,12nm,1.0s,mb4.6
CABF La Chapelle 67.76 3 *e*P **P** **09 16 25.2 +0.2**
CABF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
CABF La Chapelle 67.76 3 *e*P **P** **09 16 25.2 +0.2**
comp=Z,5.8nm,1.0s,mb4.6
TCF Toulx Ste Croi 67.96 6 *e*P **P** **09 16 25.9 -0.3**
comp=Z,4.7nm,0.7s,mb4.3
TCF Toulx Ste Croi 67.96 6 *e*P **P** **09 16 25.9 -0.3**
TCF pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
TCF Toulx Ste Croi 67.96 6 *e*P **P** **09 16 25.9 -0.3**
comp=Z,2.3nm,0.7s,mb4.3
RJF Les Rejaudoux 68.91 7 *e*P **P** **09 16 32.1 -0.1**
LFF La Frestale 69.23 7 *e*P **P** **09 16 34.2 0.0**
comp=Z,4.8nm,0.4s,mb4.5
LFF La Frestale 69.23 7 *e*P **P** **09 16 34.2 0.0**
LFF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
LFF La Frestale 69.23 7 *e*P **P** **09 16 34.2 0.0**
comp=Z,2.4nm,0.4s,mb4.5
CAF Calviac 69.31 6 *e*P **P** **09 16 34.7 0.0**
comp=Z,7.3nm,0.7s,mb4.4
CAF Calviac 69.31 6 *e*P **P** **09 16 34.7 0.0**
CAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
CAF Calviac 69.31 6 *e*P **P** **09 16 34.7 0.0**
comp=Z,3.7nm,0.7s,mb4.4
VIVF Saint-Julien-l 69.48 4 *e*P **P** **09 16 35.8 +0.1**
MTLF Montolieu 70.90 6 *e*P **P** **09 16 44.5 +0.1**
comp=Z,6.3nm,0.8s,mb4.3
MTLF Montolieu 70.90 6 *e*P **P** **09 16 44.5 +0.1**
MTLF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MTLF Montolieu 70.90 6 *e*P **P** **09 16 44.5 +0.1**
comp=Z,3.2nm,0.8s,mb4.3
EPF Esparros 71.11 8 *e*P **P** **09 16 45.0 -0.7**
comp=Z,2.8nm,0.5s,mb4.2
EPF Esparros 71.11 8 *e*P **P** **09 16 45.0 -0.7**
EPF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
EPF Esparros 71.11 8 *e*P **P** **09 16 45.0 -0.7**
comp=Z,1.4nm,0.5s,mb4.2
ETSF Etsaut 71.19 8 *e*P **P** **09 16 46.5 +0.3**
BRTR Keskin Array B 73.16 341 P **P** **09 16 57.7 -0.2**
comp=Z,1.9nm,0.8s,mb4.1,baz=37,slow=2.8,SNR=5.5
ESDC Tonseca Array 74.16 11 P **P** **09 17 04.1 +0.3**
comp=Z,1.4nm,0.5s,mb4.1,baz=1.0,slow=5.8,SNR=7.9

MOS ***08*** *09:12:56.9±0.8,2848S×6738W,h109km,mb5.3/45,Error ellipse: s-maj=10.9km s-min=6.2km az=97.3*
ISCJB ***08*** *09:13:00.1±0.1,2856S±002×6742W±003,h140km, mb5.0/102,Error ellipse: s-maj=4.0km s-min=3.3km az=27.0*
BJI ***08*** *09:13:00.6,2860S×6740W,h140km,mB5.1*
GUC ***08*** *09:13:00.4±0.6,2839S×6758W,h140km,mb5.1(NEIC)*
NEIC ***08*** *09:13:01.3±0.1,2856S×6739W,mb5.1/85,Error ellipse: s-maj=4.5km s-min=3.3km az=65.0*
NEIC Felt [III] at Chilecito.
LDG ***08*** *09:13:01.5±0.7,2843S×6678W,h132km,Mb5.1/22, Ms4.3/8,Error ellipse: s-maj=58.4km s-min=20.4km az=92.0*
HRVD ***08*** *09:13:01.3±0.1,2869S×6738W,h152km,MW5.5/101, Centroid moment Tensor Solution. LP body waves: s88,c163;Mantle waves: s101,c185; Half duration: 1s3 Moment tensor: Scale 10^17^Nm; Mrr-1.74±.02; Mθθ0.50±.03; Mφφ1.24±.04; Mrθ0.73±.02; Mrφ-0.99±.03; Mθφ-0.28±.03; Best double couple: M0 1.99700×10^17^ NP1:φs159.00000°,δ37.00000°,λ-68.00000°. NP2: φs312.00000°,δ56.00000°,λ-106.00000°. Principal axes: T 2.0370, Plg10.0000°, Azm53.0000°; N -0.0790, Plg13.0000°, Azm321.0000°; P -1.9570, Plg73.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***08*** *09:13:01.3±0.4,2836S×6720W,h138km±2km,mb5.0/20, mb1 5.0/24,mb1mx5.0/25,mbtmp5.4/24,MS4.4/9, Ms1 4.4/9,ms1mx4.0/24 Error ellipse: s-maj=10.8km s-min=8.0km az=68.0*
ISC 08 09:13:01.5±0.1,2860S±002×6740W±003,h142km, h142km±.5km:pP-P,n618,σ0s82/485,mb5.0/102,91C-106D, La Rioja Province

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

CPCH Copiapo 2.89 295 *e*P **Pn** **09 13 43.5 -3.6**
CPCH *i* S **Sn** **09 14 16.5 -5.8**
CPCH Copiapo 2.89 295 ⇑*i*P **Pn** **09 13 43.6 -3.5**
CPCH *i* S **Sn** **09 14 17.1 -5.2**
VACH Vallenar 2.95 270 ⇑*i*P **Pn** **09 13 46.6 -1.3**
VACH *i* S **Sn** **09 14 21.0 -2.8**
VACH Vallenar 2.95 270 ⇑*i*P **Pn** **09 13 46.6 -1.3**
VACH *i* S **Sn** **09 14 21.0 -2.8**
CFAA Coronel Fontan 3.08 193 P **Pn** **09 13 49.3 -0.2**
146nm,0.3s,baz=12,slow=12,SNR=4266
CFAA S **Sn** **09 14 27.2 +0.5**
932nm,0.3s,baz=151,slow=18,SNR=30
TLL Tololo Astrono 3.35 241 ⇑*i*P **Pn** **09 13 52.7 -0.3**
TLL *i* S **Sn** **09 14 32.8 -0.2**
TLL Tololo Astrono 3.35 241 ⇑*i*P **Pn** **09 13 52.7 -0.3**
TLL *i* S **Sn** **09 14 33.2 +0.2**
CDCH Caldera 3.40 296 *e*P **Pn** **09 13 50.5 -3.1**
CDCH *i* S **Sn** **09 14 27.7 -6.2**
CDCH AML AML 09 14 29.5
comp=E,8μm,0.5s
CDCH Caldera 3.40 296 *e*P **Pn** **09 13 50.7 -2.9**
CDCH *i* S **Sn** **09 14 27.7 -6.2**
CRCH Chaqaral 3.64 307 *e*P **Pn** **09 13 54.4 -2.4**
CRCH *i* S **Sn** **09 14 32.6 -7.0**
CRCH Chaqaral 3.64 307 P **Pn** **09 13 54.6 -2.1**
CRCH *i* S **Sn** **09 14 33.5 -6.0**
OVCH Ovalle 3.87 238 ⇑*i*P **Pn** **09 13 57.7 -2.1**
OVCH *i* S **Sn** **09 14 42.1 -2.9**
CMCH Combarbala 4.04 230 ⇓*i*P **Pn** **09 14 00.3 -1.8**
CMCH Combarbala 4.04 230 ⇓*i*P **Pn** **09 14 00.3 -1.7**
CMCH *i* S **Sn** **09 14 47.9 -1.2**
MDZ Mendoza 4.45 196 ⇑*i*P **Pn** **09 14 06.4 -1.0**
MDZ *e* 09 14 43.3
MDZ *i* S Sn 09 15 22.2 +24
CPN1 Cerro Paranal 4.79 325 *e*P **Pn** **09 14 08.7 -3.1**
CPN1 *i* S **Sn** **09 15 01.1 -5.6**
FCH Farellones 5.33 207 ⇑*i*P **Pn** **09 14 18.8 -0.2**
PEL Peldehue 5.34 211 ⇓*i*P **Pn** **09 14 17.4 -1.7**
CLCH Cerro Calan 5.49 209 ⇑*i*P **Pn** **09 14 20.0 -1.2**
CEN1 Los Morros 5.77 333 *i* P **Pn** **09 14 19.9 -5.1**
CEN1 *i* S **Sn** **09 15 20.1 -10**
LVC Limon Verde 6.12 347 P **Pn** **09 14 28.1 -1.5**
comp=E,46nm,0.3s,baz=151,slow=10,SNR=141
LVC S **Sn** **09 15 34.8 -3.8**
comp=E,62nm,0.3s,baz=208,slow=10,SNR=4.5
LVC Limon Verde 6.12 347 *e*Pn **Pn** **09 14 28.0 -1.6**
LVC *e*Sn **Sn** **09 15 24.6 -14**
CPUP Villa Florida 9.23 78 P **Pn** **09 15 07.4 -3.8**
comp=E,48nm,0.3s,baz=238,slow=12,SNR=95
CPUP Villa Florida 9.23 78 P **Pn** **09 15 07.4 -3.9**
CPUP pmax pmax
comp=Z,48nm,0.3s
CPUP Villa Florida 9.23 78 *e*Pn **Pn** **09 15 06.9 -4.4**
comp=Z,0.8nm,0.5s
LPA La Plata 10.22 130 ⇓*e*P **Pn** **09 15 24.3 -0.2**
comp=Z,239nm,0.8s
TRQA Tornquist 10.46 156 *e*Pn **Pn** **09 15 26.4 -1.2**
LPAZ La Paz 12.27 357 P **Pn** **09 15 48.5 -3.0**
comp=Z,2.0nm,0.3s,baz=170,slow=9.6,SNR=63
LPAZ La Paz 12.27 357 *e*P **Pn** **09 15 48.6 -2.9**
LPAZ pmax pmax
comp=Z,5.0nm,0.4s
LPAZ La Paz 12.27 357 *e*Pn **Pn** **09 15 48.6 -2.9**
comp=Z,5.2nm,0.4s
PLCA Paso Flores 12.38 191 P **Pn** **09 15 50.5 -2.3**
comp=Z,2.5nm,0.3s,baz=2.7,slow=13,SNR=51
PLCA Paso Flores 12.38 191 P **Pn** **09 15 50.5 -2.3**
PLCA pmax pmax
comp=Z,3.0nm,0.3s
PLCA Paso Flores 12.38 191 *e*Pn **Pn** **09 15 50.2 -2.6**
comp=Z,1.7nm,0.4s
ARE Arequipa 12.66 342 *e*P **Pn** **09 15 53.0 -3.4**
SIV San Ignacio 13.84 26 P **Pn** **09 16 06.9 -4.8**
comp=Z,3.0nm,0.3s,baz=213,slow=14,SNR=208
NNA Nana 18.73 330 *e*P **P** **09 17 10.1 +0.8**
comp=Z,103nm,0.9s
BDFB Brasilia 22.07 58 P **P** **09 17 43.0 -1.9**
comp=Z,54nm,0.3s,mb5.4,baz=235,slow=9.7,SNR=94
BDFB S **S** **09 21 33.8 -4.5**
comp=Z,34nm,1.0s,baz=192,slow=20,SNR=1.7
BDFB LR LR 09 27 16.7
comp=Z,2μm,18.9s,baz=244,slow=39
BDFB Brasilia 22.07 58 P **P** **09 17 43.1 -1.8**
BDFB S **S** **09 21 33.8 -4.5**
BDFB pmax pmax
comp=Z,55nm,0.4s
BDFB smax
comp=N,34nm,1.0s
BDFB MLR MLR
comp=Z,2μm,18.9s
BDFB Brasilia 22.07 58 *e*P **P** **09 17 41.4 -3.5**
comp=Z,1.1nm,1.5s
BDFB *e*pP 09 18 12.6
BAO Brasilia Array 22.09 58 P **P** **09 17 43.0 -2.1**
CAM4 Nova Friburgo 23.24 80 ⇓*e*P **P** **09 17 53.0 -3.0**
CAM4 *i* 09 17 55.7
CAM4 *i* 09 17 57.3
CAM4 *i* 09 18 00.7
CAM4 *i* 09 18 10.4
CAM4 *i* 09 18 25.6
ATAH Atahualpa 23.87 332 P **P** **09 18 01.9 +0.2**
comp=Z,16nm,0.7s,mb4.7,baz=167,slow=7.2,SNR=11
ATAH S **S** **09 22 10.9 +3.5**
comp=Z,3.0nm,0.4s,baz=147,slow=20,SNR=1.9
EFI East Falkland 24.09 166 P **P** **09 18 04.9 +1.1**
comp=Z,3μm,1.0s,SNR=19
EFI East Falkland 24.09 166 *e*P **P** **09 18 04.0 +0.2**
EFI pmax pmax
comp=Z,387nm,0.8s,mb6.0
EFI East Falkland 24.09 166 *e*P **P** **09 18 04.0 +0.3**
comp=Z,387nm,0.8s,mb6.0
OTAV Otavalo 30.57 338 *e*P **P** **09 19 03.5 +1.9**
ROSC El Rosal 33.93 348 P **P** **09 19 31.8 +0.8**
comp=Z,14nm,0.6s,mb4.8,baz=109,slow=14,SNR=8.1
ROSC El Rosal 33.93 348 *e*P **P** **09 19 31.4 +0.4**
HOPE Hope Point 34.09 147 P **P** **09 19 33.6 +1.2**
comp=Z,1μm,1.1s,SNR=11
HOPE Hope Point 34.09 147 *e*P **P** **09 19 33.5 +1.2**
RPN Rapa Nui 36.97 262 LR LR 09 30 40.8
comp=Z,321nm,21.3s,baz=254,slow=28
SDV Santo Domingo 37.40 355 P **P** **09 19 58.8 -1.7**
comp=Z,31nm,0.4s,mb5.3,baz=246,slow=4.2,SNR=19
SDV S **S** **09 25 33.7 -4.4**
comp=Z,12nm,0.3s,baz=232,slow=19,SNR=2.8
SDV Santo Domingo 37.40 355 *e*P **P** **09 19 59.9 -0.6**
RCBR Riachuelo 37.44 59 *e*P **P** **09 20 00.6 -0.3**
comp=Z,30nm,0.8s,mb5.0
RCBR *e*pP pP 09 20 31.5 -0.4
PCRV Puerto La Cruz 38.64 4 P **P** **09 20 10.1 -0.9**
comp=Z,28nm,0.5s,mb5.1,baz=174,slow=3.7,SNR=25
JTS Juntasabangare 42.22 334 P **P** **09 20 41.4 +1.0**
comp=Z,240nm,0.6s,mb6.0,SNR=11
JTS Juntasabangare 42.22 334 *e*P **P** **09 20 41.7 +1.3**
JTS pmax pmax
comp=Z,20nm,0.6s
JTS Juntasabangare 42.22 334 *e*P **P** **09 20 41.6 +1.3**
comp=Z,20nm,0.6s,mb4.9
FDF Fort de France 43.50 9 *e*P **P** **09 20 48.8 -1.9**
MTP Monte Pirata 46.45 2 *e*P **P** **09 21 12.2 -1.8**
MPR Mayaguez 46.54 0 *e*P **P** **09 21 12.5 -2.1**
TEIG Tepich 52.56 335 *e*P **P** **09 21 59.7 -0.6**
VNA1 Neumayer--Stat 53.18 159 ⇓*i*P **P** **09 22 05.6 +0.8**
VNA1 *e* 09 22 07.3
VNA1 *e* 09 22 08.5
VNA1 *e* 09 22 15.1
VNA1 *e* 09 22 25.5
VNA1 *e* pP 09 22 38.3 +0.6
VNA1 *e* pP 09 22 40.0 +2.3
VNA1 *e* 09 22 54.1
VNA1 *e* 09 23 00.7
VNA1 *e* 09 23 11.8
SNAA Sanae 55.16 160 ⇓*i*P **P** **09 22 19.1 -0.1**
SNAA *e* 09 22 20.5
SNAA *e* 09 22 22.1
SNAA *e* 09 22 28.9
SNAA *e* 09 22 39.0
SNAA *e* pP 09 22 52.0 -0.3
SNAA *e* pP 09 22 54.0 +1.7
SNAA *e* 09 23 07.5
SNAA *e* 09 23 12.8
SNAA *e* 09 23 18.6
SNAA Sanae 55.16 160 *e*P **P** **09 22 19.2 +0.1**
MOIG Morelia 58.05 322 *i* P **P** **09 22 40.8 +1.3**

NVL	N'lazarevskaya	59.75	158	d iP	P	09 22 51.0	-0.3
NVL				e*PP	pP	09 23 25.8	+0.9
NVL				pmax	pmax		
	comp=Z,152nm,1.3s,mb5.7						
RKT	Rikitea	60.34	258	eS	S	09 31 03.9	+5.2
	comp=Z,1µm,26.8s						
RKT				eLR	LR	09 41 11.0	
	comp=Z,306nm,29.8s						
QSPA	South Pole Qui	61.62	180	⇓iP	P	09 23 04.9	+0.9
	comp=Z,178nm,1.0s,mb5.8						
KVTX	Kingsville	63.02	330	eP	P	09 23 13.9	+0.7
KVTX				epP	pP	09 23 49.1	+1.9
LRAL	Lakeview Retre	64.06	342	eP	P	09 23 18.7	-1.4
	comp=Z,31nm,0.8s,mb5.2						
HKT	Hockley	64.24	333	eP	P	09 23 21.4	+0.1
HKT				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.0						
HKT	Hockley	64.24	333	eP	P	09 23 21.4	+0.1
	comp=Z,36nm,1.3s,mb5.0						
NATX	Nacogdoches	65.39	335	eP	P	09 23 29.4	+0.7
CPCT	Cooper Cave	65.72	345	eP	P	09 23 30.4	-0.5
CPCT				epP	pP	09 24 03.4	-1.6
OXF	Oxford	66.13	340	eP	P	09 23 32.3	-1.2
PLAL	Pickwick Lake	66.19	342	eP	P	09 23 32.3	-1.5
JCT	Junction City	66.39	330	eP	P	09 23 35.1	0.0
JCT				pmax	pmax		
	comp=Z,37nm,0.7s,mb5.3						
JCT	Junction City	66.39	330	eP	P	09 23 35.1	0.0
	comp=Z,37nm,0.7s,mb5.3						
TZTN	Tazewell	66.56	346	eP	P	09 23 34.5	-1.7
TZTN				epP	pP	09 24 04.7	-5.7
BLA	Blacksburg	66.60	349	eP	P	09 23 36.3	-0.1
BLA				e*PP	pP	09 24 10.0	-0.7
BLA				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
BLA	Blacksburg	66.60	349	eP	P	09 23 36.3	-0.1
	comp=Z,2.0nm,0.8s,mb4.0						
BLA				epP	pP	09 24 10.0	-0.7
ELN	Prospectdale	66.67	348	eP	P	09 23 36.4	-0.5
ELN				epP	pP	09 24 09.7	-1.5
FWV	Forest Hill	67.03	348	eP	P	09 23 38.6	-0.5
FWV				epP	pP	09 24 12.5	-0.9
CBN	Corbin	67.11	351	eP	P	09 23 39.7	0.0
	comp=Z,21nm,0.6s,mb5.2						
WVT	Waverly	67.20	342	eP	P	09 23 38.7	-1.5
WVT				e*PP	pP	09 24 12.3	-2.2
WVT				pmax	pmax		
	comp=Z,109nm,0.6s,mb5.9						
WVT	Waverly	67.20	342	eP	P	09 23 38.7	-1.5
	comp=Z,108nm,0.6s,mb5.9						
WVT				epP	pP	09 24 12.3	-2.2
LTX	Lajitas	67.23	326	eP	P	09 23 40.9	+0.4
LTX				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.9						
LTX	Lajitas	67.23	326	eP	P	09 23 40.9	+0.4
	comp=Z,22nm,1.1s,mb4.9						
UALR	University of	67.30	338	eP	P	09 23 40.1	-0.8
UALR				epP	pP	09 24 13.7	-1.4
UTMT	University of	67.68	341	eP	P	09 23 42.2	-1.0
UTMT				epP	pP	09 24 16.9	-0.7
GLAT	Glass	67.73	341	eP	P	09 23 43.3	-0.3
PVMO	Portageville	67.99	341	eP	P	09 23 45.2	0.0
PARMO	Parma	68.23	341	eP	P	09 23 46.2	-0.5
PARMO				epP	pP	09 24 20.2	-0.9
MVL	Millersville	68.75	353	eP	P	09 23 49.8	-0.2
MVL				epP	pP	09 24 27.4	+3.0
WCI	Wyandotte Cave	68.79	344	eP	P	09 23 47.8	-2.4
WCI				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.2						
WCI	Wyandotte Cave	68.79	344	eP	P	09 23 47.8	-2.4
	comp=Z,44nm,0.9s,mb5.2						
USIN	University of	68.88	343	eP	P	09 23 49.1	-1.6
	comp=Z,22nm,0.6s,mb5.1						
USIN				epP	pP	09 24 23.2	-2.0
MCWV	Mont Chateau	68.89	350	eP	P	09 23 50.8	-0.1
SIUC	Southern Illin	69.06	342	eP	P	09 23 50.6	-1.2
SIUC				epP	pP	09 24 25.0	-1.3
SBA	Scott Base	69.12	191	eP	P	09 23 53.6	+1.4
SBA				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.0						
SBA	Scott Base	69.12	191	eP	P	09 23 53.6	+1.4
	comp=Z,28nm,0.9s,mb5.0						
BRNJ	Basking Ridge	69.25	354	epP	pP	09 24 28.2	+0.7
LIC	Lamto	69.26	70	eP	P	09 23 51.5	-1.6
	comp=Z,27nm,0.5s,mb4.9						
LIC				eR			
	comp=Z,195nm,19.5s						
LIC	Lamto	69.26	70	eP	P	09 23 51.5	-1.6
	comp=Z,14nm,0.5s,mb4.9						
SYO	Syowa Base	69.41	158	⇑iP	P	09 23 53.5	-0.5
PAL	Palisades	69.52	355	epP	pP	09 24 28.8	-0.3
SSPA	Standing Stone	69.57	351	eP	P	09 23 54.4	-0.6
DBIC	Dimbokro	69.65	70	P	P	09 23 55.3	-0.2
	comp=Z,28nm,0.5s,mb5.2,baz=210,slow=7.1,SNR=59						
DBIC				pP	pP	09 24 27.6	-2.4
	comp=Z,22nm,0.6s,baz=214,slow=7.6,SNR=4.5						
DBIC				LR	LR	09 51 16.3	
	comp=Z,226nm,21.8s,baz=207,slow=33						
DBIC	Dimbokro	69.65	70	P	P	09 23 55.3	-0.2
DBIC				*PP	pP	09 24 27.6	-2.4
DBIC				pmax	pmax		
	comp=Z,28nm,0.5s						
DBIC				pmax	pmax		
	comp=Z,22nm,0.6s						
DBIC	Dimbokro	69.65	70	eP	P	09 23 55.0	-0.5
	comp=Z,28nm,0.6s,mb5.2						
DBIC				epP	pP	09 24 27.9	-2.1
FVM	French Village	69.66	341	eP	P	09 23 54.6	-0.9
BLO	Bloomington	69.74	344	eP	P	09 23 54.7	-1.3
GDL2	Guadalupe Moun	69.93	327	eP	P	09 23 57.7	+0.5
GDL2				epP	pP	09 24 33.4	+1.6
CCM	Cathedral Cave	69.97	340	eP	P	09 23 56.4	-1.0
ACSO	Alum Creek Sta	70.00	347	eP	P	09 23 56.2	-1.3
	comp=Z,14nm,0.7s,mb4.8						
VNDA	Vanda	70.12	190	P	P	09 23 59.6	+1.2
	comp=Z,24nm,0.9s,mb4.9,baz=131,slow=5.6,SNR=97						
VNDA	Vanda	70.12	190	P	P	09 23 59.6	+1.2
VNDA				pmax	pmax		
	comp=Z,24nm,0.9s						
VNDA	Vanda	70.12	190	eP	P	09 23 59.6	+1.2
	comp=Z,30nm,0.9s,mb5.0						
QUA2	Belchertown	70.67	356	eP	P	09 24 01.0	-0.7
	comp=Z,10nm,0.9s,mb4.6						
QUA2				epP	pP	09 24 35.1	-1.2
WES	Weston	70.72	357	eP	P	09 24 01.5	-0.5
HRV	Harvard--Oak R	70.86	357	eP	P	09 24 02.4	-0.4
HRV				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.0						
HRV	Harvard--Oak R	70.86	357	eP	P	09 24 02.4	-0.4
	comp=Z,34nm,1.0s,mb5.0						
HRV				epP	pP	09 24 36.4	-1.0
ALLY	Alegheny Colle	70.88	350	eP	P	09 24 02.0	-0.9
ALLY				epP	pP	09 24 36.3	-1.3
BINY	Binghamton	70.89	353	eP	P	09 24 02.7	-0.3
AMTX	Amarillo	70.96	331	eP	P	09 24 03.1	-0.4
ERPA	Erie	71.32	350	eP	P	09 24 04.8	-0.8
ERPA				epP	pP	09 24 38.7	-1.6
ACCN	Adirondack Com	71.86	355	eP	P	09 24 08.5	-0.3
HNH	Hanover	72.09	356	eP	P	09 24 10.6	+0.3
NCB	Newcomb	72.49	355	eP	P	09 24 12.3	-0.3
NCB				epP	pP	09 24 46.5	-0.9
MIV	Mineville/With	72.54	355	eP	P	09 24 12.5	-0.3
TBI	Tubuai	72.58	253	eS	S	09 33 31.1	+4.8
	comp=Z,418nm,29.2s						
TBI				eLR	LR	09 46 51.9	
	comp=Z,422nm,38.2s						
LBNH	Lisbon	72.61	357	eP	P	09 24 13.5	+0.2
LBNH				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.0						
LBNH	Lisbon	72.61	357	eP	P	09 24 13.5	+0.3
	comp=Z,17nm,0.6s,mb5.0						
BNM	Barren Site	72.61	327	eP	P	09 24 14.2	+0.9
Y22C	IRIS PASSCAL I	72.69	326	⇓P	P	09 24 14.9	+1.1
	baz=73						
LPM	Los Pinos Moun	72.75	327	eP	P	09 24 14.9	+0.8
LPM				epP	pP	09 24 50.4	+1.5
LENM	Lemitar	72.80	326	eP	P	09 24 15.5	+1.1
WVL	Waterville	72.84	358	eP	P	09 24 14.9	+0.2
WVL				epP	pP	09 24 48.8	-0.6
EMMW	East Machias	72.96	360	eP	P	09 24 15.2	-0.1
	comp=Z,20nm,0.8s,mb4.9						
EMMW				epP	pP	09 24 48.8	-1.4
LAZ	Ladron	73.07	326	eP	P	09 24 17.1	+1.2
LAZ				epP	pP	09 24 51.1	+0.3
ANMO	Albuquerque	73.18	327	eP	P	09 24 17.3	+0.6
ANMO				pmax	pmax		
	comp=Z,36nm,1.0s						
ANMO	Albuquerque	73.18	327	eP	P	09 24 17.3	+0.6
	comp=Z,36nm,1.0s,mb5.1						
TUC	Tucson	73.27	323	eP	P	09 24 17.0	-0.2
FRNY	Flat Rock	73.30	355	eP	P	09 24 16.8	-0.6
SUR	Sutherland	73.92	118	P	P	09 24 23.3	+2.3
	comp=Z,721nm,0.7s,SNR=36						
SUR	Sutherland	73.92	118	P	P	09 24 23.1	+2.2
	comp=Z,78nm,0.6s,mb5.6,baz=242,slow=6.4,SNR=101						
SUR	Sutherland	73.92	118	eP	P	09 24 22.8	+1.9
116A	Eloy	73.96	322	P	P	09 24 22.1	+0.9
	baz=74,SNR=34						
116A				⇓S	S	09 33 45.6	+3.9
	baz=74						
115A	Sonoran Desert	74.35	322	⇑P	P	09 24 24.4	+1.0
	baz=75						
115A				⇓S	S	09 33 50.7	+4.6
	baz=75						
PPT	Papeete	75.10	258	eS	S	09 33 59.4	+4.9
	comp=Z,352nm,30.8s						
PPT				eLR	LR	09 48 04.7	
	comp=Z,294nm,24.2s						
Z14A	Wintersburg	75.24	322	⇓P	P	09 24 29.2	+0.6
	baz=76,SNR=7.0						
Z14A				⇓S	S	09 33 59.6	+3.5
	baz=76						
Y14A	Wickenburg	75.71	322	⇑P	P	09 24 32.0	+0.7
	baz=76,SNR=41						
Y14A				⇓S	S	09 34 04.2	+3.0
	baz=76						
X15A	Humboldt	75.72	323	⇑P	P	09 24 32.5	+1.1
	baz=76,SNR=95						
X15A				⇑S	S	09 34 05.6	+4.3
	baz=76						
GLA	Glamis	76.05	320	eP	P	09 24 34.0	+0.8
GLA	Glamis	76.05	320	P	P	09 24 34.0	+0.8
	baz=76,SNR=28						
GLA				⇑S	S	09 34 09.8	+5.0
	baz=76						
X14A	Yava	76.05	323	⇓P	P	09 24 34.4	+1.1
	baz=76,SNR=85						
X14A				⇓S	S	09 34 09.0	+4.1
	baz=76						
W15A	Williams	76.27	323	⇓P	P	09 24 36.0	+1.5
	baz=76,SNR=20						
W15A				⇓S	S	09 34 12.4	+5.1
	baz=76						
Y12C	Blythe	76.40	321	⇓P	P	09 24 36.2	+1.0
	baz=77,SNR=28						
W14A	Seligman	76.72	323	⇑P	P	09 24 38.2	+1.2
	baz=77,SNR=41						
W14A				⇑S	S	09 34 16.7	+4.5
	baz=77						
TSUM	Tsumeb	76.80	105	P	P	09 24 38.7	+1.3
	comp=Z,54nm,0.7s,mb5.3,baz=231,slow=6.8,SNR=120						
TSUM	Tsumeb	76.80	105	eP	P	09 24 38.6	+1.2
	comp=Z,58nm,0.8s,mb5.3						
BAR	Barrett	76.82	319	eP	P	09 24 38.2	+0.7
BAR				epP	pP	09 25 15.1	+2.4
SMCO	Snowmass	76.87	329	eP	P	09 24 39.1	+1.3
MAW	Mawson	77.17	163	eP	P	09 24 39.3	-0.2
	comp=Z,43nm,0.9s,mb5.1						
MAW	Mawson	77.17	163	P	P	09 24 39.7	+0.2
	comp=Z,62nm,1.0s,mb5.2,baz=218,slow=6.3,SNR=64						
MAW	Mawson	77.17	163	P	P	09 24 39.7	+0.2
MAW				pmax	pmax		
	comp=Z,62nm,1.0s						
109C	Camp Elliot, M	77.23	319	⇓P	P	09 24 40.2	+0.4
	baz=78						
PFO	Pinyon Flat Ob	77.38	320	P	P	09 24 42.0	+1.4
	comp=Z,191nm,0.8s,mb5.8,SNR=15						
PFO	Pinyon Flat Ob	77.38	320	eP	P	09 24 41.8	+1.2
PFO				e*PP	pP	09 25 17.1	+1.3
PFO				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.9						
PFO	Pinyon Flat Ob	77.38	320	eP	P	09 24 41.8	+1.2
	comp=Z,30nm,0.9s,mb4.9						
PFO				epP	pP	09 25 17.1	+1.3
PFO	Pinyon Flat Ob	77.38	320	⇑P	P	09 24 41.6	+0.9
	baz=78,SNR=22						
PFO				⇓S	S	09 34 23.0	+3.7
	baz=78						
W12A	Cal Nev Ari	77.75	322	⇓P	P	09 24 43.2	+0.5
	baz=78,SNR=55						
PHWY	Pilot Hill	77.96	332	eP	P	09 24 44.5	+0.6
PHWY				epP	pP	09 25 20.2	+1.1
V12A	Nelson	78.06	322	⇑P	P	09 24 44.9	+0.5
	baz=78,SNR=67						
V12A				⇑S	S	09 34 29.8	+3.2
	baz=78						
U12A	Valley of Fire	78.42	323	⇓P	P	09 24 47.1	+0.7
	baz=79,SNR=58						
U12A				⇓S	S	09 34 33.6	+3.1
	baz=79						
TUQ	Turquoise Mtn.	78.42	321	⇓P	P	09 24 47.3	+0.9
	baz=79,SNR=28						
TUQ				⇑S	S	09 34 35.1	+4.6
	baz=79						
SRU	San Rafael	78.45	327	eP	P	09 24 47.0	+0.4
SRU				e*PP	pP	09 25 22.3	+0.5
SRU				pmax	pmax		
	comp=Z,71nm,0.7s,mb5.4						
SRU	San Rafael	78.45	327	eP	P	09 24 47.0	+0.4
	comp=Z,71nm,0.7s,mb5.4						
SRU				epP	pP	09 25 22.3	+0.5
FMP	Fort Macarthur	78.50	319	⇓P	P	09 24 47.4	+0.6
	baz=79						
TOA0	Torodi Ar. Sit	78.58	68	eP	P	09 24 47.4	+0.1
TOA0				epP	pP	09 25 19.0	-3.5
TORD	Torodi Ar. Bea	78.58	68	P	P	09 24 47.4	+0.1
	comp=Z,123nm,0.7s,mb5.7,baz=268,slow=4.9,SNR=701						
TORD				pP	pP	09 25 21.0	-1.6
	comp=Z,30nm,0.6s,baz=257,slow=5.4,SNR=3.7						
TORD				S	S	09 34 30.5	-1.7
	comp=Z,3.9nm,1.2s,baz=234,slow=7.2,SNR=6.4						
TORD				PKKPbc	PKKPbc	09 43 43.7	+2.0
	comp=Z,0.4nm,0.5s,baz=62,slow=1.9,SNR=8.1						
TORD				LR	LR	09 57 51.6	
	comp=Z,239nm,18.9s,baz=235,slow=34						
CCUT	Cedar City	78.65	324	eP	P	09 24 49.1	+1.5
CCUT				epP	pP	09 25 24.0	+1.0
CCUT				esP	sP	09 25 38.8	+0.8
MWC	Mount Wilson	78.74	319	eP	P	09 24 49.1	+1.0
MSU	Marysvale	78.79	326	epP	pP	09 25 24.9	+1.2
SHPR	Sheep Range	78.80	323	eP	P	09 24 49.5	+1.0
GSC	Goldstone	78.81	321	eP	P	09 24 49.4	+0.9
GSC				e*PP	pP	09 25 25.1	+1.3
GSC	Goldstone	78.81	321	⇓P	P	09 24 49.3	+0.7
	baz=79,SNR=24						
GSC				⇓S	S	09 34 38.1	+3.5
	baz=79						
U11A	Corn Creek	78.86	322	⇑P	P	09 24 49.7	+0.9
	baz=79,SNR=7.7						
ARUT	Antelope Range	78.87	324	eP	P	09 24 49.9	+1.0
ARUT				e		09 24 56.5	
ARUT				e*PP	pP	09 25 26.3	+2.1
TMUT	Trail Mountain	78.93	327	eP	P	09 24 50.0	+0.8
TMUT				epP	pP	09 25 25.1	+0.6
BOSA	Boshof	78.99	117	P	P	09 24 50.1	+0.6
	comp=Z,63nm,0.8s,mb5.3,baz=249,slow=4.3,SNR=99						
BOSA				pP	pP	09 25 23.4	-1.4
	comp=Z,21nm,0.6s,baz=254,slow=3.6,SNR=4.0						
BOSA				LR	LR	09 55 49.3	
	comp=Z,185nm,19.9s,baz=326,slow=32						
BOSA	Boshof	78.99	117	eP	P	09 24 50.0	+0.5
BOSA				e*PP	pP	09 25 25.1	+0.3
BOSA				pmax	pmax		
	comp=Z,76nm,0.9s,mb5.3						
BOSA	Boshof	78.99	117	eP	P	09 24 50.0	+0.5
	comp=Z,76nm,0.9s,mb5.3						
BOSA				epP	pP	09 25 25.1	+0.3
RWWY	Rawlins	79.03	331	eP	P	09 24 50.5	+0.8
	comp=Z,83nm,0.7s,mb5.5						
RWWY				epP	pP	09 25 24.9	-0.1
EYMN	Ely	79.21	344	eP	P	09 24 49.2	-1.5
	comp=Z,39nm,1.1s,mb5.0						
EYMN				epP	pP	09 25 25.0	-1.0
U10A	Ash Meadows, A	79.37	322	⇓P	P	09 24 52.5	+0.9
	baz=80,SNR=12						
U10A				⇓S	S	09 34 43.8	+3.2
	baz=80						
OSI	Osito Adit	79.40	319	⇑S	S	09 34 43.5	+2.6
	baz=80						
MPU	Maple Canyon	79.70	327	eP	P	09 24 54.1	+0.8
MPU				epP	pP	09 25 29.7	+1.0
TPNV	Topopah Spring	79.72	322	eP	P	09 24 54.4	+0.9
TPNV				e*PP	pP	09 25 31.2	+2.4
TPNV				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.1						
TPNV	Topopah Spring	79.72	322	eP	P	09 24 54.4	+1.0
	comp=Z,47nm,0.9s,mb5.1						
TPNV				epP	pP	09 25 31.2	+2.4
RSSD	Black Hills	79.76	334	eP	P	09 24 53.7	0.0
RSSD				e*PP	pP	09 25 29.6	+0.6
RSSD				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.8						
RSSD	Black Hills	79.76	334	eP	P	09 24 53.7	0.0
	comp=Z,21nm,0.8s,mb4.8						
RSSD				epP	pP	09 25 29.6	+0.6
DAU	Daniels Canyon	79.83	327	eP	P	09 24 54.9	+0.8
DAU				e*PP	pP	09 25 31.1	+1.7
NLU	North Lily Min	79.86	327	eP	P	09 24 55.0	+0.8
NLU				epP	pP	09 25 30.4	+0.8
ISA	Isabella	80.01	320	eP	P	09 24 55.8	+0.8
ISA				e*PP	pP	09 25 31.1	+0.7
ISA				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.8						
ISA	Isabella	80.01	320	eP	P	09 24 55.8	+0.8
	comp=Z,22nm,0.8s,mb4.8						
ISA				epP	pP	09 25 31.1	+0.7
ISA	Isabella	80.01	320	⇓P	P	09 24 55.8	+0.7
	baz=80,SNR=12						
ISA				⇑S	S	09 34 51.4	+4.1
	baz=80						
CTU	Camp Tracy	80.28	327	eP	P	09 24 56.4	-0.1
	comp=Z,10nm,0.6s,mb4.6						
DUG	Dugway	80.40	326	eP	P	09 24 57.5	+0.3
DUG				e*PP	pP	09 25 33.0	+0.4
DUG				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.7						
DUG	Dugway	80.40	326	eP	P	09 24 57.5	+0.3
	comp=Z,13nm,0.7s,mb4.7						
DUG				epP	pP	09 25 33.0	+0.4
TCUT	Toone Canyon	80.45	328	eP	P	09 24 58.0	+0.6
TCUT				epP	pP	09 25 33.5	+0.7
Q12A	Willow Creek R	80.53	324	⇓P	P	09 24 58.4	+0.6
	baz=81,SNR=13						
R10A	Warm Springs	80.73	323	⇑P	P	09 24 60.0	+1.1
	baz=81,SNR=75						
S09A	Goldfield	80.81	322	P	P	09 24 59.8	+0.5
	baz=81,SNR=33						
S09A				⇓S	S	09 34 58.8	+3.2
	baz=81						
Q11A	Duckwater	80.81	324	P	P	09 25 00.0	+0.7
	baz=81,SNR=33						
Q11A				⇑S	S	09 34 59.6	+4.0
	baz=81						
TIN	Tinemaha	80.87	321	⇑P	P	09 25 00.2	+0.5
	baz=81						
LBTB	Lobatse	80.88	113	P	P	09 25 00.4	+0.7
	comp=Z,74nm,0.8s,mb5.4,baz=259,slow=5.8,SNR=91						
LBTB				pP	pP	09 25 34.2	-0.9
	comp=Z,22nm,0.9s,baz=270,slow=4.2,SNR=3.0						
LBTB	Lobatse	80.88	113	P	P	09 25 00.4	+0.7
LBTB				pmax	pmax		
	comp=Z,74nm,0.8s,mb5.4						
LBTB				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.8						
LBTB	Lobatse	80.88	113	eP	P	09 25 00.2	+0.6
	comp=Z,89nm,1.0s,mb5.3						
LBTB				epP	pP	09 25 33.9	-1.2
P12A	McGill	80.89	325	⇓P	P	09 25 00.4	+0.7
	baz=81,SNR=7.4						
HWUT	Hardware Ranch	80.91	328	eP	P	09 24 59.9	+0.1
	comp=Z,86nm,1.0s,mb5.3						
HWUT				ePcP	PcP	09 25 05.7	-0.3
HWUT				epP	pP	09 25 35.4	+0.1
BW06	Boulder Array	80.92	330	eP	P	09 24 59.8	-0.1
	comp=Z,25nm,0.6s,mb5.0						
PDAR	Pinedale Array	80.92	330	P	P	09 24 59.8	-0.1
	comp=Z,22nm,0.5s,mb5.0,baz=128,slow=7.2,SNR=223						
PDAR				pP	pP	09 25 33.6	-1.7
	comp=Z,16nm,0.9s,baz=121,slow=8.1,SNR=4.6						
PDAR				PKKPbc	PKKPbc	09 43 36.6	+0.2
	comp=Z,0.5nm,0.5s,baz=169,slow=1.5,SNR=6.4						
V05C	Boulder Hill,	80.97	319	⇓P	P	09 25 00.6	+0.5
	baz=81						
PTRM	Twissleman Ran	81.00	319	eP	P	09 25 01.3	+1.0
TPH	Tonopah	81.07	322	eP	P	09 25 01.4	+0.7
TPH				e*PP	pP	09 25 38.2	+2.1
TPH				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.0						
TPH	Tonopah	81.07	322	eP	P	09 25 01.4	+0.8
	comp=Z,36nm,1.0s,mb5.0						
TPH				epP	pP	09 25 38.2	+2.1
BGU	Big Grassy Mou	81.07	327	eP	P	09 25 00.8	+0.1
BGU				epP	pP	09 25 36.9	+0.8
SPUT	South Promonto	81.09	327	epP	pP	09 25 36.4	+0.1
R09A	Tonopah	81.11	323	⇓P	P	09 25 01.2	+0.3
	baz=81,SNR=31						
R09A				⇑S	S	09 35 01.9	+3.1
	baz=81						
MTUM	Tungsten Hills	81.27	321	eP	P	09 25 02.2	+0.4
MTUM				epP	pP	09 25 38.9	+1.6
MTUM				esP	sP	09 25 55.5	+3.2
V04C	Ramage Ranch,	81.37	319	⇓P	P	09 25 02.6	+0.3
	baz=82						
P11A	Circle Ranch,	81.38	324	⇑P	P	09 25 02.9	+0.6
	baz=82,SNR=6.7						
PKD	Parkfield	81.39	319	⇑P	P	09 25 02.7	+0.4
	baz=82						
N13A	Wendover, West	81.59	326	⇑P	P	09 25 03.2	-0.2
	baz=82,SNR=6.2						
N13A				⇑S	S	09 35 08.4	+4.7
	baz=82						
Q09A	Carvers	81.60	323	⇑P	P	09 25 04.0	+0.6
	baz=82,SNR=16						
AHID	Auburn Hatcher	81.61	329	eP	P	09 25 04.1	+0.6
	comp=Z,42nm,0.7s,mb5.2						
AHID				epP	pP	09 25 40.1	+1.1
HVU	Hansel Valley	81.61	327	eP	P	09 25 03.4	-0.1
HVU				e*PP	pP	09 25 39.0	0.0
HVU				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.0						
HVU	Hansel Valley	81.61	327	eP	P	09 25 03.4	-0.1
	comp=Z,22nm,0.6s,mb5.0						
HVU				epP	pP	09 25 39.0	-0.1
MLAC	Mammoth Lakes	81.62	321	⇑P	P	09 25 04.4	+0.8
	baz=82,SNR=11						
KCC	Kaiser Creek	81.67	321	⇑P	P	09 25 04.1	+0.3
	baz=82						
O11A	Cowboy Ranch,	81.77	325	⇓P	P	09 25 04.8	+0.5
	baz=82,SNR=21						
O11A				⇑S	S	09 35 08.2	+2.6
	baz=82						
P10A	Eureka	81.80	324	⇑P	P	09 25 05.3	+0.8
	baz=82,SNR=27						
U04C	Hernandez Rese	81.82	319	⇑P	P	09 25 05.2	+0.6
	baz=82,SNR=8.7						
MNV	Mina	81.83	322	eP	P	09 25 04.9	+0.2
MNV				e*PP	pP	09 25 40.9	+0.7
MNV				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.6						
MNV	Mina	81.83	322	eP	P	09 25 04.9	+0.3
	comp=Z,15nm,1.0s,mb4.6						
MNV				epP	pP	09 25 40.9	+0.7
V03C	Hunter Liggett	81.85	319	⇑P	P	09 25 04.7	-0.1
	baz=82						
NVAR	Mina Array Bea	81.91	322	P	P	09 25 05.4	+0.3
	comp=Z,14nm,0.8s,mb4.6,baz=141,slow=5.9,SNR=75						
NVAR				pP	pP	09 25 40.7	+0.1
	comp=Z,7.7nm,1.0s,baz=135,slow=5.1,SNR=3.6						
NVAR				PKKPbc	PKKPbc	09 43 36.1	+1.8
	comp=Z,0.5nm,0.7s,baz=236,slow=2.7,SNR=4.0						
M13A	Montello	81.96	326	⇓P	P	09 25 05.1	-0.2
	baz=82,SNR=21						
REDW	Red Top Meadow	81.97	330	eP	P	09 25 05.6	+0.2
	comp=Z,26nm,0.8s,mb4.9						
REDW				epP	pP	09 25 41.5	+0.6
LRV	Little Rabbit	82.00	319	eP	P	09 25 07.0	+1.5
LRV				epP	pP	09 25 42.4	+1.3
N12A	Clover Valley,	82.00	326	⇑P	P	09 25 05.7	+0.1
	baz=82,SNR=16						
Q08A	Gabbs	82.02	323	⇓P	P	09 25 05.6	-0.1
	baz=82,SNR=22						
ELK	Elko	82.02	325	eP	P	09 25 05.9	+0.2
ELK				pmax	pmax		
	comp=Z,36nm,1.0s						
ELK	Elko	82.02	325	eP	P	09 25 05.9	+0.2
	comp=Z,36nm,1.0s,mb5.0						

ELK ePcP PcP 09 25 11.2 +0.4
ELK epP pP 09 25 40.9 -0.3
ELK esP sP 09 25 55.3 -1.0
R07C Lee Vining 82.07 321 ⇓P P 09 25 06.7 +0.8
baz=82,SNR=12
P09A Austin 82.11 323 ⇑P P 09 25 06.2 0.0
baz=82,SNR=7.7
RAR Rarotonga 82.11 250 LR LR 09 52 12.0
comp=Z,352nm,18.6s,baz=114,slow=28
TPAW Teton Pass 82.11 330 *eP* **P 09 25 06.4 +0.3**
comp=Z,41nm,1.1s,mb5.0
TPAW epP pP 09 25 42.4 +0.7
T05C Eagle Field, D 82.13 320 ⇓P P 09 25 06.6 +0.3
baz=82
RRI2 Red Ridge 82.16 329 *eP* **P 09 25 15.5 +9.1**
comp=Z,47nm,0.9s,mb5.1
RRI2 epP pP 09 25 51.8 +10
MOOW Moose Ponds 82.22 330 *eP* **P 09 25 06.6 -0.1**
comp=Z,6.1nm,0.6s,mb4.4
MOOW epP pP 09 25 42.1 -0.1
S05C Merced 82.26 320 ⇓P P 09 25 06.8 -0.1
baz=82
HAST UC Hastings Re 82.28 319 ⇓P P 09 25 07.3 +0.2
baz=82
DCID1 Drake Creek 82.30 330 *eP* **P 09 25 07.6 +0.5**
N11A Elko Archery C 82.33 325 ⇑P P 09 25 07.2 -0.1
baz=83
S06C San Francisco 82.36 321 ⇓P P 09 25 07.8 +0.3
baz=83
M12A Wells 82.36 326 ⇓P P 09 25 07.6 +0.1
baz=83,SNR=22
ULM Lac du Bonnet 82.47 342 P P 09 25 06.8 -1.3
comp=Z,22nm,1.0s,mb4.8,baz=155,slow=4.0,SNR=21
ULM pP pP 09 25 42.1 -1.4
comp=Z,23nm,1.0s,baz=146,slow=1.4,SNR=5.8
ULM LR LR 10 03 28.3
comp=Z,106nm,19.3s,baz=132,slow=37
ULM Lac du Bonnet 82.47 342 *eP* **P 09 25 06.6 -1.4**
comp=Z,73nm,1.4s,mb5.1
ULM epP pP 09 25 42.7 -0.9
Q07A Schurz 82.55 322 ⇓P P 09 25 08.9 +0.5
baz=83
PACP Pacheco Peak 82.56 319 ⇓P P 09 25 08.2 -0.3
baz=83
WAKR Walker 82.58 321 *eP* **P 09 25 09.7 +1.1**
WAKR epP pP 09 25 45.3 +1.2
O09A Fish Creek Ran 82.59 324 ⇑P P 09 25 08.7 +0.1
baz=83,SNR=9.2
R06C Coleville 82.60 321 ⇓P P 09 25 09.3 +0.6
baz=83,SNR=15
R06C ⇓S S 09 35 17.3 +3.3
baz=83
N10A Dunphy 82.64 325 ⇓P P 09 25 08.8 -0.1
baz=83
P08A Dixie Valley 82.70 323 ⇑P P 09 25 09.6 +0.4
baz=83,SNR=8.9
LKWY Lake 82.72 331 *eP* **P 09 25 10.9 +1.6**
LKWY pmax pmax
comp=Z,12nm,0.7s,mb4.7
LKWY Lake 82.72 331 *eP* **P 09 25 10.9 +1.6**
comp=Z,12nm,0.7s,mb4.7
LAO LASA Array 82.75 334 *eP* **P 09 25 09.1 -0.4**
LAO epP pP 09 25 45.4 +0.3
CMB Columbia Colle 82.77 321 *eP* **P 09 25 09.5 -0.1**
CMB *e*PP* pP 09 25 45.0 -0.2
CMB pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
CMB Columbia Colle 82.77 321 *eP* **P 09 25 09.5 -0.1**
comp=Z,8.0nm,0.8s,mb4.5
CMB epP pP 09 25 45.0 -0.2
CMB Columbia Colle 82.77 321 ⇑P P 09 25 09.4 -0.1
baz=83,SNR=8.2
BMN Battle Mountai 82.80 324 *eP* **P 09 25 10.2 +0.5**
BMN *e*PP* pP 09 25 46.0 +0.7
BMN pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
BMN Battle Mountai 82.80 324 *eP* **P 09 25 10.2 +0.5**
comp=Z,5.3nm,0.6s,mb4.5
BMN epP pP 09 25 46.0 +0.7
YFT Old Faithful 82.82 330 *eP* **P 09 25 11.2 +1.3**
YFT epP pP 09 25 48.2 +2.8
S04C Ingram Canyon, 82.93 320 ⇓P P 09 25 10.2 -0.2
baz=83
P07A Fallon 83.03 322 ⇓P P 09 25 10.9 0.0
baz=83
YMR Madison River 83.05 330 P P 09 25 10.7 -0.3
comp=Z,40nm,0.8s,mb5.2
YMR epP pP 09 25 47.3 +0.7
R05C Kirkwood Meado 83.07 321 ⇓P P 09 25 11.7 +0.6
baz=83,SNR=9.0
R05C ⇑S S 09 35 21.7 +2.9
baz=83
SCHQ Schefferville 83.09 0 P P 09 25 10.2 -1.0
comp=Z,9.7nm,0.9s,mb4.5,baz=168,slow=6.9,SNR=16
SCHQ pP pP 09 25 44.4 -2.5
comp=Z,9.5nm,0.8s,baz=189,slow=6.2,SNR=4.3
SCHQ Schefferville 83.09 0 *eP* **P 09 25 09.9 -1.3**
comp=Z,8.5nm,0.6s,mb4.7
SCHQ epP pP 09 25 45.2 -1.7
R04C Big Horse Ranc 83.24 320 ⇑P P 09 25 12.1 +0.2
baz=84,SNR=5.7
M10A I.L. Ranch, Tu 83.25 325 ⇑P P 09 25 12.3 +0.3
baz=84,SNR=8.5
M10A ⇑S S 09 35 22.9 +2.3
baz=84
N09A Rock Creek Ran 83.26 324 ⇓P P 09 25 11.6 -0.5
baz=84
WENL Wente Brothers 83.26 319 ⇓P P 09 25 12.6 +0.6
baz=84
WCN Washoe City 83.32 322 ⇑P P 09 25 12.9 +0.5
baz=84,SNR=7.6
QLMT Earthquake Lak 83.38 330 *eP* **P 09 25 13.9 +1.2**
QLMT epP pP 09 25 49.8 +1.5
GCMT Greycliff 83.39 332 *eP* **P 09 25 12.6 -0.2**
GCMT epP pP 09 25 48.7 +0.3
PAHR Pah Rah Range 83.41 322 *eP* **P 09 25 13.6 +0.7**
comp=Z,42nm,0.9s,mb5.2
PAHR epP pP 09 25 49.5 +1.0
O07A Toulon 83.47 323 ⇓P P 09 25 13.2 +0.1
baz=84,SNR=20
LAVA Lava Cap Winer 83.48 321 ⇑P P 09 25 13.1 -0.1
baz=84,SNR=9.5
N08A GE Springer Mi 83.52 324 ⇓P P 09 25 13.0 -0.4
baz=84,SNR=12
BDM Black Diamond 83.55 320 ⇓P P 09 25 13.3 -0.3
baz=84
M09A Marrel Ranch, 83.64 325 ⇓P P 09 25 13.8 -0.2
baz=84
P06A Stead Airport, 83.67 322 ⇑P P 09 25 14.6 +0.5
baz=84,SNR=5.1
HLID Hailey 83.75 328 *eP* **P 09 25 15.2 +0.5**
comp=Z,37nm,0.9s,mb5.1
HLID epP pP 09 25 50.1 -0.2
Q04C Lincoln 83.89 321 ⇑P P 09 25 15.6 +0.3
baz=84
O06A Flanigan 83.97 322 ⇓P P 09 25 15.7 0.0
baz=84
MCMT McKenzie Canyo 84.01 329 *eP* **P 09 25 16.4 +0.5**
MCMT epP pP 09 25 52.1 +0.6
FARB Farallon Islan 84.03 319 ⇓P P 09 25 16.1 +0.1
baz=84
Q03C Winters 84.10 320 ⇓P P 09 25 16.7 +0.4
baz=84
BOZ Bozeman (W) 84.11 331 *eP* **P 09 25 15.9 -0.5**
BOZ *e*PP* pP 09 25 52.3 +0.2
BOZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
BOZ Bozeman (W) 84.11 331 *eP* **P 09 25 15.8 -0.6**
comp=Z,8.1nm,1.0s,mb4.4
BOZ epP pP 09 25 52.3 +0.2
M08A Happy Creek Ra 84.14 324 ⇓P P 09 25 16.6 +0.1
baz=84,SNR=12
CVS Carmenet Viney 84.16 320 ⇓P P 09 25 16.2 -0.5
baz=84
OHCM Honcut 84.30 321 *eP* **P 09 25 17.2 -0.1**
OHCM epP pP 09 25 53.1 0.0
DLMT Dillon 84.31 330 *eP* **P 09 25 17.6 +0.2**
comp=Z,75nm,1.4s,mb5.2
DLMT epP pP 09 25 53.9 +0.8
NSHM Saint Helena R 84.36 320 *eP* **P 09 25 18.2 +0.5**
NSHM epP pP 09 25 53.6 +0.2
SUTB Sutter Butte 84.39 321 ⇓P P 09 25 17.7 -0.1
baz=85,SNR=11
O05C Quincy 84.42 322 ⇑P P 09 25 17.9 -0.1
baz=85,SNR=9.1
ORV Oroville 84.46 321 P P 09 25 18.5 +0.4
baz=85,SNR=17
M07A Soldier Meadow 84.50 324 ⇓P P 09 25 18.5 +0.1
baz=85,SNR=16
MNRC McLaughlin Nat 84.52 320 ⇓P P 09 25 18.8 +0.3
baz=85
LRM Limekiln Ridge 84.61 330 *eP* **P 09 25 19.2 +0.3**
O04C Chester 84.77 322 ⇑P P 09 25 19.5 -0.2
baz=85,SNR=12
ELFS Eagle Lake Fie 84.78 322 ⇓P P 09 25 19.9 +0.1
baz=85
HOPS Hopland 84.95 320 ⇑P P 09 25 20.9 +0.3
baz=85
HRY Holter Researc 85.03 331 *eP* **P 09 25 21.0 -0.1**
HRY epP pP 09 25 56.7 -0.1
L07A Adell 85.05 324 ⇓P P 09 25 21.5 +0.4
baz=85,SNR=24
L07A ⇑S 09 35 39.6
baz=85
M06C Likely Place G 85.06 323 P P 09 25 21.4 +0.2
baz=85,SNR=29
O03C Acorn Hollow, 85.06 321 ⇓P P 09 25 21.0 -0.2
baz=85
GASB Alder Springs 85.20 320 ⇓P P 09 25 22.7 +0.8
baz=85,SNR=5.6
HATC Hat Creek Radi 85.32 322 P P 09 25 22.5 0.0
baz=86,SNR=10
MATP Matopo 85.39 111 P P 09 25 23.9 +1.1
comp=Z,43nm,0.8s,mb5.2,baz=236,slow=3.8,SNR=66
MATP pP pP 09 25 57.8 -0.8
comp=Z,37nm,1.1s,baz=221,slow=5.2,SNR=4.5
CASY Casey 85.41 179 *eP* **P 09 25 23.2 +0.3**
P01C Double 8 Ranch 85.43 320 ⇓P P 09 25 23.4 +0.4
baz=86
M05C Lookout 85.53 322 P P 09 25 23.6 +0.1
baz=86,SNR=20
M05C ⇑S 09 35 45.7
baz=86
J08A Circle Bar Ran 85.57 325 P P 09 25 24.1 +0.4
baz=86,SNR=77
O02C Red Bluff 85.61 321 ⇑P P 09 25 23.7 -0.2
baz=86
PTEO Sao Teotonio 85.73 43 *eP* **P 09 25 24.6 +0.1**
comp=Z,53nm,0.9s,mb5.3
WDC Whiskeytown Da 85.74 321 *eP* **P 09 25 23.1 -1.5**
WDC *e*PP* pP 09 26 00.1 -0.3
WDC pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
WDC Whiskeytown Da 85.74 321 *eP* **P 09 25 23.1 -1.5**
comp=Z,4.6nm,0.7s,mb4.3
WDC epP pP 09 26 00.1 -0.3
WDC Whiskeytown Da 85.74 321 ⇑P P 09 25 23.4 -1.2
baz=86
CHMT Chamberlain Mo 85.80 330 *eP* **P 09 25 25.0 +0.1**
CHMT epP pP 09 26 00.3 -0.4
L05A Lakeview 85.85 323 ⇑P P 09 25 25.6 +0.5
baz=86,SNR=34
L05A ⇓S 09 35 47.9
baz=86
LASM Arnica Sink 85.93 322 P P 09 25 25.7 +0.2
J07A Hines 86.00 325 ⇑P P 09 25 26.1 +0.2
baz=86,SNR=16
J07A ⇑S 09 35 49.6
baz=86
MSO Missoula 86.04 330 *eP* **P 09 25 26.1 +0.1**
comp=Z,5.5nm,0.8s,mb4.3
MSO epP pP 09 26 02.2 +0.4
K06A Valley Falls 86.08 324 ⇓P P 09 25 26.6 +0.3
baz=86,SNR=28
K06A ⇑S 09 35 49.9
baz=86
BMO Blue Mountains 86.10 327 *eP* **P 09 25 25.9 -0.4**
BMO *e*PP* pP 09 26 01.9 -0.2
BMO pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
BMO Blue Mountains 86.10 327 *eP* **P 09 25 25.9 -0.4**
comp=Z,5.3nm,0.6s,mb4.5
BMO epP pP 09 26 01.9 -0.3
O01C Eel River Cons 86.16 320 ⇓P P 09 25 27.2 +0.6
baz=86
M04C Macdoel 86.19 322 ⇓P P 09 25 26.7 0.0
baz=86,SNR=26
N02C Big Bar 86.33 321 ⇓P P 09 25 27.6 +0.1
baz=87,SNR=11
N02C ⇓S 09 35 53.1
baz=87
J06A Christmas Vall 86.34 324 P P 09 25 27.6 +0.1
baz=87,SNR=54
J06A ⇓S 09 35 52.8
baz=87
HOG Hogback Mounta 86.44 323 P P 09 25 28.7 +0.6
M02C Callahan 86.47 322 ⇑P P 09 25 27.8 -0.3
baz=87
M02C ⇓S 09 35 51.8
baz=87
L04A Klamath Falls 86.49 323 P P 09 25 28.4 +0.1
baz=87,SNR=13
L04A ⇑S 09 35 54.2
baz=87
PBEJ Beja 86.56 43 *eP* **P 09 25 28.8 +0.2**
comp=Z,10nm,0.7s,mb4.8
PBEJ epP pP 09 26 04.1 -0.4
KHMM Horse Mountain 86.60 321 *eP* **P 09 25 29.7 +0.9**
YBH Yreka Blue Hor 86.63 322 *eP* **P 09 25 27.9 -1.0**
YBH *e*PP* pP 09 26 03.3 -1.5
YBH pmax pmax
comp=Z,8.0nm,0.6s
YBH Yreka Blue Hor 86.63 322 *eP* **P 09 25 27.9 -1.0**
comp=Z,8.1nm,0.6s,mb4.7
YBH epP pP 09 26 03.3 -1.5
YBH Yreka Blue Hor 86.63 322 P P 09 25 28.0 -1.0
baz=87,SNR=12
YBH ⇑S 09 35 59.0
baz=87
K04A Chilquin 86.72 323 ⇓P P 09 25 29.2 -0.1
baz=87
JCC Jacoby Creek 86.73 321 ⇑P P 09 25 29.1 -0.3
baz=87
KTRM Thompson Ridge 87.11 322 P P 09 25 31.8 +0.5
KRMB Red Mountain 87.14 321 *eP* **P 09 25 31.6 +0.2**
KRMB epP pP 09 26 07.3 0.0
BSMT Bassoo Peak 87.19 330 P P 09 25 31.5 -0.1
PTOM Tomar 87.28 42 *eP* **P 09 25 33.1 +1.0**
comp=Z,42nm,1.5s,mb5.0
PTOM epP pP 09 26 07.4 -0.6
HUMO Hull Mountain 87.36 322 *eP* **P 09 25 32.1 -0.3**
comp=Z,3.4nm,0.5s,mb4.4
HUMO epP pP 09 26 07.4 -1.0
HUMO Hull Mountain 87.36 322 ⇓P P 09 25 31.9 -0.6
baz=88,SNR=6.4
HUMO ⇓S 09 36 03.1
baz=88
L02A Cave Junction 87.41 322 ⇓P P 09 25 32.3 -0.3
baz=88,SNR=6.8
I05A Bend 87.56 324 ⇓P P 09 25 33.7 +0.3
baz=88,SNR=29
WALA Waterton Lakes 87.74 331 *eP* **P 09 25 33.9 -0.3**
comp=Z,38nm,0.9s,mb5.2
WALA epP pP 09 26 10.1 -0.1
K02A Glendale 87.76 322 ⇓P P 09 25 34.6 +0.3
baz=88,SNR=20
K02A ⇑S 09 36 08.4
baz=88
H05A Madras 87.89 325 ⇓P P 09 25 35.0 +0.1
baz=88,SNR=8.9
H05A ⇑S 09 36 08.0
baz=88
J03A Ideyld Park 87.89 323 ⇑P P 09 25 35.2 +0.2
baz=88
J03A ⇑S 09 36 09.4
baz=88
PCBR Castelo Branco 87.97 42 *eP* **P 09 25 36.6 +1.3**
comp=Z,12nm,1.5s,mb4.5
PCBR epP pP 09 26 10.3 -1.0
J02A Umpqua 88.22 323 ⇑P P 09 25 36.7 +0.2
baz=88,SNR=23
J02A ⇓S 09 36 12.0
baz=88
HAWA Hanford 88.29 327 *eP* **P 09 25 36.6 -0.2**
comp=Z,0.8nm,0.8s
KEBM Edson Butte 88.29 322 *eP* **P 09 25 37.5 +0.7**
KEBM epP pP 09 26 13.8 +0.9
MTE Manteigas 88.29 41 *eP* **P 09 25 36.8 -0.1**
comp=Z,35nm,1.2s,mb5.1
MTE epP pP 09 26 12.2 -0.7
MTE *eS* 09 35 50.5
MTE Manteigas 88.29 41 *eP* **P 09 25 37.2 +0.3**
comp=Z,39nm,1.0s,mb5.2
MTE epP pP 09 26 12.1 -0.8
PVIS Viseu 88.30 41 *eP* **P 09 25 37.4 +0.5**
comp=Z,15nm,1.6s,mb4.6
K01A Sixes 88.32 322 ⇓P P 09 25 37.2 +0.2
baz=89
G05A Wamic 88.35 325 ⇑P P 09 25 37.6 +0.4
baz=89,SNR=9.0
H04A Detroit Lake 88.40 324 ⇑P P 09 25 36.6 -0.8
baz=89,SNR=21
H04A ⇓S 09 36 12.2
baz=89
I03A Eugene 88.47 323 ⇑P P 09 25 37.7 0.0
baz=89,SNR=21
I03A ⇑S 09 36 13.4
baz=89
HOOD Mount Hood Mea 88.57 325 *eP* **P 09 25 38.8 +0.6**
I02A Mapleton 88.78 323 ⇓P P 09 25 39.4 +0.2
baz=89,SNR=7.3
F05A White Salmon 88.87 326 ⇑P P 09 25 39.2 -0.3
baz=89
F05A ⇓S 09 36 17.2
baz=89
PCAB Cabril 88.87 40 *eP* **P 09 25 39.4 -0.2**
comp=Z,16nm,1.1s,mb4.9
PCAB epP pP 09 26 15.3 -0.3
COR Corvallis 88.91 324 *eP* **P 09 25 40.3 +0.6**
COR *e*PP* pP 09 26 16.0 +0.2
COR pmax pmax
comp=Z,92nm,1.1s,mb5.6
COR Corvallis 88.91 324 *eP* **P 09 25 40.3 +0.5**
comp=Z,92nm,1.1s,mb5.6
COR epP pP 09 26 16.0 +0.2
G04A Mulino 88.91 325 ⇓P P 09 25 39.3 -0.5
baz=89,SNR=14
G04A ⇓S 09 36 15.4
baz=89
H03A Soap Creek Ran 88.96 324 ⇑P P 09 25 40.0 0.0
baz=89,SNR=12
H03A ⇑S 09 36 18.3
baz=89
MPOR Mary's Peak 88.98 324 P P 09 25 40.9 +0.8
TBM Table Mountain 89.36 327 P P 09 25 42.0 +0.2
F04A Amboy 89.38 325 ⇓P P 09 25 41.0 -0.9
baz=90,SNR=10
F04A ⇓S 09 36 19.9
baz=90
E05A Randle 89.49 326 ⇓P P 09 25 41.6 -0.8
baz=90,SNR=10.0
E05A ⇓S 09 36 22.6
baz=90
LON Longmire 89.65 326 P P 09 25 42.2 -1.0
PBRG Braganca 89.66 41 *eP* **P 09 25 43.1 -0.2**
comp=Z,4.7nm,1.5s,mb4.2
PBRG epP pP 09 26 19.5 +0.2
FCC Fort Churchill 89.83 346 *eP* **P 09 25 43.6 -0.4**
FCC pmax pmax
comp=Z,27nm,0.8s,mb5.2
FCC Fort Churchill 89.83 346 *eP* **P 09 25 43.6 -0.5**
comp=Z,27nm,0.8s,mb5.2
FCC epP pP 09 26 18.3 -1.8
F03A Seaside 89.96 325 ⇑P P 09 25 43.5 -1.2
baz=90
ESDC Sonseca Array 89.96 44 P P 09 25 44.8 +0.1
comp=Z,3.6nm,0.7s,mb4.4,baz=238,slow=4.4,SNR=10
ESDC pP pP 09 26 19.2 -1.6
comp=Z,3.1nm,0.7s,baz=247,slow=4.7,SNR=3.8
ESDC LR LR 10 05 54.5
comp=Z,281nm,18.4s,baz=215,slow=35
D05A Enumclaw 90.04 326 ⇑P P 09 25 44.1 -0.9
baz=90,SNR=9.9
C05A Tolt Reservoir 90.25 327 ⇑P P 09 25 45.3 -0.7
baz=90
E03A Lebam 90.38 325 P P 09 25 46.4 -0.2
baz=91,SNR=8.2
E03A ⇑S 09 36 30.6
baz=91
GNW Green Mountain 90.71 326 *eP* **P 09 25 47.7 -0.5**
GNW epP pP 09 26 24.2 0.0
EDM Edmonton 90.74 334 *eP* **P 09 25 46.5 -1.8**
EDM *e*PP* pP 09 26 23.0 -1.4
B05A Bryant 90.84 327 ⇓P P 09 25 47.5 -1.3
baz=91,SNR=9.1
D03A Wishkah Elem. 90.88 325 ⇑P P 09 25 49.2 +0.2
baz=91
C04A Brinnon 90.89 326 ⇓P P 09 25 48.5 -0.5
baz=91
A05A Maple Falls 91.36 327 ⇑P P 09 25 50.0 -1.2
baz=92,SNR=7.0
B04A Port Angeles 91.38 326 ⇓P P 09 25 50.7 -0.6
baz=92
A04A Legoe Bay, Lum 91.45 327 P P 09 25 51.1 -0.5
baz=92,SNR=7.3
PGC Sidney 91.76 327 *eP* **P 09 25 52.9 -0.2**
PGC epP pP 09 26 29.0 -0.2
C03A Quillayute Air 91.84 326 ⇓P P 09 25 52.9 -0.5
baz=92
ETSF Etsaut 93.95 43 *eP* **P 09 26 03.7 +0.6**
comp=Z,11nm,0.7s,mb4.8
ETSF epP pP 09 26 38.4 -0.8
ETSF Etsaut 93.95 43 *eP* **P 09 26 03.7 +0.6**
ETSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
ETSF Etsaut 93.95 43 *eP* **P 09 26 03.7 +0.6**
comp=Z,5.7nm,0.7s,mb4.8
ETSF epP pP 09 26 38.4 -0.8
EPF Esparros 94.56 43 *eP* **P 09 26 05.4 -0.5**
QUIF Quistinic 95.47 37 *eP* **P 09 26 09.0 -1.0**
comp=Z,40nm,1.4s,mb5.2
QUIF Quistinic 95.47 37 *eP* **P 09 26 09.0 -1.0**
QUIF pmax pmax
comp=Z,20nm,1.4s,mb5.2
QUIF Quistinic 95.47 37 *eP* **P 09 26 09.0 -1.0**
comp=Z,20nm,1.4s,mb5.2
ROSF Rostrenen 95.66 37 *eP* **P 09 26 10.1 -0.8**
comp=Z,42nm,1.2s,mb5.3
ROSF epP pP 09 26 45.0 -2.1
ROSF Rostrenen 95.66 37 *eP* **P 09 26 10.1 -0.8**
ROSF pmax pmax
comp=Z,21nm,1.3s,mb5.3
ROSF Rostrenen 95.66 37 *eP* **P 09 26 10.1 -0.8**
comp=Z,21nm,1.3s,mb5.3
ROSF epP pP 09 26 45.0 -2.1
MTLF Montolieu 95.87 43 *eP* **P 09 26 11.8 -0.1**
LFF La Frestale 95.90 42 *eP* **P 09 26 11.8 -0.2**
comp=Z,17nm,0.6s,mb5.2
LFF La Frestale 95.90 42 *eP* **P 09 26 11.8 -0.2**
LFF pmax pmax
comp=Z,8.0nm,0.6s,mb5.2
LFF La Frestale 95.90 42 *eP* **P 09 26 11.8 -0.2**
comp=Z,8.3nm,0.6s,mb5.2
MFF Saint Martin d 96.34 40 *eP* **P 09 26 13.7 -0.3**
comp=Z,15nm,0.9s,mb5.0
MFF epP pP 09 26 47.8 -2.4
MFF Saint Martin d 96.34 40 *eP* **P 09 26 13.7 -0.3**
MFF pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
MFF Saint Martin d 96.34 40 *eP* **P 09 26 13.7 -0.3**
comp=Z,7.3nm,0.9s,mb5.0
MFF epP pP 09 26 47.8 -2.4
RJF Les Rejaudoux 96.56 42 *eP* **P 09 26 14.7 -0.3**
RJF *eR*
comp=Z,444nm,21.0s
CAF Calviac 96.66 42 *eP* **P 09 26 15.5 0.0**
comp=Z,7.9nm,0.7s,mb4.9
CAF Calviac 96.66 42 *eP* **P 09 26 15.5 0.0**
CAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
CAF Calviac 96.66 42 *eP* **P 09 26 15.5 0.0**
comp=Z,4.0nm,0.7s,mb4.9
GRR Gorron 96.99 38 *eP* **P 09 26 16.0 -0.9**
comp=Z,8.8nm,0.7s,mb4.9
GRR Gorron 96.99 38 *eP* **P 09 26 16.0 -0.9**
GRR pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
GRR Gorron 96.99 38 *eP* **P 09 26 16.0 -0.9**
comp=Z,4.4nm,0.7s,mb4.9
LASF Ste Croix 97.27 43 *eP* **P 09 26 18.1 -0.1**
LDF La Druitiere 97.51 38 *eP* **P 09 26 18.6 -0.7**
comp=Z,18nm,1.2s,mb5.1
LDF La Druitiere 97.51 38 *eP* **P 09 26 18.6 -0.7**
LDF pmax pmax
comp=Z,9.0nm,1.2s,mb5.1
LDF La Druitiere 97.51 38 *eP* **P 09 26 18.6 -0.7**
comp=Z,8.9nm,1.2s,mb5.1
TCF Toulx Ste Croi 97.51 41 *eP* **P 09 26 18.8 -0.5**
comp=Z,3.3nm,0.7s,mb4.6

TCF ep P pP 09 26 52.6 -2.9
TCF Toulx Ste Croi 97.51 41 *e*P **P 09 26 18.8 -0.5**
TCF e*PP pP 09 26 52.6 -2.9
TCF pmax pmax
comp=Z,2.0nm,0.6s,mb4.7
TCF Toulx Ste Croi 97.51 41 *e*P **P 09 26 18.8 -0.5**
comp=Z,1.6nm,0.6s,mb4.6
TCF ep P pP 09 26 52.6 -2.9
BGF Bois d'Agland 98.02 41 *e*P **P 09 26 21.5 -0.1**
comp=Z,5.0nm,0.5s,mb4.9
BGF Bois d'Agland 98.02 41 *e*P **P 09 26 21.5 -0.1**
BGF pmax pmax
comp=Z,3.0nm,0.5s,mb5.0
BGF Bois d'Agland 98.02 41 *e*P **P 09 26 21.5 -0.1**
comp=Z,2.5nm,0.5s,mb4.9
VIVF Saint-Julien-l 98.18 43 *e*P **P 09 26 21.7 -0.6**
SMRF Simiane la Rot 98.26 44 *e*P **P 09 26 22.9 +0.3**
YKA Yellowknife Ar 98.30 340 P **P 09 26 21.3 -1.5**
comp=Z,3.2nm,0.5s,mb5.0,baz=140,slow=4.7,SNR=35
YKA pP pP 09 26 56.7 -2.4
comp=Z,1.8nm,0.7s,baz=136,slow=4.3,SNR=3.7
YKA PKiKP PKiKP 09 30 53.7 -0.8
comp=Z,0.4nm,0.5s,baz=152,slow=1.5,SNR=4.0
YKA PKKPbc PKKPbc 09 42 52.3 -0.9
comp=Z,0.5nm,0.7s,baz=317,slow=4.1,SNR=5.1
YKA LR LR 10 13 40.0
comp=Z,124nm,20.7s,baz=125,slow=37
YKA Yellowknife Ar 98.30 340 P **P 09 26 21.3 -1.5**
YKA *PP pP 09 26 56.7 -2.4
YKA pmax pmax
comp=Z,3.0nm,0.5s
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA MLR MLR
comp=Z,124nm,20.7s
YKW3 Yellowknife Ar 98.36 340 *e*P **P 09 26 22.0 -1.1**
AVF Avril sur Loir 98.44 41 *e*P **P 09 26 23.0 -0.5**
SMF Signal de Mont 98.65 41 *e*P **P 09 26 24.3 -0.1**
comp=Z,9.9nm,0.7s,mb5.0
SMF ep P pP 09 26 59.1 -1.5
SMF Signal de Mont 98.65 41 *e*P **P 09 26 24.3 -0.1**
SMF pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
SMF Signal de Mont 98.65 41 *e*P **P 09 26 24.3 -0.1**
comp=Z,4.9nm,0.7s,mb5.0
SMF ep P pP 09 26 59.1 -1.5
SSF Saint Saulge 98.68 41 *e*P **P 09 26 23.9 -0.6**
comp=Z,3.5nm,0.5s,mb4.7
SSF ep P pP 09 26 58.7 -2.1
SSF Saint Saulge 98.68 41 *e*P **P 09 26 23.9 -0.6**
SSF pmax pmax
comp=Z,2.0nm,0.5s,mb4.8
SSF Saint Saulge 98.68 41 *e*P **P 09 26 23.9 -0.6**
comp=Z,1.8nm,0.5s,mb4.8
SSF ep P pP 09 26 58.7 -2.1
ORIF Oris-en-Rattie 98.94 44 *e*P **P 09 26 26.6 +0.9**
comp=Z,14nm,0.7s,mb5.2
ORIF e R
comp=Z,259nm,22.2s
ORIF Oris-en-Rattie 98.94 44 *e*P **P 09 26 26.6 +0.9**
ORIF pmax pmax
comp=Z,7.0nm,0.7s,mb5.2
ORIF Oris-en-Rattie 98.94 44 *e*P **P 09 26 26.6 +0.9**
comp=Z,7.2nm,0.7s,mb5.2
LOR Lormes 98.99 41 *e*P **P 09 26 25.0 -0.9**
comp=Z,7.0nm,0.9s,mb4.8
LOR e R
comp=Z,225nm,19.5s
LOR Lormes 98.99 41 *e*P **P 09 26 25.0 -0.9**
LOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
LOR Lormes 98.99 41 *e*P **P 09 26 25.0 -0.9**
comp=Z,3.5nm,0.9s,mb4.8
LPL La Plagne 99.77 43 *e*P Pdif 09 26 30.4 +1.0
comp=Z,7.0nm,0.6s
LPL La Plagne 99.77 43 *e*P Pdif 09 26 30.4 +1.0
LPL pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
LPL La Plagne 99.77 43 *e*P Pdif 09 26 30.4 +1.0
comp=Z,3.5nm,0.6s
LPG La Plagne 99.77 43 *e*P Pdif 09 26 30.6 +1.2
comp=Z,7.3nm,0.6s
LPG ep P pP 09 27 05.2 -0.4
LPG La Plagne 99.77 43 *e*P Pdif 09 26 30.6 +1.2
LPG pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
LPG La Plagne 99.77 43 *e*P Pdif 09 26 30.6 +1.2
comp=Z,3.7nm,0.6s
LPG ep P pP 09 27 05.2 -0.4
HAU Haudompre 100.81 41 *e*P Pdif 09 26 33.6 -0.4
comp=Z,4.9nm,0.7s
HAU e R
comp=Z,163nm,18.2s
HAU Haudompre 100.81 41 *e*P Pdif 09 26 33.6 -0.4
HAU pmax pmax
comp=Z,2.0nm,0.7s
HAU Haudompre 100.81 41 *e*P Pdif 09 26 33.6 -0.4
comp=Z,2.5nm,0.7s
HINF Hinteralfeld 101.01 41 *e*P Pdif 09 26 34.5 -0.4
GIVF Givet 101.04 39 *e*P Pdif 09 26 35.1 +0.1
CDF Champ du Feu 101.56 41 *e*P Pdif 09 26 37.1 -0.2
comp=Z,2.8nm,0.6s
CDF ep P 09 27 10.9
CDF Champ du Feu 101.56 41 *e*P Pdif 09 26 37.1 -0.2
CDF pmax pmax
comp=Z,1.0nm,0.6s
CDF Champ du Feu 101.56 41 *e*P Pdif 09 26 37.1 -0.2
comp=Z,1.4nm,0.6s
CDF ep P 09 27 10.9
GERES GERESS Array B 105.53 43 PKiKP PKiKP 09 31 07.0 -0.6
comp=Z,0.8nm,0.6s,baz=212,slow=4.1,SNR=5.7
CLL Collm 106.18 40 *e*SP SP 09 40 27.0 +0.3
CLL *e*SS SS 09 46 12.0 -1.8
CLL Collm 106.18 40 *e*SP SP 09 40 27.0 +0.3
CLL *e*SS SS 09 46 12.0 -1.8
CLL Lm 10 15 00.0
comp=Z,300nm,19.2s
NB2 NORSAR Subarra 109.36 30 PKKP PKKPbc 09 42 31.5 +11
comp=Z,1.4nm,0.8s,baz=66,slow=4.4
NOA NORSAR Array B 109.36 30 PKiKP PKiKP 09 31 14.3 -0.5
comp=Z,0.4nm,0.6s,baz=249,slow=2.2,SNR=3.7
NOA PKKPab PKKPab 09 42 30.9 -1.9
comp=Z,0.8nm,0.7s,baz=69,slow=4.5,SNR=5.2
HFS Hagfors 110.13 32 PKKPbc PKKPbc 09 42 17.6 -0.2
comp=Z,0.7nm,0.5s,baz=54,slow=7.5,SNR=5.0
ILAR Eielson Array 111.19 333 PKiKP PKiKP 09 31 17.2 -1.0
comp=Z,1.9nm,1.0s,baz=210,slow=2.8,SNR=9.4
ILAR Eielson Array 111.19 333 *i* PKIKP PKiKP 09 31 17.3 -1.0
ILAR pmax pmax
comp=Z,2.0nm,1.0s
STKA Stephens Creek 113.83 207 *e*P PKiKP 09 31 23.4 +0.1
comp=Z,2.6nm,1.0s
STKA Stephens Creek 113.83 207 PKiKP PKiKP 09 31 23.4 +0.1
comp=Z,3.1nm,0.8s,baz=146,slow=7.6,SNR=5.9
MMAI Mount Meron Ar 114.96 65 PKP PKiKP 09 31 26.1 +0.7
comp=Z,1.7nm,0.5s,baz=90,slow=1.7,SNR=6.3
AKASG Malin Array Be 115.60 44 PKP PKPdf 09 31 25.2 -1.4
comp=Z,3.3nm,0.5s,baz=262,slow=2.7,SNR=22
AKASG Malin Array Be 115.60 44 PKIKP PKPdf 09 31 25.3 -1.4
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 115.60 44 *e*PKIKP PKPdf 09 31 25.4 -1.3
BR131 Keskin Array S 115.66 57 *e*PKPdf PKPdf 09 31 26.8 0.0
BRTR Keskin Array B 115.66 57 PKP PKPdf 09 31 26.6 -0.2
comp=Z,3.2nm,0.8s,baz=198,slow=2.4,SNR=12
BRTR PKKPab PKKPab 09 42 06.0 +0.9
comp=Z,1.6nm,0.7s,baz=117,slow=4.6,SNR=6.6
ASF Jabal al Asfar 115.88 66 PKP PKPdf 09 31 28.3 +1.1
comp=Z,3.0nm,0.9s,baz=354,slow=6.3,SNR=3.5
ASF Jabal al Asfar 115.88 66 PKIKP PKPdf 09 31 28.3 +1.1
ASF pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 116.31 32 PKP PKPdf 09 31 26.9 -1.1
comp=Z,1.6nm,0.7s,baz=214,slow=2.1,SNR=7.3
FINES PKKPbc PKKPbc 09 41 57.7 +0.6
comp=Z,1.9nm,0.6s,baz=11,slow=3.9,SNR=16
FINES FINESS Array B 116.31 32 PKIKP PKPdf 09 31 27.0 -1.1
FINES 09 41 57.7
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 116.31 32 PKP PKPdf 09 31 26.9 -1.1
FINES PKKPbc PKKPbc 09 41 57.7 +0.6

KAF Kangasniemi 116.55 32 *e*pkp PKPdf 09 31 26.5 -2.0
ARCES ARCESS Array B 117.48 23 PKP PKPdf 09 31 28.9 -1.4
comp=Z,1.3nm,0.6s,baz=260,slow=3.6,SNR=14
ARCES PKKPbc PKKPbc 09 41 53.4 +0.4
comp=Z,3.6nm,0.6s,baz=85,slow=4.6,SNR=27
ARCES ARCESS Array B 117.48 23 PKIKP PKPdf 09 31 29.0 -1.3
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES pmax pmax
comp=Z,4.0nm,0.6s
MALT Malatya 118.86 60 *e*PKIKP PKPdf 09 31 33.4 +0.4
JOF Joensuu 118.97 31 *e*pkp PKPdf 09 31 31.4 -1.8
FORT Forrest 119.14 195 *e*P PKPdf 09 31 33.7 +0.2
comp=Z,7.5nm,0.5s
MUN Mundaring 119.66 184 *e*P PKPdf 09 31 34.6 +0.1
KLBR Kellerberrin 119.94 185 *e*P PKPdf 09 31 35.0 0.0
comp=Z,35nm,1.4s
APA Apatity 120.20 26⇑ *i* PKIKP PKPdf 09 31 35.2 -0.3
APA *i* 09 32 12.5
APA *i* 09 49 36.0
OBN Obninsk 120.78 40K *i* PKIKP PKPdf 09 31 35.3 -1.3
OBN *e* 09 32 12.5 0.0
OBN e PPS 09 44 15.5
OBN pmax pmax
comp=Z,15nm,0.8s
OBN MLR MLR
comp=Z,100nm,17.0s
CTA Charters Tower 121.69 218 *e*P PKPdf 09 31 39.1 +0.7
comp=Z,4.2nm,0.6s
CTA Charters Tower 121.69 218 PKP PKPdf 09 31 39.4 +1.0
comp=Z,4.4nm,0.6s,baz=18,slow=5.0,SNR=6.7
CTA Charters Tower 121.69 218 PKIKP PKPdf 09 31 39.4 +1.0
CTA pmax pmax
comp=Z,4.0nm,0.6s
KLMR Klimovskoe 122.72 34 *i* PKIKP PKPdf 09 31 39.5 -0.9
KLMR pmax pmax
comp=Z,40nm,1.3s
KIV Kislovodsk 123.20 54 *e*PKIKP PKPdf 09 31 41.6 +0.3
KIV Kislovodsk 123.20 54 *e*PKPdf PKPdf 09 31 41.6 +0.3
ASAR Alice Springs 124.13 204 PKP PKPdf 09 31 43.0 -0.1
comp=Z,22nm,0.5s,baz=133,slow=1.7,SNR=245
ASAR pPKP pPKPdf 09 32 19.8 -1.1
comp=Z,14nm,0.7s,baz=145,slow=2.0,SNR=7.5
ASAR PKKPbc PKKPbc 09 41 28.6 +0.5
comp=Z,0.9nm,0.6s,baz=329,slow=2.8,SNR=15
ASAR PKKP PKKPbc 09 42 04.8 +37
comp=Z,0.5nm,0.7s,baz=333,slow=2.6,SNR=4.5
ASAR Alice Springs 124.13 204 PKIKP PKPdf 09 31 43.0 -0.1
ASAR 09 32 19.8
ASAR pmax pmax
comp=Z,23nm,0.5s
ASAR pmax pmax
comp=Z,14nm,0.7s
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR pmax pmax
comp=Z,1.0nm,0.7s
AS31 Alice Springs 124.13 204 *e*PKP PKPdf 09 31 42.7 -0.4
AS31 e pPKP pPKPdf 09 32 20.0 -0.8
ASPA Alice Springs 124.13 204 *e*PKP PKPdf 09 31 42.7 -0.4
ASPA e pPKP pPKPdf 09 32 20.0 -0.8
WB2 Warramunga Arr 127.36 206 *e*PKP PKPdf 09 31 49.5 +0.2
WB2 e pPKP pPKPdf 09 32 26.5 -0.5
WRA Warramunga Arr 127.37 206 PKP PKPdf 09 31 49.6 +0.3
comp=Z,47nm,0.5s,baz=169,slow=1.7,SNR=272
WRA pPKP pPKPdf 09 32 26.5 -0.5
comp=Z,26nm,0.6s,baz=168,slow=1.6,SNR=9.0
WRA Warramunga Arr 127.37 206 PKIKP PKPdf 09 31 49.6 +0.3
WRA 09 32 26.5
WRA pmax pmax
comp=Z,47nm,0.5s
WRA pmax pmax
comp=Z,26nm,0.6s
WRAB Tennant Creek 127.37 206 *e*PKIKP PKPdf 09 31 49.8 +0.5
WRAB *e* 09 32 26.6
PMG Port Moresby 129.59 227 PKP PKPdf 09 31 54.4 +1.0
comp=Z,37nm,1.0s,baz=197,slow=7.9,SNR=3.7
MBWA Marble Bar 130.06 189 ⇑P PKPdf 09 31 54.7 +0.3
SNR=10
WSAR Wadi Sarin 131.50 83 PKP PKPdf 09 31 58.3 +1.2
comp=Z,21nm,1.0s,baz=231,slow=3.8,SNR=8.6
WSAR pPKP pPKPdf 09 32 34.5 -0.4
comp=Z,8.5nm,0.9s,baz=258,slow=6.8,SNR=2.7
FITZ Fitzroy Crossi 131.89 197 *e*PKP PKPdf 09 31 58.6 +0.7
comp=Z,21nm,1.2s
FITZ e pPKP pPKPdf 09 32 36.1 +0.5
FITZ e SKP 09 35 11.8
FITZ e PKS 09 35 25.5
FITZ Fitzroy Crossi 131.89 197 PKP PKPdf 09 31 58.8 +1.0
comp=Z,9.4nm,0.7s,baz=161,slow=4.7,SNR=18
FITZ SKPbc SKPbc 09 35 11.6 +0.9
comp=Z,9.2nm,0.9s,baz=209,slow=5.1,SNR=7.2
ARU Arti 133.07 38 *i* PKIKP PKPdf 09 31 59.7 -0.4
ARU *e* 09 34 25.7
ARU Arti 133.07 38 *e*PKPdf PKPdf 09 31 59.7 -0.4
SVE Sverdlovsk 134.08 37 *e*PKIKP PKPdf 09 32 08.0 +6.0
SVE *e* 09 34 33.0
KAKA Kakadu 134.67 208 *e*PKP PKPdf 09 32 04.9 +1.8
comp=Z,25nm,0.6s
KAKA e pPKP pPKPdf 09 32 41.8 +1.0
TIXI Tiksi 135.98 353 *e*PKIKP PKPdf 09 32 03.2 -2.3
TIXI pmax pmax
comp=Z,4.0nm,0.7s
TIXI pmax pmax
comp=Z,5.0nm,0.6s
ZRNK Zerenda 139.86 40 *e*PKIKP PKPdf 09 32 12.9 +0.2
MNGI Mangalore 141.59 106 *e*P PKPdf 09 32 15.9 +0.1
KAD Karad 143.03 99 *e*P PKPdf 09 32 16.6 -1.7
YAK Yakutsk 144.71 346 *e*PKIKP PKPdf 09 32 19.3 -2.0
YAK *e* 09 32 56.3
EKS2 Erkin-Say 145.78 55 P PKPdf 09 32 24.6 +1.5
SNR=93
AML Almayashu 145.82 56 P PKPdf 09 32 24.8 +1.6
SNR=39
USP Ospenovka 146.17 54 P PKPdf 09 32 24.8 +1.0
SNR=13
KURK Kurchatov 146.22 40 *e*PKP2 PKPab 09 32 24.5 -1.6
NVS Novosibirsk 146.28 31 *e*PKP2 PKPab 09 32 23.8 -2.6
NVS pmax pmax
comp=Z,148nm,0.7s
NVS pmax pmax
comp=N,28nm,0.9s
NVS pmax pmax
comp=E,59nm,0.9s
AAK Ala-Archa 146.30 55 P PKPdf 09 32 25.7 +1.7
SNR=40
AAK Ala-Archa 146.30 55 *e*PKPbc PKPbc 09 32 24.8 -0.7
FRU Bishkek 146.35 55 *i* PKP2 PKPab 09 32 25.0 -1.6
FRU pmax pmax
comp=Z,180nm,2.3s
AJM Ajmer 146.37 84 *e*P PKPdf 09 32 23.4 -0.7
UCH Uchtor 146.40 56 P PKPdf 09 32 26.2 +2.1
SNR=81
CHMS Chumysh 146.41 54 P PKPdf 09 32 26.7 +2.5
SNR=22
KBK Karagaybulak 146.63 55 P PKPdf 09 32 28.2 +3.6
SNR=72
AKL Akola 146.81 96 *ex* x 09 32 36.0
KZA Kyzart 146.97 56 P PKPdf 09 32 27.5 +2.4
SNR=20
TKM2 Tokmak 2 147.03 54 P PKPdf 09 32 26.4 +1.2
SNR=24
ZAL Zalesovo 147.56 31 PKPbc PKPbc 09 32 26.5 -2.5
comp=Z,60nm,0.5s,baz=173,slow=3.2,SNR=87
ZAL pPKPbc pPKPbc 09 33 03.7 -2.6
comp=Z,30nm,0.8s,baz=178,slow=2.3,SNR=4.2
ZAL Zalesovo 147.56 31 PKIKP PKPdf 09 32 26.5 +0.4
ZAL 09 33 03.7
ZAL pmax pmax
comp=Z,60nm,0.5s
ZAL pmax pmax
comp=Z,30nm,0.8s
ULHL Ulahol 147.65 55 P PKPab 09 32 41.8 +10
SNR=6.9
KSH Kashi 147.96 60 *e*PKP PKPdf 09 32 29.1 +2.3
KSH e PPP 09 38 55.2
KSH *e*SKS SKSdf 09 39 16.8 -5.2
KSH PP PP
comp=Z,282nm,4.0s
KSH LR LR
comp=N,357nm,5.5s
KSH LR LR
comp=E,394nm,4.7s
KSH LR LR
comp=Z,380nm,5.9s

BHPL Bhopal 147.99 91 *e*P PKPdf 09 32 25.8 -1.0
NGP Nagpur 148.75 96 *e*P PKPdf 09 32 26.1 -2.0
NDI New Delhi 149.01 81 *e*P PKPdf 09 32 28.9 +0.4
SDNR Sundarnagar 149.11 76 *e*P PKPdf 09 32 28.8 +0.2
KRAR Krasnoyarsk 149.19 22 *e*PKIKP PKPdf 09 32 28.9 +0.1
SMLA Simla 149.25 76 *e*P PKPdf 09 32 29.3 +0.4
MKAR Makanchi Array 150.18 44 PKPbc PKPbc 09 32 35.2 -0.3
comp=Z,97nm,0.9s,baz=313,slow=2.5,SNR=272
MKAR pPKPbc pPKPbc 09 33 11.3 -1.8
comp=Z,42nm,0.7s,baz=321,slow=3.1,SNR=6.1
MKAR Makanchi Array 150.18 44 PKP2 PKPbc 09 32 35.2 -0.3
MKAR pmax pmax
comp=Z,97nm,0.9s
MKAR pmax pmax
comp=Z,42nm,0.7s
YSS Yuzh-Sakhalins 150.20 316⇑ *e*PKIKP PKPdf 09 32 31.0 +0.6
YSS *e* 09 33 11.0
YSS pmax pmax
comp=Z,130nm,1.1s
YSS pmax pmax
comp=E,100nm,1.0s
CLNS Chul'man 150.47 346 *e*PKIKP PKPbc 09 32 33.9 -2.3
CLNS pmax pmax
comp=Z,115nm,1.2s
CLNS pmax pmax
comp=N,29nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,0.8s
BOD Bodaibo 150.78 358 *e*PKIKP PKPdf 09 32 30.0 -1.3
BOD pmax pmax
comp=Z,47nm,1.0s
VIS Vishakhapatnam 151.07 106 *e*P PKPdf 09 32 30.4 -1.3
VIS AMb AMB 09 32 40.8
comp=Z,33nm,0.5s
PSI Prapat 151.22 151 PKPbc PKPbc 09 32 38.2 +0.3
comp=Z,24nm,0.7s,baz=259,slow=0.8,SNR=13
PSI pPKPbc pPKPbc 09 33 15.5 -0.1
comp=Z,48nm,1.0s,baz=200,slow=12,SNR=6.3
PSI Prapat 151.22 151 PKIKP PKPbc 09 32 38.3 +0.3
PSI 09 33 15.5
PSI pmax pmax
comp=Z,25nm,0.7s
PSI pmax pmax
comp=Z,48nm,1.0s
LGTI Lohaghat 151.74 80 *ex* x 09 32 38.7
BLSP Bilaspur 151.78 96 *e*P PKPdf 09 32 33.0 +0.2
KSM Kuching 152.94 175 *e*PKPbc PKPbc 09 32 42.7 +0.9
KSM *e*PKPab PKPab 09 32 55.1 +1.6
KOLN Koldanda 154.45 85 *e*P PKPdf 09 32 37.2 +0.6
comp=Z,12nm,0.6s
KLR Kul'dur 154.71 330 *e*PKIKP PKPdf 09 32 34.0 -3.0
KLR *e* 09 33 10.2
KLR *e* 09 36 32.6
KLR pmax pmax
comp=Z,46nm,1.8s
WMQ Urumqi 154.94 46 PKP PKPdf 09 32 34.4 -2.9
WMQ PP PP 09 36 38.1 -0.3
WMQ PP PP
comp=Z,326nm,10.4s
WMQ LR LR
comp=N,251nm,22.0s
WMQ LR LR
comp=E,188nm,20.9s
WMQ LR LR
comp=Z,266nm,22.5s
MOY Mondy 155.37 17 *e*PKIKP PKPdf 09 32 41.2 +3.3
GKN Gorkha 155.39 85 *e*P PKPdf 09 32 38.8 +0.9
BOK Bokaro 155.58 95 *e*P PKPdf 09 32 36.6 -1.6
DMN Daman 155.75 86 *e*P PKPdf 09 32 38.9 +0.5
KKN Kakani 155.92 85 *e*P PKPdf 09 32 39.8 +1.2
PKI Pulchoki 156.00 86 *e*P PKPdf 09 32 39.0 +0.3
comp=Z,20nm,1.1s
GUN Gumba 156.47 85 *e*P PKPdf 09 32 40.5 +1.2
JIRN Jiri 156.70 86 *e*P PKPdf 09 32 40.6 +0.9
comp=Z,5.0nm,0.4s
MJAR Matsushiro Arr 157.06 297 PKP PKPdf 09 32 40.0 -0.1
comp=Z,2.5nm,1.0s,baz=348,slow=0.4,SNR=8.4
MJAR PKPab PKPab 09 33 11.8 +0.6
comp=Z,9.2nm,0.9s,baz=99,slow=2.2,SNR=11
MJAR pPKPab pPKPab 09 33 48.0 +0.4
comp=Z,7.7nm,0.8s,baz=104,slow=2.6,SNR=6.1
MJAR Matsushiro Arr 157.06 297 PKIKP PKPdf 09 32 40.0 -0.1
MJAR 09 33 11.8
MJAR pmax pmax
comp=Z,3.0nm,1.0s
MJAR pmax pmax
comp=Z,9.0nm,0.9s
MJAR pmax pmax
comp=Z,8.0nm,0.8s
MJAR Matsushiro Arr 157.06 297 PKP PKPdf 09 32 40.0 -0.1
MJAR PKPab PKPab 09 33 11.8 +0.6
MJAR pPKPab pPKPab 09 33 48.0 +0.4
MAJO Matsushiro 157.06 297 *e*PKP2 PKPab 09 33 11.9 +0.7
MAT Matsushiro 157.06 297 PKP PKPdf 09 32 39.8 -0.3
MAT Matsushiro 157.06 297 *e*PKP PKPdf 09 32 40.0 -0.1
MDJ Mudanjiang 159.06 324 PKP PKPdf 09 32 41.4 -1.1
MDJ APKP 09 33 16.0
MDJ PKP2 PKPab 09 33 19.7 -0.2
MDJ XPKP 09 33 34.6
MDJ PP PP 09 37 01.9 +0.8
MDJ SS SS 09 56 55.1 +1.6
MDJ PP PP
comp=Z,117nm,5.2s
MDJ LR LR
comp=N,90nm,27.1s
MDJ LR LR
comp=E,37nm,18.1s
MDJ LR LR
comp=Z,88nm,25.8s
SONM Songino Array 160.20 12 PKP PKPdf 09 32 44.5 +0.6
comp=Z,8.8nm,1.0s,baz=195,slow=0.5,SNR=38
SONM PKPab PKPab 09 33 22.3 -2.6
comp=Z,8.9nm,0.7s,baz=320,slow=3.3,SNR=14
SONM pPKPab pPKPab 09 33 59.3 -1.9
comp=Z,6.0nm,0.9s,baz=338,slow=5.3,SNR=3.0
SONM Songino Array 160.20 12 PKIKP PKPdf 09 32 44.5 +0.7
SONM 09 33 22.3
SONM pmax pmax
comp=Z,9.0nm,1.0s
SONM pmax pmax
comp=Z,9.0nm,0.7s
SONM pmax pmax
comp=Z,6.0nm,0.9s
ULN Ulaanbaatar 160.29 11 ⇑P PKPdf 09 32 44.8 +0.9
SNR=5.8
ULN Ulaanbaatar 160.29 11 *e*PKPdf PKPdf 09 32 44.1 +0.1
SHL Shillong 161.31 94 *e*P PKPdf 09 32 43.1 -1.9
CN2 Changchun 161.66 329 *e*PKP PKPdf 09 32 43.1 -2.3
NST Nakhon Sawan 162.73 136 P PKPab 09 33 37.0 +1.1
KS15 Wonju Array Si 164.46 308 *e*PKPdf PKPdf 09 32 48.1 0.0
GTA Gaotai 164.90 41 PKP PKPdf 09 32 49.4 +0.9
GTA PKP2 PKPab 09 33 45.5 0.0
GTA PP PP 09 37 35.0 +2.9
GTA SKKS SKKSac 09 44 03.2 -3.0
GTA SS SS 09 57 48.7 -5.5
GTA PP PP
comp=Z,58nm,4.9s
GTA LR LR
comp=N,187nm,19.0s
GTA LR LR
comp=E,240nm,20.9s
GTA LR LR
comp=Z,133nm,18.6s
NANT Nan 165.38 129 ⇑P 09 33 24.0
comp=Z,175nm,1.0s
HHC Hu-ho-hao-te 167.75 4 *e*PKP PKPdf 09 32 51.3 +0.6
HHC APKP 09 33 25.7
HHC XPKP 09 33 44.1
HHC PP PP 09 37 51.5 +4.7
HHC SKS SKSdf 09 39 39.7 -1.5
HHC SKKS SKKSac 09 44 19.9 -0.6
HHC SS SS 09 58 19.6 -3.5
HHC LR LR
comp=N,142nm,32.1s
HHC LR LR
comp=E,265nm,33.3s
HHC LR LR
comp=Z,230nm,32.7s
LZH Lanzhou 169.49 43 *e*PKP PKPdf 09 32 53.5 +1.7
LZH APKP 09 33 30.5
LZH XPKP 09 33 45.0
LZH PP PP 09 37 57.0 +1.4
LZH SS SS 09 58 39.0 -1.4
LZH PP PP
comp=Z,320nm,4.2s

KMI	**Kunming**	**170.54**	**109**	PKP	PKPdf	09 32 53.1	+0.7
KMI				APKP		09 33 30.7	
KMI				XPKP		09 33 45.1	
KMI				PP	PP	09 38 03.5	+2.6
KMI				PPP		09 42 05.0	
KMI				SKKS	SKKSac	09 44 37.5	+3.4
KMI				SS	SS	09 58 49.8	-1.0
KMI				SSS		10 05 36.2	
KMI				PP	PP		
	comp=Z,206nm,7.8s						
KMI				LR	LR		
	comp=N,198nm,22.0s						
KMI				LR	LR		
	comp=E,187nm,23.7s						
KMI				LR	LR		
	comp=Z,84nm,19.4s						
CD2	**Chengdu**	**171.98**	**71**	*e*PKP	PKPdf	09 32 47.9	-5.2
CD2				PKP2	PKPab	09 34 13.0	-3.8
CD2				PP	PP	09 38 05.0	-3.0
CD2				PP	PP		
	comp=Z,60nm,9.2s						
CD2				LR	LR		
	comp=E,110nm,16.8s						
CD2				LR	LR		
	comp=Z,190nm,19.2s						
SSE	**Sheshan**	**172.14**	**291**	PKP	PKPdf	09 32 50.8	-2.4
SSE				PP	PP	09 38 09.4	+0.6
SSE				SS	SS	09 59 01.2	-5.3
SSE				PP	PP		
	comp=Z,56nm,11.8s						
SSE				LR	LR		
	comp=N,55nm,24.0s						
SSE				LR	LR		
	comp=E,58nm,24.0s						
SSE				LR	LR		
	comp=Z,84nm,21.3s						
NJ2	**Nanjing**	**173.59**	**304**	*e*PKP	PKPdf	09 32 48.6	-5.2
NJ2				XPKP		09 33 48.0	
NJ2				PKS		09 36 20.0	
NJ2				PP	PP	09 38 14.0	-1.9
NJ2				PP	PP		
	comp=Z,660nm,7.9s						
NJ2				LR	LR		
	comp=N,3µm,25.0s						
NJ2				LR	LR		
	comp=E,3µm,25.5s						
NJ2				LR	LR		
	comp=Z,3µm,22.5s						
XAN	**Xi'an**	**173.73**	**29**	PKP	PKPdf	09 32 54.5	+0.6
GYA	**Guiyang**	**174.31**	**111**	*e*PKP	PKPdf	09 32 55.0	+0.9
GYA				PKP2	PKPab	09 34 28.1	+0.9
GYA				PKS		09 36 25.8	
GYA				PP	PP	09 38 21.3	+1.9
GYA				SS	SS	09 59 21.5	-6.1
GYA				PP	PP		
	comp=Z,120nm,8.7s						
GYA				LR	LR		
	comp=N,180nm,21.7s						
GYA				LR	LR		
	comp=E,210nm,22.4s						
GYA				LR	LR		
	comp=Z,200nm,21.9s						

MAN 08 09:33:16.2, 1123N×12597E, h26km, mb2.3, ML3.9, MS1.5, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.64**	**306**	*e*P	Pb	09 33 29.1	+0.4
PLP	**Palo**	**0.97**	**267**	*e*P	Pn	09 33 33.9	-0.3
PLP				*e*S	Sb	09 33 47.5	+0.7
MSLP	**Maasin**	**1.54**	**225**	*e*P	Pn	09 33 42.2	+0.3

*BJI **08** 10:00:18.1, 5090N×17530E, h10km, mB4.9, mb4.7, Ms4.2, Msz4.0*
*ISCJB **08** 10:00:19.5±2.4, 5083N±007×17526E±007, h9km±14km, mb4.2/27, MS4.1/2, Error ellipse: s-maj=11.7km s-min=7.1km az=4.7*
*IDC **08** 10:00:19.9±1.1, 5095N×17522E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.0/28, mbtmp4.1/15, ML4.3/1, Error ellipse: s-maj=32.3km s-min=16.1km az=169.0*
*NEIC **08** 10:00:21.2±4.4, 5091N×17527E, h7km±26km, mb4.4/7, ML4.1(AEIC), Error ellipse: s-maj=14.4km s-min=7.3km az=191.0*
ISC 08 10:00:22.3±2.6, **5087N**±007×**17528E**±007, **h16**km±16km, **n61**, σ**0.92**/66, **mb4.2**/27, **MS4.1**/2, **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.00**	**339**	P	**Pn**	**10 00 54.6**	**-0.7**
SMY				S	**Sn**	**10 01 20.9**	**+0.9**
AMKA	**Amchitka**	**2.58**	**77**	P	**Pn**	**10 01 01.7**	**-1.7**
AMKA				S	**Sn**	**10 01 30.2**	**-4.3**
ATKA	**Atka Island**	**6.70**	**74**	P	**Pn**	**10 01 59.3**	**-0.7**
SPIA	**Saint Paul Isl**	**10.59**	**48**	*e*Pn	**Pn**	**10 02 53.0**	**-0.3**
SPIA				*e*Sn	**Sn**	**10 04 34.1**	**-17**
SVW2	**Sparrevohn**	**19.08**	**46**	*e*P	**Pn**	**10 04 45.7**	**+0.9**
KDAK	**Kodiak Island**	**19.83**	**57**	P	**Pn**	**10 04 52.0**	**-1.8**
	0.8nm,0.3s,baz=249,slow=8.3,SNR=10						
SML	**Sawmill**	**22.62**	**47**	*e*P	**P**	**10 05 24.1**	**+1.9**
ASAJ	**Asahikawa**	**22.96**	**266**	P	**P**	**10 05 24.8**	**-1.1**
	7.3nm,1.0s,mb4.1,baz=17,slow=6.1,SNR=4.4						
COLA	**College**	**23.65**	**40**	*e*P	**P**	**10 05 33.0**	**+0.1**
	3.7nm,0.8s,mb3.9						
ILAR	**Eielson Array**	**24.01**	**40**	P	**P**	**10 05 35.7**	**-0.5**
	1.8nm,0.5s,mb3.8,baz=251,slow=7.5,SNR=17						
MENT	**Mentasta**	**24.95**	**45**	*e*P	**P**	**10 05 45.9**	**+1.1**
DAWY	**Dawson**	**27.04**	**43**	*e*P	**P**	**10 06 04.5**	**+0.8**
INK	**Inuvik**	**30.03**	**35**	P	**P**	**10 06 30.7**	**+0.4**
	3.6nm,0.9s,mb4.1,baz=242,slow=3.8,SNR=5.7						
INK	**Inuvik**	**30.03**	**35**	P	**P**	**10 06 30.7**	**+0.4**
MDJ	**Mudanjiang**	**30.95**	**276**	P	**P**	**10 06 39.4**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,24nm,5.1s						
CN2	**Changchun**	**33.95**	**278**	*e*P	**P**	**10 07 05.6**	**+0.9**
YKW3	**Yellowknife Ar**	**38.23**	**45**	*e*P	**P**	**10 07 44.1**	**+2.8**
YKA	**Yellowknife Ar**	**38.26**	**45**	P	**P**	**10 07 41.9**	**+0.4**
	comp=Z,3.3nm,0.7s,mb4.2,baz=285,slow=8.1,SNR=13						
YKA	**Yellowknife Ar**	**38.26**	**45**	P	**P**	**10 07 41.9**	**+0.4**
GNW	**Green Mountain**	**39.52**	**70**	*e*P	**P**	**10 07 53.2**	**+1.0**
CMW	**Cultus Mountai**	**39.53**	**68**	P	**P**	**10 07 53.4**	**+1.1**
LON	**Longmire**	**40.52**	**70**	*e*P	**P**	**10 08 02.0**	**+1.4**
ETW	**Entiat**	**40.98**	**69**	P	**P**	**10 08 04.7**	**+0.4**
TBM	**Table Mountain**	**41.04**	**69**	P	**P**	**10 08 05.1**	**+0.3**
WTV	**Waterville**	**41.16**	**68**	P	**P**	**10 08 05.7**	**-0.1**
EBG	**Ellensburg**	**41.19**	**70**	P	**P**	**10 08 06.6**	**+0.6**
EPH	**Ephrata**	**41.54**	**68**	P	**P**	**10 08 08.8**	**0.0**
HAWA	**Hanford**	**42.06**	**70**	*e*P	**P**	**10 08 13.3**	**+0.2**
	comp=Z,0.3nm,0.7s,mb3.0						
EDM	**Edmonton**	**42.28**	**58**	*e*P	**P**	**10 08 14.9**	**0.0**
NEW	**Newport**	**42.53**	**66**	*e*P	**P**	**10 08 16.5**	**-0.5**
	comp=Z,6.2nm,0.8s,mb4.4						
WALA	**Waterton Lakes**	**43.97**	**63**	*e*P	**P**	**10 08 28.9**	**+0.3**
	comp=Z,8.8nm,0.8s,mb4.5						
BSMT	**Bassoo Peak**	**44.09**	**65**	P	**P**	**10 08 29.5**	**0.0**
HHC	**Hu-ho-hao-te**	**44.20**	**283**	*e*P	**P**	**10 08 29.9**	**-0.5**
HHC				XP	sP	10 08 37.6	+0.1
HHC				PP	PP	10 10 13.9	+0.4
HHC				PCS	PcS	10 14 08.2	0.0
HHC				S	**S**	**10 15 01.1**	**-1.9**
HHC				AMB	AMB		
	comp=Z,12nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,91nm,5.3s						
HHC				LR	LR		
	comp=N,131nm,23.8s,MS4.1						
HHC				LR	LR		
	comp=E,222nm,20.2s,MS4.1						
HHC				LR	LR		
	comp=Z,126nm,10.7s						
BMO	**Blue Mountains**	**44.20**	**70**	*e*P	**P**	**10 08 30.6**	**+0.1**
MSO	**Missoula**	**45.12**	**66**	*e*P	**P**	**10 08 37.5**	**-0.2**
	comp=Z,5.2nm,1.1s,mb4.3						
CHMT	**Chamberlain Mo**	**45.47**	**66**	*e*P	**P**	**10 08 40.0**	**-0.6**
HRY	**Holter Researc**	**46.40**	**65**	*e*P	**P**	**10 08 47.4**	**-0.5**
MCMT	**McKenzie Canyo**	**46.86**	**68**	*e*P	**P**	**10 08 51.3**	**-0.2**
EGMT	**Eagleton**	**46.86**	**63**	*e*P	**P**	**10 08 50.7**	**-0.8**
BOZ	**Bozeman (W)**	**47.11**	**66**	*e*P	**P**	**10 08 52.9**	**-0.6**
NVAR	**Mina Array Bea**	**47.31**	**78**	P	**P**	**10 08 55.0**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=299,slow=5.8,SNR=9.1						
NVAR	**Mina Array Bea**	**47.31**	**78**	P	**P**	**10 08 55.0**	**-0.1**
TPNV	**Topopah Spring**	**49.51**	**78**	*e*P	**P**	**10 09 12.0**	**+0.1**
	comp=Z,1.8nm,0.7s,mb4.2						
BW06	**Boulder Array**	**49.99**	**68**	*e*P	**P**	**10 09 15.7**	**0.0**
	comp=Z,3.5nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**49.99**	**68**	P	**P**	**10 09 15.3**	**-0.4**
	comp=Z,3.1nm,0.8s,mb4.4,baz=321,slow=4.0,SNR=26						
LZH	**Lanzhou**	**51.90**	**283**	*e*P	**P**	**10 09 31.3**	**+1.3**
LZH				AP	pP	10 09 35.2	+0.1
LZH				XP	sP	10 09 38.6	+1.5
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,53nm,4.2s						
ULM	**Lac du Bonnet**	**53.03**	**53**	P	**P**	**10 09 37.7**	**-0.7**
	comp=Z,2.3nm,0.5s,mb4.4,baz=287,slow=5.7,SNR=9.2						
CD2	**Chengdu**	**55.38**	**278**	*e*P	**P**	**10 09 54.6**	**-0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
WMQ	**Urumqi**	**56.42**	**300**	P	**P**	**10 10 05.2**	**+2.3**
KURK	**Kurchatov**	**56.60**	**311**	*e*P	**P**	**10 10 03.8**	**-0.5**
	comp=Z,4.2nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**57.35**	**305**	P	**P**	**10 10 08.3**	**-1.2**
	comp=Z,0.3nm,0.3s,mb3.8,baz=51,slow=9.6,SNR=4.8						
BVAR	**Borovoye Array**	**58.79**	**317**	P	**P**	**10 10 18.8**	**-0.8**
	comp=Z,0.7nm,0.4s,mb4.0,baz=46,slow=8.5,SNR=6.1						
GDL2	**Guadalupe Moun**	**59.98**	**75**	*e*P	**P**	**10 10 32.9**	**+5.0**
KMI	**Kunming**	**60.07**	**274**	P	**P**	**10 10 29.6**	**+1.1**
KMI				AP	pP	10 10 34.1	+0.4
KMI				XP	sP	10 10 36.2	+0.5
KMI				PP	PP	10 12 42.5	+1.6
KMI				PPP		10 14 03.7	
KMI				S	**S**	**10 18 40.3**	**-0.4**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.9						
KMI				AMB	AMB		
	comp=Z,111nm,4.3s						
KMI				LR	LR		
	comp=N,126nm,17.2s,MS4.3						
KMI				LR	LR		
	comp=E,144nm,16.5s,MS4.3						
KMI				LR	LR		
	comp=Z,118nm,18.0s,MS4.1						
SCHQ	**Schefferville**	**62.64**	**35**	P	**P**	**10 10 43.8**	**-2.1**
	comp=Z,4.1nm,0.8s,mb4.6,baz=344,slow=8.1,SNR=3.8						
AKTK	**Aktyubinsk**	**65.85**	**321**	P	**P**	**10 11 06.2**	**-0.7**
AKTO	**Aktyubinsk**	**65.85**	**321**	P	**P**	**10 11 06.2**	**-0.7**
	comp=Z,0.7nm,0.5s,mb4.0,baz=104,slow=12,SNR=4.6						
NB2	**NORSAR Subarra**	**67.71**	**352**	P	**P**	**10 11 18.3**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.9,baz=10.0,slow=6.5						
NOA	**NORSAR Array B**	**67.71**	**352**	P	**P**	**10 11 18.4**	**-0.4**
	comp=Z,1.1nm,0.7s,mb4.0,baz=12,slow=6.3,SNR=5.0						
HFS	**Hagfors**	**68.35**	**350**	P	**P**	**10 11 22.0**	**-0.8**
	comp=Z,0.7nm,0.5s,mb4.0,baz=53,slow=7.6,SNR=5.0						
ASAR	**Alice Springs**	**82.69**	**218**	P	**P**	**10 12 46.4**	**+1.3**
	comp=Z,1.2nm,0.8s,mb4.0,baz=28,slow=4.8,SNR=4.7						

IDC 08 10:03:44.1±3.6, **1452S**×**17519W**, **h0**km, **mb3.7**/4, **mb1 4.1**/4, **mb1mx3.8**/14, **mbtmp3.7**/4, **MS3.8**/3, **Ms1 3.8**/3, **ms1mx3.2**/24, **Error ellipse: s-maj=264.7km s-min=25.9km az=150.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.61**	**195**	LR	LR	10 16 50.2	
	comp=Z,356nm,18.4s,baz=49,slow=32						
WRA	**Warramunga Arr**	**48.36**	**256**	P	P	10 12 28.5	+0.9
	0.9nm,0.8s,baz=92,slow=7.9,SNR=5.5						
ASAR	**Alice Springs**	**48.74**	**251**	P	P	10 12 31.1	+0.6
	2.0nm,0.9s,baz=85,slow=7.8,SNR=16						
FITZ	**Fitzroy Crossi**	**56.70**	**258**	LR	LR	10 32 51.0	
	comp=Z,83nm,19.6s,baz=268,slow=31						
NVAR	**Mina Array Bea**	**74.86**	**43**	P	P	10 15 28.1	+1.7
	0.3nm,0.6s,baz=216,slow=7.6,SNR=3.7						
PDAR	**Pinedale Array**	**82.78**	**43**	P	P	10 16 10.5	+0.4
	0.5nm,1.0s,baz=221,slow=3.6,SNR=3.3						
YKA	**Yellowknife Ar**	**89.99**	**24**	LR	LR	10 55 58.9	
	comp=Z,29nm,18.7s,baz=270,slow=35						
GERES	**GERESS Array B**	**145.00**	**350**	PKPbc	PKPbc	10 23 19.6	-3.0
	0.2nm,0.5s,baz=11,slow=1.6,SNR=3.6						

WEL 08 10:11:36.0±0.6, **3560S**×**17793E**, **h205**km±15km, **ML3.5**/5, **Error ellipse: s-maj=14.5km s-min=12.9km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.98**	**171**	PN	Pn	10 12 15.1	+0.4
MXZ				SN	Sn	10 12 44.4	-0.4
PUZ	**Puketiti**	**2.48**	**174**	PN	Pn	10 12 19.2	-0.7
PUZ				SN	Sn	10 12 54.2	0.0
PUZ				SN	Sn	10 12 54.3	+0.1
URZ	**Urewera**	**2.73**	**194**	PN	Pn	10 12 23.2	+0.4
URZ				SN	Sn	10 12 59.3	0.0
MWZ	**Matawai**	**2.75**	**187**	PN	Pn	10 12 23.4	+0.5
MWZ				SN	Sn	10 12 59.6	0.0
BKZ	**Black Stump Fm**	**3.74**	**197**	PN	Pn	10 12 34.3	-0.3
BKZ				SN	Sn	10 13 20.8	0.0

*THR **08** 10:16:42.1±0.3, 2674N×5623E, h9km±5km, ML3.2*
*CSEM **08** 10:16:42.1, 2674N×5623E, h9km, ML3.2, After THR*
*ISCJB **08** 10:16:43.3±0.7, 2696N±006×5564E±005, h10km, Error ellipse: s-maj=8.3km s-min=5.9km az=154.3*
*KISR **08** 10:16:45.7±1.0, 2764N×5571E, h33km, ML3.6*
ISC 08 10:16:45.4±2.1, **2695N**±008×**558E**±01, **h19**km±20km, **n11**, σ**1.50**/16, **1C-1D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.58**	**40**	*e*PG	**Pg**	**10 16 55.1**	**-1.8**
BNDS				*e*SG	**Sg**	**10 17 04.6**	**-0.1**
BNDS				AML	AML	10 17 17.8	
	comp=N,1µm,0.7s						
BNDS	**Bandar-Abbas**	**0.58**	**40**	*e*Pg	**Pg**	**10 16 55.1**	**-1.9**
	SNR=93						
BNDS				*e*Sg	**Sg**	**10 17 04.6**	**-0.2**
	comp=N,1µm,0.7s,SNR=93						
BANOM	**Banah**	**1.13**	**154**	⇑P	**Pn**	**10 17 04.3**	**-1.9**
	SNR=84						
ASHO	**Ashiyiah**	**2.27**	**173**	⇓P	**Pn**	**10 17 22.2**	**+0.3**
	SNR=13						
GHIR	**Ghir-Karzin**	**2.79**	**299**	*e*PN	**Pn**	**10 17 35.6**	**+6.6**
GHIR				AML	AML	10 18 44.0	
	comp=N,85nm,0.7s						
KRBR	**Kerman**	**3.15**	**16**	*e*PN	**Pn**	**10 17 35.8**	**+2.0**
KRBR				AML	AML	10 18 33.0	
	comp=N,52nm,0.7s						
QRN	**Al-Qurain**	**7.17**	**286**	*e*P	**Pn**	**10 18 31.0**	**+1.9**
QRN				AML	AML	10 19 47.6	
	comp=Z,12nm,0.5s						
RDF	**Al-Radifah**	**7.52**	**287**	*e*P	**Pn**	**10 18 35.2**	**+1.2**
RDF				AML	AML	10 19 58.2	
	comp=Z,8.9nm,0.3s						
NAY	**Al-Naaiem**	**7.86**	**289**	*e*P	**Pn**	**10 18 40.1**	**+1.5**
NAY				AML	AML	10 20 04.6	
	comp=Z,2.6nm,0.4s						
NAY				*e*S	**Sn**	**10 20 05.7**	**-1.3**
MIB	**Mutribah**	**7.94**	**293**	*e*P	**Pn**	**10 18 40.3**	**+0.6**
MIB				*e*S	**Sn**	**10 20 06.9**	**-2.1**
MIB				AML	AML	10 20 07.3	
	comp=Z,12nm,0.3s						
RST	**Umm Al-Ruwaisa**	**8.13**	**290**	*e*P	**Pn**	**10 18 43.2**	**+0.8**
RST				*e*S	**Sn**	**10 20 11.3**	**-2.4**

NEIC 08 11:12:53.2, 3559S×17971E, h279km, MG4.1(WEL), After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.27**	**209**	PN	Pn	11 13 39.9	-0.6
MXZ				SN	S	11 14 14.8	-3.2
MXZ	**Matakaoa Point**	**2.27**	**209**	P	Pn	11 13 39.9	-0.5
PUZ	**Puketiti**	**2.74**	**205**	PN	Pn	11 13 45.6	+0.8
PUZ				SN	S	11 14 25.7	-0.3
PUZ	**Puketiti**	**2.74**	**205**	*e*P	Pn	11 13 45.7	+0.8
PUZ				S	S	11 14 25.7	-0.2
MWZ	**Matawai**	**3.25**	**212**	PN	Pn	11 13 51.3	+1.2
MWZ				SN	S	11 14 36.3	+0.9
MWZ	**Matawai**	**3.25**	**212**	P	Pn	11 13 51.3	+1.2
URZ	**Urewera**	**3.38**	**217**	PN	Pn	11 13 51.2	-0.3
URZ				SN	S	11 14 38.1	+0.1
URZ	**Urewera**	**3.38**	**217**	*e*P	Pn	11 13 51.5	0.0
KNZ	**Kokohu**	**3.79**	**205**	PN	Pn	11 13 57.6	+1.7
KNZ	**Kokohu**	**3.79**	**205**	P	Pn	11 13 57.6	+1.6
BKZ	**Black Stump Fm**	**4.39**	**215**	PN	Pn	11 14 04.6	+1.7
BKZ	**Black Stump Fm**	**4.39**	**215**	*e*P	Pn	11 14 04.6	+1.8
SNZO	**South Karori**	**6.93**	**213**	P	Pn	11 14 34.1	+0.8
SNZO				*e*S	S	11 15 56.2	+2.1
TCW	**Tory Channel**	**7.05**	**216**	PN	Pn	11 14 35.4	+0.6
TCW				SN	S	11 15 56.5	-0.3
TCW	**Tory Channel**	**7.05**	**216**	P	Pn	11 14 35.4	+0.6
TUWZ	**Tuamarina**	**7.38**	**216**	PN	Pn	11 14 39.2	+0.4
TUWZ				SN	S	11 16 03.5	-0.7
NNZ	**Nelson**	**7.50**	**220**	PN	Pn	11 14 40.4	0.0
NNZ				SN	S	11 16 06.6	-0.3
MQZ	**McQueen's Vall**	**9.76**	**212**	SN	S	11 16 56.0	-2.5

*HLW **08** 11:21:19.9, 2994N×3684E, h22km, Mb3.1*
*ISCJB **08** 11:21:22.2±1.1, 2985N±006×3629E±008, h0km, Error ellipse: s-maj=9.6km s-min=8.4km az=40.9*
*GII **08** 11:21:24.4±0.5, 2989N×3615E, h0km±9km, ML1.9/3*
ISC 08 11:21:22.3±1.1, **2985N**±006×**3634E**±008, **h0**km, **n19**, σ**0.65**/22, **3C-5D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.12**	**264**	Pg	**Pg**	**11 21 43.5**	**-0.4**
HRFI	**Mount Harif**	**1.14**	**280**	Pg	**Pg**	**11 21 43.5**	**-0.8**
EIL	**Elat**	**1.22**	**262**	Pg	**Pg**	**11 21 45.4**	**-0.3**
EIL				Sg	**Sg**	**11 22 02.4**	**+0.9**
EIL	**Elat**	**1.22**	**262**	Pg	**Pg**	**11 21 45.3**	**-0.4**
ZFRI	**Zfri**	**1.23**	**305**	Pg	**Pg**	**11 21 45.0**	**-0.8**
MBH	**Mount Berech**	**1.24**	**268**	Pg	**Pg**	**11 21 45.6**	**-0.5**
PRNI	**Paran**	**1.26**	**294**	Pg	**Pg**	**11 21 45.5**	**-1.0**
PRNI				Sg	**Sg**	**11 22 02.4**	**-0.4**
HBST	**Basata**	**1.53**	**246**	⇑P	**Pn**	**11 21 50.9**	**-0.1**
MZDA	**Masada**	**1.68**	**330**	Pn	**Pn**	**11 21 53.4**	**+0.4**
MASH	**Mash'abbe Sade**	**1.76**	**311**	Pn	**Pn**	**11 21 54.5**	**+0.4**
HDHB	**Dhahab**	**1.87**	**234**	⇑P	**Pn**	**11 21 55.5**	**-0.1**
DRGI	**Dragot**	**1.92**	**335**	Pn	**Pn**	**11 21 57.0**	**+0.7**
KZIT	**Kziot**	**1.98**	**303**	Pn	**Pn**	**11 21 58.0**	**+0.9**
HNKL	**Nakhl**	**2.05**	**273**	⇓P	**Pn**	**11 21 58.2**	**+0.2**
HNKL				S	**Sn**	**11 22 25.9**	**+1.6**
HKAT	**Jabal Katrina**	**2.44**	**238**	⇓P	**Pn**	**11 22 03.6**	**+0.2**
TR2		**2.71**	**238**	⇑P	**Pn**	**11 22 07.0**	**-0.1**
AMAG	**Maghara**	**2.82**	**287**	⇓P	**Pn**	**11 22 08.0**	**-0.7**
HRDS	**Abu Rudays**	**2.89**	**248**	⇓P	**Pn**	**11 22 09.1**	**-0.5**
SUZ		**3.04**	**271**	⇓P	**Pn**	**11 22 12.2**	**+0.4**

IDC 08 11:25:20.2±3.1, **1807S**×**17666W**, **h0**km, **mb4.3**/3, **mb1 4.4**/4, **mb1mx4.0**/15, **mbtmp4.3**/4, **ML2.2**/1, **Error ellipse: s-maj=176.8km s-min=31.6km az=147.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.25**	**49**	Pn	Pn	11 26 53.8	+0.1
	3.5nm,0.3s,baz=230,slow=14,SNR=6.5						
AFI				Sn	Sn	11 27 54.4	-11
	4.4nm,0.3s,baz=37,slow=22,SNR=6.0						
CTA	**Charters Tower**	**35.07**	**261**	*e*P	P	11 32 17.9	+3.1
	5.8nm,0.9s						
STKA	**Stephens Creek**	**40.02**	**242**	P	P	11 32 56.9	+0.1
	1.0nm,0.4s,baz=71,slow=8.2,SNR=5.9						
WB2	**Warramunga Arr**	**46.23**	**259**	*e*P	P	11 33 47.2	+0.2
WRA	**Warramunga Arr**	**46.24**	**259**	P	P	11 33 47.3	+0.2
	1.4nm,0.5s,baz=95,slow=8.3,SNR=40						
ASAR	**Alice Springs**	**46.35**	**254**	P	P	11 33 48.6	+0.6
	13nm,0.6s,baz=90,slow=8.6,SNR=197						
ASPA	**Alice Springs**	**46.36**	**254**	*e*P	P	11 33 48.8	+0.8
KAKA	**Kakadu**	**49.25**	**269**	*e*P	P	11 34 11.2	+0.8
	5.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**54.65**	**260**	*e*P	P	11 34 50.7	0.0
	3.7nm,0.5s						

*MOS **08** 11:27:15.4±1.1, 39.11S×176.80E, h33km, mb5.2/10, MS4.5/5, Error ellipse: s-maj=15.8km s-min=13.0km az=100.4*
*ISCJB **08** 11:27:16.2±0.3, 3930S±002×17695E±004, h49km±3km, mb5.1/21, MS4.5/15, Error ellipse: s-maj=5.3km s-min=3.4km az=50.0*
*WEL **08** 11:27:17.7±0.1, 39.18S×176.82E, h33km, ML5.4/66, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0, maximum reported intensity MM 5.*
WEL Felt from Bay of Plenty to Manawatu, and from King Country to Gisborne.
*NEIC **08** 11:27:18.0, 39.18S×176.88E, h30km, mb5.3/10, ML5.4(WEL), After WEL.*
NEIC Felt in Hawkes Bay and central North Island.
*IDC **08** 11:27:20.0±1.0, 3905S×17688E, h66km±8km, mb4.8/8, mb1 4.7/9, mb1mx4.6/13, mbtmp5.0/9, MS4.5/15, Ms1 4.4/15, ms1mx4.1/26, Error ellipse: s-maj=16.4km s-min=13.7km az=77.0*
ISC 08 11:27:16.3±0.6, **3931S**±002×**17695E**±003, **h31**km±4km, **h45**km±4.0km**:pP-P**, **n220**, σ**1.14**/182, **mb5.1**/21, **MS4.5**/15, **16C-15D, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**0.38**	**291**	⇓P*	**Pb**	**11 27 24.4**	**-0.6**
BKZ				S*	**Sb**	**11 27 29.8**	**-1.0**
BKZ				S*	**Sb**	**11 27 29.9**	**-0.9**
BKZ	**Black Stump Fm**	**0.38**	**291**	P	**Pb**	**11 27 24.4**	**-0.6**
BKZ				S	**Sb**	**11 27 29.9**	**-1.0**
KNZ	**Kokohu**	**0.63**	**63**	⇓PN	**Pn**	**11 27 30.4**	**+1.2**
KNZ	**Kokohu**	**0.63**	**63**	P	**Pb**	**11 27 30.4**	**+1.5**
PXZ	**Pawanui**	**0.73**	**185**	⇓PN	**Pn**	**11 27 32.7**	**+2.3**
HATZ	**Hinemaiaia**	**0.79**	**302**	*e*PN	**Pn**	**11 27 30.2**	**-1.0**
HATZ				SN	**Sn**	**11 27 39.9**	**-2.1**
HATZ	**Hinemaiaia**	**0.79**	**302**	P	**Pn**	**11 27 30.5**	**-0.8**
RITZ	**Rihia Road**	**0.91**	**291**	PN	**Pn**	**11 27 33.2**	**+0.2**
RITZ	**Rihia Road**	**0.91**	**291**	P	**Pn**	**11 27 33.2**	**+0.2**
MOVZ	**Moawhango**	**0.93**	**263**	⇓PN	**Pn**	**11 27 33.9**	**+0.6**
MOVZ				SN	**Sn**	**11 27 45.3**	**-0.3**
MOVZ	**Moawhango**	**0.93**	**263**	P	**Pn**	**11 27 33.9**	**+0.6**
WHTZ	**Whakaora**	**1.00**	**309**	PN	**Pn**	**11 27 34.0**	**-0.2**
WHTZ	**Whakaora**	**1.00**	**309**	P	**Pn**	**11 27 34.1**	**-0.1**
TUVZ	**Tukino**	**1.01**	**272**	⇓PN	**Pn**	**11 27 35.4**	**+1.1**
TUVZ	**Tukino**	**1.01**	**272**	P	**Pn**	**11 27 35.4**	**+1.1**
OTVZ	**Oturere**	**1.01**	**278**	⇓PN	**Pn**	**11 27 35.2**	**+0.9**
OTVZ				SN	**Sn**	**11 27 47.5**	**+0.1**
RATZ	**Rangitukua**	**1.02**	**295**	PN	**Pn**	**11 27 34.4**	**0.0**
RATZ	**Rangitukua**	**1.02**	**295**	P	**Pn**	**11 27 34.6**	**+0.2**
KATZ	**Kakaramea**	**1.03**	**288**	PN	**Pn**	**11 27 35.0**	**+0.3**
KATZ	**Kakaramea**	**1.03**	**288**	P	**Pn**	**11 27 35.0**	**+0.4**
KRVZ	**Karewarewa**	**1.04**	**281**	⇑PN	**Pn**	**11 27 35.2**	**+0.5**
URZ	**Urewera**	**1.05**	**7**	P	**Pn**	**11 27 34.5**	**-0.4**
	1µm,0.3s,baz=214,slow=8.1,SNR=1188						
URZ				S	**Sn**	**11 27 48.8**	**+0.3**
	2µm,0.3s,baz=126,slow=18,SNR=59						
URZ	**Urewera**	**1.05**	**7**	PN	**Pn**	**11 27 34.5**	**-0.4**
URZ	**Urewera**	**1.05**	**7**	P	**Pn**	**11 27 34.5**	**-0.4**
NGZ	**Ngauruhoe**	**1.06**	**277**	⇑PN	**Pn**	**11 27 35.7**	**+0.8**
NGZ	**Ngauruhoe**	**1.06**	**277**	P	**Pn**	**11 27 35.7**	**+0.7**
MWZ	**Matawai**	**1.07**	**25**	PN	**Pn**	**11 27 35.5**	**+0.4**
MWZ				SN	**Sn**	**11 27 49.8**	**+0.8**
MWZ	**Matawai**	**1.07**	**25**	*e*P	**Pn**	**11 27 35.7**	**+0.5**
TSZ	**Takapari Road**	**1.07**	**225**	PN	**Pn**	**11 27 36.4**	**+1.2**
TSZ	**Takapari Road**	**1.07**	**225**	*e*P	**Pn**	**11 27 36.5**	**+1.3**
WTVZ	**West Tongariro**	**1.07**	**280**	⇑PN	**Pn**	**11 27 35.9**	**+0.7**
WTVZ	**West Tongariro**	**1.07**	**280**	P	**Pn**	**11 27 35.9**	**+0.7**
DRZ	**Dome Shelter**	**1.08**	**271**	⇓PN	**Pn**	**11 27 36.3**	**+1.1**
DRZ				SN	**Sn**	**11 27 51.0**	**+1.9**
DRZ	**Dome Shelter**	**1.08**	**271**	P	**Pn**	**11 27 36.4**	**+1.2**
FWVZ	**Far West T-bar**	**1.09**	**272**	⇓PN	**Pn**	**11 27 36.2**	**+0.8**
FWVZ				SN	**Sn**	**11 27 49.0**	**-0.3**
FWVZ	**Far West T-bar**	**1.09**	**272**	P	**Pn**	**11 27 36.2**	**+0.8**
TRVZ	**Turoa**	**1.09**	**270**	PN	**Pn**	**11 27 36.4**	**+1.0**
TRVZ				SN	**Sn**	**11 27 50.7**	**+1.3**
WPVZ	**Whakapapa**	**1.09**	**275**	PN	**Pn**	**11 27 36.3**	**+0.8**
WPVZ	**Whakapapa**	**1.09**	**275**	P	**Pn**	**11 27 36.3**	**+0.8**
WATZ	**Wairara**	**1.12**	**302**	PN	**Pn**	**11 27 35.5**	**-0.4**
WATZ	**Wairara**	**1.12**	**302**	P	**Pn**	**11 27 35.5**	**-0.4**
MTVZ	**Mangateitei**	**1.15**	**266**	⇑PN	**Pn**	**11 27 37.3**	**+1.1**
TWVZ	**Taurewa**	**1.20**	**281**	⇑PN	**Pn**	**11 27 37.1**	**+0.2**
TWVZ	**Taurewa**	**1.20**	**281**	P	**Pn**	**11 27 37.1**	**+0.2**

EDRZ Edgecumbe 1.21 352 PN **Pn** **11 27 36.6 -0.5**
EDRZ Edgecumbe 1.21 352 P **Pn** **11 27 36.8 -0.3**
UTU Utuhina 1.27 332 ⇓PN **Pn** **11 27 37.7 -0.3**
UTU Utuhina 1.27 332 P **Pn** **11 27 37.7 -0.3**
MARZ Manawahe 1.34 351 PN **Pn** **11 27 38.3 -0.5**
MARZ Manawahe 1.34 351 P **Pn** **11 27 38.4 -0.4**
BFZ Birch Farm 1.48 201 *e*P **Pn** **11 27 41.6 +0.9**
WAZ Wanganui 1.58 253 P **Pn** **11 27 44.2 +2.0**
PUZ Puketiti 1.60 40 PN **Pn** **11 27 42.4 0.0**
PUZ Puketiti 1.60 40 *e*P **Pn** **11 27 42.4 -0.1**
TGRZ Tauranga 1.66 341 P **Pn** **11 27 42.3 -1.0**
VRZ Vera Road 1.71 275 PN **Pn** **11 27 44.5 +0.5**
VRZ Vera Road 1.71 275 *e*P **Pn** **11 27 44.5 +0.5**
MRZ Mangatainoka R 1.71 217 PN **Pn** **11 27 44.5 +0.5**
MRZ Mangatainoka R 1.71 217 *e*P **Pn** **11 27 44.5 +0.5**
HIZ Hauiti 1.82 295 PN **Pn** **11 27 45.3 -0.1**
HIZ Hauiti 1.82 295 P **Pn** **11 27 45.4 0.0**
TOZ Tahuroa Road 1.94 324 PN **Pn** **11 27 46.4 -0.8**
TOZ Tahuroa Road 1.94 324 P **Pn** **11 27 46.4 -0.7**
RAEZ Rainy Point 1.98 270 P **Pn** **11 27 49.2 +1.5**
MXZ Matakaoa Point 2.04 32 PN **Pn** **11 27 48.9 +0.4**
MXZ Matakaoa Point 2.04 32 *e*P **Pn** **11 27 49.4 +0.9**
MTW Mount Morrison 2.16 210 PN **Pn** **11 27 49.7 -0.4**
MTW SN **Sn** **11 28 16.9 +1.1**
MTW Mount Morrison 2.16 210 P **Pn** **11 27 49.9 -0.2**
KIW Kapiti Island 2.21 225 PN **Pn** **11 27 50.9 +0.1**
KIW SN **Sn** **11 28 17.8 +0.8**
KIW Kapiti Island 2.21 225 P **Pn** **11 27 51.0 +0.2**
NEZ North Egmont 2.21 270 P **Pn** **11 27 52.8 +1.9**
TRWZ Traveller 2.30 204 PN **Pn** **11 27 51.8 -0.3**
PKE Pukeiti 2.30 272 PN **Pn** **11 27 53.8 +1.7**
PKE SN **Sn** **11 28 20.3 +0.9**
PKE Pukeiti 2.30 272 P **Pn** **11 27 53.8 +1.7**
CAW Cannon Point 2.31 218 PN **Pn** **11 27 51.7 -0.4**
CAW Cannon Point 2.31 218 P **Pn** **11 27 51.7 -0.5**
NRZ Ngariki Road 2.34 268 *e*P **Pn** **11 27 54.3 +1.7**
PAWZ Paruwai Farm 2.38 209 P **Pn** **11 27 52.7 -0.4**
NWEZ Newall Road 2.39 270 P **Pn** **11 27 55.2 +1.8**
MSWZ Moikau Station 2.48 211 P **Pn** **11 27 53.7 -0.8**
WEL Wellington 2.59 219 P **Pn** **11 27 55.4 -0.6**
MKAZ Moumakai 2.60 327 P **Pn** **11 27 56.1 -0.2**
BHW Baring Head 2.63 216 P **Pn** **11 27 55.7 -1.0**
SNZO South Karori 2.64 220 P **Pn** **11 27 55.8 -0.9**
KUZ Kuaotunu 2.73 339 PN **Pn** **11 27 58.0 0.0**
KUZ Kuaotunu 2.73 339 P **Pn** **11 27 58.1 +0.1**
TCW Tory Channel 2.79 226 P **Pn** **11 27 58.2 -0.7**
NNZ Nelson 3.33 234 *e*P **Pn** **11 28 05.4 -0.9**
BSWZ Blackbirch Sta 3.36 223 P **Pn** **11 28 05.5 -1.1**
QRZ Quartz Range 3.72 244 P **Pn** **11 28 10.3 -1.3**
THZ Tophouse 3.94 230 P **Pn** **11 28 13.5 -1.1**
WCZ Waipu Caves 3.95 328 *e*P **Pn** **11 28 15.0 +0.3**
KHZ Kahutara 4.04 219 *e*P **Pn** **11 28 14.2 -1.8**
DSZ Denniston Nort 4.62 237 *e*P **Pn** **11 28 22.3 -1.6**
OUZ Omahuta 4.88 326 *e*P **Pn** **11 28 28.1 +0.6**
LTZ Lake Taylor 4.96 224 *e*P **Pn** **11 28 26.1 -2.5**
CRLZ Canterbury Las 5.36 216 *e*P **Pn** **11 28 34.0 -0.2**
MQZ McQueen's Vall 5.45 215 *e*P **Pn** **11 28 32.7 -2.7**
WVZ Waitaha Valley 6.01 229 P **Pn** **11 28 43.2 +0.1**
RPZ Rata Peaks 6.24 223 P **Pn** **11 28 50.1 +3.8**
0.1nm,0.3s,baz=316,slow=24,SNR=12
RPZ S **Sn** **11 29 51.3 -5.3**
0.1nm,0.3s,baz=201,slow=24,SNR=15
FOZ Fox Glacier 6.92 230 *e*P **Pn** **11 29 00.4 +4.9**
LBZ Lake Benmore 7.16 223 *e*P **Pn** **11 28 57.3 -1.5**
ODZ Otahua Downs 7.40 217 *e*P **Pn** **11 28 59.8 -2.4**
JCZ Jackson Bay 7.76 230 *e*P **Pn** **11 29 13.6 +6.5**
EAZ Earnscleugh 8.19 221 *e*P **Pn** **11 29 12.0 -1.0**
TUZ Tuapeka 8.55 217 *e*P **Pn** **11 29 16.6 -1.4**
DZM Mont Dzumac 19.39 329 *e*P **Pn** **11 31 39.4 -1.4**
DZM Mont Dzumac 19.39 329 P **Pn** **11 31 38.2 -2.7**
0.7nm,0.3s,baz=167,slow=14,SNR=8.0
DZM LR LR 11 36 43.6
comp=Z,198nm,21.7s,baz=22,slow=30
NOUC Port Laguerre 19.41 329 *e*P **Pn** **11 31 41.5 +0.3**
CNB Canberra Magne 22.26 272 *e*P **P** **11 32 12.7 +2.0**
26nm,0.8s,mb4.7
ARMA Armidale 22.53 285 *e*P **P** **11 32 15.6 +2.1**
TOO Toolangi 24.64 264 *e*P **P** **11 32 35.0 +1.0**
40nm,0.9s,mb5.0
TOO Toolangi 24.64 264 *e*P **P** **11 32 35.0 +1.0**
TOO pmax pmax
comp=Z,40nm,0.9s,mb5.0
RAR Rarotonga 26.88 55 LR LR 11 42 12.5
comp=Z,633nm,18.8s,MS4.2,baz=255,slow=33
STKA Stephens Creek 29.55 273⇑*i*P **P** **11 33 18.7 +0.6**
comp=Z,25nm,0.8s,mb5.0
STKA Stephens Creek 29.55 273 P **P** **11 33 19.1 +0.9**
comp=Z,28nm,0.8s,mb5.1,baz=101,slow=9.4,SNR=48
STKA LR LR 11 44 41.3
comp=Z,1μm,18.8s,MS4.5,baz=119,slow=35
STKA Stephens Creek 29.55 273 *e*P **P** **11 33 17.8 -0.3**
TBI Tubuai 32.58 71 *e*LR LR 11 41 48.2
comp=Z,1μm,27.8s,baz=237
CTA Charters Tower 32.60 297⇑*i*P **P** **11 33 45.3 +0.3**
comp=Z,22nm,0.9s,mb5.1
CTA Charters Tower 32.60 297 P **P** **11 33 45.7 +0.7**
comp=Z,23nm,0.9s,mb5.1,baz=121,slow=7.7,SNR=12
CTA LR LR 11 45 25.9
comp=Z,713nm,21.2s,MS4.3,baz=158,slow=34
CTA Charters Tower 32.60 297 P **P** **11 33 45.7 +0.7**
CTA pmax pmax
comp=Z,23nm,0.9s
CTA MLR MLR
comp=Z,713nm,21.2s
CTAO Charters Tower 32.60 297 *e*P **P** **11 33 43.7 -1.3**
CTAO *e*PP pP 11 33 56.7 +2.7
CTAO pmax pmax
comp=Z,77nm,1.4s,mb5.4
CTAO Charters Tower 32.60 297 *e*P **P** **11 33 43.6 -1.3**
comp=Z,77nm,1.4s,mb5.4
CTAO *e*pP pP 11 33 56.7 +2.8
HNR Honiara 33.41 328 P **P** **11 33 52.0 -0.1**
comp=Z,90nm,0.8s,mb5.7,baz=256,slow=3.2,SNR=7.3
HNR LR LR 11 45 51.2
comp=Z,563nm,20.9s,MS4.3,baz=178,slow=34
HNR Honiara 33.41 328 P **P** **11 33 52.0 -0.1**
HNR pmax pmax
comp=Z,90nm,0.8s,mb5.8
HNR MLR MLR
comp=Z,563nm,21.0s,MS4.3
PPT Papeete 36.23 63 *e*S **S** **11 39 35.4 -19**
comp=Z,202nm,26.5s
PPT *e*LR LR 11 43 34.0
comp=Z,2μm,27.8s,baz=223
PPT Papeete 36.23 63 LR LR 11 46 34.8
comp=Z,413nm,18.2s,MS4.2,baz=270,slow=32
VNDA Vanda 38.85 185 P **P** **11 34 41.5 +2.9**
comp=Z,1.7nm,1.0s,mb3.7,baz=350,slow=7.8,SNR=6.0
VNDA Vanda 38.85 185 P **P** **11 34 41.5 +2.9**
VNDA pmax pmax
comp=Z,2.0nm,1.0s
VNDA Vanda 38.85 185 P **P** **11 34 41.5 +2.9**
AS31 Alice Springs 39.49 280⇑*i*P **P** **11 34 43.3 -0.7**
ASAR Alice Springs 39.49 280 P **P** **11 34 43.3 -0.7**
comp=Z,116nm,0.8s,mb5.7,baz=122,slow=7.6,SNR=406
ASAR S **S** **11 40 38.1 -6.0**
comp=Z,1.0nm,0.8s,baz=121,slow=15,SNR=4.7
ASAR LR LR 11 51 53.8
comp=Z,1μm,18.6s,MS4.7,baz=127,slow=37
ASAR Alice Springs 39.49 280 P **P** **11 34 43.3 -0.7**
ASAR S **S** **11 40 38.1 -6.0**
ASAR pmax pmax
comp=Z,116nm,0.8s
ASAR smax
comp=N,1.0nm,0.9s
ASAR MLR MLR
comp=Z,1μm,18.6s
ASPA Alice Springs 39.49 280⇑*i*P **P** **11 34 43.3 -0.7**
PMG Port Moresby 39.93 310 P **P** **11 34 46.9 -0.7**
comp=Z,36nm,0.8s,mb5.2,baz=113,slow=5.2,SNR=8.8
PMG Port Moresby 39.93 310 P **P** **11 34 46.9 -0.7**
PMG pmax pmax
comp=Z,36nm,0.8s
FORT Forrest 40.51 267⇑*i*P **P** **11 34 51.3 -1.1**
comp=Z,65nm,0.7s,mb5.4
WB2 Warramunga Arr 41.31 285⇑*i*P **P** **11 34 58.0 -0.9**
WRAB Tennant Creek 41.31 285 *e*P **P** **11 34 58.2 -0.8**
WRAB pmax pmax
comp=Z,127nm,0.8s,mb5.6
WRAB Tennant Creek 41.31 285 *e*P **P** **11 34 58.1 -0.8**
comp=Z,127nm,0.8s,mb5.6
WRA Warramunga Arr 41.31 285 P **P** **11 34 58.0 -1.1**
comp=Z,66nm,0.8s,mb5.3,baz=128,slow=7.4,SNR=144
WRA ScP ScP 11 40 39.0 -5.8
comp=Z,0.6nm,0.8s,baz=131,slow=4.0,SNR=4.5
WRA LR LR 11 52 16.6
comp=Z,2μm,19.8s,MS4.9,baz=125,slow=36
WRA Warramunga Arr 41.31 285 P **P** **11 34 58.0 -1.0**
WRA pmax pmax
comp=Z,66nm,0.8s
WRA pmax pmax
comp=N,1.0nm,0.8s
WRA MLR MLR
comp=Z,2μm,19.8s
RKT Rikitea 43.65 83 *e*LR LR 11 46 51.3
comp=Z,1μm,27.8s
CASY Casey 45.37 211⇑*i*P **P** **11 35 31.8 +0.1**
NWAO Narrogin (SRO) 47.90 258 LR LR 11 53 01.7
comp=Z,522nm,18.5s,MS4.5,baz=126,slow=32
KLBR Kellerberrin 48.09 260 *e*P **P** **11 35 51.8 -1.2**
comp=Z,53nm,0.8s,mb5.6
FITZ Fitzroy Crossi 49.00 280⇑*i*P **P** **11 35 59.2 -0.8**
comp=Z,75nm,0.8s,mb5.8
FITZ Fitzroy Crossi 49.00 280 LR LR 11 57 04.6
comp=Z,528nm,18.9s,MS4.5,baz=117,slow=36
MUN Mundaring 49.10 259⇑*i*P **P** **11 35 59.6 -1.2**
QSPA South Pole Qui 50.82 180 *e*P **P** **11 36 17.0 +3.2**
QSPA ⇑*i*P 11 36 17.2
MBWA Marble Bar 51.79 273 *e*P **P** **11 36 18.9 -2.2**
comp=Z,23nm,0.7s,mb5.2
MIR Mirnyy 52.34 210*d i*P **P** **11 36 27.5 +2.3**
MIR pmax pmax
comp=Z,200nm,1.5s,mb5.8
MAW Mawson 62.52 203 *e*P **P** **11 37 38.1 +1.1**
comp=Z,17nm,1.1s,mb5.1
MAW Mawson 62.52 203 P **P** **11 37 38.1 +1.2**
comp=Z,21nm,1.1s,mb5.2,baz=123,slow=8.1,SNR=22
MAW LR LR 12 02 45.8
comp=Z,440nm,21.0s,MS4.6,baz=98,slow=34
SYO Syowa Base 67.49 195⇓*e*P **P** **11 38 09.3 +0.1**
SNAA Sanae 69.33 180 *e* **P** **11 38 21.9 +1.2**
SNAA *e* 11 38 23.0
SNAA *e* 11 38 28.6
SNAA *e* 11 38 33.0
SNAA *e* 11 38 35.9
SNAA *e* 11 38 38.9
SNAA *e* 11 38 42.7
SNAA *e* 11 38 50.2
SNAA *e* 11 38 52.4
SNAA Sanae 69.33 180 *e*P **P** **11 38 21.8 +1.1**
SNAA pmax pmax
comp=Z,5.0nm,0.8s
SNAA Sanae 69.33 180 *e*P **P** **11 38 21.8 +1.0**
comp=Z,4.8nm,0.8s,mb4.5
NVL N'lazarevskaya 69.71 185⇓*i*P **P** **11 38 24.7 +1.6**
NVL *e* pP 11 38 34.9 +2.2
NVL pmax pmax
comp=Z,40nm,1.5s,mb5.1
VNA1 Neumayer-Stat 70.29 178 *e* **P** **11 38 28.2 +1.5**
VNA1 *e* 11 38 30.0
VNA1 *e* 11 38 34.7
VNA1 *e* 11 38 40.2
VNA1 *e* 11 38 43.8
VNA1 *e* 11 38 48.1
VNA1 *e* 11 38 51.7
KKM Kota Kinabalu 71.87 294 *e*P **P** **11 38 35.0 -1.2**
KKM *e*pP pP 11 38 50.8 +4.9
KSM Kuching 73.06 286 *e*P **P** **11 38 41.9 -1.4**
PLCA Paso Flores 79.37 134 LR LR 12 06 40.2
comp=Z,177nm,18.9s,MS4.4,baz=215,slow=30
JHJ Hachijo jima 2 79.88 329 LR LR 12 09 41.2
comp=Z,233nm,20.0s,MS4.5,baz=98,slow=32
PSI Prapat 82.52 280 LR LR 12 15 41.1
comp=Z,367nm,19.2s,MS4.8,baz=128,slow=35
MJAR Matsushiro Arr 83.49 330 P **P** **11 39 39.0 -2.0**
comp=Z,1.9nm,0.8s,mb4.2,baz=161,slow=5.4,SNR=6.5
MJAR Matsushiro Arr 83.49 330 P **P** **11 39 39.0 -2.0**
MJAR pmax pmax
comp=Z,2.0nm,0.8s
MAT Matsushiro 83.49 330 P **P** **11 39 38.2 -2.8**
MAT Matsushiro 83.49 330 *e*P **P** **11 39 38.0 -3.0**
ASAJ Asahikawa 88.64 336 P **P** **11 40 05.6 -0.8**
comp=Z,5.6nm,0.8s,mb5.0,baz=182,slow=12,SNR=6.5
ASAJ Asahikawa 88.64 336 P **P** **11 40 05.6 -0.8**
ASAJ pmax pmax
comp=Z,6.0nm,0.8s
KS15 Wonju Array Si 88.70 323 *e*P **P** **11 40 04.8 -1.9**
KS15 *e*pP pP 11 40 18.6 +2.0
NVAR Mina Array Bea 97.50 46 P **P** **11 40 48.2 +1.0**
comp=Z,0.2nm,0.5s,mb3.9,baz=230,slow=7.0,SNR=3.0
NVAR Mina Array Bea 97.50 46 P **P** **11 40 48.2 +1.0**
LPAZ La Paz 97.94 118 LR LR 12 16 11.3
comp=Z,149nm,19.5s,MS4.5,baz=302,slow=30
PDAR Pinedale Array 105.34 47 PKKPbc PKKPbc 11 57 01.4 +0.1
comp=Z,0.7nm,0.8s,baz=74,slow=5.3,SNR=5.6
YKA Yellowknife Ar 115.24 29 PKP PKiKP 11 45 52.5 -2.1
comp=Z,1.3nm,0.8s,baz=236,slow=1.4,SNR=8.5
YKA Yellowknife Ar 115.24 29 PKIKP PKiKP 11 45 52.5 -2.1
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 115.24 29 PKP PKiKP 11 45 52.5 -2.1
ULM Lac du Bonnet 117.33 46 PKP PKPdf 11 45 57.6 -1.0
comp=Z,1.7nm,0.6s,baz=151,slow=5.0,SNR=4.2
MKAR Makinchi Array 120.11 308 PKP PKPdf 11 46 01.1 -2.8
comp=Z,0.3nm,0.3s,baz=64,slow=2.8,SNR=6.3
FCC Fort Churchill 122.08 38 *e*PKIKP PKPdf 11 46 05.3 -2.5
NVS Novosibirsk 122.94 317 *e*PKIKP PKPdf 11 46 02.0 -7.4
KMBO Kilima Mbogo 125.40 232 PKP PKPdf 11 46 13.4 -0.7
comp=Z,2.8nm,0.8s,baz=98,slow=22,SNR=5.4
KMBO Kilima Mbogo 125.40 232 PKIKP PKPdf 11 46 13.4 -0.7
KMBO pmax pmax
comp=Z,3.0nm,0.8s
MIV Mineville/With 128.62 60 *e*PKPdf PKPdf 11 46 19.1 -1.1
BVAR Borovoye Array 129.52 311 PKP PKPdf 11 46 18.4 -3.6
comp=Z,0.6nm,0.6s,baz=122,slow=5.4,SNR=5.9
BVAR Borovoye Array 129.52 311 PKIKP PKPdf 11 46 18.4 -3.6
BVAR pmax pmax
comp=Z,1.0nm,0.6s
ZEI Tsey 144.77 291 *e*PKIKP PKPdf 11 46 48.0 -2.0
APA Apatity 145.29 336⇑*i*PKIKP PKPdf 11 46 48.0 -2.9
APA *i* 11 47 04.0
APA pmax pmax
comp=Z,30nm,0.8s
KEV Kevo 145.61 342 *e*pkp PKPdf 11 46 47.5 -4.0
GOF Gofitskoye 145.74 295 *e*PKIKP PKPdf 11 46 49.2 -2.5
GOF pmax pmax
comp=Z,30nm,0.6s
ARCES ARCESS Array B 146.13 342 PKPbc PKPdf 11 46 50.3 -2.0
comp=Z,10nm,0.6s,baz=54,slow=4.6,SNR=73
DBIC Dimbokro 147.47 177 PKPbc PKPbc 11 46 58.1 +1.0
comp=Z,4.6nm,0.6s,baz=162,slow=6.6,SNR=7.7
DBIC Dimbokro 147.47 177 PKP2 PKPab 11 46 58.1 -1.1
DBIC pmax pmax
comp=Z,5.0nm,0.6s
VRSR Storozhevoye 148.40 306 *e*PKIKP PKPdf 11 46 56.6 +0.5
VRSR pmax pmax
comp=Z,20nm,0.8s
VRSR pmax pmax
comp=N,10.0nm,1.2s
VRSR pmax pmax
comp=E,10.0nm,1.8s
JOF Joensuu 148.66 330 *e*pkp PKPdf 11 46 56.2 -0.3
OBN Obninsk 149.29 314⇓*e*PKP2 PKPdf 11 46 59.5 +1.9
OBN pmax pmax
comp=Z,6.0nm,0.6s
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.6
KAF Kangasniemi 151.02 332 *e*pkp PKPdf 11 47 01.8 +1.5
FIA1 FINESS Array S 151.52 331 *e*PKPbc PKPbc 11 47 04.5 -2.7
FIA1 *e*PKPab PKPab 11 47 11.9 -3.8
FINES FINESS Array B 151.52 331 PKPbc PKPdf 11 47 03.9 +2.9
comp=Z,11nm,1.1s,baz=94,slow=5.7,SNR=23
FINES PKPab PKPab 11 47 12.2 -3.5
comp=Z,4.6nm,0.6s,baz=90,slow=5.7,SNR=15
FINES FINESS Array B 151.52 331 PKIKP PKPdf 11 47 03.9 +2.9
FINES 11 47 12.2
FINES pmax pmax
comp=Z,11nm,1.1s
FINES pmax pmax
comp=Z,5.0nm,0.6s
BR131 Keskin Array S 151.82 283 *e*PKPdf PKPdf 11 47 00.1 -1.4
BR131 *e*PKPbc PKPbc 11 47 06.3 -1.6
BR131 *e*PKPab PKPab 11 47 15.8 -1.2
BRTR Keskin Array B 151.82 283 PKPbc PKPbc 11 47 05.8 -2.0
comp=Z,2.5nm,0.9s,baz=131,slow=5.1,SNR=9.9
BRTR PKPab PKPab 11 47 13.6 -3.4
comp=Z,11nm,1.1s,baz=130,slow=3.9,SNR=14
BRTR Keskin Array B 151.82 283 PKIKP PKPbc 11 47 05.9 -2.0
BRTR 11 47 13.6
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR pmax pmax
comp=Z,11nm,1.1s
TORD Torodi Ar. Bea 153.61 190 PKP PKPdf 11 47 03.9 -0.2
comp=Z,2.4nm,1.0s,baz=319,slow=1.3,SNR=7.2
TORD PKPbc PKPbc 11 47 11.8 -0.1
comp=Z,1.2nm,0.5s,baz=148,slow=3.0,SNR=16
TORD PKPab PKPab 11 47 23.4 -1.1
comp=Z,3.1nm,0.9s,baz=171,slow=4.3,SNR=6.9
TORD Torodi Ar. Bea 153.61 190 PKP PKPdf 11 47 03.9 -0.2
TORD PKPbc PKPbc 11 47 11.8 -0.1
TORD PKPab PKPab 11 47 23.4 -1.1
AKASG Malin Array Be 154.70 307 PKPbc PKPbc 11 47 11.5 -2.7
comp=Z,0.2nm,0.2s,baz=72,slow=1.6,SNR=5.4
AKASG PKPab PKPab 11 47 25.7 -3.4
comp=Z,5.0nm,0.7s,baz=65,slow=4.1,SNR=14
AKASG Malin Array Be 154.70 307 PKIKP PKPbc 11 47 11.5 -2.7
AKASG 11 47 25.7
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 154.70 307 *e*PKPab PKPab 11 47 25.9 -3.3
SUW Suwalki 156.94 318 *e*PKP2 PKPab 11 47 36.2 -2.5
BRG Berggiesshubel 163.38 320 *e*P PKPab 11 48 05.0 -1.8
comp=Z,4.5nm,1.2s
BRG Berggiesshubel 163.38 320 *e*PKP2 PKPab 11 48 05.0 -1.8
BRG pmax pmax
comp=Z,5.0nm,1.2s
CLL Collm 163.57 322⇓*i*PKP2 PKPab 11 48 05.1 -2.5
CLL *e* 11 48 11.0
CLL Collm 163.57 322⇓*i*PKPab PKPab 11 48 05.1 -2.5
comp=Z,18nm,1.3s
CLL *ex* x 11 48 11.0
CLL L 13 06 00.0
comp=Z,200nm,19.9s
MOX Moxa 164.66 322 *e*P PKPab 11 48 08.8 -3.6
comp=Z,8.0nm,1.4s
MOX Moxa 164.66 322 *e*PKP2 PKPab 11 48 08.8 -3.6
MOX pmax pmax
comp=Z,8.0nm,1.4s
GERES GERESS Array B 164.67 314 PKPab PKPab 11 48 10.3 -2.2
comp=Z,1.3nm,0.8s,baz=57,slow=4.9,SNR=9.5
GERES GERESS Array B 164.67 314 PKP2 PKPab 11 48 10.3 -2.2
GERES pmax pmax
comp=Z,1.0nm,0.8s
ESDC Sonseca Array 179.20 62 PKP PKPdf 11 47 23.0 -0.7
comp=Z,4.3nm,1.1s,baz=341,slow=1.9,SNR=9.2

WEL 08 12:47:13.0±0.1, 3920S×17690E, h25km±1km, ML3.7/26, 6C-6D, Error ellipse: s-maj=0.9km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**0.32**	**276**	⇓P*	Pb	12 47 20.0	-0.4
BKZ				S*	Sb	12 47 25.3	+0.1
KNZ	**Kokohu**	**0.63**	**74**	⇓P*	Pb	12 47 25.7	+0.3
HATZ	**Hinemaiaia**	**0.70**	**296**	⇓P*	Pb	12 47 26.0	-0.6
HATZ				S*	Sb	12 47 35.4	-0.5
PXZ	**Pawanui**	**0.83**	**182**	P*	Pb	12 47 28.3	-0.5
PXZ				S*	Sb	12 47 40.4	+0.8
RITZ	**Rihia Road**	**0.84**	**285**	P*	Pb	12 47 28.8	-0.2
WHTZ	**Whakaora**	**0.91**	**306**	PN	Pn	12 47 30.1	0.0
MOVZ	**Moawhango**	**0.91**	**257**	⇓PN	Pn	12 47 29.5	-0.8
MOVZ				SN	Sn	12 47 41.5	-1.0
RATZ	**Rangitukua**	**0.94**	**290**	PN	Pn	12 47 30.0	-0.6
URZ	**Urewera**	**0.95**	**10**	⇑PN	Pn	12 47 29.9	-0.8
URZ				SN	Sn	12 47 42.5	-1.1
PATZ	**Paeroa**	**0.96**	**328**	PN	Pn	12 47 29.8	-1.0
KATZ	**Kakaramea**	**0.96**	**283**	PN	Pn	12 47 30.5	-0.4
TUVZ	**Tukino**	**0.97**	**266**	PN	Pn	12 47 30.9	-0.1
MWZ	**Matawai**	**0.99**	**30**	⇓PN	Pn	12 47 31.1	-0.3
MWZ				SN	Sn	12 47 45.4	+0.9
NGZ	**Ngauruhoe**	**1.01**	**271**	⇑PN	Pn	12 47 31.3	-0.3
NGZ				SN	Sn	12 47 44.6	-0.3
TAZ	**Tarawera**	**1.01**	**342**	PN	Pn	12 47 30.9	-0.7
TAZ				SN	Sn	12 47 45.5	+0.4
WTVZ	**West Tongariro**	**1.02**	**274**	PN	Pn	12 47 31.6	-0.1
WATZ	**Wairara**	**1.03**	**298**	PN	Pn	12 47 30.9	-1.0
DRZ	**Dome Shelter**	**1.04**	**265**	PN	Pn	12 47 31.8	-0.2
DRZ				SN	Sn	12 47 45.0	-0.7
FWVZ	**Far West T-bar**	**1.05**	**267**	⇓PN	Pn	12 47 31.8	-0.3
FWVZ				SN	Sn	12 47 44.1	-1.8
WPVZ	**Whakapapa**	**1.05**	**269**	PN	Pn	12 47 31.9	-0.2
WPVZ				SN	Sn	12 47 45.9	0.0
TRVZ	**Turoa**	**1.05**	**264**	⇑PN	Pn	12 47 31.9	-0.2
EDRZ	**Edgecumbe**	**1.10**	**353**	PN	Pn	12 47 32.1	-0.7
TSZ	**Takapari Road**	**1.12**	**220**	⇑PN	Pn	12 47 31.9	-1.2
MTVZ	**Mangateitei**	**1.12**	**260**	⇑PN	Pn	12 47 32.8	-0.3
TWVZ	**Taurewa**	**1.14**	**276**	PN	Pn	12 47 32.7	-0.7
PKVZ	**Pokaka**	**1.21**	**265**	⇑PN	Pn	12 47 34.0	-0.3
PKVZ				SN	Sn	12 47 50.5	+0.6
PUZ	**Puketiti**	**1.55**	**44**	PN	Pn	12 47 37.9	-1.1
PUZ				SN	Sn	12 47 58.3	+0.1
BFZ	**Birch Farm**	**1.56**	**199**	SN	Sn	12 47 57.8	-0.8
WAZ	**Wanganui**	**1.58**	**249**	PN	Pn	12 47 39.7	+0.2
VRZ	**Vera Road**	**1.67**	**272**	PN	Pn	12 47 40.1	-0.5
HIZ	**Hauiti**	**1.74**	**293**	PN	Pn	12 47 40.7	-0.8
RAEZ	**Rainy Point**	**1.95**	**267**	PN	Pn	12 47 44.7	+0.2

*BJI **08** 12:56:16.1, 693S×13071E, h108km, mB5.1, mb4.9*
*MOS **08** 12:56:20.4±0.9, 622S×13024E, h95km, mb4.7/19, Error ellipse: s-maj=14.1km s-min=6.9km az=108.1*
*ISCJB **08** 12:56:22.6±0.9, 635S±003×13036E±006, h120km±9km, mb4.9/59, Error ellipse: s-maj=10.2km s-min=4.8km az=149.1*
*NEIC **08** 12:56:24.8±0.9, 630S×13040E, h129km±8km, mb4.7/23, Error ellipse: s-maj=9.2km s-min=5.1km az=74.0*
*IDC **08** 12:56:25.9±3.0, 630S×13023E, h132km±27km, mb4.5/15, mb1 4.5/18, mb1mx4.5/19, mbtmp5.0/18, MS3.6/3, Ms1 3.6/3, ms1mx3.1/22, Error ellipse: s-maj=19.3km s-min=10.3km az=75.0*
ISC 08 12:56:24.5±0.9, 634S±004×13041E±006, h120km±9km, h111km±2.7km: pP-P, n202, σ1°06/169, mb4.9/59, 6C-5D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.64**	**163**	*e*P	**Pn**	**12 58 01.9**	**+2.4**
KAKA	491nm,0.2s						
				*e*S	**Sn**	**12 59 13.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**12.58**	**201**	*e*P	**Pn**	**12 59 17.6**	**-1.6**
FITZ	312nm,0.5s						
				*e*S	**Sn**	**13 01 28.6**	**-9.1**
FITZ	**Fitzroy Crossi**	**12.58**	**201**	P	**Pn**	**12 59 18.7**	**-0.5**
FITZ	28nm,0.3s,baz=30,slow=12,SNR=219						
				S	**Sn**	**13 01 30.2**	**-7.5**
FITZ	14nm,0.3s,baz=99,slow=19,SNR=5.1						
				LR	LR	13 04 40.1	
	comp=Z,146nm,20.9s,baz=278,slow=39						
WRAB	**Tennant Creek**	**14.04**	**165**	*e*Pn	**Pn**	**12 59 36.7**	**-1.4**
WRAB				*e*Sn	**Sn**	**13 02 03.2**	**-10**
WRA	**Warramunga Arr**	**14.05**	**165**	P	**Pn**	**12 59 36.4**	**-1.8**
WRA	10nm,0.3s,baz=344,slow=13,SNR=161						
				S	**Sn**	**13 02 04.0**	**-9.2**
	41nm,0.3s,baz=350,slow=22,SNR=11						
WB2	**Warramunga Arr**	**14.05**	**165**	*e*P	**Pn**	**12 59 36.0**	**-2.2**
WB2				*e*S	**Sn**	**13 02 05.3**	**-8.0**
DAV	**Davao City (W)**	**14.16**	**340**	Pn	**Pn**	**12 59 39.0**	**-0.6**
TSM	**Tawau**	**16.38**	**310**	P	**Pn**	**13 00 14.2**	**+6.9**
PMG	**Port Moresby**	**16.87**	**101**	P	**Pn**	**13 00 16.2**	**+2.9**
	0.6nm,0.3s,baz=209,slow=13,SNR=3.2						
PMG	**Port Moresby**	**16.87**	**101**	*e*P	**Pn**	**13 00 14.7**	**+1.4**
PMG	comp=Z,21nm,0.6s			pmax	pmax		
PMG	**Port Moresby**	**16.87**	**101**	*e*Pn	**Pn**	**13 00 14.7**	**+1.4**
	comp=Z,21nm,0.6s						
AS31	**Alice Springs**	**17.55**	**169**	⇓*i*P	**Pn**	**13 00 23.0**	**+1.5**
AS31				*e*S	**S**	**13 03 28.8**	**-8.2**
ASAR	**Alice Springs**	**17.55**	**169**	P	**Pn**	**13 00 22.4**	**+0.8**
	comp=Z,14nm,0.3s,baz=342,slow=9.8,SNR=612						
ASAR				S	**S**	**13 03 29.6**	**-7.4**
	comp=Z,7.6nm,0.3s,baz=351,slow=26,SNR=8.6						
ASAR	**Alice Springs**	**17.55**	**169**	P	**Pn**	**13 00 22.4**	**+0.8**
ASAR				S	**S**	**13 03 29.6**	**-7.4**
ASAR				pmax	pmax		
	comp=Z,14nm,0.3s						
ASAR				smax			
	comp=N,8.0nm,0.3s						
ASPA	**Alice Springs**	**17.55**	**169**	⇓*i*P	**Pn**	**13 00 23.0**	**+1.4**

ASPA eS **S** **13 03 28.8 -8.2**
MBWA Marble Bar 18.00 214 eP **Pn** **13 00 27.5 +0.6**
MBWA eS **S** **13 03 33.6 -12**
KKM Kota Kinabalu 18.76 311 P **P** **13 00 36.0 +1.8**
KKM Kota Kinabalu 18.76 311⇑ eP **P** **13 00 34.9 +0.8**
CTA Charters Tower 20.58 133 eP **P** **13 00 57.1 +3.3**
comp=N,8.6nm,0.8s
CTA eS S 13 05 06.2 +29
CTA Charters Tower 20.58 133 P **P** **13 00 57.1 +3.4**
comp=N,13nm,1.0s,baz=309,slow=14,SNR=7.3
CTA Charters Tower 20.58 133 eP **P** **13 00 57.1 +3.3**
CTA eS S 13 05 06.2 +29
CTA pmax pmax
comp=Z,9.0nm,0.8s
CTAO Charters Tower 20.58 133 eP **P** **13 00 50.3 -3.5**
CTAO pmax pmax
comp=Z,15nm,0.9s
CTAO Charters Tower 20.58 133 eP **P** **13 00 50.3 -3.5**
comp=Z,15nm,0.9s
KSM Kuching 21.51 290 eP **P** **13 01 04.8 +1.0**
TGY Tagaytay City 22.38 335 P **P** **13 01 13.8 +0.9**
comp=Z,102nm,0.6s,baz=234,slow=3.8,SNR=5.2
TGY Tagaytay City 22.38 335 P **P** **13 01 13.8 +0.9**
TGY pmax pmax
comp=Z,102nm,0.6s
LEM Lembang 22.64 267 P **P** **13 01 15.9 +0.3**
comp=Z,90nm,1.0s,mb5.1
FORT Forrest 24.41 185 eP **P** **13 01 33.0 +1.3**
comp=Z,86nm,0.5s,mb5.3
FORT eS S 13 06 03.2 +20
STKA Stephens Creek 27.48 159 eP **P** **13 02 00.6 +1.3**
comp=Z,5.4nm,0.6s,mb4.2
STKA eS sS 13 07 18.9 +2.3
STKA Stephens Creek 27.48 159 P **P** **13 02 00.7 +1.3**
comp=Z,6.3nm,0.5s,mb4.4,baz=333,slow=8.8,SNR=24
KLBR Kellerberrin 27.77 204 eP **P** **13 02 02.6 +0.7**
comp=Z,42nm,1.3s,mb4.8
KLBR eS sS 13 07 25.9 +4.6
KGM Kluang 28.29 286 P **P** **13 02 02.0 -4.6**
MUN Mundaring 28.75 206 eP **P** **13 02 12.7 +2.1**
MUN eS sS 13 07 48.5 +12
NWAO Narrogin (SRO) 29.16 203 P **P** **13 02 14.8 +0.5**
comp=Z,5.7nm,0.6s,mb4.4,baz=63,slow=8.9,SNR=4.6
NWAO LR LR 13 13 21.1
comp=Z,109nm,20.4s,baz=204,slow=35
NWAO Narrogin (SRO) 29.16 203 P **P** **13 02 14.8 +0.6**
NWAO pmax pmax
comp=Z,6.0nm,0.6s
NWAO MLR MLR
comp=Z,109nm,20.4s
NWAO Narrogin (SRO) 29.16 203 eP **P** **13 02 14.5 +0.3**
KULM Kulim 31.87 291 eP **P** **13 02 36.5 -1.6**
PSI Prapat 32.72 285 P **P** **13 02 44.0 -1.6**
comp=Z,49nm,0.8s,mb5.4,baz=88,slow=5.7,SNR=6.1
PSI Prapat 32.72 285 P **P** **13 02 44.0 -1.6**
PSI pmax pmax
comp=Z,49nm,0.8s,mb5.4
SSE Sheshan 38.25 347 P **P** **13 03 33.6 +0.7**
SSE AMB AMB
comp=Z,19nm,1.0s,mb4.9
SSE AMB AMB
comp=Z,479nm,6.1s
NANT Nan 38.49 311 ⇑P **P** **13 03 33.0 -1.9**
comp=Z,794nm,0.8s
CM31 Chiang Mai Arr 39.62 309 eP **P** **13 03 44.1 -0.2**
comp=Z,16nm,0.8s,mb4.9
NJ2 Nanjing 39.73 345 eP **P** **13 03 46.0 +0.8**
NJ2 AP pP 13 04 14.3 +2.2
NJ2 PP PP 13 05 23.5 +4.7
NJ2 S **S** **13 09 41.0 +1.0**
NJ2 XS sS 13 10 30.0 +3.3
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
NJ2 AMB AMB
comp=Z,320nm,4.5s
NJ2 LR LR
comp=N,4μm,19.1s
NJ2 LR LR
comp=E,5μm,18.7s
NJ2 LR LR
comp=Z,7μm,17.4s
WHN Wuhan 39.77 338 ⇓P **P** **13 03 46.5 +1.0**
CHRT Chiangrai 39.83 312 ⇑P **P** **13 03 46.0 0.0**
comp=Z,113nm,0.9s,mb5.7
GYA Guiyang 39.91 326⇑ *i*P **P** **13 03 46.7 0.0**
GYA AP pP 13 04 11.7 -1.9
GYA XP sP 13 04 24.9 -2.3
GYA PP PP 13 05 23.5 +2.8
GYA S **S** **13 09 43.3 +0.6**
GYA XS sS 13 10 28.3 -1.1
GYA AMB AMB
comp=Z,20nm,0.7s,mb5.1
GYA AMB AMB
comp=Z,350nm,6.6s
GYA LR LR
comp=N,380nm,17.8s
GYA LR LR
comp=E,300nm,18.0s
GYA LR LR
comp=Z,570nm,17.4s
JHJ Hachijo jima 2 40.24 12 P **P** **13 03 48.9 -0.5**
comp=Z,49nm,0.4s,mb5.7,baz=209,slow=16,SNR=5.4
KMI Kunming 41.26 320 P **P** **13 03 58.8 +1.0**
KMI AP pP 13 04 25.1 +0.2
KMI XP sP 13 04 37.3 -1.1
KMI PP PP 13 05 39.0 +3.7
KMI PPP 13 06 11.9
KMI S **S** **13 10 06.8 +4.0**
KMI XS sS 13 10 49.5 -0.2
KMI AMB AMB
comp=Z,11nm,1.1s,mb4.6
KMI AMB AMB
comp=Z,152nm,4.6s
KMI LR LR
comp=N,111nm,17.7s
KMI LR LR
comp=E,146nm,16.9s
KMI LR LR
comp=Z,122nm,17.7s
MJAR Matsushiro Arr 43.28 9 P **P** **13 04 13.3 -0.8**
comp=Z,1.8nm,0.6s,mb4.0,baz=188,slow=9.2,SNR=11
MJAR Matsushiro Arr 43.28 9 P **P** **13 04 13.3 -0.8**
MJAR pmax pmax
comp=Z,2.0nm,0.6s
MAJO Matsushiro 43.28 9 P **P** **13 04 07.2 -6.9**
MAJO pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
MAJO Matsushiro 43.28 9 P **P** **13 04 07.2 -6.9**
comp=Z,5.2nm,1.0s,mb4.2
MAT Matsushiro 43.28 9 P **P** **13 04 13.5 -0.6**
MAT Matsushiro 43.28 9 P **P** **13 04 14.0 -0.1**
MAT pmax pmax
comp=Z,12nm,1.4s,mb4.4
MAT Matsushiro 43.28 9 P **P** **13 04 14.0 -0.1**
comp=Z,12nm,1.4s,mb4.4
CD2 Chengdu 44.97 327⇓ *i*P **P** **13 04 27.0 -0.6**
CD2 AP pP 13 04 52.6 -2.4
CD2 XP sP 13 05 05.6 -2.9
CD2 PP PP 13 06 14.7 -0.2
CD2 S **S** **13 10 56.5 -0.4**
CD2 XS sS 13 11 42.0 -2.3
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CD2 AMB AMB
comp=Z,40nm,5.6s
BJT Baijiatuan 47.96 345 eP **P** **13 04 50.5 -0.4**
BJT pmax pmax
comp=Z,27nm,0.6s
BJT Baijiatuan 47.96 345 eP **P** **13 04 50.5 -0.5**
comp=Z,27nm,0.6s,mb5.2
BJI Beijing 47.98 345 P **P** **13 04 50.7 -0.4**
BJI AMB AMB
comp=Z,42nm,0.8s,mb5.3
LZH Lanzhou 49.02 331 eP **P** **13 05 00.1 +1.1**
LZH AP pP 13 05 26.7 -0.2
LZH XP sP 13 05 38.1 -2.2
LZH PCP PcP 13 06 22.0 +0.9
LZH PP PP 13 06 56.0 +2.4
LZH SCP ScP 13 10 04.7 -0.4
LZH PCS PcS 13 10 16.2 -1.4
LZH eS **S** **13 11 56.0 +1.6**
LZH AMB AMB
comp=Z,30nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,160nm,4.2s

SHL Shillong 49.06 312 ex x 13 05 03.1
HHC Hu-ho-hao-te 50.05 341 eP **P** **13 05 07.1 +0.3**
HHC AP pP 13 05 32.1 -2.7
HHC XP sP 13 05 43.3 -4.8
HHC PCP PcP 13 06 25.6 +0.7
HHC PP PP 13 07 06.6 +3.7
HHC S **S** **13 12 09.3 +0.6**
HHC AMB AMB
comp=Z,11nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,108nm,5.0s
CN2 Changchun 50.11 355 eP **P** **13 05 09.0 +1.7**
MDJ Mudanjiang 50.73 359 P **P** **13 05 12.4 +0.5**
MDJ AP pP 13 05 36.3 -3.7
MDJ XP sP 13 05 50.0 -3.3
MDJ PP PP 13 07 11.1 +2.0
MDJ SCP ScP 13 10 10.8 -1.6
MDJ S **S** **13 12 21.8 +3.7**
MDJ XS sS 13 13 10.2 +3.7
MDJ SS SS 13 15 59.5 +5.6
MDJ AMB AMB
comp=Z,5.0nm,0.9s,mb4.5
MDJ AMB AMB
comp=Z,56nm,3.9s
MDJ LR LR
comp=E,27nm,16.1s
MDJ LR LR
comp=Z,27nm,16.9s
MDJ Mudanjiang 50.73 359 P **P** **13 05 11.1 -0.8**
comp=Z,7.1nm,1.0s,mb4.7
PALK Pallekele 51.40 284 eP **P** **13 05 16.1 -0.9**
comp=Z,25nm,1.1s,mb5.2
LSA Lhasa 52.01 316 P **P** **13 05 22.4 +0.9**
LSA AMB AMB
comp=Z,30nm,0.7s,mb5.4
LSA Lhasa 52.01 316 eP **P** **13 05 22.6 +1.1**
LSA pmax pmax
comp=Z,20nm,0.5s,mb5.4
LSA Lhasa 52.01 316 eP **P** **13 05 22.6 +1.1**
comp=Z,20nm,0.5s,mb5.4
VIS Vishakhapatnam 52.27 298 eP **P** **13 05 23.0 -0.4**
BOK Bokaro 52.76 306 eP **P** **13 05 27.3 +0.2**
GTA Gaotai 53.59 331 eP **P** **13 05 33.7 +0.6**
GTA AP pP 13 05 57.7 -3.7
GTA XP sP 13 06 09.6 -5.1
GTA PP PP 13 07 36.3 +1.3
GTA PPP 13 08 45.8
GTA S **S** **13 12 56.4 -0.9**
GTA AMB AMB
comp=Z,19nm,0.7s,mb5.2
GTA AMB AMB
comp=Z,82nm,3.9s
GTA LR LR
comp=N,97nm,13.7s
GTA LR LR
comp=E,180nm,14.5s
GTA LR LR
comp=Z,73nm,12.5s
JIRN Jiri 54.46 311 eP **P** **13 05 39.7 +0.2**
HABR Khabarovsk 54.73 4 eP **P** **13 05 41.5 +0.1**
HABR eS **S** **13 13 14.3 +1.7**
GUN Gumba 54.83 311 eP **P** **13 05 42.2 +0.1**
comp=Z,166nm,0.7s
PKI Pulchoki 55.01 310 eP **P** **13 05 43.5 +0.1**
comp=Z,46nm,0.7s,mb5.6
BLSP Bilaspur 55.09 302 eP **P** **13 05 43.6 -0.3**
BLSP AMb AMB 13 05 44.7
comp=Z,46nm,0.9s,mb5.5
KKN Kakani 55.22 310 eP **P** **13 05 44.7 -0.2**
comp=Z,70nm,0.7s,mb5.8
DMN Daman 55.26 310 eP **P** **13 05 45.1 -0.1**
comp=Z,81nm,0.8s,mb5.8
KLR Kul'dur 55.35 1 eP **P** **13 05 41.6 -4.2**
GKN Gorkha 55.82 310 eP **P** **13 05 48.9 -0.3**
comp=Z,128nm,0.6s
KOLN Koldanda 56.49 309 eP **P** **13 05 54.1 +0.1**
comp=Z,104nm,0.9s,mb5.9
NGP Nagpur 57.31 300 eP **P** **13 05 57.9 -1.9**
NGP AMb AMB 13 06 04.5
comp=Z,26nm,1.1s,mb5.2
ULN Ulaanbaatar 57.77 342 P **P** **13 06 04.1 +1.2**
SNR=8.9
ULN Ulaanbaatar 57.77 342 eP **P** **13 06 03.6 +0.7**
SONM Songino Array 57.95 341 P **P** **13 06 05.1 +0.9**
comp=Z,6.9nm,0.5s,mb4.9,baz=154,slow=6.2,SNR=23
SONM Songino Array 57.95 341 P **P** **13 06 05.1 +0.9**
SONM pmax pmax
comp=Z,7.0nm,0.5s
MNGI Mangalore 58.45 289 eP **P** **13 06 08.8 +1.1**
AKL Akola 58.91 299 ex x 13 04 57.2
AKL AMb AMB 13 05 07.5
comp=Z,34nm,2.5s,mb4.9
BHPL Bhopal 59.51 302 eP **P** **13 06 14.6 -0.4**
KAD Karad 60.30 294 eP **P** **13 06 19.3 -1.1**
KAD AMb AMB 13 06 38.5
comp=Z,44nm,1.5s,mb5.3
ZAK Zakamensk 61.18 341 eP **P** **13 06 26.0 -0.4**
ZAK *e* 13 07 07.6
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
CASY Casey 61.41 189 eP **P** **13 06 27.7 -0.2**
comp=Z,2.4nm,0.8s,mb4.3
NDI New Delhi 61.91 307 eP **P** **13 06 29.7 -1.6**
NDI AMb AMB 13 06 30.7
comp=Z,34nm,0.8s,mb5.4
SMLA Simla 63.02 310 eP **P** **13 06 39.0 +0.4**
WMQ Urumqi 63.07 327 P **P** **13 06 40.2 +1.2**
WMQ AP pP 13 07 07.4 -0.7
WMQ XP sP 13 07 19.9 -1.2
WMQ PP PP 13 09 01.7 +2.7
WMQ AMB AMB
comp=Z,17nm,2.0s,mb4.6
WMQ AMB AMB
comp=Z,117nm,7.1s
WMQ LR LR
comp=N,222nm,22.0s
WMQ LR LR
comp=E,166nm,20.9s
WMQ LR LR
comp=Z,222nm,22.5s
PET Petropavlovsk 63.80 19 eP **P** **13 06 44.4 +0.6**
PET pmax pmax
comp=Z,20nm,1.2s,mb4.8
BOD Bodaibo 65.31 350 eP **P** **13 06 52.2 -1.4**
BOD pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MA2 Magadan 67.68 11 eP **P** **13 07 08.2 -0.5**
MA2 pmax pmax
comp=Z,12nm,1.0s,mb4.7
MA2 Magadan 67.68 11 eP **P** **13 07 08.2 -0.4**
comp=Z,12nm,1.0s,mb4.7
MKAR Makanchi Array 67.90 326 P **P** **13 07 10.3 +0.2**
comp=Z,54nm,0.4s,mb5.7,baz=115,slow=8.0,SNR=423
MKAR Makanchi Array 67.90 326 P **P** **13 07 10.3 +0.2**
MKAR pmax pmax
comp=Z,54nm,0.4s
MKAR Makanchi Array 67.90 326 P **P** **13 07 10.3 +0.2**
YAK Yakutsk 68.17 360 eP **P** **13 07 10.1 -1.7**
YAK pmax pmax
comp=Z,18nm,0.8s,mb5.0
YAK Yakutsk 68.17 360 eP **P** **13 07 09.6 -2.2**
KZA Kyzart 69.54 319 P **P** **13 07 21.6 +1.4**
SNR=18
TKM2 Tokmak 2 69.74 320 P **P** **13 07 22.1 +0.7**
SNR=24
KBK Karagaybulak 70.02 320 P **P** **13 07 24.5 +1.4**
SNR=10
UCH Uchtor 70.09 319 P **P** **13 07 25.0 +1.4**
SNR=33
AAK Ala-Archa 70.30 320 P **P** **13 07 25.6 +0.8**
SNR=9.3
AAK Ala-Archa 70.30 320 P **P** **13 07 25.2 +0.3**
SNR=9.1
AAK Ala-Archa 70.30 320 eP **P** **13 07 24.5 -0.3**
CHMS Chumysh 70.31 320 P **P** **13 07 25.5 +0.6**
SNR=5.0
AML Almayashu 70.58 319 P **P** **13 07 28.2 +1.6**
SNR=5.6
USP Ospenovka 70.61 320 P **P** **13 07 27.1 +0.4**
SNR=34
EKS2 Erkin-Say 70.78 319 P **P** **13 07 28.7 +0.9**
SNR=18
ZAL Zalesovo 71.17 333 P **P** **13 07 29.3 -0.9**

comp=Z,12nm,0.9s,mb4.7,baz=346,slow=6.1,SNR=47
ZAL pmax pmax
comp=Z,12nm,0.9s
KURK Kurchatov 72.17 328 P **P** **13 07 36.0 -0.1**
SNR=10
KURK Kurchatov 72.17 328 eP **P** **13 07 35.7 -0.4**
KURK pmax pmax
comp=Z,28nm,0.8s,mb5.1
KURK Kurchatov 72.17 328 eP **P** **13 07 35.7 -0.4**
comp=Z,28nm,0.8s,mb5.2
NVS Novosibirsk 72.46 334⇑ *i*P **P** **13 07 36.7 -1.2**
NVS eS S 13 16 44.1 -8.1
NVS pmax pmax
comp=Z,36nm,1.3s,mb5.0
NVS pmax pmax
comp=N,17nm,1.2s
NVS pmax pmax
comp=E,16nm,1.1s
NVS smax
comp=N,10.0nm,1.6s
NVS smax
comp=E,17nm,1.7s
VNDA Vanda 73.05 173 P **P** **13 07 41.3 0.0**
comp=E,4.0nm,0.9s,mb4.3,baz=312,slow=6.6,SNR=23
VNDA LR LR 13 40 03.0
comp=E,74nm,21.2s,baz=337,slow=36
VNDA Vanda 73.05 173 P **P** **13 07 41.3 0.0**
VNDA pmax pmax
comp=Z,4.0nm,0.9s
VNDA MLR MLR
comp=Z,74nm,21.2s
VNDA Vanda 73.05 173 eP **P** **13 07 41.1 -0.2**
comp=Z,4.2nm,0.9s,mb4.3
SBA Scott Base 73.93 172 eP **P** **13 07 47.5 +1.0**
SBA pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
SBA Scott Base 73.93 172 eP **P** **13 07 47.5 +1.0**
comp=Z,3.2nm,0.8s,mb4.1
MAW Mawson 75.71 201 P **P** **13 07 57.0 +0.2**
comp=Z,4.0nm,0.6s,mb4.3,baz=52,slow=7.8,SNR=9.3
MAW Mawson 75.71 201 P **P** **13 07 57.0 +0.3**
MAW pmax pmax
comp=Z,4.0nm,0.6s
MAW Mawson 75.71 201 eP **P** **13 07 56.9 +0.2**
comp=Z,14nm,1.0s,mb4.7
WSAR Wadi Sarin 75.94 296 P **P** **13 07 57.9 -0.2**
comp=Z,9.5nm,0.6s,mb4.7,baz=114,slow=4.8,SNR=18
BRVK Borovoye 77.80 328 P **P** **13 08 08.1 -0.3**
SNR=6.6
BRVK Borovoye 77.80 328 eP **P** **13 08 07.8 -0.6**
TIXI Tiksi 77.84 360 eP **P** **13 08 06.0 -2.7**
CHKZ Chkalovo 77.91 328 eP **P** **13 08 08.2 -0.9**
ZRNK Zerenda 78.43 327 eP **P** **13 08 11.2 -0.8**
ZRNK pmax pmax
comp=Z,25nm,0.8s,mb5.0
ZRNK Zerenda 78.43 327 eP **P** **13 08 11.2 -0.8**
comp=Z,25nm,0.8s,mb5.0
QSPA South Pole Qui 83.63 180 eP **P** **13 08 38.9 -0.6**
comp=Z,10.0nm,0.9s,mb4.7
SYO Syowa Base 84.42 201⇑ eP **P** **13 08 43.2 -0.3**
ARU Arti 85.36 328⇓ *i*P **P** **13 08 46.8 -1.4**
ARU *e* 13 12 06.1
ARU ePPP 13 14 01.3
ARU eS 13 19 01.8
ARU eSS SS 13 24 41.6 -4.8
ARU pmax pmax
comp=Z,20nm,0.9s,mb5.0
ARU Arti 85.36 328 eP **P** **13 08 47.0 -1.2**
comp=Z,17nm,0.8s,mb5.0
ILAR Eielson Array 92.58 25 P **P** **13 09 19.9 -2.4**
comp=Z,0.8nm,0.7s,mb4.1,baz=268,slow=6.6,SNR=8.4
ILAR Eielson Array 92.58 25 P **P** **13 09 20.0 -2.4**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
KMBO Kilima Mbogo 93.01 269 P **P** **13 09 24.1 -0.3**
comp=Z,1.4nm,0.7s,mb4.4,baz=45,slow=23,SNR=3.7
KMBO Kilima Mbogo 93.01 269 P **P** **13 09 24.1 -0.3**
KMBO pmax pmax
comp=Z,1.0nm,0.7s
SOC Sochi 94.82 313 eP **P** **13 09 30.3 -2.4**
SOC *e**PP pP 13 10 06.4 +2.8
SOC *e* 13 13 18.2
SOC eS 13 19 55.6
SOC eSSS 13 30 38.7
SOC pmax pmax
comp=Z,21nm,0.8s,mb5.6
SOC MLR MLR
comp=Z,193nm,22.0s
DAWY Dawson 95.74 26 eP **P** **13 09 36.2 -0.7**
SNAA Sanae 96.40 193 eP **P** **13 09 39.0 -0.8**
SNAA pmax pmax
comp=Z,2.0nm,0.9s
SNAA Sanae 96.40 193 eP **P** **13 09 39.0 -0.8**
comp=Z,2.2nm,0.9s,mb4.6
BRTR Keskin Array B 99.22 309 P **P** **13 09 50.7 -1.8**
comp=Z,1.1nm,0.8s,mb4.4,baz=104,slow=6.1,SNR=3.6
BRTR Keskin Array B 99.22 309 P **P** **13 09 50.7 -1.8**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
JOF Joensuu 99.75 333 ep Pdif 13 09 52.0 -2.9
comp=Z,3.5nm,0.6s
JOF Joensuu 99.75 333 eP Pdif 13 09 52.0 -2.9
JOF pmax pmax
comp=Z,4.0nm,0.6s,mb5.2
ARCES ARCESS Array B 101.10 340 P Pdif 13 09 59.0 -1.9
comp=Z,1.6nm,0.6s,baz=77,slow=4.5,SNR=14
ARCES PKiKP PKiKP 13 14 23.9 -1.4
comp=Z,0.9nm,0.8s,baz=92,slow=1.1,SNR=6.2
ARCES ARCESS Array B 101.10 340 P Pdif 13 09 59.0 -1.9
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 102.38 332 P Pdif 13 10 04.2 -2.3
comp=Z,1.0nm,0.6s,baz=88,slow=4.8,SNR=6.8
FINES FINESS Array B 102.38 332 P Pdif 13 10 04.3 -2.3
FINES pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 106.98 26 PKiKP PKiKP 13 14 35.2 -0.9
comp=Z,0.3nm,0.6s,baz=317,slow=2.0,SNR=3.8
YKA Yellowknife Ar 106.98 26 PKPdf PKiKP 13 14 35.2 -0.9
GERES GERESS Array B 112.17 320 PKiKP PKiKP 13 14 44.9 -0.9
comp=Z,0.6nm,0.4s,baz=72,slow=4.3,SNR=9.6
GERES GERESS Array B 112.17 320 *i* PKiKP PKiKP 13 14 44.9 -0.9
GERES pmax pmax
comp=Z,1.0nm,0.4s
CDF Champ du Feu 116.34 321 *e*PKiKP PKPdf 13 14 53.0 -0.8
HINF Hinteralfeld 116.83 321 *e*PKiKP PKPdf 13 14 53.5 -1.3
comp=Z,2.5nm,0.6s
HAU Haudompre 117.07 321 *e*PKiKP PKPdf 13 14 53.8 -1.4
PGF Pioggiola 117.17 315 *e*PKiKP PKPdf 13 14 54.6 -0.8
BAIF Baives 117.53 324 *e*PKiKP PKPdf 13 14 55.6 -0.5
LPG La Plagne 117.74 319 *e*PKiKP PKPdf 13 14 56.1 -0.4
comp=Z,4.6nm,0.6s
LPL La Plagne 117.74 319 *e*PKiKP PKPdf 13 14 56.1 -0.4
comp=Z,5.0nm,0.5s
CABF La Chapelle 117.76 320 *e*PKiKP PKPdf 13 14 56.1 -0.4
comp=Z,3.2nm,0.4s
SBF Sospel 117.84 317 *e*PKiKP PKPdf 13 14 55.7 -1.0
ORIF Oris-en-Rattie 118.52 318 *e*PKiKP PKPdf 13 14 57.3 -0.7
LOR Lormes 118.91 321 *e*PKiKP PKPdf 13 14 57.6 -1.2
SMRF Simiane la Rot 119.06 317 *e*PKiKP PKPdf 13 14 58.7 -0.4
SMF Signal de Mont 119.17 321 *e*PKiKP PKPdf 13 14 58.2 -1.1
comp=Z,2.3nm,0.4s
SSF Saint Saulge 119.21 321 *e*PKiKP PKPdf 13 14 58.6 -0.7
comp=Z,5.2nm,0.7s
VIVF Saint-Julien-l 119.34 319 *e*PKiKP PKPdf 13 14 58.7 -0.9
AVF Avril sur Loir 119.42 321 *e*PKiKP PKPdf 13 14 58.7 -1.0
BGF Bois d'Agland 119.83 321 *e*PKiKP PKPdf 13 15 00.0 -0.5
comp=Z,8.2nm,0.6s
LASF Ste Croix 120.18 318 *e*PKiKP PKPdf 13 15 00.4 -0.8
TCF Toulx Ste Croi 120.35 321 *e*PKiKP PKPdf 13 15 00.9 -0.6
comp=Z,11nm,1.0s
LDF La Druitiere 120.72 324 *e*PKiKP PKPdf 13 15 01.2 -1.0
CAF Calviac 121.01 319 *e*PKiKP PKPdf 13 15 02.4 -0.4
RJF Les Rejaudoux 121.21 320 *e*PKiKP PKPdf 13 15 02.7 -0.5
MTLF Montolieu 121.56 318 *e*PKiKP PKPdf 13 15 03.1 -0.7
MFF Saint Martin d 121.67 322 *e*PKiKP PKPdf 13 15 03.2 -0.9
comp=Z,7.8nm,0.7s
LFF La Frestale 121.86 320 *e*PKiKP PKPdf 13 15 03.9 -0.5
SGMF Saint Gilles 122.30 325 *e*PKiKP PKPdf 13 15 04.3 -1.0
comp=Z,4.3nm,0.5s
EPF Esparros 122.94 318 *e*PKiKP PKPdf 13 15 06.0 -0.5
comp=Z,2.2nm,0.4s
ETSF Etsaut 123.59 318 *e*PKiKP PKPdf 13 15 07.6 -0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,11nm,1.1s						
JCT	**Junction City**	**127.19**	**56**	*e*PKIKP	PKPdf	13 15 14.6	0.0
TORD	**Torodi Ar. Bea**	**129.07**	**282**	PKP	PKPdf	13 15 18.2	-0.1
	comp=Z,3.8nm,0.7s,baz=70,slow=1.7,SNR=22						
TORD				SKPbc		13 18 23.7	
	comp=Z,1.2nm,0.8s,baz=73,slow=3.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**129.07**	**282**	PKP	PKPdf	13 15 18.2	-0.1
TORD				SKPbc		13 18 23.7	
PLCA	**Paso Flores**	**129.35**	**159**	PKP	PKPdf	13 15 19.9	+1.1
	comp=Z,2.7nm,0.9s,baz=43,slow=1.7,SNR=3.7						
PLCA	**Paso Flores**	**129.35**	**159**	PKIKP	PKPdf	13 15 19.9	+1.1
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DBIC	**Dimbokro**	**135.56**	**273**	PKP	PKPdf	13 15 32.1	+1.7
	comp=Z,5.9nm,1.0s,baz=159,slow=3.1,SNR=4.5						
DBIC	**Dimbokro**	**135.56**	**273**	*e*PKPdf	PKPdf	13 15 32.3	+1.8
JTS	**JuntasAbangare**	**144.81**	**81**	*e*PKIKP	PKPdf	13 15 47.1	-0.1
CPUP	**Villa Florida**	**146.67**	**167**	PKPbc	PKPbc	13 15 51.9	-0.2
	comp=Z,9.2nm,0.9s,baz=159,slow=1.0,SNR=20						
CPUP	**Villa Florida**	**146.67**	**167**	*e*PKPdf	PKPdf	13 15 50.8	+0.4
CPUP				*e*PKPbc	PKPbc	13 15 52.7	+0.6
LPAZ	**La Paz**	**150.98**	**141**	PKP	PKPdf	13 16 00.1	+2.8
	comp=Z,1.1nm,0.9s,baz=89,slow=2.4,SNR=3.8						
LPAZ				PKPbc	PKPbc	13 16 05.5	+2.4
	comp=Z,4.2nm,0.4s,baz=177,slow=1.5,SNR=23						
LPAZ	**La Paz**	**150.98**	**141**	PKIKP	PKPdf	13 16 00.1	+2.8
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.4s						
LPAZ	**La Paz**	**150.98**	**141**	PKP	PKPdf	13 16 00.1	+2.8
LPAZ				*e*PKPbc	PKPbc	13 16 04.8	+1.7
LPAZ				PKPbc	PKPbc	13 16 05.5	+2.4

HLW 08 13:13:07.6, 3254N×3140E, h29km, Mb3.5, 11C-13D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANS	**Anshas**	**1.58**	**176**	P	Pn	13 13 41.5	+7.8
AANS		**2.24**	**180**	⇓P	Pn	13 13 41.5	-1.3
HBRG	**Burj al 'Arab**	**2.37**	**215**	⇓P	Pn	13 13 43.4	-1.1
AMAG	**Maghara**	**2.44**	**140**	⇑P	Pn	13 13 44.2	-1.3
KOT	**Kottamia**	**2.63**	**172**	⇑P	Pn	13 13 47.2	-0.9
KOT				S	Sn	13 14 16.1	-2.9
HHAG	**Hagoal**	**2.65**	**167**	⇑P	Pn	13 13 47.4	-0.9
HHAG				S	Sn	13 14 16.3	-3.1
SQR		**2.66**	**184**	⇑P	Pn	13 13 47.3	-1.2
AYT	**Al 'Ayyat**	**2.83**	**184**	⇓P	Pn	13 13 49.7	-1.2
FYM	**Al Fayyum**	**2.85**	**186**	⇑P	Pn	13 13 50.1	-1.1
HSAF	**As Saff**	**2.92**	**177**	⇑P	Pn	13 13 51.0	-1.0
SUZ		**2.96**	**155**	⇓P	Pn	13 13 52.1	-0.5
GLL	**Jalalah**	**2.96**	**175**	⇓P	Pn	13 13 51.7	-1.0
HNAT	**Natroun**	**2.98**	**193**	⇑P	Pn	13 13 52.4	-0.4
DABA	**Dabaa**	**3.06**	**241**	⇓P	Pn	13 13 52.9	-1.1
ZAF		**3.39**	**163**	⇑P	Pn	13 13 57.7	-0.9
ZNM		**3.40**	**158**	⇑P	Pn	13 13 58.5	-0.1
HNKL	**Nakhl**	**3.41**	**139**	⇑P	Pn	13 13 57.9	-1.0
HBNS	**Bani Suwayf**	**3.58**	**183**	⇓P	Pn	13 14 00.2	-1.0
HKAT	**Jabal Katrina**	**4.59**	**150**	⇓P	Pn	13 14 13.9	-1.1
TR2		**4.60**	**154**	⇑P	Pn	13 14 14.1	-1.0
HDHB	**Dhahab**	**4.71**	**143**	⇓P	Pn	13 14 16.2	-0.4
AWBH		**4.72**	**208**	⇓P	Pn	13 14 16.1	-0.8
SLUM		**5.36**	**260**	⇓P	Pn	13 14 25.1	-0.5
HHRG	**Al Ghardaqah**	**5.63**	**160**	⇓P	Pn	13 14 28.5	-0.7
SWA1		**5.88**	**238**	P	Pn	13 14 32.5	-0.3
SWA2		**6.07**	**239**	⇓P	Pn	13 14 34.9	-0.5

*LDG **08** 13:31:21.4±0.1, 3474N×7399E, h10km, Mb4.5/16, Ms3.4/5, Error ellipse: s-maj=5.6km s-min=3.6km az=23.0*
*IDC **08** 13:31:22.4±0.5, 3484N×7391E, h0km, mb4.5/20, mb1 4.6/23, mb1mx4.6/26, mbtmp4.5/23, ML4.2/3, MS3.5/12, Ms1 3.5/12, ms1mx3.4/23, Error ellipse: s-maj=15.0km s-min=12.4km az=44.0*
*ISCJB **08** 13:31:26.7±0.4, 3491N±002×7399E±003, h42km±4km, mb4.6/65, MS3.7/23, Error ellipse: s-maj=4.3km s-min=2.9km az=122.9*
*BJI **08** 13:31:27.1, 3494N×7401E, h41km, mB5.0, mb4.7, ML4.2, Ms4.2, Msz4.1*
*MOS **08** 13:31:27.8±1.0, 3501N×7394E, h48km, mb4.7/46, Error ellipse: s-maj=8.2km s-min=4.9km az=104.3*
*NEIC **08** 13:31:29.2±1.1, 3495N×7397E, h48km±10km, mb4.6/33, Error ellipse: s-maj=6.7km s-min=4.7km az=203.0*
*NNC **08** 13:31:41.5±3.1, 3590N×7383E, h83km±34km, mb3.9, mpv4.2, Error ellipse: s-maj=28.0km s-min=20.3km az=49.0*

ISC 08 13:31:28.7±0.3, **3489N**±002×**7400E**±003, **h44**km±3km, **h45**km±2.4km**:pP-P, n250, σ1§28**/292, **mb4.6**/65, **MS3.7**/23, **11C-11D, Southwestern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.37**	**207**	P	**Pn**	**13 31 51.4**	**0.0**
CHCP				S	**Sn**	**13 32 20.0**	**+12**
CEP	**Cherat**	**2.03**	**239**	P	**Pn**	**13 32 02.0**	**+1.6**
DLH	**Dalhousie**	**2.85**	**144**	*e*P	**Pn**	**13 32 13.0**	**+1.3**
DLH				*e*x	x	13 32 56.0	
SARP	**Sargodha**	**3.16**	**201**	P	**Pn**	**13 32 17.4**	**+1.5**
PONG	**Pong**	**3.35**	**150**	*e*P	**Pn**	**13 32 21.0**	**+2.5**
PONG				*e*x	**Sn**	**13 33 05.0**	**+8.0**
SBDP	**Sheikh Budin**	**3.71**	**227**	P	**Pn**	**13 32 24.0**	**+0.5**
BHK	**Bhakra**	**4.01**	**149**	*e*x	**Pn**	**13 32 30.8**	**+3.2**
BHK				*e*x	x	13 33 37.0	
SDNR	**Sundarnagar**	**4.19**	**143**	*e*P	**Pn**	**13 32 30.8**	**+0.7**
DRP	**Derazinda**	**4.47**	**226**	P	**Pn**	**13 32 36.1**	**+2.2**
SMLA	**Simla**	**4.59**	**144**	*e*P	**Pn**	**13 32 37.3**	**+1.7**
SMLA				*e*P		13 32 37.8	
SMLA				*e*S	**Sn**	**13 33 31.0**	**+3.4**
SMLA				AML	AML	13 33 52.8	
	comp=N,2μm,0.5s						
SMLA				AML	AML	13 33 52.8	
	comp=E,2μm,0.5s						
KSH	**Kashi**	**4.88**	**18**	*e*P	**Pn**	**13 32 44.3**	**+4.8**
KSH				*e*AP		13 32 49.0	
KSH				*e*XP		13 32 58.2	
KSH				*e*S	**Sn**	**13 33 42.2**	**+7.5**
KSH				*e*XS		13 33 50.9	
KSH				LR	LR		
	comp=N,4μm,4.2s						
KSH				LR	LR		
	comp=E,5μm,6.9s						
KSH				LR	LR		
	comp=Z,3μm,6.2s						
KLP	**Kalpa**	**4.88**	**132**	*e*P	**Pn**	**13 32 41.6**	**+2.1**
KLP				*e*S	**Sn**	**13 33 38.8**	**+4.0**
KKR	**Kurukshetra**	**5.46**	**153**	*e*P	**Pn**	**13 32 48.0**	**+0.5**
DDI	**Dehra Dun**	**5.69**	**142**	*e*P	**Pn**	**13 32 52.8**	**+2.1**
DDI				*e*S	**Sn**	**13 33 57.0**	**+2.3**
JOSI	**Joshimath**	**6.37**	**131**	*e*x	**Pn**	**13 32 50.8**	**-9.1**
BHGR	**Bahadurgarh**	**6.67**	**157**	*e*P	**Pn**	**13 33 03.5**	**-0.5**
NDI	**New Delhi**	**6.76**	**155**	*e*P	**Pn**	**13 33 05.6**	**+0.3**
NDI				*e*S	**Sn**	**13 34 20.1**	**-0.9**
AYAN	**Aya Nagar**	**6.92**	**157**	*e*P	**Pn**	**13 33 07.4**	**0.0**
KHET	**Khetri**	**6.96**	**167**	*e*P	**Pn**	**13 33 07.0**	**-1.1**
KHET				⇑*e*S	**Sn**	**13 34 23.1**	**-2.9**
SONA	**Sohna**	**7.12**	**158**	*e*P	**Pn**	**13 33 10.2**	**-0.1**
SONA				*e*S	**Sn**	**13 34 27.4**	**-2.5**
SONA				AML	AML	13 35 18.3	
	comp=N,432nm,0.5s						
SONA				AML	AML	13 35 19.8	
	comp=E,416nm,0.6s						
AML	**Almayashu**	**7.24**	**358**	P	**Pn**	**13 33 13.4**	**+1.6**
	SNR=57						
KZA	**Kyzart**	**7.25**	**7**	P	**Pn**	**13 33 13.8**	**+1.8**
	SNR=22						
UCH	**Uchtor**	**7.34**	**3**	P	**Pn**	**13 33 15.2**	**+1.9**
	SNR=19						
PTH	**Pithoragarh**	**7.48**	**134**	*e*P	**Pn**	**13 33 17.0**	**+1.8**
PTH				*e*S	**Sn**	**13 34 39.0**	**+0.2**
LGTI	**Lohaghat**	**7.57**	**134**	*e*P	**Pn**	**13 33 16.3**	**-0.2**
LGTI				*e*S	**Sn**	**13 34 38.6**	**-2.4**
AAK	**Ala-Archa**	**7.74**	**3**	*e*P	**Pn**	**13 33 17.3**	**-1.5**
AAK				pmax	pmax		
	comp=Z,23nm,0.6s						
AAK	**Ala-Archa**	**7.74**	**3**	*e*Pn	**Pn**	**13 33 17.3**	**-1.5**
	comp=Z,23nm,0.6s						
EKS2	**Erkin-Say**	**7.76**	**359**	P	**Pn**	**13 33 20.7**	**+1.6**
	SNR=18						
FRU	**Bishkek**	**7.95**	**3**	*e*P	**Pn**	**13 33 26.0**	**+4.4**
FRU				*e*S	**Sn**	**13 34 57.5**	**+7.3**
FRU				pmax	pmax		
	comp=Z,70nm,1.3s						
FRU				pmax	pmax		
	comp=N,290nm,1.7s						
FRU				pmax	pmax		
	comp=E,2μm,9.0s						
TKM2	**Tokmak 2**	**8.12**	**8**	⇑Pn	**Pn**	**13 33 25.5**	**+1.6**
	comp=E,6.0nm,1.1s						
TKM2				⇑Sn	**Sn**	**13 34 43.0**	**-11**
	comp=E,4.7nm,0.7s						
TKM2	**Tokmak 2**	**8.12**	**8**	P	**Pn**	**13 33 25.5**	**+1.6**
TKM2				S	**Sn**	**13 34 53.2**	**-1.1**
TKM2				pmax	pmax		
	comp=Z,38nm,1.2s						
TKM2				smax			
	comp=Z,30nm,0.7s						
AGRA	**Agra**	**8.35**	**155**	*e*P	**Pn**	**13 33 27.2**	**+0.1**
AGRA				*e*S	**Sn**	**13 34 59.3**	**-0.7**
AGRA				AML	AML	13 35 57.8	
	comp=N,320nm,0.6s						
AGRA				AML	AML	13 35 58.1	
	comp=E,399nm,0.8s						
AJM	**Ajmer**	**8.40**	**176**	*i* P	**Pn**	**13 33 26.0**	**-1.8**
AJM				*i* S	**Sn**	**13 34 58.0**	**-3.3**
KK31	**Karatay Array**	**8.64**	**343**	⇓Pn	**Pn**	**13 33 30.9**	**-0.2**
	comp=E,23nm,0.6s,baz=160,slow=11,SNR=264						
KK31				⇑Sn	**Sn**	**13 34 58.2**	**-9.0**
	comp=E,67nm,0.7s,baz=166,slow=24,SNR=10						
KKAR	**Karatay Array**	**8.64**	**343**	*e*P	**Pn**	**13 33 30.8**	**-0.3**
KKAR				S	**Sn**	**13 35 03.8**	**-3.4**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KKAR				smax			
	comp=Z,9.0nm,0.4s						
KOLN	**Koldanda**	**10.84**	**128**	*e*Pn	**Pn**	**13 33 59.6**	**-1.6**
KOLN				*e*Sn	**Sn**	**13 35 57.4**	**-3.7**
	comp=Z,204nm,0.6s						
GKN	**Gorkha**	**11.38**	**124**	*e*Pn	**Pn**	**13 34 06.8**	**-1.7**
GKN				*e*Sn	**Sn**	**13 36 08.9**	**-5.3**
	comp=Z,486nm,0.6s						
DMN	**Daman**	**11.95**	**124**	*e*Pn	**Pn**	**13 34 14.3**	**-2.0**
DMN				*e*Sn	**Sn**	**13 36 24.4**	**-3.8**
	comp=Z,334nm,0.8s						
KKN	**Kakani**	**11.95**	**123**	*e*Pn	**Pn**	**13 34 13.8**	**-2.6**
KKN				*e*Sn	**Sn**	**13 36 23.5**	**-4.8**
	comp=Z,287nm,0.8s						
BHPL	**Bhopal**	**11.98**	**165**	*e*P	**Pn**	**13 34 14.7**	**-2.1**
BHPL				*e*S	**Sn**	**13 36 23.8**	**-5.2**
PKI	**Pulchoki**	**12.18**	**124**	*e*Pn	**Pn**	**13 34 16.9**	**-2.6**
PKI				*e*Sn	**Sn**	**13 36 28.7**	**-5.1**
	comp=Z,202nm,0.6s						
GUN	**Gumba**	**12.29**	**121**	*e*Pn	**Pn**	**13 34 18.7**	**-2.4**
GUN				*e*Sn	**Sn**	**13 36 30.7**	**-5.9**
	comp=Z,129nm,0.6s						
JIRN	**Jiri**	**12.66**	**121**	*e*Pn	**Pn**	**13 34 23.8**	**-2.3**
JIRN				*e*Sn	**Sn**	**13 36 40.4**	**-5.3**
	comp=Z,323nm,0.6s						
MK02	**Makanchi Array**	**13.42**	**25**	⇓P	**Pn**	**13 34 36.5**	**0.0**
	comp=Z,12nm,0.7s,baz=205,slow=12						
MKAR	**Makanchi Array**	**13.44**	**25**	Pn	**Pn**	**13 34 37.3**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=215,slow=15,SNR=11						
WMQ	**Urumqi**	**13.83**	**46**	P	**Pn**	**13 34 43.2**	**+1.1**
WMQ				AP		13 34 51.7	
WMQ				PP		13 34 55.0	
WMQ				XP		13 34 58.3	
WMQ				S	**Sn**	**13 37 15.9**	**+1.7**
WMQ				XS		13 37 29.0	
WMQ				SS		13 37 32.6	
WMQ				PCP	PcP	13 40 04.6	+2.0
WMQ				AMB	AMB		
	comp=Z,17nm,0.6s						
WMQ				LR	LR		
	comp=N,141nm,8.6s						
WMQ				LR	LR		
	comp=E,295nm,11.0s						
WMQ				LR	LR		
	comp=Z,228nm,7.6s						
AKL	**Akola**	**14.38**	**169**	*e*P	**Pn**	**13 34 50.1**	**+0.6**
AKL				*e*x	**Sn**	**13 37 30.6**	**+3.2**
NGP	**Nagpur**	**14.39**	**161**	*e*x	x	13 34 44.4	
NGP				*e*x	x	13 37 16.2	
BLSP	**Bilaspur**	**14.57**	**149**	*e*P	**Pn**	**13 34 50.3**	**-1.7**
BLSP				*e*x	**Sn**	**13 37 24.5**	**-7.7**
BOK	**Bokaro**	**15.13**	**134**	*e*x	**Pn**	**13 34 57.3**	**-2.1**
BOK				*e*x	x	13 37 37.8	
LSA	**Lhasa**	**15.39**	**105**	P	**Pn**	**13 35 01.3**	**-1.4**
LSA				AMB	AMB		
	comp=Z,40nm,0.9s						
LSA	**Lhasa**	**15.39**	**105**	*e*P	**Pn**	**13 35 05.7**	**+3.0**
LSA				pmax	pmax		
	comp=Z,41nm,0.8s						
LSA	**Lhasa**	**15.39**	**105**	*e*Pn	**Pn**	**13 35 05.7**	**+2.9**
	comp=Z,41nm,0.8s						
KURK	**Kurchatov**	**16.17**	**11**	⇑P	**Pn**	**13 35 09.4**	**-3.3**
	comp=Z,17nm,0.8s						
KURK	**Kurchatov**	**16.17**	**11**	*e*P	**Pn**	**13 35 09.9**	**-2.9**
KURK				pmax	pmax		
	comp=Z,37nm,0.8s						
KURK	**Kurchatov**	**16.17**	**11**	*e*Pn	**Pn**	**13 35 09.9**	**-2.9**
	comp=Z,37nm,0.8s						
POO	**Poona**	**16.29**	**181**	*e*P	**Pn**	**13 35 15.0**	**+0.7**
POO				*i* x	**S**	**13 38 36.0**	**+11**
POO				*e*x	x	13 39 42.0	
LATR	**Latur**	**16.56**	**171**	*e*x	x	13 38 07.0	
KAD	**Karad**	**17.51**	**179**	*e*S	**S**	**13 38 46.8**	**-2.9**
AB31	**Akbulak array**	**17.71**	**328**	⇓P	**Pn**	**13 35 29.8**	**-2.2**
	comp=Z,6.4nm,0.7s,baz=136,slow=12,SNR=13						
AB31				⇓S	**S**	**13 38 36.8**	**-17**
	comp=Z,8.3nm,0.7s,baz=144,slow=22,SNR=7.1						
AB31	**Akbulak array**	**17.71**	**328**	*e*P	**Pn**	**13 35 29.7**	**-2.2**
AB31				*e*S	S	13 38 32.8	-21
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AB31				smax			
	comp=Z,6.0nm,0.6s						
WSAR	**Wadi Sarin**	**17.73**	**233**	P	**Pn**	**13 35 34.6**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=43,slow=19,SNR=5.5						
WSAR				S	**S**	**13 38 34.2**	**-20**
	comp=Z,0.2nm,0.3s,baz=255,slow=16,SNR=3.2						
WSAR				LR	LR	13 43 51.2	
	comp=Z,165nm,21.8s,baz=204,slow=42						
WSAR	**Wadi Sarin**	**17.73**	**233**	P	**Pn**	**13 35 34.6**	**+2.4**
WSAR				S	**S**	**13 38 34.2**	**-20**
WSAR				LR	LR	13 43 51.2	
HYB	**Hyderabad**	**17.87**	**166**	*i* P	**Pn**	**13 35 35.0**	**+1.1**
HYB				*e*S	**S**	**13 38 50.0**	**-7.0**
VOSK	**Vostochnaya**	**17.96**	**354**	⇓P	**Pn**	**13 35 33.4**	**-1.6**
	comp=Z,13nm,0.9s						
VOSK	**Vostochnaya**	**17.96**	**354**	P	**Pn**	**13 35 33.4**	**-1.6**
VOSK				pmax	pmax		
	comp=Z,12nm,0.9s						
BVA0	**Borovoye Array**	**18.31**	**353**	⇑P	**Pn**	**13 35 38.3**	**-1.0**
	comp=Z,2.6nm,0.6s,baz=162,slow=9.7,SNR=83						
BVAR	**Borovoye Array**	**18.31**	**353**	P	**Pn**	**13 35 39.5**	**+0.2**
	comp=Z,2.8nm,0.3s,baz=166,slow=11,SNR=55						
BVAR				LR	LR	13 43 08.7	
	comp=Z,118nm,20.4s,baz=263,slow=38						
BVAR	**Borovoye Array**	**18.31**	**353**	P	**Pn**	**13 35 39.5**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,118nm,20.4s						
BRVK	**Borovoye**	**18.36**	**353**	*e*P	**Pn**	**13 35 38.8**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,19nm,0.9s						
BRVK	**Borovoye**	**18.36**	**353**	*e*P	**Pn**	**13 35 38.8**	**-1.0**
	comp=Z,19nm,0.9s						
ZRNK	**Zerenda**	**18.41**	**350**	⇑P	**Pn**	**13 35 39.1**	**-1.3**
	comp=Z,11nm,0.7s						
ZRNK	**Zerenda**	**18.41**	**350**	*e*P	**Pn**	**13 35 38.8**	**-1.6**
ZRNK				pmax	pmax		
	comp=Z,14nm,0.6s						
ZRNK	**Zerenda**	**18.41**	**350**	*e*P	**Pn**	**13 35 38.8**	**-1.7**
	comp=Z,14nm,0.6s						
CHKZ	**Chkalovo**	**18.94**	**354**	⇓P	**Pn**	**13 35 45.2**	**-1.6**
	comp=Z,8.6nm,1.0s						
CHKZ	**Chkalovo**	**18.94**	**354**	P	**Pn**	**13 35 44.6**	**-2.2**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CHKZ	**Chkalovo**	**18.94**	**354**	*e*P	**Pn**	**13 35 44.2**	**-2.7**
	comp=Z,16nm,1.0s						
AKTK	**Aktyubinsk**	**19.42**	**328**	P	**Pn**	**13 35 50.8**	**-1.8**
AKTK				S	**S**	**13 39 20.7**	**-7.6**
AKTO	**Aktyubinsk**	**19.42**	**328**	⇓P	**Pn**	**13 35 50.7**	**-1.9**
	comp=Z,0.4nm,0.8s						
AKTO	**Aktyubinsk**	**19.42**	**328**	P	**Pn**	**13 35 50.8**	**-1.8**
	comp=Z,0.9nm,0.3s,baz=132,slow=10,SNR=24						
AKTO				S	**S**	**13 39 20.7**	**-7.6**
	comp=Z,0.2nm,0.3s,baz=331,slow=19,SNR=3.4						
AKTO	**Aktyubinsk**	**19.42**	**328**	P	**Pn**	**13 35 50.8**	**-1.8**
AKTO				S	**S**	**13 39 20.7**	**-7.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**20.50**	**18**	P	**P**	**13 36 01.8**	**-1.1**
	comp=Z,15nm,0.5s,baz=258,slow=8.8,SNR=53						
ZAL				S	**S**	**13 39 46.7**	**-3.2**
	comp=Z,2.1nm,0.4s,baz=217,slow=20,SNR=3.8						
ZAL				LR	LR	13 44 35.6	
	comp=Z,136nm,18.4s,MS3.4,baz=238,slow=39						
ZAL	**Zalesovo**	**20.50**	**18**	P	**P**	**13 36 01.8**	**-1.1**
ZAL				S	**S**	**13 39 46.7**	**-3.2**
ZAL				pmax	pmax		
	comp=Z,15nm,0.5s						
ZAL				smax			
	comp=N,2.0nm,0.4s						
ZAL				MLR	MLR		
	comp=Z,136nm,18.5s						
NVS	**Novosibirsk**	**20.96**	**15**	*e*P	**P**	**13 36 06.0**	**-1.9**
NVS				*e*S	**S**	**13 39 56.1**	**-2.8**
NVS				pmax	pmax		
	comp=Z,28nm,1.1s						
NVS				pmax	pmax		
	comp=N,27nm,1.2s						
NVS				pmax	pmax		
	comp=E,11nm,1.1s						
NVS				smax			
	comp=N,54nm,2.0s						
NVS				smax			
	comp=E,29nm,1.7s						
GTA	**Gaotai**	**21.04**	**70**	⇑*i*P	**P**	**13 36 09.8**	**+1.1**
GTA				AP		13 36 24.5	
GTA				XP	sP	13 36 30.8	+5.8
GTA				S	**S**	**13 40 03.3**	**+2.9**
GTA				SCP	ScP	13 43 44.6	-2.7
GTA				AMB	AMB		
	comp=Z,37nm,0.7s,mb4.8						
GTA				AMB	AMB		
	comp=Z,82nm,3.9s						
GTA				LR	LR		
	comp=E,84nm,13.7s						
GTA				LR	LR		
	comp=Z,94nm,14.1s,MS3.3						
GNI	**Garni**	**23.74**	**291**	LR	LR	13 48 15.1	
	comp=Z,83nm,20.2s,MS3.2,baz=188,slow=43						
GNI	**Garni**	**23.74**	**291**	P	**P**	**13 36 38.6**	**+1.8**
SVE	**Sverdlovsk**	**23.75**	**342**	*e*P	**P**	**13 36 42.8**	**+5.9**
SVE				*e*		13 37 10.0	
SVE				*e*S	S	13 40 24.0	-25
SVE				*e*SSS		13 41 36.0	
SVE				MLR	MLR		
	comp=N,400nm,10.0s,MS4.3						
SVE				MLR	MLR		
	comp=E,400nm,10.0s,MS4.3						
SVE				MLR	MLR		
	comp=Z,600nm,10.0s,MS4.4						
ARU	**Arti**	**23.99**	**339**	⇑*i*P	**P**	**13 36 39.1**	**+0.1**
ARU				*e*PPP		13 37 16.8	
ARU				*e*S	**S**	**13 40 43.6**	**-9.2**
ARU				*e*SS		13 41 08.2	
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
ARU				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.7						
ARU				MLR	MLR		
	comp=N,100nm,17.0s,MS3.5						
ARU				MLR	MLR		
	comp=E,100nm,16.5s,MS3.5						
ARU	**Arti**	**23.99**	**339**	*e*P	**P**	**13 36 38.7**	**-0.4**
	comp=E,13nm,0.8s,mb4.4						
LZH	**Lanzhou**	**24.29**	**78**	*e*P	**P**	**13 36 44.1**	**+2.3**
LZH				AP		13 36 53.4	
LZH				XP	sP	13 36 57.6	-1.2
LZH				AMB	AMB		
	comp=Z,37nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,152nm,4.8s						
LZH				LR	LR		
	comp=E,318nm,12.1s						
LZH				LR	LR		
	comp=Z,435nm,13.3s,MS4.1						
CD2	**Chengdu**	**25.25**	**91**	P	**P**	**13 36 50.0**	**-0.5**
CD2				AP	pP	13 37 01.5	-0.8
CD2				XP	sP	13 37 07.2	-0.4
CD2				PP		13 37 29.3	
CD2				S	**S**	**13 41 09.5**	**-3.6**
CD2				XS	sS	13 41 29.0	-3.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=E,180nm,10.8s						
CD2				LR	LR		
	comp=Z,180nm,13.2s,MS3.8						
KIV	**Kislovodsk**	**25.71**	**300**	*e*P	**P**	**13 36 58.4**	**+3.7**
KIV				*e*		13 37 16.6	
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.2						
KIV				MLR	MLR		
	comp=Z,200nm,14.0s,MS3.8						
ZAK	**Zakamensk**	**26.30**	**45**	*e*P	**P**	**13 37 00.6**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1						
KMI	**Kunming**	**26.64**	**104**	P	**P**	**13 37 03.2**	**+0.1**
KMI				AP	pP	13 37 15.2	+0.3
KMI				XP	sP	13 37 18.3	-1.9
KMI				PP		13 37 49.7	
KMI				PPP		13 38 02.4	
KMI				S	**S**	**13 41 35.6**	**+0.5**
KMI				XS	sS	13 41 55.2	+0.3
KMI				SS		13 42 46.8	
KMI				SSS		13 43 06.7	
KMI				AMB	AMB		
	comp=Z,26nm,0.9s,mb4.8						
KMI				AMB	AMB		
	comp=Z,148nm,7.0s						
KMI				LR	LR		
	comp=N,110nm,13.3s,MS3.9						
KMI				LR	LR		
	comp=E,246nm,15.8s,MS3.9						
KMI				LR	LR		
	comp=Z,210nm,13.3s,MS3.9						
SONM	**Songino Array**	**27.32**	**52**	P	**P**	**13 37 10.8**	**+1.5**
	comp=Z,3.4nm,0.5s,mb4.1,baz=256,slow=9.1,SNR=27						
SONM				LR	LR	13 48 15.0	
	comp=Z,54nm,21.0s,MS3.1,baz=81,slow=37						
SONM	**Songino Array**	**27.32**	**52**	P	**P**	**13 37 10.8**	**+1.6**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,54nm,21.0s						
CM31	**Chiang Mai Arr**	**27.54**	**120**	*e*P	**P**	**13 37 10.6**	**-0.5**
	comp=Z,41nm,1.4s,mb4.9						
ULN	**Ulaanbaatar**	**27.76**	**52**	*e*P	**P**	**13 37 13.3**	**+0.2**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**27.76**	**52**	*e*P	**P**	**13 37 13.3**	**+0.2**
	comp=Z,6.4nm,0.8s,mb4.3						
XAN	**Xi'an**	**28.72**	**82**	P	**P**	**13 37 22.3**	**+0.6**
XAN				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.6						
GYA	**Guiyang**	**29.22**	**98**	P	**P**	**13 37 27.8**	**+1.7**
GYA				AP	pP	13 37 39.0	+1.0
GYA				XP	sP	13 37 44.2	+0.9
GYA				PCP	PcP	13 40 34.4	+2.0
GYA				S	**S**	**13 42 14.5**	**-1.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
GYA				AMB	AMB		
	comp=Z,160nm,5.2s						
GYA				LR	LR		
	comp=N,260nm,16.6s,MS4.0						
GYA				LR	LR		
	comp=E,200nm,16.3s,MS4.0						
GYA				LR	LR		
	comp=Z,300nm,16.9s,MS4.0						
HHC	**Hu-ho-hao-te**	**30.08**	**67**	*e*P	**P**	**13 37 34.5**	**+0.8**
HHC				AP	pP	13 37 45.7	+0.1
HHC				XP	sP	13 37 52.3	+1.4

HHC PP PP 13 38 33.9 -8.2
HHC PCP PcP 13 40 36.4 +1.8
HHC S **S** **13 42 29.4 +0.3**
HHC XS sS 13 42 48.4 -0.6
HHC SS SS 13 44 08.1 -30
HHC AMB AMB
comp=Z,17nm,0.5s,mb5.0
HHC AMB AMB
comp=Z,150nm,4.5s
HHC LR LR
comp=N,248nm,21.4s,MS3.9
HHC LR LR
comp=E,196nm,21.4s,MS3.9
HHC LR LR
comp=Z,183nm,19.0s,MS3.7
BR131 Keskin Array S 32.27 291 P **P** **13 37 49.0 -4.1**
comp=Z,2.3nm,0.6s,mb4.2
BRTR Keskin Array B 32.27 291 P **P** **13 37 53.7 +0.6**
comp=Z,1.6nm,0.6s,mb4.0,baz=108,slow=7.9,SNR=5.3
BRTR Keskin Array B 32.27 291 P **P** **13 37 53.7 +0.6**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
OBN Obninsk 32.75 320 ⇑P **P** **13 37 58.0 +0.8**
OBN *e* pP 13 38 11.5 +2.4
OBN *e*SS SS 13 45 02.9 -30
OBN pmax pmax
comp=Z,30nm,1.0s,mb5.2
OBN MLR MLR
comp=Z,100nm,19.0s,MS3.5
OBN Obninsk 32.75 320 P **P** **13 37 57.5 +0.3**
WHN Wuhan 34.06 86 ⇓P **P** **13 38 10.3 +1.6**
KLMR Klimovskoe 34.09 330 *e*P **P** **13 38 10.6 +1.7**
KLMR pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BOD Bodaibo 35.12 37 *e*P **P** **13 38 17.4 -0.4**
BOD pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AKASG Malin Array Be 35.86 310 P **P** **13 38 23.5 -0.6**
comp=Z,1.6nm,0.5s,mb4.2,baz=81,slow=7.0,SNR=8.9
AKASG Malin Array Be 35.86 310 P **P** **13 38 23.5 -0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 35.86 310 P **P** **13 38 23.5 -0.6**
HIA Hailar 36.29 52 P **P** **13 38 28.9 +1.1**
NJ2 Nanjing 37.29 81 *e*P **P** **13 38 41.6 +5.3**
NJ2 S **S** **13 44 19.0 -1.6**
NJ2 AMB AMB
comp=Z,20nm,1.2s,mb4.8
NJ2 AMB AMB
comp=Z,320nm,4.5s
JOF Joensuu 38.48 330 *e*p **P** **13 38 46.0 -0.4**
comp=Z,5.5nm,0.4s,mb4.6
JOF Joensuu 38.48 330 *e*P **P** **13 38 46.0 -0.4**
JOF pmax pmax
comp=Z,6.0nm,0.4s,mb4.7
PSI Prapat 39.44 139 P **P** **13 38 53.6 -0.8**
comp=Z,11nm,0.8s,mb4.6,baz=314,slow=6.4,SNR=5.8
PSI Prapat 39.44 139 P **P** **13 38 53.6 -0.8**
PSI pmax pmax
comp=Z,11nm,0.8s,mb4.6
SSE Sheshan 39.47 82 P **P** **13 38 55.8 +1.1**
SSE AMB AMB
comp=Z,38nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,521nm,6.0s
SSE LR LR
comp=N,54nm,17.2s,MS3.6
SSE LR LR
comp=E,48nm,17.2s,MS3.6
SSE LR LR
comp=Z,34nm,15.1s,MS3.3
APA Apatity 40.06 337 *e*P **P** **13 39 01.5 +1.9**
APA MLR MLR
comp=Z,500nm,24.0s,MS4.3
FIA1 FINESS Array S 40.18 326 *e*P **P** **13 38 59.5 -1.0**
FINES FINESS Array B 40.18 326 P **P** **13 38 59.6 -1.0**
comp=Z,2.1nm,0.3s,mb4.3,baz=122,slow=11,SNR=52
FINES FINESS Array B 40.18 326 P **P** **13 38 59.6 -1.0**
FINES pmax pmax
comp=Z,2.0nm,0.3s
CN2 Changchun 40.21 61 *e*P **P** **13 39 01.0 +0.2**
KAF Kangasniemi 40.30 327 *e*p **P** **13 39 01.1 -0.5**
comp=Z,5.0nm,0.7s,mb4.3
KAF Kangasniemi 40.30 327 *e*P **P** **13 39 01.1 -0.5**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
MDJ Mudanjiang 43.09 60 P **P** **13 39 25.1 +0.8**
MDJ AP pP 13 39 34.5 -2.0
MDJ XP sP 13 39 39.4 -2.3
MDJ S **S** **13 45 47.7 +0.5**
MDJ AMB AMB
comp=Z,7.0nm,0.8s,mb4.4
MDJ AMB AMB
comp=Z,96nm,3.7s
MDJ LR LR
comp=N,65nm,22.6s
MDJ LR LR
comp=Z,53nm,19.4s,MS3.5
MDJ Mudanjiang 43.09 60 *e*P **P** **13 39 24.8 +0.5**
comp=Z,7.5nm,0.8s,mb4.5
KEV Kevo 43.20 338 *e*p **P** **13 39 24.5 -0.8**
ARCES ARCESS Array B 43.57 338 P **P** **13 39 28.4 +0.1**
comp=Z,6.7nm,0.8s,mb4.4,baz=115,slow=8.2,SNR=30
ARCES ARCESS Array B 43.57 338 P **P** **13 39 28.4 +0.2**
ARCES pmax pmax
comp=Z,7.0nm,0.8s
KLR Kul'dur 44.15 53 *e*P **P** **13 39 30.7 -2.2**
TIP Timpagrande 45.26 293 *e*P **P** **13 39 43.8 +2.1**
BRG Berggiesshubel 45.54 310 *e*P **P** **13 39 47.2 +3.3**
comp=Z,1.8nm,1.0s,mb4.0
BRG *e* pP 13 39 59.3 +3.1
comp=Z,1.5nm,0.8s
BRG Berggiesshubel 45.54 310 *e*P **P** **13 39 47.2 +3.3**
BRG *e* pP 13 39 59.3 +3.1
BRG pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BRG pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
GERES GERESS Array B 45.85 307 P **P** **13 39 45.6 -0.8**
comp=Z,0.3nm,0.3s,mb3.7,baz=160,slow=4.0,SNR=4.8
GERES LR LR 14 03 05.5
comp=Z,55nm,19.3s,MS3.5,baz=320,slow=42
TIXI Tiksi 46.38 21 *e*P **P** **13 39 48.3 -2.2**
TIXI pmax pmax
comp=Z,14nm,0.9s,mb4.9
HABR Khabarovsk 46.38 54 *e*P **P** **13 39 51.2 +0.6**
HABR S **S** **13 46 25.9 -9.1**
HABR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
NB2 NORSAR Subarra 47.13 324 P **P** **13 39 55.2 -1.2**
comp=Z,6.6nm,0.8s,mb4.6,baz=94,slow=7.9
NOA NORSAR Array B 47.13 324 P **P** **13 39 55.2 -1.2**
comp=Z,6.2nm,0.9s,mb4.6,baz=94,slow=7.6,SNR=12
NOA LR LR 14 00 47.9
comp=Z,67nm,18.5s,MS3.6,baz=115,slow=38
NOA NORSAR Array B 47.13 324 P **P** **13 39 55.2 -1.2**
NOA pmax pmax
comp=Z,6.0nm,0.9s
NOA MLR MLR
comp=Z,67nm,18.5s
NOA NORSAR Array B 47.13 324 P **P** **13 39 55.2 -1.2**
NOA LR LR 14 00 47.9
KMBO Kilima Mbogo 49.65 232 P **P** **13 40 16.5 +0.7**
comp=Z,4.0nm,0.8s,mb4.5,baz=38,slow=12,SNR=9.1
KMBO Kilima Mbogo 49.65 232 P **P** **13 40 16.5 +0.7**
KMBO pmax pmax
comp=Z,4.0nm,0.8s
KMBO Kilima Mbogo 49.65 232 P **P** **13 40 16.5 +0.7**
CDF Champ du Feu 50.13 307 *e*P **P** **13 40 19.8 +0.3**
comp=Z,4.3nm,0.7s,mb4.3
CDF Champ du Feu 50.13 307 *e*P **P** **13 40 19.8 +0.3**
CDF pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
CDF Champ du Feu 50.13 307 *e*P **P** **13 40 19.8 +0.3**
comp=Z,2.2nm,0.7s,mb4.3
PGF Pioggiola 50.19 299 *e*P **P** **13 40 20.1 +0.2**
comp=Z,23nm,1.0s,mb4.9
PGF Pioggiola 50.19 299 *e*P **P** **13 40 20.1 +0.2**
PGF pmax pmax
comp=Z,12nm,1.0s,mb4.9
PGF Pioggiola 50.19 299 *e*P **P** **13 40 20.1 +0.2**
comp=Z,12nm,1.0s,mb4.9
SBF Sospel 50.98 301 *e*P **P** **13 40 25.8 -0.1**
LPG La Plagne 51.07 304 *e*P **P** **13 40 27.4 +0.8**
comp=Z,8.1nm,0.7s,mb4.5
LPG La Plagne 51.07 304 *e*P **P** **13 40 27.4 +0.8**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
LPG La Plagne 51.07 304 *e*P **P** **13 40 27.4 +0.8**
comp=Z,4.1nm,0.7s,mb4.5
LPL La Plagne 51.08 304 *e*P **P** **13 40 27.4 +0.7**
comp=Z,9.8nm,0.8s,mb4.5
LPL La Plagne 51.08 304 *e*P **P** **13 40 27.4 +0.7**
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LPL La Plagne 51.08 304 *e*P **P** **13 40 27.4 +0.7**
comp=Z,4.9nm,0.8s,mb4.5
MAJO Matsushiro 51.27 68 P **P** **13 40 27.5 -0.6**
MAJO pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MAJO Matsushiro 51.27 68 P **P** **13 40 27.5 -0.6**
comp=Z,7.6nm,1.0s,mb4.6
MAT Matsushiro 51.27 68 P **P** **13 40 28.5 +0.4**
MAT Matsushiro 51.27 68 *e*P **P** **13 40 29.0 +0.9**
MJAR Matsushiro Arr 51.27 68 P **P** **13 40 29.0 +0.9**
comp=Z,3.5nm,1.0s,mb4.2,baz=290,slow=8.8,SNR=9.9
MJAR Matsushiro Arr 51.27 68 P **P** **13 40 29.0 +0.9**
MJAR pmax pmax
comp=Z,4.0nm,1.0s
CABF La Chapelle 51.28 305 *e*P **P** **13 40 28.6 +0.5**
comp=Z,5.6nm,0.8s,mb4.3
CABF La Chapelle 51.28 305 *e*P **P** **13 40 28.6 +0.5**
CABF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
CABF La Chapelle 51.28 305 *e*P **P** **13 40 28.6 +0.5**
comp=Z,2.8nm,0.8s,mb4.2
FRF La Foret Royal 51.61 301 *e*P **P** **13 40 30.8 +0.2**
comp=Z,8.4nm,0.7s,mb4.5
FRF La Foret Royal 51.61 301 *e*P **P** **13 40 30.8 +0.2**
FRF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
FRF La Foret Royal 51.61 301 *e*P **P** **13 40 30.8 +0.2**
comp=Z,4.2nm,0.7s,mb4.5
LMR La Mourre 51.76 301 *e*P **P** **13 40 31.2 -0.5**
YSS Yuzh-Sakhalins 51.77 54 *e*P **P** **13 40 32.7 +0.9**
YSS pmax pmax
comp=Z,19nm,0.9s,mb5.0
YSS Yuzh-Sakhalins 51.77 54 *e*P **P** **13 40 32.7 +1.0**
comp=Z,19nm,0.9s,mb5.0
ORIF Oris-en-Rattie 51.81 303 *e*P **P** **13 40 31.9 -0.2**
ORIF *e*R
comp=Z,56nm,20.5s
SMRF Simiane la Rot 52.25 302 *e*P **P** **13 40 34.2 -1.2**
ASAJ Asahikawa 52.33 58 LR LR 14 04 14.7
comp=Z,51nm,18.8s,MS3.6,baz=227,slow=38
VIVF Saint-Julien-l 52.66 303 *e*P **P** **13 40 38.5 +0.1**
SMF Signal de Mont 52.78 306 *e*P **P** **13 40 37.9 -1.4**
comp=Z,7.5nm,0.7s,mb4.4
SMF Signal de Mont 52.78 306 *e*P **P** **13 40 37.9 -1.4**
SMF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SMF Signal de Mont 52.78 306 *e*P **P** **13 40 37.9 -1.4**
comp=Z,3.8nm,0.7s,mb4.4
AVF Avril sur Loir 53.07 306 *e*P **P** **13 40 40.3 -1.1**
comp=Z,7.3nm,0.7s,mb4.4
AVF Avril sur Loir 53.07 306 *e*P **P** **13 40 40.3 -1.1**
AVF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
AVF Avril sur Loir 53.07 306 *e*P **P** **13 40 40.3 -1.1**
comp=Z,3.7nm,0.7s,mb4.4
LASF Ste Croix 53.42 302 *e*P **P** **13 40 44.7 +0.7**
comp=Z,18nm,1.1s,mb4.6
TCF Toulx Ste Croi 53.96 305 *e*P **P** **13 40 48.7 +0.7**
CAF Calviac 54.42 304 *e*P **P** **13 40 51.2 -0.1**
MTLF Montolieu 54.77 302 *e*P **P** **13 40 54.0 +0.2**
LDF La Druitiere 54.90 309 *e*P **P** **13 40 54.8 0.0**
FLN La Foliniere 55.08 309 *e*P **P** **13 40 56.1 0.0**
GRR Gorron 55.42 309 *e*P **P** **13 40 58.7 +0.2**
comp=Z,9.4nm,0.9s,mb4.5
GRR Gorron 55.42 309 *e*P **P** **13 40 58.7 +0.2**
GRR pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
GRR Gorron 55.42 309 *e*P **P** **13 40 58.7 +0.2**
comp=Z,4.7nm,0.9s,mb4.5
MFF Saint Martin d 55.45 306 *e*P **P** **13 40 59.2 +0.5**
EPF Esparros 56.17 302 *e*P **P** **13 41 03.1 -0.8**
ETSF Etsaut 56.84 302 *e*P **P** **13 41 07.8 -0.9**
comp=Z,11nm,0.7s,mb4.7
ETSF Etsaut 56.84 302 *e*P **P** **13 41 07.8 -0.9**
ETSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ETSF Etsaut 56.84 302 *e*P **P** **13 41 07.8 -0.9**
comp=Z,5.3nm,0.7s,mb4.7
DAG Danmarks Havn 56.96 344⇓*i*P **P** **13 41 08.4 -1.1**
comp=Z,4.0nm,0.6s,mb4.6
DAG Danmarks Havn 56.96 344⇓*e*P **P** **13 41 08.4 -1.1**
DAG pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
DAG Danmarks Havn 56.96 344⇓*e*P **P** **13 41 08.4 -1.1**
comp=Z,4.0nm,0.6s,mb4.6
ROSF Rostrenen 56.98 309 *e*P **P** **13 41 09.9 +0.2**
comp=Z,18nm,1.0s,mb4.8
ROSF Rostrenen 56.98 309 *e*P **P** **13 41 09.9 +0.2**
ROSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ROSF Rostrenen 56.98 309 *e*P **P** **13 41 09.9 +0.2**
comp=Z,9.1nm,1.0s,mb4.8
ESDC Sonseca Array 60.38 300 P **P** **13 41 32.1 -1.1**
comp=Z,2.0nm,0.6s,mb4.3,baz=54,slow=7.5,SNR=8.0
SUMG Summit 63.37 342 *e*P **P** **13 41 54.2 +0.8**
comp=Z,12nm,0.8s,mb5.1
TOA0 Torodi Ar. Sit 68.16 271 *e*P **P** **13 42 23.6 -0.6**
TORD Torodi Ar. Bea 68.16 271 P **P** **13 42 23.8 -0.5**
comp=Z,4.6nm,0.7s,mb4.6,baz=47,slow=5.7,SNR=40
TORD LR LR 14 15 54.1
comp=Z,57nm,19.5s,MS3.8,baz=230,slow=39
TORD Torodi Ar. Bea 68.16 271 P **P** **13 42 23.8 -0.5**
TORD LR LR 14 15 54.1
INK Inuvik 75.08 10 *e*P **P** **13 43 05.1 -0.7**
INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 75.08 10 *e*P **P** **13 43 05.1 -0.8**
comp=Z,4.1nm,0.8s,mb4.4
LBTB Lobatse 75.19 225 *e*P **P** **13 43 06.9 +0.4**
LBTB pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LBTB Lobatse 75.19 225 *e*P **P** **13 43 06.9 +0.4**
comp=Z,7.3nm,0.8s,mb4.7
COLA College 75.32 17 *e*P **P** **13 43 07.3 +0.1**
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
COLA College 75.32 17 *e*P **P** **13 43 07.3 +0.1**
comp=Z,8.3nm,0.8s,mb4.7
ILAR Eielson Array 75.64 17 P **P** **13 43 08.4 -0.6**
comp=Z,2.4nm,0.9s,mb4.1,baz=305,slow=6.3,SNR=15
ILAR Eielson Array 75.64 17 P **P** **13 43 08.5 -0.6**
ILAR pmax pmax
comp=Z,2.0nm,0.9s
DBIC Dimbokro 77.09 269 P **P** **13 43 17.5 +0.2**
comp=Z,5.0nm,0.9s,mb4.4,baz=44,slow=8.7,SNR=3.3
DBIC Dimbokro 77.09 269 P **P** **13 43 17.5 +0.2**
DBIC pmax pmax
comp=Z,5.0nm,1.0s
DBIC Dimbokro 77.09 269 *e*P **P** **13 43 15.3 -2.0**
LIC Lamto 77.48 269 *e*P **P** **13 43 18.5 -1.0**
comp=Z,32nm,1.2s,mb4.8
LIC Lamto 77.48 269 *e*P **P** **13 43 18.5 -1.0**
comp=Z,16nm,1.2s,mb4.8
DAWY Dawson 77.90 14 *e*P **P** **13 43 21.6 -0.2**
BOSA Boshof 78.15 222 P **P** **13 43 23.5 +0.3**
comp=Z,7.5nm,0.6s,mb4.8,baz=64,slow=5.1,SNR=25
BOSA LR LR 14 15 33.7
comp=Z,30nm,19.5s,MS3.6,baz=196,slow=34
NWAO Narrogin (SRO) 78.71 144 P **P** **13 43 26.3 0.0**
comp=Z,10nm,0.9s,mb4.7,baz=290,slow=8.3,SNR=4.2
NWAO Narrogin (SRO) 78.71 144 P **P** **13 43 26.3 0.0**
NWAO pmax pmax
comp=Z,10.0nm,1.0s
WRA Warramunga Arr 79.06 124 P **P** **13 43 29.6 +1.3**
comp=Z,3.8nm,0.8s,mb4.4,baz=305,slow=6.8,SNR=48
WRA Warramunga Arr 79.06 124 P **P** **13 43 29.6 +1.4**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRAB Tennant Creek 79.06 124 *e*P **P** **13 43 29.0 +0.8**
WRAB pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
WRAB Tennant Creek 79.06 124 *e*P **P** **13 43 29.0 +0.8**
comp=Z,10nm,0.8s,mb4.8
WB2 Warramunga Arr 79.07 124⇑*i*P **P** **13 43 29.4 +1.1**
WB2 Warramunga Arr 79.07 124 *e*P **P** **13 43 29.2 +0.9**
ASPA Alice Springs 81.33 127 *e*P **P** **13 43 41.6 +1.2**
AS31 Alice Springs 81.33 127 *e*P **P** **13 43 41.0 +0.6**
ASAR Alice Springs 81.33 127 P **P** **13 43 41.5 +1.1**
comp=Z,5.8nm,0.8s,mb4.6,baz=307,slow=5.2,SNR=46
ASAR Alice Springs 81.33 127 P **P** **13 43 41.6 +1.2**
ASAR pmax pmax
comp=Z,6.0nm,0.8s
PMG Port Moresby 81.80 107 *e*P **P** **13 43 44.1 +1.2**
YKA Yellowknife Ar 82.71 4 P **P** **13 43 47.9 +0.2**
comp=Z,4.4nm,0.6s,mb4.7,baz=347,slow=5.2,SNR=40
YKA LR LR 14 25 07.4
comp=Z,34nm,18.5s,MS3.8,baz=185,slow=39
YKA Yellowknife Ar 82.71 4 P **P** **13 43 47.9 +0.2**
YKA pmax pmax
comp=Z,4.0nm,0.6s
YKA MLR MLR
comp=Z,35nm,18.5s
FORT Forrest 82.80 135 *e*P **P** **13 43 48.2 +0.1**
comp=Z,20nm,0.7s,mb5.3
SKAG Skagway 82.90 15 *e*P **P** **13 43 45.3 -3.3**
SCHQ Schefferville 84.51 338 LR LR 14 20 21.1
comp=Z,45nm,20.3s,MS3.9,baz=73,slow=35
CTA Charters Tower 87.64 116 *e*P **P** **13 44 12.5 +0.2**
comp=Z,8.5nm,1.3s,mb4.8
CTA Charters Tower 87.64 116 P **P** **13 44 13.1 +0.8**
comp=Z,5.7nm,1.0s,mb4.8,baz=301,slow=5.9,SNR=5.6
CTA Charters Tower 87.64 116 P **P** **13 44 13.1 +0.8**
CTA pmax pmax
comp=Z,6.0nm,1.0s
CTAO Charters Tower 87.64 116 *e*P **P** **13 44 12.5 +0.2**
EDM Edmonton 92.02 4 *e*P **P** **13 44 33.7 +0.9**
PLCA Paso Flores 151.53 248 PKP PKPdf 13 51 12.1 +0.5
comp=Z,1.3nm,0.8s,baz=113,slow=8.7,SNR=3.1
PLCA PKPbc PKPbc 13 51 18.2 +0.4
comp=Z,3.4nm,0.9s,baz=231,slow=2.8,SNR=4.9
PLCA Paso Flores 151.53 248 PKIKP PKPdf 13 51 12.1 +0.5
PLCA pmax pmax
comp=Z,1.0nm,0.8s
PLCA pmax pmax
comp=Z,3.0nm,1.0s

*ISCJB **08** 13:47:07.4±0.5,3108N±006×1387E±0.1,h401km±7km, mb3.3/7, Error ellipse: s-maj=16.7km s-min=9.9km az=171.8*
*IDC **08** 13:47:08.2±0.9,3099N×13847E,h381km±21km,mb3.1/6, mb1 3.2/9,mb1mx3.0/22,mbtmp3.9/9,Error ellipse: s-maj=52.0km s-min=13.0km az=72.0*
*NEIC **08** 13:47:08.4±0.7,3095N×13844E,h384km±9km,mb4.3/2, Error ellipse: s-maj=15.8km s-min=9.3km az=86.0*
*JMA **08** 13:47:09.2±0.3,3130N×13905E,h412km,M3.4*

ISC 08 13:47:08.7±0.6,3114N±007×1387E±01,h394km±7km,n25, σ1§34/36,mb3.3/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.18**	**25**	P		P	**Pn**	**13 48 06.0**	**+0.8**
	36nm,0.3s,baz=246,slow=24,SNR=31								
JHJ				S		S	**S**	**13 48 51.6**	**+0.7**
	25nm,0.3s,baz=61,slow=22,SNR=3.7								
JHJ2	**Mitsune**	**2.19**	**26**	P		P	**Pn**	**13 48 05.8**	**+0.5**
JIM2	**Oshima 3**	**3.62**	**10**	P		P	**Pn**	**13 48 17.9**	**+1.1**
JIE	**Ise**	**3.65**	**333**	P		P	**Pn**	**13 48 19.1**	**+2.0**
JIE				*e*S		S	**S**	**13 49 13.8**	**+1.4**
BSO1	**Boso 1**	**4.00**	**28**	P		P	**Pn**	**13 48 19.8**	**-0.6**
BSO1				*e*S		S	**S**	**13 49 17.1**	**-1.3**
JOD2	**Odawara 2**	**4.12**	**5**	P		P	**Pn**	**13 48 21.4**	**-0.2**
JOD2				*e*S		S	**S**	**13 49 19.6**	**-1.1**
JRY	**Ryogami san**	**4.87**	**2**	P		P	**Pn**	**13 48 30.0**	**+1.0**
JRY				*e*S		S	**S**	**13 49 32.3**	**-1.9**
CBIJ	**Chichi jima**	**5.06**	**142**	S		S	**S**	**13 49 30.6**	**-7.4**
	63nm,0.3s,baz=273,slow=20,SNR=7.4								
MJAR	**Matsushiro Arr**	**5.40**	**356**	P		P	**Pn**	**13 48 35.9**	**+1.3**
	1.2nm,0.3s,baz=172,slow=10,SNR=19								
MJAR				S		S	**S**	**13 49 42.4**	**-2.1**
	0.5nm,0.3s,baz=358,slow=24,SNR=4.9								
MAJO	**Matsushiro**	**5.40**	**356**	*e*Pn		Pn	**Pn**	**13 48 35.4**	**+0.8**
MAJO				*e*Sn		S	**S**	**13 49 42.4**	**-2.1**
MAT	**Matsushiro**	**5.40**	**356**	P		Pn	**Pn**	**13 48 35.7**	**+1.1**
MAT				S		S	**S**	**13 49 41.9**	**-2.6**
MAT	**Matsushiro**	**5.40**	**356**	P		Pn	**Pn**	**13 48 35.9**	**+1.3**
MAT				*e*S		S	**S**	**13 49 42.0**	**-2.5**
MAT	**Matsushiro**	**5.40**	**356**	P		Pn	**Pn**	**13 48 36.0**	**+1.4**
MAT				*e*S		S	**S**	**13 49 42.0**	**-2.5**
JMK	**Ichinoseki**	**8.06**	**14**	P		Pn	**Pn**	**13 49 05.2**	**+0.9**
JMK				*e*S		S	**S**	**13 50 36.2**	**-2.7**
ASAJ	**Asahikawa**	**13.31**	**12**	P		P	**P**	**13 50 05.7**	**+2.7**
	0.7nm,0.3s,baz=237,slow=12,SNR=8.1								
YSS	**Yuzh-Sakhalins**	**16.10**	**10**	*e*P		P	**P**	**13 50 35.4**	**+2.2**
	13nm,0.4s								
YHNB	**Yeheng**	**16.60**	**251**	P		P	**P**	**13 50 36.1**	**-2.5**
SONM	**Songino Array**	**29.70**	**313**	P		P	**P**	**13 52 40.5**	**+0.3**
	0.3nm,0.4s,mb3.0,baz=116,slow=8.6,SNR=3.8								
MKAR	**Makanchi Array**	**45.58**	**307**	P		P	**P**	**13 54 51.4**	**+0.2**
	0.7nm,0.4s,mb3.4,baz=83,slow=10,SNR=12								
FITZ	**Fitzroy Crossi**	**50.54**	**196**	P		P	**P**	**13 55 27.7**	**-0.9**
	baz=32,slow=15								
WRAB	**Tennant Creek**	**50.95**	**185**	*e*P		P	**P**	**13 55 30.6**	**-1.1**
	4.2nm,0.7s,mb3.8								
WRA	**Warramunga Arr**	**50.96**	**185**	P		P	**P**	**13 55 30.9**	**-0.9**
	2.2nm,0.5s,mb3.6,baz=1.2,slow=7.8,SNR=54								
ASAR	**Alice Springs**	**54.69**	**185**	P		P	**P**	**13 55 58.4**	**-0.3**
	0.2nm,0.4s,mb2.7,baz=14,slow=13,SNR=4.4								
STKA	**Stephens Creek**	**62.74**	**177**	P		P	**P**	**13 56 53.0**	**-0.4**
	1.1nm,0.5s,mb3.6,baz=310,slow=21,SNR=3.4								
FINES	**FINESS Array B**	**72.97**	**332**	P		P	**P**	**13 57 57.1**	**+0.7**
	0.2nm,0.5s,mb2.9,baz=79,slow=9.9,SNR=4.6								

IDC 08 13:51:57.3±4.7,1810S×17545W,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.6/14,mbtmp3.5/3,Error ellipse: s-maj=334.8km s-min=32.1km az=152.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.37**	**259**	P		P		**14 00 33.3**	**+0.2**
	0.6nm,1.1s,baz=97,slow=7.6,SNR=5.6								
ASAR	**Alice Springs**	**47.45**	**254**	P		P		**14 00 34.2**	**+0.6**
	0.5nm,1.0s,baz=95,slow=8.4,SNR=4.0								
NVAR	**Mina Array Bea**	**77.63**	**42**	P		P		**14 03 56.0**	**+0.5**
	0.4nm,0.6s,baz=221,slow=5.9,SNR=4.6								

JMA 08 14:18:39.6±0.2,3183N×14088E,h19km,M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.56**	**325**	P		P	Pn	**14 19 06.9**	**+0.6**
JHJ2				*e*S		Sn	Sn	**14 19 26.7**	**+0.7**
BSO1	**Boso 1**	**2.82**	**2**	P		P	Pn	**14 19 25.3**	**+1.7**
BSO3	**Boso 3**	**2.98**	**354**	P		P	Pn	**14 19 27.4**	**+1.6**
BSO3				*e*S		Sn	Sn	**14 20 02.5**	**+1.5**
JIM2	**Oshima 3**	**3.12**	**338**	P		P	Pn	**14 19 29.1**	**+1.3**
JHU	**Hanno**	**4.23**	**342**	P		P	Pn	**14 19 44.8**	**+1.8**
JHU				*e*S		Sn	Sn	**14 20 33.0**	**+1.2**
JAG	**Ashikaga**	**4.73**	**346**	P		P	Pn	**14 19 52.1**	**+2.2**
JHO	**Hitachi**	**4.78**	**357**	P		P	Pn	**14 19 50.7**	**+0.2**
JHO				*e*S		Sn	Sn	**14 20 43.4**	**-1.9**

*ATH **08** 14:48:55.8,3747N×2337E,h111km±7km*
*HLW **08** 14:48:58.0,37.18N×2329E,h33km,Mb3.4*
*ISCJB **08** 14:48:59.7±2.3,369N±02×229E±03,h128km±12km,Error ellipse: s-maj=50.7km s-min=16.6km az=84.0*
*CSEM **08** 14:49:01.5±0.5,3670N×2266E,h100km,ML3.4,Error ellipse: s-maj=23.8km s-min=12.7km az=51.0*

ISC 08 14:49:00.7±2.2,369N±02×229E±03,h123km±13km,n8, σ1§02/11,2C-2D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.16**	**156**	*e*P		P	**Pn**	**14 49 15.9**	**-1.6**
VLI				*e*S		S	**Sn**	**14 49 30.7**	**+0.5**
KYTH	**Kithira**	**0.60**	**166**	*e*P		P	**Pn**	**14 49 20.0**	**+0.4**
ITM	**Ithomi**	**0.81**	**293**	*e*P		P	**Pn**	**14 49 19.9**	**-1.3**
ITM				*e*S		S	**Sn**	**14 49 37.4**	**+0.7**
VAM	**Vamos**	**1.81**	**143**	*e*P		P	**Pn**	**14 49 32.7**	**+0.7**
SLUM		**5.70**	**159**	⇑P		P	**Pn**	**14 50 23.8**	**+0.7**
HMAT	**Matruh**	**6.75**	**147**	⇓*e*P		P	**Pn**	**14 50 36.5**	**-0.7**
SWA2		**7.91**	**163**	⇓P		P	**Pn**	**14 50 54.1**	**+1.2**
SWA1		**7.95**	**162**	⇑P		P	**Pn**	**14 50 54.4**	**+0.9**
SWA1				S		S	**Sn**	**14 52 20.0**	**-1.7**

IDC 08 14:49:12.4±1.3**,103N×12299E,h0km,mb3.6**/3**,mb1 3.9**/4**, mb1mx3.6**/19**,mbtmp3.7**/4**,ML4.1**/1**,Error ellipse: s-maj=123.5km s-min=23.9km az=65.0,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.19**	**172**	P	Pn	14 53 38.2	-0.2
	0.5nm,0.3s,baz=6.1,slow=12,SNR=17						
WRA	**Warramunga Arr**	**23.63**	**152**	P	P	14 54 25.9	+0.6
	1.9nm,0.8s,baz=328,slow=11,SNR=20						
WRA				PcP	PcP	14 58 08.8	-1.2
	0.6nm,1.1s,baz=317,slow=2.3,SNR=5.1						
ASAR	**Alice Springs**	**26.74**	**157**	P	P	14 54 55.0	+1.4
	0.3nm,0.5s,baz=344,slow=14,SNR=10						
ASAR				PcP	PcP	14 58 15.6	-1.3
	0.2nm,0.3s,baz=345,slow=2.0,SNR=8.1						
MKAR	**Makanchi Array**	**57.74**	**328**	P	P	14 59 06.2	+1.2
	0.2nm,0.4s,baz=132,slow=8.3,SNR=4.9						

BJI 08 15:19:47.7,2939N×10569E,h18km,ML3.3,Ms3.5, Msz3.1,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.26**	**313**	*e*P	Pn	15 20 23.8	-0.3
CD2				*e*PG	Pg	15 20 25.0	-6.0
CD2				SG	Sg	15 20 53.0	-7.3
CD2				Smax			
	comp=N,433nm,0.6s						
CD2				Smax			
	comp=E,361nm,0.6s						
GYA	**Guiyang**	**3.04**	**163**	P	Pn	15 20 40.4	+5.5
GYA				PG	Pg	15 20 46.3	+0.2
GYA				S	Sn	15 21 13.2	+2.3
GYA				SG	Sg	15 21 20.9	-4.6
GYA				Smax			
	comp=N,130nm,0.7s						
GYA				Smax			
	comp=E,210nm,0.7s						
KMI	**Kunming**	**5.00**	**212**	P	Pn	15 21 03.2	+1.5
XAN	**Xi'an**	**5.39**	**30**	PG	Pg	15 21 24.5	-6.4
XAN				SG	Sg	15 22 32.0	-8.7
XAN				Smax			
	comp=N,54nm,0.9s						
XAN				Smax			
	comp=E,56nm,0.9s						

*NEIC **08** 15:39:00.4,3353S×6996W,h4km,ML2.5(GUC),After GUC.*

GUC 08 15:39:00.4±0.8**,3353S×6996W,h4km**±3km**,MD3.5,ML2.5, 9C-8D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.35**	**306**	⇑*i*P	Pg	15 39 07.6	+0.6
FCH				*i* S	Sg	15 39 12.8	+1.2
FCH				AML	AML	15 39 14.0	
	comp=E,1μm,0.2s						
SJCH	**San Jose de Ma**	**0.35**	**252**	⇓*i*P	Pg	15 39 07.0	-0.1
SJCH				*i* S	Sg	15 39 12.2	+0.6
SJCH				AML	AML	15 39 13.1	
	comp=N,2μm,0.1s						
SJCH	**San Jose de Ma**	**0.35**	**252**	⇓*i*P	Pg	15 39 07.0	-0.1
SJCH				*i* S	Sg	15 39 12.2	+0.6
PCH	**Pirque**	**0.47**	**259**	⇑*i*P	Pg	15 39 10.1	+0.6
PCH				*i* S	Sg	15 39 17.0	+1.4
FSR	**Penalolen**	**0.48**	**276**	*e*P	Pg	15 39 09.4	-0.2
FSR				*i* S	Sg	15 39 17.3	+1.4
FSR				AML	AML	15 39 18.5	
	comp=N,686nm,0.7s						
FSR	**Penalolen**	**0.48**	**276**	*e*P	Pg	15 39 09.4	-0.2
FSR				*i* S	Sg	15 39 17.3	+1.4
CLCH	**Cerro Calan**	**0.50**	**286**	⇑*i*P	Pg	15 39 10.6	+0.5
CLCH				*i* S	Sg	15 39 18.2	+1.6
CLCH				AML	AML	15 39 19.3	
	comp=N,722nm,0.5s						
DSCH	**Colegio Aleman**	**0.53**	**285**	⇑*i*P	Pg	15 39 10.4	-0.2
DSCH				*i* S	Sg	15 39 18.3	+0.9
ANTU	**Antumapu**	**0.57**	**266**	⇓*i*P	Pg	15 39 11.8	+0.5
ANTU				*i* S	Sg	15 39 19.8	+1.2
ANTU				AML	AML	15 39 20.2	
	comp=N,342nm,0.2s						
ANTU	**Antumapu**	**0.57**	**266**	⇓*i*P	Pg	15 39 11.8	+0.5
ANTU				*i* S	Sg	15 39 19.8	+1.2
STL	**Santa Lucia**	**0.58**	**279**	⇑*i*P	Pg	15 39 11.4	-0.1
STL				*i* S	Sg	15 39 19.8	+0.8
STL				AML	AML	15 39 20.1	
	comp=N,339nm,0.2s						
SAN	**Santiago**	**0.59**	**278**	*i* S	Sg	15 39 20.9	+1.3
SAN				AML	AML	15 39 21.1	
	comp=N,498nm,0.2s						
CHCH	**Chadas Angostu**	**0.70**	**235**	⇑*i*P	Pg	15 39 14.1	+0.2
CHCH				*i* S	Sg	15 39 23.8	+0.8
RCDM	**Rinconada Maip**	**0.71**	**273**	*i* P	Pg	15 39 14.3	+0.3
RCDM				*i* S	Sg	15 39 24.6	+1.3
RCDM				AML	AML	15 39 24.8	
	comp=N,472nm,0.2s						
PEL	**Peldehue**	**0.72**	**302**	⇓*i*P	Pg	15 39 14.2	0.0
PEL				*i* S	Sg	15 39 24.7	+1.0
PEL				AML	AML	15 39 25.9	
	comp=N,419nm,0.3s						
PEL	**Peldehue**	**0.72**	**302**	⇓*i*P	Pg	15 39 14.2	0.0
PEL				*i* S	Sg	15 39 24.7	+1.0
CACH	**El Canelo**	**0.79**	**222**	*e*P	Pg	15 39 15.6	0.0
CACH				*i* S	Sg	15 39 27.0	+1.2
TACH	**Talagante**	**0.83**	**261**	⇑*i*P	Pg	15 39 16.3	0.0
TACH				*i* S	Sg	15 39 27.6	+0.6
CICH	**Cipreses**	**0.87**	**206**	⇑*i*P	Pg	15 39 17.1	-0.1
CICH				*i* S	Sg	15 39 29.9	+1.4
JACH	**Jahuel**	**1.00**	**328**	⇑*i*P	Pg	15 39 19.5	-0.2
JACH				*i* S	Sg	15 39 33.7	+1.1
ROCH	**El Roble**	**1.05**	**302**	⇓*i*P	Pg	15 39 20.1	-0.3
LNV	**Longovilo**	**1.28**	**250**	⇓*i*P	Pg	15 39 23.8	-1.2
LNV				*i* S	Sg	15 39 41.2	-0.4
LCCH	**Las Cruces**	**1.35**	**272**	*e*P	Pn	15 39 25.1	-0.9
LCCH				*i* S	Sg	15 39 43.9	+0.2
SFDO	**San Fernando**	**1.39**	**219**	*i* P	Pn	15 39 26.3	-0.3
SFDO				*i* S	Sb	15 39 45.6	+0.6

TRN 08 15:51:34.2,1679N×6001W,h22km,MD3.6,M3.3(FDF)**, Md3.6**(FDF)**,2C,Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEG	**Port Louis**	**1.48**	**255**	*e*P	Pn	15 52 01.2	+1.6
MGG	**Marie-Galante**	**1.52**	**236**	⇑*e*P	Pn	15 52 02.0	+1.9
DOG	**Dongo Capester**	**1.72**	**244**	*e*P	Pn	15 52 05.0	+2.2
DWS	**Wesley**	**1.74**	**226**	*e*P	Pn	15 52 04.3	+1.2
DWS				*e*S	Sn	15 52 26.6	+1.9
PHG	**Guadaloupe-2**	**1.75**	**244**	*e*P	Pn	15 52 05.5	+2.3
SCG	**Saint Claude**	**1.77**	**245**	*e*P	Pn	15 52 05.8	+2.2
SCG				*e*S	Sn	15 52 20.8	-4.6
BPA	**Boggy Peak**	**1.79**	**278**	*e*P	Pn	15 52 05.7	+1.9
BPA				*e*S	Sn	15 52 29.3	+3.5
LZG	**Guadaloupe-1**	**1.81**	**249**	⇑*e*P	Pn	15 52 05.8	+1.7
TBG	**Guadaloupe-3**	**1.83**	**240**	*e*P	Pn	15 52 05.8	+1.5
CPB	**Codrington**	**1.93**	**296**	*e*P	Pn	15 52 06.9	+1.2
CPB				*e*S	Sn	15 52 32.0	+2.7
CRM	**Caravelle**	**2.20**	**203**	*e*P	Pn	15 52 11.1	+1.6
CRM				*e*S	Sn	15 52 38.4	+2.3
FDF	**Fort de France**	**2.32**	**208**	*e*P	Pn	15 52 13.2	+2.1
FDF				*e*S	Sn	15 52 40.9	+2.0
MVM	**Montagne Vaucl**	**2.38**	**201**	*e*P	Pn	15 52 14.0	+2.1
MVM				*e*S	Sn	15 52 43.4	+2.9
BIM	**Bigot**	**2.48**	**204**	*e*P	Pn	15 52 15.7	+2.4
BIM				*e*S	Sn	15 52 46.0	+3.1

*ISCJB **08** 15:56:26.9±0.7,5150N±004×1595E±004,h0km,Error ellipse: s-maj=5.5km s-min=3.0km az=35.8*

*IPEC **08** 15:56:26.2±0.3,5167N×16.10E,h0km,ML1.9/3,Error ellipse: s-maj=1.9km s-min=1.5km az=45.0*

*CSEM **08** 15:56:28.4±0.3,5156N×1600E,h1km,ML2.8/8,Error ellipse: s-maj=4.7km s-min=2.4km az=7.0*

*VIE **08** 15:56:29.9±0.4,5135N×16.15E,h0km,mb1.8/3,ML2.5/4, Error ellipse: s-maj=3.1km s-min=2.6km az=94.0 66 km WNW of Breslau Suspected Mining induced.*

*PRU **08** 15:56:29.1,5151N×1596E,h0km*

ISC 08 15:56:27.5±0.8**,5156N**±004×**1598E**±004**,h0km,n21, σ0.81**/43**,4C,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**165**	*e*Pg	**Pg**	**15 56 42.5**	**+0.7**
KSP				e		15 56 44.2	
KSP				*i* Sg	**Sg**	**15 56 52.6**	**+1.1**
KSP				e		15 56 56.1	
KSP	**Ksiaz**	**0.74**	**165**	*e*Pg	**Pg**	**15 56 42.4**	**+0.6**
KSP				*e*Sg	**Sg**	**15 56 52.6**	**+1.1**
UPC	**Upice**	**1.05**	**179**	*e*PG	**Pg**	**15 56 47.8**	**+0.1**
DPC	**Dobruska-Polom**	**1.23**	**170**	*e*PG	**Pg**	**15 56 51.2**	**+0.1**
DPC				*e*SG	**Sg**	**15 57 08.2**	**+1.1**
	14nm,0.4s						
DPC	**Dobruska-Polom**	**1.23**	**170**	*e*Pg	**Pg**	**15 56 51.1**	**0.0**
DPC				*e*Sg	**Sg**	**15 57 08.2**	**+1.1**
PVCC	**Panska Ves**	**1.36**	**221**	*e*PG	**Pg**	**15 56 54.2**	**+0.5**
PVCC	**Panska Ves**	**1.36**	**221**	*e*Pg	**Pg**	**15 56 53.7**	**0.0**
PVCC				*e*Sg	**Sg**	**15 57 12.9**	**+1.5**
BRG	**Berggiesshubel**	**1.46**	**243**	PG	**Pg**	**15 56 55.5**	**+0.1**
BRG				SG	**Sg**	**15 57 14.6**	**+0.3**
	23nm,0.3s						
PRU	**Pruhonice**	**1.82**	**211**	*e*PG	**Pg**	**15 57 02.2**	**-0.2**
PRU				*e*SG	**Sg**	**15 57 26.1**	**+0.1**
	13nm,0.5s						
CLL	**Collm**	**1.88**	**263**	*i* Pn	**Pn**	**15 56 59.7**	**-1.2**
CLL				*e*Pg	**Pg**	**15 57 03.0**	**-0.6**
CLL				*i* x	x	15 57 07.3	
CLL				*i* Sg	**Sg**	**15 57 27.9**	**-0.1**
	comp=Z,7.0nm,0.6s						
MORC	**Moravsky Berou**	**2.04**	**150**	*e*Pn	**Pn**	**15 57 02.4**	**-0.8**
MORC				*e*Sg	**Sg**	**15 57 32.1**	**-1.1**
	comp=Z,6.4nm,0.3s						
OKC	**Ostrava-Krasne**	**2.21**	**141**	*e*PG	**Pg**	**15 57 09.6**	**-0.3**
OKC				*e*SG	**Sg**	**15 57 37.0**	**-1.5**
	comp=Z,9.4nm,0.4s						
VRAC	**Vranov**	**2.29**	**170**	*e*Pn	**Pn**	**15 57 06.9**	**+0.4**
VRAC				*e*Sg	**Sg**	**15 57 41.0**	**-0.1**
	comp=Z,5.3nm,0.2s						
KRUC	**Moravsky**	**2.52**	**174**	*e*Pn	**Pn**	**15 57 10.0**	**+0.4**
KRUC				*e*Sg	**Sg**	**15 57 48.1**	**-0.3**
	comp=Z,3.8nm,0.3s						
NKC	**Novy Kostel**	**2.60**	**241**	*e*PN	**Pn**	**15 57 11.8**	**+1.0**
NKC				*e*PG	**Pg**	**15 57 17.4**	**0.0**
NKC				*e*SG	**Sg**	**15 57 50.7**	**-0.4**
OJC	**Ojcow**	**2.77**	**118**	*e*Pg	**Pg**	**15 57 21.8**	**+1.3**
OJC				*e*Sg	**Sg**	**15 57 56.7**	**+0.3**
KHC	**Kasperske Hory**	**2.88**	**213**	*e*PN	**Pn**	**15 57 15.6**	**+1.0**
KHC				*e*PG	**Pg**	**15 57 20.5**	**-2.2**
KHC				*e*SG	**Sg**	**15 57 58.5**	**-1.5**
	comp=Z,3.4nm,0.4s						
MOX	**Moxa**	**2.90**	**253**	*e*PG	**Pg**	**15 57 23.1**	**0.0**
MOX				*e*SG	**Sg**	**15 58 01.1**	**+0.4**
CONA	**Conrad Observa**	**3.64**	**181**	⇑*i*Pn	**Pn**	**15 57 24.8**	**-0.3**
CONA				⇑*i*Sg	**Sg**	**15 58 23.4**	**-0.9**
	comp=Z,4.3nm,0.3s						
CONA	**Conrad Observa**	**3.64**	**181**	Pn	**Pn**	**15 57 24.8**	**-0.3**
CONA				Sg	**Sg**	**15 58 23.4**	**-1.0**
	comp=Z,4.3nm,0.3s						
MOA	**Molln**	**3.88**	**197**	⇑*i*Pn	**Pn**	**15 57 28.8**	**+0.4**
MOA				⇑*i*Sg	**Sg**	**15 58 32.9**	**+0.8**
	comp=Z,4.7nm,0.6s						

*ISCJB **08** 16:12:35.7±0.4,2159S±005×3309E±006,h10km, mb4.3/19,MS3.7/3,Error ellipse: s-maj=9.0km s-min=5.6km az=82.5*

*MOS **08** 16:12:36.4±1.3,2141S×3294E,h10km,mb4.8/9,Error ellipse: s-maj=20.3km s-min=11.6km az=69.2*

*IDC **08** 16:12:36.5±0.8,2151S×3305E,h0km,mb4.1/8, mb1 4.3/12,mb1mx4.1/26,mbtmp4.3/12,ML4.4/3,MS3.5/8, Ms1 3.4/8,ms1mx3.2/30,Error ellipse: s-maj=26.5km s-min=18.4km az=128.0*

*PRE **08** 16:12:36.7±1.6,2155S×3307E,h5km,ML5.2*

*NEIC **08** 16:12:38.0±0.5,2147S×3305E,h10km,mb4.6/9,Error ellipse: s-maj=14.7km s-min=9.6km az=134.0*

ISC 08 16:12:37.3±0.4**,2164S**±004×**3310E**±005**,h10km,n65, σ1.66**/70**,mb4.3**/19**,MS3.7**/3**,Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**4.46**	**285**	Pn	**Pn**	**16 13 46.9**	**+1.9**
	8.0nm,0.3s,baz=106,slow=14,SNR=128						
MATP				Sn	**Sn**	**16 14 37.4**	**+0.4**
	36nm,0.3s,baz=198,slow=21,SNR=16						
MATP				Lg		16 14 54.3	
	64nm,0.3s,baz=187,slow=20,SNR=32						
MATP				LR	LR	16 15 40.3	
	comp=Z,511nm,20.2s,baz=107,slow=42						
ERPM	**east rand prop**	**6.38**	**223**	*e*P	**Pn**	**16 14 13.8**	**+2.4**
ERPM				*e*S	**Sn**	**16 15 24.1**	**-0.2**
ERPM				AML	AML	16 16 08.0	
	comp=Z,241nm,0.6s						
LBTB	**Lobatse**	**7.67**	**243**	*e*P	**Pn**	**16 14 30.4**	**+1.4**
LBTB				*e*S	**Sn**	**16 15 53.6**	**-2.3**
LBTB				AML	AML	16 16 43.3	
	comp=Z,187nm,0.7s						
LBTB	**Lobatse**	**7.67**	**243**	Pn	**Pn**	**16 14 31.1**	**+2.1**
	comp=Z,3.5nm,0.3s,baz=59,slow=14,SNR=43						
LBTB				Sn	**Sn**	**16 15 59.6**	**+3.7**
	comp=Z,8.9nm,0.3s,baz=170,slow=19,SNR=6.9						
LBTB				Lg		16 16 33.4	
	comp=Z,15nm,0.3s,baz=165,slow=20,SNR=8.6						
LBTB				LR	LR	16 17 46.8	
	comp=Z,281nm,19.4s,baz=64,slow=40						
LBTB	**Lobatse**	**7.67**	**243**	*e*Pn	**Pn**	**16 14 30.4**	**+1.4**
LBTB				*e*Sn	**Sn**	**16 15 52.9**	**-3.1**
SEK	**Senekal**	**8.30**	**216**	*e*P	**Pn**	**16 14 39.5**	**+1.8**
SEK				*e*S	**Sn**	**16 16 08.9**	**-2.6**
SEK				AML	AML	16 17 05.9	
	comp=Z,187nm,0.8s						
SWZ	**Schweizer**	**8.97**	**231**	*e*P	**Pn**	**16 14 49.6**	**+2.7**
SWZ				*e*S	**Sn**	**16 16 24.8**	**-3.2**
SWZ				AML	AML	16 17 22.1	
	comp=Z,89nm,0.6s						
KSD	**Kokstad**	**9.46**	**200**	*e*P	**Pn**	**16 14 55.1**	**+1.5**
KSD				*e*S	**Sn**	**16 16 38.1**	**-1.9**
KSD				AML	AML	16 17 46.9	
	comp=Z,144nm,0.7s						
BOSA	**Boshof**	**9.93**	**224**	*e*P	**Pn**	**16 15 01.4**	**+1.3**
BOSA				*e*S	**Sn**	**16 16 48.1**	**-3.5**
BOSA				AML	AML	16 18 11.7	
	comp=Z,88nm,0.8s						
BOSA	**Boshof**	**9.93**	**224**	Pn	**Pn**	**16 15 01.3**	**+1.3**
	comp=Z,2.1nm,0.3s,baz=53,slow=13,SNR=30						
BOSA				Sn	**Sn**	**16 16 49.0**	**-2.6**
	comp=Z,3.0nm,0.3s,baz=6.4,slow=6.7,SNR=9.4						
BOSA				Lg		16 17 46.9	
	comp=Z,4.5nm,0.3s,baz=354,slow=13,SNR=3.2						
BOSA				LR	LR	16 19 10.4	
	comp=Z,192nm,20.2s,baz=54,slow=39						
BOSA	**Boshof**	**9.93**	**224**	P	**Pn**	**16 15 01.3**	**+1.2**
BOSA						16 16 49.0	
OPO	**Ambohidratompo**	**13.58**	**80**	Pn	**Pn**	**16 15 47.5**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=252,slow=20,SNR=3.2						
OPO				Sn	**Sn**	**16 18 12.5**	**-8.4**
	comp=Z,1.4nm,0.3s,baz=113,slow=16,SNR=5.8						
TSUM	**Tsumeb**	**14.74**	**277**	Pn	**Pn**	**16 16 04.1**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=96,slow=9.8,SNR=26						
TSUM				Sn	**Sn**	**16 18 43.8**	**-5.5**
	comp=Z,0.8nm,0.3s,baz=250,slow=22,SNR=8.6						
TSUM				Lg		16 20 14.4	
	comp=Z,1.4nm,0.3s,baz=69,slow=14,SNR=3.3						
TSUM				LR	LR	16 22 18.3	
	comp=Z,45nm,20.8s,baz=247,slow=40						
TSUM	**Tsumeb**	**14.74**	**277**	*e*Pn	**Pn**	**16 16 03.8**	**-2.0**
TSUM				*e*Sn	**Sn**	**16 18 39.3**	**-10**
TSUM				Sn	**Sn**	**16 18 43.8**	**-5.5**
TSUM				Lg		16 20 14.4	
SUR	**Sutherland**	**15.29**	**223**	*e*P	**Pn**	**16 16 16.1**	**+2.9**
SUR				*e*S	**Sn**	**16 18 56.0**	**-6.7**
SUR	**Sutherland**	**15.29**	**223**	Pn	**Pn**	**16 16 14.2**	**+1.0**
	comp=Z,2.4nm,0.3s,baz=69,slow=14,SNR=17						
SUR				Sn	**Sn**	**16 18 58.5**	**-4.2**
	comp=Z,1.8nm,0.3s,baz=5.4,slow=16,SNR=5.3						
SUR				Lg		16 20 36.0	
	comp=Z,1.3nm,0.3s,baz=134,slow=21,SNR=3.6						
SUR				LR	LR	16 22 14.7	
	comp=Z,248nm,18.5s,baz=88,slow=38						
SUR	**Sutherland**	**15.29**	**223**	*e*Pn	**Pn**	**16 16 14.0**	**+0.8**
SUR				*e*Sn	**Sn**	**16 18 55.0**	**-7.6**
SUR				Sn	**Sn**	**16 18 58.5**	**-4.2**
SUR				Lg		16 20 36.0	
KMBO	**Kilima Mbogo**	**20.79**	**12**	P	**P**	**16 17 17.7**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=225,slow=22,SNR=3.8						
KMBO				Lg		16 23 23.8	
	comp=Z,3.5nm,1.0s,baz=74,slow=7.4,SNR=2.8						
KMBO				LR	LR	16 26 18.8	
	comp=Z,6.6nm,19.2s,baz=96,slow=40						
TOA0	**Torodi Ar. Sit**	**46.31**	**315**	*e*P	**P**	**16 21 03.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**46.31**	**315**	P	**P**	**16 21 03.9**	**+0.6**
	comp=Z,2.5nm,0.8s,mb4.2,baz=129,slow=7.5,SNR=20						
TORD				LR	LR	16 42 12.0	
	comp=Z,29nm,19.4s,MS3.2,baz=80,slow=38						
DBIC	**Dimbokro**	**46.65**	**303**	P	**P**	**16 21 07.9**	**+2.0**
DBIC				pmax	pmax		
	comp=Z,14nm,1.3s						
DBIC	**Dimbokro**	**46.65**	**303**	P	**P**	**16 21 07.9**	**+2.0**
	comp=Z,14nm,1.3s,mb4.7						
MAW	**Mawson**	**49.60**	**166**	P	**P**	**16 21 32.4**	**+3.7**
MAW				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MAW	**Mawson**	**49.60**	**166**	P	**P**	**16 21 32.4**	**+3.7**
	comp=Z,6.6nm,1.0s,mb4.6						
SNAA	**Sanae**	**54.12**	**193**	*e*	**P**	**16 22 04.3**	**+1.9**
SNAA				*e*	pP	16 22 07.2	+1.6
SNAA	**Sanae**	**54.12**	**193**	P	**P**	**16 21 59.2**	**-3.2**
SNAA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SNAA	**Sanae**	**54.12**	**193**	P	**P**	**16 21 59.2**	**-3.2**
	comp=Z,1.4nm,1.0s,mb3.9						
VNA1	**Neumayer--Stat**	**54.66**	**196**	*e*	**P**	**16 22 09.0**	**+2.7**
VNA1				*e*	pP	16 22 12.1	+2.6
VNA1				*e*		16 22 14.3	
GNI	**Garni**	**62.42**	**10**	P	**P**	**16 22 58.6**	**-1.8**
GNI				pmax	pmax		
	comp=Z,13nm,1.0s						
GNI	**Garni**	**62.42**	**10**	P	**P**	**16 22 58.6**	**-1.8**
	comp=Z,12nm,1.0s,mb5.0						
GERES	**GERESS Array B**	**72.27**	**347**	P	**P**	**16 24 00.1**	**-2.8**
	comp=Z,1.0nm,0.8s,mb3.8,baz=158,slow=4.3,SNR=7.3						
CLL	**Collm**	**74.75**	**347**	*i* *PP	pP	16 24 19.7	-1.0
CLL	**Collm**	**74.75**	**347**	*i* pP	pP	16 24 19.7	-1.0
AKTK	**Aktyubinsk**	**75.06**	**16**	P	**P**	**16 24 19.1**	**-0.1**
AKTO	**Aktyubinsk**	**75.06**	**16**	P	**P**	**16 24 19.1**	**-0.1**
	comp=Z,3.4nm,1.2s,mb4.2,baz=152,slow=6.2,SNR=4.6						
BDFB	**Brasilia**	**76.31**	**258**	P	**P**	**16 24 27.4**	**+1.1**
	comp=Z,3.6nm,0.9s,mb4.3,baz=141,slow=6.5,SNR=2.8						
BDFB				LR	LR	16 53 23.1	
	comp=Z,59nm,18.9s,MS3.9,baz=29,slow=32						
VNDA	**Vanda**	**76.64**	**170**	P	**P**	**16 24 30.1**	**+1.9**
	comp=Z,2.2nm,1.1s,mb4.0,baz=271,slow=3.3,SNR=4.0						
SBA	**Scott Base**	**77.16**	**171**	*e*P	**P**	**16 24 33.9**	**+2.7**
SBA				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
SBA	**Scott Base**	**77.16**	**171**	*e*P	**P**	**16 24 33.9**	**+2.7**
	comp=Z,10.0nm,1.2s,mb4.6						
ZRNK	**Zerenda**	**80.55**	**21**	*e*P	**P**	**16 24 49.5**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
ZRNK	**Zerenda**	**80.55**	**21**	*e*P	**P**	**16 24 49.5**	**-0.3**
	comp=Z,1.2nm,0.3s,mb4.3						
BVAR	**Borovoye Array**	**81.09**	**22**	P	**P**	**16 24 52.8**	**+0.2**
	comp=Z,2.5nm,0.8s,mb4.2,baz=222,slow=6.0,SNR=12						
CHKZ	**Chkalovo**	**81.70**	**21**	*e*P	**P**	**16 24 55.5**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
CHKZ	**Chkalovo**	**81.70**	**21**	*e*P	**P**	**16 24 55.5**	**-0.4**
	comp=Z,1.5nm,0.9s,mb3.9						
KURK	**Kurchatov**	**82.45**	**27**	*e*P	**P**	**16 24 58.2**	**-1.6**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
KURK	**Kurchatov**	**82.45**	**27**	*e*P	**P**	**16 24 58.2**	**-1.6**
	comp=Z,6.1nm,1.0s,mb4.5						
FINES	**FINESS Array B**	**82.98**	**357**	P	**P**	**16 25 02.6**	**0.0**
	comp=Z,1.1nm,0.8s,mb4.0,baz=125,slow=5.6,SNR=6.6						
KAF	**Kangasniemi**	**83.64**	**357**	*e*p	**P**	**16 25 03.6**	**-2.4**
	comp=Z,2.9nm,0.7s,mb4.5						
KAF	**Kangasniemi**	**83.64**	**357**	*e*P	**P**	**16 25 03.6**	**-2.4**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
NB2	**NORSAR Subarra**	**84.26**	**349**	P	**P**	**16 25 09.8**	**+0.6**
	comp=Z,3.3nm,0.9s,mb4.5,baz=154,slow=4.8						
NOA	**NORSAR Array B**	**84.26**	**349**	P	**P**	**16 25 09.6**	**+0.4**
	comp=Z,3.0nm,0.9s,mb4.4,baz=151,slow=4.7,SNR=4.4						
JOF	**Joensuu**	**84.28**	**359**	*e*p	**P**	**16 25 08.5**	**-0.8**
	comp=Z,2.8nm,0.8s,mb4.4						
JOF	**Joensuu**	**84.28**	**359**	*e*P	**P**	**16 25 08.5**	**-0.8**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**90.78**	**116**	P	**P**	**16 25 42.3**	**+1.6**
	comp=Z,0.6nm,0.6s,mb4.1,baz=238,slow=4.2,SNR=16						
SONM	**Songino Array**	**95.21**	**40**	LR	LR	17 11 58.2	
	comp=Z,47nm,20.5s,MS4.0,baz=200,slow=37						
YKA	**Yellowknife Ar**	**133.62**	**340**	PKP	PKPdf	16 31 54.3	+0.3
	comp=Z,0.9nm,0.7s,baz=47,slow=2.2,SNR=6.0						
PDAR	**Pinedale Array**	**142.44**	**313**	PKP	PKPdf	16 32 12.8	+2.6
	comp=Z,0.8nm,1.0s,baz=48,slow=2.2,SNR=4.7						
TMUT	**Trail Mountain**	**144.84**	**308**	*e*PKPdf	PKPdf	16 32 16.0	+1.5
MSU	**Marysvale**	**145.81**	**307**	*e*PKIKP	PKPdf	16 32 20.0	+3.8
WUAZ	**Wupatki**	**146.07**	**302**	*e*PKPbc	PKPbc	16 32 20.8	+3.4
TUC	**Tucson**	**146.25**	**296**	*e*PKP2	PKPab	16 32 21.6	+2.9
BMO	**Blue Mountains**	**146.42**	**321**	*e*PKIKP	PKPdf	16 32 20.3	+3.1
ELK	**Elko**	**147.14**	**313**	*e*PKP2	PKPab	16 32 23.5	+1.3
NVAR	**Mina Array Bea**	**150.28**	**311**	PKPbc	PKPbc	16 32 28.2	-0.5
	comp=Z,1.7nm,0.7s,baz=62,slow=4.4,SNR=13						
NVAR	**Mina Array Bea**	**150.28**	**311**	PKPbc	PKPbc	16 32 28.2	-0.5

IDC 08 16:22:03.4±2.6**,860S×11252E,h0km,mb3.1**/2**,mb1 3.3**/2**, mb1mx3.2**/15**,mbtmp3.1**/2**,Error ellipse: s-maj=145.8km s-min=26.9km az=48.0,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.93**	**120**	P	P	16 27 19.1	+0.1
	0.3nm,0.5s,baz=293,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**25.37**	**129**	P	P	16 27 33.0	+0.8
	0.3nm,0.4s,baz=301,slow=9.2,SNR=12						
MKAR	**Makanchi Array**	**61.37**	**337**	P	P	16 32 20.9	-0.1
	0.2nm,0.4s,baz=148,slow=6.9,SNR=5.0						

NEIC 08 16:47:11.7,4620N×12219W,h0km,MD2.9(SEA)**,1D, After SEA.,Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEL	**Yellow Rock**	**0.01**	**13**	P	Pg	16 47 12.2	+0.2
HSR	**South Ridge**	**0.03**	**166**	P	Pg	16 47 12.9	+0.7
ESD	**East Dome**	**0.03**	**91**	P	Pg	16 47 12.5	+0.2
SHW	**Mount Saint He**	**0.03**	**260**	⇓P	Pg	16 47 12.5	+0.2
STD	**Studebaker Rid**	**0.04**	**332**	P	Pg	16 47 12.7	+0.1
JLK	**June Lake**	**0.06**	**152**	P	Pg	16 47 13.2	+0.4
SOSW	**Source of Smit**	**0.06**	**40**	P	Pg	16 47 13.5	+0.7
FL2	**Flat Top 2**	**0.11**	**269**	P	Pg	16 47 14.5	+0.7
CDFW	**Cedar Flats**	**0.13**	**129**	P	Pg	16 47 14.8	+0.6
TDL	**Tradedollar La**	**0.15**	**354**	P	Pg	16 47 15.6	+1.0
MTMW	**Mount Mitchell**	**0.17**	**185**	P	Pg	16 47 15.8	+0.8
LON	**Longmire**	**0.61**	**25**	P	Pg	16 47 23.8	+0.4
HAWA	**Hanford**	**1.85**	**83**	*e*Pn	Pn	16 47 44.6	-0.2

*ISCJB **08** 16:50:57.1±3.3,470N±02×1529E±02,h5km±23km, mb3.9/8,Error ellipse: s-maj=36.2km s-min=7.8km az=96.2*

*MOS **08** 16:50:59.0±1.4,4677N×153.15E,h31km,mb4.3/5,Error ellipse: s-maj=24.8km s-min=15.6km az=64.5*

*IDC **08** 16:51:05.6±5.3,4659N×15290E,h67km±48km,mb3.6/6, mb1 3.7/8,mb1mx3.4/21,mbtmp3.8/8,ML3.2/2,Error ellipse: s-maj=35.7km s-min=26.0km az=82.0*

ISC 08 16:50:58.9±3.9**,469N**±01×**1530E**±02**,h8km**±26km**,n18, σ0.95**/20**,mb3.9**/8**,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.93**	**247**	*e*PN	**Pn**	**16 51 58.0**	**-1.6**
KUR				*e*S	**Sn**	**16 52 45.4**	**-0.5**
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR				smax			
	comp=N,220nm,0.8s						
KUR				smax			
	comp=E,170nm,0.8s						
SKR	**Severo-Kuril's**	**4.30**	**28**	*e*PN	**Pn**	**16 52 03.7**	**-1.0**
SKR				*e*S	**Sn**	**16 52 55.0**	**-0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SKR				pmax	pmax		
	comp=Z,40nm,0.4s						
SKR				smax			
	comp=N,30nm,0.2s						
SKR				smax			
	comp=E,40nm,0.5s						
ASAJ	**Asahikawa**	**7.81**	**253**	P	**Pn**	**16 52 54.0**	**+1.2**
	comp=E,0.3nm,0.3s,baz=63,slow=18,SNR=4.7						
MJAR	**Matsushiro Arr**	**15.11**	**232**	P	**Pn**	**16 54 33.8**	**+1.2**
	comp=E,0.2nm,0.3s,baz=44,slow=8.8,SNR=6.1						
MKAR	**Makanchi Array**	**46.78**	**297**	P	**P**	**16 59 28.5**	**-0.4**
	comp=E,0.3nm,0.3s,mb3.6,baz=51,slow=7.8,SNR=5.8						
ARCES	**ARCESS Array B**	**57.67**	**341**	P	**P**	**17 00 49.7**	**-0.1**
	comp=E,1.0nm,0.7s,mb4.0,baz=48,slow=7.3,SNR=5.5						
ARCES	**ARCESS Array B**	**57.67**	**341**	P	**P**	**17 00 49.7**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**62.44**	**62**	P	**P**	**17 01 23.2**	**+0.7**
	comp=Z,0.3nm,0.7s,mb3.5,baz=294,slow=4.6,SNR=3.7						
KAF	**Kangasniemi**	**63.25**	**335**	*e*p	**P**	**17 01 27.5**	**-0.4**
	comp=Z,0.7nm,0.3s,mb4.3						
KAF	**Kangasniemi**	**63.25**	**335**	*e*P	**P**	**17 01 27.5**	**-0.4**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.4						
FINES	**FINESS Array B**	**63.85**	**335**	P	**P**	**17 01 32.6**	**+0.7**
	comp=Z,1.0nm,0.3s,mb4.3,baz=45,slow=6.1,SNR=27						
FINES	**FINESS Array B**	**63.85**	**335**	P	**P**	**17 01 32.6**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**68.04**	**341**	P	**P**	**17 01 59.8**	**+0.9**
	comp=Z,1.3nm,0.6s,mb4.1,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.04**	**341**	P	**P**	**17 01 59.5**	**+0.6**
	comp=Z,1.3nm,0.5s,mb4.2,baz=28,slow=6.2,SNR=7.0						
NOA	**NORSAR Array B**	**68.04**	**341**	P	**P**	**17 01 59.5**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**71.36**	**326**	P	**P**	**17 02 19.9**	**+0.6**
	comp=Z,1.1nm,0.4s,mb4.1,baz=31,slow=6.0,SNR=7.8						
AKASG	**Malin Array Be**	**71.36**	**326**	P	**P**	**17 02 19.9**	**+0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.33**	**198**	P	**P**	**17 02 21.9**	**-3.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=8.2,slow=5.0,SNR=6.2						

*IDC **08** 17:06:26.6±8.8, 3603N×7075E, h87km±80km, mb3.5/5, mb1 3.6/8, mb1mx3.3/23, mbtmp3.8/8, ML3.5/3, Error ellipse: s-maj=46.9km s-min=28.0km az=22.0*
*NEIC **08** 17:06:28.4±4.0, 3613N×7072E, h102km±33km, mb3.3/3, Error ellipse: s-maj=32.3km s-min=19.6km az=205.0*
*MOS **08** 17:06:30.1±1.4, 3627N×7073E, h127km, mb3.7/4, Error ellipse: s-maj=26.7km s-min=9.3km az=87.7*
*ISCJB **08** 17:06:31.9±1.4, 3640N±007×707E±0.1, h140km±15km, mb3.5/6, Error ellipse: s-maj=17.1km s-min=6.8km az=113.5*
*NNC **08** 17:06:31.3±10.0, 3677N×7020E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=77.9km s-min=53.7km az=179.0*
ISC 08 17:06:32.6±1.4**, 3637N**±007×**707E**±01**, h132**km±15km**, n43,** σ**0s91**/48**, mb3.5**/6**, 1C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.20**	**21**	P	**Pn**	**17 08 02.0**	**+0.3**
	SNR=105						
UCH	**Uchtor**	**6.54**	**26**	P	**Pn**	**17 08 06.7**	**+0.2**
	SNR=18						
KZA	**Kyzart**	**6.69**	**30**	P	**Pn**	**17 08 08.5**	**+0.1**
	SNR=8.0						
EKS2	**Erkin-Say**	**6.71**	**20**	P	**Pn**	**17 08 09.0**	**+0.4**
	SNR=16						
KK31	**Karatay Array**	**6.72**	**359**	P	**Pn**	**17 08 08.4**	**-0.4**
	20nm,0.6s,baz=179,slow=13,SNR=283						
KK31				S	**Sn**	**17 09 21.2**	**-2.8**
	2.3nm,0.3s,baz=188,slow=28,SNR=9.3						
AAK	**Ala-Archa**	**6.90**	**24**	P	**Pn**	**17 08 11.8**	**+0.6**
	SNR=7.1						
AAK	**Ala-Archa**	**6.90**	**24**	*e*PN	**Pn**	**17 08 10.2**	**-1.0**
AAK				pmax	pmax		
	comp=Z,11nm,0.6s						
AAK	**Ala-Archa**	**6.90**	**24**	*e*Pn	**Pn**	**17 08 10.2**	**-1.0**
	comp=Z,11nm,0.6s						
AAK				*e*Sn	**Sn**	**17 09 23.9**	**-4.4**
CHMS	**Chumysh**	**7.31**	**24**	P	**Pn**	**17 08 16.8**	**0.0**
	SNR=8.2						
USP	**Ospenovka**	**7.47**	**22**	P	**Pn**	**17 08 19.2**	**+0.3**
	SNR=14						
TKM2	**Tokmak 2**	**7.54**	**28**	P	**Pn**	**17 08 20.4**	**+0.6**
	SNR=6.6						
TKM2	**Tokmak 2**	**7.54**	**28**	⇓P	**Pn**	**17 08 19.1**	**-0.8**
	comp=Z,1.7nm,1.2s						
TKM2				⇑S	**Sn**	**17 09 44.5**	**+0.7**
	comp=Z,0.7nm,0.8s						
MKAR	**Makanchi Array**	**13.53**	**36**	P	**Pn**	**17 09 38.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=200,slow=10,SNR=5.7						
KOLN	**Koldanda**	**13.88**	**125**	*e*S	**Sn**	**17 12 03.5**	**-13**
GKN	**Gorkha**	**14.43**	**121**	*e*P	**Pn**	**17 09 49.8**	**-0.8**
	comp=Z,6.0nm,0.3s						
GKN				*e*S	**Sn**	**17 12 17.6**	**-13**
DMN	**Daman**	**15.00**	**122**	*e*P	**Pn**	**17 09 57.6**	**-0.1**
KKN	**Kakani**	**15.01**	**121**	*e*P	**Pn**	**17 09 58.7**	**+0.9**
	comp=Z,9.8nm,0.6s						
AB31	**Akbulak array**	**15.09**	**332**	P	**Pn**	**17 09 58.3**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=150,slow=15,SNR=38						
AB31				S	**S**	**17 12 40.1**	**-13**
	comp=Z,1.5nm,0.6s,baz=156,slow=23,SNR=4.5						
PKI	**Pulchoki**	**15.23**	**121**	*e*P	**Pn**	**17 10 01.2**	**+0.6**
KURK	**Kurchatov**	**15.42**	**19**	*e*P	**Pn**	**17 10 05.3**	**+2.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**15.42**	**19**	*e*Pn	**Pn**	**17 10 05.3**	**+2.3**
	comp=Z,2.1nm,0.9s						
JIRN	**Jiri**	**15.72**	**119**	*e*P	**Pn**	**17 10 06.6**	**-0.1**
ZRNK	**Zerenda**	**16.62**	**356**	*e*P	**Pn**	**17 10 15.8**	**-1.9**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZRNK	**Zerenda**	**16.62**	**356**	*e*Pn	**Pn**	**17 10 15.8**	**-1.9**
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**16.65**	**359**	P	**Pn**	**17 10 17.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=169,slow=13,SNR=10						
BRVK	**Borovoye**	**16.69**	**359**	P	**Pn**	**17 10 17.5**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**16.69**	**359**	P	**Pn**	**17 10 17.5**	**-1.0**
	comp=Z,1.0nm,0.6s						
AKTK	**Aktyubinsk**	**16.78**	**331**	P	**Pn**	**17 10 21.1**	**+1.4**
AKTO	**Aktyubinsk**	**16.78**	**331**	P	**Pn**	**17 10 21.1**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=140,slow=13,SNR=7.4						
ZAL	**Zalesovo**	**20.11**	**25**	P	**P**	**17 10 55.8**	**-0.1**
	comp=Z,9.1nm,0.4s,baz=250,slow=6.7,SNR=34						
ZAL	**Zalesovo**	**20.11**	**25**	P	**P**	**17 10 55.8**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.4s						
NVS	**Novosibirsk**	**20.38**	**21**	*e*P	**P**	**17 10 59.0**	**+0.1**
JOF	**Joensuu**	**35.87**	**330**	*e*p	**P**	**17 13 20.1**	**+0.5**
	comp=Z,1.2nm,0.4s,mb3.9						
JOF	**Joensuu**	**35.87**	**330**	*e*P	**P**	**17 13 20.1**	**+0.5**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
FINES	**FINESS Array B**	**37.46**	**326**	P	**P**	**17 13 33.8**	**+0.7**
	comp=Z,0.4nm,0.5s,mb3.4,baz=116,slow=13,SNR=7.2						
ARCES	**ARCESS Array B**	**41.17**	**338**	P	**P**	**17 14 04.6**	**+0.6**
	comp=Z,1.1nm,0.6s,mb3.7,baz=116,slow=8.2,SNR=8.7						
ARCES	**ARCESS Array B**	**41.17**	**338**	P	**P**	**17 14 04.6**	**+0.6**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**17 14 30.1**	**+0.6**
	comp=Z,1.2nm,0.8s,mb3.6,baz=99,slow=7.9,SNR=3.6						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**17 14 30.1**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**65.49**	**269**	P	**P**	**17 17 00.5**	**-1.1**
	comp=Z,0.2nm,0.4s,mb3.3,baz=54,slow=5.9,SNR=7.2						
TORD	**Torodi Ar. Bea**	**65.49**	**269**	P	**P**	**17 17 00.5**	**-1.1**
ASAR	**Alice Springs**	**84.37**	**125**	P	**P**	**17 18 48.5**	**-1.4**
	comp=Z,0.5nm,1.0s,mb3.2,baz=304,slow=4.8,SNR=4.3						
ASAR	**Alice Springs**	**84.37**	**125**	P	**P**	**17 18 48.6**	**-1.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						

IDC 08 17:28:30.4±1.7**, 171N**×**12734E, h0**km**, mb3.9**/4**, mb1 4.0**/5**, mb1mx3.7**/17**, mbtmp3.9**/5**, ML3.0**/1**, Error ellipse: s-maj=104.9km s-min=22.3km az=68.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.75**	**185**	P	Pn	17 33 03.6	+0.3
	0.0nm,0.3s,baz=5.4,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**22.58**	**163**	P	P	17 33 33.2	+0.8
	0.7nm,0.3s,baz=339,slow=11,SNR=13						
ASAR	**Alice Springs**	**26.02**	**166**	P	P	17 34 04.7	-0.4
	0.2nm,0.4s,baz=345,slow=10,SNR=10						
STKA	**Stephens Creek**	**36.03**	**159**	P	P	17 35 33.1	-0.3
	2.0nm,0.8s,baz=319,slow=11,SNR=4.6						
MKAR	**Makanchi Array**	**59.55**	**326**	P	P	17 38 35.9	+0.2
	0.4nm,0.4s,baz=112,slow=8.2,SNR=8.6						

*CSEM **08** 18:00:06.1, 3717N×5934E, h6km, ML3.6, After TEH*
*ISCJB **08** 18:00:57.5±1.3, 3743N±008×5953E±009, h10km, Error ellipse: s-maj=14.2km s-min=6.1km az=101.7*
*TEH **08** 18:01:02.6, 3717N×5934E, h6km, Mn3.6*
*NNC **08** 18:01:10.7±6.4, 3809N×6065E, h0km, mb3.3, Error ellipse: s-maj=59.9km s-min=32.7km az=23.0*
ISC 08 18:00:59.6±1.3**, 3735N**±008×**5947E**±008**, h10**km**, n8,** σ**1s23**/14**, 3C-2D, Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IEMG	**Emamqoli**	**0.65**	**276**	*e*Pg	**Pg**	**18 01 13.9**	**+1.7**
IEMG				*e*Sg	**Sg**	**18 01 21.2**	**+0.5**
IQHU	**Quchan**	**0.79**	**250**	*e*Pg	**Pg**	**18 01 14.3**	**-0.4**
ISFR	**Esferayen**	**1.21**	**256**	*e*Pg	**Pg**	**18 01 22.0**	**-0.8**
ISFR				*e*Sg	**Sg**	**18 01 36.5**	**-2.0**
ISHV	**Shirvan**	**1.42**	**278**	*e*Pn	**Pn**	**18 01 28.0**	**+2.6**
KK31	**Karatay Array**	**10.21**	**52**	⇓Pn	**Pn**	**18 03 25.5**	**-0.7**
	0.6nm,0.5s,baz=238,slow=16,SNR=5.2						
KK31				⇑Sn	**Sn**	**18 05 09.4**	**-11**
	0.7nm,0.3s,baz=20,slow=43,SNR=5.8						
AB31	**Akbulak array**	**11.91**	**2**	⇑Pn	**Pn**	**18 03 49.7**	**+0.4**
	0.6nm,0.4s,baz=183,slow=13,SNR=14						
AB31				Sn	**Sn**	**18 06 01.9**	**-0.4**
	0.8nm,0.5s,baz=196,slow=21,SNR=3.9						
AB31	**Akbulak array**	**11.91**	**2**	Pn	**Pn**	**18 03 49.7**	**+0.3**
	0.6nm,0.4s,baz=183,SNR=14						
AB31				Sn	**Sn**	**18 06 01.9**	**-0.4**
	0.8nm,0.5s,baz=196,SNR=3.9						
AKTO	**Aktyubinsk**	**13.13**	**356**	⇓Pn	**Pn**	**18 04 07.3**	**+1.3**
	0.2nm,1.7s						
AKTO				⇑Sn	**Sn**	**18 06 30.6**	**-1.4**

*MOS **08** 18:31:27.0±1.8, 3738S×17657E, h201km, mb4.8/10, Error ellipse: s-maj=14.9km s-min=12.4km az=92.0*
*ISCJB **08** 18:31:28.6±0.3, 3755S±003×17660E±005, h228km±2km, mb4.5/26, Error ellipse: s-maj=6.4km s-min=4.9km az=171.4*
*IDC **08** 18:31:28.4±1.4, 3711S×17698E, h224km±12km, mb4.0/7, mb1 4.2/8, mb1mx4.1/12, mbtmp4.6/8, Error ellipse: s-maj=21.0km s-min=13.4km az=46.0*
*NEIC **08** 18:31:30.2, 3745S×17667E, h217km, mb4.7/20, After WEL.*
*WEL **08** 18:31:30.4±0.3, 3742S×17666E, h213km±2km, ML5.7/25, Error ellipse: s-maj=1.7km s-min=1.6km az=90.0, MM 4.*
WEL Felt between Bay of Plenty, Manawatu and Gisborne, maximum reported intensity.
ISC 08 18:31:29.5±0.3**, 3756S**±003×**17660E**±005**, h224**km±2km**, n174,** σ**1s26**/182**, mb4.5**/26**, 9C-9D, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.32**	**238**	PN	**Pn**	**18 31 58.8**	**-0.1**
TGRZ				SN	**S**	**18 32 21.2**	**-0.5**
TGRZ	**Tauranga**	**0.32**	**238**	P	**Pn**	**18 31 58.8**	**0.0**
TGRZ				S	**S**	**18 32 22.0**	**+0.3**
MYRZ	**Mayor Island**	**0.40**	**314**	PN	**Pn**	**18 31 58.7**	**-0.3**
MARZ	**Manawahe**	**0.43**	**172**	PN	**Pn**	**18 31 59.4**	**+0.3**
MARZ	**Manawahe**	**0.43**	**172**	P	**Pn**	**18 31 59.4**	**+0.3**
WIZ	**White Island**	**0.47**	**86**	PN	**Pn**	**18 31 58.5**	**-0.7**
WIZ	**White Island**	**0.47**	**86**	P	**Pn**	**18 31 59.1**	**-0.1**
LIRZ	**Lichensteins R**	**0.47**	**201**	PN	**Pn**	**18 31 59.6**	**+0.4**
LIRZ	**Lichensteins R**	**0.47**	**201**	P	**Pn**	**18 31 59.6**	**+0.3**
EDRZ	**Edgecumbe**	**0.56**	**169**	PN	**Pn**	**18 31 59.7**	**+0.2**
TAZ	**Tarawera**	**0.67**	**186**	⇓PN	**Pn**	**18 32 00.9**	**+0.9**
TAZ	**Tarawera**	**0.67**	**186**	P	**Pn**	**18 32 00.9**	**+0.9**
URZ	**Urewera**	**0.81**	**150**	P	**Pn**	**18 32 00.5**	**-0.1**
	621nm,0.3s,baz=287,slow=2.5,SNR=2526						
URZ				S	**S**	**18 32 22.8**	**-2.1**
	793nm,0.3s,baz=188,slow=22,SNR=31						
URZ	**Urewera**	**0.81**	**150**	⇑PN	**Pn**	**18 32 00.5**	**-0.1**
URZ				SN	**S**	**18 32 23.1**	**-1.8**
URZ	**Urewera**	**0.81**	**150**	P	**Pn**	**18 32 00.5**	**-0.1**
PATZ	**Paeroa**	**0.86**	**198**	⇑PN	**Pn**	**18 32 02.0**	**+1.0**
PATZ	**Paeroa**	**0.86**	**198**	P	**Pn**	**18 32 02.0**	**+1.1**
TOZ	**Tahuroa Road**	**0.89**	**259**	PN	**Pn**	**18 32 01.4**	**+0.3**
TOZ				SN	**S**	**18 32 25.9**	**+0.2**
TOZ	**Tahuroa Road**	**0.89**	**259**	P	**Pn**	**18 32 01.4**	**+0.3**
MWZ	**Matawai**	**1.06**	**137**	⇑PN	**Pn**	**18 32 02.2**	**+0.1**
MWZ				SN	**S**	**18 32 26.3**	**-1.2**
MWZ	**Matawai**	**1.06**	**137**	P	**Pn**	**18 32 02.2**	**+0.1**
KUZ	**Kuaotunu**	**1.08**	**319**	⇓PN	**Pn**	**18 32 01.0**	**-1.2**
KUZ				SN	**S**	**18 32 25.2**	**-2.5**
KUZ	**Kuaotunu**	**1.08**	**319**	P	**Pn**	**18 32 01.0**	**-1.2**
WHTZ	**Whakaora**	**1.22**	**205**	PN	**Pn**	**18 32 04.6**	**+1.5**
WHTZ	**Whakaora**	**1.22**	**205**	*e*P	**Pn**	**18 32 04.6**	**+1.5**
MKAZ	**Moumakai**	**1.23**	**291**	⇓PN	**Pn**	**18 32 03.0**	**-0.3**
MKAZ				SN	**S**	**18 32 26.2**	**-3.4**
MKAZ	**Moumakai**	**1.23**	**291**	P	**Pn**	**18 32 03.0**	**-0.2**
WATZ	**Wairara**	**1.33**	**211**	⇑PN	**Pn**	**18 32 05.2**	**+1.2**
WATZ				SN	**S**	**18 32 32.9**	**+1.9**
WATZ	**Wairara**	**1.33**	**211**	P	**Pn**	**18 32 05.3**	**+1.3**
MXZ	**Matakaoa Point**	**1.35**	**91**	PN	**Pn**	**18 32 03.8**	**-0.3**
MXZ				SN	**S**	**18 32 29.7**	**-1.6**
MXZ	**Matakaoa Point**	**1.35**	**91**	P	**Pn**	**18 32 03.8**	**-0.4**
MXZ				S	**S**	**18 32 31.3**	**0.0**
HATZ	**Hinemaiaia**	**1.39**	**197**	PN	**Pn**	**18 32 05.3**	**+0.9**
HATZ				SN	**S**	**18 32 32.2**	**+0.4**
HATZ	**Hinemaiaia**	**1.39**	**197**	P	**Pn**	**18 32 05.3**	**+0.9**
HATZ				S	**S**	**18 32 32.2**	**+0.5**
PUZ	**Puketiti**	**1.41**	**112**	PN	**Pn**	**18 32 04.7**	**+0.2**
PUZ				SN	**S**	**18 32 30.5**	**-1.5**
PUZ	**Puketiti**	**1.41**	**112**	P	**Pn**	**18 32 04.7**	**+0.1**
RATZ	**Rangitukua**	**1.46**	**206**	PN	**Pn**	**18 32 06.1**	**+1.1**
RATZ	**Rangitukua**	**1.46**	**206**	P	**Pn**	**18 32 06.1**	**+1.1**
OTAZ	**Otara**	**1.47**	**294**	⇓PN	**Pn**	**18 32 04.9**	**-0.2**
OTAZ	**Otara**	**1.47**	**294**	P	**Pn**	**18 32 04.9**	**-0.2**
RITZ	**Rihia Road**	**1.53**	**202**	PN	**Pn**	**18 32 06.9**	**+1.4**
RITZ	**Rihia Road**	**1.53**	**202**	P	**Pn**	**18 32 06.9**	**+1.3**
MTAZ	**Motutapu**	**1.56**	**299**	⇑PN	**Pn**	**18 32 05.4**	**-0.4**
MTAZ				SN	**S**	**18 32 32.5**	**-1.6**
MTAZ	**Motutapu**	**1.56**	**299**	P	**Pn**	**18 32 05.4**	**-0.4**
KATZ	**Kakaramea**	**1.58**	**207**	PN	**Pn**	**18 32 07.2**	**+1.2**
KATZ	**Kakaramea**	**1.58**	**207**	P	**Pn**	**18 32 07.2**	**+1.2**
BKZ	**Black Stump Fm**	**1.60**	**183**	⇑PN	**Pn**	**18 32 06.9**	**+0.7**
BKZ				SN	**S**	**18 32 34.7**	**-0.3**
BKZ	**Black Stump Fm**	**1.60**	**183**	P	**Pn**	**18 32 06.9**	**+0.7**
BKZ				S	**S**	**18 32 34.8**	**-0.1**
HIZ	**Hauiti**	**1.68**	**235**	⇑PN	**Pn**	**18 32 08.0**	**+1.2**
HIZ				SN	**S**	**18 32 39.5**	**+3.5**
HIZ	**Hauiti**	**1.68**	**235**	*e*P	**Pn**	**18 32 08.0**	**+1.2**
KNZ	**Kokohu**	**1.68**	**150**	⇑PN	**Pn**	**18 32 08.1**	**+1.2**
KNZ	**Kokohu**	**1.68**	**150**	P	**Pn**	**18 32 08.1**	**+1.2**
KAAZ	**Kauri Point**	**1.69**	**295**	⇓PN	**Pn**	**18 32 06.4**	**-0.5**
KAAZ	**Kauri Point**	**1.69**	**295**	P	**Pn**	**18 32 06.4**	**-0.5**
KRVZ	**Karewarewa**	**1.71**	**206**	PN	**Pn**	**18 32 08.2**	**+1.1**
WTAZ	**Waiatarua**	**1.74**	**291**	⇓PN	**Pn**	**18 32 07.1**	**-0.2**
WTVZ	**West Tongariro**	**1.75**	**207**	⇑PN	**Pn**	**18 32 08.5**	**+1.1**
WTVZ	**West Tongariro**	**1.75**	**207**	P	**Pn**	**18 32 08.5**	**+1.1**
OTVZ	**Oturere**	**1.76**	**204**	PN	**Pn**	**18 32 08.8**	**+1.3**
TWVZ	**Taurewa**	**1.76**	**211**	PN	**Pn**	**18 32 08.8**	**+1.2**
TWVZ				SN	**S**	**18 32 39.1**	**+1.7**
NGZ	**Ngauruhoe**	**1.79**	**206**	PN	**Pn**	**18 32 08.9**	**+1.0**
NGZ	**Ngauruhoe**	**1.79**	**206**	P	**Pn**	**18 32 08.9**	**+1.0**
WPVZ	**Whakapapa**	**1.84**	**207**	P	**Pn**	**18 32 09.4**	**+1.1**
TUVZ	**Tukino**	**1.86**	**203**	P	**Pn**	**18 32 09.7**	**+1.2**
FWVZ	**Far West T-bar**	**1.88**	**206**	P	**Pn**	**18 32 09.7**	**+1.0**
DRZ	**Dome Shelter**	**1.90**	**205**	P	**Pn**	**18 32 10.4**	**+1.6**
MOVZ	**Moawhango**	**1.96**	**200**	P	**Pn**	**18 32 10.0**	**+0.6**
MOVZ				S	**S**	**18 32 40.3**	**-0.4**
VRZ	**Vera Road**	**2.13**	**222**	P	**Pn**	**18 32 12.7**	**+1.6**
WCZ	**Waipu Caves**	**2.43**	**311**	P	**Pn**	**18 32 13.2**	**-1.0**
RAEZ	**Rainy Point**	**2.44**	**225**	P	**Pn**	**18 32 16.5**	**+2.2**
WAZ	**Wanganui**	**2.53**	**210**	P	**Pn**	**18 32 16.1**	**+0.9**
TSZ	**Takapari Road**	**2.54**	**191**	P	**Pn**	**18 32 16.0**	**+0.6**
NEZ	**North Egmont**	**2.61**	**228**	P	**Pn**	**18 32 18.4**	**+2.4**
PKE	**Pukeiti**	**2.62**	**231**	P	**Pn**	**18 32 18.3**	**+2.1**
NRZ	**Ngariki Road**	**2.75**	**229**	P	**Pn**	**18 32 19.6**	**+2.1**
NWEZ	**Newall Road**	**2.75**	**231**	P	**Pn**	**18 32 19.8**	**+2.2**
BFZ	**Birch Farm**	**3.13**	**185**	P	**Pn**	**18 32 22.0**	**+0.2**
MRZ	**Mangatainoka R**	**3.20**	**194**	P	**Pn**	**18 32 22.5**	**-0.1**
OUZ	**Omahuta**	**3.37**	**313**	P	**Pn**	**18 32 23.4**	**-1.2**
KIW	**Kapiti Island**	**3.55**	**201**	P	**Pn**	**18 32 26.2**	**-0.5**
MTW	**Mount Morrison**	**3.69**	**193**	P	**Pn**	**18 32 27.6**	**-0.9**
CAW	**Cannon Point**	**3.74**	**198**	P	**Pn**	**18 32 28.3**	**-0.7**
PAWZ	**Paruwai Farm**	**3.92**	**193**	P	**Pn**	**18 32 30.3**	**-0.9**
MRW	**Makara Radio**	**3.95**	**201**	P	**Pn**	**18 32 30.7**	**-0.8**
WEL	**Wellington**	**3.98**	**200**	P	**Pn**	**18 32 31.2**	**-0.7**
MSWZ	**Moikau Station**	**3.99**	**195**	P	**Pn**	**18 32 30.9**	**-1.1**
SNZO	**South Karori**	**4.02**	**201**	P	**Pn**	**18 32 31.3**	**-1.1**
SNZO				*e*S	**S**	**18 33 20.0**	**-2.1**
TCW	**Tory Channel**	**4.07**	**206**	P	**Pn**	**18 32 31.9**	**-1.1**
NNZ	**Nelson**	**4.42**	**213**	P	**Pn**	**18 32 35.8**	**-1.5**
QRZ	**Quartz Range**	**4.54**	**223**	P	**Pn**	**18 32 37.3**	**-1.5**
CMWZ	**Cape Campbell**	**4.57**	**203**	P	**Pn**	**18 32 38.6**	**-0.5**
BSWZ	**Blackbirch Sta**	**4.65**	**206**	P	**Pn**	**18 32 39.0**	**-1.1**
THZ	**Tophouse**	**5.07**	**213**	*e*P	**Pn**	**18 32 43.9**	**-1.5**
KHZ	**Kahutara**	**5.39**	**205**	P	**Pn**	**18 32 48.3**	**-1.1**
DSZ	**Denniston Nort**	**5.58**	**220**	P	**Pn**	**18 32 49.8**	**-2.0**
LTZ	**Lake Taylor**	**6.18**	**211**	P	**Pn**	**18 32 57.5**	**-1.9**
CRLZ	**Canterbury Las**	**6.73**	**206**	*e*P	**Pn**	**18 33 04.4**	**-2.0**
MQZ	**McQueen's Vall**	**6.83**	**205**	*e*P	**Pn**	**18 33 05.1**	**-2.6**
FOZ	**Fox Glacier**	**7.97**	**219**	*e*P	**Pn**	**18 33 19.4**	**-3.0**
LBZ	**Lake Benmore**	**8.37**	**213**	*e*P	**Pn**	**18 33 24.7**	**-2.7**
JCZ	**Jackson Bay**	**8.81**	**220**	*e*P	**Pn**	**18 33 30.3**	**-2.8**
WKZ	**Wanaka**	**9.24**	**216**	*e*P	**Pn**	**18 33 35.3**	**-3.3**
EAZ	**Earnscleugh**	**9.42**	**213**	*e*P	**Pn**	**18 33 38.2**	**-2.7**
MSZ	**Milford Sound**	**9.65**	**220**	P	**Pn**	**18 33 42.4**	**-1.5**
MLZ	**Mavora Lakes**	**10.02**	**216**	*e*P	**Pn**	**18 33 47.2**	**-1.4**
WHZ	**Wether Hill Ro**	**10.54**	**215**	*e*P	**Pn**	**18 33 53.4**	**-1.8**
DZM	**Mont Dzumac**	**17.76**	**328**	P	**P**	**18 35 19.5**	**-1.6**
	0.3nm,0.3s,baz=157,slow=15,SNR=4.0						
ARMA	**Armidale**	**21.86**	**282**	*e*P	**P**	**18 36 08.3**	**+4.0**
CNB	**Canberra Magne**	**22.00**	**268**	*e*P	**P**	**18 36 07.2**	**+1.6**
	18nm,0.9s,mb4.6						
TOO	**Toolangi**	**24.61**	**260**	*e*P	**P**	**18 36 31.7**	**+2.4**
	8.8nm,0.6s,mb4.6						
TOO	**Toolangi**	**24.61**	**260**	*e*P	**P**	**18 36 31.7**	**+2.4**
TOO				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**29.22**	**271**	*e*P	**P**	**18 37 12.5**	**+2.1**
	comp=Z,10.0nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**29.22**	**271**	P	**P**	**18 37 12.2**	**+1.9**
	comp=Z,9.1nm,0.6s,mb4.6,baz=112,slow=12,SNR=22						
CTA	**Charters Tower**	**31.59**	**295**	*e*P	**P**	**18 37 33.2**	**+2.0**
	comp=Z,11nm,0.6s,mb4.5						
CTA	**Charters Tower**	**31.59**	**295**	*e*P	**P**	**18 37 33.2**	**+2.0**
CTA				pmax	pmax		
	comp=Z,11nm,0.6s						
CTAO	**Charters Tower**	**31.59**	**295**	*e*P	**P**	**18 37 33.0**	**+1.8**
CTAO				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.7						
CTAO	**Charters Tower**	**31.59**	**295**	*e*P	**P**	**18 37 33.0**	**+1.8**
	comp=Z,15nm,0.6s,mb4.7						
HNR	**Honiara**	**31.79**	**328**	P	**P**	**18 37 32.9**	**-0.1**
HNR				pmax	pmax		
	comp=Z,75nm,1.0s,mb5.2						
HNR	**Honiara**	**31.79**	**328**	P	**P**	**18 37 32.9**	**0.0**
	comp=Z,75nm,1.0s,mb5.2						
PMG	**Port Moresby**	**38.61**	**309**	*e*P	**P**	**18 38 32.0**	**+0.9**
PMG				pmax	pmax		
	comp=Z,28nm,0.9s						
PMG	**Port Moresby**	**38.61**	**309**	*e*P	**P**	**18 38 32.0**	**+1.0**
	comp=Z,28nm,0.9s,mb4.8						
AS31	**Alice Springs**	**38.94**	**278**	*e*P	**P**	**18 38 34.3**	**+0.5**
AS31				*e*S	**S**	**18 44 15.0**	**-0.2**
ASAR	**Alice Springs**	**38.94**	**278**	P	**P**	**18 38 34.4**	**+0.6**
	comp=Z,9.0nm,0.5s,mb4.5,baz=121,slow=8.3,SNR=170						
ASAR				S	**S**	**18 44 14.6**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=126,slow=14,SNR=9.9						
ASPA	**Alice Springs**	**38.94**	**278**	*e*P	**P**	**18 38 34.3**	**+0.5**
ASPA				*e*S	**S**	**18 44 15.0**	**-0.3**
FORT	**Forrest**	**40.37**	**265**	*e*P	**P**	**18 38 45.5**	**0.0**
	comp=Z,25nm,0.7s,mb4.8						
VNDA	**Vanda**	**40.56**	**185**	P	**P**	**18 38 50.8**	**+3.6**
	comp=Z,8.6nm,0.9s,mb4.2,baz=3.4,slow=8.2,SNR=51						
WB2	**Warramunga Arr**	**40.61**	**284**	*e*P	**P**	**18 38 47.7**	**+0.2**
WB2				*e*S	**S**	**18 44 38.6**	**-1.4**
WRAB	**Tennant Creek**	**40.61**	**284**	*e*P	**P**	**18 38 47.7**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,25nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**40.61**	**284**	*e*P	**P**	**18 38 47.7**	**+0.2**
	comp=Z,25nm,0.6s,mb4.8						
SBA	**Scott Base**	**40.61**	**183**	*e*P	**P**	**18 38 52.3**	**+4.7**
SBA				pmax	pmax		
	comp=Z,39nm,1.2s,mb4.7						
SBA	**Scott Base**	**40.61**	**183**	*e*P	**P**	**18 38 52.2**	**+4.7**
	comp=Z,39nm,1.2s,mb4.7						
WRA	**Warramunga Arr**	**40.62**	**284**	P	**P**	**18 38 47.9**	**+0.3**
	comp=Z,13nm,0.5s,mb4.6,baz=122,slow=8.0,SNR=161						
WRA				S	**S**	**18 44 40.4**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=129,slow=14,SNR=4.1						
CASY	**Casey**	**46.72**	**211**	*e*P	**P**	**18 39 34.9**	**-1.2**
	comp=Z,7.4nm,1.1s,mb3.9						
NWAO	**Narrogin (SRO)**	**48.02**	**257**	*e*P	**P**	**18 39 48.9**	**+2.8**
NWAO				pmax	pmax		
	comp=Z,36nm,1.3s						
NWAO	**Narrogin (SRO)**	**48.02**	**257**	*e*P	**P**	**18 39 48.9**	**+2.8**
	comp=Z,36nm,1.3s,mb4.5						
KLBR	**Kellerberrin**	**48.14**	**259**	*e*P	**P**	**18 39 47.3**	**+0.2**
	comp=Z,22nm,1.1s,mb4.4						
FITZ	**Fitzroy Crossi**	**48.43**	**279**	*e*P	**P**	**18 39 50.1**	**+0.8**
	comp=Z,15nm,0.6s,mb4.5						
MUN	**Mundaring**	**49.19**	**257**	*e*P	**P**	**18 39 53.2**	**-1.8**
MBWA	**Marble Bar**	**51.45**	**272**	*e*P	**P**	**18 40 11.3**	**-0.6**
	comp=Z,9.1nm,0.7s,mb4.3						
QSPA	**South Pole Qui**	**52.56**	**180**	⇓*i*P	**P**	**18 40 23.7**	**+3.6**
	comp=Z,47nm,0.6s,mb5.1						
MAW	**Mawson**	**64.02**	**203**	*e*P	**P**	**18 41 39.8**	**+0.6**
MAW				pmax	pmax		
	comp=Z,24nm,1.3s						
MAW	**Mawson**	**64.02**	**203**	*e*P	**P**	**18 41 39.8**	**+0.6**
	comp=Z,24nm,1.3s,mb4.7						
KKM	**Kota Kinabalu**	**70.91**	**294**	P	**P**	**18 42 22.4**	**+0.1**
SNAA	**Sanae**	**71.07**	**180**	⇓*i*	**P**	**18 42 24.0**	**+0.7**
SNAA				*e*		18 42 25.0	
SNAA	**Sanae**	**71.07**	**180**	*e*P	**P**	**18 42 23.9**	**+0.6**
SNAA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SNAA	**Sanae**	**71.07**	**180**	*e*P	**P**	**18 42 23.9**	**+0.6**
	comp=Z,10nm,1.0s,mb4.4						
VNA1	**Neumayer--Stat**	**72.04**	**178**	⇓*i*	**P**	**18 42 30.8**	**+1.7**
VNA1				*e*		18 42 31.8	
KSM	**Kuching**	**72.31**	**286**	*e*P	**P**	**18 42 30.6**	**-0.1**
JOW	**Kunigami**	**78.49**	**317**	P	**P**	**18 43 04.8**	**-1.0**
	comp=Z,25nm,0.3s,mb5.3,baz=113,slow=26,SNR=4.6						
PLCA	**Paso Flores**	**80.79**	**135**	P	**P**	**18 43 18.7**	**+0.5**
	comp=Z,6.1nm,0.9s,mb4.2,baz=222,slow=5.4,SNR=9.3						
PLCA	**Paso Flores**	**80.79**	**135**	P	**P**	**18 43 18.7**	**+0.5**
MJAR	**Matsushiro Arr**	**81.85**	**330**	P	**P**	**18 43 22.3**	**-1.4**
	comp=Z,1.3nm,0.8s,mb3.6,baz=160,slow=5.3,SNR=5.2						
KS15	**Wonju Array Si**	**87.14**	**323**	*e*P	**P**	**18 43 51.0**	**+0.8**
TRQA	**Tornquist**	**87.39**	**138**	*e*P	**P**	**18 43 52.8**	**+1.5**
	comp=Z,2.8nm,0.6s,mb4.2						
YSS	**Yuzh-Sakhalins**	**89.43**	**338**	*e*P	**P**	**18 44 00.2**	**-0.7**
YSS				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
YSS	**Yuzh-Sakhalins**	**89.43**	**338**	*e*P	**P**	**18 44 00.1**	**-0.8**
	comp=Z,7.2nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	**96.48**	**46**	P	**P**	**18 44 30.4**	**-3.0**
	comp=Z,0.1nm,0.3s,mb3.5,baz=224,slow=9.6,SNR=2.1						
MKAR	**Makanchi Array**	**118.82**	**309**	PKP	PKPdf	18 49 49.0	-2.1
	comp=Z,1.9nm,1.1s,baz=226,slow=1.2,SNR=7.4						
ARCES	**ARCESS Array B**	**144.38**	**343**	PKP	PKPdf	18 50 34.9	-4.0
	comp=Z,3.1nm,0.5s,baz=43,slow=3.1,SNR=25						
JOF	**Joensuu**	**147.00**	**331**	*e*p	PKPdf	18 50 42.8	-0.6
	comp=Z,4.0nm,0.4s						
JOF	**Joensuu**	**147.00**	**331**	*e*PKIKP	PKPdf	18 50 42.8	-0.6
JOF				pmax	pmax		
	comp=Z,4.0nm,0.4s						
DBIC	**Dimbokro**	**149.22**	**177**	PKPbc	PKPbc	18 50 50.5	-1.0
	comp=Z,1.4nm,0.3s,baz=152,slow=11,SNR=15						
DBIC	**Dimbokro**	**149.22**	**177**	PKPbc	PKPbc	18 50 50.5	-1.0
KAF	**Kangasniemi**	**149.35**	**333**	*e*p	PKPdf	18 50 48.6	+1.4
FINES	**FINESS Array B**	**149.86**	**332**	PKPbc	PKPdf	18 50 48.5	+0.5
	comp=Z,0.9nm,0.4s,baz=60,slow=3.6,SNR=23						
FINES	**FINESS Array B**	**149.86**	**332**	PKPbc	PKPdf	18 50 48.5	+0.5
BRTR	**Keskin Array B**	**151.12**	**286**	PKPbc	PKPbc	18 50 55.2	-0.8
	comp=Z,1.9nm,0.8s,baz=119,slow=3.8,SNR=8.1						
AKASG	**Malin Array Be**	**153.39**	**310**	PKPbc	PKPbc	18 50 58.4	-2.7

	comp=Z,0.6nm,0.5s,baz=61,slow=2.4,SNR=4.8						
AKASG				PKPab	PKPab	18 51 12.2	-1.9
	comp=Z,0.8nm,0.5s,baz=58,slow=4.1,SNR=6.0						
NB2	**NORSAR Subarra**	**154.76**	**343**	PKP	PKPab	18 51 16.1	-3.9
	comp=Z,1.9nm,0.8s,baz=27,slow=4.3						
NOA	**NORSAR Array B**	**154.76**	**343**	PKPab	PKPab	18 51 16.6	-3.3
	comp=Z,1.4nm,0.8s,baz=28,slow=3.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**155.26**	**192**	PKP	PKPdf	18 50 55.3	-0.6
	comp=Z,0.6nm,0.8s,baz=225,slow=0.7,SNR=3.4						
TORD				PKPab	PKPab	18 51 22.1	0.0
	comp=Z,0.6nm,0.4s,baz=166,slow=3.6,SNR=6.8						
LVV	**L'vov**	**156.83**	**311**	*e*PKIKP	PKPdf	18 50 50.9	-7.1
BRG	**Berggiesshubel**	**161.85**	**323**	*e*(P)	PKPab	18 51 49.7	-1.1
	comp=Z,1.4nm,0.8s						
BRG	**Berggiesshubel**	**161.85**	**323**	*e*PKP2	PKPab	18 51 49.7	-1.0
BRG				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CLL	**Collm**	**162.00**	**325**	*e*PKP2	PKPab	18 51 50.0	-1.4

*NIED **08** 18:32:00, 3690N×14160E, h29^{km}, Mw3.5 Best double couple: $M_0$1.74000×10^{14} NP1:ϕ_s13.00000°, δ89.00000°, λ72.00000°. NP2:ϕ_s279.00000°, δ18.00000°, λ175.00000°.*
JMA 08 18:32:40.0±0.2**, 3691N×14158E, h51**^{km}±3^{km}**, M3.4, 5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.65**	**287**	⇓P	Pn	18 32 53.2	0.0
ONAJ				S	Sn	18 33 02.9	+0.2
JFK	**Kawauchi**	**0.72**	**309**	⇓P	Pn	18 32 54.0	-0.1
JFK				*e*S	Sn	18 33 04.3	0.0
JHO	**Hitachi**	**0.86**	**250**	P	Pn	18 32 55.7	-0.2
JHO				*e*S	Sn	18 33 08.3	+0.7
JMM	**Marumori**	**1.14**	**327**	⇓P	Pn	18 33 00.0	+0.4
JMM				*e*S	Sn	18 33 14.6	+0.4
JFT	**Otama**	**1.16**	**302**	⇓P	Pn	18 33 01.5	+1.6
JFT				*e*S	Sn	18 33 16.9	+2.2
JIO	**Ouri**	**1.55**	**353**	⇓P	Pn	18 33 05.2	0.0
JIO				*e*S	Sn	18 33 23.6	-0.6
JFY	**Yanaizu**	**1.58**	**289**	P	Pn	18 33 07.8	+2.2
JFY				*e*S	Sn	18 33 24.4	-0.4
JOU	**Okura**	**1.62**	**334**	P	Pn	18 33 07.6	+1.4
JAG	**Ashikaga**	**1.78**	**255**	P	Pn	18 33 09.8	+1.5
JAG				*e*S	Sn	18 33 31.7	+2.0
JYS	**Shirataka**	**1.78**	**318**	P	Pn	18 33 10.3	+2.0
MAT	**Matsushiro**	**2.73**	**263**	P	Pn	18 33 24.4	+3.0
MAT				S	Sn	18 33 57.8	+4.6

*ISCJB **08** 18:58:20.9±1.1, 4159N±008×73.19E±006, h10^{km}, Error ellipse: s-maj=11.5km s-min=5.8km az=159.6*
*NNC **08** 18:58:21.9±1.8, 4169N×73.14E, h0^{km}, mb3.8, mpv3.8, Error ellipse: s-maj=22.1km s-min=5.5km az=4.0*
*KNET **08** 18:58:21.5±0.4, 4164N×7337E, h14^{km}±2^{km}, ml3.6, Error ellipse: s-maj=3.8km s-min=2.5km az=101.0*
ISC 08 18:58:22.9±1.0**, 4161N**±007×**7332E**±005**, h10**^{km}**, n20,** σ**1^{s}40**/29**, 17C-8D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.59**	**28**	P	**Pg**	**18 58 32.5**	**-1.9**
	775nm,0.2s,SNR=2496						
AML				⇑S	**Sg**	**18 58 41.4**	**-0.7**
	2µm,0.2s						
UCH	**Uchtor**	**1.08**	**55**	⇑P	**Pg**	**18 58 41.4**	**-2.3**
	371nm,0.2s,SNR=497						
UCH				⇓S	**Sg**	**18 58 57.0**	**-0.8**
	787nm,0.2s						
EKS2	**Erkin-Say**	**1.10**	**18**	P	**Pb**	**18 58 41.2**	**-2.9**
	88nm,0.1s,SNR=201						
AAK	**Ala-Archa**	**1.34**	**40**	⇓P	**Pn**	**18 58 46.1**	**-1.6**
	157nm,0.3s,SNR=94						
AAK				⇓S	**Sb**	**18 59 04.7**	**-0.7**
	448nm,0.2s						
KZA	**Kyzart**	**1.51**	**71**	P	**Pn**	**18 58 49.0**	**-1.0**
	529nm,0.2s,SNR=888						
KZA				⇑S	**Sn**	**18 59 10.1**	**+0.3**
	789nm,0.4s						
KBK	**Karagaybulak**	**1.60**	**49**	⇑P	**Pn**	**18 58 51.0**	**-0.2**
	150nm,0.1s,SNR=110						
KBK				⇓S	**Sn**	**18 59 13.1**	**+1.2**
	657nm,0.2s						
CHMS	**Chumysh**	**1.75**	**37**	⇓P	**Pn**	**18 58 53.3**	**0.0**
	64nm,0.1s,SNR=47						
CHMS				⇓S	**Sn**	**18 59 17.2**	**+1.6**
	544nm,0.3s						
USP	**Ospenovka**	**1.87**	**27**	⇑P	**Pn**	**18 58 54.9**	**0.0**
	96nm,0.2s,SNR=389						
USP				⇑S	**Sn**	**18 59 20.6**	**+2.0**
	1µm,0.2s						
TKM2	**Tokmak 2**	**2.14**	**51**	⇑P	**Pn**	**18 58 59.4**	**+0.7**
	192nm,0.2s,SNR=282						
TKM2	**Tokmak 2**	**2.14**	**51**	⇑Pn	**Pn**	**18 58 59.3**	**+0.7**
	17nm,0.5s						
TKM2				⇑Sn	**Sn**	**18 59 28.7**	**+3.5**
	32nm,0.6s						
ULHL	**Ulahol**	**2.27**	**73**	⇓P	**Pn**	**18 59 00.5**	**+0.1**
	100nm,0.2s,SNR=30						
KK31	**Karatay Array**	**2.56**	**307**	⇑Pn	**Pn**	**18 59 05.0**	**+0.5**
	19nm,0.3s,baz=126,slow=13,SNR=629						
KK31				⇑Sn	**Sn**	**18 59 39.1**	**+3.4**
	63nm,0.3s,baz=124,slow=30,SNR=17						
KNDC	**Almaty**	**3.14**	**58**	⇑Pn	**Pn**	**18 59 14.5**	**+2.1**
	79nm,0.6s						
KNDC				⇑Sn	**Sn**	**18 59 55.8**	**+5.8**
	358nm,0.8s						
MK02	**Makanchi Array**	**8.26**	**48**	⇑Pn	**Pn**	**19 00 24.4**	**+1.6**
	2.1nm,0.6s						
MK02				⇓Lg		19 02 44.1	
	9.0nm,0.8s						
KURK	**Kurchatov**	**9.82**	**20**	⇑Lg		19 03 30.4	
	13nm,1.0s						
VOSK	**Vostochnaya**	**11.23**	**353**	P	**Pn**	**19 01 04.4**	**+1.0**
BVA0	**Borovoye Array**	**11.59**	**351**	P	**Pn**	**19 01 09.5**	**+1.1**
	0.1nm,0.5s,baz=157,slow=12,SNR=11						
ZRNK	**Zerenda**	**11.71**	**347**	P	**Pn**	**19 01 07.6**	**-2.5**
AB31	**Akbulak array**	**12.10**	**314**	⇑P	**Pn**	**19 01 15.2**	**-0.2**
	2.8nm,0.7s,baz=121,slow=14,SNR=25						
AKTO	**Aktyubinsk**	**13.80**	**315**	⇑P	**Pn**	**19 01 35.9**	**-2.6**
	0.2nm,1.6s						

KRSC 08 18:59:53, 4921N×15666E, h31^{km}**, ML3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PICO	**Pico**	**92.55**	**4**	*e*P	P	19 12 51.8	-9.5
PICO				*e*S		19 12 59.0	

*ISCJB **08** 19:19:15.8±0.3, 5624N±003×11807E±003, h10^{km}, mb3.7/13, MS3.4/2, Error ellipse: s-maj=4.1km s-min=2.6km az=156.8*
*MOS **08** 19:19:16.1±1.4, 5630N×11829E, h11^{km}, mb4.1/8, Error ellipse: s-maj=10.5km s-min=9.1km az=74.4*
*IDC **08** 19:19:16.4±1.0, 5627N×11852E, h0^{km}, mb3.7/8, mb1 3.8/10, mb1mx3.7/22, mbtmp3.7/10, ML3.3/2, MS3.1/4, Ms1 3.1/4, ms1mx2.8/38, Error ellipse: s-maj=28.6km s-min=20.3km az=43.0*
*NEIC **08** 19:19:17.8±0.7, 5624N×11845E, h10^{km}, mb3.9/3, Error ellipse: s-maj=15.8km s-min=12.7km az=145.0*
*BYKL **08** 19:19:18.1±0.3, 5633N×11809E*
*BJI **08** 19:19:24.7, 5555N×11823E, h10^{km}, mb4.3, ML4.8*
ISC 08 19:19:17.7±0.3**, 5630N**±003×**11809E**±003**, h10**^{km}**, n70,** σ**1^{s}55**/110**, mb3.7**/13**, MS3.4**/2**, 6C-4D, East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRS	**Chara**	**0.60**	**9**	⇑*i*Pg	**Pg**	**19 19 28.5**	**-1.0**
CRS				Pmax		19 19 30.9	
	1µm,0.9s						
CRS				*e*Sg	**Sg**	**19 19 36.8**	**-0.6**
CRS				Smax		19 19 46.2	
	7µm,1.8s						
CRS	**Chara**	**0.60**	**9**	*e*PG	**Pg**	**19 19 28.5**	**-1.0**
CRS				*e*		19 19 35.6	
CRS				pmax	pmax		
	comp=Z,1µm,0.9s						
CRS				smax			
	comp=E,3µm,1.3s						
KHNR	**Khani**	**1.21**	**59**	*e*Pg	**Pn**	**19 19 39.7**	**-1.1**
KHNR				*e*Sg	**Sg**	**19 19 56.5**	**-0.3**
NLYR	**Nelyaty**	**1.34**	**279**	⇑*i*Pg	**Pn**	**19 19 41.5**	**-1.0**
NLYR				Pmax		19 19 45.6	
	comp=E,2µm,0.5s						
NLYR				*e*Sg	**Sg**	**19 20 01.0**	**+0.2**
NLYR				Smax		19 20 04.0	
	comp=E,15µm,0.7s						
NLYR	**Nelyaty**	**1.34**	**279**	*e*PG	**Pn**	**19 19 41.4**	**-1.1**
NLYR				*e*		19 20 00.4	
NLYR				pmax	pmax		
	comp=Z,2µm,0.4s						
NLYR				smax			
	comp=N,6µm,1.0s						
TUP	**Tupik**	**2.16**	**150**	⇓*i*Pn	**Pn**	**19 19 54.7**	**+0.9**
TUP				*e*Pg	**Pg**	**19 19 57.1**	**-2.1**
TUP				Pmax		19 19 58.0	
	comp=N,924nm,0.6s						
TUP				*e*Sg	**Sg**	**19 20 25.3**	**-2.0**
TUP				*e*		19 20 39.2	
TUP				max		19 20 42.1	
	comp=N,2µm,2.3s						
TUP	**Tupik**	**2.16**	**150**	*e*PN	**Pn**	**19 19 55.0**	**+1.2**
TUP				*e*		19 19 57.7	
TUP				*e*S	**Sn**	**19 20 22.4**	**+1.7**
TUP				pmax	pmax		
	comp=Z,938nm,0.6s						
TUP				smax			
	comp=N,2µm,1.1s						
SVKR	**Severomuysk**	**2.54**	**268**	*e*Pn	**Pn**	**19 20 00.9**	**+1.9**
SVKR				⇓*i*Pg	**Pg**	**19 20 03.5**	**-2.9**
SVKR				Pmax		19 20 05.4	
	comp=N,1µm,0.5s						
SVKR				*e*		19 20 31.2	
SVKR				*e*Sg	**Sg**	**19 20 36.3**	**-3.0**
SVKR				Smax		19 20 42.8	
	comp=N,7µm,0.6s						
SVKR	**Severomuysk**	**2.54**	**268**	*e*PN	**Pg**	**19 20 05.0**	**-1.4**
SVKR				*e*S	**Sn**	**19 20 31.2**	**+1.3**
SVKR				*e*		19 20 36.2	
SVKR				pmax	pmax		
	comp=Z,1µm,0.6s						
SVKR				smax			
	comp=N,7µm,0.7s						
UKT	**Uakit**	**2.64**	**254**	*e*Pn	**Pn**	**19 20 01.6**	**+1.2**
UKT				*e*Pg	**Pg**	**19 20 05.3**	**-3.1**
UKT				Pmax		19 20 07.8	
	comp=N,204nm,1.4s						
UKT				*e*Sg	**Sg**	**19 20 40.3**	**-2.3**
UKT				Smax		19 20 41.2	
	comp=N,2µm,0.9s						
UKT	**Uakit**	**2.64**	**254**	*e*PN	**Pg**	**19 20 05.2**	**-3.2**
UKT				*e*		19 20 40.1	
UKT				pmax	pmax		
	comp=Z,171nm,0.5s						
UKT				smax			
	comp=N,2µm,0.5s						
BOD	**Bodaibo**	**2.70**	**306**	*e*Pn	**Pn**	**19 20 01.4**	**+0.2**
BOD				⇑*i*Pg	**Pg**	**19 20 05.6**	**-3.9**
	comp=N,298nm,0.8s						
BOD				⇓*i*Pg	**Pg**	**19 20 05.6**	**-3.9**
	comp=N,385nm,0.8s						
BOD				⇑*i*Pg	**Pg**	**19 20 05.6**	**-3.9**
	comp=N,310nm,0.8s						
BOD				Pmax		19 20 06.6	
	comp=N,807nm,1.0s						
BOD				*e*Sg	**Sg**	**19 20 40.7**	**-3.7**
BOD				Smax		19 20 43.0	
	comp=N,1µm,1.0s						
BOD	**Bodaibo**	**2.70**	**306**	⇑*e*PN	**Pn**	**19 20 00.9**	**-0.3**
BOD				*i*		19 20 05.5	
BOD				*e*		19 20 40.6	
BOD				pmax	pmax		
	comp=Z,826nm,0.6s						
BOD				smax			
	comp=E,2µm,1.0s						
YOA	**Uoyan**	**3.56**	**270**	*e*Pg	**Pg**	**19 20 22.0**	**-3.9**
YOA				Pmax		19 20 28.7	
	comp=E,312nm,1.1s						
YOA				*e*Sn	**Sn**	**19 20 56.4**	**+1.3**
YOA				*e*Sg	**Sg**	**19 21 09.0**	**-3.0**
YOA				Smax		19 21 25.9	
	comp=E,4µm,1.4s						
YOA	**Uoyan**	**3.56**	**270**	⇑*i*PN	**Pg**	**19 20 22.3**	**-3.6**
YOA				*i*		19 21 09.4	
YOA				pmax	pmax		
	comp=Z,434nm,0.8s						
YOA				smax			
	comp=E,4µm,1.0s						
CLNS	**Chul'man**	**3.80**	**79**	*e*Pn	**Pn**	**19 20 18.3**	**+1.9**
CLNS				*e*Pg	**Pg**	**19 20 25.0**	**-5.6**
CLNS				*e*		19 21 03.8	
CLNS				*e*Sg	**Sg**	**19 21 14.6**	**-5.3**
CLNS	**Chul'man**	**3.80**	**79**	*e*PN	**Pn**	**19 20 13.8**	**-2.5**
CLNS				*e*		19 20 26.1	
CLNS				*e*S	**Sn**	**19 21 01.4**	**+0.3**
CLNS				pmax	pmax		
	comp=N,1.0nm,0.2s						
CLNS				pmax	pmax		
	comp=E,1.0nm,0.2s						
CLNS				pmax	pmax		
	comp=Z,2.0nm,0.2s						
CLNS				pmax	pmax		
	comp=N,33nm,0.7s						
CLNS				pmax	pmax		
	comp=E,51nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,57nm,0.7s						
CLNS				smax			
	comp=N,457nm,1.5s						
CLNS				smax			
	comp=Z,93nm,1.0s						
CLNS				smax			
	comp=E,172nm,0.8s						
CLNS				smax			
	comp=N,469nm,0.8s						
CLNS				smax			
	comp=Z,70nm,0.4s						
CLNS				smax			
	comp=E,593nm,1.4s						
KMO	**Kumora**	**3.88**	**267**	*e*Pn	**Pn**	**19 20 18.8**	**+1.4**
KMO				*e*Pg	**Pg**	**19 20 26.7**	**-5.4**
KMO				Pmax		19 20 28.6	
	comp=E,143nm,0.4s						
KMO				*e*		19 20 58.0	
KMO				*e*Sg	**Sg**	**19 21 17.8**	**-4.6**
KMO				Smax		19 21 23.9	
	comp=E,1µm,0.8s						
TNDR	**Tynda**	**3.93**	**104**	*e*Pn	**Pn**	**19 20 19.1**	**+1.1**
TNDR				*e*Pg	**Pg**	**19 20 28.5**	**-4.5**
TNDR				*e*Sn	**Sn**	**19 21 05.3**	**+1.1**
TNDR				*e*Sg	**Sg**	**19 21 18.2**	**-5.6**
YLYR	**Ulyunkhan**	**4.18**	**253**	*e*Pn	**Pn**	**19 20 22.7**	**+1.1**
YLYR				*e*Pg	**Pg**	**19 20 32.8**	**-5.1**
YLYR				Pmax		19 20 36.9	
	comp=E,103nm,1.0s						
YLYR				*e*Sn	**Sn**	**19 21 10.0**	**-0.5**
YLYR				*e*Sg	**Sg**	**19 21 27.1**	**-5.0**
YLYR				Smax		19 21 32.4	
	comp=E,1µm,1.1s						
YLYR	**Ulyunkhan**	**4.18**	**253**	*e*PN	**Pn**	**19 20 22.9**	**+1.3**
YLYR				*e*		19 20 32.8	
YLYR				*e*S	**Sn**	**19 21 10.2**	**-0.3**
YLYR				*e*		19 21 26.4	
YLYR				pmax	pmax		
	comp=Z,105nm,0.6s						
YLYR				smax			
	comp=N,1µm,1.4s						
NIZ	**Nizh Angarsk**	**4.82**	**267**	*e*Pn	**Pn**	**19 20 32.9**	**+2.5**
NIZ				*e*Pg	**Pg**	**19 20 45.0**	**-5.1**
NIZ				Pmax		19 20 48.3	
	comp=N,72nm,0.9s						
NIZ				*e*Sn	**Sn**	**19 21 27.5**	**+1.2**
NIZ				*e*Sg	**Sg**	**19 21 47.9**	**-4.7**
NIZ				Smax		19 21 56.8	
	comp=N,459nm,1.0s						
NIZ	**Nizh Angarsk**	**4.82**	**267**	*e*PN	**Pn**	**19 20 33.4**	**+3.0**
NIZ				*e*		19 20 46.1	
NIZ				*e*S	**Sn**	**19 21 27.2**	**+0.9**
NIZ				*e*		19 21 47.6	
NIZ				pmax	pmax		
	comp=Z,59nm,0.7s						
NIZ				smax			
	comp=N,284nm,0.8s						
SYVR	**Suvo**	**5.36**	**244**	*e*Pg	**Pb**	**19 20 54.3**	**+2.8**
SYVR				*e*Sg	**Sg**	**19 22 05.4**	**-4.4**
SYVR				Smax		19 22 11.1	
	comp=N,1µm,1.2s						
KROS	**Kirovskiy**	**5.40**	**107**	⇓*i*	**Pb**	**19 20 50.5**	**-1.7**
KROS				*i* Sg	**Sg**	**19 22 04.3**	**-6.9**
MXMB	**Maximikha**	**6.20**	**244**	*e*Pn	**Pn**	**19 20 50.2**	**+0.8**
MXMB				*e*Pg	**Pg**	**19 21 09.3**	**-7.2**
MXMB				Pmax		19 21 17.1	
	comp=N,24nm,0.6s						
MXMB				*e*Sn	**Sn**	**19 21 58.8**	**-1.5**
MXMB				*e*Sg	**Sg**	**19 22 30.0**	**-6.9**
MXMB				Smax		19 22 46.2	
	comp=N,1µm,1.3s						
OGRR	**Ongureny**	**6.60**	**251**	*e*Pg	**Pg**	**19 21 17.5**	**-6.7**
OGRR				Pmax		19 21 22.4	
	comp=N,32nm,1.2s						
OGRR				*e*		19 22 06.8	
OGRR				*e*Sg	**Sg**	**19 22 44.0**	**-5.7**
OGRR				Smax		19 22 52.6	
	comp=N,255nm,1.2s						
OGRR	**Ongureny**	**6.60**	**251**	*e*PN	**Pn**	**19 20 56.3**	**+1.5**
OGRR				*e*		19 21 17.3	
OGRR				*e*		19 22 43.3	
OGRR				pmax	pmax		
	comp=Z,31nm,2.4s						
OGRR				smax			
	comp=N,250nm,1.5s						
TRTB	**Turuntaevo**	**7.36**	**241**	*e*	**Pb**	**19 21 22.6**	**-2.9**
TRTB				*e*		19 22 40.3	
TRTB				*e*Sg	**Sg**	**19 23 04.8**	**-9.1**
TRTB				Smax		19 23 12.9	
	comp=N,375nm,1.2s						
KPC	**Khapcheranga**	**7.45**	**210**	*e*Pn	**Pg**	**19 21 41.1**	**+0.7**
KPC				*e*		19 22 56.6	
KPC				*e*Sg	**Sg**	**19 23 09.3**	**-7.6**
KPC				Smax		19 23 25.3	
	comp=N,403nm,1.2s						
TRG	**Tyrgan**	**7.70**	**247**	*e*Pn	**Pn**	**19 21 10.3**	**+0.5**
TRG				*e*		19 22 48.2	
TRG				*e*Sg	**Sg**	**19 23 16.8**	**-7.9**
TRG				Smax		19 23 25.1	
	comp=N,126nm,1.4s						
TRG	**Tyrgan**	**7.70**	**247**	*e*PN	**Pn**	**19 21 10.4**	**+0.6**
TRG				*e*		19 21 35.9	
TRG				*e*S	**Sn**	**19 22 36.2**	**-0.9**
TRG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
TRG				smax			
	comp=N,126nm,1.2s						
YAK	**Yakutsk**	**8.26**	**41**	*e*PN	**Pn**	**19 21 17.3**	**-0.3**
YAK				*e*		19 22 47.5	
YAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,9.0nm,0.8s						
YAK				smax			
	comp=N,23nm,1.1s						
YAK				smax			
	comp=Z,7.0nm,0.8s						
YAK				smax			
	comp=E,21nm,1.2s						
YAK				smax			
	comp=N,52nm,0.9s						
YAK				smax			
	comp=E,59nm,1.2s						
YAK				smax			
	comp=Z,51nm,1.2s						
YAK				MLR	MLR		
	comp=Z,86nm,7.0s						
LSTR	**Listvyanka**	**8.96**	**246**	*e*Sg	Sx	19 23 54.7	
LSTR				Smax		19 24 17.5	
	comp=Z,166nm,0.9s						
ARS	**Arshan**	**10.19**	**251**	*e*Sg	Sx	19 24 35.3	
ARS				Smax		19 24 56.1	
	comp=Z,319nm,0.7s						
ZAK	**Zakamensk**	**10.64**	**242**	*e*P	**Pn**	**19 21 52.1**	**+1.8**
ZAK				*e*		19 24 01.7	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN	**Ulaanbaatar**	**10.83**	**223**	P	**Pn**	**19 21 53.8**	**+1.0**
ULN				*e*		19 23 54.5	
ULN				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ULN	**Ulaanbaatar**	**10.83**	**223**	Pn	**Pn**	**19 21 53.8**	**+1.1**
	comp=Z,3.0nm,0.5s						
ULN				*e*Sn	**Sn**	**19 23 54.5**	**+0.5**
KLR	**Kul'dur**	**10.88**	**125**	*e*P	**Pn**	**19 21 52.2**	**-1.3**
KLR				*e*		19 24 00.0	
KLR				MLR	MLR		
	comp=Z,700nm,9.0s						
SONM	**Songino Array**	**11.11**	**225**	Pn	**Pn**	**19 21 57.3**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=31,slow=14,SNR=14						
SONM				Sn	**Sn**	**19 23 57.5**	**-3.4**
	comp=Z,0.6nm,0.3s,baz=38,slow=22,SNR=3.8						
SONM				Lg		19 25 03.5	
	comp=Z,1.7nm,0.3s,baz=41,slow=27,SNR=6.0						
SONM				LR	LR	19 26 51.1	
	comp=Z,40nm,18.5s,baz=75,slow=40						
TIXI	**Tiksi**	**16.07**	**12**	*e*P	**Pn**	**19 22 56.8**	**-6.9**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TIXI				MLR	MLR		
	comp=Z,165nm,15.0s						
ZAL	**Zalesovo**	**19.08**	**277**	P	**Pn**	**19 23 43.7**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=5.0,slow=4.7,SNR=5.5						
ZAL				LR	LR	19 32 09.6	
	comp=Z,101nm,20.7s,baz=33,slow=40						
ZAL	**Zalesovo**	**19.08**	**277**	P	**Pn**	**19 23 43.7**	**+2.5**
ZAL				LR	LR	19 32 09.6	
NVS	**Novosibirsk**	**19.64**	**280**	*e*P	**Pn**	**19 23 53.3**	**+5.5**
ASAJ	**Asahikawa**	**19.74**	**118**	LR	LR	19 31 21.0	
	comp=Z,67nm,21.4s,baz=326,slow=37						
KURK	**Kurchatov**	**23.88**	**273**	*e*P	**P**	**19 24 29.2**	**-2.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.8						
KURK	**Kurchatov**	**23.88**	**273**	*e*P	**P**	**19 24 29.2**	**-2.2**
	comp=Z,4.2nm,1.1s,mb3.8						
MKAR	**Makanchi Array**	**23.95**	**262**	P	**P**	**19 24 34.0**	**+1.9**
	comp=Z,0.8nm,0.8s,mb3.2,baz=64,slow=8.2,SNR=5.1						
MKAR	**Makanchi Array**	**23.95**	**262**	P	**P**	**19 24 34.0**	**+1.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**23.95**	**262**	P	**P**	**19 24 34.0**	**+1.9**
NJ2	**Nanjing**	**24.25**	**178**	*e*P	**P**	**19 24 36.6**	**+1.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
BVAR	**Borovoye Array**	**27.34**	**283**	P	**P**	**19 25 05.3**	**+2.4**
	comp=Z,0.2nm,0.4s,mb3.0,baz=52,slow=9.6,SNR=3.5						
BVAR				LR	LR	19 37 11.8	
	comp=Z,30nm,18.6s,MS2.9,baz=142,slow=39						
ZRNK	**Zerenda**	**28.13**	**284**	P	**P**	**19 25 08.7**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
ZRNK	**Zerenda**	**28.13**	**284**	P	**P**	**19 25 08.7**	**-1.2**
	comp=Z,1.2nm,0.8s,mb3.6						
ARU	**Arti**	**32.07**	**296**	P	pP	19 25 51.8	+4.0
ARU				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ARU	**Arti**	**32.07**	**296**	P	pP	19 25 51.8	+4.0
	comp=Z,2.4nm,0.9s						
UNV	**Unalaska Valle**	**41.24**	**60**	P	**P**	**19 27 00.5**	**-2.3**
	comp=Z,187nm,1.4s						
OBN	**Obninsk**	**43.38**	**304**	P	**P**	**19 27 22.0**	**+1.7**
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.9						
FINES	**FINESS Array B**	**44.05**	**316**	P	**P**	**19 27 26.1**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.5,baz=45,slow=11,SNR=4.0						
FINES	**FINESS Array B**	**44.05**	**316**	P	**P**	**19 27 26.1**	**+0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**49.62**	**303**	P	**P**	**19 28 10.1**	**+0.8**
	comp=Z,1.6nm,0.6s,mb4.3,baz=41,slow=8.6,SNR=14						
AKASG	**Malin Array Be**	**49.62**	**303**	P	**P**	**19 28 10.1**	**+0.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	**55.24**	**291**	P	**P**	**19 28 54.3**	**+3.3**
	comp=Z,1.5nm,1.0s,mb4.0,baz=77,slow=5.6,SNR=5.1						
BRTR	**Keskin Array B**	**55.24**	**291**	P	**P**	**19 28 54.3**	**+3.3**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GERES	**GERESS Array B**	**57.87**	**311**	P	**P**	**19 29 10.7**	**+1.0**
	comp=Z,0.7nm,0.7s,mb3.8,baz=92,slow=4.0,SNR=6.8						
GERES	**GERESS Array B**	**57.87**	**311**	P	**P**	**19 29 10.7**	**+1.0**

GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**73.43**	**35**	P	**P**	**19 30 50.0**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=39,slow=2.8,SNR=4.4						
WRA	**Warramunga Arr**	**77.18**	**164**	P	**P**	**19 31 11.2**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=348,slow=6.6,SNR=38						
WRA	**Warramunga Arr**	**77.18**	**164**	P	**P**	**19 31 11.2**	**-0.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**80.78**	**165**	P	**P**	**19 31 30.9**	**-0.5**
	comp=Z,0.4nm,0.8s,mb3.4,baz=92,slow=7.8,SNR=4.7						

*NEIC **08** 19:20:54.8, 3173S×7144W, h41km, MG3.7(GUC), After GUC.*

GUC 08 19:20:54.8±0.8**, 3173S×7144W, h41**km±1km**, MD3.9, ML3.7, 8C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.16**	**197**	⇑iP	Pn	19 21 02.0	+0.1
CHNG				iS	Sn	19 21 07.6	+0.7
CHNG				AML	AML	19 21 08.4	
	comp=E,8μm,0.6s						
CMCH	**Combarbala**	**0.67**	**35**	⇓iP	Pn	19 21 08.2	+0.3
CMCH				iS	Sn	19 21 18.4	+1.3
CMCH				AML	AML	19 21 19.8	
	comp=E,15μm,0.6s						
CMCH	**Combarbala**	**0.67**	**35**	⇓iP	Pn	19 21 08.2	+0.3
CMCH				iS	Sn	19 21 18.4	+1.3
PACH	**Papudo**	**0.81**	**180**	eP	Pn	19 21 09.7	0.0
PACH				iS	Sn	19 21 21.6	+1.1
OVCH	**Ovalle**	**1.13**	**11**	eP	Pn	19 21 15.5	+1.3
OVCH				iS	Sn	19 21 30.8	+2.2
OVCH				AML	AML	19 21 33.4	
	comp=E,3μm,0.6s						
OVCH	**Ovalle**	**1.13**	**11**	eP	Pn	19 21 15.5	+1.3
OVCH				iS	Sn	19 21 30.8	+2.2
JACH	**Jahuel**	**1.20**	**143**	⇑iP	Pn	19 21 16.2	+1.2
JACH				iS	Sn	19 21 32.3	+2.3
ROCH	**El Roble**	**1.29**	**164**	⇓iP	Pn	19 21 17.1	+0.7
ROCH				iS	Sn	19 21 34.4	+1.9
IHA	**Instituto Hidr**	**1.31**	**187**	⇑iP	Pn	19 21 16.1	-0.4
IHA				iS	Sn	19 21 33.8	+1.0
PEL	**Peldehue**	**1.55**	**156**	⇑iP	Pn	19 21 20.8	+0.9
PEL				iS	Sn	19 21 41.2	+2.4
PEL				AML	AML	19 21 44.3	
	comp=E,4μm,0.2s						
PEL	**Peldehue**	**1.55**	**156**	⇑iP	Pn	19 21 20.8	+0.9
PEL				iS	Sn	19 21 41.2	+2.4
TLL	**Tololo Astrono**	**1.65**	**20**	⇓iP	Pn	19 21 22.6	+1.3
TLL				iS	Sn	19 21 44.1	+2.9
TLL				AML	AML	19 21 47.7	
	comp=E,2μm,0.2s						
TLL	**Tololo Astrono**	**1.65**	**20**	⇓iP	Pn	19 21 22.6	+1.3
TLL				iS	Sn	19 21 44.1	+2.9
LCCH	**Las Cruces**	**1.75**	**183**	eP	Pn	19 21 22.5	-0.1
LCCH				iS	Sn	19 21 45.1	+1.5
DSCH	**Colegio Aleman**	**1.82**	**156**	iP	Pn	19 21 24.6	+0.9
DSCH				iS	Sn	19 21 48.0	+2.4
CLCH	**Cerro Calan**	**1.83**	**156**	eP	Pn	19 21 24.9	+1.1
CLCH				iS	Sn	19 21 48.1	+2.4
CLCH				AML	AML	19 22 03.0	
	comp=E,870nm,0.6s						
CLCH				AML	AML	19 22 03.5	
	comp=E,1μm,0.5s						
STL	**Santa Lucia**	**1.83**	**159**	iP	Pn	19 21 24.9	+1.1
STL				iS	Sn	19 21 47.8	+2.0
SAN	**Santiago**	**1.84**	**159**	iP	Pn	19 21 25.1	+1.1
SAN				iS	Sn	19 21 48.1	+2.1
SAN				AML	AML	19 21 52.8	
	comp=E,736nm,0.2s						
SAN	**Santiago**	**1.84**	**159**	iP	Pn	19 21 25.1	+1.1
SAN				iS	Sn	19 21 48.1	+2.1
FCH	**Farellones**	**1.87**	**149**	⇓iP	Pn	19 21 25.9	+1.7
FCH				iS	Sn	19 21 49.8	+3.1
FCH				AML	AML	19 21 53.6	
	comp=E,629nm,0.2s						
FSR	**Penalolen**	**1.91**	**156**	iS	Sn	19 21 50.3	+2.6
FSR				AML	AML	19 21 54.6	
	comp=E,689nm,0.8s						
ANTU	**Antumapu**	**1.96**	**160**	eP	Pn	19 21 26.6	+1.1
ANTU				eS	Sn	19 21 50.7	+1.8
ANTU				AML	AML	19 21 59.6	
	comp=E,652nm,0.3s						
ANTU	**Antumapu**	**1.96**	**160**	eP	Pn	19 21 26.6	+1.1
ANTU				eS	Sn	19 21 50.7	+1.8
TACH	**Talagante**	**1.97**	**168**	⇑iP	Pn	19 21 26.5	+0.9
TACH				iS	Sn	19 21 51.6	+2.5
PCH	**Pirque**	**2.05**	**158**	eP	Pn	19 21 28.0	+1.3
LNV	**Longovilo**	**2.22**	**179**	⇑iP	Pn	19 21 28.7	-0.4
CHCH	**Chadas Angostu**	**2.30**	**163**	⇑iP	Pn	19 21 31.2	+1.1
CACH	**El Canelo**	**2.49**	**164**	⇓iP	Pn	19 21 34.5	+1.8
CACH				iS	Sn	19 22 05.0	+3.1
CICH	**Cipreses**	**2.73**	**162**	iP	Pn	19 21 37.4	+1.4

*CSEM **08** 19:28:35.8±0.3, 34.15N×3654E, h5km, Mc1.5, Error ellipse: s-maj=8.2km s-min=4.6km az=91.0*
*ISCJB **08** 19:28:36.7±0.6, 34.15N±002×3650E±005, h2km, Error ellipse: s-maj=6.1km s-min=2.9km az=6.6*
*NSSC **08** 19:28:36.4, 34.16N×3649E, h2km±3km*
*GRAL **08** 19:28:37.5±1.8, 34.17N×3652E, h0km±72km, MD2.9*

ISC 08 19:28:37.0±0.7**, 3415N**±002×**3653E**±006**, h3**km±10km**, n20, σ0.89**/35**, 13D, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARH	**Ras Al Marh**	**0.13**	**198**	⇓iP	**Pg**	**19 28 39.2**	**-0.2**
HAWK	**Haweek**	**0.39**	**345**	⇑P	**Pg**	**19 28 44.4**	**0.0**
HAWK				⇑S	**Sg**	**19 28 50.0**	**+0.5**
HAWK	**Haweek**	**0.39**	**345**	⇑iP	**Pg**	**19 28 44.4**	**0.0**
HWQ	**Hawqa**	**0.50**	**285**	ePg	**Pg**	**19 28 45.6**	**-1.0**
HWQ				eSg	**Sg**	**19 28 52.6**	**-0.5**
QASN	**Qassioun**	**0.65**	**199**	⇑P	**Pg**	**19 28 48.9**	**-0.5**
QASN				⇑S	**Sg**	**19 29 00.2**	**+2.5**
QASN	**Qassioun**	**0.65**	**199**	⇑iP	**Pg**	**19 28 48.9**	**-0.5**
QASN				⇑iS	**Sg**	**19 29 00.2**	**+2.4**
BHL	**Bhannes**	**0.77**	**252**	ePg	**Pg**	**19 28 50.9**	**-0.7**
BHL				eSg	**Sg**	**19 29 02.1**	**+0.5**
TOTH	**TOTAH**	**0.79**	**186**	⇓P	**Pg**	**19 28 52.6**	**+0.5**
TOTH				⇑S	**Sg**	**19 29 00.3**	**-2.0**
TOTH	**TOTAH**	**0.79**	**186**	⇓iP	**Pg**	**19 28 52.6**	**+0.5**
BRBR	**Barbar**	**0.88**	**213**	⇓P	**Pg**	**19 28 53.8**	**0.0**
BRBR				⇑S	**Sg**	**19 29 06.5**	**+1.4**
BRBR	**Barbar**	**0.88**	**213**	⇓iP	**Pg**	**19 28 53.8**	**0.0**
BRBR				⇑iS	**Sg**	**19 29 06.5**	**+1.3**
BIDA	**Albida**	**0.88**	**349**	⇑P	**Pg**	**19 28 53.4**	**-0.4**
BIDA				⇓S	**Sg**	**19 29 06.7**	**+1.3**
BIDA	**Albida**	**0.88**	**349**	⇑iP	**Pg**	**19 28 53.4**	**-0.5**
BIDA				⇓iS	**Sg**	**19 29 06.7**	**+1.4**
RCY	**Rachaya**	**0.89**	**222**	ePg	**Pg**	**19 28 52.8**	**-1.2**
RCY				eSg	**Sg**	**19 29 06.0**	**+0.5**
RCY	**Rachaya**	**0.89**	**222**	eSg	**Sg**	**19 29 06.0**	**+0.6**
MATL	**Matirih**	**1.19**	**237**	ePg	**Pg**	**19 28 59.3**	**-0.5**
WRDH	**Warideh**	**1.36**	**356**	⇓P	**Pn**	**19 29 02.2**	**-0.6**
WRDH				⇑S	**Sg**	**19 29 21.0**	**+0.3**
WRDH	**Warideh**	**1.36**	**356**	⇓iP	**Pn**	**19 29 02.2**	**-0.6**
WRDH				⇑iS	**Sg**	**19 29 21.0**	**+0.3**
SALA	**Sala**	**1.44**	**173**	⇓P	**Pn**	**19 29 03.9**	**0.0**
SALA				⇓S	**Sb**	**19 29 23.8**	**+0.6**
SALA	**Sala**	**1.44**	**173**	⇓iP	**Pn**	**19 29 03.9**	**0.0**
SALA				⇓iS	**Sb**	**19 29 23.8**	**+0.7**

IDC 08 19:39:28.5±0.9**, 722S×10729E, h0**km**, mb4.2**/8**, mb1 4.3**/8**, mb1mx4.1**/18**, mbtmp4.2**/8**, Error ellipse: s-maj=50.5km s-min=16.9km az=54.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.89**	**123**	P	P	19 44 13.5	+1.2
	3.9nm,0.7s,baz=283,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**30.33**	**126**	P	P	19 45 41.6	0.0
	1.0nm,0.5s,baz=313,slow=10,SNR=23						
STKA	**Stephens Creek**	**40.28**	**132**	P	P	19 47 07.4	+0.2
	8.4nm,0.5s,baz=308,slow=9.0,SNR=33						
SONM	**Songino Array**	**54.82**	**359**	P	P	19 49 01.0	+0.7
	0.7nm,0.5s,baz=180,slow=9.0,SNR=7.2						
SONM				PcP	PcP	19 50 01.0	-1.6
	0.9nm,0.4s,baz=174,slow=4.2,SNR=11						
MKAR	**Makanchi Array**	**58.19**	**340**	P	P	19 49 24.6	+0.3
	1.1nm,0.4s,baz=156,slow=7.6,SNR=35						
VNDA	**Vanda**	**75.70**	**169**	P	P	19 51 15.5	-0.2
	0.8nm,0.4s,baz=297,slow=4.8,SNR=8.8						
BRTR	**Keskin Array B**	**82.19**	**312**	P	P	19 51 52.3	+1.0
	1.4nm,0.8s,baz=113,slow=5.9,SNR=7.4						
AKASG	**Malin Array Be**	**88.05**	**321**	P	P	19 52 20.4	-0.3
	0.5nm,0.5s,baz=86,slow=5.1,SNR=4.4						
SNAA	**Sanae**	**89.40**	**197**	e	P	19 52 27.9	+0.8
SNAA				e		19 52 29.5	

*BJI **08** 19:41:20.6, 417S×13149E, h15km, mB5.2, mb4.8, Ms4.9, Msz4.7*
*ISCJB **08** 19:41:22.5±1.1, 367S±003×13132E±004, h0km±6km, mb5.1/79, MS4.7/26, Error ellipse: s-maj=7.4km s-min=5.4km az=135.4*
*IDC **08** 19:41:24.4±0.5, 358S×13128E, h0km, mb4.8/17, mb1 4.9/18, mb1mx4.8/21, mbtmp4.8/18, ML4.2/1, MS4.8/7, Ms1 4.8/7, ms1mx4.4/21, Error ellipse: s-maj=23.1km s-min=12.4km az=72.0*
*MOS **08** 19:41:27.5±1.2, 356S×13135E, h33km, mb5.2/25, MS4.8/6, Error ellipse: s-maj=13.2km s-min=7.5km az=113.5*
*HRVD **08** 19:41:29.8±0.1, 361S×13147E, h14km, MW5.3/96, Centroid moment Tensor Solution. LP body waves: s84,c135; Mantle waves: s96,c190; Half duration: 1.1 Moment tensor: Scale 10^17Nm; Mrr0.95±.02; Mθθ-0.46±.01; Mφφ-0.49±.02; Mrθ-0.34±.03; Mθφ0.42±.01; Mφr0.82±.04; Best double couple: M0 1.27900×10^17 NP1:φs125.00000°, δ25.00000°, λ67.00000°. NP2: φs330.00000°, δ67.00000°, λ100.00000°. Principal axes: T 1.3310, Plg66.0000°, Azm258.0000°; N -0.1050, Plg9.0000°, Azm146.0000°; P -1.2270, Plg21.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 19:41:29.8±0.2, 363S×13133E, h40km, mb5.0/37 Error ellipse: s-maj=8.2km s-min=5.1km az=68.0*

ISC 08 19:41:25.7±1.2**, 364S**±003×**13135E**±004**, h7**km±7km**, h17**km±1.9km**: pP-P, n199, σ1.18**/209**, mb5.0**/79**, MS4.7**/26**, 5C-4D, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**5.34**	**63**	P	**Pn**	**19 42 45.9**	**+0.1**
	530nm,0.8s						
KAKA	**Kakadu**	**9.08**	**173**	eP	**Pn**	**19 43 35.4**	**-1.8**
	86nm,0.3s						
KAKA				eS	**Sn**	**19 45 09.8**	**-10**
JAY	**Jayapura**	**9.41**	**83**	P	**Pn**	**19 43 43.1**	**+1.4**
	32nm,0.9s						
KAPI	**Kappang**	**11.64**	**263**	Pn	**Pn**	**19 44 15.8**	**+3.6**
	372nm,0.8s,SNR=5.5						
FITZ	**Fitzroy Crossi**	**15.43**	**201**	eP	**Pn**	**19 44 57.6**	**-6.1**
	68nm,0.4s						
FITZ				eS	**Sn**	**19 47 44.0**	**-11**
FITZ	**Fitzroy Crossi**	**15.43**	**201**	Pn	**Pn**	**19 44 58.3**	**-5.4**
	6.6nm,0.3s,baz=36,slow=13,SNR=42						
FITZ				Sn	**Sn**	**19 47 43.5**	**-11**
	2.6nm,0.3s,baz=160,slow=15,SNR=3.7						
TSM	**Tawau**	**15.60**	**300**	P	**Pn**	**19 45 13.2**	**+7.3**
WRAB	**Tennant Creek**	**16.46**	**170**	Pn	**Pn**	**19 45 12.0**	**-5.1**
	536nm,0.5s,SNR=21						
WRAB	**Tennant Creek**	**16.46**	**170**	eP	**Pn**	**19 45 10.9**	**-6.2**
WRAB				pmax	pmax		
	comp=Z,157nm,0.9s						
WRAB	**Tennant Creek**	**16.46**	**170**	eP	**Pn**	**19 45 10.9**	**-6.2**
	comp=Z,157nm,0.9s						
WRAB				eS	**Sn**	**19 48 07.0**	**-13**
WRA	**Warramunga Arr**	**16.47**	**170**	Pn	**Pn**	**19 45 11.1**	**-6.1**
	comp=Z,3.6nm,0.3s,baz=347,slow=13,SNR=102						
WRA				Sn	**Sn**	**19 48 07.4**	**-13**
	comp=Z,4.7nm,0.3s,baz=354,slow=23,SNR=7.0						
WB2	**Warramunga Arr**	**16.47**	**170**	eP	**Pn**	**19 45 11.2**	**-6.0**
WB2				eS	**Sn**	**19 48 07.9**	**-12**
PMG	**Port Moresby**	**16.72**	**111**	Pn	**Pn**	**19 45 21.1**	**+0.8**
	comp=Z,2.9nm,0.3s,baz=315,slow=10,SNR=11						
PMG	**Port Moresby**	**16.72**	**111**	eP	**Pn**	**19 45 21.2**	**+0.8**
PMG				pmax	pmax		
	comp=Z,155nm,1.0s						
PMG	**Port Moresby**	**16.72**	**111**	eP	**Pn**	**19 45 21.2**	**+0.9**
	comp=Z,155nm,1.0s						
KKM	**Kota Kinabalu**	**17.91**	**302**	P	**Pn**	**19 45 38.7**	**+3.5**
KKM	**Kota Kinabalu**	**17.91**	**302**	eP	**Pn**	**19 45 35.0**	**-0.2**
KRKI	**Karangkates**	**19.32**	**256**	P	**Pn**	**19 45 54.1**	**+1.7**
	comp=Z,213nm,0.7s						
AS31	**Alice Springs**	**20.07**	**173**	eP	**P**	**19 45 59.6**	**+0.1**
AS31				eS	**S**	**19 49 32.3**	**-13**
ASAR	**Alice Springs**	**20.07**	**173**	P	**P**	**19 45 59.2**	**-0.3**
	comp=Z,31nm,0.5s,baz=306,slow=7.7,SNR=5.3						
ASAR				S	**S**	**19 49 35.0**	**-10**
	comp=Z,41nm,1.2s,baz=359,slow=28,SNR=4.8						
ASPA	**Alice Springs**	**20.07**	**173**	eP	**P**	**19 45 59.6**	**+0.1**
ASPA				eS	**S**	**19 49 32.3**	**-13**
LUBP	**Lubang**	**20.47**	**328**	eP	**P**	**19 46 05.7**	**+1.8**
POLP	**Polilio Island**	**20.49**	**333**	eP	**P**	**19 46 02.4**	**-1.7**
MBWA	**Marble Bar**	**20.76**	**212**	⇑eP	**P**	**19 46 04.8**	**-2.2**
	comp=Z,27nm,0.6s						
BALP	**Baler**	**21.54**	**334**	eP	**P**	**19 46 15.9**	**+0.4**
KSM	**Kuching**	**21.63**	**283**	⇑iP	**P**	**19 46 17.5**	**+1.0**
GUMO	**Guam**	**21.75**	**38**	LR	LR	19 54 39.6	
	comp=Z,2μm,18.5s,MS4.6,baz=225,slow=37						
CTA	**Charters Tower**	**21.88**	**140**	eP	**P**	**19 46 19.7**	**+0.6**
	comp=Z,38nm,0.6s,mb5.0						
CTA				eS	**S**	**19 50 22.6**	**+1.6**
CTA	**Charters Tower**	**21.88**	**140**	P	**P**	**19 46 19.2**	**+0.1**
	comp=Z,50nm,0.7s,mb5.1,baz=318,slow=11,SNR=64						
CTA	**Charters Tower**	**21.88**	**140**	eP	**P**	**19 46 19.7**	**+0.6**
CTA				eS	**S**	**19 50 22.6**	**+1.6**
CTA				pmax	pmax		
	comp=Z,39nm,0.6s						
CTAO	**Charters Tower**	**21.88**	**140**	⇑eP	**P**	**19 46 19.8**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,55nm,0.8s,mb5.0						
CTAO	**Charters Tower**	**21.88**	**140**	⇑eP	**P**	**19 46 19.8**	**+0.7**
	comp=Z,55nm,0.8s,mb5.0						
CAUP	**Cauayan**	**22.51**	**336**	eP	**P**	**19 46 31.7**	**+5.9**
CVP	**Callao Caves**	**23.19**	**336**	⇑eP	**P**	**19 46 34.0**	**+1.0**
APYP	**Conner**	**23.57**	**335**	eP	**P**	**19 46 36.6**	**-0.4**
LEM	**Lembang**	**23.84**	**261**	P	**P**	**19 46 40.9**	**+1.5**
	comp=Z,51nm,1.2s,mb4.8						
FORT	**Forrest**	**27.18**	**186**	eP	**P**	**19 47 09.2**	**-0.5**
	comp=Z,56nm,0.6s,mb5.3						
KGM	**Kluang**	**28.57**	**281**	P	**P**	**19 47 16.4**	**-5.8**
HNR	**Honiara**	**28.98**	**103**	P	**P**	**19 47 25.4**	**-0.4**
HNR				pmax	pmax		
	comp=Z,72nm,1.1s,mb5.3						
HNR	**Honiara**	**28.98**	**103**	P	**P**	**19 47 25.4**	**-0.5**
	comp=Z,72nm,1.1s,mb5.3						
STKA	**Stephens Creek**	**29.70**	**162**	eP	**P**	**19 47 32.5**	**+0.3**
	comp=Z,23nm,0.9s,mb4.9						
STKA				eS	**S**	**19 52 22.8**	**-5.5**
STKA	**Stephens Creek**	**29.70**	**162**	P	**P**	**19 47 31.9**	**-0.3**
	comp=Z,27nm,0.8s,mb5.0,baz=339,slow=8.4,SNR=19						
JOW	**Kunigami**	**30.43**	**355**	LR	LR	19 59 31.7	
	comp=Z,3μm,18.3s,MS5.0,baz=165,slow=36						
KLBR	**Kellerberrin**	**30.61**	**203**	eP	**P**	**19 47 38.9**	**-1.4**
	comp=Z,40nm,0.5s,mb5.5						
QIZ	**Qiongzhong**	**30.90**	**318**	P	**P**	**19 47 43.1**	**+0.2**
QIZ				XP	sP	19 47 47.9	+1.8
QIZ				S	**S**	**19 52 48.5**	**+1.3**
QIZ				SCP	ScP	19 54 21.8	-0.7
QIZ				AMB	AMB		
	comp=Z,35nm,1.7s,mb4.9						
QIZ				LR	LR		
	comp=N,821nm,19.7s						
QIZ				LR	LR		
	comp=Z,1μm,26.2s						
QZH	**Quanzhou**	**30.99**	**337**	eP	**P**	**19 47 46.8**	**+3.2**
QZH				eS	**S**	**19 52 50.5**	**+1.9**
QZH				LR	LR		
	comp=Z,2μm,17.7s,MS4.8						
IPM	**Ipoh**	**31.35**	**285**	P	**P**	**19 47 44.6**	**-2.2**
MUN	**Mundaring**	**31.58**	**205**	eP	**P**	**19 47 44.9**	**-3.9**
KULM	**Kulim**	**31.92**	**286**	eP	**P**	**19 47 51.5**	**-0.3**
NWAO	**Narrogin (SRO)**	**31.99**	**203**	P	**P**	**19 47 51.7**	**-0.8**
	comp=Z,12nm,0.5s,mb5.0,baz=26,slow=7.6,SNR=32						
NWAO	**Narrogin (SRO)**	**31.99**	**203**	eP	**P**	**19 47 51.2**	**-1.3**
NWAO				pmax	pmax		
	comp=Z,66nm,1.4s						
NWAO	**Narrogin (SRO)**	**31.99**	**203**	eP	**P**	**19 47 51.1**	**-1.3**
	comp=Z,66nm,1.4s,mb5.3						
CBIJ	**Chichi jima**	**32.30**	**18**	LR	LR	20 00 46.6	
	comp=Z,1μm,19.0s,MS4.6,baz=346,slow=36						
ARMA	**Armidale**	**32.82**	**146**	eP	**P**	**19 48 00.8**	**+1.1**
PSI	**Prapat**	**33.03**	**281**	P	**P**	**19 48 02.0**	**+0.4**
	comp=Z,14nm,0.9s,mb4.9,baz=113,slow=4.3,SNR=5.9						
CNB	**Canberra Magne**	**35.67**	**154**	eP	**P**	**19 48 25.9**	**+1.5**
	comp=Z,27nm,1.1s,mb5.1						
SSE	**Sheshan**	**35.87**	**345**	P	**P**	**19 48 28.4**	**+2.3**
SSE				XP	sP	19 48 32.8	+3.4
SSE				PP	PP	19 49 49.5	+1.9
SSE				S	**S**	**19 54 06.2**	**+2.0**
SSE				AMB	AMB		
	comp=Z,32nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,569nm,5.5s						
SSE				LR	LR		
	comp=N,390nm,23.2s,MS4.6						
SSE				LR	LR		
	comp=E,1μm,23.2s,MS4.6						
SSE				LR	LR		
	comp=Z,802nm,23.2s,MS4.4						
TOO	**Toolangi**	**36.18**	**161**	eP	**P**	**19 48 30.4**	**+1.6**
	comp=Z,20nm,0.9s,mb5.0						
TOO	**Toolangi**	**36.18**	**161**	eP	**P**	**19 48 30.4**	**+1.6**
TOO				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
NST	**Nakhon Sawan**	**36.36**	**303**	P	**P**	**19 48 31.0**	**+0.7**
NJ2	**Nanjing**	**37.42**	**342**	eP	**P**	**19 48 38.4**	**-1.0**
NJ2				AP	pP	19 48 45.0	+3.3
NJ2				XP	sP	19 48 46.8	+4.2
NJ2				PP	PP	19 50 06.0	+1.3
NJ2				S	**S**	**19 54 24.0**	**-3.9**
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,505nm,4.0s						
NJ2				LR	LR		
	comp=N,930nm,15.1s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,16.0s,MS4.9						
NJ2				LR	LR		
	comp=Z,90nm,16.0s,MS3.7						
NANT	**Nan**	**37.51**	**308**	⇓P	**P**	**19 48 39.0**	**-1.1**
	comp=Z,175nm,1.0s,mb5.7						
WHN	**Wuhan**	**37.67**	**336**	P	**P**	**19 48 40.5**	**-1.0**
GYA	**Guiyang**	**38.28**	**323**	P	**P**	**19 48 46.8**	**+0.2**
GYA				AP	pP	19 48 51.2	+2.3
GYA				XP	sP	19 48 54.6	+4.8
GYA				PP	PP	19 50 17.5	+3.5
GYA				PCP	PcP	19 51 02.8	+2.1
GYA				S	**S**	**19 54 39.9**	**-0.9**
GYA				SCP	ScP	19 54 47.6	-1.2
GYA				SCS	ScS	19 58 55.9	-2.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
GYA				AMB	AMB		
	comp=Z,250nm,6.3s						
GYA				LR	LR		
	comp=N,680nm,15.3s,MS4.7						
GYA				LR	LR		
	comp=E,690nm,16.2s,MS4.7						
GYA				LR	LR		
	comp=Z,720nm,15.9s,MS4.6						
CM31	**Chiang Mai Arr**	**38.74**	**306**	eP	**P**	**19 48 51.0**	**+0.5**
	comp=Z,15nm,0.9s,mb4.7						
CHRT	**Chiangrai**	**38.82**	**308**	⇓P	**P**	**19 48 52.0**	**+0.8**
KMI	**Kunming**	**39.85**	**317**	P	**P**	**19 49 00.6**	**+0.8**
KMI				AP	pP	19 49 10.2	+8.1
KMI				XP	sP	19 49 14.5	+11
KMI				PP	PP	19 50 37.3	+6.0
KMI				PPP		19 51 02.5	
KMI				S	**S**	**19 55 07.4**	**+2.8**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
KMI				AMB	AMB		
	comp=Z,269nm,6.2s						
KMI				LR	LR		
	comp=N,797nm,17.3s,MS4.7						
KMI				LR	LR		
	comp=E,620nm,20.3s,MS4.7						
KMI				LR	LR		
	comp=Z,859nm,21.0s,MS4.6						
MJAR	**Matsushiro Arr**	**40.48**	**9**	P	**P**	**19 49 02.7**	**-2.3**
	comp=Z,2.9nm,0.8s,mb4.1,baz=188,slow=8.1,SNR=17						
MJAR				LR	LR	20 04 08.4	
	comp=Z,2μm,20.5s,MS4.9,baz=170,slow=34						
MAJO	**Matsushiro**	**40.48**	**9**	eP	**P**	**19 49 03.9**	**-1.1**
MAT	**Matsushiro**	**40.48**	**9**	P	**P**	**19 49 03.3**	**-1.7**
MAT				S	**S**	**19 55 11.0**	**-3.0**
MAT	**Matsushiro**	**40.48**	**9**	eP	**P**	**19 49 03.0**	**-2.0**
MAT				eS	**S**	**19 55 12.0**	**-2.0**
MAT				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
MAT	**Matsushiro**	**40.48**	**9**	eP	**P**	**19 49 03.0**	**-2.0**
	comp=Z,3.4nm,0.7s,mb4.2						
MAT				eS	**S**	**19 55 12.0**	**-2.0**
KS15	**Wonju Array Si**	**40.99**	**356**	P	**P**	**19 49 05.7**	**-3.6**
TAU	**Tasmania Unive**	**41.61**	**162**	P	**P**	**19 49 10.1**	**-4.2**
TAU				pmax	pmax		
	comp=Z,115nm,1.4s,mb5.3						
TAU	**Tasmania Unive**	**41.61**	**162**	P	**P**	**19 49 10.1**	**-4.2**
	comp=Z,115nm,1.4s,mb5.3						
XAN	**Xi'an**	**43.03**	**332**	P	**P**	**19 49 26.3**	**+0.4**
XAN				AP	pP	19 49 32.8	+4.6
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2	**Chengdu**	**43.27**	**325**	P	**P**	**19 49 27.4**	**-0.4**
CD2				AP	pP	19 49 31.9	+1.7
CD2				XP	sP	19 49 34.4	+3.3
CD2				PP	PP	19 51 10.5	+2.2
CD2				S	**S**	**19 55 54.3**	**-1.0**
CD2				SS	SS	19 59 01.4	-7.1
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
CD2				AMB	AMB		
	comp=Z,60nm,5.2s						
CD2				LR	LR		
	comp=E,640nm,16.8s						
CD2				LR	LR		
	comp=Z,620nm,19.2s,MS4.5						
BJT	**Baijiatuau**	**45.62**	**344**	eP	**P**	**19 49 46.1**	**-0.5**
BJT				pmax	pmax		
	comp=Z,24nm,0.7s						
BJT	**Baijiatuau**	**45.62**	**344**	eP	**P**	**19 49 46.1**	**-0.5**
	comp=Z,24nm,0.7s,mb5.2						
BJI	**Beijing**	**45.64**	**344**	P	**P**	**19 49 46.2**	**-0.6**
BJI				AMB	AMB		
	comp=Z,35nm,0.9s,mb5.3						
BJI				LR	LR		
	comp=N,691nm,15.2s						
BJI				LR	LR		
	comp=E,733nm,23.8s						
BJI				LR	LR		
	comp=Z,841nm,26.8s						
LZH	**Lanzhou**	**47.15**	**329**	eP	**P**	**19 50 00.7**	**+2.1**
LZH				AP	pP	19 50 04.8	+3.9
LZH				PCP	PcP	19 51 32.0	+1.8
LZH				PP	PP	19 51 51.5	+2.1
LZH				eS	**S**	**19 56 51.0**	**-0.3**
LZH				XS	sS	19 57 01.0	+5.9
LZH				SS	SS	20 00 13.0	-5.3
LZH				AMB	AMB		
	comp=Z,21nm,1.1s,mb5.0						
LZH				AMB	AMB		
	comp=Z,190nm,6.2s						
LZH				LR	LR		
	comp=N,963nm,16.5s						
LZH				LR	LR		
	comp=Z,1μm,17.8s,MS5.0						
CN2	**Changchun**	**47.52**	**354**	eP	**P**	**19 50 03.2**	**+1.7**
CN2				eXP	sP	19 50 10.2	+5.5
CN2				eS	**S**	**19 56 58.0**	**+1.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				LR	LR		
	comp=N,700nm,19.0s,MS4.8						
CN2				LR	LR		
	comp=E,800nm,19.0s,MS4.8						
CN2				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
HHC	**Hu-ho-hao-te**	**47.83**	**340**	eP	**P**	**19 50 05.6**	**+1.7**
HHC				XP	sP	19 50 12.2	+5.1
HHC				PP	PP	19 51 56.8	+1.2
HHC				PCS	PcS	19 55 27.9	-0.3
HHC				S	**S**	**19 57 00.7**	**-0.2**
HHC				SCS	ScS	19 59 56.4	-1.4

HHC SS SS 20 00 25.0 -4.4
HHC AMB AMB
comp=Z,14nm,0.8s,mb5.0
HHC AMB AMB
comp=Z,131nm,8.3s
HHC LR LR
comp=N,331nm,29.7s,MS4.6
HHC LR LR
comp=E,915nm,26.2s,MS4.6
HHC LR LR
comp=Z,893nm,28.0s,MS4.6
MDJ Mudanjiang 48.06 358 P P **19 50 06.9 +1.2**
MDJ AP pP 19 50 10.2 +2.2
MDJ PP PP 19 51 59.7 +1.9
MDJ S S **19 57 07.6 +3.3**
MDJ XS sS 19 57 13.0 +4.9
MDJ AMB AMB
comp=Z,6.0nm,0.8s,mb4.7
MDJ AMB AMB
comp=Z,125nm,4.8s
MDJ LR LR
comp=N,612nm,18.0s,MS4.7
MDJ LR LR
comp=E,512nm,20.2s,MS4.7
MDJ LR LR
comp=Z,1μm,18.0s,MS4.9
ASAJ Asahikawa 48.60 11 P P **19 50 09.2 -0.7**
comp=Z,3.8nm,0.8s,mb4.5,baz=50,slow=13,SNR=4.3
LSA Lhasa 50.78 314 *e*P P **19 50 27.7 +1.2**
LSA Lhasa 50.78 314 *e*P P **19 50 27.9 +1.4**
LSA pmax pmax
comp=Z,34nm,1.3s,mb5.1
LSA Lhasa 50.78 314 *e*P P **19 50 27.9 +1.4**
comp=Z,34nm,1.3s,mb5.1
YSS Yuzh-Sakhalins 51.37 10 *e*P P **19 50 33.8 +2.9**
YSS *e*S S **19 57 52.0 +1.4**
YSS *e*PS 19 58 04.0
YSS Yuzh-Sakhalins 51.37 10 P P **19 50 28.9 -2.0**
comp=Z,15nm,1.0s,mb4.9
PALK Pallekele 51.69 282 P P **19 50 33.8 +0.5**
GTA Gaotai 51.74 329 *e*P P **19 50 33.6 -0.1**
GTA AP pP 19 50 36.3 +0.2
GTA PP PP 19 52 33.6 +2.3
GTA PPP 19 53 34.8
GTA S S **19 57 54.5 -1.2**
GTA SS SS 20 01 29.6 -2.5
GTA AMB AMB
comp=Z,3.0nm,0.9s,mb4.2
GTA AMB AMB
comp=Z,112nm,4.6s
GTA LR LR
comp=N,405nm,20.1s,MS4.7
GTA LR LR
comp=E,582nm,19.8s,MS4.7
GTA LR LR
comp=Z,769nm,19.4s,MS4.7
KLR Kul'dur 52.65 0 *e*P P **19 50 38.8 -1.7**
JIRN Jiri 53.48 308 *e*P P **19 50 46.5 0.0**
GUN Gumba 53.84 309 *e*P P **19 50 49.4 +0.2**
PKI Pulchoki 54.05 308 *e*P P **19 50 50.5 -0.2**
comp=Z,18nm,0.7s,mb5.1
KKN Kakani 54.25 308 *e*P P **19 50 51.8 -0.4**
comp=Z,30nm,0.9s,mb5.2
DMN Daman 54.30 308 *e*P P **19 50 52.4 -0.2**
comp=Z,44nm,1.0s,mb5.3
GKN Gorkha 54.85 308 *e*P P **19 50 56.2 -0.4**
comp=Z,49nm,1.0s,mb5.5
ULN Ulaanbaatar 55.53 340 *e*P P **19 51 01.7 +0.2**
ULN pmax pmax
comp=Z,17nm,0.9s,mb5.1
ULN Ulaanbaatar 55.53 340 *e*P P **19 51 01.7 +0.2**
comp=Z,18nm,0.9s,mb5.1
TRD Trivandrum 55.56 283⇓ *e*P P **19 50 55.0 -6.7**
TRD *e*S S **19 59 01.0 +14**
KOLN Koldanda 55.56 307 *e*P P **19 51 01.7 0.0**
comp=Z,51nm,0.8s,mb5.6
SONM Songino Array 55.73 340 P P **19 51 03.0 +0.1**
comp=Z,7.0nm,0.9s,mb4.7,baz=163,slow=6.0,SNR=19
SONM LR LR 20 19 22.1
comp=Z,574nm,18.2s,MS4.7,baz=154,slow=41
HYB Hyderabad 56.12 294 *i* P P **19 51 06.0 +0.3**
HYB Hyderabad 56.12 294 *e*P P **19 51 06.0 +0.3**
ZAK Zakamensk 58.97 339 *e*P P **19 51 20.4 -5.4**
ZAK *e* 19 51 26.8
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
PET Petropavlovsk 60.96 18 *e*P P **19 51 41.0 +1.6**
PET *i* S S **19 59 56.7 -1.2**
PET *e*PS 20 00 25.6
PET *e*SS SS 20 03 55.5 -1.6
PET pmax pmax
comp=Z,17nm,1.1s,mb5.1
PET pmax pmax
comp=Z,100nm,5.5s
PET pmax pmax
comp=Z,100nm,18.0s
PET smax
comp=N,300nm,14.7s
PET smax
comp=N,300nm,15.9s
PET MLR MLR
comp=Z,300nm,15.0s,MS4.6
WMQ Urumqi 61.36 325 P P **19 51 44.0 +1.8**
WMQ AP pP 19 51 48.6 +4.0
WMQ XP sP 19 51 51.0 +5.5
WMQ PCP PcP 19 52 25.9 +1.5
WMQ PP PP 19 54 01.1 +3.9
WMQ S S **20 00 02.7 -0.4**
WMQ AMB AMB
comp=Z,27nm,1.3s,mb5.2
WMQ AMB AMB
comp=Z,215nm,6.5s
WMQ LR LR
comp=N,925nm,22.0s,MS5.0
WMQ LR LR
comp=E,694nm,20.9s,MS5.0
WMQ LR LR
comp=Z,925nm,22.5s,MS4.9
CASY Casey 64.21 189 *e*P P **19 52 00.6 -0.6**
MA2 Magadan 64.86 11 P P **19 52 04.2 -1.2**
MA2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
MA2 Magadan 64.86 11 P P **19 52 04.2 -1.2**
comp=Z,10nm,1.0s,mb4.8
YAK Yakutsk 65.50 359 *e*P P **19 52 09.9 +0.4**
YAK pmax pmax
comp=Z,16nm,1.0s,mb5.0
YAK Yakutsk 65.50 359 *e*P P **19 52 08.4 -1.1**
comp=Z,30nm,0.7s,mb5.4
MKAR Makanchi Array 66.20 325 P P **19 52 13.9 -0.1**
comp=Z,6.1nm,0.7s,mb4.8,baz=113,slow=8.0,SNR=35
KSH Kashi 66.50 316 *e*P P **19 52 13.6 -2.4**
KSH *e*AP pP 19 52 19.9 +1.5
KSH *e*XP sP 19 52 22.4 +3.1
KSH *e*PCP PcP 19 52 46.3 +0.8
KSH *e*PP PP 19 54 40.8 -1.5
KSH *e*SCP 19 56 45.9
KSH *e*S S 20 00 58.5 -8.4
KSH AMB AMB
comp=Z,38nm,1.1s,mb5.3
KSH AMB AMB
comp=Z,238nm,4.8s
KSH LR LR
comp=N,438nm,5.0s
KSH LR LR
comp=E,432nm,5.2s
KSH LR LR
comp=Z,602nm,18.9s,MS4.8
MIR Mirnyy 68.22 196 *e*P P **19 52 28.0 +1.1**
MIR pmax pmax
comp=Z,150nm,1.5s,mb5.8
MIR MLR MLR
comp=Z,2μm,22.0s,MS5.2
MIR MLR MLR
comp=N,700nm,17.0s
AAK Ala-Archa 68.89 319 P P **19 52 35.0 +4.0**
SNR=5.6
AAK Ala-Archa 68.89 319 *e*P P **19 52 29.3 -1.7**
AAK pmax pmax
comp=Z,14nm,1.1s,mb4.8
AAK Ala-Archa 68.89 319 *e*P P **19 52 29.3 -1.7**
comp=Z,14nm,1.1s,mb4.8
ZAL Zalesovo 69.20 333 P P **19 52 31.9 -1.1**
comp=Z,7.0nm,0.9s,mb4.6,baz=7.5,slow=5.8,SNR=27
ZAL LR LR 20 26 52.2
comp=Z,347nm,22.0s,MS4.5,baz=340,slow=40
ZAL Zalesovo 69.20 333 P P **19 52 31.9 -1.1**
KURK Kurchatov 70.39 328 P P **19 52 40.5 +0.2**
comp=Z,195nm,0.8s,mb6.1,SNR=30
KURK Kurchatov 70.39 328 P P **19 52 40.4 +0.1**
SNR=18
KURK Kurchatov 70.39 328 *e*P P **19 52 39.7 -0.6**
KURK pmax pmax
comp=Z,33nm,0.9s,mb5.3
KURK Kurchatov 70.39 328 *e*P P **19 52 39.7 -0.7**
comp=Z,33nm,0.9s,mb5.3
NVS Novosibirsk 70.48 333 *e*P P **19 52 38.5 -2.4**
NVS pmax pmax
comp=Z,40nm,1.9s,mb5.0
NVS pmax pmax
comp=N,16nm,1.7s
NVS pmax pmax
comp=E,21nm,1.7s
TIXI Tiksi 75.16 359 *e*P P **19 53 02.4 -6.3**
TIXI pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
TIXI MLR MLR
comp=Z,645nm,19.0s,MS4.9
TIXI Tiksi 75.16 359 *e*P P **19 53 07.3 -1.4**
VNDA Vanda 75.61 173 P P **19 53 10.6 -0.6**
comp=Z,12nm,0.9s,mb4.8,baz=320,slow=6.7,SNR=37
VNDA LR LR 20 28 02.9
comp=Z,939nm,18.3s,MS5.1,baz=340,slow=37
VNDA Vanda 75.61 173 *e*P P **19 53 10.5 -0.7**
VNDA pmax pmax
comp=Z,13nm,0.9s
VNDA Vanda 75.61 173 *e*P P **19 53 10.4 -0.8**
comp=Z,13nm,0.9s,mb4.9
WSAR Wadi Sarin 75.64 295 P P **19 53 11.3 -0.1**
comp=Z,17nm,1.0s,mb4.9,baz=106,slow=13,SNR=4.0
WSAR Wadi Sarin 75.64 295 P P **19 53 11.3 -0.1**
BRVK Borovoye 76.04 327 P P **19 53 12.1 -1.6**
comp=Z,70nm,1.0s,mb5.5,SNR=6.8
BRVK Borovoye 76.04 327 P P **19 53 13.6 -0.1**
SNR=9.8
BRVK Borovoye 76.04 327 *e*P P **19 53 12.8 -0.9**
BRVK pmax pmax
comp=Z,12nm,1.1s,mb4.7
BRVK Borovoye 76.04 327 *e*P P **19 53 12.8 -0.9**
comp=Z,12nm,1.1s,mb4.8
CHKZ Chkalovo 76.13 328 *e*P P **19 53 13.4 -0.8**
CHKZ pmax pmax
comp=Z,15nm,1.1s,mb4.8
CHKZ Chkalovo 76.13 328 *e*P P **19 53 13.4 -0.9**
comp=Z,15nm,1.1s,mb4.8
SBA Scott Base 76.48 173 *e*P P **19 53 16.8 +0.6**
SBA pmax pmax
comp=Z,17nm,1.1s,mb4.9
SBA Scott Base 76.48 173 *e*P P **19 53 16.8 +0.6**
comp=Z,17nm,1.1s,mb4.9
ZRNK Zerenda 76.69 327 *e*P P **19 53 15.8 -1.6**
ZRNK pmax pmax
comp=Z,15nm,1.1s,mb4.8
ZRNK Zerenda 76.69 327 *e*P P **19 53 15.8 -1.6**
comp=Z,15nm,1.1s,mb4.8
PAE Paea 78.50 107 *e*P P **19 53 30.8 +3.3**
comp=Z,165nm,1.3s,mb5.8
PPT Papeete 78.51 107 *e*S S 20 03 21.8 -2.3
comp=Z,215nm,31.5s
PPT *e*SS SS 20 08 22.9 -4.4
comp=Z,279nm,27.5s
PPT *e*LR LR 20 17 59.8
comp=Z,925nm,25.8s
MAW Mawson 78.55 201 *e*P P **19 53 27.9 +0.1**
comp=Z,11nm,1.0s,mb4.7
MAW Mawson 78.55 201 P P **19 53 27.5 -0.3**
comp=Z,14nm,1.0s,mb4.9,baz=78,slow=5.2,SNR=12
MAW Mawson 78.55 201 *e*P P **19 53 27.9 +0.1**
MAW pmax pmax
comp=Z,11nm,1.0s
TBI Tubuai 78.65 113 *e*LR LR 20 17 51.2
comp=Z,784nm,33.8s
ABKT Ailbek 79.09 310 P P **19 53 32.8 +2.0**
comp=Z,85nm,0.8s,mb5.7,SNR=5.5
PMOR Pomariorio Ree 80.15 105 *e*P P **19 53 39.7 +3.2**
comp=Z,27nm,1.1s,mb5.1
SDPT Sand Point 80.78 32 *e*P P **19 53 38.5 -1.4**
AKTK Aktyubinsk 82.26 322 P P **19 53 46.8 -1.0**
AKTO Aktyubinsk 82.26 322 P P **19 53 46.8 -1.0**
comp=Z,2.4nm,0.9s,mb4.2,baz=96,slow=8.2,SNR=4.9
SVE Sverdlovsk 82.61 328 *e*P P **19 53 52.0 +2.5**
OPO Ambohidratompo 83.32 252 P P **19 53 53.5 +0.2**
comp=Z,11nm,1.1s,mb4.8,baz=132,slow=3.7,SNR=8.5
ARU Arti 83.58 328 *e*P P **19 53 54.8 +0.2**
ARU *e* 19 57 07.7
ARU *e*PPP 19 58 58.5
ARU *e*S S 20 04 13.9 -3.1
ARU MLR MLR
comp=Z,200nm,20.0s,MS4.5
ARU MLR MLR
comp=E,200nm,21.0s
ARU Arti 83.58 328 *e*P P **19 53 52.5 -2.1**
comp=E,17nm,1.1s,mb5.1
KDAK Kodiak Island 85.67 31 *e*P P **19 54 05.0 -0.1**
comp=E,9.2nm,0.8s,mb5.1
QRN Al-Qurain 85.97 299 *e*P P **19 54 06.6 0.0**
QRN AMb AMB 19 54 08.3
comp=Z,62nm,0.8s,mb5.9
QSPA South Pole Qui 86.32 180 *e*P P **19 54 07.9 -0.4**
comp=Z,5.4nm,0.7s,mb4.9
MIB Mutribah 86.59 300 *e*P P **19 54 10.0 +0.3**
MIB AMb AMB 19 54 12.0
comp=Z,53nm,0.7s,mb5.9
NAY Al-Naaiem 86.62 299 *e*P P **19 54 09.7 -0.2**
NAY AMb AMB 19 54 12.0
comp=Z,38nm,0.7s,mb5.8
RST Umm Al-Ruwaisa 86.86 300 *e*P P **19 54 10.6 -0.4**
RST AMb AMB 19 54 12.9
comp=Z,63nm,0.9s,mb5.8
SYO Syowa Base 87.26 201⇓ *e*P P **19 54 12.0 -1.0**
TAOE Nuku Hiva Isla 87.97 99 *e*LR LR 20 22 15.8
comp=Z,1μm,24.6s
SML Sawmill 88.61 28 *e*P P **19 54 19.8 +0.4**
KIV Kislovodsk 91.53 314 P P **19 54 32.7 -0.3**
KIV Kislovodsk 91.53 314 P P **19 54 32.7 -0.3**
DAWY Dawson 92.92 26 *e*P P **19 54 38.5 -1.0**
SOC Sochi 93.66 313 *e*P P **19 54 42.8 -0.1**
SOC *e*S 20 05 14.2
SOC *e*SS SS 20 12 04.6 -5.1
SOC pmax pmax
comp=Z,14nm,0.7s,mb5.5
SOC MLR MLR
comp=Z,306nm,22.0s,MS4.7
KMBO Kilima Mbogo 94.01 269 P P **19 54 44.4 -0.1**
comp=Z,1.7nm,0.6s,mb4.6,baz=57,slow=14,SNR=4.3
MALT Malatya 94.52 308 *e*P P **19 54 48.1 +1.3**
MALT pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
MALT Malatya 94.52 308 *e*P P **19 54 48.0 +1.2**
comp=Z,3.2nm,0.9s,mb4.8
INK Inuvik 95.26 22 *e*P P **19 54 51.2 +1.0**
INK pmax pmax
comp=Z,9.0nm,1.2s
INK Inuvik 95.26 22 *e*P P **19 54 51.2 +1.0**
comp=Z,8.5nm,1.2s,mb5.0
ANN Anapa 95.32 314 *e*P P **19 54 49.6 -0.9**
ANN pmax pmax
comp=Z,66nm,1.2s,mb5.9
OBN Obninsk 95.70 325 P P **19 55 01.0 +8.8**
OBN 20 05 23.0
OBN *e* 20 08 01.1
OBN MLR MLR
comp=Z,400nm,19.0s,MS4.9
EIL Elat 97.34 299 *e*P P **19 55 00.5 +0.9**
comp=Z,66nm,0.9s,mb6.1
ARCES ARCESS Array B 98.90 340 P P **19 55 04.2 -2.5**
comp=Z,3.9nm,0.8s,mb5.0,baz=69,slow=6.6,SNR=9.2
SNAA Sanae 99.23 193 *e*Pdiff P **19 55 09.0 +0.9**
SNAA *e* pP 19 55 12.3 +1.7
SNAA *e* 19 55 14.3
SNAA Sanae 99.23 193 *e*P P **19 55 09.4 +1.3**
SNAA pmax pmax
comp=Z,1.0nm,0.8s
SNAA Sanae 99.23 193 *e*P P **19 55 09.4 +1.3**
comp=Z,1.2nm,0.8s,mb4.5
BOSA Boshof 102.31 240 P Pdif 19 55 22.0 +0.2
comp=Z,2.5nm,0.8s,baz=95,slow=7.7,SNR=8.3
BOSA Boshof 102.31 240 *e*P Pdif 19 55 22.2 +0.4
BOSA pmax pmax
comp=Z,2.0nm,0.6s
BOSA Boshof 102.31 240 *e*P Pdif 19 55 22.2 +0.4
comp=Z,2.0nm,0.6s
TOA0 Torodi Ar. Sit 129.39 284 *e*PKPdf PKPdf 20 00 34.8 -0.1
TORD Torodi Ar. Bea 129.39 284 PKP PKPdf 20 00 36.0 +1.1
comp=Z,4.8nm,0.7s,baz=68,slow=21,SNR=21
TORD SKPbc 20 03 55.7
comp=Z,3.5nm,1.3s,baz=88,slow=3.2,SNR=3.9
TORD Torodi Ar. Bea 129.39 284 PKP PKPdf 20 00 36.0 +1.1
TORD SKPbc 20 03 55.7
DBIC Dimbokro 136.29 276 PKP PKPdf 20 00 50.8 +2.8
comp=Z,8.4nm,1.1s,baz=281,slow=5.2,SNR=3.5
DBIC Dimbokro 136.29 276 *e*PKPpre 20 00 43.0
DBIC *e*PKPdf PKPdf 20 00 50.0 +2.1
DBIC PKP PKPdf 20 00 50.8 +2.8
LVC Limon Verde 147.25 144 PKPbc PKPbc 20 01 12.0 +2.2
comp=Z,5.8nm,0.7s,baz=102,slow=1.4,SNR=6.9
CPUP Villa Florida 149.05 165 PKPbc PKPbc 20 01 15.0 +0.5
comp=Z,3.6nm,0.6s,baz=183,slow=1.9,SNR=13
CPUP Villa Florida 149.05 165 *e*PKPbc PKPbc 20 01 15.0 +0.5
LPAZ La Paz 152.38 136 PKPbc PKPbc 20 01 24.9 +2.4
comp=Z,1.3nm,0.4s,baz=59,slow=4.9,SNR=4.7
LPAZ La Paz 152.38 136 *e*PKPbc PKPbc 20 01 24.7 +2.3
SIV San Ignacio 156.95 148 PKP PKPdf 20 01 24.9 +3.0
comp=Z,0.9nm,0.8s,baz=226,slow=20,SNR=4.5
SIV PKPab PKPab 20 01 54.4 +2.5
comp=Z,3.2nm,0.8s,baz=206,slow=3.5,SNR=10
BDFB Brasilia 160.84 182 PKP PKPdf 20 01 29.2 +2.8
comp=Z,3.6nm,0.8s,baz=69,slow=2.4,SNR=4.8

IDC ***08*** *20:33:29.2±1.0, 378S×131.03E, h0km, mb3.9/5, mb1 4.2/7, mb1mx4.0/15, mbtmp4.1/7, ML4.2/2, Error ellipse: s-maj=66.2km s-min=18.7km az=68.0*
ISCJB ***08*** *20:33:32.5±0.8, 393S±007×131.1E±0.1, h33km, mb3.9/5, Error ellipse: s-maj=22.4km s-min=8.3km az=143.5*
NEIC ***08*** *20:33:34.3±0.8, 381S×131.24E, h35km, mb4.1/5, Error ellipse: s-maj=24.7km s-min=10.8km az=64.0*
ISC 08 20:33:30.7±4.7, 386S±008×1312E±02, h7km±31km, n21, σ0 99/25, mb3.9/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KAKA	**Kakadu** 6.4nm,0.3s	**8.88**	**172**	*e*P		**Pn**	**20 35 39.5**	**+0.1**
KAKA					*e*S	**Sn**	**20 37 19.5**	**-0.3**
FITZ	**Fitzroy Crossi** 11nm,0.7s	**15.15**	**200**	*e*P		**Pn**	**20 37 02.7**	**-2.4**
FITZ	**Fitzroy Crossi** 0.8nm,0.3s,baz=38,slow=15,SNR=18	**15.15**	**200**	Pn		**Pn**	**20 37 03.0**	**-2.1**
FITZ					Sn	**Sn**	**20 39 46.4**	**-6.7**
PLP	**Palo**	**16.14**	**338**	*e*P		PKiKP	20 50 06.2	-1.0
WRAB	**Tennant Creek** 12nm,0.5s	**16.27**	**169**	*e*Pn		**Pn**	**20 37 18.7**	**-1.0**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=337,slow=15,SNR=21	**16.28**	**169**	Pn		**Pn**	**20 37 15.4**	**-4.4**
WRA					Sn	**Sn**	**20 40 14.8**	**-5.8**
WB2	**Warramunga Ar** 0.4nm,0.3s,baz=208,slow=14,SNR=4.9	**16.29**	**169**	*e*P		**Pn**	**20 37 15.8**	**-4.0**
WB2					*e*S	**Sn**	**20 40 11.0**	**-10**
AS31	**Alice Springs**	**19.87**	**173**	*e*P		**Pn**	**20 38 04.4**	**+0.5**
AS31					*e*S	**Sn**	**20 41 55.4**	**+8.1**
ASAR	**Alice Springs** 0.9nm,0.3s,baz=348,slow=9.9,SNR=59	**19.87**	**173**	P		**Pn**	**20 38 04.3**	**+0.4**
ASAR					S	**Sn**	**20 41 40.2**	**-7.2**
	0.1nm,0.3s,baz=345,slow=32,SNR=4.1							
ASPA	**Alice Springs** 0.8nm,0.7s,mb4.1,baz=22,slow=14,SNR=7.7	**19.87**	**173**	*e*P		**Pn**	**20 38 04.4**	**+0.5**
ASPA					*e*S	**Sn**	**20 41 55.4**	**+8.0**
MBWA	**Marble Bar** 5.1nm,0.7s	**20.47**	**212**	*e*P		**P**	**20 38 09.7**	**+0.8**
KSM	**Kuching**	**21.50**	**284**	*e*P		**P**	**20 38 21.9**	**+1.8**
CTA	**Charters Tower** 3.8nm,0.6s,mb4.0	**21.83**	**139**	*e*P		**P**	**20 38 24.3**	**+0.8**
CTA	**Charters Tower** 5.8nm,0.7s,mb4.1,baz=22,slow=14,SNR=7.7	**21.83**	**139**	P		**P**	**20 38 24.5**	**+0.9**
STKA	**Stephens Creek** 1.1nm,0.4s,mb3.9	**29.54**	**162**	*e*P		**P**	**20 39 36.1**	**+0.3**
STKA	**Stephens Creek** 1.8nm,0.5s,mb4.0,baz=339,slow=15,SNR=8.7	**29.54**	**162**	P		**P**	**20 39 36.3**	**+0.5**
SONM	**Songino Array** 0.5nm,0.6s,mb3.8,baz=162,slow=7.5,SNR=4.5	**55.88**	**340**	P		**P**	**20 43 07.9**	**-1.0**
MKAR	**Makanchi Array** 0.8nm,0.7s,mb3.9,baz=101,slow=7.8,SNR=10	**66.28**	**326**	P		**P**	**20 44 18.5**	**-1.0**
VNDA	**Vanda** 0.9nm,0.8s,mb3.8,baz=316,slow=5.1,SNR=6.7	**75.41**	**173**	P		**P**	**20 45 15.4**	**+0.3**
TORD	**Torodi Ar. Bea** 0.7nm,0.7s,baz=85,slow=2.4,SNR=4.5	**129.26**	**284**	PKP	PKPdf		20 52 40.2	+0.5
TORD	**Torodi Ar. Bea**	**129.26**	**284**	PKP	PKPdf		20 52 40.2	+0.5

ISCJB ***08*** *20:39:56.6±0.3, 51.19N±002×179.26W±0.02, h3km±2km, mb6.2/427, MS6.4/160, Error ellipse: s-maj=3.8km s-min=1.7km az=11.3*
BJI ***08*** *20:39:57.7, 51.31N×179.35W, h17km, mB6.6, mb5.8, Ms6.4, Msz6.3*
NEIC ***08*** *20:40:01.0±0.1, 5121N×179.31W, h22km, mb6.2/228, ME6.0, MS6.4/104, MW6.6, ML6.5(AEIC), Error ellipse: s-maj=3.7km s-min=2.2km az=5.0, Moment Tensor Solution. s77 Moment tensor: Scale 10^19Nm; Mrr=0.00; Mθθ=0.00; Mϕϕ=0.00; Mrθ=0.00; Mrϕ=0.00; Mθϕ=0.00; Best double couple: M0=1.10000×10^19 NP1:ϕ=68.00000°, δ=78.00000°, λ=92.00000°. NP2:ϕ=238.00000°, δ=12.00000°, λ=80.00000°. Principal axes: T 1.0800, Plg57.0000°, Azm341.0000°; N -0.0100, Plg2.0000°, Azm248.0000°; P -1.0700, Plg33.0000°, Azm156.0000°; Broadband fault plane solution: P waves. NP1:ϕ=250.00000°, δ=15.00000°, λ=90.00000°. NP2:ϕ=70.00000°, δ=75.00000°, λ=90.00000°. Principal axes: T Plg=60.0000°, Azm=340.0000°; N Plg=0.0000°, Azm=0.0000°; P Plg=30.0000°, Azm=160.0000°; Two events about 5 seconds apart. Depth from synthetics of broadband displacement seismograms based on first event. Energy computed from BB mechanism.*
NEIC Felt on Adak.
IDC ***08*** *20:40:01.5±1.0, 5146N×179.21W, h23km±5km, mb5.5/44, mb1 5.6/45, mb1mx5.6/45, mbtmp5.7/45, ML5.9/1, MS6.2/13, Ms1 6.2/13, ms1mx6.1/20 Error ellipse: s-maj=9.5km s-min=7.1km az=155.0*
MOS ***08*** *20:40:01.0±1.0, 5133N×179.29W, h33km, mb6.5/138, MS6.5/55, Error ellipse: s-maj=6.5km s-min=4.9km az=89.7*
CRAAG ***08*** *20:40:01.6, 5128N×179.19W, Mb6.2*
HRVD ***08*** *20:40:01.0±0.1, 5104N×179.12W, h28km, MW6.6/118, Centroid moment Tensor Solution. LP body waves: s113,c292;Mantle waves: s118,c527; Half duration: 4±9 Moment tensor: Scale 10^19Nm; Mrr=0.62±.00; Mθθ=-0.65±.00; Mϕϕ=0.02±.00; Mrθ=0.62±.01; Mθϕ=-0.21±.00; Mrϕ=0.43±.01; Best double couple: M0=1.00800×10^19 NP1:ϕ=270.00000°, δ=23.00000°, λ=119.00000°. NP2: ϕ=60.00000°, δ=70.00000°, λ=78.00000°. Principal axes: T 0.9890, Plg63.0000°, Azm311.0000°; N 0.0380, Plg11.0000°, Azm64.0000°; P -1.0270, Plg24.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
SZGRF ***08*** *20:40:02.6, 5091N×179.66E, h33km, mb6.4, MS6.5, Rat Islands, Aleutian Islands, United States*
BGS ***08*** *20:40:03.2±1.6, 5126N×179.29W, h33km, mb6.1*
IGIL ***08*** *20:40:05.4, 5126N×179.29W, h51km, MS6.4*
ISC 08 20:39:59.2±0.4, 5132N±002×17927W±002, h8km±2km, h20km±6.6km; pP-P, n1675, σ103/1795, mb6.2/427, MS6.4/160, 344C-165D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.90**	**274**	P		**Pg**	**20 40 17.9**	**+1.5**
AMKA					S	**Sg**	**20 40 35.0**	**+7.0**
ATKA	**Atka Island**	**3.28**	**72**	P		**Pn**	**20 40 52.5**	**+1.8**
ATKA					S	**Sn**	**20 41 33.0**	**+3.2**
SMY	**Shemya**	**4.33**	**292**	P		**Pn**	**20 41 08.3**	**+3.1**
SMY					S	**Sn**	**20 42 02.4**	**+6.6**
NIKO	**Nikolski**	**6.62**	**71**	P		**Pn**	**20 41 38.4**	**+1.7**
OKCE	**Okmok Cone E**	**7.12**	**68**	P		**Pn**	**20 41 46.8**	**+3.2**
OKCD	**Okmok Cone D**	**7.15**	**68**	P		**Pn**	**20 41 47.2**	**+3.3**
SPIA	**Saint Paul Isl**	**7.89**	**38**	P		**Pn**	**20 41 59.5**	**+5.4**
SPIA					S	**Sn**	**20 43 28.7**	**+5.1**
UNV	**Unalaska Valle**	**8.18**	**67**	P		**Pn**	**20 42 00.7**	**+2.7**
AKLV	**Akutan Long Va**	**8.57**	**65**	P		**Pn**	**20 42 06.7**	**+3.3**
AKUT	**Akutan**	**8.67**	**66**	P		**Pn**	**20 42 07.9**	**+3.1**
FALS	**False Pass**	**10.17**	**63**	P		**Pn**	**20 42 29.5**	**+4.1**
SDPT	**Sand Point**	**11.93**	**63**	*e*P		**Pn**	**20 42 49.9**	**+0.5**

97nm,0.3s
CHGN Chignik 13.27 60 *e*P **Pn 20 43 07.9 +0.1**
PET Petropavlovsk 13.65 286 *c i*P **Pn 20 43 12.2 -0.7**
PET *i* S **Sn 20 45 53.0 +8.4**
PET smax pmax
comp=Z,14µm,13.1s
PET pmax pmax
comp=E,15µm,11.4s
PET pmax pmax
comp=Z,23µm,15.8s
PET pmax pmax
comp=E,30µm,21.7s
PET pmax pmax
comp=Z,667nm,1.1s
PET pmax pmax
comp=N,363nm,1.0s
PET pmax pmax
comp=E,486nm,1.1s
PET smax
comp=E,352nm,0.9s
PET smax
comp=N,431nm,0.9s
PET smax
comp=E,28µm,20.0s
PET smax
comp=E,17µm,11.6s
PET MLR MLR
comp=Z,154µm,20.0s
PET MLR MLR
comp=Z,115µm,20.0s
PET Petropavlovsk 13.65 286 *e*Pn **Pn 20 43 13.8 +0.9**
TNA Tin City 15.42 18 *e*Pn **Pn 20 43 40.5 +3.5**
SKR Severo-Kuril's 15.49 277⇑ *i*P **Pn 20 43 34.0 -3.8**
SKR *e*S **Sn 20 46 28.2 -1.4**
SKR pmax pmax
comp=N,340nm,1.0s
SKR pmax pmax
comp=E,300nm,1.0s
SKR pmax pmax
comp=Z,1µm,1.0s
SKR pmax pmax
comp=N,9µm,16.0s
SKR pmax pmax
comp=E,32µm,16.0s
SKR pmax pmax
comp=Z,32µm,16.0s
SKR smax
comp=N,750nm,1.1s
SKR smax
comp=E,420nm,0.8s
SKR smax
comp=E,27µm,20.0s
SKR MLR MLR
comp=N,29µm,20.0s
SKR MLR MLR
comp=E,63µm,20.0s
SKR MLR MLR
comp=Z,50µm,20.0s
SVW2 Sparrevohn 16.32 44 *e*P **Pn 20 43 51.1 +2.5**
KDAK Kodiak Island 16.70 57 Pn **Pn 20 43 51.6 -1.9**
comp=Z,2µm,0.4s
KDAK Kodiak Island 16.70 57 Pn **Pn 20 43 52.0 -1.5**
comp=Z,41nm,0.3s,baz=269,slow=7.2,SNR=71
KDAK Sn **Sn 20 47 04.7 +5.6**
comp=Z,24nm,0.3s,baz=332,slow=22,SNR=7.9
KDAK ScP ScP 20 52 18.8 +1.4
comp=Z,0.8nm,0.3s,baz=85,slow=5.7,SNR=6.6
KDAK Kodiak Island 16.70 57 *e*Pn **Pn 20 43 50.6 -2.8**
TTA Tatalina 17.04 38 *e*P **Pn 20 44 01.3 +3.6**
TTA Tatalina 17.04 38 *e*P **Pn 20 44 01.0 +3.3**
SLKM Skilak Lake 18.55 49 *e*P **Pn 20 44 17.9 +1.5**
MA2 Magadan 18.75 308 *c i*P **Pn 20 44 19.6 +0.8**
MA2 *e*S **Sn 20 47 45.6 -3.0**
MA2 pmax pmax
comp=Z,100nm,0.6s
MA2 MLR MLR
comp=Z,81µm,14.9s
MA2 Magadan 18.75 308 *e*P **Pn 20 44 20.7 +1.9**
comp=Z,164nm,0.9s
MA2 *e*ScP ScP 20 52 22.3 +0.6
PMR Palmer 19.38 46 *e*P **Pn 20 44 27.5 +1.1**
PMR pmax pmax
comp=Z,65nm,0.8s
PMR Palmer 19.38 46 *e*P **Pn 20 44 27.5 +1.1**
comp=Z,65nm,0.8s
SML Sawmill 19.81 46 P **Pn 20 44 29.7 -1.8**
SML Sawmill 19.81 46 *e*Pn **Pn 20 44 27.6 -3.9**
MCK McKinley 20.24 41 P **P 20 44 34.5 -0.1**
MCK pmax pmax
comp=Z,180nm,0.9s
MCK McKinley 20.24 41 *e*Pn **P 20 44 34.0 -0.7**
MCK LR LR
comp=Z,74µm,21.0s,MS6.0
EYAK Cordova Ski Ar 20.71 51 *e*P **P 20 44 41.0 +1.3**
EYAK *e*Pn **P 20 44 44.0 +4.2**
DIV Divide 20.82 49 *e*P **P 20 44 40.6 -0.4**
DIV *e*S **S 20 48 32.6 -0.7**
DIV LR LR
comp=Z,633µm,19.0s,MS7.0
COLA College 21.14 38 *e*P **P 20 44 45.8 +1.4**
COLA pmax pmax
comp=Z,1µm,1.1s,mb6.2
COLA College 21.14 38 *e*P **P 20 44 45.8 +1.4**
comp=Z,1µm,1.1s,mb6.2
ILAR Eielson Array 21.48 39 ScP ScP 20 52 27.7 -0.4
comp=Z,28nm,0.7s,baz=264,slow=4.0,SNR=9.8
MENT Mentasta 22.20 45 *e*P **P 20 44 56.3 +0.6**
MIDW Midway 23.12 176 *e*P **P 20 45 01.5 -4.0**
comp=Z,615nm,1.2s,mb5.9
DAWY Dawson 24.35 43 *e*P **P 20 45 16.4 -1.0**
YUK Yuzh-Kuril'sk 24.40 266 *e*P **P 20 45 18.0 +0.2**
YUK pmax pmax
comp=Z,6µm,2.0s,mb6.7
YUK pmax pmax
comp=N,5µm,3.0s
YUK pmax pmax
comp=E,8µm,3.0s
YUK pmax pmax
comp=Z,710nm,0.6s,mb6.3
YUK pmax pmax
comp=N,890nm,0.8s
YUK pmax pmax
comp=E,650nm,0.7s
YUK MLR MLR
comp=Z,56µm,21.0s,MS6.0
YUK MLR MLR
comp=N,39µm,16.0s,MS6.2
YUK MLR MLR
comp=E,47µm,18.0s,MS6.2
YSS Yuzh-Sakhalins 25.03 275⇑ *i*P **P 20 45 23.3 -0.3**
YSS *e**SP sP 20 45 28.0 +0.8
YSS *i* 20 46 07.1
YSS *e* 20 49 01.2
YSS *e*S **S 20 49 42.0 -5.8**
YSS pmax pmax
comp=N,160nm,1.0s
YSS pmax pmax
comp=Z,460nm,1.0s,mb6.0
YSS pmax pmax
comp=E,390nm,1.1s
YSS smax
comp=N,9µm,8.0s
YSS smax
comp=E,14µm,10.0s
YSS MLR MLR
comp=E,49µm,20.0s,MS6.1
YSS MLR MLR
comp=Z,69µm,20.0s,MS6.2
YSS MLR MLR
comp=N,25µm,17.0s,MS6.1
YSS Yuzh-Sakhalins 25.03 275⇑ *e*P **P 20 45 23.9 +0.4**
comp=N,479nm,0.8s,mb6.1
YSS LR LR
comp=Z,73µm,20.0s,MS6.2
SKAG Skagway 25.82 54 *e*P **P 20 45 32.1 +1.3**
comp=Z,241nm,1.8s,mb5.4
SIT Sitka 25.98 60 *e*P **P 20 45 35.1 +2.9**
SIT LR LR
comp=Z,88µm,20.0s,MS6.3
ASAJ Asahikawa 26.41 269 P **P 20 45 36.1 0.0**
comp=Z,127nm,1.0s,mb5.4,baz=53,slow=5.9,SNR=43
ASAJ S **S 20 50 13.9 +4.3**
comp=Z,6.8nm,0.8s,baz=77,slow=19,SNR=2.4
ASAJ ScP ScP 20 52 40.8 -0.7
comp=Z,18nm,0.9s,baz=283,slow=2.2,SNR=3.6
ASAJ LR LR 20 56 08.9
comp=Z,65µm,19.7s,MS6.2,baz=75,slow=37
ASAJ Asahikawa 26.41 269 P **P 20 45 36.1 0.0**
ASAJ S **S 20 50 13.9 +4.3**
ASAJ pmax pmax
comp=Z,127nm,1.0s
ASAJ smax
comp=N,7.0nm,0.8s
ASAJ MLR MLR
comp=Z,65µm,19.7s
ERM Erimo 27.15 265 P **P 20 45 44.7 +2.0**
comp=Z,1µm,1.3s,mb6.2,SNR=7.5
CRAG Craig 27.43 63 *e*P **P 20 45 46.0 +0.8**
INK Inuvik 27.68 35 P **P 20 45 46.0 -1.4**
comp=Z,62nm,0.8s,mb5.3,baz=255,slow=7.6,SNR=25
INK S **S 20 50 25.0 -4.6**
comp=Z,11nm,0.8s,baz=300,slow=23,SNR=1.5
INK ScP ScP 20 52 44.0 -1.4
comp=Z,22nm,0.8s,baz=242,slow=9.0,SNR=4.1
INK LR LR 20 58 11.2
comp=Z,138µm,18.4s,MS6.6,baz=148,slow=40
INK Inuvik 27.68 35 P **P 20 45 46.1 -1.4**
INK S **S 20 50 25.0 -4.6**
INK pmax pmax
comp=Z,62nm,0.8s
INK smax
comp=N,11nm,0.8s
INK MLR MLR
comp=Z,138µm,18.4s
INK Inuvik 27.68 35 *e*P **P 20 45 47.3 -0.2**
DLBC Dease Lake 28.64 56 P **P 20 45 56.6 +0.5**
comp=Z,16nm,0.8s,baz=282,slow=12,SNR=18
DLBC S **S 20 50 52.5 +7.7**
comp=Z,11nm,1.1s,baz=291,slow=22,SNR=1.4
DLBC ScP ScP 20 52 45.3 -3.0
comp=Z,4.3nm,0.8s,baz=315,slow=5.7,SNR=1.6
DLBC Dease Lake 28.64 56 *e*P **P 20 45 57.3 +1.3**
HABR Khabarovsk 29.20 283 *i* P **P 20 46 02.0 +1.0**
HABR *e*S **S 20 50 54.1 +0.6**
HABR *e* 20 52 27.3
HABR pmax pmax
comp=Z,1µm,2.7s,mb6.1
HABR MLR MLR
comp=Z,37µm,16.4s,MS6.1
YAK Yakutsk 29.23 311 *e*P **P 20 46 01.1 -0.2**
YAK *e* 20 46 59.5
YAK *e*PPP 20 47 08.8
YAK *e* 20 49 11.1
YAK *e*S **S 20 50 59.5 +5.4**
YAK *e* 20 56 37.3
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=Z,98nm,0.9s,mb5.5
YAK pmax pmax
comp=E,57nm,1.3s
YAK pmax pmax
comp=Z,56nm,0.8s,mb5.3
YAK pmax pmax
comp=N,60nm,1.2s
YAK pmax pmax
comp=E,53nm,1.2s
YAK smax
comp=N,84nm,1.4s
YAK smax
comp=Z,63nm,1.6s
YAK smax
comp=E,142nm,1.3s
YAK MLR MLR
comp=Z,32µm,15.0s,MS6.1
YAK MLR MLR
comp=N,37µm,20.0s
YAK MLR MLR
comp=E,18µm,14.0s
YAK Yakutsk 29.23 311 *e*P **P 20 46 01.4 +0.1**
YAK LR LR
comp=Z,129µm,21.0s,MS6.5
TIXI Tiksi 30.54 331 *e*P **P 20 46 08.6 -4.3**
TIXI *e* 20 47 06.5
TIXI *e*S **S 20 51 14.3 -0.3**
TIXI pmax pmax
comp=N,29nm,0.8s
TIXI pmax pmax
comp=E,31nm,0.8s
TIXI pmax pmax
comp=Z,59nm,0.8s,mb5.5
TIXI pmax pmax
comp=Z,12µm,22.0s
TIXI MLR MLR
comp=N,76µm,16.0s,MS6.7
TIXI MLR MLR
comp=Z,210µm,16.0s,MS6.9
TIXI MLR MLR
comp=E,114µm,17.0s,MS6.7
TIXI Tiksi 30.54 331⇑ *i*P **P 20 46 13.4 +0.5**
TIXI LR LR
comp=Z,112µm,20.0s,MS6.5
KLR Kul'dur 30.91 286 *i* P **P 20 46 12.8 -3.4**
KLR *e* 20 47 17.5
KLR *e*S **S 20 51 10.5 -10**
KLR pmax pmax
comp=E,700nm,1.2s
KLR pmax pmax
comp=Z,1µm,1.2s,mb6.7
KLR pmax pmax
comp=N,2µm,14.0s
KLR pmax pmax
comp=E,5µm,14.0s
KLR pmax pmax
comp=Z,8µm,14.0s
KLR MLR MLR
comp=Z,53µm,17.0s,MS6.3
CLNS Chul'man 32.42 302 *c i*P **P 20 46 29.9 +0.5**
CLNS *e**PP pP 20 46 36.4 +4.4
CLNS *e* 20 49 16.6
CLNS pmax pmax
comp=Z,153nm,1.3s,mb5.7
CLNS pmax pmax
comp=N,66nm,1.1s
CLNS pmax pmax
comp=E,90nm,1.2s
CLNS MLR MLR
comp=Z,79µm,18.0s,MS6.5
CLNS MLR MLR
comp=N,33µm,15.0s,MS6.4
CLNS MLR MLR
comp=E,57µm,16.0s,MS6.4
MJAR Matsushiro Arr 33.48 261 P **P 20 46 39.5 +0.7**
comp=E,32nm,0.8s,mb5.3,baz=51,slow=7.7,SNR=65
MJAR PcP PcP 20 49 20.0 +0.3
comp=E,30nm,1.0s,baz=36,slow=0.8,SNR=7.1
MJAR ScP ScP 20 53 02.3 -2.1
comp=E,18nm,1.1s,baz=29,slow=3.5,SNR=4.7
MJAR LR LR 20 58 28.5
comp=E,53µm,21.1s,MS6.2,baz=65,slow=33
MJAR Matsushiro Arr 33.48 261 P **P 20 46 39.5 +0.7**
MJAR PcP PcP 20 49 20.0 +0.3
MJAR ScP ScP 20 53 02.3 -2.1
MJAR LR LR 20 58 28.5
MAJO Matsushiro 33.48 261 *e*P **P 20 46 38.3 -0.4**
comp=E,431nm,1.4s,mb6.2
MAJO LR LR
comp=Z,55µm,21.0s,MS6.2
MAT Matsushiro 33.48 261 P **P 20 46 38.0 -0.8**
MAT S **S 20 52 06.0 +5.5**
MAT Matsushiro 33.48 261 *e*P **P 20 46 38.0 -0.8**
MAT *e*S **S 20 52 07.0 +6.5**
MAT pmax pmax
comp=Z,68nm,1.0s,mb5.5
MAT Matsushiro 33.48 261 *e*P **P 20 46 38.0 -0.8**
comp=Z,68nm,1.0s,mb5.5
MAT *e*S **S 20 52 07.0 +6.5**
VLA Vladivostok 33.62 275 *e*P **P 20 46 40.7 +0.8**
WAKE Wake Island 33.85 204 *e*P **P 20 46 39.5 -2.4**
WAKE LR LR
comp=Z,404nm,1.2s,mb6.2
comp=Z,26µm,22.0s,MS5.9
KIP Kipapa 34.14 143 P **P 20 46 44.5 0.0**
KIP pmax pmax
comp=Z,350nm,1.0s,mb6.2
KIP Kipapa 34.14 143 *e*P **P 20 46 44.5 0.0**
comp=Z,354nm,1.0s,mb6.2
HON Honolulu 34.24 143 *e*P **P 20 46 45.0 -0.3**
MDJ Mudanjiang 34.29 279 P **P 20 46 44.7 -1.1**
MDJ XP sP 20 46 58.0 +8.6
MDJ PP PP 20 48 03.4 0.0
MDJ S **S 20 52 10.1 -2.9**
MDJ SCP ScP 20 53 07.6 +0.3
MDJ AMB AMB
comp=Z,274nm,0.8s,mb6.2
MDJ AMB AMB
comp=Z,6µm,6.2s
MDJ LR LR
comp=N,27µm,19.1s,MS6.2
MDJ LR LR
comp=E,34µm,20.8s,MS6.2
MDJ LR LR
comp=Z,60µm,19.1s,MS6.3
MDJ Mudanjiang 34.29 279 *e*P **P 20 46 45.1 -0.7**
comp=Z,244nm,0.9s,mb6.1
MDJ LR LR
comp=Z,65µm,22.0s,MS6.3
C03A Quillayute Air 34.90 74⇑P **P 20 46 53.0 +2.0**
baz=35,SNR=15
C03A ⇓S **S 20 52 26.2 +3.8**
baz=35
OOW Octopus West 35.22 74 P **P 20 46 56.3 +2.4**
PGC Sidney 35.26 72 *e*P **P 20 46 54.6 +0.5**
comp=Z,657nm,1.0s,mb6.5
YKW3 Yellowknife Ar 35.47 46 *e*P **P 20 46 54.8 -1.1**
YKA Yellowknife Ar 35.49 46 P **P 20 46 54.9 -1.2**
comp=Z,65nm,0.6s,mb5.7,baz=281,slow=8.1,SNR=186
YKA S **S 20 52 25.9 -5.6**
comp=Z,1.4nm,0.4s,baz=283,slow=7.3,SNR=2.6
YKA ScP ScP 20 53 08.5 -3.0
comp=Z,28nm,0.8s,baz=294,slow=3.1,SNR=14
YKA P3KPbc 21 17 39.6
comp=Z,0.6nm,0.7s,baz=90,slow=4.9,SNR=5.1
YKA Yellowknife Ar 35.49 46 P **P 20 46 54.9 -1.2**
YKA S **S 20 52 25.9 -5.6**
YKA pmax pmax
comp=Z,65nm,0.6s
YKA Yellowknife Ar 35.49 46 P **P 20 46 54.9 -1.2**
YKA S **S 20 52 25.9 -5.6**
YKA ScP ScP 20 53 08.6 -3.0
YKA *e* 21 17 39.6
B04A Port Angeles 35.49 73⇓P **P 20 46 57.0 +0.9**
baz=35,SNR=55
B04A ⇑S **S 20 52 33.9 +2.3**
baz=35
A04A Legoe Bay, Lum 35.67 71⇑P **P 20 46 58.4 +0.7**
baz=36,SNR=66
A04A ⇑S **S 20 52 35.2 +0.9**
baz=36
D03A Wishkah Elem. 35.76 74⇓P **P 20 46 59.7 +1.2**
baz=36,SNR=37
D03A ⇑S **S 20 52 38.9 +3.2**
baz=36
A05A Maple Falls 35.92 71⇑P **P 20 46 59.8 0.0**
baz=36,SNR=124
A05A ⇓S **S 20 52 37.7 -0.3**
baz=36
GNW Green Mountain 36.12 73 *e*P **P 20 47 02.6 +1.1**
E03A Lebam 36.16 75⇓P **P 20 47 02.4 +0.6**
baz=36,SNR=124
E03A ⇓S **S 20 52 44.0 +2.3**
baz=36
B05A Bryant 36.24 72⇓P **P 20 47 03.2 +0.6**
baz=36,SNR=220
B05A ⇓S **S 20 52 43.1 +0.1**
baz=36
D04A Dobbs Creek Ra 36.35 74⇓P **P 20 47 04.3 +0.8**
baz=36,SNR=15
D04A ⇑S **S 20 52 47.2 +2.5**
baz=36
F03A Seaside 36.46 76⇓P **P 20 47 04.9 +0.5**
baz=36,SNR=66
F03A ⇓S **S 20 52 48.6 +2.3**
baz=36
E04A Onalaska 36.65 75⇑P **P 20 47 07.0 +1.0**
baz=37,SNR=42
E04A ⇑S **S 20 52 52.4 +3.2**
baz=37
C05A Tolt Reservoir 36.75 72⇓P **P 20 47 06.9 +0.1**
baz=37,SNR=90
C05A ⇓S **S 20 52 51.0 +0.2**
baz=37
D05A Enumclaw 36.80 73⇑P **P 20 47 07.9 +0.5**
baz=37,SNR=114
D05A ⇓S **S 20 52 53.2 +1.7**
baz=37
H02A Toledo 36.81 78⇑P **P 20 47 07.8 +0.3**
baz=37,SNR=10
H02A ⇓S **S 20 52 54.3 +2.6**
baz=37
LON Longmire 37.12 74 *e*P **P 20 47 09.9 -0.1**
F04A Amboy 37.15 75⇑P **P 20 47 10.1 -0.2**
baz=37,SNR=131
F04A ⇑S **S 20 52 57.1 +0.2**
baz=37
E05A Randle 37.24 74⇓P **P 20 47 10.8 -0.3**
baz=37,SNR=58
E05A ⇓S **S 20 52 58.1 -0.2**
baz=37
H03A Soap Creek Ran 37.25 78⇑P **P 20 47 12.4 +1.3**
baz=37,SNR=38
H03A ⇑S **S 20 52 59.8 +1.4**
baz=37
I02A Mapleton 37.27 79⇑P **P 20 47 11.0 -0.3**
baz=37,SNR=24
I02A ⇓S **S 20 53 00.4 +1.8**
baz=37
CN2 Changchun 37.27 281⇑P **P 20 47 10.1 -1.2**
CN2 *e*PP PP 20 48 36.6 +0.4
CN2 AMB AMB
comp=Z,200nm,1.0s,mb5.9
CN2 AMB AMB
comp=Z,8µm,10.0s
CN2 LR LR
comp=N,34µm,19.0s,MS6.3
CN2 LR LR
comp=E,25µm,19.0s,MS6.3
CN2 LR LR
comp=Z,46µm,19.0s,MS6.3
COR Corvallis 37.29 78 P **P 20 47 13.5 +2.0**
COR pmax pmax
comp=Z,380nm,0.8s,mb6.3
COR Corvallis 37.29 78 *e*P **P 20 47 11.5 0.0**
comp=Z,383nm,0.8s,mb6.3
G04A Mulino 37.47 76⇓P **P 20 47 13.2 +0.2**
baz=37,SNR=67
G04A ⇑S **S 20 53 02.6 +0.8**
baz=37
TWW Teanaway 37.50 73 P **P 20 47 14.1 +0.8**
K01A Sixes 37.50 81⇑P **P 20 47 13.3 0.0**
baz=37
K01A ⇑S **S 20 53 02.9 +0.7**
baz=37
KEBM Edson Butte 37.55 81 *e*P **P 20 47 15.1 +1.4**
KEBM *e*ScP ScP 20 53 20.4 +1.3
I03A Eugene 37.62 79⇑P **P 20 47 15.1 +0.9**
baz=38,SNR=50
I03A ⇓S **S 20 53 05.4 +1.4**
baz=38
TBM Table Mountain 37.65 73 P **P 20 47 14.8 +0.3**
SSOR Sweet Springs 37.66 77 P **P 20 47 16.5 +1.8**
F05A White Salmon 37.76 75⇓P **P 20 47 16.2 +0.7**
baz=38,SNR=65
F05A ⇓S **S 20 53 06.2 +0.1**
baz=38
J02A Umpqua 37.76 80⇓P **P 20 47 15.2 -0.3**
baz=38,SNR=68
J02A ⇓S **S 20 53 06.8 +0.7**
baz=38
BOD Bodaibo 37.77 307 *e*P **P 20 47 14.6 -1.0**
BOD pmax pmax
comp=Z,239nm,1.4s,mb5.7
EBG Ellensburg 37.79 73 P **P 20 47 16.0 +0.3**
H04A Detroit Lake 37.92 77⇓P **P 20 47 17.3 +0.5**
baz=38,SNR=104
H04A ⇑S **S 20 53 09.0 +0.4**
baz=38
HOOD Mount Hood Mea 37.92 76 *e*P **P 20 47 18.2 +1.3**
HIA Hailar 38.03 292 *e*P **P 20 47 16.9 -0.9**
HIA pmax pmax
comp=Z,507nm,1.0s
HIA MLR MLR
comp=Z,94µm,20.0s
HIA Hailar 38.03 292 *e*P **P 20 47 16.9 -0.9**
comp=Z,507nm,1.0s,mb6.2
HIA LR LR
comp=Z,94µm,20.0s,MS6.6
K02A Glendale 38.13 80⇓P **P 20 47 18.6 0.0**
baz=38,SNR=32
K02A ⇓S **S 20 53 13.7 +2.0**

baz=38
J03A Ideyld Park 38.13 79 ⇓P P 20 47 16.5 -2.1
baz=38,SNR=104
J03A ⇑S **S 20 53 12.4 +0.5**

baz=38
G05A Wamic 38.16 76 ⇑P P 20 47 19.2 +0.3
baz=38,SNR=80
G05A ⇓S **S 20 53 13.4 +1.2**

baz=38
M01C Crescent City 38.24 82 ⇓P P 20 47 18.0 -1.5
baz=38,SNR=12
M01C ⇓S **S 20 53 15.4 +1.9**

baz=38
L02A Cave Junction 38.39 81 ⇓P P 20 47 21.0 +0.2
baz=38,SNR=20
L02A ⇑S **S 20 53 17.1 +1.3**

baz=38
H05A Madras 38.52 77 ⇑P P 20 47 22.0 +0.1
baz=38,SNR=138
H05A ⇑S **S 20 53 18.3 +0.6**

baz=38
HUMO Hull Mountain 38.55 80 *e*P **P 20 47 23.4 +1.3**
comp=Z,216nm,1.1s,mb5.8
HUMO *e*PcP PcP 20 49 32.8 -2.0
KRMB Red Mountain 38.56 82 *e*P **P 20 47 23.8 +1.6**
HAWA Hanford 38.66 73 *e*P **P 20 47 23.1 0.0**
OD2 Odessa Site #2 38.66 71 P **P 20 47 22.6 -0.5**
WRD Warden 38.69 72 P **P 20 47 23.6 +0.3**
I05A Bend 38.75 77 ⇑P P 20 47 24.3 +0.5
baz=39,SNR=75
I05A ⇑S **S 20 53 22.6 +1.5**

baz=39
JCC Jacoby Creek 38.88 83 ⇑P P 20 47 25.8 +0.9
baz=39,SNR=11
JCC ⇑S **S 20 53 25.0 +1.9**

baz=39
KHMM Horse Mountain 39.03 83 *e*P **P 20 47 26.7 +0.5**
EDM Edmonton 39.10 61 *e*P **P 20 47 25.8 -1.0**
NEW Newport 39.18 69 P **P 20 47 27.0 -0.5**
comp=Z,844nm,1.2s,mb6.3,baz=300,slow=6.8,SNR=112
NEW ScP ScP 20 53 23.0 -2.4
comp=Z,7.6nm,0.8s,baz=1.6,slow=14,SNR=1.6
NEW LR LR 21 01 24.8
comp=Z,33μm,21.1s,MS6.1,baz=290,slow=33
NEW Newport 39.18 69 P **P 20 47 27.0 -0.4**
NEW 20 53 23.0
NEW pmax pmax
comp=Z,844nm,1.2s
NEW MLR MLR
comp=Z,33μm,21.1s
NEW Newport 39.18 69 *e*P **P 20 47 26.9 -0.5**
comp=Z,386nm,0.7s,mb6.2
NEW LR LR
comp=Z,55μm,21.5s,MS6.3
YBH Yreka Blue Hor 39.18 81 P **P 20 47 28.7 +1.3**
comp=Z,37nm,0.8s,mb5.2,baz=309,slow=4.9,SNR=24
YBH ScP ScP 20 53 24.7 -0.7
comp=Z,9.0nm,1.0s,baz=14,slow=5.1,SNR=3.1
YBH LR LR 21 01 47.9
comp=Z,51μm,19.8s,MS6.4,baz=302,slow=33
YBH Yreka Blue Hor 39.18 81 P **P 20 47 28.7 +1.3**
YBH 20 53 24.7
YBH pmax pmax
comp=Z,37nm,0.8s
YBH MLR MLR
comp=Z,51μm,19.8s
YBH Yreka Blue Hor 39.18 81 *e*P **P 20 47 29.3 +1.8**
YBH LR LR
comp=Z,45μm,19.0s,MS6.3
YBH Yreka Blue Hor 39.18 81 ⇓P P 20 47 28.3 +0.9
baz=39,SNR=39
YBH ⇑S **S 20 53 29.2 +1.6**

baz=39
M02C Callahan 39.29 82 ⇓P P 20 47 28.8 +0.5
baz=39,SNR=35
M02C ⇓S **S 20 53 31.6 +2.4**

baz=39
K04A Chilquin 39.30 80 ⇓P P 20 47 28.5 0.0
baz=39
K04A ⇓S **S 20 53 30.4 +0.9**

baz=39
N02C Big Bar 39.33 83 ⇓P P 20 47 28.9 +0.3
baz=39,SNR=45
N02C ⇓S **S 20 53 31.8 +2.0**

baz=39
KS15 Wonju Array Si 39.37 271 *e*P **P 20 47 29.3 +0.3**
O01C Eel River Cons 39.40 84 ⇓P P 20 47 29.7 +0.4
baz=39,SNR=12
O01C ⇓S **S 20 53 32.4 +1.5**

baz=39
L04A Klamath Falls 39.45 80 ⇑P P 20 47 30.1 +0.4
baz=39,SNR=105
L04A ⇑S **S 20 53 32.7 +1.1**

baz=39
SNY Shenyang 39.49 279 ⇑P P 20 47 29.7 -0.3
SNY PP PP 20 49 04.2 +3.6
SNY PCP PcP 20 49 35.0 -2.7
SNY SCP ScP 20 53 24.9 -1.7
SNY S **S 20 53 37.9 +5.6**
SNY SCS ScS 20 57 34.3 -4.4
SNY AMB AMB
comp=Z,573nm,1.4s,mb6.1
SNY AMB AMB
comp=Z,11μm,11.2s
SNY LR LR
comp=N,41μm,20.2s
SNY LR LR
comp=Z,52μm,23.0s,MS6.3
M04C Macdoel 39.70 81 ⇑P P 20 47 32.2 +0.5
baz=40,SNR=110
M04C ⇑S **S 20 53 36.8 +1.4**

baz=40
KIPM Iron Peak 39.80 84 *e*P **P 20 47 33.1 +0.5**
RES Resolute Bay 39.92 24 *e*P **P 20 47 33.0 -0.6**
RES *e* 20 53 30.0
J06A Christmas Vall 39.93 78 ⇓P P 20 47 33.9 +0.3
baz=40,SNR=123
J06A ⇓S **S 20 53 40.1 +1.3**

baz=40
WDC Whiskeytown Da 39.94 83 P **P 20 47 35.0 +1.2**
WDC pmax pmax
comp=Z,300nm,1.1s,mb5.9
WDC Whiskeytown Da 39.94 83 *e*P **P 20 47 35.0 +1.2**
WDC Whiskeytown Da 39.94 83 ⇓P P 20 47 33.4 -0.3
baz=40,SNR=36
WDC ⇓S **S 20 53 39.8 +0.7**

baz=40
O02C Red Bluff 40.02 83 ⇓P P 20 47 34.7 +0.3
baz=40,SNR=38
O02C ⇓S **S 20 53 41.3 +1.2**

baz=40
P01C Double 8 Ranch 40.09 85 ⇓P P 20 47 34.2 -0.8
baz=40,SNR=13
P01C ⇓S **S 20 53 42.6 +1.4**

baz=40
K06A Valley Falls 40.11 78 P **P 20 47 35.8 +0.6**
baz=40,SNR=139
K06A ⇓S **S 20 53 42.8 +1.3**

baz=40
INCN Inchon 40.13 272 ⇓P P 20 47 37.5 +2.2
SNR=30
INCN Inchon 40.13 272 *e*P **P 20 47 35.1 -0.2**
comp=Z,516nm,1.1s,mb6.2
L05A Lakeview 40.17 80 ⇓P P 20 47 36.4 +0.8
baz=40,SNR=142
L05A ⇓S **S 20 53 44.2 +1.8**

baz=40
M05C Lookout 40.36 81 ⇓P P 20 47 36.8 -0.4
baz=40,SNR=108
M05C ⇓S **S 20 53 46.8 +1.5**

baz=40
GASB Alder Springs 40.37 84 ⇑P P 20 47 37.0 -0.4
baz=40,SNR=22
GASB ⇓S **S 20 53 47.6 +2.1**

baz=40
J07A Hines 40.38 77 ⇑P P 20 47 37.4 0.0
baz=40,SNR=103
J07A ⇓S **S 20 53 46.5 +1.0**

baz=40
HATC Hat Creek Radi 40.48 82 ⇓P P 20 47 38.4 +0.2
baz=40,SNR=30
HATC ⇑S **S 20 53 48.4 +1.4**

baz=40
HOPS Hopland 40.54 85 *e*P **P 20 47 41.7 +2.9**
HOPS Hopland 40.54 85 ⇓P P 20 47 38.4 -0.3
baz=40
HOPS ⇓S **S 20 53 49.9 +1.9**

baz=40
O03C Acorn Hollow, 40.60 83 ⇓P P 20 47 38.3 -0.9
baz=40,SNR=8.1
O03C ⇑S **S 20 53 49.9 +1.0**

baz=40
WALA Waterton Lakes 40.67 67 *e*P **P 20 47 39.5 -0.3**
comp=Z,728nm,1.1s,mb6.2
BSMT Bassoo Peak 40.75 69 *e*P **P 20 47 40.3 -0.2**
BMO Blue Mountains 40.80 74 *e*P **P 20 47 40.5 -0.3**
BMO LR LR
comp=Z,61μm,22.0s,MS6.4
M06C Likely Place G 40.87 81 ⇑P P 20 47 41.8 +0.3
baz=41,SNR=62
M06C ⇑S **S 20 53 53.8 +0.9**

baz=41
J08A Circle Bar Ran 40.89 77 ⇑P P 20 47 41.5 -0.1
baz=41,SNR=144
J08A ⇓S **S 20 53 54.1 +0.8**

baz=41
O04C Chester 40.99 82 ⇑P P 20 47 42.9 +0.4
baz=41,SNR=24
O04C ⇑S **S 20 53 54.9 +0.1**

baz=41
MNRC McLaughlin Nat 41.00 85 ⇓P P 20 47 42.8 +0.2
baz=41,SNR=14
MNRC ⇓S **S 20 53 57.2 +2.4**

baz=41
ELFS Eagle Lake Fie 41.04 81 ⇓P P 20 47 43.2 +0.3
baz=41,SNR=18
L07A Adell 41.10 79 ⇓P P 20 47 44.1 +0.7
baz=41,SNR=144
L07A ⇓S **S 20 53 56.8 +0.4**

baz=41
NSHM Saint Helena R 41.12 85 *e*P **P 20 47 44.4 +0.9**
NSHM *e*S **S 20 53 44.3 -12**
MCCM Marconi Confer 41.17 86 *e*P **P 20 47 42.3 -1.6**
MCCM Marconi Confer 41.17 86 ⇑P P 20 47 43.6 -0.3
baz=41
MCCM ⇓S **S 20 53 57.3 0.0**

baz=41
ORV Oroville 41.19 83 ⇓P P 20 47 42.7 -1.3
baz=41,SNR=37
ORV ⇑S **S 20 53 57.2 -0.5**

baz=41
SUTB Sutter Butte 41.20 84 ⇑P P 20 47 42.8 -1.4
baz=41
SUTB ⇑S **S 20 53 57.8 -0.1**

baz=41
WVOR Wild Horse Val 41.30 78 P **P 20 47 45.5 +0.5**
WVOR pmax pmax
comp=Z,270nm,0.8s,mb5.9
WVOR Wild Horse Val 41.30 78 *e*P **P 20 47 45.4 +0.3**
comp=Z,266nm,0.8s,mb5.9
O05C Quincy 41.31 82 ⇓P P 20 47 45.0 -0.1
baz=41,SNR=34
O05C ⇓S **S 20 53 59.7 +0.2**

baz=41
CVS Carmenet Viney 41.31 85 ⇓P P 20 47 45.1 0.0
baz=41,SNR=20
CVS ⇑S **S 20 54 00.0 +0.5**

baz=41
OHCM Honcut 41.33 84 *e*P **P 20 47 45.3 0.0**
OHCM *e*ScP ScP 20 53 39.4 +5.6
FARB Farallon Islan 41.37 87 ⇓P P 20 47 45.9 +0.3
baz=41
FARB ⇑S **S 20 53 59.0 -1.3**

baz=41
Q03C Winters 41.42 85 ⇓P P 20 47 45.8 -0.2
baz=41
Q03C ⇑S **S 20 54 03.5 +2.4**

baz=41
M07A Soldier Meadow 41.57 79 ⇑P P 20 47 47.9 +0.7
baz=42,SNR=359
M07A ⇑S **S 20 54 03.5 +0.2**

baz=42
Q04C Lincoln 41.69 84 ⇓P P 20 47 47.8 -0.4
baz=42
Q04C ⇓S **S 20 54 06.2 +1.1**

baz=42
MSO Missoula 41.77 70 *e*P **P 20 47 48.2 -0.6**
comp=Z,857nm,1.3s,mb6.2
SAC San Andreas 41.80 86 P **P 20 47 58.3 +9.2**
SAC San Andreas 41.80 86 *e*P **P 20 47 49.8 +0.7**
O06A Flanigan 41.87 81 ⇓P P 20 47 49.3 -0.4
baz=42,SNR=45
O06A ⇑S **S 20 54 07.1 -0.6**

baz=42
P05C Yuba Gap, Truc 41.89 83 ⇓P P 20 47 49.2 -0.6
baz=42,SNR=44
P05C ⇓S **S 20 54 07.8 -0.3**

baz=42
BDM Black Diamond 41.92 85 ⇓P P 20 47 49.8 -0.3
baz=42
BDM ⇑S **S 20 54 09.9 +1.4**

baz=42
M08A Happy Creek Ra 42.02 79 ⇓P P 20 47 50.8 -0.1
baz=42,SNR=228
M08A ⇓S **S 20 54 09.8 -0.1**

baz=42
JRSC Jasper Ridge 42.03 86 ⇑P P 20 47 50.4 -0.5
baz=42
JRSC ⇑S **S 20 54 09.9 -0.2**

baz=42
P06A Stead Airport, 42.11 82 ⇑P P 20 47 51.2 -0.4
baz=42,SNR=11
P06A ⇓S **S 20 54 11.3 0.0**

baz=42
CHMT Chamberlain Mo 42.13 69 *e*P **P 20 47 50.8 -1.0**
L09A Wilkinson Ranc 42.13 78 ⇓P P 20 47 50.7 -1.1
baz=42,SNR=88
L09A ⇑S **S 20 54 10.5 -1.1**

baz=42
LAVA Lava Cap Winer 42.14 84 ⇓P P 20 47 50.9 -1.0
baz=42,SNR=35
LAVA ⇑S **S 20 54 11.0 -0.7**

baz=42
WENL Wente Brothers 42.19 86 ⇓P P 20 47 51.4 -0.9
baz=42
WENL ⇑S **S 20 54 12.6 0.0**

baz=42
BNLO Ben Lomond (Sa 42.24 87 ⇓P P 20 47 51.9 -0.8
baz=42
BNLO ⇓S **S 20 54 12.5 -0.7**

baz=42
R04C Big Horse Ranc 42.31 84 ⇑P P 20 47 52.0 -1.3
baz=42
R04C ⇓S **S 20 54 13.5 -0.8**

baz=42
DL2 Dalian 42.40 277 ⇑*i*P P 20 47 54.1 +0.1
DL2 S **S 20 54 11.9 -3.7**
DL2 AMB AMB
comp=Z,160nm,1.2s,mb5.5
DL2 AMB AMB
comp=Z,5μm,5.6s
DL2 LR LR
comp=N,17μm,16.8s,MS6.1
DL2 LR LR
comp=E,10μm,17.4s,MS6.1
DL2 LR LR
comp=Z,14μm,18.8s,MS5.9
PAHR Pah Rah Range 42.41 82 *e*P **P 20 47 53.4 -0.7**
comp=Z,423nm,1.3s,mb5.9
WCN Washoe City 42.42 82 ⇓P P 20 47 53.6 -0.6
baz=42,SNR=40
WCN ⇑S **S 20 54 15.4 -0.5**

baz=42
O07A Toulon 42.46 81 ⇑P P 20 47 53.8 -0.7
baz=42,SNR=156
O07A ⇓S **S 20 54 15.5 -1.0**

baz=42
S04C Ingram Canyon, 42.53 86 ⇑P P 20 47 54.4 -0.7
baz=42
S04C ⇓S **S 20 54 17.8 +0.2**

baz=42
N08A GE Springer Mi 42.56 80 ⇑P P 20 47 54.5 -0.8
baz=42,SNR=140
N08A ⇑S **S 20 54 16.9 -1.1**

baz=42
R05C Kirkwood Meado 42.58 83 ⇑P P 20 47 55.3 -0.2
baz=42,SNR=43
R05C ⇑S **S 20 54 18.6 +0.3**

baz=42
M09A Marrel Ranch, 42.61 78 ⇓P P 20 47 54.9 -0.8
baz=42,SNR=52
M09A ⇑S **S 20 54 18.1 -0.5**

baz=42
ALE Alert 42.73 10 P **P 20 47 56.3 -0.4**
comp=Z,919nm,0.9s,mb6.5,SNR=33

CMB Columbia Colle 42.80 84 *e*P **P 20 47 58.1 +0.9**
CMB Columbia Colle 42.80 84 ⇓P P 20 47 57.0 -0.3
baz=43,SNR=19
CMB ⇑S **S 20 54 22.3 +0.9**

baz=43
P07A Fallon 42.82 82 ⇓P P 20 47 57.4 0.0
baz=43
P07A ⇑S **S 20 54 20.2 -1.6**

baz=43
PACP Pacheco Peak 42.87 86 ⇑P P 20 47 56.9 -0.9
baz=43,SNR=13
PACP ⇓S **S 20 54 22.7 +0.3**

baz=43
SAO San Andreas Ge 42.92 87 P **P 20 47 58.9 +0.7**
SAO pmax pmax
comp=Z,200nm,1.0s,mb5.8
SAO San Andreas Ge 42.92 87 *e*P **P 20 47 58.8 +0.6**
HRY Holter Researc 43.06 69 *e*P **P 20 47 58.8 -0.6**
HRY *e*ScP ScP 20 53 45.7 +5.0
R06C Coleville 43.09 83 ⇓P P 20 47 58.8 -0.8
baz=43,SNR=19
R06C ⇑S **S 20 54 25.5 -0.2**

baz=43
HAST UC Hastings Re 43.09 87 ⇑P P 20 47 58.5 -1.1
baz=43,SNR=11
HAST ⇓S **S 20 54 24.3 -1.4**

baz=43
WAKR Walker 43.10 83 *e*P **P 20 48 00.8 +1.0**
WAKR *e*ScP ScP 20 53 47.1 +6.2
M10A I.L. Ranch, Tu 43.11 78 ⇓P P 20 47 59.5 -0.2
baz=43,SNR=48
M10A ⇑S **S 20 54 25.3 -0.7**

baz=43
LRM Limekiln Ridge 43.17 70 *e*P **P 20 47 59.8 -0.5**
S06C San Francisco 43.23 84 ⇑P P 20 48 00.7 0.0
baz=43,SNR=17
S06C ⇓S **S 20 54 27.8 0.0**

baz=43
Q07A Schurz 43.23 82 ⇑P P 20 47 59.7 -1.0
baz=43
Q07A ⇑S **S 20 54 26.2 -1.6**

baz=43
P08A Dixie Valley 43.23 81 ⇑P P 20 47 59.5 -1.2
baz=43,SNR=22
P08A ⇓S **S 20 54 27.9 +0.1**

baz=43
HLID Hailey 43.24 74 *e*P **P 20 48 00.5 -0.4**
comp=Z,454nm,0.9s,mb6.2
HLID *e*ScP ScP 20 53 44.8 +3.4
S05C Merced 43.25 85 ⇓P P 20 48 00.4 -0.6
baz=43,SNR=10
S05C ⇓S **S 20 54 27.8 -0.3**

baz=43
T05C Eagle Field, D 43.32 86 ⇓P P 20 48 01.1 -0.3
baz=43
T05C ⇓S **S 20 54 30.8 +1.7**

baz=43
BMN Battle Mountai 43.33 79 P **P 20 48 03.1 +1.6**
BMN pmax pmax
comp=Z,420nm,1.1s,mb6.1
BMN Battle Mountai 43.33 79 *e*P **P 20 48 03.1 +1.6**
comp=Z,423nm,1.1s,mb6.1
DLMT Dillon 43.34 71 *e*P **P 20 48 01.4 -0.2**
DLMT *e*ScP ScP 20 53 46.2 +4.4
MCMT McKenzie Canyo 43.48 71 *e*P **P 20 48 01.7 -1.0**
O09A Fish Creek Ran 43.50 80 ⇑P P 20 48 02.7 -0.2
baz=43,SNR=127
O09A ⇓S **S 20 54 31.1 -0.6**

baz=43
V03C Hunter Liggett 43.52 87 ⇓P P 20 48 02.9 -0.1
baz=43,SNR=7.5
V03C ⇓S **S 20 54 31.3 -0.6**

baz=43
EGMT Eagleton 43.57 66 *e*P **P 20 48 02.9 -0.7**
comp=Z,557nm,1.0s,mb6.2
U04C Hernandez Rese 43.59 87 ⇑P P 20 48 03.1 -0.6
baz=44,SNR=11
U04C ⇑S **S 20 54 33.2 +0.1**

baz=44
N10A Dunphy 43.59 79 ⇑P P 20 48 02.9 -0.8
baz=44
N10A ⇑S **S 20 54 32.1 -1.0**

baz=44
R07C Lee Vining 43.60 83 ⇑P P 20 48 03.1 -0.6
baz=44,SNR=21
R07C ⇑S **S 20 54 34.5 +1.4**

baz=44
BOZ Bozeman (W) 43.75 70 P **P 20 48 04.5 -0.4**
BOZ pmax pmax
comp=Z,760nm,0.9s,mb6.4
BOZ Bozeman (W) 43.75 70 *e*P **P 20 48 04.5 -0.5**
Q08A Gabbs 43.83 82 ⇓P P 20 48 05.1 -0.5
baz=44,SNR=41
Q08A ⇑S **S 20 54 36.3 -0.2**

baz=44
T06C Millerton Lake 43.85 85 ⇑P P 20 48 05.6 -0.1
baz=44,SNR=17
T06C ⇓S **S 20 54 36.2 -0.7**

baz=44
NVAR Mina Array Bea 43.85 82 ScP ScP 20 53 44.5 +0.6
comp=Z,24nm,0.8s,baz=317,slow=2.9,SNR=11
NVAR S **S 20 54 37.8 +0.9**
comp=Z,1.1nm,0.6s,baz=290,slow=31,SNR=1.7
P09A Austin 43.90 80 ⇑P P 20 48 06.2 +0.1
baz=44,SNR=23
P09A ⇑S **S 20 54 38.1 +0.6**

baz=44
KCC Kaiser Creek 43.90 84 ⇑P P 20 48 05.9 -0.3
baz=44,SNR=22
KCC ⇑S **S 20 54 36.7 -0.9**

baz=44
MNV Mina 43.95 82 *e*P **P 20 48 05.8 -0.7**
V04C Ramage Ranch, 43.99 87 ⇓P P 20 48 06.5 -0.4
baz=44,SNR=8.1
V04C ⇑S **S 20 54 39.8 +0.9**

baz=44
PKD Parkfield 44.00 87 ⇑P P 20 48 06.3 -0.7
baz=44,SNR=12
PKD ⇓S **S 20 54 39.0 -0.1**

baz=44
N11A Elko Archery C 44.01 78 ⇑P P 20 48 06.8 -0.2
baz=44,SNR=36
N11A ⇓S **S 20 54 38.8 -0.4**

baz=44
MLAC Mammoth Lakes 44.01 84 ⇑P P 20 48 06.4 -0.6
baz=44
MLAC ⇑S **S 20 54 40.5 +1.3**

baz=44
U05C Westside ANR, 44.02 86 ⇑P P 20 48 07.1 +0.1
baz=44
U05C ⇓S **S 20 54 40.2 +0.9**

baz=44
M12A Wells 44.16 77 ⇓P P 20 48 08.9 +0.7
baz=44,SNR=248
M12A ⇓S **S 20 54 41.0 -0.4**

baz=44
P10A Eureka 44.28 80 ⇓P P 20 48 09.7 +0.5
baz=44,SNR=48
P10A ⇑S **S 20 54 43.8 +0.7**

baz=44
Q09A Carvers 44.31 81 ⇑P P 20 48 09.7 +0.3
baz=44,SNR=20
Q09A ⇓S **S 20 54 43.4 -0.1**

baz=44
QLMT Earthquake Lak 44.32 71 *e*P **P 20 48 09.4 -0.1**
QLMT *e*ScP ScP 20 53 49.6 +3.8
MTUM Tungsten Hills 44.35 84 *e*P **P 20 48 09.9 +0.1**
MTUM *e*ScP ScP 20 53 52.8 +6.8
ELK Elko 44.36 78 *e*P **P 20 48 09.8 0.0**
ELK pmax pmax
comp=Z,290nm,0.8s
PTRM Twissleman Ran 44.39 87 *e*P **P 20 48 09.9 -0.1**
FFC Flin Flon 44.42 54 P **P 20 48 09.4 -0.9**
comp=Z,183nm,0.6s,mb6.0,SNR=5.2
FFC Flin Flon 44.42 54 *e*P **P 20 48 09.6 -0.7**
FFC *e* 20 49 54.2
FFC pmax pmax
comp=Z,24nm,0.5s,mb5.2
FFC Flin Flon 44.42 54 *e*P **P 20 48 09.6 -0.7**
comp=Z,24nm,0.5s,mb5.2
FFC *e* 20 49 54.2
FFC *e*ScP ScP 20 53 47.0 +0.8
N12A Clover Valley, 44.42 77 ⇓P P 20 48 10.0 -0.2
baz=44,SNR=75
N12A ⇓S **S 20 54 44.0 -1.1**

baz=44
V05C Boulder Hill, 44.45 86 ⇑P P 20 48 10.2 -0.3

baz=44
V05C ⇑S S 20 54 46.3 +0.7
baz=44
M13A Montello 44.65 76 ⇑P P 20 48 12.0 -0.2
baz=44,SNR=119
M13A ⇓S S 20 54 48.5 -0.1
baz=44
YMR Madison River 44.69 71 *e*P P 20 48 12.5 0.0
comp=Z,2µm,1.3s,mb6.7
TPH Tonopah 44.74 82 *e*P P 20 48 13.7 +0.8
TPH pmax pmax
comp=Z,320nm,0.9s,mb6.2
TPH Tonopah 44.74 82 *e*P P 20 48 13.7 +0.8
comp=Z,322nm,0.9s,mb6.2
TPH *e*ScP ScP 20 53 49.4 +1.8
TIN Tinemaha 44.75 84 ⇓P P 20 48 12.5 -0.4
baz=45
TIN ⇓S S 20 54 50.8 +0.9
baz=45
P11A Circle Ranch, 44.76 79 ⇑P P 20 48 12.9 -0.1
baz=45,SNR=55
P11A ⇑S S 20 54 50.0 0.0
baz=45
GCMT Greycliff 44.82 68 *e*P P 20 48 13.9 +0.4
YFT Old Faithful 44.88 71 *e*P P 20 48 15.5 +1.5
YFT *e*ScP ScP 20 53 56.6 +8.4
N13A Wendover, West 44.93 77 ⇑P P 20 48 14.3 0.0
baz=45,SNR=61
N13A ⇑S S 20 54 51.3 -1.2
baz=45
S09A Goldfield 44.96 82 ⇑P P 20 48 13.6 -1.1
baz=45,SNR=53
S09A ⇑S S 20 54 52.7 -0.4
baz=45
LKWY Lake 45.08 70 P P 20 48 15.0 -0.5
LKWY pmax pmax
comp=Z,600nm,1.0s,mb6.4
LKWY Lake 45.08 70 *e*P P 20 48 15.0 -0.6
comp=Z,596nm,1.0s,mb6.4
LKWY *e*ScP ScP 20 53 55.6 +6.7
BJI Beijing 45.10 282 P P 20 48 15.9 +0.2
BJI S S 20 54 47.8 -7.2
BJI AMB AMB
comp=Z,275nm,1.3s,mb5.9
BJI LR LR
comp=N,26µm,21.8s,MS6.4
BJI LR LR
comp=E,45µm,21.8s,MS6.4
BJI LR LR
comp=Z,45µm,33.7s
BJT Baijiatuau 45.11 282 *e*P P 20 48 15.4 -0.4
BJT *e* 20 49 57.7
BJT pmax pmax
comp=Z,201nm,0.8s
BJT MLR MLR
comp=Z,52µm,20.0s
BJT Baijiatuau 45.11 282 *e*P P 20 48 15.4 -0.4
comp=Z,201nm,0.8s,mb6.0
BJT *e*PcP PcP 20 49 57.7 +1.3
BJT *e*ScP ScP 20 53 37.1 -12
BJT LR LR
comp=Z,52µm,20.0s,MS6.5
IMW Indian Meadow 45.13 71 *e*P P 20 48 16.9 +0.9
comp=Z,279nm,0.9s,mb6.1
DCID1 Drake Creek 45.16 72 *e*P P 20 48 16.1 -0.1
R10A Warm Springs 45.18 81 ⇓P P 20 48 15.9 -0.5
baz=45,SNR=20
R10A ⇓S S 20 54 56.2 -0.1
baz=45
IRK Irkutsk 45.22 303 *e*P P 20 48 16.5 -0.2
IRK *e* 20 50 00.6
IRK pmax pmax
comp=Z,712nm,1.2s,mb6.4
RRI2 Red Ridge 45.22 72 *e*P P 20 48 26.1 +9.5
CWC Cottonwood Cre 45.23 84 ⇑P P 20 48 15.7 -1.1
baz=45
CWC ⇑S S 20 54 56.9 0.0
baz=45
Q11A Duckwater 45.24 80 ⇓P P 20 48 16.1 -0.8
baz=45,SNR=99
Q11A ⇑S S 20 54 55.7 -1.4
baz=45
HVU Hansel Valley 45.25 75 P P 20 48 17.8 +0.9
HVU pmax pmax
comp=Z,490nm,0.8s,mb6.4
HVU Hansel Valley 45.25 75 *e*P P 20 48 17.4 +0.5
P12A McGill 45.32 79 ⇑P P 20 48 16.9 -0.6
baz=45,SNR=201
P12A ⇑S S 20 54 57.4 -0.8
baz=45
MOOW Moose Ponds 45.34 71 *e*P P 20 48 17.3 -0.2
comp=Z,321nm,1.3s,mb6.0
TPAW Teton Pass 45.36 72 *e*P P 20 48 18.2 +0.5
comp=Z,244nm,0.8s,mb6.1
ISA Isabella 45.48 86 *e*P P 20 48 20.3 +1.6
ISA Isabella 45.48 86 ⇑P P 20 48 16.8 -1.9
baz=45,SNR=13
ISA ⇓S S 20 54 58.0 -2.5
baz=45
SBC Santa Barbara 45.48 88 ⇑P P 20 48 18.3 -0.5
baz=45
SBC ⇓S S 20 55 00.6 0.0
baz=45
REDW Red Top Meadow 45.49 72 *e*P P 20 48 19.1 +0.3
comp=Z,206nm,0.8s,mb6.0
BGU Big Grassy Mou 45.60 76 *e*P P 20 48 20.2 +0.5
Q12A Willow Creek R 45.63 79 ⇑P P 20 48 19.3 -0.7
baz=46,SNR=54
Q12A ⇓S S 20 55 01.0 -1.7
baz=46
AHID Auburn Hatcher 45.69 73 *e*P P 20 48 21.1 +0.7
comp=Z,241nm,0.8s,mb6.2
AHID LR LR
comp=Z,63µm,22.0s,MS6.5
SPUT South Promonto 45.73 75 *e*P P 20 48 21.6 +0.9
TLY Talaya 45.84 302 P P 20 48 22.3 +0.7
comp=Z,1µm,1.0s,mb6.9,SNR=82
OSI Osito Adit 45.99 87 ⇓P P 20 48 21.9 -0.9
baz=46
OSI ⇓S S 20 55 07.4 -0.5
baz=46
ULN Ulaanbaatar 46.02 296 ⇑P P 20 48 24.6 +1.6
SNR=200
ULN Ulaanbaatar 46.02 296 P P 20 48 23.3 +0.3
ULN pmax pmax
comp=Z,480nm,1.0s,mb6.4
ULN Ulaanbaatar 46.02 296 *e*P P 20 48 23.3 +0.3
comp=Z,482nm,1.0s,mb6.4
TPNV Topopah Spring 46.05 83 P P 20 48 22.8 -0.4
TPNV pmax pmax
comp=Z,430nm,0.8s,mb6.4
TPNV Topopah Spring 46.05 83 *e*P P 20 48 22.7 -0.5
comp=Z,432nm,0.8s,mb6.4
DUG Dugway 46.17 77 P P 20 48 24.1 -0.1
DUG pmax pmax
comp=Z,2µm,1.3s,mb6.8
DUG Dugway 46.17 77 *e*P P 20 48 24.1 -0.1
FCC Fort Churchill 46.22 46 *e*P P 20 48 24.2 -0.3
comp=Z,191nm,1.1s,mb6.9
NOQ North Oquirrh 46.32 76 *e*P P 20 48 26.5 +1.1
U10A Ash Meadows, A 46.33 83 ⇑P P 20 48 24.7 -0.8
baz=46,SNR=49
U10A ⇑S S 20 55 11.5 -1.2
baz=46
SNCC San Nicolas Is 46.39 89 *e*P P 20 48 26.3 +0.4
SNCC San Nicolas Is 46.39 89 ⇑P P 20 48 24.5 -1.4
baz=46
SNCC ⇑S S 20 55 12.6 -1.0
baz=46
SONM Songino Array 46.41 296 P P 20 48 26.7 +0.6
comp=Z,221nm,1.1s,mb6.0,baz=61,slow=7.1,SNR=127
SONM ScP ScP 20 53 57.3 +2.8
comp=Z,41nm,1.0s,baz=40,slow=3.6,SNR=9.6
SONM PKPPKP 21 19 22.1
comp=Z,1.0nm,1.0s,baz=222,slow=1.9,SNR=3.6
SONM P4KPbc 21 26 14.7
comp=Z,0.9nm,0.8s,baz=55,slow=5.5,SNR=4.8
SONM Songino Array 46.41 296 P P 20 48 26.7 +0.6
SONM ScP ScP 20 53 57.3 +2.8
SONM P'P' 21 19 22.1
TCUT Toone Canyon 46.47 75 *e*P P 20 48 27.5 +0.9
CTU Camp Tracy 46.52 76 *e*P P 20 48 28.9 +2.0
BW06 Boulder Array 46.61 72 *e*P P 20 48 26.9 -0.7
PDAR Pinedale Array 46.61 72 P P 20 48 26.9 -0.7
comp=Z,252nm,0.8s,mb6.2,baz=302,slow=3.2,SNR=343
PDAR ScP ScP 20 53 54.1 -1.2
comp=Z,17nm,1.0s,baz=292,slow=3.6,SNR=3.5
PDAR S S 20 55 15.8 -1.0
comp=Z,1.9nm,0.8s,baz=350,slow=6.0,SNR=2.1
PDAR LR LR 21 05 29.3
comp=Z,39µm,21.9s,MS6.3,baz=310,slow=33
PDAR PKPPKP 21 19 29.8
comp=Z,1.2nm,0.9s,baz=151,slow=2.1,SNR=4.2
MWC Mount Wilson 46.66 87 *e*P P 20 48 28.4 +0.3
ZAK Zakamensk 46.73 301 *e*P P 20 48 29.3 +0.7
ZAK *e* 20 50 03.9
ZAK *e* 20 55 26.3
ZAK pmax pmax
comp=Z,325nm,1.4s,mb6.1
GSC Goldstone 46.75 85 *e*P P 20 48 28.0 -0.7
GSC Goldstone 46.75 85 P P 20 48 28.1 -0.7
baz=47,SNR=73
GSC ⇓S S 20 55 17.3 -1.5
baz=47
NLU North Lily Min 46.77 77 *e*P P 20 48 30.0 +1.1
FMP Fort Macarthur 46.86 88 ⇑P P 20 48 28.5 -1.1
baz=47
FMP ⇓S S 20 55 18.6 -1.6
baz=47
TIA Tai'an 46.88 277 ⇑P P 20 48 29.3 -0.4
TIA S S 20 55 20.0 -0.6
TIA AMB AMB
comp=Z,157nm,1.5s,mb5.7
TIA AMB AMB
comp=Z,4µm,10.0s
TIA LR LR
comp=N,12µm,17.0s,MS6.2
TIA LR LR
comp=E,17µm,18.0s,MS6.2
U11A Corn Creek 46.92 83 ⇑P P 20 48 29.5 -0.6
baz=47,SNR=16
U11A ⇑S S 20 55 21.0 -0.3
baz=47
DAU Daniels Canyon 46.99 76 *e*P P 20 48 31.7 +1.1
MPU Maple Canyon 47.00 76 *e*P P 20 48 31.8 +1.0
SHPR Sheep Range 47.01 82 *e*P P 20 48 31.1 +0.4
SHPR *e*ScP ScP 20 54 03.3 +6.3
TUQ Turquoise Mtn. 47.22 84 P P 20 48 31.6 -0.8
baz=47,SNR=44
TUQ ⇓S S 20 55 24.2 -1.2
baz=47
MOY Mondy 47.25 303 *e*P P 20 48 33.3 +0.7
MOY pmax pmax
comp=Z,856nm,3.3s
ARUT Antelope Range 47.27 80 *e*P P 20 48 33.0 +0.2
ARUT Antelope Range 47.27 80 *e*P P 20 48 32.9 +0.1
U12A Valley of Fire 47.44 82 ⇓P P 20 48 33.3 -0.8
baz=47,SNR=34
U12A ⇓S S 20 55 28.3 -0.3
baz=47
GUMO Guam 47.44 231 P P 20 48 33.7 -0.5
comp=Z,123nm,0.7s,mb6.0,baz=117,slow=7.8,SNR=6.2
GUMO LR LR 21 06 22.4
comp=Z,15µm,19.9s,MS6.0,baz=33,slow=33
GUMO Guam 47.44 231 P P 20 48 33.7 -0.5
GUMO pmax pmax
comp=Z,123nm,0.7s,mb5.9
GUMO MLR MLR
comp=Z,15µm,19.9s,MS6.0
CCUT Cedar City 47.46 80 *e*P P 20 48 34.6 +0.3
MSU Marysvale 47.59 78 P P 20 48 35.3 0.0
MSU Marysvale 47.59 78 *e*P P 20 48 35.5 +0.2
V12A Nelson 47.70 83 ⇓P P 20 48 35.5 -0.6
baz=48,SNR=33
V12A ⇓S S 20 55 31.5 -0.8
baz=48
SSE Sheshan 47.70 269 P P 20 48 37.2 +1.1
SSE AP pP 20 48 40.3 +1.5
SSE PP PP 20 50 29.0 +1.3
SSE S S 20 55 33.4 +1.1
SSE AMB AMB
comp=Z,246nm,1.0s,mb6.2
SSE AMB AMB
comp=Z,8µm,12.0s
SSE LR LR
comp=N,15µm,23.0s,MS6.0
SSE LR LR
comp=E,10µm,23.0s,MS6.0
SSE LR LR
comp=Z,23µm,20.9s,MS6.1
TMUT Trail Mountain 47.70 77 *e*P P 20 48 36.6 +0.4
W12A Cal Nev Ari 47.96 83 ⇓P P 20 48 37.3 -0.9
baz=48
W12A ⇓S S 20 55 35.1 -0.9
baz=48
PFO Pinyon Flat Ob 48.07 86 P P 20 48 37.3 -1.7
comp=Z,308nm,0.7s,mb6.4,SNR=14
PFO Pinyon Flat Ob 48.07 86 P P 20 48 38.2 -0.8
PFO pmax pmax
comp=Z,78nm,1.0s,mb5.7
PFO Pinyon Flat Ob 48.07 86 *e*P P 20 48 38.1 -0.9
PFO Pinyon Flat Ob 48.07 86 ⇓P P 20 48 37.2 -1.9
baz=48,SNR=14
PFO ⇑S S 20 55 35.8 -1.8
baz=48
109C Camp Elliot, M 48.14 87 ⇑P P 20 48 38.4 -1.2
baz=48,SNR=7.7
109C ⇑S S 20 55 37.5 -1.0
baz=48
SRU San Rafael 48.23 76 P P 20 48 40.3 0.0
SRU pmax pmax
comp=Z,530nm,0.7s,mb6.7
SRU San Rafael 48.23 76 *e*P P 20 48 40.2 0.0
NEE Needles 48.44 84 ⇑S S 20 55 40.6 -2.2
baz=48
BTO Baotou 48.50 286 *e*P P 20 48 43.9 +1.6
BTO S S 20 55 31.5 -12
NJ2 Nanjing 48.52 272 *e*P P 20 48 43.5 +1.0
NJ2 PP PP 20 50 37.5 +2.3
NJ2 AMB AMB
comp=Z,20nm,1.2s
NJ2 AMB AMB
comp=Z,602nm,4.8s
NJ2 LR LR
comp=N,8µm,19.0s,MS6.1
NJ2 LR LR
comp=E,18µm,18.0s,MS6.1
NJ2 LR LR
comp=Z,18µm,18.0s,MS6.1
BAR Barrett 48.55 87 *e*P P 20 48 42.6 -0.2
BAR *e*ScP ScP 20 54 12.2 +8.7
RWWY Rawlins 48.65 72 *e*P P 20 48 43.3 -0.2
RWWY *e*ScP ScP 20 54 02.9 -1.1
RSSD Black Hills 49.06 67 *e*P P 20 48 45.6 -1.0
RSSD pmax pmax
comp=Z,370nm,1.0s,mb6.4
RSSD Black Hills 49.06 67 *e*P P 20 48 45.6 -1.0
comp=Z,368nm,0.9s,mb6.4
W14A Seligman 49.13 82 ⇑P P 20 48 46.2 -0.9
baz=49,SNR=81
W14A ⇓S S 20 55 51.8 -0.7
baz=49
Y12C Blythe 49.19 85 ⇓P P 20 48 46.0 -1.7
baz=49,SNR=16
Y12C ⇑S S 20 55 51.2 -2.1
baz=49
GLA Glamis 49.46 86 *e*P P 20 48 51.7 +2.0
GLA Glamis 49.46 86 ⇓P P 20 48 48.0 -1.7
baz=49,SNR=86
GLA ⇓S S 20 55 55.8 -1.3
baz=49
W15A Williams 49.66 82 ⇑P P 20 48 50.2 -1.0
baz=50,SNR=28
W15A ⇓S S 20 56 00.0 +0.2
baz=50
X14A Yava 49.73 83 ⇓P P 20 48 50.4 -1.4
baz=50,SNR=101
X14A ⇑S S 20 55 59.3 -1.6
baz=50
KBS Kingsbay 49.84 357 *e*P P 20 48 53.6 +1.0
KBS AMb AMB 20 49 00.4
comp=Z,437nm,1.2s,mb6.3
KBS *e*S S 20 56 04.4 +2.0
KBS AMS AMS 21 14 09.6
comp=Z,20µm,15.1s,MS6.2
KBS Kingsbay 49.84 357 *e*P P 20 48 52.6 0.0
comp=Z,445nm,0.8s,mb6.5
KBS LR LR
comp=Z,21µm,20.0s,MS6.1
PHWY Pilot Hill 49.93 71 *e*P P 20 48 52.3 -1.0
PHWY *e*ScP ScP 20 54 14.8 +5.4
ULM Lac du Bonnet 49.96 56 P P 20 48 51.5 -2.1
comp=Z,40nm,0.6s,mb5.6,baz=306,slow=8.3,SNR=16
ULM ScP ScP 20 54 07.3 -2.3
comp=Z,16nm,0.8s,baz=270,slow=2.0,SNR=2.5
ULM S S 20 56 00.4 -3.8
comp=Z,10nm,1.1s,baz=159,slow=14,SNR=2.3
WUAZ Wupatki 49.99 81 *e*P P 20 48 54.0 +0.2
comp=Z,341nm,0.9s,mb6.4
Y14A Wickenburg 50.01 83 ⇓P P 20 48 52.3 -1.6
baz=50,SNR=54
Y14A ⇓S S 20 56 02.6 -2.3
baz=50
X15A Humboldt 50.12 82 ⇑P P 20 48 53.4 -1.3
baz=50,SNR=57
X15A ⇓S S 20 56 06.1 -0.3
baz=50
SMCO Snowmass 50.34 74 *e*P P 20 48 56.6 +0.2
comp=Z,198nm,0.6s,mb6.3
SPB4 Spitsbergen Ar 50.41 356 *e*P P 20 48 56.2 -0.7
Z14A Wintersburg 50.43 84 ⇑P P 20 48 55.6 -1.4
baz=50,SNR=10
Z14A ⇓S S 20 56 08.2 -2.5
baz=50
ISCO Idaho Springs 50.77 73 P P 20 49 00.0 +0.3
ISCO pmax pmax
comp=Z,400nm,1.0s,mb6.3
ISCO Idaho Springs 50.77 73 *e*P P 20 48 59.7 0.0
comp=Z,396nm,1.0s,mb6.3
115A Sonoran Desert 51.32 84 ⇓P P 20 49 02.8 -0.9
baz=51,SNR=70
115A ⇑S S 20 56 22.2 -0.8
baz=51
DAG Danmarks Havn 51.59 6⇑*i*P P 20 49 02.6 -3.2
comp=Z,74nm,0.9s,mb5.6
DAG
comp=Z,12µm,22.0s
DAG Danmarks Havn 51.59 6⇑*e*P P 20 49 02.6 -3.2
DAG pmax pmax
comp=Z,74nm,0.9s,mb5.6
DAG MLR MLR
comp=Z,12µm,22.0s,MS5.9
DAG MLR MLR
comp=N,9µm,23.0s,MS5.8
DAG MLR MLR
comp=E,3µm,24.0s,MS5.8
DAG Danmarks Havn 51.59 6⇑*e*P P 20 49 02.6 -3.2
comp=E,74nm,0.9s,mb5.6
DAG LR LR
comp=Z,12µm,22.0s,MS5.9
116A Eloy 51.74 84 ⇑P P 20 49 05.5 -1.5
baz=52
116A ⇑S S 20 56 27.8 -1.1
baz=52
YHNB Yeheng 52.10 263 *e*P P 20 49 08.8 -0.8
SDCO Great Sand Dun 52.15 75 *e*P P 20 49 10.6 +0.6
comp=Z,820nm,1.2s,mb6.5
NACB Ninganchiao 52.33 262 *e*P P 20 49 11.2 -0.1
TUC Tucson 52.48 83 *e*P P 20 49 11.9 -0.5
LAZ Ladron 53.34 79 *e*P P 20 49 19.6 +0.8
XAN Xi'an 53.38 281 P P 20 49 18.0 -1.1
XAN AP pP 20 49 29.0 +7.2
XAN AMB AMB
comp=Z,38nm,0.9s,mb5.3
XAN LR LR
comp=N,18µm,23.5s,MS6.3
XAN LR LR
comp=E,28µm,19.8s,MS6.3
XAN LR LR
comp=Z,34µm,20.5s,MS6.4
ANMO Albuquerque 53.39 78 P P 20 49 18.6 -0.5
comp=Z,73nm,1.2s,mb5.5,baz=314,slow=9.5,SNR=1.5
ANMO S S 20 56 49.5 -1.8
comp=Z,2.7nm,0.8s,baz=49,slow=3.9,SNR=1.7
ANMO Albuquerque 53.39 78 P P 20 49 18.6 -0.6
ANMO S S 20 56 49.6 -1.8
ANMO pmax pmax
comp=Z,73nm,1.2s
ANMO smax
comp=N,3.0nm,0.9s
ANMO Albuquerque 53.39 78 *e*P P 20 49 18.9 -0.3
ANMO LR LR
comp=Z,44µm,22.0s,MS6.5
SUMG Summit 53.42 14 *e*P P 20 49 18.7 -0.7
comp=Z,592nm,1.1s,mb6.4
LENM Lemitar 53.60 79 *e*P P 20 49 21.6 +0.9
QZH Quanzhou 53.64 265⇑*i*P P 20 49 22.7 +1.7
QZH PP PP 20 51 26.0 +4.3
QZH AMB AMB
comp=Z,970nm,1.2s,mb6.6
QZH AMB AMB
comp=Z,9µm,7.6s
QZH LR LR
comp=N,27µm,20.8s
QZH LR LR
comp=E,9µm,13.9s
QZH LR LR
comp=Z,48µm,23.5s,MS6.5
EYMN Ely 53.65 57 *e*P P 20 49 20.0 -1.0
comp=Z,340nm,1.1s,mb6.2
Y22C IRIS PASSCAL I 53.70 79 ⇑P P 20 49 21.1 -0.3
baz=54,SNR=11
Y22C ⇑S S 20 56 56.3 +0.7
baz=54
LPM Los Pinos Moun 53.71 79 *e*P P 20 49 22.4 +0.9
BNM Barren Site 53.82 79 *e*P P 20 49 21.4 -0.9
BJO Bjornoya 53.85 354 *e*P P 20 49 22.7 +0.2
BJO AMb AMB 20 49 29.8
comp=Z,716nm,1.3s,mb6.4
BJO *e*PP PP 20 51 26.5 +2.9
BJO *e*S S 20 56 59.9 +2.3
BJO AMS AMS 21 17 33.1
comp=Z,20µm,22.2s,MS6.1
BJO1 Bjornoya 53.86 354 *e*P P 20 49 22.7 +0.1
comp=Z,716nm,1.3s,mb6.4
BJO1 LR LR
comp=Z,20µm,22.2s,MS6.1
ZAL Zalesovo 53.87 313 P P 20 49 22.2 -0.4
comp=Z,6.0nm,0.7s,baz=61,slow=7.1,SNR=34
ZAL PcP PcP 20 50 29.8 +1.5
comp=Z,90nm,0.9s,baz=73,slow=4.0,SNR=17
ZAL Zalesovo 53.87 313 P P 20 49 22.2 -0.4
ZAL PcP PcP 20 50 29.8 +1.5
LZH Lanzhou 55.11 286 *e*P P 20 49 32.2 +0.5
LZH PCP PcP 20 50 33.7 +0.7
LZH PP PP 20 51 36.8 +1.9
LZH SCP ScP 20 54 27.2 -4.7
LZH PCS PcS 20 54 32.2 -0.7
LZH S S 20 57 14.0 -0.6
LZH AMB AMB
comp=Z,680nm,1.0s,mb6.6
LZH AMB AMB
comp=Z,4µm,4.0s
LZH LR LR
comp=E,38µm,15.8s
LZH LR LR
comp=Z,74nm,21.3s
GTA Gaotai 55.31 292 *e*P P 20 49 33.4 +0.3
GTA PCP PcP 20 50 35.7 +1.9
GTA PP PP 20 51 39.1 +2.4
GTA PPP 20 52 54.0
GTA S S 20 57 18.2 +0.9
GTA XS sS 20 57 27.0 +5.3
GTA AMB AMB
comp=Z,26nm,1.3s,mb5.1
GTA AMB AMB
comp=Z,9µm,5.7s
GTA LR LR
comp=N,49µm,18.3s,MS6.8
GTA LR LR
comp=E,46µm,17.9s,MS6.8
GTA LR LR
comp=Z,74µm,16.4s,MS6.8
SFJD Kangerlussuaq 55.81 22 ScP ScP 20 54 33.2 -1.7
comp=Z,39nm,0.9s,baz=356,slow=4.5,SNR=6.5
SFJD Kangerlussuaq 55.81 22⇑*i*P P 20 49 35.9 -0.8
comp=Z,179nm,1.1s,mb6.0
SFJD *i* 20 51 49.0
SFJD *i* S S 20 57 20.0 -4.0
SFJD
comp=Z,23µm,20.0s
SFJD Kangerlussuaq 55.81 22⇑*i*P P 20 49 35.9 -0.8
SFJD *i* 20 51 49.0
SFJD *i* S S 20 57 20.0 -4.0
SFJD pmax pmax
comp=Z,180nm,1.1s,mb6.0
SFJD MLR MLR
comp=Z,23µm,20.0s,MS6.3
AMTX Amarillo 56.35 75 *e*P P 20 49 41.0 +0.4

AMTX LR LR
comp=Z,39µm,22.0s,MS6.5
GDL2 Guadalupe Moun 56.54 79 *e*P **P 20 49 41.7 -0.2**
CVP Callao Caves 57.03 257 *e*P **P 20 49 45.0 -0.4**
APYP Conner 57.26 257 *e*P **P 20 49 46.0 -1.1**
SCO Scoresbysund 57.40 9 *i* P **P 20 49 48.9 +0.8**
comp=Z,52nm,1.0s,mb5.5
SCO *i* S S 20 58 12.9 +28
SCO Scoresbysund 57.40 9 *i* P **P 20 49 48.9 +0.8**
SCO pmax pmax
comp=Z,52nm,1.0s,mb5.5
CAUP Cauayan 57.61 256 *e*P **P 20 49 52.4 +2.9**
KEV Kevo 57.72 349 *e*p **P 20 49 49.4 -0.9**
comp=Z,12nm,0.4s,mb5.3
KEV Kevo 57.72 349 P **P 20 49 49.3 -1.0**
KEV S **S 20 57 45.9 -3.3**
KEV Kevo 57.72 349 *e*P **P 20 49 49.4 -0.9**
KEV pmax pmax
comp=Z,12nm,0.4s,mb5.3
ABRA Dolores 57.75 258 *e*P **P 20 49 51.1 +0.6**
JMIC Jan Mayen 57.82 4 *e*P **P 20 49 53.3 +2.3**
JMIC *e*S **S 20 57 55.2 +4.8**
JMIC AMS AMS 21 14 03.7
comp=Z,17µm,18.2s,MS6.2
ARCES ARCESS Array B 58.10 350 P **P 20 49 51.6 -1.3**
comp=Z,48nm,0.7s,mb5.6,baz=21,slow=7.8,SNR=86
ARCES ScP ScP 20 54 41.3 -3.8
comp=Z,12nm,0.8s,baz=350,slow=4.6,SNR=2.6
ARCES S **S 20 58 00.4 +6.3**
comp=Z,7.5nm,0.9s,baz=42,slow=5.5,SNR=4.1
ARCES PKPPKP 21 19 32.9
comp=Z,3.4nm,1.0s,baz=190,slow=4.7,SNR=4.7
ARCES ARCESS Array B 58.10 350 P **P 20 49 51.6 -1.3**
ARCES S **S 20 58 00.4 +6.3**
ARCES pmax pmax
comp=Z,48nm,0.7s
ARCES pmax pmax
comp=N,12nm,0.8s
GZH Guangzhou 58.28 268 P **P 20 49 49.1 -5.1**
GZH LR LR
comp=N,12µm,24.3s,MS6.0
GZH LR LR
comp=E,8µm,21.3s,MS6.0
GZH LR LR
comp=Z,18µm,23.1s,MS6.1
HKC Hong Kong 58.33 267 *i* P **P 20 49 56.0 +1.4**
HKC S **S 20 58 00.0 +2.8**
LVZ Lovozero 58.42 346 P **P 20 49 54.7 -0.5**
comp=Z,1µm,0.7s,mb7.1,SNR=20
LPIG La Paz 58.53 90 LR LR 21 10 10.7
comp=Z,8µm,20.8s,MS5.8,baz=317,slow=31
TRO Tromso 58.63 353⇑ *i* P **P 20 49 54.6 -2.0**
TRO AMb AMB 20 50 02.0
comp=Z,248nm,0.8s,mb6.3
TRO *e*S **S 20 58 00.9 -0.1**
TRO Tromso 58.63 353⇑ *i* P **P 20 49 54.6 -2.0**
TRO pmax pmax
comp=Z,248nm,0.8s,mb6.3
TRO Tromso 58.63 353⇑ *i* P **P 20 49 54.6 -2.0**
comp=Z,248nm,0.8s,mb6.3
BALP Baler 58.68 255 *e*P **P 20 49 59.5 +2.4**
CD2 Chengdu 58.70 281⇑ *i* P **P 20 49 56.0 -1.1**
CD2 AP pP 20 50 08.7 +8.9
CD2 PCP PcP 20 50 45.9 -1.1
CD2 PP PP 20 52 07.4 +0.6
CD2 SCP ScP 20 54 41.0 -6.7
CD2 PCS PcS 20 54 46.0 -2.7
CD2 S **S 20 57 54.4 -7.5**
CD2 XS sS 20 58 15.9 +10
CD2 SCS ScS 20 59 38.2 -9.1
CD2 AMB AMB
comp=Z,210nm,1.0s,mb6.1
CD2 AMB AMB
comp=Z,6µm,10.5s
CD2 LR LR
comp=E,12µm,21.6s
CD2 LR LR
comp=Z,17µm,21.6s,MS6.1
PVCP Virac 58.80 252 *e*P **P 20 49 58.9 +1.0**
KURK Kurchatov 58.85 313 P **P 20 49 58.4 +0.2**
comp=Z,2µm,1.1s,mb7.1,SNR=91
KURK Kurchatov 58.85 313⇑ P **P 20 49 58.4 +0.2**
SNR=181
KURK Kurchatov 58.85 313 *e*P **P 20 49 57.1 -1.1**
KURK pmax pmax
comp=Z,460nm,1.1s,mb6.4
KURK Kurchatov 58.85 313 *e*P **P 20 49 57.0 -1.1**
comp=Z,465nm,1.1s,mb6.4
APA Apatity 58.92 346⇑ *i* P **P 20 49 58.3 -0.4**
APA *i* S **S 20 58 00.0 -4.8**
APA pmax pmax
comp=Z,148nm,1.2s,mb5.9
APA MLR MLR
comp=Z,37µm,22.0s,MS6.5
WMQ Urumqi 59.12 303 P **P 20 50 02.1 +2.0**
WMQ PCP PcP 20 50 50.1 +1.4
WMQ PP PP 20 52 14.7 +4.1
WMQ SCP ScP 20 54 45.5 -4.1
WMQ PCS PcS 20 54 50.6 0.0
WMQ S **S 20 58 04.2 -3.3**
WMQ SCS ScS 20 59 44.4 -6.0
WMQ AMB AMB
comp=Z,1µm,2.1s,mb6.6
WMQ AMB AMB
comp=Z,3µm,6.8s
WMQ LR LR
comp=N,5µm,15.0s,MS6.0
WMQ LR LR
comp=E,8µm,15.0s,MS6.0
WMQ LR LR
comp=Z,14µm,16.0s,MS6.2
BOLP Bolinao 59.20 257 *e*P **P 20 50 00.6 -0.1**
POLP Polilio Island 59.25 254 *e*P **P 20 50 06.1 +5.2**
SCZP Santa Cruz 59.67 257 *e*P **P 20 50 02.3 -1.6**
MKAR Makanchi Array 59.84 308 P **P 20 50 04.2 -0.9**
comp=Z,50nm,0.5s,mb5.8,baz=45,slow=7.0,SNR=246
MKAR PKKP 21 11 06.3
comp=Z,0.4nm,0.8s,baz=41,slow=5.1,SNR=4.1
MKAR PKPPKP 21 19 29.1
comp=Z,2.5nm,1.0s,baz=220,slow=3.2,SNR=4.8
MKAR P4KPbc 21 27 12.4
comp=Z,1.4nm,0.9s,baz=15,slow=5.3,SNR=4.6
MKAR Makanchi Array 59.84 308 P **P 20 50 04.2 -0.9**
MKAR PKKP 21 11 06.3
MKAR P'P' 21 19 29.1
GYA Guiyang 60.03 276⇓ *i* P **P 20 50 06.2 -0.2**
GYA AP pP 20 50 19.0 +10
GYA S **S 20 58 14.8 -4.4**
GYA AMB AMB
comp=Z,230nm,1.5s,mb6.0
GYA LR LR
comp=N,12µm,21.0s,MS6.2
GYA LR LR
comp=E,13µm,20.7s,MS6.2
GYA LR LR
comp=Z,17µm,20.4s,MS6.2
CHKZ Chkalovo 60.17 320 *e*P **P 20 50 06.1 -1.2**
CHKZ pmax pmax
comp=Z,190nm,1.2s,mb6.0
CHKZ Chkalovo 60.17 320 *e*P **P 20 50 06.1 -1.2**
comp=Z,187nm,1.3s,mb6.0
SCHQ Schefferville 60.23 38 P **P 20 50 06.5 -1.2**
comp=Z,375nm,1.1s,mb6.3,baz=327,slow=6.7,SNR=62
SCHQ PKPPKP 21 19 31.9
comp=Z,7.2nm,1.0s,baz=215,slow=3.4,SNR=4.9
CCM Cathedral Cave 60.33 65 *e*P **P 20 50 04.9 -3.5**
CCM pmax pmax
comp=Z,220nm,0.8s,mb6.2
CCM Cathedral Cave 60.33 65 *e*P **P 20 50 04.9 -3.5**
comp=Z,224nm,0.8s,mb6.2
TGY Tagaytay City 60.34 255 P **P 20 50 08.8 +0.4**
comp=Z,507nm,0.7s,baz=155,slow=4.3,SNR=11
TGY LR LR 21 16 10.0
comp=Z,62nm,19.2s,baz=23,slow=36
LOF Lofoten 60.48 355 *e*P **P 20 50 11.2 +1.8**
LOF AMb AMB 20 50 20.1
comp=Z,115nm,2.1s,mb5.5
LOF Lofoten 60.48 355 *e*P **P 20 50 11.2 +1.8**
comp=Z,115nm,2.1s,mb5.5
SLM Saint Louis 60.50 64 *e*P **P 20 50 09.2 -0.4**
JCT Junction City 60.53 77 *e*P **P 20 50 08.7 -1.1**
SOKR Solikamsk 60.54 331 *c i*P **P 20 50 09.9 +0.1**
SOKR 20 52 20.8
SOKR S **S 20 58 24.4 -1.3**
SOKR pmax pmax
comp=Z,110nm,1.4s,mb5.8
SOKR MLR MLR
comp=Z,90µm,20.0s,MS6.9
BVAR Borovoye Array 60.74 320 P **P 20 50 10.1 -1.1**
comp=Z,20nm,0.6s,mb5.4,baz=55,slow=6.6,SNR=52
BVAR S **S 20 58 23.4 -4.9**
comp=Z,0.5nm,0.6s,baz=258,slow=41,SNR=2.0
BVAR PKP2bc 21 19 37.6
comp=Z,3.0nm,0.9s,baz=211,slow=1.7,SNR=6.8
BVAR P4KPbc 21 27 15.4
comp=Z,1.5nm,0.7s,baz=64,slow=3.4,SNR=6.6
BVAR Borovoye Array 60.74 320 P **P 20 50 10.1 -1.1**
BVAR S **S 20 58 23.4 -4.9**
BVAR pmax pmax
comp=Z,20nm,0.6s
BVAR Borovoye Array 60.74 320 P **P 20 50 10.1 -1.1**
BVAR S **S 20 58 23.4 -4.9**
BVAR ⇑ *e* 21 19 37.6
BRVK Borovoye 60.76 320 P **P 20 50 11.5 +0.2**
comp=Z,938nm,1.1s,mb6.8,SNR=18
BRVK Borovoye 60.76 320⇑ P **P 20 50 12.1 +0.8**
SNR=76
BRVK Borovoye 60.76 320 P **P 20 50 10.6 -0.7**
BRVK Borovoye 60.76 320 *e*P **P 20 50 10.3 -1.0**
FVM French Village 60.85 65 *e*P **P 20 50 10.1 -1.8**
LUBP Lubang 61.04 255 *e*P **P 20 50 10.8 -2.4**
OTRP Odiongan 61.05 253 *e*P **P 20 50 14.4 +1.1**
SCPH Surigao 61.05 248⇑ *e*P **P 20 50 12.9 -0.4**
MSLP Maasin 61.13 249 *e*P **P 20 50 11.1 -2.7**
RCP Roxas 61.24 251 *e*P **P 20 50 19.6 +5.0**
ZRNK Zerenda 61.36 320 *e*P **P 20 50 14.2 -1.2**
ZRNK pmax pmax
comp=Z,786nm,1.2s,mb6.7
ZRNK Zerenda 61.36 320 *e*P **P 20 50 14.2 -1.2**
comp=Z,786nm,1.2s,mb6.7
MIAR Mount Ida 61.42 70 P **P 20 50 14.9 -0.9**
MIAR pmax pmax
comp=Z,450nm,1.0s,mb6.5
MIAR Mount Ida 61.42 70 *e*P **P 20 50 14.9 -0.9**
SVE Sverdlovsk 61.48 327 *e*P **P 20 50 16.0 -0.2**
SVE *e* 20 51 00.0
SVE *e* 20 52 35.0
SVE *i* S **S 20 58 42.0 +4.3**
SVE *e* 21 00 04.0
SVE pmax pmax
comp=Z,350nm,2.6s,mb6.0
SVE pmax pmax
comp=N,2µm,16.0s
SVE pmax pmax
comp=E,2µm,16.0s
SVE smax
comp=N,13µm,14.0s
SVE smax
comp=E,8µm,14.0s
AAM Ann Arbor 61.54 57 P **P 20 50 16.9 +0.3**
AAM pmax pmax
comp=Z,190nm,0.6s,mb6.4
AAM Ann Arbor 61.54 57 *e*P **P 20 50 16.8 +0.2**
comp=Z,188nm,0.6s,mb6.4
AAM LR LR
comp=Z,31µm,21.0s,MS6.4
BUTP Butuan 61.62 247 *e*P **P 20 50 17.7 +0.5**
SIUC Southern Illin 61.72 64 *e*P **P 20 50 17.4 -0.5**
UALR University of 61.98 69 *e*P **P 20 50 18.3 -1.4**
comp=Z,195nm,1.1s,mb6.2
TBP Tagbilaran 62.07 249 *e*P **P 20 50 26.4 +6.3**
GUIM Jordan 62.08 251 *e*P **P 20 50 20.4 +0.1**
BLO Bloomington 62.20 61 *e*P **P 20 50 19.6 -1.5**
STOK Stokkvaagen 62.30 354 *e*P **P 20 50 22.1 +0.3**
STOK AMb AMB 20 50 26.9
comp=Z,340nm,1.0s,mb6.4
STOK Stokkvaagen 62.30 354 *e*P **P 20 50 22.1 +0.3**
comp=Z,340nm,1.0s,mb6.4
PVMO Portageville 62.36 66 *e*P **P 20 50 24.9 +2.8**
HBAR Harrisburg 62.41 67 *e*P **P 20 50 21.6 -0.9**
USIN University of 62.41 63 *e*P **P 20 50 21.6 -0.9**
BUSP Coron 62.42 254 *e*P **P 20 50 20.4 -2.2**
ARU Arti 62.50 328 P **P 20 50 22.7 -0.3**
comp=Z,1µm,0.6s,SNR=32
ARU Arti 62.50 328 *e*P **P 20 50 22.0 -1.0**
ARU *e* 20 51 00.9
ARU *e* 20 52 39.0
ARU *e*PPP 20 54 13.9
ARU *e*S **S 20 58 48.9 -1.6**
ARU *e* 21 00 12.0
ARU *e*SS SS 21 02 58.3 +3.9
ARU MLR MLR
comp=Z,68µm,20.5s,MS6.8
ARU MLR MLR
comp=N,54µm,20.0s,MS6.7
ARU MLR MLR
comp=E,18µm,20.0s,MS6.7
ARU Arti 62.50 328 *e*P **P 20 50 21.8 -1.3**
comp=E,132nm,0.6s,mb6.2
ARU LR LR
comp=Z,67µm,20.0s,MS6.8
CGP Cagayan de Oro 62.58 248⇑ *e*P **P 20 50 25.5 +2.0**
GLAT Glass 62.70 65 *e*P **P 20 50 25.0 +0.6**
NATX Nacogdoches 62.74 73 *e*P **P 20 50 24.1 -0.6**
NATX LR LR
comp=Z,47µm,21.0s,MS6.6
BUKP Musuan 62.83 247 *e*P **P 20 50 25.1 -0.2**
CUYO Cuyo Island 62.84 252 *e*P **P 20 50 26.0 +0.7**
UTMT University of 62.89 65 *e*P **P 20 50 25.6 -0.1**
MATI Mati 62.90 245 *e*P **P 20 50 26.1 +0.4**
HALT Halls 62.92 66 *e*P **P 20 50 25.8 -0.1**
WCI Wyandotte Cave 62.99 62 *e*P **P 20 50 25.3 -1.1**
WCI pmax pmax
comp=Z,550nm,0.9s,mb6.7
WCI Wyandotte Cave 62.99 62 *e*P **P 20 50 25.1 -1.3**
WCI LR LR
comp=Z,28µm,21.0s,MS6.4
BORG Borgarnes 63.01 10 *e*P **P 20 50 28.2 +1.7**
BORG LR LR
comp=Z,17µm,19.0s,MS6.2
HNR Honiara 63.12 203 P **P 20 50 27.6 +0.4**
comp=Z,64nm,0.8s,mb5.8,baz=267,slow=11,SNR=6.0
HNR LR LR 21 14 07.8
comp=Z,12µm,19.9s,MS6.1,baz=1.0,slow=32
HNR Honiara 63.12 203 P **P 20 50 27.6 +0.4**
HNR pmax pmax
comp=Z,64nm,0.8s,mb5.8
HNR MLR MLR
comp=Z,12µm,19.9s,MS6.1
HNR Honiara 63.12 203 *e*P **P 20 50 24.2 -3.0**
comp=Z,133nm,0.9s,mb6.1
HNR LR LR 21 14 07.8
MET Memphis--Engin 63.14 67 *e*P **P 20 50 26.5 -0.8**
DAV Davao City (W) 63.19 246 PFAKE 20 50 40.0 +12
DAV LR LR
comp=Z,21µm,21.0s,MS6.3
HKT Hockley 63.32 75 *e*P **P 20 50 28.7 +0.2**
HKT LR LR
comp=Z,26µm,19.0s,MS6.4
ACSO Alum Creek Sta 63.37 58 *e*P **P 20 50 28.7 -0.2**
comp=Z,90nm,0.7s,mb6.0
ACSO LR LR
comp=Z,15µm,20.0s,MS6.2
KMI Kunming 63.44 278 P **P 20 50 28.5 -0.8**
KMI PP PP 20 52 48.0 -0.8
KMI S **S 20 59 00.5 -1.9**
KMI XS sS 20 59 09.6 +2.7
KMI SKS 21 00 17.7
KMI AMB AMB
comp=Z,80nm,1.5s,mb5.6
KMI LR LR
comp=N,15µm,25.6s,MS6.2
KMI LR LR
comp=E,17µm,27.0s,MS6.2
KMI LR LR
comp=Z,22µm,27.0s,MS6.2
QIZ Qiongzhong 63.46 268 P **P 20 50 30.8 +1.3**
QIZ PCP PcP 20 51 05.5 -0.7
QIZ PP PP 20 52 47.7 -1.3
QIZ S **S 20 58 58.7 -4.0**
QIZ ScS ScS 21 00 17.7 -5.3
QIZ AMB AMB
comp=Z,133nm,1.4s,mb5.9
QIZ AMB AMB
comp=Z,7µm,11.6s
QIZ LR LR
comp=E,12µm,23.2s
QIZ LR LR
comp=Z,18µm,24.1s,MS6.2
QIZ Qiongzhong 63.46 268 *e*P **P 20 50 30.8 +1.3**
comp=Z,122nm,1.1s,mb5.9
QIZ LR LR
comp=Z,19µm,22.0s,MS6.2
ENPP El Nido 63.51 254 *e*P **P 20 50 29.9 +0.1**
JOF Joensuu 63.58 345 *e*p **P 20 50 28.6 -1.6**
comp=Z,127nm,0.7s,mb6.1
JOF Joensuu 63.58 345 *e*P **P 20 50 28.6 -1.6**
JOF pmax pmax
comp=Z,127nm,0.7s,mb6.1
ERPA Erie 63.58 55 *e*P **P 20 50 30.6 +0.3**
ERPA LR LR
comp=Z,29µm,22.0s,MS6.4
WVT Waverly 63.62 65 *e*P **P 20 50 29.4 -1.1**
WVT pmax pmax
comp=Z,716nm,1.2s,mb6.6
WVT MLR MLR
comp=Z,23µm,20.0s,MS6.3
WVT Waverly 63.62 65 *e*P **P 20 50 29.4 -1.2**
comp=Z,716nm,1.2s,mb6.6
WVT LR LR
comp=Z,23µm,20.0s,MS6.3
KVTX Kingsville 63.79 78 *e*P **P 20 50 33.1 +1.4**
PAGZ Pagadian 63.83 248 *e*P **P 20 50 31.3 -0.5**
ALLY Alegheny Colle 63.84 56 *e*P **P 20 50 31.6 -0.4**
OXF Oxford 63.87 67 *e*P **P 20 50 31.1 -1.0**
OXF LR LR
comp=Z,21µm,19.0s,MS6.3
KLMR Klimovskoe 63.93 340 *c i*P **P 20 50 31.4 -1.1**
KLMR *e* 20 52 51.9
KLMR *e*S **S 20 59 05.3 -3.2**
KLMR *e*SS SS 21 03 14.2 -2.6
KLMR pmax pmax
comp=Z,630nm,1.2s,mb6.5
KLMR pmax pmax
comp=Z,2µm,7.5s
KLMR MLR MLR
comp=Z,78µm,15.0s,MS7.0
MSNY Massena 64.03 50 *e*P **P 20 50 32.5 -0.7**
NSS Namsos 64.16 355 *e*P **P 20 50 33.5 -0.6**
NSS AMb AMB 20 50 42.3
comp=Z,94nm,1.4s,mb5.6
NSS *e*S **S 20 59 08.7 -2.6**
NSS AMS AMS 21 19 01.8
comp=Z,22µm,23.9s,MS6.3
NSS Namsos 64.16 355 *e*P **P 20 50 33.5 -0.6**
comp=Z,94nm,1.4s,mb5.6
NSS LR LR
comp=Z,22µm,23.9s,MS6.3
PLAL Pickwick Lake 64.30 66 *e*P **P 20 50 33.5 -1.5**
PLAL LR LR
comp=Z,20µm,19.0s,MS6.3
ZAIG Zacatecas 64.36 85 *i* P **P 20 50 35.7 +0.4**
LONY Lake Ozonia 64.45 50 *e*P **P 20 50 34.1 -1.8**
FRNY Flat Rock 64.76 49 *e*P **P 20 50 36.4 -1.6**
AAA Alma-Ata 65.00 308 *i* P **P 20 50 39.5 -0.1**
AAA *i* S S 20 59 15.8 -5.9
AAA MLR MLR
comp=Z,42µm,11.5s,MS6.9
PPR Puerto Princes 65.05 254 *e*P **P 20 50 41.2 +1.3**
NCB Newcomb 65.10 50 *e*P **P 20 50 39.5 -0.7**
comp=Z,278nm,1.3s,mb6.1
NCB LR LR
comp=Z,45µm,19.0s,MS6.7
KAF Kangasniemi 65.10 347 *e*p **P 20 50 38.4 -1.8**
comp=Z,150nm,0.7s,mb6.1
KAF Kangasniemi 65.10 347 *e*P **P 20 50 38.4 -1.8**
KAF pmax pmax
comp=Z,150nm,0.7s,mb6.1
AFI Afiamalu 65.28 172 LR LR 21 14 55.9
comp=Z,13µm,20.1s,MS6.1,baz=352,slow=32
AFI Afiamalu 65.28 172 PFAKE 20 50 50.0 +8.6
AFI LR LR
comp=Z,14µm,21.0s,MS6.1
MIV Mineville/With 65.35 50 *e*P **P 20 50 40.9 -1.0**
MCWV Mont Chateau 65.44 57 *e*P **P 20 50 42.5 0.0**
comp=Z,178nm,0.8s,mb6.2
MCWV LR LR
comp=Z,96µm,19.0s,MS7.0
BINY Binghamton 65.55 53 *e*P **P 20 50 42.2 -1.0**
BINY LR LR
comp=Z,23µm,20.0s,MS6.4
TZTN Tazewell 65.72 62 *e*P **P 20 50 43.4 -0.8**
SSPA Standing Stone 65.74 55 *e*P **P 20 50 43.1 -1.3**
SSPA LR LR
comp=Z,28µm,20.0s,MS6.5
FIA1 FINESS Array S 65.77 347 *e*P **P 20 50 43.1 -1.5**
FINES FINESS Array B 65.78 347 P **P 20 50 43.0 -1.6**
comp=Z,95nm,0.7s,mb5.9,baz=23,slow=7.7,SNR=99
FINES PKPPKP 21 19 15.1
comp=Z,2.1nm,0.8s,baz=134,slow=4.3,SNR=9.3
FINES P4KPbc 21 27 35.5
comp=Z,1.3nm,0.8s,baz=79,slow=10,SNR=5.7
FINES FINESS Array B 65.78 347 P **P 20 50 43.0 -1.6**
FINES P'P' 21 19 15.1
ACCN Adirondack Com 65.81 50 *e*P **P 20 50 43.8 -1.0**
TKM2 Tokmak 2 65.92 309 P **P 20 50 48.7 +3.1**
SNR=82
CPCT Cooper Cove 65.98 63 *e*P **P 20 50 45.0 -0.9**
LBNH Lisbon 65.99 49 *e*P **P 20 50 44.8 -1.2**
comp=Z,216nm,1.0s,mb6.1
LBNH LR LR
comp=Z,57µm,20.0s,MS6.8
ULHL Ulahol 66.11 308 P **P 20 50 48.2 +1.5**
SNR=16
USP Ospenovka 66.19 310 P **P 20 50 47.2 0.0**
SNR=142
HNH Hanover 66.23 49 *e*P **P 20 50 46.6 -0.9**
CHMS Chumysh 66.27 310 P **P 20 50 50.9 +3.1**
SNR=46
LRAL Lakeview Retre 66.33 66 *e*P **P 20 50 46.5 -1.6**
comp=Z,174nm,0.7s,mb6.2
LRAL LR LR
comp=Z,20µm,21.0s,MS6.3
MOL Molde 66.33 357⇑ *i* P **P 20 50 48.0 -0.1**
MOL AMb AMB 20 50 57.9
comp=Z,237nm,0.8s,mb6.3
MOL AMS AMS 21 20 38.9
comp=Z,19µm,20.5s,MS6.3
MOL Molde 66.33 357⇑ *i* P **P 20 50 48.0 -0.1**
comp=Z,237nm,0.8s,mb6.3
MOL LR LR
comp=Z,19µm,20.5s,MS6.3
BATP Bataraza 66.39 254 *e*P **P 20 50 48.1 -0.3**
PKME Peaks-Kenny Pk 66.44 46 *e*P **P 20 50 47.3 -1.5**
KBK Karagaybulak 66.44 309 P **P 20 50 48.9 +0.1**
SNR=76
FWV Forest Hill 66.45 59 *e*P **P 20 50 48.1 -0.8**
FRU Bishkek 66.46 310 *ce*P **P 20 50 49.5 +0.5**
FRU *e* 20 51 26.0
FRU *e* 20 53 16.0
FRU *e*PPP 20 54 58.0
FRU *e*S S 20 59 40.0 +0.4
FRU *e*SS SS 21 03 54.0 -2.3
FRU pmax pmax
comp=Z,3µm,2.8s,mb6.8
FRU pmax pmax
comp=Z,8µm,16.0s
FRU MLR MLR
comp=Z,52µm,21.0s,MS6.7
MYNC Murphy 66.47 63 PFAKE 20 51 00.0 +11
MYNC LR LR
comp=Z,59µm,19.0s,MS6.8
AAK Ala-Archa 66.67 310 P **P 20 50 51.4 +1.0**
SNR=67
AAK Ala-Archa 66.67 310 P **P 20 50 50.8 +0.5**
comp=Z,2µm,0.9s,mb7.2,SNR=41
AAK Ala-Archa 66.67 310⇑ P **P 20 50 50.9 +0.6**
SNR=115
AAK Ala-Archa 66.67 310 P **P 20 50 50.3 0.0**
AAK Ala-Archa 66.67 310 *e*P **P 20 50 49.8 -0.6**
AAK LR LR
comp=Z,55µm,21.0s,MS6.8
PUL Pulkovo 66.71 344 *e*P **P 20 50 51.6 +1.0**
PUL *e* 20 53 17.9
PUL *e*PPP 20 54 55.2
PUL *e*S S 20 59 43.3 +0.8
PUL pmax pmax
comp=E,262nm,0.9s
PUL pmax pmax
comp=Z,435nm,0.9s,mb6.5
PUL pmax pmax
comp=N,771nm,1.4s
PUL pmax pmax
comp=Z,576nm,1.0s,mb6.6
PUL pmax pmax
comp=N,1µm,1.5s

PUL pmax pmax
comp=E,482nm,1.4s
PUL smax
comp=E,4µm,16.6s
PUL smax
comp=Z,5µm,18.1s
PUL smax
comp=N,9µm,17.4s
PUL MLR MLR
comp=N,24µm,21.0s,MS6.5
PUL MLR MLR
comp=Z,36µm,21.0s,MS6.6
PUL MLR MLR
comp=E,11µm,18.0s,MS6.5
PUL Pulkovo 67.71 344 *e*P **P 20 50 50.2 -0.4**
KZA Kyzart 66.72 309 P **P 20 50 51.6 +0.9**
SNR=53
ELN Prospectdale 66.75 59 *e*P **P 20 50 50.0 -0.9**
DOMB Dombas 66.79 356 *e*P **P 20 50 50.6 -0.4**
DOMB AMb AMB 20 50 57.8
comp=Z,164nm,1.0s,mb6.0
DOMB Dombas 66.79 356 *e*P **P 20 50 50.6 -0.4**
comp=Z,164nm,1.0s,mb6.0
WVL Waterville 66.80 47 *e*P **P 20 50 53.1 +1.9**
comp=Z,361nm,1.3s,mb6.2
PECR Pechory 66.90 335 *de*P **P 20 50 48.7 -3.1**
PECR *e* 20 53 20.0
PECR *e*PPP 20 55 03.0
PECR *e*S S 20 59 41.0 -3.9
PECR *i* PS 21 00 04.0
PECR *i* PPS 21 00 16.6
PECR pmax pmax
comp=Z,4µm,1.4s,mb7.2
PECR pmax pmax
comp=Z,6µm,18.0s
PECR pmax pmax
comp=N,2µm,16.0s
PECR pmax pmax
comp=E,700nm,16.0s
PECR smax
comp=N,4µm,12.0s
PECR smax
comp=E,2µm,12.0s
BLA Blacksburg 66.94 59 *e*P **P 20 50 51.3 -0.7**
BLA pmax pmax
comp=Z,19nm,0.7s,mb5.2
BLA MLR MLR
comp=Z,2µm,20.0s,MS5.4
BLA Blacksburg 66.94 59 *e*P **P 20 50 51.3 -0.7**
comp=Z,18nm,0.7s,mb5.2
BLA LR LR
comp=Z,2µm,20.0s,MS5.4
UCH Uchtor 66.97 309 P **P 20 50 55.9 +3.7**
SNR=54
EKS2 Erkin-Say 67.00 310 P **P 20 50 53.5 +1.1**
SNR=115
MVL Millersville 67.00 54 *e*P **P 20 50 51.8 -0.6**
PMG Port Moresby 67.08 216 P **P 20 50 53.5 +0.6**
comp=Z,32nm,0.8s,mb5.4,baz=323,slow=12,SNR=6.0
PMG LR LR 21 14 51.5
comp=Z,14µm,20.9s,MS6.2,baz=190,slow=31
PMG Port Moresby 67.08 216 P **P 20 50 53.5 +0.6**
PMG pmax pmax
comp=Z,32nm,0.8s
PMG MLR MLR
comp=Z,14µm,21.0s
LSA Lhasa 67.18 289 P **P 20 50 55.1 +1.5**
LSA PP PP 20 53 19.2 -2.3
LSA XS sS 21 00 02.9 +10
LSA SCS ScS 21 00 45.0 -6.6
LSA LR LR
comp=N,17µm,20.2s,MS6.6
LSA LR LR
comp=E,35µm,18.4s,MS6.6
LSA LR LR
comp=Z,57µm,19.3s,MS6.8
LSA Lhasa 67.18 289 P **P 20 50 54.9 +1.3**
LSA Lhasa 67.18 289 *e*P **P 20 50 54.8 +1.2**
LSA pmax pmax
comp=Z,259nm,0.6s,mb6.4
LSA MLR MLR
comp=Z,58µm,19.0s,MS6.8
LSA Lhasa 67.18 289 *e*P **P 20 50 54.8 +1.2**
comp=Z,259nm,0.6s,mb6.4
LSA LR LR
comp=Z,58µm,19.0s,MS6.8
QUA2 Belchertown 67.28 50 *e*P **P 20 50 53.5 -0.7**
comp=Z,10nm,0.4s,mb5.2
FOO Floro 67.38 358 *e*P **P 20 50 54.1 -0.7**
FOO AMb AMB 20 50 59.7
comp=Z,91nm,1.1s,mb5.7
FOO Floro 67.38 358 *e*P **P 20 50 54.1 -0.7**
comp=Z,91nm,1.1s,mb5.7
BRNJ Basking Ridge 67.39 53 *e*P **P 20 50 55.0 0.0**
AML Almayashu 67.44 310 P **P 20 50 56.9 +1.6**
SNR=116
PAL Palisades 67.48 52 P **P 20 50 54.9 -0.5**
PAL pmax pmax
comp=Z,400nm,1.0s,mb6.4
PAL Palisades 67.48 52 *e*P **P 20 50 54.7 -0.7**
HRV Harvard--Oak R 67.48 50 P **P 20 50 55.1 -0.4**
HRV pmax pmax
comp=Z,290nm,1.1s,mb6.2
HRV Harvard--Oak R 67.48 50 *e*P **P 20 50 54.7 -0.8**
comp=Z,295nm,1.1s,mb6.2
HRV LR LR
comp=Z,41µm,21.0s,MS6.6
MOIG Morelia 67.50 86 *i* P **P 20 50 55.7 +0.1**
AKTK Aktyubinsk 67.56 324 P **P 20 50 55.1 -0.9**
AKTK S S 20 59 49.9 -3.0
AKTK P'P' 21 19 18.0
AKTO Aktyubinsk 67.56 324 P **P 20 50 55.1 -0.9**
comp=Z,32nm,0.5s,mb5.6,baz=59,slow=8.1,SNR=42
AKTO S S 20 59 49.9 -3.0
comp=Z,1.4nm,0.8s,baz=308,slow=19,SNR=2.6
AKTO PKPPKP 21 19 18.0
comp=Z,4.0nm,0.9s,baz=194,slow=4.5,SNR=8.9
AKTO Aktyubinsk 67.56 324 P **P 20 50 55.1 -0.9**
AKTO S S 20 59 49.9 -2.9
AKTO pmax pmax
comp=Z,32nm,0.5s,mb5.6
AKTO smax
comp=N,1.0nm,0.8s
CPNY Central Park 67.61 52 *e*P **P 20 50 56.5 +0.2**
NB2 NORSAR Subarra 67.68 355 P **P 20 50 55.5 -1.2**
comp=Z,138nm,0.8s,mb6.0,baz=7.4,slow=6.5
NB2 NORSAR Subarra 67.68 355 P'P' 21 19 07.0
comp=Z,21nm,1.4s,baz=187,slow=3.1
NB2 NORSAR Subarra 67.68 355 P'P' 21 19 07.0
baz=187,slow=3.1
NOA NORSAR Array B 67.68 355 P **P 20 50 54.1 -2.6**
comp=Z,22nm,0.6s,mb5.4,baz=221,slow=17,SNR=86
NOA PKPPKP 21 19 19.6
comp=Z,10nm,1.1s,baz=164,slow=2.9,SNR=5.6
NOA LR LR 21 21 28.9
comp=Z,23µm,21.0s,MS6.4,baz=5.0,slow=37
WES Weston 67.69 50 *e*P **P 20 50 55.9 -0.9**
WES LR LR
comp=Z,27µm,20.0s,MS6.5
EMMW East Machias 67.69 46 *e*P **P 20 50 55.1 -1.7**
HYA Hoyanger 67.78 357 *e*P **P 20 50 59.2 +1.9**
HYA AMb AMB 20 51 05.3
comp=Z,174nm,1.5s,mb5.9
HYA Hoyanger 67.78 357 *e*P **P 20 50 59.2 +1.9**
comp=Z,174nm,1.5s,mb5.9
CBN Corbin 67.82 56 *e*P **P 20 50 58.8 +1.2**
comp=Z,161nm,0.8s,mb6.1
NAO01 NORSAR Array S 67.89 355 *e*P **P 20 50 57.5 -0.6**
comp=Z,56nm,0.8s,mb5.7
NAO01 LR LR
comp=Z,28µm,20.0s,MS6.5
KSH Kashi 68.30 306 ⇑P **P 20 50 59.8 -0.8**
KSH *e*AP pP 20 51 13.2 +10
KSH *e*PCP PcP 20 51 27.5 +1.3
KSH *e*PP PP 20 53 32.4 +1.2
KSH *e*SCP 20 55 25.5
KSH PCS 20 55 32.4
KSH S S 20 59 52.5 -9.1
KSH XS sS 21 00 14.9 +8.8
KSH PS 21 00 23.6
KSH SCS ScS 21 00 51.3 -9.0
KSH AMB AMB
comp=Z,2µm,4.0s
KSH LR LR
comp=Z,64µm,22.5s,MS6.8
HFS Hagfors 68.41 353 P **P 20 50 59.9 -1.4**
comp=Z,57nm,0.6s,mb5.8,baz=20,slow=4.7,SNR=57
HFS Hagfors 68.41 353 P **P 20 50 59.9 -1.4**
HFS pmax pmax
comp=Z,57nm,0.6s
ASK Askoy 68.49 358 *e*P **P 20 51 01.7 -0.1**
VSU Vasula 68.53 346 *e*P **P 20 51 00.0 -2.1**
BER Bergen 68.59 358 *i*P **P 20 51 03.2 +0.8**
BER *e*P 20 51 03.4
BER AMb AMB 20 51 10.1
comp=Z,111nm,2.1s,mb5.4
BER *e*S S 21 00 03.7 -1.4
BER *e*SS SS 21 04 30.0 +0.9
EGD Espegrend 68.70 358 *e*P **P 20 51 04.0 +0.8**
TAOE Nuku Hiva Isla 68.78 138 *e*S S 21 00 01.0 -6.3
comp=Z,48µm,26.4s
TAOE *e*SS SS 21 04 15.0 -17
comp=Z,27µm,30.0s
TAOE *e*LQ 21 08 08.3
comp=Z,57µm,38.1s
TAOE *e*LR LR 21 11 49.6
comp=Z,167µm,23.4s,baz=345
ZIIG Zihuatanejo 68.87 88 *i* P **P 20 51 02.8 -1.4**
LRW Lerwick 68.89 1 ⇑*e*P **P 20 51 03.8 -0.5**
LRW Lerwick 68.89 1 ⇑*e*P **P 20 51 03.8 -0.5**
MOS Moscow 69.00 339 *e*P **P 20 51 05.0 0.0**
MOS *e* 20 51 26.3
MOS *e* 20 53 37.6
MOS *i* PPP 20 55 23.3
MOS *i* S S 21 00 08.1 -1.9
MOS *i* 21 01 05.2
MOS pmax pmax
comp=Z,2µm,1.5s,mb6.8
MOS pmax pmax
comp=N,800nm,1.0s
MOS pmax pmax
comp=Z,950nm,1.2s,mb6.6
MOS pmax pmax
comp=N,652nm,1.0s
MOS smax
comp=N,2µm,5.9s
MOS smax
comp=E,2µm,5.8s
MOS MLR MLR
comp=N,96µm,17.0s,MS7.1
MOS MLR MLR
comp=E,25µm,17.0s,MS7.1
MOS MLR MLR
comp=Z,95µm,17.0s,MS7.1
CHRT Chiangrai 69.14 276 ⇑P **P 20 51 05.0 -0.9**
comp=Z,776nm,1.3s,mb6.5
KONO Kongsberg 69.15 355 ⇑*i*P **P 20 51 05.6 -0.3**
KONO *e*S S 21 00 10.6 -1.2
KONO *e*SS SS 21 04 38.5 +0.6
KONO Kongsberg 69.15 355 *e*P **P 20 51 05.9 0.0**
comp=Z,237nm,0.9s,mb6.1
KONO LR LR
comp=Z,29µm,20.0s,MS6.5
UBT Ubonrachathani 69.33 269 P **P 20 51 08.4 +1.4**
NANT Nan 69.37 274 ⇓P **P 20 51 05.0 -2.3**
comp=Z,752nm,1.0s,mb6.6
KKM Kota Kinabalu 69.51 253 P **P 20 51 08.7 +0.5**
KKM Kota Kinabalu 69.51 253 *e*P **P 20 51 08.7 +0.5**
BLS5 Blasjo 69.52 357 *e*P **P 20 51 08.2 0.0**
BLS5 AMb AMB 20 51 15.9
comp=Z,117nm,1.2s,mb5.7
BLS5 Blasjo 69.52 357 *e*P **P 20 51 08.2 0.0**
comp=Z,117nm,1.2s,mb5.7
SHL Shillong 69.78 286 *e*P **P 20 51 11.7 +1.8**
OBN Obninsk 69.82 339 P **P 20 51 09.5 -0.6**
comp=Z,4µm,1.2s,mb7.2,SNR=44
OBN Obninsk 69.82 339 α *i*P **P 20 51 09.0 -1.1**
OBN *i* 20 51 14.4
OBN *i* 20 51 34.4
OBN *i* 20 53 48.0
OBN *i* S S 21 00 15.2 -4.4
OBN *i* PS 21 00 37.3
OBN pmax pmax
comp=Z,300nm,1.0s,mb6.2
OBN pmax pmax
comp=Z,888nm,1.2s,mb6.6
OBN MLR MLR
comp=Z,75µm,17.0s,MS7.0
OBN Obninsk 69.82 339 *e*P **P 20 51 09.4 -0.6**
OBN LR LR
comp=Z,78µm,19.0s,MS7.0
TSM Tawau 69.92 251 P **P 20 51 11.2 +0.5**
GTK Gangtok 70.42 289 *e*P **P 20 51 12.0 -1.8**
ORE Reay 70.43 2 ⇑*e*P **P 20 51 13.8 0.0**
ORE Reay 70.43 2 ⇑*e*P **P 20 51 13.8 0.0**
OTO Tongue 70.47 3 ⇑*e*P **P 20 51 14.1 0.0**
OTO Tongue 70.47 3 ⇑*e*P **P 20 51 14.1 0.0**
SNART Snartemo 70.57 356 *e*P **P 20 51 14.6 -0.1**
MLA1 Latheron 70.68 2 *e*P **P 20 51 15.0 -0.4**
MLA1 Latheron 70.68 2 *e*P **P 20 51 15.0 -0.4**
CM31 Chiang Mai Arr 70.72 276 *e*P **P 20 51 16.3 +0.7**
comp=Z,102nm,1.0s,mb5.7
CM31 LR LR
comp=Z,16µm,20.0s,MS6.3
MVH1 Achvaich 71.04 3 *e*P **P 20 51 17.6 0.0**
MVH1 Achvaich 71.04 3 *e*P **P 20 51 17.6 0.0**
IZAR Zarasai 71.22 345 *e*P **P 20 51 17.0 -1.6**
IZAR AMb AMB 20 51 23.3
comp=Z,6µm,0.4s
ISAL Salakas 71.41 345 *e*P **P 20 51 18.7 -1.0**
ISAL AMb AMB 20 51 25.3
comp=Z,4µm,1.3s,mb7.2
KSK Scoval 71.41 4 *e*P **P 20 51 19.4 -0.3**
KSK Scoval 71.41 4 *e*P **P 20 51 19.4 -0.3**
MCD Coleburn Disti 71.41 2 ⇑*e*P **P 20 51 18.9 -0.8**
MCD Coleburn Disti 71.41 2 ⇑*e*P **P 20 51 18.9 -0.8**
KAC Achnashellach 71.43 3 ⇑*e*P **P 20 51 20.0 +0.1**
KAC Achnashellach 71.43 3 ⇑*e*P **P 20 51 20.0 +0.1**
PMOR Pomariorio Ree 71.49 148 *e*P **P 20 51 19.4 -0.9**
comp=Z,99nm,1.1s,mb5.7
IDID Didziasalis 71.55 345 *e*P **P 20 51 19.7 -0.9**
IDID AMb AMB 20 51 26.2
comp=Z,6µm,1.3s
KPL Plockton 71.58 4 *e*P **P 20 51 20.9 +0.1**
KPL Plockton 71.58 4 *e*P **P 20 51 20.9 +0.1**
GUN Gumba 71.60 292 *e*P **P 20 51 21.7 +0.8**
comp=Z,739nm,0.4s,mb7.0
IIGN Ignalina 71.60 345 *e*P **P 20 51 20.2 -0.8**
IIGN AMb AMB 20 51 26.9
comp=Z,7µm,0.8s
JIRN Jiri 71.61 291 *e*P **P 20 51 21.8 +0.8**
comp=Z,1µm,0.7s,mb7.0
MME1 Meikle Cairn 71.69 2 *e*P **P 20 51 21.3 -0.1**
MME1 Meikle Cairn 71.69 2 *e*P **P 20 51 21.3 -0.1**
VAH Vaihoa 71.80 148 *e*P **P 20 51 21.1 -1.0**
comp=Z,177nm,1.1s,mb5.9
KAR1 Arisaig 71.99 4 ⇑*e*P **P 20 51 23.2 0.0**
KAR1 Arisaig 71.99 4 ⇑*e*P **P 20 51 23.2 0.0**
KKN Kakani 72.04 292 *e*P **P 20 51 23.7 +0.1**
comp=Z,889nm,0.6s,mb6.9
NST Nakhon Sawan 72.07 273 P **P 20 51 23.0 -0.8**
PKI Pulchoki 72.13 292 *e*P **P 20 51 24.5 +0.4**
comp=Z,580nm,0.5s,mb6.8
MNK Minsk 72.15 344 ⇓*e*P **P 20 51 22.0 -2.2**
MNK *e* 20 54 05.0
MNK *e*PPP 20 55 53.0
MNK *e*S S 21 00 42.0 -4.7
MNK *e*SS SS 21 05 22.0 -1.9
MNK pmax pmax
comp=Z,1µm,1.0s,mb6.8
MNK MLR MLR
comp=Z,98µm,18.0s,MS7.1
VRHR Novokhopersk 72.23 334 *e*P **P 20 51 24.0 -0.7**
VRHR *e* 20 54 03.1
VRHR *e*PPP 20 55 47.4
VRHR *e*S S 21 00 39.9 -7.7
VRHR *e*PPS 21 01 39.2
VRHR pmax pmax
comp=Z,220nm,0.9s,mb6.1
VRHR pmax pmax
comp=N,150nm,1.1s
VRHR pmax pmax
comp=E,90nm,0.7s
VRHR smax
comp=E,3µm,19.6s
VRHR smax
comp=Z,950nm,11.4s
VRHR smax
comp=N,1µm,8.7s
VRHR MLR MLR
comp=Z,18µm,17.0s,MS6.4
VRHR MLR MLR
comp=N,21µm,25.0s
VRHR MLR MLR
comp=E,25µm,24.0s
GKN Gorkha 72.25 293 *e*P **P 20 51 25.0 +0.2**
comp=E,934nm,0.6s,mb6.9
DMN Daman 72.28 292 *e*P **P 20 51 25.3 +0.3**
VOR Voronezh 72.29 336 *e*P **P 20 51 23.0 -2.1**
VOR S S 21 00 40.0 -8.3
VOR pmax pmax
comp=N,370nm,1.3s
VOR pmax pmax
comp=Z,470nm,1.3s,mb6.3
VOR smax
comp=N,100nm,1.5s
MUD Monsted U'grnd 72.36 355 ⇑*i*P **P 20 51 26.0 +0.5**
comp=N,218nm,0.9s,mb6.1
MUD *i* S S 21 00 52.0 +2.9
MUD *i* 21 01 39.8
MUD *i* 21 06 02.9
MUD
comp=Z,16µm,17.0s
MUD Monsted U'grnd 72.36 355 ⇑*i*P **P 20 51 26.0 +0.5**
MUD *i* S S 21 00 52.0 +2.9
MUD *i* 21 01 39.8
MUD pmax pmax
comp=Z,220nm,0.9s,mb6.1
MUD MLR MLR
comp=Z,16µm,17.0s,MS6.4
MUD Monsted U'grnd 72.36 355 ⇑*i*P **P 20 51 26.0 +0.5**
comp=Z,218nm,0.9s,mb6.1
MUD *i* S S 21 00 52.0 +2.9
MUD *i* 21 01 39.8
MUD *i* 21 06 02.9
SHBG Sahibganj 72.57 289 *e*P **P 20 51 25.8 -1.0**
VRSR Storozhevoye 72.77 336 *e*P **P 20 51 26.8 -1.1**
VRSR *e**PP pP 20 51 37.2 +6.5
VRSR *e* 20 54 09.3
VRSR *e*S S 21 00 51.5 -2.3
VRSR *e*PPS 21 01 44.9
VRSR pmax pmax
comp=Z,390nm,0.9s,mb6.3
VRSR pmax pmax
comp=N,360nm,1.4s
VRSR pmax pmax
comp=E,120nm,0.8s
VRSR smax
comp=N,2µm,9.3s
VRSR smax
comp=Z,610nm,10.3s
VRSR smax
comp=E,2µm,13.1s
VRSR MLR MLR
comp=Z,19µm,19.0s,MS6.4
VRSR MLR MLR
comp=N,19µm,25.0s
VRSR MLR MLR
comp=E,20µm,20.0s
EAB Aberfoyle 72.78 3 ⇑*e*P **P 20 51 27.2 -0.7**
EAB Aberfoyle 72.78 3 ⇑*e*P **P 20 51 27.2 -0.7**
COP Copenhagen 72.92 353 ⇑*i*P **P 20 51 29.2 +0.4**
comp=E,213nm,1.2s,mb6.0
COP *i* S S 21 00 53.6 -1.9
COP *i* 21 06 05.5
COP
comp=Z,14µm,20.0s
COP Copenhagen 72.92 353 ⇑*i*P **P 20 51 29.2 +0.4**
COP *i* S S 21 00 53.6 -1.9
COP pmax pmax
comp=Z,210nm,1.2s,mb5.9
COP MLR MLR
comp=Z,14µm,20.0s,MS6.2
KOLN Koldanda 73.03 293 *e*P **P 20 51 29.5 0.0**
EDI Edinburgh 73.07 2 *e*P **P 20 51 30.1 +0.4**
EDI Edinburgh 73.07 2 *e*P **P 20 51 30.1 +0.4**
ESY Stoneypath 73.09 2 *e*P **P 20 51 29.3 -0.6**
ESY Stoneypath 73.09 2 *e*P **P 20 51 29.3 -0.6**
EAU Auchinoon 73.15 2 ⇑*e*P **P 20 51 29.4 -0.7**
EAU Auchinoon 73.15 2 ⇑*e*P **P 20 51 29.4 -0.7**
PGBU Glenifferbraes 73.15 3 *e*P **P 20 51 30.2 +0.1**
PGBU Glenifferbraes 73.15 3 *e*P **P 20 51 30.2 +0.1**
DWPF Disney 73.18 66 *e*P **P 20 51 30.6 +0.2**
comp=Z,286nm,0.8s,mb6.2
EBL Broad Law 73.23 2 ⇑*e*P **P 20 51 30.8 +0.2**
EBL Broad Law 73.23 2 ⇑*e*P **P 20 51 30.8 +0.2**
BSD Bornholm Skovb 73.28 352 *i* P **P 20 51 29.6 -1.3**
comp=Z,167nm,1.3s,mb5.8
BSD *i* 20 56 05.3
BSD *i* S S 21 00 57.0 -2.6
BSD
comp=Z,35µm,20.0s
BSD Bornholm Skovb 73.28 352 *i* P **P 20 51 29.6 -1.3**
BSD *i* 20 56 05.3
BSD *i* S S 21 00 57.0 -2.6
BSD pmax pmax
comp=Z,170nm,1.3s,mb5.8
BSD MLR MLR
comp=Z,35µm,20.0s,MS6.6
BSD Bornholm Skovb 73.28 352 *i* P **P 20 51 29.6 -1.3**
comp=Z,167nm,1.3s,mb5.8
BSD *i* 20 56 05.3
BSD *i* S S 21 00 57.0 -2.6
PPT Papeete 73.36 150 *e*S S 21 00 52.7 -7.8
comp=Z,24µm,30.2s
PPT *e*SS SS 21 05 35.5 -6.9
comp=Z,14µm,25.8s
PPT *e*LR LR 21 13 29.1
comp=Z,62µm,29.0s,baz=347
PPT Papeete 73.36 150 P **P 20 51 32.7 +1.3**
comp=Z,30nm,0.6s,mb5.4,baz=250,slow=4.5,SNR=3.5
PPT Papeete 73.36 150 P **P 20 51 32.7 +1.3**
PPT pmax pmax
comp=Z,30nm,0.6s
SUW Suwalki 73.37 346 *e*P **P 20 51 30.6 -0.8**
SUW *e*S S 21 00 57.6 -3.0
CMIG Matias Romero 73.38 83 LR LR 21 19 01.6
comp=Z,10µm,21.9s,MS6.0,baz=300,slow=32
HUIG Huatulco 73.61 85 *i* P **P 20 51 38.1 +5.2**
LGTI Lohaghat 73.66 297 *e*P **P 20 51 33.4 +0.2**
EKA Eskdalemuir Ar 73.67 2 P **P 20 51 32.5 -0.7**
comp=Z,33nm,0.7s,mb5.4,baz=358,slow=4.3,SNR=65
EKA Eskdalemuir Ar 73.67 2 P **P 20 51 32.6 -0.6**
EKA pmax pmax
comp=Z,33nm,0.7s
ESK Eskdalemuir 73.68 2 *e*P **P 20 51 32.4 -0.9**
comp=Z,206nm,1.1s,mb6.0
ESK LR LR
comp=Z,24µm,21.0s,MS6.5
BWH Wardlaw 73.81 3 ⇑*e*P **P 20 51 33.2 -0.8**
BWH Wardlaw 73.81 3 ⇑*e*P **P 20 51 33.2 -0.8**
BHH Howats Hill 73.91 2 ⇑*e*P **P 20 51 34.3 -0.3**
BHH Howats Hill 73.91 2 ⇑*e*P **P 20 51 34.3 -0.3**
RGN Rugen 73.98 352 *e*P **P 20 51 34.9 -0.2**
comp=Z,1µm,1.2s,mb6.7
SMLA Simla 74.08 300 *e*P **P 20 51 36.3 +0.7**
PONG Pong 74.10 301 *e*P **P 20 51 36.0 +0.3**
DZM Mont Dzumac 74.14 194 *e*P **P 20 51 37.0 +1.0**
DZM Mont Dzumac 74.14 194 P **P 20 51 36.4 +0.4**
comp=Z,69nm,1.1s,mb5.5,baz=61,slow=10,SNR=9.5
CAL Calcutta 74.19 286 *e*P **P 20 51 36.2 -0.1**
CAL *e*S S 21 01 10.1 +0.2
NOUC Port Laguerre 74.19 194 *e*P **P 20 51 38.0 +1.7**
BDL Dobcross Hall 74.20 2 ⇑*e*P **P 20 51 37.0 +0.7**
BDL Dobcross Hall 74.20 2 ⇑*e*P **P 20 51 37.0 +0.7**
NIL Nilore 74.20 304 P **P 20 51 37.9 +1.6**
comp=Z,1µm,0.5s,mb7.2,SNR=32
BBO1 Bothel 74.26 2 ⇑*e*P **P 20 51 36.8 +0.1**
BBO1 Bothel 74.26 2 ⇑*e*P **P 20 51 36.8 +0.1**
BHK Bhakra 74.26 301 *ex* **P 20 51 41.6 +4.9**
CKE Keswick 74.41 2 ⇑*e*P **P 20 51 38.1 +0.5**
CKE Keswick 74.41 2 ⇑*e*P **P 20 51 38.1 +0.5**
XDE Dent Fell 74.49 3 *e*P **P 20 51 37.5 -0.5**
XDE AMb AMB 20 51 44.1
comp=Z,456nm,1.2s,mb6.3
XDE Dent Fell 74.49 3 *e*P **P 20 51 37.5 -0.5**
XDE AMb AMB 20 51 44.1
comp=Z,456nm,1.2s,mb6.3
NNT Nongplab 74.66 271 P **P 20 51 43.0 +4.0**
BOK Bokaro 74.70 289 *i* P **P 20 51 40.5 +1.2**
BOK *e*P pP 20 51 41.2 -0.9
BOK AMb AMB 20 51 46.8
comp=Z,418nm,0.9s,mb6.4
BSEG Bad Segeberg 74.81 354 *e*P **P 20 51 39.7 -0.2**

comp=Z,665nm,1.1s,mb6.5
BSEG Bad Segeberg 74.81 354 *e*P **P** **20 51 39.7 -0.2**
BSEG pmax pmax
comp=Z,665nm,1.1s,mb6.5
GKP Gorka Klasztor 74.86 350 *e*P **P** **20 51 40.2 0.0**
GKP *e*PcP PcP 20 51 44.6 -10
GKP *e*S S 21 01 15.4 -2.0
TEIG Tepich 75.09 76 *e*P **P** **20 51 42.2 +0.7**
TEIG LR LR
comp=Z,5µm,22.0s,MS5.8
WAR Warsaw 75.40 347 *e*P **P** **20 51 43.8 +0.5**
WAR *e*S S 21 01 24.1 +0.7
WAR *e*SS SS 21 06 56.2 +43
WAR L 21 25 23.2
comp=N,39nm,22.1s
WAR Warsaw 75.40 347 *e*P **P** **20 51 43.8 +0.5**
WAR *e*S S 21 01 24.1 +0.7
WAR MLR MLR
comp=N,39µm,22.1s
WAR Warsaw 75.40 347 *e*P **P** **20 51 43.8 +0.5**
WAR *e*S S 21 01 24.1 +0.7
WAR *e*SS SS 21 06 56.2 +43
LHO Holmfirth 75.48 2 *e*P **P** **20 51 43.1 -0.7**
LHO Holmfirth 75.48 2 *e*P **P** **20 51 43.1 -0.7**
DCN Croghan 75.49 5 *e*P **P** **20 51 40.2 -3.6**
AKASG Malin Array Be 75.51 342 P **P** **20 51 42.9 -1.1**
comp=N,90nm,0.3s,mb6.1,baz=19,slow=5.7,SNR=154
AKASG S S 21 01 18.0 -6.6
comp=N,0.2nm,0.3s,baz=12,slow=11,SNR=3.1
AKASG PKPPKP 21 19 06.5
comp=N,0.7nm,0.6s,baz=237,slow=2.0,SNR=6.7
AKBB Malin Array Si 75.51 342 P **P** **20 51 43.0 -0.9**
AKBB Malin Array Si 75.51 342 *e*P **P** **20 51 42.8 -1.1**
KIEV Kiev 75.52 342 P **P** **20 51 42.9 -1.1**
KIEV S S 21 01 20.7 -4.1
KIEV SPn 21 01 58.7
DLF Lyons Farm 75.58 4 *e*P **P** **20 51 40.7 -3.6**
DSB Dublin 75.64 4 *e*P **P** **20 51 45.4 +0.8**
comp=N,226nm,1.0s,mb6.0
WLF1 Llynfaes 75.67 3⇑ *e*P **P** **20 51 45.7 +0.9**
WLF1 AMb AMB 20 51 50.8
comp=Z,252nm,1.3s,mb6.0
WLF1 Llynfaes 75.67 3⇑ *e*P **P** **20 51 45.7 +0.9**
WLF1 AMb AMB 20 51 50.8
comp=Z,252nm,1.3s,mb6.0
YRC Rhoscolyn 75.71 3 *e*P **P** **20 51 45.1 +0.1**
YRC AMb AMB 20 51 52.1
comp=Z,196nm,1.1s,mb5.9
YRC Rhoscolyn 75.71 3 *e*P **P** **20 51 45.1 +0.1**
YRC AMb AMB 20 51 52.1
comp=Z,196nm,1.1s,mb5.9
WPM1 Penmaenmawr 75.72 3 *e*P **P** **20 51 45.0 -0.1**
WPM1 Penmaenmawr 75.72 3 *e*P **P** **20 51 45.0 -0.1**
KBI1 Birley Grange 75.78 1 *e*P **P** **20 51 44.9 -0.5**
KBI1 Birley Grange 75.78 1 *e*P **P** **20 51 44.9 -0.5**
ALBI Allahabad 75.94 293 *e*P **P** **20 51 45.0 -1.4**
NDI New Delhi 75.94 298 *e*P **P** **20 51 48.0 +1.6**
NDI AMb AMB 20 51 53.0
comp=Z,784nm,1.1s,mb6.6
NDI *ex* x 21 02 29.0
RUE Ruedersdorf 75.99 352 *e*P **P** **20 51 45.7 -0.9**
comp=Z,392nm,1.1s,mb6.2
KWE Weaver Farm 76.01 2 *e*P **P** **20 51 46.2 -0.6**
KWE Weaver Farm 76.01 2 *e*P **P** **20 51 46.2 -0.6**
SBD1 Bryn Du 76.09 2⇑ *e*P **P** **20 51 46.4 -0.8**
SBD1 Bryn Du 76.09 2⇑ *e*P **P** **20 51 46.4 -0.8**
WIT Witteveen 76.12 356 *e*P **P** **20 51 48.3 +0.9**
NRDL Niedersach Rie 76.26 354 *e*P **P** **20 51 48.5 +0.3**
comp=Z,480nm,1.1s,mb6.3
KAKA Kakadu 76.28 229 *e*P **P** **20 51 46.5 -1.8**
comp=Z,181nm,1.1s,mb5.9
KAPI Kappang 76.37 244 P **P** **20 51 48.0 -0.8**
comp=Z,387nm,1.6s,mb6.1,SNR=16
HLM1 Long Mynd 76.49 2 *e*P **P** **20 51 50.1 +0.6**
HLM1 AMb AMB 20 51 55.8
comp=Z,262nm,1.1s,mb6.1
HLM1 Long Mynd 76.49 2 *e*P **P** **20 51 50.1 +0.6**
HLM1 AMb AMB 20 51 55.8
comp=Z,262nm,1.1s,mb6.1
IBBN Ibbenburen 76.58 356 *e*P **P** **20 51 49.8 -0.2**
comp=Z,2µm,1.4s,mb6.8
KSM Kuching 76.69 255 *e*P **P** **20 51 49.2 -1.5**
VAL Valentia 76.70 7 *e*P **P** **20 51 42.9 -7.8**
CLZ Clausthal 76.89 354 *e*P **P** **20 51 51.6 -0.2**
comp=Z,990nm,1.4s,mb6.5
CLZ Clausthal 76.89 354 *e*P **P** **20 51 51.6 -0.2**
CLZ pmax pmax
comp=Z,990nm,1.4s,mb6.5
HTR Trewern Hill 76.92 3⇑ *e*P **P** **20 51 51.1 -0.8**
HTR AMb AMB 20 51 58.2
comp=Z,515nm,1.2s,mb6.3
HTR Trewern Hill 76.92 3⇑ *e*P **P** **20 51 51.1 -0.8**
HTR AMb AMB 20 51 58.2
comp=Z,515nm,1.2s,mb6.3
WTSB Winterswijk 76.96 356 *e*P **P** **20 51 52.3 +0.2**
comp=Z,433nm,1.7s,mb6.1
MCH1 Michaelchurch 77.01 2 *e*P **P** **20 51 53.3 +0.9**
MCH1 Michaelchurch 77.01 2 *e*P **P** **20 51 53.3 +0.9**
CLL Collm 77.22 352 *e*P **P** **20 51 52.3 -1.3**
comp=Z,225nm,1.1s,mb6.0
CLL *e*pP pP 20 52 09.6 +13
CLL *e*PP PP 20 54 45.1 -2.4
CLL *e*PPP 20 56 39.9
CLL *e*S S 21 01 39.3 -4.1
CLL *e*PPS 21 02 40.2
CLL *e*SS SS 21 06 50.4 +9.4
CLL *e*SSSS 21 12 29.0
CLL *e*LR LR 21 17 52.9
CLL *e*L 21 29 30.8
comp=Z,31µm,22.0s
CLL Collm 77.22 352 P **P** **20 51 52.3 -1.3**
CLL *i* pP 20 51 54.1 -2.3
CLL *i* pP 20 51 56.6 +0.2
CLL *i* PCP PcP 20 52 05.8 +1.5
CLL *i* 20 52 12.8
CLL *i* 20 52 26.9
CLL *e*PP PP 20 54 44.0 -3.5
CLL *e*PPP 20 56 44.0
CLL *e*S S 21 01 38.0 -5.4
CLL *e**SS sS 21 01 50.0 +2.0
CLL *e*SCS ScS 21 02 14.0 +2.6
CLL *e*PPS 21 02 36.0
CLL *e*SS SS 21 06 54.0 +13
CLL *e* 21 12 24.0
CLL Collm 77.22 352 *i* P **P** **20 51 52.3 -1.3**
CLL ⇓ *i*P(2) pP 20 51 54.1 -2.3
comp=Z,55nm,0.9s
CLL *i* x x 20 51 56.6
comp=Z,224nm,1.1s
CLL *i* PcP PcP 20 52 05.8 +1.5
comp=Z,73nm,0.8s
CLL *i* sPcP 20 52 12.8
CLL *i* x x 20 52 26.9
CLL *e*PP PP 20 54 44.0 -3.5
CLL *e*PPP 20 56 44.0
CLL *e*S S 21 01 38.0 -5.4
CLL *e*sS sS 21 01 50.0 +2.0
CLL *e*ScS ScS 21 02 14.0 +2.6
CLL *e*PPS 21 02 36.0
CLL *e*SS SS 21 06 54.0 +13
CLL *ex* x 21 11 42.0
CLL *e*SSSS 21 12 24.0
CLL Collm 77.22 352 *i* P **P** **20 51 52.3 -1.3**
CLL *i* 20 52 05.8
CLL *e*S S 21 01 38.0 -5.4
CLL pmax pmax
comp=Z,55nm,0.9s,mb5.5
CLL MLR MLR
comp=Z,40µm,17.2s,MS6.8
CLL Collm 77.22 352 *i* P **P** **20 51 52.3 -1.3**
comp=Z,55nm,0.9s,mb5.5
CLL *e*S S 21 01 38.0 -5.4
CLL LR LR
comp=Z,40µm,17.2s,MS6.8
HSA Swansea 77.22 3 *e*P **P** **20 51 54.0 +0.4**
HSA Swansea 77.22 3 *e*P **P** **20 51 54.0 +0.4**
CTA Charters Tower 77.27 213 *e*P **P** **20 51 51.8 -2.1**
comp=Z,50nm,1.0s,mb5.4
CTA *e*S S 21 01 39.0 -4.9
CTA Charters Tower 77.27 213 P **P** **20 51 54.1 +0.2**
comp=Z,143nm,1.2s,mb5.8,baz=34,slow=5.3,SNR=13
CTA Charters Tower 77.27 213 *e*P **P** **20 51 51.8 -2.1**
CTA *e*S S 21 01 39.0 -4.9
CTA pmax pmax
comp=Z,50nm,1.0s
CTAO Charters Tower 77.27 213 *e*P **P** **20 51 52.7 -1.1**
CTAO LR LR
comp=Z,10µm,22.0s,MS6.1
GOF Gofitskoye 77.27 331 *e*P **P** **20 51 54.3 +0.4**
GOF *i* S S 21 01 47.6 +3.7
GOF pmax pmax
comp=Z,1µm,1.3s,mb6.7
GOF smax
comp=N,50nm,0.9s
GOF smax
comp=E,50nm,0.9s
LVV L'vov 77.30 345 *e*P **P** **20 51 55.2 +1.1**
LVV *e* 20 52 00.2
LVV *e* 20 54 44.8
LVV *e*S S 21 01 42.6 -1.6
LVV *e*SS SS 21 06 35.8 -6.4
KSP Ksiaz 77.36 350 *e*P **P** **20 51 54.5 +0.1**
KSP *e*PcP PcP 20 51 58.3 -6.6
KSP *e*S S 21 01 42.7 -2.2
KSP *e*SKS 21 02 07.9
KSP *e*SS SS 21 07 14.9 +32
KSP L 21 31 31.4
comp=Z,89nm,20.7s
KSP Ksiaz 77.36 350⇑ *e*P **P** **20 51 53.9 -0.5**
KSP *e**PP pP 20 51 57.9 +0.7
KSP *e* 20 54 44.0
KSP *e*PPP 20 56 37.0
KSP *e*S S 21 01 34.5 -10
KSP MLR MLR
comp=Z,102µm,20.7s,MS7.1
KSP Ksiaz 77.36 350⇑ *e*P **P** **20 51 53.9 -0.5**
KSP *e*pP pP 20 51 57.9 +0.7
KSP *e*PP PP 20 54 44.0 -4.6
KSP *e*PPP 20 56 37.0
KSP *e*S S 21 01 34.5 -10
KSP *e*SS SS 21 06 27.0 -16
KSP LR LR
comp=Z,102µm,20.7s,MS7.1
HGH Gray Hill 77.37 2⇑ *e*P **P** **20 51 53.6 -0.9**
HGH AMb AMB 20 52 00.7
comp=Z,673nm,1.2s,mb6.5
HGH Gray Hill 77.37 2⇑ *e*P **P** **20 51 53.6 -0.9**
HGH AMb AMB 20 52 00.7
comp=Z,673nm,1.2s,mb6.5
BUG Bochum--Univer 77.47 356 *e*P **P** **20 51 54.3 -0.7**
comp=Z,422nm,1.2s,mb6.2
SWN1 Swindon 77.52 2 *e*P **P** **20 51 55.7 +0.4**
SWN1 Swindon 77.52 2 *e*P **P** **20 51 55.7 +0.4**
OJC Ojcow 77.54 348 *e*P **P** **20 51 54.7 -0.7**
OJC *e*S S 21 01 42.3 -4.6
OJC L 21 32 45.1
comp=Z,175nm,18.0s
BRG Berggiesshubel 77.57 351 *e*P **P** **20 51 54.6 -1.0**
comp=Z,296nm,1.2s,mb6.1
BRG Berggiesshubel 77.57 351 *i* P **P** **20 51 54.5 -1.1**
comp=Z,33nm,0.9s,mb5.3
BRG *i* 20 51 59.7
BRG comp=Z,177nm,1.2s PP PP 20 54 47.0 -3.4
BRG S S 21 01 55.0 +7.9
BRG SS SS 21 06 38.0 -8.3
BRG comp=N,17µm,19.3s pmax pmax
BRG comp=E,14µm,19.7s MLR MLR
BRG comp=Z,15µm,19.9s MLR MLR
BRG Berggiesshubel 77.57 351 *i* P **P** **20 51 54.5 -1.1**
BRG *i* 20 51 59.7
BRG 20 54 47.0
BRG S S 21 01 55.0 +7.9
BRG SS SS 21 06 38.0 -8.3
BRG pmax pmax
comp=Z,33nm,0.9s,mb5.3
BRG MLR MLR
comp=N,17µm,19.3s,MS6.5
BRG MLR MLR
comp=E,14µm,19.7s,MS6.5
BRG MLR MLR
comp=Z,15µm,19.9s,MS6.3
BRG Berggiesshubel 77.57 351 *i* P **P** **20 51 54.5 -1.1**
comp=Z,33nm,0.9s,mb5.3
BRG PP PP 20 54 47.0 -3.4
BRG S S 21 01 55.0 +7.9
BRG SS SS 21 06 38.0 -8.3
BRG LR LR
comp=Z,15µm,19.9s,MS6.3
MAK Makhachkala 77.69 327 *c* *i*P **P** **20 51 57.1 +0.9**
MAK *i* 20 54 57.1
MAK *e*S S 21 01 47.8 -0.6
MAK *e* 21 02 14.9
MAK *e*SS SS 21 06 48.9 +0.8
MAK pmax pmax
comp=Z,596nm,1.3s,mb6.4
MAK MLR MLR
comp=Z,117µm,16.0s,MS7.3
MAK MLR MLR
comp=N,130µm,18.0s,MS7.4
MAK MLR MLR
comp=E,114µm,18.0s,MS7.4
KWP Kalwaria 77.69 346 *e*P **P** **20 51 56.2 -0.1**
KWP *e*PcP PcP 20 52 01.6 -4.8
KWP *e*SKS SKSac 21 02 05.2 -4.9
KWP Kalwaria 77.69 346 *e*S S 21 01 44.7 -3.8
UPC Upice 77.72 350⇑ *i*P **P** **20 51 55.6 -0.8**
TSA1 Sevenoaks 77.81 0 *e*P **P** **20 51 56.2 -0.7**
TSA1 Sevenoaks 77.81 0 *e*P **P** **20 51 56.2 -0.7**
DPC Dobruska-Polom 77.84 350⇑ *i*P **P** **20 51 56.6 -0.5**
DPC *e*PP PP 20 54 50.2 -2.5
DPC *e*S S 21 01 45.4 -4.7
DPC *ex* x 21 02 41.5
DPC AMS AMS 21 33 00.0
comp=E,65µm,17.1s
PVCC Panska Ves 77.85 351⇑ *i*P **P** **20 51 56.1 -1.0**
PVCC *e*PP PP 20 54 57.0 +4.3
PVCC *e*S S 21 01 46.8 -3.4
PVCC AMS AMS 21 32 50.0
comp=E,33µm,17.1s
SWK Warminster 77.88 2⇑ *e*P **P** **20 51 57.5 +0.2**
SWK Warminster 77.88 2⇑ *e*P **P** **20 51 57.5 +0.2**
RAC Raciborz 77.88 349 *e*P **P** **20 51 56.8 -0.5**
RAC MLR MLR
comp=Z,33µm,21.3s,MS6.6
RAC MLR MLR
comp=E,34µm,20.4s,MS7.0
RAC MLR MLR
comp=N,57µm,17.8s,MS7.0
HEX Exmoor 77.92 3 *e*P **P** **20 51 56.6 -0.9**
HEX Exmoor 77.92 3 *e*P **P** **20 51 56.6 -0.9**
ABKT Ailbek 77.92 317 P **P** **20 51 58.4 +0.8**
comp=N,1µm,1.0s,mb6.7,SNR=29
UBBA Unterbreizbach 77.93 354 *e*P **P** **20 51 57.4 -0.2**
comp=Z,337nm,1.6s,mb6.0
TFO1 Folkestone 77.94 360 *e*P **P** **20 51 57.4 -0.3**
TFO1 Folkestone 77.94 360 *e*P **P** **20 51 57.4 -0.3**
MOX Moxa 77.99 353 *e*P **P** **20 51 57.3 -0.6**
comp=Z,308nm,1.2s,mb6.1
MOX Moxa 77.99 353 *e*P **P** **20 51 57.1 -0.8**
comp=Z,408nm,1.5s,mb6.1
MOX comp=Z,17µm,18.0s pmax pmax
MOX Moxa 77.99 353 *e*P **P** **20 51 57.1 -0.8**
MOX comp=Z,408nm,1.5s,mb6.1 MLR MLR
comp=Z,17µm,18.0s,MS6.4
OKC Ostrava-Krasne 78.13 349⇑ *i*P **P** **20 51 57.9 -0.8**
OKC *e*PP PP 20 54 59.6 +4.5
OKC *e*S S 21 01 50.2 -3.0
OKC AMS AMS 21 32 00.0
comp=Z,28µm,16.5s
OKC Ostrava-Krasne 78.13 349⇑ *i*P **P** **20 51 57.9 -0.8**
OKC *e*PP PP 20 54 59.6 +4.5
OKC *e*S S 21 01 50.2 -3.0
TANN Tannenbergstha 78.15 352 *e*P **P** **20 51 58.3 -0.5**
BEBN Eben Emael 78.17 357 P **P** **20 51 58.5 -0.4**
BLSP Bilaspur 78.19 291 *e*P **P** **20 51 59.6 +0.5**
BLSP AMb AMB 20 52 07.4
comp=Z,371nm,1.2s,mb6.2
HGN Heimansgroeve 78.20 357⇑ *e*P **P** **20 51 59.3 +0.3**
comp=Z,553nm,1.0s,mb6.4
HGN *e*S S 21 01 51.4 -2.5
HGN *e*P 21 02 14.2
comp=Z,48nm,0.8s
HGN *e*SS SS 21 07 02.0 +6.2
UCC Uccle 78.21 358 P **P** **20 51 58.9 -0.2**
NIE Niedzica 78.25 347 *e*P **P** **20 51 59.1 -0.3**
MORC Moravsky Berou 78.27 349⇑ *i*P **P** **20 51 59.5 +0.1**
MORC Moravsky Berou 78.27 349 P **P** **20 51 59.5 +0.1**
NKC Novy Kostel 78.33 352⇑ *i*P **P** **20 51 59.3 -0.5**
NKC *e*S S 21 01 51.4 -4.0
NKC AMS AMS 21 34 30.0
comp=Z,36µm,17.4s
NKC Novy Kostel 78.33 352⇑ *i*P **P** **20 51 59.3 -0.5**
NKC *e*S S 21 01 51.4 -4.0
MEM Membach 78.35 357 P **P** **20 51 59.2 -0.7**
comp=Z,216nm,1.1s,mb6.0
KIV Kislovodsk 78.37 330 P **P** **20 52 00.4 +0.4**
comp=Z,1µm,1.1s,mb6.8,SNR=36
KIV Kislovodsk 78.37 330 P **P** **20 52 00.5 +0.4**
SNR=58
KIV Kislovodsk 78.37 330*c* *i*P **P** **20 52 00.0 0.0**
KIV *e* 20 52 09.4
KIV *i*S S 21 01 45.8 -10
KIV *i*SS SS 21 07 03.9 +5.5
KIV pmax pmax
comp=Z,375nm,1.2s,mb6.2
KIV MLR MLR
comp=Z,45µm,19.0s,MS6.8
KIV Kislovodsk 78.37 330 *e*P **P** **20 51 59.8 -0.2**
comp=Z,236nm,1.0s,mb6.1
PRU Pruhonice 78.39 351⇑ *i*P **P** **20 51 59.1 -1.0**
PRU *e*PP PP 20 54 57.0 -0.2
PRU *e*S S 21 01 51.8 -4.1
PRU AMS AMS 21 33 10.0
comp=Z,33µm,16.8s
KOLS Kolonicke sedl 78.44 346 *e*P **P** **20 52 00.2 -0.2**
KOLS *e*S S 21 01 51.7 -4.8
KOLS Kolonicke sedl 78.44 346 *e*P **P** **20 52 00.2 -0.2**
comp=Z,268nm,1.1s,mb6.1
KOLS LR LR
comp=Z,15µm,26.7s,MS6.2
MENF Mencas 78.49 359 *e*P **P** **20 52 00.5 -0.2**
SNF Seneffe 78.50 358 P **P** **20 51 59.8 -0.9**
comp=Z,118nm,1.2s,mb5.7
DYA Yadsworthy 78.55 3 *e*P **P** **20 52 00.7 -0.3**
DYA Yadsworthy 78.55 3 *e*P **P** **20 52 00.7 -0.3**
BCLA Clavier 78.56 357 P **P** **20 52 00.3 -0.8**
comp=Z,123nm,1.1s,mb5.8
CRVS Cervenica-Dubn 78.59 346 *e*P **P** **20 52 00.9 -0.4**
CRVS *e*S S 21 01 55.9 -2.3
CRVS *e*SS SS 21 07 10.4 +8.7
CRVS Cervenica-Dubn 78.59 346 *e*P **P** **20 52 00.9 -0.4**
comp=Z,115nm,1.0s,mb5.8
CRVS LR LR
comp=Z,19µm,20.6s,MS6.4
MANZ Manzenberg 78.61 353 *e*P **P** **20 52 00.7 -0.6**
MGV Manicaragua 78.62 69 *e*P **P** **20 52 02.3 +0.9**
TNS Taunus Mts 78.62 355 *e*P **P** **20 52 00.8 -0.6**
JBP Jabalpur 78.64 293⇑ *e*P **P** **20 52 02.0 +0.5**
JBP *e*S S 21 01 58.1 -0.6
UZH Uzhgorod 78.73 346 *i* P **P** **20 52 02.0 0.0**
UZH *e*S S 21 02 00.0 +0.4
CCA1 Carnmenellis 78.74 4⇑ *e*P **P** **20 52 02.2 +0.1**
CCA1 Carnmenellis 78.74 4⇑ *e*P **P** **20 52 02.2 +0.1**
CPZ Penzance 78.76 4⇑ *e*P **P** **20 52 02.1 -0.1**
CPZ Penzance 78.76 4⇑ *e*P **P** **20 52 02.1 -0.1**
CRQ2 Rosemanowes 2 78.77 4 *e*P **P** **20 52 02.7 +0.5**
CRQ2 Rosemanowes 2 78.77 4 *e*P **P** **20 52 02.7 +0.5**
LIKS Likavka 78.78 348 *e*P **P** **20 52 03.7 +1.4**
LIKS pmax pmax
comp=Z,274nm,1.0s,mb6.1
LIKS Likavka 78.78 348 *e*P **P** **20 52 03.7 +1.4**
comp=Z,274nm,1.0s,mb6.1
BBSR BB Station 78.81 52 *e*P **P** **20 52 02.5 0.0**
BBSR LR LR
comp=Z,23µm,21.0s,MS6.5
ROTZ Rotzenmuhle 78.82 352 *e*P **P** **20 52 02.1 -0.4**
TBI Tubuai 78.84 152 *e*S S 21 01 52.7 -8.1
comp=Z,11µm,39.5s
TBI *e*SS SS 21 06 58.8 -6.6
comp=Z,8µm,25.5s
TBI *e*LR LR 21 16 06.9
comp=Z,45µm,31.0s,baz=341
VRAC Vranov 78.84 349 P **P** **20 52 02.2 -0.4**
comp=Z,208nm,1.2s,mb5.9,baz=15,slow=5.2,SNR=62
VRAC Vranov 78.84 349⇓ *i*P **P** **20 52 02.7 +0.1**
VRAC Vranov 78.84 349 P **P** **20 52 02.2 -0.4**
VRAC pmax pmax
comp=Z,209nm,1.2s
VRAC Vranov 78.84 349 P **P** **20 52 02.4 -0.2**
CGH1 Goonhilly 78.88 4 *e*P **P** **20 52 03.6 +0.8**
CGH1 Goonhilly 78.88 4 *e*P **P** **20 52 03.6 +0.8**
GIVF Givet 78.89 357 *e*P **P** **20 52 01.9 -1.0**
comp=Z,897nm,1.3s,mb6.2
GIVF Givet 78.89 357 *e*P **P** **20 52 01.9 -1.0**
GIVF pmax pmax
comp=Z,448nm,1.3s,mb6.2
GIVF Givet 78.89 357 *e*P **P** **20 52 01.9 -1.0**
comp=Z,448nm,1.3s,mb6.2
DOU Dourbes 78.91 357 P **P** **20 52 02.1 -0.9**
comp=Z,99nm,1.3s,mb5.6
BAIF Baives 78.95 358 *e*P **P** **20 52 02.4 -0.8**
comp=Z,1µm,1.1s,mb6.4
BAIF Baives 78.95 358 *e*P **P** **20 52 02.4 -0.8**
BAIF pmax pmax
comp=Z,563nm,1.1s,mb6.4
BAIF Baives 78.95 358 *e*P **P** **20 52 02.4 -0.8**
comp=Z,563nm,1.1s,mb6.4
GRA1 Grafenberg Arr 78.97 353 *e*P **P** **20 52 03.1 -0.2**
comp=Z,661nm,1.1s,mb6.5
GRA1 *e*PP PP 20 55 08.5 +6.4
GRA1 *e*S S 21 02 06.0 +3.8
GRA1 *e*SS SS 21 07 20.1 +13
GRA1 LR LR
comp=Z,23µm,21.5s,MS6.5
GRF Grafenberg Arr 78.97 353 *e*P **P** **20 52 03.1 -0.2**
comp=Z,661nm,1.1s,mb6.5
GRF *e*PP PP 20 55 08.5 +6.4
GRF *e*S S 21 02 06.0 +3.8
GRF *e*SS SS 21 07 20.1 +13
GRF *e*L 21 29 31.7
comp=Z,23µm,21.5s
GRF Grafenberg Arr 78.97 353 *e*P **P** **20 52 03.1 -0.2**
GRF *e* 20 55 08.5
GRF *e*S S 21 02 06.0 +3.8
GRF pmax pmax
comp=Z,661nm,1.1s,mb6.5
GRF MLR MLR
comp=Z,23µm,21.5s,MS6.5
GRF Grafenberg Arr 78.97 353 *e*P **P** **20 52 03.1 -0.2**
GRF *e* 20 55 08.5
GRF *e*S S 21 02 06.0 +3.8
GRF pmax pmax
comp=Z,661nm,1.1s,mb6.5
GRF MLR MLR
comp=Z,23µm,21.5s,MS6.5
GRFO Grafenberg 78.97 353 P **P** **20 52 02.9 -0.4**
GRFO P 20 52 02.9
GRFO S S 21 02 01.6 -0.6
TREC Trest 78.97 350⇑ *i*P **P** **20 52 02.5 -0.8**
TREC *e*PP PP 20 54 57.6 -4.5
TREC *e*S S 21 01 59.8 -2.4
TREC *ex* x 21 02 56.4
TREC AMS AMS 21 34 00.0
comp=Z,60µm,17.6s
ABH Alteburg 79.01 356 *e*P **P** **20 52 03.7 +0.2**
ZEI Tsey 79.06 329 *e*P **P** **20 52 04.9 +1.1**
ZEI pmax pmax
comp=Z,345nm,1.1s,mb6.2
AJM Ajmer 79.08 299 *i* P **P** **20 52 04.0 +0.1**
KIS Kishinev 79.12 341*c* *i*P **P** **20 52 03.0 -1.2**
KIS *i* 20 52 22.0
KIS *i* 20 55 10.0
KIS *e*PPP 20 56 58.0
KIS *i* S S 21 02 01.0 -2.8
KIS *i* 21 02 22.0
KIS *i* PS 21 02 46.0
KIS pmax pmax
comp=Z,7µm,12.0s
KIS pmax pmax
comp=N,4µm,15.0s
KIS pmax pmax
comp=Z,9µm,15.0s
KIS pmax pmax
comp=Z,3µm,19.0s

KIS pmax pmax
comp=N,2µm,20.0s
KIS pmax pmax
comp=Z,4µm,20.0s
KIS smax
comp=N,5µm,10.0s
KIS smax
comp=E,2µm,6.0s
ANN Anapa 79.13 334 *e*P **P** **20 52 01.3 -2.9**
ANN *e* 20 55 04.3
ANN *e*S S 21 01 57.3 -6.6
ANN pmax pmax
comp=Z,288nm,1.2s,mb6.1
ANN pmax pmax
comp=Z,6µm,16.7s
KECS Kecovo 79.14 347 *i* P **P** **20 52 03.8 -0.5**
KECS pmax pmax
comp=Z,208nm,1.0s,mb6.0
KECS Kecovo 79.14 347 *i* P **P** **20 52 03.8 -0.5**
comp=Z,208nm,1.0s,mb6.0
IAS Iasi 79.19 342⇑*i*P **P** **20 52 04.6 +0.1**
IAS Iasi 79.19 342 P **P** **20 52 06.0 +1.5**
RUP Ruppelstein 79.21 356 *e*P **P** **20 52 05.3 +0.6**
TOD Tromm 79.22 355 *e*P **P** **20 52 04.4 -0.3**
BURAR Bucovina Array 79.22 343⇑*i*P **P** **20 52 05.3 +0.6**
BURAR Bucovina Array 79.22 343 ⇑P **P** **20 52 05.3 +0.6**
WLF Walferdange 79.29 356 *e*P **P** **20 52 04.8 -0.3**
WLF Walferdange 79.29 356 P **P** **20 52 04.7 -0.3**
comp=Z,133nm,1.2s,mb5.7
WLF Walferdange 79.29 356 *e*P **P** **20 52 03.9 -1.2**
comp=Z,302nm,1.0s,mb6.2
KHC Kasperske Hory 79.33 351⇑*i*P **P** **20 52 04.8 -0.5**
KHC *e*PP PP 20 55 02.3 -2.8
KHC *e*S S 21 02 03.5 -2.5
KHC *ex* x 21 03 02.6
KHC AMS AMS 21 33 50.0
comp=Z,36µm,17.7s
VYHS Vyhne 79.36 348 *i* P **P** **20 52 04.9 -0.6**
VYHS *e*S S 21 02 03.9 -2.5
VYHS Vyhne 79.36 348 *i* P **P** **20 52 04.9 -0.6**
comp=Z,164nm,1.1s,mb5.9
VYHS LR LR
comp=Z,23µm,18.4s,MS6.5
ONI Oni 79.37 329 P **P** **20 52 07.5 +1.9**
ONI S S 21 02 06.3 -0.2
WET Wettzell 79.38 352 *e*P **P** **20 52 05.1 -0.5**
AMRG 79.53 330 P **P** **20 52 07.6 +1.2**
KTD Kalmit 79.54 355 *e*P **P** **20 52 06.6 +0.1**
GEC2 GERESS Array S 79.60 351 *e*P **P** **20 52 06.1 -0.7**
comp=Z,199nm,1.2s,mb5.9
GEC2 GERESS Array S 79.60 351 *e*P **P** **20 52 06.1 -0.7**
GEC2 pmax pmax
comp=Z,199nm,1.2s,mb5.9
GERES GERESS Array B 79.60 351 P **P** **20 52 05.9 -0.8**
comp=Z,24nm,0.5s,mb5.4,baz=18,slow=5.9,SNR=140
GERES PKKPbc PKKPbc 21 10 51.6 -2.9
comp=Z,0.6nm,0.6s,baz=290,slow=5.7,SNR=4.8
GERES PKPPKP 21 18 45.2
comp=Z,0.6nm,0.9s,baz=179,slow=5.3,SNR=4.2
SOC Sochi 79.61 332*c i*P **P** **20 52 06.0 -0.8**
SOC *i* 20 55 09.3
SOC *i* PPP 20 57 04.2
SOC *i* S S 21 02 07.5 -1.4
SOC *e* 21 02 19.2
SOC pmax pmax
comp=Z,237nm,1.0s,mb6.1
SOC pmax pmax
comp=Z,3µm,5.5s
SOC MLR MLR
comp=Z,104µm,21.0s,MS7.2
KULM Kulim 79.69 266 *e*P **P** **20 52 07.5 +0.3**
GOR Gori 79.70 329 P **P** **20 52 08.0 +0.7**
TBLG Delisi 79.72 328 P **P** **20 52 07.2 -0.2**
TBLG *S* S 21 02 15.0 +4.9
TBLG Delisi 79.72 328 *e*P **P** **20 52 07.1 -0.3**
TBLG *e*S S 21 02 15.0 +4.9
MTA Mtatsminda 79.73 328 P **P** **20 52 08.1 +0.6**
MTA S S 21 02 09.3 -1.0
DGRG David-gareji 79.76 328 P **P** **20 52 08.4 +0.7**
DGRG S 21 02 34.2
PSZ Piszkesteto 79.78 347⇑*e*P **P** **20 52 08.9 +1.1**
PSZ Piszkesteto 79.78 347 *e*P **P** **20 52 07.8 0.0**
PSZ pmax pmax
comp=Z,36nm,1.3s,mb5.1
PSZ Piszkesteto 79.78 347 *e*P **P** **20 52 07.8 +0.1**
comp=Z,615nm,1.2s,mb6.4
SIM Simferopol' 79.86 337*ce*P **P** **20 52 07.4 -0.8**
SIM 20 55 17.0
SIM S S 21 02 07.8 -3.8
SIM pmax pmax
comp=Z,3µm,12.0s
SIM MLR MLR
comp=Z,99µm,20.0s,MS7.2
ZST Bratislava 79.87 349 *e*P **P** **20 52 08.3 0.0**
ZST *e*PP PP 20 55 15.3 +5.7
ZST Bratislava 79.87 349 *e*P **P** **20 52 08.3 0.0**
comp=Z,375nm,1.1s,mb6.2
ZST *e*PP PP 20 55 15.3 +5.7
ZST LR LR
comp=Z,21µm,17.9s,MS6.5
STU Stuttgart 80.02 354 *e*P **P** **20 52 08.3 -0.8**
STU Stuttgart 80.02 354 *e*P **P** **20 52 10.0 +0.9**
STU pmax pmax
comp=Z,220nm,1.0s,mb6.0
STU Stuttgart 80.02 354 *e*P **P** **20 52 10.0 +1.0**
comp=Z,216nm,1.0s,mb6.0
BHPL Bhopal 80.06 295 *e*P **P** **20 52 10.2 +1.0**
BHPL AMb AMB 20 52 16.0
comp=Z,1µm,1.6s,mb6.6
IPM Ipoh 80.08 265 P **P** **20 52 11.9 +2.5**
SRO Srobarova 80.10 348 *e*P **P** **20 52 10.7 +1.2**
SRO pmax pmax
comp=Z,524nm,1.1s,mb6.4
SRO Srobarova 80.10 348 *e*P **P** **20 52 10.7 +1.2**
comp=Z,524nm,1.1s,mb6.4
SRO2 Moca 80.14 348 *e*P **P** **20 52 09.6 -0.1**
SRO2 pmax pmax
comp=Z,251nm,1.0s,mb6.1
SRO1 Iza 80.16 348 *e*P **P** **20 52 11.7 +1.9**
SRO1 pmax pmax
comp=Z,466nm,1.2s,mb6.3
RAO Raoul Island 80.23 179 PFAKE 20 52 20.0 +10
RAO LR LR
comp=Z,14µm,20.8s,MS6.3
CONA Conrad Observa 80.28 350 *i* P **P** **20 52 10.3 -0.2**
comp=Z,611nm,1.6s,mb6.3,SNR=110
FLN La Foliniere 80.29 1 *e*P **P** **20 52 09.1 -1.4**
comp=Z,1µm,1.2s,mb6.4
FLN *e*R
comp=Z,24µm,20.2s
FLN La Foliniere 80.29 1 *e*P **P** **20 52 09.1 -1.4**
FLN pmax pmax
comp=Z,603nm,1.2s,mb6.4
FLN MLR MLR
comp=Z,24µm,20.3s,MS6.5
FLN La Foliniere 80.29 1 *e*P **P** **20 52 09.1 -1.4**
comp=Z,603nm,1.2s,mb6.4
FLN LR LR
comp=Z,24µm,20.3s,MS6.5
STR Strasbourg 80.29 355 *e*P **P** **20 52 11.1 +0.6**
BUD Budapest 80.33 348⇑*e*P **P** **20 52 11.9 +1.2**
AKH Akhalkalaki 80.42 329 P **P** **20 52 12.4 +1.2**
DRGR 80.45 345⇓*i*P **P** **20 52 11.6 +0.2**
DRGR 80.45 345 P **P** **20 52 11.2 -0.2**
LDF La Druitiere 80.46 1 *e*P **P** **20 52 10.0 -1.4**
comp=Z,766nm,1.0s,mb6.3
LDF La Druitiere 80.46 1 *e*P **P** **20 52 10.0 -1.4**
LDF pmax pmax
comp=Z,383nm,1.0s,mb6.3
LDF La Druitiere 80.46 1 *e*P **P** **20 52 10.0 -1.4**
comp=Z,383nm,1.0s,mb6.3
FUR Furstenfeldbru 80.48 353 *e*P **P** **20 52 11.0 -0.5**
comp=Z,409nm,1.1s,mb6.3
FUR Furstenfeldbru 80.48 353 *e*P **P** **20 52 11.0 -0.5**
FUR pmax pmax
comp=Z,409nm,1.1s,mb6.3
MEZF Maizieres J'vi 80.49 357 *e*P **P** **20 52 10.7 -0.9**
comp=Z,1µm,1.2s,mb6.4
MEZF Maizieres J'vi 80.49 357 *e*P **P** **20 52 10.7 -0.9**
comp=Z,1µm,1.2s,mb6.7
CDF Champ du Feu 80.49 356 *e*P **P** **20 52 10.5 -1.1**
comp=Z,274nm,0.9s,mb5.9
CDF Champ du Feu 80.49 356 *e*P **P** **20 52 10.5 -1.1**
CDF pmax pmax
comp=Z,137nm,0.9s,mb5.9
CDF Champ du Feu 80.49 356 *e*P **P** **20 52 10.5 -1.1**
comp=Z,137nm,0.9s,mb5.9
BFO Black Forest 80.52 355 P **P** **20 52 10.3 -1.4**
comp=Z,1µm,1.4s,mb6.6,SNR=38
BFO Black Forest 80.52 355 *e*P **P** **20 52 11.0 -0.7**
comp=Z,350nm,1.4s,mb6.1
BFO Black Forest 80.52 355 *e*P **P** **20 52 11.0 -0.7**
BFO pmax pmax
comp=Z,350nm,1.4s,mb6.1
MOA Molln 80.53 351 *i* P **P** **20 52 11.2 -0.6**
comp=Z,2µm,4.0s,SNR=48
KGM Kluang 80.56 261 P **P** **20 52 13.0 +1.1**
KGM Kluang 80.56 261 P **P** **20 52 13.2 +1.2**
CCCC Cccc 80.61 68 *e*P **P** **20 52 14.7 +2.5**
VRI Vrincioaia 80.62 342⇑*i*P **P** **20 52 12.8 +0.5**
VRI Vrincioaia 80.62 342 P **P** **20 52 14.1 +1.8**
PLOR Plostina 80.66 342⇓*i*P **P** **20 52 12.7 +0.2**
GRR Gorron 80.66 1 *e*P **P** **20 52 11.3 -1.2**
comp=Z,916nm,1.0s,mb6.4
GRR Gorron 80.66 1 *e*P **P** **20 52 11.3 -1.2**
GRR pmax pmax
comp=Z,458nm,1.0s,mb6.4
GRR Gorron 80.66 1 *e*P **P** **20 52 11.3 -1.2**
comp=Z,458nm,1.0s,mb6.4
ROSF Rostrenen 80.66 3 *e*P **P** **20 52 11.5 -1.0**
comp=Z,1µm,1.2s,mb6.4
ROSF Rostrenen 80.66 3 *e*P **P** **20 52 11.5 -1.0**
ROSF pmax pmax
comp=Z,614nm,1.2s,mb6.4
ROSF Rostrenen 80.66 3 *e*P **P** **20 52 11.5 -1.0**
comp=Z,614nm,1.2s,mb6.4
ECH Echery 80.69 356 *e*P **P** **20 52 12.2 -0.5**
SPAK Spaichingen-Ko 80.72 355 *e*P **P** **20 52 12.8 0.0**
THEF They Montfort 80.73 356 *e*P **P** **20 52 12.8 -0.1**
LIBD Limburg 80.73 355 *e*P **P** **20 52 12.8 -0.1**
NGP Nagpur 80.75 292 *e*P **P** **20 52 12.7 -0.2**
NGP AMb AMB 20 52 20.1
comp=Z,786nm,1.0s,mb6.6
NGP *e*S S 21 02 21.8 +0.8
SGMF Saint Gilles 80.77 2 *e*P **P** **20 52 12.0 -1.1**
comp=Z,1µm,1.0s,mb6.4
SGMF Saint Gilles 80.77 2 *e*P **P** **20 52 12.0 -1.1**
SGMF pmax pmax
comp=Z,529nm,1.0s,mb6.4
SGMF Saint Gilles 80.77 2 *e*P **P** **20 52 12.0 -1.1**
comp=Z,529nm,1.0s,mb6.4
VIS Vishakhapatnam 80.88 287 *e*P **P** **20 52 14.8 +1.2**
VIS AMb AMB 20 52 22.4
comp=Z,336nm,0.9s,mb6.3
HAU Haudompre 80.94 356 *e*P **P** **20 52 12.8 -1.2**
comp=Z,472nm,1.0s,mb6.1
HAU *e*R
comp=Z,45µm,21.2s
HAU Haudompre 80.94 356 *e*P **P** **20 52 12.8 -1.2**
HAU pmax pmax
comp=Z,236nm,1.0s,mb6.1
HAU MLR MLR
comp=Z,45µm,21.3s,MS6.8
HAU Haudompre 80.94 356 *e*P **P** **20 52 12.8 -1.2**
comp=Z,236nm,1.0s,mb6.1
HAU LR LR
comp=Z,45µm,21.3s,MS6.8
BCA Borcka 80.98 330 *e*P **P** **20 52 14.9 +0.7**
FELD Feldberg im Sc 80.99 355 *e*P **P** **20 52 13.3 -0.9**
ARSA Arzberg 80.99 350 *i* P **P** **20 52 14.1 -0.1**
comp=Z,534nm,1.6s,mb6.2,SNR=62
CFR Carcaliu 81.00 341⇑*i*P **P** **20 52 16.2 +1.9**
CFR Carcaliu 81.00 341 ⇑P **P** **20 52 16.2 +1.9**
MOF Molkenrain 81.06 356 *e*P **P** **20 52 14.6 0.0**
SLE Schleitheim 81.07 355⇑*i*P **P** **20 52 13.5 -1.2**
comp=Z,407nm,1.3s,mb6.2
QUIF Quistinic 81.09 3 *e*P **P** **20 52 13.7 -1.1**
comp=Z,1µm,1.2s,mb6.4
QUIF Quistinic 81.09 3 *e*P **P** **20 52 13.7 -1.1**
QUIF pmax pmax
comp=Z,546nm,1.2s,mb6.4
QUIF Quistinic 81.09 3 *e*P **P** **20 52 13.7 -1.1**
comp=Z,546nm,1.2s,mb6.4
HINF Hinteralfeld 81.10 356 *e*P **P** **20 52 13.5 -1.4**
comp=Z,169nm,0.9s,mb5.7
HINF Hinteralfeld 81.10 356 *e*P **P** **20 52 13.5 -1.4**
HINF pmax pmax
comp=Z,85nm,0.9s,mb5.7
HINF Hinteralfeld 81.10 356 *e*P **P** **20 52 13.5 -1.4**
comp=Z,85nm,0.9s,mb5.7
GNI Garni 81.13 327 *e*P **P** **20 52 15.9 +0.9**
GNI Garni 81.13 327 P **P** **20 52 15.3 +0.2**
comp=Z,58nm,0.9s,mb5.5,baz=124,slow=3.4,SNR=15
GNI Garni 81.13 327 P **P** **20 52 15.3 +0.3**
GNI pmax pmax
comp=Z,58nm,0.9s
GNI Garni 81.13 327 *e*P **P** **20 52 15.7 +0.6**
GNI LR LR
comp=Z,79um,19.0s,MS7.1
MLR Muntele Rosu 81.14 342⇑*i*P **P** **20 52 16.6 +1.6**
MLR Muntele Rosu 81.14 342 P **P** **20 52 16.2 +1.1**
STEIN Stein am Rhein 81.14 354⇑*i*P **P** **20 52 14.1 -1.0**
comp=Z,494nm,1.2s,mb6.3
WEIN Weingarten 81.28 354⇑*i*P **P** **20 52 14.9 -0.9**
comp=Z,454nm,1.3s,mb6.2
WATA Walderalm 81.28 353 *i* P **P** **20 52 15.5 -0.3**
comp=Z,545nm,1.3s,mb6.3,SNR=204
WATA Walderalm 81.28 353 *i* P **P** **20 52 15.5 -0.3**
WATA pmax pmax
comp=Z,545nm,1.3s,mb6.3
MOTA Moosalm 81.31 353 *i* P **P** **20 52 15.5 -0.4**
comp=Z,514nm,1.3s,mb6.3,SNR=171
MOTA Moosalm 81.31 353 *i* P **P** **20 52 15.5 -0.5**
MOTA pmax pmax
comp=Z,514nm,1.3s,mb6.3
SULZ Sulz-Cheisache 81.33 355⇑*i*P **P** **20 52 15.1 -1.0**
comp=Z,637nm,1.2s,mb6.4
SNX Sinaia 81.35 343⇑*i*P **P** **20 52 18.4 +2.2**
SNX Sinaia 81.35 343 ⇑P **P** **20 52 18.4 +2.2**
WTTA Wattenberg 81.35 353 *i* P **P** **20 52 16.0 -0.2**
comp=Z,998nm,1.6s,mb6.5,SNR=109
WTTA Wattenberg 81.35 353 *i* P **P** **20 52 16.0 -0.2**
WTTA pmax pmax
comp=Z,998nm,1.6s,mb6.5
DIGO Kars 81.35 328 *i* P **P** **20 52 18.6 +2.5**
VOIR 81.36 343⇑*i*P **P** **20 52 17.4 +1.2**
VOIR 81.36 343 ⇑P **P** **20 52 17.4 +1.2**
ISR Istrita 81.38 342⇑*i*P **P** **20 52 17.4 +1.1**
ISR Istrita 81.38 342 ⇑P **P** **20 52 17.4 +1.1**
KBA Koelnbreinsper 81.38 351 *i* P **P** **20 52 16.5 +0.2**
comp=Z,1µm,1.1s,mb6.7,SNR=271
KBA Koelnbreinsper 81.38 351 *i* P **P** **20 52 16.5 +0.2**
KBA pmax pmax
comp=Z,1µm,1.1s,mb6.7
WILA Wila 81.39 354⇑*i*P **P** **20 52 15.5 -0.9**
comp=Z,535nm,1.4s,mb6.3
BBS Basel-Blauen 81.42 355 *e*P **P** **20 52 17.2 +0.6**
SQTA Sankt Quirin 81.43 353⇑*i*P **P** **20 52 16.3 -0.2**
comp=Z,547nm,1.5s,mb6.3,SNR=44
SQTA Sankt Quirin 81.43 353⇑*i*P **P** **20 52 16.3 -0.3**
SQTA pmax pmax
comp=Z,547nm,1.5s,mb6.3
DAVA Damuels 81.46 354 *i* P **P** **20 52 17.0 +0.2**
comp=Z,698nm,2.5s,mb6.2,SNR=37
ZUR Zurich 81.46 355⇑*i*P **P** **20 52 15.9 -0.9**
comp=Z,695nm,1.1s,mb6.5
LIENZ Alp Oberkamor 81.47 354⇑*i*P **P** **20 52 16.8 0.0**
comp=Z,346nm,1.4s,mb6.1
LIENZ Alp Oberkamor 81.47 354⇑*i*P **P** **20 52 16.2 -0.6**
BOURR Bourrignon 81.51 356⇑*i*P **P** **20 52 15.9 -1.1**
comp=Z,906nm,2.7s,mb6.2
BOURR Bourrignon 81.51 356⇑*i*P **P** **20 52 16.2 -0.8**
HARR Harsova 81.51 341⇑*i*P **P** **20 52 18.3 +1.3**
HARR Harsova 81.51 341 ⇑P **P** **20 52 18.3 +1.3**
BALST Balsthal 81.54 355⇑*i*P **P** **20 52 16.2 -1.0**
comp=Z,651nm,1.3s,mb6.4
BALST Balsthal 81.54 355⇑*i*P **P** **20 52 16.4 -0.8**
MTUR Matau 81.56 343⇑*i*P **P** **20 52 19.4 +2.1**
MTUR Matau 81.56 343 P **P** **20 52 18.3 +1.0**
LOMF Lomont 81.57 356 *e*P **P** **20 52 16.9 -0.4**
PKSM Moragy 81.63 348⇑*i*P **P** **20 52 17.4 -0.2**
PKSM Moragy 81.63 348 P **P** **20 52 17.4 -0.3**
TIRR Tirgusor 81.63 340⇑*i*P **P** **20 52 19.5 +1.8**
TIRR Tirgusor 81.63 340 *e*P **P** **20 52 18.9 +1.3**
PERS Pernice 81.64 350 *e*P **P** **20 52 17.4 -0.3**
PERS *e*PcP PcP 20 52 22.4 -1.1
PLONS Plons 81.73 354⇑*i*P **P** **20 52 16.2 -2.0**
comp=Z,454nm,1.7s,mb6.1
PLONS Plons 81.73 354⇑*i*P **P** **20 52 17.4 -0.8**
WRAB Tennant Creek 81.75 223 *e*P **P** **20 52 15.3 -3.0**
comp=Z,248nm,1.4s,mb6.0
WRAB LR LR
comp=Z,12µm,19.0s,MS6.3
LOR Lormes 81.75 358 *e*P **P** **20 52 17.0 -1.3**
comp=Z,527nm,1.0s,mb6.1
LOR *e*R
comp=Z,47µm,20.5s
LOR Lormes 81.75 358 *e*P **P** **20 52 17.0 -1.3**
LOR pmax pmax
comp=Z,263nm,1.0s,mb6.1
LOR MLR MLR
comp=Z,47µm,20.5s,MS6.8
LOR Lormes 81.75 358 *e*P **P** **20 52 17.0 -1.3**
comp=Z,263nm,1.0s,mb6.1
LOR LR LR
comp=Z,47µm,20.5s,MS6.8
WB2 Warramunga Arr 81.76 223 *e*P **P** **20 52 14.8 -3.5**
WRA Warramunga Arr 81.77 223 P **P** **20 52 17.1 -1.3**
comp=Z,17nm,0.6s,mb5.2,baz=34,slow=5.9,SNR=55
WRA Warramunga Arr 81.77 223 P **P** **20 52 17.1 -1.3**
WRA pmax pmax
comp=Z,17nm,0.6s
GROS Grobnik 81.77 350 *e*P **P** **20 52 17.8 -0.6**
BZS Buzias 81.77 345⇓*i*P **P** **20 52 18.5 +0.1**
BZS Buzias 81.77 345 P **P** **20 52 18.1 -0.3**
HYF Humbligny 81.78 359 *e*P **P** **20 52 17.6 -0.8**
GZR Gura Zlata 81.80 344⇑*i*P **P** **20 52 19.1 +0.6**
GZR Gura Zlata 81.80 344 ⇑P **P** **20 52 19.1 +0.6**
OBKA Obir 81.83 350⇑*i*P **P** **20 52 18.7 0.0**
comp=Z,805nm,2.0s,mb6.3,SNR=131
HLGC Holguin 81.84 67 *e*P **P** **20 52 20.4 +1.6**
MUO Muotathal 81.86 355⇑*i*P **P** **20 52 16.4 -2.4**
comp=Z,643nm,1.3s,mb6.4
MUO Muotathal 81.86 355⇑*i*P **P** **20 52 18.3 -0.5**
LLS Linth-Limmern 81.95 354⇑*i*P **P** **20 52 17.4 -2.0**
comp=Z,426nm,1.8s,mb6.1
LLS Linth-Limmern 81.95 354⇑*i*P **P** **20 52 18.8 -0.6**
DAVOX Davos 81.96 354⇑*i*P **P** **20 52 18.9 -0.5**
comp=Z,503nm,1.3s,mb6.3
DAVOX Davos 81.96 354 P **P** **20 52 18.1 -1.3**
comp=Z,106nm,0.8s,mb5.8,baz=336,slow=1.6,SNR=62
DAVOX Davos 81.96 354⇑*i*P **P** **20 52 19.2 -0.2**
BNALP Bannalp 81.97 355⇑*i*P **P** **20 52 18.3 -1.1**
comp=Z,437nm,1.1s,mb6.3
BNALP Bannalp 81.97 355⇑*i*P **P** **20 52 18.9 -0.5**
SSF Saint Saulge 81.97 358 *e*P **P** **20 52 18.4 -1.0**
comp=Z,485nm,0.9s,mb6.1
SSF Saint Saulge 81.97 358 *e*P **P** **20 52 18.4 -1.0**
SSF pmax pmax
comp=Z,242nm,0.9s,mb6.1
SSF Saint Saulge 81.97 358 *e*P **P** **20 52 18.4 -1.0**
comp=Z,242nm,0.9s,mb6.1
BRANT Les Verrieres 82.00 356⇑*i*P **P** **20 52 18.8 -0.8**
comp=Z,572nm,1.2s,mb6.4
BRANT Les Verrieres 82.00 356⇑*i*P **P** **20 52 19.0 -0.6**
PTCC Patocco-Chiusa 82.05 351 P **P** **20 52 18.8 -1.1**
comp=Z,146nm,0.6s,mb6.1
HASLI Hasliberg 82.09 355⇑*i*P **P** **20 52 19.0 -1.1**
comp=Z,382nm,1.1s,mb6.2
HASLI Hasliberg 82.09 355⇑*i*P **P** **20 52 19.4 -0.7**
TORNY Torny 82.14 356⇑*i*P **P** **20 52 19.2 -1.1**
comp=Z,817nm,2.5s,mb6.2
TORNY Torny 82.14 356⇑*i*P **P** **20 52 19.8 -0.5**
APPI Appiano 82.16 353 P **P** **20 52 19.8 -0.7**
GMNA Gemona 82.19 351 P **P** **20 52 18.1 -2.5**
comp=Z,2µm,1.0s,mb7.1
WIMIS Wimmis 82.21 355⇑*i*P **P** **20 52 19.4 -1.3**
comp=Z,288nm,1.4s,mb6.0
WIMIS Wimmis 82.21 355⇑*i*P **P** **20 52 20.0 -0.7**
BUC1 Bucharest 82.22 342⇑*i*P **P** **20 52 22.0 +1.2**
BUC1 Bucharest 82.22 342 P **P** **20 52 21.7 +1.0**
AVF Avril sur Loir 82.24 358 *e*P **P** **20 52 19.8 -1.1**
comp=Z,864nm,1.1s,mb6.3
AVF Avril sur Loir 82.24 358 *e*P **P** **20 52 19.8 -1.1**
AVF pmax pmax
comp=Z,432nm,1.1s,mb6.3
AVF Avril sur Loir 82.24 358 *e*P **P** **20 52 19.8 -1.1**
comp=Z,432nm,1.1s,mb6.3
AKL Akola 82.28 293 *i* P PcP 20 52 32.4 +6.1
AKL AMb AMB 20 52 37.4
comp=Z,727nm,2.2s,mb6.2
AKL *i* S S 21 02 42.4 +5.6
LJU Ljubljana 82.29 350 *e*P **P** **20 52 20.9 -0.2**
LJU *e*PcP PcP 20 52 28.7 +2.3
LJU *e*PP PP 20 55 32.6 +3.0
LJU *e*S S 21 02 32.8 -4.1
LJU *e* 21 02 42.6
LJU *e*SS SS 21 08 09.5 +12
LJU Ljubljana 82.29 350 *e*P **P** **20 52 20.9 -0.2**
LJU *e* 20 52 28.7
LJU *e* 20 55 32.6
LJU *e*S S 21 02 32.8 -4.1
CLDR Caldiran 82.32 328 *e*P **P** **20 52 23.2 +2.0**
CABF La Chapelle 82.34 356 *e*P **P** **20 52 20.6 -0.8**
comp=Z,868nm,1.2s,mb6.3
CABF La Chapelle 82.34 356 *e*P **P** **20 52 20.6 -0.8**
CABF pmax pmax
comp=Z,434nm,1.2s,mb6.3
CABF La Chapelle 82.34 356 *e*P **P** **20 52 20.6 -0.8**
comp=Z,434nm,1.2s,mb6.3
FUSIO Fusio 82.36 354⇑*i*P **P** **20 52 19.8 -1.7**
comp=Z,478nm,1.5s,mb6.2
FUSIO Fusio 82.36 354⇑*i*P **P** **20 52 21.2 -0.3**
VOY Vojsko 82.36 351 *e*P **P** **20 52 20.6 -0.9**
VOY *e* 20 53 09.4
VOY *e* 20 53 17.8
VOY *e* 20 53 34.8
VOY *e* 20 53 53.7
SMF Signal de Mont 82.38 358 *e*P **P** **20 52 20.5 -1.1**
comp=Z,1µm,1.1s,mb6.5
SMF Signal de Mont 82.38 358 *e*P **P** **20 52 20.5 -1.1**
SMF pmax pmax
comp=Z,658nm,1.1s,mb6.5
SMF Signal de Mont 82.38 358 *e*P **P** **20 52 20.5 -1.1**
comp=Z,658nm,1.1s,mb6.5
LCHF La Chataignera 82.38 1 *e*P **P** **20 52 21.9 +0.3**
PSN Preselentsi 82.42 340 *i* P **P** **20 52 22.6 +0.8**
MFF Saint Martin d 82.45 1 *e*P **P** **20 52 21.0 -1.0**
comp=Z,808nm,1.1s,mb6.3
MFF Saint Martin d 82.45 1 *e*P **P** **20 52 21.0 -1.0**
MFF pmax pmax
comp=Z,404nm,1.1s,mb6.3
MFF Saint Martin d 82.45 1 *e*P **P** **20 52 21.0 -1.0**
comp=Z,404nm,1.1s,mb6.3
ERZM Erzurum 82.46 330 *i* P **P** **20 52 24.2 +2.2**
EZM Erzurum 82.46 330 *e*P **P** **20 52 23.5 +1.4**
LRYF La Roche-sur-Y 82.46 2 *e*P **P** **20 52 21.4 -0.6**
GRSN GIRESUNGRSN 82.47 332 *i* P **P** **20 52 22.6 +0.5**
BGF Bois d'Agland 82.48 359 *e*P **P** **20 52 21.1 -1.0**
comp=Z,668nm,1.1s,mb6.2
BGF Bois d'Agland 82.48 359 *e*P **P** **20 52 21.1 -1.0**
BGF pmax pmax
comp=Z,334nm,1.1s,mb6.2
BGF Bois d'Agland 82.48 359 *e*P **P** **20 52 21.1 -1.0**
comp=Z,334nm,1.1s,mb6.2
LKBD Leukerbad 82.49 355⇑*i*P **P** **20 52 20.0 -2.2**
comp=Z,415nm,1.2s,mb6.2
LKBD Leukerbad 82.49 355⇑*i*P **P** **20 52 21.7 -0.5**
SENIN Lac Senin 82.53 355⇑*i*P **P** **20 52 21.2 -1.2**
comp=Z,930nm,3.4s
SENIN Lac Senin 82.53 355⇑*i*P **P** **20 52 22.0 -0.4**
CTI Castel Tesino 82.56 352 P **P** **20 52 21.4 -1.1**
CTI pmax pmax
comp=Z,483nm,1.3s,mb6.4
CTI Castel Tesino 82.56 352 P **P** **20 52 21.4 -1.1**
comp=Z,483nm,1.3s,mb6.4
AIGLE Aigle 82.57 356⇑*i*P **P** **20 52 21.7 -0.9**
comp=Z,383nm,1.1s,mb6.3
DJES Djerdap 82.58 344 *i* P **P** **20 52 23.3 +0.7**
OG01 Vacheresse 82.59 356 *e*P **P** **20 52 23.2 +0.5**
DIKM Dikmen 82.64 335 *e*P **P** **20 52 21.4 -1.5**
SISC Sisak 82.64 349 P **P** **20 52 22.4 -0.6**
GRYON Gryon 82.65 356⇑*i*P **P** **20 52 21.7 -1.3**
comp=Z,200nm,1.1s,mb6.1
GRYON Gryon 82.65 356⇑*i*P **P** **20 52 22.4 -0.6**
CRAR CRAIOVA 82.66 344⇑*i*P **P** **20 52 25.7 +2.7**
CRAR CRAIOVA 82.66 344 P **P** **20 52 23.6 +0.6**
BEO Belgrade 82.73 346 *i* P **P** **20 52 25.5 +2.1**
MBJ Montego Bay 82.74 70⇑*e*P **P** **20 52 25.8 +2.3**
BOJS Bojanci 82.74 350 *e*P **P** **20 52 22.9 -0.6**
BOJS *e*PcP PcP 20 52 27.8 -0.6
BOJS *e*S S 21 02 37.7 -3.9
RCC Rio Carpintero 82.76 67 *e*P **P** **20 52 22.8 -0.8**
TCF Toulx Ste Croi 82.76 359 *e*P **P** **20 52 22.4 -1.2**
comp=Z,336nm,1.0s,mb6.0

TCF **Toulx Ste Croi** 82.76 359 *e*P P 20 52 22.4 -1.2
TCF pmax pmax
comp=Z,168nm,1.0s,mb6.0
TCF **Toulx Ste Croi** 82.76 359 *e*P P 20 52 22.4 -1.2
comp=Z,168nm,1.0s,mb6.0
MMK **Mattmark** 82.81 355⇑ *i*P P 20 52 22.4 -1.4
comp=Z,1µm,2.1s,mb6.5
MMK **Mattmark** 82.81 355⇑ *i*P P 20 52 23.9 +0.1
DIX **Grande Dixence** 82.81 355⇑ *i*P P 20 52 22.4 -1.4
comp=Z,489nm,1.2s,mb6.4
DIX **Grande Dixence** 82.81 355⇑ *i*P P 20 52 23.9 +0.1
OG05 **Jujurieux** 82.93 357 *e*P P 20 52 25.2 +0.7
BYBT **Boyabat** 82.94 335 *e*P P 20 52 26.1 +1.6
VAI **Varese** 82.94 354 P P 20 52 23.4 -1.1
VAI pmax pmax
comp=Z,231nm,0.8s,mb6.3
VAI **Varese** 82.94 354 P P 20 52 23.4 -1.1
comp=Z,231nm,0.8s,mb6.3
BOYT **Boyabat** 82.95 335 *i* P P 20 52 26.2 +1.7
KVT **Kavak** 82.96 334 *e*P P 20 52 26.0 +1.4
AGO **Saint Agoulin** 82.99 358 *e*P P 20 52 25.5 +0.8
VANB **Van** 82.99 328 *e*P P 20 52 25.4 +0.7
TVAN **Van** 83.04 328 *i* P P 20 52 27.9 +2.9
PRD **Provadia** 83.05 341 *i* P P 20 52 25.0 -0.1
PLDF **La Plantade** 83.06 358 *e*P P 20 52 25.0 -0.1
SAL **Salo** 83.08 353 P P 20 52 24.5 -0.7
SAL pmax pmax
comp=Z,857nm,0.8s,mb6.8
SAL **Salo** 83.08 353 P P 20 52 24.5 -0.7
comp=Z,857nm,0.8s,mb6.8
EZC **Erzincan** 83.09 331 *e*P P 20 52 26.8 +1.5
OLEF **Ile d'Oleron** 83.10 1 *e*P P 20 52 26.0 +0.7
BBJ **Bamboo Saint A** 83.10 69⇓ *e*P P 20 52 26.1 +0.7
SVIS **Svilajnac** 83.12 345 *i* P P 20 52 24.8 -0.7
MATF **Mathat** 83.23 1 *e*P P 20 52 27.1 +1.1
RSL **Roselend** 83.24 356 *e*P P 20 52 25.7 -0.4
BALT **Daday** 83.24 336 *i* P P 20 52 27.0 +0.9
SZH **Strazhica** 83.28 342 *i* P P 20 52 27.4 +1.1
PYM **Petit Puy Mans** 83.29 358 *e*P P 20 52 27.5 +1.2
BNGL **BINGOL** 83.40 329 *i* P P 20 52 27.6 +0.7
LPL **La Plagne** 83.41 356 *e*P P 20 52 26.9 0.0
comp=Z,267nm,1.1s,mb5.9
LPL **La Plagne** 83.41 356 *e*P P 20 52 26.9 0.0
LPL pmax pmax
comp=Z,134nm,1.0s,mb5.9
LPL **La Plagne** 83.41 356 *e*P P 20 52 26.9 0.0
comp=Z,134nm,1.0s,mb5.9
LPG **La Plagne** 83.42 356 *e*P P 20 52 27.3 +0.3
comp=Z,598nm,1.3s,mb6.2
LPG **La Plagne** 83.42 356 *e*P P 20 52 27.3 +0.3
LPG pmax pmax
comp=Z,299nm,1.3s,mb6.2
LPG **La Plagne** 83.42 356 *e*P P 20 52 27.3 +0.3
comp=Z,299nm,1.3s,mb6.2
PVL **Pavlikeni** 83.45 342 *i* P P 20 52 31.2 +4.1
MASC **Masc** 83.46 66 *e*P P 20 52 31.1 +3.9
DIVS **Divcibare** 83.50 346 *i* P P 20 52 26.9 -0.5
COLF **Collangettes** 83.51 358 *e*P P 20 52 27.1 -0.3
TOKT **Tokat** 83.53 333 *e*P P 20 52 28.1 +0.6
TOS **Tosya** 83.54 335 *e*P P 20 52 28.6 +1.0
GRUS **Gruza** 83.60 346 *i* P P 20 52 27.4 -0.5
STH **Stony Hill** 83.61 69⇑ *e*P P 20 52 30.1 +2.1
GWJ **Greenwich** 83.66 69⇑ *e*P P 20 52 29.5 +1.3
FRNF **Fournols** 83.66 359 *e*P P 20 52 29.5 +1.3
BINT **Bingol** 83.68 330 *e*P P 20 52 30.1 +1.8
SAFT **Safranbolu** 83.70 336 *e*P P 20 52 30.2 +1.7
RKT **Rikitea** 83.71 140 *e*S S 21 02 44.1 -7.3
comp=Z,11µm,31.8s
RKT *e*SS SS 21 08 09.3 -8.8
comp=Z,10µm,25.8s
RKT *e*LR LR 21 18 36.8
comp=Z,39µm,28.0s,baz=332
GRN **Grenoble** 83.72 356 *e*P P 20 52 29.6 +1.1
CTKT **Corum** 83.73 335 *i* P P 20 52 29.8 +1.3
GDM **Grand'Maison** 83.74 356 *e*P P 20 52 29.1 +0.4
RJF **Les Rejaudoux** 83.75 359 *e*P P 20 52 27.5 -1.2
comp=Z,1µm,1.2s,mb6.5
RJF *e*R
comp=Z,44µm,22.5s
RJF **Les Rejaudoux** 83.75 359 *e*P P 20 52 27.5 -1.2
RJF pmax pmax
comp=Z,542nm,1.2s,mb6.5
RJF MLR MLR
comp=Z,44µm,22.5s,MS6.8
RJF **Les Rejaudoux** 83.75 359 *e*P P 20 52 27.5 -1.2
comp=Z,542nm,1.2s,mb6.5
RJF LR LR
comp=Z,44µm,22.5s,MS6.8
SVSK **Karacayir** 83.77 333 *e*P P 20 52 28.1 -0.6
LBL **Lubilhac** 83.80 358 *e*P P 20 52 28.9 -0.1
BBLS **Bajina Basta -** 83.82 347 *i* P P 20 52 30.0 +1.0
CMJ **Castle Mountai** 83.82 69⇑ *e*P P 20 52 31.1 +2.1
BNI **Bardonecchia** 83.87 356 *e*P P 20 52 29.9 +0.7
SVST **Sivas** 83.92 333 *i* P P 20 52 30.6 +1.0
JMB **Yambol** 83.92 341 *i* P P 20 52 29.4 -0.2
KDZE **Karadeniz Ereo** 83.94 337 *e*P P 20 52 28.1 -1.5
HYB **Hyderabad** 83.96 290⇓ *i*P P 20 52 29.0 -0.7
comp=Z,560nm,1.0s,mb6.7
HYB *e*PcP PcP 20 52 35.0 +1.3
HYB *e*sP sP 20 52 38.0 +4.4
HYB *e*PP PP 20 55 52.0 +8.7
HYB *e*S S 21 02 52.0 -1.9
HYB LR LR 21 33 20.0
comp=Z,43nm,16.0s
HYB **Hyderabad** 83.96 290 *e*P P 20 52 29.0 -0.7
HYB *e*S S 21 02 56.0 +2.1
HYB pmax pmax
comp=Z,560nm,1.0s,mb6.7
HYB **Hyderabad** 83.96 290 *e*P P 20 52 29.0 -0.7
comp=Z,560nm,1.0s,mb6.7
HYB *e*S S 21 02 56.0 +2.1
BTMT **Batman** 83.98 329 *e*P P 20 52 31.2 +1.4
BOB **Bobbio (Coli)** 84.00 354 P P 20 52 29.1 -0.8
ORIF **Oris-en-Rattie** 84.04 356 *e*P P 20 52 29.9 -0.3
comp=Z,502nm,1.0s,mb6.3
ORIF *e*R
comp=Z,31µm,23.0s
ORIF **Oris-en-Rattie** 84.04 356 *e*P P 20 52 29.9 -0.3
ORIF pmax pmax
comp=Z,251nm,1.0s,mb6.3
ORIF **Oris-en-Rattie** 84.04 356 *e*P P 20 52 29.9 -0.3
comp=Z,251nm,1.0s,mb6.3
CANT **Cankiri** 84.05 335 *e*P P 20 52 31.4 +1.2
OG22 **Abries** 84.09 356 *e*P P 20 52 31.7 +1.3
LFF **La Frestale** 84.12 360 *e*P P 20 52 29.7 -0.9
comp=Z,2µm,1.0s,mb6.8
LFF **La Frestale** 84.12 360 *e*P P 20 52 29.7 -0.9
LFF pmax pmax
comp=Z,790nm,1.0s,mb6.8
LFF **La Frestale** 84.12 360 *e*P P 20 52 29.7 -0.9
comp=Z,790nm,1.0s,mb6.8
CAF **Calviac** 84.13 359 *e*P P 20 52 29.9 -0.7
comp=Z,1µm,1.3s,mb6.6
CAF **Calviac** 84.13 359 *e*P P 20 52 29.9 -0.7
CAF pmax pmax
comp=Z,625nm,1.3s,mb6.6
CAF **Calviac** 84.13 359 *e*P P 20 52 29.9 -0.7
comp=Z,624nm,1.3s,mb6.6
CUKT **Cukurca** 84.13 327 *e*P P 20 52 31.4 +0.8
VIVF **Saint-Julien-l** 84.14 357 *e*P P 20 52 30.1 -0.6
comp=Z,818nm,1.3s,mb6.4
VIVF **Saint-Julien-l** 84.14 357 *e*P P 20 52 30.1 -0.6
VIVF pmax pmax
comp=Z,409nm,1.3s,mb6.4
VIVF **Saint-Julien-l** 84.14 357 *e*P P 20 52 30.1 -0.6
comp=Z,409nm,1.3s,mb6.4
CORM **Corum** 84.19 335 *e*P P 20 52 30.6 -0.3
FITZ **Fitzroy Crossi** 84.19 232 P P 20 52 30.0 -0.9
comp=Z,108nm,0.7s,mb6.1,baz=20,slow=5.4,SNR=57
FITZ **Fitzroy Crossi** 84.19 232 *e*P P 20 52 28.8 -2.2
comp=Z,250nm,0.6s,mb6.5
FITZ *e*S 21 02 54.1
ELDT **Eldivan** 84.21 336 *i* P P 20 52 31.4 +0.4
PGB **Panagyurishte** 84.31 343 *i* P P 20 52 32.1 +0.6
BEST **Besiri** 84.32 329 *i* P P 20 52 32.2 +0.6
GSCL **Gusciola** 84.33 353 P P 20 52 33.2 +1.6
comp=Z,551nm,1.1s,mb6.6
PLE **Pljevlja** 84.34 346⇑ *i*P P 20 52 32.3 +0.6
BHJ **Bhuj** 84.37 300 *e*P P 20 52 33.7 +1.9
BHJ AMb AMB 20 52 40.4
comp=Z,612nm,0.9s,mb6.7
SURF **Saint Ours** 84.43 356 *e*P P 20 52 33.0 +0.8
VTS **Vitosha** 84.44 344 *i* P P 20 52 32.4 +0.2
VTS **Vitosha** 84.44 344⇑ *i*P P 20 52 32.5 +0.3
VTS **Vitosha** 84.44 344 P P 20 52 31.7 -0.5
FNVD **Fontana Vidola** 84.47 353 P P 20 52 33.7 +1.4
EDRB **Edirne** 84.48 341 *e*P P 20 52 32.0 -0.4
SGKT **Sivrigoynuk** 84.48 337 *i* P P 20 52 32.6 +0.2
ELZG **Elazig** 84.49 331 *i* P P 20 52 33.2 +0.7
YOZ **Yozgat** 84.50 334 *e*P P 20 52 34.6 +2.1
HENT **Hendek** 84.53 337 *i* P P 20 52 32.5 -0.1
DIM **Dimitrovgrad** 84.53 342 *i* P P 20 52 33.8 +1.1
VLC **Villacollemand** 84.53 353 *e*P P 20 52 32.2 -0.4
UPM **Unac-Piva** 84.54 347⇑ *i*P P 20 52 32.3 -0.4
KLYT **Kilyos** 84.56 339 *e*P P 20 52 30.9 -1.9
FIN **Finale Ligure** 84.63 355 P P 20 52 32.7 -0.5
FIN pmax pmax
comp=Z,474nm,1.2s,mb6.5
FIN **Finale Ligure** 84.63 355 P P 20 52 32.7 -0.5
comp=Z,474nm,1.2s,mb6.5
PLD **Plovdiv** 84.64 342 *i* P P 20 52 33.5 +0.3
DIY **Diyarbakir** 84.66 330 *e*P P 20 52 35.5 +2.2
IVA **Berane** 84.72 346⇑ *i*P P 20 52 33.7 +0.1
ISK **Istanbul-Kandi** 84.73 339 *e*P P 20 52 34.0 +0.3
JTS **JuntasAbangare** 84.74 80 *e*P P 20 52 32.0 -1.7
CDAG **Cicekdag** 84.77 335 *i* P P 20 52 35.0 +1.1
MDU **Mudurnu** 84.79 337 *e*P P 20 52 35.3 +1.3
MYA **Malataya** 84.82 331 *e*P P 20 52 32.0 -2.1
HRT **Hereke** 84.82 338 *e*P P 20 52 35.1 +0.9
MALT **Malatya** 84.83 331⇑ *i*P P 20 52 35.2 +1.0
MALT **Malatya** 84.83 331 *e*P P 20 52 33.8 -0.4
BR131 **Keskin Array S** 84.88 335 *e*P P 20 52 34.1 -0.3
comp=Z,182nm,0.8s,mb6.3
BR131 LR LR
comp=Z,13µm,22.0s,MS6.3
BRTR **Keskin Array B** 84.88 335 P P 20 52 33.7 -0.7
comp=Z,68nm,0.8s,mb5.8,baz=31,slow=3.1,SNR=143
BRTR PKKPbc PKKPbc 21 10 38.7 -3.7
comp=Z,0.7nm,0.6s,baz=177,slow=6.1,SNR=3.6
BRTR PKPPKP 21 18 33.5
comp=Z,1.9nm,1.0s,baz=171,slow=6.3,SNR=6.1
TOUF **Mont Tournerai** 84.88 355 *e*P P 20 52 34.5 +0.1
AUTN **L'Aution** 84.89 355 *e*P P 20 52 34.7 +0.2
BRY **Bratogost** 84.89 347⇑ *i*P P 20 52 33.5 -1.0
SAOF **Saorge** 84.89 355 *e*P P 20 52 34.0 -0.5
NKY **Niksic** 84.91 347⇑ *i*P P 20 52 34.0 -0.5
KDZ **Kurdzhali** 84.94 342 *i* P P 20 52 35.0 +0.3
LASF **Ste Croix** 84.95 358 *e*P P 20 52 34.0 -0.8
comp=Z,362nm,0.9s,mb6.2
IMI **Imperia** 84.95 355 P P 20 52 34.2 -0.6
comp=Z,367nm,0.9s,mb6.5
LOD **Lodumlu** 84.95 336 *e*P P 20 52 36.2 +1.5
STOF **St-Etienne Org** 84.96 356 *e*P P 20 52 34.3 -0.5
ANTO **Ankara** 84.96 336 *e*P P 20 52 34.9 +0.1
ANTO **Ankara** 84.96 336⇑ *i*P P 20 52 37.0 +2.2
ANTO **Ankara** 84.96 336 P P 20 52 34.7 -0.1
ANTO pmax pmax
comp=Z,410nm,1.0s,mb6.5
ANTO **Ankara** 84.96 336 P P 20 52 35.5 +0.7
ANTO LR LR
comp=Z,46µm,21.0s,MS6.8
PVY **Plav** 84.98 346⇑ *i*P P 20 52 35.5 +0.6
SMRF **Simiane la Rot** 84.99 356 *e*P P 20 52 34.9 -0.1
comp=Z,1µm,1.1s,mb6.6
SMRF **Simiane la Rot** 84.99 356 *e*P P 20 52 34.9 -0.1
comp=Z,1µm,1.1s,mb6.6
LUCF **Luceram** 84.99 355 *e*P P 20 52 35.2 +0.2
MVIF **Mont Vial** 85.00 355 *e*P P 20 52 35.0 0.0
MARD **Mardin** 85.01 329 *i* P P 20 52 35.3 +0.2
SBF **Sospel** 85.02 355 *e*P P 20 52 34.0 -1.1
comp=Z,1µm,1.0s,mb6.8
SBF **Sospel** 85.02 355 *e*P P 20 52 34.0 -1.1
SBF pmax pmax
comp=Z,723nm,1.0s,mb6.8
SBF **Sospel** 85.02 355 *e*P P 20 52 34.0 -1.1
comp=Z,724nm,1.0s,mb6.8
STON **Ston** 85.03 348 *i* P P 20 52 33.5 -1.7
RZN **Rozhen** 85.04 342 *i* P P 20 52 36.2 +1.0
CING **Cingoli** 85.06 351 P P 20 52 34.7 -0.6
BNN **Bunyan** 85.09 333 *e*P P 20 52 35.6 +0.1
VILF **Villemus** 85.11 356 *e*P P 20 52 36.0 +0.4
YLV **Yalova** 85.13 338 *e*P P 20 52 34.5 -1.2
REVF **Revere** 85.14 355 *e*P P 20 52 35.5 -0.3
KKB **Krupnik** 85.17 343 *i* P P 20 52 36.5 +0.6
MSL **Mosul** 85.17 327 *e*x x 20 52 36.0
MSL *e*x x 20 53 12.5
MSL *e*x x 20 56 08.5
MSL *e*x x 21 03 02.0
ADVT **Abdulvahap** 85.18 338 *e*P P 20 52 36.2 +0.3
PRAF **Pradon** 85.18 357 *e*P P 20 52 36.2 +0.3
KAMT **Kaman** 85.19 335 *e*P P 20 52 36.0 0.0
AS31 **Alice Springs** 85.24 222 *e*P P 20 52 33.3 -2.9
AS31 *e* 21 02 59.8
MURB **Monte Urbino** 85.24 351 P P 20 52 36.8 +0.6
ASAR **Alice Springs** 85.24 222 P P 20 52 35.6 -0.6
comp=Z,57nm,0.9s,mb5.7,baz=24,slow=4.5,SNR=46
ASAR PKKPbc PKKPbc 21 10 41.0 -0.6
comp=Z,1.0nm,0.8s,baz=191,slow=0.1,SNR=3.7
ASAR PKP2bc 21 18 12.7
comp=Z,0.6nm,0.8s,baz=225,slow=3.3,SNR=4.2
ASAR **Alice Springs** 85.24 222 P P 20 52 35.6 -0.6
ASAR PKKPbc PKKPbc 21 10 41.0 -0.6
ASAR ⇑*e* 21 18 12.7
ASPA **Alice Springs** 85.25 222 *e*P P 20 52 33.3 -3.0
ASPA *e* 21 02 59.8
TTG **Podgorica** 85.25 346⇑ *i*P P 20 52 35.5 -0.7
GEMT **Gemlik** 85.30 339 *e*P P 20 52 36.2 -0.3
MMB **Musmoniste** 85.32 343 *i* P P 20 52 37.5 +0.9
ARMA **Armidale** 85.33 205 *e*P P 20 52 36.8 +0.1
ARMA *e*S 21 03 06.8
TAVF **Tavernes** 85.33 356 *e*P P 20 52 36.6 -0.1
HCY **Herceg Novi** 85.34 347⇑ *i*P P 20 52 35.7 -1.0
TREF **Trevaresse** 85.35 357 *e*P P 20 52 37.3 +0.5
SKO **Skopje** 85.35 345 *i* P P 20 52 37.9 +1.1
SKO *i*S 21 03 04.0
FRF **La Foret Royal** 85.36 356 *e*P P 20 52 35.7 -1.1
comp=Z,511nm,0.8s,mb6.4
FRF **La Foret Royal** 85.36 356 *e*P P 20 52 35.7 -1.1
FRF pmax pmax
comp=Z,255nm,0.8s,mb6.4
FRF **La Foret Royal** 85.36 356 *e*P P 20 52 35.7 -1.1
comp=Z,255nm,0.8s,mb6.4
MFT **Murefte** 85.39 340 *e*P P 20 52 38.4 +1.4
RDO **Rodhopi** 85.40 341 *e*P P 20 52 36.2 -0.8
BUM **Brajici-Budva** 85.42 347⇑ *i*P P 20 52 36.6 -0.5
PUYF **Puyloubier** 85.43 356 *e*P P 20 52 37.7 +0.5
AVNT **Avonos** 85.43 334 *i* P P 20 52 37.2 0.0
EPON **Pontenova** 85.48 6 P P 20 52 36.9 -0.6
comp=Z,1µm,2.4s,mb6.5
GRFL **Gerfalco** 85.49 352 P P 20 52 36.6 -0.9
comp=Z,975nm,1.1s,mb6.8
RKY **Sarkoy-Tekirda** 85.50 340 *e*P P 20 52 38.4 +0.9
URFA **Urfa** 85.51 330 *e*P P 20 52 39.2 +1.7
NVR **Nevrokopi** 85.53 343 *e*P P 20 52 37.1 -0.6
BORA **Eskisehir** 85.53 337 *i* P P 20 52 37.1 -0.6
GELF **Grande-Etoile** 85.59 357 *e*P P 20 52 38.1 +0.1
LMR **La Mourre** 85.59 356 *e*P P 20 52 37.0 -1.0
comp=Z,847nm,1.0s,mb6.6
LMR **La Mourre** 85.59 356 *e*P P 20 52 37.0 -1.0
LMR pmax pmax
comp=Z,423nm,1.0s,mb6.6
LMR **La Mourre** 85.59 356 *e*P P 20 52 37.0 -1.0
comp=Z,423nm,1.0s,mb6.6
ULDT **Uludag** 85.59 339 *i* P P 20 52 38.3 +0.3
EARI **Arriondas** 85.62 4 P P 20 52 37.8 -0.3
comp=Z,222nm,1.2s,mb6.3
ATAB **Bozova** 85.65 331 *i* P P 20 52 39.5 +1.3
BERF **Bertagne** 85.65 356 *e*P P 20 52 38.4 +0.1
ENEZ **Enez** 85.67 341 *e*P P 20 52 35.5 -2.9
ULC **Ulcinj** 85.70 346⇑ *i*P P 20 52 38.3 -0.2
MTLF **Montolieu** 85.71 359 *e*P P 20 52 37.7 -0.9
comp=Z,706nm,1.1s,mb6.5
MTLF **Montolieu** 85.71 359 *e*P P 20 52 37.7 -0.9
MTLF pmax pmax
comp=Z,353nm,1.1s,mb6.5
MTLF **Montolieu** 85.71 359 *e*P P 20 52 37.7 -0.9
comp=Z,353nm,1.1s,mb6.5
EMAZ **Mazaricos** 85.73 7 P P 20 52 38.9 +0.2
comp=Z,138nm,1.4s,mb6.0
ORLT **Orhaneli** 85.74 339 *e*P P 20 52 40.0 +1.2
ELAN **Lanestosa** 85.76 3 P P 20 52 38.7 -0.1
comp=Z,519nm,0.8s,mb6.8
ESKT **Eskisehir** 85.78 337 *i* P P 20 52 37.9 -1.0
OSSF **Osses** 85.79 1 *e*P P 20 52 38.3 -0.7
VAY **Valandovo** 85.79 344⇑ *i*P P 20 52 38.3 -0.7
VAY *i*S 21 03 05.9
POO **Poona** 85.81 294⇑ *i*P P 20 52 38.0 -1.1
POO *e*PCP PcP 20 52 41.0 -0.9
POO *e*x x 20 53 19.5
POO *e*x x 20 56 03.0
POO *e*x x 21 03 03.5
POO *i*x x 21 03 16.0
POO *e*SCS ScS 21 03 20.5 -1.2
EALK **Alkurruntz** 85.82 2 P P 20 52 39.4 +0.3
comp=Z,283nm,1.4s,mb6.3
STS **Santiago** 85.83 7 P P 20 52 39.7 +0.5
STS pmax pmax
comp=Z,83nm,0.8s,mb6.0
STS **Santiago** 85.83 7 P P 20 52 39.6 +0.5
comp=Z,83nm,0.8s,mb6.0
ORDF **Ordiarp** 85.84 1 *e*P P 20 52 39.3 +0.1
ELIZ **Elizondo** 85.88 2 P P 20 52 40.0 +0.6
ELIZ pmax pmax
comp=Z,165nm,1.4s,mb6.1
ELIZ **Elizondo** 85.88 2 P P 20 52 40.0 +0.6
comp=Z,164nm,1.4s,mb6.1
ATE **Arette** 85.97 1 *e*P P 20 52 40.0 +0.2
GZT **Gaziantep** 85.97 331 *i* P P 20 52 40.7 +0.8
REYF **Montagne du Re** 85.98 1 *e*P P 20 52 40.2 +0.3
LABF **Labassere** 86.01 0 *e*P P 20 52 39.9 -0.2
EPF **Esparros** 86.03 0 *e*P P 20 52 38.5 -1.6
comp=Z,165nm,0.8s,mb6.0
EPF **Esparros** 86.03 0 *e*P P 20 52 38.5 -1.6
EPF pmax pmax
comp=Z,82nm,0.8s,mb6.0
EPF **Esparros** 86.03 0 *e*P P 20 52 38.5 -1.6
comp=Z,82nm,0.8s,mb6.0
QSH **Qafa e Shtames** 86.04 346 *i* p P 20 52 44.0 +3.8
AQU **L'Aquila** 86.06 351⇓ *i*P P 20 52 42.5 +2.2
AQU **L'Aquila** 86.06 351 P P 20 52 41.8 +1.5
AQU pmax pmax
comp=Z,2µm,2.3s,mb6.9
AQU **L'Aquila** 86.06 351 *e*P P 20 52 41.8 +1.5
MLS **Moulis** 86.10 360 *e*P P 20 52 40.9 +0.4
KIZT **Kizilcal** 86.13 336 *e*P P 20 52 40.4 -0.3
ETSF **Etsaut** 86.16 1 *e*P P 20 52 40.3 -0.5
comp=Z,395nm,0.7s,mb6.4
ETSF **Etsaut** 86.16 1 *e*P P 20 52 40.3 -0.5
ETSF pmax pmax
comp=Z,197nm,0.7s,mb6.5
ETSF **Etsaut** 86.16 1 *e*P P 20 52 40.3 -0.5
comp=Z,197nm,0.7s,mb6.5
FIAM **Fiamignano** 86.17 351 P P 20 52 40.6 -0.2
CANB **Canakkale** 86.17 340 *e*P P 20 52 38.4 -2.4
VIEF **Viey** 86.17 1 *e*P P 20 52 41.4 +0.5
MELF **Melles** 86.19 360 *e*P P 20 52 42.9 +2.0
MAON **Monte Argentar** 86.19 352 P P 20 52 40.9 -0.1
BTOK **Tokmak** 86.20 339 *i* P P 20 52 42.4 +1.4
PGF **Pioggiola** 86.23 354 *e*P P 20 52 40.1 -1.1
comp=Z,2µm,1.0s,mb6.9
PGF **Pioggiola** 86.23 354 *e*P P 20 52 40.1 -1.1
PGF pmax pmax
comp=Z,804nm,1.0s,mb6.9
PGF **Pioggiola** 86.23 354 *e*P P 20 52 40.1 -1.1
comp=Z,804nm,1.0s,mb6.9
GAZ **Gaziantep** 86.25 332 *e*P P 20 52 42.3 +1.1
RESF **Ens** 86.25 0 *e*P P 20 52 42.2 +0.9
OHR **Ohrid** 86.30 345 *i* P P 20 52 37.7 -3.8
OHR *i*S 21 03 03.8
BIA **Bitola** 86.30 345 *i* P P 20 52 41.3 -0.2
SALF **Salau** 86.30 360 *e*P P 20 52 42.2 +0.7
CARF **Carcanieres** 86.34 359 *e*P P 20 52 41.6 -0.1
MDRS **Chennai** 86.35 286 *e*P P 20 52 41.8 0.0
MDRS AMb AMB 20 52 49.7
comp=Z,180nm,1.1s,mb6.2
MDRS *e*x x 21 00 25.8
BALB **Balikesir** 86.36 339 *e*P P 20 52 40.9 -0.9
PLUZ **Luz** 86.36 23 *e*P P 20 52 48.6 +6.8
comp=Z,275nm,1.1s,mb6.4
KOZT **Kozan** 86.37 333 *e*P P 20 52 39.4 -2.4
EBIE **Bielsa** 86.37 0 P P 20 52 42.3 +0.4
comp=Z,116nm,0.6s,mb6.3
KDHN **Kadinhani** 86.40 336 *i* P P 20 52 41.0 -1.0
FGMS **Monte Sant'Ang** 86.41 349 P P 20 52 41.9 -0.1
comp=Z,1µm,1.2s,mb6.9
CORF **Corte** 86.47 354 *e*P P 20 52 41.7 -0.6
TOLF **Tolfa** 86.48 352 P P 20 52 42.8 +0.4
FILF **Fillols** 86.49 359 *e*P P 20 52 43.3 +0.9
CERT **Cerreto** 86.50 351 P P 20 52 43.1 +0.6
GDZ **Gediz** 86.52 338 *i* P P 20 52 43.7 +1.2
PVIA **Vitoria** 86.53 22 *e*P P 20 52 43.8 +1.2
comp=Z,68nm,1.0s,mb5.8
STGR **Santa Cruz** 86.53 22 *e*P P 20 52 44.7 +2.1
comp=Z,62nm,1.3s,mb5.7
PLG **Polygyros** 86.55 343 *e*P P 20 52 41.3 -1.4
SJAF **Saint Jean de** 86.56 358 *e*P P 20 52 43.6 +0.9
SRBC **Serra Branca** 86.56 22 *e*P P 20 52 47.0 +4.2
PGRA **Graciosa** 86.58 22 *e*P P 20 52 46.0 +3.1
comp=Z,721nm,1.1s,mb6.8
KAD **Karad** 86.59 293 *e*P P 20 52 43.4 +0.5
KAD AMb AMB 20 52 49.2
comp=Z,576nm,1.1s,mb6.7
EJON **La Jonquera** 86.59 358 P P 20 52 43.8 +0.9
comp=Z,29nm,0.7s,mb5.6
MIDA **Miranda** 86.67 350 P P 20 52 44.7 +1.4
LIA **Limnos Island** 86.68 341 *e*P P 20 52 42.2 -1.1
KARA **Karaisali** 86.79 333 *e*P P 20 52 44.6 +0.7
PTCA **Ponta do Capel** 86.81 23 *e*P P 20 52 49.1 +5.1
comp=Z,150nm,1.0s,mb6.2
ROSA **Rosais** 86.82 22 *e*P P 20 52 46.4 +2.4
CEYT **Ceyhan** 86.83 333 *e*P P 20 52 45.3 +1.3
CALA **Caldeira** 86.84 23 *e*P P 20 52 47.0 +2.9
EGRA **Graus** 86.86 0 P P 20 52 45.9 +1.6
comp=Z,96nm,0.6s,mb6.2
PAMA **Santo Amaro** 86.87 22 *e*P P 20 52 47.4 +3.1
comp=Z,177nm,1.0s,mb6.2
ELOB **Lobios** 86.88 7 P P 20 52 45.3 +0.9
comp=Z,78nm,1.0s,mb5.9
KONT **Konya--Tatoy** 86.88 335 *e*P P 20 52 45.7 +1.4
ECAL **Calabor** 86.89 6 P P 20 52 44.8 +0.4
comp=Z,73nm,1.0s,mb5.9
KZN **Kozani** 86.92 344 *e*P P 20 52 43.8 -0.7
PMAN **Manadas** 86.94 22 *e*P P 20 52 47.5 +2.9
comp=Z,671nm,0.9s,mb6.9
PICO **Pico** 86.98 23 *e*P P 20 52 47.8 +3.0
PSBA **Serra de Santa** 86.98 22 *e*P P 20 52 49.5 +4.7
comp=Z,611nm,1.5s,mb6.6
PTEI **Pico do Teixo** 87.00 22 *e*P P 20 52 49.0 +4.1
comp=Z,290nm,1.2s,mb6.4
PBIS **Biscoitos** 87.01 22 *e*P P 20 52 51.3 +6.3
comp=Z,165nm,1.1s,mb6.2
FG4 **Candela** 87.03 349 P P 20 52 46.0 +1.0
FG4 pmax pmax
comp=Z,1µm,1.5s,mb7.0
FG4 **Candela** 87.03 349 P P 20 52 46.0 +1.0
comp=Z,1µm,1.5s,mb7.0
PBRG **Braganca** 87.03 6 *e*P P 20 52 45.3 +0.3
comp=Z,130nm,1.2s,mb6.0
PVNV **Vila Nova** 87.03 21 *e* 20 52 50.2
ASBA **Santa Barbara** 87.03 22 *e*P P 20 52 50.7 +5.6
comp=Z,263nm,1.2s,mb6.3
PCAB **Cabril** 87.03 7 *e*P P 20 52 45.3 +0.2
comp=Z,149nm,1.2s,mb6.1
RFI **Roccamonfina** 87.04 350 P P 20 52 46.4 +1.3
comp=Z,82nm,1.2s,mb5.8
PBOI **Pico dos Bois** 87.05 22 *e*P P 20 52 49.9 +4.7
comp=Z,326nm,1.2s,mb6.4
PPAD **Pico dos Padre** 87.06 22 *e*P P 20 52 50.6 +5.4
comp=Z,311nm,1.3s,mb6.4
PRK **Paraskevi** 87.08 340 *e*P P 20 52 44.6 -0.7
PFAV **Pico das Favas** 87.09 21 *e*P P 20 52 50.8 +5.4
comp=Z,132nm,0.9s,mb6.2
OSPF **L'Ospedale** 87.10 354 *e*P P 20 52 45.3 -0.1
PID **Ribeirinha** 87.11 22 *e*P P 20 52 47.1 +1.7
RIB2 **Ribeirinha** 87.11 22 *e*P P 20 52 50.1 +4.6
comp=Z,293nm,1.3s,mb6.3
ADH **Angra Heroismo** 87.11 22 *e*P P 20 52 48.4 +2.9
ADH **Angra Heroismo** 87.11 22 *e*PP PP 20 56 35.0 +26
ADH *e*S 21 03 47.5
ADH *e*SS SS 21 09 12.5 +4.4
ADH **Angra Heroismo** 87.11 22 *i* LR LR 21 21 55.0
COBT **Iskenderun** 87.14 332 *i* P P 20 52 46.2 +0.6
EMIR **Miracle** 87.14 359 P P 20 52 46.2 +0.5
comp=Z,27nm,0.6s,mb5.7
TKTP **Tekketepe** 87.31 337 *i* P P 20 52 46.6 +0.2
MERS **Mersin** 87.31 333 *e*P P 20 52 46.2 -0.2
ESAC **San Caprasio** 87.33 1 P P 20 52 46.6 +0.1
comp=Z,112nm,0.5s,mb6.3
BHD **Baghdad** 87.44 325 *e*x x 20 52 46.0
BHD *e*x x 20 56 11.0
BHD *e*x x 21 03 12.0

BHD ex x 21 03 25.0
ISP Isparta 87.45 337 eP **P** **20 52 46.5 -0.6**
ISP Isparta 87.45 337 P **P** **20 52 47.8 +0.7**
ISP pmax pmax
comp=Z,89nm,0.9s,mb6.0
ISP Isparta 87.45 337⇑ *i*P **P** **20 52 46.7 -0.4**
LCI Lecce 87.47 347 P **P** **20 52 46.9 -0.3**
LCI pmax pmax
comp=Z,163nm,1.0s,mb6.2
LCI Lecce 87.47 347 P **P** **20 52 46.9 -0.3**
comp=Z,163nm,1.0s,mb6.2
PTCN Pitcairn Islan 87.48 137 PFAKE 20 53 00.0 +13
PTCN LR LR
comp=Z,33µm,21.0s,MS6.7
PVRL Vila Real 87.49 6 eP **P** **20 52 47.5 +0.2**
comp=Z,285nm,1.2s,mb6.4
PTO Porto 87.56 7 eP **P** **20 52 48.4 +0.8**
comp=Z,267nm,1.2s,mb6.3
KDAG Bornova 87.67 339 *i*P **P** **20 52 48.7 +0.5**
MEST Erdemli 87.68 334 *i*P **P** **20 52 48.1 -0.1**
IZM Izmir 87.68 339 eP **P** **20 52 48.7 +0.5**
JAN Janina 87.70 345 eP **P** **20 52 49.0 +0.7**
EPOB Poblet 87.71 360 P **P** **20 52 48.0 -0.3**
comp=Z,132nm,0.9s,mb6.2
BLCB Balcova 87.74 340 eP **P** **20 52 46.2 -2.3**
KEK Kerkira 87.82 345 eP **P** **20 52 49.4 +0.5**
URLA Izmir 87.86 340 *i*P **P** **20 52 49.2 +0.1**
DNZL Cakiroluk 87.95 338 *i*P **P** **20 52 50.7 +1.2**
ORI Oriolo Calabro 87.96 348 P **P** **20 52 50.5 +1.0**
ERMK Ermenek 87.97 335 *i*P **P** **20 52 49.6 0.0**
PVIS Viseu 88.03 7 eP **P** **20 52 50.1 +0.2**
comp=Z,330nm,1.4s,mb6.4
ERTA Horta de San J 88.10 0 P **P** **20 52 50.4 +0.2**
comp=Z,26nm,0.9s,mb5.5
IKL Isikli 88.13 334 eP **P** **20 52 48.6 -1.8**
ETOR Torete 88.21 2 P **P** **20 52 51.0 +0.3**
ETOR pmax pmax
comp=Z,98nm,1.0s,mb6.0
ETOR Torete 88.21 2 P **P** **20 52 51.0 +0.3**
comp=Z,98nm,1.0s,mb6.0
GOA Goa 88.24 293 eP **P** **20 52 52.0 +1.1**
AYDN Tasoluk 88.25 339 *i*P **P** **20 52 51.5 +0.6**
EVR Evrytania 88.26 344 eP **P** **20 52 50.1 -0.9**
ANTB Antalya 88.31 336 eP **P** **20 52 54.3 +3.1**
PMAT Coroa da Mata 88.31 20 eP **P** **20 52 56.9 +5.7**
comp=Z,71nm,0.8s,mb6.0
GUD Guadarrama 88.32 4 P **P** **20 52 51.6 +0.4**
GUD pmax pmax
comp=Z,118nm,0.9s,mb6.1
GUD Guadarrama 88.32 4 P **P** **20 52 51.6 +0.3**
comp=Z,118nm,0.9s,mb6.1
PFAD Fenais da Ajud 88.32 20 eP **P** **20 52 54.6 +3.3**
PDA Ponta Delgada 88.34 21 eP **P** **20 52 50.0 -1.3**
PDA Ponta Delgada 88.34 21 ePP PP 20 56 20.0 +1.3
PDA Ponta Delgada 88.34 21 eLR LR 21 22 22.0
CML Cha da Macela 88.34 21 eP **P** **20 52 56.0 +4.7**
LFA Lagoa do Fogo 88.35 20 eP **P** **20 52 56.6 +5.2**
MTE Manteigas 88.37 6 eP **P** **20 52 51.1 -0.4**
comp=Z,277nm,1.0s,mb6.4
MTE Manteigas 88.37 6 eS 21 03 32.3
MTE Manteigas 88.37 6 eLQ 21 19 31.9
MTE eLR LR 21 19 55.8
comp=Z,14µm,12.3s
PCNG Congro 88.38 20 eP **P** **20 52 55.0 +3.5**
comp=Z,186nm,1.1s,mb6.2
MIRA Miradouro 88.38 20 eP **P** **20 52 56.2 +4.6**
VIF Vila Franca 88.39 20 *e* **P** **20 52 54.8 +3.2**
PRCH Ribeira Ch 88.40 21 eP **P** **20 52 57.4 +5.8**
comp=Z,136nm,0.9s,mb6.2
FRA1 Furnas 88.41 20 eP **P** **20 52 54.1 +2.4**
DGI Dorgali Grotta 88.41 353 P **P** **20 52 49.1 -2.6**
SMG Samos 88.44 340 eP **P** **20 52 49.2 -2.6**
MLSB Milas 88.62 339 eP **P** **20 52 50.6 -2.0**
ELL Elmali 88.64 337 eP **P** **20 52 53.7 +0.9**
YER Yerkesik 88.66 338 eP **P** **20 52 52.1 -0.7**
EMOS Mosqueruela 88.69 1 P **P** **20 52 54.6 +1.6**
comp=Z,55nm,0.9s,mb5.9
RIV Riverview 88.69 204 eP **P** **20 52 54.2 +1.2**
ATH Athens Observa 88.83 342 eP **P** **20 52 51.8 -1.8**
BANOM Banah 88.91 312⇑P **P** **20 52 54.6 +0.6**
SNR=19
BDRM Kayabasi 88.92 339 *i*P **P** **20 52 57.1 +3.0**
PCBR Castelo Branco 88.93 6 eP **P** **20 52 53.8 -0.3**
comp=Z,188nm,1.6s,mb6.2
FETY Fethiye 88.95 338 eP **P** **20 52 48.7 -5.5**
BODT Bodrum 88.95 339 eP **P** **20 52 50.9 -3.3**
MPR Mayaguez 89.02 62 eP **P** **20 52 55.7 +1.2**
PTOM Tomar 89.09 7 eP **P** **20 52 54.6 -0.3**
comp=Z,364nm,1.4s,mb6.5
RLS Riolos of Patr 89.16 344 eP **P** **20 52 54.5 -0.7**
PSMN Pico do Norte, 89.18 20 eP **P** **20 52 57.4 +2.1**
DAT Datca 89.21 339 eP **P** **20 52 52.6 -2.8**
VSL Villasalto 89.24 353 eP **P** **20 52 56.0 +0.4**
MAMC Mammari 89.26 334 eP **P** **20 52 55.4 -0.3**
ETOS Mallorca 89.27 358 P **P** **20 52 56.6 +0.9**
comp=Z,61nm,1.1s,mb5.8
ESDC Sonseca Array 89.29 4 P **P** **20 52 54.7 -1.1**
comp=Z,33nm,0.7s,mb5.8,baz=354,slow=4.1,SNR=74
ESDC PKKPbc PKKPbc 21 10 26.3 -5.5
comp=Z,0.4nm,0.6s,baz=125,slow=1.3,SNR=2.9
ESDC PKPPKP 21 18 38.8
comp=Z,1.1nm,0.9s,baz=267,slow=2.6,SNR=6.6
ESLA Sonseca Array 89.29 4 eP **P** **20 52 54.8 -1.0**
comp=Z,75nm,1.1s,mb5.9
ESLA LR LR
comp=Z,122µm,22.0s,MS7.3
MIB Mutribah 89.41 321 eP **P** **20 52 55.5 -0.9**
MIB AMb AMB 20 53 05.0
comp=Z,525nm,0.8s,mb6.9
CSS Prodhromos 89.43 334 P **P** **20 52 55.9 -0.6**
comp=Z,1.3nm,0.8s
CSS Prodhromos 89.43 334 eP **P** **20 52 55.7 -0.8**
comp=Z,177nm,1.1s,mb6.3
ALFC Alevga 89.45 334⇑P **P** **20 52 56.6 +0.1**
comp=Z,2.6nm,0.6s
ALFC Alevga 89.45 334⇑eP **P** **20 52 56.6 +0.1**
ECHE Chera 89.45 1 P **P** **20 52 57.8 +1.2**
ECHE pmax pmax
comp=Z,31nm,0.7s,mb5.8
ECHE Chera 89.45 1 P **P** **20 52 57.8 +1.2**
comp=Z,31nm,0.7s,mb5.7
ARG Arkhangelos 89.57 338 eP **P** **20 52 56.8 -0.3**
SLNA Salina 89.64 349 P **P** **20 52 59.4 +1.9**
comp=Z,130nm,0.6s,mb6.4
CBYP Canovanas 89.68 61 eP **P** **20 52 57.5 -0.1**
MNGI Mangalore 89.68 290 eP **P** **20 52 56.9 -0.8**
MNGI *i*S 21 03 25.9
MNGI eS 21 03 25.9
STKA Stephens Creek 89.72 212 P **P** **20 52 56.8 -1.0**
comp=Z,245nm,1.2s,mb6.4,baz=355,slow=6.1,SNR=55
STKA Stephens Creek 89.72 212 eP **P** **20 52 54.7 -3.1**
comp=Z,106nm,0.9s,mb6.2
STKA eS 21 03 19.8
MBWA Marble Bar 89.74 235 eP **P** **20 52 55.2 -2.7**
MBWA LR LR
comp=Z,6µm,21.0s,MS6.0
BHL Bhannes 89.75 332 eP **P** **20 52 58.5 +0.5**
PLOU Loures 89.75 8 eP **P** **20 52 58.5 +0.5**
comp=Z,251nm,1.1s,mb6.5
PPCY Paphos 89.77 334 P **P** **20 52 59.2 +1.1**
HUMP Col San Antoni 89.78 61 eP **P** **20 52 58.7 +0.6**
CEL Celeste 89.81 348 P **P** **20 52 58.1 -0.1**
RST Umm Al-Ruwaisa 89.81 321 eP **P** **20 52 58.0 -0.3**
RST AMb AMB 20 53 05.6
comp=Z,240nm,1.1s,mb6.5
CPD Cerro la Pandu 89.83 61 eP **P** **20 52 58.7 +0.3**
PAYG Puerto Ayora 89.89 91 eP **P** **20 52 56.3 -2.3**
comp=Z,222nm,1.3s,mb6.3
PAYG LR LR
comp=Z,9µm,20.0s,MS6.2
LIS Lisbon 89.92 8 eP **P** **20 52 58.9 +0.1**
LIS eS 21 03 25.0
LIS eS 21 03 25.4
LIS eSS SS 21 09 48.5 -0.6
LIS eSS SS 21 09 48.7 -0.3
LIS AMS AMS 21 31 27.8
comp=Z,18µm,21.2s,MS6.5
LIS Lisbon 89.92 8 eP **P** **20 52 58.9 +0.1**
LIS eS 21 03 25.4
LIS eSS SS 21 09 48.5 -0.5
ITM Ithomi 89.93 343 eP **P** **20 53 00.3 +1.5**
NAY Al-Naaiem 89.94 321 eP **P** **20 52 58.2 -0.7**
NAY AMb AMB 20 53 06.4
comp=Z,125nm,1.1s,mb6.2
MTP Monte Pirata 89.98 61 eP **P** **20 52 60.0 +0.9**
EIBI Ibiza 90.03 360 P **P** **20 53 01.9 +2.6**
comp=Z,69nm,1.0s,mb5.9
EBAD Badajoz 90.04 6 P **P** **20 52 58.7 -0.7**
comp=Z,68nm,0.9s,mb6.0
RDF Al-Radifah 90.10 320 eP **P** **20 52 59.2 -0.4**
RDF AMb AMB 20 53 05.1
comp=Z,247nm,0.8s,mb6.6
QRN Al-Qurain 90.11 320 eP **P** **20 53 00.1 +0.4**
QRN AMb AMB 20 53 05.8
comp=Z,165nm,0.7s,mb6.5
VLI Velíai 90.19 342 eP **P** **20 52 53.5 -6.5**
EBEN Beniarda 90.35 1 P **P** **20 53 02.8 +2.0**
comp=Z,110nm,1.0s,mb6.1
CSLB Castelbuono 90.35 349 P **P** **20 53 02.0 +1.2**
comp=Z,48nm,0.8s,mb5.9
EVIA Vianos 90.37 3 P **P** **20 53 01.9 +1.0**
EVIA pmax pmax
comp=Z,99nm,0.9s,mb6.1
EVIA Vianos 90.37 3 P **P** **20 53 01.9 +1.0**
comp=Z,99nm,0.9s,mb6.1
ETOB Tobarra 90.39 2 P **P** **20 53 01.9 +0.9**
comp=Z,119nm,1.0s,mb6.2
ERC Erice 90.41 351 P **P** **20 53 04.0 +2.9**
comp=Z,556nm,1.0s,mb6.8
HOQ Hoqain 90.42 310⇑P **P** **20 53 01.7 +0.6**
SNR=9.2
KARP Karpathos 90.44 339 eP **P** **20 52 59.1 -2.1**
SMDO Samad 90.51 309⇑P **P** **20 53 01.3 -0.2**
SNR=13
CNB Canberra Magne 90.56 205 eP **P** **20 53 02.6 +0.8**
comp=Z,46nm,1.0s,mb5.8
PALK Pallekele 90.60 282 P **P** **20 53 02.4 +0.5**
comp=Z,384nm,1.4s,mb6.5,SNR=8.2
PALK Pallekele 90.60 282 eP **P** **20 53 03.6 +1.6**
PALK LR LR
comp=Z,11µm,21.0s,MS6.3
MMAI Mount Meron Ar 90.65 331 P **P** **20 53 02.4 +0.2**
comp=Z,144nm,1.0s,mb6.2,baz=34,slow=6.1,SNR=37
PBEJ Beja 90.71 7 eP **P** **20 53 03.3 +0.9**
comp=Z,177nm,1.2s,mb6.3
VAE Valguarnera 90.76 349 P **P** **20 53 01.3 -1.3**
comp=Z,9.4nm,0.9s,mb5.1,baz=112,slow=23,SNR=2.4
EADA Adamuz 90.77 4 P **P** **20 53 02.3 -0.4**
comp=Z,126nm,1.1s,mb6.2
CLTB Caltabellotta 90.80 350 P **P** **20 53 04.8 +1.9**
comp=Z,281nm,1.0s,mb6.5
EBAN Banos Encina 90.80 4 P **P** **20 53 03.0 +0.1**
EBAN pmax pmax
comp=Z,54nm,0.9s,mb5.9
EBAN Banos Encina 90.80 4 P **P** **20 53 03.0 +0.1**
comp=Z,54nm,0.9s,mb5.9
ASF Jabal al Asfar 90.98 330 P **P** **20 53 03.2 -0.5**
comp=Z,12nm,0.8s,mb5.3,baz=250,slow=2.4,SNR=25
ASF S 21 03 35.7
comp=Z,1.6nm,0.7s,baz=14,slow=22,SNR=7.3
ASF Jabal al Asfar 90.98 330 P **P** **20 53 03.2 -0.5**
ASF S 21 03 35.7
ASF pmax pmax
comp=Z,12nm,0.8s
EMIN Mina Concepcio 91.05 6 P **P** **20 53 04.1 +0.1**
comp=Z,137nm,1.0s,mb6.2
NPS Neapolis 91.05 340 eP **P** **20 53 04.5 +0.5**
JMDO Jabal Madar 91.06 309⇑P **P** **20 53 04.7 +0.6**
SNR=14
PTEO Sao Teotonio 91.12 8 eP **P** **20 53 08.0 +3.6**
IDI Anoyia 91.18 340 P **P** **20 53 03.2 -1.5**
comp=Z,22nm,0.7s,mb5.6,baz=4.3,slow=11,SNR=7.2
IDI S 21 03 30.4
comp=Z,2.1nm,0.6s,baz=338,slow=19,SNR=2.7
EQES Quesada 91.19 3 P **P** **20 53 05.3 +0.6**
comp=Z,66nm,1.0s,mb5.9
EHUE Huescar 91.19 3 P **P** **20 53 05.5 +0.8**
EHUE pmax pmax
comp=Z,65nm,1.0s,mb5.9
EHUE Huescar 91.19 3 P **P** **20 53 05.5 +0.8**
comp=Z,65nm,1.0s,mb5.9
EMUR La Murta 91.20 2 P **P** **20 53 05.0 +0.3**
comp=Z,55nm,1.0s,mb5.8
VAM Vamos 91.21 341 eP **P** **20 53 04.6 -0.2**
EGRO El Granado 91.23 7 P **P** **20 53 04.9 +0.1**
comp=Z,112nm,1.1s,mb6.1
HMDC Modica 91.23 349 P **P** **20 53 08.7 +3.8**
MORF Marmelete 91.36 7 eP **P** **20 53 05.7 +0.2**
MORF eS 21 03 33.6
MORF eSS SS 21 10 09.1 -0.8
MORF eSS SS 21 10 09.2 -0.7
MORF AMS AMS 21 32 57.1
comp=Z,14µm,27.8s,MS6.3
MORF Marmelete 91.36 7 eP **P** **20 53 05.7 +0.2**
MORF eS 21 03 33.6
MORF eSS SS 21 10 09.1 -0.8
CART Cartagena 91.45 1 eP **P** **20 53 05.3 -0.5**
comp=Z,88nm,0.8s,mb6.1
ECOG Cogollos-Vega 91.70 3 P **P** **20 53 07.3 +0.3**
ECOG pmax pmax
comp=Z,60nm,1.0s,mb5.9
ECOG Cogollos-Vega 91.70 3 P **P** **20 53 07.3 +0.3**
comp=Z,60nm,1.0s,mb5.9
GVD Gavdhos 91.78 341 eP **P** **20 53 02.8 -4.7**
comp=Z,75nm,0.8s,mb6.1
ELOJ Sierra Loja 91.80 4 P **P** **20 53 08.1 +0.6**
ELOJ pmax pmax
comp=Z,95nm,0.9s,mb6.1
ELOJ Sierra Loja 91.80 4 P **P** **20 53 08.1 +0.6**
comp=Z,95nm,0.9s,mb6.1
TRD Trivandrum 91.91 286 eP **P** **20 53 08.6 +0.6**
TRD AMb AMB 20 53 14.8
comp=Z,113nm,1.4s,mb6.0
ERON Agron 91.94 4 P **P** **20 53 08.7 +0.6**
comp=Z,33nm,0.9s,mb5.7
ESPR Espera 91.99 5 P **P** **20 53 09.0 +0.6**
comp=Z,181nm,1.2s,mb6.3
ENIJ Nijar 92.04 2 P **P** **20 53 11.3 +2.7**
ENIJ pmax pmax
comp=Z,41nm,1.1s,mb5.7
ENIJ Nijar 92.04 2 P **P** **20 53 11.3 +2.6**
comp=Z,41nm,1.1s,mb5.7
EBER Berja 92.10 3 P **P** **20 53 10.9 +2.1**
comp=Z,33nm,1.0s,mb5.6
CAEH 'Ain El Ouahch 92.11 355 P **P** **20 53 13.0 +4.1**
EGUA Guajares 92.14 3 P **P** **20 53 09.2 +0.1**
EGUA pmax pmax
comp=Z,8.0nm,0.6s,mb5.2
EGUA Guajares 92.14 3 P **P** **20 53 09.2 +0.1**
comp=Z,7.7nm,0.6s,mb5.2
ABA Alger-Bouzarea 92.23 358 P **P** **20 53 15.0 +5.5**
CMAH Djebel Manchou 92.23 355 P **P** **20 53 12.4 +2.9**
EMIJ Mijas 92.35 4 P **P** **20 53 10.1 +0.1**
comp=Z,156nm,0.8s,mb6.4
DFRA Djebel Bou Aff 92.39 356 P **P** **20 53 14.4 +4.2**
SNZO South Karori 92.40 185 PFAKE 20 53 20.0 +10
SNZO LR LR
comp=Z,10µm,20.0s,MS6.2
CGMA Guelma 92.41 355 P **P** **20 53 11.0 +0.7**
EJIF Jimena Fronter 92.43 5 P **P** **20 53 11.2 +0.8**
EJIF pmax pmax
comp=Z,60nm,1.0s,mb5.9
EJIF Jimena Fronter 92.43 5 P **P** **20 53 11.2 +0.8**
comp=Z,60nm,1.0s,mb5.9
CKFL Kef-Lekhel 92.49 355 P **P** **20 53 13.0 +2.3**
ABSA Djebel Ababsia 92.58 355 P **P** **20 53 11.0 -0.1**
SET Setif 92.75 356 P **P** **20 53 10.0 -1.9**
EBNR Beni Rached 92.76 359 P **P** **20 53 09.5 -2.4**
EMHD Djebel Mahouad 92.83 358 P **P** **20 53 08.0 -4.3**
BPA Boggy Peak 92.84 58 eP **P** **20 53 08.9 -3.4**
CTEI Djebel Teioual 92.84 355 P **P** **20 53 15.0 +2.7**
ECHA Ech Chlef 92.90 359 P **P** **20 53 12.5 -0.1**
CKHR Kef el Ahmar 92.93 356 P **P** **20 53 16.0 +3.3**
OKGL Djebel Kef Gue 93.01 0 P **P** **20 53 14.5 +1.4**
EANR 'Ain N'Sour 93.10 360 P **P** **20 53 14.5 +1.0**
CMER Merouana 93.31 356 P **P** **20 53 16.0 +1.5**
LZG Guadaloupe-1 93.63 59 eP **P** **20 53 15.7 -0.2**
ETRT Tiaret 93.66 360 P **P** **20 53 17.5 +1.4**
ODJA Bouhanifia 93.72 1 P **P** **20 53 17.0 +0.7**
TOO Toolangi 93.75 207 eP **P** **20 53 18.5 +2.0**
TOO eS 21 03 53.1
TOO pmax pmax
comp=Z,12nm,0.7s,mb5.4
TOO Toolangi 93.75 207 *e*P **P** **20 53 18.5 +2.0**
comp=Z,12nm,0.7s,mb5.4
TOO eS 21 03 53.1
EIL Elat 93.91 331 eP **P** **20 53 21.5 +4.2**
FORT Forrest 93.95 223 eP **P** **20 53 17.3 -0.1**
comp=Z,56nm,0.7s,mb6.1
FORT eS 21 04 22.0
BBL Barber's Block 94.30 59 eP **P** **20 53 15.7 -3.3**
SDV Santo Domingo 94.32 70 P **P** **20 53 20.2 +0.2**
comp=Z,16nm,0.8s,mb5.5,baz=313,slow=2.9,SNR=7.6
SDV S 21 03 53.8
comp=Z,3.0nm,0.3s,baz=291,slow=23,SNR=7.2
SDV Santo Domingo 94.52 70 eP **P** **20 53 20.4 +0.4**
SDV LR LR
comp=Z,6µm,22.0s,MS6.0
ROSC El Rosal 95.50 75 P **P** **20 53 25.1 +0.6**
comp=Z,6.2nm,0.4s,mb5.4,baz=89,slow=23,SNR=3.6
ROSC S 21 04 00.6
comp=Z,2.5nm,0.3s,baz=80,slow=21,SNR=2.5
COCO West Island 95.63 258 PFAKE 20 53 40.0 +15
COCO LR LR
comp=Z,3µm,19.9s,MS5.8
MDT Midelt 96.09 5 P **P** **20 53 27.0 -0.2**
comp=Z,110nm,1.2s,mb6.2,baz=23,slow=4.9,SNR=28
OTAV Otavalo 96.58 81 PFAKE 20 53 40.0 +11
OTAV LR LR
comp=Z,5µm,22.0s,MS5.9
RPN Rapa Nui 99.28 122 PFAKE 20 53 50.0 +8.4
RPN LR LR
comp=Z,8µm,22.0s,MS6.2
NWAO Narrogin (SRO) 100.70 230 PFAKE 20 54 00.0 +12
NWAO LR LR
comp=Z,5µm,20.0s,MS6.0
NNA Nana 107.03 88 ePKPdf PKiKP 20 58 26.8 +1.2
DGAR Diego Garcia 107.15 280 PFAKE 20 58 40.0 +14
DGAR LR LR
comp=Z,10µm,19.0s,MS6.4
SAML Samuel 113.14 75 PFAKE 20 58 50.0 +13
SAML LR LR
comp=Z,8µm,20.0s,MS6.3
LPAZ La Paz 115.75 84 PKP PKPdf 20 58 43.5 +1.4
comp=Z,2.9nm,0.7s,baz=329,slow=2.6,SNR=9.5
LPAZ PKKPab PKKPab 21 09 21.9 +2.9
comp=Z,2.2nm,0.8s,baz=122,slow=3.4,SNR=3.7
LPAZ La Paz 115.75 84 ePKPdf PKPdf 20 58 41.3 -0.8
LPAZ PKP PKPdf 20 58 43.5 +1.4
LPAZ PKKPab PKKPab 21 09 21.9 +2.9
LPAZ LR LR
comp=Z,6µm,21.0s,MS6.2
TOA0 Torodi Ar. Sit 115.80 359 ePKPdf PKPdf 20 58 42.9 +0.7
TORD Torodi Ar. Bea 115.80 359 Pdiff Pdif 20 55 03.6 +8.6
comp=Z,2.5nm,0.8s,baz=6.5,slow=4.0,SNR=6.3
TORD PKP PKPdf 20 58 41.6 -0.5
comp=Z,4.4nm,0.4s,baz=353,slow=2.2,SNR=18
TORD PP PP 20 59 38.8 -6.5
comp=Z,16nm,1.1s,baz=15,slow=6.2,SNR=4.9
TORD SKP 21 02 18.4
comp=Z,3.7nm,0.6s,baz=347,slow=2.4,SNR=5.6
TORD PKKPbc PKKPbc 21 09 09.6 -4.1
comp=Z,2.6nm,0.5s,baz=154,slow=1.1,SNR=13
TORD Torodi Ar. Bea 115.80 359 Pdif Pdif 20 55 03.6 +8.6
TORD PKP PKPdf 20 58 41.6 -0.5
TORD PP PP 20 59 38.8 -6.5
TORD SKP 21 02 18.4
TORD PKKPbc PKKPbc 21 09 09.6 -4.1
SIV San Ignacio 119.89 78 PKP PKPdf 20 58 49.2 -0.8
comp=Z,4.7nm,0.8s,baz=332,slow=0.9,SNR=11
SIV PP PP 21 00 08.6 -5.1
comp=Z,9.1nm,1.0s,baz=314,slow=9.0,SNR=4.5
SIV PKKPbc PKKPbc 21 08 59.8 +0.9
comp=Z,3.6nm,1.0s,baz=171,slow=5.0,SNR=5.7
LVC Limon Verde 119.96 89 PKP PKPdf 20 58 50.4 +0.3
comp=Z,3.5nm,0.8s,baz=268,slow=7.0,SNR=3.3
LVC Limon Verde 119.96 89 PKP PKPdf 20 58 50.4 +0.3
LVC LR LR
comp=Z,7µm,22.0s,MS6.2
KMBO Kilima Mbogo 121.29 316 PKP PKPdf 20 58 53.8 +1.1
comp=Z,14nm,1.0s,baz=355,slow=2.4,SNR=6.7
KMBO PP PP 21 00 25.0 +1.7
comp=Z,6.9nm,1.2s,baz=31,slow=10,SNR=3.2
KMBO Kilima Mbogo 121.29 316 PKIKP PKPdf 20 58 53.8 +1.1
KMBO 21 00 25.0
KMBO pmax pmax
comp=Z,14nm,1.0s
KMBO pmax pmax
comp=Z,7.0nm,1.2s
KMBO Kilima Mbogo 121.29 316 PKP PKPdf 20 58 53.8 +1.1
KMBO PP PP 21 00 25.0 +1.7
DRV Dumont d'Urvil 121.65 198 Pdif Pdif 20 55 21.0 0.0
DRV Dumont d'Urvil 121.65 198 PP PP 21 00 26.0 +0.3
DRV SKS SKSdf 21 05 51.0 -15
DRV SP SP 21 10 09.0 -8.7
DRV SS SS 21 17 01.0 -0.8
DBIC Dimbokro 122.04 7 PKP PKPdf 20 58 53.1 -1.0
comp=Z,18nm,0.7s,baz=354,slow=3.6,SNR=18
DBIC Dimbokro 122.04 7 PKP PKPdf 20 58 53.1 -1.0
DBIC LR LR
comp=Z,18µm,21.0s,MS6.7
LIC Lamto 122.47 7 ePKIKP PKPdf 20 58 52.8 -2.2
comp=Z,105nm,0.7s
LIC eR
comp=Z,34µm,21.8s
LIC Lamto 122.47 7 ePKPdf PKPdf 20 58 52.8 -2.2
LIC LR LR
comp=Z,17µm,21.8s,MS6.7
RCBR Riachuelo 125.42 47 PFAKE 20 59 10.0 +9.4
RCBR LR LR
comp=Z,18µm,22.0s,MS6.7
CFAA Coronel Fontan 126.74 96 PKP PKPdf 20 59 00.5 -2.7
comp=Z,2.6nm,0.7s,baz=255,slow=2.0,SNR=34
CFAA SKP 21 02 33.4
comp=Z,1.7nm,0.7s,baz=266,slow=5.0,SNR=5.2
BDFB Brasilia 127.39 66 PKP PKPdf 20 59 03.4 -1.0
comp=Z,6.6nm,0.7s,baz=144,slow=1.5,SNR=12
BDFB PP PP 21 01 03.8 -0.4
comp=Z,21nm,0.9s,baz=320,slow=15,SNR=6.9
BDFB Brasilia 127.39 66 PKP PKPdf 20 59 03.4 -1.0
BDFB PP PP 21 01 03.8 -0.4
BDFB LR LR
comp=Z,28µm,21.0s,MS6.9
CASY Casey 128.76 209 ePKPdf PKPdf 20 59 04.7 -2.3
CASY LR LR
comp=Z,7µm,20.0s,MS6.3
VNDA Vanda 129.11 185 PKP PKPdf 20 59 05.6 -2.1
comp=Z,3.7nm,1.0s,baz=346,slow=3.0,SNR=12
VNDA SKPbc 21 02 29.5
comp=Z,3.3nm,0.7s,baz=306,slow=7.3,SNR=4.3
VNDA SKP 21 02 40.3
comp=Z,14nm,1.2s,baz=351,slow=4.3,SNR=3.7
VNDA SKKPbc 21 12 16.2
comp=Z,14nm,1.2s,baz=223,slow=1.6,SNR=4.3
VNDA Vanda 129.11 185 PKP PKPdf 20 59 05.6 -2.1
VNDA SKPbc 21 02 29.5
VNDA SKP 21 02 40.3
VNDA SKKPbc 21 12 16.2
VNDA LR LR
comp=Z,5µm,20.0s,MS6.2
SBA Scott Base 129.19 184 ePKPdf PKPdf 20 59 06.5 -1.4
SBA eSKPdf SKPdf 21 02 34.2 -9.1
SBA LR LR
comp=Z,8µm,21.0s,MS6.4
CPUP Villa Florida 129.90 83 PKhKP 20 59 02.5
comp=Z,1.1nm,0.6s,baz=255,slow=3.5,SNR=3.2
CPUP PKP PKPdf 20 59 07.2 -2.0
comp=Z,9.0nm,0.7s,baz=299,slow=2.5,SNR=24
CPUP SKPbc 21 02 33.8
comp=Z,16nm,0.8s,baz=287,slow=4.9,SNR=10
CPUP Villa Florida 129.90 83 PKIKP PKPdf 20 59 02.5 -6.7
CPUP 20 59 07.2
CPUP Villa Florida 129.90 83 PKP PKPdf 20 59 07.2 -2.0
CPUP SKPbc 21 02 33.8
CPUP LR LR
comp=Z,1µm,20.0s,MS5.7
OPO Ambohidratompo131.03 294 PP PP 21 01 32.2 +4.1
comp=Z,6.3nm,0.9s,baz=265,slow=3.7,SNR=3.3
OPO SKPbc SKPbc 21 02 38.4 +2.5
comp=Z,17nm,0.8s,baz=29,slow=4.4,SNR=9.7
PLCA Paso Flores 131.24 107 PKhKP 20 59 02.3
comp=Z,3.4nm,0.7s,baz=359,slow=6.3,SNR=3.8
PLCA PKP PKPdf 20 59 11.4 -0.3
comp=Z,21nm,0.9s,baz=279,slow=2.3,SNR=7.8
PLCA SKPbc SKPbc 21 02 35.9 -0.8
comp=Z,22nm,1.0s,baz=313,slow=6.7,SNR=5.6
PLCA Paso Flores 131.24 107 ePKPdf PKPdf 20 59 11.2 -0.5
PLCA PKP PKPdf 20 59 11.4 -0.3
PLCA SKPbc SKPbc 21 02 35.9 -0.8
PLCA LR LR
comp=Z,11µm,21.0s,MS6.5
MIR Mirnyy 134.71 214*c i*PKIKP PKPdf 20 59 18.0 -0.2
MIR pmax pmax
comp=Z,300nm,2.0s
MIR pmax pmax

	comp=Z,2µm,4.0s						
TRQA	**Tornquist**	**134.84**	**98**	*e*PKPdf	PKPdf	20 59 17.2	-1.3
TRQA				LR	LR		
	comp=Z,10µm,20.0s,MS6.5						
ASCN	**Ascension**	**134.99**	**21**	PFAKE		20 59 30.0	+11
ASCN				LR	LR		
	comp=Z,16µm,21.0s,MS6.7						
EFI	**East Falkland**	**144.26**	**114**	PKIKP	PKPdf	20 59 32.0	-3.6
EFI	**East Falkland**	**144.26**	**114**	*e*PKPdf	PKPdf	20 59 31.6	-4.0
PMSA	**Palmer Station**	**144.89**	**138**	PFAKE		20 59 50.0	+13
PMSA				LR	LR		
	comp=Z,15µm,21.0s,MS6.7						
TSUM	**Tsumeb**	**145.30**	**331**	PKPbc	PKPbc	20 59 36.6	-0.6
TSUM				PP	PP	21 02 57.4	+0.8
TSUM	**Tsumeb**	**145.30**	**331**	PKPbc	PKPbc	20 59 37.1	-0.1
	comp=Z,213nm,1.0s,baz=14,slow=3.9,SNR=5.4						
TSUM	**Tsumeb**	**145.30**	**331**	*e*PKPdf	PKPdf	20 59 36.4	-1.0
TSUM				LR	LR		
	comp=Z,14µm,19.0s,MS6.8						
MAW	**Mawson**	**146.26**	**218**	*e*P	PKPdf	20 59 36.3	-2.7
	comp=Z,75nm,0.8s						
MAW	**Mawson**	**146.26**	**218**	PKPbc	PKPbc	20 59 38.9	-1.2
	comp=Z,100nm,0.8s,baz=52,slow=3.1,SNR=43						
MAW	**Mawson**	**146.26**	**218**	PKP2	PKPab	20 59 37.1	-3.8
MAW	**Mawson**	**146.26**	**218**	*e*P	PKPdf	20 59 36.3	-2.7
MAW				LR	LR		
	comp=Z,9µm,22.0s,MS6.5						
LBTB	**Lobatse**	**147.56**	**315**	PKPbc	PKPbc	20 59 44.7	+0.8
	comp=Z,496nm,0.9s,baz=36,slow=1.9,SNR=4.1						
LBTB	**Lobatse**	**147.56**	**315**	*e*PKPdf	PKPdf	20 59 41.5	+0.2
LBTB				*e*PKPbc	PKPbc	20 59 44.6	+0.8
LBTB				*e*PKPab	PKPab	20 59 46.0	+0.1
BOSA	**Boshof**	**150.79**	**312**	PKPbc	PKPbc	20 59 51.0	-1.0
	comp=Z,44nm,0.6s,baz=34,slow=3.1,SNR=39						
BOSA	**Boshof**	**150.79**	**312**	*e*PKPdf	PKPdf	20 59 48.1	+1.7
BOSA				*e*PKPbc	PKPbc	20 59 52.1	+0.1
BOSA				LR	LR		
	comp=Z,10µm,19.0s,MS6.7						
SUR	**Sutherland**	**156.01**	**314**	*e*PKPdf	PKPdf	20 59 54.3	+0.4
SUR				*e*PKPab	PKPab	21 00 21.9	+0.7
SUR				*e*PP	PP	21 04 03.2	+5.0
SUR				LR	LR		
	comp=Z,26µm,21.0s,MS7.0						
HOPE	**Hope Point**	**157.48**	**112**	PFAKE		21 00 10.0	+14
HOPE				LR	LR		
	comp=Z,14µm,21.4s,MS6.8						
SNAA	**Sanae**	**159.51**	**177**	*e*PKPdf	PKPab	21 00 35.1	-1.2
SNAA				*e*		21 00 38.9	
SNAA				*e*		21 00 45.1	
SNAA				*e*		21 01 00.9	
SNAA				*e*		21 02 10.7	
SNAA	**Sanae**	**159.51**	**177**	*e*PKIKP	PKPdf	20 59 54.9	-3.4
NVL	**N'lazarevskaya**	**159.83**	**191**	*d i*PKIKP	PKPdf	20 59 57.8	-0.8
NVL				*i*		21 00 34.1	
NVL				pmax	pmax		
	comp=Z,3µm,17.6s						
NVL				pmax	pmax		
	comp=Z,63nm,1.6s						
NVL				MLR	MLR		
	comp=Z,10µm,19.9s,MS6.7						
VNA1	**Neumayer--Stat**	**160.16**	**171**	*e*PKPdf	PKPab	21 00 37.9	-1.2
VNA1				*e*		21 00 39.8	
VNA1				*e*		21 00 50.2	
VNA1				*e*		21 00 58.2	
TRIS	**Tristan da Cun**	**163.00**	**38**	PFAKE		21 00 10.0	+8.1
TRIS				LR	LR		
	comp=Z,11µm,19.5s						

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*IDC **08** 20:41:47.7±1.1, 5140N×17922W, h0km, mb5.3/16, mb1 5.4/16, mb1mx5.2/27, mbtmp5.3/16, MS6.5/2, Ms1 6.5/2, ms1mx5.5/21, Error ellipse: s-maj=31.2km s-min=23.8km az=174.0*
*ISCJB **08** 20:41:51.1±0.9, 514N±02×1792W±02, h33km, mb5.2/19, MS6.1/1, Error ellipse: s-maj=26.4km s-min=17.6km az=169.6*
*MOS **08** 20:41:51.3±0.7, 5148N×17927W, h33km, mb5.5/13, Error ellipse: s-maj=43.9km s-min=16.3km az=91.2*
*NEIC **08** 20:41:53.0±0.6, 5141N×179.17W, h35km, mb5.3/3, Error ellipse: s-maj=16.2km s-min=11.2km az=179.0*
ISC 08 20:41:52.8±0.9**, 514N**±02×**1792W**±02**, h35km, n39, σ0ˢ46**/36**, mb5.2**/19**, MS6.1**/1**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**16.62**	**57**	LR	LR	20 51 45.8	
	comp=Z,441µm,20.2s,baz=246,slow=36						
YKA	**Yellowknife Ar**	**35.39**	**46**	P	**P**	**20 48 45.4**	**+0.3**
	24nm,0.7s,mb5.3,baz=278,slow=8.5,SNR=4.7						
YKA	**Yellowknife Ar**	**35.39**	**46**	P	**P**	**20 48 45.4**	**+0.3**
YKA				pmax	pmax		
	comp=Z,24nm,0.7s						
NEW	**Newport**	**39.11**	**69**	P	**P**	**20 49 16.4**	**-0.3**
	comp=Z,54nm,0.9s,mb5.3,baz=292,slow=5.4,SNR=2.3						
NEW	**Newport**	**39.11**	**69**	P	**P**	**20 49 16.4**	**-0.3**
NEW				pmax	pmax		
	comp=Z,54nm,0.9s						
PDAR	**Pinedale Array**	**46.55**	**72**	P	**P**	**20 50 16.7**	**-0.2**
	comp=Z,55nm,0.8s,mb5.5,baz=304,slow=6.4,SNR=3.7						
ARCES	**ARCESS Array B**	**57.99**	**350**	P	**P**	**20 51 42.3**	**+0.5**
	comp=Z,24nm,0.7s,mb5.4,baz=16,slow=7.5,SNR=3.0						
ARCES	**ARCESS Array B**	**57.99**	**350**	P	**P**	**20 51 42.3**	**+0.5**
ARCES				pmax	pmax		
	comp=Z,24nm,0.7s						
MKAR	**Makanchi Array**	**59.79**	**308**	P	**P**	**20 51 54.6**	**+0.3**
	comp=Z,16nm,0.4s,mb5.4,baz=38,slow=7.5,SNR=4.9						
MKAR	**Makanchi Array**	**59.79**	**308**	P	**P**	**20 51 54.6**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,16nm,0.4s						
FINES	**FINESS Array B**	**65.67**	**347**	P	**P**	**20 52 33.6**	**+0.1**
	comp=Z,30nm,0.7s,mb5.5,baz=38,slow=7.0,SNR=3.9						
FINES	**FINESS Array B**	**65.67**	**347**	P	**P**	**20 52 33.6**	**+0.1**
FINES				pmax	pmax		
	comp=Z,30nm,0.7s						
NOA	**NORSAR Array B**	**67.57**	**355**	P	**P**	**20 52 45.4**	**-0.2**
	comp=Z,18nm,0.8s,mb5.2,baz=7.6,slow=6.2,SNR=3.0						
NOA	**NORSAR Array B**	**67.57**	**355**	P	**P**	**20 52 45.4**	**-0.2**
NOA				pmax	pmax		
	comp=Z,18nm,0.8s						
HFS	**Hagfors**	**68.30**	**353**	P	**P**	**20 52 49.9**	**-0.3**
	comp=Z,20nm,0.6s,mb5.3,baz=35,slow=5.3,SNR=3.7						
HFS	**Hagfors**	**68.30**	**353**	P	**P**	**20 52 49.9**	**-0.3**
HFS				pmax	pmax		
	comp=Z,20nm,0.6s						
EKA	**Eskdalemuir Ar**	**73.55**	**2**	P	**P**	**20 53 22.2**	**+0.2**
	comp=Z,12nm,0.6s,mb5.0,baz=358,slow=4.6,SNR=4.2						
EKA	**Eskdalemuir Ar**	**73.55**	**2**	P	**P**	**20 53 22.3**	**+0.2**
EKA				pmax	pmax		
	comp=Z,12nm,0.6s						
AKASG	**Malin Array Be**	**75.42**	**342**	P	**P**	**20 53 32.5**	**-0.4**
	comp=Z,109nm,0.4s,mb6.1,baz=20,slow=6.7,SNR=15						
AKASG	**Malin Array Be**	**75.42**	**342**	P	**P**	**20 53 32.5**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,109nm,0.4s						
RUE	**Ruedersdorf**	**75.88**	**352**	*e*P	**P**	**20 53 35.1**	**-0.4**
	comp=Z,23nm,0.5s,mb5.4						
CLL	**Collm**	**77.11**	**352**	P	**P**	**20 53 42.0**	**-0.5**
	comp=Z,logA/T=1.6,mb5.3						
CLL	**Collm**	**77.11**	**352**	*i* P	**P**	**20 53 42.0**	**-0.5**
	comp=Z,38nm,0.9s,mb5.3						
CLL	**Collm**	**77.11**	**352**	*i* P	**P**	**20 53 42.0**	**-0.5**
CLL				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.3						
BRG	**Berggiesshubel**	**77.46**	**351**	*i* P	**P**	**20 53 44.2**	**-0.3**
	comp=Z,14nm,0.8s,mb5.0						
BRG	**Berggiesshubel**	**77.46**	**351**	*i* P	**P**	**20 53 44.2**	**-0.3**
BRG				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
VRAC	**Vranov**	**78.73**	**350**	P	**P**	**20 53 51.9**	**+0.3**
	comp=Z,22nm,0.7s,mb5.2,baz=36,slow=4.8,SNR=3.9						
VRAC	**Vranov**	**78.73**	**350**	P	**P**	**20 53 51.9**	**+0.4**
VRAC				pmax	pmax		
	comp=Z,22nm,0.7s						
GERES	**GERESS Array B**	**79.49**	**351**	P	**P**	**20 53 55.7**	**0.0**
	comp=Z,14nm,0.6s,mb5.1,baz=28,slow=5.5,SNR=6.5						
GERES	**GERESS Array B**	**79.49**	**351**	P	**P**	**20 53 55.7**	**0.0**
GERES				pmax	pmax		
	comp=Z,14nm,0.6s						
DAVOX	**Davos**	**81.86**	**354**	P	**P**	**20 54 09.3**	**+1.0**
	comp=Z,18nm,0.6s,mb5.2,baz=27,slow=6.8,SNR=5.3						
WRA	**Warramunga Arr**	**81.87**	**224**	P	**P**	**20 54 08.9**	**+0.5**
	comp=Z,5.2nm,0.9s,mb4.5,baz=38,slow=5.5,SNR=1.9						
WRA	**Warramunga Arr**	**81.87**	**224**	P	**P**	**20 54 08.9**	**+0.5**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HYB	**Hyderabad**	**83.95**	**290**	*i* P	**P**	**20 54 18.0**	**-1.2**
BRTR	**Keskin Array B**	**84.79**	**335**	P	**P**	**20 54 23.8**	**+0.4**
	comp=Z,26nm,0.8s,mb5.4,baz=45,slow=2.3,SNR=4.2						
BRTR	**Keskin Array B**	**84.79**	**335**	P	**P**	**20 54 23.8**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,26nm,0.8s						
ESDC	**Sonseca Array**	**89.18**	**4**	LR	LR	21 33 59.6	
	comp=Z,8µm,21.9s,MS6.1,baz=20,slow=35						
MMAI	**Mount Meron Ar**	**90.57**	**331**	P	**P**	**20 54 51.5**	**+0.2**
	comp=Z,5.5nm,0.8s,mb4.9,baz=20,slow=4.6,SNR=2.8						
TSUM	**Tsumeb**	**145.21**	**331**	PKP	PKPdf	21 01 26.3	-0.3
	comp=Z,54nm,0.9s,baz=358,slow=1.7,SNR=4.0						

WEL 08 20:42:21.8±0.1**, 4080S×17549E, h26km**±1km**, ML3.6**/33**, 5C-6D, Error ellipse: s-maj=1.3km s-min=0.8km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRZ	**Mangatainoka R**	**0.15**	**26**	⇓P*	Pb	20 42 26.6	-0.4
MRZ				S*	Sb	20 42 30.7	+0.1
TIWZ	**Tintock**	**0.30**	**87**	⇑P*	Pb	20 42 28.8	-0.1
TIWZ				S*	Sb	20 42 34.6	+0.9
MTW	**Mount Morrison**	**0.36**	**179**	P*	Pb	20 42 30.4	+0.5
MTW				S*	Sb	20 42 36.7	+1.4
KIW	**Kapiti Island**	**0.45**	**261**	⇑P*	Pb	20 42 31.3	+0.1
KIW				S*	Sb	20 42 38.1	+0.5
CAW	**Cannon Point**	**0.45**	**226**	⇑P*	Pb	20 42 31.5	+0.3
CAW				*e*S*	Sb	20 42 38.1	+0.5
BFZ	**Birch Farm**	**0.58**	**79**	⇑P*	Pb	20 42 33.1	-0.4
BFZ				S*	Sb	20 42 42.4	+1.0
PAWZ	**Paruwai Farm**	**0.59**	**185**	⇓P*	Pb	20 42 33.6	+0.1
PAWZ				S*	Sb	20 42 43.4	+1.9
TRWZ	**Traveller**	**0.62**	**166**	P*	Pb	20 42 33.9	-0.2
TRWZ				S*	Sb	20 42 44.1	+1.7
MSWZ	**Moikau Station**	**0.65**	**196**	P*	Pb	20 42 34.3	-0.2
MSWZ				S*	Sb	20 42 44.2	+1.1
WEL	**Wellington**	**0.73**	**228**	P*	Pb	20 42 36.0	0.0
MRW	**Makara Radio**	**0.74**	**234**	P*	Pb	20 42 35.9	-0.2
BHW	**Baring Head**	**0.77**	**217**	⇓P*	Pb	20 42 36.2	-0.4
BHW				S*	Sb	20 42 47.1	+0.4
SNZO	**South Karori**	**0.79**	**229**	⇓P*	Pb	20 42 36.6	-0.2
SNZO				S*	Sb	20 42 47.9	+0.8
TSZ	**Takapari Road**	**0.82**	**26**	P*	Pb	20 42 36.1	-1.3
TSZ				S*	Sb	20 42 46.4	-1.6
TCW	**Tory Channel**	**1.01**	**245**	⇓P*	Pb	20 42 39.7	-1.0
TCW				S*	Sb	20 42 53.3	-0.2
WAZ	**Wanganui**	**1.11**	**339**	⇑PN	Pn	20 42 41.8	+0.2
WAZ				SN	Sn	20 42 56.9	+0.8
DUWZ	**D'Urville Isla**	**1.19**	**269**	P*	Pb	20 42 42.3	-1.5
DUWZ				S*	Sb	20 42 58.0	-0.7
PXZ	**Pawanui**	**1.29**	**54**	P*	Pb	20 42 42.2	-3.3
TUWZ	**Tuamarina**	**1.33**	**241**	⇓P*	Pb	20 42 43.6	-2.6
MOVZ	**Moawhango**	**1.40**	**8**	PN	Pn	20 42 44.8	-0.9
MOVZ				SN	Sn	20 43 03.1	-0.2
MTVZ	**Mangateitei**	**1.41**	**359**	PN	Pn	20 42 45.8	0.0
WNVZ	**Wahianoa**	**1.47**	**3**	PN	Pn	20 42 46.2	-0.4
TRVZ	**Turoa**	**1.50**	**2**	PN	Pn	20 42 47.0	0.0
PKVZ	**Pokaka**	**1.51**	**356**	PN	Pn	20 42 47.2	+0.1
DRZ	**Dome Shelter**	**1.52**	**2**	PN	Pn	20 42 47.3	0.0
BSWZ	**Blackbirch Sta**	**1.52**	**232**	PN	Pn	20 42 46.3	-1.1
TUVZ	**Tukino**	**1.53**	**5**	PN	Pn	20 42 47.4	-0.1
FWVZ	**Far West T-bar**	**1.54**	**2**	PN	Pn	20 42 47.5	0.0
NGZ	**Ngauruhoe**	**1.62**	**3**	PN	Pn	20 42 48.6	-0.1
OTVZ	**Oturere**	**1.64**	**5**	PN	Pn	20 42 48.3	-0.6
NNZ	**Nelson**	**1.65**	**255**	PN	Pn	20 42 48.4	-0.7
WTVZ	**West Tongariro**	**1.68**	**3**	PN	Pn	20 42 49.4	-0.1
TWVZ	**Taurewa**	**1.72**	**359**	PN	Pn	20 42 49.7	-0.4
VRZ	**Vera Road**	**1.76**	**341**	PN	Pn	20 42 50.6	0.0
BKZ	**Black Stump Fm**	**1.80**	**26**	PN	Pn	20 42 49.0	-2.2

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*IDC **08** 20:44:49.2±1.3, 3767N×2105E, h0km, mb3.6/5, mb1 3.6/10, mb1mx3.6/27, mbtmp3.5/10, ML3.5/5, MS2.8/2, Ms1 2.8/2, ms1mx2.4/51, Error ellipse: s-maj=25.2km s-min=19.1km az=78.0*
*CSEM **08** 20:44:50.8±0.1, 3761N×2079E, h2km, ML3.8, Error ellipse: s-maj=2.4km s-min=1.4km az=42.0*
*ISCJB **08** 20:44:51.9±0.6, 3770N±003×2083E±004, h17km±6km, mb3.5/5, MS4.5/1, Error ellipse: s-maj=5.4km s-min=4.2km az=90.5*
*NEIC **08** 20:44:51.6, 3774N×2087E, h18km, MD3.8(PDG), ML3.8(ATH), After ATH.*
*ATH **08** 20:44:51.6, 3774N×2087E, h18km±2km, MD3.9/13, ML3.8*
*THE **08** 20:44:53.9, 3783N×2089E, h1km, ML3.6*
*PDG **08** 20:44:57.8±0.2, 3799N×1986E, h12km±1km*
*SOF **08** 20:45:15.5, 3923N×2222E, h2km, MD2.6*
ISC 08 20:44:52.6±0.7**, 3773N**±003×**2087E**±004**, h9km**±5km**, n77, σ1ˢ25**/98**, mb3.5**/5**, MS4.5**/1**, 3C, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.58**	**55**	*e*PN	**Pg**	**20 45 02.6**	**-1.2**
RLS				*e*SN	**Sg**	**20 45 11.2**	**-0.2**
LKD	**Levkas**	**0.99**	**350**	*e*Pg	**Pg**	**20 45 10.2**	**-1.5**
ITM	**Ithomi**	**1.01**	**123**	*e*PN	**Pg**	**20 45 10.5**	**-1.5**
ITM				*e*SN	**Sg**	**20 45 25.3**	**+0.2**
EVR	**Evrytania**	**1.40**	**32**	*e*PN	**Pn**	**20 45 17.5**	**-0.8**
AGG	**Agios Georgios**	**1.73**	**41**	*e*Pb	**Pb**	**20 45 23.2**	**-1.4**
AGG				*e*Sb	**Sb**	**20 45 46.1**	**-0.3**
IGT	**Igoumenitsa**	**1.85**	**347**	*e*Pb	**Pb**	**20 45 24.7**	**-1.9**
MGER	**Gerania Oros**	**1.91**	**82**	*e*PN	**Pn**	**20 45 25.5**	**+0.1**
LKR	**Lokris**	**1.92**	**61**	*e*PN	**Pn**	**20 45 25.9**	**+0.5**
JAN	**Janina**	**1.93**	**360**	*e*PN	**Pn**	**20 45 25.8**	**+0.3**
VLI	**Veliai**	**1.94**	**121**	*e*PN	**Pn**	**20 45 26.8**	**+1.1**
MEV	**Metsovon**	**2.07**	**8**	*e*Pb	**Pb**	**20 45 28.1**	**-2.3**
NAIG	**Nisos Aigina**	**2.08**	**88**	*e*PB	**Pb**	**20 45 27.0**	**-3.5**
KEK	**Kerkira**	**2.15**	**337**	*e*PN	**Pn**	**20 45 29.0**	**+0.4**
KYTH	**Kithira**	**2.26**	**129**	*e*PB	**Pb**	**20 45 30.0**	**-3.6**
ATH	**Athens Observa**	**2.27**	**83**	*e*PN	**Pn**	**20 45 31.0**	**+0.7**
KVR	**Kavouri**	**2.30**	**87**	*e*PB	**Pb**	**20 45 30.0**	**-4.3**
PTL	**Penteli**	**2.40**	**81**	*e*PN	**Pn**	**20 45 31.9**	**-0.1**
KZN	**Kozani**	**2.67**	**15**	*e*PN	**Pn**	**20 45 35.6**	**-0.2**
LIT	**Litokhoron**	**2.69**	**28**	*e*Pn	**Pn**	**20 45 36.6**	**+0.5**
FNA	**Florina**	**3.08**	**7**	*e*Pn	**Pn**	**20 45 41.9**	**+0.5**
FNA				*e*Sn	**Sn**	**20 46 18.9**	**+0.6**
BIA	**Bitola**	**3.31**	**6**	*i* Pn	**Pn**	**20 45 45.7**	**+1.1**
BIA				*i* Sn	**Sn**	**20 46 25.8**	**+1.9**
BIA	**Bitola**	**3.31**	**6**	*i* Pn	**Pn**	**20 45 45.6**	**+1.1**
BIA				*i* Sn	**Sn**	**20 46 25.8**	**+1.9**
PLG	**Polygyros**	**3.32**	**36**	*e*PN	**Pn**	**20 45 45.0**	**+0.3**
OHR	**Ohrid**	**3.38**	**359**	*i* Pn	**Pn**	**20 45 49.6**	**+4.1**
OHR				*i* Sn	**Sn**	**20 46 24.9**	**-0.8**
GRG	**Griva**	**3.44**	**20**	*e*Pn	**Pn**	**20 45 46.9**	**+0.6**
VAM	**Vamos**	**3.55**	**130**	*e*PN	**Pn**	**20 45 48.5**	**+0.7**
OUR	**Ouranopolis**	**3.56**	**42**	*e*Pn	**Pn**	**20 45 48.5**	**+0.5**
SOH	**Sokhos**	**3.64**	**31**	*e*Pn	**Pn**	**20 45 50.0**	**+0.9**
KNT	**Kendrikon**	**3.77**	**24**	*e*Pn	**Pn**	**20 45 51.7**	**+0.7**
KNT				*e*Sn	**Sn**	**20 46 36.2**	**+0.8**
VAY	**Valandovo**	**3.82**	**20**	*i* Pn	**Pn**	**20 45 51.5**	**-0.1**
VAY				*i* Sn	**Sn**	**20 46 34.2**	**-2.4**
VAY	**Valandovo**	**3.82**	**20**	*i* Pn	**Pn**	**20 45 51.5**	**-0.1**
VAY				*i* Sn	**Sn**	**20 46 34.2**	**-2.5**
CEL	**Celeste**	**3.96**	**279**	P	**Pn**	**20 45 53.4**	**-0.2**
SRS	**Serrai**	**3.99**	**31**	*e*Pn	**Pn**	**20 45 54.7**	**+0.8**
IDI	**Anoyia**	**4.06**	**126**	Pn	**Pn**	**20 45 51.2**	**-3.7**
	0.6nm,0.3s,baz=75,slow=16,SNR=4.8						
IDI				Sn	**Sn**	**20 46 39.8**	**-2.7**
	1.8nm,0.3s,baz=59,slow=20,SNR=3.2						
IDI				LR	LR	20 46 42.7	
	comp=Z,146nm,21.3s,baz=139,slow=29						
IDI	**Anoyia**	**4.06**	**126**	Pn	**Pn**	**20 45 51.2**	**-3.6**
IDI				Sn	**Sn**	**20 46 39.8**	**-2.7**
CHOS	**Chios island**	**4.15**	**79**	*e*Pn	**Pn**	**20 45 57.3**	**+1.2**
SKO	**Skopje**	**4.26**	**6**	*e*Pn	**Pb**	**20 46 09.0**	**+1.3**
NVR	**Nevrokopi**	**4.29**	**32**	*e*PN	**Pn**	**20 45 58.6**	**+0.5**
ULC	**Ulcinj**	**4.41**	**344**	⇑*i*Pn	**Pn**	**20 45 59.9**	**+0.2**
ULC				*e*Sn	**Sn**	**20 46 47.5**	**-3.6**
MMB	**Musomiste**	**4.44**	**29**	*i* P	**Pn**	**20 46 00.5**	**+0.3**
BUM	**Brajici-Budva**	**4.81**	**342**	⇑*i*Pn	**Pn**	**20 46 05.2**	**0.0**
BUM				*e*Sn	**Sn**	**20 46 56.9**	**-4.2**
TTG	**Podgorica**	**4.85**	**346**	*e*Pn	**Pn**	**20 46 06.5**	**+0.7**
TTG				*e*Sn	**Sn**	**20 46 59.0**	**-3.1**
CDT	**Castel del Mon**	**4.88**	**315**	*e*Pn	**Pn**	**20 46 05.9**	**-0.3**
PVY	**Plav**	**4.91**	**352**	*e*Pn	**Pn**	**20 46 09.2**	**+2.7**
PVY				*e*Sn	**Sn**	**20 47 02.4**	**-1.1**
RZN	**Rozhen**	**4.94**	**36**	*i* P	**Pn**	**20 46 07.9**	**+0.8**
RDO	**Rodhopi**	**4.97**	**45**	*e*PN	**Pn**	**20 46 07.1**	**-0.3**
HCY	**Herceg Novi**	**5.05**	**340**	⇑*i*Pn	**Pn**	**20 46 08.4**	**-0.1**
HCY				*e*Sn	**Sn**	**20 47 01.6**	**-5.4**
VAE	**Valguarnera**	**5.13**	**269**	LR	LR	20 48 46.1	
	comp=Z,69nm,18.4s,baz=348,slow=44						
SGO	**Sicignano**	**5.16**	**305**	P	**Pn**	**20 46 11.8**	**+1.7**
	5.5nm,0.2s						
VTS	**Vitosha**	**5.18**	**20**	*i* P	**Pn**	**20 46 12.2**	**+1.9**
IVA	**Berane**	**5.19**	**352**	*e*Pn	**Pn**	**20 46 12.9**	**+2.5**
IVA				*e*Sn	**Sn**	**20 47 09.0**	**-1.4**
KDZ	**Kurdzhali**	**5.26**	**40**	*i* P	**Pn**	**20 46 10.6**	**-0.8**
NKY	**Niksic**	**5.27**	**345**	*e*Pn	**Pn**	**20 46 12.7**	**+1.1**
NKY				*e*Sn	**Sn**	**20 47 08.4**	**-4.2**
BRY	**Bratogost**	**5.46**	**342**	*e*Pn	**Pn**	**20 46 14.3**	**+0.1**
BRY				*e*Sn	**Sn**	**20 47 12.3**	**-4.9**
FG5	**Orsara di Pugl**	**5.60**	**311**	P	**Pn**	**20 46 18.8**	**+2.8**
DIM	**Dimitrovgrad**	**5.61**	**38**	*i* P	**Pn**	**20 46 16.8**	**+0.5**
RGNG	**Rignano Grg**	**5.66**	**316**	P	**Pn**	**20 46 17.4**	**+0.4**
UPM	**Unac-Piva**	**5.67**	**345**	*e*Pn	**Pn**	**20 46 18.0**	**+1.0**
UPM				*e*Sn	**Sn**	**20 47 18.2**	**-4.0**
STON	**Ston**	**5.68**	**336**	*i* Pn	**Pn**	**20 46 15.2**	**-1.9**
STON				*i* Sn	**Sn**	**20 47 16.9**	**-5.5**
PLE	**Pljevlja**	**5.71**	**349**	*e*Pn	**Pn**	**20 46 19.1**	**+1.5**
PLE				*e*Sn	**Sn**	**20 47 20.1**	**-3.0**
CIGN	**Sant'Elia a Pi**	**6.04**	**312**	P	**Pn**	**20 46 26.1**	**+4.0**
	153nm,2.0s						
SDI	**San Donato**	**6.74**	**308**	P	**Pn**	**20 46 39.1**	**+7.4**
	5.9nm,0.4s						
SZH	**Strazhica**	**6.75**	**33**	*i* P	**Pn**	**20 46 32.6**	**+0.8**
NRCA	**Norcia**	**7.81**	**313**	P	**Pn**	**20 46 47.7**	**+1.2**
ARV	**Arcevia**	**8.34**	**316**	P	**Pn**	**20 46 53.5**	**-0.1**
BRTR	**Keskin Array B**	**10.18**	**75**	Pn	**Pn**	**20 47 20.2**	**+1.3**
	0.1nm,0.3s,baz=266,slow=14,SNR=3.0						
DAVOX	**Davos**	**12.15**	**322**	Pn	**Pn**	**20 47 45.7**	**-0.2**
	0.1nm,0.3s,baz=122,slow=12,SNR=2.8						
GERES	**GERESS Array B**	**12.27**	**337**	Pn	**Pn**	**20 47 49.0**	**+1.5**
	0.1nm,0.3s,baz=151,slow=14,SNR=3.5						
AKASG	**Malin Array Be**	**14.27**	**22**	Pn	**Pn**	**20 48 11.0**	**-3.9**
	0.2nm,0.3s,baz=211,slow=9.3,SNR=2.8						
ESDC	**Sonseca Array**	**19.46**	**283**	P	**Pn**	**20 49 19.3**	**-1.5**
	0.1nm,0.3s,baz=79,slow=11,SNR=7.6						
MDT	**Midelt**	**21.34**	**264**	LR	LR	20 57 44.7	
	comp=Z,2µm,19.4s,MS4.5,baz=265,slow=36						
HFS	**Hagfors**	**22.89**	**351**	P	**P**	**20 49 54.9**	**-1.6**
	2.4nm,0.6s,mb3.8,baz=155,slow=11,SNR=13						
EKA	**Eskdalemuir Ar**	**23.95**	**325**	P	**P**	**20 50 06.9**	**-0.2**
	1.5nm,0.7s,mb3.5,baz=124,slow=10,SNR=4.7						
FINES	**FINESS Array B**	**23.96**	**6**	P	**P**	**20 50 05.5**	**-1.7**
	0.9nm,0.6s,mb3.4,baz=190,slow=9.7,SNR=6.2						
NB2	**NORSAR Subarra**	**24.11**	**348**	P	**P**	**20 50 05.7**	**-2.9**
	comp=Z,1.3nm,0.7s,mb3.5,baz=148,slow=11						
NOA	**NORSAR Array B**	**24.11**	**348**	P	**P**	**20 50 06.9**	**-1.7**
	comp=Z,1.2nm,0.7s,mb3.5,baz=158,slow=8.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**29.86**	**220**	P	**P**	**20 50 58.1**	**-2.1**
	comp=Z,0.7nm,0.8s,mb3.5,baz=35,slow=8.2,SNR=5.1						

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*BJI **08** 20:45:15.2, 51.10N×179.10W, h22km, mB5.6, mb4.9*
*IDC **08** 20:45:16.2±0.8, 5121N×179.11W, h0km, mb4.9/18, mb1 5.0/19, mb1mx4.9/28, mbtmp4.9/19, ML4.7/1, Error ellipse: s-maj=26.5km s-min=16.6km az=142.0*
*NEIC **08** 20:45:21.2, 51.11N×17907W, h23km, mb5.2/41, ML4.5(AEIC), After AEIC.*
*MOS **08** 20:45:21.8±0.7, 5143N×17929W, h40km, mb5.3/51, Error ellipse: s-maj=19.7km s-min=6.9km az=97.6*
*ISCJB **08** 20:45:22.2±0.8, 5135N±009×179.19W±005, h47km±7km, mb5.0/70, Error ellipse: s-maj=15.4km s-min=5.6km az=170.7*
ISC 08 20:45:23.6±0.8**, 5144N**±009×**17923W**±006**, h45km**±7km**, n193, σ0ˢ71**/191**, mb5.0**/70**, 87C-9D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.92**	**267**	P	**Pn**	**20 45 39.1**	**-1.0**
AMKA				S	**Sn**	**20 45 53.4**	**+1.1**
ATKA	**Atka Island**	**3.21**	**74**	P	**Pn**	**20 46 11.2**	**-0.3**
ATKA				S	**Sn**	**20 46 48.6**	**+0.1**
KDAK	**Kodiak Island**	**16.61**	**57**	Pn	**Pn**	**20 49 10.3**	**-2.9**
	2.5nm,0.3s,baz=331,slow=12,SNR=1.8						
YSS	**Yuzh-Sakhalins**	**25.05**	**275**	⇑*i*P	**P**	**20 50 44.0**	**+0.5**
YSS				pmax	pmax		
	comp=Z,90nm,1.1s,mb5.2						
YSS	**Yuzh-Sakhalins**	**25.05**	**275**	⇑*i*P	**P**	**20 50 44.5**	**+1.0**
HABR	**Khabarovsk**	**29.20**	**282**	*e*P	**P**	**20 51 21.0**	**+0.2**
HABR				*e*S	**S**	**20 56 14.4**	**+4.3**
MJAR	**Matsushiro Arr**	**33.53**	**260**	P	**P**	**20 51 58.8**	**-0.1**
	comp=Z,3.4nm,0.7s,mb4.4,baz=50,slow=8.2,SNR=5.1						
MJAR	**Matsushiro Arr**	**33.53**	**260**	P	**P**	**20 51 58.8**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAJO	**Matsushiro**	**33.53**	**260**	*e*P	**P**	**20 51 58.6**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
MAJO	**Matsushiro**	**33.53**	**260**	*e*P	**P**	**20 51 58.6**	**-0.3**
	comp=Z,8.3nm,0.7s,mb4.8						
C03A	**Quillayute Air**	**34.84**	**74**	⇓P	**P**	**20 52 11.6**	**+1.5**
	baz=35						
YKA	**Yellowknife Ar**	**35.38**	**46**	P	**P**	**20 52 14.0**	**-0.8**
	comp=Z,15nm,0.8s,mb5.0,baz=281,slow=8.2,SNR=5.0						
YKA	**Yellowknife Ar**	**35.38**	**46**	P	**P**	**20 52 14.0**	**-0.9**
YKA				pmax	pmax		
	comp=Z,15nm,0.8s						
D03A	**Wishkah Elem.**	**35.70**	**75**	⇓P	**P**	**20 52 18.8**	**+1.2**
	baz=36						
A05A	**Maple Falls**	**35.85**	**71**	⇓P	**P**	**20 52 19.2**	**+0.4**
	baz=36						
B05A	**Bryant**	**36.17**	**72**	⇑P	**P**	**20 52 21.7**	**+0.1**
	baz=36						
E04A	**Onalaska**	**36.59**	**75**	⇑P	**P**	**20 52 25.1**	**0.0**
	baz=36						
C05A	**Tolt Reservoir**	**36.68**	**73**	⇑P	**P**	**20 52 26.1**	**+0.1**
	baz=36						
D05A	**Enumclaw**	**36.74**	**74**	⇓P	**P**	**20 52 27.2**	**+0.8**
	baz=37						
F04A	**Amboy**	**37.09**	**76**	⇓P	**P**	**20 52 29.1**	**-0.4**
	baz=37						
CN2	**Changchun**	**37.27**	**281**	*e*P	**P**	**20 52 24.1**	**-6.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
H04A	**Detroit Lake**	**37.86**	**77**	⇑P	**P**	**20 52 35.9**	**0.0**
	baz=38						
HIA	**Hailar**	**38.01**	**291**	*e*P	**P**	**20 52 36.6**	**-0.7**
G05A	**Wamic**	**38.10**	**76**	⇑P	**P**	**20 52 38.0**	**0.0**
	baz=38						
HUMO	**Hull Mountain**	**38.50**	**81**	*e*P	**P**	**20 52 42.1**	**+0.8**
	comp=Z,63nm,0.6s,mb5.5						
YBH	**Yreka Blue Hor**	**39.14**	**82**	⇑P	**P**	**20 52 48.3**	**+1.6**
	baz=39						
SONM	**Songino Array**	**46.38**	**296**	P	**P**	**20 53 46.7**	**+1.3**
	comp=Z,14nm,0.8s,mb4.9,baz=58,slow=9.2,SNR=4.9						
SONM	**Songino Array**	**46.38**	**296**	P	**P**	**20 53 46.7**	**+1.4**
SONM				pmax	pmax		
	comp=Z,14nm,0.8s						
PDAR	**Pinedale Array**	**46.54**	**72**	P	**P**	**20 53 46.0**	**-0.6**
	comp=Z,31nm,0.8s,mb5.3,baz=308,slow=3.5,SNR=8.8						
NJ2	**Nanjing**	**48.54**	**271**	*e*P	**P**	**20 54 03.1**	**+0.9**
NJ2				AP	pP	20 54 13.0	-1.7
NJ2				PP	PP	20 55 57.0	+1.8
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,402nm,4.9s						
KRAR	**Krasnoyarsk**	**48.84**	**312**	*e*P	**P**	**20 54 05.7**	**+1.3**
KRAR				pmax	pmax		
	comp=Z,127nm,1.9s,mb5.6						
KBS	**Kingsbay**	**49.72**	**357**	*e*P	**P**	**20 54 09.9**	**-1.3**
ULM	**Lac du Bonnet**	**49.87**	**57**	*e*P	**P**	**20 54 12.0**	**-0.3**
SPB4	**Spitsbergen Ar**	**50.29**	**356**	*e*P	**P**	**20 54 12.0**	**-3.5**
MKAR	**Makanchi Array**	**59.78**	**308**	P	**P**	**20 55 24.0**	**0.0**
	comp=Z,8.2nm,0.4s,mb5.1,baz=44,slow=6.5,SNR=13						
MKAR	**Makanchi Array**	**59.78**	**308**	P	**P**	**20 55 24.0**	**0.0**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.4s						
BRVK	**Borovoye**	**60.69**	**320**	*e*P	**P**	**20 55 30.6**	**+0.4**
JOF	**Joensuu**	**63.47**	**345**	*e*p	**P**	**20 55 48.2**	**-0.6**
	comp=Z,22nm,0.6s,mb5.5						
JOF	**Joensuu**	**63.47**	**345**	*e*P	**P**	**20 55 48.2**	**-0.6**
JOF				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.5						
KAF	**Kangasniemi**	**64.99**	**347**	*e*p	**P**	**20 55 57.9**	**-0.9**
	comp=Z,25nm,0.7s,mb5.3,baz=14,slow=5.8						
KAF	**Kangasniemi**	**64.99**	**347**	*e*P	**P**	**20 55 57.9**	**-0.9**
KAF				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.3						

FINES FINESS Array B 65.66 347 P P 20 56 02.1 -1.0
comp=Z,2.4nm,0.4s,mb4.6,baz=78,slow=4.3,SNR=5.1
FINES FINESS Array B 65.66 347 P P 20 56 02.2 -0.9
FINES pmax pmax
comp=Z,2.0nm,0.4s
AAK Ala-Archa 66.62 309 *e*P P 20 56 09.0 -0.3
NOA NORSAR Array B 67.56 355 P P 20 56 15.4 +0.2
comp=Z,3.7nm,0.7s,mb4.6,baz=7.0,slow=6.3,SNR=4.6
NOA NORSAR Array B 67.56 355 P P 20 56 15.4 +0.2
NOA pmax pmax
comp=Z,4.0nm,0.7s
VSU Vasula 68.42 346 *e*P P 20 56 19.4 -1.3
OBN Obninsk 69.71 339⇓*e*P P 20 56 27.9 -0.8
OBN 20 56 50.0
OBN 20 59 02.0
OBN *e*S S 21 05 33.4 -0.8
OBN pmax pmax
comp=Z,51nm,1.0s,mb5.4
OBN Obninsk 69.71 339 *e*P P 20 56 27.7 -1.0
EKA Eskdalemuir Ar 73.54 2 P P 20 56 51.8 +0.1
comp=Z,4.6nm,0.7s,mb4.5,baz=354,slow=5.0,SNR=5.3
EKA Eskdalemuir Ar 73.54 2 P P 20 56 51.8 +0.1
EKA pmax pmax
comp=Z,5.0nm,0.7s
RGN Rugen 73.86 352 *e*P P 20 56 53.4 -0.2
comp=Z,102nm,0.6s,mb5.9
AKASG Malin Array Be 75.40 342 P P 20 57 02.1 -0.4
comp=Z,21nm,0.5s,mb5.3,baz=20,slow=6.5,SNR=13
AKASG Malin Array Be 75.40 342 P P 20 57 02.1 -0.4
AKASG pmax pmax
comp=Z,21nm,0.5s
CLL Collm 77.10 352 *i* P P 20 57 11.4 -0.7
GOF Gofitskoye 77.18 331 *e*P P 20 57 11.9 -0.7
GOF pmax pmax
comp=Z,60nm,0.8s,mb5.6
KWP Kalwaria 77.58 346 *e*P P 20 57 15.6 +0.8
KIV Kislovodsk 78.28 330 *e*P P 20 57 19.0 +0.3
KIV pmax pmax
comp=Z,25nm,1.3s,mb5.0
KOLS Kolonicke sedl 78.33 346 *e*P P 20 57 19.7 +0.7
CRVS Cervenica-Dubn 78.48 346 *e*P P 20 57 19.5 -0.3
VRAC Vranov 78.72 350 P P 20 57 21.6 +0.5
comp=Z,12nm,0.9s,mb4.8,baz=358,slow=2.6,SNR=3.7
VRAC Vranov 78.72 350 P P 20 57 21.6 +0.5
VRAC pmax pmax
comp=Z,12nm,0.9s
GIVF Givet 78.77 357⇑*i*P P 20 57 21.3 -0.1
comp=Z,41nm,1.0s,mb5.0
GIVF Givet 78.77 357⇑*i*P P 20 57 21.3 -0.1
GIVF pmax pmax
comp=Z,21nm,1.0s,mb5.0
GIVF Givet 78.77 357⇑*i*P P 20 57 21.3 -0.1
comp=Z,21nm,1.0s,mb5.0
BAIF Baives 78.83 358⇑*i*P P 20 57 21.9 +0.2
comp=Z,42nm,0.9s,mb5.0
BAIF Baives 78.83 358⇑*i*P P 20 57 21.9 +0.2
BAIF pmax pmax
comp=Z,21nm,0.9s,mb5.1
BAIF Baives 78.83 358⇑*i*P P 20 57 21.9 +0.2
comp=Z,21nm,0.9s,mb5.1
ZEI Tsey 78.97 329 *e*P P 20 57 23.2 +0.7
ZEI pmax pmax
comp=Z,20nm,0.9s,mb5.0
KECS Kecovo 79.03 347 *e*P P 20 57 23.2 +0.4
KHC Kasperske Hory 79.21 351 *e*P P 20 57 23.2 -0.6
VYHS Vyhne 79.25 348 *e*P P 20 57 24.2 +0.2
GERES GERESS Array B 79.48 351 P P 20 57 25.4 +0.1
comp=Z,5.0nm,0.7s,mb4.5,baz=26,slow=5.7,SNR=9.0
GERES GERESS Array B 79.48 351 P P 20 57 25.4 +0.1
GERES pmax pmax
comp=Z,5.0nm,0.7s
SOC Sochi 79.51 332 *e*P P 20 57 24.1 -1.3
SOC *e*S S 21 07 22.0 -1.5
SOC pmax pmax
comp=Z,35nm,1.0s,mb5.2
ZST Bratislava 79.76 349 *e*P P 20 57 27.4 +0.6
LDF La Druitiere 80.34 1⇑*i*P P 20 57 29.4 -0.5
comp=Z,41nm,0.9s,mb5.1
LDF La Druitiere 80.34 1⇑*i*P P 20 57 29.4 -0.5
LDF pmax pmax
comp=Z,21nm,0.9s,mb5.1
LDF La Druitiere 80.34 1⇑*i*P P 20 57 29.4 -0.5
comp=Z,21nm,0.9s,mb5.1
MEZF Maizieres J'vi 80.37 357⇑*i*P P 20 57 30.2 +0.1
comp=Z,34nm,0.9s,mb5.0
MEZF Maizieres J'vi 80.37 357⇑*i*P P 20 57 30.2 +0.1
comp=Z,34nm,0.9s,mb5.3
CDF Champ du Feu 80.37 356⇑*i*P P 20 57 29.8 -0.3
comp=Z,13nm,0.8s,mb4.6
CDF Champ du Feu 80.37 356⇑*i*P P 20 57 29.8 -0.3
CDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CDF Champ du Feu 80.37 356⇑*i*P P 20 57 29.8 -0.3
comp=Z,6.3nm,0.8s,mb4.6
GRR Gorron 80.54 1⇑*i*P P 20 57 30.8 -0.2
comp=Z,46nm,0.9s,mb5.1
GRR Gorron 80.54 1⇑*i*P P 20 57 30.8 -0.2
GRR pmax pmax
comp=Z,23nm,0.9s,mb5.1
GRR Gorron 80.54 1⇑*i*P P 20 57 30.8 -0.2
comp=Z,23nm,0.9s,mb5.1
ROSF Rostrenen 80.54 3⇑*i*P P 20 57 30.8 -0.2
comp=Z,12nm,0.6s,mb4.7
ROSF Rostrenen 80.54 3⇑*i*P P 20 57 30.8 -0.2
ROSF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ROSF Rostrenen 80.54 3⇑*i*P P 20 57 30.8 -0.2
comp=Z,6.3nm,0.6s,mb4.7
SGMF Saint Gilles 80.64 2⇑*i*P P 20 57 31.4 -0.1
comp=Z,31nm,0.6s,mb5.1
SGMF Saint Gilles 80.64 2⇑*i*P P 20 57 31.4 -0.1
SGMF pmax pmax
comp=Z,16nm,0.6s,mb5.1
SGMF Saint Gilles 80.64 2⇑*i*P P 20 57 31.4 -0.1
comp=Z,16nm,0.6s,mb5.1
HAU Haudompre 80.82 356⇑*i*P P 20 57 32.3 -0.2
comp=Z,16nm,0.9s,mb4.7
HAU Haudompre 80.82 356⇑*i*P P 20 57 32.3 -0.2
HAU pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
HAU Haudompre 80.82 356⇑*i*P P 20 57 32.3 -0.2
comp=Z,8.3nm,0.9s,mb4.7
QUIF Quistinic 80.96 3 *e*P P 20 57 32.9 -0.4
HINF Hinteralfeld 80.98 356 *e*P P 20 57 32.9 -0.5
comp=Z,13nm,0.9s,mb4.6
HINF Hinteralfeld 80.98 356 *e*P P 20 57 32.9 -0.5
HINF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
HINF Hinteralfeld 80.98 356 *e*P P 20 57 32.9 -0.5
comp=Z,6.6nm,0.9s,mb4.6
WTTA Wattenberg 81.23 353⇓*i*P P 20 57 35.5 +0.8
comp=Z,40nm,1.2s,mb5.2
WTTA Wattenberg 81.23 353⇓*i*P P 20 57 35.5 +0.8
WTTA pmax pmax
comp=Z,40nm,1.2s,mb5.2
KBA Koelnbreinsper 81.27 351⇑*i*P P 20 57 35.9 +1.0
comp=Z,56nm,1.0s,mb5.5
KBA Koelnbreinsper 81.27 351⇑*i*P P 20 57 35.9 +1.0
KBA pmax pmax
comp=Z,56nm,1.0s,mb5.5
LOR Lormes 81.63 358⇑*i*P P 20 57 36.4 -0.4
comp=Z,25nm,1.0s,mb4.8
LOR Lormes 81.63 358⇑*i*P P 20 57 36.4 -0.4
LOR pmax pmax
comp=Z,12nm,1.0s,mb4.8
LOR Lormes 81.63 358⇑*i*P P 20 57 36.4 -0.4
comp=Z,12nm,1.0s,mb4.8
HYF Humbligny 81.66 359 *e*P P 20 57 37.1 +0.2
OBKA Obir 81.71 350⇓*i*P P 20 57 38.1 +0.9
comp=Z,23nm,1.1s,mb5.0
DAVOX Davos 81.84 354 P P 20 57 38.8 +0.9
comp=Z,8.3nm,0.7s,mb4.8,baz=13,slow=9.7,SNR=3.7
SSF Saint Saulge 81.85 358⇑*i*P P 20 57 37.9 0.0
comp=Z,26nm,0.9s,mb4.8
SSF Saint Saulge 81.85 358⇑*i*P P 20 57 37.9 0.0
SSF pmax pmax
comp=Z,13nm,0.9s,mb4.9
SSF Saint Saulge 81.85 358⇑*i*P P 20 57 37.9 0.0
comp=Z,13nm,0.9s,mb4.9
WRA Warramunga Arr 81.87 224 P P 20 57 35.0 -3.1
comp=Z,1.8nm,0.8s,mb4.1,baz=31,slow=6.0,SNR=8.9
WRA Warramunga Arr 81.87 224 P P 20 57 35.0 -3.1
WRA pmax pmax
comp=Z,2.0nm,0.8s
AVF Avril sur Loir 82.12 358⇑*i*P P 20 57 39.2 -0.2
comp=Z,38nm,1.0s,mb5.0
AVF Avril sur Loir 82.12 358⇑*i*P P 20 57 39.2 -0.2
AVF pmax pmax
comp=Z,19nm,1.0s,mb5.0
AVF Avril sur Loir 82.12 358⇑*i*P P 20 57 39.2 -0.2
comp=Z,19nm,1.0s,mb5.0
CABF La Chapelle 82.22 356 *e*P P 20 57 40.1 +0.2
comp=Z,37nm,1.1s,mb4.9
CABF La Chapelle 82.22 356 *e*P P 20 57 40.1 +0.2
CABF pmax pmax
comp=Z,19nm,1.1s,mb4.9
CABF La Chapelle 82.22 356 *e*P P 20 57 40.1 +0.2
comp=Z,19nm,1.1s,mb4.9
SMF Signal de Mont 82.26 358⇑*i*P P 20 57 39.9 -0.2
comp=Z,58nm,1.1s,mb5.1
SMF Signal de Mont 82.26 358⇑*i*P P 20 57 39.9 -0.2
SMF pmax pmax
comp=Z,29nm,1.0s,mb5.2
SMF Signal de Mont 82.26 358⇑*i*P P 20 57 39.9 -0.2
comp=Z,29nm,1.0s,mb5.2
MFF Saint Martin d 82.33 1⇑*i*P P 20 57 40.4 -0.1
comp=Z,43nm,1.0s,mb5.0
MFF Saint Martin d 82.33 1⇑*i*P P 20 57 40.4 -0.1
MFF pmax pmax
comp=Z,21nm,1.0s,mb5.0
MFF Saint Martin d 82.33 1⇑*i*P P 20 57 40.4 -0.1
comp=Z,21nm,1.0s,mb5.0
BGF Bois d'Agland 82.36 359⇑*i*P P 20 57 40.5 -0.1
comp=Z,13nm,0.9s,mb4.6
BGF Bois d'Agland 82.36 359⇑*i*P P 20 57 40.5 -0.1
BGF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BGF Bois d'Agland 82.36 359⇑*i*P P 20 57 40.5 -0.1
comp=Z,6.5nm,0.9s,mb4.6
TCF Toulx Ste Croi 82.64 359⇑*i*P P 20 57 41.9 -0.2
comp=Z,28nm,1.1s,mb4.9
TCF Toulx Ste Croi 82.64 359⇑*i*P P 20 57 41.9 -0.2
TCF pmax pmax
comp=Z,14nm,1.1s,mb4.9
TCF Toulx Ste Croi 82.64 359⇑*i*P P 20 57 41.9 -0.2
comp=Z,14nm,1.1s,mb4.9
PSI Prapat 82.73 265 P P 20 57 41.8 -0.7
comp=Z,9.6nm,0.7s,mb4.9,baz=26,slow=4.8,SNR=3.8
PSI Prapat 82.73 265 P P 20 57 41.8 -0.8
PSI pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
LPL La Plagne 83.28 356⇑*i*P P 20 57 46.3 +0.9
LPG La Plagne 83.30 356⇑*i*P P 20 57 46.7 +1.2
comp=Z,22nm,1.0s,mb4.8
LPG La Plagne 83.30 356⇑*i*P P 20 57 46.7 +1.2
LPG pmax pmax
comp=Z,11nm,1.0s,mb4.8
LPG La Plagne 83.30 356⇑*i*P P 20 57 46.7 +1.2
comp=Z,11nm,1.0s,mb4.8
RJF Les Rejaudoux 83.63 359 *e*P P 20 57 47.1 -0.1
comp=Z,33nm,1.1s,mb5.1
RJF Les Rejaudoux 83.63 359 *e*P P 20 57 47.1 -0.1
RJF pmax pmax
comp=Z,17nm,1.1s,mb5.1
RJF Les Rejaudoux 83.63 359 *e*P P 20 57 47.1 -0.1
comp=Z,17nm,1.1s,mb5.1
ORIF Oris-en-Rattie 83.92 356 *e*P P 20 57 49.4 +0.7
comp=Z,24nm,1.0s,mb5.0
ORIF Oris-en-Rattie 83.92 356 *e*P P 20 57 49.4 +0.7
ORIF pmax pmax
comp=Z,12nm,1.0s,mb5.0
ORIF Oris-en-Rattie 83.92 356 *e*P P 20 57 49.4 +0.7
comp=Z,12nm,1.0s,mb5.0
LFF La Frestale 84.00 0⇑*i*P P 20 57 49.1 0.0
comp=Z,43nm,0.9s,mb5.3
LFF La Frestale 84.00 0⇑*i*P P 20 57 49.1 0.0
LFF pmax pmax
comp=Z,21nm,0.9s,mb5.3
LFF La Frestale 84.00 0⇑*i*P P 20 57 49.1 0.0
comp=Z,22nm,0.9s,mb5.3
CAF Calviac 84.01 359⇑*i*P P 20 57 49.3 +0.2
comp=Z,33nm,1.0s,mb5.1
CAF Calviac 84.01 359⇑*i*P P 20 57 49.3 +0.2
CAF pmax pmax
comp=Z,16nm,1.0s,mb5.1
CAF Calviac 84.01 359⇑*i*P P 20 57 49.3 +0.2
comp=Z,16nm,1.0s,mb5.1
VIVF Saint-Julien-l 84.02 357⇑*i*P P 20 57 49.5 +0.3
comp=Z,26nm,1.1s,mb5.0
VIVF Saint-Julien-l 84.02 357⇑*i*P P 20 57 49.5 +0.3
VIVF pmax pmax
comp=Z,13nm,1.1s,mb5.0
VIVF Saint-Julien-l 84.02 357⇑*i*P P 20 57 49.5 +0.3
comp=Z,13nm,1.1s,mb5.0
FITZ Fitzroy Crossi 84.29 232 P P 20 57 49.1 -1.5
comp=Z,12nm,0.6s,mb5.2,baz=46,slow=5.4,SNR=11
MALT Malatya 84.74 331 *e*P P 20 57 52.7 -0.1
MALT pmax pmax
comp=Z,21nm,1.1s,mb5.2
MALT Malatya 84.74 331 *e*P P 20 57 52.7 -0.1
comp=Z,21nm,1.1s,mb5.2
BR131 Keskin Array S 84.78 335 *e*P P 20 57 52.6 -0.4
BRTR Keskin Array B 84.78 335 P P 20 57 53.4 +0.4
comp=Z,13nm,0.8s,mb5.1,baz=59,slow=3.0,SNR=8.9
BRTR Keskin Array B 84.78 335 P P 20 57 53.4 +0.4
BRTR pmax pmax
comp=Z,13nm,0.8s
LASF Ste Croix 84.82 358 *e*P P 20 57 53.5 +0.2
comp=Z,19nm,0.9s,mb4.9
ANTO Ankara 84.86 336 *e*P P 20 57 53.8 +0.4
ANTO pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ANTO Ankara 84.86 336 *e*P P 20 57 53.8 +0.3
comp=Z,9.1nm,1.0s,mb4.9
SMRF Simiane la Rot 84.87 357⇑*i*P P 20 57 54.4 +0.9
comp=Z,41nm,0.9s,mb5.2
SMRF Simiane la Rot 84.87 357⇑*i*P P 20 57 54.4 +0.9
comp=Z,41nm,0.9s,mb5.6
SBF Sospel 84.90 355⇑*i*P P 20 57 53.5 -0.1
comp=Z,58nm,0.8s,mb5.4
SBF Sospel 84.90 355⇑*i*P P 20 57 53.5 -0.1
SBF pmax pmax
comp=Z,29nm,0.8s,mb5.5
SBF Sospel 84.90 355⇑*i*P P 20 57 53.5 -0.1
comp=Z,29nm,0.8s,mb5.5
FRF La Foret Royal 85.24 356⇑*i*P P 20 57 55.2 -0.1
comp=Z,30nm,0.8s,mb5.2
FRF La Foret Royal 85.24 356⇑*i*P P 20 57 55.2 -0.1
FRF pmax pmax
comp=Z,15nm,0.8s,mb5.2
FRF La Foret Royal 85.24 356⇑*i*P P 20 57 55.2 -0.1
comp=Z,15nm,0.8s,mb5.2
LMR La Mourre 85.47 356⇑*i*P P 20 57 56.5 0.0
comp=Z,63nm,1.1s,mb5.3
LMR La Mourre 85.47 356⇑*i*P P 20 57 56.5 0.0
LMR pmax pmax
comp=Z,31nm,1.1s,mb5.3
LMR La Mourre 85.47 356⇑*i*P P 20 57 56.5 0.0
comp=Z,31nm,1.1s,mb5.3
MTLF Montolieu 85.59 359 *e*P P 20 57 57.3 +0.2
comp=Z,22nm,1.0s,mb5.0
MTLF Montolieu 85.59 359 *e*P P 20 57 57.3 +0.2
MTLF pmax pmax
comp=Z,11nm,1.0s,mb5.0
MTLF Montolieu 85.59 359 *e*P P 20 57 57.3 +0.2
comp=Z,11nm,1.0s,mb5.0
EPF Esparros 85.91 0 *e*P P 20 57 57.9 -0.7
comp=Z,24nm,1.1s,mb5.1
EPF Esparros 85.91 0 *e*P P 20 57 57.9 -0.7
EPF pmax pmax
comp=Z,12nm,1.1s,mb5.0
EPF Esparros 85.91 0 *e*P P 20 57 57.9 -0.7
comp=Z,12nm,1.1s,mb5.0
ETSF Etsaut 86.03 1⇑*i*P P 20 57 59.8 +0.5
comp=Z,12nm,0.7s,mb4.9
ETSF Etsaut 86.03 1⇑*i*P P 20 57 59.8 +0.5
ETSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
ETSF Etsaut 86.03 1⇑*i*P P 20 57 59.8 +0.5
comp=Z,5.8nm,0.7s,mb4.9
PGF Pioggiola 86.12 354⇑*i*P P 20 57 59.6 -0.1
comp=Z,60nm,0.8s,mb5.6
PGF Pioggiola 86.12 354⇑*i*P P 20 57 59.6 -0.1
PGF pmax pmax
comp=Z,30nm,0.8s,mb5.6
PGF Pioggiola 86.12 354⇑*i*P P 20 57 59.6 -0.1
comp=Z,30nm,0.8s,mb5.6
ESDC Sonseca Array 89.17 4 P P 20 58 13.8 -0.5
comp=Z,3.9nm,0.8s,mb4.8,baz=360,slow=3.7,SNR=5.3
STKA Stephens Creek 89.83 213 P P 20 58 16.3 -1.1
comp=Z,12nm,1.0s,mb5.2,baz=1.1,slow=8.8,SNR=4.1
TSUM Tsumeb 145.20 331 PKPbc PKPbc 21 04 56.4 +0.6
comp=Z,23nm,1.0s,baz=330,slow=6.4,SNR=3.8
LBTB Lobatse 147.49 315 PKPbc PKPbc 21 05 02.9 +0.3
comp=Z,20nm,0.9s,baz=35,slow=2.6,SNR=4.0
LBTB Lobatse 147.49 315 PKP2 PKPab 21 05 02.9 -1.8
LBTB pmax pmax
comp=Z,20nm,0.9s
BOSA Boshof 150.73 312 PKPbc PKPbc 21 05 11.7 +0.9
comp=Z,5.5nm,0.6s,baz=60,slow=4.2,SNR=4.8
BOSA Boshof 150.73 312 PKIKP PKPbc 21 05 11.7 +0.9
BOSA pmax pmax
comp=Z,6.0nm,0.6s

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*IDC **08** 20:48:38.9±2.3, 50.83N×178.94W, h0km, mb4.4/9, mb1 4.5/10, mb1mx4.3/25, mbtmp4.4/10, ML4.6/1, Error ellipse: s-maj=64.1km s-min=29.5km az=179.0*
*ISCJB **08** 20:48:43.7±2.0, 51.1N±0.4×179.1W±0.1, h33km, mb4.4/11, Error ellipse: s-maj=53.1km s-min=9.0km az=177.0*
*NEIC **08** 20:48:44.3±2.0, 50.92N×179.15W, h35km, mb4.8/3, Error ellipse: s-maj=56.3km s-min=14.7km az=179.0*
*MOS **08** 20:48:48.1±0.8, 51.76N×179.65W, h33km, mb4.5/6, Error ellipse: s-maj=45.9km s-min=21.3km az=106.7*
ISC 08 20:48:45.0±2.1**, 51.1N**±0.4×**179.2W**±0.1**, h35km, n29, σ1.s27**/27**, mb4.4**/11**, Andreanof Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
AMKA Amchitka 1.00 288 *e*P Pn 20 49 00.5 -2.1
AMKA *e*S Sn 20 49 14.7 -0.7
PET Petropavlovsk 13.77 287 P Pn 20 51 56.4 -1.3
PET pmax pmax
comp=Z,18nm,0.9s
PET Petropavlovsk 13.77 287 Pn Pn 20 51 56.4 -1.3
comp=Z,18nm,0.9s
TNA Tin City 15.63 18 *e*P Pn 20 52 15.6 -7.0
comp=Z,47nm,0.8s
KDAK Kodiak Island 16.78 56 Pn Pn 20 52 35.2 -2.0
comp=Z,2.1nm,0.3s,baz=325,slow=9.2,SNR=4.1
PDAR Pinedale Array 46.62 72 P P 20 57 07.8 -2.0
comp=Z,5.8nm,0.8s,mb4.6,baz=310,slow=4.0,SNR=4.4
MKAR Makanchi Array 60.03 308 P P 20 58 49.2 +0.9
comp=Z,1.2nm,0.3s,mb4.3,baz=50,slow=6.9,SNR=8.2
MKAR Makanchi Array 60.03 308 P P 20 58 49.2 +0.9
FINES FINESS Array B 66.02 347 P P 20 59 27.7 -0.3
comp=Z,2.5nm,0.7s,mb4.4,baz=34,slow=7.1,SNR=3.4
FINES FINESS Array B 66.02 347 P P 20 59 27.7 -0.3
FINES pmax pmax
comp=Z,3.0nm,0.7s
LSA Lhasa 67.32 289 P P 20 59 39.2 +2.9
LSA pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
LSA Lhasa 67.32 289 P P 20 59 39.2 +2.9
comp=Z,3.2nm,0.7s,mb4.5
NOA NORSAR Array B 67.92 355 P P 20 59 40.4 +0.3
comp=Z,0.9nm,0.5s,mb4.0,baz=5.5,slow=6.3,SNR=3.1
NOA NORSAR Array B 67.92 355 P P 20 59 40.4 +0.3
NOA pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 68.65 353 P P 20 59 44.6 -0.1
comp=Z,2.8nm,0.7s,mb4.3,baz=25,slow=8.0,SNR=5.7
HFS Hagfors 68.65 353 P P 20 59 44.6 -0.1
HFS pmax pmax
comp=Z,3.0nm,0.7s
EKA Eskdalemuir Ar 73.90 2 P P 21 00 17.2 +0.8
comp=Z,0.7nm,0.5s,mb3.9,baz=358,slow=4.4,SNR=5.5
EKA Eskdalemuir Ar 73.90 2 P P 21 00 17.2 +0.8
EKA pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 75.76 342 P P 21 00 27.6 +0.4
comp=Z,11nm,0.5s,mb5.1,baz=20,slow=6.6,SNR=19
AKASG Malin Array Be 75.76 342 P P 21 00 27.6 +0.5
AKASG pmax pmax
comp=Z,11nm,0.5s
KWP Kalwaria 77.94 346 *e*P P 21 00 40.2 +0.8
KWP pmax pmax
comp=Z,15nm,0.5s,mb5.2
KWP Kalwaria 77.94 346 *e*P P 21 00 40.2 +0.8
comp=Z,15nm,0.5s,mb5.2
GERES GERESS Array B 79.84 351 P P 21 00 50.5 +0.7
comp=Z,2.1nm,0.8s,mb4.1,baz=16,slow=4.8,SNR=6.5
GERES GERESS Array B 79.84 351 P P 21 00 50.5 +0.6
GERES pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 85.12 335 P P 21 01 18.9 +1.5
comp=Z,2.1nm,0.8s,mb4.3,baz=57,slow=2.2,SNR=4.6
BRTR Keskin Array B 85.12 335 P P 21 01 18.9 +1.5
BRTR pmax pmax
comp=Z,2.0nm,0.8s
TSUM Tsumeb 145.53 331 PKPbc PKPbc 21 08 21.1 +1.5
comp=Z,3.9nm,0.8s,baz=11,slow=8.9,SNR=6.7
LBTB Lobatse 147.77 315 PKPbc PKPbc 21 08 24.4 -1.7
comp=Z,2.2nm,0.8s,baz=90,slow=7.1,SNR=3.5
LBTB Lobatse 147.77 315 PKIKP PKPdf 21 08 24.4 +1.2
LBTB pmax pmax
comp=Z,2.0nm,0.8s

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*BJI **08** 20:50:12.1, 51.45N×179.25W, h10km, mB5.7, mb5.2, Ms5.8, Msz5.6*
*IDC **08** 20:50:15.4±2.8, 51.16N×179.29W, h17km±16km, mb4.8/33, mb1 4.9/34, mb1mx4.9/37, mbtmp4.9/34, ML5.0/1, Error ellipse: s-maj=15.7km s-min=11.0km az=157.0*
*NEIC **08** 20:50:16.1, 51.04N×179.20W, h5km, mb5.3/111, ML4.8(AEIC), After AEIC.*
*ISCJB **08** 20:50:16.9±0.8, 51.26N±0.05×179.31W±0.03, h33km±6km, mb5.2/176, MS5.9/7, Error ellipse: s-maj=8.2km s-min=3.2km az=9.9*
*MOS **08** 20:50:18.6±0.9, 51.19N×179.23W, h50km, mb5.4/104, Error ellipse: s-maj=8.6km s-min=4.1km az=94.9*
*SZGRF **08** 20:50:21.1, 51.44N×179.55E, h33km, mb5.3, Rat Islands, Aleutian Islands, United States*
ISC 08 20:50:19.4±0.7**, 51.35N**±0.05×**179.32W**±0.03**, h38km**±6km**, h14km**±7.6km**:pP-P, n596, σ0.s90**/587**, mb5.2**/176**, MS5.9**/7**, 44C-61D, Andreanof Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
AMKA Amchitka 0.87 272 P Pn 20 50 34.3 -0.7
AMKA S Sn 20 50 48.7 +2.2
ATKA Atka Island 3.29 73 P Pn 20 51 07.7 -0.7
SMY Shemya 4.29 291 *e*P Pn 20 51 26.7 +4.6
SMY *e* 20 52 17.5
SMY Shemya 4.29 291 P Pn 20 51 25.3 +3.2
NIKO Nikolski 6.64 72 P Pn 20 51 54.5 +0.1
PET Petropavlovsk 13.61 286 *e*P Pn 20 53 39.3 +9.5
PET *e*S Sn 20 55 57.0 -2.6
PET pmax pmax
comp=Z,88nm,1.0s
PET pmax pmax
comp=Z,55nm,0.9s
PET smax
comp=N,59nm,1.4s
PET Petropavlovsk 13.61 286 *e*Pn Pn 20 53 33.9 +4.1
comp=N,90nm,1.0s
SKR Severo-Kuril's 15.46 277 *e*P Pn 20 53 53.3 -1.3
SKR pmax pmax
comp=N,70nm,0.9s
SKR pmax pmax
comp=Z,100nm,0.9s
KDAK Kodiak Island 16.71 57 Pn Pn 20 54 08.1 -2.4
comp=Z,227nm,0.6s,SNR=6.8
KDAK Kodiak Island 16.71 57 Pn Pn 20 54 08.5 -2.0
comp=Z,5.1nm,0.3s,baz=289,slow=5.8,SNR=17
TTA Tatalina 17.03 38 *e*P Pn 20 54 16.2 +1.6
MA2 Magadan 18.71 308 *e*P Pn 20 54 36.1 +0.9
MA2 pmax pmax
comp=Z,14nm,0.9s
SML Sawmill 19.81 46 *e*P Pn 20 54 46.8 -1.5
MCK McKinley 20.23 41 *e*P P 20 54 52.7 +1.6
MCK pmax pmax
comp=Z,19nm,0.8s
MCK McKinley 20.23 41 *e*P P 20 54 52.7 +1.5
comp=Z,18nm,0.8s
DIV Divide 20.82 49 *e*P P 20 54 57.3 -0.1
comp=Z,67nm,0.5s
COLA College 21.13 38 *e*P P 20 55 01.4 +0.5
ILAR Eielson Array 21.47 39 P P 20 55 04.2 -0.2
comp=Z,8.9nm,0.9s,mb4.1,baz=318,slow=19,SNR=9.8
ILAR Eielson Array 21.47 39 P P 20 55 04.3 -0.2
ILAR pmax pmax
comp=Z,9.0nm,0.9s
DAWY Dawson 24.35 43 *e*P P 20 55 32.8 -0.8
YSS Yuzh-Sakhalins 25.00 275⇑*i*P P 20 55 39.4 -0.1
YSS *e* 20 55 54.2

YSS pmax pmax
comp=N,40nm,1.0s
YSS pmax pmax
comp=E,90nm,1.0s
YSS pmax pmax
comp=Z,130nm,1.0s,mb5.4
YSS Yuzh-Sakhalins 25.00 275 *e*P **P 20 55 40.4 +0.9**
comp=Z,123nm,1.0s,mb5.4
ASAJ Asahikawa 26.38 269 P **P 20 55 51.2 -0.8**
comp=Z,44nm,1.1s,mb4.9,baz=37,slow=4.7,SNR=9.5
ASAJ Asahikawa 26.38 269 P **P 20 55 51.3 -0.7**
ASAJ pmax pmax
comp=Z,44nm,1.1s
INK Inuvik 27.67 35 P **P 20 56 02.8 -0.8**
comp=Z,2.9nm,0.5s,mb4.2,baz=216,slow=6.4,SNR=7.8
INK Inuvik 27.67 35 P **P 20 56 02.8 -0.8**
INK pmax pmax
comp=Z,3.0nm,0.5s
HABR Khabarovsk 29.16 283 *e*P **P 20 56 17.1 +0.2**
YAK Yakutsk 29.19 311 *e*P **P 20 56 17.5 +0.4**
KLR Kul'dur 30.88 286 ⇓*i*P **P 20 56 28.6 -3.4**
KLR pmax pmax
comp=E,90nm,1.2s
KLR pmax pmax
comp=Z,170nm,1.2s,mb5.8
MJAR Matsushiro Arr 33.46 261 P **P 20 56 53.4 -1.3**
comp=Z,5.4nm,0.9s,mb4.5,baz=52,slow=7.9,SNR=9.0
MJAR PcP PcP 20 59 38.0 +2.8
comp=Z,1.8nm,0.9s,baz=67,slow=2.8,SNR=4.3
MJAR ScP ScP 21 03 16.9 +0.3
comp=Z,2.0nm,1.0s,baz=29,slow=1.4,SNR=5.9
MJAR Matsushiro Arr 33.46 261 P **P 20 56 53.4 -1.3**
MJAR 20 59 38.0
MJAR pmax pmax
comp=Z,5.0nm,0.9s
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR pmax pmax
comp=N,2.0nm,1.0s
MAJO Matsushiro 33.46 261 *e*P **P 20 56 54.1 -0.6**
MAJO pmax pmax
comp=Z,165nm,2.0s,mb5.6
MAJO Matsushiro 33.46 261 *e*P **P 20 56 54.1 -0.6**
comp=Z,165nm,2.0s,mb5.6
MAT Matsushiro 33.46 261 P **P 20 56 53.6 -1.1**
MAT Matsushiro 33.46 261 *e*P **P 20 56 54.0 -0.7**
MAT pmax pmax
comp=Z,28nm,1.2s,mb5.1
MAT Matsushiro 33.46 261 *e*P **P 20 56 54.0 -0.7**
comp=Z,28nm,1.2s,mb5.1
MDJ Mudanjiang 34.26 279 P **P 20 56 59.8 -1.8**
MDJ AMB AMB
comp=Z,20nm,0.9s,mb5.0
MDJ Mudanjiang 34.26 279 *e*P **P 20 56 59.7 -1.9**
comp=Z,35nm,1.3s,mb5.1
C03A Quillayute Air 34.92 74 ⇑P **P 20 57 08.2 +0.9**
baz=35
YKA Yellowknife Ar 35.48 46 P **P 20 57 11.3 -0.9**
comp=Z,13nm,0.8s,mb4.9,baz=279,slow=9.2,SNR=18
YKA PcP PcP 20 59 42.1 +1.0
comp=Z,2.0nm,0.7s,baz=286,slow=2.6,SNR=4.4
YKA ScP ScP 21 03 25.5 +1.7
comp=Z,2.3nm,0.9s,baz=290,slow=3.8,SNR=5.1
YKA Yellowknife Ar 35.48 46 P **P 20 57 11.3 -0.9**
YKA 20 59 42.1
YKA pmax pmax
comp=Z,13nm,0.8s
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA pmax pmax
comp=N,2.0nm,0.9s
B04A Port Angeles 35.51 73 ⇑P **P 20 57 13.1 +0.7**
baz=35
D03A Wishkah Elem. 35.78 74 ⇓P **P 20 57 15.2 +0.5**
baz=36
GNW Green Mountain 36.14 73 *e*P **P 20 57 17.7 -0.2**
CMW Cultus Mountai 36.17 72 P **P 20 57 18.8 +0.8**
E03A Lebam 36.17 75 ⇓P **P 20 57 18.4 +0.3**
baz=36
B05A Bryant 36.26 72 ⇓P **P 20 57 19.0 +0.2**
baz=36
JCW Jim Creek 36.39 72 P **P 20 57 20.3 +0.4**
HTW Haystack Looko 36.66 72 P **P 20 57 22.5 +0.2**
C05A Tolt Reservoir 36.76 72 ⇓P **P 20 57 23.1 0.0**
baz=37
D05A Enumclaw 36.82 73 ⇑P **P 20 57 25.0 +1.4**
baz=37
FMW Mount Fremont 37.13 74 P **P 20 57 27.0 +0.8**
F04A Amboy 37.17 75 ⇑P **P 20 57 27.0 +0.4**
baz=37
CN2 Changchun 37.23 281 *e*P **P 20 57 25.9 -1.2**
CN2 XP sP 20 57 39.5 -3.1
CN2 *e*S **S 21 03 11.8 +0.3**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.9
CN2 LR LR
comp=N,8μm,19.0s,MS5.7
CN2 LR LR
comp=E,8μm,19.0s,MS5.7
CN2 LR LR
comp=Z,8μm,21.0s,MS5.5
E05A Randle 37.26 74 ⇓P **P 20 57 27.2 -0.1**
baz=37
H03A Soap Creek Ran 37.27 78 ⇑P **P 20 57 29.4 +2.0**
baz=37
I02A Mapleton 37.29 79 ⇓P **P 20 57 29.0 +1.4**
baz=37
G04A Mulino 37.49 76 ⇑P **P 20 57 28.8 -0.5**
baz=37
TWW Teanaway 37.52 73 P **P 20 57 30.3 +0.8**
ETW Entiat 37.61 72 P **P 20 57 30.4 +0.1**
I03A Eugene 37.64 79 ⇑P **P 20 57 32.4 +1.9**
baz=38
TBM Table Mountain 37.66 73 P **P 20 57 31.0 +0.2**
F05A White Salmon 37.77 75 ⇑P **P 20 57 33.4 +1.7**
baz=38
J02A Umpqua 37.78 80 ⇑P **P 20 57 33.3 +1.6**
baz=38
EBG Ellensburg 37.81 73 P **P 20 57 32.3 +0.3**
H04A Detroit Lake 37.94 77 ⇓P **P 20 57 35.0 +1.9**
baz=38
HIA Hailar 37.99 292 *e*P **P 20 57 33.3 -0.3**
HIA pmax pmax
comp=Z,62nm,1.1s
HIA Hailar 37.99 292 *e*P **P 20 57 33.3 -0.3**
comp=Z,62nm,1.1s,mb5.2
K02A Glendale 38.15 80 ⇓P **P 20 57 36.6 +1.7**
baz=38
J03A Ideyld Park 38.16 79 ⇑P **P 20 57 36.6 +1.7**
baz=38
EPH Ephrata 38.17 72 P **P 20 57 34.7 -0.4**
G05A Wamic 38.18 76 ⇓P **P 20 57 36.8 +1.7**
baz=38
H05A Madras 38.54 77 ⇓P **P 20 57 38.9 +0.7**
baz=38
HUMO Hull Mountain 38.57 80 ⇑P **P 20 57 40.2 +1.8**
baz=38
HAWA Hanford 38.68 73 *e*P **P 20 57 39.0 -0.3**
comp=Z,1.5nm,0.8s
OD2 Odessa Site #2 38.68 71 P **P 20 57 38.8 -0.5**
H2OWA Water 38.74 73 P **P 20 57 39.8 -0.1**
JCC Jacoby Creek 38.90 83 ⇑P **P 20 57 42.4 +1.2**
baz=39
EDM Edmonton 39.11 61 *e*P **P 20 57 41.1 -1.8**
NEW Newport 39.20 69 P **P 20 57 43.2 -0.4**
comp=Z,15nm,0.8s,mb4.8,baz=330,slow=5.7,SNR=9.5
NEW Newport 39.20 69 P **P 20 57 43.2 -0.4**
NEW pmax pmax
comp=Z,15nm,0.8s
NEW Newport 39.20 69 *e*P **P 20 57 41.5 -2.1**
YBH Yreka Blue Hor 39.21 81 P **P 20 57 45.9 +2.2**
comp=Z,10.0nm,0.9s,mb4.5,baz=144,slow=0.7,SNR=7.5
YBH Yreka Blue Hor 39.21 81 P **P 20 57 45.9 +2.2**
YBH pmax pmax
comp=Z,10.0nm,0.9s
YBH Yreka Blue Hor 39.21 81 ⇑P **P 20 57 43.7 0.0**
baz=39
KS15 Wonju Array Si 39.34 270 *e*P **P 20 57 44.8 0.0**
N02C Big Bar 39.35 83 ⇓P **P 20 57 45.3 +0.4**
baz=39
L04A Klamath Falls 39.47 80 ⇑P **P 20 57 46.0 +0.1**
baz=39
M04C Macdoel 39.72 81 ⇓P **P 20 57 48.4 +0.4**
baz=40
J06A Christmas Vall 39.95 78 ⇓P **P 20 57 50.2 +0.3**
baz=40
WDC Whiskeytown Da 39.97 83 ⇑P **P 20 57 50.0 -0.1**
baz=40
O02C Red Bluff 40.04 83 ⇓P **P 20 57 50.5 -0.2**
baz=40
INCN Inchon 40.10 271 *e*P **P 20 57 51.0 -0.2**
comp=Z,63nm,0.9s,mb5.3
P01C Double 8 Ranch 40.12 85 ⇓P **P 20 57 51.2 -0.1**
baz=40
K06A Valley Falls 40.13 78 ⇑P **P 20 57 51.1 -0.4**
baz=40
L05A Lakeview 40.19 80 ⇑P **P 20 57 51.9 0.0**
baz=40
LTIM Timbered Crate 40.28 81 P **P 20 57 56.4 +3.8**
M05C Lookout 40.38 81 ⇓P **P 20 57 51.0 -2.5**
baz=40
HOPS Hopland 40.56 85 ⇑P **P 20 57 54.5 -0.5**
baz=40
WALA Waterton Lakes 40.68 67 *e*P **P 20 57 51.1 -4.9**
comp=Z,97nm,1.4s,mb5.2
BSMT Bassoo Peak 40.77 69 P **P 20 57 56.5 -0.2**
BMO Blue Mountains 40.81 74 *e*P **P 20 57 57.2 +0.2**
comp=Z,14nm,1.1s,mb4.5
J08A Circle Bar Ran 40.91 77 ⇓P **P 20 57 55.3 -2.5**
baz=41
O04C Chester 41.02 82 ⇑P **P 20 57 59.8 +1.1**
baz=41
WVOR Wild Horse Val 41.33 78 *e*P **P 20 58 01.0 -0.3**
WVOR pmax pmax
comp=Z,35nm,1.1s,mb4.9
WVOR Wild Horse Val 41.33 78 *e*P **P 20 58 01.0 -0.3**
comp=Z,35nm,1.1s,mb4.9
O05C Quincy 41.33 82 ⇓P **P 20 58 01.2 -0.2**
baz=41
M07A Soldier Meadow 41.59 79 ⇓P **P 20 58 03.6 +0.2**
baz=41
O06A Flanigan 41.89 81 ⇑P **P 20 58 06.5 +0.5**
baz=42
M08A Happy Creek Ra 42.04 79 ⇓P **P 20 58 06.8 -0.4**
baz=42
CHMT Chamberlain Mo 42.14 69 *e*P **P 20 57 58.9 -9.1**
L09A Wilkinson Ranc 42.15 78 ⇓P **P 20 58 09.8 +1.8**
baz=42
O07A Toulon 42.48 81 ⇓P **P 20 58 12.5 +1.8**
baz=42
HRY Holter Researc 43.08 69 *e*P **P 20 58 15.0 -0.6**
HAST UC Hastings Re 43.11 87 ⇓P **P 20 58 15.2 -0.7**
baz=43
HLID Hailey 43.26 74 *e*P **P 20 58 16.5 -0.5**
comp=Z,12nm,0.9s,mb4.6
O09A Fish Creek Ran 43.52 80 ⇓P **P 20 58 13.3 -5.8**
baz=43
BOZ Bozeman (W) 43.77 70 *e*P **P 20 58 20.6 -0.5**
BOZ pmax pmax
comp=Z,16nm,0.8s,mb4.8
BOZ Bozeman (W) 43.77 70 *e*P **P 20 58 20.6 -0.5**
comp=Z,16nm,0.8s,mb4.8
Q08A Gabs 43.85 82 ⇑P **P 20 58 21.5 -0.3**
baz=44
NVAR Mina Array Bea 43.88 82 P **P 20 58 21.4 -0.5**
comp=Z,2.5nm,0.8s,baz=292,slow=5.3,SNR=3.7
M12A Wells 44.18 77 ⇓P **P 20 58 24.6 +0.1**
baz=44
QLMT Earthquake Lak 44.34 71 *e*P **P 20 58 23.7 -1.9**
MTUM Tungsten Hills 44.38 84 *e*P **P 20 58 26.2 +0.2**
N12A Clover Valley, 44.44 77 ⇓P **P 20 58 26.0 -0.5**
baz=44
BJT Baijiatuan 45.08 282 *e*P **P 20 58 31.0 -0.6**
IRK Irkutsk 45.18 303 *e*P **P 20 58 32.1 -0.3**
IRK pmax pmax
comp=Z,123nm,1.2s,mb5.6
RRI2 Red Ridge 45.24 72 *e*P **P 20 58 41.2 +8.4**
comp=Z,13nm,0.8s,mb4.8
Q11A Duckwater 45.27 80 ⇑P **P 20 58 33.7 +0.6**
baz=45
HVU Hansel Valley 45.27 75 *e*P **P 20 58 33.0 -0.1**
HVU pmax pmax
comp=Z,79nm,1.1s,mb5.5
HVU Hansel Valley 45.27 75 *e*P **P 20 58 33.0 -0.1**
comp=Z,80nm,1.1s,mb5.5
P12A McGill 45.34 79 ⇓P **P 20 58 33.5 -0.2**
baz=45
MOOW Moose Ponds 45.35 71 *e*P **P 20 58 32.8 -1.0**
comp=Z,6.6nm,1.0s,mb4.4
BGU Big Grassy Mou 45.62 76 *e*P **P 20 58 37.6 +1.7**
AHID Auburn Hatcher 45.71 73 *e*P **P 20 58 36.1 -0.4**
TLY Talaya 45.80 302 P **P 20 58 38.4 +1.1**
comp=Z,371nm,0.8s,SNR=9.6
ULN Ulaanbaatar 45.98 296 *e*P **P 20 58 39.6 +0.9**
ULN pmax pmax
comp=Z,28nm,0.9s,mb5.2
ULN Ulaanbaatar 45.98 296 *e*P **P 20 58 39.6 +0.9**
comp=Z,28nm,0.8s,mb5.2
TPNV Topopah Spring 46.07 83 *e*P **P 20 58 38.9 -0.5**
TPNV pmax pmax
comp=Z,20nm,0.9s,mb5.0
TPNV Topopah Spring 46.07 83 *e*P **P 20 58 38.9 -0.5**
comp=Z,20nm,0.9s,mb5.0
DUG Dugway 46.19 77 *e*P **P 20 58 40.2 -0.2**
DUG pmax pmax
comp=Z,32nm,1.1s,mb5.2
DUG Dugway 46.19 77 *e*P **P 20 58 40.2 -0.2**
comp=Z,32nm,1.1s,mb5.2
SONM Songino Array 46.37 296 P **P 20 58 42.5 +0.8**
comp=Z,20nm,0.8s,mb5.1,baz=56,slow=8.5,SNR=26
SONM ScP ScP 21 04 06.9 +0.3
comp=Z,2.0nm,1.0s,baz=54,slow=1.7,SNR=4.2
SONM Songino Array 46.37 296 P **P 20 58 42.5 +0.7**
SONM pmax pmax
comp=Z,20nm,0.8s
SONM pmax pmax
comp=N,2.0nm,1.0s
BW06 Boulder Array 46.63 72 *e*P **P 20 58 43.4 -0.4**
comp=N,26nm,0.8s,mb5.2
PDAR Pinedale Array 46.63 72 P **P 20 58 43.1 -0.7**
comp=N,24nm,0.9s,mb5.1,baz=20,slow=3.8,SNR=22
ZAK Zakamensk 46.69 301 ⇑*i*P **P 20 58 45.3 +1.0**
ZAK pmax pmax
comp=Z,23nm,1.2s,mb5.0
GSC Goldstone 46.77 85 *e*P **P 20 58 44.0 -0.9**
GSC Goldstone 46.77 85 ⇓P **P 20 58 44.2 -0.7**
baz=47
NLU North Lily Min 46.79 77 P **P 20 58 43.7 -1.3**
DAU Daniels Canyon 47.01 76 *e*P **P 20 58 49.0 +2.2**
ARUT Antelope Range 47.29 80 *e*P **P 20 58 50.4 +1.5**
CCUT Cedar City 47.48 80 *e*P **P 20 58 51.0 +0.6**
MSU Marysvale 47.61 78 *e*P **P 20 58 51.2 -0.3**
SSE Sheshan 47.67 269 P **P 20 58 51.5 -0.4**
SSE AMB AMB
comp=Z,41nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,9μm,12.0s
TMUT Trail Mountain 47.72 77 *e*P **P 20 58 53.5 +1.2**
SRU San Rafael 48.25 76 *e*P **P 20 58 56.0 -0.4**
NJ2 Nanjing 48.49 271 *e*P **P 20 58 59.6 +1.4**
NJ2 PP PP 21 00 52.6 +1.5
NJ2 S **S 21 05 58.0 +1.3**
NJ2 AMB AMB
comp=Z,50nm,1.2s,mb5.4
NJ2 AMB AMB
comp=Z,500nm,4.8s
NJ2 LR LR
comp=N,2μm,13.0s,MS5.6
NJ2 LR LR
comp=E,4μm,16.0s,MS5.6
NJ2 LR LR
comp=Z,18μm,17.0s,MS6.1
BAR Barrett 48.58 87 *e*P **P 20 59 00.0 +1.1**
W14A Seligman 49.16 82 ⇑P **P 20 59 02.9 -0.5**
baz=49
GLA Glamis 49.49 86 *e*P **P 20 59 04.5 -1.4**
GLA Glamis 49.49 86 ⇑P **P 20 59 05.1 -0.8**
baz=49
X14A Yava 49.76 83 ⇓P **P 20 59 07.6 -0.3**
baz=50
KBS Kingsbay 49.81 357 *e*P **P 20 59 09.0 +0.7**
KBS pmax pmax
comp=Z,36nm,0.7s,mb5.5
KBS Kingsbay 49.81 357 *e*P **P 20 59 09.0 +0.7**
comp=Z,36nm,0.7s,mb5.5
WUAZ Wupatki 50.01 81 *e*P **P 20 59 09.5 -0.4**
comp=Z,17nm,1.0s,mb5.0
Y14A Wickenburg 50.04 83 ⇑P **P 20 59 09.5 -0.6**
baz=50
SPB4 Spitsbergen Ar 50.38 356 *e*P **P 20 59 12.3 -0.4**
ISCO Idaho Springs 50.79 73 *e*P **P 20 59 16.5 +0.8**
ISCO pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
ISCO Idaho Springs 50.79 73 *e*P **P 20 59 16.5 +0.8**
comp=Z,10nm,1.1s,mb4.7
115A Sonoran Desert 51.34 84 ⇑P **P 20 59 19.5 -0.4**
baz=51
TUC Tucson 52.51 83 *e*P **P 20 59 26.5 -2.1**
SUMG Summit 53.40 14 *e*P **P 20 59 34.7 -0.5**
comp=Z,33nm,1.0s,mb5.2
ANMO Albuquerque 53.41 78 P **P 20 59 34.8 -0.5**
comp=Z,2.0nm,0.8s,mb4.1,baz=307,slow=10,SNR=2.3
ANMO Albuquerque 53.41 78 P **P 20 59 34.8 -0.5**
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ZAL Zalesovo 53.83 313 P **P 20 59 38.9 +0.5**
comp=Z,6.3nm,0.9s,mb4.5,baz=124,slow=8.7,SNR=4.5
ZAL PcP PcP 21 00 43.9 +0.2
comp=Z,6.0nm,0.9s,baz=30,slow=7.6,SNR=4.6
ZAL Zalesovo 53.83 313 P **P 20 59 38.9 +0.6**
ZAL 21 00 43.9
ZAL pmax pmax
comp=Z,6.0nm,0.9s
ZAL pmax pmax
comp=Z,6.0nm,0.9s
NVS Novosibirsk 53.96 315 *e*P **P 20 59 39.1 -0.1**
NVS *e* 21 00 02.8
LZH Lanzhou 55.08 286 *e*P **P 20 59 48.1 +0.7**
LZH AP pP 20 59 50.5 -8.2
LZH XP sP 20 59 52.4 -11
LZH PP PP 21 01 52.8 +2.0
LZH *e*S **S 21 07 22.0 -5.3**
LZH SS SS 21 11 10.0 -1.4
LZH AMB AMB
comp=Z,63nm,1.0s,mb5.6
LZH AMB AMB
comp=Z,304nm,4.5s
LZH LR LR
comp=E,1μm,15.5s
LZH LR LR
comp=Z,2μm,16.7s,MS5.2
GTA Gaotai 55.27 291 *e*P **P 20 59 49.3 +0.5**
GTA AP pP 20 59 55.1 -5.0
GTA XP sP 20 59 58.5 -6.1
GTA PP PP 21 01 56.2 +3.6
GTA PPP 21 03 11.9
GTA S **S 21 07 31.9 +2.0**
GTA XS sS 21 07 41.1 -7.5
GTA PS 21 07 45.2
GTA AMB AMB
comp=Z,50nm,0.9s,mb5.5
GTA AMB AMB
comp=Z,1μm,4.2s
GTA LR LR
comp=Z,32μm,14.8s,MS6.5
SFJD Kangerlussuaq 55.79 22 P **P 20 59 51.6 -1.0**
comp=Z,11nm,0.8s,mb4.9,baz=336,slow=5.0,SNR=4.7
SFJD Kangerlussuaq 55.79 22 P **P 20 59 51.6 -0.9**
SFJD pmax pmax
comp=Z,11nm,0.8s,mb4.9
KEV Kevo 57.69 349 *e*p **P 21 00 04.9 -1.0**
ARCES ARCESS Array B 58.06 350 P **P 21 00 07.9 -0.7**
comp=Z,17nm,0.8s,mb5.1,baz=20,slow=7.2,SNR=25
ARCES ARCESS Array B 58.06 350 P **P 21 00 07.9 -0.7**
ARCES pmax pmax
comp=Z,17nm,0.8s
LVZ Lovozero 58.39 346 P **P 21 00 10.0 -0.9**
comp=Z,236nm,1.0s,mb6.2,SNR=5.7
TRO Tromso 58.59 353 *e*P **P 21 00 10.8 -1.5**
TRO AMb AMB 21 00 12.4
comp=Z,22nm,1.0s,mb5.2
CD2 Chengdu 58.66 281 *e*P **P 21 00 09.7 -3.1**
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
KURK Kurchatov 58.80 313 P **P 21 00 14.5 +0.7**
comp=Z,395nm,0.9s,SNR=9.4
KURK Kurchatov 58.80 313 *e*P **P 21 00 14.4 +0.6**
WMQ Urumqi 59.08 303 P **P 21 00 15.7 0.0**
MKAR Makanchi Array 59.80 308 P **P 21 00 20.4 -0.2**
comp=Z,21nm,0.8s,mb5.2,baz=48,slow=7.1,SNR=53
MKAR Makanchi Array 59.80 308 P **P 21 00 20.4 -0.2**
MKAR pmax pmax
comp=Z,21nm,0.8s
GYA Guiyang 60.00 276 ⇑*i*P **P 21 00 21.3 -0.7**
GYA PP PP 21 02 35.2 +0.6
GYA S **S 21 08 32.0 +0.1**
GYA PS 21 08 46.4
GYA SS SS 21 12 29.6 +0.8
GYA AMB AMB
comp=Z,20nm,1.2s,mb5.0
GYA AMB AMB
comp=Z,190nm,5.8s
GYA LR LR
comp=N,490nm,20.8s,MS4.8
GYA LR LR
comp=E,480nm,21.0s,MS4.8
SCHQ Schefferville 60.23 38 P **P 21 00 22.5 -1.1**
comp=E,17nm,0.9s,mb5.1,baz=332,slow=7.7,SNR=5.4
LOF Lofoten 60.45 354 *e*P **P 21 00 27.9 +2.8**
LOF AMb AMB 21 00 32.1
comp=Z,30nm,1.9s,mb5.0
BVAR Borovoye Array 60.70 319 P **P 21 00 26.4 -0.4**
comp=Z,9.7nm,0.7s,mb5.0,baz=55,slow=6.8,SNR=20
BVAR Borovoye Array 60.70 319 P **P 21 00 26.4 -0.4**
BVAR pmax pmax
comp=Z,10.0nm,0.7s
BRVK Borovoye 60.72 320 *e*P **P 21 00 27.6 +0.7**
BRVK pmax pmax
comp=Z,15nm,1.1s,mb5.0
ZRNK Zerenda 61.31 320 *e*P **P 21 00 30.5 -0.5**
ZRNK pmax pmax
comp=Z,15nm,0.9s,mb5.1
ZRNK Zerenda 61.31 320 *e*P **P 21 00 30.5 -0.4**
comp=Z,15nm,0.9s,mb5.1
MIAR Mount Ida 61.44 70 *e*P **P 21 00 30.6 -1.2**
MIAR pmax pmax
comp=Z,18nm,1.0s,mb5.2
MIAR Mount Ida 61.44 70 *e*P **P 21 00 30.6 -1.2**
comp=Z,18nm,1.0s,mb5.2
BLO Bloomington 62.21 61 *e*P **P 21 00 35.9 -1.1**
WCI Wyandotte Cave 63.00 62 *e*P **P 21 00 41.5 -0.8**
HNR Honiara 63.14 203 *e*P **P 21 00 39.3 -3.9**
HNR pmax pmax
comp=Z,67nm,0.6s,mb6.0
HNR Honiara 63.14 203 *e*P **P 21 00 39.3 -3.9**
comp=Z,67nm,0.6s,mb6.0
KMI Kunming 63.41 278 P **P 21 00 44.6 -0.4**
KMI AP pP 21 00 53.1 -3.3
KMI XP sP 21 00 57.1 -3.8
KMI PP PP 21 03 08.5 +3.9
KMI AMB AMB
comp=Z,20nm,1.2s,mb5.1
QIZ Qiongzhong 63.44 268 *e*P **P 21 00 45.6 +0.4**
JOF Joensuu 63.54 345 *e*p **P 21 00 44.7 -1.1**
comp=Z,6.7nm,0.3s,mb5.2
JOF Joensuu 63.54 345 *e*P **P 21 00 44.7 -1.1**
JOF pmax pmax
comp=Z,7.0nm,0.3s,mb5.2
PLAL Pickwick Lake 64.32 66 *e*P **P 21 00 49.8 -1.2**
comp=Z,13nm,0.6s,mb5.1
KAF Kangasniemi 65.06 347 *e*p **P 21 00 54.1 -1.7**
baz=14,slow=5.8
FIA1 FINESS Array S 65.74 347 *e*P **P 21 00 59.2 -0.9**
FINES FINESS Array B 65.74 347 P **P 21 00 59.1 -1.0**
comp=Z,30nm,0.9s,mb5.3,baz=35,slow=7.0,SNR=29
FINES FINESS Array B 65.74 347 P **P 21 00 59.2 -1.0**
FINES pmax pmax
comp=Z,31nm,0.9s
TKM2 Tokmak 2 65.88 309 P **P 21 01 02.6 +1.5**
SNR=14
USP Ospenovka 66.15 310 P **P 21 01 04.2 +1.4**
SNR=34
CHMS Chumnysh 66.23 310 P **P 21 01 04.9 +1.6**
SNR=11
KBK Karagaybulak 66.39 309 P **P 21 01 06.0 +1.6**
SNR=12
AAK Ala-Archa 66.63 309 P **P 21 01 07.6 +1.7**
SNR=12
AAK Ala-Archa 66.63 309 P **P 21 01 06.3 +0.4**
comp=Z,268nm,0.8s,SNR=8.6
AAK Ala-Archa 66.63 309 *e*P **P 21 01 06.1 +0.2**
AAK pmax pmax
comp=Z,46nm,0.9s,mb5.5
AAK Ala-Archa 66.63 309 *e*P **P 21 01 06.1 +0.2**
comp=Z,46nm,0.9s,mb5.5
KZA Kyzart 66.68 309 P **P 21 01 08.4 +2.2**
SNR=7.0
UCH Uchtor 66.93 309 P **P 21 01 10.4 +2.6**

SNR=5.5
EKS2 Erkin-Say 66.96 310 P **P** **21 01 09.1 +1.1**
SNR=19
LSA Lhasa 67.14 289 *e*P **P** **21 01 11.0 +1.8**
AML Almayashu 67.40 310 P **P** **21 01 13.2 +2.5**
SNR=18
AKTK Aktyubinsk 67.52 324 P **P** **21 01 10.8 -0.8**
AKTO Aktyubinsk 67.52 324 P **P** **21 01 10.8 -0.8**
comp=Z,11nm,0.9s,mb4.9,baz=10,slow=1.4,SNR=8.4
AKTO Aktyubinsk 67.52 324 P **P** **21 01 10.8 -0.7**
AKTO pmax pmax
comp=Z,11nm,0.9s,mb4.9
NB2 NORSAR Subarra 67.64 354 P **P** **21 01 11.7 -0.6**
comp=Z,33nm,1.2s,mb5.2,baz=6.5,slow=6.5
NOA NORSAR Array B 67.64 354 P **P** **21 01 11.7 -0.7**
comp=Z,12nm,1.0s,mb4.9,baz=6.3,slow=6.3,SNR=24
NOA NORSAR Array B 67.64 354 P **P** **21 01 11.7 -0.6**
NOA pmax pmax
comp=Z,12nm,1.0s
EMMW East Machias 67.69 46 *e*P **P** **21 01 11.3 -1.3**
comp=Z,30nm,1.0s,mb5.3
KSH Kashi 68.25 306 *e*P **P** **21 01 17.6 +1.4**
KSH *e*PCP PcP 21 01 44.2 +2.5
KSH *e*PP PP 21 03 50.2 +3.2
KSH *e*PPP 21 05 26.3
KSH *e*SCP 21 05 47.3
KSH *e*S S 21 10 18.5 +4.5
KSH *e*XS sS 21 10 25.5 -7.7
KSH *e*PS 21 10 36.9
KSH *e*SCS ScS 21 11 12.8 +0.3
KSH *e*SS SS 21 14 38.7 +1.3
KSH AMB AMB
comp=Z,2μm,5.6s
KSH AMB AMB
comp=Z,1μm,8.1s
HFS Hagfors 68.37 353 P **P** **21 01 15.7 -1.2**
comp=Z,19nm,0.8s,mb5.2,baz=27,slow=8.1,SNR=23
HFS Hagfors 68.37 353 P **P** **21 01 15.7 -1.2**
HFS pmax pmax
comp=Z,19nm,0.8s
MOS Moscow 68.97 339 *e*P **P** **21 01 19.7 -0.9**
MOS pmax pmax
comp=Z,169nm,1.0s,mb5.9
KONO Kongsberg 69.12 355 *e*P **P** **21 01 21.0 -0.6**
KONO pmax pmax
comp=Z,32nm,1.1s,mb5.2
KONO Kongsberg 69.12 355 *e*P **P** **21 01 21.0 -0.5**
comp=Z,32nm,1.1s,mb5.2
OBN Obninsk 69.78 339 P **P** **21 01 25.2 -0.4**
comp=Z,644nm,0.8s,SNR=5.8
OBN Obninsk 69.78 339k *i*P **P** **21 01 25.3 -0.3**
OBN *e* 21 01 41.5
OBN *e* 21 01 55.6
OBN pmax pmax
comp=Z,101nm,0.9s,mb5.8
OBN Obninsk 69.78 339 *e*P **P** **21 01 25.4 -0.2**
GUN Gumba 71.56 292 *e*P **P** **21 01 37.7 +1.2**
comp=Z,93nm,0.4s,mb6.1
JIRN Jiri 71.57 291 *e*P **P** **21 01 37.8 +1.3**
comp=Z,182nm,0.8s,mb6.0
KKN Kakani 72.00 292 *e*P **P** **21 01 39.6 +0.5**
PKI Pulchoki 72.09 292 *e*P **P** **21 01 40.1 +0.4**
comp=Z,96nm,1.0s,mb5.7
GKN Gorkha 72.22 293 *e*P **P** **21 01 40.5 +0.1**
DMN Daman 72.24 292 *e*P **P** **21 01 41.2 +0.6**
comp=Z,112nm,1.1s,mb5.7
KOLN Koldanda 72.99 293 *e*P **P** **21 01 44.4 -0.6**
comp=Z,121nm,1.2s,mb5.7
BSD Bornholm Skovb 73.24 352⇑ *i*P **P** **21 01 45.7 -0.8**
comp=Z,20nm,0.8s,mb5.1
BSD Bornholm Skovb 73.24 352⇑ *i*P **P** **21 01 45.7 -0.8**
BSD pmax pmax
comp=Z,20nm,0.8s,mb5.1
SUW Suwalki 73.33 346 *e*P **P** **21 01 46.2 -0.8**
SUW MLR MLR
comp=Z,40μm,22.9s,MS6.6
SUW Suwalki 73.33 346 *e*P **P** **21 01 46.2 -0.8**
EKA Eskdalemuir Ar 73.64 2 P **P** **21 01 48.8 0.0**
comp=Z,9.6nm,0.8s,mb4.8,baz=359,slow=5.1,SNR=12
EKA Eskdalemuir Ar 73.64 2 P **P** **21 01 48.8 0.0**
EKA pmax pmax
comp=Z,10.0nm,0.9s
BSEG Bad Segeberg 74.78 354 *e*P **P** **21 01 55.2 -0.2**
comp=Z,62nm,0.9s,mb5.5
BSEG Bad Segeberg 74.78 354 *e*P **P** **21 01 55.2 -0.2**
BSEG pmax pmax
comp=Z,62nm,0.9s,mb5.5
GKP Gorka Klasztor 74.83 350 *e*P **P** **21 01 55.5 -0.2**
GKP MLR MLR
comp=Z,46μm,22.4s,MS6.7
AKASG Malin Array Be 75.47 342 P **P** **21 01 58.7 -0.8**
comp=Z,30nm,0.4s,mb5.6,baz=21,slow=6.0,SNR=77
AKASG Malin Array Be 75.47 342 P **P** **21 01 58.7 -0.8**
AKASG pmax pmax
comp=Z,30nm,0.4s
AKBB Malin Array Si 75.47 342 *e*P **P** **21 01 58.7 -0.8**
RUE Ruedersdorf 75.95 352 *e*P **P** **21 02 01.0 -1.2**
comp=Z,47nm,1.3s,mb5.3
WIT Witteveen 76.09 356 *e*P **P** **21 02 03.6 +0.7**
IBBN Ibbenburen 76.54 356 *e*P **P** **21 02 05.3 -0.3**
CLZ Clausthal 76.86 354 *e*P **P** **21 02 07.2 -0.1**
comp=Z,61nm,1.0s,mb5.5
CLZ Clausthal 76.86 354 *e*P **P** **21 02 07.2 -0.1**
CLZ pmax pmax
comp=Z,61nm,1.0s,mb5.5
WTSB Winterswijk 76.93 356 *e*P **P** **21 02 07.0 -0.7**
comp=Z,26nm,1.1s,mb5.1
CLL Collm 77.19 352 *e*P **P** **21 02 08.0 -1.2**
comp=Z,19nm,1.0s,mb5.0
CLL Collm 77.19 352 P **P** **21 02 08.3 -0.9**
comp=Z,logA/T=1.3,mb5.0
CLL *i* PCP PcP 21 02 19.5 -0.3
CLL Collm 77.19 352 *i* P **P** **21 02 08.3 -0.9**
comp=Z,19nm,1.0s,mb5.0
CLL *i* PcP PcP 21 02 19.5 -0.3
comp=Z,12nm,1.3s
CLL Collm 77.19 352 *i* P **P** **21 02 08.3 -0.9**
CLL *i* pP 21 02 19.5 -1.4
CLL pmax pmax
comp=Z,19nm,1.0s,mb5.0
CLL pmax pmax
comp=Z,12nm,1.3s,mb4.7
GOF Gofitskoye 77.23 331⇑ *i*P **P** **21 02 08.7 -0.7**
GOF pmax pmax
comp=Z,170nm,1.3s,mb5.8
LVV L'vov 77.26 345 *e*P **P** **21 02 09.4 -0.2**
CTAO Charters Tower 77.28 213 *e*P **P** **21 02 05.8 -3.9**
CTAO pmax pmax
comp=Z,26nm,0.8s,mb5.2
CTAO Charters Tower 77.28 213 *e*P **P** **21 02 05.8 -3.9**
comp=Z,26nm,0.8s,mb5.2
BUG Bochum--Univer 77.43 356 *e*P **P** **21 02 09.8 -0.8**
comp=Z,31nm,1.0s,mb5.2
OJC Ojcow 77.51 348 *e*P **P** **21 02 10.8 -0.2**
BRG Berggiesshubel 77.53 351 *e*P **P** **21 02 10.1 -1.0**
comp=Z,21nm,1.0s,mb5.0
BRG Berggiesshubel 77.53 351 *e*P **P** **21 02 10.3 -0.8**
BRG pmax pmax
comp=Z,13nm,1.0s,mb4.8
BRG Berggiesshubel 77.53 351 *e*P **P** **21 02 10.3 -0.8**
comp=Z,13nm,1.0s,mb4.8
KWP Kalwaria 77.66 346 *e*P **P** **21 02 12.6 +0.8**
UPC Upice 77.69 350 *e*P **P** **21 02 11.6 -0.4**
DPC Dobruska-Polom 77.81 350 *e*P **P** **21 02 12.5 -0.1**
UBBA Unterbreizbach 77.90 354 *e*P **P** **21 02 12.6 -0.6**
MOX Moxa 77.96 353 *e*P **P** **21 02 12.8 -0.7**
comp=Z,24nm,1.0s,mb5.1
MOX Moxa 77.96 353 *e*P **P** **21 02 13.3 -0.2**
comp=Z,37nm,1.3s,mb5.2
MOX Moxa 77.96 353 *e*P **P** **21 02 13.3 -0.2**
MOX pmax pmax
comp=Z,37nm,1.3s,mb5.2
OKC Ostrava-Krasne 78.10 349 *e*P **P** **21 02 14.1 -0.1**
TANN Tannenbergstha 78.12 352 *e*P **P** **21 02 13.8 -0.6**
BEBN Eben Emael 78.14 357 AP **P** **21 02 14.6 +0.1**
UCC Uccle 78.18 358 P **P** **21 02 12.0 -2.7**
UCC AP pP 21 02 14.6 -12
MORC Moravsky Berou 78.23 349⇓ *i*P **P** **21 02 15.1 +0.1**
MORC Moravsky Berou 78.23 349 ⇓P **P** **21 02 15.1 +0.1**
NKC Novy Kostel 78.30 352 *e*P **P** **21 02 15.2 -0.2**
MEM Membach 78.32 357 AP **P** **21 02 15.4 -0.1**
comp=Z,23nm,1.0s,mb5.1
KIV Kislovodsk 78.33 330 *e*P **P** **21 02 15.6 0.0**
KIV pmax pmax
comp=Z,40nm,1.3s,mb5.2

PRU Pruhonice 78.35 351 *e*P **P** **21 02 15.0 -0.7**
KOLS Kolonicke sedl 78.40 346 *e*P **P** **21 02 16.0 +0.1**
KOLS Kolonicke sedl 78.40 346 *e*P **P** **21 02 16.1 +0.2**
KOLS pmax pmax
comp=Z,33nm,1.1s,mb5.2
KOLS Kolonicke sedl 78.40 346 *e*P **P** **21 02 16.1 +0.2**
comp=Z,33nm,1.1s,mb5.2
MENF Mencas 78.46 359 *e*P **P** **21 02 15.7 -0.6**
SNF Seneffe 78.47 358 AP **P** **21 02 16.3 0.0**
comp=Z,10nm,1.0s,mb4.7
BCLA Clavier 78.53 357 AP **P** **21 02 16.6 -0.1**
comp=Z,14nm,0.9s,mb4.9
CRVS Cervenica-Dubn 78.56 346 *i* P **P** **21 02 16.8 0.0**
CRVS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CRVS Cervenica-Dubn 78.56 346 *i* P **P** **21 02 16.8 0.0**
comp=Z,9.4nm,0.9s,mb4.7
MANZ Manzenberg 78.57 353 *e*P **P** **21 02 16.3 -0.6**
TNS Taunus Mts 78.59 355 *e*P **P** **21 02 16.3 -0.7**
LIKS Likavka 78.75 348 *e*P **P** **21 02 15.4 -2.4**
LIKS pmax pmax
comp=Z,32nm,0.7s,mb5.4
LIKS Likavka 78.75 348 *e*P **P** **21 02 15.4 -2.4**
comp=Z,32nm,0.7s,mb5.4
ROTZ Rotzenmuhle 78.78 352 *e*P **P** **21 02 17.7 -0.3**
VRAC Vranov 78.80 349⇓ *i*P **P** **21 02 18.6 +0.5**
VRAC Vranov 78.80 349 ⇓P **P** **21 02 18.6 +0.5**
GIVF Givet 78.86 357 *e*P **P** **21 02 18.2 -0.3**
comp=Z,86nm,1.1s,mb5.3
GIVF Givet 78.86 357 *e*P **P** **21 02 18.2 -0.3**
GIVF pmax pmax
comp=Z,43nm,1.1s,mb5.3
GIVF Givet 78.86 357 *e*P **P** **21 02 18.2 -0.3**
comp=Z,43nm,1.1s,mb5.3
DOU Dourbes 78.88 357 AP **P** **21 02 18.4 -0.1**
comp=Z,11nm,1.1s,mb4.7
BAIF Baives 78.92 358 *e*P **P** **21 02 18.8 0.0**
comp=Z,101nm,1.0s,mb5.4
BAIF Baives 78.92 358 *e*P **P** **21 02 18.8 0.0**
BAIF pmax pmax
comp=Z,51nm,1.0s,mb5.4
BAIF Baives 78.92 358 *e*P **P** **21 02 18.8 0.0**
comp=Z,50nm,1.0s,mb5.4
GRA1 Grafenberg Arr 78.93 353 *e*P **P** **21 02 18.7 -0.2**
comp=Z,48nm,0.9s,mb5.4
GRF Grafenberg Arr 78.93 353 *e*P **P** **21 02 18.7 -0.2**
comp=Z,48nm,0.9s,mb5.4
GRF Grafenberg Arr 78.93 353 *e*P **P** **21 02 18.7 -0.2**
GRF pmax pmax
comp=Z,48nm,0.9s,mb5.4
GRF Grafenberg Arr 78.93 353 *e*P **P** **21 02 18.7 -0.2**
GRF pmax pmax
comp=Z,48nm,0.9s,mb5.4
TREC Trest 78.94 350 *e*P **P** **21 02 17.7 -1.2**
ABH Alteburg 78.97 355 *e*P **P** **21 02 18.7 -0.4**
ZEI Tsey 79.02 329 *e*P **P** **21 02 19.7 +0.4**
ZEI pmax pmax
comp=Z,53nm,1.2s,mb5.3
KECS Kecovo 79.11 347 *e*P **P** **21 02 19.9 +0.1**
KECS pmax pmax
comp=Z,21nm,0.9s,mb5.1
KECS Kecovo 79.11 347 *e*P **P** **21 02 19.9 +0.1**
comp=Z,21nm,0.9s,mb5.1
IAS Iasi 79.15 342⇑ *i*P **P** **21 02 20.6 +0.5**
IAS Iasi 79.15 342 ⇑P **P** **21 02 20.6 +0.5**
RUP Ruppelstein 79.18 356 *e*P **P** **21 02 20.2 0.0**
TOD Tromm 79.18 355 *e*P **P** **21 02 19.8 -0.4**
BURAR Bucovina Array 79.19 343⇓ *i*P **P** **21 02 21.1 +0.8**
BURAR Bucovina Array 79.19 343 ⇓P **P** **21 02 21.1 +0.9**
WLF Walferdange 79.25 356 *e*P **P** **21 02 20.4 -0.2**
WLF Walferdange 79.25 356 AP **P** **21 02 21.1 +0.5**
comp=Z,11nm,0.9s,mb4.8
WLF Walferdange 79.25 356 *e*P **P** **21 02 21.1 +0.5**
WLF pmax pmax
comp=Z,23nm,1.0s,mb5.1
WLF Walferdange 79.25 356 *e*P **P** **21 02 21.1 +0.5**
comp=Z,23nm,0.9s,mb5.1
KHC Kasperske Hory 79.29 351 *e*P **P** **21 02 20.3 -0.5**
VYHS Vyhne 79.33 348 *i* P **P** **21 02 21.2 +0.2**
VYHS pmax pmax
comp=Z,15nm,1.0s,mb4.9
VYHS Vyhne 79.33 348 *i* P **P** **21 02 21.2 +0.2**
comp=Z,15nm,1.0s,mb4.9
WET Wettzell 79.34 352 *e*P **P** **21 02 20.6 -0.5**
comp=Z,14nm,1.1s,mb4.8
WET Wettzell 79.34 352 *e*P **P** **21 02 20.6 -0.5**
WET pmax pmax
comp=Z,14nm,1.1s,mb4.8
GEC2 GERESS Array S 79.56 351 *e*P **P** **21 02 21.6 -0.7**
comp=Z,14nm,1.0s,mb4.8
GEC2 GERESS Array S 79.56 351 *e*P **P** **21 02 21.6 -0.7**
GEC2 pmax pmax
comp=Z,14nm,1.0s,mb4.8
GERES GERESS Array B 79.56 351 P **P**
comp=Z,6.8nm,0.7s,mb4.7,baz=21,slow=5.7,SNR=23
GERES GERESS Array B 79.56 351 P **P** **21 02 22.2 -0.1**
GERES pmax pmax
comp=Z,7.0nm,0.7s
PSZ Piszkesteto 79.75 347 *e*P **P** **21 02 24.2 +0.9**
PSZ pmax pmax
comp=Z,47nm,1.1s,mb5.3
PSZ Piszkesteto 79.75 347 *e*P **P** **21 02 24.2 +0.9**
comp=Z,47nm,1.1s,mb5.3
ZST Bratislava 79.84 349 *i* P **P** **21 02 24.5 +0.7**
ZST pmax pmax
comp=Z,29nm,1.0s,mb5.2
ZST Bratislava 79.84 349 *i* P **P** **21 02 24.5 +0.7**
comp=Z,29nm,1.0s,mb5.2
STU Stuttgart 79.99 354 *e*P **P** **21 02 23.8 -0.8**
SRO Srobarova 80.06 348 *e*P **P** **21 02 25.5 +0.5**
SRO pmax pmax
comp=Z,49nm,1.1s,mb5.3
SRO Srobarova 80.06 348 *e*P **P** **21 02 25.5 +0.5**
comp=Z,49nm,1.1s,mb5.3
SRO2 Moca 80.10 348 *e*P **P** **21 02 26.0 +0.8**
SRO2 pmax pmax
comp=Z,28nm,0.9s,mb5.2
SRO1 Iza 80.12 348 *e*P **P** **21 02 26.3 +1.0**
SRO1 pmax pmax
comp=Z,38nm,1.0s,mb5.3
CONA Conrad Observa 80.25 350 *i* P **P** **21 02 26.6 +0.6**
comp=Z,34nm,1.1s,mb5.2,SNR=18
FLN La Foliniere 80.26 1 *e*P **P** **21 02 25.6 -0.5**
comp=Z,102nm,1.1s,mb5.4
FLN La Foliniere 80.26 1 *e*P **P** **21 02 25.6 -0.5**
FLN pmax pmax
comp=Z,51nm,1.1s,mb5.4
FLN La Foliniere 80.26 1 *e*P **P** **21 02 25.6 -0.5**
comp=Z,51nm,1.1s,mb5.4
LDF La Druitiere 80.43 1 *e*P **P** **21 02 26.3 -0.7**
comp=Z,72nm,0.9s,mb5.3
LDF La Druitiere 80.43 1 *e*P **P** **21 02 26.3 -0.7**
LDF pmax pmax
comp=Z,36nm,0.9s,mb5.3
LDF La Druitiere 80.43 1 *e*P **P** **21 02 26.3 -0.7**
comp=Z,36nm,0.9s,mb5.3
FUR Furstenfeldbru 80.45 353 *e*P **P** **21 02 26.5 -0.6**
comp=Z,31nm,1.0s,mb5.2
FUR Furstenfeldbru 80.45 353 *e*P **P** **21 02 26.5 -0.6**
FUR pmax pmax
comp=Z,31nm,1.0s,mb5.2
CDF Champ du Feu 80.46 356 *e*P **P** **21 02 26.9 -0.2**
comp=Z,22nm,0.9s,mb4.8
CDF Champ du Feu 80.46 356 *e*P **P** **21 02 26.9 -0.2**
CDF pmax pmax
comp=Z,11nm,0.9s,mb4.8
CDF Champ du Feu 80.46 356 *e*P **P** **21 02 26.9 -0.2**
comp=Z,11nm,0.9s,mb4.8
MEZF Maizieres J'vi 80.46 357 *e*P **P** **21 02 27.2 +0.1**
comp=Z,83nm,1.1s,mb5.3
MEZF Maizieres J'vi 80.46 357 *e*P **P** **21 02 27.2 +0.1**
comp=Z,83nm,1.1s,mb5.6
BFO Black Forest 80.48 355 *e*P **P** **21 02 26.5 -0.8**
comp=Z,15nm,1.0s,mb4.9
BFO Black Forest 80.48 355 *e*P **P** **21 02 26.5 -0.8**
BFO pmax pmax
comp=Z,15nm,1.0s,mb4.9
VRI Vrincioaia 80.59 342⇓ *i*P **P** **21 02 28.6 +0.8**
VRI Vrincioaia 80.59 342 ⇓P **P** **21 02 28.6 +0.8**
PLOR Plostina 80.62 342⇑ *i*P **P** **21 02 29.0 +1.0**
GRR Gorron 80.63 1 *e*P **P** **21 02 27.7 -0.4**
comp=Z,104nm,1.0s,mb5.4
GRR Gorron 80.63 1 *e*P **P** **21 02 27.7 -0.4**
GRR pmax pmax
comp=Z,52nm,1.0s,mb5.4
GRR Gorron 80.63 1 *e*P **P** **21 02 27.7 -0.4**
comp=Z,52nm,1.0s,mb5.4
ROSF Rostrenen 80.63 3 *e*P **P** **21 02 27.9 -0.2**
comp=Z,51nm,1.2s,mb5.0
ROSF Rostrenen 80.63 3 *e*P **P** **21 02 27.9 -0.2**
ROSF pmax pmax
comp=Z,25nm,1.2s,mb5.0
ROSF Rostrenen 80.63 3 *e*P **P** **21 02 27.9 -0.2**
comp=Z,25nm,1.2s,mb5.0
ECH Echery 80.66 356 *e*P **P** **21 02 27.5 -0.7**
THEF They Montfort 80.70 356 *e*P **P** **21 02 28.0 -0.4**
SGMF Saint Gilles 80.73 2 *e*P **P** **21 02 28.4 -0.2**
comp=Z,65nm,0.9s,mb5.2
SGMF Saint Gilles 80.73 2 *e*P **P** **21 02 28.4 -0.2**
SGMF pmax pmax
comp=Z,33nm,0.9s,mb5.3
SGMF Saint Gilles 80.73 2 *e*P **P** **21 02 28.4 -0.2**
comp=Z,33nm,0.9s,mb5.3
HAU Haudompre 80.90 356 *e*P **P** **21 02 29.2 -0.3**
comp=Z,43nm,1.0s,mb5.0
HAU Haudompre 80.90 356 *e*P **P** **21 02 29.2 -0.3**
HAU pmax pmax
comp=Z,22nm,1.0s,mb5.0
HAU Haudompre 80.90 356 *e*P **P** **21 02 29.2 -0.3**
comp=Z,22nm,1.0s,mb5.0
ARSA Arzberg 80.95 350 *i* P **P** **21 02 30.4 +0.6**
comp=Z,26nm,1.0s,mb5.1,SNR=16
FELD Feldberg im Sc 80.95 355 *e*P **P** **21 02 29.1 -0.7**
CFR Carcaliu 80.96 341⇑ *i*P **P** **21 02 30.4 +0.6**
CFR Carcaliu 80.96 341 ⇑P **P** **21 02 30.4 +0.6**
MOF Molkenrain 81.02 356 *e*P **P** **21 02 29.5 -0.7**
QUIF Quistinic 81.06 3 *e*P **P** **21 02 30.0 -0.3**
comp=Z,40nm,1.0s,mb5.0
QUIF Quistinic 81.06 3 *e*P **P** **21 02 30.0 -0.3**
QUIF pmax pmax
comp=Z,20nm,1.0s,mb5.0
QUIF Quistinic 81.06 3 *e*P **P** **21 02 30.0 -0.3**
comp=Z,20nm,1.0s,mb5.0
HINF Hinteralfeld 81.07 356 *e*P **P** **21 02 29.9 -0.5**
comp=Z,26nm,1.0s,mb4.8
HINF Hinteralfeld 81.07 356 *e*P **P** **21 02 29.9 -0.5**
HINF pmax pmax
comp=Z,13nm,1.0s,mb4.8
HINF Hinteralfeld 81.07 356 *e*P **P** **21 02 29.9 -0.5**
comp=Z,13nm,1.0s,mb4.8
GNI Garni 81.09 327 P **P** **21 02 31.5 +0.9**
comp=Z,3.5nm,0.3s,mb4.7,baz=153,slow=6.3,SNR=3.3
GNI Garni 81.09 327 P **P** **21 02 31.5 +1.0**
GNI pmax pmax
comp=Z,4.0nm,0.3s
MLR Muntele Rosu 81.10 342⇑ *i*P **P** **21 02 32.7 +2.1**
MLR Muntele Rosu 81.10 342 P **P** **21 02 32.5 +1.9**
MLR Muntele Rosu 81.10 342 ⇑P **P** **21 02 32.7 +2.2**
WATA Walderalm 81.25 353⇓ *i*P **P** **21 02 31.5 +0.1**
comp=Z,26nm,1.0s,mb5.1,SNR=15
WATA Walderalm 81.25 353⇓ *i*P **P** **21 02 31.5 +0.1**
WATA pmax pmax
comp=Z,26nm,1.0s,mb5.1
MOTA Moosalm 81.28 353⇓ *i*P **P** **21 02 31.9 +0.4**
comp=Z,36nm,1.2s,mb5.2
MOTA Moosalm 81.28 353⇓ *i*P **P** **21 02 31.9 +0.4**
MOTA pmax pmax
comp=Z,36nm,1.2s,mb5.2
SNX Sinaia 81.31 343⇓ *i*P **P** **21 02 33.9 +2.2**
SNX Sinaia 81.31 343 ⇓P **P** **21 02 33.9 +2.2**
WTTA Wattenberg 81.31 352 *i* P **P** **21 02 32.3 +0.6**
comp=Z,49nm,1.0s,mb5.4,SNR=17
WTTA Wattenberg 81.31 352 *i* P **P** **21 02 32.3 +0.6**
WTTA pmax pmax
comp=Z,49nm,1.0s,mb5.4
VOIR 81.32 343⇓ *i*P **P** **21 02 33.1 +1.4**
VOIR 81.32 343 ⇓P **P** **21 02 33.1 +1.4**
ISR Istrita 81.34 342⇓ *i*P **P** **21 02 33.3 +1.4**
ISR Istrita 81.34 342 ⇓P **P** **21 02 33.3 +1.5**
KBA Koelnbreinsper 81.35 351 *i* P **P** **21 02 32.5 +0.6**
comp=Z,96nm,0.9s,mb5.7,SNR=41
KBA Koelnbreinsper 81.35 351 *i* P **P** **21 02 32.5 +0.6**
KBA pmax pmax
comp=Z,96nm,0.9s,mb5.7
SQTA Sankt Quirin 81.39 353⇑ *i*P **P** **21 02 32.2 +0.1**
comp=Z,21nm,1.0s,mb5.0
SQTA Sankt Quirin 81.39 353⇑ *i*P **P** **21 02 32.2 +0.1**
SQTA pmax pmax
comp=Z,21nm,1.0s,mb5.0
MTUR Matau 81.52 343⇓ *i*P **P** **21 02 34.8 +2.0**
MTUR Matau 81.52 343 P **P** **21 02 34.3 +1.5**
MTUR Matau 81.52 343 ⇓P **P** **21 02 34.8 +2.0**
LOMF Lomont 81.54 356 *e*P **P** **21 02 32.3 -0.6**
PKSM Moragy 81.59 348⇓ *i*P **P** **21 02 32.9 -0.3**
PKSM Moragy 81.59 348 P **P** **21 02 33.0 -0.2**
PKSM Moragy 81.59 348 ⇓P **P** **21 02 32.9 -0.3**
PERS Pernice 81.60 350 *e*P **P** **21 02 32.9 -0.3**
LOR Lormes 81.72 358 *e*P **P** **21 02 33.3 -0.6**
comp=Z,86nm,1.3s,mb5.2
LOR Lormes 81.72 358 *e*P **P** **21 02 33.3 -0.6**
LOR pmax pmax
comp=Z,43nm,1.3s,mb5.2
LOR Lormes 81.72 358 *e*P **P** **21 02 33.3 -0.6**
comp=Z,43nm,1.3s,mb5.2
BZS Buzias 81.73 345⇓ *i*P **P** **21 02 34.3 +0.4**
BZS Buzias 81.73 345 P **P** **21 02 34.2 +0.3**
BZS Buzias 81.73 345 ⇓P **P** **21 02 34.3 +0.4**
HYF Humbligny 81.75 359 *e*P **P** **21 02 34.1 +0.1**
GZR Gura Zlata 81.76 344⇑ *i*P **P** **21 02 35.1 +1.0**
GZR Gura Zlata 81.76 344 ⇑P **P** **21 02 35.1 +1.0**
WB2 Warramunga Arr 81.76 223 *e*P **P** **21 02 26.4 -7.7**
WRA Warramunga Arr 81.77 223 P **P** **21 02 31.4 -2.7**
comp=Z,2.5nm,0.7s,mb4.3,baz=33,slow=6.0,SNR=11
WRA Warramunga Arr 81.77 223 P **P** **21 02 31.4 -2.7**
WRA pmax pmax
comp=Z,3.0nm,0.7s
SEST Monte Rota 81.78 352 P **P** **21 02 34.5 +0.4**
OBKA Obir 81.79 350⇑ *i*P **P** **21 02 34.2 0.0**
comp=Z,36nm,1.0s,mb5.3,SNR=21
FVI Forni Avoltri 81.88 352 P **P** **21 02 35.0 +0.3**
FVI pmax pmax
comp=Z,90nm,2.1s,mb5.3
FVI Forni Avoltri 81.88 352 P **P** **21 02 35.0 +0.3**
comp=Z,90nm,2.1s,mb5.3
SSF Saint Saulge 81.94 358 *e*P **P** **21 02 34.8 -0.2**
comp=Z,56nm,1.1s,mb5.1
SSF Saint Saulge 81.94 358 *e*P **P** **21 02 34.8 -0.2**
SSF pmax pmax
comp=Z,28nm,1.1s,mb5.1
SSF Saint Saulge 81.94 358 *e*P **P** **21 02 34.8 -0.2**
comp=Z,28nm,1.1s,mb5.1
PTCC Patocco-Chiusa 82.01 351 P **P** **21 02 34.1 -1.3**
comp=Z,63nm,1.5s,mb5.3
GMNA Gemona 82.15 351 P **P** **21 02 35.5 -0.6**
comp=Z,131nm,0.8s,mb5.9
ROBS Robic 82.16 351 *i* P **P** **21 02 35.1 -1.1**
BUC1 Bucharest 82.18 342 P **P** **21 02 36.6 +0.3**
BRMO Bormio 82.20 353 P **P** **21 02 37.2 +0.9**
comp=Z,33nm,1.3s,mb5.1
AVF Avril sur Loir 82.21 358 *e*P **P** **21 02 36.2 -0.2**
comp=Z,69nm,1.1s,mb5.2
AVF Avril sur Loir 82.21 358 *e*P **P** **21 02 36.2 -0.2**
AVF pmax pmax
comp=Z,34nm,1.1s,mb5.2
AVF Avril sur Loir 82.21 358 *e*P **P** **21 02 36.2 -0.2**
comp=Z,34nm,1.1s,mb5.2
CABF La Chapelle 82.31 356 *e*P **P** **21 02 37.1 +0.2**
comp=Z,58nm,1.2s,mb5.1
CABF La Chapelle 82.31 356 *e*P **P** **21 02 37.1 +0.2**
CABF pmax pmax
comp=Z,29nm,1.2s,mb5.1
CABF La Chapelle 82.31 356 *e*P **P** **21 02 37.1 +0.2**
comp=Z,29nm,1.2s,mb5.1
SMF Signal de Mont 82.35 358 *e*P **P** **21 02 36.8 -0.3**
comp=Z,81nm,1.1s,mb5.3
SMF Signal de Mont 82.35 358 *e*P **P** **21 02 36.8 -0.3**
SMF pmax pmax
comp=Z,41nm,1.1s,mb5.3
SMF Signal de Mont 82.35 358 *e*P **P** **21 02 36.8 -0.3**
comp=Z,40nm,1.1s,mb5.3
LCHF La Chataignera 82.35 1 *e*P **P** **21 02 37.5 +0.3**
MFF Saint Martin d 82.42 1 *e*P **P** **21 02 37.4 -0.1**
comp=Z,68nm,1.0s,mb5.2
MFF Saint Martin d 82.42 1 *e*P **P** **21 02 37.4 -0.1**
MFF pmax pmax
comp=Z,34nm,1.0s,mb5.2
MFF Saint Martin d 82.42 1 *e*P **P** **21 02 37.4 -0.1**
comp=Z,34nm,1.0s,mb5.2
BGF Bois d'Agland 82.45 358 *e*P **P** **21 02 37.5 -0.2**
comp=Z,22nm,1.0s,mb4.8
BGF Bois d'Agland 82.45 358 *e*P **P** **21 02 37.5 -0.2**

BGF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
BGF	Bois d'Agland	82.45	358	eP	P	21 02 37.5	-0.2
	comp=Z,11nm,1.0s,mb4.8						
CTI	Castel Tesino	82.52	352	P	P	21 02 37.6	-0.4
CTI				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.2						
CTI	Castel Tesino	82.52	352	P	P	21 02 37.6	-0.4
	comp=Z,29nm,1.2s,mb5.2						
PSI	Prapat	82.67	265	P	P	21 02 37.8	-1.0
	comp=Z,18nm,0.8s,mb5.2,baz=52,slow=1.7,SNR=9.7						
PSI	Prapat	82.67	265	P	P	21 02 37.8	-1.0
PSI				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
BOJS	Bojanci	82.71	350	eP	P	21 02 38.4	-0.6
TCF	Toulx Ste Croi	82.73	359	eP	P	21 02 38.9	-0.2
	comp=Z,31nm,1.0s,mb5.0						
TCF	Toulx Ste Croi	82.73	359	eP	P	21 02 38.9	-0.2
TCF				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
TCF	Toulx Ste Croi	82.73	359	eP	P	21 02 38.9	-0.2
	comp=Z,15nm,1.0s,mb5.0						
MCGN	Macugnaga	82.87	355	P	P	21 02 40.8	+1.0
	comp=Z,13nm,0.9s,mb5.0						
AGO	Saint Agoulin	82.95	358	eP	P	21 02 40.3	0.0
PLDF	La Plantade	83.03	358	eP	P	21 02 40.8	+0.1
LPL	La Plagne	83.37	356	eP	P	21 02 43.3	+0.8
LPG	La Plagne	83.39	356	eP	P	21 02 43.6	+1.1
	comp=Z,42nm,1.2s,mb5.0						
LPG	La Plagne	83.39	356	eP	P	21 02 43.6	+1.1
LPG				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.0						
LPG	La Plagne	83.39	356	eP	P	21 02 43.6	+1.1
	comp=Z,21nm,1.2s,mb5.0						
RJF	Les Rejaudoux	83.72	359	eP	P	21 02 43.9	-0.4
	comp=Z,54nm,1.2s,mb5.2						
RJF	Les Rejaudoux	83.72	359	eP	P	21 02 43.9	-0.4
RJF				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.2						
RJF	Les Rejaudoux	83.72	359	eP	P	21 02 43.9	-0.4
	comp=Z,27nm,1.2s,mb5.2						
LBL	Lubilhac	83.77	358	eP	P	21 02 43.5	-1.0
BNI	Bardonecchia	83.84	356	eP	P	21 02 46.1	+1.3
BNI				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.4						
BNI	Bardonecchia	83.84	356	eP	P	21 02 46.1	+1.3
	comp=Z,31nm,1.0s,mb5.4						
HYB	Hyderabad	83.92	290	i P	P	21 02 45.0	-0.3
HYB	Hyderabad	83.92	290	eP	P	21 02 45.0	-0.3
BOB	Bobbio (Coli)	83.96	354	P	P	21 02 44.6	-0.9
ORIF	Oris-en-Rattie	84.01	356	eP	P	21 02 46.3	+0.6
	comp=Z,63nm,1.2s,mb5.3						
ORIF	Oris-en-Rattie	84.01	356	eP	P	21 02 46.3	+0.6
ORIF				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.3						
ORIF	Oris-en-Rattie	84.01	356	eP	P	21 02 46.3	+0.6
	comp=Z,31nm,1.2s,mb5.3						
LFF	La Frestale	84.09	360	eP	P	21 02 46.1	0.0
	comp=Z,86nm,1.0s,mb5.5						
LFF	La Frestale	84.09	360	eP	P	21 02 46.1	0.0
LFF				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.5						
LFF	La Frestale	84.09	360	eP	P	21 02 46.1	0.0
	comp=Z,43nm,1.0s,mb5.5						
CAF	Calviac	84.10	359	eP	P	21 02 46.3	+0.1
	comp=Z,61nm,1.1s,mb5.3						
CAF	Calviac	84.10	359	eP	P	21 02 46.3	+0.1
CAF				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.3						
CAF	Calviac	84.10	359	eP	P	21 02 46.3	+0.1
	comp=Z,31nm,1.1s,mb5.3						
VIVF	Saint-Julien-l	84.11	357	eP	P	21 02 46.4	+0.2
	comp=Z,36nm,1.1s,mb5.1						
VIVF	Saint-Julien-l	84.11	357	eP	P	21 02 46.4	+0.2
VIVF				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.1						
VIVF	Saint-Julien-l	84.11	357	eP	P	21 02 46.4	+0.2
	comp=Z,18nm,1.1s,mb5.1						
FITZ	Fitzroy Crossi	84.19	232	eP	P	21 02 44.0	-2.6
	comp=Z,30nm,0.9s,mb5.4						
FITZ	Fitzroy Crossi	84.19	232	P	P	21 02 44.4	-2.3
	comp=Z,20nm,0.9s,mb5.2,baz=48,slow=5.9,SNR=15						
ZCCA	Zocca	84.26	353	P	P	21 02 48.7	+1.7
	comp=Z,47nm,1.1s,mb5.5						
VTS	Vitosha	84.41	343	⇓iP	P	21 02 48.0	+0.3
VTS	Vitosha	84.41	343	P	P	21 02 47.7	0.0
VTS	Vitosha	84.41	343	⇓P	P	21 02 48.0	+0.2
FNVD	Fontana Vidola	84.43	352	P	P	21 02 48.4	+0.5
RSM	Repubblica di	84.55	351	P	P	21 02 48.8	+0.3
VMG	Vicchio	84.60	352	P	P	21 02 50.4	+1.7
	comp=Z,126nm,1.0s,mb6.0						
FSSB	Fossombrone	84.76	351	P	P	21 02 49.6	+0.1
	comp=Z,41nm,1.0s,mb5.5						
MALT	Malatya	84.79	331	⇓iP	P	21 02 50.9	+1.2
MALT	Malatya	84.79	331	eP	P	21 02 50.2	+0.5
MALT				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.3						
BR131	Keskin Array S	84.83	335	eP	P	21 02 49.9	0.0
	comp=Z,17nm,0.8s,mb5.2						
BRTR	Keskin Array B	84.83	335	P	P	21 02 50.0	+0.2
	comp=Z,17nm,0.8s,mb5.2,baz=53,slow=2.9,SNR=38						
BRTR	Keskin Array B	84.83	335	P	P	21 02 50.1	+0.2
BRTR				pmax	pmax		
	comp=Z,17nm,0.8s						
TOUF	Mont Tournerai	84.84	355	eP	P	21 02 49.8	-0.1
AUTN	L'Aution	84.85	355	eP	P	21 02 49.8	-0.2
LASF	Ste Croix	84.91	358	eP	P	21 02 50.5	+0.2
	comp=Z,21nm,0.9s,mb5.0						
ANTO	Ankara	84.92	336	⇓iP	P	21 02 50.9	+0.6
ANTO	Ankara	84.92	336	⇓P	P	21 02 50.9	+0.6
PII	Pisa	84.92	353	P	P	21 02 49.5	-0.8
PII				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.5						
PII	Pisa	84.92	353	P	P	21 02 49.5	-0.8
	comp=Z,39nm,1.0s,mb5.5						
STOF	St-Etienne Org	84.92	356	eP	P	21 02 50.8	+0.5
SMRF	Simiane la Rot	84.96	356	eP	P	21 02 51.3	+0.8
	comp=Z,85nm,1.1s,mb5.5						
SMRF	Simiane la Rot	84.96	356	eP	P	21 02 51.3	+0.8
	comp=Z,85nm,1.1s,mb5.8						
LUCF	Luceram	84.96	355	eP	P	21 02 50.4	-0.1
MVIF	Mont Vial	84.97	355	eP	P	21 02 50.0	-0.6
SBF	Sospel	84.98	355	eP	P	21 02 50.4	-0.2
	comp=Z,94nm,0.9s,mb5.6						
SBF	Sospel	84.98	355	eP	P	21 02 50.4	-0.2
SBF				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.6						
SBF	Sospel	84.98	355	eP	P	21 02 50.4	-0.2
	comp=Z,47nm,0.9s,mb5.6						
VILF	Villemus	85.08	356	eP	P	21 02 51.6	+0.5
CSNT	Castellina Chi	85.11	352	P	P	21 02 50.8	-0.5
	comp=Z,52nm,1.0s,mb5.6						
REVF	Revere	85.11	355	eP	P	21 02 50.8	-0.5
PRAF	Pradon	85.14	357	eP	P	21 02 52.1	+0.6
SNTG	Esanatoglia	85.17	351	P	P	21 02 52.2	+0.6
	comp=Z,28nm,0.7s,mb5.5						
ASAR	Alice Springs	85.25	222	P	P	21 02 50.1	-1.8
	comp=Z,3.1nm,0.7s,mb4.5,baz=25,slow=5.0,SNR=12						
ASAR	Alice Springs	85.25	222	P	P	21 02 50.2	-1.8
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TAVF	Tavernes	85.30	356	eP	P	21 02 52.1	-0.1
FRF	La Foret Royal	85.33	356	eP	P	21 02 52.0	-0.4
	comp=Z,61nm,1.1s,mb5.3						
FRF	La Foret Royal	85.33	356	eP	P	21 02 52.0	-0.4
FRF				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.3						
FRF	La Foret Royal	85.33	356	eP	P	21 02 52.0	-0.4
	comp=Z,31nm,1.1s,mb5.3						
RDO	Rodhopi	85.36	341	eP	P	21 03 03.5	+11
PUYF	Puyloubier	85.40	356	eP	P	21 02 52.9	+0.2
GRFL	Gerfalco	85.46	352	P	P	21 02 52.8	-0.2
	comp=Z,34nm,0.7s,mb5.6						
GELF	Grande-Etoile	85.56	357	eP	P	21 02 54.0	+0.5
LMR	La Mourre	85.56	356	eP	P	21 02 53.4	-0.1
	comp=Z,67nm,1.1s,mb5.5						
LMR	La Mourre	85.56	356	eP	P	21 02 53.4	-0.1
LMR				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.5						
LMR	La Mourre	85.56	356	eP	P	21 02 53.4	-0.1
	comp=Z,33nm,1.1s,mb5.5						
NRCA	Norcia	85.57	351	P	P	21 02 53.8	+0.2
	comp=Z,41nm,1.0s,mb5.6						
BERF	Bertagne	85.62	356	eP	P	21 02 54.2	+0.4
MTLF	Montolieu	85.68	359	eP	P	21 02 54.2	+0.1
	comp=Z,44nm,1.2s,mb5.2						
MTLF	Montolieu	85.68	359	eP	P	21 02 54.2	+0.1
MTLF				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.3						
MTLF	Montolieu	85.68	359	eP	P	21 02 54.2	+0.1
	comp=Z,22nm,1.2s,mb5.3						
EPF	Esparros	86.00	0	eP	P	21 02 55.0	-0.7
	comp=Z,21nm,1.0s,mb5.0						
EPF	Esparros	86.00	0	eP	P	21 02 55.0	-0.7
EPF				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.0						
EPF	Esparros	86.00	0	eP	P	21 02 55.0	-0.7
	comp=Z,11nm,1.0s,mb5.0						
AQU	L'Aquila	86.02	351	eP	P	21 02 56.0	+0.2
ETSF	Etsaut	86.12	1	eP	P	21 02 56.7	+0.4
	comp=Z,17nm,0.7s,mb5.1						
ETSF	Etsaut	86.12	1	eP	P	21 02 56.7	+0.4
ETSF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.1						
ETSF	Etsaut	86.12	1	eP	P	21 02 56.7	+0.4
	comp=Z,8.7nm,0.7s,mb5.1						
PGF	Pioggiola	86.20	354	eP	P	21 02 56.6	-0.1
	comp=Z,116nm,1.1s,mb5.7						
PGF	Pioggiola	86.20	354	eP	P	21 02 56.6	-0.1
PGF				pmax	pmax		
	comp=Z,58nm,1.1s,mb5.7						
PGF	Pioggiola	86.20	354	eP	P	21 02 56.6	-0.1
	comp=Z,58nm,1.1s,mb5.7						
CORF	Corte	86.44	354	eP	P	21 02 57.6	-0.3
ESDC	Sonseca Array	89.26	4	P	P	21 03 10.8	-0.6
	comp=Z,6.3nm,0.9s,mb4.9,baz=350,slow=4.5,SNR=11						
STKA	Stephens Creek	89.73	212	P	P	21 03 11.8	-1.8
	comp=Z,6.8nm,0.9s,mb5.0,baz=355,slow=6.2,SNR=6.1						
STKA	Stephens Creek	89.73	212	P	P	21 03 11.8	-1.8
CPD	Cerro la Pandu	89.84	61	eP	P	21 03 14.5	+0.4
MTP	Monte Pirata	89.99	61	eP	P	21 03 11.8	-3.0
MMAI	Mount Meron Ar	90.61	331	P	P	21 03 17.7	+0.1
	comp=Z,5.5nm,0.9s,mb4.9,baz=9.6,slow=6.0,SNR=4.5						
ASF	Jabal al Asfar	90.94	330	P	P	21 03 19.5	+0.4
	comp=Z,3.2nm,0.9s,mb4.7,baz=44,slow=2.9,SNR=5.4						
ASF	Jabal al Asfar	90.94	330	P	P	21 03 19.5	+0.3
ASF				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TORD	Torodi Ar. Bea	115.77	359	PKP	PKPdf	21 08 56.5	-1.1
	comp=Z,0.3nm,0.5s,baz=354,slow=2.0,SNR=5.6						
TORD				PKKPab	PKKPab	21 19 35.7	+1.1
	comp=Z,1.1nm,0.8s,baz=185,slow=3.0,SNR=4.5						
LVC	Limon Verde	119.99	89	PKP	PKPdf	21 09 04.4	-1.3
	comp=Z,3.7nm,0.6s,baz=162,slow=1.5,SNR=3.9						
DBIC	Dimbokro	122.01	6	PKP	PKPdf	21 09 09.2	-0.4
	comp=Z,1.5nm,0.4s,baz=286,slow=4.9,SNR=6.8						
DBIC	Dimbokro	122.01	6	PKIKP	PKPdf	21 09 09.3	-0.3
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CFAA	Coronel Fontan	126.77	96	PKP	PKPdf	21 09 16.8	-2.0
	comp=Z,0.2nm,0.4s,baz=330,slow=5.4,SNR=4.2						
VNDA	Vanda	129.14	185	PKP	PKPdf	21 09 20.1	-3.1
	comp=Z,1.3nm,0.7s,baz=317,slow=6.9,SNR=3.5						
VNDA	Vanda	129.14	185	PKIKP	PKPdf	21 09 20.1	-3.1
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MIR	Mirnyy	134.72	214	ePKHKP		21 09 20.0	
MIR				pmax	pmax		
	comp=Z,150nm,0.7s						
TSUM	Tsumeb	145.25	331	PKPbc	PKPbc	21 09 52.9	+0.3
	comp=Z,39nm,0.9s,baz=355,slow=4.5,SNR=32						
MAW	Mawson	146.26	218	PKPbc	PKPdf	21 09 52.0	-2.6
	comp=Z,7.7nm,0.9s,baz=103,slow=9.0,SNR=4.1						
MAW	Mawson	146.26	218	PKP2	PKPbc	21 09 52.0	-3.7
MAW				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LBTB	Lobatse	147.52	315	PKPbc	PKPbc	21 09 59.3	0.0
	comp=Z,20nm,0.8s,baz=26,slow=3.9,SNR=13						
LBTB	Lobatse	147.52	315	PKP2	PKPab	21 09 59.3	-2.1
LBTB				pmax	pmax		
	comp=Z,20nm,0.8s						
BOSA	Boshof	150.75	312	PKPbc	PKPbc	21 10 07.0	-0.4
	comp=Z,7.1nm,0.8s,baz=194,slow=1.1,SNR=8.2						
BOSA	Boshof	150.75	312	PKIKP	PKPbc	21 10 07.0	-0.4
BOSA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VNA1	Neumayer--Stat	160.20	171	ePKPdf	PKPdf	21 10 11.9	-2.6
VNA1				e		21 10 12.4	
VNA1				e		21 10 14.3	

*IDC **08** 20:56:27.1±4.5, 2458S×17991E, h509km±43km, mb3.8/6, mb1 3.9/8, mb1mx3.7/15, mbtmp4.7/8, Error ellipse: s-maj=36.6km s-min=33.4km az=124.0*

*NEIC **08** 20:56:27.8±2.1, 2469S×17997E, h534km±20km, mb4.4/7, Error ellipse: s-maj=23.8km s-min=16.5km az=46.0*

*ISCJB **08** 20:56:28.4±3.2, 247S±02×1799E±03, h556km±29km, mb4.2/11, Error ellipse: s-maj=48.3km s-min=23.2km az=117.0*

ISC 08 20:56:27.9±3.0**, 247S**±02×**1800W**±03**, h535**km±25km**, n28, σ0s44**/20**, mb4.2**/11**, 1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.72	279	P	P	20 59 13.9	0.0
	0.4nm,0.3s,baz=109,slow=20,SNR=4.7						
URZ	Urewera	13.73	190	P	P	20 59 24.3	0.0
	1.2nm,0.3s,baz=289,slow=3.4,SNR=3.9						
CTA	Charters Tower	31.49	272	eP	P	21 02 06.4	+0.5
	10nm,0.3s,mb4.8						
CTA	Charters Tower	31.49	272	P	P	21 02 06.5	+0.6
	15nm,0.4s,mb4.9,baz=98,slow=12,SNR=37						
CTAO	Charters Tower	31.49	272	eP	P	21 02 06.4	+0.5
	18nm,0.5s,mb4.9						
STKA	Stephens Creek	34.43	249	eP	P	21 02 31.0	+0.2
	2.7nm,0.4s,mb4.1						
STKA	Stephens Creek	34.43	249	P	P	21 02 31.4	+0.6
	2.8nm,0.4s,mb4.2,baz=108,slow=10,SNR=15						
STKA	Stephens Creek	34.43	249	eP	P	21 02 30.9	+0.2
AS31	Alice Springs	41.91	262	eP	P	21 03 31.7	+0.2
ASAR	Alice Springs	41.91	262	P	P	21 03 31.7	+0.2
	1.8nm,0.3s,mb4.0,baz=88,slow=6.9,SNR=42						
ASPA	Alice Springs	41.91	262	eP	P	21 03 31.7	+0.1
WB2	Warramunga Arr	42.35	267	⇓iP	P	21 03 34.4	-0.6
WRAB	Tennant Creek	42.35	267	eP	P	21 03 34.7	-0.3
	12nm,0.5s,mb4.7						
WRA	Warramunga Arr	42.36	267	P	P	21 03 34.6	-0.4
	7.0nm,0.5s,mb4.5,baz=99,slow=7.2,SNR=102						
FORT	Forrest	46.03	250	eP	P	21 04 03.1	-0.4
	11nm,0.9s,mb4.4						
KAKA	Kakadu	46.39	276	eP	P	21 04 05.5	-0.7
	8.0nm,0.8s,mb4.3						
FITZ	Fitzroy Crossi	50.77	266	P	P	21 04 39.9	+1.2
	8.1nm,0.8s,mb4.1,baz=140,slow=7.8,SNR=10						
MBWA	Marble Bar	55.24	261	eP	P	21 05 10.3	-0.2
	3.3nm,0.5s,mb3.8						
CASY	Casey	59.38	206	eP	P	21 05 38.8	0.0
	1.5nm,0.6s,mb3.4						
MJAR	Matsushiro Arr	72.56	326	P	P	21 07 00.9	+0.1
	2.5nm,0.8s,mb3.7,baz=155,slow=5.1,SNR=12						
ARCES	ARCESS Array B	132.68	348	PKP	PKPdf	21 14 41.8	-0.1
	0.6nm,0.6s,baz=46,slow=2.6,SNR=4.4						
FINES	FINESS Array B	139.21	341	PKhKP		21 14 45.2	
	0.4nm,0.6s,baz=24,slow=4.9,SNR=4.7						
NOA	NORSAR Array B	142.88	351	PKhKP		21 14 57.5	
	1.7nm,0.9s,baz=19,slow=2.7,SNR=4.6						
AKASG	Malin Array Be	145.65	327	PKPbc	PKPbc	21 15 06.7	-0.2
	1.1nm,0.4s,baz=45,slow=4.2,SNR=12						
ASF	Jabal al Asfar	146.84	291	PKPbc	PKPbc	21 15 11.8	+1.7
	1.8nm,0.7s,baz=268,slow=5.6,SNR=3.6						
MMAI	Mount Meron Ar	148.03	293	PKPbc	PKPbc	21 15 15.3	+2.0
	3.5nm,0.5s,baz=67,slow=6.4,SNR=8.7						
BRTR	Keskin Array B	148.06	306	PKPbc	PKPbc	21 15 14.2	+0.9
	1.0nm,0.7s,baz=131,slow=2.7,SNR=4.9						
CLL	Collm	151.63	343	i PKPbc	PKPbc	21 15 22.6	+0.9
	comp=Z,3.0nm,0.8s						

*ISCJB **08** 21:00:53.8±0.2, 29.12N±0.03×58.42E±0.03, h10km, mb4.4/58, Error ellipse: s-maj=4.2km s-min=3.3km az=67.7*

*BJI **08** 21:00:54.5, 2901N×58.17E, h33km, mb4.6*

*NEIC **08** 21:00:54.9±1.4, 29.16N×58.57E, h9km±8km, mb4.3/19, ML4.4(THR), MN4.5(TEH), Error ellipse: s-maj=8.5km s-min=6.3km az=179.0*

*THR **08** 21:00:55.7±0.3, 2926N×5856E, h14km±13km, ML4.4*

*CSEM **08** 21:00:55.3±0.1, 29.10N×58.51E, h25km, mb4.3/21, Error ellipse: s-maj=2.5km s-min=1.5km az=50.0*

*MOS **08** 21:00:56.7±0.9, 2908N×5840E, h33km, mb4.5/39, Error ellipse: s-maj=9.4km s-min=6.0km az=112.8*

*IDC **08** 21:00:59.3±3.5, 2909N×5850E, h38km±31km, mb4.1/25, mb1 4.2/27, mb1mx4.2/32, mbtmp4.3/27, ML4.3/2, Error ellipse: s-maj=13.3km s-min=12.5km az=25.0*

*TEH **08** 21:01:00.1, 2926N×5848E, h15km, Mn4.5*

ISC 08 21:00:55.6±0.2**, 2916N**±003×**5847E**±003**, h10**km**, n191, σ1s17**/216**, mb4.4**/58**, 4C-7D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	Kerman	1.70	299	ePG	Pg	21 01 27.4	-0.9
KRBR				AML	AML	21 01 52.7	
	comp=N,6μm,0.5s						
KRBR				AML	AML	21 01 53.6	
	comp=E,5μm,0.3s						
KRBR	Kerman	1.70	299	ePg	Pg	21 01 27.0	-1.3
ZHSF	Zahedan	2.06	77	ePG	Pg	21 01 31.6	-3.6
ZHSF				AML	AML	21 02 04.4	
	comp=N,2μm,0.8s						
ZHSF	Zahedan	2.06	77	ePg	Pg	21 01 31.0	-4.2
BNDS	Bandar-Abbas	2.68	230	ePN	Pn	21 01 42.2	+3.4
BNDS				AML	AML	21 02 31.7	
	comp=E,900nm,0.4s						
BNDS				AML	AML	21 02 31.9	
	comp=N,2μm,0.4s						
BNDS	Bandar-Abbas	2.68	230	ePn	Pn	21 01 42.0	+3.2
IBAF	Bafgh	3.49	315	ePn	Pn	21 01 52.3	+2.3
IBAF				eSn	Sn	21 02 31.8	+0.5
IBAF				eSn	Sn	21 02 32.8	+1.5
IBAF	Bafgh	3.49	315	Pn	Pn	21 01 52.2	+2.2
IBAF				Sn	Sn	21 02 31.8	+0.5
IBAF				Sn	Sn	21 02 32.8	+1.5
IBAF	Bafgh	3.49	315	ePn	Pn	21 01 52.3	+2.3
IBAF				eSn	Sn	21 02 31.8	+0.5
BANOM	Banah	3.75	211	⇓P	Pn	21 01 55.3	+1.8
	SNR=96						
IMEH	Mehriz	4.01	305	eSn	Sn	21 02 42.7	-1.5
IMEH				eSn	Sn	21 02 43.6	-0.6
IMEH	Mehriz	4.01	305	eSn	Sn	21 02 43.6	-0.6
ICHK	Chekchek	4.66	312	ePn	Pb	21 02 18.9	+1.4
ICHK				eSn	Sn	21 02 59.0	-1.2
ICHK				eLg		21 03 23.3	
ICHK	Chekchek	4.66	312	eSn	Sn	21 02 59.0	-1.2
ISRV	Sarvestan	4.69	274	ePn	Pn	21 02 10.1	+3.7
ISRV				eSn	Sn	21 03 01.2	+0.4
ISRV				eSn	Sn	21 03 01.4	+0.6
ISRV	Sarvestan	4.69	274	ePn	Pn	21 02 10.1	+3.7
ISRV				eSn	Sn	21 03 01.2	+0.4
GHIR	Ghir-Karzin	4.89	261	ePN	Pn	21 02 12.4	+3.1
GHIR				AML	AML	21 03 21.0	
	comp=E,186nm,0.4s						
GHIR	Ghir-Karzin	4.89	261	ePn	Pn	21 02 12.0	+2.8
ASHO	Ashiyiah	4.95	206	⇓P	Pn	21 02 12.4	+2.5
	SNR=66						
ISAD	Sadrabad	4.96	305	eSn	Sn	21 03 06.4	-1.1
ISAD				eSn	Sn	21 03 06.5	-1.0
ISAD	Sadrabad	4.96	305	eSn	Sn	21 03 06.5	-1.0
IMOK	Mook	5.04	270	ePn	Pn	21 02 14.5	+3.3
IMOK				eSn	Sn	21 03 10.0	+0.5
IMOK				eSn	Sn	21 03 10.3	+0.8
IMOK	Mook	5.04	270	Pn	Pn	21 02 14.5	+3.3
IMOK				Sn	Sn	21 03 09.9	+0.4
IMOK				Sn	Sn	21 03 10.3	+0.8
BIDO	Bidbid	5.62	183	⇑P	Pn	21 02 17.7	-1.5
	SNR=8.6						
HOQ	Hoqain	5.65	191	⇑P	Pn	21 02 17.7	-1.9
	SNR=9.7						
WSAR	Wadi Sarin	5.89	179	Pn	Pn	21 02 22.6	-0.4
	comp=E,21nm,0.3s,baz=354,slow=14,SNR=266						
WSAR				Sn	Sn	21 03 27.4	-3.2
	comp=E,12nm,0.3s,baz=250,slow=17,SNR=2.3						
ARQ	Araqi	6.05	197	⇑P	Pn	21 02 26.5	+1.3
	SNR=9.9						
SMDO	Samad	6.08	184	⇓P	Pn	21 02 25.2	-0.4
	SNR=13						
IZEF	Zefreh	6.46	307	ePn	Pn	21 02 32.8	+2.1
IZEF				eSn	Sn	21 03 40.9	-3.5
IZEF				eSn	Sn	21 03 40.9	-3.5
IZEF	Zefreh	6.46	307	Pn	Pn	21 02 32.8	+2.1
IZEF				Sn	Sn	21 03 40.8	-3.6
BSY	Bisya	6.49	190	⇓P	Pn	21 02 32.0	+0.9
	SNR=21						
BSYO	Bisya	6.49	190	P	Pn	21 02 32.0	+0.8
	SNR=21						
WBK	Wadi Bani Khal	6.53	176	⇓P	Pn	21 02 30.1	-1.7
JMDO	Jabal Madar	6.76	183	⇓P	Pn	21 02 34.8	-0.2
IKLH	Kalahroud	7.21	307	ePn	Pn	21 02 49.0	+7.9
IKLH				eSn	Sn	21 04 00.2	-2.9
IKLH				eSn	Sn	21 04 00.6	-2.5
IKLH	Kalahroud	7.21	307	Pn	Pn	21 02 48.9	+7.8
IKLH				Sn	Sn	21 04 00.2	-2.9
IKLH				Sn	Sn	21 04 00.6	-2.5
IKLH	Kalahroud	7.21	307	eSn	Sn	21 04 00.2	-2.9
IPIR	Pirpir	7.40	300	ePn	Pn	21 02 45.8	+2.1
IPIR				eSn	Sn	21 04 03.6	-4.1
IPIR				eSn	Sn	21 04 04.6	-3.1
IPIR	Pirpir	7.40	300	Pn	Pn	21 02 45.8	+2.1
IPIR				Sn	Sn	21 04 03.5	-4.2
IPIR				Sn	Sn	21 04 04.6	-3.1
IPIR	Pirpir	7.40	300	ePn	Pn	21 02 45.8	+2.1
IPIR				eSn	Sn	21 04 03.6	-4.1
RDF	Al-Radifah	9.56	271	eP	Pn	21 03 13.4	+0.1
RDF				AML	AML	21 04 56.4	
	comp=Z,21nm,0.4s						
NAY	Al-Naaiem	9.81	273	eP	Pn	21 03 17.5	+0.7
NAY				AML	AML	21 05 03.7	
	comp=Z,7.9nm,0.4s						
RST	Umm Al-Ruwaisa	10.02	275	eP	Pn	21 03 21.2	+1.6
RST				AML	AML	21 05 12.1	
	comp=Z,13nm,0.3s						
GNI	Garni	15.72	318	eP	Pn	21 04 39.8	+2.6
GNI				pmax	pmax		
	comp=Z,17nm,1.6s						
AAK	Ala-Archa	18.65	40	eP	Pn	21 05 16.3	+2.5
AAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ASF	Jabal al Asfar	18.80	285	P	Pn	21 05 15.8	+0.2
	comp=Z,0.3nm,0.3s,baz=324,slow=10,SNR=4.2						
KIV	Kislovodsk	19.41	324	eP	Pn	21 05 24.3	+1.2
KIV				pmax	pmax		
	comp=Z,27nm,0.9s						
KIV	Kislovodsk	19.41	324	eP	Pn	21 05 22.6	-0.5
KIV	Kislovodsk	19.41	324	eP	Pn	21 05 22.6	-0.5
MMAI	Mount Meron Ar	20.12	287	P	P	21 05 31.4	+1.8
	comp=Z,1.9nm,0.9s,baz=122,slow=11,SNR=2.5						
EIL	Elat	20.49	277	eP	P	21 05 34.8	+1.1
	comp=Z,242nm,0.8s						
EIL	Elat	20.49	277	eP	P	21 05 34.8	+1.1
	comp=Z,242nm,0.8s						
AKTK	Aktyubinsk	21.26	359	P	P	21 05 42.5	+0.6
AKTK	Aktyubinsk	21.26	359	P	P	21 05 42.5	+0.6
AKTO	Aktyubinsk	21.26	359	P	P	21 05 42.5	+0.6
	comp=Z,13nm,0.8s,mb4.3,baz=170,slow=10,SNR=16						
AKTO	Aktyubinsk	21.26	359	P	P	21 05 42.6	+0.7
AKTO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.3						
ANN	Anapa	22.84	319	eP	P	21 06 00.7	+1.8
ANN				pmax	pmax		
	comp=Z,39nm,1.0s,mb4.8						
BR131	Keskin Array S	22.96	304	eP	P	21 05 59.8	-0.4
	comp=Z,1.7nm,0.7s,mb3.6						
BR131	Keskin Array S	22.96	304	eP	P	21 05 59.8	-0.4
	comp=Z,1.7nm,0.7s,mb3.6						
BRTR	Keskin Array B	22.96	304	P	P	21 06 00.3	+0.1
	comp=Z,3.6nm,0.8s,mb3.9,baz=113,slow=12,SNR=11						
BRTR	Keskin Array B	22.96	304	P	P	21 06 00.3	+0.1
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GKN	Gorkha	23.00	86	eP	P	21 06 01.3	+0.8
	comp=Z,40nm,1.1s,mb4.8						
DMN	Daman	23.47	87	eP	P	21 06 06.3	+0.8
	comp=Z,85nm,1.5s,mb5.0						
KKN	Kakani	23.59	87	eP	P	21 06 06.7	0.0
	comp=Z,72nm,1.2s,mb5.0						
PKI	Pulchoki	23.74	87	eP	P	21 06 08.3	+0.2
	comp=Z,28nm,0.9s,mb4.7						
GUN	Gumba	24.10	86	eP	P	21 06 12.2	+0.9
	comp=Z,70nm,0.9s,mb5.1						
JIRN	Jiri	24.41	87	eP	P	21 06 15.0	+0.8
	comp=Z,40nm,0.8s,mb4.9						
ZRNK	Zerenda	25.01	15	eP	P	21 06 20.3	+0.6
ZRNK				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.7						
ZRNK	Zerenda	25.01	15	eP	P	21 06 20.3	+0.6

comp=Z,18nm,0.8s,mb4.7
ZRNK Zerenda 25.01 15 *e*P P 21 06 20.3 +0.6
comp=Z,18nm,0.8s,mb4.7
BVAR Borovoye Array 25.41 17 P P 21 06 24.3 +0.9
comp=Z,21nm,0.6s,mb4.8,baz=197,slow=8.5,SNR=91
BVAR PcP PcP 21 09 54.5 -0.9
comp=Z,1.0nm,0.6s,baz=214,slow=1.6,SNR=4.7
BVAR Borovoye Array 25.41 17 P P 21 06 24.3 +1.0
BVAR 21 09 54.5
BVAR pmax pmax
comp=Z,21nm,0.6s
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 25.41 17 PcP PcP 21 09 54.5 -0.9
BRVK Borovoye 25.42 17 *e*P P 21 06 24.1 +0.7
BRVK pmax pmax
comp=Z,17nm,1.0s,mb4.5
BRVK Borovoye 25.42 17 *e*P P 21 06 24.1 +0.7
comp=Z,16nm,1.0s,mb4.5
BRVK Borovoye 25.42 17 *e*P P 21 06 24.1 +0.7
comp=Z,16nm,1.0s,mb4.5
MKAR Makanchi Array 25.59 40 P P 21 06 25.7 +0.8
comp=Z,3.0nm,0.7s,mb3.9,baz=232,slow=8.9,SNR=13
MKAR Makanchi Array 25.59 40 P P 21 06 25.7 +0.8
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 25.59 40 P P 21 06 25.7 +0.8
CHKZ Chkalovo 26.06 17 *e*P P 21 06 29.7 +0.5
CHKZ pmax pmax
comp=Z,11nm,1.1s,mb4.3
CHKZ Chkalovo 26.06 17 *e*P P 21 06 29.7 +0.5
comp=Z,11nm,1.1s,mb4.3
CHKZ Chkalovo 26.06 17 *e*P P 21 06 29.7 +0.5
comp=Z,11nm,1.1s,mb4.3
KURK Kurchatov 26.34 30 *e*P P 21 06 32.6 +0.9
IDI Anoyia 28.97 291 P P 21 06 56.0 +0.7
comp=Z,3.1nm,0.7s,mb4.1,baz=290,slow=20,SNR=4.7
OBN Obninsk 30.35 335⇓*i*P P 21 07 08.5 +1.0
OBN 21 08 05.0
OBN pmax pmax
comp=Z,18nm,1.4s,mb4.6
AKASG Malin Array Be 30.75 323 P P 21 07 11.4 +0.3
comp=Z,4.1nm,0.6s,mb4.4,baz=126,slow=8.5,SNR=24
AKASG Malin Array Be 30.75 323 P P 21 07 11.4 +0.4
AKASG pmax pmax
comp=Z,4.0nm,0.6s
NVS Novosibirsk 31.26 28 *e*P P 21 07 15.3 -0.2
ZAL Zalesovo 31.30 30 P P 21 07 16.0 +0.1
comp=Z,1.3nm,0.5s,mb4.0,baz=237,slow=7.5,SNR=5.4
ZAL Zalesovo 31.30 30 P P 21 07 16.0 +0.1
ZAL pmax pmax
comp=Z,1.0nm,0.5s
ZAL Zalesovo 31.30 30 P P 21 07 16.0 +0.1
KWP Kalwaria 33.93 317 *e*P P 21 07 39.8 +0.9
KWP pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KWP Kalwaria 33.93 317 *e*P P 21 07 39.8 +0.9
comp=Z,10.0nm,0.8s,mb4.8
KWP Kalwaria 33.93 317 *e*P P 21 07 39.8 +0.9
comp=Z,10.0nm,0.8s,mb4.8
GTA Gaotai 35.39 62 *e*P P 21 07 52.8 +1.3
GTA AP pP 21 07 57.9 +3.3
GTA XP sP 21 08 01.1 +5.2
GTA AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
OJC Ojcow 35.89 317 *e*P P 21 07 56.7 +0.9
KMBO Kilima Mbogo 36.31 218 P P 21 08 00.6 +1.1
comp=Z,3.5nm,0.7s,mb4.4,baz=13,slow=12,SNR=7.0
KMBO Kilima Mbogo 36.31 218 P P 21 08 00.6 +1.1
KMBO pmax pmax
comp=Z,4.0nm,0.7s
PBA Port Blair 36.35 111 *e*P P 21 07 51.0 -8.8
PBA *e*x x 21 07 56.8
comp=Z,172nm,1.8s
JOF Joensuu 38.08 340 *e*p P 21 08 13.6 -0.9
comp=Z,7.0nm,0.9s,mb4.4
JOF Joensuu 38.08 340 *e*P P 21 08 13.6 -0.9
JOF pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
FINES FINESS Array B 38.74 336 P P 21 08 20.0 0.0
comp=Z,3.9nm,0.8s,mb4.2,baz=128,slow=9.8,SNR=20
FINES FINESS Array B 38.74 336 P P 21 08 20.0 0.0
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 38.74 336 P P 21 08 20.0 0.0
KAF Kangasniemi 39.11 337 *e*p P 21 08 22.3 -0.8
comp=Z,4.2nm,0.8s,mb4.2
KAF Kangasniemi 39.11 337 *e*P P 21 08 22.3 -0.8
KAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
GERES GERESS Array B 39.28 313 P P 21 08 24.3 -0.2
comp=Z,1.5nm,0.6s,mb3.9,baz=111,slow=8.3,SNR=16
GERES GERESS Array B 39.28 313 P P 21 08 24.3 -0.2
GERES pmax pmax
comp=Z,2.0nm,0.6s
KMI Kunming 39.43 85 P P 21 08 26.0 +0.2
KMI AMB AMB
comp=Z,14nm,0.9s,mb4.7
CLL Collm 40.33 316 P P 21 08 34.5 +1.3
comp=Z,logA/T=0.7,mb4.2
CLL Collm 40.33 316 *i* P P 21 08 34.5 +1.3
comp=Z,4.0nm,0.8s,mb4.2
CLL Collm 40.33 316 *i* P P 21 08 34.5 +1.3
CLL pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
SONM Songino Array 41.14 49 P P 21 08 40.0 0.0
comp=Z,1.7nm,0.8s,mb3.7,baz=255,slow=8.3,SNR=12
SONM Songino Array 41.14 49 P P 21 08 40.0 0.0
SONM pmax pmax
comp=Z,2.0nm,0.8s
SBF Sospel 42.90 304 *e*P P 21 08 53.0 -1.3
HFS Hagfors 43.08 329 P P 21 08 55.8 +0.1
comp=Z,2.8nm,0.5s,mb4.2,baz=124,slow=9.2,SNR=18
HFS Hagfors 43.08 329 P P 21 08 55.8 0.0
HFS pmax pmax
comp=Z,3.0nm,0.5s
LPG La Plagne 43.48 307 *e*P P 21 08 58.3 -0.7
comp=Z,4.1nm,0.7s,mb4.0
LPG La Plagne 43.48 307 *e*P P 21 08 58.3 -0.7
LPG pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
LPG La Plagne 43.48 307 *e*P P 21 08 58.3 -0.7
comp=Z,2.0nm,0.7s,mb4.0
LPL La Plagne 43.49 307 *e*P P 21 08 57.6 -1.5
comp=Z,4.9nm,0.6s,mb4.1
LPL La Plagne 43.49 307 *e*P P 21 08 57.6 -1.5
LPL pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
LPL La Plagne 43.49 307 *e*P P 21 08 57.6 -1.5
comp=Z,2.5nm,0.6s,mb4.1
CABF La Chapelle 44.02 308 *e*P P 21 09 01.3 -2.0
comp=Z,5.4nm,0.7s,mb4.1
CABF La Chapelle 44.02 308 *e*P P 21 09 01.3 -2.0
CABF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
CABF La Chapelle 44.02 308 *e*P P 21 09 01.3 -2.0
comp=Z,2.7nm,0.7s,mb4.1
NB2 NORSAR Subarra 44.57 329 P P 21 09 07.1 -0.7
comp=Z,1.2nm,0.6s,mb3.9,baz=113,slow=7.9
NOA NORSAR Array B 44.57 329 P P 21 09 07.2 -0.5
comp=Z,1.9nm,0.7s,mb4.0,baz=112,slow=7.8,SNR=6.2
NOA NORSAR Array B 44.57 329 P P 21 09 07.3 -0.5
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 44.57 329 P P 21 09 07.2 -0.6
ARCES ARCESS Array B 44.62 344 P P 21 09 08.2 +0.1
comp=Z,1.0nm,0.7s,mb3.8,baz=133,slow=8.8,SNR=4.2
ARCES ARCESS Array B 44.62 344 P P 21 09 08.2 +0.1
ARCES pmax pmax
comp=Z,1.0nm,0.7s
MEZF Maizieres J'vi 44.88 311 *e*P P 21 09 09.0 -1.2
comp=Z,2.9nm,0.5s,mb4.0
MEZF Maizieres J'vi 44.88 311 *e*P P 21 09 09.0 -1.2
comp=Z,1.5nm,0.5s,mb4.0
SMF Signal de Mont 45.56 308 *e*P P 21 09 14.2 -1.4
comp=Z,11nm,0.8s,mb4.5
SMF Signal de Mont 45.56 308 *e*P P 21 09 14.2 -1.4
SMF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SMF Signal de Mont 45.56 308 *e*P P 21 09 14.2 -1.4
comp=Z,5.6nm,0.8s,mb4.5
LOR Lormes 45.58 309 *e*P P 21 09 13.9 -1.9
comp=Z,1.7nm,0.4s,mb4.0
LOR Lormes 45.58 309 *e*P P 21 09 13.9 -1.9
LOR pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
LOR Lormes 45.58 309 *e*P P 21 09 13.9 -1.9
comp=Z,0.9nm,0.4s,mb4.0
SSF Saint Saulge 45.81 309 *e*P P 21 09 16.2 -1.4
comp=Z,4.1nm,0.5s,mb4.3
SSF Saint Saulge 45.81 309 *e*P P 21 09 16.2 -1.4
SSF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
SSF Saint Saulge 45.81 309 *e*P P 21 09 16.2 -1.4
comp=Z,2.0nm,0.5s,mb4.3
AVF Avril sur Loir 45.90 308 *e*P P 21 09 16.7 -1.6
comp=Z,2.8nm,0.6s,mb4.0
AVF Avril sur Loir 45.90 308 *e*P P 21 09 16.7 -1.6
AVF pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
AVF Avril sur Loir 45.90 308 *e*P P 21 09 16.7 -1.6
comp=Z,1.4nm,0.6s,mb4.0
BGF Bois d'Agland 46.24 308 *e*P P 21 09 19.6 -1.4
MTLF Montolieu 46.69 304 *e*P P 21 09 23.4 -1.1
comp=Z,7.0nm,0.9s,mb4.3
MTLF Montolieu 46.69 304 *e*P P 21 09 23.4 -1.1
MTLF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MTLF Montolieu 46.69 304 *e*P P 21 09 23.4 -1.1
comp=Z,3.5nm,0.9s,mb4.3
CAF Calviac 46.77 306 *e*P P 21 09 24.0 -1.2
comp=Z,3.4nm,0.6s,mb4.2
CAF Calviac 46.77 306 *e*P P 21 09 24.0 -1.2
CAF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
CAF Calviac 46.77 306 *e*P P 21 09 24.0 -1.2
comp=Z,1.7nm,0.6s,mb4.2
BOD Bodaibo 47.60 37 *e*P P 21 09 30.9 -0.7
BOD pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
LFF La Frestale 47.71 306 *e*P P 21 09 31.4 -1.1
comp=Z,7.8nm,0.6s,mb4.6
LFF La Frestale 47.71 306 *e*P P 21 09 31.4 -1.1
LFF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
LFF La Frestale 47.71 306 *e*P P 21 09 31.4 -1.1
comp=Z,3.9nm,0.6s,mb4.6
LDF La Druitiere 48.31 311 *e*P P 21 09 35.4 -1.7
comp=Z,3.2nm,0.6s,mb4.3
LDF La Druitiere 48.31 311 *e*P P 21 09 35.4 -1.7
LDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
LDF La Druitiere 48.31 311 *e*P P 21 09 35.4 -1.7
comp=Z,1.6nm,0.6s,mb4.3
SGMF Saint Gilles 49.93 310 *e*P P 21 09 49.4 -0.1
ROSF Rostrenen 50.41 310 *e*P P 21 09 52.0 -1.2
EKA Eskdalemuir Ar 50.56 319 P P 21 09 53.8 -0.6
comp=Z,0.7nm,0.4s,mb3.9,baz=98,slow=7.7,SNR=10
EKA Eskdalemuir Ar 50.56 319 P P 21 09 53.8 -0.5
EKA pmax pmax
comp=Z,1.0nm,0.4s
ESDC Sonseca Array 51.64 299 P P 21 10 01.7 -0.7
comp=Z,0.3nm,0.5s,mb3.5,baz=69,slow=7.3,SNR=6.3
TORD Torodi Ar. Bea 54.80 266 P P 21 10 26.3 +0.6
comp=Z,6.4nm,0.5s,mb4.9,baz=61,slow=6.4,SNR=21
YAK Yakutsk 55.93 33 *e*P P 21 10 33.1 -0.7
YAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
TIXI Tiksi 56.45 21 *e*P P 21 10 37.5 0.0
TIXI pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
DBIC Dimbokro 63.52 263 P P 21 11 25.9 -0.2
comp=Z,1.8nm,0.5s,mb4.4,baz=22,slow=6.5,SNR=5.6
DBIC Dimbokro 63.52 263 P P 21 11 25.9 -0.2
DBIC pmax pmax
comp=Z,2.0nm,0.5s
LIC Lamto 63.88 262 *e*P P 21 11 27.7 -0.8
MJAR Matsushiro Arr 65.62 60 P P 21 11 39.4 -0.5
comp=Z,2.1nm,1.0s,mb4.1,baz=291,slow=10.0,SNR=6.5
MJAR Matsushiro Arr 65.62 60 P P 21 11 39.4 -0.4
MJAR pmax pmax
comp=Z,2.0nm,1.0s
YSS Yuzh-Sakhalins 65.62 48⇑*e*P P 21 11 39.0 -0.8
YSS pmax pmax
comp=Z,20nm,0.8s,mb5.2
FITZ Fitzroy Crossi 80.03 117 P P 21 13 05.0 -0.4
comp=Z,3.0nm,0.8s,mb4.3,baz=14,slow=12,SNR=4.4
NWAO Narrogin (SRO) 83.15 134 P P 21 13 20.4 -1.4
comp=Z,22nm,1.2s,mb5.1,baz=59,slow=2.4,SNR=3.1
NWAO Narrogin (SRO) 83.15 134 P P 21 13 20.4 -1.4
NWAO pmax pmax
comp=Z,22nm,1.2s
NWAO Narrogin (SRO) 83.15 134 P P 21 13 20.4 -1.4
ILAR Eielson Array 84.31 11 P P 21 13 26.6 -1.1
comp=Z,0.9nm,0.7s,mb4.0,baz=290,slow=4.6,SNR=4.7
ILAR Eielson Array 84.31 11 P P 21 13 26.7 -1.1
ILAR pmax pmax
comp=Z,1.0nm,0.7s
DAWY Dawson 86.03 8 *e*P P 21 13 35.9 -0.5
DAWY Dawson 86.03 8 *e*P P 21 13 35.9 -0.5
WRA Warramunga Arr 87.90 114 P P 21 13 44.6 -0.9
comp=Z,1.3nm,0.8s,mb4.2,baz=316,slow=4.2,SNR=6.4
WRA Warramunga Arr 87.90 114 P P 21 13 44.6 -0.9
WRA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 88.50 357 P P 21 13 48.3 -0.1
comp=Z,1.3nm,0.7s,mb4.4,baz=359,slow=5.4,SNR=9.0
YKA Yellowknife Ar 88.50 357 P P 21 13 48.3 -0.1
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 88.50 357 P P 21 13 48.3 -0.1
ASAR Alice Springs 89.53 117 P P 21 13 52.5 -0.7
comp=Z,0.5nm,0.7s,mb4.0,baz=294,slow=4.8,SNR=4.4
ASAR Alice Springs 89.53 117 P P 21 13 52.5 -0.7
ASAR pmax pmax
comp=Z,1.0nm,0.7s
MIAR Mount Ida 111.36 335 *e*PKIKP PKiKP 21 19 29.1 -0.8
JCT Junction City 117.19 339 *e*PKIKP PKPdf 21 19 39.4 -1.6

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*BJI **08** 21:12:57.0, 51.00N×179.20W, h19km, mB5.2, mb4.7, Ms5.7, Msz5.6*
*IDC **08** 21:12:58.0±0.8, 51.22N×179.23W, h0km, mb4.3/22, mb1 4.5/23, mb1mx4.4/30, mbtmp4.3/23, ML4.7/1, Error ellipse: s-maj=24.5km s-min=12.6km az=169.0*
*NEIC **08** 21:13:02.1, 51.04N×179.17W, h20km, mb4.7/37, ML4.3(AEIC), After AEIC.*
*MOS **08** 21:13:03.6±0.8, 51.14N×179.19W, h51km, mb4.8/52, Error ellipse: s-maj=13.4km s-min=5.7km az=95.0*
*ISCJB **08** 21:13:03.1±0.9, 51.12N±0.09×179.20W±0.05, h47km±6km, mb4.5/73, Error ellipse: s-maj=15.5km s-min=4.9km az=162.8*
*SZGRF **08** 21:13:14.1, 52.69N×178.45E, h33km, mb4.8, Rat Islands, Aleutian Islands, United States*
ISC 08 21:13:05.3±0.8**, 51.24N**±0.09×**179.23W**±0.05**, h51**km±5km**,**
n236, σ0.°**84**/232**, mb4.5**/73**, 42C-8D, Andreanof Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AMKA Amchitka 0.93 279 P Pn 21 13 19.4 -2.7
AMKA S Sn 21 13 34.4 -0.1
ATKA Atka Island 3.27 71 P Pn 21 13 53.4 -0.7
ATKA S Sn 21 14 31.8 0.0
SMY Shemya 4.38 292 P Pn 21 14 11.3 +2.0
NIKO Nikolski 6.62 71 P Pn 21 14 40.7 +0.7
SPIA Saint Paul Isl 7.94 38 P Pn 21 15 01.1 +3.1
SDPT Sand Point 11.94 63 *e*P Pn 21 15 51.6 -1.1
6.9nm,0.3s
SVW2 Sparrevohn 16.36 44 *e*P Pn 21 16 53.3 +1.9
KDAK Kodiak Island 16.72 57 Pn Pn 21 16 52.3 -3.7
2.6nm,0.3s,baz=268,slow=7.1,SNR=20
TTA Tatalina 17.09 38 *e*P Pn 21 17 02.0 +1.5
DIV Divide 20.85 49 *e*P P 21 17 43.4 +0.6
13nm,0.6s
ILAR Eielson Array 21.52 39 P P 21 17 48.5 -1.4
3.0nm,0.8s,mb3.8,baz=257,slow=10,SNR=15
ILAR Eielson Array 21.52 39 P P 21 17 48.5 -1.4
ILAR pmax pmax
comp=Z,3.0nm,0.8s
MENT Mentasta 22.23 45 *e*P P 21 17 58.5 +1.0
DAWY Dawson 24.39 43 *e*P P 21 18 17.6 -1.1
YSS Yuzh-Sakhalins 25.06 275⇑*e*P P 21 18 25.0 +0.2
YSS pmax pmax
comp=Z,30nm,1.0s,mb4.8
ASAJ Asahikawa 26.43 269 P P 21 18 37.4 +0.2
comp=Z,7.4nm,0.9s,mb4.2,baz=286,slow=6.0,SNR=5.1
ASAJ Asahikawa 26.43 269 P P 21 18 37.4 +0.2
ASAJ pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 27.73 35 P P 21 18 48.2 -0.6
comp=Z,3.1nm,0.7s,mb4.1,baz=202,slow=7.1,SNR=5.1
INK Inuvik 27.73 35 P P 21 18 48.2 -0.6
INK pmax pmax
comp=Z,3.0nm,0.7s
KLR Kul'dur 30.96 286 *e*P P 21 19 13.8 -3.7
KLR pmax pmax
comp=E,20nm,1.0s
KLR pmax pmax
comp=Z,24nm,1.0s,mb5.0
MJAR Matsushiro Arr 33.50 261 P P 21 19 39.6 -0.1
comp=Z,1.2nm,0.8s,mb3.9,baz=56,slow=8.0,SNR=6.7
MJAR Matsushiro Arr 33.50 261 P P 21 19 39.6 -0.1
MJAR pmax pmax
comp=Z,1.0nm,0.8s
MAT Matsushiro 33.50 261 P P 21 19 39.4 -0.3
MAT Matsushiro 33.50 261 P P 21 19 39.0 -0.7
MDJ Mudanjiang 34.33 279 P P 21 19 44.6 -2.3
MDJ AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
YKA Yellowknife Ar 35.52 46 P P 21 19 56.4 -0.8
comp=Z,3.6nm,0.7s,mb4.4,baz=282,slow=8.2,SNR=15
YKA Yellowknife Ar 35.52 46 P P 21 19 56.4 -0.8
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA Yellowknife Ar 35.52 46 P P 21 19 56.4 -0.8
CN2 Changchun 37.31 281 *e*P P 21 20 10.5 -1.9
BOD Bodaibo 37.84 307 *e*P P 21 20 14.4 -2.6
BOD pmax pmax
comp=Z,7.0nm,1.3s,mb4.2
HAWA Hanford 38.66 73 *e*P P 21 20 23.4 -0.4
comp=Z,0.5nm,0.9s
YBH Yreka Blue Hor 39.17 81 P P 21 20 29.3 +1.2
comp=Z,1.9nm,0.8s,mb3.9,baz=120,slow=17,SNR=5.6
YBH Yreka Blue Hor 39.17 81 P P 21 20 29.3 +1.2
YBH pmax pmax
comp=Z,2.0nm,0.9s
NEW Newport 39.18 69 P P 21 20 27.8 -0.4
comp=Z,4.6nm,0.8s,mb4.3,baz=301,slow=6.2,SNR=5.5
NEW Newport 39.18 69 P P 21 20 27.8 -0.4
NEW pmax pmax
comp=Z,5.0nm,0.8s
HLID Hailey 43.24 74 *e*P P 21 21 02.2 +0.7
comp=Z,5.5nm,1.0s,mb4.2
MCMT McKenzie Canyo 43.48 71 *e*P P 21 21 03.4 0.0
BJI Beijing 45.14 282 P P 21 21 11.0 -5.7
ULN Ulaanbaatar 46.08 296 *e*P P 21 21 24.8 +0.7
ULN pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
ULN Ulaanbaatar 46.08 296 *e*P P 21 21 24.8 +0.7
comp=Z,8.6nm,1.1s,mb4.6
SONM Songino Array 46.47 296 P P 21 21 27.9 +0.8
comp=Z,2.1nm,0.6s,mb4.2,baz=59,slow=8.6,SNR=13
SONM Songino Array 46.47 296 P P 21 21 27.9 +0.7
SONM pmax pmax
comp=Z,2.0nm,0.6s
PDAR Pinedale Array 46.61 72 P P 21 21 28.2 0.0
comp=Z,8.9nm,0.9s,mb4.7,baz=310,slow=4.3,SNR=28
ZAK Zakamensk 46.79 301⇑*i*P P 21 21 30.5 +0.8
ZAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
NJ2 Nanjing 48.55 272 *e*P P 21 21 44.3 +1.0
NJ2 AMB AMB
comp=Z,50nm,0.6s
NJ2 AMB AMB
comp=Z,120nm,4.6s
ISCO Idaho Springs 50.77 73 *e*P P 21 22 01.9 +1.7
ISCO pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
ISCO Idaho Springs 50.77 73 *e*P P 21 22 01.9 +1.7
comp=Z,3.4nm,1.0s,mb4.2
FRB Frobisher Bay 53.28 31 P P 21 22 17.8 -1.1
comp=Z,4.3nm,0.3s,mb4.8,baz=310,slow=9.1,SNR=3.9
FRB Frobisher Bay 53.28 31 P P 21 22 17.8 -1.1
FRB pmax pmax
comp=Z,4.0nm,0.3s
ANMO Albuquerque 53.38 78 P P 21 22 19.1 -0.6
comp=Z,1.7nm,0.8s,mb4.0,baz=330,slow=6.8,SNR=3.5
ANMO Albuquerque 53.38 78 P P 21 22 19.1 -0.5
ANMO pmax pmax
comp=Z,2.0nm,0.8s
GTA Gaotai 55.37 292 *e*P P 21 22 34.8 +0.8
GTA AP pP 21 22 40.0 -8.0
GTA XP sP 21 22 43.8 -10
GTA PP PP 21 24 40.8 +2.7
GTA AMB AMB
comp=Z,9.0nm,0.9s
GTA LR LR
comp=N,4μm,14.8s
GTA LR LR
comp=E,3μm,15.2s
GTA LR LR
comp=Z,6μm,15.2s
ARCES ARCESS Array B 58.18 350 P P 21 22 53.1 -0.8
comp=Z,4.0nm,0.8s,mb4.5,baz=26,slow=7.3,SNR=29
ARCES ARCESS Array B 58.18 350 P P 21 22 53.2 -0.8
ARCES pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 58.92 313 *i* P P 21 22 58.8 -0.3
WMQ Urumqi 59.19 303 *e*P P 21 23 00.0 -1.0
MKAR Makanchi Array 59.91 308 P P 21 23 05.5 -0.4
comp=Z,2.3nm,0.3s,mb4.7,baz=48,slow=7.1,SNR=94
MKAR Makanchi Array 59.91 308 P P 21 23 05.5 -0.4
MKAR pmax pmax
comp=Z,2.0nm,0.3s
SCHQ Schefferville 60.28 38 P P 21 23 07.5 -1.0
comp=Z,5.6nm,1.0s,mb4.5,baz=308,slow=10,SNR=3.7
BVAR Borovoye Array 60.82 320 P P 21 23 11.7 -0.5
comp=Z,0.9nm,0.3s,mb4.3,baz=52,slow=7.3,SNR=12
BVAR PcP PcP 21 23 55.3 -0.2
comp=Z,0.9nm,0.6s,baz=27,slow=0.6,SNR=4.3
BVAR Borovoye Array 60.82 320 P P 21 23 11.7 -0.5
BVAR 21 23 55.3
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BRVK Borovoye 60.84 320 *e*P P 21 23 13.4 +1.1
BRVK pmax pmax
comp=Z,2.0nm,1.3s,mb4.1
KMI Kunming 63.48 278 P P 21 23 30.7 +0.7
KMI AMB AMB
comp=Z,4.0nm,1.4s,mb4.4
JOF Joensuu 63.66 345 *e*p P 21 23 30.3 -0.9
KAF Kangasniemi 65.18 347 *e*p P 21 23 39.2 -1.9
FINES FINESS Array B 65.86 347 P P 21 23 44.3 -1.2
comp=Z,2.2nm,0.4s,mb4.6,baz=6.9,slow=6.9,SNR=36
FINES FINESS Array B 65.86 347 P P 21 23 44.3 -1.2
FINES pmax pmax
comp=Z,2.0nm,0.4s
AAK Ala-Archa 66.75 310 *e*P P 21 23 50.1 -1.0
AAK pmax pmax
comp=Z,14nm,1.5s,mb4.8
NB2 NORSAR Subarra 67.76 355 P P 21 23 56.7 -0.8
comp=Z,0.8nm,0.6s,mb3.9,baz=5.9,slow=6.5
NOA NORSAR Array B 67.76 355 P P 21 23 56.6 -0.9
comp=Z,1.2nm,0.7s,mb4.0,baz=12,slow=4.6,SNR=4.9
NOA NORSAR Array B 67.76 355 P P 21 23 56.7 -0.8
NOA pmax pmax
comp=Z,1.0nm,0.7s
OBN Obninsk 69.90 339⇓*e*P P 21 24 10.7 -0.2
OBN 21 24 38.0
OBN pmax pmax
comp=Z,21nm,1.0s,mb5.0
GUN Gumba 71.66 292 *e*P P 21 24 22.9 +1.4
comp=Z,10nm,0.2s,mb5.3
JIRN Jiri 71.66 291 *e*P P 21 24 22.9 +1.3
comp=Z,29nm,0.7s,mb5.3
KKN Kakani 72.10 292 *e*P P 21 24 25.2 +1.0
PKI Pulchoki 72.19 292 *e*P P 21 24 25.7 +1.0
GKN Gorkha 72.31 293 *e*P P 21 24 26.2 +0.7
comp=Z,15nm,0.7s,mb5.0
DMN Daman 72.33 292 *e*P P 21 24 26.8 +1.2
KOLN Koldanda 73.09 293 *e*P P 21 24 30.7 +0.6
comp=Z,11nm,0.9s,mb4.8
BSEG Bad Segeberg 74.89 354 *e*P P 21 24 40.9 +0.3
comp=Z,12nm,1.0s,mb4.8
BSEG Bad Segeberg 74.89 354 *e*P P 21 24 40.9 +0.3
BSEG pmax pmax
comp=Z,12nm,1.0s,mb4.8
AKASG Malin Array Be 75.59 342 P P 21 24 44.0 -0.7
comp=Z,5.2nm,0.3s,mb4.9,baz=19,slow=5.8,SNR=46
AKASG Malin Array Be 75.59 342 P P 21 24 44.0 -0.6
AKASG pmax pmax
comp=Z,5.0nm,0.3s
AKASG Malin Array Be 75.59 342 P P 21 24 44.0 -0.7
NRDL Niedersach Rie 76.34 354 *e*P P 21 24 49.7 +0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IBBN	Ibbenburen	76.66	356	eP	P	21 24 50.7	0.0
CLZ	Clausthal	76.97	354	eP	P	21 24 52.6	+0.2
	comp=Z,8.0nm,0.8s,mb4.7						
CLZ	Clausthal	76.97	354	eP	P	21 24 52.6	+0.2
CLZ				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
CLL	Collm	77.30	352	eP	P	21 24 54.0	-0.3
BRG	Berggiesshubel	77.65	352	eP	P	21 24 55.9	-0.3
	comp=Z,14nm,1.8s,mb4.6						
BRG	Berggiesshubel	77.65	352	i P	P	21 24 55.5	-0.7
	comp=Z,1.5nm,0.7s,mb4.0						
BRG	Berggiesshubel	77.65	352	i P	P	21 24 55.5	-0.7
BRG				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
KWP	Kalwaria	77.78	346	eP	P	21 24 57.5	+0.6
KWP				L		21 32 43.4	
	comp=Z,64nm,18.6s						
UPC	Upice	77.80	350	eP	P	21 24 56.9	-0.2
DPC	Dobruska-Polom	77.92	350	eP	P	21 24 57.2	-0.6
PVCC	Panska Ves	77.93	351	eP	P	21 24 57.4	-0.4
MOX	Moxa	78.07	353	eP	P	21 24 57.9	-0.7
	comp=Z,3.0nm,1.0s,mb4.2						
OKC	Ostrava-Krasne	78.21	349	eP	P	21 24 58.6	-0.8
MORC	Moravsky Berou	78.35	349	⇓iP	P	21 25 00.1	0.0
MORC	Moravsky Berou	78.35	349	⇓P	P	21 25 00.1	0.0
NKC	Novy Kostel	78.41	352	eP	P	21 25 00.2	-0.3
KIV	Kislovodsk	78.46	330	eP	P	21 25 00.3	-0.4
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
PRU	Pruhonice	78.47	351	eP	P	21 25 00.5	-0.3
KOLS	Kolonicke sedl	78.52	346	eP	P	21 25 01.1	0.0
KOLS				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
KOLS	Kolonicke sedl	78.52	346	eP	P	21 25 01.1	0.0
	comp=Z,6.0nm,0.9s,mb4.5						
CRVS	Cervenica-Dubn	78.68	346	eP	P	21 25 01.9	0.0
MANZ	Manzenberg	78.69	353	eP	P	21 25 02.2	+0.2
TNS	Taunus Mts	78.70	355	eP	P	21 25 02.1	0.0
VRAC	Vranov	78.92	350	⇓iP	P	21 25 03.6	+0.3
GIVF	Givet	78.97	357	eP	P	21 25 03.2	-0.4
BAIF	Baives	79.03	358	eP	P	21 25 03.8	-0.1
	comp=Z,22nm,1.0s,mb4.7						
BAIF	Baives	79.03	358	eP	P	21 25 03.8	-0.1
BAIF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
BAIF	Baives	79.03	358	eP	P	21 25 03.8	-0.1
	comp=Z,11nm,1.0s,mb4.7						
GRA1	Grafenberg Arr	79.05	353	eP	P	21 25 04.3	+0.3
	comp=Z,15nm,1.2s,mb4.8						
GRF	Grafenberg Arr	79.05	353	eP	P	21 25 04.3	+0.3
	comp=Z,15nm,1.2s,mb4.8						
GRF	Grafenberg Arr	79.05	353	eP	P	21 25 04.3	+0.3
GRF				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
GRF	Grafenberg Arr	79.05	353	eP	P	21 25 04.3	+0.3
GRF				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
KECS	Kecovo	79.23	347	eP	P	21 25 04.9	0.0
KECS				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
KECS	Kecovo	79.23	347	eP	P	21 25 04.9	0.0
	comp=Z,4.0nm,1.0s,mb4.3						
BURAR	Bucovina Array	79.31	343	⇓iP	P	21 25 06.1	+0.7
BURAR	Bucovina Array	79.31	343	⇓P	P	21 25 06.1	+0.7
KHC	Kasperske Hory	79.41	351	eP	P	21 25 05.9	0.0
VYHS	Vyhne	79.44	348	i P	P	21 25 06.3	+0.2
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
VYHS	Vyhne	79.44	348	i P	P	21 25 06.3	+0.2
	comp=Z,3.3nm,1.0s,mb4.2						
WET	Wettzell	79.46	352	eP	P	21 25 06.3	+0.1
GEC2	GERESS Array S	79.68	351	eP	P	21 25 07.5	+0.1
GERES	GERESS Array B	79.68	351	P	P	21 25 07.1	-0.3
	comp=Z,1.5nm,0.6s,mb4.1,baz=20,slow=4.7,SNR=16						
GERES	GERESS Array B	79.68	351	P	P	21 25 07.1	-0.3
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SRO	Srobarova	80.18	348	eP	P	21 25 09.5	-0.6
SRO				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
SRO	Srobarova	80.18	348	eP	P	21 25 09.5	-0.6
	comp=Z,12nm,1.2s,mb4.7						
SRO2	Moca	80.22	348	eP	P	21 25 10.6	+0.3
FLN	La Foliniere	80.37	1	eP	P	21 25 10.6	-0.5
	comp=Z,29nm,1.2s,mb4.8						
FLN	La Foliniere	80.37	1	eP	P	21 25 10.6	-0.5
FLN				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
FLN	La Foliniere	80.37	1	eP	P	21 25 10.6	-0.5
	comp=Z,14nm,1.2s,mb4.8						
DRGR		80.53	345	⇑iP	P	21 25 12.4	+0.4
DRGR		80.53	345	⇑P	P	21 25 12.4	+0.4
LDF	La Druitiere	80.54	1	⇑iP	P	21 25 11.3	-0.7
	comp=Z,18nm,0.9s,mb4.7						
LDF	La Druitiere	80.54	1	⇑iP	P	21 25 11.3	-0.7
LDF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
LDF	La Druitiere	80.54	1	⇑iP	P	21 25 11.3	-0.7
	comp=Z,9.1nm,0.9s,mb4.7						
FUR	Furstenfeldbru	80.56	353	eP	P	21 25 13.0	+0.8
MEZF	Maizieres J'vi	80.57	357	eP	P	21 25 12.1	-0.1
	comp=Z,12nm,1.0s,mb4.5						
MEZF	Maizieres J'vi	80.57	357	eP	P	21 25 12.1	-0.1
	comp=Z,12nm,1.0s,mb4.8						
CDF	Champ du Feu	80.57	356	eP	P	21 25 11.8	-0.4
	comp=Z,5.1nm,0.8s,mb4.2						
CDF	Champ du Feu	80.57	356	eP	P	21 25 11.8	-0.4
CDF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CDF	Champ du Feu	80.57	356	eP	P	21 25 11.8	-0.4
	comp=Z,2.5nm,0.8s,mb4.2						
VRI	Vrincioaia	80.71	342	⇑iP	P	21 25 13.5	+0.6
VRI	Vrincioaia	80.71	342	⇑P	P	21 25 13.5	+0.5
PLOR	Plostina	80.74	342	⇓iP	P	21 25 13.8	+0.7
GRR	Gorron	80.74	1	⇑iP	P	21 25 12.7	-0.4
	comp=Z,18nm,0.9s,mb4.7						
GRR	Gorron	80.74	1	⇑iP	P	21 25 12.7	-0.4
GRR				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
GRR	Gorron	80.74	1	⇑iP	P	21 25 12.7	-0.4
	comp=Z,8.8nm,0.9s,mb4.7						
ROSF	Rostrenen	80.74	3	eP	P	21 25 12.8	-0.3
SGMF	Saint Gilles	80.84	2	eP	P	21 25 13.4	-0.3
HAU	Haudompre	81.02	356	eP	P	21 25 14.1	-0.5
HINF	Hinteralfeld	81.18	356	eP	P	21 25 14.9	-0.6
MLR	Muntele Rosu	81.22	342	⇑iP	P	21 25 17.5	+1.8
MLR	Muntele Rosu	81.22	342	⇑P	P	21 25 17.5	+1.9
WTTA	Wattenberg	81.43	353	⇑iP	P	21 25 17.2	+0.4
	comp=Z,7.4nm,1.0s,mb4.6						
WTTA	Wattenberg	81.43	353	⇑iP	P	21 25 17.2	+0.4
WTTA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
SNX	Sinaia	81.43	343	⇑iP	P	21 25 18.8	+2.0
SNX	Sinaia	81.43	343	⇑P	P	21 25 18.8	+2.0
VOIR		81.44	343	⇑iP	P	21 25 18.5	+1.7
VOIR		81.44	343	⇑P	P	21 25 18.5	+1.6
KBA	Koelnbreinsper	81.46	351	⇑iP	P	21 25 17.8	+0.8
	comp=Z,18nm,0.8s,mb5.0						
KBA	Koelnbreinsper	81.46	351	⇑iP	P	21 25 17.8	+0.8
KBA				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
PERS	Pernice	81.72	350	eP	P	21 25 18.8	+0.5
WRA	Warramunga Arr	81.73	224	P	P	21 25 16.6	-1.8
	comp=Z,0.7nm,0.7s,mb3.7,baz=33,slow=5.9,SNR=4.9						
WRA	Warramunga Arr	81.73	224	P	P	21 25 16.6	-1.8
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LOR	Lormes	81.83	358	⇑iP	P	21 25 18.3	-0.6
	comp=Z,8.0nm,0.9s,mb4.3						
LOR	Lormes	81.83	358	⇑iP	P	21 25 18.3	-0.6
LOR				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
LOR	Lormes	81.83	358	⇑iP	P	21 25 18.3	-0.6
	comp=Z,4.0nm,0.9s,mb4.3						
BZS	Buzias	81.85	345	⇓iP	P	21 25 19.4	+0.4
SSF	Saint Saulge	82.05	358	eP	P	21 25 19.8	-0.2
ROBS	Robic	82.27	351	eP	P	21 25 20.6	-0.6
AVF	Avril sur Loir	82.32	358	eP	P	21 25 21.1	-0.4
	comp=Z,14nm,1.0s,mb4.5						
AVF	Avril sur Loir	82.32	358	eP	P	21 25 21.1	-0.4
AVF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
AVF	Avril sur Loir	82.32	358	eP	P	21 25 21.1	-0.4
	comp=Z,6.8nm,1.0s,mb4.5						
CABF	La Chapelle	82.42	356	⇑iP	P	21 25 22.1	+0.1
	comp=Z,13nm,1.1s,mb4.5						
CABF	La Chapelle	82.42	356	⇑iP	P	21 25 22.1	+0.1
CABF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
CABF	La Chapelle	82.42	356	⇑iP	P	21 25 22.1	+0.1
	comp=Z,6.3nm,1.1s,mb4.5						
SMF	Signal de Mont	82.46	358	⇑iP	P	21 25 21.8	-0.4
	comp=Z,12nm,0.9s,mb4.5						
SMF	Signal de Mont	82.46	358	⇑iP	P	21 25 21.8	-0.4
SMF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
SMF	Signal de Mont	82.46	358	⇑iP	P	21 25 21.8	-0.4
	comp=Z,5.9nm,0.9s,mb4.5						
MFF	Saint Martin d	82.53	1	eP	P	21 25 22.3	-0.3
	comp=Z,9.4nm,0.9s,mb4.5						
MFF	Saint Martin d	82.53	1	eP	P	21 25 22.3	-0.3
MFF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
MFF	Saint Martin d	82.53	1	eP	P	21 25 22.3	-0.3
	comp=Z,4.7nm,0.9s,mb4.5						
BGF	Bois d'Agland	82.56	359	⇑iP	P	21 25 22.5	-0.2
	comp=Z,9.8nm,0.9s,mb4.5						
BGF	Bois d'Agland	82.56	359	⇑iP	P	21 25 22.5	-0.2
BGF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
BGF	Bois d'Agland	82.56	359	⇑iP	P	21 25 22.5	-0.2
	comp=Z,4.9nm,0.9s,mb4.5						
BOJS	Bojanci	82.82	350	eP	P	21 25 24.1	0.0
TCF	Toulx Ste Croi	82.84	359	eP	P	21 25 23.8	-0.4
	comp=Z,12nm,1.0s,mb4.6						
TCF	Toulx Ste Croi	82.84	359	eP	P	21 25 23.8	-0.4
TCF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
TCF	Toulx Ste Croi	82.84	359	eP	P	21 25 23.8	-0.4
	comp=Z,5.9nm,1.0s,mb4.6						
LPL	La Plagne	83.48	356	eP	P	21 25 28.4	+0.9
LPG	La Plagne	83.50	356	eP	P	21 25 28.5	+0.9
ORIF	Oris-en-Rattie	84.12	356	eP	P	21 25 31.2	+0.5
LFF	La Frestale	84.20	0	eP	P	21 25 31.0	-0.1
	comp=Z,19nm,0.9s,mb4.9						
LFF	La Frestale	84.20	0	eP	P	21 25 31.0	-0.1
LFF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
LFF	La Frestale	84.20	0	eP	P	21 25 31.0	-0.1
	comp=Z,9.4nm,0.9s,mb4.9						
CAF	Calviac	84.21	359	eP	P	21 25 31.2	0.0
	comp=Z,9.6nm,0.9s,mb4.6						
CAF	Calviac	84.21	359	eP	P	21 25 31.2	0.0
CAF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
CAF	Calviac	84.21	359	eP	P	21 25 31.2	0.0
	comp=Z,4.8nm,0.9s,mb4.6						
VIVF	Saint-Julien-l	84.22	357	⇑iP	P	21 25 31.5	+0.2
	comp=Z,12nm,1.1s,mb4.6						
VIVF	Saint-Julien-l	84.22	357	⇑iP	P	21 25 31.5	+0.2
VIVF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.6						
VIVF	Saint-Julien-l	84.22	357	⇑iP	P	21 25 31.5	+0.2
	comp=Z,5.8nm,1.1s,mb4.6						
VTS	Vitosha	84.53	344	⇑iP	P	21 25 33.4	+0.6
VTS	Vitosha	84.53	344	⇑P	P	21 25 33.4	+0.6
BRTR	Keskin Array B	84.96	335	P	P	21 25 35.2	+0.3
	comp=Z,3.7nm,0.8s,mb4.6,baz=39,slow=3.4,SNR=18						
BRTR	Keskin Array B	84.96	335	P	P	21 25 35.3	+0.3
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SMRF	Simiane la Rot	85.07	357	eP	P	21 25 36.1	+0.6
	comp=Z,39nm,1.3s,mb5.1						
SMRF	Simiane la Rot	85.07	357	eP	P	21 25 36.1	+0.6
	comp=Z,39nm,1.3s,mb5.4						
SBF	Sospel	85.10	355	eP	P	21 25 35.5	-0.2
	comp=Z,24nm,0.8s,mb5.1						
SBF	Sospel	85.10	355	eP	P	21 25 35.5	-0.2
SBF				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.1						
SBF	Sospel	85.10	355	eP	P	21 25 35.5	-0.2
	comp=Z,12nm,0.8s,mb5.1						
FRF	La Foret Royal	85.44	356	eP	P	21 25 37.1	-0.3
	comp=Z,14nm,0.9s,mb4.8						
FRF	La Foret Royal	85.44	356	eP	P	21 25 37.1	-0.3
FRF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
FRF	La Foret Royal	85.44	356	eP	P	21 25 37.1	-0.3
	comp=Z,7.0nm,0.9s,mb4.8						
LMR	La Mourre	85.67	356	eP	P	21 25 38.3	-0.2
	comp=Z,14nm,1.0s,mb4.8						
LMR	La Mourre	85.67	356	eP	P	21 25 38.3	-0.2
LMR				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
LMR	La Mourre	85.67	356	eP	P	21 25 38.3	-0.2
	comp=Z,7.0nm,1.0s,mb4.8						
MTLF	Montolieu	85.79	359	eP	P	21 25 39.1	0.0
	comp=Z,6.5nm,0.9s,mb4.6						
MTLF	Montolieu	85.79	359	eP	P	21 25 39.1	0.0
MTLF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.5						
MTLF	Montolieu	85.79	359	eP	P	21 25 39.1	0.0
	comp=Z,3.3nm,0.9s,mb4.6						
ETSF	Etsaut	86.23	1	eP	P	21 25 41.6	+0.3
	comp=Z,8.1nm,0.9s,mb4.7						
ETSF	Etsaut	86.23	1	eP	P	21 25 41.6	+0.3
ETSF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.7						
ETSF	Etsaut	86.23	1	eP	P	21 25 41.6	+0.3
	comp=Z,4.1nm,0.9s,mb4.7						
PGF	Pioggiola	86.31	354	⇑iP	P	21 25 41.6	-0.1
	comp=Z,14nm,0.8s,mb4.9						
PGF	Pioggiola	86.31	354	⇑iP	P	21 25 41.6	-0.1
PGF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.9						
PGF	Pioggiola	86.31	354	⇑iP	P	21 25 41.6	-0.1
	comp=Z,6.8nm,0.8s,mb4.9						
ESDC	Sonseca Array	89.37	4	P	P	21 25 55.5	-0.8
	comp=Z,0.1nm,0.3s,mb3.6,baz=357,slow=5.1,SNR=5.8						
PLCA	Paso Flores	131.19	107	PKP	PKPdf	21 32 09.1	-2.4
	comp=Z,1.5nm,0.8s,baz=31,slow=16,SNR=3.0						
PLCA	Paso Flores	131.19	107	PKIKP	PKPdf	21 32 09.1	-2.4
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PLCA	Paso Flores	131.19	107	PKP	PKPdf	21 32 09.1	-2.4
TSUM	Tsumeb	145.38	331	PKPbc	PKPbc	21 32 37.9	+0.5
	comp=Z,6.9nm,0.9s,baz=350,slow=7.3,SNR=14						
LBTB	Lobatse	147.63	315	PKPbc	PKPbc	21 32 44.0	0.0
	comp=Z,4.5nm,0.8s,baz=338,slow=1.5,SNR=7.3						
BOSA	Boshof	150.87	312	PKPbc	PKPbc	21 32 51.0	-1.0
	comp=Z,2.2nm,0.9s,baz=99,slow=2.7,SNR=4.3						

*IDC **08** 21:15:01.6±1.5, 5128N×17899W, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/21, mbtmp3.9/7, ML4.4/1, Error ellipse: s-maj=44.6km s-min=22.9km az=154.0*
*BJI **08** 21:15:01.8, 5100N×17920W, h11km, mb4.5, Ms4.9, Msz4.7*
*NEIC **08** 21:15:04.9, 5105N×17922W, h11km, mb4.5/5, ML4.1(AEIC), After AEIC.*
*ISCJB **08** 21:15:06.5±0.9, 513N±0.1×17922W±007, h45km±8km, mb4.2/14, Error ellipse: s-maj=19.2km s-min=6.4km az=158.5*
*MOS **08** 21:15:07.0±1.8, 51.19N×17901W, h58km, mb4.3/8, Error ellipse: s-maj=22.2km s-min=15.4km az=99.9*
ISC 08 21:15:07.8±0.9**, 513N**±01×**17930W**±007**, h41**km±8km**, n42,** σ1s35/41**, mb4.2**/14**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.88	277	P	Pn	21 15 23.2	-0.5
AMKA				S	Sn	21 15 35.7	+0.4
ATKA	Atka Island	3.31	72	P	Pn	21 15 57.3	+0.3
ATKA				S	Sn	21 16 35.9	+0.8
SMY	Shemya	4.33	292	P	Pn	21 16 15.6	+4.6
NIKO	Nikolski	6.66	71	P	Pn	21 16 43.2	+0.2
SDPT	Sand Point	11.97	63	eP	Pn	21 17 54.4	-1.3
	9.5nm,0.3s						
SVW2	Sparrevohn	16.37	44	ePn	Pn	21 18 57.3	+2.9
KDAK	Kodiak Island	16.75	57	Pn	Pn	21 18 55.3	-3.9
	1.3nm,0.3s,baz=272,slow=4.6,SNR=8.4						
TTA	Tatalina	17.09	38	eP	Pn	21 19 03.9	+0.4
ILAR	Eielson Array	21.52	39	P	P	21 19 50.3	-3.0
	1.2nm,0.8s,mb3.4,baz=229,slow=9.1,SNR=1.9						
ILAR	Eielson Array	21.52	39	P	P	21 19 50.3	-3.0
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KLR	Kul'dur	30.91	286	eP	P	21 21 18.2	-2.2
MAJO	Matsushiro	33.46	261	P	P	21 21 42.8	0.0
MAJO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
MAJO	Matsushiro	33.46	261	P	P	21 21 42.8	0.0
	comp=Z,1.9nm,0.6s,mb4.2						
WAKE	Wake Island	33.79	204	eP	P	21 21 44.9	-0.8
	comp=Z,17nm,0.5s,mb5.2						
YKA	Yellowknife Ar	35.53	46	P	P	21 21 58.0	-2.7
	comp=Z,1.2nm,0.6s,mb4.0,baz=283,slow=8.3,SNR=4.9						
YKA	Yellowknife Ar	35.53	46	P	P	21 21 58.0	-2.8
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	35.53	46	P	P	21 21 58.0	-2.7
HLID	Hailey	43.27	74	eP	P	21 23 05.5	+0.3
	comp=Z,4.5nm,1.3s,mb4.0						
BJI	Beijing	45.09	282	P	P	21 23 18.0	-1.8
SONM	Songino Array	46.41	296	P	P	21 23 32.1	+1.8
	comp=Z,1.0nm,0.7s,mb3.8,baz=52,slow=7.2,SNR=3.8						
SONM	Songino Array	46.41	296	P	P	21 23 32.1	+1.9
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NJ2	Nanjing	48.50	272	eP	P	21 23 48.6	+2.2
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
ARCES	ARCESS Array B	58.14	350	P	P	21 24 56.5	-0.8
	comp=Z,2.6nm,0.8s,mb4.3,baz=12,slow=6.6,SNR=4.3						
ARCES	ARCESS Array B	58.14	350	P	P	21 24 56.5	-0.8
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	ARCESS Array B	58.14	350	P	P	21 24 56.5	-0.8
MKAR	Makanchi Array	59.85	308	P	P	21 25 09.3	+0.2
	comp=Z,0.5nm,0.6s,mb3.7,baz=50,slow=6.2,SNR=5.3						
MKAR	Makanchi Array	59.85	308	P	P	21 25 09.3	+0.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	Chkalovo	60.20	320	eP	P	21 25 08.3	-3.2
CHKZ				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.4						
CHKZ	Chkalovo	60.20	320	eP	P	21 25 08.3	-3.1
	comp=Z,7.4nm,1.8s,mb4.4						
KMI	Kunming	63.43	278	P	P	21 25 35.0	+1.8
KMI				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb4.2						
AKASG	Malin Array Be	75.55	342	P	P	21 26 47.0	-1.0
	comp=Z,0.4nm,0.3s,mb3.8,baz=19,slow=5.8,SNR=4.6						
AKASG	Malin Array Be	75.55	342	P	P	21 26 47.0	-1.0
KWP	Kalwaria	77.74	346	eP	P	21 27 00.5	+0.2
KWP				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
KWP	Kalwaria	77.74	346	eP	P	21 27 00.5	+0.1
	comp=Z,3.8nm,0.7s,mb4.4						
TIRR	Tirgusor	81.67	340	eP	P	21 27 23.3	+1.6
ASAR	Alice Springs	85.19	222	P	P	21 27 39.8	0.0
	comp=Z,1.1nm,0.8s,mb4.0,baz=19,slow=4.9,SNR=5.0						
ASAR	Alice Springs	85.19	222	P	P	21 27 39.8	0.0
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TIP	Timpagrande	88.83	348	P	P	21 27 59.0	+1.5
STKA	Stephens Creek	89.67	212	P	P	21 28 01.5	+0.2
TSUM	Tsumeb	145.33	331	PKPbc	PKPbc	21 34 40.8	-0.1
	comp=Z,0.8nm,0.7s,baz=292,slow=5.4,SNR=4.2						
LBTB	Lobatse	147.58	315	PKPbc	PKPbc	21 34 48.5	+0.9
	comp=Z,1.4nm,0.5s,baz=142,slow=2.2,SNR=5.8						
LBTB	Lobatse	147.58	315	PKPbc	PKPbc	21 34 48.5	+0.9

*IDC **08** 21:19:59.2±3.6, 51.18N×17958W, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/23, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=96.8km s-min=29.5km az=5.0*
NEIC 08 21:20:05.0, 5111N×17913W, h19km, ML3.2(AEIC)**, After AEIC., Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	3.26	69	P	Pn	21 20 54.1	-1.0
KDAK	Kodiak Island	16.74	56	Pn	Pn	21 23 55.9	-2.6
	0.3nm,0.3s,baz=305,slow=9.3,SNR=3.4						
PDAR	Pinedale Array	46.59	72	P	P	21 28 30.9	-0.9
	0.9nm,0.5s,baz=316,slow=3.8,SNR=8.9						
ARCES	ARCESS Array B	58.32	350	P	P	21 29 54.1	-4.6
	1.2nm,0.8s,baz=21,slow=9.0,SNR=3.5						
MKAR	Makanchi Array	60.04	308	P	P	21 30 05.3	-5.3
	0.1nm,0.3s,baz=51,slow=6.3,SNR=5.3						
FINES	FINESS Array B	66.00	347	P	P	21 30 46.8	-3.4
	0.3nm,0.5s,baz=28,slow=6.3,SNR=3.5						

*IDC **08** 21:26:39.9±2.7, 5138N×17939W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/23, mbtmp3.9/5, ML3.9/1, Error ellipse: s-maj=96.1km s-min=24.4km az=180.0*
NEIC 08 21:26:42.1, 5105N×17927W, h10km, ML3.2(AEIC)**, After AEIC., Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.96	291	P	Pg	21 26 59.9	-0.7
AMKA				S	Sg	21 27 13.1	+0.1
ATKA	Atka Island	3.37	68	P	Pn	21 27 34.8	+0.1
KDAK	Kodiak Island	16.85	56	Pn	Pn	21 30 34.9	-3.2
	0.4nm,0.3s,baz=226,slow=9.9,SNR=5.6						
SONM	Songino Array	46.53	297	P	P	21 35 06.6	-3.1
	0.4nm,0.5s,baz=65,slow=8.1,SNR=5.3						
PDAR	Pinedale Array	46.69	72	P	P	21 35 09.6	-1.3
	1.3nm,0.6s,baz=298,slow=4.1,SNR=16						
MKAR	Makanchi Array	60.01	308	P	P	21 36 46.1	-2.7
	0.5nm,0.6s,baz=44,slow=5.2,SNR=6.9						
AKASG	Malin Array Be	75.77	342	P	P	21 38 25.1	-2.9
	0.9nm,0.6s,baz=20,slow=5.9,SNR=6.0						
LBTB	Lobatse	147.75	314	PKPbc	PKPbc	21 46 26.1	-0.9
	1.5nm,0.5s,baz=164,slow=0.7,SNR=6.1						

*BJI **08** 21:30:43.7, 5100N×17920W, h13km, mB4.8, mb4.7*
*IDC **08** 21:30:44.3±2.2, 5143N×17927W, h0km, mb4.0/14, mb1 4.1/15, mb1mx4.0/25, mbtmp4.0/15, ML4.1/1, Error ellipse: s-maj=58.6km s-min=18.9km az=177.0*
*NEIC **08** 21:30:46.7, 5102N×17921W, h13km, ML3.7(AEIC), After AEIC.*
*ISCJB **08** 21:30:49.0±1.2, 515N±02×1792W±0.1, h40km±12km, mb4.1/16, Error ellipse: s-maj=41.8km s-min=8.7km az=159.3*
ISC 08 21:30:49.2±1.8**, 516N**±02×**1792W**±01**, h27**km±16km**, n27,** σ0s**97**/27**, mb4.1**/16**, 1C, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.94	256	P	Pn	21 31 04.4	-2.2
AMKA				S	Sb	21 31 19.4	+0.4
ATKA	Atka Island	3.18	77	P	Pn	21 31 38.3	+1.0
SMY	Shemya	4.25	288	P	Pn	21 31 57.0	+4.9
SPIA	Saint Paul Isl	7.65	40	ePn	Pn	21 32 45.7	+6.9
KDAK	Kodiak Island	16.53	58	Pn	Pn	21 34 37.5	-1.5
	0.7nm,0.3s,baz=293,slow=9.2,SNR=13						
KDAK	Kodiak Island	16.53	58	Pn	Pn	21 34 37.5	-1.5
ILAR	Eielson Array	21.23	39	P	P	21 35 33.7	+0.8
	0.8nm,0.4s,mb3.4,baz=241,slow=8.7,SNR=9.9						
YKA	Yellowknife Ar	35.27	47	P	P	21 37 41.7	+0.2
	1.1nm,0.5s,mb4.1,baz=283,slow=7.5,SNR=11						
YKA	Yellowknife Ar	35.27	47	P	P	21 37 41.7	+0.2
BJI	Beijing	45.06	282	P	P	21 39 00.0	-2.6
SONM	Songino Array	46.30	296	P	P	21 39 13.2	+0.8
	0.5nm,0.4s,mb3.8,baz=68,slow=7.2,SNR=5.7						
PDAR	Pinedale Array	46.50	72	P	P	21 39 13.4	-0.5
	1.0nm,0.5s,mb4.0,baz=321,slow=4.0,SNR=7.5						
NJ2	Nanjing	48.53	271	eP	P	21 39 31.1	+1.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
ULM	Lac du Bonnet	49.78	57	P	P	21 39 39.5	+0.1
	comp=Z,4.7nm,1.1s,mb4.5,baz=279,slow=11,SNR=3.0						
LZH	Lanzhou	55.06	286	eP	P	21 40 21.0	+2.6
LZH				AP	pP	21 40 24.0	-2.9
LZH				XP	sP	21 40 25.7	-4.5
LZH				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,50nm,4.0s						
ARCES	ARCESS Array B	57.81	350	P	P	21 40 37.9	-0.2
	comp=Z,1.6nm,0.8s,mb4.1,baz=26,slow=7.4,SNR=12						
MKAR	Makanchi Array	59.67	308	P	P	21 40 50.7	-0.3
	comp=Z,1.4nm,0.4s,mb4.4,baz=47,slow=6.7,SNR=49						
FINES	FINESS Array B	65.50	347	P	P	21 41 29.3	-0.5
	comp=Z,0.7nm,0.4s,mb4.0,baz=19,slow=7.4,SNR=14						
AKTK	Aktyubinsk	67.34	324	P	P	21 41 41.4	-0.3
AKTO	Aktyubinsk	67.34	324	P	P	21 41 41.4	-0.3
	comp=Z,0.5nm,0.5s,mb3.8,baz=43,slow=5.6,SNR=4.6						
NOA	NORSAR Array B	67.39	355	P	P	21 41 42.4	+0.4

comp=Z,0.6nm,0.6s,mb3.8,baz=6.7,slow=6.3,SNR=3.0
HFS Hagfors 68.12 353 P **P 21 41 46.4 -0.2**
comp=Z,0.9nm,0.5s,mb4.1,baz=358,slow=4.5,SNR=8.9
NANT Nan 69.37 274 ⇑P **P 21 41 59.0 +4.6**
AKASG Malin Array Be 75.24 342 P **P 21 42 29.2 -0.2**
comp=Z,4.6nm,0.4s,mb4.8,baz=20,slow=6.6,SNR=18
GERES GERESS Array B 79.31 351 P **P 21 42 52.4 +0.1**
comp=Z,0.5nm,0.5s,mb3.7,baz=26,slow=6.3,SNR=7.7
BRTR Keskin Array B 84.62 335 P **P 21 43 20.5 +0.4**
comp=Z,0.8nm,0.7s,mb4.0,baz=83,slow=1.5,SNR=4.5
TSUM Tsumeb 145.05 331 PKPbc PKPbc 21 50 22.1 -1.2
comp=Z,0.8nm,0.6s,baz=333,slow=6.7,SNR=7.3

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*IDC **08** 21:33:41.5±0.9, 5154N×17933W, h0km, mb4.3/22, mb1 4.4/23, mb1mx4.4/27, mbtmp4.3/23, ML4.7/1, Error ellipse: s-maj=27.7km s-min=12.4km az=175.0*
*NEIC **08** 21:33:43.6, 5101N×179.17W, h17km, mb4.6/36, ML4.3(AEIC), After AEIC.*
*ISCJB **08** 21:33:45.4±0.8, 5134N±010×17924W±005, h44km±5km, mb4.4/69, Error ellipse: s-maj=16.7km s-min=4.7km az=169.1*
*MOS **08** 21:33:46.2±0.8, 5150N×17929W, h45km, mb4.7/50, Error ellipse: s-maj=11.3km s-min=6.1km az=94.4*
ISC 08 21:33:47.2±0.7, **5140N**±010×**17928W**±005, **h47**km±5km, **n202**, σ0.s**76**/201, **mb4.4**/69, **6C, Andreanof Islands**

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

AMKA Amchitka 0.89 269 P **Pn 21 34 01.2 -2.1**
AMKA S **Sn 21 34 15.4 +0.2**
ATKA Atka Island 3.25 74 P **Pn 21 34 34.8 -0.8**
ATKA S **Sn 21 35 12.7 -0.4**
SMY Shemya 4.30 291 P **Pn 21 34 52.2 +2.2**
NIKO Nikolski 6.60 72 P **Pn 21 35 21.9 +0.3**
SPIA Saint Paul Isl 7.83 39 P **Pn 21 35 42.6 +4.2**
UNV Unalaska Valle 8.15 68 *e*Pn **Pn 21 35 43.8 +1.0**
47nm,0.4s
SDPT Sand Point 11.89 63 *e*Pn **Pn 21 36 33.4 -0.7**
CHGN Chignik 13.23 60 *e*P **Pn 21 36 52.1 -0.2**
PET Petropavlovsk 13.62 285 *i* P **Pn 21 36 58.2 +0.6**
SVW2 Sparrevohn 16.26 44 *e*Pn **Pn 21 37 34.5 +2.3**
KDAK Kodiak Island 16.66 57 Pn **Pn 21 37 33.5 -3.8**
2.7nm,0.3s,baz=288,slow=11,SNR=19
KDAK Kodiak Island 16.66 57 Pn **Pn 21 37 33.5 -3.8**
SLKM Skilak Lake 18.50 49 *e*P **Pn 21 38 00.0 +0.1**
MA2 Magadan 18.70 308 *i* P **Pn 21 37 56.3 -6.0**
SML Sawmill 19.76 46 *e*P **Pn 21 38 12.8 -2.1**
COLA College 21.08 38 *e*P **P 21 38 28.9 +1.5**
ILAR Eielson Array 21.41 39 P **P 21 38 29.9 -1.1**
2.1nm,0.5s,mb3.7,baz=238,slow=9.5,SNR=20
ILAR Eielson Array 21.41 39 P **P 21 38 29.9 -1.1**
ILAR pmax pmax
comp=Z,2.0nm,0.5s
MENT Mentasta 22.14 45 *e*P **P 21 38 40.0 +1.3**
DAWY Dawson 24.29 43 *e*P **P 21 38 59.5 -0.5**
YSS Yuzh-Sakhalins 25.02 275⇑*e*P **P 21 39 07.7 +1.1**
YSS pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
ASAJ Asahikawa 26.41 269 P **P 21 39 18.9 -0.2**
comp=Z,3.0nm,0.6s,mb4.0,baz=78,slow=19,SNR=3.7
ASAJ Asahikawa 26.41 269 P **P 21 39 19.0 -0.2**
ASAJ pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 27.61 35 P **P 21 39 28.8 -1.2**
comp=Z,1.1nm,0.4s,mb3.8,baz=256,slow=6.4,SNR=7.8
INK Inuvik 27.61 35 P **P 21 39 28.8 -1.2**
INK pmax pmax
comp=Z,1.0nm,0.4s
YAK Yakutsk 29.18 311 *i* P **P 21 39 42.2 -1.7**
MJAR Matsushiro Arr 33.49 260 P **P 21 40 21.6 -0.3**
comp=Z,1.0nm,0.7s,mb3.9,baz=45,slow=8.1,SNR=5.3
MJAR Matsushiro Arr 33.49 260 P **P 21 40 21.6 -0.3**
MJAR pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 35.43 46 P **P 21 40 38.7 0.0**
comp=Z,4.0nm,0.5s,mb4.6,baz=282,slow=7.6,SNR=28
YKA Yellowknife Ar 35.43 46 P **P 21 40 38.7 0.0**
YKA pmax pmax
comp=Z,4.0nm,0.5s
YKA Yellowknife Ar 35.43 46 P **P 21 40 38.7 0.0**
BOD Bodaibo 37.72 307 *e*P **P 21 40 56.2 -2.0**
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
HIA Hailar 38.00 291 *e*P **P 21 41 00.1 -0.4**
HIA *e**PP pP 21 41 13.0 -0.1
HIA pmax pmax
comp=Z,7.0nm,0.5s
HIA Hailar 38.00 291 *e*P **P 21 41 00.1 -0.4**
comp=Z,7.2nm,0.5s,mb4.7
HIA *e*pP pP 21 41 12.9 -0.2
EDM Edmonton 39.06 61 P **P 21 41 08.9 -0.5**
NEW Newport 39.16 69 P **P 21 41 09.8 -0.5**
comp=Z,3.0nm,0.5s,mb4.3,baz=308,slow=8.4,SNR=6.3
NEW Newport 39.16 69 P **P 21 41 09.8 -0.4**
NEW pmax pmax
comp=Z,3.0nm,0.5s
YBH Yreka Blue Hor 39.17 81 P **P 21 41 12.5 +2.1**
comp=Z,2.2nm,0.7s,mb4.0,baz=252,slow=5.4,SNR=5.6
YBH Yreka Blue Hor 39.17 81 P **P 21 41 12.5 +2.1**
YBH pmax pmax
comp=Z,2.0nm,0.7s
WVOR Wild Horse Val 41.29 78 *e*P **P 21 41 28.5 +0.6**
WVOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
WVOR Wild Horse Val 41.29 78 *e*P **P 21 41 28.5 +0.6**
comp=Z,3.7nm,0.8s,mb4.1
HLID Hailey 43.22 74 *e*P **P 21 41 43.2 -0.4**
comp=Z,3.6nm,0.8s,mb4.2
MCMT McKenzie Canyo 43.45 71 *e*P **P 21 41 45.2 -0.3**
EGMT Eagleton 43.54 66 *e*P **P 21 41 45.9 -0.3**
comp=Z,4.0nm,0.6s,mb4.3
NVAR Mina Array Bea 43.85 82 P **P 21 41 51.0 +2.4**
comp=Z,0.8nm,0.6s,mb3.6,baz=292,slow=7.6,SNR=5.5
ULN Ulaanbaatar 45.98 296 *e*P **P 21 42 06.1 +0.5**
DUG Dugway 46.16 77 *e*P **P 21 42 07.3 +0.3**
DUG pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
DUG Dugway 46.16 77 *e*P **P 21 42 07.3 +0.4**
comp=Z,3.5nm,0.6s,mb4.5
SONM Songino Array 46.37 296 P **P 21 42 09.8 +1.1**
comp=Z,2.9nm,0.6s,mb4.4,baz=61,slow=8.2,SNR=24
SONM PcP PcP 21 43 43.1 +0.1
comp=Z,0.3nm,0.5s,baz=101,slow=1.6,SNR=3.8
SONM Songino Array 46.37 296 P **P 21 42 09.8 +1.2**
SONM 21 43 43.1
SONM pmax pmax
comp=Z,3.0nm,0.6s
PDAR Pinedale Array 46.59 72 P **P 21 42 10.0 -0.3**
comp=Z,5.8nm,0.7s,mb4.6,baz=327,slow=3.4,SNR=16
ZAK Zakamensk 46.69 301⇑*i*P **P 21 42 12.2 +1.1**
ZAK *e* 21 44 05.3
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
ZAK pmax pmax
comp=Z,2.0nm,1.3s,mb3.9
MSU Marysvale 47.58 78 *e*P **P 21 42 18.7 +0.6**
SRU San Rafael 48.22 77 *e*P **P 21 42 23.5 +0.5**
SRU *e**PP pP 21 42 35.2 -0.8
SRU pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
SRU San Rafael 48.22 77 *e*P **P 21 42 23.4 +0.4**
comp=Z,5.5nm,0.5s,mb4.8
SRU *e*pP pP 21 42 35.2 -0.7
ZAL Zalesovo 53.81 313 P **P 21 43 04.6 -0.4**
comp=Z,0.7nm,0.3s,mb4.0,baz=25,slow=2.3,SNR=3.7
ZAL PcP PcP 21 44 11.1 +0.7
comp=Z,1.3nm,0.6s,baz=63,slow=6.5,SNR=4.9
ZAL Zalesovo 53.81 313 P **P 21 43 04.6 -0.4**
ZAL 21 44 11.1
ZAL pmax pmax
comp=Z,1.0nm,0.4s
ZAL pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 58.02 350 P **P 21 43 34.8 -0.3**
comp=Z,2.0nm,0.5s,mb4.4,baz=23,slow=7.4,SNR=26
ARCES ARCESS Array B 58.02 350 P **P 21 43 34.8 -0.3**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
KURK Kurchatov 58.79 313 *e*P **P 21 43 39.8 -0.7**
MKAR Makanchi Array 59.78 308 P **P 21 43 47.3 0.0**
comp=Z,4.7nm,0.4s,mb4.9,baz=46,slow=6.8,SNR=104
MKAR Makanchi Array 59.78 308 P **P 21 43 47.3 -0.1**
MKAR pmax pmax
comp=Z,5.0nm,0.4s
SCHQ Schefferville 60.17 38 P **P 21 43 49.3 -0.7**
comp=Z,3.3nm,0.7s,mb4.5,baz=4.3,slow=8.5,SNR=7.0
BVAR Borovoye Array 60.68 319 P **P 21 43 53.6 +0.1**
comp=Z,1.6nm,0.5s,mb4.4,baz=55,slow=7.0,SNR=10
BVAR PcP PcP 21 44 37.5 +0.3
comp=Z,1.3nm,0.4s,baz=64,slow=3.4,SNR=5.8
BVAR Borovoye Array 60.68 319 P **P 21 43 53.6 +0.1**
BVAR 21 44 37.5
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 63.50 345 *e*p **P 21 44 11.4 -1.0**
comp=Z,4.3nm,0.4s,mb4.9
JOF Joensuu 63.50 345 *e*P **P 21 44 11.4 -1.0**
JOF pmax pmax
comp=Z,4.0nm,0.4s,mb4.9
PLAL Pickwick Lake 64.27 66 *e*P **P 21 44 16.4 -1.0**
comp=Z,4.0nm,0.6s,mb4.6
KAF Kangasniemi 65.02 347 *e*p **P 21 44 21.1 -1.2**
comp=Z,3.9nm,0.4s,mb4.8,baz=14,slow=6.0
KAF Kangasniemi 65.02 347 *e*P **P 21 44 21.1 -1.2**
KAF pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
FINES FINESS Array B 65.69 347 P **P 21 44 26.0 -0.7**
comp=Z,3.9nm,0.7s,mb4.6,baz=24,slow=8.4,SNR=36
FINES FINESS Array B 65.69 347 P **P 21 44 26.0 -0.7**
FINES pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 66.62 309 *e*P **P 21 44 32.9 +0.3**
AAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
AKTK Aktyubinsk 67.49 324 P **P 21 44 38.3 +0.1**
AKTO Aktyubinsk 67.49 324 P **P 21 44 38.3 +0.1**
comp=Z,1.9nm,0.5s,mb4.4,baz=59,slow=8.9,SNR=12
AKTO Aktyubinsk 67.49 324 P **P 21 44 38.3 +0.1**
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
NB2 NORSAR Subarra 67.59 354 P **P 21 44 38.5 -0.3**
comp=Z,1.3nm,0.6s,mb4.1,baz=5.5,slow=6.2
NOA NORSAR Array B 67.59 354 P **P 21 44 38.8 0.0**
comp=Z,1.3nm,0.6s,mb4.1,baz=6.5,slow=6.2,SNR=7.9
NOA NORSAR Array B 67.59 354 P **P 21 44 38.8 0.0**
NOA pmax pmax
comp=Z,1.0nm,0.6s
HFS Hagfors 68.33 353 P **P 21 44 42.8 -0.6**
comp=Z,1.7nm,0.4s,mb4.4,baz=25,slow=3.9,SNR=24
HFS Hagfors 68.33 353 P **P 21 44 42.8 -0.6**
HFS pmax pmax
comp=Z,2.0nm,0.4s
OBN Obninsk 69.74 339⇑*i*P **P 21 44 52.7 +0.5**
OBN pmax pmax
comp=Z,13nm,0.9s,mb4.9
AKASG Malin Array Be 75.43 342 P **P 21 45 25.8 -0.2**
comp=Z,16nm,0.4s,mb5.3,baz=20,slow=6.6,SNR=62
AKASG Malin Array Be 75.43 342 P **P 21 45 25.8 -0.2**
AKASG pmax pmax
comp=Z,16nm,0.4s
AKBB Malin Array Si 75.43 342 *e*P **P 21 45 25.8 -0.2**
CLL Collm 77.14 352 *e*P **P 21 45 35.0 -0.7**
OJC Ojcow 77.46 348 *e*P **P 21 45 37.3 -0.2**
KWP Kalwaria 77.61 346 *e*P **P 21 45 39.3 +1.0**
UPC Upice 77.64 350 *e*P **P 21 45 38.5 0.0**
DPC Dobruska-Polom 77.76 350 *e*P **P 21 45 39.0 -0.2**
PVCC Panska Ves 77.77 351 *e*P **P 21 45 39.2 0.0**
MOX Moxa 77.91 353 *e*P **P 21 45 40.2 +0.2**
OKC Ostrava-Krasne 78.05 349 *e*P **P 21 45 41.0 +0.2**
NKC Novy Kostel 78.25 352 *e*P **P 21 45 42.1 +0.2**
KIV Kislovodsk 78.30 330 *e*P **P 21 45 41.5 -0.7**
KIV pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
PRU Pruhonice 78.30 351 *e*P **P 21 45 42.2 0.0**
KOLS Kolonicke sedl 78.36 346 *e*P **P 21 45 43.0 +0.5**
KOLS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KOLS Kolonicke sedl 78.36 346 *e*P **P 21 45 43.0 +0.5**
comp=Z,4.9nm,0.9s,mb4.4
KOLS *e* 21 47 40.4
CRVS Cervenica-Dubn 78.51 346 *e*P **P 21 45 43.8 +0.5**
GIVF Givet 78.81 357 *e*P **P 21 45 44.8 -0.2**
BAIF Baives 78.87 358 *e*P **P 21 45 45.4 +0.1**
comp=Z,13nm,0.9s,mb4.6
BAIF Baives 78.87 358 *e*P **P 21 45 45.4 +0.1**
BAIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BAIF Baives 78.87 358 *e*P **P 21 45 45.4 +0.1**
comp=Z,6.7nm,0.9s,mb4.6
TREC Trest 78.89 350 *e*P **P 21 45 45.5 +0.1**
KECS Kecovo 79.06 347 *i* P **P 21 45 46.6 +0.2**
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KECS Kecovo 79.06 347 *i* P **P 21 45 46.6 +0.2**
comp=Z,3.4nm,0.8s,mb4.3
KHC Kasperske Hory 79.25 351 *e*P **P 21 45 47.6 +0.3**
VYHS Vyhne 79.28 348 *e*P **P 21 45 47.9 +0.4**
VYHS pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
VYHS Vyhne 79.28 348 *e*P **P 21 45 47.9 +0.4**
comp=Z,2.8nm,1.2s,mb4.1
VYHS *e* 21 47 38.1
GERES GERESS Array B 79.52 351 P **P 21 45 49.1 +0.3**
comp=Z,1.9nm,0.5s,mb4.3,baz=24,slow=5.9,SNR=28
GERES GERESS Array B 79.52 351 P **P 21 45 49.1 +0.3**
GERES pmax pmax
comp=Z,2.0nm,0.5s
CONA Conrad Observa 80.20 350⇑*i*P **P 21 45 53.5 +0.9**
comp=Z,3.0nm,0.6s,mb4.4
LDF La Druitiere 80.38 1 *e*P **P 21 45 52.9 -0.6**
comp=Z,9.5nm,0.5s,mb4.7
LDF La Druitiere 80.38 1 *e*P **P 21 45 52.9 -0.6**
LDF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
LDF La Druitiere 80.38 1 *e*P **P 21 45 52.9 -0.6**
comp=Z,4.8nm,0.5s,mb4.7
MEZF Maizieres J'vi 80.41 357 *e*P **P 21 45 53.7 +0.1**
comp=Z,6.3nm,0.7s,mb4.4
MEZF Maizieres J'vi 80.41 357 *e*P **P 21 45 53.7 +0.1**
comp=Z,6.3nm,0.7s,mb4.7
CDF Champ du Feu 80.41 356 *e*P **P 21 45 53.4 -0.2**
comp=Z,4.1nm,0.8s,mb4.1
CDF Champ du Feu 80.41 356 *e*P **P 21 45 53.4 -0.2**
CDF pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
CDF Champ du Feu 80.41 356 *e*P **P 21 45 53.4 -0.2**
comp=Z,2.0nm,0.8s,mb4.1
GRR Gorron 80.58 1 *e*P **P 21 45 54.3 -0.3**
comp=Z,19nm,0.9s,mb4.7
GRR Gorron 80.58 1 *e*P **P 21 45 54.3 -0.3**
GRR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GRR Gorron 80.58 1 *e*P **P 21 45 54.3 -0.3**
comp=Z,9.6nm,0.9s,mb4.7
ROSF Rostrenen 80.58 3 *e*P **P 21 45 54.3 -0.3**
SGMF Saint Gilles 80.68 2 *e*P **P 21 45 54.9 -0.2**
comp=Z,18nm,0.7s,mb4.8
SGMF Saint Gilles 80.68 2 *e*P **P 21 45 54.9 -0.2**
SGMF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
SGMF Saint Gilles 80.68 2 *e*P **P 21 45 54.9 -0.2**
comp=Z,9.2nm,0.6s,mb4.9
HAU Haudompre 80.85 356 *e*P **P 21 45 55.7 -0.3**
QUIF Quistinic 81.00 3 *e*P **P 21 45 56.5 -0.3**
comp=Z,7.4nm,0.8s,mb4.4
QUIF Quistinic 81.00 3 *e*P **P 21 45 56.5 -0.3**
QUIF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
QUIF Quistinic 81.00 3 *e*P **P 21 45 56.5 -0.3**
comp=Z,3.7nm,0.8s,mb4.4
HINF Hinteralfeld 81.02 356 *e*P **P 21 45 56.4 -0.5**
comp=Z,3.2nm,0.6s,mb4.1
HINF Hinteralfeld 81.02 356 *e*P **P 21 45 56.4 -0.5**
HINF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
HINF Hinteralfeld 81.02 356 *e*P **P 21 45 56.4 -0.5**
comp=Z,1.6nm,0.6s,mb4.1
KBA Koelnbreinsper 81.30 351⇑*i*P **P 21 45 59.6 +1.2**
comp=Z,14nm,0.6s,mb5.1
KBA Koelnbreinsper 81.30 351⇑*i*P **P 21 45 59.6 +1.2**
KBA pmax pmax
comp=Z,14nm,0.6s,mb5.1
PERS Pernice 81.56 350 *e*P **P 21 46 00.5 +0.8**
LOR Lormes 81.67 358 *e*P **P 21 45 59.9 -0.5**
comp=Z,2.9nm,0.6s,mb4.1
LOR Lormes 81.67 358 *e*P **P 21 45 59.9 -0.5**
LOR pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
LOR Lormes 81.67 358 *e*P **P 21 45 59.9 -0.5**
comp=Z,1.5nm,0.6s,mb4.1
SSF Saint Saulge 81.89 358 *e*P **P 21 46 01.3 -0.2**
comp=Z,2.5nm,0.5s,mb4.1
SSF Saint Saulge 81.89 358 *e*P **P 21 46 01.3 -0.2**
SSF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
SSF Saint Saulge 81.89 358 *e*P **P 21 46 01.3 -0.2**
comp=Z,1.3nm,0.5s,mb4.1
ROBS Robic 82.11 351 *i* P **P 21 46 02.4 -0.3**
AVF Avril sur Loir 82.16 358 *e*P **P 21 46 02.7 -0.2**
comp=Z,11nm,1.1s,mb4.4
AVF Avril sur Loir 82.16 358 *e*P **P 21 46 02.7 -0.2**
AVF pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
AVF Avril sur Loir 82.16 358 *e*P **P 21 46 02.7 -0.2**
comp=Z,5.7nm,1.1s,mb4.4
CABF La Chapelle 82.26 356 *e*P **P 21 46 03.6 +0.2**
SMF Signal de Mont 82.30 358 *e*P **P 21 46 03.3 -0.3**
comp=Z,4.5nm,0.6s,mb4.3
SMF Signal de Mont 82.30 358 *e*P **P 21 46 03.3 -0.3**
SMF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
SMF Signal de Mont 82.30 358 *e*P **P 21 46 03.3 -0.3**
comp=Z,2.3nm,0.6s,mb4.3
MFF Saint Martin d 82.37 1 *e*P **P 21 46 04.0 0.0**
BGF Bois d'Agland 82.40 359 *e*P **P 21 46 04.0 -0.2**
BOJS Bojanci 82.66 350 *e*P **P 21 46 05.8 +0.2**
TCF Toulx Ste Croi 82.68 359 *e*P **P 21 46 05.4 -0.2**
comp=Z,5.4nm,0.8s,mb4.3
TCF Toulx Ste Croi 82.68 359 *e*P **P 21 46 05.4 -0.2**
TCF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
TCF Toulx Ste Croi 82.68 359 *e*P **P 21 46 05.4 -0.2**
comp=Z,2.7nm,0.8s,mb4.3
LPL La Plagne 83.32 356 *e*P **P 21 46 09.8 +0.8**
LPG La Plagne 83.34 356 *e*P **P 21 46 10.0 +1.0**
RJF Les Rejaudoux 83.67 359 *e*P **P 21 46 10.9 +0.2**
ORIF Oris-en-Rattie 83.96 356 *e*P **P 21 46 12.9 +0.7**
comp=Z,4.1nm,0.7s,mb4.4
ORIF Oris-en-Rattie 83.96 356 *e*P **P 21 46 12.9 +0.7**
ORIF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
ORIF Oris-en-Rattie 83.96 356 *e*P **P 21 46 12.9 +0.7**
comp=Z,2.0nm,0.6s,mb4.4
LFF La Frestale 84.04 360 *e*P **P 21 46 12.6 0.0**
CAF Calviac 84.05 359 *e*P **P 21 46 12.8 +0.1**
comp=Z,7.0nm,0.9s,mb4.5
CAF Calviac 84.05 359 *e*P **P 21 46 12.8 +0.1**
CAF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CAF Calviac 84.05 359 *e*P **P 21 46 12.8 +0.1**
comp=Z,3.5nm,0.9s,mb4.5
VIVF Saint-Julien-l 84.06 357 *e*P **P 21 46 13.1 +0.4**
comp=Z,6.6nm,1.0s,mb4.4
VIVF Saint-Julien-l 84.06 357 *e*P **P 21 46 13.1 +0.4**
VIVF pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
VIVF Saint-Julien-l 84.06 357 *e*P **P 21 46 13.1 +0.4**
comp=Z,3.3nm,1.0s,mb4.4
BRTR Keskin Array B 84.80 335 P **P 21 46 17.1 +0.6**
comp=Z,3.2nm,0.7s,mb4.5,baz=55,slow=2.5,SNR=18
BRTR Keskin Array B 84.80 335 P **P 21 46 17.1 +0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
LASF Ste Croix 84.86 358 *e*P **P 21 46 17.1 +0.3**
comp=Z,7.3nm,1.0s,mb4.5
SMRF Simiane la Rot 84.91 356 *e*P **P 21 46 17.7 +0.7**
comp=Z,9.1nm,0.8s,mb4.7
SMRF Simiane la Rot 84.91 356 *e*P **P 21 46 17.7 +0.7**
comp=Z,9.1nm,0.8s,mb5.0
SBF Sospel 84.94 355 *e*P **P 21 46 16.9 -0.3**
comp=Z,32nm,1.1s,mb5.1
SBF Sospel 84.94 355 *e*P **P 21 46 16.9 -0.3**
SBF pmax pmax
comp=Z,16nm,1.1s,mb5.1
SBF Sospel 84.94 355 *e*P **P 21 46 16.9 -0.3**
comp=Z,16nm,1.1s,mb5.1
FRF La Foret Royal 85.28 356 *e*P **P 21 46 18.7 -0.2**
comp=Z,5.3nm,0.6s,mb4.6
FRF La Foret Royal 85.28 356 *e*P **P 21 46 18.7 -0.2**
FRF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
FRF La Foret Royal 85.28 356 *e*P **P 21 46 18.7 -0.2**
comp=Z,2.7nm,0.6s,mb4.5
ASAR Alice Springs 85.30 222 P **P 21 46 16.9 -2.0**
comp=Z,0.6nm,0.7s,mb3.8,baz=24,slow=5.6,SNR=8.4
ASAR Alice Springs 85.30 222 P **P 21 46 17.0 -2.0**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
LMR La Mourre 85.51 356 *e*P **P 21 46 20.0 0.0**
comp=Z,4.9nm,0.6s,mb4.6
LMR La Mourre 85.51 356 *e*P **P 21 46 20.0 0.0**
LMR pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
LMR La Mourre 85.51 356 *e*P **P 21 46 20.0 0.0**
comp=Z,2.5nm,0.6s,mb4.6
MTLF Montolieu 85.63 359 *e*P **P 21 46 20.8 +0.2**
comp=Z,6.6nm,0.8s,mb4.6
MTLF Montolieu 85.63 359 *e*P **P 21 46 20.8 +0.2**
MTLF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
MTLF Montolieu 85.63 359 *e*P **P 21 46 20.8 +0.2**
comp=Z,3.3nm,0.8s,mb4.6
EPF Esparros 85.95 0 *e*P **P 21 46 21.6 -0.6**
comp=Z,3.7nm,0.8s,mb4.4
EPF Esparros 85.95 0 *e*P **P 21 46 21.6 -0.6**
EPF pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
EPF Esparros 85.95 0 *e*P **P 21 46 21.6 -0.6**
comp=Z,1.9nm,0.8s,mb4.4
ETSF Etsaut 86.07 1 *e*P **P 21 46 23.3 +0.5**
comp=Z,7.6nm,0.7s,mb4.7
ETSF Etsaut 86.07 1 *e*P **P 21 46 23.3 +0.5**
ETSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
ETSF Etsaut 86.07 1 *e*P **P 21 46 23.3 +0.5**
comp=Z,3.8nm,0.7s,mb4.7
PGF Pioggiola 86.15 354 *e*P **P 21 46 23.2 0.0**
comp=Z,9.5nm,0.6s,mb4.9
PGF Pioggiola 86.15 354 *e*P **P 21 46 23.2 0.0**
PGF pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
PGF Pioggiola 86.15 354 *e*P **P 21 46 23.2 0.0**
comp=Z,4.8nm,0.6s,mb4.9
ESDC Sonseca Array 89.21 4 P **P 21 46 37.6 -0.2**
comp=Z,0.6nm,0.5s,mb4.2,baz=346,slow=4.2,SNR=5.4
TSUM Tsumeb 145.22 331 PKP PKPdf 21 53 19.9 +0.4
comp=Z,5.1nm,0.7s,baz=335,slow=6.7,SNR=18
LBTB Lobatse 147.50 315 PKPbc PKPbc 21 53 26.4 +0.5
comp=Z,5.3nm,0.6s,baz=36,slow=2.2,SNR=11
BOSA Boshof 150.74 312 PKPbc PKPbc 21 53 33.9 -0.3
comp=Z,1.3nm,0.5s,baz=122,slow=1.8,SNR=8.1

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*IDC **08** 21:35:33.7±0.9, 5151N×17928W, h0km, mb4.1/20, mb1 4.3/21, mb1mx4.2/29, mbtmp4.1/21, ML4.4/1, Error ellipse: s-maj=28.5km s-min=13.3km az=176.0*
*ISCJB **08** 21:35:37.9±0.7, 5134N±008×17933W±004, h48km±6km, mb4.2/32, Error ellipse: s-maj=14.2km s-min=4.7km az=4.2*
*NEIC **08** 21:35:37.0, 51.13N×179.18W, h20km, mb4.6/11, ML4.3(AEIC), After AEIC.*
*MOS **08** 21:35:38.7±1.1, 5166N×17921W, h42km, mb4.5/24, Error ellipse: s-maj=15.2km s-min=11.7km az=89.6*
ISC 08 21:35:39.2±0.7, **5132N**±008×**17936W**±005, **h48**km±6km, **n152**, σ0.s**82**/148, **mb4.2**/32, **29C-26D, Andreanof Islands**

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

AMKA Amchitka 0.84 275 P **Pn 21 35 53.8 -1.0**
AMKA S **Sn 21 36 05.3 -0.9**
ATKA Atka Island 3.33 72 P **Pn 21 36 27.9 -0.8**
ATKA S **Sn 21 37 08.2 +1.2**
SMY Shemya 4.28 292 *e*P **Pn 21 36 43.1 +1.3**
NIKO Nikolski 6.67 72 P **Pn 21 37 14.9 +0.3**
AKUT Akutan 8.71 66 *e*Pn **Pn 21 37 44.2 +1.6**
SDPT Sand Point 11.98 63 *e*P **Pn 21 38 25.5 -1.7**
14nm,0.3s
CHGN Chignik 13.32 60 *e*P **Pn 21 38 44.8 -0.7**
SVW2 Sparrevohn 16.36 44 *e*P **Pn 21 39 26.8 +1.3**
KDAK Kodiak Island 16.75 57 Pn **Pn 21 39 26.1 -4.3**
1.5nm,0.3s,baz=310,slow=1.5,SNR=9.9
TTA Tatalina 17.08 38 *e*P **Pn 21 39 36.8 +2.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TTA				pmax	pmax		
	comp=Z,41nm,1.3s						
TTA	**Tatalina**	**17.08**	**38**	*e*Pn	**Pn**	**21 39 36.8**	**+2.4**
	comp=Z,41nm,1.3s						
ILAR	**Eielson Array**	**21.51**	**39**	P	**P**	**21 40 23.5**	**-0.5**
	comp=Z,1.5nm,0.6s,mb3.6,baz=324,slow=22,SNR=4.5						
ILAR	**Eielson Array**	**21.51**	**39**	P	**P**	**21 40 23.5**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DAWY	**Dawson**	**24.39**	**43**	*e*P	**P**	**21 40 51.5**	**-1.4**
YSS	**Yuzh-Sakhalins**	**24.98**	**275**	P	**P**	**21 41 04.7**	**+6.4**
ASAJ	**Asahikawa**	**26.36**	**269**	P	**P**	**21 41 11.8**	**+1.1**
	comp=Z,2.8nm,0.6s,mb4.0,baz=88,slow=18,SNR=2.9						
ASAJ	**Asahikawa**	**26.36**	**269**	P	**P**	**21 41 11.9**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**27.71**	**35**	P	**P**	**21 41 20.9**	**-2.0**
	comp=Z,0.5nm,0.4s,mb3.5,baz=252,slow=9.6,SNR=3.0						
INK	**Inuvik**	**27.71**	**35**	P	**P**	**21 41 20.9**	**-2.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MJAR	**Matsushiro Arr**	**33.43**	**261**	P	**P**	**21 42 13.2**	**-0.1**
	comp=Z,0.4nm,0.4s,mb3.7,baz=49,slow=6.7,SNR=4.6						
YKA	**Yellowknife Ar**	**35.53**	**46**	P	**P**	**21 42 30.1**	**-1.4**
	comp=Z,2.2nm,0.8s,mb4.2,baz=284,slow=8.2,SNR=6.0						
YKA				PcP	PcP	21 44 59.4	-0.5
	comp=Z,0.6nm,0.6s,baz=284,slow=2.8,SNR=4.4						
YKA	**Yellowknife Ar**	**35.53**	**46**	P	**P**	**21 42 30.1**	**-1.4**
YKA						21 44 59.4	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
A05A	**Maple Falls**	**35.97**	**71**	⇓P	**P**	**21 42 35.5**	**+0.2**
	baz=36						
E03A	**Lebam**	**36.21**	**75**	⇑P	**P**	**21 42 37.3**	**0.0**
	baz=36						
B05A	**Bryant**	**36.29**	**72**	⇓P	**P**	**21 42 37.9**	**-0.1**
	baz=36						
F03A	**Seaside**	**36.51**	**76**	⇓P	**P**	**21 42 40.5**	**+0.7**
	baz=36						
C05A	**Tolt Reservoir**	**36.80**	**72**	⇑P	**P**	**21 42 42.8**	**+0.5**
	baz=37						
H02A	**Toledo**	**36.86**	**78**	⇑P	**P**	**21 42 43.1**	**+0.2**
	baz=37						
F04A	**Amboy**	**37.20**	**75**	⇑P	**P**	**21 42 45.5**	**-0.3**
	baz=37						
E05A	**Randle**	**37.29**	**74**	⇑P	**P**	**21 42 46.6**	**0.0**
	baz=37						
NLW	**Nelson Butte**	**37.42**	**71**	P	**P**	**21 42 48.2**	**+0.5**
G04A	**Mulino**	**37.52**	**76**	⇑P	**P**	**21 42 48.2**	**-0.3**
	baz=37						
TWW	**Teanaway**	**37.55**	**73**	P	**P**	**21 42 50.3**	**+1.6**
F05A	**White Salmon**	**37.81**	**75**	⇑P	**P**	**21 42 50.6**	**-0.3**
	baz=38						
J02A	**Umpqua**	**37.81**	**80**	⇓P	**P**	**21 42 50.6**	**-0.3**
	baz=38						
H04A	**Detroit Lake**	**37.97**	**77**	⇓P	**P**	**21 42 52.2**	**0.0**
	baz=38						
BROR	**Big Rock Looko**	**38.02**	**78**	P	**P**	**21 42 53.6**	**+0.9**
J03A	**Ideyld Park**	**38.19**	**79**	⇑P	**P**	**21 42 52.4**	**-1.7**
	baz=38						
EPH	**Ephrata**	**38.21**	**72**	P	**P**	**21 42 54.1**	**-0.1**
G05A	**Wamic**	**38.21**	**76**	⇓P	**P**	**21 42 54.7**	**+0.4**
	baz=38						
H05A	**Madras**	**38.57**	**76**	⇓P	**P**	**21 42 57.5**	**+0.1**
	baz=38						
I05A	**Bend**	**38.80**	**77**	⇑P	**P**	**21 42 59.5**	**+0.2**
	baz=39						
VIPM	**Ingram Point**	**39.02**	**76**	P	**P**	**21 43 01.6**	**+0.5**
NEW	**Newport**	**39.23**	**69**	P	**P**	**21 43 02.1**	**-0.7**
	comp=Z,7.0nm,0.7s,mb4.5,baz=313,slow=7.8,SNR=9.8						
NEW	**Newport**	**39.23**	**69**	P	**P**	**21 43 02.1**	**-0.8**
NEW				pmax	pmax		
	comp=Z,7.0nm,0.7s						
YBH	**Yreka Blue Hor**	**39.23**	**81**	P	**P**	**21 43 04.6**	**+1.7**
	comp=Z,4.2nm,1.0s,mb4.1,baz=289,slow=7.4,SNR=3.9						
YBH	**Yreka Blue Hor**	**39.23**	**81**	P	**P**	**21 43 04.6**	**+1.7**
YBH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YBH	**Yreka Blue Hor**	**39.23**	**81**	⇓P	**P**	**21 43 02.7**	**-0.2**
	baz=39						
M02C	**Callahan**	**39.34**	**82**	⇑P	**P**	**21 43 03.9**	**+0.2**
	baz=39						
N02C	**Big Bar**	**39.38**	**83**	⇓P	**P**	**21 43 03.8**	**-0.2**
	baz=39						
L04A	**Klamath Falls**	**39.50**	**80**	⇓P	**P**	**21 43 05.3**	**+0.2**
	baz=39						
M04C	**Macdoel**	**39.75**	**81**	⇓P	**P**	**21 43 07.2**	**+0.1**
	baz=40						
J06A	**Christmas Vall**	**39.98**	**78**	⇓P	**P**	**21 43 09.0**	**-0.1**
	baz=40,SNR=8.5						
WDC	**Whiskeytown Da**	**39.99**	**83**	⇓P	**P**	**21 43 09.1**	**-0.1**
	baz=40						
K06A	**Valley Falls**	**40.16**	**78**	⇑P	**P**	**21 43 10.1**	**-0.5**
	baz=40,SNR=6.0						
L05A	**Lakeview**	**40.22**	**80**	⇑P	**P**	**21 43 11.3**	**+0.3**
	baz=40						
M05C	**Lookout**	**40.41**	**81**	⇑P	**P**	**21 43 13.4**	**+0.8**
	baz=40						
J07A	**Hines**	**40.43**	**77**	⇓P	**P**	**21 43 13.0**	**+0.2**
	baz=40						
J08A	**Circle Bar Ran**	**40.95**	**76**	⇑P	**P**	**21 43 16.9**	**-0.2**
	baz=41,SNR=5.1						
L07A	**Adell**	**41.16**	**79**	⇑P	**P**	**21 43 18.7**	**-0.1**
	baz=41						
ORV	**Oroville**	**41.24**	**83**	⇑P	**P**	**21 43 19.3**	**-0.2**
	baz=41						
SUTB	**Sutter Butte**	**41.25**	**84**	⇓P	**P**	**21 43 19.2**	**-0.3**
	baz=41						
WVOR	**Wild Horse Val**	**41.35**	**78**	*e*P	**P**	**21 43 20.6**	**+0.2**
WVOR				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
WVOR	**Wild Horse Val**	**41.35**	**78**	*e*P	**P**	**21 43 20.6**	**+0.2**
	comp=Z,9.2nm,0.9s,mb4.4						
O05C	**Quincy**	**41.36**	**82**	⇓P	**P**	**21 43 20.3**	**-0.2**
	baz=41						
M07A	**Soldier Meadow**	**41.62**	**79**	⇑P	**P**	**21 43 22.6**	**0.0**
	baz=41,SNR=11						
MSO	**Missoula**	**41.82**	**69**	*e*P	**P**	**21 43 23.5**	**-0.7**
	comp=Z,9.0nm,1.1s,mb4.3						
O06A	**Flanigan**	**41.92**	**81**	⇑P	**P**	**21 43 26.1**	**+1.0**
	baz=42						
M08A	**Happy Creek Ra**	**42.07**	**79**	⇑P	**P**	**21 43 26.5**	**+0.2**
	baz=42						
CHMT	**Chamberlain Mo**	**42.18**	**69**	*e*P	**P**	**21 43 26.2**	**-1.0**
L09A	**Wilkinson Ranc**	**42.18**	**78**	⇑P	**P**	**21 43 27.3**	**+0.1**
	baz=42						
O07A	**Toulon**	**42.51**	**81**	⇓P	**P**	**21 43 29.7**	**-0.1**
	baz=42						
N08A	**GE Springer Mi**	**42.61**	**79**	⇓P	**P**	**21 43 30.7**	**0.0**
	baz=42						
M09A	**Marrel Ranch,**	**42.66**	**78**	⇑P	**P**	**21 43 31.0**	**-0.1**
	baz=42						
R06C	**Coleville**	**43.14**	**83**	⇑P	**P**	**21 43 34.5**	**-0.5**
	baz=43						
M10A	**I.L. Ranch, Tu**	**43.16**	**78**	⇑P	**P**	**21 43 35.3**	**+0.2**
	baz=43						
MCMT	**McKenzie Canyo**	**43.53**	**71**	*e*P	**P**	**21 43 37.5**	**-0.6**
O09A	**Fish Creek Ran**	**43.55**	**80**	⇑P	**P**	**21 43 38.0**	**-0.2**
	baz=43						
BOZ	**Bozeman (W)**	**43.80**	**70**	*e*P	**P**	**21 43 39.8**	**-0.5**
BOZ				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
BOZ	**Bozeman (W)**	**43.80**	**70**	*e*P	**P**	**21 43 39.8**	**-0.5**
	comp=Z,12nm,0.8s,mb4.7						
Q08A	**Gabbs**	**43.88**	**82**	⇓P	**P**	**21 43 40.7**	**-0.1**
	baz=44						
NVAR	**Mina Array Bea**	**43.91**	**82**	P	**P**	**21 43 42.1**	**+1.0**
	comp=Z,1.6nm,0.8s,mb3.8,baz=305,slow=6.2,SNR=5.1						
P09A	**Austin**	**43.95**	**80**	⇑P	**P**	**21 43 41.5**	**0.0**
	baz=44						
M12A	**Wells**	**44.22**	**77**	P	**P**	**21 43 44.4**	**+0.8**
	baz=44,SNR=5.9						
QLMT	**Earthquake Lak**	**44.37**	**71**	*e*P	**P**	**21 43 44.4**	**-0.4**
N12A	**Clover Valley,**	**44.47**	**77**	⇓P	**P**	**21 43 45.4**	**-0.3**
	baz=44						
M13A	**Montello**	**44.70**	**76**	P	**P**	**21 43 48.0**	**+0.5**
	baz=44,SNR=6.6						
IMW	**Indian Meadow**	**45.19**	**71**	*e*P	**P**	**21 43 52.3**	**+1.0**
	comp=Z,10nm,1.0s,mb4.6						
Q11A	**Duckwater**	**45.30**	**80**	⇓P	**P**	**21 43 52.0**	**-0.2**
	baz=45						
Q12A	**Willow Creek R**	**45.69**	**79**	⇑P	**P**	**21 43 55.4**	**+0.1**
	baz=46						
DUG	**Dugway**	**46.22**	**77**	*e*P	**P**	**21 43 59.6**	**+0.1**
DUG				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
DUG	**Dugway**	**46.22**	**77**	*e*P	**P**	**21 43 59.6**	**+0.1**
	comp=Z,10nm,0.9s,mb4.8						
SONM	**Songino Array**	**46.36**	**296**	P	**P**	**21 44 02.5**	**+1.9**
	comp=Z,1.7nm,0.6s,mb4.1,baz=56,slow=7.7,SNR=6.6						
SONM	**Songino Array**	**46.36**	**296**	P	**P**	**21 44 02.5**	**+1.9**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PDAR	**Pinedale Array**	**46.66**	**72**	P	**P**	**21 44 02.5**	**-0.4**
	comp=Z,8.6nm,0.6s,mb4.9,baz=308,slow=3.3,SNR=20						
DAU	**Daniels Canyon**	**47.04**	**75**	*e*P	**P**	**21 44 06.5**	**+0.6**
109C	**Camp Elliot, M**	**48.19**	**87**	⇓P	**P**	**21 44 14.6**	**-0.2**
	baz=48						
SRU	**San Rafael**	**48.28**	**76**	*e*P	**P**	**21 44 15.4**	**-0.1**
SRU				*e**PP	pP	21 44 26.2	-2.4
SRU				*e**SP	sP	21 44 32.5	-1.6
SRU				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
SRU	**San Rafael**	**48.28**	**76**	*e*P	**P**	**21 44 15.4**	**-0.2**
	comp=Z,7.2nm,0.7s,mb4.8						
SRU				*e*pP	pP	21 44 26.2	-2.4
SRU				*e*sP	sP	21 44 32.5	-1.6
W14A	**Seligman**	**49.18**	**82**	⇓P	**P**	**21 44 22.0**	**-0.4**
	baz=49						
Y12C	**Blythe**	**49.24**	**85**	⇓P	**P**	**21 44 22.4**	**-0.4**
	baz=49						
GLA	**Glamis**	**49.51**	**86**	⇑P	**P**	**21 44 24.7**	**-0.3**
	baz=49						
W15A	**Williams**	**49.71**	**82**	⇓P	**P**	**21 44 26.4**	**-0.1**
	baz=50						
X14A	**Yava**	**49.78**	**83**	⇓P	**P**	**21 44 26.8**	**-0.2**
	baz=50						
X15A	**Humboldt**	**50.18**	**82**	⇑P	**P**	**21 44 29.4**	**-0.6**
	baz=50						
SPB4	**Spitsbergen Ar**	**50.41**	**356**	*e*P	**P**	**21 44 33.0**	**+1.2**
MVCO	**Mesa Verde**	**50.72**	**77**	*e*P	**P**	**21 44 33.7**	**-0.4**
ISCO	**Idaho Springs**	**50.82**	**73**	*e*P	**P**	**21 44 34.8**	**-0.1**
ISCO				*e*	pP	21 44 44.4	-3.6
ISCO				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
ISCO	**Idaho Springs**	**50.82**	**73**	*e*P	**P**	**21 44 34.8**	**-0.1**
	comp=Z,3.7nm,1.0s,mb4.3						
ISCO				*e*	pP	21 44 44.4	-3.6
115A	**Sonoran Desert**	**51.37**	**84**	⇑P	**P**	**21 44 38.1**	**-0.9**
	baz=51						
ARCES	**ARCESS Array B**	**58.09**	**350**	P	**P**	**21 45 27.0**	**-0.7**
	comp=Z,3.3nm,0.6s,mb4.5,baz=34,slow=8.4,SNR=8.6						
ARCES	**ARCESS Array B**	**58.09**	**350**	P	**P**	**21 45 27.0**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURK	**Kurchatov**	**58.81**	**313**	*e*P	**P**	**21 45 33.1**	**+0.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
KURK	**Kurchatov**	**58.81**	**313**	*e*P	**P**	**21 45 33.1**	**+0.4**
	comp=Z,1.4nm,0.5s,mb4.2						
MKAR	**Makanchi Array**	**59.80**	**308**	P	**P**	**21 45 40.0**	**+0.5**
	comp=Z,0.5nm,0.3s,mb4.0,baz=44,slow=7.5,SNR=5.3						
MKAR	**Makanchi Array**	**59.80**	**308**	P	**P**	**21 45 40.0**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**60.71**	**319**	P	**P**	**21 45 46.6**	**+0.9**
	comp=Z,1.0nm,0.5s,mb4.2,baz=52,slow=6.0,SNR=3.9						
BVAR	**Borovoye Array**	**60.71**	**319**	P	**P**	**21 45 46.6**	**+0.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JOF	**Joensuu**	**63.57**	**345**	*e*p	**P**	**21 46 03.9**	**-0.9**
	comp=Z,3.6nm,0.6s,mb4.6						
JOF	**Joensuu**	**63.57**	**345**	*e*P	**P**	**21 46 03.9**	**-0.9**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
KAF	**Kangasniemi**	**65.09**	**347**	*e*p	**P**	**21 46 12.1**	**-2.7**
	comp=Z,1.6nm,0.6s,mb4.2						
KAF	**Kangasniemi**	**65.09**	**347**	*e*P	**P**	**21 46 12.1**	**-2.7**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**65.77**	**347**	P	**P**	**21 46 16.7**	**-2.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=7.6,slow=5.8,SNR=4.9						
FINES	**FINESS Array B**	**65.77**	**347**	P	**P**	**21 46 16.7**	**-2.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TKM2	**Tokmak 2**	**65.89**	**309**	P	**P**	**21 46 20.5**	**+0.6**
	SNR=20						
USP	**Ospenovka**	**66.16**	**310**	P	**P**	**21 46 25.9**	**+4.3**
	SNR=62						
CHMS	**Chumysh**	**66.24**	**310**	P	**P**	**21 46 23.9**	**+1.7**
	SNR=6.4						
KBK	**Karagaybulak**	**66.40**	**309**	P	**P**	**21 46 21.5**	**-1.7**
	SNR=40						
EKS2	**Erkin-Say**	**66.96**	**310**	P	**P**	**21 46 25.1**	**-1.7**
	SNR=25						
AKTK	**Aktyubinsk**	**67.53**	**324**	P	**P**	**21 46 31.1**	**+0.6**
AKTO	**Aktyubinsk**	**67.53**	**324**	P	**P**	**21 46 31.1**	**+0.6**
	comp=Z,1.1nm,0.6s,mb4.1,baz=88,slow=8.6,SNR=4.3						
AKTO	**Aktyubinsk**	**67.53**	**324**	P	**P**	**21 46 31.1**	**+0.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NOA	**NORSAR Array B**	**67.68**	**354**	P	**P**	**21 46 29.6**	**-1.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=8.9,slow=6.3,SNR=3.7						
NOA	**NORSAR Array B**	**67.68**	**354**	P	**P**	**21 46 29.7**	**-1.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**68.41**	**353**	P	**P**	**21 46 36.8**	**+0.8**
	comp=Z,0.9nm,0.5s,mb4.0,baz=27,slow=1.7,SNR=4.7						
HFS	**Hagfors**	**68.41**	**353**	P	**P**	**21 46 36.8**	**+0.9**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
OBN	**Obninsk**	**69.81**	**339**	*e*P	**P**	**21 46 45.3**	**+0.7**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
AKASG	**Malin Array Be**	**75.50**	**342**	P	**P**	**21 47 17.7**	**-0.7**
	comp=Z,1.6nm,0.5s,mb4.2,baz=20,slow=5.7,SNR=8.8						
AKASG	**Malin Array Be**	**75.50**	**342**	P	**P**	**21 47 17.7**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KWP	**Kalwaria**	**77.69**	**346**	*e*P	**P**	**21 47 31.2**	**+0.4**
KWP				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
KWP	**Kalwaria**	**77.69**	**346**	*e*P	**P**	**21 47 31.1**	**+0.4**
	comp=Z,8.3nm,0.8s,mb4.7						
GERES	**GERESS Array B**	**79.60**	**351**	P	**P**	**21 47 41.5**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=35,slow=7.2,SNR=5.6						
GERES	**GERESS Array B**	**79.60**	**351**	P	**P**	**21 47 41.5**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**84.15**	**232**	*e*PCP	**P**	**21 48 05.3**	**+0.1**
BRTR	**Keskin Array B**	**84.86**	**335**	P	**P**	**21 48 10.1**	**+1.3**
	comp=Z,1.5nm,0.7s,mb4.2,baz=44,slow=3.5,SNR=5.8						
BRTR	**Keskin Array B**	**84.86**	**335**	P	**P**	**21 48 10.1**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PLCA	**Paso Flores**	**131.28**	**107**	PKP	PKPdf	21 54 45.9	-0.1
	comp=Z,1.9nm,1.0s,baz=320,slow=7.1,SNR=2.9						
PLCA	**Paso Flores**	**131.28**	**107**	PKIKP	PKPdf	21 54 45.9	-0.1
PLCA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PLCA	**Paso Flores**	**131.28**	**107**	PKP	PKPdf	21 54 45.9	-0.1
TSUM	**Tsumeb**	**145.28**	**331**	PKPbc	PKPbc	21 55 12.3	+0.9
	comp=Z,2.8nm,0.9s,baz=299,slow=1.3,SNR=3.1						
LBTB	**Lobatse**	**147.53**	**315**	PKPbc	PKPbc	21 55 19.1	+1.1
	comp=Z,2.5nm,0.4s,baz=237,slow=4.0,SNR=7.0						
BOSA	**Boshof**	**150.76**	**311**	PKPbc	PKPbc	21 55 26.8	+0.6
	comp=Z,2.6nm,1.0s,baz=17,slow=3.1,SNR=5.1						

SZGRF ***08*** *21:38:13.3, 199N×9704E, h33km, mb5.0, Northern Sumatera, Indonesia*

ISCJB ***08*** *21:38:23.7±0.2, 375N±003×9723E±003, h86km, mb5.0/112, Error ellipse: s-maj=5.7km s-min=3.4km az=76.8*

MOS ***08*** *21:38:25.4±0.9, 390N×9739E, h100km, mb5.1/60, Error ellipse: s-maj=11.3km s-min=4.2km az=122.1*

IDC ***08*** *21:38:25.4±0.4, 385N×9734E, h86km±3km, mb4.5/26, mb1 4.6/26, mb1mx4.6/27, mbtmp4.9/26, Error ellipse: s-maj=12.7km s-min=6.4km az=43.0*

NEIC ***08*** *21:38:25.3±0.1, 375N×9725E, mb4.9/54, Error ellipse: s-maj=6.2km s-min=3.5km az=222.0*

ISC 08 21:38:25.7±0.2**, 376N**±003×**9726E**±003**, h88**km±1.8km**:pP-P, n372,** σ**0.98**/368**, mb5.0**/112**, 28C-29D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.92**	**120**	P	**Pn**	**21 38 58.0**	**+1.4**
	261nm,0.3s,baz=290,slow=9.1,SNR=379						
PSI				S	**Sn**	**21 39 21.4**	**+1.1**
	1µm,0.3s,baz=324,slow=21,SNR=35						
PSI	**Prapat**	**1.92**	**120**	P	**Pn**	**21 38 58.0**	**+1.3**
PSI				S	**Sn**	**21 39 21.4**	**+1.1**
PSI				pmax	pmax		
	comp=Z,261nm,0.3s						
BSI	**Banda Aceh**	**2.61**	**312**	P	**Pn**	**21 39 07.2**	**+1.4**
	comp=Z,899nm,0.9s						
KULM	**Kulim**	**3.71**	**66**	⇑*i*Pn	**Pn**	**21 39 22.7**	**+1.9**
KULM				*e*Sn	**Sn**	**21 40 05.1**	**+1.8**
IPM	**Ipoh**	**3.83**	**79**	P	**Pn**	**21 39 24.8**	**+2.5**
PKT	**Phuket**	**4.40**	**12**	P	**Pn**	**21 39 33.0**	**+3.0**
SNG	**Songkhla**	**4.77**	**44**	P	**Pn**	**21 39 36.0**	**+0.9**
	comp=Z,1µm,1.0s						
PPI	**Padang Panjang**	**5.23**	**143**	P	**Pn**	**21 39 40.7**	**-0.7**
	comp=Z,231nm,1.0s						
KGM	**Kluang**	**6.30**	**106**	P	**Pn**	**21 39 57.1**	**+1.2**
KSI	**Kapahiang**	**9.09**	**144**	P	**Pn**	**21 40 32.7**	**-1.2**
	comp=Z,761nm,0.8s						
NNT	**Nongplab**	**9.11**	**15**	P	**Pn**	**21 40 38.0**	**+3.7**
KLI	**Kotabumi**	**11.44**	**138**	P	**Pn**	**21 41 04.7**	**-1.3**
	comp=Z,209nm,1.2s						
NST	**Nakhon Sawan**	**12.18**	**13**	P	**Pn**	**21 41 19.0**	**+3.1**
	comp=Z,50nm,0.9s						
KSM	**Kuching**	**13.23**	**100**	*e*Pn	**Pn**	**21 41 31.7**	**+1.8**
LEM	**Lembang**	**14.75**	**135**	P	**Pn**	**21 41 54.0**	**+4.4**
	comp=Z,68nm,1.6s						
JCJI	**Jatiwangi**	**14.98**	**133**	P	**Pn**	**21 41 53.3**	**+0.7**
	comp=Z,154nm,0.9s						
CHRT	**Chiangrai**	**16.21**	**9**	⇑P	**Pn**	**21 42 11.0**	**+3.0**
BJII	**Banjamegara**	**16.61**	**132**	P	**Pn**	**21 42 09.5**	**-3.5**
	comp=Z,61nm,1.6s						
KKM	**Kota Kinabalu**	**19.02**	**82**	P	**Pn**	**21 42 43.7**	**+1.5**
KKM	**Kota Kinabalu**	**19.02**	**82**	*e*P	**Pn**	**21 42 42.4**	**+0.2**
KRKI	**Karangkates**	**19.23**	**128**	P	**Pn**	**21 42 47.6**	**+3.0**
	comp=Z,130nm,1.0s						
QIZ	**Qiongzhong**	**19.54**	**38**	*e*P	**Pn**	**21 42 48.5**	**+0.3**
	comp=Z,49nm,0.8s						
KMMI	**Kalianget**	**19.83**	**123**	P	**Pn**	**21 42 49.5**	**-2.2**
	comp=Z,1µm,0.9s						
HYB	**Hyderabad**	**22.82**	**308**	*i* P	**P**	**21 43 23.0**	**+1.8**
	comp=Z,200nm,1.0s,mb5.4						
HYB				*e*S	**S**	**21 47 23.0**	**-0.5**
HYB	**Hyderabad**	**22.82**	**308**	*e*P	**P**	**21 43 23.0**	**+1.8**
HYB				pmax	pmax		
	comp=Z,200nm,1.0s,mb5.4						
HYB	**Hyderabad**	**22.82**	**308**	*e*P	**P**	**21 43 23.0**	**+1.8**
	comp=Z,200nm,1.0s,mb5.4						
PCI	**Palu**	**23.04**	**101**	P	**P**	**21 43 22.4**	**-0.9**
	comp=Z,97nm,1.1s,mb5.0						
JIRN	**Jiri**	**26.01**	**337**	*e*P	**P**	**21 43 50.3**	**0.0**
	comp=Z,70nm,0.7s,mb5.2						
PKI	**Pulchoki**	**26.24**	**336**	*e*P	**P**	**21 43 52.1**	**-0.3**
GUN	**Gumba**	**26.36**	**337**	*e*P	**P**	**21 43 53.4**	**0.0**
	comp=Z,70nm,0.6s,mb5.2						
DMN	**Daman**	**26.40**	**335**	*e*P	**P**	**21 43 53.8**	**-0.1**
	comp=Z,40nm,0.8s,mb4.9						
LSA	**Lhasa**	**26.45**	**348**	*e*P	**P**	**21 43 54.5**	**+0.3**
LSA				pmax	pmax		
	comp=Z,25nm,0.8s,mb4.7						
LSA	**Lhasa**	**26.45**	**348**	*e*P	**P**	**21 43 54.5**	**+0.2**
	comp=Z,25nm,0.8s,mb4.7						
KKN	**Kakani**	**26.49**	**336**	*e*P	**P**	**21 43 54.1**	**-0.5**
	comp=Z,52nm,1.0s,mb4.9						
GKN	**Gorkha**	**26.95**	**335**	*e*P	**P**	**21 43 58.0**	**-0.7**
KOLN	**Koldanda**	**27.20**	**333**	*e*P	**P**	**21 44 00.6**	**-0.4**
	comp=Z,29nm,0.4s,mb5.1						
LGTI	**Lohaghat**	**30.22**	**330**	*i* P	**P**	**21 44 28.3**	**+0.5**
NDI	**New Delhi**	**31.27**	**325**	*e*P	**P**	**21 44 35.0**	**-2.0**
FITZ	**Fitzroy Crossi**	**35.42**	**129**	*e*P	**P**	**21 45 10.5**	**-2.6**
	comp=Z,23nm,0.6s,mb5.2						
KAKA	**Kakadu**	**38.59**	**116**	*e*P	**P**	**21 45 38.2**	**-1.8**
	comp=Z,9.7nm,0.6s,mb4.8						
MUN	**Mundaring**	**39.84**	**154**	*e*P	**P**	**21 45 50.9**	**+0.5**
MUN				*e*		21 46 24.1	
BJT	**Baijiatuau**	**39.95**	**23**	*e*P	**P**	**21 45 52.2**	**+0.9**
BJT				pmax	pmax		
	comp=Z,31nm,0.6s						
BJT	**Baijiatuau**	**39.95**	**23**	*e*P	**P**	**21 45 52.2**	**+0.9**
	comp=Z,31nm,0.6s,mb5.3						
KLBR	**Kellerberrin**	**40.21**	**152**	*e*P	**P**	**21 45 53.3**	**-0.1**
	comp=Z,37nm,0.8s,mb5.3						
KLBR				*e*		21 46 26.9	
NWAO	**Narrogin (SRO)**	**41.10**	**154**	P	**P**	**21 46 01.3**	**+0.5**
	comp=Z,31nm,0.8s,mb5.2,baz=299,slow=9.4,SNR=14						
NWAO	**Narrogin (SRO)**	**41.10**	**154**	P	**P**	**21 46 01.3**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,31nm,0.8s						
WBK	**Wadi Bani Khal**	**41.53**	**300**	⇑P	**P**	**21 46 07.0**	**+2.7**
JMDO	**Jabal Madar**	**42.19**	**300**	⇓P	**P**	**21 46 12.4**	**+2.7**
SMDO	**Samad**	**42.48**	**300**	⇑P	**P**	**21 46 13.9**	**+1.9**
BIDO	**Bidbid**	**42.58**	**301**	⇑P	**P**	**21 46 15.3**	**+2.5**
	SNR=10.0						
ULHL	**Ulahol**	**42.67**	**337**	P	**P**	**21 46 15.3**	**+1.8**
	SNR=6.0						
KZA	**Kyzart**	**42.93**	**336**	P	**P**	**21 46 16.9**	**+1.2**
	SNR=11						
UCH	**Uchtor**	**43.36**	**335**	P	**P**	**21 46 19.6**	**+0.5**
	SNR=51						
WRAB	**Tennant Creek**	**43.38**	**124**	⇓*i*P	**P**	**21 46 18.7**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,178nm,0.8s,mb5.8						
WRAB	**Tennant Creek**	**43.38**	**124**	⇓*i*P	**P**	**21 46 18.7**	**-0.6**
	comp=Z,178nm,0.8s,mb5.8						
WB2	**Warramunga Arr**	**43.39**	**124**	*e*P	**P**	**21 46 18.3**	**-1.0**
WB2				*e*S	**S**	**21 52 28.5**	**-12**
AML	**Almayashu**	**43.62**	**334**	P	**P**	**21 46 21.7**	**+0.5**
	SNR=35						
AAK	**Ala-Archa**	**43.70**	**336**	P	**P**	**21 46 20.6**	**-1.2**
	SNR=11						
AAK	**Ala-Archa**	**43.70**	**336**	P	**P**	**21 46 22.2**	**+0.3**
	SNR=9.4						
AAK	**Ala-Archa**	**43.70**	**336**	⇑*i*P	**P**	**21 46 21.4**	**-0.5**
FRU	**Bishkek**	**43.82**	**336**	*e*P	**P**	**21 46 23.0**	**+0.2**
SONM	**Songino Array**	**44.61**	**9**	P	**P**	**21 46 29.5**	**+0.4**
	comp=Z,6.1nm,0.3s,mb4.8,baz=191,slow=9.0,SNR=70						
SONM				PcP	PcP	21 48 10.9	+0.4
	comp=Z,12nm,0.7s,baz=204,slow=4.1,SNR=17						
SONM				ScP	ScP	21 51 54.3	-0.5
	comp=Z,2.4nm,0.7s,baz=200,slow=3.7,SNR=10						
SONM	**Songino Array**	**44.61**	**9**	P	**P**	**21 46 29.5**	**+0.4**
SONM						21 48 10.9	
SONM				pmax	pmax		
	comp=Z,6.0nm,0.3s						
SONM				pmax	pmax		
	comp=Z,12nm,0.7s						
SONM				pmax	pmax		
	comp=N,2.0nm,0.7s						
ULN	**Ulaanbaatar**	**44.75**	**9**	⇓*i*P	**P**	**21 46 28.9**	**-1.3**
MKAR	**Makanchi Array**	**44.80**	**345**	P	**P**	**21 46 30.0**	**-0.6**
	comp=N,8.5nm,0.3s,mb4.9,baz=156,slow=8.1,SNR=47						
MKAR				PcP	PcP	21 48 11.6	+0.4
	comp=N,4.9nm,0.7s,baz=137,slow=4.1,SNR=4.7						
MKAR				ScP	ScP	21 51 56.0	+0.4
	comp=N,1.7nm,0.9s,baz=188,slow=2.9,SNR=3.8						
MKAR	**Makanchi Array**	**44.80**	**345**	P	**P**	**21 46 30.0**	**-0.6**
MKAR						21 48 11.6	
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR				pmax	pmax		
	comp=N,2.0nm,1.0s						
MKAR	**Makanchi Array**	**44.80**	**345**	P	**P**	**21 46 30.0**	**-0.6**
MKAR				PcP	PcP	21 48 11.6	+0.4
MKAR				ScP	ScP	21 51 56.0	+0.4
ASPA	**Alice Springs**	**44.92**	**129**	*e*P	**P**	**21 46 30.8**	**-0.8**
ASPA				*e*S	**S**	**21 52 57.8**	**-5.2**
AS31	**Alice Springs**	**44.92**	**129**	*e*P	**P**	**21 46 30.8**	**-0.8**
AS31				*e*S	**S**	**21 52 57.8**	**-5.2**
ASAR	**Alice Springs**	**44.92**	**129**	P	**P**	**21 46 30.9**	**-0.7**
	comp=N,28nm,0.7s,mb5.1,baz=299,slow=7.6,SNR=352						
ASAR				PcP	PcP	21 48 12.2	+0.7
	comp=N,4.9nm,0.9s,baz=309,slow=3.6,SNR=4.9						
ASAR				ScP	ScP	21 51 56.1	+0.1
	comp=N,8.1nm,1.3s,baz=306,slow=4.4,SNR=8.1						
ASAR	**Alice Springs**	**44.92**	**129**	P	**P**	**21 46 30.9**	**-0.7**
ASAR						21 48 12.3	
ASAR				pmax	pmax		
	comp=Z,28nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ASAR				pmax	pmax		
	comp=N,8.0nm,1.3s						
FORT	**Forrest**	**45.21**	**142**	*e*P	**P**	**21 46 33.6**	**-0.3**
	comp=N,118nm,0.7s,mb5.7						
ZAK	**Zakamensk**	**46.74**	**5**	*e*P	**P**	**21 46 45.7**	**-0.2**

ZAK *e* 21 48 18.0
ZAK *e* 21 48 38.9
ZAK pmax pmax
comp=Z,4.0nm,1.6s,mb3.9
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,1.3s
HIA Hailar 49.22 19 ⇓*i*P **P** **21 47 04.3 -0.7**
KURK Kurchatov 49.36 344 P **P** **21 47 05.3 -0.7**
SNR=13
KURK Kurchatov 49.36 344 ⇑*e*P **P** **21 47 04.9 -1.2**
MJAR Matsushiro Arr 49.80 44 P **P** **21 47 10.0 +0.6**
comp=Z,1.6nm,0.7s,mb4.1,baz=247,slow=9.1,SNR=11
MJAR PcP PcP 21 48 30.0 +1.0
comp=Z,4.6nm,0.8s,baz=246,slow=3.3,SNR=13
MJAR ScP ScP 21 52 16.0 -0.6
comp=Z,0.7nm,0.7s,baz=230,slow=2.8,SNR=5.0
MJAR Matsushiro Arr 49.80 44 P **P** **21 47 10.0 +0.6**
MJAR 21 48 30.0
MJAR pmax pmax
comp=Z,2.0nm,0.7s
MJAR pmax pmax
comp=Z,5.0nm,0.8s
MJAR pmax pmax
comp=N,1.0nm,0.7s
ZAL Zalesovo 51.05 351 P **P** **21 47 18.3 -0.6**
comp=N,16nm,0.5s,mb5.3,baz=299,slow=6.4,SNR=52
ZAL ScP ScP 21 52 21.5 -0.4
comp=N,1.8nm,0.8s,baz=310,slow=4.4,SNR=5.3
ZAL Zalesovo 51.05 351 P **P** **21 47 18.3 -0.6**
ZAL pmax pmax
comp=Z,16nm,0.5s
ZAL pmax pmax
comp=N,2.0nm,0.8s
ZAL Zalesovo 51.05 351 P **P** **21 47 18.3 -0.6**
ZAL ScP ScP 21 52 21.5 -0.4
NVS Novosibirsk 52.19 350 *e*P **P** **21 47 25.0 -2.3**
NVS *e*S **S** **21 54 42.7 -2.5**
NVS pmax pmax
comp=Z,32nm,1.1s,mb5.3
NVS pmax pmax
comp=N,19nm,1.2s
NVS pmax pmax
comp=E,13nm,1.1s
NVS smax
comp=N,7.0nm,1.4s
NVS smax
comp=E,15nm,1.8s
RDF Al-Radifah 53.34 304 *e*P **P** **21 47 36.0 +0.2**
RDF AMb AMB 21 47 38.3
comp=Z,116nm,0.6s
CTA Charters Tower 53.62 118 *e*P **P** **21 47 37.7 -0.2**
comp=Z,11nm,0.9s,mb4.9
CTA Charters Tower 53.62 118 *e*P **P** **21 47 37.7 -0.2**
CTA pmax pmax
comp=Z,11nm,0.9s
NAY Al-Naaiem 53.70 304 *e*P **P** **21 47 38.7 +0.3**
NAY AMb AMB 21 47 40.8
comp=Z,70nm,0.7s,mb5.8
MIB Mutribah 53.80 304 *e*P **P** **21 47 39.4 +0.2**
MIB AMb AMB 21 47 40.7
comp=Z,94nm,0.9s,mb5.8
BVAR Borovoye Array 53.87 340 P **P** **21 47 38.7 -1.0**
comp=Z,34nm,0.8s,mb5.5,baz=141,slow=8.8,SNR=94
BVAR PcP PcP 21 48 42.3 -2.0
comp=Z,5.3nm,0.7s,baz=130,slow=4.6,SNR=4.9
BVAR ScP ScP 21 52 34.4 +0.2
comp=Z,2.1nm,0.9s,baz=157,slow=8.0,SNR=5.7
BVAR Borovoye Array 53.87 340 P **P** **21 47 38.7 -1.0**
BVAR 21 48 42.3
BVAR pmax pmax
comp=Z,35nm,0.8s
BVAR pmax pmax
comp=Z,5.0nm,0.7s
BVAR pmax pmax
comp=N,2.0nm,0.9s
BRVK Borovoye 53.94 340 P **P** **21 47 39.5 -0.7**
SNR=9.8
BRVK Borovoye 53.94 340 ⇑*e*P **P** **21 47 39.1 -1.1**
RST Umm Al-Ruwaisa 53.98 304 *e*P **P** **21 47 40.4 -0.1**
RST AMb AMB 21 47 41.9
comp=Z,69nm,0.6s,mb5.9
ZRNK Zerenda 54.29 339 *e*P **P** **21 47 41.2 -1.5**
ZRNK pmax pmax
comp=Z,28nm,0.8s,mb5.3
ZRNK Zerenda 54.29 339 *e*P **P** **21 47 41.2 -1.5**
comp=Z,28nm,0.8s,mb5.3
CHKZ Chkalovo 54.34 341 *e*P **P** **21 47 42.0 -1.1**
CHKZ pmax pmax
comp=Z,53nm,0.8s,mb5.6
CHKZ Chkalovo 54.34 341 *e*P **P** **21 47 42.0 -1.1**
comp=Z,53nm,0.8s,mb5.6
HABR Khabarovsk 55.02 30 *e*P **P** **21 47 44.5 -3.5**
HABR S **S** **21 55 23.9 +0.4**
HABR pmax pmax
comp=Z,29nm,0.6s,mb5.5
STKA Stephens Creek 55.04 133 ⇓*i*P **P** **21 47 47.5 -0.7**
comp=Z,18nm,0.7s,mb5.2
STKA *e* 21 48 21.2
STKA Stephens Creek 55.04 133 P **P** **21 47 48.0 -0.2**
comp=Z,20nm,0.7s,mb5.3,baz=308,slow=7.8,SNR=50
BOD Bodaibo 55.51 11 *e*P **P** **21 47 50.3 -1.2**
BOD pmax pmax
comp=Z,16nm,1.0s,mb5.0
AKTK Aktyubinsk 57.02 331 P **P** **21 48 01.2 -1.1**
AKTO Aktyubinsk 57.02 331 P **P** **21 48 01.2 -1.1**
comp=Z,24nm,0.8s,mb5.3,baz=126,slow=7.6,SNR=42
AKTO Aktyubinsk 57.02 331 P **P** **21 48 01.3 -1.0**
AKTO pmax pmax
comp=Z,24nm,0.8s,mb5.3
YSS Yuzh-Sakhalins 58.23 35 P **P** **21 48 10.1 -0.6**
GNI Garni 59.52 315 ⇓*i*P **P** **21 48 20.2 +0.5**
KMBO Kilima Mbogo 60.16 267 P **P** **21 48 26.1 +2.0**
comp=Z,1.9nm,0.8s,mb4.2,baz=85,slow=10,SNR=4.4
KMBO pP pP 21 48 48.8 +2.6
comp=Z,2.4nm,0.7s,baz=54,slow=8.8,SNR=5.0
KMBO Kilima Mbogo 60.16 267 P **P** **21 48 26.1 +2.0**
KMBO *PP pP 21 48 48.8 +2.7
KMBO pmax pmax
comp=Z,2.0nm,0.9s
KMBO pmax pmax
comp=Z,2.0nm,0.7s
SVE Sverdlovsk 60.35 338 ⇑*e*P **P** **21 48 23.7 -1.7**
SVE *e* pP 21 48 46.5 -0.9
SVE *e* 21 49 13.0
SVE pmax pmax
comp=Z,96nm,1.5s,mb5.6
TOO Toolangi 60.75 137 *e*P **P** **21 48 28.9 +0.8**
comp=Z,7.8nm,1.0s,mb4.7
TOO Toolangi 60.75 137 *e*P **P** **21 48 28.9 +0.8**
TOO pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ARU Arti 60.87 337 ⇑*i*P **P** **21 48 27.7 -1.2**
ARU *e*S **S** **21 56 43.7 +3.9**
ARU *e*SS SS 22 00 40.8 +0.6
ARU pmax pmax
comp=Z,31nm,1.0s,mb5.3
ARU Arti 60.87 337 ⇑*i*P **P** **21 48 27.9 -1.0**
ZEI Tsey 61.15 318 *e*P **P** **21 48 30.9 +0.1**
ZEI *e* 21 50 45.2
ZEI pmax pmax
comp=Z,19nm,0.7s,mb5.2
ERZM Erzurum 61.83 314 *i*P **P** **21 48 36.3 +0.9**
KIV Kislovodsk 62.43 318 P **P** **21 48 39.3 -0.1**
SNR=8.7
KIV Kislovodsk 62.43 318 ⇓*i*P **P** **21 48 38.9 -0.5**
KIV *e* pP 21 48 59.3 -2.3
KIV pmax pmax
comp=Z,66nm,1.0s,mb5.6
GOF Gofitskoye 62.65 320 *e*P **P** **21 48 39.4 -1.4**
GOF pmax pmax
comp=Z,50nm,0.8s,mb5.5
YAK Yakutsk 62.97 16 *e*P **P** **21 48 42.4 -0.5**
YAK pmax pmax
comp=Z,29nm,1.0s,mb5.2
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,12nm,1.2s
YAK Yakutsk 62.97 16 ⇑*i*P **P** **21 48 41.7 -1.2**
ASF Jabal al Asfar 63.06 304 P **P** **21 48 45.4 +1.9**
comp=E,6.6nm,1.2s,mb4.5,baz=231,slow=2.8,SNR=5.4
ASF Jabal al Asfar 63.06 304 P **P** **21 48 45.4 +1.8**
ASF pmax pmax
comp=Z,7.0nm,1.2s

ELZG Elazig 63.12 312 *i*P **P** **21 48 44.5 +0.5**
MALT Malatya 63.48 311 ⇓*i*P **P** **21 48 47.0 +0.7**
MALT Malatya 63.48 311 ⇓P **P** **21 48 47.0 +0.7**
SOKR Solikamsk 63.74 338 *c*P **P** **21 48 47.3 -0.7**
SOKR pmax pmax
comp=Z,80nm,1.2s,mb5.4
GZT Gaziantep 63.86 310 *i*P **P** **21 48 49.9 +1.0**
EIL Elat 64.17 301 *e*P **P** **21 48 51.7 +0.8**
comp=Z,121nm,0.8s,mb5.8
COBT Iskenderun 64.64 309 *i*P **P** **21 48 55.2 +1.3**
VRHR Novokhopersk 66.06 325 *e*P **P** **21 49 01.7 -1.4**
VRHR pmax pmax
comp=Z,50nm,0.6s,mb5.5
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,50nm,0.9s
AVNT Avonos 66.30 311 *i*P **P** **21 49 04.1 -0.5**
CTKT Corum 66.84 313 *i*P **P** **21 49 07.8 -0.2**
BOYT Boyabat 66.97 314 *i*P **P** **21 49 08.5 -0.4**
BRTR Keskin Array B 67.46 312 P **P** **21 49 11.2 -0.8**
comp=E,13nm,0.8s,mb4.8,baz=129,slow=6.9,SNR=54
BRTR pP pP 21 49 32.6 -1.8
comp=E,6.9nm,0.8s,baz=130,slow=7.2,SNR=5.4
BRTR Keskin Array B 67.46 312 P **P** **21 49 11.2 -0.8**
BRTR *PP pP 21 49 32.7 -1.7
BRTR pmax pmax
comp=Z,13nm,0.8s
BRTR pmax pmax
comp=Z,7.0nm,0.8s
VOR Voronezh 67.71 325 *e*P **P** **21 49 11.0 -2.6**
VOR pmax pmax
comp=N,40nm,1.2s
VOR pmax pmax
comp=E,70nm,1.2s
VOR pmax pmax
comp=Z,100nm,1.2s,mb5.5
ELDT Eldivan 67.81 312 *i*P **P** **21 49 14.4 +0.3**
BALT Daday 68.10 313 *i*P **P** **21 49 16.6 +0.5**
ANTO Ankara 68.12 312 ⇓*i*P **P** **21 49 15.9 -0.2**
ANTO Ankara 68.12 312 ⇓P **P** **21 49 15.9 -0.2**
SIM Simferopol' 68.53 317 ⇓*e*P **P** **21 49 18.6 -0.1**
SIM pmax pmax
comp=Z,24nm,0.7s,mb5.1
SGKT Sivrigoynuk 68.84 312 *i*P **P** **21 49 18.8 -1.8**
MA2 Magadan 69.02 26 *e*P **P** **21 49 22.2 +0.5**
ESKT Eskisehir 69.50 311 *i*P **P** **21 49 23.9 -0.8**
TKTP Tekketepe 69.60 309 *i*P **P** **21 49 24.6 -0.7**
MOS Moscow 70.19 329 *e*P **P** **21 49 27.8 -1.1**
MOS *e* pP 21 49 55.1 +3.6
MOS *e* 21 52 07.0
MOS *e*S S 21 58 34.2 +0.8
MOS pmax pmax
comp=Z,200nm,1.0s,mb5.9
MOS pmax pmax
comp=Z,185nm,0.8s,mb6.0
MIR Mirnyy 70.21 182 *e*P **P** **21 49 29.5 +0.5**
MIR pmax pmax
comp=Z,100nm,1.0s,mb5.6
OBN Obninsk 70.49 328 *a*P **P** **21 49 29.8 -1.0**
OBN *e* pP 21 49 56.9 +3.5
OBN pmax pmax
comp=Z,152nm,1.6s,mb5.6
OBN Obninsk 70.49 328 ⇓*i*P **P** **21 49 30.1 -0.7**
TIXI Tiksi 70.68 10 *i*P **P** **21 49 30.4 -1.5**
TIXI pmax pmax
comp=Z,32nm,1.4s,mb5.0
ULDT Uludag 70.92 311 *i*P **P** **21 49 33.5 +0.1**
KLMR Klimovskoe 71.49 334 *e*P **P** **21 49 34.1 -2.7**
KLMR pmax pmax
comp=Z,100nm,1.4s,mb5.5
AKASG Malin Array Be 73.29 322 P **P** **21 49 46.0 -1.5**
comp=Z,12nm,0.5s,mb5.0,baz=89,slow=5.2,SNR=53
AKASG pP pP 21 50 08.6 -1.6
comp=Z,5.6nm,0.7s,baz=91,slow=5.0,SNR=5.2
AKASG Malin Array Be 73.29 322 P **P** **21 49 46.0 -1.5**
AKASG *PP pP 21 50 08.6 -1.6
AKASG pmax pmax
comp=Z,12nm,0.5s
AKASG pmax pmax
comp=Z,6.0nm,0.7s
VRI Vrincioaia 73.80 317 ⇓*i*P **P** **21 49 51.1 +0.6**
VRI Vrincioaia 73.80 317 P **P** **21 49 50.9 +0.4**
PLOR Plostina 73.85 317 ⇑*i*P **P** **21 49 51.6 +0.8**
MLR Muntele Rosu 74.27 316 ⇓*i*P **P** **21 49 53.7 +0.5**
MLR Muntele Rosu 74.27 316 P **P** **21 49 53.6 +0.4**
SNX Sinaia 74.54 316 ⇓*i*P **P** **21 49 55.7 +0.9**
SNX Sinaia 74.54 316 ⇓P **P** **21 49 55.7 +1.0**
MTUR Matau 74.83 316 ⇓*i*P **P** **21 49 55.9 -0.6**
MTUR Matau 74.83 316 ⇓P **P** **21 49 55.9 -0.6**
VOIR 74.88 316 ⇑*i*P **P** **21 49 57.2 +0.5**
LBTB Lobatse 75.08 243 P **P** **21 49 59.5 +1.6**
comp=Z,6.6nm,0.3s,mb4.8,baz=106,slow=4.6,SNR=24
LBTB pP pP 21 50 22.8 +2.1
comp=Z,6.2nm,0.7s,baz=108,slow=7.7,SNR=3.7
LBTB Lobatse 75.08 243 P **P** **21 49 59.5 +1.6**
LBTB *PP pP 21 50 22.8 +2.1
LBTB pmax pmax
comp=Z,7.0nm,0.3s,mb4.9
LBTB pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
LBTB Lobatse 75.08 243 P **P** **21 49 59.5 +1.6**
LBTB pP pP 21 50 22.8 +2.1
MNK Minsk 75.08 326 *e*P **P** **21 49 55.0 -2.9**
MNK pmax pmax
comp=Z,1μm,0.5s
BURAR Bucovina Array 75.16 318 ⇓*i*P **P** **21 49 58.8 +0.4**
BURAR Bucovina Array 75.16 318 ⇓P **P** **21 49 58.8 +0.5**
MAW Mawson 75.20 193 P **P** **21 49 58.3 -0.3**
comp=Z,5.3nm,0.6s,mb4.5,baz=17,slow=6.7,SNR=4.4
MAW Mawson 75.20 193 P **P** **21 49 58.3 -0.3**
MAW pmax pmax
comp=Z,5.0nm,0.6s
PUL Pulkovo 75.29 331 *e*P **P** **21 49 58.6 -0.5**
PUL pmax pmax
comp=Z,95nm,0.9s,mb5.5
PUL pmax pmax
comp=N,80nm,0.7s
PUL pmax pmax
comp=E,148nm,0.8s
PUL Pulkovo 75.29 331 ⇓*i*P **P** **21 49 59.2 +0.1**
VTS Vitosha 75.74 313 ⇑*i*P **P** **21 50 01.8 +0.1**
VTS Vitosha 75.74 313 P **P** **21 50 01.5 -0.2**
JOF Joensuu 75.88 334 *e*p **P** **21 50 01.0 -1.5**
comp=E,55nm,0.6s,mb5.5
JOF Joensuu 75.88 334 *e*P **P** **21 50 01.0 -1.5**
JOF pmax pmax
comp=Z,55nm,0.6s,mb5.5
BOSA Boshof 76.11 239 P **P** **21 50 04.8 +1.0**
comp=Z,5.6nm,0.6s,mb4.4,baz=89,slow=4.8,SNR=22
BOSA pP pP 21 50 29.5 +2.8
comp=Z,2.7nm,0.5s,baz=145,slow=6.0,SNR=3.4
BOSA Boshof 76.11 239 P **P** **21 50 04.8 +1.0**
BOSA *PP pP 21 50 29.5 +2.8
BOSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
BOSA pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
LVZ Lovozero 76.47 340 *e*P **P** **21 50 04.3 -1.5**
LVZ pmax pmax
comp=N,12nm,0.9s
LVZ pmax pmax
comp=Z,87nm,0.9s,mb5.5
LVZ pmax pmax
comp=E,18nm,0.8s
DRGR 76.70 317 ⇑*i*P **P** **21 50 08.1 +1.0**
DRGR 76.70 317 ⇑P **P** **21 50 08.1 +1.0**
KWP Kalwaria 77.16 320 *e*P **P** **21 50 09.7 0.0**
BZS Buzias 77.29 316 ⇑*i*P **P** **21 50 10.9 +0.5**
BZS Buzias 77.29 316 P **P** **21 50 10.3 -0.1**
KOLS Kolonicke sedl 77.33 319 *e*P **P** **21 50 10.8 +0.2**
KOLS pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
KOLS Kolonicke sedl 77.33 319 *e*P **P** **21 50 10.8 +0.2**
comp=Z,7.6nm,0.9s,mb4.4
SUW Suwalki 77.64 324 *e*P **P** **21 50 12.1 -0.3**
FIA1 FINESS Array S 77.77 332 *e*P **P** **21 50 12.7 -0.5**
FINES FINESS Array B 77.78 332 P **P** **21 50 12.7 -0.5**
comp=Z,24nm,0.8s,mb5.0,baz=103,slow=6.3,SNR=136
FINES pP pP 21 50 36.2 +0.1
comp=Z,5.3nm,0.8s,baz=101,slow=10,SNR=3.2
FINES FINESS Array B 77.78 332 P **P** **21 50 12.7 -0.4**
FINES *PP pP 21 50 36.3 +0.2
FINES pmax pmax
comp=Z,25nm,0.8s
FINES pmax pmax
comp=Z,5.0nm,0.8s
KAF Kangasniemi 77.84 333 *ep* **P** **21 50 12.0 -1.5**
comp=Z,52nm,0.7s,mb5.4,baz=102,slow=5.2
KAF Kangasniemi 77.84 333 *eP* **P** **21 50 12.0 -1.5**
KAF pmax pmax
comp=Z,52nm,0.7s,mb5.4
CRVS Cervenica-Dubn 77.85 319 *eP* **P** **21 50 13.9 +0.4**
CRVS pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
CRVS Cervenica-Dubn 77.85 319 *eP* **P** **21 50 13.9 +0.4**
comp=Z,6.2nm,1.1s,mb4.2
KECS Kecovo 78.43 319 *eP* **P** **21 50 16.7 -0.1**
KECS pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
KECS Kecovo 78.43 319 *eP* **P** **21 50 16.7 -0.1**
comp=Z,3.7nm,0.7s,mb4.2
NIE Niedzica 78.67 320 *eP* **P** **21 50 18.9 +0.8**
PSZ Piszkesteto 78.75 318 ⇓*eP* **P** **21 50 19.0 +0.5**
PSZ Piszkesteto 78.75 318 P **P** **21 50 19.0 +0.5**
OJC Ojcow 79.10 320 *eP* **P** **21 50 20.3 -0.1**
PKSM Moragy 79.42 316 ⇑*iP* **P** **21 50 22.0 -0.2**
PKSM Moragy 79.42 316 P **P** **21 50 22.0 -0.1**
VYHS Vyhne 79.52 318 *eP* **P** **21 50 22.4 -0.3**
VYHS pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
VYHS Vyhne 79.52 318 *eP* **P** **21 50 22.4 -0.3**
comp=Z,4.9nm,1.4s,mb4.1
KEV Kevo 79.72 341 *ep* **P** **21 50 22.4 -1.4**
comp=Z,42nm,0.8s,mb5.3
KEV Kevo 79.72 341 *eP* **P** **21 50 22.4 -1.4**
KEV pmax pmax
comp=Z,42nm,0.8s,mb5.3
SRO2 Moca 79.74 318 *eP* **P** **21 50 24.1 +0.2**
SRO2 *epP* pP 21 50 46.1 -0.9
SRO2 Moca 79.74 318 *eP* **P** **21 50 24.1 +0.2**
SRO2 *e* pP 21 50 46.2 -0.8
SRO2 pmax pmax
comp=Z,14nm,0.7s,mb4.9
SRO Srobarova 79.80 318 *eP* **P** **21 50 24.8 +0.6**
SRO *epP* pP 21 50 47.0 -0.3
SRO Srobarova 79.80 318 *eP* **P** **21 50 24.8 +0.6**
SRO *e* pP 21 50 47.1 -0.2
SRO pmax pmax
comp=Z,14nm,0.7s,mb4.9
SRO Srobarova 79.80 318 *eP* **P** **21 50 24.8 +0.6**
comp=Z,14nm,0.7s,mb4.9
SRO *e* pP 21 50 47.1 -0.2
OKC Ostrava-Krasne 80.12 320 *eP* **P** **21 50 26.3 +0.4**
ARCES ARCESS Array B 80.17 340 P **P** **21 50 25.8 -0.4**
comp=Z,17nm,0.5s,mb5.2,baz=93,slow=5.4,SNR=259
ARCES ARCESS Array B 80.17 340 P **P** **21 50 25.8 -0.4**
ARCES pmax pmax
comp=Z,17nm,0.5s
ARCES ARCESS Array B 80.17 340 P **P** **21 50 25.8 -0.4**
MORC Moravsky Berou 80.50 320 ⇓*iP* **P** **21 50 28.1 +0.1**
MORC Moravsky Berou 80.50 320 ⇓P **P** **21 50 28.1 +0.2**
ZST Bratislava 80.65 318 *eP* **P** **21 50 29.1 +0.3**
ZST *e* pP 21 50 50.9 -1.0
ZST pmax pmax
comp=Z,14nm,0.8s,mb4.8
ZST Bratislava 80.65 318 *eP* **P** **21 50 29.1 +0.3**
comp=Z,14nm,0.8s,mb4.8
ZST *e* pP 21 50 50.9 -1.0
VRAC Vranov 81.07 319 ⇓*iP* **P** **21 50 32.0 +1.0**
VRAC Vranov 81.07 319 ⇓P **P** **21 50 32.0 +1.0**
DPC Dobruska-Polom 81.33 320 *eP* **P** **21 50 31.3 +1.1**
DPC *epP* pP 21 50 54.4 -1.1
TSUM Tsumeb 81.50 250 P **P** **21 50 35.5 +2.2**
comp=Z,1.3nm,0.9s,baz=46,slow=6.5,SNR=5.7
UPC Upice 81.54 320 *eP* **P** **21 50 34.0 +0.5**
UPC *epP* pP 21 50 55.9 -0.8
DOBS Dobrina 81.61 316 *eP* **P** **21 50 34.2 +0.3**
BOJS Bojanci 81.73 315 *iP* **P** **21 50 34.7 +0.2**
TREC Trest 81.80 319 *eP* **P** **21 50 34.6 -0.2**
TREC *epP* pP 21 50 56.3 -1.7
PERS Pernice 81.88 316 *iP* **P** **21 50 35.8 +0.5**
SYO Syowa Base 82.44 198 ⇓*eP* **P** **21 50 38.5 +0.3**
TRO Tromso 82.44 340 *eP* **P** **21 50 36.3 -1.9**
TRO AMb AMB 21 50 37.9
comp=Z,46nm,1.0s,mb5.2
TRO Tromso 82.44 340 *eP* **P** **21 50 36.3 -1.9**
comp=Z,46nm,1.0s,mb5.3
PRU Pruhonice 82.45 320 *eP* **P** **21 50 38.1 -0.2**
PRU *epP* pP 21 50 59.7 -1.8
PVCC Panska Ves 82.46 320 *eP* **P** **21 50 38.0 -0.3**
VOY Vojsko 82.70 316 *e*(P) **P** **21 50 39.2 -0.4**
VOY *e* pP 21 51 07.0 +4.2
BRG Berggiesshubel 82.88 321 *eP* **P** **21 50 40.8 +0.3**
comp=Z,65nm,2.8s,mb5.0
BRG Berggiesshubel 82.88 321 *iP* **P** **21 50 40.7 +0.2**
comp=Z,3.3nm,0.8s,mb4.2
BRG *i* pP 21 51 02.2 -1.5
comp=Z,2.9nm,1.0s
BRG Berggiesshubel 82.88 321 *iP* **P** **21 50 40.7 +0.2**
BRG *i* pP 21 51 02.2 -1.5
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
GEC2 GERESS Array S 82.94 319 *eP* **P** **21 50 41.0 +0.2**
comp=Z,10.0nm,1.3s,mb4.5
GEC2 GERESS Array S 82.94 319 *eP* **P** **21 50 41.0 +0.2**
GEC2 pmax pmax
comp=Z,10.0nm,1.3s,mb4.5
GERES GERESS Array B 82.94 319 P **P** **21 50 41.2 +0.3**
comp=Z,1.7nm,0.4s,mb4.2,baz=110,slow=5.1,SNR=27
GERES pP pP 21 51 03.4 -0.7
comp=Z,5.3nm,1.1s,baz=98,slow=6.9,SNR=3.3
GERES GERESS Array B 82.94 319 P **P** **21 50 41.2 +0.4**
GERES *PP pP 21 51 03.4 -0.6
GERES pmax pmax
comp=Z,2.0nm,0.4s
GERES pmax pmax
comp=Z,5.0nm,1.1s
ROBS Robic 82.98 316 *eP* **P** **21 50 40.7 -0.3**
KHC Kasperske Hory 83.04 319 *eP* **P** **21 50 40.9 -0.4**
KHC *epP* pP 21 51 06.0 +1.5
RUE Ruedersdorf 83.06 322 *eP* **P** **21 50 41.3 -0.2**
comp=Z,43nm,0.6s,mb5.5
CLL Collm 83.49 321 *eP* **P** **21 50 43.6 0.0**
comp=Z,5.0nm,0.8s,mb4.4
CLL Collm 83.49 321 P **P** **21 50 43.2 -0.4**
comp=Z,logA/T=0.8,mb4.4
CLL *i* PCP PcP 21 50 46.7 -1.1
CLL Collm 83.49 321 *iP* **P** **21 50 43.2 -0.4**
comp=Z,5.0nm,0.8s,mb4.4
CLL *i* PcP PcP 21 50 46.7 -1.1
CLL Collm 83.49 321 *iP* **P** **21 50 43.2 -0.4**
CLL pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
WET Wettzell 83.50 319 *eP* **P** **21 50 44.1 +0.4**
comp=Z,6.0nm,0.9s,mb4.4
WET Wettzell 83.50 319 *eP* **P** **21 50 44.1 +0.4**
WET pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
HFS Hagfors 83.55 330 P **P** **21 50 44.1 +0.2**
comp=Z,12nm,0.5s,mb5.0,baz=108,slow=4.8,SNR=100
HFS Hagfors 83.55 330 P **P** **21 50 44.1 +0.2**
HFS pmax pmax
comp=Z,12nm,0.5s
NKC Novy Kostel 83.81 320 *eP* **P** **21 50 45.7 +0.4**
ROTZ Rotzenmuhle 83.95 319 *eP* **P** **21 50 46.6 +0.6**
MANZ Manzenberg 84.02 320 *eP* **P** **21 50 46.8 +0.5**
LOF Lofoten 84.19 338 *eP* **P** **21 50 48.2 +1.0**
LOF AMb AMB 21 50 49.4
comp=Z,40nm,0.7s,mb5.4
MOX Moxa 84.35 320 *eP* **P** **21 50 47.9 -0.1**
URZ Urewera 84.36 129 P **P** **21 50 47.7 -0.3**
comp=Z,9.1nm,0.7s,mb4.7,baz=200,slow=8.5,SNR=3.6
SPB4 Spitsbergen Ar 84.48 348 *eP* **P** **21 50 47.7 -1.0**
SQTA Sankt Quirin 84.58 317 ⇑*iP* **P** **21 50 48.6 -0.6**
comp=Z,2.9nm,0.8s,mb4.3,SNR=5.8
SQTA Sankt Quirin 84.58 317 ⇑*iP* **P** **21 50 48.6 -0.6**
SQTA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
GRA1 Grafenberg Arr 84.59 319 *eP* **P** **21 50 49.6 +0.4**
comp=Z,10.0nm,1.0s,mb4.7
GRF Grafenberg Arr 84.59 319 *eP* **P** **21 50 49.6 +0.4**
comp=Z,10.0nm,1.0s,mb4.7
GRF Grafenberg Arr 84.59 319 *eP* **P** **21 50 49.6 +0.4**
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GRF Grafenberg Arr 84.59 319 *eP* **P** **21 50 49.6 +0.4**

GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
NSS Namsos 84.60 334 *eP* **P 21 50 48.0 -1.3**
NSS Namsos 84.60 334 *eP* **P 21 50 48.2 -1.0**
MOTA Moosalm 84.65 317⇑*iP* **P 21 50 48.8 -0.7**
comp=Z,4.8nm,0.9s,mb4.4,SNR=8.6
MOTA Moosalm 84.65 317⇑*iP* **P 21 50 48.8 -0.7**
MOTA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MOTA Moosalm 84.65 317⇑*iP* **P 21 50 48.8 -0.7**
comp=Z,4.8nm,0.9s,mb4.4
NB2 NORSAR Subarra 84.82 331 P P 21 50 49.7 -0.7
comp=Z,10nm,0.7s,mb4.9,baz=94,slow=4.8
NOA NORSAR Array B 84.82 331 P **P** 21 50 50.3 -0.1
comp=Z,7.6nm,0.7s,mb4.7,baz=93,slow=5.0,SNR=24
NOA pP pP 21 51 12.2 -1.4
comp=Z,2.6nm,0.9s,baz=92,slow=5.4,SNR=2.8
NOA NORSAR Array B 84.82 331 P **P 21 50 50.3 -0.1**
NOA *PP pP 21 51 12.2 -1.4
NOA pmax pmax
comp=Z,8.0nm,0.7s
NOA pmax pmax
comp=Z,3.0nm,0.9s
NAO01 NORSAR Array S 84.97 331 *eP* **P 21 50 50.9 -0.2**
comp=Z,11nm,1.0s,mb4.8
CLZ Clausthal 85.14 322 *eP* **P 21 50 52.2 +0.2**
comp=Z,13nm,0.8s,mb4.9
CLZ Clausthal 85.14 322 *eP* **P 21 50 52.2 +0.2**
CLZ pmax pmax
comp=Z,13nm,0.8s,mb4.9
BSEG Bad Segeberg 85.18 324 *eP* **P 21 50 52.3 +0.1**
comp=Z,13nm,1.0s,mb4.8
BSEG Bad Segeberg 85.18 324 *eP* **P 21 50 52.3 +0.1**
BSEG pmax pmax
comp=Z,13nm,1.0s,mb4.8
NRDL Niedersach Rie 85.31 322 *eP* **P 21 50 54.3 +1.5**
KBS Kingsbay 85.44 349 *eP* **P 21 50 52.1 -1.3**
KBS AMb AMB 21 50 53.6
comp=Z,45nm,1.1s,mb5.3
KBS Kingsbay 85.44 349⇑*iP* **P 21 50 51.8 -1.6**
PGF Pioggiola 86.20 312 *eP* **P 21 50 57.0 -0.2**
comp=Z,6.0nm,0.7s,mb4.3
PGF Pioggiola 86.20 312 *eP* **P 21 50 57.0 -0.2**
PGF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
PGF Pioggiola 86.20 312 *eP* **P 21 50 57.0 -0.2**
comp=Z,3.0nm,0.7s,mb4.3
TNS Taunus Mts 86.38 320 *eP* **P 21 50 58.5 +0.4**
BFO Black Forest 86.51 318 *eP* **P 21 50 58.3 -0.4**
comp=Z,6.0nm,1.1s,mb4.4
BFO Black Forest 86.51 318 *eP* **P 21 50 58.3 -0.4**
BFO pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
IBBN Ibbenburen 86.75 322 *eP* **P 21 51 00.3 +0.4**
BUG Bochum--Univer 87.08 321 *eP* **P 21 51 01.7 +0.2**
comp=Z,11nm,0.9s,mb4.8
BLS5 Blasjo 87.20 329 *eP* **P 21 51 04.2 +2.0**
BLS5 AMb AMB 21 51 05.9
comp=Z,49nm,1.0s,mb5.4
BLS5 Blasjo 87.20 329 *eP* **P 21 51 04.2 +2.0**
comp=Z,49nm,1.0s,mb5.4
CDF Champ du Feu 87.21 318 *eP* **P 21 51 01.5 -0.6**
SBF Sospel 87.30 314 *eP* **P 21 51 02.5 -0.1**
comp=Z,22nm,0.7s,mb4.9
SBF Sospel 87.30 314 *eP* **P 21 51 02.5 -0.1**
SBF pmax pmax
comp=Z,11nm,0.7s,mb4.9
SBF Sospel 87.30 314 *eP* **P 21 51 02.5 -0.1**
comp=Z,11nm,0.7s,mb4.9
LPG La Plagne 87.70 315 *eP* **P 21 51 04.8 +0.3**
comp=Z,14nm,0.8s,mb4.7
LPG La Plagne 87.70 315 *eP* **P 21 51 04.8 +0.3**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
LPG La Plagne 87.70 315 *eP* **P 21 51 04.8 +0.3**
comp=Z,6.8nm,0.8s,mb4.7
LPL La Plagne 87.72 315 *eP* **P 21 51 04.7 +0.1**
comp=Z,20nm,0.8s,mb4.9
LPL La Plagne 87.72 315 *eP* **P 21 51 04.7 +0.1**
LPL pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
LPL La Plagne 87.72 315 *eP* **P 21 51 04.7 +0.1**
comp=Z,9.9nm,0.8s,mb4.9
HAU Haudompre 87.85 318 *eP* **P 21 51 04.7 -0.5**
comp=Z,16nm,0.8s,mb4.8
HAU Haudompre 87.85 318 *eP* **P 21 51 04.7 -0.5**
HAU pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
HAU Haudompre 87.85 318 *eP* **P 21 51 04.7 -0.5**
comp=Z,7.8nm,0.8s,mb4.8
FRF La Foret Royal 87.88 313 *eP* **P 21 51 05.4 0.0**
comp=Z,11nm,0.6s,mb4.7
FRF La Foret Royal 87.88 313 *eP* **P 21 51 05.4 0.0**
FRF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
FRF La Foret Royal 87.88 313 *eP* **P 21 51 05.4 0.0**
comp=Z,5.4nm,0.6s,mb4.8
WLF Walferdange 87.88 319 *eP* **P 21 51 05.7 +0.3**
CABF La Chapelle 88.10 316 *eP* **P 21 51 06.5 +0.1**
comp=Z,6.5nm,0.6s,mb4.5
CABF La Chapelle 88.10 316 *eP* **P 21 51 06.5 +0.1**
CABF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
CABF La Chapelle 88.10 316 *eP* **P 21 51 06.5 +0.1**
comp=Z,3.3nm,0.6s,mb4.5
VNDA Vanda 88.30 169 P **P 21 51 06.6 -0.8**
comp=Z,2.1nm,0.8s,mb4.2,baz=300,slow=4.7,SNR=17
VNDA Vanda 88.30 169 P **P 21 51 06.6 -0.7**
VNDA pmax pmax
comp=Z,2.0nm,0.8s
VNDA Vanda 88.30 169 P **P 21 51 06.6 -0.8**
ORIF Oris-en-Rattie 88.35 315 *eP* **P 21 51 07.8 +0.2**
comp=Z,5.3nm,0.6s,mb4.5
ORIF Oris-en-Rattie 88.35 315 *eP* **P 21 51 07.8 +0.2**
ORIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ORIF Oris-en-Rattie 88.35 315 *eP* **P 21 51 07.8 +0.2**
comp=Z,2.7nm,0.6s,mb4.5
GIVF Givet 88.71 320 *eP* **P 21 51 09.3 0.0**
BAIF Baives 89.11 320 *eP* **P 21 51 11.5 +0.4**
comp=Z,29nm,0.8s,mb5.0
BAIF Baives 89.11 320 *eP* **P 21 51 11.5 +0.4**
BAIF pmax pmax
comp=Z,14nm,0.8s,mb5.0
BAIF Baives 89.11 320 *eP* **P 21 51 11.5 +0.4**
comp=Z,14nm,0.8s,mb5.1
VIVF Saint-Julien-l 89.21 315 *eP* **P 21 51 11.7 +0.1**
LOR Lormes 89.58 317 *eP* **P 21 51 13.0 -0.3**
comp=Z,17nm,1.0s,mb4.8
LOR Lormes 89.58 317 *eP* **P 21 51 13.0 -0.3**
LOR pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
LOR Lormes 89.58 317 *eP* **P 21 51 13.0 -0.3**
comp=Z,8.4nm,1.0s,mb4.8
SMF Signal de Mont 89.64 317 *eP* **P 21 51 13.5 -0.1**
comp=Z,22nm,1.0s,mb4.9
SMF Signal de Mont 89.64 317 *eP* **P 21 51 13.5 -0.1**
SMF pmax pmax
comp=Z,11nm,1.0s,mb4.9
SMF Signal de Mont 89.64 317 *eP* **P 21 51 13.5 -0.1**
comp=Z,11nm,1.0s,mb4.9
SSF Saint Saulge 89.84 317 *eP* **P 21 51 14.6 +0.1**
comp=Z,25nm,1.4s,mb4.9
SSF Saint Saulge 89.84 317 *eP* **P 21 51 14.6 +0.1**
SSF pmax pmax
comp=Z,12nm,1.4s,mb4.8
SSF Saint Saulge 89.84 317 *eP* **P 21 51 14.6 +0.1**
comp=Z,12nm,1.4s,mb4.8
LASF Ste Croix 89.86 314 *eP* **P 21 51 15.1 +0.5**
AVF Avril sur Loir 89.97 317 *eP* **P 21 51 15.2 +0.1**
BGF Bois d'Agland 90.34 317 *eP* **P 21 51 16.5 -0.4**
comp=Z,17nm,1.1s,mb4.8
BGF Bois d'Agland 90.34 317 *eP* **P 21 51 16.5 -0.4**
BGF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
BGF Bois d'Agland 90.34 317 *eP* **P 21 51 16.5 -0.4**
comp=Z,8.6nm,1.1s,mb4.8
HYF Humbligny 90.40 317 *eP* **P 21 51 17.9 +0.7**
TCF Toulx Ste Croi 90.80 316 *eP* **P 21 51 19.4 +0.4**
CAF Calviac 91.05 315 *eP* **P 21 51 20.7 +0.5**
comp=Z,12nm,1.0s,mb4.7
CAF Calviac 91.05 315 *eP* **P 21 51 20.7 +0.5**
CAF pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
CAF Calviac 91.05 315 *eP* **P 21 51 20.7 +0.5**
comp=Z,5.9nm,1.0s,mb4.7

MTLF Montolieu 91.11 313 *eP* **P 21 51 21.0 +0.5**
comp=Z,5.6nm,0.6s,mb4.5
MTLF Montolieu 91.11 313 *eP* **P 21 51 21.0 +0.5**
MTLF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
MTLF Montolieu 91.11 313 *eP* **P 21 51 21.0 +0.5**
comp=Z,2.8nm,0.6s,mb4.6
LFF La Frestale 91.98 315 *eP* **P 21 51 25.3 +0.8**
comp=Z,20nm,1.1s,mb5.0
LFF La Frestale 91.98 315 *eP* **P 21 51 25.3 +0.8**
LFF pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
LFF La Frestale 91.98 315 *eP* **P 21 51 25.3 +0.8**
comp=Z,9.9nm,1.1s,mb5.0
LDF La Druitiere 92.09 319 *eP* **P 21 51 25.0 0.0**
FLN La Foliniere 92.30 319 *eP* **P 21 51 25.9 -0.1**
comp=Z,9.8nm,0.7s,mb4.8
FLN La Foliniere 92.30 319 *eP* **P 21 51 25.9 -0.1**
FLN pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
FLN La Foliniere 92.30 319 *eP* **P 21 51 25.9 -0.1**
comp=Z,4.9nm,0.7s,mb4.8
MFF Saint Martin d 92.38 317 *eP* **P 21 51 26.6 +0.3**
comp=Z,18nm,1.0s,mb5.0
MFF Saint Martin d 92.38 317 *eP* **P 21 51 26.6 +0.3**
MFF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
MFF Saint Martin d 92.38 317 *eP* **P 21 51 26.6 +0.3**
comp=Z,8.8nm,1.0s,mb4.9
ETSF Etsaut 93.19 313 *eP* **P 21 51 31.0 +0.9**
TORD Torodi Ar. Bea 94.56 283 P **P 21 51 38.1 +1.7**
comp=Z,1.7nm,0.9s,mb4.5,baz=98,slow=4.7,SNR=7.5
TORD pP pP 21 52 00.7 +0.7
comp=Z,1.9nm,0.9s,baz=104,slow=4.3,SNR=5.8
ESDC Sonseca Array 96.23 310 P **P 21 51 44.7 +0.8**
comp=Z,0.4nm,0.4s,mb4.2,baz=61,slow=4.1,SNR=9.9
YKA Yellowknife Ar 109.63 15 PP PP 21 57 14.2 -4.1
comp=Z,0.7nm,0.8s,baz=332,slow=8.2,SNR=4.2
SCHQ Schefferville PKP PKPdf 21 57 05.5 -0.7
comp=Z,4.0nm,0.9s,baz=26,slow=5.8,SNR=3.8
ULM Lac du Bonnet 125.03 10 PKP PKPdf 21 57 15.4 -0.2
comp=Z,6.6nm,0.8s,baz=290,slow=1.2,SNR=5.2
MSU Marysvale 129.90 30 *e*PKIKP PKPdf 21 57 27.5 +2.6
PLCA Paso Flores 141.58 195 PKhKP 21 57 43.8
comp=Z,3.3nm,1.1s,baz=173,slow=4.5,SNR=3.8
PLCA Paso Flores 141.58 195 PKIKP PKPdf 21 57 43.8 -2.8
PLCA pmax pmax
comp=Z,3.0nm,1.1s
JCT Junction City 142.25 24 *e*PKIKP PKPdf 21 57 43.5 -4.3
BDFB Brasilia 143.86 249 PKP PKPdf 21 57 52.3 +1.7
comp=Z,3.2nm,0.9s,baz=146,slow=3.4,SNR=4.7
BDFB Brasilia 143.86 249 PKIKP PKPdf 21 57 52.3 +1.7
BDFB pmax pmax
comp=Z,3.0nm,0.9s
CPUP Villa Florida 146.88 225 PKPbc PKPbc 21 57 58.5 +0.7
comp=Z,1.6nm,0.6s,baz=88,slow=3.2,SNR=9.4
CPUP Villa Florida 146.88 225 PKP2 PKPab 21 57 58.5 -0.8
CPUP pmax pmax
comp=Z,2.0nm,0.6s
CFAA Coronel Fontan 149.12 205 PKPbc PKPbc 21 58 04.5 +0.8
comp=Z,1.7nm,0.7s,baz=196,slow=1.8,SNR=23
LPAZ La Paz 160.99 228 PKP PKPdf 21 58 18.9 +3.4
comp=Z,1.2nm,0.8s,baz=44,slow=6.4,SNR=4.4
LPAZ PKPab PKPab 21 59 01.4 +2.5
comp=Z,1.6nm,0.7s,baz=96,slow=6.0,SNR=5.1
LPAZ La Paz 160.99 228 PKIKP PKPdf 21 58 18.9 +3.4
LPAZ 21 59 01.4
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
LPAZ pmax pmax
comp=Z,2.0nm,0.7s

*IDC **08** 21:44:49.0₀1.6,5173N×179.37W,h0ᵏᵐ,mb3.8/12, mb1 4.0/13,mb1mx3.9/23,mbtmp3.8/13,ML4.0/1,Error ellipse: s-maj=45.2km s-min=18.7km az=2.0*
NEIC 08 21:44:50.9,5111N×17916W,h20ᵏᵐ,ML3.6(AEIC)**, After AEIC., Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**1.00**	**286**	P	Pb	21 45 07.7	-1.9
AMKA				S	Sb	21 45 22.3	-0.1
ATKA	**Atka Island**	**3.28**	**68**	P	Pn	21 45 41.7	+0.6
ATKA				S	Sn	21 46 20.4	+0.9
SMY	**Shemya**	**4.48**	**294**	P	Pn	21 45 60.0	+2.4
KDAK	**Kodiak Island**	**16.76**	**56**	Pn	Pn	21 48 41.5	-2.9
	0.6nm,0.3s,baz=6.8,slow=8.5,SNR=6.5						
ILAR	**Eielson Array**	**21.60**	**38**	P	P	21 49 36.4	-3.1
	0.6nm,0.8s,baz=248,slow=10.0,SNR=4.4						
DAWY	**Dawson**	**24.46**	**43**	*e*P	P	21 50 05.7	-2.6
YKA	**Yellowknife Ar**	**35.59**	**46**	P	P	21 51 44.7	-2.1
	1.0nm,0.7s,baz=281,slow=7.9,SNR=6.7						
YKA	**Yellowknife Ar**	**35.59**	**46**	P	P	21 51 44.7	-2.1
NVAR	**Mina Array Bea**	**43.81**	**82**	P	P	21 52 58.0	+2.7
	0.5nm,0.8s,baz=304,slow=8.1,SNR=3.1						
NVAR	**Mina Array Bea**	**43.81**	**82**	P	P	21 52 58.0	+2.7
SONM	**Songino Array**	**46.57**	**297**	P	P	21 53 15.7	-1.5
	0.9nm,0.9s,baz=73,slow=8.9,SNR=4.6						
PDAR	**Pinedale Array**	**46.61**	**72**	P	P	21 53 16.8	-0.7
	3.1nm,0.7s,baz=309,slow=4.2,SNR=33						
MKAR	**Makanchi Array**	**60.03**	**308**	P	P	21 54 53.9	-2.3
	0.6nm,0.6s,baz=38,slow=6.1,SNR=6.1						
FINES	**FINESS Array B**	**66.00**	**347**	P	P	21 55 32.9	-3.0
	1.0nm,0.7s,baz=27,slow=5.2,SNR=5.8						
NOA	**NORSAR Array B**	**67.90**	**355**	P	P	21 55 44.8	-3.1
	0.8nm,0.9s,baz=6.9,slow=5.3,SNR=2.8						
HFS	**Hagfors**	**68.63**	**353**	P	P	21 55 49.9	-2.6
	1.6nm,0.7s,baz=37,slow=6.6,SNR=9.4						
AKASG	**Malin Array Be**	**75.74**	**342**	P	P	21 56 32.2	-2.8
	0.6nm,0.4s,baz=21,slow=5.9,SNR=8.7						
GERES	**GERESS Array B**	**79.82**	**351**	P	P	21 56 54.9	-2.9
	0.6nm,0.7s,baz=26,slow=6.4,SNR=5.1						
BRTR	**Keskin Array B**	**85.10**	**335**	P	P	21 57 21.9	-3.4
	0.5nm,0.7s,baz=35,slow=7.9,SNR=5.2						
LBTB	**Lobatse**	**147.76**	**315**	PKPbc	PKPbc	22 04 33.2	-1.0
	2.4nm,0.7s,baz=99,slow=4.4,SNR=5.4						
LBTB	**Lobatse**	**147.76**	**315**	PKPbc	PKPbc	22 04 33.2	-1.0
BOSA	**Boshof**	**150.99**	**311**	PKPbc	PKPbc	22 04 43.1	+0.9
	1.2nm,0.5s,baz=355,slow=6.5,SNR=5.1						

*IDC **08** 21:47:28.6₀0.6,5133N×17921W,h0ᵏᵐ,mb4.5/24, mb1 4.7/25,mb1mx4.6/28,mbtmp4.5/25,ML4.4/1,MS5.4/1, Ms1 5.3/1,ms1mx3.2/42,Error ellipse: s-maj=19.0km s-min=11.7km az=172.0*
*NEIC **08** 21:47:30.9,5101N×17921W,h4ᵏᵐ,mb4.8/68, ML4.4(AEIC),After AEIC.*
*MOS **08** 21:47:33.3₀0.7,5141N×17936W,h36ᵏᵐ,mb4.9/75,Error ellipse: s-maj=13.9km s-min=5.5km az=92.8*
*ISCJB **08** 21:47:34.0₀0.8,5124N₀009×17923W₀005,h49ᵏᵐ₀5ᵏᵐ, mb4.7/109,Error ellipse: s-maj=15.0km s-min=5.3km az=165.5*
*SZGRF **08** 21:47:39.0,5180N×17899E,h33ᵏᵐ,mb4.7,Rat Islands, Aleutian Islands, United States*
ISC 08 21:47:35.5₀0.8,5131N₀009×17926W₀006,h50ᵏᵐ₀6ᵏᵐ, n277,₀0ᵍ76/271,mb4.7/109,58C-1D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.91**	**275**	P	**Pn**	**21 47 49.7**	**-2.3**
AMKA				S	**Sn**	**21 48 04.0**	**-0.1**
ATKA	**Atka Island**	**3.27**	**72**	P	**Pn**	**21 48 23.7**	**-0.5**
ATKA				S	**Sn**	**21 49 02.4**	**+0.5**
SMY	**Shemya**	**4.34**	**292**	P	**Pn**	**21 48 42.3**	**+3.4**
SPIA	**Saint Paul Isl**	**7.89**	**38**	P	**Pn**	**21 49 31.1**	**+3.5**
UNV	**Unalaska Valle**	**8.17**	**67**	*e*Pn	**Pn**	**21 49 32.5**	**+1.0**
	87nm,0.8s						
SVW2	**Sparrevohn**	**16.32**	**44**	*e*P	**Pn**	**21 51 23.8**	**+2.6**
KDAK	**Kodiak Island**	**16.70**	**57**	Pn	**Pn**	**21 51 22.0**	**-3.9**
	1.5nm,0.3s,baz=241,slow=3.4,SNR=19						
SML	**Sawmill**	**19.81**	**46**	*e*P	**Pn**	**21 52 04.4**	**+0.7**
COLA	**College**	**21.14**	**38**	*e*P	**P**	**21 52 17.5**	**+1.3**
COLA				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.3						
COLA	**College**	**21.14**	**38**	*e*P	**P**	**21 52 17.4**	**+1.3**
	comp=Z,14nm,0.9s,mb4.3						
ILAR	**Eielson Array**	**21.47**	**39**	P	**P**	**21 52 19.1**	**-0.7**
	comp=Z,3.0nm,0.7s,mb3.7,baz=243,slow=10,SNR=13						
ILAR	**Eielson Array**	**21.47**	**39**	P	**P**	**21 52 19.1**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DAWY	**Dawson**	**24.35**	**43**	*e*P	**P**	**21 52 47.8**	**-0.8**
YSS	**Yuzh-Sakhalins**	**25.04**	**275**⇑	*e*P	**P**	**21 52 55.6**	**+0.7**

YSS pmax pmax
comp=Z,40nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 25.04 275 *e*P **P 21 52 55.8 +0.8**
comp=Z,22nm,0.7s,mb4.8
ASAJ Asahikawa 26.42 269 P **P 21 53 08.0 +0.6**
comp=Z,13nm,0.9s,mb4.5,baz=114,slow=8.0,SNR=8.8
ASAJ Asahikawa 26.42 269 P **P 21 53 08.0 +0.6**
ASAJ pmax pmax
comp=Z,13nm,0.9s
INK Inuvik 27.68 35 P **P 21 53 16.2 -2.5**
comp=Z,1.2nm,0.5s,mb3.8,baz=230,slow=8.3,SNR=4.7
INK Inuvik 27.68 35 P **P 21 53 16.2 -2.5**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 27.68 35 P **P 21 53 16.2 -2.5**
KLR Kul'dur 30.92 286⇓*iP* **P 21 53 44.8 -2.7**
KLR pmax pmax
comp=E,24nm,0.9s
KLR pmax pmax
comp=Z,40nm,0.9s,mb5.2
MJAR Matsushiro Arr 33.49 261 P **P 21 54 09.9 -0.1**
comp=Z,2.2nm,0.8s,mb4.2,baz=53,slow=7.6,SNR=14
MJAR Matsushiro Arr 33.49 261 P **P 21 54 09.9 -0.1**
MJAR pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 35.48 46 P **P 21 54 26.5 -0.7**
comp=Z,5.0nm,0.6s,mb4.6,baz=282,slow=8.1,SNR=28
YKA PcP PcP 21 56 53.1 -2.6
comp=Z,1.0nm,0.8s,baz=269,slow=32,SNR=5.8
BOD Bodaibo 37.79 307 *eP* **P 21 54 44.9 -1.9**
BOD pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
EDM Edmonton 39.09 61 *eP* **P 21 54 57.4 -0.4**
YBH Yreka Blue Hor 39.17 81 P **P 21 54 58.9 +0.4**
comp=Z,3.3nm,0.8s,mb4.1,baz=83,slow=0.6,SNR=2.8
YBH Yreka Blue Hor 39.17 81 P **P 21 54 58.9 +0.4**
YBH pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 39.17 69 P **P 21 54 58.6 +0.2**
comp=Z,8.8nm,0.9s,mb4.5,baz=293,slow=8.1,SNR=10.0
NEW Newport 39.17 69 P **P 21 54 58.7 +0.2**
NEW pmax pmax
comp=Z,9.0nm,0.9s
MCMT McKenzie Canyo 43.47 71 *eP* **P 21 55 33.6 -0.1**
EGMT Eagleton 43.57 66 *eP* **P 21 55 32.9 -1.6**
comp=Z,3.2nm,0.6s,mb4.2
BOZ Bozeman (W) 43.74 70 *eP* **P 21 55 35.7 -0.2**
BOZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
BOZ Bozeman (W) 43.74 70 *eP* **P 21 55 35.7 -0.2**
comp=Z,4.8nm,0.7s,mb4.3
NVAR Mina Array Bea 43.84 82 P **P 21 55 37.4 +0.7**
comp=Z,1.6nm,0.7s,mb3.8,baz=299,slow=6.6,SNR=9.2
NVAR PcP PcP 21 57 20.1 -2.2
comp=Z,2.8nm,0.9s,baz=336,slow=2.0,SNR=8.8
DUG Dugway 46.16 77 *eP* **P 21 55 55.4 +0.3**
DUG pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
DUG Dugway 46.16 77 *eP* **P 21 55 55.4 +0.3**
comp=Z,8.5nm,1.1s,mb4.6
DUG *e* 21 57 23.6
SONM Songino Array 46.42 296 P **P 21 55 58.2 +1.0**
comp=Z,4.7nm,0.6s,mb4.6,baz=66,slow=8.2,SNR=40
SONM PcP PcP 21 57 31.2 -0.1
comp=Z,1.3nm,0.7s,baz=60,slow=3.0,SNR=3.7
SONM Songino Array 46.42 296 P **P 21 55 58.2 +1.1**
SONM 21 57 31.2
SONM pmax pmax
comp=Z,5.0nm,0.6s
SONM pmax pmax
comp=Z,1.0nm,0.7s
PDAR Pinedale Array 46.60 72 P **P 21 55 58.5 -0.1**
comp=Z,11nm,0.8s,mb4.8,baz=309,slow=4.2,SNR=72
ZAK Zakamensk 46.74 301 *eP* **P 21 56 00.1 +0.4**
ZAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
ULM Lac du Bonnet 49.96 56 LR LR 22 18 36.7
comp=Z,3µm,18.4s,baz=13,slow=37
SPB4 Spitsbergen Ar 50.42 356 *eP* **P 21 56 27.6 -0.3**
ZAL Zalesovo 53.88 313 P **P 21 56 51.8 -1.8**
comp=Z,1.1nm,0.2s,mb4.3,baz=322,slow=22,SNR=9.5
ZAL PcP PcP 21 57 59.4 +0.7
comp=Z,2.6nm,0.7s,baz=70,slow=4.4,SNR=8.8
ZAL Zalesovo 53.88 313 P **P 21 56 51.8 -1.8**
ZAL 21 57 59.4
ZAL pmax pmax
comp=Z,1.0nm,0.3s
ZAL pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 58.11 350 P **P 21 57 23.1 -0.7**
comp=Z,5.2nm,0.7s,mb4.7,baz=27,slow=6.8,SNR=14
ARCES ARCESS Array B 58.11 350 P **P 21 57 23.2 -0.6**
ARCES pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 59.85 308 P **P 21 57 35.8 -0.1**
comp=Z,5.4nm,0.5s,mb4.8,baz=43,slow=6.7,SNR=82
MKAR Makanchi Array 59.85 308 P **P 21 57 35.8 -0.1**
MKAR pmax pmax
comp=Z,5.0nm,0.5s
SCHQ Schefferville 60.23 38 P **P 21 57 36.1 -2.4**
comp=Z,5.1nm,0.8s,mb4.6,baz=293,slow=7.6,SNR=5.0
BVAR Borovoye Array 60.75 320 P **P 21 57 41.7 -0.4**
comp=Z,2.2nm,0.6s,mb4.5,baz=52,slow=7.0,SNR=15
BVAR PcP PcP 21 58 26.4 +0.8
comp=Z,3.0nm,0.6s,baz=52,slow=3.8,SNR=7.6
BVAR Borovoye Array 60.75 320 P **P 21 57 41.7 -0.4**
BVAR 21 58 26.4
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR pmax pmax
comp=Z,3.0nm,0.6s
ARU Arti 62.51 328 *eP* **P 21 57 53.4 -0.5**
ARU *e* 22 00 09.1
ARU *e*PPP 22 01 37.2
ARU *e*S **S 22 06 19.5 +1.9**
ARU *e*SS SS 22 10 24.4 +2.2
JOF Joensuu 63.59 345 *ep* **P 21 58 00.3 -0.7**
comp=Z,12nm,0.6s,mb5.1
JOF Joensuu 63.59 345 *eP* **P 21 58 00.3 -0.7**
JOF pmax pmax
comp=Z,12nm,0.6s,mb5.1
KLMR Klimovskoe 63.94 340 *eP* **P 21 58 02.1 -1.3**
KLMR pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
KAF Kangasniemi 65.11 347 *ep* **P 21 58 09.3 -1.7**
comp=Z,10nm,0.6s,mb5.0,baz=14,slow=5.8
KAF Kangasniemi 65.11 347 *eP* **P 21 58 09.3 -1.7**
KAF pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
FINES FINESS Array B 65.78 347 P **P 21 58 14.6 -0.8**
comp=Z,6.4nm,0.6s,mb4.8,baz=28,slow=8.6,SNR=33
FINES FINESS Array B 65.78 347 P **P 21 58 14.6 -0.8**
FINES pmax pmax
comp=Z,6.0nm,0.6s
AAK Ala-Archa 66.69 310 *eP* **P 21 58 21.3 +0.2**
AAK pmax pmax
comp=Z,12nm,0.7s,mb5.0
AKTK Aktyubinsk 67.57 324 P **P 21 58 26.8 0.0**
AKTO Aktyubinsk 67.57 324 P **P 21 58 26.8 0.0**
comp=Z,1.6nm,0.5s,mb4.3,baz=57,slow=8.8,SNR=9.9
AKTO Aktyubinsk 67.57 324 P **P 21 58 26.8 +0.1**
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
NB2 NORSAR Subarra 67.68 355 P **P 21 58 26.8 -0.6**
comp=Z,4.0nm,0.8s,mb4.5,baz=6.3,slow=6.5
NOA NORSAR Array B 67.68 355 P **P 21 58 27.2 -0.3**
comp=Z,3.4nm,0.7s,mb4.5,baz=6.9,slow=6.3,SNR=13
NOA NORSAR Array B 67.68 355 P **P 21 58 27.2 -0.2**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 67.68 355 P **P 21 58 27.2 -0.3**
OBN Obninsk 69.83 339*ce*P **P 21 58 40.5 -0.3**
OBN *e* 21 58 47.3
OBN *e* pP 21 58 57.4 +2.4
OBN 21 59 03.0
OBN pmax pmax
comp=Z,18nm,0.9s,mb5.0
GUN Gumba 71.62 292 *eP* **P 21 58 53.0 +1.3**
comp=Z,83nm,0.7s,mb5.8
JIRN Jiri 71.62 291 *eP* **P 21 58 53.3 +1.6**
comp=Z,31nm,0.6s,mb5.5
KKN Kakani 72.06 292 *eP* **P 21 58 55.5 +1.2**
comp=Z,26nm,0.7s,mb5.3
PKI Pulchoki 72.14 292 *eP* **P 21 58 55.8 +1.0**
comp=Z,29nm,0.9s,mb5.2
GKN Gorkha 72.27 293 *eP* **P 21 58 56.2 +0.6**

comp=Z,31nm,0.8s,mb5.3
DMN Daman 72.29 292 *e*P P **21 58 57.0 +1.3**
comp=Z,34nm,1.1s,mb5.2
KOLN Koldanda 73.04 293 *e*P P **21 59 01.1 +0.9**
comp=Z,18nm,0.9s,mb5.0
SUW Suwalki 73.38 346 *e*P P **21 59 01.5 -0.6**
BSEG Bad Segeberg 74.82 354 *e*P P **21 59 11.0 +0.5**
comp=Z,15nm,0.9s,mb4.8
BSEG Bad Segeberg 74.82 354 *e*P P **21 59 11.0 +0.5**
BSEG pmax pmax
comp=Z,15nm,0.9s,mb4.9
AKASG Malin Array Be 75.52 342 P P **21 59 14.2 -0.4**
comp=Z,17nm,0.5s,mb5.2,baz=19,slow=5.8,SNR=63
AKASG Malin Array Be 75.52 342 P P **21 59 14.2 -0.4**
AKASG pmax pmax
comp=Z,17nm,0.5s
AKBB Malin Array Si 75.52 342 *e*P P **21 59 14.1 -0.5**
NRDL Niedersach Rie 76.27 354 *e*P P **21 59 19.9 +1.1**
IBBN Ibbenburen 76.58 356 *e*P P **21 59 20.9 +0.3**
CLZ Clausthal 76.90 354 *e*P P **21 59 22.9 +0.5**
comp=Z,15nm,0.9s,mb4.9
CLZ Clausthal 76.90 354 *e*P P **21 59 22.9 +0.5**
CLZ pmax pmax
comp=Z,15nm,0.9s,mb4.9
CLL Collm 77.23 352 *e*P P **21 59 23.9 -0.4**
comp=Z,6.0nm,0.8s,mb4.6
CLL Collm 77.23 352 P P **21 59 23.6 -0.7**
comp=Z,logA/T=0.9,mb4.6
CLL Collm 77.23 352 *i* P P **21 59 23.6 -0.7**
comp=Z,6.0nm,0.8s,mb4.6
CLL Collm 77.23 352 *i* P P **21 59 23.6 -0.7**
CLL pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BUG Bochum--Univer 77.47 356 *e*P P **21 59 25.8 +0.2**
OJC Ojcow 77.55 348 *e*P P **21 59 26.2 +0.1**
BRG Berggiesshubel 77.58 351 *e*P P **21 59 25.7 -0.5**
comp=Z,6.0nm,0.9s,mb4.5
BRG Berggiesshubel 77.58 351 *i* P P **21 59 25.7 -0.5**
comp=Z,3.6nm,0.9s,mb4.3
BRG Berggiesshubel 77.58 351 *i* P P **21 59 25.7 -0.5**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KWP Kalwaria 77.70 346 *e*P P **21 59 27.5 +0.6**
UPC Upice 77.73 350 *e*P P **21 59 27.0 0.0**
DPC Dobruska-Polom 77.85 350 *e*P P **21 59 27.5 -0.2**
PVCC Panska Ves 77.86 351 *e*P P **21 59 27.6 -0.2**
UBBA Unterbreizbach 77.94 354 *e*P P **21 59 28.2 0.0**
MOX Moxa 78.00 353 *e*P P **21 59 28.6 0.0**
comp=Z,5.0nm,0.8s,mb4.5
OKC Ostrava-Krasne 78.14 349 *e*P P **21 59 29.1 -0.2**
TANN Tannenbergstha 78.16 352 *e*P P **21 59 29.6 +0.2**
HGN Heimansgroeve 78.20 357 *e*P P **21 59 30.1 +0.4**
comp=Z,17nm,0.9s,mb5.2
NIE Niedzica 78.27 347 *e*P P **21 59 30.7 +0.7**
NKC Novy Kostel 78.34 352 *e*P P **21 59 30.1 -0.3**
PRU Pruhonice 78.39 351 *e*P P **21 59 30.6 -0.1**
KOLS Kolonicke sedl 78.45 346 *e*P P **21 59 31.5 +0.5**
KOLS *e* 21 59 35.4
KOLS pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KOLS Kolonicke sedl 78.45 346 *e*P P **21 59 31.5 +0.5**
KOLS *e* 21 59 35.4
comp=Z,8.6nm,0.8s,mb4.7
CRVS Cervenica-Dubn 78.60 346 *e*P P **21 59 32.3 +0.4**
CRVS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
CRVS Cervenica-Dubn 78.60 346 *e*P P **21 59 32.3 +0.4**
comp=Z,2.9nm,0.8s,mb4.3
MANZ Manzenberg 78.61 353 *e*P P **21 59 32.3 +0.3**
TNS Taunus Mts 78.63 355 *e*P P **21 59 32.2 +0.2**
ROTZ Rotzenmuhle 78.82 352 *e*P P **21 59 33.5 +0.4**
GIVF Givet 78.90 357 *e*P P **21 59 33.3 -0.2**
BAIF Baives 78.96 358⇑ *i*P P **21 59 33.9 0.0**
comp=Z,19nm,0.8s,mb4.8
BAIF Baives 78.96 358⇑ *i*P P **21 59 33.9 0.0**
BAIF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BAIF Baives 78.96 358⇑ *i*P P **21 59 33.9 0.0**
comp=Z,9.6nm,0.8s,mb4.8
GRA1 Grafenberg Arr 78.98 353 *e*P P **21 59 34.4 +0.5**
comp=Z,12nm,0.8s,mb4.9
GRF Grafenberg Arr 78.98 353 *e*P P **21 59 34.4 +0.5**
comp=Z,12nm,0.8s,mb4.9
GRF Grafenberg Arr 78.98 353 *e*P P **21 59 34.4 +0.5**
GRF pmax pmax
comp=Z,12nm,0.8s,mb4.9
GRF Grafenberg Arr 78.98 353 *e*P P **21 59 34.4 +0.5**
GRF pmax pmax
comp=Z,12nm,0.8s,mb4.9
TREC Trest 78.98 350 *e*P P **21 59 33.7 -0.3**
KECS Kecovo 79.16 347 *i*P P **21 59 35.0 +0.1**
KECS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KECS Kecovo 79.16 347 *i*P P **21 59 35.0 +0.1**
comp=Z,5.9nm,0.9s,mb4.5
WLF Walferdange 79.30 356 *e*P P **21 59 36.4 +0.7**
KHC Kasperske Hory 79.33 351 *e*P P **21 59 36.1 +0.2**
VYHS Vyhne 79.37 348 *e*P P **21 59 36.2 +0.1**
VYHS pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
VYHS Vyhne 79.37 348 *e*P P **21 59 36.2 +0.1**
comp=Z,3.5nm,1.0s,mb4.2
WET Wettzell 79.39 352 *e*P P **21 59 36.4 +0.2**
comp=Z,3.0nm,0.9s,mb4.2
WET Wettzell 79.39 352 *e*P P **21 59 36.4 +0.2**
WET pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
GEC2 GERESS Array S 79.61 351 *e*P P **21 59 37.2 -0.2**
comp=Z,4.0nm,0.7s,mb4.5
GEC2 GERESS Array S 79.61 351 *e*P P **21 59 37.2 -0.2**
GEC2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
GERES GERESS Array B 79.61 351 P P **21 59 37.5 +0.1**
comp=Z,2.7nm,0.6s,mb4.3,baz=27,slow=5.3,SNR=39
GERES GERESS Array B 79.61 351 P P **21 59 37.5 +0.1**
GERES pmax pmax
comp=Z,3.0nm,0.6s
ZST Bratislava 79.88 349 *i*P P **21 59 39.2 +0.3**
ZST pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
ZST Bratislava 79.88 349 *i*P P **21 59 39.2 +0.3**
comp=Z,7.6nm,0.7s,mb4.7
STU Stuttgart 80.03 354 *e*P P **21 59 39.9 +0.2**
SRO2 Moca 80.15 348 *i*P P **21 59 40.3 0.0**
SRO2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
CONA Conrad Observa 80.29 350⇑ *i*P P **21 59 41.7 +0.7**
comp=Z,6.1nm,0.7s,mb4.6
FLN La Foliniere 80.30 1 *e*P P **21 59 40.5 -0.6**
comp=Z,34nm,1.0s,mb4.4
FLN La Foliniere 80.30 1 *e*P P **21 59 40.5 -0.6**
FLN pmax pmax
comp=Z,17nm,1.0s,mb4.9
FLN La Foliniere 80.30 1 *e*P P **21 59 40.5 -0.6**
comp=Z,17nm,1.0s,mb4.9
LDF La Druitiere 80.47 1⇑ *i*P P **21 59 41.3 -0.7**
comp=Z,33nm,0.9s,mb5.0
LDF La Druitiere 80.47 1⇑ *i*P P **21 59 41.3 -0.7**
LDF pmax pmax
comp=Z,16nm,0.9s,mb5.0
LDF La Druitiere 80.47 1⇑ *i*P P **21 59 41.3 -0.7**
comp=Z,16nm,0.9s,mb5.0
CDF Champ du Feu 80.50 356 *e*P P **21 59 41.8 -0.4**
comp=Z,12nm,0.9s,mb4.5
CDF Champ du Feu 80.50 356 *e*P P **21 59 41.8 -0.4**
CDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CDF Champ du Feu 80.50 356 *e*P P **21 59 41.8 -0.4**
comp=Z,6.3nm,0.9s,mb4.5
MEZF Maizieres J'vi 80.50 357 *e*P P **21 59 42.2 0.0**
comp=Z,20nm,0.9s,mb4.7
MEZF Maizieres J'vi 80.50 357 *e*P P **21 59 42.2 0.0**
comp=Z,20nm,0.9s,mb5.1
BFO Black Forest 80.52 355 *e*P P **21 59 42.3 0.0**
comp=Z,3.0nm,0.8s,mb4.3
BFO Black Forest 80.52 355 *e*P P **21 59 42.3 0.0**
BFO pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
GRR Gorron 80.67 1⇑ *i*P P **21 59 42.8 -0.3**
comp=Z,22nm,0.8s,mb4.8
GRR Gorron 80.67 1⇑ *i*P P **21 59 42.8 -0.3**
GRR pmax pmax
comp=Z,11nm,0.8s,mb4.8
GRR Gorron 80.67 1⇑ *i*P P **21 59 42.8 -0.3**
comp=Z,11nm,0.8s,mb4.8
ROSF Rostrenen 80.67 3 *e*P P **21 59 42.9 -0.2**

SGMF Saint Gilles 80.77 2⇑ *i*P P **21 59 43.4 -0.2**
comp=Z,16nm,0.7s,mb4.8
SGMF Saint Gilles 80.77 2⇑ *i*P P **21 59 43.4 -0.2**
SGMF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
SGMF Saint Gilles 80.77 2⇑ *i*P P **21 59 43.4 -0.2**
comp=Z,8.1nm,0.6s,mb4.8
HAU Haudompre 80.94 356⇑ *i*P P **21 59 44.2 -0.4**
comp=Z,11nm,0.9s,mb4.5
HAU Haudompre 80.94 356⇑ *i*P P **21 59 44.2 -0.4**
HAU pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
HAU Haudompre 80.94 356⇑ *i*P P **21 59 44.2 -0.4**
comp=Z,5.4nm,0.9s,mb4.5
ARSA Arzberg 81.00 350⇑ *i*P P **21 59 45.6 +0.8**
comp=Z,4.5nm,0.7s,mb4.5
HINF Hinteralfeld 81.11 356 *e*P P **21 59 44.9 -0.5**
comp=Z,7.7nm,0.9s,mb4.3
HINF Hinteralfeld 81.11 356 *e*P P **21 59 44.9 -0.5**
HINF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
HINF Hinteralfeld 81.11 356 *e*P P **21 59 44.9 -0.5**
comp=Z,3.8nm,0.9s,mb4.3
WATA Walderalm 81.29 353⇑ *i*P P **21 59 46.7 +0.3**
comp=Z,4.8nm,0.9s,mb4.4
WATA Walderalm 81.29 353⇑ *i*P P **21 59 46.7 +0.3**
WATA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MOTA Moosalm 81.32 353⇑ *i*P P **21 59 46.7 +0.1**
comp=Z,6.6nm,1.2s,mb4.5
MOTA Moosalm 81.32 353⇑ *i*P P **21 59 46.7 +0.1**
MOTA pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
WTTA Wattenberg 81.36 353⇑ *i*P P **21 59 47.4 +0.7**
comp=Z,9.7nm,0.7s,mb4.9
WTTA Wattenberg 81.36 353⇑ *i*P P **21 59 47.4 +0.6**
WTTA pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
KBA Koelnbreinsper 81.39 351⇑ *i*P P **21 59 47.9 +1.0**
comp=Z,27nm,0.7s,mb5.3
KBA Koelnbreinsper 81.39 351⇑ *i*P P **21 59 47.9 +1.0**
KBA pmax pmax
comp=Z,27nm,0.7s,mb5.3
PERS Pernice 81.65 350 *i*P P **21 59 48.7 +0.4**
LOR Lormes 81.76 358⇑ *i*P P **21 59 48.4 -0.5**
comp=Z,8.8nm,0.8s,mb4.4
LOR Lormes 81.76 358⇑ *i*P P **21 59 48.4 -0.5**
LOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LOR Lormes 81.76 358⇑ *i*P P **21 59 48.4 -0.5**
comp=Z,4.4nm,0.8s,mb4.4
SSF Saint Saulge 81.98 358⇑ *i*P P **21 59 49.8 -0.2**
comp=Z,6.4nm,0.7s,mb4.3
SSF Saint Saulge 81.98 358⇑ *i*P P **21 59 49.8 -0.2**
SSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
SSF Saint Saulge 81.98 358⇑ *i*P P **21 59 49.8 -0.2**
comp=Z,3.2nm,0.7s,mb4.4
PTCC Patocco-Chiusa 82.06 351 P P **21 59 50.1 -0.3**
ROBS Robic 82.20 351 *i*P P **21 59 50.5 -0.6**
AVF Avril sur Loir 82.25 358⇑ *i*P P **21 59 51.2 -0.3**
comp=Z,7.9nm,0.9s,mb4.4
AVF Avril sur Loir 82.25 358⇑ *i*P P **21 59 51.2 -0.3**
AVF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
AVF Avril sur Loir 82.25 358⇑ *i*P P **21 59 51.2 -0.3**
comp=Z,4.0nm,0.9s,mb4.3
CABF La Chapelle 82.35 356 *e*P P **21 59 52.0 0.0**
comp=Z,7.5nm,0.8s,mb4.4
CABF La Chapelle 82.35 356 *e*P P **21 59 52.0 0.0**
CABF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CABF La Chapelle 82.35 356 *e*P P **21 59 52.0 0.0**
comp=Z,3.8nm,0.8s,mb4.4
MFF Saint Martin d 82.46 1 *e*P P **21 59 52.5 -0.1**
comp=Z,15nm,0.8s,mb4.7
MFF Saint Martin d 82.46 1 *e*P P **21 59 52.5 -0.1**
MFF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MFF Saint Martin d 82.46 1 *e*P P **21 59 52.5 -0.1**
comp=Z,7.6nm,0.8s,mb4.7
BGF Bois d'Agland 82.49 359⇑ *i*P P **21 59 52.6 -0.1**
comp=Z,11nm,0.9s,mb4.5
BGF Bois d'Agland 82.49 359⇑ *i*P P **21 59 52.6 -0.1**
BGF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BGF Bois d'Agland 82.49 359⇑ *i*P P **21 59 52.6 -0.1**
comp=Z,5.4nm,0.9s,mb4.5
BOJS Bojanci 82.75 350 *e*P P **21 59 54.2 +0.2**
TCF Toulx Ste Croi 82.77 359 *e*P P **21 59 53.8 -0.4**
comp=Z,13nm,0.9s,mb4.6
TCF Toulx Ste Croi 82.77 359 *e*P P **21 59 53.8 -0.4**
TCF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
TCF Toulx Ste Croi 82.77 359 *e*P P **21 59 53.8 -0.4**
comp=Z,6.4nm,0.9s,mb4.7
LPL La Plagne 83.41 356 *e*P P **21 59 58.3 +0.8**
LPG La Plagne 83.43 356 *e*P P **21 59 58.6 +1.0**
DIVS Divcibare 83.51 346 *i*P P **21 59 58.2 +0.2**
GRUS Gruza 83.61 346 *i*P P **21 59 58.9 +0.4**
RJF Les Rejaudoux 83.76 359 *e*P P **21 59 59.0 -0.3**
comp=Z,7.4nm,0.8s,mb4.5
RJF Les Rejaudoux 83.76 359 *e*P P **21 59 59.0 -0.3**
RJF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
RJF Les Rejaudoux 83.76 359 *e*P P **21 59 59.0 -0.3**
comp=Z,3.7nm,0.8s,mb4.6
BOB Bobbio (Coli) 84.00 354 P P **21 59 59.8 -0.7**
ORIF Oris-en-Rattie 84.05 356⇑ *i*P P **22 00 01.4 +0.7**
comp=Z,13nm,1.0s,mb4.7
ORIF Oris-en-Rattie 84.05 356⇑ *i*P P **22 00 01.4 +0.7**
ORIF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
ORIF Oris-en-Rattie 84.05 356⇑ *i*P P **22 00 01.4 +0.7**
comp=Z,6.5nm,1.0s,mb4.7
LFF La Frestale 84.13 0⇑ *i*P P **22 00 01.1 0.0**
comp=Z,17nm,0.8s,mb4.9
LFF La Frestale 84.13 0⇑ *i*P P **22 00 01.1 0.0**
LFF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
LFF La Frestale 84.13 0⇑ *i*P P **22 00 01.1 0.0**
comp=Z,8.6nm,0.8s,mb4.9
CAF Calviac 84.14 359⇑ *i*P P **22 00 01.4 +0.2**
comp=Z,19nm,1.0s,mb4.9
CAF Calviac 84.14 359⇑ *i*P P **22 00 01.4 +0.2**
CAF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
CAF Calviac 84.14 359⇑ *i*P P **22 00 01.4 +0.2**
comp=Z,9.4nm,1.0s,mb4.9
VIVF Saint-Julien-l 84.15 357⇑ *i*P P **22 00 01.5 +0.2**
comp=Z,7.9nm,0.8s,mb4.6
VIVF Saint-Julien-l 84.15 357⇑ *i*P P **22 00 01.5 +0.2**
VIVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
VIVF Saint-Julien-l 84.15 357⇑ *i*P P **22 00 01.5 +0.2**
comp=Z,4.0nm,0.8s,mb4.6
SFI Santa Sofia 84.67 352 P P **22 00 04.8 +0.9**
SFI pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
SFI Santa Sofia 84.67 352 P P **22 00 04.8 +0.9**
comp=Z,7.8nm,0.7s,mb5.0
BRTR Keskin Array B 84.89 335 P P **22 00 05.4 +0.4**
comp=Z,5.8nm,0.7s,mb4.8,baz=53,slow=2.9,SNR=33
BRTR Keskin Array B 84.89 335 P P **22 00 05.4 +0.4**
BRTR pmax pmax
comp=Z,6.0nm,0.7s
LASF Ste Croix 84.95 358⇑ *i*P P **22 00 05.5 +0.2**
comp=Z,10nm,0.8s,mb4.7
SMRF Simiane la Rot 85.00 357 *e*P P **22 00 06.3 +0.8**
comp=Z,27nm,0.9s,mb5.1
SMRF Simiane la Rot 85.00 357 *e*P P **22 00 06.3 +0.8**
comp=Z,27nm,0.9s,mb5.4
SBF Sospel 85.03 355 *e*P P **22 00 05.4 -0.3**
comp=Z,34nm,0.8s,mb5.2
SBF Sospel 85.03 355 *e*P P **22 00 05.4 -0.3**
SBF pmax pmax
comp=Z,17nm,0.8s,mb5.2
SBF Sospel 85.03 355 *e*P P **22 00 05.4 -0.3**
comp=Z,17nm,0.8s,mb5.2
CSNT Castellina Chi 85.15 352 P P **22 00 05.4 -0.9**
comp=Z,18nm,1.0s,mb5.2
SNTG Esanatoglia 85.22 351 P P **22 00 07.3 +0.7**
comp=Z,12nm,0.6s,mb5.2
ASAR Alice Springs 85.25 222 P P **22 00 05.8 -1.0**
comp=Z,1.5nm,0.8s,mb4.2,baz=30,slow=4.0,SNR=8.9
ASAR Alice Springs 85.25 222 P P **22 00 05.8 -1.0**
ASAR pmax pmax

comp=Z,2.0nm,0.8s
FRF La Foret Royal 85.37 356 *e*P P **22 00 07.1 -0.3**
comp=Z,13nm,0.7s,mb4.9
FRF La Foret Royal 85.37 356 *e*P P **22 00 07.1 -0.3**
FRF pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
FRF La Foret Royal 85.37 356 *e*P P **22 00 07.1 -0.3**
comp=Z,6.6nm,0.7s,mb4.9
GRFL Gerfalco 85.50 353 P P **22 00 08.3 +0.3**
comp=Z,5.9nm,0.4s,mb5.1
LMR La Mourre 85.60 356 *e*P P **22 00 08.5 0.0**
comp=Z,9.6nm,0.7s,mb4.8
LMR La Mourre 85.60 356 *e*P P **22 00 08.5 0.0**
LMR pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
LMR La Mourre 85.60 356 *e*P P **22 00 08.5 0.0**
comp=Z,4.8nm,0.7s,mb4.8
NRCA Norcia 85.62 351 P P **22 00 09.0 +0.4**
comp=Z,7.4nm,0.7s,mb5.0
EARI Arriondas 85.62 4 P P **22 00 08.1 -0.6**
comp=Z,1.2nm,0.6s,mb4.3
MTLF Montolieu 85.72 359 *e*P P **22 00 09.3 +0.2**
comp=Z,7.8nm,0.8s,mb4.7
MTLF Montolieu 85.72 359 *e*P P **22 00 09.3 +0.2**
MTLF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
MTLF Montolieu 85.72 359 *e*P P **22 00 09.3 +0.2**
comp=Z,3.9nm,0.8s,mb4.7
ELAN Lanestosa 85.77 3 P P **22 00 09.3 -0.1**
comp=Z,5.3nm,0.6s,mb5.0
EALK Alkurruntz 85.83 2 P P **22 00 08.8 -0.9**
comp=Z,2.8nm,0.5s,mb4.8
STS Santiago 85.83 7 P P **22 00 08.8 -0.9**
STS pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
STS Santiago 85.83 7 P P **22 00 08.8 -0.9**
comp=Z,2.7nm,0.6s,mb4.7
EPF Esparros 86.04 0 *e*P P **22 00 09.9 -0.8**
comp=Z,7.7nm,0.9s,mb4.6
EPF Esparros 86.04 0 *e*P P **22 00 09.9 -0.8**
EPF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
EPF Esparros 86.04 0 *e*P P **22 00 09.9 -0.8**
comp=Z,3.8nm,0.9s,mb4.6
ETSF Etsaut 86.16 1⇑ *i*P P **22 00 11.8 +0.5**
comp=Z,11nm,0.7s,mb4.9
ETSF Etsaut 86.16 1⇑ *i*P P **22 00 11.8 +0.5**
ETSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
ETSF Etsaut 86.16 1⇑ *i*P P **22 00 11.8 +0.5**
comp=Z,5.3nm,0.7s,mb4.9
PGF Pioggiola 86.24 354⇑ *i*P P **22 00 11.6 -0.1**
comp=Z,33nm,0.8s,mb5.3
PGF Pioggiola 86.24 354⇑ *i*P P **22 00 11.6 -0.1**
PGF pmax pmax
comp=Z,16nm,0.8s,mb5.3
PGF Pioggiola 86.24 354⇑ *i*P P **22 00 11.6 -0.1**
comp=Z,16nm,0.8s,mb5.3
EBIE Bielsa 86.38 0 P P **22 00 13.4 +1.0**
comp=Z,2.0nm,0.7s,mb4.5
ESAC San Caprasio 87.34 1 P P **22 00 16.4 -0.6**
comp=Z,11nm,0.7s,mb5.2
EPOB Poblet 87.71 360 P P **22 00 20.0 +1.1**
comp=Z,0.9nm,0.5s,mb4.3
GUD Guadarrama 88.32 4 P P **22 00 20.7 -1.0**
GUD pmax pmax
comp=Z,1.0nm,0.5s,mb4.3
GUD Guadarrama 88.32 4 P P **22 00 20.7 -1.0**
comp=Z,1.3nm,0.5s,mb4.4
ESDC Sonseca Array 89.30 4 P P **22 00 25.3 -1.0**
comp=Z,1.9nm,0.8s,mb4.5,baz=350,slow=4.4,SNR=11
ESDC Sonseca Array 89.30 4 P P **22 00 26.0 -0.3**
comp=Z,1.4nm,0.5s,mb4.5
ECHE Chera 89.46 1 P P **22 00 26.1 -1.0**
ECHE pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
ECHE Chera 89.46 1 P P **22 00 26.1 -1.0**
comp=Z,3.6nm,0.8s,mb4.8
STKA Stephens Creek 89.72 212 P P **22 00 27.9 -0.4**
comp=Z,5.8nm,0.9s,mb4.9,baz=323,slow=9.1,SNR=4.6
CPUP Villa Florida 129.89 83 PKP PKPdf 22 06 38.9 -0.5
comp=Z,1.5nm,0.8s,baz=59,slow=5.9,SNR=4.0
CPUP Villa Florida 129.89 83 PKIKP PKPdf 22 06 38.9 -0.5
CPUP pmax pmax
comp=Z,2.0nm,0.8s
PLCA Paso Flores 131.22 107 PKP PKPdf 22 06 42.0 +0.1
comp=Z,1.9nm,0.8s,baz=239,slow=12,SNR=3.3
PLCA Paso Flores 131.22 107 PKIKP PKPdf 22 06 42.0 +0.1
PLCA pmax pmax
comp=Z,2.0nm,0.8s
TSUM Tsumeb 145.31 331 PKPbc PKPbc 22 07 08.3 +0.8
comp=Z,12nm,0.9s,baz=349,slow=5.8,SNR=28
MAW Mawson 146.26 218 PKPbc PKPbc 22 07 09.0 -1.5
comp=Z,3.0nm,0.5s,baz=22,slow=3.5,SNR=4.3
LBTB Lobatse 147.57 315 PKPbc PKPbc 22 07 14.9 +0.7
baz=60,slow=3.6
BOSA Boshof 150.81 312 PKPbc PKPbc 22 07 22.9 +0.6
comp=Z,2.4nm,0.6s,baz=341,slow=3.1,SNR=8.9

*IDC **08** 22:00:52.5±1.4, 44.30S×16804E, h0km, mb4.2/2, mb1 4.4/2, mb1mx4.0/9, mbtmp4.2/2, Error ellipse: s-maj=73.9km s-min=32.4km az=66.0*
*ISCJB **08** 22:00:53.9±0.9, 44.46S±0.003×16.777E±0.005, h11km±5km, mb4.1/4, Error ellipse: s-maj=6.6km s-min=4.7km az=49.3*
*WEL **08** 22:00:55.3±0.1, 44.51S×16.780E, h12km, ML4.5/18, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0*
WEL Felt from Fiordland to Otago, maximum reported intensity MM 5.
*NEIC **08** 22:00:55.0, 44.51S×16.780E, h10km, mb4.0/2, ML4.4(WEL), After WEL.*

ISC 08 22:00:54.8±0.8, 44.51S±0.003×16.782E±0.005, h10km±4km, n42, σ0.984/48, mb4.1/4, 3D, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.18**	**154**	⇓P*			**Pg**	**22 00 59.4**	**+0.8**
MSZ					SG		**Sg**	**22 01 02.2**	**+0.9**
MSZ	**Milford Sound**	**0.18**	**154**	P			**Pg**	**22 00 59.4**	**+0.7**
MSZ				S			**Sg**	**22 01 02.2**	**+0.9**
JCZ	**Jackson Bay**	**0.81**	**58**	P*			**Pb**	**22 01 10.5**	**-0.4**
JCZ				S*			**Sb**	**22 01 21.7**	**-0.1**
JCZ	**Jackson Bay**	**0.81**	**58**	P			**Pg**	**22 01 10.5**	**+0.2**
MLZ	**Mavora Lakes**	**0.88**	**163**	P*			**Pb**	**22 01 11.3**	**-0.7**
MLZ				S*			**Sb**	**22 01 24.0**	**+0.2**
MLZ	**Mavora Lakes**	**0.88**	**163**	*e*P			**Pg**	**22 01 11.4**	**-0.3**
WKZ	**Wanaka**	**0.92**	**111**	⇓P*			**Pb**	**22 01 12.3**	**-0.4**
WKZ				S*			**Sb**	**22 01 24.2**	**-0.8**
WKZ	**Wanaka**	**0.92**	**111**	P			**Pg**	**22 01 12.3**	**-0.1**
WKZ				S			**Sg**	**22 01 24.2**	**-0.1**
DCZ	**Deep Cove**	**1.07**	**206**	P*			**Pb**	**22 01 14.6**	**-0.9**
DCZ				S*			**Sb**	**22 01 28.6**	**-1.0**
DCZ	**Deep Cove**	**1.07**	**206**	P			**Pg**	**22 01 14.6**	**-0.9**
EAZ	**Earnscleugh**	**1.28**	**125**	⇓PN			**Pn**	**22 01 18.5**	**-0.3**
EAZ				S*			**Sb**	**22 01 33.3**	**-2.3**
WHZ	**Wether Hill Ro**	**1.39**	**176**	PN			**Pn**	**22 01 19.8**	**-0.4**
WHZ	**Wether Hill Ro**	**1.39**	**176**	P			**Pn**	**22 01 19.7**	**-0.5**
FOZ	**Fox Glacier**	**1.65**	**56**	*e*PN			**Pn**	**22 01 23.6**	**-0.2**
FOZ				SN			**Sn**	**22 01 49.6**	**+4.6**
FOZ	**Fox Glacier**	**1.65**	**56**	*e*P			**Pn**	**22 01 24.1**	**+0.3**
LBZ	**Lake Benmore**	**1.70**	**87**	*e*PN			**Pn**	**22 01 25.3**	**+0.8**
LBZ				SN			**Sn**	**22 01 47.4**	**+1.0**
LBZ	**Lake Benmore**	**1.70**	**87**	*e*P			**Pn**	**22 01 26.0**	**+1.5**
TUZ	**Tuapeka**	**1.93**	**139**	PN			**Pn**	**22 01 28.7**	**+1.0**
TUZ				*e*SN			**Sn**	**22 01 52.4**	**+0.3**
TUZ	**Tuapeka**	**1.93**	**139**	*e*P			**Pn**	**22 01 28.8**	**+1.1**
ODZ	**Otahua Downs**	**2.08**	**106**	PN			**Pn**	**22 01 30.2**	**+0.4**
ODZ	**Otahua Downs**	**2.08**	**106**	*e*P			**Pn**	**22 01 30.3**	**+0.5**
SYZ	**Scrubby Hill**	**2.23**	**156**	PN			**Pn**	**22 01 32.6**	**+0.8**
APZ	**The Paps**	**2.33**	**177**	PN			**Pn**	**22 01 34.7**	**+1.6**
HHSZ	**Highcliff Hill**	**2.40**	**126**	PN			**Pn**	**22 01 35.4**	**+1.3**
WVZ	**Waitaha Valley**	**2.56**	**57**	PN			**Pn**	**22 01 34.7**	**-1.6**
WVZ	**Waitaha Valley**	**2.56**	**57**	*e*P			**Pn**	**22 01 35.0**	**-1.3**
MQZ	**McQueen's Vall**	**3.58**	**79**	*e*P			**Pn**	**22 01 50.3**	**0.0**
LTZ	**Lake Taylor**	**3.67**	**63**	*e*P			**Pn**	**22 01 50.6**	**-0.9**
DSZ	**Denniston Nort**	**4.02**	**48**	*e*P			**Pn**	**22 01 55.5**	**-0.9**
THZ	**Tophouse**	**4.63**	**55**	*e*P			**Pn**	**22 02 04.1**	**-0.6**
QRZ	**Quartz Range**	**5.06**	**45**	*e*P			**Pn**	**22 02 10.3**	**-0.4**
NNZ	**Nelson**	**5.25**	**53**	*e*P			**Pn**	**22 02 13.3**	**0.0**
TCW	**Tory Channel**	**5.78**	**57**	P			**Pn**	**22 02 22.2**	**+1.6**
VNDA	**Vanda**	**33.21**	**182**	P			**P**	**22 07 32.8**	**+1.1**
	0.7nm,0.9s,mb3.6,baz=317,slow=2.7,SNR=5.9								
ASAR	**Alice Springs**	**34.59**	**296**	P			**P**	**22 07 43.6**	**-0.1**
	7.6nm,0.5s,mb4.9,baz=127,slow=7.1,SNR=3.0								

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR				PcP	PcP	22 10 17.3	-0.9
	0.8nm,0.6s,baz=129,slow=4.2,SNR=9.7						
WRAB	**Tennant Creek**	**37.03**	**301**	eP	**P**	**22 08 05.7**	**+1.0**
	1.9nm,0.7s,mb4.0						
QSPA	**South Pole Qui**	**45.62**	**180**	eP	**P**	**22 09 14.7**	**-0.5**
	1.5nm,0.9s,mb3.9						
BRTR	**Keskin Array B**	**146.02**	**278**	PKPbc	PKPbc	22 20 33.9	-1.0
	0.9nm,0.8s,baz=120,slow=4.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**146.56**	**205**	PKPbc	PKPbc	22 20 35.4	-1.1
	1.5nm,0.6s,baz=147,slow=2.0,SNR=25						
ARCES	**ARCESS Array B**	**148.55**	**336**	PKPbc	PKPbc	22 20 40.1	-1.7
	2.0nm,0.9s,baz=96,slow=1.2,SNR=4.3						
AKASG	**Malin Array Be**	**151.69**	**298**	PKPbc	PKPbc	22 20 47.9	-1.6
	0.1nm,0.3s,baz=72,slow=2.5,SNR=6.5						
FINES	**FINESS Array B**	**151.96**	**321**	PKPbc	PKPbc	22 20 47.6	-2.5
	1.2nm,0.7s,baz=64,slow=4.4,SNR=7.4						

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*IDC **08** 22:07:08.8±2.4, 5138N×17931W, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.7/23, mbtmp3.7/9, ML4.3/1, Error ellipse: s-maj=66.4km s-min=20.3km az=176.0*

*ISCJB **08** 22:07:13.1±1.8, 513N±03×17927W±009, h52km±9km, mb3.8/8, Error ellipse: s-maj=47.2km s-min=7.6km az=167.3*

*NEIC **08** 22:07:13.2, 51.17N×17921W, h22km, ML3.6(AEIC), After AEIC.*

ISC 08 22:07:14.1±1.8**, 512N**±03×**17930W**±009**, h48**km±9km**, n14,** σ1§**13**/16**, mb3.8**/8**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.89**	**280**	P	**Pn**	**22 07 29.4**	**-0.9**
AMKA				S	**Sn**	**22 07 41.3**	**-0.9**
ATKA	**Atka Island**	**3.32**	**71**	P	**Pn**	**22 08 03.9**	**+0.5**
ATKA				S	**Sn**	**22 08 41.7**	**+0.1**
SMY	**Shemya**	**4.35**	**293**	P	**Pn**	**22 08 20.0**	**+2.4**
SPIA	**Saint Paul Isl**	**7.98**	**38**	P	**Pn**	**22 09 10.0**	**+2.7**
KDAK	**Kodiak Island**	**16.77**	**57**	Pn	**Pn**	**22 11 03.5**	**-2.0**
	1.0nm,0.3s,baz=268,slow=8.2,SNR=11						
SLKM	**Skilak Lake**	**18.62**	**49**	eP	**Pn**	**22 11 28.5**	**+0.2**
ILAR	**Eielson Array**	**21.56**	**39**	P	**P**	**22 11 58.2**	**-1.2**
	0.4nm,0.4s,mb3.2,baz=230,slow=8.8,SNR=4.6						
YKA	**Yellowknife Ar**	**35.56**	**46**	P	**P**	**22 14 05.5**	**-1.1**
	1.0nm,0.8s,mb3.8,baz=281,slow=7.7,SNR=4.3						
SONM	**Songino Array**	**46.44**	**296**	P	**P**	**22 15 36.9**	**+0.8**
	0.7nm,0.8s,mb3.6,baz=62,slow=10,SNR=5.2						
PDAR	**Pinedale Array**	**46.65**	**72**	P	**P**	**22 15 38.8**	**+1.0**
	2.0nm,0.5s,mb4.3,baz=311,slow=3.5,SNR=25						
ARCES	**ARCESS Array B**	**58.19**	**350**	P	**P**	**22 17 02.5**	**-0.6**
	0.9nm,0.7s,mb3.9,baz=16,slow=9.4,SNR=4.7						
MKAR	**Makanchi Array**	**59.88**	**308**	P	**P**	**22 17 14.6**	**-0.3**
	0.2nm,0.3s,mb3.6,baz=46,slow=5.4,SNR=8.1						
BVAR	**Borovoye Array**	**60.80**	**320**	P	**P**	**22 17 22.3**	**+1.1**
	0.3nm,0.4s,mb3.8,baz=47,slow=8.4,SNR=3.7						
BVAR				PcP	PcP	22 18 04.8	+0.2
	0.3nm,0.3s,baz=20,slow=3.1,SNR=4.7						
NOA	**NORSAR Array B**	**67.77**	**354**	P	**P**	**22 18 06.8**	**0.0**
	0.9nm,0.9s,mb3.8,baz=56,slow=1.6,SNR=3.0						

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*LDG **08** 22:17:49.7±0.5, 4301N×125W, h9km, Md2.0/2, Ml1.3/1, Error ellipse: s-maj=11.3km s-min=2.9km az=39.0*

*STR **08** 22:17:50.2±0.4, 4303N×123W, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 08 22:17:50.4±0.2**, 4303N**×**123W, h0**km**, mbLg0.7**/6**, 1D, Error ellipse: s-maj=2.3km s-min=1.5km az=14.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.18**	**86**	P	Pg	22 17 53.7	-0.1
LARF				S	Sg	22 17 56.6	+0.5
OSSF	**Osses**	**0.23**	**354**	Pg	Pg	22 17 54.9	+0.1
OSSF				Sg	Sg	22 17 58.0	+0.2
OSSF	**Osses**	**0.23**	**354**	P	Pg	22 17 54.9	+0.1
OSSF				S	Sg	22 17 58.1	+0.3
IPRE	**Itoiz**	**0.24**	**203**	Pg	Pg	22 17 55.3	+0.4
	0.4nm,0.1s,SNR=4.0						
IPRE				Lg		22 17 58.8	
	1.4nm,0.1s,SNR=4.0						
IUSE	**Utxeti**	**0.25**	**251**	Pg	Pg	22 17 54.5	-0.6
	1.1nm,0.0s,SNR=7.9						
IUSE				Lg		22 17 58.1	
	6.3nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.26**	**302**	⇓Pg	Pg	22 17 55.0	-0.3
	6.5nm,0.1s,SNR=18						
ELIZ				Lg		22 17 59.3	
	1.8nm,0.2s,SNR=9.1						
EALK	**Alkurruntz**	**0.28**	**314**	Pg	Pg	22 17 55.5	-0.3
	1.2nm,0.1s,SNR=18						
EALK				Lg		22 17 59.5	
	3.8nm,0.1s,SNR=5.0						
EARA	**Aranguren**	**0.36**	**226**	Pg	Pg	22 17 56.6	-0.7
	1.1nm,0.2s,SNR=4.0						
EARA				Lg		22 18 02.5	
	1.5nm,0.1s,SNR=7.9						
ATE	**Arette**	**0.39**	**81**	Pg	Pg	22 17 57.6	-0.3
ATE				Sg	Sg	22 18 03.4	+0.4
ATE	**Arette**	**0.39**	**81**	P	Pg	22 17 57.8	-0.2
ATE				S	Sg	22 18 03.5	+0.5
ETSF	**Etsaut**	**0.51**	**104**	ePg	Pg	22 17 59.1	-1.0
ETSF				eSg	Sg	22 18 06.1	-0.6
	3.0nm,0.3s						
ETSF	**Etsaut**	**0.51**	**104**	Pg	Pg	22 17 59.1	-1.0
ETSF				Lg		22 18 06.1	
	1.5nm,0.3s						
EBIE	**Bielsa**	**1.06**	**108**	Pg	Pg	22 18 13.0	+2.2
	0.4nm,0.1s,SNR=4.0						
EBIE				Lg		22 18 27.0	
	0.3nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.15**	**89**	ePg	Pg	22 18 11.8	-0.7
EPF				eSg	Sg	22 18 27.5	+0.1
	0.8nm,0.3s						
EPF	**Esparros**	**1.15**	**89**	Pg	Pg	22 18 11.8	-0.7
EPF				Lg		22 18 27.5	
	0.4nm,0.3s						

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*IDC **08** 22:30:48.0±0.9, 750S×14833E, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.2/14, mbtmp4.1/10, ML3.2/1, MS3.8/1, Ms1 3.8/1, ms1mx3.0/29, Error ellipse: s-maj=35.0km s-min=16.3km az=98.0*

*ISCJB **08** 22:30:51.8±0.7, 752S±008×1484E±01, h33km, mb4.2/14, Error ellipse: s-maj=21.3km s-min=9.7km az=39.2*

*NEIC **08** 22:30:54.4±2.5, 755S×14829E, h43km±21km, mb4.5/7, Error ellipse: s-maj=22.1km s-min=12.3km az=88.0*

ISC 08 22:30:53.3±0.6**, 761S**±007×**1484E**±01**, h35**km**, n26,** σ1§**00**/27**, mb4.2**/14**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.19**	**215**	Pn	**Pn**	**22 31 27.8**	**+0.5**
	65nm,0.3s,baz=21,slow=2.4,SNR=106						
PMG				Sn	**Sn**	**22 31 58.4**	**+5.3**
	119nm,0.3s,baz=52,slow=23,SNR=8.6						
PMG				LR	LR	22 32 33.0	
	comp=Z,2μm,21.0s,baz=37,slow=47						
CTA	**Charters Tower**	**12.59**	**189**	eP	**Pn**	**22 33 47.5**	**-2.3**
	7.0nm,1.0s						
KAKA	**Kakadu**	**16.55**	**251**	eP	**Pn**	**22 34 42.5**	**-0.1**
	12nm,0.6s						
WRAB	**Tennant Creek**	**18.35**	**227**	eP	**Pn**	**22 34 60.0**	**-5.0**
	22nm,0.9s						
WB2	**Warramunga Arr**	**18.36**	**227**	eP	**Pn**	**22 34 59.7**	**-5.3**
WB2				eS	**S**	**22 38 15.6**	**-17**
AS31	**Alice Springs**	**21.20**	**220**	eP	**P**	**22 35 37.1**	**+1.3**
AS31				eS	**S**	**22 39 29.2**	**-0.4**
ASAR	**Alice Springs**	**21.20**	**220**	P	**P**	**22 35 36.3**	**+0.5**
	1.4nm,0.5s,mb3.5,baz=55,slow=9.3,SNR=13						
ASPA	**Alice Springs**	**21.21**	**220**	eS	**S**	**22 39 29.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**24.53**	**243**	P	**P**	**22 36 07.5**	**-2.0**
	3.0nm,0.6s,mb4.0,baz=94,slow=10,SNR=8.9						
STKA	**Stephens Creek**	**24.98**	**194**	eP	**P**	**22 36 14.9**	**+1.3**
	3.9nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**24.98**	**194**	P	**P**	**22 36 13.9**	**+0.3**
	2.7nm,0.5s,mb4.0,baz=356,slow=15,SNR=11						
STKA	**Stephens Creek**	**24.98**	**194**	eP	**P**	**22 36 13.9**	**+0.3**
MJAR	**Matsushiro Arr**	**44.95**	**348**	P	**P**	**22 39 03.0**	**-1.9**
	2.1nm,0.7s,mb4.0,baz=178,slow=8.6,SNR=9.0						
MAT	**Matsushiro**	**44.95**	**348**	P	**P**	**22 39 04.8**	**-0.1**
MAT	**Matsushiro**	**44.95**	**348**	P	**P**	**22 39 05.0**	**+0.1**
	4.5nm,0.8s,mb4.3						
LSA	**Lhasa**	**66.35**	**307**	eP	**P**	**22 41 40.3**	**+1.9**
	5.7nm,0.7s,mb4.7						
SONM	**Songino Array**	**66.50**	**331**	P	**P**	**22 41 39.5**	**+0.1**
	1.4nm,0.9s,mb4.0,baz=134,slow=4.3,SNR=8.7						
VNDA	**Vanda**	**70.24**	**177**	P	**P**	**22 42 03.0**	**+0.2**
	1.0nm,0.6s,mb3.9,baz=345,slow=6.4,SNR=6.5						
MKAR	**Makanchi Array**	**79.64**	**320**	P	**P**	**22 42 57.5**	**+0.5**
	0.8nm,0.6s,mb3.8,baz=92,slow=7.1,SNR=5.5						
ZAL	**Zalesovo**	**81.13**	**328**	P	**P**	**22 43 05.0**	**0.0**
	0.8nm,0.4s,mb4.0,baz=153,slow=4.5,SNR=3.0						
QSPA	**South Pole Qui**	**82.37**	**180**	eP	**P**	**22 43 12.4**	**+0.8**
	8.7nm,1.1s,mb4.6						
MCK	**McKinley**	**85.12**	**23**	eP	**P**	**22 43 26.2**	**+0.6**
	5.3nm,0.8s,mb4.7						
ILAR	**Eielson Array**	**86.39**	**23**	P	**P**	**22 43 31.3**	**-0.7**
	4.4nm,0.7s,mb4.8,baz=242,slow=6.9,SNR=24						
CHKZ	**Chkalovo**	**88.93**	**324**	eP	**P**	**22 43 43.9**	**-0.3**
	0.9nm,0.6s,mb4.3						
TORD	**Torodi Ar. Bea**	**146.85**	**282**	PKPbc	PKPbc	22 50 30.8	-1.0
	2.8nm,0.8s,baz=85,slow=1.9,SNR=13						
BDFB	**Brasilia**	**151.73**	**145**	PKPab	PKPab	22 50 55.6	+2.6
	1.4nm,0.4s,baz=81,slow=3.3,SNR=3.9						

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*ATH **08** 22:40:19.6, 3833N×2044E, h7km±6km, MD3.7/5*

*NEIC **08** 22:40:19.6, 3833N×2044E, h7km, MD3.7(ATH), After ATH.*

*ISCJB **08** 22:40:21.5±1.0, 3837N±005×2050E±007, h10km, Error ellipse: s-maj=9.8km s-min=4.9km az=107.7*

*CSEM **08** 22:40:21.6±0.3, 3838N×2047E, h2km, ML2.6, Error ellipse: s-maj=8.0km s-min=2.6km az=71.0*

*THE **08** 22:40:22.4, 3845N×2041E, h10km, ML2.6*

ISC 08 22:40:21.7±1.0**, 3835N**±005×**2046E**±008**, h10**km**, n21,** σ1§**19**/25**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.39**	**23**	ePg	**Pg**	**22 40 28.1**	**-1.3**
RLS	**Riolos of Patr**	**0.85**	**110**	ePG	**Pg**	**22 40 35.2**	**-2.8**
RLS				eSB	**Sg**	**22 40 47.7**	**-1.4**
IGT	**Igoumenitsa**	**1.19**	**355**	ePg	**Pg**	**22 40 42.9**	**-1.6**
IGT				eSg	**Sg**	**22 40 58.7**	**-1.3**
EVR	**Evrytania**	**1.20**	**61**	ePG	**Pn**	**22 40 42.4**	**-2.2**
JAN	**Janina**	**1.34**	**13**	ePB	**Pn**	**22 40 45.7**	**-0.8**
KEK	**Kerkira**	**1.46**	**340**	ePG	**Pn**	**22 40 47.0**	**-1.1**
MEV	**Metsovon**	**1.56**	**22**	ePg	**Pn**	**22 40 49.7**	**+0.2**
AGG	**Agios Georgios**	**1.61**	**65**	ePg	**Pn**	**22 40 51.1**	**+0.9**
AGG				eSg	**Sg**	**22 41 13.8**	**+0.2**
ITM	**Ithomi**	**1.65**	**135**	ePB	**Pn**	**22 40 50.8**	**+0.1**
LKR	**Lokris**	**2.02**	**81**	ePN	**Pn**	**22 40 55.7**	**-0.1**
LIT	**Litokhoron**	**2.36**	**41**	ePn	**Pn**	**22 41 01.6**	**+1.2**
LIT	**Litokhoron**	**2.36**	**41**	ePn	**Pn**	**22 41 01.6**	**+1.1**
FNA	**Florina**	**2.53**	**16**	ePn	**Pn**	**22 41 02.8**	**-0.1**
VLI	**Veliai**	**2.56**	**129**	ePN	**Pn**	**22 41 04.6**	**+1.4**
BIA	**Bitola**	**2.75**	**14**	ePg	**Pn**	**22 41 05.8**	**0.0**
BIA				eSn	**Sn**	**22 41 41.3**	**+2.1**
OHR	**Ohrid**	**2.77**	**5**	ePg	**Pn**	**22 41 08.2**	**+2.0**
GRG	**Griva**	**3.01**	**29**	ePn	**Pn**	**22 41 09.7**	**+0.3**
OUR	**Ouranopolis**	**3.38**	**53**	ePn	**Pn**	**22 41 15.6**	**+1.1**
KNT	**Kendrikon**	**3.38**	**33**	ePn	**Pn**	**22 41 15.0**	**+0.4**
VAY	**Valandovo**	**3.38**	**28**	ePg	**Pn**	**22 41 18.9**	**+4.3**
SRS	**Serrai**	**3.67**	**40**	ePn	**Pn**	**22 41 19.5**	**+1.0**

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*IDC **08** 23:00:38.4±0.6, 5130N×17939W, h0km, mb4.4/27, mb1 4.6/28, mb1mx4.5/31, mbtmp4.4/28, ML4.6/1, Error ellipse: s-maj=19.4km s-min=11.7km az=160.0*

*NEIC **08** 23:00:40.9, 5100N×17931W, h6km, mb4.8/81, MS4.4/1, ML4.5(AEIC), After AEIC.*

*ISCJB **08** 23:00:43.4±0.7, 5126N±006×17930W±004, h43km±5km, mb4.7/123, Error ellipse: s-maj=10.7km s-min=4.1km az=176.6*

*MOS **08** 23:00:43.4±0.8, 5128N×17934W, h43km, mb4.9/84, Error ellipse: s-maj=9.6km s-min=4.8km az=93.4*

*SZGRF **08** 23:00:45.1, 51.14N×179.14E, h33km, mb4.8, Rat Islands, Aleutian Islands, United States*

ISC 08 23:00:45.1±0.7**, 5134N**±006×**17932W**±004**, h45**km±5km**, n355,** σ0§**83**/354**, mb4.7**/123**, 57C-18D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.86**	**273**	P	**Pn**	**23 00 58.9**	**-2.0**
AMKA				S	**Sn**	**23 01 13.1**	**+0.7**
ATKA	**Atka Island**	**3.30**	**73**	P	**Pn**	**23 01 34.1**	**-0.2**
SMY	**Shemya**	**4.29**	**291**	P	**Pn**	**23 01 50.0**	**+2.1**
SPIA	**Saint Paul Isl**	**7.89**	**39**	P	**Pn**	**23 02 40.9**	**+3.5**
AKUT	**Akutan**	**8.68**	**66**	eP	**Pn**	**23 02 51.1**	**+3.0**
SDPT	**Sand Point**	**11.95**	**63**	eP	**Pn**	**23 03 31.9**	**-0.8**
	17nm,0.3s						
CHGN	**Chignik**	**13.29**	**60**	eP	**Pn**	**23 03 50.4**	**-0.7**
PET	**Petropavlovsk**	**13.61**	**286**	⇑iP	**Pn**	**23 04 04.2**	**+8.7**
PET				eS	**Sn**	**23 06 20.2**	**-5.0**
PET				pmax	pmax		
	comp=Z,27nm,1.3s						
PET				smax			
	comp=N,12nm,1.0s						
PET				smax			
	comp=E,16nm,1.0s						
PET				MLR	MLR		
	comp=Z,1μm,19.0s						
PET				MLR	MLR		
	comp=Z,1μm,16.0s						
PET	**Petropavlovsk**	**13.61**	**286**	ePn	**Pn**	**23 03 54.7**	**-0.8**
	comp=Z,67nm,1.5s						
SKR	**Severo-Kuril's**	**15.46**	**277**	eP	**Pn**	**23 04 19.0**	**-1.1**
SKR				eS	**S**	**23 07 07.8**	**-17**
SKR				pmax	pmax		
	comp=Z,80nm,0.9s						
SKR				smax			
	comp=N,90nm,0.9s						
SKR				smax			
	comp=E,70nm,0.9s						
SVW2	**Sparrevohn**	**16.32**	**44**	eP	**Pn**	**23 04 32.9**	**+1.8**
KDAK	**Kodiak Island**	**16.72**	**57**	Pn	**Pn**	**23 04 32.1**	**-3.9**
	comp=E,2.3nm,0.3s,baz=284,slow=9.7,SNR=16						
KDAK				Sn	**Sn**	**23 07 36.1**	**-4.5**
	comp=E,0.3nm,0.3s,baz=317,slow=21,SNR=2.9						
KDAK	**Kodiak Island**	**16.72**	**57**	ePn	**Pn**	**23 04 33.0**	**-3.0**
	comp=E,17nm,0.7s						
TTA	**Tatalina**	**17.04**	**38**	eP	**Pn**	**23 04 42.6**	**+2.5**
SLKM	**Skilak Lake**	**18.56**	**49**	eP	**Pn**	**23 04 59.5**	**+0.8**
SML	**Sawmill**	**19.82**	**46**	eP	**Pn**	**23 05 12.4**	**-1.4**
DIV	**Divide**	**20.83**	**49**	eP	**P**	**23 05 24.5**	**+1.7**
	comp=E,33nm,0.5s						
COLA	**College**	**21.14**	**38**	eP	**P**	**23 05 26.9**	**+0.7**
COLA				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.5						
COLA	**College**	**21.14**	**38**	eP	**P**	**23 05 26.9**	**+0.7**
	comp=Z,22nm,0.9s,mb4.5						
ILAR	**Eielson Array**	**21.48**	**39**	P	**P**	**23 05 28.9**	**-1.0**
	comp=Z,2.5nm,0.5s,mb3.8,baz=238,slow=9.2,SNR=22						
ILAR	**Eielson Array**	**21.48**	**39**	P	**P**	**23 05 28.9**	**-0.9**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
DAWY	**Dawson**	**24.36**	**43**	eP	**P**	**23 05 58.0**	**-0.8**
YSS	**Yuzh-Sakhalins**	**25.00**	**275**	eP	**P**	**23 06 05.1**	**+0.4**
YSS				pmax	pmax		
	comp=Z,39nm,1.1s,mb4.8						
YSS	**Yuzh-Sakhalins**	**25.00**	**275**	eP	**P**	**23 06 05.1**	**+0.5**
	comp=Z,39nm,1.1s,mb4.8						
ASAJ	**Asahikawa**	**26.38**	**269**	P	**P**	**23 06 16.4**	**-0.8**
	comp=Z,9.8nm,0.9s,mb4.3,baz=61,slow=19,SNR=5.0						
ASAJ	**Asahikawa**	**26.38**	**269**	P	**P**	**23 06 16.4**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
INK	**Inuvik**	**27.68**	**35**	P	**P**	**23 06 27.9**	**-1.0**
	comp=Z,4.6nm,0.7s,mb4.2,baz=262,slow=12,SNR=4.2						
INK	**Inuvik**	**27.68**	**35**	P	**P**	**23 06 27.9**	**-0.9**
INK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
YAK	**Yakutsk**	**29.20**	**311**	eP	**P**	**23 06 41.2**	**-1.1**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
KLR	**Kul'dur**	**30.88**	**286**	eP	**P**	**23 06 54.2**	**-3.0**
KLR				pmax	pmax		
	comp=E,43nm,1.4s						
KLR				pmax	pmax		
	comp=Z,67nm,1.4s,mb5.3						
MAT	**Matsushiro**	**33.46**	**261**	P	**P**	**23 07 20.0**	**+0.2**
MJAR	**Matsushiro Arr**	**33.46**	**261**	P	**P**	**23 07 19.1**	**-0.7**
	comp=Z,0.9nm,0.5s,mb4.0,baz=48,slow=7.0,SNR=8.5						
MJAR	**Matsushiro Arr**	**33.46**	**261**	P	**P**	**23 07 19.1**	**-0.7**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**35.49**	**46**	P	**P**	**23 07 36.7**	**-0.7**
	comp=Z,3.8nm,0.5s,mb4.6,baz=282,slow=7.7,SNR=36						
YKA	**Yellowknife Ar**	**35.49**	**46**	P	**P**	**23 07 36.7**	**-0.7**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
YKA	**Yellowknife Ar**	**35.49**	**46**	P	**P**	**23 07 36.7**	**-0.7**
BOD	**Bodaibo**	**37.74**	**307**	eP	**P**	**23 07 55.7**	**-0.8**
BOD				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.7						
HAWA	**Hanford**	**38.69**	**73**	eP	**P**	**23 08 04.8**	**+0.3**
	comp=Z,1.2nm,1.0s,mb3.6						
NEW	**Newport**	**39.20**	**69**	eP	**P**	**23 08 08.3**	**-0.5**
NEW				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NEW	**Newport**	**39.20**	**69**	eP	**P**	**23 08 08.3**	**-0.5**
	comp=Z,7.1nm,0.9s,mb4.4						
YBH	**Yreka Blue Hor**	**39.21**	**81**	P	**P**	**23 08 10.3**	**+1.4**
	comp=Z,3.3nm,0.9s,mb4.1,baz=208,slow=1.9,SNR=7.0						
YBH	**Yreka Blue Hor**	**39.21**	**81**	P	**P**	**23 08 10.3**	**+1.4**
YBH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YBH	**Yreka Blue Hor**	**39.21**	**81**	eP	**P**	**23 08 11.7**	**+2.8**
	comp=Z,2.4nm,0.9s,mb3.9						
KS15	**Wonju Array Si**	**39.34**	**270**	eP	**P**	**23 08 10.3**	**+0.3**
WALA	**Waterton Lakes**	**40.68**	**67**	eP	**P**	**23 08 19.2**	**-2.0**
	comp=Z,11nm,1.1s,mb4.4						
WVOR	**Wild Horse Val**	**41.33**	**78**	eP	**P**	**23 08 26.5**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
WVOR	**Wild Horse Val**	**41.33**	**78**	eP	**P**	**23 08 26.4**	**0.0**
	comp=Z,6.0nm,0.7s,mb4.3						
MSO	**Missoula**	**41.78**	**70**	eP	**P**	**23 08 29.1**	**-1.1**
	comp=Z,5.8nm,0.9s,mb4.2						
CHMT	**Chamberlain Mo**	**42.15**	**69**	eP	**P**	**23 08 32.1**	**-1.0**
HRY	**Holter Researc**	**43.08**	**69**	eP	**P**	**23 08 40.5**	**-0.2**
HLID	**Hailey**	**43.26**	**74**	eP	**P**	**23 08 42.3**	**+0.1**
	comp=Z,5.9nm,1.0s,mb4.3						
MCMT	**McKenzie Canyo**	**43.50**	**71**	eP	**P**	**23 08 43.0**	**-1.1**
BOZ	**Bozeman (W)**	**43.77**	**70**	eP	**P**	**23 08 45.9**	**-0.4**
BOZ				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
BOZ	**Bozeman (W)**	**43.77**	**70**	eP	**P**	**23 08 45.9**	**-0.3**
	comp=Z,7.9nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	**43.88**	**82**	P	**P**	**23 08 47.9**	**+0.7**
	comp=Z,1.4nm,0.8s,mb3.7,baz=294,slow=6.6,SNR=4.2						
QLMT	**Earthquake Lak**	**44.34**	**71**	eP	**P**	**23 08 50.0**	**-0.8**
MTUM	**Tungsten Hills**	**44.38**	**84**	eP	**P**	**23 08 51.6**	**+0.4**
GCMT	**Greycliff**	**44.84**	**68**	eP	**P**	**23 08 54.0**	**-0.8**
IMW	**Indian Meadow**	**45.16**	**71**	eP	**P**	**23 08 58.8**	**+1.5**
	comp=Z,8.7nm,1.0s,mb4.5						
IRK	**Irkutsk**	**45.19**	**303**	eP	**P**	**23 08 57.1**	**-0.4**
IRK				pmax	pmax		
	comp=Z,29nm,1.4s,mb4.9						
RRI2	**Red Ridge**	**45.24**	**72**	eP	**P**	**23 09 04.2**	**+6.2**
	comp=Z,8.7nm,0.9s,mb4.6						
HVU	**Hansel Valley**	**45.28**	**75**	eP	**P**	**23 08 58.8**	**+0.5**
HVU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
HVU	**Hansel Valley**	**45.28**	**75**	eP	**P**	**23 08 58.8**	**+0.5**
	comp=Z,8.4nm,0.8s,mb4.6						
TPAW	**Teton Pass**	**45.38**	**72**	eP	**P**	**23 08 59.3**	**+0.2**
	comp=Z,3.8nm,0.7s,mb4.3						
BGU	**Big Grassy Mou**	**45.62**	**76**	eP	**P**	**23 09 01.8**	**+0.8**
TPNV	**Topopah Spring**	**46.08**	**83**	eP	**P**	**23 09 04.0**	**-0.6**
TPNV				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
TPNV	**Topopah Spring**	**46.08**	**83**	eP	**P**	**23 09 04.0**	**-0.5**
	comp=Z,9.1nm,0.9s,mb4.7						
DUG	**Dugway**	**46.20**	**77**	eP	**P**	**23 09 05.2**	**-0.3**
DUG				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
DUG	**Dugway**	**46.20**	**77**	eP	**P**	**23 09 05.2**	**-0.3**
	comp=Z,17nm,1.0s,mb4.9						
SONM	**Songino Array**	**46.37**	**296**	P	**P**	**23 09 07.8**	**+0.9**
	comp=Z,4.1nm,0.7s,mb4.5,baz=59,slow=8.0,SNR=49						
SONM				PcP	PcP	23 10 39.8	-1.5
	comp=Z,1.3nm,0.6s,baz=96,slow=2.7,SNR=3.7						
SONM	**Songino Array**	**46.37**	**296**	P	**P**	**23 09 07.8**	**+0.9**
SONM						23 10 39.8	
SONM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**46.63**	**72**	P	**P**	**23 09 08.8**	**-0.1**
	comp=Z,8.1nm,0.8s,mb4.7,baz=313,slow=4.3,SNR=51						
ZAK	**Zakamensk**	**46.70**	**301**	eP	**P**	**23 09 10.0**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
DAU	**Daniels Canyon**	**47.01**	**76**	eP	**P**	**23 09 12.5**	**+0.6**
CCUT	**Cedar City**	**47.49**	**80**	eP	**P**	**23 09 15.2**	**-0.4**
MSU	**Marysvale**	**47.62**	**78**	eP	**P**	**23 09 18.0**	**+1.4**
TMUT	**Trail Mountain**	**47.72**	**77**	eP	**P**	**23 09 19.0**	**+1.6**
SRU	**San Rafael**	**48.26**	**76**	eP	**P**	**23 09 22.5**	**+0.9**
SRU				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
SRU	**San Rafael**	**48.26**	**76**	eP	**P**	**23 09 22.5**	**+1.0**
	comp=Z,12nm,0.9s,mb4.9						
WUAZ	**Wupatki**	**50.02**	**81**	eP	**P**	**23 09 33.9**	**-1.1**
	comp=Z,8.7nm,0.9s,mb4.8						
SMCO	**Snowmass**	**50.37**	**74**	eP	**P**	**23 09 38.5**	**+0.8**
	comp=Z,2.9nm,0.7s,mb4.4						
ISCO	**Idaho Springs**	**50.79**	**73**	eP	**P**	**23 09 41.4**	**+0.5**
ISCO				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
ISCO	**Idaho Springs**	**50.79**	**73**	eP	**P**	**23 09 41.4**	**+0.5**
	comp=Z,5.3nm,1.1s,mb4.4						
FRB	**Frobisher Bay**	**53.23**	**31**	P	**P**	**23 09 58.0**	**-1.0**
	comp=Z,11nm,0.5s,mb5.0,baz=270,slow=7.1,SNR=6.1						
FRB	**Frobisher Bay**	**53.23**	**31**	P	**P**	**23 09 58.0**	**-1.0**
FRB				pmax	pmax		
	comp=Z,11nm,0.5s						
LAZ	**Ladron**	**53.36**	**79**	eP	**P**	**23 10 03.3**	**+3.3**
SUMG	**Summit**	**53.41**	**14**	eP	**P**	**23 10 00.1**	**-0.2**
	comp=Z,13nm,1.1s,mb4.8						
ZAL	**Zalesovo**	**53.84**	**313**	P	**P**	**23 10 01.7**	**-1.7**
	comp=Z,0.9nm,0.3s,mb4.2,baz=72,slow=6.3,SNR=5.3						
ZAL	**Zalesovo**	**53.84**	**313**	P	**P**	**23 10 01.7**	**-1.8**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BNM	**Barren Site**	**53.85**	**79**	eP	**P**	**23 10 04.5**	**+0.9**
NVS	**Novosibirsk**	**53.97**	**315**	eP	**P**	**23 10 04.3**	**-0.1**
ARCES	**ARCESS Array B**	**58.07**	**350**	P	**P**	**23 10 33.1**	**-0.7**
	comp=Z,2.0nm,0.4s,mb4.5,baz=17,slow=7.7,SNR=35						
ARCES	**ARCESS Array B**	**58.07**	**350**	P	**P**	**23 10 33.1**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KURK	**Kurchatov**	**58.81**	**313**	eP	**P**	**23 10 38.6**	**-0.3**
KURK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
KURK	**Kurchatov**	**58.81**	**313**	eP	**P**	**23 10 38.6**	**-0.3**
	comp=Z,17nm,0.9s,mb5.1						
MKAR	**Makanchi Array**	**59.80**	**308**	P	**P**	**23 10 45.7**	**0.0**
	comp=Z,4.7nm,0.4s,mb4.9,baz=49,slow=6.9,SNR=134						
MKAR	**Makanchi Array**	**59.80**	**308**	P	**P**	**23 10 45.7**	**0.0**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MKAR	**Makanchi Array**	**59.80**	**308**	P	**P**	**23 10 45.7**	**0.0**
SCHQ	**Schefferville**	**60.23**	**38**	P	**P**	**23 10 47.8**	**-0.9**
	comp=Z,7.8nm,0.9s,mb4.7,baz=282,slow=6.4,SNR=9.0						
BRVK	**Borovoye**	**60.73**	**320**	eP	**P**	**23 10 51.6**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
ZRNK	**Zerenda**	**61.32**	**320**	eP	**P**	**23 10 55.4**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
ZRNK	**Zerenda**	**61.32**	**320**	eP	**P**	**23 10 55.4**	**-0.7**
	comp=Z,5.6nm,0.8s,mb4.8						
USIN	**University of**	**62.43**	**63**	P	**P**	**23 11 03.2**	**-0.3**
	comp=Z,16nm,0.6s,mb5.3						
ARU	**Arti**	**62.46**	**328**	eP	**P**	**23 11 02.8**	**-1.0**
ARU				e		23 13 19.9	
ARU				eS	**S**	**23 19 27.4**	**-0.3**
ARU				eSS	SS	23 23 31.2	-0.8
WCI	**Wyandotte Cave**	**63.01**	**62**	eP	**P**	**23 11 06.1**	**-1.3**
WCI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
WCI	**Wyandotte Cave**	**63.01**	**62**	eP	**P**	**23 11 06.1**	**-1.3**
	comp=Z,9.1nm,0.8s,mb5.0						
JOF	**Joensuu**	**63.55**	**345**	ep	**P**	**23 11 09.5**	**-1.5**
	comp=Z,3.2nm,0.3s,mb4.8						
JOF	**Joensuu**	**63.55**	**345**	eP	**P**	**23 11 09.5**	**-1.5**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.8						
OXF	**Oxford**	**63.89**	**67**	eP	**P**	**23 11 13.2**	**0.0**
OXF				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.3						

OXF Oxford 63.89 67 *e*P **P** 23 11 13.2 0.0
comp=Z,29nm,1.0s,mb5.3
KLMR Klimovskoe 63.90 340 *e*P **P** 23 11 11.8 -1.5
KLMR pmax pmax
comp=Z,20nm,1.1s,mb5.1
PLAL Pickwick Lake 64.32 66 *e*P **P** 23 11 15.3 -0.8
comp=Z,4.5nm,0.6s,mb4.7
KAF Kangasniemi 65.07 347 *e*p **P** 23 11 19.6 -1.4
comp=Z,4.6nm,0.4s,mb4.9
KAF Kangasniemi 65.07 347 *e*P **P** 23 11 19.6 -1.4
KAF pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
FIA1 FINESS Array S 65.75 347 *e*P **P** 23 11 23.9 -1.4
FINES FINESS Array B 65.75 347 P **P** 23 11 24.3 -1.0
comp=Z,9.4nm,0.8s,mb4.8,baz=11,slow=6.9,SNR=50
FINES FINESS Array B 65.75 347 P **P** 23 11 24.3 -1.0
FINES pmax pmax
comp=Z,9.0nm,0.8s
TKM2 Tokmak 2 65.89 309 P **P** 23 11 27.1 +0.9
SNR=5.2
USP Ospenovka 66.16 310 P **P** 23 11 29.4 +1.4
SNR=16
KBK Karagaybulak 66.40 309 P **P** 23 11 30.9 +1.4
SNR=5.3
FRU Bishkek 66.43 310 *e*P **P** 23 11 31.0 +1.3
AAK Ala-Archa 66.64 309 *e*P **P** 23 11 30.3 -0.7
AAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AAK Ala-Archa 66.64 309 *e*P **P** 23 11 30.3 -0.8
comp=Z,9.0nm,0.8s,mb4.8
EKS2 Erkin-Say 66.96 310 P **P** 23 11 34.7 +1.6
SNR=9.2
LSA Lhasa 67.15 289 *e*P **P** 23 11 36.2 +2.0
LSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
LSA Lhasa 67.15 289 *e*P **P** 23 11 36.2 +1.9
comp=Z,5.2nm,0.6s,mb4.7
AML Almayashu 67.41 310 P **P** 23 11 38.3 +2.5
SNR=9.7
AKTK Aktyubinsk 67.53 324 P **P** 23 11 36.2 -0.5
AKTO Aktyubinsk 67.53 324 P **P** 23 11 36.2 -0.5
comp=Z,2.0nm,0.5s,mb4.4,baz=65,slow=5.7,SNR=9.9
AKTO Aktyubinsk 67.53 324 P **P** 23 11 36.2 -0.4
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
NB2 NORSAR Subarra 67.65 354 P **P** 23 11 37.2 -0.2
comp=Z,15nm,1.4s,mb4.8,baz=5.4,slow=6.5
NOA NORSAR Array B 67.65 354 P **P** 23 11 36.3 -1.2
comp=Z,1.8nm,0.5s,mb4.4,baz=7.1,slow=6.3,SNR=8.3
NOA NORSAR Array B 67.65 354 P **P** 23 11 36.3 -1.1
NOA pmax pmax
comp=Z,2.0nm,0.5s
HFS Hagfors 68.38 353 P **P** 23 11 41.3 -0.7
comp=Z,4.0nm,0.5s,mb4.7,baz=0.0,slow=3.0,SNR=40
HFS Hagfors 68.38 353 P **P** 23 11 41.3 -0.7
HFS pmax pmax
comp=Z,4.0nm,0.5s
OBN Obninsk 69.79 339α *i*P **P** 23 11 50.3 -0.4
OBN *e* pP 23 11 59.4 -4.3
OBN *e* 23 12 17.2
OBN pmax pmax
comp=Z,26nm,1.2s
OBN MLR MLR
comp=Z,500nm,18.0s
GUN Gumba 71.57 292 *e*P **P** 23 12 02.8 +1.2
comp=Z,49nm,0.4s
JIRN Jiri 71.57 291 *e*P **P** 23 12 02.7 +1.1
comp=Z,68nm,0.7s,mb5.7
KKN Kakani 72.01 292 *e*P **P** 23 12 05.1 +0.9
comp=Z,23nm,0.5s,mb5.3
PKI Pulchoki 72.10 292 *e*P **P** 23 12 05.5 +0.8
GKN Gorkha 72.22 293 *e*P **P** 23 12 06.0 +0.5
comp=Z,21nm,0.5s,mb5.3
DMN Daman 72.25 292 *e*P **P** 23 12 06.5 +0.9
comp=Z,11nm,0.4s,mb5.1
SUW Suwalki 73.34 346 *e*P **P** 23 12 11.1 -1.0
EKA Eskdalemuir Ar 73.65 2 P **P** 23 12 13.9 0.0
comp=Z,3.2nm,0.8s,mb4.3,baz=360,slow=4.9,SNR=12
EKA Eskdalemuir Ar 73.65 2 P **P** 23 12 14.0 +0.1
EKA pmax pmax
comp=Z,3.0nm,0.8s
BSEG Bad Segeberg 74.78 354 *e*P **P** 23 12 20.8 +0.2
comp=Z,17nm,0.9s,mb5.0
BSEG Bad Segeberg 74.78 354 *e*P **P** 23 12 20.8 +0.2
BSEG pmax pmax
comp=Z,17nm,0.9s,mb5.0
WAR Warsaw 75.37 347 *e*P **P** 23 12 22.5 -1.4
AKASG Malin Array Be 75.48 342 P **P** 23 12 24.1 -0.5
comp=Z,15nm,0.3s,mb5.3,baz=20,slow=5.8,SNR=55
AKASG Malin Array Be 75.48 342 P **P** 23 12 24.1 -0.5
AKASG pmax pmax
comp=Z,15nm,0.3s
AKBB Malin Array Si 75.48 342 *e*P **P** 23 12 24.1 -0.5
NRDL Niedersach Rie 76.23 354 *e*P **P** 23 12 29.7 +0.8
IBBN Ibbenburen 76.55 356 *e*P **P** 23 12 30.9 +0.2
CLZ Clausthal 76.87 354 *e*P **P** 23 12 32.7 +0.3
comp=Z,15nm,1.0s,mb4.9
CLZ Clausthal 76.87 354 *e*P **P** 23 12 32.7 +0.3
CLZ pmax pmax
comp=Z,15nm,1.0s,mb4.9
CLL Collm 77.20 352 *e*P **P** 23 12 33.5 -0.8
comp=Z,6.0nm,0.7s,mb4.6
CLL Collm 77.20 352 P **P** 23 12 33.7 -0.6
comp=Z,logA/T=0.9,mb4.6
CLL Collm 77.20 352 *i*P **P** 23 12 33.7 -0.6
comp=Z,5.0nm,0.7s,mb4.5
CLL Collm 77.20 352 *i*P **P** 23 12 33.7 -0.6
CLL pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GOF Gofitskoye 77.24 331 *e*P **P** 23 12 34.6 +0.1
BUG Bochum--Univer 77.44 356 *e*P **P** 23 12 35.3 -0.4
OJC Ojcow 77.52 348 *e*P **P** 23 12 35.8 -0.3
BRG Berggiesshubel 77.54 351 *e*P **P** 23 12 35.6 -0.6
comp=Z,6.0nm,1.0s,mb4.5
BRG Berggiesshubel 77.54 351 *i*P **P** 23 12 35.8 -0.5
comp=Z,3.0nm,0.7s,mb4.3
BRG *e* 23 13 43.0
BRG
comp=Z,3.0nm,1.3s
BRG
comp=N,165nm,19.7s
BRG
comp=E,80nm,18.8s
BRG
comp=Z,195nm,19.6s
BRG Berggiesshubel 77.54 351 *i*P **P** 23 12 35.8 -0.4
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG pmax pmax
comp=Z,3.0nm,1.3s
BRG MLR MLR
comp=N,165nm,19.7s
BRG MLR MLR
comp=E,80nm,18.8s
BRG MLR MLR
comp=Z,195nm,19.6s
BRG Berggiesshubel 77.54 351 *i*P **P** 23 12 35.8 -0.5
comp=Z,3.0nm,0.7s
BRG *e* 23 13 43.0
BRG LR LR
comp=Z,200nm,19.6s
KWP Kalwaria 77.67 346 *e*P **P** 23 12 37.5 +0.6
UPC Upice 77.69 350⇑ *e*P **P** 23 12 36.4 -0.7
DPC Dobruska-Polom 77.82 350⇑ *i*P **P** 23 12 37.5 -0.2
PVCC Panska Ves 77.82 351⇑ *e*P **P** 23 12 37.6 -0.2
MOX Moxa 77.97 353 *e*P **P** 23 12 38.3 -0.3
comp=Z,9.0nm,1.1s,mb4.6
MOX Moxa 77.97 353 *e*P **P** 23 12 38.3 -0.3
MOX pmax pmax
comp=Z,13nm,1.1s,mb4.8
OKC Ostrava-Krasne 78.11 349⇑ *e*P **P** 23 12 38.6 -0.7
HGN Heimansgroeve 78.17 357 *e*P **P** 23 12 39.7 -0.1
comp=Z,20nm,1.1s,mb4.9
NIE Niedzica 78.23 347 *e*P **P** 23 12 40.8 +0.8
NKC Novy Kostel 78.31 352⇑ *e*P **P** 23 12 40.3 -0.2
MEM Membach 78.33 357 P **P** 23 12 40.4 -0.2
PRU Pruhonice 78.36 351⇑ *e*P **P** 23 12 40.4 -0.4
KOLS Kolonicke sedl 78.41 346 *e*P **P** 23 12 41.2 +0.2
KOLS pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KOLS Kolonicke sedl 78.41 346 *e*P **P** 23 12 41.2 +0.2
comp=Z,7.5nm,0.8s,mb4.7
SNF Seneffe 78.48 358 P **P** 23 12 42.0 +0.6
BCLA Clavier 78.54 357 P **P** 23 12 41.4 -0.3
comp=Z,5.2nm,1.0s,mb4.4
CRVS Cervenica-Dubn 78.57 346 *e*P **P** 23 12 42.1 +0.2
CRVS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
CRVS Cervenica-Dubn 78.57 346 *e*P **P** 23 12 42.1 +0.2
comp=Z,3.1nm,1.0s,mb4.2
MANZ Manzenberg 78.58 353 *e*P **P** 23 12 41.8 -0.2
TNS Taunus Mts 78.60 355 *e*P **P** 23 12 41.8 -0.3
ROTZ Rotzenmuhle 78.79 352 *e*P **P** 23 12 43.2 +0.1
VRAC Vranov 78.81 349 P **P** 23 12 43.1 -0.1
comp=Z,5.6nm,0.8s,mb4.5,baz=17,slow=4.4,SNR=13
VRAC Vranov 78.81 349⇓ *i*P **P** 23 12 43.8 +0.6
VRAC Vranov 78.81 349 P **P** 23 12 43.1 -0.1
VRAC pmax pmax
comp=Z,6.0nm,0.8s
GIVF Givet 78.87 357 *e*P **P** 23 12 43.5 -0.1
DOU Dourbes 78.89 357 P **P** 23 12 43.6 0.0
BAIF Baives 78.93 358⇑ *i*P **P** 23 12 44.1 +0.2
comp=Z,15nm,0.7s,mb4.7
BAIF Baives 78.93 358⇑ *i*P **P** 23 12 44.1 +0.2
BAIF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
BAIF Baives 78.93 358⇑ *i*P **P** 23 12 44.1 +0.2
comp=Z,7.7nm,0.7s,mb4.7
GRA1 Grafenberg Arr 78.94 353 *e*P **P** 23 12 44.2 +0.2
comp=Z,14nm,0.9s,mb4.9
GRF Grafenberg Arr 78.94 353 *e*P **P** 23 12 44.2 +0.2
comp=Z,14nm,0.9s,mb4.9
GRF Grafenberg Arr 78.94 353 *e*P **P** 23 12 44.2 +0.2
GRF pmax pmax
comp=Z,14nm,0.9s,mb4.9
GRF Grafenberg Arr 78.94 353 *e*P **P** 23 12 44.2 +0.2
GRF pmax pmax
comp=Z,14nm,0.9s,mb4.9
TREC Trest 78.95 350⇑ *e*P **P** 23 12 43.6 -0.4
KECS Kecovo 79.12 347 *e*P **P** 23 12 45.2 +0.3
KECS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KECS Kecovo 79.12 347 *e*P **P** 23 12 45.2 +0.3
comp=Z,5.4nm,0.8s,mb4.5
BURAR Bucovina Array 79.20 343⇓ *i*P **P** 23 12 46.2 +0.8
BURAR Bucovina Array 79.20 343 ⇓P **P** 23 12 46.2 +0.9
WLF Walferdange 79.27 356 *e*P **P** 23 12 45.9 +0.2
WLF Walferdange 79.27 356 P **P** 23 12 45.7 0.0
comp=Z,4.0nm,0.9s,mb4.3
KHC Kasperske Hory 79.30 351⇑ *i*P **P** 23 12 45.9 0.0
VYHS Vyhne 79.34 348 *i*P **P** 23 12 46.3 +0.2
VYHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
VYHS Vyhne 79.34 348 *i*P **P** 23 12 46.3 +0.2
comp=Z,3.8nm,0.9s,mb4.3
WET Wettzell 79.35 352 *e*P **P** 23 12 46.1 -0.1
comp=Z,7.0nm,1.2s,mb4.5
WET Wettzell 79.35 352 *e*P **P** 23 12 46.1 -0.1
WET pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
GEC2 GERESS Array S 79.57 351 *e*P **P** 23 12 47.1 -0.3
comp=Z,6.0nm,1.1s,mb4.4
GEC2 GERESS Array S 79.57 351 *e*P **P** 23 12 47.1 -0.3
GEC2 pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
GERES GERESS Array B 79.57 351 P **P** 23 12 47.2 -0.2
comp=Z,1.6nm,0.5s,mb4.2,baz=22,slow=5.9,SNR=26
GERES GERESS Array B 79.57 351 P **P** 23 12 47.2 -0.2
GERES pmax pmax
comp=Z,2.0nm,0.5s
ZST Bratislava 79.85 349 *e*P **P** 23 12 49.5 +0.6
ZST pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ZST Bratislava 79.85 349 *e*P **P** 23 12 49.5 +0.6
comp=Z,6.7nm,0.9s,mb4.6
STU Stuttgart 80.00 354 *e*P **P** 23 12 49.4 -0.3
SRO Srobarova 80.07 348 *e*P **P** 23 12 50.5 +0.4
SRO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
SRO Srobarova 80.07 348 *e*P **P** 23 12 50.5 +0.4
comp=Z,7.9nm,0.8s,mb4.7
SRO2 Moca 80.11 348 *e*P **P** 23 12 50.7 +0.4
SRO2 pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
SRO1 Iza 80.13 348 *e*P **P** 23 12 49.9 -0.5
SRO1 pmax pmax
comp=Z,12nm,0.9s,mb4.8
CONA Conrad Observa 80.26 350⇑ *i*P **P** 23 12 51.8 +0.7
comp=Z,11nm,1.1s,mb4.7
FLN La Foliniere 80.27 1⇑ *i*P **P** 23 12 50.7 -0.5
comp=Z,6.0nm,0.5s,mb4.5
FLN La Foliniere 80.27 1⇑ *i*P **P** 23 12 50.7 -0.5
FLN pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
FLN La Foliniere 80.27 1⇑ *i*P **P** 23 12 50.7 -0.5
comp=Z,3.0nm,0.5s,mb4.5
DRGR 80.42 345⇓ *i*P **P** 23 12 52.6 +0.6
DRGR 80.42 345 ⇓P **P** 23 12 52.6 +0.6
LDF La Druitiere 80.44 1⇑ *i*P **P** 23 12 51.6 -0.5
comp=Z,13nm,0.5s,mb4.9
LDF La Druitiere 80.44 1⇑ *i*P **P** 23 12 51.6 -0.5
LDF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
LDF La Druitiere 80.44 1⇑ *i*P **P** 23 12 51.6 -0.5
comp=Z,6.6nm,0.5s,mb4.8
FUR Furstenfeldbru 80.46 353 *e*P **P** 23 12 52.0 -0.2
comp=Z,21nm,1.4s,mb4.9
FUR Furstenfeldbru 80.46 353 *e*P **P** 23 12 52.0 -0.2
FUR pmax pmax
comp=Z,21nm,1.4s,mb4.9
CDF Champ du Feu 80.47 356⇑ *i*P **P** 23 12 52.0 -0.2
comp=Z,6.9nm,0.7s,mb4.4
CDF Champ du Feu 80.47 356⇑ *i*P **P** 23 12 52.0 -0.2
CDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CDF Champ du Feu 80.47 356⇑ *i*P **P** 23 12 52.0 -0.2
comp=Z,3.5nm,0.7s,mb4.4
MEZF Maizieres J'vi 80.47 357⇑ *i*P **P** 23 12 52.4 +0.2
comp=Z,12nm,0.8s,mb4.6
MEZF Maizieres J'vi 80.47 357⇑ *i*P **P** 23 12 52.4 +0.2
comp=Z,12nm,0.8s,mb4.9
VRI Vrincioaia 80.60 342⇓ *i*P **P** 23 12 53.7 +0.8
VRI Vrincioaia 80.60 342 ⇓P **P** 23 12 53.7 +0.8
PLOR Plostina 80.63 342⇓ *i*P **P** 23 12 53.9 +0.8
GRR Gorron 80.64 1 *e*P **P** 23 12 52.9 -0.3
comp=Z,18nm,0.7s,mb4.8
GRR Gorron 80.64 1 *e*P **P** 23 12 52.9 -0.3
GRR pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
GRR Gorron 80.64 1 *e*P **P** 23 12 52.9 -0.3
comp=Z,8.9nm,0.7s,mb4.8
ROSF Rostrenen 80.64 3⇑ *i*P **P** 23 12 53.0 -0.2
comp=Z,10nm,0.5s,mb4.7
ROSF Rostrenen 80.64 3⇑ *i*P **P** 23 12 53.0 -0.2
ROSF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
ROSF Rostrenen 80.64 3⇑ *i*P **P** 23 12 53.0 -0.2
comp=Z,5.2nm,0.5s,mb4.7
SGMF Saint Gilles 80.75 2⇑ *i*P **P** 23 12 53.7 0.0
comp=Z,21nm,0.7s,mb4.9
SGMF Saint Gilles 80.75 2⇑ *i*P **P** 23 12 53.7 0.0
SGMF pmax pmax
comp=Z,11nm,0.6s,mb5.0
SGMF Saint Gilles 80.75 2⇑ *i*P **P** 23 12 53.7 0.0
comp=Z,10nm,0.6s,mb4.9
HAU Haudompre 80.91 356⇑ *i*P **P** 23 12 54.4 -0.2
comp=Z,6.4nm,0.7s,mb4.4
HAU Haudompre 80.91 356⇑ *i*P **P** 23 12 54.4 -0.2
HAU pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
HAU Haudompre 80.91 356⇑ *i*P **P** 23 12 54.4 -0.2
comp=Z,3.2nm,0.7s,mb4.4
ARSA Arzberg 80.96 350⇑ *i*P **P** 23 12 55.7 +0.8
comp=Z,9.9nm,1.1s,mb4.7
HINF Hinteralfeld 81.08 356⇑ *i*P **P** 23 12 55.1 -0.4
comp=Z,2.2nm,0.5s,mb4.0
HINF Hinteralfeld 81.08 356⇑ *i*P **P** 23 12 55.1 -0.4
HINF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
HINF Hinteralfeld 81.08 356⇑ *i*P **P** 23 12 55.1 -0.4
comp=Z,1.1nm,0.5s,mb4.0
MLR Muntele Rosu 81.11 342⇓ *i*P **P** 23 12 57.4 +1.7
MLR Muntele Rosu 81.11 342 ⇓P **P** 23 12 57.4 +1.8
WATA Walderalm 81.26 353⇑ *i*P **P** 23 12 56.8 +0.3
comp=Z,6.7nm,1.0s,mb4.5
WATA Walderalm 81.26 353⇑ *i*P **P** 23 12 56.8 +0.4
WATA pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MOTA Moosalm 81.29 353⇑ *i*P **P** 23 12 56.7 +0.1
comp=Z,7.5nm,1.2s,mb4.5
MOTA Moosalm 81.29 353⇑ *i*P **P** 23 12 56.7 +0.1
MOTA pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
WTTA Wattenberg 81.33 352⇑ *i*P **P** 23 12 57.4 +0.6
comp=Z,14nm,1.2s,mb4.8
WTTA Wattenberg 81.33 352⇑ *i*P **P** 23 12 57.4 +0.6
WTTA pmax pmax
comp=Z,14nm,1.2s,mb4.8
VOIR 81.33 343⇓ *i*P **P** 23 12 58.2 +1.4
VOIR 81.33 343 ⇓P **P** 23 12 58.2 +1.4
KBA Koelnbreinsper 81.36 351⇑ *i*P **P** 23 12 58.0 +1.0
comp=Z,31nm,1.0s,mb5.2
KBA Koelnbreinsper 81.36 351⇑ *i*P **P** 23 12 58.0 +1.0
KBA pmax pmax
comp=Z,31nm,1.0s,mb5.2
PERS Pernice 81.61 350 *e*P **P** 23 12 58.5 +0.2
LOR Lormes 81.73 358 *e*P **P** 23 12 58.4 -0.6
BZS Buzias 81.74 345⇓ *i*P **P** 23 12 59.5 +0.5
BZS Buzias 81.74 345 ⇓P **P** 23 12 59.5 +0.5
HYF Humbligny 81.76 359 *e*P **P** 23 12 59.2 +0.1
GZR Gura Zlata 81.77 344⇓ *i*P **P** 23 12 59.9 +0.7
GZR Gura Zlata 81.77 344 ⇓P **P** 23 12 59.9 +0.8
OBKA Obir 81.80 350⇑ *i*P **P** 23 12 59.5 +0.2
comp=Z,8.6nm,0.9s,mb4.7
DAVOX Davos 81.94 354 P **P** 23 13 00.1 +0.1
comp=Z,2.8nm,0.5s,mb4.4,baz=342,slow=9.6,SNR=7.0
SSF Saint Saulge 81.95 358⇑ *i*P **P** 23 13 00.0 -0.1
comp=Z,5.6nm,0.7s,mb4.3
SSF Saint Saulge 81.95 358⇑ *i*P **P** 23 13 00.0 -0.1
SSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
SSF Saint Saulge 81.95 358⇑ *i*P **P** 23 13 00.0 -0.1
comp=Z,2.8nm,0.6s,mb4.4
DOBS Dobrina 82.06 350 *e*P **P** 23 13 00.3 -0.4
CABF La Chapelle 82.32 356⇑ *i*P **P** 23 13 02.2 +0.2
comp=Z,4.5nm,0.6s,mb4.3
CABF La Chapelle 82.32 356⇑ *i*P **P** 23 13 02.2 +0.2
CABF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
CABF La Chapelle 82.32 356⇑ *i*P **P** 23 13 02.2 +0.2
comp=Z,2.3nm,0.6s,mb4.3
SMF Signal de Mont 82.36 358 *e*P **P** 23 13 02.1 -0.1
comp=Z,25nm,1.0s,mb4.8
SMF Signal de Mont 82.36 358 *e*P **P** 23 13 02.1 -0.1
SMF pmax pmax
comp=Z,13nm,1.0s,mb4.8
SMF Signal de Mont 82.36 358 *e*P **P** 23 13 02.1 -0.1
comp=Z,13nm,1.0s,mb4.8
MFF Saint Martin d 82.44 1⇑ *i*P **P** 23 13 02.7 +0.1
comp=Z,20nm,1.0s,mb4.7
MFF Saint Martin d 82.44 1⇑ *i*P **P** 23 13 02.7 +0.1
MFF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MFF Saint Martin d 82.44 1⇑ *i*P **P** 23 13 02.7 +0.1
comp=Z,10nm,1.0s,mb4.7
BGF Bois d'Agland 82.46 358 *e*P **P** 23 13 02.8 0.0
BOJS Bojanci 82.72 350 *i*P **P** 23 13 04.1 0.0
TCF Toulx Ste Croi 82.74 359 *e*P **P** 23 13 04.8 +0.6
comp=Z,11nm,0.9s,mb4.6
TCF Toulx Ste Croi 82.74 359 *e*P **P** 23 13 04.8 +0.6
TCF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
TCF Toulx Ste Croi 82.74 359 *e*P **P** 23 13 04.8 +0.6
comp=Z,5.4nm,0.9s,mb4.6
LPL La Plagne 83.38 356 *e*P **P** 23 13 08.5 +1.0
LPG La Plagne 83.40 356 *e*P **P** 23 13 08.8 +1.2
comp=Z,4.7nm,0.7s,mb4.3
LPG La Plagne 83.40 356 *e*P **P** 23 13 08.8 +1.2
LPG pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
LPG La Plagne 83.40 356 *e*P **P** 23 13 08.8 +1.2
comp=Z,2.3nm,0.7s,mb4.3
DIVS Divcibare 83.48 346 *i*P **P** 23 13 08.0 0.0
GRUS Gruza 83.57 346 *i*P **P** 23 13 08.4 -0.1
RJF Les Rejaudoux 83.73 359 *e*P **P** 23 13 09.2 -0.1
BNI Bardonecchia 83.85 356 *e*P **P** 23 13 09.7 -0.2
BNI pmax pmax
comp=Z,12nm,1.3s,mb4.9
BNI Bardonecchia 83.85 356 *e*P **P** 23 13 09.7 -0.2
comp=Z,12nm,1.3s,mb4.9
BOB Bobbio (Coli) 83.97 354 P **P** 23 13 10.2 -0.4
ORIF Oris-en-Rattie 84.02 356 *e*P **P** 23 13 11.4 +0.6
LFF La Frestale 84.10 360 *e*P **P** 23 13 11.3 +0.1
CAF Calviac 84.11 359 *e*P **P** 23 13 11.4 +0.2
VIVF Saint-Julien-l 84.12 357 *e*P **P** 23 13 11.6 +0.3
comp=Z,22nm,1.2s,mb4.8
VIVF Saint-Julien-l 84.12 357 *e*P **P** 23 13 11.6 +0.3
VIVF pmax pmax
comp=Z,11nm,1.2s,mb4.9
VIVF Saint-Julien-l 84.12 357 *e*P **P** 23 13 11.6 +0.3
comp=Z,11nm,1.2s,mb4.9
FITZ Fitzroy Crossi 84.19 232 *e*P **P** 23 13 10.1 -1.5
comp=Z,7.3nm,0.6s,mb5.0
FITZ Fitzroy Crossi 84.19 232 P **P** 23 13 10.1 -1.6
comp=Z,3.1nm,0.5s,mb4.7,baz=23,slow=8.1,SNR=14
VTS Vitosha 84.42 343⇓ *i*P **P** 23 13 13.3 +0.5
VTS Vitosha 84.42 343 ⇓P **P** 23 13 13.3 +0.5
SFI Santa Sofia 84.64 352 P **P** 23 13 14.9 +0.9
BRTR Keskin Array B 84.84 335 P **P** 23 13 14.8 -0.2
comp=Z,4.7nm,0.8s,mb4.7,baz=71,slow=3.6,SNR=8.4
BRTR Keskin Array B 84.84 335 P **P** 23 13 14.8 -0.2
BRTR pmax pmax
comp=Z,5.0nm,0.8s
LASF Ste Croix 84.92 358 *e*P **P** 23 13 15.6 +0.2
comp=Z,11nm,1.1s,mb4.6
SMRF Simiane la Rot 84.97 356 *e*P **P** 23 13 16.4 +0.8
comp=Z,11nm,0.7s,mb4.8
SMRF Simiane la Rot 84.97 356 *e*P **P** 23 13 16.4 +0.8
comp=Z,11nm,0.7s,mb5.1
SBF Sospel 85.00 355 *e*P **P** 23 13 15.5 -0.2
comp=Z,26nm,0.8s,mb5.1
SBF Sospel 85.00 355 *e*P **P** 23 13 15.5 -0.2
SBF pmax pmax
comp=Z,13nm,0.8s,mb5.1
SBF Sospel 85.00 355 *e*P **P** 23 13 15.5 -0.2
comp=Z,13nm,0.8s,mb5.1
CSNT Castellina Chi 85.12 352 P **P** 23 13 16.1 -0.2
comp=Z,34nm,1.2s,mb5.3
SNTG Esanatoglia 85.18 351 P **P** 23 13 16.9 +0.2
comp=Z,25nm,1.1s,mb5.3
ASAR Alice Springs 85.24 222 P **P** 23 13 15.5 -1.5
comp=Z,1.2nm,0.8s,mb4.1,baz=24,slow=5.7,SNR=8.7
ASAR Alice Springs 85.24 222 P **P** 23 13 15.5 -1.5
ASAR pmax pmax
comp=Z,1.0nm,0.8s
FRF La Foret Royal 85.34 356 *e*P **P** 23 13 17.3 -0.1
comp=Z,15nm,1.0s,mb4.8
FRF La Foret Royal 85.34 356 *e*P **P** 23 13 17.3 -0.1
FRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
FRF La Foret Royal 85.34 356 *e*P **P** 23 13 17.3 -0.1
comp=Z,7.4nm,1.0s,mb4.8
LMR La Mourre 85.57 356 *e*P **P** 23 13 18.5 -0.1
comp=Z,16nm,1.0s,mb4.9
LMR La Mourre 85.57 356 *e*P **P** 23 13 18.5 -0.1
LMR pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
LMR La Mourre 85.57 356 *e*P **P** 23 13 18.5 -0.1
comp=Z,7.8nm,1.0s,mb4.9
NRCA Norcia 85.58 351 P **P** 23 13 18.7 0.0
MTLF Montolieu 85.69 359 *e*P **P** 23 13 19.5 +0.3
comp=Z,15nm,1.1s,mb4.8
MTLF Montolieu 85.69 359 *e*P **P** 23 13 19.5 +0.3
MTLF pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
MTLF Montolieu 85.69 359 *e*P **P** 23 13 19.5 +0.3
comp=Z,7.7nm,1.1s,mb4.8
EPF Esparros 86.01 0 *e*P **P** 23 13 20.2 -0.6
ETSF Etsaut 86.14 1 *e*P **P** 23 13 22.0 +0.6
comp=Z,7.6nm,0.7s,mb4.7
ETSF Etsaut 86.14 1 *e*P **P** 23 13 22.0 +0.6
ETSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
ETSF Etsaut 86.14 1 *e*P **P** 23 13 22.0 +0.6
comp=Z,3.8nm,0.7s,mb4.7
PGF Pioggiola 86.21 354 *e*P **P** 23 13 21.7 -0.1
comp=Z,39nm,1.0s,mb5.3
PGF Pioggiola 86.21 354 *e*P **P** 23 13 21.7 -0.1
PGF pmax pmax
comp=Z,20nm,1.0s,mb5.3
PGF Pioggiola 86.21 354 *e*P **P** 23 13 21.7 -0.1
comp=Z,20nm,1.0s,mb5.3
ESDC Sonseca Array 89.27 4 P **P** 23 13 34.8 -1.6
comp=Z,0.4nm,0.4s,mb4.1,baz=349,slow=4.7,SNR=8.2
STKA Stephens Creek 89.72 212 *e*P **P** 23 13 36.7 -1.8
comp=Z,4.4nm,1.1s,mb4.7
STKA Stephens Creek 89.72 212 P **P** 23 13 37.7 -0.8
comp=Z,2.3nm,0.7s,mb4.6,baz=157,slow=9.4,SNR=4.7
TORD Torodi Ar. Bea 115.78 359 PKP PKPdf 23 19 21.4 -1.2

	comp=Z,0.2nm,0.4s,baz=344,slow=2.3,SNR=6.5						
TORD	**Torodi Ar. Bea**	**115.78**	**359**	PKP	PKPdf	23 19 21.4	-1.2
TSUM	**Tsumeb**	**145.26**	**331**	*e*PKPdf	PKPdf	23 20 17.7	-0.1
LBTB	**Lobatse**	**147.53**	**315**	PKPbc	PKPbc	23 20 23.9	-0.4
	comp=Z,6.2nm,0.8s,baz=36,slow=0.9,SNR=14						
LBTB	**Lobatse**	**147.53**	**315**	PKPbc	PKPbc	23 20 23.9	-0.4
BOSA	**Boshof**	**150.76**	**312**	PKPbc	PKPbc	23 20 32.0	-0.5
	comp=Z,1.5nm,0.5s,baz=291,slow=5.7,SNR=11						

*ISK **08** 23:07:41.9, 3750N×4238E, h5km, MD3.7*
*ISCJB **08** 23:08:44.7±0.7, 3745N±003×4248E±004, h22km±7km, Error ellipse: s-maj=6.1km s-min=3.9km az=90.2*
*CSEM **08** 23:08:48.7±0.6, 3749N×4216E, h30km, Mc3.5, Error ellipse: s-maj=13.5km s-min=6.3km az=106.0*
*NSSC **08** 23:08:52.1, 3732N×4196E, h15km±8km*
ISC 08 23:08:45.6±0.8**, 3748N**±003×**4241E**±004**, h17**km±6km**, n55, σ1s47**/82**, 15D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.98**	**103**	*i* PG	**Pg**	**23 09 01.8**	**-2.8**
CUKT				*i* SG	**Sg**	**23 09 17.9**	**+0.5**
BEST	**Besiri**	**1.00**	**295**	*i* P	**Pb**	**23 09 02.8**	**-1.6**
BEST				*i* S	**Sb**	**23 09 18.4**	**+1.2**
BTMT	**Batman**	**1.02**	**315**	*i* PG	**Pg**	**23 09 02.9**	**-2.5**
VANT	**Van**	**1.24**	**38**	PN	**Pn**	**23 09 04.9**	**-3.2**
MSL	**Mosul**	**1.30**	**155**	*i* x	x	23 09 10.5	
MSL				*i* x	x	23 09 11.7	
MSL				*i* x	x	23 09 28.5	
MSL				*i* x	x	23 09 29.5	
TVAN	**Van**	**1.31**	**36**	*i* P	**Pn**	**23 09 07.0**	**-2.1**
TVAN				*i* S	**Sn**	**23 09 23.7**	**-2.5**
MARD	**Mardin**	**1.31**	**263**	*i* P	**Pn**	**23 09 08.8**	**-0.3**
MARD				*i* S	**Sn**	**23 09 27.6**	**+1.4**
VANB	**Van**	**1.36**	**34**	PN	**Pn**	**23 09 08.5**	**-1.2**
KBSD	**Kabsdagh**	**1.57**	**253**	⇓P	**Pn**	**23 09 13.2**	**+0.5**
KBSD				⇓S	**Sn**	**23 09 30.7**	**-1.9**
KBSD	**Kabsdagh**	**1.57**	**253**	⇓*i*P	**Pn**	**23 09 13.2**	**+0.6**
KBSD				⇓*i*S	**Sn**	**23 09 30.7**	**-1.8**
BNGL	**BINGOL**	**1.78**	**326**	*i* P	**Pn**	**23 09 15.4**	**-0.1**
BNGL				*i* S	**Sn**	**23 09 39.4**	**+1.7**
DIY	**Diyarbakir**	**1.78**	**284**	PN	**Pn**	**23 09 15.2**	**-0.4**
CLDR	**Caldiran**	**2.04**	**35**	PN	**Pn**	**23 09 19.5**	**+0.3**
BINT	**Bingol**	**2.06**	**313**	PN	**Pn**	**23 09 18.8**	**-0.6**
SFNV	**Sufian**	**2.12**	**241**	⇑P	**Pn**	**23 09 21.3**	**+1.0**
SFNV				⇓S	**Sn**	**23 09 45.1**	**-1.2**
SFNV	**Sufian**	**2.12**	**241**	⇑*i*P	**Pn**	**23 09 21.3**	**+1.0**
SFNV				⇓*i*S	**Sn**	**23 09 45.2**	**-1.1**
DRBT	**Darb Altahta**	**2.17**	**254**	⇓P	**Pg**	**23 09 37.9**	**+11**
MZRK	**Al-Mazaregh**	**2.17**	**221**	⇑P	**Pn**	**23 09 22.7**	**+1.8**
MZRK				⇓S	**Sn**	**23 09 46.6**	**-0.9**
MZRK	**Al-Mazaregh**	**2.17**	**221**	⇑*i*P	**Pn**	**23 09 22.7**	**+1.7**
MZRK				⇓*i*S	**Sn**	**23 09 46.6**	**-0.9**
ERZM	**Erzurum**	**2.56**	**342**	*i* P	**Pn**	**23 09 27.4**	**+1.2**
ERZM				*i* S	**Sn**	**23 09 59.6**	**+2.6**
EZM	**Erzurum**	**2.56**	**342**	PN	**Pn**	**23 09 25.9**	**-0.4**
URFA	**Urfa**	**2.86**	**270**	PN	**Pn**	**23 09 30.2**	**-0.2**
ELZG	**Elazig**	**2.89**	**292**	*i* P	**Pn**	**23 09 30.2**	**-0.7**
ELZG				*i* S	**Sn**	**23 10 08.4**	**+3.2**
EZC	**Erzincan**	**3.05**	**319**	*e*PN	**Pn**	**23 09 36.5**	**+3.5**
KARS	**Kars**	**3.17**	**9**	PN	**Pn**	**23 09 34.7**	**-0.1**
GNI	**Garni**	**3.23**	**34**	*e*PN	**Pn**	**23 09 35.2**	**-0.3**
MYA	**Malataya**	**3.27**	**286**	*e*PN	**Pn**	**23 09 35.5**	**-0.5**
JHLN	**Al Jahlan**	**3.67**	**242**	⇑P	**Pn**	**23 09 43.0**	**+1.5**
JHLN				⇓S	**Sn**	**23 10 22.1**	**-2.3**
JHLN	**Al Jahlan**	**3.67**	**242**	⇑*i*P	**Pn**	**23 09 43.0**	**+1.4**
JHLN				⇓*i*S	**Sn**	**23 10 22.1**	**-2.3**
GZT	**Gaziantep**	**3.86**	**270**	*i* P	**Pn**	**23 09 43.5**	**-0.7**
GZT				*i* S	**Sg**	**23 10 42.0**	**-7.5**
BCA	**Borcka**	**4.01**	**351**	*e*PN	**Pn**	**23 09 46.7**	**+0.5**
GAZ	**Gaziantep**	**4.16**	**267**	*e*PN	**Pn**	**23 09 47.6**	**-0.7**
BHD	**Baghdad**	**4.50**	**158**	*e*x	x	23 09 52.0	
BHD				*e*x	x	23 10 44.0	
DRWC	**Darouich**	**4.67**	**261**	⇑P	**Pn**	**23 09 57.6**	**+2.2**
DRWC				⇑S	**Sn**	**23 10 47.4**	**-1.8**
DRWC	**Darouich**	**4.67**	**261**	⇑*i*P	**Pn**	**23 09 57.6**	**+2.2**
DRWC				⇑*i*S	**Sn**	**23 10 47.4**	**-1.8**
SVSK	**Karacayir**	**4.89**	**302**	*e*PN	**Pn**	**23 09 58.8**	**+0.5**
COBT	**Iskenderun**	**5.02**	**261**	*i* P	**Pn**	**23 10 00.3**	**+0.2**
COBT				*i* S	**Sg**	**23 11 25.6**	**-1.2**
KFRA	**Kufra**	**5.06**	**245**	⇑P	**Pn**	**23 10 01.9**	**+1.2**
KFRA	**Kufra**	**5.06**	**245**	⇑*i*P	**Pn**	**23 10 01.9**	**+1.2**
WRDH	**Warideh**	**5.22**	**250**	⇑P	**Pn**	**23 10 05.1**	**+2.3**
WRDH				⇑S	**Sn**	**23 11 00.8**	**-1.9**
WRDH	**Warideh**	**5.22**	**250**	⇑*i*P	**Pn**	**23 10 05.1**	**+2.2**
WRDH				⇑*i*S	**Sn**	**23 11 00.8**	**-1.8**
SLNF	**Slenfeh**	**5.33**	**251**	⇑P	**Pn**	**23 10 06.3**	**+2.0**
SLNF				⇓S	**Sn**	**23 11 02.8**	**-2.5**
SLNF	**Slenfeh**	**5.33**	**251**	⇑*i*P	**Pn**	**23 10 06.3**	**+2.0**
SLNF				⇓*i*S	**Sn**	**23 11 02.8**	**-2.5**
ARNB	**Al Arnab**	**5.42**	**255**	⇓P	**Pn**	**23 10 08.3**	**+2.6**
ARNB				⇑S	**Sn**	**23 11 06.6**	**-1.1**
ARNB	**Al Arnab**	**5.42**	**255**	⇓*i*P	**Pn**	**23 10 08.3**	**+2.6**
ARNB				⇑*i*S	**Sn**	**23 11 06.6**	**-1.1**
BIDA	**Albida**	**5.50**	**245**	⇑P	**Pn**	**23 10 08.1**	**+1.4**
BIDA				⇑S	**Sn**	**23 11 07.6**	**-2.0**
BIDA	**Albida**	**5.50**	**245**	⇑*i*P	**Pn**	**23 10 08.1**	**+1.4**
BIDA				⇑*i*S	**Sn**	**23 11 07.6**	**-2.0**
HWQ	**Hawqa**	**6.14**	**241**	*e*Pn	**Pn**	**23 10 19.6**	**+4.0**
ZALF	**Zalf**	**6.16**	**224**	⇑P	**Pn**	**23 10 17.5**	**+1.7**
ZALF				⇑S	**Sn**	**23 11 25.6**	**-0.2**
ZALF	**Zalf**	**6.16**	**224**	⇑*i*P	**Pn**	**23 10 17.5**	**+1.7**
ZALF				⇑*i*S	**Sn**	**23 11 25.6**	**-0.2**
TOTH	**TOTAH**	**6.38**	**232**	⇑P	**Pn**	**23 10 21.2**	**+2.4**
TOTH	**TOTAH**	**6.38**	**232**	⇑*i*P	**Pn**	**23 10 21.2**	**+2.4**
BHL	**Bhannes**	**6.55**	**239**	*e*Pn	**Pn**	**23 10 25.1**	**+3.9**
SALA	**Sala**	**6.65**	**226**	⇑P	**Pn**	**23 10 24.2**	**+1.6**
SALA	**Sala**	**6.65**	**226**	⇑*i*P	**Pn**	**23 10 24.2**	**+1.6**

*IDC **08** 23:11:56.1±2.4, 5125N×17942W, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.9/23, mbtmp3.8/11, ML4.1/1, Error ellipse: s-maj=66.1km s-min=19.6km az=180.0*
*NEIC **08** 23:11:59.1, 5102N×17931W, h13km, ML3.9(AEIC), After AEIC.*
*ISCJB **08** 23:12:00.7±2.0, 51.1N±03×17930W±008, h51km±9km, mb3.8/10, Error ellipse: s-maj=45.9km s-min=7.8km az=171.6*
ISC 08 23:12:02.9±1.1**, 515N**±02×**17940W**±009**, h41**km±9km**, n16, σ0s87**/19**, mb3.8**/10**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.82**	**260**	P	**Pn**	**23 12 16.9**	**-1.2**
AMKA				S	**Sn**	**23 12 29.5**	**+0.5**
ATKA	**Atka Island**	**3.30**	**76**	P	**Pn**	**23 12 51.4**	**-0.6**
ATKA				S	**Sn**	**23 13 31.0**	**+1.0**
SMY	**Shemya**	**4.18**	**289**	P	**Pn**	**23 13 09.1**	**+4.9**
SPIA	**Saint Paul Isl**	**7.79**	**40**	*e*Pn	**Pn**	**23 13 59.0**	**+5.4**
SPIA				*e*Sn	**Sn**	**23 15 19.4**	**-1.1**
KDAK	**Kodiak Island**	**16.66**	**57**	Pn	**Pn**	**23 15 53.6**	**+0.2**
	0.7nm,0.3s,baz=294,slow=6.5,SNR=6.5						
ILAR	**Eielson Array**	**21.37**	**39**	P	**P**	**23 16 48.2**	**+1.5**
	0.6nm,0.7s,mb3.0,baz=256,slow=11,SNR=4.2						
YKA	**Yellowknife Ar**	**35.41**	**46**	P	**P**	**23 18 54.0**	**-0.9**
	0.6nm,0.7s,mb3.7,baz=283,slow=7.9,SNR=5.8						
YKA	**Yellowknife Ar**	**35.41**	**46**	P	**P**	**23 18 54.0**	**-0.9**
NEW	**Newport**	**39.19**	**69**	P	**P**	**23 19 27.0**	**+0.1**
	2.6nm,0.8s,mb4.0,baz=304,slow=1.7,SNR=3.9						
SONM	**Songino Array**	**46.25**	**296**	P	**P**	**23 20 24.9**	**+0.8**
	0.2nm,0.5s,mb3.3,baz=57,slow=5.3,SNR=2.8						
PDAR	**Pinedale Array**	**46.62**	**72**	P	**P**	**23 20 26.1**	**-1.0**
	2.9nm,0.7s,mb4.3,baz=341,slow=2.2,SNR=19						
MKAR	**Makanchi Array**	**59.65**	**308**	P	**P**	**23 22 03.0**	**+0.1**
	0.3nm,0.4s,mb3.6,baz=40,slow=7.6,SNR=7.9						
FINES	**FINESS Array B**	**65.56**	**347**	P	**P**	**23 22 41.8**	**-0.6**
	1.1nm,0.7s,mb4.0,baz=23,slow=11,SNR=5.8						
NOA	**NORSAR Array B**	**67.47**	**354**	P	**P**	**23 22 55.0**	**+0.5**
	1.1nm,0.9s,mb3.9,baz=120,slow=6.7,SNR=2.9						
AKASG	**Malin Array Be**	**75.30**	**342**	P	**P**	**23 23 41.1**	**-0.6**
	1.7nm,0.4s,mb4.3,baz=20,slow=6.2,SNR=6.5						
GERES	**GERESS Array B**	**79.39**	**351**	P	**P**	**23 24 05.1**	**+0.4**
	0.4nm,0.5s,mb3.6,baz=27,slow=6.1,SNR=4.8						

*NEIC **08** 23:18:11.3, 4451S×16779E, h10km, ML3.8(WEL), After WEL.*
WEL 08 23:18:11.4±0.3**, 4451S**×**16781E, h12**km±1km**, ML3.9**/13**, 2D, Error ellipse: s-maj=1.9km s-min=1.2km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.18**	**152**	⇓PG	Pg	23 18 15.7	+0.3
MSZ				SG	Sg	23 18 18.4	+0.3
MSZ	**Milford Sound**	**0.18**	**152**	P	Pg	23 18 15.7	+0.3
MSZ				S	Sg	23 18 18.4	+0.2
JCZ	**Jackson Bay**	**0.81**	**58**	P*	Pb	23 18 26.7	-0.7
JCZ				S*	Sb	23 18 37.2	-1.1
JCZ	**Jackson Bay**	**0.81**	**58**	P	Pg	23 18 26.7	-0.4
MLZ	**Mavora Lakes**	**0.87**	**163**	P*	Pb	23 18 27.4	-1.2
MLZ				S*	Sb	23 18 40.4	+0.2
MLZ	**Mavora Lakes**	**0.87**	**163**	P	Pg	23 18 27.6	-0.7
WKZ	**Wanaka**	**0.92**	**111**	⇓P*	Pb	23 18 28.5	-0.7
WKZ				S*	Sb	23 18 40.2	-1.2
WKZ	**Wanaka**	**0.92**	**111**	P	Pg	23 18 28.5	-0.6
DCZ	**Deep Cove**	**1.07**	**205**	P*	Pb	23 18 30.7	-1.2
DCZ	**Deep Cove**	**1.07**	**205**	*e*P	Pb	23 18 30.7	-1.2
EAZ	**Earnscleugh**	**1.29**	**125**	PN	Pn	23 18 34.6	-0.6
EAZ				S*	Sb	23 18 49.9	-2.1
EAZ	**Earnscleugh**	**1.29**	**125**	P	Pn	23 18 34.6	-0.6
WHZ	**Wether Hill Ro**	**1.39**	**176**	PN	Pn	23 18 35.9	-0.7
WHZ				SN	Sn	23 18 53.9	-0.9
WHZ	**Wether Hill Ro**	**1.39**	**176**	*e*P	Pn	23 18 35.9	-0.7
FOZ	**Fox Glacier**	**1.65**	**56**	*e*PN	Pn	23 18 41.7	+1.5
FOZ				SN	Sn	23 19 04.7	+3.3
FOZ	**Fox Glacier**	**1.65**	**56**	*e*P	Pn	23 18 41.9	+1.6
LBZ	**Lake Benmore**	**1.71**	**87**	PN	Pn	23 18 41.7	+0.7
LBZ	**Lake Benmore**	**1.71**	**87**	*e*P	Pn	23 18 41.9	+0.9
TUZ	**Tuapeka**	**1.93**	**139**	PN	Pn	23 18 44.9	+0.8
TUZ				SN	Sn	23 19 09.1	+0.7
TUZ	**Tuapeka**	**1.93**	**139**	*e*P	Pn	23 18 44.9	+0.8
ODZ	**Otahua Downs**	**2.09**	**106**	PN	Pn	23 18 46.1	-0.1
ODZ	**Otahua Downs**	**2.09**	**106**	*e*P	Pn	23 18 46.4	+0.2
SYZ	**Scrubby Hill**	**2.23**	**156**	PN	Pn	23 18 48.8	+0.6
APZ	**The Paps**	**2.32**	**177**	PN	Pn	23 18 50.8	+1.3
APZ				SN	Sn	23 19 20.5	+2.5
HHSZ	**Highcliff Hill**	**2.40**	**126**	PN	Pn	23 18 51.4	+0.8
LTZ	**Lake Taylor**	**3.67**	**63**	*e*P	Pn	23 19 07.3	-0.7
DSZ	**Denniston Nort**	**4.02**	**48**	*e*P	Pn	23 19 12.7	-0.1
THZ	**Tophouse**	**4.63**	**55**	*e*P	Pn	23 19 20.9	-0.3

CASC 08 23:26:46.0±3.8**, 1327N**×**8912W, h104**km±27km**, MD3.9, ML2.9, 4C-7D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.36**	**8**	⇓*i*P	x	23 27 02.4	
LCBS	**La Ceiba**	**0.41**	**19**	⇓*i*P	x	23 27 03.0	
LCBS				*e*S	x	23 27 16.9	
SNVI	**San Vicente**	**0.44**	**38**	*e*S	x	23 27 14.1	
LBRS	**Las Brisas**	**0.47**	**8**	*e*P	x	23 27 04.0	
LFU	**La Fuente**	**0.48**	**0**	⇑*e*P	x	23 27 04.3	
LFU				*e*S	x	23 27 15.8	
BOQS	**Boqueron**	**0.49**	**341**	⇑*i*P	x	23 27 03.8	
BOQS				*e*S	x	23 27 13.9	
SBLS	**San Blas**	**0.75**	**319**	⇓*e*P	x	23 27 05.9	
SBLS				*e*S	x	23 27 20.6	
SNJE	**San Jose**	**0.77**	**321**	⇑*e*P	x	23 27 06.3	
SNJE				*e*S	x	23 27 18.9	
RTR	**El Retiro**	**0.81**	**321**	⇓*e*P	x	23 27 06.9	
VSM	**San Miguel**	**0.83**	**79**	⇓*e*P	x	23 27 08.8	
VSM				*e*S	x	23 27 22.4	
BLLM	**Bellamira**	**0.87**	**78**	⇑*e*P	x	23 27 09.0	
BLLM				*e*S	x	23 27 23.7	
RBDL	**Robledal**	**1.01**	**327**	*e*P	x	23 27 10.4	
RBDL				*e*S	x	23 27 25.0	
MTO2	**Montecristo 2**	**1.15**	**348**	⇓*e*P	x	23 27 13.1	
MTO2				*e*S	x	23 27 30.2	
CNCH	**Conchagua**	**1.25**	**89**	*e*P	x	23 27 13.9	
CNCH				*e*S	x	23 27 31.2	
IXG	**Ixpaco**	**1.58**	**305**	*e*P	Pn	23 27 11.2	-2.2
FUG	**Fuego 3**	**2.05**	**305**	*e*P	Pn	23 27 19.2	-0.1
FUG				*e*S	Sn	23 27 44.6	-0.1
CRIN	**San Cristobal**	**2.09**	**105**	*e*P	Pn	23 27 20.8	+1.0
CRIN				*e*S	Sn	23 27 46.5	+0.8
TELN	**Telica**	**2.32**	**106**	*e*P	Pn	23 27 23.7	+0.9
LEON	**Leon**	**2.33**	**111**	*e*P	Pn	23 27 22.9	0.0
LEON				*i*		23 27 48.8	
	comp=Z,85nm,0.3s						
TP2	**Tecpan 2**	**2.39**	**309**	*e*P	Pn	23 27 24.7	+1.0
TP2				*e*S	Sn	23 27 55.2	+2.6
CNGN	**Cerro Negro**	**2.48**	**108**	*e*P	Pn	23 27 25.7	+0.9
MIRN	**Miramar**	**2.48**	**109**	*e*P	Pn	23 27 25.6	+0.6
MIRN				*e*S	Sn	23 27 54.9	0.0
COPN	**Copaltepe**	**2.69**	**113**	⇓*i*P	Pn	23 27 28.2	+0.6
COPN				*e*S	Sn	23 28 01.2	+1.5
TICN	**Ticuantepe**	**3.07**	**113**	*e*P	Pn	23 27 32.9	+0.2
TICN				*e*S	Sn	23 28 09.5	+0.7

*IDC **08** 23:51:01.3±3.1, 5138N×17926W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.7/22, mbtmp3.7/8, ML4.1/1, Error ellipse: s-maj=81.2km s-min=24.1km az=178.0*
*NEIC **08** 23:51:03.4, 5097N×179.13W, h7km, ML3.2(AEIC), After AEIC.*
*ISCJB **08** 23:51:06.3±0.9, 517N±02×179.1W±0.1, h33km, mb3.6/7, Error ellipse: s-maj=31.5km s-min=8.0km az=140.2*
ISC 08 23:51:07.3±1.1**, 516N**±02×**1791W**±01**, h35**km**, n10, σ0s88**/11**, mb3.6**/7**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.00**	**259**	P	**Pn**	**23 51 22.8**	**-2.0**
AMKA				S	**Sn**	**23 51 38.9**	**+1.2**
ATKA	**Atka Island**	**3.12**	**77**	P	**Pn**	**23 51 54.6**	**+0.6**
KDAK	**Kodiak Island**	**16.49**	**58**	Pn	**Pn**	**23 54 54.6**	**-1.2**
	0.7nm,0.3s,baz=108,slow=5.9,SNR=7.1						
ILAR	**Eielson Array**	**21.22**	**39**	P	**P**	**23 55 50.5**	**+0.5**
	0.4nm,0.8s,mb2.8,baz=210,slow=24,SNR=3.0						
YKA	**Yellowknife Ar**	**35.24**	**47**	P	**P**	**23 57 59.2**	**+0.8**
	0.3nm,0.6s,mb3.4,baz=276,slow=11,SNR=3.0						
PDAR	**Pinedale Array**	**46.45**	**72**	P	**P**	**23 59 30.6**	**0.0**
	0.7nm,0.5s,mb3.8,baz=315,slow=5.0,SNR=7.8						
MKAR	**Makanchi Array**	**59.74**	**308**	P	**P**	**00 01 08.2**	**-0.4**
	0.4nm,0.3s,mb3.9,baz=47,slow=6.8,SNR=13						
FINES	**FINESS Array B**	**65.54**	**347**	P	**P**	**00 01 46.7**	**-0.5**
	0.8nm,0.8s,mb3.8,baz=26,slow=9.3,SNR=5.8						
AKASG	**Malin Array Be**	**75.29**	**342**	P	**P**	**00 02 46.9**	**+0.1**
	1.5nm,0.4s,mb4.3,baz=20,slow=6.6,SNR=4.3						
GERES	**GERESS Array B**	**79.35**	**351**	P	**P**	**00 03 09.9**	**+0.4**
	0.1nm,0.3s,mb3.3,baz=17,slow=4.9,SNR=3.7						

*NEIC **09** 00:03:17.9, 3747S×17660E, h211km, MG4.3(WEL), After WEL.*
WEL 09 00:03:18.5±0.2**, 3748S**×**17657E, h202**km±2km**, ML4.1**/12**, Error ellipse: s-maj=3.2km s-min=2.9km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.89**	**151**	PN	Pn	00 03 47.8	0.0
URZ				SN	Sn	00 04 10.1	-0.3
URZ	**Urewera**	**0.89**	**151**	P	Pn	00 03 47.8	+0.1
MWZ	**Matawai**	**1.14**	**139**	PN	Pn	00 03 49.5	+0.1
MWZ				SN	Sn	00 04 13.5	+0.1
MWZ	**Matawai**	**1.14**	**139**	P	Pn	00 03 49.9	+0.5
MWZ				S	Sn	00 04 14.8	+1.4
MXZ	**Matakaoa Point**	**1.38**	**94**	PN	Pn	00 03 51.2	-0.1
MXZ				SN	Sn	00 04 17.0	+0.1
MXZ	**Matakaoa Point**	**1.38**	**94**	P	Pn	00 03 51.3	0.0
MXZ				S	Sn	00 04 17.5	+0.7
PUZ	**Puketiti**	**1.46**	**114**	PN	Pn	00 03 52.0	0.0
PUZ				SN	Sn	00 04 17.6	-0.5
PUZ	**Puketiti**	**1.46**	**114**	P	Pn	00 03 52.0	0.0
PUZ				S	Sn	00 04 17.7	-0.3
BKZ	**Black Stump Fm**	**1.69**	**182**	PN	Pn	00 03 54.1	+0.1
BKZ				SN	Sn	00 04 21.4	-0.3
BKZ	**Black Stump Fm**	**1.69**	**182**	P	Pn	00 03 54.1	+0.1
KNZ	**Kokohu**	**1.77**	**151**	PN	Pn	00 03 55.3	+0.5
KNZ	**Kokohu**	**1.77**	**151**	P	Pn	00 03 55.3	+0.5
TWVZ	**Taurewa**	**1.82**	**209**	PN	Pn	00 03 56.0	+0.7
TWVZ	**Taurewa**	**1.82**	**209**	P	Pn	00 03 56.0	+0.7
NGZ	**Ngauruhoe**	**1.86**	**204**	PN	Pn	00 03 56.7	+1.0
WPVZ	**Whakapapa**	**1.90**	**205**	P	Pn	00 03 56.8	+0.7
FWVZ	**Far West T-bar**	**1.95**	**204**	PN	Pn	00 03 57.2	+0.6
FWVZ	**Far West T-bar**	**1.95**	**204**	*e*P	Pn	00 03 57.3	+0.7
WNVZ	**Wahianoa**	**2.00**	**202**	PN	Pn	00 03 57.5	+0.4
WNVZ	**Wahianoa**	**2.00**	**202**	P	Pn	00 03 57.5	+0.4
MOVZ	**Moawhango**	**2.03**	**198**	PN	Pn	00 03 57.2	-0.2
MOVZ	**Moawhango**	**2.03**	**198**	P	Pn	00 03 57.2	-0.2
PKVZ	**Pokaka**	**2.05**	**208**	PN	Pn	00 03 58.0	+0.4
MTVZ	**Mangateitei**	**2.09**	**204**	PN	Pn	00 03 58.2	+0.2
VRZ	**Vera Road**	**2.17**	**220**	PN	Pn	00 04 00.0	+1.1
VRZ	**Vera Road**	**2.17**	**220**	*e*P	Pn	00 04 00.2	+1.3
PXZ	**Pawanui**	**2.56**	**175**	PN	Pn	00 04 02.8	-0.3
WAZ	**Wanganui**	**2.59**	**208**	PN	Pn	00 04 03.7	+0.2
WAZ	**Wanganui**	**2.59**	**208**	*e*P	Pn	00 04 03.7	+0.2
TSZ	**Takapari Road**	**2.62**	**190**	PN	Pn	00 04 03.1	-0.7
TSZ	**Takapari Road**	**2.62**	**190**	P	Pn	00 04 03.2	-0.6
BFZ	**Birch Farm**	**3.21**	**184**	PN	Pn	00 04 09.3	-1.3
MRZ	**Mangatainoka R**	**3.27**	**193**	PN	Pn	00 04 09.7	-1.7
MRZ	**Mangatainoka R**	**3.27**	**193**	*e*P	Pn	00 04 09.7	-1.7
TIWZ	**Tintock**	**3.34**	**189**	PN	Pn	00 04 10.8	-1.4
KIW	**Kapiti Island**	**3.62**	**200**	PN	Pn	00 04 13.3	-2.2
KIW	**Kapiti Island**	**3.62**	**200**	P	Pn	00 04 13.3	-2.3
MTW	**Mount Morrison**	**3.77**	**192**	PN	Pn	00 04 14.8	-2.6
MTW	**Mount Morrison**	**3.77**	**192**	P	Pn	00 04 14.8	-2.6
CAW	**Cannon Point**	**3.81**	**197**	PN	Pn	00 04 15.5	-2.4
CAW	**Cannon Point**	**3.81**	**197**	P	Pn	00 04 15.6	-2.3
DUWZ	**D'Urville Isla**	**3.91**	**211**	PN	Pn	00 04 17.0	-2.1
TRWZ	**Traveller**	**3.97**	**190**	PN	Pn	00 04 17.5	-2.4
PAWZ	**Paruwai Farm**	**4.00**	**192**	PN	Pn	00 04 17.8	-2.4
PAWZ	**Paruwai Farm**	**4.00**	**192**	P	Pn	00 04 17.8	-2.5
MRW	**Makara Radio**	**4.01**	**201**	PN	Pn	00 04 17.9	-2.6
MRW	**Makara Radio**	**4.01**	**201**	P	Pn	00 04 18.0	-2.5
WEL	**Wellington**	**4.05**	**200**	P	Pn	00 04 18.8	-2.1
MSWZ	**Moikau Station**	**4.06**	**194**	PN	Pn	00 04 18.1	-2.9
MSWZ	**Moikau Station**	**4.06**	**194**	P	Pn	00 04 18.2	-2.9
SNZO	**South Karori**	**4.09**	**200**	PN	Pn	00 04 18.4	-3.0
SNZO	**South Karori**	**4.09**	**200**	P	Pn	00 04 18.6	-2.8
TCW	**Tory Channel**	**4.13**	**205**	PN	Pn	00 04 19.2	-2.7
TCW	**Tory Channel**	**4.13**	**205**	P	Pn	00 04 19.3	-2.6
TUWZ	**Tuamarina**	**4.44**	**206**	PN	Pn	00 04 22.8	-2.9
NNZ	**Nelson**	**4.48**	**213**	PN	Pn	00 04 23.2	-3.0
NNZ	**Nelson**	**4.48**	**213**	*e*P	Pn	00 04 23.4	-2.9
QRZ	**Quartz Range**	**4.59**	**222**	PN	Pn	00 04 24.7	-2.9
QRZ	**Quartz Range**	**4.59**	**222**	*e*P	Pn	00 04 24.7	-3.0
BSWZ	**Blackbirch Sta**	**4.71**	**205**	P	Pn	00 04 26.8	-2.5
THZ	**Tophouse**	**5.13**	**212**	PN	Pn	00 04 31.7	-2.8
THZ	**Tophouse**	**5.13**	**212**	*e*P	Pn	00 04 31.7	-2.9
KHZ	**Kahutara**	**5.45**	**204**	PN	Pn	00 04 35.7	-3.0
KHZ	**Kahutara**	**5.45**	**204**	*e*P	Pn	00 04 35.8	-2.9
DSZ	**Denniston Nort**	**5.63**	**219**	PN	Pn	00 04 36.8	-4.1
DSZ	**Denniston Nort**	**5.63**	**219**	*e*P	Pn	00 04 37.1	-3.9
LTZ	**Lake Taylor**	**6.24**	**211**	*e*P	Pn	00 04 45.1	-3.7
MQZ	**McQueen's Vall**	**6.90**	**204**	*e*P	Pn	00 04 52.7	-4.7
ODZ	**Otahua Downs**	**8.77**	**209**	PN	Pn	00 05 17.8	-3.9
ODZ	**Otahua Downs**	**8.77**	**209**	*e*P	Pn	00 05 18.0	-3.8

*ISCJB **09** 00:06:19.1±0.4, 3544N±004×13998E±006, h40km±4km, mb4.1/9, Error ellipse: s-maj=8.3km s-min=5.4km az=118.3*
*JMA **09** 00:06:19.5±0.2, 3552N×13995E, h24km±3km, M4.2 Broadband fault plane solution: P waves. NP1: ϕ_s12.00000°, δ41.00000°, λ2.00000°. NP2: ϕ_s281.00000°, δ89.00000°, λ131.00000°. Principal axes: T Plg33.0000°, Azm225.0000°; N Plg41.0000°, Azm100.0000°; P Plg31.0000°, Azm338.0000°;*
JMA Felt III J1.
*NEIC **09** 00:06:19.6, 3552N×13995E, h24km, mb4.7/4, After JMA.*
*MOS **09** 00:06:21.2±0.5, 3537N×13972E, h65km, mb4.8/4, Error ellipse: s-maj=30.8km s-min=12.8km az=119.3*
*IDC **09** 00:06:22.3±2.1, 3536N×13993E, h54km±21km, mb3.5/6, mb1 3.7/7, mb1mx3.4/20, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=32.2km s-min=6.3km az=67.0*
ISC 09 00:06:19.6±0.4**, 3545N**±003×**13994E**±005**, h30**km±3km**, n35, σ0s98**/43**, mb4.1**/9**, 5C-3D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.21**	**97**	⇓P	**Pb**	**00 06 25.7**	**-0.2**
JCN				S	**Sb**	**00 06 30.9**	**+0.7**
TOK	**Tokyo**	**0.28**	**328**	⇑P	**Pb**	**00 06 26.0**	**-0.8**
TOK				S	**Sb**	**00 06 30.9**	**-0.8**
JYO	**Yokosk**	**0.32**	**226**	⇑P	**Pb**	**00 06 27.6**	**+0.3**
JYO				S	**Sb**	**00 06 33.9**	**+1.4**
BSO4	**Boso 4**	**0.56**	**144**	P	**Pb**	**00 06 31.6**	**+0.6**
JHU	**Hanno**	**0.67**	**307**	⇓P	**Pb**	**00 06 31.6**	**-1.3**
JOD2	**Odawara 2**	**0.72**	**256**	⇑P	**Pb**	**00 06 33.2**	**-0.5**
BSO3	**Boso 3**	**0.79**	**144**	P	**Pn**	**00 06 34.8**	**0.0**
JIM2	**Oshima 3**	**0.84**	**210**	P	**Pn**	**00 06 34.6**	**-0.8**
JRY	**Ryogami san**	**1.02**	**304**	P	**Pn**	**00 06 37.3**	**-0.6**
JAG	**Ashikaga**	**1.05**	**338**	⇓P	**Pn**	**00 06 37.4**	**-1.0**
JIZS	**Izushimoda**	**1.14**	**231**	⇑P	**Pn**	**00 06 38.9**	**-0.6**
JYN	**Shimob**	**1.14**	**273**	⇑P	**Pn**	**00 06 39.4**	**-0.2**
MJAR	**Matsushiro Arr**	**1.78**	**308**	P	**Pn**	**00 06 49.3**	**+1.0**
	36nm,0.3s,baz=138,slow=13,SNR=290						
MJAR				S	**Sn**	**00 07 13.2**	**+3.2**
	17nm,0.3s,baz=113,slow=29,SNR=6.7						
MAJO	**Matsushiro**	**1.78**	**308**	*e*Pn	**Pn**	**00 06 49.3**	**+0.9**
MAJO				*e*Sn	**Sn**	**00 07 11.0**	**+0.9**
MAT	**Matsushiro**	**1.78**	**308**	P	**Pn**	**00 06 49.5**	**+1.1**
MAT				S	**Sn**	**00 07 12.6**	**+2.6**
MAT	**Matsushiro**	**1.78**	**308**	*e*P	**Pn**	**00 06 50.0**	**+1.6**
MAT				*e*S	**Sn**	**00 07 13.0**	**+3.0**
JHJ	**Hachijo jima 2**	**2.32**	**183**	P	**Pn**	**00 06 55.7**	**-0.1**
	57nm,0.3s,baz=79,slow=8.4,SNR=22						
JHJ				S	**Sn**	**00 07 24.2**	**+0.8**
	66nm,0.3s,baz=246,slow=23,SNR=12						
YHNB	**Yeheng**	**19.30**	**241**	P	**Pn**	**00 10 41.1**	**-2.2**
MA2	**Magadan**	**25.16**	**13**	*e*P	**P**	**00 11 43.1**	**+0.9**
MA2				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.3						
MA2	**Magadan**	**25.16**	**13**	*e*P	**P**	**00 11 43.1**	**+0.9**
	comp=Z,11nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**43.97**	**303**	P	**P**	**00 14 23.6**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=87,slow=10,SNR=4.3						
KURK	**Kurchatov**	**45.99**	**309**	P	**P**	**00 14 39.6**	**-0.5**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.2s,mb5.3						
KURK	**Kurchatov**	**45.99**	**309**	P	**P**	**00 14 39.5**	**-0.6**
	comp=Z,8.7nm,0.2s,mb5.3						
CHKZ	**Chkalovo**	**50.54**	**314**	*e*P	**P**	**00 15 13.8**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
CHKZ	**Chkalovo**	**50.54**	**314**	*e*P	**P**	**00 15 13.8**	**-1.4**
	comp=Z,1.5nm,1.0s,mb3.9						
ILAR	**Eielson Array**	**51.47**	**32**	P	**P**	**00 15 22.4**	**+0.2**
	comp=Z,0.7nm,0.8s,mb3.6,baz=268,slow=7.8,SNR=4.7						
WRAB	**Tennant Creek**	**55.33**	**186**	*e*P	**P**	**00 15 49.8**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**55.33**	**186**	*e*P	**P**	**00 15 49.8**	**-0.7**
	comp=Z,11nm,0.9s,mb4.9						
ASAR	**Alice Springs**	**59.07**	**186**	P	**P**	**00 16 16.8**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.8,baz=13,slow=11,SNR=6.9						
FINES	**FINESS Array B**	**69.66**	**332**	P	**P**	**00 17 25.4**	**-0.9**
	comp=Z,1.0nm,0.7s,mb3.9,baz=72,slow=9.2,SNR=5.9						
FINES	**FINESS Array B**	**69.66**	**332**	P	**P**	**00 17 25.4**	**-0.9**
NB2	**NORSAR Subarra**	**75.18**	**337**	P	**P**	**00 17 58.6**	**-0.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**75.18**	**337**	P	**P**	**00 17 58.9**	**-0.3**
	comp=Z,1.0nm,0.7s,mb3.9,baz=39,slow=6.0,SNR=4.9						
NOA	**NORSAR Array B**	**75.18**	**337**	P	**P**	**00 17 58.9**	**-0.3**
PDAR	**Pinedale Array**	**79.63**	**45**	P	**P**	**00 18 25.6**	**+1.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=325,slow=4.0,SNR=4.6						

*IDC **09** 00:11:44.9±3.7, 496S×15154E, h152km±34km, mb3.7/8, mb1 4.0/9, mb1mx3.8/15, mbtmp4.2/9, Error ellipse: s-maj=26.0km s-min=22.9km az=34.0*
*ISCJB **09** 00:11:45.3±3.2, 49S±02×1514E±0.1, h168km±31km, mb4.0/11, Error ellipse: s-maj=27.0km s-min=22.1km az=40.9*
*NEIC **09** 00:11:46.5±2.6, 491S×15143E, h170km±24km, mb4.0/3, Error ellipse: s-maj=21.4km s-min=18.8km az=57.0*
ISC 09 00:11:46.1±3.1**, 49S**±02×**1514E**±02**, h163**km±29km**, n20, σ1s21**/14**, mb3.9**/10**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.15**	**223**	P	**Pn**	**00 13 14.7**	**0.0**
	8.1nm,0.3s,baz=18,slow=5.8,SNR=12						
PMG				S	**Sn**	**00 14 23.7**	**-0.6**
	41nm,0.3s,baz=157,slow=20,SNR=11						
CTA	**Charters Tower**	**15.92**	**198**	P	**Pn**	**00 15 22.9**	**+1.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.4nm,0.3s,baz=58,slow=9.9,SNR=5.1						
WRAB	Tennant Creek	22.34	226	eP	P	00 16 29.5	-1.0
	2.5nm,0.4s,mb4.0						
DZM	Mont Dzumac	22.46	141	P	P	00 16 30.9	-0.7
	6.0nm,0.6s,mb4.2,baz=75,slow=12,SNR=8.8						
ASAR	Alice Springs	25.16	220	P	P	00 16 56.7	+0.6
	0.6nm,0.4s,mb3.5,baz=54,slow=8.8,SNR=12						
SONM	Songino Array	65.65	328	P	P	00 22 15.1	+2.3
	1.3nm,0.6s,mb4.0,baz=146,slow=5.0,SNR=12						
MKAR	Makanchi Array	79.47	319	P	P	00 23 35.7	+1.4
	6.2nm,1.3s,mb4.1,baz=102,slow=7.1,SNR=4.4						
MKAR	Makanchi Array	79.47	319	P	P	00 23 35.7	+1.4
ZAL	Zalesovo	80.45	327	P	P	00 23 39.2	-0.4
	0.9nm,0.3s,mb3.8,baz=11,slow=9.5,SNR=3.4						
ILAR	Eielson Array	82.77	22	P	P	00 23 50.0	-1.8
	1.2nm,0.6s,mb3.8,baz=243,slow=6.7,SNR=11						
CHKZ	Chkalovo	88.45	324	eP	P	00 24 18.1	-1.6
	1.2nm,0.6s,mb3.9						
ZRNK	Zerenda	89.28	323	eP	P	00 24 23.0	-0.6
	1.1nm,0.6s,mb4.0						
NVAR	Mina Array Bea	93.24	52	P	P	00 24 43.1	+1.1
	0.8nm,0.4s,mb4.2,baz=260,slow=5.7,SNR=5.9						
PDAR	Pinedale Array	99.94	48	P	Pdif	00 25 12.6	+0.3
	0.4nm,0.5s,baz=173,slow=1.5,SNR=5.0						
PDAR				PP	PP	00 29 12.9	-6.4
	0.3nm,0.7s,baz=220,slow=2.4,SNR=4.1						
ARCES	ARCESS Array B	106.53	343	PKiKP	PKiKP	00 29 51.4	-0.2
	1.6nm,0.9s,baz=112,slow=2.4,SNR=5.2						
GERES	GERESS Array B	123.38	328	PKP	PKPdf	00 30 24.2	+0.5
	0.8nm,0.5s,baz=64,slow=3.1,SNR=13						
EKA	Eskdalemuir Ar	125.70	342	PKP	PKPdf	00 30 28.2	+0.1
	1.8nm,0.9s,baz=358,slow=2.5,SNR=4.3						
MDT	Midelt	144.31	324	PKP	PKPdf	00 31 02.6	0.0
	0.6nm,0.4s,baz=19,slow=3.8,SNR=4.8						
TORD	Torodi Ar. Bea	148.99	287	PKPbc	PKPbc	00 31 15.6	+0.9
	2.8nm,0.6s,baz=90,slow=2.0,SNR=44						
TORD	Torodi Ar. Bea	148.99	287	PKPbc	PKPbc	00 31 15.6	+0.9

*IDC **09** 00:16:24.2±3.1, 24.20S×178.31W, h117km±36km, mb4.0/3, mb1 4.3/5, mb1mx3.9/15, mbtmp4.7/5, MS2.8/1, Ms1 2.8/1, ms1mx2.1/28, Error ellipse: s-maj=39.4km s-min=22.3km az=116.0*

*ISCJB **09** 00:16:26.6±0.9, 24.7S±0.1×177.0W±0.3, h259km±25km, mb3.9/3, Error ellipse: s-maj=41.9km s-min=10.0km az=59.1*

*NEIC **09** 00:16:28.2±1.1, 24.71S×177.16W, h238km±18km, mb4.5/1, Error ellipse: s-maj=27.7km s-min=14.1km az=127.0*

ISC 09 00:16:28.4±1.2, **24.8S**±0.1×**177.0W**±0.2, **h253**km±25km, **n11**, σ0^{s}18/11, **mb4.0**/3, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	4.55	190	P	Pn	00 17 38.5	-0.4
	68nm,0.3s,baz=116,slow=23,SNR=4.3						
RAO				S	S	00 18 35.1	+0.2
	251nm,0.3s,baz=111,slow=19,SNR=6.2						
RAO	Raoul Island	4.55	190	P	Pn	00 17 38.5	-0.3
RAO				S	S	00 18 35.1	+0.2
AFI	Afiamalu	11.87	26	P	Pn	00 19 10.3	+0.1
	10nm,0.3s,baz=216,slow=4.7,SNR=7.5						
AFI				S	S	00 21 14.4	-8.3
	6.2nm,0.3s,baz=26,slow=19,SNR=5.1						
AFI				LR	LR	00 22 22.2	
	comp=Z,46nm,19.1s,baz=360,slow=30						
DZM	Mont Dzumac	15.40	277	P	Pn	00 19 53.3	0.0
	0.6nm,0.3s,baz=303,slow=22,SNR=6.7						
CTA	Charters Tower	34.19	270	P	P	00 22 50.1	+0.1
	4.5nm,0.3s,mb4.5,baz=93,slow=10,SNR=5.2						
CTAO	Charters Tower	34.19	270	eP	P	00 22 49.8	-0.2
	4.7nm,0.4s,mb4.4						
STKA	Stephens Creek	36.94	249	P	P	00 23 13.4	+0.1
	3.2nm,1.0s,mb3.8,baz=94,slow=12,SNR=5.7						
ASAR	Alice Springs	44.57	261	P	P	00 24 15.4	0.0
	1.3nm,0.4s,mb3.6,baz=94,slow=7.1,SNR=14						
HFS	Hagfors	143.86	351	PKhKP	PKPdf	00 35 35.3	+1.9
	2.3nm,0.9s,baz=83,slow=3.5,SNR=7.6						
AKASG	Malin Array Be	147.13	329	PKPbc	PKPab	00 35 49.1	+5.3
	0.4nm,0.4s,baz=35,slow=4.3,SNR=4.3						
MMAI	Mount Meron Ar	150.52	294	PKPbc	PKPab	00 35 59.6	+1.9
	0.8nm,0.4s,baz=72,slow=6.3,SNR=7.4						

PRE 09 00:32:12.5±1.1, **21.61S**×**32.98E**, **h5**km, **ML3.5**, **Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
POGA	Pongola	5.87	192	eP	Pn	00 33 41.0	+1.0
POGA				eS	Sn	00 34 44.4	-3.3
POGA				AML	AML	00 35 00.2	
	comp=Z,3.7nm,12.0s						
LBTB	Lobatse	7.58	242	eP	Pn	00 34 04.5	+0.8
LBTB				eS	Sn	00 35 27.5	-2.5
LBTB				AML	AML	00 36 24.2	
	comp=Z,5.5nm,0.6s						
SWZ	Schweizer	8.91	230	eP	Pn	00 34 23.2	+1.4
SWZ				eS	Sn	00 35 58.6	-4.0
SWZ				AML	AML	00 36 06.8	
	comp=Z,2.9nm,0.5s						
BOSA	Boshof	9.88	224	eP	Pn	00 34 36.1	+1.0
BOSA				eS	Sn	00 36 21.4	-4.9
BOSA				AML	AML	00 36 30.7	
	comp=Z,1.3nm,0.9s						

*IDC **09** 00:54:49.3±1.0, 3.58S×131.46E, h0km, mb3.9/7, mb1 4.1/7, mb1mx4.0/14, mbtmp4.0/7, Error ellipse: s-maj=91.5km s-min=18.3km az=67.0*

*ISCJB **09** 00:54:52.5±0.7, 3.80S±0.09×131.1E±0.2, h33km, mb4.0/7, Error ellipse: s-maj=26.4km s-min=10.5km az=138.8*

*NEIC **09** 00:54:54.6±0.6, 3.64S×131.33E, h35km, mb4.3/2, Error ellipse: s-maj=28.7km s-min=9.1km az=66.0*

ISC 09 00:54:54.8±0.7, **3.85S**±0.09×**131.1E**±0.2, **h35**km, **n14**, σ1^{s}00/14, **mb4.0**/7, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.14	200	Pn	Pn	00 58 24.4	-1.7
	0.5nm,0.3s,baz=31,slow=13,SNR=10						
FITZ				Sn	Sn	01 01 08.4	-4.2
	0.3nm,0.3s,baz=75,slow=19,SNR=2.8						
WRAB	Tennant Creek	16.30	169	eP	Pn	00 58 45.0	+4.1
	7.5nm,0.4s						
KKM	Kota Kinabalu	17.82	303	eP	Pn	00 59 01.4	+1.4
AS31	Alice Springs	19.89	172	eP	Pn	00 59 25.9	+1.0
ASAR	Alice Springs	19.89	172	P	Pn	00 59 25.0	+0.1
	3.3nm,0.5s,baz=352,slow=9.9,SNR=41						
CTA	Charters Tower	21.88	139	P	P	00 59 43.6	-0.9
	5.4nm,0.7s,mb4.1,baz=318,slow=8.7,SNR=4.7						
STKA	Stephens Creek	29.57	162	P	P	01 00 57.5	+1.2
	1.5nm,0.6s,mb3.9,baz=333,slow=9.2,SNR=3.7						
NWAO	Narrogin (SRO)	31.71	203	P	P	01 01 15.4	+0.2
	138nm,1.8s						
SONM	Songino Array	55.84	340	P	P	01 04 27.9	-0.8
	0.3nm,0.3s,mb3.8,baz=142,slow=7.3,SNR=4.2						
MKAR	Makanchi Array	66.23	326	P	P	01 05 39.3	+0.1
	0.5nm,0.4s,mb3.9,baz=112,slow=6.4,SNR=4.1						
ZAL	Zalesovo	69.28	333	P	P	01 05 57.5	-0.9
	0.9nm,0.4s,mb4.0,baz=354,slow=7.0,SNR=6.0						
KURK	Kurchatov	70.44	328	eP	P	01 06 05.0	-0.5
	3.6nm,0.9s,mb4.3						
VNDA	Vanda	75.43	173	P	P	01 06 35.8	+0.7
	1.1nm,1.0s,mb3.7,baz=311,slow=7.1,SNR=4.8						
TORD	Torodi Ar. Bea	129.21	284	PKP	PKPdf	01 14 00.8	+1.6
	0.5nm,0.7s,baz=58,slow=2.0,SNR=3.3						

*IDC **09** 00:58:13.2±0.6, 51.22N×179.22W, h0km, mb4.6/23, mb1 4.7/24, mb1mx4.7/28, mbtmp4.6/24, ML4.9/1, MS4.5/19, Ms1 4.5/19, ms1mx4.3/32, Error ellipse: s-maj=20.0km s-min=11.7km az=164.0*

*ISCJB **09** 00:58:19.7±0.2, 51.30N±0.05×179.21W±0.03, h49km, mb4.9/139, MS4.6/44, Error ellipse: s-maj=6.9km s-min=2.3km az=13.0*

*MOS **09** 00:58:19.5±1.1, 51.43N×179.30W, h44km, mb5.1/73, MS4.6/18, Error ellipse: s-maj=7.7km s-min=4.4km az=93.0*

*BJI **09** 00:58:19.0, 51.30N×179.30W, h47km, mB5.2, mb4.9, Ms4.8, Msz4.5*

*NEIC **09** 00:58:21.0±0.7, 51.31N×179.29W, h48km±5km, mb4.8/87, MS4.6/8, ML4.9(AEIC), Error ellipse: s-maj=9.2km s-min=3.8km az=188.0*

*HRVD **09** 00:58:21.0±0.4, 50.81N×179.27W, h27km±1km, MW5.3/75, Centroid moment Tensor Solution. LP body waves: s39,c51; Mantle waves: s75,c120; Half duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.75±.05; $M_{\theta\theta}$-0.71±.03; $M_{\phi\phi}$-0.03±.03; $M_{r\theta}$0.57±.05; $M_{\theta\phi}$-0.14±.02; $M_{\phi r}$0.23±.05; Best double couple: $M_0$0.96300×10^{17} NP1: ϕ_s265.00000°, δ26.00000°, λ102.00000°. NP2: ϕ_s72.00000°, δ65.00000°, λ84.00000°. Principal axes: T 0.9720, Plg70.0000°, Azm330.0000°; N -0.0190, Plg5.0000°, Azm75.0000°; P -0.9540, Plg20.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SZGRF **09** 00:58:23.6, 51.51N×177.31E, h33km, mb5.1, Rat Islands, Aleutian Islands, United States*

ISC 09 00:58:21.7±0.2, **51.42N**±0.05×**179.22W**±0.03, **h51**km, **h51**km±3.1km**:pP-P**, **n548**, σ1^{s}04/549, **mb4.8**/139, **MS4.6**/44, **70C-44D**, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	Amchitka	0.93	268	P	Pn	00 58 34.7	-3.7
AMKA				S	Sn	00 58 51.9	+1.1
ATKA	Atka Island	3.21	74	P	Pn	00 59 07.7	-1.9
SMY	Shemya	4.33	290	P	Pn	00 59 25.9	+1.0
NIKO	Nikolski	6.56	72	P	Pn	00 59 54.3	-1.2
OKCD	Okmok Cone D	7.08	69	P	Pn	01 00 03.5	+0.9
SPIA	Saint Paul Isl	7.79	39	P	Pn	01 00 15.8	+3.4
UNV	Unalaska Valle	8.11	68	P	Pn	01 00 17.0	+0.3
FALS	False Pass	10.09	64	ePn	Pn	01 00 45.8	+1.9
SDPT	Sand Point	11.85	63	ePn	Pn	01 01 08.5	+0.6
CHGN	Chignik	13.19	60	eP	Pn	01 01 25.4	-0.8
PET	Petropavlovsk	13.65	285c	iP	Pn	01 01 30.6	-1.9
PET				eS	Sn	01 04 04.3	+1.7
PET				pmax	pmax		
	comp=Z,300nm,10.0s						
PET				pmax	pmax		
	comp=Z,300nm,9.2s						
PET				pmax	pmax		
	comp=Z,34nm,1.0s						
PET				smax			
	comp=N,300nm,22.5s						
PET				MLR	MLR		
	comp=Z,2µm,20.0s						
PET				MLR	MLR		
	comp=Z,2µm,18.0s						
PET	Petropavlovsk	13.65	285	ePn	Pn	01 01 40.6	+8.1
SVW2	Sparrevohn	16.22	44	eP	Pn	01 02 08.7	+2.7
KDAK	Kodiak Island	16.62	57	Pn	Pn	01 02 07.3	-3.7
	comp=Z,3.9nm,0.3s,baz=256,slow=7.0,SNR=24						
KDAK				Sn	Sn	01 05 17.0	+2.4
	comp=Z,0.6nm,0.3s,baz=334,slow=22,SNR=6.5						
KDAK	Kodiak Island	16.62	57	ePn	Pn	01 02 08.6	-2.4
TTA	Tatalina	16.94	38	eP	Pn	01 02 18.4	+3.4
BILL	Bilibino	18.11	342	eP	Pn	01 02 26.8	-2.6
SLKM	Skilak Lake	18.46	49	eP	Pn	01 02 33.3	-0.3
MA2	Magadan	18.72	307	eP	Pn	01 02 35.4	-1.4
MA2				pmax	pmax		
	comp=Z,25nm,2.5s						
PMR	Palmer	19.29	47	eP	Pn	01 02 44.7	+1.1
PMR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
PMR	Palmer	19.29	47	eP	Pn	01 02 44.7	+1.1
	comp=Z,5.9nm,0.6s						
PMR				ePn	Pn	01 02 48.6	+5.0
SML	Sawmill	19.71	46	eP	Pn	01 02 48.9	+0.2
MCK	McKinley	20.14	41	eP	P	01 02 53.8	+2.4
EYAK	Cordova Ski Ar	20.61	51	ePn	P	01 02 54.7	-1.9
COLA	College	21.04	38	eP	P	01 03 02.8	+1.6
COLA				pmax	pmax		
	comp=Z,33nm,0.9s,mb4.7						
COLA	College	21.04	38	eP	P	01 03 02.8	+1.6
	comp=Z,33nm,0.9s,mb4.7						
ILAR	Eielson Array	21.37	39	P	P	01 03 02.7	-2.1
	comp=Z,4.1nm,0.5s,mb4.0,baz=189,slow=25,SNR=33						
MENT	Mentasta	22.10	45	eP	P	01 03 14.8	+2.3
DAWY	Dawson	24.25	43	eP	P	01 03 32.8	-1.1
YSS	Yuzh-Sakhalins	25.06	275	eP	P	01 03 42.3	+1.2
YSS				pmax	pmax		
	comp=Z,29nm,0.8s,mb4.9						
YSS	Yuzh-Sakhalins	25.06	275	eP	P	01 03 42.2	+1.1
	comp=Z,29nm,0.8s,mb4.9						
ASAJ	Asahikawa	26.45	269	P	P	01 03 52.5	-1.3
	comp=Z,10nm,0.8s,mb4.4,baz=298,slow=9.4,SNR=6.7						
ASAJ				LR	LR	01 13 38.1	
	comp=Z,598nm,19.3s,MS4.2,baz=359,slow=35						
ASAJ	Asahikawa	26.45	269	P	P	01 03 52.5	-1.2
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ASAJ				MLR	MLR		
	comp=Z,598nm,19.3s						
INK	Inuvik	27.57	35	P	P	01 04 03.6	-0.2
	comp=Z,5.9nm,0.7s,mb4.3,baz=270,slow=13,SNR=6.9						
INK	Inuvik	27.57	35	eP	P	01 04 05.6	+1.8
INK				pmax	pmax		
	comp=Z,26nm,1.3s						
INK	Inuvik	27.57	35	eP	P	01 04 05.6	+1.8
	comp=Z,26nm,1.3s,mb4.7						
YAK	Yakutsk	29.19	311	eP	P	01 04 17.3	-0.9
YAK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.6						
KLR	Kul'dur	30.92	286	eP	P	01 04 29.1	-4.4
KLR				e	pP	01 04 45.6	-1.0
KLR				pmax	pmax		
	comp=E,33nm,1.4s						
KLR				pmax	pmax		
	comp=Z,48nm,1.4s,mb5.1						
KLR				MLR	MLR		
	comp=E,500nm,15.0s						
KLR				MLR	MLR		
	comp=Z,1µm,15.0s,MS4.6						
MJAR	Matsushiro Arr	33.53	260	P	P	01 04 55.6	-0.9
	comp=Z,1.7nm,0.7s,mb4.1,baz=42,slow=7.9,SNR=9.0						
MJAR				LR	LR	01 16 46.7	
	comp=Z,577nm,19.3s,MS4.3,baz=65,slow=33						
MAT	Matsushiro	33.54	260	P	P	01 04 55.1	-1.3
MAT				S	S	01 10 27.0	+12
MAT	Matsushiro	33.54	260	eP	P	01 04 55.0	-1.4
MAT				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
MAT				MLR	MLR		
	comp=Z,690nm,19.0s,MS4.4						
MAT	Matsushiro	33.54	260	eP	P	01 04 55.0	-1.4
	comp=Z,7.6nm,0.9s,mb4.6						
MAT				eS	S	01 10 28.0	+13
MAT				LR	LR		
	comp=Z,690nm,19.0s,MS4.4						
MDJ	Mudanjiang	34.31	279	P	P	01 05 03.1	0.0
MDJ				AP	pP	01 05 15.6	-0.8
MDJ				XP	sP	01 05 22.3	-0.1
MDJ				PCP	PcP	01 07 38.5	+0.1
MDJ				S	S	01 10 27.0	+0.2
MDJ				XS	sS	01 10 47.1	-2.0
MDJ				SCP	ScP	01 11 22.6	+3.5
MDJ				SCS	ScS	01 15 21.6	-0.1
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,114nm,6.1s						
MDJ				LR	LR		
	comp=N,357nm,17.7s,MS4.3						
MDJ				LR	LR		
	comp=E,476nm,21.6s,MS4.3						
MDJ				LR	LR		
	comp=Z,796nm,19.9s,MS4.5						
YKW3	Yellowknife Ar	35.37	46	eP	P	01 05 11.1	-1.2
YKA	Yellowknife Ar	35.39	46	P	P	01 05 11.0	-1.4
	comp=Z,5.2nm,0.7s,mb4.6,baz=278,slow=9.4,SNR=23						
YKA				PcP	PcP	01 07 42.0	+0.5
	comp=Z,0.6nm,0.7s,baz=276,slow=3.6,SNR=4.1						
YKA	Yellowknife Ar	35.39	46	P	P	01 05 11.1	-1.4
YKA				PcP	PcP	01 07 42.0	+0.5
D03A	Wishkah Elem.	35.70	75	⇑P	P	01 05 15.2	+0.1
	baz=36						
A05A	Maple Falls	35.85	71	⇓P	P	01 05 16.6	+0.2
	baz=36						
GNW	Green Mountain	36.06	73	eP	P	01 05 20.2	+2.1
CMW	Cultus Mountai	36.09	72	P	P	01 05 18.5	0.0
E03A	Lebam	36.09	75	⇓P	P	01 05 18.4	-0.1
	baz=36						
B05A	Bryant	36.17	72	⇓P	P	01 05 19.0	-0.1
	baz=36						
D04A	Dobbs Creek Ra	36.29	74	⇓P	P	01 05 19.9	-0.2
	baz=36						
F03A	Seaside	36.40	76	⇓P	P	01 05 21.3	+0.2
	baz=36						
C05A	Tolt Reservoir	36.68	73	⇓P	P	01 05 24.0	+0.5
	baz=37,SNR=5.3						
D05A	Enumclaw	36.74	73	⇓P	P	01 05 24.3	+0.3
	baz=37,SNR=8.0						
FMW	Mount Fremont	37.05	74	P	P	01 05 26.6	-0.1
F04A	Amboy	37.09	76	⇓P	P	01 05 26.7	-0.3
	baz=37						
E05A	Randle	37.18	74	⇑P	P	01 05 27.2	-0.5
	baz=37,SNR=7.7						
G04A	Mulino	37.41	77	⇓P	P	01 05 29.7	0.0
	baz=37						
F05A	White Salmon	37.69	75	⇑P	P	01 05 31.5	-0.6
	baz=38						
WTV	Waterville	37.71	72	P	P	01 05 31.7	-0.6
BOD	Bodaibo	37.74	307	eP	P	01 05 31.1	-1.4
BOD				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.2						
HOOD	Mount Hood Mea	37.86	76	eP	P	01 05 36.4	+2.9
H04A	Detroit Lake	37.86	77	⇑P	P	01 05 33.5	0.0
	baz=38						
J03A	Ideyld Park	38.08	79	⇓P	P	01 05 34.5	-0.8
	baz=38						
H05A	Madras	38.46	77	⇑P	P	01 05 38.4	-0.2
	baz=38						
HUMO	Hull Mountain	38.49	81	⇑P	P	01 05 39.2	+0.4
	baz=38						
HAWA	Hanford	38.60	73	eP	P	01 05 39.4	-0.3
I05A	Bend	38.70	77	⇑P	P	01 05 41.0	+0.5
	baz=39						
EDM	Edmonton	39.02	61	eP	P	01 05 43.0	-0.2
NEW	Newport	39.11	69	P	P	01 05 42.8	-1.2
	comp=Z,5.3nm,0.4s,mb4.6,baz=304,slow=8.2,SNR=12						
NEW				LR	LR	01 19 38.7	
	comp=Z,432nm,20.9s,MS4.3,baz=291,slow=33						
NEW	Newport	39.11	69	eP	P	01 05 43.1	-0.9
NEW				pmax	pmax		
	comp=Z,26nm,1.1s						
NEW	Newport	39.11	69	eP	P	01 05 43.1	-0.9
	comp=Z,26nm,1.1s,mb4.9						
YBH	Yreka Blue Hor	39.13	82	P	P	01 05 43.9	-0.2
	comp=Z,5.9nm,1.0s,mb4.3,baz=264,slow=8.0,SNR=5.9						
YBH				LR	LR	01 20 12.4	
	comp=Z,627nm,20.1s,MS4.4,baz=304,slow=34						
YBH	Yreka Blue Hor	39.13	82	eP	P	01 05 46.8	+2.7
YBH	Yreka Blue Hor	39.13	82	⇑P	P	01 05 43.7	-0.5
	baz=39						
M02C	Callahan	39.24	82	⇓P	P	01 05 44.9	-0.2
	baz=39						
N02C	Big Bar	39.28	83	⇓P	P	01 05 45.4	0.0
	baz=39						
L04A	Klamath Falls	39.39	80	⇓P	P	01 05 46.9	+0.5
	baz=39						
KS15	Wonju Array Si	39.41	270	eP	P	01 05 46.8	+0.3
SNY	Shenyang	39.51	279	⇓P	P	01 05 48.0	+0.7
SNY				AP	pP	01 06 01.8	+1.1
SNY				XP	sP	01 06 08.1	+1.4
SNY				PP	PP	01 07 24.0	+5.3
SNY				S	S	01 11 49.6	+3.6
SNY				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
SNY				AMB	AMB		
	comp=Z,253nm,5.1s						
SNY				LR	LR		
	comp=N,541nm,16.5s						
SNY				LR	LR		
	comp=E,357nm,22.2s						
SNY				LR	LR		
	comp=Z,659nm,22.0s						
J06A	Christmas Vall	39.87	78	⇓P	P	01 05 50.5	+0.3
	baz=40,SNR=7.9						
WDC	Whiskeytown Da	39.89	83	⇑P	P	01 05 50.7	+0.2
	baz=40						
K06A	Valley Falls	40.05	79	⇑P	P	01 05 52.3	+0.4
	baz=40						
L05A	Lakeview	40.12	80	⇑P	P	01 05 51.7	-0.6
	baz=40						
M05C	Lookout	40.31	81	⇓P	P	01 05 54.0	+0.1
	baz=40						
J07A	Hines	40.32	77	⇓P	P	01 05 53.8	-0.2
	baz=40						
HATC	Hat Creek Radi	40.42	82	⇑P	P	01 05 55.8	+0.9
	baz=40						
WALA	Waterton Lakes	40.59	67	eP	P	01 05 55.2	-1.1
BSMT	Bassoo Peak	40.68	69	P	P	01 05 56.1	-0.9
BMO	Blue Mountains	40.73	74	eP	P	01 05 58.2	+0.8
M06C	Likely Place G	40.81	81	⇑P	P	01 05 57.8	-0.3
	baz=41						
J08A	Circle Bar Ran	40.83	77	⇑P	P	01 05 58.1	-0.2
	baz=41,SNR=6.8						
L07A	Adell	41.05	79	⇑P	P	01 06 00.5	+0.4
	baz=41						
WVOR	Wild Horse Val	41.25	78	eP	P	01 06 01.1	-0.6
WVOR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
WVOR	Wild Horse Val	41.25	78	eP	P	01 06 01.1	-0.6
	comp=Z,10nm,0.8s,mb4.5						
O05C	Quincy	41.26	83	⇓P	P	01 06 01.5	-0.3
	baz=41						
M07A	Soldier Meadow	41.51	80	⇑P	P	01 06 04.3	+0.4
	baz=41						
MSO	Missoula	41.70	70	eP	P	01 06 04.2	-1.2
	comp=Z,20nm,1.0s,mb4.7						
O06A	Flanigan	41.82	82	⇑P	P	01 06 06.4	0.0
	baz=42						
P05C	Yuba Gap, Truc	41.84	83	⇑P	P	01 06 06.1	-0.5
	baz=42						
M08A	Happy Creek Ra	41.96	79	⇓P	P	01 06 08.5	+1.0
	baz=42						
CHMT	Chamberlain Mo	42.05	69	eP	P	01 06 08.6	+0.3
L09A	Wilkinson Ranc	42.07	78	⇑P	P	01 06 08.7	+0.3
	baz=42						
LAVA	Lava Cap Winer	42.09	84	⇑P	P	01 06 08.4	-0.1
	baz=42						
PAHR	Pah Rah Range	42.36	82	eP	P	01 06 12.2	+1.4
O07A	Toulon	42.41	81	⇓P	P	01 06 11.6	+0.4
	baz=42						
N08A	GE Springer Mi	42.51	80	⇓P	P	01 06 12.4	+0.4
	baz=42						
M09A	Marrel Ranch,	42.55	78	⇓P	P	01 06 12.8	+0.4
	baz=42						
CMB	Columbia Colle	42.75	84	⇑P	P	01 06 14.5	+0.5
	baz=43						
HRY	Holter Researc	42.99	69	eP	P	01 06 14.8	-1.1
R06C	Coleville	43.04	83	⇓P	P	01 06 15.8	-0.5
	baz=43						
M10A	I.L. Ranch, Tu	43.05	78	⇑P	P	01 06 16.0	-0.4
	baz=43						
LRM	Limekiln Ridge	43.10	70	eP	P	01 06 15.8	-1.0
HLID	Hailey	43.18	74	eP	P	01 06 16.8	-0.6
	comp=Z,18nm,1.2s,mb4.7						
S05C	Merced	43.21	85	⇓P	P	01 06 17.7	+0.1
	baz=43						
DLMT	Dillon	43.27	71	eP	P	01 06 18.8	+0.7
BMN	Battle Mountai	43.27	79	eP	P	01 06 18.1	0.0
MCMT	McKenzie Canyo	43.41	72	eP	P	01 06 17.8	-1.5
O09A	Fish Creek Ran	43.44	80	⇓P	P	01 06 19.8	+0.3
	baz=43						
EGMT	Eagleton	43.50	66	eP	P	01 06 19.1	-0.9
	comp=Z,16nm,0.8s,mb4.8						
BOZ	Bozeman (W)	43.68	70	eP	P	01 06 20.6	-0.9
BOZ				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
BOZ	Bozeman (W)	43.68	70	eP	P	01 06 20.6	-0.9
	comp=Z,15nm,0.9s,mb4.7						
Q08A	Gabbs	43.77	82	⇓P	P	01 06 21.7	-0.4
	baz=44						
NVAR	Mina Array Bea	43.80	83	P	P	01 06 21.1	-1.3
	comp=Z,4.3nm,0.8s,mb4.2,baz=298,slow=7.4,SNR=7.8						
T06C	Millerton Lake	43.81	85	⇑P	P	01 06 21.8	-0.6
	baz=44						
P09A	Austin	43.85	80	⇑P	P	01 06 22.5	-0.2
	baz=44						
KCC	Kaiser Creek	43.85	85	⇑P	P	01 06 22.5	-0.3
	baz=44						
MNV	Mina	43.90	82	eP	P	01 06 24.4	+1.2
N11A	Elko Archery C	43.95	78	⇓P	P	01 06 23.8	+0.2
	baz=44						
M12A	Wells	44.10	77	⇓P	P	01 06 25.5	+0.7
	baz=44,SNR=5.7						
P10A	Eureka	44.22	80	⇓P	P	01 06 26.1	+0.3
	baz=44						
QLMT	Earthquake Lak	44.25	71	eP	P	01 06 26.4	+0.4
ELK	Elko	44.30	78	eP	P	01 06 26.9	+0.5
N12A	Clover Valley,	44.36	78	⇓P	P	01 06 26.9	0.0

baz=44
O11A Cowboy Ranch, 44.41 79 ⇓P **P 01 06 27.9 +0.7**
baz=44
M13A Montello 44.59 76 ⇑P **P 01 06 29.1 +0.3**
baz=44
YMR Madison River 44.62 71 *e*P **P 01 06 28.4 -0.5**
comp=Z,30nm,1.0s,mb5.1
TPH Tonopah 44.69 82 *e*P **P 01 06 29.9 +0.4**
TPH pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
TPH Tonopah 44.69 82 *e*P **P 01 06 29.9 +0.3**
comp=Z,5.8nm,0.8s,mb4.5
GCMT Greycliff 44.75 69 *e*P **P 01 06 28.8 -1.2**
YFT Old Faithful 44.81 71 *e*P **P 01 06 32.0 +1.5**
N13A Wendover, West 44.87 77 ⇓P **P 01 06 31.1 +0.2**
baz=45
S09A Goldfield 44.91 83 ⇑P **P 01 06 30.3 -1.0**
baz=45
LKWY Lake 45.01 70 *e*P **P 01 06 35.0 +3.0**
LKWY pmax pmax
comp=Z,14nm,0.7s,mb4.9
LKWY Lake 45.01 70 *e*P **P 01 06 35.0 +3.0**
comp=Z,14nm,0.7s,mb4.9
IMW Indian Meadow 45.07 72 *e*P **P 01 06 33.9 +1.4**
comp=Z,24nm,1.2s,mb4.9
BJI Beijing 45.11 282 *e*P **P 01 06 33.5 +0.7**
BJI PP PP 01 08 20.9 +1.9
BJI S **S 01 13 09.6 +1.1**
BJI AMB AMB
comp=Z,11nm,1.0s,mb4.6
BJI AMB AMB
comp=Z,279nm,8.8s
BJI LR LR
comp=N,535nm,17.5s,MS4.7
BJI LR LR
comp=E,464nm,18.1s,MS4.7
BJI LR LR
comp=Z,593nm,20.4s,MS4.5
R10A Warm Springs 45.13 81 ⇑P **P 01 06 31.6 -1.4**
baz=45
RRI2 Red Ridge 45.16 72 *e*P **P 01 06 36.3 +3.1**
comp=Z,20nm,0.9s,mb5.0
CWC Cottonwood Cre 45.18 85 ⇓P **P 01 06 32.3 -1.1**
baz=45
Q11A Duckwater 45.19 80 ⇑P **P 01 06 31.6 -1.9**
baz=45
HVU Hansel Valley 45.19 75 *e*P **P 01 06 35.9 +2.4**
IRK Irkutsk 45.20 303 *e*P **P 01 06 32.3 -1.2**
IRK *e* 01 13 04.6
IRK pmax pmax
comp=Z,39nm,0.9s,mb5.2
MOOW Moose Ponds 45.27 72 *e*P **P 01 06 35.3 +1.2**
P12A McGill 45.27 79 ⇓P **P 01 06 33.9 -0.2**
baz=45,SNR=5.9
TPAW Teton Pass 45.29 72 *e*P **P 01 06 36.0 +1.7**
comp=Z,9.3nm,1.0s,mb4.6
REDW Red Top Meadow 45.43 72 *e*P **P 01 06 36.9 +1.5**
comp=Z,13nm,1.1s,mb4.7
ISA Isabella 45.43 86 ⇑P **P 01 06 34.1 -1.3**
baz=45
BGU Big Grassy Mou 45.54 76 *e*P **P 01 06 37.2 +0.9**
Q12A Willow Creek R 45.58 79 ⇑P **P 01 06 36.9 +0.3**
baz=46
AHID Auburn Hatcher 45.62 73 *e*P **P 01 06 34.9 -2.0**
comp=Z,9.7nm,0.4s,mb5.1
SPUT South Promonto 45.67 75 *e*P **P 01 06 38.1 +0.8**
TPNV Topopah Spring 46.00 83 *e*P **P 01 06 43.0 +3.1**
TPNV pmax pmax
comp=Z,11nm,0.8s,mb4.8
TPNV Topopah Spring 46.00 83 *e*P **P 01 06 43.0 +3.1**
comp=Z,11nm,0.8s,mb4.8
ULN Ulaanbaatar 46.01 296 *e*P **P 01 06 40.1 +0.2**
ULN pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ULN Ulaanbaatar 46.01 296 *e*P **P 01 06 40.1 +0.2**
comp=Z,9.3nm,0.8s,mb4.8
HWUT Hardware Ranch 46.02 75 *e*P **P 01 06 41.8 +1.8**
comp=Z,11nm,1.0s,mb4.8
DUG Dugway 46.11 77 *e*P **P 01 06 41.9 +1.1**
LAO LASA Array 46.24 66 *e*P **P 01 06 41.2 -0.6**
U10A Ash Meadows, A 46.28 83 ⇓P **P 01 06 41.9 -0.2**
baz=46
SONM Songino Array 46.39 296 P **P 01 06 43.0 0.0**
comp=Z,6.4nm,0.7s,mb4.7,baz=63,slow=6.5,SNR=40
SONM PcP PcP 01 08 16.5 -0.7
comp=Z,2.2nm,0.7s,baz=62,slow=3.1,SNR=3.5
SONM ScP ScP 01 12 09.2 +2.9
comp=Z,0.5nm,0.8s,baz=46,slow=4.2,SNR=4.5
SONM LR LR 01 27 50.3
comp=Z,2µm,18.6s,MS5.0,baz=74,slow=38
SONM Songino Array 46.39 296 P **P 01 06 43.0 0.0**
SONM 01 08 16.5
TCUT Toone Canyon 46.41 75 *e*P **P 01 06 44.3 +1.2**
BW06 Boulder Array 46.54 72 *e*P **P 01 06 42.9 -1.2**
PDAR Pinedale Array 46.54 72 P **P 01 06 43.0 -1.2**
comp=Z,24nm,0.9s,mb5.1,baz=316,slow=6.2,SNR=45
PDAR LR LR 01 23 53.3
comp=Z,431nm,20.8s,MS4.4,baz=136,slow=33
GSC Goldstone 46.70 85 *e*P **P 01 06 46.1 +0.7**
GSC Goldstone 46.70 85 ⇓P **P 01 06 44.8 -0.6**
baz=47
ZAK Zakamensk 46.71 301 *e*P **P 01 06 45.4 0.0**
ZAK pmax pmax
comp=Z,13nm,1.3s,mb4.7
DAU Daniels Canyon 46.93 76 *e*P **P 01 06 48.9 +1.7**
TUQ Turquoise Mtn. 47.17 84 ⇓P **P 01 06 49.0 0.0**
baz=47
U12A Valley of Fire 47.39 82 ⇓P **P 01 06 50.1 -0.7**
baz=47
CCUT Cedar City 47.41 80 *e*P **P 01 06 49.0 -1.8**
HHC Hu-ho-hao-te 47.43 286 *e*P **P 01 06 51.8 +0.8**
HHC AP pP 01 07 02.8 -1.9
HHC XP sP 01 07 08.7 -1.9
HHC PP PP 01 08 42.7 +0.1
HHC S **S 01 13 42.4 +0.8**
HHC XS sS 01 14 01.4 -3.2
HHC SCS ScS 01 16 38.4 -1.9
HHC AMB AMB
comp=Z,18nm,0.7s,mb5.1
HHC AMB AMB
comp=Z,159nm,5.5s
HHC LR LR
comp=N,366nm,17.2s,MS4.6
HHC LR LR
comp=E,556nm,19.6s,MS4.6
HHC LR LR
comp=Z,464nm,22.6s,MS4.4
MSU Marysvale 47.53 78 *e*P **P 01 06 52.5 +0.6**
TMUT Trail Mountain 47.64 77 *e*P **P 01 06 54.3 +1.6**
V12A Nelson 47.65 83 ⇓P **P 01 06 52.1 -0.7**
baz=48
SSE Sheshan 47.74 269 P **P 01 06 53.4 0.0**
SSE AMB AMB
comp=Z,25nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,724nm,6.2s
SSE LR LR
comp=N,146nm,22.6s,MS4.0
SSE LR LR
comp=E,85nm,22.6s,MS4.0
SSE LR LR
comp=Z,199nm,19.0s,MS4.1
W12A Cal Nev Ari 47.91 83 ⇓P **P 01 06 53.9 -0.9**
baz=48
SRU San Rafael 48.17 77 *e*P **P 01 06 57.8 +1.0**
NJ2 Nanjing 48.55 271 *e*P **P 01 07 01.9 +2.2**
NJ2 AP pP 01 07 11.8 -1.6
NJ2 XP sP 01 07 15.7 -3.6
NJ2 PP PP 01 08 53.0 +0.2
NJ2 S **S 01 13 55.0 -2.5**
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,200nm,4.8s
NJ2 LR LR
comp=N,1µm,22.1s,MS5.2
NJ2 LR LR
comp=E,2µm,18.0s,MS5.2
NJ2 LR LR
comp=Z,2µm,18.9s,MS5.2
RWWY Rawlins 48.59 72 *e*P **P 01 07 00.6 +0.6**
RSSD Black Hills 48.98 67 *e*P **P 01 07 02.9 -0.1**
RSSD pmax pmax
comp=Z,17nm,1.2s,mb5.0
RSSD Black Hills 48.98 67 *e*P **P 01 07 02.9 -0.2**
comp=Z,17nm,1.2s,mb5.0

W14A Seligman 49.08 82 ⇑P **P 01 07 02.8 -1.0**
baz=49
Y12C Blythe 49.14 85 ⇑P **P 01 07 03.9 -0.3**
baz=49
GLA Glamis 49.42 86 *e*P **P 01 07 06.4 +0.1**
GLA Glamis 49.42 86 ⇑P **P 01 07 05.7 -0.6**
baz=49,SNR=5.2
W15A Williams 49.60 82 ⇑P **P 01 07 07.9 +0.1**
baz=50
X14A Yava 49.68 83 ⇓P **P 01 07 08.3 -0.1**
baz=50,SNR=8.1
KBS Kingsbay 49.74 357 *e*P **P 01 07 09.6 +0.8**
ULM Lac du Bonnet 49.88 57 LR LR 01 29 42.5
comp=Z,395nm,19.0s,MS4.4,baz=281,slow=38
WUAZ Wupatki 49.94 81 *e*P **P 01 07 09.4 -0.9**
comp=Z,8.3nm,0.9s,mb4.8
Y14A Wickenburg 49.97 84 ⇑P **P 01 07 09.9 -0.6**
baz=50
X15A Humboldt 50.08 82 ⇑P **P 01 07 10.4 -0.9**
baz=50
SMCO Snowmass 50.28 74 *e*P **P 01 07 13.6 +0.7**
MVCO Mesa Verde 50.61 77 *e*P **P 01 07 15.5 +0.1**
ISCO Idaho Springs 50.71 73 *e*P **P 01 07 17.5 +1.4**
ISCO pmax pmax
comp=Z,12nm,1.2s,mb4.7
ISCO Idaho Springs 50.71 73 *e*P **P 01 07 17.5 +1.4**
comp=Z,12nm,1.2s,mb4.7
115A Sonoran Desert 51.27 84 ⇓P **P 01 07 18.6 -1.8**
baz=51
DAG Danmarks Havn 51.48 6 *i*P **P 01 07 20.0 -1.9**
comp=Z,5.6nm,0.2s,mb5.2
DAG Danmarks Havn 51.48 6 *e*P **P 01 07 20.0 -1.9**
DAG pmax pmax
comp=Z,6.0nm,0.2s,mb5.2
116A Eloy 51.70 84 ⇑P **P 01 07 22.1 -1.4**
baz=52
TUC Tucson 52.44 83 *e*P **P 01 07 29.0 0.0**
TUC pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
TUC Tucson 52.44 83 *e*P **P 01 07 29.0 0.0**
comp=Z,10nm,1.1s,mb4.7
SUMG Summit 53.32 14 *e*P **P 01 07 37.1 +1.6**
comp=Z,14nm,0.9s,mb4.9
ANMO Albuquerque 53.34 78 LR LR 01 29 49.2
comp=Z,476nm,18.2s,MS4.6,baz=124,slow=36
ANMO Albuquerque 53.34 78 *e*P **P 01 07 36.4 +0.7**
LENM Lemitar 53.54 79 *e*P **P 01 07 42.7 +5.5**
LPM Los Pinos Moun 53.66 79 *e*P **P 01 07 42.6 +4.6**
BNM Barren Site 53.77 79 *e*P **P 01 07 39.8 +1.0**
ZAL Zalesovo 53.83 313 P **P 01 07 38.5 -0.7**
comp=Z,1.9nm,0.6s,mb4.2,baz=74,slow=7.7,SNR=6.9
ZAL LR LR 01 32 48.7
comp=Z,631nm,19.7s,MS4.7,baz=58,slow=38
NVS Novosibirsk 53.95 315 *e*P **P 01 07 39.4 -0.8**
LZH Lanzhou 55.12 286 *e*P **P 01 07 50.0 +1.3**
LZH AP pP 01 08 03.1 +0.5
LZH XP sP 01 08 09.5 +1.0
LZH PCP PcP 01 08 50.5 +1.1
LZH *e*S **S 01 15 25.5 -2.3**
LZH SS SS 01 19 08.0 -4.2
LZH AMB AMB
comp=Z,33nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,120nm,4.2s
LZH LR LR
comp=E,489nm,13.4s
LZH LR LR
comp=Z,688nm,14.4s,MS4.9
GTA Gaotai 55.31 291 *e*P **P 01 07 49.5 -0.5**
GTA AP pP 01 08 02.0 -2.0
GTA XP sP 01 08 07.9 -1.9
GTA PP PP 01 09 54.7 +0.7
GTA PPP 01 11 07.7
GTA S **S 01 15 27.4 -2.9**
GTA PS 01 15 46.4
GTA XS sS 01 15 47.9 -5.8
GTA SS SS 01 19 09.8 -5.3
GTA AMB AMB
comp=Z,11nm,1.1s,mb4.8
GTA AMB AMB
comp=Z,237nm,6.1s
GTA LR LR
comp=N,470nm,17.5s,MS4.8
GTA LR LR
comp=E,462nm,17.1s,MS4.8
GTA LR LR
comp=Z,522nm,16.7s,MS4.7
AMTX Amarillo 56.29 75 *e*P **P 01 07 58.1 +1.1**
ARCES ARCESS Array B 58.00 350 P **P 01 08 07.6 -1.5**
comp=Z,6.6nm,0.7s,mb4.8,baz=26,slow=7.9,SNR=21
ARCES ARCESS Array B 58.00 350 P **P 01 08 07.6 -1.6**
CD2 Chengdu 58.71 281 *e*P **P 01 08 13.8 -0.3**
CD2 AP pP 01 08 28.3 +0.2
CD2 XP sP 01 08 34.3 +0.4
CD2 PP PP 01 10 25.8 +1.6
CD2 S **S 01 16 12.3 -2.8**
CD2 XS sS 01 16 36.2 -2.5
CD2 SS SS 01 20 06.8 -1.8
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,30nm,5.9s
CD2 LR LR
comp=E,250nm,19.2s
CD2 LR LR
comp=Z,300nm,16.8s,MS4.5
KURK Kurchatov 58.80 313 *e*P **P 01 08 14.2 -0.5**
KURK Kurchatov 58.80 313 *e*P **P 01 08 13.8 -0.8**
LTX Lajitas 58.90 81 *e*P **P 01 08 15.6 +0.2**
LTX pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
LTX Lajitas 58.90 81 *e*P **P 01 08 15.6 +0.2**
comp=Z,8.4nm,1.1s,mb4.7
WMQ Urumqi 59.10 303 P **P 01 08 19.4 +2.7**
WMQ S **S 01 16 20.2 +0.1**
WMQ AMB AMB
comp=Z,24nm,2.3s,mb4.8
WMQ AMB AMB
comp=Z,129nm,6.3s
WMQ LR LR
comp=N,535nm,19.0s,MS4.8
WMQ LR LR
comp=E,401nm,17.9s,MS4.8
WMQ LR LR
comp=Z,535nm,19.5s,MS4.7
MKAR Makanchi Array 59.80 308 P **P 01 08 20.8 -0.8**
comp=Z,6.8nm,0.6s,mb4.9,baz=44,slow=7.1,SNR=32
CHKZ Chkalovo 60.11 320 *e*P **P 01 08 23.4 -0.3**
CHKZ pmax pmax
comp=Z,15nm,1.3s,mb4.9
CHKZ Chkalovo 60.11 320 *e*P **P 01 08 23.4 -0.3**
comp=Z,15nm,1.3s,mb4.9
SCHQ Schefferville 60.13 38 P **P 01 08 22.2 -1.6**
comp=Z,9.6nm,1.0s,mb4.8,baz=315,slow=6.3,SNR=6.1
SCHQ LR LR 01 38 16.9
comp=Z,694nm,18.6s,MS4.8,baz=324,slow=40
CCM Cathedral Cave 60.26 65 *e*P **P 01 08 23.5 -1.2**
JCT Junction City 60.47 77 *e*P **P 01 08 26.8 +0.6**
JCT pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
JCT Junction City 60.47 77 *e*P **P 01 08 26.8 +0.6**
comp=Z,8.0nm,0.8s,mb4.8
BVAR Borovoye Array 60.69 320 LR LR 01 36 27.3
comp=Z,647nm,21.5s,MS4.7,baz=318,slow=38
BRVK Borovoye 60.70 320 *e*P **P 01 08 27.1 -0.7**
FVM French Village 60.77 65 *e*P **P 01 08 28.3 +0.1**
FVM pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
FVM French Village 60.77 65 *e*P **P 01 08 28.3 +0.1**
comp=Z,6.3nm,0.6s,mb4.9
ZRNK Zerenda 61.30 320 *e*P **P 01 08 30.9 -0.9**
ZRNK pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
ZRNK Zerenda 61.30 320 *e*P **P 01 08 30.9 -0.9**
comp=Z,7.0nm,0.8s,mb4.8
PARMO Parma 62.08 66 *e*P **P 01 08 36.0 -1.0**
BLO Bloomington 62.12 61 *e*P **P 01 08 35.9 -1.4**
USIN University of 62.34 63 *e*P **P 01 08 39.4 +0.6**
ARU Arti 62.43 328 *e*P **P 01 08 38.2 -1.2**
ARU *e* 01 09 15.4
ARU *e* 01 10 53.7
ARU *e*PPP 01 12 26.1
ARU *e*S **S 01 17 04.0 +1.4**
ARU *e*SS SS 01 21 10.3 +3.4
ARU MLR MLR
comp=Z,500nm,18.5s,MS4.7
ARU MLR MLR
comp=N,300nm,18.0s,MS4.6
ARU MLR MLR
comp=E,200nm,18.0s,MS4.6
ARU Arti 62.43 328 *e*P **P 01 08 38.3 -1.1**
comp=E,5.1nm,0.6s,mb4.8
WCI Wyandotte Cave 62.91 62 *e*P **P 01 08 41.3 -1.3**
HKT Hockley 63.26 75 *e*P **P 01 08 45.7 +0.8**
KMI Kunming 63.46 278 P **P 01 08 48.8 +2.6**
KMI AP pP 01 09 03.5 +3.0
KMI XP sP 01 09 08.8 +2.6
KMI PP PP 01 11 11.7 +5.5
KMI S **S 01 17 15.4 -0.1**
KMI AMB AMB
comp=Z,8.0nm,0.8s,mb4.9
KMI AMB AMB
comp=Z,204nm,5.1s
KMI LR LR
comp=N,359nm,17.4s,MS4.8
KMI LR LR
comp=E,468nm,16.0s,MS4.8
KMI LR LR
comp=Z,290nm,19.2s,MS4.5
JOF Joensuu 63.49 345 *e*p **P 01 08 44.8 -1.6**
comp=Z,22nm,0.8s,mb5.3
JOF Joensuu 63.49 345 *e*P **P 01 08 44.8 -1.6**
JOF pmax pmax
comp=Z,22nm,0.8s,mb5.3
ALLY Allegheny Colle 63.75 56 *e*P **P 01 08 50.7 +2.5**
OXF Oxford 63.80 67 *e*P **P 01 08 48.5 0.0**
KLMR Klimovskoe 63.84 340 *e*P **P 01 08 47.9 -0.9**
KLMR pmax pmax
comp=Z,40nm,1.5s,mb5.2
KLMR MLR MLR
comp=Z,750nm,20.0s,MS4.9
KAF Kangasniemi 65.01 347 *e*p **P 01 08 54.9 -1.5**
comp=Z,12nm,0.7s,mb5.0
KAF Kangasniemi 65.01 347 *e*P **P 01 08 54.9 -1.5**
KAF pmax pmax
comp=Z,12nm,0.7s,mb5.0
MCWV Mont Chateau 65.36 57 *e*P **P 01 08 58.3 -0.3**
comp=Z,8.4nm,0.9s,mb4.8
TZTN Tazewell 65.64 62 *e*P **P 01 09 01.7 +1.2**
SSPA Standing Stone 65.66 55 *e*P **P 01 09 01.2 +0.7**
FIA1 FINESS Array S 65.68 347 *e*P **P 01 09 00.1 -0.6**
FINES FINESS Array B 65.68 347 *e*P **P 01 08 59.4 -1.4**
comp=Z,12nm,0.8s,mb5.0,baz=35,slow=7.0,SNR=38
FINES LR LR 01 43 32.9
comp=Z,421nm,18.7s,MS4.7,baz=194,slow=41
FINES FINESS Array B 65.68 347 *i*P **P 01 08 59.4 -1.3**
FINES pmax pmax
comp=Z,12nm,0.8s
TKM2 Tokmak 2 65.89 309 P **P 01 09 01.4 -0.6**
SNR=13
CPCT Cooper Cave 65.90 63 *e*P **P 01 09 02.3 +0.2**
USP Ospenovka 66.16 310 P **P 01 09 04.4 +0.6**
SNR=27
CHMS Chumysh 66.24 310 P **P 01 09 06.8 +2.5**
SNR=5.4
LRAL Lakeview Retre 66.25 66 *e*P **P 01 09 04.3 -0.1**
comp=Z,8.0nm,0.8s,mb4.8
FWV Forest Hill 66.37 59 *e*P **P 01 09 05.2 0.0**
MYNC Murphy 66.39 63 *e*P **P 01 09 04.3 -1.0**
KBK Karagaybulak 66.40 309 P **P 01 09 06.3 +1.0**
SNR=6.1
AAK Ala-Archa 66.64 310 P **P 01 09 07.8 +1.0**
SNR=7.1
AAK Ala-Archa 66.64 310 *e*P **P 01 09 06.8 0.0**
ELN Prospectdale 66.66 59 *e*P **P 01 09 06.0 -1.0**
KZA Kyzart 66.69 309 P **P 01 09 09.9 +2.8**
SNR=7.8
UCH Uchtor 66.93 309 P **P 01 09 10.6 +1.8**
SNR=6.9
EKS2 Erkin-Say 66.96 310 P **P 01 09 09.8 +0.9**
SNR=20
LSA Lhasa 67.18 289 *e*P **P 01 09 11.0 +0.7**
LSA Lhasa 67.18 289 *e*P **P 01 09 13.0 +2.7**
AML Almayashu 67.40 310 P **P 01 09 13.4 +1.7**
SNR=13
NB2 NORSAR Subarra 67.58 355 P **P 01 09 12.1 -0.7**
comp=Z,9.5nm,1.0s,mb4.8,baz=6.6,slow=6.5
NOA NORSAR Array B 67.58 355 P **P 01 09 12.1 -0.7**
comp=Z,7.0nm,1.0s,mb4.7,baz=7.3,slow=6.4,SNR=11
NOA LR LR 01 39 45.8
comp=Z,183nm,20.5s,MS4.3,baz=0.0,slow=37
KSH Kashi 68.26 306 *e*P **P 01 09 19.9 +2.8**
KSH *e*AP pP 01 09 35.7 +4.2
KSH *e*PCP PcP 01 09 45.3 +2.8
KSH *e*SCP 01 13 45.1
KSH *e*S S 01 18 14.8 +0.8
KSH *e*SCS ScS 01 19 10.2 -2.0
KSH AMB AMB
comp=Z,38nm,1.1s,mb5.3
KSH AMB AMB
comp=Z,288nm,5.0s
KSH LR LR
comp=N,427nm,5.9s
KSH LR LR
comp=E,1µm,18.3s
KSH LR LR
comp=Z,1µm,21.2s,MS5.1
VSU Vasula 68.44 346 *e*P **P 01 09 16.7 -1.6**
TAOE Nuku Hiva Isla 68.83 138 *e*LR LR 01 29 45.6
comp=Z,2µm,22.7s,baz=348
MOS Moscow 68.92 339 *e*P **P 01 09 21.9 +0.7**
MOS pmax pmax
comp=Z,100nm,0.8s,mb5.8
MOS pmax pmax
comp=Z,72nm,0.8s,mb5.7
MOS MLR MLR
comp=N,600nm,18.0s,MS5.0
MOS MLR MLR
comp=E,400nm,18.0s,MS5.0
MOS MLR MLR
comp=Z,900nm,18.0s,MS5.0
OBN Obninsk 69.73 339 *e*P **P 01 09 25.5 -0.8**
OBN *e* 01 09 47.1
OBN pmax pmax
comp=Z,40nm,1.0s,mb5.3
OBN MLR MLR
comp=Z,600nm,18.0s,MS4.9
OBN Obninsk 69.73 339 *e*P **P 01 09 26.1 -0.1**
GUN Gumba 71.60 292 *e*P **P 01 09 37.8 +0.2**
comp=Z,153nm,0.7s
JIRN Jiri 71.61 291 *e*P **P 01 09 37.8 +0.2**
comp=Z,77nm,0.7s,mb5.7
KKN Kakani 72.04 292 *e*P **P 01 09 40.2 0.0**
comp=Z,49nm,0.7s,mb5.6
PKI Pulchoki 72.13 292 *e*P **P 01 09 40.7 -0.1**
comp=Z,34nm,0.6s,mb5.4
GKN Gorkha 72.25 293 *e*P **P 01 09 41.2 -0.3**
comp=Z,26nm,0.5s,mb5.4
DMN Daman 72.27 292 *e*P **P 01 09 41.7 +0.1**
VRSR Storozhevoye 72.69 336 *e*P **P 01 09 43.6 -0.5**
VRSR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,1.3s
VRSR pmax pmax
comp=E,10.0nm,1.2s
KOLN Koldanda 73.02 293 *e*P **P 01 09 45.3 -0.8**
comp=E,25nm,0.8s,mb5.2
BSD Bornholm Skovb 73.18 352 ⇑*i*P **P 01 09 47.5 +0.5**
comp=E,13nm,0.6s,mb5.0
BSD Bornholm Skovb 73.18 352 ⇑*i*P **P 01 09 47.5 +0.5**
BSD pmax pmax
comp=Z,13nm,0.6s,mb5.0
PPT Papeete 73.43 151 *e*S S 01 19 03.4 -11
comp=Z,291nm,31.5s
PPT *e*LR LR 01 31 49.1
comp=Z,690nm,27.2s,baz=349
PPT Papeete 73.43 151 LR LR 01 35 17.5
comp=Z,339nm,19.9s,MS4.6,baz=350,slow=30
BSEG Bad Segeberg 74.71 354 *e*P **P 01 09 56.2 +0.3**
comp=Z,26nm,0.9s,mb5.2
BSEG Bad Segeberg 74.71 354 *e*P **P 01 09 56.2 +0.3**
BSEG pmax pmax
comp=Z,26nm,0.9s,mb5.2
AKASG Malin Array Be 75.42 342 P **P 01 09 59.1 -0.9**
comp=Z,30nm,0.6s,mb5.4,baz=20,slow=5.8,SNR=45
AKASG LR LR 01 48 10.5
comp=Z,175nm,18.0s,MS4.4,baz=60,slow=40
AKASG Malin Array Be 75.42 342 *i*P **P 01 09 59.2 -0.9**
AKASG pmax pmax
comp=Z,30nm,0.6s

AKBB **Malin Array Si** 75.42 342 *e*P P 01 09 59.1 -1.0
NRDL **Niedersach Rie** 76.16 354 *e*P P 01 10 05.1 +0.8
IBBN **Ibbenburen** 76.48 356 *e*P P 01 10 06.3 +0.2
CLZ **Clausthal** 76.79 354 *e*P P 01 10 08.1 +0.3
comp=Z,31nm,1.4s,mb5.0
CLZ **Clausthal** 76.79 354 *e*P P 01 10 08.1 +0.3
CLZ pmax pmax
comp=Z,31nm,1.4s,mb5.0
WTSB **Winterswijk** 76.86 356 *e*P P 01 10 12.1 +3.9
comp=Z,18nm,1.8s,mb4.7
CLL **Collm** 77.12 352 *e*P P 01 10 08.9 -0.8
comp=Z,9.0nm,1.0s,mb4.7
CLL **Collm** 77.12 352 P P 01 10 09.7 0.0
comp=Z,logA/T=1.0,mb4.7
CLL *i* 01 10 14.8
CLL **Collm** 77.12 352 *i* P P 01 10 09.7 0.0
comp=Z,9.0nm,1.0s,mb4.7
CLL *i* P(2) 01 10 14.8
CLL **Collm** 77.12 352 *i* P P 01 10 09.7 0.0
CLL *i* 01 10 14.8
CLL pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CLL MLR MLR
comp=Z,300nm,21.1s,MS4.6
CLL **Collm** 77.12 352 *i* P P 01 10 09.7 0.0
comp=Z,9.0nm,1.0s,mb4.7
CLL *i* 01 10 14.8
CLL LR LR
comp=Z,300nm,21.1s,MS4.6
GOF **Gofitskoye** 77.20 331 *e*P P 01 10 10.7 +0.6
GOF pmax pmax
comp=Z,50nm,0.8s,mb5.5
LVV **L'vov** 77.21 345 *e*P P 01 10 10.6 +0.4
LVV *e*S S 01 19 54.4 -1.4
OJC **Ojcow** 77.45 348 *e*P P 01 10 12.7 +1.2
BRG **Berggiesshubel** 77.47 352 *e*P P 01 10 10.2 -1.4
comp=Z,21nm,1.6s,mb4.8
BRG **Berggiesshubel** 77.47 352 *e*P P 01 10 10.8 -0.8
comp=Z,1.5nm,0.8s,mb4.0
BRG *i* 01 10 12.5
comp=Z,3.4nm,0.7s
BRG
comp=N,91nm,19.5s
BRG
comp=E,114nm,23.9s
BRG
comp=Z,128nm,22.4s
BRG **Berggiesshubel** 77.47 352 *e*P P 01 10 10.8 -0.8
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BRG pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BRG MLR MLR
comp=N,91nm,19.5s,MS4.3
BRG MLR MLR
comp=E,114nm,23.9s,MS4.3
BRG MLR MLR
comp=Z,128nm,22.4s,MS4.2
BRG **Berggiesshubel** 77.47 352 *e*P P 01 10 10.8 -0.8
comp=Z,1.5nm,0.8s,mb4.0
BRG *i* 01 10 12.5
BRG LR LR
comp=Z,130nm,22.4s,MS4.2
KWP **Kalwaria** 77.60 346 *e*P P 01 10 12.4 0.0
UPC **Upice** 77.62 350 *e*P P 01 10 12.0 -0.5
DPC **Dobruska-Polom** 77.75 350 *e*P P 01 10 12.4 -0.8
DPC AMS AMS 01 51 20.0
comp=Z,500nm,17.6s
PVCC **Panska Ves** 77.75 351 *e*P P 01 10 12.6 -0.6
PVCC AMS AMS 01 50 00.0
MOX **Moxa** 77.89 353 *e*P P 01 10 13.7 -0.3
comp=Z,12nm,1.1s,mb4.7
MOX **Moxa** 77.89 353 *e*P P 01 10 14.8 +0.8
comp=Z,9.0nm,1.1s,mb4.6
MOX **Moxa** 77.89 353 *e*P P 01 10 14.8 +0.8
MOX pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
OKC **Ostrava-Krasne** 78.04 349 *e*P P 01 10 14.3 -0.5
OKC AMS AMS 01 51 40.0
comp=Z,300nm,18.1s
TANN **Tannenbergstha** 78.05 352 *e*P P 01 10 13.8 -1.1
HGN **Heimansgroeve** 78.10 357 *e*P P 01 10 14.5 -0.6
comp=Z,0.8nm,1.0s
NIE **Niedzica** 78.16 347 *e*P P 01 10 17.2 +1.7
MORC **Moravsky Berou** 78.17 349⇑*i*P P 01 10 17.5 +2.0
MORC **Moravsky Berou** 78.17 349⇑P P 01 10 17.5 +1.9
NKC **Novy Kostel** 78.24 352 *e*P P 01 10 15.1 -0.8
MEM **Membach** 78.25 357 P P 01 10 16.1 +0.2
PRU **Pruhonice** 78.29 351 *e*P P 01 10 12.5 -3.7
PRU AMS AMS 01 50 20.0
comp=Z,300nm,15.3s
KIV **Kislovodsk** 78.30 330 *e*P P 01 10 17.0 +0.7
KIV pmax pmax
comp=Z,13nm,0.9s,mb4.9
KIV **Kislovodsk** 78.30 330 *e*P P 01 10 17.0 +0.8
comp=Z,13nm,0.9s,mb4.9
KOLS **Kolonicke sedl** 78.35 346 *e*P P 01 10 16.4 -0.1
KOLS *e* pP 01 10 27.7 -3.4
KOLS pmax pmax
comp=Z,15nm,0.8s,mb5.0
KOLS **Kolonicke sedl** 78.35 346 *e*P P 01 10 16.4 -0.1
comp=Z,15nm,0.8s,mb5.0
KOLS *e* 01 10 21.1
KOLS *e* pP 01 10 27.7 -3.4
BCLA **Clavier** 78.46 357 P P 01 10 16.6 -0.5
CRVS **Cervenica-Dubn** 78.50 346 *e*P P 01 10 17.0 -0.4
CRVS pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
CRVS **Cervenica-Dubn** 78.50 346 *e*P P 01 10 17.0 -0.4
comp=Z,4.1nm,0.7s,mb4.5
MANZ **Manzenberg** 78.51 353 *e*P P 01 10 17.2 -0.2
TNS **Taunus Mts** 78.52 355 *e*P P 01 10 17.3 -0.2
ROTZ **Rotzenmuhle** 78.72 352 *e*P P 01 10 18.7 +0.1
VRAC **Vranov** 78.74 350⇑*i*P P 01 10 19.8 +1.1
VRAC **Vranov** 78.74 350 P P 01 10 20.5 +1.8
VRAC **Vranov** 78.74 350⇑P P 01 10 19.8 +1.1
GIVF **Givet** 78.79 357 *e*P P 01 10 17.9 -1.1
DOU **Dourbes** 78.81 357 P P 01 10 18.3 -0.7
BAIF **Baives** 78.85 358 *e*P P 01 10 18.6 -0.7
comp=Z,30nm,1.0s,mb4.9
BAIF **Baives** 78.85 358 *e*P P 01 10 18.6 -0.7
BAIF pmax pmax
comp=Z,15nm,1.0s,mb4.9
BAIF **Baives** 78.85 358 *e*P P 01 10 18.6 -0.7
comp=Z,15nm,1.0s,mb4.9
GRA1 **Grafenberg Arr** 78.87 353 *e*P P 01 10 19.7 +0.3
comp=Z,18nm,1.0s,mb5.0
GRF **Grafenberg Arr** 78.87 353 *e*P P 01 10 19.7 +0.3
comp=Z,18nm,1.0s,mb5.0
GRF **Grafenberg Arr** 78.87 353 *e*P P 01 10 19.7 +0.3
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
GRF **Grafenberg Arr** 78.87 353 *e*P P 01 10 19.7 +0.3
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
TREC **Trest** 78.88 350 *e*P P 01 10 17.8 -1.6
TREC AMS AMS 01 49 50.0
comp=Z,400nm,22.0s
TBI **Tubuai** 78.91 152 *e*LR LR 01 34 20.9
comp=Z,699nm,22.2s,baz=339
ZEI **Tsey** 78.99 329 *e*P P 01 10 22.0 +2.0
ZEI *e**PP pP 01 10 39.0 +4.3
ZEI pmax pmax
comp=Z,15nm,0.6s,mb5.1
KECS **Kecovo** 79.05 347 *e*P P 01 10 20.3 -0.1
KECS pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
KECS **Kecovo** 79.05 347 *e*P P 01 10 20.3 -0.1
comp=Z,8.0nm,0.9s,mb4.7
IAS **Iasi** 79.10 342⇑*i*P P 01 10 20.9 +0.2
IAS **Iasi** 79.10 342⇑P P 01 10 20.9 +0.3
RUP **Ruppelstein** 79.11 356 *e*P P 01 10 21.8 +1.1
TOD **Tromm** 79.12 355 *e*P P 01 10 22.0 +1.3
BURAR **Bucovina Array** 79.14 343⇑*i*P P 01 10 21.5 +0.7
BURAR **Bucovina Array** 79.14 343⇑P P 01 10 21.5 +0.6
WLF **Walferdange** 79.19 356 *e*P P 01 10 21.4 +0.3
KHC **Kasperske Hory** 79.23 351 *e*P P 01 10 20.7 -0.7
KHC AMS AMS 01 46 00.0
comp=Z,300nm,20.6s
KHC **Kasperske Hory** 79.23 351 *e*P P 01 10 21.1 -0.3
VYHS **Vyhne** 79.27 348 *e*P P 01 10 21.2 -0.4
VYHS **Vyhne** 79.27 348 *e*P P 01 10 21.3 -0.3
VYHS pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
VYHS **Vyhne** 79.27 348 *e*P P 01 10 21.3 -0.3
comp=Z,6.8nm,1.1s,mb4.5
WET **Wettzell** 79.28 352 *e*P P 01 10 21.6 0.0
GEC2 **GERESS Array S** 79.50 351 *e*P P 01 10 22.5 -0.3
GERES **GERESS Array B** 79.50 351 P P 01 10 22.4 -0.4
comp=Z,3.3nm,0.7s,mb4.4,baz=26,slow=4.1,SNR=33
GERES LR LR 01 48 31.9
comp=Z,215nm,21.9s,MS4.4,baz=8.6,slow=38
SOC **Sochi** 79.53 332 *e*P P 01 10 21.0 -2.0
SOC *e*S S 01 20 19.1 -1.6
SOC *e*SSS 01 28 50.4
SOC MLR MLR
comp=Z,713nm,20.0s,MS5.0
PSZ **Piszkesteto** 79.69 347 *es*P P 01 10 25.8 +1.9
PSZ **Piszkesteto** 79.69 347⇑*i*P P 01 10 26.6 +2.8
PSZ **Piszkesteto** 79.69 347 *e*P P 01 10 23.2 -0.6
comp=Z,21nm,1.1s,mb5.0
ZST **Bratislava** 79.78 349 *e*P P 01 10 24.4 +0.1
comp=Z,11nm,0.9s,mb4.8
ZST LR LR
comp=Z,200nm,18.3s,MS4.5
STU **Stuttgart** 79.92 354 *e*P P 01 10 24.7 -0.4
SRO2 **Moca** 80.04 348 *e*P P 01 10 25.7 -0.1
SRO2 pmax pmax
comp=Z,11nm,0.7s,mb4.9
CONA **Conrad Observa** 80.19 350⇑*i*P P 01 10 26.7 +0.2
comp=Z,11nm,0.9s,mb4.8,SNR=7.2
FLN **La Foliniere** 80.19 1 *e*P P 01 10 25.3 -1.2
comp=Z,46nm,1.1s,mb5.0
FLN *e*R
comp=Z,315nm,21.8s
FLN **La Foliniere** 80.19 1 *e*P P 01 10 25.3 -1.2
FLN pmax pmax
comp=Z,23nm,1.1s,mb5.0
FLN MLR MLR
comp=Z,320nm,21.8s,MS4.6
FLN **La Foliniere** 80.19 1 *e*P P 01 10 25.3 -1.2
comp=Z,23nm,1.1s,mb5.0
FLN LR LR
comp=Z,320nm,21.8s,MS4.6
BUD **Budapest** 80.23 348 *es*P P 01 10 28.9 +2.1
LDF **La Druitiere** 80.36 1 *e*P P 01 10 26.1 -1.4
comp=Z,35nm,1.0s,mb5.0
LDF **La Druitiere** 80.36 1 *e*P P 01 10 26.1 -1.4
LDF pmax pmax
comp=Z,18nm,1.0s,mb5.0
LDF **La Druitiere** 80.36 1 *e*P P 01 10 26.1 -1.4
comp=Z,18nm,1.0s,mb4.9
DRGR 80.36 345⇑*i*P P 01 10 28.0 +0.5
DRGR 80.36 345⇑P P 01 10 28.0 +0.5
MEZF **Maizieres J'vi** 80.39 357 *e*P P 01 10 26.9 -0.7
comp=Z,33nm,1.1s,mb4.9
MEZF **Maizieres J'vi** 80.39 357 *e*P P 01 10 26.9 -0.7
comp=Z,33nm,1.1s,mb5.2
CDF **Champ du Feu** 80.39 356 *e*P P 01 10 26.5 -1.1
comp=Z,19nm,1.2s,mb4.6
CDF **Champ du Feu** 80.39 356 *e*P P 01 10 26.5 -1.1
CDF pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
CDF **Champ du Feu** 80.39 356 *e*P P 01 10 26.5 -1.1
comp=Z,9.6nm,1.2s,mb4.6
GRR **Gorron** 80.56 1 *e*P P 01 10 27.5 -1.0
comp=Z,42nm,1.0s,mb5.0
GRR **Gorron** 80.56 1 *e*P P 01 10 27.5 -1.0
GRR pmax pmax
comp=Z,21nm,1.0s,mb5.0
GRR **Gorron** 80.56 1 *e*P P 01 10 27.5 -1.0
comp=Z,21nm,1.0s,mb5.0
ROSF **Rostrenen** 80.56 3 *e*P P 01 10 27.8 -0.7
PLOR **Plostina** 80.57 342⇑*i*P P 01 10 29.1 +0.5
SPAK **Spaichingen-Ko** 80.62 355 *e*P P 01 10 30.0 +1.2
THEF **They Montfort** 80.63 356 *e*P P 01 10 30.0 +1.1
SGMF **Saint Gilles** 80.66 2 *e*P P 01 10 28.1 -1.0
comp=Z,33nm,0.8s,mb5.0
SGMF **Saint Gilles** 80.66 2 *e*P P 01 10 28.1 -1.0
SGMF pmax pmax
comp=Z,16nm,0.8s,mb5.0
SGMF **Saint Gilles** 80.66 2 *e*P P 01 10 28.1 -1.0
comp=Z,16nm,0.8s,mb5.0
HAU **Haudompre** 80.84 356 *e*P P 01 10 28.9 -1.1
comp=Z,18nm,1.0s,mb4.6
HAU *e*R
comp=Z,257nm,21.2s
HAU **Haudompre** 80.84 356 *e*P P 01 10 28.9 -1.1
HAU pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
HAU MLR MLR
comp=Z,260nm,21.3s,MS4.5
HAU **Haudompre** 80.84 356 *e*P P 01 10 28.9 -1.1
comp=Z,9.1nm,1.0s,mb4.7
HAU LR LR
comp=Z,260nm,21.3s,MS4.5
FELD **Feldberg im Sc** 80.89 355 *e*P P 01 10 31.5 +1.2
ARSA **Arzberg** 80.89 350 *i*P P 01 10 30.8 +0.5
comp=Z,8.4nm,1.0s,mb4.6,SNR=7.7
HINF **Hinteralfeld** 81.00 356 *e*P P 01 10 29.5 -1.4
MLR **Muntele Rosu** 81.05 342⇑*i*P P 01 10 32.9 +1.7
MLR **Muntele Rosu** 81.05 342⇑P P 01 10 32.9 +1.7
WATA **Walderalm** 81.19 353⇓*i*P P 01 10 31.5 -0.4
comp=Z,11nm,1.1s,mb4.7
WATA **Walderalm** 81.19 353⇓*i*P P 01 10 31.5 -0.4
WATA pmax pmax
comp=Z,11nm,1.1s,mb4.7
MOTA **Moosalm** 81.21 353⇑*i*P P 01 10 31.6 -0.4
comp=Z,14nm,1.2s,mb4.8
MOTA **Moosalm** 81.21 353⇑*i*P P 01 10 31.6 -0.4
MOTA pmax pmax
comp=Z,14nm,1.2s,mb4.8
VOIR 81.27 343⇑*i*P P 01 10 34.3 +2.0
VOIR 81.27 343⇑P P 01 10 34.3 +2.0
KBA **Koelnbreinsper** 81.28 351 *i*P P 01 10 32.8 +0.4
comp=Z,28nm,0.8s,mb5.3,SNR=36
KBA **Koelnbreinsper** 81.28 351 *i*P P 01 10 32.8 +0.4
KBA pmax pmax
comp=Z,29nm,0.8s,mb5.3
MTUR **Matau** 81.47 343 P P 01 10 36.0 +2.6
PKSM **Moragy** 81.53 348⇑*i*P P 01 10 34.2 +0.5
PKSM **Moragy** 81.53 348 P P 01 10 34.7 +1.0
PKSM **Moragy** 81.53 348⇑P P 01 10 34.2 +0.5
PERS **Pernice** 81.54 350 *e*P P 01 10 34.1 +0.3
TIRR **Tirgusor** 81.55 340⇑*i*P P 01 10 35.9 +2.1
LOR **Lormes** 81.65 358 *e*P P 01 10 33.1 -1.2
comp=Z,16nm,0.9s,mb4.6
LOR *e*R
comp=Z,396nm,21.5s
LOR **Lormes** 81.65 358 *e*P P 01 10 33.1 -1.2
LOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LOR MLR MLR
comp=Z,400nm,21.5s,MS4.7
LOR **Lormes** 81.65 358 *e*P P 01 10 33.1 -1.2
comp=Z,7.9nm,0.9s,mb4.6
LOR LR LR
comp=Z,400nm,21.5s,MS4.7
HYF **Humbligny** 81.67 359 *e*P P 01 10 33.8 -0.7
BZS **Buzias** 81.68 345⇑*i*P P 01 10 34.8 +0.3
BZS **Buzias** 81.68 345⇑P P 01 10 34.8 +0.3
GZR **Gura Zlata** 81.71 345⇑*i*P P 01 10 35.3 +0.7
WB2 **Warramunga Arr** 81.86 224 *e*P P 01 10 44.7 +9.3
SSF **Saint Saulge** 81.87 358 *e*P P 01 10 34.4 -1.1
comp=Z,22nm,1.2s,mb4.7
SSF **Saint Saulge** 81.87 358 *e*P P 01 10 34.4 -1.1
SSF pmax pmax
comp=Z,11nm,1.2s,mb4.7
SSF **Saint Saulge** 81.87 358 *e*P P 01 10 34.4 -1.1
comp=Z,11nm,1.2s,mb4.7
PTCC **Patocco-Chiusa** 81.95 351 P P 01 10 35.4 -0.5
comp=Z,5.4nm,0.8s,mb4.5
CABF **La Chapelle** 82.24 356 *e*P P 01 10 36.7 -0.7
comp=Z,41nm,1.3s,mb4.9
CABF **La Chapelle** 82.24 356 *e*P P 01 10 36.7 -0.7
CABF pmax pmax
comp=Z,20nm,1.3s,mb4.9
CABF **La Chapelle** 82.24 356 *e*P P 01 10 36.7 -0.7
comp=Z,20nm,1.3s,mb4.9
SMF **Signal de Mont** 82.28 358 *e*P P 01 10 36.6 -1.0
comp=Z,30nm,1.1s,mb4.8
SMF **Signal de Mont** 82.28 358 *e*P P 01 10 36.6 -1.0
SMF pmax pmax
comp=Z,15nm,1.1s,mb4.8
SMF **Signal de Mont** 82.28 358 *e*P P 01 10 36.6 -1.0
comp=Z,15nm,1.1s,mb4.8
CRES **Cresnjev** 82.31 350 *e*P P 01 10 36.7 -1.1
MFF **Saint Martin d** 82.35 1 *e*P P 01 10 37.1 -0.9
comp=Z,27nm,1.1s,mb4.8
MFF **Saint Martin d** 82.35 1 *e*P P 01 10 37.1 -0.9
MFF pmax pmax
comp=Z,13nm,1.1s,mb4.8
MFF **Saint Martin d** 82.35 1 *e*P P 01 10 37.1 -0.9
comp=Z,13nm,1.1s,mb4.8
BGF **Bois d'Agland** 82.38 359 *e*P P 01 10 37.3 -0.9
comp=Z,12nm,0.9s,mb4.5
BGF **Bois d'Agland** 82.38 359 *e*P P 01 10 37.3 -0.9
BGF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BGF **Bois d'Agland** 82.38 359 *e*P P 01 10 37.3 -0.9
comp=Z,5.9nm,0.9s,mb4.5
BEO **Belgrade** 82.64 346 *i*P P 01 10 40.6 +1.1
BOJS **Bojanci** 82.65 350 *e*P P 01 10 39.3 -0.3
TCF **Toulx Ste Croi** 82.66 359 *e*P P 01 10 38.6 -1.0
comp=Z,6.8nm,0.8s,mb4.4
TCF **Toulx Ste Croi** 82.66 359 *e*P P 01 10 38.6 -1.0
TCF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
TCF **Toulx Ste Croi** 82.66 359 *e*P P 01 10 38.6 -1.0
comp=Z,3.4nm,0.8s,mb4.4
PSI **Prapat** 82.74 265 P P 01 10 38.1 -1.9
comp=Z,8.2nm,0.7s,mb4.9,baz=323,slow=6.7,SNR=5.3
PSI LR LR 01 50 08.4
comp=Z,178nm,18.1s,MS4.5,baz=163,slow=38
PLDF **La Plantade** 82.96 358 *e*P P 01 10 41.4 +0.2
LPL **La Plagne** 83.30 356 *e*P P 01 10 43.1 +0.1
LPG **La Plagne** 83.32 356 *e*P P 01 10 43.3 +0.3
DIVS **Divcibare** 83.41 346 *i*P P 01 10 44.1 +0.6
GRUS **Gruza** 83.51 346 *i*P P 01 10 44.9 +0.9
RJF **Les Rejaudoux** 83.65 359 *e*P P 01 10 43.6 -1.1
RJF *e*R
comp=Z,299nm,19.8s
RJF **Les Rejaudoux** 83.65 359 *e*P P 01 10 43.6 -1.1
RJF LR LR
comp=Z,300nm,19.8s,MS4.7
BNI **Bardonecchia** 83.77 356 *e*P P 01 10 46.4 +1.1
BNI pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
BNI **Bardonecchia** 83.77 356 *e*P P 01 10 46.4 +1.0
comp=Z,7.5nm,0.9s,mb4.8
BOB **Bobbio (Coli)** 83.90 354 P P 01 10 45.3 -0.7
ORIF **Oris-en-Rattie** 83.94 356 *e*P P 01 10 45.9 -0.3
comp=Z,21nm,1.2s,mb4.8
ORIF *e*R
comp=Z,189nm,20.5s
ORIF **Oris-en-Rattie** 83.94 356 *e*P P 01 10 45.9 -0.3
ORIF pmax pmax
comp=Z,10.0nm,1.3s,mb4.8
ORIF **Oris-en-Rattie** 83.94 356 *e*P P 01 10 45.9 -0.3
comp=Z,10nm,1.3s,mb4.8
LFF **La Frestale** 84.02 0 *e*P P 01 10 45.8 -0.8
comp=Z,40nm,1.0s,mb5.2
LFF **La Frestale** 84.02 0 *e*P P 01 10 45.8 -0.8
LFF pmax pmax
comp=Z,20nm,1.0s,mb5.2
LFF **La Frestale** 84.02 0 *e*P P 01 10 45.8 -0.8
comp=Z,20nm,1.0s,mb5.2
CAF **Calviac** 84.03 359 *e*P P 01 10 46.0 -0.6
comp=Z,26nm,1.2s,mb4.9
CAF **Calviac** 84.03 359 *e*P P 01 10 46.0 -0.6
CAF pmax pmax
comp=Z,13nm,1.2s,mb4.9
CAF **Calviac** 84.03 359 *e*P P 01 10 46.0 -0.6
comp=Z,13nm,1.2s,mb4.9
VIVF **Saint-Julien-l** 84.04 357 *e*P P 01 10 46.1 -0.6
ZCCA **Zocca** 84.20 353 P P 01 10 50.4 +2.9
FITZ **Fitzroy Crossi** 84.29 232 *e*P P 01 10 45.1 -2.9
comp=Z,19nm,0.9s,mb5.2
FITZ **Fitzroy Crossi** 84.29 232 P P 01 10 44.7 -3.3
comp=Z,8.5nm,0.8s,mb4.9,baz=51,slow=4.7,SNR=10
VTS **Vitosha** 84.36 344⇑*i*P P 01 10 49.3 +1.0
VTS **Vitosha** 84.36 344⇑P P 01 10 49.3 +0.9
SFI **Santa Sofia** 84.57 352 P P 01 10 50.3 +0.9
MALT **Malatya** 84.76 331⇑*i*P P 01 10 52.8 +2.5
MALT **Malatya** 84.76 331 *e*P P 01 10 51.1 +0.7
comp=Z,6.7nm,0.8s,mb4.8
TOUF **Mont Tournerai** 84.78 355 *e*P P 01 10 51.1 +0.6
AUTN **L'Aution** 84.79 355 *e*P P 01 10 52.0 +1.5
BRTR **Keskin Array B** 84.80 335 P P 01 10 50.7 +0.2
comp=Z,6.2nm,0.8s,mb4.8,baz=27,slow=2.2,SNR=31
BRTR **Keskin Array B** 84.80 335⇑*e*P P 01 10 50.7 +0.2
LASF **Ste Croix** 84.84 358 *e*P P 01 10 50.2 -0.6
SMRF **Simiane la Rot** 84.89 357 *e*P P 01 10 51.0 0.0
comp=Z,32nm,1.2s,mb5.0
SMRF **Simiane la Rot** 84.89 357 *e*P P 01 10 51.0 0.0
comp=Z,32nm,1.2s,mb5.3
LUCF **Luceram** 84.89 355 *e*P P 01 10 51.4 +0.4
MVIF **Mont Vial** 84.90 355 *e*P P 01 10 51.5 +0.4
SBF **Sospel** 84.92 355 *e*P P 01 10 50.1 -1.1
comp=Z,33nm,0.9s,mb5.2
SBF **Sospel** 84.92 355 *e*P P 01 10 50.1 -1.1
SBF pmax pmax
comp=Z,17nm,0.9s,mb5.2
SBF **Sospel** 84.92 355 *e*P P 01 10 50.1 -1.1
comp=Z,17nm,0.9s,mb5.2
CSNT **Castellina Chi** 85.05 352 P P 01 10 51.5 -0.3
comp=Z,13nm,0.9s,mb5.1
REVF **Revere** 85.05 355 *e*P P 01 10 52.8 +1.0
SNTG **Esanatoglia** 85.11 351 P P 01 10 52.5 +0.4
comp=Z,13nm,0.9s,mb5.0
MURB **Monte Urbino** 85.14 351 P P 01 10 54.2 +1.9
comp=Z,20nm,0.6s,mb5.4
FRF **La Foret Royal** 85.26 356 *e*P P 01 10 51.8 -1.1
comp=Z,23nm,1.2s,mb4.9
FRF **La Foret Royal** 85.26 356 *e*P P 01 10 51.8 -1.1
FRF pmax pmax
comp=Z,11nm,1.2s,mb4.9
FRF **La Foret Royal** 85.26 356 *e*P P 01 10 51.8 -1.1
comp=Z,11nm,1.2s,mb4.9
ASAR **Alice Springs** 85.34 222 P P 01 10 49.6 -3.7
comp=Z,1.1nm,0.8s,mb4.1,baz=26,slow=4.6,SNR=11
ASAR LR LR 01 46 11.2
comp=Z,324nm,20.5s,MS4.7,baz=19,slow=34
GRFL **Gerfalco** 85.39 353 P P 01 10 53.2 -0.3
LMR **La Mourre** 85.49 356 *e*P P 01 10 53.1 -0.9
comp=Z,16nm,0.9s,mb4.8
LMR **La Mourre** 85.49 356 *e*P P 01 10 53.1 -0.9
LMR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LMR **La Mourre** 85.49 356 *e*P P 01 10 53.1 -0.9
comp=Z,7.8nm,0.9s,mb4.8
NRCA **Norcia** 85.51 351 P P 01 10 54.8 +0.7
MTLF **Montolieu** 85.61 359 *e*P P 01 10 54.0 -0.6
comp=Z,9.1nm,1.0s,mb4.7
MTLF **Montolieu** 85.61 359 *e*P P 01 10 54.0 -0.6
MTLF pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
MTLF **Montolieu** 85.61 359 *e*P P 01 10 54.0 -0.6
comp=Z,4.6nm,1.0s,mb4.7
EPF **Esparros** 85.92 0 *e*P P 01 10 54.8 -1.4
comp=Z,5.6nm,0.7s,mb4.6
EPF **Esparros** 85.92 0 *e*P P 01 10 54.8 -1.4
EPF pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
EPF **Esparros** 85.92 0 *e*P P 01 10 54.8 -1.4
comp=Z,2.8nm,0.7s,mb4.6
AQU **L'Aquila** 85.96 351 *e*P P 01 10 58.8 +2.5
ETSF **Etsaut** 86.05 1 *e*P P 01 10 56.4 -0.4
comp=Z,11nm,0.8s,mb4.8
ETSF **Etsaut** 86.05 1 *e*P P 01 10 56.4 -0.4
ETSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
ETSF **Etsaut** 86.05 1 *e*P P 01 10 56.4 -0.4
comp=Z,5.3nm,0.8s,mb4.8
PGF **Pioggiola** 86.14 354 *e*P P 01 10 56.3 -0.9
comp=Z,47nm,1.1s,mb5.3
PGF **Pioggiola** 86.14 354 *e*P P 01 10 56.3 -0.9
PGF pmax pmax
comp=Z,24nm,1.1s,mb5.3
PGF **Pioggiola** 86.14 354 *e*P P 01 10 56.3 -0.9
comp=Z,24nm,1.1s,mb5.3
ESDC **Sonseca Array** 89.19 4 P P 01 11 10.9 -0.9
comp=Z,2.5nm,1.0s,mb4.5,baz=355,slow=3.9,SNR=13
CPD **Cerro la Pandu** 89.75 61 *e*P P 01 11 16.5 +2.0
STKA **Stephens Creek** 89.82 213 LR LR 01 48 36.3
comp=Z,426nm,20.3s,MS4.9,baz=25,slow=34
PLCA **Paso Flores** 131.23 107 PKP PKPdf 01 17 26.1 -1.8
comp=Z,3.0nm,1.1s,baz=233,slow=6.1,SNR=3.6
PLCA **Paso Flores** 131.23 107 PKIKP PKPdf 01 17 26.2 -1.8
PLCA pmax pmax
comp=Z,3.0nm,1.1s
QSPA **South Pole Qui** 141.18 180 *e*P PKPdf 01 17 44.6 -1.8
TSUM **Tsumeb** 145.22 331 PKPbc PKPbc 01 17 52.9 -0.3
comp=Z,19nm,0.9s,baz=355,slow=5.3,SNR=32
MAW **Mawson** 146.36 218 PKPbc PKPdf 01 17 53.5 -2.0
comp=Z,3.2nm,0.6s,baz=292,slow=24,SNR=3.6
MAW **Mawson** 146.36 218 PKIKP PKPdf 01 17 53.5 -2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAW				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LBTB	**Lobatse**	**147.51**	**315**	PKPbc	PKPbc	01 18 00.1	+0.1
	comp=Z,12nm,0.7s,baz=56,slow=2.1,SNR=11						
BOSA	**Boshof**	**150.75**	**312**	PKPbc	PKPbc	01 18 07.0	-1.3
	comp=Z,4.4nm,0.7s,baz=341,slow=1.6,SNR=12						

*NEIC **09** 01:08:33.4, 3124S×6953W, h160km, MG3.7(GUC), After GUC.*
GUC 09 01:08:33.4±0.8**, 3124S×6953W, h160**km±9km**, MD3.7, ML3.7, 8C-10D, San Juan Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.26**	**273**	⇓iP	Pn	01 09 02.1	+0.8
CMCH				i S	Sn	01 09 23.6	+0.7
CMCH				AML	AML	01 09 29.6	
	comp=E,4µm,0.8s						
CMCH	**Combarbala**	**1.26**	**273**	⇓iP	Pn	01 09 02.1	+0.8
CMCH				i S	Sn	01 09 23.6	+0.7
TLL	**Tololo Astrono**	**1.53**	**314**	⇓iP	Pn	01 09 05.6	+1.6
TLL				i S	Sn	01 09 28.9	+1.3
TLL				AML	AML	01 09 30.5	
	comp=N,912nm,0.6s						
TLL	**Tololo Astrono**	**1.53**	**314**	⇓iP	Pn	01 09 05.6	+1.6
TLL				i S	Sn	01 09 28.9	+1.3
OVCH	**Ovalle**	**1.57**	**293**	eP	Pn	01 09 05.3	+0.9
OVCH				i S	Sn	01 09 28.7	+0.5
OVCH				AML	AML	01 09 30.0	
	comp=N,995nm,0.2s						
OVCH	**Ovalle**	**1.57**	**293**	eP	Pn	01 09 05.3	+0.9
OVCH				i S	Sn	01 09 28.7	+0.5
JACH	**Jahuel**	**1.70**	**212**	⇑iP	Pn	01 09 06.5	+0.7
JACH				eS	Sn	01 09 31.4	+0.7
MDZ	**Mendoza**	**1.74**	**161**	eP	Pn	01 09 03.5	-2.7
MDZ				e		01 09 24.3	
MDZ				eS	Sn	01 09 35.5	+4.1
CHNG	**Los Chungos**	**1.80**	**249**	⇓iP	Pn	01 09 07.8	+0.9
CHNG				i S	Sn	01 09 32.7	+0.1
CHNG				AML	AML	01 09 41.7	
	comp=E,202nm,0.4s						
PACH	**Papudo**	**2.07**	**231**	⇓iP	Pn	01 09 10.6	+0.6
PACH				i S	Sn	01 09 38.5	+0.3
PEL	**Peldehue**	**2.14**	**207**	⇓iP	Pn	01 09 11.2	+0.5
PEL				i S	Sn	01 09 40.0	+0.6
PEL				AML	AML	01 09 41.3	
	comp=E,293nm,0.4s						
PEL	**Peldehue**	**2.14**	**207**	⇓iP	Pn	01 09 11.2	+0.5
PEL				i S	Sn	01 09 40.0	+0.6
ROCH	**El Roble**	**2.14**	**216**	⇑iP	Pn	01 09 11.6	+0.9
FCH	**Farellones**	**2.18**	**197**	⇑iP	Pn	01 09 12.2	+1.1
FCH				i S	Sn	01 09 42.3	+2.0
FCH				AML	AML	01 09 43.0	
	comp=E,175nm,0.3s						
CLCH	**Cerro Calan**	**2.31**	**201**	⇑iP	Pn	01 09 13.6	+0.8
CLCH				i S	Sn	01 09 44.1	+1.0
CLCH				AML	AML	01 09 45.3	
	comp=E,208nm,0.3s						
LCO	**Las Campanas**	**2.44**	**335**	⇑iP	Pn	01 09 15.5	+1.3
LCO				i S	Sn	01 09 46.8	+1.0
ANTU	**Antumapu**	**2.50**	**202**	i S	Sn	01 09 48.0	+0.8
ANTU				AML	AML	01 09 50.0	
	comp=E,166nm,0.3s						
PCH	**Pirque**	**2.52**	**199**	⇓iP	Pn	01 09 16.4	+1.3
TACH	**Talagante**	**2.68**	**206**	⇑iP	Pn	01 09 17.5	+0.2
LCCH	**Las Cruces**	**2.82**	**217**	⇑iP	Pn	01 09 19.4	+0.6
CHCH	**Chadas Angostu**	**2.85**	**199**	eP	Pn	01 09 20.0	+0.8
CHCH				i S	Sn	01 09 55.0	+0.2
VACH	**Vallenar**	**2.86**	**338**	eP	Pn	01 09 20.1	+0.7
VACH				eS	Sn	01 09 54.6	-0.4
VACH				AML	AML	01 09 56.4	
	comp=E,886nm,0.1s						
VACH	**Vallenar**	**2.86**	**338**	eP	Pn	01 09 20.1	+0.7
VACH				S	Sn	01 09 54.6	-0.4
CACH	**El Canelo**	**3.01**	**197**	⇓iP	Pn	01 09 22.2	+1.0
CICH	**Cipreses**	**3.16**	**193**	⇑iP	Pn	01 09 24.2	+1.1

*BJI **09** 01:13:25.6, 5090N×17920W, h6km, mB4.9, mb4.7, Ms4.3, Msz4.2*
*IDC **09** 01:13:28.1±2.2, 5153N×17924W, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.9/23, mbtmp3.9/12, ML4.3/1, Error ellipse: s-maj=61.3km s-min=20.1km az=176.0*
*NEIC **09** 01:13:28.6, 5091N×179.19W, h7km, ML3.8(AEIC), After AEIC.*
*ISCJB **09** 01:13:29.6±0.7, 519N±0.1×1793W±0.1, h10km, mb4.1/15, Error ellipse: s-maj=20.9km s-min=5.6km az=134.0*
ISC 09 01:13:30.5±0.7**, 518N**±0.1**×1793W**±0.1**, h10km, n21, σ0s66**/24**, mb4.1**/15**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.98**	**248**	P	**Pg**	**01 13 47.8**	**-1.5**
AMKA				S	**Sg**	**01 14 03.0**	**+1.0**
ATKA	**Atka Island**	**3.16**	**80**	P	**Pn**	**01 14 21.3**	**+1.1**
SPIA	**Saint Paul Isl**	**7.55**	**40**	ePn	**Pn**	**01 15 29.3**	**+8.7**
SPIA				eSn	**Sn**	**01 16 59.9**	**+14**
KDAK	**Kodiak Island**	**16.46**	**58**	Pn	**Pn**	**01 17 20.4**	**-1.1**
	1.1nm,0.3s,baz=287,slow=9.9,SNR=11						
KDAK				Sn	**Sn**	**01 20 24.0**	**-0.1**
	0.2nm,0.3s,baz=309,slow=24,SNR=5.2						
ILAR	**Eielson Array**	**21.13**	**40**	P	**P**	**01 18 16.4**	**+1.0**
	0.6nm,0.5s,mb3.2,baz=81,slow=13,SNR=7.7						
DAWY	**Dawson**	**24.02**	**44**	eP	**P**	**01 18 45.3**	**-0.2**
MDJ	**Mudanjiang**	**34.23**	**279**	P	**P**	**01 20 15.3**	**-1.1**
MDJ				AP	pP	01 20 18.3	-1.2
MDJ				XP	sP	01 20 19.6	-1.1
MDJ				PP	PP	01 21 31.6	-2.3
MDJ				PCP	PcP	01 22 50.8	-2.1
MDJ				S	**S**	**01 25 43.3**	**+0.2**
MDJ				SCP	ScP	01 26 36.0	-2.0
MDJ				SCS	ScS	01 30 37.5	-2.8
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.3						
YKA	**Yellowknife Ar**	**35.18**	**47**	P	**P**	**01 20 24.9**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=282,slow=8.1,SNR=5.7						
SONM	**Songino Array**	**46.22**	**296**	P	**P**	**01 21 56.5**	**+0.8**
	comp=Z,0.3nm,0.3s,mb3.7,baz=50,slow=10,SNR=4.6						
PDAR	**Pinedale Array**	**46.46**	**72**	P	**P**	**01 21 57.1**	**-0.5**
	comp=Z,2.0nm,0.9s,mb4.0,baz=314,slow=4.6,SNR=14						
NJ2	**Nanjing**	**48.52**	**271**	eP	**P**	**01 22 14.1**	**+0.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
LZH	**Lanzhou**	**55.01**	**286**	eP	**P**	**01 23 01.8**	**-0.2**
LZH				AP	pP	01 23 06.0	+0.8
LZH				XP	sP	01 23 09.0	+2.5
LZH				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,50nm,4.1s						
ARCES	**ARCESS Array B**	**57.67**	**350**	P	**P**	**01 23 20.8**	**-0.2**
	comp=Z,3.0nm,0.9s,mb4.3,baz=17,slow=8.9,SNR=4.4						
MKAR	**Makanchi Array**	**59.58**	**308**	P	**P**	**01 23 33.9**	**-0.4**
	comp=Z,0.8nm,0.5s,mb4.0,baz=40,slow=6.5,SNR=7.1						
BVAR	**Borovoye Array**	**60.41**	**319**	P	**P**	**01 23 40.4**	**+0.4**
	comp=Z,0.6nm,0.8s,mb3.6,baz=61,slow=12,SNR=3.6						
BVAR				PcP	PcP	01 24 24.0	-1.0
	comp=Z,0.7nm,0.6s,baz=59,slow=3.6,SNR=4.1						
KMI	**Kunming**	**63.39**	**277**	P	**P**	**01 24 00.3**	**+0.2**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb5.0						
FINES	**FINESS Array B**	**65.35**	**347**	P	**P**	**01 24 13.0**	**0.0**
	comp=Z,1.7nm,0.8s,mb4.1,baz=82,slow=4.0,SNR=6.7						
AKASG	**Malin Array Be**	**75.10**	**342**	P	**P**	**01 25 12.4**	**-0.2**
	comp=Z,2.6nm,0.4s,mb4.5,baz=21,slow=5.8,SNR=14						
GERES	**GERESS Array B**	**79.17**	**351**	P	**P**	**01 25 35.6**	**+0.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=342,slow=8.4,SNR=4.8						
BRTR	**Keskin Array B**	**84.48**	**335**	P	**P**	**01 26 03.6**	**+0.1**
	comp=Z,0.8nm,0.8s,mb3.9,baz=59,slow=3.1,SNR=5.1						
TSUM	**Tsumeb**	**144.92**	**332**	PKPbc	PKPdf	01 33 06.3	-1.5
	comp=Z,1.9nm,1.0s,baz=320,slow=4.6,SNR=7.1						

*ISCJB **09** 01:47:38.6±1.6, 3451N±007×2656E±009, h3km±17km, Error ellipse: s-maj=12.4km s-min=12.1km az=70.4*
*CSEM **09** 01:47:38.7±0.1, 3450N×2661E, h2km, ML3.3, Error ellipse: s-maj=5.3km s-min=2.3km az=41.0*
*ATH **09** 01:47:40.8, 3462N×2650E, h14km, MD3.5/3*
*HLW **09** 01:47:41.7, 3464N×2654E, h18km, Mb3.3*
ISC 09 01:47:41.1±1.6**, 3458N**±008×**2645E**±010**, h18**km±17km**, n12, σ1s01**/14**, 4C-3D, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.69**	**296**	ePG	**Pg**	**01 47 54.3**	**-0.4**
NPS	**Neapolis**	**0.97**	**315**	ePG	**Pg**	**01 47 59.2**	**-0.7**
KARP	**Karpathos**	**1.13**	**31**	ePB	**Pn**	**01 48 01.0**	**-1.1**
VAM	**Vamos**	**2.02**	**295**	ePN	**Pn**	**01 48 17.2**	**+2.8**
SLUM		**3.25**	**199**	⇓eP	**Pn**	**01 48 31.9**	**+0.6**
SLUM				S	**Sn**	**01 49 08.6**	**-0.9**
HMAT	**Matruh**	**3.52**	**171**	⇑iP	**Pn**	**01 48 35.2**	**+0.3**
SWA1		**5.34**	**187**	⇑P	**Pn**	**01 49 00.8**	**+0.8**
SWA1				S	**Sn**	**01 49 58.6**	**-2.4**
SWA2		**5.39**	**189**	⇓P	**Pn**	**01 49 01.1**	**+0.5**
AWBH		**6.58**	**161**	⇓P	**Pn**	**01 49 17.3**	**+0.3**
AMAG	**Maghara**	**6.92**	**123**	⇑P	**Pn**	**01 49 21.7**	**0.0**
SUZ		**7.18**	**129**	P	**Pn**	**01 49 24.9**	**-0.3**
HDK1	**Dakhla**	**9.36**	**163**	⇑P	**Pn**	**01 49 56.2**	**+1.0**

*NEIC **09** 02:04:17.4, 17.14N×9474W, h140km, MD3.8(MEX), After MEX.*
MEX 09 02:04:17.7±1.2**, 1711N×9472W, h138**km±11km**, MD3.8, Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.16**	**262**	i P	Pn	02 04 35.4	-1.1
CMIG				i S	Sn	02 04 48.3	-2.3
HUIG	**Huatulco**	**1.89**	**225**	i P	Pn	02 04 48.8	-2.0
HUIG				i S	Sn	02 05 15.1	-1.1
OXX	**Oaxaca**	**1.92**	**269**	i P	Pn	02 04 50.5	-0.7
OXX				i S	Sn	02 05 15.5	-1.3
VHO	**Vista Hermosa**	**1.93**	**269**	i P	Pn	02 04 50.0	-1.3
VHO				i S	Sn	02 05 14.7	-2.3
UTMO	**Huajuapan**	**3.03**	**284**	i P	Pn	02 05 03.5	-1.5
UTMO				i S	Sn	02 05 37.0	-4.5

*NEIC **09** 02:11:40.3, 1589N×9506W, h6km, MD4.0(MEX), After MEX.*
MEX 09 02:11:40.4±0.7**, 1581N×9498W, h16**km±11km**, MD4.1, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.09**	**268**	i P	Pb	02 11 57.1	-3.7
HUIG				i S	Sb	02 12 10.2	-4.6
CMIG	**Matias Romero**	**1.28**	**4**	i P	Pn	02 11 59.9	-3.7
CMIG				i S	Sb	02 12 15.1	-5.2
OXX	**Oaxaca**	**2.10**	**307**	eP	Pn	02 12 14.5	-0.4
VHO	**Vista Hermosa**	**2.10**	**307**	i P	Pn	02 12 11.4	-3.5
VHO				i S	Sn	02 12 36.4	-4.3
SCX	**San Cristobal**	**2.43**	**67**	i P	Pn	02 12 19.2	-0.3
SCX				i S	Sn	02 12 48.2	-0.7
CCIG	**Comitan**	**2.77**	**80**	i P	Pn	02 12 20.4	-3.7
CCIG				i S	Sn	02 12 52.4	-4.8
CCIG	**Comitan**	**2.77**	**80**	eP	Pn	02 12 22.6	-1.5
CCIG				i S	Sn	02 12 57.2	0.0
UTMO	**Huajuapan**	**3.37**	**307**	i P	Pn	02 12 30.9	-1.5

*ATH **09** 02:23:57.1, 3969N×2105E, h37km, MD3.2/3*
*ISCJB **09** 02:23:58.2±0.7, 3938N±004×2091E±003, h1km, Error ellipse: s-maj=5.3km s-min=3.7km az=32.2*
*CSEM **09** 02:23:58.8±0.2, 3938N×2087E, h7km±1km, ML2.5, Error ellipse: s-maj=3.8km s-min=2.3km az=22.0*
*THE **09** 02:23:58.7, 3938N×2089E, h1km, ML2.5*
ISC 09 02:23:58.8±0.7**, 3937N**±004×**2089E**±004**, h6**km±9km**, n16, σ0s79**/28**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.29**	**354**	ePB	**Pg**	**02 24 03.5**	**-1.0**
JAN				eSB	**Sg**	**02 24 08.7**	**+0.4**
IGT	**Igoumenitsa**	**0.46**	**291**	ePg	**Pg**	**02 24 07.0**	**-0.7**
IGT				eSg	**Sg**	**02 24 14.1**	**+0.3**
MEV	**Metsovon**	**0.49**	**32**	ePg	**Pg**	**02 24 08.0**	**-0.4**
MEV				eSg	**Sg**	**02 24 14.7**	**-0.1**
MEV	**Metsovon**	**0.49**	**32**	ePg	**Pg**	**02 24 07.9**	**-0.4**
MEV				eSg	**Sg**	**02 24 14.7**	**-0.1**
LSK	**Leskovik**	**0.81**	**344**	i Pg	**Pg**	**02 24 14.7**	**+0.3**
LSK				i Sg	**Sg**	**02 24 30.3**	**+5.3**
LSK	**Leskovik**	**0.81**	**344**	ePn	**Pg**	**02 24 14.7**	**+0.3**
EVR	**Evrytania**	**0.84**	**122**	ePN	**Pg**	**02 24 15.7**	**+0.7**
SRN	**Sarande**	**0.86**	**307**	i Pg	**Pg**	**02 24 14.5**	**-0.8**
SRN				i Sg	**Sg**	**02 24 28.8**	**+2.4**
SRN	**Sarande**	**0.86**	**307**	ePg	**Pg**	**02 24 14.5**	**-0.8**
SRN				i Sg	**Sg**	**02 24 28.8**	**+2.4**
KEK	**Kerkira**	**0.91**	**293**	ePN	**Pg**	**02 24 15.6**	**-0.7**
AGG	**Agios Georgios**	**1.17**	**107**	ePg	**Pg**	**02 24 21.0**	**-0.3**
AGG				eSg	**Sg**	**02 24 37.5**	**+1.0**
LIT	**Litokhoron**	**1.44**	**59**	ePg	**Pn**	**02 24 24.6**	**-0.8**
LIT				eSg	**Sg**	**02 24 44.7**	**-0.2**
FNA	**Florina**	**1.46**	**15**	ePg	**Pn**	**02 24 25.6**	**-0.2**
FNA				eSg	**Sg**	**02 24 46.2**	**+0.4**
FNA	**Florina**	**1.46**	**15**	ePg	**Pn**	**02 24 25.5**	**-0.3**
FNA				eSg	**Sg**	**02 24 46.2**	**+0.3**
BIA	**Bitola**	**1.68**	**11**	i Pn	**Pg**	**02 24 30.1**	**-1.0**
BIA				i Sn	**Sg**	**02 24 53.4**	**+0.4**
BIA	**Bitola**	**1.68**	**11**	i Pn	**Pn**	**02 24 30.0**	**+1.2**

*CSEM **09** 02:47:46.2±0.1, 3493N×3238E, h25km, Mw2.9, Error ellipse: s-maj=2.4km s-min=1.7km az=145.0*
*HLW **09** 02:47:46.5, 3506N×3258E, h33km, Mb3.2*
*ISCJB **09** 02:47:48.6±0.4, 3473N±003×3251E±004, h29km±5km, Error ellipse: s-maj=5.4km s-min=4.3km az=87.2*
*NEIC **09** 02:47:50.3, 3486N×3262E, h20km, ML3.2(NIC), After NIC.*
*GRAL **09** 02:47:50.7±2.3, 3485N×3257E, h26km±23km, MD3.6*
*NIC **09** 02:47:50.3±0.1, 3486N×3262E, h20km, ML3.2, MW2.9*
*GII **09** 02:47:53.4±0.8, 3466N×3260E, h25km±30km, ML2.3/3*
ISC 09 02:47:49.8±0.4**, 3479N**±003×**3256E**±004**, h26**km±5km**, n46, σ1s04**/65**, 12C-3D, Cyprus region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.20**	**299**	i Pg	**Pb**	**02 47 55.9**	**+0.4**
PPCY				S	**Sb**	**02 48 00.4**	**+1.1**
ALFC	**Alevga**	**0.37**	**6**	⇓P	**Pb**	**02 47 57.0**	**-0.9**
	57nm,0.2s						
ALFC				S	**Sb**	**02 48 02.3**	**-1.1**
ALFC	**Alevga**	**0.37**	**6**	i Pg	**Pb**	**02 47 57.0**	**-0.9**
ALFC				S	**Sb**	**02 48 02.3**	**-1.1**
CSS	**Prodhromos**	**0.66**	**75**	P	**Pb**	**02 48 01.8**	**-0.9**
	14nm,0.2s						
CSS				S	**Sb**	**02 48 11.1**	**-0.4**
CSS	**Prodhromos**	**0.66**	**75**	i PG	**Pb**	**02 48 01.0**	**-1.7**
CSS				i SG	**Sb**	**02 48 11.1**	**-0.4**
CSS	**Prodhromos**	**0.66**	**75**	i Pg	**Pb**	**02 48 01.8**	**-0.9**
CSS				i Sg	**Sb**	**02 48 11.1**	**-0.4**
MAMC	**Mammari**	**0.66**	**55**	i Pg	**Pb**	**02 48 01.9**	**-0.8**
PHNC	**Paralimni**	**1.23**	**80**	P	**Pn**	**02 48 12.6**	**+1.3**
PHNC				S	**Sn**	**02 48 31.2**	**+4.1**
PHNC	**Paralimni**	**1.23**	**80**	i Pg	**Pn**	**02 48 12.6**	**+1.3**
IKL	**Isikli**	**1.71**	**32**	PN	**Pn**	**02 48 17.9**	**0.0**
IKL				SN	**Sn**	**02 48 39.2**	**+0.2**
ERMK	**Ermenek**	**1.87**	**9**	i P	**Pn**	**02 48 22.9**	**+2.8**
ERMK				i S	**Sn**	**02 48 47.0**	**+4.1**
MEST	**Erdemli**	**2.21**	**35**	i P	**Pn**	**02 48 26.1**	**+1.4**
MEST				i S	**Sn**	**02 48 55.5**	**+4.3**
MERS	**Mersin**	**2.62**	**37**	ePN	**Pn**	**02 48 28.1**	**-2.2**
MATL	**Matirih**	**2.64**	**119**	eP	**Pn**	**02 48 31.2**	**+0.5**
BHL	**Bhannes**	**2.71**	**108**	eS	**Sn**	**02 49 00.4**	**-3.2**
HNTI	**Hanita**	**2.76**	**127**	Sn	**Sn**	**02 49 04.9**	**0.0**
HWQ	**Hawqa**	**2.85**	**99**	eP	**Pn**	**02 48 34.4**	**+0.9**
HWQ				eS	**Sn**	**02 49 06.7**	**-0.2**
OFRI	**'Ofer**	**2.96**	**136**	Pn	**Pn**	**02 48 35.8**	**+0.6**
OFRI				Sn	**Sn**	**02 49 09.3**	**-0.6**
OFRI	**'Ofer**	**2.96**	**136**	Pn	**Pn**	**02 48 35.7**	**+0.6**
OFRI				Sn	**Sn**	**02 49 09.3**	**-0.5**
RCY	**Rachaya**	**3.00**	**115**	eP	**Pn**	**02 48 36.1**	**+0.5**
RCY				eS	**Sn**	**02 49 10.2**	**-0.6**
KSDI	**Kefar Szold**	**3.03**	**121**	Pn	**Pn**	**02 48 36.8**	**+0.8**
KSDI				Sn	**Sn**	**02 49 10.4**	**-1.1**
KARA	**Karaisali**	**3.19**	**39**	ePN	**Pn**	**02 48 35.9**	**-2.3**
SLTI	**Sal'it**	**3.28**	**140**	Sn	**Sn**	**02 49 16.2**	**-1.5**
MMLI	**Mount Malkishu**	**3.35**	**134**	Sn	**Sn**	**02 49 20.6**	**+1.2**
HMDT	**Nahal Hemdat**	**3.54**	**135**	Pn	**Pn**	**02 48 44.1**	**+1.0**
KOZT	**Kozan**	**3.77**	**44**	eP	**Pn**	**02 48 42.2**	**-4.0**
DRGI	**Dragot**	**3.98**	**142**	Pn	**Pn**	**02 48 50.4**	**+1.4**
MKRJ	**Makawir**	**4.14**	**140**	Pn	**Pn**	**02 48 52.9**	**+1.6**
AMAG	**Maghara**	**4.17**	**172**	⇑P	**Pn**	**02 48 51.7**	**0.0**
AMAG				S	**Sn**	**02 49 39.3**	**-0.3**
KZIT	**Kziot**	**4.17**	**158**	Pn	**Pn**	**02 48 52.6**	**+0.9**
KZIT				Sn	**Sn**	**02 49 38.7**	**-0.9**
MZDA	**Masada**	**4.20**	**145**	Pn	**Pn**	**02 48 53.0**	**+1.0**
HBRG	**Burj al 'Arab**	**4.79**	**209**	⇑P	**Pn**	**02 49 00.1**	**-0.1**
SUZ		**4.94**	**177**	⇑P	**Pn**	**02 49 02.6**	**+0.3**
HNKL	**Nakhl**	**5.00**	**166**	⇑P	**Pn**	**02 49 02.8**	**-0.2**
HNKL				S	**Sn**	**02 49 59.0**	**-0.9**
DABA	**Dabaa**	**5.21**	**225**	⇑P	**Pn**	**02 49 05.3**	**-0.6**
GLL	**Jalalah**	**5.25**	**188**	⇑P	**Pn**	**02 49 06.9**	**+0.4**
MBH	**Mount Berech**	**5.37**	**158**	Pn	**Pn**	**02 49 09.4**	**+1.2**
ZNM		**5.41**	**177**	⇑P	**Pn**	**02 49 09.4**	**+0.7**
ZAF		**5.49**	**180**	⇑P	**Pn**	**02 49 09.7**	**-0.2**
HMAT	**Matruh**	**5.88**	**233**	⇑P	**Pn**	**02 49 14.7**	**-0.6**
HMAT				S	**Sn**	**02 50 18.3**	**-3.5**
HDHB	**Dhahab**	**6.30**	**163**	⇑P	**Pn**	**02 49 20.2**	**-0.7**
TR2		**6.46**	**171**	⇓P	**Pn**	**02 49 23.1**	**-0.1**
TR1		**6.87**	**170**	P	**Pn**	**02 49 29.4**	**+0.7**
SLUM		**6.98**	**244**	⇑P	**Pn**	**02 49 28.6**	**-1.7**
SWA1		**8.01**	**228**	⇓P	**Pn**	**02 49 44.1**	**-0.2**
SWA2		**8.18**	**229**	⇑P	**Pn**	**02 49 46.0**	**-0.7**

*ATH **09** 02:48:34.8, 4078N×2362E, h33km, MD3.0/3*
*ISCJB **09** 02:48:35.0±0.7, 4074N±003×2382E±005, h12km, Error ellipse: s-maj=6.3km s-min=4.5km az=123.4*
*CSEM **09** 02:48:35.9±0.1, 4074N×2380E, h12km, ML1.6, Error ellipse: s-maj=2.1km s-min=1.7km az=77.0*
*THE **09** 02:48:35.7, 4075N×2383E, h1km, ML1.6*
ISC 09 02:48:35.7±0.7**, 4074N**±003×**2383E**±006**, h6**km±16km**, n10, σ0s41**/15**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.37**	**283**	ePg	**Pg**	**02 48 43.0**	**+0.1**
SOH				eSg	**Sg**	**02 48 48.3**	**+0.6**
SRS	**Serrai**	**0.42**	**334**	ePg	**Pg**	**02 48 43.7**	**0.0**
SRS				eSg	**Sg**	**02 48 49.2**	**0.0**
OUR	**Ouranopolis**	**0.42**	**164**	ePg	**Pg**	**02 48 44.0**	**+0.2**
OUR				eSg	**Sg**	**02 48 49.8**	**+0.4**
PLG	**Polygyros**	**0.47**	**219**	ePB	**Pg**	**02 48 44.6**	**-0.1**
PLG				eSB	**Sg**	**02 48 50.6**	**-0.3**
NVR	**Nevrokopi**	**0.61**	**2**	ePN	**Pg**	**02 48 47.3**	**-0.1**
THE	**Thessaloniki**	**0.67**	**261**	ePg	**Pg**	**02 48 48.1**	**-0.4**
KNT	**Kendrikon**	**0.82**	**301**	ePg	**Pg**	**02 48 51.2**	**-0.3**
GRG	**Griva**	**1.11**	**282**	ePg	**Pg**	**02 48 56.1**	**-0.8**
GRG				eSg	**Sg**	**02 49 12.2**	**+0.9**
LIT	**Litokhoron**	**1.21**	**238**	ePg	**Pg**	**02 48 58.4**	**-0.4**
RDO	**Rodhopi**	**1.35**	**72**	ePN	**Pn**	**02 49 01.3**	**+0.2**

*IDC **09** 02:49:01.2±1.0, 1654S×17495W, h0km, mb4.0/4, mb1 4.3/4, mb1mx4.0/13, mbtmp4.0/4, MS3.9/9, Ms1 3.9/9, ms1mx3.6/25, Error ellipse: s-maj=49.5km s-min=28.7km az=120.0*
*ISCJB **09** 02:49:04.7±0.8, 167S±02×1748W±02, h33km, mb4.1/6, MS4.0/7, Error ellipse: s-maj=30.7km s-min=17.7km az=110.3*
*NEIC **09** 02:49:19.2±6.1, 1665S×17496W, h147km±52km, mb4.1/3, Error ellipse: s-maj=25.6km s-min=21.3km az=112.0*
ISC 09 02:49:06.6±0.8**, 166S**±02×**1747W**±02**, h35km, n33, σ1s25**/10**, mb4.1**/6**, MS4.0**/7**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.81**	**110**	LR	LR	02 56 41.4	
	comp=Z,361nm,21.3s,baz=34,slow=30						
DZM	**Mont Dzumac**	**18.61**	**250**	P	**Pn**	**02 53 23.1**	**+1.8**
	0.1nm,0.3s,baz=76,slow=18,SNR=3.7						
DZM				LR	LR	02 58 58.9	
	comp=Z,431nm,20.7s,baz=202,slow=32						
PPT	**Papeete**	**24.00**	**96**	eLR	LR	03 00 01.8	
	545nm,26.5s,baz=260						
PPT	**Papeete**	**24.00**	**96**	LR	LR	03 02 57.4	
	comp=Z,222nm,18.3s,MS3.7,baz=311,slow=34						
TBI	**Tubuai**	**24.60**	**110**	eLR	LR	03 00 20.2	
	446nm,28.5s,baz=291						
HNR	**Honiara**	**25.72**	**283**	LR	LR	03 03 04.3	
	comp=Z,630nm,18.7s,MS4.2,baz=178,slow=33						
TAOE	**Nuku Hiva Isla**	**34.51**	**81**	eLR	LR	03 04 51.3	
	510nm,24.6s						
RKT	**Rikitea**	**37.80**	**106**	eLR	LR	03 06 27.7	
	18µm,37.2s						
AS31	**Alice Springs**	**48.57**	**253**	eP	**P**	**02 57 45.8**	**-0.6**
ASAR	**Alice Springs**	**48.57**	**253**	P	**P**	**02 57 45.3**	**-1.1**
	2.1nm,0.8s,mb4.2,baz=86,slow=8.0,SNR=19						
ASAR				LR	LR	03 17 08.7	
	comp=Z,275nm,18.6s,MS4.3,baz=135,slow=35						
ASAR	**Alice Springs**	**48.57**	**253**	P	**P**	**02 57 45.3**	**-1.1**
ASAR				LR	LR	03 17 08.7	
VNDA	**Vanda**	**62.03**	**186**	P	**P**	**02 59 23.1**	**-0.3**
	2.5nm,1.1s,mb4.2,baz=6.3,slow=7.1,SNR=6.9						
VNDA	**Vanda**	**62.03**	**186**	eP	**P**	**02 59 23.2**	**-0.1**
	3.3nm,1.4s,mb4.3						
QSPA	**South Pole Qui**	**73.41**	**180**	eP	**P**	**03 00 34.9**	**-0.2**
	5.7nm,1.1s,mb4.4						
YBH	**Yreka Blue Hor**	**75.32**	**38**	LR	LR	03 26 23.7	
	comp=Z,81nm,18.8s,MS4.0,baz=201,slow=30						
NEW	**Newport**	**82.42**	**35**	LR	LR	03 28 38.0	
	comp=Z,51nm,20.7s,MS3.9,baz=158,slow=29						
ANMO	**Albuquerque**	**82.53**	**50**	eP	**P**	**03 01 26.0**	**+0.2**
	3.1nm,1.3s,mb4.2						
ILAR	**Eielson Array**	**83.89**	**12**	P	**P**	**03 01 31.2**	**-1.5**
	1.7nm,1.1s,mb4.1,baz=224,slow=3.9,SNR=7.0						
PDAR	**Pinedale Array**	**84.00**	**42**	P	**P**	**03 01 36.1**	**+2.8**
	0.4nm,0.9s,mb3.6,baz=251,slow=5.4,SNR=3.3						
PDAR				LR	LR	03 35 12.6	
	comp=Z,46nm,19.6s,MS3.9,baz=63,slow=33						
ULM	**Lac du Bonnet**	**95.66**	**39**	LR	LR	03 40 29.1	
	comp=Z,47nm,18.2s,MS4.0,baz=340,slow=32						
UPC	**Upice**	**145.14**	**348**	ePKP	PKPdf	03 08 39.3	-1.0
DPC	**Dobruska-Polom**	**145.22**	**348**	ePKP	PKPdf	03 08 39.1	-1.3
OKC	**Ostrava-Krasne**	**145.30**	**345**	ePKP	PKPdf	03 08 39.8	-0.8
PVCC	**Panska Ves**	**145.39**	**350**	ePKP	PKPdf	03 08 38.4	-2.3
PRU	**Pruhonice**	**145.91**	**349**	ePKP	PKPdf	03 08 41.4	-0.2
NKC	**Novy Kostel**	**146.00**	**352**	ePKP	PKPdf	03 08 42.3	+0.5
VRAC	**Vranov**	**146.15**	**347**	PKPbc	PKPbc	03 08 42.4	-0.7
	1.2nm,0.8s,baz=294,slow=1.3,SNR=4.0						
BRTR	**Keskin Array B**	**146.31**	**319**	PKPbc	PKPbc	03 08 43.5	0.0
	0.6nm,0.7s,baz=20,slow=4.6,SNR=4.1						
VYHS	**Vyhne**	**146.36**	**344**	ePKP	PKPbc	03 08 43.4	-0.3
VYHS				e		03 08 47.7	
VYHS	**Vyhne**	**146.36**	**344**	eP	PKPbc	03 08 43.4	-0.3
VYHS				e		03 08 47.7	
MLR	**Muntele Rosu**	**146.45**	**333**	PKPbc	PKPbc	03 08 43.1	-0.8
	1.4nm,0.6s,baz=68,slow=4.4,SNR=3.6						
KHC	**Kasperske Hory**	**146.90**	**350**	ePKP	PKPbc	03 08 48.0	+2.8
GERES	**GERESS Array B**	**147.16**	**350**	PKPbc	PKPbc	03 08 44.0	-2.0
	0.5nm,0.8s,baz=5.7,slow=2.7,SNR=5.8						

*SZGRF **09** 03:12:51.9, 3684N×2750E, h33km, mb4.0, Dodecanese Islands, Greece*
*CSEM **09** 03:12:52.5±0.0, 3655N×2730E, h123km, mb4.1/45, Ms2.8, Mw3.6, Error ellipse: s-maj=1.2km s-min=0.9km az=19.0*
*ISCJB **09** 03:12:53.2±0.1, 3646N±001×2725E±002, h124km±1km, mb4.2/80, Error ellipse: s-maj=2.4km s-min=2.0km az=60.7*
*NEIC **09** 03:12:53.7, 3652N×2722E, h119km, mb4.1/86, After ATH.*
*MOS **09** 03:12:53.9±1.0, 3653N×2720E, h128km, mb4.2/35, Error ellipse: s-maj=5.3km s-min=3.4km az=118.0*
*BJI **09** 03:12:53.7, 3650N×2720E, h119km, mB5.0, mb4.6*
*ATH **09** 03:12:53.7, 3652N×2722E, h119km±2km, ML4.3*
*IDC **09** 03:12:54.1±0.7, 3653N×27.15E, h114km±6km, mb4.1/22, mb1 4.1/32, mb1mx4.1/36, mbtmp4.4/32, Error ellipse: s-maj=12.3km s-min=6.8km az=145.0*
*NIC **09** 03:12:55.9±0.3, 37.16N×2777E, h25km, mb4.5, ML4.1, MW3.6*
*ISK **09** 03:12:55.0, 3661N×2721E, h112km, ML3.7*
*THE **09** 03:12:57.4, 3648N×2724E, h82km, ML3.5*
*HLW **09** 03:13:03.4, 3567N×2757E, h33km, Mb4.8*
ISC 09 03:12:54.2±0.1**, 3646N**±001×**2725E**±002**, h118**km±1km**, n473, σ1s08**/521**, mb4.2**/80**, 43C-22D, Dodecanese**

Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.18**	**328**	*e*P	**Pn**	**03 13 10.0**	**-0.6**
DAT	**Datca**	**0.38**	**45**	*i* PG	**Pn**	**03 13 11.6**	**+0.3**
DAT				*i* SG	**Sn**	**03 13 23.4**	**-0.8**
BODT	**Bodrum**	**0.60**	**5**	*i* PG	**Pn**	**03 13 12.5**	**-0.2**
BODT				*i* SG	**Sn**	**03 13 24.9**	**-1.7**
BDRM	**Kayabasi**	**0.62**	**15**	*i* P	**Pn**	**03 13 13.6**	**+0.8**
BDRM				*i* S	**Sn**	**03 13 33.9**	**+7.0**
ARG	**Arkhangelos**	**0.75**	**109**	*e*P	**Pn**	**03 13 15.1**	**+1.3**
ARG				*e*S	**Sn**	**03 13 29.5**	**+0.9**
KARP	**Karpathos**	**0.91**	**184**	*e*P	**Pn**	**03 13 16.2**	**+0.9**
KARP				*e*S	**Sn**	**03 13 32.3**	**+7.7**
MLSB	**Milas**	**0.94**	**27**	*i* PG	**Pn**	**03 13 15.4**	**-0.1**
YER	**Yerkesik**	**1.07**	**51**	*i* PG	**Pn**	**03 13 17.5**	**+0.7**
DALT	**Dalyan (Mudla)**	**1.16**	**74**	*i* PN	**Pn**	**03 13 19.0**	**+1.2**
SMG	**Samos**	**1.29**	**345**	*e*P	**Pn**	**03 13 18.6**	**-0.5**
AYDN	**Tasoluk**	**1.30**	**23**	*i* P	**Pn**	**03 13 21.1**	**+1.8**
AYDN				*i* S	**Sn**	**03 13 45.0**	**+11**
SANT	**Santorini**	**1.44**	**267**	*e*Pg	**Pn**	**03 13 21.4**	**+0.5**
SANT				*e*Sg	**Sn**	**03 13 40.0**	**+2.6**
SANT	**Santorini**	**1.44**	**267**	*i* P	**Pn**	**03 13 28.1**	**+7.3**
SANT				*i* S	**Sn**	**03 13 48.2**	**+11**
SANT	**Santorini**	**1.44**	**267**	*e*Pn	**Pn**	**03 13 21.2**	**+0.4**
SANT				*e*Sn	**Sn**	**03 13 40.4**	**+2.9**
SANT	**Santorini**	**1.44**	**267**	*e*Pn	**Pn**	**03 13 21.2**	**+0.3**
SANT				*e*Sn	**Sn**	**03 13 40.3**	**+2.9**
FETY	**Fethiye**	**1.49**	**83**	*i* PN	**Pn**	**03 13 22.1**	**+0.7**
APE	**Apeiranthos**	**1.50**	**294**	*e*Pg	**Pn**	**03 13 22.0**	**+0.4**
APE				*e*Sg	**Sn**	**03 13 41.3**	**+2.4**
APE	**Apeiranthos**	**1.50**	**294**	*e*P	**Pn**	**03 13 21.9**	**+0.3**
APE				*e*S	**Sn**	**03 13 41.5**	**+2.6**
APE	**Apeiranthos**	**1.50**	**294**	*d i*P	**Pn**	**03 13 21.9**	**+0.3**
ZKR	**Zakros**	**1.58**	**212**	*e*Pg	**Pn**	**03 13 24.0**	**+1.5**
ZKR				*e*Sg	**Sn**	**03 13 43.5**	**+2.8**
ZKR	**Zakros**	**1.58**	**212**	*e*Pg	**Pn**	**03 13 24.0**	**+1.5**
ZKR				*e*Sg	**Sn**	**03 13 43.5**	**+2.7**
NPS	**Neapolis**	**1.79**	**228**	*e*P	**Pn**	**03 13 25.7**	**+0.8**
NPS				*e*S	**Sn**	**03 13 48.1**	**+2.4**
DNZL	**Cakiroluk**	**1.89**	**49**	*i* P	**Pn**	**03 13 30.4**	**+4.1**
DNZL				*i* S	**Sn**	**03 13 56.0**	**+7.6**
KSL	**Kastellorizon**	**1.91**	**99**	*e*P	**Pn**	**03 13 26.5**	**0.0**
DENT	**Denizli**	**1.93**	**47**	*i* PN	**Pn**	**03 13 27.1**	**+0.4**
BLCB	**Balcova**	**1.93**	**355**	*i* PN	**Pn**	**03 13 26.2**	**-0.5**
LAST	**Lasithi**	**1.93**	**228**	*e*Pb	**Pn**	**03 13 27.8**	**+1.0**
LAST				*e*Sb	**Sn**	**03 13 51.0**	**+1.7**
IZM	**Izmir**	**1.94**	**0**	*i* PN	**Pn**	**03 13 26.4**	**-0.4**
KDAG	**Bornova**	**1.94**	**1**	*i* P	**Pn**	**03 13 34.3**	**+7.5**
KDAG				*i* S	**Sn**	**03 13 50.8**	**+1.4**
URLA	**Izmir**	**1.97**	**345**	*i* P	**Pn**	**03 13 35.7**	**+8.5**
URLA				*i* S	**Sn**	**03 14 03.7**	**+14**
XRY	**Khrisi**	**2.02**	**219**	*e*P	**Pn**	**03 13 28.8**	**+0.9**
CHOS	**Chios island**	**2.14**	**334**	*e*Pn	**Pn**	**03 13 29.6**	**+0.2**
ELL	**Elmali**	**2.16**	**82**	*i* PN	**Pn**	**03 13 31.1**	**+1.5**
IDI	**Anoyia**	**2.24**	**239**	P	**Pn**	**03 13 31.1**	**+0.5**
	129nm,0.3s,baz=53,slow=8.5,SNR=1016						
IDI				S	**Sn**	**03 13 57.1**	**+0.3**
	585nm,0.3s,baz=297,slow=22,SNR=84						
SIVA	**Sivas**	**2.45**	**235**	*e*Pn	**Pn**	**03 13 34.8**	**+1.5**
SIVA				*e*Sn	**Sn**	**03 14 03.4**	**+1.6**
VAM	**Vamos**	**2.69**	**248**	*e*P	**Pn**	**03 13 36.7**	**+0.4**
ANTB	**Antalya**	**2.77**	**80**	PN	**Pn**	**03 13 39.4**	**+1.9**
BCK	**Bucak**	**2.86**	**69**	PN	**Pn**	**03 13 39.8**	**+1.2**
PRK	**Paraskevi**	**2.89**	**345**	*e*P	**Pn**	**03 13 39.2**	**+0.2**
KARN	**Karanos**	**2.90**	**250**	*e*Pn	**Pn**	**03 13 40.5**	**+1.4**
ISP	**Isparta**	**2.95**	**61**	PN	**Pn**	**03 13 40.3**	**+0.5**
ISP	**Isparta**	**2.95**	**61**	⇑*i*Pn	**Pn**	**03 13 40.2**	**+0.4**
ISP				*e*Sn	**Sn**	**03 14 14.4**	**+0.4**
ISP	**Isparta**	**2.95**	**61**	*e*Pn	**Pn**	**03 13 40.3**	**+0.5**
ISP				*e*Sn	**Sn**	**03 14 14.4**	**+0.4**
GVD	**Gavdhos**	**3.04**	**239**	*e*Pn	**Pn**	**03 13 42.4**	**+1.5**
GVD				*e*Sn	**Sn**	**03 14 17.1**	**+1.0**
GVD	**Gavdhos**	**3.04**	**239**	*e*P	**Pn**	**03 13 41.5**	**+0.6**
GVD	**Gavdhos**	**3.04**	**239**	*e*Pn	**Pn**	**03 13 42.4**	**+1.5**
GVD				*e*Sn	**Sn**	**03 14 17.1**	**+1.0**
PTL	**Penteli**	**3.13**	**301**	*e*P	**Pn**	**03 13 42.2**	**+0.1**
GDZ	**Gediz**	**3.17**	**33**	*i* P	**Pn**	**03 13 51.0**	**+8.4**
GDZ				*i* S	**Sn**	**03 14 18.4**	**-0.8**
ATH	**Athens Observa**	**3.20**	**299**	*e*P	**Pn**	**03 13 43.0**	**0.0**
BALB	**Balikesir**	**3.21**	**9**	PN	**Pn**	**03 13 43.1**	**-0.2**
KYTH	**Kithira**	**3.40**	**268**	*e*P	**Pn**	**03 13 45.8**	**+0.1**
EZN	**Ezine**	**3.44**	**348**	PN	**Pn**	**03 13 45.5**	**-0.7**
ALT	**Altintas**	**3.44**	**40**	PN	**Pn**	**03 13 46.9**	**+0.6**
VLI	**Veliai**	**3.48**	**276**	*e*P	**Pn**	**03 13 47.9**	**+1.2**
CANB	**Canakkale**	**3.55**	**358**	PN	**Pn**	**03 13 47.3**	**-0.5**
ULDT	**Uludag**	**3.97**	**21**	*i* P	**Pn**	**03 14 02.9**	**+10**
ULDT				*i* S	**Sn**	**03 14 53.0**	**+14**
MRMT	**Marmara Adasi**	**4.15**	**4**	*e*PN	**Pn**	**03 13 54.6**	**-1.1**
GEMT	**Gemlik**	**4.25**	**20**	*e*PN	**Pn**	**03 13 56.7**	**-0.4**
ITM	**Ithomi**	**4.33**	**281**	*e*P	**Pn**	**03 13 59.8**	**+1.7**
KONT	**Konya--Tatoy**	**4.34**	**69**	*e*PN	**Pn**	**03 13 59.0**	**+0.7**
ENEZ	**Enez**	**4.36**	**349**	*e*PN	**Pn**	**03 13 57.7**	**-0.8**
KDHN	**Kadinhani**	**4.39**	**61**	*i* P	**Pn**	**03 14 06.9**	**+8.0**
KDHN				*i* S	**Sn**	**03 14 50.3**	**+1.5**
KIZT	**Kizilcal**	**4.40**	**55**	*e*PN	**Pn**	**03 14 00.3**	**+1.2**
YLV	**Yalova**	**4.43**	**21**	*e*PN	**Pn**	**03 13 59.1**	**-0.3**
PPCY	**Paphos**	**4.44**	**109**	P	**Pn**	**03 13 59.4**	**-0.2**
ALN	**Alexandroupoli**	**4.53**	**348**	*e*Pn	**Pn**	**03 14 01.2**	**+0.4**
ALFC	**Alevga**	**4.54**	**105**	⇑*e*P	**Pn**	**03 14 00.3**	**-0.7**
	30nm,0.3s						
ALFC				S	**Sn**	**03 14 50.1**	**-2.5**
OUR	**Ouranopolis**	**4.64**	**327**	*e*Pn	**Pn**	**03 14 03.2**	**+1.0**
AGG	**Agios Georgios**	**4.66**	**305**	*e*Pn	**Pn**	**03 14 04.3**	**+1.8**
HRT	**Hereke**	**4.75**	**23**	*e*PN	**Pn**	**03 14 03.6**	**-0.2**
SZAC	**Souni-Zanaja**	**4.90**	**109**	P	**Pn**	**03 14 05.5**	**-0.2**
SZAC				S	**Sn**	**03 15 00.9**	**-0.3**
MAMC	**Mammari**	**5.02**	**103**	⇑*i*P	**Pn**	**03 14 06.6**	**-0.8**
CSS	**Prodhromos**	**5.17**	**105**	⇑*i*P	**Pn**	**03 14 08.6**	**-0.8**
	4.9nm,0.4s						
CSS				S	**Sn**	**03 15 05.7**	**-2.2**
SLUM		**5.24**	**199**	⇓P	**Pn**	**03 14 10.9**	**+0.6**
SLUM				S	**Sn**	**03 15 00.3**	**-9.1**
HMAT	**Matruh**	**5.35**	**181**	P	**Pn**	**03 14 11.1**	**-0.8**
	10µm,0.1s						
EDRB	**Edirne**	**5.39**	**356**	*e*PN	**Pn**	**03 14 11.5**	**-0.9**
SRS	**Serrai**	**5.46**	**330**	*e*Pn	**Pn**	**03 14 14.5**	**+1.2**
DABA	**Dabaa**	**5.50**	**171**	⇓P	**Pn**	**03 14 12.2**	**-1.8**
ANTO	**Ankara**	**5.54**	**50**	*e*PN	**Pn**	**03 14 14.8**	**+0.4**
ANTO	**Ankara**	**5.54**	**50**	⇓*i*P	**Pn**	**03 14 16.5**	**+2.1**
ANTO	**Ankara**	**5.54**	**50**	⇑*i*P	**Pn**	**03 14 16.1**	**+1.7**
ANTO				pmax	pmax		
	comp=Z,50nm,0.7s						
ANTO	**Ankara**	**5.54**	**50**	⇑*i*Pn	**Pn**	**03 14 16.1**	**+1.7**
	comp=Z,50nm,0.7s						
ANTO	**Ankara**	**5.54**	**50**	⇑*i*Pn	**Pn**	**03 14 16.1**	**+1.7**
	comp=Z,50nm,0.7s						
PHNC	**Paralimni**	**5.71**	**103**	P	**Pn**	**03 14 17.4**	**+0.7**
MEV	**Metsovon**	**5.79**	**307**	*e*Pn	**Pn**	**03 14 19.4**	**+1.6**
KNT	**Kendrikon**	**5.79**	**325**	*e*Pn	**Pn**	**03 14 18.9**	**+1.1**
GRG	**Griva**	**5.87**	**321**	*e*Pn	**Pn**	**03 14 20.1**	**+1.2**
GRG	**Griva**	**5.87**	**321**	*e*Pn	**Pn**	**03 14 20.1**	**+1.2**
BR131	**Keskin Array S**	**6.00**	**55**	*e*Pn	**Pn**	**03 14 21.8**	**+1.1**
	comp=Z,26nm,0.4s						
BR131	**Keskin Array S**	**6.00**	**55**	*e*Pn	**Pn**	**03 14 21.8**	**+1.1**
	comp=Z,26nm,0.4s						
BRTR	**Keskin Array B**	**6.00**	**55**	P	**Pn**	**03 14 22.1**	**+1.4**
	comp=Z,7.4nm,0.3s,baz=236,slow=16,SNR=180						
BRTR				S	**Sn**	**03 15 28.1**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=219,slow=23,SNR=5.7						
BRTR	**Keskin Array B**	**6.00**	**55**	*i* P	**Pn**	**03 14 22.1**	**+1.4**
BRTR				pmax	pmax		
	comp=Z,20nm,0.4s						
BRTR	**Keskin Array B**	**6.00**	**55**	S	**Sn**	**03 15 28.1**	**+0.1**
VAY	**Valandovo**	**6.07**	**325**	*e*Pn	**Pn**	**03 14 33.1**	**+12**
HBRG	**Burj al 'Arab**	**6.26**	**159**	⇑P	**Pn**	**03 14 22.9**	**-1.2**
IGT	**Igoumenitsa**	**6.26**	**301**	*e*Pn	**Pn**	**03 14 25.3**	**+1.1**
BIA	**Bitola**	**6.49**	**316**	*e*Pn	**Pn**	**03 14 32.3**	**+5.0**
BIA				*e*Sn	**Sn**	**03 15 46.5**	**+6.7**
OHR	**Ohrid**	**6.85**	**315**	*e*Pn	**Pn**	**03 14 36.6**	**+4.5**
OHR				*e*Sn	**Sn**	**03 15 48.7**	**+0.2**
VTS	**Vitosha**	**6.87**	**334**	⇑*i*P	**Pn**	**03 14 33.5**	**+1.1**
VTS	**Vitosha**	**6.87**	**334**	⇑P	**Pn**	**03 14 33.5**	**+1.1**
AANS		**7.07**	**149**	⇑P	**Pn**	**03 14 34.1**	**-0.9**
MATL	**Matirih**	**7.27**	**112**	*e*Pn	**Pn**	**03 14 36.5**	**-1.3**
HMYD	**Mayadein**	**7.28**	**155**	⇑P	**Pn**	**03 14 37.5**	**-0.5**
SWA1		**7.29**	**191**	⇓P	**Pn**	**03 14 38.4**	**+0.3**
SWA1				S	**Sn**	**03 15 47.5**	**-12**
SQR		**7.35**	**152**	⇓P	**Pn**	**03 14 37.5**	**-1.3**
SQR				S	**Sn**	**03 15 46.5**	**-14**
SWA2		**7.35**	**192**	⇓P	**Pn**	**03 14 39.0**	**+0.1**
SWA2				S	**Sn**	**03 15 49.1**	**-12**
HNAT	**Natroun**	**7.37**	**156**	⇓P	**Pn**	**03 14 37.8**	**-1.3**
HLW	**Helwan**	**7.42**	**151**	⇑P	**Pn**	**03 14 38.6**	**-1.3**
HWQ	**Hawqa**	**7.43**	**104**	*e*Pn	**Pn**	**03 14 39.3**	**-0.7**
FYM	**Al Fayyum**	**7.46**	**154**	⇑P	**Pn**	**03 14 39.6**	**-0.7**
AYT	**Al 'Ayyat**	**7.49**	**153**	⇑P	**Pn**	**03 14 40.0**	**-0.8**
MMAI	**Mount Meron Ar**	**7.54**	**115**	P	**Pn**	**03 14 40.9**	**-0.6**
	comp=Z,32nm,0.3s,baz=313,slow=13,SNR=67						
MMAI				S	**Sn**	**03 16 03.2**	**-2.1**
	comp=Z,52nm,0.3s,baz=302,slow=26,SNR=14						
RCY	**Rachaya**	**7.64**	**110**	*e*Pn	**Pn**	**03 14 42.0**	**-0.8**
AMAG	**Maghara**	**7.64**	**138**	⇑P	**Pn**	**03 14 42.1**	**-0.8**
HHAG	**Hagoal**	**7.66**	**147**	⇑P	**Pn**	**03 14 42.6**	**-0.4**
HHAG				S	**Sn**	**03 15 54.8**	**-13**
HSAF	**As Saff**	**7.72**	**151**	P	**Pn**	**03 14 43.0**	**-0.9**
GLL	**Jalalah**	**7.82**	**150**	⇑P	**Pn**	**03 14 44.4**	**-0.9**
GLL	**Jalalah**	**7.82**	**150**	P	**Pn**	**03 14 44.3**	**-0.9**
SUZ		**8.09**	**143**	P	**Pn**	**03 14 48.5**	**-0.4**
HBNS	**Bani Suwayf**	**8.20**	**155**	⇑P	**Pn**	**03 14 49.3**	**-1.1**
AWBH		**8.23**	**170**	⇓P	**Pn**	**03 14 50.1**	**-0.8**
ZAF		**8.43**	**147**	⇑P	**Pn**	**03 14 53.9**	**+0.4**
ZNM		**8.50**	**145**	P	**Pn**	**03 14 54.9**	**+0.5**
HNKL	**Nakhl**	**8.62**	**137**	⇑P	**Pn**	**03 14 55.9**	**-0.1**
HNKL				S	**Sn**	**03 16 18.1**	**-13**
TIP	**Timpagrande**	**8.73**	**291**	*e*Pn	**Pn**	**03 14 55.9**	**-1.7**
GRI	**Girifalco**	**8.90**	**289**	Pn	**Pn**	**03 14 58.4**	**-1.5**
ASF	**Jabal al Asfar**	**9.05**	**115**	P	**Pn**	**03 15 01.8**	**-0.2**
	comp=Z,1.8nm,0.3s,baz=184,slow=7.2,SNR=9.7						
ASF				S	**Sn**	**03 16 41.6**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=75,slow=23,SNR=3.6						
SOI	**Samo**	**9.06**	**284**	Pn	**Pn**	**03 14 59.8**	**-2.3**
MLR	**Muntele Rosu**	**9.08**	**354**	P	**Pn**	**03 15 02.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=159,slow=5.9,SNR=14						
MLR	**Muntele Rosu**	**9.08**	**354**	⇓*i*P	**Pn**	**03 15 03.3**	**+1.0**
MLR	**Muntele Rosu**	**9.08**	**354**	⇓P	**Pn**	**03 15 03.3**	**+1.1**
MALT	**Malatya**	**9.09**	**75**	⇑*i*P	**Pn**	**03 15 04.9**	**+2.4**
MALT	**Malatya**	**9.09**	**75**	*e*P	**Pn**	**03 15 03.4**	**+0.9**
MALT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MALT	**Malatya**	**9.09**	**75**	*e*Pn	**Pn**	**03 15 03.4**	**+0.9**
	comp=Z,6.5nm,0.9s						
CEL	**Celeste**	**9.21**	**285**	Pn	**Pn**	**03 15 02.4**	**-1.7**
HRDS	**Abu Rudays**	**9.26**	**145**	⇑P	**Pn**	**03 15 05.4**	**+0.7**
MTTG	**Motta San Giov**	**9.34**	**283**	Pn	**Pn**	**03 15 03.5**	**-2.3**
	comp=Z,6.2nm,0.5s						
EIL	**Elat**	**9.36**	**134**	*e*Pn	**Pn**	**03 15 05.8**	**-0.3**
	comp=Z,224nm,0.4s						
EIL				*e*Sn	**Sn**	**03 16 36.2**	**-13**
PLOR	**Plostina**	**9.39**	**357**	⇓*i*P	**Pn**	**03 15 16.8**	**+10**
VRI	**Vrincioaia**	**9.41**	**358**	⇓*i*P	**Pn**	**03 15 17.0**	**+10**
VRI	**Vrincioaia**	**9.41**	**358**	⇓P	**Pn**	**03 15 17.0**	**+10**
HBST	**Basata**	**9.58**	**137**	⇑P	**Pn**	**03 15 09.1**	**0.0**
CUC	**Castrocucco**	**9.66**	**295**	Pn	**Pn**	**03 15 09.0**	**-1.1**
AGST	**Augusta-Monte**	**9.66**	**278**	Pn	**Pn**	**03 15 08.1**	**-2.1**
	comp=Z,82nm,0.3s						
TR2		**9.73**	**144**	⇑P	**Pn**	**03 15 11.0**	**-0.1**
HAVL	**Avola**	**9.75**	**277**	Pn	**Pn**	**03 15 09.2**	**-2.1**
HKAT	**Jabal Katrina**	**9.75**	**142**	⇑P	**Pn**	**03 15 11.4**	**0.0**
ASUT		**9.75**	**157**	⇓P	**Pn**	**03 15 10.9**	**-0.5**
SSY	**Sortino**	**9.79**	**278**	Pn	**Pn**	**03 15 09.6**	**-2.3**
MGR	**Morigerati**	**9.89**	**295**	Pn	**Pn**	**03 15 11.3**	**-2.0**
HDHB	**Dhahab**	**9.91**	**139**	⇑P	**Pn**	**03 15 14.1**	**+0.7**
SLCN	**Sala Consilina**	**9.92**	**297**	Pn	**Pn**	**03 15 12.8**	**-0.8**
HMDC	**Modica**	**10.02**	**277**	Pn	**Pn**	**03 15 13.0**	**-2.0**
HVZN	**Vizzini**	**10.07**	**278**	Pn	**Pn**	**03 15 13.8**	**-1.9**
TR1		**10.16**	**144**	⇑P	**Pn**	**03 15 16.6**	**-0.2**
VAE	**Valguarnera**	**10.32**	**279**	P	**Pn**	**03 15 19.3**	**+0.3**
	comp=Z,3.2nm,0.3s,baz=266,slow=8.1,SNR=14						
VAE				S	**Sn**	**03 17 06.0**	**-6.6**
	comp=Z,6.2nm,0.3s,baz=34,slow=12,SNR=6.0						
SHRM		**10.34**	**144**	⇑P	**Pn**	**03 15 19.7**	**+0.5**
HHRG	**Al Ghardaqah**	**10.66**	**148**	⇑P	**Pn**	**03 15 23.6**	**0.0**
HHRG				S	**Sn**	**03 17 06.8**	**-14**
HDK1	**Dakhla**	**11.04**	**170**	⇑P	**Pn**	**03 15 28.4**	**-0.2**
AKRG	**Al Kharijah**	**11.27**	**165**	⇓P	**Pn**	**03 15 32.1**	**+0.4**
GTR	**Jabal at Tayr**	**11.28**	**165**	⇓P	**Pn**	**03 15 31.7**	**-0.1**
HSFG		**11.39**	**148**	⇑P	**Pn**	**03 15 33.6**	**+0.3**
APRS		**12.41**	**165**	⇑P	**Pn**	**03 15 47.1**	**+0.4**
HEDF	**Idfu**	**12.42**	**154**	⇑P	**Pn**	**03 15 47.1**	**+0.2**
PSZ	**Piszkesteto**	**12.67**	**337**	*e*P	**Pn**	**03 15 50.7**	**+0.5**
PSZ				pmax	pmax		
	comp=Z,12nm,0.7s						
PSZ	**Piszkesteto**	**12.67**	**337**	*e*Pn	**Pn**	**03 15 50.7**	**+0.5**
	comp=Z,12nm,0.7s						
PSZ				*e*P		03 15 57.6	
PSZ	**Piszkesteto**	**12.67**	**337**	*e*Pn	**Pn**	**03 15 50.7**	**+0.5**
	comp=Z,12nm,0.7s						
HADB		**12.75**	**148**	⇑P	**Pn**	**03 15 52.4**	**+1.3**
KOLS	**Kolonicke sedl**	**12.99**	**345**	*e*	**Pn**	**03 16 02.1**	**+7.9**
EMRS	**Mersa Alam**	**13.14**	**148**	P	**Pn**	**03 15 58.4**	**+2.2**
LJU	**Ljubljana**	**13.52**	**319**	*e*P	**Pn**	**03 16 03.1**	**+2.0**
VYHS	**Vyhne**	**13.52**	**335**	*e*P	**Pn**	**03 16 05.6**	**+4.4**
LVV	**L'vov**	**13.56**	**351**	*e*P	**Pn**	**03 16 08.0**	**+6.4**
JAVS	**Javornik**	**13.67**	**318**	*i* P	**Pn**	**03 16 04.8**	**+1.7**
VOY	**Vojsko**	**13.85**	**318**	*e*P	**Pn**	**03 16 07.0**	**+1.6**
VOJS	**Vojsko**	**13.86**	**318**	*e*P	**Pn**	**03 16 07.1**	**+1.6**
NIE	**Niedzica**	**13.90**	**341**	*e*P	**Pn**	**03 16 12.2**	**+6.1**
KIV	**Kislovodsk**	**13.96**	**53**	*d i*P	**Pn**	**03 16 09.0**	**+2.2**
KIV	**Kislovodsk**	**13.96**	**53**	*e*P	**Pn**	**03 16 12.6**	**+5.8**
	comp=Z,59nm,1.1s						
ROBS	**Robic**	**14.19**	**318**	*e*P	**Pn**	**03 16 11.2**	**+1.4**
ZEI	**Tsey**	**14.29**	**59**	*e*P	**Pn**	**03 16 16.5**	**+5.5**
AKASG	**Malin Array Be**	**14.31**	**5**	P	**Pn**	**03 16 10.1**	**-1.1**
	comp=Z,12nm,0.3s,baz=193,slow=12,SNR=64						
AKASG				ScP	ScP	03 24 39.6	-2.6
	comp=Z,0.4nm,0.3s,baz=191,slow=1.1,SNR=5.2						
AKBB	**Malin Array Si**	**14.31**	**5**	*e*Pn	**Pn**	**03 16 10.7**	**-0.6**
AKBB				*e*P		03 16 14.2	
AKBB	**Malin Array Si**	**14.31**	**5**	*e*Pn	**Pn**	**03 16 10.6**	**-0.7**
GOF	**Gofitskoye**	**14.71**	**49**	*e*P	**Pn**	**03 16 20.0**	**+3.7**
GOF				pmax	pmax		
	comp=Z,50nm,0.8s						
OJC	**Ojcow**	**14.77**	**341**	*e*P	**Pn**	**03 16 20.4**	**+3.3**
OKC	**Ostrava-Krasne**	**14.91**	**337**	*e*P	**Pn**	**03 16 21.7**	**+2.8**
VRAC	**Vranov**	**15.01**	**332**	P	**Pn**	**03 16 19.2**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=146,slow=11,SNR=6.4						
VRAC	**Vranov**	**15.01**	**332**	⇓*i*P	**Pn**	**03 16 23.6**	**+3.5**
VRAC	**Vranov**	**15.01**	**332**	⇓P	**Pn**	**03 16 23.7**	**+3.6**
MORC	**Moravsky Berou**	**15.06**	**335**	⇓*i*P	**Pn**	**03 16 24.5**	**+3.8**
MORC	**Moravsky Berou**	**15.06**	**335**	⇓P	**Pn**	**03 16 24.5**	**+3.8**
PGF	**Pioggiola**	**15.33**	**299**	*e*P	**Pn**	**03 16 22.9**	**-1.2**
	comp=Z,7.7nm,0.5s						
PGF	**Pioggiola**	**15.33**	**299**	*e*P	**Pn**	**03 16 22.9**	**-1.2**
PGF				pmax	pmax		
	comp=Z,4.0nm,0.5s						
PGF	**Pioggiola**	**15.33**	**299**	*e*P	**Pn**	**03 16 22.9**	**-1.2**
	comp=Z,3.8nm,0.5s						
TREC	**Trest**	**15.43**	**330**	*e*P	**Pn**	**03 16 27.9**	**+2.5**
GEC2	**GERESS Array S**	**15.86**	**326**	*e*P	**Pn**	**03 16 31.4**	**+0.7**
GERES	**GERESS Array B**	**15.86**	**326**	P	**Pn**	**03 16 30.8**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=140,slow=12,SNR=18						
GERES				ScP	ScP	03 24 43.2	-2.0
	comp=Z,0.1nm,0.3s,baz=132,slow=2.0,SNR=12						
DPC	**Dobruska-Polom**	**15.97**	**334**	*e*P	**Pn**	**03 16 32.7**	**+0.7**
KHC	**Kasperske Hory**	**16.12**	**326**	*e*P	**Pn**	**03 16 34.4**	**+0.5**
UPC	**Upice**	**16.21**	**334**	*e*P	**Pn**	**03 16 37.0**	**+2.0**
PRU	**Pruhonice**	**16.35**	**330**	*e*P	**Pn**	**03 16 35.8**	**-1.0**
WET	**Wettzell**	**16.45**	**325**	*e*P	**Pn**	**03 16 38.3**	**+0.3**
DAVOX	**Davos**	**16.55**	**314**	P	**Pn**	**03 16 39.5**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=137,slow=19,SNR=5.0						
FUR	**Furstenfeldbru**	**16.58**	**320**	*e*P	**Pn**	**03 16 39.9**	**+0.3**
PVCC	**Panska Ves**	**16.77**	**331**	*e*P	**Pn**	**03 16 42.2**	**+0.3**
SBF	**Sospel**	**16.83**	**302**	*e*P	**Pn**	**03 16 41.5**	**-1.1**
	comp=Z,15nm,0.6s						
SBF	**Sospel**	**16.83**	**302**	*e*P	**Pn**	**03 16 41.5**	**-1.1**
SBF				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SBF	**Sospel**	**16.83**	**302**	*e*P	**Pn**	**03 16 41.5**	**-1.1**
	comp=Z,7.3nm,0.6s						
VRSR	**Storozhevoye**	**17.05**	**26**	*e*P	**Pn**	**03 16 45.8**	**+0.5**
VRSR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
VRSR				pmax	pmax		
	comp=N,40nm,0.8s						
VRSR				pmax	pmax		
	comp=E,30nm,0.8s						
FRF	**La Foret Royal**	**17.28**	**301**	*e*P	**Pn**	**03 16 47.1**	**-1.0**
	comp=E,9.7nm,0.6s						
FRF	**La Foret Royal**	**17.28**	**301**	*e*P	**Pn**	**03 16 47.1**	**-1.0**
FRF				pmax	pmax		
	comp=Z,5.0nm,0.6s						
FRF	**La Foret Royal**	**17.28**	**301**	*e*P	**Pn**	**03 16 47.1**	**-1.0**
	comp=Z,4.8nm,0.6s						
BRG	**Berggiesshubel**	**17.29**	**331**	*e*P	**Pn**	**03 16 49.4**	**+1.2**
	comp=Z,3.9nm,1.0s						
BRG	**Berggiesshubel**	**17.29**	**331**	*e*P	**Pn**	**03 16 49.4**	**+1.2**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LMR	**La Mourre**	**17.31**	**300**	*e*P	**Pn**	**03 16 47.3**	**-1.1**
	comp=Z,5.0nm,0.6s						
LMR	**La Mourre**	**17.31**	**300**	*e*P	**Pn**	**03 16 47.3**	**-1.1**
LMR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LMR	**La Mourre**	**17.31**	**300**	*e*P	**Pn**	**03 16 47.3**	**-1.1**
	comp=Z,2.5nm,0.6s						
MANZ	**Manzenberg**	**17.40**	**326**	*e*P	**Pn**	**03 16 50.1**	**+0.5**
TANN	**Tannenbergstha**	**17.55**	**327**	*e*P	**Pn**	**03 16 51.2**	**-0.2**
GRA1	**Grafenberg Arr**	**17.61**	**324**	*e*P	**Pn**	**03 16 53.0**	**+0.9**
	comp=Z,26nm,2.0s						
GRF	**Grafenberg Arr**	**17.61**	**324**	*e*P	**Pn**	**03 16 53.0**	**+0.9**
	comp=Z,26nm,2.0s						
GRF	**Grafenberg Arr**	**17.61**	**324**	*e*P	**Pn**	**03 16 53.0**	**+0.9**
GRF				pmax	pmax		
	comp=Z,26nm,2.0s						
GRF	**Grafenberg Arr**	**17.61**	**324**	*e*P	**Pn**	**03 16 53.0**	**+0.9**
GRF				pmax	pmax		
	comp=Z,26nm,2.0s						
BNI	**Bardonecchia**	**17.75**	**305**	*e*P	**Pn**	**03 16 53.7**	**-0.1**
BNI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BNI	**Bardonecchia**	**17.75**	**305**	*e*P	**Pn**	**03 16 53.7**	**-0.1**
	comp=Z,10nm,1.2s						
BNI	**Bardonecchia**	**17.75**	**305**	*e*P	**Pn**	**03 16 53.7**	**-0.1**
	comp=Z,10nm,1.2s						
SUW	**Suwalki**	**17.78**	**352**	*e*P	**Pn**	**03 16 53.2**	**-0.9**
LPG	**La Plagne**	**17.88**	**307**	*e*P	**Pn**	**03 16 54.4**	**-0.9**
	comp=Z,6.2nm,0.4s						
LPG	**La Plagne**	**17.88**	**307**	*e*P	**Pn**	**03 16 54.4**	**-0.9**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
LPG	**La Plagne**	**17.88**	**307**	*e*P	**Pn**	**03 16 54.4**	**-0.9**
	comp=Z,3.1nm,0.4s						
VRHR	**Novokhopersk**	**17.89**	**31**	*e*P	**Pn**	**03 16 55.2**	**-0.2**
VRHR				pmax	pmax		
	comp=Z,40nm,0.7s						
VRHR				pmax	pmax		
	comp=N,30nm,1.3s						
VRHR				pmax	pmax		
	comp=E,20nm,0.8s						
LPL	**La Plagne**	**17.90**	**307**	*e*P	**Pn**	**03 16 54.5**	**-1.0**
	comp=E,10nm,0.3s						
LPL	**La Plagne**	**17.90**	**307**	*e*P	**Pn**	**03 16 54.5**	**-1.0**
LPL				pmax	pmax		
	comp=Z,5.0nm,0.3s						
LPL	**La Plagne**	**17.90**	**307**	*e*P	**Pn**	**03 16 54.5**	**-1.0**
	comp=Z,5.1nm,0.3s						
CLL	**Collm**	**18.00**	**330**	⇑P	**P**	**03 16 56.2**	**+0.6**
	comp=Z,logA/T=0.8						
CLL				*e*		03 16 59.0	
CLL	**Collm**	**18.00**	**330**	⇑*i*P	**P**	**03 16 56.2**	**+0.6**
	comp=Z,4.0nm,0.6s						
CLL				*e*x	x	03 16 59.0	
CLL	**Collm**	**18.00**	**330**	⇑*i*P	**P**	**03 16 56.2**	**+0.6**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CLL	**Collm**	**18.00**	**330**	⇑*i*P	**P**	**03 16 56.2**	**+0.6**
	comp=Z,4.0nm,0.6s						
CLL				*e*		03 16 59.0	
CLL				*e*		03 17 02.0	
MOX	**Moxa**	**18.09**	**326**	*e*P	**P**	**03 16 59.1**	**+2.4**
SMRF	**Simiane la Rot**	**18.14**	**301**	*e*P	**P**	**03 16 57.1**	**-0.1**
	comp=Z,12nm,0.9s						
SMRF	**Simiane la Rot**	**18.14**	**301**	*e*P	**P**	**03 16 57.1**	**-0.1**
	comp=Z,5.8nm,0.9s						
GKP	**Gorka Klasztor**	**18.21**	**340**	*e*P	**P**	**03 16 58.4**	**+0.4**
ORIF	**Oris-en-Rattie**	**18.23**	**304**	*e*P	**P**	**03 16 58.2**	**0.0**
	comp=Z,4.2nm,0.4s						
ORIF				*e*R			
	comp=Z,82nm,20.5s						
ORIF	**Oris-en-Rattie**	**18.23**	**304**	*e*P	**P**	**03 16 58.2**	**0.0**
ORIF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ORIF	**Oris-en-Rattie**	**18.23**	**304**	*e*P	**P**	**03 16 58.2**	**0.0**
	comp=Z,2.1nm,0.4s						
BFO	**Black Forest**	**18.27**	**316**	*e*P	**P**	**03 17 00.9**	**+2.3**
CABF	**La Chapelle**	**18.75**	**309**	*e*P	**P**	**03 17 04.1**	**+0.2**
	comp=Z,22nm,0.7s						
CABF	**La Chapelle**	**18.75**	**309**	*e*P	**P**	**03 17 04.1**	**+0.2**
CABF				pmax	pmax		
	comp=Z,11nm,0.7s						
CABF	**La Chapelle**	**18.75**	**309**	*e*P	**P**	**03 17 04.1**	**+0.2**
	comp=Z,11nm,0.7s						
CDF	**Champ du Feu**	**18.91**	**315**	*e*P	**P**	**03 17 05.8**	**+0.3**
	comp=Z,9.9nm,0.7s						
CDF	**Champ du Feu**	**18.91**	**315**	*e*P	**P**	**03 17 05.8**	**+0.3**
CDF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CDF	**Champ du Feu**	**18.91**	**315**	*e*P	**P**	**03 17 05.8**	**+0.3**
	comp=Z,4.9nm,0.7s						
VIVF	**Saint-Julien-l**	**19.02**	**303**	*e*P	**P**	**03 17 06.6**	**-0.2**
	comp=Z,12nm,0.5s						
VIVF	**Saint-Julien-l**	**19.02**	**303**	*e*P	**P**	**03 17 06.6**	**-0.2**
VIVF				pmax	pmax		
	comp=Z,6.0nm,0.5s						
VIVF	**Saint-Julien-l**	**19.02**	**303**	*e*P	**P**	**03 17 06.6**	**-0.2**
	comp=Z,5.9nm,0.5s						
HAU	**Haudompre**	**19.23**	**313**	*e*P	**P**	**03 17 09.0**	**-0.1**
	comp=Z,4.2nm,0.3s						
HAU	**Haudompre**	**19.23**	**313**	*e*P	**P**	**03 17 09.0**	**-0.1**
HAU				pmax	pmax		
	comp=Z,2.0nm,0.3s						
HAU	**Haudompre**	**19.23**	**313**	*e*P	**P**	**03 17 09.0**	**-0.1**
	comp=Z,2.1nm,0.3s						
LASF	**Ste Croix**	**19.36**	**300**	*e*P	**P**	**03 17 09.8**	**-0.7**
	comp=Z,6.8nm,0.6s						
LASF	**Ste Croix**	**19.36**	**300**	*e*P	**P**	**03 17 09.8**	**-0.7**
	comp=Z,3.4nm,0.6s						
ETOS	**Mallorca**	**19.49**	**287**	P	**P**	**03 17 12.3**	**+0.4**
	comp=Z,1.8nm,0.4s						
ETOS	**Mallorca**	**19.49**	**287**	P	**P**	**03 17 12.3**	**+0.4**
	comp=Z,1.8nm,0.4s						
OBN	**Obninsk**	**19.72**	**16**	*e*P	**P**	**03 17 13.0**	**-1.4**
OBN				*e*S	**S**	**03 20 50.5**	**+0.2**
OBN				pmax	pmax		
	comp=Z,23nm,1.0s						
OBN	**Obninsk**	**19.72**	**16**	*e*P	**P**	**03 17 13.0**	**-1.4**
	comp=Z,21nm,0.8s						
OBN	**Obninsk**	**19.72**	**16**	*e*P	**P**	**03 17 13.0**	**-1.4**
	comp=Z,21nm,0.8s						
SMF	**Signal de Mont**	**20.19**	**308**	*e*P	**P**	**03 17 18.9**	**-0.5**
	comp=Z,16nm,0.6s						
SMF	**Signal de Mont**	**20.19**	**308**	*e*P	**P**	**03 17 18.9**	**-0.5**
SMF				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SMF	**Signal de Mont**	**20.19**	**308**	*e*P	**P**	**03 17 18.9**	**-0.5**
	comp=Z,7.8nm,0.6s						
MEZF	**Maizieres J'vi**	**20.23**	**313**	*e*P	**P**	**03 17 19.7**	**-0.2**
	comp=Z,11nm,0.5s						
MEZF	**Maizieres J'vi**	**20.23**	**313**	*e*P	**P**	**03 17 19.7**	**-0.2**
	comp=Z,5.7nm,0.5s						
MTLF	**Montolieu**	**20.35**	**297**	*e*P	**P**	**03 17 20.6**	**-0.6**
	comp=Z,21nm,0.6s						
MTLF	**Montolieu**	**20.35**	**297**	*e*P	**P**	**03 17 20.6**	**-0.6**
MTLF				pmax	pmax		
	comp=Z,11nm,0.6s						
MTLF	**Montolieu**	**20.35**	**297**	*e*P	**P**	**03 17 20.6**	**-0.6**
	comp=Z,11nm,0.6s						
LOR	**Lormes**	**20.42**	**309**	*e*P	**P**	**03 17 21.3**	**-0.6**
	comp=Z,9.3nm,0.8s						
LOR	**Lormes**	**20.42**	**309**	*e*P	**P**	**03 17 21.3**	**-0.6**
LOR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LOR	**Lormes**	**20.42**	**309**	*e*P	**P**	**03 17 21.3**	**-0.6**
	comp=Z,4.7nm,0.8s						
BSD	**Bornholm Skovb**	**20.48**	**339**	⇑*i*P	**P**	**03 17 20.5**	**-2.1**
	comp=Z,15nm,0.5s						
BSD	**Bornholm Skovb**	**20.48**	**339**	⇑*i*P	**P**	**03 17 20.5**	**-2.1**
BSD				pmax	pmax		
	comp=Z,15nm,0.5s						
SSF	**Saint Saulge**	**20.56**	**308**	*e*P	**P**	**03 17 23.1**	**-0.3**
	comp=Z,16nm,0.6s						
SSF	**Saint Saulge**	**20.56**	**308**	*e*P	**P**	**03 17 23.1**	**-0.3**
SSF				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SSF	**Saint Saulge**	**20.56**	**308**	*e*P	**P**	**03 17 23.1**	**-0.3**
	comp=Z,8.1nm,0.6s						
EIBI	**Ibiza**	**20.62**	**285**	P	**P**	**03 17 24.9**	**+0.8**
	comp=Z,1.3nm,0.4s						
EIBI	**Ibiza**	**20.62**	**285**	P	**P**	**03 17 24.9**	**+0.8**

comp=Z,1.3nm,0.4s
EMIR Miracle 20.63 293 P **P** 03 17 26.5 +2.3
comp=Z,3.7nm,0.4s
BGF Bois d'Agland 20.80 307 *e*P **P** 03 17 25.5 -0.4
comp=Z,12nm,0.6s
BGF Bois d'Agland 20.80 307 *e*P **P** 03 17 25.5 -0.4
BGF pmax pmax
comp=Z,6.0nm,0.6s
BGF Bois d'Agland 20.80 307 *e*P **P** 03 17 25.5 -0.4
comp=Z,6.2nm,0.6s
CAF Calviac 20.82 302 *e*P **P** 03 17 25.7 -0.5
comp=Z,9.8nm,0.5s
CAF Calviac 20.82 302 *e*P **P** 03 17 25.7 -0.5
CAF pmax pmax
comp=Z,5.0nm,0.5s
CAF Calviac 20.82 302 *e*P **P** 03 17 25.7 -0.5
comp=Z,4.9nm,0.5s
EPOB Poblet 20.91 292 P **P** 03 17 26.6 -0.6
comp=Z,2.9nm,0.4s
EPOB Poblet 20.91 292 P **P** 03 17 26.6 -0.5
comp=Z,2.9nm,0.4s
BCLA Clavier 21.07 318 P **P** 03 17 29.6 +0.7
BCLA Clavier 21.07 318 P **P** 03 17 29.5 +0.6
TCF Toulx Ste Croi 21.12 305 *e*P **P** 03 17 28.5 -0.9
comp=Z,3.3nm,0.5s,mb3.6
TCF Toulx Ste Croi 21.12 305 *e*P **P** 03 17 28.5 -0.9
TCF pmax pmax
comp=Z,2.0nm,0.5s,mb3.7
TCF Toulx Ste Croi 21.12 305 *e*P **P** 03 17 28.5 -0.9
comp=Z,1.6nm,0.5s,mb3.6
DOU Dourbes 21.28 317 P **P** 03 17 31.8 +0.6
DOU Dourbes 21.28 317 P **P** 03 17 31.7 +0.5
RJF Les Rejaudoux 21.30 302 *e*P **P** 03 17 30.5 -0.8
comp=Z,12nm,0.7s,mb4.0
RJF Les Rejaudoux 21.30 302 *e*P **P** 03 17 30.5 -0.8
RJF pmax pmax
comp=Z,6.0nm,0.7s,mb4.0
RJF Les Rejaudoux 21.30 302 *e*P **P** 03 17 30.5 -0.8
comp=Z,5.8nm,0.7s,mb4.0
ERTA Horta de San J 21.44 290 P **P** 03 17 33.4 +0.6
comp=Z,3.8nm,0.4s,mb4.1
ERTA Horta de San J 21.44 290 P **P** 03 17 33.4 +0.6
comp=Z,3.8nm,0.4s,mb4.1
BAIF Baives 21.48 316 *e*P **P** 03 17 31.8 -1.4
comp=Z,5.1nm,0.5s,mb3.8
BAIF Baives 21.48 316 *e*P **P** 03 17 31.8 -1.4
BAIF pmax pmax
comp=Z,3.0nm,0.5s,mb3.9
BAIF Baives 21.48 316 *e*P **P** 03 17 31.8 -1.4
comp=Z,2.5nm,0.5s,mb3.8
EGRA Graus 21.56 294 P **P** 03 17 34.5 +0.5
comp=Z,1.7nm,0.3s,mb3.9
EGRA Graus 21.56 294 P **P** 03 17 34.5 +0.4
comp=Z,1.7nm,0.3s,mb3.9
EPF Esparros 21.65 296 *e*P **P** 03 17 33.6 -1.4
comp=Z,2.9nm,0.5s,mb3.6
EPF Esparros 21.65 296 *e*P **P** 03 17 33.6 -1.4
EPF pmax pmax
comp=Z,1.0nm,0.5s,mb3.4
EPF Esparros 21.65 296 *e*P **P** 03 17 33.6 -1.4
comp=Z,1.5nm,0.5s,mb3.6
LFF La Frestale 21.73 301 *e*P **P** 03 17 34.8 -1.1
EBIE Bielsa 21.75 295 P **P** 03 17 36.3 +0.2
comp=Z,1.4nm,0.4s,mb3.6
EBIE Bielsa 21.75 295 P **P** 03 17 36.3 +0.3
comp=Z,1.4nm,0.4s,mb3.6
EMOS Mosqueruela 22.03 289 P **P** 03 17 40.5 +1.5
comp=Z,1.1nm,0.4s,mb3.5
EMOS Mosqueruela 22.03 289 P **P** 03 17 40.5 +1.5
comp=Z,1.1nm,0.4s,mb3.5
ESAC San Caprasio 22.09 292 P **P** 03 17 40.2 +0.5
comp=Z,9.6nm,0.4s,mb4.5
ESAC San Caprasio 22.09 292 P **P** 03 17 40.2 +0.5
comp=Z,9.6nm,0.4s,mb4.5
ETSF Etsaut 22.29 295 *e*P **P** 03 17 40.5 -1.2
comp=Z,7.0nm,0.4s,mb4.0
ETSF Etsaut 22.29 295 *e*P **P** 03 17 40.5 -1.2
ETSF pmax pmax
comp=Z,4.0nm,0.4s,mb4.1
ETSF Etsaut 22.29 295 *e*P **P** 03 17 40.5 -1.2
comp=Z,3.5nm,0.4s,mb4.0
EALK Alkurruntz 23.02 296 P **P** 03 17 49.3 +0.5
comp=Z,1.1nm,0.4s,mb3.5
EALK Alkurruntz 23.02 296 P **P** 03 17 49.3 +0.5
comp=Z,1.1nm,0.4s,mb3.5
ELIZ Elizondo 23.02 296 P **P** 03 17 49.9 +1.0
ELIZ pmax pmax
comp=Z,1.0nm,0.3s,mb3.6
ELIZ Elizondo 23.02 296 P **P** 03 17 49.9 +1.0
comp=Z,1.1nm,0.3s,mb3.7
ELIZ Elizondo 23.02 296 P **P** 03 17 49.9 +1.0
comp=Z,1.1nm,0.3s,mb3.7
ETOR Torete 23.24 290 P **P** 03 17 51.5 +0.6
ETOR pmax pmax
comp=Z,1.0nm,0.4s,mb3.5
ETOR Torete 23.24 290 P **P** 03 17 51.5 +0.6
comp=Z,0.9nm,0.4s,mb3.5
ETOR Torete 23.24 290 P **P** 03 17 51.5 +0.6
comp=Z,0.9nm,0.4s,mb3.5
LDF La Druitiere 23.40 310 *e*P **P** 03 17 50.8 -1.5
comp=Z,4.6nm,0.3s,mb3.9
LDF La Druitiere 23.40 310 *e*P **P** 03 17 50.8 -1.5
LDF pmax pmax
comp=Z,2.0nm,0.3s,mb3.9
LDF La Druitiere 23.40 310 *e*P **P** 03 17 50.8 -1.5
comp=Z,2.3nm,0.3s,mb3.9
ENIJ Nijar 23.58 280 P **P** 03 17 55.1 +1.1
ENIJ pmax pmax
comp=Z,4.0nm,0.4s,mb4.1
ENIJ Nijar 23.58 280 P **P** 03 17 55.1 +1.1
comp=Z,3.9nm,0.4s,mb4.1
ENIJ Nijar 23.58 280 P **P** 03 17 55.1 +1.1
comp=Z,3.9nm,0.4s,mb4.1
EVIA Vianos 23.64 284 P **P** 03 17 56.0 +1.4
EVIA pmax pmax
comp=Z,2.0nm,0.4s,mb3.8
EVIA Vianos 23.64 284 P **P** 03 17 56.0 +1.5
comp=Z,2.4nm,0.4s,mb3.9
EVIA Vianos 23.64 284 P **P** 03 17 56.0 +1.4
comp=Z,2.4nm,0.4s,mb3.9
FLN La Foliniere 23.68 310 *e*P **P** 03 17 53.5 -1.4
comp=Z,8.6nm,0.3s,mb4.2
FLN La Foliniere 23.68 310 *e*P **P** 03 17 53.5 -1.4
FLN pmax pmax
comp=Z,4.0nm,0.3s,mb4.2
FLN La Foliniere 23.68 310 *e*P **P** 03 17 53.5 -1.4
comp=Z,4.3nm,0.3s,mb4.2
GRR Gorron 23.78 309 *e*P **P** 03 17 54.5 -1.4
comp=Z,14nm,0.5s,mb4.3
GRR Gorron 23.78 309 *e*P **P** 03 17 54.5 -1.4
GRR pmax pmax
comp=Z,7.0nm,0.5s,mb4.2
GRR Gorron 23.78 309 *e*P **P** 03 17 54.5 -1.4
comp=Z,7.2nm,0.5s,mb4.3
EBER Berja 24.13 280 P **P** 03 18 00.7 +1.7
comp=Z,3.7nm,0.5s,mb4.0
EBER Berja 24.13 280 P **P** 03 18 00.7 +1.7
comp=Z,3.7nm,0.5s,mb4.0
EQES Quesada 24.16 282 P **P** 03 17 59.9 +0.6
comp=Z,2.2nm,0.4s,mb3.8
ELAN Lanestosa 24.42 296 P **P** 03 18 02.0 +0.4
comp=Z,1.8nm,0.5s,mb3.7
ELAN Lanestosa 24.42 296 P **P** 03 18 02.0 +0.4
comp=Z,1.8nm,0.5s,mb3.7
EBAN Banos Encina 24.68 283 P **P** 03 18 04.8 +0.7
EBAN pmax pmax
comp=Z,1.0nm,0.2s,mb3.9
EBAN Banos Encina 24.68 283 P **P** 03 18 04.8 +0.7
comp=Z,0.7nm,0.2s,mb3.7
ESDC Sonseca Array 24.72 287 P **P** 03 18 04.8 +0.5
comp=Z,5.2nm,0.5s,mb4.2,baz=83,slow=9.5,SNR=75
ESDC ScP ScP 03 25 04.5 -1.6
comp=Z,0.6nm,0.7s,baz=354,slow=1.3,SNR=5.8
SGMF Saint Gilles 24.82 308 *e*P **P** 03 18 04.4 -0.9
comp=Z,7.1nm,0.5s,mb4.1
SGMF Saint Gilles 24.82 308 *e*P **P** 03 18 04.4 -0.9
SGMF pmax pmax
comp=Z,4.0nm,0.5s,mb4.1
SGMF Saint Gilles 24.82 308 *e*P **P** 03 18 04.4 -0.9
comp=Z,3.5nm,0.5s,mb4.1
GUD Guadarrama 24.84 289 P **P** 03 18 06.0 +0.6
GUD pmax pmax
comp=Z,1.0nm,0.4s,mb3.6
GUD Guadarrama 24.84 289 P **P** 03 18 06.0 +0.6
comp=Z,1.4nm,0.4s,mb3.7
FINES FINESS Array B 25.02 359 P **P** 03 18 05.7 -1.4
comp=Z,1.6nm,0.3s,mb3.9,baz=161,slow=11,SNR=49
FINES ScP ScP 03 25 04.8 -2.2
comp=Z,0.4nm,0.5s,baz=113,slow=2.4,SNR=6.2
FIA1 FINESS Array S 25.02 359 *e*P **P** 03 18 05.4 -1.7
FIA1 FINESS Array S 25.02 359 *e*P **P** 03 18 05.4 -1.7
QUIF Quistinic 25.11 307 *e*P **P** 03 18 06.9 -1.0
comp=Z,8.6nm,0.5s,mb4.2
QUIF Quistinic 25.11 307 *e*P **P** 03 18 06.9 -1.0
QUIF pmax pmax
comp=Z,4.0nm,0.5s,mb4.1
QUIF Quistinic 25.11 307 *e*P **P** 03 18 06.9 -1.0
comp=Z,4.3nm,0.5s,mb4.2
HFS Hagfors 25.25 344 P **P** 03 18 08.1 -1.1
comp=Z,12nm,0.6s,mb4.5,baz=146,slow=11,SNR=110
ROSF Rostrenen 25.30 308 *e*P **P** 03 18 08.2 -1.4
EADA Adamuz 25.31 284 P **P** 03 18 10.3 +0.6
comp=Z,0.8nm,0.4s,mb3.5
EADA Adamuz 25.31 284 P **P** 03 18 10.3 +0.6
comp=Z,0.8nm,0.4s,mb3.5
KLMR Klimovskoe 25.64 14 *e*P **P** 03 18 11.0 -1.7
KLMR pmax pmax
comp=Z,10.0nm,1.2s,mb4.1
EMIJ Mijas 25.68 280 P **P** 03 18 12.8 -0.2
comp=Z,2.9nm,0.4s,mb4.1
EMIJ Mijas 25.68 280 P **P** 03 18 12.8 -0.2
comp=Z,2.9nm,0.4s,mb4.1
KAF Kangasniemi 25.68 359 *e*p **P** 03 18 10.7 -2.4
comp=Z,3.1nm,0.4s,mb4.1,baz=176,slow=9.8
KAF Kangasniemi 25.68 359 *e*P **P** 03 18 10.7 -2.4
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.1
EARI Arriondas 25.71 295 P **P** 03 18 13.5 +0.2
comp=Z,1.3nm,0.5s,mb3.6
EARI Arriondas 25.71 295 P **P** 03 18 13.5 +0.1
comp=Z,1.3nm,0.5s,mb3.6
AKTK Aktyubinsk 26.12 48 P **P** 03 18 17.2 +0.1
AKTO Aktyubinsk 26.12 48 P **P** 03 18 17.2 +0.1
comp=Z,6.9nm,0.7s,mb4.2,baz=250,slow=7.9,SNR=24
EJIF Jimena Fronter 26.25 280 P **P** 03 18 18.4 +0.2
comp=Z,0.4nm,0.3s,mb3.3
EJIF Jimena Fronter 26.25 280 P **P** 03 18 18.4 +0.2
comp=Z,0.4nm,0.3s,mb3.3
MDT Midelt 26.40 272 P **P** 03 18 20.5 +1.0
comp=Z,2.7nm,0.5s,mb3.9,baz=63,slow=10,SNR=12
ESPR Espera 26.48 281 P **P** 03 18 22.4 +2.1
comp=Z,0.9nm,0.2s,mb3.9
ESPR Espera 26.48 281 P **P** 03 18 22.4 +2.1
comp=Z,0.9nm,0.2s,mb3.9
NAO01 NORSAR Array S 26.53 342 *e*P **P** 03 18 19.2 -1.5
comp=Z,3.7nm,0.4s,mb4.3
NAO01 NORSAR Array S 26.53 342 *e*P **P** 03 18 19.2 -1.6
comp=Z,3.7nm,0.4s,mb4.3
JOF Joensuu 26.61 4 *e*p **P** 03 18 19.5 -1.9
NB2 NORSAR Subarra 26.62 343 P **P** 03 18 20.4 -1.2
comp=Z,2.6nm,0.7s,mb3.9,baz=150,slow=9.3
NOA NORSAR Array B 26.62 343 P **P** 03 18 20.4 -1.2
comp=Z,2.5nm,0.5s,mb4.0,baz=140,slow=10,SNR=12
ECAL Calabor 26.78 292 P **P** 03 18 26.0 +3.0
comp=Z,2.7nm,0.5s,mb4.0
EMIN Mina Concepcio 27.00 283 P **P** 03 18 25.3 +0.4
comp=Z,3.1nm,0.4s,mb4.2
EMIN Mina Concepcio 27.00 283 P **P** 03 18 25.3 +0.4
comp=Z,3.1nm,0.4s,mb4.2
EBAD Badajoz 27.15 285 P **P** 03 18 26.1 -0.1
comp=Z,0.2nm,0.2s,mb3.3
EBAD Badajoz 27.15 285 P **P** 03 18 26.1 -0.1
comp=Z,0.2nm,0.2s,mb3.3
EGRO El Granado 27.67 283 P **P** 03 18 30.6 -0.2
comp=Z,0.9nm,0.4s,mb3.6
EGRO El Granado 27.67 283 P **P** 03 18 30.6 -0.3
comp=Z,0.9nm,0.4s,mb3.6
EKA Eskdalemuir Ar 28.01 322 P **P** 03 18 32.9 -1.1
comp=Z,1.2nm,0.7s,mb3.5,baz=124,slow=10,SNR=3.2
EKA Eskdalemuir Ar 28.01 322 P **P** 03 18 32.8 -1.1
ARU Arti 29.00 37 *i*P **P** 03 18 42.2 -0.6
ARU *e* 03 19 40.3
ARU *e* 03 21 45.5
ARU *e*S **S** **03 23 24.8 -0.4**
ARU pmax pmax
comp=Z,12nm,1.5s,mb4.3
ARU Arti 29.00 37 *e*P **P** 03 18 42.1 -0.6
comp=Z,12nm,0.3s,mb5.0
ARU Arti 29.00 37 *e*P **P** 03 18 42.2 -0.6
comp=Z,12nm,0.3s,mb5.0
NSS Namsos 29.57 347 *e*P **P** 03 18 46.1 -1.6
NSS AMb AMB 03 18 49.2
comp=Z,24nm,1.7s,mb4.5
NSS Namsos 29.57 347 *e*P **P** 03 18 46.2 -1.5
comp=Z,24nm,1.7s,mb4.5,SNR=37
SOKR Solikamsk 29.97 30 *e*P **P** 03 18 51.3 0.0
SOKR pmax pmax
comp=Z,20nm,0.9s,mb4.8
TOA0 Torodi Ar. Sit 32.62 231 *e*P **P** 03 19 15.6 +1.0
TOA0 Torodi Ar. Sit 32.62 231 *e*P **P** 03 19 15.6 +1.0
TORD Torodi Ar. Bea 32.62 231 P **P** 03 19 15.9 +1.4
comp=Z,9.2nm,0.4s,mb5.0,baz=34,slow=8.7,SNR=453
TORD ScP ScP 03 25 30.8 -0.1
comp=Z,0.8nm,0.7s,baz=39,slow=2.0,SNR=6.7
ARCES ARCESS Array B 33.15 359 P **P** 03 19 17.5 -1.6
comp=Z,2.6nm,0.5s,mb4.3,baz=175,slow=8.0,SNR=37
ARCES ScP ScP 03 25 31.3 -1.5
comp=Z,1.1nm,0.8s,baz=152,slow=3.6,SNR=4.0
ARCES ARCESS Array B 33.15 359 P **P** 03 19 17.5 -1.6
ARCES ScP ScP 03 25 31.3 -1.5
KEV Kevo 33.35 360 *e*p **P** 03 19 19.5 -1.5
ZRNK Zerenda 33.39 47 *e*P **P** 03 19 21.8 +0.5
ZRNK pmax pmax
comp=Z,12nm,0.9s,mb4.7
ZRNK Zerenda 33.39 47 *e*P **P** 03 19 21.8 +0.6
comp=Z,12nm,0.9s,mb4.7
TRO Tromso 33.54 355 *e*P **P** 03 19 19.8 -2.7
BVAR Borovoye Array 34.22 47 P **P** 03 19 29.3 +0.8
comp=Z,2.0nm,0.7s,mb4.1,baz=243,slow=6.5,SNR=9.1
CHKZ Chkalovo 34.49 46 *e*P **P** 03 19 31.1 +0.3
CHKZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
CHKZ Chkalovo 34.49 46 *e*P **P** 03 19 31.1 +0.3
comp=Z,5.1nm,0.9s,mb4.3
CHKZ Chkalovo 34.49 46 *e*P **P** 03 19 31.0 +0.2
comp=Z,5.1nm,0.9s,mb4.3
AAK Ala-Archa 36.57 65 *e*P **P** 03 19 47.7 -0.9
AAK pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
AAK Ala-Archa 36.57 65 *e*P **P** 03 19 47.7 -0.8
comp=Z,3.1nm,0.4s,mb4.6
AAK Ala-Archa 36.57 65 *e*P **P** 03 19 47.7 -0.9
comp=Z,3.1nm,0.4s,mb4.6
KURK Kurchatov 39.05 52 *e*P **P** 03 20 09.3 -0.1
KURK pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
KURK Kurchatov 39.05 52 *e*P **P** 03 20 09.3 -0.1
comp=Z,7.4nm,0.5s,mb4.8
KURK Kurchatov 39.05 52 *e*P **P** 03 20 09.3 -0.1
comp=Z,7.3nm,0.5s,mb4.8
MKAR Makanchi Array 41.65 58 P **P** 03 20 31.6 +0.8
comp=Z,3.8nm,0.3s,mb4.5,baz=270,slow=8.4,SNR=32
MKAR ScP ScP 03 26 04.2 -0.4
comp=Z,0.8nm,0.7s,baz=284,slow=3.8,SNR=4.3
MKAR Makanchi Array 41.65 58 *i* P **P** 03 20 31.6 +0.8
MKAR pmax pmax
comp=Z,4.0nm,0.3s
DBIC Dimbokro 41.70 233 P **P** 03 20 32.2 +1.0
comp=Z,5.0nm,0.3s,mb4.7,baz=26,slow=8.6,SNR=63
DBIC Dimbokro 41.70 233 P **P** 03 20 32.3 +1.1
DBIC pmax pmax
comp=Z,5.0nm,0.3s
DBIC Dimbokro 41.70 233 *e*P **P** 03 20 32.0 +0.7
comp=Z,6.4nm,0.6s,mb4.5
DBIC Dimbokro 41.70 233 *e*P **P** 03 20 32.0 +0.8
comp=Z,6.4nm,0.6s,mb4.5
NVS Novosibirsk 41.97 46 *i* P **P** 03 20 34.3 +0.9
LIC Lamto 42.15 232 *e*P **P** 03 20 35.7 +0.8
comp=Z,8.3nm,0.4s,mb4.5
LIC Lamto 42.15 232 *e*P **P** 03 20 35.7 +0.8
comp=Z,4.2nm,0.4s,mb4.6
ZAL Zalesovo 42.87 47 P **P** 03 20 40.8 +0.1
comp=Z,7.8nm,0.3s,mb5.0,baz=196,slow=7.4,SNR=25
KOLN Koldanda 47.93 84 *e*P **P** 03 21 21.9 +1.3
comp=Z,7.2nm,0.3s,mb5.0
SUMG Summit 48.38 338 *e*P **P** 03 21 23.7 -0.3
comp=Z,7.1nm,1.0s,mb4.5
SUMG Summit 48.38 338 *e*P **P** 03 21 23.7 -0.4
comp=Z,7.1nm,1.0s,mb4.5
GKN Gorkha 48.66 83 *e*P **P** 03 21 27.5 +1.3
DMN Daman 49.21 83 *e*P **P** 03 21 31.4 +1.1
comp=Z,30nm,0.7s
KKN Kakani 49.27 83 *e*P **P** 03 21 32.1 +1.3
comp=Z,17nm,0.6s,mb5.1
PKI Pulchoki 49.47 83 *e*P **P** 03 21 34.1 +1.8
GUN Gumba 49.70 82 *e*P **P** 03 21 35.7 +1.6
JIRN Jiri 50.05 82 *e*P **P** 03 21 38.4 +1.6
comp=Z,10nm,0.4s,mb5.1
ZAK Zakamensk 54.62 50 *e*P **P** 03 22 11.2 +0.8
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
TSUM Tsumeb 56.11 191 P **P** 03 22 21.1 0.0
comp=Z,1.7nm,0.7s,mb4.2
SONM Songino Array 57.35 52 P **P** 03 22 31.1 +1.2
comp=Z,1.8nm,0.4s,mb4.5,baz=286,slow=7.5,SNR=20
ULN Ulaanbaatar 57.76 52 *e*P **P** 03 22 33.7 +0.9
ULN Ulaanbaatar 57.76 52 *e*P **P** 03 22 33.1 +0.4
comp=Z,4.0nm,0.7s,mb4.6
ULN Ulaanbaatar 57.76 52 *e*P **P** 03 22 33.1 +0.3
comp=Z,4.0nm,0.7s,mb4.6
BOD Bodaibo 58.39 39 *e*P **P** 03 22 35.9 -1.2
BOD pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
TIXI Tiksi 59.35 21 *e*P **P** 03 22 43.1 -0.7
TIXI pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
LBTB Lobatse 61.16 182 *e*P **P** 03 22 59.0 +2.9
LBTB pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
LBTB Lobatse 61.16 182 *e*P **P** 03 22 59.0 +2.9
comp=Z,2.0nm,0.7s,mb4.3
LBTB Lobatse 61.16 182 *e*P **P** 03 22 59.0 +2.9
comp=Z,2.0nm,0.7s,mb4.3
SCHQ Schefferville 63.30 320 P **P** 03 23 08.9 -1.5
comp=Z,2.8nm,0.6s,mb4.4,baz=267,slow=1.8,SNR=9.3
HHC Hu-ho-hao-te 63.51 58 *e*P **P** 03 23 12.8 +1.0
HHC AP pP 03 23 43.0 +2.3
HHC XP sP 03 23 57.2 +3.6
HHC PP PP 03 25 37.1 +4.3
HHC S **S** **03 31 33.9 -1.8**
HHC XS sS 03 32 27.5 +2.1
HHC AMB AMB
comp=Z,153nm,5.1s
KMI Kunming 64.35 77 P **P** 03 23 22.0 +4.7
KMI AMB AMB
comp=Z,6.0nm,0.5s,mb4.7
BOSA Boshof 64.75 182 P **P** 03 23 20.9 +1.0
comp=Z,2.7nm,0.9s,mb4.1,baz=59,slow=5.3,SNR=3.1
BOSA Boshof 64.75 182 *e*P **P** 03 23 21.7 +1.8
BOSA pmax pmax
comp=Z,11nm,1.4s,mb4.5
BOSA Boshof 64.75 182 *e*P **P** 03 23 21.6 +1.7
comp=Z,11nm,1.4s,mb4.5
SNY Shenyang 70.94 52 ⇑P **P** 03 23 58.4 -0.2
BILL Bilibino 71.38 15 *e*P **P** 03 24 00.9 -0.4
NJ2 Nanjing 72.95 63 *e*P **P** 03 24 10.1 -0.5
MA2 Magadan 73.58 26 *e*P **P** 03 24 14.0 -0.3
MA2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
MA2 Magadan 73.58 26 *e*P **P** 03 24 14.0 -0.3
comp=Z,6.6nm,0.7s,mb4.5
YKA Yellowknife Ar 76.72 343 P **P** 03 24 30.8 -1.6
comp=Z,0.9nm,0.7s,mb3.6,baz=32,slow=5.3,SNR=7.8
ILAR Eielson Array 79.00 357 P **P** 03 24 44.0 -0.9
comp=Z,1.1nm,0.6s,mb3.8,baz=319,slow=2.2,SNR=7.1
FFC Flin Flon 79.27 333 *e*P **P** 03 24 45.0 -1.4
FFC pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
FFC Flin Flon 79.27 333 *e*P **P** 03 24 45.0 -1.4
comp=Z,2.9nm,0.7s,mb4.2
ULM Lac du Bonnet 80.16 327 P **P** 03 24 50.2 -1.1
comp=Z,2.5nm,0.5s,mb4.3,baz=53,slow=9.2,SNR=3.3
ULM Lac du Bonnet 80.16 327 P **P** 03 24 50.2 -1.1
MJAR Matsushiro Arr 83.20 49 P **P** 03 25 08.5 +1.3
comp=Z,0.3nm,0.5s,mb3.4,baz=306,slow=8.6,SNR=4.2
MJAR Matsushiro Arr 83.20 49 P **P** 03 25 08.5 +1.3
KDAK Kodiak Island 86.12 360 P **P** 03 25 21.9 0.0
comp=Z,2.9nm,0.8s,mb4.3,baz=111,slow=22,SNR=2.9
BDFB Brasilia 87.76 249 P **P** 03 25 32.3 +2.5
comp=Z,1.3nm,0.4s,mb4.3,baz=33,slow=5.4,SNR=3.8

*ISCJB **09** 03:26:09.2±3.0, 57S±0.1×1507E±0.1, h81km±25km, mb4.0/10, Error ellipse: s-maj=21.7km s-min=20.5km az=96.0*
*IDC **09** 03:26:11.6±4.1, 574S×15078E, h93km±35km, mb3.8/7, mb1 3.9/9, mb1mx3.8/16, mbtmp4.2/9, MS3.3/4, Ms1 3.3/4, ms1mx3.1/18, Error ellipse: s-maj=26.9km s-min=24.9km az=74.0*
*NEIC **09** 03:26:11.0±2.4, 575S×15075E, h88km±20km, mb4.4/4, Error ellipse: s-maj=17.3km s-min=16.4km az=222.0*
ISC 09 03:26:10.4±2.7, 58S±01×1508E±01, h77km±22km, n24, σ0°61/23, mb4.0/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.11**	**224**	P		**Pn**	**03 27 24.4**	**0.0**
	13nm,0.3s,baz=39,slow=9.5,SNR=36							
PMG				S		**Sn**	**03 28 25.8**	**+3.8**
	baz=186,slow=18,SNR=2.1							
PMG				LR		LR	03 29 35.1	
	comp=Z,199nm,18.6s,baz=218,slow=40							
PMG	**Port Moresby**	**5.11**	**224**	P		**Pn**	**03 27 24.4**	**0.0**
PMG				*e*S		**Sn**	**03 28 21.6**	**-0.5**
PMG				LR		LR	03 29 35.1	
HNR	**Honiara**	**9.79**	**113**	LR		LR	03 31 58.1	
	comp=Z,119nm,19.8s,baz=178,slow=35							
CTA	**Charters Tower**	**14.92**	**197**	P		**Pn**	**03 29 37.7**	**+0.7**
	0.3nm,0.3s,baz=67,slow=8.2,SNR=3.8							
CTA				LR		LR	03 34 42.7	
	comp=Z,234nm,19.4s,baz=231,slow=34							
CTA	**Charters Tower**	**14.92**	**197**	P		**Pn**	**03 29 37.7**	**+0.7**
CTA				LR		LR	03 34 42.7	
CTAO	**Charters Tower**	**14.92**	**197**	*e*P		**Pn**	**03 29 37.6**	**+0.6**
	22nm,1.2s							
WRAB	**Tennant Creek**	**21.31**	**227**	*e*P		**P**	**03 30 50.2**	**-0.6**
	9.1nm,0.7s,mb4.2							
WB2	**Warramunga Arr**	**21.32**	**227**	*e*P		**P**	**03 30 50.6**	**-0.2**
DZM	**Mont Dzumac**	**22.20**	**138**	P		**P**	**03 30 59.5**	**-0.7**
	11nm,0.9s,mb4.2,baz=266,slow=14,SNR=3.4							
AS31	**Alice Springs**	**24.11**	**221**	*e*P		**P**	**03 31 19.3**	**+0.4**
ASAR	**Alice Springs**	**24.11**	**221**	P		**P**	**03 31 19.4**	**+0.5**
	5.0nm,0.9s,mb3.8,baz=55,slow=8.8,SNR=41							
ASPA	**Alice Springs**	**24.12**	**221**	*e*P		**P**	**03 31 20.1**	**+1.2**
STKA	**Stephens Creek**	**27.38**	**197**	*e*P		**P**	**03 31 48.0**	**-0.4**
	5.0nm,1.0s,mb4.0							
STKA	**Stephens Creek**	**27.38**	**197**	P		**P**	**03 31 48.7**	**+0.4**
	6.9nm,1.0s,mb4.1,baz=349,slow=12,SNR=4.4							
STKA	**Stephens Creek**	**27.38**	**197**	*e*P		**P**	**03 31 48.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**27.45**	**241**	*e*P		**P**	**03 31 48.3**	**-0.7**
	14nm,0.7s,mb4.6							
FITZ	**Fitzroy Crossi**	**27.45**	**241**	P		**P**	**03 31 48.2**	**-0.8**
	7.1nm,0.7s,mb4.3,baz=100,slow=9.7,SNR=14							
MBWA	**Marble Bar**	**33.76**	**240**	*e*P		**P**	**03 32 43.6**	**-0.9**
	7.4nm,0.7s,mb4.6							
MJAR	**Matsushiro Arr**	**43.68**	**345**	LR		LR	03 49 47.8	
	comp=Z,53nm,19.5s,baz=45,slow=32							
SONM	**Songino Array**	**66.07**	**329**	P		**P**	**03 36 49.1**	**+0.1**
	0.4nm,0.5s,mb3.5,baz=104,slow=6.3,SNR=4.4							
VNDA	**Vanda**	**71.97**	**177**	P		**P**	**03 37 25.5**	**-0.1**
	0.8nm,0.8s,mb3.6,baz=329,slow=6.9,SNR=4.1							
KURK	**Kurchatov**	**83.28**	**322**	*e*P		**P**	**03 38 28.6**	**+0.1**
	2.1nm,0.9s,mb4.0							
ILAR	**Eielson Array**	**83.79**	**22**	P		**P**	**03 38 31.6**	**+0.4**
	0.6nm,0.9s,mb3.4,baz=223,slow=8.7,SNR=4.9							
TORD	**Torodi Ar. Bea**	**148.66**	**286**	PKPbc		PKPbc	03 45 46.8	-1.8
	1.3nm,0.8s,baz=87,slow=2.7,SNR=8.1							

*ISCJB **09** 03:58:45.6±1.9, 540S±008×1462E±0.1, h56km±17km, mb3.9/9, Error ellipse: s-maj=19.6km s-min=13.1km az=164.4*
*IDC **09** 03:58:48.8±2.7, 553S×1464E, h69km±26km, mb3.6/7, mb1 3.8/8, mb1mx3.8/13, mbtmp3.9/8, MS3.3/1, Ms1 3.3/1, ms1mx2.9/18, Error ellipse: s-maj=29.6km s-min=13.5km az=97.0*
*NEIC **09** 03:58:48.5±1.8, 543S×14620E, h71km±15km, mb4.2/6, Error ellipse: s-maj=15.8km s-min=12.4km az=80.0*
ISC 09 03:58:49.4±1.7, 549S±008×1462E±01, h73km±16km, n26, σ0°86/24, mb3.7/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.01**	**166**	P		**Pn**	**03 59 48.2**	**-0.2**
	16nm,0.3s,baz=354,slow=5.3,SNR=56							
PMG				S		**Sn**	**04 00 33.6**	**-0.5**
	30nm,0.3s,baz=304,slow=23,SNR=12							
PMG	**Port Moresby**	**4.01**	**166**	*e*Pn		**Pn**	**03 59 47.9**	**-0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	14.51	180	eP	Pn	04 02 14.1	+3.2
	4.4nm,0.4s						
CTA	Charters Tower	14.51	180	P	Pn	04 02 14.3	+3.4
	1.3nm,0.3s,baz=358,slow=15,SNR=12						
CTA					LR	LR	04 07 22.3	
	comp=Z,128nm,19.7s,baz=50,slow=36						
CTAO	Charters Tower	14.51	180	eP	Pn	04 02 13.4	+2.6
	8.4nm,0.7s						
KAKA	Kakadu	15.34	241	eP	Pn	04 02 21.8	+0.3
	11nm,0.5s						
WRAB	Tennant Creek	18.40	218	eP	Pn	04 02 58.5	-0.8
	9.6nm,0.9s						
WB2	Warramunga Arr	18.41	218	eP	Pn	04 02 58.5	-0.9
AS31	Alice Springs	21.60	212	eP	P	04 03 34.9	+1.8
ASAR	Alice Springs	21.60	212	P	P	04 03 32.8	-0.4
	0.7nm,0.4s,mb3.3,baz=41,slow=7.7,SNR=16						
ASAR					S	S	04 07 26.9	-1.2
	0.8nm,0.8s,baz=23,slow=20,SNR=4.5						
ASPA	Alice Springs	21.60	212	eP	P	04 03 34.9	+1.7
FITZ	Fitzroy Crossi	23.66	236	eP	P	04 03 54.1	+0.1
	6.6nm,0.6s,mb4.1						
FITZ	Fitzroy Crossi	23.66	236	P	P	04 03 53.2	-0.8
	3.1nm,0.5s,mb3.9,baz=84,slow=9.2,SNR=18						
STKA	Stephens Creek	26.60	189	eP	P	04 04 21.1	+0.4
	5.4nm,1.2s,mb4.0						
STKA	Stephens Creek	26.60	189	P	P	04 04 20.8	0.0
	3.4nm,0.7s,mb4.0,baz=17,slow=5.7,SNR=6.3						
KSM	Kuching	36.49	280	eP	P	04 05 47.4	0.0
MJAR	Matsushiro Arr	42.47	350	P	P	04 06 36.6	-0.5
	0.7nm,0.8s,mb3.4,baz=169,slow=5.7,SNR=5.9						
SONM	Songino Array	63.56	331	P	P	04 09 12.5	+0.3
	0.7nm,0.9s,mb3.5,baz=150,slow=9.9,SNR=3.6						
CASY	Casey	65.53	195	eP	P	04 09 24.5	-0.5
	1.7nm,0.7s,mb4.0						
VNDA	Vanda	72.47	176	P	P	04 10 08.4	+0.4
	1.2nm,0.6s,mb3.9,baz=333,slow=4.9,SNR=14						
MKAR	Makanchi Array	76.58	321	P	P	04 10 31.5	-0.4
	0.3nm,0.4s,mb3.3,baz=72,slow=7.9,SNR=3.5						
QSPA	South Pole Qui	84.48	180	eP	P	04 11 13.9	-0.2
	3.9nm,1.0s,mb4.2						
TORD	Torodi Ar. Bea	144.17	285	PKP	PKPdf	04 18 15.3	-1.4
	1.2nm,0.9s,baz=80,slow=2.6,SNR=14						
TORD	Torodi Ar. Bea	144.17	285	PKP	PKPdf	04 18 15.3	-1.4
DBIC	Dimbokro	151.18	274	PKPbc	PKPbc	04 18 34.0	-0.2
	4.1nm,1.1s,baz=148,slow=19,SNR=4.3						
BDFB	Brasilia	154.74	146	PKPbc	PKPbc	04 18 42.9	+0.9
	1.0nm,0.4s,baz=17,slow=7.4,SNR=4.5						

*ISCJB **09** 04:15:08.8±1.2, 2373N±004×7096E±004, h9km±8km, Error ellipse: s-maj=7.2km s-min=6.8km az=133.9*
*NDI **09** 04:15:12.9±3.6, 2377N×7069E, h6km±36km, ML3.4*
ISC 09 04:15:10.0±1.0**, 2372N**±004×**7087E**±005**, h2**km±9km**, n18, σ1ˢ22**/23**, Southern India**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BHJ	Bhuj	1.21	247	eP	Pg	04 15 33.9	+0.8
BHJ					eS	Sg	04 15 49.2	+0.4
BHJ					AML	AML	04 15 53.7	
	comp=N,2μm,0.3s						
BHJ					AML	AML	04 15 54.0	
	comp=E,748nm,0.4s						
BHV	Bhavnagar	2.29	149	eP	Pg	04 15 53.0	-0.9
BHV					eS	Sg	04 16 24.5	+0.9
AJM	Ajmer	4.39	51	eP	Pn	04 16 21.7	+4.1
AJM					eS	Sn	04 17 12.2	+3.0
AJM					AML	AML	04 17 29.5	
	comp=E,217nm,0.6s						
AJM					AML	AML	04 17 29.6	
	comp=N,124nm,0.2s						
BOM	Bombay	5.13	159	ex	Pn	04 16 34.2	+6.4
BOM					eS	Sn	04 17 27.6	0.0
BOM					ex	x	04 17 35.2	
	comp=N,230nm,0.2s						
BOM					ex	x	04 17 35.9	
	comp=E,153nm,0.4s						
POO	Poona	5.87	151	ex	Sg	04 18 27.9	+9.4
POO					AML	AML	04 18 33.0	
	comp=E,11nm,0.3s						
POO					AML	AML	04 18 33.8	
	comp=N,17nm,0.3s						
BHPL	Bhopal	6.04	93	eP	Pn	04 16 43.6	+3.3
BHPL					eS	Sn	04 17 52.7	+2.8
BHPL					AML	AML	04 18 27.6	
	comp=N,73nm,0.4s						
BHPL					AML	AML	04 18 27.6	
	comp=E,58nm,0.6s						
KAD	Karad	7.10	153	eS	Sn	04 18 15.1	-0.9
KAD					AML	AML	04 18 18.6	
	comp=E,10nm,0.3s						
KAD					AML	AML	04 18 20.1	
	comp=N,8.4nm,0.4s						
LATR	Latur	7.49	134	eS	Sn	04 18 25.0	-0.7
NGP	Nagpur	7.99	107	eS	Sn	04 18 39.2	+1.2
NGP					AML	AML	04 19 35.0	
	comp=E,23nm,0.6s						
NGP					AML	AML	04 19 36.5	
	comp=N,46nm,0.6s						
HYB	Hyderabad	9.55	130	eP	Sn	04 19 06.0	-10
LGTI	Lohaghat	10.15	54	eS	Sn	04 19 23.0	-8.0
KOLN	Koldanda	12.16	68	eP	Pn	04 18 05.0	+0.8
	comp=N,14nm,0.4s						
GKN	Gorkha	13.11	68	eP	Pn	04 18 16.8	-0.3
DMN	Daman	13.41	70	eP	Pn	04 18 20.9	-0.4
KKN	Kakani	13.61	70	eP	Pn	04 18 23.4	-0.5
PKI	Pulchoki	13.66	71	eP	Pn	04 18 23.8	-0.9
	comp=N,16nm,0.3s						
GUN	Gumba	14.15	70	eP	Pn	04 18 29.6	-1.7
	comp=N,18nm,0.3s						
JIRN	Jiri	14.36	71	eP	Pn	04 18 32.5	-1.7
	comp=N,12nm,0.4s						

*IDC **09** 04:16:15.5±0.5, 5123N×17921W, h0km, mb4.9/20, mb1 5.1/21, mb1mx5.0/23, mbtmp4.9/21, ML5.5/1, MS4.9/17, Ms1 4.9/17, ms1mx4.7/25, Error ellipse: s-maj=18.9km s-min=11.6km az=162.0*
*NEIC **09** 04:16:20.1, 5104N×179.17W, h20km, mb5.3/184, MS4.9/131, ML5.5(AEIC), After AEIC.*
*HRVD **09** 04:16:20.1±0.2, 5095N×179.17W, h18km, MW5.4/96, Centroid moment Tensor Solution. LP body waves: s85,c163;Mantle waves: s96,c188; Half duration: 1ˢ3 Moment tensor: Scale 10^17Nm; Mrr1.04±.03; Mθθ-1.09±.02; Mφφ0.05±.02; Mrθ1.16±.06; Mθφ-0.37±.01; Mφr0.61±.05; Best double couple: M0 1.72500×10^17 NP1:φs265.00000°, δ21.00000°, λ109.00000°. NP2: φs65.00000°, δ70.00000°, λ83.00000°. Principal axes: T 1.6610, Plg64.0000°, Azm323.0000°; N 0.1290, Plg7.0000°, Azm67.0000°; P -1.7900, Plg25.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BGS **09** 04:16:20.1±2.0, 5102N×17920W, h33km, mb5.3*
*BJI **09** 04:16:21.7, 5141N×17960W, h49km, mB5.3, mb5.2, Ms5.1, Msz4.9*
*MOS **09** 04:16:21.8±1.0, 5127N×17922W, h51km, mb5.5/136, MS4.9/49, Error ellipse: s-maj=7.1km s-min=3.7km az=95.1*
*ISCJB **09** 04:16:21.3±0.1, 5113N±003×17923W±002, h50km, mb5.3/276, MS4.9/175, Error ellipse: s-maj=4.9km s-min=1.7km az=14.3*
*SZGRF **09** 04:16:22.1, 5103N×17948E, h33km, mb5.3, MS4.9, Rat Islands, Aleutian Islands, United States*
ISC 09 04:16:23.0±0.1**, 5121N**±003×**17926W**±002**, h52**km**, h52**km±1.5km**:pP-P, n989, σ0ˢ92**/1025**, mb5.3**/276**, MS4.9**/175**, 194C-166D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.92	281	P	Pn	04 16 37.3	-2.4
AMKA					S	Sn	04 16 53.2	+1.2
ATKA	Atka Island	3.30	71	P	Pn	04 17 10.5	-1.7
ATKA					S	Sn	04 17 49.8	-0.4
SMY	Shemya	4.38	293	P	Pn	04 17 27.7	+0.8
SMY					S	Sn	04 18 22.5	+5.9
NIKO	Nikolski	6.65	71	P	Pn	04 17 57.9	-0.2
NIKO					S	Sn	04 19 13.8	+1.2
OKCE	Okmok Cone E	7.16	68	P	Pn	04 18 06.4	+1.4
OKCD	Okmok Cone D	7.19	68	P	Pn	04 18 06.5	+1.1
SPIA	Saint Paul Isl	7.97	38	P	Pn	04 18 18.7	+2.5
UNV	Unalaska Valle	8.22	66	P	Pn	04 18 19.4	-0.2
AKUT	Akutan	8.70	65	eP	Pn	04 18 26.5	+0.3
FALS	False Pass	10.21	63	ePn	Pn	04 18 46.3	-0.6
SDPT	Sand Point	11.97	62	eP	Pn	04 19 08.3	-2.6
	61nm,0.3s						
CHGN	Chignik	13.32	59	eP	Pn	04 19 27.1	-2.2
PET	Petropavlovsk	13.68	286	c iP	Pn	04 19 32.8	-1.4
PET					iS	Sn	04 22 09.6	+5.0
PET					pmax	pmax		
	comp=Z,600nm,4.8s						
PET					pmax	pmax		
	comp=Z,700nm,12.7s						
PET					pmax	pmax		
	comp=Z,78nm,0.9s						
PET					smax			
	comp=N,800nm,22.7s						
PET					MLR	MLR		
	comp=Z,5μm,20.0s						
PET					MLR	MLR		
	comp=Z,4μm,20.0s						
PET	Petropavlovsk	13.68	286	iP	Pn	04 19 33.3	-0.9
SKR	Severo-Kuril's	15.51	278	eP	Pn	04 19 52.0	-6.3
SKR					pmax	pmax		
	comp=Z,1μm,1.0s						
SKR					pmax	pmax		
	comp=Z,160nm,1.0s						
SKR					MLR	MLR		
	comp=N,3μm,18.0s						
SKR					MLR	MLR		
	comp=Z,2μm,18.0s						
SVW2	Sparrevohn	16.39	44	eP	Pn	04 20 10.2	+0.7
KDAK	Kodiak Island	16.76	57	Pn	Pn	04 20 09.0	-5.1
	comp=Z,427nm,0.6s,SNR=74						
KDAK	Kodiak Island	16.76	57	Pn	Pn	04 20 09.4	-4.6
	comp=Z,16nm,0.3s,baz=245,slow=5.6,SNR=64						
KDAK					Sn	Sn	04 23 09.8	-9.5
	comp=Z,1.1nm,0.3s,baz=227,slow=19,SNR=3.9						
KDAK	Kodiak Island	16.76	57	ePn	Pn	04 20 09.3	-4.7
	comp=Z,56nm,0.4s						
KDAK					eSn	Sn	04 23 12.5	-6.7
TTA	Tatalina	17.12	38	eP	Pn	04 20 20.1	+1.5
BILL	Bilibino	18.30	343	eP	Pn	04 20 32.8	-0.2
SLKM	Skilak Lake	18.62	49	eP	Pn	04 20 34.8	-2.0
MA2	Magadan	18.82	308	deP	Pn	04 20 40.5	+1.2
MA2					eS	S	04 24 05.7	-3.9
MA2					pmax	pmax		
	comp=Z,10.0nm,1.1s						
MA2					MLR	MLR		
	comp=Z,2μm,14.6s						
MA2	Magadan	18.82	308	eP	Pn	04 20 39.9	+0.6
	comp=Z,19nm,1.0s						
PMR	Palmer	19.45	46	eP	Pn	04 20 44.1	-2.7
PMR					pmax	pmax		
	comp=Z,5.0nm,0.4s						
PMR	Palmer	19.45	46	eP	Pn	04 20 44.1	-2.7
	comp=Z,4.5nm,0.4s						
SML	Sawmill	19.88	46	eP	Pn	04 20 47.4	-4.5
MCK	McKinley	20.32	40	eP	P	04 20 53.1	-1.5
MCK					MLR	MLR		
	comp=Z,2μm,20.0s,MS4.4						
EYAK	Cordova Ski Ar	20.77	50	eP	P	04 20 57.6	-1.9
COLA	College	21.22	38	eP	P	04 21 02.7	-1.7
COLA					MLR	MLR		
	comp=Z,2μm,19.0s,MS4.5						
MENT	Mentasta	22.27	45	eP	P	04 21 13.9	-1.7
MIDW	Midway	23.01	176	PFAKE		04 21 30.0	+6.6
MIDW					LR	LR		
	comp=Z,5μm,22.0s,MS4.9						
YUK	Yuzh-Kuril'sk	24.40	267	eP	P	04 21 30.0	-6.4
YUK					pmax	pmax		
	comp=Z,2μm,2.0s,mb6.3						
YUK					pmax	pmax		
	comp=N,2μm,3.0s						
YUK					MLR	MLR		
	comp=Z,3μm,20.0s,MS4.8						
YUK					MLR	MLR		
	comp=E,3μm,18.0s						
DAWY	Dawson	24.43	43	eP	P	04 21 34.9	-1.8
YSS	Yuzh-Sakhalins	25.05	275	⇑eP	P	04 21 42.0	-0.3
YSS					e		04 22 28.0	
YSS					eS	S	04 26 02.0	-0.8
YSS					e		04 26 26.0	
YSS					e		04 27 27.0	
YSS					pmax	pmax		
	comp=Z,90nm,1.0s,mb5.2						
YSS					pmax	pmax		
	comp=Z,600nm,9.0s						
YSS					MLR	MLR		
	comp=Z,3μm,20.0s,MS4.7						
YSS					MLR	MLR		
	comp=N,1μm,18.0s,MS4.7						
YSS					MLR	MLR		
	comp=E,2μm,20.0s,MS4.7						
YSS	Yuzh-Sakhalins	25.05	275	⇑iP	P	04 21 42.3	+0.1
	comp=E,86nm,0.9s,mb5.3						
YSS					LR	LR		
	comp=Z,3μm,20.0s,MS4.7						
SKAG	Skagway	25.88	54	eP	P	04 21 50.1	+0.3
SIT	Sitka	26.03	60	PFAKE		04 22 00.0	+8.9
SIT					LR	LR		
	comp=Z,4μm,21.0s,MS4.9						
ASAJ	Asahikawa	26.41	269	P	P	04 21 54.2	-0.4
	comp=Z,27nm,0.9s,mb4.8,baz=46,slow=6.3,SNR=11						
ASAJ					LR	LR	04 32 32.6	
	comp=Z,2μm,20.2s,MS4.5,baz=20,slow=37						
ASAJ	Asahikawa	26.41	269	P	P	04 21 54.2	-0.4
ASAJ					pmax	pmax		
	comp=Z,27nm,0.9s						
ASAJ					MLR	MLR		
	comp=Z,2μm,20.2s						
ERM	Erimo	27.14	265	PFAKE		04 22 10.0	+8.8
ERM					LR	LR		
	comp=Z,20nm,20.0s						
INK	Inuvik	27.76	35	P	P	04 22 05.5	-1.2
	comp=Z,5.4nm,0.4s,mb4.6,baz=249,slow=6.2,SNR=17						
INK					PcP	PcP	04 25 21.2	-1.0
	comp=Z,2.7nm,0.5s,baz=299,slow=9.0,SNR=4.4						
INK	Inuvik	27.76	35	P	P	04 22 05.5	-1.2
INK							04 25 21.2	
INK					pmax	pmax		
	comp=Z,5.0nm,0.4s						
INK					pmax	pmax		
	comp=Z,3.0nm,0.5s						
INK	Inuvik	27.76	35	eP	P	04 22 05.2	-1.5
	comp=Z,24nm,0.9s,mb4.8						
DLBC	Dease Lake	28.69	56	P	P	04 22 13.9	-1.1
	comp=Z,1.7nm,0.5s,baz=268,slow=8.3,SNR=5.8						
HABR	Khabarovsk	29.23	283	iP	P	04 22 19.4	-0.4
HABR					eS	S	04 27 10.7	+2.0
HABR					pmax	pmax		
	comp=Z,86nm,2.0s,mb5.1						
YAK	Yakutsk	29.31	311	c iP	P	04 22 19.3	-1.2
YAK					pmax	pmax		
	comp=Z,38nm,1.1s,mb5.0						
YAK	Yakutsk	29.31	311	eP	P	04 22 19.5	-1.0
YAK					LR	LR		
	comp=Z,2μm,21.0s,MS4.7						
TIXI	Tiksi	30.64	331	eP	P	04 22 29.4	-2.8
TIXI					eS	S	04 27 27.3	-3.6
TIXI					pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
TIXI					MLR	MLR		
	comp=Z,4μm,16.0s,MS5.1						
TIXI	Tiksi	30.64	331	⇑eP	P	04 22 31.9	-0.3
TIXI					LR	LR		
	comp=Z,3μm,19.0s,MS4.9						
KLR	Kul'dur	30.95	286	iP	P	04 22 31.6	-3.4
KLR					e		04 23 34.0	
KLR					eS	S	04 27 29.5	-6.2
KLR					pmax	pmax		
	comp=E,80nm,1.2s						
KLR					pmax	pmax		
	comp=Z,140nm,1.2s,mb5.7						
KLR					MLR	MLR		
	comp=E,1μm,14.5s						
KLR					MLR	MLR		
	comp=Z,2μm,14.5s,MS4.9						
MAJO	Matsushiro	33.47	261	⇑iP	P	04 22 56.3	-0.8
MAJO					pmax	pmax		
	comp=Z,43nm,1.4s,mb5.2						
MAJO					MLR	MLR		
	comp=Z,1μm,19.0s,MS4.7						
MAJO	Matsushiro	33.47	261	⇑iP	P	04 22 56.3	-0.8
	comp=Z,43nm,1.4s,mb5.2						
MAJO					LR	LR		
	comp=Z,1μm,19.0s,MS4.7						
MAT	Matsushiro	33.47	261	P	P	04 22 57.2	+0.1
MAT					S	S	04 28 19.0	+4.0
MAT	Matsushiro	33.47	261	eP	P	04 22 57.0	-0.1
MAT					eS	S	04 28 20.0	+5.0
MAT					pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
MAT					MLR	MLR		
	comp=Z,1μm,20.0s,MS4.7						
MAT	Matsushiro	33.47	261	eP	P	04 22 57.0	-0.1
	comp=Z,14nm,1.1s,mb4.8						
MAT					eS	S	04 28 20.0	+5.0
MAT					LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
MJAR	Matsushiro Arr	33.47	261	P	P	04 22 56.3	-0.8
	comp=Z,4.7nm,0.9s,mb4.4,baz=49,slow=8.3,SNR=19						
MJAR					PcP	PcP	04 25 37.3	+0.1
	comp=Z,2.1nm,0.9s,baz=62,slow=0.4,SNR=4.3						
MJAR					ScP	ScP	04 29 20.3	+3.1
	comp=Z,2.9nm,1.1s,baz=11,slow=1.6,SNR=7.6						
MJAR					LR	LR	04 34 48.9	
	comp=Z,1μm,19.6s,MS4.7,baz=65,slow=33						
MJAR	Matsushiro Arr	33.47	261	P	P	04 22 56.3	-0.8
MJAR							04 25 37.3	
WAKE	Wake Island	33.75	204	PFAKE		04 23 10.0	+10
WAKE					LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
KIP	Kipapa	34.05	143	PFAKE		04 23 10.0	+7.8
KIP					LR	LR		
	comp=Z,3μm,21.0s,MS5.0						
MDJ	Mudanjiang	34.31	279	P	P	04 23 03.5	-0.9
MDJ					AP	pP	04 23 16.5	-1.4
MDJ					XP	sP	04 23 22.7	-1.4
MDJ					PP	PP	04 24 22.1	-0.7
MDJ					S	S	04 28 27.7	-0.3
MDJ					XS	sS	04 28 48.5	-2.3
MDJ					SCS	ScS	04 33 19.5	-3.2
MDJ					AMB	AMB		
	comp=Z,15nm,1.0s,mb4.9						
MDJ					AMB	AMB		
	comp=Z,229nm,9.8s						
MDJ					LR	LR		
	comp=N,826nm,17.7s,MS4.7						
MDJ					LR	LR		
	comp=E,1μm,21.5s,MS4.7						
MDJ					LR	LR		
	comp=Z,2μm,19.9s,MS4.8						
MDJ	Mudanjiang	34.31	279	eP	P	04 23 03.5	-0.9
	comp=Z,13nm,0.8s,mb4.9						
MDJ					LR	LR		
	comp=Z,2μm,21.0s,MS4.8						
OTR	Olympics--Tyee	35.00	73	P	P	04 23 12.3	+1.9
OBC	Olympics--Boni	35.18	73	P	P	04 23 13.4	+1.5
PGC	Sidney	35.29	72	eP	P	04 23 12.8	0.0
	comp=Z,36nm,0.8s,mb5.3						
B04A	Port Angeles	35.52	73	⇑P	P	04 23 15.2	+0.4
	baz=35						
B04A					⇑S	S	04 28 50.4	+3.9
	baz=35						
YKA	Yellowknife Ar	35.56	46	P	P	04 23 13.4	-1.7
	comp=Z,25nm,0.7s,mb5.3,baz=282,slow=7.7,SNR=153						
YKA					PcP	PcP	04 25 42.9	-0.2
	comp=Z,2.3nm,0.7s,baz=286,slow=3.2,SNR=6.1						
YKA					ScP	ScP	04 29 28.8	+4.2
	comp=Z,2.4nm,0.9s,baz=290,slow=3.2,SNR=5.6						
YKA					LR	LR	04 39 54.3	
	comp=Z,4μm,18.6s,MS5.2,baz=280,slow=40						
YKA	Yellowknife Ar	35.56	46	P	P	04 23 13.4	-1.7
YKA							04 25 42.9	
YKA	Yellowknife Ar	35.56	46	P	P	04 23 13.4	-1.7
YKA					PcP	PcP	04 25 42.9	-0.2
YKA					ScP	ScP	04 29 28.8	+4.2
YKA					LR	LR	04 39 54.2	
A04A	Legoe Bay, Lum	35.70	71	⇓P	P	04 23 16.5	+0.2
	baz=36						
A04A					⇓S	S	04 28 52.8	+3.5
	baz=36						
D03A	Wishkah Elem.	35.78	74	⇓P	P	04 23 17.6	+0.5
	baz=36						
A05A	Maple Falls	35.95	71	⇑P	P	04 23 18.4	0.0
	baz=36,SNR=9.9						
A05A					⇓S	S	04 28 54.1	+1.0
	baz=36						
C04A	Brinnon	35.99	73	⇑P	P	04 23 19.2	+0.4
	baz=36						
C04A					⇑S	S	04 28 54.4	+0.7
	baz=36						
E03A	Lebam	36.18	75	⇓P	P	04 23 20.6	+0.1
	baz=36,SNR=12						
E03A					⇑S	S	04 28 59.4	+2.8
	baz=36						
B05A	Bryant	36.27	72	⇑P	P	04 23 21.2	+0.1
	baz=36,SNR=23						
B05A					⇑S	S	04 28 59.4	+1.4
	baz=36						
D04A	Dobbs Creek Ra	36.37	74	⇑P	P	04 23 22.7	+0.6
	baz=36						
F03A	Seaside	36.48	76	⇓P	P	04 23 23.4	+0.4
	baz=36						
F03A					⇑S	S	04 29 02.8	+1.7
	baz=36						
POHA	Pohakuloa	36.53	140	PFAKE		04 23 30.0	+6.6
POHA					LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
E04A	Onalaska	36.67	74	⇓P	P	04 23 25.6	+1.0
	baz=36						
C05A	Tolt Reservoir	36.77	72	⇓P	P	04 23 25.5	0.0
	baz=37,SNR=17						
C05A					⇓S	S	04 29 07.0	+1.3
	baz=37						
D05A	Enumclaw	36.83	73	⇓P	P	04 23 26.6	+0.7
	baz=37,SNR=15						
D05A					⇑S	S	04 29 10.1	+3.6
	baz=37						
GSM	Grass Mountain	36.94	73	P	P	04 23 27.9	+1.0
F04A	Amboy	37.17	75	⇓P	P	04 23 28.8	0.0
	baz=37,SNR=24						
F04A					⇑S	S	04 29 13.8	+2.1
	baz=37						
H03A	Soap Creek Ran	37.26	78	⇓P	P	04 23 29.9	+0.2
	baz=37						
H03A					⇑S	S	04 29 15.5	+2.3
	baz=37						
E05A	Randle	37.26	74	⇓P	P	04 23 29.6	-0.1
	baz=37,SNR=16						
E05A					⇑S	S	04 29 13.8	+0.6
	baz=37						
PNT	Penticton	37.26	69	P	P	04 23 29.3	-0.4
I02A	Mapleton	37.28	79	⇓P	P	04 23 30.0	+0.2
	baz=37						
I02A					⇓S	S	04 29 14.8	+1.4
	baz=37						
CN2	Changchun	37.29	281	⇑P	P	04 23 29.4	-0.5
CN2					eXP	sP	04 23 49.3	-0.4
CN2					eS	S	04 29 12.6	-1.0
CN2					AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
CN2					AMB	AMB		
	comp=Z,300nm,9.0s						
CN2					LR	LR		
	comp=N,1μm,21.0s,MS4.9						
CN2					LR	LR		
	comp=E,1μm,21.0s,MS4.9						
CN2					LR	LR		
	comp=Z,2μm,23.0s,MS4.8						
COR	Corvallis	37.30	78	P	P	04 23 31.5	+1.5
COR					pmax	pmax		
	comp=Z,55nm,0.9s,mb5.4						
COR	Corvallis	37.30	78	eP	P	04 23 29.8	-0.2
	comp=Z,55nm,0.8s,mb5.4						
COR					LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
G04A	Mulino	37.49	76	⇑P	P	04 23 31.4	-0.2
	baz=37,SNR=12						
G04A					⇑S	S	04 29 11.5	-5.1
	baz=37						
TWW	Teanaway	37.52	73	P	P	04 23 33.1	+1.2
VLMM	Larch Mountain	37.59	76	P	P	04 23 33.4	+0.9
I03A	Eugene	37.63	79	⇑P	P	04 23 33.2	+0.4
	baz=38						
TBM	Table Mountain	37.67	72	P	P	04 23 33.9	+0.8
J02A	Umpqua	37.77	80	⇓P	P	04 23 34.5	+0.6
	baz=38						
J02A					⇓S	S	04 29 24.0	+3.2
	baz=38						
F05A	White Salmon	37.78	75	⇓P	P	04 23 34.0	0.0
	baz=38						
F05A					⇓S	S	04 29 21.5	+0.6
	baz=38						

WTV Waterville 37.80 71 P P 04 23 34.4 +0.2
BOD Bodaibo 37.84 307 eP P 04 23 33.7 -0.9
BOD pmax pmax
comp=Z,87nm,1.0s,mb5.4
H04A Detroit Lake 37.94 77 ⇓P P 04 23 35.3 -0.1
baz=38,SNR=25
H04A ⇑S S 04 29 22.9 -0.5
baz=38
BROR Big Rock Looko 37.99 78 P P 04 23 36.6 +0.8
HIA Hailar 38.08 292 eP P 04 23 36.2 -0.3
HIA pmax pmax
comp=Z,48nm,1.0s
HIA MLR MLR
comp=Z,2μm,19.0s
HIA Hailar 38.08 292 eP P 04 23 36.2 -0.3
comp=Z,48nm,1.0s,mb5.2
HIA LR LR
comp=Z,2μm,19.0s,MS5.0
J03A Ideyld Park 38.15 79 ⇓P P 04 23 35.6 -1.5
baz=38,SNR=6.7
J03A ⇓S S 04 29 27.4 +0.8
baz=38
EPH Ephrata 38.18 72 P P 04 23 37.6 +0.2
G05A Wamic 38.18 76 ⇓P P 04 23 37.7 +0.3
baz=38,SNR=11
L02A Cave Junction 38.40 81 ⇑P P 04 23 39.4 +0.2
baz=38
H05A Madras 38.54 76 ⇑P P 04 23 40.3 -0.1
baz=38
HUMO Hull Mountain 38.56 80 eP P 04 23 40.8 +0.2
comp=Z,12nm,1.0s,mb4.6
HUMO LR LR
comp=Z,2μm,19.0s,MS4.9
HUMO Hull Mountain 38.56 80 ⇓P P 04 23 40.6 0.0
baz=38
HUMO ⇑S S 04 29 34.1 +1.3
baz=38
HAWA Hanford 38.69 73 PFAKE 04 23 50.0 +8.3
HAWA LR LR
comp=Z,78nm,19.0s
OD2 Odessa Site #2 38.69 71 P P 04 23 41.5 -0.2
I05A Bend 38.77 77 ⇓P P 04 23 42.7 +0.4
baz=39
I05A ⇓S S 04 29 39.6 +3.6
baz=39
KHMM Horse Mountain 39.04 83 eP P 04 23 45.0 +0.4
EDM Edmonton 39.15 60 eP P 04 23 45.2 -0.3
EDM Edmonton 39.15 60⇑iP P 04 23 44.3 -1.2
YBH Yreka Blue Hor 39.19 81 P P 04 23 47.5 +1.6
YBH pmax pmax
comp=Z,14nm,0.8s
YBH Yreka Blue Hor 39.19 81 eP P 04 23 46.9 +1.1
comp=Z,14nm,0.8s,mb4.8
YBH LR LR
comp=Z,1μm,19.0s,MS4.8
YBH Yreka Blue Hor 39.19 81 ⇓P P 04 23 46.0 +0.1
baz=39,SNR=5.6
YBH ⇑S S 04 29 46.3 +4.0
baz=39
YPT Yellepit 39.20 73 P P 04 23 46.4 +0.4
NEW Newport 39.21 69 PFAKE 04 24 00.0 +14
NEW LR LR
comp=Z,1μm,22.0s,MS4.6
M02C Callahan 39.30 82 ⇑P P 04 23 47.0 +0.3
baz=39
M02C ⇓S S 04 29 48.8 +4.9
baz=39
N02C Big Bar 39.33 83 ⇓P P 04 23 46.9 -0.1
baz=39
N02C ⇓S S 04 29 47.4 +3.0
baz=39
L04A Klamath Falls 39.46 80 ⇓P P 04 23 48.5 +0.4
baz=39,SNR=8.0
L04A ⇑S S 04 29 49.9 +3.6
baz=39
SNY Shenyang 39.52 279 ⇑P P 04 23 48.6 0.0
SNY AP pP 04 24 02.6 +0.3
SNY XP sP 04 24 08.2 -0.2
SNY PP PP 04 25 24.1 +4.1
SNY S S 04 29 47.2 0.0
SNY XS sS 04 30 06.0 -4.2
SNY AMB AMB
comp=Z,38nm,1.2s,mb5.0
SNY AMB AMB
comp=Z,422nm,6.3s
SNY LR LR
comp=N,1μm,17.2s
SNY LR LR
comp=E,956nm,22.6s
SNY LR LR
comp=Z,2μm,21.4s,MS4.8
M04C Macdoel 39.71 81 ⇓P P 04 23 50.3 +0.2
baz=40,SNR=10
M04C ⇓S S 04 29 53.0 +3.0
baz=40
J06A Christmas Vall 39.94 78 ⇓P P 04 23 52.1 0.0
baz=40,SNR=24
J06A ⇓S S 04 29 54.6 +1.0
baz=40
WDC Whiskeytown Da 39.95 83 P P 04 23 53.1 +0.9
WDC pmax pmax
comp=Z,23nm,1.1s,mb4.8
WDC Whiskeytown Da 39.95 83 eP P 04 23 52.1 0.0
comp=Z,23nm,1.1s,mb4.8
WDC LR LR
comp=Z,542nm,19.0s,MS4.4
WDC Whiskeytown Da 39.95 83 ⇑P P 04 23 51.9 -0.3
baz=40
WDC ⇓S S 04 29 54.3 +0.7
baz=40
RES Resolute Bay 40.01 24 P P 04 23 55.7 +3.0
RES Resolute Bay 40.01 24 eP P 04 23 51.1 -1.6
O02C Red Bluff 40.02 83 ⇑P P 04 23 53.1 +0.3
baz=40
P01C Double 8 Ranch 40.09 85 ⇑P P 04 23 53.6 +0.2
baz=40
K06A Valley Falls 40.12 78 ⇑P P 04 23 54.1 +0.5
baz=40
K06A ⇑S S 04 29 59.3 +3.0
baz=40
INCN Inchon 40.14 272 eP P 04 23 54.1 +0.4
comp=Z,38nm,0.9s,mb5.1
INCN LR LR
comp=Z,652nm,19.0s,MS4.5
L05A Lakeview 40.18 80 ⇓P P 04 23 54.6 +0.5
baz=40
L05A ⇑S S 04 29 58.3 +1.2
baz=40
LTIM Timbered Crate 40.26 81 P P 04 23 55.5 +0.7
M05C Lookout 40.37 81 ⇓P P 04 23 56.0 +0.3
baz=40
GASB Alder Springs 40.38 84 ⇑P P 04 23 56.4 +0.7
baz=40
J07A Hines 40.39 77 ⇓P P 04 23 56.1 +0.3
baz=40
J07A ⇑S S 04 30 04.6 +4.3
baz=40
HATC Hat Creek Radi 40.48 82 ⇑P P 04 23 56.6 0.0
baz=40,SNR=8.9
HOPS Hopland 40.54 85 PFAKE 04 24 10.0 +13
HOPS LR LR
comp=Z,781nm,22.0s,MS4.5
LBCM Butte Creek Ri 40.54 81 P P 04 23 57.2 +0.2
O03C Acorn Hollow, 40.60 83 ⇓P P 04 23 57.9 +0.4
baz=40
WALA Waterton Lakes 40.70 66 eP P 04 23 57.6 -0.8
comp=Z,137nm,1.3s,mb5.4
BSMT Bassoo Peak 40.78 69 P P 04 23 58.9 -0.2
BMO Blue Mountains 40.82 74 PFAKE 04 24 10.0 +11
BMO LR LR
comp=Z,2μm,22.0s,MS4.8
M06C Likely Place G 40.88 80 ⇓P P 04 23 59.8 0.0
baz=41
M06C ⇓S S 04 30 10.4 +2.9
baz=41
J08A Circle Bar Ran 40.91 76 ⇑P P 04 24 00.1 0.0
baz=41,SNR=8.6
J08A ⇓S S 04 30 10.7 +2.6
baz=41
O04C Chester 41.00 82 ⇑P P 04 24 00.7 -0.2
baz=41,SNR=11
O04C ⇓S S 04 30 12.5 +3.2
baz=41
MNRC McLaughlin Nat 41.01 85 ⇑P P 04 24 00.8 -0.1
baz=41
ELFS Eagle Lake Fie 41.05 81 ⇑P P 04 24 01.2 -0.1
baz=41
L07A Adell 41.12 79 ⇑P P 04 24 02.1 +0.2
baz=41,SNR=17
L07A ⇓S S 04 30 12.4 +1.3
baz=41
ORV Oroville 41.19 83 ⇓P P 04 24 00.7 -1.7
baz=41
ORV ⇑S S 04 30 13.1 +0.9
baz=41
SUTB Sutter Butte 41.20 84 ⇑P P 04 24 01.5 -1.0
baz=41
O05C Quincy 41.32 82 ⇓P P 04 24 02.8 -0.6
baz=41,SNR=8.6
O05C ⇓S S 04 30 15.8 +1.8
baz=41
WVOR Wild Horse Val 41.32 78 PFAKE 04 24 20.0 +17
WVOR LR LR
comp=Z,1μm,20.0s,MS4.8
OHCM Honcut 41.33 83 eP P 04 24 01.9 -1.7
Q03C Winters 41.42 85 ⇓P P 04 24 04.2 -0.1
baz=41
M07A Soldier Meadow 41.58 79 ⇓P P 04 24 05.7 +0.1
baz=41,SNR=37
M07A ⇓S S 04 30 19.7 +1.8
baz=41
MSO Missoula 41.80 69⇑iP P 04 24 06.4 -1.0
comp=Z,76nm,1.3s,mb5.2
MSO LR LR
comp=Z,531nm,22.0s,MS4.4
O06A Flanigan 41.88 81 ⇓P P 04 24 07.6 -0.4
baz=42,SNR=15
O06A ⇑S S 04 30 24.3 +1.9
baz=42
P05C Yuba Gap, Truc 41.90 83 ⇑P P 04 24 07.9 -0.3
baz=42
P05C ⇓S S 04 30 23.1 +0.4
baz=42
BDM Black Diamond 41.92 85 ⇑P P 04 24 07.8 -0.6
baz=42
BDM ⇓S S 04 30 25.7 +2.7
baz=42
JRSC Jasper Ridge 42.03 86 ⇓P P 04 24 09.1 -0.2
baz=42
M08A Happy Creek Ra 42.03 79 ⇑P P 04 24 09.3 0.0
baz=42,SNR=14
P06A Stead Airport, 42.12 82 ⇓P P 04 24 09.8 -0.2
baz=42
LAVA Lava Cap Winer 42.14 84 ⇓P P 04 24 09.8 -0.3
baz=42,SNR=8.9
LAVA ⇓S S 04 30 28.2 +2.0
baz=42
L09A Wilkinson Ranc 42.15 78 ⇑P P 04 24 10.1 -0.1
baz=42,SNR=16
L09A ⇓S S 04 30 26.4 +0.1
baz=42
CHMT Chamberlain Mo 42.16 69 eP P 04 24 09.3 -1.0
WENL Wente Brothers 42.19 86 ⇑P P 04 24 10.1 -0.5
baz=42
BNLO Ben Lomond (Sa 42.24 87 ⇓P P 04 24 11.0 0.0
baz=42
R04C Big Horse Ranc 42.32 84 ⇓P P 04 24 10.7 -0.9
baz=42
PAHR Pah Rah Range 42.42 82⇑eP P 04 24 11.9 -0.6
comp=Z,25nm,0.9s,mb4.8
WCN Washoe City 42.43 82 ⇓P P 04 24 12.4 -0.2
baz=42
WCN ⇑S S 04 30 33.0 +2.5
baz=42
O07A Toulon 42.47 81 ⇑P P 04 24 12.8 -0.1
baz=42,SNR=19
S04C Ingram Canyon, 42.54 86 ⇓P P 04 24 13.3 -0.1
baz=42
S04C ⇑S S 04 30 34.6 +2.6
baz=42
N08A GE Springer Mi 42.57 79 ⇑P P 04 24 13.3 -0.4
baz=42,SNR=8.2
N08A ⇑S S 04 30 33.4 +0.8
baz=42
R05C Kirkwood Meado 42.59 83 ⇑P P 04 24 13.5 -0.3
baz=42
R05C ⇑S S 04 30 35.0 +2.2
baz=42
M09A Marrel Ranch, 42.62 78 ⇑P P 04 24 14.1 0.0
baz=42
CMB Columbia Colle 42.80 84 P P 04 24 15.7 +0.2
CMB pmax pmax
comp=Z,14nm,1.0s,mb4.7
CMB Columbia Colle 42.80 84⇑eP P 04 24 14.6 -1.0
comp=Z,14nm,1.0s,mb4.6
CMB LR LR
comp=Z,746nm,21.0s,MS4.6
CMB Columbia Colle 42.80 84 ⇓P P 04 24 14.9 -0.6
baz=43
CMB ⇑S S 04 30 38.5 +2.6
baz=43
P07A Fallon 42.83 81 ⇑P P 04 24 15.7 -0.1
baz=43
ALE Alert 42.84 10 P P 04 24 15.0 -0.8
comp=Z,190nm,0.5s,mb6.1,SNR=18
PACP Pacheco Peak 42.87 86 ⇓P P 04 24 15.5 -0.5
baz=43
SAO San Andreas Ge 42.92 86 PFAKE 04 24 30.0 +14
SAO LR LR
comp=Z,679nm,19.0s,MS4.6
HAST UC Hastings Re 43.09 87 ⇓P P 04 24 17.3 -0.5
baz=43
R06C Coleville 43.09 83 ⇓P P 04 24 17.8 -0.1
baz=43
R06C ⇓S S 04 30 42.2 +2.0
baz=43
HRY Holter Researc 43.10 68 eP P 04 24 17.2 -0.8
M10A I.L. Ranch, Tu 43.13 78 ⇓P P 04 24 18.0 -0.1
baz=43,SNR=12
S06C San Francisco 43.23 84 ⇓P P 04 24 18.4 -0.6
baz=43
S06C ⇑S S 04 30 43.7 +1.5
baz=43
Q07A Schurz 43.24 82 ⇓P P 04 24 18.6 -0.4
baz=43
P08A Dixie Valley 43.24 81 ⇓P P 04 24 19.2 0.0
baz=43
P08A ⇑S S 04 30 45.9 +3.5
baz=43
S05C Merced 43.26 85 ⇓P P 04 24 18.4 -0.8
baz=43,SNR=8.9
HLID Hailey 43.27 74 PFAKE 04 24 30.0 +11
HLID LR LR
comp=Z,2μm,22.0s,MS4.9
T05C Eagle Field, D 43.32 86 ⇑P P 04 24 19.5 -0.2
baz=43
BMN Battle Mountai 43.34 79 P P 04 24 20.2 +0.3
BMN pmax pmax
comp=Z,12nm,0.7s,mb4.7
BMN Battle Mountai 43.34 79 eP P 04 24 19.6 -0.3
comp=Z,12nm,0.6s,mb4.8
BMN LR LR
comp=Z,1μm,19.0s,MS4.8
DLMT Dillon 43.37 71 eP P 04 24 19.4 -0.7
comp=Z,37nm,1.2s,mb5.0
MCMT McKenzie Canyo 43.51 71 eP P 04 24 20.7 -0.6
O09A Fish Creek Ran 43.51 80 ⇓P P 04 24 21.4 +0.1
baz=43,SNR=21
O09A ⇑S S 04 30 47.3 +1.0
baz=43
V03C Hunter Liggett 43.51 87 ⇓P P 04 24 21.0 -0.3
baz=43
U04C Hernandez Rese 43.59 86 ⇑P P 04 24 21.5 -0.4
baz=43
U04C ⇑S S 04 30 50.1 +2.7
baz=43
R07C Lee Vining 43.60 83 ⇑P P 04 24 22.5 +0.5
baz=43
R07C ⇑S S 04 30 49.9 +2.2
baz=43
BOZ Bozeman (W) 43.78 70 eP P 04 24 22.6 -0.9
BOZ pmax pmax
comp=Z,42nm,0.7s,mb5.3
BOZ MLR MLR
comp=Z,873nm,19.0s,MS4.7
BOZ Bozeman (W) 43.78 70 eP P 04 24 22.6 -0.8
comp=Z,42nm,0.7s,mb5.3
BOZ LR LR
comp=Z,873nm,19.0s,MS4.7
Q08A Gabbs 43.83 82 ⇓P P 04 24 23.4 -0.5
baz=44,SNR=21
Q08A ⇑S S 04 30 52.7 +1.7
baz=44
T06C Millerton Lake 43.85 85 ⇓P P 04 24 23.1 -1.0
baz=44
T06C ⇑S S 04 30 53.3 +2.0
baz=44
NVAR Mina Array Bea 43.86 82 P P 04 24 24.4 +0.4
comp=Z,5.3nm,0.6s,mb4.4,baz=300,slow=6.3,SNR=34
KCC Kaiser Creek 43.91 84 ⇓P P 04 24 24.5 0.0
baz=44
KCC ⇑S S 04 30 55.1 +3.1
baz=44
P09A Austin 43.91 80 ⇑P P 04 24 24.3 -0.2
baz=44
P09A ⇓S S 04 30 53.7 +1.6
baz=44
MNV Mina 43.95 82 P P 04 24 25.1 +0.3
MNV pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
MNV Mina 43.95 82 eP P 04 24 24.3 -0.6
comp=Z,9.0nm,0.9s,mb4.5
MNV LR LR
comp=Z,574nm,21.0s,MS4.5
PKD Parkfield 44.00 87 ⇑P P 04 24 24.8 -0.4
baz=44
PKD ⇓S S 04 30 55.2 +1.8
baz=44
N11A Elko Archery C 44.02 78 ⇓P P 04 24 25.4 0.0
baz=44
N11A ⇓S S 04 30 56.4 +2.6
baz=44
M12A Wells 44.18 77 ⇓P P 04 24 26.6 -0.1
baz=44,SNR=25
M12A ⇓S S 04 30 57.9 +1.9
baz=44
P10A Eureka 44.29 80 ⇑P P 04 24 27.3 -0.2
baz=44
Q09A Carvers 44.32 81 ⇓P P 04 24 27.8 0.0
baz=44
QLMT Earthquake Lak 44.35 71 eP P 04 24 27.8 -0.2
MTUM Tungsten Hills 44.36 84 eP P 04 24 28.1 0.0
ELK Elko 44.38 78 PFAKE 04 24 40.0 +12
ELK LR LR
comp=Z,1μm,19.0s,MS4.9
PTRM Twissleman Ran 44.39 87 eP P 04 24 28.0 -0.3
N12A Clover Valley, 44.44 77 ⇓P P 04 24 28.5 -0.2
baz=44,SNR=20
N12A ⇓S S 04 31 02.1 +2.3
baz=44
FFC Flin Flon 44.48 54 P P 04 24 27.8 -1.2
FFC pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
FFC Flin Flon 44.48 54 eP P 04 24 26.8 -2.2
comp=Z,3.7nm,0.8s,mb4.2
FFC LR LR
comp=Z,2μm,21.0s,MS5.0
O11A Cowboy Ranch, 44.48 79 ⇑P P 04 24 28.6 -0.4
baz=44,SNR=16
O11A ⇓S S 04 31 02.5 +2.0
baz=44
M13A Montello 44.67 76 ⇓P P 04 24 30.4 -0.2
baz=44,SNR=7.6
M13A ⇑S S 04 31 05.0 +1.8
baz=44
YMR Madison River 44.71 70 eP P 04 24 30.9 0.0
comp=Z,52nm,0.8s,mb5.4
TPH Tonopah 44.75 82 P P 04 24 31.4 +0.2
TPH pmax pmax
comp=Z,13nm,0.8s,mb4.8
TPH Tonopah 44.75 82 eP P 04 24 30.3 -0.9
comp=Z,13nm,0.8s,mb4.8
TPH LR LR
comp=Z,593nm,19.0s,MS4.5
P11A Circle Ranch, 44.77 79 ⇓P P 04 24 30.9 -0.5
baz=45
GCMT Greycliff 44.86 68 eP P 04 24 31.6 -0.4
YFT Old Faithful 44.91 71 eP P 04 24 33.3 +0.8
N13A Wendover, West 44.95 77 ⇓P P 04 24 32.5 -0.3
baz=45
N13A ⇓S S 04 31 08.9 +1.8
baz=45
S09A Goldfield 44.97 82 ⇑P P 04 24 32.0 -0.9
baz=45,SNR=14
S09A ⇑S S 04 31 10.2 +2.7
baz=45
LKWY Lake 45.11 70 P P 04 24 35.8 +1.8
LKWY pmax pmax
comp=Z,56nm,0.9s,mb5.4
LKWY Lake 45.11 70 eP P 04 24 35.1 +1.1
comp=Z,56nm,0.9s,mb5.4
LKWY LR LR
comp=Z,780nm,20.0s,MS4.6
BJI Beijing 45.12 282 eP P 04 24 34.2 0.0
BJI AMB AMB
comp=Z,24nm,1.1s,mb4.9
BJI AMB AMB
comp=Z,375nm,8.5s
BJI LR LR
comp=N,660nm,24.9s
BJI LR LR
comp=E,1μm,19.3s
BJI LR LR
comp=Z,1μm,21.3s,MS4.8
BJT Baijiatuau 45.14 282 eP P 04 24 34.3 0.0
BJT pmax pmax
comp=Z,15nm,0.8s
BJT MLR MLR
comp=Z,2μm,20.0s
BJT Baijiatuau 45.14 282 eP P 04 24 34.2 -0.1
comp=Z,15nm,0.8s,mb4.9
BJT LR LR
comp=Z,2μm,20.0s,MS5.0
IMW Indian Meadow 45.16 71 eP P 04 24 35.2 +0.8
comp=Z,21nm,0.7s,mb5.1
DCID1 Drake Creek 45.19 72 eP P 04 24 35.2 +0.5
R10A Warm Springs 45.19 81 ⇓P P 04 24 33.9 -0.8
baz=45,SNR=17
CWC Cottonwood Cre 45.23 84 ⇑P P 04 24 34.8 -0.2
baz=45
Q11A Duckwater 45.26 80 ⇓P P 04 24 34.6 -0.6
baz=45,SNR=30
Q11A ⇑S S 04 31 13.6 +1.9
baz=45
HVU Hansel Valley 45.27 75 P P 04 24 35.8 +0.4
HVU pmax pmax
comp=Z,29nm,0.6s,mb5.3
HVU Hansel Valley 45.27 75 eP P 04 24 35.3 0.0
comp=Z,29nm,0.6s,mb5.3
IRK Irkutsk 45.28 303 eP P 04 24 35.1 -0.3
IRK pmax pmax
comp=Z,132nm,2.1s,mb5.4
P12A McGill 45.34 79 ⇓P P 04 24 35.2 -0.6
baz=45,SNR=18
P12A ⇓S S 04 31 14.5 +1.7
baz=45
MOOW Moose Ponds 45.36 71 eP P 04 24 36.2 +0.1
comp=Z,16nm,1.0s,mb4.8
TPAW Teton Pass 45.39 72 eP P 04 24 36.6 +0.4
comp=Z,20nm,0.7s,mb5.1
ISA Isabella 45.48 85 PFAKE 04 24 50.0 +13
ISA LR LR
comp=Z,194nm,19.0s,MS4.1
ISA Isabella 45.48 85 ⇓P P 04 24 35.9 -1.1
baz=45
SBC Santa Barbara 45.48 88 ⇑P P 04 24 35.7 -1.3
baz=45
REDW Red Top Meadow 45.52 72 eP P 04 24 37.6 +0.3
comp=Z,20nm,0.8s,mb5.1
BGU Big Grassy Mou 45.62 76 eP P 04 24 38.2 +0.1
DAC Darwin (Calif) 45.64 84 PFAKE 04 24 50.0 +12
DAC LR LR
comp=Z,949nm,19.0s,MS4.8
Q12A Willow Creek R 45.65 79 ⇑P P 04 24 38.0 -0.3
baz=46,SNR=16
Q12A ⇑S S 04 31 18.8 +1.5
baz=46
AHID Auburn Hatcher 45.71 73 eP P 04 24 37.5 -1.4
comp=Z,34nm,0.8s,mb5.3
AHID LR LR
comp=Z,2μm,22.0s,MS4.9
SPUT South Promonto 45.75 75 eP P 04 24 38.8 -0.3
TLY Talaya 45.91 302 P P 04 24 41.2 +0.8
comp=Z,346nm,0.8s,mb6.3,SNR=24
OSI Osito Adit 45.99 87 ⇓P P 04 24 40.3 -0.8
baz=46
OSI ⇑S S 04 31 24.1 +1.8
baz=46
TPNV Topopah Spring 46.06 83 P P 04 24 40.9 -0.6
TPNV pmax pmax
comp=Z,31nm,0.8s,mb5.3
TPNV Topopah Spring 46.06 83⇑eP P 04 24 40.8 -0.7

comp=Z,31nm,0.8s,mb5.3
TPNV LR LR
comp=Z,723nm,22.0s,MS4.6
ULN Ulaanbaatar 46.07 296 ⇑P **P** **04 24 42.0 +0.3**
SNR=13
ULN Ulaanbaatar 46.07 296 *i*P **P** **04 24 41.7 0.0**
ULN pmax pmax
comp=Z,19nm,0.8s,mb5.1
ULN MLR MLR
comp=Z,4μm,20.0s,MS5.3
ULN Ulaanbaatar 46.07 296 ⇑*i*P **P** **04 24 41.7 0.0**
comp=Z,19nm,0.8s,mb5.1
ULN LR LR
comp=Z,4μm,20.0s,MS5.3
HWUT Hardware Ranch 46.11 74 *e*P **P** **04 24 41.1 -0.9**
comp=Z,12nm,0.6s,mb5.0
HWUT LR LR
comp=Z,629nm,19.0s,MS4.6
FCC Fort Churchill 46.29 46 *e*P **P** **04 24 41.9 -1.4**
FCC *e* 04 26 17.2
FCC pmax pmax
comp=Z,18nm,1.0s,mb5.0
FCC Fort Churchill 46.29 46 *e*P **P** **04 24 41.9 -1.5**
comp=Z,18nm,1.0s,mb5.0
FCC *e*PcP PcP 04 26 17.2 -0.8
NOQ North Oquirrh 46.34 76 *e*P **P** **04 24 43.4 -0.4**
comp=Z,52nm,1.0s,mb5.4
U10A Ash Meadows, A 46.34 83 ⇓P **P** **04 24 43.0 -0.7**
baz=46
LAO LASA Array 46.35 65 ⇑*i*P **P** **04 24 43.4 -0.5**
comp=Z,233nm,1.2s,mb6.0
LAO LR LR
comp=Z,1μm,22.0s,MS4.7
SNCC San Nicolas Is 46.38 89 PFAKE 04 25 00.0 +16
SNCC LR LR
comp=Z,752nm,19.0s,MS4.7
SONM Songino Array 46.46 296 P **P** **04 24 45.4 +0.7**
comp=Z,20nm,0.9s,mb5.1,baz=58,slow=8.9,SNR=79
SONM PcP PcP 04 26 19.0 +0.4
comp=Z,6.4nm,0.7s,baz=76,slow=2.5,SNR=6.0
SONM ScP ScP 04 30 10.2 +2.6
comp=Z,2.9nm,1.0s,baz=64,slow=3.4,SNR=5.8
SONM LR LR 04 45 42.7
comp=Z,4μm,19.0s,MS5.4,baz=59,slow=38
SONM Songino Array 46.46 296 P **P** **04 24 45.4 +0.7**
SONM 04 26 19.0
TCUT Toone Canyon 46.49 75 ⇑*i*P **P** **04 24 44.7 -0.2**
CTU Camp Tracy 46.54 75 *e*P **P** **04 24 44.9 -0.4**
comp=Z,27nm,0.9s,mb5.2
BW06 Boulder Array 46.64 72 ⇑*i*P **P** **04 24 45.4 -0.7**
comp=Z,78nm,0.8s,mb5.7
BW06 LR LR
comp=Z,1μm,21.0s,MS4.8
PDAR Pinedale Array 46.64 72 P **P** **04 24 45.5 -0.5**
comp=Z,69nm,1.0s,mb5.5,baz=299,slow=3.2,SNR=253
PDAR ScP ScP 04 30 11.5 +3.2
comp=Z,1.3nm,0.9s,baz=330,slow=3.1,SNR=3.6
PDAR LR LR 04 41 55.0
comp=Z,1μm,21.2s,MS4.8,baz=313,slow=33
GSC Goldstone 46.75 85 ⇑P **P** **04 24 46.1 -0.9**
baz=47,SNR=16
GSC ⇓S **S** **04 31 34.6 +1.4**
baz=47
NLU North Lily Min 46.79 76 *e*P **P** **04 24 46.6 -0.6**
ZAK Zakamensk 46.79 301 ⇓*i*P **P** **04 24 47.5 +0.2**
ZAK pmax pmax
comp=Z,44nm,1.3s,mb5.2
TIA Tai'an 46.90 277 *e*P **P** **04 24 47.7 -0.4**
U11A Corn Creek 46.93 82 ⇑P **P** **04 24 47.7 -0.7**
baz=47
DAU Daniels Canyon 47.01 75 P **P** **04 24 49.9 +0.9**
DAU Daniels Canyon 47.01 75 *e*P **P** **04 24 49.7 +0.7**
MPU Maple Canyon 47.02 76 *e*P **P** **04 24 48.1 -1.0**
comp=Z,22nm,0.9s,mb5.1
MPU LR LR
comp=Z,2μm,20.0s,MS5.1
TUQ Turquoise Mtn. 47.22 84 ⇑P **P** **04 24 49.8 -0.9**
baz=47
V11A Goodsprings 47.27 83 ⇑P **P** **04 24 50.3 -0.7**
baz=47
ARUT Antelope Range 47.28 80 *e*P **P** **04 24 47.2 -3.9**
ARUT Antelope Range 47.28 80 *e*P **P** **04 24 46.9 -4.2**
GUMO Guam 47.38 231 PFAKE 04 25 00.0 +8.1
GUMO LR LR
comp=Z,1.0nm,21.0s
U12A Valley of Fire 47.45 82 ⇑P **P** **04 24 51.9 -0.5**
baz=47,SNR=8.8
U12A ⇑S **S** **04 31 45.9 +2.9**
baz=47
HHC Hu-ho-hao-te 47.45 286 *e*P **P** **04 24 52.9 +0.4**
HHC PP PP 04 26 44.2 +0.1
HHC S **S** **04 31 47.8 +4.7**
HHC AMB AMB
comp=Z,31nm,1.0s,mb5.2
HHC AMB AMB
comp=Z,344nm,5.6s
HHC LR LR
comp=N,729nm,19.0s,MS5.0
HHC LR LR
comp=E,1μm,20.2s,MS5.0
HHC LR LR
comp=Z,1μm,17.8s,MS4.9
CCUT Cedar City 47.47 80 *e*P **P** **04 24 52.9 +0.3**
MSU Marysvale 47.61 78 P **P** **04 24 53.7 +0.1**
MSU Marysvale 47.61 78 *e*P **P** **04 24 53.6 0.0**
V12A Nelson 47.70 83 ⇑P **P** **04 24 53.6 -0.8**
baz=48
V12A ⇑S **S** **04 31 49.3 +2.7**
baz=48
SSE Sheshan 47.70 269 P **P** **04 24 54.0 -0.4**
SSE AP pP 04 25 07.6 -0.8
SSE XP sP 04 25 13.7 -0.7
SSE PP PP 04 26 45.4 -0.9
SSE S **S** **04 31 44.7 -2.0**
SSE AMB AMB
comp=Z,51nm,0.8s,mb5.6
SSE AMB AMB
comp=Z,713nm,4.8s
SSE LR LR
comp=N,375nm,23.2s,MS4.3
SSE LR LR
comp=E,199nm,23.2s,MS4.3
SSE LR LR
comp=Z,430nm,19.7s,MS4.4
TMUT Trail Mountain 47.72 77 *e*P **P** **04 24 55.0 +0.5**
W12A Cal Nev Ari 47.97 83 ⇓P **P** **04 24 55.7 -0.7**
baz=48
W12A ⇓S **S** **04 31 52.8 +2.4**
baz=48
PFO Pinyon Flat Ob 48.07 86 ⇓P **P** **04 24 55.9 -1.3**
baz=48
PFO ⇓S **S** **04 31 53.3 +1.4**
baz=48
109C Camp Elliot, M 48.14 87 ⇓P **P** **04 24 56.9 -0.8**
baz=48
109C ⇓S **S** **04 31 55.3 +2.5**
baz=48
SRU San Rafael 48.25 76 P **P** **04 24 58.8 +0.2**
SRU pmax pmax
comp=Z,54nm,0.9s,mb5.6
SRU San Rafael 48.25 76 ⇑*e*P **P** **04 24 58.0 -0.6**
comp=Z,54nm,0.9s,mb5.6
NJ2 Nanjing 48.53 272 *e*P **P** **04 25 01.5 +0.8**
NJ2 AP pP 04 25 13.9 -0.9
NJ2 XP sP 04 25 19.1 -1.7
NJ2 PP PP 04 26 53.1 -0.7
NJ2 S **S** **04 32 01.0 +2.7**
NJ2 XS sS 04 32 21.0 -0.8
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
NJ2 AMB AMB
comp=Z,200nm,4.8s
NJ2 LR LR
comp=N,1μm,13.2s,MS5.1
NJ2 LR LR
comp=E,780nm,16.8s,MS5.1
NJ2 LR LR
comp=Z,1μm,15.9s,MS5.1
BTO Baotou 48.53 286 *e*P **P** **04 25 01.0 +0.2**
RWWY Rawlins 48.68 72 ⇑*i*P **P** **04 25 00.9 -1.0**
comp=Z,50nm,0.8s,mb5.6
KRAR Krasnoyarsk 48.98 312 ⇑*e*P **P** **04 25 03.6 -0.6**
KRAR pmax pmax
comp=Z,53nm,0.8s,mb5.6
RSSD Black Hills 49.09 67 ⇑*e*P **P** **04 25 04.3 -0.8**
RSSD pmax pmax
comp=Z,28nm,0.9s,mb5.3
RSSD MLR MLR
comp=Z,1μm,21.0s,MS4.8
RSSD Black Hills 49.09 67 ⇑*e*P **P** **04 25 04.3 -0.8**
comp=Z,28nm,0.9s,mb5.3
RSSD LR LR
comp=Z,1μm,21.0s,MS4.8
W14A Seligman 49.14 82 ⇓P **P** **04 25 04.7 -0.7**
baz=49,SNR=11
Y12C Blythe 49.19 85 ⇑P **P** **04 25 04.2 -1.6**
baz=49,SNR=6.3
GLA Glamis 49.46 85 ⇓P **P** **04 25 07.2 -0.7**
baz=49,SNR=13
GLA ⇑S **S** **04 32 12.1 +0.6**
baz=49
W15A Williams 49.66 82 ⇑P **P** **04 25 09.4 0.0**
baz=50
W15A ⇓S **S** **04 32 16.0 +1.8**
baz=50
X14A Yava 49.74 83 ⇓P **P** **04 25 09.3 -0.7**
baz=50,SNR=15
X14A ⇑S **S** **04 32 17.6 +2.3**
baz=50
KBS Kingsbay 49.95 357 *e* **P** **04 25 11.0 -0.6**
KBS *e*P 04 25 11.5
KBS AMS AMS 04 51 59.3
comp=Z,272nm,16.5s,MS4.3
KBS Kingsbay 49.95 357 P **P** **04 25 11.6 0.0**
KBS pmax pmax
comp=Z,58nm,0.7s,mb5.7
KBS Kingsbay 49.95 357 ⇑*i*P **P** **04 25 11.9 +0.3**
comp=Z,58nm,0.6s,mb5.8
KBS LR LR
comp=Z,468nm,19.0s,MS4.5
PHWY Pilot Hill 49.96 71 *e*P **P** **04 25 08.9 -2.8**
WUAZ Wupatki 50.00 81 *e*P **P** **04 25 11.1 -0.9**
comp=Z,24nm,0.8s,mb5.3
WUAZ LR LR
comp=Z,1μm,19.0s,MS5.0
ULM Lac du Bonnet 50.02 56 P **P** **04 25 10.4 -1.7**
comp=Z,3.8nm,0.5s,mb4.7,baz=300,slow=7.4,SNR=9.6
ULM LR LR 04 47 44.4
comp=Z,1μm,19.2s,MS4.8,baz=310,slow=38
ULM Lac du Bonnet 50.02 56 *e*P **P** **04 25 10.7 -1.5**
comp=Z,13nm,1.1s,mb4.9
ULM LR LR
comp=Z,2μm,19.0s,MS5.0
Y14A Wickenburg 50.02 83 ⇓P **P** **04 25 11.1 -1.0**
baz=50,SNR=12
Y14A ⇓S **S** **04 32 20.1 +0.9**
baz=50
X15A Humboldt 50.13 82 ⇑P **P** **04 25 12.8 -0.2**
baz=50,SNR=12
X15A ⇓S **S** **04 32 22.4 +1.6**
baz=50
SMCO Snowmass 50.37 74 *e*P **P** **04 25 14.5 -0.2**
comp=Z,18nm,0.6s,mb5.3
Z14A Wintersburg 50.43 84 ⇓P **P** **04 25 14.3 -1.0**
baz=50
Z14A ⇓S **S** **04 32 26.1 +1.1**
baz=50
SPB4 Spitsbergen Ar 50.52 356 *e*P **P** **04 25 15.1 -0.8**
MVCO Mesa Verde 50.69 77 *e*P **P** **04 25 16.7 -0.5**
ISCO Idaho Springs 50.80 73 PFAKE 04 25 30.0 +12
ISCO LR LR
comp=Z,2μm,21.0s,MS5.0
115A Sonoran Desert 51.32 84 ⇑P **P** **04 25 21.0 -0.9**
baz=51,SNR=12
115A ⇓S **S** **04 32 37.4 +0.1**
baz=51
DAG Danmarks Havn 51.69 6 ⇓*i*P **P** **04 25 22.1 -2.6**
comp=Z,28nm,1.4s,mb5.0
DAG
comp=Z,1μm,22.0s
DAG Danmarks Havn 51.69 6 ⇓*e*P **P** **04 25 22.1 -2.6**
DAG pmax pmax
comp=Z,28nm,1.4s,mb5.0
DAG MLR MLR
comp=Z,1μm,22.0s,MS4.9
DAG MLR MLR
comp=N,430nm,21.0s
DAG Danmarks Havn 51.69 6 ⇓*e*P **P** **04 25 22.1 -2.6**
comp=N,28nm,1.4s,mb5.0
DAG LR LR
comp=Z,1μm,22.0s,MS4.9
116A Eloy 51.75 84 ⇓P **P** **04 25 23.9 -1.2**
baz=52,SNR=5.8
116A ⇓S **S** **04 32 44.7 +1.6**
baz=52
TATO Taipei 51.81 263 PFAKE 04 25 40.0 +14
TATO LR LR
comp=Z,1μm,20.0s,MS5.0
SDCO Great Sand Dun 52.17 74 PFAKE 04 25 40.0 +12
SDCO LR LR
comp=Z,1μm,22.0s,MS4.9
WHN Wuhan 52.38 274 *e*P **P** **04 25 29.5 -0.3**
TUC Tucson 52.49 83 ⇑*i*P **P** **04 25 29.8 -0.8**
TUC pmax pmax
comp=Z,22nm,1.2s,mb5.0
TUC MLR MLR
comp=Z,356nm,20.0s,MS4.4
TUC Tucson 52.49 83 ⇑*i*P **P** **04 25 29.8 -0.8**
comp=Z,22nm,1.2s,mb5.0
TUC LR LR
comp=Z,356nm,20.0s,MS4.4
LAZ Ladron 53.35 79 *e*P **P** **04 25 37.2 +0.3**
XAN Xi'an 53.41 281 P **P** **04 25 36.7 -0.7**
XAN AP pP 04 25 52.2 +0.6
XAN AMB AMB
comp=Z,12nm,1.3s,mb4.7
XAN LR LR
comp=N,428nm,18.6s,MS4.8
XAN LR LR
comp=E,639nm,21.7s,MS4.8
XAN LR LR
comp=Z,1μm,21.7s,MS4.9
ANMO Albuquerque 53.41 78 P **P** **04 25 37.3 -0.1**
ANMO pmax pmax
comp=Z,19nm,1.3s
ANMO Albuquerque 53.41 78 ⇑*i*P **P** **04 25 36.5 -0.9**
comp=Z,19nm,1.4s,mb4.8
ANMO LR LR
comp=Z,1μm,20.0s,MS4.9
SUMG Summit 53.53 14 ⇑*i*P **P** **04 25 37.8 -0.5**
comp=Z,42nm,1.0s,mb5.3
LENM Lemitar 53.61 79 *e*P **P** **04 25 39.0 +0.1**
EYMN Ely 53.70 56 PFAKE 04 25 50.0 +10
EYMN LR LR
comp=Z,947nm,19.0s,MS4.9
LPM Los Pinos Moun 53.73 78 *e*P **P** **04 25 39.6 -0.1**
BNM Barren Site 53.84 79 *e*P **P** **04 25 40.3 -0.2**
ZAL Zalesovo 53.95 313 P **P** **04 25 40.5 -0.9**
comp=Z,3.1nm,0.7s,mb4.3,baz=55,slow=7.5,SNR=15
ZAL PcP PcP 04 26 46.7 +0.6
comp=Z,5.4nm,0.7s,baz=78,slow=4.4,SNR=6.4
ZAL LR LR 04 50 50.1
comp=Z,1μm,19.9s,MS5.0,baz=58,slow=38
ZAL Zalesovo 53.95 313 P **P** **04 25 40.5 -0.9**
ZAL 04 26 46.7
ZAL Zalesovo 53.95 313 P **P** **04 25 40.5 -0.9**
ZAL PcP PcP 04 26 46.7 +0.6
ZAL LR LR 04 50 50.1
NVS Novosibirsk 54.08 315 *e*P **P** **04 25 42.0 -0.3**
NVS *e* 04 26 45.6
NVS *e* 04 35 30.5
NVS pmax pmax
comp=Z,45nm,1.8s,mb5.1
LZH Lanzhou 55.15 286 *e*P **P** **04 25 51.5 +1.4**
LZH AP pP 04 26 04.4 +0.1
LZH XP sP 04 26 11.1 +0.8
LZH PCP PcP 04 26 52.0 +1.3
LZH *e*S **S** **04 33 28.5 -0.7**
LZH XS sS 04 33 51.5 -1.7
LZH SS SS 04 37 11.5 -2.2
LZH AMB AMB
comp=Z,70nm,1.3s,mb5.5
LZH AMB AMB
comp=Z,170nm,4.5s
LZH LR LR
comp=E,1μm,16.1s
LZH LR LR
comp=Z,1μm,17.4s,MS5.1
GTA Gaotai 55.36 292 ⇑P **P** **04 25 51.8 +0.2**
GTA AP pP 04 26 05.5 -0.3
GTA XP sP 04 26 10.0 -1.8
GTA PP PP 04 27 57.6 +2.0
GTA PPP 04 29 09.8
GTA S **S** **04 33 32.2 +0.2**
GTA PS 04 33 46.6
GTA XS sS 04 33 49.7 -6.3
GTA SS SS 04 37 12.7 -4.3
GTA AMB AMB
comp=Z,43nm,1.2s,mb5.3
GTA AMB AMB
comp=Z,237nm,6.1s
GTA LR LR
comp=N,967nm,17.5s,MS5.1
GTA LR LR
comp=E,1μm,16.4s,MS5.1
GTA LR LR
comp=Z,1μm,19.0s,MS5.0
ENH Enshi 55.61 277 PFAKE 04 26 10.0 +17
ENH LR LR
comp=Z,3.0nm,22.0s
SFJD Kangerlussuaq 55.91 22 *i*P **P** **04 25 54.4 -1.1**
comp=Z,14nm,0.9s,mb5.0
SFJD *e* 04 33 23.8
SFJD *i* 04 35 45.1
SFJD
comp=Z,730nm,20.0s
SFJD Kangerlussuaq 55.91 22 *i*P **P** **04 25 54.4 -1.1**
SFJD pmax pmax
comp=Z,14nm,0.9s,mb5.0
SFJD MLR MLR
comp=Z,740nm,20.0s,MS4.8
AMTX Amarillo 56.37 75 *e*P **P** **04 25 58.9 +0.1**
comp=Z,16nm,0.4s,mb5.4
AMTX LR LR
comp=Z,855nm,22.0s,MS4.8
KEV Kevo 57.83 350 *e*P **P** **04 26 06.9 -2.2**
comp=Z,8.8nm,0.8s,mb4.8
KEV LR LR
comp=Z,692nm,19.0s,MS4.8
JMIC Jan Mayen 57.92 4 *e*P **P** **04 26 15.4 +5.6**
JMIC AMS AMS 04 59 58.2
comp=Z,314nm,20.8s,MS4.4
ARCES ARCESS Array B 58.20 350 P **P** **04 26 11.2 -0.6**
comp=Z,22nm,0.8s,mb5.3,baz=22,slow=8.3,SNR=66
LVZ Lovozero 58.53 346 P **P** **04 26 13.2 -0.8**
comp=Z,283nm,0.7s,SNR=15
LVZ Lovozero 58.53 346 *c*P **P** **04 26 12.3 -1.7**
LVZ *e* 04 28 21.2
LVZ *e*PPP 04 29 45.3
LVZ *e*S **S** **04 34 09.6 -4.2**
LVZ pmax pmax
comp=N,17nm,1.1s
LVZ pmax pmax
comp=Z,48nm,1.1s,mb5.4
LVZ pmax pmax
comp=E,5.0nm,0.9s
LVZ pmax pmax
comp=Z,167nm,2.3s,mb5.7
LVZ pmax pmax
comp=N,25nm,1.3s
LVZ pmax pmax
comp=E,75nm,2.8s
LVZ smax
comp=N,238nm,15.8s
LVZ smax
comp=Z,69nm,12.9s
LVZ smax
comp=E,90nm,12.6s
LVZ MLR MLR
comp=Z,973nm,22.0s,MS4.9
LVZ MLR MLR
comp=N,653nm,24.0s,MS4.9
LVZ MLR MLR
comp=E,765nm,22.0s,MS4.9
CD2 Chengdu 58.72 282 P **P** **04 26 15.4 +0.1**
CD2 PCP PcP 04 27 05.3 +0.6
CD2 PP PP 04 28 26.8 +1.2
CD2 SCP ScP 04 31 03.8 +3.1
CD2 PCS PcS 04 31 07.0 +0.5
CD2 S **S** **04 34 17.2 +0.9**
CD2 SCS ScS 04 36 01.0 +0.4
CD2 SS SS 04 38 11.5 +1.5
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.6s
CD2 LR LR
comp=N,450nm,19.2s
CD2 LR LR
comp=Z,570nm,17.4s,MS4.8
TRO Tromso 58.73 353 *e*P **P** **04 26 13.7 -1.8**
TRO *e*PP PP 04 28 27.5 +1.8
TRO *e*S **S** **04 34 22.2 +5.8**
TRO AMS AMS 05 00 13.3
comp=Z,236nm,19.4s,MS4.3
KURK Kurchatov 58.92 313 P **P** **04 26 16.3 -0.4**
comp=Z,385nm,0.8s,SNR=40
KURK Kurchatov 58.92 313 ⇑P **P** **04 26 16.6 -0.1**
SNR=19
KURK Kurchatov 58.92 313 *e*P **P** **04 26 16.7 0.0**
KURK *e**PP pP 04 26 30.7 -0.4
KURK pmax pmax
comp=Z,47nm,0.8s,mb5.6
KURK MLR MLR
comp=Z,2μm,19.0s,MS5.2
KURK Kurchatov 58.92 313 *e*P **P** **04 26 16.7 0.0**
comp=Z,47nm,0.8s,mb5.6
KURK *e*pP pP 04 26 30.7 -0.4
KURK LR LR
comp=Z,2μm,19.0s,MS5.2
LTX Lajitas 58.97 81 P **P** **04 26 16.6 -0.4**
LTX pmax pmax
comp=Z,19nm,1.0s,mb5.1
LTX Lajitas 58.97 81 *e*P **P** **04 26 15.9 -1.1**
comp=Z,19nm,1.0s,mb5.1
LTX LR LR
comp=Z,587nm,19.0s,MS4.7
APA Apatity 59.02 346 ⇑*i*P **P** **04 26 16.5 -0.9**
APA *e*S **S** **04 34 22.0 +1.8**
APA pmax pmax
comp=Z,21nm,1.0s,mb5.1
APA MLR MLR
comp=Z,900nm,12.0s,MS5.1
WMQ Urumqi 59.19 303 P **P** **04 26 21.0 +2.4**
WMQ AP pP 04 26 33.7 +0.7
WMQ XP sP 04 26 39.0 +0.1
WMQ PCP PcP 04 27 08.8 +2.3
WMQ PP PP 04 28 33.8 +4.1
WMQ SCP ScP 04 31 04.2 +1.5
WMQ PCS PcS 04 31 09.3 +0.8
WMQ S **S** **04 34 23.7 +1.4**
WMQ PS 04 34 44.6
WMQ SCS ScS 04 36 03.4 -0.7
WMQ AMB AMB
comp=Z,86nm,2.1s,mb5.4
WMQ AMB AMB
comp=Z,147nm,5.2s
WMQ LR LR
comp=N,2μm,17.8s,MS5.3
WMQ LR LR
comp=E,1μm,22.6s,MS5.3
WMQ LR LR
comp=Z,2μm,19.5s,MS5.3
FUNA Funafuti 59.51 182 PFAKE 04 26 30.0 +9.2
FUNA LR LR
comp=Z,6μm,19.0s,MS5.8
MK31 Makanchi Array 59.91 308 P **P** **04 26 23.0 -0.5**
MK31 pmax pmax
comp=Z,15nm,0.7s,mb5.1
MKAR Makanchi Array 59.91 308 P **P** **04 26 23.2 -0.3**
comp=Z,20nm,0.7s,mb5.2,baz=48,slow=7.2,SNR=91
MKAR Makanchi Array 59.91 308 *i*P **P** **04 26 23.2 -0.3**
MKAR pmax pmax
comp=Z,20nm,0.7s
GYA Guiyang 60.05 276 ⇓*i*P **P** **04 26 24.6 +0.1**
GYA AP pP 04 26 40.7 +1.8
GYA XP sP 04 26 47.6 +2.7
GYA PP PP 04 28 39.3 +2.0
GYA S **S** **04 34 30.8 -2.7**
GYA XS sS 04 34 58.2 +0.5
GYA SS SS 04 38 29.4 -1.4
GYA AMB AMB
comp=Z,20nm,1.3s,mb5.0
GYA AMB AMB
comp=Z,130nm,5.7s
GYA LR LR
comp=N,640nm,18.4s,MS4.9

GYA LR LR
comp=E,590nm,17.6s,MS4.9
GYA LR LR
comp=Z,610nm,18.0s,MS4.8
CHKZ Chkalovo 60.26 320 *e*P **P 04 26 25.2 -0.7**
CHKZ *e* 04 27 10.3
CHKZ pmax pmax
comp=Z,36nm,1.4s,mb5.2
CHKZ Chkalovo 60.26 320 *e*P **P 04 26 25.2 -0.7**
comp=Z,36nm,1.4s,mb5.2
CHKZ *e*PcP PcP 04 27 10.3 -0.5
SCHQ Schefferville 60.31 38 P **P 04 26 24.7 -1.6**
comp=Z,21nm,0.8s,mb5.2,baz=333,slow=7.7,SNR=33
SCHQ LR LR 04 54 20.2
comp=Z,2μm,18.5s,MS5.2,baz=324,slow=38
SCHQ Schefferville 60.31 38 *e*P **P 04 26 25.1 -1.2**
comp=Z,37nm,1.0s,mb5.4
SCHQ LR LR
comp=Z,395nm,22.0s,MS4.5
CCM Cathedral Cave 60.37 65 P **P 04 26 24.7 -2.0**
CCM pmax pmax
comp=Z,63nm,1.5s,mb5.4
CCM Cathedral Cave 60.37 65⇑*i*P **P 04 26 24.3 -2.4**
comp=Z,63nm,1.5s,mb5.4
CCM LR LR
comp=Z,578nm,21.0s,MS4.7
SLM Saint Louis 60.54 64 P **P 04 26 27.4 -0.5**
SLM pmax pmax
comp=Z,26nm,0.8s,mb5.4
SLM Saint Louis 60.54 64 *e*P **P 04 26 26.0 -1.9**
comp=Z,26nm,0.8s,mb5.4
LOF Lofoten 60.59 355 *e*P **P 04 26 29.0 +0.8**
VOSK Vostochnaya 60.81 319 P **P 04 26 28.4 -1.3**
VOSK pmax pmax
comp=Z,18nm,1.0s,mb5.2
BVA0 Borovoye Array 60.83 320 *i* P **P 04 26 29.4 -0.4**
BVA0 pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
BRVK Borovoye 60.85 320 P **P 04 26 29.9 0.0**
comp=Z,126nm,1.0s,mb6.0,SNR=7.4
BRVK Borovoye 60.85 320⇑P **P 04 26 29.1 -0.8**
SNR=10
BRVK Borovoye 60.85 320 *e*P **P 04 26 29.4 -0.5**
BRVK *e* 04 27 13.5
BRVK pmax pmax
comp=Z,16nm,1.0s,mb5.1
BRVK MLR MLR
comp=Z,1μm,22.0s,MS4.9
BRVK Borovoye 60.85 320 *e*P **P 04 26 29.4 -0.6**
comp=Z,16nm,1.0s,mb5.1
BRVK *e*PcP PcP 04 27 13.5 +0.3
BRVK LR LR
comp=Z,1μm,22.0s,MS4.9
FVM French Village 60.89 65 P **P 04 26 29.5 -0.7**
FVM pmax pmax
comp=Z,32nm,0.9s,mb5.5
FVM French Village 60.89 65⇑*i*P **P 04 26 28.6 -1.6**
comp=Z,32nm,0.9s,mb5.5
ZRNK Zerenda 61.44 320⇑*i*P **P 04 26 33.0 -1.0**
ZRNK *e* 04 27 15.7
ZRNK pmax pmax
comp=Z,19nm,0.9s,mb5.2
ZRNK Zerenda 61.44 320⇑*i*P **P 04 26 33.0 -1.0**
comp=Z,19nm,0.9s,mb5.2
ZRNK *e*PcP PcP 04 27 15.7 +0.1
MIAR Mount Ida 61.45 70⇑*i*P **P 04 26 32.9 -1.1**
MIAR pmax pmax
comp=Z,33nm,1.0s,mb5.4
MIAR MLR MLR
comp=Z,731nm,19.0s,MS4.8
MIAR Mount Ida 61.45 70⇑*i*P **P 04 26 32.9 -1.2**
comp=Z,33nm,1.0s,mb5.4
MIAR LR LR
comp=Z,731nm,19.0s,MS4.8
SVE Sverdlovsk 61.58 327 *e*P **P 04 26 35.3 +0.4**
SVE *e* 04 27 14.7
SVE *e*PPP 04 30 26.0
SVE *e*S S 04 35 20.0 +27
SVE *e* 04 36 16.0
SVE pmax pmax
comp=Z,40nm,2.2s,mb5.2
SVE MLR MLR
comp=N,600nm,18.0s,MS4.9
SVE MLR MLR
comp=E,400nm,18.0s,MS4.9
SVE MLR MLR
comp=Z,2μm,18.0s,MS5.2
UALR University of 62.02 69 *e*P **P 04 26 36.3 -1.6**
comp=Z,13nm,0.8s,mb5.1
PARMO Parma 62.19 65⇑*i*P **P 04 26 37.4 -1.6**
BLO Bloomington 62.24 61 P **P 04 26 38.4 -1.0**
BLO pmax pmax
comp=Z,73nm,0.8s,mb5.9
BLO Bloomington 62.24 61⇑*i*P **P 04 26 38.2 -1.2**
comp=Z,73nm,0.8s,mb5.9
HBAR Harrisburg 62.45 67 *e*P **P 04 26 40.1 -0.6**
USIN University of 62.46 63⇑*i*P **P 04 26 39.6 -1.1**
comp=Z,172nm,1.0s,mb6.1
USIN *e*pP pP 04 26 53.4 -1.8
ARU Arti 62.59 328⇑*i*P **P 04 26 40.8 -0.9**
ARU *e* 04 27 19.7
ARU *e* 04 28 59.6
ARU *e*S **S 04 35 06.3 +0.6**
ARU *e*SS SS 04 39 14.4 +3.8
ARU pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ARU MLR MLR
comp=N,700nm,18.0s,MS4.9
ARU MLR MLR
comp=Z,1μm,18.0s,MS5.1
ARU MLR MLR
comp=E,400nm,19.0s,MS4.9
ARU Arti 62.59 328⇑*i*P **P 04 26 40.5 -1.2**
comp=E,9.1nm,0.5s,mb5.2
ARU LR LR
comp=Z,1μm,19.0s,MS5.1
NATX Nacogdoches 62.77 73 *e*P **P 04 26 42.5 -0.3**
comp=Z,16nm,0.7s,mb5.2
NATX LR LR
comp=Z,1μm,21.0s,MS5.1
UTMT University of 62.92 65 *e*P **P 04 26 43.1 -0.7**
comp=Z,126nm,1.0s,mb6.0
HALT Halls 62.96 66 *e*P **P 04 26 43.5 -0.6**
HNR Honiara 63.02 203 PFAKE 04 27 00.0 +15
HNR LR LR
comp=Z,894nm,19.0s,MS5.0
WCI Wyandotte Cave 63.04 62⇑*i*P **P 04 26 43.3 -1.3**
WCI *e**PP pP 04 26 57.7 -1.4
WCI pmax pmax
comp=Z,64nm,0.8s,mb5.8
WCI MLR MLR
comp=Z,950nm,20.0s,MS5.0
WCI Wyandotte Cave 63.04 62⇑*i*P **P 04 26 43.2 -1.4**
comp=Z,64nm,0.8s,mb5.8
WCI *e*pP pP 04 26 57.6 -1.5
WCI LR LR
comp=Z,950nm,20.0s,MS5.0
BORG Borgarnes 63.12 10 PFAKE 04 27 00.0 +15
BORG LR LR
comp=Z,380nm,19.0s,MS4.6
DAV Davao City (W) 63.15 246 PFAKE 04 27 00.0 +15
DAV LR LR
comp=Z,998nm,19.0s,MS5.0
HKT Hockley 63.34 75 *e*P **P 04 26 46.0 -0.7**
HKT *e**PP pP 04 27 01.1 -0.1
HKT pmax pmax
comp=Z,62nm,1.5s,mb5.5
HKT MLR MLR
comp=Z,942nm,22.0s,MS4.9
HKT Hockley 63.34 75 *e*P **P 04 26 46.0 -0.7**
comp=Z,62nm,1.5s,mb5.5
HKT *e*pP pP 04 27 01.1 -0.1
HKT LR LR
comp=Z,942nm,22.0s,MS4.9
KMI Kunming 63.46 278 P **P 04 26 47.8 +0.4**
KMI AP pP 04 27 02.7 +0.7
KMI XP sP 04 27 09.2 +1.3
KMI PCP PcP 04 27 25.6 +1.8
KMI PP PP 04 29 12.0 +4.6
KMI S **S 04 35 17.1 +0.5**
KMI XS sS 04 35 39.8 -1.2
KMI SKS 04 36 33.4
KMI AMB AMB
comp=Z,17nm,1.2s,mb5.0
KMI AMB AMB
comp=Z,262nm,3.6s
KMI LR LR
comp=N,609nm,17.7s,MS5.0
KMI LR LR
comp=E,591nm,16.1s,MS5.0
KMI LR LR
comp=Z,500nm,21.3s
QIZ Qiongzhong 63.47 268 P **P 04 26 47.9 +0.4**
QIZ AP pP 04 26 58.8 -3.2
QIZ XP sP 04 27 05.4 -2.5
QIZ S **S 04 35 19.1 +2.5**
QIZ XS sS 04 35 41.4 +0.4
QIZ SCS ScS 04 36 35.0 -1.2
QIZ AMB AMB
comp=Z,24nm,1.6s,mb5.1
QIZ LR LR
comp=E,549nm,19.1s
QIZ LR LR
comp=Z,599nm,21.6s,MS4.7
QIZ Qiongzhong 63.47 268 PFAKE 04 27 00.0 +13
QIZ LR LR
comp=Z,652nm,21.0s,MS4.8
ERPA Erie 63.64 55 *e*P **P 04 26 48.3 -0.3**
comp=Z,33nm,0.8s,mb5.4
ERPA LR LR
comp=Z,995nm,19.0s,MS5.0
WVT Waverly 63.66 65⇑*i*P **P 04 26 47.9 -0.9**
WVT pmax pmax
comp=Z,26nm,0.8s,mb5.3
WVT MLR MLR
comp=Z,1μm,19.0s,MS5.1
WVT Waverly 63.66 65⇑*i*P **P 04 26 47.9 -0.9**
comp=Z,26nm,0.8s,mb5.3
WVT LR LR
comp=Z,1μm,19.0s,MS5.1
JOF Joensuu 63.68 345 *e*p **P 04 26 47.6 -1.3**
comp=Z,31nm,0.6s,mb5.5
JOF Joensuu 63.68 345 *e*P **P 04 26 47.6 -1.3**
JOF pmax pmax
comp=Z,31nm,0.6s,mb5.5
ALLY Alegheny Colle 63.90 55⇑*i*P **P 04 26 49.4 -0.9**
OXF Oxford 63.91 67 P **P 04 26 50.0 -0.4**
OXF pmax pmax
comp=Z,100nm,0.9s,mb5.8
OXF Oxford 63.91 67⇑*i*P **P 04 26 49.2 -1.2**
comp=Z,103nm,0.9s,mb5.9
OXF LR LR
comp=Z,611nm,22.0s,MS4.7
KLMR Klimovskoe 64.03 340*c i*P **P 04 26 50.3 -0.9**
KLMR *e*S **S 04 35 20.7 -3.0**
KLMR pmax pmax
comp=Z,70nm,0.9s,mb5.7
KLMR pmax pmax
comp=Z,60nm,8.6s
KLMR MLR MLR
comp=Z,2μm,19.0s,MS5.2
PLAL Pickwick Lake 64.34 66⇑*i*P **P 04 26 51.8 -1.4**
comp=Z,22nm,0.6s,mb5.4
PLAL LR LR
comp=Z,721nm,22.0s,MS4.8
NCB Newcomb 65.16 50 *e*P **P 04 26 56.9 -1.7**
comp=Z,20nm,1.2s,mb5.0
NCB LR LR
comp=Z,1μm,19.0s,MS5.1
AFI Afiamalu 65.17 172 PFAKE 04 27 10.0 +11
AFI LR LR
comp=Z,1μm,19.0s,MS5.2
KAF Kangasniemi 65.21 347 *e*p **P 04 26 57.4 -1.5**
comp=Z,22nm,0.5s,mb5.5
KAF Kangasniemi 65.21 347 *e*P **P 04 26 57.4 -1.5**
KAF pmax pmax
comp=Z,23nm,0.5s,mb5.5
MCWV Mont Chateau 65.50 57 *e*P **P 04 26 59.9 -0.8**
MCWV *e*pP pP 04 27 13.7 -1.7
MCWV LR LR
comp=Z,2μm,19.0s,MS5.4
BINY Binghamton 65.61 53 *e*P **P 04 27 00.7 -0.7**
comp=Z,104nm,1.5s,mb5.6
BINY LR LR
comp=Z,1μm,21.0s,MS5.1
TZTN Tazewell 65.77 61⇑*i*P **P 04 27 01.8 -0.7**
SSPA Standing Stone 65.80 55⇑*i*P **P 04 27 01.6 -1.1**
comp=Z,21nm,0.9s,mb5.2
SSPA LR LR
comp=Z,941nm,19.0s,MS5.0
ACCN Adirondack Com 65.87 50 *e*P **P 04 27 01.3 -1.9**
FINES FINESS Array B 65.88 347 P **P 04 27 01.7 -1.5**
comp=Z,26nm,0.7s,mb5.3,baz=26,slow=7.0,SNR=118
FINES LR LR 05 01 34.1
comp=Z,1μm,18.4s,MS5.1,baz=190,slow=41
FINES FINESS Array B 65.88 347 *i* P **P 04 27 02.2 -1.0**
FINES pmax pmax
comp=Z,26nm,0.7s
TKM2 Tokmak 2 66.00 309 P **P 04 27 05.0 +1.0**
SNR=35
CPCT Cooper Cave 66.02 63⇑*i*P **P 04 27 03.4 -0.6**
CPCT *e*pP pP 04 27 17.6 -1.1
LBNH Lisbon 66.06 49 PFAKE 04 27 20.0 +16
LBNH LR LR
comp=Z,1μm,20.0s,MS5.1
ULHL Ulahol 66.18 308 P **P 04 27 07.4 +2.2**
SNR=11
USP Ospenovka 66.27 310 P **P 04 27 06.8 +1.1**
SNR=69
CHMS Chumysh 66.35 310 P **P 04 27 07.9 +1.7**
SNR=11
LRAL Lakeview Retre 66.36 66 PFAKE 04 27 20.0 +14
LRAL LR LR
comp=Z,616nm,22.0s,MS4.8
FWV Forest Hill 66.50 59 *e*P **P 04 27 07.1 -0.1**
KBK Karagaybulak 66.51 309 P **P 04 27 09.2 +2.0**
SNR=17
FRU Bishkek 66.54 310 *i* P **P 04 27 08.0 +0.6**
FRU *e* pP 04 27 25.0 +3.0
FRU pmax pmax
comp=Z,160nm,2.0s,mb5.7
FRU MLR MLR
comp=Z,1μm,16.0s,MS5.1
AAK Ala-Archa 66.75 310 P **P 04 27 10.8 +2.0**
SNR=15
AAK Ala-Archa 66.75 310 P **P 04 27 09.8 +1.1**
comp=Z,292nm,0.6s,SNR=12
AAK Ala-Archa 66.75 310 P **P 04 27 08.7 0.0**
SNR=25
AAK Ala-Archa 66.75 310*c i*P **P 04 27 08.5 -0.2**
AAK pmax pmax
comp=Z,109nm,1.8s,mb5.6
AAK Ala-Archa 66.75 310⇑*i*P **P 04 27 08.2 -0.5**
comp=Z,50nm,0.9s,mb5.5
AAK LR LR
comp=Z,1μm,20.0s,MS5.0
ELN Prospectdale 66.80 59 *e*P **P 04 27 08.5 -0.5**
ELN *e*pP pP 04 27 23.1 -0.6
KZA Kyzart 66.80 309 P **P 04 27 11.8 +2.8**
SNR=26
PUL Pulkovo 66.81 344 P **P 04 27 08.4 -0.8**
PUL *e* 04 29 32.2
PUL *e*PPP 04 31 11.3
PUL S S 04 35 54.5 -3.2
PUL pmax pmax
comp=N,52nm,0.7s
PUL pmax pmax
comp=Z,108nm,0.7s,mb6.0
PUL pmax pmax
comp=E,115nm,0.8s
PUL smax
comp=N,297nm,18.7s
PUL smax
comp=Z,128nm,16.4s
PUL smax
comp=E,909nm,29.8s
BLA Blacksburg 66.99 59⇑*i*P **P 04 27 09.7 -0.6**
BLA pmax pmax
comp=Z,7.0nm,1.4s
BLA MLR MLR
comp=Z,56nm,21.0s
BLA Blacksburg 66.99 59⇑*i*P **P 04 27 09.7 -0.5**
comp=Z,7.4nm,1.4s
BLA LR LR
comp=Z,56nm,21.0s
PMG Port Moresby 66.99 216 PFAKE 04 27 20.0 +10
PMG LR LR
comp=Z,1μm,20.0s,MS5.0
UCH Uchtor 67.04 309 P **P 04 27 12.5 +1.9**
SNR=24
MVL Millersville 67.06 54 *e*P **P 04 27 09.5 -1.3**
MVL *e*pP pP 04 27 22.8 -2.5
EKS2 Erkin-Say 67.07 310 P **P 04 27 12.0 +1.2**
SNR=44
LSA Lhasa 67.22 289 P **P 04 27 14.0 +2.2**
LSA AMB AMB
comp=Z,30nm,0.9s,mb5.3
LSA Lhasa 67.22 289 *e*P **P 04 27 14.1 +2.3**
LSA pmax pmax
comp=Z,28nm,0.8s,mb5.3
LSA MLR MLR
comp=Z,1μm,19.0s,MS5.2
LSA Lhasa 67.22 289 *e*P **P 04 27 14.1 +2.3**
comp=Z,28nm,0.8s,mb5.3
LSA LR LR
comp=Z,1μm,19.0s,MS5.2
AML Almayashu 67.52 310 P **P 04 27 16.4 +2.7**
SNR=14
PAL Palisades 67.54 52 P **P 04 27 13.4 -0.4**
PAL pmax pmax
comp=Z,11nm,0.7s,mb5.0
PAL Palisades 67.54 52 *e*P **P 04 27 12.6 -1.2**
comp=Z,11nm,0.7s,mb5.0
HRV Harvard--Oak R 67.55 50 PFAKE 04 27 30.0 +16
HRV LR LR
comp=Z,1μm,20.0s,MS5.1
CPNY Central Park 67.67 52 *e*P **P 04 27 13.3 -1.3**
WES Weston 67.75 50 PFAKE 04 27 30.0 +15
WES LR LR
comp=Z,1μm,20.0s,MS5.2
NB2 NORSAR Subarra 67.78 355 P **P 04 27 14.5 -0.8**
comp=Z,57nm,1.2s,mb5.5,baz=5.5,slow=6.2
NOA NORSAR Array B 67.78 355 P **P 04 27 14.4 -0.9**
comp=Z,7.9nm,0.6s,mb4.9,baz=6.8,slow=6.4,SNR=36
NOA LR LR 04 57 47.1
comp=Z,441nm,20.8s,MS4.7,baz=350,slow=37
CBN Corbin 67.87 56 PFAKE 04 27 30.0 +14
CBN LR LR
comp=Z,3μm,19.0s,MS5.5
HYA Hoyanger 67.89 357 *e*P **P 04 27 18.2 +2.3**
KK31 Karatay Array 68.28 312 *i* P **P 04 27 18.7 +0.3**
KK31 pmax pmax
comp=Z,18nm,0.5s,mb5.4
KK31 Karatay Array 68.28 312 *i* P **P 04 27 18.8 +0.4**
KKAR Karatay Array 68.28 312 *i* P **P 04 27 18.7 +0.3**
KKAR pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
KSH Kashi 68.36 306 *i* P **P 04 27 20.3 +1.4**
KSH *e*AP pP 04 27 36.1 +2.5
KSH *e*XP sP 04 27 43.4 +3.9
KSH *e*PCP PcP 04 27 46.2 +2.1
KSH *e*PP PP 04 29 53.1 +2.9
KSH *e*PPP 04 31 30.2
KSH *e*SCP 04 31 42.8
KSH *e*PCS 04 31 50.9
KSH *e*S S 04 36 13.7 -2.6
KSH *e*XS sS 04 36 41.2 +0.3
KSH *e*PS 04 36 50.2
KSH *e*SCS ScS 04 37 10.2 -3.9
KSH *e*SS SS 04 40 39.1 -1.2
KSH AMB AMB
comp=Z,454nm,5.8s
KSH LR LR
comp=N,1μm,16.8s,MS5.4
KSH LR LR
comp=E,2μm,17.0s,MS5.4
KSH LR LR
comp=Z,2μm,22.9s
ASK Askoy 68.60 358 *e*P **P 04 27 20.3 -0.1**
ASK AMb AMB 04 27 32.3
comp=Z,132nm,1.7s,mb5.6
TAOE Nuku Hiva Isla 68.69 138 *e*S S 04 36 17.5 -2.6
comp=Z,4μm,25.7s
TAOE *e*LR LR 04 48 00.9
comp=Z,6μm,23.1s,baz=344
BER Bergen 68.70 358 *e*P **P 04 27 26.2 +5.2**
BER *e*S S 04 36 28.5 +8.3
LRW Lerwick 69.00 1 *e*P **P 04 27 22.1 -0.8**
LRW Lerwick 69.00 1 *e*P **P 04 27 22.1 -0.8**
MOS Moscow 69.11 339 *e*P **P 04 27 22.7 -0.9**
MOS *e* 04 27 48.7
MOS *e*S S 04 36 28.9 +3.9
MOS pmax pmax
comp=Z,200nm,1.0s,mb6.0
MOS pmax pmax
comp=Z,160nm,0.9s,mb6.0
MOS MLR MLR
comp=N,2μm,18.0s,MS5.4
MOS MLR MLR
comp=E,700nm,18.0s,MS5.4
MOS MLR MLR
comp=Z,2μm,18.0s,MS5.4
ODD1 Odda 69.13 357 *e*P **P 04 27 22.8 -0.9**
ODD1 AMb AMB 04 27 37.7
comp=Z,51nm,1.7s,mb5.2
KONO Kongsberg 69.26 355 *e* **P 04 27 18.8 -5.7**
KONO *e*P 04 27 26.4
KONO *e*S S 04 36 35.4 +8.5
KONO Kongsberg 69.26 355 *e*P **P 04 27 24.3 -0.3**
KONO *e*pP pP 04 27 38.7 -0.5
KONO LR LR
comp=Z,534nm,20.0s,MS4.8
KKM Kota Kinabalu 69.49 253 *e*P **P 04 27 26.1 +0.1**
OBN Obninsk 69.92 339 P **P 04 27 28.0 -0.6**
comp=Z,778nm,0.8s,SNR=7.8
OBN Obninsk 69.92 339*c i*P **P 04 27 28.0 -0.6**
OBN *e**PP pP 04 27 41.7 -1.6
OBN *e*SS SS 04 41 00.0 -4.3
OBN pmax pmax
comp=Z,105nm,0.8s,mb5.8
OBN MLR MLR
comp=Z,1μm,16.0s,MS5.3
OBN Obninsk 69.92 339⇑*i*P **P 04 27 27.4 -1.2**
comp=Z,107nm,0.8s,mb5.8
OBN LR LR
comp=Z,2μm,19.0s,MS5.3
ORE Reay 70.54 3 *e*P **P 04 27 31.1 -1.3**
ORE Reay 70.54 3 *e*P **P 04 27 31.1 -1.3**
KAC Achnashellach 71.54 3 *e*P **P 04 27 38.3 -0.1**
KAC Achnashellach 71.54 3 *e*P **P 04 27 38.3 -0.1**
GUN Gumba 71.65 292 *e*P **P 04 27 40.3 +1.2**
comp=Z,196nm,0.4s,mb6.3
JIRN Jiri 71.65 291 *e*P **P 04 27 40.4 +1.3**
comp=Z,118nm,0.5s,mb6.0
KKN Kakani 72.09 292 *e*P **P 04 27 42.7 +1.0**
comp=Z,87nm,0.6s,mb5.9
KAR1 Arisaig 72.10 4 *e*P **P 04 27 41.2 -0.6**
KAR1 AMb AMB 04 27 42.6
comp=Z,54nm,1.1s,mb5.4
KAR1 Arisaig 72.10 4 *e*P **P 04 27 41.2 -0.6**
KAR1 AMb AMB 04 27 42.6
comp=Z,54nm,1.1s,mb5.4
PKI Pulchoki 72.18 292 *e*P **P 04 27 43.0 +0.8**
comp=Z,55nm,0.5s,mb5.7
MNK Minsk 72.25 344 *e*P **P 04 27 40.0 -2.7**
GKN Gorkha 72.30 293 *e*P **P 04 27 43.6 +0.6**
comp=Z,78nm,0.6s,mb5.8
DMN Daman 72.33 292 *e*P **P 04 27 44.6 +1.5**
comp=Z,47nm,0.7s,mb5.6
MUD Monsted U'grnd 72.47 355 *i* P **P 04 27 44.3 +0.3**
comp=Z,44nm,1.1s,mb5.3
MUD Monsted U'grnd 72.47 355 *i* P **P 04 27 44.3 +0.3**
MUD pmax pmax
comp=Z,44nm,1.1s,mb5.3
EAB Aberfoyle 72.88 3 *e*P **P 04 27 46.5 +0.1**
EAB Aberfoyle 72.88 3 *e*P **P 04 27 46.5 +0.1**
COP Copenhagen 73.03 353 *i* P **P 04 27 47.7 +0.4**
comp=Z,28nm,0.8s,mb5.2
COP Copenhagen 73.03 353 *i* P **P 04 27 47.7 +0.4**
COP pmax pmax
comp=Z,28nm,0.8s,mb5.2
KOLN Koldanda 73.08 293 *e*P **P 04 27 48.3 +0.7**
comp=Z,57nm,0.9s,mb5.5
ESY Stoneypath 73.20 2 *e*P **P 04 27 48.1 -0.2**
ESY Stoneypath 73.20 2 *e*P **P 04 27 48.1 -0.2**
DWPF Disney 73.22 66 PFAKE 04 28 00.0 +12
DWPF LR LR
comp=Z,620nm,19.0s,MS4.9
EAU Auchinoon 73.25 2 *e*P **P 04 27 48.8 +0.2**
EAU Auchinoon 73.25 2 *e*P **P 04 27 48.8 +0.2**
PPT Papeete 73.26 150 *e*S S 04 37 10.9 -2.2
comp=Z,2μm,27.8s
PPT *e*SS SS 04 41 52.8 -2.7
comp=Z,248nm,23.2s
PPT *e*LR LR 04 50 10.4
comp=Z,2μm,27.2s,baz=349
PPT Papeete 73.26 150 LR LR 04 54 21.5

comp=Z,623nm,19.2s,MS4.9,baz=315,slow=31
SUW Suwalki 73.47 346 *e*P **P** **04 27 48.7 -1.2**
SUW L 05 06 02.7
comp=Z,0.9nm,16.1s
LGTI Lohaghat 73.72 297 *e*P **P** **04 27 53.5 +2.1**
ESK Eskdalemuir 73.79 2 *e*P **P** **04 27 51.1 -0.6**
ESK Eskdalemuir 73.79 2 *e*P **P** **04 27 51.1 -0.6**
ESK Eskdalemuir 73.79 2 *e*P **P** **04 27 51.9 +0.1**
ESK LR LR
comp=Z,635nm,22.0s,MS4.9
RGN Rugen 74.09 352 *e*P **P** **04 27 53.6 +0.1**
comp=Z,120nm,0.8s,mb5.9
RAR Rarotonga 74.12 161 PFAKE
RAR LR LR 04 28 10.0 +16
comp=Z,1.0nm,19.0s
NIL Nilore 74.27 304 P **P** **04 27 56.9 +2.3**
comp=Z,170nm,0.9s,mb6.0,SNR=7.0
BBO1 Bothel 74.37 2 *e*P **P** **04 27 54.1 -1.1**
BBO1 Bothel 74.37 2 *e*P **P** **04 27 54.1 -1.1**
BSEG Bad Segeberg 74.92 354 *e*P **P** **04 27 58.4 +0.1**
comp=Z,76nm,0.9s,mb5.6
BSEG Bad Segeberg 74.92 354 *e*P **P** **04 27 58.4 +0.1**
BSEG pmax pmax
comp=Z,76nm,0.9s,mb5.6
TEIG Tepich 75.11 76 PFAKE 04 28 10.0 +11
TEIG LR LR
comp=Z,240nm,21.0s,MS4.5
DCN Croghan 75.60 5 *e*P **P** **04 28 01.9 -0.3**
AKASG Malin Array Be 75.62 342 P **P** **04 28 01.6 -0.8**
comp=Z,53nm,0.4s,mb5.9,baz=20,slow=5.8,SNR=279
AKASG LR LR 05 06 03.3
comp=Z,455nm,18.1s,MS4.8,baz=15,slow=40
AKASG Malin Array Be 75.62 342 *i* P **P** **04 28 01.6 -0.7**
AKASG pmax pmax
comp=Z,53nm,0.4s
DLF Lyons Farm 75.69 4 *e*P **P** **04 28 02.4 -0.3**
KBI1 Birley Grange 75.89 1 *e*P **P** **04 28 03.6 -0.3**
KBI1 Birley Grange 75.89 1 *e*P **P** **04 28 03.6 -0.3**
NDI New Delhi 76.00 298 *e*P **P** **04 28 04.0 -0.5**
RUE Ruedersdorf 76.10 352 *e*P **P** **04 28 04.7 -0.4**
comp=Z,41nm,0.9s,mb5.4
KWE Weaver Farm 76.12 2 *e*P **P** **04 28 04.2 -1.0**
KWE AMb AMB 04 28 07.2
comp=Z,50nm,1.7s,mb5.2
KWE Weaver Farm 76.12 2 *e*P **P** **04 28 04.2 -1.0**
KWE AMb AMB 04 28 07.2
comp=Z,50nm,1.7s,mb5.2
SBD1 Bryn Du 76.20 2 *e*P **P** **04 28 05.8 +0.1**
SBD1 AMb AMB 04 28 13.7
comp=Z,66nm,1.2s,mb5.4
SBD1 Bryn Du 76.20 2 *e*P **P** **04 28 05.8 +0.1**
SBD1 AMb AMB 04 28 13.7
comp=Z,66nm,1.2s,mb5.4
WIT Witteveen 76.23 356 *e*P **P** **04 28 06.8 +1.0**
NRDL Niedersach Rie 76.36 354 *e*P **P** **04 28 07.3 +0.7**
KSM Kuching 76.67 255⇑*i*P **P** **04 28 07.7 -0.6**
IBBN Ibbenburen 76.69 356 *e*P **P** **04 28 08.5 +0.1**
CLZ Clausthal 77.00 354 *e*P **P** **04 28 10.3 +0.1**
comp=Z,63nm,0.9s,mb5.5
CLZ Clausthal 77.00 354 *e*P **P** **04 28 10.3 +0.1**
CLZ pmax pmax
comp=Z,63nm,0.9s,mb5.5
HTR Trewern Hill 77.03 3 *e*P **P** **04 28 10.4 0.0**
HTR AMb AMB 04 28 11.5
comp=Z,51nm,1.2s,mb5.3
HTR Trewern Hill 77.03 3 *e*P **P** **04 28 10.4 0.0**
HTR AMb AMB 04 28 11.5
comp=Z,51nm,1.2s,mb5.3
WTSB Winterswijk 77.07 356 *e*P **P** **04 28 10.0 -0.5**
comp=Z,7.2nm,0.6s,mb4.8
MCH1 Michaelchurch 77.12 2 *e*P **P** **04 28 10.8 0.0**
MCH1 Michaelchurch 77.12 2 *e*P **P** **04 28 10.8 0.0**
CTAO Charters Tower 77.18 213 PFAKE 04 28 20.0 +8.8
CTAO LR LR
comp=Z,661nm,20.0s,MS5.0
CLL Collm 77.33 352⇑*i*P **P** **04 28 11.3 -0.7**
comp=Z,22nm,0.9s,mb5.1
CLL *e*PP PP 04 31 02.9 -3.8
CLL *e*S S 04 38 07.3 +9.1
CLL *e*PPS 04 38 59.6
CLL *e*SS SS 04 43 17.5 +20
CLL *e*SSSS 04 48 49.7
CLL *e*LR LR 04 53 44.2
CLL *e*L 05 10 15.7
comp=Z,702nm,18.0s
CLL Collm 77.33 352⇓*i*P **P** **04 28 11.8 -0.2**
comp=Z,logA/T=1.4,mb5.1
CLL *i* 04 28 32.9
CLL *e*S S 04 37 57.0 -1.2
CLL *e*PPS 04 38 54.0
CLL *e*SS SS 04 43 12.0 +15
CLL *e*SSSS 04 48 42.0
CLL Collm 77.33 352⇓*i*P **P** **04 28 11.8 -0.2**
CLL *i* *SP sP 04 28 32.9 +0.1
CLL *e*S S 04 37 57.0 -1.2
CLL pmax pmax
comp=Z,22nm,0.9s,mb5.1
CLL MLR MLR
comp=Z,700nm,16.0s,MS5.1
CLL Collm 77.33 352⇓*i*P **P** **04 28 11.8 -0.2**
comp=Z,22nm,0.9s,mb5.1
CLL *i* sP sP 04 28 32.9 +0.1
CLL *e*S S 04 37 57.0 -1.2
CLL LR LR
comp=Z,700nm,16.0s,MS5.1
GOF Gofitskoye 77.37 331 *e*P **P** **04 28 11.5 -0.8**
GOF pmax pmax
comp=Z,120nm,0.8s,mb5.9
LVV L'vov 77.40 345⇓*i*P **P** **04 28 12.8 +0.3**
LVV *e* 04 31 07.0
LVV *e*S S 04 37 53.8 -5.2
KSP Ksiaz 77.47 350 *e*P **P** **04 28 12.4 -0.4**
KSP L 05 07 51.4
comp=Z,1.7nm,20.1s
KSP Ksiaz 77.47 350 *e*P **P** **04 28 12.2 -0.6**
KSP LR LR
comp=Z,2µm,20.1s,MS5.4
HGH Gray Hill 77.48 2 *e*P **P** **04 28 12.9 0.0**
HGH AMb AMB 04 28 14.1
comp=Z,101nm,1.7s,mb5.5
HGH Gray Hill 77.48 2 *e*P **P** **04 28 12.9 0.0**
HGH AMb AMB 04 28 14.1
comp=Z,101nm,1.7s,mb5.5
BUG Bochum--Univer 77.57 356 *e*P **P** **04 28 13.0 -0.4**
OJC Ojcow 77.65 348 *i* P **P** **04 28 13.6 -0.2**
BRG Berggiesshubel 77.67 351 *e*P **P** **04 28 13.2 -0.8**
comp=Z,25nm,1.0s,mb5.1
BRG Berggiesshubel 77.67 351 *i* P **P** **04 28 13.8 -0.1**
comp=Z,15nm,1.0s,mb4.9
BRG *e* pP 04 28 24.3 -4.6
comp=Z,5.8nm,0.9s
BRG S S 04 38 05.0 +3.1
BRG SS SS 04 43 14.0 +12
BRG
comp=N,289nm,28.0s
BRG
comp=E,240nm,20.0s
BRG
comp=Z,301nm,25.2s
BRG Berggiesshubel 77.67 351 *i* P **P** **04 28 13.8 -0.2**
BRG *e* pP 04 28 24.3 -4.6
BRG S S 04 38 05.0 +3.1
BRG pmax pmax
comp=Z,15nm,1.0s,mb4.9
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BRG MLR MLR
comp=N,289nm,28.0s
BRG MLR MLR
comp=E,240nm,20.0s
BRG MLR MLR
comp=Z,301nm,25.2s,MS4.5
BRG Berggiesshubel 77.67 351 *i* P **P** **04 28 13.8 -0.1**
comp=Z,15nm,1.0s,mb4.9
BRG *e* pP 04 28 24.3 -4.6
BRG S S 04 38 05.0 +3.1
BRG SS SS 04 43 14.0 +12
BRG LR LR
comp=Z,300nm,25.2s,MS4.5
MAK Makhachkala 77.78 327 *e*P **P** **04 28 13.1 -1.5**
KWP Kalwaria 77.80 346 *e*P **P** **04 28 15.0 +0.3**
KWP L 05 09 10.8
comp=Z,1.7nm,18.2s
KWP Kalwaria 77.80 346 *e*P **P** **04 28 15.1 +0.4**
KWP pmax pmax
comp=Z,180nm,0.7s,mb6.1
KWP Kalwaria 77.80 346 *e*P **P** **04 28 15.1 +0.5**
comp=Z,180nm,0.7s,mb6.1
UPC Upice 77.83 350 *e*P **P** **04 28 14.7 -0.1**
DPC Dobruska-Polom 77.95 350 *e*P **P** **04 28 15.1 -0.4**
DPC AMS AMS 05 09 20.0
comp=Z,1µm,17.0s
PVCC Panska Ves 77.96 351 *e*P **P** **04 28 15.7 +0.2**
UBBA Unterbreizbach 78.04 354 *e*P **P** **04 28 16.1 +0.1**
MOX Moxa 78.10 353 *e*P **P** **04 28 16.0 -0.3**
comp=Z,27nm,1.0s,mb5.1
MOX Moxa 78.10 353 *e*P **P** **04 28 15.9 -0.4**
comp=Z,39nm,1.2s,mb5.2
MOX pmax pmax
comp=Z,500nm,20.0s
MOX Moxa 78.10 353 *e*P **P** **04 28 15.9 -0.4**
MOX pmax pmax
comp=Z,39nm,1.2s,mb5.2
MOX MLR MLR
comp=Z,500nm,20.0s,MS4.8
OKC Ostrava-Krasne 78.24 349 *e*P **P** **04 28 17.3 +0.2**
OKC AMS AMS 05 09 40.0
comp=Z,700nm,18.5s
TANN Tannenbergstha 78.26 352 *e*P **P** **04 28 17.0 -0.2**
BEBN Eben Emael 78.28 357 P **P** **04 28 17.1 -0.2**
HGN Heimansgroeve 78.31 357 *e*P **P** **04 28 17.1 -0.4**
comp=Z,53nm,0.7s,mb5.6
UCC Uccle 78.32 358 P **P** **04 28 17.7 +0.1**
NIE Niedzica 78.36 347 *e*P **P** **04 28 18.6 +0.8**
MORC Moravsky Berou 78.37 349⇓*i*P **P** **04 28 18.4 +0.6**
MORC Moravsky Berou 78.37 349⇓P **P** **04 28 18.4 +0.5**
NKC Novy Kostel 78.44 352 *e*P **P** **04 28 18.6 +0.4**
NKC AMS AMS 05 10 40.0
comp=Z,600nm,16.2s
MEM Membach 78.46 357 P **P** **04 28 18.5 +0.2**
comp=Z,27nm,0.9s,mb5.2
KIV Kislovodsk 78.47 330⇑P **P** **04 28 18.7 +0.3**
SNR=6.2
KIV Kislovodsk 78.47 330*c* *i*P **P** **04 28 18.8 +0.4**
KIV pmax pmax
comp=Z,30nm,0.9s,mb5.2
KIV Kislovodsk 78.47 330⇑*i*P **P** **04 28 18.4 0.0**
comp=Z,23nm,1.0s,mb5.1
KIV LR LR
comp=Z,870nm,22.0s,MS5.0
PRU Pruhonice 78.49 351 *e*P **P** **04 28 17.8 -0.7**
PRU AMS AMS 05 08 10.0
comp=Z,600nm,21.8s
KOLS Kolonicke sedl 78.55 346 *i* P **P** **04 28 19.6 +0.8**
comp=Z,35nm,0.8s,mb5.3
KOLS LR LR
comp=Z,200nm,21.1s,MS4.4
MENF Mencas 78.60 359 *e*P **P** **04 28 19.0 -0.1**
SNF Seneffe 78.61 358 P **P** **04 28 19.4 +0.2**
comp=Z,11nm,1.0s,mb4.8
BCLA Clavier 78.67 357 P **P** **04 28 19.4 -0.1**
comp=Z,18nm,0.8s,mb5.0
CRVS Cervenica-Dubn 78.70 346 *i* P **P** **04 28 20.4 +0.8**
CRVS pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CRVS Cervenica-Dubn 78.70 346 *i* P **P** **04 28 20.4 +0.8**
comp=Z,10nm,0.7s,mb4.9
MANZ Manzenberg 78.71 353 *e*P **P** **04 28 19.4 -0.3**
TNS Taunus Mts 78.73 355 *e*P **P** **04 28 19.5 -0.3**
TBI Tubuai 78.74 152 *e*S S 04 38 11.0 -2.3
comp=Z,784nm,31.0s
TBI *e*LR LR 04 52 34.1
comp=Z,2µm,21.8s,baz=338
BBSR BB Station 78.88 52 PFAKE 04 28 30.0 +9.4
BBSR LR LR
comp=Z,555nm,19.0s,MS4.9
LIKS Likavka 78.89 348 *e*P **P** **04 28 21.7 +1.0**
LIKS pmax pmax
comp=Z,37nm,0.9s,mb5.3
LIKS Likavka 78.89 348 *e*P **P** **04 28 21.7 +1.0**
comp=Z,37nm,0.9s,mb5.3
ROTZ Rotzenmuhle 78.92 352 *e*P **P** **04 28 20.9 0.0**
VRAC Vranov 78.94 350⇓*i*P **P** **04 28 21.8 +0.8**
VRAC Vranov 78.94 350⇓P **P** **04 28 21.8 +0.8**
GIVF Givet 79.00 357 *e*P **P** **04 28 20.7 -0.6**
DOU Dourbes 79.02 357 P **P** **04 28 21.2 -0.2**
comp=Z,14nm,0.8s,mb4.9
BAIF Baives 79.06 358 *e*P **P** **04 28 21.3 -0.3**
comp=Z,94nm,0.9s,mb5.4
BAIF Baives 79.06 358 *e*P **P** **04 28 21.3 -0.3**
BAIF pmax pmax
comp=Z,47nm,0.9s,mb5.4
BAIF Baives 79.06 358 *e*P **P** **04 28 21.3 -0.3**
comp=Z,47nm,0.9s,mb5.4
GRA1 Grafenberg Arr 79.08 353 *e*P **P** **04 28 21.9 +0.2**
comp=Z,54nm,0.9s,mb5.5
GRA1 *e*S S 04 38 24.0 +7.1
GRA1 *e*SS SS 04 43 41.2 +18
GRA1 LR LR
comp=Z,500nm,18.2s,MS4.9
GRF Grafenberg Arr 79.08 353 *e*P **P** **04 28 21.9 +0.2**
comp=Z,54nm,0.9s,mb5.5
GRF *e*S S 04 38 24.0 +7.1
GRF *e*SS SS 04 43 41.2 +18
GRF *e*L 05 11 06.3
comp=Z,534nm,18.2s
GRF Grafenberg Arr 79.08 353 *e*P **P** **04 28 21.9 +0.2**
GRF *e*S S 04 38 24.0 +7.1
GRF pmax pmax
comp=Z,54nm,0.9s,mb5.5
GRF Grafenberg Arr 79.08 353 *e*P **P** **04 28 21.9 +0.2**
GRF *e*S S 04 38 24.0 +7.1
GRF pmax pmax
comp=Z,54nm,0.9s,mb5.5
GRF MLR MLR
comp=Z,500nm,18.2s,MS4.9
TREC Trest 79.08 350 AMS AMS 05 10 20.0
comp=Z,1µm,17.6s
ABH Alteburg 79.12 356 *e*P **P** **04 28 22.3 +0.4**
ZEI Tsey 79.16 329 *e*P **P** **04 28 22.3 +0.2**
ZEI pmax pmax
comp=Z,35nm,0.8s,mb5.3
KIS Kishinev 79.23 341*c* *e*P **P** **04 28 20.0 -2.5**
KIS *e* 04 31 22.0
KIS *e* 04 38 24.0
KIS pmax pmax
comp=Z,300nm,1.0s,mb6.2
KIS MLR MLR
comp=Z,2µm,16.0s,MS5.5
KIS MLR MLR
comp=N,1µm,18.0s,MS5.5
KIS MLR MLR
comp=E,1µm,16.0s,MS5.5
KIS MLR MLR
comp=Z,2µm,16.0s
ANN Anapa 79.23 334 *e*P **P** **04 28 17.6 -4.9**
ANN *e**PP pP 04 28 32.4 -5.1
ANN *e*S S 04 38 11.2 -7.4
ANN pmax pmax
comp=Z,31nm,0.9s,mb5.2
KECS Kecovo 79.25 347 *e*P **P** **04 28 23.3 +0.6**
KECS pmax pmax
comp=Z,24nm,0.9s,mb5.1
KECS Kecovo 79.25 347 *e*P **P** **04 28 23.3 +0.6**
comp=Z,24nm,0.9s,mb5.1
RUP Ruppelstein 79.32 356 *e*P **P** **04 28 23.2 +0.2**
TOD Tromm 79.32 355 *e*P **P** **04 28 23.4 +0.3**
BURAR Bucovina Array 79.33 343⇓*i*P **P** **04 28 23.9 +0.8**
BURAR Bucovina Array 79.33 343⇓P **P** **04 28 23.9 +0.8**
WLF Walferdange 79.39 356 *e*P **P** **04 28 23.6 +0.2**
WLF Walferdange 79.39 356 P **P** **04 28 24.1 +0.7**
comp=Z,14nm,0.9s,mb4.9
WLF Walferdange 79.39 356 *e*P **P** **04 28 23.7 +0.3**
WLF pmax pmax
comp=Z,21nm,0.8s,mb5.1
WLF Walferdange 79.39 356 *e*P **P** **04 28 23.7 +0.2**
comp=Z,21nm,0.8s,mb5.1
KHC Kasperske Hory 79.43 351 *e*P **P** **04 28 23.3 -0.4**
KHC AMS AMS 05 13 50.0
comp=Z,500nm,15.6s
VYHS Vyhne 79.47 348 *i* P **P** **04 28 24.2 +0.4**
comp=Z,18nm,1.1s,mb4.9
VYHS LR LR
comp=Z,400nm,17.8s,MS4.8
WET Wettzell 79.48 352 *e*P **P** **04 28 23.8 -0.1**
comp=Z,14nm,0.9s,mb4.9
WET Wettzell 79.48 352 *e*P **P** **04 28 23.8 -0.1**
WET pmax pmax
comp=Z,14nm,0.9s,mb4.9
SOC Sochi 79.70 332*c* *i*P **P** **04 28 23.9 -1.2**
SOC *e* 04 31 35.3
SOC ePPP 04 33 16.9
SOC *e*S S 04 38 24.2 +0.6
SOC *e*SS SS 04 43 37.4 +4.5
SOC pmax pmax
comp=Z,47nm,0.8s,mb5.5
SOC MLR MLR
comp=Z,1µm,19.0s,MS5.3
GEC2 GERESS Array S 79.71 351 *e*P **P** **04 28 24.8 -0.3**
comp=Z,27nm,1.4s,mb5.0
GEC2 GERESS Array S 79.71 351 *e*P **P** **04 28 24.8 -0.3**
GEC2 pmax pmax
comp=Z,27nm,1.4s,mb5.0
GERES GERESS Array B 79.71 351 P **P** **04 28 25.4 +0.3**
comp=Z,9.2nm,0.6s,mb4.9,baz=24,slow=5.4,SNR=112
GERES LR LR 05 10 48.0
comp=Z,441nm,18.1s,MS4.8,baz=11,slow=41
PSZ Piszkesteto 79.89 347⇑*e*P **P** **04 28 26.7 +0.6**
PSZ Piszkesteto 79.89 347⇓*i*P **P** **04 28 27.3 +1.2**
PSZ Piszkesteto 79.89 347⇑*i*P **P** **04 28 26.5 +0.4**
PSZ pmax pmax
comp=Z,41nm,1.0s,mb5.3
PSZ Piszkesteto 79.89 347⇑*i*P **P** **04 28 26.5 +0.4**
comp=Z,42nm,1.0s,mb5.3
SIM Simferopol' 79.96 337 P **P** **04 28 25.5 -1.0**
SIM *e*S S 04 38 38.0 +12
SIM pmax pmax
comp=Z,16nm,1.0s,mb4.9
SIM MLR MLR
comp=Z,2µm,20.0s,MS5.4
ZST Bratislava 79.98 349 *e*P **P** **04 28 27.7 +1.1**
comp=Z,34nm,1.0s,mb5.2
ZST LR LR
comp=Z,300nm,19.0s,MS4.7
RAO Raoul Island 80.12 179 PFAKE 04 28 40.0 +13
RAO LR LR
comp=Z,2µm,20.0s,MS5.3
STU Stuttgart 80.13 354 *e*P **P** **04 28 27.0 -0.4**
STU Stuttgart 80.13 354 P **P** **04 28 27.7 +0.3**
STU pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
STU Stuttgart 80.13 354⇑*i*P **P** **04 28 27.0 -0.4**
comp=Z,9.3nm,0.6s,mb4.9
SRO Srobarova 80.20 348 *e*P **P** **04 28 28.7 +0.9**
SRO pmax pmax
comp=Z,36nm,0.8s,mb5.3
SRO Srobarova 80.20 348 *e*P **P** **04 28 28.7 +0.9**
comp=Z,36nm,0.8s,mb5.3
SRO2 Moca 80.25 348 *e*P **P** **04 28 28.9 +0.9**
SRO2 pmax pmax
comp=Z,32nm,0.7s,mb5.4
CONA Conrad Observa 80.39 350⇑*i*P **P** **04 28 29.2 +0.3**
comp=Z,43nm,1.2s,mb5.2,SNR=34
FLN La Foliniere 80.40 1 *e*P **P** **04 28 27.9 -1.0**
comp=Z,95nm,1.0s,mb5.4
FLN *e*R
comp=Z,732nm,19.8s
FLN La Foliniere 80.40 1 *e*P **P** **04 28 27.9 -1.0**
FLN pmax pmax
comp=Z,48nm,1.0s,mb5.4
FLN MLR MLR
comp=Z,730nm,19.8s,MS5.0
FLN La Foliniere 80.40 1 *e*P **P** **04 28 27.9 -1.0**
comp=Z,48nm,1.0s,mb5.4
FLN LR LR
comp=Z,730nm,19.8s,MS5.0
STR Strasbourg 80.40 355 *e*P **P** **04 28 29.7 +0.8**
BUD Budapest 80.44 348⇑*e*P **P** **04 28 29.8 +0.7**
DRGR 80.56 345⇓*i*P **P** **04 28 30.8 +1.1**
DRGR 80.56 345⇓P **P** **04 28 30.8 +1.0**
LDF La Druitiere 80.57 1 *e*P **P** **04 28 28.9 -0.9**
comp=Z,37nm,0.6s,mb5.2
LDF La Druitiere 80.57 1 *e*P **P** **04 28 28.9 -0.9**
LDF pmax pmax
comp=Z,19nm,0.6s,mb5.2
LDF La Druitiere 80.57 1 *e*P **P** **04 28 28.9 -0.9**
comp=Z,19nm,0.6s,mb5.2
FUR Furstenfeldbru 80.59 353 *e*P **P** **04 28 29.7 -0.2**
comp=Z,44nm,1.1s,mb5.3
FUR Furstenfeldbru 80.59 353 *e*P **P** **04 28 29.7 -0.2**
FUR pmax pmax
comp=Z,44nm,1.1s,mb5.3
MEZF Maizieres J'vi 80.60 357 *e*P **P** **04 28 29.7 -0.2**
comp=Z,93nm,1.0s,mb5.3
MEZF Maizieres J'vi 80.60 357 *e*P **P** **04 28 29.7 -0.2**
comp=Z,21nm,1.0s,mb5.7
CDF Champ du Feu 80.60 356 *e*P **P** **04 28 29.4 -0.5**
comp=Z,19nm,0.8s,mb4.8
CDF Champ du Feu 80.60 356 *e*P **P** **04 28 29.4 -0.5**
CDF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CDF Champ du Feu 80.60 356 *e*P **P** **04 28 29.4 -0.5**
comp=Z,9.6nm,0.8s,mb4.8
PKSG 80.61 348⇓*e*P **P** **04 28 31.2 +1.2**
BFO Black Forest 80.62 355 P **P** **04 28 30.4 +0.3**
comp=Z,99nm,0.9s,mb5.7,SNR=6.5
BFO Black Forest 80.62 355 *e*P **P** **04 28 29.7 -0.4**
comp=Z,27nm,1.2s,mb5.0
BFO Black Forest 80.62 355 *e*P **P** **04 28 29.7 -0.4**
BFO pmax pmax
comp=Z,27nm,1.2s,mb5.0
MOA Molln 80.64 351⇓*i*P **P** **04 28 29.9 -0.3**
comp=Z,92nm,2.6s,mb5.2,SNR=13
VRI Vrincioaia 80.73 342⇓*i*P **P** **04 28 31.7 +1.1**
VRI Vrincioaia 80.73 342 P **P** **04 28 31.6 +1.0**
VRI Vrincioaia 80.73 342⇓P **P** **04 28 31.7 +1.1**
PLOR Plostina 80.76 342⇓*i*P **P** **04 28 32.0 +1.2**
GRR Gorron 80.77 1 *e*P **P** **04 28 30.1 -0.7**
comp=Z,98nm,0.9s,mb5.5
GRR Gorron 80.77 1 *e*P **P** **04 28 30.1 -0.7**
GRR pmax pmax
comp=Z,49nm,0.9s,mb5.4
GRR Gorron 80.77 1 *e*P **P** **04 28 30.1 -0.7**
comp=Z,49nm,0.9s,mb5.4
ROSF Rostrenen 80.77 3 *e*P **P** **04 28 30.4 -0.5**
ECH Echery 80.80 356 *e*P **P** **04 28 31.2 +0.2**
SPAK Spaichingen-Ko 80.82 355 *e*P **P** **04 28 31.6 +0.5**
THEF They Montfort 80.84 356 *e*P **P** **04 28 31.6 +0.4**
SGMF Saint Gilles 80.87 2 *e*P **P** **04 28 30.9 -0.5**
comp=Z,101nm,0.9s,mb5.5
SGMF Saint Gilles 80.87 2 *e*P **P** **04 28 30.9 -0.5**
SGMF pmax pmax
comp=Z,51nm,0.9s,mb5.5
SGMF Saint Gilles 80.87 2 *e*P **P** **04 28 30.9 -0.5**
comp=Z,51nm,0.9s,mb5.5
PKSN Nyarlorinc 80.89 347⇓*e*P **P** **04 28 32.9 +1.4**
HAU Haudompre 81.05 356 *e*P **P** **04 28 31.7 -0.6**
comp=Z,39nm,0.9s,mb5.0
HAU *e*R
comp=Z,777nm,22.5s
HAU Haudompre 81.05 356 *e*P **P** **04 28 31.7 -0.6**
HAU pmax pmax
comp=Z,19nm,0.9s,mb5.0
HAU MLR MLR
comp=Z,780nm,22.5s,MS5.0
HAU Haudompre 81.05 356 *e*P **P** **04 28 31.7 -0.6**
comp=Z,19nm,0.9s,mb5.0
HAU LR LR
comp=Z,780nm,22.5s,MS5.0
PKS8 Sarbogard 81.08 348⇓*e*P **P** **04 28 33.0 +0.5**
FELD Feldberg im Sc 81.09 355 *e*P **P** **04 28 32.7 +0.1**
ARSA Arzberg 81.09 350⇑*i*P **P** **04 28 32.8 +0.2**
comp=Z,44nm,1.4s,mb5.2,SNR=28
MOF Molkenrain 81.16 356 *e*P **P** **04 28 33.2 +0.3**
QUIF Quistinic 81.19 3 *e*P **P** **04 28 32.5 -0.6**
GNI Garni 81.23 327 *e*P **P** **04 28 34.5 +1.2**
GNI pmax pmax
comp=Z,25nm,1.1s
GNI MLR MLR
comp=Z,2µm,19.0s
GNI Garni 81.23 327 *e*P **P** **04 28 34.5 +1.2**
comp=Z,25nm,1.1s,mb5.0
GNI LR LR
comp=Z,2µm,19.0s,MS5.4
MLR Muntele Rosu 81.24 342⇓*i*P **P** **04 28 35.9 +2.5**
MLR Muntele Rosu 81.24 342 P **P** **04 28 34.4 +1.0**
MLR Muntele Rosu 81.24 342⇓P **P** **04 28 35.9 +2.6**
WATA Walderalm 81.39 353⇑*i*P **P** **04 28 34.6 +0.5**

comp=Z,31nm,1.0s,mb5.2,SNR=22
WATA Walderalm 81.39 353 ⇓*i*P **P 04 28 34.6 +0.5**
WATA pmax pmax
comp=Z,31nm,1.0s,mb5.2
MOTA Moosalm 81.42 353 ⇑*i*P **P 04 28 34.5 +0.2**
comp=Z,32nm,1.2s,mb5.1,SNR=13
MOTA Moosalm 81.42 353 ⇓*i*P **P 04 28 34.5 +0.2**
MOTA pmax pmax
comp=Z,32nm,1.2s,mb5.1
SNX Sinaia 81.45 343 ⇓*i*P **P 04 28 36.7 +2.2**
SNX Sinaia 81.45 343 ⇓P **P 04 28 36.6 +2.2**
WTTA Wattenberg 81.46 353 ⇑*i*P **P 04 28 34.8 +0.3**
comp=Z,78nm,1.2s,mb5.5,SNR=33
WTTA Wattenberg 81.46 353 ⇑*i*P **P 04 28 34.8 +0.3**
WTTA pmax pmax
comp=Z,79nm,1.2s,mb5.5
VOIR 81.46 343 ⇓*i*P **P 04 28 35.9 +1.4**
VOIR 81.46 343 ⇓P **P 04 28 35.9 +1.4**
KBA Koelnbreinsper 81.49 351 *i*P **P 04 28 35.3 +0.6**
comp=Z,101nm,1.0s,mb5.7,SNR=62
KBA Koelnbreinsper 81.49 351 *i*P **P 04 28 35.3 +0.6**
KBA pmax pmax
comp=Z,101nm,1.0s,mb5.7
BBS Basel-Blauen 81.53 355 *e*P **P 04 28 35.1 +0.2**
SQTA Sankt Quirin 81.53 353 ⇓*i*P **P 04 28 35.6 +0.7**
comp=Z,22nm,1.0s,mb5.0,SNR=11
SQTA Sankt Quirin 81.53 353 ⇓*i*P **P 04 28 35.6 +0.7**
SQTA pmax pmax
comp=Z,22nm,1.0s,mb5.0
DAVA Damuels 81.57 354 ⇑*i*P **P 04 28 34.9 -0.2**
comp=Z,33nm,1.6s,mb5.0
MTUR Matau 81.66 343 ⇓*i*P **P 04 28 38.2 +2.6**
MTUR Matau 81.66 343 P **P 04 28 37.3 +1.7**
MTUR Matau 81.66 343 ⇓P **P 04 28 38.2 +2.6**
LOMF Lomont 81.68 356 *e*P **P 04 28 36.2 +0.5**
WRAB Tennant Creek 81.68 224 *e*P **P 04 28 37.5 +1.8**
WRAB pmax pmax
comp=Z,67nm,1.6s,mb5.3
WRAB MLR MLR
comp=Z,727nm,19.0s,MS5.1
WRAB Tennant Creek 81.68 224 *e*P **P 04 28 37.5 +1.8**
comp=Z,67nm,1.6s,mb5.3
WRAB LR LR
comp=Z,727nm,19.0s,MS5.1
WB2 Warramunga Arr 81.69 224 *e*P **P 04 28 38.3 +2.6**
PKSM Moragy 81.73 348 ⇓*i*P **P 04 28 36.3 +0.3**
PKSM Moragy 81.73 348 P **P 04 28 35.8 -0.2**
PKSM Moragy 81.73 348 ⇓P **P 04 28 36.3 +0.3**
TIRR Tirgusor 81.74 340 ⇓*i*P **P 04 28 40.0 +4.0**
PERS Pernice 81.75 350 *e*P **P 04 28 36.3 +0.2**
LOR Lormes 81.86 358 *e*P **P 04 28 35.8 -0.8**
comp=Z,53nm,1.0s,mb5.1
LOR *e*R
comp=Z,881nm,21.0s
LOR Lormes 81.86 358 *e*P **P 04 28 35.8 -0.8**
LOR pmax pmax
comp=Z,26nm,1.0s,mb5.1
LOR MLR MLR
comp=Z,880nm,21.0s,MS5.1
LOR Lormes 81.86 358 *e*P **P 04 28 35.8 -0.8**
comp=Z,26nm,1.0s,mb5.1
LOR LR LR
comp=Z,880nm,21.0s,MS5.1
BZS Buzias 81.88 345 ⇓*i*P **P 04 28 37.4 +0.7**
BZS Buzias 81.88 345 P **P 04 28 36.7 0.0**
BZS Buzias 81.88 345 ⇓P **P 04 28 37.4 +0.7**
HYF Humbligny 81.89 359 *e*P **P 04 28 36.5 -0.3**
GZR Gura Zlata 81.91 345 ⇓*i*P **P 04 28 38.1 +1.2**
OBKA Obir 81.93 350 ⇑*i*P **P 04 28 37.1 0.0**
comp=Z,50nm,1.2s,mb5.3,SNR=24
SSF Saint Saulge 82.08 358 *e*P **P 04 28 37.3 -0.5**
comp=Z,41nm,1.0s,mb5.0
SSF Saint Saulge 82.08 358 *e*P **P 04 28 37.3 -0.5**
SSF pmax pmax
comp=Z,20nm,1.0s,mb5.0
SSF Saint Saulge 82.08 358 *e*P **P 04 28 37.3 -0.5**
comp=Z,20nm,1.0s,mb5.0
PTCC Patocco-Chiusa 82.16 351 P **P 04 28 37.8 -0.4**
comp=Z,19nm,0.9s,mb5.0
APPI Appiano 82.27 353 P **P 04 28 38.0 -0.8**
CADS Cadrg 82.29 351 *e*P **P 04 28 37.8 -1.1**
GMNA Gemona 82.30 351 P **P 04 28 38.6 -0.3**
comp=Z,136nm,0.8s,mb5.9
BUC1 Bucharest 82.33 342 P **P 04 28 39.6 +0.5**
BRMO Bormio 82.34 353 P **P 04 28 40.0 +0.9**
comp=Z,9.5nm,0.6s,mb4.9
LJU Ljubljana 82.39 350 *e*P **P 04 28 38.5 -0.9**
TUE Stuetta 82.41 354 P **P 04 28 39.9 +0.4**
CABF La Chapelle 82.45 356 *e*P **P 04 28 39.5 -0.2**
comp=Z,54nm,1.1s,mb5.1
CABF La Chapelle 82.45 356 *e*P **P 04 28 39.5 -0.2**
CABF pmax pmax
comp=Z,27nm,1.1s,mb5.1
CABF La Chapelle 82.45 356 *e*P **P 04 28 39.5 -0.2**
comp=Z,27nm,1.1s,mb5.1
SMF Signal de Mont 82.49 358 *e*P **P 04 28 39.4 -0.5**
comp=Z,72nm,1.0s,mb5.3
SMF Signal de Mont 82.49 358 *e*P **P 04 28 39.4 -0.5**
SMF pmax pmax
comp=Z,36nm,1.0s,mb5.3
SMF Signal de Mont 82.49 358 *e*P **P 04 28 39.4 -0.5**
comp=Z,36nm,1.0s,mb5.3
CRES Cresnjev 82.51 350 *e*P **P 04 28 39.5 -0.5**
MFF Saint Martin d 82.56 1 *e*P **P 04 28 39.8 -0.5**
comp=Z,66nm,1.0s,mb5.3
MFF Saint Martin d 82.56 1 *e*P **P 04 28 39.8 -0.5**
MFF pmax pmax
comp=Z,33nm,1.0s,mb5.3
MFF Saint Martin d 82.56 1 *e*P **P 04 28 39.8 -0.5**
comp=Z,33nm,1.0s,mb5.3
BGF Bois d'Agland 82.59 359 *e*P **P 04 28 40.0 -0.5**
comp=Z,31nm,0.9s,mb5.0
BGF Bois d'Agland 82.59 359 *e*P **P 04 28 40.0 -0.5**
BGF pmax pmax
comp=Z,16nm,0.9s,mb5.0
BGF Bois d'Agland 82.59 359 *e*P **P 04 28 40.0 -0.5**
comp=Z,16nm,0.9s,mb5.0
CTI Castel Tesino 82.66 352 P **P 04 28 40.7 -0.1**
CTI pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
CTI Castel Tesino 82.66 352 P **P 04 28 40.7 -0.1**
comp=Z,10nm,0.7s,mb5.0
MABI Malga Bissina 82.75 353 P **P 04 28 41.2 -0.1**
BEO Belgrade 82.83 346 *i*P **P 04 28 43.3 +1.6**
TCF Toulx Ste Croi 82.87 359 *e*P **P 04 28 41.5 -0.4**
comp=Z,58nm,1.0s,mb5.2
TCF Toulx Ste Croi 82.87 359 *e*P **P 04 28 41.5 -0.4**
TCF pmax pmax
comp=Z,29nm,1.0s,mb5.3
TCF Toulx Ste Croi 82.87 359 *e*P **P 04 28 41.5 -0.4**
comp=Z,29nm,1.0s,mb5.3
MCGN Macugnaga 83.01 355 P **P 04 28 43.8 +1.2**
comp=Z,34nm,1.2s,mb5.2
OG05 Jujurieux 83.04 357 *e*P **P 04 28 42.6 -0.2**
SVIS Svilajnac 83.23 345 *i*P **P 04 28 44.0 +0.3**
BALT Daday 83.34 336 *i*P **P 04 28 45.4 +1.1**
BNGL BINGÖL 83.49 329 *i*P **P 04 28 46.5 +1.4**
LPL La Plagne 83.51 356 *e*P **P 04 28 45.8 +0.6**
LPG La Plagne 83.53 356 *e*P **P 04 28 46.0 +0.7**
comp=Z,31nm,1.1s,mb5.1
LPG La Plagne 83.53 356 *e*P **P 04 28 46.0 +0.7**
LPG pmax pmax
comp=Z,15nm,1.1s,mb5.0
LPG La Plagne 83.53 356 *e*P **P 04 28 46.0 +0.7**
comp=Z,15nm,1.1s,mb5.0
DIVS Divcibare 83.61 346 *i*P **P 04 28 45.8 +0.1**
RKT Rikitea 83.63 140 *e*LR LR 04 54 55.0
comp=Z,972nm,23.8s
GRUS Gruza 83.70 346 *i*P **P 04 28 46.5 +0.3**
CTKT Corum 83.83 335 *i*P **P 04 28 47.9 +1.0**
RJF Les Rejaudoux 83.86 359 *e*P **P 04 28 46.3 -0.7**
comp=Z,35nm,1.0s,mb5.2
RJF *e*R
comp=Z,948nm,22.2s
RJF Les Rejaudoux 83.86 359 *e*P **P 04 28 46.3 -0.7**
RJF pmax pmax
comp=Z,17nm,1.0s,mb5.1
RJF MLR MLR
comp=Z,950nm,22.3s,MS5.1
RJF Les Rejaudoux 83.86 359 *e*P **P 04 28 46.3 -0.7**
comp=Z,18nm,1.0s,mb5.1
RJF LR LR
comp=Z,950nm,22.3s,MS5.1
BNI Bardonecchia 83.98 356 ⇑*i*P **P 04 28 48.7 +1.1**
BNI pmax pmax
comp=Z,33nm,1.0s,mb5.4
BNI Bardonecchia 83.98 356 ⇑*i*P **P 04 28 48.7 +1.2**
comp=Z,33nm,1.0s,mb5.4
HYB Hyderabad 84.00 290 *i*P **P 04 28 48.0 +0.3**
HYB Hyderabad 84.00 290 *e*P **P 04 28 48.0 +0.3**
BOB Bobbio (Coli) 84.10 354 P **P 04 28 47.4 -0.8**
FITZ Fitzroy Crossi 84.13 232 *e*P **P 04 28 47.4 -1.0**
comp=Z,29nm,0.6s,mb5.6
ORIF Oris-en-Rattie 84.15 356 *e*P **P 04 28 48.8 +0.4**
comp=Z,35nm,1.0s,mb5.2
ORIF *e*R
comp=Z,437nm,19.0s
ORIF Oris-en-Rattie 84.15 356 *e*P **P 04 28 48.8 +0.4**
ORIF pmax pmax
comp=Z,18nm,1.0s,mb5.2
ORIF Oris-en-Rattie 84.15 356 *e*P **P 04 28 48.8 +0.4**
comp=Z,18nm,1.0s,mb5.2
LFF La Frestale 84.23 360 *e*P **P 04 28 48.6 -0.3**
comp=Z,110nm,1.0s,mb5.6
LFF La Frestale 84.23 360 *e*P **P 04 28 48.6 -0.3**
LFF pmax pmax
comp=Z,55nm,1.0s,mb5.6
LFF La Frestale 84.23 360 *e*P **P 04 28 48.6 -0.3**
comp=Z,55nm,1.0s,mb5.6
CAF Calviac 84.24 359 *e*P **P 04 28 48.7 -0.2**
comp=Z,66nm,1.1s,mb5.4
CAF Calviac 84.24 359 *e*P **P 04 28 48.7 -0.2**
CAF pmax pmax
comp=Z,33nm,1.1s,mb5.4
CAF Calviac 84.24 359 *e*P **P 04 28 48.7 -0.2**
comp=Z,33nm,1.1s,mb5.4
VIVF Saint-Julien-l 84.25 357 *e*P **P 04 28 48.8 -0.2**
comp=Z,35nm,1.0s,mb5.1
VIVF Saint-Julien-l 84.25 357 *e*P **P 04 28 48.8 -0.2**
VIVF pmax pmax
comp=Z,18nm,1.0s,mb5.2
VIVF Saint-Julien-l 84.25 357 *e*P **P 04 28 48.8 -0.2**
comp=Z,18nm,1.0s,mb5.2
ELDT Eldvan 84.31 336 *i*P **P 04 28 50.4 +1.1**
ERBM Eremo 84.38 353 P **P 04 28 49.3 -0.3**
comp=Z,17nm,0.8s,mb5.2
ZCCA Zocca 84.40 353 P **P 04 28 50.9 +1.1**
BEST Besiri 84.42 329 *i*P **P 04 28 51.1 +1.3**
GSCL Gusciola 84.44 353 P **P 04 28 51.1 +1.2**
comp=Z,16nm,0.9s,mb5.1
DOI San Damiano 84.50 355 P **P 04 28 48.8 -1.4**
VTS Vitosha 84.55 344 *e*P **P 04 28 50.0 -0.5**
VTS Vitosha 84.55 344 ⇑*i*P **P 04 28 51.3 +0.8**
FNVD Fontana Vidola 84.57 353 P **P 04 28 51.1 +0.5**
SGKT Sivrigoynuk 84.58 337 *i*P **P 04 28 51.2 +0.5**
ELZG Elazig 84.59 331 *i*P **P 04 28 52.0 +1.4**
HENT Hendek 84.63 337 *i*P **P 04 28 51.2 +0.3**
DIM Dimitrovgrad 84.64 342 *e*P **P 04 28 46.0 -4.9**
SEI Scarperia 84.67 352 P **P 04 28 52.7 +1.6**
comp=Z,109nm,0.7s,mb6.1
OG25 Le Caire 84.69 356 *e*P **P 04 28 48.2 -3.0**
VMG Vicchio 84.74 352 P **P 04 28 53.4 +1.9**
comp=Z,137nm,0.9s,mb6.1
JTS JuntasAbangare 84.75 80 PFAKE 04 29 00.0 +8.5
JTS LR LR
comp=Z,407nm,21.0s,MS4.8
SFI Santa Sofia 84.77 352 P **P 04 28 52.9 +1.3**
SFI pmax pmax
comp=Z,59nm,1.1s,mb5.6
SFI Santa Sofia 84.77 352 P **P 04 28 52.9 +1.3**
comp=Z,59nm,1.1s,mb5.6
CDAG Cicekdag 84.88 335 *i*P **P 04 28 52.0 -0.1**
FSSB Fossombrone 84.90 351 P **P 04 28 53.1 +0.9**
comp=Z,21nm,0.6s,mb5.5
MALT Malatya 84.93 331 ⇓*i*P **P 04 28 54.3 +1.9**
MALT Malatya 84.93 331 ⇑*i*P **P 04 28 53.3 +0.9**
MALT pmax pmax
comp=Z,24nm,1.0s,mb5.3
MALT Malatya 84.93 331 ⇑*i*P **P 04 28 53.2 +0.9**
comp=Z,24nm,1.0s,mb5.3
BRTR Keskin Array B 84.98 335 P **P 04 28 52.4 -0.3**
comp=Z,19nm,0.8s,mb5.3,baz=51,slow=2.9,SNR=106
BRTR LR LR 05 09 27.6
comp=Z,274nm,20.8s,MS4.6,baz=169,slow=38
BRTR Keskin Array B 84.98 335 *i*P **P 04 28 53.0 +0.4**
BRTR pmax pmax
comp=Z,19nm,0.8s
TOUF Mont Tournerai 84.99 355 *e*P **P 04 28 53.0 +0.3**
AUTN L'Aution 85.00 355 *e*P **P 04 28 52.8 +0.1**
KDZ Kurdzhali 85.05 342 *e*P **P 04 28 54.0 +1.0**
CRE Caprese Michel 85.05 352 P **P 04 28 53.7 +0.7**
CRE pmax pmax
comp=Z,34nm,1.1s,mb5.4
CRE Caprese Michel 85.05 352 P **P 04 28 53.7 +0.7**
comp=Z,34nm,1.1s,mb5.4
LASF Ste Croix 85.05 358 *e*P **P 04 28 52.9 -0.1**
comp=Z,26nm,1.0s,mb5.0
ANTO Ankara 85.06 336 ⇓*i*P **P 04 28 54.4 +1.3**
ANTO Ankara 85.06 336 ⇑P **P 04 28 53.4 +0.3**
SNR=7.5
ANTO Ankara 85.06 336 P **P 04 28 53.8 +0.7**
ANTO pmax pmax
comp=Z,14nm,0.8s,mb5.1
ANTO Ankara 85.06 336 ⇑*i*P **P 04 28 53.3 +0.3**
comp=Z,14nm,0.8s,mb5.2
ANTO LR LR
comp=Z,755nm,21.0s,MS5.1
STOF St-Étienne Org 85.06 356 *e*P **P 04 28 53.4 +0.3**
PII Pisa 85.06 353 P **P 04 28 52.6 -0.5**
PII pmax pmax
comp=Z,15nm,0.6s,mb5.3
PII Pisa 85.06 353 P **P 04 28 52.6 -0.5**
comp=Z,15nm,0.6s,mb5.3
SMRF Simiane la Rot 85.10 356 *e*P **P 04 28 53.8 +0.6**
comp=Z,85nm,1.0s,mb5.5
SMRF Simiane la Rot 85.10 356 *e*P **P 04 28 53.8 +0.6**
comp=Z,85nm,1.0s,mb5.8
LUCF Luceram 85.10 355 *e*P **P 04 28 53.2 -0.1**
MARD Mardin 85.11 329 *i*P **P 04 28 53.6 +0.3**
MVIF Mont Vial 85.11 355 *e*P **P 04 28 53.5 +0.2**
SBF Sospel 85.13 355 *e*P **P 04 28 52.9 -0.5**
comp=Z,79nm,0.8s,mb5.6
SBF Sospel 85.13 355 *e*P **P 04 28 52.9 -0.5**
SBF pmax pmax
comp=Z,40nm,0.8s,mb5.6
SBF Sospel 85.13 355 *e*P **P 04 28 52.9 -0.5**
comp=Z,40nm,0.8s,mb5.6
BADI Badiali 85.13 352 P **P 04 28 54.1 +0.7**
STON Ston 85.14 348 ⇑*i*P **P 04 28 52.2 -1.3**
AS31 Alice Springs 85.17 222 *e*P **P 04 28 52.5 -1.1**
ASAR Alice Springs 85.17 222 P **P 04 28 52.4 -1.2**
comp=Z,2.7nm,0.7s,mb4.5,baz=28,slow=5.4,SNR=35
ASAR LR LR 05 04 11.6
comp=Z,590nm,18.6s,MS5.0,baz=26,slow=34
ASPA Alice Springs 85.17 222 *e*P **P 04 28 52.5 -1.1**
CING Cingoli 85.17 351 P **P 04 28 53.9 +0.3**
VILF Villemus 85.22 356 *e*P **P 04 28 54.2 +0.4**
REVF Revere 85.25 355 *e*P **P 04 28 53.7 -0.3**
PRAF Pradon 85.29 357 *e*P **P 04 28 54.9 +0.7**
SNTG Esanatoglia 85.32 351 P **P 04 28 54.5 +0.2**
comp=Z,41nm,0.8s,mb5.6
MURB Monte Urbino 85.35 351 P **P 04 28 55.3 +0.8**
MMB Musomiste 85.43 343 *e*P **P 04 28 55.0 +0.1**
TAVF Tavernes 85.44 356 *e*P **P 04 28 55.5 +0.6**
SKO Skopje 85.46 345 *i*P **P 04 28 55.9 +0.9**
TREF Trevaresse 85.46 357 *e*P **P 04 28 56.0 +1.0**
FRF La Foret Royal 85.47 356 *e*P **P 04 28 54.5 -0.6**
comp=Z,52nm,1.0s,mb5.3
FRF La Foret Royal 85.47 356 *e*P **P 04 28 54.5 -0.6**
FRF pmax pmax
comp=Z,26nm,1.0s,mb5.3
FRF La Foret Royal 85.47 356 *e*P **P 04 28 54.5 -0.6**
comp=Z,26nm,1.0s,mb5.3
PUYF Puyloubier 85.54 356 *e*P **P 04 28 56.0 +0.6**
GRFL Gerfalco 85.60 353 P **P 04 28 55.6 -0.1**
comp=Z,36nm,0.7s,mb5.7
BORA Eskisehir 85.63 338 *i*P **P 04 28 55.8 -0.2**
ULDT Uludag 85.69 339 *i*P **P 04 28 56.7 +0.5**
GELF Grande-Etoile 85.70 357 *e*P **P 04 28 57.0 +0.8**
LMR La Mourre 85.70 356 *e*P **P 04 28 55.9 -0.3**
comp=Z,73nm,1.1s,mb5.5
LMR La Mourre 85.70 356 *e*P **P 04 28 55.9 -0.3**
LMR pmax pmax
comp=Z,36nm,1.1s,mb5.5
LMR La Mourre 85.70 356 *e*P **P 04 28 55.9 -0.3**
comp=Z,36nm,1.1s,mb5.5
NRCA Norcia 85.72 351 P **P 04 28 56.7 +0.4**
comp=Z,39nm,1.0s,mb5.6
ATAB Bozova 85.75 331 *i*P **P 04 28 57.1 +0.7**
BERF Bertagne 85.76 356 *e*P **P 04 28 57.3 +0.8**
MTLF Montolieu 85.82 359 *e*P **P 04 28 56.7 -0.1**
comp=Z,46nm,1.1s,mb5.3
MTLF Montolieu 85.82 359 *e*P **P 04 28 56.7 -0.1**
MTLF pmax pmax
comp=Z,23nm,1.1s,mb5.3
MTLF Montolieu 85.82 359 *e*P **P 04 28 56.7 -0.1**
comp=Z,23nm,1.1s,mb5.3
ELAN Lanestosa 85.87 3 P **P 04 28 57.3 +0.2**
comp=Z,5.4nm,0.7s,mb4.9
ESKT Eskisehir 85.88 337 *i*P **P 04 28 57.1 0.0**
VAY Valandovo 85.90 344 *i*P **P 04 28 56.6 -0.6**
GZT Gaziantep 86.07 331 *i*P **P 04 28 58.9 +0.8**
EPF Esparros 86.14 0 *e*P **P 04 28 57.4 -1.0**
comp=Z,30nm,1.1s,mb5.1
EPF Esparros 86.14 0 *e*P **P 04 28 57.4 -1.0**
EPF pmax pmax
comp=Z,15nm,1.1s,mb5.1
EPF Esparros 86.14 0 *e*P **P 04 28 57.4 -1.0**
comp=Z,15nm,1.1s,mb5.1
AQU L'Aquila 86.16 351 ⇓*i*P **P 04 28 59.8 +1.3**
AQU L'Aquila 86.16 351 P **P 04 28 59.0 +0.5**
AQU pmax pmax
comp=Z,46nm,1.0s,mb5.7
AQU L'Aquila 86.16 351 ⇑*i*P **P 04 28 58.5 0.0**
comp=Z,46nm,0.9s,mb5.7
MLS Moulis 86.21 360 *e*P **P 04 28 58.4 -0.4**
ETSF Etsaut 86.26 1 *e*P **P 04 28 59.1 +0.1**
comp=Z,32nm,0.9s,mb5.3
ETSF Etsaut 86.26 1 *e*P **P 04 28 59.1 +0.1**
ETSF pmax pmax
comp=Z,16nm,0.9s,mb5.2
ETSF Etsaut 86.26 1 *e*P **P 04 28 59.1 +0.1**
comp=Z,16nm,0.9s,mb5.3
VIEF Viey 86.28 1 *e*P **P 04 28 59.8 +0.7**
PGF Pioggiola 86.34 354 *e*P **P 04 28 58.9 -0.5**
comp=Z,155nm,1.1s,mb5.9
PGF Pioggiola 86.34 354 *e*P **P 04 28 58.9 -0.5**
PGF pmax pmax
comp=Z,78nm,1.1s,mb5.8
PGF Pioggiola 86.34 354 *e*P **P 04 28 58.9 -0.5**
comp=Z,78nm,1.1s,mb5.8
RESF Ens 86.36 0 *e*P **P 04 29 00.5 +1.0**
BIA Bitola 86.40 345 *i*P **P 04 28 59.6 -0.1**
EBIE Bielsa 86.48 0 P **P 04 29 01.3 +1.2**
comp=Z,1.7nm,0.6s,mb4.5
CORF Corte 86.58 354 *e*P **P 04 29 00.3 -0.3**
EGRA Graus 86.97 0 P **P 04 29 03.8 +1.4**
comp=Z,1.5nm,0.5s,mb4.5
ECAL Calabor 87.00 6 P **P 04 29 03.5 +0.8**
comp=Z,1.0nm,0.5s,mb4.3
PBRG Braganca 87.13 6 *e*P **P 04 29 03.8 +0.5**
comp=Z,15nm,1.9s,mb4.9
PCAB Cabril 87.14 7 *e*P **P 04 29 03.3 0.0**
comp=Z,18nm,1.2s,mb5.2
COBT Iskenderun 87.24 332 *i*P **P 04 29 05.4 +1.6**
ESAC San Caprasio 87.44 1 P **P 04 29 05.5 +0.8**
comp=Z,21nm,0.7s,mb5.5
PVRL Vila Real 87.60 6 *e*P **P 04 29 05.4 -0.1**
comp=Z,16nm,1.2s,mb5.1
PTO Porto 87.67 7 *e*P **P 04 29 04.1 -1.7**
ORI Oriolo Calabro 88.07 348 P **P 04 29 09.3 +1.6**
PVIS Viseu 88.14 7 *e*P **P 04 29 07.3 -0.8**
comp=Z,25nm,1.1s,mb5.3
GUD Guadarrama 88.42 4 P **P 04 29 09.2 -0.2**
GUD pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
GUD Guadarrama 88.42 4 P **P 04 29 09.2 -0.2**
comp=Z,4.6nm,0.8s,mb4.8
MTE Manteigas 88.48 6 *e*P **P 04 29 09.8 +0.1**
comp=Z,26nm,1.2s,mb5.3
MTE Manteigas 88.48 6 *e*S 04 39 46.0
MTE Manteigas 88.48 6 *e*LQ 04 54 58.2
MTE *e*LR LR 04 59 10.5
comp=Z,391nm,19.8s
BANOM Banah 88.99 312 ⇑P **P 04 29 12.4 +0.3**
PCBR Castelo Branco 89.04 6 *e*P **P 04 29 11.7 -0.6**
comp=Z,17nm,1.9s,mb5.1
PTOM Tomar 89.19 7 *e*P **P 04 29 12.5 -0.5**
comp=Z,36nm,1.4s,mb5.5
ESDC Sonseca Array 89.40 4 P **P 04 29 12.8 -1.2**
comp=Z,4.9nm,0.8s,mb4.9,baz=355,slow=4.4,SNR=29
ESDC Sonseca Array 89.40 4 P **P 04 29 13.3 -0.7**
comp=Z,3.1nm,1.3s,mb4.5
STKA Stephens Creek 89.63 212 *e*P **P 04 29 14.6 -0.5**
comp=Z,18nm,1.7s,mb5.1
STKA *e*pP pP 04 29 30.2 -0.1
STKA Stephens Creek 89.63 212 P **P 04 29 14.6 -0.5**
comp=Z,5.3nm,0.6s,mb5.0,baz=30,slow=5.0,SNR=7.6
STKA LR LR 05 07 19.2
comp=Z,907nm,18.6s,MS5.2,baz=20,slow=34
MBWA Marble Bar 89.68 235 *e*P **P 04 29 13.9 -1.4**
MBWA LR LR
comp=Z,504nm,19.0s,MS5.0
CPD Cerro la Pandu 89.88 61 P **P 04 29 17.6 +1.3**
CPD Cerro la Pandu 89.88 61 *e*P **P 04 29 17.0 +0.8**
MTP Monte Pirata 90.03 61 ⇓*i*P **P 04 29 17.9 +0.9**
ASHO Ashiyiah 90.16 312 ⇑P **P 04 29 17.1 -0.4**
ETOB Tobarra 90.50 2 P **P 04 29 19.6 +0.5**
comp=Z,0.7nm,0.5s,mb4.2
PALK Pallekele 90.63 282 PFAKE 04 29 30.0 +10
PALK LR LR
comp=Z,451nm,19.0s,MS4.9
EADA Adamuz 90.87 4 P **P 04 29 20.9 +0.1**
comp=Z,20nm,1.1s,mb5.4
EBAN Banos Encina 90.91 4 P **P 04 29 21.0 -0.1**
EBAN pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
EBAN Banos Encina 90.91 4 P **P 04 29 21.0 0.0**
comp=Z,5.6nm,0.8s,mb5.0
ARQ Araqi 91.08 311 ⇑P **P 04 29 22.3 +0.5**
SNR=11
JMDO Jabal Madar 91.14 309 ⇓P **P 04 29 22.5 +0.4**
EMIN Mina Concepcio 91.16 6 P **P 04 29 22.1 -0.1**
comp=Z,1.0nm,0.9s,mb4.2
BSY Bisya 91.26 310 ⇑P **P 04 29 23.1 +0.5**
SNR=8.2
ELOJ Sierra Loja 91.91 4 P **P 04 29 26.2 +0.5**
ELOJ pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
ELOJ Sierra Loja 91.91 4 P **P 04 29 26.2 +0.5**
comp=Z,9.4nm,1.0s,mb5.1
EMIJ Mijas 92.46 4 P **P 04 29 28.0 -0.2**
comp=Z,13nm,1.1s,mb5.2
EIL Elat 94.00 331 *e*P **P 04 29 35.1 -0.3**
comp=Z,50nm,0.6s,mb6.1
SDV Santo Domingo 94.55 70 PFAKE 04 29 50.0 +12
SDV LR LR
comp=Z,193nm,19.0s,MS4.6
ROSC El Rosal 95.52 75 LR LR 05 09 25.9
comp=Z,177nm,21.7s,MS4.5,baz=196,slow=33
OTAV Otavalo 96.59 81 PFAKE 04 30 00.0 +13
OTAV LR LR
comp=Z,189nm,21.0s,MS4.5
SAML Samuel 113.16 75 PFAKE 04 35 10.0 +15
SAML LR LR
comp=Z,372nm,20.0s,MS5.0
TORD Torodi Ar. Bea 115.91 359 PKP PKPdf 04 34 59.0 -0.8
comp=Z,0.7nm,0.5s,baz=349,slow=2.4,SNR=33
TORD PP PP 04 35 58.1 -6.0
comp=Z,1.5nm,1.0s,baz=7.1,slow=4.4,SNR=4.8
TORD PKKPbc PKKPbc 04 45 29.2 -1.7
comp=Z,0.5nm,0.8s,baz=197,slow=2.2,SNR=5.8
TORD Torodi Ar. Bea 115.91 359 PKP PKPdf 04 34 59.0 -0.8
TORD PP PP 04 35 58.1 -6.0
TORD PKKPbc PKKPbc 04 45 29.2 -1.7
LVC Limon Verde 119.96 89 PFAKE 04 35 20.0 +12
LVC LR LR
comp=Z,370nm,21.0s,MS5.0
KMBO Kilima Mbogo 121.37 316 PKP PKPdf 04 35 11.1 +0.8
comp=Z,0.8nm,0.5s,baz=49,slow=19,SNR=2.8
DBIC Dimbokro 122.15 7 PKP PKPdf 04 35 11.6 -0.3
comp=Z,2.2nm,0.4s,baz=338,slow=1.9,SNR=21
RCBR Riachuelo 125.49 47 PFAKE 04 35 30.0 +12
RCBR LR LR
comp=Z,437nm,19.0s,MS5.2
BDFB Brasilia 127.43 66 PKP PKPdf 04 35 21.7 -0.2
comp=Z,2.2nm,0.8s,baz=270,slow=3.0,SNR=3.8
BDFB Brasilia 127.43 66 PKP PKPdf 04 35 21.7 -0.2
BDFB LR LR
comp=Z,693nm,20.0s,MS5.3
CASY Casey 128.66 209 PFAKE 04 35 40.0 +16
CASY LR LR
comp=Z,529nm,21.0s,MS5.2
SBA Scott Base 129.09 184 PFAKE 04 35 40.0 +15
SBA LR LR
comp=Z,313nm,21.0s,MS5.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPUP	Villa Florida	129.91	83	PKP	PKPdf	04 35 26.2	-0.4
	comp=Z,2.8nm,0.8s,baz=270,slow=2.8,SNR=6.8						
CPUP				SKP		04 38 59.1	
	comp=Z,0.5nm,0.5s,baz=315,slow=5.7,SNR=3.6						
PLCA	Paso Flores	131.20	107	PKP	PKPdf	04 35 29.0	-0.1
	comp=Z,1.6nm,0.9s,baz=1.2,slow=8.2,SNR=3.7						
PLCA				SKP		04 39 07.2	
	comp=Z,3.3nm,1.0s,baz=260,slow=6.1,SNR=4.1						
PLCA	Paso Flores	131.20	107	PKP	PKPdf	04 35 29.0	-0.1
PLCA				SKP		04 39 07.2	
TRQA	Tornquist	134.82	98	*e*PKPdf	PKPdf	04 35 35.0	-0.9
TRQA				LR	LR		
	comp=Z,406nm,20.0s,MS5.1						
ASCN	Ascension	135.08	21	PFAKE		04 35 50.0	+14
ASCN				LR	LR		
	comp=Z,578nm,20.0s,MS5.3						
QSPA	South Pole Qui	140.97	180	*e*P	PKPdf	04 35 39.3	-7.9
QSPA				LR	LR		
	comp=Z,233nm,22.0s,MS4.9						
TSUM	Tsumeb	145.39	331	*e*PKPdf	PKPdf	04 35 54.6	-0.4
TSUM				LR	LR		
	comp=Z,579nm,20.0s,MS5.3						
MAW	Mawson	146.17	217	PKPbc	PKPbc	04 35 55.2	-2.2
	comp=Z,6.5nm,0.7s,baz=59,slow=4.4,SNR=6.4						
MAW	Mawson	146.17	217	PKPbc	PKPbc	04 35 55.2	-2.2
MAW				LR	LR		
	comp=Z,658nm,19.0s,MS5.4						
BOSA	Boshof	150.87	311	PKPbc	PKPbc	04 36 10.1	+0.5
	comp=Z,7.9nm,0.5s,baz=32,slow=2.4,SNR=43						
SYO	Syowa Base	154.38	212⇑	*e*P	PKPab	04 36 39.4	+7.6
SYO	Syowa Base	154.38	212⇑	*e*P	pPKPab	04 36 44.0	-3.1
SUR	Sutherland	156.09	314	PFAKE		04 36 20.0	+8.6
SUR				LR	LR		
	comp=Z,782nm,19.0s,MS5.6						
HOPE	Hope Point	157.43	112	PFAKE		04 36 20.0	+6.8
HOPE				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
SNAA	Sanae	159.41	177	*e*PKPdf	PKPab	04 36 52.4	-1.1
SNAA				*e*		04 36 55.9	
SNAA				*e*		04 37 05.0	
SNAA				*e*		04 37 12.3	
SNAA				*e*		04 37 27.4	

*ISCJB **09** 04:28:25.9±1.6, 3261S±007×1799W±03, h400^{km}, mb4.3/2, Error ellipse: s-maj=32.6km s-min=9.4km az=179.7*
*NEIC **09** 04:28:28.6±4.2, 3267S×17996E, h400^{km}, mb4.3/2, Error ellipse: s-maj=81.9km s-min=12.7km az=72.0*
ISC 09 04:28:29.8±1.5**, 3281S**±007×**1799E**±03**, h400**^{km}**, n40,** σ**0^{s}87**/48**, mb4.3**/2**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.91	195	PN	Pn	04 29 49.0	-1.8
MXZ				SN	S	04 30 56.1	-0.5
PUZ	Puketiti	5.41	194	*e*PN	Pn	04 29 55.7	-0.3
PUZ				*e*SN	S	04 31 06.4	+0.3
MWZ	Matawai	5.83	198	PN	Pn	04 29 59.1	-1.3
MWZ				*e*SN	S	04 31 14.8	+0.5
MWZ	Matawai	5.83	198	*e*P	Pn	04 30 00.7	+0.2
MWZ				S	S	04 31 15.2	+0.9
URZ	Urewera	5.88	202	*e*PN	Pn	04 30 00.4	-0.6
URZ				*e*SN	S	04 31 15.2	-0.1
URZ	Urewera	5.88	202	P	Pn	04 30 00.5	-0.5
KNZ	Kokohu	6.44	195	PN	Pn	04 30 08.8	+1.6
KNZ				*e*SN	S	04 31 27.9	+1.2
KNZ	Kokohu	6.44	195	*e*P	Pn	04 30 08.8	+1.6
BKZ	Black Stump Fm	6.90	202	*e*PN	Pn	04 30 11.8	-0.4
BKZ	Black Stump Fm	6.90	202	*e*P	Pn	04 30 13.5	+1.2
FWVZ	Far West T-bar	7.31	207	PN	Pn	04 30 18.9	+2.0
FWVZ	Far West T-bar	7.31	207	*e*P	Pn	04 30 19.0	+2.1
MOVZ	Moawhango	7.37	206	*e*PN	Pn	04 30 18.3	+0.8
MOVZ	Moawhango	7.37	206	P	Pn	04 30 18.6	+1.1
PXZ	Pawanui	7.60	198	*e*PN	Pn	04 30 19.4	-0.7
PXZ				SN	S	04 31 49.8	-0.6
TSZ	Takapari Road	7.88	202	PN	Pn	04 30 23.0	-0.3
TSZ	Takapari Road	7.88	202	*e*P	P	04 30 23.9	+0.1
MRZ	Mangatainoka R	8.55	202	PN	Pn	04 30 30.2	-0.8
MRZ				*e*SN	S	04 32 08.9	-1.6
MRZ	Mangatainoka R	8.55	202	*e*P	P	04 30 31.2	0.0
KIW	Kapiti Island	8.96	205	*e*PN	Pn	04 30 34.9	-0.8
KIW	Kapiti Island	8.96	205	P	P	04 30 35.2	-0.5
CAW	Cannon Point	9.12	203	*e*PN	Pn	04 30 36.4	-1.2
CAW	Cannon Point	9.12	203	P	P	04 30 37.6	+0.1
DUWZ	D'Urville Isla	9.28	209	PN	Pn	04 30 39.5	0.0
MRW	Makara Radio	9.36	205	*e*PN	Pn	04 30 40.6	+0.3
MRW	Makara Radio	9.36	205	P	P	04 30 40.6	+0.5
TCW	Tory Channel	9.49	206	*e*PN	Pn	04 30 41.5	-0.4
TCW	Tory Channel	9.49	206	P	P	04 30 42.2	+0.5
TUWZ	Tuamarina	9.81	207	*e*PN	Pn	04 30 44.1	-1.4
NNZ	Nelson	9.86	210	*e*PN	Pn	04 30 45.1	-0.9
NNZ	Nelson	9.86	210	*e*P	P	04 30 45.6	-0.1
QRZ	Quartz Range	9.92	214	*e*PN	Pn	04 30 47.1	+0.3
QRZ	Quartz Range	9.92	214	*e*P	P	04 30 46.9	+0.5
THZ	Tophouse	10.51	210	*e*PN	Pn	04 30 53.7	+0.1
THZ	Tophouse	10.51	210	*e*P	P	04 30 54.2	+1.3
KHZ	Kahutara	10.81	206	*e*PN	Pn	04 30 57.4	+0.3
KHZ	Kahutara	10.81	206	*e*P	P	04 30 57.4	+1.1
WVZ	Waitaha Valley	12.51	212	*e*PN	P	04 31 16.7	+1.7
CTAO	Charters Tower	32.50	285	*e*P	P	04 34 24.9	-0.1
	3.8nm,0.4s,mb4.1						
WRAB	Tennant Creek	42.44	276	*e*P	P	04 35 46.5	-0.7
	8.4nm,0.3s,mb4.5						

NEIC 09 04:31:33.1, 6327N×**15141W, h8**^{km}**, ML3.5**(AEIC)**, ML3.9**(PMR)**, After AEIC., Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTH	Kantishna Hill	0.36	38	P	Pg	04 31 39.5	-0.6
KTH				S	Sg	04 31 45.7	+0.8
TRF	Thorofare Moun	0.54	70	P	Pg	04 31 43.8	+0.3
TRF				S	Sg	04 31 51.4	+0.8
MCK	McKinley	1.20	66	P	Pb	04 31 55.4	-0.8
GHO	Glory Hole Cre	1.90	141	P	Pn	04 32 06.1	+0.3
PMR	Palmer	1.99	147	P	Pn	04 32 07.2	0.0
SML	Sawmill	2.05	134	P	Pn	04 32 07.1	-0.8
TTA	Tatalina	2.12	263	*e*P	Pn	04 32 07.3	-1.6
FIB	Fire Island	2.19	164	P	Pn	04 32 10.3	+0.4
COLA	College	2.25	43	P	Pn	04 32 10.0	-0.6
KNK	Knik Glacier	2.32	142	P	Pn	04 32 12.1	+0.4
RC01	Rabbit Creek A	2.33	160	P	Pn	04 32 12.6	+0.8
SLKM	Skilak Lake	2.83	168	P	Pn	04 32 18.7	0.0
SVW2	Sparrevohn	2.93	224	P	Pn	04 32 19.3	-0.7
MENT	Mentasta	3.51	92	*e*Pn	Pn	04 32 30.0	+1.9
MENT				*e*Sn	Sn	04 33 13.6	+3.8
EYAK	Cordova Ski Ar	3.83	133	P	Pn	04 32 32.7	+0.4
COLD	Coldfoot	4.01	7	P	Pn	04 32 35.8	+1.0
DAWY	Dawson	5.41	76	P	Pn	04 32 54.1	0.0
KDAK	Kodiak Island	5.54	187	*e*Pn	Pn	04 32 54.6	-1.3
INK	Inuvik	8.89	48	*e*Pn	Pn	04 33 37.8	-4.2

*IDC **09** 04:54:21.3±2.9, 5141N×17932W, h0^{km}, mb3.8/7, mb1 3.9/8, mb1mx3.7/21, mbtmp3.8/8, ML4.0/1, Error ellipse: s-maj=72.3km s-min=23.2km az=178.0*
*NEIC **09** 04:54:23.7, 5098N×17921W, h12^{km}, ML3.1(AEIC), After AEIC.*
*ISCJB **09** 04:54:25.9±0.8, 517N±02×1793W±0.1, h33^{km}, mb3.9/8, Error ellipse: s-maj=26.0km s-min=6.7km az=135.6*
ISC 09 04:54:26.9±1.0**, 516N**±02×**1793W**±01**, h35**^{km}**, n12,** σ**0^{s}92**/14**, mb3.9**/8**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	Amchitka	0.94	255	P	Pn	04 54 42.0	-1.6
AMKA				S	Sn	04 54 55.9	-0.1
ATKA	Atka Island	3.18	78	P	Pn	04 55 15.7	+1.3
KDAK	Kodiak Island	16.52	58	Pn	Pn	04 58 13.9	-1.9
	0.6nm,0.3s,baz=238,slow=9.5,SNR=8.5						
KDAK				Sn	Sn	05 01 16.9	-1.3
	0.1nm,0.3s,baz=122,slow=11,SNR=5.4						
YKA	Yellowknife Ar	35.26	47	P	P	05 01 18.9	+0.8
	0.3nm,0.5s,mb3.5,baz=282,slow=7.7,SNR=5.0						
YKA	Yellowknife Ar	35.26	47	P	P	05 01 18.9	+0.8
PDAR	Pinedale Array	46.50	72	P	P	05 02 51.1	+0.4
	0.6nm,0.5s,mb3.8,baz=321,slow=4.3,SNR=6.9						
ARCES	ARCESS Array B	57.79	350	P	P	05 04 15.2	+0.5
	1.5nm,0.8s,mb4.1,baz=24,slow=6.9,SNR=2.8						
MKAR	Makanchi Array	59.66	308	P	P	05 04 27.8	+0.2
	0.4nm,0.4s,mb3.8,baz=50,slow=8.4,SNR=5.2						
JOF	Joensuu	63.28	345	*e*p	P	05 04 52.1	+0.1
	1.0nm,0.5s,mb4.2						
FINES	FINESS Array B	65.47	347	P	P	05 05 06.8	+0.4
	0.5nm,0.6s,mb3.7,baz=20,slow=7.8,SNR=6.3						
NOA	NORSAR Array B	67.37	355	P	P	05 05 18.7	+0.2
	1.7nm,1.1s,mb4.0,baz=43,slow=2.3,SNR=2.3						
AKASG	Malin Array Be	75.22	342	P	P	05 06 06.6	+0.7
	2.1nm,0.4s,mb4.5,baz=20,slow=6.6,SNR=12						

*IDC **09** 05:09:53.2±7.5, 189N×9656E, h0^{km}, mb4.1/5, mb1 4.2/5, mb1mx3.7/19, mbtmp4.1/5, Error ellipse: s-maj=184.6km s-min=90.6km az=135.0*
*ISCJB **09** 05:09:55.8±1.3, 19N±02×967E±02, h33^{km}, mb4.2/9, Error ellipse: s-maj=27.7km s-min=20.0km az=53.2*
*NEIC **09** 05:09:57.1±0.9, 185N×9667E, h30^{km}, mb4.2/4, Error ellipse: s-maj=20.0km s-min=14.3km az=208.0*
ISC 09 05:09:58.0±1.3**, 19N**±02×**967E**±02**, h35**^{km}**, n11,** σ**0^{s}37**/11**, mb4.2**/9**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.23	50	*e*Pn	Pn	05 11 13.5	-0.1
WRAB	Tennant Creek	42.86	122	*e*P	P	05 17 52.7	-0.1
	5.5nm,0.6s,mb4.5						
MKAR	Makanchi Array	46.46	346	P	P	05 18 21.6	+0.2
	3.0nm,0.7s,mb4.3,baz=166,slow=7.9,SNR=15						
SONM	Songino Array	46.54	9	P	P	05 18 22.7	+0.5
	1.1nm,0.5s,mb4.0,baz=191,slow=9.8,SNR=8.8						
KURK	Kurchatov	51.00	345	*e*P	P	05 18 56.4	0.0
	2.7nm,1.0s,mb4.1						
ZAL	Zalesovo	52.80	351	P	P	05 19 09.8	0.0
	3.0nm,0.5s,mb4.5,baz=322,slow=6.5,SNR=8.1						
ZRNK	Zerenda	55.83	340	*e*P	P	05 19 31.7	-0.1
	1.7nm,0.8s,mb4.1						
CHKZ	Chkalovo	55.91	342	*e*P	P	05 19 31.5	-0.9
	1.7nm,0.7s,mb4.2						
FINES	FINESS Array B	79.15	333	P	P	05 21 59.2	+0.1
	0.9nm,0.8s,mb3.8,baz=94,slow=5.7,SNR=3.7						
FINES	FINESS Array B	79.15	333	P	P	05 21 59.2	+0.1
ARCES	ARCESS Array B	81.72	340	P	P	05 22 13.3	+0.4
	1.6nm,0.9s,mb3.9,baz=99,slow=5.7,SNR=4.3						

*IDC **09** 05:11:21.9±3.4, 1045S×12003E, h0^{km}, mb4.0/2, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, ML3.7/2, Error ellipse: s-maj=255.2km s-min=26.2km az=59.0*
*ISCJB **09** 05:11:23.2±0.9, 1048S±007×12066E±009, h33^{km}, mb4.0/3, Error ellipse: s-maj=15.1km s-min=7.9km az=111.7*
*NEIC **09** 05:11:26.8±2.7, 1047S×12013E, h37^{km}±31^{km}, mb4.0/1, Error ellipse: s-maj=23.0km s-min=20.6km az=181.0*
ISC 09 05:11:26.4±0.9**, 1043S**±008×**12061E**±009**, h35**^{km}**, n11,** σ**1^{s}36**/15**, mb4.0**/3**, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.05	148	*e*P	Pn	05 13 38.3	+3.8
	12nm,1.1s						
FITZ				*e*S	Sn	05 15 14.4	-0.8
FITZ	Fitzroy Crossi	9.05	148	Pn	Pn	05 13 37.0	+2.4
	0.6nm,0.3s,baz=342,slow=5.1,SNR=17						
FITZ				Sn	Sn	05 15 14.9	-0.3
	1.0nm,0.3s,baz=193,slow=23,SNR=10						
MBWA	Marble Bar	10.70	184	*e*Pn	Pn	05 13 56.7	-0.4
KAKA	Kakadu	11.82	102	*e*P	Pn	05 14 19.3	+6.9
	5.4nm,0.6s						
KAKA				*e*S	Sn	05 16 22.6	-0.3
WRAB	Tennant Creek	16.28	127	*e*Pn	Pn	05 15 16.9	+4.7
WB2	Warramunga Arr	16.28	127	*e*P	Pn	05 15 15.6	+3.3
WB2				*e*S	S	05 18 03.1	-21
ASAR	Alice Springs	18.28	138	P	Pn	05 15 42.3	+5.1
	0.3nm,0.3s,baz=314,slow=12,SNR=23						
ASAR				S	S	05 19 01.6	-2.7
	0.2nm,0.3s,baz=294,slow=22,SNR=7.1						
ULN	Ulaanbaatar	59.27	349	*e*P	P	05 21 23.7	-0.6
	0.7nm,0.5s,mb4.0						
SONM	Songino Array	59.36	349	P	P	05 21 25.3	+0.3
	0.8nm,0.9s,mb3.7,baz=152,slow=6.5,SNR=4.0						
ZAL	Zalesovo	70.93	339	P	P	05 22 39.7	-0.3
	1.1nm,0.4s,mb4.2,baz=208,slow=3.9,SNR=3.6						
ZAL	Zalesovo	70.93	339	P	P	05 22 39.7	-0.3

MAN 09 05:21:22.5, 1847N×**12104E, h3**^{km}**, mb1.9, ML3.7, MS2.2, 1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PIP	Pasuquin	0.42	250⇓	*i*P	Pg	05 21 30.9	+0.4
PIP				*i* S	Sg	05 21 38.6	+2.6
APYP	Conner	0.64	162	*i* P	Pg	05 21 35.0	+0.3
APYP				*e*S	Sg	05 21 45.4	+2.4
ABRA	Dolores	0.87	201	*e*P	Pg	05 21 39.5	+0.3

*ISCJB **09** 05:36:11.2±1.7, 202S±04×1784W±03, h600^{km}, mb4.0/9, Error ellipse: s-maj=58.6km s-min=20.5km az=113.2*
*IDC **09** 05:36:14.1±7.7, 2026S×17824W, h625^{km}±85^{km}, mb3.3/5, mb1 3.5/5, mb1mx3.2/13, mbtmp4.3/5, Error ellipse: s-maj=56.5km s-min=35.3km az=118.0*
*NEIC **09** 05:36:17.5±4.8, 2033S×17839W, h671^{km}±58^{km}, mb4.1/5, Error ellipse: s-maj=51.2km s-min=33.9km az=141.0*
ISC 09 05:36:12.5±1.7**, 202S**±04×**1783W**±03**, h600**^{km}**, n17,** σ**0^{s}38**/13**, mb4.0**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTAO	Charters Tower	33.27	264	*e*P	P	05 42 01.9	+0.1
	6.4nm,0.5s,mb4.5						
STKA	Stephens Creek	37.70	244	P	P	05 42 38.6	+0.2
	2.8nm,0.7s,mb3.9,baz=110,slow=12,SNR=2.9						
AS31	Alice Springs	44.34	256	*e*P	P	05 43 31.0	+0.3
ASAR	Alice Springs	44.34	256	P	P	05 43 30.9	+0.1
	5.9nm,0.7s,mb4.3,baz=95,slow=7.4,SNR=85						
ASAR				PcP	PcP	05 45 01.7	+0.4
	0.7nm,0.6s,baz=107,slow=3.7,SNR=4.8						
ASPA	Alice Springs	44.35	256	*e*P	P	05 43 31.0	+0.2
WB2	Warramunga Arr	44.38	262	*e*P	P	05 43 30.6	-0.4
WRAB	Tennant Creek	44.38	262	*e*P	P	05 43 30.2	-0.8
	6.4nm,0.7s,mb4.3						
KAKA	Kakadu	47.72	271	*e*P	P	05 43 56.5	+0.3
	7.1nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	52.82	262	*e*P	P	05 44 33.8	+0.5
	3.6nm,0.5s,mb4.0						
FITZ	Fitzroy Crossi	52.82	262	P	P	05 44 33.7	+0.4
	1.7nm,0.5s,mb3.6,baz=218,slow=2.1,SNR=12						
MBWA	Marble Bar	57.67	257	*e*P	P	05 45 06.3	-0.5
	3.6nm,0.6s,mb3.7						
MJAR	Matsushiro Arr	69.81	324	P	P	05 46 24.0	+0.1
	3.0nm,0.7s,mb3.9,baz=156,slow=5.5,SNR=13						
PDAR	Pinedale Array	88.91	43	P	P	05 48 04.0	0.0
	0.4nm,0.9s,mb3.2,baz=169,slow=2.4,SNR=3.7						
AKASG	Malin Array Be	142.62	331	PKP	PKPdf	05 54 34.9	-3.3
	2.1nm,0.5s,baz=41,slow=4.2,SNR=14						
CLL	Collm	147.71	347	*i* PKPbc	PKPbc	05 54 50.5	-0.1
	comp=Z,6.0nm,0.9s						
CLL				*i* PKPab	PKPab	05 54 54.7	-0.5
BRG	Berggiesshubel	147.90	345	*e*P	PKPbc	05 54 50.6	-0.5
	comp=Z,1.3nm,0.8s						
GERES	GERESS Array B	149.84	344	PKPbc	PKPbc	05 54 55.4	-0.4
	comp=Z,0.7nm,0.7s,baz=0.0,slow=2.7,SNR=5.9						

*IDC **09** 05:41:58.9±0.9, 5131N×179.11W, h0^{km}, mb4.2/19, mb1 4.4/20, mb1mx4.3/27, mbtmp4.2/20, ML4.2/1, Error ellipse: s-maj=26.6km s-min=14.5km az=177.0*
*ISCJB **09** 05:42:00.2±0.4, 5123N±009×17903W±005, h17^{km}, mb4.5/56, MS4.8/4, Error ellipse: s-maj=13.0km s-min=4.7km az=170.2*
*BJI **09** 05:42:00.0, 5100N×17900W, h14^{km}, mB4.9, mb4.7, Ms4.9, Msz4.4*
*NEIC **09** 05:42:01.8, 5101N×17900W, h14^{km}, mb4.5/28, ML4.3(AEIC), ML4.5(PMR), After AEIC.*
*MOS **09** 05:42:02.0±1.1, 51.16N×17899W, h33^{km}, mb4.7/20, Error ellipse: s-maj=12.5km s-min=8.6km az=88.1*
ISC 09 05:42:02.1±0.4**, 5132N**±009×**17904W**±005**, h18**^{km}±1.8^{km}**:pP-P, n124,** σ**1^{s}02**/120**, mb4.5**/56**, MS4.8**/4**, 5C-7D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	Amchitka	1.04	274	P	Pb	05 42 21.4	-0.2
AMKA				S	Sb	05 42 38.7	+3.7
ATKA	Atka Island	3.13	72	P	Pn	05 42 52.6	+1.9
ATKA				S	Sn	05 43 33.0	+5.4
SMY	Shemya	4.47	291	P	Pn	05 43 12.6	+3.6
SPIA	Saint Paul Isl	7.80	38	P	Pn	05 44 00.1	+5.4
UNV	Unalaska Valle	8.04	67	P	Pn	05 44 01.1	+3.0
PET	Petropavlovsk	13.79	286	*e*P	Pn	05 45 16.3	-0.4
PET				*e*		05 47 43.1	
PET				MLR	MLR		
	comp=Z,300nm,18.0s						
SVW2	Sparrevohn	16.21	44	*e*Pn	Pn	05 45 51.1	+2.1
SVW2				*e*P		05 45 54.0	
KDAK	Kodiak Island	16.58	57	Pn	Pn	05 45 51.2	-2.5
	comp=Z,0.8nm,0.3s,baz=152,slow=13,SNR=19						
KDAK	Kodiak Island	16.58	57	*e*Pn	Pn	05 45 51.1	-2.6
TTA	Tatalina	16.95	38	*e*P	Pn	05 46 01.3	+3.0
TTA				pmax	pmax		
	comp=Z,21nm,1.4s						
TTA	Tatalina	16.95	38	*e*Pn	Pn	05 46 01.3	+2.9
	comp=Z,20nm,1.4s						
MCK	McKinley	20.14	40	*e*P	P	05 46 36.3	+1.0
MCK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MCK	McKinley	20.14	40	*e*P	P	05 46 36.3	+1.0
	comp=Z,5.1nm,0.9s						
COLA	College	21.05	38	*i* P	P	05 46 47.1	+2.0
ILAR	Eielson Array	21.38	39	P	P	05 46 48.4	-0.3
	comp=Z,1.5nm,0.6s,mb3.5,baz=240,slow=10,SNR=12						
MENT	Mentasta	22.09	45	*e*P	P	05 46 57.8	+1.5
DAWY	Dawson	24.25	43	*e*P	P	05 47 17.3	-0.8
YSS	Yuzh-Sakhalins	25.18	275	*e*P	P	05 47 27.0	+0.5
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
YSS	Yuzh-Sakhalins	25.18	275	*e*P	P	05 47 26.2	-0.2
	comp=Z,24nm,1.2s,mb4.6						
INK	Inuvik	27.59	35	P	P	05 47 48.1	-0.1
	comp=Z,3.0nm,0.8s,mb4.0,baz=163,slow=7.3,SNR=4.2						
KLR	Kul'dur	31.05	286	*e*P	P	05 48 15.3	-3.7
YKA	Yellowknife Ar	35.38	46	P	P	05 48 55.8	-0.9
	comp=Z,3.3nm,0.8s,mb4.3,baz=281,slow=7.6,SNR=15						
YKA	Yellowknife Ar	35.38	46	*i* P	P	05 48 56.2	-0.5
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	Yellowknife Ar	35.38	46	P	P	05 48 55.8	-0.9
CN2	Changchun	37.41	281	*e*P	P	05 49 13.5	-0.6
HAWA	Hanford	38.52	73	*e*P	P	05 49 24.2	+0.7
	comp=Z,0.5nm,0.8s						
EDM	Edmonton	38.97	61	*e*P	P	05 49 26.7	-0.5
NEW	Newport	39.04	69	P	P	05 49 27.4	-0.4
	comp=Z,4.3nm,0.8s,mb4.2,baz=319,slow=5.6,SNR=8.9						
NEW	Newport	39.04	69	*e*P	P	05 49 28.4	+0.6
NEW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NEW	Newport	39.04	69	*e*P	P	05 49 28.4	+0.6
	comp=Z,3.5nm,0.8s,mb4.1						
WALA	Waterton Lakes	40.53	67	*e*P	P	05 49 40.4	+0.2
	comp=Z,18nm,1.5s,mb4.5						
WVOR	Wild Horse Val	41.16	78	*e*P	P	05 49 44.9	-0.5
WVOR				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
WVOR	Wild Horse Val	41.16	78	*e*P	P	05 49 44.9	-0.5
	comp=Z,5.4nm,1.1s,mb4.1						
HLID	Hailey	43.10	74	*e*P	P	05 50 01.5	+0.2
	comp=Z,4.6nm,1.0s,mb4.2						
EGMT	Eagleton	43.44	66	*e*P	P	05 50 03.7	-0.2
	comp=Z,7.4nm,0.9s,mb4.4						
BOZ	Bozeman (W)	43.61	70	*e*P	P	05 50 05.1	-0.3
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
BOZ	Bozeman (W)	43.61	70	*e*P	P	05 50 05.1	-0.3
	comp=Z,3.7nm,0.6s,mb4.3						
NVAR	Mina Array Bea	43.71	83	P	P	05 50 06.9	+0.8
	comp=Z,1.4nm,0.8s,mb3.7,baz=300,slow=6.3,SNR=5.3						
ELK	Elko	44.22	78	*e*P	P	05 50 10.8	+0.6
ELK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ELK	Elko	44.22	78	*e*P	P	05 50 10.8	+0.6
	comp=Z,3.1nm,1.1s,mb4.0						
ULN	Ulaanbaatar	46.15	296	*e*P	P	05 50 26.0	+0.4
ULN				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
ULN	Ulaanbaatar	46.15	296	*e*P	P	05 50 26.0	+0.4
	comp=Z,7.0nm,1.1s,mb4.5						
LAO	LASA Array	46.18	66	*e*P	P	05 50 26.0	+0.1
	comp=Z,14nm,1.0s,mb4.9						
BW06	Boulder Array	46.47	72	*e*P	P	05 50 28.0	0.0
	comp=Z,9.8nm,0.9s,mb4.7						
PDAR	Pinedale Array	46.47	72	P	P	05 50 28.1	0.0
	comp=Z,9.8nm,0.9s,mb4.7,baz=314,slow=4.1,SNR=67						
SONM	Songino Array	46.54	297	P	P	05 50 29.3	+0.7
	comp=Z,2.5nm,0.7s,mb4.2,baz=55,slow=9.4,SNR=19						
TMUT	Trail Mountain	47.55	77	*e*P	P	05 50 37.4	+0.8
HHC	Hu-ho-hao-te	47.56	286	*e*P	P	05 50 37.5	+0.9
HHC				XP	sP	05 50 44.7	+0.3
HHC				PP	PP	05 52 27.6	-0.5
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,108nm,5.5s						
HHC				LR	LR		
	comp=N,447nm,21.4s,MS4.6						
HHC				LR	LR		
	comp=E,421nm,19.0s,MS4.6						
HHC				LR	LR		
	comp=Z,307nm,21.4s,MS4.2						
SRU	San Rafael	48.09	77	*e*P	P	05 50 40.1	-0.6
SRU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
SRU	San Rafael	48.09	77	*e*P	P	05 50 40.1	-0.6
	comp=Z,7.6nm,1.0s,mb4.7						
RWWY	Rawlins	48.51	72	*e*P	P	05 50 44.1	+0.2
	comp=Z,6.0nm,0.8s,mb4.7						
NJ2	Nanjing	48.66	272	*e*P	P	05 50 45.9	+0.8
NJ2				AP	pP	05 50 51.4	+0.7
NJ2				XP	sP	05 50 52.9	0.0
NJ2				PP	PP	05 52 38.9	+0.8
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,104nm,5.5s						
NJ2				LR	LR		
	comp=N,2μm,17.2s,MS5.5						
NJ2				LR	LR		
	comp=E,4μm,16.7s,MS5.5						
NJ2				LR	LR		
	comp=Z,1μm,15.7s,MS5.0						
SMCO	Snowmass	50.20	74	*e*P	P	05 50 57.1	+0.3
	comp=Z,1.4nm,0.6s,mb4.2						
ANMO	Albuquerque	53.25	78	P	P	05 51 21.5	+1.9
	comp=Z,0.3nm,0.4s,mb3.6,baz=335,slow=9.9,SNR=3.6						
ANMO	Albuquerque	53.25	78	*e*P	P	05 51 19.8	+0.2
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ANMO	Albuquerque	53.25	78	*e*P	P	05 51 19.8	+0.1
	comp=Z,1.7nm,1.0s,mb3.9						
SUMG	Summit	53.39	14	*e*P	P	05 51 19.4	-1.3
	comp=Z,9.1nm,1.0s,mb4.7						
LZH	Lanzhou	55.26	286	*e*P	P	05 51 36.3	+2.1
LZH				AP	pP	05 51 40.0	+0.1
LZH				XP	sP	05 51 42.0	-0.1
LZH				PP	PP	05 53 41.0	+3.2
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,120nm,5.0s						
LZH				LR	LR		
	comp=E,890nm,16.0s						
LZH				LR	LR		
	comp=Z,1μm,17.3s,MS5.0						
GTA	Gaotai	55.45	292	*e*P	P	05 51 36.3	+0.7
GTA				AP	pP	05 51 42.7	+1.4
GTA				XP	sP	05 51 46.9	+3.5
GTA				PP	PP	05 53 42.2	+2.7
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
GTA				AMB	AMB		
	comp=Z,88nm,4.9s						
GTA				LR	LR		
	comp=N,539nm,22.0s,MS4.7						
GTA				LR	LR		
	comp=E,459nm,19.8s,MS4.7						
GTA				LR	LR		
	comp=Z,672nm,19.4s,MS4.7						
ARCES	ARCESS Array B	58.12	350	P	P	05 51 53.5	-1.1
	comp=Z,2.8nm,0.8s,mb4.3,baz=21,slow=7.5,SNR=14						

KURK Kurchatov 58.95 314⇓eP P 05 52 00.7 +0.3
MKAR Makanchi Array 59.95 308 P P 05 52 06.7 -0.6
comp=Z,1.6nm,0.3s,mb4.5,baz=48,slow=6.7,SNR=13
SCHQ Schefferville 60.14 38 P P 05 52 07.0 -1.6
comp=Z,5.4nm,1.0s,mb4.5,baz=333,slow=6.8,SNR=3.5
CHKZ Chkalovo 60.26 320 eP P 05 52 10.1 +0.7
CHKZ pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
CHKZ Chkalovo 60.26 320 eP P 05 52 10.1 +0.7
comp=Z,0.9nm,0.4s,mb4.2
BVAR Borovoye Array 60.84 320 P P 05 52 12.8 -0.5
comp=Z,0.6nm,0.4s,mb4.1,baz=54,slow=7.5,SNR=5.5
BVAR PcP PcP 05 52 56.0 -1.0
comp=Z,0.8nm,0.3s,baz=70,slow=5.5,SNR=5.6
BRVK Borovoye 60.85 320 eP P 05 52 15.6 +2.1
BRVK pmax pmax
comp=Z,2.0nm,1.0s,mb4.2
BLO Bloomington 62.07 62 eP P 05 52 20.1 -1.6
BLO pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
BLO Bloomington 62.07 62 eP P 05 52 20.1 -1.6
comp=Z,5.3nm,0.6s,mb4.8
WCI Wyandotte Cave 62.86 62 eP P 05 52 26.0 -1.0
WCI pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
WCI Wyandotte Cave 62.86 62 eP P 05 52 26.0 -0.9
comp=Z,6.7nm,0.8s,mb4.8
KMI Kunming 63.59 278 P P 05 52 35.6 +3.8
KMI AMB AMB
comp=Z,6.0nm,1.1s,mb4.5
JOF Joensuu 63.61 345 ep P 05 52 30.7 -1.3
comp=Z,1.9nm,0.3s,mb4.6
JOF Joensuu 63.61 345 eP P 05 52 30.7 -1.3
JOF pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
OXF Oxford 63.74 67 eP P 05 52 31.4 -1.4
OXF pmax pmax
comp=Z,24nm,1.2s,mb5.1
OXF Oxford 63.74 67 eP P 05 52 31.4 -1.4
comp=Z,24nm,1.2s,mb5.1
KAF Kangasniemi 65.13 347 ep P 05 52 40.3 -1.6
baz=12,slow=5.5
FINES FINESS Array B 65.81 347 P P 05 52 44.9 -1.4
comp=Z,1.0nm,0.3s,mb4.3,baz=16,slow=6.5,SNR=24
AAK Ala-Archa 66.79 310⇓eP P 05 52 52.8 +0.3
AAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
AAK Ala-Archa 66.79 310 eP P 05 52 52.3 -0.2
comp=Z,5.3nm,0.9s,mb4.6
NOA NORSAR Array B 67.69 355 P P 05 52 56.0 -2.2
comp=Z,0.5nm,0.6s,mb3.7,baz=333,slow=4.8,SNR=3.6
OBN Obninsk 69.87 339⇓eP P 05 53 11.4 -0.5
OBN e 05 53 33.1
OBN e 05 55 44.7
OBN pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
GUN Gumba 71.74 292 eP P 05 53 24.0 +0.8
comp=Z,46nm,0.4s
JIRN Jiri 71.75 291 eP P 05 53 24.1 +0.8
comp=Z,12nm,0.4s,mb5.2
KKN Kakani 72.18 292 eP P 05 53 26.7 +0.8
comp=Z,8.2nm,0.4s,mb5.1
PKI Pulchoki 72.27 292 eP P 05 53 26.4 0.0
comp=Z,6.4nm,0.4s,mb4.9
GKN Gorkha 72.39 293 eP P 05 53 28.7 +1.6
DMN Daman 72.42 292 eP P 05 53 27.8 +0.5
AKASG Malin Array Be 75.56 342 P P 05 53 44.7 -0.9
comp=Z,1.6nm,0.3s,mb4.4,baz=18,slow=5.8,SNR=34
AKASG Malin Array Be 75.56 342 P P 05 53 44.7 -0.9
CLL Collm 77.24 352 eP P 05 53 55.0 -0.2
CLL epP pP 05 54 00.0 -1.0
GOF Gofitskoye 77.34 331 eP P 05 53 55.6 -0.2
KIV Kislovodsk 78.44 331 i P P 05 54 01.4 -0.5
KIV pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
KOLS Kolonicke sedl 78.47 346 eP P 05 54 01.5 -0.6
KOLS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
KOLS Kolonicke sedl 78.47 346 eP P 05 54 01.5 -0.6
comp=Z,3.9nm,1.1s,mb4.2
CRVS Cervenica-Dubn 78.63 346 eP P 05 54 02.5 -0.4
VRAC Vranov 78.86 350⇓iP P 05 54 04.3 +0.1
KECS Kecovo 79.18 347 eP P 05 54 05.7 -0.2
KECS pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
KECS Kecovo 79.18 347 eP P 05 54 05.7 -0.2
comp=Z,3.3nm,1.3s,mb4.1
ANN Anapa 79.19 334 eP P 05 53 59.5 -6.5
ANN e 05 54 08.9
ANN eS S 06 03 55.0 -10
ANN pmax pmax
comp=Z,39nm,0.9s,mb5.3
BURAR Bucovina Array 79.26 344⇑iP P 05 54 06.2 -0.2
KHC Kasperske Hory 79.34 352 eP P 05 54 07.0 +0.1
KHC Kasperske Hory 79.34 352⇓eP P 05 54 06.9 +0.1
VYHS Vyhne 79.39 348 eP P 05 54 06.7 -0.4
VYHS pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
VYHS Vyhne 79.39 348 eP P 05 54 06.7 -0.4
comp=Z,2.6nm,1.2s,mb4.0
GERES GERESS Array B 79.62 351 P P 05 54 07.8 -0.5
comp=Z,0.6nm,0.5s,mb3.8,baz=15,slow=5.5,SNR=8.7
DRGR 80.49 345⇑iP P 05 54 12.9 -0.1
MLR Muntele Rosu 81.18 343⇓iP P 05 54 17.5 +0.8
GNI Garni 81.21 328 i P P 05 54 18.1 +1.2
GNI pmax pmax
comp=Z,13nm,1.5s
KBA Koelnbreinsper 81.40 351⇑iP P 05 54 18.5 +0.6
comp=Z,12nm,0.9s,mb4.8
KBA Koelnbreinsper 81.40 351⇑iP P 05 54 18.5 +0.6
KBA pmax pmax
comp=Z,12nm,0.9s,mb4.8
BZS Buzias 81.81 346⇓iP P 05 54 19.5 -0.5
WRAB Tennant Creek 81.86 224⇑eP P 05 54 17.3 -3.0
FITZ Fitzroy Crossi 84.31 232 P P 05 54 31.4 -1.6
comp=Z,4.5nm,1.1s,mb4.5,baz=66,slow=10.0,SNR=3.8
BRTR Keskin Array B 84.93 335 P P 05 54 36.4 +0.2
comp=Z,3.7nm,0.8s,mb4.5,baz=38,slow=4.1,SNR=14
AQU L'Aquila 86.08 351 eP P 05 54 41.2 -0.6
AQU pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
AQU L'Aquila 86.08 351 eP P 05 54 41.2 -0.7
comp=Z,9.6nm,0.8s,mb5.1
ESDC Sonseca Array 89.28 4 P P 05 54 56.4 -0.8
comp=Z,0.4nm,0.5s,mb4.0,baz=357,slow=4.5,SNR=7.0
DBIC Dimbokro 122.02 7 PKP PKPdf 06 00 54.3 -1.2
comp=Z,3.3nm,1.0s,baz=360,slow=0.5,SNR=3.6
VNDA Vanda 129.12 185 PKP PKPdf 06 01 05.8 -3.4
comp=Z,0.7nm,0.9s,baz=342,slow=1.3,SNR=3.5
TSUM Tsumeb 145.36 332 PKPbc PKPbc 06 01 38.6 -0.2
comp=Z,5.2nm,0.9s,baz=2.5,slow=7.0,SNR=7.5
TSUM Tsumeb 145.36 332 ePKPbc PKPbc 06 01 38.2 -0.6
LBTB Lobatse 147.66 315 PKPbc PKPbc 06 01 44.6 -1.0
comp=Z,2.3nm,0.4s,baz=351,slow=4.2,SNR=7.3
BOSA Boshof 150.90 312 PKPbc PKPbc 06 01 51.8 -1.9
comp=Z,1.3nm,0.6s,baz=91,slow=3.2,SNR=3.9

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*BJI **09** 05:44:30.0, 51.00N×179.00W, h10km, mB5.0, mb4.8, Ms5.1, Msz5.0*
*IDC **09** 05:44:32.1±0.7, 51.38N×179.19W, h0km, mb4.4/22, mb1 4.6/23, mb1mx4.5/28, mbtmp4.5/23, ML4.6/1, Error ellipse: s-maj=22.0km s-min=12.2km az=168.0*
*NEIC **09** 05:44:33.0, 50.97N×179.02W, h3km, mb4.7/77, ML4.9(AEIC), After AEIC.*
*MOS **09** 05:44:36.7±0.9, 51.34N×179.07W, h42km, mb4.9/60, Error ellipse: s-maj=9.5km s-min=5.6km az=91.3*
*ISCJB **09** 05:44:37.6±0.8, 51.32N±0.07×179.04W±0.04, h47km±6km, mb4.6/118, MS5.0/3, Error ellipse: s-maj=11.4km s-min=4.3km az=177.4*
*SZGRF **09** 05:44:39.2, 51.15N×179.29E, h33km, mb4.7, Rat Islands, Aleutian Islands, United States*
ISC 09 05:44:40.0±0.8**, 51.45N**±0.07×**179.05W**±0.04**, h53**km±7km**, h28**km±5.2km**: pP-P, n289, σ0.93**/286**, mb4.6**/118**, MS5.0**/3**, 9C-4D, Andreanof Islands**

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
AMKA Amchitka 1.04 267 P Pn 05 44 54.1 -4.2
AMKA S Sn 05 45 12.0 +0.2
ATKA Atka Island 3.10 74 P Pn 05 45 25.7 -0.7
ATKA S Sn 05 46 07.4 +5.2
SMY Shemya 4.42 290 P Pn 05 45 44.6 +0.2
SMY S Sn 05 46 41.0 +6.4
SPIA Saint Paul Isl 7.71 38 P Pn 05 46 34.3 +4.8
SVW2 Sparrevohn 16.13 44 eP Pn 05 48 27.6 +4.5
KDAK Kodiak Island 16.52 57 Pn Pn 05 48 24.1 -3.8
2.3nm,0.3s,baz=258,slow=6.7,SNR=12
KDAK Kodiak Island 16.52 57 ePn Pn 05 48 24.8 -3.1
11nm,0.3s
TTA Tatalina 16.85 38 eP Pn 05 48 36.1 +3.9
PMR Palmer 19.19 47 eP Pn 05 49 03.2 +2.5
PMR pmax pmax
comp=Z,3.0nm,0.3s
PMR Palmer 19.19 47 eP Pn 05 49 03.2 +2.5
comp=Z,2.8nm,0.3s
SML Sawmill 19.62 46 eP Pn 05 49 04.1 -1.7
MCK McKinley 20.05 41 eP P 05 49 08.8 +0.2
MCK pmax pmax
comp=Z,7.0nm,0.8s
MCK McKinley 20.05 41 eP P 05 49 08.8 +0.2
comp=Z,7.2nm,0.8s
EYAK Cordova Ski Ar 20.52 51 eP P 05 49 12.6 -1.0
COLA College 20.95 38 i P P 05 49 21.5 +3.1
ILAR Eielson Array 21.29 39 P P 05 49 21.6 -0.4
comp=Z,2.2nm,0.4s,mb3.8,baz=239,slow=9.7,SNR=25
MENT Mentasta 22.01 45 eP P 05 49 32.2 +2.5
DAWY Dawson 24.16 43 eP P 05 49 50.4 -0.7
YSS Yuzh-Sakhalins 25.16 275⇓eP P 05 50 00.8 +0.6
YSS pmax pmax
comp=Z,42nm,0.9s,mb5.0
YSS Yuzh-Sakhalins 25.16 275 eP P 05 50 00.4 +0.2
comp=Z,52nm,1.1s,mb5.0
ASAJ Asahikawa 26.55 269 P P 05 50 11.1 -1.7
comp=Z,23nm,1.2s,mb4.6,baz=28,slow=4.8,SNR=5.5
ASAJ Asahikawa 26.55 269 P P 05 50 11.1 -1.7
ASAJ pmax pmax
comp=Z,23nm,1.2s
INK Inuvik 27.49 35 P P 05 50 21.1 -0.2
comp=Z,3.1nm,0.8s,mb3.9,baz=250,slow=8.6,SNR=8.6
INK Inuvik 27.49 35 eP P 05 50 22.0 +0.8
INK pmax pmax
comp=Z,11nm,1.1s
INK Inuvik 27.49 35 eP P 05 50 22.0 +0.8
comp=Z,11nm,1.1s,mb4.3
HABR Khabarovsk 29.31 282 eP P 05 50 37.0 -0.4
HABR eS S 05 55 28.0 +1.1
KLR Kul'dur 31.01 286 eP P 05 50 48.1 -4.4
KLR pmax pmax
comp=E,33nm,1.4s
KLR pmax pmax
comp=Z,67nm,1.4s,mb5.3
MJAR Matsushiro Arr 33.64 261 P P 05 51 14.0 -1.5
comp=Z,1.3nm,0.7s,mb4.0,baz=46,slow=6.6,SNR=7.1
MAJO Matsushiro 33.65 261 eP P 05 51 14.3 -1.2
MAJO pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MAJO Matsushiro 33.65 261 eP P 05 51 14.3 -1.2
comp=Z,3.3nm,0.7s,mb4.4
MAT Matsushiro 33.65 261 P P 05 51 14.2 -1.3
MAT Matsushiro 33.65 261 eP P 05 51 14.0 -1.5
MDJ Mudanjiang 34.41 279 P P 05 51 21.5 -0.6
MDJ AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
MDJ AMB AMB
comp=Z,163nm,6.1s
YKA Yellowknife Ar 35.30 46 P P 05 51 29.2 -0.5
comp=Z,3.2nm,0.5s,mb4.5,baz=281,slow=7.7,SNR=23
YKA Yellowknife Ar 35.30 46 i P P 05 51 29.2 -0.6
YKA pmax pmax
comp=Z,3.0nm,0.5s
CMW Cultus Mountai 35.98 72 P P 05 51 36.6 +1.0
FMW Mount Fremont 36.94 74 P P 05 51 45.0 +1.2
TWW Teanaway 37.32 73 P P 05 51 49.1 +2.0
CN2 Changchun 37.38 281 eP P 05 51 42.7 -4.9
EBG Ellensburg 37.61 73 P P 05 51 50.4 +0.8
BOD Bodaibo 37.81 307 eP P 05 51 48.6 -2.6
BOD pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
VFP Flag Point 37.87 76 P P 05 51 53.7 +2.1
EPH Ephrata 37.98 72 P P 05 51 53.0 +0.4
HAWA Hanford 38.49 73 eP P 05 51 56.5 -0.4
comp=Z,0.9nm,0.6s,mb3.7
EDM Edmonton 38.91 61 eP P 05 51 58.9 -1.5
NEW Newport 39.00 70 P P 05 52 01.2 +0.1
comp=Z,6.5nm,0.7s,mb4.5,baz=310,slow=6.6,SNR=12
NEW Newport 39.00 70 eP P 05 52 01.0 -0.2
NEW pmax pmax
comp=Z,13nm,1.1s
NEW Newport 39.00 70 eP P 05 52 01.0 -0.2
comp=Z,14nm,1.1s,mb4.6
NEW epP pP 05 52 06.4 -8.6
YBH Yreka Blue Hor 39.02 82 P P 05 52 02.9 +1.5
comp=Z,3.2nm,0.9s,mb4.1,baz=314,slow=1.6,SNR=5.1
WALA Waterton Lakes 40.48 67 eP P 05 52 13.3 -0.2
comp=Z,9.1nm,0.9s,mb4.5
BSMT Bassoo Peak 40.57 69 P P 05 52 14.2 0.0
BMO Blue Mountains 40.62 74 eP P 05 52 14.1 -0.5
comp=Z,4.3nm,1.0s,mb4.0
WVOR Wild Horse Val 41.14 78 eP P 05 52 19.0 +0.1
WVOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
WVOR Wild Horse Val 41.14 78 eP P 05 52 19.0 +0.1
comp=Z,3.4nm,0.7s,mb4.1
HLID Hailey 43.07 74 eP P 05 52 34.1 -0.5
comp=Z,5.5nm,1.0s,mb4.2
EGMT Eagleton 43.39 66 eP P 05 52 37.3 0.0
comp=Z,8.8nm,0.8s,mb4.5
BOZ Bozeman (W) 43.58 70 eP P 05 52 38.1 -0.6
BOZ pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
BOZ Bozeman (W) 43.58 70 eP P 05 52 38.1 -0.6
comp=Z,6.2nm,0.5s,mb4.6
NVAR Mina Array Bea 43.70 83 P P 05 52 40.3 +0.7
comp=Z,2.6nm,0.9s,mb4.0,baz=302,slow=6.1,SNR=10
ELK Elko 44.19 78 eP P 05 52 44.8 +1.2
ELK pmax pmax
comp=Z,4.0nm,0.9s
ELK Elko 44.19 78 eP P 05 52 44.8 +1.2
comp=Z,4.4nm,0.9s,mb4.2
MOOW Moose Ponds 45.16 72 eP P 05 52 51.5 +0.2
comp=Z,2.4nm,0.8s,mb4.1
MOOW epP pP 05 53 00.2 -5.1
TPAW Teton Pass 45.18 72 eP P 05 52 51.6 +0.1
comp=Z,5.3nm,0.9s,mb4.4
TPNV Topopah Spring 45.89 83 eP P 05 52 56.9 -0.2
TPNV pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
TPNV Topopah Spring 45.89 83 eP P 05 52 56.9 -0.2
comp=Z,3.8nm,0.7s,mb4.4
HWUT Hardware Ranch 45.91 75 eP P 05 52 57.8 +0.4
comp=Z,5.7nm,1.1s,mb4.4
ULN Ulaanbaatar 46.09 296 eP P 05 52 58.6 -0.1
ULN pmax pmax
comp=Z,20nm,1.1s,mb5.0
ULN Ulaanbaatar 46.09 296 eP P 05 52 58.6 -0.2
comp=Z,20nm,1.1s,mb5.0
BW06 Boulder Array 46.43 72 eP P 05 53 00.8 -0.6
comp=Z,15nm,0.8s,mb5.0
PDAR Pinedale Array 46.44 72 P P 05 53 01.1 -0.3
comp=Z,15nm,0.8s,mb5.0,baz=314,slow=3.6,SNR=42
SONM Songino Array 46.48 296 P P 05 53 01.9 +0.2
comp=Z,6.3nm,0.8s,mb4.6,baz=57,slow=8.3,SNR=29
MSU Marysvale 47.42 78 eP P 05 53 09.8 +0.7
HHC Hu-ho-hao-te 47.52 286 eP P 05 53 11.4 +1.5
HHC XP sP 05 53 20.6 -9.5
HHC PCP PcP 05 54 42.1 +2.8
HHC PP PP 05 55 01.1 -0.5
HHC AMB AMB
comp=Z,17nm,0.6s,mb5.2
HHC AMB AMB
comp=Z,128nm,6.3s
HHC LR LR
comp=N,700nm,19.0s,MS4.7
HHC LR LR
comp=E,546nm,23.8s,MS4.7
HHC LR LR
comp=Z,997nm,22.6s,MS4.7
TMUT Trail Mountain 47.53 77 eP P 05 53 10.5 +0.5
SRU San Rafael 48.06 77 eP P 05 53 14.6 +0.5
SRU pmax pmax
comp=Z,12nm,0.9s,mb4.9
SRU San Rafael 48.06 77 eP P 05 53 14.6 +0.5
comp=Z,12nm,0.9s,mb4.9
RWWY Rawlins 48.48 72 eP P 05 53 17.1 -0.1
comp=Z,12nm,0.9s,mb4.9
NJ2 Nanjing 48.66 272 eP P 05 53 20.6 +2.0
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,240nm,4.8s
NJ2 LR LR
comp=N,1μm,13.2s
NJ2 LR LR
comp=E,280nm,18.8s
NJ2 LR LR
comp=Z,2μm,18.9s
RSSD Black Hills 48.88 67 eP P 05 53 19.2 -1.1
RSSD pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
RSSD Black Hills 48.88 67 eP P 05 53 19.2 -1.1
comp=Z,3.2nm,0.6s,mb4.5
SMCO Snowmass 50.17 74 eP P 05 53 30.3 +0.1
comp=Z,2.8nm,0.6s,mb4.5
TUC Tucson 52.33 84 eP P 05 53 45.0 -1.3
TUC pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
TUC Tucson 52.33 84 eP P 05 53 45.0 -1.4
comp=Z,6.3nm,1.4s,mb4.3
ANMO Albuquerque 53.23 78 eP P 05 53 54.1 +1.1
ANMO pmax pmax
comp=Z,5.0nm,1.3s
ANMO Albuquerque 53.23 78 eP P 05 53 54.1 +1.1
comp=Z,4.9nm,1.3s,mb4.3
SUMG Summit 53.27 14 eP P 05 53 53.1 -0.2
comp=Z,9.3nm,1.0s,mb4.7
ECSD EROS,Sioux Fal 53.34 64 eP P 05 53 52.0 -1.8
LZH Lanzhou 55.22 286 eP P 05 54 07.5 +0.1
LZH PCP PcP 05 55 08.0 +0.1
LZH PP PP 05 56 15.2 +3.9
LZH AMB AMB
comp=Z,39nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,160nm,5.0s
LZH LR LR
comp=E,1μm,13.6s
LZH LR LR
comp=Z,2μm,15.0s,MS5.2
GTA Gaotai 55.40 292 eP P 05 54 08.8 +0.1
GTA AP pP 05 54 18.8 -4.3
GTA PP PP 05 56 16.0 +3.1
GTA AMB AMB
comp=Z,16nm,0.8s,mb5.1
GTA AMB AMB
comp=Z,88nm,4.9s
GTA LR LR
comp=N,653nm,16.7s,MS5.0
GTA LR LR
comp=E,976nm,17.5s,MS5.0
GTA LR LR
comp=Z,1μm,18.2s,MS5.0
AMTX Amarillo 56.18 75 eP P 05 54 13.6 -0.7
comp=Z,3.0nm,0.6s,mb4.5
KEV Kevo 57.62 350 ep P 05 54 23.9 -0.6
ARCES ARCESS Array B 58.00 350 P P 05 54 26.3 -0.9
comp=Z,2.6nm,0.6s,mb4.4,baz=22,slow=7.0,SNR=20
LTX Lajitas 58.80 81 eP P 05 54 33.3 +0.6
LTX pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
LTX Lajitas 58.80 81 eP P 05 54 33.2 +0.5
comp=Z,1.5nm,0.6s,mb4.2
CD2 Chengdu 58.81 282 eP P 05 54 35.4 +2.6
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
KURK Kurchatov 58.86 313 eP P 05 54 33.2 0.0
KURK pmax pmax
comp=Z,15nm,1.1s,mb4.9
KURK Kurchatov 58.86 313 eP P 05 54 33.2 0.0
comp=Z,15nm,1.1s,mb4.9
MKAR Makanchi Array 59.87 308 P P 05 54 39.5 -0.7
comp=Z,3.7nm,0.4s,mb4.8,baz=42,slow=7.0,SNR=29
SCHQ Schefferville 60.05 38 P P 05 54 40.3 -1.1
comp=Z,4.8nm,0.8s,mb4.6,baz=343,slow=5.1,SNR=4.6
CHKZ Chkalovo 60.16 320 eP P 05 54 42.6 +0.4
CHKZ pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
CHKZ Chkalovo 60.16 320 eP P 05 54 42.6 +0.5
comp=Z,3.8nm,1.1s,mb4.3
JCT Junction City 60.36 77 eP P 05 54 43.4 -0.1
JCT pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
JCT Junction City 60.36 77 eP P 05 54 43.4 -0.1
comp=Z,3.2nm,0.6s,mb4.5
BVAR Borovoye Array 60.74 320 P P 05 54 45.1 -1.0
comp=Z,2.1nm,0.4s,mb4.6,baz=51,slow=6.3,SNR=11
BVAR PcP PcP 05 55 28.1 -1.6
comp=Z,1.2nm,0.4s,baz=56,slow=3.7,SNR=5.9
BRVK Borovoye 60.76 320 eP P 05 54 46.8 +0.6
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
BRVK Borovoye 60.76 320 eP P 05 54 46.8 +0.5
comp=Z,2.1nm,0.8s,mb4.3
MIAR Mount Ida 61.24 70 eP P 05 54 49.6 +0.1
MIAR pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
MIAR Mount Ida 61.24 70 eP P 05 54 49.6 +0.1
comp=Z,8.3nm,1.0s,mb4.8
ZRNK Zerenda 61.35 320 eP P 05 54 49.1 -1.1
ZRNK pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
ZRNK Zerenda 61.35 320 eP P 05 54 49.1 -1.1
comp=Z,2.5nm,0.6s,mb4.5
USIN University of 62.23 63 eP P 05 54 55.1 -1.1
comp=Z,9.3nm,0.3s,mb5.4
ARU Arti 62.46 328 eP P 05 54 56.5 -1.2
WCI Wyandotte Cave 62.81 62 eP P 05 54 59.6 -0.4
WCI pmax pmax
comp=Z,19nm,0.9s,mb5.2
WCI Wyandotte Cave 62.81 62 eP P 05 54 59.6 -0.4
comp=Z,19nm,0.9s,mb5.2
HKT Hockley 63.15 75 eP P 05 55 02.9 +0.6
HKT pmax pmax
comp=Z,8.0nm,1.5s,mb4.6
HKT Hockley 63.15 75 eP P 05 55 02.9 +0.6
comp=Z,7.9nm,1.5s,mb4.6
WVT Waverly 63.44 65 eP P 05 55 03.9 -0.3
WVT pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
WVT Waverly 63.44 65 eP P 05 55 03.9 -0.3
comp=Z,3.0nm,0.7s,mb4.5
JOF Joensuu 63.49 345 ep P 05 55 04.1 -0.4
comp=Z,5.6nm,0.4s,mb5.0
JOF Joensuu 63.49 345 eP P 05 55 04.1 -0.4
JOF pmax pmax
comp=Z,6.0nm,0.4s,mb5.1
KMI Kunming 63.56 278 P P 05 55 06.9 +1.9
KMI AMB AMB
comp=Z,6.0nm,0.7s,mb4.7
OXF Oxford 63.69 67 eP P 05 55 05.7 -0.2
OXF pmax pmax
comp=Z,55nm,1.3s,mb5.4
OXF Oxford 63.69 67 eP P 05 55 05.7 -0.1
comp=Z,55nm,1.3s,mb5.4
KLMR Klimovskoe 63.86 340 eP P 05 55 05.8 -1.2
KLMR pmax pmax
comp=Z,20nm,1.3s,mb5.0
PLAL Pickwick Lake 64.12 66 eP P 05 55 07.6 -1.0
comp=Z,4.2nm,0.6s,mb4.7
KAF Kangasniemi 65.01 347 ep P 05 55 13.5 -1.0
comp=Z,4.9nm,0.4s,mb4.9,baz=14,slow=5.9
KAF Kangasniemi 65.01 347 eP P 05 55 13.5 -1.0
KAF pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
FINES FINESS Array B 65.68 347 P P 05 55 18.1 -0.7
comp=Z,1.6nm,0.3s,mb4.5,baz=23,slow=6.6,SNR=29
AAK Ala-Archa 66.70 310c iP P 05 55 25.7 +0.3
AAK pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
AAK Ala-Archa 66.70 310 eP P 05 55 24.8 -0.6
comp=Z,11nm,1.0s,mb4.9
LSA Lhasa 67.27 289 eP P 05 55 30.6 +1.6
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
LSA Lhasa 67.27 289 eP P 05 55 30.6 +1.7
comp=Z,5.7nm,0.6s,mb4.8
NB2 NORSAR Subarra 67.56 355 P P 05 55 30.0 -0.8
comp=Z,44nm,2.5s,mb5.0,baz=6.8,slow=6.5
NOA NORSAR Array B 67.56 355 P P 05 55 30.1 -0.8
comp=Z,1.6nm,0.7s,mb4.2,baz=6.7,slow=6.4,SNR=7.2
OBN Obninsk 69.75 339⇑eP P 05 55 44.9 +0.5
OBN e 05 56 06.4
OBN pmax pmax
comp=Z,22nm,1.1s,mb5.0
GUN Gumba 71.69 292 eP P 05 55 57.3 +1.1
comp=Z,91nm,0.5s
JIRN Jiri 71.70 291 eP P 05 55 57.6 +1.3

comp=Z,23nm,0.5s,mb5.4
KKN Kakani 72.13 292 *e*P P 05 56 00.0 +1.2
comp=Z,12nm,0.4s,mb5.2
PKI Pulchoki 72.22 292 *e*P P 05 56 00.3 +0.9
GKN Gorkha 72.34 293 *e*P P 05 56 00.9 +0.8
comp=Z,18nm,0.5s,mb5.2
DMN Daman 72.36 292 *e*P P 05 56 00.8 +0.5
KOLN Koldanda 73.11 293 *e*P P 05 56 04.9 +0.2
BSEG Bad Segeberg 74.70 354 *e*P P 05 56 15.1 +1.1
comp=Z,12nm,1.0s,mb4.8
BSEG Bad Segeberg 74.70 354 *e*P P 05 56 15.1 +1.1
BSEG pmax pmax
comp=Z,12nm,1.0s,mb4.8
AKASG Malin Array Be 75.44 342 P P 05 56 17.4 -0.8
comp=Z,11nm,0.5s,mb5.0,baz=18,slow=5.7,SNR=36
NRDL Niedersach Rie 76.15 354 *e*P P 05 56 23.7 +1.4
IBBN Ibbenburen 76.46 356 *e*P P 05 56 24.8 +0.8
CLZ Clausthal 76.78 354 *e*P P 05 56 26.8 +1.0
comp=Z,16nm,1.1s,mb4.9
CLZ Clausthal 76.78 354 *e*P P 05 56 26.8 +1.0
CLZ pmax pmax
comp=Z,16nm,1.1s,mb4.9
CLL Collm 77.11 352 *e*P P 05 56 27.7 0.0
comp=Z,5.0nm,1.1s,mb4.4
CLL Collm 77.11 352 P P 05 56 27.7 0.0
comp=Z,logA/T=0.7,mb4.4
CLL *i* *PP pP 05 56 34.0 -8.7
CLL Collm 77.11 352 *i* P P 05 56 27.7 0.0
comp=Z,5.0nm,1.1s,mb4.4
CLL *i* pP pP 05 56 34.0 -8.7
comp=Z,4.0nm,0.7s
CLL Collm 77.11 352 *i* P P 05 56 27.7 0.0
CLL *i* 05 56 34.0
CLL pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
CLL Collm 77.11 352 *i* P P 05 56 27.7 0.0
comp=Z,5.0nm,1.1s,mb4.4
CLL *i* 05 56 34.0
CLL *i* 05 56 53.5
LVV L'vov 77.21 345 *e*P P 05 56 29.2 +0.9
GOF Gofitskoye 77.23 331 *e*P P 05 56 28.3 -0.1
GOF pmax pmax
comp=Z,40nm,1.3s,mb5.2
BRG Berggiesshubel 77.46 352 *e*P P 05 56 30.1 +0.4
comp=Z,3.0nm,0.7s,mb4.3
BRG Berggiesshubel 77.46 352 *e*P P 05 56 30.2 +0.5
comp=Z,2.9nm,1.2s,mb4.1
BRG Berggiesshubel 77.46 352 *e*P P 05 56 30.2 +0.5
BRG pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
UPC Upice 77.62 350 *e*P P 05 56 30.7 +0.1
UPC *e*PCP PcP 05 56 47.4 +6.8
DPC Dobruska-Polom 77.74 350 *e*P P 05 56 31.0 -0.2
MOX Moxa 77.88 353 *e*P P 05 56 32.5 +0.5
comp=Z,5.0nm,1.1s,mb4.4
MOX Moxa 77.88 353 *e*P P 05 56 31.2 -0.8
OKC Ostrava-Krasne 78.04 349 *e*P P 05 56 32.3 -0.6
UCC Uccle 78.09 358 P P 05 56 33.4 +0.3
NKC Novy Kostel 78.23 352 *e*P P 05 56 33.8 -0.1
NKC *e*PCP PcP 05 56 46.0 +2.8
MEM Membach 78.23 357 P P 05 56 34.9 +0.9
comp=Z,6.0nm,1.1s,mb4.4
PRU Pruhonice 78.28 351 *e*P P 05 56 34.3 +0.1
PRU *e*PCP PcP 05 56 44.3 +0.9
KIV Kislovodsk 78.33 331 *i* P P 05 56 36.3 +1.8
KIV pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
KOLS Kolonicke sedl 78.35 346 *e*P P 05 56 34.5 -0.1
KOLS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KOLS Kolonicke sedl 78.35 346 *e*P P 05 56 34.5 -0.1
comp=Z,4.8nm,1.0s,mb4.4
SNF Seneffe 78.38 358 P P 05 56 35.6 +0.8
comp=Z,2.6nm,1.0s,mb4.1
BCLA Clavier 78.44 357 P P 05 56 35.7 +0.6
comp=Z,3.5nm,1.1s,mb4.2
MANZ Manzenberg 78.50 353 *e*P P 05 56 35.9 +0.5
CRVS Cervenica-Dubn 78.50 346 *e*P P 05 56 35.3 -0.2
TNS Taunus Mts 78.51 355 *e*P P 05 56 35.9 +0.4
ROTZ Rotzenmuhle 78.71 353 *e*P P 05 56 37.2 +0.6
VRAC Vranov 78.74 350 ⇑*i*P P 05 56 37.3 +0.6
DOU Dourbes 78.79 358 P P 05 56 37.7 +0.7
comp=Z,4.1nm,1.1s,mb4.3
BAIF Baives 78.83 358 *e*P P 05 56 36.9 -0.4
comp=Z,22nm,1.0s,mb4.7
BAIF Baives 78.83 358 *e*P P 05 56 36.9 -0.4
BAIF pmax pmax
comp=Z,11nm,1.0s,mb4.7
BAIF Baives 78.83 358 *e*P P 05 56 36.9 -0.4
comp=Z,11nm,1.0s,mb4.7
GRA1 Grafenberg Arr 78.86 353 *e*P P 05 56 38.3 +0.9
comp=Z,14nm,1.2s,mb4.8
GRF Grafenberg Arr 78.86 353 *e*P P 05 56 38.3 +0.9
comp=Z,14nm,1.2s,mb4.8
GRF Grafenberg Arr 78.86 353 *e*P P 05 56 38.3 +0.9
GRF pmax pmax
comp=Z,14nm,1.2s,mb4.8
GRF Grafenberg Arr 78.86 353 *e*P P 05 56 38.3 +0.9
GRF pmax pmax
comp=Z,14nm,1.2s,mb4.8
KECS Kecovo 79.06 347 *e*P P 05 56 38.2 -0.3
KECS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
KECS Kecovo 79.06 347 *e*P P 05 56 38.2 -0.3
comp=Z,5.2nm,1.1s,mb4.4
ANN Anapa 79.08 334 *e*P P 05 56 33.9 -4.7
ANN *e* 05 56 43.1
ANN *e**PP pP 05 56 45.4 -8.3
ANN *e*S S 06 06 26.6 -7.2
ANN *e*SS SS 06 11 36.7 -3.7
ANN pmax pmax
comp=Z,47nm,1.0s,mb5.4
BURAR Bucovina Array 79.14 344 ⇑*i*P P 05 56 39.2 +0.2
WLF Walferdange 79.17 357 P P 05 56 39.2 +0.1
KHC Kasperske Hory 79.22 352 *e*P P 05 56 39.2 -0.2
KHC *ex* x 05 56 53.9
VYHS Vyhne 79.27 348 *e*P P 05 56 39.6 0.0
VYHS pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
VYHS Vyhne 79.27 348 *e*P P 05 56 39.6 0.0
comp=Z,4.5nm,1.3s,mb4.2
GEC2 GERESS Array S 79.49 351 *e*P P 05 56 41.1 +0.2
comp=Z,3.0nm,0.7s,mb4.3
GEC2 GERESS Array S 79.49 351 *e*P P 05 56 41.1 +0.2
GEC2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
GERES GERESS Array B 79.49 351 P P 05 56 40.4 -0.5
comp=Z,1.6nm,0.5s,mb4.2,baz=26,slow=5.6,SNR=20
PSZ Piszkesteto 79.69 347 *e*P P 05 56 42.7 +0.8
PSZ pmax pmax
comp=Z,15nm,1.2s,mb4.8
PSZ Piszkesteto 79.69 347 *e*P P 05 56 42.7 +0.8
comp=Z,15nm,1.2s,mb4.8
ZST Bratislava 79.78 349 *e*P P 05 56 43.7 +1.3
ZST pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ZST Bratislava 79.78 349 *e*P P 05 56 43.7 +1.3
comp=Z,6.8nm,0.9s,mb4.6
FLN La Foliniere 80.16 1 *e*P P 05 56 43.5 -1.0
comp=Z,33nm,1.1s,mb4.9
FLN La Foliniere 80.16 1 *e*P P 05 56 43.5 -1.0
FLN pmax pmax
comp=Z,17nm,1.1s,mb4.9
FLN La Foliniere 80.16 1 *e*P P 05 56 43.5 -1.0
comp=Z,17nm,1.1s,mb4.9
LDF La Druitiere 80.33 1 *e*P P 05 56 44.3 -1.1
comp=Z,7.3nm,0.5s,mb4.6
LDF La Druitiere 80.33 1 *e*P P 05 56 44.3 -1.1
LDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
LDF La Druitiere 80.33 1 *e*P P 05 56 44.3 -1.1
comp=Z,3.7nm,0.5s,mb4.6
DRGR 80.37 345 ⇑*i*P P 05 56 46.1 +0.5
MEZF Maizieres J'vi 80.37 357 *e*P P 05 56 45.2 -0.4
CDF Champ du Feu 80.37 356 *e*P P 05 56 44.9 -0.7
comp=Z,7.5nm,0.8s,mb4.4
CDF Champ du Feu 80.37 356 *e*P P 05 56 44.9 -0.7
comp=Z,3.8nm,0.8s,mb4.4
ROSF Rostrenen 80.53 3 *e*P P 05 56 45.4 -1.1
comp=Z,40nm,1.1s,mb5.0
ROSF Rostrenen 80.53 3 *e*P P 05 56 45.4 -1.1
ROSF pmax pmax
comp=Z,20nm,1.1s,mb5.0
ROSF Rostrenen 80.53 3 *e*P P 05 56 45.4 -1.1
comp=Z,20nm,1.1s,mb5.0
GRR Gorron 80.53 1 *e*P P 05 56 45.2 -1.3
comp=Z,14nm,0.8s,mb4.7
GRR Gorron 80.53 1 *e*P P 05 56 45.2 -1.3
GRR pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
GRR Gorron 80.53 1 *e*P P 05 56 45.2 -1.3
comp=Z,7.3nm,0.8s,mb4.7
VRI Vrincioaia 80.55 342 ⇓*i*P P 05 56 47.7 +1.1
SGMF Saint Gilles 80.63 2 *e*P P 05 56 45.7 -1.3
HAU Haudompre 80.82 356 *e*P P 05 56 47.2 -0.8
ARSA Arzberg 80.89 350 ⇑*i*P P 05 56 49.3 +0.9
comp=Z,6.5nm,1.2s,mb4.4
CFR Carcaliu 80.93 341 ⇓*i*P P 05 56 49.6 +1.0
MLR Muntele Rosu 81.06 342 ⇓*i*P P 05 56 50.6 +1.3
GNI Garni 81.10 328 *i* P P 05 56 52.4 +2.9
GNI pmax pmax
comp=Z,16nm,1.6s
KBA Koelnbreinsper 81.28 351 ⇑*i*P P 05 56 51.1 +0.7
comp=Z,26nm,1.1s,mb5.1
KBA Koelnbreinsper 81.28 351 ⇑*i*P P 05 56 51.1 +0.7
KBA pmax pmax
comp=Z,26nm,1.1s,mb5.1
PERS Pernice 81.54 350 *e*P P 05 56 51.9 0.0
LOR Lormes 81.63 358 *e*P P 05 56 51.3 -1.0
comp=Z,8.2nm,0.8s,mb4.4
LOR Lormes 81.63 358 *e*P P 05 56 51.3 -1.0
LOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LOR Lormes 81.63 358 *e*P P 05 56 51.3 -1.0
comp=Z,4.1nm,0.8s,mb4.4
GROS Grobnik 81.67 350 *e*P P 05 56 52.3 -0.2
BZS Buzias 81.69 346 ⇑*i*P P 05 56 53.0 +0.4
SSF Saint Saulge 81.85 358 *e*P P 05 56 52.9 -0.6
comp=Z,21nm,1.2s,mb4.7
SSF Saint Saulge 81.85 358 *e*P P 05 56 52.9 -0.6
SSF pmax pmax
comp=Z,11nm,1.2s,mb4.7
SSF Saint Saulge 81.85 358 *e*P P 05 56 52.9 -0.6
comp=Z,11nm,1.2s,mb4.7
CADS Cadrg 82.08 351 *e*P P 05 56 53.4 -1.3
CABF La Chapelle 82.22 356 *e*P P 05 56 54.9 -0.5
SMF Signal de Mont 82.26 358 *e*P P 05 56 54.9 -0.7
MFF Saint Martin d 82.33 1 *e*P P 05 56 55.0 -1.0
BGF Bois d'Agland 82.36 359 *e*P P 05 56 54.9 -1.2
TCF Toulx Ste Croi 82.64 359 *e*P P 05 56 56.9 -0.7
comp=Z,13nm,1.1s,mb4.5
TCF Toulx Ste Croi 82.64 359 *e*P P 05 56 56.9 -0.7
TCF pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
TCF Toulx Ste Croi 82.64 359 *e*P P 05 56 56.9 -0.7
comp=Z,6.4nm,1.1s,mb4.6
LPG La Plagne 83.31 356 *e*P P 05 57 01.6 +0.6
RJF Les Rejaudoux 83.63 360 *e*P P 05 57 02.1 -0.6
comp=Z,18nm,0.9s,mb4.9
RJF Les Rejaudoux 83.63 360 *e*P P 05 57 02.1 -0.6
RJF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
RJF Les Rejaudoux 83.63 360 *e*P P 05 57 02.1 -0.6
comp=Z,9.1nm,0.9s,mb4.9
BNI Bardonecchia 83.75 356 *e*P P 05 57 04.3 +1.0
BNI pmax pmax
comp=Z,14nm,1.2s,mb5.0
BNI Bardonecchia 83.75 356 *e*P P 05 57 04.3 +1.0
comp=Z,14nm,1.2s,mb5.0
LFF La Frasnaie 83.99 0 *e*P P 05 57 04.2 -0.4
CAF Calviac 84.00 359 *e*P P 05 57 04.3 -0.3
VIVF Saint-Julien-l 84.02 357 *e*P P 05 57 04.4 -0.3
comp=Z,11nm,1.0s,mb4.6
VIVF Saint-Julien-l 84.02 357 *e*P P 05 57 04.4 -0.3
VIVF pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
VIVF Saint-Julien-l 84.02 357 *e*P P 05 57 04.4 -0.3
comp=Z,5.4nm,1.0s,mb4.6
FITZ Fitzroy Crossi 84.39 232 P P 05 57 04.8 -1.7
comp=Z,5.8nm,0.9s,mb4.7,baz=64,slow=2.3,SNR=9.6
MALT Malatya 84.79 331 *e*P P 05 57 09.6 +1.0
MALT pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
MALT Malatya 84.79 331 *e*P P 05 57 09.6 +1.0
comp=Z,9.2nm,0.9s,mb4.9
BRTR Keskin Array B 84.82 335 P P 05 57 07.8 -1.0
comp=Z,4.8nm,0.8s,mb4.7,baz=50,slow=2.7,SNR=18
LASF Ste Croix 84.83 358 *e*P P 05 57 08.6 -0.2
comp=Z,9.0nm,0.9s,mb4.6
SMRF Simiane la Rot 84.87 357 *e*P P 05 57 09.4 +0.4
comp=Z,15nm,0.8s,mb4.9
SMRF Simiane la Rot 84.87 357 *e*P P 05 57 09.4 +0.4
comp=Z,15nm,0.8s,mb5.2
SBF Sospel 84.90 355 *e*P P 05 57 09.4 +0.2
comp=Z,20nm,0.8s,mb5.0
SBF Sospel 84.90 355 *e*P P 05 57 09.4 +0.2
SBF pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
SBF Sospel 84.90 355 *e*P P 05 57 09.4 +0.2
comp=Z,10.0nm,0.8s,mb5.0
FRF La Foret Royal 85.24 356 *e*P P 05 57 10.1 -0.8
comp=Z,15nm,0.8s,mb4.9
FRF La Foret Royal 85.24 356 *e*P P 05 57 10.1 -0.8
FRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
FRF La Foret Royal 85.24 356 *e*P P 05 57 10.1 -0.8
comp=Z,7.7nm,0.8s,mb4.9
ASAR Alice Springs 85.43 222 P P 05 57 10.2 -1.6
comp=Z,1.8nm,0.8s,mb4.2,baz=25,slow=5.8,SNR=6.9
LMR La Mourre 85.48 356 *e*P P 05 57 11.5 -0.5
comp=Z,11nm,0.7s,mb4.8
LMR La Mourre 85.48 356 *e*P P 05 57 11.5 -0.5
LMR pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
LMR La Mourre 85.48 356 *e*P P 05 57 11.5 -0.5
comp=Z,5.7nm,0.7s,mb4.8
MTLF Montolieu 85.59 359 *e*P P 05 57 12.3 -0.3
comp=Z,9.4nm,0.8s,mb4.7
MTLF Montolieu 85.59 359 *e*P P 05 57 12.3 -0.3
MTLF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
MTLF Montolieu 85.59 359 *e*P P 05 57 12.3 -0.3
comp=Z,4.7nm,0.8s,mb4.8
EPF Esparros 85.90 0 *e*P P 05 57 13.1 -1.0
ETSF Etsaut 86.03 1 *e*P P 05 57 14.7 0.0
comp=Z,14nm,0.9s,mb4.9
ETSF Etsaut 86.03 1 *e*P P 05 57 14.7 0.0
ETSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
ETSF Etsaut 86.03 1 *e*P P 05 57 14.7 0.0
comp=Z,6.8nm,0.9s,mb4.9
PGF Pioggiola 86.12 354 *e*P P 05 57 14.7 -0.5
comp=Z,34nm,0.9s,mb5.3
PGF Pioggiola 86.12 354 *e*P P 05 57 14.7 -0.5
PGF pmax pmax
comp=Z,17nm,0.9s,mb5.3
PGF Pioggiola 86.12 354 *e*P P 05 57 14.7 -0.5
comp=Z,17nm,0.9s,mb5.3
ESDC Sonseca Array 89.15 4 P P 05 57 29.0 -0.7
comp=Z,1.9nm,0.9s,mb4.4,baz=348,slow=4.7,SNR=9.2
DBIC Dimbokro 121.90 7 PKP PKPdf 06 03 26.8 -1.4
comp=Z,3.0nm,0.9s,baz=288,slow=3.2,SNR=6.7
TSUM Tsumeb 145.25 332 PKPbc PKPbc 06 04 11.9 +0.4
comp=Z,7.5nm,0.8s,baz=350,slow=5.4,SNR=12
TSUM Tsumeb 145.25 332 *e*PKPbc PKPbc 06 04 11.9 +0.5
LBTB Lobatse 147.57 315 PKPbc PKPbc 06 04 18.5 +0.3
comp=Z,10nm,0.9s,baz=33,slow=2.0,SNR=9.9
LBTB Lobatse 147.57 315 PKPbc PKPbc 06 04 18.5 +0.2
BOSA Boshof 150.82 312 PKPbc PKPbc 06 04 25.2 -1.2
comp=Z,2.0nm,0.6s,baz=29,slow=5.7,SNR=8.1
BOSA Boshof 150.82 312 PKPbc PKPbc 06 04 25.2 -1.2

*ISCJB **09** 05:46:46.5±0.1, 51.13N×003.×179.25W±0.02, h26km, mb5.2/262, MS4.9/56, Error ellipse: s-maj=4.7km s-min=1.8km az=12.9*
*NEIC **09** 05:46:46.4, 50.93N×179.18W, h5km, mb5.3/169, ML5.2(AEIC), After AEIC.*
*HRVD **09** 05:46:46.4±0.2, 50.95N×179.23W, h19km, MW5.4/98, Centroid moment Tensor Solution. LP body waves: s85,c151;Mantle waves: s98,c194; Half duration: 1s2 Moment tensor: Scale 10^17^Nm; Mrr 0.93±.02; Mθθ -1.01±.02; Mφφ 0.08±.01; Mrθ 0.91±.05; Mθφ -0.28±.01; Mφr 0.55±.04; Best double couple: M0 1.46600×10^17^ NP1:φs 272.00000°, δ24.00000°, λ117.00000°. NP2: φs 63.00000°, δ69.00000°, λ79.00000°. Principal axes: T 1.4210, Plg64.0000°, Azm314.0000°; N 0.0880, Plg11.0000°, Azm67.0000°; P -1.5110, Plg23.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **09** 05:46:46.7±1.9, 51.21N×179.24W, h17km±10km, mb4.8/26, mb1 5.0/27, mb1mx4.9/29, mbtmp4.9/27, ML5.3/1, MS4.8/14, Ms1 4.8/14, ms1mx4.4/30 Error ellipse: s-maj=16.8km s-min=10.0km az=164.0*
*BJI **09** 05:46:47.7, 51.16N×179.54W, h34km, mB5.5, mb5.3, Ms5.1, Msz4.8*
*MOS **09** 05:46:49.2±0.8, 51.19N×179.23W, h46km, mb5.5/124, MS4.8/30, Error ellipse: s-maj=6.6km s-min=3.8km az=92.8*
*SZGRF **09** 05:46:54.6, 51.78N×178.83E, h33km, mb5.3, MS4.9, Rat Islands, Aleutian Islands, United States*
ISC 09 05:46:48.3±0.1, 51.21N±003×179.29W±002, h27km, h27km±1.7km: pP-P, n909, σ0s80/914, mb5.2/262, MS4.9/56, 136C-69D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.90**	**281**	P	**Pn**	**05 47 05.8**	**+0.6**
AMKA				S	**Sb**	**05 47 21.4**	**+4.5**
ATKA	**Atka Island**	**3.32**	**71**	P	**Pn**	**05 47 39.6**	**+1.1**
ATKA				S	**Sn**	**05 48 19.9**	**+2.9**
SMY	**Shemya**	**4.36**	**293**	P	**Pn**	**05 47 56.7**	**+4.0**
SMY				S	**Sn**	**05 48 51.8**	**+9.2**
NIKO	**Nikolski**	**6.67**	**71**	P	**Pn**	**05 48 26.9**	**+2.4**
OKCD	**Okmok Cone D**	**7.21**	**68**	P	**Pn**	**05 48 35.1**	**+3.3**
OKCD				S	**Sn**	**05 49 59.7**	**+7.0**
SPIA	**Saint Paul Isl**	**7.99**	**38**	*e*Pn	**Pn**	**05 48 44.7**	**+2.1**
UNV	**Unalaska Valle**	**8.23**	**66**	P	**Pn**	**05 48 48.1**	**+2.1**
AKUT	**Akutan**	**8.72**	**65**	*e*Pn	**Pn**	**05 48 53.5**	**+0.9**
FALS	**False Pass**	**10.23**	**63**	*e*Pn	**Pn**	**05 49 14.5**	**+1.2**
FALS				*e*Sn	**Sn**	**05 51 07.5**	**+0.4**
SDPT	**Sand Point**	**11.99**	**62**	*e*Pn	**Pn**	**05 49 37.5**	**+0.1**
PET	**Petropavlovsk**	**13.66**	**286**	*c* *i*P	**Pn**	**05 50 01.9**	**+1.7**
PET				*e*S	**Sn**	**05 52 37.4**	**+6.3**
PET	comp=Z,700nm,5.1s			pmax	pmax		
PET	comp=Z,500nm,12.1s			pmax	pmax		
PET	comp=Z,108nm,1.1s			pmax	pmax		
PET	comp=N,1μm,25.1s			smax			
PET	comp=E,1μm,17.1s			smax			
PET	comp=N,800nm,18.3s			MLR	MLR		
PET	comp=Z,5μm,20.0s			MLR	MLR		
PET	comp=Z,4μm,20.0s			MLR	MLR		
PET	**Petropavlovsk**	**13.66**	**286**	*e*Pn	**Pn**	**05 50 00.5**	**+0.3**
	comp=Z,70nm,0.6s						
SKR	**Severo-Kuril's**	**15.49**	**278**	*e*P	**Pn**	**05 50 20.0**	**-4.8**
SKR				pmax	pmax		
SKR	comp=Z,1μm,10.0s			pmax	pmax		
SKR	comp=Z,220nm,1.0s			MLR	MLR		
SKR	comp=N,2μm,18.0s			MLR	MLR		
SKR	comp=E,3μm,18.0s			MLR	MLR		
SKR	comp=Z,3μm,18.0s			MLR	MLR		
TNA	**Tin City**	**15.53**	**18**	*e*Pn	**Pn**	**05 50 26.9**	**+1.5**
SVW2	**Sparrevohn**	**16.41**	**44**	*e*Pn	**Pn**	**05 50 38.0**	**+1.4**
KDAK	**Kodiak Island**	**16.77**	**57**	Pn	**Pn**	**05 50 37.9**	**-3.4**
	comp=Z,313nm,0.4s,SNR=34						
KDAK	**Kodiak Island**	**16.77**	**57**	Pn	**Pn**	**05 50 37.6**	**-3.7**
	comp=Z,11nm,0.3s,baz=258,slow=7.3,SNR=19						
KDAK				Sn	**Sn**	**05 53 38.7**	**-8.0**
	comp=Z,1.2nm,0.3s,baz=249,slow=17,SNR=4.0						
KDAK	**Kodiak Island**	**16.77**	**57**	*e*Pn	**Pn**	**05 50 37.6**	**-3.6**
TTA	**Tatalina**	**17.13**	**38**	*e*P	**Pn**	**05 50 48.4**	**+2.6**
SLKM	**Skilak Lake**	**18.63**	**49**	*e*P	**Pn**	**05 51 04.8**	**+0.6**
SLKM	**Skilak Lake**	**18.63**	**49**	*e*P	**Pn**	**05 51 03.9**	**-0.3**
MA2	**Magadan**	**18.81**	**308**	*de*P	**Pn**	**05 51 08.2**	**+1.9**
MA2				*e*S	**Sn**	**05 54 34.0**	**-2.0**
MA2	comp=Z,20nm,1.3s			pmax	pmax		
MA2	comp=Z,3μm,21.4s			MLR	MLR		
MA2	**Magadan**	**18.81**	**308**	*e*P	**Pn**	**05 51 07.5**	**+1.2**
	comp=Z,13nm,0.8s						
PMR	**Palmer**	**19.47**	**46**	*e*P	**Pn**	**05 51 13.0**	**-1.3**
PMR				pmax	pmax		
	comp=Z,25nm,0.6s						
PMR	**Palmer**	**19.47**	**46**	*e*P	**Pn**	**05 51 12.9**	**-1.3**
	comp=Z,26nm,0.6s						
SML	**Sawmill**	**19.90**	**46**	*e*P	**Pn**	**05 51 17.8**	**-1.5**
SML				*e*Pn	**Pn**	**05 51 20.5**	**+1.1**
MCK	**McKinley**	**20.33**	**40**	*e*P	**P**	**05 51 22.3**	**0.0**
MCK	comp=Z,31nm,0.8s			pmax	pmax		
MCK	**McKinley**	**20.33**	**40**	*e*P	**P**	**05 51 21.9**	**-0.4**
EYAK	**Cordova Ski Ar**	**20.79**	**50**	*e*P	**P**	**05 51 28.3**	**+1.0**
COLA	**College**	**21.23**	**38**	P	**P**	**05 51 32.8**	**+0.7**
COLA	comp=Z,80nm,0.9s,mb5.0			pmax	pmax		
COLA	**College**	**21.23**	**38**	*e*P	**P**	**05 51 32.7**	**+0.7**
	comp=Z,80nm,0.8s,mb5.1						
ILAR	**Eielson Array**	**21.57**	**39**	P	**P**	**05 51 33.6**	**-2.0**
	comp=Z,22nm,0.7s,mb4.7,baz=247,slow=11,SNR=25						
ILAR				PcP	PcP	05 55 35.4	-1.7
	comp=Z,2.2nm,0.8s,baz=252,slow=4.1,SNR=5.1						
ILAR				ScP	ScP	05 59 12.5	+0.2
	comp=Z,2.0nm,0.7s,baz=251,slow=2.8,SNR=5.2						
ILAR	**Eielson Array**	**21.57**	**39**	P	**P**	**05 51 33.7**	**-2.0**
ILAR						05 55 35.4	
MENT	**Mentasta**	**22.28**	**45**	*e*P	**P**	**05 51 41.7**	**-1.6**
YUK	**Yuzh-Kuril'sk**	**24.38**	**267**	*e*P	**P**	**05 52 03.0**	**-1.1**
YUK				*e*		05 52 54.4	
YUK				*e*SS		05 57 32.3	
YUK	comp=Z,2μm,3.0s			pmax	pmax		
YUK	comp=N,2μm,2.0s			pmax	pmax		
YUK	comp=E,2μm,3.0s			pmax	pmax		
YUK	comp=Z,3μm,19.0s,MS4.8			MLR	MLR		
YUK	comp=E,3μm,17.0s			MLR	MLR		
DAWY	**Dawson**	**24.44**	**43**	*e*P	**P**	**05 52 04.0**	**-0.7**
YSS	**Yuzh-Sakhalins**	**25.03**	**275**	*α* *i*P	**P**	**05 52 10.8**	**+0.8**
YSS				*e*		05 52 56.0	
YSS				*e*S	**S**	**05 56 32.0**	**-0.4**
YSS				*e*		05 56 55.0	
YSS				*e*		05 57 54.0	
YSS	comp=Z,140nm,1.0s,mb5.5			pmax	pmax		
YSS	comp=Z,500nm,9.0s			pmax	pmax		
YSS	comp=Z,2μm,20.0s,MS4.7			MLR	MLR		
YSS	comp=N,1μm,18.0s,MS4.6			MLR	MLR		
YSS	comp=E,2μm,20.0s,MS4.6			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**25.03**	**275**	*e*P	**P**	**05 52 10.3**	**+0.3**
	comp=E,158nm,1.1s,mb5.5						
YSS				*e*pP	pP	05 52 16.0	-2.0
SKAG	**Skagway**	**25.89**	**54**	*e*P	**P**	**05 52 16.8**	**-1.1**
ASAJ	**Asahikawa**	**26.39**	**269**	P	**P**	**05 52 23.1**	**+0.6**
ASAJ	comp=E,64nm,1.1s,mb5.1,baz=39,slow=5.6,SNR=20			LR	LR	06 00 52.6	
	comp=E,1μm,20.8s,MS4.5,baz=256,slow=32						
ASAJ	**Asahikawa**	**26.39**	**269**	P	**P**	**05 52 23.1**	**+0.7**
ASAJ	comp=Z,64nm,1.1s			pmax	pmax		
ASAJ	comp=Z,1μm,20.8s			MLR	MLR		
INK	**Inuvik**	**27.77**	**35**	P	**P**	**05 52 34.0**	**-0.9**
	comp=Z,24nm,0.9s,mb4.8,baz=240,slow=11,SNR=9.6						
INK	**Inuvik**	**27.77**	**35**	P	**P**	**05 52 34.6**	**-0.2**
INK	comp=Z,29nm,0.9s			pmax	pmax		
INK	**Inuvik**	**27.77**	**35**	*e*P	**P**	**05 52 34.5**	**-0.3**
	comp=Z,29nm,0.9s,mb4.9						
DLBC	**Dease Lake**	**28.71**	**56**	P	**P**	**05 52 43.6**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=310,slow=3.7,SNR=3.3						
DLBC	**Dease Lake**	**28.71**	**56**	*e*P	**P**	**05 52 43.1**	**0.0**
HABR	**Khabarovsk**	**29.21**	**283**	⇑*i*P	**P**	**05 52 48.4**	**+0.8**

HABR eS S 05 57 39.7 +1.3
HABR pmax pmax
comp=Z,137nm,2.0s,mb5.3
YAK Yakutsk 29.30 311 *c i*P P 05 52 47.7 -0.6
YAK pmax pmax
comp=Z,71nm,1.3s,mb5.2
YAK Yakutsk 29.30 311 *e*P P 05 52 48.1 -0.2
comp=Z,81nm,1.2s,mb5.3
TIXI Tiksi 30.63 331 *e*P P 05 53 04.6 +4.5
TIXI eS S 05 58 05.9 +5.2
TIXI pmax pmax
comp=Z,12nm,1.2s,mb4.6
TIXI MLR MLR
comp=Z,3µm,16.0s,MS5.1
KLR Kul'dur 30.93 286 *e*P P 05 53 00.0 -2.8
KLR pmax pmax
comp=E,190nm,1.6s
KLR pmax pmax
comp=Z,320nm,1.6s,mb5.9
KLR MLR MLR
comp=E,700nm,15.5s
KLR MLR MLR
comp=Z,2µm,15.5s,MS4.9
CLNS Chul'man 32.47 302 *e*P P 05 53 14.5 -1.8
CLNS *e**PP pP 05 53 23.3 -1.1
CLNS pmax pmax
comp=Z,22nm,1.1s,mb4.9
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=E,15nm,1.1s
CLNS pmax pmax
comp=Z,11nm,1.0s,mb4.6
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=E,17nm,1.1s
CLNS MLR MLR
comp=Z,2µm,17.0s,MS4.8
CLNS MLR MLR
comp=N,2µm,16.0s,MS5.0
CLNS MLR MLR
comp=E,2µm,17.0s,MS5.0
MJAR Matsushiro Arr 33.45 261 P P 05 53 25.0 +0.1
comp=E,7.8nm,1.0s,mb4.6,baz=46,slow=7.1,SNR=23
MJAR PcP PcP 05 56 05.3 -0.4
comp=E,1.3nm,0.7s,baz=60,slow=1.7,SNR=4.5
MJAR ScP ScP 05 59 48.3 0.0
comp=E,1.9nm,0.9s,baz=41,slow=0.1,SNR=6.0
MJAR LR LR 06 05 16.3
comp=E,1µm,19.9s,MS4.6,baz=65,slow=33
MJAR Matsushiro Arr 33.45 261 P P 05 53 25.0 +0.1
MJAR 05 56 05.3
MAJO Matsushiro 33.45 261 *e*P P 05 53 25.3 +0.4
MAJO pmax pmax
comp=Z,108nm,1.6s,mb5.5
MAJO Matsushiro 33.45 261 *e*P P 05 53 25.3 +0.4
comp=Z,108nm,1.6s,mb5.5
MAT Matsushiro 33.45 261 P P 05 53 25.0 +0.1
MAT S S 05 58 46.0 +1.3
MAT Matsushiro 33.45 261 *e*P P 05 53 25.0 +0.1
MAT eS S 05 58 46.0 +1.3
MAT pmax pmax
comp=Z,70nm,1.4s,mb5.4
MAT MLR MLR
comp=Z,1µm,21.0s,MS4.5
MAT Matsushiro 33.45 261 *e*P P 05 53 25.0 +0.1
comp=Z,70nm,1.4s,mb5.4
MAT eS S 05 58 46.0 +1.3
MAT LR LR
comp=Z,1µm,21.0s,MS4.5
VLA Vladivostok 33.62 276‖ *e*P P 05 53 27.9 +1.5
VLA pmax pmax
comp=Z,116nm,1.5s,mb5.6
VLA Vladivostok 33.62 276‖ *e*P P 05 53 27.0 +0.6
MDJ Mudanjiang 34.29 279 P P 05 53 31.7 -0.5
MDJ AP pP 05 53 44.6 +4.3
MDJ XP sP 05 53 50.9 +7.2
MDJ PP PP 05 54 49.9 -0.2
MDJ PCP PcP 05 56 06.5 -1.6
MDJ S S 05 58 56.5 -1.2
MDJ XS sS 05 59 16.3 +5.2
MDJ SCS ScS 06 03 48.6 -5.1
MDJ AMB AMB
comp=Z,17nm,1.2s,mb4.8
MDJ AMB AMB
comp=Z,225nm,9.0s
MDJ LR LR
comp=N,704nm,18.9s,MS4.7
MDJ LR LR
comp=E,1µm,21.7s,MS4.7
MDJ LR LR
comp=Z,2µm,19.7s,MS4.8
MDJ Mudanjiang 34.29 279 *e*P P 05 53 31.7 -0.5
comp=Z,25nm,1.1s,mb5.1
JHJ Hachijo jima 2 34.76 255 LR LR 06 05 31.3
comp=Z,538nm,19.3s,MS4.3,baz=82,slow=32
C03A Quillayute Air 34.95 73 ⇑P P 05 53 38.7 +0.8
baz=35
OBC Olympics--Boni 35.20 73 P P 05 53 41.8 +1.7
PGC Sidney 35.31 72 *e*P P 05 53 41.5 +0.5
comp=Z,35nm,0.7s,mb5.4
B04A Port Angeles 35.54 73 ⇑P P 05 53 43.5 +0.5
baz=35,SNR=6.1
YKW3 Yellowknife Ar 35.55 46 *e*P P 05 53 42.2 -0.9
YKA Yellowknife Ar 35.57 46 P P 05 53 42.3 -1.0
comp=Z,33nm,0.8s,mb5.3,baz=282,slow=8.4,SNR=70
YKA PcP PcP 05 56 11.0 -0.8
comp=Z,2.2nm,0.7s,baz=286,slow=3.1,SNR=4.1
YKA ScP ScP 05 59 55.1 -0.7
comp=Z,1.1nm,0.7s,baz=293,slow=3.5,SNR=5.7
YKA LR LR 06 10 23.7
comp=Z,3µm,18.7s,MS5.1,baz=280,slow=40
YKA Yellowknife Ar 35.57 46 *i* P P 05 53 42.2 -1.1
YKA pmax pmax
comp=Z,33nm,0.8s
YKA Yellowknife Ar 35.57 46 P P 05 53 42.3 -1.0
YKA PcP PcP 05 56 11.0 -0.8
YKA ScP ScP 05 59 55.1 -0.7
YKA LR LR 06 10 23.7
A04A Legoe Bay, Lum 35.72 71 ⇓P P 05 53 45.4 +0.8
baz=36
D03A Wishkah Elem. 35.80 74 ⇓P P 05 53 45.7 +0.5
baz=36
VDB Vedder Mountai 35.95 70 P P 05 53 46.8 +0.3
A05A Maple Falls 35.97 71 ⇑P P 05 53 47.0 +0.3
baz=36,SNR=16
C04A Brinnon 36.01 73 ⇓P P 05 53 47.9 +0.9
baz=36
GNW Green Mountain 36.17 73 *e*P P 05 53 49.4 +1.1
MBW Mount Baker 36.17 71 P P 05 53 49.2 +0.8
E03A Lebam 36.20 75 ⇓P P 05 53 49.5 +0.9
baz=36,SNR=6.9
B05A Bryant 36.29 72 ⇓P P 05 53 50.2 +0.8
baz=36,SNR=24
D04A Dobbs Creek Ra 36.39 74 ⇓P P 05 53 51.3 +1.0
baz=36
JCW Jim Creek 36.42 72 P P 05 53 51.3 +0.8
F03A Seaside 36.49 76 ⇑P P 05 53 51.7 +0.6
baz=36
POHA Pohakuloa 36.54 140 *e*P P 05 53 51.6 0.0
comp=Z,2µm,1.3s
RPW Rockport 36.55 71 P P 05 53 52.1 +0.5
E04A Onalaska 36.69 74 ⇓P P 05 53 53.0 +0.2
baz=36
HTW Haystack Looko 36.69 72 P P 05 53 53.6 +0.7
C05A Tolt Reservoir 36.79 72 ⇑P P 05 53 54.1 +0.4
baz=37,SNR=15
D05A Enumclaw 36.84 73 ⇑P P 05 53 55.3 +1.2
baz=37,SNR=23
F04A Amboy 37.19 75 ⇓P P 05 53 57.2 +0.2
baz=37,SNR=20
WRW Wenatchee Ridg 37.20 72 P P 05 53 58.1 +1.0
CN2 Changchun 37.27 281 ⇑P P 05 53 56.9 -0.9
CN2 eS S 05 59 40.2 -3.2
CN2 AMB AMB
comp=Z,30nm,1.4s,mb4.9
CN2 AMB AMB
comp=Z,300nm,9.0s
CN2 LR LR
comp=N,2µm,21.0s,MS4.9
CN2 LR LR
comp=E,2µm,21.0s,MS4.9
CN2 LR LR
comp=Z,2µm,21.0s,MS4.9
E05A Randle 37.28 74 ⇓P P 05 53 58.1 +0.2
baz=37,SNR=16
H03A Soap Creek Ran 37.28 78 ⇓P P 05 53 58.3 +0.5
baz=37
PNT Penticton 37.28 69 P P 05 53 58.2 +0.3
COR Corvallis 37.32 78 *e*P P 05 54 02.3 +4.1
COR pmax pmax
comp=Z,35nm,0.8s,mb5.2
COR Corvallis 37.32 78 *e*P P 05 53 58.7 +0.6
comp=Z,35nm,0.8s,mb5.2
NLW Nelson Butte 37.42 71 P P 05 53 59.8 +0.8
G04A Mulino 37.51 76 ⇑P P 05 54 00.1 +0.3
baz=37,SNR=12
KEBM Edson Butte 37.58 81 *e*P P 05 53 60.0 -0.4
I03A Eugene 37.65 79 ⇓P P 05 54 01.0 0.0
baz=38
TBM Table Mountain 37.69 72 P P 05 54 01.7 +0.4
CBIJ Chichi jima 37.73 245 LR LR 06 07 09.8
comp=Z,784nm,21.0s,MS4.5,baz=20,slow=32
J02A Umpqua 37.79 80 ⇓P P 05 54 02.3 +0.2
baz=38
F05A White Salmon 37.80 75 ⇓P P 05 54 02.6 +0.4
baz=38
WTV Waterville 37.82 71 P P 05 54 02.6 +0.2
BOD Bodaibo 37.83 307‖ *i*P P 05 54 01.7 -0.8
BOD pmax pmax
comp=Z,120nm,1.6s,mb5.4
EBG Ellensburg 37.83 73 P P 05 54 03.3 +0.8
H04A Detroit Lake 37.96 77 ⇑P P 05 54 04.0 +0.4
baz=38,SNR=26
HOOD Mount Hood Mea 37.96 76 *e*P P 05 54 04.8 +1.2
HIA Hailar 38.06 292 *e*P P 05 54 04.4 0.0
HIA pmax pmax
comp=Z,108nm,1.3s
HIA Hailar 38.06 292 *e*P P 05 54 04.4 0.0
comp=Z,108nm,1.3s,mb5.4
K02A Glendale 38.16 80 ⇓P P 05 54 03.8 -1.5
baz=38
J03A Ideyld Park 38.16 79 ⇓P P 05 54 03.8 -1.5
baz=38,SNR=7.5
EPH Ephrata 38.20 72 P P 05 54 05.8 +0.2
G05A Wamic 38.20 76 ⇑P P 05 54 05.6 0.0
baz=38,SNR=7.9
L02A Cave Junction 38.42 81 ⇑P P 05 54 07.4 -0.1
baz=38
WAH2 Wahluke Slope 38.51 72 P P 05 54 08.7 +0.5
H05A Madras 38.56 76 ⇑P P 05 54 08.9 +0.3
baz=38
HUMO Hull Mountain 38.58 80 *e*P P 05 54 10.6 +1.8
HUMO Hull Mountain 38.58 80 ⇑P P 05 54 09.0 +0.2
baz=38
HAWA Hanford 38.71 73 *e*P P 05 54 09.8 -0.1
comp=Z,2.6nm,0.7s
OD2 Odessa Site #2 38.71 71 P P 05 54 09.7 -0.2
I05A Bend 38.79 77 ⇑P P 05 54 10.8 +0.2
baz=39
KHMM Horse Mountain 39.06 83 *e*P P 05 54 12.5 -0.3
KHMM *e*pP pP 05 54 18.1 -2.9
EDM Edmonton 39.16 60 *e*P P 05 54 13.2 -0.5
BUOR Burton Butte 39.20 80 P P 05 54 18.7 +4.7
YBH Yreka Blue Hor 39.21 81 P P 05 54 15.0 +0.9
comp=Z,16nm,0.9s,mb4.7,baz=290,slow=6.1,SNR=11
YBH LR LR 06 08 43.3
comp=Z,1µm,19.7s,MS4.8,baz=302,slow=34
YBH Yreka Blue Hor 39.21 81 *e*P P 05 54 14.9 +0.8
YBH Yreka Blue Hor 39.21 81 ⇑P P 05 54 14.3 +0.2
baz=39
NEW Newport 39.23 69 P P 05 54 14.3 +0.1
comp=Z,29nm,0.8s,mb5.1,baz=298,slow=7.1,SNR=27
NEW Newport 39.23 69 P P 05 54 14.4 +0.1
NEW pmax pmax
comp=Z,29nm,0.8s
NEW Newport 39.23 69 *e*P P 05 54 14.1 -0.2
comp=Z,37nm,0.9s,mb5.1
M02C Callahan 39.31 82 ⇓P P 05 54 15.1 +0.2
baz=39
K04A Chilquin 39.33 79 ⇑P P 05 54 15.0 -0.1
baz=39
N02C Big Bar 39.35 83 ⇑P P 05 54 15.3 0.0
baz=39
L04A Klamath Falls 39.48 80 ⇓P P 05 54 16.7 +0.4
baz=39,SNR=8.6
SNY Shenyang 39.50 279 ⇑P P 05 54 17.2 +0.7
SNY PP PP 05 55 55.8 +8.5
SNY AMB AMB
comp=Z,85nm,1.6s,mb5.2
SNY AMB AMB
comp=Z,565nm,8.8s
SNY LR LR
comp=N,701nm,20.2s,MS4.8
SNY LR LR
comp=E,1µm,19.4s,MS4.8
SNY LR LR
comp=Z,1µm,21.4s,MS4.8
M04C Macdoel 39.73 81 ⇓P P 05 54 18.7 +0.4
baz=40
J06A Christmas Val 39.96 78 ⇓P P 05 54 20.6 +0.2
baz=40,SNR=17
WDC Whiskeytown Da 39.97 83 *e*P P 05 54 20.8 +0.4
WDC Whiskeytown Da 39.97 83 ⇑P P 05 54 20.5 +0.1
baz=40
RES Resolute Bay 40.02 24 *e*P P 05 54 20.7 -0.1
RES 05 56 24.5
RES pmax pmax
comp=Z,13nm,1.1s,mb4.6
RES Resolute Bay 40.02 24 *e*P P 05 54 20.7 -0.2
comp=Z,13nm,1.1s,mb4.6
RES PcP PcP 05 56 24.5 -1.0
O02C Red Bluff 40.05 83 ⇓P P 05 54 21.0 -0.1
baz=40
P01C Double 8 Ranch 40.12 85 ⇓P P 05 54 21.7 +0.1
baz=40
INCN Inchon 40.12 272 P P 05 54 22.8 +1.1
SNR=5.5
INCN Inchon 40.12 272 *e*P P 05 54 21.7 0.0
K06A Valley Falls 40.15 78 ⇓P P 05 54 22.5 +0.6
baz=40,SNR=7.3
L05A Lakeview 40.20 80 ⇓P P 05 54 22.7 +0.4
baz=40
M05C Lookout 40.39 81 ⇑P P 05 54 24.1 +0.2
baz=40,SNR=13
GASB Alder Springs 40.40 84 ⇑P P 05 54 24.2 +0.2
baz=40
J07A Hines 40.41 77 ⇑P P 05 54 24.4 +0.3
baz=40,SNR=16
HATC Hat Creek Radi 40.51 82 ⇓P P 05 54 25.1 +0.2
baz=40
WALA Waterton Lakes 40.72 66 *e*P P 05 54 26.7 0.0
comp=Z,49nm,1.0s,mb5.1
BSMT Bassoo Peak 40.80 68 *e*P P 05 54 27.6 +0.3
BMO Blue Mountains 40.84 74 *e*P P 05 54 27.8 +0.2
M06C Likely Place G 40.90 80 ⇓P P 05 54 27.9 -0.2
baz=41
J08A Circle Bar Ran 40.93 76 ⇓P P 05 54 28.2 -0.2
baz=41,SNR=19
MNRC McLaughlin Nat 41.02 85 ⇑P P 05 54 29.3 +0.1
baz=41
O04C Chester 41.02 82 ⇑P P 05 54 29.2 +0.1
baz=41
ELFS Eagle Lake Fie 41.08 81 ⇑P P 05 54 29.7 +0.2
baz=41
L07A Adell 41.14 79 ⇓P P 05 54 30.1 0.0
baz=41
ORV Oroville 41.21 83 ⇑P P 05 54 29.9 -0.8
baz=41
O05C Quincy 41.34 82 ⇑P P 05 54 31.1 -0.6
baz=41,SNR=5.9
WVOR Wild Horse Val 41.34 78 *e*P P 05 54 32.0 +0.3
WVOR pmax pmax
comp=Z,39nm,0.9s,mb5.0
WVOR Wild Horse Val 41.34 78 *e*P P 05 54 32.0 +0.3
comp=Z,39nm,0.9s,mb5.0
OHCM Honcut 41.35 83 *e*P P 05 54 31.1 -0.7
M07A Soldier Meadow 41.60 79 ⇑P P 05 54 33.9 0.0
baz=41,SNR=21
MSO Missoula 41.82 69 *e*P P 05 54 35.5 -0.1
comp=Z,34nm,1.0s,mb4.9
O06A Flanigan 41.90 81 ⇓P P 05 54 36.1 -0.2
baz=42
P05C Yuba Gap, Truc 41.92 83 ⇑P P 05 54 36.3 -0.2
baz=42
M08A Happy Creek Ra 42.05 79 ⇑P P 05 54 37.9 +0.3
baz=42
P06A Stead Airport, 42.14 82 ⇑P P 05 54 38.4 +0.1
baz=42
LAVA Lava Cap Winer 42.16 84 ⇑P P 05 54 38.0 -0.5
baz=42
L09A Wilkinson Ranc 42.17 78 P P 05 54 39.0 +0.4
baz=42,SNR=16
CHMT Chamberlain Mo 42.18 69 *e*P P 05 54 38.4 -0.1
CHMT *e*pP pP 05 54 45.3 -1.5
DL2 Dalian 42.40 277 P P 05 54 40.5 +0.1
DL2 *e*S S 06 00 57.8 -2.4
DL2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
DL2 AMB AMB
comp=Z,140nm,4.5s
DL2 LR LR
comp=N,280nm,14.3s,MS4.5
DL2 LR LR
comp=E,370nm,13.3s,MS4.5
DL2 LR LR
comp=Z,430nm,18.3s,MS4.4
PAHR Pah Rah Range 42.44 82 *e*P P 05 54 40.9 +0.1
WCN Washoe City 42.45 82 ⇑P P 05 54 40.9 +0.1
baz=42
O07A Toulon 42.49 81 ⇑P P 05 54 41.3 +0.2
baz=42,SNR=8.2
N08A GE Springer Mi 42.59 79 ⇑P P 05 54 41.9 0.0
baz=42,SNR=5.6
R05C Kirkwood Meado 42.61 83 ⇑P P 05 54 42.1 0.0
baz=42
M09A Marrel Ranch, 42.64 78 ⇑P P 05 54 42.7 +0.4
baz=42
CMB Columbia Colle 42.82 84 *e*P P 05 54 44.0 +0.2
CMB Columbia Colle 42.82 84 ⇓P P 05 54 43.6 -0.2
baz=43
ALE Alert 42.84 10 P P 05 54 44.0 0.0
comp=Z,121nm,1.0s,mb5.6,SNR=10
P07A Fallon 42.85 81 ⇓P P 05 54 44.2 +0.1
baz=43
PACP Pacheco Peak 42.89 86 ⇑P P 05 54 43.7 -0.6
baz=43
HAST UC Hastings Re 43.11 87 ⇓P P 05 54 45.8 -0.3
baz=43
R06C Coleville 43.11 83 ⇑P P 05 54 46.3 +0.2
baz=43
HRY Holter Researc 43.12 68 *e*P P 05 54 46.0 -0.1
HRY *e*pP pP 05 54 52.5 -1.9
WAKR Walker 43.13 83 *e*P P 05 54 47.1 +0.8
M10A I.L. Ranch, Tu 43.14 77 ⇑P P 05 54 46.7 +0.3
baz=43,SNR=8.0
LRM Limekiln Ridge 43.22 70 *e*P P 05 54 46.8 -0.3
S06C San Francisco 43.25 84 ⇓P P 05 54 47.1 -0.2
baz=43
Q07A Schurz 43.26 82 ⇑P P 05 54 47.1 -0.2
baz=43
S05C Merced 43.28 85 ⇑P P 05 54 46.8 -0.7
baz=43
HLID Hailey 43.28 74 *e*P P 05 54 47.5 0.0
comp=Z,36nm,1.0s,mb5.1
BMN Battle Mountai 43.36 79 P P 05 54 49.6 +1.5
BMN pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
BMN Battle Mountai 43.36 79 *e*P P 05 54 48.2 0.0
DLMT Dillon 43.38 71 *e*P P 05 54 48.0 -0.4
DLMT *e*ScP ScP 06 00 31.0 +5.0
MCMT McKenzie Canyo 43.53 71 *e*P P 05 54 49.4 -0.1
O09A Fish Creek Ran 43.53 80 ⇓P P 05 54 49.5 -0.1
baz=43,SNR=10
R07C Lee Vining 43.62 83 ⇑P P 05 54 49.8 -0.5
baz=44
EGMT Eagleton 43.63 66 *e*P P 05 54 49.9 -0.5
comp=Z,73nm,0.8s,mb5.5
N10A Dunphy 43.63 78 ⇑P P 05 54 50.1 -0.2
baz=44
BOZ Bozeman (W) 43.80 70 *e*P P 05 54 51.8 +0.1
BOZ pmax pmax
comp=Z,37nm,0.7s,mb5.2
BOZ Bozeman (W) 43.80 70 *e*P P 05 54 51.8 +0.1
comp=Z,38nm,0.7s,mb5.2
Q08A Gabbs 43.85 82 ⇓P P 05 54 51.8 -0.3
baz=44,SNR=8.7
T06C Millerton Lake 43.88 85 ⇓P P 05 54 51.7 -0.6
baz=44
NVAR Mina Array Bea 43.88 82 P P 05 54 52.3 -0.1
comp=Z,6.5nm,0.7s,mb4.5,baz=297,slow=6.0,SNR=18
NVAR ScP ScP 06 00 26.4 -1.6
comp=Z,0.3nm,0.7s,baz=20,slow=2.9,SNR=2.7
KCC Kaiser Creek 43.92 84 ⇓P P 05 54 52.7 -0.1
baz=44
P09A Austin 43.93 80 ⇓P P 05 54 53.2 +0.4
baz=44
MNV Mina 43.97 82 *e*P P 05 54 53.2 +0.1
U05C Westside ANR, 44.04 86 ⇓P P 05 54 53.8 +0.2
baz=44
N11A Elko Archery C 44.05 78 ⇑P P 05 54 54.1 +0.4
baz=44
M12A Wells 44.20 77 ⇑P P 05 54 55.5 +0.5
baz=44,SNR=9.1
P10A Eureka 44.31 80 ⇑P P 05 54 55.9 +0.2
baz=44
Q09A Carvers 44.33 81 ⇑P P 05 54 56.0 0.0
baz=44
QLMT Earthquake Lak 44.37 70 *e*P P 05 54 56.6 +0.3
MTUM Tungsten Hills 44.38 84 *e*P P 05 54 56.8 +0.5
ELK Elko 44.40 78 *e*P P 05 54 57.0 +0.5
ELK pmax pmax
comp=Z,17nm,0.8s
ELK Elko 44.40 78 *e*P P 05 54 56.6 +0.2
PTRM Twissleman Ran 44.41 87 *e*P P 05 54 56.6 0.0
N12A Clover Valley, 44.45 77 ⇓P P 05 54 57.1 +0.1
baz=44,SNR=31
FFC Flin Flon 44.49 54 *e*P P 05 54 55.9 -1.3
FFC *e* 05 56 39.4
FFC pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
FFC Flin Flon 44.49 54 *e*P P 05 54 55.9 -1.4
comp=Z,4.6nm,0.8s,mb4.3
FFC *e*PcP PcP 05 56 39.4 -0.9
O11A Cowboy Ranch, 44.50 79 ⇑P P 05 54 57.4 +0.1
baz=44,SNR=13
M13A Montello 44.69 76 ⇑P P 05 54 58.7 -0.2
baz=44,SNR=22
YMR Madison River 44.73 70 *e*P P 05 54 59.4 +0.3
comp=Z,48nm,0.7s,mb5.4
YMR *e*pP pP 05 55 06.9 -0.5
TPH Tonopah 44.77 82 *e*P P 05 55 00.0 +0.5
TIN Tinemaha 44.77 84 ⇑P P 05 54 59.4 -0.1
baz=45
P11A Circle Ranch, 44.79 79 ⇑P P 05 54 59.7 +0.1
baz=45
GCMT Greycliff 44.88 68 *e*P P 05 55 00.6 +0.2
YFT Old Faithful 44.93 71 *e*P P 05 55 02.1 +1.4
N13A Wendover, West 44.96 77 ⇓P P 05 55 01.0 0.0
baz=45,SNR=9.4
S09A Goldfield 44.99 82 ⇓P P 05 55 00.7 -0.5
baz=45,SNR=8.7
BJI Beijing 45.10 282 *e*P P 05 55 02.8 +0.7
BJI XP sP 05 55 10.6 -3.1
BJI PP PP 05 56 51.5 +3.7
BJI AMB AMB
comp=Z,31nm,1.3s,mb5.0
BJI AMB AMB
comp=Z,392nm,6.1s
BJI LR LR
comp=E,768nm,21.1s
BJI LR LR
comp=Z,1µm,21.6s,MS4.8
BJT Baijiatuau 45.12 282 *e*P P 05 55 02.8 +0.5
BJT pmax pmax
comp=Z,34nm,1.1s
BJT Baijiatuau 45.12 282 *e*P P 05 55 02.8 +0.5
comp=Z,34nm,1.1s,mb5.1
LKWY Lake 45.12 70 P P 05 55 04.1 +1.8
LKWY pmax pmax
comp=Z,51nm,0.8s,mb5.4
LKWY Lake 45.12 70 *e*P P 05 55 03.9 +1.6
IMW Indian Meadow 45.18 71 *e*P P 05 55 04.3 +1.6
comp=Z,28nm,0.9s,mb5.1
DCID1 Drake Creek 45.21 72 *e*P P 05 55 03.1 +0.1
R10A Warm Springs 45.21 81 P P 05 55 03.0 +0.1
baz=45,SNR=8.2
CWC Cottonwood Cre 45.25 84 ⇓P P 05 55 02.9 -0.4
baz=45
IRK Irkutsk 45.27 303 *e*P P 05 55 03.5 +0.1
IRK pmax pmax
comp=Z,154nm,1.5s,mb5.6
Q11A Duckwater 45.27 80 P P 05 55 03.4 -0.1
baz=45,SNR=19
HVU Hansel Valley 45.29 75 *e*P P 05 55 04.0 +0.4
HVU *e**PP pP 05 55 12.0 +0.1
HVU pmax pmax
comp=Z,31nm,0.7s,mb5.2

HVU **Hansel Valley** 45.29 75 *e*P P 05 55 04.0 +0.3
comp=Z,31nm,0.7s,mb5.2
HVU *e*pP pP 05 55 12.0 +0.1
P12A **McGill** 45.36 79 ⇑P P 05 55 03.8 -0.3
baz=45
MOOW **Moose Ponds** 45.38 71 *e*P P 05 55 04.9 +0.6
TPAW **Teton Pass** 45.41 72 *e*P P 05 55 05.5 +0.9
comp=Z,18nm,0.8s,mb5.0
ISA **Isabella** 45.50 85 *e*P P 05 55 04.6 -0.6
ISA pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
ISA **Isabella** 45.50 85 *e*P P 05 55 04.6 -0.6
comp=Z,6.5nm,0.8s,mb4.5
ISA **Isabella** 45.50 85 ⇑P P 05 55 04.2 -1.0
baz=45
REDW **Red Top Meadow** 45.54 72 *e*P P 05 55 06.5 +0.9
comp=Z,21nm,0.9s,mb5.1
REDW *e*pP pP 05 55 14.1 +0.2
BGU **Big Grassy Mou** 45.64 76 *e*P P 05 55 06.8 +0.4
BGU *e*pP pP 05 55 15.8 +1.1
Q12A **Willow Creek R** 45.67 79 ⇑P P 05 55 06.3 -0.3
baz=46
AHID **Auburn Hatcher** 45.73 73 *e*P P 05 55 07.9 +0.8
comp=Z,28nm,0.9s,mb5.2
SPUT **South Promonto** 45.77 75 *e*P P 05 55 07.2 -0.2
TLY **Talaya** 45.89 302 P P 05 55 09.6 +1.2
comp=Z,248nm,0.9s,mb6.1,SNR=16
OSI **Osito Adit** 46.01 87 ⇑P P 05 55 08.6 -0.7
baz=46
ULN **Ulaanbaatar** 46.06 296 *e*P P 05 55 10.8 +1.1
ULN pmax pmax
comp=Z,61nm,1.2s,mb5.4
ULN **Ulaanbaatar** 46.06 296 *e*P P 05 55 10.9 +1.2
TPNV **Topopah Spring** 46.08 82 *e*P P 05 55 09.8 0.0
TPNV pmax pmax
comp=Z,25nm,0.8s,mb5.2
TPNV **Topopah Spring** 46.08 82 *e*P P 05 55 09.8 -0.1
comp=Z,25nm,0.8s,mb5.2
HWUT **Hardware Ranch** 46.13 74 *e*P P 05 55 10.5 +0.2
comp=Z,18nm,0.9s,mb5.0
FCC **Fort Churchill** 46.30 46 *e*P P 05 55 10.8 -0.8
FCC pmax pmax
comp=Z,13nm,0.7s,mb5.0
FCC **Fort Churchill** 46.30 46 *e*P P 05 55 10.8 -0.8
comp=Z,13nm,0.7s,mb5.0
NOQ **North Oquirrh** 46.36 76 *e*P P 05 55 11.1 -0.9
comp=Z,50nm,1.0s,mb5.4
U10A **Ash Meadows, A** 46.36 83 ⇓P P 05 55 11.7 -0.4
baz=46
LAO **LASA Array** 46.37 65 *e*P P 05 55 12.4 +0.2
SNCC **San Nicolas Is** 46.40 89 ⇓P P 05 55 11.7 -0.7
baz=46
SONM **Songino Array** 46.44 296 P P 05 55 13.9 +1.2
comp=Z,16nm,0.8s,mb5.0,baz=57,slow=8.6,SNR=49
SONM PcP PcP 05 56 46.3 -0.8
comp=Z,4.1nm,0.6s,baz=56,slow=3.0,SNR=3.8
SONM ScP ScP 06 00 37.9 -0.7
comp=Z,2.1nm,1.0s,baz=117,slow=3.1,SNR=5.2
SONM LR LR 06 16 10.1
comp=Z,3μm,19.0s,MS5.3,baz=59,slow=38
SONM **Songino Array** 46.44 296 P P 05 55 13.9 +1.2
SONM 05 56 46.3
TCUT **Toone Canyon** 46.51 75 *e*P P 05 55 14.0 +0.7
CTU **Camp Tracy** 46.56 75 *e*P P 05 55 14.1 +0.5
BW06 **Boulder Array** 46.66 72 *e*P P 05 55 14.2 -0.2
PDAR **Pinedale Array** 46.66 72 P P 05 55 14.2 -0.1
comp=Z,47nm,0.9s,mb5.4,baz=307,slow=3.6,SNR=49
PDAR ScP ScP 06 00 42.0 +2.5
comp=Z,0.7nm,0.9s,baz=328,slow=6.4,SNR=2.4
PDAR LR LR 06 12 24.5
comp=Z,917nm,21.2s,MS4.7,baz=312,slow=33
MWC **Mount Wilson** 46.68 87 *e*P P 05 55 14.9 +0.3
GSC **Goldstone** 46.77 85 *e*P P 05 55 14.8 -0.5
GSC **Goldstone** 46.77 85 ⇑P P 05 55 14.6 -0.7
baz=47,SNR=12
NLU **North Lily Min** 46.81 76 *e*P P 05 55 15.7 +0.1
TIA **Tai'an** 46.88 277 *e*P P 05 55 16.0 -0.1
U11A **Corn Creek** 46.95 82 ⇓P P 05 55 16.4 -0.2
baz=47
DAU **Daniels Canyon** 47.03 75 P P 05 55 18.4 +1.1
DAU **Daniels Canyon** 47.03 75 *e*P P 05 55 17.7 +0.4
SHPR **Sheep Range** 47.03 82 *e*P P 05 55 17.3 0.0
MPU **Maple Canyon** 47.04 76 *e*P P 05 55 18.4 +1.0
V11A **Goodsprings** 47.29 83 ⇑P P 05 55 18.5 -0.8
baz=47
ARUT **Antelope Range** 47.30 80 *e*P P 05 55 19.5 +0.2
ARUT *e*pP pP 05 55 26.7 -0.9
MOY **Mondy** 47.30 304 *e*P P 05 55 20.1 +0.7
MOY pmax pmax
comp=Z,174nm,2.5s,mb5.5
HHC **Hu-ho-hao-te** 47.44 286 *e*P P 05 55 21.5 +1.0
HHC AP pP 05 55 31.5 +2.7
HHC XP sP 05 55 34.4 +2.3
HHC PP PP 05 57 13.1 +1.3
HHC S **S** **06 02 14.0 +0.9**
HHC XS sS 06 02 29.5 +2.7
HHC SCS ScS 06 05 10.0 -2.4
HHC SS SS 06 05 33.8 -7.1
HHC AMB AMB
comp=Z,63nm,1.6s,mb5.3
HHC AMB AMB
comp=Z,293nm,6.6s
HHC LR LR
comp=N,669nm,18.4s,MS4.9
HHC LR LR
comp=E,1μm,20.8s,MS4.9
HHC LR LR
comp=Z,1μm,21.4s,MS4.8
U12A **Valley of Fire** 47.47 82 ⇓P P 05 55 19.8 -0.9
baz=47,SNR=10
CCUT **Cedar City** 47.49 80 *e*P P 05 55 21.0 +0.1
MSU **Marysvale** 47.63 78 *e*P P 05 55 22.4 +0.5
MSU **Marysvale** 47.63 78 *e*P P 05 55 22.3 +0.3
SSE **Sheshan** 47.68 269 P P 05 55 22.6 +0.2
SSE PP PP 05 57 14.1 0.0
SSE S **S** **06 02 13.9 -2.7**
SSE AMB AMB
comp=Z,50nm,1.0s,mb5.5
SSE AMB AMB
comp=Z,589nm,6.2s
SSE LR LR
comp=N,365nm,22.7s,MS4.3
SSE LR LR
comp=E,180nm,22.7s,MS4.3
SSE LR LR
comp=Z,401nm,23.4s,MS4.3
V12A **Nelson** 47.72 83 ⇑P P 05 55 22.1 -0.6
baz=48
TMUT **Trail Mountain** 47.74 77 *e*P P 05 55 23.7 +0.9
W12A **Cal Nev Ari** 47.98 83 ⇓P P 05 55 24.3 -0.5
baz=48
PFO **Pinyon Flat Ob** 48.09 86 ⇑P P 05 55 24.5 -1.1
baz=48
109C **Camp Elliot, M** 48.16 87 ⇑P P 05 55 25.0 -1.1
baz=48
SRU **San Rafael** 48.27 76 *e*P P 05 55 27.9 +1.0
SRU pmax pmax
comp=Z,21nm,0.6s,mb5.3
SRU **San Rafael** 48.27 76 *e*P P 05 55 27.4 +0.5
NJ2 **Nanjing** 48.51 272 *e*P P 05 55 30.2 +1.5
NJ2 AP pP 05 55 42.6 +5.5
NJ2 XP sP 05 55 47.9 +7.5
NJ2 PP PP 05 57 23.2 +1.6
NJ2 S **S** **06 02 28.0 -0.2**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
NJ2 AMB AMB
comp=Z,200nm,4.8s
NJ2 LR LR
comp=N,410nm,18.2s,MS4.5
NJ2 LR LR
comp=E,80nm,16.8s,MS4.5
NJ2 LR LR
comp=Z,440nm,15.9s,MS4.5
BTO **Baotou** 48.52 286 *e*P P 05 55 29.9 +1.1
BAR **Barrett** 48.57 87 *e*P P 05 55 28.9 -0.4
RWWY **Rawlins** 48.70 72 *e*P P 05 55 29.7 -0.5
comp=Z,38nm,0.9s,mb5.4
KRAR **Krasnoyarsk** 48.96 312 *i*P P 05 55 31.4 -0.8
KRAR pmax pmax
comp=Z,56nm,1.1s,mb5.5
RSSD **Black Hills** 49.11 67 *e*P P 05 55 32.8 -0.6
RSSD pmax pmax
comp=Z,14nm,0.7s,mb5.1
RSSD **Black Hills** 49.11 67 *e*P P 05 55 32.8 -0.6
comp=Z,14nm,0.7s,mb5.1
W14A **Seligman** 49.16 82 ⇓P P 05 55 33.1 -0.6
baz=49,SNR=8.2
Y12C **Blythe** 49.21 85 ⇓P P 05 55 33.3 -0.9
baz=49
GLA **Glamis** 49.48 85 *e*P P 05 55 35.7 -0.5
GLA **Glamis** 49.48 85 ⇑P P 05 55 35.5 -0.7
baz=49,SNR=12
W15A **Williams** 49.69 82 ⇑P P 05 55 37.6 -0.2
baz=50
X14A **Yava** 49.76 83 P P 05 55 38.1 -0.2
baz=50,SNR=9.2
KBS **Kingsbay** 49.95 357 *e*P P 05 55 40.3 +0.5
PHWY **Pilot Hill** 49.98 71 *e*P P 05 55 39.4 -0.6
WUAZ **Wupatki** 50.02 81 *e*P P 05 55 40.1 -0.2
comp=Z,25nm,0.9s,mb5.2
ULM **Lac du Bonnet** 50.03 56 P P 05 55 39.4 -1.0
comp=Z,3.6nm,0.6s,mb4.6,baz=276,slow=6.5,SNR=5.6
ULM LR LR 06 18 13.4
comp=Z,958nm,19.0s,MS4.8,baz=173,slow=38
ULM **Lac du Bonnet** 50.03 56 P P 05 55 39.4 -1.0
ULM LR LR 06 18 13.4
Y14A **Wickenburg** 50.04 83 ⇑P P 05 55 39.4 -1.0
baz=50,SNR=9.8
X15A **Humboldt** 50.16 82 ⇓P P 05 55 41.1 -0.3
baz=50,SNR=12
SMCO **Snowmass** 50.39 74 *e*P P 05 55 44.0 +0.9
Z14A **Wintersburg** 50.45 84 ⇓P P 05 55 42.6 -1.0
baz=50
SPB4 **Spitsbergen Ar** 50.52 356 *e*P P 05 55 43.9 -0.2
SPB4 *e*pP pP 05 55 48.6 -3.8
ISCO **Idaho Springs** 50.82 73 *e*P P 05 55 46.5 +0.2
ISCO pmax pmax
comp=Z,15nm,0.9s,mb4.9
ISCO **Idaho Springs** 50.82 73 *e*P P 05 55 46.5 +0.1
comp=Z,15nm,0.9s,mb4.9
115A **Sonoran Desert** 51.34 84 P P 05 55 50.1 -0.2
baz=51,SNR=13
DAG **Danmarks Havn** 51.70 6 ⇓*i*P P 05 55 52.2 -0.7
comp=Z,17nm,1.5s,mb4.7
DAG **Danmarks Havn** 51.70 6 ⇓*e*P P 05 55 52.2 -0.7
DAG pmax pmax
comp=Z,17nm,1.5s,mb4.8
DAG **Danmarks Havn** 51.70 6 ⇓*e*P P 05 55 52.2 -0.7
comp=Z,17nm,1.5s,mb4.8
116A **Eloy** 51.76 84 ⇓P P 05 55 53.2 -0.3
baz=52
WHN **Wuhan** 52.36 274 *e*P P 05 55 57.2 -0.6
TUC **Tucson** 52.51 83 *e*P P 05 55 58.4 -0.6
LAZ **Ladron** 53.37 79 *e*P P 05 56 05.5 +0.1
XAN **Xi'an** 53.39 281 P P 05 56 04.6 -0.8
XAN AP pP 05 56 18.6 +4.8
XAN S **S** **06 03 26.0 -10**
XAN AMB AMB
comp=Z,21nm,1.4s,mb4.9
XAN LR LR
comp=N,554nm,23.7s,MS4.8
XAN LR LR
comp=E,759nm,19.8s,MS4.8
XAN LR LR
comp=Z,1μm,21.5s,MS4.9
ANMO **Albuquerque** 53.43 78 LR LR 06 18 11.0
comp=Z,1μm,19.1s,MS4.9,baz=127,slow=35
ANMO **Albuquerque** 53.43 78 *e*P P 05 56 05.5 -0.2
SUMG **Summit** 53.53 14 *e*P P 05 56 06.3 -0.2
comp=Z,31nm,0.9s,mb5.2
ECSD **EROS,Sioux Fal** 53.59 63 *e*P P 05 56 05.3 -1.6
QZH **Quanzhou** 53.62 265 ⇑*i*P P 05 56 07.4 +0.2
QZH AMB AMB
comp=Z,210nm,1.3s,mb5.9
LENM **Lemitar** 53.63 79 *e*P P 05 56 07.5 +0.2
EYMN **Ely** 53.72 56 *e*P P 05 56 07.1 -0.8
comp=Z,22nm,0.9s,mb5.1
EYMN *e*pP pP 05 56 15.7 -0.6
Y22C **IRIS PASSCAL I** 53.73 79 ⇑P P 05 56 08.1 +0.1
baz=54
LPM **Los Pinos Moun** 53.75 78 *e*P P 05 56 08.0 0.0
BNM **Barren Site** 53.86 79 *e*P P 05 56 08.3 -0.6
ZAL **Zalesovo** 53.94 313 P P 05 56 08.6 -0.8
comp=Z,3.0nm,0.7s,mb4.3,baz=34,slow=2.8,SNR=7.5
ZAL PcP PcP 05 57 14.6 0.0
comp=Z,5.4nm,0.8s,baz=70,slow=9.4,SNR=4.3
ZAL LR LR 06 21 17.9
comp=Z,1μm,19.6s,MS5.0,baz=58,slow=38
ZAL **Zalesovo** 53.94 313 P P 05 56 08.6 -0.9
ZAL 05 57 14.6
NVS **Novosibirsk** 54.07 315 *e*P P 05 56 09.0 -1.4
NVS pmax pmax
comp=Z,36nm,1.8s,mb5.0
NVS pmax pmax
comp=N,18nm,1.6s
NVS pmax pmax
comp=E,25nm,1.5s
LZH **Lanzhou** 55.13 286 *e*P P 05 56 19.5 +1.3
LZH AP pP 05 56 34.6 +8.0
LZH PP PP 05 58 24.1 +2.5
LZH *e*S **S** **06 03 56.5 -2.8**
LZH XS sS 06 04 17.0 +3.8
LZH SS SS 06 07 39.6 -3.8
LZH AMB AMB
comp=Z,151nm,1.7s,mb5.8
LZH AMB AMB
comp=Z,486nm,5.0s
LZH LR LR
comp=N,1μm,13.6s
LZH LR LR
comp=Z,2μm,15.0s,MS5.3
GTA **Gaotai** 55.34 292 ⇑*i*P P 05 56 20.4 +0.7
GTA AP pP 05 56 33.6 +5.5
GTA XP sP 05 56 39.2 +7.8
GTA PCP PcP 05 57 19.2 -0.8
GTA PP PP 05 58 25.9 +2.5
GTA PPP 05 59 42.0
GTA SCP ScP 06 01 16.0 -0.9
GTA PCS PcS 06 01 17.3 -2.7
GTA S **S** **06 04 00.8 -1.3**
GTA SCS ScS 06 06 04.6 -2.4
GTA SS SS 06 07 47.5 +0.8
GTA AMB AMB
comp=Z,46nm,1.3s,mb5.3
GTA AMB AMB
comp=Z,435nm,5.3s
GTA LR LR
comp=N,791nm,19.4s,MS5.0
GTA LR LR
comp=E,976nm,17.1s,MS5.0
GTA LR LR
comp=Z,1μm,18.6s,MS5.0
SFJD **Kangerlussuaq** 55.92 22 P P 05 56 22.2 -1.6
comp=Z,9.6nm,0.6s,mb5.0,baz=313,slow=7.0,SNR=6.0
AMTX **Amarillo** 56.39 75 *e*P P 05 56 27.1 -0.1
KEV **Kevo** 57.82 350 *e*p P 05 56 35.0 -2.3
comp=Z,5.8nm,0.6s,mb4.8
KEV **Kevo** 57.82 350 *e*P P 05 56 35.0 -2.3
KEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ARCES **ARCESS Array B** 58.20 350 P P 05 56 39.2 -0.8
comp=Z,21nm,0.7s,mb5.3,baz=19,slow=7.8,SNR=38
ARCES **ARCESS Array B** 58.20 350 P P 05 56 39.2 -0.8
LVZ **Lovozero** 58.52 346 P P 05 56 41.1 -1.1
comp=Z,216nm,0.7s,mb6.3,SNR=11
LVZ **Lovozero** 58.52 346 *e*P P 05 56 40.0 -2.2
LVZ *e* 05 58 49.2
LVZ *e*PPP 06 00 15.1
LVZ *e*S S **06 04 42.6 -1.5**
LVZ pmax pmax
comp=Z,51nm,1.3s,mb5.4
LVZ pmax pmax
comp=N,10.0nm,0.9s
LVZ pmax pmax
comp=E,7.0nm,0.9s
LVZ smax
comp=N,296nm,17.5s
LVZ smax
comp=Z,171nm,21.5s
LVZ smax
comp=E,317nm,20.5s
LVZ MLR MLR
comp=Z,869nm,22.0s,MS4.8
LVZ MLR MLR
comp=N,686nm,23.0s,MS4.9
LVZ MLR MLR
comp=E,755nm,25.0s,MS4.9
CD2 **Chengdu** 58.70 282 *e*P P 05 56 43.2 -0.3
CD2 AP pP 05 56 53.3 +1.3
CD2 XP sP 05 56 57.2 +2.0
CD2 PCP PcP 05 57 32.9 -0.3
CD2 PP PP 05 58 54.6 +1.2
CD2 SCP ScP 06 01 29.3 -2.4
CD2 PCS PcS 06 01 33.2 -1.7
CD2 S **S** **06 04 43.2 -3.3**
CD2 XS sS 06 05 00.1 -0.3
CD2 SCS ScS 06 06 26.7 -4.7
CD2 SS SS 06 08 37.8 -1.8
CD2 AMB AMB
comp=Z,20nm,1.4s,mb5.0
CD2 AMB AMB
comp=Z,120nm,5.6s
CD2 LR LR
comp=E,510nm,20.4s
CD2 LR LR
comp=Z,570nm,20.4s,MS4.7
TRO **Tromso** 58.73 353 ⇑*i*P P 05 56 42.1 -1.6
TRO AMb AMB 05 56 42.9
comp=Z,19nm,0.7s,mb5.2
TRO **Tromso** 58.73 353 ⇑*i*P P 05 56 42.1 -1.6
comp=Z,19nm,0.7s,mb5.2
KURK **Kurchatov** 58.91 313 P P 05 56 44.4 -0.5
comp=Z,386nm,0.6s,SNR=8.5
KURK **Kurchatov** 58.91 313 P P 05 56 45.0 +0.1
SNR=16
KURK **Kurchatov** 58.91 313 *e*P P 05 56 44.7 -0.2
KURK pmax pmax
comp=Z,36nm,0.6s,mb5.6
KURK **Kurchatov** 58.91 313 *e*P P 05 56 44.6 -0.3
LTX **Lajitas** 58.99 81 *e*P P 05 56 44.7 -0.7
LTX pmax pmax
comp=Z,22nm,1.1s,mb5.1
LTX **Lajitas** 58.99 81 *e*P P 05 56 44.7 -0.8
comp=Z,22nm,1.1s,mb5.1
LTX *e*pP pP 05 56 51.2 -2.7
APA **Apatity** 59.02 346 ⇑*i*P P 05 56 44.5 -1.2
APA pmax pmax
comp=Z,29nm,1.2s,mb5.2
APA MLR MLR
comp=Z,700nm,20.0s,MS4.8
WMQ **Urumqi** 59.17 303 P P 05 56 49.4 +2.7
WMQ PCP PcP 05 57 37.0 +2.0
WMQ PP PP 05 59 02.5 +5.0
WMQ SCP ScP 06 01 30.9 -2.9
WMQ S **S** **06 04 50.8 -1.7**
WMQ AMB AMB
comp=Z,82nm,1.8s,mb5.5
WMQ AMB AMB
comp=Z,687nm,4.2s
WMQ LR LR
comp=N,2μm,22.6s,MS5.2
WMQ LR LR
comp=E,1μm,21.0s,MS5.2
WMQ LR LR
comp=Z,2μm,19.6s,MS5.3
MKAR **Makanchi Array** 59.89 308 P P 05 56 51.6 -0.1
comp=Z,15nm,0.6s,mb5.2,baz=44,slow=7.4,SNR=52
GYA **Guiyang** 60.03 276 ⇑*i*P P 05 56 52.4 -0.2
GYA AP pP 05 57 08.5 +7.4
GYA PP PP 05 59 06.7 +1.6
GYA S **S** **06 04 57.4 -6.2**
GYA SS SS 06 08 55.4 -5.1
GYA AMB AMB
comp=Z,30nm,1.5s,mb5.1
GYA AMB AMB
comp=Z,250nm,7.2s
GYA LR LR
comp=N,680nm,18.7s,MS5.0
GYA LR LR
comp=E,790nm,17.8s,MS5.0
GYA LR LR
comp=Z,870nm,18.9s,MS4.9
CHKZ **Chkalovo** 60.24 320 *e*P P 05 56 53.6 -0.5
SCHQ **Schefferville** 60.33 38 P P 05 56 53.6 -1.1
comp=Z,18nm,0.8s,mb5.2,baz=321,slow=8.0,SNR=21
SCHQ LR LR 06 24 58.4
comp=Z,2μm,18.1s,MS5.2,baz=324,slow=38
CCM **Cathedral Cave** 60.39 65 *e*P P 05 56 53.4 -1.7
CCM pmax pmax
comp=Z,11nm,0.7s,mb5.0
CCM **Cathedral Cave** 60.39 65 *e*P P 05 56 52.9 -2.2
comp=Z,12nm,0.7s,mb5.0
SLM **Saint Louis** 60.56 64 *e*P P 05 56 55.1 -1.2
SLM pmax pmax
comp=Z,112nm,1.7s,mb5.7
SLM **Saint Louis** 60.56 64 *e*P P 05 56 55.1 -1.1
comp=Z,112nm,1.7s,mb5.7
JCT **Junction City** 60.57 77 *e*P P 05 56 54.8 -1.5
JCT pmax pmax
comp=Z,16nm,0.8s,mb5.2
JCT **Junction City** 60.57 77 *e*P P 05 56 54.8 -1.6
comp=Z,16nm,0.8s,mb5.2
BVAR **Borovoye Array** 60.81 320 P P 05 56 57.6 -0.4
comp=Z,9.4nm,0.6s,mb5.1,baz=49,slow=6.2,SNR=22
BVAR PcP PcP 05 57 41.6 0.0
comp=Z,11nm,0.6s,baz=48,slow=3.8,SNR=6.5
BRVK **Borovoye** 60.83 320 P P 05 56 57.9 -0.2
comp=Z,189nm,1.5s,mb6.0,SNR=9.8
BRVK **Borovoye** 60.83 320 P P 05 56 58.3 +0.2
SNR=20
BRVK **Borovoye** 60.83 320 *e*P P 05 56 57.8 -0.3
BRVK pmax pmax
comp=Z,33nm,1.3s,mb5.3
BRVK **Borovoye** 60.83 320 *e*P P 05 56 57.8 -0.3
comp=Z,33nm,1.3s,mb5.3
FVM **French Village** 60.90 65 *e*P P 05 56 57.4 -1.2
FVM pmax pmax
comp=Z,12nm,0.5s,mb5.3
FVM **French Village** 60.90 65 *e*P P 05 56 57.4 -1.2
comp=Z,12nm,0.5s,mb5.3
ZRNK **Zerenda** 61.43 320 *e*P P 05 57 01.9 -0.3
ZRNK 05 57 43.9
ZRNK pmax pmax
comp=Z,67nm,1.4s,mb5.6
ZRNK **Zerenda** 61.43 320 *e*P P 05 57 01.9 -0.3
comp=Z,67nm,1.4s,mb5.6
ZRNK *e*pP pP 05 57 08.8 -1.9
ZRNK PcP PcP 05 57 43.9 -0.2
MIAR **Mount Ida** 61.47 70 *e*P P 05 57 01.9 -0.6
MIAR pmax pmax
comp=Z,44nm,1.0s,mb5.5
MIAR **Mount Ida** 61.47 70 *e*P P 05 57 01.9 -0.5
comp=Z,44nm,1.0s,mb5.5
SVE **Sverdlovsk** 61.57 327 *e*P P 05 57 02.5 -0.6
SVE *e* 05 57 20.0
SVE *e* 05 57 45.0
SVE *e*S S 06 05 50.0 +27
SVE *e* 06 06 48.0
SVE pmax pmax
comp=Z,46nm,1.8s,mb5.3
SVE MLR MLR
comp=N,700nm,16.0s,MS4.9
SVE MLR MLR
comp=E,200nm,16.0s,MS4.9
SVE MLR MLR
comp=Z,2μm,16.0s,MS5.2
SIUC **Southern Illin** 61.78 64 *e*P P 05 57 03.8 -0.8
UALR **University of** 62.03 69 *e*P P 05 57 05.5 -0.7
comp=Z,33nm,1.2s,mb5.3
PARMO **Parma** 62.21 65 *e*P P 05 57 07.0 -0.4
BLO **Bloomington** 62.26 61 *e*P P 05 57 06.9 -0.9
BLO pmax pmax
comp=Z,68nm,0.9s,mb5.8
BLO **Bloomington** 62.26 61 *e*P P 05 57 07.0 -0.7
HBAR **Harrisburg** 62.47 67 *e*P P 05 57 08.7 -0.4
USIN **University of** 62.48 63 *e*P P 05 57 08.7 -0.5
ARU **Arti** 62.58 328 P P 05 57 09.4 -0.5
comp=Z,143nm,0.7s,mb6.2,SNR=6.3
ARU **Arti** 62.58 328 ⇑*i*P P 05 57 09.4 -0.5
ARU *e* 05 57 47.8
ARU *e* 05 59 26.0
ARU *e*S S **06 05 34.6 -1.4**
ARU *e*SS SS 06 09 48.3 +7.9
ARU pmax pmax
comp=Z,12nm,0.6s,mb5.2
ARU MLR MLR
comp=Z,1μm,19.0s,MS5.0
ARU MLR MLR
comp=N,700nm,18.0s,MS5.0
ARU MLR MLR
comp=E,500nm,19.0s,MS5.0
ARU **Arti** 62.58 328 *e*P P 05 57 09.3 -0.6
comp=E,14nm,0.6s,mb5.3
NATX **Nacogdoches** 62.79 72 *e*P P 05 57 10.6 -0.6

comp=E,14nm,0.6s,mb5.3
WCI Wyandotte Cave 63.05 62 *e*P **P 05 57 12.6 -0.4**
WCI pmax pmax
comp=Z,49nm,0.8s,mb5.7
WCI Wyandotte Cave 63.05 62 *e*P **P 05 57 12.5 -0.5**
WCI *e*pP pP 05 57 19.5 -2.1
HKT Hockley 63.36 75 *e*P **P 05 57 15.1 0.0**
HKT pmax pmax
comp=Z,12nm,1.0s,mb5.0
HKT Hockley 63.36 75 *e*P **P 05 57 14.5 -0.6**
comp=Z,12nm,1.0s,mb5.0
KMI Kunming 63.44 278 P **P 05 57 15.5 -0.1**
KMI S **S 06 05 43.3 -3.5**
KMI SS SS 06 09 53.6 -0.2
KMI AMB AMB
comp=Z,32nm,1.3s,mb5.3
KMI AMB AMB
comp=Z,295nm,6.8s
KMI LR LR
comp=N,589nm,20.0s,MS5.0
KMI LR LR
comp=E,631nm,18.2s,MS5.0
KMI LR LR
comp=Z,494nm,22.8s,MS4.6
QIZ Qiongzhong 63.45 268 P **P 05 57 16.1 +0.5**
QIZ AP pP 05 57 27.6 +3.4
QIZ XP sP 05 57 34.5 +7.1
QIZ PP PP 05 59 33.8 -1.5
QIZ S **S 06 05 51.9 +5.0**
QIZ SCS ScS 06 07 03.2 -3.8
QIZ AMB AMB
comp=Z,23nm,1.5s,mb5.1
QIZ AMB AMB
comp=Z,276nm,4.8s
QIZ LR LR
comp=E,372nm,18.9s
QIZ LR LR
comp=Z,488nm,21.8s,MS4.6
ERPA Erie 63.66 55 *e*P **P 05 57 16.9 -0.1**
JOF Joensuu 63.68 345 *e*p **P 05 57 15.6 -1.6**
comp=Z,24nm,0.6s,mb5.4
JOF Joensuu 63.68 345 *e*P **P 05 57 15.6 -1.6**
JOF pmax pmax
comp=Z,24nm,0.6s,mb5.4
ALLY Alegheny Colle 63.91 55 *e*P **P 05 57 18.7 0.0**
OXF Oxford 63.93 67 *e*P **P 05 57 18.5 -0.3**
KLMR Klimovskoe 64.03 340*c i*P **P 05 57 18.9 -0.6**
KLMR *e* 05 59 36.8
KLMR *e*S **S 06 05 50.1 -4.0**
KLMR pmax pmax
comp=Z,100nm,1.5s,mb5.6
KLMR pmax pmax
comp=Z,80nm,8.9s
KLMR MLR MLR
comp=Z,1μm,18.0s,MS5.2
NSS Namsos 64.26 355 *e*P **P 05 57 19.1 -2.0**
NSS AMb AMB 05 57 21.8
comp=Z,32nm,2.1s,mb5.0
NSS Namsos 64.26 355 *e*P **P 05 57 19.1 -2.0**
comp=Z,32nm,2.1s,mb5.0
PLAL Pickwick Lake 64.36 66 *e*P **P 05 57 20.7 -1.0**
FRNY Flat Rock 64.84 49 *e*P **P 05 57 23.2 -1.6**
NCB Newcomb 65.18 50 *e*P **P 05 57 26.1 -0.9**
KAF Kangasniemi 65.20 347 *e*p **P 05 57 25.1 -2.0**
comp=Z,16nm,0.6s,mb5.2,baz=14,slow=5.9
KAF Kangasniemi 65.20 347 *e*P **P 05 57 25.1 -2.0**
KAF pmax pmax
comp=Z,16nm,0.6s,mb5.2
MCWV Mont Chateau 65.52 57 *e*P **P 05 57 28.7 -0.5**
comp=Z,17nm,0.9s,mb5.1
BINY Binghamton 65.63 53 *e*P **P 05 57 29.3 -0.6**
comp=Z,30nm,1.0s,mb5.3
TZTN Tazewell 65.78 61 *e*P **P 05 57 30.9 0.0**
SSPA Standing Stone 65.82 55 *e*P **P 05 57 30.4 -0.7**
FINES FINESS Array B 65.88 347 P **P 05 57 30.5 -1.0**
comp=Z,18nm,0.7s,mb5.2,baz=35,slow=7.0,SNR=57
FINES LR LR 06 32 02.2
comp=Z,900nm,18.2s,MS5.0,baz=194,slow=41
FINES FINESS Array B 65.88 347 P **P 05 57 30.5 -1.0**
FINES LR LR 06 32 02.2
ACCN Adirondack Com 65.89 50 *e*P **P 05 57 30.3 -1.2**
TKM2 Tokmak 2 65.98 309 P **P 05 57 33.0 +0.9**
SNR=35
CPCT Cooper Cave 66.04 63 *e*P **P 05 57 32.4 -0.1**
ULHL Ulahol 66.17 308 P **P 05 57 35.1 +1.8**
SNR=24
USP Ospenovka 66.25 310 P **P 05 57 34.8 +0.9**
SNR=49
CHMS Chumysh 66.33 310 P **P 05 57 36.2 +1.7**
SNR=16
LRAL Lakeview Retre 66.38 66 *e*P **P 05 57 33.5 -1.3**
comp=Z,27nm,0.9s,mb5.3
KBK Karagaybulak 66.49 309 P **P 05 57 37.4 +1.9**
SNR=22
FWV Forest Hill 66.52 59 *e*P **P 05 57 35.6 0.0**
FRU Bishkek 66.52 310 *e*P **P 05 57 36.0 +0.4**
FRU *e* 05 57 53.0
FRU pmax pmax
comp=Z,280nm,1.8s,mb6.0
FRU MLR MLR
comp=Z,60μm,18.0s
AAK Ala-Archa 66.73 310 P **P 05 57 38.0 +1.0**
SNR=18
AAK Ala-Archa 66.73 310 P **P 05 57 37.1 +0.1**
comp=Z,267nm,0.7s,SNR=13
AAK Ala-Archa 66.73 310 P **P 05 57 37.0 +0.1**
SNR=34
AAK Ala-Archa 66.73 310*c i*P **P 05 57 37.3 +0.3**
AAK pmax pmax
comp=Z,73nm,1.1s,mb5.6
AAK Ala-Archa 66.73 310 *e*P **P 05 57 37.0 0.0**
KZA Kyzart 66.78 309 P **P 05 57 39.5 +2.2**
SNR=15
ELN Prospectdale 66.81 59 *e*P **P 05 57 36.6 -0.9**
WVL Waterville 66.89 47 *e*P **P 05 57 36.6 -1.3**
comp=Z,17nm,1.1s,mb5.0
BLA Blacksburg 67.00 59 *e*P **P 05 57 38.3 -0.4**
BLA pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BLA Blacksburg 67.00 59 *e*P **P 05 57 38.2 -0.5**
comp=Z,1.7nm,0.9s
UCH Uchtor 67.03 309 P **P 05 57 40.2 +1.4**
SNR=26
EKS2 Erkin-Say 67.06 310 P **P 05 57 40.0 +0.9**
SNR=36
MVL Millersville 67.08 54 *e*P **P 05 57 38.8 -0.4**
LSA Lhasa 67.20 289 P **P 05 57 42.1 +2.1**
LSA AMB AMB
comp=Z,30nm,1.0s,mb5.3
LSA Lhasa 67.20 289 *e*P **P 05 57 41.1 +1.1**
LSA pmax pmax
comp=Z,83nm,1.4s,mb5.6
LSA Lhasa 67.20 289 *e*P **P 05 57 41.1 +1.1**
comp=Z,83nm,1.4s,mb5.6
SDMD Soldier's Deli 67.26 55 *e*P **P 05 57 40.5 +0.2**
AML Almayashu 67.50 310 P **P 05 57 43.9 +2.1**
SNR=17
PAL Palisades 67.55 52 *e*P **P 05 57 41.4 -0.8**
PAL pmax pmax
comp=Z,12nm,0.6s,mb5.1
PAL Palisades 67.55 52 *e*P **P 05 57 41.4 -0.8**
comp=Z,12nm,0.6s,mb5.1
PAL *e*pP pP 05 57 46.7 -4.1
CPNY Central Park 67.69 52 *e*P **P 05 57 42.7 -0.3**
EMMW East Machias 67.78 46 *e*P **P 05 57 42.6 -1.0**
comp=Z,22nm,0.8s,mb5.2
NB2 NORSAR Subarra 67.78 354 P **P 05 57 42.8 -0.8**
comp=Z,32nm,1.2s,mb5.2,baz=8.6,slow=6.5
NOA NORSAR Array B 67.78 354 P **P 05 57 43.1 -0.5**
comp=Z,7.6nm,0.8s,mb4.8,baz=6.9,slow=6.4,SNR=21
HYA Hoyanger 67.89 357 *e*P **P 05 57 45.8 +1.5**
HYA AMb AMB 05 57 48.2
comp=Z,45nm,1.8s,mb5.2
HYA Hoyanger 67.89 357 *e*P **P 05 57 45.8 +1.5**
comp=Z,45nm,1.8s,mb5.2
KSH Kashi 68.35 306 *i* P **P 05 57 49.3 +2.1**
KSH *e*PCP PcP 05 58 14.3 +1.7
KSH *e*PP PP 06 00 23.3 +5.2
KSH *e*SCP 06 02 10.7
KSH *e*PCS 06 02 18.7
KSH *e*S S 06 06 43.9 -2.7
KSH *e*SCS ScS 06 07 40.2 -4.7
KSH *e*SS SS 06 11 09.8 -0.3
KSH AMB AMB
comp=Z,329nm,9.6s
KSH LR LR
comp=N,689nm,12.1s,MS5.4
KSH LR LR
comp=E,1μm,12.6s,MS5.4
KSH LR LR
comp=Z,1μm,24.0s
VSU Vasula 68.64 346⇑*i*P **P 05 57 48.4 -0.6**
TAOE Nuku Hiva Isla 68.70 138 *e*S S 06 06 31.9 -19
comp=Z,3μm,25.7s
TAOE *e*LR LR 06 18 15.9
comp=Z,5μm,23.4s,baz=343
MOS Moscow 69.10 339*c i*P **P 05 57 52.0 +0.1**
MOS *e* 05 58 10.1
MOS pmax pmax
comp=Z,130nm,0.8s,mb5.9
MOS MLR MLR
comp=Z,2μm,17.0s,MS5.5
ODD1 Odda 69.13 357 *e*P **P 05 57 51.0 -1.0**
KONO Kongsberg 69.26 355 *e*P **P 05 57 52.7 -0.2**
KONO pmax pmax
comp=Z,29nm,1.1s,mb5.1
KONO Kongsberg 69.26 355 *e*P **P 05 57 52.7 -0.2**
comp=Z,29nm,1.1s,mb5.1
KKM Kota Kinabalu 69.47 253 *e*P **P 05 57 54.3 +0.2**
BLS5 Blasjo 69.62 357 *e*P **P 05 57 56.6 +1.5**
OBN Obninsk 69.91 339⇑*e*P **P 05 57 56.6 -0.3**
OBN pmax pmax
comp=Z,107nm,1.0s,mb5.7
OBN MLR MLR
comp=Z,1μm,15.0s,MS5.3
OBN Obninsk 69.91 339 *e*P **P 05 57 56.6 -0.2**
comp=Z,57nm,0.7s,mb5.6
GUN Gumba 71.63 292⇑*i*P **P 05 58 08.7 +1.4**
comp=Z,188nm,0.5s,mb6.3
JIRN Jiri 71.64 291⇑*i*P **P 05 58 08.9 +1.5**
comp=Z,162nm,0.7s,mb6.1
KKN Kakani 72.07 292⇑*i*P **P 05 58 11.1 +1.1**
comp=Z,101nm,0.8s,mb5.8
PKI Pulchoki 72.16 292⇑*i*P **P 05 58 11.5 +1.0**
comp=Z,73nm,0.7s,mb5.7
MNK Minsk 72.25 344 *e*P **P 05 58 09.0 -2.0**
GKN Gorkha 72.28 293⇑*i*P **P 05 58 12.0 +0.7**
comp=Z,82nm,0.6s,mb5.8
DMN Daman 72.31 292⇑*i*P **P 05 58 12.6 +1.2**
comp=Z,94nm,0.8s,mb5.8
VOR Voronezh 72.39 336 *e*P **P 05 58 09.5 -2.4**
VOR pmax pmax
comp=Z,90nm,1.4s,mb5.5
VRSR Storozhevoye 72.86 336 *e*P **P 05 58 14.3 -0.4**
VRSR pmax pmax
comp=Z,60nm,1.4s,mb5.3
VRSR pmax pmax
comp=N,30nm,0.8s
VRSR pmax pmax
comp=E,20nm,1.5s
KOLN Koldanda 73.06 293⇑*i*P **P 05 58 16.8 +0.9**
comp=E,54nm,0.8s,mb5.5
PPT Papeete 73.27 150 *e*S S 06 07 24.5 -19
comp=E,2μm,28.0s
PPT *e*SS SS 06 12 07.1 -19
comp=E,231nm,23.5s
PPT *e*LR LR 06 20 23.4
comp=E,1μm,27.5s,baz=348
SUW Suwalki 73.47 346 *e*P **P 05 58 17.4 -0.9**
LGTI Lohaghat 73.70 297 *e*P **P 05 58 21.0 +1.4**
ESK Eskdalemuir 73.79 2 *e*P **P 05 58 19.6 -0.6**
ESK pmax pmax
comp=Z,15nm,0.8s,mb5.0
ESK Eskdalemuir 73.79 2 *e*P **P 05 58 19.6 -0.6**
comp=Z,15nm,0.8s,mb5.0
RGN Rugen 74.08 352 *e*P **P 05 58 22.2 +0.3**
comp=Z,77nm,0.8s,mb5.7
NIL Nilore 74.25 304 P **P 05 58 24.2 +1.3**
comp=Z,230nm,0.9s,mb6.1,SNR=6.8
BSEG Bad Segeberg 74.92 354 *e*P **P 05 58 26.6 -0.1**
comp=Z,56nm,0.9s,mb5.5
BSEG Bad Segeberg 74.92 354 *e*P **P 05 58 26.6 -0.1**
BSEG pmax pmax
comp=Z,56nm,0.9s,mb5.5
GKP Gorka Klasztor 74.97 350 *e*P **P 05 58 26.6 -0.4**
DCN Croghan 75.60 5 *e*P **P 05 58 29.2 -1.5**
AKASG Malin Array Be 75.61 342 P **P 05 58 30.3 -0.4**
comp=Z,81nm,0.6s,mb5.9,baz=19,slow=5.8,SNR=81
AKBB Malin Array Si 75.61 342 *e*P **P 05 58 30.4 -0.3**
DLF Lyons Farm 75.69 4 *e*P **P 05 58 29.6 -1.5**
NDI New Delhi 75.98 298 *e*P **P 05 58 31.5 -1.3**
RUE Ruedersdorf 76.09 352 *e*P **P 05 58 33.4 -0.1**
comp=Z,33nm,0.6s,mb5.4
KAKA Kakadu 76.20 229 *e*P **P 05 58 32.8 -1.3**
comp=Z,26nm,1.0s,mb5.1
WIT Witteveen 76.23 356 *e*P **P 05 58 35.2 +1.0**
NRDL Niedersach Rie 76.36 354 *e*P **P 05 58 35.6 +0.6**
KSM Kuching 76.66 255 *e*P **P 05 58 36.5 -0.2**
IBBN Ibbenburen 76.68 356 *e*P **P 05 58 36.8 0.0**
CLZ Clausthal 77.00 354 *e*P **P 05 58 38.5 -0.1**
comp=Z,43nm,0.8s,mb5.4
CLZ Clausthal 77.00 354 *e*P **P 05 58 38.5 -0.1**
CLZ pmax pmax
comp=Z,43nm,0.8s,mb5.4
WTSB Winterswijk 77.07 356 *e*P **P 05 58 38.9 0.0**
comp=Z,35nm,0.9s,mb5.3
CLL Collm 77.33 352⇑*i*P **P 05 58 39.8 -0.6**
comp=Z,20nm,0.8s,mb5.1
CLL *e*sP sP 05 58 56.3 +4.0
CLL *e*PP PP 06 01 31.7 -3.0
CLL *e*S S 06 08 31.0 +2.2
CLL *e*PPS 06 09 27.3
CLL *e*(SS) 06 13 59.1
CLL *e*SSSS 06 19 28.6
CLL *e*LR LR 06 24 11.0
CLL *e*L 06 40 52.6
comp=Z,645nm,18.0s
CLL Collm 77.33 352⇑P **P 05 58 39.9 -0.5**
comp=Z,logA/T=1.4,mb5.1
CLL *e* 05 58 56.0
CLL *e*PP PP 06 01 30.0 -4.7
CLL *e*S S 06 08 39.0 +10
CLL *e*PPS 06 09 20.0
CLL *e*SS SS 06 13 36.0 +8.8
CLL *e* 06 19 12.0
CLL Collm 77.33 352⇑*i*P **P 05 58 39.9 -0.5**
comp=Z,20nm,0.8s,mb5.1
CLL *ex* x 05 58 56.0
CLL *e*PP PP 06 01 30.0 -4.7
CLL *e*S S 06 08 39.0 +10
CLL *e*PPS 06 09 20.0
CLL *e*SS SS 06 13 36.0 +8.8
CLL *ex* x 06 18 24.0
CLL *e*SSSS 06 19 12.0
CLL Collm 77.33 352⇑*i*P **P 05 58 39.9 -0.5**
CLL *e**PP pP 05 58 56.0 +6.8
CLL *e*S S 06 08 39.0 +10
CLL pmax pmax
comp=Z,20nm,0.8s,mb5.1
CLL MLR MLR
comp=Z,600nm,19.0s,MS4.9
CLL Collm 77.33 352⇑*i*P **P 05 58 39.9 -0.5**
comp=Z,20nm,0.8s,mb5.1
CLL *e*pP pP 05 58 56.0 +6.8
CLL *e*S S 06 08 39.0 +10
CLL LR LR
comp=Z,600nm,19.0s,MS4.9
GOF Gofitskoye 77.36 331 *e*P **P 05 58 40.9 +0.3**
GOF pmax pmax
comp=Z,130nm,1.3s,mb5.7
LVV L'vov 77.40 345 *i* P **P 05 58 40.8 0.0**
LVV *e* 06 01 32.0
LVV *e*S S 06 08 25.6 -4.0
KSP Ksiaz 77.46 350 *e*P **P 05 58 40.9 -0.3**
KSP Ksiaz 77.46 350⇑*e*P **P 05 58 40.8 -0.4**
KSP LR LR
comp=Z,2μm,19.9s,MS5.4
BUG Bochum--Univer 77.57 356 *e*P **P 05 58 41.3 -0.5**
comp=Z,28nm,0.9s,mb5.2
OJC Ojcow 77.64 348 *i* P **P 05 58 42.1 -0.1**
BRG Berggiesshubel 77.67 351 *e*P **P 05 58 41.8 -0.6**
comp=Z,77nm,1.9s,mb5.3
BRG Berggiesshubel 77.67 351⇑*i*P **P 05 58 41.9 -0.5**
comp=Z,12nm,0.8s,mb4.8
BRG *e* 05 58 47.9
comp=Z,10nm,1.1s
BRG S S 06 09 06.0 +33
BRG SS SS 06 13 50.0 +18
BRG
comp=N,219nm,18.6s
BRG
comp=E,168nm,16.9s
BRG
comp=Z,312nm,19.5s
BRG Berggiesshubel 77.67 351⇑*i*P **P 05 58 41.9 -0.5**
BRG *e* 05 58 47.8
BRG S S 06 09 06.0 +33
BRG pmax pmax
comp=Z,12nm,0.8s,mb4.9
BRG pmax pmax
comp=Z,11nm,1.1s,mb4.7
BRG MLR MLR
comp=N,219nm,18.6s,MS4.6
BRG MLR MLR
comp=E,168nm,16.9s,MS4.6
BRG MLR MLR
comp=Z,312nm,19.5s,MS4.6
BRG Berggiesshubel 77.67 351⇑*i*P **P 05 58 41.9 -0.5**
comp=Z,12nm,0.8s,mb4.9
BRG *e* 05 58 47.9
BRG S S 06 09 06.0 +33
BRG SS SS 06 13 50.0 +18
BRG LR LR
comp=Z,310nm,19.5s,MS4.6
KWP Kalwaria 77.79 346 *e*P **P 05 58 43.7 +0.7**
UPC Upice 77.82 350⇑*i*P **P 05 58 42.8 -0.4**
DPC Dobruska-Polom 77.94 350⇑*i*P **P 05 58 43.9 0.0**
DPC AMS AMS 06 37 40.0
comp=Z,900nm,19.6s
PVCC Panska Ves 77.95 351⇑*i*P **P 05 58 43.7 -0.2**
PVCC AMS AMS 06 39 10.0
UBBA Unterbreizbach 78.04 354 *e*P **P 05 58 44.3 -0.1**
MOX Moxa 78.10 353 *e*P **P 05 58 44.3 -0.4**
comp=Z,26nm,1.0s,mb5.1
MOX Moxa 78.10 353 *e*P **P 05 58 44.4 -0.3**
comp=Z,26nm,1.5s,mb4.9
MOX
comp=Z,800nm,21.0s
MOX Moxa 78.10 353 *e*P **P 05 58 44.4 -0.3**
MOX pmax pmax
comp=Z,26nm,1.5s,mb4.9
MOX MLR MLR
comp=Z,800nm,21.0s,MS5.0
OKC Ostrava-Krasne 78.23 349⇑*i*P **P 05 58 45.4 -0.1**
OKC AMS AMS 06 38 50.0
comp=Z,700nm,18.7s
TANN Tannenbergstha 78.26 352 *e*P **P 05 58 45.3 -0.3**
BEBN Eben Emael 78.28 357 P **P 05 58 45.6 -0.1**
HGN Heimansgroeve 78.30 357 *e*P **P 05 58 45.7 -0.1**
comp=Z,56nm,1.2s,mb5.4
UCC Uccle 78.32 358 P **P 05 58 44.5 -1.4**
NIE Niedzica 78.36 347 *i* P **P 05 58 46.6 +0.4**
MORC Moravsky Berou 78.37 349⇑*i*P **P 05 58 46.1 -0.1**
MORC Moravsky Berou 78.37 349 P **P 05 58 46.5 +0.3**
NKC Novy Kostel 78.44 352⇑*i*P **P 05 58 46.5 -0.1**
MEM Membach 78.46 357 P **P 05 58 46.6 -0.1**
comp=Z,20nm,1.2s,mb4.9
KIV Kislovodsk 78.46 330 P **P 05 58 47.6 +0.9**
SNR=5.6
KIV Kislovodsk 78.46 330 *e*P **P 05 58 47.1 +0.4**
KIV pmax pmax
comp=Z,31nm,1.2s,mb5.1
KIV MLR MLR
comp=Z,696nm,18.0s,MS5.0
KIV Kislovodsk 78.46 330 *e*P **P 05 58 47.2 +0.4**
comp=Z,32nm,1.1s,mb5.2
PRU Pruhonice 78.49 351⇑*i*P **P 05 58 46.4 -0.5**
PRU AMS AMS 06 39 30.0
comp=Z,500nm,21.0s
KOLS Kolonicke sedl 78.54 346 *e*P **P 05 58 47.5 +0.3**
KOLS *e* pP 05 58 54.4 -1.5
KOLS pmax pmax
comp=Z,23nm,0.7s,mb5.2
KOLS Kolonicke sedl 78.54 346 *e*P **P 05 58 47.5 +0.3**
comp=Z,23nm,0.7s,mb5.2
KOLS *e* pP 05 58 54.4 -1.5
MENF Mencas 78.60 359 *e*P **P 05 58 47.5 0.0**
SNF Seneffe 78.61 358 P **P 05 58 47.3 -0.3**
comp=Z,10.0nm,0.9s,mb4.8
BCLA Clavier 78.67 357 P **P 05 58 47.7 -0.2**
comp=Z,16nm,0.8s,mb5.0
CRVS Cervenica-Dubn 78.69 346 *e*P **P 05 58 48.1 +0.1**
CRVS pmax pmax
comp=Z,14nm,0.8s,mb4.9
CRVS Cervenica-Dubn 78.69 346 *e*P **P 05 58 48.1 +0.1**
comp=Z,14nm,0.8s,mb5.0
MANZ Manzenberg 78.71 353 *e*P **P 05 58 47.8 -0.3**
TNS Taunus Mts 78.73 355 *e*P **P 05 58 48.2 0.0**
TBI Tubuai 78.75 152 *e*S S 06 08 24.8 -19
comp=Z,695nm,34.0s
TBI *e*LR LR 06 22 48.0
comp=Z,1μm,23.2s,baz=340
LIKS Likavka 78.88 348 *e*P **P 05 58 50.1 +1.0**
LIKS pmax pmax
comp=Z,30nm,0.7s,mb5.3
LIKS Likavka 78.88 348 *e*P **P 05 58 50.1 +1.0**
comp=Z,30nm,0.7s,mb5.3
ROTZ Rotzenmuhle 78.92 352 *e*P **P 05 58 49.1 -0.2**
VRAC Vranov 78.94 349‖*i*P **P 05 58 49.5 +0.1**
VRAC Vranov 78.94 349 P **P 05 58 49.7 +0.3**
GIVF Givet 79.00 357 *e*P **P 05 58 49.5 -0.2**
comp=Z,53nm,1.0s,mb5.1
GIVF Givet 79.00 357 *e*P **P 05 58 49.5 -0.2**
GIVF pmax pmax
comp=Z,26nm,1.0s,mb5.1
GIVF Givet 79.00 357 *e*P **P 05 58 49.5 -0.2**
comp=Z,26nm,1.0s,mb5.1
DOU Dourbes 79.02 357 P **P 05 58 48.7 -1.1**
comp=Z,13nm,0.9s,mb4.8
BAIF Baives 79.06 358 *e*P **P 05 58 50.2 +0.2**
comp=Z,79nm,0.9s,mb5.3
BAIF Baives 79.06 358 *e*P **P 05 58 50.2 +0.2**
BAIF pmax pmax
comp=Z,40nm,0.9s,mb5.3
BAIF Baives 79.06 358 *e*P **P 05 58 50.2 +0.2**
comp=Z,40nm,0.9s,mb5.3
GRA1 Grafenberg Arr 79.07 353 *e*P **P 05 58 50.0 -0.1**
comp=Z,46nm,0.9s,mb5.4
GRA1 *e*S S 06 08 43.1 -4.5
GRA1 *e*SS SS 06 13 54.0 +0.4
GRA1 LR LR
comp=Z,500nm,19.3s,MS4.9
GRF Grafenberg Arr 79.07 353 *e*P **P 05 58 50.0 -0.1**
comp=Z,46nm,0.9s,mb5.4
GRF *e*S S 06 08 43.1 -4.5
GRF *e*SS SS 06 13 54.0 +0.4
GRF *e*L 06 41 24.9
comp=Z,497nm,19.3s
GRF Grafenberg Arr 79.07 353 *e*P **P 05 58 50.0 -0.1**
GRF *e*S S 06 08 43.1 -4.5
GRF *e*SS SS 06 13 54.0 +0.4
GRF pmax pmax
comp=Z,46nm,0.9s,mb5.4
GRF MLR MLR
comp=Z,500nm,19.3s,MS4.9
TREC Trest 79.08 350⇑*i*P **P 05 58 49.8 -0.3**
TREC AMS AMS 06 40 40.0
comp=Z,900nm,16.6s
ABH Alteburg 79.11 355 *e*P **P 05 58 50.1 -0.2**
ZEI Tsey 79.14 329 *e*P **P 05 58 50.5 0.0**
ZEI *e* 06 01 47.9
ZEI pmax pmax
comp=Z,40nm,1.0s,mb5.3
ANN Anapa 79.22 334 *e*P **P 05 58 49.8 -1.1**
ANN *e* pP 05 58 57.7 -2.0
ANN *i* *PP pP 05 59 01.9 +2.2
ANN *e* 06 01 50.1
ANN *e*PPP 06 03 37.6
ANN *e*S S 06 08 46.8 -2.3
ANN *e*SS SS 06 13 53.1 -2.7
ANN *e*SSS 06 17 19.9
ANN pmax pmax
comp=Z,63nm,0.9s,mb5.5
KIS Kishinev 79.22 341 *e*P **P 05 58 48.0 -2.9**
KIS *e* 06 08 50.0
KIS MLR MLR
comp=N,1μm,16.0s,MS5.3
KIS MLR MLR
comp=Z,2μm,16.0s,MS5.5
KIS MLR MLR
comp=E,500nm,18.0s,MS5.3
KIS MLR MLR
comp=Z,2μm,16.0s
KECS Kecovo 79.25 347 *e*P **P 05 58 51.2 +0.1**
RUP Ruppelstein 79.32 356 *e*P **P 05 58 51.2 -0.2**

TOD **Tromm** 79.32 355 *e*P P 05 58 51.4 -0.1
BURAR **Bucovina Array** 79.33 343⇑*i*P P 05 58 52.0 +0.5
BURAR **Bucovina Array** 79.33 343 ⇑P P 05 58 52.0 +0.6
WLF **Walferdange** 79.39 356 *e*P P 05 58 52.2 +0.3
WLF **Walferdange** 79.39 356 P P 05 58 52.1 +0.3
comp=Z,14nm,0.9s,mb4.9
WLF **Walferdange** 79.39 356 *e*P P 05 58 52.3 +0.4
WLF pmax pmax
comp=Z,23nm,0.9s,mb5.1
WLF **Walferdange** 79.39 356 *e*P P 05 58 52.1 +0.3
comp=Z,23nm,0.8s,mb5.2
KHC **Kasperske Hory** 79.43 351⇑*i*P P 05 58 52.2 +0.1
KHC AMS AMS 06 44 30.0
comp=Z,500nm,16.9s
VYHS **Vyhne** 79.47 348 *e*P P 05 58 52.4 +0.2
VYHS pmax pmax
comp=Z,13nm,1.0s,mb4.8
VYHS **Vyhne** 79.47 348 *e*P P 05 58 52.4 +0.2
comp=Z,13nm,1.0s,mb4.8
WET **Wettzell** 79.48 352 *e*P P 05 58 52.2 -0.1
comp=Z,13nm,1.0s,mb4.8
WET **Wettzell** 79.48 352 *e*P P 05 58 52.2 -0.1
WET pmax pmax
comp=Z,13nm,1.0s,mb4.8
KULM **Kulm** 79.67 266 *e*P P 05 58 52.6 -0.8
GEC2 **GERESS Array S** 79.70 351 *e*P P 05 58 53.2 -0.3
comp=Z,14nm,0.8s,mb4.9
GEC2 **GERESS Array S** 79.70 351 *e*P P 05 58 53.2 -0.3
GEC2 pmax pmax
comp=Z,14nm,0.8s,mb4.9
GERES **GERESS Array B** 79.70 351 P P 05 58 53.3 -0.2
comp=Z,7.7nm,0.6s,mb4.8,baz=25,slow=5.1,SNR=80
PSZ **Piszkesteto** 79.88 347⇑*i*P P 05 58 55.4 +0.9
PSZ **Piszkesteto** 79.88 347 *e*P P 05 58 55.3 +0.8
PSZ pmax pmax
comp=Z,34nm,1.1s,mb5.2
PSZ **Piszkesteto** 79.88 347 *e*P P 05 58 55.1 +0.6
comp=Z,34nm,1.1s,mb5.2
ZST **Bratislava** 79.98 349 *e*P P 05 58 55.8 +0.8
comp=Z,24nm,0.8s,mb5.2
ZST LR LR
comp=Z,300nm,19.2s,MS4.7
STU **Stuttgart** 80.13 354 *e*P P 05 58 55.6 -0.2
STU **Stuttgart** 80.13 354 *e*P P 05 58 55.7 -0.1
STU pmax pmax
comp=Z,26nm,0.9s,mb5.2
STU **Stuttgart** 80.13 354 *e*P P 05 58 55.7 -0.1
comp=Z,26nm,0.9s,mb5.2
SRO **Srobarova** 80.20 348 *e*P P 05 58 56.8 +0.6
SRO pmax pmax
comp=Z,27nm,0.8s,mb5.2
SRO **Srobarova** 80.20 348 *e*P P 05 58 56.8 +0.6
comp=Z,27nm,0.8s,mb5.2
SRO2 **Moca** 80.24 348 *e*P P 05 58 56.7 +0.3
SRO2 pmax pmax
comp=Z,28nm,0.7s,mb5.3
CONA **Conrad Observa** 80.39 350 *i*P P 05 58 57.8 +0.5
comp=Z,74nm,2.1s,mb5.2,SNR=28
FLN **La Foliniere** 80.40 1 *e*P P 05 58 56.5 -0.8
comp=Z,83nm,1.0s,mb5.3
FLN *e*R
comp=Z,661nm,19.5s
FLN **La Foliniere** 80.40 1 *e*P P 05 58 56.5 -0.8
FLN pmax pmax
comp=Z,42nm,1.0s,mb5.3
FLN MLR MLR
comp=Z,660nm,19.5s,MS5.0
FLN **La Foliniere** 80.40 1 *e*P P 05 58 56.5 -0.8
comp=Z,42nm,1.0s,mb5.3
FLN LR LR
comp=Z,660nm,19.5s,MS5.0
BUD **Budapest** 80.43 348⇑*i*P P 05 58 58.4 +0.9
DRGR 80.55 345⇑*i*P P 05 58 58.5 +0.4
DRGR 80.55 345 ⇑P P 05 58 58.6 +0.5
DRGR 80.55 345 P P 05 58 58.7 +0.5
LDF **La Druitiere** 80.57 1 *e*P P 05 58 57.6 -0.6
comp=Z,65nm,0.8s,mb5.3
LDF **La Druitiere** 80.57 1 *e*P P 05 58 57.6 -0.6
LDF pmax pmax
comp=Z,33nm,0.8s,mb5.3
LDF **La Druitiere** 80.57 1 *e*P P 05 58 57.6 -0.6
comp=Z,32nm,0.8s,mb5.3
FUR **Furstenfeldbru** 80.59 353 *e*P P 05 58 58.3 0.0
comp=Z,34nm,1.0s,mb5.2
FUR **Furstenfeldbru** 80.59 353 *e*P P 05 58 58.3 0.0
FUR pmax pmax
comp=Z,34nm,1.0s,mb5.2
CDF **Champ du Feu** 80.59 356 *e*P P 05 58 58.1 -0.2
comp=Z,24nm,0.8s,mb4.9
CDF **Champ du Feu** 80.59 356 *e*P P 05 58 58.1 -0.2
CDF pmax pmax
comp=Z,12nm,0.8s,mb4.9
CDF **Champ du Feu** 80.59 356 *e*P P 05 58 58.1 -0.2
comp=Z,12nm,0.8s,mb4.9
MEZF **Maizieres J'vi** 80.59 357 *e*P P 05 58 58.3 0.0
comp=Z,63nm,1.0s,mb5.2
MEZF **Maizieres J'vi** 80.59 357 *e*P P 05 58 58.3 0.0
comp=Z,63nm,1.0s,mb5.5
BFO **Black Forest** 80.62 355 *e*P P 05 58 58.2 -0.3
comp=Z,67nm,2.0s,mb5.2
BFO **Black Forest** 80.62 355 *e*P P 05 58 58.2 -0.3
BFO pmax pmax
comp=Z,67nm,2.0s,mb5.2
MOA **Molln** 80.63 351⇑*i*P P 05 58 58.4 -0.2
comp=Z,7.3nm,0.9s,mb4.6,SNR=9.1
VRI **Vrincioaia** 80.72 342⇑*i*P P 05 58 59.4 +0.4
VRI **Vrincioaia** 80.72 342 P P 05 58 60.0 +0.9
PLOR **Plostina** 80.75 342⇑*i*P P 05 58 59.6 +0.4
GRR **Gorron** 80.77 1 *e*P P 05 58 58.6 -0.7
comp=Z,195nm,1.3s,mb5.6
GRR **Gorron** 80.77 1 *e*P P 05 58 58.6 -0.7
GRR pmax pmax
comp=Z,98nm,1.3s,mb5.6
GRR **Gorron** 80.77 1 *e*P P 05 58 58.6 -0.7
comp=Z,98nm,1.3s,mb5.6
ROSF **Rostrenen** 80.77 3 *e*P P 05 58 59.1 -0.2
ECH **Echery** 80.80 356 *e*P P 05 58 59.2 -0.2
SPAK **Spaichingen-Ko** 80.82 355 *e*P P 05 58 59.2 -0.4
THEF **They Montfort** 80.84 356 *e*P P 05 58 59.9 +0.3
SGMF **Saint Gilles** 80.87 2 *e*P P 05 58 59.6 -0.2
comp=Z,49nm,0.8s,mb5.2
SGMF **Saint Gilles** 80.87 2 *e*P P 05 58 59.6 -0.2
SGMF pmax pmax
comp=Z,24nm,0.8s,mb5.2
SGMF **Saint Gilles** 80.87 2 *e*P P 05 58 59.6 -0.2
comp=Z,24nm,0.8s,mb5.2
HAU **Haudompre** 81.04 356 *e*P P 05 59 00.4 -0.3
comp=Z,37nm,1.0s,mb5.0
HAU *e*R
comp=Z,666nm,22.0s
HAU **Haudompre** 81.04 356 *e*P P 05 59 00.4 -0.3
HAU pmax pmax
comp=Z,18nm,1.0s,mb5.0
HAU MLR MLR
comp=Z,670nm,22.0s,MS5.0
HAU **Haudompre** 81.04 356 *e*P P 05 59 00.4 -0.3
comp=Z,18nm,1.0s,mb5.0
HAU LR LR
comp=Z,670nm,22.0s,MS5.0
PKS8 **Sarbogard** 81.07 348⇓*i*P P 05 59 01.6 +0.7
ARSA **Arzberg** 81.09 350 *i*P P 05 59 01.5 +0.5
comp=Z,113nm,2.3s,mb5.4,SNR=18
FELD **Feldberg im Sc** 81.09 355 *e*P P 05 59 00.7 -0.3
CFR **Carcaliu** 81.10 341⇓*i*P P 05 59 01.1 +0.1
CFR **Carcaliu** 81.10 341 ⇓P P 05 59 01.1 +0.1
MOF **Molkenrain** 81.16 356 *e*P P 05 59 01.2 -0.2
QUIF **Quistinic** 81.19 3 *e*P P 05 59 01.2 -0.3
GNI **Garni** 81.22 327 *e*P P 05 59 02.3 +0.6
GNI pmax pmax
comp=Z,11nm,0.8s
GNI **Garni** 81.22 327 *e*P P 05 59 02.3 +0.7
comp=Z,11nm,0.8s,mb4.8
MLR **Muntele Rosu** 81.24 342⇑*i*P P 05 59 02.3 +0.5
MLR **Muntele Rosu** 81.24 342 P P 05 59 02.4 +0.7
WATA **Walderalm** 81.39 353⇑*i*P P 05 59 02.7 +0.1
comp=Z,20nm,1.0s,mb5.0,SNR=8.3
WATA **Walderalm** 81.39 353⇑*i*P P 05 59 02.7 +0.1
WATA pmax pmax
comp=Z,20nm,1.0s,mb5.0
MOTA **Moosalm** 81.42 353⇑*i*P P 05 59 02.8 0.0
comp=Z,52nm,1.5s,mb5.2,SNR=8.7
MOTA **Moosalm** 81.42 353⇑*i*P P 05 59 02.8 +0.1
MOTA pmax pmax
comp=Z,52nm,1.5s,mb5.2
WTTA **Wattenberg** 81.45 352 *i*P P 05 59 03.4 +0.5
comp=Z,149nm,2.0s,mb5.6,SNR=24

WTTA **Wattenberg** 81.45 352 *i*P P 05 59 03.4 +0.5
WTTA pmax pmax
comp=Z,149nm,2.0s,mb5.6
KBA **Koelnbreinsper** 81.49 351 *i*P P 05 59 03.9 +0.9
comp=Z,67nm,0.9s,mb5.5,SNR=83
KBA **Koelnbreinsper** 81.49 351 *i*P P 05 59 04.0 +0.9
KBA pmax pmax
comp=Z,67nm,0.9s,mb5.6
BBS **Basel-Blauen** 81.53 355 *e*P P 05 59 02.9 -0.4
SQTA **Sankt Quirin** 81.53 353⇑*i*P P 05 59 03.7 +0.4
comp=Z,103nm,1.9s,mb5.4,SNR=12
SQTA **Sankt Quirin** 81.53 353⇑*i*P P 05 59 03.7 +0.4
SQTA pmax pmax
comp=Z,103nm,1.9s,mb5.4
DAVA **Damuels** 81.56 354⇑*i*P P 05 59 03.7 +0.2
comp=Z,60nm,2.2s,mb5.1
HARR **Harsova** 81.61 341⇓*i*P P 05 59 04.4 +0.7
HARR **Harsova** 81.61 341 ⇓P P 05 59 04.4 +0.6
MTUR **Matau** 81.66 343 P P 05 59 05.8 +1.8
WRAB **Tennant Creek** 81.67 223 *e*P P 05 59 03.1 -0.9
WRAB **Tennant Creek** 81.67 223 *e*P P 05 59 01.6 -2.5
comp=Z,27nm,1.2s,mb5.0
WB2 **Warramunga Arr** 81.67 223 *e*P P 05 59 01.7 -2.4
LOMF **Lomont** 81.68 356 *e*P P 05 59 04.4 +0.3
PKSM **Moragy** 81.73 348⇓*i*P P 05 59 04.1 -0.3
PKSM **Moragy** 81.73 348 P P 05 59 04.1 -0.3
PERS **Pernice** 81.74 350⇑*e*P P 05 59 04.7 +0.3
LOR **Lormes** 81.86 358 *e*P P 05 59 04.6 -0.5
comp=Z,29nm,1.0s,mb4.9
LOR *e*R
comp=Z,755nm,20.8s
LOR **Lormes** 81.86 358 *e*P P 05 59 04.6 -0.5
LOR pmax pmax
comp=Z,15nm,1.0s,mb4.9
LOR MLR MLR
comp=Z,750nm,20.8s,MS5.0
LOR **Lormes** 81.86 358 *e*P P 05 59 04.6 -0.5
comp=Z,15nm,1.0s,mb4.9
LOR LR LR
comp=Z,750nm,20.8s,MS5.0
BZS **Buzias** 81.87 345⇑*i*P P 05 59 05.2 +0.1
BZS **Buzias** 81.87 345 ⇑P P 05 59 05.2 +0.1
GROS **Grobnik** 81.87 350 *e*P P 05 59 05.2 +0.1
HYF **Humbligny** 81.89 359 *e*P P 05 59 05.3 +0.1
GZR **Gura Zlata** 81.90 344⇑*i*P P 05 59 06.3 +1.0
GZR **Gura Zlata** 81.90 344 ⇑P P 05 59 06.3 +1.0
SEST **Monte Rota** 81.92 352 P P 05 59 05.2 -0.2
OBKA **Obir** 81.93 350⇑*i*P P 05 59 05.6 +0.1
comp=Z,121nm,2.2s,mb5.4,SNR=18
FVI **Forni Avoltri** 82.02 352 P P 05 59 06.2 +0.3
FVI pmax pmax
comp=Z,47nm,1.6s,mb5.2
FVI **Forni Avoltri** 82.02 352 P P 05 59 06.2 +0.3
comp=Z,47nm,1.6s,mb5.2
SSF **Saint Saulge** 82.08 358 *e*P P 05 59 06.0 -0.2
comp=Z,38nm,1.0s,mb5.0
SSF **Saint Saulge** 82.08 358 *e*P P 05 59 06.0 -0.2
SSF pmax pmax
comp=Z,19nm,1.0s,mb5.0
SSF **Saint Saulge** 82.08 358 *e*P P 05 59 06.0 -0.2
comp=Z,19nm,1.0s,mb5.0
PTCC **Patocco-Chiusa** 82.15 351 P P 05 59 06.0 -0.6
comp=Z,8.8nm,0.6s,mb4.9
CADS **Cadrg** 82.29 351⇑*e*P P 05 59 06.5 -0.9
GMNA **Gemona** 82.29 351 P P 05 59 06.6 -0.7
comp=Z,104nm,0.7s,mb5.9
BRMO **Bormio** 82.33 353 P P 05 59 08.2 +0.6
TUE **Stuetta** 82.41 354 P P 05 59 08.4 +0.5
CABF **La Chapelle** 82.45 356 *e*P P 05 59 07.7 -0.4
comp=Z,51nm,1.2s,mb5.0
CABF **La Chapelle** 82.45 356 *e*P P 05 59 07.7 -0.4
CABF pmax pmax
comp=Z,25nm,1.2s,mb5.0
CABF **La Chapelle** 82.45 356 *e*P P 05 59 07.7 -0.4
comp=Z,25nm,1.2s,mb5.0
SMF **Signal de Mont** 82.48 358 *e*P P 05 59 08.0 -0.3
comp=Z,49nm,1.0s,mb5.1
SMF **Signal de Mont** 82.48 358 *e*P P 05 59 08.0 -0.3
SMF pmax pmax
comp=Z,25nm,1.0s,mb5.1
SMF **Signal de Mont** 82.48 358 *e*P P 05 59 08.0 -0.3
comp=Z,25nm,1.0s,mb5.1
CRES **Cresnjev** 82.51 350⇑*e*P P 05 59 08.1 -0.3
ERZM **Erzurum** 82.55 330 *i*P P 05 59 09.4 +0.8
GRSN **GIRESUNGRSN** 82.56 332 *i*P P 05 59 08.6 -0.2
MFF **Saint Martin d** 82.56 1 *e*P P 05 59 08.1 -0.6
comp=Z,33nm,0.8s,mb5.1
MFF **Saint Martin d** 82.56 1 *e*P P 05 59 08.1 -0.6
MFF pmax pmax
comp=Z,17nm,0.8s,mb5.1
MFF **Saint Martin d** 82.56 1 *e*P P 05 59 08.1 -0.6
comp=Z,16nm,0.8s,mb5.1
BGF **Bois d'Agland** 82.59 359 *e*P P 05 59 08.3 -0.6
comp=Z,55nm,1.2s,mb5.2
BGF **Bois d'Agland** 82.59 359 *e*P P 05 59 08.3 -0.6
BGF pmax pmax
comp=Z,28nm,1.2s,mb5.2
BGF **Bois d'Agland** 82.59 359 *e*P P 05 59 08.3 -0.6
comp=Z,28nm,1.2s,mb5.2
CTI **Castel Tesino** 82.66 352 P P 05 59 08.8 -0.4
CTI pmax pmax
comp=Z,12nm,0.6s,mb5.1
CTI **Castel Tesino** 82.66 352 P P 05 59 08.8 -0.4
comp=Z,12nm,0.6s,mb5.1
MABI **Malga Bissina** 82.74 353 P P 05 59 09.2 -0.5
BEO **Belgrade** 82.83 346⇓*i*P P 05 59 10.5 +0.4
TCF **Toulx Ste Croi** 82.87 359 *e*P P 05 59 10.1 -0.2
comp=Z,35nm,1.0s,mb5.0
TCF **Toulx Ste Croi** 82.87 359 *e*P P 05 59 10.1 -0.2
TCF pmax pmax
comp=Z,18nm,1.0s,mb5.1
TCF **Toulx Ste Croi** 82.87 359 *e*P P 05 59 10.1 -0.2
comp=Z,18nm,1.0s,mb5.0
MCGN **Macugnaga** 83.01 355 P P 05 59 11.9 +0.9
comp=Z,9.9nm,0.7s,mb5.0
BOYT **Boyabat** 83.04 335 *i*P P 05 59 12.5 +1.3
AGO **Saint Agoulin** 83.09 358 *e*P P 05 59 12.0 +0.5
PLDF **La Plantade** 83.17 358 *e*P P 05 59 12.3 +0.4
SVIS **Svilajnac** 83.22 345⇓*i*P P 05 59 11.9 -0.2
BALT **Daday** 83.33 336 *i*P P 05 59 12.9 +0.1
BNGL **BINGOL** 83.48 329 *i*P P 05 59 14.7 +1.2
LPL **La Plagne** 83.51 356 *e*P P 05 59 13.7 +0.1
LPG **La Plagne** 83.53 356 *e*P P 05 59 14.0 +0.3
BOLS **Boljevac** 83.56 345⇓*i*P P 05 59 14.1 +0.2
DIVS **Divcibare** 83.61 346 *i*P P 05 59 14.6 +0.4
RKT **Rikitea** 83.64 140 *e*LR LR 06 25 09.2
comp=Z,760nm,28.0s
GRUS **Gruza** 83.70 346 *i*P P 05 59 14.8 +0.1
CTKT **Corum** 83.82 335 *i*P P 05 59 15.9 +0.7
RJF **Les Rejaudoux** 83.86 359 *e*P P 05 59 15.1 -0.3
comp=Z,44nm,1.1s,mb5.2
RJF *e*R
comp=Z,835nm,20.8s
RJF **Les Rejaudoux** 83.86 359 *e*P P 05 59 15.1 -0.3
RJF pmax pmax
comp=Z,22nm,1.1s,mb5.2
RJF MLR MLR
comp=Z,830nm,20.8s,MS5.1
RJF **Les Rejaudoux** 83.86 359 *e*P P 05 59 15.1 -0.3
comp=Z,22nm,1.1s,mb5.2
RJF LR LR
comp=Z,830nm,20.8s,MS5.1
LBL **Lubilhac** 83.91 358 *e*P P 05 59 15.5 -0.2
BBLS **Bajina Basta -** 83.92 347 *i*P P 05 59 17.7 +2.0
BNI **Bardonecchia** 83.98 356 *e*P P 05 59 16.4 +0.4
BNI pmax pmax
comp=Z,15nm,0.7s,mb5.2
BNI **Bardonecchia** 83.98 356 *e*P P 05 59 16.4 +0.3
comp=Z,15nm,0.7s,mb5.2
HYB **Hyderabad** 83.98 290 *i*P P 05 59 19.0 +2.9
HYB **Hyderabad** 83.98 290 *e*P P 05 59 15.5 -0.6
JMB **Yambol** 84.02 341 *e*P P 05 59 16.0 -0.2
BOB **Bobbio (Coli)** 84.10 354 P P 05 59 16.3 -0.4
FITZ **Fitzroy Crossi** 84.12 232 *e*P P 05 59 15.6 -1.2
comp=Z,366nm,1.3s,mb5.3
FITZ **Fitzroy Crossi** 84.12 232 P P 05 59 15.9 -0.9
comp=Z,15nm,0.7s,mb5.2,baz=38,slow=4.0,SNR=33
ORIF **Oris-en-Rattie** 84.14 356 *e*P P 05 59 16.7 -0.2
ORIF *e*R
comp=Z,495nm,20.2s
LFF **La Frestale** 84.23 360 *e*P P 05 59 16.9 -0.4
comp=Z,75nm,1.0s,mb5.5
LFF **La Frestale** 84.23 360 *e*P P 05 59 16.9 -0.4
LFF pmax pmax
comp=Z,38nm,1.0s,mb5.5

LFF **La Frestale** 84.23 360 *e*P P 05 59 16.9 -0.4
comp=Z,38nm,1.0s,mb5.5
CAF **Calviac** 84.23 359 *e*P P 05 59 16.8 -0.5
VIVF **Saint-Julien-l** 84.25 357 *e*P P 05 59 16.9 -0.5
comp=Z,62nm,1.4s,mb5.3
VIVF **Saint-Julien-l** 84.25 357 *e*P P 05 59 16.9 -0.5
VIVF pmax pmax
comp=Z,31nm,1.4s,mb5.2
VIVF **Saint-Julien-l** 84.25 357 *e*P P 05 59 16.9 -0.5
comp=Z,31nm,1.4s,mb5.2
ELDT **Eldivan** 84.31 336 *i*P P 05 59 18.4 +0.7
ERBM **Eremo** 84.38 353 P P 05 59 18.9 +0.8
comp=Z,18nm,0.8s,mb5.2
ZCCA **Zocca** 84.40 353 P P 05 59 19.7 +1.5
BEST **Besiri** 84.41 329 *i*P P 05 59 19.3 +1.1
GSCL **Gusciola** 84.43 353 P P 05 59 19.9 +1.6
comp=Z,26nm,1.0s,mb5.3
VTS **Vitosha** 84.54 344 *e*P P 05 59 19.0 +0.1
VTS **Vitosha** 84.54 344⇑*i*P P 05 59 19.0 +0.1
FNVD **Fontana Vidola** 84.57 352 P P 05 59 19.5 +0.5
SGKT **Sivrigoynuk** 84.58 337 *i*P P 05 59 19.9 +0.9
ELZG **Elazig** 84.58 331 *i*P P 05 59 20.4 +1.4
HENT **Hendek** 84.62 337 *i*P P 05 59 19.6 +0.3
VLC **Villacollemand** 84.64 353 *e*P P 05 59 19.8 +0.4
comp=Z,15nm,0.8s,mb5.2
SEI **Scarperia** 84.67 352 P P 05 59 21.2 +1.7
comp=Z,271nm,1.0s,mb6.3
OG25 **Le Caire** 84.69 356 *e*P P 05 59 17.0 -2.6
VMG **Vicchio** 84.74 352 P P 05 59 21.2 +1.3
comp=Z,66nm,0.6s,mb5.9
SFI **Santa Sofia** 84.77 352 P P 05 59 20.9 +0.8
SFI pmax pmax
comp=Z,46nm,1.0s,mb5.6
SFI **Santa Sofia** 84.77 352 P P 05 59 20.9 +0.8
comp=Z,46nm,1.0s,mb5.6
CDAG **Cicekdag** 84.87 335 *i*P P 05 59 20.7 +0.1
FSSB **Fossombrone** 84.90 351 P P 05 59 21.1 +0.4
comp=Z,271nm,2.1s,mb6.0
MALT **Malatya** 84.92 331⇑*i*P P 05 59 21.9 +1.1
MALT **Malatya** 84.92 331 *e*P P 05 59 21.1 +0.3
MALT pmax pmax
comp=Z,40nm,1.3s,mb5.4
MALT **Malatya** 84.92 331 *e*P P 05 59 21.1 +0.3
comp=Z,40nm,1.3s,mb5.4
BRTR **Keskin Array B** 84.97 335 P P 05 59 21.2 +0.2
comp=Z,12nm,0.7s,mb5.2,baz=50,slow=2.7,SNR=55
TOUF **Mont Tournerai** 84.98 355 *e*P P 05 59 21.6 +0.5
AUTN **L'Aution** 84.99 355 *e*P P 05 59 21.4 +0.2
SAOF **Saorge** 85.00 355 *e*P P 05 59 20.9 -0.3
KDZ **Kurdzhali** 85.04 342 *e*P P 05 59 22.0 +0.6
CRE **Caprese Michel** 85.04 352 P P 05 59 21.9 +0.5
CRE pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
CRE **Caprese Michel** 85.04 352 P P 05 59 21.9 +0.5
comp=Z,9.1nm,0.6s,mb5.1
ANTO **Ankara** 85.05 336 P P 05 59 22.4 +0.9
SNR=5.9
ANTO **Ankara** 85.05 336 *e*P P 05 59 21.7 +0.2
ANTO pmax pmax
comp=Z,22nm,1.0s,mb5.2
ANTO **Ankara** 85.05 336 *e*P P 05 59 21.7 +0.2
comp=Z,22nm,1.0s,mb5.2
LASF **Ste Croix** 85.05 358 *e*P P 05 59 21.0 -0.5
comp=Z,20nm,0.9s,mb4.9
PII **Pisa** 85.06 353 P P 05 59 20.9 -0.6
PII pmax pmax
comp=Z,27nm,0.9s,mb5.4
PII **Pisa** 85.06 353 P P 05 59 20.9 -0.6
comp=Z,27nm,0.9s,mb5.4
STOF **St-Etienne Org** 85.06 356 *e*P P 05 59 22.1 +0.6
ARV **Arcevia** 85.07 351 P P 05 59 21.8 +0.2
comp=Z,32nm,1.0s,mb5.4
SMRF **Simiane la Rot** 85.10 356 *e*P P 05 59 22.4 +0.7
comp=Z,41nm,0.9s,mb5.3
SMRF **Simiane la Rot** 85.10 356 *e*P P 05 59 22.4 +0.7
comp=Z,41nm,0.9s,mb5.6
LUCF **Luceram** 85.10 355 *e*P P 05 59 21.7 0.0
MVIF **Mont Vial** 85.11 355 *e*P P 05 59 21.7 0.0
SBF **Sospel** 85.12 355 *e*P P 05 59 21.6 -0.2
comp=Z,66nm,0.8s,mb5.5
SBF **Sospel** 85.12 355 *e*P P 05 59 21.6 -0.2
SBF pmax pmax
comp=Z,33nm,0.8s,mb5.5
SBF **Sospel** 85.12 355 *e*P P 05 59 21.6 -0.2
comp=Z,33nm,0.8s,mb5.5
AS31 **Alice Springs** 85.15 222 *e*P P 05 59 21.5 -0.5
ASAR **Alice Springs** 85.16 222 P P 05 59 20.5 -1.5
comp=Z,4.1nm,0.7s,mb4.7,baz=28,slow=5.4,SNR=19
ASPA **Alice Springs** 85.16 222 *e*P P 05 59 21.5 -0.5
CING **Cingoli** 85.17 351 P P 05 59 22.4 +0.3
VILF **Villemus** 85.22 356 *e*P P 05 59 23.2 +0.9
ARMA **Armidale** 85.23 205 *e*P P 05 59 23.1 +0.8
REVF **Revere** 85.25 355 *e*P P 05 59 22.4 -0.1
PRAF **Pradon** 85.28 357 *e*P P 05 59 23.7 +1.1
SNTG **Esanatoglia** 85.31 351 P P 05 59 23.1 +0.3
comp=Z,29nm,0.8s,mb5.5
MURB **Monte Urbino** 85.34 351 P P 05 59 23.2 +0.3
MMB **Musomiste** 85.42 343 *e*P P 05 59 24.0 +0.7
TAVF **Tavernes** 85.44 356 *e*P P 05 59 24.1 +0.7
SKO **Skopje** 85.45 345 *i*P P 05 59 24.6 +1.1
FRF **La Foret Royal** 85.47 356 *e*P P 05 59 23.1 -0.4
comp=Z,25nm,0.8s,mb5.1
FRF **La Foret Royal** 85.47 356 *e*P P 05 59 23.1 -0.4
FRF pmax pmax
comp=Z,12nm,0.8s,mb5.1
FRF **La Foret Royal** 85.47 356 *e*P P 05 59 23.1 -0.4
comp=Z,12nm,0.8s,mb5.1
PUYF **Puyloubier** 85.54 356 *e*P P 05 59 24.5 +0.6
EPON **Pontenova** 85.59 6 P P 05 59 22.8 -1.4
comp=Z,4.9nm,0.7s,mb4.8
GRFL **Gerfalco** 85.60 352 P P 05 59 24.0 -0.2
comp=Z,34nm,0.8s,mb5.6
BORA **Eskisehir** 85.63 337 *i*P P 05 59 24.3 -0.1
ULDT **Uludag** 85.69 339 *i*P P 05 59 25.5 +0.8
GELF **Grande-Etoile** 85.69 357 *e*P P 05 59 25.4 +0.7
LMR **La Mourre** 85.70 356 *e*P P 05 59 24.3 -0.4
comp=Z,58nm,1.2s,mb5.4
LMR **La Mourre** 85.70 356 *e*P P 05 59 24.3 -0.4
LMR pmax pmax
comp=Z,29nm,1.2s,mb5.4
LMR **La Mourre** 85.70 356 *e*P P 05 59 24.3 -0.4
comp=Z,29nm,1.2s,mb5.4
NRCA **Norcia** 85.71 351 P P 05 59 25.2 +0.4
comp=Z,32nm,1.0s,mb5.5
EARI **Arriondas** 85.73 4 P P 05 59 23.9 -1.0
comp=Z,6.1nm,0.7s,mb4.9
BERF **Bertagne** 85.75 356 *e*P P 05 59 25.8 +0.8
MTLF **Montolieu** 85.82 359 *e*P P 05 59 24.8 -0.5
ELAN **Lanestosa** 85.87 3 P P 05 59 26.1 +0.5
comp=Z,7.4nm,0.8s,mb5.0
ESKT **Eskisehir** 85.87 337 *i*P P 05 59 25.9 +0.4
VAY **Valandovo** 85.89 344 *i*P P 05 59 24.9 -0.7
EALK **Alkurruntz** 85.93 2 P P 05 59 29.8 +4.0
comp=Z,1.6nm,3.8s
STS **Santiago** 85.94 7 P P 05 59 24.8 -1.1
STS pmax pmax
comp=Z,57nm,2.0s,mb5.5
STS **Santiago** 85.94 7 P P 05 59 24.8 -1.1
comp=Z,56nm,2.0s,mb5.5
GZT **Gaziantep** 86.06 331 *i*P P 05 59 27.2 +0.7
EPF **Esparros** 86.14 0 *e*P P 05 59 26.1 -0.8
comp=Z,14nm,0.8s,mb5.0
EPF **Esparros** 86.14 0 *e*P P 05 59 26.1 -0.8
EPF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
EPF **Esparros** 86.14 0 *e*P P 05 59 26.1 -0.8
comp=Z,6.8nm,0.8s,mb4.9
AQU **L'Aquila** 86.16 351⇑*i*P P 05 59 27.4 +0.4
AQU **L'Aquila** 86.16 351 *e*P P 05 59 27.4 +0.4
comp=Z,28nm,0.9s,mb5.5
MLS **Moulis** 86.21 360 *e*P P 05 59 27.3 +0.1
ETSF **Etsaut** 86.26 1 *e*P P 05 59 26.9 -0.6
comp=Z,28nm,0.7s,mb5.2
ETSF **Etsaut** 86.26 1 *e*P P 05 59 26.9 -0.6
ETSF pmax pmax
comp=Z,14nm,0.7s,mb5.3
ETSF **Etsaut** 86.26 1 *e*P P 05 59 26.9 -0.6
comp=Z,14nm,0.7s,mb5.3
VIEF **Viey** 86.28 1 *e*P P 05 59 28.1 +0.5
PGF **Pioggiola** 86.34 354 *e*P P 05 59 27.5 -0.4
comp=Z,69nm,0.8s,mb5.6
PGF **Pioggiola** 86.34 354 *e*P P 05 59 27.5 -0.4
PGF pmax pmax
comp=Z,35nm,0.8s,mb5.6
PGF **Pioggiola** 86.34 354 *e*P P 05 59 27.5 -0.4

comp=Z,35nm,0.8s,mb5.6
OHR Ohrid 86.40 345 *i*P pP 05 59 38.9 +1.9
BIA Bitola 86.40 345 *i*P pP 05 59 39.0 +2.0
EBIE Bielsa 86.48 0 P P 05 59 29.3 +0.7
comp=Z,12nm,1.2s,mb5.0
CORF Corte 86.58 354 *e*P P 05 59 29.0 0.0
GDZ Gediz 86.61 338 *i*P P 05 59 28.6 -0.6
VVLD Villa Vallelon 86.61 350 P P 05 59 29.0 -0.2
RNI2 Rionero Sannit 86.72 350 P P 05 59 29.6 -0.1
SDI San Donato 86.75 350 P P 05 59 29.4 -0.5
SDI pmax pmax
comp=Z,142nm,2.1s,mb5.8
SDI San Donato 86.75 350 P P 05 59 29.4 -0.5
comp=Z,142nm,2.1s,mb5.8
MIDA Miranda 86.77 350 P P 05 59 29.5 -0.5
PBRG Braganca 87.14 6 *e*P P 05 59 31.8 +0.1
comp=Z,11nm,2.1s,mb4.7
RFI Roccamonfina 87.14 350 P P 05 59 33.1 +1.3
comp=Z,9.7nm,1.2s,mb4.9
COBT Iskenderun 87.23 332 *i*P P 05 59 33.2 +1.1
EMIR Miracle 87.25 359 P P 05 59 32.3 0.0
comp=Z,24nm,2.4s,mb5.0
ESAC San Caprasio 87.44 1 P P 05 59 32.6 -0.6
comp=Z,46nm,1.8s,mb5.4
PVRL Vila Real 87.60 6 *e*P P 05 59 33.8 -0.2
comp=Z,31nm,1.4s,mb5.3
EPOB Poblet 87.81 360 P P 05 59 35.8 +0.8
comp=Z,4.3nm,0.8s,mb4.7
MGR Morigerati 88.11 349 P P 05 59 34.7 -1.7
PVIS Viseu 88.14 7 *e*P P 05 59 35.8 -0.8
comp=Z,23nm,1.7s,mb5.1
GUD Guadarrama 88.42 4 P P 05 59 37.7 -0.2
GUD pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
GUD Guadarrama 88.42 4 P P 05 59 37.7 -0.2
comp=Z,6.6nm,1.0s,mb4.8
MTE Manteigas 88.48 6 *e*P P 05 59 36.9 -1.3
comp=Z,30nm,2.0s,mb5.2
PCBR Castelo Branco 89.04 6 *e*P P 05 59 39.7 -1.1
comp=Z,22nm,1.5s,mb5.3
PTOM Tomar 89.19 7 *e*P P 05 59 40.9 -0.6
comp=Z,27nm,1.9s,mb5.2
ESDC Sonseca Array 89.40 4 P P 05 59 41.3 -1.2
comp=Z,3.5nm,0.8s,mb4.7,baz=351,slow=4.7,SNR=18
ESDC Sonseca Array 89.40 4 P P 05 59 42.1 -0.4
comp=Z,2.9nm,0.8s,mb4.7
CSS Prodhromos 89.52 334 *e*P P 05 59 43.0 -0.1
comp=Z,4.5nm,0.4s,mb5.2
ECHE Chera 89.56 1 P P 05 59 43.2 -0.1
ECHE pmax pmax
comp=Z,27nm,1.8s,mb5.3
ECHE Chera 89.56 1 P P 05 59 43.2 0.0
comp=Z,27nm,1.8s,mb5.3
STKA Stephens Creek 89.62 212 *e*P P 05 59 42.7 -0.8
comp=Z,23nm,1.7s,mb5.2
STKA Stephens Creek 89.62 212 P P 05 59 42.9 -0.6
comp=Z,16nm,1.0s,mb5.3,baz=357,slow=5.9,SNR=9.0
MBWA Marble Bar 89.66 235 *e*P P 05 59 42.3 -1.4
comp=Z,14nm,1.0s,mb5.2
CPD Cerro la Pandu 89.90 61 *e*P P 05 59 44.7 -0.1
CPD *e**PP pP 06 00 00.2 +6.5
MTP Monte Pirata 90.05 61 *e*P P 05 59 45.8 +0.2
EADA Adamuz 90.88 4 P P 05 59 47.9 -1.5
comp=Z,41nm,2.2s,mb5.4
EMIN Mina Concepcio 91.16 6 P P 05 59 48.4 -2.3
comp=Z,26nm,1.5s,mb5.3
ELOJ Sierra Loja 91.91 4 P P 05 59 53.4 -0.8
ELOJ pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
ELOJ Sierra Loja 91.91 4 P P 05 59 53.4 -0.8
comp=Z,3.1nm,0.7s,mb4.8
ESPR Espera 92.10 5 P P 05 59 52.9 -2.2
comp=Z,32nm,1.5s,mb5.4
EMIJ Mijas 92.46 4 P P 05 59 52.5 -4.3
comp=Z,5.1nm,2.6s,mb4.4
ROSC El Rosal 95.53 75 LR LR 06 48 22.8
comp=Z,139nm,19.2s,MS4.5,baz=185,slow=39
TORD Torodi Ar. Bea 115.91 359 PKP PKPdf 06 05 27.6 -0.9
comp=Z,0.6nm,0.6s,baz=3.0,slow=1.9,SNR=7.8
TORD PP PP 06 06 21.0 -11
comp=Z,1.0nm,0.9s,baz=15,slow=6.3,SNR=2.9
TORD PKKPbc PKKPbc 06 16 01.6 +2.3
comp=Z,1.1nm,0.7s,baz=169,slow=3.9,SNR=5.4
TORD Torodi Ar. Bea 115.91 359 PKP PKPdf 06 05 27.6 -0.9
TORD PP PP 06 06 21.0 -11
TORD PKKPbc PKKPbc 06 16 01.6 +2.3
DBIC Dimbokro 122.15 7 PKP PKPdf 06 05 39.6 -0.8
comp=Z,1.5nm,0.4s,baz=256,slow=6.4,SNR=7.0
BDFB Brasilia 127.45 66 PKP PKPdf 06 05 49.4 -1.2
comp=Z,2.3nm,0.7s,baz=77,slow=3.0,SNR=3.9
CPUP Villa Florida 129.93 83 PKP PKPdf 06 05 54.4 -1.0
comp=Z,1.8nm,0.6s,baz=243,slow=3.1,SNR=7.4
CPUP SKP 06 09 29.6
comp=Z,1.7nm,0.8s,baz=225,slow=4.3,SNR=3.3
PLCA Paso Flores 131.22 107 PKP PKPdf 06 05 57.8 0.0
comp=Z,2.0nm,0.7s,baz=285,slow=12,SNR=2.2
PLCA SKP 06 09 34.6
comp=Z,1.4nm,0.6s,baz=248,slow=5.4,SNR=3.6
TRQA Tornquist 134.84 98 *e*PKPdf PKPdf 06 06 02.8 -1.8
QSPA South Pole Qui 140.97 180 *e*P PKPdf 06 06 09.3 -6.5
TSUM Tsumeb 145.38 331 PKPbc PKPbc 06 06 24.0 +0.4
comp=Z,31nm,0.8s,baz=355,slow=5.9,SNR=61
TSUM Tsumeb 145.38 331 *e*PKPdf PKPdf 06 06 23.8 +0.2
TSUM *e*pPKPdf pPKPdf 06 06 29.6 -3.2
MAW Mawson 146.16 217 *e*P PKPdf 06 06 23.7 -1.3
comp=Z,15nm,0.9s
MAW Mawson 146.16 217 PKPbc PKPbc 06 06 23.5 -2.4
comp=Z,12nm,0.7s,baz=47,slow=4.4,SNR=7.4
MAW Mawson 146.16 217 PKP2 PKPbc 06 06 23.5 -2.5
MAW pmax pmax
comp=Z,12nm,0.7s
LBTB Lobatse 147.63 315 PKPbc PKPbc 06 06 30.4 +0.2
comp=Z,22nm,0.7s,baz=33,slow=1.7,SNR=16
BOSA Boshof 150.86 311 PKPbc PKPbc 06 06 38.0 -0.2
comp=Z,11nm,0.6s,baz=19,slow=2.5,SNR=29
SYO Syowa Base 154.37 212⇑ *e*PKiKP PKiKP 06 06 46.3 +0.2
SUR Sutherland 156.08 314 PKPab PKPab 06 07 08.2 +0.6
comp=Z,4.8nm,0.6s,baz=22,slow=6.1,SNR=6.0

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*ISCJB **09** 05:58:45.4±0.3, 5240N±007×17987E±006, h199km, mb3.9/42, Error ellipse: s-maj=9.5km s-min=4.7km az=158.4*
*NEIC **09** 05:58:46.7±0.3, 5236N×17987E, mb4.1/28, Error ellipse: s-maj=10.0km s-min=5.2km az=168.0*
*MOS **09** 05:58:46.0±0.8, 5251N×17979E, h201km, mb4.0/16, Error ellipse: s-maj=13.2km s-min=10.1km az=74.5*
*BJI **09** 05:58:46.7, 5240N×17990E, h199km, mB4.7, mb4.6*
*IDC **09** 05:58:48.2±0.8, 5248N×17982E, h207km±6km, mb3.6/17, mb1 3.8/17, mb1mx3.7/23, mbtmp4.2/17, Error ellipse: s-maj=15.6km s-min=10.0km az=167.0*
ISC 09 05:58:47.1±0.3**, 5245N**±007×**17983E**±006**, h201**km**, h201**km±2.3km**:pP-P, n111, σ0s91**/98**, mb3.9**/42**, 1C, Rat Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
AMKA Amchitka 1.13 197 P Pn 05 59 13.3 -4.4
AMKA S Sn 05 59 34.8 -6.8
SMY Shemya 3.51 277 P Pn 05 59 41.0 -1.8
ATKA Atka Island 3.67 92 P Pn 05 59 41.1 -3.7
ATKA S Sn 06 00 25.1 -4.9
SPIA Saint Paul Isl 7.43 47 P Pn 06 00 33.4 +0.6
UNV Unalaska Valle 8.33 75 P Pn 06 00 42.9 -1.7
AKUT Akutan 8.79 73 *e*P Pn 06 00 51.8 +1.3
62nm,0.8s
PET Petropavlovsk 12.85 281 *e*P Pn 06 01 42.1 -0.4
TTA Tatalina 16.52 41 *e*P P 06 02 27.9 +1.3
TTA pmax pmax
comp=Z,55nm,1.1s
TTA Tatalina 16.52 41 *e*P P 06 02 27.9 +1.3
comp=Z,55nm,1.1s
KDAK Kodiak Island 16.59 60 S S 06 05 22.4 -7.9
comp=Z,0.2nm,0.3s,baz=342,slow=20,SNR=3.7
MCK McKinley 19.76 43 *e*P P 06 03 00.2 -1.5
MCK pmax pmax
comp=Z,10.0nm,1.0s
MCK McKinley 19.76 43 *e*P P 06 03 00.2 -1.6
comp=Z,9.6nm,1.0s
EYAK Cordova Ski Ar 20.44 53 *e*P P 06 03 08.8 -0.2
COLA College 20.61 40 *e*P P 06 03 10.9 +0.1
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 20.61 40 *e*P P 06 03 10.9 +0.1
comp=Z,4.9nm,0.8s
ILAR Eielson Array 20.96 41 P P 06 03 14.8 +0.3
comp=Z,2.0nm,0.6s,baz=225,slow=10,SNR=17
MENT Mentasta 21.80 47 *e*P P 06 03 21.6 -1.6
DAWY Dawson 23.92 45 *e*P P 06 03 44.7 +2.1
DLBC Dease Lake 28.48 58 P P 06 04 25.1 +1.7
comp=Z,3.4nm,0.6s,mb4.1,baz=298,slow=14,SNR=9.2
MJAR Matsushiro Arr 33.15 258 P P 06 05 05.3 +0.9
comp=Z,2.7nm,0.6s,mb3.9,baz=46,slow=7.6,SNR=17
MJAR PcP PcP 06 07 42.2 -0.3
comp=Z,1.2nm,0.5s,baz=54,slow=2.3,SNR=4.8
MJAR Matsushiro Arr 33.15 258 P P 06 05 05.3 +0.9
MJAR PcP PcP 06 07 42.2 -0.3
MAJO Matsushiro 33.15 258 *e*P P 06 05 04.9 +0.5
MAJO pmax pmax
comp=Z,3.0nm,0.4s,mb4.2
MAJO Matsushiro 33.15 258 *e*P P 06 05 04.8 +0.5
comp=Z,3.1nm,0.4s,mb4.2
MAT Matsushiro 33.15 258 P P 06 05 05.1 +0.7
MAT Matsushiro 33.15 258 *e*P P 06 05 05.0 +0.6
MAT pmax pmax
comp=Z,4.0nm,0.7s,mb4.1
MAT Matsushiro 33.15 258 *e*P P 06 05 05.0 +0.6
comp=Z,4.1nm,0.7s,mb4.1
YKA Yellowknife Ar 35.11 47 P P 06 05 21.5 +0.2
comp=Z,1.0nm,0.6s,mb3.5,baz=281,slow=7.7,SNR=7.4
YKA pP pP 06 06 04.2 +1.4
comp=Z,6.1nm,1.0s,baz=282,slow=8.7,SNR=8.4
YKA PcP PcP 06 07 46.9 -1.2
comp=Z,0.6nm,0.5s,baz=287,slow=3.1,SNR=7.6
YKA ScP ScP 06 11 12.0 -2.5
comp=Z,0.5nm,0.7s,baz=283,slow=3.5,SNR=4.1
YKA Yellowknife Ar 35.11 47 P P 06 05 21.5 +0.2
YKA *PP pP 06 06 04.2 +1.4
YKA 06 07 46.9
YKA Yellowknife Ar 35.11 47 P P 06 05 21.5 +0.2
YKA pP pP 06 06 04.2 +1.4
YKA PcP PcP 06 07 46.9 -1.2
YKA ScP ScP 06 11 12.0 -2.5
CN2 Changchun 36.53 279 *e*P P 06 05 38.5 +5.2
EDM Edmonton 39.03 61 *e*P P 06 05 54.1 -0.1
NEW Newport 39.31 70 *e*P P 06 05 55.7 -0.8
NEW *e**PP pP 06 06 38.0 -0.8
NEW pmax pmax
comp=Z,4.0nm,0.8s
NEW Newport 39.31 70 *e*P P 06 05 55.7 -0.8
comp=Z,4.1nm,0.8s,mb4.0
NEW *e*pP pP 06 06 38.0 -0.8
YBH Yreka Blue Hor 39.57 82 P P 06 05 59.8 +1.2
comp=Z,3.6nm,1.1s,mb3.7,baz=292,slow=4.5,SNR=4.6
OHCM Honcut 41.76 84 *e*P P 06 06 16.5 -0.1
MSO Missoula 41.89 70 *e*P P 06 06 15.5 -2.1
comp=Z,2.7nm,1.2s,mb3.5
HLID Hailey 43.47 74 *e*P P 06 06 29.7 -0.6
comp=Z,4.3nm,1.2s,mb3.8
HLID *e*pP pP 06 07 13.3 -0.1
MCMT McKenzie Canyo 43.65 72 *e*P P 06 06 30.7 -1.0
BOZ Bozeman (W) 43.88 70 *e*P P 06 06 33.0 -0.6
BOZ *e**PP pP 06 07 16.2 -0.6
BOZ pmax pmax
comp=Z,2.0nm,0.5s,mb3.7
BOZ Bozeman (W) 43.88 70 *e*P P 06 06 33.0 -0.7
comp=Z,1.9nm,0.5s,mb3.7
BOZ *e*pP pP 06 07 16.2 -0.5
FFC Flin Flon 44.20 55 *e*P P 06 06 35.8 -0.3
FFC pmax pmax
comp=Z,1.0nm,0.4s,mb3.5
FFC Flin Flon 44.20 55 *e*P P 06 06 35.8 -0.3
comp=Z,0.8nm,0.4s,mb3.4
NVAR Mina Array Bea 44.26 83 P P 06 06 37.2 +0.6
comp=Z,2.2nm,0.7s,mb3.6,baz=307,slow=6.4,SNR=18
NVAR pP pP 06 07 21.6 +1.8
comp=Z,0.5nm,0.6s,baz=304,slow=5.8,SNR=4.5
NVAR Mina Array Bea 44.26 83 P P 06 06 37.2 +0.6
NVAR pP pP 06 07 21.6 +1.8
BJT Baijiatuau 44.35 280 *e*P P 06 06 38.7 +1.4
BJT pmax pmax
comp=Z,12nm,0.8s
BJT Baijiatuau 44.35 280 *e*P P 06 06 38.7 +1.4
comp=Z,12nm,0.8s,mb4.3
MTUM Tungsten Hills 44.79 84 *e*P P 06 06 41.7 +0.9
SONM Songino Array 45.42 295 P P 06 06 46.6 +0.9
comp=Z,0.6nm,0.6s,mb3.1,baz=65,slow=7.5,SNR=4.6
SONM PcP PcP 06 08 21.2 -0.1
comp=Z,1.1nm,0.7s,baz=52,slow=1.3,SNR=5.2
SONM ScP ScP 06 11 51.7 -3.1
comp=Z,0.5nm,0.7s,baz=116,slow=3.4,SNR=3.9
SONM Songino Array 45.42 295 P P 06 06 46.6 +0.9
SONM 06 08 21.2
LAO LASA Array 46.36 66 *e*P P 06 06 52.8 -0.3
comp=Z,1.7nm,0.5s,mb3.6
LAO *e*pP pP 06 07 36.6 0.0
TPNV Topopah Spring 46.46 83 *e*P P 06 06 54.5 +0.7
TPNV *e**PP pP 06 07 34.3 -3.1
TPNV pmax pmax
comp=Z,5.0nm,0.9s,mb3.8
TPNV Topopah Spring 46.46 83 *e*P P 06 06 54.5 +0.6
comp=Z,5.2nm,0.9s,mb3.9
TPNV *e*pP pP 06 07 34.2 -3.2
BW06 Boulder Array 46.79 72 *e*P P 06 06 56.2 -0.2
BW06 *e*pP pP 06 07 39.5 -0.5
PDAR Pinedale Array 46.79 72 P P 06 06 56.2 -0.2
comp=Z,1.5nm,0.4s,mb3.6,baz=330,slow=3.5,SNR=19
PDAR pP pP 06 07 40.2 +0.1
comp=Z,1.7nm,0.6s,baz=323,slow=4.4,SNR=6.8
PDAR PcP PcP 06 08 25.6 -0.6
comp=Z,0.5nm,0.5s,baz=268,slow=2.7,SNR=3.6
PDAR ScP ScP 06 11 58.6 -2.0
comp=Z,0.3nm,0.5s,baz=130,slow=1.1,SNR=3.8
SPB4 Spitsbergen Ar 49.24 356 *e*P P 06 07 15.3 +0.2
SMCO Snowmass 50.57 74 *e*P P 06 07 25.8 +0.7
comp=Z,1.0nm,0.6s,mb3.4
SUMG Summit 52.45 14 *e*P P 06 07 40.2 +1.0
comp=Z,5.3nm,0.9s,mb4.0
TUC Tucson 52.90 84 *e*P P 06 07 42.7 +0.3
TUC *e**PP pP 06 08 26.2 -0.9
TUC pmax pmax
comp=Z,1.0nm,0.7s,mb3.4
TUC Tucson 52.90 84 *e*P P 06 07 42.7 +0.3
comp=Z,1.0nm,0.7s,mb3.4
TUC *e*pP pP 06 08 26.2 -0.9
LZH Lanzhou 54.28 285 *e*P P 06 07 54.5 +2.1
LZH AP pP 06 08 40.6 +3.2
LZH XP sP 06 09 02.9 +3.4
LZH AMB AMB
comp=Z,14nm,1.0s,mb4.5
LZH AMB AMB
comp=Z,75nm,4.0s
ARCES ARCESS Array B 56.88 350 P P 06 08 10.9 0.0
comp=Z,1.4nm,0.6s,mb3.8,baz=30,slow=9.8,SNR=7.3
ARCES PcP PcP 06 09 02.4 -1.7
comp=Z,2.1nm,0.8s,baz=20,slow=6.7,SNR=2.2
KURK Kurchatov 57.67 312 *e*P P 06 08 16.0 -0.4
KURK pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
KURK Kurchatov 57.67 312 *e*P P 06 08 16.0 -0.4
comp=Z,2.0nm,0.6s,mb3.9
MKAR Makanchi Array 58.71 307 P P 06 08 22.5 -1.1
comp=Z,0.9nm,0.5s,mb3.6,baz=47,slow=7.5,SNR=7.1
MKAR Makanchi Array 58.71 307 P P 06 08 22.5 -1.1
CHKZ Chkalovo 58.95 319 *e*P P 06 08 24.9 -0.4
CHKZ pmax pmax
comp=Z,1.0nm,0.7s,mb3.5
CHKZ Chkalovo 58.95 319 *e*P P 06 08 24.9 -0.4
comp=Z,1.2nm,0.7s,mb3.6
LTX Lajitas 59.32 81 *e*P P 06 08 28.3 +0.5
LTX pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
LTX Lajitas 59.32 81 *e*P P 06 08 28.3 +0.5
comp=Z,1.5nm,0.6s,mb3.8
BRVK Borovoye 59.54 319 *e*P P 06 08 29.2 -0.1
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
BRVK Borovoye 59.54 319 *e*P P 06 08 29.2 -0.1
comp=Z,1.7nm,0.6s,mb3.9
ZRNK Zerenda 60.13 319 *e*P P 06 08 33.0 -0.3
ZRNK *e**PP pP 06 09 18.4 -0.8
ZRNK pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
ZRNK Zerenda 60.13 319 *e*P P 06 08 33.0 -0.3
comp=Z,2.8nm,0.7s,mb4.0
ZRNK *e*pP pP 06 09 18.4 -0.9
ARU Arti 61.24 327 *e*P P 06 08 41.0 +0.2
ARU pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
ARU Arti 61.24 327 *e*P P 06 08 41.0 +0.1
comp=Z,4.6nm,0.6s,mb4.3
JOF Joensuu 62.34 344 *e*p P 06 08 46.9 -1.2
comp=Z,4.8nm,0.7s,mb4.2
JOF Joensuu 62.34 344 *e*P P 06 08 46.9 -1.2
JOF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
KAF Kangasniemi 63.87 346 *e*p P 06 08 56.6 -1.6
comp=Z,5.0nm,0.7s,mb4.2,baz=14,slow=5.8
KAF Kangasniemi 63.87 346 *e*P P 06 08 56.6 -1.6
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
FINES FINESS Array B 64.54 346 P P 06 09 02.2 -0.4
comp=Z,1.9nm,0.8s,mb3.8,baz=18,slow=8.0,SNR=8.2
FINES FINESS Array B 64.54 346⇑ *e*P P 06 09 02.2 -0.4
NB2 NORSAR Subarra 66.49 354 P P 06 09 15.2 +0.1
comp=Z,1.4nm,0.7s,mb3.7,baz=7.5,slow=6.5
NOA NORSAR Array B 66.49 354 P P 06 09 15.5 +0.5
comp=Z,1.5nm,0.7s,mb3.7,baz=8.1,slow=6.3,SNR=9.0
OBN Obninsk 68.56 338 *e*P P 06 09 28.4 +0.4
OBN pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
AKASG Malin Array Be 74.26 341 P P 06 10 01.9 -0.1
comp=Z,3.8nm,0.5s,mb4.2,baz=19,slow=5.8,SNR=9.6
CLL Collm 76.02 352 *e*P P 06 10 12.0 -0.1
KAKA Kakadu 76.62 228 *e*P P 06 10 15.3 -0.2
comp=Z,16nm,0.6s,mb4.8
GERES GERESS Array B 78.39 351 P P 06 10 25.9 +0.6
comp=Z,0.3nm,0.5s,mb3.2,baz=20,slow=5.2,SNR=6.7
GERES pP pP 06 11 13.8 +0.3
comp=Z,0.4nm,0.7s,baz=15,slow=5.7,SNR=2.4
WRAB Tennant Creek 82.20 223 *e*P P 06 10 44.9 -0.7
WRAB pmax pmax
comp=Z,22nm,1.0s,mb4.7
WRAB Tennant Creek 82.20 223 *e*P P 06 10 44.9 -0.8
comp=Z,22nm,1.0s,mb4.7
WB2 Warramunga Arr 82.21 223 *e*P P 06 10 44.9 -0.8
BRTR Keskin Array B 83.61 334 P P 06 10 53.2 +0.4
comp=Z,1.0nm,0.7s,mb3.6,baz=20,slow=4.9,SNR=5.1
FITZ Fitzroy Crossi 84.47 231 *e*P P 06 10 56.6 -0.6
comp=Z,5.9nm,0.5s,mb4.6
ASAR Alice Springs 85.72 221 P P 06 11 03.5 +0.2
comp=Z,3.3nm,0.6s,mb4.3,baz=26,slow=5.3,SNR=43
STKA Stephens Creek 90.38 212 *e*P P 06 11 25.6 +0.1
comp=Z,4.0nm,0.8s,mb4.3
STKA Stephens Creek 90.38 212 P P 06 11 26.0 +0.5
comp=Z,4.3nm,0.6s,mb4.4,baz=353,slow=4.8,SNR=7.3
KLBR Kellerberrin 99.66 230 *e*P pP 06 12 56.2 -1.3
comp=Z,35nm,0.9s
TORD Torodi Ar. Bea 114.65 358 PKP PKiKP 06 17 01.8 -1.6
comp=Z,0.7nm,0.6s,baz=354,slow=2.0,SNR=7.3
TORD PKKPbc PKKPbc 06 27 40.2 -1.4
comp=Z,0.4nm,0.7s,baz=176,slow=2.4,SNR=5.6
TORD Torodi Ar. Bea 114.65 358 PKP PKiKP 06 17 01.8 -1.6
TORD PKKPbc PKKPbc 06 27 40.2 -1.4
DBIC Dimbokro 120.97 5 PKP PKPdf 06 17 14.6 -0.9
comp=Z,3.8nm,1.1s,baz=203,slow=12,SNR=4.9
DBIC Dimbokro 120.97 5 PKP PKPdf 06 17 14.6 -0.9
PLCA Paso Flores 132.08 105 PKP PKPdf 06 17 36.4 -0.3
comp=Z,2.0nm,0.8s,baz=224,slow=1.0,SNR=3.9
QSPA South Pole Qui 142.21 180 *e*P PKPdf 06 17 49.8 -5.5
TSUM Tsumeb 144.03 331 *e*PKPdf PKPdf 06 17 57.1 -1.5
MAW Mawson 146.81 219 *e*P PKPdf 06 18 04.1 +0.8
comp=Z,6.2nm,0.4s
MAW Mawson 146.81 219 PKPbc PKPbc 06 18 04.5 -0.9
comp=Z,15nm,0.8s,baz=85,slow=3.4,SNR=9.6
MAW Mawson 146.81 219 PKP2 PKPab 06 18 04.5 -2.7
MAW pmax pmax
comp=Z,15nm,0.8s
BOSA Boshof 149.63 312 PKPbc PKPbc 06 18 12.6 -0.2
comp=Z,4.7nm,0.5s,baz=22,slow=2.1,SNR=23
BOSA Boshof 149.63 312 PKPbc PKPbc 06 18 12.6 -0.2
SNAA Sanae 160.68 177 *e* PKPab 06 19 03.3 -2.4
VNA1 Neumayer--Stat 161.37 172 *e* PKPab 06 19 07.5 -1.3

KRSC 09 06:02:51, 5543N×16261E, h58km, ML3.8, Near east coast of Kamchatka Peninsula

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*IDC **09** 06:09:28.9±4.0, 5140N×17948W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/22, mbtmp3.9/5, ML4.0/1, MS4.0/1, Ms1 4.0/1, ms1mx3.0/37, Error ellipse: s-maj=112.3km s-min=30.1km az=4.0*
*NEIC **09** 06:09:30.4, 5094N×17925W, h5km, ML3.4(AEIC), After AEIC.*
*ISCJB **09** 06:09:34.3±1.2, 517N±04×1793W±02, h41km±25km, mb3.9/4, MS4.0/1, Error ellipse: s-maj=76.1km s-min=11.2km az=154.7*
ISC 09 06:09:32.6±3.3**, 519N**±04×**1794W**±02**, h11**km±32km**, n10, σ0s95**/10**, mb3.9**/4**, MS4.0**/1**, Andreanof Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
AMKA Amchitka 0.94 241 P Pg 06 09 49.2 -1.6
AMKA S Sg 06 10 04.8 +1.7
ATKA Atka Island 3.23 82 P Pn 06 10 23.4 +0.2
KDAK Kodiak Island 16.48 58 Pn Pn 06 13 24.8 +1.0
0.6nm,0.3s,baz=302,slow=13,SNR=8.0
KDAK Kodiak Island 16.48 58 Pn Pn 06 13 24.8 +1.0
PDAR Pinedale Array 46.52 72 P P 06 17 59.1 -0.8
0.5nm,0.7s,mb3.5,baz=328,slow=5.4,SNR=5.5
GUMO Guam 47.72 230 LR LR 06 37 12.5
comp=Z,172nm,18.9s,MS4.0,baz=97,slow=35
MKAR Makanchi Array 59.46 308 P P 06 19 35.4 0.0
0.5nm,0.5s,mb3.8,baz=30,slow=7.4,SNR=3.9
MKAR Makanchi Array 59.46 308 P P 06 19 35.4 0.0
FINES FINESS Array B 65.25 347 P P 06 20 13.7 -0.4
0.8nm,0.9s,mb3.8,baz=30,slow=11,SNR=4.1
AKASG Malin Array Be 74.99 342 P P 06 21 14.2 +0.2
1.4nm,0.3s,mb4.3,baz=20,slow=6.5,SNR=5.1

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*IDC **09** 06:18:11.9±1.9, 5131N×17920W, h23km±10km, mb4.9/27, mb1 5.0/28, mb1mx5.0/30, mbtmp5.0/28, ML5.0/1, MS4.5/25, Ms1 4.5/25, ms1mx4.4/35, Error ellipse: s-maj=17.0km s-min=10.0km az=171.0*
*BJI **09** 06:18:12.2, 5138N×17959W, h30km, mB5.4, mb5.3, Ms5.0, Msz4.6*
*MOS **09** 06:18:13.6±0.9, 5130N×17920W, h48km, mb5.5/139, MS4.6/39, Error ellipse: s-maj=6.7km s-min=3.6km az=92.8*
*ISCJB **09** 06:18:13.3±0.1, 5125N±003×179.18W±002, h46km, mb5.3/289, MS4.6/134, Error ellipse: s-maj=4.7km s-min=1.8km az=10.6*
*SZGRF **09** 06:18:13.1, 5090N×17950E, h33km, mb5.4, MS4.5, Rat Islands, Aleutian Islands, United States*
*HRVD **09** 06:18:14.7±0.2, 5103N×179.11W, h28km, MW5.2/78, Centroid moment Tensor Solution. LP body waves: s62,c93;Mantle waves: s78,c131; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.15±.18; $M_{\theta\theta}$-5.22±.13; $M_{\phi\phi}$0.07±.11; $M_{r\theta}$4.79±.26; $M_{\theta\phi}$-1.65±.09; $M_{\phi r}$3.24±.23; Best double couple: $M_0$7.93800×10^{16} NP1:ϕ_s268.00000°,δ24.00000°,λ116.00000°. NP2: ϕ_s61.00000°,δ69.00000°,λ79.00000°. Principal axes: T 7.8280, Plg65.0000°, Azm313.0000°; N 0.2270, Plg10.0000°, Azm65.0000°; P -8.0480, Plg23.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 06:18:14.7±0.1, 5128N×17924W, mb5.3/182, MS4.6/89, ML5.3(AEIC) Error ellipse: s-maj=4.2km s-min=2.0km az=5.0*
ISC 09 06:18:15.0±0.1**, 5134N**±003×**17921W**±002**, h48**km**, h48**km±1.5km**:pP-P, n974, σ0s83**/950**, mb5.3**/289**, MS4.6**/134**, 214C-89D, Andreanof Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
AMKA Amchitka 0.94 273 P Pn 06 18 30.8 -1.0
AMKA S Sn 06 18 45.6 +1.4
ATKA Atka Island 3.23 72 P Pn 06 19 03.3 0.0
ATKA S Sn 06 19 43.7 +3.3
SMY Shemya 4.36 291 *e*P Pn 06 19 20.7 +1.9
SMY Shemya 4.36 291 P Pn 06 19 21.2 +2.4
NIKO Nikolski 6.58 72 *e*Pn Pn 06 19 47.6 -1.6
NIKO *e*Sn Sn 06 21 01.8 -1.1
OKCD Okmok Cone D 7.11 69 P Pn 06 19 59.4 +3.0
SPIA Saint Paul Isl 7.86 38 P Pn 06 20 10.3 +3.6
UNV Unalaska Valle 8.14 67 P Pn 06 20 11.9 +1.4

AKUT **Akutan** 8.62 66 *e*Pn **Pn** 06 20 18.4 +1.3
FALS **False Pass** 10.13 63 *e*Pn **Pn** 06 20 39.5 +1.7
SDPT **Sand Point** 11.88 63 *e*P **Pn** 06 21 01.7 -0.1
47nm,0.3s
CHGN **Chignik** 13.23 60 *e*P **Pn** 06 21 19.2 -0.9
PET **Petropavlovsk** 13.68 286 *e*P **Pn** 06 21 23.1 -3.2
PET *e*S **Sn** 06 23 48.8 -7.9
PET pmax pmax
comp=Z,600nm,6.8s
PET pmax pmax
comp=Z,700nm,12.2s
PET MLR MLR
comp=Z,3µm,20.0s
PET MLR MLR
comp=Z,2µm,18.0s
PET **Petropavlovsk** 13.68 286 *i* P **Pn** 06 21 27.9 +1.6
TNA **Tin City** 15.40 18 *e*Pn **Pn** 06 21 49.9 +0.9
comp=Z,45nm,1.0s
SVW2 **Sparrevohn** 16.28 44 *e*P **Pn** 06 22 02.0 +1.7
KDAK **Kodiak Island** 16.66 57 Pn **Pn** 06 22 02.2 -2.9
comp=Z,5.6nm,0.3s,baz=243,slow=3.5,SNR=47
KDAK Sn **Sn** 06 25 05.4 -3.7
comp=Z,1.8nm,0.3s,baz=345,slow=22,SNR=8.8
KDAK **Kodiak Island** 16.66 57 *e*Pn **Pn** 06 22 02.4 -2.7
TTA **Tatalina** 17.00 38 *e*P **Pn** 06 22 11.4 +2.0
BILL **Bilibino** 18.20 342 *e*P **Pn** 06 22 24.9 +0.9
BILL pmax pmax
comp=Z,35nm,1.1s
SLKM **Skilak Lake** 18.51 49 P **Pn** 06 22 27.6 -0.2
SLKM **Skilak Lake** 18.51 49 *e*P **Pn** 06 22 27.4 -0.4
MA2 **Magadan** 18.78 308 *ce*P **Pn** 06 22 29.2 -1.9
MA2 S **S** 06 26 03.4 +2.2
MA2 pmax pmax
comp=Z,30nm,1.2s
MA2 MLR MLR
comp=Z,1µm,11.1s
PMR **Palmer** 19.34 46 *e*P **Pn** 06 22 39.8 +2.0
PMR pmax pmax
comp=Z,24nm,0.8s
PMR **Palmer** 19.34 46 *e*P **Pn** 06 22 39.8 +2.0
comp=Z,24nm,0.8s
SML **Sawmill** 19.77 46 *e*P **Pn** 06 22 40.6 -2.3
MCK **McKinley** 20.20 41 *e*P **P** 06 22 45.3 -0.4
MCK MLR MLR
comp=Z,826nm,21.0s,MS4.1
EYAK **Cordova Ski Ar** 20.66 51 *e*P **P** 06 22 50.5 -0.2
COLA **College** 21.10 38⇑ *i*P **P** 06 22 55.9 +0.4
COLA **College** 21.10 38 *e*P **P** 06 22 55.9 +0.4
comp=Z,144nm,1.0s,mb5.3
COLA LR LR
comp=Z,975nm,20.0s,MS4.2
ILAR **Eielson Array** 21.44 39 P **P** 06 22 56.5 -2.6
comp=Z,13nm,0.8s,mb4.3,baz=240,slow=9.7,SNR=36
ILAR SCP SCP 06 30 36.0 +2.1
comp=Z,1.7nm,0.7s,baz=274,slow=3.7,SNR=7.3
MENT **Mentasta** 22.16 45 *e*P **P** 06 23 07.1 +0.4
MIDW **Midway** 23.13 176 PFAKE 06 23 30.0 +13
MIDW LR LR
comp=Z,2µm,19.0s,MS4.5
DAWY **Dawson** 24.31 43 *e*P **P** 06 23 27.3 -0.7
DAWY *e*ScP ScP 06 30 42.7 +1.3
YSS **Yuzh-Sakhalins** 25.07 275 α *i*P **P** 06 23 36.0 +1.1
YSS *e*S **S** 06 27 56.0 0.0
YSS pmax pmax
comp=Z,150nm,1.0s,mb5.5
YSS MLR MLR
comp=Z,1µm,18.0s,MS4.4
YSS **Yuzh-Sakhalins** 25.07 275⇑ *i*P **P** 06 23 35.6 +0.7
YSS LR LR
comp=Z,1µm,20.0s,MS4.3
SIT **Sitka** 25.93 60 PFAKE 06 23 50.0 +7.2
SIT LR LR
comp=Z,1µm,19.0s,MS4.5
ASAJ **Asahikawa** 26.45 269 P **P** 06 23 46.6 -0.8
comp=Z,52nm,1.0s,mb5.0,baz=36,slow=6.1,SNR=20
ASAJ LR LR 06 34 54.9
comp=Z,687nm,19.1s,MS4.2,baz=170,slow=38
ASAJ **Asahikawa** 26.45 269 P **P** 06 23 46.6 -0.8
ASAJ pmax pmax
comp=Z,52nm,1.0s
ASAJ MLR MLR
comp=Z,687nm,19.1s
INK **Inuvik** 27.64 35 P **P** 06 23 57.5 -0.6
comp=Z,17nm,0.8s,mb4.7,baz=235,slow=7.9,SNR=16
INK ScP ScP 06 30 54.0 +2.9
comp=Z,4.3nm,0.9s,baz=241,slow=10,SNR=6.2
INK **Inuvik** 27.64 35 P **P** 06 23 57.5 -0.6
INK pmax pmax
comp=Z,17nm,0.8s
INK pmax pmax
comp=N,4.0nm,0.9s
INK **Inuvik** 27.64 35 *e*P **P** 06 23 57.7 -0.4
comp=N,32nm,0.9s,mb5.0
DLBC **Dease Lake** 28.59 56 P **P** 06 24 06.6 0.0
comp=N,1.8nm,0.8s,baz=308,slow=19,SNR=2.7
DLBC LR LR 06 36 24.9
comp=N,846nm,19.3s,MS4.4,baz=271,slow=38
HABR **Khabarovsk** 29.23 283 *i* P **P** 06 24 12.6 +0.3
HABR *e*S **S** 06 29 03.6 +1.9
HABR pmax pmax
comp=Z,52nm,1.1s,mb5.2
YAK **Yakutsk** 29.25 311 *i* P **P** 06 24 13.3 +0.8
YAK pmax pmax
comp=Z,14nm,0.5s,mb5.0
TIXI **Tiksi** 30.55 331 *e*P **P** 06 24 22.0 -1.9
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
TIXI MLR MLR
comp=Z,2µm,17.0s,MS4.8
TIXI **Tiksi** 30.55 331 *i* P **P** 06 24 22.6 -1.3
TIXI LR LR
comp=Z,2µm,22.0s,MS4.6
KLR **Kul'dur** 30.95 286⇓ *i*P **P** 06 24 23.8 -3.6
KLR pmax pmax
comp=E,100nm,1.2s
KLR pmax pmax
comp=Z,180nm,1.2s,mb5.8
MJAR **Matsushiro Arr** 33.53 261 P **P** 06 24 49.9 -0.2
comp=Z,7.3nm,0.8s,mb4.7,baz=52,slow=7.5,SNR=40
MJAR PcP PcP 06 27 29.6 -0.3
comp=Z,3.0nm,0.8s,baz=74,slow=2.7,SNR=7.8
MJAR ScP ScP 06 31 11.8 +1.3
comp=Z,0.4nm,0.4s,baz=236,slow=0.5,SNR=18
MJAR LR LR 06 37 13.8
comp=Z,735nm,18.6s,MS4.4,baz=65,slow=34
MJAR **Matsushiro Arr** 33.53 261 P **P** 06 24 49.9 -0.1
MJAR 06 27 29.6
MAJO **Matsushiro** 33.53 261 *e*P **P** 06 24 49.9 -0.1
MAJO pmax pmax
comp=Z,25nm,0.9s,mb5.1
MAJO MLR MLR
comp=Z,992nm,22.0s,MS4.5
MAJO **Matsushiro** 33.53 261 *e*P **P** 06 24 49.9 -0.1
comp=Z,25nm,0.9s,mb5.1
MAJO LR LR
comp=Z,992nm,22.0s,MS4.5
MAT **Matsushiro** 33.53 261 P **P** 06 24 49.7 -0.3
MAT S **S** 06 30 05.0 -3.7
MAT **Matsushiro** 33.53 261 *e*P **P** 06 24 50.0 0.0
MAT *e*S **S** 06 30 05.0 -3.7
MAT pmax pmax
comp=Z,17nm,0.9s,mb5.0
MAT **Matsushiro** 33.53 261 *e*P **P** 06 24 50.0 0.0
comp=Z,17nm,0.9s,mb5.0
MAT *e*S **S** 06 30 05.0 -3.7
VLA **Vladivostok** 33.66 275 *i* P **P** 06 24 51.6 +0.4
VLA pmax pmax
comp=Z,38nm,1.0s,mb5.3
MDJ **Mudanjiang** 34.33 279 P **P** 06 24 56.6 -0.4
MDJ XP sP 06 25 12.8 -2.4
MDJ PP PP 06 26 14.7 -0.7
MDJ PCP PcP 06 27 32.3 +0.1
MDJ S **S** 06 30 21.2 +0.1
MDJ XS sS 06 30 39.8 -2.4
MDJ SCS ScS 06 35 15.9 +0.1
MDJ AMB AMB
comp=Z,23nm,0.9s,mb5.1
MDJ LR LR
comp=N,341nm,18.1s,MS4.3
MDJ LR LR
comp=E,432nm,18.4s,MS4.3
MDJ LR LR
comp=Z,750nm,20.3s,MS4.4
MDJ **Mudanjiang** 34.33 279 *e*P **P** 06 24 56.2 -0.8
comp=Z,15nm,0.9s,mb4.9
MDJ LR LR
comp=Z,819nm,21.0s,MS4.4
PGC **Sidney** 35.22 72 *e*P **P** 06 25 05.8 +1.2
comp=Z,47nm,0.9s,mb5.4
YKW3 **Yellowknife Ar** 35.43 46 *e*P **P** 06 25 05.8 -0.7
YKA **Yellowknife Ar** 35.45 46 P **P** 06 25 05.7 -0.9
comp=Z,34nm,0.8s,mb5.3,baz=282,slow=8.5,SNR=102
YKA PcP PcP 06 27 35.4 0.0
comp=Z,4.2nm,0.8s,baz=284,slow=3.1,SNR=7.3
YKA ScP ScP 06 31 17.0 -0.3
comp=Z,2.4nm,0.9s,baz=290,slow=2.8,SNR=5.3
YKA LR LR 06 41 36.0
comp=Z,1µm,19.1s,MS4.7,baz=275,slow=40
YKA **Yellowknife Ar** 35.45 46 *i* P **P** 06 25 05.6 -1.0
YKA pmax pmax
comp=Z,34nm,0.8s
B04A **Port Angeles** 35.45 73 ⇑P **P** 06 25 07.4 +0.8
baz=35
A04A **Legoe Bay, Lum** 35.63 71 ⇑P **P** 06 25 08.6 +0.4
baz=36,SNR=7.3
D03A **Wishkah Elem.** 35.72 74 ⇓P **P** 06 25 09.8 +0.8
baz=36,SNR=6.0
A05A **Maple Falls** 35.87 71 ⇑P **P** 06 25 10.8 +0.5
baz=36,SNR=37
C04A **Brinnon** 35.92 73 ⇑P **P** 06 25 11.4 +0.7
baz=36
GNW **Green Mountain** 36.08 73 *e*P **P** 06 25 13.3 +1.3
E03A **Lebam** 36.11 75 ⇓P **P** 06 25 13.4 +1.1
baz=36,SNR=26
B05A **Bryant** 36.20 72 ⇑P **P** 06 25 13.6 +0.6
baz=36,SNR=28
D04A **Dobbs Creek Ra** 36.31 74 ⇓P **P** 06 25 14.3 +0.3
baz=36,SNR=6.1
F03A **Seaside** 36.41 76 ⇓P **P** 06 25 15.2 +0.3
baz=36,SNR=8.3
POHA **Pohakuloa** 36.60 141 PFAKE 06 25 30.0 +13
POHA LR LR
comp=Z,1µm,20.0s,MS4.8
E04A **Onalaska** 36.60 75 ⇓P **P** 06 25 16.8 +0.3
baz=36,SNR=9.0
C05A **Tolt Reservoir** 36.70 72 P **P** 06 25 18.3 +1.0
baz=37,SNR=10
D05A **Enumclaw** 36.76 73 P **P** 06 25 19.3 +1.5
baz=37,SNR=22
RCM **Mount Rainier-** 37.08 74 P **P** 06 25 22.5 +2.0
F04A **Amboy** 37.10 75 ⇑P **P** 06 25 21.0 +0.2
baz=37,SNR=23
PNT **Penticton** 37.19 69 P **P** 06 25 21.8 +0.3
E05A **Randle** 37.20 74 ⇓P **P** 06 25 21.6 +0.1
baz=37,SNR=29
H03A **Soap Creek Ran** 37.20 78 ⇑P **P** 06 25 21.4 -0.2
baz=37
COR **Corvallis** 37.24 78 *e*P **P** 06 25 23.7 +1.8
COR pmax pmax
comp=Z,44nm,0.9s,mb5.3
COR MLR MLR
comp=Z,843nm,19.0s,MS4.5
COR **Corvallis** 37.24 78 *e*P **P** 06 25 23.7 +1.7
comp=Z,44nm,0.9s,mb5.3
COR LR LR
comp=Z,843nm,19.0s,MS4.5
CN2 **Changchun** 37.30 281 ⇑P **P** 06 25 21.8 -0.7
CN2 *e*S **S** 06 31 05.0 -1.6
CN2 AMB AMB
comp=Z,30nm,1.2s,mb5.0
CN2 AMB AMB
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,1µm,21.0s,MS4.9
CN2 LR LR
comp=E,1µm,21.0s,MS4.9
CN2 LR LR
comp=Z,2µm,21.0s,MS4.8
G04A **Mulino** 37.43 77 ⇓P **P** 06 25 23.2 -0.3
baz=37,SNR=11
TWW **Teanaway** 37.45 73 P **P** 06 25 25.2 +1.5
KEBM **Edson Butte** 37.51 81 *e*P **P** 06 25 26.4 +2.2
I03A **Eugene** 37.58 79 ⇓P **P** 06 25 24.9 +0.1
baz=38
TBM **Table Mountain** 37.60 73 P **P** 06 25 26.0 +1.0
F05A **White Salmon** 37.71 75 ⇑P **P** 06 25 26.4 +0.4
baz=38,SNR=6.5
J02A **Umpqua** 37.71 80 ⇓P **P** 06 25 26.0 0.0
baz=38
WTV **Waterville** 37.73 72 P **P** 06 25 26.3 +0.2
EBG **Ellensburg** 37.74 73 P **P** 06 25 27.1 +1.0
VLL **Laurance Lake** 37.79 76 P **P** 06 25 27.8 +1.3
BOD **Bodaibo** 37.80 307 *e*P **P** 06 25 25.9 -0.8
BOD *e* 06 31 14.3
BOD pmax pmax
comp=Z,44nm,1.0s,mb5.1
H04A **Detroit Lake** 37.88 77 ⇓P **P** 06 25 27.9 +0.6
baz=38,SNR=37
HOOD **Mount Hood Mea** 37.88 76 *e*P **P** 06 25 28.6 +1.3
HIA **Hailar** 38.06 292 ⇑ *i*P **P** 06 25 28.6 -0.3
HIA LR LR
comp=Z,1µm,19.0s,MS4.7
K02A **Glendale** 38.09 81 ⇑P **P** 06 25 27.6 -1.5
baz=38
J03A **Hayild Park** 38.09 79 ⇓P **P** 06 25 27.8 -1.3
baz=38,SNR=5.6
EPH **Ephrata** 38.11 72 P **P** 06 25 29.4 +0.1
G05A **Wamic** 38.12 76 ⇓P **P** 06 25 29.9 +0.5
baz=38,SNR=17
H05A **Madras** 38.48 77 ⇓P **P** 06 25 32.5 +0.2
baz=38,SNR=17
HUMO **Hull Mountain** 38.50 80 *e*P **P** 06 25 33.8 +1.2
HUMO LR LR
comp=Z,728nm,20.0s,MS4.5
HUMO **Hull Mountain** 38.50 80 ⇑P **P** 06 25 32.4 -0.1
baz=38,SNR=6.4
HAWA **Hanford** 38.62 73 *e*P **P** 06 25 33.8 +0.2
comp=Z,3.3nm,0.8s
HAWA *e*pP pP 06 25 46.0 -0.3
HAWA LR LR
comp=Z,58nm,20.0s
OD2 **Odessa Site #2** 38.62 71 P **P** 06 25 33.5 -0.1
I05A **Bend** 38.71 77 ⇓P **P** 06 25 34.8 +0.5
baz=39,SNR=14
EDM **Edmonton** 39.06 61 *e*P **P** 06 25 36.6 -0.6
NEW **Newport** 39.14 69 P **P** 06 25 38.0 +0.1
comp=Z,71nm,1.0s,mb5.3,baz=302,slow=7.1,SNR=66
NEW LR LR 06 39 10.5
comp=Z,485nm,21.0s,MS4.3,baz=292,slow=32
NEW **Newport** 39.14 69 P **P** 06 25 38.0 +0.1
NEW LR LR 06 39 10.5
YBH **Yreka Blue Hor** 39.14 81 P **P** 06 25 38.6 +0.7
comp=Z,28nm,0.9s,mb5.0,baz=300,slow=3.4,SNR=14
YBH LR LR 06 38 27.6
comp=Z,761nm,21.9s,MS4.5,baz=304,slow=31
YBH **Yreka Blue Hor** 39.14 81 P **P** 06 25 40.1 +2.2
YBH pmax pmax
comp=Z,27nm,1.0s
YBH **Yreka Blue Hor** 39.14 81 *e*P **P** 06 25 39.4 +1.5
YBH LR LR
comp=Z,685nm,21.0s,MS4.5
YBH **Yreka Blue Hor** 39.14 81 ⇓P **P** 06 25 38.5 +0.6
baz=39,SNR=8.7
M02C **Callahan** 39.24 82 ⇑P **P** 06 25 39.4 +0.6
baz=39
K04A **Chiluin** 39.26 80 ⇓P **P** 06 25 39.4 +0.5
baz=39
N02C **Big Bar** 39.28 83 ⇓P **P** 06 25 39.4 +0.3
baz=39
L04A **Klamath Falls** 39.40 80 ⇓P **P** 06 25 40.5 +0.4
baz=39,SNR=10.0
SNY **Shenyang** 39.53 279 ⇑P **P** 06 25 41.5 +0.3
SNY AP pP 06 25 54.7 +0.8
SNY AMB AMB
comp=Z,56nm,1.3s,mb5.1
SNY AMB AMB
comp=Z,465nm,5.3s
SNY LR LR
comp=N,577nm,19.8s,MS4.5
SNY LR LR
comp=E,573nm,22.0s,MS4.5
SNY LR LR
comp=Z,798nm,18.2s,MS4.6
M04C **Macdoel** 39.65 81 ⇑P **P** 06 25 42.7 +0.5
baz=40,SNR=19
J06A **Christmas Vall** 39.88 78 ⇓P **P** 06 25 44.4 +0.3
baz=40,SNR=42
RES **Resolute Bay** 39.89 24 *e*P **P** 06 25 44.2 +0.1
WDC **Whiskeytown Da** 39.90 83 P **P** 06 25 45.7 +1.5
WDC pmax pmax
comp=Z,16nm,1.0s,mb4.7
WDC **Whiskeytown Da** 39.90 83 *e*P **P** 06 25 45.1 +0.9
WDC LR LR
comp=Z,466nm,20.0s,MS4.3
WDC **Whiskeytown Da** 39.90 83 ⇓P **P** 06 25 44.2 0.0
baz=40
O02C **Red Bluff** 39.98 83 ⇓P **P** 06 25 44.6 -0.2
baz=40
K06A **Valley Falls** 40.07 78 ⇓P **P** 06 25 46.4 +0.8
baz=40,SNR=27
L05A **Lakeview** 40.12 80 ⇓P **P** 06 25 46.6 +0.5
baz=40,SNR=15
INCN **Inchon** 40.17 272 *e*P **P** 06 25 47.4 +0.9
comp=Z,60nm,0.9s,mb5.3
INCN LR LR
comp=Z,633nm,22.0s,MS4.4
M05C **Lookout** 40.32 81 ⇑P **P** 06 25 47.9 +0.2
baz=40,SNR=26
GASB **Alder Springs** 40.33 84 ⇓P **P** 06 25 48.0 +0.2
baz=40
J07A **Hines** 40.33 77 ⇓P **P** 06 25 48.1 +0.3
baz=40,SNR=18
HATC **Hat Creek Radi** 40.43 82 ⇑P **P** 06 25 48.7 0.0
baz=40,SNR=6.0
HOPS **Hopland** 40.50 85 PFAKE 06 26 00.0 +11
HOPS LR LR
comp=Z,780nm,20.0s,MS4.6
WALA **Waterton Lakes** 40.62 67 *e*P **P** 06 25 50.2 0.0
comp=Z,97nm,1.2s,mb5.3
BSMT **Bassoo Peak** 40.71 69 *e*P **P** 06 25 51.2 +0.3
BMO **Blue Mountains** 40.75 74 *e*P **P** 06 25 51.5 +0.2
BMO *e*ScP ScP 06 31 50.9 +13
BMO LR LR
comp=Z,616nm,20.0s,MS4.5
M06C **Likely Place G** 40.82 81 ⇑P **P** 06 25 51.9 0.0
baz=41,SNR=14
J08A **Circle Bar Ran** 40.85 77 ⇓P **P** 06 25 52.4 +0.3
baz=41,SNR=22
O04C **Chester** 40.95 82 ⇓P **P** 06 25 53.1 +0.2
baz=41,SNR=20
ELFS **Eagle Lake Fie** 41.00 82 ⇑P **P** 06 25 53.5 +0.1
baz=41
L07A **Adell** 41.06 79 ⇓P **P** 06 25 53.1 -0.7
baz=41,SNR=10
ORV **Oroville** 41.15 83 ⇓P **P** 06 25 54.5 0.0
baz=41,SNR=6.0
SUTB **Sutter Butte** 41.16 84 ⇑P **P** 06 25 54.3 -0.3
baz=41
WVOR **Wild Horse Val** 41.26 78 *e*P **P** 06 25 55.6 +0.1
WVOR pmax pmax
comp=Z,37nm,0.9s,mb5.0
WVOR MLR MLR
comp=Z,986nm,20.0s,MS4.7
WVOR **Wild Horse Val** 41.26 78 *e*P **P** 06 25 55.6 +0.2
comp=Z,37nm,0.9s,mb5.0
WVOR LR LR
comp=Z,986nm,20.0s,MS4.7
O05C **Quincy** 41.27 82 ⇑P **P** 06 25 55.8 +0.3
baz=41
OHCM **Honcut** 41.28 84 *e*P **P** 06 25 55.7 0.0
Q03C **Winters** 41.38 85 ⇑P **P** 06 25 55.4 -1.1
baz=41
M07A **Soldier Meadow** 41.52 80 ⇓P **P** 06 25 57.6 0.0
baz=41,SNR=84
MSO **Missoula** 41.72 70 *e*P **P** 06 25 59.1 -0.2
comp=Z,70nm,1.1s,mb5.2
MSO LR LR
comp=Z,228nm,20.0s,MS4.0
O06A **Flanigan** 41.83 81 ⇑P **P** 06 26 00.2 +0.1
baz=42,SNR=25
P05C **Yuba Gap, Truc** 41.85 83 ⇓P **P** 06 26 00.1 -0.2
baz=42
BDM **Black Diamond** 41.88 86 ⇓P **P** 06 25 59.5 -1.1
baz=42
M08A **Happy Creek Ra** 41.98 79 ⇑P **P** 06 26 01.6 +0.3
baz=42,SNR=40
P06A **Stead Airport,** 42.07 82 ⇑P **P** 06 26 02.1 +0.1
baz=42
CHMT **Chamberlain Mo** 42.08 69 *e*P **P** 06 26 01.8 -0.4
L09A **Wilkinson Ranc** 42.09 78 ⇑P **P** 06 26 02.7 +0.4
baz=42,SNR=23
LAVA **Lava Cap Winer** 42.09 84 ⇓P **P** 06 26 01.5 -0.8
baz=42,SNR=7.7
WENL **Wente Brothers** 42.15 86 ⇑P **P** 06 26 02.4 -0.3
baz=42
PAHR **Pah Rah Range** 42.37 82 *e*P **P** 06 26 04.6 0.0
WCN **Washoe City** 42.38 82 ⇓P **P** 06 26 04.6 0.0
baz=42,SNR=5.9
O07A **Toulon** 42.42 81 ⇑P **P** 06 26 04.9 0.0
baz=42,SNR=38
DL2 **Dalian** 42.44 277 P **P** 06 26 04.8 -0.3
DL2 *e*S **S** 06 32 22.4 -1.1
DL2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
DL2 AMB AMB
comp=Z,260nm,5.4s
DL2 LR LR
comp=N,230nm,17.3s,MS4.3
DL2 LR LR
comp=E,300nm,18.4s,MS4.3
DL2 LR LR
comp=Z,260nm,17.5s,MS4.2
N08A **GE Springer Mi** 42.52 80 ⇑P **P** 06 26 05.9 +0.2
baz=42,SNR=21
R05C **Kirkwood Meado** 42.54 83 ⇑P **P** 06 26 05.8 -0.1
baz=42,SNR=6.1
M09A **Marrel Ranch,** 42.56 78 ⇑P **P** 06 26 06.5 +0.4
baz=42,SNR=18
ALE **Alert** 42.71 10 P **P** 06 26 07.6 +0.3
comp=Z,153nm,0.9s,mb5.7,SNR=9.3
CMB **Columbia Colle** 42.75 84 *e*P **P** 06 26 08.7 +1.1
CMB MLR MLR
comp=Z,714nm,20.0s,MS4.6
CMB **Columbia Colle** 42.75 84 ⇓P **P** 06 26 07.2 -0.4
baz=43,SNR=6.7
PACP **Pacheco Peak** 42.82 86 ⇓P **P** 06 26 07.5 -0.7
baz=43
HRY **Holter Researc** 43.02 69 *e*P **P** 06 26 09.6 -0.2
R06C **Coleville** 43.04 83 ⇑P **P** 06 26 10.1 +0.1
baz=43,SNR=6.4
HAST **UC Hastings Re** 43.05 87 ⇓P **P** 06 26 09.5 -0.5
baz=43
WAKR **Walker** 43.06 83 *e*P **P** 06 26 11.2 +1.1
M10A **I.L. Ranch, Tu** 43.06 78 ⇓P **P** 06 26 10.4 +0.3
baz=43,SNR=13
LRM **Limekiln Ridge** 43.13 70 *e*P **P** 06 26 10.5 -0.2
S06C **San Francisco** 43.18 84 ⇓P **P** 06 26 11.1 0.0
baz=43
P08A **Dixie Valley** 43.19 81 ⇓P **P** 06 26 11.5 +0.3
baz=43
HLID **Hailey** 43.20 74 *e*P **P** 06 26 11.5 +0.2
comp=Z,65nm,1.0s,mb5.3
HLID LR LR
comp=Z,682nm,20.0s,MS4.5
S05C **Merced** 43.21 85 ⇓P **P** 06 26 11.0 -0.3
baz=43
BMN **Battle Mountai** 43.28 79 *e*P **P** 06 26 12.9 +1.0
DLMT **Dillon** 43.29 71 *e*P **P** 06 26 12.2 +0.2
MCMT **McKenzie Canyo** 43.44 71 *e*P **P** 06 26 13.2 0.0
O09A **Fish Creek Ran** 43.45 80 ⇓P **P** 06 26 13.5 +0.2
baz=43,SNR=28
EGMT **Eagleton** 43.53 66 *e*P **P** 06 26 13.4 -0.5
comp=Z,43nm,0.9s,mb5.2
EGMT LR LR
comp=Z,322nm,22.0s,MS4.2
N10A **Dunphy** 43.55 79 ⇑P **P** 06 26 14.1 0.0
baz=43
R07C **Lee Vining** 43.55 83 ⇑P **P** 06 26 13.3 -0.8
baz=43
BOZ **Bozeman (W)** 43.71 70 *e*P **P** 06 26 15.4 +0.1
BOZ pmax pmax
comp=Z,78nm,1.1s,mb5.3
BOZ MLR MLR
comp=Z,376nm,19.0s,MS4.3
BOZ **Bozeman (W)** 43.71 70 *e*P **P** 06 26 15.4 +0.1
comp=Z,78nm,1.1s,mb5.3
BOZ LR LR
comp=Z,376nm,19.0s,MS4.3
Q08A **Gabbs** 43.78 82 ⇑P **P** 06 26 15.9 0.0
baz=44,SNR=20
T06C **Millerton Lake** 43.81 85 ⇓P **P** 06 26 15.3 -0.9
baz=44
NVAR **Mina Array Bea** 43.81 82 P **P** 06 26 16.3 +0.2
comp=Z,12nm,0.9s,mb4.7,baz=303,slow=6.6,SNR=28
NVAR ScP ScP 06 31 50.1 +0.4
comp=Z,2.1nm,0.9s,baz=286,slow=2.2,SNR=9.3
P09A **Austin** 43.85 80 ⇓P **P** 06 26 16.9 +0.3
baz=44,SNR=7.0
KCC **Kaiser Creek** 43.86 84 ⇓P **P** 06 26 15.3 -1.2

baz=44
MNV Mina 43.90 82 *e*P **P** **06 26 17.4 +0.5**
MNV MLR MLR
comp=Z,449nm,19.0s,MS4.4
V04C Ramage Ranch, 43.95 87 ⇓P **P** **06 26 17.2 0.0**
baz=44
PKD Parkfield 43.96 87 ⇑P **P** **06 26 17.3 0.0**
baz=44
N11A Elko Archery C 43.96 78 ⇑P **P** **06 26 17.4 0.0**
baz=44
U05C Westside ANR, 43.97 86 ⇑P **P** **06 26 17.5 0.0**
baz=44
M12A Wells 44.12 77 ⇑P **P** **06 26 19.2 +0.6**
baz=44,SNR=16
P10A Eureka 44.23 80 ⇓P **P** **06 26 19.9 +0.3**
baz=44,SNR=15
Q09A Carvers 44.27 81 ⇓P **P** **06 26 19.9 +0.1**
baz=44,SNR=5.3
QLMT Earthquake Lak 44.27 71 *e*P **P** **06 26 20.4 +0.5**
MTUM Tungsten Hills 44.31 84 *e*P **P** **06 26 21.0 +0.8**
ELK Elko 44.31 78 *e*P **P** **06 26 20.8 +0.6**
ELK pmax pmax
comp=Z,30nm,0.9s
ELK MLR MLR
comp=Z,868nm,22.0s
ELK Elko 44.31 78 *e*P **P** **06 26 20.8 +0.6**
comp=Z,30nm,0.9s,mb5.0
ELK LR LR
comp=Z,868nm,22.0s,MS4.6
FFC Flin Flon 44.38 54 PFAKE 06 26 30.0 +9.3
FFC LR LR
comp=Z,581nm,20.0s,MS4.5
N12A Clover Valley, 44.38 78 ⇓P **P** **06 26 20.8 +0.1**
baz=44,SNR=52
O11A Cowboy Ranch, 44.42 79 P **P** **06 26 21.6 +0.5**
baz=44,SNR=31
M13A Montello 44.61 76 ⇑P **P** **06 26 22.8 +0.2**
baz=44,SNR=44
YMR Madison River 44.64 71 *e*P **P** **06 26 23.0 +0.2**
comp=Z,109nm,1.2s,mb5.6
YMR LR LR
comp=Z,1μm,19.0s,MS4.8
TPH Tonopah 44.70 82 *e*P **P** **06 26 26.4 +3.1**
TPH pmax pmax
comp=Z,28nm,1.0s,mb5.0
TPH Tonopah 44.70 82 *e*P **P** **06 26 24.6 +1.3**
comp=Z,28nm,0.9s,mb5.1
TPH LR LR
comp=Z,399nm,19.0s,MS4.4
P11A Circle Ranch, 44.71 79 ⇓P **P** **06 26 23.6 +0.2**
baz=45,SNR=8.7
GCMT Greycliff 44.78 69 *e*P **P** **06 26 24.2 +0.3**
GCMT *e*pP pP 06 26 37.1 +0.3
YFT Old Faithful 44.84 71 *e*P **P** **06 26 26.2 +1.8**
N13A Wendover, West 44.88 77 ⇓P **P** **06 26 24.8 +0.1**
baz=45,SNR=22
S09A Goldfield 44.92 83 ⇓P **P** **06 26 24.8 -0.2**
baz=45,SNR=12
LKWY Lake 45.03 70 *e*P **P** **06 26 27.9 +2.0**
LKWY *e**PP pP 06 26 40.0 +1.1
IMW Indian Meadow 45.09 71 *e*P **P** **06 26 28.0 +1.6**
comp=Z,30nm,0.9s,mb5.1
DCID1 Drake Creek 45.12 72 *e*P **P** **06 26 33.0 +6.4**
BJI Beijing 45.13 282 *e*P **P** **06 26 26.9 +0.2**
BJI AMB AMB
comp=Z,24nm,1.1s,mb4.9
BJI LR LR
comp=N,348nm,20.5s,MS4.6
BJI LR LR
comp=E,608nm,20.5s,MS4.6
BJI LR LR
comp=Z,555nm,23.2s,MS4.4
R10A Warm Springs 45.14 81 ⇑P **P** **06 26 26.2 -0.6**
baz=45,SNR=20
BJT Baijiatuau 45.15 282 *e*P **P** **06 26 26.7 -0.2**
BJT pmax pmax
comp=Z,30nm,1.1s
BJT MLR MLR
comp=Z,743nm,20.0s
BJT Baijiatuau 45.15 282 *e*P **P** **06 26 26.7 -0.1**
comp=Z,30nm,1.1s,mb5.0
BJT LR LR
comp=Z,743nm,20.0s,MS4.6
CWC Cottonwood Cre 45.19 85 ⇑P **P** **06 26 27.0 -0.2**
baz=45
Q11A Duckwater 45.20 80 P **P** **06 26 27.4 +0.2**
baz=45,SNR=28
HVU Hansel Valley 45.21 75 *e*P **P** **06 26 28.1 +0.8**
HVU *e* 06 28 11.4
HVU pmax pmax
comp=Z,21nm,0.8s,mb5.0
HVU Hansel Valley 45.21 75 *e*P **P** **06 26 28.1 +0.8**
comp=Z,21nm,0.8s,mb5.0
HVU *e*PcP PcP 06 28 11.4 +4.6
IRK Irkutsk 45.25 303 *e*P **P** **06 26 27.1 -0.5**
IRK pmax pmax
comp=Z,100nm,1.0s,mb5.6
P12A McGill 45.28 79 ⇑P **P** **06 26 27.5 -0.4**
baz=45,SNR=26
MOOW Moose Ponds 45.29 72 *e*P **P** **06 26 28.3 +0.3**
TPAW Teton Pass 45.32 72 *e*P **P** **06 26 28.9 +0.7**
comp=Z,15nm,0.8s,mb4.9
ISA Isabella 45.43 86 *e*P **P** **06 26 28.7 -0.4**
ISA Isabella 45.43 86 ⇓P **P** **06 26 28.2 -0.9**
baz=45
REDW Red Top Meadow 45.45 72 *e*P **P** **06 26 30.3 +1.1**
comp=Z,26nm,1.1s,mb5.0
BGU Big Grassy Mou 45.56 76 *e*P **P** **06 26 30.3 +0.2**
BGU *e*pP pP 06 26 43.8 +0.7
Q12A Willow Creek R 45.59 79 ⇑P **P** **06 26 30.3 0.0**
baz=46,SNR=12
AHID Auburn Hatcher 45.64 73 *e*P **P** **06 26 31.5 +0.7**
comp=Z,43nm,1.0s,mb5.3
AHID LR LR
comp=Z,774nm,22.0s,MS4.6
TLY Talaya 45.87 302 P **P** **06 26 33.0 +0.4**
comp=Z,258nm,0.9s,mb6.2,SNR=17
TPNV Topopah Spring 46.01 83 *e*P **P** **06 26 33.7 +0.1**
TPNV pmax pmax
comp=Z,42nm,1.0s,mb5.3
TPNV MLR MLR
comp=Z,630nm,19.0s,MS4.6
TPNV Topopah Spring 46.01 83 *e*P **P** **06 26 33.7 +0.1**
comp=Z,42nm,1.0s,mb5.3
TPNV LR LR
comp=Z,630nm,19.0s,MS4.6
HWUT Hardware Ranch 46.04 74 *e*P **P** **06 26 34.7 +0.7**
comp=Z,35nm,1.1s,mb5.2
HWUT LR LR
comp=Z,762nm,22.0s,MS4.6
ULN Ulaanbaatar 46.05 296 ⇑P **P** **06 26 34.7 +0.7**
SNR=17
ULN Ulaanbaatar 46.05 296 P **P** **06 26 34.9 +0.9**
ULN pmax pmax
comp=Z,47nm,1.0s,mb5.4
ULN Ulaanbaatar 46.05 296 *e*P **P** **06 26 34.8 +0.9**
comp=Z,47nm,1.0s,mb5.4
ULN LR LR
comp=Z,2μm,20.0s,MS5.0
FCC Fort Churchill 46.17 46 *e*P **P** **06 26 34.1 -0.9**
FCC pmax pmax
comp=Z,21nm,1.0s,mb5.0
FCC Fort Churchill 46.17 46 *e*P **P** **06 26 34.1 -0.9**
comp=Z,21nm,1.0s,mb5.0
LAO LASA Array 46.27 66 *e*P **P** **06 26 36.0 +0.3**
comp=Z,131nm,1.1s,mb5.8
LAO *e*pP pP 06 26 48.3 -0.4
LAO LR LR
comp=Z,484nm,22.0s,MS4.4
NOQ North Oquirrh 46.27 76 *e*P **P** **06 26 36.6 +0.9**
comp=Z,28nm,0.8s,mb5.2
U10A Ash Meadows, A 46.29 83 ⇓P **P** **06 26 34.8 -1.0**
baz=46,SNR=10
SNCC San Nicolas Is 46.34 89 PFAKE 06 26 50.0 +14
SNCC LR LR
comp=Z,367nm,20.0s,MS4.3
SNCC San Nicolas Is 46.34 89 ⇑P **P** **06 26 35.4 -0.8**
baz=46
TCUT Toone Canyon 46.43 75 *e*P **P** **06 26 37.6 +0.7**
SONM Songino Array 46.44 296 P **P** **06 26 38.1 +1.0**
comp=Z,37nm,1.1s,mb5.2,baz=54,slow=9.5,SNR=128
SONM PcP PcP 06 28 11.2 +0.1
comp=Z,4.3nm,0.8s,baz=42,slow=3.8,SNR=3.4
SONM ScP ScP 06 32 03.1 +2.6
comp=Z,0.5nm,0.6s,baz=90,slow=2.9,SNR=3.4
SONM LR LR 06 47 33.6
comp=Z,2μm,18.2s,MS5.0,baz=58,slow=38
SONM Songino Array 46.44 296 P **P** **06 26 38.1 +1.1**
SONM 06 28 11.2
CTU Camp Tracy 46.48 76 *e*P **P** **06 26 37.5 +0.2**
BW06 Boulder Array 46.57 72 *e*P **P** **06 26 38.1 +0.1**
BW06 LR LR
comp=Z,538nm,21.0s,MS4.5
PDAR Pinedale Array 46.57 72 P **P** **06 26 38.1 +0.1**
comp=Z,60nm,0.8s,mb5.6,baz=304,slow=3.6,SNR=341
PDAR ScP ScP 06 32 06.0 +4.9
comp=Z,1.5nm,1.0s,baz=329,slow=5.2,SNR=4.8
PDAR LR LR 06 43 26.1
comp=Z,430nm,22.0s,MS4.4,baz=306,slow=32
MWC Mount Wilson 46.62 87 *e*P **P** **06 26 39.0 +0.5**
GSC Goldstone 46.71 85 *e*P **P** **06 26 39.0 -0.1**
GSC Goldstone 46.71 85 ⇓P **P** **06 26 38.8 -0.4**
baz=47,SNR=23
NLU North Lily Min 46.72 77 *e*P **P** **06 26 39.9 +0.6**
NLU *e*PcP PcP 06 28 04.8 -7.3
U11A Corn Creek 46.88 83 ⇓P **P** **06 26 40.1 -0.4**
baz=47
TIA Tai'an 46.92 277 *e*P **P** **06 26 40.4 -0.3**
DAU Daniels Canyon 46.95 76 P **P** **06 26 42.3 +1.3**
DAU Daniels Canyon 46.95 76 *e*P **P** **06 26 41.9 +0.9**
MPU Maple Canyon 46.96 76 *e*P **P** **06 26 41.1 +0.1**
comp=Z,13nm,0.8s,mb4.9
SHPR Sheep Range 46.96 82 *e*P **P** **06 26 41.5 +0.4**
TUQ Turquoise Mtn. 47.17 84 ⇑P **P** **06 26 42.1 -0.7**
baz=47
V11A Goodsprings 47.22 83 ⇑P **P** **06 26 42.8 -0.3**
baz=47
ARUT Antelope Range 47.22 80 *e*P **P** **06 26 44.1 +1.0**
ARUT Antelope Range 47.22 80 *e*P **P** **06 26 43.5 +0.3**
MOY Mondy 47.28 303 *e*P **P** **06 26 43.8 +0.2**
MOY pmax pmax
comp=Z,77nm,2.5s,mb5.2
U12A Valley of Fire 47.40 82 ⇑P **P** **06 26 44.3 -0.2**
baz=47,SNR=18
CCUT Cedar City 47.42 80 *e*P **P** **06 26 45.2 +0.6**
HHC Hu-ho-hao-te 47.45 286 *e*P **P** **06 26 45.8 +0.8**
HHC AP pP 06 26 57.9 -0.1
HHC XP sP 06 27 03.2 -0.3
HHC PP PP 06 28 36.0 -0.5
HHC S **S** **06 33 34.5 -1.5**
HHC SCS ScS 06 36 32.9 -1.7
HHC AMB AMB
comp=Z,34nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,240nm,8.1s
HHC LR LR
comp=N,655nm,19.0s,MS4.8
HHC LR LR
comp=E,758nm,17.8s,MS4.8
HHC LR LR
comp=Z,768nm,20.2s,MS4.7
MSU Marysvale 47.55 78 *e*P **P** **06 26 46.1 +0.4**
V12A Nelson 47.65 83 ⇓P **P** **06 26 46.2 -0.3**
baz=48,SNR=7.3
TMUT Trail Mountain 47.66 77 *e*P **P** **06 26 47.4 +0.9**
SSE Sheshan 47.74 269 P **P** **06 26 47.5 +0.3**
SSE AP pP 06 27 00.7 +0.5
SSE S **S** **06 33 40.0 -0.1**
SSE AMB AMB
comp=Z,25nm,0.9s,mb5.2
SSE AMB AMB
comp=Z,565nm,5.6s
SSE LR LR
comp=N,139nm,24.0s,MS4.0
SSE LR LR
comp=E,137nm,24.0s,MS4.0
SSE LR LR
comp=Z,252nm,20.2s,MS4.2
W12A Cal Nev Ari 47.92 83 ⇓P **P** **06 26 47.8 -0.8**
baz=48
PFO Pinyon Flat Ob 48.03 86 ⇓P **P** **06 26 48.4 -1.0**
baz=48
109C Camp Elliot, M 48.10 88 ⇓P **P** **06 26 48.4 -1.5**
baz=48
SRU San Rafael 48.19 77 *e*P **P** **06 26 51.2 +0.6**
SRU pmax pmax
comp=Z,82nm,1.0s,mb5.7
SRU San Rafael 48.19 77 *e*P **P** **06 26 51.2 +0.6**
comp=Z,82nm,1.0s,mb5.7
BAR Barrett 48.51 87 *e*P **P** **06 26 53.0 -0.1**
BTO Baotou 48.53 286 *e*P **P** **06 26 54.0 +0.7**
NJ2 Nanjing 48.56 272 *e*P **P** **06 26 53.6 +0.1**
NJ2 PP PP 06 28 47.0 +0.4
NJ2 S **S** **06 33 50.0 -1.6**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
NJ2 AMB AMB
comp=Z,200nm,4.8s
NJ2 LR LR
comp=N,1μm,13.6s,MS5.1
NJ2 LR LR
comp=E,780nm,16.8s,MS5.1
NJ2 LR LR
comp=Z,1μm,12.9s,MS5.2
RWWY Rawlins 48.61 72 *e*P **P** **06 26 53.9 0.0**
comp=Z,63nm,1.1s,mb5.6
RSSD Black Hills 49.01 67 *e*P **P** **06 26 56.3 -0.7**
RSSD pmax pmax
comp=Z,35nm,1.0s,mb5.3
RSSD Black Hills 49.01 67 *e*P **P** **06 26 56.3 -0.7**
comp=Z,35nm,1.0s,mb5.3
W14A Seligman 49.09 82 ⇓P **P** **06 26 57.1 -0.5**
baz=49,SNR=8.7
Y12C Blythe 49.15 85 ⇑P **P** **06 26 57.1 -0.9**
baz=49
GLA Glamis 49.42 86 *e*P **P** **06 26 59.6 -0.5**
GLA Glamis 49.42 86 ⇑P **P** **06 26 59.3 -0.8**
baz=49,SNR=13
W15A Williams 49.61 82 ⇓P **P** **06 27 01.8 +0.2**
baz=50
X14A Yava 49.69 83 ⇑P **P** **06 27 02.0 -0.1**
baz=50,SNR=34
KBS Kingsbay 49.83 357 *c i*P **P** **06 27 03.7 +0.5**
KBS Kingsbay 49.83 357 *e*P **P** **06 27 03.7 +0.5**
comp=Z,42nm,0.8s,mb5.5
KBS LR LR
comp=Z,199nm,19.0s,MS4.1
PHWY Pilot Hill 49.89 71 *e*P **P** **06 27 00.5 -3.2**
ULM Lac du Bonnet 49.92 56 P **P** **06 27 01.9 -2.0**
comp=Z,8.1nm,1.1s,mb4.7,baz=312,slow=9.4,SNR=4.6
ULM LR LR 06 47 46.5
comp=Z,588nm,18.8s,MS4.6,baz=273,slow=36
WUAZ Wupatki 49.95 81 *e*P **P** **06 27 04.3 +0.2**
comp=Z,38nm,1.0s,mb5.4
WUAZ LR LR
comp=Z,739nm,22.0s,MS4.7
Y14A Wickenburg 49.97 83 ⇓P **P** **06 27 03.2 -1.1**
baz=50,SNR=9.2
X15A Humboldt 50.08 82 P **P** **06 27 05.0 0.0**
baz=50,SNR=21
SMCO Snowmass 50.30 74 *e*P **P** **06 27 07.1 +0.3**
comp=Z,12nm,0.7s,mb5.0
SPB4 Spitsbergen Ar 50.40 356 *e*P **P** **06 27 06.3 -1.2**
ISCO Idaho Springs 50.73 73 *e*P **P** **06 27 10.1 +0.1**
ISCO pmax pmax
comp=Z,40nm,1.1s,mb5.3
ISCO MLR MLR
comp=Z,647nm,20.0s,MS4.6
ISCO Idaho Springs 50.73 73 *e*P **P** **06 27 10.1 +0.1**
comp=Z,40nm,1.1s,mb5.3
ISCO LR LR
comp=Z,647nm,20.0s,MS4.6
115A Sonoran Desert 51.28 84 ⇓P **P** **06 27 13.9 -0.2**
baz=51,SNR=14
DAG Danmarks Havn 51.57 6 ⇓*i*P **P** **06 27 14.8 -1.5**
comp=Z,6.7nm,0.9s,mb4.6
DAG Danmarks Havn 51.57 6 ⇓*i*P **P** **06 27 14.8 -1.5**
DAG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
116A Eloy 51.70 84 ⇓P **P** **06 27 16.8 -0.5**
baz=52
SDCO Great Sand Dun 52.10 75 PFAKE 06 27 30.0 +10
SDCO LR LR
comp=Z,605nm,22.0s,MS4.6
WHN Wuhan 52.40 274 P **P** **06 27 22.3 -0.2**
TUC Tucson 52.44 83 *e*P **P** **06 27 22.8 0.0**
TUC pmax pmax
comp=Z,17nm,1.0s,mb4.9
TUC MLR MLR
comp=Z,262nm,19.0s,MS4.3
TUC Tucson 52.44 83 *e*P **P** **06 27 22.8 0.0**
comp=Z,17nm,1.0s,mb4.9
TUC LR LR
comp=Z,262nm,19.0s,MS4.3
LAZ Ladron 53.30 79 *e*P **P** **06 27 29.8 +0.7**
ANMO Albuquerque 53.35 78 P **P** **06 27 29.6 +0.1**
comp=Z,13nm,1.0s,mb4.8,baz=315,slow=7.1,SNR=15
ANMO Albuquerque 53.35 78 P **P** **06 27 29.6 +0.1**
ANMO pmax pmax
comp=Z,13nm,1.0s
ANMO Albuquerque 53.35 78 *e*P **P** **06 27 29.3 -0.2**
ANMO LR LR
comp=Z,591nm,21.0s,MS4.6
SUMG Summit 53.40 14 *e*P **P** **06 27 30.0 +0.2**
comp=Z,55nm,0.9s,mb5.5
XAN Xi'an 53.42 281 P **P** **06 27 29.4 -0.6**
XAN AP pP 06 27 39.4 -3.8
XAN AMB AMB
comp=Z,18nm,1.3s,mb4.8
ECSD EROS,Sioux Fal 53.48 63 *e*P **P** **06 27 28.8 -1.6**
LENM Lemitar 53.55 79 *e*P **P** **06 27 32.0 +1.0**
EYMN Ely 53.61 57 *e*P **P** **06 27 30.0 -1.3**
comp=Z,48nm,1.1s,mb5.3
EYMN LR LR
comp=Z,497nm,20.0s,MS4.6
Y22C IRIS PASSCAL I 53.65 79 ⇓P **P** **06 27 31.1 -0.6**
baz=54
LPM Los Pinos Moun 53.67 79 *e*P **P** **06 27 32.5 +0.7**
QZH Quanzhou 53.69 265 P **P** **06 27 32.1 +0.2**
QZH AMB AMB
comp=Z,80nm,0.9s,mb5.7
BNM Barren Site 53.78 79 *e*P **P** **06 27 33.5 +0.8**
ZAL Zalesovo 53.89 313 P **P** **06 27 33.0 -0.4**
comp=Z,3.0nm,0.9s,mb4.2,baz=52,slow=7.6,SNR=13
ZAL PcP PcP 06 28 38.7 +0.3
comp=Z,12nm,0.8s,baz=80,slow=5.0,SNR=15
ZAL LR LR 06 52 49.2
comp=Z,737nm,18.8s,MS4.8,baz=55,slow=38
ZAL Zalesovo 53.89 313 P **P** **06 27 33.0 -0.4**
ZAL 06 28 38.7
ZAL Zalesovo 53.89 313 P **P** **06 27 33.0 -0.4**
ZAL PcP PcP 06 28 38.7 +0.2
ZAL LR LR 06 52 49.2
NVS Novosibirsk 54.02 315 *e*P **P** **06 27 33.9 -0.5**
NVS *i* 06 28 38.3
NVS *e* 06 37 22.4
NVS pmax pmax
comp=N,7.0nm,1.1s
NVS pmax pmax
comp=Z,16nm,1.1s,mb4.9
NVS pmax pmax
comp=E,15nm,1.3s
LZH Lanzhou 55.15 286 *e*P **P** **06 27 43.6 +1.0**
LZH AP pP 06 27 57.3 +1.5
LZH PP PP 06 29 48.2 +2.0
LZH *e*S **S** **06 35 22.0 -0.1**
LZH SS SS 06 39 05.0 -1.6
LZH AMB AMB
comp=Z,99nm,1.2s,mb5.7
LZH AMB AMB
comp=Z,320nm,4.8s
LZH LR LR
comp=E,980nm,15.0s
LZH LR LR
comp=Z,1μm,16.0s,MS5.1
GTA Gaotai 55.35 292 ⇑*i*P **P** **06 27 44.8 +0.8**
GTA AP pP 06 27 59.2 +1.9
GTA PCP PcP 06 28 44.6 +0.6
GTA PP PP 06 29 49.0 +1.0
GTA S **S** **06 35 25.5 +0.8**
GTA SS SS 06 39 10.2 +0.6
GTA AMB AMB
comp=Z,58nm,1.0s,mb5.6
GTA AMB AMB
comp=Z,435nm,5.3s
GTA LR LR
comp=N,579nm,17.9s,MS4.8
GTA LR LR
comp=E,437nm,17.9s,MS4.8
GTA LR LR
comp=Z,786nm,18.2s,MS4.8
SFJD Kangerlussuaq 55.78 22 P **P** **06 27 46.4 -0.7**
comp=Z,14nm,0.8s,mb5.0,baz=321,slow=7.6,SNR=5.9
SFJD LR LR 06 52 44.1
comp=Z,302nm,19.5s,MS4.4,baz=46,slow=37
SFJD Kangerlussuaq 55.78 22 *i* P **P** **06 27 46.0 -1.1**
comp=Z,18nm,0.8s,mb5.2
SFJD Kangerlussuaq 55.78 22 P **P** **06 27 46.4 -0.7**
SFJD pmax pmax
comp=Z,14nm,0.8s,mb5.0
SFJD MLR MLR
comp=Z,302nm,19.5s,MS4.4
AMTX Amarillo 56.31 75 *e*P **P** **06 27 50.9 0.0**
AMTX LR LR
comp=Z,405nm,22.0s,MS4.5
GDL2 Guadalupe Moun 56.49 79 *e*P **P** **06 27 55.6 +3.4**
GDL2 *e* 06 28 16.3
GDL2 *e*ScP ScP 06 32 49.5 +5.6
KEV Kevo 57.71 350 PFAKE 06 28 10.0 +9.2
KEV LR LR
comp=Z,380nm,20.0s,MS4.5
JMIC Jan Mayen 57.80 4 LR LR 06 51 24.6
comp=Z,208nm,20.8s,MS4.2,baz=88,slow=34
ARCES ARCESS Array B 58.09 350 P **P** **06 28 02.9 -0.6**
comp=Z,22nm,0.8s,mb5.2,baz=19,slow=7.7,SNR=37
LVZ Lovozero 58.42 346 *e*P **P** **06 28 02.9 -2.8**
LVZ pmax pmax
comp=Z,42nm,1.0s,mb5.4
LVZ pmax pmax
comp=N,14nm,0.9s
LVZ pmax pmax
comp=E,6.0nm,0.9s
LVZ MLR MLR
comp=Z,617nm,21.0s,MS4.7
TRO Tromso 58.62 353 ⇑*i*P **P** **06 28 05.5 -1.6**
TRO AMb AMB 06 28 07.3
comp=Z,28nm,0.9s,mb5.3
TRO *e*pP pP 06 28 17.0 -3.5
TRO Tromso 58.62 353 ⇑*i*P **P** **06 28 05.5 -1.6**
TRO pmax pmax
comp=Z,28nm,0.9s,mb5.3
TRO Tromso 58.62 353 ⇑*i*P **P** **06 28 05.5 -1.6**
comp=Z,28nm,0.9s,mb5.3
CD2 Chengdu 58.73 282 ⇑*i*P **P** **06 28 07.7 -0.2**
CD2 AP pP 06 28 20.4 -0.9
CD2 XP sP 06 28 25.7 -1.1
CD2 PCP PcP 06 28 57.3 0.0
CD2 PP PP 06 30 19.3 +1.2
CD2 SCP ScP 06 32 53.0 -0.8
CD2 PCS PcS 06 32 58.0 -1.1
CD2 S **S** **06 36 06.7 -2.7**
CD2 XS sS 06 36 28.2 -3.5
CD2 SCS ScS 06 37 49.9 -3.8
CD2 SS SS 06 40 01.5 -1.4
CD2 AMB AMB
comp=Z,20nm,1.2s,mb5.0
CD2 AMB AMB
comp=Z,80nm,5.6s
CD2 LR LR
comp=E,260nm,21.6s
CD2 LR LR
comp=Z,270nm,19.2s,MS4.4
KURK Kurchatov 58.87 313 P **P** **06 28 09.2 +0.3**
comp=Z,336nm,0.9s,SNR=21
KURK Kurchatov 58.87 313 ⇓P **P** **06 28 09.2 +0.3**
SNR=22
KURK Kurchatov 58.87 313 *e*P **P** **06 28 08.5 -0.3**
KURK *e**PP pP 06 28 20.8 -1.4
KURK *e**SP sP 06 28 26.8 -0.9
KURK *e* 06 28 58.1
KURK pmax pmax
comp=Z,56nm,1.0s,mb5.5
KURK MLR MLR
comp=Z,908nm,19.0s,MS4.9
KURK Kurchatov 58.87 313 *e*P **P** **06 28 08.4 -0.4**
comp=Z,56nm,1.0s,mb5.5
KURK *e*pP pP 06 28 20.8 -1.4
KURK *e*sP sP 06 28 26.8 -0.9
KURK *e*PcP PcP 06 28 58.1 +0.2
KURK LR LR
comp=Z,908nm,19.0s,MS4.9
APA Apatity 58.91 346 *e*P **P** **06 28 07.0 -2.2**
APA pmax pmax
comp=Z,13nm,1.0s,mb4.9
APA MLR MLR
comp=Z,500nm,20.0s,MS4.6
LTX Lajitas 58.91 81 *e*P **P** **06 28 09.0 -0.2**
LTX pmax pmax

comp=Z,32nm,1.1s,mb5.3
LTX MLR MLR
comp=Z,364nm,21.0s,MS4.5
LTX Lajitas 58.91 81 *e*P **P 06 28 09.0 -0.2**
comp=Z,32nm,1.1s,mb5.3
LTX LR LR
comp=Z,364nm,21.0s,MS4.5
WMQ Urumqi 59.15 303 P P **06 28 12.9 +2.1**
WMQ AP pP 06 28 25.6 +1.4
WMQ PCP PcP 06 29 00.7 +1.7
WMQ PP PP 06 30 25.7 +3.9
WMQ SCP ScP 06 32 56.1 +0.5
WMQ PCS PcS 06 33 01.2 +0.3
WMQ S **S 06 36 15.6 +0.8**
WMQ AMB AMB
comp=Z,77nm,0.9s,mb5.7
WMQ AMB AMB
comp=Z,511nm,4.4s
WMQ LR LR
comp=N,625nm,23.2s,MS4.8
WMQ LR LR
comp=E,606nm,20.0s,MS4.8
WMQ LR LR
comp=Z,1μm,21.0s,MS5.0
MK31 Makanchi Array 59.86 308 P **P 06 28 15.4 -0.3**
MK31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
MKAR Makanchi Array 59.86 308 P **P 06 28 15.9 +0.2**
comp=Z,15nm,0.7s,mb5.1,baz=52,slow=7.9,SNR=71
GYA Guiyang 60.07 276⇑ *i*P **P 06 28 16.9 -0.3**
GYA AP pP 06 28 29.6 -1.0
GYA XP sP 06 28 34.9 -1.2
GYA S **S 06 36 22.0 -4.6**
GYA XS sS 06 36 43.5 -5.6
GYA SS SS 06 40 19.2 -4.8
GYA AMB AMB
comp=Z,30nm,1.5s,mb5.1
GYA AMB AMB
comp=Z,340nm,6.6s
GYA LR LR
comp=N,670nm,18.4s,MS5.0
GYA LR LR
comp=E,790nm,17.8s,MS5.0
GYA LR LR
comp=Z,940nm,18.0s,MS5.0
CHKZ Chkalovo 60.19 320 *i*P **P 06 28 17.1 -0.8**
CHKZ pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
CHKZ Chkalovo 60.19 320 *e*P **P 06 28 17.0 -0.9**
SCHQ Schefferville 60.20 38 P **P 06 28 17.4 -0.6**
comp=Z,41nm,1.0s,mb5.4,baz=326,slow=7.0,SNR=28
SCHQ LR LR 06 56 11.0
comp=Z,836nm,18.3s,MS4.9,baz=322,slow=38
CCM Cathedral Cave 60.29 65 *e*P **P 06 28 17.2 -1.4**
CCM pmax pmax
comp=Z,40nm,1.3s,mb5.3
CCM MLR MLR
comp=Z,351nm,20.0s,MS4.5
CCM Cathedral Cave 60.29 65 *e*P **P 06 28 17.2 -1.4**
comp=Z,40nm,1.3s,mb5.3
CCM LR LR
comp=Z,351nm,20.0s,MS4.5
SLM Saint Louis 60.46 64 P **P 06 28 19.3 -0.5**
SLM pmax pmax
comp=Z,91nm,1.2s,mb5.7
SLM Saint Louis 60.46 64 *e*P **P 06 28 19.0 -0.8**
JCT Junction City 60.49 77 *e*P **P 06 28 18.6 -1.4**
JCT pmax pmax
comp=Z,51nm,1.1s,mb5.5
JCT MLR MLR
comp=Z,668nm,20.0s,MS4.8
JCT Junction City 60.49 77 *e*P **P 06 28 18.6 -1.4**
comp=Z,51nm,1.1s,mb5.5
JCT LR LR
comp=Z,668nm,20.0s,MS4.8
VOSK Vostochnaya 60.74 319 P **P 06 28 19.8 -1.9**
VOSK pmax pmax
comp=Z,20nm,1.1s,mb5.2
BVA0 Borovoye Array 60.76 320 *i*P **P 06 28 19.8 -2.0**
BVA0 pmax pmax
comp=Z,4.0nm,1.1s,mb4.5
BVAR Borovoye Array 60.76 320 P **P 06 28 21.0 -0.9**
comp=Z,6.3nm,0.7s,mb4.9,baz=51,slow=7.8,SNR=20
BVAR PcP PcP 06 29 05.7 +0.3
comp=Z,14nm,0.9s,baz=62,slow=3.5,SNR=9.9
BVAR LR LR 06 56 07.8
comp=Z,872nm,22.0s,MS4.9,baz=319,slow=37
BVAR Borovoye Array 60.76 320 P **P 06 28 21.0 -0.8**
BVAR 06 29 05.7
BRVK Borovoye 60.78 320 P **P 06 28 21.8 -0.2**
comp=Z,113nm,1.2s,mb5.9,SNR=5.3
BRVK Borovoye 60.78 320⇑ P **P 06 28 21.2 -0.7**
SNR=10
BRVK Borovoye 60.78 320 P **P 06 28 21.8 -0.2**
BRVK pmax pmax
comp=Z,16nm,1.1s,mb5.1
BRVK Borovoye 60.78 320 *e*P **P 06 28 21.6 -0.4**
FVM French Village 60.80 65 P **P 06 28 20.7 -1.4**
FVM pmax pmax
comp=Z,62nm,1.2s,mb5.6
FVM French Village 60.80 65 *e*P **P 06 28 20.9 -1.2**
ZRNK Zerenda 61.37 320 *i*P **P 06 28 26.1 +0.1**
ZRNK pmax pmax
comp=Z,16nm,1.0s,mb5.1
ZRNK Zerenda 61.37 320 *e*P **P 06 28 25.3 -0.7**
comp=Z,20nm,1.0s,mb5.2
MIAR Mount Ida 61.38 70 *e*P **P 06 28 25.7 -0.4**
MIAR pmax pmax
comp=Z,64nm,1.2s,mb5.6
MIAR MLR MLR
comp=Z,394nm,19.0s,MS4.6
MIAR Mount Ida 61.38 70 *e*P **P 06 28 25.7 -0.4**
comp=Z,64nm,1.2s,mb5.6
MIAR LR LR
comp=Z,394nm,19.0s,MS4.6
SVE Sverdlovsk 61.49 327 *e*P **P 06 28 26.0 -0.8**
SVE *e* 06 29 16.5
SVE MLR MLR
comp=N,500nm,16.0s,MS4.8
SVE MLR MLR
comp=E,200nm,16.0s,MS4.8
SVE MLR MLR
comp=Z,900nm,16.0s,MS5.0
AAM Ann Arbor 61.50 57 *e*P **P 06 28 26.3 -0.6**
AAM pmax pmax
comp=Z,24nm,0.8s,mb5.4
AAM MLR MLR
comp=Z,375nm,20.0s,MS4.5
AAM Ann Arbor 61.50 57 *e*P **P 06 28 26.3 -0.5**
comp=Z,24nm,0.8s,mb5.4
AAM LR LR
comp=Z,375nm,20.0s,MS4.5
SIUC Southern Illin 61.67 64 *e*P **P 06 28 27.3 -0.8**
UALR University of 61.94 69 *e*P **P 06 28 28.5 -1.3**
comp=Z,25nm,1.2s,mb5.2
PARMO Parma 62.11 65 *e*P **P 06 28 30.3 -0.7**
BLO Bloomington 62.16 61 *e*P **P 06 28 30.8 -0.5**
HBAR Harrisburg 62.37 67 *e*P **P 06 28 32.4 -0.4**
USIN University of 62.37 63 *e*P **P 06 28 32.2 -0.5**
ARU Arti 62.51 328 *e*P **P 06 28 32.7 -0.9**
ARU *e* pP 06 28 46.1 -1.0
ARU *e* 06 29 09.7
ARU *e* 06 30 47.7
ARU *e*S **S 06 36 56.8 -0.7**
ARU *e*SS SS 06 41 02.8 +0.7
ARU MLR MLR
comp=N,400nm,20.0s,MS4.6
ARU MLR MLR
comp=Z,600nm,20.0s,MS4.8
ARU MLR MLR
comp=E,200nm,22.0s,MS4.6
ARU Arti 62.51 328 *e*P **P 06 28 33.4 -0.2**
comp=E,13nm,1.0s,mb5.0
ARU LR LR
comp=Z,599nm,20.0s,MS4.8
NATX Nacogdoches 62.70 73 *e*P **P 06 28 35.6 +0.8**
comp=Z,27nm,0.9s,mb5.4
NATX LR LR
comp=Z,589nm,19.0s,MS4.8
UTMT University of 62.84 65 *e*P **P 06 28 36.1 +0.3**
HALT Halls 62.88 66 *e*P **P 06 28 36.1 0.0**
WCI Wyandotte Cave 62.95 62 *e*P **P 06 28 36.2 -0.4**
WCI MLR MLR
comp=Z,292nm,20.0s,MS4.5
HKT Hockley 63.28 75 *e*P **P 06 28 39.0 +0.2**
HKT pmax pmax
comp=Z,38nm,1.5s,mb5.3
HKT MLR MLR
comp=Z,437nm,21.0s,MS4.6
HKT Hockley 63.28 75 *e*P **P 06 28 39.0 +0.3**
comp=Z,38nm,1.5s,mb5.3
HKT LR LR
comp=Z,437nm,21.0s,MS4.6
KMI Kunming 63.48 278 P **P 06 28 39.7 -0.4**
KMI AP pP 06 28 53.8 +0.2
KMI PP PP 06 31 01.3 +1.3
KMI S **S 06 37 10.6 +0.9**
KMI SS SS 06 41 17.4 +0.1
KMI SSS 06 44 07.2
KMI AMB AMB
comp=Z,19nm,1.5s,mb5.0
KMI AMB AMB
comp=Z,356nm,6.0s
KMI LR LR
comp=N,404nm,19.1s
KMI LR LR
comp=E,332nm,25.0s
KMI LR LR
comp=Z,300nm,22.4s,MS4.4
QIZ Qiongzhong 63.51 268 P **P 06 28 41.0 +0.7**
ERPA Erie 63.54 55 *e*P **P 06 28 40.4 -0.1**
ERPA LR LR
comp=Z,497nm,19.0s,MS4.7
JOF Joensuu 63.57 345 *e*p **P 06 28 40.4 -0.3**
comp=Z,50nm,0.9s,mb5.5
JOF Joensuu 63.57 345 *e*P **P 06 28 40.4 -0.3**
JOF pmax pmax
comp=Z,50nm,0.9s,mb5.5
WVT Waverly 63.58 65 *e*P **P 06 28 40.3 -0.4**
WVT pmax pmax
comp=Z,46nm,1.1s,mb5.4
WVT MLR MLR
comp=Z,335nm,19.0s,MS4.5
WVT Waverly 63.58 65 *e*P **P 06 28 40.3 -0.5**
comp=Z,46nm,1.1s,mb5.4
WVT LR LR
comp=Z,335nm,19.0s,MS4.5
ALLY Alegheny Colle 63.80 56 *e*P **P 06 28 42.2 0.0**
OXF Oxford 63.83 67 P **P 06 28 42.5 +0.1**
OXF pmax pmax
comp=Z,100nm,1.0s,mb5.8
OXF Oxford 63.83 67 *e*P **P 06 28 42.1 -0.2**
comp=Z,101nm,1.0s,mb5.8
OXF LR LR
comp=Z,323nm,21.0s,MS4.5
KLMR Klimovskoe 63.93 340 *e*P **P 06 28 42.1 -0.9**
KLMR pmax pmax
comp=Z,80nm,1.4s,mb5.6
MSNY Massena 63.99 50 *e*P **P 06 28 41.8 -1.6**
NSS Namsos 64.15 355 *e*P **P 06 28 43.3 -1.1**
PLAL Pickwick Lake 64.26 66 *e*P **P 06 28 44.5 -0.7**
PLAL LR LR
comp=Z,313nm,19.0s,MS4.5
LONY Lake Ozonia 64.40 50 *e*P **P 06 28 44.5 -1.7**
FRNY Flat Rock 64.72 49 *e*P **P 06 28 46.3 -1.9**
NCB Newcomb 65.06 50 *e*P **P 06 28 49.2 -1.3**
comp=Z,19nm,1.3s,mb5.0
NCB LR LR
comp=Z,663nm,19.0s,MS4.8
KAF Kangasniemi 65.10 347 *e*p **P 06 28 49.0 -1.7**
comp=Z,46nm,0.8s,mb5.5,baz=15,slow=5.8
KAF Kangasniemi 65.10 347 *e*P **P 06 28 49.0 -1.7**
KAF pmax pmax
comp=Z,46nm,0.8s,mb5.6
MCWV Mont Chateau 65.40 57 *e*P **P 06 28 52.6 0.0**
comp=Z,24nm,0.9s,mb5.2
MCWV LR LR
comp=Z,1μm,19.0s,MS5.0
BINY Binghamton 65.51 53 *e*P **P 06 28 52.9 -0.5**
BINY LR LR
comp=Z,496nm,22.0s,MS4.7
TZTN Tazewell 65.68 62 *e*P **P 06 28 54.5 +0.1**
SSPA Standing Stone 65.70 55 *e*P **P 06 28 54.0 -0.6**
comp=Z,20nm,0.8s,mb5.2
SSPA *e*PcP PcP 06 29 25.7 +0.1
SSPA LR LR
comp=Z,509nm,19.0s,MS4.8
ACCN Adirondack Com 65.77 50 *e*P **P 06 28 53.8 -1.1**
FIA1 FINESS Array S 65.77 347 *e*P **P 06 28 53.8 -1.2**
FIA1 *e*pP pP 06 29 07.1 -1.5
FIA1 *e*PcP PcP 06 29 25.0 -0.9
FINES FINESS Array B 65.77 347 P **P 06 28 53.7 -1.3**
comp=Z,23nm,0.8s,mb5.3,baz=33,slow=7.3,SNR=80
FINES LR LR 07 03 41.4
comp=Z,409nm,18.1s,MS4.7,baz=210,slow=42
FINES FINESS Array B 65.77 347 *i*P **P 06 28 54.2 -0.8**
FINES pmax pmax
comp=Z,23nm,0.8s
FINES FINESS Array B 65.77 347 P **P 06 28 53.7 -1.3**
FINES LR LR 07 03 41.4
CPCT Cooper Cave 65.93 63 *e*P **P 06 28 55.8 -0.3**
TKM2 Tokmak 2 65.94 309 P **P 06 28 57.2 +1.0**
SNR=35
LBNH Lisbon 65.95 49 *e*P **P 06 28 55.4 -0.8**
LBNH pmax pmax
comp=Z,29nm,1.0s,mb5.3
LBNH MLR MLR
comp=Z,839nm,22.0s,MS4.9
LBNH Lisbon 65.95 49 *e*P **P 06 28 55.4 -0.8**
comp=Z,29nm,1.0s,mb5.3
LBNH LR LR
comp=Z,839nm,22.0s,MS4.9
ULHL Ulahol 66.13 308 P **P 06 28 59.3 +1.9**
SNR=22
HNH Hanover 66.19 49 *e*P **P 06 28 56.4 -1.3**
comp=Z,1.6nm,1.0s
USP Ospenovka 66.22 310 P **P 06 28 58.3 +0.5**
SNR=61
LRAL Lakeview Retre 66.28 66 PFAKE 06 29 10.0 +12
LRAL LR LR
comp=Z,377nm,20.0s,MS4.6
CHMS Chumysh 66.30 310 P **P 06 28 59.9 +1.5**
SNR=12
FWV Forest Hill 66.41 59 *e*P **P 06 28 59.0 -0.2**
KBK Karagaybulak 66.46 309 P **P 06 29 01.1 +1.7**
SNR=17
FRU Bishkek 66.49 310 *e*P **P 06 29 00.0 +0.4**
FRU pmax pmax
comp=Z,100nm,2.0s,mb5.5
AAK Ala-Archa 66.70 310 P **P 06 29 02.6 +1.7**
SNR=18
AAK Ala-Archa 66.70 310 P **P 06 29 01.4 +0.5**
comp=Z,267nm,0.8s,mb6.3,SNR=13
AAK Ala-Archa 66.70 310⇑ P **P 06 29 01.5 +0.6**
SNR=20
AAK Ala-Archa 66.70 310⇓ *e*P **P 06 29 00.7 -0.2**
AAK pmax pmax
comp=Z,36nm,0.7s,mb5.5
AAK Ala-Archa 66.70 310 *e*P **P 06 29 00.9 -0.1**
AAK LR LR
comp=Z,584nm,21.0s,MS4.8
ELN Prospectdale 66.70 59 *e*P **P 06 29 00.9 -0.1**
KZA Kyzart 66.75 309 P **P 06 29 03.4 +2.1**
SNR=14
WVL Waterville 66.76 47 *e*P **P 06 29 00.3 -1.0**
comp=Z,24nm,1.1s,mb5.1
BLA Blacksburg 66.89 59 *e*P **P 06 29 01.4 -0.8**
BLA pmax pmax
comp=Z,6.0nm,1.5s,mb4.4
BLA Blacksburg 66.89 59 *e*P **P 06 29 01.4 -0.8**
comp=Z,6.1nm,1.5s,mb4.4
UCH Uchtor 66.99 309 P **P 06 29 04.4 +1.6**
SNR=24
EKS2 Erkin-Say 67.02 310 P **P 06 29 04.8 +1.7**
SNR=57
PMG Port Moresby 67.11 216 PFAKE 06 29 20.0 +16
PMG LR LR
comp=Z,415nm,19.0s,MS4.7
LSA Lhasa 67.22 289 *e*P **P 06 29 06.4 +2.2**
LSA Lhasa 67.22 289 *e*P **P 06 29 04.9 +0.7**
LSA pmax pmax
comp=Z,37nm,1.0s,mb5.4
LSA MLR MLR
comp=Z,679nm,19.0s,MS4.9
LSA Lhasa 67.22 289 *e*P **P 06 29 04.9 +0.6**
comp=Z,37nm,1.0s,mb5.4
LSA LR LR
comp=Z,679nm,19.0s,MS4.9
PAL Palisades 67.44 52 P **P 06 29 04.8 -0.8**
PAL pmax pmax
comp=Z,40nm,1.0s,mb5.4
PAL Palisades 67.44 52 *e*P **P 06 29 04.7 -0.9**
comp=Z,40nm,1.1s,mb5.4
HRV Harvard--Oak R 67.44 50 PFAKE 06 29 20.0 +14
HRV LR LR
comp=Z,504nm,21.0s,MS4.7
AML Almayashu 67.46 310 P **P 06 29 08.2 +2.3**
SNR=13
CPNY Central Park 67.57 52 *e*P **P 06 29 06.3 -0.2**
AKTO Aktyubinsk 67.57 324 LR LR 07 01 34.0
comp=Z,1μm,18.5s,MS5.1,baz=223,slow=38
WES Weston 67.65 50 *e*P **P 06 29 06.3 -0.7**
WES MLR MLR
comp=Z,663nm,20.0s,MS4.9
EMMW East Machias 67.65 46 *e*P **P 06 29 06.2 -0.8**
NB2 NORSAR Subarra 67.67 355 P **P 06 29 06.6 -0.5**
comp=Z,23nm,0.9s,mb5.2,baz=6.2,slow=6.5
NOA NORSAR Array B 67.67 355 P **P 06 29 06.5 -0.5**
comp=Z,17nm,0.8s,mb5.1,baz=6.9,slow=6.3,SNR=44
NOA LR LR 06 59 46.1
comp=Z,174nm,20.1s,MS4.3,baz=0.0,slow=37
HYA Hoyanger 67.77 357 *e*P **P 06 29 07.6 -0.1**
HYA AMb AMB 06 29 10.9
comp=Z,39nm,2.0s,mb5.1
HYA Hoyanger 67.77 357 *e*P **P 06 29 07.6 -0.1**
comp=Z,39nm,2.0s,mb5.1
CBN Corbin 67.77 56 PFAKE 06 29 20.0 +12
CBN LR LR
comp=Z,1μm,20.0s,MS5.1
AB31 Akbulak array 67.82 323 *i*P **P 06 29 07.5 -0.6**
AB31 pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
AB31 Akbulak array 67.82 323⇑ *e*P **P 06 29 07.6 -0.5**
KK31 Karatay Array 68.22 312 *i*P **P 06 29 10.6 0.0**
KK31 pmax pmax
comp=Z,48nm,1.0s,mb5.5
KK31 Karatay Array 68.22 312 *i*P **P 06 29 10.7 +0.1**
KKAR Karatay Array 68.22 312 *i*P **P 06 29 10.6 0.0**
KKAR pmax pmax
comp=Z,48nm,1.0s,mb5.5
KSH Kashi 68.32 306⇑ *i*P **P 06 29 13.5 +2.3**
KSH *e*PCP PcP 06 29 39.2 +2.7
KSH *e*PP PP 06 31 46.6 +4.3
KSH *e*SCP 06 33 36.7
KSH *e*PCS 06 33 44.1
KSH *e*S S 06 38 08.0 -0.6
KSH *e*SCS ScS 06 39 04.2 -2.5
KSH *e*SS SS 06 42 34.2 +1.7
KSH AMB AMB
comp=Z,326nm,2.3s,mb6.0
KSH AMB AMB
comp=Z,314nm,6.4s
KSH LR LR
comp=N,357nm,7.2s
KSH LR LR
comp=E,415nm,10.8s
KSH LR LR
comp=Z,335nm,16.8s
VSU Vasula 68.53 346*c i*P **P 06 29 11.8 -0.7**
TAOE Nuku Hiva Isla 68.76 138 *e*S S 06 38 00.9 -13
comp=Z,2μm,25.8s
TAOE *e*LR LR 06 49 43.4
comp=Z,3μm,24.0s,baz=341
MOS Moscow 69.01 339 *e*P **P 06 29 14.8 -0.7**
MOS *e* 06 29 40.3
MOS *e* 06 38 59.8
MOS pmax pmax
comp=Z,200nm,1.1s,mb6.0
MOS pmax pmax
comp=Z,143nm,1.1s,mb5.8
MOS MLR MLR
comp=Z,2μm,18.0s,MS5.3
ODD1 Odda 69.01 357 *e*P **P 06 29 14.1 -1.4**
KONO Kongsberg 69.14 355 P **P 06 29 16.7 +0.4**
KONO pmax pmax
comp=Z,54nm,1.2s,mb5.3
KONO Kongsberg 69.14 355 *e*P **P 06 29 16.6 +0.3**
KONO LR LR
comp=Z,289nm,19.0s,MS4.5
KKM Kota Kinabalu 69.56 253 *e*P **P 06 29 18.3 -0.6**
CNNC Cliffs of the 69.72 59 *e*P **P 06 29 19.8 -0.1**
OBN Obninsk 69.82 339*c i*P **P 06 29 20.0 -0.5**
OBN pmax pmax
comp=Z,117nm,0.9s,mb5.8
OBN MLR MLR
comp=Z,700nm,17.0s,MS5.0
OBN Obninsk 69.82 339 *e*P **P 06 29 20.2 -0.2**
OBN LR LR
comp=Z,664nm,19.0s,MS4.9
GUN Gumba 71.64 292 *e*P **P 06 29 32.8 +1.3**
comp=Z,356nm,0.9s,mb6.3
JIRN Jiri 71.64 291 *e*P **P 06 29 33.0 +1.4**
comp=Z,186nm,0.9s,mb6.0
KKN Kakani 72.08 292 *e*P **P 06 29 35.4 +1.2**
comp=Z,117nm,0.9s,mb5.8
MNK Minsk 72.14 344 *e*P **P 06 29 33.0 -1.6**
PKI Pulchoki 72.17 292 *e*P **P 06 29 35.7 +1.0**
comp=Z,110nm,1.0s,mb5.7
GKN Gorkha 72.29 293 *e*P **P 06 29 36.1 +0.7**
comp=Z,117nm,0.8s,mb5.8
DMN Daman 72.31 292 *e*P **P 06 29 36.7 +1.1**
comp=Z,116nm,1.0s,mb5.8
MUD Monsted U'grnd 72.35 355 *i*P **P 06 29 36.3 +0.5**
comp=Z,67nm,1.3s,mb5.4
MUD *e* 06 42 33.9
MUD Monsted U'grnd 72.35 355 *i*P **P 06 29 36.3 +0.5**
MUD pmax pmax
comp=Z,67nm,1.3s,mb5.4
COP Copenhagen 72.91 353⇑ *i*P **P 06 29 39.2 +0.1**
comp=Z,34nm,1.0s,mb5.2
COP Copenhagen 72.91 353⇑ *i*P **P 06 29 39.2 +0.1**
COP pmax pmax
comp=Z,34nm,1.0s,mb5.2
KOLN Koldanda 73.06 293 *e*P **P 06 29 41.0 +1.0**
comp=Z,71nm,0.9s,mb5.6
DWPF Disney 73.14 66 PFAKE 06 29 50.0 +10
DWPF LR LR
comp=Z,329nm,19.0s,MS4.6
BSD Bornholm Skovb 73.27 352⇑ *i*P **P 06 29 40.6 -0.7**
comp=Z,18nm,0.8s,mb5.0
BSD Bornholm Skovb 73.27 352⇑ *i*P **P 06 29 40.6 -0.7**
BSD pmax pmax
comp=Z,18nm,0.8s,mb5.0
PPT Papeete 73.35 151 *e*S S 06 38 52.4 -15
comp=Z,970nm,28.0s
PPT *e*SS SS 06 43 37.3 -12
comp=Z,173nm,24.2s
PPT *e*LR LR 06 51 53.3
comp=Z,706nm,26.5s,baz=347
PPT Papeete 73.35 151 LR LR 06 56 26.5
comp=Z,365nm,18.3s,MS4.7,baz=328,slow=31
SUW Suwalki 73.36 346 *e*P **P 06 29 40.9 -0.9**
ESK Eskdalemuir 73.67 2 PFAKE 06 30 00.0 +16
ESK LR LR
comp=Z,158nm,19.0s,MS4.3
LGTI Lohaghat 73.69 297 *i*P **P 06 29 44.7 +0.9**
RGN Rugen 73.97 352 *e*P **P 06 29 45.5 +0.1**
comp=Z,133nm,0.9s,mb5.9
SMLA Simla 74.11 300 *e*P **P 06 29 47.1 +0.9**
NIL Nilore 74.23 304 P **P 06 29 48.3 +1.4**
comp=Z,174nm,1.0s,mb5.9,SNR=7.3
BOK Bokaro 74.74 289 *e*P **P 06 29 50.5 +0.6**
BOK AMb AMB 06 29 52.5
comp=Z,50nm,1.0s,mb5.4
BSEG Bad Segeberg 74.80 354 *e*P **P 06 29 50.2 0.0**
comp=Z,80nm,0.9s,mb5.7
BSEG Bad Segeberg 74.80 354 *e*P **P 06 29 50.2 0.0**
BSEG pmax pmax
comp=Z,80nm,0.9s,mb5.7
GKP Gorka Klasztor 74.86 350 *e*P **P 06 29 50.8 +0.3**
TEIG Tepich 75.04 76 PFAKE 06 30 00.0 +8.4
TEIG LR LR
comp=Z,139nm,19.0s,MS4.3
DCN Croghan 75.47 5 *e*P **P 06 29 52.1 -2.0**
AKASG Malin Array Be 75.51 342 P **P 06 29 53.8 -0.5**
comp=Z,70nm,0.7s,mb5.7,baz=19,slow=5.8,SNR=176
AKASG LR LR 07 07 44.0
comp=Z,237nm,18.6s,MS4.5,baz=30,slow=39
AKASG Malin Array Be 75.51 342 *i*P **P 06 29 53.7 -0.6**
AKASG pmax pmax
comp=Z,70nm,0.7s
AKBB Malin Array Si 75.51 342 *e*P **P 06 29 53.7 -0.6**
DLF Lyons Farm 75.56 5 *e*P **P 06 29 52.5 -2.1**
NDI New Delhi 75.97 298 *e*P **P 06 29 57.2 +0.3**
NDI AMb AMB 06 29 58.2
comp=Z,102nm,1.6s,mb5.5
RUE Ruedersdorf 75.98 352 *e*P **P 06 29 56.2 -0.8**
comp=Z,19nm,0.8s,mb5.1

WIT Witteveen 76.11 356 *e*P **P** **06 29 58.6 +0.9**
NRDL Niedersach Rie 76.25 354 *e*P **P** **06 29 59.1 +0.6**
KAKA Kakadu 76.32 229 *e*P **P** **06 29 57.2 -1.7**
comp=Z,21nm,0.8s,mb5.1
IBBN Ibbenburen 76.56 356 *e*P **P** **06 30 00.3 0.0**
KSM Kuching 76.74 255 *e*P **P** **06 30 01.1 -0.1**
CLZ Clausthal 76.88 354 *e*P **P** **06 30 02.1 0.0**
comp=Z,76nm,1.0s,mb5.6
CLZ Clausthal 76.88 354 *e*P **P** **06 30 02.1 0.0**
CLZ pmax pmax
comp=Z,76nm,1.0s,mb5.6
WTSB Winterswijk 76.95 356 *e*P **P** **06 30 02.4 0.0**
comp=Z,47nm,1.0s,mb5.4
CLL Collm 77.21 352 *e*P **P** **06 30 02.9 -1.0**
comp=Z,28nm,1.0s,mb5.2
CLL Collm 77.21 352 ⇑*i*P **P** **06 30 03.4 -0.5**
comp=Z,logA/T=1.4,mb5.1
CLL *i* *PP pP 06 30 16.7 -1.1
CLL *i* *SP sP 06 30 21.6 -1.5
CLL *i* 06 30 28.2
CLL Collm 77.21 352 ⇑*i*P **P** **06 30 03.4 -0.5**
comp=Z,28nm,1.0s,mb5.2
CLL *i* pP pP 06 30 16.7 -1.1
CLL *i* sP sP 06 30 21.6 -1.5
CLL *i* pPcP 06 30 28.2
CLL Collm 77.21 352 ⇑*i*P **P** **06 30 03.4 -0.5**
CLL *i* pP 06 30 16.7 -1.1
CLL *i* pP 06 30 21.6 +3.8
CLL pmax pmax
comp=Z,28nm,1.0s,mb5.2
CLL MLR MLR
comp=Z,400nm,15.3s,MS4.8
CLL Collm 77.21 352 ⇑*i*P **P** **06 30 03.4 -0.5**
comp=Z,28nm,1.0s,mb5.2
CLL *i* pP 06 30 21.6 +3.8
GOF Gofitskoye 77.28 331 *e*P **P** **06 30 04.1 -0.2**
GOF pmax pmax
comp=Z,120nm,1.3s,mb5.7
LVV L'vov 77.30 345 ⇑*i*P **P** **06 30 04.4 0.0**
CTA Charters Tower 77.30 213 *e*P **P** **06 30 03.3 -1.1**
comp=Z,10nm,0.9s,mb4.8
CTA Charters Tower 77.30 213 *e*P **P** **06 30 03.3 -1.1**
CTA pmax pmax
comp=Z,10.0nm,0.9s
CTAO Charters Tower 77.30 213 PFAKE 06 30 20.0 +16
CTAO LR LR
comp=Z,276nm,19.0s,MS4.6
KSP Ksiaz 77.35 350 *e*P **P** **06 30 04.6 -0.1**
KSP Ksiaz 77.35 350 *e*P **P** **06 30 04.2 -0.5**
KSP *e*pP pP 06 30 17.7 -0.9
BUG Bochum--Univer 77.45 356 *e*P **P** **06 30 04.8 -0.5**
comp=Z,49nm,1.2s,mb5.3
OJC Ojcow 77.54 348 *i* P **P** **06 30 05.7 0.0**
BRG Berggiesshubel 77.56 352 *e*P **P** **06 30 05.0 -0.9**
comp=Z,28nm,1.0s,mb5.2
BRG Berggiesshubel 77.56 352 *i* P **P** **06 30 05.6 -0.3**
comp=Z,17nm,1.0s,mb4.9
BRG Berggiesshubel 77.56 352 *i* P **P** **06 30 05.6 -0.3**
BRG pmax pmax
comp=Z,17nm,1.0s,mb4.9
UPC Upice 77.71 350 ⇑*e*P **P** **06 30 06.4 -0.3**
DPC Dobruska-Polom 77.83 350 ⇑*i*P **P** **06 30 07.5 +0.1**
PVCC Panska Ves 77.84 351 ⇑*i*P **P** **06 30 07.1 -0.3**
UBBA Unterbreizbach 77.92 354 *e*P **P** **06 30 07.9 0.0**
MOX Moxa 77.98 353 *e*P **P** **06 30 07.7 -0.5**
comp=Z,30nm,1.0s,mb5.2
MOX Moxa 77.98 353 *e*P **P** **06 30 07.9 -0.3**
comp=Z,39nm,1.1s,mb5.2
MOX
comp=Z,200nm,18.0s
MOX Moxa 77.98 353 *e*P **P** **06 30 07.9 -0.3**
MOX pmax pmax
comp=Z,39nm,1.1s,mb5.2
MOX MLR MLR
comp=Z,200nm,18.0s,MS4.5
OKC Ostrava-Krasne 78.12 349 ⇑*e*P **P** **06 30 08.7 -0.3**
TANN Tannenbergstha 78.14 352 *e*P **P** **06 30 08.7 -0.4**
BEBN Eben Emael 78.16 357 P **P** **06 30 09.2 -0.1**
HGN Heimansgroeve 78.19 357 *e*P **P** **06 30 09.2 -0.2**
comp=Z,62nm,0.9s,mb5.5
UCC Uccle 78.20 358 P **P** **06 30 09.3 -0.1**
BLSP Bilaspur 78.22 291 *e*P **P** **06 30 09.4 -0.1**
BLSP AMb AMB 06 30 11.5
comp=Z,42nm,1.3s,mb5.2
NIE Niedzica 78.25 347 *e*P **P** **06 30 10.1 +0.4**
MORC Moravsky Berou 78.26 349 ⇑*i*P **P** **06 30 09.7 -0.1**
MORC Moravsky Berou 78.26 349 P **P** **06 30 10.0 +0.2**
MORC Moravsky Berou 78.26 349 ⇑P **P** **06 30 09.7 -0.1**
NKC Novy Kostel 78.32 352 ⇑*i*P **P** **06 30 10.3 +0.2**
MEM Membach 78.34 357 P **P** **06 30 10.0 -0.2**
comp=Z,32nm,0.9s,mb5.2
PRU Pruhonice 78.38 351 ⇑*i*P **P** **06 30 10.2 -0.2**
KIV Kislovodsk 78.38 331 ⇑P **P** **06 30 10.6 +0.2**
SNR=6.1
KIV Kislovodsk 78.38 331 P **P** **06 30 10.9 +0.5**
KIV *e* 06 30 17.9
KIV pmax pmax
comp=Z,38nm,1.0s,mb5.3
KIV Kislovodsk 78.38 331 *e*P **P** **06 30 11.2 +0.7**
comp=Z,38nm,1.0s,mb5.3
KIV LR LR
comp=Z,388nm,21.0s,MS4.7
KOLS Kolonicke sedl 78.44 346 *e*P **P** **06 30 11.2 +0.5**
KOLS pmax pmax
comp=Z,32nm,0.9s,mb5.2
KOLS Kolonicke sedl 78.44 346 *e*P **P** **06 30 11.2 +0.5**
comp=Z,32nm,0.9s,mb5.2
MENF Mencas 78.48 359 *e*P **P** **06 30 10.8 -0.2**
SNF Seneffe 78.49 358 P **P** **06 30 10.8 -0.2**
comp=Z,16nm,1.0s,mb4.9
BCLA Clavier 78.55 357 P **P** **06 30 11.3 0.0**
comp=Z,21nm,0.9s,mb5.1
BCLA AP pP 06 30 20.2 -5.1
CRVS Cervenica-Dubn 78.59 346 *e*P **P** **06 30 11.6 0.0**
CRVS pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CRVS Cervenica-Dubn 78.59 346 *e*P **P** **06 30 11.6 0.0**
comp=Z,10nm,0.8s,mb4.8
MANZ Manzenberg 78.60 353 *e*P **P** **06 30 11.2 -0.4**
TNS Taunus Mts 78.61 355 *e*P **P** **06 30 11.2 -0.5**
comp=Z,39nm,0.9s,mb5.3
TNS Taunus Mts 78.61 355 *e*P **P** **06 30 11.2 -0.5**
TNS pmax pmax
comp=Z,39nm,0.9s,mb5.3
BBSR BB Station 78.77 52 PFAKE 06 30 20.0 +7.4
BBSR LR LR
comp=Z,386nm,19.0s,MS4.8
LIKS Likavka 78.78 348 *e*P **P** **06 30 13.1 +0.5**
LIKS pmax pmax
comp=Z,40nm,1.0s,mb5.3
LIKS Likavka 78.78 348 *e*P **P** **06 30 13.1 +0.5**
comp=Z,40nm,1.0s,mb5.3
ROTZ Rotzenmuhle 78.81 352 *e*P **P** **06 30 12.6 -0.2**
VRAC Vranov 78.83 350 ⇑*i*P **P** **06 30 13.1 +0.2**
VRAC Vranov 78.83 350 P **P** **06 30 13.4 +0.5**
VRAC Vranov 78.83 350 ⇑P **P** **06 30 13.1 +0.2**
TBI Tubuai 78.83 152 *e*LR LR 06 54 16.0
comp=Z,843nm,24.2s,baz=332
GIVF Givet 78.88 357 ⇑*i*P **P** **06 30 13.1 -0.1**
comp=Z,78nm,1.0s,mb5.3
GIVF Givet 78.88 357 ⇑*i*P **P** **06 30 13.1 -0.1**
GIVF pmax pmax
comp=Z,39nm,1.0s,mb5.3
GIVF Givet 78.88 357 ⇑*i*P **P** **06 30 13.1 -0.1**
comp=Z,39nm,1.0s,mb5.3
DOU Dourbes 78.89 358 P **P** **06 30 13.3 0.0**
comp=Z,15nm,1.0s,mb4.9
BAIF Baives 78.94 358 ⇑*i*P **P** **06 30 13.6 +0.1**
comp=Z,126nm,1.0s,mb5.5
BAIF Baives 78.94 358 ⇑*i*P **P** **06 30 13.6 +0.1**
BAIF pmax pmax
comp=Z,63nm,1.0s,mb5.5
BAIF Baives 78.94 358 ⇑*i*P **P** **06 30 13.6 +0.1**
comp=Z,63nm,1.0s,mb5.5
GRA1 Grafenberg Arr 78.96 353 *e*P **P** **06 30 13.6 0.0**
comp=Z,67nm,1.0s,mb5.5
GRF Grafenberg Arr 78.96 353 *e*P **P** **06 30 13.6 0.0**
comp=Z,67nm,1.0s,mb5.5
GRF *e*L 07 02 23.3
comp=Z,224nm,21.5s
TREC Trest 78.97 350 ⇑*i*P **P** **06 30 13.5 -0.1**
ABH Alteburg 79.00 356 *e*P **P** **06 30 13.7 -0.1**
ZEI Tsey 79.07 329 *e*P **P** **06 30 14.7 +0.5**
ZEI *e**PP pP 06 30 30.4 +2.3
ZEI *e* 06 33 13.1
ZEI pmax pmax
comp=Z,55nm,1.2s,mb5.4
AJM Ajmer 79.11 299 *e*P **P** **06 30 14.7 +0.3**
KIS Kishinev 79.12 341 *e*P **P** **06 30 13.0 -1.5**
KIS MLR MLR
comp=Z,1μm,16.0s,MS5.2
KIS MLR MLR
comp=N,500nm,17.0s,MS5.0
KIS MLR MLR
comp=E,400nm,17.0s,MS5.0
KIS MLR MLR
comp=Z,1μm,16.0s
ANN Anapa 79.13 334 *e*P **P** **06 30 11.2 -3.4**
ANN *e* 06 30 19.4
ANN *e* 06 33 09.0
ANN *e*S S 06 40 04.0 -6.5
ANN *e*SS SS 06 45 11.7 -5.5
ANN pmax pmax
comp=Z,45nm,1.2s,mb5.3
ANN MLR MLR
comp=Z,465nm,22.0s,MS4.8
KECS Kecovo 79.14 347 *e*P **P** **06 30 14.9 +0.3**
KECS pmax pmax
comp=Z,28nm,0.9s,mb5.2
KECS Kecovo 79.14 347 *e*P **P** **06 30 14.9 +0.3**
comp=Z,28nm,0.9s,mb5.2
RUP Ruppelstein 79.20 356 *e*P **P** **06 30 14.8 -0.1**
TOD Tromm 79.21 355 *e*P **P** **06 30 14.8 -0.2**
BURAR Bucovina Array 79.22 343 ⇑*i*P **P** **06 30 15.6 +0.6**
BURAR Bucovina Array 79.22 343 ⇑P **P** **06 30 15.6 +0.5**
WLF Walferdange 79.28 356 *e*P **P** **06 30 15.3 0.0**
WLF Walferdange 79.28 356 P **P** **06 30 15.8 +0.4**
comp=Z,18nm,0.9s,mb5.0
WLF Walferdange 79.28 356 *e*P **P** **06 30 15.8 +0.5**
WLF pmax pmax
comp=Z,32nm,0.9s,mb5.2
WLF Walferdange 79.28 356 *e*P **P** **06 30 15.8 +0.5**
comp=Z,32nm,0.9s,mb5.2
KHC Kasperske Hory 79.32 351 ⇑*i*P **P** **06 30 15.8 +0.2**
VYHS Vyhne 79.36 348 *i* P **P** **06 30 16.0 +0.2**
VYHS pmax pmax
comp=Z,20nm,1.0s,mb5.0
VYHS Vyhne 79.36 348 *i* P **P** **06 30 16.0 +0.2**
comp=Z,20nm,1.0s,mb5.0
WET Wettzell 79.37 352 *e*P **P** **06 30 15.6 -0.2**
comp=Z,19nm,1.1s,mb4.9
WET Wettzell 79.37 352 *e*P **P** **06 30 15.6 -0.2**
WET pmax pmax
comp=Z,19nm,1.1s,mb4.9
GEC2 GERESS Array S 79.59 351 *e*P **P** **06 30 16.5 -0.5**
comp=Z,17nm,0.9s,mb5.0
GEC2 GERESS Array S 79.59 351 *e*P **P** **06 30 16.5 -0.5**
GEC2 pmax pmax
comp=Z,17nm,0.9s,mb5.0
GERES GERESS Array B 79.59 351 P **P** **06 30 16.9 -0.1**
comp=Z,9.7nm,0.8s,mb4.8,baz=23,slow=5.1,SNR=96
GERES LR LR 07 08 11.6
comp=Z,306nm,21.9s,MS4.6,baz=15,slow=38
PSZ Piszkesteto 79.78 347 ⇑*i*P **P** **06 30 18.9 +0.8**
PSZ Piszkesteto 79.78 347 P **P** **06 30 19.0 +0.9**
ZST Bratislava 79.87 349 *e*P **P** **06 30 19.6 +1.1**
comp=Z,42nm,1.0s,mb5.3
ZST LR LR
comp=Z,200nm,17.1s,MS4.5
STU Stuttgart 80.01 354 *e*P **P** **06 30 18.8 -0.5**
STU Stuttgart 80.01 354 *e*P **P** **06 30 19.5 +0.2**
STU pmax pmax
comp=Z,42nm,1.0s,mb5.3
STU Stuttgart 80.01 354 *e*P **P** **06 30 19.5 +0.2**
comp=Z,42nm,1.0s,mb5.3
BHPL Bhopal 80.09 295 *e*P **P** **06 30 19.4 -0.3**
BHPL AMb AMB 06 30 21.7
comp=Z,103nm,1.0s,mb5.7
SRO Srobarova 80.09 348 *e*P **P** **06 30 20.6 +0.8**
SRO Srobarova 80.09 348 *e*P **P** **06 30 20.7 +0.9**
SRO pmax pmax
comp=Z,51nm,1.0s,mb5.4
SRO Srobarova 80.09 348 *e*P **P** **06 30 20.7 +0.9**
comp=Z,51nm,1.0s,mb5.4
SRO2 Moca 80.13 348 *e*P **P** **06 30 21.1 +1.1**
SRO2 pmax pmax
comp=Z,34nm,0.8s,mb5.3
SRO1 Iza 80.15 348 *e*P **P** **06 30 21.0 +0.9**
SRO1 pmax pmax
comp=Z,54nm,1.1s,mb5.4
CONA Conrad Observa 80.28 350 *i* P **P** **06 30 21.3 +0.5**
comp=Z,37nm,1.1s,mb5.2,SNR=26
FLN La Foliniere 80.28 1 ⇑*i*P **P** **06 30 20.3 -0.5**
comp=Z,126nm,1.0s,mb5.5
FLN La Foliniere 80.28 1 ⇑*i*P **P** **06 30 20.3 -0.5**
FLN pmax pmax
comp=Z,63nm,1.0s,mb5.5
FLN La Foliniere 80.28 1 ⇑*i*P **P** **06 30 20.3 -0.5**
comp=Z,63nm,1.0s,mb5.5
BUD Budapest 80.32 348 ⇑*i*P **P** **06 30 22.1 +1.1**
DRGR 80.45 345 ⇑*i*P **P** **06 30 22.0 +0.3**
DRGR 80.45 345 P **P** **06 30 22.1 +0.4**
LDF La Druitiere 80.45 1 ⇑*i*P **P** **06 30 21.3 -0.4**
comp=Z,105nm,0.9s,mb5.5
LDF La Druitiere 80.45 1 ⇑*i*P **P** **06 30 21.3 -0.4**
LDF pmax pmax
comp=Z,52nm,0.9s,mb5.5
LDF La Druitiere 80.45 1 ⇑*i*P **P** **06 30 21.3 -0.4**
comp=Z,52nm,0.9s,mb5.5
FUR Furstenfeldbru 80.47 353 *e*P **P** **06 30 21.5 -0.3**
comp=Z,50nm,1.1s,mb5.4
FUR Furstenfeldbru 80.47 353 *e*P **P** **06 30 21.5 -0.3**
FUR pmax pmax
comp=Z,50nm,1.1s,mb5.4
MEZF Maizieres J'vi 80.48 357 ⇑*i*P **P** **06 30 21.9 +0.1**
comp=Z,103nm,1.0s,mb5.4
MEZF Maizieres J'vi 80.48 357 ⇑*i*P **P** **06 30 21.9 +0.1**
comp=Z,103nm,1.0s,mb5.7
CDF Champ du Feu 80.48 356 ⇑*i*P **P** **06 30 21.6 -0.2**
comp=Z,30nm,0.9s,mb4.9
CDF Champ du Feu 80.48 356 ⇑*i*P **P** **06 30 21.6 -0.2**
CDF pmax pmax
comp=Z,15nm,0.9s,mb4.9
CDF Champ du Feu 80.48 356 ⇑*i*P **P** **06 30 21.6 -0.2**
comp=Z,15nm,0.9s,mb4.9
BFO Black Forest 80.50 355 P **P** **06 30 22.3 +0.3**
comp=Z,107nm,1.0s,mb5.7,SNR=7.5
BFO Black Forest 80.50 355 *e*P **P** **06 30 21.5 -0.5**
comp=Z,25nm,1.1s,mb5.1
BFO Black Forest 80.50 355 *e*P **P** **06 30 21.5 -0.5**
BFO pmax pmax
comp=Z,25nm,1.1s,mb5.1
MOA Molln 80.52 351 ⇑*i*P **P** **06 30 22.0 0.0**
comp=Z,23nm,1.6s,mb4.9,SNR=5.5
VRI Vrincioaia 80.62 342 ⇓*i*P **P** **06 30 23.2 +0.6**
VRI Vrincioaia 80.62 342 P **P** **06 30 23.4 +0.8**
VRI Vrincioaia 80.62 342 ⇓P **P** **06 30 23.2 +0.6**
GRR Gorron 80.65 1 ⇑*i*P **P** **06 30 22.8 +0.1**
comp=Z,133nm,0.9s,mb5.5
GRR Gorron 80.65 1 ⇑*i*P **P** **06 30 22.8 +0.1**
GRR pmax pmax
comp=Z,66nm,0.9s,mb5.6
GRR Gorron 80.65 1 ⇑*i*P **P** **06 30 22.8 +0.1**
comp=Z,66nm,0.9s,mb5.6
ROSF Rostrenen 80.65 3 ⇑*i*P **P** **06 30 22.7 0.0**
comp=Z,340nm,1.6s,mb5.7
ROSF Rostrenen 80.65 3 ⇑*i*P **P** **06 30 22.7 0.0**
ROSF pmax pmax
comp=Z,170nm,1.6s,mb5.7
ROSF Rostrenen 80.65 3 ⇑*i*P **P** **06 30 22.7 0.0**
comp=Z,170nm,1.6s,mb5.7
PLOR Plostina 80.65 342 ⇑*i*P **P** **06 30 23.3 +0.5**
ECH Echery 80.68 356 *e*P **P** **06 30 22.8 -0.1**
SPAK Spaichingen-Ko 80.71 355 *e*P **P** **06 30 23.2 +0.1**
THEF They Montfort 80.72 356 *e*P **P** **06 30 23.2 +0.1**
SGMF Saint Gilles 80.75 2 ⇑*i*P **P** **06 30 23.1 -0.2**
comp=Z,124nm,1.0s,mb5.5
SGMF Saint Gilles 80.75 2 ⇑*i*P **P** **06 30 23.1 -0.2**
SGMF pmax pmax
comp=Z,62nm,1.0s,mb5.5
SGMF Saint Gilles 80.75 2 ⇑*i*P **P** **06 30 23.1 -0.2**
comp=Z,62nm,1.0s,mb5.5
NGP Nagpur 80.78 292 *e*P **P** **06 30 22.6 -0.9**
NGP AMb AMB 06 30 25.3
comp=Z,44nm,1.7s,mb5.1
VIS Vishakhapatnam 80.91 287 *e*P **P** **06 30 24.2 0.0**
VIS AMb AMB 06 30 26.2
comp=Z,36nm,0.9s,mb5.3
HAU Haudompre 80.92 356 ⇑*i*P **P** **06 30 24.0 -0.2**
comp=Z,55nm,0.9s,mb5.2
HAU *e*R
comp=Z,430nm,21.5s
HAU Haudompre 80.92 356 ⇑*i*P **P** **06 30 24.0 -0.2**
HAU pmax pmax
comp=Z,27nm,0.9s,mb5.2
HAU Haudompre 80.92 356 ⇑*i*P **P** **06 30 24.0 -0.2**
comp=Z,27nm,0.9s,mb5.2
FELD Feldberg im Sc 80.97 355 *e*P **P** **06 30 24.3 -0.2**
ARSA Arzberg 80.98 350 *i* P **P** **06 30 25.1 +0.6**
comp=Z,37nm,1.2s,mb5.2,SNR=22
CFR Carcaliu 81.00 341 ⇓*i*P **P** **06 30 24.8 +0.2**
CFR Carcaliu 81.00 341 ⇓P **P** **06 30 24.8 +0.2**
MOF Molkenrain 81.04 356 *e*P **P** **06 30 24.5 -0.4**
QUIF Quistinic 81.07 3 ⇑*i*P **P** **06 30 25.0 0.0**
comp=Z,136nm,1.3s,mb5.4
QUIF Quistinic 81.07 3 ⇑*i*P **P** **06 30 25.0 0.0**
QUIF pmax pmax
comp=Z,68nm,1.3s,mb5.4
QUIF Quistinic 81.07 3 ⇑*i*P **P** **06 30 25.0 0.0**
comp=Z,68nm,1.3s,mb5.4
MLR Muntele Rosu 81.14 342 LR LR 07 13 49.2
comp=Z,423nm,18.2s,MS4.8,baz=4.8,slow=41
MLR Muntele Rosu 81.14 342 ⇓*i*P **P** **06 30 26.8 +1.4**
MLR Muntele Rosu 81.14 342 ⇓P **P** **06 30 26.8 +1.4**
GNI Garni 81.14 327 *e*P **P** **06 30 27.8 +2.4**
GNI pmax pmax
comp=Z,24nm,1.0s
GNI Garni 81.14 327 ⇑*e*P **P** **06 30 26.8 +1.4**
GNI LR LR
comp=Z,765nm,19.0s,MS5.1
WATA Walderalm 81.27 353 ⇓*i*P **P** **06 30 26.4 +0.3**
comp=Z,34nm,1.0s,mb5.2,SNR=16
WATA Walderalm 81.27 353 ⇓*i*P **P** **06 30 26.4 +0.3**
WATA pmax pmax
comp=Z,34nm,1.0s,mb5.2
MOTA Moosalm 81.30 353 ⇑*i*P **P** **06 30 26.4 +0.2**
comp=Z,46nm,1.2s,mb5.3,SNR=26
MOTA Moosalm 81.30 353 ⇑*i*P **P** **06 30 26.4 +0.2**
MOTA pmax pmax
comp=Z,46nm,1.2s,mb5.3
WTTA Wattenberg 81.34 353 ⇑*i*P **P** **06 30 27.0 +0.6**
comp=Z,66nm,1.1s,mb5.5,SNR=19
WTTA Wattenberg 81.34 353 ⇑*i*P **P** **06 30 27.0 +0.6**
WTTA pmax pmax
comp=Z,66nm,1.1s,mb5.5
WTTA Wattenberg 81.34 353 ⇑*i*P **P** **06 30 27.0 +0.6**
comp=Z,66nm,1.1s,mb5.5
KBA Koelnbreinsper 81.37 351 *i* P **P** **06 30 27.5 +0.9**
comp=Z,109nm,1.0s,mb5.7,SNR=137
KBA Koelnbreinsper 81.37 351 *i* P **P** **06 30 27.5 +0.9**
KBA pmax pmax
comp=Z,109nm,1.0s,mb5.7
BBS Basel-Blauen 81.41 355 *e*P **P** **06 30 26.5 -0.3**
SQTA Sankt Quirin 81.42 353 ⇑*i*P **P** **06 30 27.3 +0.5**
comp=Z,29nm,1.0s,mb5.1,SNR=16
SQTA Sankt Quirin 81.42 353 ⇑*i*P **P** **06 30 27.3 +0.5**
SQTA pmax pmax
comp=Z,29nm,1.0s,mb5.2
DAVA Damuels 81.45 354 ⇑*i*P **P** **06 30 27.5 +0.5**
comp=Z,33nm,1.4s,mb5.1,SNR=8.5
MTUR Matau 81.56 343 P **P** **06 30 29.4 +1.8**
PKSM Moragy 81.62 348 ⇑*i*P **P** **06 30 27.4 -0.5**
PKSM Moragy 81.62 348 P **P** **06 30 28.0 +0.1**
PKSM Moragy 81.62 348 ⇑*e*P **P** **06 30 27.5 -0.4**
PERS Pernice 81.63 350 *i* P **P** **06 30 28.4 +0.5**
LOR Lormes 81.74 358 ⇑*i*P **P** **06 30 28.1 -0.5**
comp=Z,63nm,1.0s,mb5.2
LOR *e*R
comp=Z,410nm,20.0s
LOR Lormes 81.74 358 ⇑*i*P **P** **06 30 28.1 -0.5**
LOR pmax pmax
comp=Z,31nm,1.0s,mb5.2
LOR Lormes 81.74 358 ⇑*i*P **P** **06 30 28.1 -0.5**
comp=Z,32nm,1.0s,mb5.2
HYF Humbligny 81.76 359 *e*P **P** **06 30 28.9 +0.2**
BZS Buzias 81.77 345 ⇑*i*P **P** **06 30 28.9 +0.2**
BZS Buzias 81.77 345 P **P** **06 30 29.1 +0.4**
BZS Buzias 81.77 345 ⇑P **P** **06 30 28.9 +0.2**
WRAB Tennant Creek 81.79 224 *e*P **P** **06 30 26.6 -2.2**
WRAB MLR MLR
comp=Z,456nm,19.0s,MS4.9
GZR Gura Zlata 81.80 345 ⇑*i*P **P** **06 30 29.2 +0.4**
GZR Gura Zlata 81.80 345 ⇑P **P** **06 30 29.2 +0.3**
WB2 Warramunga Arr 81.80 224 *e*P **P** **06 30 26.6 -2.3**
OBKA Obir 81.82 350 ⇑*i*P **P** **06 30 29.2 +0.2**
comp=Z,55nm,1.1s,mb5.4,SNR=36
SSF Saint Saulge 81.96 358 ⇑*i*P **P** **06 30 29.6 -0.1**
comp=Z,66nm,1.0s,mb5.2
SSF Saint Saulge 81.96 358 ⇑*i*P **P** **06 30 29.6 -0.1**
SSF pmax pmax
comp=Z,33nm,1.0s,mb5.2
SSF Saint Saulge 81.96 358 ⇑*i*P **P** **06 30 29.6 -0.1**
comp=Z,33nm,1.0s,mb5.2
PTCC Patocco-Chiusa 82.04 351 P **P** **06 30 29.3 -0.8**
comp=Z,25nm,0.9s,mb5.2
CADS Cadrg 82.18 351 *e*P **P** **06 30 30.1 -0.7**
BRMO Bormio 82.22 353 P **P** **06 30 31.9 +0.8**
comp=Z,30nm,1.0s,mb5.2
BUC1 Bucharest 82.22 342 P **P** **06 30 31.6 +0.5**
LJU Ljubljana 82.28 350 *e*P **P** **06 30 31.0 -0.4**
TUE Stuetta 82.30 354 P **P** **06 30 31.1 -0.4**
AKL Akola 82.31 293 *ex* x 06 30 41.2
AKL AMb AMB 06 30 42.8
comp=Z,70nm,1.5s,mb5.4
CABF La Chapelle 82.33 356 ⇑*i*P **P** **06 30 31.9 +0.3**
comp=Z,72nm,1.1s,mb5.2
CABF La Chapelle 82.33 356 ⇑*i*P **P** **06 30 31.9 +0.3**
CABF pmax pmax
comp=Z,36nm,1.1s,mb5.2
CABF La Chapelle 82.33 356 ⇑*i*P **P** **06 30 31.9 +0.3**
comp=Z,36nm,1.1s,mb5.2
VOY Vojsko 82.36 351 *e*P **P** **06 30 30.8 -1.0**
SMF Signal de Mont 82.36 358 ⇑*i*P **P** **06 30 31.7 -0.1**
comp=Z,105nm,1.0s,mb5.4
SMF Signal de Mont 82.36 358 ⇑*i*P **P** **06 30 31.7 -0.1**
SMF pmax pmax
comp=Z,52nm,1.0s,mb5.4
SMF Signal de Mont 82.36 358 ⇑*i*P **P** **06 30 31.7 -0.1**
comp=Z,52nm,1.0s,mb5.4
CRES Cresnjev 82.39 350 *e*P **P** **06 30 31.7 -0.3**
MFF Saint Martin d 82.44 1 ⇑*i*P **P** **06 30 32.5 +0.3**
comp=Z,105nm,1.0s,mb5.4
MFF Saint Martin d 82.44 1 ⇑*i*P **P** **06 30 32.5 +0.3**
MFF pmax pmax
comp=Z,53nm,1.0s,mb5.4
MFF Saint Martin d 82.44 1 ⇑*i*P **P** **06 30 32.5 +0.3**
comp=Z,53nm,1.0s,mb5.4
ERZM Erzurum 82.47 330 *i* P **P** **06 30 34.2 +1.8**
BGF Bois d'Agland 82.47 359 ⇑*i*P **P** **06 30 32.1 -0.3**
comp=Z,62nm,1.0s,mb5.2
BGF Bois d'Agland 82.47 359 ⇑*i*P **P** **06 30 32.1 -0.3**
BGF pmax pmax
comp=Z,31nm,1.0s,mb5.2
BGF Bois d'Agland 82.47 359 ⇑*i*P **P** **06 30 32.1 -0.3**
comp=Z,31nm,1.0s,mb5.2
CTI Castel Tesino 82.55 352 P **P** **06 30 32.4 -0.4**
CTI pmax pmax
comp=Z,34nm,1.1s,mb5.3
CTI Castel Tesino 82.55 352 P **P** **06 30 32.4 -0.4**
comp=Z,34nm,1.1s,mb5.3
MABI Malga Bissina 82.63 353 P **P** **06 30 32.8 -0.4**
SISC Sisak 82.64 349 P **P** **06 30 32.0 -1.2**
BOJS Bojanci 82.74 350 *i* P **P** **06 30 33.7 0.0**
TCF Toulx Ste Croi 82.75 359 ⇑*i*P **P** **06 30 33.6 -0.2**
comp=Z,41nm,0.9s,mb5.2
TCF Toulx Ste Croi 82.75 359 ⇑*i*P **P** **06 30 33.6 -0.2**
TCF pmax pmax
comp=Z,21nm,0.9s,mb5.2
TCF Toulx Ste Croi 82.75 359 ⇑*i*P **P** **06 30 33.6 -0.2**
comp=Z,21nm,0.9s,mb5.2
OG05 Jujurieux 82.92 357 *e*P **P** **06 30 34.8 +0.1**
BOYT Boyabat 82.96 335 *i* P **P** **06 30 35.8 +0.9**
PLDF La Plantade 83.05 358 *e*P **P** **06 30 36.0 +0.6**
LPL La Plagne 83.39 356 *e*P **P** **06 30 38.2 +1.1**
LPG La Plagne 83.41 356 ⇑*i*P **P** **06 30 38.5 +1.3**
comp=Z,40nm,1.0s,mb5.1
LPG La Plagne 83.41 356 ⇑*i*P **P** **06 30 38.5 +1.3**
LPG pmax pmax
comp=Z,20nm,1.0s,mb5.1
LPG La Plagne 83.41 356 ⇑*i*P **P** **06 30 38.5 +1.3**
comp=Z,20nm,1.0s,mb5.1
DIVS Divcibare 83.50 346 *i* P **P** **06 30 38.4 +0.7**
GRUS Gruza 83.59 346 *i* P **P** **06 30 38.5 +0.3**
FRNF Fournols 83.65 359 *e*P **P** **06 30 38.7 +0.2**
RKT Rikitea 83.70 140 *e*LR LR 06 56 38.6
comp=Z,699nm,32.5s

CTKT Corum 83.73 335 *i* P **P 06 30 40.0 +1.2**
RJF Les Rejaudoux 83.74 359⇑*i*P **P 06 30 38.5 -0.4**
comp=Z,85nm,1.1s,mb5.5
RJF *e*R
comp=Z,366nm,20.0s
RJF Les Rejaudoux 83.74 359⇑*i*P **P 06 30 38.5 -0.4**
RJF pmax pmax
comp=Z,43nm,1.1s,mb5.5
RJF Les Rejaudoux 83.74 359⇑*i*P **P 06 30 38.5 -0.4**
comp=Z,43nm,1.1s,mb5.5
LBL Lubilhac 83.79 358 *e*P **P 06 30 39.6 +0.4**
BBLS Bajina Basta - 83.81 347 *i*P **P 06 30 40.9 +1.6**
BNI Bardonecchia 83.86 356 *e*P **P 06 30 40.8 +1.3**
BNI pmax pmax
comp=Z,46nm,1.0s,mb5.6
BNI Bardonecchia 83.86 356 *e*P **P 06 30 40.8 +1.3**
comp=Z,46nm,1.0s,mb5.6
JMB Yambol 83.92 341 *e*P **P 06 30 40.0 +0.2**
BOB Bobbio (Coli) 83.99 354 P **P 06 30 39.7 -0.5**
HYB Hyderabad 83.99 290 *i*P **P 06 30 40.5 +0.3**
HYB Hyderabad 83.99 290 *e*P **P 06 30 40.0 -0.2**
ORIF Oris-en-Rattie 84.03 356⇑*i*P **P 06 30 40.0 -0.4**
comp=Z,62nm,1.0s,mb5.4
ORIF *e*R
comp=Z,246nm,21.2s
ORIF Oris-en-Rattie 84.03 356⇑*i*P **P 06 30 40.0 -0.4**
ORIF pmax pmax
comp=Z,31nm,1.0s,mb5.4
ORIF Oris-en-Rattie 84.03 356⇑*i*P **P 06 30 40.0 -0.4**
comp=Z,31nm,1.0s,mb5.4
LFF La Frestale 84.11 0⇑*i*P **P 06 30 40.8 0.0**
comp=Z,188nm,1.1s,mb5.8
LFF La Frestale 84.11 0⇑*i*P **P 06 30 40.8 0.0**
LFF pmax pmax
comp=Z,94nm,1.1s,mb5.8
LFF La Frestale 84.11 0⇑*i*P **P 06 30 40.8 0.0**
comp=Z,94nm,1.1s,mb5.8
CAF Calviac 84.11 359⇑*i*P **P 06 30 41.0 +0.2**
comp=Z,98nm,1.1s,mb5.6
CAF Calviac 84.11 359⇑*i*P **P 06 30 41.0 +0.2**
CAF pmax pmax
comp=Z,49nm,1.1s,mb5.5
CAF Calviac 84.11 359⇑*i*P **P 06 30 41.0 +0.2**
comp=Z,49nm,1.1s,mb5.5
VIVF Saint-Julien-l 84.13 357⇑*i*P **P 06 30 40.9 0.0**
comp=Z,49nm,1.0s,mb5.3
VIVF Saint-Julien-l 84.13 357⇑*i*P **P 06 30 40.9 0.0**
VIVF pmax pmax
comp=Z,25nm,1.0s,mb5.3
VIVF Saint-Julien-l 84.13 357⇑*i*P **P 06 30 40.9 0.0**
comp=Z,25nm,1.0s,mb5.3
ELDT Eldivan 84.22 336 *i*P **P 06 30 42.6 +1.2**
FITZ Fitzroy Crossi 84.24 232 *e*P **P 06 30 40.3 -1.2**
comp=Z,38nm,0.8s,mb5.6
GSCL Gusciola 84.32 353 P **P 06 30 43.0 +1.1**
comp=Z,42nm,1.0s,mb5.5
PLE Pljevlja 84.34 346⇓*i*P **P 06 30 43.3 +1.3**
VTS Vitosha 84.44 344 *e*P **P 06 30 43.0 +0.5**
VTS Vitosha 84.44 344⇑*i*P **P 06 30 42.6 +0.1**
FNVD Fontana Vidola 84.46 353 P **P 06 30 43.6 +1.0**
SGKT Sivrigoynuk 84.49 337 *i*P **P 06 30 43.8 +1.1**
ELZG Elazig 84.50 331 *i*P **P 06 30 44.0 +1.2**
VLC Villacollemand 84.52 353 *e*P **P 06 30 43.4 +0.5**
comp=Z,31nm,1.0s,mb5.4
HENT Hendek 84.53 338 *i*P **P 06 30 42.4 -0.5**
UPM Unac-Piva 84.53 347⇓*i*P **P 06 30 42.7 -0.2**
OG25 Le Caire 84.57 356 *e*P **P 06 30 41.0 -2.1**
FIN Finale Ligure 84.62 355 P **P 06 30 42.9 -0.5**
FIN pmax pmax
comp=Z,35nm,1.0s,mb5.4
FIN Finale Ligure 84.62 355 P **P 06 30 42.9 -0.5**
comp=Z,35nm,1.0s,mb5.5
STV Sta Anna Valdi 84.63 355 P **P 06 30 42.5 -1.0**
IVA Berane 84.71 346⇓*i*P **P 06 30 44.0 +0.1**
CDAG Cicekdag 84.78 335 *i*P **P 06 30 44.2 0.0**
MALT Malatya 84.84 331⇑*i*P **P 06 30 45.5 +1.0**
MALT Malatya 84.84 331 P **P 06 30 45.9 +1.4**
MALT Malatya 84.84 331 *e*P **P 06 30 44.7 +0.2**
TOUF Mont Tournerai 84.87 355 *e*P **P 06 30 44.9 +0.3**
AUTN L'Aution 84.88 355 *e*P **P 06 30 44.9 +0.2**
SAOF Saorge 84.88 355 *e*P **P 06 30 44.8 +0.1**
BRTR Keskin Array B 84.88 335 P **P 06 30 44.9 +0.2**
comp=Z,27nm,0.8s,mb5.4,baz=53,slow=2.7,SNR=105
BRTR LR LR 07 10 56.1
comp=Z,156nm,21.6s,MS4.4,baz=171,slow=37
BRTR Keskin Array B 84.88 335 *i*P **P 06 30 44.9 +0.2**
BRTR pmax pmax
comp=Z,27nm,0.8s
BRY Bratogost 84.88 347⇓*i*P **P 06 30 44.8 +0.1**
NKY Niksic 84.91 347⇓*i*P **P 06 30 44.4 -0.4**
LASF Ste Croix 84.93 358⇑*i*P **P 06 30 45.1 +0.1**
comp=Z,39nm,0.9s,mb5.2
KDZ Kurdzhali 84.94 342 *e*P **P 06 30 45.0 0.0**
STOF St-Etienne Org 84.94 356 *e*P **P 06 30 45.7 +0.7**
ANTO Ankara 84.96 336⇑*i*P **P 06 30 45.6 +0.5**
ANTO Ankara 84.96 336 P **P 06 30 46.1 +1.0**
SNR=8.1
ANTO Ankara 84.96 336 *e*P **P 06 30 46.1 +1.0**
ANTO pmax pmax
comp=Z,43nm,1.0s,mb5.5
ANTO MLR MLR
comp=Z,439nm,22.0s,MS4.8
ANTO Ankara 84.96 336 *e*P **P 06 30 46.1 +1.0**
comp=Z,43nm,1.0s,mb5.5
ANTO LR LR
comp=Z,439nm,22.0s,MS4.8
PVY Plav 84.97 346⇓*i*P **P 06 30 45.1 0.0**
SMRF Simiane la Rot 84.98 357⇑*i*P **P 06 30 46.1 +0.9**
comp=Z,123nm,1.0s,mb5.7
SMRF Simiane la Rot 84.98 357⇑*i*P **P 06 30 46.1 +0.9**
comp=Z,123nm,1.0s,mb5.7
LUCF Luceram 84.98 355 *e*P **P 06 30 45.4 +0.2**
MVIF Mont Vial 84.99 355 *e*P **P 06 30 45.4 +0.1**
SBF Sospel 85.01 355⇑*i*P **P 06 30 45.4 +0.1**
comp=Z,162nm,0.9s,mb5.9
SBF Sospel 85.01 355⇑*i*P **P 06 30 45.4 +0.1**
SBF pmax pmax
comp=Z,81nm,0.9s,mb5.8
SBF Sospel 85.01 355⇑*i*P **P 06 30 45.4 +0.1**
comp=Z,81nm,0.9s,mb5.8
CING Cingoli 85.06 351 P **P 06 30 46.1 +0.5**
VILF Villemus 85.10 356 *e*P **P 06 30 46.6 +0.8**
CSNT Castellina Chi 85.13 352 P **P 06 30 45.3 -0.7**
comp=Z,100nm,1.0s,mb5.9
REVF Revere 85.13 355 *e*P **P 06 30 45.9 -0.1**
PRAF Pradon 85.17 357 *e*P **P 06 30 47.3 +1.2**
MURB Monte Urbino 85.23 351 P **P 06 30 46.7 +0.2**
TTG Podgorica 85.24 346⇓*i*P **P 06 30 46.4 -0.1**
AS31 Alice Springs 85.28 222 *e*P **P 06 30 45.6 -1.1**
ASAR Alice Springs 85.28 222 P **P 06 30 45.3 -1.4**
comp=Z,6.0nm,0.8s,mb4.8,baz=28,slow=5.0,SNR=38
ASAR LR LR 07 06 07.1
comp=Z,257nm,19.1s,MS4.6,baz=42,slow=34
ASPA Alice Springs 85.28 222 *e*P **P 06 30 45.6 -1.1**
TAVF Tavernes 85.32 356 *e*P **P 06 30 47.7 +0.8**
MMB Musomiste 85.32 343 *e*P **P 06 30 47.0 +0.1**
HCY Herceg Novi 85.33 347⇓*i*P **P 06 30 46.6 -0.4**
TREF Trevaresse 85.34 357 *e*P **P 06 30 48.1 +1.1**
FRF La Foret Royal 85.35 356⇑*i*P **P 06 30 47.0 0.0**
comp=Z,88nm,1.0s,mb5.6
FRF La Foret Royal 85.35 356⇑*i*P **P 06 30 47.0 0.0**
FRF pmax pmax
comp=Z,44nm,1.0s,mb5.5
FRF La Foret Royal 85.35 356⇑*i*P **P 06 30 47.0 0.0**
comp=Z,44nm,1.0s,mb5.5
SKO Skopje 85.35 345 *i*P **P 06 30 48.3 +1.3**
ARMA Armidale 85.36 205 *e*P **P 06 30 47.2 +0.1**
PUYF Puyloubier 85.42 356 *e*P **P 06 30 48.1 +0.7**
BUM Brajici-Budva 85.42 347⇓*i*P **P 06 30 47.5 +0.1**
EPON Pontenova 85.47 6 P **P 06 30 46.1 -1.5**
comp=Z,18nm,0.7s,mb5.3
BORA Eskisehir 85.53 338 *i*P **P 06 30 47.9 -0.1**
GELF Grande-Etoile 85.58 357 *e*P **P 06 30 49.0 +0.8**
LMR La Mourre 85.58 356⇑*i*P **P 06 30 48.0 -0.2**
comp=Z,87nm,1.0s,mb5.7
LMR La Mourre 85.58 356⇑*i*P **P 06 30 48.0 -0.2**
LMR pmax pmax
comp=Z,43nm,1.0s,mb5.6
LMR La Mourre 85.58 356⇑*i*P **P 06 30 48.0 -0.2**
comp=Z,44nm,1.0s,mb5.6
ULDT Uludag 85.59 339 *i*P **P 06 30 49.0 +0.7**
EARI Arriondas 85.60 4 P **P 06 30 46.5 -1.8**
comp=Z,8.7nm,0.8s,mb5.0
BERF Bertagne 85.64 356 *e*P **P 06 30 49.4 +0.9**
MTLF Montolieu 85.70 359⇑*i*P **P 06 30 48.4 -0.4**
comp=Z,73nm,1.1s,mb5.5
MTLF Montolieu 85.70 359⇑*i*P **P 06 30 48.4 -0.4**
MTLF pmax pmax
comp=Z,37nm,1.1s,mb5.5
MTLF Montolieu 85.70 359⇑*i*P **P 06 30 48.4 -0.4**
comp=Z,37nm,1.1s,mb5.5
ULC Ulcinj 85.70 346⇓*i*P **P 06 30 48.9 +0.1**
ELAN Lanestosa 85.74 3 P **P 06 30 48.1 -0.9**
comp=Z,59nm,1.0s,mb5.8
ESKT Eskisehir 85.78 337 *i*P **P 06 30 49.5 +0.3**
VAY Valandovo 85.79 344 *i*P **P 06 30 49.2 0.0**
EALK Alkurruntz 85.81 2 P **P 06 30 48.0 -1.3**
comp=Z,12nm,0.8s,mb5.2
STS Santiago 85.81 7 P **P 06 30 47.5 -1.8**
STS pmax pmax
comp=Z,20nm,1.0s,mb5.3
STS Santiago 85.81 7 P **P 06 30 47.5 -1.8**
comp=Z,20nm,1.0s,mb5.3
POO Poona 85.84 294 *ex* x 06 31 30.8
ELIZ Elizondo 85.86 2 P **P 06 30 48.5 -1.1**
ELIZ pmax pmax
comp=Z,11nm,1.1s,mb5.0
ELIZ Elizondo 85.86 2 P **P 06 30 48.5 -1.1**
comp=Z,11nm,1.1s,mb5.0
GZT Gaziantep 85.98 331 *i*P **P 06 30 51.2 +1.0**
EPF Esparros 86.01 0⇑*i*P **P 06 30 50.2 -0.1**
comp=Z,22nm,0.9s,mb5.1
EPF Esparros 86.01 0⇑*i*P **P 06 30 50.2 -0.1**
EPF pmax pmax
comp=Z,11nm,0.9s,mb5.1
EPF Esparros 86.01 0⇑*i*P **P 06 30 50.2 -0.1**
comp=Z,11nm,0.9s,mb5.1
AQU L'Aquila 86.05 351⇑*i*P **P 06 30 50.8 +0.3**
AQU L'Aquila 86.05 351 P **P 06 30 51.5 +1.0**
AQU L'Aquila 86.05 351 *e*P **P 06 30 51.3 +0.8**
MLS Moulis 86.09 360 *e*P **P 06 30 50.2 -0.5**
LRDF Laroque-de-Fa 86.09 359 *e*P **P 06 30 50.9 +0.1**
ETSF Etsaut 86.14 1⇑*i*P **P 06 30 51.2 +0.2**
comp=Z,40nm,0.8s,mb5.4
ETSF Etsaut 86.14 1⇑*i*P **P 06 30 51.2 +0.2**
ETSF pmax pmax
comp=Z,20nm,0.8s,mb5.4
ETSF Etsaut 86.14 1⇑*i*P **P 06 30 51.2 +0.2**
comp=Z,20nm,0.8s,mb5.4
VIEF Viey 86.16 1 *e*P **P 06 30 51.8 +0.7**
PGF Pioggiola 86.22 354⇑*i*P **P 06 30 51.5 +0.1**
comp=Z,185nm,1.0s,mb6.0
PGF Pioggiola 86.22 354⇑*i*P **P 06 30 51.5 +0.1**
PGF pmax pmax
comp=Z,92nm,1.0s,mb6.0
PGF Pioggiola 86.22 354⇑*i*P **P 06 30 51.5 +0.1**
comp=Z,92nm,1.0s,mb6.0
RESF Ens 86.24 0 *e*P **P 06 30 52.5 +1.1**
BIA Bitola 86.30 345 *i*P **P 06 30 50.8 -0.9**
EBIE Bielsa 86.36 0 P **P 06 30 52.2 +0.2**
comp=Z,16nm,0.8s,mb5.3
CORF Corte 86.46 354 *e*P **P 06 30 52.5 -0.1**
RGNG Rignano Grg 86.48 349 P **P 06 30 52.8 +0.2**
KAD Karad 86.62 294 *e*P **P 06 30 53.3 0.0**
KAD AMb AMB 06 30 54.7
comp=Z,45nm,0.9s,mb5.7
MIDA Miranda 86.66 350 P **P 06 30 54.1 +0.6**
EGRA Graus 86.85 0 P **P 06 30 55.0 +0.5**
comp=Z,11nm,0.7s,mb5.2
ELOB Lobios 86.86 7 P **P 06 30 53.3 -1.1**
comp=Z,34nm,2.3s,mb5.2
ECAL Calabor 86.87 6 P **P 06 30 52.4 -2.2**
comp=Z,24nm,2.0s,mb5.1
PBRG Braganca 87.01 6 *e*P **P 06 30 54.6 -0.6**
comp=Z,22nm,0.8s,mb5.5
PCAB Cabril 87.02 7 *e*P **P 06 30 54.7 -0.6**
comp=Z,16nm,1.0s,mb5.2
FG4 Candela 87.02 349 P **P 06 30 55.9 +0.6**
FG4 pmax pmax
comp=Z,22nm,0.1s,mb6.3
FG4 Candela 87.02 349 P **P 06 30 55.9 +0.6**
comp=Z,22nm,0.1s,mb6.3
ESAC San Caprasio 87.32 1 P **P 06 30 55.5 -1.2**
comp=Z,29nm,0.7s,mb5.6
PVRL Vila Real 87.47 6 *e*P **P 06 30 57.4 -0.1**
comp=Z,26nm,1.1s,mb5.4
PTO Porto 87.54 7 *e*P **P 06 30 57.5 -0.3**
comp=Z,32nm,1.2s,mb5.4
KDAG Bosnova 87.68 339 *i*P **P 06 30 57.0 -1.4**
EPOB Poblet 87.69 360 P **P 06 30 58.0 -0.5**
comp=Z,17nm,0.9s,mb5.3
MGR Morigerati 88.00 349 P **P 06 30 57.2 -2.8**
PVIS Viseu 88.01 7 *e*P **P 06 30 59.6 -0.4**
comp=Z,31nm,1.2s,mb5.4
ERTA Horta de San J 88.09 0 P **P 06 30 58.7 -1.7**
comp=Z,13nm,1.2s,mb5.0
ETOR Torete 88.19 2 P **P 06 30 59.6 -1.3**
ETOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
ETOR Torete 88.19 2 P **P 06 30 59.6 -1.3**
comp=Z,6.9nm,0.9s,mb4.9
GUD Guadarrama 88.30 4 P **P 06 31 01.3 -0.1**
GUD pmax pmax
comp=Z,16nm,0.9s,mb5.2
GUD Guadarrama 88.30 4 P **P 06 31 01.3 -0.1**
comp=Z,16nm,0.9s,mb5.3
MTE Manteigas 88.35 6 *e*P **P 06 31 01.5 -0.2**
comp=Z,44nm,1.0s,mb5.6
EMOS Mogueruela 88.67 1 P **P 06 31 02.3 -0.9**
comp=Z,16nm,1.0s,mb5.3
TIP Timpagrande 88.79 348 *e*P **P 06 31 04.0 +0.3**
PCBR Castelo Branco 88.92 6 *e*P **P 06 31 03.5 -0.8**
comp=Z,29nm,0.9s,mb5.6
PTOM Tomar 89.07 7 *e*P **P 06 31 04.6 -0.4**
comp=Z,31nm,1.1s,mb5.5
VSL Villasalto 89.23 353 *e*P **P 06 31 05.7 -0.1**
comp=Z,25nm,1.0s,mb5.5
ETOS Mallorca 89.26 358 P **P 06 31 05.2 -0.7**
comp=Z,22nm,1.2s,mb5.4
ESDC Sonseca Array 89.27 4 P **P 06 31 05.4 -0.6**
comp=Z,9.9nm,0.9s,mb5.2,baz=354,slow=4.3,SNR=50
ESDC Sonseca Array 89.27 4 P **P 06 31 05.3 -0.6**
comp=Z,14nm,1.0s,mb5.2
ESLA Sonseca Array 89.27 4 PFAKE 06 31 20.0 +14
ESLA LR LR
comp=Z,2µm,22.0s,MS5.4
ECHE Chera 89.44 1 P **P 06 31 07.3 +0.5**
ECHE pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
ECHE Chera 89.44 1 P **P 06 31 07.3 +0.5**
comp=Z,5.5nm,1.0s,mb4.8
STKA Stephens Creek 89.75 213 *e*P **P 06 31 07.2 -1.0**
comp=Z,11nm,0.8s,mb5.2
STKA Stephens Creek 89.75 213 P **P 06 31 07.4 -0.8**
comp=Z,14nm,0.8s,mb5.3,baz=356,slow=4.2,SNR=15
STKA Stephens Creek 89.75 213 *e*P **P 06 31 07.3 -0.9**
STKA *e*pP pP 06 31 20.5 -1.8
MBWA Marble Bar 89.78 235 *e*P **P 06 31 07.1 -1.2**
CPD Cerro la Pandu 89.79 61 P **P 06 31 09.8 +1.4**
CPD Cerro la Pandu 89.79 61 *e*P **P 06 31 09.1 +0.7**
MTP Monte Pirata 89.94 61 *e*P **P 06 31 09.9 +0.8**
EBAD Badajoz 90.03 6 P **P 06 31 07.8 -1.6**
comp=Z,8.7nm,0.9s,mb5.1
EVIA Vianos 90.36 3 P **P 06 31 11.0 0.0**
EVIA pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
EVIA Vianos 90.36 3 P **P 06 31 11.0 0.0**
comp=Z,10nm,0.8s,mb5.2
ETOB Tobarra 90.37 2 P **P 06 31 10.1 -1.0**
comp=Z,15nm,0.8s,mb5.4
PBEJ Beja 90.69 7 *e*P **P 06 31 12.6 0.0**
comp=Z,23nm,1.3s,mb5.3
EADA Adamuz 90.75 4 P **P 06 31 11.4 -1.5**
comp=Z,14nm,0.9s,mb5.3
EBAN Banos Encina 90.79 4 P **P 06 31 12.9 -0.1**
EBAN pmax pmax
comp=Z,12nm,1.0s,mb5.2
EBAN Banos Encina 90.79 4 P **P 06 31 12.9 -0.2**
comp=Z,12nm,1.0s,mb5.2
EMIN Mina Concepcio 91.03 6 P **P 06 31 13.4 -0.8**
comp=Z,14nm,0.9s,mb5.3
EQES Quesada 91.17 3 P **P 06 31 14.2 -0.6**
comp=Z,7.2nm,1.0s,mb5.0
EHUE Huescar 91.17 3 P **P 06 31 14.6 -0.2**
EHUE pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
EHUE Huescar 91.17 3 P **P 06 31 14.6 -0.2**
comp=Z,10nm,1.0s,mb5.1
IDI Anoyia 91.18 340 LR LR 07 16 50.2
comp=Z,136nm,20.4s,MS4.4,baz=85,slow=39
EGRO El Granado 91.21 7 P **P 06 31 12.6 -2.4**
comp=Z,61nm,2.0s,mb5.6
ECOG Cogollos-Vega 91.68 3 P **P 06 31 17.1 -0.1**
ECOG pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
ECOG Cogollos-Vega 91.68 3 P **P 06 31 17.1 -0.1**
comp=Z,5.2nm,0.7s,mb5.0
ELOJ Sierra Loja 91.78 4 P **P 06 31 18.0 +0.3**
ELOJ pmax pmax
comp=Z,11nm,0.8s,mb5.2
ELOJ Sierra Loja 91.78 4 P **P 06 31 18.0 +0.4**
comp=Z,11nm,0.8s,mb5.2
ESPR Espera 91.98 5 P **P 06 31 17.8 -0.8**
comp=Z,18nm,0.9s,mb5.4
EMIJ Mijas 92.34 4 P **P 06 31 19.6 -0.6**
comp=Z,16nm,0.8s,mb5.4
EJIF Jimena Fronter 92.41 5 P **P 06 31 20.3 -0.3**
EJIF pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
EJIF Jimena Fronter 92.41 5 P **P 06 31 20.3 -0.3**
comp=Z,9.2nm,0.9s,mb5.1
SDV Santo Domingo 94.47 70 PFAKE 06 31 40.0 +10
SDV LR LR
comp=Z,121nm,22.0s,MS4.3
MDT Midelt 96.08 5 LR LR 07 12 31.5
comp=Z,213nm,20.4s,MS4.6,baz=166,slow=34
OTAV Otavalo 96.54 81 PFAKE 06 31 50.0 +11
OTAV LR LR
comp=Z,164nm,22.0s,MS4.5
SAML Samuel 113.10 75 PFAKE 06 37 00.0 +13
SAML LR LR
comp=Z,177nm,21.0s,MS4.6
TORD Torodi Ar. Bea 115.79 359 PKP PKPdf 06 36 50.9 -1.2
comp=Z,0.3nm,0.3s,baz=354,slow=2.2,SNR=7.2
TORD PP PP 06 37 42.9 -13
comp=Z,0.3nm,0.7s,baz=347,slow=3.7,SNR=2.5
TORD PKKPbc PKKPbc 06 47 22.1 -1.8
comp=Z,0.6nm,0.8s,baz=222,slow=1.9,SNR=3.2
TORD Torodi Ar. Bea 115.79 359 PKP PKPdf 06 36 50.9 -1.2
TORD PP PP 06 37 42.9 -13
TORD PKKPbc PKKPbc 06 47 22.1 -1.8
DBIC Dimbokro 122.02 7 PKP PKPdf 06 37 03.9 -0.3
comp=Z,4.7nm,0.9s,baz=48,slow=6.0,SNR=10
BDFB Brasilia 127.35 66 PKP PKPdf 06 37 14.2 -0.2
comp=Z,0.9nm,0.5s,baz=38,slow=12,SNR=3.3
CASY Casey 128.79 209 *e*PKPdf PKPdf 06 37 14.9 -2.2
CPUP Villa Florida 129.86 83 PKP PKPdf 06 37 18.0 -1.1
comp=Z,0.6nm,0.6s,baz=270,slow=2.0,SNR=5.0
CPUP SKP 06 40 46.8
comp=Z,2.2nm,0.7s,baz=320,slow=3.1,SNR=5.2
PLCA Paso Flores 131.20 107 PKP PKPdf 06 37 20.9 -0.8
comp=Z,9.4nm,1.0s,baz=274,slow=4.3,SNR=11
PLCA SKPbc SKPbc 06 40 42.5 +0.1
comp=Z,2.4nm,0.8s,baz=296,slow=5.1,SNR=3.3
QSPA South Pole Qui 141.09 180 *e*P PKPdf 06 37 31.2 -8.8
TSUM Tsumeb 145.30 331 PKPbc PKPbc 06 37 47.9 +0.6
comp=Z,48nm,1.0s,baz=358,slow=5.5,SNR=61
TSUM Tsumeb 145.30 331 *e*PKPbc PKPbc 06 37 47.7 +0.4
TSUM LR LR
comp=Z,375nm,19.0s,MS5.2
MAW Mawson 146.29 218 PKPbc PKPbc 06 37 47.7 -2.7
comp=Z,17nm,0.8s,baz=66,slow=3.7,SNR=12
BOSA Boshof 150.82 312 PKPbc PKPbc 06 38 01.7 -0.4
comp=Z,14nm,1.0s,baz=347,slow=0.6,SNR=11
SYO Syowa Base 154.50 212⇑*e*PKPbc PKPbc 06 38 07.7 -2.6
SUR Sutherland 156.03 315 PFAKE 06 38 10.0 +6.0
SUR LR LR
comp=Z,206nm,19.0s,MS5.0
SNAA Sanae 159.53 177 *e*PKPdf PKPab 06 38 44.8 -1.7
SNAA *e* 06 38 56.5
SNAA *e* 06 38 58.8
SNAA *e* 06 39 03.3
SNAA *e* 06 39 13.9
SNAA *e* 06 39 34.9

KNET ***09*** *06:25:00.5±0.8, 4169N×7325E, h9km±2km, ml1.9, Error ellipse: s-maj=4.3km s-min=3.7km az=47.0*
ISCJB ***09*** *06:25:01.7±1.4, 4164N±0.10×7320E±006, h10km, Error ellipse: s-maj=13.7km s-min=6.2km az=174.5*
ISC 09 06:25:02.3±1.4, 4164N±009×7324E±006, h10km, n8, σ1°38/15, 7C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**0.60**	**34**	⇓P	**Pg**	**06 25 11.6**	**-2.3**
	9.4nm,0.2s,SNR=7.8						
AML				⇓S	**Sg**	**06 25 20.7**	**-1.0**
	16nm,0.1s						
EKS2	**Erkin-Say**	**1.10**	**21**	⇑P	**Pb**	**06 25 20.0**	**-3.4**
	3.5nm,0.1s,SNR=5.6						
UCH	**Uchtor**	**1.12**	**58**	⇓P	**Pb**	**06 25 21.5**	**-2.2**
	4.7nm,0.1s,SNR=6.7						
UCH				⇑S	**Sg**	**06 25 37.9**	**-0.4**
	20nm,0.2s						
KZA	**Kyzart**	**1.56**	**73**	⇑P	**Pn**	**06 25 30.0**	**-0.2**
	3.2nm,0.1s						
KZA				⇓S	**Sn**	**06 25 51.9**	**+1.5**
	11nm,0.2s						
KBK	**Karagaybulak**	**1.63**	**51**	⇓P	**Pn**	**06 25 30.8**	**-0.2**
	7.2nm,0.2s,SNR=8.6						
KBK				⇑S	**Sn**	**06 25 54.1**	**+2.1**
	12nm,0.2s						
USP	**Ospenovka**	**1.87**	**29**	⇓P	**Pn**	**06 25 34.2**	**-0.2**
	3.0nm,0.2s,SNR=13						
USP				⇓S	**Sn**	**06 26 00.2**	**+2.1**
	18nm,0.2s						
TKM2	**Tokmak 2**	**2.17**	**53**	⇓P	**Pn**	**06 25 39.3**	**+0.8**
	0.1nm,0.5s						
TKM2				⇑S	**Sn**	**06 26 09.6**	**+4.3**
	0.4nm,0.4s						
KK31	**Karatay Array**	**2.50**	**307**	⇑P	**Pn**	**06 25 42.3**	**-0.6**
	0.3nm,0.3s,baz=123,slow=17,SNR=11						
KK31				⇑S	**Sn**	**06 26 14.6**	**+1.1**
	1.1nm,0.3s,baz=130,slow=28,SNR=11						

ISCJB ***09*** *06:30:49.2±0.7, 5.516N±0.1×17.884E±008, h49km±7km, mb4.0/13, Error ellipse: s-maj=24.0km s-min=7.0km az=17.3*
IDC ***09*** *06:30:51.0±1.3, 5172N×17.872E, h43km±8km, mb3.7/11, mb1 3.9/12, mb1mx3.7/25, mbtmp3.9/12, ML3.9/1, Error ellipse: s-maj=36.3km s-min=16.3km az=3.0*
NEIC ***09*** *06:30:50.0±0.6, 5.154N×17.876E, mb4.7/3, Error ellipse: s-maj=16.8km s-min=6.8km az=9.0*
ISC 09 06:30:50.2±0.7, 5.515N±01×17.883E±008, h46km±7km, h46km±2.1km: pP-P, n26, σ0°96/26, mb4.0/13, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.32**	**114**	P	**Pn**	**06 30 58.3**	**-0.9**
AMKA				S	**Sn**	**06 31 04.9**	**-0.7**
SMY	**Shemya**	**3.16**	**295**	P	**Pn**	**06 31 38.1**	**+0.6**
SMY				S	**Sn**	**06 32 15.4**	**+1.5**
ATKA	**Atka Island**	**4.38**	**78**	P	**Pn**	**06 31 54.9**	**+0.7**
ATKA				S	**Sn**	**06 32 44.0**	**+0.1**
KDAK	**Kodiak Island**	**17.60**	**58**	P	**Pn**	**06 34 52.2**	**+0.1**
	0.4nm,0.3s,baz=233,slow=5.3,SNR=9.8						
ILAR	**Eielson Array**	**22.08**	**40**	P	**P**	**06 35 41.8**	**+0.5**
	0.8nm,0.5s,mb3.4,baz=233,slow=10,SNR=7.8						
DAWY	**Dawson**	**25.03**	**44**	*e*P	**P**	**06 36 09.9**	**0.0**
DAWY				*e*pP	pP	06 36 24.1	+2.1
INK	**Inuvik**	**28.21**	**36**	P	**P**	**06 36 38.2**	**-0.3**
	1.9nm,0.7s,mb3.8,baz=258,slow=4.0,SNR=8.1						
YKA	**Yellowknife Ar**	**36.21**	**46**	P	**P**	**06 37 48.0**	**-0.5**
	0.6nm,0.3s,mb3.9,baz=282,slow=8.8,SNR=9.9						
YKA				pP	pP	06 38 00.2	-0.7
	1.8nm,0.7s,baz=282,slow=8.3,SNR=8.7						
YKA	**Yellowknife Ar**	**36.21**	**46**	P	**P**	**06 37 48.0**	**-0.5**
YKA				pP	pP	06 38 00.2	-0.7
YBH	**Yreka Blue Hor**	**40.32**	**80**	P	**P**	**06 38 25.7**	**+2.5**
	1.0nm,0.6s,mb3.7,baz=252,slow=20,SNR=3.6						
YBH				pP	pP	06 38 37.2	+1.6
	5.1nm,1.0s,baz=310,slow=3.7,SNR=5.4						
MCMT	**McKenzie Canyo**	**44.54**	**71**	*e*P	**P**	**06 38 57.2**	**-0.1**
NVAR	**Mina Array Bea**	**45.00**	**81**	P	**P**	**06 39 02.5**	**+1.5**
	0.9nm,0.6s,mb3.8,baz=308,slow=6.0,SNR=7.7						
NVAR				pP	pP	06 39 14.2	+0.6
	1.0nm,0.6s,baz=293,slow=6.8,SNR=6.4						
SONM	**Songino Array**	**45.26**	**295**	P	**P**	**06 39 03.4**	**+0.3**
	1.2nm,0.7s,mb3.9,baz=62,slow=9.7,SNR=7.7						
TPNV	**Topopah Spring**	**47.20**	**81**	*e*P	**P**	**06 39 18.8**	**+0.5**
	2.5nm,0.8s,mb4.2						
TPNV				*e*pP	pP	06 39 30.4	-0.6
PDAR	**Pinedale Array**	**47.67**	**71**	P	**P**	**06 39 21.8**	**-0.2**
	1.1nm,0.7s,mb4.0,baz=318,slow=3.7,SNR=13						

PDAR				pP	pP	06 39 33.9	-0.8
	2.6nm,0.7s,baz=315,slow=4.4,SNR=16						
MSU	**Marysvale**	**48.71**	**77**	*e*P	**P**	**06 39 31.1**	**+1.1**
MSU				*e*pP	pP	06 39 42.7	0.0
SPB4	**Spitsbergen Ar**	**50.13**	**355**	*e*P	**P**	**06 39 39.7**	**-1.2**
ARCES	**ARCESS Array B**	**57.70**	**349**	P	**P**	**06 40 34.6**	**-1.5**
	2.6nm,1.0s,mb4.2,baz=20,slow=7.6,SNR=5.4						
ARCES	**ARCESS Array B**	**57.70**	**349**	P	**P**	**06 40 34.6**	**-1.5**
KURK	**Kurchatov**	**57.85**	**312**	*e*P	**P**	**06 40 36.4**	**-0.7**
	7.1nm,0.6s,mb4.9						
MKAR	**Makanchi Array**	**58.78**	**307**	P	**P**	**06 40 42.9**	**-0.7**
	0.8nm,0.4s,mb4.1,baz=52,slow=6.3,SNR=7.5						
BVAR	**Borovoye Array**	**59.82**	**318**	P	**P**	**06 40 50.6**	**-0.2**
	2.0nm,0.4s,mb4.5,baz=52,slow=7.0,SNR=14						
FINES	**FINESS Array B**	**65.31**	**346**	P	**P**	**06 41 25.1**	**-2.4**
	0.7nm,0.7s,mb3.8,baz=15,slow=7.9,SNR=3.9						
LBTB	**Lobatse**	**146.57**	**312**	PKPbc	PKPbc	06 50 26.5	0.0
	1.5nm,0.3s,baz=356,slow=0.9,SNR=5.7						
BOSA	**Boshof**	**149.76**	**309**	PKPbc	PKPbc	06 50 34.4	-0.6
	0.9nm,0.5s,baz=130,slow=6.9,SNR=4.3						
BOSA	**Boshof**	**149.76**	**309**	PKPbc	PKPbc	06 50 34.4	-0.6

*CSEM **09** 06:37:35.3±0.1, 3672N×2778E, h107km±1km, MD3.0, Error ellipse: s-maj=3.5km s-min=2.8km az=149.0*
*ISCJB **09** 06:37:36.6±0.6, 3665N±004×2779E±006, h102km±6km, Error ellipse: s-maj=9.2km s-min=6.5km az=59.8*
*HLW **09** 06:37:38.1, 3657N×2788E, h33km, Mb3.6*
*ATH **09** 06:37:38.8, 3624N×28.18E, h107km*
*ISK **09** 06:37:40.0, 3677N×2783E, h74km, MD3.0*
ISC 09 06:37:37.9±0.7, **3667N**±004×**2780E**±006, **h95**km±6km, **n31**, σ**0^{s}80**/42, **14C-1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.18**	**288**	*i* PG	**Pn**	**06 37 51.6**	**+0.3**
BDRM	**Kayabasi**	**0.48**	**324**	*i* P	**Pn**	**06 37 53.3**	**+0.3**
BDRM				*i* S	**Sn**	**06 38 03.5**	**-0.7**
ARG	**Arkhangelos**	**0.53**	**150**	⇑*i*P	**Pn**	**06 37 54.1**	**+0.8**
ARG				*e*S	**Sn**	**06 38 05.3**	**+0.5**
NISR	**Nisiros**	**0.54**	**264**	*e*P	**Pn**	**06 37 59.7**	**+6.3**
BODT	**Bodrum**	**0.55**	**315**	PG	**Pn**	**06 37 53.8**	**+0.3**
BODT				SG	**Sn**	**06 38 03.9**	**-1.2**
YER	**Yerkesik**	**0.60**	**40**	PG	**Pn**	**06 37 54.9**	**+1.0**
YER				SG	**Sn**	**06 38 03.9**	**-2.0**
MLSB	**Milas**	**0.62**	**359**	*e*PG	**Pn**	**06 37 53.8**	**-0.3**
DALT	**Dalyan (Mudla)**	**0.68**	**82**	PG	**Pn**	**06 37 56.2**	**+1.6**
DALT				SG	**Sn**	**06 38 06.5**	**-0.6**
AYDN	**Tasoluk**	**0.99**	**4**	*i* P	**Pn**	**06 37 58.5**	**+0.8**
AYDN				*i* S	**Sn**	**06 38 12.0**	**-0.7**
AYDN	**Tasoluk**	**0.99**	**4**	*i* P	**Pn**	**06 37 58.5**	**+0.7**
AYDN				*i* S	**Sn**	**06 38 12.0**	**-0.7**
FETY	**Fethiye**	**1.03**	**92**	PG	**Pn**	**06 37 59.1**	**+0.8**
KARP	**Karpathos**	**1.23**	**205**	*e*P	**Pn**	**06 38 01.3**	**+0.7**
KARP				*e*S	**Sn**	**06 38 17.7**	**0.0**
DNZL	**Cakiroluk**	**1.42**	**44**	*i* P	**Pn**	**06 38 03.9**	**+1.0**
DNZL				*i* S	**Sn**	**06 38 21.9**	**+0.1**
DENT	**Denizli**	**1.46**	**42**	*e*PN	**Pn**	**06 38 04.0**	**+0.6**
ELL	**Elmali**	**1.70**	**87**	*e*PN	**Pn**	**06 38 08.1**	**+1.8**
HMAT	**Matruh**	**5.59**	**186**	P	**Pn**	**06 38 58.5**	**-0.1**
HMAT				S	**Sn**	**06 39 56.5**	**-5.0**
SLUM		**5.59**	**203**	⇑P	**Pn**	**06 38 58.3**	**-0.3**
DABA	**Dabaa**	**5.66**	**176**	⇑P	**Pn**	**06 38 59.1**	**-0.3**
HBRG	**Burj al ‘Arab**	**6.32**	**164**	⇑P	**Pn**	**06 39 08.1**	**-0.3**
FYM	**Al Fayyum**	**7.47**	**158**	⇑P	**Pn**	**06 39 24.0**	**-0.2**
AMAG	**Maghara**	**7.51**	**142**	⇑P	**Pn**	**06 39 23.9**	**-0.8**
KOT	**Kottamia**	**7.52**	**152**	⇑P	**Pn**	**06 39 24.5**	**-0.3**
SWA1		**7.59**	**194**	⇑P	**Pn**	**06 39 25.3**	**-0.5**
SWA1				S	**Sn**	**06 40 44.3**	**-5.9**
SWA2		**7.66**	**196**	⇑P	**Pn**	**06 39 26.8**	**+0.1**
GLL	**Jalalah**	**7.80**	**154**	⇓P	**Pn**	**06 39 28.1**	**-0.5**
SUZ		**8.01**	**147**	⇑P	**Pn**	**06 39 31.3**	**-0.1**
HNKL	**Nakhl**	**8.48**	**141**	⇑P	**Pn**	**06 39 37.2**	**-0.7**
TR2		**9.66**	**147**	⇑P	**Pn**	**06 39 53.7**	**-0.1**
HKAT	**Jabal Katrina**	**9.66**	**146**	⇑P	**Pn**	**06 39 54.4**	**+0.5**
TR1		**10.08**	**147**	⇑P	**Pn**	**06 39 59.5**	**-0.2**
BEST	**Besiri**	**10.81**	**79**	*i* S	**Sn**	**06 42 05.8**	**-2.6**

*BJI **09** 06:44:23.7, 5141N×178.18W, h15km, mB4.9, mb4.7*
*IDC **09** 06:44:28.6±1.0, 5130N×179.15W, h0km, mb4.1/19, mb1 4.3/20, mb1mx4.3/27, mbtmp4.2/20, ML4.3/1, Error ellipse: s-maj=29.4km s-min=14.9km az=177.0*
*ISCJB **09** 06:44:31.7±1.6, 5142N±009×17909W±006, h28km±10km, mb4.4/37, MS4.2/1, Error ellipse: s-maj=16.2km s-min=5.6km az=155.3*
*NEIC **09** 06:44:31.2±2.4, 5141N×179.14W, h16km±14km, mb4.2/7, ML4.0(AEIC), Error ellipse: s-maj=14.7km s-min=5.8km az=173.0*
*MOS **09** 06:44:32.2±1.0, 5138N×179.16W, h33km, mb4.7/11, Error ellipse: s-maj=14.5km s-min=8.5km az=92.2*
ISC 09 06:44:30.8±2.4, **5141N**±009×**17906W**±006, **h12**km±14km, **n85**, σ**0^{s}95**/85, **mb4.4**/37, **MS4.2**/1, **8C-4D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.02**	**269**	P	**Pb**	**06 44 50.2**	**-0.3**
AMKA				S	**Sb**	**06 45 05.9**	**+2.1**
ATKA	**Atka Island**	**3.12**	**73**	P	**Pn**	**06 45 22.5**	**+2.7**
SMY	**Shemya**	**4.42**	**290**	*e*Pn	**Pn**	**06 45 36.2**	**-1.5**
SMY				*e*Sn	**Sn**	**06 46 46.5**	**+17**
SPIA	**Saint Paul Isl**	**7.74**	**38**	*e*Pn	**Pn**	**06 46 24.2**	**+0.9**
SVW2	**Sparrevohn**	**16.16**	**44**	*e*P	**Pn**	**06 48 15.8**	**-1.9**
KDAK	**Kodiak Island**	**16.55**	**57**	Pn	**Pn**	**06 48 21.0**	**-1.6**
	1.2nm,0.3s,baz=303,slow=11,SNR=8.8						
KDAK				Sn	**Sn**	**06 51 26.8**	**+0.7**
	0.1nm,0.3s,baz=284,slow=19,SNR=2.4						
TTA	**Tatalina**	**16.89**	**38**	*e*P	**Pn**	**06 48 27.1**	**+0.1**
TTA				pmax	pmax		
	comp=Z,33nm,1.8s						
TTA	**Tatalina**	**16.89**	**38**	*e*P	**Pn**	**06 48 27.1**	**+0.2**
	comp=Z,34nm,1.8s						
BILL	**Bilibino**	**18.15**	**342**	*e*P	**Pn**	**06 48 43.6**	**+1.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SML	**Sawmill**	**19.66**	**46**	*e*P	**Pn**	**06 48 58.9**	**-1.9**
COLA	**College**	**20.99**	**38**	*i* P	**P**	**06 49 17.5**	**+3.6**
ILAR	**Eielson Array**	**21.32**	**39**	P	**P**	**06 49 18.8**	**+1.2**
	comp=Z,1.3nm,0.5s,mb3.5,baz=242,slow=11,SNR=16						
DAWY	**Dawson**	**24.20**	**43**	*e*P	**P**	**06 49 47.2**	**+0.1**
YSS	**Yuzh-Sakhalins**	**25.15**	**275**	*e*P	**P**	**06 49 55.0**	**-0.8**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.6						
INK	**Inuvik**	**27.53**	**35**	P	**P**	**06 50 17.9**	**+0.7**
	comp=Z,0.8nm,0.5s,mb3.6,baz=236,slow=7.3,SNR=4.0						
KLR	**Kul’dur**	**31.01**	**286**	*e*P	**P**	**06 50 43.9**	**-4.3**
MDJ	**Mudanjiang**	**34.40**	**279**	P	**P**	**06 51 19.2**	**+1.4**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,180nm,10.2s						
YKA	**Yellowknife Ar**	**35.33**	**46**	P	**P**	**06 51 26.2**	**+0.4**
	comp=Z,2.7nm,0.8s,mb4.2,baz=279,slow=9.4,SNR=9.6						
BOD	**Bodaibo**	**37.83**	**307**	*e*P	**P**	**06 51 46.3**	**-0.8**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
EDM	**Edmonton**	**38.94**	**61**	*e*P	**P**	**06 51 56.6**	**+0.1**
NEW	**Newport**	**39.03**	**69**	P	**P**	**06 51 57.8**	**+0.6**
	comp=Z,1.9nm,0.4s,mb4.2,baz=314,slow=7.4,SNR=9.7						
SNY	**Shenyang**	**39.61**	**279**	⇑P	**P**	**06 52 01.5**	**-0.6**
HLID	**Hailey**	**43.09**	**74**	*e*P	**P**	**06 52 30.6**	**-0.1**
	comp=Z,2.3nm,1.0s,mb3.9						
MCMT	**McKenzie Canyo**	**43.33**	**72**	*e*P	**P**	**06 52 32.7**	**+0.1**
BOZ	**Bozeman (W)**	**43.60**	**70**	*e*P	**P**	**06 52 35.1**	**+0.3**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
BOZ	**Bozeman (W)**	**43.60**	**70**	*e*P	**P**	**06 52 35.1**	**+0.3**
	comp=Z,4.2nm,0.9s,mb4.2						
NVAR	**Mina Array Bea**	**43.71**	**83**	P	**P**	**06 52 35.3**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=299,slow=9.2,SNR=3.5						
TPNV	**Topopah Spring**	**45.91**	**83**	*e*P	**P**	**06 52 53.0**	**-0.2**
TPNV				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
TPNV	**Topopah Spring**	**45.91**	**83**	*e*P	**P**	**06 52 53.0**	**-0.2**
	comp=Z,4.3nm,1.0s,mb4.3						
ULN	**Ulaanbaatar**	**46.10**	**296**	⇓*e*P	**P**	**06 52 55.1**	**+0.4**
PDAR	**Pinedale Array**	**46.46**	**72**	P	**P**	**06 52 57.8**	**+0.3**
	comp=Z,5.3nm,0.9s,mb4.5,baz=314,slow=5.3,SNR=34						
SONM	**Songino Array**	**46.48**	**296**	P	**P**	**06 52 58.1**	**+0.4**
	comp=Z,1.4nm,0.6s,mb4.1,baz=67,slow=8.3,SNR=11						
SONM				PcP	PcP	06 54 31.5	-0.7
	comp=Z,0.8nm,0.6s,baz=91,slow=2.5,SNR=3.2						
NJ2	**Nanjing**	**48.65**	**272**	*e*P	**P**	**06 53 16.4**	**+1.9**
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
ZAL	**Zalesovo**	**53.91**	**313**	P	**P**	**06 53 53.5**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.8,baz=90,slow=7.1,SNR=2.7						
LZH	**Lanzhou**	**55.22**	**286**	*e*P	**P**	**06 54 04.0**	**+0.5**
LZH				AP	pP	06 54 08.5	+1.0
LZH				XP	sP	06 54 12.3	+3.3
LZH				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,50nm,4.1s						
GTA	**Gaotai**	**55.40**	**292**	*e*P	**P**	**06 54 05.0**	**+0.2**
GTA				AP	pP	06 54 12.5	+3.7
GTA				XP	sP	06 54 16.9	+6.6
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.7						
ARCES	**ARCESS Array B**	**58.03**	**350**	P	**P**	**06 54 22.6**	**-0.9**
	comp=Z,3.3nm,0.8s,mb4.4,baz=25,slow=8.4,SNR=14						
KURK	**Kurchatov**	**58.88**	**313**	⇑*e*P	**P**	**06 54 29.9**	**+0.5**
MKAR	**Makanchi Array**	**59.88**	**308**	P	**P**	**06 54 35.6**	**-0.8**
	comp=Z,1.5nm,0.6s,mb4.2,baz=43,slow=6.8,SNR=16						
BVAR	**Borovoye Array**	**60.76**	**320**	P	**P**	**06 54 41.8**	**-0.5**
	comp=Z,0.8nm,0.3s,mb4.3,baz=56,slow=6.7,SNR=7.8						
BVAR				PcP	PcP	06 55 26.0	-0.3
	comp=Z,1.7nm,0.6s,baz=36,slow=3.0,SNR=5.4						
JOF	**Joensuu**	**63.52**	**345**	*e*p	**P**	**06 54 58.0**	**-2.9**
	comp=Z,1.4nm,0.3s,mb4.5						
JOF	**Joensuu**	**63.52**	**345**	*e*P	**P**	**06 54 58.0**	**-2.9**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
KAF	**Kangasniemi**	**65.04**	**347**	*e*p	**P**	**06 55 07.5**	**-3.4**
	comp=Z,2.7nm,0.4s,mb4.6,baz=14,slow=6.0						
KAF	**Kangasniemi**	**65.04**	**347**	*e*P	**P**	**06 55 07.5**	**-3.4**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
TZTN	**Tazewell**	**65.56**	**62**	*e*P	**P**	**06 55 14.1**	**-0.1**
FINES	**FINESS Array B**	**65.72**	**347**	P	**P**	**06 55 14.6**	**-0.7**
	comp=Z,2.2nm,0.5s,mb4.4,baz=25,slow=7.8,SNR=22						
FINES	**FINESS Array B**	**65.72**	**347**	*i* P	**P**	**06 55 14.6**	**-0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AAK	**Ala-Archa**	**66.72**	**310**	⇑*e*P	**P**	**06 55 21.6**	**-0.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
AKTK	**Aktyubinsk**	**67.56**	**324**	P	**P**	**06 55 26.5**	**-0.5**
AKTO	**Aktyubinsk**	**67.56**	**324**	P	**P**	**06 55 26.5**	**-0.5**
	comp=Z,1.3nm,0.5s,mb4.2,baz=42,slow=9.1,SNR=6.0						
NB2	**NORSAR Subarra**	**67.60**	**355**	P	**P**	**06 55 26.8**	**-0.5**
	comp=Z,0.8nm,0.5s,mb4.0,baz=6.3,slow=6.5						
NOA	**NORSAR Array B**	**67.60**	**355**	P	**P**	**06 55 27.2**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=6.9,slow=6.5,SNR=6.4						
NOA	**NORSAR Array B**	**67.60**	**355**	P	**P**	**06 55 27.2**	**-0.1**
OBN	**Obninsk**	**69.78**	**339**	⇑*e*P	**P**	**06 55 40.5**	**-0.4**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.2						
GUN	**Gumba**	**71.69**	**292**	*e*P	**P**	**06 55 53.1**	**+0.6**
	comp=Z,41nm,0.4s						
JIRN	**Jiri**	**71.70**	**291**	*e*P	**P**	**06 55 52.0**	**-0.6**
	comp=Z,23nm,0.6s,mb5.3						
KKN	**Kakani**	**72.13**	**292**	*e*P	**P**	**06 55 55.4**	**+0.3**
	comp=Z,14nm,0.6s,mb5.1						
PKI	**Pulchoki**	**72.22**	**292**	*e*P	**P**	**06 55 54.6**	**-1.1**
	comp=Z,13nm,0.6s,mb5.1						
GKN	**Gorkha**	**72.34**	**293**	*e*P	**P**	**06 55 56.3**	**-0.1**
DMN	**Daman**	**72.37**	**292**	*e*P	**P**	**06 55 56.4**	**-0.2**
AKASG	**Malin Array Be**	**75.47**	**342**	P	**P**	**06 56 14.2**	**-0.5**
	comp=Z,13nm,0.5s,mb5.2,baz=20,slow=6.6,SNR=38						
AKBB	**Malin Array Si**	**75.47**	**342**	*e*P	**P**	**06 56 14.2**	**-0.5**
LVV	**L’vov**	**77.25**	**345**	*e*P	**P**	**06 56 24.8**	**0.0**
KOLS	**Kolonicke sedl**	**78.38**	**346**	*e*P	**P**	**06 56 31.4**	**+0.3**
CRVS	**Cervenica-Dubn**	**78.54**	**346**	*e*P	**P**	**06 56 31.9**	**-0.1**
LIKS	**Likavka**	**78.72**	**348**	*e*P	**P**	**06 56 30.6**	**-2.4**
LIKS				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.2						
LIKS	**Likavka**	**78.72**	**348**	*e*P	**P**	**06 56 30.6**	**-2.4**
	comp=Z,40nm,1.3s,mb5.2						
KECS	**Kecovo**	**79.09**	**347**	*e*P	**P**	**06 56 35.3**	**+0.3**
KECS				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
KECS	**Kecovo**	**79.09**	**347**	*e*P	**P**	**06 56 35.3**	**+0.3**
	comp=Z,3.7nm,1.1s,mb4.2						
BURAR	**Bucovina Array**	**79.17**	**344**	⇑*i*P	**P**	**06 56 36.0**	**+0.5**
KHC	**Kasperske Hory**	**79.26**	**352**	⇓*e*P	**P**	**06 56 36.4**	**+0.5**
VYHS	**Vyhne**	**79.30**	**348**	*e*P	**P**	**06 56 36.1**	**-0.1**
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
VYHS	**Vyhne**	**79.30**	**348**	*e*P	**P**	**06 56 36.1**	**-0.1**
	comp=Z,2.5nm,1.3s,mb4.0						
GERES	**GERESS Array B**	**79.53**	**351**	P	**P**	**06 56 37.4**	**0.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=20,slow=5.7,SNR=12						
DRGR		**80.40**	**345**	⇑*i*P	**P**	**06 56 42.5**	**+0.4**
CFR	**Carcaliu**	**80.96**	**341**	⇓*i*P	**P**	**06 56 46.9**	**+1.8**
MLR	**Muntele Rosu**	**81.09**	**342**	P	**P**	**06 56 47.6**	**+1.8**
	comp=Z,4.9nm,0.5s,mb4.7,baz=340,slow=6.8,SNR=12						
MLR	**Muntele Rosu**	**81.09**	**342**	⇑*i*P	**P**	**06 56 47.6**	**+1.8**
GZR	**Gura Zlata**	**81.75**	**345**	⇓*i*P	**P**	**06 56 50.4**	**+1.1**
BRTR	**Keskin Array B**	**84.85**	**335**	P	**P**	**06 57 05.8**	**+0.5**
	comp=Z,1.7nm,0.7s,mb4.3,baz=46,slow=2.3,SNR=8.6						
BRTR	**Keskin Array B**	**84.85**	**335**	⇑*e*P	**P**	**06 57 05.8**	**+0.5**
ASAR	**Alice Springs**	**85.40**	**222**	P	**P**	**06 57 06.7**	**-1.4**
	comp=Z,0.5nm,0.9s,mb3.6,baz=24,slow=7.3,SNR=3.1						
TSUM	**Tsumeb**	**145.28**	**332**	PKPbc	PKPbc	07 04 08.0	-0.2
	comp=Z,2.6nm,0.5s,baz=14,slow=6.1,SNR=12						
LBTB	**Lobatse**	**147.59**	**315**	PKPbc	PKPbc	07 04 14.6	-0.3
	comp=Z,2.9nm,0.7s,baz=51,slow=3.6,SNR=7.0						
BOSA	**Boshof**	**150.83**	**312**	PKPbc	PKPbc	07 04 22.3	-0.8
	comp=Z,1.4nm,0.6s,baz=218,slow=7.1,SNR=5.9						

*ISCJB **09** 07:18:43.1±2.1, 53S±0.1×1504E±04, h33km, mb3.8/4, Error ellipse: s-maj=59.1km s-min=14.7km az=23.6*
*NEIC **09** 07:18:43.7±1.7, 530S×15058E, h35km, mb4.1/1, Error ellipse: s-maj=51.9km s-min=13.5km az=104.0*
*IDC **09** 07:18:45.1±5.7, 534S×15050E, h44km±44km, mb3.6/4, mb1 3.9/6, mb1mx3.7/15, mbtmp4.0/6, ML3.4/2, Error ellipse: s-maj=100.5km s-min=27.9km az=104.0*
ISC 09 07:18:45.1±2.1, **53S**±01×**1504E**±04, **h35**km, **n9**, σ**0^{s}39**/9, **mb3.8**/4, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.22**	**218**	P	**Pn**	**07 19 59.9**	**-0.7**
	5.4nm,0.3s,baz=23,slow=12,SNR=14						
PMG				S	**Sn**	**07 21 07.9**	**+8.5**
	2.5nm,0.3s,baz=282,slow=20,SNR=2.9						
CTA	**Charters Tower**	**15.26**	**195**	P	**Pn**	**07 22 17.9**	**+0.1**
	0.2nm,0.3s,baz=22,slow=5.4,SNR=2.6						
WB2	**Warramunga Arr**	**21.37**	**226**	*e*P	**P**	**07 23 30.0**	**+0.6**
ASAR	**Alice Springs**	**24.23**	**219**	P	**P**	**07 23 58.5**	**-0.1**
	2.8nm,0.8s,mb3.7,baz=54,slow=8.6,SNR=27						
FITZ	**Fitzroy Crossi**	**27.36**	**240**	*e*P	**P**	**07 24 27.0**	**+0.2**
	5.4nm,1.1s,mb4.0						
FITZ	**Fitzroy Crossi**	**27.36**	**240**	P	**P**	**07 24 26.9**	**+0.1**
	4.9nm,1.0s,mb4.0,baz=72,slow=12,SNR=5.1						
MJAR	**Matsushiro Arr**	**43.16**	**346**	P	**P**	**07 26 41.9**	**-0.4**
	0.8nm,0.8s,mb3.5,baz=179,slow=6.0,SNR=4.1						
SONM	**Songino Array**	**65.50**	**329**	P	**P**	**07 29 25.0**	**+0.3**
	1.0nm,0.9s,mb3.9,baz=116,slow=3.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**148.20**	**286**	PKPbc	PKPbc	07 38 25.8	-1.4
	1.1nm,0.7s,baz=61,slow=2.5,SNR=6.6						

*NEIC **09** 07:20:00.0±0.8, 545S×15080E, h35km, mb4.7/8, Error ellipse: s-maj=27.5km s-min=12.8km az=117.0*
*IDC **09** 07:20:02.3±4.8, 546S×15073E, h48km±43km, mb3.9/7, mb1 4.1/8, mb1mx4.0/14, mbtmp4.2/8, ML3.7/1, MS3.7/11, Ms1 3.7/11, ms1mx3.5/24, Error ellipse: s-maj=42.7km s-min=23.0km az=96.0*
*ISCJB **09** 07:20:04.2±3.1, 55S±0.1×1507E±02, h87km±25km, mb4.2/12, Error ellipse: s-maj=34.0km s-min=17.8km az=36.1*
ISC 09 07:20:05.5±2.8, **55S**±01×**1507E**±02, **h86**km±22km, **n26**, σ**1^{s}14**/20, **mb4.2**/12, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.27**	**222**	P	**Pn**	**07 21 20.0**	**-1.7**
	18nm,0.3s,baz=39,slow=8.0,SNR=15						
PMG				S	**Sn**	**07 22 23.2**	**+2.1**
	3.4nm,0.3s,baz=182,slow=15,SNR=3.5						
HNR	**Honiara**	**9.93**	**114**	LR	LR	07 24 38.5	
	comp=Z,150nm,20.9s,baz=355,slow=28						
CTA	**Charters Tower**	**15.15**	**196**	*e*P	**Pn**	**07 23 38.3**	**+3.6**
	11nm,1.0s						
CTA	**Charters Tower**	**15.15**	**196**	P	**Pn**	**07 23 38.3**	**+3.6**
	0.2nm,0.3s,baz=42,slow=13,SNR=5.4						
CTA				LR	LR	07 28 37.0	
	comp=Z,500nm,20.2s,baz=13,slow=34						
GUMO	**Guam**	**19.84**	**343**	LR	LR	07 30 27.6	
	comp=Z,148nm,18.3s,baz=175,slow=32						
WRAB	**Tennant Creek**	**21.45**	**227**	*e*P	**P**	**07 24 46.4**	**-0.4**
	33nm,1.1s,mb4.6						
WB2	**Warramunga Arr**	**21.46**	**227**	*e*P	**P**	**07 24 46.8**	**0.0**
ASAR	**Alice Springs**	**24.28**	**220**	P	**P**	**07 25 15.4**	**+0.8**
	5.7nm,0.8s,mb4.0,baz=56,slow=8.0,SNR=17						
ASAR				LR	LR	07 34 07.1	
	comp=Z,223nm,20.6s,baz=226,slow=35						
FITZ	**Fitzroy Crossi**	**27.54**	**241**	*e*P	**P**	**07 25 43.8**	**-0.3**
	18nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**27.54**	**241**	P	**P**	**07 25 44.0**	**-0.1**
	9.9nm,0.9s,mb4.4,baz=83,slow=9.4,SNR=9.1						
FITZ				LR	LR	07 38 16.7	
	comp=Z,109nm,19.8s,baz=246,slow=40						
STKA	**Stephens Creek**	**27.61**	**197**	*e*P	**P**	**07 25 44.3**	**-0.4**
	4.4nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**27.61**	**197**	P	**P**	**07 25 44.4**	**-0.4**
	7.2nm,1.1s,mb4.1,baz=354,slow=9.2,SNR=3.2						
STKA				LR	LR	07 36 40.8	
	comp=Z,401nm,18.9s,baz=18,slow=36						
FORT	**Forrest**	**32.98**	**218**	*e*P	**P**	**07 26 31.9**	**-0.2**
	27nm,0.8s,mb5.1						
MBWA	**Marble Bar**	**33.85**	**240**	*e*P	**P**	**07 26 39.0**	**-0.7**
	10.0nm,0.7s,mb4.8						
KLBR	**Kellerberrin**	**40.35**	**226**	*e*P	**P**	**07 27 33.2**	**-1.5**
	38nm,1.3s,mb5.1						
MUN	**Mundaring**	**41.67**	**226**	*e*P	**P**	**07 27 45.1**	**-0.4**
MJAR	**Matsushiro Arr**	**43.43**	**345**	P	**P**	**07 27 58.3**	**-1.5**
	1.1nm,0.9s,mb3.6,baz=182,slow=11,SNR=4.4						
MJAR				LR	LR	07 45 48.3	
	comp=Z,128nm,18.9s,baz=180,slow=36						
SONM	**Songino Array**	**65.84**	**329**	P	**P**	**07 30 44.1**	**+2.3**
	2.5nm,1.1s,mb4.0,baz=135,slow=6.2,SNR=7.4						
SONM				LR	LR	07 58 37.2	
	comp=Z,88nm,19.9s,baz=351,slow=35						
MKAR	**Makanchi Array**	**79.51**	**319**	P	**P**	**07 32 03.6**	**+0.9**
	0.6nm,0.8s,mb3.5,baz=81,slow=7.8,SNR=3.5						
ZAL	**Zalesovo**	**80.61**	**327**	LR	LR	08 05 59.5	
	comp=Z,68nm,21.8s,baz=183,slow=34						
QSPA	**South Pole Qui**	**84.47**	**180**	*e*P	**P**	**07 32 28.6**	**-0.1**
	2.2nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**88.57**	**323**	LR	LR	08 08 45.4	
	comp=Z,51nm,21.7s,baz=136,slow=33						
NVAR	**Mina Array Bea**	**94.12**	**52**	P	**P**	**07 33 15.5**	**+1.0**
	0.5nm,1.0s,mb3.8,baz=272,slow=3.0,SNR=4.4						
NEW	**Newport**	**95.48**	**42**	LR	LR	08 09 31.7	
	comp=Z,28nm,21.6s,baz=260,slow=31						
TORD	**Torodi Ar. Bea**	**148.55**	**286**	PKPbc	PKPbc	07 39 44.4	+2.0
	1.8nm,0.8s,baz=68,slow=2.7,SNR=8.4						
BDFB	**Brasilia**	**151.96**	**139**	PKPbc	PKPbc	07 39 54.2	+3.7
	1.0nm,0.6s,baz=190,slow=6.8,SNR=5.3						

*IDC **09** 07:28:54.7±1.2, 1952N×7603W, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/20, mbtmp3.9/7, MS3.0/1, Ms1 3.0/1, ms1mx2.6/22, Error ellipse: s-maj=34.4km s-min=28.7km az=25.0*
*NEIC **09** 07:28:56.9±0.9, 1953N×7605W, h15km, mb4.3/5, Error ellipse: s-maj=23.8km s-min=13.5km az=203.0*
*ISCJB **09** 07:28:57.4±0.8, 1953N±003×76.11W±004, h32km±7km, mb4.0/11, Error ellipse: s-maj=6.5km s-min=4.1km az=60.7*
*SSNC **09** 07:28:59.9, 1960N×76.11W, h25km, MD3.4, ML4.0*
*JSN **09** 07:28:59.8±0.8, 1944N×7625W, h14km±53km, MD4.2*
ISC 09 07:28:56.1±0.8, **1949N**±003×**7611W**±004, **h11**km±5km, **n30**, σ**1^{s}19**/38, **mb4.0**/11, **5C-5D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.64**	**38**	⇑*i*PG	**Pg**	**07 29 09.7**	**+1.2**
RCC				*i* SG	**Sg**	**07 29 17.3**	**+0.4**
	comp=N,4μm,0.3s						
RCC				*e*			
	comp=E,6μm,0.4s						
LMGC	**Las Mercedes**	**1.02**	**305**	⇑*i*PG	**Pg**	**07 29 16.4**	**+0.7**
LMGC				*i* SG	**Sg**	**07 29 27.8**	**-1.1**
	comp=N,7μm,0.1s						
LMGC				*e*			
	comp=E,5μm,0.1s						
CMJ	**Castle Mountai**	**1.37**	**190**	⇑*e*P	**Pn**	**07 29 21.9**	**+0.8**
CMJ				*e*S	**Sb**	**07 29 39.1**	**0.0**
HLGC	**Holguin**	**1.40**	**2**	*e*PG	**Pg**	**07 29 20.2**	**-2.7**
HLGC				*e*SG	**Sg**	**07 29 35.2**	**-5.8**
HLGC				*e*			
GWJ	**Greenwich**	**1.52**	**203**	⇓*e*P	**Pn**	**07 29 23.7**	**+0.5**
BBJ	**Bamboo Saint A**	**1.55**	**225**	⇑*i*P	**Pn**	**07 29 24.0**	**+0.5**
STH	**Stony Hill**	**1.55**	**205**	⇓*i*P	**Pn**	**07 29 24.1**	**+0.5**
STH				*e*S	**Sn**	**07 29 41.8**	**-1.9**
HOJ	**Hope**	**1.59**	**202**	⇓*e*P	**Pn**	**07 29 24.9**	**+0.7**
MOAC	**Moa**	**1.59**	**43**	⇓*i*PG	**Pg**	**07 29 24.2**	**-2.4**
MOAC				*i* SG	**Sg**	**07 29 42.3**	**-5.0**
	comp=N,1μm,0.5s						
MOAC				*e*			
	comp=E,2μm,0.2s						
CVJ	**Coleyville**	**1.84**	**227**	⇑*i*P	**Pn**	**07 29 28.0**	**+0.4**
CVJ				*i* S	**Sn**	**07 29 48.8**	**-2.0**
MASC	**Masc**	**1.90**	**69**	*e*P	**Pn**	**07 29 27.7**	**-0.7**
MASC				*e*S	**Sn**	**07 29 49.5**	**-2.8**
MASC				*e*			
MBJ	**Montego Bay**	**1.98**	**237**	*e*P	**Pn**	**07 29 29.0**	**-0.5**
MBJ				*e*S	**Sn**	**07 29 52.0**	**-2.2**
MCJ	**Malvern**	**2.15**	**224**	⇓*e*P	**Pn**	**07 29 32.8**	**+0.9**
MGV	**Manicaragua**	**4.46**	**306**	*e*P	**Pn**	**07 30 05.6**	**+2.0**
MGV				*e*S	**Sn**	**07 30 54.6**	**-0.9**
	comp=N,3μm,0.4s						
MGV				*e*			
	comp=E,2μm,0.4s						
ROSC	**El Rosal**	**14.64**	**173**	LR	LR	07 37 43.6	
	comp=E,58nm,19.2s,baz=29,slow=36						
OXF	**Oxford**	**19.06**	**324**	*e*P	**Pn**	**07 33 17.9**	**-1.2**
	comp=E,28nm,1.0s						
MIAR	**Mount Ida**	**21.56**	**318**	*e*P	**P**	**07 33 46.1**	**+0.6**
	comp=E,4.2nm,0.8s,mb3.9						
CCM	**Cathedral Cave**	**22.71**	**328**	*e*P	**P**	**07 33 58.1**	**+0.3**
	comp=E,6.2nm,0.8s,mb4.1						
JCT	**Junction City**	**24.05**	**302**	*e*P	**P**	**07 34 11.8**	**+0.6**
	comp=E,53nm,1.1s,mb4.9						
ULM	**Lac du Bonnet**	**34.49**	**337**	P	**P**	**07 35 44.1**	**+0.1**
	comp=E,2.2nm,0.7s,mb4.2,baz=176,slow=12,SNR=3.5						
WUAZ	**Wupatki**	**34.90**	**305**	*e*P	**P**	**07 35 49.0**	**+1.5**
	comp=E,2.3nm,0.7s,mb4.2						
SCHQ	**Schefferville**	**35.99**	**9**	P	**P**	**07 35 56.5**	**-0.5**
	comp=E,1.5nm,0.7s,mb4.0,baz=207,slow=6.8,SNR=3.0						
SCHQ	**Schefferville**	**35.99**	**9**	P	**P**	**07 35 56.5**	**-0.5**
PDAR	**Pinedale Array**	**36.48**	**317**	P	**P**	**07 36 01.9**	**+0.8**
	comp=E,0.9nm,0.8s,mb3.8,baz=107,slow=10,SNR=7.7						
MCMT	**McKenzie Canyo**	**39.56**	**318**	*e*P	**P**	**07 36 28.0**	**+0.9**
NVAR	**Mina Array Bea**	**41.04**	**307**	P	**P**	**07 36 41.2**	**+1.8**
	comp=E,0.6nm,0.7s,mb3.3,baz=113,slow=6.9,SNR=5.8						
YKA	**Yellowknife Ar**	**50.47**	**338**	P	**P**	**07 37 52.8**	**-1.0**
	comp=E,0.9nm,0.8s,mb3.9,baz=117,slow=7.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**74.39**	**81**	P	**P**	**07 40 34.6**	**+0.6**
	comp=E,1.2nm,0.8s,mb3.9,baz=294,slow=5.2,SNR=4.4						
FINES	**FINESS Array B**	**78.75**	**29**	P	**P**	**07 40 59.6**	**+1.0**
	comp=E,1.5nm,1.0s,mb3.9,baz=286,slow=5.2,SNR=3.6						
ASAR	**Alice Springs**	**151.81**	**256**	PKPbc	PKPbc	07 48 51.2	+0.4
	comp=E,0.7nm,0.6s,baz=101,slow=1.7,SNR=10.0						
ASAR				PKPab	PKPab	07 49 01.9	+2.0
	comp=E,0.7nm,0.7s,baz=94,slow=1.9,SNR=6.3						

*ISCJB **09** 07:33:47.9±0.8, 1770N±008×6225W±005, h82km±6km, Error ellipse: s-maj=14.9km s-min=3.9km az=58.1*
*TRN **09** 07:33:47.5, 1768N×6224W, h71km, MD3.3, M3.5(FDF)*
*NEIC **09** 07:33:48.0, 1773N×6225W, h67km, MD3.3(TRN), MD3.7(RSPR), After TRN.*
*RSPR **09** 07:33:50.5, 1790N×6225W, h25km±31km, MD3.7/4, MD3.7/4*
ISC 09 07:33:48.9±0.8, **1769N**±008×**6224W**±005, **h76**km±7km, **n26**, σ**0^{s}71**/40, **10C-1D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**0.40**	**97**	⇑*e*P	**Pn**	**07 34 02.0**	**+0.7**

CPB				eS	Sn	07 34 10.1	-0.4
STAT	**Sint Eustatius**	**0.73**	**255**	⇓iP	**Pn**	**07 34 05.5**	**+0.9**
STAT				eS	Sn	07 34 16.9	+0.7
BPA	**Boggy Peak**	**0.74**	**150**	eP	**Pn**	**07 34 05.4**	**+0.8**
BPA				eS	Sn	07 34 16.1	-0.2
STMA	**St. Maarten, A**	**0.90**	**293**	eP	**Pn**	**07 34 07.0**	**+0.5**
STMA				eS	Sn	07 34 18.9	-0.7
SABS	**Saba**	**0.96**	**266**	eP	**Pn**	**07 34 08.0**	**+0.8**
SABS				eS	Sn	07 34 20.8	-0.1
SABT	**Saba**	**0.96**	**266**	eP	**Pn**	**07 34 08.0**	**+0.8**
SABT				eS	Sn	07 34 20.8	-0.1
SEG	**Port Louis**	**1.46**	**151**	eP	**Pn**	**07 34 13.0**	**-0.6**
LZG	**Guadaloupe-1**	**1.60**	**164**	eP	**Pn**	**07 34 15.6**	**+0.2**
SCG	**Saint Claude**	**1.74**	**162**	eP	**Pn**	**07 34 16.9**	**-0.3**
DOG	**Dongo Capester**	**1.75**	**160**	eP	**Pn**	**07 34 17.3**	**-0.1**
PHG	**Guadaloupe-2**	**1.76**	**161**	eP	**Pn**	**07 34 17.7**	**+0.2**
DEG	**La Desirade**	**1.77**	**140**	eP	**Pn**	**07 34 17.3**	**-0.3**
DEG				eS	Sn	07 34 38.0	-1.5
TBG	**Guadaloupe-3**	**1.91**	**163**	eP	**Pn**	**07 34 19.5**	**0.0**
MGG	**Marie-Galante**	**1.97**	**153**	eP	**Pn**	**07 34 20.4**	**+0.1**
BBL	**Barber's Block**	**2.27**	**161**	eP	**Pn**	**07 34 23.9**	**-0.5**
TBVI	**Tortola**	**2.37**	**288**	⇑eP	**Pn**	**07 34 25.0**	**-0.6**
TBVI				eS	Sn	07 34 52.0	-1.7
TBVI	**Tortola**	**2.37**	**288**	⇑eP	**Pn**	**07 34 25.0**	**-0.6**
TBVI				eS	Sn	07 34 52.0	-1.7
CDVI	**St. Croix**	**2.41**	**272**	⇑eP	**Pn**	**07 34 26.1**	**0.0**
STVI	**Saint Thomas**	**2.67**	**285**	⇑eP	**Pn**	**07 34 29.1**	**-0.6**
STVI				eS	Sn	07 34 60.0	-1.1
CULB	**Culebra**	**3.00**	**282**	⇑eP	**Pn**	**07 34 34.1**	**-0.1**
CULB				eS	Sn	07 35 07.3	-1.8
MTP	**Monte Pirata**	**3.18**	**278**	eP	**Pn**	**07 34 36.9**	**+0.2**
MTP				eS	Sn	07 35 13.3	-0.2
HUMP	**Col San Antoni**	**3.47**	**278**	eP	**Pn**	**07 34 41.1**	**+0.6**
HUMP				eS	Sn	07 35 20.3	-0.1
CBYP	**Canovanas**	**3.49**	**280**	⇑eP	**Pn**	**07 34 41.3**	**+0.5**
CBYP				eS	Sn	07 35 21.3	+0.3
CPD	**Cerro la Pandu**	**3.52**	**276**	⇑eP	**Pn**	**07 34 41.9**	**+0.7**
AOPR	**Arecibo Observ**	**4.34**	**279**	⇑eP	**Pn**	**07 34 53.6**	**+1.2**
CRPR	**Cabo Rojo, PR**	**4.65**	**275**	⇑eP	**Pn**	**07 34 57.8**	**+1.2**

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*IDC **09** 07:48:36.2±2.5, 5275N×15899E, h0^{km}, mb3.8/4, mb1 3.9/4, mb1mx3.5/21, mbtmp3.8/4, MS3.1/2, Ms1 3.1/2, ms1mx2.8/22, Error ellipse: s-maj=92.1km s-min=27.0km az=100.0*

*KRSC **09** 07:49:32, 5238N×15408E, h560^{km}, ML4.3*

*MOS **09** 07:49:35.7±0.5, 5293N×15348E, h513^{km}, mb3.6/1, Error ellipse: s-maj=35.7km s-min=24.0km az=57.6*

*ISCJB **09** 07:49:36.1±0.8, 529N±02×1540E±04, h525^{km}±19^{km}, mb3.2/3, Error ellipse: s-maj=46.0km s-min=16.2km az=56.3*

ISC 09 07:49:36.9±0.8**, 529N**±02×**1542E**±05**, h529**^{km}±19^{km}**, n13,** $\sigma 1^{s}$**26**/17**, mb3.2**/3**, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	**Russkaya**	**2.67**	**98**	P	**P**	**07 50 48.6**	**+0.5**
RUS				S	**S**	**07 51 44.6**	**-1.6**
PET	**Petropavlovsk**	**2.71**	**85**	P	**P**	**07 50 50.1**	**+1.7**
PET	**Petropavlovsk**	**2.71**	**85**	eP	**P**	**07 50 50.0**	**+1.6**
PET				eS	**S**	**07 51 46.8**	**+0.2**
PET				pmax	pmax		
	comp=Z,29nm,0.6s						
PET				smax			
	comp=E,33nm,1.1s						
PET				smax			
	comp=N,46nm,0.9s						
PET				MLR	MLR		
	comp=Z,100nm,13.0s						
NLC	**Nalytchevo**	**3.13**	**82**	P	**P**	**07 50 52.5**	**+1.5**
NLC				S	**S**	**07 51 51.2**	**-0.2**
SPN	**Mys Shipunski**	**3.54**	**84**	P	**P**	**07 50 54.5**	**+0.7**
SPN				S	**S**	**07 51 54.7**	**-1.8**
MKZ	**Mys Kozlova**	**4.79**	**66**	P	**P**	**07 51 05.2**	**+1.5**
MKZ				S	**S**	**07 52 13.5**	**-1.0**
KBTR	**Krutoberegovo**	**6.04**	**53**	P	**P**	**07 51 17.2**	**+2.4**
KBTR				S	**S**	**07 52 34.0**	**-0.9**
ASAJ	**Asahikawa**	**11.64**	**226**	LR	LR	07 57 59.7	
	comp=Z,47nm,19.9s,baz=100,slow=41						
MJAR	**Matsushiro Arr**	**19.80**	**221**	P	**P**	**07 53 30.2**	**-2.0**
	comp=Z,2.0nm,0.5s,baz=17,slow=9.9,SNR=10						
YKA	**Yellowknife Ar**	**45.70**	**40**	LR	LR	08 15 54.9	
	comp=Z,38nm,18.2s,baz=270,slow=37						
ARCES	**ARCESS Array B**	**52.33**	**340**	P	**P**	**07 57 58.8**	**-0.5**
	comp=Z,2.4nm,1.0s,mb3.5,baz=35,slow=8.9,SNR=6.0						
FINES	**FINESS Array B**	**58.83**	**334**	P	**P**	**07 58 43.6**	**-0.9**
	comp=Z,0.7nm,0.5s,mb3.1,baz=38,slow=9.6,SNR=8.8						
ASAR	**Alice Springs**	**78.23**	**199**	P	**P**	**08 00 42.6**	**+0.8**
	comp=Z,0.3nm,0.5s,mb2.9,baz=10.0,slow=5.0,SNR=6.5						

GUC 09 07:55:34.7±0.3**, 2426S**×**7049W, h38**^{km}±5^{km}**, MD3.9, ML3.0, 1C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.37**	**167**	eP	Pn	07 55 44.1	+0.4
CPN1				i S	Sn	07 55 51.2	+1.3
CPN1				AML	AML	07 55 52.5	
	comp=N,2μm,0.7s						
ANCH	**Antofagasta**	**0.58**	**8**	⇑iP	Pn	07 55 43.4	-3.0
ANCH				i S	Sn	07 55 52.0	-2.8
ANCH				AML	AML	07 55 54.1	
	comp=E,1μm,0.1s						
CEN1	**Los Morros**	**0.91**	**17**	⇓iP	Pn	07 55 48.0	-3.0
CEN1				i S	Sn	07 55 58.0	-4.8
CEN1				AML	AML	07 56 00.5	
	comp=E,638nm,0.1s						
CRCH	**Chaqaral**	**2.08**	**183**	eP	Pn	07 56 08.7	+1.7
CRCH				i S	Sn	07 56 34.7	+3.0
CRCH				AML	AML	07 56 38.4	
	comp=E,534nm,0.7s						
CDCH	**Caldera**	**2.82**	**186**	eP	Pn	07 56 15.0	-2.2
CPCH	**Copiapo**	**3.09**	**178**	eP	Pn	07 56 21.2	+0.3

IDC 09 07:57:04.9±2.0**, 649S**×**12982E, h0**^{km}**, mb4.0**/2**, mb1 3.9**/4**, mb1mx3.7**/14**, mbtmp3.8**/4**, ML3.5**/2**, Error ellipse: s-maj=160.5km s-min=29.4km az=69.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.07**	**162**	Pn	Pn	08 00 25.6	+0.1
	0.2nm,0.3s,baz=345,slow=13,SNR=22						
WRA				Sn	Sn	08 02 49.4	-13
	1.1nm,0.3s,baz=344,slow=29,SNR=6.8						
ASAR	**Alice Springs**	**17.52**	**167**	P	Pn	08 01 10.9	+0.3
	0.3nm,0.3s,baz=340,slow=11,SNR=16						
ASAR				S	Sn	08 04 10.8	-15
	0.4nm,0.3s,baz=316,slow=22,SNR=5.9						
MKAR	**Makanchi Array**	**67.70**	**327**	P	P	08 08 04.2	+0.3
	1.1nm,0.5s,baz=114,slow=7.9,SNR=13						
BVAR	**Borovoye Array**	**77.54**	**328**	P	P	08 09 02.5	0.0
	0.4nm,0.4s,baz=106,slow=5.1,SNR=4.9						

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*NEIC **09** 08:12:15.1, 1583N×9545W, h16^{km}, MD3.6(MEX), After MEX.*

MEX 09 08:12:15.1±1.0**, 1584N**×**9546W, h24**^{km}±57^{km}**, MD3.6, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.63**	**263**	i P	Pb	08 12 25.1	-2.4
HUIG				i S	Sb	08 12 33.5	-2.3
CMIG	**Matias Romero**	**1.36**	**24**	i P	Pn	08 12 35.7	-2.8
CMIG				i S	Sn	08 12 51.1	-4.6
OXX	**Oaxaca**	**1.73**	**316**	i P	Pn	08 12 43.7	+0.1
VHO	**Vista Hermosa**	**1.73**	**315**	i P	Pn	08 12 42.1	-1.5
VHO				i S	Sn	08 13 01.4	-3.5
UTMO	**Huajuapan**	**2.99**	**312**	eP	Pn	08 12 59.7	-1.2
UTMO				i S	Sn	08 13 31.4	-4.5

JMA 09 08:47:59.9, 3434N×**13916E, h13**^{km}±1^{km}**, 7C, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NJJJ	**Nii jima 2**	**0.12**	**59**	⇑P	Pg	08 48 02.8	-0.3
NJJJ				S	Sg	08 48 06.0	+0.6
JKO	**Kozu shima**	**0.15**	**187**	⇑P	Pg	08 48 03.5	-0.1
JKO				S	Sg	08 48 06.9	+0.7
JMY	**Miyakejima3**	**0.40**	**132**	P	Pg	08 48 07.8	0.0
JIM2	**Oshima 3**	**0.44**	**31**	⇑P	Pg	08 48 08.6	0.0
JIZS	**Izushimoda**	**0.44**	**328**	⇑P	Pg	08 48 08.8	+0.1
KTJJ	**Kamata 2**	**0.59**	**352**	⇑P	Pg	08 48 11.1	-0.3
JOD2	**Odawara 2**	**0.92**	**356**	P	Pg	08 48 16.8	-0.9
TK04	**Tokai 4**	**1.06**	**273**	⇑P	Pb	08 48 20.1	-0.1
SHZ3	**Shizuoka 3**	**1.07**	**313**	⇑P	Pb	08 48 20.2	0.0

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*NIED **09** 08:48:00, 3430N×13920E, h5^{km}, Mw4.7 Best double couple: M₀1.15000×10^{16} NP1:ϕ_s181.00000°, δ68.00000°, λ-65.00000°. NP2:ϕ_s309.00000°, δ32.00000°, λ-137.00000°.*

*IDC **09** 08:48:04.9±0.6, 3428N×13923E, h0^{km}, mb4.3/14, mb1 4.5/15, mb1mx4.4/20, mbtmp4.3/15, ML3.7/1, MS3.8/8, Ms1 3.8/8, ms1mx3.4/26, Error ellipse: s-maj=21.0km s-min=16.7km az=78.0*

*BJI **09** 08:48:06.1, 3456N×14004E, h53^{km}, mB4.9, mb4.7, Ms4.5, Msz4.3*

*ISCJB **09** 08:48:07.6±0.4, 3434N±003×139.14E±003, h19^{km}±2^{km}, mb4.4/64, MS4.0/18, Error ellipse: s-maj=4.8km s-min=4.1km az=112.7*

*JMA **09** 08:48:08.0, 3435N×139.16E, h11^{km}±1^{km}, M4.8*

JMA Felt IV J1.

*MOS **09** 08:48:14.5±0.8, 3505N×13904E, h49^{km}, mb4.7/27, Error ellipse: s-maj=11.8km s-min=6.3km az=103.7*

*NEIC **09** 08:48:17.6±0.4, 3527N×139.10E, mb4.5/34, MW4.7(NIED), Error ellipse: s-maj=12.4km s-min=4.4km az=192.0*

NEIC Recorded [4 JMA] in Tokyo and [2 JMA] in Shizuoka Prefectures.

ISC 09 08:48:07.9±0.4**, 3434N**±002×**13914E**±003**, h11**^{km}±2^{km}**, h49**^{km}±2.2^{km}**:pP-P, n161,** $\sigma 1^{s}$**09**/181**, mb4.4**/64**, MS4.0**/18**, 6C-5D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NJJJ	**Nii jima 2**	**0.14**	**63**	P	**Pg**	**08 48 10.6**	**-0.4**
JKO	**Kozu shima**	**0.15**	**181**	P	**Pg**	**08 48 11.9**	**+0.6**
JKO				S	**Sg**	**08 48 13.7**	**0.0**
JMY	**Miyakejima3**	**0.41**	**131**	P	**Pg**	**08 48 16.0**	**+0.1**
JIZS	**Izushimoda**	**0.43**	**330**	P	**Pg**	**08 48 16.7**	**+0.3**
JIZS				S	**Sg**	**08 48 22.8**	**+0.7**
JIM2	**Oshima 3**	**0.45**	**33**	P	**Pg**	**08 48 16.6**	**0.0**
JIM2				S	**Sg**	**08 48 22.6**	**0.0**
KTJJ	**Kamata 2**	**0.59**	**354**	P	**Pg**	**08 48 18.7**	**-0.6**
KTJJ				S	**Sg**	**08 48 26.6**	**-0.4**
JOD2	**Odawara 2**	**0.92**	**357**	P	**Pg**	**08 48 24.9**	**-0.7**
JOD2				S	**Sg**	**08 48 37.3**	**-0.3**
TK03	**Tokai 3**	**0.99**	**260**	P	**Pg**	**08 48 27.1**	**+0.2**
TK04	**Tokai 4**	**1.05**	**273**	P	**Pb**	**08 48 27.7**	**-0.3**
TK04				S	**Sb**	**08 48 43.4**	**+1.7**
SHZ3	**Shizuoka 3**	**1.05**	**314**	⇓P	**Pb**	**08 48 28.2**	**+0.1**
SHZ3				S	**Sb**	**08 48 43.0**	**+1.1**
JHJ	**Hachijo jima 2**	**1.33**	**156**	Pn	**Pn**	**08 48 24.1**	**-8.3**
	79nm,0.3s,baz=46,slow=3.9,SNR=22						
JHJ				Sn	**Sn**	**08 48 48.9**	**-1.2**
	280nm,0.3s,baz=55,slow=23,SNR=8.8						
MJAR	**Matsushiro Arr**	**2.32**	**341**	Pn	**Pn**	**08 48 40.8**	**-5.2**
	5.7nm,0.3s,baz=160,slow=14,SNR=141						
MJAR				Sn	**Sn**	**08 49 18.3**	**+3.6**
	36nm,0.3s,baz=130,slow=16,SNR=10.0						
MAJO	**Matsushiro**	**2.33**	**341**	eP	**Pn**	**08 48 41.8**	**-4.3**
MAT	**Matsushiro**	**2.33**	**341**	P	**Pn**	**08 48 40.9**	**-5.2**
MAT				eS	**Sn**	**08 49 09.8**	**-4.9**
MAT	**Matsushiro**	**2.33**	**341**	P	**Pn**	**08 48 48.7**	**+2.6**
MAT				S	**Sn**	**08 49 19.3**	**+4.6**
MAT	**Matsushiro**	**2.33**	**341**	eP	**Pn**	**08 48 41.0**	**-5.1**
MAT				S	**Sn**	**08 49 10.0**	**-4.7**
MAT	**Matsushiro**	**2.33**	**341**	eP	**Pn**	**08 48 41.0**	**-5.1**
MAT				S	**Sn**	**08 49 10.0**	**-4.7**
MAT				eS	**Sn**	**08 49 19.0**	**+4.3**
KS15	**Wonju Array Si**	**9.64**	**292**	ePn	**Pn**	**08 50 29.2**	**+2.7**
ASAJ	**Asahikawa**	**10.12**	**14**	Pn	**Pn**	**08 50 33.1**	**0.0**
	0.8nm,0.3s,baz=213,slow=10,SNR=8.7						
ASAJ	**Asahikawa**	**10.12**	**14**	P	**Pn**	**08 50 33.2**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JOW	**Kunigami**	**11.98**	**234**	LR	LR	08 55 29.6	
	comp=Z,562nm,20.2s,baz=325,slow=37						
MDJ	**Mudanjiang**	**12.63**	**327**	P	**Pn**	**08 51 11.7**	**+4.3**
MDJ				AP		08 51 13.2	
MDJ				S	**Sn**	**08 53 29.5**	**+1.5**
MDJ				PCS	PcS	09 00 14.1	-5.5
MDJ				AMB	AMB		
	comp=Z,27nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,162nm,5.6s						
MDJ				LR	LR		
	comp=N,455nm,18.2s						
MDJ				LR	LR		
	comp=E,449nm,16.7s						
MDJ				LR	LR		
	comp=Z,341nm,14.5s						
YSS	**Yuzh-Sakhalins**	**12.89**	**11**	eP	**Pn**	**08 51 08.0**	**-3.1**
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
CN2	**Changchun**	**14.21**	**316**	eP	**Pn**	**08 51 29.3**	**+0.3**
SNY	**Shenyang**	**14.34**	**306**	⇑P	**Pn**	**08 51 36.7**	**+5.9**
SNY				AP	pP	08 51 45.4	+4.4
SNY				PP		08 51 48.9	
SNY				XP	sP	08 51 54.2	+12
SNY				S	**Sn**	**08 54 07.8**	**-2.1**
SNY				SS		08 54 34.3	
SNY				AMB	AMB		
	comp=Z,28nm,1.0s						
SNY				AMB	AMB		
	comp=Z,341nm,7.3s						
SNY				LR	LR		
	comp=N,431nm,13.5s						
SNY				LR	LR		
	comp=Z,290nm,13.1s						
DL2	**Dalian**	**14.78**	**293**	P	**Pn**	**08 51 44.5**	**+7.7**
DL2				eS	**Sn**	**08 54 26.9**	**+6.4**
DL2				AMB	AMB		
	comp=Z,30nm,1.1s						
DL2				LR	LR		
	comp=N,450nm,13.0s						
DL2				LR	LR		
	comp=E,400nm,11.8s						
DL2				LR	LR		
	comp=Z,620nm,11.7s						
SSE	**Sheshan**	**15.45**	**263**	P	**Pn**	**08 51 52.2**	**+6.4**
SSE				S	**Sn**	**08 54 43.9**	**+6.9**
SSE				AMB	AMB		
	comp=Z,29nm,1.0s						
SSE				AMB	AMB		
	comp=Z,690nm,4.4s						
SSE				LR	LR		
	comp=N,557nm,19.5s						
SSE				LR	LR		
	comp=E,307nm,19.5s						
SSE				LR	LR		
	comp=Z,2μm,12.9s						
KLR	**Kul'dur**	**15.85**	**342**	eP	**Pn**	**08 51 52.2**	**+1.2**
NJ2	**Nanjing**	**17.13**	**268**	eP	**Pn**	**08 52 17.4**	**+10**
NJ2				AP	pP	08 52 27.8	+16
NJ2				S	**Sn**	**08 55 26.0**	**+8.3**
NJ2				XS	sS	08 55 43.0	+11
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,300nm,3.8s						
NJ2				LR	LR		
	comp=N,850nm,13.2s						
NJ2				LR	LR		
	comp=E,2μm,16.9s						
NJ2				LR	LR		
	comp=Z,5μm,12.0s						
BJI	**Beijing**	**19.14**	**294**	eP	**Pn**	**08 52 31.3**	**-0.6**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.7s						
BJI				LR	LR		
	comp=N,722nm,10.1s						
BJI				LR	LR		
	comp=E,350nm,10.4s						
BJI				LR	LR		
	comp=Z,394nm,25.7s						
WHN	**Wuhan**	**21.25**	**267**	P	**P**	**08 52 56.0**	**+2.1**
GUMO	**Guam**	**21.30**	**164**	LR	LR	09 00 45.2	
	comp=Z,239nm,19.1s,MS3.6,baz=1.7,slow=36						
HHC	**Hu-ho-hao-te**	**22.74**	**295**	eP	**P**	**08 53 11.9**	**+2.0**
HHC				AP		08 53 25.4	
HHC				XP	sP	08 53 31.9	+18
HHC				PP		08 53 40.9	
HHC				S	**S**	**08 57 09.2**	**-10**
HHC				XS	sS	08 57 32.4	+8.4
HHC				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
HHC				AMB	AMB		
	comp=Z,179nm,5.1s						
HHC				LR	LR		
	comp=N,378nm,17.8s,MS4.1						
HHC				LR	LR		
	comp=E,489nm,14.9s,MS4.1						
HHC				LR	LR		
	comp=Z,536nm,15.5s,MS4.1						
XAN	**Xi'an**	**24.96**	**278**	P	**P**	**08 53 30.8**	**-0.5**
XAN				AP		08 53 41.0	
XAN				S	**S**	**08 57 54.1**	**-0.7**
XAN				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.5						
XAN				LR	LR		
	comp=N,448nm,11.8s,MS4.5						
XAN				LR	LR		
	comp=E,810nm,13.5s,MS4.5						
XAN				LR	LR		
	comp=Z,1μm,13.1s,MS4.5						
MA2	**Magadan**	**26.38**	**13**	eP	**P**	**08 53 40.1**	**-4.1**
MA2				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.5						
MA2	**Magadan**	**26.38**	**13**	eP	**P**	**08 53 40.1**	**-4.1**
	comp=Z,13nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**27.48**	**309**	eP	**P**	**08 53 55.1**	**+1.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.6						
ULN	**Ulaanbaatar**	**27.48**	**309**	eP	**P**	**08 53 55.1**	**+1.1**
	comp=Z,2.2nm,0.9s,mb3.7						
SONM	**Songino Array**	**27.89**	**309**	P	**P**	**08 53 57.7**	**0.0**
	comp=Z,2.2nm,0.9s,mb3.8,baz=120,slow=7.3,SNR=10						
SONM				LR	LR	09 03 33.0	
	comp=Z,92nm,21.5s,MS3.3,baz=297,slow=33						
YAK	**Yakutsk**	**28.36**	**351**	i P	**P**	**08 54 00.3**	**-1.6**
YAK				MLR	MLR		
	comp=Z,200nm,20.0s,MS3.7						
LZH	**Lanzhou**	**28.80**	**284**	eP	**P**	**08 54 07.4**	**+1.6**
LZH				AP	pP	08 54 21.2	+12
LZH				XP	sP	08 54 26.5	+16
LZH				PP	PP	08 55 00.4	-10
LZH				eS	**S**	**08 58 50.1**	**-5.3**
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,80nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,13.5s						
LZH				LR	LR		
	comp=Z,1μm,14.0s,MS4.7						
GYA	**Guiyang**	**29.00**	**263**	⇑iP	**P**	**08 54 07.1**	**-0.5**
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
CD2	**Chengdu**	**29.90**	**273**	P	**P**	**08 54 15.2**	**-0.4**
QIZ	**Qiongzhong**	**30.16**	**247**	P	**P**	**08 54 24.1**	**+6.2**
QIZ				LR	LR		
	comp=N,76nm,15.9s						
QIZ				LR	LR		
	comp=Z,98nm,17.3s,MS3.5						
GTA	**Gaotai**	**31.68**	**291**	eP	**P**	**08 54 30.7**	**-0.7**
GTA				AP	pP	08 54 42.6	+8.0
GTA				XP	sP	08 54 48.0	+12
GTA				S	**S**	**08 59 33.1**	**-7.6**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.2						
GTA				AMB	AMB		
	comp=Z,75nm,4.9s						
GTA				LR	LR		
	comp=N,228nm,14.1s,MS4.3						
GTA				LR	LR		
	comp=E,344nm,10.6s,MS4.3						
GTA				LR	LR		
	comp=Z,394nm,12.9s,MS4.3						
KMI	**Kunming**	**32.77**	**264**	P	**P**	**08 54 47.2**	**+6.3**
KMI				AP	pP	08 55 01.1	+17
KMI				XP	sP	08 55 07.2	+22
KMI				PP	PP	08 55 59.6	+4.7
KMI				S	**S**	**08 59 58.7**	**+1.1**
KMI				XS	sS	09 00 23.6	+21
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
KMI				AMB	AMB		
	comp=Z,149nm,5.0s						
KMI				LR	LR		
	comp=N,424nm,10.9s,MS4.8						
KMI				LR	LR		
	comp=E,997nm,14.2s,MS4.8						
KMI				LR	LR		
	comp=Z,998nm,13.1s,MS4.7						
TIXI	**Tiksi**	**37.77**	**355**	⇑eP	**P**	**08 55 23.0**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.0						
KRAR	**Krasnoyarsk**	**38.20**	**319**	i P	**P**	**08 55 25.5**	**-2.1**
WMQ	**Urumqi**	**40.47**	**299**	P	**P**	**08 55 48.5**	**+2.0**
WMQ				AP	pP	08 56 00.7	+11
WMQ				XP	sP	08 56 06.2	+15
WMQ				PP	PP	08 57 25.4	+5.7
WMQ				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,143nm,4.8s						
WMQ				LR	LR		
	comp=N,236nm,12.3s						
WMQ				LR	LR		
	comp=E,204nm,6.1s						
WMQ				LR	LR		
	comp=Z,227nm,12.3s,MS4.2						
ZAL	**Zalesovo**	**42.43**	**315**	P	**P**	**08 56 02.1**	**-0.5**
	comp=Z,3.5nm,0.7s,mb4.1,baz=14,slow=7.6,SNR=20						
ZAL				LR	LR	09 14 08.2	
	comp=Z,93nm,19.8s,MS3.7,baz=26,slow=37						
NVS	**Novosibirsk**	**43.42**	**316**	⇑iP	**P**	**08 56 09.7**	**-0.9**
NVS				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.8						
NVS				pmax	pmax		
	comp=E,19nm,1.2s						
MKAR	**Makanchi Array**	**44.04**	**304**	P	**P**	**08 56 16.0**	**+0.4**
	comp=E,5.0nm,0.7s,mb4.3,baz=84,slow=11,SNR=27						
KURK	**Kurchatov**	**46.19**	**310**	⇓eP	**P**	**08 56 32.4**	**-0.3**
KURK	**Kurchatov**	**46.19**	**310**	eP	**P**	**08 56 32.0**	**-0.7**
	comp=E,8.5nm,1.0s,mb4.6						
KSH	**Kashi**	**49.85**	**295**	eP	**P**	**08 57 02.0**	**+1.0**
KSH				eAP	pP	08 57 18.3	+14
KSH				eXP	sP	08 57 25.3	+20
KSH				ePP	PP	08 58 57.4	+1.7
KSH				ePCS	PcS	09 02 11.9	-6.5
KSH				eS	**S**	**09 04 01.9**	**-8.8**
KSH				eSCS	ScS	09 06 44.5	-8.1
KSH				LR	LR		
	comp=N,322nm,4.8s						
KSH				LR	LR		
	comp=E,359nm,4.6s						
KSH				LR	LR		
	comp=Z,357nm,5.4s						
AAK	**Ala-Archa**	**50.18**	**300**	⇓eP	**P**	**08 57 03.4**	**-0.1**
AAK				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.6						
AAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.9						
CHKZ	**Chkalovo**	**50.83**	**314**	eP	**P**	**08 57 08.0**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
CHKZ	**Chkalovo**	**50.83**	**314**	eP	**P**	**08 57 08.0**	**-0.5**
	comp=Z,7.3nm,1.2s,mb4.5						
BRVK	**Borovoye**	**51.11**	**314**	eP	**P**	**08 57 09.2**	**-1.3**
BRVK				e*PP	pP	08 57 23.3	+9.4
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
BRVK	**Borovoye**	**51.11**	**314**	eP	**P**	**08 57 09.2**	**-1.4**
	comp=Z,1.2nm,0.8s,mb3.9						
BRVK				epP	pP	08 57 23.3	+9.4
ZRNK	**Zerenda**	**51.89**	**314**	eP	**P**	**08 57 15.4**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
ZRNK	**Zerenda**	**51.89**	**314**	eP	**P**	**08 57 15.3**	**-1.0**
	comp=Z,5.0nm,1.0s,mb4.4						
PMR	**Palmer**	**51.89**	**35**	eP	**P**	**08 57 15.7**	**-0.7**
PMR				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMR	**Palmer**	**51.89**	**35**	*e*P	**P**	**08 57 15.7**	**-0.7**
	comp=Z,7.9nm,1.1s,mb4.6						
SML	**Sawmill**	**52.26**	**35**	P	**P**	**08 57 17.5**	**-1.6**
COLA	**College**	**52.34**	**31**	*e*P	**P**	**08 57 17.8**	**-1.9**
COLA				*e**PP	pP	08 57 32.2	+9.1
COLA				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
COLA	**College**	**52.34**	**31**	*e*P	**P**	**08 57 17.8**	**-1.9**
	comp=Z,2.9nm,1.0s,mb4.2						
COLA				*e*pP	pP	08 57 32.2	+9.0
ILAR	**Eielson Array**	**52.76**	**31**	P	**P**	**08 57 21.9**	**-0.9**
	comp=Z,1.9nm,1.0s,mb4.0,baz=269,slow=7.5,SNR=8.8						
WRA	**Warramunga Arr**	**54.17**	**186**	P	**P**	**08 57 31.1**	**-2.1**
	comp=Z,1.6nm,0.5s,mb4.2,baz=0.4,slow=7.6,SNR=20						
WRA				PcP	PcP	08 58 36.6	-1.1
	comp=Z,2.4nm,0.9s,baz=360,slow=3.9,SNR=6.0						
SVE	**Sverdlovsk**	**55.96**	**319**	*e*P	**P**	**08 57 46.3**	**+0.1**
SVE				*e*		08 58 05.0	
ARU	**Arti**	**57.17**	**319**⇓	*i*P	**P**	**08 57 53.3**	**-1.5**
ARU				*e*		08 59 56.9	
ARU				*e*S	**S**	**09 05 42.9**	**-7.2**
ARU				*e*SS	SS	09 09 29.6	-9.4
ARU				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
ARU	**Arti**	**57.17**	**319**	*e*P	**P**	**08 57 53.6**	**-1.1**
ASAR	**Alice Springs**	**57.90**	**186**	P	**P**	**08 57 58.3**	**-1.6**
	comp=Z,0.4nm,0.7s,mb3.6,baz=10,slow=9.1,SNR=5.2						
ASAR				PcP	PcP	08 58 52.1	-0.1
	comp=Z,1.1nm,0.9s,baz=20,slow=4.2,SNR=5.0						
ASAR				LR	LR	09 20 15.8	
	comp=Z,104nm,19.0s,MS4.0,baz=265,slow=33						
ARCES	**ARCESS Array B**	**65.86**	**339**	LR	LR	09 30 50.8	
	comp=Z,145nm,21.8s,MS4.1,baz=96,slow=39						
YKA	**Yellowknife Ar**	**67.06**	**29**	P	**P**	**08 58 58.2**	**-3.0**
	comp=Z,2.3nm,0.9s,mb4.2,baz=289,slow=6.1,SNR=6.5						
YKA	**Yellowknife Ar**	**67.06**	**29**⇑	*e*P	**P**	**08 59 00.5**	**-0.7**
YKA	**Yellowknife Ar**	**67.06**	**29**	P	**P**	**08 58 58.2**	**-3.0**
JOF	**Joensuu**	**67.46**	**332**	*e*p	**P**	**08 59 01.9**	**-1.8**
	comp=Z,2.0nm,0.5s,mb4.4						
JOF	**Joensuu**	**67.46**	**332**	*e*P	**P**	**08 59 01.9**	**-1.8**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
OBN	**Obninsk**	**69.14**	**323**	*i*P	**P**	**08 59 12.6**	**-1.6**
OBN				*e*		09 01 46.2	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,24.0s,MS4.0						
KAF	**Kangasniemi**	**69.84**	**333**	*e*p	**P**	**08 59 16.5**	**-2.1**
	comp=Z,2.9nm,0.6s,mb4.4,baz=51,slow=5.8						
KAF	**Kangasniemi**	**69.84**	**333**	*e*P	**P**	**08 59 16.5**	**-2.1**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
FIA1	**FINESS Array S**	**70.32**	**332**	*e*P	**P**	**08 59 19.5**	**-2.0**
FINES	**FINESS Array B**	**70.33**	**332**	P	**P**	**08 59 19.8**	**-1.7**
	comp=Z,5.3nm,0.8s,mb4.5,baz=77,slow=8.2,SNR=20						
FINES	**FINESS Array B**	**70.33**	**332**	*i*P	**P**	**08 59 20.6**	**-0.9**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GNW	**Green Mountain**	**70.44**	**45**	*e*P	**P**	**08 59 24.1**	**+1.9**
KIV	**Kislovodsk**	**71.26**	**311**	*i*P	**P**	**08 59 28.2**	**+1.0**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
GNI	**Garni**	**71.82**	**306**	*i*P	**P**	**08 59 32.0**	**+1.4**
VSU	**Vasula**	**71.83**	**329**	*i*P	**P**	**08 59 30.0**	**-0.6**
EDM	**Edmonton**	**72.61**	**37**	*e*P	**P**	**08 59 35.2**	**-0.1**
NEW	**Newport**	**73.36**	**43**	*e*P	**P**	**08 59 40.0**	**+0.3**
NEW				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NEW	**Newport**	**73.36**	**43**	*e*P	**P**	**08 59 40.0**	**+0.2**
	comp=Z,4.9nm,0.9s,mb4.4						
SUMG	**Summit**	**73.36**	**359**	*e*P	**P**	**08 59 38.8**	**-0.9**
	comp=Z,6.2nm,0.8s,mb4.6						
ANN	**Anapa**	**74.05**	**314**	*e*P	**P**	**08 59 41.6**	**-2.2**
ANN				*e*		08 59 58.5	
ANN				*e*S	S	09 09 05.1	-11
ANN				*e*SS	SS	09 13 48.1	-13
ANN				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.3						
ANN				MLR	MLR		
	comp=Z,286nm,21.0s,MS4.5						
WDC	**Whiskeytown Da**	**74.18**	**52**	*e*P	**P**	**08 59 45.1**	**+0.5**
WALA	**Waterton Lakes**	**74.68**	**41**	*e*P	**P**	**08 59 47.5**	**+0.1**
	comp=Z,6.2nm,1.0s,mb4.5						
BMO	**Blue Mountains**	**75.12**	**46**	*e*P	**P**	**08 59 50.9**	**+0.8**
	comp=Z,5.2nm,0.9s,mb4.5						
AKASG	**Malin Array Be**	**75.28**	**322**	P	**P**	**08 59 49.8**	**-1.1**
	comp=Z,1.7nm,0.7s,mb4.1,baz=49,slow=6.2,SNR=9.9						
AKASG				LR	LR	09 37 18.0	
	comp=Z,65nm,18.4s,MS4.0,baz=325,slow=39						
WVOR	**Wild Horse Val**	**75.66**	**48**	*e*P	**P**	**08 59 53.4**	**+0.3**
WVOR				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
WVOR	**Wild Horse Val**	**75.66**	**48**	*e*P	**P**	**08 59 53.4**	**+0.3**
	comp=Z,5.2nm,1.0s,mb4.4						
NB2	**NORSAR Subarra**	**75.94**	**337**	P	**P**	**08 59 53.4**	**-1.3**
	comp=Z,11nm,1.0s,mb4.7,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**75.94**	**337**	P	**P**	**08 59 53.0**	**-1.7**
	comp=Z,5.1nm,0.9s,mb4.4,baz=41,slow=5.7,SNR=11						
MSO	**Missoula**	**75.94**	**43**	*e*P	**P**	**08 59 55.5**	**+0.8**
CHMT	**Chamberlain Mo**	**76.28**	**42**	*e*P	**P**	**08 59 56.4**	**-0.3**
FFC	**Flin Flon**	**76.97**	**31**	*e*P	**P**	**08 59 59.9**	**-0.7**
	comp=Z,5.2nm,0.9s,mb4.5						
LRM	**Limekiln Ridge**	**77.37**	**43**	*e*P	**P**	**09 00 03.7**	**+0.9**
EGMT	**Eagleton**	**77.52**	**40**	*e*P	**P**	**09 00 03.7**	**+0.1**
	comp=Z,8.3nm,1.0s,mb4.6						
DLMT	**Dillon**	**77.56**	**43**	*e*P	**P**	**09 00 04.5**	**+0.6**
HLID	**Hailey**	**77.57**	**46**	*e*P	**P**	**09 00 04.4**	**+0.5**
	comp=Z,5.7nm,1.1s,mb4.4						
BOZ	**Bozeman (W)**	**77.94**	**43**	*e*P	**P**	**09 00 06.0**	**0.0**
BOZ				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
BOZ	**Bozeman (W)**	**77.94**	**43**	*e*P	**P**	**09 00 06.0**	**0.0**
	comp=Z,4.5nm,1.0s,mb4.3						
NVAR	**Mina Array Bea**	**78.10**	**52**	P	**P**	**09 00 07.1**	**+0.2**
	comp=Z,1.6nm,0.8s,mb4.0,baz=286,slow=5.2,SNR=9.4						
MNV	**Mina**	**78.19**	**52**	*e*P	**P**	**09 00 07.8**	**+0.4**
MNV				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.6						
MNV	**Mina**	**78.19**	**52**	*e*P	**P**	**09 00 07.8**	**+0.4**
	comp=Z,13nm,1.7s,mb4.6						
ELK	**Elko**	**78.71**	**48**	*e*P	**P**	**09 00 11.0**	**+0.7**
ELK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ELK	**Elko**	**78.71**	**48**	*e*P	**P**	**09 00 11.0**	**+0.7**
	comp=Z,2.7nm,0.9s,mb4.2						
GCMT	**Greycliff**	**78.94**	**42**	*e*P	**P**	**09 00 12.8**	**+1.3**
BRTR	**Keskin Array B**	**79.23**	**311**	P	**P**	**09 00 13.3**	**+0.2**
	comp=Z,0.6nm,0.4s,mb3.9,baz=114,slow=7.3,SNR=6.6						
BRTR				LR	LR	09 38 40.8	
	comp=Z,42nm,20.7s,MS3.8,baz=44,slow=38						
BRTR	**Keskin Array B**	**79.23**	**311**	*i*P	**P**	**09 00 13.3**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LKWY	**Lake**	**79.29**	**43**	*e*P	**P**	**09 00 14.3**	**+0.9**
IMW	**Indian Meadow**	**79.39**	**44**	*e*P	**P**	**09 00 16.6**	**+2.6**
	comp=Z,8.0nm,0.9s,mb4.7						
MOOW	**Moose Ponds**	**79.59**	**44**	*e*P	**P**	**09 00 16.6**	**+1.5**
	comp=Z,8.0nm,1.3s,mb4.5						
TPAW	**Teton Pass**	**79.63**	**44**	*e*P	**P**	**09 00 16.1**	**+0.8**
	comp=Z,3.1nm,0.9s,mb4.2						
REDW	**Red Top Meadow**	**79.77**	**44**	*e*P	**P**	**09 00 17.8**	**+1.8**
	comp=Z,7.4nm,1.1s,mb4.5						
LAO	**LASA Array**	**80.22**	**39**	*e*P	**P**	**09 00 18.8**	**+0.3**
	comp=Z,10nm,1.1s,mb4.7						
TPNV	**Topopah Spring**	**80.28**	**52**	*e*P	**P**	**09 00 19.5**	**+0.7**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TPNV	**Topopah Spring**	**80.28**	**52**	*e*P	**P**	**09 00 19.5**	**+0.7**
	comp=Z,4.4nm,0.9s,mb4.4						
HWUT	**Hardware Ranch**	**80.42**	**46**	*e*P	**P**	**09 00 20.5**	**+0.9**
	comp=Z,6.1nm,1.1s,mb4.4						
DUG	**Dugway**	**80.53**	**48**	*e*P	**P**	**09 00 21.0**	**+0.9**
DUG				*e**PP	pP	09 00 36.3	+13
DUG				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
DUG	**Dugway**	**80.53**	**48**	*e*P	**P**	**09 00 21.0**	**+0.8**
	comp=Z,6.3nm,1.1s,mb4.5						
DUG				*e*pP	pP	09 00 36.3	+13
BW06	**Boulder Array**	**80.88**	**44**	*e*P	**P**	**09 00 22.4**	**+0.4**
PDAR	**Pinedale Array**	**80.88**	**44**	P	**P**	**09 00 22.1**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.0,baz=299,slow=3.1,SNR=11						
KECS	**Kecovo**	**81.07**	**324**	*e*P	**P**	**09 00 28.0**	**+5.0**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
SHPR	**Sheep Range**	**81.25**	**52**	*e*P	**P**	**09 00 24.9**	**+0.9**
DAU	**Daniels Canyon**	**81.34**	**47**	*e*P	**P**	**09 00 25.3**	**+0.8**
DAU				*e**PP	pP	09 00 40.1	+12
MPU	**Maple Canyon**	**81.35**	**47**	*e*P	**P**	**09 00 25.8**	**+1.2**
VYHS	**Vyhne**	**81.86**	**325**	*e*P	**P**	**09 00 27.4**	**+0.2**
VYHS				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
VYHS	**Vyhne**	**81.86**	**325**	*e*P	**P**	**09 00 27.4**	**+0.2**
	comp=Z,1.9nm,1.1s,mb3.9						
MSU	**Marysvale**	**81.94**	**49**	*e*P	**P**	**09 00 28.6**	**+1.0**
BRG	**Berggiesshubel**	**82.40**	**329**	*e*P	**P**	**09 00 29.4**	**-0.6**
	comp=Z,4.3nm,1.4s,mb4.2						
BRG	**Berggiesshubel**	**82.40**	**329**	*e*P	**P**	**09 00 29.5**	**-0.5**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
CLL	**Collm**	**82.48**	**329**	P	**P**	**09 00 29.7**	**-0.8**
	comp=Z,logA/T=0.8,mb4.5						
CLL	**Collm**	**82.48**	**329**	*i*P	**P**	**09 00 29.7**	**-0.8**
	comp=Z,6.0nm,1.0s,mb4.5						
CLL	**Collm**	**82.48**	**329**	*i*P	**P**	**09 00 29.7**	**-0.8**
CLL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
SRU	**San Rafael**	**82.59**	**47**	*e*P	**P**	**09 00 31.4**	**+0.4**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
SRU	**San Rafael**	**82.59**	**47**	*e*P	**P**	**09 00 31.4**	**+0.4**
	comp=Z,4.5nm,0.8s,mb4.5						
KHC	**Kasperske Hory**	**83.84**	**327**	*e*P	**P**	**09 00 37.0**	**-0.5**
KHC	**Kasperske Hory**	**83.84**	**327**⇓	*e*P	**P**	**09 00 37.2**	**-0.3**
GEC2	**GERESS Array S**	**84.00**	**327**	*e*P	**P**	**09 00 37.7**	**-0.6**
GERES	**GERESS Array B**	**84.00**	**327**	P	**P**	**09 00 37.5**	**-0.7**
	comp=Z,2.2nm,0.9s,mb4.3,baz=45,slow=4.0,SNR=15						
WUAZ	**Wupatki**	**84.29**	**51**	*e*P	**P**	**09 00 40.6**	**+0.8**
	comp=Z,5.4nm,0.9s,mb4.7						
SMCO	**Snowmass**	**84.67**	**46**	*e*P	**P**	**09 00 42.6**	**+0.9**
	comp=Z,5.5nm,1.1s,mb4.6						
GROS	**Grobnik**	**84.90**	**325**	*e*P	**P**	**09 00 41.9**	**-1.0**
PERS	**Pernice**	**84.96**	**325**	*e*P	**P**	**09 00 42.9**	**-0.2**
GOLS	**Golise**	**85.17**	**324**	*e*P	**P**	**09 00 43.6**	**-0.6**
CRES	**Cresnjev**	**85.38**	**324**	*e*P	**P**	**09 00 44.1**	**-1.2**
ANMO	**Albuquerque**	**87.74**	**48**⇑	*e*P	**P**	**09 00 58.6**	**+1.8**
GDL2	**Guadalupe Moun**	**90.87**	**49**	*e*P	**P**	**09 01 12.9**	**+1.4**
SAML	**Samuel**	**147.46**	**44**	*e*PKPdf	PKPdf	09 07 51.7	+2.3
LPAZ	**La Paz**	**149.64**	**61**	PKPbc	PKPbc	09 07 55.4	-2.2
	comp=Z,2.0nm,0.9s,baz=3.5,slow=6.4,SNR=7.3						
LPAZ	**La Paz**	**149.64**	**61**	PKHKP	PKPbc	09 07 55.4	-2.2
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						

CSEM ***09*** *09:05:03.4±1.0, 37.44N×24.42W, h10km, ML2.3, Error ellipse: s-maj=9.4km s-min=3.6km az=74.0, After PDA*
PDA ***09*** *09:05:03.4±1.0, 37.44N×24.42W, h10km, MD2.8, ML2.3, Error ellipse: s-maj=9.4km s-min=3.6km az=74.0*
SVSA 09 09:05:03.4±1.0**, 37.44N×24.42W, h10**km**, MD2.8, ML2.3, Error ellipse: s-maj=9.4km s-min=3.6km az=74.0, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.68**	**230**	*e*P	Pg	09 05 14.3	-2.2
PSMN				*i*S	Sg	09 05 22.3	-3.0
MIRA	**Miradouro**	**0.76**	**297**	*e*P	Pg	09 05 15.1	-3.0
MIRA				*i*S	Sg	09 05 24.5	-3.5
FRA1	**Furnas**	**0.80**	**292**	*e*S	Sg	09 05 25.2	-4.1
PFAD	**Fenais da Ajud**	**0.82**	**299**	*e*S	Sg	09 05 25.6	-4.2
PCNG	**Congro**	**0.84**	**293**	*e*S	Sg	09 05 26.5	-4.0
PCNG							
	46nm,0.2s						
VIF	**Vila Franca**	**0.86**	**291**	*e*S	Sg	09 05 27.2	-4.1
VIF							
	35nm,0.3s						
MESC	**Monte Escuro**	**0.89**	**294**	*e*P	Pg	09 05 17.7	-2.7
MESC				*e*S	Sg	09 05 27.6	-4.4
PRCH	**Ribeira Ch**	**0.89**	**289**	*e*S	Sg	09 05 27.9	-4.2
PRCH							
	70nm,0.2s						
LFA	**Lagoa do Fogo**	**0.91**	**292**	*e*P	Pg	09 05 17.8	-3.0
PMAT	**Coroa da Mata**	**0.91**	**294**	*e*S	Sg	09 05 28.2	-4.6
PMAT							
	16nm,0.1s						
PVER	**Pico Vermelho**	**0.94**	**293**	*e*rx		09 05 29.6	
CML	**Cha da Macela**	**0.95**	**290**	*e*rx		09 05 29.8	
FAC	**Faja de Cima**	**1.03**	**289**	*e*S	Sg	09 05 31.3	-5.3
PDA	**Ponta Delgada**	**1.03**	**287**	*e*P	Pg	09 05 19.4	-3.8
PDA				*e*S	Sg	09 05 38.6	+1.9
PFET	**Feteiras**	**1.15**	**289**	*e*rx		09 05 34.8	
SET2	**Ginetes**	**1.17**	**290**	*e*rx		09 05 35.3	
SET4	**Mosteiros**	**1.18**	**292**	*e*rx		09 05 36.9	

CSEM ***09*** *09:14:44.8±0.9, 38.63N×29.13W, h5km±4km, ML1.9, Error ellipse: s-maj=11.3km s-min=6.2km az=22.0, After PDA*
PDA ***09*** *09:14:44.8±0.9, 38.63N×29.13W, h5km±4km, MD3.2, ML1.9, Error ellipse: s-maj=11.3km s-min=6.2km az=22.0*
SVSA 09 09:14:44.8±0.9**, 38.63N×29.13W, h5**km±4km**, MD3.2, ML1.9, Error ellipse: s-maj=11.3km s-min=6.2km az=22.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.27**	**100**	*e*P	Pg	09 14 50.0	0.0
PTCA				*i*S	Sg	09 14 53.3	-0.2
PTCA							
	253nm,0.2s						
PTCA	**Ponta do Capel**	**0.27**	**100**	*e*P	Pg	09 14 50.0	0.0
PTCA				*i*S	Sg	09 14 53.3	-0.2
PCND	**Candelaria**	**0.55**	**107**	*e*P	Pg	09 14 54.0	-1.3
PCND				*e*S	Sg	09 15 01.1	-1.4
PCND							
	15nm,0.1s						
PICO	**Pico**	**0.57**	**103**	*e*P	Pg	09 14 54.7	-1.0
PICO				*e*S	Sg	09 15 01.6	-1.5
PTEI	**Pico do Teixo**	**0.62**	**102**	*e*S	Sg	09 15 03.6	-1.2
PTEI							
	38nm,0.2s						
PBOI	**Pico dos Bois**	**0.62**	**108**	*e*P	Pg	09 14 55.3	-1.5
PBOI				*e*S	Sg	09 15 03.4	-1.5
PBOI							
	20nm,0.1s						
ROSA	**Rosais**	**0.70**	**82**	*e*P	Pg	09 14 56.1	-2.2
PAMA	**Santo Amaro**	**0.75**	**86**	*e*S	Sg	09 15 06.3	-2.5
PAMA							
	21nm,0.1s						
PID	**Ribeirinha**	**0.81**	**103**	*e*P	Pg	09 14 58.0	-2.4

IDC ***09*** *09:18:31.9±2.5, 51.27N×179.09W, h15km±15km, mb4.6/22, mb1 4.7/23, mb1mx4.7/26, mbtmp4.7/23, ML4.9/1, MS3.9/23, Ms1 3.9/23, ms1mx3.7/46, Error ellipse: s-maj=18.7km s-min=10.4km az=150.0*
ISCJB ***09*** *09:18:34.7±0.2, 51.28N±0.05×179.11W±0.03, h40km, mb4.9/173, MS4.1/42, Error ellipse: s-maj=6.5km s-min=2.3km az=10.7*
BJI ***09*** *09:18:34.5, 51.73N×179.79W, h13km, mB5.1, mb5.0, Ms4.7, Msz4.4*
MOS ***09*** *09:18:35.1±0.9, 51.25N×179.09W, h47km, mb5.1/86, MS4.1/10, Error ellipse: s-maj=7.9km s-min=4.3km az=90.0*
SZGRF ***09*** *09:18:35.2, 50.91N×179.66E, h33km, mb4.9, Rat Islands, Aleutian Islands, United States*
NEIC ***09*** *09:18:36.4±0.2, 51.21N×179.15W, mb4.9/116, MS4.2/2, ML4.8(AEIC), Error ellipse: s-maj=5.6km s-min=2.4km az=4.0*
HRVD ***09*** *09:18:36.4±0.7, 51.06N×179.10W, h32km±1km, MW4.8/38, Centroid moment Tensor Solution. LP body waves: s13,c14;Mantle waves: s38,c46; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.93±.20; Mθθ-1.52±.12; Mφφ-0.40±.11; Mrθ1.25±.14; Mθφ-0.32±.07; Mφr0.35±.12; Best double couple: M0 2.19200×10^16 NP1:φs256.00000°, δ27.00000°, λ91.00000°. NP2: φs75.00000°, δ63.00000°, λ90.00000°. Principal axes: T 2.3560, Plg72.0000°, Azm344.0000°; N -0.3250, Plg0.0000°, Azm75.0000°; P -2.0280, Plg18.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 09 09:18:36.6±0.2**, 51.38N**±0.04**×179.14W**±0.03**, h42**km±2.6km**: pP-P, n594, σ0.84**/590**, mb4.9**/173**, MS4.1**/42**, 65C-44D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.97**	**270**	P	**Pn**	**09 18 52.2**	**-1.6**
AMKA				S	**Sn**	**09 19 09.2**	**+2.8**
ATKA	**Atka Island**	**3.18**	**73**	P	**Pn**	**09 19 23.4**	**-0.7**
ATKA				S	**Sn**	**09 20 01.5**	**+0.8**
SMY	**Shemya**	**4.38**	**291**	P	**Pn**	**09 19 43.2**	**+2.6**
NIKO	**Nikolski**	**6.53**	**72**	*e*Pn	**Pn**	**09 20 10.1**	**+0.1**
OKCE	**Okmok Cone E**	**7.02**	**69**	P	**Pn**	**09 20 18.4**	**+1.6**
OKCD	**Okmok Cone D**	**7.05**	**69**	P	**Pn**	**09 20 19.4**	**+2.1**
SPIA	**Saint Paul Isl**	**7.79**	**38**	P	**Pn**	**09 20 31.2**	**+3.8**
UNV	**Unalaska Valle**	**8.08**	**67**	P	**Pn**	**09 20 32.4**	**+1.1**
AKUT	**Akutan**	**8.57**	**66**	*e*Pn	**Pn**	**09 20 39.6**	**+1.6**
SDPT	**Sand Point**	**11.83**	**63**	*e*P	**Pn**	**09 21 21.9**	**-0.7**
	26nm,0.3s						
CHGN	**Chignik**	**13.17**	**60**	*e*P	**Pn**	**09 21 39.7**	**-1.3**
PET	**Petropavlovsk**	**13.71**	**286**	*e*P	**Pn**	**09 21 56.6**	**+8.3**
PET				pmax	pmax		
	comp=Z,100nm,4.8s						
PET				pmax	pmax		
	comp=Z,34nm,1.0s						
PET				MLR	MLR		
	comp=Z,500nm,18.0s						
PET				MLR	MLR		
	comp=Z,400nm,13.0s						
SVW2	**Sparrevohn**	**16.22**	**44**	*e*P	**Pn**	**09 22 25.2**	**+3.8**
KDAK	**Kodiak Island**	**16.60**	**57**	Pn	**Pn**	**09 22 22.1**	**-4.1**
	comp=Z,4.4nm,0.3s,baz=255,slow=6.5,SNR=45						
KDAK				Sn	**Sn**	**09 25 21.5**	**-8.0**
	comp=Z,0.3nm,0.3s,baz=329,slow=18,SNR=3.3						
KDAK	**Kodiak Island**	**16.60**	**57**	*e*Pn	**Pn**	**09 22 26.5**	**+0.3**
KDAK				Sn	**Sn**	**09 25 21.5**	**-8.0**
TTA	**Tatalina**	**16.94**	**38**	*e*P	**Pn**	**09 22 33.0**	**+2.5**
SLKM	**Skilak Lake**	**18.45**	**49**	*e*P	**Pn**	**09 22 48.9**	**-0.1**
PMR	**Palmer**	**19.28**	**46**	*e*P	**Pn**	**09 23 00.1**	**+1.1**
PMR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PMR	**Palmer**	**19.28**	**46**	*e*P	**Pn**	**09 23 00.1**	**+1.1**
	comp=Z,4.6nm,0.3s						
SML	**Sawmill**	**19.71**	**46**	*e*P	**Pn**	**09 23 02.1**	**-2.0**
MCK	**McKinley**	**20.14**	**41**	*e*P	**P**	**09 23 06.9**	**-0.2**
EYAK	**Cordova Ski Ar**	**20.61**	**51**	*e*P	**P**	**09 23 14.2**	**+2.1**
COLA	**College**	**21.04**	**38**⇑	*e*P	**P**	**09 23 17.3**	**+0.5**
COLA	**College**	**21.04**	**38**	P	**P**	**09 23 17.1**	**+0.3**
	comp=Z,33nm,0.8s,mb4.7						
ILAR	**Eielson Array**	**21.38**	**39**	P	**P**	**09 23 19.6**	**-0.9**
	comp=Z,4.9nm,0.4s,mb4.2,baz=241,slow=9.8,SNR=48						
ILAR				S	**S**	**09 27 15.5**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=241,slow=18,SNR=2.8						
ILAR				ScP	ScP	09 30 58.1	+1.5
	comp=Z,0.5nm,0.7s,baz=258,slow=3.9,SNR=5.4						
ILAR	**Eielson Array**	**21.38**	**39**	P	**P**	**09 23 19.6**	**-0.8**
ILAR				S	**S**	**09 27 15.5**	**+0.2**
MENT	**Mentasta**	**22.10**	**45**	*e*P	**P**	**09 23 29.7**	**+1.6**
DAWY	**Dawson**	**24.25**	**43**	*e*P	**P**	**09 23 48.6**	**-1.0**
YSS	**Yuzh-Sakhalins**	**25.11**	**275**⇓	*e*P	**P**	**09 23 58.0**	**+0.6**
YSS				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.1						
YSS	**Yuzh-Sakhalins**	**25.11**	**275**	*e*P	**P**	**09 23 58.4**	**+1.0**
ASAJ	**Asahikawa**	**26.49**	**269**	P	**P**	**09 24 09.6**	**-0.3**
	comp=Z,22nm,1.1s,mb4.6,baz=55,slow=10.0,SNR=7.3						
ASAJ				LR	LR	09 33 57.6	
	comp=Z,140nm,19.3s,MS3.5,baz=262,slow=35						
ASAJ	**Asahikawa**	**26.49**	**269**	P	**P**	**09 24 09.6**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,22nm,1.1s						
ASAJ				MLR	MLR		
	comp=Z,141nm,19.3s						
INK	**Inuvik**	**27.58**	**35**	P	**P**	**09 24 19.4**	**-0.3**
	comp=Z,4.4nm,0.5s,mb4.3,baz=232,slow=11,SNR=17						
INK	**Inuvik**	**27.58**	**35**	P	**P**	**09 24 19.4**	**-0.3**
INK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
INK	**Inuvik**	**27.58**	**35**	*e*P	**P**	**09 24 19.3**	**-0.4**
DLBC	**Dease Lake**	**28.54**	**56**	P	**P**	**09 24 28.6**	**+0.4**
	comp=Z,1.4nm,0.6s,mb3.9,baz=275,slow=12,SNR=2.6						
YAK	**Yakutsk**	**29.25**	**311**⇓	*e*P	**P**	**09 24 35.6**	**+1.0**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
YAK				MLR	MLR		
	comp=Z,300nm,27.0s,MS3.8						
HABR	**Khabarovsk**	**29.26**	**283**	*e*P	**P**	**09 24 34.9**	**+0.2**
HABR				*e*S	**S**	**09 29 25.1**	**+0.4**
TIXI	**Tiksi**	**30.53**	**331**	*i*P	**P**	**09 24 49.3**	**+3.4**
KLR	**Kul'dur**	**30.97**	**286**	*e*P	**P**	**09 24 46.2**	**-3.6**
KLR				pmax	pmax		
	comp=E,34nm,1.2s						
KLR				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.3						
BBB	**Bella Bella**	**31.05**	**68**	LR	LR	09 34 18.7	
	comp=Z,113nm,20.4s,MS3.5,baz=44,slow=30						
MAT	**Matsushiro**	**33.57**	**261**	P	**P**	**09 25 10.6**	**-2.0**
MAT	**Matsushiro**	**33.57**	**261**	*e*P	**P**	**09 25 11.0**	**-1.6**
MJAR	**Matsushiro Arr**	**33.57**	**261**	P	**P**	**09 25 11.5**	**-1.0**
	comp=Z,1.8nm,0.9s,mb4.0,baz=51,slow=7.8,SNR=9.6						
MJAR				LR	LR	09 38 27.6	
	comp=Z,148nm,20.5s,MS3.7,baz=55,slow=36						
MJAR	**Matsushiro Arr**	**33.57**	**261**	P	**P**	**09 25 11.5**	**-1.0**
MJAR				LR	LR	09 38 27.6	
MDJ	**Mudanjiang**	**34.36**	**279**	P	**P**	**09 25 18.1**	**-1.3**
MDJ				AP	pP	09 25 29.4	-1.5
MDJ				XP	sP	09 25 34.3	-1.6
MDJ				PP	PP	09 26 35.6	-2.1
MDJ				PCP	PcP	09 27 53.4	-1.1
MDJ				S	**S**	**09 30 44.3**	**+0.2**
MDJ				SCP	ScP	09 31 37.5	+1.3
MDJ				SCS	ScS	09 35 36.5	-2.3
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,74nm,4.8s						
MDJ				LR	LR		
	comp=N,135nm,16.6s,MS3.9						
MDJ				LR	LR		
	comp=E,149nm,18.7s,MS3.9						
MDJ				LR	LR		
	comp=Z,180nm,20.1s,MS3.8						
YKW3	**Yellowknife Ar**	**35.37**	**46**	*e*P	**P**	**09 25 27.3**	**-0.8**
YKA	**Yellowknife Ar**	**35.39**	**46**	P	**P**	**09 25 27.3**	**-0.9**
	comp=Z,5.3nm,0.5s,mb4.8,baz=281,slow=7.3,SNR=34						
YKA				PcP	PcP	09 27 57.0	-0.5
	comp=Z,0.9nm,0.7s,baz=290,slow=3.5,SNR=4.8						
YKA				LR	LR	09 42 05.0	
	comp=Z,286nm,18.1s,MS4.1,baz=270,slow=40						
YKA	**Yellowknife Ar**	**35.39**	**46**	P	**P**	**09 25 27.3**	**-0.9**
YKA						09 27 57.0	
YKA	**Yellowknife Ar**	**35.39**	**46**	P	**P**	**09 25 27.3**	**-0.9**
YKA				PcP	PcP	09 27 57.0	-0.5
YKA				LR	LR	09 42 05.0	
B04A	**Port Angeles**	**35.40**	**73**	⇑P	**P**	**09 25 28.7**	**+0.4**
	baz=35						
A04A	**Legoe Bay, Lum**	**35.57**	**72**	⇑P	**P**	**09 25 30.0**	**+0.1**
	baz=36						
D03A	**Wishkah Elem.**	**35.66**	**75**	⇓P	**P**	**09 25 30.3**	**-0.3**
	baz=36						
A05A	**Maple Falls**	**35.82**	**71**	⇑P	**P**	**09 25 31.9**	**0.0**
	baz=36,SNR=7.8						
C04A	**Brinnon**	**35.87**	**73**	⇓P	**P**	**09 25 32.3**	**-0.1**
	baz=36						
GNW	**Green Mountain**	**36.03**	**73**	*e*P	**P**	**09 25 34.6**	**+0.9**
E03A	**Lebam**	**36.06**	**75**	⇑P	**P**	**09 25 33.5**	**-0.5**
	baz=36						
B05A	**Bryant**	**36.14**	**72**	⇓P	**P**	**09 25 34.9**	**+0.2**
	baz=36,SNR=8.2						
D04A	**Dobbs Creek Ra**	**36.26**	**74**	⇓P	**P**	**09 25 35.1**	**-0.6**
	baz=36						
F03A	**Seaside**	**36.36**	**76**	⇓P	**P**	**09 25 36.6**	**+0.1**
	baz=36						
C05A	**Tolt Reservoir**	**36.65**	**73**	⇑P	**P**	**09 25 39.6**	**+0.6**
	baz=37						
D05A	**Enumclaw**	**36.70**	**73**	⇑P	**P**	**09 25 39.9**	**+0.4**
	baz=37,SNR=6.1						
F04A	**Amboy**	**37.05**	**76**	⇓P	**P**	**09 25 42.2**	**-0.3**
	baz=37,SNR=6.8						
E05A	**Randle**	**37.15**	**74**	⇑P	**P**	**09 25 43.6**	**+0.4**
	baz=37						
CN2	**Changchun**	**37.34**	**281**	*e*P	**P**	**09 25 44.7**	**-0.2**
G04A	**Mulino**	**37.38**	**77**	⇓P	**P**	**09 25 45.8**	**+0.6**
	baz=37						
TWW	**Teanaway**	**37.40**	**73**	P	**P**	**09 25 46.2**	**+0.8**
TBM	**Table Mountain**	**37.55**	**73**	P	**P**	**09 25 46.9**	**+0.2**
F05A	**White Salmon**	**37.66**	**75**	⇑P	**P**	**09 25 47.5**	**-0.1**
	baz=38						
EBG	**Ellensburg**	**37.69**	**73**	P	**P**	**09 25 48.3**	**+0.5**
BOD	**Bodaibo**	**37.80**	**307**	*e*P	**P**	**09 25 48.0**	**-0.8**

BOD pmax pmax
comp=Z,15nm,1.1s,mb4.6
H04A Detroit Lake 37.83 77 ⇓P P 09 25 49.4 +0.4
baz=38
HOOD Mount Hood Mea 37.83 76 eP P 09 25 50.5 +1.5
BROR Big Rock Looko 37.88 78 P P 09 25 50.2 +0.8
EPH Ephrata 38.06 72 P P 09 25 50.6 -0.4
G05A Wamic 38.07 76 ⇑P P 09 25 51.6 +0.6
baz=38
HIA Hailar 38.09 292 eP P 09 25 50.5 -0.7
HIA pmax pmax
comp=Z,12nm,0.6s
HIA Hailar 38.09 292 eP P 09 25 50.5 -0.7
comp=Z,12nm,0.6s,mb4.8
MDW Midway 38.32 73 P P 09 25 53.4 +0.2
SNIWA Snively Ranch 38.45 73 P P 09 25 54.6 +0.3
RSW Rattlesnake Hi 38.53 73 P P 09 25 55.3 +0.3
HAWA Hanford 38.57 73 eP P 09 25 54.6 -0.6
comp=Z,1.3nm,0.8s
OD2 Odessa Site #2 38.57 71 P P 09 25 54.7 -0.5
I05A Bend 38.66 77 ⇓P P 09 25 56.1 +0.1
baz=39
VIPM Ingram Point 38.87 76 P P 09 25 58.1 +0.3
EDM Edmonton 39.00 61 eP P 09 25 58.0 -0.9
NEW Newport 39.08 69 eP P 09 25 59.0 -0.6
NEW e*PP pP 09 26 11.7 +0.5
NEW pmax pmax
comp=Z,18nm,1.0s
NEW Newport 39.08 69 eP P 09 25 59.0 -0.6
comp=Z,18nm,1.0s,mb4.8
NEW epP pP 09 26 11.7 +0.6
YBH Yreka Blue Hor 39.09 82 ⇓P P 09 26 01.5 +1.8
baz=39
KS15 Wonju Array Si 39.45 271 eP P 09 26 03.0 +0.4
SNY Shenyang 39.56 279 ⇑P P 09 26 03.2 -0.4
SNY AMB AMB
comp=Z,120nm,0.6s,mb5.8
M04C Macdoel 39.60 81 ⇓P P 09 26 04.0 +0.1
baz=40
J06A Christmas Vall 39.83 78 ⇓P P 09 26 05.9 +0.1
baz=40
K06A Valley Falls 40.02 79 ⇑P P 09 26 07.9 +0.5
baz=40
L05A Lakeview 40.08 80 ⇓P P 09 26 09.2 +1.4
baz=40
M05C Lookout 40.27 81 ⇑P P 09 26 10.8 +1.4
baz=40
J07A Hines 40.28 77 ⇓P P 09 26 10.2 +0.7
baz=40
HATC Hat Creek Radi 40.39 82 ⇓P P 09 26 12.2 +1.8
baz=40
HOPS Hopland 40.45 85 ⇓P P 09 26 11.0 +0.1
baz=40
WALA Waterton Lakes 40.57 67 eP P 09 26 11.5 -0.4
comp=Z,21nm,1.1s,mb4.7
BSMT Bassoo Peak 40.65 69 eP P 09 26 12.4 -0.2
BMO Blue Mountains 40.70 74 eP P 09 26 12.9 0.0
J08A Circle Bar Ran 40.80 77 ⇑P P 09 26 13.9 +0.1
baz=41
O04C Chester 40.91 82 ⇑P P 09 26 15.9 +1.2
baz=41
L07A Adell 41.01 79 P P 09 26 16.0 +0.4
baz=41,SNR=6.3
ORV Oroville 41.10 83 ⇓P P 09 26 17.0 +0.7
baz=41
WVOR Wild Horse Val 41.21 78 eP P 09 26 17.1 -0.1
WVOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
WVOR Wild Horse Val 41.21 78 eP P 09 26 17.1 -0.1
comp=Z,8.9nm,0.9s,mb4.4
O05C Quincy 41.22 83 ⇑P P 09 26 17.2 -0.1
baz=41
M07A Soldier Meadow 41.48 80 ⇓P P 09 26 20.1 +0.7
baz=41
MSO Missoula 41.67 70 eP P 09 26 20.3 -0.6
O06A Flanigan 41.78 82 ⇑P P 09 26 23.0 +1.1
baz=42
P05C Yuba Gap, Truc 41.80 83 ⇓P P 09 26 21.9 -0.1
baz=42
M08A Happy Creek Ra 41.93 79 ⇓P P 09 26 23.8 +0.7
baz=42
P06A Stead Airport, 42.02 82 ⇑P P 09 26 25.4 +1.6
baz=42
CHMT Chamberlain Mo 42.03 69 eP P 09 26 22.9 -1.0
L09A Wilkinson Ranc 42.04 78 ⇑P P 09 26 24.1 +0.1
baz=42
LAVA Lava Cap Winer 42.05 84 ⇑P P 09 26 24.4 +0.3
baz=42
PAHR Pah Rah Range 42.32 82 eP P 09 26 25.8 -0.5
WCN Washoe City 42.34 83 ⇑P P 09 26 26.9 +0.5
baz=42
O07A Toulon 42.37 81 ⇑P P 09 26 27.8 +1.1
baz=42,SNR=6.7
N08A GE Springer Mi 42.47 80 ⇑P P 09 26 28.8 +1.3
baz=42
M09A Marrel Ranch, 42.52 78 ⇑P P 09 26 28.6 +0.7
baz=42
HRY Holter Researc 42.97 69 eP P 09 26 30.9 -0.6
R06C Coleville 43.00 83 ⇑P P 09 26 33.1 +1.3
baz=43
M10A I.L. Ranch, Tu 43.02 78 ⇑P P 09 26 32.0 +0.1
baz=43
LRM Limekiln Ridge 43.08 70 eP P 09 26 31.8 -0.6
HLID Hailey 43.15 74 eP P 09 26 32.4 -0.5
comp=Z,13nm,1.0s,mb4.6
DLMT Dillon 43.24 71 eP P 09 26 33.5 -0.2
DLMT eScP ScP 09 32 13.8 +3.6
MCMT McKenzie Canyo 43.38 72 eP P 09 26 34.1 -0.7
O09A Fish Creek Ran 43.41 80 ⇓P P 09 26 34.9 -0.1
baz=43
EGMT Eagleton 43.48 66 eP P 09 26 34.6 -1.0
comp=Z,15nm,0.8s,mb4.8
EGMT epP pP 09 26 47.1 -0.2
BOZ Bozeman (W) 43.66 70 eP P 09 26 36.5 -0.6
BOZ pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
BOZ Bozeman (W) 43.66 70 eP P 09 26 36.5 -0.6
comp=Z,10.0nm,0.6s,mb4.7
Q08A Gabbs 43.73 82 ⇑P P 09 26 38.2 +0.5
baz=44
NVAR Mina Array Bea 43.76 83 P P 09 26 37.6 -0.3
comp=Z,3.8nm,0.9s,mb4.1,baz=288,slow=7.2,SNR=17
P09A Austin 43.81 80 ⇑P P 09 26 39.2 +0.9
baz=44
MNV Mina 43.86 82 eP P 09 26 42.2 +3.5
M12A Wells 44.07 77 ⇑P P 09 26 40.2 -0.2
baz=44
QLMT Earthquake Lak 44.22 71 eP P 09 26 41.9 +0.3
ELK Elko 44.27 78 eP P 09 26 42.1 +0.1
ELK pmax pmax
comp=Z,8.0nm,0.8s
ELK Elko 44.27 78 eP P 09 26 42.0 +0.1
comp=Z,7.9nm,0.8s,mb4.5
MTUM Tungsten Hills 44.27 84 eP P 09 26 41.6 -0.3
N12A Clover Valley, 44.33 78 P P 09 26 42.9 +0.5
baz=44,SNR=11
O11A Cowboy Ranch, 44.37 79 ⇑P P 09 26 42.2 -0.6
baz=44
M13A Montello 44.56 76 ⇓P P 09 26 43.7 -0.6
baz=44,SNR=7.2
YMR Madison River 44.59 71 eP P 09 26 44.0 -0.5
comp=Z,14nm,0.8s,mb4.8
P11A Circle Ranch, 44.66 80 ⇓P P 09 26 45.6 +0.5
baz=44
GCMT Greycliff 44.73 69 eP P 09 26 45.5 -0.1
YFT Old Faithful 44.78 71 eP P 09 26 47.0 +0.9
N13A Wendover, West 44.83 77 ⇓P P 09 26 46.5 +0.1
baz=45
S09A Goldfield 44.88 83 ⇓P P 09 26 47.1 +0.2
baz=45
LKWY Lake 44.98 70 eP P 09 26 48.9 +1.3
LKWY pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
LKWY Lake 44.98 70 eP P 09 26 48.9 +1.2
comp=Z,9.9nm,0.7s,mb4.8
IMW Indian Meadow 45.04 72 eP P 09 26 49.5 +1.4
comp=Z,8.2nm,0.8s,mb4.6
R10A Warm Springs 45.09 81 ⇑P P 09 26 48.8 +0.3
baz=45
RRI2 Red Ridge 45.12 72 epP pP 09 26 58.1 -2.4
CWC Cottonwood Cre 45.14 85 ⇓P P 09 26 48.8 -0.1
baz=45
Q11A Duckwater 45.15 80 ⇑P P 09 26 50.6 +1.6
baz=45,SNR=7.6
HVU Hansel Valley 45.16 75 eP P 09 26 49.2 +0.1
BJI Beijing 45.16 282 eP P 09 26 49.5 +0.4
BJI AMB AMB
comp=Z,10.0nm,1.7s,mb4.4
BJI LR LR
comp=Z,109nm,24.3s,MS3.7
BJT Baijiatuau 45.18 282 eP P 09 26 48.6 -0.7
BJT pmax pmax
comp=Z,6.0nm,0.6s
BJT Baijiatuau 45.18 282 eP P 09 26 48.6 -0.6
comp=Z,5.9nm,0.6s,mb4.6
P12A McGill 45.23 79 ⇑P P 09 26 51.2 +1.6
baz=45
MOOW Moose Ponds 45.24 72 eP P 09 26 49.7 0.0
TPAW Teton Pass 45.26 72 eP P 09 26 50.2 +0.3
REDW Red Top Meadow 45.40 72 eP P 09 26 50.8 -0.2
comp=Z,7.1nm,1.0s,mb4.5
Q12A Willow Creek R 45.54 80 ⇑P P 09 26 52.8 +0.7
baz=45
TPNV Topopah Spring 45.96 83 eP P 09 26 55.2 -0.2
TPNV pmax pmax
comp=Z,11nm,0.8s,mb4.8
TPNV Topopah Spring 45.96 83 eP P 09 26 55.2 -0.2
comp=Z,11nm,0.8s,mb4.8
HWUT Hardware Ranch 45.99 75 eP P 09 26 55.7 +0.1
comp=Z,6.9nm,0.8s,mb4.6
ULN Ulaanbaatar 46.07 296 eP P 09 26 57.1 +0.8
ULN pmax pmax
comp=Z,18nm,1.0s,mb5.0
ULN Ulaanbaatar 46.07 296 eP P 09 26 57.1 +0.8
comp=Z,18nm,1.0s,mb5.0
DUG Dugway 46.08 77 eP P 09 26 56.3 0.0
DUG pmax pmax
comp=Z,18nm,1.0s,mb5.0
DUG Dugway 46.08 77 eP P 09 26 56.3 0.0
comp=Z,18nm,1.0s,mb5.0
LAO LASA Array 46.22 66 eP P 09 26 57.2 -0.2
TCUT Toone Canyon 46.38 75 eP P 09 26 58.6 -0.1
CTU Camp Tracy 46.42 76 eP P 09 26 59.4 +0.3
SONM Songino Array 46.45 296 P P 09 26 59.9 +0.7
comp=Z,12nm,0.9s,mb4.8,baz=66,slow=8.3,SNR=56
SONM PcP PcP 09 28 33.5 0.0
comp=Z,1.4nm,0.7s,baz=71,slow=3.0,SNR=3.2
SONM ScP ScP 09 32 26.1 +2.7
comp=Z,1.2nm,0.9s,baz=65,slow=3.9,SNR=5.7
SONM LR LR 09 47 48.9
comp=Z,326nm,19.1s,MS4.3,baz=68,slow=38
SONM Songino Array 46.45 296 P P 09 26 59.9 +0.6
SONM 09 28 33.5
BW06 Boulder Array 46.51 72 eP P 09 26 59.2 -0.6
PDAR Pinedale Array 46.51 72 P P 09 26 59.1 -0.7
comp=Z,28nm,0.9s,mb5.2,baz=315,slow=3.3,SNR=134
PDAR ScP ScP 09 32 27.1 +3.5
comp=Z,0.4nm,0.8s,baz=354,slow=1.8,SNR=2.9
GSC Goldstone 46.66 85 eP P 09 27 00.1 -0.8
GSC Goldstone 46.66 85 ⇑P P 09 26 59.6 -1.3
baz=46
NLU North Lily Min 46.67 77 eP P 09 27 00.8 -0.2
U11A Corn Creek 46.84 83 ⇓P P 09 27 00.9 -1.4
baz=47
DAU Daniels Canyon 46.89 76 eP P 09 27 03.1 +0.4
MPU Maple Canyon 46.91 76 eP P 09 27 02.7 -0.1
TUQ Turquoise Mtn. 47.13 84 ⇓P P 09 27 03.4 -1.1
baz=47
V11A Goodsprings 47.17 83 ⇓P P 09 27 04.4 -0.6
baz=47
U12A Valley of Fire 47.35 82 ⇑P P 09 27 05.5 -0.8
baz=47
CCUT Cedar City 47.37 80 eP P 09 27 06.4 -0.1
HHC Hu-ho-hao-te 47.48 286 eP P 09 27 08.1 +0.8
HHC AP pP 09 27 19.3 +0.1
HHC PP PP 09 28 59.2 +0.3
HHC S S 09 33 58.3 -0.7
HHC SCS ScS 09 36 55.5 -2.1
HHC AMB AMB
comp=Z,13nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,218nm,4.5s
HHC LR LR
comp=E,417nm,15.5s
HHC LR LR
comp=Z,266nm,21.4s
MSU Marysvale 47.50 78 eP P 09 27 07.3 -0.1
TMUT Trail Mountain 47.61 77 eP P 09 27 08.5 +0.3
V12A Nelson 47.61 83 ⇑P P 09 27 07.4 -0.8
baz=48
SSE Sheshan 47.78 269 P P 09 27 08.3 -1.3
SSE XP sP 09 27 24.7 -1.7
SSE S S 09 34 01.8 -1.5
SSE SCS ScS 09 36 58.3 -1.2
SSE AMB AMB
comp=Z,48nm,0.8s,mb5.6
SSE AMB AMB
comp=Z,864nm,4.6s
SSE LR LR
comp=N,67nm,16.9s,MS3.7
SSE LR LR
comp=E,26nm,16.9s,MS3.7
SSE LR LR
comp=Z,62nm,22.5s
SRU San Rafael 48.14 77 eP P 09 27 13.0 +0.6
RWWY Rawlins 48.55 72 eP P 09 27 15.0 -0.6
comp=Z,17nm,1.0s,mb5.0
NJ2 Nanjing 48.60 272 eP P 09 27 18.3 +2.4
NJ2 S S 09 34 16.0 +1.2
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
NJ2 AMB AMB
comp=Z,160nm,4.5s
NJ2 LR LR
comp=N,1μm,13.2s,MS5.1
NJ2 LR LR
comp=E,780nm,16.8s,MS5.1
NJ2 LR LR
comp=Z,1μm,15.9s,MS5.1
RSSD Black Hills 48.96 67 eP P 09 27 18.0 -0.7
RSSD pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
RSSD Black Hills 48.96 67 eP P 09 27 18.0 -0.7
comp=Z,4.8nm,0.4s,mb4.9
W14A Seligman 49.04 82 ⇑P P 09 27 18.4 -1.0
baz=49
GLA Glamis 49.37 86 eP P 09 27 21.8 -0.1
GLA Glamis 49.37 86 ⇑P P 09 27 21.0 -0.9
baz=49
X14A Yava 49.64 83 ⇑P P 09 27 23.2 -0.7
baz=50
KBS Kingsbay 49.79 357 eP P 09 27 25.6 +0.6
KBS pmax pmax
comp=Z,72nm,1.3s,mb5.5
KBS Kingsbay 49.79 357 eP P 09 27 25.6 +0.5
comp=Z,72nm,1.3s,mb5.5
PHWY Pilot Hill 49.83 71 eScP ScP 09 32 41.0 +3.3
ULM Lac du Bonnet 49.86 57 LR LR 09 48 16.9
comp=Z,117nm,20.3s,MS3.9,baz=289,slow=36
WUAZ Wupatki 49.90 81 eP P 09 27 25.4 -0.4
comp=Z,7.0nm,0.9s,mb4.7
Y14A Wickenburg 49.92 84 ⇑P P 09 27 25.2 -0.8
baz=50
X15A Humboldt 50.03 82 ⇓P P 09 27 26.1 -0.8
baz=50
SMCO Snowmass 50.25 74 eP P 09 27 28.7 +0.2
comp=Z,3.5nm,0.6s,mb4.6
SPB4 Spitsbergen Ar 50.36 356 eP P 09 27 29.2 -0.2
ISCO Idaho Springs 50.67 73 eP P 09 27 31.9 +0.2
ISCO pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ISCO Idaho Springs 50.67 73 eP P 09 27 31.9 +0.2
comp=Z,9.8nm,1.0s,mb4.7
115A Sonoran Desert 51.23 84 ⇑P P 09 27 34.8 -1.2
baz=51
TUC Tucson 52.39 83 eP P 09 27 43.6 -1.0
LAZ Ladron 53.25 79 eP P 09 27 51.5 +0.6
ANMO Albuquerque 53.30 78 LR LR 09 48 55.5
comp=Z,112nm,19.1s,MS3.9,baz=4.9,slow=34
ANMO Albuquerque 53.30 78 eP P 09 27 53.2 +1.9
SUMG Summit 53.35 14 eP P 09 27 51.7 +0.1
ECSD EROS,Sioux Fal 53.42 64 eP P 09 27 50.2 -2.0
EYMN Ely 53.55 57 eP P 09 27 52.3 -0.8
comp=Z,12nm,1.0s,mb4.8
BNM Barren Site 53.73 79 eP P 09 27 57.7 +3.3
ZAL Zalesovo 53.89 313 P P 09 27 54.4 -1.2
comp=Z,1.3nm,0.4s,mb4.2,baz=34,slow=12,SNR=4.9
ZAL PcP PcP 09 29 01.0 +0.3
comp=Z,2.7nm,0.7s,baz=68,slow=5.3,SNR=7.0
ZAL LR LR 09 53 04.6
comp=Z,139nm,20.9s,MS4.0,baz=81,slow=38
ZAL Zalesovo 53.89 313 P P 09 27 54.4 -1.2
ZAL 09 29 01.0
ZAL Zalesovo 53.89 313 P P 09 27 54.4 -1.2
ZAL PcP PcP 09 29 01.0 +0.3
ZAL LR LR 09 53 04.6
NVS Novosibirsk 54.02 315 eP P 09 27 52.7 -3.8
NVS e 09 29 00.8
LZH Lanzhou 55.18 286 eP P 09 28 05.5 +0.6
LZH PCP PcP 09 29 05.5 -0.1
LZH PP PP 09 30 10.2 +1.6
LZH eS S 09 35 41.0 -4.1
LZH AMB AMB
comp=Z,38nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,210nm,5.0s
LZH LR LR
comp=N,735nm,16.8s
LZH LR LR
comp=Z,1μm,17.7s,MS5.0
GTA Gaotai 55.37 292 P P 09 28 06.9 +0.6
GTA AP pP 09 28 17.2 -1.1
GTA XP sP 09 28 21.9 -1.3
GTA PP PP 09 30 12.2 +1.9
GTA PPP 09 31 30.1
GTA S S 09 35 48.3 +0.6
GTA AMB AMB
comp=Z,18nm,0.8s,mb5.2
GTA AMB AMB
comp=Z,97nm,4.9s
GTA LR LR
comp=N,168nm,17.1s,MS4.4
GTA LR LR
comp=E,189nm,15.2s,MS4.4
GTA LR LR
comp=Z,173nm,16.0s,MS4.2
AMTX Amarillo 56.26 75 eP P 09 28 13.9 +1.3
GDL2 Guadalupe Moun 56.44 79 epP pP 09 28 27.2 +1.2
KEV Kevo 57.68 350 ep P 09 28 22.0 -0.7
comp=Z,3.7nm,0.8s,mb4.5
KEV Kevo 57.68 350 eP P 09 28 22.0 -0.7
KEV pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ARCES ARCESS Array B 58.05 350 P P 09 28 24.4 -1.0
comp=Z,5.9nm,0.7s,mb4.7,baz=23,slow=7.6,SNR=20
ARE0 ARCESS Array S 58.05 350 eP P 09 28 24.8 -0.6
LPIG La Paz 58.45 90 LR LR 09 49 54.5
comp=Z,42nm,20.2s,MS3.5,baz=250,slow=32
CD2 Chengdu 58.76 282 eP P 09 28 29.5 -0.8
CD2 AP pP 09 28 42.2 -0.3
CD2 PP PP 09 30 41.1 +0.6
CD2 SS SS 09 40 23.3 -2.7
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.6s
CD2 LR LR
comp=E,180nm,19.2s
CD2 LR LR
comp=Z,250nm,16.4s,MS4.4
KURK Kurchatov 58.86 313 eP P 09 28 31.0 0.0
LTX Lajitas 58.87 81 eP P 09 28 30.9 -0.1
LTX pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
LTX Lajitas 58.87 81 eP P 09 28 30.9 -0.2
comp=Z,6.6nm,1.0s,mb4.6
WMQ Urumqi 59.16 303 P P 09 28 35.2 +2.1
WMQ PP PP 09 30 48.0 +4.0
WMQ S S 09 36 37.9 +0.4
WMQ AMB AMB
comp=Z,8.0nm,1.2s,mb4.6
WMQ AMB AMB
comp=Z,114nm,5.6s
WMQ LR LR
comp=N,561nm,20.0s,MS4.8
WMQ LR LR
comp=E,421nm,18.9s,MS4.8
WMQ LR LR
comp=Z,562nm,20.5s,MS4.7
MKAR Makanchi Array 59.87 308 P P 09 28 37.6 -0.3
comp=Z,7.9nm,0.4s,mb5.1,baz=47,slow=6.5,SNR=61
SCHQ Schefferville 60.14 38 P P 09 28 38.9 -0.9
comp=Z,10nm,0.9s,mb4.8,baz=325,slow=6.8,SNR=12
SCHQ Schefferville 60.14 38 eP P 09 28 38.6 -1.2
comp=Z,13nm,0.9s,mb5.0
CHKZ Chkalovo 60.18 320 eP P 09 28 39.3 -0.8
CHKZ pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
CHKZ Chkalovo 60.18 320 eP P 09 28 39.3 -0.7
comp=Z,7.3nm,1.2s,mb4.6
CCM Cathedral Cave 60.23 65 eP P 09 28 39.4 -1.0
CCM pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
CCM Cathedral Cave 60.23 65 eP P 09 28 39.4 -1.1
comp=Z,3.4nm,0.6s,mb4.5
JCT Junction City 60.44 77 eP P 09 28 40.7 -1.1
JCT pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
JCT Junction City 60.44 77 eP P 09 28 40.7 -1.1
comp=Z,9.6nm,0.7s,mb4.9
FVM French Village 60.75 65 eP P 09 28 42.2 -1.8
FVM pmax pmax
comp=Z,5.0nm,0.5s,mb4.9
FVM French Village 60.75 65 eP P 09 28 42.2 -1.7
comp=Z,5.3nm,0.5s,mb4.9
BVAR Borovoye Array 60.75 320 LR LR 09 56 44.0
comp=Z,160nm,21.2s,MS4.1,baz=319,slow=38
MIAR Mount Ida 61.33 70 eP P 09 28 46.9 -1.0
MIAR pmax pmax
comp=Z,18nm,1.1s,mb5.1
MIAR Mount Ida 61.33 70 eP P 09 28 46.9 -1.0
comp=Z,18nm,1.1s,mb5.1
ZRNK Zerenda 61.36 320 eP P 09 28 47.6 -0.5
ZRNK e 09 29 30.0
ZRNK pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
ZRNK Zerenda 61.36 320 eP P 09 28 47.6 -0.5
comp=Z,5.6nm,0.7s,mb4.8
ZRNK ePcP PcP 09 29 30.0 -0.1
SIUC Southern Illin 61.62 64 eP P 09 28 48.7 -1.1
comp=Z,8.8nm,0.6s,mb5.1
SADO Sadowa 62.00 53 LR LR 09 58 41.3
comp=Z,88nm,18.1s,MS4.0,baz=276,slow=39
BLO Bloomington 62.10 61 eP P 09 28 52.4 -0.7
USIN University of 62.31 63 eP P 09 28 53.8 -0.7
ARU Arti 62.49 328 eP P 09 28 54.8 -0.9
ARU e 09 31 09.5
ARU eS S 09 37 18.2 -1.8
ARU eSS SS 09 41 22.7 -1.7
ARU Arti 62.49 328 eP P 09 28 54.9 -0.8
comp=Z,5.5nm,0.6s,mb4.9
WCI Wyandotte Cave 62.89 62 eP P 09 28 57.3 -1.1
KMI Kunming 63.51 278 P P 09 29 02.7 +0.2
KMI S S 09 37 33.2 +0.4
KMI AMB AMB
comp=Z,7.0nm,0.8s,mb4.7
KMI LR LR
comp=Z,60nm,23.1s,MS3.7
WVT Waverly 63.52 65 eP P 09 29 01.6 -1.0
WVT pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
WVT Waverly 63.52 65 eP P 09 29 01.6 -1.0
comp=Z,4.8nm,0.7s,mb4.6
JOF Joensuu 63.54 345 ep P 09 29 01.4 -1.3
comp=Z,13nm,0.5s,mb5.2
JOF Joensuu 63.54 345 eP P 09 29 01.4 -1.3
JOF pmax pmax
comp=Z,13nm,0.5s,mb5.2
OXF Oxford 63.77 67 eP P 09 29 03.3 -0.9
KLMR Klimovskoe 63.90 340 eP P 09 29 03.7 -1.3
KLMR pmax pmax
comp=Z,20nm,1.0s,mb5.1
PLAL Pickwick Lake 64.20 66 eP P 09 29 06.0 -1.0
comp=Z,11nm,0.7s,mb5.0
KAF Kangasniemi 65.06 347 ep P 09 29 10.8 -1.8
comp=Z,13nm,0.6s,mb5.1,baz=15,slow=5.8
KAF Kangasniemi 65.06 347 eP P 09 29 10.8 -1.8
KAF pmax pmax
comp=Z,13nm,0.6s,mb5.1
BINY Binghamton 65.45 53 eP P 09 29 14.3 -0.8
comp=Z,11nm,0.7s,mb5.0
TZTN Tazewell 65.62 62 eP P 09 29 15.8 -0.5
SSPA Standing Stone 65.64 55 eP P 09 29 15.2 -1.2
FIA1 FINESS Array S 65.73 347 eP P 09 29 16.1 -0.9
FINES FINESS Array B 65.73 347 P P 09 29 15.9 -1.1
comp=Z,6.5nm,0.6s,mb4.8,baz=24,slow=8.0,SNR=50
FINES LR LR 10 03 46.8

comp=Z,94nm,19.6s,MS4.0,baz=335,slow=41
CPCT Cooper Cave 65.88 63 *e*P **P 09 29 17.0 -0.9**
TKM2 Tokmak 2 65.95 309 P **P 09 29 19.8 +1.4**
SNR=7.7
USP Ospenovka 66.22 310 P **P 09 29 21.6 +1.5**
SNR=20
LRAL Lakeview Retre 66.23 67 *e*P **P 09 29 18.8 -1.3**
comp=Z,12nm,1.0s,mb4.9
KBK Karagaybulak 66.46 309 P **P 09 29 22.6 +0.9**
SNR=7.2
ELN Prospectdale 66.64 59 *e*P **P 09 29 22.3 -0.5**
AAK Ala-Archa 66.70 310 P **P 09 29 24.0 +0.9**
SNR=7.6
AAK Ala-Archa 66.70 310 *d i*P **P 09 29 23.0 -0.2**
AAK pmax pmax
comp=Z,16nm,0.8s,mb5.1
AAK MLR MLR
comp=Z,100nm,25.0s,MS3.9
AAK Ala-Archa 66.70 310 *e*P **P 09 29 23.0 -0.2**
KZA Kyzart 66.75 309 P **P 09 29 25.6 +2.1**
SNR=8.5
BLA Blacksburg 66.83 59 *e*P **P 09 29 24.0 0.0**
UCH Uchtor 67.00 309 P **P 09 29 26.8 +1.7**
SNR=11
EKS2 Erkin-Say 67.02 310 P **P 09 29 26.9 +1.7**
SNR=22
LSA Lhasa 67.24 289 P **P 09 29 28.3 +1.7**
LSA Lhasa 67.24 289 *e*P **P 09 29 27.9 +1.3**
LSA pmax pmax
comp=Z,15nm,0.6s,mb5.2
LSA Lhasa 67.24 289 *e*P **P 09 29 27.9 +1.3**
comp=Z,15nm,0.6s,mb5.2
NB2 NORSAR Subarra 67.62 355 P **P 09 29 28.0 -1.0**
comp=Z,3.6nm,0.6s,mb4.6,baz=4.8,slow=6.2
NOA NORSAR Array B 67.62 355 P **P 09 29 28.4 -0.6**
comp=Z,3.3nm,0.7s,mb4.5,baz=5.7,slow=6.2,SNR=12
NOA LR LR 09 59 59.0
comp=Z,44nm,20.7s,MS3.7,baz=355,slow=37
NOA NORSAR Array B 67.62 355 P **P 09 29 28.4 -0.6**
NOA LR LR 09 59 59.0
KSH Kashi 68.33 306 *e*P **P 09 29 35.0 +1.6**
KSH *e*PCP PcP 09 30 00.6 +1.8
KSH *e*PP PP 09 32 08.1 +3.6
KSH *e*SCP 09 33 59.5
KSH *e*PCS 09 34 08.3
KSH *e*S S 09 38 30.9 -0.5
KSH *e*SCS ScS 09 39 27.0 -2.6
KSH AMB AMB
comp=Z,285nm,5.3s
KSH LR LR
comp=Z,325nm,5.5s
VSU Vasula 68.50 346⇓ *e*P **P 09 29 34.1 -0.4**
MOS Moscow 68.98 339 *e*P **P 09 29 37.3 -0.2**
MOS pmax pmax
comp=Z,100nm,0.8s,mb5.8
MOS pmax pmax
comp=Z,61nm,0.8s,mb5.6
MOS MLR MLR
comp=Z,900nm,22.0s,MS5.0
OBN Obninsk 69.79 339 *i* P **P 09 29 42.1 -0.4**
OBN *e*SS SS 09 43 18.0 +0.3
OBN pmax pmax
comp=Z,36nm,0.7s,mb5.4
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
OBN Obninsk 69.79 339 *e*P **P 09 29 42.4 -0.1**
GUN Gumba 71.66 292 *e*P **P 09 29 55.0 +1.1**
comp=Z,164nm,0.4s
JIRN Jiri 71.66 291 *e*P **P 09 29 55.2 +1.3**
comp=Z,98nm,0.6s,mb5.9
KKN Kakani 72.10 292 *e*P **P 09 29 57.5 +1.0**
comp=Z,54nm,0.4s,mb5.8
PKI Pulchoki 72.19 292 *e*P **P 09 29 57.9 +0.9**
comp=Z,46nm,0.5s,mb5.7
VRHR Novokhopersk 72.21 334 *e*P **P 09 29 56.7 -0.5**
VRHR pmax pmax
comp=Z,20nm,1.1s,mb5.0
VRHR pmax pmax
comp=N,9.0nm,0.4s
VRHR pmax pmax
comp=E,20nm,0.6s
GKN Gorkha 72.31 293 *e*P **P 09 29 58.4 +0.6**
comp=E,42nm,0.6s,mb5.6
DMN Daman 72.33 292 *e*P **P 09 29 58.9 +1.0**
comp=E,15nm,0.4s,mb5.3
VRSR Storozhevoye 72.75 336 *e*P **P 09 30 00.3 -0.1**
VRSR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=E,6.0nm,0.5s
KOLN Koldanda 73.08 293 *e*P **P 09 30 03.0 +0.6**
comp=E,17nm,0.6s,mb5.1
SUW Suwalki 73.33 346 *e*P **P 09 30 02.6 -1.2**
PPT Papeete 73.37 151 LR LR 09 57 09.3
comp=E,150nm,19.2s,MS4.3,baz=346,slow=32
BSEG Bad Segeberg 74.76 354 *e*P **P 09 30 12.3 +0.1**
comp=Z,17nm,0.9s,mb5.0
BSEG Bad Segeberg 74.76 354 *e*P **P 09 30 12.3 +0.1**
BSEG pmax pmax
comp=Z,17nm,0.9s,mb5.0
AKASG Malin Array Be 75.48 342 P **P 09 30 15.8 -0.6**
comp=Z,30nm,0.6s,mb5.4,baz=19,slow=5.8,SNR=98
AKASG LR LR 10 06 04.3
comp=Z,48nm,19.6s,MS3.8,baz=10.0,slow=38
AKASG Malin Array Be 75.48 342 P **P 09 30 15.8 -0.6**
AKASG LR LR 10 06 04.3
AKBB Malin Array Si 75.48 342 *e*P **P 09 30 15.9 -0.4**
NRDL Niedersach Rie 76.21 354 *e*P **P 09 30 21.1 +0.6**
IBBN Ibbenburen 76.52 356 *e*P **P 09 30 22.4 +0.1**
CLZ Clausthal 76.84 354 *e*P **P 09 30 24.2 +0.2**
comp=Z,20nm,1.0s,mb5.0
CLZ Clausthal 76.84 354 *e*P **P 09 30 24.2 +0.2**
CLZ pmax pmax
comp=Z,20nm,1.0s,mb5.0
CLL Collm 77.17 352 *e*P **P 09 30 25.1 -0.8**
comp=Z,9.0nm,1.1s,mb4.6
CLL Collm 77.17 352 P **P 09 30 25.2 -0.7**
comp=Z,logA/T=1.0,mb4.7
CLL *e* 09 30 56.0
CLL Collm 77.17 352 *i* P **P 09 30 25.2 -0.7**
comp=Z,9.0nm,1.0s,mb4.7
CLL *es*PcP 09 30 56.0
CLL Collm 77.17 352 *i* P **P 09 30 25.2 -0.7**
CLL pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
GOF Gofitskoye 77.26 331 *e*P **P 09 30 25.2 -1.2**
LVV L'vov 77.26 345⇓ *i*P **P 09 30 25.8 -0.6**
BUG Bochum--Univer 77.41 356 *e*P **P 09 30 26.9 -0.4**
comp=Z,8.0nm,0.6s,mb4.8
OJC Ojcow 77.50 348 *e*P **P 09 30 27.4 -0.4**
BRG Berggiesshubel 77.52 352 *e*P **P 09 30 27.2 -0.7**
comp=Z,11nm,1.3s,mb4.6
BRG Berggiesshubel 77.52 352 *e*P **P 09 30 27.3 -0.5**
comp=Z,3.7nm,0.8s,mb4.4
BRG Berggiesshubel 77.52 352 *e*P **P 09 30 27.3 -0.6**
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KWP Kalwaria 77.66 346 *e*P **P 09 30 29.1 +0.5**
UPC Upice 77.67 350 *e*P **P 09 30 28.5 -0.2**
DPC Dobruska-Polom 77.80 350 *e*P **P 09 30 29.3 -0.1**
PVCC Panska Ves 77.80 351 *e*P **P 09 30 28.9 -0.5**
MOX Moxa 77.94 353 *e*P **P 09 30 29.9 -0.3**
comp=Z,8.0nm,1.0s,mb4.6
MOX Moxa 77.94 353 *e*P **P 09 30 29.3 -0.9**
comp=Z,11nm,1.1s,mb4.7
MOX Moxa 77.94 353 *e*P **P 09 30 29.3 -0.9**
MOX pmax pmax
comp=Z,11nm,1.1s,mb4.7
OKC Ostrava-Krasne 78.09 349 *e*P **P 09 30 30.7 -0.3**
TANN Tannenbergstha 78.10 352 *e*P **P 09 30 30.9 -0.2**
HGN Heimansgroeve 78.14 357 *e*P **P 09 30 31.0 -0.4**
comp=Z,5.2nm,0.9s,mb4.5
UCC Uccle 78.16 358 P **P 09 30 30.9 -0.5**
NIE Niedzica 78.22 347 *e*P **P 09 30 32.4 +0.7**
MORC Moravsky Berou 78.22 349⇑ *i*P **P 09 30 31.6 -0.2**
MORC Moravsky Berou 78.22 349⇑P **P 09 30 31.6 -0.2**
NKC Novy Kostel 78.28 352 *e*P **P 09 30 31.6 -0.5**
MEM Membach 78.29 357 P **P 09 30 32.1 -0.1**
PRU Pruhonice 78.34 351 *e*P **P 09 30 31.4 -1.0**
PRU *e*PCP PcP 09 30 39.7 -1.9
KIV Kislovodsk 78.36 331⇓ *e*P **P 09 30 33.2 +0.7**
KIV pmax pmax
comp=Z,21nm,1.4s,mb4.9
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.2
KOLS Kolonicke sedl 78.40 346 *e*P **P 09 30 33.0 +0.2**
KOLS pmax pmax
comp=Z,11nm,0.9s,mb4.8
KOLS Kolonicke sedl 78.40 346 *e*P **P 09 30 33.0 +0.2**
comp=Z,10nm,0.9s,mb4.8
SNF Seneffe 78.45 358 P **P 09 30 33.0 0.0**
BCLA Clavier 78.51 357 P **P 09 30 33.1 -0.2**
CRVS Cervenica-Dubn 78.56 346 *e*P **P 09 30 33.8 +0.2**
CRVS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
CRVS Cervenica-Dubn 78.56 346 *e*P **P 09 30 33.8 +0.2**
comp=Z,4.5nm,1.1s,mb4.3
MANZ Manzenberg 78.56 353 *e*P **P 09 30 33.3 -0.3**
TNS Taunus Mts 78.57 355 *e*P **P 09 30 33.4 -0.3**
comp=Z,14nm,1.1s,mb4.8
TNS Taunus Mts 78.57 355 *e*P **P 09 30 33.4 -0.3**
TNS pmax pmax
comp=Z,14nm,1.1s,mb4.8
ROTZ Rotzenmuhle 78.77 353 *e*P **P 09 30 34.8 0.0**
VRAC Vranov 78.79 350 LR LR 10 09 45.7
comp=Z,86nm,20.3s,MS4.1,baz=11,slow=39
VRAC Vranov 78.79 350⇑ *i*P **P 09 30 34.9 0.0**
VRAC Vranov 78.79 350⇑P **P 09 30 34.9 0.0**
GIVF Givet 78.84 357 *e*P **P 09 30 34.9 -0.3**
DOU Dourbes 78.85 358 P **P 09 30 35.4 +0.1**
BAIF Baives 78.90 358 *e*P **P 09 30 35.4 -0.1**
comp=Z,35nm,0.9s,mb5.0
BAIF Baives 78.90 358 *e*P **P 09 30 35.4 -0.1**
BAIF pmax pmax
comp=Z,18nm,0.9s,mb5.0
BAIF Baives 78.90 358 *e*P **P 09 30 35.4 -0.1**
comp=Z,18nm,0.9s,mb5.0
GRA1 Grafenberg Arr 78.92 353 *e*P **P 09 30 35.7 +0.1**
comp=Z,19nm,1.0s,mb5.0
GRF Grafenberg Arr 78.92 353 *e*P **P 09 30 35.7 +0.1**
comp=Z,19nm,1.0s,mb5.0
GRF Grafenberg Arr 78.92 353 *e*P **P 09 30 35.7 +0.1**
GRF pmax pmax
comp=Z,19nm,1.0s,mb5.0
GRF Grafenberg Arr 78.92 353 *e*P **P 09 30 35.7 +0.1**
GRF pmax pmax
comp=Z,19nm,1.0s,mb5.0
TREC Trest 78.93 350 *e*P **P 09 30 34.7 -1.0**
ZEI Tsey 79.05 329 *e*P **P 09 30 36.8 +0.5**
ZEI *e* 09 33 36.9
ZEI pmax pmax
comp=Z,16nm,0.6s,mb5.1
KECS Kecovo 79.11 347 *e*P **P 09 30 36.7 +0.1**
KECS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KECS Kecovo 79.11 347 *e*P **P 09 30 36.7 +0.1**
comp=Z,8.9nm,1.0s,mb4.7
ANN Anapa 79.11 334 *e*P **P 09 30 37.9 +1.2**
ANN *e* pP 09 30 47.7 -1.5
ANN *e* 09 33 37.7
ANN *e*S S 09 40 34.0 +1.0
ANN *e*SS SS 09 45 43.1 +3.6
ANN pmax pmax
comp=Z,41nm,1.0s,mb5.3
ANN MLR MLR
comp=Z,282nm,21.0s,MS4.6
RUP Ruppelstein 79.16 356 *e*P **P 09 30 36.7 -0.2**
TOD Tromm 79.16 355 *e*P **P 09 30 36.7 -0.2**
BURAR Bucovina Array 79.19 343⇑ *i*P **P 09 30 37.5 +0.4**
BURAR Bucovina Array 79.19 343⇑P **P 09 30 37.5 +0.4**
WLF Walferdange 79.23 357 *e*P **P 09 30 37.4 +0.1**
WLF Walferdange 79.23 357 P **P 09 30 37.3 0.0**
KHC Kasperske Hory 79.28 352 *e*P **P 09 30 37.5 -0.1**
KHC Kasperske Hory 79.28 352⇑ *e*P **P 09 30 37.8 +0.2**
VYHS Vyhne 79.32 348 *e*P **P 09 30 37.6 -0.2**
VYHS pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
VYHS Vyhne 79.32 348 *e*P **P 09 30 37.6 -0.2**
comp=Z,5.6nm,1.1s,mb4.4
WET Wettzell 79.33 352 *e*P **P 09 30 37.7 -0.1**
comp=Z,6.0nm,1.1s,mb4.4
WET Wettzell 79.33 352 *e*P **P 09 30 37.7 -0.1**
WET pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
GEC2 GERESS Array S 79.55 351 *e*P **P 09 30 38.7 -0.4**
comp=Z,11nm,1.4s,mb4.6
GEC2 GERESS Array S 79.55 351 *e*P **P 09 30 38.7 -0.4**
GEC2 pmax pmax
comp=Z,11nm,1.4s,mb4.6
GERES GERESS Array B 79.55 351 P **P 09 30 38.2 -0.8**
comp=Z,3.3nm,0.7s,mb4.4,baz=25,slow=5.8,SNR=34
GERES LR LR 10 07 11.8
comp=Z,64nm,21.2s,MS3.9,baz=20,slow=37
SOC Sochi 79.59 332 *e*P **P 09 30 38.6 -0.7**
SOC *e*PPP 09 35 35.9
SOC *e*S S 09 40 35.8 -2.3
SOC pmax pmax
comp=Z,48nm,0.9s,mb5.4
SOC MLR MLR
comp=Z,214nm,19.0s,MS4.5
PSZ Piszkesteto 79.74 347 *e*P **P 09 30 41.0 +0.9**
PSZ pmax pmax
comp=Z,20nm,1.2s,mb4.9
PSZ Piszkesteto 79.74 347 *e*P **P 09 30 41.0 +0.9**
comp=Z,20nm,1.2s,mb4.9
ZST Bratislava 79.83 349 *e*P **P 09 30 40.8 +0.2**
ZST pmax pmax
comp=Z,17nm,1.2s,mb4.8
ZST Bratislava 79.83 349 *e*P **P 09 30 40.8 +0.2**
comp=Z,17nm,1.2s,mb4.8
STU Stuttgart 79.97 354 *e*P **P 09 30 40.9 -0.4**
SRO Srobarova 80.06 348 *e*P **P 09 30 42.6 +0.8**
SRO pmax pmax
comp=Z,14nm,0.9s,mb4.9
SRO Srobarova 80.06 348 *e*P **P 09 30 42.6 +0.8**
comp=Z,14nm,0.9s,mb4.9
FLN La Foliniere 80.23 1 *e*P **P 09 30 42.0 -0.7**
comp=Z,56nm,1.1s,mb5.1
FLN La Foliniere 80.23 1 *e*P **P 09 30 42.0 -0.7**
FLN pmax pmax
comp=Z,28nm,1.1s,mb5.1
FLN La Foliniere 80.23 1 *e*P **P 09 30 42.0 -0.7**
comp=Z,28nm,1.1s,mb5.1
CONA Conrad Observa 80.24 350⇑ *i*P **P 09 30 43.2 +0.4**
comp=Z,11nm,1.1s,mb4.7
LDF La Druitiere 80.40 1 *e*P **P 09 30 42.9 -0.8**
FUR Furstenfeldbru 80.43 353 *e*P **P 09 30 43.5 -0.3**
comp=Z,21nm,1.1s,mb5.0
FUR Furstenfeldbru 80.43 353 *e*P **P 09 30 43.5 -0.3**
FUR pmax pmax
comp=Z,21nm,1.1s,mb5.0
MEZF Maizieres J'vi 80.43 357 *e*P **P 09 30 43.4 -0.4**
comp=Z,27nm,1.0s,mb4.8
MEZF Maizieres J'vi 80.43 357 *e*P **P 09 30 43.4 -0.4**
comp=Z,27nm,1.0s,mb5.1
CDF Champ du Feu 80.44 356 *e*P **P 09 30 43.3 -0.5**
comp=Z,9.5nm,0.7s,mb4.5
CDF Champ du Feu 80.44 356 *e*P **P 09 30 43.3 -0.5**
CDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CDF Champ du Feu 80.44 356 *e*P **P 09 30 43.3 -0.5**
comp=Z,4.8nm,0.7s,mb4.5
BFO Black Forest 80.46 355 *e*P **P 09 30 43.6 -0.4**
comp=Z,9.0nm,1.2s,mb4.6
BFO Black Forest 80.46 355 *e*P **P 09 30 43.6 -0.4**
BFO pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
VRI Vrincioaia 80.59 342⇓ *i*P **P 09 30 45.2 +0.5**
VRI Vrincioaia 80.59 342⇓P **P 09 30 45.2 +0.5**
GRR Gorron 80.60 1 *e*P **P 09 30 44.0 -0.7**
comp=Z,40nm,1.0s,mb5.0
GRR Gorron 80.60 1 *e*P **P 09 30 44.0 -0.7**
GRR pmax pmax
comp=Z,20nm,1.0s,mb5.0
GRR Gorron 80.60 1 *e*P **P 09 30 44.0 -0.7**
comp=Z,20nm,1.0s,mb5.0
ROSF Rostrenen 80.60 3 *e*P **P 09 30 44.3 -0.4**
comp=Z,102nm,1.3s,mb5.3
ROSF Rostrenen 80.60 3 *e*P **P 09 30 44.3 -0.4**
ROSF pmax pmax
comp=Z,51nm,1.3s,mb5.3
ROSF Rostrenen 80.60 3 *e*P **P 09 30 44.3 -0.4**
comp=Z,51nm,1.3s,mb5.3
ECH Echery 80.64 356 *e*P **P 09 30 44.5 -0.4**
THEF They Montfort 80.67 357 *e*P **P 09 30 44.7 -0.4**
SGMF Saint Gilles 80.70 2 *e*P **P 09 30 44.9 -0.4**
HAU Haudompre 80.88 356 *e*P **P 09 30 45.8 -0.4**
HAU *e*R
comp=Z,89nm,23.0s
HAU Haudompre 80.88 356 *e*P **P 09 30 45.8 -0.4**
HAU LR LR
comp=Z,90nm,23.0s,MS4.1
FELD Feldberg im Sc 80.93 355 *e*P **P 09 30 46.9 +0.4**
ARSA Arzberg 80.94 350⇑ *i*P **P 09 30 46.9 +0.4**
comp=Z,6.5nm,0.8s,mb4.6
CFR Carcaliu 80.97 341⇑ *i*P **P 09 30 47.0 +0.3**
CFR Carcaliu 80.97 341⇑P **P 09 30 47.0 +0.3**
QUIF Quistinic 81.02 3 *e*P **P 09 30 46.3 -0.7**
MLR Muntele Rosu 81.11 342 LR LR 10 09 20.5
comp=Z,86nm,19.9s,MS4.1,baz=129,slow=38
MLR Muntele Rosu 81.11 342⇓ *i*P **P 09 30 49.0 +1.6**
MLR Muntele Rosu 81.11 342⇓P **P 09 30 49.0 +1.6**
GNI Garni 81.13 327 *i* P **P 09 30 49.7 +2.2**
GNI pmax pmax
comp=Z,10.0nm,1.1s
WATA Walderalm 81.23 353⇑ *i*P **P 09 30 48.2 +0.1**
comp=Z,13nm,1.1s,mb4.8
WATA Walderalm 81.23 353⇑ *i*P **P 09 30 48.2 +0.1**
WATA pmax pmax
comp=Z,13nm,1.1s,mb4.8
WTTA Wattenberg 81.30 353⇑ *i*P **P 09 30 48.8 +0.4**
comp=Z,28nm,1.2s,mb5.1
WTTA Wattenberg 81.30 353⇑ *i*P **P 09 30 48.8 +0.4**
WTTA pmax pmax
comp=Z,28nm,1.2s,mb5.1
KBA Koelnbreinsper 81.33 351⇑ *i*P **P 09 30 49.4 +0.8**
comp=Z,61nm,1.2s,mb5.4
KBA Koelnbreinsper 81.33 351⇑ *i*P **P 09 30 49.4 +0.8**
KBA pmax pmax
comp=Z,61nm,1.2s,mb5.4
HARR Harsova 81.48 341⇑ *i*P **P 09 30 50.1 +0.7**
HARR Harsova 81.48 341⇑P **P 09 30 50.1 +0.7**
PKSM Moragy 81.59 348⇓ *i*P **P 09 30 49.5 -0.5**
PKSM Moragy 81.59 348⇓P **P 09 30 49.5 -0.4**
PERS Pernice 81.59 350 *e*P **P 09 30 50.1 +0.1**
LOR Lormes 81.70 358 *e*P **P 09 30 49.7 -0.8**
comp=Z,21nm,1.0s,mb4.7
LOR *e*R
comp=Z,100nm,20.0s
LOR *e*R
comp=Z,90nm,21.2s
LOR Lormes 81.70 358 *e*P **P 09 30 49.7 -0.8**
LOR pmax pmax
comp=Z,11nm,1.0s,mb4.7
LOR MLR MLR
comp=Z,90nm,21.3s,MS4.1
LOR Lormes 81.70 358 *e*P **P 09 30 49.7 -0.8**
comp=Z,10nm,1.0s,mb4.7
LOR LR LR
comp=Z,90nm,21.3s,MS4.1
BZS Buzias 81.73 345⇑ *i*P **P 09 30 50.8 +0.1**
BZS Buzias 81.73 345⇑P **P 09 30 50.8 0.0**
GZR Gura Zlata 81.76 345⇓ *i*P **P 09 30 51.5 +0.6**
GZR Gura Zlata 81.76 345⇓P **P 09 30 51.5 +0.6**
WRA Warramunga Arr 81.87 224 P **P 09 30 48.5 -3.0**
comp=Z,1.5nm,0.8s,mb4.0,baz=33,slow=6.1,SNR=11
DAVOX Davos 81.91 354 LR LR 10 12 58.1
comp=Z,44nm,18.5s,MS3.9,baz=244,slow=40
SSF Saint Saulge 81.91 358 *e*P **P 09 30 51.3 -0.4**
PTCC Patocco-Chiusa 82.00 351 P **P 09 30 51.8 -0.3**
comp=Z,9.5nm,0.6s,mb4.9
CABF La Chapelle 82.28 356 *e*P **P 09 30 53.5 -0.1**
comp=Z,25nm,1.0s,mb4.8
CABF La Chapelle 82.28 356 *e*P **P 09 30 53.5 -0.1**
CABF pmax pmax
comp=Z,12nm,1.0s,mb4.8
CABF La Chapelle 82.28 356 *e*P **P 09 30 53.5 -0.1**
comp=Z,12nm,1.0s,mb4.8
SMF Signal de Mont 82.32 358 *e*P **P 09 30 53.5 -0.3**
comp=Z,53nm,1.1s,mb5.1
SMF Signal de Mont 82.32 358 *e*P **P 09 30 53.5 -0.3**
SMF pmax pmax
comp=Z,26nm,1.1s,mb5.1
SMF Signal de Mont 82.32 358 *e*P **P 09 30 53.5 -0.3**
comp=Z,26nm,1.1s,mb5.1
CRES Cresnjev 82.36 350 *e*P **P 09 30 53.5 -0.5**
MFF Saint Martin d 82.39 1 *e*P **P 09 30 53.8 -0.4**
comp=Z,20nm,0.8s,mb4.8
MFF Saint Martin d 82.39 1 *e*P **P 09 30 53.8 -0.4**
MFF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MFF Saint Martin d 82.39 1 *e*P **P 09 30 53.8 -0.4**
comp=Z,9.9nm,0.8s,mb4.8
BGF Bois d'Agland 82.43 359 *e*P **P 09 30 54.0 -0.4**
comp=Z,13nm,0.8s,mb4.6
BGF Bois d'Agland 82.43 359 *e*P **P 09 30 54.0 -0.4**
BGF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BGF Bois d'Agland 82.43 359 *e*P **P 09 30 54.0 -0.4**
comp=Z,6.6nm,0.8s,mb4.6
CTI Castel Tesino 82.51 352 P **P 09 30 54.1 -0.7**
CTI pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
CTI Castel Tesino 82.51 352 P **P 09 30 54.1 -0.7**
comp=Z,6.6nm,0.6s,mb4.8
BOJS Bojanci 82.70 350 *e*P **P 09 30 55.4 -0.4**
TCF Toulx Ste Croi 82.70 359 *e*P **P 09 30 55.4 -0.4**
comp=Z,17nm,0.9s,mb4.8
TCF Toulx Ste Croi 82.70 359 *e*P **P 09 30 55.4 -0.4**
TCF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
TCF Toulx Ste Croi 82.70 359 *e*P **P 09 30 55.4 -0.4**
comp=Z,6.6nm,0.9s,mb4.8
AGO Saint Agoulin 82.93 358 *e*P **P 09 30 57.0 0.0**
PLDF La Plantade 83.00 358 *e*P **P 09 30 57.6 +0.2**
LPL La Plagne 83.35 356 *e*P **P 09 30 59.8 +0.6**
comp=Z,4.1nm,0.5s,mb4.4
LPL La Plagne 83.35 356 *e*P **P 09 30 59.8 +0.6**
LPL pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
LPL La Plagne 83.35 356 *e*P **P 09 30 59.8 +0.6**
comp=Z,2.0nm,0.5s,mb4.4
LPG La Plagne 83.37 356 *e*P **P 09 31 00.1 +0.9**
comp=Z,11nm,0.7s,mb4.7
LPG La Plagne 83.37 356 *e*P **P 09 31 00.1 +0.9**
LPG pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
LPG La Plagne 83.37 356 *e*P **P 09 31 00.1 +0.9**
comp=Z,5.4nm,0.7s,mb4.7
DIVS Divcibare 83.47 346 *i* P **P 09 31 00.3 +0.6**
GRUS Gruza 83.56 346 *i* P **P 09 30 59.6 -0.6**
RJF Les Rejaudoux 83.69 360 *e*P **P 09 31 00.6 -0.3**
RJF *e*R
comp=Z,107nm,20.5s
RJF Les Rejaudoux 83.69 360 *e*P **P 09 31 00.6 -0.3**
RJF LR LR
comp=Z,110nm,20.5s,MS4.2
BBLS Bajina Basta - 83.78 347 *i* P **P 09 31 02.8 +1.5**
BNI Bardonecchia 83.82 356 *e*P **P 09 31 02.7 +1.2**
BNI pmax pmax
comp=Z,16nm,1.0s,mb5.1
BNI Bardonecchia 83.82 356 *e*P **P 09 31 02.7 +1.1**
comp=Z,16nm,1.1s,mb5.1
BOB Bobbio (Coli) 83.94 354 P **P 09 31 01.6 -0.6**
ORIF Oris-en-Rattie 83.98 356 *e*P **P 09 31 03.0 +0.6**
comp=Z,10nm,0.7s,mb4.8
ORIF *e*R
comp=Z,65nm,21.2s
ORIF Oris-en-Rattie 83.98 356 *e*P **P 09 31 03.0 +0.6**
ORIF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
ORIF Oris-en-Rattie 83.98 356 *e*P **P 09 31 03.0 +0.6**
comp=Z,5.2nm,0.7s,mb4.8
LFF La Frestale 84.06 0 *e*P **P 09 31 02.5 -0.3**
comp=Z,19nm,0.6s,mb5.1
LFF La Frestale 84.06 0 *e*P **P 09 31 02.5 -0.3**
LFF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
LFF La Frestale 84.06 0 *e*P **P 09 31 02.5 -0.3**
comp=Z,9.3nm,0.6s,mb5.1
CAF Calviac 84.07 359 *e*P **P 09 31 02.8 0.0**
comp=Z,24nm,1.0s,mb5.0
CAF Calviac 84.07 359 *e*P **P 09 31 02.8 0.0**
CAF pmax pmax
comp=Z,12nm,1.0s,mb5.0
CAF Calviac 84.07 359 *e*P **P 09 31 02.8 0.0**
comp=Z,12nm,1.0s,mb5.0
VIVF Saint-Julien-l 84.09 357 *e*P **P 09 31 02.8 -0.1**
comp=Z,15nm,1.0s,mb4.8
VIVF Saint-Julien-l 84.09 357 *e*P **P 09 31 02.8 -0.1**
VIVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
VIVF Saint-Julien-l 84.09 357 *e*P **P 09 31 02.8 -0.1**
comp=Z,7.7nm,1.0s,mb4.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	84.30	232	eP	P	09 31 02.3	-1.7
	comp=Z,15nm,1.3s,mb5.0						
SGKT	Sivrigoynuk	84.46	337	i P	P	09 31 05.4	+0.6
SEI	Scarperia	84.51	352	P	P	09 31 06.6	+1.5
	comp=Z,9.0nm,0.1s,mb5.8						
OG25	Le Caire	84.52	356	eP	P	09 31 02.3	-2.8
SFI	Santa Sofia	84.62	352	P	P	09 31 06.4	+0.8
SFI				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.3						
SFI	Santa Sofia	84.62	352	P	P	09 31 06.4	+0.8
	comp=Z,14nm,0.6s,mb5.3						
FSSB	Fossombrone	84.74	351	P	P	09 31 06.7	+0.4
	comp=Z,8.5nm,0.5s,mb5.1						
MALT	Malatya	84.82	331	⇑iP	P	09 31 07.4	+0.8
MALT	Malatya	84.82	331	eP	P	09 31 07.5	+0.9
TOUF	Mont Tournerai	84.83	355	eP	P	09 31 06.6	-0.1
SAOF	Saorge	84.84	355	eP	P	09 31 06.3	-0.4
BRTR	Keskin Array B	84.86	335	P	P	09 31 06.0	-0.8
	comp=Z,11nm,0.8s,mb5.0,baz=51,slow=2.9,SNR=46						
BRTR				LR	LR	10 11 43.4	
	comp=Z,30nm,19.9s,MS3.7,baz=282,slow=38						
BRTR	Keskin Array B	84.86	335	⇑eP	P	09 31 07.0	+0.2
LASF	Ste Croix	84.89	358	eP	P	09 31 07.0	0.0
	comp=Z,12nm,0.8s,mb4.8						
SMRF	Simiane la Rot	84.94	357	eP	P	09 31 07.9	+0.7
	comp=Z,45nm,1.0s,mb5.2						
SMRF	Simiane la Rot	84.94	357	eP	P	09 31 07.9	+0.7
	comp=Z,45nm,1.0s,mb5.5						
LUCF	Luceram	84.94	355	eP	P	09 31 06.8	-0.4
MVIF	Mont Vial	84.95	355	eP	P	09 31 07.0	-0.3
SBF	Sospel	84.97	355	eP	P	09 31 06.9	-0.5
	comp=Z,59nm,0.9s,mb5.4						
SBF	Sospel	84.97	355	eP	P	09 31 06.9	-0.5
SBF				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.4						
SBF	Sospel	84.97	355	eP	P	09 31 06.9	-0.5
	comp=Z,30nm,0.9s,mb5.4						
VILF	Villemus	85.05	356	eP	P	09 31 08.7	+0.9
REVF	Revere	85.09	355	eP	P	09 31 08.1	+0.1
CSNT	Castellina Chi	85.09	352	P	P	09 31 07.1	-0.9
	comp=Z,18nm,0.7s,mb5.3						
SNTG	Esanatoglia	85.16	351	P	P	09 31 08.9	+0.6
	comp=Z,18nm,0.5s,mb5.5						
TAVF	Tavernes	85.28	356	eP	P	09 31 08.1	-0.8
TREF	Trevaresse	85.30	357	eP	P	09 31 09.6	+0.6
FRF	La Foret Royal	85.31	356	eP	P	09 31 08.6	-0.5
	comp=Z,27nm,0.9s,mb5.1						
FRF	La Foret Royal	85.31	356	eP	P	09 31 08.6	-0.5
FRF				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.1						
FRF	La Foret Royal	85.31	356	eP	P	09 31 08.6	-0.5
	comp=Z,13nm,0.9s,mb5.1						
ASAR	Alice Springs	85.34	222	P	P	09 31 07.2	-2.1
	comp=Z,1.0nm,0.4s,mb4.3,baz=22,slow=5.5,SNR=16						
PUYF	Puyloubier	85.38	356	eP	P	09 31 09.8	+0.4
EPON	Pontenova	85.42	6	P	P	09 31 09.2	-0.4
	comp=Z,6.5nm,0.5s,mb5.0						
GRFL	Gerfalco	85.44	353	P	P	09 31 09.7	0.0
	comp=Z,26nm,0.7s,mb5.5						
GELF	Grande-Etoile	85.53	357	eP	P	09 31 10.7	+0.5
LMR	La Mourre	85.54	356	eP	P	09 31 09.9	-0.3
	comp=Z,22nm,0.8s,mb5.1						
LMR	La Mourre	85.54	356	eP	P	09 31 09.9	-0.3
LMR				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.1						
LMR	La Mourre	85.54	356	eP	P	09 31 09.9	-0.3
	comp=Z,11nm,0.8s,mb5.2						
EARI	Arriondas	85.55	4	P	P	09 31 11.5	+1.2
	comp=Z,3.7nm,0.5s,mb4.9						
NRCA	Norcia	85.56	351	P	P	09 31 10.6	+0.3
	comp=Z,9.5nm,0.6s,mb5.2						
ULDT	Uludag	85.57	339	i P	P	09 31 11.1	+0.7
MTLF	Montolieu	85.65	359	eP	P	09 31 10.8	0.0
	comp=Z,12nm,0.8s,mb4.9						
MTLF	Montolieu	85.65	359	eP	P	09 31 10.8	0.0
MTLF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
MTLF	Montolieu	85.65	359	eP	P	09 31 10.8	0.0
	comp=Z,6.1nm,0.8s,mb4.9						
ELAN	Lanestosa	85.69	3	P	P	09 31 10.5	-0.5
	comp=Z,17nm,0.7s,mb5.4						
EALK	Alkurruntz	85.76	2	P	P	09 31 12.7	+1.4
	comp=Z,7.2nm,0.6s,mb5.1						
ELIZ	Elizondo	85.81	2	P	P	09 31 14.3	+2.7
ELIZ				pmax	pmax		
	comp=Z,3.0nm,0.2s,mb5.2						
ELIZ	Elizondo	85.81	2	P	P	09 31 14.3	+2.7
	comp=Z,2.5nm,0.2s,mb5.1						
EPF	Esparros	85.97	0	eP	P	09 31 11.5	-0.9
	comp=Z,14nm,1.1s,mb4.8						
EPF	Esparros	85.97	0	eP	P	09 31 11.5	-0.9
EPF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
EPF	Esparros	85.97	0	eP	P	09 31 11.5	-0.9
	comp=Z,7.1nm,1.0s,mb4.8						
AQU	L'Aquila	86.01	351	eP	P	09 31 13.2	+0.6
ETSF	Etsaut	86.09	1	eP	P	09 31 13.2	+0.2
	comp=Z,11nm,0.6s,mb5.0						
ETSF	Etsaut	86.09	1	eP	P	09 31 13.2	+0.2
ETSF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb5.0						
ETSF	Etsaut	86.09	1	eP	P	09 31 13.2	+0.2
	comp=Z,5.6nm,0.6s,mb5.0						
PGF	Pioggiola	86.18	354	eP	P	09 31 13.1	-0.3
	comp=Z,35nm,0.7s,mb5.4						
PGF	Pioggiola	86.18	354	eP	P	09 31 13.1	-0.3
PGF				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.4						
PGF	Pioggiola	86.18	354	eP	P	09 31 13.1	-0.3
	comp=Z,17nm,0.7s,mb5.4						
EBIE	Bielsa	86.31	1	P	P	09 31 15.0	+0.9
	comp=Z,5.3nm,0.6s,mb5.0						
CORF	Corte	86.42	354	eP	P	09 31 14.2	-0.4
ECAL	Calabor	86.82	6	P	P	09 31 17.3	+0.8
	comp=Z,28nm,1.7s,mb5.2						
EMIR	Miracle	87.08	360	P	P	09 31 19.9	+2.0
	comp=Z,24nm,1.4s,mb5.2						
ESAC	San Caprasio	87.27	1	P	P	09 31 19.5	+0.8
	comp=Z,12nm,0.6s,mb5.3						
PVRL	Vila Real	87.42	6	eP	P	09 31 19.7	+0.2
	comp=Z,18nm,1.4s,mb5.1						
EPOB	Poblet	87.65	360	P	P	09 31 20.1	-0.4
	comp=Z,14nm,1.7s,mb4.9						
ERTA	Horta de San J	88.04	0	P	P	09 31 21.2	-1.2
	comp=Z,4.2nm,3.2s						
GUD	Guadarrama	88.25	4	P	P	09 31 23.3	-0.1
GUD				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.8						
GUD	Guadarrama	88.25	4	P	P	09 31 23.3	-0.1
	comp=Z,5.1nm,0.8s,mb4.8						
MTE	Manteigas	88.30	6	eP	P	09 31 23.5	-0.2
	comp=Z,18nm,1.5s,mb5.1						
PCBR	Castelo Branco	88.86	6	eP	P	09 31 26.4	+0.1
	comp=Z,16nm,2.5s,mb4.9						
ESDC	Sonseca Array	89.22	4	P	P	09 31 26.6	-1.4
	comp=Z,1.5nm,0.5s,mb4.6,baz=355,slow=4.3,SNR=20						
ESDC	Sonseca Array	89.22	4	P	P	09 31 27.4	-0.6
	comp=Z,2.3nm,0.6s,mb4.7						
ECHE	Chera	89.39	1	P	P	09 31 28.7	-0.1
ECHE				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.9						
ECHE	Chera	89.39	1	P	P	09 31 28.7	0.0
	comp=Z,7.4nm,1.1s,mb4.9						
STKA	Stephens Creek	89.81	213	P	P	09 31 28.6	-2.1
	comp=Z,4.4nm,0.8s,mb4.8,baz=303,slow=2.9,SNR=5.3						
EVIA	Vianos	90.31	3	P	P	09 31 33.0	-0.1
MMAI	Mount Meron Ar	90.64	332	LR	LR	10 17 59.4	
	comp=Z,44nm,18.3s,MS3.9,baz=85,slow=39						
EADA	Adamuz	90.70	4	P	P	09 31 33.9	-0.9
	comp=Z,2.1nm,0.7s,mb4.6						
IDI	Anoyia	91.15	341	LR	LR	10 18 10.3	
	comp=Z,47nm,18.3s,MS4.0,baz=298,slow=39						
MDT	Midelt	96.03	5	LR	LR	10 18 48.5	
	comp=Z,90nm,18.3s,MS4.3,baz=308,slow=38						
TORD	Torodi Ar. Bea	115.74	359	PKP	PKPdf	09 37 12.5	-1.9
	comp=Z,0.3nm,0.4s,baz=354,slow=2.3,SNR=9.8						
DBIC	Dimbokro	121.97	7	PKP	PKPdf	09 37 25.5	-0.9
	comp=Z,1.8nm,0.4s,baz=141,slow=7.4,SNR=10						
TSUM	Tsumeb	145.28	331	ePKPbc	PKPbc	09 38 09.6	+0.1
MAW	Mawson	146.35	218	PKPbc	PKPbc	09 38 10.0	-2.8
	comp=Z,5.5nm,0.8s,baz=28,slow=5.0,SNR=4.2						

*CSEM **09** 09:20:01.1±0.8, 3859N×2931W, h9km±6km, ML1.6, Error ellipse: s-maj=12.0km s-min=7.1km az=12.0, After PDA*
*PDA **09** 09:20:01.1±0.8, 3859N×2931W, h9km±6km, MD3.1, ML1.6, Error ellipse: s-maj=12.0km s-min=7.1km az=12.0*

SVSA 09 09:20:01.1±0.8, 3859N×2931W, h9km±6km, MD3.1, ML1.6, Error ellipse: s-maj=12.0km s-min=7.1km az=12.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTCA	Ponta do Capel	0.40	91	eP	Pg	09 20 08.2	-0.7
PTCA				eS	Sg	09 20 13.1	-1.1
PTCA							
	24nm,0.2s						
PTCA	Ponta do Capel	0.40	91	eP	Pg	09 20 08.2	-0.7
PTCA				eS	Sg	09 20 13.1	-1.1
HOR	Horta	0.54	97	erx		09 20 16.6	
PCND	Candelaria	0.68	100	eS	Sg	09 20 20.5	-2.4
PCND							
	9.6nm,0.1s						
PICO	Pico	0.70	97	eP	Pg	09 20 12.3	-2.3
PICO				eS	Sg	09 20 20.6	-3.1
PTEI	Pico do Teixo	0.75	97	eS	Sg	09 20 22.2	-3.2
PTEI							
	18nm,0.3s						
ROSA	Rosais	0.84	81	eP	Pg	09 20 14.2	-3.2
ROSA				eS	Sg	09 20 24.4	-3.9

NDI 09 09:28:09.7±3.2, 3237N×8666E, h10km, mb4.8, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	Shillong	8.18	145	eP	Pn	09 30 07.8	-0.6
SMLA	Simla	8.18	264	eP	Pn	09 30 07.9	-0.6
BOK	Bokaro	8.57	185	eP	Pn	09 30 12.9	-1.0
BOK				AMb	AMB	09 30 13.8	
	comp=Z,18nm,1.5s						
BOK				ex	x	09 32 01.9	
NDI	New Delhi	8.94	248	eP	Pn	09 30 17.1	-1.7
NDI				AMb	AMB	09 30 20.3	
	comp=Z,29nm,0.9s						
BLSP	Bilaspur	10.97	203	eP	Pn	09 30 45.2	-1.4
BLSP				AMb	AMB	09 30 47.1	
	comp=Z,19nm,1.6s						
AJM	Ajmer	12.01	244	eP	Pn	09 31 00.7	-0.1
AJM				AMb	AMB	09 31 23.9	
	comp=Z,17nm,0.7s						
BHPL	Bhopal	12.22	224	ex	x	09 30 41.5	
BHPL				AMb	AMB	09 30 44.1	
	comp=Z,30nm,0.9s						
BHPL				eS	Sn	09 33 09.0	-11
NGP	Nagpur	13.07	213	eP	Pn	09 31 16.2	+0.8
NGP				AMb	AMB	09 31 39.8	
	comp=Z,28nm,2.1s						

IDC 09 09:37:11.4±4.0, 423S×15366E, h0km, mb4.4/2, mb1 4.7/2, mb1mx3.8/14, mbtmp4.5/2, Error ellipse: s-maj=187.3km s-min=48.8km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.46	229	P	P	09 42 33.1	+1.2
	2.6nm,0.7s,baz=54,slow=9.8,SNR=29						
ASAR	Alice Springs	27.14	223	P	P	09 42 56.0	-0.2
	1.1nm,0.8s,baz=55,slow=8.7,SNR=13						
TORD	Torodi Ar. Bea	150.93	290	PKPbc	PKPbc	09 57 06.8	+0.8
	0.3nm,0.4s,baz=79,slow=1.7,SNR=7.1						

*IDC **09** 09:48:44.6±0.6, 152S×9940E, h0km, mb4.4/18, mb1 4.5/19, mb1mx4.3/24, mbtmp4.3/19, ML3.2/1, Error ellipse: s-maj=29.2km s-min=13.0km az=50.0*
*ISCJB **09** 09:48:46.8±4.2, 144S±007×995E±0.1, h25km±29km, mb4.3/22, Error ellipse: s-maj=18.3km s-min=8.8km az=127.1*
*NEIC **09** 09:48:49.1±2.9, 151S×9943E, h30km±19km, mb4.4/6, Error ellipse: s-maj=13.3km s-min=5.4km az=52.0*

ISC 09 09:48:48.9±4.5, 147S±007×994E±01, h26km±31km, n38, σ0s53/31, mb4.3/22, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	4.28	353	Pn	Pn	09 49 51.9	-0.4
	1.5nm,0.3s,baz=175,slow=11,SNR=4.6						
KULM	Kulim	6.82	10	ePn	Pn	09 50 27.2	0.0
KULM				eSn	Sn	09 51 44.0	0.0
KKM	Kota Kinabalu	18.33	66	eP	Pn	09 53 02.0	+0.8
FITZ	Fitzroy Crossi	30.57	124	eP	P	09 55 01.8	+1.5
	6.9nm,0.9s,mb4.5						
FITZ	Fitzroy Crossi	30.57	124	P	P	09 55 00.6	+0.3
	2.4nm,0.9s,mb4.0,baz=304,slow=17,SNR=3.9						
WRA	Warramunga Arr	38.74	121	P	P	09 56 10.4	-0.4
	2.8nm,0.5s,mb4.2,baz=302,slow=9.1,SNR=29						
WRA				PcP	PcP	09 58 22.4	+0.2
	0.7nm,0.8s,baz=309,slow=2.3,SNR=4.0						
WB2	Warramunga Arr	38.75	121	eP	P	09 56 10.1	-0.8
ASPA	Alice Springs	40.01	126	eP	P	09 56 21.4	0.0
AS31	Alice Springs	40.01	126	eP	P	09 56 21.4	-0.1
ASAR	Alice Springs	40.01	126	P	P	09 56 21.4	-0.1
	2.0nm,0.7s,mb4.0,baz=301,slow=7.8,SNR=21						
ASAR				PcP	PcP	09 58 27.6	+1.4
	1.3nm,0.9s,baz=319,slow=1.8,SNR=5.3						
SONM	Songino Array	49.48	6	P	P	09 57 37.3	+0.4
	1.3nm,0.6s,mb4.1,baz=191,slow=8.8,SNR=9.0						
SONM				PcP	PcP	09 58 58.6	-0.1
	1.3nm,0.6s,baz=188,slow=3.9,SNR=3.7						
ULN	Ulaanbaatar	49.58	7	eP	P	09 57 38.2	+0.5
	2.9nm,0.8s,mb4.4						
STKA	Stephens Creek	49.91	132	eP	P	09 57 39.6	-0.6
	5.0nm,1.4s,mb4.3						
STKA	Stephens Creek	49.91	132	P	P	09 57 40.4	+0.2
	5.6nm,0.9s,mb4.6,baz=50,slow=13,SNR=6.7						
MKAR	Makanchi Array	50.37	345	P	P	09 57 43.9	+0.2
	3.6nm,0.5s,mb4.6,baz=145,slow=7.2,SNR=33						
KURK	Kurchatov	54.95	344	eP	P	09 58 17.1	-0.4
	5.3nm,0.8s,mb4.6						
ZAL	Zalesovo	56.54	350	P	P	09 58 28.4	-0.5
	3.8nm,0.4s,mb4.8,baz=313,slow=4.8,SNR=9.1						
BVAR	Borovoye Array	59.50	340	P	P	09 58 49.3	-0.4
	1.8nm,0.6s,mb4.3,baz=140,slow=7.7,SNR=9.6						
CHKZ	Chkalovo	59.96	341	eP	P	09 58 52.4	-0.5
	1.9nm,0.7s,mb4.2						
KMBO	Kilima Mbogo	62.17	270	P	P	09 59 08.4	+0.5
	3.5nm,0.8s,mb4.5,baz=65,slow=8.2,SNR=7.9						
BRTR	Keskin Array B	72.56	312	P	P	10 00 12.9	-0.6
	1.1nm,0.6s,mb4.0,baz=129,slow=7.1,SNR=5.2						
IDI	Anoyia	78.28	306	P	P	10 00 47.0	+0.6
	5.8nm,1.0s,mb4.5,baz=123,slow=7.8,SNR=5.5						
MLR	Muntele Rosu	79.54	317	P	P	10 00 54.1	+0.7
	3.9nm,0.7s,mb4.4,baz=63,slow=4.5,SNR=5.8						
VNDA	Vanda	82.78	169	P	P	10 01 10.4	-0.2
	1.1nm,0.8s,mb4.0,baz=331,slow=4.1,SNR=4.0						
FINES	FINESS Array B	83.39	332	P	P	10 01 13.8	+0.1
	1.5nm,0.5s,mb4.3,baz=101,slow=6.0,SNR=24						
KAF	Kangasniemi	83.46	333	ep	P	10 01 13.6	-0.5
	4.2nm,0.5s,mb4.7						
ARCES	ARCESS Array B	85.79	340	P	P	10 01 24.9	-1.0
	2.1nm,0.9s,mb4.3,baz=98,slow=7.5,SNR=4.4						
GERES	GERESS Array B	88.29	319	P	P	10 01 38.3	+0.3
	0.7nm,0.7s,mb4.0,baz=94,slow=4.0,SNR=8.0						
HFS	Hagfors	89.14	330	P	P	10 01 42.6	+0.6
	1.2nm,0.7s,mb4.3,baz=101,slow=3.0,SNR=6.3						
DAVOX	Davos	90.76	317	P	P	10 01 50.3	+0.7
	1.7nm,0.5s,mb4.7,baz=354,slow=18,SNR=5.3						
CPUP	Villa Florida	144.41	217	PKP	PKPdf	10 08 22.3	-0.4
	9.4nm,0.9s,baz=116,slow=2.3,SNR=14						
CPUP	Villa Florida	144.41	217	PKP	PKPdf	10 08 22.3	-0.4
MIAR	Mount Ida	144.92	19	ePKPbc	PKPdf	10 08 23.3	-0.3
TZTN	Tazewell	144.99	4	ePKPbc	PKPdf	10 08 23.1	-0.6
JCT	Junction City	145.86	30	ePKPbc	PKPbc	10 08 27.1	+1.3
PLAL	Pickwick Lake	145.93	11	ePKPbc	PKPbc	10 08 25.8	-0.2
CPCT	Cooper Cave	145.99	6	ePKPbc	PKPbc	10 08 27.0	+0.9
OXF	Oxford	146.10	13	ePKPbc	PKPbc	10 08 26.8	+0.2

*LDG **09** 10:00:34.7±0.1, 4566N×089W, h2km, Md2.6/3, Ml2.5/19, Error ellipse: s-maj=2.6km s-min=1.7km az=53.0*
*STR **09** 10:00:35.9±0.2, 4565N×097W, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **09** 10:00:35.9, 4565N×097W, h5km, ML2.5(LDG), ML2.8(STR), After STR.*
*MDD **09** 10:00:38.9±0.8, 4572N×061W, h10km, mbLg1.9/10, Error ellipse: s-maj=7.8km s-min=4.7km az=91.0*

CSEM 09 10:00:34.6±0.1, 4565N×088W, h5km, ML2.6/15, Error ellipse: s-maj=2.4km s-min=1.5km az=49.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OLEF	Ile d'Oleron	0.44	312	Pg	Pg	10 00 43.2	0.0
OLEF				Sg	Sg	10 00 49.6	+0.7
MATF	Mathat	0.45	66	Pg	Pg	10 00 46.1	+2.8
MATF				Sg	Sg	10 00 52.7	+3.5
CHIF	Chize	0.59	34	Pg	Pg	10 00 47.9	+2.0
CHIF				Sg	Sg	10 00 56.2	+2.7
LRYF	La Roche-sur-Y	1.04	334	Pg	Pg	10 00 55.2	+0.6
LRYF				Sg	Sg	10 01 09.3	+1.2
MFF	Saint Martin d	1.08	28	ePg	Pg	10 00 56.2	+0.8
MFF				eSg	Sg	10 01 09.6	+0.2
	15nm,0.2s						
MFF	Saint Martin d	1.08	28	ePg	Pg	10 00 56.2	+0.8
MFF				eSg	Sg	10 01 09.6	+0.2
	7.3nm,0.2s						
LFF	La Frestale	1.34	121	ePg	Pg	10 01 00.8	+0.4
LFF				eSn	Sn	10 01 16.2	-2.0
LFF				eSg	Sg	10 01 17.7	-0.1
RJF	Les Rejaudoux	1.72	101	ePg	Pg	10 01 07.2	-0.3
RJF				eSg	Sg	10 01 29.5	-0.3
	10nm,0.2s						
RJF	Les Rejaudoux	1.72	101	ePg	Pg	10 01 07.2	-0.3
RJF				eSg	Sg	10 01 29.5	-0.3
	5.2nm,0.2s						
CAF	Calviac	2.20	108	ePg	Pg	10 01 16.3	-0.4
CAF				eSg	Sg	10 01 43.2	-2.0
	6.5nm,0.2s						
CAF	Calviac	2.20	108	ePg	Pg	10 01 16.3	-0.4
CAF				eSg	Sg	10 01 43.2	-2.0
	3.2nm,0.2s						
TCF	Toulx Ste Croi	2.25	72	ePg	Pg	10 01 16.2	-1.5
TCF				eSn	Sn	10 01 36.6	-3.9
TCF				eSg	Sg	10 01 44.0	-2.8
	2.1nm,0.2s						
TCF	Toulx Ste Croi	2.25	72	Pn	Pn	10 01 12.5	+0.1
TCF				Pg	Pg	10 01 16.2	-1.5
TCF				Sn	Sn	10 01 36.6	-3.9
TCF				Lg		10 01 44.0	
	1.1nm,0.2s						
TCF	Toulx Ste Croi	2.25	72	ePn	Pn	10 01 12.5	+0.1
TCF				ePg	Pg	10 01 16.2	-1.5
TCF				eSn	Sn	10 01 36.6	-3.9
TCF				eSg	Sg	10 01 44.0	-2.8
TCF	Toulx Ste Croi	2.25	72	ePg	Pg	10 01 16.2	-1.5
TCF				eSn	Sn	10 01 36.6	-3.9
TCF				eSg	Sg	10 01 44.0	-2.8
	1.0nm,0.2s						
EALK	Alkurruntz	2.47	191	Pn	Pn	10 01 21.4	+6.0
	0.2nm,0.1s,SNR=7.9						
EALK				Sn	Sn	10 01 49.6	+3.6
	2.6nm,0.2s,SNR=5.9						
ELIZ	Elizondo	2.53	191	Sn	Sn	10 01 52.6	+5.2
	0.9nm,0.1s,SNR=7.9						
GRR	Gorron	2.74	0	ePg	Pg	10 01 25.2	-2.0
GRR				eSn	Sn	10 01 51.1	-1.6
GRR				eSg	Sg	10 01 59.6	-3.1
	2.0nm,0.1s						
GRR	Gorron	2.74	0	Pg	Pg	10 01 25.2	-2.0
GRR				Sn	Sn	10 01 51.1	-1.6
GRR	Gorron	2.74	0	ePn	Pn	10 01 17.7	-1.5
GRR				ePg	Pg	10 01 25.2	-2.0
GRR				eSn	Sn	10 01 51.1	-1.6
GRR				eSg	Sg	10 01 59.6	-3.1
GRR	Gorron	2.74	0	ePg	Pg	10 01 25.2	-2.0
GRR				eSn	Sn	10 01 51.1	-1.6
GRR				eSg	Sg	10 01 59.6	-3.1
	1.0nm,0.1s						
BGF	Bois d'Agland	2.75	69	ePg	Pg	10 01 25.9	-1.3
BGF				eSn	Sn	10 01 48.9	-3.9
BGF				eSg	Sg	10 02 00.7	-2.1
	9.6nm,0.3s						
BGF	Bois d'Agland	2.75	69	Pn	Pn	10 01 18.6	-0.7
BGF				Pg	Pg	10 01 25.9	-1.3
BGF				Sn	Sn	10 01 48.9	-3.9
BGF				Lg		10 02 00.7	
	4.8nm,0.3s						
BGF	Bois d'Agland	2.75	69	ePn	Pn	10 01 18.6	-0.7
BGF				ePg	Pg	10 01 25.9	-1.3
BGF				eSn	Sn	10 01 48.9	-3.9
BGF				eSg	Sg	10 02 00.7	-2.1
BGF	Bois d'Agland	2.75	69	ePg	Pg	10 01 25.9	-1.3
BGF				eSn	Sn	10 01 48.9	-3.9
BGF				eSg	Sg	10 02 00.7	-2.1
	4.8nm,0.3s						
ETSF	Etsaut	2.76	175	ePg	Pg	10 01 25.3	-2.1
ETSF				eSn	Sn	10 01 48.8	-4.3
ETSF				eSg	Sg	10 02 00.4	-2.8
	1.6nm,0.2s						
ETSF	Etsaut	2.76	175	ePg	Pg	10 01 25.3	-2.1
ETSF				eSn	Sn	10 01 48.8	-4.3
ETSF				eSg	Sg	10 02 00.4	-2.8
	0.8nm,0.2s						
EPF	Esparros	2.76	161	ePg	Pg	10 01 26.1	-1.4
EPF				eSn	Sn	10 01 51.2	-1.9
EPF				eSg	Sg	10 02 01.4	-1.8
	3.0nm,0.2s						
EPF	Esparros	2.76	161	ePg	Pg	10 01 26.1	-1.4
EPF				eSn	Sn	10 01 51.2	-1.9
EPF				eSg	Sg	10 02 01.4	-1.8
	1.5nm,0.2s						
QUIF	Quistinic	2.76	326	ePg	Pg	10 01 25.4	-2.1
QUIF				eSn	Sn	10 01 49.8	-3.4
QUIF				eSg	Sg	10 02 00.5	-2.8
	2.9nm,0.2s						
QUIF	Quistinic	2.76	326	Pn	Pn	10 01 18.0	-1.5
QUIF				Pg	Pg	10 01 25.4	-2.1
QUIF				Sn	Sn	10 01 49.8	-3.4
QUIF				Lg		10 02 00.5	
	1.4nm,0.2s						
QUIF	Quistinic	2.76	326	ePn	Pn	10 01 18.0	-1.5
QUIF				ePg	Pg	10 01 25.4	-2.1
QUIF				eSn	Sn	10 01 49.8	-3.4
QUIF				eSg	Sg	10 02 00.5	-2.8
QUIF	Quistinic	2.76	326	ePg	Pg	10 01 25.4	-2.1
QUIF				eSn	Sn	10 01 49.8	-3.4
SGMF	Saint Gilles	2.85	337	ePg	Pg	10 01 27.8	-1.4
SGMF				eSg	Sg	10 02 01.0	-5.2
	4.3nm,0.3s						
SGMF	Saint Gilles	2.85	337	Pn	Pn	10 01 18.7	-2.0
SGMF				Pg	Pg	10 01 27.8	-1.4
SGMF				Lg		10 02 01.0	
	2.2nm,0.3s						
SGMF	Saint Gilles	2.85	337	ePn	Pn	10 01 18.7	-2.0
SGMF				ePg	Pg	10 01 27.8	-1.4
SGMF				eSg	Sg	10 02 01.0	-5.2
SGMF	Saint Gilles	2.85	337	ePg	Pg	10 01 27.8	-1.4
SGMF				eSg	Sg	10 02 01.0	-5.2
	2.2nm,0.3s						
LBL	Lubilhac	2.93	97	Pn	Pn	10 01 22.3	+0.4
LDF	La Druitiere	2.99	10	ePg	Pg	10 01 29.9	-2.1
LDF				eSn	Sn	10 01 56.0	-2.9
LDF				eSg	Sg	10 02 07.5	-3.2
	3.1nm,0.3s						
LDF	La Druitiere	2.99	10	ePn	Pn	10 01 21.2	-1.5
LDF				ePg	Pg	10 01 29.9	-2.1
LDF				eSn	Sn	10 01 56.0	-2.9
LDF				eSg	Sg	10 02 07.5	-3.2
LDF	La Druitiere	2.99	10	ePg	Pg	10 01 29.9	-2.1
LDF				eSn	Sn	10 01 56.0	-2.9
LDF				eSg	Sg	10 02 07.5	-3.2
	1.5nm,0.3s						
EBIE	Bielsa	3.05	166	Pn	Pn	10 01 26.2	+2.7
	0.1nm,0.0s,SNR=7.9						
EBIE				Sn	Sn	10 02 02.9	+2.6
	0.5nm,0.1s,SNR=7.9						
FLN	La Foliniere	3.13	5	eSn	Sn	10 01 58.4	-3.9
FLN				eSg	Sg	10 02 12.4	-2.7
	3.4nm,0.2s						
FLN	La Foliniere	3.13	5	eSn	Sn	10 01 58.4	-3.9
FLN				eSg	Sg	10 02 12.4	-2.7
	1.7nm,0.2s						
ROSF	Rostrenen	3.15	329	ePg	Pg	10 01 32.7	-2.3
ROSF				eSn	Sn	10 01 57.5	-5.3
ROSF				eSg	Sg	10 02 13.2	-2.6
ROSF	Rostrenen	3.15	329	ePn	Pn	10 01 23.9	-1.0
ROSF				ePg	Pg	10 01 32.7	-2.3
ROSF				eSn	Sn	10 01 57.5	-5.3
ROSF				eSg	Sg	10 02 13.2	-2.6
ROSF	Rostrenen	3.15	329	ePg	Pg	10 01 32.7	-2.3
ROSF				eSn	Sn	10 01 57.5	-5.3
ROSF				eSg	Sg	10 02 13.2	-2.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MTLF	Montolieu	3.20	135	ePg	Pg	10 01 34.4	-1.5
MTLF				eSn	Sn	10 02 00.9	-3.1
MTLF				eSg	Sg	10 02 14.1	-3.2
	2.3nm,0.3s						
MTLF	Montolieu	3.20	135	Pg	Pg	10 01 34.4	-1.5
MTLF				Sn	Sn	10 02 00.9	-3.1
MTLF	Montolieu	3.20	135	ePn	Pn	10 01 22.9	-2.6
MTLF				ePg	Pg	10 01 34.4	-1.5
MTLF				eSn	Sn	10 02 00.9	-3.1
MTLF				eSg	Sg	10 02 14.1	-3.2
MTLF	Montolieu	3.20	135	ePg	Pg	10 01 34.4	-1.5
MTLF				eSn	Sn	10 02 00.9	-3.1
MTLF				eSg	Sg	10 02 14.1	-3.2
	1.1nm,0.3s						
SSF	Saint Saulge	3.35	63	ePg	Pg	10 01 35.8	-3.0
SSF				eSn	Sn	10 02 04.3	-3.4
SSF				eSg	Sg	10 02 18.6	-3.6
	1.2nm,0.2s						
SSF	Saint Saulge	3.35	63	Pn	Pn	10 01 27.0	-0.6
SSF				Pg	Pg	10 01 35.8	-3.0
SSF				Sn	Sn	10 02 04.3	-3.4
SSF				Lg		10 02 18.6	
	0.6nm,0.2s						
SSF	Saint Saulge	3.35	63	ePn	Pn	10 01 27.0	-0.6
SSF				ePg	Pg	10 01 35.8	-3.0
SSF				eSn	Sn	10 02 04.3	-3.4
SSF				eSg	Sg	10 02 18.6	-3.6
SSF	Saint Saulge	3.35	63	ePn	Pn	10 01 27.0	-0.6
SSF	Saint Saulge	3.35	63	ePg	Pg	10 01 35.8	-3.0
SSF				eSn	Sn	10 02 04.3	-3.4
SSF				eSg	Sg	10 02 18.6	-3.6
	0.6nm,0.2s						
SMF	Signal de Mont	3.43	71	ePg	Pg	10 01 36.8	-3.5
SMF				eSn	Sn	10 02 04.7	-5.0
SMF				eSg	Sg	10 02 20.9	-3.8
	1.5nm,0.2s						
SMF	Signal de Mont	3.43	71	ePn	Pn	10 01 25.6	-3.1
SMF				ePg	Pg	10 01 36.8	-3.5
SMF				eSn	Sn	10 02 04.7	-5.0
SMF				eSg	Sg	10 02 20.9	-3.8
SMF	Signal de Mont	3.43	71	ePg	Pg	10 01 36.8	-3.5
SMF				eSn	Sn	10 02 04.7	-5.0
SMF				eSg	Sg	10 02 20.9	-3.8
	0.8nm,0.2s						
LOR	Lormes	3.65	62	ePg	Pg	10 01 42.2	-2.4
LOR				eSn	Sn	10 02 12.7	-2.5
LOR				eSg	Sg	10 02 28.5	-3.4
	1.7nm,0.2s						
LOR	Lormes	3.65	62	Pn	Pn	10 01 30.1	-1.7
LOR				Pg	Pg	10 01 42.2	-2.4
LOR				Lg		10 02 28.5	
	0.9nm,0.2s						
LOR	Lormes	3.65	62	ePn	Pn	10 01 30.1	-1.7
LOR				ePg	Pg	10 01 42.2	-2.4
LOR				eSn	Sn	10 02 12.7	-2.5
LOR				eSg	Sg	10 02 28.5	-3.4
LOR	Lormes	3.65	62	ePg	Pg	10 01 42.2	-2.4
LOR				eSn	Sn	10 02 12.7	-2.5
LOR				eSg	Sg	10 02 28.5	-3.4
	0.9nm,0.2s						
LASF	Ste Croix	3.71	113	ePg	Pg	10 01 43.3	-2.5
LASF				eSg	Sg	10 02 31.2	-2.7
	1.8nm,0.2s						
LASF	Ste Croix	3.71	113	Pn	Pn	10 01 31.9	-0.7
LASF				Pg	Pg	10 01 43.3	-2.5
LASF				Lg		10 02 31.2	
	0.9nm,0.2s						
LASF	Ste Croix	3.71	113	ePn	Pn	10 01 31.9	-0.7
LASF				ePg	Pg	10 01 43.3	-2.5
LASF				eSg	Sg	10 02 31.2	-2.7
LASF	Ste Croix	3.71	113	ePg	Pg	10 01 43.3	-2.5
LASF				eSg	Sg	10 02 31.2	-2.7
	0.9nm,0.2s						
VIVF	Saint-Julien-l	4.00	99	ePg	Pg	10 01 51.3	+0.1
VIVF				eSg	Sg	10 02 40.6	-2.4
VIVF	Saint-Julien-l	4.00	99	Lg		10 02 40.6	
MEZF	Maizieres J'vi	4.96	53	ePg	Pg	10 02 05.4	-4.1
MEZF				eSn	Sn	10 02 44.3	-3.0
MEZF				eSg	Sg	10 03 10.6	-3.2
	1.8nm,0.3s						
MEZF	Maizieres J'vi	4.96	53	Pn	Pn	10 01 48.4	-1.3
MEZF				Pg	Pg	10 02 05.4	-4.1
MEZF				Lg		10 03 10.6	
	1.8nm,0.3s						
MEZF	Maizieres J'vi	4.96	53	ePn	Pn	10 01 48.4	-1.3
MEZF				ePg	Pg	10 02 05.4	-4.1
MEZF				eSn	Sn	10 02 44.3	-3.0
MEZF				eSg	Sg	10 03 10.6	-3.2
MEZF	Maizieres J'vi	4.96	53	ePg	Pg	10 02 05.4	-4.1
MEZF				eSn	Sn	10 02 44.3	-3.0
MEZF				eSg	Sg	10 03 10.6	-3.2
	0.9nm,0.3s						

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*ISCJB **09** 10:02:54.4±0.8, 29.18S±008×437E±0.1, h10^{km}, mb4.0/6, MS3.9/1, Error ellipse: s-maj=14.0km s-min=10.3km az=77.2*

*IDC **09** 10:02:55.9±0.9, 2987S×4382E, h0^{km}, mb4.2/6, mb1 4.2/7, mb1mx3.8/22, mbtmp4.2/7, MS3.4/4, Ms1 3.4/4, ms1mx3.0/24, Error ellipse: s-maj=65.1km s-min=19.9km az=26.0*

*NEIC **09** 10:02:57.1±0.7, 2946S×4393E, h10^{km}, mb4.2/1, Error ellipse: s-maj=18.2km s-min=14.6km az=179.0*

ISC 09 10:02:56.2±0.8**, 2927S**±008×**4364E**±010**, h10**^{km}**, n15, σ1^{s}10**/20**, mb4.0**/6**, MS3.9**/1**, South Indian Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	11.13	18	Pn	Pn	10 05 37.2	+1.8
	0.6nm,0.3s,baz=202,slow=15,SNR=4.7						
OPO				Sn	Sn	10 07 38.9	-0.9
	1.0nm,0.3s,baz=158,slow=16,SNR=2.7						
MATP	Matopo	16.30	299	Pn	Pn	10 06 45.5	+0.4
	0.3nm,0.3s,baz=45,slow=21,SNR=4.1						
MATP				Sn	Sn	10 09 31.8	-14
	0.3nm,0.3s,baz=217,slow=20,SNR=5.1						
MATP				LR	LR	10 12 45.2	
	comp=Z,68nm,18.6s,baz=344,slow=35						
MATP	Matopo	16.30	299	Pn	Pn	10 06 45.5	+0.4
MATP				Sn	Sn	10 09 31.8	-14
LBTB	Lobatse	16.61	281	Pn	Pn	10 06 47.7	-1.3
	0.7nm,0.3s,baz=117,slow=12,SNR=11						
LBTB				Sn	Sn	10 09 38.9	-15
	0.7nm,0.3s,baz=228,slow=15,SNR=5.1						
LBTB				LR	LR	10 11 58.9	
	comp=Z,81nm,18.9s,baz=100,slow=32						
LBTB	Lobatse	16.61	281	Pn	Pn	10 06 47.7	-1.3
LBTB				Sn	Sn	10 09 38.9	-15
SUR	Sutherland	19.84	255	P	Pn	10 07 29.4	+0.7
	0.1nm,0.3s,baz=82,slow=15,SNR=2.4						
SUR				S	Sn	10 10 52.1	-20
	0.3nm,0.3s,baz=152,slow=18,SNR=4.6						
LSZ	Lusaka	19.92	311	P	Pn	10 07 36.2	+6.5
	3.8nm,0.7s,baz=126,slow=8.7,SNR=3.6						
LSZ				LR	LR	10 14 30.8	
	comp=Z,88nm,18.3s,baz=170,slow=34						
TSUM	Tsumeb	25.73	287	eP	P	10 08 31.2	+4.5
	4.9nm,0.9s,mb4.0						
TORD	Torodi Ar. Bea	58.45	310	P	P	10 12 57.0	+4.8
	0.7nm,0.6s,mb3.9,baz=124,slow=6.9,SNR=9.8						
DBIC	Dimbokro	58.73	300	P	P	10 12 57.9	+3.8
	2.2nm,0.8s,mb4.3,baz=139,slow=9.3,SNR=2.5						
ASAR	Alice Springs	79.03	111	P	P	10 15 00.6	+0.2
	1.1nm,0.7s,mb3.9,baz=232,slow=6.1,SNR=13						
WRA	Warramunga Arr	81.09	108	P	P	10 15 12.1	+0.5
	0.8nm,0.8s,mb3.7,baz=233,slow=4.0,SNR=10						
STKA	Stephens Creek	81.22	122	P	P	10 15 10.8	-1.4
	0.9nm,0.4s,mb4.1,baz=214,slow=2.9,SNR=3.4						
STKA	Stephens Creek	81.22	122	P	P	10 15 10.8	-1.4
ZAL	Zalesovo	90.19	23	LR	LR	10 52 21.8	
	comp=Z,38nm,18.3s,MS3.9,baz=268,slow=33						

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*BJI **09** 10:17:45.7, 5155N×17880W, h16^{km}, mB5.0, mb4.6, Ms4.1, Msz3.9*

*IDC **09** 10:17:48.0±1.5, 5149N×17908W, h0^{km}, mb4.2/17, mb1 4.4/18, mb1mx4.3/27, mbtmp4.2/18, ML4.0/1, MS3.5/7, Ms1 3.5/7, ms1mx3.1/40, Error ellipse: s-maj=43.8km s-min=15.5km az=3.0*

*ISCJB **09** 10:17:49.4±1.1, 5152N±009×17904W±005, h17^{km}±8^{km}, mb4.4/56, MS3.5/10, Error ellipse: s-maj=15.1km s-min=5.0km az=173.3*

*NEIC **09** 10:17:49.2±0.5, 5141N×17908W, h10^{km}, mb4.3/22, ML4.3(AEIC), Error ellipse: s-maj=16.4km s-min=5.0km az=0.0*

*MOS **09** 10:17:52.8±0.9, 5165N×17904W, h40^{km}, mb4.5/20, Error ellipse: s-maj=14.6km s-min=10.5km az=105.4*

ISC 09 10:17:52.0±1.9**, 5151N**±009×**17906W**±005**, h26**^{km}±13^{km}**, n125, σ0^{s}91**/122**, mb4.4**/56**, MS3.5**/10**, 7C-2D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	1.03	263	P	Pn	10 18 07.2	-3.6
AMKA				S	Sn	10 18 24.9	+0.5
ATKA	Atka Island	3.10	75	P	Pn	10 18 39.3	+0.2
SMY	Shemya	4.39	289	P	Pn	10 18 58.0	+1.1
OKCE	Okmok Cone E	6.93	70	P	Pn	10 19 34.2	+2.4
SPIA	Saint Paul Isl	7.66	39	ePn	Pn	10 19 42.3	+0.5
SPIA				eSn	Sn	10 21 02.5	-5.3
KDAK	Kodiak Island	16.49	57	Pn	Pn	10 21 39.2	-2.3
	0.6nm,0.3s,baz=299,slow=13,SNR=1.6						
KDAK				Sn	Sn	10 24 45.7	+2.1
	0.3nm,0.3s,baz=332,slow=17,SNR=4.2						
KDAK	Kodiak Island	16.49	57	Pn	Pn	10 21 39.2	-2.3
KDAK				Sn	Sn	10 24 45.7	+2.0
BILL	Bilibino	18.05	342	eP	Pn	10 22 01.0	0.0
BILL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MA2	Magadan	18.74	307	eP	Pn	10 22 07.4	-1.9
MA2				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MA2	Magadan	18.74	307	eP	Pn	10 22 07.4	-2.0
	comp=Z,7.6nm,0.9s						
EYAK	Cordova Ski Ar	20.48	51	eP	P	10 22 26.8	-1.0
YSS	Yuzh-Sakhalins	25.14	275	i P	P	10 23 15.7	+0.8
YSS				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.5						
YSS				MLR	MLR		
	comp=Z,100nm,27.0s,MS3.2						
YSS	Yuzh-Sakhalins	25.14	275	eP	P	10 23 14.8	-0.2
	comp=Z,18nm,1.1s,mb4.5						
INK	Inuvik	27.45	35	P	P	10 23 36.0	+0.2
	comp=Z,6.4nm,1.2s,mb4.0,baz=244,slow=6.7,SNR=4.0						
INK	Inuvik	27.45	35	P	P	10 23 36.0	+0.3
INK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
INK	Inuvik	27.45	35	eP	P	10 23 35.9	+0.2
	comp=Z,5.8nm,1.1s,mb4.0						
DLBC	Dease Lake	28.42	57	P	P	10 23 45.1	+0.7
	comp=Z,1.8nm,0.5s,mb4.0,baz=249,slow=17,SNR=4.0						
BBB	Bella Bella	30.95	68	LR	LR	10 33 19.0	
	comp=Z,39nm,19.7s,MS3.1,baz=290,slow=30						
KLR	Kul'dur	30.99	285	eP	P	10 24 03.9	-3.2
YKA	Yellowknife Ar	35.26	47	P	P	10 24 44.7	+0.3
	comp=Z,1.8nm,0.5s,mb4.2,baz=282,slow=7.3,SNR=9.1						
YKA				LR	LR	10 41 20.5	
	comp=Z,59nm,18.1s,MS3.4,baz=235,slow=40						
YKA	Yellowknife Ar	35.26	47	P	P	10 24 44.7	+0.3
HAWA	Hanford	38.48	73	eP	P	10 25 09.5	-2.3
	comp=Z,0.4nm,0.7s						
EDM	Edmonton	38.89	61	eP	P	10 25 15.0	-0.3
NEW	Newport	38.99	70	P	P	10 25 16.2	+0.1
	comp=Z,4.0nm,0.8s,mb4.2,baz=301,slow=6.4,SNR=10						
NEW	Newport	38.99	70	P	P	10 25 16.2	+0.1
NEW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NEW	Newport	38.99	70	eP	P	10 25 15.4	-0.7
	comp=Z,6.4nm,1.0s,mb4.3						
YBH	Yreka Blue Hor	39.02	82	LR	LR	10 39 29.6	
	comp=Z,55nm,18.4s,MS3.4,baz=315,slow=33						
SNY	Shenyang	39.59	279	⇓P	P	10 25 20.9	-0.2
SNY				AMB	AMB		
	comp=Z,26nm,0.5s,mb5.2						
WVOR	Wild Horse Val	41.13	78	eP	P	10 25 34.2	+0.3
WVOR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
WVOR	Wild Horse Val	41.13	78	eP	P	10 25 34.2	+0.3
	comp=Z,1.6nm,0.6s,mb3.8						
MSO	Missoula	41.58	70	eP	P	10 25 36.8	-0.7
	comp=Z,2.5nm,1.0s,mb3.8						
HRY	Holter Researc	42.87	69	eP	P	10 25 47.7	-0.4
HLID	Hailey	43.06	74	eP	P	10 25 48.8	-0.8
	comp=Z,4.2nm,1.0s,mb4.1						
MCMT	McKenzie Canyo	43.29	72	eP	P	10 25 51.3	-0.2
EGMT	Eagleton	43.38	66	eP	P	10 25 51.6	-0.5
	comp=Z,6.1nm,0.8s,mb4.4						
BOZ	Bozeman (W)	43.56	70	eP	P	10 25 53.4	-0.2
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
BOZ	Bozeman (W)	43.56	70	eP	P	10 25 53.4	-0.2
	comp=Z,1.8nm,0.5s,mb4.1						
NVAR	Mina Array Bea	43.70	83	P	P	10 25 54.9	+0.2
	comp=Z,1.1nm,0.8s,mb3.6,baz=299,slow=7.8,SNR=7.0						
NVAR	Mina Array Bea	43.70	83	P	P	10 25 54.9	+0.2
ELK	Elko	44.19	78	eP	P	10 25 58.8	+0.1
ELK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ELK	Elko	44.19	78	eP	P	10 25 58.8	+0.1
	comp=Z,2.0nm,0.8s,mb3.9						
IMW	Indian Meadow	44.95	72	eP	P	10 26 06.0	+1.2
	comp=Z,3.5nm,0.9s,mb4.2						
TPAW	Teton Pass	45.17	72	eP	P	10 26 07.8	+1.3
	comp=Z,2.3nm,0.8s,mb4.1						
TPNV	Topopah Spring	45.89	83	eP	P	10 26 11.7	-0.5
TPNV				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TPNV	Topopah Spring	45.89	83	eP	P	10 26 11.7	-0.5
	comp=Z,3.2nm,0.8s,mb4.3						
DUG	Dugway	46.00	77	eP	P	10 26 12.3	-0.8
DUG				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
DUG	Dugway	46.00	77	eP	P	10 26 12.3	-0.8
	comp=Z,5.2nm,1.1s,mb4.4						
ULN	Ulaanbaatar	46.05	296	eP	P	10 26 14.1	+0.6
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ULN	Ulaanbaatar	46.05	296	eP	P	10 26 14.1	+0.6
	comp=Z,1.6nm,0.6s,mb4.1						
LAO	LASA Array	46.12	66	eP	P	10 26 14.0	+0.1
	comp=Z,11nm,0.9s,mb4.8						
BW06	Boulder Array	46.42	72	eP	P	10 26 16.1	-0.3
	comp=Z,7.7nm,0.8s,mb4.7						
PDAR	Pinedale Array	46.42	72	P	P	10 26 16.2	-0.2
	comp=Z,8.2nm,0.8s,mb4.7,baz=319,slow=4.1,SNR=49						
SONM	Songino Array	46.44	296	P	P	10 26 17.5	+1.0
	comp=Z,2.9nm,0.8s,mb4.3,baz=58,slow=8.3,SNR=22						
SONM				LR	LR	10 46 56.9	
	comp=Z,99nm,18.9s,MS3.8,baz=74,slow=38						
DAU	Daniels Canyon	46.81	76	eP	P	10 26 19.7	+0.2
HHC	Hu-ho-hao-te	47.49	286	eP	P	10 26 22.1	-2.7
HHC				PCP	PcP	10 27 52.2	-2.5
HHC				PP	PP	10 28 11.8	-4.4
HHC				S	S	10 33 18.1	+0.2
HHC				SS	SS	10 36 36.7	-9.1
HHC				AMB	AMB		
	comp=Z,14nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,97nm,5.4s						
HHC				LR	LR		
	comp=E,291nm,19.0s						
TMUT	Trail Mountain	47.53	77	eP	P	10 26 25.8	+0.8
SSE	Sheshan	47.84	269	P	P	10 26 26.4	-1.0
SSE				AMB	AMB		
	comp=Z,22nm,0.9s,mb5.2						
SSE				AMB	AMB		
	comp=Z,579nm,4.4s						
SSE				LR	LR		
	comp=N,42nm,15.0s,MS3.6						
SSE				LR	LR		
	comp=E,21nm,15.0s,MS3.6						
SSE				LR	LR		
	comp=Z,47nm,16.1s,MS3.5						
NJ2	Nanjing	48.64	272	eP	P	10 26 35.2	+1.6
NJ2				AP	pP	10 26 45.1	+3.6
NJ2				PP	PP	10 28 28.9	+2.2
NJ2				S	S	10 33 34.0	-0.2
NJ2				XS	sS	10 33 50.0	+2.9
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,110nm,4.1s						
SMCO	Snowmass	50.17	74	eP	P	10 26 44.9	-0.4
	comp=Z,1.3nm,0.6s,mb4.1						
ANMO	Albuquerque	53.22	78	⇑eP	P	10 27 11.0	+2.9
GTA	Gaotai	55.37	292	eP	P	10 27 24.2	+0.5
GTA				PP	PP	10 29 32.9	+5.4
GTA				S	S	10 35 12.4	+5.9
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.6						
GTA				AMB	AMB		
	comp=Z,97nm,4.9s						
KEV	Kevo	57.56	350	ep	pP	10 27 50.9	+3.6
ARCES	ARCESS Array B	57.93	350	P	P	10 27 41.6	-0.3
	comp=Z,2.6nm,0.9s,mb4.3,baz=37,slow=9.1,SNR=3.9						
KURK	Kurchatov	58.81	313	⇑eP	P	10 27 49.1	+1.0
MKAR	Makanchi Array	59.82	308	P	P	10 27 55.0	-0.1
	comp=Z,1.5nm,0.4s,mb4.4,baz=46,slow=7.0,SNR=16						
SCHQ	Schefferville	60.00	38	P	P	10 27 55.9	-0.4
	comp=Z,2.5nm,0.8s,mb4.3,baz=281,slow=10,SNR=4.1						
SCHQ				LR	LR	10 54 54.6	
	comp=Z,24nm,21.3s,MS3.3,baz=33,slow=37						
BVAR	Borovoye Array	60.68	320	LR	LR	10 54 49.4	
	comp=Z,70nm,19.0s,MS3.8,baz=351,slow=37						
ZRNK	Zerenda	61.29	320	eP	P	10 28 04.9	-0.2
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
ZRNK	Zerenda	61.29	320	eP	P	10 28 04.9	-0.2
	comp=Z,1.0nm,0.6s,mb4.1						
WCI	Wyandotte Cave	62.79	62	eP	P	10 28 14.2	-0.9
WCI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
WCI	Wyandotte Cave	62.79	62	eP	P	10 28 14.2	-1.0
	comp=Z,4.6nm,0.8s,mb4.7						
JOF	Joensuu	63.43	345	ep	P	10 28 18.3	-1.1
	comp=Z,3.9nm,0.5s,mb4.8						
JOF	Joensuu	63.43	345	eP	P	10 28 18.3	-1.1
JOF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.8						
KMI	Kunming	63.55	278	P	P	10 28 17.0	-3.1
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.7						
KMI				AMB	AMB		
	comp=Z,82nm,3.7s						
KMI				LR	LR		
	comp=Z,26nm,18.3s,MS3.5						
KAF	Kangasniemi	64.94	347	ep	P	10 28 27.4	-1.9
	comp=Z,4.7nm,0.7s,mb4.6						
KAF	Kangasniemi	64.94	347	eP	P	10 28 27.4	-1.9
KAF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
FINES	FINESS Array B	65.62	347	P	P	10 28 32.6	-1.1
	comp=Z,2.0nm,0.6s,mb4.3,baz=21,slow=7.1,SNR=11						
FINES	FINESS Array B	65.62	347	P	P	10 28 32.6	-1.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AAK	Ala-Archa	66.65	310	⇑eP	P	10 28 40.8	+0.5
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
AAK	Ala-Archa	66.65	310	eP	P	10 28 40.6	+0.3
	comp=Z,3.5nm,0.7s,mb4.5						
AKTO	Aktyubinsk	67.48	324	P	P	10 28 45.5	-0.1
	comp=Z,0.5nm,0.5s,mb3.8,baz=75,slow=11,SNR=4.1						
AKTO	Aktyubinsk	67.48	324	P	P	10 28 45.5	-0.1
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NB2	NORSAR Subarra	67.50	355	P	P	10 28 45.3	-0.4
	comp=Z,1.0nm,0.6s,mb4.0,baz=6.2,slow=6.5						
NOA	NORSAR Array B	67.50	355	P	P	10 28 45.1	-0.5
	comp=Z,1.8nm,0.8s,mb4.2,baz=7.3,slow=6.2,SNR=4.5						
NOA	NORSAR Array B	67.50	355	P	P	10 28 45.2	-0.5
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
OBN	Obninsk	69.69	339	⇑eP	P	10 29 00.0	+0.6
OBN				e		10 29 22.1	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
GUN	Gumba	71.65	292	eP	P	10 29 12.5	+1.2
	comp=Z,36nm,0.4s						
JIRN	Jiri	71.66	291	eP	P	10 29 12.4	+1.0
	comp=Z,19nm,0.6s,mb5.2						
KKN	Kakani	72.09	292	eP	P	10 29 14.7	+0.7
	comp=Z,12nm,0.5s,mb5.1						
PKI	Pulchoki	72.18	292	eP	P	10 29 14.4	-0.1
PPT	Papeete	73.46	151	LR	LR	10 56 21.3	
	comp=Z,44nm,19.9s,MS3.7,baz=0.7,slow=32						
AKASG	Malin Array Be	75.37	342	P	P	10 29 32.6	-0.6
	comp=Z,4.2nm,0.5s,mb4.7,baz=19,slow=5.7,SNR=23						
AKASG	Malin Array Be	75.37	342	P	P	10 29 32.6	-0.6
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BURAR	Bucovina Array	79.08	344	⇑iP	P	10 29 54.5	+0.5
KHC	Kasperske Hory	79.16	352	i P	P	10 29 55.3	+0.9
GERES	GERESS Array B	79.43	351	P	P	10 29 56.1	+0.2
	comp=Z,0.7nm,0.5s,mb3.8,baz=22,slow=6.3,SNR=8.2						
GERES	GERESS Array B	79.43	351	P	P	10 29 56.1	+0.2
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LDF	La Druitiere	80.27	1	eP	P	10 30 00.1	-0.4
DRGR		80.30	345	⇓iP	P	10 30 01.1	+0.5
CDF	Champ du Feu	80.31	356	eP	P	10 30 00.2	-0.5
	comp=Z,2.4nm,0.6s,mb4.0						
GRR	Gorron	80.47	1	eP	P	10 30 01.1	-0.4
MLR	Muntele Rosu	81.00	342	⇑iP	P	10 30 06.3	+2.0
LOR	Lormes	81.57	358	eP	P	10 30 07.1	-0.3
GZR	Gura Zlata	81.65	345	⇑iP	P	10 30 08.8	+1.0
SSF	Saint Saulge	81.78	358	eP	P	10 30 08.4	-0.1
	comp=Z,1.7nm,0.4s,mb4.0						
SMF	Signal de Mont	82.19	358	eP	P	10 30 10.9	+0.2
	comp=Z,6.1nm,0.7s,mb4.3						
BGF	Bois d'Agland	82.30	359	eP	P	10 30 11.2	0.0
TCF	Toulx Ste Croi	82.58	359	eP	P	10 30 12.8	+0.1
RJF	Les Rejaudoux	83.56	360	eP	P	10 30 17.7	-0.1
ORIF	Oris-en-Rattie	83.86	356	eP	P	10 30 18.4	-0.9
	comp=Z,18nm,1.3s,mb4.7						
LFF	La Frestale	83.93	0	eP	P	10 30 19.5	-0.2
	comp=Z,4.8nm,0.5s,mb4.6						
BRTR	Keskin Array B	84.76	335	P	P	10 30 24.2	+0.4
	comp=Z,2.9nm,0.8s,mb4.4,baz=57,slow=2.7,SNR=14						
BRTR	Keskin Array B	84.76	335	P	P	10 30 24.3	+0.4
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SMRF	Simiane la Rot	84.81	357	eP	P	10 30 25.3	+1.2
	comp=Z,6.3nm,0.8s,mb4.5						
SBF	Sospel	84.84	355	eP	P	10 30 23.9	-0.4
FRF	La Foret Royal	85.18	356	eP	P	10 30 25.3	-0.7
	comp=Z,11nm,0.9s,mb4.7						
LMR	La Mourre	85.41	356	eP	P	10 30 26.6	-0.5
	comp=Z,54nm,1.3s,mb5.2						
ETSF	Etsaut	85.96	1	eP	P	10 30 30.6	+0.7
	comp=Z,8.8nm,0.9s,mb4.7						
PGF	Pioggiola	86.06	354	eP	P	10 30 30.5	+0.2
	comp=Z,10nm,0.7s,mb4.8						
ESDC	Sonseca Array	89.09	4	P	P	10 30 44.2	-0.7
	comp=Z,0.2nm,0.5s,mb3.8,baz=0.1,slow=4.2,SNR=5.5						
DBIC	Dimbokro	121.84	7	PKP	PKPdf	10 36 42.5	-1.3
	comp=Z,0.9nm,0.5s,baz=302,slow=2.2,SNR=3.5						
DBIC	Dimbokro	121.84	7	PKIKP	PKPdf	10 36 42.5	-1.2
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TSUM	Tsumeb	145.19	332	PKPbc	PKPbc	10 37 26.9	+0.1
	comp=Z,2.1nm,0.6s,baz=281,slow=6.6,SNR=8.0						
LBTB	Lobatse	147.52	315	PKPbc	PKPbc	10 37 33.3	-0.4
	comp=Z,2.5nm,0.6s,baz=4.1,slow=2.7,SNR=5.5						
LBTB	Lobatse	147.52	315	PKP2	PKPbc	10 37 33.3	-0.4
LBTB				pmax	pmax		
	comp=Z,3.0nm,0.6s						

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*IDC **09** 10:18:24.5±1.5, 6032N×15243W, h66^{km}±19^{km}, mb3.6/4, mb1 3.7/9, mb1mx3.5/23, mbtmp3.8/9, Error ellipse: s-maj=23.3km s-min=10.0km az=106.0*

*ISCJB **09** 10:18:25.3±0.5, 6027N±004×15221W±010, h103^{km}±6^{km}, mb3.9/4, Error ellipse: s-maj=7.9km s-min=6.7km az=37.6*

*NEIC **09** 10:18:28.0, 6029N×152.16W, h93^{km}, MG3.5(AEIC), After AEIC.*

NEIC Felt at Anchor Point.

ISC 09 10:18:26.4±0.5**, 6027N**±004×**15222W**±009**, h96**^{km}±6^{km}**, n31, σ0^{s}86**/36**, mb3.9**/4**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SLKM	Skilak Lake	1.02	76	P	Pn	10 18 46.6	-0.1
FIB	Fire Island	1.35	47	P	Pn	10 18 51.8	+1.3
FIB				S	Sn	10 19 10.8	+2.1
SEW	Seward	1.40	96	P	Pn	10 18 50.8	-0.3
SEW				S	Sn	10 19 10.7	+0.9
RC01	Rabbit Creek A	1.47	55	P	Pn	10 18 51.9	-0.1
RC01				S	Sn	10 19 11.2	-0.2
SVW2	Sparrevohn	1.85	298	P	Pn	10 18 57.0	+0.2
PMR	Palmer	2.01	47	P	Pn	10 18 58.4	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GHO	Glory Hole Cre	2.20	45	P	Pn	10 19 01.2	-0.1
SML	Sawmill	2.44	49	P	Pn	10 19 04.0	-0.5
KDAK	Kodiak Island	2.51	184	P	Pn	10 19 05.0	-0.4
	11nm,0.3s,baz=26,slow=9.7,SNR=168						
KDAK				S	Sn	10 19 33.3	-2.1
	37nm,0.3s,baz=150,slow=20,SNR=27						
KDAK	Kodiak Island	2.51	184	P	Pn	10 19 05.0	-0.4
MID	Middleton Isla	3.09	103	eP	Pn	10 19 13.3	+0.1
EYAK	Cordova Ski Ar	3.22	82	P	Pn	10 19 15.0	0.0
TTA	Tatalina	3.22	327	eP	Pn	10 19 15.6	+0.6
TRF	Thorofare Moun	3.32	15	P	Pn	10 19 16.3	0.0
KTH	Kantishna Hill	3.35	10	P	Pn	10 19 16.7	+0.1
MCK	McKinley	3.80	23	P	Pn	10 19 23.2	+0.4
MENT	Mentasta	4.86	53	eP	Pn	10 19 36.3	-0.8
COLA	College	5.04	22	P	Pn	10 19 39.5	0.0
ILAR	Eielson Array	5.14	26	P	Pn	10 19 40.4	-0.6
	2.1nm,0.3s,baz=303,slow=16,SNR=62						
ILAR				S	Sn	10 20 36.9	-2.1
	8.6nm,0.3s,baz=207,slow=22,SNR=11						
CHGN	Chignik	5.15	222	eP	Pn	10 19 41.8	+0.7
PNL	Peninsula	6.47	90	P	Pn	10 19 58.5	-0.4
DAWY	Dawson	7.10	52	P	Pn	10 20 07.4	-0.2
SKAG	Skagway	8.54	88	eP	Pn	10 20 27.2	+0.1
WHY	Whitehorse	8.57	80	P	Pn	10 20 26.6	-1.0
DLBC	Dease Lake	11.46	90	P	Pn	10 21 07.5	+0.6
	0.7nm,0.3s,baz=248,slow=11,SNR=12						
BBB	Bella Bella	15.58	111	P	Pn	10 22 01.6	+1.0
	0.1nm,0.3s,baz=318,slow=12,SNR=3.3						
YKA	Yellowknife Ar	17.98	67	P	Pn	10 22 29.3	-0.8
	baz=278,slow=9.6,SNR=3.2						
NVAR	Mina Array Bea	30.52	120	P	P	10 24 33.2	+2.7
	0.7nm,0.8s,mb3.4,baz=306,slow=7.4,SNR=6.7						
ARCES	ARCESS Array B	50.48	1	P	P	10 27 14.7	+0.2
	1.3nm,0.6s,mb4.0,baz=23,slow=9.8,SNR=4.6						
SONM	Songino Array	54.95	306	P	P	10 27 48.0	+0.7
	2.6nm,0.7s,mb4.4,baz=40,slow=7.1,SNR=12						
FINES	FINESS Array B	58.60	1	P	P	10 28 12.4	-0.9
	0.3nm,0.4s,mb3.6,baz=10,slow=12,SNR=4.8						

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*IDC **09** 10:37:16.7±2.4, 5149N×179.16W, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/25, mbtmp3.8/11, ML4.0/1, Error ellipse: s-maj=65.0km s-min=19.7km az=1.0*
*ISCJB **09** 10:37:18.1±0.9, 518N±02×1792W±0.1, h10km, mb3.8/10, Error ellipse: s-maj=25.6km s-min=9.7km az=150.5*
*NEIC **09** 10:37:18.8±1.1, 5157N×17920W, h10km, ML3.2(AEIC), Error ellipse: s-maj=41.8km s-min=9.3km az=166.0*
ISC 09 10:37:19.5±4.1**, 516N**±03×**1792W**±0.1**, h16**km±32km**, n14, σ0s92**/15**, mb3.8**/10**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.95	256	P	Pb	10 37 37.3	-0.3
AMKA				S	Sb	10 37 56.1	+6.2
ATKA	Atka Island	3.17	77	P	Pn	10 38 10.2	+1.5
KDAK	Kodiak Island	16.52	58	Pn	Pn	10 41 09.1	-1.4
	0.6nm,0.3s,baz=307,slow=9.9,SNR=6.5						
KDAK	Kodiak Island	16.52	58	Pn	Pn	10 41 09.1	-1.4
ILAR	Eielson Array	21.23	39	P	P	10 42 05.3	+0.7
	0.5nm,0.4s,mb3.2,baz=240,slow=10,SNR=11						
YKA	Yellowknife Ar	35.26	47	P	P	10 44 13.6	+0.3
	1.0nm,0.7s,mb3.9,baz=275,slow=7.4,SNR=3.7						
NEW	Newport	39.05	70	P	P	10 44 45.0	-0.5
	1.0nm,0.5s,mb3.9,baz=315,slow=8.6,SNR=4.7						
SONM	Songino Array	46.30	296	P	P	10 45 45.0	+0.6
	0.6nm,0.9s,mb3.5,baz=64,slow=7.5,SNR=4.1						
PDAR	Pinedale Array	46.49	72	P	P	10 45 45.1	-0.7
	1.8nm,1.0s,mb4.0,baz=310,slow=5.6,SNR=11						
ARCES	ARCESS Array B	57.81	350	P	P	10 47 08.4	-1.6
	1.8nm,0.8s,mb4.1,baz=40,slow=13,SNR=4.0						
MKAR	Makanchi Array	59.68	308	P	P	10 47 22.9	-0.2
	0.2nm,0.3s,mb3.6,baz=75,slow=6.7,SNR=2.3						
BVAR	Borovoye Array	60.53	319	P	P	10 47 30.6	+1.7
	0.4nm,0.5s,mb3.8,baz=62,slow=6.7,SNR=3.7						
FINES	FINESS Array B	65.49	347	P	P	10 48 01.8	-0.1
	0.5nm,0.5s,mb3.8,baz=3.7,slow=5.9,SNR=5.1						
AKASG	Malin Array Be	75.24	342	P	P	10 49 01.5	+0.1
	1.4nm,0.4s,mb4.3,baz=21,slow=5.7,SNR=6.2						

IDC 09 10:43:46.1±3.0**, 525N**×**9486E, h0**km**, mb3.9**/6**, mb1 4.2**/6**, mb1mx3.8**/21**, mbtmp3.9**/6**, Error ellipse: s-maj=132.7km s-min=21.2km az=59.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	42.78	347	P	P	10 51 45.4	-0.1
	0.6nm,0.4s,baz=156,slow=6.6,SNR=7.0						
SONM	Songino Array	43.56	11	P	P	10 51 52.0	+0.3
	0.3nm,0.7s,baz=193,slow=6.4,SNR=3.5						
WRA	Warramunga Arr	46.19	124	P	P	10 52 12.8	+0.2
	0.7nm,0.6s,baz=301,slow=10,SNR=11						
ASAR	Alice Springs	47.71	129	P	P	10 52 25.1	+0.6
	0.3nm,0.6s,baz=309,slow=8.0,SNR=5.9						
ZAL	Zalesovo	49.22	352	P	P	10 52 36.0	-0.2
	1.6nm,0.3s,baz=300,slow=4.9,SNR=3.4						
BVAR	Borovoye Array	51.69	341	P	P	10 52 54.7	-0.1
	0.5nm,0.5s,baz=141,slow=7.6,SNR=3.9						

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*ISCJB **09** 11:04:08.4±0.9, 20N±0.1×977E±0.1, h51km, mb4.1/11, Error ellipse: s-maj=18.5km s-min=14.6km az=56.3*
*IDC **09** 11:04:10.5±1.1, 196N×9779E, h52km±7km, mb3.7/8, mb1 3.9/8, mb1mx3.6/19, mbtmp4.0/8, Error ellipse: s-maj=29.1km s-min=17.7km az=40.0*
*NEIC **09** 11:04:10.3±0.5, 196N×9779E, mb4.6/3, Error ellipse: s-maj=12.2km s-min=9.3km az=209.0*
ISC 09 11:04:11.3±0.8**, 211N**±010×**9790E**±009**, h53**km**, h53**km±1.5km**:pP-P, n14, σ0s67**/15**, mb4.1**/11**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	1.23	56	P	Pn	11 04 33.1	+0.9
	20nm,0.3s,baz=258,slow=5.5,SNR=46						
KULM	Kulim	4.19	41	ePn	Pn	11 05 14.3	+1.7
KULM				eSn	Sn	11 05 58.8	-1.4
WRA	Warramunga Arr	41.94	123	P	P	11 11 56.4	-0.3
	0.7nm,0.5s,mb3.5,baz=301,slow=9.1,SNR=9.9						
ASAR	Alice Springs	43.40	128	P	P	11 12 08.1	-0.4
	0.5nm,0.9s,mb3.2,baz=303,slow=7.6,SNR=4.9						
SONM	Songino Array	46.14	8	P	P	11 12 30.7	+0.3
	1.6nm,0.5s,mb4.2,baz=192,slow=9.3,SNR=18						
MKAR	Makanchi Array	46.54	345	P	P	11 12 33.9	+0.4
	6.0nm,0.7s,mb4.6,baz=157,slow=7.2,SNR=42						
ZAL	Zalesovo	52.77	350	P	P	11 13 20.9	0.0
	5.4nm,0.3s,mb4.9,baz=322,slow=4.1,SNR=13						
BRVK	Borovoye	55.69	340	eP	P	11 13 41.8	-0.3
	3.2nm,0.5s,mb4.6						
ZRNK	Zerenda	56.05	339	eP	P	11 13 44.0	-0.6
	3.1nm,0.6s,mb4.5						
CHKZ	Chkalovo	56.09	341	eP	P	11 13 45.0	0.0
	7.2nm,0.6s,mb4.9						
BRTR	Keskin Array B	69.02	312	P	P	11 15 11.3	+0.1
	0.3nm,0.6s,mb3.4,baz=122,slow=8.1,SNR=2.4						
BRTR				pP	pP	11 15 25.9	-0.2
	1.0nm,0.7s,baz=101,slow=6.4,SNR=4.3						
FINES	FINESS Array B	79.52	332	P	P	11 16 12.1	-0.2
	0.7nm,0.7s,mb3.7,baz=99,slow=6.0,SNR=6.6						
FINES				pP	pP	11 16 26.3	-1.2
	0.9nm,0.7s,baz=99,slow=6.4,SNR=2.3						
FINES	FINESS Array B	79.52	332	P	P	11 16 12.1	-0.2
FINES				pP	pP	11 16 26.3	-1.2
ARCES	ARCESS Array B	81.92	340	P	P	11 16 25.0	-0.1
	1.1nm,0.8s,mb3.9,baz=91,slow=6.1,SNR=5.0						
ARCES				pP	pP	11 16 40.4	0.0
	1.0nm,0.5s,baz=100,slow=5.4,SNR=2.4						

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*ISCJB **09** 11:16:40.8±0.3, 5150N±002×16.11E±002, h0km, Error ellipse: s-maj=2.7km s-min=1.9km az=22.5*
*NEIC **09** 11:16:42.8±0.4, 5160N×16.10E, h5km, ML3.3(SZGRF), ML3.4(LDG), Error ellipse: s-maj=5.7km s-min=4.8km az=194.0*
*LDG **09** 11:16:43.5±0.4, 5147N×1609E, h1km, Ml3.4/5, Error ellipse: s-maj=10.7km s-min=4.0km az=14.0, Suspected Mining induced.*
*IDC **09** 11:16:44.5±0.6, 5149N×1595E, h0km, mb1 3.5/8, mb1mx3.4/24, mbtmp3.4/8, ML3.2/8, Error ellipse: s-maj=10.8km s-min=6.1km az=108.0*
*CSEM **09** 11:16:44.2±0.1, 5150N×1608E, h1km, ML3.6/15, Error ellipse: s-maj=2.5km s-min=1.7km az=16.0*
*IPEC **09** 11:16:44.1±0.3, 5150N×1633E, h0km, ML2.7/3, Error ellipse: s-maj=2.5km s-min=1.8km az=81.0*
*PRU **09** 11:16:45.2, 5145N×1609E, h0km*
*BGR **09** 11:16:45.4±0.7, 5150N×1603E, h1km, ML3.3, Error ellipse: s-maj=8.9km s-min=5.6km az=163.0*
*WAR **09** 11:16:45.2, 5149N×16.10E, ML3.0, Mining Induced*
*VIE **09** 11:16:47.0±1.0, 5126N×16.11E, h0km, mb2.7/5, ML3.1/6, Error ellipse: s-maj=7.7km s-min=6.1km az=114.0 65 km WNW of Breslau Suspected Mining induced.*
ISC 09 11:16:42.6±0.3**, 5155N**±002×**1612E**±002**, h0**km**, n95, σ1s27**/182**, 14C-5D, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.71	171	i Pg	Pg	11 16 57.2	+0.9
KSP				eSg	Sg	11 17 05.7	+0.1
KSP				eL		11 17 09.5	
KSP	Ksiaz	0.71	171	⇓iPg	Pg	11 16 57.2	+0.9
KSP				eSg	Sg	11 17 05.9	+0.3
KSP				e		11 17 09.5	
KSP	Ksiaz	0.71	171	⇓iPg	Pg	11 16 57.2	+0.9
KSP				eSg	Sg	11 17 05.9	+0.3
UPC	Upice	1.04	184	ePG	Pg	11 17 03.3	+0.7
DPC	Dobruska-Polom	1.21	174	ePG	Pg	11 17 06.0	+0.3
DPC				eSG	Sg	11 17 20.8	-0.6
	112nm,0.4s						
DPC	Dobruska-Polom	1.21	174	ePg	Pg	11 17 05.9	+0.2
DPC				eSg	Sg	11 17 20.8	-0.6
PVCC	Panska Ves	1.42	224	ePG	Pg	11 17 10.2	+0.4
PVCC				eSG	Sg	11 17 28.8	+0.7
BRG	Berggiesshubel	1.53	245	ePn	Pn	11 17 11.3	+0.1
BRG				eSg	Sg	11 17 32.4	+0.7
BRG	Berggiesshubel	1.53	245	PN	Pn	11 17 11.1	-0.1
BRG				PG	Pg	11 17 12.7	+0.7
BRG				SG	Sg	11 17 32.8	+1.0
	115nm,0.4s						
RUE	Ruedersdorf	1.72	304	ePn	Pn	11 17 13.8	0.0
RUE				eSg	Sg	11 17 40.5	+2.5
RUE	Ruedersdorf	1.72	304	ePn	Pn	11 17 13.8	0.0
RUE				eSg	Sg	11 17 40.5	+2.5
FBE	Freiberg	1.85	251	eSg	Sg	11 17 43.0	+0.9
GKP	Gorka Klasztor	1.86	21	ePn		11 17 26.2	
PRU	Pruhonice	1.86	213	ePN	Pn	11 17 15.9	+0.2
PRU				ePG	Pg	11 17 17.6	-0.6
PRU				eSG	Sg	11 17 41.2	-1.1
	65nm,0.4s						
CLL	Collm	1.97	264	ePn	Pn	11 17 17.6	+0.4
CLL				i Sg	Sg	11 17 46.2	+0.4
CLL	Collm	1.97	264	ePn	Pn	11 17 18.0	+0.8
CLL				ex	x	11 17 25.0	
CLL				i Sg	Sg	11 17 46.2	+0.4
	comp=Z,53nm,0.8s						
CLL				i x	x	11 17 56.0	
CLL				ex	x	11 18 23.0	
CLL	Collm	1.97	264	ePn	Pn	11 17 18.0	+0.8
CLL				i Sg	Sg	11 17 46.2	+0.4
RAC	Raciborz	1.97	137	ePg	Pg	11 17 21.5	+1.1
RAC				eSg	Sg	11 17 46.4	+0.5
MORC	Moravsky Berou	1.99	152	⇓iP	Pn	11 17 17.8	+0.3
MORC	Moravsky Berou	1.99	152	ePn	Pn	11 17 17.8	+0.3
MORC				eSg	Sg	11 17 43.3	-3.3
	comp=Z,35nm,0.3s						
OKC	Ostrava-Krasne	2.14	142	ePG	Pg	11 17 23.5	-0.2
OKC				eSG	Sg	11 17 49.8	-1.7
	comp=Z,78nm,0.6s						
OKC	Ostrava-Krasne	2.14	142	ePn	Pn	11 17 19.2	-0.4
OKC	Ostrava-Krasne	2.14	142	ePg	Pg	11 17 23.5	-0.2
OKC				eSg	Sg	11 17 49.8	-1.7
VRAC	Vranov	2.26	172	Pn	Pn	11 17 22.2	+1.0
	comp=Z,3.0nm,0.3s,baz=328,slow=14,SNR=15						
VRAC				Lg		11 17 53.9	
	comp=Z,6.9nm,0.3s,baz=258,slow=22,SNR=10						
VRAC	Vranov	2.26	172	ePn	Pn	11 17 21.8	+0.5
VRAC	Vranov	2.26	172	⇑iP	Pn	11 17 22.2	+0.9
VRAC				eSg	Sg	11 17 52.9	-2.4
	comp=Z,39nm,0.4s						
TREC	Trest	2.29	190	ePN	Pn	11 17 22.3	+0.6
TREC				ePG	Pg	11 17 26.0	-0.6
KRUC	Moravsky	2.50	176	ePn	Pn	11 17 25.4	+0.9
KRUC	Moravsky	2.50	176	ePg	Pg	11 17 29.0	-1.5
KRUC				eSg	Sg	11 18 00.9	-1.9
	comp=Z,44nm,0.6s						
TANN	Tannenbergstha	2.58	245	ePn	Pn	11 17 26.5	+1.0
TANN				eSg	Sg	11 18 04.6	-0.8
TANN	Tannenbergstha	2.58	245	Pn	Pn	11 17 26.5	+0.9
TANN				Sg	Sg	11 18 04.6	-0.8
WERD	Werda	2.65	247	eSg	Sg	11 18 07.2	-0.6
NKC	Novy Kostel	2.67	242	ePN	Pn	11 17 28.0	+1.1
NKC				ePG	Pg	11 17 33.2	-0.7
NKC				eSG	Sg	11 18 09.7	+1.2
	comp=Z,100nm,0.4s						
OJC	Ojcow	2.68	118	ePn	Pn	11 17 26.2	-0.8
OJC				ePg	Pg	11 17 34.8	+0.8
OJC				eSn	Sn	11 17 56.1	-4.1
OJC				eSg	Sg	11 18 10.0	+1.2
MROB	Rosenbuehl-Arz	2.90	241	⇑iPn	Pn	11 17 31.2	+1.2
KHC	Kasperske Hory	2.92	215	ePN	Pn	11 17 30.5	+0.2
KHC				ePG	Pg	11 17 36.8	-1.7
KHC				eSN	Sn	11 18 05.2	-0.8
KHC				eSG	Sg	11 18 15.1	-1.3
	comp=Z,45nm,0.7s						
MGBB	Grossbuechelbe	2.94	239	⇑iPn	Pn	11 17 31.8	+1.2
MOX	Moxa	2.98	254	ePn	Pn	11 17 31.4	+0.3
MOX				ePg	Pg	11 17 40.0	+0.2
MOX				eSg	Sg	11 18 18.6	+0.2
MOX	Moxa	2.98	254	ePN	Pn	11 17 32.0	+0.9
MOX				ePG	Pg	11 17 40.0	+0.2
MOX				eSG	Sg	11 18 19.5	+1.1
MOX	Moxa	2.98	254	ePn	Pn	11 17 32.0	+0.9
MOX				ePg	Pg	11 17 40.0	+0.2
MOX				eSg	Sg	11 18 19.5	+1.1
MOX	Moxa	2.98	254	Pg	Pg	11 17 40.0	+0.2
MOX				Sg	Sg	11 18 18.6	+0.2
ROTZ	Rotzenmuhle	3.06	236	ePn	Pn	11 17 33.4	+1.1
GEC2	GERESS Array S	3.12	211	ePn	Pn	11 17 33.9	+0.8
GEC2				eSg	Sg	11 18 21.8	-1.1
GEC2	GERESS Array S	3.12	211	ePn	Pn	11 17 33.9	+0.8
GEC2				eSg	Sg	11 18 21.8	-1.1
GERES	GERESS Array B	3.12	211	Pn	Pn	11 17 33.7	+0.6
	comp=Z,3.1nm,0.3s,baz=29,slow=12,SNR=76						
GERES				Pg	Pg	11 17 40.6	-1.9
	comp=Z,6.7nm,0.3s,baz=26,slow=17,SNR=36						
GERES				Sn	Sn	11 18 09.0	-2.0
	comp=Z,3.3nm,0.3s,baz=29,slow=25,SNR=4.6						
GERES				Lg		11 18 19.8	
	comp=Z,7.8nm,0.3s,baz=32,slow=24,SNR=10.0						
GERES	GERESS Array B	3.12	211	Pn	Pn	11 17 33.7	+0.6
GERES				Pg	Pg	11 17 40.6	-1.9
GERES				Sn	Sn	11 18 09.0	-2.0
GERES				Lg		11 18 19.8	
GERES	GERESS Array B	3.12	211	Pg	Pg	11 17 40.6	-1.8
WET	Wettzell	3.18	222	ePn	Pn	11 17 34.4	+0.6
ZST	Bratislava	3.42	169	eSG	Sg	11 18 30.4	-1.9
NIE	Niedzica	3.42	127	eP	Pg	11 17 48.2	0.0
NIE				eS	Sg	11 18 32.8	+0.2
VYHS	Vyhne	3.52	149	eP	Pn	11 17 38.4	-0.2
VYHS				ePg	Pg	11 17 50.1	0.0
VYHS				eSg	Sg	11 18 39.6	+3.8
CONA	Conrad Observa	3.63	183	⇑iPn	Pn	11 17 41.1	+1.1
	SNR=11						
CONA				⇓iSg	Sg	11 18 36.9	-2.3
	comp=Z,33nm,0.6s						
GRA1	Grafenberg Arr	3.63	241	ePn	Pn	11 17 41.2	+1.1
GRA1				eSg	Sg	11 18 39.0	-0.3
GRF	Grafenberg Arr	3.63	241	ePn	Pn	11 17 41.2	+1.1
GRF				eSg	Sg	11 18 39.0	-0.4
MOA	Molln	3.89	199	⇑iPn	Pn	11 17 44.8	+1.1
	SNR=6.1						
MOA				⇑iSg	Sg	11 18 48.7	+1.0
	comp=Z,31nm,0.6s						
MOA	Molln	3.89	199	Pn	Pn	11 17 44.8	+1.1
	comp=Z,6.0nm,1.0s						
MOA				Sg	Sg	11 18 48.7	+1.0
	comp=Z,31nm,0.6s						
HROE	Hohe Rhon--Fla	3.90	257	⇓iPn	Pn	11 17 44.8	+1.1
KECS	Kecovo	4.16	136	ePG	Pg	11 18 03.7	+1.3
KECS				eSG	Sg	11 18 58.8	+2.4
ARSA	Arzberg	4.32	185	⇑iPn	Pn	11 17 51.8	+2.2
ARSA				⇑iSg	Sg	11 18 59.9	-1.5
	comp=Z,37nm,0.7s						
CRVS	Cervenica-Dubn	4.33	126	ePG	Pg	11 18 08.5	+2.8
CRVS				eSG	Sg	11 19 05.1	+3.3
KWP	Kalwaria	4.61	112	ePg	Pg	11 18 09.0	-2.1
KOLS	Kolonicke sedl	4.74	121	eP	Pn	11 17 56.0	+0.7
KOLS				ePg	Pg	11 18 15.4	+2.0
KOLS				e		11 19 28.7	
KBA	Koelnbreinsper	4.83	203	⇑iPn	Pn	11 17 57.9	+1.4
KBA				⇑iSg	Sg	11 19 18.9	+1.2
	comp=Z,20nm,0.6s						
MOTA	Moosalm	5.33	220	⇑iPn	Pn	11 18 04.4	+1.0
MOTA				⇑iSg	Sg	11 19 34.3	+0.5
	comp=Z,12nm,0.6s						
DAVOX	Davos	6.28	223	Pn	Pn	11 18 17.1	+0.6
	comp=Z,0.4nm,0.3s,baz=62,slow=17,SNR=4.1						
DAVOX				Lg		11 20 00.3	
	comp=Z,0.6nm,0.3s,baz=180,slow=20,SNR=3.1						
DRGR		6.43	135	⇑iP	Pn	11 18 19.1	+0.6
CDF	Champ du Feu	6.51	245	ePg	Pg	11 18 49.1	+1.7
CDF				eSg	Sg	11 20 05.5	-6.2
	comp=Z,19nm,0.7s						
CDF	Champ du Feu	6.51	245	ePn	Pn	11 18 20.8	+1.2
CDF				ePg	Pg	11 18 49.1	+1.7
CDF				eSg	Sg	11 20 05.5	-6.2
CDF	Champ du Feu	6.51	245	ePn	Pn	11 18 20.8	+1.2
CDF				eSg	Sg	11 20 05.5	-6.2
	comp=Z,9.5nm,0.7s						
BURAR	Bucovina Array	7.10	120	⇑iP	Pn	11 18 28.9	+1.1
HAU	Haudompre	7.25	245	ePg	Pg	11 18 58.0	-3.6
MEZF	Maizieres J'vi	7.75	251	ePg	Pg	11 19 06.2	-5.0
MEZF				eSn	Sn	11 19 57.4	-7.8
MEZF				eSg	Sg	11 20 44.6	-7.0
	comp=Z,2.6nm,0.4s						
MEZF	Maizieres J'vi	7.75	251	ePn	Pn	11 18 34.7	-2.0
MEZF				ePg	Pg	11 19 06.2	-5.0
MEZF				eSn	Sn	11 19 57.4	-7.8
MEZF				eSg	Sg	11 20 44.6	-7.0
MEZF	Maizieres J'vi	7.75	251	ePg	Pg	11 19 06.2	-5.0
MEZF				eSn	Sn	11 19 57.4	-7.8
MEZF				eSg	Sg	11 20 44.6	-7.0
	comp=Z,1.3nm,0.4s						
SFTF	Sexfontaines	7.90	249	ePg	Pg	11 19 08.7	-5.3
SFTF				eSn	Sn	11 20 00.9	-8.0
SFTF				eSg	Sg	11 20 49.3	-7.1
	comp=Z,3.3nm,0.3s						
SFTF	Sexfontaines	7.90	249	ePn	Pn	11 18 36.8	-2.0
SFTF				ePg	Pg	11 19 08.7	-5.3
SFTF				eSn	Sn	11 20 00.9	-8.0
SFTF				eSg	Sg	11 20 49.3	-7.1
SFTF	Sexfontaines	7.90	249	ePg	Pg	11 19 08.7	-5.3
SFTF				eSn	Sn	11 20 00.9	-8.0
SFTF				eSg	Sg	11 20 49.3	-7.1
	comp=Z,1.6nm,0.3s						
AKASG	Malin Array Be	8.29	91	Pn	Pn	11 18 43.2	-0.9
	comp=Z,1.4nm,0.3s,baz=280,slow=12,SNR=9.3						
AKASG				Sn	Sn	11 20 16.9	-1.5
	comp=Z,0.6nm,0.3s,baz=275,slow=22,SNR=3.2						
AKASG	Malin Array Be	8.29	91	Pn	Pn	11 18 43.2	-0.9
AKASG				Sn	Sn	11 20 16.9	-1.5
LPL	La Plagne	8.67	230	eP	Pn	11 18 51.1	+1.8
HFS	Hagfors	8.71	352	Pn	Pn	11 18 49.2	-0.7
	comp=Z,0.2nm,0.3s,baz=167,slow=14,SNR=7.0						
HFS				Sn	Sn	11 20 25.7	-3.2
	comp=Z,0.2nm,0.3s,baz=187,slow=23,SNR=4.0						
LOR	Lormes	9.07	247	ePn	Pn	11 18 51.1	-3.6
SBF	Sospel	9.66	221	eP	Pn	11 19 03.9	+1.1
HYF	Humbligny	9.77	249	ePn	Pn	11 19 02.2	-2.2
HYF				eSn	Sn	11 20 45.7	-9.2
HYF				eSg	Sn	11 21 47.7	+53
	comp=Z,2.2nm,0.2s						
HYF	Humbligny	9.77	249	ePn	Pn	11 19 02.2	-2.2
HYF				eSn	Sn	11 20 45.7	-9.2
HYF				eSg	Sn	11 21 47.7	+53
	comp=Z,1.1nm,0.2s						
NOA	NORSAR Array B	9.89	346	Pn	Pn	11 19 05.7	-0.4
	comp=Z,0.2nm,0.3s,baz=165,slow=12,SNR=2.4						
BGF	Bois d'Agland	10.04	245	ePn	Pn	11 19 05.4	-2.7
BGF				eSn	Sn	11 20 52.7	-8.7
FRF	La Foret Royal	10.23	222	ePn	Pn	11 19 08.4	-2.3
FRF				eSn	Sn	11 20 55.8	-10
	comp=Z,0.5nm,0.2s						
FLN	La Foliniere	11.01	262	ePn	Pn	11 19 19.5	-1.9
FLN				eSn	Sn	11 21 13.7	-12
FINES	FINESS Array B	11.33	25	Pn	Pn	11 19 24.5	-1.2
	comp=Z,0.1nm,0.3s,baz=217,slow=10.0,SNR=8.0						
FINES				Sn	Sn	11 21 26.0	-6.9
	comp=Z,0.2nm,0.3s,baz=208,slow=20,SNR=4.0						
FINES	FINESS Array B	11.33	25	Pn	Pn	11 19 24.5	-1.2
FINES				Sn	Sn	11 21 26.0	-6.9
KAF	Kangasniemi	11.95	24	ep	Pn	11 19 33.3	-0.9
EKA	Eskdalemuir Ar	12.10	296	Pn	Pn	11 19 34.5	-1.7
	comp=Z,0.1nm,0.3s,baz=98,slow=14,SNR=2.4						
ROSF	Rostrenen	12.89	263	ePn	Pn	11 19 40.7	-6.4
ROSF				ePg	Pn	11 20 43.1	+56
ARCES	ARCESS Array B	18.59	10	Pn	Pn	11 20 59.0	-2.3
	comp=Z,0.3nm,0.3s,baz=195,slow=12,SNR=11						

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*HLW **09** 11:31:46.8, 2998N×3691E, h30km, Mb3.2*
*ISCJB **09** 11:31:51.1±1.1, 2988N±005×36.19E±009, h10km, Error ellipse: s-maj=10.8km s-min=7.7km az=178.8*
*GII **09** 11:31:51.7±0.8, 2996N×36.13E, h0km±2km, ML2.1/2*
ISC 09 11:31:51.3±1.1**, 2988N**±006×**3624E**±009**, h10**km**, n18, σ0s82**/22**, 6C-2D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AQBJ	Aqaba	1.04	262	Pg	Pg	11 32 11.2	-0.1
ZFRI	Zfri	1.14	306	Pg	Pg	11 32 11.8	-1.3
EIL	Elat	1.14	260	Pg	Pg	11 32 13.0	-0.2
MBH	Mount Berech	1.15	266	Pg	Pg	11 32 12.7	-0.8
PRNI	Paran	1.17	294	Pg	Pg	11 32 12.5	-1.2
PRNI				Sg	Sg	11 32 28.8	-0.1
HBST	Basata	1.47	244	⇑P	Pn	11 32 18.0	+0.2
MZDA	Masada	1.61	332	Pn	Pn	11 32 20.3	+0.5
MASH	Mash'abbe Sade	1.68	312	Pn	Pn	11 32 19.6	-1.1
MKRJ	Makawir	1.74	343	Pn	Pn	11 32 21.6	0.0
HDHB	Dhahab	1.83	231	⇑P	Pn	11 32 22.7	-0.1
DRGI	Dragot	1.85	337	Pn	Pn	11 32 24.1	+1.0
HNKL	Nakhl	1.96	272	⇑P	Pn	11 32 25.3	+0.7
HNKL				S	Sn	11 32 53.0	+3.8
HKAT	Jabal Katrina	2.38	236	⇓P	Pn	11 32 30.5	+0.1
TR2		2.66	236	⇑P	Pn	11 32 34.2	0.0
AMAG	Maghara	2.73	287	⇓P	Pn	11 32 35.0	-0.1
AMAG				S	Sn	11 33 10.5	+2.4
AMAG	Maghara	2.73	287	P	Pn	11 32 35.0	-0.1
AMAG				S	Sn	11 33 10.5	+2.3
TR1		2.74	228	⇑P	Pn	11 32 35.0	-0.3
SUZ		2.96	270	⇑P	Pn	11 32 38.9	+0.6

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*ISCJB **09** 11:36:11.9±0.8, 216S±0.1×683W±0.1, h116km±11km, mb3.8/4, Error ellipse: s-maj=19.2km s-min=15.3km az=69.3*
*IDC **09** 11:36:12.7±0.9, 2157S×6840W, h109km±13km, mb3.7/5, mb1 3.7/8, mb1mx3.6/16, mbtmp3.9/8, Error ellipse: s-maj=23.8km s-min=18.7km az=140.0*
ISC 09 11:36:12.9±0.8**, 2154S**±010×**683W**±0.1**, h104**km±9km**, n9, σ1s16**/11**, mb3.8**/4**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.21	208	P	Pn	11 36 35.9	0.0
	47nm,0.3s,baz=28,slow=8.0,SNR=518						
LVC				S	Sn	11 36 53.0	-0.4
	210nm,0.3s,baz=130,slow=19,SNR=48						
LPAZ	La Paz	5.23	2	P	Pn	11 37 30.6	+1.9
	0.9nm,0.3s,baz=183,slow=6.4,SNR=22						
SIV	San Ignacio	8.79	52	P	Pn	11 38 16.9	-0.2
	1.9nm,0.3s,baz=244,slow=13,SNR=35						
SIV				S	Sn	11 39 51.4	-2.9
	0.1nm,0.3s,baz=312,slow=22,SNR=3.0						
CPUP	Villa Florida	11.10	118	P	Pn	11 38 48.7	+0.3
	0.3nm,0.3s,baz=290,slow=12,SNR=3.4						
BDFB	Brasilia	20.09	76	P	P	11 40 38.7	+0.6
	3.0nm,0.5s,baz=230,slow=5.3,SNR=7.2						
DBIC	Dimbokro	68.20	73	P	P	11 47 02.9	+0.8
	2.4nm,0.9s,mb4.0,baz=288,slow=6.4,SNR=2.8						
NVAR	Mina Array Bea	75.88	322	P	P	11 47 47.4	-0.5
	0.5nm,0.7s,mb3.3,baz=186,slow=8.5,SNR=5.2						
TORD	Torodi Ar. Bea	76.83	70	P	P	11 47 54.1	+0.9
	0.8nm,0.4s,mb3.8,baz=254,slow=5.2,SNR=12						
YKA	Yellowknife Ar	91.42	340	P	P	11 49 04.9	-2.3
	1.0nm,0.5s,mb4.2,baz=130,slow=4.3,SNR=6.4						

NNC 09 11:57:27.9±3.5, 5402N×8652E, h0^{km}, mb3.6, mpv3.1, 9C-4D, Error ellipse: s-maj=31.3km s-min=19.0km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.86**	**239**	⇑Pn	Pn	11 58 56.8	+0.9
	1.7nm,0.9s						
KURK				⇓Sn	Sn	12 00 08.5	+4.7
	2.0nm,0.9s						
KURK				⇑Lg		12 00 38.1	
	11nm,1.0s						
MK02	**Makanchi Array**	**7.74**	**202**	⇓Pn	Pn	11 59 20.7	-1.0
	0.9nm,0.6s,baz=22,slow=11						
MK02				⇓Sn	Sn	12 00 49.6	-0.4
	1.6nm,0.6s,baz=30,slow=28						
MK02				⇑Lg		12 01 33.6	
	7.5nm,0.9s,baz=18,slow=32						
VOSK	**Vostochnaya**	**9.38**	**268**	⇑Pn	Pn	11 59 44.9	+0.6
	1.3nm,0.5s						
VOSK				⇑Sn	Sn	12 01 29.8	-0.7
	7.6nm,0.7s						
CHKZ	**Chkalovo**	**9.41**	**274**	⇑Pn	Pn	11 59 44.1	-0.6
	2.8nm,1.1s						
CHKZ				⇓Sn	Sn	12 01 29.5	-1.7
	2.8nm,0.8s						
BVA0	**Borovoye Array**	**9.66**	**271**	⇑Pn	Pn	11 59 50.0	+1.9
	0.4nm,1.1s,baz=294,slow=40,SNR=5.3						
BVA0				⇑Sn	Sn	12 01 35.7	-1.6
	1.0nm,0.9s,baz=86,slow=20,SNR=9.6						
ZRNK	**Zerenda**	**10.49**	**271**	Pn	Pn	12 00 00.3	+0.7
	1.4nm,0.8s						
ZRNK				⇑Sn	Sn	12 01 55.5	-2.3
	2.7nm,1.0s						

*BJI **09** 12:20:03.2, 2069S×6627E, h10^{km}, mB5.3, mb4.8, Ms4.8, Msz4.5*

*ISCJB **09** 12:20:06.8±0.3, 2007S±0.06×6628E±0.06, h10^{km}, mb4.6/45, MS4.3/24, Error ellipse: s-maj=8.9km s-min=8.6km az=105.5*

*IDC **09** 12:20:06.7±0.6, 2002S×6625E, h0^{km}, mb4.3/18, mb1 4.4/18, mb1mx4.4/22, mbtmp4.3/18, MS4.2/13, Ms1 4.2/13, ms1mx4.0/18, Error ellipse: s-maj=19.8km s-min=15.9km az=10.0*

*MOS **09** 12:20:07.2±1.2, 1993S×6635E, h10^{km}, mb5.0/15, Error ellipse: s-maj=15.9km s-min=8.3km az=107.3*

*HRVD **09** 12:20:08.9±0.3, 1985S×6612E, h12^{km}, MW5.0/66, Centroid moment Tensor Solution. LP body waves: s25,c28;Mantle waves: s66,c91; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.67±.10; $M_{\theta\theta}$0.42±.10; $M_{\phi\phi}$2.25±.09; $M_{r\theta}$1.39±.39; $M_{\theta\phi}$-1.22±.09; $M_{\phi r}$1.94±.35; Best double couple: $M_0$3.57600×10^{16} NP1:ϕ_s312.00000°,δ39.00000°,λ-135.00000°. NP2: ϕ_s183.00000°,δ64.00000°,λ-61.00000°. Principal axes: T 3.1380, Plg14.0000°, Azm252.0000°; N 0.8780, Plg26.0000°, Azm349.0000°; P -4.0150, Plg60.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **09** 12:20:08.9±0.3, 1997S×6626E, h10^{km}, mb4.8/16, MS4.3/3 Error ellipse: s-maj=11.3km s-min=8.8km az=54.0*

ISC 09 12:20:09.5±3.4, 2003S±0.06×6622E±0.07, h15^{km}±20^{km}, h16^{km}±1.3^{km}:pP-P, n121, σ0.98/99, mb4.6/45, MS4.3/24, 4C-8D, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**33.99**	**300**	P	**P**	**12 26 52.5**	**-0.1**
	0.6nm,0.4s,mb3.8,baz=87,slow=12,SNR=3.1						
KMBO				LR	LR	12 38 32.2	
	comp=Z,264nm,18.8s,MS4.0,baz=276,slow=32						
MATP	**Matopo**	**35.35**	**263**	P	**P**	**12 27 04.9**	**+0.6**
	6.5nm,0.9s,mb4.5,baz=98,slow=9.1,SNR=12						
LBTB	**Lobatse**	**37.75**	**255**	P	**P**	**12 27 25.1**	**+0.3**
	7.3nm,0.9s,mb4.4,baz=103,slow=6.7,SNR=11						
MAW	**Mawson**	**47.61**	**182**	P	**P**	**12 28 47.4**	**+2.5**
	8.0nm,0.7s,mb4.8,baz=17,slow=9.8,SNR=6.0						
MAW				LR	LR	12 43 17.8	
	comp=Z,392nm,21.6s,MS4.3,baz=245,slow=29						
MAW	**Mawson**	**47.61**	**182**	P	**P**	**12 28 47.3**	**+2.5**
MAW				pmax	pmax		
	comp=Z,12nm,1.0s						
MAW	**Mawson**	**47.61**	**182**	P	**P**	**12 28 47.3**	**+2.4**
	comp=Z,12nm,1.0s,mb4.9						
SYO	**Syowa Base**	**51.65**	**192**	⇓eP	**P**	**12 29 15.0**	**-0.6**
KMI	**Kunming**	**57.23**	**40**	P	**P**	**12 29 58.6**	**+2.4**
KMI				AP	pP	12 30 01.5	+0.5
KMI				XP	sP	12 30 02.7	-0.1
KMI				PP	PP	12 32 07.5	+4.2
KMI				PPP		12 33 26.8	
KMI				S	**S**	**12 37 53.0**	**+1.5**
KMI				SS	SS	12 41 42.9	+2.3
KMI				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.6						
KMI				LR	LR		
	comp=N,234nm,18.0s,MS4.5						
KMI				LR	LR		
	comp=E,203nm,18.5s,MS4.5						
KMI				LR	LR		
	comp=Z,258nm,24.9s						
QIZ	**Qiongzhong**	**57.75**	**51**	P	**P**	**12 29 58.4**	**-1.5**
QIZ				S	**S**	**12 38 03.5**	**+5.2**
QIZ				LR	LR		
	comp=E,197nm,22.7s						
QIZ				LR	LR		
	comp=Z,206nm,22.4s,MS4.2						
CD2	**Chengdu**	**62.17**	**36**	⇓iP	**P**	**12 30 30.6**	**+0.4**
CD2				AP	pP	12 30 35.6	+0.6
CD2				XP	sP	12 30 38.0	+1.2
CD2				PP	PP	12 32 49.6	+2.6
CD2				S	**S**	**12 38 54.1**	**-1.1**
CD2				SS	SS	12 42 58.9	+0.8
CD2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,6.8s						
CD2				LR	LR		
	comp=E,180nm,19.2s						
CD2				LR	LR		
	comp=Z,210nm,20.4s,MS4.3						
ASAR	**Alice Springs**	**62.40**	**107**	P	**P**	**12 30 31.1**	**-0.7**
	comp=Z,4.5nm,0.8s,mb4.6,baz=262,slow=6.1,SNR=27						
ASAR				LR	LR	12 53 55.9	
	comp=Z,441nm,20.2s,MS4.6,baz=273,slow=32						
AAK	**Ala-Archa**	**62.81**	**7**	⇑eP	**P**	**12 30 34.1**	**-0.4**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.8						
GNI	**Garni**	**63.13**	**342**	P	**P**	**12 30 38.0**	**+1.4**
	comp=Z,2.3nm,0.4s,mb4.7,baz=341,slow=18,SNR=4.3						
WRA	**Warramunga Arr**	**63.57**	**103**	P	**P**	**12 30 39.2**	**-0.3**
	comp=Z,9.4nm,1.1s,mb4.8,baz=259,slow=5.8,SNR=26						
WRA				LR	LR	12 54 39.9	
	comp=Z,210nm,18.2s,MS4.3,baz=245,slow=33						
WB2	**Warramunga Arr**	**63.58**	**103**	eP	**P**	**12 30 40.4**	**+0.8**
WRAB	**Tennant Creek**	**63.58**	**103**	eP	**P**	**12 30 38.9**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2						
WRAB	**Tennant Creek**	**63.58**	**103**	eP	**P**	**12 30 38.9**	**-0.8**
	comp=Z,37nm,1.3s,mb5.3						
KAKA	**Kakadu**	**63.61**	**95**	eP	**P**	**12 30 40.2**	**+0.4**
	comp=Z,14nm,1.1s,mb4.9						
SNAA	**Sanae**	**64.58**	**199**	eP	**P**	**12 30 45.6**	**-0.5**
SNAA				e	pP	12 30 51.3	+0.3
SNAA				e		12 30 55.8	
SNAA				e		12 30 59.9	
SNAA				e		12 31 03.3	
SNAA				e		12 31 19.1	
SNAA				e		12 31 39.0	
SNAA				e		12 33 08.9	
SNAA	**Sanae**	**64.58**	**199**	⇓eP	**P**	**12 30 46.7**	**+0.6**
SNAA	**Sanae**	**64.58**	**199**	eP	**P**	**12 30 46.5**	**+0.4**
	comp=Z,6.0nm,0.8s,mb4.7						
VNA1	**Neumayer--Stat**	**66.12**	**201**	eP	**P**	**12 30 55.3**	**-0.8**
VNA1				e		12 31 02.3	
VNA1				e		12 31 06.5	
VNA1				e		12 31 10.6	
VNA1				e		12 31 23.5	
WMQ	**Urumqi**	**66.52**	**17**	P	**P**	**12 31 01.3**	**+2.6**
WMQ				AP	pP	12 31 05.3	+1.8
WMQ				XP	sP	12 31 07.8	+2.5
WMQ				PCP	PcP	12 31 30.9	+2.8
WMQ				PP	PP	12 33 29.6	+4.4
WMQ				SCP		12 35 32.4	
WMQ				S	S	12 39 49.4	+0.4
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,196nm,8.0s						
WMQ				LR	LR		
	comp=N,90nm,6.8s						
WMQ				LR	LR		
	comp=E,99nm,5.0s						
WMQ				LR	LR		
	comp=Z,196nm,8.0s						
BRTR	**Keskin Array B**	**66.78**	**333**	P	**P**	**12 30 59.6**	**-0.7**
	comp=Z,4.9nm,0.9s,mb4.5,baz=152,slow=8.0,SNR=7.8						
BRTR				LR	LR	12 57 52.1	
	comp=Z,57nm,19.4s,MS3.8,baz=335,slow=34						
GTA	**Gaotai**	**66.95**	**28**	eP	**P**	**12 31 02.3**	**+0.8**
GTA				AP	pP	12 31 11.5	+5.2
GTA				XP	sP	12 31 15.7	+7.6
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
KIV	**Kislovodsk**	**67.23**	**342**	eP	**P**	**12 31 05.2**	**+2.0**
KIV				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**67.23**	**342**	eP	**P**	**12 31 03.5**	**+0.2**
	comp=Z,16nm,1.0s,mb5.0						
KIV				LR	LR		
	comp=Z,82nm,19.0s,MS4.0						
STKA	**Stephens Creek**	**67.61**	**117**	LR	LR	12 56 28.4	
	comp=Z,271nm,19.9s,MS4.5,baz=207,slow=32						
MKAR	**Makanchi Array**	**68.08**	**12**	P	**P**	**12 31 08.4**	**-0.2**
	comp=Z,2.5nm,0.9s,mb4.2,baz=191,slow=5.7,SNR=14						
QSPA	**South Pole Qui**	**70.08**	**180**	eP	**P**	**12 31 19.7**	**-1.3**
	comp=Z,35nm,1.2s,mb5.2						
KURK	**Kurchatov**	**71.28**	**8**	eP	**P**	**12 31 27.1**	**-1.2**
KURK				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7						
KURK				MLR	MLR		
	comp=Z,194nm,22.0s,MS4.3						
KURK	**Kurchatov**	**71.28**	**8**	eP	**P**	**12 31 27.1**	**-1.3**
	comp=Z,13nm,1.4s,mb4.7						
KURK				LR	LR		
	comp=Z,194nm,22.0s,MS4.3						
TORD	**Torodi Ar. Bea**	**71.52**	**292**	P	**P**	**12 31 28.8**	**-1.0**
	comp=Z,3.0nm,1.1s,mb4.2,baz=129,slow=4.0,SNR=5.6						
TORD				LR	LR	13 00 43.2	
	comp=Z,139nm,20.9s,MS4.2,baz=105,slow=34						
VNDA	**Vanda**	**71.80**	**167**	P	**P**	**12 31 30.7**	**-0.8**
	comp=Z,4.9nm,1.1s,mb4.4,baz=278,slow=6.6,SNR=4.9						
VNDA				LR	LR	12 56 46.8	
	comp=Z,109nm,18.9s,MS4.1,baz=251,slow=31						
NJ2	**Nanjing**	**72.25**	**45**	eP	**P**	**12 31 34.5**	**+0.3**
NJ2				PP	PP	12 34 18.0	+3.2
NJ2				S	S	12 40 54.0	-2.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,101nm,4.8s						
NJ2				LR	LR		
	comp=N,2μm,16.2s						
NJ2				LR	LR		
	comp=E,280nm,16.6s						
NJ2				LR	LR		
	comp=Z,1μm,15.6s,MS5.3						
ZRNK	**Zerenda**	**72.71**	**2**	eP	**P**	**12 31 35.5**	**-1.4**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
ZRNK	**Zerenda**	**72.71**	**2**	eP	**P**	**12 31 35.5**	**-1.4**
	comp=Z,6.2nm,1.1s,mb4.5						
SBA	**Scott Base**	**72.76**	**167**	P	**P**	**12 31 39.0**	**+1.8**
BVAR	**Borovoye Array**	**72.84**	**3**	P	**P**	**12 31 36.6**	**-1.1**
	comp=Z,2.0nm,0.8s,mb4.1,baz=155,slow=7.4,SNR=12						
SSE	**Sheshan**	**73.26**	**47**	P	**P**	**12 31 39.5**	**-0.7**
SSE				AP	pP	12 31 48.9	+3.9
SSE				XP	sP	12 31 52.5	+5.7
SSE				PCP	PcP	12 31 55.6	-1.0
SSE				S	S	12 41 06.1	-1.9
SSE				XS	sS	12 41 22.4	+6.4
SSE				AMB	AMB		
	comp=Z,39nm,1.2s,mb5.2						
SSE				AMB	AMB		
	comp=Z,622nm,4.0s						
SSE				LR	LR		
	comp=N,85nm,21.5s,MS4.2						
SSE				LR	LR		
	comp=E,119nm,21.5s,MS4.2						
SSE				LR	LR		
	comp=Z,143nm,20.8s,MS4.2						
CFR	**Carcaliu**	**73.58**	**333**	⇑iP	**P**	**12 31 43.1**	**+1.1**
HHC	**Hu-ho-hao-te**	**73.77**	**34**	eP	**P**	**12 31 44.8**	**+1.6**
HHC				XP	sP	12 31 50.8	+1.0
HHC				PP	PP	12 34 31.3	+3.6
HHC				S	S	12 41 15.1	+1.3
HHC				PS		12 41 49.6	
HHC				SS	SS	12 46 00.9	+3.4
HHC				AMB	AMB		
	comp=Z,16nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,161nm,5.7s						
HHC				LR	LR		
	comp=N,188nm,21.4s,MS4.5						
HHC				LR	LR		
	comp=E,202nm,20.2s,MS4.5						
HHC				LR	LR		
	comp=Z,157nm,22.0s,MS4.2						
DBIC	**Dimbokro**	**74.72**	**283**	P	**P**	**12 31 48.3**	**-0.4**
	comp=Z,2.6nm,0.8s,mb4.2,baz=40,slow=7.9,SNR=2.3						
DBIC				LR	LR	13 02 29.6	
	comp=Z,178nm,19.4s,MS4.4,baz=96,slow=34						
MLR	**Muntele Rosu**	**74.78**	**332**	⇑iP	**P**	**12 31 49.9**	**+0.9**
ZAL	**Zalesovo**	**75.38**	**11**	P	**P**	**12 31 50.6**	**-1.9**
	comp=Z,2.4nm,0.9s,mb4.1,baz=279,slow=6.1,SNR=13						
ZAL				LR	LR	13 05 07.0	
	comp=Z,100nm,20.0s,MS4.1,baz=270,slow=36						
NVS	**Novosibirsk**	**75.97**	**10**	eP	**P**	**12 31 54.7**	**-1.2**
ARU	**Arti**	**76.43**	**356**	eP	**P**	**12 31 58.0**	**-0.5**
ARU				e		12 34 50.1	
ARU				ePPP		12 36 38.0	
ARU				eS	S	12 41 42.3	-1.1
ARU				eSS	SS	12 46 36.7	-1.2
ARU				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.2						
ARU				MLR	MLR		
	comp=N,100nm,19.0s,MS4.3						
ARU				MLR	MLR		
	comp=E,100nm,18.0s,MS4.3						
ARU	**Arti**	**76.43**	**356**	eP	**P**	**12 31 58.3**	**-0.2**
	comp=E,13nm,1.3s,mb4.7						
SONM	**Songino Array**	**76.56**	**27**	P	**P**	**12 31 58.8**	**-0.5**
	comp=E,2.9nm,0.9s,mb4.2,baz=216,slow=5.0,SNR=15						
SONM				LR	LR	13 04 44.7	
	comp=E,161nm,20.7s,MS4.3,baz=210,slow=35						
SVE	**Sverdlovsk**	**76.70**	**357**	eP	**P**	**12 32 00.0**	**0.0**
SVE				MLR	MLR		
	comp=N,200nm,16.0s,MS4.6						
SVE				MLR	MLR		
	comp=E,100nm,16.0s,MS4.6						
SVE				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.7						
BURAR	**Bucovina Array**	**76.74**	**333**	⇓iP	**P**	**12 32 06.4**	**+6.1**
ULN	**Ulaanbaatar**	**76.86**	**27**	i P	**P**	**12 32 00.7**	**-0.2**
ULN	**Ulaanbaatar**	**76.86**	**27**	eP	**P**	**12 32 01.2**	**+0.2**
ULN				LR	LR		
	comp=Z,188nm,20.0s,MS4.4						
BZS	**Buzias**	**76.86**	**330**	⇓iP	**P**	**12 32 00.1**	**-0.8**
DRGR		**77.22**	**331**	⇓iP	**P**	**12 32 04.0**	**+1.0**
AKASG	**Malin Array Be**	**77.60**	**337**	P	**P**	**12 32 03.8**	**-1.3**
	comp=Z,6.9nm,0.8s,mb4.6,baz=143,slow=4.7,SNR=11						
AKBB	**Malin Array Si**	**77.60**	**337**	eP	**P**	**12 32 03.8**	**-1.3**
PKSM	**Moragy**	**78.73**	**328**	⇓iP	**P**	**12 32 11.7**	**+0.3**
OBN	**Obninsk**	**79.00**	**343**	⇓eP	**P**	**12 32 12.9**	**+0.1**
OBN				eS	S	12 42 08.0	-3.2
OBN				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
KOLS	**Kolonicke sedl**	**79.02**	**332**	eP	**P**	**12 32 15.5**	**+2.5**
KOLS				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
KOLS	**Kolonicke sedl**	**79.02**	**332**	eP	**P**	**12 32 15.5**	**+2.5**
	comp=Z,5.4nm,1.0s,mb4.4						
CRVS	**Cervenica-Dubn**	**79.36**	**332**	eP	**P**	**12 32 13.9**	**-0.9**
CRVS				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
CRVS	**Cervenica-Dubn**	**79.36**	**332**	eP	**P**	**12 32 13.9**	**-0.9**
	comp=Z,4.4nm,1.0s,mb4.3						
KWP	**Kalwaria**	**79.36**	**333**	eP	**P**	**12 32 15.7**	**+0.9**
KWP				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
KWP	**Kalwaria**	**79.36**	**333**	eP	**P**	**12 32 15.7**	**+0.9**
	comp=Z,24nm,1.2s,mb5.0						
KECS	**Kecovo**	**79.49**	**331**	eP	**P**	**12 32 15.9**	**+0.4**
KECS				e	pP	12 32 20.0	-0.4
KECS				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
KECS	**Kecovo**	**79.49**	**331**	eP	**P**	**12 32 15.9**	**+0.4**
	comp=Z,2.6nm,0.9s,mb4.2						
KECS				e	pP	12 32 20.0	-0.4
SRO2	**Moca**	**79.95**	**329**	eP	**P**	**12 32 18.2**	**+0.2**
SRO2				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
GOLS	**Golise**	**80.11**	**327**	eP	**P**	**12 32 19.7**	**+0.9**
GOLS				e	pP	12 32 24.0	+0.2
VYHS	**Vyhne**	**80.26**	**330**	eP	**P**	**12 32 18.9**	**-0.8**
VYHS				e	pP	12 32 24.3	-0.3
VYHS				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
VYHS	**Vyhne**	**80.26**	**330**	eP	**P**	**12 32 18.9**	**-0.8**
	comp=Z,7.0nm,1.3s,mb4.4						
VYHS				e	pP	12 32 24.3	-0.3
DOBS	**Dobrina**	**80.28**	**327**	eP	**P**	**12 32 20.6**	**+0.8**
VISS	**Visnje**	**80.38**	**326**	eP	**P**	**12 32 20.5**	**+0.2**
VISS				e	pP	12 32 24.9	-0.3
VISS				e		12 32 29.4	
GROS	**Grobnik**	**80.47**	**327**	eP	**P**	**12 32 21.6**	**+0.7**
GROS				e	pP	12 32 25.5	-0.2
ZST	**Bratislava**	**80.87**	**329**	eP	**P**	**12 32 22.9**	**-0.1**
ZST				e	pP	12 32 27.8	-0.1
ZST				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
ZST	**Bratislava**	**80.87**	**329**	eP	**P**	**12 32 22.9**	**-0.1**
	comp=Z,10nm,0.9s,mb4.8						
ZST				e	pP	12 32 27.8	-0.1
OJC	**Ojcow**	**81.06**	**332**	eP	**P**	**12 32 24.0**	**0.0**
SNY	**Shenyang**	**81.21**	**40**	⇑P	**P**	**12 32 25.3**	**+0.5**
OKC	**Ostrava-Krasne**	**81.53**	**331**	eP	**P**	**12 32 27.7**	**+1.2**
TREC	**Trest**	**82.40**	**329**	eP	**P**	**12 32 29.7**	**-1.3**
TREC				epP	pP	12 32 35.2	-0.8
DPC	**Dobruska-Polom**	**82.73**	**330**	eP	**P**	**12 32 33.0**	**+0.2**
GERES	**GERESS Array B**	**82.97**	**328**	P	**P**	**12 32 33.7**	**-0.3**
	comp=Z,1.0nm,0.8s,mb3.9,baz=142,slow=4.6,SNR=3.5						
UPC	**Upice**	**82.98**	**330**	eP	**P**	**12 32 34.0**	**-0.1**
KHC	**Kasperske Hory**	**83.22**	**328**	eP	**P**	**12 32 35.0**	**-0.3**
KHC				epP	pP	12 32 38.9	-1.3
PRU	**Pruhonice**	**83.32**	**329**	eP	**P**	**12 32 35.7**	**-0.1**
KLMR	**Klimovskoe**	**83.44**	**347**	eP	**P**	**12 32 35.4**	**-1.0**
KLMR				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.9						
PVCC	**Panska Ves**	**83.67**	**330**	eP	**P**	**12 32 36.5**	**-1.1**
BRG	**Berggiesshubel**	**84.20**	**330**	eP	**P**	**12 32 42.0**	**+1.7**
	comp=Z,2.6nm,1.3s,mb4.2						
BRG				e	pP	12 32 45.4	+0.1
	comp=Z,3.2nm,1.1s						
BRG				e		12 34 32.8	
	comp=Z,4.5nm,1.6s						
BRG	**Berggiesshubel**	**84.20**	**330**	eP	**P**	**12 32 42.0**	**+1.7**
BRG				e	pP	12 32 45.4	+0.1
BRG				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.3						
BRG				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.3						
BRG				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.4						
NKC	**Novy Kostel**	**84.50**	**329**	eP	**P**	**12 32 42.0**	**+0.2**
NKC				epP	pP	12 32 46.5	-0.3
VSU	**Vasula**	**84.73**	**340**	i P	**P**	**12 32 41.4**	**-1.6**
CLL	**Collm**	**84.93**	**330**	P	**P**	**12 32 44.4**	**+0.4**
CLL				i *SP	sP	12 32 53.5	+2.8
CLL	**Collm**	**84.93**	**330**	i P	**P**	**12 32 44.4**	**+0.4**
CLL				i (sP)	sP	12 32 53.5	+2.8
MAT	**Matsushiro**	**88.15**	**50**	P	**P**	**12 32 59.7**	**-0.1**
MAT	**Matsushiro**	**88.15**	**50**	ePKP	**P**	**12 33 00.0**	**+0.2**
MJAR	**Matsushiro Arr**	**88.15**	**50**	P	**P**	**12 33 00.4**	**+0.6**
	comp=Z,5.0nm,1.0s,mb4.7,baz=229,slow=4.6,SNR=16						
MJAR				LR	LR	13 11 28.2	
	comp=Z,234nm,20.7s,MS4.6,baz=220,slow=35						
ESDC	**Sonseca Array**	**88.31**	**313**	P	**P**	**12 33 00.6**	**0.0**
	comp=Z,3.4nm,1.0s,mb4.5,baz=83,slow=2.7,SNR=10						
ARCES	**ARCESS Array B**	**93.90**	**347**	LR	LR	13 17 12.9	
	comp=Z,56nm,20.9s,MS4.0,baz=99,slow=36						
LPAZ	**La Paz**	**122.44**	**234**	PKP	PKPdf	12 39 05.7	+1.5
	comp=Z,2.1nm,1.2s,baz=11,slow=9.0,SNR=3.1						
BLA	**Blacksburg**	**146.31**	**308**	ePKP2	PKPab	12 39 50.0	-0.4
FWV	**Forest Hill**	**146.46**	**309**	ePKPdf	PKPdf	12 39 50.4	+1.7
ELN	**Prospectdale**	**146.55**	**308**	ePKPdf	PKPdf	12 39 49.5	+0.7
ULM	**Lac du Bonnet**	**146.66**	**339**	PKPbc	PKPbc	12 39 49.9	-0.7
	comp=Z,12nm,0.9s,baz=44,slow=5.0,SNR=6.4						
ULM	**Lac du Bonnet**	**146.66**	**339**	ePKPdf	PKPdf	12 39 49.2	+0.2
ACSO	**Alum Creek Sta**	**146.87**	**314**	ePKPdf	PKPdf	12 39 48.5	-0.8
EDM	**Edmonton**	**146.87**	**360**	ePKP2	PKPab	12 39 50.4	-2.2
CPCT	**Cooper Cave**	**150.04**	**307**	ePKPdf	PKPdf	12 39 56.4	+1.9
WCI	**Wyandotte Cave**	**150.08**	**313**	ePKIKP	PKPdf	12 39 56.7	+2.1
WALA	**Waterton Lakes**	**151.04**	**0**	ePKPbc	PKPbc	12 40 02.7	+0.8
NEW	**Newport**	**151.71**	**5**	ePKIKP	PKPbc	12 40 02.8	-0.6
EGMT	**Eagleton**	**151.88**	**354**	ePKPbc	PKPbc	12 40 03.0	-0.8
ECSD	**EROS,Sioux Fal**	**152.35**	**333**	ePKPbc	PKPbc	12 40 03.5	-1.4
LAO	**LASA Array**	**152.70**	**349**	ePKPbc	PKPbc	12 40 07.1	+1.4
PLAL	**Pickwick Lake**	**152.88**	**309**	ePKPbc	PKPbc	12 40 06.2	+0.1
FVM	**French Village**	**152.97**	**316**	ePKIKP	PKPbc	12 40 04.8	-1.5
HRY	**Holter Researc**	**153.34**	**357**	ePKPbc	PKPbc	12 40 08.3	+1.2
CCM	**Cathedral Cave**	**153.46**	**317**	ePKIKP	PKPdf	12 40 03.1	+3.4
RSSD	**Black Hills**	**154.64**	**343**	ePKIKP	PKPbc	12 40 11.0	+1.1
PDAR	**Pinedale Array**	**157.06**	**352**	PKP	PKPdf	12 40 06.2	+1.6
	comp=Z,0.7nm,0.9s,baz=281,slow=0.8,SNR=5.8						
PDAR				PKPab	PKPab	12 40 36.9	+1.9
	comp=Z,0.5nm,0.8s,baz=22,slow=7.8,SNR=2.4						
NVAR	**Mina Array Bea**	**161.25**	**11**	PKP	PKPdf	12 40 10.5	+1.1
	comp=Z,0.3nm,0.8s,baz=267,slow=1.8,SNR=2.5						
NVAR				PKPab	PKPab	12 40 53.1	0.0
	comp=Z,0.8nm,0.8s,baz=19,slow=2.5,SNR=5.2						
NVAR	**Mina Array Bea**	**161.25**	**11**	PKP	PKPdf	12 40 10.5	+1.1
NVAR				PKPab	PKPab	12 40 53.1	0.0

IDC 09 13:30:48.0±8.8, 548S×15134E, h97^{km}±60^{km}, mb2.9/2, mb1 3.2/3, mb1mx3.1/14, mbtmp3.4/3, ML2.6/1, Error ellipse: s-maj=134.2km s-min=55.9km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.70**	**226**	P	Pn	13 32 09.6	-0.4
	1.1nm,0.3s,baz=65,slow=6.0,SNR=4.9						
PMG				S	Sn	13 33 14.9	+0.8
	2.1nm,0.3s,baz=354,slow=19,SNR=4.1						
WB2	**Warramunga Arr**	**21.91**	**227**	eP	P	13 35 35.0	+1.8
WRA	**Warramunga Arr**	**21.92**	**227**	P	P	13 35 33.1	-0.2
	0.5nm,0.6s,baz=53,slow=9.9,SNR=8.7						
ASAR	**Alice Springs**	**24.68**	**221**	P	P	13 36 00.9	+1.2
	0.5nm,0.6s,baz=60,slow=8.5,SNR=15						
TORD	**Torodi Ar. Bea**	**149.12**	**286**	PKPbc	PKPbc	13 50 25.3	+0.3
	1.0nm,0.6s,baz=72,slow=3.0,SNR=6.0						

CASC 09 14:11:54.7±3.0, 1152N×8664W, h10^{km}±19^{km}, MD4.1, 2C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIM1	**Limonal**	**1.59**	**121**	⇑eP	Pn	14 12 22.2	-0.7
VCR	**Vista de Mar**	**1.70**	**144**	eP	Pn	14 12 25.0	+0.6
BLLM	**Bellamira**	**2.47**	**321**	eP	x	14 12 51.5	
BLLM				eS	x	14 13 25.0	
CGA2	**Cerro Gallo 2**	**2.61**	**125**	eP	Pn	14 12 36.0	-0.9
PRS1	**Puriscal**	**2.75**	**123**	eP	Pn	14 12 39.9	+1.0
LCBS	**La Ceiba**	**3.12**	**313**	eP	x	14 12 58.9	
LCBS				eS	x	14 13 36.2	
LCR2	**La Lucha 2**	**3.14**	**124**	⇑eP	Pn	14 12 44.2	0.0
LFRS	**El Faro**	**3.15**	**312**	eP	x	14 12 59.2	
LFRS				eS	x	14 13 36.8	
URSC	**Urasca**	**3.27**	**120**	eP	Pn	14 12 47.6	+1.5
BUS	**Buena Vista**	**3.44**	**124**	eP	Pn	14 12 47.7	-0.7

*NEIC **09** 14:33:01.0, 1689N×9460W, h124^{km}, MD4.0(MEX), After MEX.*

MEX 09 14:33:01.0±0.9, 1690N×9461W, h125^{km}±9^{km}, MD4.0, 1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.33**	**306**	⇓*i*P	Pn	14 33 17.6	-1.1
CMIG				*i*S	Sn	14 33 29.8	-2.1
HUIG	**Huatulco**	**1.83**	**232**	*i*P	Pn	14 33 30.8	-1.8
HUIG				*i*S	Sn	14 33 55.5	-1.2
OXX	**Oaxaca**	**2.03**	**275**	*i*P	Pn	14 33 34.5	-0.6
OXX				*i*S	Sn	14 34 00.3	-0.9
VHO	**Vista Hermosa**	**2.04**	**275**	*i*P	Pn	14 33 34.3	-0.8
VHO				*i*S	Sn	14 33 59.5	-1.9
UTMO	**Huajuapan**	**3.19**	**287**	*i*P	Pn	14 33 48.3	-1.6
UTMO				*i*S	Sn	14 34 24.6	-3.0
PPM	**Popocatepetl**	**4.39**	**300**	*i*P	Pn	14 34 02.6	-3.2
PPM	**Popocatepetl**	**4.39**	**300**	*i*P	Pn	14 34 02.8	-3.0

IDC ***09*** *14:47:00.2±1.1, 35.31N×28.20E, h0km, mb3.8/7, mb1 3.8/12, mb1mx3.7/24, mbtmp3.7/12, ML3.4/5, Error ellipse: s-maj=22.3km s-min=16.2km az=178.0*

ISCJB ***09*** *14:47:01.0±0.2, 35.11N±0.02×28.25E±0.03, h10km, mb3.6/7, Error ellipse: s-maj=3.4km s-min=2.5km az=137.4*

CSEM ***09*** *14:47:02.6±0.0, 35.13N×28.29E, h25km, Mw3.3, Error ellipse: s-maj=1.6km s-min=0.9km az=75.0*

ATH ***09*** *14:47:03.5, 35.21N×28.05E, h26km±2km, MD3.7/7*

NEIC ***09*** *14:47:03.5, 35.21N×28.05E, h26km, MD3.7(ATH), ML3.2(NIC), After ATH.*

HLW ***09*** *14:47:05.7, 35.11N×28.30E, h33km, Mb3.7*

NIC ***09*** *14:47:06.8±0.3, 35.40N×28.37E, h25km, ML3.2, MW3.3*

ISC 09 14:47:03.7±1.1**, 35.17N**±0.02×**28.18E**±0.03**, h20**km±11km**, n80,** σ1s00/95**, mb3.6**/7**, 16C-9D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.92**	**295**	*e*PN	**Pb**	**14 47 19.0**	**-1.9**
ARG	**Arkhangelos**	**1.05**	**358**	*e*PN	**Pn**	**14 47 22.9**	**-0.3**
ARG				*e*SN	**Sn**	**14 47 37.3**	**+0.1**
KSL	**Kastellorizon**	**1.50**	**49**	*e*PN	**Pn**	**14 47 31.5**	**+2.0**
DAT	**Datca**	**1.63**	**343**	PN	**Pn**	**14 47 31.2**	**-0.1**
FETY	**Fethiye**	**1.64**	**26**	PN	**Pn**	**14 47 30.4**	**-0.9**
FETY				SN	**Sn**	**14 47 54.7**	**+2.9**
DALT	**Dalyan (Mudla)**	**1.64**	**13**	PN	**Pn**	**14 47 30.5**	**-0.9**
DALT				SN	**Sn**	**14 47 54.2**	**+2.4**
NISR	**Nisiros**	**1.68**	**330**	*e*PN	**Pn**	**14 47 31.5**	**-0.3**
YER	**Yerkesik**	**1.96**	**2**	PN	**Pn**	**14 47 35.8**	**0.0**
BDRM	**Kayabasi**	**1.99**	**343**	*i*P	**Pn**	**14 47 35.8**	**-0.3**
BDRM				*i*S	**Sn**	**14 48 04.2**	**+3.8**
BODT	**Bodrum**	**2.02**	**340**	PN	**Pn**	**14 47 35.7**	**-0.8**
XRY	**Khrisi**	**2.06**	**263**	*e*PN	**Pn**	**14 47 37.5**	**+0.3**
NPS	**Neapolis**	**2.11**	**273**	*e*PB	**Pn**	**14 47 38.0**	**+0.2**
ELL	**Elmali**	**2.11**	**41**	*e*PN	**Pn**	**14 47 37.4**	**-0.4**
MLSB	**Milas**	**2.15**	**351**	*e*PN	**Pn**	**14 47 38.7**	**+0.4**
AYDN	**Tasoluk**	**2.50**	**354**	*i*P	**Pn**	**14 47 43.7**	**+0.6**
AYDN				*i*S	**Sn**	**14 48 14.0**	**+1.0**
SANT	**Santorini**	**2.52**	**299**	*e*P	**Pn**	**14 47 45.8**	**+2.3**
SANT	**Santorini**	**2.52**	**299**	*e*P	**Pn**	**14 47 45.8**	**+2.4**
DNZL	**Cakiroluk**	**2.61**	**15**	*i*P	**Pn**	**14 47 44.6**	**-0.1**
DENT	**Denizli**	**2.67**	**15**	*e*PN	**Pn**	**14 47 45.9**	**+0.4**
IDI	**Anoyia**	**2.70**	**274**	Pn	**Pn**	**14 47 46.3**	**+0.4**
	5.6nm,0.3s,baz=89,slow=14,SNR=29						
APE	**Apeiranthos**	**2.87**	**312**	*e*PN	**Pn**	**14 47 48.5**	**+0.3**
IZM	**Izmir**	**3.31**	**347**	*e*PN	**Pn**	**14 47 55.3**	**+1.0**
TKTP	**Tekketepe**	**3.34**	**30**	*i*P	**Pn**	**14 47 54.6**	**-0.2**
GVD	**Gavdhos**	**3.38**	**266**	*e*P	**Pn**	**14 47 57.6**	**+2.3**
GVD	**Gavdhos**	**3.38**	**266**	*e*P	**Pn**	**14 47 57.6**	**+2.4**
PPCY	**Paphos**	**3.43**	**94**	P	**Pn**	**14 47 55.9**	**0.0**
ALFC	**Alevga**	**3.62**	**89**	⇑*e*P	**Pn**	**14 47 58.2**	**-0.3**
	3.0nm,0.2s						
ALFC				S	**Sn**	**14 48 37.8**	**-2.8**
SZAC	**Souni-Zanaja**	**3.88**	**95**	P	**Pn**	**14 48 01.9**	**-0.3**
ERMK	**Ermenek**	**4.11**	**68**	*i*P	**Pn**	**14 48 06.6**	**+1.3**
ERMK				*i*S	**Sn**	**14 48 55.8**	**+3.0**
MAMC	**Mammari**	**4.12**	**88**	P	**Pn**	**14 48 05.4**	**-0.1**
HMAT	**Matruh**	**4.16**	**193**	⇓P	**Pn**	**14 48 06.7**	**+0.7**
HMAT				S	**Sn**	**14 48 51.0**	**-3.1**
CSS	**Prodhromos**	**4.23**	**91**	P	**Pn**	**14 48 06.6**	**-0.3**
	0.9nm,0.5s						
CSS				S	**Sn**	**14 48 54.4**	**-1.3**
KONT	**Konya--Tatoy**	**4.36**	**49**	*e*PN	**Pn**	**14 48 09.3**	**+0.6**
SLUM		**4.43**	**215**	⇑P	**Pn**	**14 48 10.6**	**+1.0**
KIZT	**Kizilcal**	**4.74**	**38**	*e*P	**Pn**	**14 48 13.8**	**-0.2**
HBRG	**Burj al 'Arab**	**4.79**	**163**	⇑P	**Pn**	**14 48 14.5**	**-0.1**
MEST	**Erdemli**	**5.04**	**72**	*i*P	**Pn**	**14 48 19.3**	**+1.2**
MEST				*i*S	**Sn**	**14 49 16.1**	**+0.2**
MEST	**Erdemli**	**5.04**	**72**	*i*P	**Pn**	**14 48 19.3**	**+1.1**
MEST				*i*S	**Sn**	**14 49 16.0**	**+0.2**
HMYD	**Mayadein**	**5.79**	**157**	⇑P	**Pn**	**14 48 28.4**	**-0.1**
SQR		**5.85**	**153**	⇑P	**Pn**	**14 48 29.2**	**0.0**
HNAT	**Natroun**	**5.89**	**159**	⇑P	**Pn**	**14 48 30.4**	**+0.7**
FYM	**Al Fayyum**	**5.97**	**155**	⇓P	**Pn**	**14 48 30.9**	**0.0**
AYT	**Al 'Ayyat**	**6.00**	**154**	⇑P	**Pn**	**14 48 31.3**	**0.0**
KOT	**Kottamia**	**6.06**	**148**	⇑P	**Pn**	**14 48 32.1**	**0.0**
HHAG	**Hagoal**	**6.16**	**146**	P	**Pn**	**14 48 33.4**	**-0.1**
AMAG	**Maghara**	**6.18**	**135**	P	**Pn**	**14 48 33.8**	**0.0**
HSAF	**As Saff**	**6.22**	**152**	⇓P	**Pn**	**14 48 34.1**	**-0.2**
SWA1		**6.25**	**200**	⇑P	**Pn**	**14 48 35.6**	**+1.0**
SWA1				S	**Sn**	**14 49 41.4**	**-4.1**
BRTR	**Keskin Array B**	**6.29**	**42**	Pn	**Pn**	**14 48 34.9**	**-0.3**
	0.3nm,0.3s,baz=221,slow=15,SNR=7.7						
BRTR				Sn	**Sn**	**14 49 45.8**	**-0.7**
	0.4nm,0.3s,baz=222,slow=26,SNR=5.1						
GLL	**Jalalah**	**6.32**	**151**	P	**Pn**	**14 48 35.5**	**-0.2**
MMAI	**Mount Meron Ar**	**6.36**	**108**	Pn	**Pn**	**14 48 34.7**	**-1.5**
	3.4nm,0.3s,baz=301,slow=12,SNR=12						
MMAI				Sn	**Sn**	**14 49 49.4**	**+1.1**
	4.4nm,0.3s,baz=318,slow=25,SNR=6.2						
SUZ		**6.61**	**142**	⇑P	**Pn**	**14 48 39.7**	**+0.2**
HBNS	**Bani Suwayf**	**6.71**	**157**	⇑P	**Pn**	**14 48 41.6**	**+0.6**
AWBH		**6.85**	**175**	⇑P	**Pn**	**14 48 43.6**	**+0.7**
ZAF		**6.94**	**147**	⇓P	**Pn**	**14 48 43.8**	**-0.4**
ZNM		**7.01**	**144**	⇓P	**Pn**	**14 48 45.3**	**+0.2**
HNKL	**Nakhl**	**7.16**	**135**	⇑P	**Pn**	**14 48 46.8**	**-0.4**
HRDS	**Abu Rudays**	**7.76**	**145**	⇓P	**Pn**	**14 48 55.5**	**+0.1**
HRDS	**Abu Rudays**	**7.76**	**145**	P	**Pn**	**14 48 55.5**	**0.0**
ASF	**Jabal al Asfar**	**7.85**	**110**	Pn	**Pn**	**14 48 55.4**	**-1.4**
	0.4nm,0.3s,baz=270,slow=20,SNR=2.3						
ASF				Sn	**Sn**	**14 50 28.9**	**+3.9**
	0.3nm,0.3s,baz=286,slow=19,SNR=2.7						
EIL	**Elat**	**7.92**	**132**	*e*Pn	**Pn**	**14 48 57.5**	**-0.2**
	122nm,0.5s						
HBST	**Basata**	**8.12**	**135**	⇑P	**Pn**	**14 49 00.5**	**0.0**
HBST	**Basata**	**8.12**	**135**	P	**Pn**	**14 49 00.4**	**0.0**
TR2		**8.24**	**144**	⇑P	**Pn**	**14 49 02.1**	**+0.1**
HKAT	**Jabal Katrina**	**8.26**	**142**	⇓P	**Pn**	**14 49 02.4**	**+0.1**
HDHB	**Dhahab**	**8.44**	**138**	⇑P	**Pn**	**14 49 04.8**	**+0.1**
HHRG	**Al Ghardaqah**	**9.17**	**148**	P	**Pn**	**14 49 14.1**	**-0.6**
HDK1	**Dakhla**	**9.65**	**173**	⇓P	**Pn**	**14 49 22.3**	**+1.0**
GTR	**Jabal at Tayr**	**9.84**	**167**	P	**Pn**	**14 49 24.4**	**+0.4**
HSFG		**9.89**	**149**	⇓P	**Pn**	**14 49 25.1**	**+0.4**
GERES	**GERESS Array B**	**17.35**	**326**	P	**Pn**	**14 51 02.1**	**-2.5**
	0.1nm,0.3s,baz=144,slow=12,SNR=9.3						
KHC	**Kasperske Hory**	**17.62**	**327**	*e*P	**Pn**	**14 51 06.5**	**-1.4**
ESDC	**Sonseca Array**	**25.84**	**290**	P	**P**	**14 52 32.7**	**-1.0**
	0.4nm,0.5s,mb3.2,baz=84,slow=9.7,SNR=6.4						
FINES	**FINESS Array B**	**26.33**	**358**	P	**P**	**14 52 36.0**	**-2.1**
	0.6nm,0.5s,mb3.4,baz=164,slow=11,SNR=6.2						
AKTK	**Aktyubinsk**	**26.45**	**46**	P	**P**	**14 52 38.9**	**-0.3**
AKTO	**Aktyubinsk**	**26.45**	**46**	P	**P**	**14 52 38.9**	**-0.3**
	1.3nm,0.6s,mb3.6,baz=247,slow=13,SNR=5.0						
HFS	**Hagfors**	**26.70**	**344**	P	**P**	**14 52 38.8**	**-2.6**
	1.3nm,0.6s,mb3.6,baz=113,slow=11,SNR=4.5						
TORD	**Torodi Ar. Bea**	**32.44**	**234**	P	**P**	**14 53 33.4**	**+1.0**
	0.3nm,0.3s,mb3.6,baz=45,slow=8.0,SNR=7.0						
ARCES	**ARCESS Array B**	**34.45**	**358**	P	**P**	**14 53 47.0**	**-2.9**
	0.8nm,0.6s,mb3.8,baz=170,slow=7.4,SNR=4.5						
SCHQ	**Schefferville**	**64.77**	**320**	P	**P**	**14 57 40.1**	**-0.5**
	1.8nm,0.7s,mb4.2,baz=53,slow=5.1,SNR=2.8						

IDC ***09*** *14:52:08.4±0.6, 47.12N×153.99E, h0km, mb4.5/25, mb1 4.6/26, mb1mx4.6/31, mbtmp4.5/26, ML3.5/1, MS4.0/10, Ms1 4.0/10, ms1mx3.7/28, Error ellipse: s-maj=17.5km s-min=15.9km az=163.0*

BJI ***09*** *14:52:09.4, 47.26N×153.95E, h12km, mB5.1, mb4.7, Ms4.6, Msz4.4*

SZGRF ***09*** *14:52:09.2, 46.70N×156.57E, h40km, mb4.9, East of Kuril Islands, Russia*

ISCJB ***09*** *14:52:10.5±0.3, 47.25N±0.05×153.94E±0.05, h17km, mb4.8/121, MS4.3/32, Error ellipse: s-maj=8.4km s-min=3.7km az=120.0*

NEIC ***09*** *14:52:10.2±0.3, 47.09N×153.97E, h10km, mb4.9/70, MS4.3/3, Error ellipse: s-maj=7.4km s-min=4.7km az=153.0*

MOS ***09*** *14:52:17.1±1.1, 47.76N×153.96E, h48km, mb5.1/61, MS4.2/20, Error ellipse: s-maj=10.1km s-min=4.5km az=107.3*

ISC 09 14:52:12.7±0.3**, 47.40N**±0.05×**153.95E**±0.06**, h18**km±2.1km**:pP-P, n352,** σ0s97/361**, mb4.8**/121**, MS4.3**/32**, 30C-9D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.59**	**23**	*e*PN	**Pn**	**14 53 02.4**	**-5.0**
SKR				*i*S	**Sn**	**14 53 44.5**	**-4.8**
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				pmax	pmax		
	comp=N,1μm,3.0s						
SKR				smax			
	comp=N,420nm,0.7s						
SKR				smax			
	comp=E,270nm,0.7s						
SKR				smax			
	comp=N,2μm,12.0s						
SKR				smax			
	comp=E,3μm,12.0s						
SKR				MLR	MLR		
	comp=E,6μm,16.0s						
SKR				MLR	MLR		
	comp=Z,3μm,16.0s						
SKR				MLR	MLR		
	comp=N,1μm,10.0s						
KUR	**Kuril'sk**	**4.74**	**245**	*e*PN	**Pn**	**14 53 21.2**	**-2.0**
KUR				pmax	pmax		
	comp=N,60nm,0.9s						
KUR				pmax	pmax		
	comp=E,110nm,0.9s						
KUR				pmax	pmax		
	comp=Z,380nm,0.9s						
PET	**Petropavlovsk**	**6.39**	**26**	*e*PN	**Pn**	**14 53 44.5**	**-1.4**
PET				*e*S	**Sn**	**14 54 55.9**	**-2.5**
PET				pmax	pmax		
	comp=Z,72nm,1.0s						
PET	**Petropavlovsk**	**6.39**	**26**	*e*P	**Pn**	**14 53 44.5**	**-1.5**
	comp=Z,72nm,1.0s						
PET				*e*S	**Sn**	**14 54 55.9**	**-2.5**
YUK	**Yuzh-Kuril'sk**	**6.58**	**242**	PN	**Pn**	**14 53 48.5**	**-0.1**
YUK				*i*S	**Sn**	**14 55 22.0**	**+19**
YUK				pmax	pmax		
	comp=E,180nm,0.5s						
YUK				pmax	pmax		
	comp=Z,190nm,0.5s						
YUK				pmax	pmax		
	comp=N,210nm,0.6s						
YUK				smax			
	comp=N,4μm,2.0s						
YUK				smax			
	comp=E,2μm,2.0s						
YUK				smax			
	comp=N,910nm,0.9s						
YUK				smax			
	comp=E,820nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.64**	**271**	⇑*i*PN	**Pn**	**14 54 09.0**	**+5.9**
YSS				*e*S	**Sn**	**14 55 38.0**	**+8.8**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax			
	comp=N,30μm,0.9s						
YSS				MLR	MLR		
	comp=N,700nm,16.0s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=E,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.64**	**271**	*e*P	**Pn**	**14 54 09.0**	**+5.9**
	comp=E,49nm,0.8s						
UGL	**Uglegorsk**	**8.11**	**286**	*e*PN	**Pn**	**14 54 15.5**	**+6.0**
UGL				pmax	pmax		
	comp=Z,79nm,1.0s						
UGL				pmax	pmax		
	comp=Z,500nm,8.0s						
UGL				MLR	MLR		
	comp=E,1μm,15.0s						
UGL				MLR	MLR		
	comp=Z,3μm,15.0s						
UGL				MLR	MLR		
	comp=N,1μm,16.0s						
JMP	**Maruseppu**	**8.15**	**249**	P	**Pn**	**14 54 11.3**	**+1.3**
ASAJ	**Asahikawa**	**8.59**	**252**	Pn	**Pn**	**14 54 17.7**	**+1.6**
	comp=N,1.0nm,0.3s,baz=89,slow=16,SNR=12						
ASAJ				Sn	**Sn**	**14 56 06.2**	**+14**
	comp=N,0.3nm,0.3s,baz=120,slow=20,SNR=1.4						
ASAJ				LR	LR	14 57 12.4	
	comp=N,390nm,18.5s,baz=228,slow=36						
ASAJ	**Asahikawa**	**8.59**	**252**	P	**Pn**	**14 54 18.5**	**+2.4**
ASAJ	**Asahikawa**	**8.59**	**252**	PN	**Pn**	**14 54 17.7**	**+1.6**
ASAJ						14 56 06.2	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,391nm,18.5s						
JWK2	**Keihoku**	**8.59**	**260**	P	**Pn**	**14 54 25.0**	**+8.9**
JEM	**Erimo**	**9.38**	**239**	P	**Pn**	**14 54 25.2**	**-1.7**
JTM	**Tenmabayashi**	**11.37**	**239**	P	**Pn**	**14 54 50.1**	**-4.1**
JOM	**Ohasama**	**12.13**	**234**	P	**Pn**	**14 55 00.2**	**-4.3**
MA2	**Magadan**	**12.35**	**352**	*e*PN	**Pn**	**14 55 10.7**	**+3.2**
MA2				pmax	pmax		
	comp=Z,29nm,1.0s						
MA2	**Magadan**	**12.35**	**352**	*e*P	**Pn**	**14 55 10.7**	**+3.1**
	comp=Z,29nm,1.0s						
HABR	**Khabarovsk**	**12.72**	**282**	⇓*i*PN	**Pn**	**14 55 20.9**	**+8.3**
HABR				*e*		14 57 48.3	
HABR				pmax	pmax		
	comp=Z,86nm,1.6s						
HABR				MLR	MLR		
	comp=Z,1μm,16.3s						
JYA	**Atsumi**	**13.62**	**235**	P	**Pn**	**14 55 20.0**	**-4.9**
JSD	**Sado**	**14.82**	**237**	P	**Pn**	**14 55 41.5**	**+0.2**
KLR	**Kul'dur**	**14.88**	**285**	*e*P	**Pn**	**14 55 45.2**	**+3.1**
KLR				MLR	MLR		
	comp=E,1μm,14.0s						
KLR				MLR	MLR		
	comp=Z,2μm,14.0s						
MAJO	**Matsushiro**	**15.93**	**233**	*e*P	**Pn**	**14 55 50.6**	**-5.2**
MAJO				pmax	pmax		
	comp=Z,19nm,0.9s						
MAJO	**Matsushiro**	**15.93**	**233**	*e*P	**Pn**	**14 55 50.6**	**-5.2**
	comp=Z,19nm,0.9s						
MAT	**Matsushiro**	**15.93**	**233**	P	**Pn**	**14 55 53.0**	**-2.8**
MAT				S	**Sn**	**14 58 59.0**	**+7.1**
MAT	**Matsushiro**	**15.93**	**233**	P	**Pn**	**14 55 52.6**	**-3.2**
MAT	**Matsushiro**	**15.93**	**233**	*e*P	**Pn**	**14 55 53.0**	**-2.8**
MAT				*e*S	**Sn**	**14 59 06.0**	**+14**
MAT				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MAT	**Matsushiro**	**15.93**	**233**	*e*P	**Pn**	**14 55 53.0**	**-2.8**
	comp=Z,10.0nm,1.0s						
MAT				*e*S	**Sn**	**14 59 06.0**	**+14**
MJAR	**Matsushiro Arr**	**15.93**	**233**	Pn	**Pn**	**14 55 50.6**	**-5.2**
	comp=Z,0.2nm,0.3s,baz=26,slow=13,SNR=27						
JRY	**Ryogami san**	**15.95**	**230**	P	**Pn**	**14 55 53.3**	**-2.9**
MDJ	**Mudanjiang**	**17.13**	**270**	P	**Pn**	**14 56 08.3**	**-2.8**
MDJ				AP	pP	14 56 13.0	-4.8
MDJ				XP	sP	14 56 14.4	-5.7
MDJ				S	**Sn**	**14 59 17.6**	**-3.5**
MDJ				XS	sS	14 59 33.1	-5.3
MDJ				PCP	PcP	15 00 54.0	-1.1
MDJ				SCP	ScP	15 04 29.3	+0.2
MDJ				SCS	ScS	15 08 06.2	-2.6
MDJ				AMB	AMB		
	comp=Z,21nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,233nm,6.6s						
MDJ				LR	LR		
	comp=N,231nm,11.0s						
MDJ				LR	LR		
	comp=E,679nm,15.3s						
MDJ				LR	LR		
	comp=Z,958nm,14.6s						
CLNS	**Chul'man**	**20.05**	**309**	*e*P	**P**	**14 56 46.4**	**+1.7**
CLNS				pmax	pmax		
	comp=Z,38nm,0.8s						
CLNS				pmax	pmax		
	comp=N,26nm,1.1s						
CLNS				pmax	pmax		
	comp=E,24nm,0.9s						
CLNS				MLR	MLR		
	comp=N,1μm,16.0s,MS4.4						
CLNS				MLR	MLR		
	comp=Z,1μm,16.0s,MS4.3						
CLNS				MLR	MLR		
	comp=E,1μm,18.0s,MS4.4						
YAK	**Yakutsk**	**20.10**	**326**	*e*P	**P**	**14 56 45.3**	**0.0**
YAK				pmax	pmax		
	comp=Z,47nm,0.9s						
YAK	**Yakutsk**	**20.10**	**326**	*e*P	**P**	**14 56 45.3**	**0.0**
	comp=Z,47nm,0.9s						
CN2	**Changchun**	**20.21**	**270**	*e*P	**P**	**14 56 46.0**	**-0.5**
CN2				*e*XP	sP	14 56 53.0	-1.0
CN2				*e*S	**S**	**15 00 26.0**	**-6.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,800nm,14.0s,MS4.4						
CN2				LR	LR		
	comp=E,800nm,14.0s,MS4.4						
CN2				LR	LR		
	comp=Z,900nm,15.0s,MS4.2						
KS15	**Wonju Array Si**	**21.57**	**252**	P	**P**	**14 56 59.5**	**-1.7**
BILL	**Bilibino**	**21.64**	**13**	*e*P	**P**	**14 56 59.3**	**-2.6**
SNY	**Shenyang**	**22.24**	**267**	⇑P	**P**	**14 57 09.0**	**+0.6**
SNY				AP		14 57 13.1	
SNY				XP	sP	14 57 14.3	-1.6
SNY				PP		14 57 34.9	
SNY				S	**S**	**15 01 12.9**	**+0.4**
SNY				XS	sS	15 01 14.6	-6.2
SNY				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.5						
SNY				AMB	AMB		
	comp=Z,428nm,3.9s						
SNY				LR	LR		
	comp=N,654nm,13.3s,MS4.5						
SNY				LR	LR		
	comp=E,1μm,16.3s,MS4.5						
SNY				LR	LR		
	comp=Z,1μm,16.9s,MS4.4						
INCN	**Inchon**	**22.36**	**254**	P	**P**	**14 57 07.3**	**-2.4**
	comp=Z,205nm,1.7s,mb5.3						
BOD	**Bodaibo**	**26.02**	**308**	*e*P	**P**	**14 57 43.1**	**-1.6**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.0						
TIXI	**Tiksi**	**27.01**	**343**	⇓*e*P	**P**	**14 57 52.8**	**-0.8**
TIXI				*i* *SP	sP	14 58 01.3	0.0
TIXI				*i*		14 58 35.1	
TIXI				*i*		15 01 14.1	
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,700nm,24.0s,MS4.1						
SSE	**Sheshan**	**29.86**	**249**	P	**P**	**14 58 15.6**	**-3.4**
SSE				S	**S**	**15 03 13.0**	**-2.2**
SSE				AMB	AMB		
	comp=Z,38nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,800nm,3.8s						
SSE				LR	LR		
	comp=N,61nm,17.5s,MS3.6						
SSE				LR	LR		
	comp=E,110nm,17.5s,MS3.6						
SSE				LR	LR		
	comp=Z,120nm,18.5s,MS3.6						
NJ2	**Nanjing**	**30.73**	**253**	*e*P	**P**	**14 58 25.2**	**-1.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
HHC	**Hu-ho-hao-te**	**30.82**	**274**	*e*P	**P**	**14 58 27.1**	**-0.4**
HHC				XP	sP	14 58 33.7	-1.5
HHC				PP	PP	14 59 27.2	-10
HHC				S	**S**	**15 03 28.7**	**-1.5**
HHC				PCS	PcS	15 05 08.6	+0.3
HHC				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.9						
HHC				AMB	AMB		
	comp=Z,118nm,5.2s						
HHC				LR	LR		
	comp=N,503nm,17.8s,MS4.4						
HHC				LR	LR		
	comp=E,471nm,14.9s,MS4.4						
HHC				LR	LR		
	comp=Z,600nm,14.9s,MS4.4						
ULN	**Ulaanbaatar**	**31.23**	**289**	*e*P	**P**	**14 58 30.6**	**-0.5**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**31.23**	**289**	*e*P	**P**	**14 58 30.6**	**-0.5**
	comp=Z,4.5nm,1.0s,mb4.2						
TTA	**Tatalina**	**31.56**	**42**	*e*P	**P**	**14 58 33.2**	**-0.8**
TTA				*e*		14 58 44.5	
TTA				pmax	pmax		
	comp=Z,28nm,1.3s,mb4.9						
TTA	**Tatalina**	**31.56**	**42**	*e*P	**P**	**14 58 33.2**	**-0.8**
	comp=Z,28nm,1.3s,mb4.9						
TTA				*e*		14 58 44.5	
ZAK	**Zakamensk**	**32.93**	**294**	*e*P	**P**	**14 58 45.0**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.0						
PMR	**Palmer**	**34.74**	**45**	*e*P	**P**	**14 59 01.3**	**-0.4**
PMR				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
PMR	**Palmer**	**34.74**	**45**	*e*P	**P**	**14 59 01.3**	**-0.5**
	comp=Z,14nm,1.1s,mb4.8						
MCK	**McKinley**	**34.79**	**41**	*e*P	**P**	**14 59 00.6**	**-1.6**
MCK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
MCK	**McKinley**	**34.79**	**41**	*e*P	**P**	**14 59 00.6**	**-1.6**
	comp=Z,13nm,1.0s,mb4.8						
SML	**Sawmill**	**35.11**	**44**	*e*P	**P**	**14 59 05.2**	**+0.3**
SML				*e*		14 59 14.7	
COLA	**College**	**35.28**	**39**	*e*P	**P**	**14 59 05.4**	**-1.0**
COLA				*e*		14 59 17.3	
COLA				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.1						
COLA	**College**	**35.28**	**39**	*e*P	**P**	**14 59 05.4**	**-0.9**
	comp=Z,23nm,0.9s,mb5.1						
COLA				*e*		14 59 17.3	
ILAR	**Eielson Array**	**35.69**	**39**	P	**P**	**14 59 08.3**	**-1.6**
	comp=Z,4.0nm,0.8s,mb4.4,baz=258,slow=9.0,SNR=18						
XAN	**Xi'an**	**36.14**	**265**	P	**P**	**14 59 13.1**	**-0.7**
XAN				AP	pP	14 59 24.4	+5.1
XAN				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
LZH	**Lanzhou**	**38.44**	**272**	*e*P	**P**	**14 59 35.0**	**+1.7**
LZH				AP	pP	14 59 38.2	-0.6
LZH				XP	sP	14 59 39.9	-1.2
LZH				PP	PP	15 01 06.0	+4.7
LZH				*e*S	**S**	**15 05 27.4**	**-0.2**
LZH				XS	sS	15 05 34.1	-2.6
LZH				SS	SS	15 08 05.2	-11
LZH				AMB	AMB		
	comp=Z,89nm,1.2s,mb5.4						
LZH				AMB	AMB		
	comp=Z,390nm,5.0s						
LZH				LR	LR		
	comp=E,559nm,12.8s						
LZH				LR	LR		
	comp=Z,825nm,14.7s,MS4.7						
DAWY	**Dawson**	**38.98**	**40**	*e*P	**P**	**14 59 38.6**	**+0.8**
DAWY				*e*		14 59 48.8	
GTA	**Gaotai**	**39.43**	**279**	*e*P	**P**	**14 59 42.6**	**+1.0**
GTA				AP	pP	14 59 48.5	+1.3
GTA				XP	sP	14 59 52.3	+2.9
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
GTA				AMB	AMB		
	comp=Z,86nm,4.6s						
GTA				LR	LR		
	comp=N,427nm,15.3s,MS4.5						
GTA				LR	LR		
	comp=E,224nm,13.8s,MS4.5						
GTA				LR	LR		
	comp=Z,393nm,17.6s,MS4.3						
INK	**Inuvik**	**40.80**	**33**	P	**P**	**14 59 52.4**	**-0.5**
	comp=Z,4.1nm,0.7s,mb4.2,baz=273,slow=4.6,SNR=5.2						
INK	**Inuvik**	**40.80**	**33**	*e*P	**P**	**14 59 50.1**	**-2.8**
INK				*e*		15 00 02.9	

INK pmax pmax
comp=Z,11nm,1.2s
INK Inuvik 40.80 33 *e*P **P** **14 59 50.1 -2.9**
comp=Z,11nm,1.2s,mb4.4
INK *e* 15 00 02.9
CD2 Chengdu 41.50 265 P **P** **14 59 59.4 +0.7**
CD2 AP pP 15 00 03.9 -0.4
CD2 XP sP 15 00 06.8 +0.3
CD2 PP PP 15 01 38.5 +3.8
CD2 S **S** **15 06 13.6 +0.2**
CD2 XS sS 15 06 21.0 -1.6
CD2 SS SS 15 09 12.6 -5.5
CD2 AMB AMB
comp=Z,40nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,120nm,6.2s
CD2 LR LR
comp=N,420nm,4.6s
CD2 LR LR
comp=Z,270nm,5.1s
GYA Guiyang 42.41 258⇑ *i*P **P** **15 00 06.1 0.0**
GYA AP pP 15 00 10.8 -1.0
GYA XP sP 15 00 13.4 -0.6
GYA PP PP 15 01 47.5 +3.0
GYA S **S** **15 06 26.9 +0.1**
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.7
GYA LR LR
comp=N,460nm,16.8s,MS4.6
GYA LR LR
comp=E,490nm,17.6s,MS4.6
GYA LR LR
comp=Z,470nm,17.0s,MS4.4
ZAL Zalesovo 42.72 305 P **P** **15 00 06.7 -1.9**
comp=Z,4.7nm,1.0s,mb4.2,baz=48,slow=8.5,SNR=20
ZAL LR LR 15 19 53.8
comp=Z,443nm,18.2s,MS4.4,baz=48,slow=39
ZAL Zalesovo 42.72 305 P **P** **15 00 06.7 -1.9**
ZAL LR LR 15 19 53.8
NVS Novosibirsk 43.25 307 *i* P **P** **15 00 11.6 -1.4**
DLBC Dease Lake 44.74 46 *e*P **P** **15 00 26.8 +1.9**
WMQ Urumqi 45.23 291 P **P** **15 00 30.0 +1.2**
WMQ AP pP 15 00 34.0 -0.4
WMQ XP sP 15 00 36.4 -0.2
WMQ PCP PcP 15 02 11.7 +2.3
WMQ PP PP 15 02 16.7 +2.1
WMQ S **S** **15 07 09.4 +1.5**
WMQ AMB AMB
comp=Z,5.0nm,0.5s,mb4.6
WMQ AMB AMB
comp=Z,162nm,5.0s
WMQ LR LR
comp=N,459nm,17.0s,MS4.7
WMQ LR LR
comp=E,479nm,14.2s,MS4.7
WMQ LR LR
comp=Z,566nm,15.0s,MS4.6
KMI Kunming 45.92 260 P **P** **15 00 34.5 +0.2**
KMI AP pP 15 00 38.4 -1.5
KMI XP sP 15 00 39.3 -2.8
KMI PP PP 15 02 23.4 +1.5
KMI S **S** **15 07 18.1 +0.2**
KMI SS SS 15 10 33.2 -9.5
KMI AMB AMB
comp=Z,12nm,1.6s,mb4.6
KMI LR LR
comp=Z,63nm,21.5s,MS3.5
MKAR Makanchi Array 47.15 297 P **P** **15 00 43.2 -0.7**
comp=Z,12nm,0.9s,mb4.8,baz=60,slow=7.2,SNR=52
MKAR Makanchi Array 47.15 297 *i* P **P** **15 00 43.2 -0.7**
MKAR pmax pmax
comp=Z,12nm,0.9s
KURK Kurchatov 47.48 303 *c* *i*P **P** **15 00 45.8 -0.7**
KURK *i* *SP sP 15 00 54.5 +0.1
KURK *i* 15 02 15.2
KURK *i* 15 02 37.4
KURK Kurchatov 47.48 303 *e*P **P** **15 00 44.9 -1.6**
comp=Z,32nm,0.8s,mb5.3
YKA Yellowknife Ar 50.06 37 P **P** **15 01 05.7 -0.6**
comp=Z,2.2nm,0.8s,mb4.3,baz=295,slow=7.3,SNR=5.7
YKA LR LR 15 23 55.8
comp=Z,52nm,20.3s,MS3.5,baz=270,slow=38
CHKZ Chkalovo 50.45 310 *e*P **P** **15 01 07.9 -1.4**
CHKZ pmax pmax
comp=Z,21nm,0.9s,mb5.2
CHKZ Chkalovo 50.45 310 *e*P **P** **15 01 07.9 -1.3**
comp=Z,21nm,0.9s,mb5.2
VOSK Vostochnaya 50.73 309 P **P** **15 01 09.0 -2.3**
VOSK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LSA Lhasa 50.81 273 P **P** **15 01 14.2 +2.2**
LSA AMB AMB
comp=Z,30nm,0.9s,mb5.2
LSA Lhasa 50.81 273 *e*P **P** **15 01 14.0 +2.0**
LSA pmax pmax
comp=Z,34nm,1.0s,mb5.2
LSA Lhasa 50.81 273 *e*P **P** **15 01 14.0 +2.1**
comp=Z,34nm,1.0s,mb5.2
BVAR Borovoye Array 50.89 309 P **P** **15 01 12.3 -0.2**
comp=Z,6.6nm,0.9s,mb4.6,baz=54,slow=7.5,SNR=25
BRVK Borovoye 50.93 309 *e*P **P** **15 01 12.0 -0.9**
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BRVK Borovoye 50.93 309 *e*P **P** **15 01 11.9 -0.9**
comp=Z,5.8nm,0.8s,mb4.6
ZRNK Zerenda 51.65 310 *e*P **P** **15 01 17.3 -1.0**
ZRNK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ZRNK Zerenda 51.65 310 *e*P **P** **15 01 17.3 -1.0**
comp=Z,8.3nm,1.0s,mb4.6
SHL Shillong 52.96 269 *ex* x 14 58 34.4
SVE Sverdlovsk 53.75 317⇑ *e*P **P** **15 01 34.0 +0.2**
SVE *e* 15 01 46.5
SVE pmax pmax
comp=Z,24nm,1.0s,mb5.1
SVE MLR MLR
comp=N,200nm,15.0s,MS4.5
SVE MLR MLR
comp=E,300nm,15.0s,MS4.5
SVE MLR MLR
comp=Z,400nm,15.0s,MS4.6
AAK Ala-Archa 54.06 296 *d* *i*P **P** **15 01 35.5 -0.6**
AAK *i* *SP sP 15 01 44.3 +0.3
AAK *i* 15 02 39.6
AAK *i* 15 03 37.3
AAK pmax pmax
comp=Z,14nm,1.4s,mb4.7
AAK MLR MLR
comp=Z,300nm,14.0s,MS4.5
AAK Ala-Archa 54.06 296 *e*P **P** **15 01 34.8 -1.3**
comp=Z,8.9nm,0.9s,mb4.7
ARU Arti 54.92 317⇑ *i*P **P** **15 01 41.4 -0.9**
ARU *e* 15 02 40.2
ARU *e* 15 03 42.2
ARU *e*PPP 15 04 52.8
ARU *e*S **S** **15 09 24.1 +1.0**
ARU *e*SS SS 15 13 06.6 0.0
ARU pmax pmax
comp=Z,20nm,0.8s,mb5.2
ARU MLR MLR
comp=N,100nm,16.0s,MS4.1
ARU MLR MLR
comp=Z,200nm,16.0s,MS4.3
ARU MLR MLR
comp=E,100nm,16.5s,MS4.1
ARU Arti 54.92 317 *e*P **P** **15 01 41.3 -1.1**
comp=E,23nm,0.9s,mb5.2
KSH Kashi 54.93 292 *e*P **P** **15 01 43.0 +0.6**
KSH *e*AP pP 15 01 48.3 +0.1
KSH *e*XP sP 15 01 51.3 +0.9
KSH *e*PCP PcP 15 02 44.1 -0.1
KSH *e*PP PP 15 03 47.8 +2.4
KSH *e*SCP ScP 15 06 40.5 -1.4
KSH *e*S **S** **15 09 22.6 -0.7**
KSH *e*XS sS 15 09 30.3 -2.4
KSH *e*PS 15 09 38.0
KSH *e*SCS ScS 15 11 28.4 -2.4
KSH *e*SS SS 15 13 06.3 -0.5
KSH AMB AMB
comp=Z,272nm,4.4s
KSH AMB AMB
comp=Z,550nm,6.2s
KSH LR LR
comp=N,258nm,5.1s
KSH LR LR
comp=E,759nm,14.6s
KSH LR LR
comp=Z,749nm,16.9s,MS4.8
JIRN Jiri 55.46 275 *e*P **P** **15 01 47.5 +1.3**
comp=Z,111nm,0.9s,mb5.9
GUN Gumba 55.51 275 *e*P **P** **15 01 48.1 +1.5**
comp=Z,61nm,0.9s,mb5.6
KKN Kakani 55.99 275 *e*P **P** **15 01 51.1 +1.0**
comp=Z,133nm,1.1s,mb5.9
DAG Danmarks Havn 56.02 358⇑ *i*P **P** **15 01 50.2 -0.1**
comp=Z,7.0nm,1.0s,mb4.7
DAG Danmarks Havn 56.02 358⇑ *i*P **P** **15 01 50.2 -0.1**
DAG pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
PKI Pulchoki 56.05 275 *e*P **P** **15 01 51.4 +1.0**
comp=Z,106nm,1.2s,mb5.8
DMN Daman 56.23 275 *e*P **P** **15 01 53.0 +1.3**
comp=Z,199nm,1.1s
GKN Gorkha 56.29 276 *e*P **P** **15 01 53.3 +1.1**
comp=Z,186nm,1.1s
KOLN Koldanda 57.14 277 *e*P **P** **15 01 59.4 +1.2**
comp=Z,123nm,1.1s,mb5.9
ARCES ARCESS Array B 57.43 341 P **P** **15 01 58.9 -1.3**
comp=Z,3.5nm,0.9s,mb4.4,baz=45,slow=7.0,SNR=6.3
ARCES LR LR 15 30 16.1
comp=Z,175nm,19.7s,MS4.2,baz=184,slow=40
BOK Bokaro 58.20 271 *e*P **P** **15 02 05.5 -0.2**
BOK AMb AMB 15 02 09.9
comp=Z,18nm,1.2s,mb5.0
BMO Blue Mountains 58.24 57 *e*P **P** **15 02 06.5 +0.5**
comp=Z,2.9nm,0.9s,mb4.3
LGTI Lohaghat 58.32 280 *i* P **P** **15 02 07.0 +0.5**
AB31 Akbulak array 58.45 310 P **P** **15 02 05.9 -1.5**
AB31 pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
AKTK Aktyubinsk 58.72 312 P **P** **15 02 08.3 -1.0**
AKTO Aktyubinsk 58.72 312 P **P** **15 02 08.3 -1.0**
comp=Z,3.7nm,0.8s,mb4.5,baz=79,slow=6.3,SNR=5.9
CHMT Chamberlain Mo 59.24 53 P **P** **15 02 12.5 -0.4**
SMLA Simla 59.29 284 *e*P **P** **15 02 13.1 -0.2**
KLMR Klimovskoe 59.85 329 *e*P **P** **15 02 15.7 -1.4**
KLMR pmax pmax
comp=Z,20nm,2.3s,mb4.7
SUMG Summit 60.02 4 *e*P **P** **15 02 18.2 0.0**
comp=Z,30nm,1.1s,mb5.2
NDI New Delhi 60.83 282 *e*P **P** **15 02 24.3 +0.4**
BOZ Bozeman (W) 60.91 53 *e*P **P** **15 02 23.1 -1.2**
BOZ pmax pmax
comp=Z,18nm,1.5s,mb5.0
BOZ Bozeman (W) 60.91 53 *e*P **P** **15 02 23.1 -1.3**
comp=Z,18nm,1.5s,mb5.0
JOF Joensuu 61.01 334 *e*p **P** **15 02 24.1 -0.9**
comp=Z,2.8nm,0.5s,mb4.7
JOF Joensuu 61.01 334 *e*P **P** **15 02 24.1 -0.9**
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
NVAR Mina Array Bea 61.63 63 P **P** **15 02 30.1 +0.9**
comp=Z,0.7nm,0.7s,mb3.9,baz=303,slow=5.7,SNR=7.8
BLSP Bilaspur 61.88 273 *e*P **P** **15 02 31.8 +0.9**
BLSP AMb AMB 15 02 38.0
comp=Z,18nm,1.6s,mb4.9
ELK Elko 61.98 59 *e*P **P** **15 02 33.3 +1.7**
ELK pmax pmax
comp=Z,3.0nm,1.1s
ELK Elko 61.98 59 *e*P **P** **15 02 33.3 +1.7**
comp=Z,2.6nm,1.1s,mb4.3
TPAW Teton Pass 62.66 55 *e*P **P** **15 02 36.8 +0.7**
comp=Z,8.1nm,1.0s,mb4.8
TPAW *e* 15 02 47.9
KAF Kangasniemi 63.10 335 *e*p **P** **15 02 38.0 -1.0**
baz=36,slow=6.2
FIA1 FINESS Array S 63.70 335 *e*P **P** **15 02 42.4 -0.7**
FINES FINESS Array B 63.70 335 P **P** **15 02 42.6 -0.4**
comp=Z,7.1nm,0.7s,mb4.8,baz=42,slow=7.2,SNR=38
PDAR Pinedale Array 63.91 55 P **P** **15 02 44.6 +0.3**
comp=Z,0.9nm,0.8s,mb3.9,baz=316,slow=4.1,SNR=5.8
AJM Ajmer 64.00 282 *e*P **P** **15 02 45.2 +0.3**
AJM AMb AMB 15 02 47.7
comp=Z,36nm,1.0s,mb5.3
VIS Vishakhapatnam 64.10 268 *e*P **P** **15 02 44.9 -0.8**
BHPL Bhopal 64.31 277 *e*P **P** **15 02 47.3 +0.3**
BHPL AMb AMB 15 02 50.1
comp=Z,43nm,0.9s,mb5.5
NGP Nagpur 64.63 274 *e*P **P** **15 02 47.9 -1.3**
NGP AMb AMB 15 02 51.0
comp=Z,24nm,1.4s,mb5.0
OBN Obninsk 65.10 326⇓ *e*P **P** **15 02 52.0 -0.2**
OBN *e**PP pP 15 03 06.0 +8.0
OBN *e* 15 05 14.7
OBN pmax pmax
comp=Z,12nm,0.8s,mb5.0
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.1
VSU Vasula 65.91 333 *c* *i*P **P** **15 02 57.0 -0.4**
AKL Akola 66.32 275 *ex* x 15 03 11.5
NB2 NORSAR Subarra 67.80 341 P **P** **15 03 09.1 -0.4**
comp=Z,41nm,1.1s,mb5.4,baz=26,slow=6.5
NOA NORSAR Array B 67.80 341 P **P** **15 03 09.8 +0.3**
comp=Z,18nm,0.9s,mb5.1,baz=26,slow=6.3,SNR=35
NOA LR LR 15 37 22.8
comp=Z,117nm,18.3s,MS4.1,baz=30,slow=40
NAO01 NORSAR Array S 68.05 342 *e*P **P** **15 03 11.0 0.0**
comp=Z,19nm,1.0s,mb5.1
HFS Hagfors 68.05 340 P **P** **15 03 10.8 -0.2**
comp=Z,31nm,0.8s,mb5.4,baz=64,slow=5.1,SNR=41
MNK Minsk 68.75 330 *e*P **P** **15 03 14.0 -1.4**
WRA Warramunga Arr 69.31 200 P **P** **15 03 15.3 -3.6**
comp=Z,2.9nm,1.0s,mb4.2,baz=18,slow=6.5,SNR=4.4
WRA Warramunga Arr 69.31 200 P **P** **15 03 15.3 -3.6**
MDRS Chennai 69.47 267 *ex* x 15 03 06.9
BHJ Bhuj 69.50 282 *e*P **P** **15 03 19.8 -0.3**
GOF Gofitskoye 69.77 315 *e*P **P** **15 03 21.6 -0.2**
GOF pmax pmax
comp=Z,50nm,0.9s,mb5.4
ECSD EROS,Sioux Fal 70.03 47 *e*P **P** **15 03 24.1 +0.8**
KIV Kislovodsk 70.76 315 *e*P **P** **15 03 28.8 +1.0**
KIV *e*S S 15 12 44.3 +2.7
KIV pmax pmax
comp=Z,18nm,0.9s,mb5.0
KIV Kislovodsk 70.76 315 *e*P **P** **15 03 28.6 +0.8**
comp=Z,16nm,0.8s,mb5.0
ZEI Tsey 71.04 313 *e*P **P** **15 03 29.9 +0.4**
ZEI pmax pmax
comp=Z,13nm,0.6s,mb5.0
AKASG Malin Array Be 71.33 327 P **P** **15 03 30.6 -0.6**
comp=Z,12nm,0.8s,mb4.9,baz=34,slow=6.1,SNR=48
AKASG LR LR 15 37 30.1
comp=Z,110nm,18.7s,MS4.1,baz=25,slow=38
AKBB Malin Array Si 71.33 327 *e*P **P** **15 03 30.2 -1.0**
SCHQ Schefferville 72.49 23 LR LR 15 39 04.4
comp=Z,58nm,18.1s,MS3.9,baz=13,slow=39
GNI Garni 72.55 311 P **P** **15 03 40.3 +1.8**
comp=Z,4.3nm,0.5s,mb4.7,baz=188,slow=11,SNR=3.8
ASAR Asice Springs 73.00 199 P **P** **15 03 38.8 -2.5**
comp=Z,2.9nm,0.9s,mb4.2,baz=8.5,slow=5.0,SNR=12
LVV L'vov 73.94 329 *e*P **P** **15 03 47.0 +0.2**
TRD Trivandrum 74.98 266 *ex* x 15 02 45.4
OJC Ojcow 75.03 332 *e*P **P** **15 03 53.3 +0.2**
KOLS Kolonicke sedl 75.30 329 *e*P **P** **15 03 54.9 +0.2**
KOLS pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
KOLS Kolonicke sedl 75.30 329 *e*P **P** **15 03 54.9 +0.2**
comp=Z,6.6nm,1.1s,mb4.5
BURAR Bucovina Array 75.36 327⇑ *i*P **P** **15 03 55.2 +0.2**
BURAR Bucovina Array 75.36 327⇑ P **P** **15 03 55.2 +0.2**
NIE Niedzica 75.55 331 *e*P **P** **15 03 57.0 +0.9**
KSP Ksiaz 75.58 334 *e*P **P** **15 03 56.4 +0.1**
CRVS Cervenica-Dubn 75.61 330 *e*P **P** **15 03 56.6 +0.2**
CRVS pmax pmax
comp=Z,34nm,2.6s,mb4.8
CRVS Cervenica-Dubn 75.61 330 *e*P **P** **15 03 56.6 +0.2**
comp=Z,34nm,2.6s,mb4.8
NRDL Niedersach Rie 75.80 338 *e*P **P** **15 03 58.2 +0.6**
EKA Eskdalemuir Ar 75.84 347 P **P** **15 03 58.4 +0.6**
comp=Z,2.2nm,0.6s,mb4.3,baz=24,slow=5.5,SNR=6.4
OKC Ostrava-Krasne 75.89 332 *e*P **P** **15 03 59.4 +1.3**
OKC *ex* x 15 04 07.8
UPC Upice 75.96 334 *e*P **P** **15 03 58.5 +0.1**
UPC *e*pP pP 15 04 06.0 +1.6
DPC Dobruska-Polom 76.00 334 *e*P **P** **15 03 59.1 +0.4**
DPC AMS AMS 15 42 10.0
comp=Z,300nm,15.8s
CLL Collm 76.11 336 *e*P **P** **15 03 58.5 -0.8**
comp=Z,27nm,1.1s,mb5.1
CLL Collm 76.11 336 P **P** **15 03 59.0 -0.3**
comp=Z,logA/T=1.4,mb5.1
CLL *i* *PP pP 15 04 03.2 -2.0
CLL *i* PCP PcP 15 04 10.6 -0.9
CLL Collm 76.11 336 *i* P **P** **15 03 59.0 -0.3**
comp=Z,27nm,1.1s,mb5.1
CLL *i* pP pP 15 04 03.2 -2.0
CLL *i* PcP PcP 15 04 10.6 -0.9
CLL Collm 76.11 336 *i* P **P** **15 03 59.0 -0.3**
CLL *i* 15 04 10.6
CLL pmax pmax
comp=Z,27nm,1.1s,mb5.1
CLL MLR MLR
comp=Z,500nm,20.6s,MS4.8
CLL Collm 76.11 336 *i* P **P** **15 03 59.0 -0.3**
comp=Z,27nm,1.1s,mb5.1
CLL *i* pP 15 04 03.2 -2.0
CLL *i* 15 04 10.6
CLL LR LR
comp=Z,200nm,12.4s,MS4.6
MORC Moravsky Berou 76.13 333⇑ *i*P **P** **15 03 59.8 +0.4**
MORC Moravsky Berou 76.13 333 P **P** **15 04 00.1 +0.7**
BRG Berggiesshubel 76.24 335 *e*P **P** **15 03 59.3 -0.7**
comp=Z,10.0nm,1.2s,mb4.6
BRG Berggiesshubel 76.24 335 *e*P **P** **15 03 59.7 -0.4**
comp=Z,1.8nm,1.0s,mb4.0
BRG *e* 15 04 10.7
comp=Z,5.3nm,1.2s
BRG *e* 15 08 40.3
comp=Z,1.1nm,0.5s
BRG *e* 15 08 57.8
comp=Z,11nm,1.9s
BRG
comp=N,54nm,16.2s
BRG
comp=E,69nm,25.4s
BRG
comp=Z,123nm,17.5s
BRG Berggiesshubel 76.24 335 *e*P **P** **15 03 59.7 -0.4**
comp=Z,1.8nm,1.0s,mb4.0
BRG *e* 15 04 10.7
BRG *e* 15 08 40.3
BRG *e* 15 08 57.8
BRG LR LR
comp=Z,120nm,17.5s,MS4.3
CFR Carcaliu 76.26 324⇑ *i*P **P** **15 04 01.9 +1.7**
CFR Carcaliu 76.26 324 ⇑P **P** **15 04 01.9 +1.7**
KECS Kecovo 76.30 330 *e*P **P** **15 04 01.0 +0.6**
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KECS Kecovo 76.30 330 *e*P **P** **15 04 01.0 +0.6**
comp=Z,5.1nm,0.9s,mb4.5
CLZ Clausthal 76.33 338 *e*P **P** **15 04 00.7 +0.1**
comp=Z,22nm,1.2s,mb5.0
CLZ Clausthal 76.33 338 *e*P **P** **15 04 00.7 +0.1**
CLZ pmax pmax
comp=Z,22nm,1.2s,mb5.0
PVCC Panska Ves 76.36 335 *e*P **P** **15 04 01.2 +0.4**
PVCC *e*pP pP 15 04 07.9 +1.2
PVCC AMS AMS 15 41 40.0
comp=Z,300nm,17.3s
BOYT Boyabat 76.38 317 *i* P **P** **15 04 02.4 +1.6**
IBBN Ibbenburen 76.55 339 *e*P **P** **15 04 00.6 -1.2**
LTX Lajitas 76.68 61 *e*P **P** **15 04 03.3 +0.8**
LTX *e* 15 04 12.0
LTX pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
LTX Lajitas 76.68 61 *e*P **P** **15 04 03.3 +0.7**
comp=Z,5.1nm,0.9s,mb4.5
LTX *e* 15 04 12.0
WSAR Wadi Sarin 76.70 290 P **P** **15 04 03.3 +0.6**
comp=Z,10.0nm,1.0s,mb4.7,baz=31,slow=7.2,SNR=3.9
VYHS Vyhne 76.84 331 *e*P **P** **15 04 03.8 +0.4**
VYHS pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
VYHS Vyhne 76.84 331 *e*P **P** **15 04 03.8 +0.4**
comp=Z,5.7nm,1.2s,mb4.4
VRAC Vranov 76.84 333 P **P** **15 04 04.3 +0.8**
comp=Z,7.4nm,0.9s,mb4.6,baz=42,slow=6.4,SNR=13
VRAC Vranov 76.84 333⇑ *i*P **P** **15 04 04.5 +1.1**
VRAC Vranov 76.84 333 P **P** **15 04 04.3 +0.9**
VRAC pmax pmax
comp=Z,7.0nm,0.9s
VRAC Vranov 76.84 333 P **P** **15 04 04.4 +0.9**
PRU Pruhonice 76.85 334 *e*P **P** **15 04 03.6 +0.1**
PRU AMS AMS 15 41 40.0
comp=Z,200nm,16.2s
MLR Muntele Rosu 76.86 325 P **P** **15 04 04.8 +1.2**
DRGR 76.97 328⇓ *i*P **P** **15 04 04.3 +0.1**
DRGR 76.97 328 ⇓P **P** **15 04 04.3 +0.1**
PSZ Piszkesteto 76.99 330⇑ *e*P **P** **15 04 06.3 +2.0**
PSZ Piszkesteto 76.99 330 P **P** **15 04 06.6 +2.3**
MOX Moxa 77.09 336 *e*P **P** **15 04 04.5 -0.4**
comp=Z,12nm,1.1s,mb4.7
MOX Moxa 77.09 336 *e*P **P** **15 04 05.5 +0.6**
comp=Z,16nm,1.3s,mb4.8
MOX Moxa 77.09 336 *e*P **P** **15 04 05.5 +0.6**
MOX pmax pmax
comp=Z,16nm,1.3s,mb4.8
MALT Malatya 77.13 313 *e*P **P** **15 04 06.6 +1.5**
MALT pmax pmax
comp=Z,18nm,1.3s,mb4.8
MALT Malatya 77.13 313 *e*P **P** **15 04 06.5 +1.5**
comp=Z,18nm,1.3s,mb4.8
TREC Trest 77.19 334 *e*P **P** **15 04 05.2 -0.2**
TREC AMS AMS 15 43 00.0
comp=Z,200nm,18.4s
NKC Novy Kostel 77.23 336 *e*P **P** **15 04 05.6 -0.1**
BUG Bochum--Univer 77.47 339 *e*P **P** **15 04 05.6 -1.4**
MANZ Manzenberg 77.55 336 *e*P **P** **15 04 07.3 -0.1**
ZST Bratislava 77.66 332 *e*P **P** **15 04 09.2 +1.2**
ZST Bratislava 77.66 332 *e*P **P** **15 04 09.3 +1.3**
ZST pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ZST Bratislava 77.66 332 *e*P **P** **15 04 09.3 +1.3**
comp=Z,7.6nm,0.9s,mb4.6
ROTZ Rotzenmuhle 77.72 336 *e*P **P** **15 04 08.6 +0.2**
KHC Kasperske Hory 77.90 335 *e*P **P** **15 04 09.7 +0.3**
KHC *ex* x 15 04 17.8
KHC AMS AMS 15 42 10.0
comp=Z,200nm,21.8s
KHC Kasperske Hory 77.90 335 *e*P **P** **15 04 09.7 +0.3**
KHC *e* 15 04 17.8
KHC *e* 15 04 19.0
KHC LR LR
comp=Z,200nm,21.8s,MS4.4
GRA1 Grafenberg Arr 78.06 336 *e*P **P** **15 04 10.5 +0.2**
comp=Z,20nm,1.0s,mb5.0
GRA1 *e*pP pP 15 04 21.9 +5.7
GRF Grafenberg Arr 78.06 336 *e*P **P** **15 04 10.5 +0.2**
comp=Z,20nm,1.0s,mb5.0
GRF *e*pP pP 15 04 21.9 +5.7
GRF Grafenberg Arr 78.06 336 *e*P **P** **15 04 10.5 +0.2**
GRF *e**PP pP 15 04 21.9 +5.7
GRF pmax pmax
comp=Z,20nm,1.0s,mb5.0
GRF Grafenberg Arr 78.06 336 *e*P **P** **15 04 10.5 +0.2**
GRF *e**PP pP 15 04 21.9 +5.7
GRF pmax pmax
comp=Z,20nm,1.0s,mb5.0
WET Wettzell 78.09 335 *e*P **P** **15 04 10.6 +0.1**
comp=Z,15nm,1.1s,mb4.8
WET Wettzell 78.09 335 *e*P **P** **15 04 10.6 +0.1**
WET pmax pmax
comp=Z,15nm,1.1s,mb4.8
GEC2 GERESS Array S 78.12 334 *e*P **P** **15 04 10.3 -0.3**
comp=Z,14nm,1.5s,mb4.7
GEC2 GERESS Array S 78.12 334 *e*P **P** **15 04 10.3 -0.3**
GEC2 pmax pmax
comp=Z,14nm,1.5s,mb4.7
GERES GERESS Array B 78.12 334 P **P** **15 04 10.9 +0.3**
comp=Z,3.0nm,0.9s,mb4.2,baz=22,slow=4.3,SNR=22
GERES LR LR 15 42 56.2
comp=Z,217nm,18.4s,MS4.5,baz=193,slow=39
CONA Conrad Observa 78.29 333⇑ *i*P **P** **15 04 12.4 +0.9**
comp=Z,12nm,1.2s,mb4.7,SNR=8.9
TNS Taunus Mts 78.31 338 *e*P **P** **15 04 11.5 -0.1**
comp=Z,8.0nm,1.0s,mb4.6
TNS Taunus Mts 78.31 338 *e*P **P** **15 04 11.5 -0.1**
TNS pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BR131 Keskin Array S 78.31 317 *e*P **P** **15 04 11.8 +0.2**
comp=Z,3.5nm,0.8s,mb4.3
BRTR Keskin Array B 78.31 317 P **P** **15 04 12.2 +0.6**
comp=Z,5.0nm,0.9s,mb4.5,baz=71,slow=4.1,SNR=19
BRTR LR LR 15 44 41.7
comp=Z,62nm,18.2s,MS4.0,baz=234,slow=40

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SGKT	Sivrigoynuk	78.35	319	iP	P	15 04 13.2	+1.3
BZS	Buzias	78.37	328	⇑iP	P	15 04 12.3	+0.3
BZS	Buzias	78.37	328	P	P	15 04 12.2	+0.2
MOA	Molln	78.85	334	⇓iP	P	15 04 15.4	+0.8
	comp=Z,7.5nm,1.1s,mb4.5						
PKSM	Moragy	78.89	330	⇓iP	P	15 04 15.2	+0.3
PKSM	Moragy	78.89	330	⇓P	P	15 04 15.2	+0.3
GIVF	Givet	79.29	340	eP	P	15 04 17.8	+0.8
BAIF	Baives	79.47	341	eP	P	15 04 17.9	-0.1
	comp=Z,19nm,1.1s,mb4.6						
BAIF	Baives	79.47	341	eP	P	15 04 17.9	-0.1
BAIF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
BAIF	Baives	79.47	341	eP	P	15 04 17.9	-0.1
	comp=Z,9.4nm,1.1s,mb4.6						
PERS	Pernice	79.67	333	eP	P	15 04 19.2	+0.1
ESKT	Eskisehir	79.74	319	iP	P	15 04 20.1	+0.6
KBA	Koelnbreinsper	79.82	334	⇑iP	P	15 04 20.6	+0.7
	comp=Z,30nm,1.1s,mb5.1,SNR=10						
KBA	Koelnbreinsper	79.82	334	⇑iP	P	15 04 20.6	+0.7
KBA				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
ULDT	Uludag	79.99	320	iP	P	15 04 21.3	+0.4
BFO	Black Forest	80.08	338	eP	P	15 04 20.2	-1.1
	comp=Z,8.0nm,1.2s,mb4.5						
BFO	Black Forest	80.08	338	eP	P	15 04 20.2	-1.1
BFO				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
WATA	Walderalm	80.10	335	⇑iP	P	15 04 22.0	+0.6
	comp=Z,16nm,1.1s,mb4.9,SNR=7.7						
WATA	Walderalm	80.10	335	⇑iP	P	15 04 22.0	+0.6
WATA				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
WTTA	Wattenberg	80.15	335	⇑iP	P	15 04 22.5	+0.8
	comp=Z,23nm,1.0s,mb5.1,SNR=12						
WTTA	Wattenberg	80.15	335	⇑iP	P	15 04 22.5	+0.8
WTTA				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
GRUS	Gruza	80.19	328	iP	P	15 04 21.3	-0.7
GCIS	Gornji Cirnik	80.19	332	eP	P	15 04 21.6	-0.3
MOTA	Moosalm	80.23	335	⇑iP	P	15 04 22.6	+0.5
	comp=Z,18nm,1.1s,mb4.9,SNR=12						
MOTA	Moosalm	80.23	335	⇑iP	P	15 04 22.6	+0.5
MOTA				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
DIVS	Divcibare	80.27	328	iP	P	15 04 21.9	-0.5
CDF	Champ du Feu	80.27	338	eP	P	15 04 22.2	-0.2
	comp=Z,21nm,1.1s,mb4.7						
CDF	Champ du Feu	80.27	338	eP	P	15 04 22.2	-0.2
CDF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
CDF	Champ du Feu	80.27	338	eP	P	15 04 22.2	-0.2
	comp=Z,11nm,1.1s,mb4.7						
SQTA	Sankt Quirin	80.31	335	⇑iP	P	15 04 23.4	+0.8
	comp=Z,10nm,1.1s,mb4.7,SNR=6.3						
SQTA	Sankt Quirin	80.31	335	⇑iP	P	15 04 23.4	+0.8
SQTA				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
SQTA	Sankt Quirin	80.31	335	⇑iP	P	15 04 23.4	+0.8
	comp=Z,10nm,1.1s,mb4.7						
VTS	Vitosha	80.37	325	⇑iP	P	15 04 23.7	+0.8
VTS	Vitosha	80.37	325	P	P	15 04 23.1	+0.2
BOJS	Bojanci	80.64	332	eP	P	15 04 25.1	+0.8
BBLS	Bajina Basta -	80.67	329	iP	P	15 04 25.1	+0.6
HAU	Haudompre	80.88	339	eP	P	15 04 25.1	-0.5
HAU				eR			
	comp=Z,139nm,18.5s						
HAU	Haudompre	80.88	339	eP	P	15 04 25.1	-0.5
HAU				LR	LR		
	comp=Z,140nm,18.5s,MS4.3						
DAVOX	Davos	81.09	336	P	P	15 04 27.6	+0.8
	comp=Z,5.6nm,1.0s,mb4.5,baz=19,slow=6.7,SNR=4.0						
FLN	La Foliniere	81.68	343	eP	P	15 04 30.0	+0.1
	comp=Z,74nm,1.5s,mb5.1						
FLN				eR			
	comp=Z,123nm,17.5s						
FLN	La Foliniere	81.68	343	eP	P	15 04 30.0	+0.1
FLN				pmax	pmax		
	comp=Z,37nm,1.5s,mb5.1						
FLN				MLR	MLR		
	comp=Z,120nm,17.5s,MS4.3						
FLN	La Foliniere	81.68	343	eP	P	15 04 30.0	+0.1
	comp=Z,37nm,1.5s,mb5.1						
FLN				LR	LR		
	comp=Z,120nm,17.5s,MS4.3						
LDF	La Druitiere	81.77	343	eP	P	15 04 30.6	+0.2
PPT	Papeete	82.08	127	LR	LR	15 35 26.2	
	comp=Z,159nm,19.9s,MS4.4,baz=316,slow=32						
GRR	Gorron	82.11	343	eP	P	15 04 32.5	+0.3
LOR	Lormes	82.17	340	eP	P	15 04 32.6	+0.1
	comp=Z,18nm,1.1s,mb4.6						
LOR				eR			
	comp=Z,129nm,21.0s						
LOR	Lormes	82.17	340	eP	P	15 04 32.6	+0.1
LOR				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
LOR				MLR	MLR		
	comp=Z,130nm,21.0s,MS4.3						
LOR	Lormes	82.17	340	eP	P	15 04 32.6	+0.1
	comp=Z,9.1nm,1.1s,mb4.6						
LOR				LR	LR		
	comp=Z,130nm,21.0s,MS4.3						
CABF	La Chapelle	82.25	338	eP	P	15 04 33.4	+0.6
	comp=Z,22nm,1.1s,mb4.7						
CABF	La Chapelle	82.25	338	eP	P	15 04 33.4	+0.6
CABF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
CABF	La Chapelle	82.25	338	eP	P	15 04 33.4	+0.6
	comp=Z,11nm,1.1s,mb4.7						
SSF	Saint Saulge	82.45	340	eP	P	15 04 33.6	-0.3
	comp=Z,16nm,1.0s,mb4.6						
SSF	Saint Saulge	82.45	340	eP	P	15 04 33.6	-0.3
SSF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
SSF	Saint Saulge	82.45	340	eP	P	15 04 33.6	-0.3
	comp=Z,8.1nm,1.0s,mb4.6						
SGMF	Saint Gilles	82.56	344	eP	P	15 04 35.3	+0.8
ROSF	Rostrenen	82.61	345	eP	P	15 04 35.4	+0.6
	comp=Z,82nm,1.2s,mb5.3						
ROSF	Rostrenen	82.61	345	eP	P	15 04 35.4	+0.6
ROSF				pmax	pmax		
	comp=Z,41nm,1.3s,mb5.3						
ROSF	Rostrenen	82.61	345	eP	P	15 04 35.4	+0.6
	comp=Z,41nm,1.3s,mb5.3						
ASF	Jabal al Asfar	82.72	310	P	P	15 04 36.2	+0.9
	comp=Z,10nm,1.0s,mb4.8,baz=35,slow=1.4,SNR=7.8						
AVF	Avril sur Loir	82.74	340	eP	P	15 04 35.2	-0.2
SMF	Signal de Mont	82.76	340	eP	P	15 04 35.5	0.0
	comp=Z,46nm,1.2s,mb5.1						
SMF	Signal de Mont	82.76	340	eP	P	15 04 35.5	0.0
SMF				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.1						
SMF	Signal de Mont	82.76	340	eP	P	15 04 35.5	0.0
	comp=Z,23nm,1.2s,mb5.1						
QUIF	Quistinic	83.00	345	eP	P	15 04 37.1	+0.3
	comp=Z,197nm,1.7s,mb5.5						
QUIF	Quistinic	83.00	345	eP	P	15 04 37.1	+0.3
QUIF				pmax	pmax		
	comp=Z,99nm,1.7s,mb5.6						
QUIF	Quistinic	83.00	345	eP	P	15 04 37.1	+0.3
	comp=Z,99nm,1.7s,mb5.6						
BGF	Bois d'Agland	83.07	340	eP	P	15 04 37.0	-0.2
LPL	La Plagne	83.10	337	eP	P	15 04 38.0	+0.7
	comp=Z,18nm,1.0s,mb4.8						
LPL	La Plagne	83.10	337	eP	P	15 04 38.0	+0.7
LPL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
LPL	La Plagne	83.10	337	eP	P	15 04 38.0	+0.7
	comp=Z,9.1nm,1.0s,mb4.8						
LPG	La Plagne	83.11	337	eP	P	15 04 38.2	+0.8
	comp=Z,32nm,1.2s,mb4.9						
LPG	La Plagne	83.11	337	eP	P	15 04 38.2	+0.8
LPG				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.9						
LPG	La Plagne	83.11	337	eP	P	15 04 38.2	+0.8
	comp=Z,16nm,1.2s,mb4.9						
TCF	Toulx Ste Croi	83.47	341	eP	P	15 04 39.1	-0.1
	comp=Z,28nm,1.2s,mb4.8						
TCF	Toulx Ste Croi	83.47	341	eP	P	15 04 39.1	-0.1
TCF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
TCF	Toulx Ste Croi	83.47	341	eP	P	15 04 39.1	-0.1
	comp=Z,14nm,1.2s,mb4.9						
BNI	Bardonecchia	83.54	337	eP	P	15 04 40.0	+0.4
BNI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
BNI	Bardonecchia	83.54	337	eP	P	15 04 40.0	+0.4
	comp=Z,9.7nm,1.1s,mb4.8						
MFF	Saint Martin d	83.68	342	eP	P	15 04 40.0	-0.3
ORIF	Oris-en-Rattie	83.88	338	eP	P	15 04 41.8	+0.5
	comp=Z,15nm,0.9s,mb4.8						
ORIF				eR			
	comp=Z,113nm,20.0s						
ORIF	Oris-en-Rattie	83.88	338	eP	P	15 04 41.8	+0.5
ORIF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ORIF	Oris-en-Rattie	83.88	338	eP	P	15 04 41.8	+0.5
	comp=Z,7.7nm,0.9s,mb4.8						
VIVF	Saint-Julien-l	84.24	339	eP	P	15 04 43.3	+0.2
	comp=Z,17nm,1.2s,mb4.7						
VIVF	Saint-Julien-l	84.24	339	eP	P	15 04 43.3	+0.2
VIVF				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.7						
VIVF	Saint-Julien-l	84.24	339	eP	P	15 04 43.3	+0.2
	comp=Z,8.3nm,1.3s,mb4.7						
SBF	Sospel	84.44	336	eP	P	15 04 43.6	-0.6
	comp=Z,31nm,0.9s,mb5.1						
SBF	Sospel	84.44	336	eP	P	15 04 43.6	-0.6
SBF				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.1						
SBF	Sospel	84.44	336	eP	P	15 04 43.6	-0.6
	comp=Z,15nm,0.9s,mb5.1						
RJF	Les Rejaudoux	84.56	341	eP	P	15 04 44.4	-0.4
RJF				eR			
	comp=Z,117nm,22.2s						
RJF	Les Rejaudoux	84.56	341	eP	P	15 04 44.4	-0.4
RJF				LR	LR		
	comp=Z,120nm,22.3s,MS4.2						
CAF	Calviac	84.79	340	eP	P	15 04 46.0	+0.1
SMRF	Simiane la Rot	84.83	338	eP	P	15 04 46.8	+0.7
FRF	La Foret Royal	84.94	337	eP	P	15 04 46.2	-0.5
	comp=Z,32nm,1.2s,mb5.0						
FRF	La Foret Royal	84.94	337	eP	P	15 04 46.2	-0.5
FRF				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.0						
FRF	La Foret Royal	84.94	337	eP	P	15 04 46.2	-0.5
	comp=Z,16nm,1.2s,mb5.0						
LFF	La Frestale	85.08	341	eP	P	15 04 47.1	-0.3
	comp=Z,39nm,1.2s,mb5.1						
LFF	La Frestale	85.08	341	eP	P	15 04 47.1	-0.3
LFF				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.1						
LFF	La Frestale	85.08	341	eP	P	15 04 47.1	-0.3
	comp=Z,20nm,1.2s,mb5.1						
LASF	Ste Croix	85.17	339	eP	P	15 04 47.7	-0.1
	comp=Z,29nm,1.4s,mb4.9						
LMR	La Mourre	85.19	337	eP	P	15 04 47.7	-0.2
	comp=Z,26nm,1.0s,mb5.0						
LMR	La Mourre	85.19	337	eP	P	15 04 47.7	-0.2
LMR				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.0						
LMR	La Mourre	85.19	337	eP	P	15 04 47.7	-0.2
	comp=Z,13nm,1.0s,mb5.0						
PGF	Pioggiola	85.22	335	eP	P	15 04 47.7	-0.4
	comp=Z,43nm,1.4s,mb5.1						
PGF	Pioggiola	85.22	335	eP	P	15 04 47.7	-0.4
PGF				pmax	pmax		
	comp=Z,22nm,1.4s,mb5.1						
PGF	Pioggiola	85.22	335	eP	P	15 04 47.7	-0.4
	comp=Z,22nm,1.4s,mb5.1						
EIL	Elat	85.71	310	eP	P	15 04 51.1	+0.5
	comp=Z,123nm,0.9s						
MTLF	Montolieu	86.26	340	eP	P	15 04 52.8	-0.4
	comp=Z,15nm,1.3s,mb4.8						
MTLF	Montolieu	86.26	340	eP	P	15 04 52.8	-0.4
MTLF				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.7						
MTLF	Montolieu	86.26	340	eP	P	15 04 52.8	-0.4
	comp=Z,7.3nm,1.3s,mb4.8						
EPF	Esparros	86.98	341	eP	P	15 04 56.9	+0.1
ETSF	Etsaut	87.31	342	eP	P	15 04 59.2	+0.9
ESDC	Sonseca Array	91.11	343	P	P	15 05 14.4	-1.8
	comp=Z,0.1nm,0.3s,baz=351,slow=3.4,SNR=4.3						
CFAA	Coronel Fontan	144.31	79	PKP	PKPdf	15 11 44.9	-2.7
	comp=Z,0.5nm,0.7s,baz=283,slow=5.3,SNR=8.6						
CPUP	Villa Florida	147.65	61	PKPbc	PKPbc	15 11 53.2	-2.8
	comp=Z,1.9nm,0.8s,baz=114,slow=1.4,SNR=3.9						
PLCA	Paso Flores	147.69	95	PKPbc	PKPbc	15 11 52.9	-3.2
	comp=Z,1.9nm,0.8s,baz=24,slow=19,SNR=1.7						
PLCA	Paso Flores	147.69	95	PKPbc	PKPbc	15 11 52.9	-3.2
SNAA	Sanae	153.33	196	ePKPdf	PKPdf	15 11 58.9	-3.2
SNAA				e		15 12 02.6	
SNAA				e		15 12 08.6	
SNAA				e		15 12 10.9	
SNAA				e		15 12 18.7	
SNAA				e		15 12 21.4	
VNA1	Neumayer--Stat	155.15	194	ePKPdf	PKPdf	15 12 00.3	-4.4
VNA1				e		15 12 03.4	
VNA1				e		15 12 23.4	
VNA1				e		15 12 28.3	

*IDC **09** 14:52:23.6±2.3, 3.69N×123.14E, h0^{km}, mb3.6/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, Error ellipse: s-maj=342.9km s-min=27.6km az=62.0*

*ISCJB **09** 14:52:26.2±1.3, 3.8N±0.1×123.3E±0.3, h33^{km}, mb3.5/3, Error ellipse: s-maj=44.9km s-min=16.7km az=175.2*

ISC 09 14:52:28.8±1.3**, 3.8N**±0.1×**123.4E**±0.3**, h35**^{km}**, n5,** σ0^{s}64/5**, mb3.5**/3**, Celebes Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.94	156	P	P	14 57 57.8	+0.1
	0.5nm,0.3s,mb3.5,baz=335,slow=9.7,SNR=20						
ASAR	Alice Springs	29.16	160	P	P	14 58 26.5	-0.1
	0.2nm,0.3s,mb3.3,baz=334,slow=7.3,SNR=2.7						
JANG	Nango	39.94	22	eS	S	15 06 03.2	+0.9
JTM	Tenmabayashi	40.14	21	eS	S	15 06 04.4	-0.9
MKAR	Makanchi Array	55.62	327	P	P	15 02 01.1	0.0
	0.7nm,0.7s,mb3.8,baz=129,slow=7.5,SNR=4.1						

IDC 09 15:06:27.4±10.0**, 8.54S**×**112.68E, h0**^{km}**, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.4**/15**, mbtmp3.5**/3**, Error ellipse: s-maj=210.5km s-min=149.9km az=5.0, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.82	121	P	P	15 11 41.8	-0.3
	0.7nm,0.8s,baz=294,slow=11,SNR=3.6						
ASAR	Alice Springs	25.28	129	P	P	15 11 56.5	+1.2
	0.2nm,0.5s,baz=303,slow=8.4,SNR=4.4						
STKA	Stephens Creek	35.50	135	P	P	15 13 25.6	-0.1
	1.6nm,0.5s,baz=319,slow=9.3,SNR=4.6						

*ISCJB **09** 15:30:18.2±3.1, 20.25S±0.08×176.95W±0.10, h272^{km}±30^{km}, mb4.0/17, Error ellipse: s-maj=16.4km s-min=11.5km az=73.7*

*IDC **09** 15:30:22.7±2.9, 20.40S×176.88W, h306^{km}±27^{km}, mb3.6/7, mb1 3.9/8, mb1mx3.7/16, mbtmp4.3/8, Error ellipse: s-maj=19.4km s-min=11.3km az=127.0*

*NEIC **09** 15:30:33.6±2.7, 20.30S×177.12W, h415^{km}±28^{km}, mb4.0/11, Error ellipse: s-maj=16.3km s-min=13.1km az=130.0*

ISC 09 15:30:34.6±3.6**, 20.3S**±0.1×**177.1W**±0.2**, h425**^{km}±38^{km}**, n31,** σ**0**^{s}**83**/28**, mb3.9**/17**, 1C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.45	260	P	P	15 33 51.1	+0.1
	1.1nm,0.3s,baz=72,slow=19,SNR=11						
URZ	Urewera	18.61	194	P	P	15 34 16.6	-7.7
	1.7nm,0.3s,baz=128,slow=19,SNR=26						
URZ				S	S	15 37 33.0	+0.3
	0.8nm,0.3s,baz=254,slow=21,SNR=11						
CTA	Charters Tower	34.34	264	eP	P	15 36 44.4	+0.6
	7.2nm,0.5s,mb4.3						
CTAO	Charters Tower	34.34	264	eP	P	15 36 44.3	+0.6
	7.5nm,0.5s,mb4.3						
STKA	Stephens Creek	38.64	244	P	P	15 37 19.3	-0.2
	2.5nm,1.0s,mb3.5,baz=83,slow=16,SNR=3.3						
STKA	Stephens Creek	38.64	244	eP	P	15 37 17.6	-1.9
AS31	Alice Springs	45.38	256	eP	P	15 38 13.4	+0.3
ASAR	Alice Springs	45.38	256	P	P	15 38 13.6	+0.4
	11nm,0.7s,mb4.3,baz=93,slow=8.3,SNR=102						
ASAR				S	S	15 44 32.1	+10
	0.6nm,0.8s,baz=93,slow=17,SNR=4.6						
ASPA	Alice Springs	45.38	256	eP	P	15 38 13.4	+0.3
WB2	Warramunga Arr	45.45	262	⇑iP	P	15 38 13.1	-0.5
WRAB	Tennant Creek	45.45	262	eP	P	15 38 13.1	-0.5
	5.6nm,0.6s,mb4.1						
WRA	Warramunga Arr	45.46	262	P	P	15 38 13.3	-0.4
	6.6nm,0.7s,mb4.1,baz=96,slow=7.2,SNR=168						
KAKA	Kakadu	48.80	271	eP	P	15 38 39.3	+0.2
	3.4nm,0.5s,mb3.9						
FITZ	Fitzroy Crossi	53.88	262	eP	P	15 39 17.4	+1.2
	7.7nm,1.1s,mb3.9						
SBA	Scott Base	58.15	184	eP	P	15 39 43.3	-2.7
	1.5nm,0.8s,mb3.4						
VNDA	Vanda	58.21	185	eP	P	15 39 46.4	+0.1
QSPA	South Pole Qui	69.79	180	eP	P	15 41 01.6	+0.9
	3.7nm,0.6s,mb4.1						
YBH	Yreka Blue Hor	79.60	38	P	P	15 41 56.8	+0.7
	2.0nm,1.0s,mb3.7,baz=133,slow=15,SNR=5.3						
NVAR	Mina Array Bea	80.29	43	P	P	15 42 00.4	+0.6
	2.2nm,0.8s,mb3.8,baz=211,slow=7.4,SNR=11						
TUC	Tucson	82.19	52	eP	P	15 42 10.7	+1.0
	4.7nm,1.0s,mb4.2						
ELK	Elko	83.55	42	eP	P	15 42 16.9	+0.3
	1.2nm,0.8s,mb3.7						
COLA	College	87.81	12	eP	P	15 42 35.7	-1.4
	2.2nm,0.7s,mb4.0						
ILAR	Eielson Array	87.91	12	P	P	15 42 36.4	-1.2
	5.4nm,1.3s,mb4.1,baz=217,slow=6.7,SNR=6.1						
SNAA	Sanae	88.21	178	e	P	15 42 39.1	+0.1
SNAA				e		15 42 40.5	
SNAA	Sanae	88.21	178	eP	P	15 42 38.5	-0.5
	2.5nm,1.1s,mb3.9						
PDAR	Pinedale Array	88.23	43	P	P	15 42 38.9	-0.2
	0.3nm,0.5s,mb3.3,baz=222,slow=2.0,SNR=4.1						
MKAR	Makanchi Array	111.65	313	PKiKP	PKiKP	15 48 19.6	+0.1
	0.1nm,0.4s,baz=26,slow=3.4,SNR=3.6						
BRTR	Keskin Array B	147.30	313	PKPbc	PKPbc	15 49 30.6	+1.5
	1.3nm,0.6s,baz=140,slow=4.8,SNR=7.2						
KHC	Kasperske Hory	149.96	346	ePKPbc	PKPbc	15 49 37.0	+1.3
GERES	GERESS Array B	150.20	346	PKPbc	PKPbc	15 49 37.5	+1.2
	1.1nm,0.7s,baz=29,slow=3.0,SNR=11						
TORD	Torodi Ar. Bea	172.82	171	PKP	PKPdf	15 49 55.3	+1.7
	0.9nm,0.8s,baz=65,slow=2.2,SNR=4.6						
TORD				PKPab	PKPab	15 51 24.6	+1.8
	1.3nm,0.7s,baz=180,slow=3.9,SNR=6.7						

*BJI **09** 15:53:01.3, 4.80S×67.83E, h10^{km}, mB5.2, mb4.7, Ms4.7, Msz4.5*

*MOS **09** 15:53:07.7±1.4, 4.06S×68.40E, h10^{km}, mb4.8/7, Error ellipse: s-maj=15.7km s-min=9.2km az=93.6*

*ISCJB **09** 15:53:07.0±0.5, 4.20S±0.07×68.29E±0.07, h10^{km}, mb4.6/41, MS4.2/23, Error ellipse: s-maj=10.3km s-min=8.7km az=82.4*

*IDC **09** 15:53:07.8±0.8, 3.83S×68.45E, h0^{km}, mb4.1/13, mb1 4.2/13, mb1mx4.1/20, mbtmp4.1/13, MS4.2/14, Ms1 4.2/14, ms1mx4.0/22, Error ellipse: s-maj=28.9km s-min=17.6km az=36.0*

*HRVD **09** 15:53:09.2±0.2, 4.27S×68.32E, h12^{km}, MW5.0/90, Centroid moment Tensor Solution. LP body waves: s41,c54;Mantle waves: s90,c142; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.00±.09; $M_{\theta\theta}$1.99±.08; $M_{\phi\phi}$2.01±.09; $M_{r\theta}$-0.17±.27; $M_{\theta\phi}$-1.77±.07; $M_{\phi r}$0.46±.27; Best double couple: $M_0$3.91500×10^{16} NP1:ϕ_s312.00000°,δ42.00000°,λ-94.00000°. NP2: ϕ_s138.00000°,δ48.00000°,λ-86.00000°. Principal axes: T 3.7960, Plg3.0000°, Azm225.0000°; N 0.2390, Plg3.0000°, Azm316.0000°; P -4.0350, Plg86.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **09** 15:53:09.2±0.5, 4.02S×68.38E, h10^{km}, mb4.7/7 Error ellipse: s-maj=15.2km s-min=9.7km az=223.0*

ISC 09 15:53:09.4±1.8**, 4.17S**±0.08×**68.29E**±0.07**, h10**^{km}±12^{km}**, h26**^{km}±3.0^{km}**:pP-P, n80,** σ**1**^{s}**23**/74**, mb4.6**/41**, MS4.2**/23**, 1C-2D, Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DGAR	Diego Garcia	5.25	128	eP	Pn	15 54 26.8	-1.0
DGAR				pmax	pmax		
	comp=Z,394nm,1.0s						
DGAR	Diego Garcia	5.25	128	eP	Pn	15 54 26.8	-1.0
	comp=Z,394nm,1.0s						
WSAR	Wadi Sarin	28.82	341	LR	LR	16 08 09.9	
	comp=Z,436nm,20.8s,MS4.0,baz=140,slow=32						
ATD	Arta Tunnel	29.73	302	LR	LR	16 08 58.2	
	comp=Z,156nm,19.3s,MS3.6,baz=123,slow=32						
KMBO	Kilima Mbogo	31.15	275	LR	LR	16 09 21.4	
	comp=Z,504nm,21.3s,MS4.2,baz=95,slow=31						
KULM	Kulim	33.66	74	eP	P	15 59 51.3	+1.1
KOLN	Koldanda	35.02	24	eP	P	16 00 02.4	+0.4
	comp=Z,59nm,1.5s,mb5.3						
DMN	Daman	35.51	26	eP	P	16 00 07.0	+0.7
	comp=Z,41nm,1.0s,mb5.3						
PKI	Pulchoki	35.62	27	eP	P	16 00 08.6	+1.4
	comp=Z,12nm,0.6s,mb5.0						
GKN	Gorkha	35.65	25	eP	P	16 00 07.8	+0.3
	comp=Z,52nm,1.2s,mb5.3						
KKN	Kakani	35.75	26	eP	P	16 00 08.9	+0.6
	comp=Z,30nm,1.1s,mb5.2						
JIRN	Jiri	36.05	28	eP	P	16 00 12.6	+1.7
GUN	Gumba	36.12	27	eP	P	16 00 12.2	+0.7
	comp=Z,64nm,1.1s,mb5.5						
LSA	Lhasa	40.18	32	eP	P	16 00 46.6	+0.9
LSA	Lhasa	40.18	32	eP	P	16 00 47.2	+1.5
LSA				pmax	pmax		
	comp=Z,89nm,1.9s,mb5.2						
LSA	Lhasa	40.18	32	eP	P	16 00 47.2	+1.5
	comp=Z,90nm,1.9s,mb5.2						
KSM	Kuching	42.36	83	P	P	16 01 02.0	-1.7
KMI	Kunming	44.35	47	P	P	16 01 20.0	+0.3
KMI				AP	pP	16 01 29.0	+6.1
KMI				XP	sP	16 01 32.5	+8.4
KMI				PP	PP	16 03 04.8	+1.7
KMI				S	S	16 07 55.0	+1.1
KMI				XS	sS	16 08 09.0	+10
KMI				SS	SS	16 11 05.9	-6.5
KMI				AMB	AMB		
	comp=Z,9.0nm,1.6s,mb4.2						
KMI				AMB	AMB		
	comp=Z,317nm,4.7s						
KMI				LR	LR		
	comp=N,372nm,18.0s,MS4.5						
KMI				LR	LR		
	comp=E,388nm,16.0s,MS4.5						
KMI				LR	LR		
	comp=Z,450nm,19.6s,MS4.4						
AAK	Ala-Archa	46.92	6	iP	P	16 01 40.9	+0.9
AAK				pmax	pmax		
	comp=Z,18nm,2.5s,mb4.6						
AAK				MLR	MLR		
	comp=Z,300nm,21.0s,MS4.2						
QIZ	Qiongzhong	46.94	59	P	P	16 01 39.2	-1.0
QIZ				S	S	16 08 32.7	+1.4
QIZ				XS	sS	16 08 41.9	+5.4
QIZ				LR	LR		
	comp=E,141nm,20.2s						
QIZ				LR	LR		
	comp=Z,419nm,19.9s,MS4.4						
GYA	Guiyang	48.01	48	P	P	16 01 48.6	+0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.7						
CD2	Chengdu	48.60	42	eP	P	16 01 54.6	+1.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
GNI	Garni	49.12	336	iP	P	16 01 59.1	+2.0
MALT	Malatya	50.52	330	eP	P	16 02 08.1	+0.4
MALT				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
MALT	Malatya	50.52	330	eP	P	16 02 08.1	+0.5
	comp=Z,6.1nm,1.0s,mb4.5						
WMQ	Urumqi	50.87	18	P	P	16 02 11.5	+1.2
WMQ				AP	pP	16 02 15.5	+2.0
WMQ				PCP	PcP	16 03 28.5	+1.6
WMQ				PP	PP	16 04 08.6	+2.0
WMQ				S	S	16 09 25.5	-1.0
WMQ				AMB	AMB		
	comp=Z,15nm,2.0s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,130nm,6.8s						
WMQ				LR	LR		
	comp=N,229nm,16.0s,MS4.4						
WMQ				LR	LR		
	comp=E,172nm,14.9s,MS4.4						
WMQ				LR	LR		
	comp=Z,231nm,16.5s,MS4.3						
LZH	Lanzhou	52.05	37	eP	P	16 02 20.3	+1.1

LZH AP pP 16 02 27.5 +5.1
LZH XP sP 16 02 31.6 +8.0
LZH AMB AMB
comp=Z,22nm,1.3s,mb4.9
GTA Gaotai 52.19 31 *e*P **P 16 02 20.8 +0.6**
GTA AP pP 16 02 27.9 +4.5
GTA XP sP 16 02 31.0 +6.3
GTA PP PP 16 04 21.5 +2.9
GTA S **S 16 09 45.5 +0.7**
GTA AMB AMB
comp=Z,7.0nm,1.6s,mb4.3
GTA AMB AMB
comp=Z,129nm,5.4s
GTA LR LR
comp=N,442nm,19.1s,MS4.7
GTA LR LR
comp=E,468nm,17.2s,MS4.7
GTA LR LR
comp=Z,653nm,21.0s,MS4.6
MKAR Makanchi Array 52.23 12 P **P 16 02 17.0 -3.6**
comp=Z,1.1nm,0.8s,mb3.8,baz=177,slow=4.9,SNR=6.8
MKAR Makanchi Array 52.23 12 *i* P **P 16 02 20.5 0.0**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
KIV Kislovodsk 53.15 337 *e*P **P 16 02 29.1 +1.7**
KIV pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
KIV MLR MLR
comp=Z,102nm,18.0s,MS3.9
XAN Xi'an 53.96 42 P **P 16 02 32.2 -1.1**
XAN AMB AMB
comp=Z,8.0nm,0.9s,mb4.7
BRTR Keskin Array B 54.07 327 P **P 16 02 32.8 -1.3**
comp=Z,0.9nm,0.9s,mb3.7,baz=134,slow=8.8,SNR=5.7
BRTR LR LR 16 25 39.6
comp=Z,94nm,18.4s,MS3.9,baz=355,slow=36
AKTK Aktyubinsk 55.10 352 P **P 16 02 38.1 -3.5**
AKTO Aktyubinsk 55.10 352 P **P 16 02 38.1 -3.5**
comp=Z,2.2nm,0.9s,mb4.2,baz=171,slow=8.4,SNR=6.3
KURK Kurchatov 55.38 8 *d i*P **P 16 02 42.2 -1.4**
KURK Kurchatov 55.38 8 *e*P **P 16 02 42.0 -1.7**
comp=Z,18nm,1.6s,mb4.8
ZRNK Zerenda 56.91 1 *e*P **P 16 02 53.2 -1.3**
ZRNK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
ZRNK Zerenda 56.91 1 *e*P **P 16 02 53.2 -1.3**
comp=Z,2.1nm,0.6s,mb4.3
CHKZ Chkalovo 57.66 2 *e*P **P 16 02 58.6 -1.2**
CHKZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
CHKZ Chkalovo 57.66 2 *e*P **P 16 02 58.6 -1.3**
comp=Z,6.2nm,1.0s,mb4.6
FITZ Fitzroy Crossi 57.72 109 LR LR 16 21 58.4
comp=Z,186nm,21.2s,MS4.2,baz=249,slow=30
ZAL Zalesovo 59.52 11 P **P 16 03 10.9 -1.9**
comp=Z,1.7nm,0.7s,mb4.2,baz=266,slow=7.3,SNR=7.0
ZAL LR LR 16 28 54.3
comp=Z,297nm,20.6s,MS4.4,baz=263,slow=36
HHC Hu-ho-hao-te 59.74 37 *e*P **P 16 03 15.9 +1.6**
HHC PP PP 16 05 29.3 +3.2
HHC PCS PcS 16 08 03.6 +0.3
HHC S **S 16 11 25.0 -0.3**
HHC PS 16 11 42.8
HHC SS SS 16 15 22.0 +0.9
HHC AMB AMB
comp=Z,9.0nm,0.9s,mb4.8
HHC AMB AMB
comp=Z,146nm,5.9s
HHC LR LR
comp=N,331nm,20.8s,MS4.6
HHC LR LR
comp=E,324nm,18.4s,MS4.6
HHC LR LR
comp=Z,363nm,23.2s,MS4.4
NJ2 Nanjing 60.01 49 *e*P **P 16 03 14.2 -1.9**
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.5
NVS Novosibirsk 60.10 10 *i* P **P 16 03 16.7 0.0**
ARU Arti 60.91 354 *e*P **P 16 03 20.7 -1.6**
ARU *e* 16 04 03.2
ARU *e* 16 05 34.8
ARU *e*S **S 16 11 38.9 -1.4**
ARU *e*SS SS 16 15 39.4 -0.1
SVE Sverdlovsk 61.11 355 *e*P **P 16 03 21.4 -2.3**
SVE pmax pmax
comp=Z,36nm,2.1s,mb5.1
SVE MLR MLR
comp=N,200nm,18.0s,MS4.4
SVE MLR MLR
comp=E,100nm,18.0s,MS4.4
SVE MLR MLR
comp=Z,200nm,18.0s,MS4.3
SSE Sheshan 61.38 51 P **P 16 03 21.7 -3.8**
SSE AP pP 16 03 31.1 +2.4
SSE XP sP 16 03 34.6 +4.7
SSE S **S 16 11 39.8 -6.4**
SSE XS sS 16 11 55.6 +4.1
SSE AMB AMB
comp=Z,35nm,1.1s,mb5.4
SSE AMB AMB
comp=Z,628nm,4.8s
SSE LR LR
comp=N,43nm,25.5s,MS4.1
SSE LR LR
comp=E,161nm,25.5s,MS4.1
SSE LR LR
comp=Z,194nm,24.5s,MS4.2
SONM Songino Array 61.61 28 P **P 16 03 25.9 -1.1**
comp=Z,4.1nm,0.8s,mb4.6,baz=241,slow=6.1,SNR=6.9
SONM LR LR 16 29 54.7
comp=Z,1μm,21.1s,MS5.0,baz=242,slow=36
ULN Ulaanbaatar 61.94 29⇑*e*P **P 16 03 29.5 +0.2**
ULN Ulaanbaatar 61.94 29 P **P 16 03 28.2 -1.1**
comp=Z,29nm,1.8s,mb5.1
ZAK Zakamensk 62.12 25 *e*P **P 16 03 28.8 -1.7**
ZAK pmax pmax
comp=Z,2.0nm,1.9s,mb3.9
AKASG Malin Array Be 64.10 334 P **P 16 03 41.4 -2.2**
comp=Z,0.7nm,0.6s,mb3.9,baz=131,slow=5.8,SNR=7.6
AKASG Malin Array Be 64.10 334 *i* P **P 16 03 43.4 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 64.10 334 P **P 16 03 41.4 -2.2**
ASAR Alice Springs 66.02 114 P **P 16 03 56.5 +0.4**
comp=Z,0.9nm,0.7s,mb3.9,baz=278,slow=6.2,SNR=9.8
ASAR LR LR 16 29 59.9
comp=Z,272nm,19.8s,MS4.5,baz=132,slow=34
ASAR Alice Springs 66.02 114 P **P 16 03 56.5 +0.4**
ASAR LR LR 16 29 59.9
WRA Warramunga Arr 66.08 110 P **P 16 03 57.0 +0.4**
comp=Z,2.1nm,0.6s,mb4.4,baz=287,slow=5.8,SNR=23
WB2 Warramunga Arr 66.09 110 *e*P **P 16 03 57.1 +0.5**
TORD Torodi Ar. Bea 68.31 286 P **P 16 04 12.4 +1.8**
comp=Z,0.6nm,1.0s,mb3.6,baz=104,slow=1.8,SNR=5.3
TORD LR LR 16 33 21.7
comp=Z,143nm,18.7s,MS4.2,baz=110,slow=35
GERES GERESS Array B 70.88 325 LR LR 16 34 57.3
comp=Z,49nm,21.2s,MS3.7,baz=325,slow=36
BRG Berggiesshubel 71.79 327 *e*(P) **P 16 04 32.6 +0.5**
comp=Z,7.8nm,1.7s,mb4.3
BRG Berggiesshubel 71.79 327 *e*P **P 16 04 32.6 +0.6**
BRG pmax pmax
comp=Z,8.0nm,1.7s,mb4.4
CLL Collm 72.52 327 P **P 16 04 36.8 +0.4**
comp=Z,logA/T=1.0,mb4.7
CLL Collm 72.52 327 *i* P **P 16 04 36.8 +0.4**
comp=Z,16nm,1.7s,mb4.7
STKA Stephens Creek 73.64 122 P **P 16 04 43.3 +0.3**
comp=Z,5.7nm,1.2s,mb4.4,baz=222,slow=8.8,SNR=3.5
DBIC Dimbokro 73.81 278 P **P 16 04 45.8 +1.8**
comp=Z,4.1nm,0.9s,mb4.3,baz=0.7,slow=9.5,SNR=3.5
DBIC LR LR 16 34 07.3
comp=Z,86nm,19.9s,MS4.0,baz=94,slow=33
MJAR Matsushiro Arr 76.53 51 P **P 16 04 59.4 -0.3**
comp=Z,1.0nm,0.7s,mb3.9,baz=218,slow=4.7,SNR=6.2
MJAR LR LR 16 37 33.5
comp=Z,151nm,18.7s,MS4.3,baz=215,slow=35
ARCES ARCESS Array B 79.05 346 LR LR 16 41 25.3
comp=Z,88nm,21.2s,MS4.1,baz=332,slow=37
ESDC Sonseca Array 79.12 312 P **P 16 05 14.3 +0.2**
comp=Z,1.3nm,0.7s,mb3.9,baz=96,slow=4.3,SNR=8.5
SNAA Sanae 80.18 198 *e*P **P 16 05 19.7 -0.2**
TIXI Tiksi 85.02 16 *d i*P **P 16 05 43.2 -1.9**
VNDA Vanda 86.73 167 LR LR 16 40 11.3
comp=Z,149nm,20.9s,MS4.4,baz=50,slow=32
PDAR Pinedale Array 141.52 357 PKP PKPdf 16 12 42.3 +1.6
comp=Z,0.5nm,0.7s,baz=67,slow=3.9,SNR=4.6
SMCO Snowmass 144.89 354 *e*PKPdf PKPdf 16 12 46.7 0.0
CMB Columbia Colle 145.37 12 *e*PKIKP PKPdf 16 12 47.9 +0.4
NVAR Mina Array Bea 145.37 9 PKPbc PKPbc 16 12 47.5 +0.2
comp=Z,2.2nm,0.7s,baz=3.9,slow=2.5,SNR=12
MIAR Mount Ida 145.40 333 *e*PKIKP PKPdf 16 12 47.5 0.0
MSU Marysvale 145.81 1 *e*PKP2 PKPab 16 12 50.1 +1.0

MAN 09 15:54:24.2, 1611N×12012E, h20km, mb2.0, ML3.7, MS3.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.34**	**323**	*e*P	Pb	15 54 33.2	+1.7
BOLP				*e*S	Sb	15 54 40.0	+3.5
SCZP	**Santa Cruz**	**0.39**	**212**	*e*P	Pb	15 54 32.8	+0.5
SCZP						15 54 39.0	
BCPH	**Baguio City Da**	**0.52**	**58**⇓	*e*P	Pb	15 54 35.4	+0.9
BCPH				*e*S	Sb	15 54 44.1	+2.5
BALP	**Baler**	**1.45**	**104**	*e*P	Pn	15 54 49.7	+0.6
ABRA	**Dolores**	**1.63**	**20**	*e*P	Pn	15 54 47.8	-4.0
CAUP	**Cauayan**	**1.83**	**63**	*e*P	Pn	15 54 58.2	+3.7
APYP	**Conner**	**2.05**	**31**	*e*P	Pn	15 54 57.5	0.0

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*IDC **09** 15:56:12.1±2.9, 5132N×17938W, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/22, mbtmp3.8/9, Error ellipse: s-maj=72.6km s-min=23.8km az=1.0*
*NEIC **09** 15:56:15.9±1.8, 5130N×17923W, h25km±13km, ML3.5(AEIC), Error ellipse: s-maj=36.3km s-min=11.2km az=177.0*
*ISCJB **09** 15:56:17.2±2.2, 511N±03×1792W±01, h60km±13km, mb3.9/9, Error ellipse: s-maj=47.6km s-min=13.8km az=167.2*
ISC 09 15:56:18.7±2.3, **511N**±03×**1793W**±01, **h63**km±13km, **n15**, σ**1**^{s}**16**/16, **mb3.9**/9, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.91**	**289**	P	**Pn**	**15 56 33.3**	**-2.4**
AMKA				S	**Sn**	**15 56 48.3**	**+0.1**
SMY	**Shemya**	**4.39**	**294**	*e*P	**Pn**	**15 57 25.3**	**+2.5**
SPIA	**Saint Paul Isl**	**8.09**	**38**	*e*P	**Pn**	**15 58 14.9**	**+1.4**
KDAK	**Kodiak Island**	**16.86**	**56**	Pn	**Pn**	**16 00 06.7**	**-3.7**
	baz=247,slow=7.7						
KDAK	**Kodiak Island**	**16.86**	**56**	Pn	**Pn**	**16 00 06.7**	**-3.7**
ILAR	**Eielson Array**	**21.67**	**38**	P	**P**	**16 01 03.1**	**-0.9**
	0.6nm,0.4s,mb3.4,baz=244,slow=9.6,SNR=11						
YKA	**Yellowknife Ar**	**35.67**	**46**	P	**P**	**16 03 10.3**	**-0.4**
	0.6nm,0.4s,mb3.9,baz=282,slow=7.4,SNR=6.5						
BW06	**Boulder Array**	**46.71**	**72**	*e*P	**P**	**16 04 41.4**	**+0.1**
	2.0nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**46.71**	**72**	P	**P**	**16 04 42.4**	**+1.1**
	2.5nm,0.8s,mb4.2,baz=310,slow=4.4,SNR=21						
ARCES	**ARCESS Array B**	**58.32**	**350**	P	**P**	**16 06 06.4**	**-0.6**
	0.8nm,0.7s,mb3.9,baz=17,slow=8.9,SNR=3.7						
MKAR	**Makanchi Array**	**59.95**	**308**	P	**P**	**16 06 19.2**	**+0.8**
	0.3nm,0.3s,mb3.8,baz=46,slow=6.8,SNR=7.4						
FINES	**FINESS Array B**	**65.99**	**347**	P	**P**	**16 06 58.1**	**-0.3**
	0.3nm,0.3s,mb3.8,baz=9.7,slow=6.8,SNR=9.4						
NOA	**NORSAR Array B**	**67.90**	**354**	P	**P**	**16 07 09.8**	**-0.7**
	0.8nm,0.8s,mb3.8,baz=23,slow=7.2,SNR=3.3						
NOA	**NORSAR Array B**	**67.90**	**354**	P	**P**	**16 07 09.8**	**-0.7**
AKASG	**Malin Array Be**	**75.72**	**342**	P	**P**	**16 07 57.6**	**+0.2**
	0.8nm,0.4s,mb4.0,baz=20,slow=6.1,SNR=4.8						

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*IDC **09** 15:58:14.3±4.8, 5159N×17932W, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/21, mbtmp3.7/5, Error ellipse: s-maj=157.0km s-min=34.0km az=12.0*
*ISCJB **09** 15:58:15.1±1.4, 518N±03×1793W±03, h10km, mb3.7/5, Error ellipse: s-maj=42.3km s-min=9.6km az=118.3*
*NEIC **09** 15:58:15.9±1.3, 5159N×17930W, h10km, ML3.2(AEIC), Error ellipse: s-maj=39.0km s-min=11.5km az=161.0*
ISC 09 15:58:16.0±1.6, **517N**±03×**1793W**±02, **h10**km, **n6**, σ**0**^{s}**57**/7, **mb3.7**/5, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.95**	**251**	P	**Pg**	**15 58 33.2**	**-1.1**
AMKA				S	**Sg**	**15 58 47.5**	**+0.8**
PDAR	**Pinedale Array**	**46.49**	**72**	P	**P**	**16 06 43.6**	**+0.3**
	0.4nm,0.8s,mb3.4,baz=318,slow=5.2,SNR=4.2						
MKAR	**Makanchi Array**	**59.60**	**308**	P	**P**	**16 08 19.8**	**-0.3**
	0.4nm,0.6s,mb3.6,baz=38,slow=6.1,SNR=5.4						
FINES	**FINESS Array B**	**65.40**	**347**	P	**P**	**16 08 58.6**	**-0.2**
	0.2nm,0.5s,mb3.4,baz=28,slow=6.3,SNR=3.3						
AKASG	**Malin Array Be**	**75.15**	**342**	P	**P**	**16 09 58.6**	**+0.1**
	1.2nm,0.3s,mb4.3,baz=20,slow=6.5,SNR=5.5						
BRTR	**Keskin Array B**	**84.53**	**335**	P	**P**	**16 10 49.8**	**+0.5**
	0.4nm,0.7s,mb3.6,baz=35,slow=5.3,SNR=2.9						

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*ISCJB **09** 16:08:16.3±3.0, 55S±01×1505E±02, h70km±24km, mb4.2/14, Error ellipse: s-maj=31.4km s-min=16.5km az=33.4*
*HRVD **09** 16:08:16.8±0.5, 548S×15086E, h18km±2km, MW4.8/47, Centroid moment Tensor Solution. LP body waves: s7,c7;Mantle waves: s47,c62; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.48±.16; Mθθ1.51±.12; Mφφ-1.04±.11; Mrθ-0.06±.23; Mθφ0.90±.09; Mφr0.73±.33; Best double couple: M0 1.76900×10^16 NP1:φs114.00000°, δ66.00000°, λ-19.00000°. NP2:φs211.00000°, δ73.00000°, λ-155.00000°. Principal axes: T 1.8060, Plg4.0000°, Azm341.0000°; N -0.0810, Plg60.0000°, Azm244.0000°; P -1.7310, Plg30.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 16:08:16.8±2.5, 557S×15073E, h74km±20km, mb4.5/8 Error ellipse: s-maj=22.3km s-min=13.5km az=99.0*
*IDC **09** 16:08:16.6±5.0, 547S×15056E, h65km±42km, mb3.8/9, mb1 4.1/10, mb1mx4.0/15, mbtmp4.1/10, ML3.4/1, MS3.9/6, Ms1 3.9/6, ms1mx3.5/20, Error ellipse: s-maj=40.2km s-min=19.8km az=94.0*
ISC 09 16:08:17.3±2.8, **55S**±01×**1506E**±02, **h66**km±22km, **n34**, σ**0**^{s}**87**/28, **mb4.2**/14, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.14**	**221**	P	**Pn**	**16 09 31.9**	**+0.3**
	9.0nm,0.3s,baz=27,slow=6.8,SNR=34						
PMG				S	**Sn**	**16 10 29.6**	**0.0**
	baz=149,slow=16,SNR=3.0						
PMG				LR	LR	16 11 08.8	
	comp=Z,436nm,20.5s,baz=44,slow=33						
PMG	**Port Moresby**	**5.14**	**221**	*e*P	**Pn**	**16 09 31.4**	**-0.2**
	92nm,0.7s						
HNR	**Honiara**	**10.08**	**113**	LR	LR	16 13 49.0	
	comp=Z,486nm,18.8s,baz=354,slow=33						
CTA	**Charters Tower**	**15.08**	**196**	P	**Pn**	**16 11 50.2**	**+3.7**
	0.2nm,0.3s,baz=54,slow=10,SNR=5.2						
CTA				LR	LR	16 17 00.0	
	comp=Z,551nm,19.6s,baz=18,slow=35						
CTA	**Charters Tower**	**15.08**	**196**	P	**Pn**	**16 11 50.2**	**+3.7**
CTA				LR	LR	16 17 00.0	
CTAO	**Charters Tower**	**15.08**	**196**	P	**Pn**	**16 11 46.9**	**+0.4**
KAKA	**Kakadu**	**19.27**	**247**	*e*P	**Pn**	**16 12 37.0**	**-1.1**
	8.0nm,0.6s						
GUMO	**Guam**	**19.80**	**343**	LR	LR	16 18 40.2	
	comp=Z,174nm,18.9s,baz=160,slow=32						
WRAB	**Tennant Creek**	**21.32**	**226**	*e*P	**P**	**16 12 58.8**	**+0.2**
	12nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**21.32**	**226**	*e*P	**P**	**16 12 58.5**	**-0.2**
WRA	**Warramunga Arr**	**21.33**	**226**	P	**P**	**16 12 58.9**	**+0.1**
	6.7nm,0.9s,mb4.0,baz=50,slow=10.0,SNR=29						
DZM	**Mont Dzumac**	**22.51**	**138**	LR	LR	16 20 50.1	
	comp=Z,942nm,19.2s,baz=204,slow=33						
AS31	**Alice Springs**	**24.15**	**220**	*e*P	**P**	**16 13 27.6**	**+0.5**
ASAR	**Alice Springs**	**24.15**	**220**	P	**P**	**16 13 27.8**	**+0.6**
	6.0nm,0.8s,mb4.0,baz=56,slow=8.2,SNR=48						
ASPA	**Alice Springs**	**24.16**	**220**	*e*P	**P**	**16 13 27.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**27.37**	**241**	*e*P	**P**	**16 13 55.9**	**-0.4**
	16nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**27.37**	**241**	P	**P**	**16 13 56.0**	**-0.2**
	8.6nm,0.7s,mb4.4,baz=97,slow=6.7,SNR=23						
STKA	**Stephens Creek**	**27.54**	**197**	*e*P	**P**	**16 13 55.5**	**-2.3**
	4.3nm,1.0s,mb3.9						
STKA	**Stephens Creek**	**27.54**	**197**	P	**P**	**16 13 58.4**	**+0.6**
	9.1nm,1.1s,mb4.2,baz=13,slow=11,SNR=4.0						
STKA				LR	LR	16 25 02.6	
	comp=Z,454nm,19.9s,baz=15,slow=36						
FORT	**Forrest**	**32.85**	**217**	*e*P	**P**	**16 14 44.8**	**+0.1**
	21nm,0.7s,mb5.1						
MBWA	**Marble Bar**	**33.69**	**240**	*e*P	**P**	**16 14 51.9**	**-0.1**
	9.7nm,0.6s,mb4.8						
KLBR	**Kellerberrin**	**40.21**	**226**	*e*P	**P**	**16 15 46.8**	**-0.5**
	65nm,1.5s,mb5.2						
MUN	**Mundaring**	**41.53**	**226**	*e*P	**P**	**16 15 58.2**	**+0.1**
MJAR	**Matsushiro Arr**	**43.41**	**345**	P	**P**	**16 16 10.6**	**-2.7**
	1.2nm,0.9s,mb3.6,baz=175,slow=8.0,SNR=5.1						
ULN	**Ulaanbaatar**	**65.45**	**329**	P	**P**	**16 18 54.7**	**+1.5**
	2.0nm,0.8s,mb4.0						
SONM	**Songino Array**	**65.76**	**329**	P	**P**	**16 18 56.3**	**+1.1**
	2.0nm,0.9s,mb4.0,baz=112,slow=4.0,SNR=3.8						
VNDA	**Vanda**	**72.21**	**177**	P	**P**	**16 19 34.7**	**-0.5**
	1.1nm,0.9s,mb3.7,baz=339,slow=7.8,SNR=4.5						
VNDA	**Vanda**	**72.21**	**177**	P	**P**	**16 19 33.2**	**-2.0**
MKAR	**Makanchi Array**	**79.41**	**320**	P	**P**	**16 20 16.0**	**-0.2**
	0.8nm,0.9s,mb3.5,baz=99,slow=8.9,SNR=4.0						
ILAR	**Eielson Array**	**83.66**	**22**	P	**P**	**16 20 38.9**	**+0.3**
	0.7nm,0.8s,mb3.5,baz=258,slow=4.5,SNR=3.6						
LPAZ	**La Paz**	**136.01**	**120**	PKhKP		16 27 29.5	
	1.2nm,0.8s,baz=15,slow=4.2,SNR=5.7						
SIV	**San Ignacio**	**142.09**	**125**	PKhKP		16 27 38.0	
	0.7nm,0.8s,baz=146,slow=23,SNR=3.7						
SIV				PKP	PKPdf	16 27 42.9	+1.1
	1.2nm,0.8s,baz=283,slow=2.2,SNR=5.5						
TORD	**Torodi Ar. Bea**	**148.39**	**286**	PKPbc	PKPbc	16 27 54.9	-1.3
	0.7nm,0.8s,baz=43,slow=2.4,SNR=3.7						
BDFB	**Brasilia**	**152.06**	**139**	PKPbc	PKPbc	16 28 04.3	-0.7
	1.3nm,0.6s,baz=176,slow=4.8,SNR=3.4						

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*ISCJB **09** 16:33:58.9±1.4, 1665S±009×7410W±009, h54km±21km, mb4.0/1, Error ellipse: s-maj=19.7km s-min=8.0km az=90.9*
*NEIC **09** 16:34:02.6±1.2, 1630S×7377W, h52km±13km, Error ellipse: s-maj=20.2km s-min=11.7km az=221.0*
*IDC **09** 16:34:03.1±6.2, 1695S×7428W, h75km±49km, mb3.8/1, mb1 3.8/3, mb1mx3.4/17, mbtmp4.0/3, ML4.2/2, Error ellipse: s-maj=49.4km s-min=31.6km az=114.0*
ISC 09 16:34:01.5±1.1, **1658S**±009×**7401W**±009, **h50**km±19km, **n10**, σ**1**^{s}**00**/15, **mb4.0**/1, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.42**	**88**	*e*P	**Pn**	**16 34 38.0**	**-0.6**
ARE				*i* S	**Sn**	**16 35 07.9**	**+1.0**
NNA	**Nana**	**5.32**	**329**	*e*P	**Pn**	**16 35 18.4**	**0.0**
NNA				*e*Sn	**Sn**	**16 36 18.5**	**+0.1**
LPAZ	**La Paz**	**5.65**	**88**	P	**Pn**	**16 35 27.6**	**+4.7**
	2.2nm,0.3s,baz=278,slow=9.8,SNR=61						
LPAZ				S	**Sn**	**16 36 38.0**	**+12**
	baz=190,slow=24,SNR=4.1						
LPAZ	**La Paz**	**5.65**	**88**	*e*P	**Pn**	**16 35 26.8**	**+3.9**
LPAZ				S	**Sn**	**16 36 38.0**	**+12**
LVC	**Limon Verde**	**7.69**	**142**	P	**Pn**	**16 35 51.2**	**+0.4**
	0.7nm,0.3s,baz=302,slow=14,SNR=12						
LVC				S	**Sn**	**16 37 16.1**	**-0.5**
	2.1nm,0.3s,baz=83,slow=18,SNR=8.6						
LVC	**Limon Verde**	**7.69**	**142**	*e*P	**Pn**	**16 35 52.9**	**+2.0**
LVC				S	**Sn**	**16 37 16.1**	**-0.5**
SIV	**San Ignacio**	**12.44**	**89**	P	**Pn**	**16 36 53.9**	**-1.9**
	0.8nm,0.3s,baz=277,slow=12,SNR=10						
SAML	**Samuel**	**12.99**	**56**	*e*P	**Pn**	**16 36 59.1**	**-4.3**
	1.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.41**	**73**	P	**P**	**16 46 07.9**	**+0.2**
	1.4nm,0.7s,mb4.0,baz=256,slow=5.2,SNR=7.4						
SONM	**Songino Array**	**148.82**	**359**	PKPbc	PKPbc	16 53 44.2	+0.8
	0.8nm,0.6s,baz=349,slow=3.1,SNR=4.0						

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*IDC **09** 16:37:04.9±0.6, 1966S×7058W, h0km, mb4.4/14, mb1 4.5/16, mb1mx4.5/18, mbtmp4.4/16, ML4.1/1, MS4.7/13, Ms1 4.7/13, ms1mx4.5/26, Error ellipse: s-maj=22.2km s-min=13.1km az=66.0*
*ISCJB **09** 16:37:05.0±0.2, 1973S±004×7069W±005, h10km, mb4.6/40, MS4.8/18, Error ellipse: s-maj=7.9km s-min=4.3km az=126.7*
*MOS **09** 16:37:07.2±1.1, 1965S×7057W, h23km, mb4.9/16, MS4.7/4, Error ellipse: s-maj=21.0km s-min=9.8km az=116.8*
*HRVD **09** 16:37:08.0±0.3, 1976S×7114W, h22km±1km, MW5.2/63, Centroid moment Tensor Solution. LP body waves: s42,c61;Mantle waves: s63,c90; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.88±.22; Mθθ0.12±.12; Mφφ-5.00±.17; Mrθ1.00±.22; Mθφ1.09±.10; Mφr-5.25±.34; Best double couple: M0 7.35400×10^16 NP1:φs348.00000°, δ22.00000°, λ89.00000°. NP2:φs169.00000°, δ68.00000°, λ90.00000°. Principal axes: T 7.1830, Plg67.0000°, Azm80.0000°; N 0.3440, Plg0.0000°, Azm349.0000°; P -7.5250, Plg23.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 16:37:08.0±2.5, 1970S×7062W, h18km±15km, mb4.8/30 Error ellipse: s-maj=9.0km s-min=5.1km az=61.0*
NEIC Felt [III] at Iquique and Pozo Almonte; [II] at Huara.
*BJI **09** 16:37:10.0, 1970S×7060W, h17km, mB5.4, Ms5.2, Msz5.0*
ISC 09 16:37:06.9±0.2, **1975S**±004×**7067W**±006, **h10**km, **n150**, σ**1**^{s}**06**/111, **mb4.6**/40, **MS4.8**/18, **3C-3D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.29**	**150**	Pn	**Pn**	**16 38 00.1**	**+1.7**
	110nm,0.3s,baz=310,slow=9.6,SNR=111						
LVC				Lg		16 38 48.2	
	467nm,0.3s,baz=142,slow=13,SNR=6.2						
LVC	**Limon Verde**	**3.29**	**150**⇑	*e*Pn	**Pn**	**16 38 00.1**	**+1.6**
LVC				*e*S	**Sn**	**16 38 39.4**	**+1.7**
ARE	**Arequipa**	**3.36**	**346**	*e*P	**Pn**	**16 37 59.0**	**-0.5**
ARE				*e*S	**Sn**	**16 38 40.0**	**+0.6**
CEN1	**Los Morros**	**3.65**	**173**	*e*P	**Pn**	**16 38 02.9**	**-0.6**
ANCH	**Antofagasta**	**3.92**	**177**	*e*P	**Pn**	**16 38 01.2**	**-5.9**
ANCH				*i* S	**Sn**	**16 38 44.3**	**-8.9**
ANCH	**Antofagasta**	**3.92**	**177**	*e*P	**Pn**	**16 38 01.3**	**-5.9**
LPAZ	**La Paz**	**4.21**	**35**	Pn	**Pn**	**16 38 17.1**	**+6.0**
	18nm,0.3s,baz=226,slow=6.2,SNR=79						
LPAZ				Lg		16 39 19.4	
	3.1nm,0.3s,baz=54,slow=20,SNR=1.3						
LPAZ	**La Paz**	**4.21**	**35**	*e*Pn	**Pn**	**16 38 17.0**	**+6.0**
CPN1	**Cerro Paranal**	**4.86**	**177**	*e*P	**Pn**	**16 38 17.1**	**-3.0**
CPN1				*i* S	**Sn**	**16 39 08.8**	**-7.6**
LCO	**Las Campanas**	**9.22**	**180**	*e*P	**Pn**	**16 39 16.0**	**-4.0**
NNA	**Nana**	**9.73**	**322**	*e*Pn	**Pn**	**16 39 25.2**	**-1.8**
SIV	**San Ignacio**	**9.87**	**69**	Pn	**Pn**	**16 39 29.8**	**+0.9**
	13nm,0.3s,baz=264,slow=9.7,SNR=93						
SIV				Sn	**Sn**	**16 41 25.7**	**+6.0**
	baz=197,slow=23,SNR=3.5						
CFAA	**Coronel Fontan**	**12.01**	**170**	Pn	**Pn**	**16 39 54.6**	**-3.5**
	0.0nm,0.3s,baz=335,slow=16,SNR=5.3						
CFAA				Sn	**Sn**	**16 42 02.2**	**-10**
	0.0nm,0.3s,baz=349,slow=18,SNR=2.0						
CFAA				LR	LR	16 44 43.0	
	comp=Z,384nm,20.0s,baz=341,slow=38						
CFAA	**Coronel Fontan**	**12.01**	**170**	Pn	**Pn**	**16 39 54.6**	**-3.5**
CFAA				Sn	**Sn**	**16 42 02.2**	**-10**
CFAA				LR	LR	16 44 43.0	
SAML	**Samuel**	**12.95**	**35**	*e*Pn	**Pn**	**16 40 09.8**	**-1.2**
	19nm,0.6s						
CPUP	**Villa Florida**	**13.91**	**121**	Pn	**Pn**	**16 40 24.0**	**-0.1**
	0.2nm,0.3s,baz=297,slow=9.8,SNR=4.3						
CPUP	**Villa Florida**	**13.91**	**121**	*e*P	**Pn**	**16 40 24.8**	**+0.7**
CPUP				pmax	pmax		
	comp=Z,41nm,0.6s						
CPUP	**Villa Florida**	**13.91**	**121**	*e*Pn	**Pn**	**16 40 24.8**	**+0.7**
	comp=Z,41nm,0.6s						
ATAH	**Atahualpa**	**14.72**	**328**	LR	LR	16 47 16.3	
	comp=Z,2μm,18.5s,baz=347,slow=42						
LPA	**La Plata**	**18.84**	**146**	*de*P	**Pn**	**16 41 29.0**	**+1.5**
LPA				*e*S	**Sn**	**16 45 13.0**	**+15**
TRQA	**Tornquist**	**19.75**	**159**	*e*P	**Pn**	**16 41 36.5**	**-1.8**
	comp=Z,33nm,0.7s						
PLCA	**Paso Flores**	**20.92**	**180**	P	**P**	**16 41 49.7**	**+0.1**
	comp=Z,11nm,0.7s,baz=357,slow=11,SNR=13						
PLCA	**Paso Flores**	**20.92**	**180**	*e*P	**P**	**16 41 50.0**	**+0.4**
PLCA				pmax	pmax		
	comp=Z,59nm,1.3s						
PLCA	**Paso Flores**	**20.92**	**180**	*e*P	**P**	**16 41 50.0**	**+0.5**
	comp=Z,59nm,1.3s						
BDFB	**Brasilia**	**21.96**	**83**	P	**P**	**16 41 59.5**	**-1.3**

comp=Z,24nm,0.6s,mb4.8,baz=262,slow=10,SNR=24
BDFB LR LR 16 51 35.4
comp=Z,4µm,19.9s,MS4.8,baz=285,slow=40
BAO Brasilia Array 21.98 83 P **P 16 42 02.0 +1.0**
ROSC El Rosal 24.71 351 P **P 16 42 26.9 -1.3**
comp=Z,7.5nm,0.5s,mb4.5,baz=102,slow=16,SNR=3.2
ROSC El Rosal 24.71 351 *eP* **P 16 42 29.6 +1.3**
SDV Santo Domingo 28.45 0 P **P 16 43 00.2 -1.8**
comp=Z,3.4nm,0.5s,mb4.3,baz=12,slow=16,SNR=2.4
SDV LR LR 16 53 37.2
comp=Z,1µm,20.3s,MS4.6,baz=10,slow=35
SDV Santo Domingo 28.45 0 P **P 16 43 00.5 -1.4**
comp=Z,12nm,0.7s,mb4.6
PCRV Puerto La Cruz 30.32 12 P **P 16 43 18.1 -0.5**
comp=Z,3.8nm,0.5s,mb4.4,baz=154,slow=18,SNR=4.5
PCRV LR LR 16 56 52.4
comp=Z,6µm,18.4s,MS5.3,baz=179,slow=39
TEIG Tepich 43.31 336 *eP* **P 16 45 08.6 -0.3**
comp=Z,5.6nm,0.8s,mb4.3
ELN Prospectdale 57.46 350 *eP* **P 16 46 56.0 0.0**
MIAR Mount Ida 58.22 338 *eP* **P 16 47 00.2 -1.1**
MIAR pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
MIAR Mount Ida 58.22 338 *eP* **P 16 47 00.2 -1.1**
comp=Z,8.1nm,0.7s,mb4.9
RKT Rikitea 59.53 254 *eS* **S 16 55 12.3 -7.8**
comp=Z,1µm,25.8s
RKT *eLR* LR 17 04 28.0
comp=Z,10µm,41.0s
FVM French Village 60.35 342 *eP* **P 16 47 14.5 -1.6**
FVM pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
FVM French Village 60.35 342 *eP* **P 16 47 14.5 -1.6**
comp=Z,9.2nm,0.6s,mb5.0
BINY Binghamton 61.83 356 *eP* **P 16 47 26.0 -0.1**
VNA1 Neumayer--Stat 62.48 161 *eP* **P 16 47 30.6 +0.1**
VNA1 *e* pP 16 47 32.9 -0.8
VNA1 *e* pP 16 47 35.5 +1.8
VNA1 *e* 16 47 53.3
VNA1 *e* 16 48 11.5
NCB Newcomb 63.49 357 *eP* **P 16 47 36.8 -0.4**
comp=Z,3.6nm,0.5s,mb4.8
BNM Barren Site 63.60 327 *eP* **P 16 47 38.2 +0.2**
LPM Los Pinos Moun 63.73 327 *eP* **P 16 47 39.7 +1.0**
LAZ Ladron 64.06 327 *eP* **P 16 47 42.0 +1.1**
ANMO Albuquerque 64.14 328 *eP* **P 16 47 41.6 +0.1**
ANMO pmax pmax
comp=Z,3.0nm,0.9s
ANMO Albuquerque 64.14 328 *eP* **P 16 47 41.5 +0.1**
comp=Z,3.4nm,0.9s,mb4.4
FRNY Flat Rock 64.32 358 *eP* **P 16 47 42.4 -0.3**
SNAA Sanae 64.47 161 *eP* **P 16 47 43.2 -0.4**
SNAA *e* pP 16 47 46.3 -0.5
SNAA *e* 16 47 48.3
SNAA *e* 16 48 05.7
SNAA *e* 16 48 20.7
SNAA Sanae 64.47 161 *c iP* **P 16 47 43.1 -0.5**
SNAA Sanae 64.47 161 *eP* **P 16 47 43.1 -0.5**
comp=Z,6.0nm,0.7s,mb4.7
WUAZ Wupatki 67.15 325 *eP* **P 16 48 01.5 +0.6**
comp=Z,8.8nm,0.9s,mb4.8
TAOE Nuku Hiva Isla 67.81 268 *eS* S 16 56 59.1 -4.1
comp=Z,2µm,27.7s
TAOE *eLR* LR 17 08 31.2
comp=Z,762nm,22.7s
NVL N'lazarevskaya 69.05 159 *i iP* **P 16 48 18.4 +5.6**
NVL pmax pmax
comp=Z,32nm,1.8s,mb5.0
NVL MLR MLR
comp=Z,702nm,23.1s,MS4.8
SRU San Rafael 69.42 328 *eP* **P 16 48 15.0 -0.1**
SRU pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SRU San Rafael 69.42 328 *eP* **P 16 48 15.0 -0.1**
comp=Z,5.7nm,0.8s,mb4.5
CCUT Cedar City 69.73 325 *eP* **P 16 48 18.4 +1.4**
MSU Marysvale 69.81 326 *eP* **P 16 48 18.6 +1.0**
DBIC Dimbokro 69.84 75 P **P 16 48 17.4 -0.3**
comp=Z,7.6nm,0.6s,mb4.8,baz=218,slow=6.4,SNR=18
DBIC LR LR 17 17 17.9
comp=Z,818nm,20.8s,MS5.0,baz=221,slow=35
DBIC Dimbokro 69.84 75 *eP* **P 16 48 17.0 -0.7**
DBIC pmax pmax
comp=Z,10.0nm,0.8s
DBIC Dimbokro 69.84 75 *eP* **P 16 48 16.9 -0.8**
comp=Z,10nm,0.8s,mb4.8
QSPA South Pole Qui 70.43 180 *eP* **P 16 48 21.6 +0.2**
comp=Z,9.4nm,0.7s,mb4.8
RSSD Black Hills 70.52 335 *eP* **P 16 48 21.7 -0.2**
RSSD pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
RSSD Black Hills 70.52 335 *eP* **P 16 48 21.7 -0.2**
comp=Z,6.9nm,0.8s,mb4.6
DAU Daniels Canyon 70.77 328 *eP* **P 16 48 21.8 -1.6**
TPNV Topopah Spring 70.91 323 *eP* **P 16 48 25.6 +1.4**
TPNV pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
TPNV Topopah Spring 70.91 323 *eP* **P 16 48 25.6 +1.3**
comp=Z,7.3nm,0.8s,mb4.7
TCUT Toone Canyon 71.39 329 *eP* **P 16 48 27.9 +0.8**
DUG Dugway 71.39 327 *eP* **P 16 48 27.9 +0.7**
DUG pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
DUG Dugway 71.39 327 *eP* **P 16 48 27.9 +0.7**
comp=Z,4.4nm,0.7s,mb4.5
PDAR Pinedale Array 71.78 331 P **P 16 48 29.1 -0.4**
comp=Z,1.4nm,0.7s,mb4.0,baz=131,slow=6.9,SNR=17
HWUT Hardware Ranch 71.83 329 *eP* **P 16 48 29.6 -0.2**
comp=Z,12nm,1.0s,mb4.8
BGU Big Grassy Mou 72.05 328 *eP* **P 16 48 31.0 -0.2**
TBI Tubuai 72.50 251 *eS* S 16 57 48.9 -9.2
comp=Z,527nm,25.8s
TBI *eLR* LR 17 10 31.7
comp=Z,986nm,26.5s,baz=108
MTUM Tungsten Hills 72.52 322 P **P 16 48 36.1 +2.1**
HVU Hansel Valley 72.56 328 *eP* **P 16 48 33.7 -0.5**
HVU pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
HVU Hansel Valley 72.56 328 *eP* **P 16 48 33.7 -0.5**
comp=Z,7.2nm,0.9s,mb4.6
REDW Red Top Meadow 72.84 330 *eP* **P 16 48 35.9 0.0**
comp=Z,17nm,1.3s,mb4.8
TPAW Teton Pass 72.98 331 *eP* **P 16 48 37.4 +0.7**
comp=Z,11nm,1.3s,mb4.6
MNV Mina 73.02 323 P **P 16 48 37.5 +0.6**
MNV pmax pmax
comp=Z,28nm,1.8s,mb4.9
MNV Mina 73.02 323 P **P 16 48 37.5 +0.6**
comp=Z,28nm,1.8s,mb4.9
ELK Elko 73.05 326 *eP* **P 16 48 37.5 +0.4**
ELK pmax pmax
comp=Z,9.0nm,1.3s
ELK Elko 73.05 326 *eP* **P 16 48 37.5 +0.4**
comp=Z,8.6nm,1.3s,mb4.5
MOOW Moose Ponds 73.09 331 *eP* **P 16 48 37.7 +0.4**
comp=Z,4.7nm,1.0s,mb4.4
NVAR Mina Array Bea 73.11 323 P **P 16 48 38.6 +1.1**
comp=Z,1.7nm,0.8s,mb4.1,baz=143,slow=6.6,SNR=16
ULM Lac du Bonnet 73.17 343 P **P 16 48 35.0 -2.8**
comp=Z,1.9nm,0.6s,mb4.2,baz=116,slow=12,SNR=4.3
ULM LR LR 17 22 43.2
comp=Z,364nm,21.2s,MS4.6,baz=119,slow=38
ULM Lac du Bonnet 73.17 343 P **P 16 48 35.0 -2.8**
ULM LR LR 17 22 43.2
IMW Indian Meadow 73.29 331 *eP* **P 16 48 40.2 +1.7**
comp=Z,17nm,1.3s,mb4.8
PPT Papeete 74.12 257 *eS* S 16 58 08.4 -8.0
comp=Z,901nm,25.2s
PPT *eLR* LR 17 11 26.3
comp=Z,764nm,24.5s,baz=103
PPT Papeete 74.12 257 LR LR 17 12 42.6
comp=Z,435nm,21.8s,MS4.7,baz=124,slow=29
GCMT Greycliff 74.20 333 *eP* **P 16 48 44.0 +0.2**
QLMT Earthquake Lak 74.24 331 *eP* **P 16 48 45.4 +1.3**
SCHQ Schefferville 74.35 2 P **P 16 48 43.8 -0.9**
comp=Z,1.6nm,0.6s,mb4.1,baz=347,slow=1.3,SNR=5.3
SCHQ LR LR 17 21 01.6
comp=Z,248nm,22.0s,MS4.5,baz=234,slow=36
PAHR Pah Rah Range 74.59 323 *eP* **P 16 48 47.0 +0.9**
comp=Z,14nm,1.0s,mb4.8
HLID Hailey 74.69 329 *eP* **P 16 48 47.2 +0.5**
comp=Z,7.5nm,0.9s,mb4.6
MCMT McKenzie Canyo 74.89 330 *eP* **P 16 48 48.6 +0.8**
BOZ Bozeman (W) 74.95 332 *eP* **P 16 48 48.3 +0.1**
BOZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BOZ Bozeman (W) 74.95 332 *eP* **P 16 48 48.2 0.0**
comp=Z,4.6nm,0.9s,mb4.4
BMO Blue Mountains 77.06 328 *eP* **P 16 49 00.6 +0.4**
comp=Z,13nm,1.3s,mb4.7
VNDA Vanda 78.28 190 P **P 16 49 07.6 +0.5**
comp=Z,0.7nm,0.8s,mb3.7,baz=355,slow=12,SNR=6.2
VNDA Vanda 78.28 190 P **P 16 49 07.6 +0.5**
TORD Torodi Ar. Bea 78.34 71 P **P 16 49 06.9 -0.5**
comp=Z,16nm,0.7s,mb5.1,baz=253,slow=5.0,SNR=63
TORD LR LR 17 22 05.1
comp=Z,966nm,21.1s,MS5.1,baz=220,slow=34
WALA Waterton Lakes 78.56 333 *eP* **P 16 49 08.2 -0.4**
comp=Z,11nm,1.0s,mb4.8
SYO Syowa Base 78.71 160‖ *eP* **P 16 49 08.6 -0.8**
SYO Syowa Base 78.71 160‖ *epP* pP 16 49 12.0 -0.7
SUR Sutherland 80.89 121 LR LR 17 22 38.3
comp=Z,472nm,18.3s,MS4.9,baz=241,slow=34
EDM Edmonton 81.49 336 P **P 16 49 22.9 -1.5**
TSUM Tsumeb 82.13 108 *eP* **P 16 49 28.6 +0.8**
comp=Z,7.5nm,0.8s,mb4.7
ESDC Sonseca Array 85.76 45 P **P 16 49 46.1 -0.3**
comp=Z,1.6nm,0.9s,mb4.2,baz=249,slow=5.8,SNR=7.0
ESDC LR LR 17 27 00.2
comp=Z,263nm,18.7s,MS4.7,baz=225,slow=35
YKA Yellowknife Ar 89.00 341 P **P 16 50 00.6 -1.4**
comp=Z,1.2nm,0.6s,mb4.4,baz=129,slow=5.2,SNR=6.0
YKA LR LR 17 33 25.0
comp=Z,409nm,20.0s,MS4.8,baz=125,slow=38
YKA Yellowknife Ar 89.00 341 P **P 16 50 00.6 -1.4**
YKA LR LR 17 33 25.0
CLL Collm 101.32 40 *ePP* PP 16 55 03.0 -4.3
CLL Collm 101.32 40 *ePP* PP 16 55 03.0 -4.3
comp=Z,3.0nm,0.8s
CLL Lm 17 32 00.0
comp=N,200nm,22.0s
CLL Lm 17 32 00.0
comp=E,400nm,21.5s
CLL Lm 17 32 00.0
comp=Z,500nm,20.6s
OBN Obninsk 115.80 38 *ePKIKP* PKPdf 16 55 48.9 -0.8
OBN pmax pmax
comp=Z,3.0nm,0.6s
OBN MLR MLR
comp=Z,300nm,18.0s,MS5.0
KIV Kislovodsk 120.13 50 *i PKIKP* PKPdf 16 55 56.4 -1.6
KIV pmax pmax
comp=Z,4.0nm,0.7s
KIV MLR MLR
comp=Z,158nm,19.0s,MS4.7
AS31 Alice Springs 130.64 210 *eP* PKPdf 16 56 18.3 +0.2
ASAR Alice Springs 130.64 210 PKP PKPdf 16 56 16.9 -1.2
comp=Z,0.8nm,0.7s,baz=123,slow=1.6,SNR=16
ASPA Alice Springs 130.64 210 *eP* PKPdf 16 56 18.3 +0.2
WB2 Warramunga Arr 133.56 213 *eP* PKPdf 16 56 22.3 -1.3
WRA Warramunga Arr 133.56 213 PKP PKPdf 16 56 24.0 +0.4
comp=Z,1.4nm,0.7s,baz=152,slow=1.8,SNR=19
ZRNK Zerenda 134.58 33 *i PKIKP* PKPdf 16 56 25.5 0.0
ZRNK Zerenda 134.58 33 *eP* PKPdf 16 56 25.5 0.0
YAK Yakutsk 135.44 346 *i PKIKP* PKPdf 16 56 27.2 +0.1
ZAL Zalesovo 141.03 23 PKP PKPdf 16 56 36.8 -0.6
comp=Z,2.0nm,0.6s,baz=160,slow=2.3,SNR=10
AAK Ala-Archa 142.86 44 *i PKIKP* PKPdf 16 56 43.9 +3.2
AAK MLR MLR
comp=Z,100nm,18.0s,MS4.6
MKAR Makanchi Array 145.13 33 PKPbc PKPbc 16 56 43.9 -0.2
comp=Z,6.4nm,0.7s,baz=332,slow=4.1,SNR=58
MKAR Makanchi Array 145.13 33 *i PKIKP* PKPdf 16 56 43.9 -0.7
MKAR pmax pmax
comp=Z,6.0nm,0.7s
KSH Kashi 145.23 48 *ePKP* PKPdf 16 56 46.0 +1.2
KSH *ePP* PP 17 00 06.8 +3.1
KSH *ePKS* 17 00 19.8
KSH *ePPP* 17 03 21.3
KSH *eSKS* SKSdf 17 03 54.1 +0.1
KSH *eSKKS* SKKSac 17 06 56.2 -0.1
KSH *eSS* SS 17 18 53.6 -0.9
KSH PP PP
comp=Z,240nm,7.5s
KSH LR LR
comp=N,389nm,5.6s
KSH LR LR
comp=E,315nm,4.8s
KSH LR LR
comp=Z,538nm,20.2s,MS5.3
KLR Kul'dur 145.53 334 *ePKIKP* PKPdf 16 56 43.8 -1.5
ZAK Zakamensk 149.06 8 *ePKP2* PKPab 16 56 54.9 -4.6
ZAK pmax pmax
comp=Z,4.0nm,1.7s
NDI New Delhi 149.47 67 *eP* PKPdf 16 56 55.0 +3.2
MJAR Matsushiro Arr 149.69 310 PKPbc PKPbc 16 56 56.7 -0.2
comp=Z,3.2nm,0.7s,baz=98,slow=1.8,SNR=23
MJAR Matsushiro Arr 149.69 310 PKPbc PKPbc 16 56 56.7 -0.2
MAJO Matsushiro 149.69 310 *ePKP2* PKPbc 16 56 56.5 -0.4
MAT Matsushiro 149.69 310 PKP PKPbc 16 56 56.7 -0.2
MAT Matsushiro 149.69 310 *ePKP* PKPbc 16 56 57.0 +0.1
WMQ Urumqi 149.94 32 PKP PKPdf 16 56 52.5 -0.1
WMQ PP PP 17 00 34.2 +2.8
WMQ PP PP
comp=Z,107nm,10.5s
WMQ LR LR
comp=N,126nm,21.0s,MS4.8
WMQ LR LR
comp=E,95nm,19.9s,MS4.8
WMQ LR LR
comp=Z,120nm,21.5s,MS4.7
MDJ Mudanjiang 150.02 330 PKP PKPdf 16 56 51.9 -0.8
MDJ PP PP
comp=Z,148nm,5.8s
HYB Hyderabad 150.75 89 *i PKP* PKPbc 16 57 00.0 +0.6
HYB Hyderabad 150.75 89 *eP* PKPbc 16 57 00.0 +0.6
SONM Songino Array 151.88 4 PKPbc PKPbc 16 57 01.9 -0.2
comp=Z,2.1nm,0.7s,baz=323,slow=1.2,SNR=12
ULN Ulaanbaatar 151.89 3 *i PKIKP* PKiKP 16 57 07.1 +4.7
LGTI Lohaghat 151.91 64 *i P* PKPbc 16 57 01.7 -0.4
CN2 Changchun 152.48 334 *ePKP* PKPdf 16 56 52.7 -3.8
GTA Gaotai 158.75 21 PKP PKPdf 16 57 04.8 -0.1
GTA APKP 16 57 08.4
GTA XPKP 16 57 11.6
HHC Hu-ho-hao-te 158.88 355 *ePKP* PKPdf 16 57 06.1 +1.1
HHC XPKP 16 57 11.3
HHC PP PP 17 01 25.3 +3.7
HHC SKS SKSdf 17 04 10.0 -0.6
HHC SKKS SKKSac 17 08 12.6 +1.8
HHC LR LR
comp=N,212nm,29.7s,MS5.0
HHC LR LR
comp=E,285nm,27.4s,MS5.0
HHC LR LR
comp=Z,209nm,27.4s,MS4.8
LZH Lanzhou 163.02 15 *ePKP* PKPdf 16 57 05.0 -4.5
LZH LR LR
comp=N,165nm,18.0s
LZH LR LR
comp=Z,290nm,18.9s
SSE Sheshan 164.45 319 PKP PKPdf 16 57 12.2 +1.4
SSE PP PP 17 01 56.9 +5.6
SSE SS SS 17 22 25.3 +2.3
SSE PP PP
comp=Z,42nm,10.0s
SSE LR LR
comp=N,100nm,26.0s
SSE LR LR
comp=E,149nm,26.0s
SSE LR LR
comp=Z,158nm,24.4s
NJ2 Nanjing 165.06 327 *ePKP* PKPdf 16 57 11.6 +0.3
NJ2 PKS 17 00 43.0
NJ2 PP PP 17 02 02.0 +7.5
NJ2 SKS SKSdf 17 04 10.0 -5.6
NJ2 PP PP
comp=Z,120nm,6.8s
NJ2 LR LR
comp=Z,2µm,22.0s
CD2 Chengdu 167.80 23 *ePKP* PKPdf 16 57 11.1 -2.4
KMI Kunming 171.89 48 PKP PKPdf 16 57 15.6 -0.2
KMI XPKP 16 57 20.1
KMI PKS 17 00 47.9
KMI PP PP 17 02 33.0 +3.7
KMI SKKS SKKSac 17 09 16.0 -0.2
KMI SS SS 17 23 33.7 -4.0
KMI PP PP
comp=Z,179nm,5.8s
KMI LR LR
comp=Z,130nm,27.2s

*IDC **09** 17:02:00.6±0.8, 1977S×7061W, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.0/17, mbtmp4.0/10, ML4.7/2, MS4.3/1, Ms1 4.3/1, ms1mx3.4/24, Error ellipse: s-maj=27.2km s-min=14.2km az=62.0*
*ISCJB **09** 17:02:04.0±0.4, 1982S±004×7077W±007, h33km, mb4.1/11, MS4.2/1, Error ellipse: s-maj=9.3km s-min=5.3km az=146.4*
*NEIC **09** 17:02:05.1±2.3, 1980S×7060W, h29km±17km, mb4.2/5, Error ellipse: s-maj=12.3km s-min=6.8km az=82.0*
ISC 09 17:02:05.9±0.4, 1982S±004×7062W±009, h35km, n36, σ1§16/36, mb4.1/11, MS4.2/1, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**3.20**	**150**	Pn	**Pn**	**17 02 54.9**	**+1.2**
	45nm,0.3s,baz=329,slow=10,SNR=22						
LVC				Sn	**Sn**	**17 03 35.0**	**+4.4**
	128nm,0.3s,baz=108,slow=18,SNR=6.9						
LVC				Lg		17 03 44.3	
	326nm,0.3s,baz=240,slow=22,SNR=10.0						
LVC	**Limon Verde**	**3.20**	**150**	*eP*	**Pn**	**17 02 55.5**	**+1.8**
LVC				Sn	**Sn**	**17 03 35.0**	**+4.4**
LVC				Lg		17 03 44.4	
LVC				*eSg*	**Sn**	**17 03 45.1**	**+14**
ARE	**Arequipa**	**3.44**	**346**	*eP*	**Pn**	**17 02 56.0**	**-1.0**
ARE				*eS*	**Sn**	**17 03 35.0**	**-1.6**
CEN1	**Los Morros**	**3.57**	**174**	*eP*	**Pn**	**17 02 59.0**	**+0.2**
ANCH	**Antofagasta**	**3.85**	**177**	*eP*	**Pn**	**17 02 57.0**	**-5.6**
LPAZ	**La Paz**	**4.24**	**34**	Pn	**Pn**	**17 03 12.6**	**+4.7**
	7.8nm,0.3s,baz=228,slow=9.3,SNR=46						
LPAZ				Lg		17 04 20.2	
	1.9nm,0.3s,baz=166,slow=12,SNR=2.0						
LPAZ	**La Paz**	**4.24**	**34**	*eP*	**Pn**	**17 03 12.2**	**+4.3**
LPAZ				Lg		17 04 20.2	
CPN1	**Cerro Paranal**	**4.79**	**178**	*eP*	**Pn**	**17 03 12.7**	**-2.9**
SIV	**San Ignacio**	**9.85**	**69**	Pn	**Pn**	**17 04 25.6**	**+0.5**
	8.3nm,0.3s,baz=264,slow=9.9,SNR=97						
SIV				Sn	**Sn**	**17 06 22.1**	**+7.7**
	baz=25,slow=19,SNR=3.6						
CFAA	**Coronel Fontan**	**11.93**	**170**	Pn	**Pn**	**17 04 51.8**	**-1.7**
	0.0nm,0.3s,baz=352,slow=16,SNR=3.7						
SAML	**Samuel**	**12.98**	**35**	*eP*	**Pn**	**17 05 06.8**	**-1.1**
	9.9nm,0.9s						
CPUP	**Villa Florida**	**13.84**	**120**	Pn	**Pn**	**17 05 20.1**	**+0.6**
	0.3nm,0.3s,baz=128,slow=14,SNR=2.3						
CPUP	**Villa Florida**	**13.84**	**120**	P	**Pn**	**17 05 19.9**	**+0.4**
	13nm,0.5s						
CPUP				*eS*	**Sn**	**17 08 03.7**	**+12**
TRQA	**Tornquist**	**19.66**	**159**	*eP*	**Pn**	**17 06 32.3**	**-1.0**
	6.9nm,0.6s						
PLCA	**Paso Flores**	**20.84**	**180**	P	**P**	**17 06 43.8**	**-0.8**
	1.6nm,0.7s,baz=110,slow=6.5,SNR=3.1						
PLCA	**Paso Flores**	**20.84**	**180**	*eP*	**P**	**17 06 44.5**	**-0.1**
BDFB	**Brasilia**	**21.92**	**83**	P	**P**	**17 06 55.0**	**-1.2**
	5.9nm,0.4s,mb4.3,baz=249,slow=11,SNR=16						
SDV	**Santo Domingo**	**28.52**	**360**	P	**P**	**17 07 59.2**	**+1.1**
	1.8nm,0.3s,mb4.3,baz=31,slow=20,SNR=3.7						
PCRV	**Puerto La Cruz**	**30.38**	**12**	LR	LR	17 20 55.0	
	comp=Z,546nm,18.9s,MS4.2,baz=173,slow=37						
SNAA	**Sanae**	**64.38**	**161**	*e*	**P**	**17 12 38.8**	**+0.5**
SNAA				*e*		17 12 41.6	
SNAA				*e*		17 12 44.2	
SNAA				*e*		17 12 52.1	
SNAA	**Sanae**	**64.38**	**161**	*eP*	**P**	**17 12 38.8**	**+0.5**
	1.5nm,0.8s,mb4.1						
DBIC	**Dimbokro**	**69.82**	**75**	P	**P**	**17 13 12.7**	**-0.1**
	2.3nm,0.7s,mb4.2,baz=309,slow=11,SNR=3.6						
DBIC	**Dimbokro**	**69.82**	**75**	*eP*	**P**	**17 13 12.7**	**-0.1**
CCUT	**Cedar City**	**69.82**	**325**	*eP*	**P**	**17 13 14.1**	**+1.3**
QSPA	**South Pole Qui**	**70.36**	**180**	*eP*	**P**	**17 13 16.2**	**+0.1**
	4.0nm,0.9s,mb4.3						
TPNV	**Topopah Spring**	**70.99**	**323**	*eP*	**P**	**17 13 20.7**	**+0.7**
	1.6nm,0.7s,mb4.1						
PDAR	**Pinedale Array**	**71.87**	**331**	P	**P**	**17 13 24.8**	**-0.4**
	0.4nm,0.6s,mb3.5,baz=116,slow=6.8,SNR=5.6						
NVAR	**Mina Array Bea**	**73.19**	**323**	P	**P**	**17 13 34.1**	**+0.9**
	0.4nm,0.7s,mb3.5,baz=134,slow=5.2,SNR=4.1						
HLID	**Hailey**	**74.78**	**329**	*eP*	**P**	**17 13 44.1**	**+1.7**
	1.9nm,0.9s,mb4.0						
TORD	**Torodi Ar. Bea**	**78.32**	**71**	P	**P**	**17 14 02.5**	**+0.1**
	4.2nm,0.7s,mb4.5,baz=256,slow=4.9,SNR=21						
YKA	**Yellowknife Ar**	**89.08**	**341**	P	**P**	**17 14 57.7**	**+0.2**
	0.5nm,0.7s,mb4.0,baz=141,slow=4.0,SNR=2.9						
ASAR	**Alice Springs**	**130.60**	**210**	PKP	PKPdf	17 21 12.9	-0.1
	0.1nm,0.3s,baz=114,slow=2.2,SNR=3.8						
WRA	**Warramunga Arr**	**133.53**	**213**	PKP	PKPdf	17 21 19.7	+1.1
	0.4nm,0.5s,baz=141,slow=1.6,SNR=8.5						
ZAL	**Zalesovo**	**141.08**	**23**	PKP	PKPdf	17 21 31.8	-0.7
	0.7nm,0.5s,baz=195,slow=7.5,SNR=3.4						
MKAR	**Makanchi Array**	**145.16**	**33**	PKPbc	PKPbc	17 21 39.7	+0.4
	0.1nm,0.6s,baz=328,slow=4.0,SNR=18						
MJAR	**Matsushiro Arr**	**149.78**	**310**	PKPbc	PKPbc	17 21 52.0	-0.1
	0.7nm,0.6s,baz=92,slow=2.1,SNR=4.8						

*ISCJB **09** 17:04:44.4±0.3, 1969S±005×7064W±008, h10km, mb4.5/18, MS4.5/8, Error ellipse: s-maj=11.6km s-min=6.4km az=129.5*
*IDC **09** 17:04:44.1±0.6, 1960S×7055W, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.5/16, mbtmp4.4/14, ML5.2/1, MS4.4/6, Ms1 4.4/6, ms1mx4.0/22, Error ellipse: s-maj=25.1km s-min=16.4km az=68.0*
*NEIC **09** 17:04:45.9±0.3, 1974S×7071W, h10km, mb4.7/4, Error ellipse: s-maj=13.0km s-min=7.7km az=68.0*
NEIC Felt [II] at Iquique.
*BJI **09** 17:04:45.7, 1904S×7138W, h10km, mB5.2, Ms5.2, Msz4.8*
*MOS **09** 17:04:48.2±1.6, 1989S×7069W, h33km, mb4.8/1, Error ellipse: s-maj=17.8km s-min=14.2km az=100.8*
ISC 09 17:04:44.5±3.3, 1974S±005×7072W±010, h0km±20km, n69, σ1§28/43, mb4.6/18, MS4.5/8, 1C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**3.32**	**150**	Pn	**Pn**	**17 05 40.2**	**+2.5**
	23nm,0.3s,baz=289,slow=7.4,SNR=9.4						
LVC				Sn	**Sn**	**17 06 18.9**	**+1.1**
	121nm,0.3s,baz=316,slow=5.9,SNR=4.2						
LVC				Lg		17 06 28.5	
	329nm,0.3s,baz=196,slow=16,SNR=7.9						
LPAZ	**La Paz**	**4.22**	**36**	Pn	**Pn**	**17 05 56.2**	**+6.1**
	baz=256,slow=24,SNR=4.0						
LPAZ				Lg		17 06 58.5	
	6.2nm,0.3s,baz=195,slow=16,SNR=1.6						
LPAZ	**La Paz**	**4.22**	**36**	Pn	**Pn**	**17 05 56.2**	**+6.1**
LPAZ				Lg		17 06 58.5	
SIV	**San Ignacio**	**9.91**	**69**	Pn	**Pn**	**17 07 10.0**	**+1.8**
	5.6nm,0.3s,baz=254,slow=9.9,SNR=9.9						
CFAA	**Coronel Fontan**	**12.03**	**170**	Pn	**Pn**	**17 07 35.5**	**-1.6**
	0.1nm,0.3s,baz=227,slow=14,SNR=6.8						
CFAA				Sn	**Sn**	**17 09 38.8**	**-13**
	0.1nm,0.3s,baz=222,slow=22,SNR=2.4						
CFAA				LR	LR	17 12 21.3	
	comp=Z,110nm,19.0s,baz=341,slow=38						
CPUP	**Villa Florida**	**13.96**	**121**	Pn	**Pn**	**17 08 06.5**	**+3.0**
	0.1nm,0.3s,baz=303,slow=13,SNR=3.9						
TRQA	**Tornquist**	**19.77**	**159**	*eP*	**Pn**	**17 09 15.7**	**-1.9**
	106nm,1.4s						
PLCA	**Paso Flores**	**20.93**	**180**	P	**P**	**17 09 28.1**	**-0.5**
	8.7nm,1.1s,baz=332,slow=9.4,SNR=4.2						
BDFB	**Brasilia**	**22.00**	**83**	P	**P**	**17 09 38.0**	**-2.3**
	19nm,1.0s,mb4.5,baz=253,slow=13,SNR=8.3						
BDFB				LR	LR	17 19 13.2	
	comp=Z,1µm,19.0s,MS4.3,baz=217,slow=40						
BDFB	**Brasilia**	**22.00**	**83**	P	**P**	**17 09 38.0**	**-2.3**
BDFB				LR	LR	17 19 13.2	
ROSC	**El Rosal**	**24.70**	**351**	LR	LR	17 20 21.5	
	comp=Z,625nm,19.8s,MS4.1,baz=328,slow=38						
SDV	**Santo Domingo**	**28.44**	**0**	P	**P**	**17 10 39.2**	**-1.8**
	3.8nm,0.5s,mb4.5,baz=244,slow=8.2,SNR=4.8						
PCRV	**Puerto La Cruz**	**30.32**	**12**	P	**P**	**17 10 59.7**	**+2.0**
	3.4nm,0.5s,mb4.4,baz=54,slow=3.6,SNR=3.0						
ELN	**Prospectdale**	**57.44**	**351**	*eP*	**P**	**17 14 35.3**	**+0.3**
RKT	**Rikitea**	**59.49**	**254**	*eS*	**S**	**17 23 00.4**	**+0.6**
	580nm,30.0s						
RKT				*eLR*	LR	17 32 17.5	
	8µm,40.2s						
BINY	**Binghamton**	**61.82**	**356**	*eP*	**P**	**17 15 04.9**	**-0.3**
	21nm,1.3s,mb5.2						
VNA1	**Neumayer--Stat**	**62.50**	**161**	*eP*	**P**	**17 15 10.2**	**+0.4**
VNA1				*e*		17 15 11.8	

VNA1				e		17 15 13.5	
VNA1				e		17 15 17.6	
VNA1				e		17 15 47.6	
ANMO	Albuquerque	64.11	328	i P	P	17 15 24.0	+3.5
FRNY	Flat Rock	64.31	358	eP	P	17 15 21.5	-0.3
SNAA	Sanae	64.49	161	eP	P	17 15 22.2	-0.7
SNAA				e		17 15 24.6	
SNAA				e		17 15 25.6	
SNAA				e		17 15 29.9	
SNAA				e		17 15 56.8	
SNAA	Sanae	64.49	161	c iP	P	17 15 22.1	-0.8
SNAA	Sanae	64.49	161	eP	P	17 15 22.1	-0.8
CCUT	Cedar City	69.70	325	eP	P	17 15 57.5	+1.4
MSU	Marysvale	69.78	326	eP	P	17 15 58.1	+1.5
DBIC	Dimbokro	69.89	75	P	P	17 15 56.1	-1.1
	4.8nm,0.7s,mb4.8,baz=239,slow=8.0,SNR=6.4						
DBIC				LR	LR	17 44 45.3	
	comp=Z,274nm,19.8s,MS4.5,baz=214,slow=34						
QSPA	South Pole Qui	70.44	180	eP	P	17 16 00.6	0.0
	18nm,1.2s,mb5.1						
TPNV	Topopah Spring	70.87	323	eP	P	17 16 04.9	+1.7
TPNV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
TPNV	Topopah Spring	70.87	323	eP	P	17 16 04.9	+1.6
	comp=Z,5.0nm,0.8s,mb4.7						
PDAR	Pinedale Array	71.75	331	P	P	17 16 08.5	-0.1
	comp=Z,0.6nm,0.8s,mb3.8,baz=142,slow=7.5,SNR=5.3						
TBI	Tubuai	72.46	251	eLR	LR	17 38 18.2	
	comp=Z,266nm,27.8s						
NVAR	Mina Array Bea	73.07	323	P	P	17 16 16.5	+0.1
	comp=Z,1.3nm,0.9s,mb4.1,baz=134,slow=6.4,SNR=9.0						
ULM	Lac du Bonnet	73.14	343	P	P	17 16 14.9	-2.0
	comp=Z,3.5nm,0.8s,mb4.5,baz=161,slow=5.6,SNR=3.7						
PPT	Papeete	74.08	257	eLR	LR	17 39 03.3	
	comp=Z,225nm,24.5s						
GCMT	Greycliff	74.17	333	eP	P	17 16 23.2	+0.3
SCHQ	Schefferville	74.34	2	P	P	17 16 22.9	-1.0
	comp=Z,5.1nm,0.9s,mb4.5,baz=243,slow=7.2,SNR=3.5						
HLID	Hailey	74.66	329	eP	P	17 16 27.1	+1.3
	comp=Z,8.3nm,1.2s,mb4.6						
CHMT	Chamberlain Mo	76.62	332	P	P	17 16 37.7	+0.8
VNDA	Vanda	78.28	190	P	P	17 16 47.1	+0.8
	comp=Z,0.9nm,0.9s,mb3.9,baz=143,slow=6.2,SNR=3.8						
TORD	Torodi Ar. Bea	78.38	71	P	P	17 16 45.8	-1.0
	comp=Z,11nm,0.8s,mb5.0,baz=252,slow=4.9,SNR=27						
TORD				LR	LR	17 49 32.4	
	comp=Z,316nm,20.9s,MS4.6,baz=215,slow=34						
SYO	Syowa Base	78.73	160⇓	epP	pP	17 16 47.8	-1.0
EDM	Edmonton	81.46	336	eP	P	17 17 02.3	-1.2
TSUM	Tsumeb	82.17	108	eP	P	17 17 07.5	+0.2
	comp=Z,10nm,1.3s,mb4.8						
RAR	Rarotonga	82.23	250	LR	LR	17 43 49.1	
	comp=Z,265nm,18.1s,MS4.6,baz=136,slow=28						
ESDC	Sonseca Array	85.79	45	P	P	17 17 25.6	-0.1
	comp=Z,3.2nm,1.0s,mb4.4,baz=240,slow=6.0,SNR=11						
MAW	Mawson	86.49	164	P	P	17 17 28.5	-0.7
	comp=Z,6.1nm,1.0s,mb4.7,baz=313,slow=20,SNR=2.8						
YKA	Yellowknife Ar	88.98	341	P	P	17 17 39.4	-1.7
	comp=Z,8.2nm,1.2s,mb4.8,baz=137,slow=4.9,SNR=11						
YKA				LR	LR	18 01 12.3	
	comp=Z,140nm,18.3s,MS4.4,baz=170,slow=38						
AS31	Alice Springs	130.63	210	eP	PKPdf	17 24 01.0	+3.6
ASPA	Alice Springs	130.63	210	eP	PKPdf	17 24 01.0	+3.6
ZRNK	Zerenda	134.60	33	ePKIKP	PKPdf	17 24 04.5	-0.3
ZAL	Zalesovo	141.04	23	PKP	PKPdf	17 24 16.3	-0.4
	comp=Z,1.4nm,0.7s,baz=182,slow=2.5,SNR=5.2						
MKAR	Makanchi Array	145.15	33	PKP	PKPdf	17 24 23.0	-0.9
	comp=Z,6.1nm,0.8s,baz=332,slow=4.1,SNR=23						
KSH	Kashi	145.26	48	ePKP	PKPdf	17 24 24.9	+0.8
KSH				ePP	PP	17 27 46.3	+3.2
KSH				ePKS		17 27 59.0	
KSH				ePPP		17 31 00.8	
KSH				eSKS	SKSdf	17 31 33.6	-0.9
KSH				eSKKS	SKKSac	17 34 34.9	-2.0
KSH				eSS	SS	17 46 33.4	-1.7
KSH				PP	PP		
	comp=Z,209nm,4.9s						
KSH				LR	LR		
	comp=N,309nm,5.0s						
KSH				LR	LR		
	comp=E,449nm,5.9s						
KSH				LR	LR		
	comp=Z,413nm,9.4s						
KLR	Kul'dur	145.50	334	ePKHKP		17 24 21.0	
ZAK	Zakamensk	149.05	7	ePKHKP		17 24 30.0	
MJAR	Matsushiro Arr	149.65	310	PKPbc	PKPbc	17 24 36.1	+0.1
	comp=Z,5.2nm,1.0s,baz=80,slow=0.3,SNR=14						
MAT	Matsushiro	149.65	310	PKP	PKPbc	17 24 35.8	-0.3
MAT	Matsushiro	149.65	310	ePKP	PKPbc	17 24 36.0	-0.1
WMQ	Urumqi	149.96	32	PKP	PKPdf	17 24 31.6	-0.3
WMQ				PP	PP	17 28 13.3	+2.6
WMQ				PP	PP		
	comp=Z,85nm,10.5s						
WMQ				LR	LR		
	comp=N,50nm,21.0s,MS4.4						
WMQ				LR	LR		
	comp=E,38nm,19.9s,MS4.4						
WMQ				LR	LR		
	comp=Z,48nm,21.5s,MS4.3						
MDJ	Mudanjiang	149.99	330	PKP	PKPdf	17 24 31.1	-0.9
MDJ				PP	PP		
	comp=Z,131nm,5.4s						
HYB	Hyderabad	150.80	89	i PKP	PKPbc	17 24 40.0	+1.2
HYB	Hyderabad	150.80	89	eP	PKPbc	17 24 40.0	+1.2
SONM	Songino Array	151.88	4	PKPbc	PKPbc	17 24 41.1	-0.2
	comp=Z,2.9nm,1.0s,baz=308,slow=0.7,SNR=8.3						
CN2	Changchun	152.45	334	ePKP	PKPdf	17 24 31.7	-4.0
HHC	Hu-ho-hao-te	158.87	355	ePKP	PKPdf	17 24 45.4	+1.1
HHC				XPKP		17 24 52.1	
HHC				SKS	SKSdf	17 31 44.7	-6.4
HHC				SKKS	SKKSac	17 35 49.7	-1.4
HHC				PP	PP		
	comp=Z,129nm,10.6s						
HHC				LR	LR		
	comp=N,149nm,20.8s,MS5.2						
HHC				LR	LR		
	comp=E,296nm,21.4s,MS5.2						
HHC				LR	LR		
	comp=Z,282nm,22.6s,MS5.0						
LZH	Lanzhou	163.03	15	ePKP	PKPdf	17 24 42.2	-6.6
LZH				APKP		17 24 46.0	
LZH				XPKP		17 24 50.4	
LZH				LR	LR		
	comp=N,165nm,18.0s						
LZH				LR	LR		
	comp=Z,290nm,18.9s						
SSE	Sheshan	164.41	319	PKP	PKPdf	17 24 51.5	+1.4
SSE				PP	PP		
	comp=Z,56nm,10.0s						
SSE				LR	LR		
	comp=N,43nm,11.1s						
SSE				LR	LR		
	comp=E,84nm,11.1s						
SSE				LR	LR		
	comp=Z,99nm,20.3s						
NJ2	Nanjing	165.03	327	ePKP	PKPdf	17 24 51.6	+1.0
CD2	Chengdu	167.81	23	ePKP	PKPdf	17 24 50.1	-2.7
KMI	Kunming	171.92	47	PKP	PKPdf	17 24 54.9	-0.3
KMI				PP	PP	17 30 10.5	+1.9
KMI				PP	PP		
	comp=Z,132nm,5.3s						
KMI				LR	LR		
	comp=Z,159nm,29.8s						

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*ISCJB **09** 17:10:45.1±2.2, 545S±008×15078E±009, h50km±19km, mb4.5/18, MS4.2/7, Error ellipse: s-maj=15.9km s-min=12.9km az=72.2*

*HRVD **09** 17:10:47.1±0.3, 545S×15087E, h13km±1km, MW4.8/64, Centroid moment Tensor Solution. LP body waves: s21,c31;Mantle waves: s64,c99; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.62±.12; Mθθ2.04±.10; Mφφ-1.42±.09; Mrθ0.36±.22; Mθφ1.43±.09; Mφr0.31±.24; Best double couple: M0 2.28600×10^16 NP1:φs115.00000°, δ79.00000°, λ0.00000°. NP2: φs25.00000°, δ90.00000°, λ169.00000°. Principal axes: T 2.6160, Plg8.0000°, Azm340.0000°; N -0.6590, Plg79.0000°, Azm204.0000°; P -1.9560, Plg7.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **09** 17:10:47.1±1.5, 551S×15078E, h54km±14km, mb4.8/10 Error ellipse: s-maj=12.7km s-min=10.6km az=146.0*

*IDC **09** 17:10:48.2±4.1, 545S×15078E, h64km±35km, mb4.1/11, mb1 4.3/12, mb1mx4.2/16, mbtmp4.4/12, ML3.8/1, MS4.2/9, Ms1 4.2/9, ms1mx4.0/19, Error ellipse: s-maj=27.1km s-min=18.3km az=81.0*

ISC 09 17:10:47.6±1.6, **548S**±009×**15083E**±008, **h57**km±14km, **n35**, σ**1§00**/32, **mb4.5**/18, **MS4.2**/7, **1C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.33	223	P	Pn	17 12 04.5	-0.1
	20nm,0.3s,baz=48,slow=6.7,SNR=75						
PMG				S	Sn	17 13 06.9	+2.3
	6.1nm,0.3s,baz=26,slow=18,SNR=3.2						
PMG	Port Moresby	5.33	223	eP	Pn	17 12 04.3	-0.2
PMG				S	Sn	17 13 06.9	+2.3
HNR	Honiara	9.86	114	P	Pn	17 13 05.5	-1.0
	7.1nm,0.3s,baz=169,slow=0.8,SNR=4.6						
HNR				LR	LR	17 16 38.9	
	comp=Z,962nm,18.9s,baz=356,slow=35						
CTA	Charters Tower	15.18	197	P	Pn	17 14 23.0	+4.5
	0.4nm,0.3s,baz=34,slow=15,SNR=5.3						
CTA				LR	LR	17 19 32.6	
	comp=Z,966nm,19.6s,baz=14,slow=34						
KAKA	Kakadu	19.52	247	eP	Pn	17 15 08.4	-3.5
	12nm,0.6s						
WRAB	Tennant Creek	21.52	227	eP	P	17 15 31.2	-0.6
	27nm,0.9s,mb4.7						
WB2	Warramunga Arr	21.53	227	eP	P	17 15 31.4	-0.5
WRA	Warramunga Arr	21.54	227	P	P	17 15 31.3	-0.6
	24nm,1.0s,mb4.6,baz=50,slow=11,SNR=57						
DZM	Mont Dzumac	22.36	139	P	P	17 15 42.5	+1.7
	25nm,1.1s,mb4.5,baz=28,slow=13,SNR=3.2						
DZM				LR	LR	17 23 25.0	
	comp=Z,1μm,19.4s,MS4.3,baz=125,slow=34						
AS31	Alice Springs	24.34	220	eP	P	17 16 00.2	+0.2
ASAR	Alice Springs	24.34	220	P	P	17 16 00.3	+0.3
	15nm,1.0s,mb4.4,baz=53,slow=8.1,SNR=95						
ASPA	Alice Springs	24.34	220	eP	P	17 16 00.2	+0.2
FITZ	Fitzroy Crossi	27.61	241⇑	iP	P	17 16 28.8	-0.8
	40nm,0.6s,mb5.2						
FITZ	Fitzroy Crossi	27.61	241	P	P	17 16 29.1	-0.4
	24nm,0.7s,mb5.0,baz=82,slow=8.2,SNR=53						
FITZ				LR	LR	17 29 02.7	
	comp=Z,240nm,20.4s,MS3.8,baz=248,slow=40						
STKA	Stephens Creek	27.64	197	eP	P	17 16 29.8	0.0
	7.0nm,0.9s,mb4.3						
STKA	Stephens Creek	27.64	197	P	P	17 16 29.9	+0.1
	7.1nm,0.8s,mb4.3,baz=360,slow=5.0,SNR=8.9						
STKA				LR	LR	17 27 25.8	
	comp=Z,799nm,18.8s,MS4.3,baz=17,slow=36						
FORT	Forrest	33.03	218	eP	P	17 17 17.6	+0.2
	38nm,0.8s,mb5.4						
MBWA	Marble Bar	33.93	240	eP	P	17 17 24.6	-0.7
	13nm,0.7s,mb5.0						
RAO	Raoul Island	37.83	132	LR	LR	17 29 16.3	
	comp=Z,625nm,19.8s,MS4.4,baz=80,slow=29						
KLBR	Kellerberrin	40.41	226	eP	P	17 18 18.6	-1.6
	45nm,1.2s,mb5.1						
MUN	Mundaring	41.73	226	eP	P	17 18 30.4	-0.6
MJAR	Matsushiro Arr	43.44	345	P	P	17 18 43.3	-1.5
	2.0nm,0.9s,mb3.8,baz=167,slow=8.1,SNR=4.9						
INCN	Inchon	48.33	334	eP	P	17 19 25.6	+2.3
	61nm,1.0s,mb5.6						
ULN	Ulaanbaatar	65.56	329	P	P	17 21 26.3	+1.1
	2.1nm,1.2s,mb4.0						
SONM	Songino Array	65.87	329	P	P	17 21 28.3	+1.0
	3.3nm,1.1s,mb4.3,baz=141,slow=5.7,SNR=7.1						
VNDA	Vanda	72.23	177	P	P	17 22 07.0	+0.3
	1.5nm,0.8s,mb4.0,baz=327,slow=7.5,SNR=6.9						
VNDA				LR	LR	17 51 23.0	
	comp=Z,116nm,20.3s,MS4.1,baz=305,slow=34						
VNDA	Vanda	72.23	177	eP	P	17 22 06.6	-0.1
	1.8nm,0.9s,mb4.0						
VNDA				LR	LR	17 51 23.0	
MKAR	Makanchi Array	79.56	319	P	P	17 22 48.9	+0.5
	0.9nm,0.8s,mb3.7,baz=117,slow=1.9,SNR=2.4						
ZAL	Zalesovo	80.64	327	LR	LR	17 59 46.1	
	comp=Z,167nm,18.8s,MS4.4,baz=117,slow=36						
MAW	Mawson	84.19	203	P	P	17 23 13.2	+0.5
	1.9nm,0.4s,mb4.6,baz=41,slow=9.3,SNR=2.8						
QSPA	South Pole Qui	84.48	180	eP	P	17 23 14.0	-0.2
	9.8nm,1.3s,mb4.8						
BVAR	Borovoye Array	88.61	323	P	P	17 23 33.8	-0.6
	0.9nm,0.8s,mb4.1,baz=122,slow=5.2,SNR=3.8						
AKTO	Aktyubinsk	95.98	320	LR	LR	18 07 37.6	
	comp=Z,137nm,20.5s,MS4.4,baz=146,slow=36						
TORD	Torodi Ar. Bea	148.63	286	PKPbc	PKPbc	17 30 27.8	-0.4
	1.6nm,0.7s,baz=78,slow=2.4,SNR=8.8						
BDFB	Brasilia	151.92	139	PKPbc	PKPbc	17 30 35.6	-0.5
	5.6nm,1.0s,baz=184,slow=3.4,SNR=4.6						

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*ISCJB **09** 17:14:27.0±0.9, 3305N±006×1401E±0.1, h112km±6km, mb3.6/2, Error ellipse: s-maj=15.8km s-min=8.9km az=158.7*

*IDC **09** 17:14:27.4±0.8, 3281N×13967E, h98km±39km, mb3.3/2, mb1 3.5/3, mb1mx3.1/19, mbtmp3.5/3, Error ellipse: s-maj=163.9km s-min=14.8km az=70.0*

*JMA **09** 17:14:28.7±0.1, 33.15N×14009E, h103km±2km, M3.0*

ISC 09 17:14:27.6±0.8, **3303N**±005×**1401E**±01, **h109**km±6km, **n15**, σ**0§82**/23, **mb3.6**/2, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.25	288	P	Pn	17 14 43.4	+0.4
JHJ2				S	Sn	17 14 54.7	0.0
JHJ	Hachijo jima 2	0.28	288	P	Pn	17 14 43.5	+0.3
	155nm,0.3s,baz=82,slow=23,SNR=77						
JHJ				S	Sn	17 14 54.5	-0.3
	397nm,0.3s,baz=45,slow=22,SNR=59						
NJJJ	Nii jima 2	1.53	334	P	Pn	17 14 54.5	-0.1
JIM2	Oshima 3	1.77	342	P	Pn	17 14 57.5	-0.1
JIM2				S	Sn	17 15 18.6	-1.9
BSO1	Boso 1	1.77	24	P	Pn	17 14 57.8	+0.2
BSO1				S	Sn	17 15 20.1	-0.5
BSO3	Boso 3	1.80	11	P	Pn	17 14 58.0	+0.1
BSO4	Boso 4	1.96	6	P	Pn	17 15 01.1	+1.1
JIZS	Izushimoda	1.97	329	P	Pn	17 15 00.0	-0.1
KTJJ	Kamata 2	2.08	336	P	Pn	17 15 02.0	+0.5
KTJJ				S	Sn	17 15 26.6	-0.8
JOD2	Odawara 2	2.38	340	P	Pn	17 15 05.6	+0.2
JOD2				S	Sn	17 15 33.0	-1.4
JYN	Shimob	2.78	333	P	Pn	17 15 11.4	+0.8
MJAR	Matsushiro Arr	3.83	337	P	Pn	17 15 25.0	+0.4
	1.3nm,0.3s,baz=157,slow=14,SNR=16						
MJAR				S	Sn	17 16 10.2	+1.4
	1.1nm,0.3s,baz=129,slow=12,SNR=5.5						
MAT	Matsushiro	3.83	336	P	Pn	17 15 25.1	+0.5
MAT				S	Sn	17 16 09.2	+0.4
WRA	Warramunga Arr	52.96	187	P	P	17 23 33.0	+0.3
	0.3nm,0.4s,mb3.7,baz=3.0,slow=8.0,SNR=17						
ASAR	Alice Springs	56.69	187	P	P	17 23 57.1	-2.5
	0.3nm,0.5s,mb3.5,baz=3.2,slow=7.0,SNR=12						

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*ISCJB **09** 17:18:16.1±1.4, 3753N±005×2086E±009, h10km, Error ellipse: s-maj=11.2km s-min=6.6km az=123.3*

*CSEM **09** 17:18:17.5±1.1, 3753N×2091E, h2km, MD3.4, Error ellipse: s-maj=25.0km s-min=11.5km az=53.0*

*NEIC **09** 17:18:17.9, 3755N×2100E, h5km, MD3.4(ATH), After ATH.*

*ATH **09** 17:18:17.9, 3755N×2100E, h5km, MD3.4/5*

*THE **09** 17:18:21.2, 3779N×2091E, h10km, ML2.0*

ISC 09 17:18:15.7±1.5, **3751N**±006×**2085E**±009, **h10**km, **n9**, σ**1§09**/14, **1C, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.73	42	ePB	Pg	17 18 29.5	-0.3
RLS				SB	Sg	17 18 38.8	-0.6
ITM	Ithomi	0.92	111	ePG	Pg	17 18 33.1	-0.3
ITM				eSB	Sb	17 18 45.1	-1.0
LKD	Levkas	1.20	353	ePg	Pg	17 18 38.6	-0.1
LKD				eSg	Sg	17 18 52.6	-1.7
EVR	Evrytania	1.59	28⇑	iPB	Pb	17 18 46.8	+1.6
EVR				eSB	Sb	17 19 06.9	+1.6
VLI	Veliai	1.85	115	ePN	Pn	17 18 51.5	+4.1
AGG	Agios Georgios	1.90	37	ePb	Pb	17 18 50.6	+0.1
AGG				eSb	Sb	17 19 13.9	-0.4
LKR	Lokris	2.04	56	ePN	Pn	17 18 53.4	+3.3
IGT	Igoumenitsa	2.06	349	ePb	Pb	17 18 53.0	0.0
IGT	Igoumenitsa	2.06	349	ePb	Pb	17 18 53.0	-0.1

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*IDC **09** 17:33:20.0±2.6, 1980S×7095W, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.7/15, mbtmp3.9/4, ML4.8/1, Error ellipse: s-maj=54.2km s-min=21.5km az=68.0*

*ISCJB **09** 17:33:23.8±4.5, 199S±0.1×712W±05, h59km±22km, mb3.6/2, Error ellipse: s-maj=72.3km s-min=15.9km az=160.9*

*NEIC **09** 17:33:28.8±2.8, 1994S×7067W, h61km±17km, Error ellipse: s-maj=40.9km s-min=16.5km az=96.0*

ISC 09 17:33:28.8±3.7, **1986S**±009×**708W**±04, **h58**km±20km, **n8**, σ**1§08**/10, **mb3.6**/2, **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	3.24	148	Pn	Pn	17 34 16.4	-0.7
	9.2nm,0.3s,baz=327,slow=9.6,SNR=45						
LVC				Sn	Sn	17 34 55.8	+1.3
	23nm,0.3s,baz=359,slow=7.3,SNR=4.9						
LVC				Lg		17 35 06.4	
	31nm,0.3s,baz=209,slow=20,SNR=8.0						
LVC	Limon Verde	3.24	148	eP	Pn	17 34 16.0	-1.2
LVC				Sn	Sn	17 34 55.9	+1.3
LVC				eSg	Sn	17 34 58.9	+4.3
LVC				Lg		17 35 06.4	
LPAZ	La Paz	4.34	36	Pn	Pn	17 34 33.4	+1.1
	2.1nm,0.3s,baz=245,slow=10,SNR=45						
LPAZ	La Paz	4.34	36	eP	Pn	17 34 33.7	+1.4
SIV	San Ignacio	9.99	69	Pn	Pn	17 35 48.0	-1.6
	1.6nm,0.3s,baz=267,slow=9.6,SNR=27						
BDFB	Brasilia	22.07	83	P	P	17 38 19.2	+0.5
	0.8nm,0.4s,mb3.5,baz=251,slow=11,SNR=3.9						
TORD	Torodi Ar. Bea	78.46	71	P	P	17 45 23.3	-0.2
	0.6nm,0.5s,mb3.8,baz=252,slow=5.2,SNR=8.5						
MKAR	Makanchi Array	145.27	33	PKPbc	PKPbc	17 52 59.4	-0.3
	0.3nm,0.5s,baz=336,slow=3.2,SNR=4.2						

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*IDC **09** 17:47:28.8±5.4, 1986S×7050W, h69km±33km, mb3.3/1, mb1 3.5/4, mb1mx3.2/17, mbtmp3.6/4, ML4.1/1, Error ellipse: s-maj=79.4km s-min=19.2km az=88.0*

*NEIC **09** 17:47:29.1±2.7, 1996S×7041W, h73km±18km, Error ellipse: s-maj=47.1km s-min=14.9km az=97.0*

ISC 09 17:47:28.5±3.8, **1987S**±008×**706W**±04, **h70**km±23km, **n7**, σ**1§19**/8, **mb3.3**/1, **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	3.15	150	P	Pn	17 48 14.9	-0.8
	5.9nm,0.3s,baz=321,slow=11,SNR=25						
LVC				S	Sn	17 48 53.0	+0.9
	11nm,0.3s,baz=35,slow=16,SNR=4.0						
LVC				Lg		17 49 04.0	
	20nm,0.3s,baz=60,slow=23,SNR=7.6						
LVC	Limon Verde	3.15	150	eP	Pn	17 48 14.4	-1.3
LVC				S	Sn	17 48 53.0	+0.9
LVC				Lg		17 49 04.0	
LPAZ	La Paz	4.26	34	P	Pn	17 48 31.7	+0.9
	0.1nm,0.3s,baz=223,slow=13,SNR=3.7						
LPAZ	La Paz	4.26	34	eP	Pn	17 48 31.8	+0.9
SIV	San Ignacio	9.85	68	P	Pn	17 49 46.3	-0.9
	0.8nm,0.3s,baz=258,slow=11,SNR=18						
TORD	Torodi Ar. Bea	78.31	71	P	P	17 59 21.1	+0.1
	0.3nm,0.5s,mb3.3,baz=238,slow=5.2,SNR=5.5						
MKAR	Makanchi Array	145.19	33	PKPbc	PKPbc	18 06 58.2	+0.5
	0.2nm,0.6s,baz=300,slow=3.2,SNR=2.2						

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*IDC **09** 17:50:00.7±3.0, 1970S×7066W, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.7/15, mbtmp4.0/3, ML4.9/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/21, Error ellipse: s-maj=71.5km s-min=21.4km az=72.0*

*ISCJB **09** 17:50:10.7±3.1, 1979S±007×704W±04, h81km±18km, mb3.7/2, Error ellipse: s-maj=54.8km s-min=12.3km az=177.3*

*NEIC **09** 17:50:11.5±2.1, 1983S×7041W, h80km±13km, Error ellipse: s-maj=33.1km s-min=12.6km az=96.0*

ISC 09 17:50:11.8±3.0, **1980S**±007×**704W**±03, **h75**km±18km, **n10**, σ**0§82**/10, **mb3.7**/2, **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	3.13	154	Pn	Pn	17 50 56.3	-2.5
	12nm,0.3s,baz=273,slow=9.1,SNR=1.9						
LVC				Sn	Sn	17 51 36.0	+0.8
	21nm,0.3s,baz=215,slow=19,SNR=3.1						
LVC				Lg		17 51 44.9	
	48nm,0.3s,baz=213,slow=20,SNR=6.2						
LVC	Limon Verde	3.13	154	P	Pn	17 50 58.5	-0.3
LVC				Sn	Sn	17 51 36.0	+0.8
LVC				Lg		17 51 44.9	
LPAZ	La Paz	4.12	32	Pn	Pn	17 51 13.0	+0.8
	0.9nm,0.3s,baz=4.7,slow=8.3,SNR=2.2						
LPAZ	La Paz	4.12	32	Pn	Pn	17 51 13.0	+0.8
SIV	San Ignacio	9.67	68	Pn	Pn	17 52 27.1	-1.0
	2.0nm,0.3s,baz=264,slow=11,SNR=11						
SAML	Samuel	12.86	34	eP	Pn	17 53 11.7	+0.2
BDFB	Brasilia	21.74	83	P	P	17 54 57.2	+0.3
	2.1nm,0.6s,mb3.7,baz=262,slow=9.6,SNR=3.8						
BDFB				LR	LR	18 04 28.1	
	comp=Z,102nm,18.2s,baz=85,slow=40						
TORD	Torodi Ar. Bea	78.14	71	P	P	18 02 02.6	-0.1
	0.6nm,0.4s,mb3.7,baz=259,slow=4.3,SNR=6.4						
MKAR	Makanchi Array	145.05	33	PKPbc	PKPbc	18 09 38.9	-1.0
	0.6nm,0.6s,baz=340,slow=2.9,SNR=4.6						
MKAR	Makanchi Array	145.05	33	PKPbc	PKPbc	18 09 38.9	-1.0

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*NEIC **09** 18:05:57.0±1.8, 484S×15027E, h35km, mb4.5/2, Error ellipse: s-maj=38.0km s-min=22.6km az=99.0*

*ISCJB **09** 18:06:05.9±3.9, 54S±02×1499E±03, h83km±28km, mb3.8/4, Error ellipse: s-maj=55.1km s-min=29.4km az=4.2*

*IDC **09** 18:06:06.8±6.2, 548S×15008E, h88km±46km, mb3.8/5, mb1 3.9/6, mb1mx3.7/14, mbtmp4.1/6, MS3.6/2, Ms1 3.6/2, ms1mx2.8/25, Error ellipse: s-maj=71.5km s-min=32.5km az=95.0*

ISC 09 18:05:56.8±4.9, **48S**±03×**1504E**±03, **h43**km±33km, **n15**, σ**0§64**/15, **mb4.1**/6, **MS4.1**/1, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.58	215	P	Pn	18 07 16.8	-0.5
	7.1nm,0.3s,baz=41,slow=6.3,SNR=28						
PMG				S	Sn	18 08 20.3	+0.1
	1.3nm,0.3s,baz=202,slow=21,SNR=2.6						
PMG				LR	LR	18 08 53.0	
	comp=Z,258nm,21.5s,baz=28,slow=34						
PMG	Port Moresby	5.58	215	eP	Pn	18 07 17.0	-0.3
PMG				S	Sn	18 08 20.3	+0.1
PMG				LR	LR	18 08 53.0	
CTAO	Charters Tower	15.73	194	eP	Pn	18 09 36.1	+0.9
WRAB	Tennant Creek	21.67	225	eP	P	18 10 43.3	-0.5
	28nm,1.1s,mb4.6						
WB2	Warramunga Arr	21.68	225	eP	P	18 10 43.7	-0.1
WRA	Warramunga Arr	21.69	225	P	P	18 10 43.3	-0.6
	5.3nm,0.9s,mb4.0,baz=49,slow=10,SNR=15						
AS31	Alice Springs	24.58	219	eP	P	18 11 12.8	+0.1
ASAR	Alice Springs	24.58	219	P	P	18 11 12.1	-0.7
	3.9nm,0.9s,mb4.0,baz=54,slow=7.9,SNR=24						
ASPA	Alice Springs	24.58	219	eP	P	18 11 12.8	+0.1
FITZ	Fitzroy Crossi	27.55	239	eP	P	18 11 41.2	+1.6
	13nm,1.1s,mb4.5						
FITZ	Fitzroy Crossi	27.55	239	P	P	18 11 41.1	+1.5
	7.3nm,0.9s,mb4.3,baz=66,slow=10.0,SNR=7.5						
STKA	Stephens Creek	28.18	196	P	P	18 11 44.8	-0.4
	2.2nm,0.8s,mb3.8,baz=346,slow=14,SNR=2.8						
URZ	Urewera	41.26	148	LR	LR	18 27 07.0	
	comp=Z,253nm,19.1s,MS4.1,baz=249,slow=31						
SONM	Songino Array	65.04	329	P	P	18 16 41.6	+9.0
	0.6nm,0.8s,mb3.7,baz=142,slow=7.3,SNR=3.8						
TORD	Torodi Ar. Bea	147.99	287	PKPbc	PKPbc	18 25 40.4	+2.9
	0.8nm,0.8s,baz=86,slow=2.1,SNR=4.3						

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*ISCJB **09** 18:22:09.8±4.3, 57S±02×1507E±03, h69km±31km, mb3.9/7, Error ellipse: s-maj=43.5km s-min=29.3km az=174.2*

*NEIC **09** 18:22:12.5±3.3, 569S×15063E, h82km±25km, mb4.3/3, Error ellipse: s-maj=27.0km s-min=22.0km az=95.0*

*IDC **09** 18:22:13.4±6.1, 575S×15058E, h86km±47km, mb3.7/6, mb1 3.9/7, mb1mx3.7/15, mbtmp4.0/7, ML3.1/1, Error*

ellipse: s-maj=49.9km s-min=28.1km az=84.0

ISC 09 18:22:12.3±4.2**,57S**±02×**1506E**±03**,h72**km±29km**,n17, σ0^{s}82**/15**,mb3.9**/7**,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.01	223	P	Pn	18 23 25.1	+0.1
	5.0nm,0.3s,baz=32,slow=4.3,SNR=13						
PMG	Port Moresby	5.01	223	ePn	Pn	18 23 25.5	+0.5
PMG				eS	Sn	18 24 10.4	-11
KAKA	Kakadu	19.23	248	eP	Pn	18 26 31.1	-1.2
	12nm,0.7s						
WRAB	Tennant Creek	21.21	227	eP	P	18 26 51.1	-0.9
	15nm,0.9s,mb4.3						
WB2	Warramunga Arr	21.21	227	eP	P	18 26 53.0	+0.9
WRA	Warramunga Arr	21.22	227	P	P	18 26 52.0	-0.2
	3.9nm,0.7s,mb3.8,baz=49,slow=10,SNR=31						
AS31	Alice Springs	24.02	220	eP	P	18 27 21.7	+1.2
ASAR	Alice Springs	24.02	220	P	P	18 27 20.9	+0.5
	3.2nm,0.9s,mb3.7,baz=54,slow=8.2,SNR=29						
ASPA	Alice Springs	24.03	220	eP	P	18 27 21.7	+1.2
FITZ	Fitzroy Crossi	27.31	241	eP	P	18 27 49.7	-0.5
	15nm,0.9s,mb4.5						
FITZ	Fitzroy Crossi	27.31	241	P	P	18 27 49.7	-0.6
	3.9nm,0.5s,mb4.2,baz=77,slow=11,SNR=14						
STKA	Stephens Creek	27.36	197	P	P	18 27 49.8	-0.8
	2.2nm,0.8s,mb3.7,baz=68,slow=20,SNR=3.0						
SONM	Songino Array	65.96	329	P	P	18 32 51.3	+0.4
	0.4nm,0.4s,mb3.6,baz=140,slow=5.2,SNR=5.9						
VNDA	Vanda	72.00	177	P	P	18 33 27.6	-0.7
	1.0nm,0.9s,mb3.6,baz=316,slow=3.7,SNR=4.4						
LPAZ	La Paz	135.87	120	PKP	PKPdf	18 41 25.6	+0.8
	0.7nm,0.8s,baz=254,slow=2.2,SNR=4.0						
SIV	San Ignacio	141.94	125	PKP	PKPdf	18 41 36.3	+0.4
	1.0nm,0.9s,baz=276,slow=10,SNR=3.8						
TORD	Torodi Ar. Bea	148.49	286	PKPbc	PKPbc	18 41 49.1	-1.7
	0.7nm,0.7s,baz=65,slow=3.5,SNR=4.4						

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*ISCJB **09** 18:22:51.6±3.2, 56S±0.1×1507E±02, h65km±26km, mb4.1/13, Error ellipse: s-maj=31.5km s-min=16.1km az=27.0*

*HRVD **09** 18:22:53.0±0.5, 545S×15088E, h16km±2km, MW4.8/57, Centroid moment Tensor Solution. LP body waves: s21,c25;Mantle waves: s57,c83; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.40±.12; $M_{\theta\theta}$1.44±.09; $M_{\phi\phi}$-1.04±.09; $M_{r\theta}$0.59±.28; $M_{\theta\phi}$1.34±.10; $M_{\phi r}$0.30±.28; Best double couple: $M_0$1.90900×10^{16} NP1:ϕ_s112.00000°,δ79.00000°,λ9.00000°. NP2: ϕ_s21.00000°,δ81.00000°,λ168.00000°. Principal axes: T 2.1920, Plg14.0000°, Azm336.0000°; N -0.5650, Plg76.0000°, Azm164.0000°; P -1.6270, Plg2.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **09** 18:22:53.2±5.0, 561S×15082E, h67km±42km, mb3.8/10, mb1 4.0/11, mb1mx4.0/15, mbtmp4.2/11, ML3.4/1, MS4.0/6, Ms1 4.0/6, ms1mx3.5/17 Error ellipse: s-maj=37.1km s-min=18.5km az=90.0*

*NEIC **09** 18:22:53.0±2.6, 561S×15089E, h71km±21km, mb4.4/8, Error ellipse: s-maj=20.9km s-min=13.5km az=93.0*

ISC 09 18:22:53.0±3.0**,56S**±01×**1508E**±02**,h62**km±24km**,n35, σ0^{s}85**/26**,mb4.2**/13**,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.25	223	P	Pn	18 24 09.2	+0.3
	8.3nm,0.3s,baz=37,slow=6.5,SNR=11						
PMG				S	Sn	18 25 08.6	+0.4
	0.4nm,0.3s,baz=196,slow=22,SNR=1.6						
PMG				LR	LR	18 25 44.6	
	comp=Z,492nm,18.9s,baz=37,slow=33						
HNR	Honiara	9.86	114	LR	LR	18 28 34.1	
	comp=Z,845nm,18.4s,baz=357,slow=35						
CTA	Charters Tower	15.11	197	eP	Pn	18 26 28.7	+6.1
	12nm,0.8s						
CTA	Charters Tower	15.11	197	P	Pn	18 26 26.1	+3.5
	0.5nm,0.3s,baz=26,slow=13,SNR=7.7						
CTA				LR	LR	18 31 36.9	
	comp=Z,620nm,20.0s,baz=16,slow=35						
CTAO	Charters Tower	15.11	197	eP	Pn	18 26 22.4	-0.2
	19nm,0.9s						
KAKA	Kakadu	19.45	247	eP	Pn	18 27 14.0	-2.2
	13nm,0.6s						
WRAB	Tennant Creek	21.45	227	eP	P	18 27 35.5	-0.5
	24nm,0.8s,mb4.6						
WB2	Warramunga Arr	21.45	227	eP	P	18 27 36.6	+0.6
WRA	Warramunga Arr	21.46	227	P	P	18 27 35.7	-0.5
	7.9nm,0.9s,mb4.1,baz=50,slow=11,SNR=13						
DZM	Mont Dzumac	22.34	139	LR	LR	18 34 12.1	
	comp=Z,672nm,20.7s,baz=150,slow=30						
AS31	Alice Springs	24.26	220	eP	P	18 28 04.6	+0.5
ASAR	Alice Springs	24.26	220	P	P	18 28 04.7	+0.5
	6.6nm,0.9s,mb4.1,baz=56,slow=8.9,SNR=9.4						
ASPA	Alice Springs	24.27	220	eP	P	18 28 04.6	+0.4
FITZ	Fitzroy Crossi	27.55	241	eP	P	18 28 34.3	+0.5
	28nm,0.9s,mb4.9						
FITZ	Fitzroy Crossi	27.55	241	P	P	18 28 33.6	-0.2
	18nm,0.9s,mb4.7,baz=76,slow=8.0,SNR=8.1						
STKA	Stephens Creek	27.57	197	P	P	18 28 33.4	-0.6
	4.1nm,0.9s,mb4.0,baz=21,slow=14,SNR=2.6						
STKA	Stephens Creek	27.57	197	eP	P	18 28 33.7	-0.3
FORT	Forrest	32.96	218	eP	P	18 29 21.5	-0.1
	22nm,0.9s,mb5.1						
JHJ	Hachijo jima 2	39.85	346	LR	LR	18 43 30.4	
	comp=Z,282nm,20.6s,baz=122,slow=31						
MJAR	Matsushiro Arr	43.50	345	P	P	18 30 49.0	-1.1
	3.0nm,1.2s,mb3.9,baz=164,slow=9.2,SNR=4.5						
MJAR				LR	LR	18 48 29.4	
	comp=Z,171nm,19.1s,baz=170,slow=35						
SONM	Songino Array	65.91	329	P	P	18 33 33.2	+1.0
	1.9nm,1.0s,mb4.1,baz=130,slow=5.3,SNR=6.4						
VNDA	Vanda	72.16	177	P	P	18 34 10.6	-0.4
	2.3nm,0.9s,mb4.1,baz=329,slow=6.9,SNR=9.8						
VNDA	Vanda	72.16	177	eP	P	18 34 09.5	-1.5
	3.5nm,1.0s,mb4.2						
MKAR	Makanchi Array	79.58	319	P	P	18 34 54.8	+1.5
	0.8nm,0.9s,mb3.7,baz=100,slow=6.7,SNR=4.2						
ZAL	Zalesovo	80.68	327	P	P	18 34 59.7	+0.6
	0.7nm,0.7s,mb3.7,baz=157,slow=5.1,SNR=3.1						
ZAL	Zalesovo	80.68	327	P	P	18 34 59.7	+0.5
KURK	Kurchatov	83.13	322	eP	P	18 35 10.9	-1.2
	5.1nm,1.1s,mb4.5						
ILAR	Eielson Array	83.61	22	P	P	18 35 14.9	+0.4
	0.9nm,0.8s,mb3.9,baz=245,slow=8.0,SNR=5.3						
LPAZ	La Paz	135.80	120	PKP	PKPdf	18 42 07.7	+1.2
	1.9nm,0.9s,baz=287,slow=0.7,SNR=6.7						
SDV	Santo Domingo	138.79	83	PKP	PKPdf	18 42 12.9	+1.0
	2.6nm,0.5s,baz=221,slow=2.3,SNR=3.9						
SIV	San Ignacio	141.88	125	PKP	PKPdf	18 42 16.0	-1.6
	1.9nm,0.8s,baz=247,slow=5.4,SNR=6.6						
PCRV	Puerto La Cruz	144.62	80	PKP	PKPdf	18 42 20.2	-2.1
	10nm,1.0s,baz=0.0,slow=8.1,SNR=4.1						
TORD	Torodi Ar. Bea	148.62	286	PKPbc	PKPbc	18 42 31.8	-1.1
	2.2nm,0.8s,baz=68,slow=2.3,SNR=7.6						
TORD	Torodi Ar. Bea	148.62	286	PKPbc	PKPbc	18 42 31.8	-1.1
BDFB	Brasilia	151.89	139	PKPbc	PKPbc	18 42 41.2	+0.5
	3.1nm,0.7s,baz=180,slow=1.9,SNR=4.9						

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*ISCJB **09** 18:28:06.4±0.8, 1756S±006×7046W±006, h82km±7km, mb4.2/17, Error ellipse: s-maj=11.1km s-min=7.7km az=73.6*

*NEIC **09** 18:28:07.3±0.3, 1760S×7050W, mb4.4/8, Error ellipse: s-maj=8.5km s-min=5.9km az=59.0*

NEIC Felt [III] at Moquegua.

*IDC **09** 18:28:07.7±0.5, 1761S×7048W, h78km±4km, mb4.1/11, mb1 4.3/14, mb1mx4.2/18, mbtmp4.4/14, MS3.0/2, Ms1 3.1/2, ms1mx2.6/36, Error ellipse: s-maj=15.6km s-min=13.4km az=31.0*

*BJI **09** 18:28:07.3, 1760S×7050W, h76km, mB4.6*

ISC 09 18:28:07.1±0.7**,1765S**±005×**7053W**±006**,h72**km±7km**, h79**km±1.3km**:pP-P,n47,σ0^{s}90**/38**,mb4.2**/17**,1C-1D,Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	Arequipa	1.50	322	⇓iP	Pn	18 28 33.0	+1.0
ARE				iS	Sn	18 28 50.7	-0.2
LPAZ	La Paz	2.66	60	P	Pn	18 28 53.2	+5.6
	58nm,0.3s,baz=248,slow=8.4,SNR=1442						
LPAZ				LR	LR	18 30 02.6	
	comp=Z,202nm,19.1s,baz=52,slow=44						
LPAZ	La Paz	2.66	60	⇑iPn	Pn	18 28 53.0	+5.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	5.17	163	P	Pn	18 29 22.6	+0.8
	6.8nm,0.3s,baz=342,slow=9.7,SNR=77						
LVC				S	Sn	18 30 17.6	-2.5
	30nm,0.3s,baz=222,slow=22,SNR=17						
LVC	Limon Verde	5.17	163	ePn	Pn	18 29 22.5	+0.7
	88nm,0.4s						
LVC				eSn	Sn	18 30 17.9	-2.2
SIV	San Ignacio	9.20	81	P	Pn	18 30 18.1	+1.1
	19nm,0.3s,baz=267,slow=9.5,SNR=182						
SIV				S	Sn	18 31 58.7	-0.2
	baz=5.8,slow=22,SNR=4.5						
SAML	Samuel	11.21	40	ePn	Pn	18 30 42.8	-1.7
	6.1nm,0.5s						
CFAA	Coronel Fontan	14.05	172	P	Pn	18 31 17.5	-5.1
	0.1nm,0.3s,baz=2.6,slow=13,SNR=4.2						
CFAA	Coronel Fontan	14.05	172	P	Pn	18 31 17.5	-5.1
CPUP	Villa Florida	14.97	128	P	Pn	18 31 34.9	+0.3
	0.4nm,0.3s,baz=294,slow=10,SNR=2.6						
BDFB	Brasilia	21.66	88	P	P	18 32 52.8	+1.2
	3.9nm,0.4s,mb4.1,baz=253,slow=8.2,SNR=12						
BDFB				pP		18 33 09.5	
	2.3nm,0.5s,baz=252,slow=5.9,SNR=2.7						
TRQA	Tornquist	21.67	161	eP	P	18 32 51.8	+0.1
	7.3nm,0.8s,mb4.1						
PLCA	Paso Flores	23.00	180	P	P	18 33 05.9	+0.1
	12nm,0.9s,mb4.2,baz=357,slow=12,SNR=17						
PLCA	Paso Flores	23.00	180	eP	P	18 33 05.7	-0.1
	11nm,0.9s,mb4.2						
PCRV	Puerto La Cruz	28.25	12	LR	LR	18 46 24.1	
	comp=Z,49nm,20.5s,baz=6.9,slow=39						
MIAR	Mount Ida	56.34	337	eP	P	18 37 39.9	-0.7
	3.1nm,0.6s,mb4.5						
FVM	French Village	58.41	342	eP	P	18 37 53.9	-1.2
	5.2nm,0.6s,mb4.7						
VNA1	Neumayer--Stat	64.41	161	e	P	18 38 36.0	+0.5
VNA1				e		18 38 39.2	
SMCO	Snowmass	66.01	330	eP	P	18 38 46.6	+0.7
	2.0nm,0.8s,mb4.0						
SNAA	Sanae	66.40	161	e	P	18 38 48.1	-0.3
SNAA				e		18 38 50.5	
SNAA				e		18 38 52.5	
SNAA	Sanae	66.40	161	eP	P	18 38 48.5	+0.1
	2.8nm,0.6s,mb4.3						
DBIC	Dimbokro	69.18	76	P	P	18 39 05.7	-0.2
	7.1nm,0.7s,mb4.6,baz=243,slow=6.6,SNR=18						
DBIC				pP	pP	18 39 26.2	+1.3
	7.3nm,0.7s,baz=215,slow=6.6,SNR=4.4						
DBIC	Dimbokro	69.18	76	eP	P	18 39 05.6	-0.3
	6.8nm,0.6s,mb4.7						
PDAR	Pinedale Array	70.03	330	P	P	18 39 10.8	-0.3
	0.8nm,0.6s,mb3.7,baz=125,slow=7.0,SNR=8.2						
ULM	Lac du Bonnet	71.20	343	P	P	18 39 16.6	-1.6
	2.2nm,0.5s,mb4.2,baz=164,slow=8.4,SNR=6.4						
NVAR	Mina Array Bea	71.53	322	P	P	18 39 21.2	+1.0
	1.2nm,0.8s,mb3.8,baz=141,slow=7.5,SNR=7.1						
NVAR				pP	pP	18 39 41.5	+2.2
	0.9nm,0.8s,baz=138,slow=5.8,SNR=4.1						
NVAR	Mina Array Bea	71.53	322	P	P	18 39 21.2	+1.0
NVAR				pP	pP	18 39 41.5	+2.2
MCMT	McKenzie Canyo	73.14	330	eP	P	18 39 30.9	+1.1
TORD	Torodi Ar. Bea	77.56	72	P	P	18 39 54.5	-0.6
	9.5nm,0.6s,mb4.7,baz=253,slow=5.5,SNR=81						
TORD				pP	pP	18 40 15.8	+1.2
	2.6nm,0.6s,baz=261,slow=5.0,SNR=4.7						
VNDA	Vanda	80.36	190	P	P	18 40 10.8	+0.4
	1.7nm,0.8s,mb4.0,baz=88,slow=2.1,SNR=12						
VNDA				pP	pP	18 40 30.1	+0.2
	0.8nm,0.9s,baz=304,slow=3.6,SNR=2.6						
TSUM	Tsumeb	82.64	108	eP	P	18 40 23.7	+1.3
	4.9nm,1.0s,mb4.3						
ESDC	Sonseca Array	84.20	45	P	P	18 40 30.3	-0.1
	1.0nm,0.7s,mb3.8,baz=246,slow=5.1,SNR=8.3						
ESDC				pP	pP	18 40 51.9	+1.8
	0.7nm,0.7s,baz=255,slow=4.0,SNR=2.8						
YKA	Yellowknife Ar	87.07	341	P	P	18 40 43.7	-0.9
	4.9nm,0.7s,mb4.5,baz=135,slow=4.7,SNR=30						
YKA				pP	pP	18 41 05.0	+0.5
	0.9nm,0.6s,baz=136,slow=5.1,SNR=2.9						
YKA	Yellowknife Ar	87.07	341	P	P	18 40 43.7	-0.9
YKA				pP	pP	18 41 05.0	+0.5
MAW	Mawson	88.44	164	P	P	18 40 51.0	-0.2
	4.3nm,0.6s,mb4.7,baz=247,slow=4.3,SNR=4.4						
ASAR	Alice Springs	132.51	211	PKP	PKPdf	18 47 13.4	+0.3
	0.5nm,0.6s,baz=134,slow=1.4,SNR=13						
WRA	Warramunga Arr	135.38	214	PKP	PKPdf	18 47 18.7	+0.1
	0.7nm,0.4s,baz=137,slow=1.6,SNR=24						
ZAL	Zalesovo	139.05	22	PKP	PKPdf	18 47 25.4	0.0
	1.3nm,0.8s,baz=236,slow=4.2,SNR=7.0						
ZAL				pPKP	pPKPdf	18 47 46.9	+0.9
	0.8nm,0.4s,baz=153,slow=3.2,SNR=2.3						
ZAL	Zalesovo	139.05	22	PKP	PKPdf	18 47 25.4	0.0
ZAL				pPKP	pPKPdf	18 47 46.9	+0.9
MKAR	Makanchi Array	143.29	32	PKhKP		18 47 29.0	
	0.9nm,0.8s,baz=309,slow=3.9,SNR=6.6						
MJAR	Matsushiro Arr	148.43	312	PKPbc	PKPbc	18 47 45.8	+0.5
	3.2nm,0.6s,baz=83,slow=1.9,SNR=18						
MJAR				pPKPbc	pPKPbc	18 48 07.0	+1.3
	4.9nm,0.8s,baz=94,slow=2.0,SNR=10						
MAJO	Matsushiro	148.43	312	ePKPbc	PKPbc	18 47 45.7	+0.4
MAT	Matsushiro	148.43	312	PKP	PKPbc	18 47 45.6	+0.3
MAT	Matsushiro	148.43	312	ePKP	PKPbc	18 47 46.0	+0.7
SONM	Songino Array	149.79	4	PKP	PKPdf	18 47 43.7	-0.1
	0.4nm,0.8s,baz=321,slow=1.8,SNR=4.7						
SONM				PKPbc	PKPbc	18 47 49.0	+0.3
	2.9nm,0.7s,baz=329,slow=1.6,SNR=28						
SONM				PKPab	PKPab	18 47 55.0	+0.7
	0.7nm,0.5s,baz=320,slow=2.3,SNR=9.3						
SONM				pPKPbc	pPKPbc	18 48 10.7	+1.5
	1.7nm,0.6s,baz=337,slow=2.2,SNR=6.9						
HHC	Hu-ho-hao-te	156.81	356	ePKP	PKPdf	18 47 52.4	-1.6
HHC				APKP		18 48 17.6	
HHC				XPKP		18 48 27.7	
HHC				PP	PP	18 52 03.6	+1.4
HHC				SKKS	SKKSac	18 58 41.5	-3.7
NJ2	Nanjing	163.34	331	ePKP	PKPdf	18 47 57.8	-3.5

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*IDC **09** 18:47:50.7±3.5, 464S×14999E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/15, mbtmp4.0/4, ML3.1/1, Error ellipse: s-maj=103.5km s-min=37.8km az=111.0*

NEIC 09 18:47:53.5±2.3**,505S**×**15070E,h35**km**,mb4.5**/1**,Error ellipse: s-maj=80.5km s-min=23.4km az=117.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.57	219	Pn	Pn	18 49 14.2	+0.3
	3.5nm,0.3s,baz=24,slow=9.9,SNR=14						
PMG				Sn	Sn	18 50 19.8	+3.1
	1.1nm,0.3s,baz=104,slow=6.8,SNR=3.3						
PMG	Port Moresby	5.57	219	P	Pn	18 49 14.0	+0.1
PMG				Sn	Sn	18 50 19.8	+3.1
WRAB	Tennant Creek	21.73	226	eP	P	18 52 41.8	+0.2
WB2	Warramunga Arr	21.73	226	eP	P	18 52 41.6	-0.1
WRA	Warramunga Arr	21.74	226	P	P	18 52 40.9	-0.9
	2.9nm,0.8s,baz=48,slow=10,SNR=11						
AS31	Alice Springs	24.59	220	eP	P	18 53 11.3	+1.1
ASAR	Alice Springs	24.59	220	P	P	18 53 11.0	+0.8
	1.0nm,0.7s,baz=53,slow=9.0,SNR=14						
ASPA	Alice Springs	24.59	220	eP	P	18 53 11.3	+1.1
FITZ	Fitzroy Crossi	27.71	240	eP	P	18 53 39.7	+1.3
	9.4nm,0.9s						
FITZ	Fitzroy Crossi	27.71	240	P	P	18 53 38.7	+0.2
	2.3nm,0.7s,baz=78,slow=9.9,SNR=6.5						
MBWA	Marble Bar	34.04	239	eP	P	18 54 34.7	+0.5
TORD	Torodi Ar. Bea	148.39	287	PKPbc	PKPbc	19 07 37.3	+1.1
	0.7nm,0.8s,baz=66,slow=2.2,SNR=4.5						

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*THE **09** 18:50:58.9, 3855N×22.19E, h2km, ML2.4*

*ISCJB **09** 18:50:59.6±0.6, 3862N±003×22.13E±004, h7km±6km, Error ellipse: s-maj=5.5km s-min=4.8km az=154.9*

*ATH **09** 18:50:59.5, 3864N×22.11E, h15km±3km, MD3.2/9, ML3.2*

*NEIC **09** 18:50:59.5, 3864N×22.11E, h15km, ML3.2(ATH), After ATH.*

*CSEM **09** 18:51:00.0±0.1, 3866N×22.11E, h10km, ML3.2, Error ellipse: s-maj=2.7km s-min=2.4km az=103.0*

ISC 09 18:51:00.1±0.6**,3863N**±003×**2214E**±004**,h9**km±5km**,n17, σ0^{s}84**/22**,1C,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	Evrytania	0.39	318	⇑iPB	Pg	18 51 06.7	-1.0
EVR				eSB	Sg	18 51 12.5	-0.3
AGG	Agios Georgios	0.42	21	ePg	Pg	18 51 08.1	-0.2
AGG				eSg	Sg	18 51 15.3	+1.3
LKR	Lokris	0.68	88	ePN	Pg	18 51 13.2	0.0
LKR				eSB	Sg	18 51 22.2	+0.1
RLS	Riolos of Patr	0.78	223	ePN	Pg	18 51 14.7	-0.4
RLS				eSN	Sg	18 51 24.8	-0.4
NEO	Neokhori	1.08	51	ePN	Pn	18 51 19.8	-1.7
MGER	Gerania Oros	1.09	126	ePN	Pn	18 51 21.0	-0.6
LKD	Levkas	1.17	274	ePg	Pg	18 51 21.6	-0.9
LKD				eSg	Sg	18 51 39.5	+1.8
MEV	Metsovon	1.35	329	ePg	Pn	18 51 25.0	-0.2
ATH	Athens Observa	1.41	117	ePN	Pn	18 51 27.0	+1.1
JAN	Janina	1.43	316	ePN	Pn	18 51 25.2	-1.1
ITM	Ithomi	1.46	187	ePN	Pn	18 51 27.1	+0.5
LIT	Litokhoron	1.50	10	ePg	Pn	18 51 27.0	-0.2
VLI	Veliai	2.01	161	ePB	Pn	18 51 34.7	+0.5
KEK	Kerkira	2.11	302	ePN	Pn	18 51 36.9	+1.3
FNA	Florina	2.23	345	ePn	Pn	18 51 37.7	+0.5
BIA	Bitola	2.47	346	ePn	Pn	18 51 40.4	-0.1
BIA	Bitola	2.47	346	ePn	Pn	18 51 40.3	-0.2

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*ISCJB **09** 19:15:58.1±1.0, 180S±02×1753W±02, h33km, mb4.4/4, Error ellipse: s-maj=35.6km s-min=9.5km az=94.8*

*NEIC **09** 19:16:06.9±2.7, 18.10S×17553W, h80km±32km, mb4.3/2, Error ellipse: s-maj=36.7km s-min=23.6km az=161.0*

*IDC **09** 19:16:07.2±5.4, 1772S×17590W, h67km±58km, mb4.0/4, mb1 4.2/5, mb1mx3.7/15, mbtmp4.4/5, ML2.8/1, Error ellipse: s-maj=158.7km s-min=41.1km az=146.0*

ISC 09 19:16:00.7±1.0**,181S**±02×**1753W**±02**,h35**km**,n13, σ0^{s}56**/13**,mb4.4**/4**,2D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	5.32	40	P	Pn	19 17 26.5	+8.9
	17nm,0.3s,baz=186,slow=4.6,SNR=23						
AFI				S	Sn	19 18 17.7	+0.1
	39nm,0.3s,baz=37,slow=23,SNR=17						
STKA	Stephens Creek	41.18	242	eP	P	19 23 43.9	+2.2
	4.1nm,0.9s,mb4.1						
STKA	Stephens Creek	41.18	242	P	P	19 23 41.7	0.0
	2.6nm,0.9s,mb3.9,baz=84,slow=10,SNR=4.3						
WB2	Warramunga Arr	47.52	259	eP	P	19 24 32.0	-0.4
WRAB	Tennant Creek	47.52	259	eP	P	19 24 32.1	-0.3
WRA	Warramunga Arr	47.53	259	P	P	19 24 31.9	-0.6
	1.0nm,0.5s,mb4.2,baz=95,slow=7.7,SNR=41						
AS31	Alice Springs	47.62	254	⇓iP	P	19 24 33.5	+0.3
ASAR	Alice Springs	47.62	254	P	P	19 24 33.5	+0.4
	15nm,0.6s,mb5.2,baz=89,slow=8.5,SNR=301						
ASPA	Alice Springs	47.62	254	⇓iP	P	19 24 33.5	+0.3
FITZ	Fitzroy Crossi	55.94	260	eP	P	19 25 34.9	-0.3
	3.0nm,0.9s,mb4.3						
FITZ	Fitzroy Crossi	55.94	260	P	P	19 25 34.9	-0.3
	1.7nm,1.0s,mb4.0,baz=100,slow=12,SNR=7.8						
SBA	Scott Base	60.48	184	eP	P	19 26 06.7	-0.3
FINES	FINESS Array B	134.09	346	PKP	PKPdf	19 35 15.1	+0.8
	0.3nm,0.4s,baz=62,slow=4.5,SNR=5.6						

IDC 09 19:33:29.2±2.1**,667S**×**13004E,h0**km**,mb3.7**/1**,mb1 3.5**/4**, mb1mx3.4**/14**,mbtmp3.4**/4**,ML3.2**/3**,Error ellipse: s-maj=86.1km s-min=27.5km az=77.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	6.46	159	eP	Pn	19 35 12.4	+6.9
	8.9nm,0.7s						
KAKA				eS	Sn	19 36 14.4	-5.5
FITZ	Fitzroy Crossi	12.15	200	eP	Pn	19 36 23.1	-0.5
	2.1nm,0.6s						
FITZ				eS	Sn	19 38 24.3	-15
FITZ	Fitzroy Crossi	12.15	200	Pn	Pn	19 36 23.1	-0.5
	0.1nm,0.3s,baz=18,slow=15,SNR=16						
FITZ				Sn	Sn	19 38 23.4	-16
	0.1nm,0.3s,baz=118,slow=20,SNR=2.8						
WRA	Warramunga Arr	13.84	163	Pn	Pn	19 36 46.5	-0.2
	0.1nm,0.3s,baz=347,slow=13,SNR=11						
WRA				Sn	Sn	19 39 05.8	-15
	0.3nm,0.3s,baz=329,slow=24,SNR=8.0						
WB2	Warramunga Arr	13.85	163	eP	Pn	19 36 49.3	+2.6
WB2				eS	Sn	19 39 07.0	-14
ASAR	Alice Springs	17.31	168	P	Pn	19 37 33.3	+1.1
	0.1nm,0.3s,baz=344,slow=9.0,SNR=10						
ASAR				S	Sn	19 40 32.7	-13
	0.1nm,0.3s,baz=346,slow=26,SNR=4.8						
ASPA	Alice Springs	17.31	168	eP	Pn	19 37 33.0	+0.8
ASPA				eS	Sn	19 40 29.9	-15

MAN 09 19:42:22.5,1848N×**12079E,h1**km**,mb1.9,ML3.6,MS2.2, 1D,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APYP	Conner	0.75	145	eP	Pg	19 42 37.7	+0.8
APYP				eS	Sg	19 42 47.8	+1.0
ABRA	Dolores	0.83	185	eP	Pg	19 42 38.2	-0.3
SGCP	Mt. Cagua	1.22	101	eP	Pg	19 42 45.9	+0.1
CVP	Callao Caves	1.25	128	⇓eP	Pg	19 42 45.5	-1.0
CAUP	Cauayan	1.82	147	eP	Pn	19 42 56.2	+1.3
BOLP	Bolinao	2.25	202	eP	Pn	19 43 01.8	+0.8

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*ISCJB **09** 19:42:43.4±4.3, 59S±02×1518E±03, h41km±35km, mb4.4/7, MS3.9/10, Error ellipse: s-maj=59.1km s-min=26.6km az=74.4*

*NEIC **09** 19:42:44.0±4.2, 598S×15198E, h37km±33km, mb4.5/2, Error ellipse: s-maj=44.2km s-min=26.0km az=120.0*

*IDC **09** 19:42:57.6±5.6, 552S×15042E, h95km±44km, mb3.7/4, mb1 3.9/5, mb1mx3.7/15, mbtmp4.1/5, MS3.9/13, Ms1 3.9/13, ms1mx3.5/33, Error ellipse: s-maj=51.3km s-min=31.7km az=101.0*

ISC 09 19:42:45.5±3.9**,60S**±02×**1518E**±03**,h42**km±31km**,n25, σ1^{s}25**/13**,mb4.4**/7**,MS3.9**/10**,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.74	233	P	Pn	19 44 08.9	+0.8
	9.5nm,0.3s,baz=35,slow=12,SNR=25						
PMG				S	Sn	19 45 10.4	-2.2
	1.5nm,0.3s,baz=353,slow=9.6,SNR=3.2						
PMG				LR	LR	19 46 18.2	
	comp=Z,393nm,19.0s,baz=44,slow=40						
PMG	Port Moresby	5.74	233	ePn	Pn	19 44 08.9	+0.8
PMG				eS	Sn	19 45 06.5	-6.1
PMG				LR	LR	19 46 18.2	
HNR	Honiara	8.78	114	LR	LR	19 48 24.9	
	comp=Z,470nm,21.0s,baz=180,slow=32						
CTA	Charters Tower	15.05	200	LR	LR	19 51 55.5	
	comp=Z,255nm,18.1s,baz=18,slow=36						
GUMO	Guam	20.60	341	LR	LR	19 52 52.5	
	comp=Z,321nm,21.4s,MS3.7,baz=180,slow=30						
DZM	Mont Dzumac	21.38	140	LR	LR	19 54 19.5	
	comp=Z,472nm,19.9s,MS3.9,baz=76,slow=30						
WRAB	Tennant Creek	21.93	229	eP	P	19 47 35.1	-0.1
	7.9nm,0.6s,mb4.3						
WB2	Warramunga Arr	21.93	229	eP	P	19 47 35.7	+0.4
WRA	Warramunga Arr	21.94	229	P	P	19 47 34.2	-1.2
	4.4nm,0.6s,mb4.1,baz=50,slow=11,SNR=37						
ASAR	Alice Springs	24.63	223	P	P	19 48 04.7	+2.7
	2.8nm,0.5s,mb4.0,baz=53,slow=7.8,SNR=46						
STKA	Stephens Creek	27.50	199	LR	LR	19 59 39.4	
	comp=Z,341nm,18.8s,MS4.0,baz=23,slow=36						
FITZ	Fitzroy Crossi	28.24	242	eP	P	19 48 33.5	-1.0
	13nm,0.9s,mb4.6						
FITZ	Fitzroy Crossi	28.24	242	P	P	19 48 33.4	-1.1
	3.6nm,0.6s,mb4.2,baz=73,slow=8.6,SNR=17						
CBIJ	Chichi jima	34.15	345	LR	LR	20 00 39.5	
	comp=Z,300nm,21.7s,MS4.0,baz=149,slow=32						
AFI	Afiamalu	36.70	105	LR	LR	20 02 16.8	
	comp=Z,61nm,21.4s,MS3.4,baz=147,slow=30						
RAO	Raoul Island	36.80	133	LR	LR	20 02 21.5	
	comp=Z,172nm,20.3s,MS3.8,baz=65,slow=30						
URZ	Urewera	39.52	148	LR	LR	20 03 16.8	
	comp=Z,268nm,19.3s,MS4.1,baz=144,slow=30						
JHJ	Hachijo jima 2	40.50	344	LR	LR	20 03 54.5	
	comp=Z,170nm,20.3s,MS3.9,baz=196,slow=32						
KLBR	Kellerberrin	40.79	227	eP	P	19 50 24.3	+1.6
	122nm,1.9s,mb5.2						
SONM	Songino Array	66.77	329	P	P	19 53 33.2	+0.6
	0.6nm,0.7s,mb3.7,baz=156,slow=4.8,SNR=5.9						
VNDA	Vanda	71.72	178	LR	LR	20 20 19.5	
	comp=Z,81nm,19.3s,MS4.0,baz=292,slow=31						
MAW	Mawson	84.13	203	LR	LR	20 27 34.5	
	comp=Z,154nm,18.1s,MS4.4,baz=249,slow=32						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TUC	Tucson	99.41	58	eP	P	19 56 22.1	-1.4
	7.1nm,1.3s,mb5.0						
TORD	Torodi Ar. Bea	149.69	286	PKPbc	PKPbc	20 02 31.8	+1.2
	0.9nm,0.7s,baz=70,slow=1.7,SNR=4.2						
BDFB	Brasilia	150.93	138	PKPbc	PKPab	20 02 43.4	+2.3
	2.7nm,0.7s,baz=146,slow=5.6,SNR=4.2						

*NEIC **09** 19:44:45.2±1.6, 20.09S×177.54W, h449km±18km, mb4.5/12, Error ellipse: s-maj=20.0km s-min=12.0km az=146.0*
*ISCJB **09** 19:44:51.7±1.7, 20.3S±0.1×177.84W±0.10, h527km±21km, mb4.3/20, Error ellipse: s-maj=18.9km s-min=11.4km az=117.6*
*IDC **09** 19:44:53.2±1.8, 20.21S×177.79W, h535km±20km, mb3.8/11, mb1 4.0/12, mb1mx3.8/18, mbtmp4.7/12, Error ellipse: s-maj=20.5km s-min=11.6km az=148.0*
ISC 09 19:44:49.7±1.7**, 20.3S**±0.1×**177.68W**±0.10**, h490**km±21km**, n44,** σ0^{s}85/36**, mb4.3**/20**, 4D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.48	43	P	P	19 46 54.9	+4.1
	7.0nm,0.3s,baz=42,slow=20,SNR=7.3						
AFI				S	S	19 48 29.9	-0.2
	18nm,0.3s,baz=241,slow=22,SNR=11						
AFI	Afiamalu	8.48	43	eP	P	19 46 41.8	-9.0
AFI				eS	S	19 48 17.1	-13
DZM	Mont Dzumac	14.92	260	P	P	19 48 05.6	+6.5
	2.0nm,0.3s,baz=83,slow=19,SNR=20						
URZ	Urewera	18.48	193	P	P	19 48 33.3	-1.7
	3.2nm,0.3s,baz=286,slow=4.7,SNR=15						
URZ				S	S	19 51 29.8	-8.8
	0.3nm,0.3s,baz=216,slow=19,SNR=5.9						
HNR	Honiara	24.13	293	P	P	19 49 34.0	+8.0
	32nm,0.5s,mb5.0,baz=101,slow=6.1,SNR=6.5						
ARMA	Armidale	29.44	244	eP	P	19 50 14.0	+1.3
CTA	Charters Tower	33.81	264	⇓iP	P	19 50 51.1	+0.9
	12nm,0.3s,mb4.8						
CTA	Charters Tower	33.81	264	P	P	19 50 51.2	+1.0
	18nm,0.4s,mb4.8,baz=92,slow=11,SNR=37						
CTAO	Charters Tower	33.81	264	eP	P	19 50 51.1	+1.0
	18nm,0.4s,mb4.8						
PMG	Port Moresby	35.59	282	P	P	19 51 05.8	+0.8
	22nm,0.9s,mb4.6,baz=331,slow=13,SNR=3.3						
STKA	Stephens Creek	38.16	244	eP	P	19 51 26.8	+0.6
	4.5nm,0.6s,mb4.1						
STKA	Stephens Creek	38.16	244	P	P	19 51 26.1	-0.1
	6.1nm,0.6s,mb4.2,baz=85,slow=9.8,SNR=12						
AS31	Alice Springs	44.87	256	⇓iP	P	19 52 19.5	0.0
ASAR	Alice Springs	44.87	256	P	P	19 52 19.6	+0.2
	24nm,0.6s,mb4.8,baz=93,slow=7.5,SNR=222						
ASAR				PcP	PcP	19 53 49.5	-1.4
	2.6nm,0.8s,baz=110,slow=3.8,SNR=6.4						
ASAR				ScP	ScP	19 56 52.5	-3.7
	1.1nm,0.9s,baz=98,slow=4.7,SNR=5.1						
ASAR				S	S	19 58 15.8	-4.9
	3.2nm,0.9s,baz=93,slow=15,SNR=16						
ASPA	Alice Springs	44.87	256	⇓iP	P	19 52 19.5	0.0
WB2	Warramunga Arr	44.92	262	⇓iP	P	19 52 19.5	-0.4
WRAB	Tennant Creek	44.92	262	eP	P	19 52 19.5	-0.4
	42nm,0.9s,mb4.9						
WRA	Warramunga Arr	44.93	262	P	P	19 52 19.5	-0.5
	11nm,0.2s,mb4.8,baz=97,slow=7.0,SNR=278						
KAKA	Kakadu	48.27	271	eP	P	19 52 45.1	-0.3
	7.1nm,0.2s,mb4.7						
FORT	Forrest	49.66	246	eP	P	19 52 55.1	-0.6
	24nm,0.9s,mb4.5						
FITZ	Fitzroy Crossi	53.36	262	eP	P	19 53 22.7	+0.2
	7.3nm,0.4s,mb4.4						
FITZ	Fitzroy Crossi	53.36	262	P	P	19 53 21.9	-0.6
	4.0nm,0.5s,mb4.0,baz=154,slow=3.7,SNR=8.6						
SBA	Scott Base	58.11	184	eP	P	19 53 57.3	+1.7
	4.9nm,0.9s,mb3.8						
VNDA	Vanda	58.16	185	P	P	19 53 55.9	0.0
	2.1nm,0.7s,mb3.6,baz=356,slow=6.9,SNR=15						
KLBR	Kellerberrin	58.43	245	eP	P	19 53 57.0	-0.7
	72nm,1.5s,mb4.8						
QSPA	South Pole Qui	69.79	180	eP	P	19 55 10.0	-0.1
	14nm,0.8s,mb4.5						
YBH	Yreka Blue Hor	79.92	38	P	P	19 56 07.7	+0.6
	4.6nm,0.8s,mb4.1,baz=128,slow=1.6,SNR=12						
NVAR	Mina Array Bea	80.65	43	P	P	19 56 11.7	+0.8
	3.6nm,0.9s,mb3.9,baz=225,slow=8.9,SNR=10						
WVOR	Wild Horse Val	82.76	40	eP	P	19 56 22.1	+0.4
	5.1nm,1.3s,mb3.9						
MCK	McKinley	86.69	12	eP	P	19 56 39.9	-1.0
	1.4nm,0.6s,mb3.9						
ILAR	Eielson Array	88.03	13	P	P	19 56 44.2	-2.9
	0.8nm,0.4s,mb3.8,baz=218,slow=6.8,SNR=12						
PDAR	Pinedale Array	88.59	43	P	P	19 56 50.1	+0.3
	1.9nm,0.8s,mb4.0,baz=244,slow=3.3,SNR=15						
MKAR	Makanchi Array	111.27	313	PKiKP	PKiKP	20 02 24.8	-2.5
	0.6nm,0.6s,baz=35,slow=4.2,SNR=5.8						
FINES	FINESS Array B	135.64	344	SKPbc	SKPbc	20 05 52.6	-6.3
	0.9nm,0.8s,baz=300,slow=3.8,SNR=4.3						
KMBO	Kilima Mbogo	139.71	242	PKP	PKPdf	20 03 21.6	+0.3
	1.1nm,0.8s,baz=90,slow=10,SNR=3.7						
AKASG	Malin Array Be	142.96	331	PKhKP		20 03 22.2	
	3.3nm,0.6s,baz=42,slow=4.3,SNR=26						
MALT	Malatya	144.03	308	ePKP	PKPdf	20 03 28.1	-0.8
BR131	Keskin Array S	146.91	313	ePKPbc	PKPbc	20 03 35.4	-1.2
BRTR	Keskin Array B	146.91	313	PKPbc	PKPbc	20 03 35.0	-1.7
	1.4nm,0.6s,baz=132,slow=5.4,SNR=9.0						
VYHS	Vyhne	148.87	339	ePKP	PKPdf	20 03 40.9	+3.9
KHC	Kasperske Hory	149.83	345	ePKPbc	PKPbc	20 03 42.5	-1.4
GERES	GERESS Array B	150.07	345	PKPbc	PKPbc	20 03 42.7	-1.8
	1.2nm,0.8s,baz=41,slow=2.6,SNR=10						
TORD	Torodi Ar. Bea	172.89	175	PKP	PKPdf	20 04 00.2	-1.7
	0.7nm,1.1s,baz=174,slow=0.5,SNR=3.6						
TORD				PKPab	PKPab	20 05 31.4	-0.7
	0.3nm,0.7s,baz=180,slow=3.9,SNR=5.7						
TORD	Torodi Ar. Bea	172.89	175	PKP	PKPdf	20 04 00.2	-1.8
TORD				PKPab	PKPab	20 05 31.4	-0.7

*ISCJB **09** 19:45:19.5±3.3, 19.68S±0.07×71.0W±0.1, h4km±22km, mb4.3/5, MS4.0/8, Error ellipse: s-maj=16.4km s-min=11.1km az=39.3*
*IDC **09** 19:45:21.5±1.1, 19.66S×70.59W, h0km, mb4.1/5, mb1 4.2/6, mb1mx4.0/15, mbtmp4.2/6, ML4.9/1, MS3.7/10, Ms1 3.8/10, ms1mx3.6/23, Error ellipse: s-maj=33.9km s-min=17.6km az=68.0*
*NEIC **09** 19:45:32.1±1.8, 19.85S×70.40W, h75km±16km, mb4.1/1, Error ellipse: s-maj=22.5km s-min=12.3km az=92.0*
*BJI **09** 19:45:34.1, 19.80S×70.40W, h75km, mB5.0, Ms5.2, Msz4.9*
ISC 09 19:45:29.8±2.0**, 19.80S**±0.07×**70.6W**±0.2**, h63**km±15km**, n32,** σ1^{s}18/23**, mb4.3**/5**, 1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	3.23	150	Pn	Pn	19 46 17.1	-0.9
	14nm,0.3s,baz=322,slow=9.8,SNR=84						
LVC				Sn	Sn	19 46 56.4	+1.1
	60nm,0.3s,baz=15,slow=16,SNR=6.4						
LVC				Lg		19 47 05.7	
	65nm,0.3s,baz=223,slow=18,SNR=8.8						
LVC	Limon Verde	3.23	150	ePn	Pn	19 46 17.1	-1.0
LVC				eSn	Sn	19 47 06.9	+12
LPAZ	La Paz	4.22	35	Pn	Pn	19 46 32.9	+1.3
	1.4nm,0.3s,baz=212,slow=7.4,SNR=42						
LPAZ				LR	LR	19 48 20.4	
	comp=Z,826nm,18.1s,baz=72,slow=44						
LPAZ	La Paz	4.22	35	ePn	Pn	19 46 33.6	+2.0
SIV	San Ignacio	9.86	69	Pn	Pn	19 47 48.3	-0.4
	2.7nm,0.3s,baz=254,slow=12,SNR=79						
SIV				Sn	Sn	19 49 44.8	+7.1
	0.4nm,0.3s,baz=297,slow=12,SNR=2.8						
CFAA	Coronel Fontan	11.96	170	Pn	Pn	19 48 11.8	-5.5
	0.0nm,0.3s,baz=182,slow=18,SNR=2.3						
CFAA				Sn	Sn	19 50 17.1	-12
	baz=354,slow=19,SNR=1.9						
CFAA				LR	LR	19 53 09.7	
	comp=Z,46nm,18.4s,baz=161,slow=39						
SAML	Samuel	12.97	35	ePn	Pn	19 48 28.1	-3.0
	7.2nm,0.9s						
CPUP	Villa Florida	13.86	120	Pn	Pn	19 48 43.4	+0.2
	0.2nm,0.3s,baz=296,slow=10,SNR=5.9						
CPUP	Villa Florida	13.86	120	P	Pn	19 48 44.9	+1.7
ATAH	Atahualpa	14.78	328	LR	LR	19 55 25.0	
	comp=Z,192nm,19.7s,baz=344,slow=41						
TRQA	Tornquist	19.69	159	eP	Pn	19 49 53.8	-1.9
PLCA	Paso Flores	20.87	180	P	P	19 50 06.8	+0.3
	1.7nm,0.7s,baz=358,slow=13,SNR=3.0						
PLCA	Paso Flores	20.87	180	eP	P	19 50 08.3	+1.8
BDFB	Brasilia	21.94	83	P	P	19 50 17.5	-0.4
	4.6nm,0.7s,mb4.0,baz=264,slow=14,SNR=3.7						
BDFB				LR	LR	20 00 23.9	
	comp=Z,327nm,18.4s,baz=83,slow=41						
SDV	Santo Domingo	28.50	0	LR	LR	20 03 42.9	
	comp=Z,130nm,19.0s,baz=296,slow=39						
RPN	Rapa Nui	36.13	251	LR	LR	20 03 25.7	
	comp=Z,252nm,19.2s,baz=320,slow=30						
SNAA	Sanae	64.41	161	e	P	19 56 00.8	+1.6
SNAA				e		19 56 06.7	
SNAA				e	pP	19 56 21.9	+5.7
SNAA	Sanae	64.41	161	P	P	19 55 59.7	+0.5
	3.0nm,1.3s,mb4.2						
DBIC	Dimbokro	69.83	75	P	P	19 56 33.0	-0.5
	2.9nm,0.8s,mb4.2,baz=180,slow=5.1,SNR=2.7						
DBIC				LR	LR	20 25 33.4	
	comp=Z,83nm,19.6s,baz=261,slow=35						
BW06	Boulder Array	71.84	331	eP	P	19 56 49.8	+4.1
PPT	Papeete	74.14	257	eLR	LR	19 56 19.6	
	60nm,22.2s						
TORD	Torodi Ar. Bea	78.33	71	P	P	19 57 23.6	+0.5
	3.4nm,0.8s,mb4.3,baz=254,slow=5.2,SNR=18						
TORD				LR	LR	20 30 30.6	
	comp=Z,101nm,19.1s,baz=115,slow=35						
ESDC	Sonseca Array	85.77	45	LR	LR	20 34 47.7	
	comp=Z,49nm,20.9s,baz=165,slow=35						
LBTB	Lobatse	87.20	115	LR	LR	20 31 55.0	
	comp=Z,77nm,19.2s,baz=290,slow=32						
YKA	Yellowknife Ar	89.05	341	P	P	19 58 17.4	-0.5
	3.0nm,1.2s,mb4.5,baz=138,slow=4.0,SNR=4.3						
CLL	Collm	101.34	40	⇓iPKPbc	PKiKP	20 03 38.1	+0.2
	comp=Z,5.0nm,0.8s						
MKAR	Makanchi Array	145.15	33	PKPbc	PKPbc	20 05 00.4	+0.7
	comp=Z,1.5nm,0.8s,baz=316,slow=3.1,SNR=10						
MJAR	Matsushiro Arr	149.75	310	PKPbc	PKPbc	20 05 12.6	+0.2
	comp=Z,1.2nm,0.8s,baz=72,slow=2.4,SNR=6.0						
SONM	Songino Array	151.93	4	PKPbc	PKPbc	20 05 18.2	+0.7
	comp=Z,0.7nm,0.9s,baz=283,slow=2.4,SNR=3.8						
SONM	Songino Array	151.93	4	PKPbc	PKPbc	20 05 18.2	+0.7
HHC	Hu-ho-hao-te	158.93	355	ePKP	PKPdf	20 05 24.6	+4.2
HHC				APKP		20 05 41.5	
HHC				XPKP		20 05 48.6	
HHC				PP	PP	20 09 45.3	+7.7
HHC				SS	SS	20 29 43.4	+7.2
HHC				PP	PP		
	comp=Z,99nm,11.3s						
HHC				LR	LR		
	comp=N,175nm,26.2s						
HHC				LR	LR		
	comp=E,240nm,21.4s						
HHC				LR	LR		
	comp=Z,154nm,20.2s						
NJ2	Nanjing	165.12	327	ePKP	PKPdf	20 05 31.3	+4.6

*CSEM **09** 19:55:26.8±0.2, 35.00N×2.80W, h20km, MD3.1, Error ellipse: s-maj=6.6km s-min=3.7km az=115.0*
*ISCJB **09** 19:55:27.2±0.6, 34.99N±0.03×2.80W±0.05, h23km±3km, Error ellipse: s-maj=8.0km s-min=4.0km az=56.4*
*CNRM **09** 19:55:28.8, 34.87N×2.81W, h3km, MD3.1*
*MDD **09** 19:55:28.4±0.4, 35.00N×2.83W, h12km±3km, mb3.4/11, Error ellipse: s-maj=5.2km s-min=3.9km az=93.0, PRXIMO*
ISC 09 19:55:27.8±0.6**, 35.00N**±0.03×**2.84W**±0.05**, h17**km±3km**, n35,** σ1^{s}11/60**, 1C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZAI	Zaio	0.08	112	P	Pg	19 55 30.5	-0.6
ZAI				S	Sg	19 55 33.0	-0.4
ZAI	Zaio	0.08	112	i P	Pg	19 55 30.5	-0.6
EMLI	Melilla	0.31	343	P	Pg	19 55 34.5	0.0
	117nm,0.3s,SNR=13						
EMEL	Melilla	0.32	342	P	Pg	19 55 34.5	0.0
	117nm,0.3s,SNR=13						
EMEL				S	Sg	19 55 38.6	-0.5
	362nm,0.2s,SNR=5.7						
TOU	Touzarine	0.75	267	i P	Pb	19 55 42.5	+0.1
TOU				i S	Sb	19 55 53.5	+1.1
MPAL	Palemas	0.93	284	eP	Pb	19 55 46.5	+1.0
MPAL				i S	Sb	19 56 00.5	+3.0
EALB	Alboran	0.95	350	S	Sb	19 55 58.1	0.0
	32nm,0.2s,SNR=7.9						
TZK	Tazeka	1.44	231	i P	Pn	19 55 53.0	0.0
TZK				i S	Sn	19 56 11.5	+0.1
EBER	Berja	1.89	359	P	Pn	19 55 59.7	+0.4
	3.4nm,0.4s,SNR=5.1						
EBER				S	Sn	19 56 21.7	-1.1
	8.6nm,0.3s						
EBER	Berja	1.89	359	P	Pn	19 55 59.7	+0.4
	3.4nm,0.4s,SNR=5.1						
EBER				S	Sn	19 56 21.7	-1.0
	8.6nm,0.3s						
EGUA	Guajares	1.92	342	P	Pn	19 55 58.5	-1.2
	3.5nm,0.2s,SNR=7.9						
EGUA				S	Sn	19 56 17.4	-6.0
	0.4nm,0.1s,SNR=4.0						
EGUA	Guajares	1.92	342	P	Pn	19 55 58.4	-1.3
	SNR=7.9						
ENIJ	Nijar	2.03	14	P	Pn	19 56 01.0	-0.1
	1.5nm,0.2s,SNR=7.9						
ENIJ				S	Sn	19 56 26.6	+0.5
	3.0nm,0.2s,SNR=7.9						
ENIJ	Nijar	2.03	14	P	Pn	19 56 01.0	-0.2
	SNR=7.9						
ENIJ				S	Sn	19 56 26.6	+0.5
	3.0nm,0.2s,SNR=7.9						
EMIJ	Mijas	2.22	315	P	Pn	19 56 02.0	-1.7
	2.2nm,0.4s,SNR=9.1						
EMIJ				S	Sn	19 56 27.1	-3.6
	3.5nm,0.2s						
EQUE	Quentar	2.25	348	P	Pn	19 56 04.8	+0.5
	3.4nm,0.3s,SNR=16						
EQUE				S	Sn	19 56 31.2	-0.4
	1.3nm,0.3s,SNR=4.7						
ECOG	Cogollos-Vega	2.35	346	P	Pn	19 56 06.8	+1.3
	0.0nm,0.3s,SNR=7.9						
ECOG	Cogollos-Vega	2.35	346	P	Pn	19 56 06.8	+1.3
	SNR=7.9						
ELOJ	Sierra Loja	2.39	334	P	Pn	19 56 06.5	+0.4
	1.6nm,0.3s,SNR=7.9						
MIF	Mishlifen	2.54	232	P	Pn	19 56 08.0	-0.1
MIF				S	Sn	19 56 36.5	-2.2
MIF	Mishlifen	2.54	232	eP	Pn	19 56 08.0	-0.1
EJIF	Jimena Fronter	2.58	305	P	Pn	19 56 10.6	+1.9
	0.6nm,0.4s,SNR=7.9						
CZD	Col de Zad	2.69	224	i P	Pn	19 56 11.5	+1.4
CZD				i S	Sn	19 56 41.5	-0.7
EQES	Quesada	2.80	356	⇑P	Pn	19 56 14.2	+2.4
	3.1nm,0.3s,SNR=18						
EQES				S	Sn	19 56 48.3	+3.1
	6.0nm,0.3s,SNR=8.4						
EQES	Quesada	2.80	356	P	Pn	19 56 14.2	+2.4
	3.1nm,0.3s,SNR=16						
EQES				S	Sn	19 56 48.3	+3.2
	6.0nm,0.3s,SNR=8.4						
EMUR	La Murta	3.11	24	P	Pn	19 56 16.6	+0.5
	2.3nm,0.3s,SNR=4.8						
EMUR				S	Sn	19 56 51.8	-1.0
	3.2nm,0.3s						
EMUR	La Murta	3.11	24	P	Pn	19 56 16.6	+0.6
	2.3nm,0.3s,SNR=4.8						
EMUR				S	Sn	19 56 51.8	-1.0
	3.2nm,0.3s						
EADA	Adamuz	3.46	337	P	Pn	19 56 21.2	+0.4
	2.8nm,0.3s,SNR=7.9						
EADA				S	Sn	19 56 59.9	-1.4
	2.3nm,0.3s						
EADA	Adamuz	3.46	337	P	Pn	19 56 21.2	+0.4
	2.8nm,0.3s,SNR=7.9						
EADA				S	Sn	19 56 59.9	-1.4
	2.3nm,0.3s						
ETOB	Tobarra	3.78	15	P	Pn	19 56 27.6	+2.3
	2.5nm,0.5s,SNR=5.9						
ETOB				S	Sn	19 57 08.9	-0.4
	3.4nm,0.4s,SNR=7.9						
ETOB	Tobarra	3.78	15	P	Pn	19 56 27.6	+2.4
	2.5nm,0.5s,SNR=5.9						
ETOB				S	Sn	19 57 08.9	-0.4
	3.4nm,0.4s,SNR=7.9						
EMIN	Mina Concepcio	4.15	313	P	Pn	19 56 29.4	-0.9
	1.2nm,0.3s,SNR=12						
EMIN				S	Sn	19 57 14.1	-4.2
	0.7nm,0.2s						
EMIN	Mina Concepcio	4.15	313	P	Pn	19 56 29.4	-0.9
	1.2nm,0.3s,SNR=12						
EGRO	El Granado	4.53	305	P	Pn	19 56 34.4	-1.1
	2.1nm,0.3s,SNR=9.8						
EGRO				S	Sn	19 57 23.2	-4.5
	1.1nm,0.3s						
EBAD	Badajoz	5.03	319	P	Pn	19 56 41.9	-0.4
	1.3nm,0.3s,SNR=9.9						
EBAD				S	Sn	19 57 35.8	-4.1
	1.2nm,0.2s						

*IDC **09** 20:00:08.8±2.4, 59.50N×153.26W, h53km±35km, mb3.6/2, mb1 3.9/6, mb1mx3.4/22, mbtmp3.9/6, ML4.0/4, Error ellipse: s-maj=36.7km s-min=10.1km az=102.0*
*ISCJB **09** 20:00:09.6±0.6, 59.41N±0.05×153.0W±0.1, h92km±9km, mb3.9/2, Error ellipse: s-maj=9.5km s-min=7.5km az=38.6*
*NEIC **09** 20:00:12.1, 59.42N×152.99W, h76km, MG3.5(AEIC), After AEIC.*
ISC 09 20:00:10.7±0.5**, 59.41N**±0.05×**153.0W**±0.1**, h87**km±10km**, n28,** σ0^{s}81/31**, mb3.9**/2**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	1.65	173	P	Pn	20 00 37.4	-0.8
	83nm,0.3s,baz=18,slow=7.7,SNR=480						
KDAK				S	Sn	20 00 58.1	-0.8
	74nm,0.3s,baz=217,slow=20,SNR=12						
KDAK	Kodiak Island	1.65	173	P	Pn	20 00 37.8	-0.3
SLKM	Skilak Lake	1.76	50	P	Pn	20 00 40.1	+0.4
SEW	Seward	1.91	67	P	Pn	20 00 41.3	-0.3
SVW2	Sparrevohn	2.14	323	P	Pn	20 00 44.6	0.0
FIB	Fire Island	2.24	37	P	Pn	20 00 47.4	+1.4
RC01	Rabbit Creek A	2.33	42	P	Pn	20 00 47.3	+0.2
PMR	Palmer	2.89	39	P	Pn	20 00 54.4	-0.3
GHO	Glory Hole Cre	3.09	38	P	Pn	20 00 58.1	+0.7
SML	Sawmill	3.31	42	P	Pn	20 01 00.1	-0.2
MID	Middleton Isla	3.38	87	eP	Pn	20 01 01.2	-0.1
EYAK	Cordova Ski Ar	3.80	69	P	Pn	20 01 05.8	-1.2
TTA	Tatalina	3.83	339	eP	Pn	20 01 07.4	+0.1
TTA				eSn	Sn	20 01 36.1	-15
DIV	Divide	3.97	61	P	Pn	20 01 10.0	+0.7
TRF	Thorofare Moun	4.25	16	P	Pn	20 01 13.8	+0.7
CHGN	Chignik	4.27	225	eP	Pn	20 01 13.8	+0.5
KTH	Kantishna Hill	4.27	12	P	Pn	20 01 13.6	+0.3
BMRM	Bremner River	4.46	66	P	Pn	20 01 15.7	-0.1
MCK	McKinley	4.74	22	P	Pn	20 01 19.2	-0.5
COLA	College	5.98	21	P	Pn	20 01 36.8	+0.2
ILAR	Eielson Array	6.09	25	P	Pn	20 01 37.3	-0.7
	2.8nm,0.3s,baz=223,slow=13,SNR=12						
ILAR				S	Sn	20 02 43.2	-3.0
	2.2nm,0.3s,baz=189,slow=23,SNR=5.3						
PNL	Peninsula	6.90	82	P	Pn	20 01 49.0	-0.2
SKAG	Skagway	8.98	82	eP	Pn	20 02 19.4	+1.8
DLBC	Dease Lake	11.88	85	P	Pn	20 02 58.0	+1.1
	1.6nm,0.3s,baz=285,slow=14,SNR=21						
INK	Inuvik	12.30	36	P	Pn	20 03 01.0	-1.7
	0.1nm,0.3s,baz=229,slow=13,SNR=2.1						
YKA	Yellowknife Ar	18.68	64	P	Pn	20 04 23.1	-0.1
	baz=275,slow=9.8,SNR=5.4						
SONM	Songino Array	55.15	306	P	P	20 09 34.6	+0.4
	1.4nm,0.7s,mb4.1,baz=48,slow=6.0,SNR=12						
BVAR	Borovoye Array	62.60	332	P	P	20 10 25.3	-0.4
	0.5nm,0.5s,mb3.7,baz=30,slow=8.6,SNR=4.3						

*BJI **09** 20:02:14.5, 51.40N×179.40W, h14km, mB5.3, mb4.8, Ms4.6, Msz4.5*
*NEIC **09** 20:02:16.5±0.2, 51.43N×179.37W, mb4.8/108, MS4.1/2, ML4.7(AEIC), Error ellipse: s-maj=6.7km s-min=2.9km az=8.0*
*SZGRF **09** 20:02:16.1, 50.54N×179.89E, h33km, mb4.7, Rat Islands, Aleutian Islands, United States*
*ISCJB **09** 20:02:17.2±0.2, 51.78N±0.05×179.35W±0.04, h16km, mb4.7/143, MS3.9/18, Error ellipse: s-maj=7.6km s-min=2.7km az=24.2*
*IDC **09** 20:02:17.7±2.4, 51.33N×179.31W, h26km±15km, mb4.3/24, mb1 4.5/25, mb1mx4.5/28, mbtmp4.5/25, ML5.0/1, MS3.8/11, Ms1 3.8/11, ms1mx3.4/42, Error ellipse: s-maj=17.7km s-min=11.5km az=158.0*
*MOS **09** 20:02:19.7±0.8, 51.50N×179.24W, h46km, mb5.0/70, MS4.1/6, Error ellipse: s-maj=9.3km s-min=4.7km az=91.2*
ISC 09 20:02:19.1±0.2**, 51.90N**±0.04×**179.36W**±0.03**, h17**km**, h17**km±1.2km**:pP-P, n479,** σ0^{s}90/477**, mb4.7**/143**, MS3.9**/18**, 74C-50D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.98	239	P	Pb	20 02 34.7	-2.9
AMKA				S	Sb	20 02 50.0	-0.2
ATKA	Atka Island	3.20	82	P	Pn	20 03 08.7	+0.1
ATKA				S	Sn	20 03 51.0	+4.6
SMY	Shemya	4.10	284	eP	Pn	20 03 25.6	+4.7
SPIA	Saint Paul Isl	7.49	41	P	Pn	20 04 15.2	+7.7
PET	Petropavlovsk	13.45	283	⇑eP	Pn	20 05 25.1	-4.0
SVW2	Sparrevohn	15.95	45	eP	Pn	20 06 07.9	+5.3
KDAK	Kodiak Island	16.44	58	Pn	Pn	20 06 06.7	-2.2
	5.1nm,0.3s,baz=256,slow=6.4,SNR=17						
KDAK				Sn	Sn	20 09 10.6	-0.4
	0.7nm,0.3s,baz=340,slow=22,SNR=11						
KDAK	Kodiak Island	16.44	58	Pn	Pn	20 06 06.7	-2.2
KDAK				Sn	Sn	20 09 10.6	-0.4
TTA	Tatalina	16.63	39	eP	Pn	20 06 17.6	+6.3
BILL	Bilibino	17.63	342	eP	Pn	20 06 27.5	+3.6
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SLKM	Skilak Lake	18.22	50	eP	Pn	20 06 31.9	+0.8
PMR	Palmer	19.03	48	eP	Pn	20 06 44.4	+3.5
PMR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
PMR	Palmer	19.03	48	eP	Pn	20 06 44.4	+3.5
	comp=Z,4.4nm,0.3s						
SML	Sawmill	19.46	47	eP	Pn	20 06 45.3	-0.8
MCK	McKinley	19.84	42	eP	Pn	20 06 50.7	+0.1
MCK				pmax	pmax		
	comp=Z,5µm,0.6s						
MCK	McKinley	19.84	42	eP	Pn	20 06 50.7	+0.1
	comp=Z,5µm,0.6s						
EYAK	Cordova Ski Ar	20.39	52	P	P	20 06 53.5	-1.4
DIV	Divide	20.49	50	eP	P	20 06 59.2	+3.1
	comp=Z,48nm,0.5s						
COLA	College	20.73	39c	iP	P	20 07 02.2	+3.6
COLA	College	20.73	39	eP	P	20 07 01.9	+3.3
	comp=Z,35nm,0.8s						
ILAR	Eielson Array	21.07	40	P	P	20 07 04.0	+1.8
	comp=Z,3.4nm,0.3s,mb4.1,baz=238,slow=9.2,SNR=26						
ILAR				ScP	ScP	20 14 40.5	-4.0
	comp=Z,0.9nm,0.6s,baz=268,slow=4.3,SNR=8.0						
MENT	Mentasta	21.83	46	eP	P	20 07 13.0	+2.5
DAWY	Dawson	23.97	44	eP	P	20 07 32.9	+0.3
YSS	Yuzh-Sakhalins	24.93	274	eP	P	20 07 41.0	-0.3
ASAJ	Asahikawa	26.37	268	LR	LR	20 18 52.8	
	comp=Z,143nm,18.8s,MS3.5,baz=282,slow=38						
INK	Inuvik	27.24	36	P	P	20 08 03.3	+1.2
	comp=Z,5.5nm,0.8s,mb4.1,baz=241,slow=6.8,SNR=9.2						
INK				ScP	ScP	20 14 57.5	-4.0
	comp=Z,2.3nm,0.8s,baz=205,slow=9.2,SNR=4.5						
INK				LR	LR	20 20 33.6	
	comp=Z,190nm,18.7s,MS3.7,baz=79,slow=40						
DLBC	Dease Lake	28.37	57	LR	LR	20 18 42.1	
	comp=Z,195nm,21.9s,MS3.7,baz=305,slow=34						
YAK	Yakutsk	28.82	311	i P	P	20 08 11.4	-4.8
TIXI	Tiksi	30.02	330	i P	P	20 08 29.7	+2.8
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.0						
KLR	Kul'dur	30.71	285	eP	P	20 08 29.8	-3.2
MJAR	Matsushiro Arr	33.53	260	P	P	20 08 55.9	-1.8
	comp=Z,0.3nm,0.5s,baz=219,slow=18,SNR=3.1						
YKA	Yellowknife Ar	35.13	47	P	P	20 09 11.3	-0.3
	comp=Z,7.9nm,0.7s,mb4.8,baz=283,slow=7.5,SNR=38						
YKA				ScP	ScP	20 15 23.7	-3.9
	comp=Z,1.8nm,0.7s,baz=292,slow=3.1,SNR=6.8						
YKA				LR	LR	20 25 41.0	
	comp=Z,222nm,18.1s,MS4.0,baz=270,slow=40						
B04A	Port Angeles	35.38	74	⇑P	P	20 09 12.7	-1.0
	baz=35						
A04A	Legoe Bay, Lum	35.54	72	⇓P	P	20 09 15.1	-0.1
	baz=36						
A05A	Maple Falls	35.78	71	⇓P	P	20 09 16.8	-0.4
	baz=36						
C04A	Brinnon	35.85	74	P	P	20 09 17.7	-0.2
	baz=36						
E03A	Lebam	36.06	76	⇓P	P	20 09 19.3	-0.4
	baz=36						
B05A	Bryant	36.11	72	⇑P	P	20 09 19.8	-0.2
	baz=36,SNR=7.9						

C05A **Tolt Reservoir** 36.63 73 ⇑P P 20 09 24.1 -0.3
baz=37
D05A **Enumclaw** 36.69 74 ⇑P P 20 09 25.0 0.0
baz=37
FMW **Mount Fremont** 37.01 74 P P 20 09 27.5 -0.2
F04A **Amboy** 37.06 76 ⇑P P 20 09 27.9 -0.2
baz=37
E05A **Randle** 37.14 75 ⇓P P 20 09 28.7 -0.1
baz=37
H03A **Soap Creek Ran** 37.18 78 ⇑P P 20 09 29.5 +0.4
baz=37
BOD **Bodaibo** 37.39 306 eP P 20 09 30.4 -0.5
BOD pmax pmax
comp=Z,5.0nm,1.8s,mb4.0
G04A **Mulino** 37.39 77 ⇓P P 20 09 31.0 +0.1
baz=37
TBM **Table Mountain** 37.53 73 P P 20 09 31.6 -0.5
I03A **Eugene** 37.56 79 ⇓P P 20 09 32.9 +0.6
baz=38
EBG **Ellensburg** 37.67 74 P P 20 09 32.7 -0.6
J02A **Umpqua** 37.71 80 ⇑P P 20 09 34.3 +0.7
baz=38
H04A **Detroit Lake** 37.85 78 ⇑P P 20 09 35.0 +0.3
baz=38
G05A **Wamic** 38.08 76 ⇓P P 20 09 37.1 +0.4
baz=38
J03A **Ideyld Park** 38.08 80 ⇓P P 20 09 36.6 -0.2
baz=38,SNR=6.1
H05A **Madras** 38.44 77 ⇓P P 20 09 40.0 +0.2
baz=38
HUMO **Hull Mountain** 38.51 81 ⇓P P 20 09 41.3 +0.9
baz=38
HAWA **Hanford** 38.55 74 eP P 20 09 39.5 -1.3
comp=Z,0.9nm,0.6s,mb3.7
I05A **Bend** 38.68 78 ⇓P P 20 09 42.4 +0.6
baz=39
EDM **Edmonton** 38.87 61 eP P 20 09 41.9 -1.5
NEW **Newport** 39.03 70 P P 20 09 43.6 -1.1
comp=Z,12nm,0.8s,mb4.7,baz=301,slow=5.6,SNR=20
NEW LR LR 20 23 14.2
comp=Z,71nm,20.8s,MS3.5,baz=111,slow=32
YBH **Yreka Blue Hor** 39.15 82 P P 20 09 45.0 -0.8
comp=Z,7.1nm,0.9s,mb4.4,baz=280,slow=5.6,SNR=13
YBH **Yreka Blue Hor** 39.15 82 ⇑P P 20 09 46.6 +0.9
baz=39
N02C **Big Bar** 39.31 84 ⇑P P 20 09 47.8 +0.7
baz=39
L04A **Klamath Falls** 39.41 81 ⇓P P 20 09 48.5 +0.6
baz=39
M04C **Macdoel** 39.66 81 ⇓P P 20 09 50.3 +0.3
baz=40,SNR=6.3
J06A **Christmas Vall** 39.86 78 P P 20 09 51.4 -0.2
baz=40,SNR=11
LASM **Arnica Sink** 39.92 81 P P 20 09 54.4 +2.2
WDC **Whiskeytown Da** 39.92 83 ⇑P P 20 09 52.5 +0.3
baz=40
K06A **Valley Falls** 40.05 79 ⇑P P 20 09 53.4 +0.2
baz=40,SNR=7.4
L05A **Lakeview** 40.12 80 ⇓P P 20 09 54.4 +0.5
baz=40
J07A **Hines** 40.30 78 ⇓P P 20 09 55.5 +0.2
baz=40
M05C **Lookout** 40.32 81 ⇓P P 20 09 56.5 +1.0
baz=40,SNR=6.4
HATC **Hat Creek Radi** 40.45 82 ⇓P P 20 09 57.5 +1.0
baz=40
WALA **Waterton Lakes** 40.49 67 eP P 20 09 55.9 -1.0
comp=Z,18nm,1.3s,mb4.7
WALA e pP 20 10 00.8 -1.5
BSMT **Bassoo Peak** 40.59 69 P P 20 09 56.7 -1.0
BMO **Blue Mountains** 40.69 75 eP P 20 09 57.5 -1.1
comp=Z,5.9nm,0.8s,mb4.3
J08A **Circle Bar Ran** 40.81 77 ⇑P P 20 10 00.5 +0.9
baz=41
M06C **Likely Place G** 40.83 81 ⇑P P 20 10 00.5 +0.8
baz=41
O04C **Chester** 40.97 83 ⇑P P 20 10 02.1 +1.2
baz=41
ELFS **Eagle Lake Fie** 41.02 82 ⇑P P 20 10 02.4 +1.2
baz=41
L07A **Adell** 41.05 79 ⇓P P 20 10 02.5 +1.1
baz=41,SNR=6.2
ORV **Oroville** 41.18 84 ⇓P P 20 10 03.3 +0.8
baz=41
SUTB **Sutter Butte** 41.20 84 ⇑P P 20 10 03.4 +0.7
baz=41
WVOR **Wild Horse Val** 41.24 78 eP P 20 10 00.9 -2.2
WVOR pmax pmax
comp=Z,11nm,0.8s,mb4.5
WVOR **Wild Horse Val** 41.24 78 eP P 20 10 00.9 -2.2
comp=Z,11nm,0.8s,mb4.5
O05C **Quincy** 41.29 83 ⇑P P 20 10 04.2 +0.7
baz=41
M07A **Soldier Meadow** 41.52 80 ⇓P P 20 10 05.0 -0.3
baz=42,SNR=25
MSO **Missoula** 41.62 70 eP P 20 10 04.3 -1.9
comp=Z,5.9nm,0.9s,mb4.2
Q04C **Lincoln** 41.69 85 ⇑P P 20 10 07.7 +1.0
baz=42
O06A **Flanigan** 41.84 82 ⇓P P 20 10 08.6 +0.6
baz=42,SNR=6.2
P05C **Yuba Gap, Truc** 41.88 84 ⇑P P 20 10 09.3 +1.0
baz=42
M08A **Happy Creek Ra** 41.96 79 ⇑P P 20 10 09.0 0.0
baz=42,SNR=6.0
CHMT **Chamberlain Mo** 41.97 70 eP P 20 10 07.4 -1.7
JRSC **Jasper Ridge** 42.05 87 ⇑P P 20 10 11.4 +1.7
baz=42
L09A **Wilkinson Ranc** 42.06 78 ⇑P P 20 10 10.4 +0.6
baz=42,SNR=6.0
P06A **Stead Airport,** 42.09 83 ⇑P P 20 10 11.0 +1.0
baz=42
LAVA **Lava Cap Winer** 42.13 84 ⇑P P 20 10 11.5 +1.2
baz=42
WENL **Wente Brothers** 42.21 86 ⇓P P 20 10 12.6 +1.6
baz=42
PAHR **Pah Rah Range** 42.39 82 eP P 20 10 11.2 -1.3
comp=Z,6.0nm,0.8s,mb4.3
WCN **Washoe City** 42.40 83 ⇑P P 20 10 14.0 +1.4
baz=42
O07A **Toulon** 42.42 81 ⇓P P 20 10 13.3 +0.5
baz=42,SNR=7.5
N08A **GE Springer Mi** 42.51 80 ⇓P P 20 10 14.1 +0.7
baz=42
M09A **Marrel Ranch,** 42.55 79 ⇑P P 20 10 14.0 +0.3
baz=42
CMB **Columbia Colle** 42.80 85 ⇓P P 20 10 17.0 +1.2
baz=43
HRY **Holter Researc** 42.91 69 eP P 20 10 14.8 -1.9
M10A **I.L. Ranch, Tu** 43.04 78 ⇑P P 20 10 18.2 +0.5
baz=43
R06C **Coleville** 43.07 84 ⇓P P 20 10 19.4 +1.3
baz=43
HLID **Hailey** 43.14 74 eP P 20 10 17.4 -1.2
comp=Z,8.5nm,0.8s,mb4.5
HLID e 20 10 25.4
S05C **Merced** 43.26 86 ⇓P P 20 10 20.4 +0.9
baz=43
BMN **Battle Mountai** 43.27 80 eP P 20 10 18.4 -1.2
BMN pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
BMN **Battle Mountai** 43.27 80 eP P 20 10 18.4 -1.3
comp=Z,4.0nm,0.6s,mb4.3
MCMT **McKenzie Canyo** 43.35 72 P P 20 10 18.6 -1.6
EGMT **Eagleton** 43.39 66 P P 20 10 19.6 -1.0
comp=Z,8.9nm,0.8s,mb4.5
O09A **Fish Creek Ran** 43.45 80 ⇓P P 20 10 21.6 +0.6
baz=43,SNR=7.1
N10A **Dunphy** 43.53 79 ⇑P P 20 10 22.6 +0.8
baz=44
R07C **Lee Vining** 43.59 84 ⇓P P 20 10 23.5 +1.4
baz=44
BOZ **Bozeman (W)** 43.61 70 eP P 20 10 20.9 -1.4
BOZ pmax pmax
comp=Z,12nm,0.8s,mb4.7
BOZ **Bozeman (W)** 43.61 70 eP P 20 10 20.9 -1.5
comp=Z,12nm,0.8s,mb4.7
Q08A **Gabbs** 43.80 82 ⇓P P 20 10 24.0 +0.2
baz=44,SNR=5.5
NVAR **Mina Array Bea** 43.83 83 P P 20 10 25.4 +1.2
comp=Z,3.5nm,0.8s,mb4.1,baz=293,slow=7.7,SNR=20
P09A **Austin** 43.86 81 ⇑P P 20 10 25.1 +0.7
baz=44
KCC **Kaiser Creek** 43.90 85 ⇑P P 20 10 25.9 +1.2
baz=44
MNV **Mina** 43.92 83 P P 20 10 23.4 -1.5
MNV pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
MNV **Mina** 43.92 83 P P 20 10 23.4 -1.5
comp=Z,5.0nm,1.0s,mb4.2
N11A **Elko Archery C** 43.94 78 ⇓P P 20 10 25.7 +0.7
baz=44
M12A **Wells** 44.09 77 ⇓P P 20 10 26.5 +0.3
baz=44,SNR=7.1
QLMT **Earthquake Lak** 44.18 71 P P 20 10 26.0 -0.9
P10A **Eureka** 44.23 80 ⇓P P 20 10 27.2 -0.1
baz=44
Q09A **Carvers** 44.28 82 ⇑P P 20 10 27.8 +0.1
baz=44
ELK **Elko** 44.29 78 eP P 20 10 26.3 -1.5
ELK pmax pmax
comp=Z,9.0nm,0.8s
ELK **Elko** 44.29 78 eP P 20 10 26.3 -1.5
comp=Z,9.1nm,0.8s,mb4.6
MTUM **Tungsten Hills** 44.35 84 eP P 20 10 29.1 +0.9
N12A **Clover Valley,** 44.35 78 P P 20 10 27.8 -0.5
baz=44,SNR=9.2
O11A **Cowboy Ranch,** 44.41 79 ⇓P P 20 10 28.2 -0.6
baz=44,SNR=5.9
YMR **Madison River** 44.55 71 eP P 20 10 29.3 -0.6
comp=Z,17nm,0.8s,mb4.9
YMR e pP 20 10 36.1 +0.8
M13A **Montello** 44.57 77 ⇑P P 20 10 29.7 -0.4
baz=44
YFT **Old Faithful** 44.75 71 P P 20 10 31.6 +0.2
N13A **Wendover, West** 44.85 77 ⇓P P 20 10 32.1 -0.2
baz=45
S09A **Goldfield** 44.94 83 ⇓P P 20 10 33.5 +0.5
baz=45
IMW **Indian Meadow** 45.01 72 eP P 20 10 32.2 -1.3
comp=Z,12nm,1.0s,mb4.7
R10A **Warm Springs** 45.15 82 ⇑P P 20 10 35.1 +0.4
baz=45
HVU **Hansel Valley** 45.16 75 eP P 20 10 33.3 -1.4
HVU pmax pmax
comp=Z,16nm,0.9s,mb4.8
HVU **Hansel Valley** 45.16 75 eP P 20 10 33.3 -1.4
comp=Z,16nm,0.9s,mb4.9
Q11A **Duckwater** 45.20 81 ⇑P P 20 10 35.3 +0.2
baz=45,SNR=6.2
MOOW **Moose Ponds** 45.21 72 eP P 20 10 34.0 -1.2
comp=Z,5.7nm,1.1s,mb4.3
MOOW e 20 10 41.7
CWC **Cottonwood Cre** 45.23 85 ⇓P P 20 10 35.8 +0.5
baz=45
TPAW **Tuton Pass** 45.23 72 eP P 20 10 35.2 -0.2
comp=Z,6.7nm,0.8s,mb4.5
P12A **McGill** 45.27 79 ⇑P P 20 10 35.3 -0.3
baz=45,SNR=7.2
REDW **Red Top Meadow** 45.37 72 eP P 20 10 37.0 +0.6
comp=Z,8.9nm,1.0s,mb4.5
ISA **Isabella** 45.49 86 ⇑P P 20 10 38.8 +1.4
baz=45
BGU **Big Grassy Mou** 45.52 77 eP P 20 10 36.5 -1.0
Q12A **Willow Creek R** 45.58 80 ⇑P P 20 10 38.5 +0.4
baz=46
ULN **Ulaanbaatar** 45.72 296⇑eP P 20 10 39.9 +0.7
ULN **Ulaanbaatar** 45.72 296 eP P 20 10 40.0 +0.8
comp=Z,6.8nm,0.9s,mb4.6
HWUT **Hardware Ranch** 45.99 75 eP P 20 10 40.6 -0.6
comp=Z,5.0nm,0.8s,mb4.5
TPNV **Topopah Spring** 46.03 83 eP P 20 10 40.3 -1.3
TPNV pmax pmax
comp=Z,11nm,0.9s,mb4.8
TPNV **Topopah Spring** 46.03 83 eP P 20 10 40.3 -1.3
comp=Z,11nm,0.9s,mb4.8
DUG **Duway** 46.09 77 eP P 20 10 41.0 -1.1
comp=Z,20nm,1.0s,mb5.0
SONM **Songino Array** 46.11 296 P P 20 10 43.1 +0.9
comp=Z,4.7nm,0.8s,mb4.5,baz=54,slow=9.1,SNR=34
SONM PcP PcP 20 12 15.4 -2.8
comp=Z,0.5nm,0.5s,baz=72,slow=4.7,SNR=2.3
SONM ScP ScP 20 16 07.4 -3.2
comp=Z,1.0nm,0.8s,baz=58,slow=3.0,SNR=5.4
SONM LR LR 20 31 21.5
comp=Z,192nm,19.2s,MS4.1,baz=79,slow=38
SONM **Songino Array** 46.11 296 P P 20 10 43.1 +0.9
SONM 20 12 15.4
U10A **Ash Meadows, A** 46.32 84 ⇓P P 20 10 44.8 +0.9
baz=46
TCUT **Toone Canyon** 46.38 75 eP P 20 10 43.5 -0.8
ZAK **Zakamensk** 46.39 300 eP P 20 10 45.0 +0.5
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
PDAR **Pinedale Array** 46.48 72 P P 20 10 43.6 -1.6
comp=Z,24nm,0.8s,mb5.2,baz=302,slow=3.8,SNR=164
NLU **North Lily Min** 46.69 77 eP P 20 10 45.8 -1.0
GSC **Goldstone** 46.75 85 ⇑P P 20 10 48.6 +1.3
baz=47
DAU **Daniels Canyon** 46.90 76 eP P 20 10 48.6 +0.1
TUQ **Turquoise Mtn.** 47.21 84 ⇑P P 20 10 51.1 +0.3
baz=47
V11A **Goodsprings** 47.25 84 ⇑P P 20 10 51.3 +0.1
baz=47
U12A **Valley of Fire** 47.41 82 ⇓P P 20 10 53.0 +0.5
baz=47
CCUT **Cedar City** 47.42 80 eP P 20 10 50.8 -1.7
MSU **Marysvale** 47.53 79 eP P 20 10 51.9 -1.5
TMUT **Trail Mountain** 47.62 77 eP P 20 10 53.0 -1.1
PFO **Pinyon Flat Ob** 48.09 87 ⇑P P 20 11 00.0 +2.3
baz=48
SRU **San Rafael** 48.15 77 eP P 20 10 56.8 -1.4
SRU pmax pmax
comp=Z,14nm,0.6s,mb5.2
SRU **San Rafael** 48.15 77 eP P 20 10 56.8 -1.4
comp=Z,14nm,0.6s,mb5.2
NJ2 **Nanjing** 48.45 271 eP P 20 11 02.3 +1.8
NJ2 PP PP 20 12 55.2 +2.0
NJ2 S S 20 18 01.0 +0.4
NJ2 AMB AMB
comp=Z,90nm,1.0s,mb5.8
NJ2 AMB AMB
comp=Z,210nm,4.4s
RWWY **Rawlins** 48.52 72 eP P 20 10 59.6 -1.4
comp=Z,14nm,1.0s,mb4.9
W14A **Seligman** 49.11 83 ⇓P P 20 11 06.1 +0.6
baz=49
Y12C **Blythe** 49.19 85 ⇑P P 20 11 07.1 +0.9
baz=49
GLA **Glamis** 49.47 86 ⇑P P 20 11 09.6 +1.2
baz=49
W15A **Williams** 49.63 82 ⇑P P 20 11 10.5 +1.0
baz=50
ULM **Lac du Bonnet** 49.69 57 LR LR 20 31 16.6
comp=Z,62nm,19.3s,MS3.6,baz=290,slow=35
X14A **Yava** 49.72 83 ⇓P P 20 11 11.3 +1.1
baz=50,SNR=5.6
SPB4 **Spitsbergen Ar** 49.84 356 eP P 20 11 12.4 +1.3
Y14A **Wickenburg** 50.00 84 ⇑P P 20 11 13.0 +0.7
baz=50
X15A **Humboldt** 50.10 83 ⇓P P 20 11 14.1 +0.9
baz=50,SNR=5.2
SMCO **Snowmass** 50.24 75 eP P 20 11 13.7 -0.5
comp=Z,3.9nm,0.6s,mb4.6
Z14A **Wintersburg** 50.42 84 ⇓P P 20 11 17.0 +1.4
baz=50
MVCO **Mesa Verde** 50.59 77 eP P 20 11 16.1 -0.8
MVCO e pP 20 11 20.6 -1.8
ISCO **Idaho Springs** 50.65 73 eP P 20 11 16.5 -0.8
ISCO pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ISCO **Idaho Springs** 50.65 73 eP P 20 11 16.5 -0.8
comp=Z,5.6nm,0.9s,mb4.5
115A **Sonoran Desert** 51.31 84 ⇓P P 20 11 23.4 +1.1
baz=51
116A **Eloy** 51.74 84 ⇑P P 20 11 26.4 +1.0
baz=52
TUC **Tucson** 52.47 84 eP P 20 11 31.3 +0.4
TUC pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
TUC **Tucson** 52.47 84 eP P 20 11 31.3 +0.4
comp=Z,2.5nm,0.8s,mb4.2
SUMG **Summit** 52.88 14 eP P 20 11 34.7 +0.8
comp=Z,15nm,1.0s,mb4.9
LAZ **Ladron** 53.28 79 eP P 20 11 36.1 -0.8
LAZ e pP 20 11 41.1 -1.3
ANMO **Albuquerque** 53.33 78 iP P 20 11 37.7 +0.5
ANMO **Albuquerque** 53.33 78 eP P 20 11 35.9 -1.3
comp=Z,3.4nm,1.0s,mb4.2
ZAL **Zalesovo** 53.44 313 P P 20 11 38.1 0.0
comp=Z,0.6nm,0.5s,mb3.8,baz=148,slow=4.9,SNR=2.9
ZAL PcP PcP 20 12 43.8 -1.2
comp=Z,2.7nm,0.8s,baz=70,slow=4.6,SNR=13
LENM **Lemitar** 53.54 79 eP P 20 11 38.8 0.0
Y22C **IRIS PASSCAL I** 53.64 79 ⇑P P 20 11 41.0 +1.5
baz=54
LPM **Los Pinos Moun** 53.65 79 eP P 20 11 38.0 -1.5
LZH **Lanzhou** 54.91 285 eP P 20 11 49.1 +0.4
LZH AP pP 20 11 55.3 +1.0
LZH XP sP 20 11 59.4 +3.0
LZH AMB AMB
comp=Z,20nm,1.3s,mb5.0
GTA **Gaotai** 55.05 291 eP P 20 11 50.0 +0.2
GTA AP pP 20 11 56.3 +1.0
GTA XP sP 20 12 00.1 +2.7
GTA PP PP 20 13 55.6 +2.6
GTA PPP 20 15 11.3
GTA S S 20 19 33.6 +2.2
GTA SS SS 20 23 16.9 +1.7
GTA AMB AMB
comp=Z,9.0nm,0.7s,mb4.9
GTA AMB AMB
comp=Z,129nm,5.4s
GTA LR LR
comp=N,162nm,13.4s,MS4.4
GTA LR LR
comp=E,124nm,12.6s,MS4.4
GTA LR LR
comp=Z,123nm,15.3s,MS4.1
KEV **Kevo** 57.15 349 ep P 20 12 05.6 +0.8
ARCES **ARCESS Array B** 57.52 350 P P 20 12 07.7 +0.3
comp=Z,3.8nm,0.6s,mb4.6,baz=26,slow=8.1,SNR=27
KURK **Kurchatov** 58.41 313 c iP P 20 12 13.8 +0.1
KURK **Kurchatov** 58.41 313 eP P 20 12 13.1 -0.6
comp=Z,7.3nm,0.9s,mb4.7
WMQ **Urumqi** 58.77 302 eP P 20 12 15.0 -1.1
LTX **Lajitas** 58.92 81 eP P 20 12 16.0 -1.2
LTX e 20 12 24.8
LTX pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
LTX **Lajitas** 58.92 81 eP P 20 12 16.0 -1.2
comp=Z,8.6nm,1.0s,mb4.7
LTX e 20 12 24.8
MKAR **Makanchi Array** 59.44 308 P P 20 12 20.2 -0.5
comp=Z,1.9nm,0.6s,mb4.3,baz=44,slow=6.6,SNR=13
MKAR PcP PcP 20 13 07.1 -1.3
comp=Z,2.1nm,0.7s,baz=46,slow=7.5,SNR=4.5
SCHQ **Schefferville** 59.81 38 P P 20 12 22.4 -1.0
comp=Z,7.3nm,0.6s,mb4.9,baz=330,slow=7.1,SNR=16
SCHQ LR LR 20 40 18.2
comp=Z,115nm,18.2s,MS4.0,baz=339,slow=38
BVAR **Borovoye Array** 60.27 319 P P 20 12 26.3 -0.2
comp=Z,2.4nm,0.6s,mb4.4,baz=48,slow=11,SNR=14
BVAR PcP PcP 20 13 10.4 -1.3
comp=Z,1.7nm,0.5s,baz=58,slow=3.6,SNR=7.0
JCT **Junction City** 60.46 77 eP P 20 12 26.8 -1.0
JCT pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
JCT **Junction City** 60.46 77 eP P 20 12 26.8 -1.0
comp=Z,9.3nm,0.8s,mb4.9
ZRNK **Zerenda** 60.88 320 eP P 20 12 30.0 -0.7
ZRNK pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
ZRNK **Zerenda** 60.88 320 eP P 20 12 30.0 -0.7
comp=Z,2.6nm,0.6s,mb4.5
MIAR **Mount Ida** 61.27 70 eP P 20 12 31.3 -2.0
MIAR pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
MIAR **Mount Ida** 61.27 70 eP P 20 12 31.3 -2.0
comp=Z,5.3nm,0.8s,mb4.7
BLO **Bloomington** 61.97 62 eP P 20 12 35.6 -2.4
BLO pmax pmax
comp=Z,20nm,1.0s,mb5.2
BLO **Bloomington** 61.97 62 eP P 20 12 35.6 -2.4
comp=Z,20nm,1.0s,mb5.2
WCI **Wyandotte Cave** 62.77 62 eP P 20 12 41.6 -1.8
WCI pmax pmax
comp=Z,16nm,0.8s,mb5.2
WCI **Wyandotte Cave** 62.77 62 eP P 20 12 41.5 -1.8
comp=Z,16nm,0.8s,mb5.2
JOF **Joensuu** 63.01 345 ep P 20 12 44.3 -0.7
comp=Z,5.6nm,0.6s,mb4.9
JOF **Joensuu** 63.01 345 eP P 20 12 44.3 -0.7
JOF pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
PLAL **Pickwick Lake** 64.12 66 eP P 20 12 49.9 -2.4
comp=Z,7.6nm,0.6s,mb4.9
KAF **Kangasniemi** 64.53 347 ep P 20 12 54.3 -0.7
comp=Z,3.7nm,0.5s,mb4.7
KAF **Kangasniemi** 64.53 347 eP P 20 12 54.3 -0.7
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
FIA1 **FINESS Array S** 65.20 347 eP P 20 12 59.5 +0.1
FINES **FINESS Array B** 65.20 347 P P 20 12 59.1 -0.3
comp=Z,5.2nm,0.7s,mb4.7,baz=15,slow=7.6,SNR=27
CPCT **Cooper Cave** 65.76 63 eP P 20 13 01.1 -2.0
LRAL **Lakeview Retre** 66.15 67 eP P 20 13 03.2 -2.2
comp=Z,5.6nm,0.6s,mb4.8
AAK **Ala-Archa** 66.27 309 eP P 20 13 06.0 -0.2
AAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
AAK **Ala-Archa** 66.27 309 eP P 20 13 06.0 -0.2
comp=Z,7.2nm,0.8s,mb4.8
LSA **Lhasa** 66.94 289 eP P 20 13 11.6 +1.1
AKTK **Aktyubinsk** 67.06 324 P P 20 13 10.8 -0.5
AKTO **Aktyubinsk** 67.06 324 P P 20 13 10.8 -0.5
comp=Z,1.3nm,0.5s,mb4.2,baz=41,slow=8.2,SNR=7.0
NB2 **NORSAR Subarra** 67.10 354 P P 20 13 11.2 -0.4
comp=Z,4.9nm,0.8s,mb4.6,baz=6.9,slow=6.5
NOA **NORSAR Array B** 67.10 354 P P 20 13 12.1 +0.5
comp=Z,3.6nm,0.7s,mb4.5,baz=7.1,slow=6.3,SNR=17
NOA LR LR 20 39 10.8
comp=Z,35nm,21.9s,MS3.5,baz=100,slow=33
VSU **Vasula** 67.97 346 iP P 20 13 18.0 +1.0
OBN **Obninsk** 69.26 339‖eP P 20 13 25.4 +0.3
OBN e 20 13 34.7
OBN e 20 15 56.1
OBN pmax pmax
comp=Z,21nm,1.3s,mb4.9
OBN MLR MLR
comp=Z,100nm,22.0s,MS4.0
GUN **Gumba** 71.34 291 eP P 20 13 38.2 +0.4
comp=Z,26nm,0.4s,mb5.5
JIRN **Jiri** 71.35 291 eP P 20 13 38.3 +0.4
comp=Z,27nm,0.7s,mb5.3
KKN **Kakani** 71.78 292 eP P 20 13 40.6 +0.1
comp=Z,15nm,0.5s,mb5.2
PKI **Pulchoki** 71.87 292 eP P 20 13 41.1 +0.1
GKN **Gorkha** 71.99 292 eP P 20 13 41.8 +0.1
comp=Z,23nm,0.8s,mb5.5
DMN **Daman** 72.02 292 eP P 20 13 42.0 +0.1
comp=Z,19nm,0.9s,mb5.0
KOLN **Koldanda** 72.76 293 eP P 20 13 45.9 -0.4
BSEG **Bad Segeberg** 74.23 354 eP P 20 13 56.0 +1.0
comp=Z,13nm,1.0s,mb4.8
BSEG **Bad Segeberg** 74.23 354 eP P 20 13 56.0 +1.0
BSEG pmax pmax
comp=Z,13nm,1.0s,mb4.8
AKASG **Malin Array Be** 74.95 342 P P 20 13 58.8 -0.4
comp=Z,16nm,0.8s,mb5.0,baz=20,slow=5.9,SNR=47
AKASG LR LR 20 54 07.3
comp=Z,53nm,18.2s,MS3.9,baz=15,slow=41
AKBB **Malin Array Si** 74.95 342 eP P 20 13 58.7 -0.5
NRDL **Niedersach Rie** 75.68 354 eP P 20 14 04.8 +1.4
IBBN **Ibbenburen** 76.00 356 eP P 20 14 06.0 +0.8
CLZ **Clausthal** 76.31 354 eP P 20 14 07.8 +0.8
comp=Z,11nm,0.9s,mb4.8
CLZ **Clausthal** 76.31 354 eP P 20 14 07.8 +0.8
CLZ pmax pmax
comp=Z,11nm,0.9s,mb4.8
CLL **Collm** 76.64 352 eP P 20 14 09.0 +0.1
comp=Z,5.0nm,0.9s,mb4.4
CLL **Collm** 76.64 352 P P 20 14 08.3 -0.6
comp=Z,logA/T=0.7,mb4.4
CLL i *PP pP 20 14 12.2 -2.4
CLL **Collm** 76.64 352 iP P 20 14 08.3 -0.6
comp=Z,5.0nm,0.9s,mb4.4
CLL i pP pP 20 14 12.2 -2.4
CLL **Collm** 76.64 352 iP P 20 14 08.3 -0.6
CLL pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
LVV **L'vov** 76.73 345 iP P 20 14 09.6 +0.3
LVV eS S 20 23 57.0 +1.4
LVV MLR MLR
comp=Z,100nm,18.0s,MS4.2
GOF **Gofitskoye** 76.75 331 eP P 20 14 09.8 +0.4
GOF pmax pmax
comp=Z,30nm,1.3s,mb5.1
BUG **Bochum--Univer** 76.89 356 eP P 20 14 10.5 +0.3
BRG **Berggiesshubel** 76.99 351 eP P 20 14 10.8 0.0
comp=Z,6.0nm,1.0s,mb4.5

BRG **Berggiesshubel 76.99 351** *e*P **P** 20 14 10.4 -0.4
comp=Z,3.5nm,1.0s,mb4.2
BRG **Berggiesshubel 76.99 351** *e*P **P** 20 14 10.4 -0.4
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
KWP **Kalwaria 77.12 345** *e*P **P** 20 14 12.2 +0.6
UPC **Upice 77.14 350** *e*P **P** 20 14 11.8 +0.1
DPC **Dobruska-Polom 77.27 350** *e*P **P** 20 14 12.7 +0.3
DPC epP pP 20 14 16.9 -1.2
MOX **Moxa 77.42 353** *e*P **P** 20 14 13.4 +0.2
comp=Z,5.0nm,0.9s,mb4.4
MOX **Moxa 77.42 353** *e*P **P** 20 14 13.3 +0.1
comp=Z,8.0nm,1.1s,mb4.6
MOX **Moxa 77.42 353** *e*P **P** 20 14 13.3 +0.1
MOX pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
OKC **Ostrava-Krasne 77.56 348** *e*P **P** 20 14 13.9 -0.1
OKC epP pP 20 14 18.0 -1.7
MORC **Moravsky Berou 77.69 349**⇑*i*P **P** 20 14 14.9 +0.2
MORC **Moravsky Berou 77.69 349**⇑P **P** 20 14 14.9 +0.1
NKC **Novy Kostel 77.76 352** *e*P **P** 20 14 15.5 +0.4
NKC epP pP 20 14 20.7 -0.1
PRU **Pruhonice 77.81 351** *e*P **P** 20 14 15.3 -0.1
KIV **Kislovodsk 77.85 330** *i* P **P** 20 14 15.6 0.0
KIV pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KIV MLR MLR
comp=Z,100nm,23.0s,MS4.1
KOLS **Kolonicke sedl 77.87 346** *e*P **P** 20 14 15.9 +0.2
KOLS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KOLS **Kolonicke sedl 77.87 346** *e*P **P** 20 14 15.9 +0.2
comp=Z,6.4nm,0.9s,mb4.5
CRVS **Cervenica-Dubn 78.02 346** *e*P **P** 20 14 16.7 +0.1
MANZ **Manzenberg 78.03 352** *e*P **P** 20 14 17.1 +0.5
TNS **Taunus Mts 78.05 355** *e*P **P** 20 14 16.9 +0.2
comp=Z,7.0nm,0.8s,mb4.6
TNS **Taunus Mts 78.05 355** *e*P **P** 20 14 16.9 +0.2
TNS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ROTZ **Rotzenmuhle 78.24 352** *e*P **P** 20 14 18.4 +0.6
GIVF **Givet 78.32 357** *e*P **P** 20 14 17.9 -0.3
BAIF **Baives 78.38 358** *e*P **P** 20 14 18.6 0.0
comp=Z,24nm,0.9s,mb4.8
BAIF **Baives 78.38 358** *e*P **P** 20 14 18.6 0.0
BAIF pmax pmax
comp=Z,12nm,0.9s,mb4.8
BAIF **Baives 78.38 358** *e*P **P** 20 14 18.6 0.0
comp=Z,12nm,0.9s,mb4.8
GRA1 **Grafenberg Arr 78.39 353** *e*P **P** 20 14 18.7 +0.1
comp=Z,10.0nm,0.9s,mb4.8
GRF **Grafenberg Arr 78.39 353** *e*P **P** 20 14 18.7 +0.1
comp=Z,10.0nm,0.9s,mb4.8
GRF **Grafenberg Arr 78.39 353** *e*P **P** 20 14 18.7 +0.1
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GRF **Grafenberg Arr 78.39 353** *e*P **P** 20 14 18.7 +0.1
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TREC **Trest 78.40 350** *e*P **P** 20 14 18.8 +0.1
KECS **Kecovo 78.57 347** *e*P **P** 20 14 20.1 +0.5
KECS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KECS **Kecovo 78.57 347** *e*P **P** 20 14 20.1 +0.5
comp=Z,5.9nm,0.9s,mb4.5
BURAR **Bucovina Array 78.66 343**⇑*i*P **P** 20 14 20.6 +0.5
KHC **Kasperske Hory 78.75 351** *e*P **P** 20 14 20.7 +0.1
KHC epP pP 20 14 25.6 -0.7
VYHS **Vyhne 78.79 348** *e*P **P** 20 14 20.8 0.0
VYHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
VYHS **Vyhne 78.79 348** *e*P **P** 20 14 20.8 0.0
comp=Z,3.2nm,1.0s,mb4.2
WET **Wettzell 78.80 352** *e*P **P** 20 14 21.2 +0.3
comp=Z,4.0nm,1.0s,mb4.3
WET **Wettzell 78.80 352** *e*P **P** 20 14 21.2 +0.3
WET pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
GEC2 **GERESS Array S 79.02 351** *e*P **P** 20 14 22.2 +0.1
comp=Z,3.0nm,0.8s,mb4.3
GEC2 **GERESS Array S 79.02 351** *e*P **P** 20 14 22.2 +0.1
GEC2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
GERES **GERESS Array B 79.02 351** P **P** 20 14 22.2 +0.1
comp=Z,2.8nm,0.8s,mb4.3,baz=24,slow=5.6,SNR=24
ZST **Bratislava 79.30 349** *e*P **P** 20 14 24.0 +0.4
ZST pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ZST **Bratislava 79.30 349** *e*P **P** 20 14 24.0 +0.4
comp=Z,5.9nm,0.9s,mb4.5
STU **Stuttgart 79.45 354** *e*P **P** 20 14 24.7 +0.3
SRO **Srobarova 79.53 348** *e*P **P** 20 14 26.0 +1.2
SRO pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SRO **Srobarova 79.53 348** *e*P **P** 20 14 26.0 +1.2
comp=Z,9.8nm,1.1s,mb4.7
SRO2 **Moca 79.56 348** *e*P **P** 20 14 25.7 +0.6
SRO2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CONA **Conrad Observa 79.71 350**⇑*i*P **P** 20 14 26.5 +0.6
comp=Z,4.7nm,0.7s,mb4.5
DRGR **79.88 345**⇓*i*P **P** 20 14 27.0 +0.2
DRGR **79.88 345**⇓P **P** 20 14 27.0 +0.2
LDF **La Druitiere 79.89 1** *e*P **P** 20 14 26.1 -0.7
comp=Z,20nm,0.8s,mb4.8
LDF **La Druitiere 79.89 1** *e*P **P** 20 14 26.1 -0.7
LDF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LDF **La Druitiere 79.89 1** *e*P **P** 20 14 26.1 -0.7
comp=Z,10nm,0.8s,mb4.8
FUR **Furstenfeldbru 79.91 353** *e*P **P** 20 14 27.1 +0.2
comp=Z,11nm,0.8s,mb4.8
FUR **Furstenfeldbru 79.91 353** *e*P **P** 20 14 27.1 +0.2
FUR pmax pmax
comp=Z,11nm,0.8s,mb4.8
CDF **Champ du Feu 79.91 356** *e*P **P** 20 14 26.5 -0.4
comp=Z,10nm,0.9s,mb4.5
CDF **Champ du Feu 79.91 356** *e*P **P** 20 14 26.5 -0.4
CDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CDF **Champ du Feu 79.91 356** *e*P **P** 20 14 26.5 -0.4
comp=Z,5.2nm,0.9s,mb4.5
MEZF **Maizieres J'vi 79.91 357** *e*P **P** 20 14 26.7 -0.2
BFO **Black Forest 79.94 355** *e*P **P** 20 14 27.3 +0.2
VRI **Vrincioaia 80.06 342**⇑*i*P **P** 20 14 28.2 +0.4
VRI **Vrincioaia 80.06 342**⇑P **P** 20 14 28.2 +0.5
GRR **Gorron 80.09 1** *e*P **P** 20 14 27.5 -0.4
comp=Z,28nm,0.9s,mb4.9
GRR **Gorron 80.09 1** *e*P **P** 20 14 27.5 -0.4
GRR pmax pmax
comp=Z,14nm,0.9s,mb4.9
GRR **Gorron 80.09 1** *e*P **P** 20 14 27.5 -0.4
comp=Z,14nm,0.9s,mb4.9
SGMF **Saint Gilles 80.19 2** *e*P **P** 20 14 28.2 -0.3
comp=Z,23nm,0.8s,mb4.8
SGMF **Saint Gilles 80.19 2** *e*P **P** 20 14 28.2 -0.3
SGMF pmax pmax
comp=Z,12nm,0.8s,mb4.9
SGMF **Saint Gilles 80.19 2** *e*P **P** 20 14 28.2 -0.3
comp=Z,12nm,0.8s,mb4.9
HAU **Haudompre 80.36 356** *e*P **P** 20 14 28.9 -0.5
comp=Z,15nm,1.0s,mb4.6
HAU *e*R
comp=Z,87nm,20.0s
HAU **Haudompre 80.36 356** *e*P **P** 20 14 28.9 -0.5
HAU pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
HAU MLR MLR
comp=Z,90nm,20.0s,MS4.1
HAU **Haudompre 80.36 356** *e*P **P** 20 14 28.9 -0.5
comp=Z,7.6nm,1.0s,mb4.6
HAU LR LR
comp=Z,90nm,20.0s,MS4.1
ARSA **Arzberg 80.41 350**⇑*i*P **P** 20 14 30.3 +0.6
comp=Z,4.5nm,0.8s,mb4.4
ARSA **Arzberg 80.41 350**⇑*i*P **P** 20 14 30.2 +0.6
comp=Z,4.5nm,0.8s,mb4.5
CFR **Carcaliu 80.44 341**⇑*i*P **P** 20 14 30.3 +0.5
CFR **Carcaliu 80.44 341**⇑P **P** 20 14 30.3 +0.5
QUIF **Quistinic 80.52 3** *e*P **P** 20 14 29.7 -0.5
MLR **Muntele Rosu 80.57 342**⇑*i*P **P** 20 14 31.8 +1.3
GNI **Garni 80.62 327** *i* P **P** 20 14 30.9 +0.1
WATA **Walderalm 80.71 352**⇑*i*P **P** 20 14 31.4 +0.2
comp=Z,6.9nm,1.1s,mb4.5
WATA **Walderalm 80.71 352**⇑*i*P **P** 20 14 31.4 +0.2
WATA pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
WTTA **Wattenberg 80.77 352**⇑*i*P **P** 20 14 32.1 +0.6
comp=Z,8.6nm,0.7s,mb4.8
WTTA **Wattenberg 80.77 352**⇑*i*P **P** 20 14 32.1 +0.5
WTTA pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
KBA **Koelnbreinsper 80.81 351**⇑*i*P **P** 20 14 32.7 +0.9
comp=Z,33nm,1.0s,mb5.2
KBA **Koelnbreinsper 80.81 351**⇑*i*P **P** 20 14 32.7 +1.0
KBA pmax pmax
comp=Z,33nm,1.0s,mb5.2
PERS **Pernice 81.06 350** *e*P **P** 20 14 33.4 +0.2
LOR **Lormes 81.18 358** *e*P **P** 20 14 33.1 -0.6
comp=Z,8.5nm,0.8s,mb4.4
LOR *e*R
comp=Z,102nm,22.8s
LOR **Lormes 81.18 358** *e*P **P** 20 14 33.1 -0.6
LOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LOR MLR MLR
comp=Z,100nm,22.8s,MS4.1
LOR **Lormes 81.18 358** *e*P **P** 20 14 33.1 -0.6
comp=Z,4.3nm,0.8s,mb4.4
LOR LR LR
comp=Z,100nm,22.8s,MS4.1
BZS **Buzias 81.20 345**⇑*i*P **P** 20 14 33.8 -0.1
BZS **Buzias 81.20 345**⇑P **P** 20 14 33.8 0.0
GZR **Gura Zlata 81.23 344**⇑P **P** 20 14 34.1 +0.1
GZR **Gura Zlata 81.23 344**⇑P **P** 20 14 34.1 +0.1
OBKA **Obir 81.25 350**⇑*i*P **P** 20 14 34.2 +0.1
comp=Z,7.7nm,1.0s,mb4.6
SSF **Saint Saulge 81.39 358** *e*P **P** 20 14 34.5 -0.4
comp=Z,4.7nm,0.6s,mb4.3
SSF **Saint Saulge 81.39 358** *e*P **P** 20 14 34.5 -0.4
SSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
SSF **Saint Saulge 81.39 358** *e*P **P** 20 14 34.5 -0.4
comp=Z,2.3nm,0.6s,mb4.3
PTCC **Patocco-Chiusa 81.47 351** P **P** 20 14 34.8 -0.5
AVF **Avril sur Loir 81.67 358** *e*P **P** 20 14 35.8 -0.5
comp=Z,14nm,0.9s,mb4.6
AVF **Avril sur Loir 81.67 358** *e*P **P** 20 14 35.8 -0.5
AVF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
AVF **Avril sur Loir 81.67 358** *e*P **P** 20 14 35.8 -0.5
comp=Z,6.9nm,0.9s,mb4.6
CABF **La Chapelle 81.76 356** *e*P **P** 20 14 36.7 -0.1
comp=Z,24nm,1.1s,mb4.7
CABF **La Chapelle 81.76 356** *e*P **P** 20 14 36.7 -0.1
CABF pmax pmax
comp=Z,12nm,1.1s,mb4.7
CABF **La Chapelle 81.76 356** *e*P **P** 20 14 36.7 -0.1
comp=Z,12nm,1.1s,mb4.7
GCIS **Gornji Cirnik 81.77 349** *e*P **P** 20 14 36.6 -0.2
SMF **Signal de Mont 81.80 358** *e*P **P** 20 14 36.6 -0.4
comp=Z,32nm,1.1s,mb4.9
SMF **Signal de Mont 81.80 358** *e*P **P** 20 14 36.6 -0.4
SMF pmax pmax
comp=Z,16nm,1.1s,mb4.9
SMF **Signal de Mont 81.80 358** *e*P **P** 20 14 36.6 -0.4
comp=Z,16nm,1.1s,mb4.9
MFF **Saint Martin d 81.88 1** *e*P **P** 20 14 37.1 -0.4
comp=Z,28nm,1.0s,mb4.8
MFF **Saint Martin d 81.88 1** *e*P **P** 20 14 37.1 -0.4
MFF pmax pmax
comp=Z,14nm,1.0s,mb4.8
MFF **Saint Martin d 81.88 1** *e*P **P** 20 14 37.1 -0.4
comp=Z,14nm,1.0s,mb4.8
BGF **Bois d'Agland 81.91 358** *e*P **P** 20 14 37.2 -0.4
comp=Z,6.5nm,0.7s,mb4.4
BGF **Bois d'Agland 81.91 358** *e*P **P** 20 14 37.2 -0.4
BGF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BGF **Bois d'Agland 81.91 358** *e*P **P** 20 14 37.2 -0.4
comp=Z,3.3nm,0.7s,mb4.4
WRA **Warramunga Arr 82.15 223** P **P** 20 14 32.6 -6.3
comp=Z,1.3nm,0.6s,mb4.0,baz=32,slow=6.0,SNR=16
BOJS **Bojanci 82.17 350** *e*P **P** 20 14 38.7 -0.2
TCF **Toulx Ste Croi 82.19 359** *e*P **P** 20 14 38.7 -0.4
comp=Z,9.7nm,0.9s,mb4.5
TCF **Toulx Ste Croi 82.19 359** *e*P **P** 20 14 38.7 -0.4
TCF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
TCF **Toulx Ste Croi 82.19 359** *e*P **P** 20 14 38.7 -0.4
comp=Z,4.8nm,0.9s,mb4.4
PLDF **La Plantade 82.48 358** *e*P **P** 20 14 40.7 +0.1
SVIS **Svilajnac 82.55 345** *i* P **P** 20 14 40.5 -0.4
LPL **La Plagne 82.83 356** *e*P **P** 20 14 43.0 +0.6
LPG **La Plagne 82.85 356** *e*P **P** 20 14 43.3 +0.8
DIVS **Divcibare 82.93 346** *i* P **P** 20 14 43.1 +0.1
GRUS **Gruza 83.03 346** *i* P **P** 20 14 43.2 -0.2
RJF **Les Rejaudoux 83.18 359** *e*P **P** 20 14 43.5 -0.7
RJF *e*R
comp=Z,94nm,21.5s
RJF **Les Rejaudoux 83.18 359** *e*P **P** 20 14 43.5 -0.7
RJF LR LR
comp=Z,90nm,21.5s,MS4.1
LBL **Lubilhac 83.23 358** *e*P **P** 20 14 44.6 +0.1
BNI **Bardonecchia 83.29 356** *e*P **P** 20 14 45.4 +0.6
BNI pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BNI **Bardonecchia 83.29 356** *e*P **P** 20 14 45.4 +0.6
comp=Z,7.6nm,0.9s,mb4.7
BOB **Bobbio (Coll) 83.42 354** P **P** 20 14 44.9 -0.6
ORIF **Oris-en-Rattie 83.46 356** *e*P **P** 20 14 46.2 +0.5
comp=Z,10.0nm,0.8s,mb4.6
ORIF *e*R
comp=Z,92nm,22.5s
ORIF **Oris-en-Rattie 83.46 356** *e*P **P** 20 14 46.2 +0.5
ORIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ORIF **Oris-en-Rattie 83.46 356** *e*P **P** 20 14 46.2 +0.5
comp=Z,5.0nm,0.8s,mb4.6
LFF **La Frestale 83.55 360** *e*P **P** 20 14 45.8 -0.3
comp=Z,33nm,0.8s,mb5.2
LFF **La Frestale 83.55 360** *e*P **P** 20 14 45.8 -0.3
LFF pmax pmax
comp=Z,17nm,0.8s,mb5.2
LFF **La Frestale 83.55 360** *e*P **P** 20 14 45.8 -0.3
comp=Z,16nm,0.8s,mb5.2
CAF **Calviac 83.55 359** *e*P **P** 20 14 46.0 -0.1
comp=Z,17nm,0.9s,mb4.9
CAF **Calviac 83.55 359** *e*P **P** 20 14 46.0 -0.1
CAF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
CAF **Calviac 83.55 359** *e*P **P** 20 14 46.0 -0.1
comp=Z,8.6nm,0.9s,mb4.9
VIVF **Saint-Julien-l 83.57 357** *e*P **P** 20 14 46.1 -0.1
comp=Z,10.0nm,1.0s,mb4.6
VIVF **Saint-Julien-l 83.57 357** *e*P **P** 20 14 46.1 -0.1
VIVF pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
VIVF **Saint-Julien-l 83.57 357** *e*P **P** 20 14 46.1 -0.1
comp=Z,5.0nm,1.0s,mb4.6
SEI **Scarperia 83.98 352** P **P** 20 14 49.7 +1.4
OG25 **Le Caire 84.00 356** *e*P **P** 20 14 45.9 -2.5
VMG **Vicchio 84.06 352** P **P** 20 14 50.5 +1.8
SFI **Santa Sofia 84.09 352** P **P** 20 14 49.8 +0.9
SFI pmax pmax
comp=Z,14nm,1.0s,mb5.0
SFI **Santa Sofia 84.09 352** P **P** 20 14 49.8 +0.9
comp=Z,14nm,1.0s,mb5.0
MALT **Malatya 84.30 331**⇓*i*P **P** 20 14 50.5 +0.5
MALT **Malatya 84.30 331**⇓P **P** 20 14 50.5 +0.6
TOUF **Mont Tournerai 84.30 355** *e*P **P** 20 14 49.9 -0.1
AUTN **L'Aution 84.31 355** *e*P **P** 20 14 49.9 -0.1
BR131 **Keskin Array S 84.33 335** *e*P **P** 20 14 50.0 -0.1
comp=Z,4.6nm,0.8s,mb4.7
BRTR **Keskin Array B 84.33 335** P **P** 20 14 50.1 0.0
comp=Z,5.0nm,0.8s,mb4.7,baz=51,slow=2.7,SNR=30
BRTR LR LR 21 01 38.7
comp=Z,33nm,18.3s,MS3.8,baz=176,slow=42
BRTR **Keskin Array B 84.33 335** *i* P **P** 20 14 50.2 +0.1
BRTR pmax pmax
comp=Z,5.0nm,0.8s
LASF **Ste Croix 84.37 358** *e*P **P** 20 14 50.3 0.0
comp=Z,12nm,1.0s,mb4.7
ARV **Arcevia 84.39 351** P **P** 20 14 51.0 +0.6
comp=Z,9.9nm,0.7s,mb5.0
SMRF **Simiane la Rot 84.42 356** *e*P **P** 20 14 51.0 +0.5
comp=Z,29nm,1.0s,mb5.1
SMRF **Simiane la Rot 84.42 356** *e*P **P** 20 14 51.0 +0.5
comp=Z,29nm,1.0s,mb5.4
LUCF **Luceram 84.42 355** *e*P **P** 20 14 49.9 -0.7
MVIF **Mont Vial 84.42 355** *e*P **P** 20 14 50.8 +0.2
SBF **Sospel 84.44 355** *e*P **P** 20 14 50.2 -0.5
comp=Z,36nm,0.8s,mb5.2
SBF **Sospel 84.44 355** *e*P **P** 20 14 50.2 -0.5
SBF pmax pmax
comp=Z,18nm,0.8s,mb5.2
SBF **Sospel 84.44 355** *e*P **P** 20 14 50.2 -0.5
comp=Z,18nm,0.8s,mb5.2
FITZ **Fitzroy Crossi 84.51 232** *e*P **P** 20 14 46.4 -4.6
comp=Z,5.8nm,0.6s,mb4.9
FITZ **Fitzroy Crossi 84.51 232** P **P** 20 14 46.2 -4.8
comp=Z,3.5nm,0.6s,mb4.7,baz=47,slow=4.1,SNR=18
CSNT **Castellina Chi 84.57 352** P **P** 20 14 50.7 -0.6
comp=Z,14nm,0.8s,mb5.1
REVF **Revere 84.57 355** *e*P **P** 20 14 51.0 -0.3
SNTG **Esanatoglia 84.63 351** P **P** 20 14 51.8 +0.2
comp=Z,10nm,0.5s,mb5.2
MURB **Monte Urbino 84.67 351** P **P** 20 14 51.8 0.0
FRF **La Foret Royal 84.78 356** *e*P **P** 20 14 51.9 -0.5
comp=Z,20nm,0.9s,mb5.0
FRF **La Foret Royal 84.78 356** *e*P **P** 20 14 51.9 -0.5
FRF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
FRF **La Foret Royal 84.78 356** *e*P **P** 20 14 51.9 -0.5
comp=Z,9.9nm,0.9s,mb4.9
GRFL **Gerfalco 84.92 352** P **P** 20 14 53.0 -0.1
comp=Z,17nm,0.7s,mb5.3
EPON **Pontenova 84.92 6** P **P** 20 14 50.0 -3.0
comp=Z,32nm,1.7s,mb5.2
LMR **La Mourre 85.02 356** *e*P **P** 20 14 53.2 -0.4
comp=Z,27nm,1.0s,mb5.0
LMR **La Mourre 85.02 356** *e*P **P** 20 14 53.2 -0.4
LMR pmax pmax
comp=Z,14nm,1.0s,mb5.0
LMR **La Mourre 85.02 356** *e*P **P** 20 14 53.2 -0.4
comp=Z,14nm,1.0s,mb5.0
NRCA **Norcia 85.03 351** P **P** 20 14 54.3 +0.6
comp=Z,14nm,1.0s,mb5.0
EARI **Arriondas 85.05 4** P **P** 20 14 51.1 -2.6
comp=Z,46nm,1.4s,mb5.4
MTLF **Montolieu 85.14 359** *e*P **P** 20 14 54.0 -0.2
comp=Z,8.2nm,0.8s,mb4.6
MTLF **Montolieu 85.14 359** *e*P **P** 20 14 54.0 -0.2
MTLF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
MTLF **Montolieu 85.14 359** *e*P **P** 20 14 54.0 -0.2
comp=Z,4.1nm,0.8s,mb4.6
ELAN **Lanestosa 85.19 3** P **P** 20 14 53.9 -0.5
comp=Z,39nm,2.4s,mb5.5
EALK **Alkurruntz 85.25 2** P **P** 20 14 54.0 -0.7
comp=Z,19nm,1.4s,mb5.0
EPF **Esparros 85.45 0** *e*P **P** 20 14 54.8 -1.0
comp=Z,4.9nm,0.6s,mb4.5
EPF **Esparros 85.45 0** *e*P **P** 20 14 54.8 -1.0
EPF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
EPF **Esparros 85.45 0** *e*P **P** 20 14 54.8 -1.0
comp=Z,2.5nm,0.6s,mb4.5
AQU **L'Aquila 85.48 351**⇓*i*P **P** 20 14 56.2 +0.3
ETSF **Etsaut 85.58 1** *e*P **P** 20 14 56.5 +0.1
comp=Z,12nm,0.7s,mb5.0
ETSF **Etsaut 85.58 1** *e*P **P** 20 14 56.5 +0.1
ETSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
ETSF **Etsaut 85.58 1** *e*P **P** 20 14 56.5 +0.1
comp=Z,6.3nm,0.7s,mb5.0
FIAM **Fiamignano 85.59 351** P **P** 20 14 56.4 -0.1
ASAR **Alice Springs 85.63 222** P **P** 20 14 51.1 -5.6
comp=Z,1.3nm,0.6s,mb4.3,baz=24,slow=5.6,SNR=25
PGF **Pioggiola 85.66 354** *e*P **P** 20 14 56.3 -0.5
comp=Z,27nm,0.8s,mb5.2
PGF **Pioggiola 85.66 354** *e*P **P** 20 14 56.3 -0.5
PGF pmax pmax
comp=Z,14nm,0.8s,mb5.2
PGF **Pioggiola 85.66 354** *e*P **P** 20 14 56.3 -0.5
comp=Z,14nm,0.8s,mb5.2
EBIE **Bielsa 85.80 0** P **P** 20 14 57.4 -0.1
comp=Z,35nm,2.2s,mb5.2
CORF **Corte 85.90 354** *e*P **P** 20 14 57.7 -0.3
EPOB **Poblet 87.13 360** P **P** 20 15 03.2 -0.9
comp=Z,17nm,1.7s,mb5.0
ETOR **Torete 87.64 2** P **P** 20 15 05.0 -1.5
ETOR pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
ETOR **Torete 87.64 2** P **P** 20 15 05.0 -1.5
comp=Z,7.8nm,1.0s,mb4.9
GUD **Guadarrama 87.75 4** P **P** 20 15 06.2 -0.8
GUD pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
GUD **Guadarrama 87.75 4** P **P** 20 15 06.2 -0.8
comp=Z,7.9nm,1.1s,mb4.9
ESDC **Sonseca Array 88.72 4** P **P** 20 15 10.6 -1.0
comp=Z,3.0nm,0.8s,mb4.7,baz=354,slow=4.2,SNR=11
ESDC **Sonseca Array 88.72 4** P **P** 20 15 10.3 -1.3
comp=Z,3.1nm,0.6s,mb4.8
STKA **Stephens Creek 90.17 212** *e*P **P** 20 15 13.3 -5.1
comp=Z,3.8nm,0.8s,mb4.8
STKA **Stephens Creek 90.17 212** P **P** 20 15 13.3 -5.1
comp=Z,6.3nm,0.9s,mb4.9,baz=338,slow=8.2,SNR=7.1
EMIJ **Mijas 91.79 4** P **P** 20 15 24.3 -1.6
comp=Z,23nm,1.5s,mb5.3
TORD **Torodi Ar. Bea 115.22 359** PKP PKiKP 20 20 57.2 -2.2
comp=Z,0.3nm,0.6s,baz=346,slow=2.6,SNR=6.7
TORD **Torodi Ar. Bea 115.22 359** PKP PKiKP 20 20 57.2 -2.2
DBIC **Dimbokro 121.48 6** PKP PKPdf 20 21 09.7 -1.8
comp=Z,2.2nm,0.8s,baz=308,slow=1.5,SNR=8.5
TSUM **Tsumeb 144.77 331** *e*PKPbc PKPdf 20 21 53.2 -1.7
LBTB **Lobatse 147.12 315** PKPbc PKPbc 20 22 00.1 -1.0
comp=Z,11nm,0.6s,baz=28,slow=1.4,SNR=35

*ISCJB **09** 20:05:36.9±0.6,2427S±005×6682W±010,h186km±17km, mb3.3/1,Error ellipse: s-maj=14.8km s-min=7.7km az=6.1*
*IDC **09** 20:05:37.5±1.0,2424S×6678W,h173km±12km,mb3.3/1, mb1 3.3/7,mb1mx3.2/18,mbtmp3.7/7,Error ellipse: s-maj=18.0km s-min=13.1km az=82.0*
*GUC **09** 20:05:41.7±0.5,2438S×6737W,h205km,ML4.3*
*NEIC **09** 20:05:41.7,2438S×6737W,h205km,MG4.3(GUC),After GUC.*

ISC 09 20:05:37.8±0.6,2427S±005×6679W±010,h173km±17km, n18,σ1s20/21,mb3.3/1,2C-2D,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.55**	**310**	P	**Pn**	**20 06 22.2**	**+1.6**
	21nm,0.3s,baz=127,slow=5.9,SNR=777						
LVC				S	**Sn**	**20 06 54.2**	**+0.3**
	14nm,0.3s,baz=242,slow=6.3,SNR=4.5						
CEN1	**Los Morros**	**3.25**	**285**⇑	*i*P	**Pn**	**20 06 31.2**	**+2.1**
CEN1				*i* S	**Sn**	**20 07 08.8**	**-0.2**
CEN1				AML	AML	20 07 10.2	
	comp=N,239nm,0.5s						
CPN1	**Cerro Paranal**	**3.32**	**263**⇓	*i*P	**Pn**	**20 06 31.1**	**+1.1**
CPN1				*e*S	**Sn**	**20 07 09.3**	**-1.3**
CPN1				AML	AML	20 07 10.4	
	comp=E,613nm,0.4s						
ANCH	**Antofagasta**	**3.37**	**279**⇑	*i*P	**Pn**	**20 06 28.1**	**-2.5**
ANCH				*i* S	**Sn**	**20 07 05.8**	**-5.9**
CRCH	**Chaqaral**	**4.04**	**238**⇓	*i*P	**Pn**	**20 06 39.7**	**+0.6**
CRCH				AML	AML	20 07 28.0	
	comp=E,404nm,0.5s						
CFAA	**Coronel Fontan**	**7.42**	**190**	P	**Pn**	**20 07 24.9**	**+1.5**
	comp=E,0.2nm,0.3s,baz=13,slow=12,SNR=22						
CFAA				S	**Sn**	**20 08 45.1**	**-1.6**
	comp=E,0.3nm,0.3s,baz=276,slow=23,SNR=15						
LPAZ	**La Paz**	**8.04**	**351**	P	**Pn**	**20 07 31.5**	**0.0**
	comp=E,0.9nm,0.3s,baz=160,slow=10,SNR=24						
LPAZ				S	**Sn**	**20 09 00.4**	**-1.1**
	comp=E,0.4nm,0.3s,baz=298,slow=24,SNR=7.4						
LPAZ	**La Paz**	**8.04**	**351**	P	**Pn**	**20 07 31.5**	**0.0**
LPAZ				S	**Sn**	**20 09 00.4**	**-1.1**
CPUP	**Villa Florida**	**8.80**	**105**	P	**Pn**	**20 07 41.2**	**-0.4**
	comp=E,0.3nm,0.3s,baz=295,slow=14,SNR=2.4						
CPUP	**Villa Florida**	**8.80**	**105**	P	**Pn**	**20 07 41.2**	**-0.4**
SIV	**San Ignacio**	**9.82**	**34**	P	**Pn**	**20 07 54.2**	**-0.9**
	comp=E,0.5nm,0.3s,baz=237,slow=11,SNR=11						
BDFB	**Brasilia**	**19.60**	**68**	P	**P**	**20 09 53.9**	**+1.2**
	comp=E,0.8nm,0.3s,baz=249,slow=12,SNR=8.1						
TORD	**Torodi Ar. Bea**	**76.48**	**69**	P	**P**	**20 17 07.9**	**-0.6**
	comp=E,0.4nm,0.5s,mb3.3,baz=257,slow=5.9,SNR=16						
TORD	**Torodi Ar. Bea**	**76.48**	**69**	P	**P**	**20 17 07.9**	**-0.6**
ASAR	**Alice Springs**	**128.30**	**204**	PKP	PKPdf	20 24 24.0	+0.4
	comp=E,0.4nm,0.7s,baz=128,slow=2.0,SNR=5.5						
WRA	**Warramunga Arr**	**131.48**	**207**	PKP	PKPdf	20 24 29.6	-0.1
	comp=E,0.3nm,0.5s,baz=161,slow=1.6,SNR=8.8						
MKAR	**Makanchi Array**	**146.60**	**40**	PKPbc	PKPbc	20 24 58.7	-0.2
	comp=E,0.8nm,0.6s,baz=322,slow=2.8,SNR=9.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	146.60	40	PKPbc	PKPbc	20 24 58.7	-0.2

ISCJB ***09*** *20:18:12.8±3.0, 1975S±005×7061W±008, h12km±19km, mb3.9/11, MS4.0/8, Error ellipse: s-maj=13.5km s-min=7.1km az=136.3*
IDC ***09*** *20:18:12.3±0.8, 1972S×7052W, h0km, mb3.9/8, mb1 4.0/10, mb1mx4.0/16, mbtmp3.9/10, ML4.4/1, MS3.9/9, Ms1 3.9/9, ms1mx3.6/29, Error ellipse: s-maj=25.7km s-min=14.9km az=66.0*
NEIC ***09*** *20:18:17.5±1.8, 1976S×7058W, h34km±13km, mb4.2/7, Error ellipse: s-maj=9.3km s-min=5.5km az=73.0*
ISC 09 20:18:18.0±0.8**, 1977S**±005×**7061W**±008**, h36**km±9km**, n45, σ0.95**/35**, mb3.9**/11**, MS4.0**/8**, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	3.24	151	Pn	Pn	20 19 06.6	+0.3
	21nm,0.3s,baz=325,slow=9.6,SNR=62						
LVC				Sn	Sn	20 19 45.3	+1.7
	61nm,0.3s,baz=311,slow=11,SNR=7.3						
LVC				Lg		20 19 56.2	
	159nm,0.3s,baz=191,slow=18,SNR=11						
ARE	Arequipa	3.40	346	eP	Pn	20 19 07.0	-1.4
ARE				eS	Sn	20 19 54.0	+6.5
LPAZ	La Paz	4.19	35	Pn	Pn	20 19 24.4	+5.1
	1.1nm,0.3s,baz=205,slow=9.0,SNR=36						
LPAZ				Lg		20 20 35.0	
	baz=170,slow=9.2,SNR=1.7						
LPAZ	La Paz	4.19	35	Pn	Pn	20 19 24.4	+5.1
LPAZ				Lg		20 20 35.0	
NNA	Nana	9.79	321	ePn	Pn	20 20 36.8	+0.7
SIV	San Ignacio	9.82	69	Pn	Pn	20 20 37.2	+0.5
	4.6nm,0.3s,baz=261,slow=10,SNR=84						
CFAA	Coronel Fontan	11.98	170	Pn	Pn	20 21 06.2	+0.1
	0.0nm,0.3s,baz=358,slow=14,SNR=2.5						
SAML	Samuel	12.94	35	ePn	Pn	20 21 19.9	+0.8
	4.2nm,0.6s						
CPUP	Villa Florida	13.85	121	Pn	Pn	20 21 29.3	-2.4
	0.4nm,0.3s,baz=311,slow=9.3,SNR=2.6						
ATAH	Atahualpa	14.78	328	LR	LR	20 28 23.9	
	comp=Z,133nm,18.6s,baz=263,slow=42						
TRQA	Tornquist	19.70	159	eP	Pn	20 22 44.2	-1.6
	55nm,1.5s						
PLCA	Paso Flores	20.89	180	P	P	20 22 56.1	-0.9
	1.9nm,0.8s,baz=336,slow=12,SNR=3.0						
PLCA	Paso Flores	20.89	180	eP	P	20 22 57.3	+0.2
	4.2nm,0.7s						
OTAV	Otavalo	21.32	338	eP	P	20 23 01.6	0.0
	0.9nm,0.6s,mb3.3						
OTAV				e		20 23 13.8	
BDFB	Brasilia	21.91	83	P	P	20 23 06.5	-1.4
	7.0nm,0.6s,mb4.3,baz=251,slow=8.2,SNR=10						
BDFB				LR	LR	20 32 42.3	
	comp=Z,346nm,18.5s,MS3.8,baz=268,slow=40						
BDFB	Brasilia	21.91	83	eP	P	20 23 06.5	-1.4
	7.6nm,0.4s,mb4.5						
BAO	Brasilia Array	21.93	83	P	P	20 23 10.0	+1.9
SDV	Santo Domingo	28.48	360	eP	P	20 24 09.0	-0.5
	3.0nm,0.7s,mb4.0						
PCRV	Puerto La Cruz	30.33	12	LR	LR	20 37 59.6	
	comp=Z,529nm,18.4s,MS4.2,baz=181,slow=39						
PMSA	Palmer Station	45.19	176	P	P	20 26 31.5	+0.3
BBSR	BB Station	52.15	6	P	P	20 27 23.3	-1.5
SNAA	Sanae	64.42	161	eP	P	20 28 50.2	-0.3
	1.4nm,0.8s,mb4.0						
DBIC	Dimbokro	69.79	75	P	P	20 29 24.0	-0.5
	3.8nm,1.0s,mb4.3,baz=215,slow=10,SNR=4.8						
DBIC				LR	LR	20 58 54.8	
	comp=Z,74nm,19.5s,MS3.9,baz=268,slow=35						
DBIC	Dimbokro	69.79	75	P	P	20 29 25.1	+0.5
MSU	Marysvale	69.86	326	eP	P	20 29 25.5	+0.5
TMUT	Trail Mountain	69.95	327	eP	P	20 29 20.2	-5.3
QSPA	South Pole Qui	70.41	180	eP	P	20 29 28.2	-0.1
PDAR	Pinedale Array	71.83	331	P	P	20 29 37.5	+0.6
	0.4nm,0.7s,mb3.4,baz=101,slow=7.7,SNR=4.2						
NVAR	Mina Array Bea	73.16	323	P	P	20 29 45.9	+1.1
	0.3nm,0.5s,mb3.5,baz=144,slow=6.1,SNR=3.6						
NVAR	Mina Array Bea	73.16	323	P	P	20 29 45.9	+1.1
ULM	Lac du Bonnet	73.20	343	LR	LR	21 03 58.8	
	comp=Z,54nm,18.7s,MS3.9,baz=7.7,slow=38						
PPT	Papeete	74.17	257	LR	LR	20 54 50.7	
	comp=Z,85nm,20.8s,MS4.0,baz=27,slow=30						
HLID	Hailey	74.74	329	eP	P	20 29 54.9	+0.8
	2.7nm,1.0s,mb4.1						
VNDA	Vanda	78.27	190	P	P	20 30 13.4	-0.6
	0.3nm,0.8s,mb3.3,baz=202,slow=5.4,SNR=2.0						
TORD	Torodi Ar. Bea	78.29	71	P	P	20 30 13.9	-0.2
	5.6nm,0.7s,mb4.6,baz=252,slow=5.1,SNR=46						
TORD				LR	LR	21 03 22.1	
	comp=Z,96nm,20.5s,MS4.1,baz=170,slow=35						
MDT	Midelt	81.88	51	LR	LR	21 06 24.2	
	comp=Z,88nm,18.5s,MS4.2,baz=38,slow=35						
ESDC	Sonseca Array	85.74	45	P	P	20 30 53.9	+0.7
	0.2nm,0.4s,mb3.7,baz=261,slow=5.6,SNR=4.5						
MAW	Mawson	86.43	164	P	P	20 30 56.5	-0.2
MATP	Matopo	91.33	112	LR	LR	21 14 08.9	
	comp=Z,76nm,18.4s,MS4.2,baz=136,slow=37						
ASAR	Alice Springs	130.65	210	PKP	PKPdf	20 37 24.2	-0.7
	0.1nm,0.4s,baz=128,slow=1.9,SNR=3.5						
ASAR	Alice Springs	130.65	210	PKP	PKPdf	20 37 24.2	-0.7
ZAL	Zalesovo	141.03	23	PKP	PKPdf	20 37 44.0	-0.3
	0.7nm,0.3s,baz=358,slow=9.4,SNR=4.0						
MKAR	Makanchi Array	145.12	33	PKPbc	PKPbc	20 37 50.0	-1.0
	2.0nm,0.7s,baz=308,slow=2.9,SNR=15						
MJAR	Matsushiro Arr	149.75	310	PKPbc	PKPbc	20 38 04.6	+0.7
	0.7nm,0.5s,baz=0.0,slow=1.5,SNR=5.2						
SONM	Songino Array	151.90	4	PKPbc	PKPbc	20 38 09.1	+0.2
	0.8nm,0.5s,baz=277,slow=0.9,SNR=6.9						

TIF ***09*** *20:19:18.0, 4245N×4380E, h5km±2km*
ISCJB ***09*** *20:19:18.9±0.4, 4243N±002×4378E±004, h5km, Error ellipse: s-maj=3.9km s-min=2.9km az=162.5*
MOS ***09*** *20:19:19.3±1.1, 4248N×4385E, h10km, mb3.6/1, Error ellipse: s-maj=17.2km s-min=7.2km az=87.6*
ISC 09 20:19:19.3±0.4**, 4243N**±002×**4377E**±004**, h5**km**, n16, σ0.92**/32**, 3C-5D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONI	Oni	0.28	303	P	Pg	20 19 24.4	-0.4
ONI				S	Sg	20 19 28.5	0.0
ZEI	Tsey	0.36	15	⇓iPG	Pg	20 19 25.8	-0.4
ZEI				i S	Sg	20 19 31.9	+1.0
AMRG		0.48	281	P	Pg	20 19 28.6	+0.1
AMRG				S	Sg	20 19 38.4	+3.7
DIGR	Digorskoe uzhe	0.49	344	⇑iPG	Pg	20 19 27.7	-1.1
DIGR				i S	Sg	20 19 35.0	-0.3
GOR	Gori	0.51	150	P	Pg	20 19 28.7	-0.4
GOR				S	Sg	20 19 36.6	+1.0
KORR	Kora	0.70	18	⇑iPG	Pg	20 19 31.8	-0.9
KORR				i S	Sg	20 19 42.2	+0.5
ARNR	Ardon	0.85	26	⇓iPG	Pg	20 19 34.8	-0.9
ARNR				i S	Sg	20 19 47.2	+0.5
VLKR	Vladikavkaz	0.91	47	⇓iPG	Pg	20 19 36.0	-0.8
VLKR				i S	Sg	20 19 49.4	+0.7
TBLG	Delisi	1.00	134	ePG	Pg	20 19 38.3	-0.2
TBLG				eS	Sg	20 19 52.3	+0.8
SNJR	Sundja	1.00	50	⇓iPG	Pg	20 19 37.7	-0.8
SNJR				i S	Sg	20 19 52.3	+0.8
AKH	Akhalkalaki	1.03	192	P	Pg	20 19 38.3	-0.9
AKH				S	Sg	20 19 53.4	+0.8
BTKR	Batakoyurt	1.10	31	⇓iPG	Pg	20 19 39.5	-1.0
BTKR				i S	Sg	20 19 55.4	+0.6
PRTR	Priterechnaya	1.38	16	⇑iPG	Pg	20 19 43.8	-2.0
PRTR				i S	Sb	20 20 03.0	-0.5
KUBR	Kubataba	1.40	349	ePG	Pg	20 19 45.9	-0.3
KUBR				eS	Sb	20 20 06.1	+2.0
SHAR	Shatzhatmas	1.54	329	ePG	Pg	20 19 47.6	-1.3
SHAR				eS	Sn	20 20 09.1	+1.2
KIV0	Kislovodsk Arr	1.72	333	ePN	Pn	20 19 50.6	+0.7
KIV0				eS	Sn	20 20 13.8	+1.6

NNC 09 20:20:28.9±2.3**, 3909N**×**5844E, h0**km**, mb3.3, 6C, Error ellipse: s-maj=24.5km s-min=9.7km az=42.0, Turkmenistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	9.96	62	⇑Pn	Pn	20 22 55.7	+2.6
	0.2nm,0.3s,baz=240,slow=17,SNR=13						
KK31				⇑Sn	Sn	20 24 51.6	+6.0
	0.6nm,0.4s						
AB31	Akbulak array	10.22	6	⇑Pn	Pn	20 22 57.4	+0.6
	0.2nm,0.3s,baz=187,slow=12,SNR=6.3						
AB31				⇑Sn	Sn	20 24 53.7	+1.5
	0.6nm,0.3s,baz=196,slow=22,SNR=10						
AKTO	Aktyubinsk	11.35	359	⇑Pn	Pn	20 23 11.3	-1.0
AKTO				⇑Sn	Sn	20 25 19.8	-0.1

ISCJB ***09*** *20:21:49.0±0.4, 3739N±002×736W±002, h14km±2km, Error ellipse: s-maj=3.9km s-min=2.3km az=81.9*
CSEM ***09*** *20:21:49.6±0.1, 3726N×739W, h2km, ML3.0/20, Error ellipse: s-maj=2.4km s-min=1.1km az=44.0*
INMG ***09*** *20:21:49.3±0.9, 3724N×744W, h0km, ML2.9, Error ellipse: s-maj=1.8km s-min=1.1km az=36.0*
IGIL ***09*** *20:21:49.9, 3730N×747W, h2km, ML3.3*
MDD ***09*** *20:21:49.6±0.4, 3725N×743W, h3km±2km, mbLg2.7/31, Error ellipse: s-maj=3.6km s-min=1.8km az=23.0, PRXIMO II ISLA CRISTINA I POZO DEL CAMINO LEPE VILLABLANCA CARTAYA*
MDD EMS: III (MM) CASTRO MARIM AYAMONTE.
NEIC ***09*** *20:21:49.4, 3724N×743W, h3km, MN2.7(MDD), After MDD.*
NEIC Felt [III] at Ayamonte and [II] at Isla Cristina, Spain.
SFS ***09*** *20:21:49.0, 3723N×741W, h0km, ML2.8*
LDG ***09*** *20:21:50.4±0.4, 3725N×739W, h5km, Ml3.0/2, Error ellipse: s-maj=8.6km s-min=3.7km az=45.0*
ISC 09 20:21:49.4±0.4**, 3730N**±002×**742W**±002**, h15**km±2km**, n107, σ1.07**/192**, 1C-1D, Portugal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERIP	Rio Piedras	0.15	61	⇑Pg	Pg	20 21 53.0	-0.3
	239nm,0.1s,SNR=18						
ERIP				Lg		20 21 55.9	
	425nm,0.1s,SNR=7.9						
EGRO	El Granado	0.24	347	⇓Pg	Pg	20 21 54.9	+0.3
	29nm,0.1s,SNR=18						
EGRO				Lg		20 21 59.0	
	580nm,0.2s,SNR=5.0						
EGRO	El Granado	0.24	347	Pg	Pg	20 21 54.9	+0.3
	29nm,0.1s,SNR=18						
EGRO				Lg		20 21 59.0	
	580nm,0.2s,SNR=5.0						
EMIN	Mina Concepcio	0.75	52	Pg	Pg	20 22 04.1	0.0
	22nm,0.2s,SNR=234						
EMIN				Lg		20 22 14.7	
	83nm,0.2s,SNR=37						
EMIN	Mina Concepcio	0.75	52	Pg	Pg	20 22 04.1	0.0
	22nm,0.2s,SNR=234						
PBEJ	Beja	0.81	334	eP	Pg	20 22 04.6	-0.5
PBEJ				eS	Sg	20 22 16.9	+1.2
PBEJ							
	112nm,0.1s						
PBEJ	Beja	0.81	334	Pg	Pg	20 22 04.6	-0.5
PBEJ				eS	Sg	20 22 16.9	+1.2
	112nm,0.1s						
MORF	Marmelete	0.98	271	eP	Pb	20 22 06.5	-1.7
MORF				eS	Sb	20 22 19.3	-1.8
MORF				eS	Sb	20 22 19.3	-1.7
MORF				AML	AML	20 22 23.0	
	comp=E,1μm,0.2s						
MORF	Marmelete	0.98	271	eP	Pb	20 22 06.5	-1.7
MORF				eS	Sb	20 22 19.3	-1.7
PTEO	Sao Teotonio	1.07	284	eP	Pb	20 22 08.9	-0.8
PTEO				eS	Sb	20 22 23.3	-0.2
PTEO							
	comp=E,394nm,0.2s						
PTEO	Sao Teotonio	1.07	284	Pg	Pg	20 22 08.7	-1.4
PTEO				Lg		20 22 23.6	
PTEO	Sao Teotonio	1.07	284	Pg	Pg	20 22 08.7	-1.4
PTEO				eS	Sb	20 22 23.3	-0.2
	comp=E,394nm,0.2s						
GIBL	Gibalbin	1.25	112	eP	Pn	20 22 13.0	+0.6
GIBL				eS	Sb	20 22 30.0	+1.3
ESPR	Espera	1.32	109	Pg	Pg	20 22 13.0	-1.8
	comp=E,22nm,0.3s,SNR=212						
ESPR				Lg		20 22 31.4	
	comp=E,206nm,0.2s,SNR=10						
ESPR	Espera	1.32	109	Pg	Pg	20 22 13.2	-1.7
ESPR				Lg		20 22 31.4	
ESPR	Espera	1.32	109	Pg	Pg	20 22 13.2	-1.7
	comp=E,22nm,0.3s,SNR=212						
CNIL	Conil	1.44	130	P	Pn	20 22 16.2	+1.3
CNIL				S	Sn	20 22 32.5	-1.0
CNIL	Conil	1.44	130	eP	Pn	20 22 16.2	+1.3
CNIL				eS	Sn	20 22 32.5	-1.0
EBAD	Badajoz	1.48	12	Pn	Pn	20 22 16.2	+0.6
	comp=E,1.1nm,0.1s,SNR=50						
EBAD				Pg	Pg	20 22 17.9	-0.1
	comp=E,2.4nm,0.1s,SNR=7.9						
EBAD				Lg		20 22 37.2	
	comp=E,119nm,0.2s,SNR=18						
EBAD	Badajoz	1.48	12	Pn	Pn	20 22 16.2	+0.6
	comp=E,1.1nm,0.1s,SNR=50						
EBAD	Badajoz	1.48	12	Pg	Pg	20 22 17.9	-0.1
	comp=E,2.4nm,0.1s,SNR=7.9						
PESTR	Estremoz	1.57	355	ePn	Pn	20 22 17.5	+0.7
PESTR				eSn	Sn	20 22 38.4	+1.6
PESTR							
	comp=E,90nm,0.5s						
PESTR	Estremoz	1.57	355	ePn	Pn	20 22 17.5	+0.7
PESTR				eSn	Sn	20 22 38.4	+1.6
	comp=E,90nm,0.5s						
LIJA	Lijar	1.66	103	P	Pn	20 22 20.2	+2.3
LIJA				S	Sn	20 22 38.0	-1.0
LIJA	Lijar	1.66	103	i P	Pn	20 22 20.2	+2.2
LIJA				eS	Sn	20 22 38.0	-1.0
PLML	Palmela	1.72	317	ePg	Pg	20 22 21.6	-0.8
PLML				eSg	Sg	20 22 45.9	+1.2
EJIF	Jimena Fronter	1.78	118	Pn	Pn	20 22 19.7	0.0
	comp=E,1.2nm,0.2s,SNR=7.9						
EJIF				Pg	Pg	20 22 23.2	-0.4
	SNR=7.9						
EJIF				Lg		20 22 44.8	
	comp=E,4.3nm,0.2s,SNR=7.9						
LIS	Lisbon	1.97	316	eP	Pn	20 22 22.0	-0.2
LIS				eS	Sn	20 22 45.4	-1.3
LIS				AML	AML	20 22 57.7	
	comp=N,161nm,0.4s						
LIS	Lisbon	1.97	316	eP	Pn	20 22 22.0	-0.3
LIS				eS	Sn	20 22 45.4	-1.3
ALMR	Almeirim	2.06	334	eP	Pn	20 22 23.6	0.0
ALMR				eS	Sn	20 22 48.0	-1.1
ALMR				eS	Sn	20 22 48.0	-1.1
ALMR				AML	AML	20 23 00.1	
	comp=E,188nm,0.7s						
ALMR	Almeirim	2.06	334	eP	Pn	20 22 23.6	0.0
ALMR				eS	Sn	20 22 48.0	-1.1
PLOU	Loures	2.09	320	ePg	Pg	20 22 29.8	+0.2
PLOU							
	comp=E,78nm,0.5s						
PLOU	Loures	2.09	320	Pn	Pn	20 22 26.4	+2.4
PLOU	Loures	2.09	320	ePg	Pg	20 22 29.8	+0.2
	comp=E,78nm,0.5s						
EMIJ	Mijas	2.24	108	Pn	Pn	20 22 25.6	-0.5
	comp=E,1.5nm,0.1s,SNR=16						
EMIJ				Sn	Sn	20 22 52.8	-0.7
	comp=E,7.3nm,0.2s,SNR=5.0						
EMIJ				Lg		20 23 01.2	
	comp=E,21nm,0.3s,SNR=7.9						
EMIJ	Mijas	2.24	108	Pn	Pn	20 22 25.6	-0.4
	comp=E,1.5nm,0.1s,SNR=16						
EMIJ				Sn	Sn	20 22 52.8	-0.7
	comp=E,15nm,0.4s,SNR=5.0						
EADA	Adamuz	2.41	68	Pn	Pn	20 22 28.9	+0.5
	comp=E,0.9nm,0.1s,SNR=12						
EADA				Pg	Pg	20 22 34.0	-1.7
	comp=E,2.8nm,0.3s,SNR=16						
EADA				Sn	Sn	20 22 57.6	-0.1
	comp=E,9.6nm,0.2s,SNR=4.0						
EADA				Lg		20 23 04.3	
	comp=E,16nm,0.1s,SNR=5.0						
EADA	Adamuz	2.41	68	Pn	Pn	20 22 28.9	+0.5
	comp=E,0.9nm,0.1s,SNR=12						
EADA	Adamuz	2.41	68	Pg	Pg	20 22 34.0	-1.7
	comp=E,2.8nm,0.3s,SNR=16						
EADA				Sn	Sn	20 22 57.6	0.0
	comp=E,9.6nm,0.2s,SNR=4.0						
PTOM	Tomar	2.44	342	ePn	Pn	20 22 29.9	+1.1
PTOM	Tomar	2.44	342	ePg	Pg	20 22 35.0	-1.2
PTOM				eSg	Sg	20 23 08.0	+0.1
PTOM							
	comp=E,96nm,0.5s						
PTOM	Tomar	2.44	342	Pn	Pn	20 22 29.9	+1.1
PTOM				Pg	Pg	20 22 35.0	-1.2
PTOM				Sn	Sn	20 23 01.3	+2.9
PTOM				Lg		20 23 08.0	
	comp=E,48nm,0.5s						
PTOM	Tomar	2.44	342	Pn	Pn	20 22 29.9	+1.1
PTOM				Sn	Sn	20 23 01.3	+2.9
PTOM	Tomar	2.44	342	ePg	Pg	20 22 35.0	-1.2
PTOM				Sn	Sn	20 23 01.3	+2.9
PTOM				eSg	Sg	20 23 08.0	+0.1
	comp=E,96nm,0.5s						
PCBR	Castelo Branco	2.54	359	ePn	Pn	20 22 30.5	+0.4
PCBR				eSn	Sn	20 23 01.8	+1.1
PCBR				eSg	Sg	20 23 11.6	+0.7
PCBR							
	comp=E,46nm,0.4s						
PCBR	Castelo Branco	2.54	359	Pn	Pn	20 22 30.5	+0.4
PCBR				Sn	Sn	20 23 02.3	+1.6
PCBR				Lg		20 23 11.6	
	comp=E,23nm,0.4s						
PCBR	Castelo Branco	2.54	359	ePn	Pn	20 22 30.5	+0.4
PCBR				eSn	Sn	20 23 01.8	+1.1
PCBR				eSg	Sg	20 23 11.6	+0.7
	comp=E,46nm,0.4s						
ELOJ	Sierra Loja	2.61	92	Pn	Pn	20 22 31.2	+0.1
	comp=E,1.2nm,0.2s,SNR=7.3						
ELOJ				Sn	Sn	20 23 02.9	+0.4
	comp=E,3.7nm,0.2s,SNR=7.9						
ELOJ				Lg		20 23 13.2	
	comp=E,5.9nm,0.2s,SNR=5.0						
ELOJ	Sierra Loja	2.61	92	Pn	Pn	20 22 31.2	+0.1
	comp=E,1.2nm,0.2s,SNR=7.3						
ELOJ				Sn	Sn	20 23 02.9	+0.4
	comp=E,3.7nm,0.2s,SNR=7.9						
EBAN	Banos Encina	3.00	72	Pn	Pn	20 22 36.6	0.0
	comp=E,1.5nm,0.1s,SNR=7.9						
EBAN				Lg		20 23 25.9	
	comp=E,9.4nm,0.2s,SNR=4.0						
ECOG	Cogollos-Vega	3.07	89	Pn	Pn	20 22 38.0	+0.5
	comp=E,1.1nm,0.1s,SNR=7.9						
ECOG				Sn	Sn	20 23 18.4	+4.5
	comp=E,2.0nm,0.2s,SNR=7.9						
ECOG				Lg		20 23 29.1	
	comp=E,3.5nm,0.2s,SNR=7.9						
MTE	Manteigas	3.10	358	eSn	Sn	20 23 14.3	-0.2
MTE				eSg	Sg	20 23 26.6	-2.3
MTE							
	comp=E,60nm,0.7s						
MTE	Manteigas	3.10	358	eSn	Sn	20 23 14.3	-0.2
MTE				eSg	Sg	20 23 26.6	-2.3
	comp=E,60nm,0.7s						
EGUA	Guajares	3.12	97	Pn	Pn	20 22 39.3	+1.3
	comp=E,0.4nm,0.1s,SNR=7.9						
EGUA				Sn	Sn	20 23 15.9	+0.9
	comp=E,0.6nm,0.2s,SNR=7.9						
EQUE	Quentar	3.17	91	Pn	Pn	20 22 39.0	+0.2
	comp=E,0.8nm,0.2s,SNR=8.3						
EQUE				Sn	Sn	20 23 16.1	-0.3
	comp=E,3.7nm,0.3s,SNR=7.9						
EQUE				Lg		20 23 29.7	
	comp=E,3.7nm,0.3s,SNR=7.9						
PVIS	Viseu	3.43	354	ePn	Pn	20 22 42.8	+0.4
PVIS				eSg	Sg	20 23 38.9	-0.7
PVIS							
	comp=E,22nm,0.8s						
PVIS	Viseu	3.43	354	Pn	Pn	20 22 44.7	+2.3
PVIS				Lg		20 23 39.0	
PVIS	Viseu	3.43	354	ePn	Pn	20 22 42.8	+0.4
PVIS				eSg	Sg	20 23 38.9	-0.7
	comp=E,22nm,0.8s						
EQES	Quesada	3.49	80	Pn	Pn	20 22 42.9	-0.3
	comp=E,0.7nm,0.1s,SNR=7.8						
EQES				Sn	Sn	20 23 23.9	-0.3
	comp=E,2.0nm,0.2s,SNR=7.9						
EQES				Lg		20 23 41.4	
	comp=E,8.1nm,0.2s,SNR=5.0						
EQES	Quesada	3.49	80	Pn	Pn	20 22 42.9	-0.3
	comp=E,0.7nm,0.1s,SNR=7.8						
EQES				Sn	Sn	20 23 24.0	-0.2
ESDC	Sonseca Array	3.60	48	Pn	Pn	20 22 44.9	+0.2
	comp=E,1.5nm,0.2s,baz=230,slow=13,SNR=26						
ESDC				Sn	Sn	20 23 26.3	-0.6
	comp=E,1.2nm,0.3s,baz=230,slow=24,SNR=5.2						
ESDC				Lg		20 23 43.3	
	comp=E,8.0nm,0.3s,baz=226,slow=28,SNR=24						
ESDC	Sonseca Array	3.60	48	Pn	Pn	20 22 44.9	+0.2
	comp=E,1.5nm,0.2s,SNR=26						
ESDC				Sn	Sn	20 23 26.3	-0.6
	comp=E,1.2nm,0.3s,SNR=5.2						
EBER	Berja	3.64	95	Pn	Pn	20 22 46.1	+0.8
	comp=E,0.7nm,0.2s,SNR=7.9						
EBER				Sn	Sn	20 23 27.6	-0.4
	comp=E,3.0nm,0.3s,SNR=7.9						
EBER	Berja	3.64	95	Pn	Pn	20 22 46.1	+0.8
	comp=E,0.7nm,0.2s,SNR=7.9						
EBER				Sn	Sn	20 23 27.6	-0.4
	comp=E,3.0nm,0.3s,SNR=7.9						
PVRL	Vila Real	3.98	357	ePn	Pn	20 22 50.2	+0.3
PVRL				eSn	Sn	20 23 35.5	-0.7
PVRL				eSg	Sg	20 23 57.9	+0.8
PVRL							
	comp=E,22nm,0.6s						
PVRL	Vila Real	3.98	357	Pn	Pn	20 22 50.0	+0.1
PVRL				Sn	Sn	20 23 35.3	-0.9
EVIA	Vianos	4.11	70	Pn	Pn	20 22 51.4	-0.3
	comp=E,0.8nm,0.1s,SNR=7.9						
EVIA				Sn	Sn	20 23 38.3	-1.1
	comp=E,2.4nm,0.2s,SNR=7.9						
EVIA				Lg		20 23 58.9	
	comp=E,24nm,0.6s,SNR=7.9						
EVIA	Vianos	4.11	70	Pn	Pn	20 22 51.4	-0.3
	comp=E,0.8nm,0.1s,SNR=7.9						
EVIA				Sn	Sn	20 23 38.3	-1.1
	comp=E,2.4nm,0.2s,SNR=7.9						
GUD	Guadarrama	4.19	36	Pn	Pn	20 22 53.6	+0.8
	comp=E,1.5nm,0.2s,SNR=25						
GUD				Sn	Sn	20 23 43.0	+1.4
	comp=E,3.5nm,0.4s,SNR=7.9						
GUD				Lg		20 24 03.3	
	comp=E,20nm,0.5s,SNR=9.4						
GUD	Guadarrama	4.19	36	Pn	Pn	20 22 53.6	+0.7
	comp=E,1.5nm,0.2s,SNR=25						
GUD				Sn	Sn	20 23 43.0	+1.4
	comp=E,3.5nm,0.4s,SNR=7.9						
PCAB	Cabril	4.43	354	ePn	Pn	20 22 56.3	+0.2
PCAB				eSn	Sn	20 23 45.1	-2.3
PCAB				eSg	Sg	20 24 12.3	+0.7
PCAB							
	comp=E,18nm,0.3s						
PCAB	Cabril	4.43	354	Pn	Pn	20 22 58.2	+2.1
PCAB				Sn	Sn	20 23 46.5	-0.9
PCAB				Lg		20 24 12.3	
	comp=E,9.1nm,0.3s						
PCAB	Cabril	4.43	354	Pn	Pn	20 22 58.2	+2.1
PCAB				Sn	Sn	20 23 46.5	-0.9
PBRG	Braganca	4.53	6	eSn	Sn	20 23 48.7	-1.1
PBRG				eSg	Sg	20 24 13.6	-1.2
PBRG							
	comp=E,12nm,0.5s						
PBRG	Braganca	4.53	6	Pn	Pn	20 23 00.1	+2.6
PBRG				Sn	Sn	20 23 47.3	-2.5
PBRG				Lg		20 24 13.6	
	comp=E,6.1nm,0.5s						
PBRG	Braganca	4.53	6	Pn	Pn	20 23 00.1	+2.6
PBRG				Sn	Sn	20 23 47.3	-2.5
PBRG	Braganca	4.53	6	Sn	Sn	20 23 47.3	-2.5
ELOB	Lobios	4.59	354	Pn	Pn	20 22 58.5	+0.2
	comp=E,0.9nm,0.2s,SNR=7.9						
ELOB				Sn	Sn	20 23 51.0	-0.3
	comp=E,2.3nm,0.2s,SNR=7.9						
ELOB				Lg		20 24 17.2	
	comp=E,6.3nm,0.3s,SNR=7.9						
ELOB	Lobios	4.59	354	Pn	Pn	20 22 58.5	+0.2
	comp=E,0.9nm,0.2s,SNR=7.9						
ELOB				Sn	Sn	20 23 51.0	-0.3
	comp=E,2.3nm,0.2s,SNR=7.9						
ECAL	Calabor	4.66	6	Pn	Pn	20 23 00.2	+0.8
	comp=E,0.8nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	20 23 52.0	-1.2
	comp=E,5.3nm,0.3s,SNR=7.9						
ECAL				Lg		20 24 19.5	
	comp=E,33nm,0.4s,SNR=7.9						
ECAL	Calabor	4.66	6	Pn	Pn	20 23 00.2	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
ECAL				Sn	Sn	20 23 52.0	-1.2
ECAL				Lg		20 24 19.5	
ECAL	Calabor	4.66	6	Pn	Pn	20 23 00.2	+0.9
	comp=E,0.8nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	20 23 52.0	-1.2
	comp=E,5.3nm,0.3s,SNR=7.9						
ETOB	Tobarra	4.83	72	Pn	Pn	20 23 01.4	-0.2
	comp=E,0.7nm,0.2s,SNR=7.0						
ETOB				Sn	Sn	20 23 55.2	-2.0
	comp=E,1.7nm,0.2s,SNR=7.9						
ETOB				Lg		20 24 25.0	
	comp=E,9.7nm,0.4s,SNR=5.0						
ETOB	Tobarra	4.83	72	Pn	Pn	20 23 01.4	-0.2
	comp=E,0.7nm,0.2s,SNR=7.0						
ETOB				Sn	Sn	20 23 55.2	-2.0
	comp=E,1.7nm,0.2s,SNR=7.9						
EMUR	La Murta	4.94	82	Pn	Pn	20 23 02.5	-0.6
	comp=E,0.6nm,0.3s,SNR=7.9						
EMUR				Sn	Sn	20 23 59.0	-0.9
	comp=E,1.7nm,0.4s,SNR=7.9						
EMUR				Lg		20 24 27.2	
	comp=E,2.5nm,0.4s,SNR=7.9						
EMUR	La Murta	4.94	82	Pn	Pn	20 23 02.5	-0.6
	comp=E,0.6nm,0.3s,SNR=7.9						
EMUR				Sn	Sn	20 23 59.0	-0.9
	comp=E,1.7nm,0.4s,SNR=7.9						
ETOR	Torete	5.45	48	Pn	Pn	20 23 10.5	+0.3
	comp=E,1.6nm,0.2s,SNR=14						
ETOR				Sn	Sn	20 24 12.4	-0.3
	comp=E,1.0nm,0.2s,SNR=7.9						
ETOR				Lg		20 24 45.4	
	comp=E,4.2nm,0.4s						
ETOR	Torete	5.45	48	Pn	Pn	20 23 10.5	+0.3
ETOR				Sn	Sn	20 24 12.4	-0.3
	comp=E,1.0nm,0.2s,SNR=7.9						
ETOR				Sn	Sn	20 24 12.4	-0.3
ECHE	Chera	5.55	64	Lg		20 24 49.6	
	comp=E,1.6nm,0.4s,SNR=7.9						
EBEN	Beniarda	5.85	74	Pn	Pn	20 23 15.3	-0.3
	comp=E,0.2nm,0.1s,SNR=7.9						
EBEN				Sn	Sn	20 24 21.3	-1.1
	comp=E,0.7nm,0.3s,SNR=4.0						
EBEN	Beniarda	5.85	74	Pn	Pn	20 23 15.3	-0.3
	comp=E,0.2nm,0.1s,SNR=7.9						
EBEN				Sn	Sn	20 24 21.3	-1.1
	comp=E,0.7nm,0.3s,SNR=4.0						
EPON	Pontenova	6.02	2	Pn	Pn	20 23 15.8	-2.2
	comp=E,0.5nm,0.2s,SNR=4.0						
EPON				Lg		20 25 03.0	
	comp=E,7.1nm,0.6s,SNR=22						
EMOS	Mosqueruela	6.22	58	Pn	Pn	20 23 22.9	+2.1
	comp=E,0.3nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	20 24 31.6	-0.1
	comp=E,0.4nm,0.2s,SNR=7.9						
EMOS				Lg		20 25 09.6	
	comp=E,1.4nm,0.5s,SNR=7.9						
EMOS	Mosqueruela	6.22	58	Pn	Pn	20 23 22.9	+2.1
EMOS				Sn	Sn	20 24 31.8	+0.2
EMOS				Lg		20 25 09.6	
EMOS	Mosqueruela	6.22	58	Pn	Pn	20 23 22.9	+2.1
EMOS				Sn	Sn	20 24 31.8	+0.2
EARI	Arriondas	6.22	15	Pn	Pn	20 23 22.2	+1.4
	comp=E,0.2nm,0.2s,SNR=7.9						
EARI				Sn	Sn	20 24 31.4	-0.3
	comp=E,0.6nm,0.3s,SNR=7.9						
EARI				Lg		20 25 10.5	
	comp=E,9.4nm,0.6s,SNR=6.2						
EARI	Arriondas	6.22	15	Pn	Pn	20 23 22.2	+1.4
EARI				Sn	Sn	20 24 31.4	-0.3
ELAN	Lanestosa	6.66	26	Sn	Sn	20 24 40.6	-1.7
	comp=E,0.6nm,0.2s,SNR=7.9						
ELAN				Lg		20 25 23.6	
	comp=E,2.1nm,0.3s,SNR=7.9						
ETSF	Etsaut	7.67	41	ePn	Pn	20 23 41.5	+0.9
ETSF				eSn	Sn	20 25 04.1	-3.2
	comp=E,2.4nm,0.6s						
ETSF	Etsaut	7.67	41	Pn	Pn	20 23 41.5	+0.9
ETSF				Sn	Sn	20 25 04.1	-3.2
	comp=E,1.2nm,0.6s						
EBIE	Bielsa	7.91	45	P	Pn	20 23 46.0	+2.1
EPF	Esparros	8.24	44	ePn	Pn	20 23 50.2	+1.7
MTLF	Montolieu	9.51	48	eSg	Sx	20 26 46.8	
	comp=E,1.4nm,0.6s						
MTLF	Montolieu	9.51	48	eSg	Sx	20 26 46.8	
	comp=E,0.7nm,0.6s						
CAF	Calviac	10.44	40	ePn	Pn	20 24 18.6	0.0
MFF	Saint Martin d	10.75	28	ePn	Pn	20 24 24.0	+1.2
QUIF	Quistinic	11.06	15	ePn	Pn	20 24 27.1	0.0

*ISCJB **09** 20:23:44.4±0.6, 4048N±004×1415E±0.1, h89km±4km, mb3.6/4, Error ellipse: s-maj=12.8km s-min=6.2km az=167.1*
*JMA **09** 20:23:45.4±0.1, 4047N×14145E, h82km±1km, M3.2 Broadband fault plane solution: P waves. NP1: φs234.00000°, δ43.00000°, λ-113.00000°. NP2: φs84.00000°, δ51.00000°, λ-70.00000°. Principal axes: T Plg4.0000°, Azm160.0000°; N Plg15.0000°, Azm251.0000°; P Plg74.0000°, Azm55.0000°;*
JMA Felt I J1.
*IDC **09** 20:23:46.6±2.4, 4044N×14167E, h104km±23km, mb3.3/4, mb1 3.4/6, mb1mx3.1/22, mbtmp3.6/6, MS4.1/2, Ms1 4.1/2, ms1mx2.8/20 Error ellipse: s-maj=45.1km s-min=19.1km az=88.0*
ISC 09 20:23:45.4±0.6, 4048N±004×14147E±010, h83km±4km, n18, σ0.76/25, mb3.6/4, 3C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JANG	Nango	0.11	161	⇓P	Pn	20 23 57.1	-0.2
JANG				S	Sn	20 24 05.6	-0.5
JTM	Tenmabayashi	0.43	315	⇓P	Pn	20 23 58.7	-0.2
JTM				S	Sn	20 24 08.5	-0.4
JAH	Hinai	0.70	246	⇓P	Pn	20 24 01.1	-0.2
JAH				S	Sn	20 24 12.7	-0.5
JOT	Ohata	0.95	341	P	Pn	20 24 04.4	+0.3
JOT				S	Sn	20 24 18.2	+0.1
JOM	Ohasama	1.01	188	⇑P	Pn	20 24 05.0	+0.1
JOM				S	Sn	20 24 19.4	0.0
JIW	Iwasaki	1.12	276	⇓P	Pn	20 24 06.1	0.0
JIW				S	Sn	20 24 21.3	-0.2
JSR	Shiriuchi	1.31	323	⇑P	Pn	20 24 08.5	0.0
JSR				S	Sn	20 24 25.8	-0.1
JMK	Ichinoseki	1.54	187	⇑P	Pn	20 24 11.5	+0.1
JMK				S	Sn	20 24 30.7	-0.3
ASAJ	Asahikawa	3.73	13	P	Pn	20 24 42.1	+1.5
	1.2nm,0.3s,baz=205,slow=16,SNR=12						
ASAJ				S	Sn	20 25 32.6	+9.2
	1.7nm,0.3s,baz=334,slow=30,SNR=6.4						
MAT	Matsushiro	4.69	214	P	Pn	20 24 55.4	+1.7
MJAR	Matsushiro Arr	4.69	214	P	Pn	20 24 56.1	+2.3
	0.6nm,0.3s,baz=27,slow=13,SNR=9.0						
MKAR	Makanchi Array	42.41	299	P	P	20 31 31.9	+0.2
	0.6nm,0.8s,mb3.4,baz=68,slow=9.6,SNR=4.3						
PMG	Port Moresby	49.91	173	LR	LR	20 51 25.3	
	comp=Z,209nm,18.3s,baz=52,slow=33						
CTA	Charters Tower	60.42	175	LR	LR	20 56 33.0	
	comp=Z,151nm,21.4s,baz=239,slow=33						
WRA	Warramunga Arr	60.48	188	P	P	20 33 45.0	-1.5
	0.5nm,0.4s,mb3.9,baz=5.3,slow=6.7,SNR=16						
ASAR	Alice Springs	64.20	188	P	P	20 34 10.6	-0.8
	0.7nm,0.8s,mb3.5,baz=0.6,slow=6.6,SNR=9.2						
ASAR	Alice Springs	64.20	188	P	P	20 34 10.6	-0.8
FINES	FINESS Array B	65.80	332	P	P	20 34 21.0	-0.7
	0.5nm,0.6s,mb3.5,baz=54,slow=9.7,SNR=4.1						

*ISCJB **09** 20:37:08.3±3.2, 50S±02×1503E±0.1, h47km±29km, mb3.9/5, MS3.6/1, Error ellipse: s-maj=31.0km s-min=14.0km az=118.2*
*IDC **09** 20:37:10.2±8.3, 496S×15024E, h46km±62km, mb3.6/3, mb1 4.0/4, mb1mx3.5/15, mbtmp4.0/4, ML3.4/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/20, Error ellipse: s-maj=102.8km s-min=57.4km az=120.0*
*NEIC **09** 20:37:11.1±2.0, 503S×15032E, h60km±20km, mb4.3/3, Error ellipse: s-maj=22.9km s-min=11.6km az=146.0*
ISC 09 20:37:10.7±2.5, 50S±02×1503E±01, h53km±24km, n19, σ0.80/17, mb3.9/5, MS3.6/1, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.39	215	P	Pn	20 38 27.8	-0.6
	8.4nm,0.3s,baz=44,slow=7.0,SNR=27						
PMG				S	Sn	20 39 29.3	+0.1
	0.7nm,0.3s,baz=236,slow=18,SNR=1.6						
HNR	Honiara	10.54	115	ePn	Pn	20 39 39.7	+0.8
HNR				e		20 39 46.3	
CTA	Charters Tower	15.52	194	LR	LR	20 45 26.3	
	comp=Z,201nm,20.6s,baz=14,slow=32						
CTAO	Charters Tower	15.52	194	Pn	Pn	20 40 45.2	-0.8
WRAB	Tennant Creek	21.50	225	eP	P	20 41 55.2	+0.3
	3.2nm,0.4s,mb4.0						
WB2	Warramunga Arr	21.50	225	eP	P	20 41 54.5	-0.5
WRA	Warramunga Arr	21.51	225	P	P	20 41 54.9	-0.1
	2.0nm,0.6s,mb3.8,baz=50,slow=10,SNR=23						
AS31	Alice Springs	24.39	219	eP	P	20 42 24.7	+0.8
ASAR	Alice Springs	24.39	219	P	P	20 42 23.8	-0.1
	1.0nm,0.6s,mb3.4,baz=51,slow=8.6,SNR=24						
ASPA	Alice Springs	24.39	219	eP	P	20 42 24.7	+0.8
FITZ	Fitzroy Crossi	27.41	240	eP	P	20 42 52.4	+1.2
	5.1nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	27.41	240	P	P	20 42 51.9	+0.8
	2.8nm,0.7s,mb3.9,baz=78,slow=9.7,SNR=10						
STKA	Stephens Creek	27.97	196	P	P	20 42 54.5	-1.7
MBWA	Marble Bar	33.74	239	eP	P	20 43 48.4	+1.4
	2.7nm,0.6s,mb4.3						
AFI	Afiamalu	38.39	106	LR	LR	20 57 58.6	
	comp=Z,91nm,20.7s,MS3.6,baz=159,slow=32						
KURK	Kurchatov	82.39	322	eP	P	20 49 26.6	-0.3
BRVK	Borovoye	87.97	323	P	P	20 49 54.8	-0.1
ZRNK	Zerenda	88.71	323	P	P	20 49 57.4	-1.0
TORD	Torodi Ar. Bea	147.99	287	PKPbc	PKPbc	20 56 50.8	+0.7
	0.3nm,0.8s,baz=74,slow=2.4,SNR=4.4						

*NEIC **09** 20:39:17.6, 3083S×7176W, h15km, ML3.7(GUC), After GUC.*
GUC 09 20:39:17.5±0.9, 3084S×7176W, h15km±8km, MD4.2, ML3.7, 4C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OVCH	Ovalle	0.53	65	⇓iP	Pg	20 39 28.4	+0.4
OVCH				iS	Sg	20 39 35.6	+0.5
OVCH				AML	AML	20 39 36.3	
	comp=E,4μm,0.3s						
OVCH	Ovalle	0.53	65	⇓iP	Pg	20 39 28.4	+0.4
OVCH				iS	Sg	20 39 35.7	+0.6
CMCH	Combarbala	0.73	118	⇑iP	Pg	20 39 31.0	-0.7
CMCH				iS	Sg	20 39 40.9	-0.5
CMCH				AML	AML	20 39 49.3	
	comp=E,4μm,1.0s						
CMCH	Combarbala	0.73	118	⇑iP	Pg	20 39 31.0	-0.7
CMCH				iS	Sg	20 39 40.9	-0.5
TLL	Tololo Astrono	1.06	51	⇓iP	Pb	20 39 37.1	-0.4
TLL				iS	Sb	20 39 51.0	-0.1
TLL				AML	AML	20 39 54.7	
	comp=N,3μm,0.5s						
TLL	Tololo Astrono	1.06	51	⇓iP	Pb	20 39 37.1	-0.4
TLL				iS	Sb	20 39 51.0	-0.1
PACH	Papudo	1.72	171	eP	Pn	20 39 46.6	-0.3
PACH	Papudo	1.72	171	eP	Pn	20 39 46.5	-0.3
LCO	Las Campanas	2.04	27	⇑iP	Pn	20 39 52.0	+0.8
LCO				iS	Sn	20 40 18.3	+1.9
LCO	Las Campanas	2.04	27	⇑iP	Pn	20 39 52.0	+0.8
LCO				eS	Sn	20 40 17.8	+1.4
JACH	Jahuel	2.09	152	eP	Pn	20 39 52.9	+0.9
JACH	Jahuel	2.09	152	⇓iP	Pn	20 39 52.9	+0.9
JACH				eS	Sn	20 40 20.4	+2.7
PEL	Peldehue	2.47	159	⇓eP	Pn	20 39 58.1	+0.8
PEL				iS	Sn	20 40 29.5	+2.4
PEL				AML	AML	20 40 33.7	
	comp=E,767nm,0.4s						
PEL	Peldehue	2.47	159	eP	Pn	20 39 58.1	+0.9
PEL				eS	Sn	20 40 29.8	+2.7
CLCH	Cerro Calan	2.75	158	eP	Pn	20 40 03.5	+2.4
CLCH				iS	Sn	20 40 37.4	+3.3
CLCH				AML	AML	20 40 48.7	
	comp=E,617nm,0.6s						
FCH	Farellones	2.78	154	eP	Pn	20 40 02.7	+1.3

*ISCJB **09** 20:47:37.0±3.4, 56S±0.1×1509E±0.1, h53km±27km, mb4.0/7, MS3.7/3, Error ellipse: s-maj=24.4km s-min=17.1km az=171.2*
*NEIC **09** 20:47:39.5±2.0, 560S×15085E, h59km±16km, mb4.3/3, Error ellipse: s-maj=16.4km s-min=10.3km az=78.0*
*IDC **09** 20:47:40.2±6.9, 563S×15078E, h61km±53km, mb3.7/6, mb1 4.0/7, mb1mx3.7/15, mbtmp4.1/7, ML3.3/1, MS3.5/5, Ms1 3.5/5, ms1mx3.3/15, Error ellipse: s-maj=55.0km s-min=28.7km az=80.0*
ISC 09 20:47:38.7±3.0, 56S±01×1510E±01, h55km±24km, n29, σ0.71/25, mb4.0/7, MS3.7/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.38	225	P	Pn	20 48 55.5	-0.8
	7.8nm,0.3s,baz=28,slow=10,SNR=14						
PMG				S	Sn	20 49 58.8	+1.9
	baz=360,slow=19,SNR=1.9						
HNR	Honiara	9.66	114	LR	LR	20 52 45.3	
	comp=Z,107nm,21.7s,baz=177,slow=31						
CTAO	Charters Tower	15.14	197	eP	Pn	20 51 09.3	+0.2
	3.8nm,0.6s						
GUMO	Guam	19.99	342	LR	LR	20 58 05.1	
	comp=Z,126nm,18.9s,baz=59,slow=31						
WRAB	Tennant Creek	21.58	227	eP	P	20 52 23.4	-0.3
WRAB				e		20 52 35.5	
WB2	Warramunga Arr	21.58	227	eP	P	20 52 22.8	-1.0
WRA	Warramunga Arr	21.59	227	P	P	20 52 22.6	-1.2
	3.4nm,0.7s,mb3.9,baz=50,slow=10,SNR=15						
AS31	Alice Springs	24.37	221	eP	P	20 52 51.9	+0.3
ASAR	Alice Springs	24.38	221	P	P	20 52 51.8	+0.1
	2.6nm,0.6s,mb3.9,baz=56,slow=8.0,SNR=23						
ASPA	Alice Springs	24.38	221	eP	P	20 52 51.9	+0.2
STKA	Stephens Creek	27.60	197	P	P	20 53 20.4	-0.4
	4.4nm,0.9s,mb4.1,baz=28,slow=12,SNR=4.4						
STKA				LR	LR	21 03 19.0	
	comp=Z,185nm,21.6s,MS3.6,baz=205,slow=34						
STKA	Stephens Creek	27.60	197	eP	P	20 53 21.4	+0.6
FITZ	Fitzroy Crossi	27.71	241	eP	P	20 53 20.9	-0.9
	9.5nm,0.9s,mb4.4						
FITZ	Fitzroy Crossi	27.71	241	P	P	20 53 21.2	-0.5
	1.9nm,0.5s,mb4.0,baz=76,slow=9.6,SNR=10						
MBWA	Marble Bar	34.02	240	eP	P	20 54 16.7	-0.6
	3.7nm,0.5s,mb4.6						
KKM	Kota Kinabalu	36.59	288	P	P	20 54 39.5	+0.1
TAU	Tasmania Unive	37.32	184	eP	P	20 54 45.7	+0.1
SONM	Songino Array	66.04	329	P	P	20 58 20.4	+0.8
	1.3nm,1.1s,mb3.9,baz=140,slow=4.7,SNR=4.9						
SONM				LR	LR	21 26 05.0	
	comp=Z,58nm,19.9s,MS3.8,baz=96,slow=35						
CASY	Casey	66.75	197	eP	P	20 58 24.6	+0.4
VNDA	Vanda	72.13	178	P	P	20 58 57.9	+0.5
	0.5nm,0.8s,mb3.5,baz=323,slow=7.3,SNR=3.3						
VNDA	Vanda	72.13	178	P	P	20 58 56.5	-0.9
SBA	Scott Base	72.70	177	P	P	20 59 00.9	+0.1
SML	Sawmill	81.58	25	eP	P	20 59 50.7	+0.1
KURK	Kurchatov	83.28	322	P	P	20 59 58.8	-0.7
QSPA	South Pole Qui	84.39	180	eP	P	21 00 05.3	+0.2
CHKZ	Chkalovo	88.78	324	eP	P	21 00 27.9	+1.4
YKA	Yellowknife Ar	96.95	28	LR	LR	21 40 11.4	
	comp=Z,24nm,19.1s,MS3.7,baz=90,slow=32						
SNAA	Sanae	101.01	188	P	Pdif	21 01 22.8	+0.5
TORD	Torodi Ar. Bea	148.82	286	PKPbc	PKPbc	21 07 20.2	+0.2
	0.4nm,0.7s,baz=115,slow=2.8,SNR=5.0						

*ISCJB **09** 20:57:58.2±0.6, 2084S±005×6755W±007, h176km±8km, mb4.0/4, Error ellipse: s-maj=11.4km s-min=8.2km az=41.6*
*IDC **09** 20:57:59.6±0.7, 2094S×6743W, h166km±10km, mb3.9/3, mb1 3.8/8, mb1mx3.5/19, mbtmp4.2/8, Error ellipse: s-maj=20.1km s-min=9.1km az=111.0*
*NEIC **09** 20:57:59.4±0.7, 2089S×6757W, h172km±10km, mb4.1/4, Error ellipse: s-maj=13.4km s-min=9.3km az=86.0*
ISC 09 20:57:59.3±0.6, 2084S±005×6753W±007, h166km±8km, n19, σ1.09/22, mb4.0/4, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.18	216	P	Pn	20 58 38.8	+1.5
	22nm,0.3s,baz=43,slow=9.7,SNR=230						
LVC				S	Sn	20 59 07.5	+0.7
	37nm,0.3s,baz=231,slow=20,SNR=36						
LPAZ	La Paz	4.56	353	P	Pn	20 59 11.7	+4.5
	5.0nm,0.3s,baz=160,slow=7.4,SNR=141						
LPAZ				S	Sn	21 00 04.8	+4.5
	baz=148,slow=14,SNR=3.9						
ARE	Arequipa	5.75	319	eP	Pn	20 59 22.0	-0.7
ARE				eS	Sn	21 00 25.0	-3.2
SIV	San Ignacio	7.80	53	P	Pn	20 59 49.7	-0.2
	27nm,0.3s,baz=229,slow=14,SNR=648						
SIV				S	Sn	21 01 16.5	-0.7
	baz=135,slow=22,SNR=6.0						
CFAA	Coronel Fontan	10.74	183	P	Pn	21 00 27.4	-1.2
	0.1nm,0.3s,baz=2.0,slow=15,SNR=10						
CFAA				S	Sn	21 02 19.6	-8.0
	0.3nm,0.3s,baz=244,slow=17,SNR=9.5						
CPUP	Villa Florida	10.83	122	P	Pn	21 00 29.7	-0.1
	3.2nm,0.3s,baz=286,slow=11,SNR=20						
NNA	Nana	12.54	313	eP	Pn	21 00 50.6	-1.3
SAML	Samuel	12.55	20	ePn	Pn	21 00 52.1	+0.1
SAML				e		21 01 02.5	
TRQA	Tornquist	17.82	166	eP	Pn	21 01 55.7	-1.2
	2.2nm,0.4s						
BDFB	Brasilia	19.24	78	P	P	21 02 11.8	+1.0
	1.0nm,0.3s,baz=258,slow=9.4,SNR=12						
BDFB	Brasilia	19.24	78	eP	P	21 02 12.0	+1.2
	7.1nm,0.6s						
PLCA	Paso Flores	19.99	187	P	P	21 02 19.4	+0.5
	0.3nm,0.3s,baz=9.1,slow=8.6,SNR=7.2						
PLCA	Paso Flores	19.99	187	eP	P	21 02 17.0	-1.9
	3.7nm,0.6s						
SDV	Santo Domingo	29.70	354	eP	P	21 03 51.2	+1.7
	1.2nm,0.3s,mb4.1						
DBIC	Dimbokro	67.32	73	P	P	21 08 35.8	-0.4
	2.9nm,0.9s,mb4.1,baz=236,slow=7.3,SNR=3.3						
TORD	Torodi Ar. Bea	75.92	70	P	P	21 09 27.6	0.0
	2.3nm,0.5s,mb4.0,baz=253,slow=5.5,SNR=64						
MATP	Matopo	88.25	111	P	P	21 10 33.0	+1.4
	0.9nm,0.5s,mb3.9,baz=246,slow=5.8,SNR=5.9						
WRA	Warramunga Arr	134.16	209	PKP	PKPdf	21 16 58.4	+1.3
	0.4nm,0.6s,baz=173,slow=1.7,SNR=5.9						
MKAR	Makanchi Array	144.35	36	PKP	PKPdf	21 17 15.4	-0.1
	1.0nm,0.7s,baz=320,slow=3.2,SNR=8.5						

*NEIC **09** 21:01:35.6, 4167S×174.15E, h9km, ML4.1(WEL), After WEL.*
NEIC Felt at Blenheim and Seddon.
WEL 09 21:01:35.5±0.1, 4168S×17416E, h8km±1km, ML4.1/38, 2C-4D, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.08	151	⇓PG	Pg	21 01 37.7	+0.1
CMWZ				SG	Sg	21 01 40.6	+1.5
CMWZ	Cape Campbell	0.08	151	P	Pg	21 01 37.7	+0.1
CMWZ				S	Sg	21 01 40.6	+1.5
BSWZ	Blackbirch Sta	0.22	260	⇓PG	Pg	21 01 39.6	-0.2
BSWZ				SG	Sg	21 01 43.4	+0.6
BSWZ	Blackbirch Sta	0.22	260	P	Pg	21 01 39.6	-0.2
BSWZ				S	Sg	21 01 43.4	+0.6
TUWZ	Tuamarina	0.29	326	⇓PG	Pg	21 01 41.4	+0.1
TUWZ				SG	Sg	21 01 46.0	+0.8
TCW	Tory Channel	0.47	11	PG	Pg	21 01 44.5	-0.1
TCW				SG	Sg	21 01 51.2	+0.4
TCW	Tory Channel	0.47	11	P	Pg	21 01 44.5	-0.1
SNZO	South Karori	0.55	48	PG	Pg	21 01 46.5	+0.4
SNZO	South Karori	0.55	48	P	Pg	21 01 46.5	+0.4
SNZO				P		21 01 46.7	
BHW	Baring Head	0.60	64	PG	Pg	21 01 47.6	+0.6
BHW	Baring Head	0.60	64	P	Pg	21 01 47.6	+0.6
WEL	Wellington	0.60	50	PG	Pg	21 01 47.5	+0.4
WEL	Wellington	0.60	50	P	Pg	21 01 47.5	+0.4
MRW	Makara Radio	0.60	42	⇑PG	Pg	21 01 47.3	+0.2
NNZ	Nelson	0.74	308	⇓P*	Pb	21 01 49.3	-1.3
NNZ	Nelson	0.74	308	P	Pg	21 01 49.3	-0.5
MSWZ	Moikau Station	0.86	73	P*	Pb	21 01 52.5	0.0
MSWZ	Moikau Station	0.86	73	P	Pg	21 01 52.6	+0.6
KHZ	Kahutara	0.87	212	P*	Pb	21 01 52.4	-0.4
KHZ	Kahutara	0.87	212	P	Pg	21 01 52.4	+0.2
CAW	Cannon Point	0.89	51	P*	Pb	21 01 52.4	-0.7
CAW	Cannon Point	0.89	51	P	Pg	21 01 52.4	-0.1
DUWZ	D'Urville Isla	0.89	348	P*	Pb	21 01 51.9	-1.3
THZ	Tophouse	0.94	264	P*	Pb	21 01 53.0	-1.1
THZ	Tophouse	0.94	264	P	Pg	21 01 53.0	-0.6
KIW	Kapiti Island	0.99	35	⇑P*	Pb	21 01 54.0	-0.8
KIW				SG	Sg	21 02 08.4	+1.0
PAWZ	Paruwai Farm	0.99	73	P*	Pb	21 01 55.1	+0.2
PAWZ	Paruwai Farm	0.99	73	P	Pg	21 01 55.3	+0.7
MTW	Mount Morrison	1.13	63	P*	Pb	21 01 56.9	-0.4
MTW	Mount Morrison	1.13	63	P	Pg	21 01 57.1	-0.1
TRWZ	Traveller	1.18	77	P*	Pb	21 01 57.4	-0.7
MRZ	Mangatainoka R	1.48	47	P*	Pb	21 02 02.2	-0.9
MRZ	Mangatainoka R	1.48	47	P	Pn	21 02 02.2	-0.1
QRZ	Quartz Range	1.49	304	PN	Pn	21 02 02.7	+0.2
QRZ	Quartz Range	1.49	304	P	Pn	21 02 02.4	-0.1
DSZ	Denniston Nort	1.77	267	PN	Pn	21 02 06.9	+0.6
DSZ	Denniston Nort	1.77	267	eP	Pn	21 02 07.0	+0.7
LTZ	Lake Taylor	1.79	231	PN	Pn	21 02 06.4	-0.2
LTZ	Lake Taylor	1.79	231	eP	Pn	21 02 06.4	-0.2
BFZ	Birch Farm	1.86	58	eP	Pn	21 02 06.7	-0.9
TSZ	Takapari Road	2.12	41	PN	Pn	21 02 10.9	-0.2
MQZ	McQueen's Vall	2.31	208	PN	Pn	21 02 11.6	-2.2
MQZ				SN	Sn	21 02 39.7	-2.7
MQZ	McQueen's Vall	2.31	208	eP	Pn	21 02 11.6	-2.2
NRZ	Ngariki Road	2.34	356	P	Pn	21 02 18.0	+3.8
RAEZ	Rainy Point	2.39	4	P	Pn	21 02 19.3	+4.4
NEZ	North Egmont	2.40	359	P	Pn	21 02 19.3	+4.3
NWEZ	Newall Road	2.41	355	P	Pn	21 02 19.6	+4.5
MOVZ	Moawhango	2.57	29	P	Pn	21 02 18.0	+0.7
VRZ	Vera Road	2.59	10	eP	Pn	21 02 20.0	+2.4
WNVZ	Wahianoa	2.59	26	P	Pn	21 02 19.4	+1.8
DRZ	Dome Shelter	2.63	25	P	Pn	21 02 22.0	+3.9
FWVZ	Far West T-bar	2.64	24	P	Pn	21 02 20.1	+1.8
TUVZ	Tukino	2.66	26	P	Pn	21 02 20.1	+1.5
WPVZ	Whakapapa	2.69	24	P	Pn	21 02 21.7	+2.8
NGZ	Ngauruhoe	2.73	24	P	Pn	21 02 21.3	+1.8
TWVZ	Taurewa	2.78	21	P	Pn	21 02 24.7	+4.5
WTVZ	West Tongariro	2.78	24	P	Pn	21 02 22.3	+2.1
HIZ	Hauiti	3.20	10	eP	Pn	21 02 28.8	+2.8
FOZ	Fox Glacier	3.80	239	eP	Pn	21 02 34.1	-0.2
ODZ	Otahua Downs	4.23	216	eP	Pn	21 02 38.3	-1.9

WEL 09 21:01:51.6±0.2, 4170S×17418E, h12km, ML3.6/15, Error ellipse: s-maj=3.2km s-min=1.9km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.05	151	PG	Pg	21 01 54.1	+0.2
CMWZ				SG	Sg	21 01 56.6	+1.0
BSWZ	Blackbirch Sta	0.23	267	PG	Pg	21 01 56.1	-0.3
BSWZ				SG	Sg	21 01 59.7	0.0
TUWZ	Tuamarina	0.33	327	PG	Pg	21 01 58.5	+0.3
TUWZ				SG	Sg	21 02 02.7	+0.1

IDC 09 21:22:48.2±6.5, 467S×1163W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/21, mbtmp3.8/4, MS3.5/5, Ms1 3.5/5, ms1mx3.2/18, Error ellipse: s-maj=191.1km s-min=104.3km az=147.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	22.11	37	P	P	21 27 45.2	+0.2
	2.4nm,0.9s,baz=213,slow=11,SNR=17						
TORD				LR	LR	21 35 37.7	
	comp=Z,72nm,18.9s,baz=190,slow=35						
TSUM	Tsumeb	31.94	119	LR	LR	21 39 13.4	
	comp=Z,101nm,18.1s,baz=278,slow=31						
BDFB	Brasilia	37.37	250	LR	LR	21 42 38.5	
	comp=Z,64nm,18.1s,baz=289,slow=32						
KMBO	Kilima Mbogo	48.94	87	LR	LR	21 49 47.5	
	comp=Z,59nm,18.1s,baz=96,slow=33						
GERES	GERESS Array B	57.70	20	P	P	21 32 40.9	+0.4
	1.0nm,0.7s,baz=191,slow=6.1,SNR=10						
GERES				LR	LR	21 58 01.4	
	comp=Z,40nm,18.2s,baz=290,slow=37						
BRTR	Keskin Array B	60.69	39	P	P	21 33 02.0	+0.8
	0.6nm,0.8s,baz=224,slow=5.1,SNR=3.4						
AKASG	Malin Array Be	65.36	27	P	P	21 33 31.6	-0.6
	1.5nm,0.7s,baz=229,slow=6.9,SNR=8.3						

*IDC **09** 21:28:30.6±3.1, 5.19S×15077E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/15, mbtmp4.1/4, ML3.2/1, MS3.7/2, Ms1 3.7/2, ms1mx2.6/23, Error ellipse: s-maj=106.0km s-min=37.5km az=120.0*
*ISCJB **09** 21:28:32.8±0.8, 53S±0.1×15096E±0.10, h33km, mb4.0/6, MS3.8/1, Error ellipse: s-maj=17.4km s-min=10.5km az=95.4*
*NEIC **09** 21:28:34.8±0.6, 524S×15091E, h35km, mb4.2/4, Error ellipse: s-maj=13.5km s-min=10.6km az=146.0*
ISC 09 21:28:34.9±0.8**, 52S**±01×**15091E**±010**, h35**km**, n16, σ0ˢ61**/14**, mb4.0**/6**, MS3.8**/1**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.58**	**222**	Pn	**Pn**	**21 29 55.5**	**+0.2**
	4.4nm,0.3s,baz=36,slow=13,SNR=11						
PMG				Sn	**Sn**	**21 30 58.0**	**-0.2**
	baz=135,slow=17,SNR=2.3						
HNR	**Honiara**	**9.89**	**116**	*e*Pn	**Pn**	**21 30 54.0**	**-0.5**
GUMO	**Guam**	**19.63**	**342**	LR	LR	21 40 01.2	
	comp=Z,82nm,18.4s,baz=230,slow=35						
WRAB	**Tennant Creek**	**21.76**	**226**	*e*P	**P**	**21 33 22.9**	**-0.5**
	5.8nm,0.8s,mb4.1						
WB2	**Warramunga Arr**	**21.76**	**226**	*e*P	**P**	**21 33 22.9**	**-0.5**
WRA	**Warramunga Arr**	**21.77**	**226**	P	**P**	**21 33 22.3**	**-1.2**
	2.3nm,0.7s,mb3.7,baz=52,slow=11,SNR=15						
DZM	**Mont Dzumac**	**22.50**	**140**	LR	LR	21 40 57.1	
	comp=Z,422nm,21.7s,MS3.8,baz=23,slow=33						
ASAR	**Alice Springs**	**24.59**	**220**	P	**P**	**21 33 52.4**	**+0.8**
	2.2nm,0.7s,mb3.8,baz=54,slow=8.3,SNR=31						
FITZ	**Fitzroy Crossi**	**27.81**	**240**	*e*P	**P**	**21 34 20.8**	**+0.1**
	5.2nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.81**	**240**	P	**P**	**21 34 20.9**	**+0.2**
	2.7nm,0.8s,mb4.0,baz=92,slow=10,SNR=7.3						
STKA	**Stephens Creek**	**27.91**	**197**	P	**P**	**21 34 23.0**	**+1.4**
MBWA	**Marble Bar**	**34.13**	**239**	P	**P**	**21 35 16.6**	**+0.2**
CHKZ	**Chkalovo**	**88.44**	**324**	P	**P**	**21 41 23.2**	**-0.2**
BRVK	**Borovoye**	**88.52**	**323**	*e*P	**P**	**21 41 23.8**	**0.0**
	0.5nm,0.7s,mb4.0						
ZRNK	**Zerenda**	**89.27**	**323**	P	**P**	**21 41 27.4**	**+0.2**
	0.4nm,0.3s,mb4.2						
TORD	**Torodi Ar. Bea**	**148.64**	**287**	PKPbc	PKPbc	21 48 19.8	+1.6
	0.5nm,0.7s,baz=56,slow=3.2,SNR=6.0						

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*MOS **09** 21:47:40.5±0.6, 5581N×16239E, h59km, mb4.0/1, Error ellipse: s-maj=39.3km s-min=13.9km az=73.0*
KRSC 09 21:47:42, 5575N×16208E, h20km**, ML4.1, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.62**	**42**	P	Pb	21 47 54.1	0.0
KBTR				S	Sb	21 48 02.3	-0.1
KLY	**Klyuchi**	**0.98**	**306**	P	Pb	21 47 58.4	-1.9
KLY				S	Sb	21 48 09.8	-3.0
MKZ	**Mys Kozlova**	**1.21**	**190**	P	Pn	21 48 03.7	-0.1
MKZ				S	Sb	21 48 19.3	-0.2
KOZR	**Kozyr**	**1.27**	**285**	PN	Pn	21 48 05.9	+1.3
KOZR				S	Sn	21 48 23.2	+2.2
KOZ	**Kozyrevsk**	**1.28**	**285**	P	Pn	21 48 05.9	+1.2
KOZ				S	Sn	21 48 23.2	+1.9
SPN	**Mys Shipunski**	**2.92**	**205**	P	Pn	21 48 27.2	0.0
SPN				S	Sn	21 49 00.8	-0.9
NLC	**Nalytchevo**	**3.04**	**213**	P	Pn	21 48 30.0	+1.1
NLC				S	Sn	21 49 05.3	+0.6
PET	**Petropavlovsk**	**3.39**	**218**	P	Pn	21 48 34.3	+0.6
PET				S	Sn	21 49 12.2	-1.1
RUS	**Russkaya**	**3.93**	**214**	P	Pn	21 48 41.9	+0.7
RUS				S	Sn	21 49 26.0	-0.7

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*BJI **09** 21:52:56.5, 582N×12683E, h254km, mB5.0, mb4.7*
*MAN **09** 21:52:56.9, 683N×12693E, h171km, mb3.3, ML4.5, MS1.9*
*ISCJB **09** 21:52:56.6±0.7, 671N±005×1268E±0.1, h189km±5km, mb4.3/33, Error ellipse: s-maj=20.3km s-min=7.1km az=148.9*
*IDC **09** 21:53:02.9±5.1, 664N×12671E, h236km±52km, mb3.8/14, mb1 3.9/14, mb1mx3.7/22, mbtmp4.3/14, Error ellipse: s-maj=36.0km s-min=11.3km az=80.0*
*NEIC **09** 21:53:04.2±1.0, 668N×12674E, h254km±8km, mb4.7/3, Error ellipse: s-maj=30.2km s-min=6.7km az=72.0*
*MOS **09** 21:53:04.4±1.3, 645N×126.13E, h261km, mb4.3/8, Error ellipse: s-maj=28.2km s-min=9.0km az=115.8*
ISC 09 21:52:57.6±0.7**, 674N**±005×**1268E**±01**, h181**km±4km**, n57, σ0ˢ99**/59**, mb4.3**/33**, 6C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.58**	**291**	*e*P	**Pn**	**21 53 22.7**	**-0.2**
MATI				*e*S	**Sn**	**21 53 40.6**	**-1.7**
KCP	**Kidapawan**	**1.73**	**279**	*e*P	**Pn**	**21 53 32.1**	**+0.2**
KCP				*e*S	**Sn**	**21 53 59.4**	**+1.1**
BUKP	**Musuan**	**2.07**	**303**	*e*P	**Pn**	**21 53 35.5**	**+0.1**
SCPH	**Surigao**	**3.29**	**337**	*e*P	**Pn**	**21 53 51.8**	**+2.0**
SCPH				*i* S	**Sn**	**21 54 28.7**	**-1.9**
PVCP	**Virac**	**7.30**	**339**	*e*P	**Pn**	**21 54 41.2**	**-0.3**
YHNB	**Yeheng**	**18.57**	**344**	*e*P	**P**	**21 57 03.8**	**+2.9**
KAKA	**Kakadu**	**20.12**	**164**	*e*P	**P**	**21 57 17.7**	**+0.2**
	41nm,1.5s						
QIZ	**Qiongzhong**	**20.53**	**308**	*e*P	**P**	**21 57 22.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**24.71**	**183**	*e*P	**P**	**21 58 02.1**	**+0.1**
	12nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**24.71**	**183**	P	**P**	**21 58 01.9**	**-0.1**
	5.9nm,0.6s,mb4.3,baz=10,slow=11,SNR=23						
SSE	**Sheshan**	**24.80**	**348**	P	**P**	**21 58 06.7**	**+3.9**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,767nm,5.9s						
NJ2	**Nanjing**	**26.25**	**345**	*e*P	**P**	**21 58 18.8**	**+2.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**27.53**	**165**	P	**P**	**21 58 26.9**	**-0.4**
	comp=Z,0.2nm,0.3s,mb3.3,baz=339,slow=11,SNR=10						
AS31	**Alice Springs**	**31.00**	**167**	*e*P	**P**	**21 58 59.1**	**+1.1**
ASAR	**Alice Springs**	**31.00**	**167**	P	**P**	**21 58 57.9**	**-0.1**
	comp=Z,0.6nm,0.3s,mb3.8,baz=341,slow=7.3,SNR=18						
ASPA	**Alice Springs**	**31.00**	**167**	*e*P	**P**	**21 58 59.1**	**+1.1**
XAN	**Xi'an**	**31.81**	**331**	P	**P**	**21 59 05.3**	**+0.3**
XAN				AMB	AMB		
	comp=Z,28nm,0.8s,mb5.0						
SNY	**Shenyang**	**35.06**	**356**	⇑P	**P**	**21 59 37.3**	**+4.2**
SNY				AMB	AMB		
	comp=Z,23nm,0.6s,mb5.0						
LZH	**Lanzhou**	**35.99**	**327**	*e*P	**P**	**21 59 42.4**	**+1.3**
LZH				AMB	AMB		
	comp=Z,28nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,149nm,4.8s						
LZH				LR	LR		
	comp=E,410nm,15.4s						
LZH				LR	LR		
	comp=Z,756nm,16.3s						
HNR	**Honiara**	**36.72**	**116**	P	**P**	**21 59 54.7**	**+7.4**
KLBR	**Kellerberrin**	**39.08**	**192**	*e*P	**P**	**22 00 07.2**	**+0.2**
	comp=Z,87nm,1.6s,mb5.1						
ASAJ	**Asahikawa**	**39.72**	**18**	P	**P**	**22 00 13.6**	**+1.3**
	comp=Z,5.0nm,0.4s,mb4.5,baz=200,slow=11,SNR=7.3						
NWAO	**Narrogin (SRO)**	**40.48**	**192**	P	**P**	**22 00 17.8**	**-0.7**
	comp=Z,17nm,1.0s,mb4.6,baz=34,slow=7.3,SNR=6.9						
GTA	**Gaotai**	**40.59**	**327**	*e*P	**P**	**22 00 20.5**	**+1.0**
GTA				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**40.91**	**161**	P	**P**	**22 00 22.1**	**0.0**
	comp=Z,2.2nm,0.8s,mb3.9,baz=343,slow=11,SNR=4.1						
YSS	**Yuzh-Sakhalins**	**42.34**	**16**	*e*P	**P**	**22 00 41.1**	**+7.4**
YSS				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**44.31**	**341**	*c i*P	**P**	**22 00 50.5**	**+1.1**
SONM	**Songino Array**	**44.50**	**340**	P	**P**	**22 00 51.4**	**+0.5**
	comp=Z,2.4nm,0.6s,mb4.0,baz=156,slow=6.8,SNR=18						
SONM				PcP	PcP	22 02 30.5	-0.5
	comp=Z,1.0nm,0.7s,baz=153,slow=2.4,SNR=5.1						
ZAK	**Zakamensk**	**47.74**	**340**	*e*P	**P**	**22 01 16.3**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
MKAR	**Makanchi Array**	**55.16**	**324**	P	**P**	**22 02 11.6**	**+0.4**
	comp=Z,2.9nm,0.3s,mb4.4,baz=109,slow=6.7,SNR=107						
MKAR				PcP	PcP	22 03 09.8	-0.3
	comp=Z,0.6nm,0.5s,baz=95,slow=5.0,SNR=3.7						
MKAR	**Makanchi Array**	**55.16**	**324**	*i* P	**P**	**22 02 11.6**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR	**Makanchi Array**	**55.16**	**324**	P	**P**	**22 02 11.6**	**+0.4**
MKAR				PcP	PcP	22 03 09.8	-0.3
ZAL	**Zalesovo**	**57.97**	**332**	P	**P**	**22 02 30.5**	**-0.6**
	comp=Z,6.7nm,0.4s,mb4.8,baz=348,slow=4.9,SNR=23						
AAK	**Ala-Archa**	**58.21**	**317**	⇑*e*P	**P**	**22 02 33.6**	**+0.9**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
NVS	**Novosibirsk**	**59.25**	**332**	*i* P	**P**	**22 02 39.1**	**-0.8**
KURK	**Kurchatov**	**59.27**	**327**	*c i*P	**P**	**22 02 40.2**	**+0.1**
KKAR	**Karatay Array**	**61.12**	**316**	*i* P	**P**	**22 02 52.3**	**-0.3**
VOSK	**Vostochnaya**	**64.42**	**326**	P	**P**	**22 03 13.8**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
TIXI	**Tiksi**	**64.85**	**1**	*i* P	**P**	**22 03 16.8**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
BVA0	**Borovoye Array**	**64.87**	**326**	*i* P	**P**	**22 03 17.2**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.9						
CHKZ	**Chkalovo**	**65.01**	**327**	P	**P**	**22 03 17.7**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**65.61**	**326**	P	**P**	**22 03 22.0**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
AB31	**Akbulak array**	**69.89**	**320**	*i* P	**P**	**22 03 48.5**	**-0.3**
AKTO	**Aktyubinsk**	**71.37**	**321**	P	**P**	**22 03 57.2**	**-0.6**
ARU	**Arti**	**72.46**	**327**	⇑*i*P	**P**	**22 04 03.4**	**-0.8**
ARU				*e*		22 06 51.3	
ARU				*e*PPP		22 08 35.1	
ARU				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
ARU				MLR	MLR		
	comp=Z,200nm,21.0s						
ARU				MLR	MLR		
	comp=N,20nm,16.0s						
ARU				MLR	MLR		
	comp=E,100nm,21.0s						
KIV	**Kislovodsk**	**81.14**	**313**	*i* P	**P**	**22 04 53.9**	**+1.2**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.1						
OBN	**Obninsk**	**84.66**	**325**	⇑*e*P	**P**	**22 05 10.3**	**-0.6**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
JOF	**Joensuu**	**86.55**	**333**	*e*p	**P**	**22 05 18.6**	**-1.6**
	comp=Z,2.7nm,0.4s,mb4.4						
JOF	**Joensuu**	**86.55**	**333**	*e*P	**P**	**22 05 18.6**	**-1.6**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.5						
KEV	**Kevo**	**87.11**	**340**	*e*p	**P**	**22 05 18.8**	**-4.1**
ARCES	**ARCESS Array B**	**87.67**	**340**	P	**P**	**22 05 24.3**	**-1.2**
	comp=Z,3.0nm,0.3s,mb4.6,baz=89,slow=5.7,SNR=73						
BRTR	**Keskin Array B**	**88.17**	**310**	P	**P**	**22 05 27.3**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.6,baz=122,slow=5.1,SNR=4.2						
FINES	**FINESS Array B**	**89.23**	**332**	P	**P**	**22 05 31.2**	**-1.7**
	comp=Z,0.8nm,0.4s,mb4.0,baz=89,slow=4.9,SNR=23						
AKASG	**Malin Array Be**	**89.62**	**321**	P	**P**	**22 05 33.6**	**-1.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=69,slow=4.3,SNR=6.5						
NB2	**NORSAR Subarra**	**96.14**	**334**	P	**P**	**22 06 02.8**	**-1.9**
	comp=Z,0.6nm,0.7s,mb4.0,baz=65,slow=4.8						
NOA	**NORSAR Array B**	**96.14**	**334**	P	**P**	**22 06 03.4**	**-1.3**
	comp=Z,1.1nm,0.8s,mb4.2,baz=62,slow=4.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**122.01**	**290**	PKP	PKPdf	22 11 30.2	-0.2
	comp=Z,0.2nm,0.5s,baz=53,slow=1.3,SNR=6.0						

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*NEIC **09** 21:57:28.1±0.5, 545S×15044E, mb4.9/8, Error ellipse: s-maj=14.3km s-min=10.1km az=118.0*
*MOS **09** 21:57:29.5±1.5, 546S×15044E, h83km, mb4.8/2, Error ellipse: s-maj=18.5km s-min=11.6km az=64.1*
*ISCJB **09** 21:57:31.0±2.7, 556S±009×1504E±0.1, h97km±23km, mb4.2/15, Error ellipse: s-maj=24.8km s-min=14.8km az=21.0*
*IDC **09** 21:57:31.9±4.8, 556S×15046E, h92km±41km, mb3.7/9, mb1 3.9/10, mb1mx3.9/15, mbtmp4.0/10, Error ellipse: s-maj=36.7km s-min=23.6km az=99.0*
ISC 09 21:57:31.3±2.5**, 557S**±009×**1505E**±01**, h87**km±21km**, n36, σ0ˢ80**/33**, mb4.2**/15**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.05**	**221**	P	**Pn**	**21 58 44.2**	**-0.4**
	16nm,0.3s,baz=30,slow=7.5,SNR=40						
PMG				S	**Sn**	**21 59 48.4**	**+6.8**
	baz=127,slow=13,SNR=2.0						
CTA	**Charters Tower**	**15.01**	**196**	*e*P	**Pn**	**22 01 02.7**	**+4.0**
	14nm,1.1s						
CTA	**Charters Tower**	**15.01**	**196**	P	**Pn**	**22 00 56.4**	**-2.3**
	0.2nm,0.3s,baz=45,slow=11,SNR=3.0						
CTA	**Charters Tower**	**15.01**	**196**	*e*P	**Pn**	**22 01 02.7**	**+4.0**
CTAO	**Charters Tower**	**15.01**	**196**	P	**Pn**	**22 00 59.1**	**+0.4**
WRAB	**Tennant Creek**	**21.23**	**226**	*e*P	**P**	**22 02 10.4**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,92nm,1.3s,mb5.0						
WRAB	**Tennant Creek**	**21.23**	**226**	*e*P	**P**	**22 02 10.4**	**+0.3**
	comp=Z,92nm,1.3s,mb5.0						
WB2	**Warramunga Arr**	**21.24**	**226**	*e*P	**P**	**22 02 09.6**	**-0.6**
WRA	**Warramunga Arr**	**21.25**	**226**	P	**P**	**22 02 10.4**	**+0.1**
	comp=Z,6.1nm,0.6s,mb4.1,baz=52,slow=10,SNR=35						
AS31	**Alice Springs**	**24.07**	**220**	*e*P	**P**	**22 02 39.2**	**+0.7**
ASAR	**Alice Springs**	**24.07**	**220**	P	**P**	**22 02 39.2**	**+0.8**
	comp=Z,7.2nm,0.7s,mb4.1,baz=54,slow=8.7,SNR=62						
ASPA	**Alice Springs**	**24.07**	**220**	*e*P	**P**	**22 02 39.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**27.29**	**241**	*e*P	**P**	**22 03 07.9**	**+0.3**
	comp=Z,16nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**27.29**	**241**	P	**P**	**22 03 08.1**	**+0.5**
	comp=Z,8.8nm,0.7s,mb4.4,baz=95,slow=8.9,SNR=20						
STKA	**Stephens Creek**	**27.47**	**197**	P	**P**	**22 03 09.7**	**+0.5**
	comp=Z,4.4nm,0.9s,mb4.0,baz=345,slow=9.8,SNR=3.1						
FORT	**Forrest**	**32.77**	**217**	*e*P	**P**	**22 03 56.7**	**+0.7**
	comp=Z,23nm,0.8s,mb5.0						
MBWA	**Marble Bar**	**33.61**	**240**	*e*P	**P**	**22 04 03.9**	**+0.6**
	comp=Z,6.5nm,0.6s,mb4.6						
KLBR	**Kellerberrin**	**40.13**	**226**	*e*P	**P**	**22 04 58.2**	**-0.3**
	comp=Z,63nm,1.6s,mb5.2						
NACB	**Ninganchiao**	**40.84**	**318**	*e*P	**P**	**22 05 04.0**	**-0.4**
COCO	**West Island**	**53.36**	**259**	*e*P	**P**	**22 06 40.7**	**-1.0**
	comp=Z,46nm,0.7s						
SONM	**Songino Array**	**65.78**	**329**	P	**P**	**22 08 07.3**	**+0.2**
	comp=Z,0.7nm,0.8s,mb3.5,baz=151,slow=5.1,SNR=5.5						
CASY	**Casey**	**66.62**	**196**	*e*P	**P**	**22 08 12.1**	**-0.4**
ZAK	**Zakamensk**	**68.98**	**330**	*e*P	**P**	**22 08 27.9**	**+0.6**
VNDA	**Vanda**	**72.16**	**177**	P	**P**	**22 08 45.7**	**-0.9**
	comp=Z,1.1nm,0.9s,mb3.7,baz=305,slow=5.4,SNR=4.3						
VNDA	**Vanda**	**72.16**	**177**	*e*P	**P**	**22 08 45.2**	**-1.4**
	comp=Z,1.1nm,0.9s,mb3.7						
MKAR	**Makanchi Array**	**79.41**	**320**	P	**P**	**22 09 26.6**	**-1.3**
	comp=Z,0.3nm,0.7s,mb3.2,baz=99,slow=8.9,SNR=1.9						
KURK	**Kurchatov**	**82.98**	**322**	P	**P**	**22 09 46.5**	**-0.3**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.4						
KURK	**Kurchatov**	**82.98**	**322**	P	**P**	**22 09 46.5**	**-0.3**
	comp=Z,7.1nm,1.2s,mb4.4						
COLA	**College**	**83.42**	**22**	P	**P**	**22 09 48.6**	**-0.4**
ILAR	**Eielson Array**	**83.73**	**23**	P	**P**	**22 09 52.0**	**+1.3**
	comp=Z,0.3nm,0.8s,mb3.2,baz=248,slow=6.6,SNR=2.6						
QSPA	**South Pole Qui**	**84.39**	**180**	*e*P	**P**	**22 09 52.4**	**-1.6**
	comp=Z,14nm,1.4s,mb4.6						
NVAR	**Mina Array Bea**	**94.35**	**52**	P	**P**	**22 10 42.2**	**+1.0**
	comp=Z,0.1nm,0.3s,mb3.6,baz=269,slow=12,SNR=1.9						
LPAZ	**La Paz**	**136.04**	**120**	PKP	PKPdf	22 16 41.9	-0.3
	comp=Z,0.5nm,0.7s,baz=251,slow=2.7,SNR=4.6						
LPAZ	**La Paz**	**136.04**	**120**	PKP	PKPdf	22 16 41.9	-0.3
TORD	**Torodi Ar. Bea**	**148.35**	**286**	PKPbc	PKPbc	22 17 07.7	+0.2
	comp=Z,0.7nm,0.9s,baz=29,slow=1.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**148.35**	**286**	PKPbc	PKPbc	22 17 07.7	+0.2

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*ISCJB **09** 21:57:42.1±2.6, 551S±009×1507E±0.1, h77km±21km, mb4.3/10, Error ellipse: s-maj=24.8km s-min=15.1km az=11.3*
*NEIC **09** 21:57:43.8±2.4, 550S×15070E, h82km±19km, mb4.5/3, Error ellipse: s-maj=22.1km s-min=11.7km az=92.0*
*HRVD **09** 21:57:43.8±0.4, 549S×15091E, h12km, MW4.8/62, Centroid moment Tensor Solution. LP body waves: s21,c31;Mantle waves: s62,c95; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}-0.78±.08; $M_{\theta\theta}$1.94±.07; $M_{\phi\phi}$-1.17±.08; $M_{r\theta}$-0.38±.22; $M_{\theta\phi}$1.50±.06; $M_{\phi r}$-0.14±.23; Best double couple: $M_0$2.18500×10^{16} NP1:ϕ_s203.00000°, δ85.00000°, λ175.00000°. NP2: ϕ_s293.00000°, δ85.00000°, λ5.00000°. Principal axes: T 2.5950, Plg7.0000°, Azm158.0000°; N -0.8240, Plg83.0000°, Azm334.0000°; P -1.7760, Plg0.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **09** 21:57:43.7, 550S×15070E, h81km, mb4.6, Msz4.1*
*IDC **09** 21:57:44.5±4.6, 553S×15079E, h90km±38km, mb4.0/8, mb1 4.2/9, mb1mx4.1/15, mbtmp4.3/9, Error ellipse: s-maj=36.8km s-min=20.0km az=92.0*
ISC 09 21:57:44.2±2.4**, 551S**±009×**1507E**±02**, h83**km±19km**, n32, σ0ˢ77**/30**, mb4.3**/10**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.22**	**222**	P	**Pn**	**21 58 59.5**	**-0.2**
	17nm,0.3s,baz=39,slow=15,SNR=10						
PMG				S	**Sn**	**22 00 03.1**	**+4.6**
	3.3nm,0.3s,baz=33,slow=15,SNR=5.6						
WRAB	**Tennant Creek**	**21.40**	**226**	*e*P	**P**	**22 02 25.3**	**+0.3**
	24nm,0.7s,mb4.6						
WB2	**Warramunga Arr**	**21.41**	**226**	*e*pP	**P**	**22 02 24.8**	**-0.3**
WRA	**Warramunga Arr**	**21.42**	**226**	P	**P**	**22 02 25.3**	**+0.1**
	22nm,0.9s,mb4.5,baz=51,slow=10,SNR=20						
AS31	**Alice Springs**	**24.23**	**220**	*e*pP	**P**	**22 02 53.4**	**+0.3**
ASAR	**Alice Springs**	**24.23**	**220**	P	**P**	**22 02 52.9**	**-0.3**
	11nm,0.8s,mb4.2,baz=55,slow=8.8,SNR=12						
ASPA	**Alice Springs**	**24.23**	**220**	*e*pP	**P**	**22 02 53.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**27.48**	**241**	P	**P**	**22 03 22.7**	**+0.3**
	20nm,0.8s,mb4.7,baz=83,slow=8.2,SNR=8.3						
FITZ	**Fitzroy Crossi**	**27.48**	**241**	*e*pP	**P**	**22 03 22.7**	**+0.3**
STKA	**Stephens Creek**	**27.58**	**197**	*e*P	**P**	**22 03 23.4**	**+0.1**
FORT	**Forrest**	**32.93**	**218**	*e*pP	**P**	**22 04 10.7**	**+0.2**
MBWA	**Marble Bar**	**33.80**	**240**	*e*P	**P**	**22 04 18.8**	**+0.7**
TAU	**Tasmania Unive**	**37.36**	**184**	P	**P**	**22 04 48.3**	**-0.3**
KLBR	**Kellerberrin**	**40.30**	**226**	*e*pP	**P**	**22 05 11.2**	**-1.9**
NWAO	**Narrogin (SRO)**	**41.40**	**225**	P	**P**	**22 05 22.5**	**+0.3**
MJAR	**Matsushiro Arr**	**43.44**	**345**	P	**P**	**22 05 37.5**	**-1.2**
	1.6nm,0.7s,mb3.9,baz=154,slow=9.1,SNR=6.5						
BJI	**Beijing**	**55.35**	**328**	*e*P	**P**	**22 07 15.5**	**+6.1**
BJI				S	**S**	**22 14 47.0**	**-0.3**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.6						
BJI				LR	LR		
	comp=Z,212nm,23.7s						
SONM	**Songino Array**	**65.83**	**329**	P	**P**	**22 08 21.4**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=155,slow=5.8,SNR=4.1						
VNDA	**Vanda**	**72.21**	**177**	P	**P**	**22 08 59.8**	**-0.4**
	comp=Z,1.5nm,0.8s,mb3.9,baz=315,slow=7.9,SNR=8.5						
VNDA	**Vanda**	**72.21**	**177**	*e*P	**P**	**22 08 59.9**	**-0.2**
MKAR	**Makanchi Array**	**79.49**	**319**	P	**P**	**22 09 43.8**	**+2.2**
	comp=Z,1.0nm,0.9s,baz=129,slow=4.8,SNR=4.7						
KURK	**Kurchatov**	**83.04**	**322**	*e*P	**P**	**22 09 59.9**	**-0.4**
MAW	**Mawson**	**84.11**	**203**	*e*P	**P**	**22 10 06.0**	**+0.1**
QSPA	**South Pole Qui**	**84.45**	**180**	*e*P	**P**	**22 10 07.3**	**-0.2**
	comp=Z,3.1nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**88.55**	**324**	*e*P	**P**	**22 10 26.4**	**-1.2**
BRVK	**Borovoye**	**88.62**	**323**	*e*P	**P**	**22 10 27.7**	**-0.2**
	comp=Z,0.7nm,0.4s,mb4.0						
NVAR	**Mina Array Bea**	**94.17**	**52**	P	**P**	**22 10 54.7**	**+1.1**
	comp=Z,0.9nm,0.9s,mb4.1,baz=265,slow=5.8,SNR=3.7						
NVAR	**Mina Array Bea**	**94.17**	**52**	P	**P**	**22 10 54.7**	**+1.1**
LPAZ	**La Paz**	**135.91**	**120**	PKP	PKPdf	22 16 57.2	+1.9
	comp=Z,2.1nm,0.9s,baz=53,slow=6.9,SNR=8.4						
LPAZ	**La Paz**	**135.91**	**120**	PKP	PKPdf	22 16 57.2	+1.9
TORD	**Torodi Ar. Bea**	**148.51**	**286**	PKPbc	PKPbc	22 17 20.4	-0.8
	comp=Z,1.8nm,0.7s,baz=79,slow=3.0,SNR=7.4						
BDFB	**Brasilia**	**151.99**	**139**	PKPbc	PKPbc	22 17 29.0	-0.6
	comp=Z,3.2nm,0.8s,baz=203,slow=6.7,SNR=4.1						

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*ISCJB **09** 22:09:02.6±0.4, 4401N±009×2842W±008, h10km, mb3.8/10, MS3.3/11, Error ellipse: s-maj=12.7km s-min=8.1km az=7.2*
*IDC **09** 22:09:02.9±1.3, 4398N×2841W, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/25, mbtmp3.7/9, ML3.9/1, MS3.3/12, Ms1 3.3/12, ms1mx3.1/47, Error ellipse: s-maj=39.5km s-min=19.7km az=23.0*
*CSEM **09** 22:09:04.5, 4399N×2841W, h10km, mb4.6/3, After NEIC*
*NEIC **09** 22:09:04.5±0.3, 4399N×2841W, h10km, mb4.3/4, Error ellipse: s-maj=10.3km s-min=6.7km az=183.0*
ISC 09 22:09:04.5±0.4**, 4403N**±009×**2839W**±008**, h10**km**, n51, σ0ˢ82**/43**, mb3.8**/10**, MS3.3**/11**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTE	**Manteigas**	**15.86**	**96**	*e*Pn	**Pn**	**22 12 47.7**	**-0.1**
	3.1nm,0.7s						
MTE	**Manteigas**	**15.86**	**96**	*e*Pn	**Pn**	**22 12 47.7**	**-0.1**
	3.1nm,0.7s						
SFS	**San Fernando**	**18.51**	**106**	P	**Pn**	**22 13 21.0**	**0.0**
SFS	**San Fernando**	**18.51**	**106**	P	**Pn**	**22 13 21.0**	**0.0**
ESDC	**Sonseca Array**	**18.69**	**95**	P	**Pn**	**22 13 24.4**	**+1.2**
	0.1nm,0.3s,baz=294,slow=9.7,SNR=4.1						
ESDC				LR	LR	22 19 02.3	
	comp=Z,35nm,18.8s,baz=295,slow=32						
CART	**Cartagena**	**21.65**	**98**	*e*P	**P**	**22 13 55.3**	**+0.3**
CART	**Cartagena**	**21.65**	**98**	*e*P	**P**	**22 13 55.3**	**+0.3**
MDT	**Midelt**	**21.66**	**113**	LR	LR	22 19 35.2	
	comp=Z,42nm,19.8s,MS2.9,baz=317,slow=29						
DAVOX	**Davos**	**26.84**	**71**	LR	LR	22 24 12.3	
	comp=Z,70nm,19.7s,MS3.2,baz=261,slow=34						
SCHQ	**Schefferville**	**26.90**	**307**	LR	LR	22 24 28.6	
	comp=Z,51nm,18.5s,MS3.1,baz=114,slow=34						
NOA	**NORSAR Array B**	**28.90**	**40**	LR	LR	22 26 38.3	
	comp=Z,22nm,19.9s,MS2.8,baz=0.0,slow=36						
GERES	**GERESS Array B**	**29.13**	**65**	P	**P**	**22 15 05.0**	**-0.5**
	0.6nm,1.0s,mb3.3,baz=297,slow=11,SNR=4.5						
GERES				LR	LR	22 25 34.1	
	comp=Z,48nm,18.3s,MS3.1,baz=131,slow=34						
VRAC	**Vranov**	**30.96**	**64**	LR	LR	22 26 41.6	
	comp=Z,52nm,18.0s,MS3.2,baz=303,slow=34						
MLR	**Muntele Rosu**	**37.99**	**68**	LR	LR	22 31 36.9	
	comp=Z,50nm,20.0s,MS3.3,baz=40,slow=36						
AKASG	**Malin Array Be**	**38.72**	**59**	P	**P**	**22 16 28.0**	**-0.7**
	0.5nm,0.6s,mb3.4,baz=278,slow=8.6,SNR=7.5						
AKASG	**Malin Array Be**	**38.72**	**59**	P	**P**	**22 16 28.0**	**-0.7**
TOA0	**Torodi Ar. Sit**	**40.13**	**131**	*e*P	**P**	**22 16 39.8**	**-0.7**
TOA0	**Torodi Ar. Sit**	**40.13**	**131**	*e*P	**P**	**22 16 39.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**40.13**	**131**	P	**P**	**22 16 40.1**	**-0.3**
	1.7nm,0.9s,mb3.8,baz=327,slow=8.9,SNR=10						
TORD				LR	LR	22 31 30.4	
	comp=Z,68nm,19.5s,MS3.5,baz=170,slow=34						
MTP	**Monte Pirata**	**40.49**	**242**	*e*P	**P**	**22 16 42.0**	**-1.4**
MTP	**Monte Pirata**	**40.49**	**242**	*e*P	**P**	**22 16 42.0**	**-1.4**
CPD	**Cerro la Pandu**	**40.76**	**243**	P	**P**	**22 16 45.5**	**-0.1**
CPD	**Cerro la Pandu**	**40.76**	**243**	P	**P**	**22 16 45.5**	**-0.1**
BRTR	**Keskin Array B**	**45.43**	**73**	P	**P**	**22 17 24.6**	**+1.2**
	0.7nm,0.7s,mb3.6,baz=308,slow=6.1,SNR=5.0						
BRTR				LR	LR	22 36 23.7	
	comp=Z,28nm,18.6s,MS3.2,baz=28,slow=36						
YKA	**Yellowknife Ar**	**50.54**	**323**	P	**P**	**22 18 03.0**	**0.0**
	1.4nm,0.9s,mb3.9,baz=59,slow=7.4,SNR=4.6						
YKA	**Yellowknife Ar**	**50.54**	**323**	P	**P**	**22 18 03.0**	**0.0**
SDV	**Santo Domingo**	**50.66**	**239**	*e*P	**P**	**22 18 04.5**	**+0.6**
	2.6nm,0.5s,mb4.4						
SDV	**Santo Domingo**	**50.66**	**239**	*e*P	**P**	**22 18 04.4**	**+0.5**
	2.6nm,0.5s,mb4.4						
GNI	**Garni**	**52.76**	**67**	LR	LR	22 42 17.3	
	comp=Z,27nm,20.8s,MS3.3,baz=224,slow=38						
ASCN	**Ascension**	**53.25**	**163**	*e*P	**P**	**22 18 24.5**	**+1.3**
	20nm,0.6s						
ASCN	**Ascension**	**53.25**	**163**	*e*P	**P**	**22 18 24.5**	**+1.3**
	20nm,0.6s						
PDAR	**Pinedale Array**	**56.62**	**299**	P	**P**	**22 18 46.8**	**-0.8**
	0.5nm,0.9s,mb3.5,baz=94,slow=4.9,SNR=4.5						
CHMT	**Chamberlain Mo**	**56.73**	**305**	*e*P	**P**	**22 18 48.4**	**0.0**
CHMT	**Chamberlain Mo**	**56.73**	**305**	*e*P	**P**	**22 18 48.4**	**0.0**
JTS	**JuntasAbangare**	**59.06**	**253**	LR	LR	22 42 11.3	
	comp=Z,218nm,18.5s,MS4.3,baz=308,slow=34						
DAWY	**Dawson**	**59.45**	**332**	*e*P	**P**	**22 19 07.5**	**+0.1**
DAWY	**Dawson**	**59.45**	**332**	*e*P	**P**	**22 19 07.5**	**+0.1**
SAML	**Samuel**	**61.43**	**220**	*e*P	**P**	**22 19 20.7**	**-0.2**
	1.6nm,0.9s,mb4.2						
SAML	**Samuel**	**61.43**	**220**	*e*P	**P**	**22 19 20.7**	**-0.2**
	1.6nm,0.9s,mb4.2						
ILAR	**Eielson Array**	**61.43**	**335**	P	**P**	**22 19 21.9**	**+1.0**
	0.9nm,0.9s,mb3.9,baz=46,slow=5.2,SNR=6.5						
OTAV	**Otavalo**	**62.23**	**240**	*e*P	**P**	**22 19 27.7**	**+1.4**
OTAV	**Otavalo**	**62.23**	**240**	*e*P	**P**	**22 19 27.7**	**+1.4**
LPAZ	**La Paz**	**70.14**	**221**	P	**P**	**22 20 18.5**	**+1.4**
LPAZ	**La Paz**	**70.14**	**221**	P	**P**	**22 20 18.5**	**+1.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	70.84	43	P	P	22 20 20.7	-0.7
	0.7nm,0.8s,mb3.6,baz=350,slow=6.3,SNR=5.2						
TSUM	Tsumeb	75.68	135	P	P	22 20 49.4	-0.5
TSUM	Tsumeb	75.68	135	P	P	22 20 49.4	-0.6
TRIS	Tristan da Cun	82.02	167	eP	P	22 21 23.4	-1.4
TRIS	Tristan da Cun	82.02	167	eP	P	22 21 23.4	-1.4
SUR	Sutherland	88.30	140	P	P	22 21 55.4	-0.8
SUR	Sutherland	88.30	140	P	P	22 21 55.4	-0.8

SKHL 09 22:16:30.7±0.1, 4840N×13326E, h22km±2km, mb4.4/2, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HABR	Khabarovsk	1.20	86	ePg	Pn	22 16 53.2	+1.1
HABR				AMB	AMB	22 16 54.1	
	694nm,0.5s						
HABR				pPg		22 16 58.8	
HABR				eSg	Sn	22 17 09.5	+1.9
HABR				A		22 17 12.2	
	796nm,0.2s						
KLR	Kul'dur	1.30	310	ePn	Pn	22 16 51.2	-2.3
KLR				eSg	Sn	22 17 11.0	+0.8
GRNR	Gornyy	3.14	40	erx	rx	22 17 41.0	
GRNR				eSg	Sn	22 18 08.0	+12
GRNR				A		22 18 11.0	
	58nm,0.7s						
TEY	Ternei	4.08	144	eSn	Sn	22 18 20.0	+1.3
TEY				A		22 18 30.9	
	26nm,0.8s						
EKMR	Ekimchan	4.68	358	ePn	Pn	22 17 40.1	+0.1
EKMR				sPn		22 17 50.2	
EKMR				ePg	Pn	22 17 55.9	+16
EKMR				AMB	AMB	22 17 58.5	
	5.0nm,0.3s						
EKMR				eSg	Sn	22 18 58.2	+25
EKMR				A		22 19 03.8	
	13nm,0.8s						
EKMR				A		22 19 03.8	
	8.0nm,0.6s						
ZEA	Zeya	6.55	327	eSg	Sn	22 19 55.9	+36
NKL	Nikolayevsk	6.69	42	eSg	Sn	22 19 59.0	+36
KROS	Kirovskiy	7.21	329	erx	rx	22 18 29.3	
KROS				eSg	Sn	22 20 16.0	+40
KROS				A		22 20 21.4	
	8.0nm,0.5s						

*ISCJB **09** 22:26:02.4±0.7, 22.10S±0.09×68.8W±0.2, h105km±9km, mb3.7/3, Error ellipse: s-maj=26.5km s-min=13.7km az=149.4*
*NEIC **09** 22:26:03.2±1.0, 22.11S×68.84W, h100km±10km, mb3.7/3, Error ellipse: s-maj=27.7km s-min=13.3km az=68.0*
*IDC **09** 22:26:09.1±9.1, 21.70S×68.27W, h135km±41km, mb3.5/1, mb1 3.3/3, mb1mx3.1/15, mbtmp3.6/3, MS3.2/1, Ms1 3.2/1, ms1mx2.8/18, Error ellipse: s-maj=163.5km s-min=33.9km az=54.0*
ISC 09 22:26:03.7±0.7, 22.11S±0.09×68.8W±0.2, h98km±8km, n12, σ0.81/12, mb3.7/3, 1D, Northern Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.51	189	⇓iPn	Pn	22 26 18.4	-1.0
LVC				i Sg	Sn	22 26 31.2	+0.1
LPAZ	La Paz	5.82	7	P	Pn	22 27 28.1	+0.6
	0.7nm,0.3s,baz=196,slow=8.6,SNR=14						
ARE	Arequipa	6.15	335	eP	Pn	22 27 38.0	+6.0
ARE				eS	Sn	22 28 34.0	-7.0
CPUP	Villa Florida	11.30	114	P	Pn	22 28 42.8	+0.8
	0.1nm,0.3s,baz=262,slow=15,SNR=4.0						
SAML	Samuel	14.16	23	Pn	Pn	22 29 19.2	-0.4
TRQA	Tornquist	16.95	161	ePn	Pn	22 29 55.4	+0.6
	3.8nm,0.8s						
PLCA	Paso Flores	18.63	184	LR	LR	22 38 37.5	
	comp=Z,68nm,19.1s,baz=187,slow=39						
OTAV	Otavalo	24.11	336	eP	P	22 31 11.3	+1.1
	1.0nm,0.5s,mb3.4						
SDV	Santo Domingo	30.85	357	eP	P	22 32 09.9	-0.5
	1.5nm,0.3s,mb4.2						
GNAR	Gosnell	61.14	340	P	P	22 36 07.8	+0.2
TORD	Torodi Ar. Bea	77.48	70	P	P	22 37 46.8	-1.6
	0.7nm,0.6s,mb3.6,baz=248,slow=6.1,SNR=11						
TORD				pP	pP	22 38 23.3	+10
	0.9nm,0.7s,baz=253,slow=5.7,SNR=4.1						
MKAR	Makanchi Array	146.07	36	PKPbc	PKPbc	22 45 30.5	-1.7
	1.3nm,0.8s,baz=323,slow=3.8,SNR=9.2						

*IDC **09** 22:27:01.4±3.6, 4.86S×150.52E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/15, mbtmp4.0/4, ML3.1/1, MS3.9/3, Ms1 3.9/3, ms1mx3.3/17, Error ellipse: s-maj=111.0km s-min=44.4km az=115.0*
*ISCJB **09** 22:27:05.0±2.4, 4.9S±0.2×150.4E±0.4, h33km, mb4.0/6, MS4.2/2, Error ellipse: s-maj=64.0km s-min=15.0km az=29.4*
*NEIC **09** 22:27:05.9±1.6, 4.89S×150.59E, h35km, mb4.3/4, Error ellipse: s-maj=44.7km s-min=11.8km az=107.0*
ISC 09 22:27:05.8±2.4, 4.9S±0.2×150.7E±0.4, h35km, n17, σ0.68/13, mb4.0/6, MS4.2/2, New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.64	218	Pn	Pn	22 28 26.8	-0.4
	3.4nm,0.3s,baz=48,slow=8.1,SNR=8.8						
PMG	Port Moresby	5.64	218	ePn	Pn	22 28 28.1	+0.9
HNR	Honiara	10.23	116	LR	LR	22 32 52.9	
	comp=Z,175nm,18.6s,baz=180,slow=34						
WB2	Warramunga Arr	21.79	225	eP	P	22 31 53.8	-0.8
WRA	Warramunga Arr	21.80	225	P	P	22 31 53.9	-0.8
	2.2nm,0.7s,mb3.7,baz=50,slow=10,SNR=16						
ASAR	Alice Springs	24.66	219	P	P	22 32 23.6	+0.5
	0.8nm,0.5s,mb3.5,baz=56,slow=8.6,SNR=13						
FITZ	Fitzroy Crossi	27.75	240	eP	P	22 32 52.1	+1.1
	8.3nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	27.75	240	P	P	22 32 51.9	+0.9
	4.1nm,0.7s,mb4.2,baz=41,slow=13,SNR=9.6						
QIZ	Qiongzhong	46.72	302	eP	P	22 35 30.9	-0.4
	7.5nm,0.7s,mb4.7						
KULM	Kulim	50.98	281	P	P	22 36 04.2	+0.3
VNDA	Vanda	72.78	177	LR	LR	23 06 54.1	
	comp=Z,83nm,21.0s,MS4.0,baz=207,slow=33						
KURK	Kurchatov	82.58	322	eP	P	22 39 25.3	+0.2
	0.5nm,0.6s,mb3.7						
MAW	Mawson	84.63	203	LR	LR	23 13 28.9	
	comp=Z,183nm,20.0s,MS4.5,baz=74,slow=33						
CHKZ	Chkalovo	88.07	324	P	P	22 39 56.5	+3.9
BRVK	Borovoye	88.15	323	eP	P	22 39 52.9	-0.1
	0.4nm,0.4s,mb4.0						
ZRNK	Zerenda	88.89	323	P	P	22 39 56.0	-0.5
TORD	Torodi Ar. Bea	148.32	287	PKPbc	PKPbc	22 46 49.6	+1.4
	0.8nm,0.8s,baz=60,slow=1.9,SNR=4.7						

*IDC **09** 22:27:28.2±3.5, 4.87S×150.51E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/15, mbtmp4.0/4, ML3.5/1, Error ellipse: s-maj=118.4km s-min=42.5km az=116.0*
*ISCJB **09** 22:27:30.4±5.6, 5.0S±0.4×150.7E±0.1, h38km±43km, mb3.9/4, Error ellipse: s-maj=72.4km s-min=21.0km az=157.8*
*NEIC **09** 22:27:32.6±1.1, 4.97S×150.64E, h35km, mb4.4/1, Error ellipse: s-maj=20.4km s-min=11.8km az=173.0*
ISC 09 22:27:34.6±4.6, 5.1S±0.4×150.7E±0.2, h47km±36km, n10, σ0.36/9, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.52	219	Pn	Pn	22 28 54.2	+0.1
	8.8nm,0.3s,baz=41,slow=11,SNR=10						
PMG	Port Moresby	5.52	219	ePn	Pn	22 28 54.4	+0.2
HNR	Honiara	10.13	116	ePn	Pn	22 29 57.3	-0.1
CTAO	Charters Tower	15.49	196	Pn	Pn	22 31 10.1	+0.2
WRAB	Tennant Creek	21.68	226	eP	P	22 32 20.8	-0.4
WRA	Warramunga Arr	21.69	226	P	P	22 32 20.7	-0.7
	1.1nm,0.5s,mb3.6,baz=50,slow=10,SNR=5.8						
ASAR	Alice Springs	24.53	220	P	P	22 32 50.0	+0.4
	1.1nm,0.6s,mb3.6,baz=49,slow=8.6,SNR=4.2						
FITZ	Fitzroy Crossi	27.67	240	P	P	22 33 18.4	+0.4
	2.7nm,0.6s,mb4.1,baz=82,slow=11,SNR=7.6						
MBWA	Marble Bar	34.00	239	eP	P	22 34 13.8	+0.1
	2.9nm,0.6s,mb4.4						
TORD	Torodi Ar. Bea	148.40	287	PKPbc	PKPbc	22 47 16.6	+0.8

0.6nm,0.8s,baz=98,slow=2.1,SNR=3.4

*ISCJB **09** 22:28:33.5±3.9, 18.8S±0.1×177.8W±0.2, h603km±48km, mb3.8/11, Error ellipse: s-maj=25.3km s-min=19.9km az=107.8*
*IDC **09** 22:28:34.8±3.7, 18.87S×177.66W, h607km±45km, mb3.2/8, mb1 3.4/9, mb1mx3.3/17, mbtmp4.2/9, Error ellipse: s-maj=30.6km s-min=20.7km az=175.0*
*NEIC **09** 22:28:35.6±2.3, 18.83S×177.71W, h617km±26km, mb4.2/6, Error ellipse: s-maj=14.7km s-min=11.1km az=59.0*
ISC 09 22:28:35.4±4.4, 18.9S±0.1×177.7W±0.2, h611km±53km, n29, σ0.42/23, mb3.8/11, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	19.82	192	P	P	22 32 26.3	-0.6
	1.9nm,0.3s,baz=16,slow=3.1,SNR=8.1						
CTA	Charters Tower	33.99	262	eP	P	22 34 30.5	+0.4
	3.7nm,0.6s,mb4.2						
CTA	Charters Tower	33.99	262	P	P	22 34 30.7	+0.6
	4.2nm,1.0s,mb4.0,baz=82,slow=13,SNR=6.8						
CTAO	Charters Tower	33.99	262	eP	P	22 34 30.6	+0.5
	3.7nm,0.5s,mb4.3						
PMG	Port Moresby	35.33	281	eP	P	22 34 41.1	0.0
STKA	Stephens Creek	38.79	242	P	P	22 35 10.2	+0.9
	1.2nm,0.3s,mb3.9,baz=84,slow=10,SNR=4.0						
WB2	Warramunga Arr	45.14	260	⇓iP	P	22 35 58.7	-0.3
WRAB	Tennant Creek	45.15	260	eP	P	22 35 58.9	-0.1
	8.5nm,0.3s,mb4.8						
WRA	Warramunga Arr	45.16	260	P	P	22 35 58.9	-0.2
	3.5nm,0.3s,mb4.3,baz=98,slow=6.4,SNR=191						
WRA				PcP	PcP	22 37 26.1	+0.2
	0.5nm,0.4s,baz=92,slow=3.8,SNR=5.3						
AS31	Alice Springs	45.21	255	eP	P	22 35 59.6	+0.1
ASAR	Alice Springs	45.21	255	P	P	22 35 59.7	+0.2
	6.5nm,0.7s,mb4.2,baz=87,slow=8.1,SNR=61						
ASAR				PcP	PcP	22 37 26.1	0.0
	1.0nm,0.6s,baz=97,slow=4.3,SNR=7.4						
ASPA	Alice Springs	45.21	255	eP	P	22 35 59.6	+0.1
KAKA	Kakadu	48.28	270	eP	P	22 36 22.2	-0.3
	3.1nm,0.2s,mb4.5						
FITZ	Fitzroy Crossi	53.57	261	eP	P	22 37 00.8	+0.2
	3.5nm,0.8s,mb3.7						
FITZ	Fitzroy Crossi	53.57	261	P	P	22 37 00.7	+0.1
	1.1nm,0.3s,mb3.7,baz=128,slow=20,SNR=11						
MBWA	Marble Bar	58.52	256	eP	P	22 37 34.5	-0.1
	1.8nm,0.3s,mb3.7						
CASY	Casey	65.54	205	P	P	22 38 20.3	+0.4
MJAR	Matsushiro Arr	69.12	323	P	P	22 38 40.6	-1.0
	0.4nm,0.4s,mb3.2,baz=148,slow=8.5,SNR=4.1						
QSPA	South Pole Qui	71.16	180	eP	P	22 38 53.8	0.0
NVAR	Mina Array Bea	79.65	43	P	P	22 39 41.1	+0.4
	0.4nm,0.6s,mb2.9,baz=222,slow=11,SNR=3.2						
MAW	Mawson	83.17	200	P	P	22 39 58.5	-0.1
PDAR	Pinedale Array	87.58	43	P	P	22 40 20.1	+0.4
	0.1nm,0.3s,mb3.0,baz=186,slow=3.0,SNR=3.8						
SNAA	Sanae	89.60	178	eP	P	22 40 28.7	-0.4
ARCES	ARCESS Array B	127.41	350	PKP	PKPdf	22 46 30.4	-1.4
	0.6nm,0.4s,baz=359,slow=0.8,SNR=12						
AKASG	Malin Array Be	141.76	332	PKhKP		22 46 52.6	
	0.5nm,0.4s,baz=38,slow=3.9,SNR=5.2						
BRTR	Keskin Array B	145.97	314	PKPbc	PKPbc	22 47 07.3	-0.5
	1.1nm,0.7s,baz=135,slow=4.4,SNR=7.2						
CLL	Collm	146.58	348	⇓iPKPbc	PKPbc	22 47 08.5	-0.9
	comp=Z,5.0nm,0.6s						
MMAI	Mount Meron Ar	147.26	302	PKPbc	PKPbc	22 47 11.8	+0.6
	comp=Z,0.9nm,0.3s,baz=71,slow=8.3,SNR=5.9						
GERES	GERESS Array B	148.74	345	PKPbc	PKPbc	22 47 14.1	-0.8
	comp=Z,0.9nm,0.7s,baz=35,slow=3.3,SNR=8.9						

*ISCJB **09** 22:30:36.5±0.6, 14.57N±0.08×104.27W±0.07, h10km, mb4.1/20, MS4.0/15, Error ellipse: s-maj=13.5km s-min=6.8km az=83.3*
*IDC **09** 22:30:37.3±5.4, 14.65N×104.15W, h0km, mb3.9/8, mb1 4.2/9, mb1mx3.9/23, mbtmp4.0/9, ML3.9/1, MS4.0/15, Ms1 4.0/15, ms1mx3.8/27, Error ellipse: s-maj=115.4km s-min=89.0km az=51.0*
*HRVD **09** 22:30:38.7±0.6, 15.30N×104.59W, h21km±1km, MW4.9/67, Centroid moment Tensor Solution. LP body waves: s22,c23;Mantle waves: s67,c99; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.08±.15; $M_{\theta\theta}$-0.88±.10; $M_{\phi\phi}$0.79±.14; $M_{r\theta}$-0.65±.20; $M_{\theta\phi}$-2.71±.10; $M_{\phi r}$0.38±.24; Best double couple: $M_0$2.93500×10^{16} NP1:ϕ_s9.00000°,δ76.00000°,λ6.00000°. NP2: ϕ_s278.00000°,δ85.00000°,λ166.00000°. Principal axes: T 2.9620, Plg14.0000°, Azm233.0000°; N -0.0540, Plg75.0000°, Azm77.0000°; P -2.9070, Plg6.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 22:30:38.7±0.6, 14.57N×104.22W, h10km, mb4.3/18 Error ellipse: s-maj=12.9km s-min=6.2km az=51.0*
ISC 09 22:30:38.8±0.6, 14.61N±0.07×104.26W±0.07, h10km, n87, σ1.03/74, mb4.1/20, MS4.0/15, 19C-13D, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPM	Popocatepetl	6.99	50	eP	Pn	22 32 21.7	+0.5
MAIG	Mazatlaan	8.78	347	i P	Pn	22 32 41.9	-3.9
LPIG	La Paz	11.03	330	Pn	Pn	22 33 16.5	-0.2
	0.9nm,0.3s,baz=128,slow=19,SNR=2.6						
LTX	Lajitas	14.67	2	ePn	Pn	22 34 06.2	-0.2
	47nm,1.5s						
JCT	Junction City	16.32	14	Pn	Pn	22 34 30.2	+2.2
	13nm,0.9s						
TUC	Tucson	18.60	342	eP	Pn	22 34 56.4	0.0
	18nm,1.4s						
116A	Eloy	19.12	341	⇑P	Pn	22 35 01.8	-0.9
	baz=19						
NATX	Nacogdoches	19.20	26	eP	Pn	22 35 02.1	-1.6
	12nm,0.5s						
JTS	JuntasAbangare	19.33	101	eP	Pn	22 35 03.5	-1.8
115A	Sonoran Desert	19.42	339	⇑P	Pn	22 35 04.9	-1.4
	baz=20						
BNM	Barren Site	19.58	354	eP	Pn	22 35 07.8	-0.4
LENM	Lemitar	19.63	353	P	Pn	22 35 09.4	+0.6
LAZ	Ladron	19.88	353	eP	Pn	22 35 11.3	-0.6
Z14A	Wintersburg	20.27	339	⇑P	P	22 35 14.1	-0.3
	baz=20						
AMTX	Amarillo	20.33	6	eP	P	22 35 14.7	-0.3
	9.3nm,0.8s						
ANMO	Albuquerque	20.36	355	P	P	22 35 15.8	+0.5
	7.5nm,1.2s,baz=169,slow=10.0,SNR=22						
ANMO				LR	LR	22 43 46.1	
	comp=Z,117nm,20.1s,MS3.2,baz=185,slow=39						
ANMO	Albuquerque	20.36	355	eP	P	22 35 15.4	+0.1
GLA	Glamis	20.73	334	⇓P	P	22 35 20.9	+1.6
	baz=21,SNR=5.6						
Y14A	Wickenburg	20.81	339	⇓P	P	22 35 19.8	-0.5
	baz=21,SNR=6.0						
X15A	Humboldt	21.07	341	⇑P	P	22 35 22.8	-0.3
	baz=21,SNR=9.5						
Y12C	Blythe	21.21	336	⇓P	P	22 35 23.8	-0.8
	baz=21						
X14A	Yava	21.26	340	⇑P	P	22 35 24.2	-0.9
	baz=21,SNR=11						
109C	Camp Elliot, M	21.63	330	⇑P	P	22 35 30.5	+1.3
	baz=22						
W15A	Williams	21.72	342	⇑P	P	22 35 29.3	-0.8
	baz=22						
WUAZ	Wupatki	21.78	344	eP	P	22 35 31.8	+1.0
	16nm,1.0s,mb4.4						
PFO	Pinyon Flat Ob	21.91	332	⇓P	P	22 35 33.4	+1.2
	baz=22						
W14A	Seligman	22.00	340	⇓P	P	22 35 33.1	0.0
	baz=22,SNR=7.0						
MIAR	Mount Ida	22.07	24	eP	P	22 35 33.5	-0.3
	26nm,1.1s,mb4.6						
V12A	Nelson	23.08	338	⇑P	P	22 35 44.6	0.0
	baz=23						
TUQ	Turquoise Mtn.	23.24	335	⇑P	P	22 35 46.2	0.0
	baz=23						
V11A	Goodsprings	23.40	337	⇓P	P	22 35 47.3	-0.6
	baz=24						
U12A	Valley of Fire	23.60	339	⇑P	P	22 35 48.0	-1.9
	baz=24						
LRAL	Lakeview Retre	24.14	38	eP	P	22 35 54.9	0.0
	4.6nm,0.7s,mb4.0						
CCUT	Cedar City	24.24	342	eP	P	22 35 56.1	+0.3
U10A	Ash Meadows, A	24.26	336	⇓P	P	22 35 55.0	-1.0
	baz=24						
SMCO	Snowmass	24.59	355	eP	P	22 36 00.9	+1.8
	21nm,1.2s,mb4.5						
TPNV	Topopah Spring	24.69	337	eP	P	22 36 00.6	+0.7
	3.9nm,0.9s,mb3.9						
MSU	Marysvale	24.82	345	eP	P	22 36 02.0	+1.0
PLAL	Pickwick Lake	24.98	33	eP	P	22 36 05.1	+2.6
	30nm,1.3s,mb4.7						
ISCO	Idaho Springs	25.13	358	eP	P	22 36 05.8	+1.9
	12nm,1.4s,mb4.2						
S09A	Goldfield	25.74	336	⇑P	P	22 36 09.2	-0.3
	baz=26						
WVT	Waverly	26.00	31	eP	P	22 36 12.9	+1.1
	7.7nm,1.1s,mb4.2						
Q11A	Duckwater	26.16	340	⇓P	P	22 36 11.8	-1.4
	baz=26						
DAU	Daniels Canyon	26.43	348	eP	P	22 36 17.1	+1.5
P12A	McGill	26.48	341	⇑P	P	22 36 16.0	-0.2
	baz=27						
DUG	Dugway	26.57	345	eP	P	22 36 17.8	+0.8
NVAR	Mina Array Bea	26.78	335	P	P	22 36 19.2	+0.3
	1.0nm,0.8s,mb3.4,baz=152,slow=10,SNR=5.3						
Q08A	Gabbs	27.00	336	⇓P	P	22 36 22.4	+1.5
	baz=27						
O11A	Cowboy Ranch,	27.32	341	⇓P	P	22 36 23.1	-0.6
	baz=27						
O09A	Fish Creek Ran	27.87	338	⇑P	P	22 36 28.9	+0.3
	baz=28,SNR=5.0						
M13A	Montello	28.01	344	⇑P	P	22 36 28.7	-1.2
	baz=28						
M12A	Wells	28.27	343	⇓P	P	22 36 30.3	-1.9
	baz=28						
PDAR	Pinedale Array	28.43	352	P	P	22 36 33.1	-0.5
	0.6nm,0.9s,mb3.2,baz=167,slow=7.0,SNR=3.8						
O07A	Toulon	28.49	336	⇑P	P	22 36 33.2	-1.0
	baz=29						
OTAV	Otavalo	29.25	117	eP	P	22 36 39.3	-1.6
	9.6nm,1.1s,mb4.4						
TPAW	Teton Pass	29.35	350	eP	P	22 36 42.6	+0.8
	5.4nm,1.3s,mb4.1						
P01C	Double 8 Ranch	29.91	330	⇑P	P	22 36 48.9	+2.1
	baz=30						
M06C	Likely Place G	30.02	335	⇑P	P	22 36 46.8	-0.9
	baz=30						
HLID	Hailey	30.14	345	eP	P	22 36 48.7	-0.1
	5.8nm,1.4s,mb4.1						
L07A	Adell	30.27	337	⇑P	P	22 36 49.3	-0.7
	baz=30						
M05C	Lookout	30.43	334	⇓P	P	22 36 51.4	0.0
	baz=30						
L05A	Lakeview	30.87	336	⇑P	P	22 36 55.7	+0.4
	baz=31						
YBH	Yreka Blue Hor	31.40	333	LR	LR	22 48 38.5	
	comp=Z,404nm,19.6s,MS4.1,baz=162,slow=34						
SDV	Santo Domingo	33.39	96	eP	P	22 37 16.8	-0.5
I03A	Eugene	33.47	335	⇓P	P	22 37 18.1	0.0
	baz=34						
NEW	Newport	35.21	345	P	P	22 37 32.2	-1.0
	0.5nm,0.3s,mb3.9,baz=151,slow=8.0,SNR=3.4						
NEW				LR	LR	22 51 12.2	
	comp=Z,156nm,20.3s,MS3.8,baz=77,slow=35						
NEW	Newport	35.21	345	eP	P	22 37 32.6	-0.5
	1.0nm,0.5s,mb4.0						
ULM	Lac du Bonnet	36.20	9	LR	LR	22 52 23.0	
	comp=Z,206nm,20.2s,MS3.9,baz=278,slow=36						
BBB	Bella Bella	42.05	338	LR	LR	22 55 22.4	
	comp=Z,218nm,18.9s,MS4.1,baz=140,slow=35						
SAML	Samuel	46.98	117	eP	P	22 39 09.9	-0.1
	2.2nm,0.8s,mb4.1						
LPAZ	La Paz	47.07	129	LR	LR	22 56 43.7	
	comp=Z,336nm,21.7s,MS4.3,baz=55,slow=33						
LPAZ	La Paz	47.07	129	eP	P	22 39 13.1	+2.4
	8.7nm,1.4s,mb4.5						
DLBC	Dease Lake	47.80	342	P	P	22 39 18.1	+1.7
	3.4nm,0.8s,mb4.4,baz=173,slow=8.6,SNR=6.3						
DLBC				LR	LR	22 59 22.5	
	comp=Z,314nm,20.3s,MS4.3,baz=126,slow=36						
RKT	Rikitea	48.05	219	eLR	LR	22 53 02.3	
	253nm,26.2s						
YKA	Yellowknife Ar	48.39	354	P	P	22 39 20.2	-0.6
	0.8nm,0.9s,mb3.8,baz=162,slow=8.1,SNR=3.2						
YKA				LR	LR	23 00 04.4	
	comp=Z,170nm,18.4s,MS4.1,baz=180,slow=36						
SCHQ	Schefferville	49.52	28	LR	LR	23 03 58.3	
	comp=Z,118nm,19.2s,MS3.9,baz=278,slow=40						
PPT	Papeete	54.95	236	eS	S	22 47 56.1	+4.4
	102nm,26.2s						
PPT				eLR	LR	22 56 08.1	
	481nm,25.8s,baz=58						
INK	Inuvik	56.87	347	P	P	22 40 23.2	-0.4
	3.3nm,1.0s,mb4.3,baz=161,slow=11,SNR=2.6						
ILAR	Eielson Array	57.88	340	P	P	22 40 30.1	-0.7
	1.5nm,0.9s,mb4.0,baz=169,slow=6.2,SNR=8.0						
TBI	Tubuai	58.11	230	eLR	LR	22 57 34.3	
	444nm,28.5s						
BDFB	Brasilia	63.19	116	LR	LR	23 07 56.3	
	comp=Z,168nm,18.6s,MS4.2,baz=301,slow=36						
PLCA	Paso Flores	63.31	152	LR	LR	23 02 05.8	
	comp=Z,232nm,20.4s,MS4.3,baz=273,slow=30						
TRQA	Tornquist	65.69	144	eP	P	22 41 24.2	+0.7
ESDC	Sonseca Array	88.53	49	LR	LR	23 24 14.3	
	comp=Z,60nm,18.9s,MS4.0,baz=180,slow=36						
ARCES	ARCESS Array B	89.04	16	LR	LR	23 23 31.9	
	comp=Z,74nm,19.9s,MS4.1,baz=73,slow=36						
NOA	NORSAR Array B	89.07	26	LR	LR	23 23 55.9	
	comp=Z,105nm,21.2s,MS4.2,baz=310,slow=36						
DBIC	Dimbokro	97.37	81	LR	LR	23 25 35.5	
	comp=Z,77nm,18.7s,MS4.2,baz=299,slow=34						

MEX 09 22:52:23.7±1.0, 17.12N×93.87W, h187km±13km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.97	269	i P	Pn	22 52 50.6	-1.3
CMIG				i S	Sn	22 53 11.4	-2.3
HUIG	Huatulco	2.54	238	i P	Pn	22 53 04.4	-2.7
HUIG				i S	Sn	22 53 39.8	-1.2
OXX	Oaxaca	2.73	270	i P	Pn	22 53 09.5	0.0
OXX				i S	Sn	22 53 43.5	-1.6
VHO	Vista Hermosa	2.74	270	i P	Pn	22 53 08.2	-1.4
VHO				i S	Sn	22 53 43.2	-2.1
PLIG	Platanillo	5.52	284	i P	Pn	22 53 42.9	-1.6

*ISCJB **09** 22:58:41.4±1.5, 44.85N±0.07×14.68E±0.06, h8km±7km, Error ellipse: s-maj=12.5km s-min=6.7km az=39.4*
*CSEM **09** 22:58:42.4±0.4, 44.85N×14.73E, h12km, ML3.0/1, Error ellipse: s-maj=6.0km s-min=2.8km az=12.0*
*VIE **09** 22:58:43.9±0.8, 44.96N×14.72E, h8km, mb2.5/1, ML3.0/1, Error ellipse: s-maj=4.3km s-min=2.9km az=173.0 49 km SSE of Rijeka*
*PRU **09** 22:58:46.0, 45.02N×14.82E, h0km*
ISC 09 22:58:42.0±1.6, 44.81N±0.08×14.70E±0.06, h1km±6km, n16, σ1.03/26, 4C-2D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNDS	Knezji Dol	0.75	343	i Pg	Pg	22 58 56.4	0.0
KNDS				i Sg	Sg	22 59 07.7	+1.5
BOJS	Bojanci	0.80	29	i Pg	Pg	22 58 57.1	-0.2
VOY	Vojsko	1.35	335	ePg	Pg	22 59 08.3	+0.5
VOY				eSg	Sg	22 59 25.7	+0.4
SISC	Sisak	1.36	60	Sg	Sg	22 59 26.1	+0.5
SISC	Sisak	1.36	60	Sg	Sg	22 59 26.0	+0.4
DRE	Drenchia	1.55	332	⇑iPg	Pg	22 59 11.9	+0.2
DRE				i Sg	Sg	22 59 32.5	+0.6
DRE	Drenchia	1.55	332	i Pg	Pg	22 59 11.9	+0.2
DRE				i Sg	Sg	22 59 32.5	+0.6
CADS	Cadrg	1.57	335	i Pn	Pn	22 59 12.1	+1.2
CADS				eSn	Sn	22 59 33.4	+1.5
CADS							
	comp=Z,28nm,0.2s						
OBKA	Obir	1.70	357	ePg	Pg	22 59 14.0	-0.6
	SNR=38						
OBKA				⇑iSg	Sg	22 59 35.8	-0.9
	comp=Z,41nm,0.3s						
BAD	Bernadia	1.76	325	⇑iPg	Pg	22 59 14.8	-0.9
BAD				i Sg	Sg	22 59 38.1	-0.3
BUA	Buia	1.79	322	⇓iPg	Pg	22 59 15.8	-0.6
BUA				i Sg	Sg	22 59 39.6	+0.1
LSR	Lussari	1.86	334	⇑iPg	Pg	22 59 16.9	-0.7
LSR				eSg	Sg	22 59 42.4	+0.7
MPRI	Monte Prat	1.87	321	⇓iPg	Pg	22 59 16.4	-1.4
KHC	Kasperske Hory	4.39	350	ePN	Pn	22 59 50.5	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHC				eSN	Sn	23 00 39.0	-2.5
TREC	Trest	4.52	7	ePN	Pn	22 59 52.6	+1.1
PRU	Pruhonice	5.18	359	eSN	Sn	23 00 57.1	-3.9

*IDC **09** 23:22:07.7±0.7, 1968S×7054W, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.3/14, mbtmp4.4/9, MS3.8/9, Ms1 3.8/9, ms1mx3.6/24, Error ellipse: s-maj=26.0km s-min=15.2km az=69.0*
*ISCJB **09** 23:22:11.9±1.1, 1978S±004×7054W±006, h40km±10km, mb4.3/15, MS3.9/8, Error ellipse: s-maj=10.1km s-min=6.3km az=129.6*
*BJI **09** 23:22:14.0, 1980S×7050W, h45km, mB5.3*
*NEIC **09** 23:22:14.1±1.2, 1982S×7055W, h46km±11km, mb4.4/9, Error ellipse: s-maj=13.5km s-min=8.3km az=85.0*
ISC 09 23:22:14.4±0.8, **1984S**±004×**7058W**±006, **h45**km±8km, **n53**, σ1^{s}18/49, **mb4.3**/15, **MS3.9**/8, **2C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	3.17	151	Pn	Pn	23 23 02.1	+0.4
	24nm,0.3s,baz=316,slow=9.4,SNR=169						
LVC				Sn	Sn	23 23 40.6	+2.5
	107nm,0.3s,baz=303,slow=7.9,SNR=6.1						
LVC				Lg		23 23 50.2	
	115nm,0.3s,baz=188,slow=21,SNR=7.5						
LVC	Limon Verde	3.17	151	⇑iPn	Pn	23 23 02.0	+0.4
LVC				eSn	Sn	23 23 50.8	+13
ARE	Arequipa	3.47	345	eP	Pn	23 23 04.0	-1.8
ARE				i S	Sn	23 23 56.0	+10
LPAZ	La Paz	4.24	34	Pn	Pn	23 23 18.8	+2.4
	1.7nm,0.3s,baz=204,slow=8.5,SNR=28						
LPAZ				Lg		23 24 25.5	
	baz=3.5,slow=19,SNR=1.5						
LPAZ	La Paz	4.24	34	ePn	Pn	23 23 19.8	+3.5
LPAZ				Sn	Sn	23 23 59.4	-5.1
SIV	San Ignacio	9.83	69	Pn	Pn	23 24 32.9	-0.1
	5.1nm,0.3s,baz=262,slow=10,SNR=106						
NNA	Nana	9.86	321	ePn	Pn	23 24 39.1	+5.7
NNA				eSn	Sn	23 26 23.5	+0.8
CFAA	Coronel Fontan	11.90	170	Pn	Pn	23 25 00.2	-1.2
	0.1nm,0.3s,baz=346,slow=11,SNR=3.6						
CFAA				Sn	Sn	23 27 01.9	-11
	0.0nm,0.3s,baz=249,slow=17,SNR=2.8						
CFAA				LR	LR	23 29 53.5	
	comp=Z,66nm,18.1s,baz=344,slow=39						
CFAA	Coronel Fontan	11.90	170	Pn	Pn	23 25 00.2	-1.2
CFAA				Sn	Sn	23 27 01.9	-11
CFAA				LR	LR	23 29 53.5	
SAML	Samuel	12.98	35	ePn	Pn	23 25 14.9	-1.2
	8.7nm,0.8s						
SAML				eSn	Sn	23 27 39.3	+0.2
CPUP	Villa Florida	13.79	120	Pn	Pn	23 25 31.1	+3.9
	0.5nm,0.3s,baz=292,slow=12,SNR=9.9						
CPUP	Villa Florida	13.79	120	ePn	Pn	23 25 31.7	+4.5
	24nm,0.8s						
CPUP				eSn	Sn	23 27 59.2	+0.3
TRQA	Tornquist	19.63	159	eP	Pn	23 26 39.0	-1.8
	14nm,0.8s						
TRQA				eS	S	23 30 03.7	-14
PLCA	Paso Flores	20.82	180	P	P	23 26 53.6	+1.7
	6.1nm,0.9s,baz=354,slow=16,SNR=7.8						
PLCA	Paso Flores	20.82	180	eP	P	23 26 58.1	+6.1
OTAV	Otavalo	21.39	338	eP	P	23 26 59.8	+1.6
	7.8nm,0.8s,mb4.1						
BDFB	Brasilia	21.89	83	P	P	23 27 02.2	-1.3
	7.4nm,0.5s,mb4.4,baz=252,slow=11,SNR=23						
BDFB				LR	LR	23 37 10.9	
	comp=Z,508nm,19.5s,MS3.9,baz=284,slow=41						
ROSC	El Rosal	24.82	351	P	P	23 27 34.8	+2.6
	1.7nm,0.4s,mb4.0,baz=108,slow=20,SNR=2.2						
SDV	Santo Domingo	28.55	360	P	P	23 28 07.6	+1.8
	3.8nm,0.7s,mb4.2,baz=288,slow=2.7,SNR=2.8						
SDV	Santo Domingo	28.55	360	eP	P	23 28 05.1	-0.7
	3.2nm,0.7s,mb4.2						
JTS	JuntasAbangare	33.12	333	LR	LR	23 40 56.2	
	comp=Z,83nm,19.4s,MS3.5,baz=115,slow=34						
RCBR	Riachuelo	36.47	72	eP	P	23 29 15.4	+0.4
	9.8nm,0.6s,mb4.9						
SNAA	Sanae	64.35	161	e	P	23 32 44.6	-0.8
SNAA				e		23 32 51.5	
SNAA				e	pP	23 33 00.8	+2.5
SNAA				e		23 33 07.2	
SNAA	Sanae	64.35	161	eP	P	23 32 45.6	+0.2
	3.0nm,0.8s,mb4.4						
SNAA				epP	pP	23 33 01.1	+2.8
FRNY	Flat Rock	64.42	358	eP	P	23 32 45.3	-0.6
DBIC	Dimbokro	69.79	75	P	P	23 33 19.7	-0.2
	8.1nm,1.0s,mb4.6,baz=232,slow=7.9,SNR=7.6						
DBIC	Dimbokro	69.79	75	eP	P	23 33 19.6	-0.4
	9.2nm,0.9s,mb4.7						
CCUT	Cedar City	69.86	325	eP	P	23 33 21.2	+0.9
QSPA	South Pole Qui	70.34	180	eP	P	23 33 23.7	+0.4
	6.8nm,1.1s,mb4.5						
DAU	Daniels Canyon	70.90	328	eP	P	23 33 24.5	-2.2
NVAR	Mina Array Bea	73.23	323	P	P	23 33 40.4	-0.3
	0.8nm,0.9s,mb3.6,baz=195,slow=4.6,SNR=4.6						
ULM	Lac du Bonnet	73.28	343	LR	LR	00 08 17.4	
	comp=Z,45nm,18.0s,MS3.8,baz=196,slow=38						
SCHQ	Schefferville	74.44	2	LR	LR	00 06 14.4	
	comp=Z,54nm,20.3s,MS3.8,baz=227,slow=36						
HLID	Hailey	74.81	329	eP	P	23 33 49.7	-0.2
	1.7nm,0.8s,mb4.0						
TOA0	Torodi Ar. Sit	78.30	71	eP	P	23 34 09.3	-0.3
TOA0				ePcP	PcP	23 34 18.2	-0.6
TORD	Torodi Ar. Bea	78.30	71	P	P	23 34 09.3	-0.2
	6.9nm,0.7s,mb4.7,baz=251,slow=4.8,SNR=55						
TORD				LR	LR	00 07 17.7	
	comp=Z,148nm,19.6s,MS4.3,baz=20,slow=35						
SYO	Syowa Base	78.59	160	⇑eP	P	23 34 11.0	-0.2
SYO	Syowa Base	78.59	160	⇓ePcP	PcP	23 34 16.4	-3.7
TSUM	Tsumeb	82.02	107	eP	P	23 34 31.2	+1.6
	3.7nm,0.8s,mb4.4						
RAR	Rarotonga	82.31	250	LR	LR	00 02 39.2	
	comp=Z,136nm,18.8s,MS4.3,baz=334,slow=30						
ESDC	Sonseca Array	85.77	45	P	P	23 34 48.8	0.0
	1.1nm,0.9s,mb4.1,baz=248,slow=5.8,SNR=7.6						
ESDC				LR	LR	00 09 19.7	
	comp=Z,51nm,18.4s,MS4.0,baz=155,slow=33						
MAW	Mawson	86.36	164	P	P	23 34 53.0	+1.3
	3.7nm,1.0s,mb4.6,baz=222,slow=5.5,SNR=4.7						
YKA	Yellowknife Ar	89.11	341	P	P	23 35 02.9	-1.9
	2.9nm,1.1s,mb4.5,baz=135,slow=4.9,SNR=9.3						
YKA				LR	LR	00 18 17.3	
	comp=Z,47nm,20.2s,MS3.9,baz=180,slow=38						
YKA	Yellowknife Ar	89.11	341	P	P	23 35 02.9	-1.9
YKA				LR	LR	00 18 17.4	
ASAR	Alice Springs	130.60	210	PKP	PKPdf	23 41 21.6	+1.3
	1.5nm,0.8s,baz=85,slow=1.1,SNR=4.2						
WRA	Warramunga Arr	133.53	213	PKP	PKPdf	23 41 24.9	-0.8
	0.5nm,0.7s,baz=153,slow=1.8,SNR=5.1						
ZAL	Zalesovo	141.09	23	PKP	PKPdf	23 41 37.2	-2.4
	1.2nm,0.7s,baz=180,slow=5.8,SNR=6.8						
MKAR	Makanchi Array	145.16	33	PKPbc	PKPbc	23 41 46.4	-0.1
	3.6nm,0.7s,baz=329,slow=4.1,SNR=27						
MJAR	Matsushiro Arr	149.82	310	PKPbc	PKPbc	23 41 59.1	-0.3
	2.3nm,0.8s,baz=211,slow=0.8,SNR=6.9						
SONM	Songino Array	151.97	4	PKP	PKPdf	23 41 58.1	+0.2
	1.3nm,0.7s,baz=352,slow=3.3,SNR=3.9						
SONM				PKPbc	PKPbc	23 42 04.7	+0.2
	1.4nm,0.7s,baz=324,slow=1.5,SNR=8.8						
HHC	Hu-ho-hao-te	158.98	355	ePKP	PKPdf	23 42 06.1	-1.2
HHC				PP	PP	23 46 25.3	+0.7
HHC				SKS	SKSdf	23 49 01.7	-7.5
HHC				PP	PP		
	comp=Z,139nm,10.1s						
NJ2	Nanjing	165.18	327	ePKP	PKPdf	23 42 14.1	+0.5
CD2	Chengdu	167.85	24	ePKP	PKPdf	23 42 12.3	-3.3

*IDC **09** 23:36:00.9±1.5, 2355S×7130W, h0km, mb4.4/3, mb1 4.3/6, mb1mx3.9/16, mbtmp4.3/6, ML4.3/3, Error ellipse: s-maj=43.4km s-min=25.0km az=124.0*
*ISCJB **09** 23:36:03.4±0.6, 2354S±006×7139W±008, h33km, mb4.1/6, Error ellipse: s-maj=10.8km s-min=9.1km az=36.4*
*NEIC **09** 23:36:05.8±0.6, 2351S×7122W, h35km, mb4.0/4, Error ellipse: s-maj=16.2km s-min=9.7km az=89.0*
ISC 09 23:36:05.8±0.6, **2355S**±006×**7134W**±008, **h35**km, **n18**, σ1^{s}21/17, **mb4.1**/6, **Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.42	68	Pn	Pn	23 36 43.5	+0.7
	7.5nm,0.3s,baz=260,slow=9.6,SNR=84						
LVC				Sn	Sn	23 37 12.1	+1.0
	76nm,0.3s,baz=42,slow=16,SNR=33						
LPAZ	La Paz	7.83	23	Pn	Pn	23 37 58.0	+0.9
	1.4nm,0.3s,baz=231,slow=7.7,SNR=55						
CFAA	Coronel Fontan	8.48	162	Pn	Pn	23 38 05.2	-0.9
	baz=312,slow=15,SNR=3.2						
SIV	San Ignacio	12.24	54	Pn	Pn	23 38 54.7	-2.8
	1.1nm,0.3s,baz=245,slow=12,SNR=35						
SAML	Samuel	16.48	30	Pn	Pn	23 39 52.1	-2.1
TRQA	Tornquist	16.53	153	ePn	Pn	23 39 53.1	-1.7
	7.1nm,1.0s						
OTAV	Otavalo	24.63	343	eP	P	23 41 22.4	-0.4
	0.8nm,0.6s,mb3.4						
SDV	Santo Domingo	32.24	1	eP	P	23 42 30.2	-0.6
TEIG	Tepich	46.54	338	P	P	23 44 28.9	-0.9
OXF	Oxford	60.24	343	P	P	23 46 10.4	0.0
LTX	Lajitas	61.09	328	eP	P	23 46 18.8	+2.6
	0.9nm,0.4s,mb4.2						
SNAA	Sanae	61.10	160	eP	P	23 46 17.7	+1.4
	1.0nm,0.5s,mb4.2						
QSPA	South Pole Qui	66.65	180	P	P	23 46 53.3	+0.5
DBIC	Dimbokro	71.46	74	P	P	23 47 22.6	-0.1
	3.6nm,1.1s,mb4.2,baz=243,slow=11,SNR=4.0						
TORD	Torodi Ar. Bea	80.15	71	P	P	23 48 12.9	+0.7
	3.3nm,0.6s,mb4.4,baz=256,slow=5.2,SNR=62						
MAW	Mawson	83.01	164	P	P	23 48 28.4	+1.1
	1.6nm,0.8s,mb4.1,baz=244,slow=7.8,SNR=4.2						
ZAL	Zalesovo	144.75	24	PKP	PKPdf	23 55 38.2	-0.6
	1.0nm,0.5s,baz=140,slow=3.2,SNR=5.7						
MKAR	Makanchi Array	148.60	36	PKPbc	PKPbc	23 55 49.5	+0.5
	2.6nm,0.7s,baz=313,slow=2.5,SNR=22						

*ISCJB **09** 23:36:48.2±0.5, 4800N±003×806E±003, h13km±11km, Error ellipse: s-maj=5.1km s-min=3.3km az=169.5*
*LEDBW **09** 23:36:48.8±0.1, 4801N±003×8080E±0009, h5km, ML1.5, Error ellipse: s-maj=10.0km s-min=2.0km az=160.0*
*ZUR **09** 23:36:48.6, 4801N×809E, h1km±4km, ML1.5/6*
*STR **09** 23:36:49.1±0.9, 4799N×809E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **09** 23:36:49.6±0.5, 4799N×805E, h5km, Md2.1/2, Ml2.1/4, Error ellipse: s-maj=7.8km s-min=4.6km az=83.0*
ISC 09 23:36:48.7±0.5, **4800N**±003×**807E**±003, **h12**km±7km, **n18**, σ0^{s}88/31, **2C-2D, Switzerland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIZ	Kirchzarten	0.11	247	⇑iPg	Pg	23 36 51.5	-0.2
KIZ				i Sg	Sg	23 36 53.3	-0.4
SLE	Schleitheim	0.37	129	⇓iPg	Pg	23 36 56.0	-0.1
	147nm,0.5s						
SLE				i Sg	Sg	23 37 01.4	+0.3
	147nm,0.5s						
BFO	Black Forest	0.38	28	ePg	Pg	23 36 55.4	-0.8
BFO				eSg	Sg	23 37 00.1	-1.2
SULZ	Sulz-Cheisache	0.47	176	⇓iPg	Pg	23 36 58.3	+0.3
	61nm,0.3s						
MOF	Molkenrain	0.64	257	Pg	Pg	23 37 01.8	+0.6
ECH	Echery	0.65	290	Pg	Pg	23 37 01.9	+0.6
ECH				Sg	Sg	23 37 12.0	+2.2
CDF	Champ du Feu	0.67	308	ePg	Pg	23 37 02.2	+0.5
CDF				eSg	Sg	23 37 11.2	+0.6
	4.5nm,0.2s						
BALST	Balsthal	0.71	201	ePg	Pg	23 37 02.9	+0.5
	201nm,0.2s						
GUT	Gutenstein	0.71	84	⇑Pg	Pg	23 37 01.9	-0.6
GUT				Sg	Sg	23 37 11.2	-0.6
GUT	Gutenstein	0.71	84	PmP	Pg	23 37 03.7	+1.3
GUT				SmS	Sg	23 37 14.3	+2.5
BOURR	Bourrignon	0.83	223	ePg	Pg	23 37 05.3	+0.6
	27nm,0.5s						
BUCH	Bad Urach	0.97	62	⇑Pg	Pg	23 37 06.8	-0.7
BUCH				Sg	Sg	23 37 20.4	+0.3
BUCH	Bad Urach	0.97	62	PmP	Pb	23 37 07.5	+0.1
HAU	Haudompre	1.15	271	ePg	Pg	23 37 10.3	-0.6
HAU				eSg	Sg	23 37 26.6	+0.7
	7.0nm,0.2s						
THEF	They Montfort	1.41	280	Pg	Pg	23 37 16.0	+0.2
THEF				Sg	Sg	23 37 34.7	+0.5
CABF	La Chapelle	1.93	225	ePg	Pg	23 37 25.6	-0.2
CABF				eSg	Sg	23 37 50.6	-0.2
SFTF	Sexfontaines	2.04	277	ePg	Pg	23 37 28.2	+0.4
SFTF				eSg	Sg	23 37 52.9	-1.4
	1.2nm,0.2s						
LOR	Lormes	2.94	257	ePg	Pg	23 37 43.3	-1.7
LOR				eSg	Sg	23 38 20.7	-2.3
	0.7nm,0.2s						

GUC 09 23:49:26.1±0.7, **3173S**×**7178W**, **h14**km±12km, **MD3.6, ML2.7, 1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.28	122	⇓iP	Pg	23 49 32.6	+0.6
CHNG				i S	Sg	23 49 36.9	+1.0
CHNG				AML	AML	23 49 37.9	
	comp=E,673nm,0.5s						
CMCH	Combarbala	0.87	50	eP	Pb	23 49 42.0	-0.9
CMCH				i S	Sg	23 49 53.9	-0.3
CMCH				AML	AML	23 49 55.2	
	comp=E,2μm,0.8s						
PEL	Peldehue	1.68	147	eP	Pn	23 49 54.5	-0.5
PEL				eS	Sn	23 50 16.6	+0.3
PEL				AML	AML	23 50 19.7	
	comp=E,170nm,0.4s						
CLCH	Cerro Calan	1.96	148	eP	Pn	23 49 59.6	+0.7
CLCH				i S	Sn	23 50 24.9	+1.7
CLCH				AML	AML	23 50 33.4	
	comp=N,93nm,0.5s						
FCH	Farellones	2.02	142	eP	Pn	23 50 00.3	+0.6
FCH				i S	Sn	23 50 27.1	+2.3
FCH				AML	AML	23 50 33.0	
	comp=E,50nm,0.2s						

*IDC **09** 23:51:33.0±1.6, 1969S×7064W, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.7/15, mbtmp3.9/5, ML4.5/2, Error ellipse: s-maj=36.3km s-min=19.2km az=77.0*
*ISCJB **09** 23:51:33.4±4.1, 1964S±008×707W±0.1, h19km±36km, mb3.7/3, Error ellipse: s-maj=20.6km s-min=11.6km az=133.2*
*NEIC **09** 23:51:36.5±3.0, 1975S×7070W, h27km±24km, mb3.6/2, Error ellipse: s-maj=17.9km s-min=11.2km az=53.0*
ISC 09 23:51:35.5±4.9, **1970S**±009×**707W**±01, **h14**km±36km, **n12**, σ1^{s}17/11, **mb3.9**/2, **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	3.34	151	Pn	Pn	23 52 27.6	+0.4
	9.9nm,0.3s,baz=324,slow=10,SNR=94						
LVC				Sn	Sn	23 53 06.9	+0.3
	11nm,0.3s,baz=340,slow=9.3,SNR=3.7						
LVC				Lg		23 53 17.2	
	22nm,0.3s,baz=218,slow=22,SNR=8.6						
LPAZ	La Paz	4.17	36	Pn	Pn	23 52 44.1	+5.5
	1.8nm,0.3s,baz=243,slow=9.3,SNR=36						
NNA	Nana	9.69	321	ePn	Pn	23 53 54.4	0.0
SIV	San Ignacio	9.86	70	Pn	Pn	23 53 57.4	+0.7
	0.9nm,0.3s,baz=260,slow=10,SNR=32						
CPUP	Villa Florida	13.95	121	Pn	Pn	23 54 51.4	-1.2
TRQA	Tornquist	19.80	159	eP	Pn	23 56 04.1	-2.8
	2.2nm,0.5s						
PLCA	Paso Flores	20.97	180	P	P	23 56 19.1	+1.1
	1.3nm,0.8s,baz=12,slow=9.3,SNR=4.2						
PLCA	Paso Flores	20.97	180	eP	P	23 56 20.5	+2.5
	1.1nm,0.5s						
BDFB	Brasilia	21.96	83	P	P	23 56 29.7	+1.0
	1.5nm,0.4s,mb3.7,baz=237,slow=9.8,SNR=5.2						
TORD	Torodi Ar. Bea	78.33	71	P	P	00 03 34.0	-1.2
	1.1nm,0.6s,mb4.0,baz=256,slow=5.6,SNR=11						
MKAR	Makanchi Array	145.09	33	PKPbc	PKPbc	00 11 11.4	-0.4
	0.6nm,0.6s,baz=346,slow=3.9,SNR=5.2						
SONM	Songino Array	151.83	4	PKPbc	PKPbc	00 11 29.9	+0.2
	0.1nm,0.4s,baz=348,slow=6.5,SNR=2.8						

*ISCJB **09** 23:54:37.5±0.8, 3562N±003×2946E±005, h2km±7km, Error ellipse: s-maj=7.4km s-min=3.8km az=132.2*
*CSEM **09** 23:54:37.9±0.1, 3565N×2943E, h10km, MD3.4, Error ellipse: s-maj=2.3km s-min=1.3km az=81.0*
*ATH **09** 23:54:41.0, 3587N×2942E, h42km, MD3.2/3*
*ISK **09** 23:54:41.3, 3573N×2940E, h32km, MD3.4*
*HLW **09** 23:54:44.5, 3547N×2942E, h33km, Mb4.1*
ISC 09 23:54:39.6±0.8, **3568N**±003×**2940E**±005, **h8**km±7km, **n35**, σ0^{s}74/42, **11C-4D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.49	17	eP	Pg	23 54 50.0	+0.9
FETY	Fethiye	0.99	345	PG	Pg	23 54 58.1	-0.4
FETY				SG	Sg	23 55 11.2	-0.1
ELL	Elmali	1.14	21	PN	Pn	23 55 01.1	-0.8
ARG	Arkhangelos	1.16	298	eP	Pg	23 55 01.4	-0.5
ARG				eS	Sg	23 55 16.2	-0.9
DALT	Dalyan (Mudla)	1.25	331	PN	Pn	23 55 02.4	-1.0
YER	Yerkesik	1.71	328	PN	Pn	23 55 09.2	-0.5
DAT	Datca	1.81	306	PN	Pn	23 55 10.6	-0.5
KARP	Karpathos	1.83	266	eP	Pn	23 55 11.9	+0.5
BCK	Bucak	2.02	28	PN	Pn	23 55 13.6	-0.3
DNZL	Cakiroluk	2.02	352	i P	Pg	23 55 20.5	+2.1
DNZL				i S	Sg	23 55 44.6	-0.1
MLSB	Milas	2.08	321	PN	Pn	23 55 14.6	-0.1
DENT	Denizli	2.09	352	PN	Pn	23 55 14.5	-0.4
BDRM	Kayabasi	2.10	312	i P	Pg	23 55 23.4	+3.6
BDRM				i S	Sn	23 55 43.9	+2.6
BODT	Bodrum	2.18	310	PN	Pn	23 55 15.5	-0.7
AYDN	Tasoluk	2.32	329	i P	Pn	23 55 22.1	+4.0
AYDN				i S	Sn	23 55 50.5	+3.6
ISP	Isparta	2.33	22	PN	Pn	23 55 17.5	-0.8
KONT	Konya--Tatoy	3.28	46	PN	Pn	23 55 31.4	+0.1
KIZT	Kizilcal	3.75	31	PN	Pn	23 55 38.1	+0.3
HMAT	Matruh	4.96	203	⇑P	Pn	23 55 54.4	0.0
HMAT				S	Sn	23 56 45.5	-6.6
HBRG	Burj al ‘Arab	5.11	176	P	Pn	23 55 55.9	-0.5
SLUM		5.45	221	⇑P	Pn	23 56 01.5	+0.4
AMAG	Maghara	5.95	147	⇑P	Pn	23 56 08.1	+0.1
SQR		5.98	165	⇑P	Pn	23 56 08.1	-0.3
HNAT	Natroun	6.12	170	⇑P	Pn	23 56 10.5	+0.2
HSAF	As Saff	6.31	163	⇑P	Pn	23 56 13.2	+0.3
GLL	Jalalah	6.39	162	⇑P	Pn	23 56 13.9	-0.2
SUZ		6.50	153	⇑P	Pn	23 56 16.0	+0.4
HNKL	Nakhl	6.91	145	⇓P	Pn	23 56 20.9	-0.3
ZNM		6.94	154	⇑P	Pn	23 56 22.5	+1.0
SWA1		7.12	207	⇓P	Pn	23 56 24.2	+0.2
SWA1				S	Sn	23 57 37.0	-8.2
SWA2		7.23	209	⇑P	Pn	23 56 25.9	+0.3
AWBH		7.35	183	⇑P	Pn	23 56 26.9	-0.3
HKAT	Jabal Katrina	8.13	150	⇓P	Pn	23 56 37.7	-0.2
TR2		8.14	152	⇓P	Pn	23 56 38.1	0.0
TR1		8.57	152	P	Pn	23 56 43.7	-0.3

*IDC **09** 23:55:53.2±1.2, 1962S×7031W, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.8/16, mbtmp3.9/7, ML4.2/2, Error ellipse: s-maj=33.1km s-min=16.9km az=71.0*
*ISCJB **09** 23:56:01.3±1.7, 1981S±006×704W±02, h85km±15km, mb3.8/4, Error ellipse: s-maj=25.7km s-min=10.5km az=5.2*
*NEIC **09** 23:56:01.6±1.5, 1984S×7040W, h72km±14km, mb3.7/1, Error ellipse: s-maj=21.4km s-min=10.8km az=94.0*
ISC 09 23:56:02.3±1.6, **1982S**±006×**704W**±02, **h76**km±15km, **n20**, σ1^{s}36/20, **mb3.8**/4, **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	3.11	154	Pn	Pn	23 56 47.0	-2.0
	7.8nm,0.3s,baz=329,slow=10,SNR=18						
LVC				Sn	Sn	23 57 25.6	+0.5
	29nm,0.3s,baz=55,slow=20,SNR=5.9						
LVC				Lg		23 57 35.1	
	24nm,0.3s,baz=175,slow=17,SNR=5.8						
LVC	Limon Verde	3.11	154	ePn	Pn	23 56 47.0	-2.0
LVC				eSn	Sn	23 57 28.1	+3.0
LPAZ	La Paz	4.13	32	Pn	Pn	23 57 03.9	+1.0
	2.1nm,0.3s,baz=228,slow=5.5,SNR=20						
LPAZ	La Paz	4.13	32	Pn	Pn	23 57 03.9	+1.0
SIV	San Ignacio	9.67	68	Pn	Pn	23 58 17.2	-1.3
	2.5nm,0.3s,baz=264,slow=9.6,SNR=30						
CFAA	Coronel Fontan	11.90	171	Pn	Pn	23 58 55.1	+6.2
	0.0nm,0.3s,baz=354,slow=16,SNR=2.5						
SAML	Samuel	12.87	34	ePn	Pn	23 59 03.1	+1.0
CPUP	Villa Florida	13.67	121	Pn	Pn	23 59 07.7	-4.9
	0.1nm,0.3s,baz=261,slow=13,SNR=2.1						
CPUP	Villa Florida	13.67	121	ePn	Pn	23 59 16.9	+4.3
TRQA	Tornquist	19.59	160	eP	Pn	00 00 24.1	-2.1
	2.7nm,0.6s						
PLCA	Paso Flores	20.84	180	P	P	00 00 40.0	+2.2
	2.4nm,0.9s,baz=262,slow=3.8,SNR=3.8						
PLCA	Paso Flores	20.84	180	P	P	00 00 39.0	+1.2
OTAV	Otavalo	21.44	337	eP	P	00 00 50.0	+5.9
BDFB	Brasilia	21.73	83	P	P	00 00 46.7	-0.5
	2.5nm,0.5s,mb3.8,baz=267,slow=12,SNR=7.1						
JTS	JuntasAbangare	33.17	333	P	P	00 02 29.7	-1.7
DBIC	Dimbokro	69.63	75	P	P	00 07 03.4	0.0
	3.2nm,0.9s,mb4.2,baz=270,slow=8.1,SNR=3.0						
PDAR	Pinedale Array	71.96	331	P	P	00 07 18.0	+0.4
	0.3nm,0.6s,mb3.3,baz=138,slow=6.8,SNR=3.2						
TORD	Torodi Ar. Bea	78.13	71	P	P	00 07 53.9	+0.8
	2.5nm,0.7s,mb4.0,baz=250,slow=4.6,SNR=27						
MKAR	Makanchi Array	145.06	33	PKP	PKPdf	00 15 31.3	+0.5
	1.0nm,0.8s,baz=347,slow=5.0,SNR=6.7						
MKAR	Makanchi Array	145.06	33	PKP	PKPdf	00 15 31.3	+0.5

*IDC **09** 23:58:11.0±1.8, 3277S×178.13W, h0km, mb4.6/2, mb1 4.9/2, mb1mx4.0/12, mbtmp4.6/2, Error ellipse: s-maj=69.8km s-min=42.9km az=13.0*
*ISCJB **09** 23:58:15.0±4.4, 328S±04×1783W±07, h33km, mb4.4/6, Error ellipse: s-maj=102.7km s-min=24.2km az=110.2*
*NEIC **09** 23:58:16.4±1.1, 3262S×178.15W, h35km, mb4.4/4, Error ellipse: s-maj=29.2km s-min=22.8km az=46.0*
ISC 09 23:58:16.6±4.5, **328S**±04×**1782W**±07, **h35**km, **n15**, σ0^{s}82/10, **mb4.4**/6, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	39.55	298	eP	P	00 05 44.9	+0.7
	30nm,0.8s,mb5.1						
AS31	Alice Springs	42.89	270	eP	P	00 06 11.8	+0.2
ASAR	Alice Springs	42.89	270	P	P	00 06 11.8	+0.2
	2.6nm,0.7s,mb4.0,baz=107,slow=7.6,SNR=18						
ASPA	Alice Springs	42.89	270	eP	P	00 06 11.8	+0.1
WB2	Warramunga Arr	44.09	275	eP	P	00 06 20.8	-0.5
WRAB	Tennant Creek	44.09	275	eP	P	00 06 21.2	-0.1
	5.2nm,0.3s,mb4.7						
WRA	Warramunga Arr	44.09	275	P	P	00 06 21.1	-0.3
	2.2nm,0.3s,mb4.3,baz=112,slow=8.0,SNR=79						
VNDA	Vanda	45.72	186	P	P	00 06 33.4	-0.8
CASY	Casey	52.98	209	eP	P	00 07 32.6	+3.0
	0.9nm,0.5s,mb4.0						
MBWA	Marble Bar	55.85	265	eP	P	00 07 49.6	-0.9
	0.9nm,0.5s,mb4.1						
JOF	Joensuu	144.56	337	ep	PKPdf	00 17 46.7	-2.6
	0.5nm,0.3s						
KAF	Kangasniemi	146.73	339	ep	PKPdf	00 17 52.7	-0.3
FINES	FINESS Array B	147.32	339	PKPbc	PKPbc	00 17 55.2	-1.2
	1.5nm,0.5s,baz=62,slow=4.1,SNR=18						
FINES	FINESS Array B	147.32	339	PKPbc	PKPbc	00 17 55.2	-1.2
TORD	Torodi Ar. Bea	160.45	180	PKPab	PKPab	00 18 53.4	-0.3
	0.6nm,0.9s,baz=172,slow=4.0,SNR=6.1						

FUNV 10 00:13:09.7, 976N×6985W, h5km**, MW3.7, 4C-3D, Venezuela**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CURV	Curarigua	0.27	337	⇓iP	Pg	00 13 13.7	-1.4
CURV				eS	Sg	00 13 17.8	-0.9
SANV	Sanarito	0.40	129	⇓iP	Pg	00 13 16.3	-1.2
SANV				eS	Sg	00 13 22.2	-0.5
TEPV	Terepaima	0.68	73	⇑iP	Pg	00 13 22.0	-0.8
TEPV				eS	Sg	00 13 32.0	+0.4
QARV	Quebrada Arrib	0.80	304	⇓iP	Pg	00 13 23.7	-1.4
QARV				eS	Sg	00 13 36.9	+1.5
SIQV	Siquisique	0.89	3	⇑iP	Pg	00 13 25.7	-1.0
SIQV				eS	Sg	00 13 39.6	+1.5
DABV	Dabajuro	1.39	326	eP	Pn	00 13 35.2	-0.5
DABV				eS	Sb	00 13 55.0	+0.8
JACV	Jacura	1.66	37	eP	Pn	00 13 39.6	+0.1
JACV				eS	Sn	00 14 00.9	-0.2
VIGV	El Vigia	1.75	239	⇑iP	Pn	00 13 40.0	-0.7

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
VIGV				eS	Sn	00 14 03.1	-0.2
SOCV	Socops	1.77	214	eP	Pn	00 13 40.0	-1.0
SOCV				eS	Sn	00 14 03.6	-0.2
BAUV	El Baul	1.96	114	eP	Pn	00 13 43.3	-0.3
BAUV				eS	Sn	00 14 09.0	+0.4
TURV	Turiamo	2.10	71⇑	eP	Pn	00 13 44.8	-0.6
TURV				eS	Sn	00 14 11.4	-0.5
MONV	Montecano	2.19	357	eP	Pn	00 13 46.0	-0.6
MONV				eS	Sn	00 14 13.6	-0.5
VIRV	Villa del Rosa	2.62	287	eP	Pn	00 13 51.2	-1.5
VIRV				eS	Sn	00 14 23.6	-1.3
ELOV	Elorza	2.76	172	eP	Pn	00 13 53.6	-1.1
ELOV				eS	Sn	00 14 27.6	-0.8
CAPV	Capacho	3.08	232	eP	Pn	00 13 59.0	0.0
MERV	Las Mercedes	3.54	98	eP	Pn	00 14 04.9	-0.5
MERV				eS	Sn	00 14 44.8	-2.8
BIRV	Birongo	3.60	78	eP	Pn	00 14 05.3	-0.9
BIRV				eS	Sn	00 14 46.4	-2.6
CUPV	Cœpira	4.01	85	eP	Pn	00 14 11.2	-0.6
CAOV	Caicara del Or	4.25	124	eP	Pn	00 14 13.4	-1.6
PCRV	Puerto La Cruz	5.16	85	eP	Pn	00 14 26.8	-0.7
PRGV	PARIAGUAN	5.23	101	eP	Pn	00 14 27.3	-1.3

*NEIC **10** 00:31:34.7±2.9, 5.81S×151.59E, h35km, mb4.3/3, Error ellipse: s-maj=90.7km s-min=16.7km az=115.0*
*ISCJB **10** 00:31:35.5±5.3, 5.9S±.02×151.6E±.04, h61km±37km, mb3.9/8, Error ellipse: s-maj=70.3km s-min=26.2km az=52.1*
*IDC **10** 00:31:45.6±7.0, 5.67S×150.58E, h90km±47km, mb3.8/5, mb1 4.0/6, mb1mx3.8/14, mbtmp4.1/6, Error ellipse: s-maj=100.5km s-min=31.9km az=104.0*
ISC 10 00:31:36.3±5.0**, 6.0S**±.02×**151.8E**±.04**, h59**km±34km**, n12, σ1.10**/11**, mb3.9**/8**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PMG	Port Moresby	5.72	233	P	Pn	00 32 57.9	-0.7
	5.4nm,0.3s,baz=14,slow=8.0,SNR=16						
PMG				S	Sn	00 34 03.6	+0.8
	1.8nm,0.3s,baz=39,slow=17,SNR=5.8						
WRAB	Tennant Creek	21.91	229	eP	P	00 36 24.4	-0.1
	11nm,0.9s,mb4.3						
WB2	Warramunga Arr	21.91	229	eP	P	00 36 24.9	+0.4
WRA	Warramunga Arr	21.92	229	P	P	00 36 24.4	-0.3
	2.9nm,0.6s,mb3.9,baz=52,slow=11,SNR=15						
ASAR	Alice Springs	24.61	223	P	P	00 36 53.2	+2.3
	2.0nm,0.7s,mb3.8,baz=57,slow=8.0,SNR=18						
FITZ	Fitzroy Crossi	28.23	242	P	P	00 37 22.0	-1.5
	4.9nm,0.8s,mb4.2,baz=98,slow=9.7,SNR=9.1						
MBWA	Marble Bar	34.52	241	eP	P	00 38 17.2	-1.6
	2.2nm,0.5s,mb4.3						
SONM	Songino Array	66.79	329	P	P	00 42 23.2	+1.7
	0.5nm,0.9s,mb3.5,baz=121,slow=5.5,SNR=4.4						
MKAR	Makanchi Array	80.55	319	P	P	00 43 42.0	-0.1
	0.2nm,0.3s,mb3.5,baz=145,slow=8.6,SNR=4.4						
KURK	Kurchatov	84.07	322	eP	P	00 44 00.1	-0.4
	1.2nm,0.8s,mb4.1						
TORD	Torodi Ar. Bea	149.69	286	PKPbc	PKPbc	00 51 20.9	+1.7
	0.8nm,0.7s,baz=66,slow=2.6,SNR=5.1						
TORD	Torodi Ar. Bea	149.69	286	PKPbc	PKPbc	00 51 20.9	+1.7

*MOS **10** 00:37:58.3±1.1, 5.40S×150.57E, h57km, mb4.8/5, Error ellipse: s-maj=13.8km s-min=9.4km az=76.3*
*ISCJB **10** 00:37:59.8±1.5, 5.54S±.005×150.64E±.007, h73km±14km, mb4.5/29, Error ellipse: s-maj=11.5km s-min=9.1km az=13.1*
*IDC **10** 00:37:59.8±3.4, 5.52S×150.86E, h67km±30km, mb4.2/12, mb1 4.5/14, mb1mx4.4/16, mbtmp4.6/14, ML3.8/2, MS4.4/18, Ms1 4.4/18, ms1mx4.2/23, Error ellipse: s-maj=21.6km s-min=15.8km az=84.0*
*NEIC **10** 00:38:01.1±0.3, 5.52S×150.65E, mb4.7/13, Error ellipse: s-maj=9.6km s-min=6.8km az=98.0*
*HRVD **10** 00:38:01.1±0.2, 5.50S×150.94E, h17km±1km, MW5.0/84, Centroid moment Tensor Solution. LP body waves: s36,c52;Mantle waves: s84,c139; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.96±.17; $M_{\theta\theta}$4.41±.13; $M_{\phi\phi}$-3.45±.13; $M_{r\theta}$0.54±.32; $M_{\theta\phi}$2.41±.13; $M_{\phi r}$0.07±.38; Best double couple: $M_0$4.63500×10^{16} NP1:ϕ_s29.00000°,δ85.00000°,λ177.00000°. NP2: ϕ_s119.00000°,δ87.00000°,λ5.00000°. Principal axes: T 5.1370, Plg5.0000°, Azm344.0000°; N -1.0070, Plg85.0000°, Azm149.0000°; P -4.1320, Plg1.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **10** 00:38:01.1, 5.50S×150.70E, h73km, mB5.2, mb5.0, Ms4.8, Msz4.6*
ISC 10 00:38:02.5±1.3**, 5.60S**±.006×**150.64E**±.007**, h81**km±12km**, h75**km±4.3km**:pP-P, n87, σ1.07**/71**, mb4.5**/29**, 4D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PMG	Port Moresby	5.12	222	P	Pn	00 39 16.5	-0.2
	43nm,0.3s,baz=49,slow=5.9,SNR=110						
PMG				S	Sn	00 40 18.6	+4.2
	7.8nm,0.3s,baz=294,slow=21,SNR=3.8						
PMG				LR	LR	00 41 27.5	
	comp=Z,2μm,19.8s,baz=44,slow=39						
PMG	Port Moresby	5.12	222	eP	Pn	00 39 16.4	-0.2
PMG				e		00 40 12.0	
PMG				pmax	pmax		
	comp=Z,229nm,0.6s						
PMG	Port Moresby	5.12	222	ePn	Pn	00 39 16.4	-0.2
	comp=Z,229nm,0.6s						
PMG				eSn	Sn	00 40 12.0	-2.4
HNR	Honiara	9.98	113	LR	LR	00 43 41.7	
	comp=Z,2μm,18.9s,baz=352,slow=35						
HNR	Honiara	9.98	113	eP	Pn	00 40 24.3	+1.4
CTA	Charters Tower	15.02	196	eP	Pn	00 41 30.7	+0.5
	comp=Z,22nm,1.0s						
CTA	Charters Tower	15.02	196	P	Pn	00 41 30.9	+0.7
	comp=Z,0.1nm,0.3s,baz=38,slow=16,SNR=7.1						
CTA				LR	LR	00 46 34.4	
	comp=Z,2μm,21.7s,baz=17,slow=34						
CTA	Charters Tower	15.02	196	eP	Pn	00 41 30.7	+0.5
CTA				pmax	pmax		
	comp=Z,22nm,1.0s						
CTAO	Charters Tower	15.02	196	eP	Pn	00 41 30.2	0.0
CTAO				pmax	pmax		
	comp=Z,25nm,0.9s						
CTAO	Charters Tower	15.02	196	ePn	Pn	00 41 30.2	0.0
	comp=Z,25nm,0.9s						
KAKA	Kakadu	19.30	247⇓	iP	Pn	00 42 20.5	-2.2
	comp=Z,24nm,0.7s						
GUMO	Guam	19.91	343	LR	LR	00 48 26.0	
	comp=Z,602nm,21.9s,baz=147,slow=32						
WRAB	Tennant Creek	21.31	227	eP	P	00 42 43.0	+0.4
WRAB				pmax	pmax		
	comp=Z,69nm,1.0s,mb4.9						
WRAB	Tennant Creek	21.31	227	eP	P	00 42 43.0	+0.4
	comp=Z,69nm,1.0s,mb4.9						
WB2	Warramunga Arr	21.31	227	eP	P	00 42 42.0	-0.6
WB2				eSCS	ScS	00 53 56.9	-0.8
WRA	Warramunga Arr	21.32	227	P	P	00 42 42.9	+0.2
	comp=Z,14nm,0.5s,mb4.5,baz=50,slow=10,SNR=77						
DZM	Mont Dzumac	22.40	138	P	P	00 42 52.0	-2.2
	comp=Z,18nm,0.6s,mb4.6,baz=1.1,slow=12,SNR=16						
DZM				LR	LR	00 50 35.4	
	comp=Z,3μm,18.2s,baz=358,slow=34						
AS31	Alice Springs	24.13	220⇓	iP	P	00 43 12.0	+1.2
ASAR	Alice Springs	24.13	220	P	P	00 43 11.8	+1.0
	comp=Z,12nm,0.6s,mb4.4,baz=56,slow=8.1,SNR=118						
ASPA	Alice Springs	24.14	220⇓	iP	P	00 43 12.0	+1.2
ARMA	Armidale	24.70	178	eP	P	00 43 16.5	+0.5
FITZ	Fitzroy Crossi	27.39	241	eP	P	00 43 40.3	0.0
	comp=Z,63nm,0.9s,mb5.2						
FITZ	Fitzroy Crossi	27.39	241	P	P	00 43 40.9	+0.6
	comp=Z,31nm,0.8s,mb4.9,baz=96,slow=7.5,SNR=48						
FITZ				LR	LR	00 56 13.1	
	comp=Z,502nm,19.5s,baz=245,slow=40						
STKA	Stephens Creek	27.48	197⇓	iP	P	00 43 40.7	-0.3
	comp=Z,13nm,0.9s,mb4.5						
STKA	Stephens Creek	27.48	197	P	P	00 43 40.8	-0.2
	comp=Z,12nm,0.7s,mb4.5,baz=16,slow=11,SNR=18						
STKA				LR	LR	00 54 46.9	
	comp=Z,1μm,18.8s,baz=15,slow=36						
STKA	Stephens Creek	27.48	197	eP	P	00 43 40.7	-0.3
FORT	Forrest	32.83	218	eP	P	00 44 27.1	-1.2
	comp=Z,42nm,0.7s,mb5.4						
CBIJ	Chichi jima	33.52	346	LR	LR	00 56 24.3	
	comp=Z,878nm,21.9s,baz=182,slow=33						
MBWA	Marble Bar	33.71	240	eP	P	00 44 36.0	0.0
	comp=Z,34nm,0.8s,mb5.2						
MBWA				epP	pP	00 44 49.0	-5.7
KKM	Kota Kinabalu	36.27	288	eP	P	00 44 57.7	-0.2
RAO	Raoul Island	37.89	132	LR	LR	00 56 24.6	
	comp=Z,995nm,18.9s,baz=226,slow=29						
JOW	Kunigami	38.84	327	LR	LR	00 58 01.1	
	comp=Z,580nm,20.5s,baz=66,slow=31						
JHJ	Hachijo jima 2	39.86	346	LR	LR	00 58 28.7	
	comp=Z,502nm,21.6s,baz=140,slow=31						
KLBR	Kellerberrin	40.20	226	eP	P	00 45 30.4	-0.5
	comp=Z,122nm,1.5s,mb5.5						
NWAO	Narrogin (SRO)	41.31	225	LR	LR	01 02 51.6	
	comp=Z,517nm,18.6s,baz=328,slow=36						
NWAO	Narrogin (SRO)	41.31	225	eP	P	00 45 40.8	+0.8
YHNB	Yeheng	41.44	318	eP	P	00 45 41.9	+0.8
MJAR	Matsushiro Arr	43.51	345	P	P	00 45 55.3	-2.6
	comp=Z,3.9nm,0.9s,mb4.1,baz=164,slow=8.6,SNR=11						
MJAR				LR	LR	01 03 37.8	
	comp=Z,274nm,18.6s,baz=170,slow=35						
MAT	Matsushiro	43.51	345	P	P	00 45 55.2	-2.7
MAT				S	S	00 51 55.0	-26
MAT	Matsushiro	43.51	345	eP	P	00 45 55.0	-2.9
MAT				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.6						
MAT	Matsushiro	43.51	345	eP	P	00 45 55.0	-2.9
	comp=Z,19nm,1.5s,mb4.6						
MAT				eS	S	00 51 55.0	-26
KS15	Wonju Array Si	47.79	335	eP	P	00 46 31.1	-0.6
NJ2	Nanjing	48.15	323	eP	P	00 46 36.8	+2.4
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.9						
INCN	Inchon	48.36	334	eP	P	00 46 36.8	+0.9
	comp=Z,159nm,1.2s						
BJI	Beijing	55.40	328	eP	P	00 47 28.2	-0.1
BJI				PP	PP	00 49 39.4	+6.6
BJI				S	S	00 55 15.9	+9.1
BJI				AMB	AMB		
	comp=Z,14nm,1.8s,mb4.7						
BJI				LR	LR		
	comp=N,426nm,19.6s						
BJI				LR	LR		
	comp=E,257nm,20.6s						
BJI				LR	LR		
	comp=Z,370nm,24.6s						
KMI	Kunming	55.67	305	P	P	00 47 31.5	+1.2
KMI				AP	pP	00 47 52.4	+1.9
KMI				XP	sP	00 48 01.8	+2.3
KMI				PP	PP	00 49 38.5	+3.2
KMI				PPP		00 50 55.2	
KMI				S	S	00 55 10.5	+0.1
KMI				PS		00 55 34.3	
KMI				XS	sS	00 55 46.3	+1.4
KMI				SS	SS	00 58 57.6	+0.9
KMI				SSS		01 01 06.9	
KMI				AMB	AMB		
	comp=Z,9.0nm,2.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,207nm,4.3s						
KMI				LR	LR		
	comp=N,315nm,17.1s						
KMI				LR	LR		
	comp=E,277nm,13.1s						
KMI				LR	LR		
	comp=Z,265nm,23.2s						
XAN	Xi'an	55.75	318	P	P	00 47 30.7	-0.1
XAN				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.7						
CD2	Chengdu	57.65	312	eP	P	00 47 45.0	+0.7
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
PPT	Papeete	59.54	107	eLQ		01 02 55.6	
	comp=Z,750nm,29.2s						
PPT				eLR	LR	01 05 26.2	
	comp=Z,246nm,24.0s						
PPT	Papeete	59.54	107	LR	LR	01 07 25.5	
	comp=Z,173nm,21.1s,baz=258,slow=30						
TBI	Tubuai	60.20	114	eLQ		01 03 12.4	
	comp=Z,974nm,32.5s						
TBI				eLR	LR	01 05 44.4	
	comp=Z,288nm,29.0s						
LZH	Lanzhou	60.33	317	eP	P	00 48 04.5	+1.7
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,120nm,4.9s						
LZH				LR	LR		
	comp=E,370nm,15.0s						
LZH				LR	LR		
	comp=Z,587nm,16.2s						
GTA	Gaotai	64.80	318	eP	P	00 48 33.3	+0.7
GTA				AMB	AMB		
	comp=Z,12nm,0.5s,mb5.0						
ULN	Ulaanbaatar	65.56	329	eP	P	00 48 37.8	+0.3
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
ULN	Ulaanbaatar	65.56	329	eP	P	00 48 37.8	+0.3
	comp=Z,3.1nm,0.6s,mb4.3						
SONM	Songino Array	65.88	329	P	P	00 48 40.7	+1.2
	comp=Z,4.9nm,0.9s,mb4.4,baz=136,slow=6.1,SNR=26						
SONM				LR	LR	01 16 36.2	
	comp=Z,352nm,21.1s,baz=116,slow=35						
CASY	Casey	66.63	196	eP	P	00 48 44.2	-0.2
CASY				epP	pP	00 49 03.2	-1.9
CASY				ePcP	PcP	00 49 12.1	-1.0
ZAK	Zakamensk	69.08	330	eP	P	00 48 59.0	-0.7
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
VNDA	Vanda	72.12	177	P	P	00 49 18.2	0.0
	comp=Z,1.8nm,0.7s,mb4.0,baz=326,slow=6.4,SNR=12						
VNDA				LR	LR	01 17 46.3	
	comp=Z,168nm,21.6s,baz=354,slow=33						
SBA	Scott Base	72.70	176	P	P	00 49 22.8	+1.1
SBA				e*PP	pP	00 49 42.2	-0.6
MKAR	Makanchi Array	79.53	320	P	P	00 50 00.0	-0.4
	comp=Z,2.4nm,1.0s,mb4.0,baz=90,slow=6.1,SNR=9.6						
MKAR				PP	PP	00 52 59.9	-1.8
	comp=Z,2.1nm,1.0s,baz=125,slow=10,SNR=6.0						
MKAR	Makanchi Array	79.53	320	P	P	00 50 00.0	-0.4
MKAR				PP	PP	00 52 59.9	-1.8
KURK	Kurchatov	83.08	322	eP	P	00 50 18.3	-0.9
KURK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.7						
KURK	Kurchatov	83.08	322	eP	P	00 50 18.3	-0.9
	comp=Z,1.8nm,1.5s,mb3.7						
AAK	Ala-Archa	83.66	314	eP	P	00 50 21.9	-0.3
AAK				ePcP	PcP	00 50 25.9	-0.3
AAK				epP	pP	00 50 42.6	-1.1
ILAR	Eielson Array	83.71	22	P	P	00 50 18.9	-3.5
	comp=Z,1.1nm,0.8s,mb3.7,baz=247,slow=6.7,SNR=6.7						
MAW	Mawson	84.01	203	P	P	00 50 22.0	-1.9
	comp=Z,5.1nm,0.9s,mb4.4,baz=84,slow=9.4,SNR=6.2						
MAW				LR	LR	01 22 46.2	
	comp=Z,332nm,20.7s,baz=66,slow=32						
MAW	Mawson	84.01	203	eP	P	00 50 24.6	+0.6
MAW				ePcP	PcP	00 50 26.9	-0.8
QSPA	South Pole Qui	84.36	180	eP	P	00 50 25.5	-0.2
	comp=Z,4.6nm,0.7s,mb4.4						
CHKZ	Chkalovo	88.59	324	eP	P	00 50 43.4	-3.0
CHKZ				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
CHKZ	Chkalovo	88.59	324	eP	P	00 50 43.4	-3.0
	comp=Z,2.7nm,1.2s,mb4.2						
BRVK	Borovoye	88.67	323	P	P	00 50 46.8	+0.1
ZRNK	Zerenda	89.41	323	P	P	00 50 49.5	-0.7
NVAR	Mina Array Bea	94.27	52	P	P	00 51 12.3	-0.4
	comp=Z,1.5nm,0.9s,mb4.3,baz=258,slow=4.5,SNR=2.5						
NVAR	Mina Array Bea	94.27	52	P	P	00 51 12.3	-0.4
ARU	Arti	95.78	326	P	P	00 51 20.1	+0.5
ARU	Arti	95.78	326	P	P	00 51 20.1	+0.5
YKA	Yellowknife Ar	97.13	28	LR	LR	01 31 26.2	
	comp=Z,71nm,18.8s,baz=270,slow=33						
BRG	Berggiesshubel	122.27	329	e(P)	pPKPdf	00 57 13.3	+2.6
	comp=Z,0.7nm,0.2s						
BRG				e		00 57 13.0	
GERES	GERESS Array B	123.59	327	PKP	PKPdf	00 56 49.2	-1.4
	comp=Z,0.4nm,0.6s,baz=48,slow=2.0,SNR=6.5						
LPAZ	La Paz	135.90	120	PKP	PKPdf	00 57 16.5	+2.6
	comp=Z,1.9nm,0.8s,baz=35,slow=3.1,SNR=7.4						
LPAZ	La Paz	135.90	120	PKP	PKPdf	00 57 16.5	+2.6
SDV	Santo Domingo	138.94	83	ePKPdf	PKPdf	00 57 20.7	+1.2
SAML	Samuel	143.31	113	ePKPdf	PKPdf	00 57 27.9	+0.6
TORD	Torodi Ar. Bea	148.49	286	PKPbc	PKPbc	00 57 39.4	-0.4
	comp=Z,4.5nm,0.8s,baz=66,slow=1.9,SNR=26						
TORD	Torodi Ar. Bea	148.49	286	PKPbc	PKPbc	00 57 39.4	-0.4
BDFB	Brasilia	151.95	139	PKPbc	PKPbc	00 57 48.0	-0.2
	comp=Z,3.1nm,0.6s,baz=195,slow=3.4,SNR=6.6						

*NEIC **10** 00:48:37.4, 34.20S×71.12W, h71km, mb4.0/4, After GUC.*
GUC 10 00:48:37.4±0.3**, 34.19S**×**71.12W, h71**km±4km**, MD3.0, 5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LNV	Longovilo	0.34	314⇓	iP	Pn	00 48 49.1	+0.2
LNV				iS	Sn	00 48 57.9	+0.4
CACH	El Canelo	0.44	80⇓	iP	Pn	00 48 50.5	+0.7
CACH				iS	Sn	00 49 00.5	+1.7
CHCH	Chadas Angostu	0.47	56⇓	iP	Pn	00 48 50.2	+0.2
CHCH				iS	Sn	00 49 00.2	+1.0
CHCH	Chadas Angostu	0.47	56⇓	iP	Pn	00 48 50.2	+0.2
CHCH				iS	Sn	00 49 00.4	+1.1
CICH	Cipreses	0.59	102⇓	iP	Pn	00 48 51.8	+0.6
CICH				iS	Sn	00 49 02.5	+1.2
PLCA	Paso Flores	6.54	176	Pn	Pn	00 50 12.3	+1.4
LVC	Limon Verde	11.70	10	Pn	Pn	00 51 21.9	+0.5
CPUP	Villa Florida	14.25	60	Pn	Pn	00 51 57.0	+1.4
LPAZ	La Paz	18.03	9	eP	Pn	00 52 43.5	+0.5
	3.3nm,0.8s						
LPAZ				ePcP	PcP	00 57 15.8	+1.6
NNA	Nana	22.71	345	eP	P	00 53 33.2	+0.1
	5.2nm,0.7s						
OTAV	Otavalo	34.94	347	eP	P	00 55 23.3	+0.9
	0.7nm,0.4s						
SDV	Santo Domingo	42.84	1	eP	P	00 56 27.1	-1.3
	1.8nm,0.4s						

*IDC **10** 00:53:05.3±1.4, 1.55N×126.21E, h0km, mb4.3/4, mb1 4.4/5, mb1mx3.9/17, mbtmp4.2/5, ML3.5/1, Error ellipse: s-maj=73.0km s-min=22.7km az=64.0*
*NEIC **10** 00:53:06.4±0.5, 1.50N×126.19E, h10km, mb4.1/9, Error ellipse: s-maj=22.6km s-min=7.2km az=67.0*
*ISCJB **10** 00:53:07.9±0.7, 1.5N±.01×126.3E±.02, h33km, mb4.0/10, Error ellipse: s-maj=34.3km s-min=9.7km az=136.0*
ISC 10 00:53:10.2±0.7**, 1.5N**±.01×**126.2E**±.02**, h35**km**, n20, σ0.77**/19**, mb4.0**/10**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KAKA	Kakadu	15.39	157	eP	Pn	00 56 50.2	+5.7
	6.5nm,0.6s						
FITZ	Fitzroy Crossi	19.46	182	eP	Pn	00 57 33.7	-1.4
	5.1nm,1.0s						
FITZ	Fitzroy Crossi	19.46	182	P	Pn	00 57 35.2	+0.1
	0.1nm,0.3s,baz=9.3,slow=17,SNR=5.1						
WRAB	Tennant Creek	22.72	160	eP	P	00 58 08.3	-0.6
	12nm,0.9s,mb4.3						
WRA	Warramunga Arr	22.73	160	P	P	00 58 08.0	-0.9
	4.2nm,0.5s,mb4.2,baz=339,slow=10,SNR=49						
WB2	Warramunga Arr	22.73	160	eP	P	00 58 07.9	-1.1
MBWA	Marble Bar	23.37	195	P	P	00 58 15.9	+0.1
ASAR	Alice Springs	26.08	164	P	P	00 58 41.8	+1.3
	3.2nm,0.4s,mb4.2,baz=351,slow=15,SNR=27						
CTA	Charters Tower	29.07	138	P	P	00 59 08.9	+1.7
	2.7nm,0.7s,mb4.1,baz=292,slow=5.4,SNR=2.2						
CTAO	Charters Tower	29.07	138	eP	P	00 59 07.7	+0.5
	1.2nm,0.4s,mb4.0						
NWAO	Narrogin (SRO)	35.25	193	eP	P	01 00 02.3	+1.0
LSA	Lhasa	43.57	314	eP	P	01 01 10.7	0.0
MKAR	Makanchi Array	59.12	326	P	P	01 03 07.2	+0.2
	0.6nm,0.5s,mb3.9,baz=119,slow=7.9,SNR=6.9						
KURK	Kurchatov	63.37	328	eP	P	01 03 36.7	+0.8
	1.4nm,0.3s,mb4.6						
BRVK	Borovoye	69.00	328	eP	P	01 04 11.3	-0.7
	0.9nm,0.5s,mb4.0						
CHKZ	Chkalovo	69.11	328	eP	P	01 04 12.2	-0.5
	0.2nm,0.5s,mb3.3						
ZRNK	Zerenda	69.64	327	eP	P	01 04 15.5	-0.5
	0.7nm,0.3s,mb4.1						
VNDA	Vanda	81.27	173	eP	P	01 05 22.6	-0.1
	0.6nm,0.5s,mb3.8						
QSPA	South Pole Qui	91.39	180	P	P	01 06 13.0	+0.5
TCUT	Toone Canyon	112.81	44	ePdif	Pdif	01 07 49.6	+1.0

*ISCJB **10** 01:24:30.2±1.8, 5.67S±.009×150.69E±.008, h61km±15km, mb4.3/15, Error ellipse: s-maj=14.9km s-min=12.3km az=127.8*
*IDC **10** 01:24:31.5±5.2, 5.60S×150.86E, h79km±42km, mb3.9/8, mb1 4.1/9, mb1mx4.0/14, mbtmp4.2/9, ML3.4/1, MS3.9/10, Ms1 3.9/10, ms1mx3.7/20, Error ellipse: s-maj=36.8km s-min=23.8km az=87.0*
*NEIC **10** 01:24:33.1±1.4, 5.65S×150.65E, h74km±13km, mb4.4/9, Error ellipse: s-maj=12.5km s-min=10.8km az=154.0*
*BJI **10** 01:24:33.1, 5.60S×150.60E, h74km, mB5.3, mb4.9, Ms4.9, Msz4.6*
ISC 10 01:24:33.3±1.5**, 5.74S**±.009×**150.69E**±.008**, h73**km±13km**, h75**km±.9km**:pP-P, n44, σ1.17**/40**, mb4.2**/15**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PMG	Port Moresby	5.06	224	P	Pn	01 25 46.8	+0.3
	9.6nm,0.3s,baz=50,slow=9.7,SNR=20						
PMG				S	Sn	01 26 49.2	+5.6
	1.4nm,0.3s,baz=262,slow=14,SNR=6.0						
PMG	Port Moresby	5.06	224	ePn	Pn	01 25 46.6	+0.1
	39nm,0.6s						
PMG				eSn	Sn	01 26 43.9	+0.2
HNR	Honiara	9.88	112	LR	LR	01 30 21.9	
	comp=Z,614nm,18.3s,baz=179,slow=36						
HNR	Honiara	9.88	112	Pn	Pn	01 26 53.7	+1.3
CTA	Charters Tower	14.90	196	eP	Pn	01 28 06.6	+6.7
	8.2nm,1.2s						
CTA	Charters Tower	14.90	196	P	Pn	01 28 05.5	+5.6
	0.3nm,0.3s,baz=32,slow=12,SNR=5.1						
CTA				LR	LR	01 33 23.4	
	comp=Z,401nm,19.3s,baz=18,slow=35						
CTAO	Charters Tower	14.90	196	Pn	Pn	01 28 00.8	+0.9
KAKA	Kakadu	19.30	248	eP	Pn	01 28 52.8	-1.2
	9.3nm,0.8s						
GUMO	Guam	20.05	343	LR	LR	01 34 54.3	
	comp=Z,197nm,20.7s,baz=179,slow=31						
WRAB	Tennant Creek	21.25	227	eP	P	01 29 13.9	+0.4
	26nm,1.0s,mb4.5						
WRAB				e		01 29 29.0	
WB2	Warramunga Arr	21.26	227	eP	P	01 29 13.4	-0.1
WRA	Warramunga Arr	21.27	227	P	P	01 29 13.0	-0.6
	6.5nm,0.8s,mb4.0,baz=51,slow=10,SNR=30						
DZM	Mont Dzumac	22.26	138	LR	LR	01 36 16.8	
	comp=Z,590nm,21.9s,baz=209,slow=32						
AS31	Alice Springs	24.06	221	eP	P	01 29 43.2	+1.5
ASAR	Alice Springs	24.06	221	P	P	01 29 42.0	+0.3
	12nm,1.0s,mb4.2,baz=54,slow=8.3,SNR=34						
ASAR				LR	LR	01 40 12.1	
	comp=Z,206nm,20.4s,baz=52,slow=39						
STKA	Stephens Creek	27.36	197	LR	LR	01 41 07.5	
	comp=Z,510nm,18.2s,baz=16,slow=36						
FITZ	Fitzroy Crossi	27.37	241	eP	P	01 30 10.4	-1.3
	17nm,0.8s,mb4.6						
FITZ	Fitzroy Crossi	27.37	241	P	P	01 30 10.6	-1.1
	8.3nm,0.7s,mb4.4,baz=86,slow=9.7,SNR=14						
FITZ				LR	LR	01 42 35.3	
	comp=Z,150nm,18.3s,baz=244,slow=39						
MBWA	Marble Bar	33.69	240	eP	P	01 31 06.8	-0.5
	4.1nm,0.5s,mb4.5						
KKM	Kota Kinabalu	36.35	288	P	P	01 31 29.4	-0.8
NWAO	Narrogin (SRO)	41.24	225	eP	P	01 32 12.9	+1.8
	27nm,1.1s,mb5.0						
NJ2	Nanjing	48.29	323	eP	P	01 33 11.0	+3.9
NJ2				AP	pP	01 33 29.7	+4.4
NJ2				XP	sP	01 33 38.5	+5.0
NJ2				PP	PP	01 35 04.0	+3.9
NJ2				S	S	01 40 03.0	+1.4
NJ2				XS	sS	01 40 37.0	+4.6
NJ2				AMB	AMB		
	comp=Z,330nm,4.6s						
NJ2				LR	LR		
	comp=Z,3μm,19.9s						
ASAJ	Asahikawa	50.16	352	LR	LR	01 53 24.1	
	comp=Z,97nm,20.3s,baz=196,slow=35						
ENH	Enshi	53.29	315	P	P	01 33 45.1	+0.4

KMI	Kunming	55.79	306	P	P	01 34 08.6	+5.8
KMI				AP	pP	01 34 27.0	+5.6
KMI				XP	sP	01 34 34.9	+5.3
KMI				PP	PP	01 36 14.6	+6.7
KMI				PPP		01 37 29.4	
KMI				S	S	01 41 45.6	+1.2
KMI				PS		01 42 07.3	
KMI				XS	sS	01 42 17.2	+1.3
KMI				SS	SS	01 45 31.2	+0.5
KMI				SSS		01 47 36.9	
KMI				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb5.1						
KMI				LR	LR		
	comp=Z,73nm,27.2s						
CD2	Chengdu	57.78	312	*e*P	P	01 34 17.2	+0.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,6.4s						
HHC	Hu-ho-hao-te	58.61	326	*e*P	P	01 34 25.8	+3.1
HHC				AP	pP	01 34 44.9	+3.5
HHC				XP	sP	01 34 54.4	+4.9
HHC				PP	PP	01 36 37.9	+4.9
HHC				S	S	01 42 24.0	+2.6
HHC				AMB	AMB		
	comp=Z,192nm,4.8s						
HHC				LR	LR		
	comp=Z,121nm,20.8s						
SONM	Songino Array	66.02	329	P	P	01 35 10.6	-1.6
	comp=Z,1.0nm,0.8s,mb3.7,baz=145,slow=6.4,SNR=5.3						
SONM				LR	LR	02 03 27.1	
	comp=Z,102nm,20.6s,baz=250,slow=35						
CASY	Casey	66.52	197	P	P	01 35 16.4	+1.1
VNDA	Vanda	71.98	177	P	P	01 35 47.1	-2.0
	comp=Z,1.1nm,0.9s,mb3.7,baz=317,slow=7.0,SNR=6.8						
VNDA				LR	LR	02 03 03.5	
	comp=Z,45nm,21.2s,baz=312,slow=32						
VNDA	Vanda	71.98	177	*e*P	P	01 35 48.6	-0.5
	comp=Z,1.5nm,0.9s,mb3.8						
SBA	Scott Base	72.57	176	P	P	01 35 52.6	0.0
MKAR	Makanchi Array	79.66	320	P	P	01 36 30.5	-2.4
	comp=Z,0.6nm,0.8s,mb3.5,baz=123,slow=5.3,SNR=3.2						
MAW	Mawson	83.90	203	P	P	01 36 54.0	-1.1
	comp=Z,3.9nm,1.0s,mb4.2,baz=63,slow=9.0,SNR=4.7						
MAW	Mawson	83.90	203	*e*P	P	01 36 55.6	+0.4
	comp=Z,4.7nm,0.9s,mb4.3						
QSPA	South Pole Qui	84.23	180	*e*P	P	01 36 55.8	-1.0
	comp=Z,3.6nm,0.8s,mb4.2						
CHKZ	Chkalovo	88.73	324	P	P	01 37 18.7	-0.2
BRVK	Borovoye	88.81	323	*e*P	P	01 37 19.6	+0.4
	comp=Z,0.4nm,0.6s,mb3.6						
ZRNK	Zerenda	89.55	323	*e*P	P	01 37 22.7	0.0
NVAR	Mina Array Bea	94.31	52	P	P	01 37 41.8	-2.9
	comp=Z,0.2nm,0.3s,mb3.9,baz=252,slow=10,SNR=3.6						
LPAZ	La Paz	135.79	120	PKP	PKPdf	01 43 42.5	-3.0
	comp=Z,1.5nm,1.0s,baz=254,slow=7.4,SNR=3.2						
LPAZ	La Paz	135.79	120	PKP	PKPdf	01 43 42.5	-3.0
LPAZ				*e*PKPdf	PKPdf	01 43 45.8	+0.3
TORD	Torodi Ar. Bea	148.57	286	PKPbc	PKPbc	01 44 09.8	-2.0
	comp=Z,1.5nm,0.8s,baz=58,slow=1.4,SNR=10						
BDFB	Brasilia	151.81	139	PKPbc	PKPbc	01 44 18.6	-1.0
	comp=Z,4.3nm,0.8s,baz=135,slow=0.9,SNR=5.2						

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*ISCJB **10** 01:26:35.7±0.5, 22.35S±0.04×67.14W±0.07, h173^{km}±7^{km}, mb3.8/6, Error ellipse: s-maj=10.7km s-min=6.7km az=16.2*

*IDC **10** 01:26:36.8±0.9, 22.28S×67.23W, h173^{km}±10^{km}, mb3.7/5, mb1 3.8/8, mb1mx3.6/15, mbtmp4.2/8, Error ellipse: s-maj=17.7km s-min=13.5km az=104.0*

*NEIC **10** 01:26:37.3±0.8, 22.32S×67.02W, h164^{km}±10^{km}, mb3.6/2, Error ellipse: s-maj=12.5km s-min=9.7km az=71.0*

*GUC **10** 01:26:39.0±0.3, 22.61S×67.36W, h160^{km}, ML4.0*

ISC 10 01:26:36.8±0.5**, 22.36S**±0.04×**67.12W**±0.07**, h164**^{km}±7^{km}**, n24, σ1.^{s}60**/32**, mb3.8**/6**, 3C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	1.67	261	P	Pn	01 27 10.3	+1.2
	65nm,0.3s,baz=77,slow=5.7,SNR=423						
LVC				S	Sn	01 27 34.3	+0.2
	10nm,0.3s,baz=52,slow=18,SNR=4.1						
CEN1	Los Morros	3.02	250	⇓*i*P	Pn	01 27 27.0	+2.1
CEN1				*i* S	Sn	01 28 03.4	+1.2
CEN1				AML	AML	01 28 06.0	
	comp=N,165nm,0.3s						
ANCH	Antofagasta	3.30	246	⇑*i*P	Pn	01 27 24.8	-3.6
ANCH				*i* S	Sn	01 28 02.2	-6.4
ANCH				AML	AML	01 28 04.0	
	comp=N,372nm,0.1s						
ANCH	Antofagasta	3.30	246	⇑*i*P	Pn	01 27 24.8	-3.6
ANCH				*i* S	Sn	01 28 02.2	-6.4
CPN1	Cerro Paranal	3.76	233	⇑*i*P	Pn	01 27 34.6	+0.4
CPN1				*i* S	Sn	01 28 17.2	-1.8
CPN1				AML	AML	01 28 18.4	
	comp=E,227nm,0.2s						
CRCH	Chaqaral	5.09	218	*i* S	Sn	01 28 47.0	-3.1
LPAZ	La Paz	6.12	351	P	Pn	01 28 05.9	+0.8
	comp=E,2.7nm,0.3s,baz=155,slow=9.8,SNR=82						
LPAZ				S	Sn	01 29 12.6	-1.9
	comp=E,0.3nm,0.3s,baz=256,slow=19,SNR=4.2						
ARE	Arequipa	7.17	324	*e*P	Pn	01 28 15.0	-4.1
ARE				*e*S	Sn	01 29 33.0	-6.6
SIV	San Ignacio	8.53	43	P	Pn	01 28 36.3	-0.8
	comp=E,6.4nm,0.3s,baz=232,slow=11,SNR=167						
SIV				S	Sn	01 30 06.8	-5.4
	comp=E,3.9nm,0.3s,baz=148,slow=22,SNR=12						
CFAA	Coronel Fontan	9.26	186	P	Pn	01 28 48.0	+1.3
	comp=E,0.1nm,0.3s,baz=0.0,slow=0.0,SNR=6.6						
CFAA				S	Sn	01 30 27.8	-1.8
	comp=E,0.1nm,0.3s,baz=292,slow=19,SNR=4.2						
CPUP	Villa Florida	9.76	116	*e*Pn	Pn	01 28 52.9	-0.4
SAML	Samuel	13.87	16	*e*Pn	Pn	01 29 45.0	-1.3
NNA	Nana	13.88	316	Pn	Pn	01 29 48.4	+1.9
TRQA	Tornquist	16.25	165	*e*Pn	Pn	01 30 17.9	+2.1
	comp=E,1.1nm,0.4s						
BDFB	Brasilia	19.25	73	P	P	01 30 50.0	+1.4
	comp=E,1.5nm,0.3s,baz=255,slow=11,SNR=23						
OTAV	Otavalo	25.03	332	*e*P	P	01 31 48.7	+3.1
	comp=E,0.7nm,0.4s,mb3.5						
SDV	Santo Domingo	31.25	353	P	P	01 32 42.5	+1.7
JTS	JuntasAbangare	36.86	330	*e*P	P	01 33 31.4	+2.2
DBIC	Dimbokro	67.40	72	P	P	01 37 14.4	+0.1
	comp=E,2.8nm,1.0s,mb4.0,baz=217,slow=9.7,SNR=3.9						
PDAR	Pinedale Array	75.69	329	P	P	01 38 03.0	-0.9
	comp=E,0.2nm,0.5s,mb3.0,baz=148,slow=6.5,SNR=4.1						
TORD	Torodi Ar. Bea	76.09	69	P	P	01 38 06.5	+0.2
	comp=E,4.3nm,0.5s,mb4.3,baz=256,slow=5.7,SNR=148						
ULM	Lac du Bonnet	76.65	341	P	P	01 38 07.1	-2.2
	comp=E,1.3nm,0.5s,mb3.9,baz=156,slow=7.8,SNR=4.6						
YKA	Yellowknife Ar	92.56	340	P	P	01 39 26.9	-2.5
	comp=E,0.5nm,0.6s,mb3.8,baz=128,slow=5.0,SNR=6.6						
WRA	Warramunga Arr	133.02	208	PKP	PKPdf	01 45 33.2	+0.6
	comp=E,0.1nm,0.4s,baz=156,slow=1.8,SNR=5.9						

IDC 10 01:45:08.6±2.4**, 60.36N**×**165.63E, h0**^{km}**, mb3.4**/4**, mb1 3.8**/4**, mb1mx3.5**/20**, mbtmp3.5**/4**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.3**/28**, Error ellipse: s-maj=77.0km s-min=26.0km az=173.0, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILAR	Eielson Array	21.88	58	P	P	01 50 02.2	-0.8
	1.4nm,0.8s,baz=265,slow=9.7,SNR=6.5						
SONM	Songino Array	35.66	277	P	P	01 52 08.0	-0.4
	0.3nm,0.7s,baz=32,slow=14,SNR=3.5						
PDAR	Pinedale Array	51.67	69	P	P	01 54 17.5	+0.2
	0.4nm,0.7s,baz=339,slow=3.8,SNR=5.3						
PDAR				LR	LR	02 15 20.2	
	comp=Z,54nm,19.8s,baz=112,slow=35						
NOA	NORSAR Array B	57.33	346	P	P	01 54 57.7	-0.7
	0.8nm,0.7s,baz=14,slow=7.3,SNR=2.7						

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*ISCJB **10** 01:51:20.6±2.0, 12.09S±0.08×166.80E±0.08, h154^{km}±18^{km}, mb4.2/19, Error ellipse: s-maj=13.5km s-min=13.0km az=68.2*

*BJI **10** 01:51:21.5, 11.86S×167.30E, h163^{km}, mB5.0, mb4.6*

*NEIC **10** 01:51:23.0±1.4, 12.03S×166.82E, h165^{km}±12^{km}, mb4.4/8, Error ellipse: s-maj=10.6km s-min=9.9km az=196.0*

*IDC **10** 01:51:27.3±4.2, 12.22S×166.76E, h202^{km}±39^{km}, mb3.7/11, mb1 3.9/12, mb1mx3.9/15, mbtmp4.2/12, Error ellipse: s-maj=22.2km s-min=20.2km az=133.0*

ISC 10 01:51:21.0±1.8**, 12.12S**±0.08×**166.89E**±0.08**, h144**^{km}±17^{km}**, n57, σ0.^{s}76**/36**, mb4.2**/19**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	7.32	291	*e*Pn	Pn	01 53 05.0	-0.3
DZM	Mont Dzumac	9.91	182	P	Pn	01 53 45.0	+5.2
	0.8nm,0.3s,baz=53,slow=20,SNR=5.2						
AFI	Afiamalu	20.86	97	*e*P	P	01 55 52.2	+0.7
CTA	Charters Tower	21.33	246	*e*P	P	01 55 57.1	+0.6
	10nm,0.6s,mb4.3						
CTA	Charters Tower	21.33	246	P	P	01 55 57.5	+1.0
	16nm,0.7s,mb4.5,baz=79,slow=11,SNR=15						
CTAO	Charters Tower	21.33	246	*e*P	P	01 55 57.2	+0.7
	9.8nm,0.5s,mb4.4						
RAO	Raoul Island	22.15	143	*e*P	P	01 56 04.8	-0.3
ARMA	Armidale	23.05	215	*e*P	P	01 56 14.3	+0.7
STKA	Stephens Creek	30.47	226	*e*P	P	01 57 20.3	+0.3
	3.5nm,0.9s,mb4.1						
STKA	Stephens Creek	30.47	226	P	P	01 57 20.2	+0.2
	0.9nm,0.3s,mb4.0,baz=325,slow=7.0,SNR=5.0						
STKA	Stephens Creek	30.47	226	*e*P	P	01 57 21.0	+1.0
WB2	Warramunga Arr	32.18	252	*e*P	P	01 57 34.6	-0.5
WRAB	Tennant Creek	32.18	252	*e*P	P	01 57 34.6	-0.5
	2.9nm,0.4s,mb4.4						
WRA	Warramunga Arr	32.19	252	P	P	01 57 34.4	-0.7
	3.4nm,0.8s,mb4.1,baz=80,slow=8.9,SNR=27						
ASAR	Alice Springs	33.34	245	P	P	01 57 44.5	-0.6
	4.7nm,0.7s,mb4.3,baz=73,slow=9.8,SNR=46						
KAKA	Kakadu	33.63	265	*e*P	P	01 57 48.0	+0.3
	5.4nm,0.4s,mb4.6						
FITZ	Fitzroy Crossi	40.20	256	*e*P	P	01 58 43.3	+0.1
	11nm,1.4s,mb4.3						
MBWA	Marble Bar	45.92	252	*e*P	P	01 59 29.7	+0.5
	4.7nm,0.3s,mb4.6						
NWAO	Narrogin (SRO)	49.81	237	*e*P	P	01 59 58.4	-0.7
MJAR	Matsushiro Arr	55.43	332	P	P	02 00 40.2	-0.2
	1.9nm,0.6s,mb4.0,baz=165,slow=8.4,SNR=4.8						
MJAR	Matsushiro Arr	55.43	332	P	P	02 00 40.2	-0.2
VNDA	Vanda	65.45	181	P	P	02 01 47.0	-1.4
	0.3nm,0.5s,mb3.4,baz=334,slow=5.9,SNR=3.0						
VNDA	Vanda	65.45	181	*e*P	P	02 01 48.2	-0.1
	1.0nm,1.0s,mb3.6						
MDJ	Mudanjiang	65.82	332	*e*P	P	02 01 50.6	-0.1
BJT	Baijiatuau	70.00	321	P	P	02 02 15.7	-1.2
KMI	Kunming	72.63	301	P	P	02 02 35.4	+2.7
KMI				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.8						
HHC	Hu-ho-hao-te	73.37	319	*e*P	P	02 02 37.5	+0.5
HHC				PP	PP	02 05 24.7	+2.4
HHC				S	S	02 11 53.6	-0.6
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,187nm,6.1s						
CD2	Chengdu	74.14	307	*e*P	P	02 02 42.1	+0.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,40nm,6.4s						
QSPA	South Pole Qui	77.89	180	P	P	02 03 03.3	+0.5
SONM	Songino Array	80.19	323	P	P	02 03 16.0	+0.7
	comp=Z,0.3nm,0.3s,mb3.4,baz=147,slow=6.2,SNR=4.2						
MAW	Mawson	84.15	202	P	P	02 03 36.0	+0.1
ILAR	Eielson Array	84.17	18	P	P	02 03 35.3	-0.7
	comp=Z,4.1nm,0.6s,mb4.3,baz=244,slow=6.2,SNR=48						
NVAR	Mina Array Bea	85.86	49	P	P	02 03 45.3	+0.9
	comp=Z,0.6nm,0.6s,mb3.5,baz=228,slow=4.2,SNR=5.0						
MKAR	Makanchi Array	95.06	317	P	P	02 04 27.8	+0.3
	comp=Z,0.8nm,0.4s,mb4.3,baz=81,slow=7.1,SNR=6.9						
YKA	Yellowknife Ar	95.41	27	P	P	02 04 27.5	-1.5
	comp=Z,0.3nm,0.4s,mb3.9,baz=258,slow=5.0,SNR=12						
SNAA	Sanae	96.12	183	*e*P	P	02 04 31.5	-0.7
	comp=Z,0.2nm,0.4s,mb3.8						
ARCES	ARCESS Array B	117.65	346	PKP	PKPdf	02 09 48.8	-1.1
	comp=Z,1.5nm,0.5s,baz=78,slow=1.8,SNR=24						
NOA	NORSAR Array B	128.02	345	PKP	PKPdf	02 10 08.9	-0.9
	comp=Z,0.8nm,0.8s,baz=326,slow=3.0,SNR=3.3						
GERES	GERESS Array B	137.16	334	PKP	PKPdf	02 10 28.5	+1.6
	comp=Z,0.3nm,0.5s,baz=17,slow=1.4,SNR=4.1						
LPG	La Plagne	142.68	337	*e*PKP1	PKPdf	02 10 36.5	-0.5
ORIF	Oris-en-Rattie	143.50	337	*e*PKP1	PKPdf	02 10 36.5	-1.9
	comp=Z,12nm,0.7s						
TCF	Toulx Ste Croi	143.55	342	*e*PKP1	PKPdf	02 10 36.2	-2.3
	comp=Z,2.9nm,0.6s						
SBF	Sospel	143.75	335	*e*PKP1	PKPdf	02 10 36.4	-2.4
	comp=Z,22nm,0.8s						
MFF	Saint Martin d	143.92	345	*e*PKP1	PKPdf	02 10 37.4	-1.7
	comp=Z,9.8nm,0.8s						
VIVF	Saint-Julien-l	144.00	338	*e*PKP1	PKPdf	02 10 38.0	-1.3
	comp=Z,5.9nm,0.7s						
PGF	Pioggiola	144.10	332	*e*PKP1	PKPdf	02 10 37.8	-1.7
	comp=Z,21nm,0.9s						
FRF	La Foret Royal	144.32	335	*e*PKP1	PKPdf	02 10 38.5	-1.3
	comp=Z,20nm,0.8s						
SMRF	Simiane la Rot	144.41	337	*e*PKP1	PKPdf	02 10 39.4	-0.6
	comp=Z,8.5nm,0.8s						
LMR	La Mourre	144.57	335	*e*PKP1	PKPdf	02 10 39.4	-0.9
	comp=Z,19nm,0.9s						
RJF	Les Rejaudoux	144.65	342	*e*PKP1	PKPdf	02 10 39.9	-0.5
CAF	Calviac	144.82	341	*e*PKP1	PKPdf	02 10 39.3	-1.4
LASF	Ste Croix	144.97	339	*e*PKP1	PKPdf	02 10 41.2	+0.2
LFF	La Frestale	145.21	343	*e*PKP1	PKPbc	02 10 41.7	+0.4
	comp=Z,7.7nm,0.6s						
MTLF	Montolieu	146.18	340	*e*PKP1	PKPbc	02 10 44.7	+0.4
	comp=Z,6.0nm,0.7s						
EPF	Esparros	147.07	342	*e*PKP1	PKPbc	02 10 46.7	-0.1
ETSF	Etsaut	147.46	343	*e*PKP1	PKPbc	02 10 48.5	+0.6
	comp=Z,5.9nm,0.8s						
ESDC	Sonseca Array	151.38	345	PKPbc	PKPbc	02 10 58.3	+0.7
	comp=Z,0.9nm,0.6s,baz=27,slow=2.9,SNR=9.5						
ESDC				PKPab	PKPab	02 11 07.6	+1.2
	comp=Z,1.0nm,0.5s,baz=12,slow=3.8,SNR=12						

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*IDC **10** 02:06:00.3±0.6, 51.26N×179.10W, h0^{km}, mb4.5/20, mb1 4.6/21, mb1mx4.6/24, mbtmp4.5/21, ML4.6/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/41, Error ellipse: s-maj=22.0km s-min=12.8km az=142.0*

*SZGRF **10** 02:06:05.0, 50.91N×179.30W, h33^{km}, mb4.4, Andreanof Islands, Aleutian Islands, United States*

*MOS **10** 02:06:06.0±1.0, 51.36N×179.11W, h45^{km}, mb4.6/35, Error ellipse: s-maj=10.8km s-min=6.7km az=85.3*

*ISCJB **10** 02:06:06.2±0.8, 51.33N±0.07×179.09W±0.04, h46^{km}±6^{km}, mb4.5/93, MS3.9/5, Error ellipse: s-maj=11.3km s-min=4.4km az=169.7*

*NEIC **10** 02:06:07.8±0.8, 51.33N×179.15W, h48^{km}±6^{km}, mb4.4/35, ML4.6(AEIC), Error ellipse: s-maj=11.1km s-min=4.3km az=184.0*

*BJI **10** 02:06:09.5, 51.81N×179.90W, h48^{km}, mB5.1, mb4.8, Ms4.5, Msz4.4*

ISC 10 02:06:08.4±0.7**, 51.39N**±0.07×**179.12W**±0.04**, h54**^{km}±6^{km}**, h43**^{km}±4.1^{km}**:pP-P, n237, σ0.^{s}89**/235**, mb4.5**/93**, MS3.9**/5**, 33C-10D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	Amchitka	0.99	270	P	Pn	02 06 22.9	-3.2
AMKA				S	Sn	02 06 38.2	-1.0
ATKA	Atka Island	3.17	73	P	Pn	02 06 55.1	-0.6
SMY	Shemya	4.40	290	P	Pn	02 07 12.8	+0.2
SPIA	Saint Paul Isl	7.78	38	P	Pn	02 08 01.2	+2.2
UNV	Unalaska Valle	8.07	67	P	Pn	02 08 03.5	+0.7
PET	Petropavlovsk	13.72	286	*i* P	Pn	02 09 24.2	+4.0
SVW2	Sparrevohn	16.21	44	*e*P	Pn	02 09 54.0	+1.5
KDAK	Kodiak Island	16.59	57	Pn	Pn	02 09 53.0	-4.3
	2.0nm,0.3s,baz=255,slow=4.8,SNR=15						
KDAK				Sn	Sn	02 12 54.3	-6.2
	0.3nm,0.3s,baz=356,slow=19,SNR=4.1						
TTA	Tatalina	16.93	38	*e*P	Pn	02 10 02.7	+1.1
SML	Sawmill	19.70	46	*e*P	Pn	02 10 31.9	-3.2
MCK	McKinley	20.13	41	*e*P	P	02 10 37.4	-0.5
COLA	College	21.03	38	*d i*P	P	02 10 49.1	+1.5
ILAR	Eielson Array	21.36	39	P	P	02 10 50.9	-0.4
	2.6nm,0.4s,mb3.9,baz=317,slow=19,SNR=52						
MENT	Mentasta	22.08	45	*e*P	P	02 10 59.2	+0.3
DAWY	Dawson	24.24	43	*e*P	P	02 11 19.5	-0.7
YSS	Yuzh-Sakhalins	25.12	275	*e*P	P	02 11 29.0	+0.8
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
ASAJ	Asahikawa	26.51	269	LR	LR	02 20 46.0	
	comp=Z,63nm,19.2s,MS3.2,baz=82,slow=33						
INK	Inuvik	27.57	35	P	P	02 11 49.9	-0.5
	comp=Z,2.6nm,0.6s,mb4.0,baz=281,slow=12,SNR=6.3						
KLR	Kul'dur	30.99	286	*e*P	P	02 12 17.2	-3.4
MJAR	Matsushiro Arr	33.59	261	P	P	02 12 42.5	-0.9
	comp=Z,1.1nm,0.7s,mb3.9,baz=52,slow=7.5,SNR=4.4						
MJAR	Matsushiro Arr	33.59	261	P	P	02 12 42.5	-0.9
MDJ	Mudanjiang	34.37	279	P	P	02 12 49.6	-0.6
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,175nm,5.3s						
YKW3	Yellowknife Ar	35.35	46	*e*P	P	02 12 57.3	-1.3
YKA	Yellowknife Ar	35.37	46	P	P	02 12 57.9	-0.9
	comp=Z,3.8nm,0.5s,mb4.6,baz=281,slow=7.2,SNR=76						
YKA				PcP	PcP	02 15 27.6	-0.3
	comp=Z,0.3nm,0.4s,baz=287,slow=3.1,SNR=6.3						
YKA				LR	LR	02 29 25.3	
	comp=Z,40nm,18.4s,MS3.2,baz=270,slow=40						
YKA	Yellowknife Ar	35.37	46	P	P	02 12 57.9	-0.9
YKA						02 15 27.6	
YKA	Yellowknife Ar	35.37	46	P	P	02 12 57.9	-0.9
YKA				PcP	PcP	02 15 27.6	-0.3
YKA				LR	LR	02 29 25.3	
CN2	Changchun	37.35	281	*e*P	P	02 13 16.7	+1.0
BOD	Bodaibo	37.81	307	*e*P	P	02 13 17.4	-2.2
BOD				*e*	pP	02 13 26.2	-7.2
BOD				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
BOD				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.9						
HAWA	Hanford	38.55	73	*e*P	P	02 13 24.8	-1.1
EDM	Edmonton	38.98	61	*e*P	P	02 13 28.7	-0.7
NEW	Newport	39.07	69	*e*P	P	02 13 28.8	-1.3
NEW				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NEW	Newport	39.07	69	*e*P	P	02 13 28.8	-1.3
	comp=Z,6.4nm,0.8s,mb4.4						
YBH	Yreka Blue Hor	39.08	82	P	P	02 13 32.3	+2.0
	comp=Z,1.7nm,0.8s,mb3.8,baz=273,slow=3.8,SNR=5.2						
SNY	Shenyang	39.58	279	⇑P	P	02 13 29.1	-5.3
SNY				AMB	AMB		
	comp=Z,13nm,0.3s,mb5.1						
SNY				AMB	AMB		
	comp=Z,479nm,4.8s						
WALA	Waterton Lakes	40.55	67	*e*P	P	02 13 41.4	-1.1
	comp=Z,5.8nm,1.0s,mb4.2						
BSMT	Bassoo Peak	40.64	69	*e*P	P	02 13 43.2	0.0
WVOR	Wild Horse Val	41.20	78	*e*P	P	02 13 48.3	+0.5
WVOR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
WVOR	Wild Horse Val	41.20	78	*e*P	P	02 13 48.3	+0.5
	comp=Z,3.6nm,0.7s,mb4.1						
MSO	Missoula	41.65	70	*e*P	P	02 13 51.3	-0.2
MSO				*e*PcP	PcP	02 15 43.1	-4.4
HRY	Holter Researc	42.95	69	*e*P	P	02 14 02.3	+0.2
HLID	Hailey	43.13	74	*e*P	P	02 14 03.9	+0.3
	comp=Z,4.0nm,0.9s,mb4.2						
MCMT	McKenzie Canyo	43.37	72	*e*P	P	02 14 05.1	-0.3
EGMT	Eagleton	43.46	66	*e*P	P	02 14 02.3	-3.9
	comp=Z,7.5nm,0.8s,mb4.5						
BOZ	Bozeman (W)	43.64	70	*e*P	P	02 14 07.2	-0.4
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
BOZ	Bozeman (W)	43.64	70	*e*P	P	02 14 07.2	-0.5
	comp=Z,3.6nm,0.6s,mb4.3						
NVAR	Mina Array Bea	43.75	83	P	P	02 14 12.3	+3.8
	comp=Z,1.2nm,0.7s,mb3.8,baz=309,slow=6.3,SNR=10						
NVAR	Mina Array Bea	43.75	83	P	P	02 14 12.3	+3.8
ELK	Elko	44.25	78	*e*P	P	02 14 12.9	+0.4
GCMT	Greycliff	44.71	69	*e*P	P	02 14 16.2	0.0
IMW	Indian Meadow	45.02	72	*e*P	P	02 14 20.8	+2.1
HVU	Hansel Valley	45.14	75	*e*P	P	02 14 21.7	+2.1
TPAW	Teton Pass	45.25	72	*e*P	P	02 14 22.0	+1.6
	comp=Z,2.9nm,0.7s,mb4.2						
BGU	Big Grassy Mou	45.49	76	*e*P	P	02 14 22.8	+0.4
TPNV	Topopah Spring	45.95	83	*e*P	P	02 14 25.8	-0.2
TPNV				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
TPNV	Topopah Spring	45.95	83	*e*P	P	02 14 25.8	-0.2
	comp=Z,2.2nm,0.7s,mb4.2						
DUG	Dugway	46.06	77	*e*P	P	02 14 27.1	+0.2
ULN	Ulaanbaatar	46.08	296	*e*P	P	02 14 27.6	+0.6
ULN				*e*		02 15 57.5	
ULN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
ULN	Ulaanbaatar	46.08	296	*e*P	P	02 14 27.6	+0.6
	comp=Z,6.7nm,0.7s,mb4.7						
ULN				*e*PcP	PcP	02 15 57.5	-5.1
SONM	Songino Array	46.47	296	P	P	02 14 30.9	+0.9
	comp=Z,4.5nm,0.8s,mb4.5,baz=56,slow=8.1,SNR=32						
BW06	Boulder Array	46.50	72	*e*P	P	02 14 30.0	-0.3
PDAR	Pinedale Array	46.50	72	P	P	02 14 29.9	-0.3
	comp=Z,16nm,0.8s,mb5.0,baz=311,slow=3.6,SNR=108						
ZAK	Zakamensk	46.78	301	*e*P	P	02 14 33.0	+0.5
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
DAU	Daniels Canyon	46.88	76	*e*P	P	02 14 33.4	+0.1
MSU	Marysvale	47.48	78	*e*P	P	02 14 37.5	-0.5
HHC	Hu-ho-hao-te	47.49	286	*e*P	P	02 14 39.3	+1.2
HHC				AP	pP	02 14 53.2	+0.9
HHC				XP	sP	02 14 57.4	-1.1
HHC				PP	PP	02 16 28.4	-1.3
HHC				S	S	02 21 23.9	-5.0
HHC				XS	sS	02 21 44.7	-8.1
HHC				SCS	ScS	02 24 27.7	+0.7
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,209nm,6.4s						
TMUT	Trail Mountain	47.59	77	*e*P	P	02 14 41.5	+2.7
SSE	Sheshan	47.80	269	*e*P	P	02 14 40.0	-0.4
SSE				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.8						
SSE				AMB	AMB		
	comp=Z,170nm,3.5s						
SRU	San Rafael	48.12	77	*e*P	P	02 14 44.0	+1.1
RWWY	Rawlins	48.54	72	*e*P	P	02 14 45.6	-0.5
NJ2	Nanjing	48.61	272	*e*P	P	02 14 50.5	+3.8
NJ2				AP	pP	02 15 00.4	-0.5
NJ2				XP	sP	02 15 04.3	-2.8
NJ2				PP	PP	02 16 43.5	+3.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,105nm,4.6s						
NJ2				LR	LR		
	comp=Z,1μm,18.4s,MS4.9						
RSSD	Black Hills	48.94	67	*e*P	P	02 14 48.6	-0.6
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
RSSD	Black Hills	48.94	67	*e*P	P	02 14 48.6	-0.6
	comp=Z,2.0nm,0.6s,mb4.3						
SMCO	Snowmass	50.23	74	*e*P	P	02 14 59.4	+0.3
	comp=Z,2.8nm,0.6s,mb4.5						
SMCO				*e*PcP	PcP	02 16 13.0	-4.5
ISCO	Idaho Springs	50.66	73	*e*P	P	02 15 03.5	+1.2
ISCO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ISCO	Idaho Springs	50.66	73	*e*P	P	02 15 03.5	+1.2
	comp=Z,3.1nm,0.9s,mb4.2						
SUMG	Summit	53.34	14	*e*P	P	02 15 22.4	+0.2
LZH	Lanzhou	55.19	286	*e*P	P	02 15 37.0	+1.4
LZH				AP	pP	02 15 50.0	-0.1
LZH				XP	sP	02 15 54.5	-1.8
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,79nm,4.5s						
GTA	Gaotai	55.38	292	*e*P	P	02 15 37.8	+0.8
GTA				PP	PP	02 17 44.0	+2.9
GTA				S	S	02 23 18.6	+1.1
GTA				AMB	AMB		
	comp=Z,12nm,0.5s,mb5.2						
GTA				AMB	AMB		
	comp=Z,84nm,4.2s						
GTA				LR	LR		
	comp=N,130nm,14.1s,MS4.3						
GTA				LR	LR		
	comp=E,140nm,13.7s,MS4.3						
GTA				LR	LR		
	comp=Z,131nm,14.4s,MS4.2						
KEV	Kevo	57.67	350	*e*p	P	02 15 51.7	-1.6
	comp=Z,3.6nm,0.7s,mb4.5						
KEV	Kevo	57.67	350	*e*P	P	02 15 51.7	-1.6
KEV				pmax	pmax		

comp=Z,4.0nm,0.7s,mb4.6
ARCES ARCESS Array B 58.05 350 P **P 02 15 55.2 -0.7**
comp=Z,3.3nm,0.6s,mb4.5,baz=21,slow=7.5,SNR=28
ARCES ARCESS Array B 58.05 350 P **P 02 15 55.2 -0.7**
CD2 Chengdu 58.78 282 *e*P **P 02 16 00.7 -0.3**
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CD2 AMB AMB
comp=Z,40nm,5.6s
KURK Kurchatov 58.87 313⇓*e*P **P 02 16 02.5 +0.8**
KURK Kurchatov 58.87 313 *e*P **P 02 16 01.1 -0.6**
WMQ Urumqi 59.17 303 P **P 02 16 06.4 +2.7**
WMQ AP pP 02 16 19.1 +0.7
WMQ XP sP 02 16 24.4 -0.1
WMQ PP PP 02 18 19.0 +4.2
WMQ AMB AMB
comp=Z,4.0nm,1.2s,mb4.3
WMQ AMB AMB
comp=Z,42nm,5.2s
WMQ LR LR
comp=N,118nm,21.0s,MS4.1
WMQ LR LR
comp=E,89nm,19.9s,MS4.1
WMQ LR LR
comp=Z,118nm,21.5s,MS4.0
MKAR Makanchi Array 59.87 308 P **P 02 16 07.8 -0.7**
comp=Z,3.2nm,0.3s,mb4.8,baz=45,slow=6.8,SNR=20
MKAR Makanchi Array 59.87 308⇑*e*P **P 02 16 08.5 -0.1**
SCHQ Schefferville 60.12 38 P **P 02 16 09.5 -0.8**
comp=Z,3.0nm,0.7s,mb4.4,baz=20,slow=2.6,SNR=7.9
MIAR Mount Ida 61.31 70 *e*P **P 02 16 18.7 +0.3**
MIAR pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
MIAR Mount Ida 61.31 70 *e*P **P 02 16 18.6 +0.3**
comp=Z,5.8nm,1.1s,mb4.6
ZRNK Zerenda 61.37 320 *e*P **P 02 16 17.7 -1.1**
ZRNK pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
ZRNK Zerenda 61.37 320 *e*P **P 02 16 17.7 -1.1**
comp=Z,1.9nm,0.6s,mb4.4
WCI Wyandotte Cave 62.88 62 *e*P **P 02 16 27.4 -1.5**
KMI Kunming 63.53 278 P **P 02 16 34.8 +1.6**
KMI AMB AMB
comp=Z,8.0nm,0.6s,mb4.9
JOF Joensuu 63.54 345 *e*p **P 02 16 32.1 -1.1**
comp=Z,5.7nm,0.4s,mb5.0
JOF Joensuu 63.54 345 *e*P **P 02 16 32.1 -1.1**
JOF pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
PLAL Pickwick Lake 64.19 66 *e*P **P 02 16 35.8 -1.7**
comp=Z,3.7nm,0.7s,mb4.5
KAF Kangasniemi 65.06 347 *e*p **P 02 16 41.9 -1.3**
comp=Z,4.6nm,0.3s,mb5.0,baz=13,slow=5.9
KAF Kangasniemi 65.06 347 *e*P **P 02 16 41.9 -1.3**
KAF pmax pmax
comp=Z,5.0nm,0.3s,mb5.0
FINES FINESS Array B 65.73 347 P **P 02 16 46.5 -1.1**
comp=Z,1.8nm,0.3s,mb4.6,baz=12,slow=6.9,SNR=49
CPCT Cooper Cave 65.86 63 *e*P **P 02 16 48.2 -0.2**
AAK Ala-Archa 66.71 310 *e*P **P 02 16 54.4 +0.6**
PMG Port Moresby 67.19 216 *i* P **P 02 17 05.7 +8.9**
NOA NORSAR Array B 67.62 355 P **P 02 16 58.8 -0.8**
comp=Z,1.6nm,0.7s,mb4.2,baz=8.1,slow=6.4,SNR=8.7
NOA NORSAR Array B 67.62 355 P **P 02 16 58.8 -0.8**
OBN Obninsk 69.79 339*de*P **P 02 17 12.8 -0.3**
OBN pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
GUN Gumba 71.67 292 *e*P **P 02 17 25.7 +1.2**
comp=Z,40nm,0.4s
JIRN Jiri 71.67 291 *e*P **P 02 17 26.0 +1.5**
comp=Z,29nm,0.6s,mb5.4
KKN Kakani 72.11 292 *e*P **P 02 17 28.0 +0.9**
comp=Z,9.9nm,0.4s,mb5.1
PKI Pulchoki 72.20 292 *e*P **P 02 17 28.4 +0.7**
GKN Gorkha 72.32 293 *e*P **P 02 17 29.0 +0.6**
comp=Z,11nm,0.4s,mb5.2
DMN Daman 72.34 292 *e*P **P 02 17 29.6 +1.1**
KOLN Koldanda 73.09 293 *e*P **P 02 17 33.8 +0.8**
AKASG Malin Array Be 75.48 342 P **P 02 17 46.2 -0.6**
comp=Z,4.8nm,0.4s,mb4.8,baz=19,slow=5.8,SNR=29
AKASG Malin Array Be 75.48 342 P **P 02 17 46.2 -0.7**
AKASG pmax pmax
comp=Z,5.0nm,0.4s
CLL Collm 77.17 352 P **P 02 17 55.6 -0.8**
comp=Z,logA/T=0.6,mb4.3
CLL Collm 77.17 352 *i* P **P 02 17 55.6 -0.8**
comp=Z,4.0nm,0.9s,mb4.3
CLL Collm 77.17 352 *i* P **P 02 17 55.6 -0.8**
CLL pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KWP Kalwaria 77.66 346 *e*P **P 02 17 59.5 +0.4**
MEM Membach 78.29 357 P **P 02 18 02.7 +0.1**
KOLS Kolonicke sedl 78.40 346 *e*P **P 02 18 03.7 +0.4**
KOLS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KOLS Kolonicke sedl 78.40 346 *e*P **P 02 18 03.7 +0.4**
comp=Z,4.5nm,0.8s,mb4.5
BCLA Clavier 78.50 357 P **P 02 18 03.8 0.0**
CRVS Cervenica-Dubn 78.55 346 *e*P **P 02 18 04.5 +0.4**
VRAC Vranov 78.79 350⇓*i*P **P 02 18 05.4 0.0**
DOU Dourbes 78.85 358 P **P 02 18 05.9 +0.2**
BAIF Baives 78.89 358 *e*P **P 02 18 05.9 -0.1**
comp=Z,19nm,1.0s,mb4.7
GRA1 Grafenberg Arr 78.92 353 *e*P **P 02 18 06.0 -0.1**
comp=Z,4.0nm,1.0s,mb4.3
GRF Grafenberg Arr 78.92 353 *e*P **P 02 18 06.0 -0.1**
comp=Z,4.0nm,1.0s,mb4.3
GRF Grafenberg Arr 78.92 353 *e*P **P 02 18 06.0 -0.1**
GRF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
GRF Grafenberg Arr 78.92 353 *e*P **P 02 18 06.0 -0.1**
GRF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
KECS Kecovo 79.11 347 *e*P **P 02 18 06.7 -0.4**
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 79.11 347 *e*P **P 02 18 06.7 -0.4**
comp=Z,2.1nm,0.8s,mb4.1
BURAR Bucovina Array 79.19 344⇑*i*P **P 02 18 08.0 +0.4**
BURAR Bucovina Array 79.19 344 ⇑P **P 02 18 08.0 +0.4**
WLF Walferdange 79.23 357 P **P 02 18 08.3 +0.4**
KHC Kasperske Hory 79.28 352 *e*P **P 02 18 08.0 -0.1**
VYHS Vyhne 79.32 348 *e*P **P 02 18 08.5 +0.2**
VYHS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
GERES GERESS Array B 79.55 351 P **P 02 18 09.5 -0.1**
comp=Z,1.7nm,0.5s,mb4.2,baz=21,slow=5.6,SNR=18
FLN La Foliniere 80.22 1 *e*P **P 02 18 12.4 -0.8**
comp=Z,15nm,0.7s,mb4.7
LDF La Druitiere 80.40 1 *e*P **P 02 18 13.4 -0.7**
comp=Z,16nm,0.7s,mb4.8
DRGR 80.42 345⇑*i*P **P 02 18 14.3 +0.1**
DRGR 80.42 345 ⇑P **P 02 18 14.3 0.0**
MEZF Maizieres J'vi 80.43 357 *e*P **P 02 18 14.1 -0.2**
comp=Z,6.2nm,0.7s,mb4.4
CDF Champ du Feu 80.43 356 *e*P **P 02 18 13.9 -0.4**
comp=Z,3.1nm,0.6s,mb4.1
VRI Vrincioaia 80.59 342⇑*i*P **P 02 18 15.6 +0.4**
VRI Vrincioaia 80.59 342 ⇑P **P 02 18 15.6 +0.4**
GRR Gorron 80.59 1 *e*P **P 02 18 14.8 -0.4**
comp=Z,12nm,0.5s,mb4.7
ROSF Rostrenen 80.59 3 *e*P **P 02 18 15.0 -0.2**
PLOR Plostina 80.62 342⇑*i*P **P 02 18 14.9 -0.5**
SGMF Saint Gilles 80.70 2 *e*P **P 02 18 15.4 -0.4**
comp=Z,13nm,0.6s,mb4.7
HAU Haudompre 80.88 356 *e*P **P 02 18 16.3 -0.4**
comp=Z,5.0nm,0.6s,mb4.3
QUIF Quistinic 81.02 3 *e*P **P 02 18 17.1 -0.4**
MLR Muntele Rosu 81.11 342⇑*i*P **P 02 18 19.8 +1.9**
MLR Muntele Rosu 81.11 342 ⇑P **P 02 18 19.8 +1.8**
VOIR 81.32 343⇓*i*P **P 02 18 20.4 +1.3**
VOIR 81.32 343 ⇓P **P 02 18 20.4 +1.3**
PERS Pernice 81.59 350 *e*P **P 02 18 20.8 +0.3**
LOR Lormes 81.69 358 *e*P **P 02 18 20.5 -0.5**
comp=Z,5.7nm,0.8s,mb4.2
LOR Lormes 81.69 358 *e*P **P 02 18 20.5 -0.5**
LOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LOR Lormes 81.69 358 *e*P **P 02 18 20.5 -0.5**
comp=Z,2.8nm,0.8s,mb4.2
HYF Humbligny 81.72 359 *e*P **P 02 18 21.2 0.0**
BZS Buzias 81.73 345⇓*i*P **P 02 18 21.5 +0.3**
BZS Buzias 81.73 345 ⇓P **P 02 18 21.5 +0.3**
GZR Gura Zlata 81.76 345⇑*i*P **P 02 18 21.9 +0.5**
WRA Warramunga Arr 81.88 224 P **P 02 18 19.9 -2.2**
comp=Z,1.0nm,0.6s,mb3.9,baz=31,slow=6.1,SNR=12
WRA Warramunga Arr 81.88 224 P **P 02 18 19.9 -2.1**
WRA pmax pmax
comp=Z,1.0nm,0.6s
SSF Saint Saulge 81.91 358⇑*i*P **P 02 18 21.9 -0.3**
comp=Z,5.6nm,0.7s,mb4.3
DOBS Dobrina 82.03 350 *i* P **P 02 18 22.0 -0.8**
ROBS Robic 82.14 351 *i* P **P 02 18 21.8 -1.6**
AVF Avril sur Loir 82.18 358⇑*i*P **P 02 18 23.2 -0.4**
comp=Z,5.6nm,0.8s,mb4.2
AVF Avril sur Loir 82.18 358⇑*i*P **P 02 18 23.2 -0.4**
AVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AVF Avril sur Loir 82.18 358⇑*i*P **P 02 18 23.2 -0.4**
comp=Z,2.8nm,0.8s,mb4.2
CABF La Chapelle 82.28 356 *e*P **P 02 18 24.1 0.0**
SMF Signal de Mont 82.32 358⇑*i*P **P 02 18 24.0 -0.3**
comp=Z,11nm,0.8s,mb4.5
SMF Signal de Mont 82.32 358⇑*i*P **P 02 18 24.0 -0.3**
SMF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SMF Signal de Mont 82.32 358⇑*i*P **P 02 18 24.0 -0.3**
comp=Z,5.3nm,0.8s,mb4.5
MFF Saint Martin d 82.39 1 *e*P **P 02 18 24.6 -0.1**
comp=Z,14nm,0.9s,mb4.6
MFF Saint Martin d 82.39 1 *e*P **P 02 18 24.6 -0.1**
MFF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MFF Saint Martin d 82.39 1 *e*P **P 02 18 24.6 -0.1**
comp=Z,6.8nm,0.9s,mb4.6
BGF Bois d'Agland 82.42 359 *e*P **P 02 18 24.5 -0.4**
comp=Z,5.5nm,0.7s,mb4.3
BGF Bois d'Agland 82.42 359 *e*P **P 02 18 24.5 -0.4**
BGF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BGF Bois d'Agland 82.42 359 *e*P **P 02 18 24.5 -0.4**
comp=Z,2.8nm,0.7s,mb4.3
BOJS Bojanci 82.70 350 *e*P **P 02 18 25.9 -0.3**
TCF Toulx Ste Croi 82.70 359 *e*P **P 02 18 26.0 -0.3**
comp=Z,4.3nm,0.6s,mb4.3
PSI Prapat 82.80 265 P **P 02 18 26.7 -0.1**
comp=Z,14nm,1.1s,mb4.9,baz=300,slow=8.6,SNR=3.9
PSI Prapat 82.80 265 P **P 02 18 26.7 -0.1**
PSI pmax pmax
comp=Z,14nm,1.1s,mb4.9
SVIS Svilajnac 83.08 345 *i* P **P 02 18 28.2 -0.1**
LPL La Plagne 83.35 356⇑*i*P **P 02 18 30.4 +0.8**
comp=Z,2.9nm,0.7s,mb4.1
LPL La Plagne 83.35 356⇑*i*P **P 02 18 30.4 +0.8**
LPL pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
LPL La Plagne 83.35 356⇑*i*P **P 02 18 30.4 +0.8**
comp=Z,1.5nm,0.7s,mb4.1
LPG La Plagne 83.36 356 *e*P **P 02 18 30.7 +1.0**
comp=Z,4.6nm,0.7s,mb4.3
LPG La Plagne 83.36 356 *e*P **P 02 18 30.7 +1.0**
LPG pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
LPG La Plagne 83.36 356 *e*P **P 02 18 30.7 +1.0**
comp=Z,2.3nm,0.7s,mb4.3
DIVS Divcibare 83.47 346 *i* P **P 02 18 30.3 +0.1**
RJF Les Rejaudoux 83.69 360 *e*P **P 02 18 31.0 -0.4**
comp=Z,2.0nm,0.5s,mb4.2
RJF Les Rejaudoux 83.69 360 *e*P **P 02 18 31.0 -0.4**
RJF pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
RJF Les Rejaudoux 83.69 360 *e*P **P 02 18 31.0 -0.4**
comp=Z,1.0nm,0.5s,mb4.2
BBLS Bajina Basta - 83.78 347 *i* P **P 02 18 33.0 +1.2**
ORIF Oris-en-Rattie 83.98 356⇑*i*P **P 02 18 33.4 +0.5**
comp=Z,6.1nm,0.7s,mb4.6
LFF La Frestale 84.06 0⇑*i*P **P 02 18 33.2 -0.1**
comp=Z,6.9nm,0.4s,mb4.8
LFF La Frestale 84.06 0⇑*i*P **P 02 18 33.2 -0.1**
LFF pmax pmax
comp=Z,3.0nm,0.4s,mb4.8
LFF La Frestale 84.06 0⇑*i*P **P 02 18 33.2 -0.1**
comp=Z,3.5nm,0.4s,mb4.8
CAF Calviac 84.06 359 *e*P **P 02 18 33.3 0.0**
comp=Z,7.1nm,0.7s,mb4.6
CAF Calviac 84.06 359 *e*P **P 02 18 33.3 0.0**
CAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
CAF Calviac 84.06 359 *e*P **P 02 18 33.3 0.0**
comp=Z,3.5nm,0.7s,mb4.6
VIVF Saint-Julien-l 84.08 357⇑*i*P **P 02 18 33.6 +0.2**
comp=Z,8.2nm,0.9s,mb4.5
VIVF Saint-Julien-l 84.08 357⇑*i*P **P 02 18 33.6 +0.2**
VIVF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
VIVF Saint-Julien-l 84.08 357⇑*i*P **P 02 18 33.6 +0.2**
comp=Z,4.1nm,0.9s,mb4.6
FITZ Fitzroy Crossi 84.31 232 P **P 02 18 33.8 -0.8**
comp=Z,6.4nm,0.9s,mb4.8,baz=123,slow=9.1,SNR=14
MALT Malatya 84.82 331⇓*i*P **P 02 18 38.1 +1.0**
MALT Malatya 84.82 331 ⇓P **P 02 18 38.1 +0.9**
BR131 Keskin Array S 84.86 335 *e*P **P 02 18 37.3 0.0**
comp=Z,3.0nm,0.7s,mb4.5
BRTR Keskin Array B 84.86 335 P **P 02 18 37.5 +0.2**
comp=Z,4.0nm,0.7s,mb4.7,baz=46,slow=2.7,SNR=32
BRTR Keskin Array B 84.86 335 P **P 02 18 37.5 +0.2**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
LASF Ste Croix 84.89 358 *e*P **P 02 18 37.6 +0.1**
comp=Z,3.8nm,0.8s,mb4.3
SMRF Simiane la Rot 84.93 357 *e*P **P 02 18 38.3 +0.6**
comp=Z,16nm,0.9s,mb4.8
SMRF Simiane la Rot 84.93 357 *e*P **P 02 18 38.3 +0.6**
comp=Z,16nm,0.9s,mb5.2
SBF Sospel 84.96 355 *e*P **P 02 18 37.5 -0.3**
comp=Z,27nm,0.9s,mb5.1
FRF La Foret Royal 85.30 356 *e*P **P 02 18 39.1 -0.5**
comp=Z,17nm,0.9s,mb4.9
ASAR Alice Springs 85.36 222 P **P 02 18 38.4 -1.5**
comp=Z,1.4nm,0.7s,mb4.2,baz=23,slow=5.1,SNR=10.0
ASAR Alice Springs 85.36 222 P **P 02 18 38.4 -1.4**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
LMR La Mourre 85.53 356 *e*P **P 02 18 40.6 -0.1**
comp=Z,16nm,0.8s,mb5.0
MTLF Montolieu 85.65 359⇑*i*P **P 02 18 41.3 0.0**
comp=Z,4.2nm,0.5s,mb4.6
MTLF Montolieu 85.65 359⇑*i*P **P 02 18 41.3 0.0**
MTLF pmax pmax
comp=Z,2.0nm,0.5s,mb4.6
MTLF Montolieu 85.65 359⇑*i*P **P 02 18 41.3 0.0**
comp=Z,2.1nm,0.5s,mb4.6
EPF Esparros 85.96 0 *e*P **P 02 18 42.2 -0.6**
comp=Z,2.5nm,0.5s,mb4.4
ETSF Etsaut 86.09 1⇑*i*P **P 02 18 43.9 +0.5**
comp=Z,8.0nm,0.6s,mb4.8
PGF Pioggiola 86.18 354 *e*P **P 02 18 43.7 -0.2**
comp=Z,24nm,0.6s,mb5.3
ESDC Sonseca Array 89.22 4 P **P 02 18 57.6 -0.8**
comp=Z,0.9nm,0.5s,mb4.4,baz=346,slow=4.3,SNR=9.6
STKA Stephens Creek 89.82 213 P **P 02 19 00.7 -0.6**
comp=Z,2.4nm,0.9s,mb4.5,baz=343,slow=5.7,SNR=5.8
TORD Torodi Ar. Bea 115.74 359 PKP PKPdf 02 24 44.0 -0.8
comp=Z,0.1nm,0.3s,baz=353,slow=1.9,SNR=8.0
MAW Mawson 146.37 218 PKPbc PKPbc 02 25 40.5 -2.7
comp=Z,2.5nm,0.9s,baz=54,slow=1.4,SNR=4.4
MAW Mawson 146.37 218 PKP2 PKPbc 02 25 40.5 -2.8
MAW pmax pmax
comp=Z,3.0nm,0.9s
LBTB Lobatse 147.58 315 PKPbc PKPbc 02 25 47.0 +0.3
comp=Z,5.1nm,0.6s,baz=18,slow=1.7,SNR=10
LBTB Lobatse 147.58 315 PKP2 PKPbc 02 25 47.0 +0.3
LBTB pmax pmax
comp=Z,5.0nm,0.6s

MOS 10 02:07:44.4±1.9**,4345N**×**4379E,h11**km**,mb3.7**/1**,4C-4D,**
Error ellipse: s-maj=12.4km s-min=6.5km az=126.3,
Western Caucasus

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

KMSR Komsomolskaya 0.37 101⇓*i*PG Pg 02 07 52.4 +0.6
KMSR *i* S Sg 02 07 59.4 +2.7
KORR Kora 0.41 151⇓*i*PG Pg 02 07 53.8 +1.3
KORR *e*S Sg 02 08 01.6 +3.6
ARNR Ardon 0.44 126⇑*i*PG Pg 02 07 54.2 +1.2
ARNR *i* S Sg 02 08 02.2 +3.4
KUBR Kubataba 0.45 322 *e*PG Pg 02 07 53.6 +0.4
KUBR *e*S Sg 02 08 01.3 +2.1
PRTR Priterechnaya 0.47 49⇑*i*PG Pg 02 07 52.7 -0.9
PRTR *i* S Sg 02 07 59.6 -0.2
BTKR Batakoyurt 0.55 97⇑*i*PG Pg 02 07 55.6 +0.5
BTKR *e*S Sg 02 08 04.7 +2.3
DIGR Digorskoe uzhe 0.57 196⇓*i*PG Pg 02 07 56.1 +0.7
DIGR *i* S Sg 02 08 05.6 +2.7
ZEI Tsey 0.68 173 *e*PG Pg 02 07 59.5 +1.9
ZEI *i* 02 08 09.8
VLKR Vladikavkaz 0.76 121⇓*e*PG Pg 02 07 59.6 +0.5
VLKR *e*S Sg 02 08 11.7 +2.7
PYA Pyatigorsk 0.79 318 *e*PG Pg 02 07 58.8 -0.9
PYA *e*S Sg 02 08 08.8 -1.3
SNJR Sundja 0.83 116⇑*e*PG Pg 02 08 00.8 +0.3
SNJR *e*S Sg 02 08 13.6 +2.2
SHAR Shatzhatmas 0.87 290 *e*PG Pg 02 08 01.3 +0.1
SHAR *e*S Sg 02 08 14.0 +1.5
ONI Oni 0.90 196 P Pg 02 08 04.0 +2.2
ONI S Sg 02 08 18.9 +5.4
BEYR Belyy Ugol+ 0.91 309 *e*PG Pg 02 08 00.9 -1.0
BEYR *e*S Sg 02 08 13.0 -0.7
KIV0 Kislovodsk Arr 0.95 303 *e*PG Pg 02 08 02.3 -0.3
KIV0 *e*S Sg 02 08 16.2 +1.3
KIV Kislovodsk 0.95 303 *e*PG Pg 02 08 02.4 -0.3
KIV *e*S Sg 02 08 15.2 +0.1
GOF Gofitskoye 1.70 342 *e*PN Pn 02 08 20.7 +6.7
GOF pmax pmax
comp=Z,34nm,0.6s
DBC Dubki 2.26 100 *e*PN Pn 02 08 25.0 +3.3
DBC *e*S Sn 02 08 53.0 +3.5

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*ISCJB **10** 02:12:34.8±0.4, 3573S±003×7122W±007, h130km±3km, mb4.0/11, Error ellipse: s-maj=10.4km s-min=4.1km az=41.1*
*GUC **10** 02:12:35.8±0.9, 3568S×7134W, h125km±4km, MD3.9, ML4.3*
*IDC **10** 02:12:35.9±2.0, 3584S×7078W, h115km±17km, mb3.9/8, mb1 3.9/12, mb1mx3.8/18, mbtmp4.2/12, Error ellipse: s-maj=34.9km s-min=13.3km az=105.0*
*NEIC **10** 02:12:35.8, 3568S×7134W, h125km, mb4.3/8, After GUC.*
ISC 10 02:12:35.7±0.4**,3575S**±003×**7119W**±007**,h124**km±3km**,**
n59,σ**0**s**77**/91**,mb4.1**/11**,16C-8D,Central Chile**

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

LNCH Linares 0.35 253⇑*i*P **Pn 02 12 52.9 -0.3**
LNCH *i* S **Sn 02 13 06.1 -0.4**
LNCH AML AML 02 13 07.7
comp=N,26μm,0.8s
LNCH Linares 0.35 253⇑*i*P **Pn 02 12 52.9 -0.3**
LNCH *i* S **Sn 02 13 06.1 -0.4**
TALC Talca 0.50 314⇓*i*P **Pn 02 12 53.8 -0.3**
TALC *i* S **Sn 02 13 07.4 -0.5**
TALC AML AML 02 13 11.4
comp=E,13μm,0.4s
TALC Talca 0.50 314⇓*i*P **Pn 02 12 53.8 -0.3**
TALC *i* S **Sn 02 13 07.4 -0.5**
CNCO Chanco 1.09 270⇑*i*P **Pn 02 12 59.2 +0.3**
CNCO *i* S **Sn 02 13 16.6 +0.1**
CNCO AML AML 02 13 17.9
comp=E,6μm,0.3s
CNCO Chanco 1.09 270⇑*i*P **Pn 02 12 59.2 +0.3**
CNCO *i* S **Sn 02 13 16.6 +0.1**
CCHI Chillan 1.11 220⇑*i*P **Pn 02 12 59.7 +0.5**
CCHI *i* S **Sn 02 13 17.1 +0.2**
CCHI AML AML 02 13 17.3
comp=E,8μm,0.5s
CCHI AML AML 02 13 18.5
comp=N,5μm,0.4s
CCHI Chillan 1.11 220⇑*i*P **Pn 02 12 59.7 +0.5**
CCHI *i* S **Sn 02 13 17.1 +0.2**
SFDO San Fernando 1.14 7⇑*i*P **Pn 02 12 59.7 +0.3**
SFDO *e*S **Sn 02 13 17.8 +0.4**
CICH Cipreses 1.56 24⇑*i*P **Pn 02 13 04.7 +0.7**
CICH *i* S **Sn 02 13 26.5 +0.9**
CACH El Canelo 1.70 17⇓*i*P **Pn 02 13 06.4 +0.8**
CACH *i* S **Sn 02 13 30.1 +1.6**
LNV Longovilo 1.80 354⇓*i*P **Pn 02 13 07.3 +0.5**
LNV *i* S **Sn 02 13 31.0 +0.4**
CHCH Chadas Angostu 1.86 14⇑*i*P **Pn 02 13 08.0 +0.4**
CHCH *i* S **Sn 02 13 32.1 +0.1**
TACH Talagante 2.10 6⇑*i*P **Pn 02 13 10.7 +0.2**
PCH Pirque 2.19 15⇑*i*P **Pn 02 13 12.2 +0.5**
PCH *i* S **Sn 02 13 40.1 +0.8**
SJCH San Jose de Ma 2.21 18 *e*P **Pn 02 13 12.0 0.0**
SJCH *i* S **Sn 02 13 41.0 +1.3**
SJCH AML AML 02 13 42.3
comp=E,1μm,0.7s
SJCH San Jose de Ma 2.21 18 *e*P **Pn 02 13 12.0 0.0**
SJCH S **Sn 02 13 41.0 +1.3**
ANTU Antumapu 2.22 12⇑*i*P **Pn 02 13 12.7 +0.6**
ANTU *e*S **Sn 02 13 40.0 0.0**
ANTU AML AML 02 13 44.0
comp=N,1μm,0.5s
ANTU Antumapu 2.22 12⇑*i*P **Pn 02 13 12.7 +0.6**
ANTU *e*S **Sn 02 13 40.0 0.0**
LCCH Las Cruces 2.29 352⇑*i*P **Pn 02 13 12.6 -0.3**
LCCH *i* S **Sn 02 13 39.9 -1.5**
SAN Santiago 2.33 11 *e*P **Pn 02 13 13.5 +0.1**
SAN *i* S **Sn 02 13 42.8 +0.4**
SAN AML AML 02 13 45.8
comp=E,2μm,0.3s
SAN Santiago 2.33 11 *e*P **Pn 02 13 13.5 +0.1**
SAN *i* S **Sn 02 13 42.8 +0.4**
STL Santa Lucia 2.35 11 *e*P **Pn 02 13 12.9 -0.8**
STL *i* S **Sn 02 13 42.6 -0.3**
STL AML AML 02 13 44.9
comp=E,374nm,0.3s
DSCH Colegio Aleman 2.40 13 *e*P **Pn 02 13 14.0 -0.3**
DSCH *i* S **Sn 02 13 43.8 -0.1**
DSCH AML AML 02 13 47.7
comp=N,304nm,0.6s
DSCH Colegio Aleman 2.40 13 *e*P **Pn 02 13 14.0 -0.3**
DSCH *i* S **Sn 02 13 43.8 -0.1**
CLCH Cerro Calan 2.41 13⇓*i*P **Pn 02 13 14.8 +0.4**
CLCH *i* S **Sn 02 13 45.2 +1.1**
CLCH AML AML 02 13 49.5
comp=E,2μm,0.6s
CLCH AML AML 02 13 50.0
comp=E,3μm,0.6s
FCH Farellones 2.53 17⇓*i*P **Pn 02 13 15.6 -0.4**
FCH *i* S **Sn 02 13 47.0 +0.1**
FCH AML AML 02 13 48.8
comp=N,2μm,0.4s
PEL Peldehue 2.63 9⇑*i*P **Pn 02 13 17.6 +0.3**
PEL AML AML 02 13 51.7
comp=N,3μm,0.3s
ROCH El Roble 2.77 3⇓*i*P **Pn 02 13 19.6 +0.5**
ROCH *i* S **Sn 02 13 52.3 -0.2**
JACH Jahuel 3.10 9⇑*i*P **Pn 02 13 23.1 -0.2**
JACH *i* S **Sn 02 14 00.2 +0.1**
PACH Papudo 3.21 356⇓*i*P **Pn 02 13 24.8 0.0**
PACH *i* S **Sn 02 14 01.3 -1.4**
MDZ Mendoza 3.45 35 *e*P **Pn 02 13 35.4 +7.4**
MDZ S **Sn 02 14 12.5 +4.0**
CHNG Los Chungos 3.86 356 *e*P **Pn 02 13 33.1 -0.3**
CHNG *e*S **Sn 02 14 16.3 -1.9**
CMCH Combarbala 4.56 2 *e*P **Pn 02 13 41.9 -0.9**
CMCH *i* S **Sn 02 14 33.1 -1.8**
CFAA Coronel Fontan 4.81 32 P **Pn 02 13 45.6 -0.5**
comp=N,0.9nm,0.3s,baz=206,slow=14,SNR=91
CFAA S **Sn 02 14 39.5 -1.3**
comp=N,6.2nm,0.3s,baz=11,slow=12,SNR=43
PLCA Paso Flores 5.00 174 P **Pn 02 13 46.5 -2.2**
comp=N,4.0nm,0.3s,baz=341,slow=12,SNR=104
PLCA Paso Flores 5.00 174 *e*Pn **Pn 02 13 47.4 -1.3**
comp=N,18nm,0.6s
TRQA Tornquist 7.73 110 *e*Pn **Pn 02 14 23.8 -1.7**
comp=N,11nm,0.5s
LVC Limon Verde 13.24 9 P **Pn 02 15 38.9 +0.1**
comp=N,0.7nm,0.3s,baz=202,slow=8.2,SNR=7.1
LVC Limon Verde 13.24 9 *e*Pn **Pn 02 15 38.9 +0.1**
comp=N,5.5nm,0.5s
CPUP Villa Florida 15.13 55 P **Pn 02 16 02.5 -0.3**
comp=N,0.5nm,0.3s,baz=213,slow=9.3,SNR=6.9
CPUP Villa Florida 15.13 55 *e*Pn **Pn 02 16 02.6 -0.2**
comp=N,7.7nm,0.6s
LPAZ La Paz 19.57 9 P **P 02 16 57.4 +3.6**
comp=N,0.3nm,0.3s,baz=165,slow=10.0,SNR=16
LPAZ La Paz 19.57 9 *e*P **P 02 16 57.3 +3.4**
comp=N,4.9nm,0.9s
SIV San Ignacio 21.65 27 P **P 02 17 16.1 0.0**
comp=N,6.9nm,0.6s,mb4.2,baz=200,slow=10.0,SNR=53

SAML	**Samuel**	**27.66**	**17**	*e*P	**P**	**02 18 11.8**	**0.0**
	comp=N,1.5nm,0.7s,mb3.6						
BDFB	**Brasilia**	**28.80**	**52**	P	**P**	**02 18 20.5**	**-1.4**
	comp=N,2.7nm,0.4s,mb4.2,baz=219,slow=8.3,SNR=13						
QSPA	**South Pole Qui**	**54.49**	**180**	*e*P	**P**	**02 21 50.8**	**+0.4**
TEIG	**Tepich**	**57.97**	**341**	P	**P**	**02 22 16.2**	**+1.1**
	comp=N,1.7nm,0.5s,mb4.3						
VNDA	**Vanda**	**62.53**	**191**	P	**P**	**02 22 47.5**	**+1.3**
	comp=N,0.4nm,0.6s,mb3.5,baz=114,slow=2.5,SNR=3.9						
VNDA	**Vanda**	**62.53**	**191**	P	**P**	**02 22 47.5**	**+1.3**
MAW	**Mawson**	**71.31**	**163**	P	**P**	**02 23 41.4**	**-0.4**
	comp=N,0.6nm,0.3s,mb3.9,baz=198,slow=6.4,SNR=5.6						
DBIC	**Dimbokro**	**75.10**	**70**	P	**P**	**02 24 04.4**	**+0.4**
	comp=N,5.6nm,0.7s,mb4.4,baz=209,slow=7.0,SNR=12						
LBTB	**Lobatse**	**80.95**	**114**	P	**P**	**02 24 36.2**	**-0.1**
	comp=N,1.4nm,0.5s,mb4.0,baz=280,slow=4.9,SNR=9.3						
LBTB	**Lobatse**	**80.95**	**114**	P	**P**	**02 24 36.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**84.16**	**69**	P	**P**	**02 24 53.1**	**+0.2**
	comp=N,2.2nm,0.7s,mb4.1,baz=245,slow=5.1,SNR=19						
CMB	**Columbia Colle**	**86.39**	**323**	*e*P	**P**	**02 24 59.2**	**-4.9**
	comp=N,1.8nm,0.4s,mb4.3						
ULM	**Lac du Bonnet**	**88.36**	**344**	P	**P**	**02 25 14.1**	**+0.6**
	comp=N,1.5nm,0.5s,mb4.2,baz=194,slow=7.5,SNR=4.5						
ZRNK	**Zerenda**	**147.27**	**46**	*e*PKPdf	PKPdf	02 32 02.5	+0.5

*IDC **10** 02:28:31.3±3.2, 474S×15003E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/14, mbtmp4.1/4, ML3.3/1, Error ellipse: s-maj=103.6km s-min=35.5km az=113.0*

NEIC 10 02:28:35.2±2.6**, 493S**×**15033E, h35km, mb4.2**/3**, Error ellipse: s-maj=86.8km s-min=24.3km az=114.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.45**	**215**	Pn	Pn	02 29 54.8	+0.9
	6.4nm,0.3s,baz=38,slow=9.8,SNR=17						
PMG				Sn	Sn	02 30 59.8	+4.5
	2.1nm,0.3s,baz=75,slow=20,SNR=2.7						
WRAB	**Tennant Creek**	**21.55**	**225**	*e*P	P	02 33 21.4	-0.1
	3.9nm,0.6s						
WB2	**Warramunga Arr**	**21.56**	**225**	*e*P	P	02 33 21.3	-0.2
WRA	**Warramunga Arr**	**21.57**	**225**	P	P	02 33 21.7	+0.1
	2.4nm,0.6s,baz=49,slow=10,SNR=23						
ASAR	**Alice Springs**	**24.45**	**219**	P	P	02 33 50.6	0.0
	2.0nm,0.6s,baz=54,slow=8.1,SNR=27						
FITZ	**Fitzroy Crossi**	**27.46**	**240**	*e*P	P	02 34 19.4	+1.6
	6.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**27.46**	**240**	P	P	02 34 17.9	+0.1
	2.2nm,0.7s,baz=59,slow=15,SNR=8.9						
MBWA	**Marble Bar**	**33.79**	**239**	P	P	02 35 13.3	-0.4
	3.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.00**	**287**	PKPbc	PKPbc	02 48 18.6	+1.8
	1.0nm,0.7s,baz=66,slow=2.8,SNR=9.6						

IDC 10 02:43:03.7±6.6**, 4938S**×**10683E, h0km, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.8**/11**, mbtmp3.8**/3**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.9**/21**, Error ellipse: s-maj=221.6km s-min=28.9km az=106.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**33.32**	**49**	P	P	02 49 43.4	+0.3
	0.7nm,0.6s,baz=210,slow=8.3,SNR=9.1						
VNDA	**Vanda**	**34.89**	**162**	P	P	02 49 56.1	-0.7
	1.5nm,0.8s,baz=276,slow=9.3,SNR=11						
WRA	**Warramunga Arr**	**36.69**	**47**	P	P	02 50 11.8	-0.4
	0.7nm,0.7s,baz=212,slow=8.3,SNR=5.4						
CTA	**Charters Tower**	**42.87**	**61**	LR	LR	03 08 43.1	
	comp=Z,74nm,19.3s,baz=233,slow=36						
NVAR	**Mina Array Bea**	**146.16**	**92**	PKPbc	PKPbc	03 02 44.9	-1.0
	0.5nm,0.6s,baz=197,slow=2.5,SNR=2.2						

GUC 10 02:44:21.8±0.8**, 3264S**×**7162W, h35km**±3km**, MD3.5, ML2.3, 1C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.19**	**56**	⇓*i*P	Pb	02 44 28.7	+0.2
PACH				*i* S	Sb	02 44 33.4	+0.3
ROCH	**El Roble**	**0.61**	**123**	⇓*i*P	Pn	02 44 34.3	+0.3
ROCH				*i* S	Sn	02 44 43.2	+0.6
LCCH	**Las Cruces**	**0.83**	**177**	*e*P	Pn	02 44 37.0	0.0
JACH	**Jahuel**	**0.87**	**93**	⇓*i*P	Pn	02 44 38.1	+0.5
JACH				*i* S	Sn	02 44 50.2	+1.2
PEL	**Peldehue**	**0.93**	**122**	⇑*i*P	Pn	02 44 39.3	+0.8
PEL				*i* S	Sn	02 44 52.4	+1.8
PEL				AML	AML	02 44 54.1	
	comp=E,176nm,0.3s						
TACH	**Talagante**	**1.16**	**150**	*e*P	Pn	02 44 42.1	+0.6
TACH				*e*S	Sn	02 44 57.2	+1.1
CLCH	**Cerro Calan**	**1.18**	**130**	⇓*i*P	Pn	02 44 42.9	+1.1
CLCH				*i* S	Sn	02 44 58.8	+2.1
CLCH				AML	AML	02 44 59.5	
	comp=N,108nm,0.5s						
FCH	**Farellones**	**1.31**	**122**	⇓*i*P	Pn	02 44 45.0	+1.4
FCH				*i* S	Sn	02 45 02.9	+3.0
FCH				AML	AML	02 45 04.1	
	comp=E,67nm,0.2s						
PCH	**Pirque**	**1.35**	**137**	*e*P	Pn	02 44 45.0	+0.9
PCH				*e*S	Sn	02 45 03.0	+2.2
CHCH	**Chadas Angostu**	**1.52**	**148**	*e*P	Pn	02 44 48.1	+1.6
CHCH				*i* S	Sn	02 45 08.2	+3.1
CMCH	**Combarbala**	**1.56**	**20**	⇓*i*P	Pn	02 44 48.7	+1.7
CMCH				*i* S	Sn	02 45 08.8	+2.8
CMCH				AML	AML	02 45 11.3	
	comp=E,139nm,0.6s						

*NIED **10** 02:49:00, 3410N×14070E, h47km, Mw3.9 Best double couple: $M_0$7.19000×10^{14} NP1:ϕ_s330.00000°, δ80.00000°, λ157.00000°. NP2:ϕ_s64.00000°, δ67.00000°, λ11.00000°.*

*JMA **10** 02:49:13.9±0.1, 3406N×14073E, h45km±3km, M3.9*

*NEIC **10** 02:49:14.0, 3406N×14073E, h45km, MG3.9(JMA), After JMA.*

*ISCJB **10** 02:49:14.3±0.7, 3405N±004×14067E±005, h40km±8km, mb3.7/5, Error ellipse: s-maj=7.5km s-min=5.7km az=32.5*

*IDC **10** 02:49:17.0±3.7, 3393N×14045E, h41km±27km, mb3.5/5, mb1 3.7/6, mb1mx3.5/20, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=45.2km s-min=7.9km az=84.0*

ISC 10 02:49:14.3±0.8**, 3405N**±003×**14065E**±005**, h25km**±6km**, n23, σ0^{s}91**/38**, mb3.7**/5**, 5C-3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.66**	**24**	⇓P	**Pb**	**02 49 26.3**	**-0.9**
BSO1				S	**Sb**	**02 49 35.1**	**-0.9**
BSO2	**Boso 2**	**0.71**	**7**	S	**Sb**	**02 49 38.7**	**+1.4**
BSO3	**Boso 3**	**0.76**	**351**	⇓P	**Pb**	**02 49 28.8**	**-0.1**
BSO3				*e*S	**Sb**	**02 49 38.6**	**-0.3**
JMY	**Miyakejima3**	**0.94**	**272**	P	**Pn**	**02 49 32.1**	**+0.2**
JMY				S	**Sb**	**02 49 44.3**	**+0.2**
BSO4	**Boso 4**	**0.98**	**345**	⇓P	**Pn**	**02 49 32.1**	**-0.3**
BSO4				*e*S	**Sb**	**02 49 44.2**	**-0.8**
KTR	**Katsuura**	**1.13**	**346**	P	**Pn**	**02 49 33.8**	**-0.7**
KTR				S	**Sn**	**02 49 48.3**	**-1.0**
JHJ2	**Mitsune**	**1.16**	**217**	P	**Pn**	**02 49 34.6**	**-0.3**
TATJ	**Tateyama 2**	**1.17**	**328**	⇑P	**Pn**	**02 49 35.6**	**+0.6**
TATJ				*e*S	**Sn**	**02 49 50.4**	**+0.3**
JHJ	**Hachijo jima 2**	**1.17**	**218**	P	**Pn**	**02 49 34.8**	**-0.3**
	234nm,0.3s,baz=257,slow=21,SNR=81						
JHJ				S	**Sn**	**02 49 47.0**	**-3.3**
	325nm,0.3s,baz=240,slow=20,SNR=14						
JIM2	**Oshima 3**	**1.21**	**304**	⇑P	**Pn**	**02 49 35.5**	**-0.1**
JIM2				*e*S	**Sn**	**02 49 50.2**	**-1.0**
JKO	**Kozu shima**	**1.26**	**277**	P	**Pn**	**02 49 36.7**	**+0.4**
KTJJ	**Kamata 2**	**1.58**	**304**	⇑P	**Pn**	**02 49 40.4**	**-0.2**
KTJJ				*e*S	**Sn**	**02 49 58.7**	**-1.5**
JIZS	**Izushimoda**	**1.61**	**295**	⇑P	**Pn**	**02 49 41.6**	**+0.5**
JIZS				S	**Sn**	**02 50 01.0**	**-0.1**
JOD2	**Odawara 2**	**1.77**	**314**	⇑P	**Pn**	**02 49 43.2**	**-0.1**
JOD2				*e*S	**Sn**	**02 50 03.9**	**-1.1**
MJAR	**Matsushiro Arr**	**3.19**	**322**	P	**Pn**	**02 50 04.8**	**+2.0**
	7.8nm,0.3s,baz=153,slow=13,SNR=34						
MJAR				S	**Sn**	**02 50 40.6**	**+0.5**
	25nm,0.3s,baz=131,slow=13,SNR=40						
MAJO	**Matsushiro**	**3.19**	**322**	*e*Pn	**Pn**	**02 50 04.6**	**+1.8**
MAJO				*e*Sn	**Sn**	**02 50 40.0**	**-0.1**
MAT	**Matsushiro**	**3.19**	**322**	P	**Pn**	**02 50 04.9**	**+2.1**
MAT				S	**Sn**	**02 50 40.2**	**+0.1**
MAT	**Matsushiro**	**3.19**	**322**	*e*P	**Pn**	**02 50 05.0**	**+2.2**
MAT				*e*S	**Sn**	**02 50 40.0**	**-0.1**
SONM	**Songino Array**	**29.05**	**309**	P	**P**	**02 55 14.3**	**+1.9**
	0.9nm,0.8s,mb3.6,baz=109,slow=7.9,SNR=7.2						
MKAR	**Makanchi Array**	**45.24**	**305**	P	**P**	**02 57 30.2**	**+0.8**
	1.0nm,0.6s,mb3.8,baz=86,slow=10.0,SNR=7.8						
WRA	**Warramunga Arr**	**54.02**	**187**	P	**P**	**02 58 35.5**	**-0.9**
	0.9nm,0.3s,mb4.1,baz=5.5,slow=7.6,SNR=58						
ASAR	**Alice Springs**	**57.75**	**187**	P	**P**	**02 59 03.0**	**0.0**
	0.3nm,0.5s,mb3.6,baz=9.2,slow=7.5,SNR=4.5						
AKASG	**Malin Array Be**	**76.28**	**322**	P	**P**	**03 01 00.3**	**-0.5**
	0.1nm,0.3s,mb3.3,baz=53,slow=6.0,SNR=4.6						

*ISCJB **10** 02:54:42.1±0.2, 3386N±002×117.12W±002, h12km, Error ellipse: s-maj=3.0km s-min=1.9km az=63.1*

*NEIC **10** 02:54:43.0, 3386N×117.11W, h12km, ML3.8(PAS), After PAS.*

NEIC Felt [IV] at Hemet, Nuevo, Perris and San Jacinto; [III] at Aliso Viejo, Banning, Beaumont, Big Bear City, Bloomington, Calimesa, Cathedral City, Colton, Corona, Forest Falls, Grand Terrace, Homeland, Idyllwild, Laguna Niguel, Lake Elsinore, Loma Linda, Menifee, Mission Viejo, Moreno Valley, Murrieta, Palm Springs, Perris, Riverside, San Jacinto, Sun City, Wildomar, Winchester and Yucaipa; [II] at Angelus Oaks, Crestline, Huntington Beach, Indio, La Quinta, Ladera Ranch, Laguna Hills, March Air Reserve Base, Murrieta, Norco, Rancho Santa Margarita, Redlands, San Bernardino, Temecula, Trabuco Canyon and Yorba Linda. Felt at Azusa, Big Bear Lake, Brea, Cabazon, Chino, Chino Hills, Costa Mesa, Escondido, Fontana, Foothill Ranch, Fountain Valley, Fullerton, Hermosa Beach, Hesperia, Highland, Indian Wells, Indio, Irvine, Lake Forest, Long Beach, Los Angeles, Mentone, Mira Loma, Monrovia, Newport Beach, North Hollywood, Oceanside, Placentia, Rancho Cucamonga, Rancho Mirage, Rialto, Riverside, Rosemead, San Bernardino, San Diego, San Juan Capistrano, Seal Beach, Stanton, Temecula, Thousand Palms, Tustin, Twentynine Palms, Westminster, White Water and Woodland Hills.

ISC 10 02:54:43.6±0.6**, 3380N**±002×**11713W**±002**, h17km**±4km**, n75, σ0^{s}87**/105**, 34C-31D, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**0.59**	**108**	*e*Pg	**Pg**	**02 54 54.3**	**-1.1**
PFO				*e*Sg	**Sg**	**02 55 02.4**	**-1.0**
PFO	**Pinyon Flat Ob**	**0.59**	**108**	⇑P	**Pg**	**02 54 54.7**	**-0.7**
	baz=0.6,SNR=1000						
PFO				⇑S	**Sg**	**02 55 02.3**	**-1.0**
	baz=0.6						
MWC	**Mount Wilson**	**0.88**	**299**	*e*Pg	**Pg**	**02 54 59.3**	**-1.4**
MWC				*e*Sg	**Sg**	**02 55 11.5**	**-0.8**
109C	**Camp Elliot, M**	**0.91**	**179**	P	**Pb**	**02 55 01.0**	**+0.1**
	baz=1.0,SNR=256						
109C				⇑S	**Sb**	**02 55 13.5**	**+0.8**
	baz=1.0						
FMP	**Fort Macarthur**	**0.97**	**265**	⇑P	**Pb**	**02 55 01.9**	**-0.1**
	baz=1.0,SNR=65						
FMP				⇑S	**Sb**	**02 55 15.2**	**+0.8**
	baz=1.0						
BAR	**Barrett**	**1.18**	**161**	*e*Pn	**Pn**	**02 55 05.3**	**-0.1**
BAR				*e*Sn	**Sn**	**02 55 20.8**	**-0.2**
GSC	**Goldstone**	**1.52**	**10**	⇑*i*Pn	**Pn**	**02 55 09.6**	**-0.5**
GSC				*e*Sn	**Sn**	**02 55 29.6**	**+0.1**
GSC	**Goldstone**	**1.52**	**10**	P	**Pn**	**02 55 09.7**	**-0.3**
	baz=1.5,SNR=411						
GSC				⇓S	**Sn**	**02 55 27.6**	**-1.9**
	baz=1.5						
OSI	**Osito Adit**	**1.55**	**302**	⇑P	**Pn**	**02 55 10.5**	**+0.1**
	baz=1.5						
OSI				⇑S	**Sn**	**02 55 29.7**	**-0.5**
	baz=1.5						
TUQ	**Turquoise Mtn.**	**1.91**	**31**	P	**Pn**	**02 55 14.7**	**-0.7**
	baz=1.9,SNR=130						
GLA	**Glamis**	**2.07**	**110**	*e*Pn	**Pn**	**02 55 17.0**	**-0.5**
GLA	**Glamis**	**2.07**	**110**	⇓P	**Pn**	**02 55 17.0**	**-0.5**
	baz=2.1,SNR=15						
GLA				⇓S	**Sn**	**02 55 42.6**	**-0.3**
	baz=2.1						
SNCC	**San Nicolas Is**	**2.07**	**255**	*e*Pn	**Pn**	**02 55 17.7**	**+0.1**
SNCC	**San Nicolas Is**	**2.07**	**255**	⇓P	**Pn**	**02 55 17.3**	**-0.3**
	baz=2.1,SNR=21						
SNCC				⇓S	**Sn**	**02 55 44.0**	**+0.9**
	baz=2.1						
ISA	**Isabella**	**2.16**	**330**	*e*Pn	**Pn**	**02 55 18.4**	**-0.4**
ISA	**Isabella**	**2.16**	**330**	⇑P	**Pn**	**02 55 18.8**	**-0.1**
	baz=2.1,SNR=24						
ISA				⇓S	**Sn**	**02 55 45.0**	**-0.2**
	baz=2.1						
Y12C	**Blythe**	**2.18**	**91**	P	**Pn**	**02 55 18.0**	**-1.0**
	baz=2.2,SNR=40						
SBC	**Santa Barbara**	**2.24**	**287**	⇓P	**Pn**	**02 55 19.9**	**+0.1**
	baz=2.2						
W12A	**Cal Nev Ari**	**2.39**	**51**	⇑P	**Pn**	**02 55 21.6**	**-0.4**
	baz=2.3,SNR=13						
V11A	**Goodsprings**	**2.47**	**34**	P	**Pn**	**02 55 22.9**	**-0.1**
	baz=2.4,SNR=128						
V12A	**Nelson**	**2.69**	**44**	P	**Pn**	**02 55 25.9**	**-0.3**
	baz=2.6,SNR=233						
U10A	**Ash Meadows, A**	**2.70**	**14**	P	**Pn**	**02 55 26.2**	**0.0**
	baz=2.6,SNR=127						
V05C	**Boulder Hill,**	**3.08**	**313**	⇑P	**Pn**	**02 55 31.8**	**+0.4**
	baz=3.0						
V05C				⇑S	**Sn**	**02 56 07.1**	**-0.7**
	baz=3.0						
PTRM	**Twissleman Ran**	**3.14**	**307**	*e*Pn	**Pn**	**02 55 32.6**	**+0.3**
SHPR	**Sheep Range**	**3.15**	**30**	*e*Pn	**Pn**	**02 55 32.6**	**+0.2**
TPNV	**Topopah Spring**	**3.23**	**13**	*e*Pn	**Pn**	**02 55 34.0**	**+0.5**
U12A	**Valley of Fire**	**3.38**	**38**	P	**Pn**	**02 55 35.6**	**0.0**
	baz=3.3,SNR=134						
Y14A	**Wickenburg**	**3.44**	**87**	⇓P	**Pn**	**02 55 36.1**	**-0.3**
	baz=3.4						
Z14A	**Wintersburg**	**3.52**	**96**	⇓P	**Pn**	**02 55 37.1**	**-0.4**
	baz=3.5						
U05C	**Westside ANR,**	**3.53**	**317**	⇑S	**Sn**	**02 56 19.5**	**+0.5**
	baz=3.5						
PKD	**Parkfield**	**3.53**	**308**	⇓P	**Pn**	**02 55 37.4**	**-0.2**
	baz=3.5,SNR=54						
PKD				⇑S	**Sn**	**02 56 18.7**	**-0.2**
	baz=3.5						
X14A	**Yava**	**3.58**	**78**	⇑P	**Pn**	**02 55 38.1**	**-0.3**
	baz=3.5						
V04C	**Ramage Ranch,**	**3.58**	**302**	⇓P	**Pn**	**02 55 37.8**	**-0.6**
	baz=3.6,SNR=9.3						
W14A	**Seligman**	**3.63**	**66**	⇑P	**Pn**	**02 55 39.0**	**-0.1**
	baz=3.6,SNR=64						
W14A				⇑S	**Sn**	**02 56 20.1**	**-1.4**
	baz=3.6						
MTUM	**Tungsten Hills**	**3.73**	**342**	*e*Pn	**Pn**	**02 55 41.9**	**+1.5**
T06C	**Millerton Lake**	**3.83**	**327**	⇓S	**Sn**	**02 56 26.5**	**0.0**
	baz=3.8						
S09A	**Goldfield**	**3.91**	**359**	⇓P	**Pn**	**02 55 43.7**	**+0.8**
	baz=3.9,SNR=13						
S09A				⇑S	**Sn**	**02 56 27.9**	**-0.6**
	baz=3.9						
U04C	**Hernandez Rese**	**3.93**	**312**	⇑P	**Pn**	**02 55 43.2**	**0.0**
	baz=3.9						
U04C				⇑S	**Sn**	**02 56 29.3**	**+0.3**
	baz=3.9						
KCC	**Kaiser Creek**	**3.94**	**334**	⇓P	**Pn**	**02 55 44.2**	**+0.8**
	baz=3.9						
KCC				⇑S	**Sn**	**02 56 29.6**	**+0.4**
	baz=3.9						
V03C	**Hunter Liggett**	**4.04**	**304**	⇓P	**Pn**	**02 55 44.2**	**-0.4**
	baz=4.0,SNR=74						
V03C				⇑S	**Sn**	**02 56 30.5**	**-1.0**
	baz=4.0						
X15A	**Humboldt**	**4.12**	**79**	⇑P	**Pn**	**02 55 45.6**	**-0.1**
	baz=4.1						
X15A				⇑S	**Sn**	**02 56 31.5**	**-1.9**
	baz=4.1						
LRV	**Little Rabbit**	**4.12**	**311**	*e*Pn	**Pn**	**02 55 45.2**	**-0.6**
T05C	**Eagle Field, D**	**4.24**	**318**	⇓S	**Sn**	**02 56 37.4**	**+1.0**
	baz=4.2						
W15A	**Williams**	**4.25**	**70**	⇓P	**Pn**	**02 55 47.9**	**+0.4**
	baz=4.2						
115A	**Sonoran Desert**	**4.25**	**104**	⇑P	**Pn**	**02 55 47.2**	**-0.4**
	baz=4.2						
115A				⇑S	**Sn**	**02 56 36.5**	**-0.3**
	baz=4.2						
TPH	**Tonopah**	**4.27**	**359**	*e*Pn	**Pn**	**02 55 48.8**	**+1.0**
TPH				*e*Sn	**Sn**	**02 56 43.5**	**+6.3**
S05C	**Merced**	**4.40**	**325**	⇓P	**Pn**	**02 55 49.2**	**-0.4**
	baz=4.4,SNR=9.0						
S05C				⇑S	**Sn**	**02 56 39.8**	**-0.7**
	baz=4.4						
HAST	**UC Hastings Re**	**4.45**	**307**	⇓P	**Pn**	**02 55 49.0**	**-1.3**
	baz=4.4,SNR=22						
HAST				⇑S	**Sn**	**02 56 40.3**	**-1.4**
	baz=4.4						
R10A	**Warm Springs**	**4.53**	**8**	⇑S	**Sn**	**02 56 42.7**	**-1.0**
	baz=4.5						
R07C	**Lee Vining**	**4.56**	**341**	⇓S	**Sn**	**02 56 43.0**	**-1.3**
	baz=4.5						
S06C	**San Francisco**	**4.63**	**332**	⇓S	**Sn**	**02 56 46.3**	**+0.1**
	baz=4.6						
PACP	**Pacheco Peak**	**4.67**	**315**	⇓S	**Sn**	**02 56 47.7**	**+0.7**
	baz=4.6						
MNV	**Mina**	**4.70**	**350**	*e*Pn	**Pn**	**02 55 55.3**	**+1.6**
116A	**Eloy**	**4.72**	**104**	⇓P	**Pn**	**02 55 53.8**	**-0.2**
	baz=4.7						
CCUT	**Cedar City**	**4.84**	**38**	⇓*e*Pn	**Pn**	**02 55 56.8**	**+1.1**
CCUT				*e*Sg	**Sg**	**02 57 11.4**	**-7.5**
CMB	**Columbia Colle**	**4.98**	**329**	⇑P	**Pn**	**02 55 57.9**	**+0.2**
	baz=4.9						
CMB				⇑S	**Sn**	**02 56 55.0**	**+0.2**
	baz=4.9						
ARUT	**Antelope Range**	**4.99**	**36**	*e*Pn	**Pn**	**02 55 58.7**	**+1.1**
ARUT				*e*Sg	**Sg**	**02 57 17.3**	**-6.3**
Q09A	**Carvers**	**5.02**	**360**	⇓S	**Sn**	**02 56 55.5**	**-0.2**
	baz=5.0						
S04C	**Ingram Canyon,**	**5.03**	**318**	⇓P	**Pn**	**02 55 58.0**	**-0.3**
	baz=5.0						
S04C				⇓S	**Sn**	**02 56 56.2**	**+0.2**
	baz=5.0						
WUAZ	**Wupatki**	**5.05**	**69**	*e*Pn	**Pn**	**02 55 59.8**	**+1.3**
WAKR	**Walker**	**5.05**	**339**	*e*Pn	**Pn**	**02 56 04.0**	**+5.4**
BNLO	**Ben Lomond (Sa**	**5.29**	**310**	⇓P	**Pn**	**02 56 00.8**	**-1.0**
	baz=5.3,SNR=8.4						
R04C	**Big Horse Ranc**	**5.42**	**326**	⇓S	**Sn**	**02 57 04.5**	**-1.1**
	baz=5.4						
TUC	**Tucson**	**5.53**	**104**	*e*Pn	**Pn**	**02 56 04.7**	**-0.5**
MSU	**Marysvale**	**6.18**	**39**	*e*Pn	**Pn**	**02 56 16.1**	**+2.0**
N10A	**Dunphy**	**6.93**	**4**	⇑P	**Pn**	**02 56 25.8**	**+1.4**
	baz=6.9						
N08A	**GE Springer Mi**	**7.01**	**354**	⇓S	**Sn**	**02 57 44.0**	**-0.9**
	baz=7.0						
ELK	**Elko**	**7.10**	**12**	⇑*e*Pn	**Pn**	**02 56 28.5**	**+1.8**
	5.5nm,0.6s						
ELK				*e*Pg	**Pn**	**02 56 55.0**	**+28**
ELK				*e*Sg	**Sn**	**02 58 23.9**	**+37**
N12A	**Clover Valley,**	**7.24**	**13**	⇑P	**Pn**	**02 56 30.3**	**+1.7**
	baz=7.2						
DUG	**Dugway**	**7.26**	**27**	*e*Pn	**Pn**	**02 56 31.5**	**+2.7**
SRU	**San Rafael**	**7.51**	**43**	*e*Pn	**Pn**	**02 56 35.2**	**+2.8**
	7.7nm,0.5s						
MVCO	**Mesa Verde**	**7.82**	**62**	*e*Pn	**Pn**	**02 56 38.1**	**+1.5**
M13A	**Montello**	**7.91**	**16**	⇓P	**Pn**	**02 56 39.0**	**+1.3**
	baz=7.9						
HVU	**Hansel Valley**	**8.68**	**22**	*e*Pn	**Pn**	**02 56 52.0**	**+3.6**
HWUT	**Hardware Ranch**	**8.95**	**28**	*e*Pn	**Pn**	**02 56 56.8**	**+4.7**

*CASC **10** 02:54:52.8±2.2, 1423N×9322W, h171km±44km, MD4.4, mb4.3(NEIC)*

*ISCJB **10** 02:54:55.2±2.1, 1397N±005×9330W±005, h23km±16km, mb4.2/19, MS3.5/4, Error ellipse: s-maj=10.3km s-min=6.1km az=76.9*

*IDC **10** 02:54:55.2±1.4, 1438N×9281W, h0km, mb4.1/13, mb1 4.3/14, mb1mx4.1/25, mbtmp4.1/14, ML3.5/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/31, Error ellipse: s-maj=52.2km s-min=16.3km az=48.0*

*MEX **10** 02:54:57.1±0.6, 1391N×9334W, h15km±64km, MD4.4*

*NEIC **10** 02:54:59.9±0.8, 1421N×9300W, h35km, mb4.3/12, Error ellipse: s-maj=21.2km s-min=8.8km az=45.0*

ISC 10 02:54:56.6±2.5**, 1402N**±006×**9322W**±005**, h16km**±17km**, n43, σ1^{s}37**/48**, mb4.2**/19**, MS3.5**/4**, 3D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	**Jato**	**1.56**	**79**	⇓*e*P	**Pn**	**02 55 24.0**	**+0.3**
FUG	**Fuego 3**	**2.34**	**79**	⇓*e*P	**Pn**	**02 55 33.7**	**-0.6**
TER	**Terranova**	**2.48**	**83**	*e*P	**Pn**	**02 55 35.5**	**-0.7**
CCIG	**Comitan**	**2.48**	**25**	*i* P	**Pn**	**02 55 36.4**	**+0.2**
CCIG				*i* S	**Sn**	**02 56 06.9**	**+0.8**
IXG	**Ixpaco**	**2.69**	**86**	⇓*e*P	**Pn**	**02 55 38.2**	**-0.9**
IXG				*e*S	**Sn**	**02 56 14.9**	**+3.6**
SCX	**San Cristobal**	**2.75**	**12**	*i* P	**Pn**	**02 55 40.7**	**+0.7**
SCX				*i* S	**Sn**	**02 56 14.7**	**+1.7**
CMIG	**Matias Romero**	**3.45**	**332**	Pn	**Pn**	**02 55 47.6**	**-1.9**
	5.3nm,0.3s,baz=146,slow=11,SNR=58						
CMIG				Sn	**Sn**	**02 56 27.1**	**-2.9**
	19nm,0.3s,baz=162,slow=16,SNR=6.8						
CMIG				LR	LR	02 57 15.8	
	comp=Z,242nm,20.8s,baz=151,slow=42						
CMIG	**Matias Romero**	**3.45**	**332**	*e*P	**Pn**	**02 55 48.1**	**-1.4**
CMIG				*i* S	**Sn**	**02 56 27.9**	**-2.0**
OXX	**Oaxaca**	**4.54**	**312**	*i* P	**Pn**	**02 56 05.5**	**+0.9**
VHO	**Vista Hermosa**	**4.54**	**312**	*i* P	**Pn**	**02 56 00.4**	**-4.2**
VHO				*i* S	**Sn**	**02 56 56.2**	**-0.9**
TEIG	**Tepich**	**7.77**	**37**	*e*Pn	**Pn**	**02 56 46.9**	**-2.1**
	20nm,0.4s						
TEIG				*e*Sn	**Sn**	**02 58 09.4**	**-7.2**
JTS	**JuntasAbangare**	**8.89**	**114**	*e*Pn	**Pn**	**02 57 05.8**	**+1.5**
	23nm,0.9s						
JCT	**Junction City**	**17.46**	**341**	*e*Pn	**Pn**	**02 58 59.6**	**+0.2**
	11nm,0.9s						
LTX	**Lajitas**	**18.05**	**329**	*e*Pn	**Pn**	**02 59 08.5**	**+1.9**
	22nm,1.4s						
MIAR	**Mount Ida**	**20.43**	**359**	*e*P	**P**	**02 59 32.4**	**-0.7**
	6.1nm,0.7s						
UALR	**University of**	**20.68**	**2**	*e*P	**P**	**02 59 38.3**	**+2.6**
	9.9nm,0.8s						
PLAL	**Pickwick Lake**	**21.38**	**12**	*e*P	**P**	**02 59 44.0**	**+0.7**
	11nm,1.3s,mb4.0						
AMTX	**Amarillo**	**22.13**	**341**	*e*P	**P**	**02 59 50.7**	**-0.6**
	14nm,0.6s,mb4.6						
SDV	**Santo Domingo**	**22.71**	**101**	P	**P**	**02 59 56.3**	**-1.2**
	5.4nm,0.5s,mb4.2,baz=302,slow=4.1,SNR=7.3						
SDV	**Santo Domingo**	**22.71**	**101**	*e*P	**P**	**02 59 56.2**	**-1.3**
	7.1nm,0.8s,mb4.2						
LAZ	**Ladron**	**23.88**	**331**	*e*P	**P**	**03 00 11.6**	**+2.2**
CCM	**Cathedral Cave**	**24.00**	**4**	*e*P	**P**	**03 00 08.3**	**-2.1**
	2.6nm,0.4s,mb4.0						
PDAR	**Pinedale Array**	**31.92**	**337**	P	**P**	**03 01 21.4**	**+0.1**
	0.7nm,0.9s,mb3.5,baz=153,slow=10,SNR=3.4						
SADO	**Sadowa**	**32.90**	**19**	LR	LR	03 16 14.4	
	comp=Z,78nm,18.3s,MS3.5,baz=246,slow=39						
NVAR	**Mina Array Bea**	**32.92**	**322**	P	**P**	**03 01 32.7**	**+2.6**
	2.4nm,1.0s,mb4.1,baz=138,slow=9.0,SNR=6.5						
NVAR	**Mina Array Bea**	**32.92**	**322**	P	**P**	**03 01 32.7**	**+2.6**
REDW	**Red Top Meadow**	**32.93**	**336**	*e*P	**P**	**03 01 31.0**	**+0.9**
	17nm,1.2s,mb4.8						
TPAW	**Teton Pass**	**33.07**	**336**	*e*P	**P**	**03 01 31.1**	**-0.3**
	6.1nm,0.9s,mb4.5						
MCMT	**McKenzie Canyo**	**34.95**	**335**	*e*P	**P**	**03 01 49.7**	**+2.1**
DLMT	**Dillon**	**35.29**	**336**	*e*P	**P**	**03 01 51.8**	**+1.3**
	4.3nm,0.9s,mb4.4						
ULM	**Lac du Bonnet**	**36.19**	**357**	P	**P**	**03 01 55.8**	**-2.6**
	3.2nm,0.7s,mb4.3,baz=170,slow=9.1,SNR=7.7						
ULM				LR	LR	03 20 20.2	
	comp=Z,34nm,19.5s,MS3.1,baz=172,slow=42						
SIV	**San Ignacio**	**43.58**	**132**	P	**P**	**03 03 00.2**	**+0.5**
	2.5nm,1.1s,mb3.9,baz=341,slow=8.5,SNR=4.7						
SCHQ	**Schefferville**	**45.62**	**21**	LR	LR	03 23 35.4	
	comp=Z,79nm,18.3s,MS3.7,baz=140,slow=38						
YKA	**Yellowknife Ar**	**50.74**	**347**	P	**P**	**03 03 54.8**	**-0.8**
	6.6nm,0.7s,mb4.7,baz=151,slow=7.4,SNR=59						
YKA	**Yellowknife Ar**	**50.74**	**347**	P	**P**	**03 03 54.8**	**-0.8**
DLBC	**Dease Lake**	**52.15**	**336**	P	**P**	**03 04 07.7**	**+1.5**
	2.3nm,0.8s,mb4.2,baz=132,slow=8.8,SNR=5.3						
CPUP	**Villa Florida**	**53.17**	**139**	P	**P**	**03 04 15.1**	**+1.4**
	1.2nm,0.7s,mb3.9,baz=284,slow=4.2,SNR=3.0						
CPUP	**Villa Florida**	**53.17**	**139**	P	**P**	**03 04 14.2**	**+0.5**
	33nm,1.6s,mb5.0						
INK	**Inuvik**	**60.08**	**344**	P	**P**	**03 05 01.5**	**-1.4**
	3.3nm,0.6s,mb4.5,baz=169,slow=8.4,SNR=6.6						
ILAR	**Eielson Array**	**62.35**	**337**	P	**P**	**03 05 16.6**	**-1.6**
	1.0nm,1.0s,mb3.9,baz=135,slow=4.0,SNR=5.7						
ESDC	**Sonseca Array**	**80.63**	**51**	P	**P**	**03 07 06.5**	**-2.0**
	0.8nm,0.7s,mb3.7,baz=286,slow=5.4,SNR=4.8						
NOA	**NORSAR Array B**	**84.69**	**28**	P	**P**	**03 07 30.2**	**+0.7**
	2.9nm,0.8s,mb4.5,baz=285,slow=3.8,SNR=4.2						
ARCES	**ARCESS Array B**	**86.48**	**18**	P	**P**	**03 07 37.1**	**-1.4**

3.0nm,1.1s,mb4.5,baz=276,slow=6.0,SNR=8.3
ARCES LR LR 03 44 13.6
comp=Z,37nm,20.1s,MS3.8,baz=94,slow=34

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*ISCJB **10** 03:23:10.6±1.1,2052S±0.10×17787W±009,h483km±16km, mb4.2/21,Error ellipse: s-maj=17.4km s-min=10.6km az=109.7*
*IDC **10** 03:23:13.9±2.2,2046S×17794W,h504km±25km,mb3.7/12, mb1 3.8/14,mb1mx3.7/19,mbtmp4.6/14,Error ellipse: s-maj=19.7km s-min=13.2km az=145.0*
*NEIC **10** 03:23:13.1±1.1,2055S×17785W,h503km±13km,mb4.6/15, Error ellipse: s-maj=14.9km s-min=9.8km az=143.0*
ISC 10 03:23:12.9±1.3,**206S**±01×**17781W**±010,**h498**km±16km,**n41**,σ**0.85**/38,**mb4.2**/21,**3D,Fiji Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 8.81 42 P **P 03 25 17.0 -0.6**
6.3nm,0.3s,baz=28,slow=6.0,SNR=6.9
AFI S **S 03 26 54.1 -5.9**
7.1nm,0.3s,baz=29,slow=22,SNR=7.3
DZM Mont Dzumac 14.74 262 P **P 03 26 21.4 +1.0**
0.5nm,0.3s,baz=87,slow=19,SNR=4.6
URZ Urewera 18.13 193 P **P 03 26 53.0 -1.6**
1.8nm,0.3s,baz=333,slow=5.1,SNR=8.5
ARMA Armidale 29.18 244 eP **P 03 28 33.9 +0.7**
CNB Canberra Magne 32.31 236 eP **P 03 29 00.9 +0.8**
16nm,0.6s,mb4.6
CTA Charters Tower 33.66 264⇓iP **P 03 29 12.1 +0.6**
17nm,0.4s,mb4.8
CTA Charters Tower 33.66 264 P **P 03 29 12.2 +0.7**
20nm,0.5s,mb4.8,baz=95,slow=10,SNR=30
CTAO Charters Tower 33.66 264 eP **P 03 29 11.9 +0.4**
24nm,0.6s,mb4.8
PMG Port Moresby 35.54 283 P **P 03 29 27.2 -0.1**
22nm,0.8s,mb4.7,baz=144,slow=2.7,SNR=4.0
PMG Port Moresby 35.54 283 eP **P 03 29 27.6 +0.3**
26nm,0.8s,mb4.7
TOO Toolangi 35.98 234 eP **P 03 29 31.4 +0.4**
12nm,1.9s,mb4.0
STKA Stephens Creek 37.90 244⇓iP **P 03 29 47.2 +0.4**
10nm,0.4s,mb4.6
STKA Stephens Creek 37.90 244 P **P 03 29 47.3 +0.5**
13nm,0.4s,mb4.7,baz=91,slow=9.8,SNR=45
ASAR Alice Springs 44.67 257 P **P 03 30 40.7 +0.1**
24nm,0.5s,mb4.8,baz=97,slow=7.7,SNR=262
ASAR PcP PcP 03 32 13.1 +0.5
1.3nm,0.5s,baz=100,slow=3.7,SNR=4.5
WB2 Warramunga Arr 44.75 262⇓iP **P 03 30 40.6 -0.6**
WRAB Tennant Creek 44.75 262 eP **P 03 30 40.9 -0.4**
17nm,0.7s,mb4.6
WRA Warramunga Arr 44.76 262 P **P 03 30 40.9 -0.4**
8.5nm,0.3s,mb4.7,baz=97,slow=7.4,SNR=593
FORT Forrest 49.42 247 eP **P 03 31 15.9 -0.6**
34nm,0.5s,mb4.9
FITZ Fitzroy Crossi 53.19 262 eP **P 03 31 44.2 +0.3**
8.4nm,2.0s,mb3.7
FITZ Fitzroy Crossi 53.19 262 eP **P 03 31 44.2 +0.3**
9.5nm,0.5s,mb4.4
FITZ Fitzroy Crossi 53.19 262 P **P 03 31 44.4 +0.6**
5.2nm,0.5s,mb4.1,baz=154,slow=5.3,SNR=38
VNDA Vanda 57.82 185 P **P 03 32 16.9 +0.8**
0.7nm,0.6s,mb3.2,baz=355,slow=7.0,SNR=8.3
VNDA Vanda 57.82 185 eP **P 03 32 17.1 +0.9**
1.3nm,0.7s,mb3.4
MBWA Marble Bar 58.00 257 eP **P 03 32 17.0 -0.4**
18nm,0.6s,mb4.6
KLBR Kellerberrin 58.17 245 eP **P 03 32 18.1 -0.4**
29nm,0.8s,mb4.7
MUN Mundaring 59.44 244 eP **P 03 32 26.9 -0.2**
CASY Casey 63.94 205 eP **P 03 32 55.9 -0.6**
4.8nm,0.7s,mb4.1
QSPA South Pole Qui 69.46 180 eP **P 03 33 31.4 +0.7**
9.3nm,0.7s,mb4.4
MJAR Matsushiro Arr 70.40 324 P **P 03 33 34.2 -2.0**
0.7nm,0.5s,mb3.5,baz=154,slow=6.3,SNR=5.1
YBH Yreka Blue Hor 80.26 39 P **P 03 34 33.5 +2.1**
2.3nm,0.6s,mb3.9,baz=167,slow=1.3,SNR=7.6
MAW Mawson 81.53 200 P **P 03 34 37.8 0.0**
0.8nm,0.4s,mb3.6,baz=156,slow=8.7,SNR=4.4
MAW Mawson 81.53 200 eP **P 03 34 37.3 -0.6**
4.7nm,0.9s,mb4.0
SNAA Sanae 87.90 178 e **P 03 35 08.1 -0.9**
SNAA e 03 35 40.9
SNAA Sanae 87.90 178 eP **P 03 35 08.0 -1.0**
0.8nm,0.7s,mb3.6
ILAR Eielson Array 88.38 13 P **P 03 35 10.7 -0.6**
0.4nm,0.7s,mb3.2,baz=229,slow=5.8,SNR=3.4
VNA1 Neumayer--Stat 88.69 177 e **P 03 35 12.9 +0.2**
VNA1 e 03 35 44.7
PDAR Pinedale Array 88.92 43 P **P 03 35 15.5 +1.7**
0.7nm,0.7s,mb3.6,baz=254,slow=2.2,SNR=6.3
AKASG Malin Array Be 143.19 331 PKP PKPdf 03 41 47.0 -2.8
0.6nm,0.4s,baz=39,slow=4.1,SNR=7.9
BRTR Keskin Array B 147.04 312 PKPbc PKPbc 03 41 59.7 +0.3
0.7nm,0.5s,baz=154,slow=5.0,SNR=5.3
GERES GERESS Array B 150.35 345 PKPbc PKPbc 03 42 05.7 -1.9
0.3nm,0.6s,baz=356,slow=4.1,SNR=3.5
TORD Torodi Ar. Bea 172.57 176 PKPab PKPab 03 43 54.3 +1.2
0.4nm,0.7s,baz=174,slow=3.5,SNR=6.9

IDC 10 03:29:09.6±4.5,**534S**×**15076E**,**h0**km,**mb3.5**/2,**mb1 3.8**/2, **mb1mx3.5**/12,**mbtmp3.6**/2,**MS3.1**/4,**Ms1 3.1**/4, **ms1mx3.0**/21,**Error ellipse: s-maj=196.9km s-min=52.0km az=117.0,New Britain region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 5.39 221 LR LR 03 32 43.3
comp=Z,127nm,21.5s,baz=49,slow=40
CTA Charters Tower 15.30 196 LR LR 03 38 02.7
comp=Z,164nm,19.4s,baz=230,slow=35
GUMO Guam 19.70 343 LR LR 03 39 20.2
comp=Z,15nm,20.6s,baz=88,slow=31
WRA Warramunga Arr 21.59 226 P P 03 34 01.2 +0.3
1.8nm,0.8s,baz=52,slow=11,SNR=5.1
ASAR Alice Springs 24.41 220 P P 03 34 30.1 +0.5
0.5nm,0.5s,baz=46,slow=11,SNR=4.1
STKA Stephens Creek 27.76 197 LR LR 03 46 35.4
comp=Z,126nm,18.9s,baz=23,slow=38
TORD Torodi Ar. Bea 148.53 286 PKPbc PKPbc 03 48 58.8 +0.5
0.5nm,0.7s,baz=94,slow=1.2,SNR=5.9

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*IDC **10** 03:29:00.0±2.1,592S×12998E,h0km,mb4.2/1,mb1 4.3/4, mb1mx3.9/13,mbtmp4.2/4,ML4.1/3,MS2.8/1,Ms1 2.8/1, ms1mx2.2/21,Error ellipse: s-maj=82.2km s-min=27.6km az=76.0*
*NEIC **10** 03:29:14.2±3.3,642S×12983E,h132km±33km,mb4.7/3, Error ellipse: s-maj=29.0km s-min=24.9km az=206.0*
*ISCJB **10** 03:29:18.8±1.7,679S±009×1299E±0.1,h195km±17km, mb3.9/1,Error ellipse: s-maj=18.9km s-min=13.1km az=132.7*
ISC 10 03:29:24.9±2.0,**71S**±01×**1300E**±01,**h208**km±14km,**n10**, σ**1.16**/17,**mb3.9**/1,**Banda Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KAKA Kakadu 6.04 157 eP **Pn 03 30 51.4 -1.4**
20nm,0.2s
KAKA eS **Sn 03 32 03.4 +0.9**
KNA Kununurra 8.64 188 eP **Pn 03 31 26.0 -0.4**
KNA eS **Sn 03 33 04.8 +1.3**
FITZ Fitzroy Crossi 11.69 201 eP **Pn 03 32 05.0 -0.5**
5.3nm,0.2s
FITZ eS **S 03 34 12.5 -3.5**
FITZ Fitzroy Crossi 11.69 201 Pn **Pn 03 32 04.3 -1.2**
0.7nm,0.3s,baz=24,slow=15,SNR=22
FITZ Sn **S 03 34 15.4 -0.6**
2.0nm,0.3s,baz=229,slow=20,SNR=5.4
FITZ LR LR 03 36 29.4
comp=Z,38nm,19.8s,baz=330,slow=35
WRAB Tennant Creek 13.40 162 ePn **Pn 03 32 27.6 +0.5**
WRA Warramunga Arr 13.41 162 Pn **Pn 03 32 27.5 +0.3**
1.3nm,0.3s,baz=343,slow=11,SNR=10
WRA Sn **S 03 34 54.8 -1.6**
4.1nm,0.3s,baz=343,slow=22,SNR=14
WB2 Warramunga Arr 13.41 162 eP **Pn 03 32 28.8 +1.6**
WB2 eS **S 03 34 54.3 -2.3**
ASAR Alice Springs 16.86 167 P **P 03 33 12.1 +4.4**
0.6nm,0.3s,baz=337,slow=9.2,SNR=11
ASAR S **S 03 36 13.8 +1.0**
0.3nm,0.3s,baz=336,slow=14,SNR=4.3
MBWA Marble Bar 17.10 214 eP **P 03 33 10.3 +0.1**
3.9nm,0.7s
MKAR Makanchi Array 68.33 327 P **P 03 39 56.9 -6.7**
1.7nm,0.6s,mb3.9,baz=121,slow=7.7,SNR=12

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*ISCJB **10** 03:29:27.9±6.0,53S±04×1514E±0.1,h11km±54km, mb3.7/3,Error ellipse: s-maj=73.1km s-min=21.5km az=159.7*
*IDC **10** 03:29:27.5±2.4,567S×15174E,h0km,mb3.8/3,mb1 4.1/4, mb1mx3.7/12,mbtmp4.0/4,ML3.3/1,Error ellipse: s-maj=72.6km s-min=37.4km az=124.0*
*NEIC **10** 03:29:33.6±1.5,545S×15137E,h35km,Error ellipse: s-maj=33.0km s-min=14.2km az=172.0*
ISC 10 03:29:28.6±7.6,**52S**±04×**1513E**±02,**h8**km±63km,**n7**, σ**0.97**/7,**mb3.7**/3,**New Britain region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 5.90 224 Pn **Pn 03 30 56.5 +0.1**
5.0nm,0.3s,baz=44,slow=10,SNR=12
PMG Sn **Sn 03 32 04.3 +0.1**
1.5nm,0.3s,baz=219,slow=6.5,SNR=2.6
HNR Honiara 9.54 117 Pn **Pn 03 31 46.4 +0.1**
242nm,1.0s
WRA Warramunga Arr 22.11 227 P **P 03 34 23.8 -0.7**
2.3nm,0.6s,mb3.8,baz=50,slow=10,SNR=6.4
ASAR Alice Springs 24.90 221 P **P 03 34 53.0 +1.0**
3.4nm,1.1s,mb3.8,baz=56,slow=10,SNR=7.5
STKA Stephens Creek 28.09 198 P **P 03 35 16.6 -4.1**
1.1nm,0.7s,mb3.6,baz=18,slow=13,SNR=1.9
STKA Stephens Creek 28.09 198 P **P 03 35 19.5 -1.3**
TORD Torodi Ar. Bea 149.02 287 PKPbc PKPbc 03 49 19.7 +2.4
1.0nm,0.7s,baz=65,slow=2.3,SNR=7.4

IDC 10 03:38:36.6±4.3,**1617S**×**17675W**,**h0**km,**mb4.1**/4, **mb1 4.3**/4,**mb1mx3.9**/14,**mbtmp4.1**/4,**Error ellipse: s-maj=189.1km s-min=32.1km az=137.0,Fiji Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 40.87 240 P P 03 46 20.8 +0.6
1.8nm,0.5s,baz=82,slow=7.1,SNR=5.5
WRA Warramunga Arr 46.53 258 P P 03 47 06.0 +0.2
0.3nm,0.3s,baz=95,slow=7.5,SNR=28
ASAR Alice Springs 46.81 253 P P 03 47 08.2 +0.2
7.1nm,0.5s,baz=88,slow=8.1,SNR=109
ILAR Eielson Array 83.85 12 P P 03 51 07.7 -0.4
0.2nm,0.5s,baz=209,slow=7.2,SNR=2.8

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*MAN **10** 03:54:49.0,1497N×11978E,h16km,mb4.2,ML5.1,MS2.5*
MAN F INTENSITY V - OLONGAPO CITY; INTENSITY IV - MANILA; INTENSITY III - PASI CITY; INTENSITY II - CLARK AIRBASE.
*ISCJB **10** 03:54:51.5±0.4,1492N±002×12001E±005,h64km±4km, mb4.7/55,Error ellipse: s-maj=7.8km s-min=3.4km az=4.1*
*MOS **10** 03:54:52.7±1.0,1496N×120.10E,h76km,mb5.0/29,Error ellipse: s-maj=14.8km s-min=6.3km az=118.6*
*HRVD **10** 03:54:53.5±0.5,1520N×11992E,h55km±2km,MW4.9/50, Centroid moment Tensor Solution. LP body waves: s18,c18;Mantle waves: s50,c70; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.08±.19; Mθθ0.26±.12; Mφφ-2.34±.12; Mrθ-0.65±.06; Mθφ-0.71±.08; Mφr-0.08±.12; Best double couple: Mo2.41300×10^16 NP1:φs357.00000°, δ45.00000°,λ64.00000°. NP2:φs211.00000°,δ51.00000°, λ114.00000°. Principal axes: T 2.2900, Plg72.0000°, Azm186.0000°; N 0.2440, Plg18.0000°, Azm16.0000°; P -2.5360, Plg3.0000°, Azm285.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **10** 03:54:53.8,1477N×12009E,h86km,mB4.8,mb4.3,Ms4.3, Msz3.9*
*IDC **10** 03:54:53.5±1.8,1496N×12007E,h70km±17km,mb4.3/22, mb1 4.4/22,mb1mx4.4/23,mbtmp4.5/22,MS3.9/18, Ms1 3.9/18,ms1mx3.8/35,Error ellipse: s-maj=19.6km s-min=10.8km az=74.0*
*NEIC **10** 03:54:53.5±0.7,1495N×120.11E,h72km±6km,mb4.8/31, Error ellipse: s-maj=7.9km s-min=4.0km az=76.0*
NEIC Felt [V PIVS] at Olongapo, [IV PIVS] at Manila, [III PIVS] at Pasig and [II PIVS] at Quezon City.
ISC 10 03:54:52.8±0.4,**1492N**±002×**12002E**±005,**h61**km±4km, **n195**,σ**1.05**/193,**mb4.7**/55,**8C-11D,Luzon**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SCZP Santa Cruz 0.85 353 eP **Pn 03 55 04.5 -4.5**
SCZP eS **Sn 03 55 14.9 -6.1**
LUBP Lubang 1.20 169 eP **Pn 03 55 11.0 -2.5**
TGY Tagaytay City 1.21 132 P **Pn 03 55 15.1 +1.5**
3μm,0.3s,baz=52,slow=0.1,SNR=79
PCPH Palayan 1.22 58 eP **Pn 03 55 12.2 -1.6**
PCPH eS **Sn 03 55 27.9 -1.5**
BOLP Bolinao 1.45 356 eP **Pn 03 55 12.8 -4.1**
BCPH Baguio City Da 1.55 20⇑iP **Pn 03 55 16.0 -2.1**
BCPH i S **Sn 03 55 36.0 -1.3**
PGP Puerto Galera 1.68 147 eP **Pn 03 55 20.7 +0.7**
PGP eS **Sn 03 55 44.5 +4.1**
LQP Lukban 1.68 118⇓eP **Pn 03 55 22.0 +2.1**
BALP Baler 1.71 61 eP **Pn 03 55 20.0 -0.4**
BALP eS **Sn 03 55 42.2 +1.0**
POLP Polilio Island 1.87 96 eP **Pn 03 55 24.1 +1.7**
BOAC Boac 2.29 129 eP **Pn 03 55 28.2 0.0**
GQP Guinayangan 2.56 113⇑eP **Pn 03 55 22.0 -10**
CAUP Cauayan 2.66 41 eP **Pn 03 55 34.0 +0.8**
ABRA Dolores 2.79 14 eP **Pn 03 55 33.6 -1.4**
ABRA eS **Sn 03 56 08.0 +0.5**
BUSP Coron 2.91 176 eP **Pn 03 55 36.4 -0.3**
BUSP eS **Sn 03 56 10.4 0.0**
AUQP San Andres 3.03 121 eP **Pn 03 55 42.9 +4.6**
APYP Conner 3.15 22 eP **Pn 03 55 40.1 +0.1**
APYP eS **Sn 03 56 16.7 +0.4**
OTRP Odiongan 3.21 142 eP **Pn 03 55 41.9 +1.2**
CVP Callao Caves 3.26 32 eP **Pn 03 55 41.5 0.0**
ENPP El Nido 3.74 189 eP **Pn 03 55 47.2 -0.8**
ENPP eS **Sn 03 56 28.8 -2.0**
SGCP Mt. Cagua 3.83 30 eP **Pn 03 55 51.9 +2.7**
CUYO Cuyo Island 4.17 166 eP **Pn 03 55 54.9 +1.1**
CUYO eS **Sn 03 56 40.8 -0.4**
PVCP Virac 4.22 108 eP **Pn 03 55 56.8 +2.1**
PAGZ Pagadian 7.77 155 eP **Pn 03 56 48.7 +5.6**
BUTP Butuan 8.07 137 eP **Pn 03 56 57.2 +10**
BUKP Musuan 8.57 144 eP **Pn 03 57 00.6 +6.5**
NACB Ninganchiao 9.32 9 ePn **Pn 03 57 02.3 -2.1**
NACB eSn **Sn 03 58 49.7 +2.0**
KKM Kota Kinabalu 9.58 203 P **Pn 03 57 18.5 +11**
YHNB Yeheng 9.78 7 ePn **Pn 03 57 12.3 +1.6**
QIZ Qiongzhong 10.55 294 ePn **Pn 03 57 17.4 -3.8**
21nm,0.4s
QIZ eSn **Sn 03 59 10.3 -7.5**
JOW Kunigami 14.13 32 P **Pn 03 58 15.5 +5.7**
0.9nm,0.3s,baz=83,slow=29,SNR=5.4
JOW LR LR 04 02 55.1
comp=Z,488nm,20.7s,baz=333,slow=34
KSM Kuching 16.45 217 ePn **Pn 03 58 41.4 +1.9**
GYA Guiyang 16.95 315 P **Pn 03 58 48.0 +2.3**
GYA AMB AMB
comp=Z,10.0nm,0.9s
KMI Kunming 19.12 305 P **Pn 03 59 19.3 +7.2**
KMI PP 03 59 37.9
KMI XS sS 04 03 07.1 +1.5
KMI AMB AMB
comp=Z,7.0nm,1.1s
KMI AMB AMB
comp=Z,215nm,4.2s
KMI LR LR
comp=N,416nm,12.2s
KMI LR LR
comp=E,384nm,15.1s
KMI LR LR
comp=Z,461nm,16.4s
CM31 Chiang Mai Arr 20.49 283 eP **P 03 59 27.5 +1.9**
comp=Z,7.3nm,0.6s
IPM Ipoh 21.38 243 P **P 03 59 39.4 +4.2**
XAN Xi'an 21.51 334 P **P 03 59 36.8 +0.2**
XAN AMB AMB
comp=Z,11nm,1.4s,mb4.1
CD2 Chengdu 21.80 320 P **P 03 59 40.0 +0.3**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.2
CD2 LR LR
comp=N,390nm,5.4s
CD2 LR LR
comp=Z,350nm,16.8s
CBIJ Chichi jima 23.93 56 LR LR 04 07 25.6
comp=Z,199nm,19.4s,baz=54,slow=32
PSI Prapat 24.04 242 P **P 04 00 03.2 +1.2**
comp=Z,13nm,0.8s,mb4.4,baz=78,slow=4.9,SNR=12
PSI LR LR 04 08 11.5
comp=Z,265nm,21.7s,baz=232,slow=33
GUMO Guam 24.12 90 LR LR 04 09 12.6
comp=Z,176nm,20.3s,baz=282,slow=36
JHJ Hachijo jima 2 25.49 41 LR LR 04 08 34.6
comp=Z,207nm,21.4s,baz=244,slow=32
LZH Lanzhou 25.56 328 eP **P 04 00 23.1 +7.2**
LZH AMB AMB
comp=Z,25nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,83nm,4.0s
LZH LR LR
comp=N,468nm,12.0s
LZH LR LR
comp=Z,691nm,13.7s
MAJO Matsushiro 26.96 34 eP **P 04 00 29.7 +1.2**
MAJO pmax pmax
comp=Z,4.0nm,0.6s,mb4.1
MAJO Matsushiro 26.96 34 eP **P 04 00 29.7 +1.1**
comp=Z,3.8nm,0.6s,mb4.1
MJAR Matsushiro Arr 26.96 34 P **P 04 00 28.9 +0.4**
comp=Z,1.2nm,0.5s,mb3.7,baz=263,slow=6.0,SNR=5.6
MJAR LR LR 04 10 47.2
comp=Z,40nm,21.2s,baz=230,slow=35
GTA Gaotai 30.16 328 eP **P 04 01 01.3 +4.4**
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.2
FITZ Fitzroy Crossi 33.28 170 eP **P 04 01 23.6 -0.8**
comp=Z,12nm,0.9s,mb4.8
FITZ Fitzroy Crossi 33.28 170 P **P 04 01 24.1 -0.3**
comp=Z,7.0nm,0.9s,mb4.6,baz=350,slow=9.6,SNR=12
ULN Ulaanbaatar 34.56 345 P **P 04 01 36.6 +1.2**
SONM Songino Array 34.70 344 P **P 04 01 36.3 -0.4**
comp=Z,1.0nm,0.5s,mb4.0,baz=170,slow=11,SNR=8.5
SONM LR LR 04 16 36.0
comp=Z,233nm,19.7s,baz=135,slow=38
ASAJ Asahikawa 34.87 29 P **P 04 01 36.7 -1.4**
comp=Z,6.9nm,0.7s,mb4.7,baz=231,slow=14,SNR=5.0
KLR Kul'dur 35.54 13 eP **P 04 01 40.1 -3.8**
MBWA Marble Bar 35.86 180 eP **P 04 01 46.5 -0.1**
comp=Z,11nm,0.7s,mb4.9
WRAB Tennant Creek 37.40 157 eP **P 04 01 58.6 -1.1**
WRAB pmax pmax
comp=Z,63nm,0.8s,mb5.5
WRAB Tennant Creek 37.40 157 eP **P 04 01 58.6 -1.1**
comp=Z,63nm,0.8s,mb5.5
WRA Warramunga Arr 37.40 157 P **P 04 01 58.2 -1.5**
comp=Z,30nm,0.6s,mb5.3,baz=331,slow=9.9,SNR=189
WB2 Warramunga Arr 37.41 157 eP **P 04 01 58.6 -1.2**
AS31 Alice Springs 40.68 160 eP **P 04 02 26.5 -0.7**
ASPA Alice Springs 40.68 160 eP **P 04 02 26.5 -0.7**
ASAR Alice Springs 40.69 160 P **P 04 02 26.4 -0.8**
comp=Z,14nm,0.7s,mb4.7,baz=338,slow=6.7,SNR=127
BOD Bodaibo 43.06 355 eP **P 04 02 39.0 -7.5**
CTA Charters Tower 43.31 143 eP **P 04 02 49.1 +0.5**
comp=Z,10.0nm,0.9s,mb4.5
CTA Charters Tower 43.31 143 P **P 04 02 49.3 +0.7**
comp=Z,12nm,0.8s,mb4.7,baz=324,slow=12
CTA Charters Tower 43.31 143 eP **P 04 02 49.1 +0.5**
CTA pmax pmax
comp=Z,10.0nm,0.9s
CTAO Charters Tower 43.31 143 eP **P 04 02 48.9 +0.3**
CTAO pmax pmax
comp=Z,17nm,0.9s,mb4.8
CTAO Charters Tower 43.31 143 eP **P 04 02 48.9 +0.3**
comp=Z,17nm,0.9s,mb4.8
MKAR Makanchi Array 44.66 323 P **P 04 02 59.7 +0.3**
comp=Z,1.4nm,0.7s,mb3.9,baz=113,slow=9.3,SNR=9.9
MKAR PcP PcP 04 04 41.4 +0.3
comp=Z,2.2nm,0.8s,baz=104,slow=5.1,SNR=4.1
FORT Forrest 46.09 170 eP **P 04 03 10.4 -0.3**
comp=Z,23nm,0.6s,mb5.3
KLBR Kellerberrin 46.30 183 eP **P 04 03 12.2 -0.1**
comp=Z,150nm,1.8s,mb5.6
MUN Mundaring 46.77 184 eP **P 04 03 16.4 +0.4**
NWAO Narrogin (SRO) 47.65 183 eP **P 04 03 23.1 +0.2**
NWAO pmax pmax
comp=Z,30nm,0.9s
NWAO Narrogin (SRO) 47.65 183 eP **P 04 03 23.1 +0.3**
comp=Z,30nm,0.9s,mb5.3
ZAL Zalesovo 47.67 333 P **P 04 03 22.1 -0.9**
comp=Z,2.3nm,0.4s,mb4.6,baz=355,slow=1.6,SNR=4.2
ZAL Zalesovo 47.67 333 i P **P 04 03 22.7 -0.3**
ZAL pmax pmax
comp=Z,2.0nm,0.4s
KURK Kurchatov 48.81 326 eP **P 04 03 31.8 0.0**
KURK pmax pmax
comp=Z,11nm,0.7s,mb5.0
KURK Kurchatov 48.81 326 eP **P 04 03 31.8 0.0**
comp=Z,11nm,0.7s,mb5.0
KK31 Karatay Array 50.65 314 i P **P 04 03 46.2 +0.4**
KK31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
STKA Stephens Creek 50.93 156 eP **P 04 03 47.0 -0.8**
comp=Z,4.3nm,0.7s,mb4.5
STKA Stephens Creek 50.93 156 P **P 04 03 47.0 -0.8**
comp=Z,6.1nm,0.7s,mb4.6,baz=321,slow=7.9,SNR=7.5
VOSK Vostochnaya 53.94 325 i P **P 04 04 08.1 -2.1**
VOSK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BVAR Borovoye Array 54.40 326 LR LR 04 28 48.5
comp=Z,142nm,18.6s,baz=229,slow=37
BRVK Borovoye 54.47 326 eP **P 04 04 13.7 -0.3**
BRVK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BRVK Borovoye 54.47 326 eP **P 04 04 13.7 -0.3**
comp=Z,4.7nm,1.0s,mb4.4
CHKZ Chkalovo 54.55 326 eP **P 04 04 14.1 -0.5**
CHKZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
CHKZ Chkalovo 54.55 326 eP **P 04 04 14.1 -0.5**
comp=Z,3.4nm,0.6s,mb4.5
ZRNK Zerenda 55.13 325 eP **P 04 04 18.7 0.0**
ZRNK pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ZRNK Zerenda 55.13 325 eP **P 04 04 18.7 0.0**
comp=Z,4.9nm,0.7s,mb4.7
WSAR Wadi Sarin 58.25 288 LR LR 04 32 16.3
comp=Z,64nm,18.9s,baz=151,slow=38
AKTO Aktyubinsk 60.86 320 LR LR 04 32 28.1
comp=Z,195nm,21.6s,baz=102,slow=37
SVE Sverdlovsk 61.02 327 eP **P 04 05 00.0 +0.1**
ARU Arti 62.00 326 eP **P 04 05 05.5 -1.1**
ARU e 04 07 22.9
ARU eS **S 04 13 27.4 +1.0**
ARU eSS SS 04 17 32.3 +2.7
ARU MLR MLR
comp=Z,100nm,19.0s
ARU MLR MLR
comp=N,20nm,18.0s
ARU MLR MLR
comp=E,100nm,17.0s
GNI Garni 69.35 308 i P **P 04 06 01.4 +7.5**
ZEI Tsey 69.88 310 eP **P 04 05 57.0 -0.2**
KIV Kislovodsk 70.72 312 i P **P 04 06 02.7 +0.4**
KLMR Klimovskoe 72.47 330 eP **P 04 06 10.9 -1.9**
KLMR pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SOC Sochi 72.89 311c iP **P 04 06 09.2 -6.1**
SOC eS S 04 15 24.6 -12
SOC e 04 16 02.0
SOC eSSS 04 23 22.1
SOC pmax pmax
comp=Z,14nm,0.8s,mb4.9
OBN Obninsk 74.17 324⇑eP **P 04 06 22.2 -0.6**
OBN eS S 04 15 52.6 +1.3
OBN pmax pmax
comp=Z,12nm,0.8s,mb4.9
OBN MLR MLR
comp=Z,200nm,17.0s
GZT Gaziantep 75.18 305 i P **P 04 06 30.0 +1.4**
JOF Joensuu 76.26 332 ep **P 04 06 32.9 -1.9**
comp=Z,7.8nm,0.6s,mb4.8
JOF Joensuu 76.26 332 eP **P 04 06 32.9 -1.9**
JOF pmax pmax

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,8.0nm,0.6s,mb4.8						
CTKT	Corum	76.87	309	iP	P	04 06 39.3	+1.1
KEV	Kevo	77.16	339	ep	P	04 06 37.9	-2.0
	comp=Z,3.2nm,0.6s,mb4.4						
KEV	Kevo	77.16	339	eP	P	04 06 37.9	-2.0
KEV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ARCES	ARCESS Array B	77.71	339	P	P	04 06 42.5	-0.5
	comp=Z,3.6nm,0.5s,mb4.6,baz=78,slow=7.1,SNR=62						
ARCES				LR	LR	04 44 51.4	
	comp=Z,112nm,19.4s,baz=263,slow=39						
SML	Sawmill	77.76	29	eP	P	04 06 40.8	-2.4
BALT	Daday	77.78	310	iP	P	04 06 44.7	+1.4
BR131	Keskin Array S	77.88	308	eP	P	04 06 43.5	-0.4
	comp=Z,1.5nm,0.7s,mb4.0						
BRTR	Keskin Array B	77.88	308	P	P	04 06 44.0	+0.2
	comp=Z,2.5nm,0.9s,mb4.2,baz=126,slow=5.2,SNR=16						
BRTR				LR	LR	04 47 14.7	
	comp=Z,41nm,21.3s,baz=343,slow=40						
ILAR	Eielson Array	77.95	26	P	P	04 06 42.8	-1.5
	comp=Z,0.8nm,0.7s,baz=269,slow=5.1,SNR=5.5						
EIL	Elat	78.56	298	eP	P	04 06 47.9	+0.3
	comp=Z,179nm,0.9s						
KAF	Kangasniemi	78.67	331	ep	P	04 06 46.8	-1.5
	comp=Z,12nm,0.6s,mb5.0,baz=76,slow=5.2						
KAF	Kangasniemi	78.67	331	eP	P	04 06 46.8	-1.5
KAF				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
FIA1	FINESS Array S	78.90	331	eP	P	04 06 48.8	-0.7
FINES	FINESS Array B	78.90	331	P	P	04 06 48.9	-0.6
	comp=Z,5.1nm,0.5s,mb4.7,baz=61,slow=6.0,SNR=75						
FINES				LR	LR	04 44 46.2	
	comp=Z,96nm,18.9s,baz=131,slow=38						
FINES	FINESS Array B	78.90	331	P	P	04 06 48.9	-0.6
FINES				LR	LR	04 44 46.2	
AKASG	Malin Array Be	79.11	320	P	P	04 06 49.5	-1.1
	comp=Z,4.5nm,0.8s,mb4.5,baz=66,slow=5.3,SNR=13						
AKASG	Malin Array Be	79.11	320	iP	P	04 06 50.0	-0.6
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VSU	Vasula	79.13	328	⇓eP	P	04 06 50.7	-0.1
HENT	Hendek	79.75	310	iP	P	04 06 54.4	+0.3
TKTP	Tekketepe	80.73	307	iP	P	04 06 59.2	-0.2
ULDT	Uludag	81.20	309	iP	P	04 07 02.0	+0.1
DAWY	Dawson	81.28	26	eP	P	04 07 01.9	-0.4
VRI	Vrincioaia	81.70	315	⇓iP	P	04 07 06.0	+1.4
PLOR	Plostina	81.76	315	⇓iP	P	04 07 05.7	+0.8
SUW	Suwalki	82.03	324	eP	P	04 07 05.7	-0.6
BURAR	Bucovina Array	82.32	317	⇑iP	P	04 07 08.6	+0.8
MLR	Muntele Rosu	82.32	315	⇓iP	P	04 07 08.9	+1.1
KMBO	Kilima Mbogo	83.30	267	P	P	04 07 14.6	+1.7
	comp=Z,6.6nm,0.9s,mb4.7,baz=48,slow=7.4,SNR=14						
KMBO				LR	LR	04 42 12.5	
	comp=Z,74nm,18.0s,baz=278,slow=34						
KMBO	Kilima Mbogo	83.30	267	P	P	04 07 14.6	+1.7
KMBO				LR	LR	04 42 12.4	
KWP	Kalwaria	83.43	320	eP	P	04 07 14.0	+0.5
KOLS	Kolonicke sedl	83.89	319	eP	P	04 07 15.8	-0.1
DRGR		84.18	317	⇓iP	P	04 07 17.8	+0.4
CRVS	Cervenica-Dubn	84.41	319	eP	P	04 07 19.2	+0.7
CRVS				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
CRVS	Cervenica-Dubn	84.41	319	eP	P	04 07 19.2	+0.7
	comp=Z,5.0nm,0.9s,mb4.6						
VTS	Vitosha	84.95	313	⇓iP	P	04 07 22.1	+0.8
NIE	Niedzica	84.99	320	eP	P	04 07 22.4	+1.0
OJC	Ojcow	85.07	321	eP	P	04 07 22.1	+0.2
KECS	Kecovo	85.15	319	eP	P	04 07 22.2	-0.1
KECS				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
KECS	Kecovo	85.15	319	eP	P	04 07 22.2	-0.1
	comp=Z,7.7nm,0.8s,mb4.9						
BZS	Buzias	85.23	316	⇓iP	P	04 07 22.6	-0.1
NB2	NORSAR Subarra	85.88	332	P	P	04 07 24.7	-1.2
	comp=Z,8.8nm,0.9s,mb5.0,baz=66,slow=5.1						
NOA	NORSAR Array B	85.88	332	P	P	04 07 24.3	-1.6
	comp=Z,6.8nm,0.9s,mb4.9,baz=56,slow=5.5,SNR=5.8						
NOA				LR	LR	04 48 23.0	
	comp=Z,75nm,18.1s,baz=65,slow=37						
VYHS	Vyhne	86.19	319	eP	P	04 07 27.6	+0.2
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.5						
VYHS	Vyhne	86.19	319	eP	P	04 07 27.6	+0.2
	comp=Z,2.9nm,1.0s,mb4.5						
OKC	Ostrava-Krasne	86.20	321	eP	P	04 07 27.8	+0.3
MORC	Moravsky Berou	86.59	321	⇓iP	P	04 07 29.9	+0.5
SRO	Srobarova	86.74	319	eP	P	04 07 30.9	+0.8
SRO				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.1						
SRO	Srobarova	86.74	319	eP	P	04 07 30.9	+0.8
	comp=Z,12nm,1.0s,mb5.1						
KSP	Ksiaz	86.99	322	eP	P	04 07 32.0	+0.7
PKSM	Moragy	87.03	317	⇓iP	P	04 07 31.9	+0.4
DPC	Dobruska-Polom	87.14	321	eP	P	04 07 32.9	+0.8
UPC	Upice	87.27	322	eP	P	04 07 33.2	+0.5
PRU	Pruhonice	88.34	322	eP	P	04 07 37.9	+0.1
BRG	Berggiesshubel	88.37	322	eP	P	04 07 38.0	+0.1
	comp=Z,2.2nm,0.4s,mb4.7						
BRG	Berggiesshubel	88.37	322	eP	P	04 07 38.0	+0.1
BRG				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.7						
CLL	Collm	88.76	323	P	P	04 07 39.2	-0.6
	comp=Z,logA/T=0.9,mb5.0						
CLL	Collm	88.76	323	iP	P	04 07 39.2	-0.6
	comp=Z,7.0nm,0.9s,mb5.0						
CLL	Collm	88.76	323	iP	P	04 07 39.2	-0.6
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb5.0						
KHC	Kasperske Hory	89.24	321	eP	P	04 07 41.8	-0.2
KHC	Kasperske Hory	89.24	321	⇑eP	P	04 07 41.9	-0.1
GERES	GERESS Array B	89.27	321	P	P	04 07 42.0	-0.1
	comp=Z,2.1nm,0.7s,mb4.5,baz=69,slow=4.9,SNR=18						
GERES				LR	LR	04 54 21.8	
	comp=Z,68nm,18.9s,baz=68,slow=40						
MOA	Molln	89.29	320	⇓iP	P	04 07 42.9	+0.7
	comp=Z,6.9nm,0.8s,mb5.0						
GRA1	Grafenberg Arr	90.44	322	eP	P	04 07 47.7	+0.1
	comp=Z,8.0nm,1.1s,mb5.0						
GRF	Grafenberg Arr	90.44	322	eP	P	04 07 47.7	+0.1
	comp=Z,8.0nm,1.1s,mb5.0						
GRF	Grafenberg Arr	90.44	322	eP	P	04 07 47.7	+0.1
GRF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb5.0						
GRF	Grafenberg Arr	90.44	322	eP	P	04 07 47.7	+0.1
GRF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb5.0						
WTTA	Wattenberg	91.16	320	⇑iP	P	04 07 50.7	-0.2
	comp=Z,12nm,1.3s,mb5.0						
WTTA	Wattenberg	91.16	320	⇑iP	P	04 07 50.7	-0.3
WTTA				pmax	pmax		
	comp=Z,12nm,1.3s,mb5.1						
YKA	Yellowknife Ar	91.90	22	P	P	04 07 54.3	-0.1
	comp=Z,2.0nm,0.6s,mb4.6,baz=309,slow=4.4,SNR=35						
YKA				PKKP	PKKPbc	04 25 10.7	-0.7
	comp=Z,0.9nm,0.6s,baz=129,slow=2.7,SNR=13						
YKA				LR	LR	04 55 44.6	
	comp=Z,32nm,19.5s,baz=245,slow=40						
YKA	Yellowknife Ar	91.90	22	P	P	04 07 54.3	-0.1
YKA						04 25 10.7	
YKA	Yellowknife Ar	91.90	22	P	P	04 07 54.3	-0.1
YKA				PKKP	PKKPbc	04 25 10.7	-0.7
YKA				LR	LR	04 55 44.6	
MAW	Mawson	92.03	199	P	P	04 07 55.5	+0.5
	comp=Z,5.9nm,1.0s,mb4.9,baz=25,slow=6.2,SNR=6.4						
CDF	Champ du Feu	93.33	322	eP	P	04 08 01.0	0.0
	comp=Z,16nm,1.2s,mb5.0						
CDF	Champ du Feu	93.33	322	eP	P	04 08 01.0	0.0
CDF				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb5.0						
CDF	Champ du Feu	93.33	322	eP	P	04 08 01.0	0.0
	comp=Z,8.1nm,1.2s,mb5.0						
PGF	Pioggiola	94.81	316	eP	P	04 08 06.8	-1.0
LPG	La Plagne	94.97	320	eP	P	04 08 08.9	+0.4
	comp=Z,8.8nm,0.9s,mb4.9						
LPG	La Plagne	94.97	320	eP	P	04 08 08.9	+0.4
LPG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
LPG	La Plagne	94.97	320	eP	P	04 08 08.9	+0.4
	comp=Z,4.4nm,0.9s,mb4.9						
LPL	La Plagne	94.97	320	eP	P	04 08 08.8	+0.3
VNDA	Vanda	95.34	172	P	P	04 08 10.6	+0.4
	comp=Z,0.9nm,0.9s,mb4.2,baz=284,slow=8.3,SNR=4.4						
VNDA				LR	LR	04 53 20.3	
	comp=Z,76nm,19.7s,baz=298,slow=37						
ORIF	Oris-en-Rattie	95.78	319	eP	P	04 08 11.3	-0.9
	comp=Z,4.6nm,0.8s,mb4.7						
ORIF	Oris-en-Rattie	95.78	319	eP	P	04 08 11.3	-0.9
ORIF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.6						
ORIF	Oris-en-Rattie	95.78	319	eP	P	04 08 11.3	-0.9
	comp=Z,2.3nm,0.8s,mb4.7						
VIVF	Saint-Julien-l	96.57	320	eP	P	04 08 16.2	+0.4
PDAR	Pinedale Array	106.77	36	PKKPab	PKKPab	04 24 46.0	+0.8
	comp=Z,0.4nm,0.8s,baz=106,slow=5.4,SNR=4.8						
TORD	Torodi Ar. Bea	112.89	291	PKiKP	PKiKP	04 13 23.1	+0.3
	comp=Z,0.8nm,0.8s,baz=41,slow=2.6,SNR=6.0						
DBIC	Dimbokro	121.30	287	PKP	PKPdf	04 13 40.1	+1.3
	comp=Z,3.3nm,0.8s,baz=64,slow=4.7,SNR=3.9						
PLAL	Pickwick Lake	123.66	28	ePKPdf	PKPdf	04 13 43.2	-0.2
CPD	Cerro la Pandu	146.73	10	ePKP2	PKPab	04 14 27.8	-1.2
PLCA	Paso Flores	152.69	162	PKPbc	PKPbc	04 14 43.6	+1.1
	comp=Z,3.1nm,0.7s,baz=229,slow=3.5,SNR=8.4						
BDFB	Brasilia	168.43	265	PKP	PKPdf	04 14 53.6	+1.1
	comp=Z,3.6nm,1.0s,baz=193,slow=4.8,SNR=3.8						
LPAZ	La Paz	172.03	101	PKP	PKPdf	04 14 57.2	+2.7
	comp=Z,1.9nm,0.9s,baz=3.4,slow=4.6,SNR=7.0						
LPAZ	La Paz	172.03	101	PKP	PKPdf	04 14 57.2	+2.7

IDC 10 04:04:56.0±3.5, 477S×15026E, h0^{km}, mb3.8/3, mb1 4.1/4, mb1mx3.7/15, mbtmp3.9/4, ML3.0/1, Error ellipse: s-maj=110.7km s-min=38.9km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.54	214	Pn	Pn	04 06 21.1	+1.4
	3.2nm,0.3s,baz=55,slow=8.2,SNR=9.7						
PMG				Sn	Sn	04 07 28.1	+4.1
	1.0nm,0.3s,baz=162,slow=13,SNR=2.2						
WRA	Warramunga Arr	21.63	224	P	P	04 09 46.8	-0.9
	1.5nm,0.6s,baz=50,slow=10,SNR=14						
ASAR	Alice Springs	24.53	218	P	P	04 10 16.6	-0.5
	1.7nm,0.9s,baz=51,slow=9.6,SNR=8.3						
FITZ	Fitzroy Crossi	27.48	239	P	P	04 10 45.0	+1.2
	3.1nm,0.8s,baz=184,slow=4.0,SNR=6.1						
TORD	Torodi Ar. Bea	147.88	287	PKPbc	PKPbc	04 24 43.9	+0.9
	0.6nm,0.7s,baz=64,slow=2.7,SNR=3.7						

CSEM 10 04:09:59.9±0.8, 3749N×2496W, h1^{km}±4^{km}, ML2.6, Error ellipse: s-maj=9.2km s-min=1.4km az=72.0, After PDA
PDA 10 04:09:59.9±0.8, 3749N×2496W, h1^{km}±4^{km}, MD2.9, ML2.6, Error ellipse: s-maj=9.2km s-min=1.4km az=72.0
SVSA 10 04:09:59.9±0.8, 3749N×2496W, h1^{km}±4^{km}, MD2.9, ML2.6, Error ellipse: s-maj=9.2km s-min=1.4km az=72.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIRA	Miradouro	0.39	320	iP	Pg	04 10 07.0	-0.4
MIRA				iS	Sg	04 10 12.5	0.0
MIRA	Miradouro	0.39	320	iS	Sg	04 10 12.5	0.0
FRA1	Furnas	0.41	309	eP	Pg	04 10 07.4	-0.3
FRA1				eS	Sg	04 10 12.7	-0.2
PCNG	Congro	0.45	309	eP	Pg	04 10 08.0	-0.4
PCNG				eS	Sg	04 10 14.1	-0.1
PCNG							
	59nm,0.3s						
PCNG	Congro	0.45	309	eP	Pg	04 10 08.0	-0.4
PCNG				eS	Sg	04 10 14.1	-0.1
PFAD	Fenais da Ajud	0.46	321	eP	Pg	04 10 08.0	-0.6
PFAD				eS	Sg	04 10 14.4	-0.1
VIF	Vila Franca	0.46	304	eP	Pg	04 10 08.5	-0.2
VIF				eS	Sg	04 10 14.8	+0.1
VIF							
	108nm,0.3s						
VIF	Vila Franca	0.46	304	eP	Pg	04 10 08.5	-0.2
VIF				eS	Sg	04 10 14.8	+0.1
PRCH	Ribeira Ch	0.48	301	eP	Pg	04 10 08.8	-0.3
PRCH				eS	Sg	04 10 15.2	0.0
PRCH							
	141nm,0.3s						
PRCH	Ribeira Ch	0.48	301	eP	Pg	04 10 08.8	-0.3
PRCH				eS	Sg	04 10 15.2	0.0
PSMN	Pico do Norte,	0.49	190	eP	Pg	04 10 08.7	-0.6
PSMN				iS	Sg	04 10 15.2	-0.4
MESC	Monte Escuro	0.49	309	eP	Pg	04 10 08.8	-0.5
MESC				eS	Sg	04 10 15.7	0.0
LFA	Lagoa do Fogo	0.50	305	iP	Pg	04 10 09.3	-0.2
PMAT	Coroa da Mata	0.52	309	eP	Pg	04 10 09.3	-0.6
PMAT				eS	Sg	04 10 16.2	-0.5
PMAT							
	46nm,0.2s						
PMAT	Coroa da Mata	0.52	309	eP	Pg	04 10 09.3	-0.6
PMAT				eS	Sg	04 10 16.2	-0.5
PVER	Pico Vermelho	0.54	305	eP	Pg	04 10 09.6	-0.6
PVER				eS	Sg	04 10 16.8	-0.4
PVER							
	60nm,0.3s						
PVER	Pico Vermelho	0.54	305	eP	Pg	04 10 09.6	-0.6
PVER				eS	Sg	04 10 16.8	-0.4
CML	Cha da Macela	0.55	302	iP	Pg	04 10 09.8	-0.5
PDA	Ponta Delgada	0.61	295	eP	Pg	04 10 10.3	-1.4
PDA				eS	Sg	04 10 18.3	-1.4
FAC	Faja de Cima	0.62	298	eP	Pg	04 10 10.9	-0.8
PSAN	Santo Antonio	0.71	301	eP	Pg	04 10 12.3	-1.2
PFET	Feteiras	0.73	297	eP	Pg	04 10 12.6	-1.4
SET2	Ginetes	0.76	298	eP	Pg	04 10 12.7	-1.8
SET4	Mosteiros	0.77	301	eP	Pg	04 10 12.9	-1.8
PFAV	Pico das Favas	2.07	307	eS	Sn	04 10 54.7	-7.7
PFAV							
	16nm,0.2s						
RIB2	Ribeirinha	2.11	305	eS	Sn	04 10 55.5	-7.7
RIB2							
	15nm,0.2s						
PVNV	Vila Nova	2.15	307	eS	Sn	04 10 56.4	-7.8
PVNV							
	12nm,0.3s						
PPAD	Pico dos Padre	2.20	304	eS	Sn	04 10 57.7	-7.8
PPAD							
	14nm,0.2s						
ASBA	Santa Barbara	2.23	304	eS	Sn	04 10 58.8	-7.5
ASBA							
	14nm,0.2s						
PID	Ribeirinha	2.67	292	eP	Pn	04 10 40.0	-4.1
PMAN	Manadas	2.72	296	eP	Pn	04 10 40.3	-4.5
PMAN				eS	Sn	04 11 10.3	-8.0
PMAN							
	8.0nm,0.2s						
PMAN	Manadas	2.72	296	eP	Pn	04 10 40.3	-4.5
PMAN				eS	Sn	04 11 10.3	-8.0
PGRA	Graciosa	2.83	304	eP	Pn	04 10 41.6	-4.7
PGRA				eS	Sn	04 11 12.8	-8.3
PGRA							
	6.5nm,0.3s						
PGRA	Graciosa	2.83	304	eP	Pn	04 10 41.6	-4.7
PGRA				eS	Sn	04 11 12.8	-8.3
ROSA	Rosais	2.87	296	eP	Pn	04 10 42.5	-4.3
ROSA				eS	Sn	04 11 13.8	-8.1
SRBC	Serra Branca	2.88	304	erx		04 11 15.7	
PICO	Pico	2.92	291	eP	Pn	04 10 43.3	-4.2
PICO				eS	Sn	04 11 15.3	-7.9
HOR	Horta	3.08	291	eP	Pn	04 10 44.9	-4.8
HOR				eS	Sn	04 11 19.1	-8.1
PCED	Cedros	3.17	292	eP	Pn	04 10 45.7	-5.2
PCED				eS	Sn	04 11 21.0	-8.3
PCED							
	12nm,0.4s						
PCED	Cedros	3.17	292	eP	Pn	04 10 45.7	-5.2
PCED				eS	Sn	04 11 21.0	-8.3

MAN 10 04:21:52.8, 1072N×12494E, h30^{km}, mb1.9, ML3.7, MS0.7, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	Palo	0.45	5	eP	Pb	04 22 03.5	+1.1
PLP				iS	Sb	04 22 12.0	+3.0
OCLP	Ormoc	0.47	316	eP	Pb	04 22 03.9	+1.2
OCLP				eS	Sb	04 22 12.3	+2.8
MSLP	Maasin	0.58	188	eP	Pb	04 22 05.8	+1.1
MSLP				eS	Sb	04 22 16.4	+3.7

MEX 10 04:35:17.2±1.1, 1724N×9476W, h130^{km}±15^{km}, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.19	218	iP	Pn	04 35 34.1	-0.9
CMIG				iS	Sn	04 35 46.5	-2.0
OXX	Oaxaca	1.88	266	iP	Pn	04 35 49.0	-0.7
OXX				iS	Sn	04 36 12.5	-2.1
VHO	Vista Hermosa	1.89	265	iP	Pn	04 35 48.8	-1.0
VHO				iS	Sn	04 36 12.1	-2.7
CCIG	Comitan	2.69	110	iP	Pn	04 35 59.9	+0.1
CCIG				iS	Sn	04 36 30.3	-2.3
UTMO	Huajuapan	2.96	282	iP	Pn	04 36 01.0	-2.2
UTMO				eS	Sn	04 36 36.6	-2.2

IDC 10 04:37:09.9±4.1, 2108S×17462W, h0^{km}, mb3.6/3, mb1 3.9/3, mb1mx3.7/14, mbtmp3.6/3, Error ellipse: s-maj=248.7km s-min=33.6km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	47.46	257	P	P	04 45 46.7	+0.3
	0.8nm,0.8s,baz=101,slow=7.4,SNR=6.7						
WRA	Warramunga Arr	47.65	262	P	P	04 45 47.8	0.0
	0.5nm,0.7s,baz=96,slow=8.1,SNR=4.2						
PDAR	Pinedale Array	87.25	42	P	P	04 49 58.2	0.0
	0.2nm,0.7s,baz=243,slow=6.0,SNR=2.8						
AKASG	Malin Array Be	145.00	333	PKPbc	PKPbc	04 56 47.9	-0.5
	0.6nm,0.5s,baz=39,slow=4.4,SNR=5.2						

IDC 10 04:42:02.4±3.5, 483S×15020E, h0^{km}, mb3.7/3, mb1 4.0/4, mb1mx3.7/14, mbtmp3.9/4, ML3.1/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/21, Error ellipse: s-maj=109.5km s-min=37.8km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.46	213	Pn	Pn	04 43 26.4	+1.4
	3.7nm,0.3s,baz=40,slow=8.1,SNR=9.0						
PMG				Sn	Sn	04 44 30.7	+2.3
	1.6nm,0.3s,baz=310,slow=19,SNR=3.4						
PMG				LR	LR	04 45 30.7	
	comp=Z,222nm,20.2s,baz=15,slow=38						
HNR	Honiara	10.70	116	LR	LR	04 47 52.0	
	comp=Z,233nm,20.8s,baz=359,slow=33						
CTA	Charters Tower	15.65	194	LR	LR	04 50 44.4	
	comp=Z,182nm,20.0s,baz=216,slow=33						
GUMO	Guam	19.05	344	LR	LR	04 52 32.2	
	comp=Z,135nm,19.9s,baz=180,slow=33						
WRA	Warramunga Arr	21.55	224	P	P	04 46 52.6	-0.6
	1.6nm,0.6s,baz=49,slow=10,SNR=12						
DZM	Mont Dzumac	23.27	139	LR	LR	04 54 07.4	
	comp=Z,253nm,21.3s,baz=24,slow=31						
ASAR	Alice Springs	24.45	218	P	P	04 47 22.1	-0.6
	1.5nm,0.8s,baz=45,slow=10,SNR=6.7						
FITZ	Fitzroy Crossi	27.40	239	P	P	04 47 50.7	+1.2
	1.8nm,0.6s,baz=64,slow=11,SNR=8.6						
STKA	Stephens Creek	28.09	196	LR	LR	04 58 01.3	
	comp=Z,106nm,18.9s,baz=25,slow=34						
RAR	Rarotonga	51.14	113	LR	LR	05 08 30.4	
	comp=Z,163nm,18.6s,baz=264,slow=31						
ZAL	Zalesovo	79.76	327	LR	LR	05 28 46.6	
	comp=Z,39nm,19.1s,baz=173,slow=35						
TORD	Torodi Ar. Bea	147.85	287	PKPbc	PKPbc	05 01 50.0	+0.7
	0.7nm,0.9s,baz=87,slow=2.3,SNR=5.0						

IDC 10 04:45:06.7±3.5, 2180S×17436W, h0^{km}, mb4.0/3, mb1 4.3/3, mb1mx3.9/14, mbtmp4.0/3, MS3.6/4, Ms1 3.6/4, ms1mx3.1/30, Error ellipse: s-maj=193.0km s-min=28.6km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.23	18	Pn	Pn	04 46 59.1	-8.2
	6.9nm,0.3s,baz=196,slow=21,SNR=4.7						
AFI				Sn	Sn	04 48 17.6	-23
	4.0nm,0.3s,baz=52,slow=20,SNR=4.1						
AFI				LR	LR	04 49 48.8	
	comp=Z,154nm,20.0s,baz=240,slow=34						
RAR	Rarotonga	13.59	90	Pn	Pn	04 48 14.2	-6.5
	3.2nm,0.3s,baz=307,slow=23,SNR=11						
RAR				Sn	Sn	04 50 36.4	-16
	1.2nm,0.3s,baz=356,slow=21,SNR=2.9						
RAR				LR	LR	04 52 23.8	
	comp=Z,265nm,18.9s,baz=108,slow=32						
URZ	Urewera	17.97	202	P	Pn	04 49 29.9	+12
	0.4nm,0.3s,baz=293,slow=6.5,SNR=3.8						
PPT	Papeete	23.71	84	LR	LR	04 57 11.2	
	comp=Z,109nm,19.7s,baz=292,slow=31						
ASAR	Alice Springs	47.54	257	P	P	04 53 44.5	+0.8
	1.8nm,0.8s,baz=89,slow=8.2,SNR=14						
WRA	Warramunga Arr	47.79	262	P	P	04 53 45.4	-0.3
	1.5nm,0.9s,baz=96,slow=7.8,SNR=5.1						
FITZ	Fitzroy Crossi	56.22	262	LR	LR	05 18 53.3	
	comp=Z,121nm,19.7s,baz=276,slow=36						
NVAR	Mina Array Bea	79.69	41	P	P	04 57 16.6	+0.4
	0.9nm,0.7s,baz=213,slow=6.2,SNR=9.0						
AKASG	Malin Array Be	145.75	333	PKPbc	PKPbc	05 04 46.4	-1.2
	1.7nm,0.5s,baz=39,slow=4.1,SNR=9.8						
BRTR	Keskin Array B	150.21	313	PKPbc	PKPbc	05 05 00.0	+0.4
	1.0nm,0.7s,baz=122,slow=4.5,SNR=5.5						
GERES	GERESS Array B	152.26	349	PKPbc	PKPbc	05 05 04.3	-0.1
	0.3nm,0.4s,baz=270,slow=32,SNR=3.5						
GERES				PKPab	PKPab	05 05 14.1	0.0
	0.3nm,0.3s,baz=41,slow=2.6,SNR=5.7						

IDC 10 04:47:59.2±2.2, 2332S×17984W, h542^{km}±25^{km}, mb3.7/7, mb1 3.9/8, mb1mx3.6/15, mbtmp4.6/8, Error ellipse: s-maj=44.7km s-min=17.1km az=162.0
ISCJB 10 04:48:00.8±2.4, 234S±02×1799W±01, h581^{km}±30^{km}, mb4.3/15, Error ellipse: s-maj=24.9km s-min=17.3km az=19.9
NEIC 10 04:48:01.9±2.8, 2349S×17987W, h583^{km}±32^{km}, mb4.6/10, Error ellipse: s-maj=19.3km s-min=13.3km az=222.0
ISC 10 04:48:00.6±2.3, 235S±02×1798W±01, h566^{km}±27^{km}, n25, σ0ˢ66/23, mb4.3/15, 7D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.96	190	P	P	04 51 09.2	-0.2
	0.8nm,0.3s,baz=229,slow=2.0,SNR=5.1						
ARMA	Armidale	26.36	249	eP	P	04 52 53.8	+1.5
CTA	Charters Tower	31.68	270	⇓iP	P	04 53 38.9	+0.5
	21nm,0.3s,mb5.1						
CTA	Charters Tower	31.68	270	P	P	04 53 39.0	+0.7
	28nm,0.4s,mb5.2,baz=96,slow=11,SNR=60						
CTAO	Charters Tower	31.68	270	⇓eP	P	04 53 38.9	+0.5
PMG	Port Moresby	34.55	288	P	P	04 54 02.5	-0.1
	15nm,0.6s,mb4.7						
STKA	Stephens Creek	35.06	248	⇓iP	P	04 54 07.2	+0.4
	5.9nm,0.5s,mb4.4						
STKA	Stephens Creek	35.06	248	P	P	04 54 07.3	+0.5
	5.8nm,0.4s,mb4.4,baz=94,slow=9.6,SNR=17						
ASAR	Alice Springs	42.30	260	P	P	04 55 05.5	+0.2
	8.5nm,0.5s,mb4.5,baz=95,slow=7.3,SNR=46						
ASAR				S	S	05 00 46.4	+0.8
	0.5nm,0.7s,baz=90,slow=15,SNR=5.2						
WB2	Warramunga Arr	42.62	266	⇓iP	P	04 55 06.9	-0.9
WRAB	Tennant Creek	42.63	266	⇓eP	P	04 55 07.1	-0.6
	11nm,0.7s,mb4.5						
WRA	Warramunga Arr	42.63	266	P	P	04 55 07.5	-0.4
	9.1nm,0.4s,mb4.7,baz=93,slow=8.5,SNR=162						
WRA				ScP	ScP	04 59 49.4	+5.5
	0.5nm,0.8s,baz=92,slow=3.8,SNR=4.9						
KAKA	Kakadu	46.47	275	⇓iP	P	04 55 36.8	-0.5
	6.6nm,0.4s,mb4.5						
FORT	Forrest	46.64	249	eP	P	04 55 38.3	-0.3
	31nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	51.06	265	eP	P	04 56 11.4	+0.2
	10nm,0.7s,mb4.3						
FITZ	Fitzroy Crossi	51.06	265	P	P	04 56 11.9	+0.7
	4.5nm,0.6s,mb4.0,baz=101,slow=3.4,SNR=24						
KLBR	Kellerberrin	55.33	247	eP	P	04 56 41.3	-0.2
	101nm,1.5s,mb4.8						
MBWA	Marble Bar	55.64	260	eP	P	04 56 42.8	-0.8
	11nm,0.5s,mb4.3						
QSPA	South Pole Qui	66.59	180	P	P	04 57 56.1	+0.8
	1.1nm,0.5s,mb3.6						
NVAR	Mina Array Bea	84.32	44	P	P	04 59 34.1	+0.6
	0.5nm,0.5s,mb3.3,baz=207,slow=6.9,SNR=4.0						
SNAA	Sanae	85.07	179	eP	P	04 59 36.0	-1.2
	0.3nm,0.4s,mb3.2						
PDAR	Pinedale Array	92.26	44	P	P	05 00 10.7	+0.1
	0.5nm,0.6s,mb3.7,baz=191,slow=3.0,SNR=5.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ARCES	ARCESS Array B	131.53	348	PKP	PKPdf	05 06 08.2	-1.1
	1.7nm,0.8s,baz=22,slow=1.3,SNR=9.1						
AKASG	Malin Array Be	144.73	328	PKP	PKPdf	05 06 33.0	-0.3
	0.9nm,0.4s,baz=45,slow=4.2,SNR=5.9						
CLL	Collm	150.52	344	⇓iPKPbc	PKPbc	05 06 49.0	+0.2
	comp=Z,6.0nm,0.7s						

IDC 10 04:58:59.7±3.4, 4.92S×150.17E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/13, mbtmp3.6/3, MS3.7/2, Ms1 3.6/2, ms1mx2.6/17, Error ellipse: s-maj=108.8km s-min=47.3km az=117.0

NEIC 10 04:59:10.7±4.6, 5.07S×150.10E, h86km±33km, mb3.7/1, Error ellipse: s-maj=109.6km s-min=43.5km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.20	214	Pn	Pn	05 00 26.0	+0.1
	2.3nm,0.3s,baz=49,slow=9.3,SNR=4.5						
PMG				Sn	Sn	05 01 26.2	+1.5
	0.3nm,0.3s,baz=95,slow=22,SNR=1.7						
WRAB	Tennant Creek	21.29	225	eP	P	05 03 50.9	+0.6
	1.8nm,0.5s						
WRA	Warramunga Arr	21.30	225	P	P	05 03 50.6	+0.3
	1.0nm,0.5s,baz=50,slow=10,SNR=12						
DZM	Mont Dzumac	23.15	138	LR	LR	05 10 46.4	
	comp=Z,185nm,18.7s,baz=21,slow=30						
ASAR	Alice Springs	24.20	219	P	P	05 04 19.3	+0.2
	0.6nm,0.5s,baz=57,slow=8.6,SNR=9.5						
FITZ	Fitzroy Crossi	27.19	240	P	P	05 04 46.4	+0.2
	1.4nm,0.9s,baz=33,slow=17,SNR=3.0						
STKA	Stephens Creek	27.83	196	LR	LR	05 16 47.1	
	comp=Z,110nm,18.6s,baz=25,slow=38						
TORD	Torodi Ar. Bea	147.82	287	PKPbc	PKPbc	05 18 47.3	+1.6
	0.2nm,0.6s,baz=61,slow=3.4,SNR=3.5						

NEIC 10 05:06:21.6±1.7, 31.85S×179.92W, h270km±20km, mb4.1/6, Error ellipse: s-maj=31.7km s-min=20.5km az=184.0

IDC 10 05:06:24.1±3.2, 31.28S×179.82E, h279km±19km, mb3.6/5, mb1 3.9/6, mb1mx3.6/13, mbtmp4.3/6, Error ellipse: s-maj=100.7km s-min=19.9km az=160.0

ISCJB 10 05:06:35.7±0.9, 32.43S±0.08×179.6E±0.2, h421km±10km, mb3.8/8, Error ellipse: s-maj=20.7km s-min=11.2km az=34.2

ISC 10 05:06:38.6±1.0, 32.54S±0.07×179.3E±0.2, h413km±11km, n42, σ1.20/50, mb3.8/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.05	37	P	Px	05 07 16.2	
	232nm,0.3s,baz=90,slow=20,SNR=9.2						
MXZ	Matakaoa Point	5.08	189	PN	P	05 08 01.2	-0.8
MXZ				SN	S	05 09 09.1	-0.8
PUZ	Puketiti	5.59	189	PN	P	05 08 05.2	-2.1
PUZ				SN	S	05 09 17.9	-1.6
MWZ	Matawai	5.96	194	PN	P	05 08 10.6	-0.6
MWZ				SN	S	05 09 28.6	+1.8
URZ	Urewera	5.98	197	P	P	05 08 10.7	-0.7
	20nm,0.3s,baz=360,slow=2.9,SNR=122						
URZ				S	S	05 09 30.1	+2.8
	25nm,0.3s,baz=110,slow=22,SNR=19						
URZ	Urewera	5.98	197	PN	P	05 08 10.9	-0.6
URZ				SN	S	05 09 27.2	0.0
TAZ	Tarawera	6.12	201	PN	P	05 08 16.1	+3.1
PATZ	Paeroa	6.34	202	PN	P	05 08 17.8	+2.5
KNZ	Kokohu	6.60	191	PN	P	05 08 17.5	-0.6
BKZ	Black Stump Fm	7.00	198	PN	P	05 08 22.9	+0.4
TUVZ	Tukino	7.34	203	PN	P	05 08 27.8	+1.5
FWVZ	Far West T-bar	7.36	203	PN	P	05 08 28.4	+1.8
FWVZ				SN	S	05 09 54.5	-0.4
WNVZ	Wahianoa	7.41	203	ePN	P	05 08 26.7	-0.4
WNVZ				SN	S	05 09 58.2	+2.2
MOVZ	Moawhango	7.43	202	PN	P	05 08 28.1	+0.7
MTVZ	Mangateitei	7.51	203	PN	P	05 08 29.3	+1.2
PXZ	Pawanui	7.73	194	PN	P	05 08 30.5	-0.1
PXZ				SN	S	05 10 00.7	-1.8
TSZ	Takapari Road	7.98	199	PN	P	05 08 33.5	+0.1
BFZ	Birch Farm	8.49	196	PN	P	05 08 39.4	+0.4
KIW	Kapiti Island	9.03	202	ePN	P	05 08 44.0	-1.0
KIW				SN	S	05 10 27.7	-1.2
MTW	Mount Morrison	9.13	198	PN	P	05 08 46.1	-0.1
CAW	Cannon Point	9.20	201	PN	P	05 08 45.8	-1.1
PAWZ	Paruwai Farm	9.36	198	PN	P	05 08 49.2	+0.5
PAWZ				SN	S	05 10 33.8	-1.8
MSWZ	Moikau Station	9.43	199	PN	P	05 08 50.6	+1.1
NNZ	Nelson	9.88	207	SN	S	05 10 46.6	+0.3
THZ	Tophouse	10.53	207	ePN	P	05 09 00.8	-0.8
THZ				eSN	S	05 10 56.1	-3.4
KHZ	Kahutara	10.87	203	PN	P	05 09 06.1	+0.7
MQZ	McQueen's Vall	12.31	203	SN	S	05 11 36.7	+0.9
STKA	Stephens Creek	31.82	261	eP	P	05 12 29.1	+2.0
	4.2nm,0.9s,mb3.8						
STKA	Stephens Creek	31.82	261	P	P	05 12 28.6	+1.5
	4.8nm,0.9s,mb3.8,baz=94,slow=10,SNR=4.6						
STKA	Stephens Creek	31.82	261	eP	P	05 12 29.0	+1.8
STKA				eP		05 12 29.1	
CTA	Charters Tower	32.00	285	eP	P	05 12 28.7	+0.1
	5.7nm,0.7s,mb4.0						
CTA	Charters Tower	32.00	285	P	P	05 12 27.8	-0.9
	5.2nm,0.6s,mb4.1,baz=112,slow=9.7,SNR=7.4						
CTAO	Charters Tower	32.00	285	eP	P	05 12 28.5	-0.1
	5.8nm,0.6s,mb4.1						
ASAR	Alice Springs	40.77	271	P	P	05 13 41.5	-0.3
	1.9nm,0.8s,mb3.5,baz=110,slow=8.0,SNR=15						
WB2	Warramunga Arr	41.95	276	eP	P	05 13 50.4	-0.8
WRAB	Tennant Creek	41.96	276	eP	P	05 13 50.0	-1.3
	7.2nm,0.8s,mb4.0						
WRA	Warramunga Arr	41.96	276	P	P	05 13 50.4	-0.9
	2.0nm,0.4s,mb3.8,baz=112,slow=7.9,SNR=34						
QSPA	South Pole Qui	57.57	180	eP	P	05 15 48.8	+1.7
	4.8nm,0.9s,mb3.8						
SNAA	Sanae	76.07	179	P	P	05 17 42.0	-0.2
	0.4nm,0.2s,mb3.7						
NVAR	Mina Array Bea	91.36	44	P	P	05 18 54.5	-4.4
	0.5nm,0.7s,mb3.4,baz=235,slow=11,SNR=4.3						
FINES	FINESS Array B	146.29	337	PKPbc	PKPdf	05 25 26.5	-3.2
	1.9nm,0.8s,baz=61,slow=5.4,SNR=14						
FINES	FINESS Array B	146.29	337	PKPbc	PKPdf	05 25 26.5	-3.2

IDC 10 05:19:44.4±2.1, 6.00S×130.13E, h0km, mb4.4/1, mb1 4.4/4, mb1mx4.0/13, mbtmp4.2/4, ML4.2/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/27, Error ellipse: s-maj=90.8km s-min=26.9km az=77.0

NEIC 10 05:19:48.8±1.3, 6.03S×130.38E, h35km, Error ellipse: s-maj=36.4km s-min=14.5km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.86	201	Pn	Pn	05 22 49.1	+0.1
	1.3nm,0.3s,baz=36,slow=12,SNR=65						
FITZ				Sn	Sn	05 24 55.7	-15
	0.6nm,0.3s,baz=178,slow=20,SNR=3.6						
WRAB	Tennant Creek	14.35	165	ePn	Pn	05 23 09.3	0.0
	7.2nm,0.4s						
WRA	Warramunga Arr	14.35	165	Pn	Pn	05 23 09.5	+0.1
	1.1nm,0.3s,baz=346,slow=13,SNR=50						
WRA				Sn	Sn	05 25 37.3	-10
	1.8nm,0.3s,baz=339,slow=22,SNR=11						
ASAR	Alice Springs	17.86	169	P	Pn	05 23 55.0	+0.6
	0.8nm,0.3s,baz=337,slow=9.4,SNR=30						
ASAR				S	S	05 27 05.3	-13
	0.4nm,0.3s,baz=358,slow=26,SNR=5.5						
CTA	Charters Tower	20.81	134	LR	LR	05 32 45.5	
	comp=Z,76nm,20.3s,baz=218,slow=37						
MKAR	Makanchi Array	67.63	326	P	P	05 30 42.1	+0.1
	2.0nm,0.5s,baz=117,slow=7.9,SNR=14						

IDC 10 05:37:55.1±2.4, 18.27N×147.53E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/18, mbtmp3.8/6, MS2.9/1, Ms1 2.9/1, ms1mx1.9/33, Error ellipse: s-maj=108.4km s-min=22.8km az=87.0

ISCJB 10 05:37:60.0±2.1, 18.2N±0.1×146.9E±0.7, h33km, mb3.8/7, Error ellipse: s-maj=100.9km s-min=19.5km az=174.5

ISC 10 05:38:00.9±2.1, 18.3N±0.1×147.3E±0.7, h35km, n8, σ0.79/7, mb3.8/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	9.96	333	LR	LR	05 43 52.3	
	comp=Z,66nm,20.7s,baz=232,slow=35						
WRA	Warramunga Arr	40.05	199	P	P	05 45 32.8	+0.2
	0.5nm,0.9s,mb3.3,baz=26,slow=8.5,SNR=6.0						
ASAR	Alice Springs	43.69	198	P	P	05 46 02.2	-0.1
	0.4nm,0.9s,mb3.1,baz=18,slow=5.9,SNR=3.7						
SONM	Songino Array	44.42	321	P	P	05 46 08.5	+0.3
	0.3nm,0.3s,mb3.5,baz=143,slow=9.6,SNR=2.6						
BVAR	Borovoye Array	67.77	321	P	P	05 48 54.9	-0.1
	1.1nm,0.5s,mb4.2,baz=89,slow=7.4,SNR=5.3						
ARCES	ARCESS Array B	83.36	342	P	P	05 50 25.9	+1.7
	1.9nm,0.7s,mb4.2,baz=60,slow=5.8,SNR=7.1						
JOF	Joensuu	85.03	336	ep	P	05 50 31.7	-1.1
	1.2nm,0.4s,mb4.4						
FINES	FINESS Array B	87.90	336	P	P	05 50 46.1	-0.7
	0.3nm,0.3s,mb4.0,baz=64,slow=4.3,SNR=5.9						

BJI 10 05:50:05.9, 48.67N×117.07E, h10km, mb4.3, ML4.4, Ms4.1

IDC 10 05:50:09.9±1.1, 48.12N×117.38E, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.7/20, mbtmp3.7/7, ML4.0/2, MS2.7/1, Ms1 2.7/1, ms1mx1.8/38, Error ellipse: s-maj=30.0km s-min=19.5km az=3.0

ISCJB 10 05:50:09.7±0.5, 48.47N±0.04×117.24E±0.04, h10km, mb3.7/6, Error ellipse: s-maj=5.9km s-min=3.7km az=167.4

MOS 10 05:50:10.8±1.4, 48.26N×117.27E, h22km, mb4.3/1, Error ellipse: s-maj=17.6km s-min=12.5km az=107.1

NEIC 10 05:50:11.2±0.6, 48.18N×117.30E, h10km, mb4.2/1, Error ellipse: s-maj=17.7km s-min=9.4km az=179.0

BYKL 10 05:50:12.8±1.6, 48.26N×117.44E, h35km±29km

ISC 10 05:50:11.6±0.5, 48.46N±0.03×117.31E±0.03, h10km, n42, σ1.50/58, mb3.7/6, 1C-2D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIA	Hailar	1.80	62	ePn	Pn	05 50 43.0	+0.3
HIA				ePg	Pg	05 50 44.6	-1.6
HIA				eSn	Sn	05 51 06.6	+1.0
HIA				eSg	Sg	05 51 09.2	-0.3
HIA	Hailar	1.80	62	ePN	Pn	05 50 43.2	+0.5
HIA				eS	Sn	05 51 06.8	+1.2
HIA	Hailar	1.80	62	ePn	Pn	05 50 43.0	+0.2
HIA				eSn	Sn	05 51 09.3	+3.7
KPC	Khapcheranga	3.47	293	⇓iPn	Pn	05 51 06.9	+1.2
	11nm,0.3s						
KPC				⇑iPn	Pn	05 51 06.9	+1.2
	15nm,0.3s						
KPC				⇓iPn	Pn	05 51 06.9	+1.2
	16nm,0.3s						
KPC				ePg	Pg	05 51 17.1	-1.0
KPC				Pmax		05 51 18.5	
	98nm,0.6s						
KPC				eSn	Sn	05 51 50.4	+3.6
KPC				eSg	Sg	05 52 03.6	+0.5
KPC				Smax		05 52 10.0	
	508nm,1.0s						
KPC	Khapcheranga	3.47	293	ePN	Pn	05 51 07.8	+2.1
KPC				e		05 51 16.1	
KPC				eS	Sn	05 51 50.2	+3.4
KPC				e		05 52 03.7	
KPC				pmax	pmax		
	comp=Z,75nm,0.4s						
KPC				smax			
	comp=N,493nm,0.6s						
TUP	Tupik	6.20	14	ePn	Pn	05 51 45.9	+2.7
TUP				ePg	Pg	05 52 07.9	-2.5
TUP				Pmax		05 52 13.9	
	comp=N,15nm,0.7s						
TUP				eSg	Sg	05 53 29.8	-0.9
TUP				Smax		05 53 36.9	
	comp=N,234nm,1.4s						
TUP	Tupik	6.20	14	ePN	Pn	05 51 45.8	+2.6
TUP				e		05 52 06.2	
TUP				eS	Sn	05 52 54.9	+0.7
TUP				e		05 53 29.5	
TUP				pmax	pmax		
	comp=Z,13nm,0.4s						
TUP				smax			
	comp=E,213nm,1.2s						
ULN	Ulaanbaatar	6.88	269	e	Pn	05 51 51.7	-0.9
ULN				e		05 53 08.4	
ULN				eSg	Sg	05 53 46.2	-6.4
ULN	Ulaanbaatar	6.88	269	ePN	Pn	05 51 51.7	-0.9
ULN				e		05 53 11.6	
ULN				pmax	pmax		
	comp=Z,12nm,0.3s						
ULN	Ulaanbaatar	6.88	269	ePn	Pn	05 51 51.7	-0.9
	comp=Z,12nm,0.3s						
ULN				eSn	Sn	05 53 11.6	+0.7
SYVR	Suvo	6.95	321	eSg	Sg	05 53 55.7	+1.0
SYVR				Smax		05 54 00.4	
	comp=Z,88nm,1.0s						
MXMB	Maximikha	7.25	315	e	Pg	05 52 30.8	+0.5
MXMB				eSg	Sg	05 54 01.9	-2.2
MXMB				Smax		05 54 18.5	
	comp=Z,305nm,1.1s						
TRTB	Turuntaevo	7.25	305	e	Sn	05 53 20.5	+0.5
TRTB				eSg	Sg	05 54 01.0	-3.3
TRTB				Smax		05 54 16.8	
	comp=Z,167nm,0.9s						
CN2	Changchun	7.32	126	eP	Pn	05 51 53.7	-4.9
SONM	Songino Array	7.33	269	Pn	Pn	05 51 57.5	-1.1
	comp=Z,2.9nm,0.3s,baz=86,slow=13,SNR=48						
SONM				Pg	Pg	05 52 26.2	-5.7
	comp=Z,2.4nm,0.3s,baz=88,slow=20,SNR=5.7						
SONM				Sn	Sn	05 53 23.1	+1.2
	comp=Z,4.4nm,0.3s,baz=81,slow=23,SNR=6.7						
SONM				Lg		05 54 04.6	
	comp=Z,8.6nm,0.3s,baz=86,slow=28,SNR=7.6						
UKT	Uakit	7.40	344	e	Pn	05 52 01.8	+2.2
UKT				e		05 53 24.2	
UKT				eSg	Sg	05 54 07.3	-1.8
UKT				Smax		05 54 25.7	
	comp=Z,97nm,1.5s						
UKT	Uakit	7.40	344	ePN	Pn	05 52 01.1	+1.5
UKT				e		05 52 26.2	
UKT				eS	Sn	05 53 25.7	+2.0
UKT				e		05 54 04.5	
UKT				pmax	pmax		
	comp=Z,3.0nm,0.6s						
UKT				smax			
	comp=E,97nm,1.3s						
YLYR	Ulyunkhan	7.48	332	ePn	Pn	05 52 03.0	+2.3
YLYR				ePg	Pg	05 52 30.8	-3.9
YLYR				Pmax		05 52 42.7	
	comp=E,5.0nm,0.7s						
YLYR				e		05 53 47.3	
YLYR				eSg	Sg	05 54 09.5	-2.0
YLYR				Smax		05 54 24.4	
	comp=E,99nm,1.9s						
YLYR	Ulyunkhan	7.48	332	ePN	Pn	05 52 03.1	+2.4
YLYR				e		05 52 28.9	
YLYR				e		05 54 08.2	
YLYR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YLYR				smax			
	comp=E,99nm,1.9s						
FFNB	Fofonovo	7.65	302	e	Pg	05 52 36.7	-1.4
FFNB				eSg	Sg	05 54 16.3	-0.9
FFNB				Smax		05 54 33.3	
	comp=E,433nm,1.1s						
OGRR	Ongureny	8.02	314	ePG	Px	05 52 37.6	
OGRR				e		05 54 28.2	
OGRR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
OGRR				smax			
	comp=E,22nm,0.8s						
NLYR	Nelyaty	8.11	354	e	Sn	05 53 40.1	-1.0
NLYR				eSg	Sn	05 54 32.6	+52
NLYR				Smax		05 54 49.3	
	comp=E,238nm,0.9s						
TRG	Tyrgan	8.19	306	e	Pb	05 52 30.0	-3.6
TRG				eSg	Sn	05 54 32.9	+50
TRG				Smax		05 54 42.4	
	comp=E,77nm,1.5s						
KMO	Kumora	8.33	336	e	Sn	05 53 48.4	+1.8
KMO				eSg	Sn	05 54 36.7	+50
KMO				Smax		05 54 59.8	
	comp=E,147nm,1.1s						
CRS	Chara	8.48	4	ePg	Px	05 52 50.9	
CRS				Pmax		05 52 56.6	
	comp=E,6.0nm,0.8s						
CRS				eSg	Sx	05 54 42.6	
CRS				Smax		05 54 54.2	
	comp=E,186nm,2.0s						
LSTR	Listvyanka	8.71	298	ePg	Px	05 52 52.9	
LSTR				Pmax		05 52 57.6	
	comp=E,6.0nm,0.7s						
LSTR				eSg	Sx	05 54 49.3	
LSTR				Smax		05 55 06.7	
	comp=E,115nm,1.8s						
NIZ	Nizh Angarsk	8.74	330	e	rx	05 53 33.3	
NIZ				eSg	Sx	05 54 52.0	
NIZ				Smax		05 55 15.2	
	comp=E,85nm,1.9s						
ZAK	Zakamensk	9.35	287	eSg	Sx	05 55 04.8	
ZAK				Smax		05 55 23.2	
	comp=E,174nm,1.3s						
BOD	Bodaibo	9.59	349	e	rx	05 54 38.1	
BOD				eSg	Sx	05 55 14.5	
BOD				Smax		05 55 22.6	
	comp=E,45nm,2.0s						
ARS	Arshan	10.15	296	eSg	Sx	05 55 34.0	
ARS				Smax		05 55 52.9	
	comp=E,108nm,1.0s						
MOY	Mondy	10.97	293	e	rx	05 55 39.9	
MOY				eSg	Sx	05 55 59.5	
MOY				Smax		05 56 10.2	
	comp=E,76nm,1.3s						
LZH	Lanzhou	15.84	224	eP	Pn	05 53 52.9	-1.8
LZH				AP	pP	05 53 57.0	-4.3
LZH				XP	sP	05 54 00.5	-2.1
LZH				AMB	AMB		
	comp=Z,13nm,1.0s						
ASAJ	Asahikawa	17.98	94	LR	LR	06 00 50.3	
	comp=Z,23nm,18.6s,baz=142,slow=36						
MJAR	Matsushiro Arr	19.40	120	Pn	Pn	05 54 37.2	-1.7
	comp=Z,0.4nm,0.3s,baz=328,slow=12,SNR=4.3						
KURK	Kurchatov	24.99	290	eP	P	05 55 35.9	+0.5
KURK				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.1						
KURK	Kurchatov	24.99	290	eP	P	05 55 35.9	+0.4
	comp=Z,8.7nm,1.5s,mb4.1						
FINES	FINESS Array B	49.64	321	P	P	05 59 05.7	+2.4
	comp=Z,1.1nm,0.8s,mb3.9,baz=98,slow=14,SNR=4.1						
YKA	Yellowknife Ar	61.95	24	P	P	06 00 32.4	+0.9
	comp=Z,0.8nm,0.8s,mb3.9,baz=323,slow=7.1,SNR=5.3						
YKA	Yellowknife Ar	61.95	24	P	P	06 00 32.4	+0.9
WRA	Warramunga Arr	69.77	163	P	P	06 01 19.7	-2.2
	comp=Z,0.4nm,0.7s,mb3.5,baz=353,slow=6.9,SNR=5.7						
PDAR	Pinedale Array	80.23	33	P	P	06 02 23.1	+0.8
	comp=Z,0.3nm,0.7s,mb3.3,baz=22,slow=4.8,SNR=4.4						
NVAR	Mina Array Bea	80.41	41	P	P	06 02 25.1	+1.8
	comp=Z,0.2nm,0.4s,mb3.4,baz=333,slow=3.3,SNR=4.4						

IDC 10 05:51:25.3±3.6, 5.56S×150.87E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/12, mbtmp3.6/3, Error ellipse: s-maj=131.3km s-min=48.6km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.30	224	Pn	Pn	05 52 51.4	+5.6
	0.7nm,0.3s,baz=307,slow=10,SNR=2.9						
WRA	Warramunga Arr	21.51	227	P	P	05 56 17.8	+2.1
	1.0nm,0.8s,baz=51,slow=10,SNR=5.6						
ASAR	Alice Springs	24.31	221	P	P	05 56 43.0	-1.4
	0.7nm,0.7s,baz=52,slow=8.9,SNR=6.1						
FITZ	Fitzroy Crossi	27.61	241	P	P	05 57 15.0	+0.7
	1.2nm,0.7s,baz=131,slow=16,SNR=5.4						
TORD	Torodi Ar. Bea	148.69	286	PKPbc	PKPbc	06 11 15.2	+0.8
	0.4nm,0.8s,baz=92,slow=3.1,SNR=2.4						

GUC 10 05:57:49.1±0.8, 32.65S×71.76W, h29km±8km, MD3.5, ML2.4, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.29	68	⇓iP	Pb	05 57 56.5	+0.2
PACH				iS	Sb	05 58 01.9	+0.6
ROCH	El Roble	0.71	117	⇑iP	Pb	05 58 02.8	-0.1
ROCH				iS	Sb	05 58 13.0	+0.7
JACH	Jahuel	0.98	92	iP	Pn	05 58 06.8	-0.1
JACH				iS	Sn	05 58 20.5	+0.6
PEL	Peldehue	1.03	119	⇑iP	Pn	05 58 08.0	+0.4
PEL				iS	Sn	05 58 22.3	+1.2
PEL				AML	AML	05 58 25.1	
	comp=E,425nm,0.3s						
TACH	Talagante	1.22	146	⇑iP	Pn	05 58 10.6	+0.5
TACH				iS	Sn	05 58 25.8	+0.1
CLCH	Cerro Calan	1.27	126	⇓iP	Pn	05 58 11.5	+0.6
CLCH				iS	Sn	05 58 28.6	+1.6
CLCH				AML	AML	05 58 34.9	
	comp=E,88nm,0.6s						
LNV	Longovilo	1.34	167	⇓iP	Pn	05 58 12.2	+0.3
FCH	Farellones	1.41	119	⇓iP	Pn	05 58 13.8	+1.0
FCH				iS	Sn	05 58 32.6	+2.3
FCH				AML	AML	05 58 34.2	
	comp=N,62nm,0.1s						
PCH	Pirque	1.43	133	eP	Pn	05 58 14.2	+1.1
CMCH	Combarbala	1.60	24	eP	Pn	05 58 16.2	+0.7
CMCH				eS	Sn	05 58 37.7	+2.4
CMCH				AML	AML	05 58 43.8	
	comp=E,139nm,0.6s						
CACH	El Canelo	1.76	147	eP	Pn	05 58 20.1	+2.5

IDC 10 06:03:07.5±1.7, 51.62N×179.08W, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.1/24, mbtmp4.2/12, ML4.2/1, Error ellipse: s-maj=52.4km s-min=16.9km az=5.0

ISCJB 10 06:03:09.7±0.6, 51.3N±0.1×179.00W±0.06, h34km, mb4.4/31, MS4.2/2, Error ellipse: s-maj=20.3km s-min=4.9km az=167.5

BJI 10 06:03:10.0, 51.27N×179.73W, h8km, mB5.1, mb4.6, Ms4.5, Msz4.0

NEIC 10 06:03:11.1±0.9, 51.08N×179.04W, mb4.1/10, ML3.8(AEIC), Error ellipse: s-maj=27.3km s-min=8.1km az=179.0

MOS 10 06:03:12.2±0.8, 51.33N×178.96W, h57km, mb4.4/14, Error ellipse: s-maj=16.4km s-min=12.0km az=102.1

ISC 10 06:03:11.4±0.6, 51.3N±0.1×179.01W±0.06, h36km, h36km±4.0km:pP-P, n72, σ1.11/73, mb4.4/31, MS4.2/2, 4C-1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	1.06	275	P	Pn	06 03 27.7	-2.1
AMKA				S	Sn	06 03 45.0	+1.7
ATKA	Atka Island	3.12	71	P	Pn	06 03 59.6	+1.5
SMY	Shemya	4.49	291	eP	Pn	06 04 19.8	+2.9
SMY				eS	Sn	06 05 17.6	+10
UNV	Unalaska Valle	8.04	67	ePn	Pn	06 05 05.8	+0.3
SVW2	Sparrevohn	16.22	44	eP	Pn	06 06 59.6	+3.1
KDAK	Kodiak Island	16.58	57	Pn	Pn	06 06 57.7	-3.3
	1.0nm,0.3s,baz=267,slow=10.0,SNR=12						
KDAK	Kodiak Island	16.58	57	Pn	Pn	06 06 57.7	-3.3
SLKM	Skilak Lake	18.44	49	eP	Pn	06 07 25.3	+1.3
SML	Sawmill	19.71	46	eP	Pn	06 07 39.9	+0.6
COLA	College	21.05	38	eP	P	06 07 52.6	+0.4
COLA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.7						
COLA	College	21.05	38	eP	P	06 07 52.6	+0.4
	comp=Z,2.9nm,0.7s,mb3.7						
DAWY	Dawson	24.25	43	eP	P	06 08 24.3	-0.7
YSS	Yuzh-Sakhalins	25.20	275	eP	P	06 08 34.8	+1.2
YSS				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.3						
YAK	Yakutsk	29.37	311	eP	P	06 09 13.0	+2.0
YAK				pmax	pmax		
	comp=Z,14nm,0.5s,mb5.0						
KLR	Kul'dur	31.08	286	eP	P	06 09 22.0	-4.1
YKA	Yellowknife Ar	35.38	46	P	P	06 10 03.3	-0.3
	comp=Z,0.9nm,0.4s,mb4.0,baz=282,slow=7.4,SNR=18						
CN2	Changchun	37.44	281	eP	P	06 10 19.7	-1.4
HAWA	Hanford	38.51	73	eP	P	06 10 31.0	+0.8
	comp=Z,0.2nm,0.5s						
HAWA				epP	pP	06 10 40.3	-0.2
EDM	Edmonton	38.97	61	eP	P	06 10 33.0	-1.0
EDM				e*PP	pP	06 10 44.5	+0.1
NEW	Newport	39.03	69	P	P	06 10 34.5	-0.1
	comp=Z,1.4nm,0.6s,mb3.9,baz=345,slow=7.1,SNR=5.0						
NEW	Newport	39.03	69	P	P	06 10 34.5	-0.1
NEW				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NEW	Newport	39.03	69	eP	P	06 10 33.7	-0.9

comp=Z,2.1nm,0.7s,mb4.0
NEW ePP pP 06 10 45.6 +0.7
SNY Shenyang 39.66 279 ⇑P P 06 10 43.8 +4.0
SNY AMB AMB
comp=Z,15nm,0.4s,mb5.1
SNY AMB AMB
comp=Z,246nm,4.5s
HLID Hailey 43.09 74 eP **P 06 11 07.9 0.0**
comp=Z,1.3nm,0.8s,mb3.7
MCMT McKenzie Canyo 43.33 72 eP **P 06 11 09.3 -0.6**
EGMT Eagleton 43.43 66 eP **P 06 11 10.5 -0.2**
comp=Z,2.2nm,0.5s,mb4.1
BOZ Bozeman (W) 43.60 70 eP **P 06 11 12.2 +0.1**
BOZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
BOZ Bozeman (W) 43.60 70 eP **P 06 11 12.2 +0.1**
comp=Z,1.9nm,0.6s,mb4.0
NVAR Mina Array Bea 43.69 83 P **P 06 11 15.6 +2.8**
comp=Z,0.3nm,0.7s,baz=275,slow=9.6,SNR=4.2
LAO LASA Array 46.17 66 eP **P 06 11 32.5 0.0**
comp=Z,3.9nm,0.6s,mb4.5
ULN Ulaanbaatar 46.18 296 eP **P 06 11 32.6 0.0**
ULN pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
ULN Ulaanbaatar 46.18 296 eP **P 06 11 32.6 +0.1**
comp=Z,1.2nm,0.6s,mb4.0
BW06 Boulder Array 46.46 72 eP **P 06 11 34.8 0.0**
comp=Z,4.5nm,0.8s,mb4.5
PDAR Pinedale Array 46.46 72 P **P 06 11 35.0 +0.2**
comp=Z,4.7nm,0.8s,mb4.5,baz=318,slow=4.1,SNR=34
SONM Songino Array 46.56 297 P **P 06 11 35.9 +0.3**
comp=Z,1.4nm,0.7s,mb4.0,baz=52,slow=9.9,SNR=9.5
ZAK Zakamensk 46.88 301⇑eP **P 06 11 38.2 +0.1**
ZAK pmax pmax
comp=Z,2.0nm,1.5s,mb3.8
HHC Hu-ho-hao-te 47.59 286 eP **P 06 11 45.4 +1.8**
HHC AP pP 06 11 56.2 +2.1
HHC PP PP 06 13 36.7 +1.5
HHC S **S 06 18 37.6 +1.2**
HHC SCS ScS 06 21 33.6 -0.8
HHC SS SS 06 21 59.8 -4.8
HHC AMB AMB
comp=Z,13nm,0.5s,mb5.2
HHC AMB AMB
comp=Z,138nm,6.2s
HHC LR LR
comp=E,335nm,19.0s
SSE Sheshan 47.87 269 eP **P 06 11 44.3 -1.4**
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,152nm,3.5s
NJ2 Nanjing 48.68 272 eP **P 06 11 51.3 -0.7**
NJ2 PP PP 06 13 44.3 -0.9
NJ2 S **S 06 18 49.0 -3.0**
NJ2 XS sS 06 19 08.0 -1.4
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
NJ2 AMB AMB
comp=Z,266nm,4.4s
NJ2 LR LR
comp=Z,1μm,16.9s,MS5.0
GTA Gaotai 55.48 292 P **P 06 12 42.5 0.0**
GTA AP pP 06 12 48.2 -5.1
GTA XP sP 06 12 51.0 -6.5
GTA AMB AMB
comp=Z,3.0nm,0.7s,mb4.4
ARCES ARCESS Array B 58.15 350 P **P 06 13 00.1 -1.4**
comp=Z,1.4nm,0.6s,mb4.1,baz=19,slow=7.7,SNR=7.0
ARCES ARCESS Array B 58.15 350 P **P 06 13 00.1 -1.4**
ARCES pmax pmax
comp=Z,1.0nm,0.6s
KURK Kurchatov 58.98 314 eP **P 06 13 06.9 -0.4**
KURK pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
KURK Kurchatov 58.98 314 eP **P 06 13 06.9 -0.4**
comp=Z,4.4nm,1.1s,mb4.4
WMQ Urumqi 59.27 303 P **P 06 13 16.5 +7.2**
MKAR Makanchi Array 59.98 308 P **P 06 13 13.3 -0.9**
comp=Z,2.0nm,0.4s,mb4.5,baz=48,slow=5.7,SNR=16
MKAR Makanchi Array 59.98 308 P **P 06 13 13.3 -0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
BVAR Borovoye Array 60.87 320 P **P 06 13 20.9 +0.6**
comp=Z,0.8nm,0.4s,mb4.2,baz=9.3,slow=6.2,SNR=5.0
BVAR Borovoye Array 60.87 320 P **P 06 13 20.9 +0.7**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
KMI Kunming 63.61 278 P **P 06 13 42.2 +3.6**
KMI AP pP 06 13 51.2 +1.7
KMI XP sP 06 13 55.4 +1.8
KMI AMB AMB
comp=Z,7.0nm,0.8s,mb4.7
KMI LR LR
comp=Z,27nm,16.6s,MS3.5
JOF Joensuu 63.64 345 ep **P 06 13 37.4 -1.4**
comp=Z,1.7nm,0.4s,mb4.4
JOF Joensuu 63.64 345 eP **P 06 13 37.4 -1.4**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
KAF Kangasniemi 65.16 347 ep **P 06 13 45.5 -3.2**
FINES FINESS Array B 65.83 347 P **P 06 13 51.6 -1.5**
comp=Z,0.8nm,0.3s,mb4.2,baz=23,slow=5.7,SNR=15
FINES FINESS Array B 65.83 347 P **P 06 13 51.6 -1.5**
FINES pmax pmax
comp=Z,1.0nm,0.3s
AAK Ala-Archa 66.81 310⇑eP **P 06 13 59.0 -0.4**
OBN Obninsk 69.90 339⇓eP **P 06 14 17.9 -0.8**
OBN e 06 16 56.1
OBN pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
GUN Gumba 71.77 292 eP **P 06 14 30.7 +0.7**
comp=Z,32nm,0.4s
JIRN Jiri 71.77 291 eP **P 06 14 30.0 -0.1**
KKN Kakani 72.20 292 eP **P 06 14 32.6 -0.1**
comp=Z,11nm,0.4s,mb5.2
PKI Pulchoki 72.29 292 eP **P 06 14 33.3 +0.1**
GKN Gorkha 72.42 293 eP **P 06 14 34.0 +0.1**
DMN Daman 72.44 292 eP **P 06 14 34.4 +0.3**
comp=Z,6.1nm,0.5s,mb4.8
KOLN Koldanda 73.19 293 eP **P 06 14 38.7 +0.2**
AKASG Malin Array Be 75.58 342 P **P 06 14 51.4 -1.1**
comp=Z,2.5nm,0.4s,mb4.5,baz=20,slow=6.0,SNR=6.1
AKASG Malin Array Be 75.58 342 P **P 06 14 51.4 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
KHC Kasperske Hory 79.37 352⇑eP **P 06 15 09.0 -4.6**
BRTR Keskin Array B 84.96 335 P **P 06 15 42.6 -0.2**
comp=Z,1.6nm,0.8s,mb4.2,baz=59,slow=2.0,SNR=7.8
BRTR Keskin Array B 84.96 335 P **P 06 15 42.7 -0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
TSUM Tsumeb 145.39 332 PKPbc PKPbc 06 22 44.7 -0.7
comp=Z,1.9nm,0.8s,baz=139,slow=6.6,SNR=4.3
LBTB Lobatse 147.69 315 PKPbc PKPbc 06 22 52.1 -0.1
comp=Z,1.8nm,0.4s,baz=348,slow=5.4,SNR=6.1
LBTB Lobatse 147.69 315 PKP2 PKPbc 06 22 52.1 0.0
LBTB pmax pmax
comp=Z,2.0nm,0.4s

JMA 10 06:05:37.8±0.2**, 4379N**×**14695E, h92**km±3km**, M3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.97**	**245**	P	Pn	06 05 57.3	0.0
NEM2				eS	Sn	06 06 11.8	-0.2
JRA	**Rausu**	**1.33**	**277**	P	Pn	06 06 01.6	+0.1
JRA				eS	Sn	06 06 19.7	+0.3
JNK	**Nakash**	**1.63**	**264**	P	Pn	06 06 05.4	+0.1
JNK				eS	Sn	06 06 25.9	-0.2
JAK	**Akkeshi**	**1.82**	**245**	P	Pn	06 06 07.8	0.0
JAK				eS	Sn	06 06 30.6	0.0
JTKR	**Abashiri--Toko**	**2.21**	**276**	P	Pn	06 06 12.7	-0.1
JTKR				eS	Sn	06 06 39.0	-0.5
JAR	**Ashorobuto**	**2.37**	**259**	P	Pn	06 06 15.7	+0.9
JAR				eS	Sn	06 06 44.1	+0.9
JOB	**Onbets**	**2.44**	**250**	P	Pn	06 06 16.5	+0.7
JOB				eS	Sn	06 06 45.1	+0.1
JMP	**Maruseppu**	**2.60**	**276**	P	Pn	06 06 18.2	+0.2
JMP				eS	Sn	06 06 48.9	0.0
JCH	**Churui**	**2.87**	**247**	P	Pn	06 06 22.5	+0.9
JCH				eS	Sn	06 06 54.7	-0.7
JKK2	**Kamakawa 2**	**3.04**	**273**	P	Pn	06 06 24.3	+0.4
ASAJ	**Asahikawa**	**3.16**	**277**	P	Pn	06 06 26.2	+0.7
JFR	**Furan**	**3.23**	**260**	P	Pn	06 06 27.1	+0.6
JNBK	**Urakawa-nobuka**	**3.43**	**245**	P	Pn	06 06 28.8	-0.3

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*TEH **10** 06:07:09.9, 29.19N×51.29E, h34km, Mn3.5*
*ISCJB **10** 06:07:10.9±1.4, 29.63N±0.08×51.47E±0.08, h10km, Error ellipse: s-maj=14.3km s-min=5.3km az=87.7*
*CSEM **10** 06:07:16.7±0.2, 30.05N×51.82E, h14km, ML3.4, Error ellipse: s-maj=7.0km s-min=1.9km az=61.0*
*THR **10** 06:07:16.9±0.4, 30.15N×51.90E, h18km±11km, ML3.4*
ISC 10 06:07:15.1±1.1**, 29.78N**±0.06×**51.56E**±0.08**, h10**km**, n18, σ1.47**/24**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOK	**Mook**	**1.24**	**126**	ePg	**Pg**	**06 07 41.9**	**+2.9**
ISRV	**Sarvestan**	**1.41**	**106**	ePg	**Pg**	**06 07 39.2**	**-3.0**
ISRV				eSg	**Sg**	**06 08 00.2**	**-0.3**
GHIR	**Ghir-Karzin**	**1.94**	**140**	ePG	**Pg**	**06 07 54.8**	**+2.5**
GHIR				AML	AML	06 08 34.9	
	comp=E,193nm,0.7s						
GHIR				AML	AML	06 08 39.5	
	comp=N,159nm,0.4s						
IPIR	**Pirpir**	**2.95**	**349**	ePn	**Pn**	**06 08 01.6**	**-0.4**
IPIR				eSn	**Sn**	**06 08 38.0**	**+0.5**
IMEH	**Mehriz**	**3.08**	**58**	ePn	**Pn**	**06 08 02.6**	**-1.2**
IZEF	**Zefreh**	**3.18**	**12**	ePn	**Pn**	**06 08 06.6**	**+1.5**
IZEF				eSn	**Sn**	**06 08 44.2**	**+1.1**
NASN	**Na'in**	**3.20**	**19**	ePN	**Pn**	**06 08 02.7**	**-2.7**
ICHK	**Chekchek**	**3.47**	**44**	ePn	**Pn**	**06 08 09.1**	**0.0**
IKLH	**Kalahroud**	**3.53**	**0**	ePn	**Pn**	**06 08 09.6**	**-0.4**
IKLH				eSn	**Sn**	**06 08 53.4**	**+1.6**
IBAF	**Bafgh**	**3.90**	**61**	ePn	**Pn**	**06 08 12.4**	**-2.6**
IBAF				eSn	**Sn**	**06 09 01.6**	**+0.8**
KRBR	**Kerman**	**4.52**	**86**	ePN	**Pn**	**06 08 22.6**	**-0.9**
KRBR				AML	AML	06 09 39.9	
	comp=E,58nm,0.7s						
KRBR				AML	AML	06 09 46.5	
	comp=N,61nm,0.8s						
KRBR	**Kerman**	**4.52**	**86**	ePn	**Pn**	**06 08 22.6**	**-1.0**
	SNR=52						
ISFB	**Sefidab**	**4.60**	**7**	ePn	**Pn**	**06 08 24.7**	**0.0**
ISFB				eSn	**Sn**	**06 09 21.1**	**+3.0**
BNDS	**Bandar-Abbas**	**4.70**	**119**	ePN	**Pn**	**06 08 28.4**	**+2.4**
BNDS				AML	AML	06 09 25.1	
	comp=E,22nm,0.6s						
BNDS				AML	AML	06 09 34.6	
	comp=N,31nm,0.6s						
IVRN	**Varamin**	**5.21**	**2**	ePn	**Pn**	**06 08 32.7**	**-0.3**
IDMV	**Damavand**	**5.80**	**4**	ePn	**Pn**	**06 08 40.2**	**-0.9**
DAMV	**Damavand**	**5.85**	**3**	ePN	**Pn**	**06 08 39.8**	**-2.0**
IAFJ	**Afjeh**	**6.06**	**1**	ePn	**Pn**	**06 08 44.3**	**-0.5**

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*ISCJB **10** 06:28:35.2±6.3, 4.7S±0.4×150.4E±0.6, h0km, mb4.3/3, MS3.4/2, Error ellipse: s-maj=94.9km s-min=41.0km az=135.4*
*IDC **10** 06:28:39.3±3.5, 4.98S×150.30E, h0km, mb3.9/2, mb1 4.2/4, mb1mx3.9/14, mbtmp4.1/4, ML3.5/2, MS3.4/4, Ms1 3.4/4, ms1mx3.0/20, Error ellipse: s-maj=115.8km s-min=41.0km az=109.0*
ISC 10 06:28:37.2±6.3**, 4.7S**±0.4×**150.4E**±0.6**, h0**km**, n9, σ1.19**/6**, mb4.3**/3**, MS3.4**/2**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.66**	**215**	Pn	**Pn**	**06 30 02.8**	**+0.3**
	4.2nm,0.3s,baz=52,slow=14,SNR=5.0						
PMG				LR	LR	06 31 56.4	
	comp=Z,248nm,21.4s,baz=58,slow=37						
HNR	**Honiara**	**10.54**	**117**	LR	LR	06 34 30.2	
	comp=Z,113nm,21.0s,baz=178,slow=33						
CTA	**Charters Tower**	**15.79**	**195**	Pn	**Pn**	**06 32 21.4**	**+0.5**
	0.3nm,0.3s,baz=356,slow=13,SNR=4.5						
WB2	**Warramunga Arr**	**21.76**	**225**	eP	**P**	**06 33 30.0**	**-0.4**
WRA	**Warramunga Arr**	**21.77**	**225**	P	**P**	**06 33 29.7**	**-0.7**
	5.7nm,0.8s,mb4.0,baz=51,slow=10,SNR=12						
DZM	**Mont Dzumac**	**23.19**	**139**	LR	LR	06 41 02.6	
	comp=Z,280nm,20.8s,MS3.7,baz=215,slow=32						
ASAR	**Alice Springs**	**24.66**	**219**	P	**P**	**06 33 58.5**	**-1.1**
	2.2nm,0.7s,mb4.0,baz=56,slow=8.3,SNR=9.2						
ASAR				LR	LR	06 43 47.3	
	comp=Z,78nm,21.0s,MS3.2,baz=198,slow=37						
FITZ	**Fitzroy Crossi**	**27.64**	**239**	eP	**P**	**06 34 27.9**	**+1.4**
	12nm,0.8s,mb4.8						
TORD	**Torodi Ar. Bea**	**148.03**	**287**	PKPbc	PKPbc	06 48 27.6	+3.0
	1.2nm,0.7s,baz=64,slow=2.7,SNR=6.4						

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*NNC **10** 06:34:46.9±5.5, 39.33N×76.17E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=44.0km s-min=25.7km az=144.0*
*ISCJB **10** 06:34:47.2±2.5, 39.34N±0.08×76.39E±0.09, h15km±17km, mb3.6/5, Error ellipse: s-maj=14.0km s-min=11.4km az=13.1*
*BJI **10** 06:34:48.9, 39.91N×76.70E, h13km, ML3.5*
*MOS **10** 06:34:50.2±2.5, 39.75N×76.58E, h33km, mb3.9/3, Error ellipse: s-maj=30.8km s-min=15.1km az=83.3*
*IDC **10** 06:34:56.4±6.0, 40.11N×76.33E, h70km±46km, mb3.4/4, mb1 3.5/7, mb1mx3.3/22, mbtmp3.6/7, ML3.4/3, Error ellipse: s-maj=60.3km s-min=24.1km az=158.0*
ISC 10 06:34:47.8±1.8**, 39.41N**±0.08×**76.93E**±0.10**, h25**km±13km**, n28, σ0.71**/35**, mb3.6**/5**, 3C-4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.75**	**279**⇓	iPG	**Pb**	**06 35 01.6**	**-0.6**
KSH				SG	**Sb**	**06 35 12.1**	**+0.1**
KSH				Smax			
	comp=N,7μm,0.5s						
KSH				Smax			
	comp=E,3μm,0.5s						
ULHL	**Ulahol**	**2.88**	**350**	P	**Pn**	**06 35 32.9**	**+0.8**
	SNR=20						
KZA	**Kyzart**	**2.96**	**335**	P	**Pn**	**06 35 33.0**	**-0.1**
	SNR=165						
UCH	**Uchtor**	**3.36**	**328**	P	**Pn**	**06 35 38.6**	**-0.1**
	SNR=126						
KBK	**Karagaybulak**	**3.58**	**336**	P	**Pn**	**06 35 41.8**	**+0.2**
	SNR=14						
TKM2	**Tokmak 2**	**3.65**	**344**	P	**Pn**	**06 35 43.2**	**+0.5**
	SNR=24						
TKM2	**Tokmak 2**	**3.65**	**344**	⇑Pn	**Pn**	**06 35 43.0**	**+0.3**
	comp=E,1.4nm,0.5s						
TKM2				⇑Sn	**Sn**	**06 36 25.6**	**+0.7**
	comp=E,6.1nm,0.6s						
AML	**Almayashu**	**3.67**	**319**	P	**Pn**	**06 35 48.3**	**+5.4**
	SNR=5.2						
AAK	**Ala-Archa**	**3.71**	**331**	P	**Pn**	**06 35 43.0**	**-0.4**
	SNR=10						
KNDC	**Almaty**	**3.81**	**0**	⇓Pn	**Pn**	**06 35 50.2**	**+5.4**
	comp=E,79nm,0.7s						
KNDC				⇓Sn	**Sn**	**06 36 36.8**	**+8.1**
	comp=E,645nm,0.8s						
FRU	**Bishkek**	**3.84**	**334**	ePN	**Pn**	**06 35 45.5**	**+0.2**
FRU				i S	**Sn**	**06 36 36.0**	**+6.4**
FRU				pmax	pmax		
	comp=Z,70nm,1.0s						
FRU				smax			
	comp=E,480μm,1.1s						
CHMS	**Chumysh**	**3.95**	**336**	P	**Pn**	**06 35 46.8**	**+0.1**
	SNR=14						
EKS2	**Erkin-Say**	**4.03**	**325**	P	**Pn**	**06 35 48.5**	**+0.6**
	SNR=40						
USP	**Ospenovka**	**4.27**	**335**	P	**Pn**	**06 35 50.8**	**-0.4**
	SNR=11						
KK31	**Karatay Array**	**6.08**	**309**	Pn	**Pn**	**06 36 13.8**	**-2.3**
	comp=E,1.3nm,0.6s,baz=134,slow=12,SNR=4.9						
KK31				⇑Pg	**Pn**	**06 36 31.9**	**+16**
	comp=E,6.7nm,0.7s,baz=128,slow=16,SNR=16						
KK31				Lg		06 37 46.0	
	comp=E,25nm,0.8s,baz=124,slow=29,SNR=7.3						
MK05	**Makanchi Array**	**8.36**	**26**	⇓Pn	**Pn**	**06 36 47.9**	**+0.6**
	comp=E,1.1nm,0.6s,baz=185,slow=12						
MKAR	**Makanchi Array**	**8.36**	**26**	P	**Pn**	**06 36 47.6**	**+0.3**
	comp=E,0.2nm,0.3s,baz=222,slow=17,SNR=6.9						
MKAR				S	**Sn**	**06 38 19.2**	**-1.6**
	comp=E,0.3nm,0.3s,baz=202,slow=22,SNR=3.6						
WMQ	**Urumqi**	**9.19**	**58**	P	**Pn**	**06 37 07.0**	**+8.3**
WMQ				S	**Sn**	**06 38 55.2**	**+14**
BVAR	**Borovoye Array**	**14.35**	**344**	P	**Pn**	**06 38 05.1**	**-4.1**
	comp=E,0.3nm,0.3s,baz=243,slow=40,SNR=4.4						
ZAL	**Zalesovo**	**15.49**	**18**	P	**Pn**	**06 38 24.2**	**-0.2**
	comp=E,0.5nm,0.3s,baz=244,slow=5.6,SNR=3.1						
ZAL	**Zalesovo**	**15.49**	**18**	P	**Pn**	**06 38 24.2**	**-0.3**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAK	**Zakamensk**	**21.54**	**51**	eP	**P**	**06 39 36.1**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.2						
SONM	**Songino Array**	**22.83**	**59**	P	**P**	**06 39 55.4**	**+6.6**
	comp=Z,0.6nm,0.8s,mb3.1,baz=248,slow=7.8,SNR=4.5						
BRTR	**Keskin Array B**	**33.13**	**285**	P	**P**	**06 41 22.4**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=96,slow=8.9,SNR=5.7						
BRTR	**Keskin Array B**	**33.13**	**285**	P	**P**	**06 41 22.4**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**70.41**	**271**	P	**P**	**06 45 59.7**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.7,baz=52,slow=5.6,SNR=10						
YKA	**Yellowknife Ar**	**78.02**	**5**	P	**P**	**06 46 42.8**	**-1.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=345,slow=5.7,SNR=14						
YKA	**Yellowknife Ar**	**78.02**	**5**	P	**P**	**06 46 42.8**	**-1.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						

IDC 10 06:41:47.6±1.7**, 5.62S**×**150.89E, h0**km**, mb3.9**/4**, mb1 4.2**/4**, mb1mx3.9**/13**, mbtmp4.0**/4**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.6**/20**, Error ellipse: s-maj=54.2km s-min=29.2km az=116.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.27**	**224**	Pn	Pn	06 43 11.4	+3.8
	3.2nm,0.3s,baz=36,slow=16,SNR=6.9						
PMG				Sn	Sn	06 44 16.1	+7.0
	3.5nm,0.3s,baz=329,slow=23,SNR=6.7						
CTA	**Charters Tower**	**15.07**	**197**	LR	LR	06 50 03.9	
	comp=Z,122nm,21.3s,baz=200,slow=33						
WB2	**Warramunga Arr**	**21.48**	**227**	eP	P	06 46 38.3	+0.6
WRA	**Warramunga Arr**	**21.49**	**227**	P	P	06 46 38.2	+0.4
	3.4nm,0.8s,baz=53,slow=11,SNR=14						
ASAR	**Alice Springs**	**24.28**	**221**	P	P	06 47 07.4	+1.0
	2.2nm,0.7s,baz=57,slow=8.1,SNR=19						
FITZ	**Fitzroy Crossi**	**27.60**	**241**	eP	P	06 47 35.6	-0.9
	6.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.60**	**241**	P	P	06 47 36.4	-0.1
	2.8nm,0.6s,baz=118,slow=9.6,SNR=11						
SONM	**Songino Array**	**66.01**	**329**	P	P	06 52 36.8	+0.8
	1.2nm,1.1s,baz=145,slow=5.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**148.72**	**286**	PKPbc	PKPbc	07 01 36.5	-0.4
	0.5nm,0.6s,baz=63,slow=2.1,SNR=4.1						
BDFB	**Brasilia**	**151.78**	**139**	PKPbc	PKPbc	07 01 45.5	+1.3
	1.7nm,0.7s,baz=86,slow=6.6,SNR=3.8						

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*ISCJB **10** 07:01:30.4±3.0, 5.5S±0.1×150.6E±0.1, h76km±25km, mb4.1/14, Error ellipse: s-maj=19.5km s-min=18.5km az=88.1*
*HRVD **10** 07:01:30.6±0.3, 5.50S×150.92E, h13km±1km, MW4.9/62, Centroid moment Tensor Solution. LP body waves: s26,c37;Mantle waves: s62,c97; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.73±.12; Mθθ2.72±.10; Mφφ-1.99±.10; Mrθ-0.05±.20; Mθφ1.78±.10; Mφr0.50±.25; Best double couple: M0 3.01500×10^16 NP1:φs116.00000°, δ79.00000°, λ-9.00000°. NP2: φs207.00000°, δ81.00000°, λ-169.00000°. Principal axes: T 3.3200, Plg2.0000°, Azm341.0000°; N -0.6150, Plg76.0000°, Azm245.0000°; P -2.7100, Plg14.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 07:01:30.6±2.9, 5.49S×150.65E, h65km±23km, mb4.3/11 Error ellipse: s-maj=21.1km s-min=15.2km az=215.0*
*IDC **10** 07:01:32.5±4.2, 5.68S×150.79E, h81km±36km, mb3.8/9, mb1 4.0/10, mb1mx4.0/15, mbtmp4.2/10, MS4.0/10, Ms1 4.0/10, ms1mx3.8/17, Error ellipse: s-maj=25.7km s-min=20.9km az=52.0*
ISC 10 07:01:31.2±2.7**, 5.5S**±0.1×**150.7E**±0.1**, h71**km±22km**, n35, σ1.06**/28**, mb4.1**/14**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.23**	**222**	P	**Pn**	**07 02 47.4**	**+0.7**
	12nm,0.3s,baz=38,slow=9.2,SNR=21						
PMG				S	**Sn**	**07 03 46.7**	**+1.0**
	2.1nm,0.3s,baz=87,slow=20,SNR=3.7						
PMG				LR	LR	07 04 18.2	
	comp=Z,634nm,18.7s,baz=38,slow=32						
PMG	**Port Moresby**	**5.23**	**222**	ePn	**Pn**	**07 02 46.2**	**-0.5**
	82nm,0.6s						
HNR	**Honiara**	**9.95**	**114**	LR	LR	07 07 16.3	
	comp=Z,1μm,18.1s,baz=355,slow=35						
CTA	**Charters Tower**	**15.12**	**196**	eP	**Pn**	**07 05 06.2**	**+5.6**
	11nm,1.0s						
CTA	**Charters Tower**	**15.12**	**196**	P	**Pn**	**07 05 06.2**	**+5.6**
	0.4nm,0.3s,baz=30,slow=15,SNR=4.5						
CTA				LR	LR	07 10 18.8	
	comp=Z,944nm,19.7s,baz=16,slow=35						
CTAO	**Charters Tower**	**15.12**	**196**	eP	**Pn**	**07 05 02.0**	**+1.4**
	39nm,1.4s						
KAKA	**Kakadu**	**19.39**	**247**	eP	**Pn**	**07 05 50.5**	**-2.6**
	9.2nm,0.6s						
GUMO	**Guam**	**19.85**	**343**	LR	LR	07 11 58.4	
	comp=Z,403nm,18.9s,baz=118,slow=31						
WRAB	**Tennant Creek**	**21.41**	**227**	eP	**P**	**07 06 12.5**	**-0.7**
	28nm,1.0s,mb4.5						
WB2	**Warramunga Arr**	**21.42**	**227**	eP	**P**	**07 06 13.0**	**-0.2**
WRA	**Warramunga Arr**	**21.43**	**227**	P	**P**	**07 06 12.4**	**-0.9**
	11nm,1.0s,mb4.1,baz=52,slow=10,SNR=30						
DZM	**Mont Dzumac**	**22.42**	**139**	P	**P**	**07 06 22.7**	**-1.2**
	21nm,1.2s,mb4.3,baz=344,slow=13,SNR=3.2						
DZM				LR	LR	07 13 39.9	
	comp=Z,1μm,21.9s,baz=22,slow=33						
AS31	**Alice Springs**	**24.24**	**220**	eP	**P**	**07 06 41.4**	**0.0**
ASAR	**Alice Springs**	**24.24**	**220**	P	**P**	**07 06 42.0**	**+0.7**
	3.2nm,0.8s,mb3.7,baz=54,slow=8.6,SNR=23						
ASPA	**Alice Springs**	**24.24**	**220**	eP	**P**	**07 06 41.4**	**0.0**
ARMA	**Armidale**	**24.79**	**178**	eP	**P**	**07 06 48.6**	**+2.2**
FITZ	**Fitzroy Crossi**	**27.49**	**241**	eP	**P**	**07 07 10.7**	**-0.1**
	19nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**27.49**	**241**	P	**P**	**07 07 10.8**	**0.0**
	10nm,0.7s,mb4.5,baz=81,slow=6.8,SNR=23						
FITZ				LR	LR	07 19 41.1	
	comp=Z,221nm,19.2s,baz=243,slow=40						
STKA	**Stephens Creek**	**27.58**	**197**	eP	**P**	**07 07 10.6**	**-0.9**
	6.3nm,1.1s,mb4.1						
STKA	**Stephens Creek**	**27.58**	**197**	P	**P**	**07 07 10.6**	**-0.9**
	4.5nm,0.9s,mb4.0,baz=349,slow=13,SNR=4.1						
STKA				LR	LR	07 18 30.6	
	comp=Z,760nm,19.1s,baz=15,slow=37						
MBWA	**Marble Bar**	**33.81**	**240**	eP	**P**	**07 08 05.8**	**-0.6**
	11nm,0.9s,mb4.7						
MJAR	**Matsushiro Arr**	**43.44**	**345**	LR	LR	07 27 11.7	
	comp=Z,162nm,18.3s,baz=190,slow=35						
PPT	**Papeete**	**59.50**	**107**	eLQ		07 26 29.7	
	453nm,29.5s						
PPT				eLR	LR	07 29 00.1	
	141nm,23.8s						
PPT	**Papeete**	**59.50**	**107**	LR	LR	07 33 41.5	
	comp=Z,8.0nm,18.9s,baz=293,slow=32						
TBI	**Tubuai**	**60.17**	**114**	eLQ		07 26 46.9	
	528nm,34.5s						
TBI				eLR	LR	07 29 18.9	
	196nm,33.0s						
SONM	**Songino Array**	**65.84**	**329**	P	**P**	**07 12 12.3**	**+3.3**
	1.5nm,0.9s,mb3.8,baz=145,slow=5.3,SNR=3.2						
SONM				LR	LR	07 40 20.7	
	comp=Z,205nm,21.5s,baz=125,slow=35						
VNDA	**Vanda**	**72.20**	**177**	P	**P**	**07 12 48.3**	**-0.2**
	0.6nm,0.6s,mb3.6,baz=300,slow=10.0,SNR=2.9						
VNDA	**Vanda**	**72.20**	**177**	eP	**P**	**07 12 49.3**	**+0.8**
	1.9nm,0.9s,mb3.9						
VNDA				e	pP	07 13 05.7	-1.8
MKAR	**Makanchi Array**	**79.50**	**319**	P	**P**	**07 13 30.2**	**+0.1**
	0.2nm,0.2s,mb3.5,baz=103,slow=12,SNR=3.4						
KURK	**Kurchatov**	**83.05**	**322**	eP	**P**	**07 13 47.8**	**-1.1**
	3.3nm,1.1s,mb4.1						
QSPA	**South Pole Qui**	**84.45**	**180**	eP	**P**	**07 13 56.2**	**+0.1**
	8.0nm,1.1s,mb4.5						
BRVK	**Borovoye**	**88.64**	**323**	eP	**P**	**07 14 18.2**	**+1.7**
	0.8nm,0.5s,mb4.0						
NVAR	**Mina Array Bea**	**94.16**	**52**	P	**P**	**07 14 41.8**	**-0.3**
	0.6nm,1.0s,mb3.9,baz=264,slow=4.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**148.52**	**286**	PKPbc	PKPbc	07 21 10.4	+0.6
	1.3nm,0.8s,baz=73,slow=2.0,SNR=8.6						
BDFB	**Brasilia**	**151.97**	**139**	PKPbc	PKPbc	07 21 18.9	+0.8
	0.9nm,0.3s,baz=83,slow=10,SNR=3.8						

BJI **10** *07:21:35.8, 11.60S×13.40W, h10km, mB5.6, Ms5.6, Msz5.2*
SZGRF **10** *07:21:35.5, 13.07S×11.34W, h33km, mb5.3, MS5.2, Southern Mid-Atlantic Ridge*
MOS **10** *07:21:36.1±0.9, 11.50S×13.49W, h10km, mb5.4/70, MS5.2/31, Error ellipse: s-maj=11.8km s-min=4.1km az=70.7*
IDC **10** *07:21:36.1±0.4, 11.53S×13.42W, h0km, mb4.6/27, mb1 4.7/28, mb1mx4.6/30, mbtmp4.6/28, MS5.1/18, Ms1 5.1/18, ms1mx5.0/21, Error ellipse: s-maj=14.6km s-min=10.5km az=166.0*
ISCJB **10** *07:21:36.1±0.2, 11.57S±0.04×13.42W±0.04, h10km, mb5.1/142, MS5.3/169, Error ellipse: s-maj=7.4km s-min=4.6km az=82.4*
NEIC **10** *07:21:37.9±0.2, 11.63S×13.43W, h10km, mb5.3/103, MS5.3/146, MW5.5, Error ellipse: s-maj=6.3km s-min=4.0km az=131.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^17Nm; Mrr0.40; Mθθ-1.36; Mφφ0.96; Mrθ-0.71; Mθφ2.12; Mφr0.40; Best double couple: M0 2.50000×10^17 NP1:φs75.00000°, δ80.00000°, λ-10.00000°. NP2:φs167.00000°, δ80.00000°, λ-170.00000°. Principal axes: T 2.2200, Plg1.0000°, Azm121.0000°; N 0.6000, Plg76.0000°, Azm213.0000°; P -2.8200, Plg14.0000°, Azm31.0000°;*
HRVD **10** *07:21:37.9±0.1, 11.54S×13.39W, h12km, MW5.5/97, Centroid moment Tensor Solution. LP body waves: s77,c130;Mantle waves: s97,c191; Half duration: 1.4 Moment tensor: Scale 10^17Nm; Mrr-0.12±.03; Mθθ-1.13±.03; Mφφ1.25±.03; Mrθ0.08±.08; Mθφ2.13±.03; Mφr0.07±.09; Best double couple: M0 2.44200×10^17 NP1:φs345.00000°, δ88.00000°, λ179.00000°. NP2: φs75.00000°, δ89.00000°, λ2.00000°. Principal axes: T 2.5040, Plg2.0000°, Azm300.0000°; N -0.1250, Plg88.0000°, Azm97.0000°; P -2.3800, Plg1.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 10 07:21:38.1±0.2**, 11.62S**±0.04×**13.40W**±0.04**, h10km, (h17km**±1.9km**:pP-P), n512,** σ0.91/379**, mb5.1**/142**, MS5.3**/169**, 10C-6D, Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASCN	Ascension	3.78	345	ePn	Pn	07 22 33.3	-3.1
DBIC	Dimbokro	20.06	25	P	P	07 26 09.8	-1.6
	0.5nm,0.3s,baz=184,slow=13,SNR=15						
DBIC				LR	LR	07 32 06.5	
	comp=Z,6μm,19.9s,MS4.9,baz=160,slow=32						
DBIC				PKKP		07 53 24.6	
	0.0nm,0.3s,baz=209,slow=4.5,SNR=3.1						
DBIC	Dimbokro	20.06	25	eP	P	07 26 10.2	-1.3
	191nm,1.4s						
DBIC				LR	LR		
	comp=Z,6μm,21.0s,MS4.9						
RCBR	Riachuelo	22.96	283	eP	P	07 26 40.9	-1.8
	comp=Z,162nm,1.4s,mb5.3						
TORD	Torodi Ar. Bea	28.80	32	P	P	07 27 34.8	-1.4
	comp=Z,39nm,1.1s,mb5.0,baz=212,slow=4.8,SNR=56						
TORD				LR	LR	07 37 22.9	
	comp=Z,6μm,19.8s,MS5.2,baz=215,slow=33						
TORD	Torodi Ar. Bea	28.80	32	P	P	07 27 34.8	-1.4
TORD				LR	LR	07 37 22.9	
CAM4	Nova Friburgo	29.81	245	eP	P	07 27 45.5	+0.3
CAM4				i	pP	07 27 49.9	+1.7
CAM4				i		07 27 53.7	
CAM4				i		07 28 02.8	
CAM4				i		07 28 53.9	
TSUM	Tsumeb	30.77	108	P	P	07 27 53.4	-0.2
	comp=Z,10nm,1.1s,mb4.6,baz=234,slow=22,SNR=10						
TSUM				LR	LR	07 37 27.2	
	comp=Z,7μm,21.9s,MS5.2,baz=317,slow=31						
TSUM	Tsumeb	30.77	108	eP	P	07 27 52.7	-1.0
	comp=Z,4.8nm,0.7s,mb4.4						
TSUM				LR	LR		
	comp=Z,6μm,21.0s,MS5.2						
BAO	Brasilia Array	33.83	259	P	P	07 28 20.0	-0.5
BDFB	Brasilia	33.85	259	P	P	07 28 19.4	-1.3
	comp=Z,20nm,0.9s,mb5.0,baz=74,slow=8.9,SNR=22						
BDFB				LR	LR	07 40 10.8	
	comp=Z,905nm,21.6s,MS4.5,baz=91,slow=33						
BDFB	Brasilia	33.85	259	eP	P	07 28 19.9	-0.8
BDFB				pmax	pmax		
	comp=Z,39nm,0.8s						
BDFB				MLR	MLR		
	comp=Z,1μm,22.0s						
BDFB	Brasilia	33.85	259	eP	P	07 28 19.9	-0.8
	comp=Z,39nm,0.8s,mb5.4						
BDFB				LR	LR		
	comp=Z,1μm,22.0s,MS4.6						
SUR	Sutherland	37.61	129	P	P	07 28 52.7	-0.2
	comp=Z,30nm,1.1s,mb4.9,baz=300,slow=5.8,SNR=6.7						
SUR	Sutherland	37.61	129	eP	P	07 28 52.6	-0.3
	comp=Z,84nm,1.1s,mb5.4						
SUR				epP	pP	07 28 59.1	+3.2
SUR				LR	LR		
	comp=Z,7μm,20.0s,MS5.4						
LBTB	Lobatse	39.19	115	P	P	07 29 05.8	-0.4
	comp=Z,32nm,1.2s,mb4.9,baz=283,slow=9.5,SNR=17						
LBTB	Lobatse	39.19	115	eP	P	07 29 05.9	-0.4
LBTB				pmax	pmax		
	comp=Z,55nm,1.3s,mb5.1						
LBTB				MLR	MLR		
	comp=Z,4μm,21.0s,MS5.2						
LBTB	Lobatse	39.19	115	eP	P	07 29 05.9	-0.4
	comp=Z,55nm,1.3s,mb5.1						
LBTB				LR	LR		
	comp=Z,4μm,21.0s,MS5.2						
MATP	Matopo	41.11	108	P	P	07 29 22.4	+0.2
	comp=Z,7.0nm,0.9s,mb4.3,baz=274,slow=6.8,SNR=14						
CPUP	Villa Florida	43.82	244	P	P	07 29 44.8	+0.6
	comp=Z,10.0nm,0.8s,mb4.6,baz=62,slow=8.8,SNR=30						
CPUP	Villa Florida	43.82	244	eP	P	07 29 44.2	0.0
CPUP				pmax	pmax		
	comp=Z,90nm,0.9s						
CPUP				MLR	MLR		
	comp=Z,454nm,20.0s						
CPUP	Villa Florida	43.82	244	eP	P	07 29 44.2	0.0
	comp=Z,90nm,0.9s,mb5.5						
CPUP				LR	LR		
	comp=Z,454nm,20.0s,MS4.4						
MBAR	Mbarara	45.15	79	eP	P	07 29 52.1	-2.8
HOPE	Hope Point	46.32	199	PFAKE		07 30 20.0	+16
HOPE				LR	LR		
	comp=Z,2μm,21.0s,MS5.1						
SIV	San Ignacio	46.42	259	P	P	07 30 05.3	+0.4
	comp=Z,12nm,0.9s,mb4.8,baz=96,slow=9.6,SNR=55						
EMIJ	Mijas	48.61	9	P	P	07 30 21.8	0.0
	comp=Z,57nm,1.7s,mb5.3						
ESPR	Espera	48.75	8	P	P	07 30 22.9	-0.1
	comp=Z,6.2nm,0.5s,mb4.9						
PTEO	Sao Teotonio	49.10	5	eP	P	07 30 26.6	+1.0
	comp=Z,71nm,1.6s,mb5.5						
EGRO	El Granado	49.20	6	P	P	07 30 26.4	-0.1
	comp=Z,26nm,1.6s,mb5.0						
ELOJ	Sierra Loja	49.28	10	P	P	07 30 26.8	-0.2
ELOJ				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.2						
ELOJ	Sierra Loja	49.28	10	P	P	07 30 26.8	-0.2
	comp=Z,28nm,1.2s,mb5.2						
ECOG	Cogollos-Vega	49.51	10	P	P	07 30 27.7	-1.1
ECOG				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
ECOG	Cogollos-Vega	49.51	10	P	P	07 30 27.7	-1.0
	comp=Z,14nm,1.0s,mb4.9						
EMIN	Mina Concepcio	49.53	7	P	P	07 30 27.8	-1.1
	comp=Z,32nm,1.1s,mb5.3						
PBEJ	Beja	49.65	6	eP	P	07 30 30.6	+0.7
	comp=Z,22nm,1.8s,mb4.9						
EADA	Adamuz	50.21	9	P	P	07 30 35.6	+1.5
	comp=Z,22nm,1.3s,mb5.0						
EBAD	Badajoz	50.46	6	P	P	07 30 38.2	+2.2
	comp=Z,11nm,1.1s,mb4.8						
TRQA	Tornquist	50.62	230	eP	P	07 30 36.9	-0.2
	comp=Z,52nm,1.3s,mb5.3						
TRQA				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
ETOB	Tobarra	51.21	12	P	P	07 30 40.5	-1.1
	comp=Z,74nm,1.8s,mb5.3						
KMBO	Kilima Mbogo	51.32	82	P	P	07 30 44.6	+2.2
	comp=Z,2.3nm,0.6s,mb4.3,baz=249,slow=11,SNR=6.8						
KMBO				LR	LR	07 51 10.7	
	comp=Z,2μm,18.8s,MS5.1,baz=245,slow=35						
PCBR	Castelo Branco	51.49	6	eP	P	07 30 44.8	+1.1
	comp=Z,14nm,1.2s,mb4.8						
ESDC	Sonseca Array	51.78	9	P	P	07 30 45.6	-0.3
	comp=Z,2.5nm,0.8s,mb4.2,baz=194,slow=7.4,SNR=9.7						
ESDC				LR	LR	07 52 12.7	
	comp=Z,2μm,18.2s,MS5.2,baz=165,slow=36						
ESDC	Sonseca Array	51.78	9	P	P	07 30 45.6	-0.3
	comp=Z,1.3nm,0.6s						
ESLA	Sonseca Array	51.78	9	PFAKE		07 31 00.0	+14
ESLA				LR	LR		
	comp=Z,12μm,20.0s,MS5.9						
MTE	Manteigas	52.04	6	eP	P	07 30 47.8	0.0
	comp=Z,48nm,2.1s,mb5.0						
MTE				eS	S	07 38 12.6	+1.2
MTE				eLQ		07 43 32.9	
MTE				eLR	LR	07 45 14.1	
	comp=Z,2μm,19.7s						
MTE	Manteigas	52.04	6	eP	P	07 30 47.8	0.0
	comp=Z,36nm,1.1s,mb5.2						
EMOS	Mosqueruela	53.09	12	P	P	07 30 55.6	0.0
	comp=Z,77nm,1.7s,mb5.4						
LPAZ	La Paz	53.20	258	P	P	07 30 56.2	-0.2
	comp=Z,11nm,0.8s,mb4.8,baz=88,slow=7.6,SNR=42						
LPAZ	La Paz	53.20	258	P	P	07 30 56.2	-0.2
LPAZ				pmax	pmax		
	comp=Z,11nm,0.8s						
LPAZ	La Paz	53.20	258	eP	P	07 30 56.1	-0.3
	comp=Z,20nm,1.0s,mb5.0						
LPAZ				LR	LR		
	comp=Z,1μm,19.0s,MS4.9						
ETOR	Torete	53.22	11	P	P	07 30 56.2	-0.4
ETOR				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
ETOR	Torete	53.22	11	P	P	07 30 56.2	-0.4
	comp=Z,9.1nm,1.1s,mb4.6						
PCAB	Cabril	53.29	5	eP	P	07 30 58.0	+0.9
	comp=Z,41nm,1.0s,mb5.3						
ELOB	Lobios	53.45	5	P	P	07 30 58.5	+0.2
	comp=Z,27nm,0.9s,mb5.2						
EFI	East Falkland	53.81	213	eP	P	07 31 00.5	-0.4
EFI				pmax	pmax		
	comp=Z,51nm,0.9s,mb5.5						
EFI				MLR	MLR		
	comp=Z,5μm,20.0s,MS5.6						
EFI	East Falkland	53.81	213	eP	P	07 31 00.5	-0.5
	comp=Z,51nm,0.9s,mb5.5						
EFI				LR	LR		
	comp=Z,5μm,20.0s,MS5.6						
ERTA	Horta de San J	53.83	13	P	P	07 31 01.6	+0.5
	comp=Z,16nm,1.0s,mb4.9						
LVC	Limon Verde	53.90	250	P	P	07 31 01.9	+0.3
	comp=Z,2.0nm,0.5s,mb4.3,baz=11,slow=7.5,SNR=4.0						
LVC	Limon Verde	53.90	250	P	P	07 31 01.9	+0.3
LVC				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
EPOB	Poblet	54.37	13	P	P	07 31 05.6	+0.5
	comp=Z,9.5nm,0.8s,mb4.8						
ESAC	San Caprasio	54.40	12	P	P	07 31 07.4	+2.2
	comp=Z,8.3nm,0.5s,mb4.9						
EGRA	Graus	55.01	12	P	P	07 31 11.2	+1.5
	comp=Z,12nm,0.9s,mb4.9						
VSL	Villasalto	55.09	21	eP	P	07 31 11.0	+0.7
	comp=Z,37nm,1.1s,mb5.3						
EARI	Arriondas	55.16	7	P	P	07 31 12.3	+1.5
	comp=Z,13nm,0.9s,mb5.0						
PCRV	Puerto La Cruz	55.33	291	P	P	07 31 11.4	-0.6
	comp=Z,10.0nm,0.9s,mb4.8,baz=84,slow=6.5,SNR=3.2						
EBIE	Bielsa	55.45	12	P	P	07 31 12.8	0.0
	comp=Z,45nm,1.5s,mb5.3						
ETSF	Etsaut	55.51	11	eP	P	07 31 13.5	+0.2
SALF	Salau	55.74	13	eP	P	07 31 14.8	-0.1
MELF	Melles	55.75	13	eP	P	07 31 15.4	+0.4
EPF	Esparros	55.82	12	eP	P	07 31 15.8	+0.3
	comp=Z,53nm,1.2s,mb5.2						
EPF	Esparros	55.82	12	eP	P	07 31 15.8	+0.3
EPF				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.2						
EPF	Esparros	55.82	12	eP	P	07 31 15.8	+0.3
	comp=Z,26nm,1.2s,mb5.1						
MLS	Moulis	55.91	13	eP	P	07 31 15.4	-0.7
ARE	Arequipa	56.41	258	eP	P	07 31 19.0	-0.7
MTLF	Montolieu	56.52	14	eP	P	07 31 19.7	-0.8
CEL	Celeste	56.68	27	P	P	07 31 21.6	0.0
BERF	Bertagne	57.38	16	eP	P	07 31 27.2	+0.6
PUYF	Puyloubier	57.59	16	eP	P	07 31 29.0	+1.0
LASF	Ste Croix	57.61	15	eP	P	07 31 28.0	-0.2
	comp=Z,56nm,1.3s,mb5.1						
LMR	La Mourre	57.63	17	eP	P	07 31 28.4	0.0
	comp=Z,79nm,1.3s,mb5.3						
LMR	La Mourre	57.63	17	eP	P	07 31 28.4	0.0
LMR				pmax	pmax		
	comp=Z,39nm,1.3s,mb5.3						
LMR	La Mourre	57.63	17	eP	P	07 31 28.4	0.0
	comp=Z,39nm,1.3s,mb5.3						
PGF	Pioggiola	57.68	19	eP	P	07 31 28.7	0.0
	comp=Z,89nm,1.4s,mb5.3						
PGF	Pioggiola	57.68	19	eP	P	07 31 28.7	0.0
PGF				pmax	pmax		
	comp=Z,45nm,1.4s,mb5.3						
PGF	Pioggiola	57.68	19	eP	P	07 31 28.7	0.0
	comp=Z,45nm,1.4s,mb5.3						
PLCA	Paso Flores	57.73	229	P	P	07 31 29.9	+0.8
	comp=Z,1.8nm,0.8s,mb4.1,baz=96,slow=7.2,SNR=3.9						
PLCA				LR	LR	07 52 22.1	
	comp=Z,991nm,20.6s,MS4.9,baz=82,slow=32						
LFF	La Frestale	57.73	12	eP	P	07 31 29.0	-0.1
	comp=Z,78nm,1.2s,mb5.3						
LFF	La Frestale	57.73	12	eP	P	07 31 29.0	-0.1
LFF				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.3						
LFF	La Frestale	57.73	12	eP	P	07 31 29.0	-0.1
	comp=Z,39nm,1.2s,mb5.3						
FRF	La Foret Royal	57.88	17	eP	P	07 31 29.9	-0.2
	comp=Z,62nm,1.3s,mb5.2						
FRF	La Foret Royal	57.88	17	eP	P	07 31 29.9	-0.2
FRF				pmax	pmax		
	comp=Z,31nm,1.3s,mb5.2						
FRF	La Foret Royal	57.88	17	eP	P	07 31 29.9	-0.2
	comp=Z,31nm,1.3s,mb5.2						
SMRF	Simiane la Rot	57.96	16	eP	P	07 31 30.2	-0.5
	comp=Z,84nm,1.6s,mb5.2						
SMRF	Simiane la Rot	57.96	16	eP	P	07 31 30.2	-0.5
	comp=Z,84nm,1.6s,mb5.5						
CAF	Calviac	57.99	13	eP	P	07 31 30.5	-0.4
	comp=Z,58nm,1.4s,mb5.1						
CAF	Calviac	57.99	13	eP	P	07 31 30.5	-0.4
CAF				pmax	pmax		
	comp=Z,29nm,1.4s,mb5.1						
CAF	Calviac	57.99	13	eP	P	07 31 30.5	-0.4
	comp=Z,29nm,1.4s,mb5.1						
CUC	Castrocucco	58.07	26	P	P	07 31 32.2	+0.7
STOF	St-Etienne Org	58.07	16	eP	P	07 31 33.5	+2.0
RJF	Les Rejaudoux	58.24	12	eP	P	07 31 32.3	-0.3
	comp=Z,105nm,1.5s,mb5.3						
RJF				eR			
	comp=Z,4μm,18.8s						
RJF	Les Rejaudoux	58.24	12	eP	P	07 31 32.3	-0.3
RJF				pmax	pmax		
	comp=Z,52nm,1.5s,mb5.3						
RJF				MLR	MLR		
	comp=Z,4μm,18.8s,MS5.5						
RJF	Les Rejaudoux	58.24	12	eP	P	07 31 32.3	-0.3
	comp=Z,52nm,1.5s,mb5.3						
RJF				LR	LR		
	comp=Z,4μm,18.8s,MS5.5						
LUCF	Luceram	58.39	18	eP	P	07 31 33.6	-0.1
SBF	Sospel	58.39	18	eP	P	07 31 33.8	+0.1
	comp=Z,79nm,1.2s,mb5.3						
SBF	Sospel	58.39	18	eP	P	07 31 33.8	+0.1
SBF				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.3						
SBF	Sospel	58.39	18	eP	P	07 31 33.8	+0.1
	comp=Z,39nm,1.2s,mb5.3						
AUTN	L'Aution	58.51	18	eP	P	07 31 33.8	-0.7
VIVF	Saint-Julien-l	58.55	15	eP	P	07 31 33.8	-1.0
	comp=Z,110nm,1.6s,mb5.3						
VIVF	Saint-Julien-l	58.55	15	eP	P	07 31 33.8	-1.0
VIVF				pmax	pmax		
	comp=Z,55nm,1.6s,mb5.3						
VIVF	Saint-Julien-l	58.55	15	eP	P	07 31 33.8	-1.0
	comp=Z,55nm,1.6s,mb5.3						
LBL	Lubilhac	58.55	14	eP	P	07 31 34.5	-0.3
SDI	San Donato	58.68	24	P	P	07 31 36.4	+0.7
SDI				pmax	pmax		
	comp=Z,84nm,1.5s,mb5.5						
SDI	San Donato	58.68	24	P	P	07 31 36.4	+0.7
	comp=Z,84nm,1.5s,mb5.5						
STV	Sta Anna Valdi	58.70	17	P	P	07 31 36.0	+0.1
SURF	Saint Ours	58.77	17	eP	P	07 31 36.3	0.0
MNS	Montasola	58.83	22	P	P	07 31 36.5	-0.2
FIAM	Fiamignano	58.89	23	P	P	07 31 38.5	+1.3
ORIF	Oris-en-Rattie	58.92	16	eP	P	07 31 38.0	+0.6
	comp=Z,52nm,1.2s,mb5.1						
ORIF				eR			
	comp=Z,4μm,20.8s						
ORIF	Oris-en-Rattie	58.92	16	eP	P	07 31 38.0	+0.6
ORIF				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.1						
ORIF	Oris-en-Rattie	58.92	16	eP	P	07 31 38.0	+0.6
	comp=Z,26nm,1.2s,mb5.1						
FIN	Finale Ligure	58.93	18	P	P	07 31 37.5	0.0
FIN				pmax	pmax		
	comp=Z,62nm,1.4s,mb5.5						
FIN	Finale Ligure	58.93	18	P	P	07 31 37.5	0.0
	comp=Z,62nm,1.4s,mb5.5						
AQU	L'Aquila	59.07	23	eP	P	07 31 39.4	+1.0
AQU				pmax	pmax		
	comp=Z,42nm,0.8s,mb5.5						
AQU	L'Aquila	59.07	23	eP	P	07 31 39.4	+0.9
	comp=Z,42nm,0.8s,mb5.5						
VNA1	Neumayer--Stat	59.07	178	⇑iP	P	07 31 38.4	0.0
VNA1				e	pP	07 31 41.6	-0.1
VNA1				e		07 31 46.8	
VNA1				e		07 31 50.2	
VNA1				e		07 31 57.0	
VNA1				e		07 32 05.5	
VNA1				e		07 32 27.8	
VNA1				e		07 33 03.6	
MFF	Saint Martin d	59.16	11	eP	P	07 31 38.7	-0.3
	comp=Z,58nm,1.3s,mb5.2						
MFF	Saint Martin d	59.16	11	eP	P	07 31 38.7	-0.3
MFF				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.2						
MFF	Saint Martin d	59.16	11	eP	P	07 31 38.7	-0.3
	comp=Z,29nm,1.3s,mb5.2						
BNI	Bardonecchia	59.26	16	eP	P	07 31 40.6	+0.9
BNI				pmax	pmax		
	comp=Z,42nm,1.4s,mb5.3						
BNI	Bardonecchia	59.26	16	eP	P	07 31 40.6	+0.9
	comp=Z,42nm,1.4s,mb5.3						
CSNT	Castellina Chi	59.28	21	P	P	07 31 41.4	+1.6
	comp=Z,437nm,2.2s,mb6.1						
TCF	Toulx Ste Croi	59.32	13	eP	P	07 31 40.3	+0.1
	comp=Z,112nm,1.5s,mb5.4						
TCF	Toulx Ste Croi	59.32	13	eP	P	07 31 40.3	+0.1
TCF				pmax	pmax		
	comp=Z,56nm,1.5s,mb5.4						
TCF	Toulx Ste Croi	59.32	13	eP	P	07 31 40.3	+0.1
	comp=Z,56nm,1.5s,mb5.4						
PLDF	La Plantade	59.34	14	eP	P	07 31 40.1	-0.2
NRCA	Norcia	59.38	22	P	P	07 31 40.2	-0.3
	comp=Z,35nm,1.7s,mb5.1						
TERO	Teramo	59.38	23	P	P	07 31 38.9	-1.7
SNTG	Esanatoglia	59.68	22	P	P	07 31 42.4	-0.2
	comp=Z,44nm,1.2s,mb5.4						
LPG	La Plagne	59.69	16	eP	P	07 31 43.6	+0.9
	comp=Z,78nm,1.2s,mb5.3						
LPG	La Plagne	59.69	16	eP	P	07 31 43.6	+0.9
LPG				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.3						
LPG	La Plagne	59.69	16	eP	P	07 31 43.6	+0.9
	comp=Z,39nm,1.2s,mb5.3						
LPL	La Plagne	59.70	16	eP	P	07 31 43.5	+0.7
	comp=Z,61nm,1.2s,mb5.2						
LPL	La Plagne	59.70	16	eP	P	07 31 43.5	+0.7
LPL				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.2						
LPL	La Plagne	59.70	16	eP	P	07 31 43.5	+0.7
	comp=Z,31nm,1.2s,mb5.2						
BGF	Bois d'Agland	59.72	13	eP	P	07 31 42.9	0.0
	comp=Z,61nm,1.3s,mb5.2						
BGF	Bois d'Agland	59.72	13	eP	P	07 31 42.9	0.0
BGF				pmax	pmax		
	comp=Z,31nm,1.3s,mb5.2						
BGF	Bois d'Agland	59.72	13	eP	P	07 31 42.9	0.0
	comp=Z,31nm,1.3s,mb5.2						
GSCL	Gusciola	59.81	20	P	P	07 31 45.3	+1.7
	comp=Z,78nm,1.6s,mb5.5						
ERBM	Eremo	59.82	20	P	P	07 31 45.7	+2.1
BOB	Bobbio (Coli)	59.82	19	P	P	07 31 43.1	-0.5
QUIF	Quistinic	59.96	8	eP	P	07 31 44.0	-0.6
SMF	Signal de Mont	60.02	14	eP	P	07 31 44.8	-0.2
	comp=Z,81nm,1.4s,mb5.2						
SMF	Signal de Mont	60.02	14	eP	P	07 31 44.8	-0.2
SMF				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.3						
SMF	Signal de Mont	60.02	14	eP	P	07 31 44.8	-0.2
	comp=Z,40nm,1.4s,mb5.3						
AVF	Avril sur Loir	60.05	13	eP	P	07 31 44.9	-0.3
	comp=Z,25nm,1.1s,mb4.9						
AVF	Avril sur Loir	60.05	13	eP	P	07 31 44.9	-0.3
AVF				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
AVF	Avril sur Loir	60.05	13	eP	P	07 31 44.9	-0.3
	comp=Z,12nm,1.1s,mb4.9						
SSF	Saint Saulge	60.34	13	eP	P	07 31 47.1	-0.1
	comp=Z,62nm,1.2s,mb5.2						
SSF	Saint Saulge	60.34	13	eP	P	07 31 47.1	-0.1
SSF				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.2						
SSF	Saint Saulge	60.34	13	eP	P	07 31 47.1	-0.1
	comp=Z,31nm,1.2s,mb5.2						
SNAA	Sanae	60.36	176	⇑iP	P	07 31 46.8	-0.5
SNAA				e	pP	07 31 50.2	-0.3
SNAA				e		07 31 55.1	
SNAA				e		07 31 58.3	
SNAA				e		07 32 05.4	
SNAA				e		07 32 13.7	
SNAA				e		07 32 32.8	
SNAA				e		07 33 12.1	
SNAA				e		07 34 00.0	
SNAA	Sanae	60.36	176	eP	P	07 31 46.6	-0.7
SNAA				pmax	pmax		
	comp=Z,32nm,1.1s						
SNAA	Sanae	60.36	176	eP	P	07 31 46.6	-0.7
	comp=Z,32nm,1.1s,mb5.3						
ROSF	Rostrenen	60.36	8	eP	P	07 31 47.0	-0.3
	comp=Z,96nm,1.4s,mb5.3						
ROSF	Rostrenen	60.36	8	eP	P	07 31 47.0	-0.3
ROSF				pmax	pmax		
	comp=Z,48nm,1.4s,mb5.3						
ROSF	Rostrenen	60.36	8	eP	P	07 31 47.0	-0.3
	comp=Z,48nm,1.4s,mb5.3						
SGMF	Saint Gilles	60.38	8	eP	P	07 31 47.0	-0.4
SDV	Santo Domingo	60.44	287	P	P	07 31 48.0	+0.1
	comp=Z,5.1nm,0.5s,mb4.8,baz=354,slow=6.5,SNR=8.1						
SDV	Santo Domingo	60.44	287	eP	P	07 31 50.6	+2.8
	comp=Z,40nm,1.1s,mb5.4						
SDV				LR	LR		
	comp=Z,855nm,21.0s,MS4.9						
MCGN	Macugnaga	60.46	17	P	P	07 31 47.5	-0.5
	comp=Z,27nm,1.3s,mb5.1						
CABF	La Chapelle	60.54	15	eP	P	07 31 48.3	-0.2
	comp=Z,87nm,1.2s,mb5.5						
CABF	La Chapelle	60.54	15	eP	P	07 31 48.3	-0.2
CABF				pmax	pmax		
	comp=Z,44nm,1.2s,mb5.5						
CABF	La Chapelle	60.54	15	eP	P	07 31 48.3	-0.2
	comp=Z,44nm,1.2s,mb5.5						
LOR	Lormes	60.61	13	eP	P	07 31 48.4	-0.6
	comp=Z,90nm,1.6s,mb5.3						
LOR				eR			
	comp=Z,3μm,17.8s						
LOR	Lormes	60.61	13	eP	P	07 31 48.4	-0.6
LOR				pmax	pmax		
	comp=Z,45nm,1.6s,mb5.3						
LOR				MLR	MLR		
	comp=Z,3μm,17.8s,MS5.5						
LOR	Lormes	60.61	13	eP	P	07 31 48.4	-0.6
	comp=Z,45nm,1.6s,mb5.3						
LOR				LR	LR		
	comp=Z,3μm,17.8s,MS5.5						
GRR	Gorron	60.77	10	eP	P	07 31 49.8	-0.3
	comp=Z,95nm,1.3s,mb5.5						
GRR	Gorron	60.77	10	eP	P	07 31 49.8	-0.3
GRR				pmax	pmax		
	comp=Z,47nm,1.3s,mb5.5						
GRR	Gorron	60.77	10	eP	P	07 31 49.8	-0.3
	comp=Z,48nm,1.3s,mb5.5						
LDF	La Druitiere	61.09	10	eP	P	07 31 51.9	-0.4
	comp=Z,66nm,1.3s,mb5.3						
LDF	La Druitiere	61.09	10	eP	P	07 31 51.9	-0.4
LDF				pmax	pmax		

comp=Z,33nm,1.3s,mb5.3
LDF La Druitiere 61.09 10 *e*P **P 07 31 51.9 -0.4**
comp=Z,33nm,1.3s,mb5.3
NVL N'lazarevskaya 61.15 171 *d i*P **P 07 32 03.9 +11**
NVL *e*S **S 07 40 18.1 +6.0**
NVL *e*SS SS 07 44 11.6 -0.3
NVL pmax pmax
comp=Z,67nm,1.6s,mb5.5
FLN La Foliniere 61.19 10 *e*P **P 07 31 52.3 -0.7**
FLN *e*R
comp=Z,4μm,19.5s
FLN La Foliniere 61.19 10 *e*P **P 07 31 52.3 -0.7**
FLN LR LR
comp=Z,4μm,19.5s,MS5.5
OHR Ohrid 61.23 29 *i* P **P 07 31 55.7 +2.4**
STON Ston 61.24 26 *i* P **P 07 31 52.2 -1.1**
MABI Malga Bissina 61.31 19 P **P 07 31 54.1 +0.4**
BBS Basel-Blauen 61.70 16 *e*P **P 07 31 55.7 -0.7**
HAU Haudompre 61.90 15 *e*P **P 07 31 57.3 -0.5**
comp=Z,83nm,1.2s,mb5.4
HAU *e*R
comp=Z,2μm,18.2s
HAU Haudompre 61.90 15 *e*P **P 07 31 57.3 -0.5**
HAU pmax pmax
comp=Z,42nm,1.2s,mb5.4
HAU MLR MLR
comp=Z,2μm,18.3s,MS5.4
HAU Haudompre 61.90 15 *e*P **P 07 31 57.3 -0.5**
comp=Z,42nm,1.2s,mb5.4
HAU LR LR
comp=Z,2μm,18.3s,MS5.4
MOF Molkenrain 61.96 16 *e*P **P 07 31 58.4 +0.2**
NNA Nana 61.97 263 PFAKE 07 32 10.0 +12
NNA LR LR
comp=Z,3μm,19.0s,MS5.4
THEF They Montfort 62.02 15 *e*P **P 07 31 58.2 -0.3**
MEZF Maizieres J'vi 62.05 14 *e*P **P 07 31 58.7 0.0**
EIL Elat 62.09 47 *e*P **P 07 31 59.9 +0.9**
SKO Skopje 62.20 29 *i* P **P 07 32 02.2 +2.4**
DAVA Damuels 62.22 18⇑ *i*P **P 07 31 59.0 -0.8**
comp=Z,33nm,1.2s,mb5.3
FELD Feldberg im Sc 62.22 16 *e*P **P 07 31 59.6 -0.3**
VAY Valandovo 62.25 30 *e*P **P 07 32 00.1 0.0**
ECH Echery 62.30 15 *e*P **P 07 31 59.8 -0.7**
VOY Vojsko 62.42 21 *e*P **P 07 32 01.2 0.0**
VOY *e* 07 32 07.9
VOY *e* 07 32 19.4
BOJS Bojanci 62.46 22 *e*P **P 07 32 01.6 +0.1**
BOJS *e*S **S 07 40 30.0 +1.4**
ROBS Robic 62.47 21 *e*P **P 07 32 01.1 -0.4**
CDF Champ du Feu 62.51 15 *e*P **P 07 32 01.0 -0.9**
comp=Z,106nm,1.6s,mb5.4
CDF Champ du Feu 62.51 15 *e*P **P 07 32 01.0 -0.9**
CDF pmax pmax
comp=Z,53nm,1.6s,mb5.4
CDF Champ du Feu 62.51 15 *e*P **P 07 32 01.0 -0.9**
comp=Z,53nm,1.6s,mb5.4
PTCC Patocco-Chiusa 62.55 21 P **P 07 32 02.8 +0.7**
comp=Z,47nm,1.6s,mb5.4
LJU Ljubljana 62.65 22 *e*P **P 07 32 02.7 -0.1**
LJU *e* 07 32 14.8
LJU *e*S **S 07 40 34.7 +3.6**
BFO Black Forest 62.72 16 *e*P **P 07 32 02.5 -0.7**
comp=Z,21nm,1.1s,mb5.2
BFO Black Forest 62.72 16 *e*P **P 07 32 02.5 -0.7**
BFO pmax pmax
comp=Z,21nm,1.1s,mb5.2
WTTA Wattenberg 62.73 19⇑ *i*P **P 07 32 02.5 -0.9**
comp=Z,49nm,1.4s,mb5.5
WTTA Wattenberg 62.73 19⇑ *i*P **P 07 32 02.5 -0.8**
WTTA pmax pmax
comp=Z,49nm,1.4s,mb5.4
ROSC El Rosal 62.77 282 P **P 07 32 04.2 +0.6**
comp=Z,5.6nm,0.7s,mb4.8,baz=92,slow=21,SNR=7.7
ROSC LR LR 07 54 59.6
comp=Z,3μm,20.9s,MS5.4,baz=154,slow=32
ROSC El Rosal 62.77 282 *e*P **P 07 32 05.1 +1.5**
KKB Krupnik 62.91 30 *e*P **P 07 32 04.7 +0.2**
MMB Musomiste 63.02 31 *e*P **P 07 32 02.0 -3.2**
DOBS Dobrina 63.09 22 *e*P **P 07 32 05.6 -0.1**
BAIF Baives 63.33 13 *e*P **P 07 32 06.6 -0.7**
comp=Z,61nm,1.1s,mb5.3
BAIF Baives 63.33 13 *e*P **P 07 32 06.6 -0.7**
BAIF pmax pmax
comp=Z,31nm,1.1s,mb5.3
BAIF Baives 63.33 13 *e*P **P 07 32 06.6 -0.7**
comp=Z,31nm,1.1s,mb5.3
STU Stuttgart 63.36 17 *e*P **P 07 32 07.1 -0.4**
WLF Walferdange 63.40 14 *e*P **P 07 32 09.3 +1.6**
comp=Z,30nm,1.2s,mb5.3
DOU Dourbes 63.44 13 P **P 07 32 08.4 +0.4**
PMSA Palmer Station 63.45 202 PFAKE 07 32 20.0 +12
PMSA LR LR
comp=Z,3μm,21.0s,MS5.5
GIVF Givet 63.50 13 *e*P **P 07 32 07.7 -0.7**
comp=Z,95nm,1.3s,mb5.5
GIVF Givet 63.50 13 *e*P **P 07 32 07.7 -0.7**
GIVF pmax pmax
comp=Z,48nm,1.3s,mb5.5
GIVF Givet 63.50 13 *e*P **P 07 32 07.7 -0.7**
comp=Z,48nm,1.3s,mb5.5
VTS Vitosha 63.52 29 *e*P **P 07 32 08.0 -0.6**
KDZ Kurdzhali 63.92 32 *e*P **P 07 32 10.0 -1.2**
PGB Panagyurishte 63.96 30 *e*P **P 07 32 10.0 -1.4**
ARSA Arzberg 64.04 21⇑ *i*P **P 07 32 12.2 +0.2**
comp=Z,21nm,1.2s,mb5.0
MOA Molln 64.11 20⇑ *i*P **P 07 32 11.5 -1.0**
comp=Z,29nm,1.2s,mb5.2
ISP Isparta 64.11 38 *e*P **P 07 32 09.0 -3.5**
ATAH Atahualpa 64.19 268 P **P 07 32 13.8 +0.8**
comp=Z,3.9nm,0.6s,mb4.6,baz=137,slow=5.7,SNR=3.4
MEM Membach 64.24 14 P **P 07 32 13.1 -0.2**
MEM E 13 29 51.6
PKSM Moragy 64.36 24‖ *e*P **P 07 32 13.2 -0.9**
CONA Conrad Observa 64.74 21‖ *i*P **P 07 32 16.4 -0.1**
comp=Z,28nm,1.3s,mb5.1
GRA1 Grafenberg Arr 64.77 17 *e*P **P 07 32 16.8 +0.1**
GRA1 *e*S **S 07 40 54.7 -2.7**
GRA1 LR LR
comp=Z,2μm,21.9s,MS5.2
GRF Grafenberg Arr 64.77 17 *e*P **P 07 32 16.8 +0.1**
GRF *e*S **S 07 40 54.7 -2.7**
GRF *e*L 07 58 49.9
comp=Z,2μm,21.9s
GRF Grafenberg Arr 64.77 17 *e*P **P 07 32 16.8 +0.1**
GRF *e*S **S 07 40 54.7 -2.7**
GEC2 GERESS Array S 64.79 19 *e*P **P 07 32 16.4 -0.5**
comp=Z,31nm,1.4s,mb5.2
GEC2 GERESS Array S 64.79 19 *e*P **P 07 32 16.4 -0.5**
GEC2 pmax pmax
comp=Z,31nm,1.4s,mb5.2
GERES GERESS Array B 64.79 19 P **P 07 32 15.8 -1.1**
comp=Z,2.6nm,0.9s,mb4.3,baz=199,slow=2.8,SNR=15
GERES LR LR 08 00 13.4
comp=Z,2μm,19.3s,MS5.4,baz=231,slow=36
KHC Kasperske Hory 65.00 19 *e*P **P 07 32 18.9 +0.7**
KHC *ex* x 07 32 29.3
KHC *e*S **S 07 41 02.2 +2.0**
KHC AMS AMS 08 00 10.0
comp=Z,2μm,16.6s
ROTZ Rotzenmuhle 65.13 18 *e*P **P 07 32 18.7 -0.4**
comp=Z,57nm,1.8s,mb5.3
MANZ Manzenberg 65.29 18 *e*P **P 07 32 19.8 -0.4**
comp=Z,18nm,1.3s,mb4.9
BUG Bochum-Univer 65.31 14 *e*P **P 07 32 20.9 +0.6**
comp=Z,14nm,0.5s,mb5.2
ZST Bratislava 65.41 22 *e*P **P 07 32 20.2 -0.7**
ZST pmax pmax
comp=Z,51nm,1.7s,mb5.3
ZST Bratislava 65.41 22 *e*P **P 07 32 20.2 -0.7**
comp=Z,51nm,1.7s,mb5.3
SRO Srobarova 65.55 23 *e*P **P 07 32 23.4 +1.6**
SRO pmax pmax
comp=Z,64nm,1.5s,mb5.4
SRO Srobarova 65.55 23 *e*P **P 07 32 23.4 +1.6**
comp=Z,64nm,1.5s,mb5.4
NKC Novy Kostel 65.61 18 *e*P **P 07 32 23.0 +0.8**
NKC *e*S S 07 41 11.4 +3.6
NKC AMS AMS 08 00 10.0
comp=Z,2μm,19.3s
NKC Novy Kostel 65.61 18 *e*P **P 07 32 23.0 +0.8**
NKC *e*S S 07 41 11.4 +3.6
OTAV Otavalo 65.64 276 *e*P **P 07 32 23.6 +1.1**
comp=Z,38nm,1.4s,mb5.2
OTAV LR LR
comp=Z,3μm,20.0s,MS5.5
BBSR BB Station 65.68 314 PFAKE 07 32 30.0 +7.3
BBSR LR LR
comp=Z,2μm,21.0s,MS5.3
GUNZ Gunzen 65.69 18 *e*P **P 07 32 22.3 -0.5**
comp=Z,13nm,1.0s,mb4.9
MOX Moxa 65.73 17 *e*P **P 07 32 22.5 -0.5**
comp=Z,19nm,1.2s,mb5.0
MOX Moxa 65.73 17 *e*P **P 07 32 22.1 -0.9**
comp=Z,42nm,1.7s,mb5.2
MOX
comp=Z,2μm,21.0s
MOX Moxa 65.73 17 *e*P **P 07 32 22.1 -0.9**
MOX pmax pmax
comp=Z,42nm,1.7s,mb5.2
MOX MLR MLR
comp=Z,2μm,21.0s,MS5.2
WERD Werda 65.76 18 *e*P **P 07 32 22.6 -0.6**
comp=Z,27nm,1.5s,mb5.1
TREC Trest 65.77 20 AMS AMS 08 03 00.0
comp=Z,2μm,16.8s
TANN Tannenbergstha 65.78 18 *e*P **P 07 32 22.8 -0.5**
comp=Z,22nm,1.2s,mb5.1
PRU Pruhonice 66.05 19 *e*P **P 07 32 25.4 +0.3**
PRU *ex* x 07 32 36.6
PRU *e*S S 07 41 02.0 -11
PRU AMS AMS 07 59 10.0
comp=Z,2μm,18.5s
GTTG Gyttingen 66.08 16 *e*P **P 07 32 25.5 +0.2**
IBBN Ibbenburen 66.23 14 *e*P **P 07 32 26.2 0.0**
comp=Z,20nm,0.5s,mb5.4
PSZ Piszkesteto 66.25 24‖ *e*P **P 07 32 26.2 -0.1**
VYHS Vyhne 66.30 23 *e*P **P 07 32 26.4 -0.3**
VYHS pmax pmax
comp=Z,25nm,1.3s,mb5.1
VYHS Vyhne 66.30 23 *e*P **P 07 32 26.4 -0.3**
comp=Z,25nm,1.3s,mb5.1
SYO Syowa Base 66.47 162⇑ *e*pP pP 07 32 27.0 -4.0
FBE Freiberg 66.49 18 *e*P **P 07 32 27.4 -0.5**
PVCC Panska Ves 66.53 19 *e*P **P 07 32 27.3 -0.8**
PVCC *ex* x 07 32 39.8
BRG Berggiesshubel 66.63 18 *e*P **P 07 32 28.2 -0.6**
comp=Z,11nm,1.1s,mb4.8
BRG Berggiesshubel 66.63 18 *e*P **P 07 32 28.5 -0.3**
comp=Z,4.7nm,1.0s,mb4.5
BRG *e* pP 07 32 32.5 +0.5
comp=Z,6.5nm,1.1s
BRG *e*PP PP 07 34 56.2 +0.7
comp=Z,6.5nm,0.5s
BRG S S 07 41 25.0 +4.8
BRG SS SS 07 45 42.0 +4.5
BRG
comp=N,939nm,17.7s
BRG
comp=E,628nm,22.1s
BRG
comp=Z,1μm,17.6s
BRG Berggiesshubel 66.63 18 *e*P **P 07 32 28.5 -0.3**
BRG *e* pP 07 32 32.5 +0.5
BRG *e* 07 34 56.2
BRG S S 07 41 25.0 +4.8
BRG SS SS 07 45 42.0 +4.5
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
BRG pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
BRG MLR MLR
comp=N,939nm,17.6s,MS5.1
BRG MLR MLR
comp=E,628nm,22.1s,MS5.1
BRG MLR MLR
comp=Z,1μm,17.6s,MS5.2
BRG Berggiesshubel 66.63 18 *e*P **P 07 32 28.5 -0.3**
comp=Z,4.7nm,1.0s,mb4.5
BRG *e* pP 07 32 32.5 +0.5
BRG *e*PP PP 07 34 56.2 +0.7
BRG S S 07 41 25.0 +4.8
BRG SS SS 07 45 42.0 +4.5
BRG LR LR
comp=Z,1μm,17.6s,MS5.2
CLL Collm 66.73 18 *e*P **P 07 32 30.8 +1.4**
comp=Z,47nm,1.9s,mb5.2
CLL *e*PPP 07 36 33.8
CLL *e*S S 07 41 24.8 +3.5
CLL *e*PS 07 41 43.0
CLL *e*PPS 07 41 51.3
CLL *e*SS SS 07 45 39.3 +0.4
CLL *e*SSS 07 48 51.7
CLL *e*LR LR 07 53 07.9
CLL *e*L 07 59 47.5
comp=Z,2μm,22.0s
CLL Collm 66.73 18 P **P 07 32 29.0 -0.4**
comp=Z,logA/T=1.2,mb5.0
CLL *e* 07 32 42.0
CLL *e*S S 07 41 23.0 +1.7
CLL *e*PS 07 41 43.0
CLL *e*SCS ScS 07 42 30.0 +3.4
CLL *e*SS SS 07 45 34.0 -4.9
CLL *e*SSS 07 48 51.0
CLL *e* 07 50 21.0
CLL Collm 66.73 18 *e*P **P 07 32 29.0 -0.4**
comp=Z,28nm,1.7s,mb5.0
CLL *ex* x 07 32 42.0
CLL *e*S S 07 41 23.0 +1.7
CLL *e*PS 07 41 43.0
CLL *e*ScS ScS 07 42 30.0 +3.4
CLL *e*SS SS 07 45 34.0 -4.9
CLL *e*SSS 07 48 51.0
CLL *ex* x 07 50 21.0
CLL Collm 66.73 18 *e*P **P 07 32 29.0 -0.4**
CLL *e*S S 07 41 23.0 +1.7
CLL pmax pmax
comp=Z,28nm,1.7s,mb5.0
CLL Collm 66.73 18 *e*P **P 07 32 29.0 -0.4**
comp=Z,28nm,1.7s,mb5.0
CLL *e* 07 32 42.0
CLL *e*S S 07 41 23.0 +1.7
ANTO Ankara 66.78 37 *e*P **P 07 32 31.5 +1.8**
ANTO pmax pmax
comp=Z,64nm,1.4s,mb5.5
ANTO MLR MLR
comp=Z,458nm,19.0s,MS4.7
ANTO Ankara 66.78 37 *e*P **P 07 32 31.5 +1.7**
comp=Z,64nm,1.4s,mb5.5
ANTO LR LR
comp=Z,458nm,19.0s,MS4.7
KECS Kecovo 66.94 24 *e*P **P 07 32 30.3 -0.4**
KECS pmax pmax
comp=Z,14nm,1.3s,mb4.8
KECS Kecovo 66.94 24 *e*P **P 07 32 30.3 -0.4**
comp=Z,14nm,1.3s,mb4.8
DPC Dobruska-Polom 66.95 20 *e*P **P 07 32 30.0 -0.8**
DPC *ex* x 07 32 42.1
DPC *e*S S 07 41 19.9 -4.2
DPC AMS AMS 08 01 10.0
comp=Z,2μm,19.4s
NRDL Niedersach Rie 66.98 15 *e*P **P 07 32 32.0 +1.0**
comp=Z,48nm,1.4s,mb5.3
UPC Upice 66.98 20 *e*P **P 07 32 31.7 +0.7**
OKC Ostrava-Krasne 67.16 22 *e*P **P 07 32 32.7 +0.6**
OKC *ex* x 07 32 44.3
OKC *e*S S 07 41 26.1 -0.4
OKC AMS AMS 08 01 40.0
comp=Z,2μm,18.8s
OKC Ostrava-Krasne 67.16 22 *e*P **P 07 32 32.7 +0.6**
OKC *e* 07 32 44.3
OKC *e*S S 07 41 26.1 -0.4
BR131 Keskin Array S 67.19 38 *e*P **P 07 32 33.2 +0.8**
comp=Z,22nm,1.2s,mb5.1
BR131 LR LR
comp=Z,432nm,19.0s,MS4.7
BRTR Keskin Array B 67.19 38 P **P 07 32 32.9 +0.5**
comp=Z,3.2nm,0.9s,mb4.3,baz=200,slow=5.9,SNR=16
BRTR LR LR 08 01 46.9
comp=Z,529nm,21.0s,MS4.7,baz=59,slow=36
ESK Eskdalemuir 67.23 6 PFAKE 07 32 40.0 +7.4
ESK LR LR
comp=Z,1μm,20.0s,MS5.2
KSP Ksiaz 67.36 20 *e*P **P 07 32 35.1 +1.7**
KSP *e*pP pP 07 32 40.5 +3.8
KSP *e*S S 07 41 32.7 +3.7
KSP *e*SKS 07 42 00.5
KSP *e*SS SS 07 45 47.3 -1.5
KSP L 08 01 27.3
comp=Z,3.6nm,19.8s
KSP Ksiaz 67.36 20 *e*P **P 07 32 34.6 +1.2**
KSP *e*S S 07 41 31.0 +2.0
KSP *e*SS SS 07 45 46.0 -2.8
KSP LR LR
comp=Z,4μm,19.8s,MS5.7
CRVS Cervenica-Dubn 67.66 24 *e*P **P 07 32 35.6 +0.3**
CRVS pmax pmax
comp=Z,24nm,1.5s,mb5.0
CRVS Cervenica-Dubn 67.66 24 *e*P **P 07 32 35.6 +0.3**
comp=Z,24nm,1.5s,mb5.0
UZH Uzhgorod 67.78 25 *e*P **P 07 32 37.0 +0.9**
UZH MLR MLR
comp=Z,650nm,16.0s,MS5.0
KOLS Kolonicke sedl 68.01 25 *e*P **P 07 32 38.8 +1.3**
KOLS pmax pmax
comp=Z,32nm,1.5s,mb5.1
KOLS Kolonicke sedl 68.01 25 *e*P **P 07 32 38.8 +1.3**
comp=Z,32nm,1.5s,mb5.1
OJC Ojcow 68.08 22 *e*P **P 07 32 37.2 -0.7**
OJC *e*S S 07 41 37.0 -0.6
OJC L 08 02 37.0
comp=Z,8.6nm,20.0s
BSEG Bad Segeberg 68.34 15 *e*P **P 07 32 39.3 -0.3**
comp=Z,27nm,0.9s,mb5.3
BSEG Bad Segeberg 68.34 15 *e*P **P 07 32 39.3 -0.3**
BSEG pmax pmax
comp=Z,27nm,0.9s,mb5.3
KWP Kalwaria 68.73 24 *e*P **P 07 32 42.1 +0.1**
KWP *e*pP pP 07 32 48.3 +3.0
KWP *e*sP sP 07 32 54.9 +8.4
KWP *e*PP PP 07 35 12.8 -0.9
KWP L 08 04 00.1
comp=Z,2.5nm,19.2s
KWP Kalwaria 68.73 24 *e*P **P 07 32 42.1 +0.1**
KWP *e**PP pP 07 32 48.3 +3.0
KWP *e* 07 35 12.8
KWP MLR MLR
comp=Z,2μm,19.2s,MS5.5
KWP Kalwaria 68.73 24 *e*P **P 07 32 42.1 +0.1**
KWP *e*pP pP 07 32 48.3 +3.0
KWP *e*sP sP 07 32 54.9 +8.4
KWP *e*PP PP 07 35 12.8 -0.9
MALT Malatya 69.34 41 *e*P **P 07 32 47.9 +2.1**
LVV L'vov 69.42 25 *e*P **P 07 32 46.5 +0.2**
LVV *e*S S 07 41 52.2 -1.3
KIS Kishinev 69.46 29 *e*P **P 07 32 42.0 -4.6**
KIS *e*S S 07 41 52.0 -2.0
KIS MLR MLR
comp=N,500nm,18.0s,MS5.2
KIS MLR MLR
comp=E,1μm,18.0s,MS5.2
KIS MLR MLR
comp=Z,2μm,18.0s,MS5.3
KIS MLR MLR
comp=Z,2μm,20.0s
GKP Gorka Klasztor 69.73 19 *e*P **P 07 32 49.5 +1.3**
GKP *e*pP pP 07 32 54.2 +2.7
GKP L 08 01 43.6
comp=Z,2.4nm,22.2s
GKP Gorka Klasztor 69.73 19 *e*P **P 07 32 49.5 +1.3**
GKP *e**PP pP 07 32 54.2 +2.7
BHD Baghdad 70.83 49 *ex* x 07 33 02.0
MSL Mosul 71.39 45 *ex* x 07 33 03.5
MSL *ex* x 07 42 27.0
AKASG Malin Array Be 72.30 27 P **P 07 33 02.3 -1.5**
comp=Z,18nm,1.0s,mb5.0,baz=225,slow=6.6,SNR=51
AKASG LR LR 08 05 10.0
comp=Z,748nm,20.8s,MS4.9,baz=220,slow=36
AKBB Malin Array Si 72.30 27 *e*P **P 07 33 02.2 -1.6**
SUW Suwalki 72.37 22 *e*P **P 07 33 03.8 -0.4**
SUW *e*pP pP 07 33 09.7 +2.2
SUW *e*sP sP 07 33 15.8 +7.1
SUW *e*S S 07 42 29.1 +1.3
SUW *e*SS SS 07 47 05.2 -0.7
SUW L 08 05 25.0
comp=Z,1.4nm,19.3s
SUW Suwalki 72.37 22 *e*P **P 07 33 03.8 -0.4**
SUW *e*pP pP 07 33 09.7 +2.2
SUW *e*sP sP 07 33 15.8 +7.1
SUW *e*S S 07 42 29.1 +1.3
SUW *e*SS SS 07 47 05.2 -0.7
ANN Anapa 72.54 35 *e*P **P 07 33 05.5 +0.3**
ANN *i* *PP pP 07 33 16.1 +7.6
ANN *e*S S 07 42 30.9 +1.2
ANN pmax pmax
comp=Z,102nm,6.8s
SOC Sochi 73.15 37 *e*P **P 07 33 06.4 -2.5**
SOC *e*PPP 07 37 35.0
SOC *e*S S 07 42 32.4 -4.3
SOC *e* 07 43 05.0
SOC pmax pmax
comp=Z,13nm,0.9s,mb4.9
MGV Manicaragua 73.37 297 *e*P **P 07 33 09.2 -1.0**
KONO Kongsberg 73.40 12 PFAKE 07 33 20.0 +10
KONO LR LR
comp=Z,2μm,22.0s,MS5.3
MAW Mawson 74.10 157 *e*P **P 07 33 14.5 0.0**
comp=Z,9.5nm,0.9s,mb4.7
MAW Mawson 74.10 157 P **P 07 33 14.7 +0.3**
comp=Z,11nm,0.9s,mb4.8,baz=273,slow=5.4,SNR=8.6
MAW LR LR 07 59 03.4
comp=Z,1μm,18.1s,MS5.3,baz=290,slow=30
MAW Mawson 74.10 157 *e*P **P 07 33 14.5 0.0**
MAW pmax pmax
comp=Z,10.0nm,0.9s
JTS JuntasAbangare 74.36 284 P **P 07 33 15.7 -0.3**
comp=Z,6.8nm,1.0s,mb4.5,baz=318,slow=13,SNR=3.7
JTS JuntasAbangare 74.36 284 *e*P **P 07 33 14.7 -1.3**
JTS JuntasAbangare 74.36 284 P **P 07 33 15.7 -0.3**
JTS LR LR
comp=Z,959nm,21.0s,MS5.1
GNI Garni 74.46 43 *e*P **P 07 33 16.5 -0.1**
GNI pmax pmax
comp=Z,16nm,1.7s
GNI Garni 74.46 43 PFAKE 07 33 30.0 +13
GNI LR LR
comp=Z,906nm,22.0s,MS5.0
NOA NORSAR Array B 75.01 12 P **P 07 33 18.1 -1.6**
comp=Z,2.5nm,0.8s,mb4.2,baz=204,slow=6.3,SNR=6.1
NOA LR LR 08 04 02.8
comp=Z,898nm,22.0s,MS5.0,baz=205,slow=34
KIV Kislovodsk 75.14 38 *e*P **P 07 33 17.3 -3.2**
KIV *e* 07 33 30.0
KIV *e*S S 07 42 53.8 -5.3
KIV pmax pmax
comp=Z,17nm,0.9s,mb5.0
KIV Kislovodsk 75.14 38 *e*P **P 07 33 22.0 +1.5**
comp=Z,11nm,0.5s,mb5.0
KIV LR LR
comp=Z,376nm,21.0s,MS4.7
WES Weston 75.46 320 PFAKE 07 33 30.0 +7.7
WES LR LR
comp=Z,2μm,22.0s,MS5.4
HRV Harvard--Oak R 75.67 320 PFAKE 07 33 40.0 +16
HRV LR LR
comp=Z,2μm,20.0s,MS5.5
BORG Borgarnes 76.38 357 PFAKE 07 33 40.0 +12
BORG LR LR
comp=Z,707nm,19.0s,MS5.0
DWPF Disney 76.70 303 PFAKE 07 33 40.0 +11
DWPF LR LR
comp=Z,1μm,22.0s,MS5.2
LBNH Lisbon 76.79 321 PFAKE 07 33 40.0 +10
LBNH LR LR
comp=Z,3μm,22.0s,MS5.5
PAYG Puerto Ayora 77.02 272 PFAKE 07 33 40.0 +8.8
PAYG LR LR
comp=Z,2μm,19.0s,MS5.3
VRSR Storozhevoye 77.36 31 *e*P **P 07 33 33.6 +0.5**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VRSR pmax pmax
comp=N,7.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,1.3s
CBN Corbin 77.56 314 PFAKE 07 33 50.0 +16
CBN LR LR
comp=Z,3μm,20.0s,MS5.5
MAK Makhachkala 77.65 41 P **P 07 33 44.7 +10**
MAK *e* 07 36 28.2
MAK *i* S S 07 43 25.2 -1.4
MAK *i* 07 43 45.0

MAK pmax pmax
comp=Z,46nm,0.4s,mb5.8
NCB Newcomb 78.09 320 PFAKE 07 33 50.0 +13
NCB LR LR
comp=Z,2µm,20.0s,MS5.5
BINY Binghamton 78.39 318 PFAKE 07 33 50.0 +11
BINY LR LR
comp=Z,2µm,20.0s,MS5.3
QSPA South Pole Qui 78.52 180 *e*P **P 07 33 39.9 +0.3**
comp=Z,54nm,0.8s,mb5.5
VRHR Novokhopersk 78.53 32 *e*P **P 07 33 39.6 0.0**
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
VRHR pmax pmax
comp=N,4.0nm,0.3s
VRHR pmax pmax
comp=E,20nm,0.8s
OBN Obninsk 78.56 27‖ *e*P **P 07 33 38.5 -1.3**
OBN *i* SS SS 07 48 42.5 +2.7
OBN pmax pmax
comp=Z,7.0nm,1.5s,mb4.4
OBN MLR MLR
comp=Z,2µm,22.0s,MS5.3
OBN Obninsk 78.56 27 PFAKE 07 33 50.0 +10
OBN LR LR
comp=Z,2µm,22.0s,MS5.3
SSPA Standing Stone 78.97 316 *e*P **P 07 33 42.7 +0.7**
SSPA LR LR
comp=Z,2µm,22.0s,MS5.4
FINES FINESS Array B 79.17 18 P **P 07 33 42.0 -1.1**
comp=Z,3.0nm,0.7s,mb4.3,baz=224,slow=5.3,SNR=10
FINES LR LR 08 10 39.0
comp=Z,920nm,19.1s,MS5.1,baz=233,slow=37
FINES FINESS Array B 79.17 18 P **P 07 33 42.0 -1.1**
FINES LR LR 08 10 39.0
FIA1 FINESS Array S 79.17 18 *e*P **P 07 33 42.4 -0.8**
MOS Moscow 79.43 27 *e*P **P 07 33 49.7 +5.2**
MOS pmax pmax
comp=Z,66nm,1.3s,mb5.4
MOS MLR MLR
comp=Z,2µm,20.0s,MS5.4
ELN Prospectdale 79.60 312 *e*P **P 07 33 47.8 +2.4**
KAF Kangasniemi 79.76 18 *e*p **P 07 33 44.7 -1.6**
FWV Forest Hill 79.78 312 *e*P **P 07 33 47.1 +0.7**
FWV *e*PcP PcP 07 33 53.4 -0.7
MCWV Mont Chateau 79.92 314 PFAKE 07 34 00.0 +13
MCWV LR LR
comp=Z,2µm,20.0s,MS5.5
SCHQ Schefferville 79.95 332 LR LR 08 03 51.7
comp=Z,546nm,20.7s,MS4.9,baz=332,slow=32
SCHQ Schefferville 79.95 332 PFAKE 07 34 00.0 +13
SCHQ LR LR
comp=Z,1µm,22.0s,MS5.2
TEIG Tepich 80.14 293 PFAKE 07 34 00.0 +12
TEIG LR LR
comp=Z,306nm,22.0s,MS4.6
ALLY Alegheny Colle 80.94 316 *e*P **P 07 33 52.8 +0.1**
ERPA Erie 81.03 316 PFAKE 07 34 00.0 +6.8
ERPA LR LR
comp=Z,2µm,22.0s,MS5.4
TZTN Tazewell 81.41 310 *e*P **P 07 33 56.8 +1.6**
JOF Joensuu 81.91 19 *e*p **P 07 33 56.3 -1.5**
ACSO Alum Creek Sta 82.36 314 PFAKE 07 34 10.0 +10
ACSO LR LR
comp=Z,1µm,20.0s,MS5.2
LRAL Lakeview Retre 82.89 306 *e*P **P 07 34 03.3 +0.4**
LRAL LR LR
comp=Z,2µm,21.0s,MS5.5
KLMR Klimovskoe 83.41 23 *e*P **P 07 34 03.4 -2.2**
KLMR pmax pmax
comp=Z,40nm,1.5s,mb5.2
KLMR MLR MLR
comp=Z,1µm,20.0s,MS5.2
AAM Ann Arbor 83.61 315 PFAKE 07 34 20.0 +13
AAM LR LR
comp=Z,2µm,21.0s,MS5.5
WCI Wyandotte Cave 84.05 311 *e*P **P 07 34 08.2 -0.7**
WCI pmax pmax
comp=Z,54nm,1.6s,mb5.4
WCI MLR MLR
comp=Z,927nm,21.0s,MS5.1
WCI Wyandotte Cave 84.05 311 *e*P **P 07 34 08.2 -0.7**
comp=Z,54nm,1.6s,mb5.4
WCI LR LR
comp=Z,927nm,21.0s,MS5.1
PLAL Pickwick Lake 84.35 307 *e*P **P 07 34 09.1 -1.4**
comp=Z,45nm,1.6s,mb5.3
PLAL LR LR
comp=Z,1µm,22.0s,MS5.3
DGAR Diego Garcia 84.50 96 PFAKE 07 34 20.0 +8.8
DGAR LR LR
comp=Z,1µm,19.0s,MS5.3
WVT Waverly 84.52 308 *e*P **P 07 34 10.0 -1.3**
WVT *e* 07 34 16.1
WVT pmax pmax
comp=Z,48nm,1.5s,mb5.4
WVT MLR MLR
comp=Z,741nm,21.0s,MS5.0
WVT Waverly 84.52 308 *e*P **P 07 34 10.0 -1.3**
comp=Z,48nm,1.5s,mb5.4
WVT *e*PcP PcP 07 34 16.1 +1.2
WVT LR LR
comp=Z,741nm,21.0s,MS5.0
BLO Bloomington 84.53 312 *e*P **P 07 34 10.6 -0.8**
BLO pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
BLO Bloomington 84.53 312 *e*P **P 07 34 10.6 -0.8**
comp=Z,8.7nm,0.8s,mb4.9
OXF Oxford 85.25 306 PFAKE 07 34 30.0 +15
OXF LR LR
comp=Z,2µm,22.0s,MS5.4
ARCES ARCESS Array B 85.36 13 P **P 07 34 15.9 +0.4**
comp=Z,2.6nm,0.9s,mb4.3,baz=279,slow=9.7,SNR=5.4
ARCES LR LR 08 09 50.2
comp=Z,1µm,21.6s,MS5.2,baz=227,slow=34
ARCES ARCESS Array B 85.36 13 P **P 07 34 15.9 +0.4**
ARCES LR LR 08 09 50.2
CMIG Matias Romero 85.39 288 P **P 07 34 15.9 +0.3**
comp=Z,3.1nm,0.9s,mb4.4,baz=59,slow=8.3,SNR=4.6
SUMG Summit 85.61 353 *e*P **P 07 34 18.8 +2.0**
comp=Z,33nm,1.2s,mb5.4
MIR Mirnyy 85.84 157 *c i*P pP 07 34 30.0 +8.8
MIR pmax pmax
comp=Z,400nm,1.8s
KEV Kevo 85.86 13 PFAKE 07 34 30.0 +12
KEV LR LR
comp=Z,1µm,22.0s,MS5.3
SIUC Southern Illin 86.07 310 *e*P **P 07 34 18.6 -0.5**
comp=Z,50nm,1.4s,mb5.5
LVZ Lovozero 86.41 16 PFAKE 07 34 30.0 +9.3
LVZ LR LR
comp=Z,1µm,19.0s,MS5.3
FVM French Village 87.07 310 *e*P **P 07 34 23.1 -0.8**
FVM pmax pmax
comp=Z,27nm,1.0s,mb5.4
FVM French Village 87.07 310 *e*P **P 07 34 23.1 -0.8**
comp=Z,27nm,1.0s,mb5.4
CCM Cathedral Cave 87.71 309 *e*P **P 07 34 26.1 -0.9**
CCM pmax pmax
comp=Z,46nm,1.3s,mb5.5
CCM MLR MLR
comp=Z,546nm,20.0s,MS5.0
CCM Cathedral Cave 87.71 309 *e*P **P 07 34 26.1 -0.9**
comp=Z,46nm,1.3s,mb5.5
CCM LR LR
comp=Z,546nm,20.0s,MS5.0
DAG Danmarks Havn 88.28 359 *i* P **P 07 34 31.0 +1.2**
comp=Z,5.0nm,1.0s,mb4.7
DAG Danmarks Havn 88.28 359 *e*P **P 07 34 31.0 +1.2**
DAG pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
DAG Danmarks Havn 88.28 359 *e*P **P 07 34 31.0 +1.2**
comp=Z,5.0nm,1.0s,mb4.7
MIAR Mount Ida 88.56 306 PFAKE 07 34 40.0 +8.9
MIAR LR LR
comp=Z,1µm,21.0s,MS5.4
NATX Nacogdoches 88.74 303 PFAKE 07 34 40.0 +8.1
NATX LR LR
comp=Z,2µm,19.0s,MS5.5
HKT Hockley 89.28 301 *e*P **P 07 34 35.9 +1.4**
HKT MLR MLR
comp=Z,859nm,20.0s,MS5.2
ARU Arti 89.88 32 *e*P **P 07 34 37.1 -0.2**
ARU *e* 07 38 11.4
ARU *e*PPP 07 40 10.6
ARU *e*S 07 45 05.5
ARU *e*SP SP 07 46 31.4 -3.6
ARU *e*PS PS 07 46 41.6 +5.3
ARU *e*SS SS 07 51 26.6 -0.3
ARU Arti 89.88 32 *e*P **P 07 34 38.0 +0.7**
comp=Z,25nm,1.6s,mb5.3
ARU LR LR
comp=Z,859nm,22.0s,MS5.1
SBA Scott Base 90.69 180 *e*P **P 07 34 41.6 +0.6**
EYMN Ely 90.70 319 PFAKE 07 34 50.0 +8.9
EYMN LR LR
comp=Z,1µm,19.0s,MS5.3
VNDA Vanda 90.98 179 P **P 07 34 42.8 +0.4**
comp=Z,2.4nm,0.8s,mb4.6,baz=187,slow=5.1,SNR=5.0
VNDA LR LR 08 10 35.0
comp=Z,843nm,19.1s,MS5.2,baz=184,slow=32
VNDA Vanda 90.98 179 *e*P **P 07 34 42.7 +0.3**
comp=Z,24nm,1.6s,mb5.3
VNDA LR LR
comp=Z,921nm,20.0s,MS5.2
SVE Sverdlovsk 91.09 32 *e*P **P 07 34 43.7 +0.8**
SVE *e*PS PS 07 46 48.0 -1.8
KBS Kingsbay 91.44 5 PFAKE 07 34 50.0 +5.5
KBS LR LR
comp=Z,614nm,19.0s,MS5.1
CASY Casey 92.19 160 PFAKE 07 35 00.0 +12
CASY LR LR
comp=Z,951nm,21.0s,MS5.2
JCT Junction City 92.75 300 *e*P **P 07 34 50.8 +0.2**
JCT pmax pmax
comp=Z,16nm,0.9s,mb5.5
JCT MLR MLR
comp=Z,870nm,19.0s,MS5.2
JCT Junction City 92.75 300 *e*P **P 07 34 50.8 +0.2**
comp=Z,16nm,0.9s,mb5.4
JCT LR LR
comp=Z,870nm,19.0s,MS5.2
ULM Lac du Bonnet 94.08 320 LR LR 08 11 25.0
comp=Z,2µm,19.1s,MS5.5,baz=61,slow=32
ULM Lac du Bonnet 94.08 320 PFAKE 07 35 10.0 +13
ULM LR LR
comp=Z,3µm,20.0s,MS5.7
AMTX Amarillo 95.15 304 PFAKE 07 35 10.0 +8.4
AMTX LR LR
comp=Z,2µm,21.0s,MS5.5
BRVK Borovoye 95.42 37 *e*P **P 07 35 03.2 +0.3**
BRVK MLR MLR
comp=Z,491nm,20.0s,MS5.0
PALK Pallekele 95.43 84 PFAKE 07 35 10.0 +7.1
PALK LR LR
comp=Z,1µm,19.0s,MS5.4
LTX Lajitas 95.83 299 *e*P **P 07 35 05.2 +0.5**
LTX MLR MLR
comp=Z,704nm,22.0s,MS5.1
RSSD Black Hills 98.43 313 PFAKE 07 35 30.0 +14
RSSD LR LR
comp=Z,1µm,20.0s,MS5.5
FFC Flin Flon 98.56 324 PFAKE 07 35 30.0 +13
FFC LR LR
comp=Z,1µm,20.0s,MS5.4
SDCO Great Sand Dun 98.65 307 PFAKE 07 35 30.0 +13
SDCO LR LR
comp=Z,992nm,20.0s,MS5.3
ISCO Idaho Springs 99.02 309 PFAKE 07 35 30.0 +11
ISCO LR LR
comp=Z,1µm,20.0s,MS5.4
ANMO Albuquerque 99.04 304 *e*P **P 07 35 18.9 -0.3**
ANMO Albuquerque 99.04 304 *e*P **P 07 35 19.8 +0.6**
ANMO LR LR
comp=Z,2µm,21.0s,MS5.5
DRV Dumont d'Urvil 99.53 170 SS SS 07 53 26.0 -18
KURK Kurchatov 100.16 40 PFAKE 07 35 40.0 +16
KURK LR LR
comp=Z,437nm,20.0s,MS5.0
LAO LASA Array 100.28 316 PFAKE 07 35 40.0 +15
LAO LR LR
comp=Z,2µm,20.0s,MS5.5
MKAR Makanchi Array 102.25 44 PP PP 07 39 47.4 +1.8
comp=Z,0.6nm,0.8s,baz=224,slow=3.3,SNR=4.3
PDAR Pinedale Array 102.28 311 PKiKP PKiKP 07 39 58.1 +2.6
comp=Z,0.9nm,1.1s,baz=73,slow=6.7,SNR=3.9
BW06 Boulder Array 102.29 311 PFAKE 07 35 50.0 +16
BW06 LR LR
comp=Z,903nm,22.0s,MS5.2
TUC Tucson 102.30 301 PFAKE 07 35 50.0 +16
TUC LR LR
comp=Z,767nm,19.0s,MS5.2
EGMT Eagleton 102.78 317 PFAKE 07 35 50.0 +14
EGMT LR LR
comp=Z,1µm,22.0s,MS5.4
LKWY Lake 103.02 313 PFAKE 07 35 50.0 +13
LKWY LR LR
comp=Z,2µm,19.0s,MS5.8
WUAZ Wupatki 103.10 304 PFAKE 07 35 50.0 +13
WUAZ LR LR
comp=Z,2µm,22.0s,MS5.6
AHID Auburn Hatcher 103.42 311 PFAKE 07 35 50.0 +11
AHID LR LR
comp=Z,818nm,19.0s,MS5.3
YMR Madison River 103.43 313 PFAKE 07 35 50.0 +11
YMR LR LR
comp=Z,1µm,19.0s,MS5.5
MPU Maple Canyon 103.65 309 PFAKE 07 35 50.0 +10
MPU LR LR
comp=Z,1µm,20.0s,MS5.4
HWUT Hardware Ranch 103.69 310 PFAKE 07 35 50.0 +10
HWUT LR LR
comp=Z,1µm,19.0s,MS5.4
BOZ Bozeman (W) 103.94 314 PFAKE 07 35 50.0 +9.0
BOZ LR LR
comp=Z,932nm,20.0s,MS5.3
DUG Dugway 104.56 309 PFAKE 07 36 00.0 +16
DUG LR LR
comp=Z,1µm,22.0s,MS5.3
MSO Missoula 105.58 316 PFAKE 07 40 10.0 +8.5
MSO LR LR
comp=Z,1µm,20.0s,MS5.5
HLID Hailey 105.87 312 PFAKE 07 40 10.0 +7.9
HLID LR LR
comp=Z,1µm,20.0s,MS5.5
WMQ Urumqi 105.93 48 PDIF Pdif 07 35 51.3 +1.4
WMQ PP PP 07 40 17.3 +4.3
WMQ S Sdif 07 47 46.7 -1.0
WMQ PP PP
comp=Z,98nm,5.0s
WMQ LR LR
comp=N,549nm,20.0s,MS5.2
WMQ LR LR
comp=E,371nm,21.0s,MS5.2
WMQ LR LR
comp=Z,357nm,13.4s
ELK Elko 106.43 309 PFAKE 07 40 20.0 +17
ELK LR LR
comp=Z,674nm,20.0s,MS5.2
COCO West Island 106.82 107 PFAKE 07 40 20.0 +16
COCO LR LR
comp=Z,2µm,20.0s,MS5.6
TPNV Topopah Spring 107.12 305 PFAKE 07 40 20.0 +16
TPNV LR LR
comp=Z,1µm,21.0s,MS5.4
PFO Pinyon Flat Ob 107.16 302 PFAKE 07 40 20.0 +16
PFO LR LR
comp=Z,1µm,21.0s,MS5.4
NEW Newport 107.71 317 PFAKE 07 40 20.0 +15
NEW LR LR
comp=Z,2µm,21.0s,MS5.7
TPH Tonopah 107.92 306 PFAKE 07 40 20.0 +14
TPH LR LR
comp=Z,615nm,22.0s,MS5.1
BMN Battle Mountai 107.94 309 PFAKE 07 40 20.0 +14
BMN LR LR
comp=Z,911nm,21.0s,MS5.3
BMO Blue Mountains 107.95 313 PFAKE 07 40 20.0 +14
BMO LR LR
comp=Z,583nm,20.0s,MS5.1
DAC Darwin (Calif) 108.18 304 PFAKE 07 40 20.0 +14
DAC LR LR
comp=Z,866nm,21.0s,MS5.3
LSA Lhasa 108.23 62 PFAKE 07 40 20.0 +14
LSA LR LR
comp=Z,479nm,20.0s,MS5.1
MNV Mina 108.65 307 PFAKE 07 40 20.0 +13
MNV LR LR
comp=Z,497nm,20.0s,MS5.1
NVAR Mina Array Bea 108.77 307 PKKPbc PKKPbc 07 51 19.1 +3.3
comp=Z,0.7nm,0.9s,baz=219,slow=2.8,SNR=4.4
ISA Isabella 108.88 304 PFAKE 07 40 20.0 +12
ISA LR LR
comp=Z,355nm,22.0s,MS4.9
WVOR Wild Horse Val 108.97 311 PFAKE 07 40 20.0 +12
WVOR LR LR
comp=Z,1µm,19.0s,MS5.5
HAWA Hanford 109.44 315 PFAKE 07 40 20.0 +11
HAWA LR LR
comp=Z,88nm,20.0s,MS4.3
SNCC San Nicolas Is 109.71 301 PFAKE 07 40 20.0 +11
SNCC LR LR
comp=Z,648nm,20.0s,MS5.2
CMB Columbia Colle 110.42 306 PFAKE 07 40 20.0 +9.4
CMB LR LR
comp=Z,724nm,22.0s,MS5.2
SAO San Andreas Ge 111.28 305 PFAKE 07 40 20.0 +7.8
SAO LR LR
comp=Z,1µm,22.0s,MS5.4
WDC Whiskeytown Da 111.98 309 PFAKE 07 40 30.0 +16
WDC LR LR
comp=Z,398nm,20.0s,MS5.0
YBH Yreka Blue Hor 112.04 310 PFAKE 07 40 30.0 +16
YBH LR LR
comp=Z,505nm,19.0s,MS5.1
HUMO Hull Mountain 112.16 311 PFAKE 07 40 30.0 +16
HUMO LR LR
comp=Z,703nm,20.0s,MS5.2
COR Corvallis 112.23 313 PFAKE 07 40 30.0 +16
COR LR LR
comp=Z,1µm,21.0s,MS5.4
HOPS Hopland 112.48 307 PFAKE 07 40 30.0 +16
HOPS LR LR
comp=Z,932nm,20.0s,MS5.4
RKT Rikitea 113.21 239 *e*SS SS 07 56 55.0 +4.3
comp=Z,298nm,27.5s
RKT *e*LR LR 08 14 07.4
comp=Z,313nm,22.5s
CM31 Chiang Mai Arr 114.61 75 PFAKE 07 40 30.0 +11
CM31 LR LR
comp=Z,397nm,20.0s,MS5.0
NWAO Narrogin (SRO) 115.36 135 PFAKE 07 40 30.0 +10
NWAO LR LR
comp=Z,838nm,20.0s,MS5.3
TIXI Tiksi 115.80 12 PFAKE 07 40 30.0 +9.2
TIXI LR LR
comp=Z,4µm,19.0s,MS6.0
SIT Sitka 116.79 329 PFAKE 07 40 30.0 +7.3
SIT LR LR
comp=Z,2µm,22.0s,MS5.8
COLA College 118.29 340 PFAKE 07 40 40.0 +14
COLA LR LR
comp=Z,746nm,19.0s,MS5.3
KMI Kunming 118.41 68 PKP PKPdf 07 40 26.2 +0.3
KMI XPKP 07 40 30.6
KMI PP PP 07 41 48.7 +6.5
KMI PKS 07 44 00.9
KMI PPP 07 44 17.8
KMI SKS SKSdf 07 47 35.9 -2.1
KMI SKKS SKKSac 07 48 34.8 -8.1
KMI PP PP
comp=Z,51nm,3.8s
KMI LR LR
comp=N,271nm,17.5s,MS5.1
KMI LR LR
comp=E,283nm,18.1s,MS5.1
KMI LR LR
comp=Z,465nm,17.5s,MS5.2
SONM Songino Array 118.42 42 PKP PKPdf 07 40 26.9 +1.0
comp=Z,0.3nm,0.3s,baz=278,slow=4.2,SNR=3.8
LZH Lanzhou 118.73 55 *e*PKP PKPdf 07 40 22.6 -3.9
LZH XPKP 07 40 29.5
LZH PP PP 07 41 46.0 +1.6
LZH PP PP
comp=Z,150nm,7.5s
LZH LR LR
comp=N,570nm,17.1s
LZH LR LR
comp=Z,809nm,18.5s,MS5.4
ULN Ulaanbaatar 118.84 42‖ *i*PKIKP PKPdf 07 40 23.4 -3.3
ULN Ulaanbaatar 118.84 42 PFAKE 07 40 40.0 +13
ULN LR LR
comp=Z,878nm,19.0s,MS5.4
CD2 Chengdu 119.12 61 *e*PKP PKPdf 07 40 24.4 -2.8
CD2 XPKP 07 40 30.2
CD2 PP PP 07 41 49.4 +2.3
CD2 PKS 07 43 59.8
CD2 SKS SKSdf 07 47 35.4 -3.9
CD2 SKKS SKKSac 07 48 41.6 -6.0
CD2 SS SS 07 58 07.8 -0.1
CD2 PP PP
comp=Z,90nm,10.2s
CD2 LR LR
comp=N,220nm,22.8s
CD2 LR LR
comp=Z,200nm,22.8s,MS4.7
MCK McKinley 119.36 339 PFAKE 07 40 40.0 +12
MCK LR LR
comp=Z,291nm,20.0s,MS4.9
DIV Divide 119.70 336 PFAKE 07 40 40.0 +12
DIV LR LR
comp=Z,3µm,20.0s,MS6.0
PMR Palmer 120.75 337 PFAKE 07 40 40.0 +10
PMR LR LR
comp=Z,675nm,22.0s,MS5.2
YAK Yakutsk 123.08 20 PFAKE 07 40 50.0 +15
YAK LR LR
comp=Z,624nm,21.0s,MS5.2
TAOE Nuku Hiva Isla 123.28 251 *e*LR LR 08 18 51.8
comp=Z,2µm,29.9s
TNA Tin City 123.36 348 PFAKE 07 40 50.0 +15
TNA LR LR
comp=Z,407nm,21.0s,MS5.1
MBWA Marble Bar 123.60 125 PFAKE 07 40 50.0 +14
MBWA LR LR
comp=Z,2µm,22.0s,MS5.7
HHC Hu-ho-hao-te 123.80 48 *e*PKP PKPdf 07 40 32.8 -3.4
HHC XPKP 07 40 38.8
HHC PP PP 07 42 20.5 +1.5
HHC SKKS SKKSac 07 49 09.6 -8.4
HHC LR LR
comp=N,465nm,20.2s,MS5.3
HHC LR LR
comp=E,642nm,23.8s,MS5.3
HHC LR LR
comp=Z,588nm,19.0s,MS5.3
KDAK Kodiak Island 124.49 335 PFAKE 07 40 50.0 +12
KDAK LR LR
comp=Z,315nm,20.0s,MS5.0
TBI Tubuai 124.72 231 *e*SS SS 07 59 12.8 -6.5
comp=Z,169nm,33.2s
TBI *e*LR LR 08 19 28.6
comp=Z,1µm,22.2s
QIZ Qiongzhong 124.96 75 PKP PKPdf 07 40 30.7 -7.7
QIZ PP PP 07 42 27.7 +0.9
QIZ SKKS SKKSac 07 49 17.6 -7.8
QIZ SS SS 07 59 26.0 +3.7
QIZ LR LR
comp=E,316nm,20.4s
QIZ LR LR
comp=Z,452nm,20.6s,MS5.1
QIZ Qiongzhong 124.96 75 PFAKE 07 40 50.0 +12
QIZ LR LR
comp=Z,516nm,19.0s,MS5.2
HIA Hailar 126.16 36 PFAKE 07 40 50.0 +9.3
HIA LR LR
comp=Z,1µm,19.0s,MS5.6
SNZO South Karori 126.81 188 PFAKE 07 40 50.0 +8.0
SNZO LR LR
comp=Z,758nm,19.0s,MS5.4
BJI Beijing 127.40 48 PKP PKPdf 07 40 45.9 +2.8
BJI LR LR
comp=N,574nm,19.4s,MS5.4
BJI LR LR
comp=E,513nm,19.4s,MS5.4
BJI LR LR
comp=Z,672nm,21.3s,MS5.3
BJT Baijiatuau 127.41 48 PFAKE 07 40 50.0 +6.9
BJT LR LR
comp=Z,953nm,20.0s,MS5.5
PPT Papeete 127.90 237 *e*SS SS 08 00 00.4 +1.3
comp=Z,524nm,33.0s
PPT *e*LR LR 08 20 55.9
comp=Z,771nm,22.8s
MA2 Magadan 130.69 11 PFAKE 07 41 00.0 +11
MA2 LR LR

	comp=Z,423nm,19.0s,MS5.2						
NJ2	Nanjing	131.69	57	ePKP	PKPdf	07 40 48.8	-2.5
NJ2				PP	PP	07 43 14.0	+3.0
NJ2				PKS		07 44 24.0	
NJ2				SKS	SKSdf	07 47 55.0	-7.8
NJ2				PP	PP		
	comp=Z,220nm,6.2s						
NJ2				LR	LR		
	comp=N,2μm,26.4s,MS6.0						
NJ2				LR	LR		
	comp=E,3μm,26.5s,MS6.0						
NJ2				LR	LR		
	comp=Z,6μm,27.0s,MS6.2						
SNY	Shenyang	131.94	43	⇓PKP	PKPdf	07 40 53.1	+1.4
CN2	Changchun	132.24	40	ePKP	PKPdf	07 40 48.8	-3.5
CN2				PP	PP	07 43 15.2	+0.7
CN2				LR	LR		
	comp=N,700nm,21.0s,MS5.5						
CN2				LR	LR		
	comp=E,600nm,21.0s,MS5.5						
CN2				LR	LR		
	comp=Z,900nm,21.0s,MS5.5						
ASAR	Alice Springs	132.54	138	PKP	PKPdf	07 40 55.0	+2.1
	comp=Z,1.2nm,0.9s,baz=183,slow=2.0,SNR=7.2						
UNV	Unalaska Valle	132.76	339	PFAKE		07 41 00.0	+6.7
UNV				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
SSE	Sheshan	133.86	58	ePKP	PKPdf	07 40 57.4	+2.1
SSE				PP	PP	07 43 31.6	+6.7
SSE				SS	SS	08 01 14.7	+2.7
SSE				PP	PP		
	comp=Z,364nm,3.9s						
SSE				LR	LR		
	comp=N,50nm,23.1s,MS4.9						
SSE				LR	LR		
	comp=E,290nm,23.2s,MS4.9						
SSE				LR	LR		
	comp=Z,366nm,23.3s,MS5.0						
MDJ	Mudanjiang	134.33	37	ePKP	PKPdf	07 40 55.7	-0.5
MDJ				PP	PP	07 43 27.4	-0.5
MDJ				PS	PS	07 53 43.9	-4.2
MDJ				SS	SS	08 01 18.7	+0.9
MDJ				PP	PP		
	comp=Z,144nm,6.1s						
MDJ				LR	LR		
	comp=N,357nm,22.1s,MS5.3						
MDJ				LR	LR		
	comp=E,592nm,22.1s,MS5.3						
MDJ				LR	LR		
	comp=Z,263nm,24.3s,MS4.9						
MDJ	Mudanjiang	134.33	37	PFAKE		07 41 10.0	+14
MDJ				LR	LR		
	comp=Z,405nm,20.0s,MS5.1						
WRA	Warramunga Arr	135.37	134	PKP	PKPdf	07 40 58.7	+0.6
	comp=Z,1.1nm,1.0s,baz=248,slow=3.2,SNR=3.9						
WRAB	Tennant Creek	135.38	134	PFAKE		07 41 10.0	+12
WRAB				LR	LR		
	comp=Z,995nm,19.0s,MS5.6						
INCN	Inchon	135.94	47	PFAKE		07 41 10.0	+11
INCN				LR	LR		
	comp=Z,969nm,19.0s,MS5.5						
PET	Petropavlovsk	138.21	7	PFAKE		07 41 20.0	+17
PET				LR	LR		
	comp=Z,365nm,20.0s,MS5.1						
SMY	Shemya	138.56	353	PFAKE		07 41 20.0	+16
SMY				LR	LR		
	comp=Z,636nm,19.0s,MS5.4						
YSS	Yuzh-Sakhalins	139.44	25	PFAKE		07 41 20.0	+14
YSS				LR	LR		
	comp=Z,824nm,22.0s,MS5.4						
CTA	Charters Tower	142.67	147	PKP	PKPdf	07 41 11.1	-0.4
	comp=Z,4.2nm,0.8s,baz=298,slow=18,SNR=3.4						
CTAO	Charters Tower	142.67	147	PFAKE		07 41 20.0	+8.5
CTAO				LR	LR		
	comp=Z,1μm,19.0s,MS5.6						
MAJO	Matsushiro	144.37	41	PFAKE		07 41 30.0	+16
MAJO				LR	LR		
	comp=Z,569nm,20.0s,MS5.3						
MAT	Matsushiro	144.37	41	PKP	PKPdf	07 41 10.5	-4.0
MAT	Matsushiro	144.37	41	P	PKPdf	07 41 11.0	-3.5
MAT				LR	LR		
	comp=Z,350nm,20.0s,MS5.1						
MJAR	Matsushiro Arr	144.37	41	PKP	PKPdf	07 41 13.8	-0.7
	comp=Z,1.5nm,0.7s,baz=338,slow=4.3,SNR=4.8						
PMG	Port Moresby	151.54	136	PFAKE		07 41 40.0	+14
PMG				LR	LR		
	comp=Z,1μm,21.0s,MS5.8						
HNR	Honiara	158.07	162	PFAKE		07 41 50.0	+15
HNR				LR	LR		
	comp=Z,766nm,20.0s,MS5.5						

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*NEIC **10** 07:24:36.4,1824N×6889W,h127km,MD3.7(RSPR), After RSPR.*

RSPR 10 07:24:36.4,1824N×6889W,h127km±3km,MD3.7/10, MD3.7/10,12C,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STDO	Santo Domingo	1.00	282	⇑eP	Pn	07 24 58.8	-0.3
AGPR	Aguadilla, PR	1.71	82	⇑eP	Pn	07 25 07.7	+1.0
AGPR				eS	Sn	07 25 30.3	+0.5
CRPR	Cabo Rojo, PR	1.71	98	⇑eP	Pn	07 25 07.0	+0.2
CRPR				eS	Sn	07 25 29.6	-0.3
LSP	Las Mesas	1.72	92	⇑eP	Pn	07 25 08.0	+1.1
LSP				eS	Sn	07 25 31.0	+0.9
MGP	Maguayo	1.73	98	⇑eP	Pn	07 25 07.4	+0.5
MGP				eS	Sn	07 25 30.0	-0.3
LRS	Lares	1.95	88	⇑eP	Pn	07 25 09.9	+0.3
LRS				eS	Sn	07 25 36.0	+1.1
CELP	Cerrillos	2.21	94	⇑eP	Pn	07 25 13.2	+0.5
CELP				eS	Sn	07 25 41.6	+0.9
ICM	Isla Caja Muer	2.28	98	⇑eP	Pn	07 25 13.2	-0.5
ICM				eS	Sn	07 25 42.1	-0.3
SJG	San Juan	2.61	92	⇑eP	Pn	07 25 17.2	-0.6
SJG				eS	Sn	07 25 50.2	+0.4
CPD	Cerro la Pandu	2.84	94	⇑eP	Pn	07 25 20.4	-0.5
CPD				eS	Sn	07 25 54.8	-0.3
CBYP	Canovanas	2.89	89	⇑eP	Pn	07 25 20.9	-0.6
CBYP				eS	Sn	07 25 55.9	-0.2
MTP	Monte Pirata	3.18	92	⇑eP	Pn	07 25 25.2	0.0
MTP				eS	Sn	07 26 03.7	+0.9

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*CSEM **10** 07:42:39.8±0.9,3853N×2857W,h4km±5km,ML1.1,Error ellipse: s-maj=3.1km s-min=2.4km az=32.0,After PDA*
*PDA **10** 07:42:39.8±0.9,3853N×2857W,h4km±5km,MD2.7,ML1.1, Error ellipse: s-maj=3.1km s-min=2.4km az=32.0*

SVSA 10 07:42:39.8±0.9,3853N×2857W,h4km±5km,MD2.7,ML1.1, Error ellipse: s-maj=3.1km s-min=2.4km az=32.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	Horta	0.05	262	i P	Pg	07 42 40.6	-0.4
HOR				eS	Sg	07 42 42.0	+0.1
HOR	Horta	0.05	262	eS	Sg	07 42 42.0	+0.1
PCND	Candelaria	0.10	129	eS	Sg	07 42 43.5	+0.2
PCND							
	31nm,0.2s						
PICO	Pico	0.11	107	eP	Pg	07 42 41.9	-0.2
PICO				eS	Sg	07 42 44.1	+0.4
PTEI	Pico do Teixo	0.17	103	eS	Sg	07 42 45.6	+0.3
PTEI							
	14nm,0.2s						
PBOI	Pico dos Bois	0.18	123	eS	Sg	07 42 45.6	-0.1
PBOI							
	10nm,0.1s						
PTCA	Ponta do Capel	0.19	286	eS	Sg	07 42 46.4	+0.4
PTCA							
	8.1nm,0.1s						
ROSA	Rosais	0.31	54	eP	Pg	07 42 45.3	-0.6
ROSA				eS	Sg	07 42 49.8	-0.2
PID	Ribeirinha	0.36	105	eS	Sg	07 42 51.5	0.0
PMAN	Manadas	0.39	75	eP	Pg	07 42 46.6	-0.6
PMAN				eS	Sg	07 42 52.0	-0.3
PMAN							
	36nm,0.1s						
PMAN	Manadas	0.39	75	eP	Pg	07 42 46.6	-0.6
PMAN				eS	Sg	07 42 52.0	-0.3

IDC 10 07:51:10.0±11.0,574S×13101E,h0km,mb4.2/1, mb1 4.1/4,mb1mx3.7/13,mbtmp4.0/4,ML3.8/2,Error ellipse: s-maj=171.0km s-min=90.4km az=151.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.36	203	Pn	Pn	07 54 19.8	-1.0
	0.5nm,0.3s,baz=61,slow=11,SNR=6.9						
FITZ				Sn	Sn	07 56 41.7	-8.3
	0.2nm,0.3s,baz=284,slow=23,SNR=2.1						
WRA	Warramunga Arr	14.48	167	Pn	Pn	07 54 35.0	-1.1
	0.4nm,0.3s,baz=353,slow=13,SNR=34						
WRA				Sn	Sn	07 57 09.0	-8.4
	0.5nm,0.3s,baz=350,slow=23,SNR=8.9						
ASAR	Alice Springs	18.04	171	P	Pn	07 55 23.6	+1.5
	0.4nm,0.3s,baz=352,slow=10,SNR=32						
STKA	Stephens Creek	27.82	160	P	P	07 57 01.2	+0.3
	1.0nm,0.4s,baz=331,slow=10,SNR=4.7						

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*IDC **10** 07:55:58.1±1.4,603S×130.19E,h0km,mb3.9/3,mb1 4.3/6, mb1mx4.1/13,mbtmp4.1/6,ML4.4/3,Error ellipse: s-maj=64.3km s-min=23.4km az=84.0*
*NEIC **10** 07:56:00.1±0.6,606S×13044E,h15km,mb4.0/2,Error ellipse: s-maj=21.1km s-min=7.8km az=85.0*
*ISCJB **10** 07:56:14.1±2.6,668S±008×1305E±0.1,h197km±30km, mb4.0/8,Error ellipse: s-maj=24.1km s-min=12.6km az=22.3*

ISC 10 07:56:11.8±2.2,653S±008×1306E±02,h148km±22km,n17, σ0^{s}69/21,mb4.2/8,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.46	202	Pn	Pn	07 59 02.7	-1.3
	3.1nm,0.3s,baz=31,slow=11,SNR=17						
FITZ				Sn	Sn	08 01 12.4	-9.4
	6.1nm,0.3s,baz=70,slow=23,SNR=11						
WRAB	Tennant Creek	13.83	165	ePn	Pn	07 59 21.7	+0.1
WRA	Warramunga Arr	13.84	165	Pn	Pn	07 59 22.1	+0.4
	1.2nm,0.3s,baz=344,slow=13,SNR=20						
WRA				Sn	Sn	08 01 49.3	-5.5
	4.5nm,0.3s,baz=350,slow=22,SNR=15						
ASAR	Alice Springs	17.35	170	P	Pn	08 00 08.5	+3.7
	0.8nm,0.3s,baz=345,slow=9.3,SNR=19						
ASAR				S	S	08 03 16.4	-0.4
	1.4nm,0.3s,baz=355,slow=27,SNR=8.4						
MBWA	Marble Bar	17.93	215	eP	Pn	08 00 12.6	+0.9
	4.1nm,0.4s						
MBWA				eS	S	08 03 18.4	-10
MJAR	Matsushiro Arr	43.44	9	P	P	08 03 58.9	-1.0
	1.6nm,0.7s,mb3.8,baz=193,slow=8.6,SNR=4.9						
MJAR	Matsushiro Arr	43.44	9	P	P	08 03 58.9	-1.0
JIRN	Jiri	54.69	311	eP	P	08 05 25.6	+0.1
	7.7nm,0.5s,mb4.7						
GUN	Gumba	55.05	311	eP	P	08 05 27.9	-0.2
PKI	Pulchoki	55.23	310	eP	P	08 05 29.2	-0.2
KKN	Kakani	55.45	310	eP	P	08 05 30.8	-0.1
	7.4nm,0.6s,mb4.6						
GKN	Gorkha	56.04	310	eP	P	08 05 35.1	-0.1
	14nm,0.6s,mb5.0						
KOLN	Koldanda	56.72	309	eP	P	08 05 39.8	-0.2
	8.2nm,0.7s,mb4.7						
ULN	Ulaanbaatar	57.99	342	eP	P	08 05 49.8	+0.9
	0.9nm,0.5s,mb3.9						
SONM	Songino Array	58.17	341	P	P	08 05 49.8	-0.3
	0.2nm,0.3s,mb3.4,baz=134,slow=8.3,SNR=2.8						
MKAR	Makanchi Array	68.13	326	P	P	08 06 56.5	+0.7
	1.0nm,0.4s,mb3.9,baz=116,slow=8.6,SNR=12						
MKAR	Makanchi Array	68.13	326	P	P	08 06 56.5	+0.7

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*NEIC **10** 08:22:38.5,3770N×2005E,h5km,ML4.0(ATH),After ATH.*
*ATH **10** 08:22:38.5,3770N×2005E,h5km±3km,MD3.7/9,ML4.0*
*ISCJB **10** 08:22:39.5±0.5,3767N±003×2013E±004,h10km,Error ellipse: s-maj=4.8km s-min=3.9km az=149.5*
*THE **10** 08:22:41.3,3778N×2020E,h10km,ML3.6*
*CSEM **10** 08:22:41.7±0.1,3779N×2022E,h2km,ML3.6,Error ellipse: s-maj=2.7km s-min=1.7km az=26.0*
*HLW **10** 08:22:45.5,3748N×2037E,h33km,Mb3.9*
*MOS **10** 08:22:51.1±1.3,3821N×2075E,h66km,mb4.0/3,Error ellipse: s-maj=17.1km s-min=7.4km az=65.7*

ISC 10 08:22:40.4±1.0,3769N±003×2017E±004,h4km±7km,n54, σ0^{s}98/69,2C-3D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	Levkas	1.08	20	ePg	Pg	08 22 59.3	-1.8
LKD				eSg	Sg	08 23 14.3	-0.8
LKD	Levkas	1.08	20	P	Pg	08 23 00.8	-0.3
LKD				S	Sg	08 23 16.6	+1.5
LKD	Levkas	1.08	20	P	Pg	08 23 00.8	-0.3
LKD				eSg	Sg	08 23 14.3	-0.8
LKD				S	Sg	08 23 16.6	+1.5
RLS	Riolos of Patr	1.09	70	ePG	Pg	08 23 00.4	-0.8
RLS				eSB	Sb	08 23 16.4	+0.1
ITM	Ithomi	1.49	110	ePB	Pb	08 23 08.1	-0.5
EVR	Evrytania	1.77	46	ePN	Pb	08 23 13.2	-0.3
IGT	Igoumenitsa	1.84	4	ePb	Pn	08 23 12.0	-0.7
IGT				eSb	Sb	08 23 37.2	-0.9
IGT	Igoumenitsa	1.84	4	P	Pb	08 23 15.7	+1.0
IGT				S	Sg	08 23 40.7	+1.1
IGT	Igoumenitsa	1.84	4	P	Pb	08 23 15.6	+1.0
IGT				eSb	Sb	08 23 37.2	-0.8
IGT				S	Sg	08 23 40.7	+1.1
JAN	Janina	2.03	15	ePN	Pn	08 23 15.5	+0.1
KEK	Kerkira	2.04	352	ePN	Pn	08 23 14.9	-0.6
AGG	Agios Georgios	2.15	51	ePn	Pn	08 23 17.7	+0.6
AGG				eSn	Sn	08 23 45.0	+0.8
AGG	Agios Georgios	2.15	51	P	Pn	08 23 17.9	+0.8
MEV	Metsovon	2.25	21	ePn	Pn	08 23 18.6	+0.3
MEV	Metsovon	2.25	21	P	Pn	08 23 19.1	+0.7
MEV	Metsovon	2.25	21	ePn	Pn	08 23 18.6	+0.2
VLI	Veliai	2.41	113	ePN	Pn	08 23 22.5	+1.9
NAIG	Nisos Aigina	2.63	88	ePN	Pn	08 23 25.0	+1.4
KYTH	Kithira	2.69	121	ePN	Pn	08 23 26.0	+1.5
ATH	Athens Observa	2.82	83	ePB	Pn	08 23 27.0	+0.8
KZN	Kozani	2.89	25	ePN	Pn	08 23 28.5	+1.3
XOR	Xorichti	2.90	54	ePn	Pn	08 23 27.2	-0.1
XOR	Xorichti	2.90	54	ePn	Pn	08 23 27.2	-0.1
PTL	Penteli	2.94	82	ePB	Pn	08 23 30.0	+2.1
LIT	Litokhoron	3.01	36	ePn	Pn	08 23 28.8	0.0
LIT	Litokhoron	3.01	36	P	Pn	08 23 28.8	0.0
LIT				S	Sn	08 24 05.8	+0.5
LIT	Litokhoron	3.01	36	ePn	Pn	08 23 28.8	0.0
LIT				S	Sn	08 24 05.8	+0.5
FNA	Florina	3.23	16	ePn	Pn	08 23 31.4	-0.4
FNA	Florina	3.23	16	P	Pn	08 23 32.0	+0.2
CEL	Celeste	3.43	281	Pn	Pn	08 23 36.3	+1.7
OHR	Ohrid	3.45	8	i Pn	Pn	08 23 35.0	+0.1
OHR	Ohrid	3.45	8	i Pn	Pn	08 23 34.9	0.0
OUR	Ouranopolis	3.97	47	ePn	Pn	08 23 41.6	-0.4
HAVL	Avola	4.09	261	Pn	Pn	08 23 44.1	+0.4
SG1	Sgolgore (BA)	4.15	320	ePn	Pn	08 23 45.0	+0.5
MGR	Morigerati	4.35	306	Pn	Pn	08 23 48.6	+1.3
CDT	Castel del Mon	4.54	319	ePn	Pn	08 23 49.7	-0.1
MMB	Musomiste	4.76	34	i P	Pn	08 23 52.0	-0.9
VTS	Vitosha	5.42	24	i P	Pn	08 24 02.0	+0.1
KDZ	Kurdzhali	5.66	44	eP	Pn	08 24 03.5	-1.7
SLUM		7.45	145	P	Pn	08 24 29.1	-0.8
HMAT	Matruh	8.72	137	⇓P	Pn	08 24 46.8	-0.5
SWA2		9.51	151	P	Pn	08 24 57.4	-0.7
VOY	Vojsko	9.55	333	ePn	Pn	08 24 58.6	-0.1
VOY				e(Sn)	Sn	08 26 39.3	-7.3
VOY				e		08 26 42.5	
VOY	Vojsko	9.55	333	ePn	Pn	08 24 58.6	-0.1
VOY				Sn	Sn	08 26 39.3	-7.3
SWA1		9.59	150	P	Pn	08 24 58.2	-1.1
OBKA	Obir	9.75	336	⇑iPn	Pn	08 25 00.1	-1.3
OBKA				⇓iSn	Sn	08 26 44.1	-7.2
HSAF	As Saff	12.43	127	⇑P	Pn	08 25 37.9	-0.2
KIV	Kislovodsk	18.12	63	eP	Pn	08 26 50.8	-2.2
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GNI	Garni	19.26	75	eP	Pn	08 27 07.1	+0.3
GNI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
OBN	Obninsk	20.68	27	⇓eP	P	08 27 20.7	-0.6
OBN				eS	S	08 30 50.7	-22
OBN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
VSU	Vasula	21.22	10	eP	P	08 27 24.8	-2.4
FINES	FINESS Array B	24.06	7	i P	P	08 27 55.4	-1.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	45.79	58	i P	P	08 31 03.7	+0.5
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						

CASC 10 08:24:21.7±2.9,1267N×8876W,h33km±999km,MD3.7, ML3.1,7C-6D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	San Miguel	0.89	32	⇓eP	x	08 24 58.2	
VSM				eS	x	08 25 11.5	
BLLM	Bellamira	0.92	33	⇑iP	x	08 24 58.5	
BLLM				eS	x	08 25 11.2	
LFRS	El Faro	1.00	343	⇓eP	x	08 24 59.3	
LFRS				eS	x	08 25 13.7	
CNCH	Conchagua	1.08	56	⇑eP	x	08 25 00.2	
CNCH				eS	x	08 25 16.9	
LFU	La Fuente	1.13	342	⇑eP	x	08 25 01.4	
LFU				eS	x	08 25 18.2	
BOQS	Boqueron	1.18	334	⇑eP	x	08 25 02.6	
BOQS				eS	x	08 25 18.1	
SBLS	San Blas	1.44	324	⇑eP	x	08 25 06.7	
SBLS				eS	x	08 25 25.1	
SNJE	San Jose	1.45	325	⇓eP	x	08 25 06.5	
SNJE				eS	x	08 25 25.5	
RTR	El Retiro	1.50	325	eP	x	08 25 07.5	
RTR				eS	x	08 25 26.0	
CRIN	San Cristobal	1.67	89	eP	Pn	08 24 48.7	+0.2
CRIN				eS	Sn	08 25 10.7	+2.0
RBDL	Robledal	1.70	328	⇑eP	x	08 25 10.4	
RBDL				eS	x	08 25 32.6	
LEON	Leon	1.84	98	⇓eP	Pn	08 24 50.2	-0.7
LEON				eS	Sn	08 25 11.9	-1.1
TELN	Telica	1.88	92	eP	Pn	08 24 51.7	+0.2
MIRN	Miramar	2.01	96	eP	Pn	08 24 53.0	-0.2
MIRN				eS	Sn	08 25 18.5	+1.3
CNGN	Cerro Negro	2.02	94	eS	Sn	08 25 17.7	+0.4
COPN	Copaltepe	2.17	103	⇑eP	Pn	08 24 55.0	-0.4
MOMJ	Momotombo	2.18	97	⇓eP	Pn	08 24 55.3	-0.3
APYN	Apoyeque	2.39	100	⇓eP	Pn	08 24 58.5	+0.1
XAVN	Gruta Xavier	2.43	102	eP	Pn	08 24 59.1	+0.1
XAVN				eS	Sn	08 25 27.6	0.0
TISN	Laguna Tiscapa	2.48	102	eP	Pn	08 24 59.8	+0.1
MGAN	Managua	2.50	102	eP	Pn	08 24 59.9	-0.2
MGAN				i		08 25 29.6	
	comp=N,110nm,0.6s						
PRS1	Puriscal	5.11	121	eP	Pn	08 25 38.2	+2.3
LCR2	La Lucha 2	5.50	121	eP	Pn	08 25 43.6	+2.4
BUS	Buena Vista	5.80	122	eP	Pn	08 25 48.1	+2.7

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*ISCJB **10** 08:29:34.6±0.5,17.14N±0.04×100.10W±0.04,h45km±5km, mb3.7/5,Error ellipse: s-maj=7.0km s-min=5.8km az=9.6*
*MEX **10** 08:29:36.4±0.8,1709N×10008W,h36km±9km,MD4.2*
*IDC **10** 08:29:43.6±5.7,1774N×9949W,h91km±82km,mb3.5/4, mb1 3.7/6,mb1mx3.5/21,mbtmp3.8/6,ML3.2/2,Error ellipse: s-maj=117.9km s-min=57.5km az=14.0*
*NEIC **10** 08:29:43.8±3.1,1769N×9947W,h98km±34km,mb3.8/2, Error ellipse: s-maj=64.8km s-min=26.0km az=209.0*

ISC 10 08:29:35.7±0.5,1716N±004×10011W±004,h35km±7km, n26,σ1^{s}11/35,mb3.7/5,1D,Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.19	232	⇓iP	Pn	08 29 41.4	-1.0
CAIG				i S	Sn	08 29 46.3	-0.7
ACX	Acapulco	0.35	148	i P	Pn	08 29 42.8	-1.4
ACX				i S	Sn	08 29 51.2	+1.1
MEIG	Mezcala	0.89	32	i P	Pn	08 29 51.0	-0.7
MEIG				i S	Sn	08 30 03.1	-0.2
PLIG	Platanillo	1.35	25	i P	Pn	08 29 58.0	0.0
PLIG				i S	Sn	08 30 15.4	+0.7
ZIIG	Zihuatanejo	1.37	289	eP	Pn	08 29 58.8	+0.5
ZIIG				i S	Sn	08 30 14.6	-0.5
CHVM	Chichinautzin	2.12	25	i P	Pn	08 30 09.7	+1.1
IIZ	Mezontepec	2.17	22	i P	Pn	08 30 09.8	+0.5
IIZ				i S	Sn	08 30 36.0	+0.9
CIVM	Cilcuayo	2.21	29	i P	Pn	08 30 09.0	-0.7
SZVM	Salazar	2.26	18	i P	Pn	08 30 11.6	+1.1
UTMO	Huajuapan	2.30	73	eP	Pn	08 30 10.9	-0.2
UTMO				i S	Sn	08 30 36.8	-1.3
UNM	Universidad Na	2.33	22	eP	Pn	08 30 11.3	-0.1
UNM				eP		08 30 14.0	
UNM				i S	Sn	08 30 36.8	-2.0
PTVM	Pico Tres Padr	2.59	21	i P	Pn	08 30 15.3	+0.2
MRX	Morelia	2.73	338	i P	Pn	08 30 22.5	+5.6
OXX	Oaxaca	3.24	91	i P	Pn	08 30 24.3	+0.3
HUIG	Huatulco	4.08	109	i P	Pn	08 30 38.1	+2.6
HUIG				i S	Sn	08 31 22.0	-0.1
SFJM	Santa Fe	4.32	320	i P	Pn	08 30 40.0	+1.2
CMIG	Matias Romero	5.00	90	P	Pn	08 30 48.6	+0.5
	1.3nm,0.3s,baz=261,slow=12,SNR=14						
CMIG				Lg		08 32 04.5	
	3.9nm,0.3s,baz=257,slow=13,SNR=4.6						
ZAIG	Zacatecas	6.04	338	i P	Pn	08 31 06.3	+3.9
ANMO	Albuquerque	18.60	343	P	Pn	08 33 49.7	-0.6
	0.1nm,0.3s,baz=162,slow=9.8,SNR=9.8						
ANMO	Albuquerque	18.60	343	P	Pn	08 33 49.7	-0.6
WUAZ	Wupatki	20.85	333	eP	P	08 34 16.8	+2.5
	7.4nm,1.1s						
ISCO	Idaho Springs	23.06	349	eP	P	08 34 37.4	-0.5
	2.1nm,0.6s,mb3.7						
NVAR	Mina Array Bea	26.51	327	P	P	08 35 11.4	+1.7
	1.9nm,0.8s,mb3.6,baz=142,slow=11,SNR=12						
PDAR	Pinedale Array	26.76	344	P	P	08 35 11.6	-0.4
	0.5nm,0.6s,mb3.2,baz=130,slow=9.8,SNR=5.9						
ULM	Lac du Bonnet	33.18	5	P	P	08 36 06.4	-2.5
	1.3nm,0.8s,mb3.9,baz=226,slow=7.4,SNR=3.8						
YKA	Yellowknife Ar	46.41	351	P	P	08 37 56.8	-1.8
	1.2nm,0.7s,mb4.0,baz=158,slow=7.4,SNR=7.4						

IDC 10 08:46:56.0±9.3,509S×14987E,h52km±68km,mb3.6/3, mb1 3.9/4,mb1mx3.5/14,mbtmp3.9/4,ML3.2/1,Error ellipse: s-maj=94.8km s-min=69.2km az=132.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.06	212	P	Pn	08 48 09.8	+0.4
	6.5nm,0.3s,baz=60,slow=6.8,SNR=16						
WB2	Warramunga Arr	21.12	224	eP	P	08 51 36.3	0.0
WRA	Warramunga Arr	21.13	224	P	P	08 51 36.1	-0.3
	2.1nm,0.6s,baz=50,slow=10,SNR=21						
ASAR	Alice Springs	24.04	218	P	P	08 52 05.7	-0.5
	1.0nm,0.7s,baz=51,slow=8.1,SNR=18						
FITZ	Fitzroy Crossi	26.98	239	eP	P	08 52 34.0	+1.2
	4.2nm,0.6s						
FITZ	Fitzroy Crossi	26.98	239	P	P	08 52 34.2	+1.5
	2.3nm,0.6s,baz=81,slow=11,SNR=6.6						
MATP	Matopo	117.12	244	PKP	PKPdf	09 05 37.9	+2.7
	0.8nm,0.5s,baz=93,slow=6.0,SNR=5.1						
TORD	Torodi Ar. Bea	147.61	287	PKPbc	PKPbc	09 06 33.4	-1.1
	0.3nm,0.6s,baz=67,slow=3.0,SNR=3.8						

IDC 10 08:49:27.6±3.2,528S×15082E,h0km,mb4.0/3,mb1 4.3/4, mb1mx3.9/14,mbtmp4.1/4,ML2.9/1,MS3.7/1,Ms1 3.7/1, ms1mx2.8/26,Error ellipse: s-maj=115.3km s-min=37.3km az=121.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.47	221	Pn	Pn	08 50 52.2	+1.8
	2.2nm,0.3s,baz=36,slow=6.3,SNR=5.0						
PMG				Sn	Sn	08 51 56.2	+2.2
	2.3nm,0.3s,baz=328,slow=21,SNR=4.2						
PMG				LR	LR	08 53 13.6	
	comp=Z,631nm,18.6s,baz=0.6,slow=41						
WB2	Warramunga Arr	21.66	226	eP	P	08 54 20.0	+0.4
WRA	Warramunga Arr	21.67	226	P	P	08 54 19.5	-0.2
	3.6nm,0.8s,baz=53,slow=10,SNR=11						
ASAR	Alice Springs	24.49	220	P	P	08 54 48.5	+0.2
	1.3nm,0.7s,baz=54,slow=8.4,SNR=11						
FITZ	Fitzroy Crossi	27.70	241	eP	P	08 55 17.7	+0.3
	9.6nm,0.7s						
FITZ	Fitzroy Crossi	27.70	241	P	P	08 55 17.4	0.0
	5.4nm,0.7s,baz=90,slow=9.3,SNR=9.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TORD	Torodi Ar. Bea	148.56	287	PKPbc	PKPbc	09 09 17.4	+1.0
	0.9nm,0.7s,baz=64,slow=2.1,SNR=7.1						

*NIED **10** 08:52:00, 24.10N×123.40E, h8km, Mw4.0 Best double couple: M0 1.23000×10^15 NP1:φs181.00000°, δ71.00000°, λ-50.00000°. NP2:φs292.00000°, δ44.00000°, λ-151.00000°.*
*IDC **10** 08:52:33.1±0.7, 24.19N×123.31E, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.1/21, mbtmp4.1/13, ML3.5/1, Error ellipse: s-maj=31.0km s-min=15.5km az=69.0*
*ISCJB **10** 08:52:36.5±0.5, 24.18N±0.05×123.39E±0.03, h36km±5km, mb4.2/18, Error ellipse: s-maj=8.2km s-min=4.2km az=16.7*
*JMA **10** 08:52:36.1±0.1, 24.09N×123.37E, h25km±3km, M4.3*
JMA Felt I J1.
*BJI **10** 08:52:37.2, 24.25N×123.48E, h35km, mB4.9, mb4.3, Ms4.1, Msz3.8*
*NEIC **10** 08:52:38.0±0.4, 24.24N×123.42E, h35km, mb4.4/6, Error ellipse: s-maj=9.5km s-min=7.5km az=213.0*
NEIC Recorded [1 JMA] on Iriomote-jima.
ISC 10 08:52:36.8±0.6, 24.17N±0.05×123.38E±0.03, h24km±4km, n40, σ0.91/51, mb4.2/18, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.36	63	P	Pb	08 52 44.4	-0.2
IRIF				S	Sb	08 52 50.8	+0.8
HATJ	Hateruma jima	0.41	106	P	Pb	08 52 44.3	-1.1
HATJ				S	Sb	08 52 50.5	-0.8
YOJ	Yonaguni jima	0.44	311	P	Pb	08 52 46.1	+0.1
YOJ				S	Sb	08 52 52.5	+0.3
JKRS	Kuro-shima	0.58	83	P	Pb	08 52 48.0	-0.3
JKRS				S	Sb	08 52 56.7	+0.6
JIJ	Ishigaki jima	0.72	75	P	Pb	08 52 50.0	-0.7
JIJ				S	Sb	08 52 59.4	-0.8
JTJ	Tarama	1.29	69	P	Pn	08 52 59.3	-0.1
JTJ				S	Sn	08 53 17.0	+1.0
NACB	Ninganchiao	1.63	270	ePn	Pn	08 53 04.6	+0.6
JMJ	Miyako jima 2	1.86	69	P	Pn	08 53 07.8	+0.6
TATO	Taipei	1.90	295	ePn	Pn	08 53 07.6	0.0
TATO				eSn	Sn	08 53 29.7	-1.1
JOGS	Gusukube	1.94	72	P	Pn	08 53 08.8	+0.5
JKE	Kume jima 2	3.76	54	P	Pn	08 53 33.7	+0.4
JKE				S	Sn	08 54 16.2	-0.6
JAGN	Aguni-jima	4.24	55	P	Pn	08 53 40.6	+0.7
JAGN				S	Sn	08 54 29.1	+0.4
JIH	Iheya	5.03	55	P	Pn	08 53 52.0	+1.3
JOW	Kunigami	5.16	58	Pn	Pn	08 53 52.5	+0.1
	3.7nm,0.3s,baz=208,slow=8.7,SNR=10.0						
JOW	Kunigami	5.16	58	P	Pn	08 53 52.9	+0.4
JTK	Tokunoshima	6.17	53	P	Pn	08 54 06.1	-0.3
NJ2	Nanjing	8.81	334	eP	Pn	08 54 45.8	+3.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.2s						
ENH	Enshi	13.77	299	ePn	Pn	08 55 52.2	+1.8
CD2	Chengdu	18.64	295	eP	Pn	08 56 52.8	-0.3
CD2				AP	pP	08 57 00.7	+1.5
CD2				S	Sn	09 00 16.8	-4.0
CD2				XS	sS	09 00 29.8	-4.5
CD2				SS		09 00 42.9	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				LR	LR		
	comp=E,230nm,12.0s						
CD2				LR	LR		
	comp=Z,120nm,13.2s						
KMI	Kunming	18.79	277	P	Pn	08 56 57.0	+2.1
KMI				AMB	AMB		
	comp=Z,8.0nm,0.7s						
HHC	Hu-ho-hao-te	19.35	332	eP	Pn	08 57 02.3	+0.6
HHC				AP	pP	08 57 10.3	+3.2
HHC				XP	sP	08 57 15.0	+4.9
HHC				PP		08 57 19.8	
HHC				S	Sn	09 00 32.4	-5.7
HHC				SS		09 01 03.3	
HHC				PCP	PcP	09 01 22.9	+0.9
HHC				AMB	AMB		
	comp=Z,14nm,0.6s						
HHC				AMB	AMB		
	comp=Z,129nm,8.1s						
HHC				LR	LR		
	comp=N,263nm,19.6s						
HHC				LR	LR		
	comp=E,343nm,22.6s						
HHC				LR	LR		
	comp=Z,288nm,19.6s						
HIA	Hailar	25.21	354	eP	P	08 57 59.8	-0.8
	comp=Z,10nm,1.4s,mb4.2						
HIA				epP	pP	08 58 09.6	+2.0
SONM	Songino Array	27.20	334	P	P	08 58 18.5	-0.1
	comp=Z,1.1nm,0.6s,mb3.6,baz=153,slow=9.0,SNR=7.5						
PET	Petropavlovsk	39.20	34	P	P	09 00 00.6	-2.4
	comp=Z,9.9nm,0.9s,mb4.5						
MKAR	Makanchi Array	39.75	315	P	P	09 00 06.9	-0.6
	comp=Z,0.8nm,0.4s,mb3.8,baz=98,slow=10,SNR=6.2						
ZAL	Zalesovo	41.36	326	P	P	09 00 19.0	-1.8
	comp=Z,1.1nm,0.5s,mb3.8,baz=18,slow=6.4,SNR=3.2						
ZAL	Zalesovo	41.36	326	P	P	09 00 19.0	-1.8
WRAB	Tennant Creek	45.12	165	eP	P	09 00 51.7	+0.4
	comp=Z,6.0nm,0.6s,mb4.6						
WRA	Warramunga Arr	45.13	165	P	P	09 00 51.3	0.0
	comp=Z,5.3nm,0.6s,mb4.5,baz=346,slow=9.0,SNR=42						
ASAR	Alice Springs	48.64	167	P	P	09 01 19.4	+0.6
	comp=Z,1.5nm,0.6s,mb4.2,baz=0.2,slow=6.7,SNR=15						
CHKZ	Chkalovo	49.00	321	eP	P	09 01 20.0	-1.5
	comp=Z,1.6nm,0.5s,mb4.3						
BRVK	Borovoye	49.03	320	eP	P	09 01 21.5	-0.2
	comp=Z,1.5nm,0.4s,mb4.4						
ZRNK	Zerenda	49.75	320	eP	P	09 01 26.5	-0.7
	comp=Z,2.3nm,0.8s,mb4.3						
STKA	Stephens Creek	58.39	162	P	P	09 02 30.7	+0.4
	comp=Z,4.0nm,0.8s,mb4.5,baz=354,slow=7.1,SNR=5.6						
KDAK	Kodiak Island	66.76	35	P	P	09 03 25.9	-0.2
	comp=Z,4.9nm,0.7s,mb4.6,baz=79,slow=4.9,SNR=4.1						
ARCES	ARCESS Array B	70.30	338	P	P	09 03 49.7	+1.5
	comp=Z,0.8nm,0.7s,mb3.7,baz=55,slow=6.5,SNR=5.2						
FINES	FINESS Array B	72.46	330	P	P	09 04 00.0	-1.3
	comp=Z,0.9nm,0.5s,mb4.0,baz=180,slow=34,SNR=3.3						
NOA	NORSAR Array B	79.16	333	P	P	09 04 39.1	-0.5
	comp=Z,0.5nm,0.5s,mb3.7,baz=55,slow=6.0,SNR=3.8						
YKA	Yellowknife Ar	82.20	23	P	P	09 04 55.6	-0.2
	comp=Z,1.2nm,0.5s,mb4.0,baz=304,slow=5.3,SNR=18						
GERES	GERESS Array B	84.11	321	P	P	09 05 06.8	+1.0
	comp=Z,0.3nm,0.3s,mb4.0,baz=54,slow=2.3,SNR=4.3						

IDC 10 08:53:40.0±13.0, 7.39S×107.10E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, Error ellipse: s-maj=218.9km s-min=134.9km az=137.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.96	122	P	P	08 58 25.6	+1.1
	3.1nm,0.9s,baz=318,slow=14,SNR=3.9						
WRA	Warramunga Arr	29.20	118	P	P	08 59 43.1	-0.2
	0.4nm,0.4s,baz=290,slow=12,SNR=20						
ASAR	Alice Springs	30.38	125	P	P	08 59 53.8	+0.1
	0.3nm,0.4s,baz=304,slow=8.8,SNR=4.1						
STKA	Stephens Creek	40.31	132	P	P	09 01 19.6	+0.6
	4.6nm,0.5s,baz=311,slow=9.6,SNR=15						

*IDC **10** 09:06:11.5±1.2, 15.02N×104.77W, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.8/20, mbtmp3.6/7, ML3.1/2, MS3.9/12, Ms1 3.9/12, ms1mx3.7/20, Error ellipse: s-maj=46.5km s-min=20.8km az=59.0*
*ISCJB **10** 09:06:17.5±6.8, 15.2N±0.1×104.4W±0.1, h33km±46km, mb4.0/19, MS4.0/9, Error ellipse: s-maj=29.0km s-min=13.0km az=72.3*
*BJI **10** 09:06:21.7, 15.60N×104.30W, h69km, mB5.0*
*NEIC **10** 09:06:25.8±3.0, 15.56N×104.27W, h70km±22km, mb4.2/21, Error ellipse: s-maj=24.2km s-min=10.0km az=206.0*
ISC 10 09:06:20.6±2.8, 15.3N±0.1×104.3W±0.1, h41km±22km, n64, σ0.98/45, mb4.0/19, MS4.0/9, Off coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPIG	La Paz	10.45	328	LR	LR	09 11 41.7	
	comp=Z,276nm,20.1s,baz=125,slow=32						
LTX	Lajitas	14.02	2	ePn	Pn	09 09 37.0	+0.4
JCT	Junction City	15.71	15	eP	Pn	09 09 59.0	+0.1
	21nm,1.3s						
TEIG	Tepich	16.06	70	eP	Pn	09 10 08.2	+4.8
	11nm,1.1s						
HKT	Hockley	16.58	27	eP	Pn	09 10 10.0	+0.1
	34nm,1.8s						
NATX	Nacogdoches	18.64	27	eP	Pn	09 10 36.0	+0.6
	63nm,1.5s						
BNM	Barren Site	18.93	354	eP	Pn	09 10 38.2	-0.7
LAZ	Ladron	19.23	353	eP	Pn	09 10 42.5	0.0
JTS	JuntasAbangare	19.52	102	P	Pn	09 10 45.5	-0.4
	0.1nm,0.3s,baz=311,slow=9.3,SNR=2.4						
JTS				LR	LR	09 16 35.6	
	comp=Z,398nm,20.8s,baz=50,slow=31						
JTS	JuntasAbangare	19.52	102	eP	Pn	09 10 48.1	+2.1
	29nm,1.2s						
AMTX	Amarillo	19.69	6	eP	Pn	09 10 45.0	-2.9
ANMO	Albuquerque	19.70	355	P	Pn	09 10 46.3	-1.8
	0.1nm,0.3s,baz=158,slow=12,SNR=7.5						
ANMO				LR	LR	09 17 45.2	
	comp=Z,198nm,20.9s,baz=28,slow=35						
ANMO	Albuquerque	19.70	355	eP	Pn	09 10 48.0	-0.1
	13nm,1.6s						
GLA	Glamis	20.12	334	eP	P	09 10 51.5	+0.6
WUAZ	Wupatki	21.14	344	eP	P	09 11 02.4	+0.5
	14nm,1.1s,mb4.2						
MIAR	Mount Ida	21.51	25	eP	P	09 11 05.0	-0.9
	16nm,1.1s,mb4.4						
MVCO	Mesa Verde	22.18	351	eP	P	09 11 14.0	+1.0
UALR	University of	22.22	27	eP	P	09 11 12.4	-1.1
	24nm,1.4s,mb4.4						
SHPR	Sheep Range	23.26	337	eP	P	09 11 23.7	-0.9
OXF	Oxford	23.41	32	eP	P	09 11 26.6	+0.7
	38nm,1.1s,mb4.7						
CCUT	Cedar City	23.61	342	eP	P	09 11 27.7	-0.1
LRAL	Lakeview Retre	23.67	39	eP	P	09 11 29.2	+0.9
	8.9nm,0.7s,mb4.3						
SMCO	Snowmass	23.94	355	eP	P	09 11 30.9	+0.1
	12nm,1.3s,mb4.2						
TPNV	Topopah Spring	24.07	336	eP	P	09 11 31.9	-0.1
	15nm,1.6s,mb4.2						
MSU	Marysvale	24.18	345	eP	P	09 11 33.6	+0.6
SRU	San Rafael	24.38	348	eP	P	09 11 36.0	+1.2
PLAL	Pickwick Lake	24.47	34	eP	P	09 11 35.4	-0.3
ISCO	Idaho Springs	24.48	358	eP	P	09 11 35.4	-0.3
	6.3nm,1.1s,mb4.0						
WVT	Waverly	25.48	32	eP	P	09 11 44.4	-0.4
	16nm,1.4s,mb4.4						
DAU	Daniels Canyon	25.78	348	eP	P	09 11 49.3	+1.7
DUG	Dugway	25.93	345	eP	P	09 11 47.6	-1.2
	2.0nm,0.8s,mb3.7						
NVAR	Mina Array Bea	26.17	335	P	P	09 11 48.1	-3.0
	0.5nm,0.8s,mb3.1,baz=151,slow=8.1,SNR=3.6						
HWUT	Hardware Ranch	26.99	348	eP	P	09 11 58.0	-0.5
	2.5nm,1.0s,mb3.7						
BW06	Boulder Array	27.78	352	eP	P	09 12 07.1	+1.5
PDAR	Pinedale Array	27.78	352	P	P	09 12 04.7	-0.9
	0.3nm,0.8s,mb3.0,baz=176,slow=14,SNR=3.3						
TPAW	Teton Pass	28.70	350	eP	P	09 12 14.2	+0.4
	5.5nm,1.1s,mb4.2						
HLID	Hailey	29.50	345	eP	P	09 12 22.1	+1.3
	0.8nm,0.6s,mb3.6						
ROSC	El Rosal	31.24	106	LR	LR	09 22 24.3	
	comp=Z,161nm,21.0s,MS3.7,baz=198,slow=31						
BMO	Blue Mountains	31.48	342	eP	P	09 12 38.8	+0.5
	8.9nm,1.7s,mb4.3						
MSO	Missoula	32.48	348	eP	P	09 12 47.8	+0.7
EGMT	Eagleton	32.98	353	eP	P	09 12 50.3	-1.1
ULM	Lac du Bonnet	35.57	9	LR	LR	09 28 10.7	
	comp=Z,286nm,18.7s,MS4.1,baz=220,slow=37						
EDM	Edmonton	38.54	351	eP	P	09 13 40.3	+1.2
TAOE	Nuku Hiva Isla	42.83	238	eLQ		09 23 49.5	
TAOE				eLR	LR	09 25 33.4	
	675nm,26.8s						
DLBC	Dease Lake	47.17	342	P	P	09 14 46.6	-2.3
	2.0nm,0.8s,mb4.1,baz=139,slow=6.6,SNR=3.9						
DLBC	Dease Lake	47.17	342	eP	P	09 14 48.3	-0.6
LPAZ	La Paz	47.53	130	P	P	09 14 50.6	-1.2
	1.1nm,0.9s,mb3.9,baz=320,slow=8.5,SNR=5.4						
LPAZ				LR	LR	09 32 26.8	
	comp=Z,236nm,19.9s,MS4.2,baz=99,slow=33						
LPAZ	La Paz	47.53	130	eP	P	09 14 51.3	-0.5
	7.2nm,1.4s,mb4.5						
YKA	Yellowknife Ar	47.73	354	P	P	09 14 49.4	-4.0
	0.3nm,0.6s,mb3.5,baz=166,slow=7.4,SNR=3.5						
YKA				LR	LR	09 34 04.7	
	comp=Z,200nm,21.1s,MS4.1,baz=150,slow=35						
RKT	Rikitea	48.52	219	eLR	LR	09 28 21.1	
	308nm,25.2s						
SCHQ	Schefferville	48.97	28	LR	LR	09 36 37.9	
	comp=Z,178nm,19.0s,MS4.1,baz=264,slow=37						
LVC	Limon Verde	51.18	137	LR	LR	09 32 17.9	
	comp=Z,110nm,21.8s,MS3.8,baz=299,slow=30						
PPT	Papeete	55.27	236	eLR	LR	09 31 23.9	
	334nm,25.5s						
PPT	Papeete	55.27	236	LR	LR	09 32 52.5	
	comp=Z,152nm,21.0s,MS4.0,baz=132,slow=29						
TBI	Tubuai	58.49	230	eLR	LR	09 32 54.8	
	258nm,28.2s						
BDFB	Brasilia	63.53	116	LR	LR	09 42 37.6	
	comp=Z,60nm,18.4s,MS3.8,baz=297,slow=34						
NOA	NORSAR Array B	88.51	26	LR	LR	09 58 44.7	
	comp=Z,67nm,21.5s,MS4.0,baz=20,slow=36						
HHC	Hu-ho-hao-te	115.01	331	ePKP	PKiKP	09 24 53.7	-3.4
HHC				PP	PP	09 25 58.5	+1.9
HHC				PKS		09 28 27.8	
HHC				SKKS	SKKSac	09 32 41.1	-14
HHC				PP	PP		
	comp=Z,97nm,10.1s						
SSE	Sheshan	116.48	317	ePKP	PKPdf	09 24 56.2	-3.7
NJ2	Nanjing	117.36	319	ePKP	PKPdf	09 24 58.1	-3.5
WMQ	Urumqi	120.19	350	PKP	PKPdf	09 25 00.5	-6.5
LZH	Lanzhou	122.40	333	ePKP	PKPdf	09 25 09.2	-2.1
LZH				XPKP		09 25 34.0	
WRA	Warramunga Arr	124.12	256	PKP	PKPdf	09 25 10.9	-3.7
	comp=Z,0.6nm,0.9s,baz=83,slow=1.2,SNR=4.0						
ASAR	Alice Springs	124.78	252	PKP	PKPdf	09 25 14.8	-1.0
	comp=Z,0.9nm,1.0s,baz=145,slow=4.6,SNR=4.3						

*MAN **10** 09:40:09.9, 15.01N×119.82E, h19km, mb3.7, ML4.8, MS3.0*
MAN F INTENSITY III - OLONGAPO CITY; INTENSITY I - QUEZON CITY.
*ISCJB **10** 09:40:11.2±0.6, 15.00N±0.03×119.88E±0.07, h65km±7km, mb4.0/11, Error ellipse: s-maj=11.4km s-min=5.3km az=178.2*
*IDC **10** 09:40:14.7±2.9, 14.76N×119.86E, h85km±28km, mb3.7/9, mb1 3.9/9, mb1mx3.6/20, mbtmp4.0/9, MS3.4/2, Ms1 3.4/2, ms1mx2.7/28, Error ellipse: s-maj=62.2km s-min=15.9km az=67.0*
*NEIC **10** 09:40:14.3±1.4, 14.89N×120.06E, h82km±14km, mb4.1/2, Error ellipse: s-maj=36.3km s-min=7.4km az=71.0*
NEIC Felt [III PIVS] at Olongapo and [I PIVS] at Quezon City.
ISC 10 09:40:13.0±0.6, 14.99N±0.03×119.97E±0.08, h66km±7km, n38, σ1.13/42, mb3.9/11, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.79	356	eP	Pn	09 40 24.6	-4.1
PCPH	Palayan	1.23	62	⇓eP	Pn	09 40 32.3	-2.0
PCPH				eS	Sn	09 40 46.7	-3.5
LUBP	Lubang	1.28	168	eP	Pn	09 40 33.6	-1.3
LUBP				eS	Sn	09 40 52.3	+1.0
TGY	Tagaytay City	1.29	133	P	Pn	09 40 36.3	+1.3
	666nm,0.3s,baz=323,slow=2.6,SNR=32						
TGY				S	Sn	09 40 53.7	+2.2
	2µm,0.3s,baz=211,slow=22,SNR=17						
BOLP	Bolinao	1.39	358	eP	Pn	09 40 32.8	-3.5
BCPH	Baguio City Da	1.51	23	⇑iP	Sn	09 40 55.3	-1.4
BCPH				i S	Sn	09 40 55.3	-1.4
BALP	Baler	1.72	64	eP	Pn	09 40 40.0	-0.8
BALP				eS	Sn	09 41 01.8	-0.1
PGP	Puerto Galera	1.76	147	eP	Pn	09 40 41.5	+0.2
POLP	Polilio Island	1.93	97	eP	Pn	09 40 44.2	+0.6
BOAC	Boac	2.37	130	eP	Pn	09 40 49.1	-0.5
CAUP	Cauayan	2.64	42	eP	Pn	09 40 54.0	+0.8
CAUP				eS	Sn	09 41 30.0	+5.8
ABRA	Dolores	2.74	15	eP	Pn	09 40 54.4	-0.2
BUSP	Coron	2.98	176	eP	Pn	09 40 57.6	-0.3
APYP	Conner	3.11	23	eP	Pn	09 41 00.0	+0.4
CVP	Callao Caves	3.23	33	eP	Pn	09 41 02.0	+0.6
ENPP	El Nido	3.80	188	eP	Pn	09 41 08.0	-1.0
CUYO	Cuyo Island	4.24	166	eP	Pn	09 41 15.4	+0.3
PVCP	Virac	4.29	108	eP	Pn	09 41 17.9	+2.2
NACB	Ninganchiao	9.27	9	ePn	Pn	09 42 25.2	+1.4
JOW	Kunigami	14.10	32	LR	LR	09 48 11.9	
	comp=Z,118nm,20.3s,baz=132,slow=33						
MJAR	Matsushiro Arr	26.93	34	LR	LR	09 57 24.9	
	comp=Z,96nm,19.4s,baz=130,slow=38						
SONM	Songino Array	34.63	344	P	P	09 46 57.8	+2.0
	0.3nm,0.4s,mb3.5,baz=166,slow=8.6,SNR=3.3						
WRA	Warramunga Arr	37.48	157	P	P	09 47 18.5	-1.6
	4.1nm,0.6s,mb4.5,baz=336,slow=9.6,SNR=48						
WB2	Warramunga Arr	37.48	157	eP	P	09 47 18.4	-1.8
AS31	Alice Springs	40.76	160	eP	P	09 47 46.7	-0.8
ASPA	Alice Springs	40.76	160	eP	P	09 47 46.7	-0.8
ASAR	Alice Springs	40.76	160	P	P	09 47 46.5	-1.1
	1.6nm,0.5s,mb4.1,baz=334,slow=6.7,SNR=37						
KURK	Kurchatov	48.73	326	eP	P	09 48 51.7	+0.8
	1.8nm,0.8s,mb4.0						
BVAR	Borovoye Array	54.31	326	P	P	09 49 33.1	+0.5
	0.5nm,0.5s,mb3.8,baz=112,slow=11,SNR=4.1						
ZRNK	Zerenda	55.05	325	eP	P	09 49 37.9	+0.1
	0.9nm,0.4s,mb4.2						
AKTK	Aktyubinsk	60.78	320	P	P	09 50 18.8	+0.8
AKTO	Aktyubinsk	60.78	320	P	P	09 50 18.8	+0.8
	0.6nm,0.5s,mb3.9,baz=100,slow=20,SNR=3.8						
ARCES	ARCESS Array B	77.63	339	P	P	09 52 02.2	0.0
	1.6nm,0.7s,mb3.8,baz=76,slow=6.8,SNR=12						
ARCES	ARCESS Array B	77.63	339	P	P	09 52 02.2	0.0
FINES	FINESS Array B	78.82	331	P	P	09 52 08.7	-0.1
	0.8nm,0.5s,mb3.8,baz=63,slow=4.9,SNR=8.7						
NB2	NORSAR Subarra	85.80	332	P	P	09 52 45.0	-0.1
	comp=Z,0.3nm,0.7s,mb3.3,baz=71,slow=5.9						
NOA	NORSAR Array B	85.80	332	P	P	09 52 45.1	0.0
	comp=Z,2.0nm,0.7s,mb4.2,baz=67,slow=4.9,SNR=8.5						
YKA	Yellowknife Ar	91.86	22	P	P	09 53 14.3	+0.4
	comp=Z,0.4nm,0.7s,mb3.8,baz=310,slow=4.4,SNR=4.7						

*MOS **10** 09:57:58.1±1.0, 5.42S×150.82E, h50km, mb4.8/17, Error ellipse: s-maj=13.2km s-min=8.7km az=79.5*
*ISCJB **10** 09:57:58.4±1.1, 5.56S±0.05×150.81E±0.06, h49km±10km, mb4.7/45, MS4.5/26, Error ellipse: s-maj=10.1km s-min=7.5km az=19.7*
*IDC **10** 09:58:00.1±2.7, 5.46S×150.77E, h57km±24km, mb4.3/12, mb1 4.6/15, mb1mx4.5/17, mbtmp4.7/15, ML4.2/3, MS4.5/16, Ms1 4.5/16, ms1mx4.3/23, Error ellipse: s-maj=17.8km s-min=15.7km az=98.0*
*BJI **10** 09:58:00.6, 5.54S×150.95E, h72km, mB5.2, mb4.9, Ms4.8, Msz4.5*
*NEIC **10** 09:58:01.2±1.2, 5.48S×150.78E, h66km±11km, mb4.7/22, Error ellipse: s-maj=9.2km s-min=7.1km az=103.0*
*HRVD **10** 09:58:01.2±0.2, 5.51S×150.91E, h12km, MW5.1/84, Centroid moment Tensor Solution. LP body waves: s48,c72;Mantle waves: s84,c151; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.94±.12; Mθθ5.14±.09; Mφφ-3.20±.11; Mrθ0.03±.28; Mθφ2.97±.09; Mφr-0.38±.32; Best double couple: M0 5.15000×10^16 NP1:φs297.00000°, δ83.00000°, λ-6.00000°. NP2: φs28.00000°, δ84.00000°, λ-173.00000°. Principal axes: T 6.0910, Plg1.0000°, Azm162.0000°; N -1.8820, Plg81.0000°, Azm68.0000°; P -4.2090, Plg9.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 10 09:58:02.3±0.9, 5.63S±0.04×150.83E±0.06, h70km±8km, h64km±2.7km:pP-P, n108, σ1.19/111, mb4.6/45, 4C-4D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.23	224	P	Pn	09 59 17.0	-0.9
	60nm,0.3s,baz=42,slow=6.5,SNR=112						
PMG				S	Sn	10 00 17.4	+0.7
	5.9nm,0.3s,baz=128,slow=17,SNR=3.6						
PMG				LR	LR	10 01 28.2	
	comp=Z,2µm,19.4s,baz=44,slow=39						
PMG	Port Moresby	5.23	224	ePn	Pn	09 59 17.6	-0.2
PMG				eSn	Sn	10 00 13.3	-3.4
HNR	Honiara	9.79	113	P	Pn	10 00 20.2	0.0
	13nm,0.3s,baz=261,slow=3.7,SNR=3.6						
HNR				LR	LR	10 03 43.0	
	comp=Z,3µm,18.2s,baz=354,slow=35						
CTA	Charters Tower	15.04	197	eP	Pn	10 01 33.2	+2.4
	38nm,0.9s						
CTA				eS	S	10 04 28.1	-1.8
CTA	Charters Tower	15.04	197	P	Pn	10 01 32.1	+1.3
	0.2nm,0.3s,baz=31,slow=15,SNR=5.7						
CTA				LR	LR	10 06 35.5	
	comp=Z,3µm,21.4s,baz=15,slow=34						
CTA	Charters Tower	15.04	197	eP	Pn	10 01 33.2	+2.4
CTA				eS	S	10 04 28.1	-1.8
CTA				pmax	pmax		
	comp=Z,38nm,0.9s						
CTAO	Charters Tower	15.04	197	eP	Pn	10 01 32.7	+1.9
CTAO				pmax	pmax		
	comp=Z,112nm,1.3s						
CTAO	Charters Tower	15.04	197	ePn	Pn	10 01 32.7	+1.9
	comp=Z,112nm,1.3s						
KAKA	Kakadu	19.46	248	eP	Pn	10 02 21.6	-3.5
	comp=Z,25nm,0.6s						
GUMO	Guam	19.99	343	LR	LR	10 08 25.3	
	comp=Z,1µm,18.9s,baz=147,slow=32						
WRAB	Tennant Creek	21.42	227	d iP	P	10 02 44.0	-0.5
WRAB	Tennant Creek	21.42	227	eP	P	10 02 43.4	-1.1
	comp=Z,180nm,1.2s,mb5.3						
WB2	Warramunga Arr	21.43	227	eP	P	10 02 44.1	-0.4
WRA	Warramunga Arr	21.44	227	P	P	10 02 44.3	-0.4
	comp=Z,51nm,0.9s,mb4.9,baz=52,slow=11,SNR=112						
WRA				LR	LR	10 11 23.6	
	comp=Z,786nm,18.7s,baz=55,slow=37						
DZM	Mont Dzumac	22.25	139	P	P	10 02 55.0	+1.7
	comp=Z,22nm,0.9s,mb4.5,baz=8.3,slow=11,SNR=10						
DZM				LR	LR	10 10 27.6	
	comp=Z,4µm,18.8s,baz=356,slow=33						
AS31	Alice Springs	24.23	221	eP	P	10 03 13.3	+0.8
ASAR	Alice Springs	24.23	221	P	P	10 03 12.8	+0.3
	comp=Z,19nm,0.8s,mb4.5,baz=56,slow=8.0,SNR=134						
ASAR				LR	LR	10 12 03.8	
	comp=Z,728nm,20.5s,baz=50,slow=35						
ASPA	Alice Springs	24.23	221	eP	P	10 03 13.3	+0.8
ARMA	Armidale	24.66	178	eP	P	10 03 19.3	+2.8
STKA	Stephens Creek	27.50	197	eP	P	10 03 42.3	+0.2
	comp=Z,13nm,0.9s,mb4.5						
STKA				eS	sS	10 08 54.0	+7.6
STKA	Stephens Creek	27.50	197	P	P	10 03 41.8	-0.3
	comp=Z,14nm,1.0s,mb4.4,baz=7.3,slow=7.4,SNR=9.2						
STKA				LR	LR	10 14 48.1	
	comp=Z,2µm,19.2s,baz=272,slow=36						
FITZ	Fitzroy Crossi	27.54	241	eP	P	10 03 41.5	-1.0
	comp=Z,72nm,1.6s,mb5.0						
FITZ	Fitzroy Crossi	27.54	241	P	P	10 03 41.9	-0.5
	comp=Z,20nm,0.6s,mb4.8,baz=66,slow=7.1,SNR=59						
FITZ				LR	LR	10 16 05.7	
	comp=Z,467nm,18.3s,baz=246,slow=39						
CNB	Canberra Magne	29.57	182	eP	P	10 04 00.2	-0.2
	comp=Z,29nm,1.4s,mb4.7						
TOO	Toolangi	32.16	188	eP	P	10 04 25.3	+2.0
	comp=Z,11nm,1.4s,mb4.4						
TOO	Toolangi	32.16	188	eP	P	10 04 25.3	+2.0
TOO				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.4						
FORT	Forrest	32.92	218	eP	P	10 04 29.7	-0.2
	comp=Z,74nm,0.8s,mb5.6						
MBWA	Marble Bar	33.86	240	eP	P	10 04 38.1	0.0
RAO	Raoul Island	37.73	132	LR	LR	10 16 58.3	
	comp=Z,426nm,18.4s,baz=234,slow=30						
KLBR	Kellerberrin	40.32	226	eP	P	10 05 31.8	-1.0
	comp=Z,33nm,0.7s,mb5.3						
NACB	Ninganchiao	41.11	317	eP	P	10 05 39.2	-0.1
MUN	Mundaring	41.63	227	eP	P	10 05 43.7	+0.1
MJAR	Matsushiro Arr	43.59	345	P	P	10 05 55.9	-3.5
	comp=Z,5.3nm,1.0s,mb4.2,baz=169,slow=8.5,SNR=12						
MJAR				LR	LR	10 23 38.5	
	comp=Z,418nm,19.1s,baz=175,slow=36						
MJAR	Matsushiro Arr	43.59	345	P	P	10 05 55.9	-3.5
MJAR				LR	LR	10 23 38.5	
MAJO	Matsushiro	43.59	345	eP	P	10 05 57.8	-1.7
MAJO				pmax	pmax		
	comp=Z,27nm,1.4s,mb4.8						
MAJO	Matsushiro	43.59	345	eP	P	10 05 57.8	-1.6
	comp=Z,28nm,1.4s,mb4.8						
MAT	Matsushiro	43.59	345	P	P	10 05 57.0	-2.5
MAT				eS	S	10 12 22.0	-1.6
MAT	Matsushiro	43.59	345	P	P	10 05 57.0	-2.5
MAT				S	S	10 12 23.0	-0.6
MAT				LR	LR		

comp=Z,350nm,20.0s
QZH Quanzhou 43.67 315 P P 10 06 00.6 +0.5
SSE Sheshan 46.22 324 *e*P **P 10 06 20.5 +0.2**
SSE AP pP 10 06 38.3 +0.5
SSE XP sP 10 06 46.4 +0.7
SSE PCP PcP 10 07 56.4 +1.4
SSE PP PP 10 08 08.8 -1.1
SSE S **S 10 12 59.7 -2.0**
SSE XS sS 10 13 29.9 -1.4
SSE SCS ScS 10 16 10.1 +1.1
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,370nm,3.5s
SSE LR LR
comp=N,207nm,22.3s
SSE LR LR
comp=E,294nm,22.3s
SSE LR LR
comp=Z,471nm,28.9s
QIZ Qiongzhong 47.23 302 P **P 10 06 29.3 +1.1**
QIZ PCS PcS 10 11 48.5 -5.3
QIZ S **S 10 13 17.9 +1.8**
QIZ XS sS 10 13 48.0 +2.2
QIZ LR LR
comp=E,422nm,19.9s
QIZ LR LR
comp=Z,556nm,20.8s
KS15 Wonju Array Si 47.90 335 *e*P **P 10 06 32.7 -0.8**
NJ2 Nanjing 48.29 323 *e*P **P 10 06 35.4 -1.0**
NJ2 AP pP 10 07 00.3 +6.3
NJ2 PP PP 10 08 28.3 -1.1
NJ2 S **S 10 13 22.0 -9.1**
NJ2 XS sS 10 14 04.0 +3.1
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
NJ2 AMB AMB
comp=Z,106nm,4.4s
NJ2 LR LR
comp=N,3μm,20.0s
NJ2 LR LR
comp=E,1μm,26.0s
NJ2 LR LR
comp=Z,220nm,22.0s
INCN Inchon 48.47 334 *e*P **P 10 06 38.4 +0.6**
SNY Shenyang 53.38 335 ⇓P **P 10 07 14.9 +0.2**
SNY PP PP 10 09 17.6 +2.0
SNY S **S 10 14 48.3 +6.8**
SNY SS SS 10 18 20.5 -1.7
SNY AMB AMB
comp=Z,266nm,5.4s
SNY LR LR
comp=E,444nm,15.3s
SNY LR LR
comp=Z,550nm,18.6s
MDJ Mudanjiang 53.54 341 P **P 10 07 17.0 +1.2**
MDJ AP pP 10 07 32.8 -0.9
MDJ XP sP 10 07 39.9 -1.6
MDJ PCP PcP 10 08 22.3 +0.5
MDJ PP PP 10 09 18.5 +1.5
MDJ S **S 10 14 44.3 +0.6**
MDJ XS sS 10 15 12.6 -1.3
MDJ SS SS 10 18 25.7 +1.0
MDJ AMB AMB
comp=Z,4.0nm,0.9s,mb4.5
MDJ AMB AMB
comp=Z,135nm,4.7s
MDJ LR LR
comp=N,349nm,28.1s
MDJ LR LR
comp=E,311nm,26.0s
MDJ LR LR
comp=Z,475nm,38.3s
CN2 Changchun 54.28 338 *e*P **P 10 07 24.4 +3.2**
BJI Beijing 55.53 328 *e*P **P 10 07 31.6 +1.4**
BJI S **S 10 15 15.9 +5.6**
BJI AMB AMB
comp=Z,13nm,1.5s,mb4.7
BJI LR LR
comp=N,442nm,21.1s
BJI LR LR
comp=E,270nm,20.6s
BJI LR LR
comp=Z,492nm,22.8s
HABR Khabarovsk 55.63 347 *e*P **P 10 07 34.4 +3.4**
HABR *e*S **S 10 15 13.5 +1.8**
HABR pmax pmax
comp=Z,28nm,1.9s,mb5.0
KMI Kunming 55.85 305 P **P 10 07 35.0 +2.5**
KMI AP pP 10 07 52.6 +2.2
KMI XP sP 10 08 00.2 +1.9
KMI PP PP 10 09 41.6 +3.9
KMI PPP 10 10 57.9
KMI S **S 10 15 15.0 +0.4**
KMI PS 10 15 36.4
KMI XS sS 10 15 44.7 -0.3
KMI SS SS 10 19 01.5 +0.5
KMI SSS 10 21 10.5
KMI AMB AMB
comp=Z,5.0nm,1.1s,mb4.5
KMI AMB AMB
comp=Z,65nm,5.0s
KMI LR LR
comp=N,323nm,16.8s
KMI LR LR
comp=E,369nm,18.3s
KMI LR LR
comp=Z,421nm,18.8s
XAN Xi'an 55.90 318 P **P 10 07 31.5 -1.4**
XAN AMB AMB
comp=Z,11nm,1.5s,mb4.7
KLR Kul'dur 57.12 345 *e*P **P 10 07 37.2 -4.3**
CD2 Chengdu 57.81 312 *e*P **P 10 07 46.9 +0.5**
CD2 AP pP 10 08 02.9 -1.5
CD2 XP sP 10 08 09.9 -2.4
CD2 PCP PcP 10 08 38.4 +0.1
CD2 PP PP 10 09 57.3 +2.2
CD2 SCP ScP 10 12 31.9 -0.3
CD2 PCS PcS 10 12 38.6 -1.1
CD2 S **S 10 15 39.9 -0.6**
CD2 XS sS 10 16 07.4 -3.6
CD2 SCS ScS 10 17 26.9 -2.6
CD2 SS SS 10 19 33.9 +2.0
CD2 AMB AMB
comp=Z,20nm,1.2s,mb5.0
CD2 AMB AMB
comp=Z,60nm,6.4s
CD2 LR LR
comp=E,310nm,20.4s
CD2 LR LR
comp=Z,320nm,21.6s
HHC Hu-ho-hao-te 58.60 326 *e*P **P 10 07 53.3 +1.4**
HHC AP pP 10 08 10.1 +0.1
HHC XP sP 10 08 17.2 -0.6
HHC PP PP 10 10 04.9 +2.7
HHC S **S 10 15 52.7 +1.9**
HHC AMB AMB
comp=Z,21nm,1.0s,mb5.1
HHC AMB AMB
comp=Z,217nm,6.2s
HHC LR LR
comp=N,264nm,19.6s
HHC LR LR
comp=E,278nm,20.8s
HHC LR LR
comp=Z,434nm,20.2s
PET Petropavlovsk 58.81 6 *e*P **P 10 07 58.6 +5.2**
PET pmax pmax
comp=Z,30nm,1.3s,mb5.2
BTO Baotou 59.32 325 *e*P **P 10 07 57.6 +0.7**
PPT Papeete 59.35 107 *e*LR LR 10 26 15.0
comp=Z,268nm,24.2s
TBI Tubuai 60.01 114 *e*LQ 10 24 00.5
comp=Z,1μm,28.0s
TBI *e*LR LR 10 26 34.1
comp=Z,582nm,31.8s
LZH Lanzhou 60.48 317 *e*P **P 10 08 06.7 +1.8**
LZH AP pP 10 08 24.0 +1.0
LZH XP sP 10 08 29.5 -1.3
LZH PP PP 10 10 22.5 +3.7
LZH *e*S **S 10 16 15.2 +0.2**
LZH XS sS 10 16 46.0 +0.3
LZH SS SS 10 20 15.0 +1.1
LZH AMB AMB
comp=Z,30nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,100nm,4.0s
LZH LR LR
comp=E,471nm,15.2s
LZH LR LR
comp=Z,702nm,16.3s
GTA Gaotai 64.95 318 P **P 10 08 34.7 +0.1**
GTA AP pP 10 08 50.3 -2.6
GTA XP sP 10 08 58.2 -2.5
GTA PP PP 10 11 01.9 +3.8
GTA PPP 10 12 34.7
GTA S **S 10 17 11.1 +0.1**
GTA XS sS 10 17 38.5 -3.6
GTA PS 10 17 39.2
GTA SS SS 10 21 25.1 +1.4
GTA AMB AMB
comp=Z,4.0nm,1.8s,mb4.0
GTA AMB AMB
comp=Z,104nm,4.2s
GTA LR LR
comp=N,153nm,17.9s
GTA LR LR
comp=E,230nm,17.5s
GTA LR LR
comp=Z,330nm,18.2s
ULN Ulaanbaatar 65.69 329 *e*P **P 10 08 39.6 +0.3**
ULN pmax pmax
comp=Z,7.0nm,1.2s,mb4.4
ULN Ulaanbaatar 65.69 329 *e*P **P 10 08 39.6 +0.3**
comp=Z,6.7nm,1.2s,mb4.3
SONM Songino Array 66.00 329 P **P 10 08 41.0 -0.4**
comp=Z,2.7nm,0.8s,mb4.2,baz=153,slow=4.2,SNR=9.4
SONM LR LR 10 36 47.9
comp=Z,485nm,21.3s,baz=83,slow=35
CASY Casey 66.66 197 *e*P **P 10 08 45.0 -0.5**
comp=Z,11nm,1.3s,mb4.5
TAOE Nuku Hiva Isla 68.46 97 *e*LR LR 10 30 28.4
comp=Z,682nm,25.8s
ZAK Zakamensk 69.20 330 *e*P **P 10 09 00.8 -0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.2
YAK Yakutsk 69.41 350 *e*P **P 10 09 06.7 +3.9**
YAK pmax pmax
comp=Z,11nm,0.6s,mb4.9
VNDA Vanda 72.08 177 P **P 10 09 18.6 -0.4**
comp=Z,4.7nm,1.0s,mb4.3,baz=321,slow=5.5,SNR=16
VNDA LR LR 10 38 38.9
comp=Z,234nm,18.1s,baz=351,slow=34
VNDA Vanda 72.08 177 *e*P **P 10 09 18.7 -0.3**
VNDA *e*'PP pP 10 09 30.6 -7.0
VNDA *e*'SP sP 10 09 37.2 -8.1
VNDA pmax pmax
comp=Z,5.0nm,1.0s
VNDA Vanda 72.08 177 *e*P **P 10 09 18.7 -0.3**
comp=Z,5.4nm,1.0s,mb4.3
VNDA *e*pP pP 10 09 30.6 -7.1
VNDA *es*P sP 10 09 37.2 -8.1
MIR Mirnyy 72.45 201 *d* iP **P 10 09 25.5 +4.3**
MIR pmax pmax
comp=Z,210nm,1.5s
SBA Scott Base 72.66 177 *e*P **P 10 09 23.0 +0.5**
SBA pmax pmax
comp=Z,19nm,1.8s,mb4.6
SBA Scott Base 72.66 177 *e*P **P 10 09 22.9 +0.5**
comp=Z,19nm,1.8s,mb4.6
RKT Rikitea 73.28 112 *e*LQ 10 29 36.8
comp=Z,422nm,30.0s
RKT *e*LR LR 10 32 42.2
comp=Z,432nm,28.8s
WMQ Urumqi 75.04 318 P **P 10 09 37.9 +1.5**
WMQ AP pP 10 09 54.5 -0.6
WMQ XP sP 10 10 01.4 -1.3
WMQ PP PP 10 12 28.7 +3.7
WMQ AMB AMB
comp=Z,14nm,2.1s,mb4.3
WMQ AMB AMB
comp=Z,101nm,6.1s
WMQ LR LR
comp=N,167nm,22.0s
WMQ LR LR
comp=E,125nm,20.9s
WMQ LR LR
comp=Z,166nm,22.5s
TIXI Tiksi 78.47 353 *e*P **P 10 09 57.3 +1.6**
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
MKAR Makanchi Array 79.67 319 P **P 10 10 01.1 -1.2**
comp=Z,2.0nm,0.8s,mb4.0,baz=99,slow=7.7,SNR=10
MKAR Makanchi Array 79.67 319 *i e*P **P 10 10 02.0 -0.3**
ZAL Zalesovo 80.77 327 P **P 10 10 06.5 -1.7**
comp=Z,0.9nm,0.5s,mb3.9,baz=70,slow=4.1,SNR=4.8
ZAL LR LR 10 46 57.3
comp=Z,276nm,18.5s,baz=356,slow=36
NVS Novosibirsk 81.96 327 *e*P **P 10 10 15.2 +0.7**
KURK Kurchatov 83.22 322 ⇑*e*P **P 10 10 20.9 -0.1**
KURK Kurchatov 83.22 322 *e*P **P 10 10 20.4 -0.6**
comp=Z,8.1nm,1.0s,mb4.5
COLA College 83.35 22 *e*P **P 10 10 18.0 -3.7**
COLA pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
COLA College 83.35 22 *e*P **P 10 10 18.0 -3.6**
comp=Z,5.1nm,1.0s,mb4.3
AAK Ala-Archa 83.82 314 ⇑*e*P **P 10 10 24.2 +0.1**
AAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
MAW Mawson 84.05 203 *e*P **P 10 10 25.6 +0.3**
comp=Z,5.2nm,0.8s,mb4.4
MAW Mawson 84.05 203 P **P 10 10 25.1 -0.1**
comp=Z,6.6nm,0.8s,mb4.5,baz=86,slow=6.0,SNR=8.9
MAW LR LR 10 44 23.9
comp=Z,394nm,21.4s,baz=80,slow=33
MAW Mawson 84.05 203 *e*P **P 10 10 25.6 +0.3**
MAW pmax pmax
comp=Z,5.0nm,0.8s
QSPA South Pole Qui 84.33 180 *e*P **P 10 10 26.9 +0.2**
comp=Z,21nm,1.2s,mb4.8
DAWY Dawson 86.35 24 *e*P **P 10 10 35.3 -1.4**
CHKZ Chkalovo 88.73 324 *e*P **P 10 10 46.1 -2.0**
CHKZ pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
CHKZ Chkalovo 88.73 324 *e*P **P 10 10 46.0 -2.1**
comp=Z,2.0nm,1.0s,mb4.1
BRVK Borovoye 88.80 323 *e*P **P 10 10 47.2 -1.3**
BRVK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
ZRNK Zerenda 89.54 323 *e*P **P 10 10 51.0 -1.0**
ZRNK pmax pmax
comp=Z,2.0nm,1.0s,mb4.2
ZRNK Zerenda 89.54 323 *e*P **P 10 10 51.0 -0.9**
comp=Z,2.0nm,1.0s,mb4.2
INK Inuvik 89.93 21 *e*P **P 10 10 51.8 -2.0**
INK pmax pmax
comp=Z,6.0nm,1.1s
INK Inuvik 89.93 21 *e*P **P 10 10 51.8 -1.9**
comp=Z,5.8nm,1.1s,mb4.6
SYO Syowa Base 92.23 200 ⇑*e*P **P 10 11 04.0 -0.4**
NVAR Mina Array Bea 94.14 52 P **P 10 11 11.6 -1.7**
comp=Z,1.8nm,1.0s,mb4.4,baz=246,slow=4.8,SNR=5.5
YKA Yellowknife Ar 97.07 28 LR LR 10 53 34.7
comp=Z,106nm,18.3s,baz=270,slow=34
SNAA Sanae 100.94 188 *e*P Pdif 10 11 44.8 +1.0
OBN Obninsk 108.35 327 ⇓*e*P Pdif 10 12 13.3 -3.5
OBN *e* 10 16 44.4
OBN *e*S SKSac 10 22 51.6 +1.1
OBN pmax pmax
comp=Z,5.0nm,0.5s
OBN MLR MLR
comp=Z,300nm,23.0s
LPAZ La Paz 135.72 120 PKP PKPdf 10 17 16.9 +2.2
comp=Z,5.1nm,0.8s,baz=0.4,slow=2.1,SNR=16
LPAZ La Paz 135.72 120 *e*PKPdf PKPdf 10 17 16.4 +1.7
CPUP Villa Florida 138.11 141 PKP PKPdf 10 17 20.9 +1.7
comp=Z,2.6nm,0.8s,baz=237,slow=4.6,SNR=5.0
SDV Santo Domingo 138.76 83 *e*PKPdf PKPdf 10 17 20.9 +0.6
TORD Torodi Ar. Bea 148.68 286 PKPbc PKPbc 10 17 40.9 -0.6
comp=Z,5.3nm,0.8s,baz=67,slow=2.9,SNR=26
BDFB Brasilia 151.80 139 PKP PKPdf 10 17 43.3 +0.7
comp=Z,4.3nm,0.9s,baz=169,slow=5.2,SNR=4.5
BDFB PKPbc PKPbc 10 17 50.0 +1.1
comp=Z,14nm,0.9s,baz=177,slow=3.2,SNR=5.6

ISCJB ***10*** *10:14:47.0±2.2, 388N±0.1×715E±0.1, h33km, Error ellipse: s-maj=20.8km s-min=14.0km az=17.4*

NNC ***10*** *10:14:54.9±6.2, 3945N×7179E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=62.4km s-min=38.3km az=143.0*

ISC 10 10:14:48.3±2.2, 387N±01×715E±01, h35km, n8, σ0§58/11, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=12	**3.79**	**25**	P	**Pn**		**10 15 44.2**	**0.0**
UCH	**Uchtor** SNR=12	**4.18**	**32**	P	**Pn**		**10 15 49.8**	**+0.2**
KZA	**Kyzart** SNR=6.9	**4.40**	**39**	P	**Pn**		**10 15 53.5**	**+0.9**
KK31	**Karatay Array** 4.7nm,0.4s,baz=162,slow=13,SNR=51	**4.44**	**351**	Pn	**Pn**		**10 15 53.8**	**+0.6**
KK31				⇓Sn	**Sn**		**10 16 44.1**	**+0.5**
	2.6nm,0.4s,baz=172,slow=23,SNR=4.0							
KK31				⇑Lg			10 16 54.9	
	7.2nm,0.6s,baz=163,slow=35,SNR=4.7							
CHMS	**Chumysh** SNR=5.6	**4.92**	**29**	P	**Pn**		**10 15 59.9**	**+0.1**
USP	**Ospenovka** SNR=5.1	**5.07**	**26**	P	**Pn**		**10 16 01.3**	**-0.5**
TKM2	**Tokmak 2** 0.1nm,0.2s	**5.21**	**35**	⇑Pn	**Pn**		**10 16 03.7**	**0.0**
TKM2				⇑Sn	**Sn**		**10 17 01.9**	**-0.8**
	1.0nm,0.8s							
TKM2				⇓Lg			10 17 14.9	
	0.9nm,0.6s							
AB31	**Akbulak array** 0.1nm,0.4s,baz=0.0,slow=0.1,SNR=5.7	**13.40**	**325**	P	**Pn**		**10 17 55.0**	**-1.0**
AB31				S	**Sn**		**10 20 18.2**	**-5.6**
	1.4nm,0.5s,baz=127,slow=26,SNR=5.2							

ISCJB ***10*** *10:31:31.4±1.1, 864N±009×8333W±005, h17km±5km, mb3.8/4, Error ellipse: s-maj=17.2km s-min=4.2km az=54.5*

CASC ***10*** *10:31:32.0±2.7, 881N×8321W, h2km±8km, MD4.1*

IDC ***10*** *10:31:37.3±6.0, 1027N×8268W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.7/18, mbtmp3.9/4, MS2.8/1, Ms1 2.8/1, ms1mx2.5/33, Error ellipse: s-maj=158.3km s-min=43.5km az=18.0*

ISC 10 10:31:32.0±0.7, 878N±006×8329W±004, h6km±4km, n20, σ1§19/28, mb3.8/4, 2C-6D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.17**	**138**	⇑*e*P	**Pg**		**10 31 35.8**	**+0.4**
ACR				*e*S	**Sg**		**10 31 39.2**	**+1.4**
BRU	**Baru**	**0.72**	**88**	⇑*i*P	**Pg**		**10 31 45.8**	**+0.1**
BRU				*e*S	**Sg**		**10 31 56.4**	**+1.3**
DVD	**David**	**0.90**	**113**	⇓*e*P	**Pg**		**10 31 47.6**	**-1.5**
BUS	**Buena Vista**	**0.90**	**329**	⇓*i*P	**Pg**		**10 31 49.3**	**0.0**
CNI	**Changuinola**	**0.99**	**50**	⇓*i*P	**Pg**		**10 31 51.0**	**+0.1**
URSC	**Urasca**	**1.15**	**335**	*e*P	**Pg**		**10 31 52.1**	**-2.0**
LCR2	**La Lucha 2**	**1.19**	**323**	⇓*e*P	**Pg**		**10 31 53.5**	**-1.3**
SJS	**Escuela Geolog**	**1.38**	**327**	*e*P	**Pn**		**10 31 57.2**	**-0.5**
SJS				*e*S	**Sb**		**10 32 17.9**	**+1.9**
PRS1	**Puriscal**	**1.56**	**320**	*e*P	**Pn**		**10 31 58.8**	**-1.6**
PRS1				*e*S	**Sn**		**10 32 20.7**	**-0.3**
CGA2	**Cerro Gallo 2**	**1.69**	**317**	⇓*e*P	**Pn**		**10 32 02.0**	**-0.1**
CGA2				*e*S	**Sn**		**10 32 26.7**	**+2.7**
FORC	**Fortuna**	**2.16**	**321**	*e*P	**Pn**		**10 32 09.2**	**+0.6**
FORC				*i* S	**Sn**		**10 32 40.0**	**+4.3**
LIM1	**Limonal**	**2.72**	**315**	*e*P	**Pn**		**10 32 17.9**	**+1.7**
AZU	**Azuero**	**3.14**	**108**	*e*P	**Pn**		**10 32 21.8**	**-0.2**
AZU				*e*S	**Sn**		**10 32 58.4**	**-1.4**
ACH	**Altos**	**3.32**	**92**	*e*P	**Pn**		**10 32 24.3**	**-0.2**
ACH				*e*S	**Sn**		**10 33 04.3**	**+0.1**
UPA	**Univ. de Panam**	**3.71**	**87**	⇓*e*P	**Pn**		**10 32 30.9**	**+1.0**
UPA				*e*S	**Sn**		**10 33 14.3**	**+0.4**
ROSC	**El Rosal**	**9.71**	**113**	LR	LR		10 38 25.5	
	comp=Z,54nm,18.9s,baz=63,slow=41							
ULM	**Lac du Bonnet** 1.2nm,0.7s,mb3.7,baz=175,slow=10.0,SNR=3.1	**42.64**	**348**	P	**P**		**10 39 24.2**	**-5.0**
NVAR	**Mina Array Bea** 0.8nm,0.7s,mb3.6,baz=120,slow=7.6,SNR=8.0	**43.14**	**319**	P	**P**		**10 39 34.2**	**+0.9**
YKA	**Yellowknife Ar** 0.9nm,0.7s,mb3.9,baz=141,slow=6.8,SNR=6.3	**58.24**	**344**	P	**P**		**10 41 24.6**	**-2.5**
ESDC	**Sonseca Array** 0.4nm,0.3s,mb3.8,baz=272,slow=6.1,SNR=4.7	**76.24**	**51**	P	**P**		**10 43 20.2**	**-1.2**

IDC 10 10:46:19.6±1.0, 2140S×6720W, h185km±20km, mb3.3/1, mb1 3.0/4, mb1mx2.9/15, mbtmp3.5/4, Error ellipse: s-maj=29.6km s-min=13.2km az=101.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LVC	**Limon Verde** 6.9nm,0.3s,baz=42,slow=7.4,SNR=66	**1.99**	**233**	P	Pn		10 46 58.1	+1.3
LVC				S	Sn		10 47 26.4	+0.7
	5.5nm,0.3s,baz=269,slow=22,SNR=22							
LPAZ	**La Paz** 0.4nm,0.3s,baz=170,slow=8.5,SNR=10	**5.16**	**350**	P	Pn		10 47 37.5	+1.8
LPAZ				S	Sn		10 48 37.0	+1.5
	0.1nm,0.3s,baz=73,slow=25,SNR=6.1							
SIV	**San Ignacio** 0.4nm,0.3s,baz=246,slow=13,SNR=21	**7.92**	**48**	P	Pn		10 48 10.7	-1.0
SIV				S	Sn		10 49 34.7	-5.9
	0.3nm,0.3s,baz=147,slow=23,SNR=9.7							
CPUP	**Villa Florida** 0.6nm,0.3s,baz=278,slow=14,SNR=3.9	**10.28**	**120**	P	Pn		10 48 43.6	+1.0
TORD	**Torodi Ar. Bea** 0.4nm,0.4s,baz=256,slow=5.3,SNR=5.3	**75.83**	**70**	P	P		10 57 45.7	+0.4

IDC 10 10:46:55.7±2.1, 077N×9739E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=56.9km s-min=25.7km az=64.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PSI	**Prapat** 3.6nm,0.3s,baz=158,slow=20,SNR=12	**2.54**	**37**	P	Pn		10 47 37.7	-0.4
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=304,slow=8.6,SNR=4.9	**41.65**	**122**	P	P		10 54 45.8	0.0
ASAR	**Alice Springs** 0.3nm,0.5s,baz=297,slow=7.8,SNR=8.7	**42.99**	**127**	P	P		10 54 57.2	+0.5
MKAR	**Makanchi Array** 1.1nm,0.5s,baz=159,slow=8.9,SNR=14	**47.70**	**346**	P	P		10 55 34.0	0.0

MAN 10 10:47:02.9, 1689N×11980E, h24km, mb3.3, ML4.6, MS4.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.52**	**168**	*e*P	Pb		10 47 14.2	+0.7
BOLP				*e*S	Sb		10 47 24.5	+3.9
BCPH	**Baguio City Da**	**0.90**	**124**	⇓*i*P	Pb		10 47 19.7	-0.2
BCPH				*i* S	Sb		10 47 33.1	+1.5
SCZP	**Santa Cruz**	**1.12**	**175**	*e*P	Pn		10 47 22.6	-0.5
ABRA	**Dolores**	**1.15**	**49**	*e*P	Pn		10 47 22.3	-1.2
ABRA				*e*S	Sn		10 47 39.4	+0.9
APYP	**Conner**	**1.68**	**55**	*e*P	Pn		10 47 31.7	+0.9
APYP				*e*S	Sn		10 47 53.8	+2.3
CAUP	**Cauayan**	**1.93**	**88**	*e*P	Pn		10 47 38.0	+3.7
CAUP				*e*S	Sn		10 48 06.8	+8.9
BALP	**Baler**	**2.05**	**124**	*e*P	Pn		10 47 39.2	+3.2

ISCJB ***10*** *11:08:11.8±1.0, 4205N±005×247E±006, h9km±6km, Error ellipse: s-maj=8.0km s-min=7.2km az=117.1*

STR ***10*** *11:08:11.6±1.2, 4197N×254E, h2km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD ***10*** *11:08:12.7±0.9, 4202N×255E, h0km, mbLg1.7/7, Error ellipse: s-maj=10.3km s-min=3.6km az=140.0, PRXIMO*

LDG ***10*** *11:08:16.0±0.6, 4218N×247E, h11km, Md2.6/2, Ml2.4/3, Error ellipse: s-maj=10.8km s-min=5.8km az=150.0*

ISC 10 11:08:12.2±1.1, 4204N±005×253E±006, h11km±6km, n17, σ1§16/29, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EJON	**La Jonquera** 1.2nm,0.1s,SNR=7.9	**0.49**	**33**	Pg	**Pg**		**11 08 21.0**	**-0.7**
EJON				Lg			11 08 28.8	
	8.1nm,0.3s,SNR=7.9							
VALF	**Valcebollere**	**0.53**	**314**	Pg	**Pg**		**11 08 22.1**	**-0.4**
VALF				Sg	**Sg**		**11 08 30.3**	**+0.8**

SALF	Salau	1.23	306	Pg	Pg	11 08 35.9	+0.1
SALF				Sg	Sg	11 08 52.9	+1.1
SALF				Sg	Sg	11 08 54.1	+2.3
EPOB	Poblet	1.29	238	Pg	Pg	11 08 35.6	-1.3
	6.0nm,0.3s,SNR=7.9						
EPOB				Lg		11 08 53.2	
	17nm,0.3s,SNR=7.9						
MTLF	Montolieu	1.32	350	ePn	Pn	11 08 36.9	+0.3
MTLF	Montolieu	1.32	350	ePg	Pg	11 08 38.0	+0.4
MTLF				eSg	Sg	11 08 54.1	-0.7
	5.5nm,0.2s						
MTLF	Montolieu	1.32	350	Pn	Pn	11 08 36.9	+0.3
MTLF				Pg	Pg	11 08 38.0	+0.4
MTLF				Lg		11 08 54.1	
	2.8nm,0.2s						
EGRA	Graus	1.66	276	Pg	Pg	11 08 42.9	-1.1
	1.3nm,0.3s,SNR=7.9						
EGRA				Lg		11 09 06.1	
	2.3nm,0.3s,SNR=7.9						
RESF	Ens	1.80	296	Sg	Sg	11 09 11.1	+1.1
EBIE	Bielsa	1.89	291	Pn	Pn	11 08 46.7	+2.3
	4.9nm,0.4s,SNR=7.9						
EBIE				Lg		11 09 13.7	
	8.8nm,0.3s,SNR=7.9						
EPF	Esparros	1.90	302	ePg	Pg	11 08 48.1	-0.6
EPF				eSn	Sn	11 09 05.7	-2.7
EPF				eSg	Sg	11 09 11.4	-1.9
	5.7nm,0.3s						
EPF	Esparros	1.90	302	Pg	Pg	11 08 48.1	-0.6
EPF				Sn	Sn	11 09 05.7	-2.7
EPF				Lg		11 09 11.4	
	2.8nm,0.3s						
ERTA	Horta de San J	1.98	237	Pn	Pn	11 08 47.7	+2.1
	4.5nm,0.4s,SNR=7.9						
ERTA				Sn	Sn	11 09 09.7	-0.6
	13nm,0.5s,SNR=7.9						
ESAC	San Caprasio	2.26	263	Lg		11 09 28.0	
	60nm,0.4s,SNR=7.9						
ETSF	Etsaut	2.44	292	ePn	Pn	11 08 52.9	+0.9
ETSF	Etsaut	2.44	292	ePg	Pg	11 08 59.9	+0.8
ETSF				eSn	Sn	11 09 21.0	-0.9
ETSF				eSg	Sg	11 09 30.8	+0.1
	4.5nm,0.3s						
ETSF	Etsaut	2.44	292	Pn	Pn	11 08 52.9	+0.9
ETSF				Pg	Pg	11 08 59.9	+0.8
ETSF				Sn	Sn	11 09 21.0	-0.9
ETSF				Lg		11 09 30.8	
	2.2nm,0.3s						

*ISCJB **10** 11:10:24.6±2.7, 38.9N±0.2×71.4E±0.2, h33km, Error ellipse: s-maj=27.8km s-min=15.0km az=53.6*
*NNC **10** 11:10:31.1±6.8, 39.58N×71.67E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=67.3km s-min=33.9km az=3.0*
ISC 10 11:10:26.5±2.8, **38.9N**±0.2×**71.4E**±0.2, **h35**km, **n8**, σ**0.82**/10, **2C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.66	28	P	Pn	11 11 20.6	0.0
	SNR=18						
UCH	Uchtor	4.07	34	P	Pn	11 11 26.3	+0.1
	SNR=10						
KK31	Karatay Array	4.25	351	Pn	Pn	11 11 30.2	+1.5
	7.9nm,0.2s,baz=164,slow=12,SNR=55						
KK31				⇓Sn	Sn	11 12 17.4	+0.2
	4.6nm,0.2s,baz=172,slow=26,SNR=5.2						
KZA	Kyzart	4.31	41	P	Pn	11 11 30.2	+0.7
	SNR=6.5						
CHMS	Chumysh	4.81	31	P	Pn	11 11 36.1	-0.3
	SNR=8.1						
USP	Ospenovka	4.94	27	P	Pn	11 11 37.3	-1.0
	SNR=14						
TKM2	Tokmak 2	5.11	37	⇑Pn	Pn	11 11 40.1	-0.5
	0.1nm,0.2s						
TKM2				⇓Lg		11 12 50.0	
	0.2nm,0.3s						
AB31	Akbulak array	13.22	325	⇓P	Pn	11 13 31.5	-0.1
	0.4nm,0.4s,baz=128,slow=14,SNR=12						
AB31				⇑S	Sn	11 15 53.4	-3.9
	4.4nm,1.0s,baz=129,slow=25,SNR=8.3						

CASC 10 11:24:43.7±3.4, **13.32N**×**90.54W**, **h20**km±19km, **MD3.6**, **3C-3D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.86	5	⇓eP	Pb	11 24 59.3	-0.5
IXG				eS	Sb	11 25 12.4	+1.5
SBLS	San Blas	1.03	60	⇑eP	x	11 25 20.3	
SBLS				eS	x	11 25 33.4	
RTR	El Retiro	1.04	56	⇓eP	x	11 25 20.6	
RTR				eS	x	11 25 34.1	
SNJE	San Jose	1.06	59	eP	x	11 25 20.4	
SNJE				eS	x	11 25 37.7	
RBDL	Robledal	1.15	46	⇑eP	x	11 25 22.7	
RBDL				eS	x	11 25 39.7	
FUG	Fuego 3	1.16	345	⇓eP	Pn	11 25 05.2	+0.4
JAT	Jato	1.46	313	eP	Pn	11 25 09.3	+0.4
JAT				eS	Sn	11 25 28.3	+0.8
LFRS	El Faro	1.47	78	eP	x	11 25 25.8	
LFRS				eS	x	11 25 47.8	
TP2	Tecpan 2	1.53	342	⇑eP	Pn	11 25 10.3	+0.4
TP2				eS	Sn	11 25 30.7	+1.5

*ISCJB **10** 11:32:29.3±1.1, 29.84N±0.05×36.21E±0.07, h10km, Error ellipse: s-maj=9.2km s-min=7.4km az=18.1*
*GII **10** 11:32:29.5±1.3, 29.92N×36.18E, h0km, ML2.0/2*
*HLW **10** 11:32:30.7, 29.59N×36.38E, h13km, Mb3.1*
ISC 10 11:32:29.6±1.1, **29.84N**±0.05×**36.24E**±0.07, **h10**km, **n19**, σ**0.92**/23, **4C, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	Aqaba	1.04	264	Pg	Pg	11 32 49.1	-0.5
HRFI	Mount Harif	1.07	281	Pg	Pg	11 32 48.9	-1.2
HRFI				Sg	Sg	11 33 05.2	+1.3
EIL	Elat	1.14	262	Pg	Pg	11 32 51.2	-0.2
EIL	Elat	1.14	262	Pg	Pg	11 32 51.2	-0.3
MBH	Mount Berech	1.16	268	Pg	Pg	11 32 50.8	-1.0
ZFRI	Zfri	1.16	308	Pg	Pg	11 32 50.2	-1.8
PRNI	Paran	1.19	296	Pg	Pg	11 32 50.6	-1.8
PRNI				Sg	Sg	11 33 07.6	-0.3
HBST	Basata	1.46	245	⇑P	Pn	11 32 56.1	+0.2
HBST	Basata	1.46	245	P	Pn	11 32 56.1	+0.1
	693nm,0.2s						
MZDA	Masada	1.65	333	Pn	Pn	11 32 58.3	-0.3
MZDA				Sn	Sn	11 33 20.8	+1.0
MASH	Mash'abbe Sade	1.71	313	Pn	Pn	11 33 00.0	+0.6
MKRJ	Makawir	1.78	343	Pn	Pn	11 32 59.9	-0.6
DRGI	Dragot	1.89	337	Pn	Pn	11 33 02.0	0.0
KZIT	Kziot	1.92	304	Pn	Pn	11 33 03.0	+0.7
KZIT				Sn	Sn	11 33 27.3	+0.8
HNKL	Nakhl	1.97	273	P	Pn	11 33 04.3	+1.3
HKAT	Jabal Katrina	2.37	237	P	Pn	11 33 08.8	+0.4
TR2		2.64	237	⇑P	Pn	11 33 12.3	0.0
AMAG	Maghara	2.75	288	⇑P	Pn	11 33 17.7	+4.0
SUZ		2.96	271	⇑P	Pn	11 33 17.7	+1.0

*GRAL **10** 11:47:36.6±0.8, 33.74N×37.10E, h29km±101km, MD3.3*
*CSEM **10** 11:47:37.5±0.2, 33.70N×36.90E, h8km, Mc2.0, Error ellipse: s-maj=4.2km s-min=3.0km az=80.0*
*NSSC **10** 11:47:38.8, 33.73N×36.88E, h12km±1km*
*ISCJB **10** 11:47:39.1±0.6, 33.73N±0.02×36.86E±0.04, h12km, Error ellipse: s-maj=4.7km s-min=3.1km az=173.8*
ISC 10 11:47:38.5±0.8, **33.75N**±0.03×**36.93E**±0.05, **h5**km±8km, **n23**, σ**0.81**/43, **13D, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARH	Ras Al Marh	0.46	307	⇓P	Pg	11 47 47.1	-0.4
MARH				⇓S	Sg	11 47 54.5	+1.0
MARH	Ras Al Marh	0.46	307	⇓iP	Pg	11 47 47.1	-0.3
TOTH	TOTAH	0.56	227	⇓P	Pg	11 47 49.4	0.0
TOTH				⇑S	Sg	11 47 57.8	+1.0
TOTH	TOTAH	0.56	227	⇓iP	Pg	11 47 49.4	0.0
QASN	Qassioun	0.58	249	⇑P	Pg	11 47 49.0	-0.7
QASN				⇑S	Sg	11 47 57.0	-0.3
QASN	Qassioun	0.58	249	⇑iP	Pg	11 47 49.0	-0.7
BRBR	Barbar	0.88	248	⇑P	Pg	11 47 55.0	-0.4
BRBR				⇑S	Sg	11 48 07.4	+0.6
BRBR	Barbar	0.88	248	⇑iP	Pg	11 47 55.0	-0.4
BRBR				⇑iS	Sg	11 48 07.4	+0.6
HAWK	Haweek	0.88	331	⇑P	Pg	11 47 54.8	-0.7
HAWK				⇓S	Sg	11 48 08.8	+1.8
HAWK	Haweek	0.88	331	⇑iP	Pg	11 47 54.8	-0.7
HAWK				⇓iS	Sg	11 48 08.8	+1.8
ZALF	Zalf	0.89	157	⇑P	Pg	11 47 55.7	0.0
ZALF				⇑S	Sg	11 48 08.3	+1.1
ZALF	Zalf	0.89	157	⇑iP	Pg	11 47 55.7	+0.1
ZALF				⇑iS	Sg	11 48 08.3	+1.1
RCY	Rachaya	0.96	254	ePg	Pg	11 47 55.9	-1.0
RCY				eSg	Sg	11 48 09.6	+0.2
HWQ	Hawqa	0.97	303	ePg	Pg	11 47 56.0	-1.1
HWQ				eSg	Sg	11 48 10.0	+0.2
SALA	Sala	1.04	189	⇑P	Pg	11 47 57.5	-1.1
SALA				⇓S	Sg	11 48 13.0	+0.9
SALA	Sala	1.04	189	⇑iP	Pg	11 47 57.5	-1.1
SALA				⇓iS	Sg	11 48 13.0	+0.9
BHL	Bhannes	1.07	279	ePg	Pg	11 47 57.0	-2.1
BHL				eSg	Sg	11 48 13.3	+0.4
BIDA	Albida	1.36	339	⇓P	Pn	11 48 03.7	-0.5
BIDA				⇑S	Sb	11 48 22.7	+0.6
BIDA	Albida	1.36	339	⇓iP	Pn	11 48 03.7	-0.5
BIDA				⇑iS	Sb	11 48 22.7	+0.5
KFRA	Kufra	1.47	356	⇓P	Pn	11 48 05.6	0.0
KFRA				⇑S	Sn	11 48 25.6	+0.3
KFRA	Kufra	1.47	356	⇓iP	Pn	11 48 05.6	-0.1
KFRA				⇑iS	Sn	11 48 25.5	+0.3
WRDH	Warideh	1.81	347	⇑P	Pn	11 48 10.1	-0.2
WRDH				⇑S	Sn	11 48 33.8	+0.1
WRDH	Warideh	1.81	347	⇑iP	Pn	11 48 10.1	-0.2
WRDH				⇑iS	Sn	11 48 33.8	+0.1

*GRAL **10** 12:00:04.6±0.4, 33.71N×37.23E, h66km±66km, MD3.3*
*ISCJB **10** 12:00:07.1±0.7, 33.76N±0.03×36.94E±0.05, h10km, Error ellipse: s-maj=5.7km s-min=4.0km az=163.9*
*NSSC **10** 12:00:07.4, 33.73N×36.94E, h15km±1km*
ISC 10 12:00:07.2±0.7, **33.75N**±0.03×**36.97E**±0.05, **h10**km, **n10**, σ**0.94**/19, **6D, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOTH	TOTAH	0.60	229	⇓P	Pg	12 00 18.5	-0.3
TOTH				⇑S	Sg	12 00 27.0	+0.5
QASN	Qassioun	0.62	249	⇓P	Pg	12 00 18.6	-0.5
QASN				⇓S	Sg	12 00 28.0	+0.8
ZALF	Zalf	0.89	160	⇑P	Pg	12 00 23.6	-0.6
ZALF				⇑S	Sg	12 00 37.1	+1.4
BRBR	Barbar	0.92	248	⇓P	Pg	12 00 24.1	-0.6
BRBR				⇓S	Sg	12 00 37.7	+1.0
RCY	Rachaya	0.99	255	ePg	Pg	12 00 24.7	-1.6
RCY				eSg	Sg	12 00 39.9	+0.6
HWQ	Hawqa	1.00	302	ePg	Pg	12 00 25.0	-1.3
HWQ				eSg	Sg	12 00 39.8	+0.5
SALA	Sala	1.06	191	⇑P	Pg	12 00 26.4	-1.1
SALA				⇑S	Sg	12 00 41.8	+0.5
BHL	Bhannes	1.10	278	ePg	Pg	12 00 26.4	-2.0
BIDA	Albida	1.37	337	⇑P	Pn	12 00 32.2	0.0
BIDA				⇓S	Sb	12 00 51.4	+1.1
WRDH	Warideh	1.81	345	⇑P	Pn	12 00 38.7	+0.3
WRDH				⇑S	Sn	12 01 02.1	+0.8

*NEIC **10** 12:07:03.3, 43.02N×0.02E, h10km, ML2.7(STR), ML2.9(LDG), MN2.2(MDD), After STR.*
*CSEM **10** 12:07:04.0±0.1, 43.00N×0.01E, h2km, ML2.9/9, Error ellipse: s-maj=1.1km s-min=0.7km az=1.0*
*MDD **10** 12:07:04.5±0.2, 43.01N×0.01E, h0km, mbLg2.2/24, Error ellipse: s-maj=1.8km s-min=1.4km az=8.0, PRXIMO*
*LDG **10** 12:07:04.2±0.1, 43.00N×0.00W, h3km, Md2.8/2, Ml2.9/10, Error ellipse: s-maj=2.7km s-min=1.9km az=177.0*
STR 10 12:07:03.3±0.1, **43.02N**×**0.02E**, **h10**km±1km, **Ml2.7, 1C-2D, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	Labassere	0.05	55	Pg	Pg	12 07 05.7	+0.4
LABF				Sg	Sg	12 07 07.0	+0.3
LABF	Labassere	0.05	55	P	Pg	12 07 05.8	+0.5
LABF				S	Sg	12 07 07.0	+0.3
VIEF	Viey	0.14	179	Pg	Pg	12 07 06.8	+0.4
VIEF	Viey	0.14	179	P	Pg	12 07 06.9	+0.4
VIEF				S	Sg	12 07 08.8	+0.2
EPF	Esparros	0.23	87	ePg	Pg	12 07 08.8	+0.7
EPF				eSg	Sg	12 07 12.2	+0.8
	129nm,0.2s						
EPF	Esparros	0.23	87	ePg	Pg	12 07 08.8	+0.7
EPF				eSg	Sg	12 07 12.2	+0.8
	65nm,0.2s						
REYF	Montagne du Re	0.31	279	Pg	Pg	12 07 09.4	0.0
REYF				Sg	Sg	12 07 14.0	+0.5
REYF	Montagne du Re	0.31	279	P	Pg	12 07 09.5	+0.1
REYF				S	Sg	12 07 14.0	+0.5
RESF	Ens	0.32	132	Pg	Pg	12 07 10.0	+0.4
RESF				Sg	Sg	12 07 14.8	+1.0
RESF	Ens	0.32	132	P	Pg	12 07 10.0	+0.4
RESF				S	Sg	12 07 14.8	+1.0
EBIE	Bielsa	0.35	165	⇑Pg	Pg	12 07 10.5	+0.4
	10nm,0.2s,SNR=18						
EBIE				Lg		12 07 15.1	
	75nm,0.1s,SNR=7.9						
EBIE	Bielsa	0.35	165	Pg	Pg	12 07 10.5	+0.4
	SNR=18						
EBIE				Lg		12 07 15.1	
	75nm,0.1s,SNR=7.9						
ETSF	Etsaut	0.44	254	ePg	Pg	12 07 12.3	+0.3
	SNR=1.0						
ETSF				eSg	Sg	12 07 17.9	+0.1
	75nm,0.2s,SNR=1.0						
ETSF	Etsaut	0.44	254	ePg	Pg	12 07 12.3	+0.3
	SNR=1.0						
ETSF				eSg	Sg	12 07 17.9	+0.1
	37nm,0.2s,SNR=1.0						
FDAF	Les Forges d'A	0.48	245	P	Pg	12 07 12.8	+0.2
FDAF				S	Sg	12 07 19.2	+0.3
ATE	Arette	0.53	277	Pg	Pg	12 07 13.7	+0.1
ATE				Sg	Sg	12 07 21.1	+0.4
MELF	Melles	0.56	105	Pg	Pg	12 07 14.4	+0.2
MELF				Sg	Sg	12 07 22.7	+1.1
MELF	Melles	0.56	105	P	Pg	12 07 14.6	+0.4
MELF				S	Sg	12 07 22.5	+0.9
ORDF	Ordiarp	0.73	286	Pg	Pg	12 07 17.6	+0.3
ORDF				Sg	Sg	12 07 27.7	+0.9
ORDF	Ordiarp	0.73	286	P	Pg	12 07 17.7	+0.4
ORDF				S	Sg	12 07 27.7	+0.9
LARF	Larrau	0.74	272	Pg	Pg	12 07 16.5	-1.1
LARF				Sg	Sg	12 07 28.7	+1.5
LARF	Larrau	0.74	272	P	Pg	12 07 17.8	+0.3
LARF				S	Sg	12 07 28.0	+0.8
MLS	Moulis	0.79	94	Pg	Pg	12 07 18.9	+0.3
MLS	Moulis	0.79	94	P	Pg	12 07 18.6	+0.1
MLS				S	Sg	12 07 29.8	+1.0
EGRA	Graus	0.85	165	Pg	Pg	12 07 20.7	+1.0
	3.7nm,0.2s,SNR=20						
EGRA				Lg		12 07 33.1	
	9.9nm,0.2s,SNR=11						
SALF	Salau	0.90	106	Pg	Pg	12 07 20.7	+0.1
SALF				Sg	Sg	12 07 32.7	+0.4
SALF	Salau	0.90	106	P	Pg	12 07 20.4	-0.2
SALF				S	Sg	12 07 32.6	+0.3
OSSF	Osses	0.97	285	Pg	Pg	12 07 23.2	+1.3
OSSF				Sg	Sg	12 07 35.8	+1.3
OSSF	Osses	0.97	285	P	Pg	12 07 21.6	-0.3
CSOR	Sort	1.04	128	P	Pg	12 07 23.5	+0.1
CSOR				S	Sg	12 07 37.5	+0.6
	12nm,0.3s						
CSOR	Sort	1.04	128	P	Pg	12 07 23.5	+0.2
CSOR				S	Sg	12 07 37.5	+0.6
EALK	Alkurruntz	1.14	281	Pg	Pg	12 07 25.3	+0.1
	0.6nm,0.1s,SNR=7.9						
EALK				Lg		12 07 40.9	
	2.7nm,0.1s,SNR=7.9						
EALK	Alkurruntz	1.14	281	Pg	Pg	12 07 25.2	0.0
EALK				Lg		12 07 40.9	
EALK	Alkurruntz	1.14	281	Pg	Pg	12 07 25.2	+0.1
	0.6nm,0.1s,SNR=7.9						
ELIZ	Elizondo	1.14	278	Pg	Pg	12 07 25.2	0.0
	0.9nm,0.2s,SNR=9.8						
ELIZ				Lg		12 07 41.4	
	3.1nm,0.1s,SNR=7.8						
IUSE	Utxeti	1.15	267	Pg	Pg	12 07 26.9	+1.4
	0.6nm,0.1s,SNR=7.9						
IUSE				Lg		12 07 41.6	
	4.1nm,0.1s,SNR=7.9						
IUSE	Utxeti	1.15	267	Pg	Pg	12 07 26.9	+1.4
	0.6nm,0.1s,SNR=7.9						
EARA	Aranguren	1.20	259	Lg		12 07 44.6	
	7.8nm,0.2s,SNR=7.9						
PAND	Andorre	1.23	113	S	Sb	12 07 43.1	+0.6
CAVN	Les Avellanes	1.26	154	P	Pn	12 07 27.8	+0.9
CAVN				S	Sb	12 07 44.9	+1.5
	75nm,0.2s						
CAVN	Les Avellanes	1.26	154	P	Pn	12 07 27.9	+0.9
CAVN				S	Sb	12 07 44.9	+1.6
CAVN	Les Avellanes	1.26	154	P	Pn	12 07 27.9	+1.0
CAVN				S	Sb	12 07 44.9	+1.5
ESAC	San Caprasio	1.35	196	⇓Pg	Pg	12 07 30.3	+1.2
	34nm,0.2s,SNR=18						
ESAC				Lg		12 07 48.6	
	134nm,0.2s,SNR=34						
ESAC	San Caprasio	1.35	196	⇓Pn	Pn	12 07 30.3	+2.2
ESAC				Lg		12 07 49.5	
ESAC	San Caprasio	1.35	196	Pn	Pn	12 07 30.3	+2.2
	34nm,0.2s,SNR=18						
CLLI	Llivia	1.54	110	S	Sn	12 07 53.6	+2.8
	6.7nm,0.2s						
CARF	Carcanieres	1.56	101	S	Sn	12 07 54.3	+2.9
EMIR	Miracle	1.57	134	Pg	Pg	12 07 33.6	+0.2
	1.2nm,0.0s,SNR=8.4						
EMIR				Lg		12 07 55.7	
	6.4nm,0.1s,SNR=8.0						
EMIR	Miracle	1.57	134	Pg	Pg	12 07 33.6	+0.2
EMIR				Lg		12 07 55.7	
EMIR	Miracle	1.57	134	Pg	Pg	12 07 33.6	+0.2
	1.2nm,0.0s,SNR=8.4						
VALF	Valcebollere	1.60	112	Pg	Pg	12 07 36.4	+2.5
VALF	Valcebollere	1.60	112	P	Pn	12 07 36.5	+4.9
VALF				S	Sn	12 07 55.8	+3.6
MTLF	Montolieu	1.64	78	ePn	Pn	12 07 34.0	+1.8
	SNR=1.0						
MTLF				eSg	Sg	12 07 55.8	-0.2
	20nm,0.3s						
MTLF	Montolieu	1.64	78	ePn	Pn	12 07 34.0	+1.8
	SNR=1.0						
MTLF				eSg	Sg	12 07 55.8	-0.2
	10nm,0.3s						
EPOB	Poblet	1.84	154	Pn	Pn	12 07 32.7	-2.2
	0.6nm,0.1s,SNR=7.9						
EPOB				Pg	Pg	12 07 38.4	-0.2
	1.1nm,0.1s,SNR=7.9						
EPOB				Lg		12 08 02.4	
	14nm,0.2s,SNR=7.9						
EPOB	Poblet	1.84	154	Pn	Pn	12 07 32.9	-2.1
EPOB				Pg	Pg	12 07 38.4	-0.2
EPOB				Lg		12 08 02.4	
EPOB	Poblet	1.84	154	Pn	Pn	12 07 32.9	-2.1
	SNR=7.9						
EPOB	Poblet	1.84	154	Pg	Pg	12 07 38.4	-0.2
	1.1nm,0.1s,SNR=7.9						
LRDF	Laroque-de-Fa	1.85	92	S	Sn	12 08 02.6	+4.1
LFF	La Frestale	1.99	15	ePg	Pg	12 07 41.3	-0.1
LFF				eSg	Sg	12 08 07.1	-0.1
	21nm,0.3s,SNR=1.0						
LFF	La Frestale	1.99	15	Pn	Pn	12 07 37.9	+0.9
LFF				Pg	Pg	12 07 41.3	-0.1
LFF				Lg		12 08 07.1	
	10nm,0.3s						
LFF	La Frestale	1.99	15	ePn	Pn	12 07 37.9	+0.9
LFF				ePg	Pg	12 07 41.3	-0.1
LFF				eSg	Sg	12 08 07.1	-0.1
LFF	La Frestale	1.99	15	ePg	Pg	12 07 41.3	-0.1
LFF				eSg	Sg	12 08 07.1	-0.1
	10nm,0.3s,SNR=1.0						
ERTA	Horta de San J	2.08	173	Pg	Pg	12 07 42.6	-0.4
	0.4nm,0.1s,SNR=7.9						
ERTA				Lg		12 08 09.1	
	6.1nm,0.1s,SNR=7.9						
ERTA	Horta de San J	2.08	173	Pg	Pg	12 07 42.6	-0.5
	0.4nm,0.1s,SNR=7.9						
EJON	La Jonquera	2.19	104	Lg		12 08 14.6	
	5.4nm,0.3s,SNR=7.9						
CAF	Calviac	2.41	37	ePg	Pg	12 07 48.9	-0.6
CAF				eSg	Sg	12 08 21.0	+0.3
	10nm,0.2s						
CAF	Calviac	2.41	37	Pn	Pn	12 07 43.1	+0.3
CAF				Pg	Pg	12 07 48.9	-0.6
CAF				Lg		12 08 21.0	
	5.2nm,0.2s						
CAF	Calviac	2.41	37	ePn	Pn	12 07 43.1	+0.3
CAF				ePg	Pg	12 07 48.9	-0.6
CAF				eSg	Sg	12 08 21.0	+0.3
CAF	Calviac	2.41	37	ePg	Pg	12 07 48.9	-0.6
CAF				eSg	Sg	12 08 21.0	+0.3
	5.2nm,0.2s						
RJF	Les Rejaudoux	2.52	25	ePg	Pg	12 07 51.5	-0.2
	SNR=1.0						
RJF				eSn	Sn	12 08 14.4	-0.8
RJF				eSg	Sg	12 08 24.9	+0.5
	8.8nm,0.2s						
RJF	Les Rejaudoux	2.52	25	ePg	Pg	12 07 51.5	-0.2
	SNR=1.0						
RJF				eSn	Sn	12 08 14.4	-0.8
RJF				eSg	Sg	12 08 24.9	+0.5
	4.4nm,0.2s						
ELAN	Lanestosa	2.54	276	Sn	Sn	12 08 17.8	+2.3
	1.5nm,0.3s,SNR=7.9						
ELAN	Lanestosa	2.54	276	Sn	Sn	12 08 17.8	+2.3
	SNR=7.9						
EMOS	Mosqueruela	2.68	188	Pn	Pn	12 07 48.9	+2.5
	0.1nm,0.1s,SNR=7.9						
EMOS				Pg	Pg	12 07 53.4	-1.3
	1.1nm,0.3s,SNR=7.9						
EMOS				Lg		12 08 27.6	
	1.8nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	2.68	188	Pn	Pn	12 07 48.9	+2.5
EMOS				Pg	Pg	12 07 53.4	-1.3
EMOS				Lg		12 08 27.5	
EMOS	Mosqueruela	2.68	188	Pn	Pn	12 07 48.9	+2.4
	0.1nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	2.68	188	Pg	Pg	12 07 53.4	-1.3
	1.1nm,0.3s,SNR=7.9						
ETOR	Torete	2.69	216	Pn	Pn	12 07 48.6	+2.0
	0.8nm,0.4s,SNR=6.2						
ETOR				Sn	Sn	12 08 21.6	+2.4
	6.0nm,0.1s,SNR=7.9						
ETOR				Lg		12 08 31.9	
	11nm,0.3s,SNR=7.9						
ETOR	Torete	2.69	216	Pn	Pn	12 07 48.6	+2.0
ETOR				Lg		12 08 31.1	
LASF	Ste Croix	2.98	68	ePg	Pg	12 08 01.1	+0.6
	SNR=1.0						
LASF				eSg	Sg	12 08 37.4	-1.7
	6.3nm,0.2s,SNR=1.0						
LASF	Ste Croix	2.98	68	Pn	Pn	12 07 51.5	+0.9
LASF				Pg	Pg	12 08 01.1	+0.6
LASF	Ste Croix	2.98	68	ePn	Pn	12 07 51.5	+0.9
LASF				ePg	Pg	12 08 01.1	+0.6
LASF				eSg	Sg	12 08 37.4	-1.7
LASF	Ste Croix	2.98	68	ePg	Pg	12 08 01.1	+0.6
	SNR=1.0						
LASF				eSg	Sg	12 08 37.4	-1.7
	3.2nm,0.2s,SNR=1.0						
MFF	Saint Martin d	3.58	358	ePg	Pg	12 08 09.6	-2.4
	SNR=1.0						
MFF				eSg	Sg	12 08 55.8	-2.6
	6.2nm,0.4s,SNR=1.0						
MFF	Saint Martin d	3.58	358	ePn	Pn	12 07 58.0	-0.9
MFF				ePg	Pg	12 08 09.6	-2.4
MFF				eSg	Sg	12 08 55.8	-2.6
MFF	Saint Martin d	3.58	358	ePg	Pg	12 08 09.6	-2.4
	SNR=1.0						
MFF				eSg	Sg	12 08 55.8	-2.6
	3.1nm,0.4s,SNR=1.0						
TCF	Toulx Ste Croi	3.62	25	ePg	Pg	12 08 11.5	-1.2
TCF				eSg	Sg	12 08 59.3	-0.3
	2.6nm,0.2s,SNR=1.0						
TCF	Toulx Ste Croi	3.62	25	ePg	Pg	12 08 11.5	-1.2
TCF				eSg	Sg	12 08 59.3	-0.3
	1.3nm,0.2s,SNR=1.0						
VIVF	Saint-Julien-l	3.83	60	eSg	Sg	12 09 05.9	-0.4
	3.8nm,0.3s,SNR=1.0						
VIVF	Saint-Julien-l	3.83	60	eSg	Sg	12 09 05.9	-0.4
	1.9nm,0.3s,SNR=1.0						
EARI	Arriondas	3.84	276	Sn	Sn	12 08 49.2	+1.7
	0.8nm,0.3s,SNR=7.9						

BGF Bois d'Agland 4.07 29 *e*Pn Pn 12 08 05.4 -0.2
BGF *e*Sg Sg 12 09 12.6 -1.4
14nm,0.3s
BGF Bois d'Agland 4.07 29 *e*Pn Pn 12 08 05.4 -0.2
BGF *e*Sg Sg 12 09 12.6 -1.4
7.2nm,0.3s
SMF Signal de Mont 4.53 36 *e*Pn Pn 12 08 12.6 +0.7
SNR=1.0
SSF Saint Saulge 4.74 30 *e*Pn Pn 12 08 14.8 +0.1
SSF *e*Pg Pg 12 08 33.2 -0.8
ECAL Calabor 5.11 260 Sn Sn 12 09 19.2 +0.2
0.2nm,0.1s,SNR=7.9
ROSF Rostrenen 5.79 338 *e*Pn Pn 12 08 28.9 -0.4
ROSF *e*Pg Pg 12 08 51.4 -2.9

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*CSEM **10** 12:43:47.3±0.3, 3577N×282W, h30km, MD3.0, Error ellipse: s-maj=10.0km s-min=5.2km az=93.0*
*CNRM **10** 12:43:55.5, 3550N×290W, h15km, MD3.0*
MDD 10 12:43:49.1±0.6**, 3579N×279W, h30km**±5km**, mbLg1.9**/10**, 1D, Error ellipse: s-maj=10.7km s-min=3.8km az=87.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	Alboran	0.25	308	⇓P	Pb	12 43 55.5	-0.4
	32nm,0.3s,SNR=18						
EALB				S	Sb	12 44 01.0	+0.4
	83nm,0.3s,SNR=7.9						
EALB	Alboran	0.25	308	P	Pb	12 43 55.5	-0.4
	32nm,0.3s,SNR=18						
EALB				S	Sb	12 44 01.0	+0.5
	83nm,0.3s,SNR=7.9						
EMLI	Melilla	0.51	195	P	Pb	12 43 58.5	-1.1
	98nm,0.1s,SNR=4.7						
EMLI				S	Sb	12 44 06.0	-0.8
	13nm,0.0s,SNR=9.9						
EMEL	Melilla	0.51	195	P	Pb	12 43 58.5	-1.1
	98nm,0.1s,SNR=4.7						
EMEL				S	Sb	12 44 06.0	-0.8
	13nm,0.0s,SNR=9.9						
ZAI	Zaio	0.82	177	*i* P	Pn	12 44 05.5	+1.0
ZAI				*i* S	Sb	12 44 13.0	-2.5
MPAL	Palemas	1.09	239	*i* S	Sn	12 44 22.5	+0.1
EBER	Berja	1.11	356	P	Pn	12 44 06.4	-2.1
	5.7nm,0.2s,SNR=17						
EBER				S	Sn	12 44 19.7	-3.1
	21nm,0.3s,SNR=26						
EBER	Berja	1.11	356	P	Pn	12 44 06.4	-2.1
	5.7nm,0.2s,SNR=17						
EBER				S	Sn	12 44 19.7	-3.1
	21nm,0.3s,SNR=26						
TOU	Touzarine	1.14	224	P	Pn	12 44 12.0	+3.1
TOU				S	Sn	12 44 23.0	-0.5
EGUA	Guajares	1.22	329	P	Pn	12 44 08.2	-1.8
	0.4nm,0.4s,SNR=7.9						
EGUA				S	Sn	12 44 24.1	-1.3
	1.8nm,0.3s,SNR=7.9						
EQUE	Quentar	1.51	340	P	Pn	12 44 13.2	-0.8
	1.2nm,0.2s,SNR=12						
EQUE				S	Sn	12 44 31.3	-1.2
	8.1nm,0.5s,SNR=6.0						
EMIJ	Mijas	1.78	296	P	Pn	12 44 15.6	-2.1
	2.4nm,0.4s,SNR=6.1						
EMIJ				S	Sn	12 44 37.2	-2.1
	3.6nm,0.2s,SNR=5.6						
EQES	Quesada	2.02	354	P	Pn	12 44 21.4	+0.3
	2.0nm,0.3s,SNR=15						
EQES				S	Sn	12 44 45.6	+0.3
	5.4nm,0.5s,SNR=11						
EQES	Quesada	2.02	354	P	Pn	12 44 21.4	+0.3
	2.0nm,0.3s,SNR=15						
EQES				S	Sn	12 44 45.6	+0.3
	5.4nm,0.5s,SNR=11						
EADA	Adamuz	2.77	329	P	Pn	12 44 31.5	+0.1
	1.6nm,0.3s,SNR=6.2						
EADA				S	Sn	12 45 04.7	+0.9
	3.3nm,0.4s						
EADA	Adamuz	2.77	329	P	Pn	12 44 31.5	+0.1
	1.6nm,0.3s,SNR=6.2						
EADA				S	Sn	12 45 04.7	+0.9
	1.7nm,0.4s						
ETOB	Tobarra	3.02	19	P	Pn	12 44 35.3	+0.5
	0.7nm,0.2s,SNR=7.9						
ETOB				S	Sn	12 45 06.1	-3.8
	1.6nm,0.2s,SNR=7.9						
ETOB	Tobarra	3.02	19	P	Pn	12 44 35.3	+0.5
	0.7nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	3.69	304	P	Pn	12 44 43.9	-0.1
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	12 45 27.1	+0.7
	0.4nm,0.2s,SNR=7.9						
EGRO	El Granado	4.15	296	P	Pn	12 44 50.7	+0.3
	0.4nm,0.1s,SNR=5.5						
EGRO				S	Sn	12 45 37.3	-0.5
	1.7nm,0.3s,SNR=7.9						
EBAD	Badajoz	4.48	313	P	Pn	12 44 55.4	+0.5
	0.3nm,0.1s,SNR=7.9						

IDC 10 13:09:34.6±6.6**, 568S×15079E, h75km**±46km**, mb3.7**/5**, mb1 3.9**/6**, mb1mx3.7**/14**, mbtmp4.0**/6**, ML3.1**/1**, MS3.7**/4**, Ms1 3.7**/4**, ms1mx3.3**/26**, Error ellipse: s-maj=101.1km s-min=25.4km az=106.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.17	224	P	Pn	13 10 49.0	-0.3
	4.9nm,0.3s,baz=45,slow=12,SNR=15						
PMG				LR	LR	13 12 51.1	
	comp=Z,217nm,20.8s,baz=43,slow=38						
HNR	Honiara	9.81	113	LR	LR	13 15 15.3	
	comp=Z,258nm,19.9s,baz=178,slow=35						
CTA	Charters Tower	14.99	197	LR	LR	13 18 06.1	
	comp=Z,271nm,20.5s,baz=17,slow=34						
WB2	Warramunga Arr	21.37	227	*e*P	P	13 14 15.5	-0.2
WRA	Warramunga Arr	21.38	227	P	P	13 14 16.1	+0.3
	6.5nm,0.9s,baz=52,slow=10,SNR=26						
DZM	Mont Dzumac	22.24	139	LR	LR	13 20 47.9	
	comp=Z,1μm,19.0s,baz=31,slow=30						
ASAR	Alice Springs	24.17	221	P	P	13 14 45.0	+1.3
	1.7nm,0.6s,baz=56,slow=8.7,SNR=16						
FITZ	Fitzroy Crossi	27.49	241	*e*P	P	13 15 13.5	-0.2
	11nm,0.8s						
FITZ	Fitzroy Crossi	27.49	241	P	P	13 15 13.5	-0.2
	7.7nm,0.9s,baz=74,slow=8.8,SNR=15						
MJAR	Matsushiro Arr	43.62	345	P	P	13 17 30.5	-0.9
	0.7nm,0.6s,baz=166,slow=11,SNR=4.3						
SONM	Songino Array	66.02	329	P	P	13 20 15.1	+2.0
	0.8nm,0.9s,baz=142,slow=5.6,SNR=5.0						
TORD	Torodi Ar. Bea	148.65	286	PKPbc	PKPbc	13 29 11.8	-1.1
	0.7nm,0.8s,baz=77,slow=1.1,SNR=4.0						

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*IDC **10** 13:09:59.9±0.6, 2132S×17427W, h0km, mb4.7/13, mb1 4.9/15, mb1mx4.8/20, mbtmp4.8/15, ML5.1/2, MS4.1/11, Ms1 4.1/11, ms1mx3.8/29, Error ellipse: s-maj=22.0km s-min=15.0km az=137.0*
*MOS **10** 13:10:02.8±1.1, 2145S×17427W, h27km, mb5.0/24, Error ellipse: s-maj=14.1km s-min=9.7km az=66.7*
*BJI **10** 13:10:03.8, 2160S×17434W, h31km, mB5.3, mb5.1, Ms5.1, Msz4.7*
*ISCJB **10** 13:10:03.7±0.2, 2155S±005×174.11W±005, h37km, mb4.8/56, MS4.4/16, Error ellipse: s-maj=8.8km s-min=4.5km az=114.7*
*NEIC **10** 13:10:04.4±3.4, 2142S×17420W, h29km±23km, mb4.8/35, Error ellipse: s-maj=9.8km s-min=6.4km az=145.0*
*SZGRF **10** 13:10:05.2, 2139S×172.15W, h33km, Tonga Islands region*
ISC 10 13:10:05.6±0.2**, 2156S**±005×**17408W**±005**, h39km, h39km**±2.0km**: pP-P, n317,** σ0.84/230**, mb4.8**/56**, MS4.4**/16**, 55C-53D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.92	16	Pn	**Pn**	**13 11 51.1**	**-7.1**
	6.3nm,0.3s,baz=12,slow=23,SNR=12						
AFI				Sn	**Sn**	**13 13 11.8**	**-15**
	17nm,0.3s,baz=101,slow=20,SNR=7.0						
AFI				T		13 19 47.9	
	8.5nm,0.3s,baz=56,slow=21,SNR=6.7						
AFI	Afiamalu	7.92	16	Pn	**Pn**	**13 11 51.1**	**-7.1**
AFI				Sn	**Sn**	**13 13 11.8**	**-15**
RAO	Raoul Island	8.40	204	Pn	**Pn**	**13 12 04.6**	**-0.2**
	45nm,0.3s,baz=66,slow=20,SNR=4.0						
RAO				Sn	**Sn**	**13 13 36.7**	**-1.7**
	72nm,0.3s,baz=54,slow=23,SNR=6.6						
RAR	Rarotonga	13.34	91	Pn	**Pn**	**13 13 02.4**	**-10**
	16nm,0.3s,baz=240,slow=6.6,SNR=29						
RAR				LR	LR	13 17 33.7	
	comp=Z,883nm,18.6s,baz=288,slow=34						
DZM	Mont Dzumac	18.09	265	*e*P	**Pn**	**13 14 16.7**	**+2.9**
DZM	Mont Dzumac	18.09	265	P	**Pn**	**13 14 15.1**	**+1.2**
	1.6nm,0.3s,baz=75,slow=17,SNR=17						
NOUC	Port Laguerre	18.22	265	*e*P	**Pn**	**13 14 17.1**	**+1.7**
URZ	Urewera	18.29	203	P	**Pn**	**13 14 17.7**	**+1.4**
	3.3nm,0.3s,baz=82,slow=1.1,SNR=30						
TBI	Tubuai	22.82	99	*e*LQ		13 19 19.8	
	560nm,25.5s						
TBI				*e*LR	LR	13 20 19.1	
	976nm,26.5s,baz=269						
PAE	Paea	23.39	85	*e*P	**P**	**13 15 09.2**	**-1.8**
	131nm,1.3s,mb5.2						
PPT	Papeete	23.42	85	*e*P	**P**	**13 15 09.6**	**-1.7**
	70nm,1.4s,mb4.9						
PPT	Papeete	23.42	85	*e*LR	LR	13 20 30.1	
	1μm,25.2s,baz=253						
PPT	Papeete	23.42	85	LR	LR	13 23 15.4	
	comp=Z,722nm,18.8s,MS4.2,baz=303,slow=34						
TVO	Taravao	23.67	85	*e*P	**P**	**13 15 12.2**	**-1.4**
	121nm,0.9s,mb5.3						
PMOR	Pomariorio Ree	25.68	80	*e*P	**P**	**13 15 30.9**	**-1.0**
	25nm,1.0s,mb4.7						
ARMA	Armidale	31.96	247	*e*P	**P**	**13 16 27.9**	**+0.2**
ARMA				*e*		13 16 56.2	
TAOE	Nuku Hiva Isla	35.00	74	*e*LR	LR	13 25 48.9	
	4μm,38.2s						
RKT	Rikitea	36.13	100	*e*LR	LR	13 26 18.9	
	666nm,28.0s						
CTA	Charters Tower	37.04	265	*e*P	**P**	**13 17 10.9**	**-0.7**
	6.5nm,0.7s,mb4.6						
CTA	Charters Tower	37.04	265	P	**P**	**13 17 10.8**	**-0.8**
	9.0nm,0.7s,mb4.7,baz=121,slow=10,SNR=9.0						
CTA	Charters Tower	37.04	265	*e*P	**P**	**13 17 10.9**	**-0.7**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PMG	Port Moresby	39.15	282	P	**P**	**13 17 27.4**	**-2.0**
	comp=Z,30nm,0.9s,mb5.0,baz=109,slow=8.8,SNR=4.7						
STKA	Stephens Creek	40.66	246	*e*P	**P**	**13 17 41.3**	**-0.7**
	comp=Z,9.2nm,0.7s,mb4.5						
STKA	Stephens Creek	40.66	246	P	**P**	**13 17 41.3**	**-0.7**
	comp=Z,11nm,0.7s,mb4.6,baz=87,slow=11,SNR=12						
STKA				LR	LR	13 32 42.5	
	comp=Z,191nm,20.1s,MS4.0,baz=32,slow=34						
AS31	Alice Springs	47.84	257	*e*P	**P**	**13 18 38.3**	**-1.1**
AS31				*e*		13 19 06.2	
ASAR	Alice Springs	47.85	257	P	**P**	**13 18 38.0**	**-1.5**
	comp=Z,18nm,0.8s,mb5.2,baz=98,slow=7.7,SNR=90						
ASAR				LR	LR	13 38 33.3	
	comp=Z,222nm,18.1s,MS4.2,baz=49,slow=36						
ASPA	Alice Springs	47.85	257	*e*P	**P**	**13 18 38.3**	**-1.2**
ASPA				*e*		13 19 06.2	
WB2	Warramunga Arr	48.07	262	*e*P	**P**	**13 18 39.3**	**-1.9**
WB2				*e*		13 19 07.3	
WRAB	Tennant Creek	48.07	262	*e*P	**P**	**13 18 39.8**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.3						
WRAB	Tennant Creek	48.07	262	*e*P	**P**	**13 18 39.8**	**-1.4**
	comp=Z,23nm,0.8s,mb5.2						
WRA	Warramunga Arr	48.08	262	P	**P**	**13 18 39.6**	**-1.6**
	comp=Z,10nm,0.7s,mb5.0,baz=99,slow=6.2,SNR=55						
WRA				LR	LR	13 38 27.1	
	comp=Z,192nm,18.2s,MS4.1,baz=110,slow=36						
FORT	Forrest	52.25	247	*e*P	**P**	**13 19 12.0**	**-0.8**
	comp=Z,17nm,0.6s,mb5.2						
FITZ	Fitzroy Crossi	56.51	262	*e*P	**P**	**13 19 43.2**	**-0.6**
	comp=Z,4.7nm,0.6s,mb4.7						
FITZ	Fitzroy Crossi	56.51	262	P	**P**	**13 19 42.7**	**-1.1**
	comp=Z,3.7nm,0.8s,mb4.5,baz=52,slow=3.3,SNR=10						
SBA	Scott Base	57.09	185	*e*P	**P**	**13 19 49.9**	**+2.0**
SBA				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
SBA	Scott Base	57.09	185	*e*P	**P**	**13 19 49.9**	**+2.0**
	comp=Z,12nm,1.1s,mb4.8						
VNDA	Vanda	57.21	186	P	**P**	**13 19 51.0**	**+2.2**
	comp=Z,3.4nm,0.9s,mb4.4,baz=5.7,slow=6.8,SNR=16						
VNDA				LR	LR	13 38 21.1	
	comp=Z,75nm,21.1s,MS3.8,baz=4.4,slow=30						
VNDA	Vanda	57.21	186	*e*P	**P**	**13 19 50.6**	**+1.8**
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VNDA	Vanda	57.21	186	*e*P	**P**	**13 19 50.5**	**+1.8**
	comp=Z,3.6nm,0.8s,mb4.5						
RPN	Rapa Nui	58.69	109	LR	LR	13 41 52.8	
	comp=Z,339nm,18.4s,MS4.5,baz=320,slow=32						
KLBR	Kellerberrin	60.93	245	*e*P	**P**	**13 20 14.7**	**+0.2**
	comp=Z,134nm,1.9s,mb5.8						
MBWA	Marble Bar	61.19	257	*e*P	**P**	**13 20 15.5**	**-0.7**
	comp=Z,13nm,0.7s,mb5.2						
CASY	Casey	64.58	206	*e*P	**P**	**13 20 38.5**	**-0.3**
QSPA	South Pole Qui	68.51	180	*e*P	**P**	**13 21 05.1**	**+1.2**
	comp=Z,18nm,1.0s,mb5.0						
MJAR	Matsushiro Arr	73.27	322	P	**P**	**13 21 32.6**	**-0.2**
	comp=Z,6.3nm,0.9s,mb4.6,baz=159,slow=6.3,SNR=15						
MAJO	Matsushiro	73.27	322	*e*P	**P**	**13 21 32.7**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
MAJO	Matsushiro	73.27	322	*e*P	**P**	**13 21 32.7**	**-0.1**
	comp=Z,8.8nm,0.9s,mb4.7						
MAT	Matsushiro	73.27	322	P	**P**	**13 21 32.1**	**-0.7**
MAT	Matsushiro	73.27	322	*e*P	**P**	**13 21 32.0**	**-0.8**
MAT				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
MAT	Matsushiro	73.27	322	*e*P	**P**	**13 21 32.0**	**-0.8**
	comp=Z,5.2nm,0.8s,mb4.5						
V04C	Ramage Ranch,	75.99	42	⇑P	**P**	**13 21 49.2**	**+0.6**
	baz=76						
HAST	UC Hastings Re	76.05	41	⇑P	**P**	**13 21 49.2**	**+0.3**
	baz=76						
PACP	Pacheco Peak	76.61	41	⇓P	**P**	**13 21 52.9**	**+0.8**
	baz=77						
OSI	Osito Adit	76.71	44	⇑P	**P**	**13 21 53.5**	**+0.8**
	baz=77						
S04C	Ingram Canyon,	76.90	41	⇓P	**P**	**13 21 54.2**	**+0.5**
	baz=77						
MNRC	McLaughlin Nat	77.14	39	⇑P	**P**	**13 21 55.4**	**+0.3**
	baz=77						
O01C	Eel River Cons	77.20	37	⇓P	**P**	**13 21 56.0**	**+0.6**
	baz=77						
S05C	Merced	77.41	41	⇓P	**P**	**13 21 56.4**	**-0.2**
	baz=78						
GASB	Alder Springs	77.49	38	⇑P	**P**	**13 21 57.8**	**+0.7**
	baz=78						
ISA	Isabella	77.52	43	⇑P	**P**	**13 21 57.7**	**+0.6**
	baz=78						
T06C	Millerton Lake	77.58	42	⇑P	**P**	**13 21 58.3**	**+0.8**
	baz=78						
PFO	Pinyon Flat Ob	77.61	46	⇑P	**P**	**13 21 58.3**	**+0.7**
	baz=78						
O02C	Red Bluff	77.81	38	⇓P	**P**	**13 21 57.7**	**-1.1**
	baz=78						
CMB	Columbia Colle	77.82	41	*e*P	**P**	**13 21 58.0**	**-0.8**
CMB				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
CMB	Columbia Colle	77.82	41	*e*P	**P**	**13 21 58.0**	**-0.9**
	comp=Z,12nm,1.2s,mb4.7						
CMB	Columbia Colle	77.82	41	⇑P	**P**	**13 21 58.3**	**-0.5**
	baz=78						
N02C	Big Bar	77.94	37	⇑P	**P**	**13 21 59.3**	**-0.3**
	baz=78						
OHCM	Honcut	78.00	39	P	**P**	**13 21 59.7**	**-0.2**
KCC	Kaiser Creek	78.02	42	⇑P	**P**	**13 21 59.4**	**-0.5**
	baz=78						
LAVA	Lava Cap Winer	78.07	40	⇓P	**P**	**13 22 00.3**	**+0.1**
	baz=78						
O03C	Acorn Hollow,	78.12	38	⇓P	**P**	**13 22 00.4**	**-0.2**
	baz=78						
ORV	Oroville	78.14	39	⇑P	**P**	**13 22 00.5**	**-0.2**
	baz=78						
WDC	Whiskeytown Da	78.22	38	*e*P	**P**	**13 22 00.7**	**-0.4**
WDC				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
WDC	Whiskeytown Da	78.22	38	*e*P	**P**	**13 22 00.7**	**-0.3**
	comp=Z,15nm,1.3s,mb4.8						
WDC	Whiskeytown Da	78.22	38	⇑P	**P**	**13 22 01.0**	**0.0**
	baz=78						
GSC	Goldstone	78.38	45	⇓P	**P**	**13 22 01.6**	**-0.3**
	baz=79						
GLA	Glamis	78.39	47	⇑P	**P**	**13 22 01.8**	**-0.2**
	baz=79						
R05C	Kirkwood Meado	78.43	40	⇓P	**P**	**13 22 02.1**	**-0.2**
	baz=79						
P05C	Yuba Gap, Truc	78.50	40	⇓P	**P**	**13 22 02.3**	**-0.3**
	baz=79						
YSS	Yuzh-Sakhalins	78.53	331	⇓*e*P	**P**	**13 22 03.9**	**+1.1**
YSS				*e*		13 22 07.0	
YSS				*e*		13 22 19.0	
YSS				S	S	13 31 52.0	-4.3
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2						
YSS	Yuzh-Sakhalins	78.53	331	*e*P	**P**	**13 22 03.4**	**+0.6**
	comp=Z,18nm,0.9s,mb5.0						
M02C	Callahan	78.58	37	⇑P	**P**	**13 22 03.4**	**+0.3**
	baz=79						
R07C	Lee Vining	78.67	41	⇑P	**P**	**13 22 04.0**	**+0.4**
	baz=79						
K01A	Sixes	78.67	35	⇓P	**P**	**13 22 02.9**	**-0.7**
	baz=79						
R06C	Coleville	78.69	41	⇓P	**P**	**13 22 03.8**	**+0.1**
	baz=79						
O05C	Quincy	78.74	39	⇑P	**P**	**13 22 04.3**	**+0.3**
	baz=79						
O04C	Chester	78.88	38	⇓P	**P**	**13 22 04.5**	**-0.2**
	baz=79						
YBH	Yreka Blue Hor	78.89	37	P	**P**	**13 22 05.1**	**+0.4**
	comp=Z,8.1nm,1.0s,mb4.6,baz=182,slow=2.3,SNR=10						
YBH	Yreka Blue Hor	78.89	37	*e*P	**P**	**13 22 05.2**	**+0.4**
YBH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
YBH	Yreka Blue Hor	78.89	37	*e*P	**P**	**13 22 05.2**	**+0.4**
	comp=Z,8.0nm,1.0s,mb4.6						
YBH	Yreka Blue Hor	78.89	37	⇑P	**P**	**13 22 04.7**	**-0.1**
	baz=79						
HATC	Hat Creek Radi	78.99	38	⇑P	**P**	**13 22 05.5**	**+0.2**
	baz=79						
Y12C	Blythe	79.00	47	⇑P	**P**	**13 22 05.7**	**+0.4**
	baz=79						
WCN	Washoe City	79.01	40	⇓P	**P**	**13 22 05.5**	**+0.1**
	baz=79						
TUQ	Turquoise Mtn.	79.04	45	⇓P	**P**	**13 22 05.6**	**0.0**
	baz=79						
K02A	Glendale	79.17	35	⇑P	**P**	**13 22 05.5**	**-0.8**
	baz=79						
ELFS	Eagle Lake Fie	79.28	38	⇑P	**P**	**13 22 07.7**	**+0.8**
	baz=80						
NVAR	Mina Array Bea	79.34	41	P	**P**	**13 22 07.3**	**+0.1**
	comp=Z,5.6nm,0.7s,mb4.6,baz=217,slow=6.9,SNR=36						
HUMO	Hull Mountain	79.35	36	*e*P	**P**	**13 22 07.3**	**+0.1**
	comp=Z,12nm,1.1s,mb4.8						
HUMO	Hull Mountain	79.35	36	⇑P	**P**	**13 22 07.6**	**+0.3**
	baz=80						
Q07A	Schurz	79.35	41	⇑P	**P**	**13 22 06.9**	**-0.3**
	baz=80						
U10A	Ash Meadows, A	79.36	44	⇓P	**P**	**13 22 08.5**	**+1.1**
	baz=80						
M04C	Macdoel	79.41	37	⇑P	**P**	**13 22 07.4**	**-0.2**
	baz=80						
MNV	Mina	79.43	41	*e*P	**P**	**13 22 07.6**	**-0.1**
MNV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MNV	Mina	79.43	41	*e*P	**P**	**13 22 07.6**	**-0.1**
	comp=Z,7.5nm,1.0s,mb4.6						
O06A	Flanigan	79.51	39	⇓P	**P**	**13 22 08.0**	**-0.2**
	baz=80						
M05C	Lookout	79.52	38	⇓P	**P**	**13 22 08.5**	**+0.3**
	baz=80						
J02A	Umpqua	79.53	35	⇓P	**P**	**13 22 08.1**	**-0.2**
	baz=80						
S09A	Goldfield	79.58	42	⇑P	**P**	**13 22 07.8**	**-0.7**
	baz=80						
L04A	Klamath Falls	79.64	37	⇓P	**P**	**13 22 09.5**	**+0.7**
	baz=80						
TPNV	Topopah Spring	79.73	44	*e*P	**P**	**13 22 09.8**	**+0.5**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TPNV	Topopah Spring	79.73	44	*e*P	**P**	**13 22 09.8**	**+0.4**
	comp=Z,3.8nm,0.8s,mb4.4						
M06C	Likely Place G	79.80	38	⇓P	**P**	**13 22 10.0**	**+0.3**
	baz=80						
Q08A	Gabbs	79.83	41	⇑P	**P**	**13 22 09.9**	**0.0**
	baz=80						
Z14A	Wintersburg	79.85	48	⇓P	**P**	**13 22 10.6**	**+0.6**
	baz=80						
J03A	Ideyld Park	79.86	35	⇓P	**P**	**13 22 11.4**	**+1.3**
	baz=80						
O07A	Toulon	80.07	40	⇓P	**P**	**13 22 11.4**	**+0.2**
	baz=80						
I03A	Eugene	80.10	35	⇑P	**P**	**13 22 10.5**	**-0.8**
	baz=80						
Y14A	Wickenburg	80.14	48	⇓P	**P**	**13 22 11.6**	**0.0**
	baz=80						
L05A	Lakeview	80.15	37	⇓P	**P**	**13 22 11.8**	**+0.1**
	baz=80						
Q09A	Carvers	80.28	42	⇓P	**P**	**13 22 11.1**	**-1.2**
	baz=80						
116A	Eloy	80.29	49	⇑P	**P**	**13 22 12.7**	**+0.3**
	baz=80						
R10A	Warm Springs	80.50	42	⇓P	**P**	**13 22 13.7**	**+0.2**
	baz=81,SNR=6.4						
X14A	Yava	80.52	47	⇓P	**P**	**13 22 13.6**	**0.0**
	baz=81						
U12A	Valley of Fire	80.53	45	⇓P	**P**	**13 22 14.2**	**+0.5**
	baz=81						
H03A	Soap Creek Ran	80.58	34	⇓P	**P**	**13 22 14.2**	**+0.3**
	baz=81						
M07A	Soldier Meadow	80.68	39	⇓P	**P**	**13 22 14.5**	**0.0**
	baz=81						
W14A	Seligman	80.80	47	⇑P	**P**	**13 22 15.8**	**+0.7**
	baz=81,SNR=5.5						
N08A	GE Springer Mi	80.91	40	⇑P	**P**	**13 22 15.9**	**+0.2**
	baz=81						
K06A	Valley Falls	80.97	37	⇓P	**P**	**13 22 16.3**	**+0.2**
	baz=81						
X15A	Humboldt	80.97	48	⇓P	**P**	**13 22 16.2**	**+0.2**
	baz=81						
L07A	Adell	80.98	38	⇑P	**P**	**13 22 16.6**	**+0.5**
	baz=81						
O09A	Fish Creek Ran	81.09	41	⇑P	**P**	**13 22 16.3**	**-0.4**
	baz=81						
H04A	Detroit Lake	81.15	35	⇓P	**P**	**13 22 17.0**	**0.0**
	baz=81						
M08A	Happy Creek Ra	81.18	39	⇓P	**P**	**13 22 17.0**	**-0.1**
	baz=81						
SSE	Sheshan	81.19	308	*e*P	**P**	**13 22 17.2**	**0.0**
SSE				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,142nm,4.3s						
P10A	Eureka	81.20	41	⇑P	**P**	**13 22 16.6**	**-0.6**
	baz=81						
Q11A	Duckwater	81.24	42	⇓P	**P**	**13 22 17.4**	**0.0**
	baz=81						
VLA	Vladivostok	81.28	323	*e*P	**P**	**13 22 19.3**	**+1.6**
VLA				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
VLA				MLR	MLR		
	comp=Z,300nm,24.0s,MS4.6						
I05A	Bend	81.30	35	⇑P	**P**	**13 22 17.5**	**-0.2**
	baz=82						
J06A	Christmas Vall	81.32	37	⇑P	**P**	**13 22 17.5**	**-0.4**
	baz=82,SNR=6.5						
G04A	Mulino	81.36	34	⇓P	**P**	**13 22 17.9**	**-0.1**
	baz=82						
H05A	Madras	81.64	35	⇑P	**P**	**13 22 19.1**	**-0.5**
	baz=82						
WVOR	Wild Horse Val	81.65	38	*e*P	**P**	**13 22 19.2**	**-0.4**
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
WVOR	Wild Horse Val	81.65	38	*e*P	**P**	**13 22 19.2**	**-0.4**
	comp=Z,9.4nm,1.2s,mb4.6						
E03A	Lebam	81.72	33	⇓P	**P**	**13 22 19.1**	**-0.9**
	baz=82						
MAW	Mawson	81.78	199	*e*P	**P**	**13 22 21.7**	**+1.4**
	comp=Z,4.5nm,0.8s,mb4.5						
MAW	Mawson	81.78	199	P	**P**	**13 22 21.4**	**+1.1**
	comp=Z,5.6nm,0.7s,mb4.6,baz=131,slow=4.5,SNR=11						
MAW	Mawson	81.78	199	P	**P**	**13 22 21.4**	**+1.1**
MAW				pmax	pmax		
	comp=Z,6.0nm,0.7s						
J07A	Hines	81.86	37	⇓P	**P**	**13 22 20.2**	**-0.5**
	baz=82						
Q12A	Willow Creek R	81.87	43	⇓P	**P**	**13 22 20.0**	**-0.8**
	baz=82						
F04A	Amboy	81.87	34	⇓P	**P**	**13 22 20.1**	**-0.7**
	baz=82						
L09A	Wilkinson Ranc	81.95	39	⇑P	**P**	**13 22 20.8**	**-0.4**
	baz=82						
LVP	Lakeview Peak	81.97	33	P	**P**	**13 22 21.5**	**+0.2**
G05A	Wamic	81.99	35	⇓P	**P**	**13 22 20.9**	**-0.5**

baz=82
D03A Wishkah Elem. 82.01 32 ⇑P P 13 22 22.7 +1.2
baz=82
P12A McGill 82.07 42 ⇓P P 13 22 22.8 +1.0
baz=82
C03A Quillayute Air 82.19 31 ⇓P P 13 22 23.1 +0.6
baz=82
M10A I.L. Ranch, Tu 82.31 40 ⇑P P 13 22 23.8 +0.7
baz=82
J08A Circle Bar Ran 82.33 37 ⇑P P 13 22 23.1 -0.1
baz=82
F05A White Salmon 82.34 34 ⇑P P 13 22 22.6 -0.6
baz=82
ELK Elko 82.62 41 *e*P **P 13 22 24.5 -0.2**
ELK pmax pmax
comp=Z,5.0nm,1.2s
ELK Elko 82.62 41 *e*P **P 13 22 24.5 -0.2**
comp=Z,4.9nm,1.2s,mb4.4
E05A Randle 82.64 33 ⇑P P 13 22 24.7 -0.1
baz=83,SNR=8.9
M11A Holland Ranch, 82.70 40 ⇓P P 13 22 25.5 +0.4
baz=83
N12A Clover Valley, 82.81 41 ⇓P P 13 22 26.1 +0.4
baz=83
FMW Mount Fremont 82.93 33 P P 13 22 26.6 +0.3
D05A Enumclaw 82.94 33 ⇓P P 13 22 26.6 +0.3
baz=83,SNR=7.2
HABR Khabarovsk 83.21 329 *e*P **P 13 22 29.0 +1.2**
HABR *e* 13 22 33.0
HABR *e*S S 13 32 35.9 -9.2
RMW Rattlesnake Mo 83.22 33 P P 13 22 27.9 +0.1
M12A Wells 83.22 41 ⇑P P 13 22 27.5 -0.3
baz=83
MSU Marysvale 83.26 44 *e*P **P 13 22 28.9 +0.9**
N13A Wendover, West 83.32 41 ⇑P P 13 22 28.1 -0.3
baz=84
NJ2 Nanjing 83.39 308 *e*P **P 13 22 28.1 -0.6**
NJ2 AP pP 13 22 38.6 -2.2
NJ2 XP sP 13 22 42.5 -2.7
NJ2 PP PP 13 25 41.5 +0.6
NJ2 S S 13 32 44.0 -2.9
NJ2 XS sS 13 33 02.0 -5.0
NJ2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
NJ2 AMB AMB
comp=Z,404nm,6.4s
NJ2 LR LR
comp=N,1μm,27.1s
NJ2 LR LR
comp=E,2μm,17.7s
NJ2 LR LR
comp=Z,4μm,28.9s,MS5.7
C05A Tolt Reservoir 83.43 33 ⇓P P 13 22 29.0 +0.1
baz=84
MDJ Mudanjiang 83.52 323 P P 13 22 29.9 +0.5
MDJ AP pP 13 22 42.0 +0.6
MDJ XP sP 13 22 46.8 +0.9
MDJ PP PP 13 25 42.5 +0.6
MDJ S S 13 32 44.9 -3.3
MDJ XS sS 13 32 59.4 -8.9
MDJ SS SS 13 38 16.6 +1.9
MDJ AMB AMB
comp=Z,12nm,0.9s,mb5.0
MDJ AMB AMB
comp=Z,136nm,7.1s
MDJ LR LR
comp=N,46nm,21.1s,MS4.0
MDJ LR LR
comp=E,59nm,21.1s,MS4.0
MDJ LR LR
comp=Z,121nm,22.1s,MS4.2
MDJ Mudanjiang 83.52 323 *e*P **P 13 22 31.0 +1.7**
comp=Z,11nm,0.9s,mb5.0
B05A Bryant 83.61 32 ⇑P P 13 22 29.3 -0.5
baz=84
A04A Legoe Bay, Lum 83.62 31 ⇑P P 13 22 29.2 -0.7
baz=84
M13A Montello 83.64 41 ⇑P P 13 22 29.7 -0.3
baz=84
HAWA Hanford 83.69 35 *e*P **P 13 22 30.1 -0.1**
comp=Z,1.2nm,1.1s,mb3.9
CMW Cultus Mountai 83.71 32 P P 13 22 30.5 +0.2
GBL Gable Mountain 83.86 34 P P 13 22 31.3 +0.2
RPW Rockport 84.03 32 P P 13 22 31.5 -0.4
SLKM Skilak Lake 84.05 12 *e*P **P 13 22 31.0 -1.0**
ETW Entiat 84.06 33 P P 13 22 32.1 0.0
WTV Waterville 84.31 33 P P 13 22 33.2 -0.3
TMUT Trail Mountain 84.33 44 *e*P **P 13 22 34.6 +1.1**
LAZ Ladron 84.49 50 *e*P **P 13 22 35.1 +0.8**
SRU San Rafael 84.67 44 *e*P **P 13 22 35.2 0.0**
SRU pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
SRU San Rafael 84.67 44 *e*P **P 13 22 35.2 0.0**
comp=Z,9.0nm,1.1s,mb4.8
HLID Hailey 84.79 39 *e*P **P 13 22 35.8 0.0**
comp=Z,4.3nm,0.8s,mb4.6
LPM Los Pinos Moun 84.81 50 *e*P **P 13 22 36.6 +0.7**
TCUT Toone Canyon 85.21 42 P P 13 22 38.4 +0.5
ANMO Albuquerque 85.25 50 *e*P **P 13 22 38.9 +0.8**
ANMO Albuquerque 85.25 50 *e*P **P 13 22 38.3 +0.2**
comp=Z,4.3nm,1.0s,mb4.5
PMR Palmer 85.25 12 *e*P **P 13 22 36.3 -1.8**
PMR pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
PMR Palmer 85.25 12 *e*P **P 13 22 36.2 -1.9**
comp=Z,7.2nm,0.8s,mb4.8
KLR Kul'dur 85.34 328 *e*P **P 13 22 37.6 -0.9**
SNY Shenyang 85.40 318 ⇓P P 13 22 40.2 +1.3
SNY AMB AMB
comp=Z,8.0nm,0.4s,mb5.2
SNY AMB AMB
comp=Z,244nm,4.5s
CN2 Changchun 85.40 321 *e*P **P 13 22 39.8 +0.9**
TTA Tatalina 85.41 8 *e*P **P 13 22 38.5 -0.4**
TTA pmax pmax
comp=Z,27nm,1.2s,mb5.2
TTA Tatalina 85.41 8 *e*P **P 13 22 38.5 -0.5**
comp=Z,27nm,1.2s,mb5.3
SML Sawmill 85.61 12 P P 13 22 37.7 -2.2
PLCA Paso Flores 85.87 132 LR LR 13 52 16.8
comp=Z,156nm,19.7s,MS4.4,baz=191,slow=29
MCMT McKenzie Canyo 86.44 39 *e*P **P 13 22 44.0 0.0**
SYO Syowa Base 86.46 192 ⇓ *e*P **P 13 22 43.8 -0.3**
SYO Syowa Base 86.46 192 ⇑ *e*X 13 22 50.8
SKAG Skagway 86.76 19 *e*P **P 13 22 45.8 +0.2**
SNAA Sanae 86.82 177 *e*P **P 13 22 45.5 -0.4**
SNAA *e* 13 22 47.4
SNAA *e* pP 13 22 58.1 +0.1
SNAA *e* 13 23 03.6
SNAA *e* 13 23 13.3
SNAA Sanae 86.82 177 *e*P **P 13 22 45.9 0.0**
SNAA pmax pmax
comp=Z,5.0nm,1.0s
SNAA Sanae 86.82 177 *e*P **P 13 22 45.9 +0.1**
comp=Z,4.5nm,1.0s,mb4.7
IMW Indian Meadow 87.04 40 *e*P **P 13 22 47.4 +0.5**
comp=Z,1.4nm,0.5s,mb4.5
MCK McKinley 87.26 11 *e*P **P 13 22 46.9 -1.1**
MCK pmax pmax
comp=Z,14nm,1.0s,mb5.2
MCK McKinley 87.26 11 *e*P **P 13 22 46.9 -1.2**
comp=Z,14nm,1.0s,mb5.2
PDAR Pinedale Array 87.27 42 P P 13 22 47.2 -0.8
comp=Z,1.4nm,0.8s,mb4.2,baz=200,slow=1.5,SNR=10
PDAR LR LR 14 00 20.5
comp=Z,57nm,18.1s,MS4.0,baz=262,slow=35
VNA1 Neumayer--Stat 87.50 175 *e*P **P 13 22 50.1 +0.9**
VNA1 *e* 13 22 51.8
VNA1 *e* 13 23 15.6
KULM Kulim 87.54 277 *e*P **P 13 22 51.4 +2.0**
BOZ Bozeman (W) 87.62 38 *e*P **P 13 22 49.2 -0.5**
BOZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
BOZ Bozeman (W) 87.62 38 *e*P **P 13 22 49.2 -0.5**
comp=Z,2.2nm,0.8s,mb4.4
DLBC Dease Lake 87.64 21 *e*P **P 13 22 49.8 0.0**
PSI Prapat 88.22 274 P P 13 22 55.2 +2.6
comp=Z,11nm,0.9s,mb5.1,baz=164,slow=6.5,SNR=6.0
WALA Waterton Lakes 88.32 35 *e*P **P 13 22 51.9 -1.1**
comp=Z,8.3nm,1.3s,mb4.8
COLA College 88.50 11 *e*P **P 13 22 53.5 -0.4**
COLA College 88.50 11 *e*P **P 13 22 52.8 -1.2**
comp=Z,6.2nm,0.7s,mb5.0
DAWY Dawson 89.52 14 *e*P **P 13 22 58.4 -0.3**
XAN Xi'an 91.70 306 P P 13 23 10.8 +2.0

HHC Hu-ho-hao-te 92.73 313 *e*P **P 13 23 15.1 +1.5**
HHC AP pP 13 23 25.2 -0.6
HHC XP sP 13 23 29.3 -0.9
HHC PP PP 13 26 59.8 +4.0
HHC SKS 13 33 43.0
HHC S 13 34 15.1
HHC PS PS 13 35 36.0 +4.0
HHC AMB AMB
comp=Z,13nm,0.7s,mb5.5
HHC AMB AMB
comp=Z,102nm,6.0s
JTS JuntasAbangare 92.92 80 *e*P **P 13 23 17.8 +3.3**
KMI Kunming 93.10 296 P P 13 23 17.6 +2.3
KMI AP pP 13 23 29.4 +1.9
KMI XP sP 13 23 34.3 +2.4
KMI PP PP 13 27 01.9 +3.2
KMI PPP 13 29 04.6
KMI SKS 13 33 44.1
KMI S 13 34 16.6
KMI XS sS 13 34 38.4 -0.9
KMI AMB AMB
comp=Z,9.0nm,0.9s,mb5.2
KMI AMB AMB
comp=Z,112nm,5.2s
KMI LR LR
comp=N,119nm,15.6s,MS4.6
KMI LR LR
comp=E,128nm,18.6s,MS4.6
KMI LR LR
comp=Z,156nm,25.9s
CD2 Chengdu 94.45 301 *e*P **P 13 23 20.6 -0.9**
CD2 AP pP 13 23 31.2 -2.5
CD2 XP sP 13 23 35.1 -3.1
CD2 PP PP 13 27 10.8 +1.5
CD2 SKS 13 33 51.7
CD2 S 13 34 27.2
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,30nm,8.4s
CD2 LR LR
comp=N,80nm,13.2s
CD2 LR LR
comp=Z,120nm,5.6s
YAK Yakutsk 94.49 337 *d*/P **P 13 23 20.6 -1.1**
YAK pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
YKA Yellowknife Ar 95.97 24 P **P 13 23 26.8 -1.7**
comp=Z,0.7nm,0.7s,mb4.2,baz=235,slow=4.1,SNR=5.3
LZH Lanzhou 96.33 306 *e*P **P 13 23 30.5 +0.4**
LZH AP pP 13 23 44.4 +2.1
LZH XP sP 13 23 49.5 +2.8
LZH AMB AMB
comp=Z,11nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,80nm,4.9s
LPAZ La Paz 98.27 111 LR LR 14 00 27.0
comp=Z,136nm,19.0s,MS4.5,baz=300,slow=31
ULN Ulaanbaatar 98.58 318 ⇑ *e*P **P 13 23 43.1 +2.9**
ULM Lac du Bonnet 99.09 40 LR LR 14 08 02.5
comp=Z,79nm,18.3s,MS4.2,baz=321,slow=35
WMQ Urumqi 110.39 310 PKP PKiKP 13 28 34.0 +0.5
WMQ PP PP 13 29 13.2 +4.3
WMQ PP PP
comp=Z,60nm,10.6s
WMQ LR LR
comp=N,207nm,20.7s,MS4.8
WMQ LR LR
comp=E,156nm,19.6s,MS4.8
WMQ LR LR
comp=Z,187nm,21.2s,MS4.6
MKAR Makanchi Array 114.59 313 PKP PKiKP 13 28 41.5 +0.1
comp=Z,1.0nm,0.8s,baz=248,slow=0.7,SNR=9.2
KURK Kurchatov 117.26 317 ⇑ *i*PKIKP PKPdf 13 28 45.6 -1.0
CHKZ Chkalovo 122.03 321 *e*PKIKP PKPdf 13 28 54.9 -0.9
BRVK Borovoye 122.30 320 *e*PKIKP PKPdf 13 28 55.4 -0.9
ZRNK Zerenda 123.08 320 *e*PKIKP PKPdf 13 28 56.5 -1.3
ARU Arti 128.14 326 *i*PKIKP PKPdf 13 29 06.3 -1.2
ARU *e* 13 31 07.9
ARU *e*SP SP 13 41 11.2 -2.3
ARU Arti 128.14 326 PKPdf PKPdf 13 29 06.5 -0.9
OBN Obninsk 139.39 333 ⇑ *i*PKIKP PKPdf 13 29 27.3 -1.3
OBN *e* 13 32 23.1
OBN *e*SSS 13 55 44.9
OBN pmax pmax
comp=Z,7.0nm,0.6s
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.5
NOA NORSAR Array B 140.38 356 PKP PKPdf 13 29 31.1 +0.7
comp=Z,1.9nm,0.8s,baz=358,slow=3.7,SNR=3.5
KIV Kislovodsk 142.30 315 *e*PKIKP PKPdf 13 29 35.0 +1.2
KIV pmax pmax
comp=Z,6.0nm,0.9s
ERZM Erzurum 144.77 309 *i* P PKPdf 13 29 39.7 +1.6
SUW Suwalki 145.05 342 *e*PKIKP PKPdf 13 29 38.5 -0.1
ANN Anapa 145.24 319 *e*PKIKP PKPdf 13 29 38.1 -0.9
ANN pmax pmax
comp=Z,38nm,1.0s
BNGL BINGOL 145.25 308 *i* P PKPbc 13 29 41.4 +2.7
AKASG Malin Array Be 145.65 334 PKPbc PKPbc 13 29 39.2 -0.8
comp=Z,6.8nm,0.7s,baz=39,slow=4.1,SNR=24
AKASG Malin Array Be 145.65 334 PKPbc PKPbc 13 29 39.2 -0.8
AKBB Malin Array Si 145.65 334 *e*PKIKP PKPdf 13 29 38.6 -1.1
ELZG Elazig 147.00 308 *i* P PKPbc 13 29 46.6 +2.6
MALT Malatya 147.47 308 *e*PKP2 PKPbc 13 29 46.9 -0.5
BSEG Bad Segeberg 147.51 355 *e*PKPbc PKPbc 13 29 46.3 +0.9
LVV L'vov 148.37 337 *e*PKP2 PKPbc 13 29 45.8 -1.9
GZT Gaziantep 148.46 307 *i* P PKPbc 13 29 49.9 +2.0
BOYT Boyabat 148.56 316 *i* P PKPbc 13 29 49.7 +1.5
CTKT Corum 149.03 314 *i* P PKPbc 13 29 51.3 +1.9
OJC Ojcow 149.38 342 *e*PKP PKPdf 13 29 50.1 +4.3
CLZ Clausthal 149.58 355 *e*PKPbc PKPbc 13 29 50.8 0.0
CLZ *e*PKPab PKPab 13 29 55.4 -0.5
CLZ Clausthal 149.58 355 *e*PKP2 PKPab 13 29 55.4 -0.5
KSP Ksiaz 149.66 347 *e*PKP2 PKPbc 13 29 51.7 +0.7
KOLS Kolonicke sedl 149.73 338 *e*PKP PKPdf 13 29 48.4 +2.0
KOLS *e* 13 29 53.0
CLL Collm 149.80 351 *e*PKPbc PKPbc 13 29 51.5 +0.2
CLL *e*PKPab PKPab 13 29 57.2 +0.4
CLL Collm 149.80 351 ⇑ *i*PKPbc PKPbc 13 29 51.4 +0.1
comp=Z,15nm,1.0s
CLL *i* PKPab PKPab 13 29 56.1 -0.7
comp=Z,15nm,1.0s
CLL *i* pPKPab pPKPab 13 30 04.8 -4.2
CLL *i* x x 13 30 30.2
CLL Collm 149.80 351 ⇑ *i*PKP2 PKPbc 13 29 51.4 +0.1
CLL pmax pmax
comp=Z,15nm,1.0s
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 149.80 351 ⇑ *i*PKP PKPbc 13 29 51.4 +0.1
CLL *i* PKP PKPab 13 29 56.1 -0.7
CLL *i* 13 30 04.8
CRVS Cervenica-Dubn 150.03 339 *e*PKP PKPbc 13 29 52.7 +0.8
UPC Upice 150.04 347 *e*PKPbc PKPbc 13 29 50.5 -1.4
BRG Berggiesshubel 150.08 350 *e*PKPbc PKPbc 13 29 52.0 0.0
BRG Berggiesshubel 150.08 350 *e*PKP PKPdf 13 29 47.8 +0.9
comp=Z,3.1nm,1.0s
BRG *e* 13 30 28.4
comp=Z,3.5nm,0.5s
BRG Berggiesshubel 150.08 350 *e*PKHKP 13 29 47.8
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG pmax pmax
comp=Z,4.0nm,0.5s
DPC Dobruska-Polom 150.12 347 *e*PKPbc PKPbc 13 29 52.8 +0.7
FBE Freiberg 150.12 351 *e*PKPbc PKPbc 13 29 51.5 -0.6
OKC Ostrava-Krasne 150.17 344 *e*PKPbc PKPbc 13 29 53.2 +1.0
BR131 Keskin Array S 150.24 314 *e*PKPbc PKPbc 13 29 52.0 -0.3
BRTR Keskin Array B 150.24 314 PKPbc PKPbc 13 29 51.5 -0.9
comp=Z,8.3nm,0.9s,baz=128,slow=2.0,SNR=27
PVCC Panska Ves 150.30 349 *e*PKPbc PKPbc 13 29 52.8 +0.3
ASF Jabal al Asfar 150.51 298 PKPbc PKPbc 13 29 54.7 +1.7
comp=Z,5.1nm,0.9s,baz=122,slow=5.2,SNR=6.2
UBBA Unterbreizbach 150.63 355 *e*PKPbc PKPbc 13 29 54.6 +1.3
MOX Moxa 150.63 353 *e*PKPbc PKPbc 13 29 53.1 -0.2
KECS Kecovo 150.72 340 *e*PKP PKPbc 13 29 54.4 +0.9
ANTO Ankara 150.73 315 *e*PKIKP PKPbc 13 29 54.3 +0.8
WERD Werda 150.74 352 *e*PKPbc PKPbc 13 29 53.8 +0.3
TANN Tannenbergstha 150.75 351 *e*PKPbc PKPbc 13 29 54.1 +0.5
GUNZ Gunzen 150.82 352 *e*PKPbc PKPbc 13 29 54.4 +0.7
GUNZ *e*PKPab PKPab 13 30 01.9 +0.9
PRU Pruhonice 150.82 349 *e*PKPbc PKPbc 13 29 53.7 -0.1
SNF Seneffe 151.08 2 PKPbc PKPbc 13 29 54.9 +0.6
SNF PKPab PKPab 13 29 60.0 -2.1
BCLA Clavier 151.20 1 PKPbc PKPbc 13 29 53.6 -1.0
VYHS Vyhne 151.21 342 *e*PKP PKPbc 13 29 55.0 +0.4
VYHS *e* 13 30 08.8
MANZ Manzenberg 151.22 352 *e*PKPbc PKPbc 13 29 55.4 +0.7
PSZ Piszkesteto 151.40 340 *e*PKIKP PKPbc 13 29 56.2 +1.1
ROTZ Rotzenmuhle 151.42 351 *e*PKPbc PKPbc 13 29 55.7 +0.6
GIVF Givet 151.51 1 *e*PKP1 PKPbc 13 29 55.7 +0.4
comp=Z,49nm,1.1s
DOU Dourbes 151.51 2 PKPbc PKPbc 13 29 55.6 +0.3
DOU PKPab PKPab 13 30 03.6 -0.3
DOU APKPbc 13 30 06.5
MMAI Mount Meron Ar 151.52 300 PKPbc PKPbc 13 29 56.4 +1.1
comp=Z,10nm,1.0s,baz=13,slow=5.1,SNR=5.6
BAIF Baives 151.53 2 *e*PKP1 PKPbc 13 29 55.8 +0.4
comp=Z,12nm,0.7s
KHC Kasperske Hory 151.82 349 *e*PKPbc PKPbc 13 29 56.5 +0.4
WLF Walferdange 151.96 360 *e*PKPbc PKPbc 13 29 57.5 +1.1
GEC2 GERESS Array S 152.08 349 *e*PKPdf PKPdf 13 29 51.7 +1.7
GEC2 *e*PKPbc PKPbc 13 29 56.6 0.0
GEC2 *e*PKPbc PKPbc 13 29 56.8 +0.2
GERES GERESS Array B 152.08 349 PKPbc PKPbc 13 29 56.9 +0.3
comp=Z,5.9nm,0.9s,baz=48,slow=2.0,SNR=20
FLN La Foliniere 152.38 9 *e*PKP1 PKPbc 13 29 57.2 -0.1
comp=Z,20nm,0.8s
LDF La Druitiere 152.60 9 *e*PKP1 PKPbc 13 29 57.7 -0.1
GRR Gorron 152.69 10 *e*PKP1 PKPbc 13 29 58.1 +0.1
comp=Z,21nm,0.8s
STU Stuttgart 152.72 355 *e*PKPab PKPab 13 30 09.3 +0.4
CDF Champ du Feu 153.19 358 *e*PKP1 PKPbc 13 29 59.6 +0.5
comp=Z,9.6nm,0.7s
BFO Black Forest 153.22 356 *e*PKPbc PKPbc 13 30 00.4 +1.2
BFO *e*PKPab PKPab 13 30 11.4 +0.4
BFO Black Forest 153.22 356 *e*PKPab PKPab 13 30 11.4 +0.4
LOR Lormes 154.30 3 *e*PKP1 PKPbc 13 30 00.8 -0.7
SSF Saint Saulge 154.49 4 *e*PKP1 PKPbc 13 30 01.8 -0.1
VISS Visnje 154.74 345 *e*PKPdf PKPdf 13 29 55.1 +1.2
VISS *e* 13 30 07.9
BOJS Bojanci 154.92 344 *e*PKPdf PKPdf 13 29 54.5 +0.4
TORD Torodi Ar. Bea 170.71 154 PKP PKPdf 13 30 09.3 0.0
comp=Z,1.6nm,0.9s,baz=282,slow=1.5,SNR=5.7
TORD PKPab PKPab 13 31 28.3 +0.9
comp=Z,1.2nm,0.7s,baz=197,slow=3.1,SNR=6.3

IDC 10 13:20:05.9±16.0, 049N×12710E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/15, mbtmp4.0/3, Error ellipse: s-maj=254.1km s-min=162.6km az=160.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.52**	**161**	P	P	13 24 56.4	-0.1
	1.2nm,0.4s,baz=339,slow=11,SNR=37						
WB2	**Warramunga Arr**	**21.52**	**161**	*e*P	P	13 24 56.3	-0.2
ASPA	**Alice Springs**	**24.91**	**165**	*e*P	P	13 25 32.1	+1.5
ASAR	**Alice Springs**	**24.91**	**165**	P	P	13 25 31.8	+1.2
	1.3nm,0.3s,baz=342,slow=11,SNR=40						
STKA	**Stephens Creek**	**35.00**	**158**	P	P	13 26 59.3	-0.7
	4.8nm,1.0s,baz=323,slow=9.4,SNR=4.7						

*ISCJB **10** 13:22:51.4±0.9, 4362N×005×7.11E×005, h6km±13km, Error ellipse: s-maj=9.7km s-min=3.6km az=109.3*
*STR **10** 13:22:51.1±0.8, 4357N×724E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **10** 13:22:51.4±0.4, 4359N×7.17E, h5km, Md2.1/3, Ml2.1/2, Error ellipse: s-maj=9.1km s-min=3.2km az=142.0*

ISC 10 13:22:51.4±1.1, 4359N±005×715E±006, h9km±12km, n11, σ0§79/21, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MVIF	**Mont Vial**	**0.31**	**360**	Pg	**Pg**	**13 22 56.7**	**-0.8**
LUCF	**Luceram**	**0.34**	**24**	Pg	**Pg**	**13 22 57.9**	**-0.1**
LUCF				Sg	**Sg**	**13 23 03.1**	**+0.6**
SBF	**Sospel**	**0.34**	**36**	*e*Pg	**Pg**	**13 22 58.3**	**+0.2**
SBF				*e*Sg	**Sg**	**13 23 03.2**	**+0.5**
	31nm,0.5s						
FRF	**La Foret Royal**	**0.37**	**266**	*e*Pg	**Pg**	**13 22 57.7**	**-0.9**
FRF				*e*Sg	**Sg**	**13 23 02.2**	**-1.3**
	11nm,0.2s						
TOUF	**Mont Tournerai**	**0.43**	**9**	Pg	**Pg**	**13 22 58.9**	**-0.9**
TOUF				Sg	**Sg**	**13 23 05.7**	**+0.2**
AUTN	**L'Aution**	**0.45**	**26**	Pg	**Pg**	**13 22 59.8**	**-0.4**
AUTN				Sg	**Sg**	**13 23 06.5**	**+0.3**
LMR	**La Mourre**	**0.53**	**242**	*e*Pg	**Pg**	**13 23 01.6**	**-0.1**
LMR				*e*Sg	**Sg**	**13 23 08.6**	**-0.1**
	4.8nm,0.3s						
TAVF	**Tavernes**	**0.80**	**273**	Pg	**Pg**	**13 23 08.1**	**+1.4**
TAVF				Sg	**Sg**	**13 23 20.2**	**+3.1**
PUYF	**Puyloubier**	**1.06**	**268**	Pg	**Pg**	**13 23 12.2**	**+0.5**
PUYF				Sg	**Sg**	**13 23 26.7**	**+1.2**
SMRF	**Simiane la Rot**	**1.21**	**289**	*e*Pg	**Pg**	**13 23 13.9**	**-0.7**
SMRF				*e*Sg	**Sg**	**13 23 30.0**	**-0.3**
	5.2nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.62**	**326**	*e*Pn	**Pn**	**13 23 20.0**	**-0.1**
ORIF				*e*Sg	**Sg**	**13 23 43.0**	**-0.3**
	6.0nm,0.5s						

*ISCJB **10** 13:27:26.5±0.5, 1267N±007×5830E±007, h10km, mb4.1/23, MS3.6/5, Error ellipse: s-maj=10.4km s-min=10.2km az=120.0*
*IDC **10** 13:27:26.6±0.7, 1265N×5830E, h0km, mb4.0/14, mb1 4.1/15, mb1mx4.0/24, mbtmp4.0/15, ML3.7/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/27, Error ellipse: s-maj=19.8km s-min=16.8km az=112.0*
*BJI **10** 13:27:28.6, 1264N×5880E, h10km, mB4.9, mb4.8, Ms4.3, Msz3.9*
*CSEM **10** 13:27:28.1, 1263N×5832E, h10km, mb4.3/6, After NEIC*
*NEIC **10** 13:27:28.1±0.4, 1263N×5832E, h10km, mb4.3/7, Error ellipse: s-maj=10.6km s-min=8.6km az=82.0*

ISC 10 13:27:27.4±3.3, 1268N±007×5834E±009, h3km±20km, n43, σ0§82/42, mb4.1/23, MS3.6/5, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**10.51**	**1**	Pn	**Pn**	**13 29 58.4**	**-0.6**
	0.5nm,0.3s,baz=116,slow=22,SNR=6.7						
WSAR				LR	LR	13 33 21.9	
	comp=Z,305nm,20.5s,baz=162,slow=34						
KMBO	**Kilima Mbogo**	**25.02**	**238**	P	**P**	**13 32 51.2**	**-1.4**
	3.6nm,0.9s,mb3.9,baz=48,slow=14,SNR=6.7						
KMBO				LR	LR	13 41 29.6	
	comp=Z,84nm,20.6s,MS3.2,baz=97,slow=34						
KMBO	**Kilima Mbogo**	**25.02**	**238**	P	**P**	**13 32 51.2**	**-1.4**
KMBO				LR	LR	13 41 29.6	
ASF	**Jabal al Asfar**	**27.64**	**318**	P	**P**	**13 33 17.7**	**+1.4**
	0.8nm,0.4s,mb3.7,baz=27,slow=4.5,SNR=3.4						
MALT	**Malatya**	**31.08**	**329**	*e*P	**P**	**13 33 48.6**	**+1.8**
	2.0nm,0.5s,mb4.2						
KIV	**Kislovodsk**	**33.95**	**340**	*e*P	**P**	**13 34 12.4**	**+0.4**
	9.7nm,1.2s,mb4.6						
KIV	**Kislovodsk**	**33.95**	**340**	*e*P	**P**	**13 34 12.4**	**+0.4**
	9.7nm,1.2s,mb4.6						
BR131	**Keskin Array S**	**34.65**	**325**	*e*P	**P**	**13 34 18.6**	**+0.6**
	5.1nm,1.2s,mb4.3						
BR131	**Keskin Array S**	**34.65**	**325**	*e*P	**P**	**13 34 18.6**	**+0.5**
	5.1nm,1.2s,mb4.3						
BRTR	**Keskin Array B**	**34.65**	**325**	P	**P**	**13 34 18.4**	**+0.3**
	0.9nm,0.7s,mb3.8,baz=144,slow=9.1,SNR=6.5						
AKTK	**Aktyubinsk**	**37.65**	**360**	P	**P**	**13 34 43.4**	**-0.3**
AKTK	**Aktyubinsk**	**37.65**	**360**	P	**P**	**13 34 43.4**	**-0.3**
AKTO	**Aktyubinsk**	**37.65**	**360**	P	**P**	**13 34 43.4**	**-0.3**
	2.7nm,0.8s,mb4.1,baz=199,slow=9.5,SNR=7.5						
MKAR	**Makanchi Array**	**39.54**	**26**	P	**P**	**13 34 59.5**	**-0.1**
	1.1nm,0.7s,mb3.7,baz=212,slow=8.7,SNR=8.4						
MKAR	**Makanchi Array**	**39.54**	**26**	P	**P**	**13 34 59.5**	**-0.1**
ZRNK	**Zerenda**	**41.07**	**10**	*e*P	**P**	**13 35 12.6**	**+0.3**
	2.7nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**41.07**	**10**	P	**P**	**13 35 12.6**	**+0.3**
	2.7nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**41.38**	**11**	P	**P**	**13 35 14.8**	**0.0**
	0.6nm,0.7s,mb3.4,baz=188,slow=9.0,SNR=4.4						
KURK	**Kurchatov**	**41.39**	**19**	*e*P	**P**	**13 35 15.4**	**+0.5**
	3.4nm,0.9s,mb4.0						
KURK	**Kurchatov**	**41.39**	**19**	*e*P	**P**	**13 35 15.4**	**+0.5**
	3.4nm,0.9s,mb4.0						
CHKZ	**Chkalovo**	**42.05**	**11**	*e*P	**P**	**13 35 20.2**	**-0.1**
	3.0nm,0.6s,mb4.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHKZ				e		13 35 28.0	
CHKZ	Chkalovo	42.05	11	eP	P	13 35 20.2	-0.1
KMI	Kunming	43.60	67	P	P	13 35 32.2	-0.7
KMI				AP	pP	13 35 37.9	+4.1
KMI				XP	sP	13 35 40.8	+6.7
KMI				PP	PP	13 37 17.3	+3.1
KMI				S	S	13 42 03.7	+0.7
KMI				XS	sS	13 42 10.3	+5.9
KMI				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.4						
KMI				AMB	AMB		
	comp=Z,73nm,4.0s						
KMI				LR	LR		
	comp=N,168nm,22.0s,MS4.0						
KMI				LR	LR		
	comp=E,128nm,20.7s,MS4.0						
KMI				LR	LR		
	comp=Z,156nm,22.0s,MS3.9						
MATP	Matopo	44.08	222	P	P	13 35 37.1	+0.4
	comp=Z,1.8nm,0.6s,mb4.0,baz=26,slow=8.8,SNR=5.6						
AKASG	Malin Array Be	44.73	334	P	P	13 35 40.5	-1.4
	comp=Z,0.2nm,0.3s,mb3.4,baz=144,slow=7.5,SNR=5.5						
AKASG	Malin Array Be	44.73	334	P	P	13 35 40.5	-1.4
CD2	Chengdu	45.55	59	eP	P	13 35 47.4	-1.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
ZAL	Zalesovo	46.18	21	P	P	13 35 52.8	-0.7
	comp=Z,2.0nm,0.7s,mb4.2,baz=250,slow=7.3,SNR=13						
ZAL				LR	LR	13 57 37.1	
	comp=Z,96nm,18.9s,MS3.8,baz=1.3,slow=39						
SONM	Songino Array	53.09	39	P	P	13 36 47.1	+1.0
	comp=Z,0.9nm,0.7s,mb3.8,baz=226,slow=8.0,SNR=7.1						
FINES	FINESS Array B	54.00	342	P	P	13 36 50.5	-2.3
	comp=Z,2.8nm,1.0s,mb4.2,baz=129,slow=13,SNR=4.3						
HHC	Hu-ho-hao-te	54.18	49	eP	P	13 36 55.3	+1.2
HHC				XP	sP	13 37 01.1	+5.8
HHC				PCP	PcP	13 37 59.5	+0.9
HHC				PP	PP	13 38 58.3	+2.6
HHC				S	S	13 44 30.7	-1.1
HHC				XS	sS	13 44 39.1	+5.9
HHC				SCS	ScS	13 46 41.6	-2.9
HHC				AMB	AMB		
	comp=Z,116nm,6.3s						
HHC				LR	LR		
	comp=N,117nm,19.0s,MS4.2						
HHC				LR	LR		
	comp=E,180nm,19.0s,MS4.2						
HHC				LR	LR		
	comp=Z,111nm,22.6s,MS3.9						
TORD	Torodi Ar. Bea	55.11	277	P	P	13 37 01.0	+0.1
	comp=Z,1.3nm,0.8s,mb4.0,baz=89,slow=7.2,SNR=9.2						
NJ2	Nanjing	58.46	60	eP	P	13 37 25.3	+0.6
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
NOA	NORSAR Array B	59.09	335	LR	LR	14 01 38.3	
	comp=Z,10nm,21.0s,MS2.9,baz=165,slow=35						
WRA	Warramunga Arr	81.48	113	P	P	13 39 46.3	+0.2
	comp=Z,1.8nm,0.6s,mb4.2,baz=297,slow=4.3,SNR=23						
WRAB	Tennant Creek	81.48	113	eP	P	13 39 46.1	0.0
	comp=Z,3.1nm,0.6s,mb4.4						
WRAB	Tennant Creek	81.48	113	eP	P	13 39 46.1	0.0
	comp=Z,3.1nm,0.6s,mb4.4						
WB2	Warramunga Arr	81.49	113	eP	P	13 39 46.2	+0.1
ASPA	Alice Springs	82.18	116	eP	P	13 39 49.8	0.0
ASAR	Alice Springs	82.18	116	P	P	13 39 49.9	+0.1
	comp=Z,1.5nm,0.5s,mb4.1,baz=292,slow=5.1,SNR=29						
AS31	Alice Springs	82.18	116	eP	P	13 39 49.8	0.0
PDAR	Pinedale Array	123.72	349	PKP	PKPdf	13 46 26.6	0.0
	comp=Z,0.3nm,0.6s,baz=60,slow=2.2,SNR=3.4						
NVAR	Mina Array Bea	129.07	357	PKP	PKPdf	13 46 38.5	+1.7
	comp=Z,0.1nm,0.2s,baz=354,slow=1.5,SNR=4.2						

IDC **10** *13:29:07.9±1.5, 28.26S×177.90W, h0^{km}, mb3.8/3, mb1 4.0/3, mb1mx3.8/11, mbtmp3.8/3, Error ellipse: s-maj=46.5km s-min=18.7km az=80.0*
ISCJB **10** *13:29:14.8±2.6, 28.8S±0.3×177.7W±0.3, h85^{km}±14^{km}, mb3.7/4, Error ellipse: s-maj=58.7km s-min=35.9km az=91.6*
NEIC **10** *13:29:16.4±1.2, 28.87S×177.89W, h75^{km}±9^{km}, mb4.3/1, Error ellipse: s-maj=28.5km s-min=19.2km az=205.0*
ISC 10 13:29:15.5±2.7**, 28.8S**±0.3×**177.7W**±0.3**, h75**^{km}±15^{km}**, n11, σ0.^{s}21**/10**, mb3.7**/4**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.50	204	Pn	Pn	13 29 28.9	+0.1
	518nm,0.3s,baz=274,slow=22,SNR=31						
RAO				Sn	Sn	13 29 45.0	+6.4
	507nm,0.3s,baz=93,slow=19,SNR=5.4						
RAO	Raoul Island	0.50	204	eP	Pn	13 29 28.8	0.0
RAO				eS	Sn	13 29 45.5	+6.9
ASAR	Alice Springs	43.49	265	P	P	13 37 11.8	+0.5
	1.2nm,1.1s,mb3.5,baz=89,slow=7.2,SNR=3.9						
WB2	Warramunga Arr	44.32	270	eP	P	13 37 17.8	-0.1
WRAB	Tennant Creek	44.33	270	eP	P	13 37 17.7	-0.3
WRA	Warramunga Arr	44.33	270	P	P	13 37 18.0	-0.1
	0.4nm,0.4s,mb3.5,baz=107,slow=6.3,SNR=11						
QSPA	South Pole Qui	61.31	180	eP	P	13 39 23.1	0.0
	2.1nm,0.8s,mb4.2						
MJAR	Matsushiro Arr	77.08	325	P	P	13 41 00.6	0.0
	0.3nm,0.3s,mb3.5,baz=151,slow=5.2,SNR=4.4						
AKASG	Malin Array Be	150.17	325	PKPbc	PKPbc	13 48 59.0	+1.3
	0.3nm,0.3s,baz=43,slow=3.2,SNR=4.4						
MMAI	Mount Meron Ar	151.37	287	PKPbc	PKPbc	13 49 03.4	+2.9
	0.6nm,0.3s,baz=84,slow=4.5,SNR=3.3						
BRTR	Keskin Array B	152.04	301	PKPbc	PKPbc	13 49 03.4	+1.4
	0.4nm,0.4s,baz=112,slow=1.3,SNR=3.6						

IDC **10** *13:29:23.1±3.2, 5.59S×151.03E, h0^{km}, mb3.8/5, mb1 4.0/6, mb1mx3.9/14, mbtmp3.9/6, ML2.6/1, MS3.4/4, Ms1 3.4/4, ms1mx3.1/27, Error ellipse: s-maj=98.3km s-min=21.4km az=112.0*
ISCJB **10** *13:29:28.1±5.1, 5.5S±0.3×150.9E±0.5, h47^{km}±36^{km}, mb3.7/5, MS3.3/1, Error ellipse: s-maj=94.3km s-min=23.2km az=50.5*
ISC 10 13:29:27.0±7.2**, 5.6S**±0.3×**151.2E**±0.5**, h30**^{km}±59^{km}**, n11, σ1.^{s}51**/7**, mb3.7**/5**, MS3.4**/2**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.48	226	Pn	Pn	13 30 47.1	+0.5
	1.4nm,0.3s,baz=340,slow=12,SNR=4.1						
PMG				Sn	Sn	13 31 48.7	+0.2
	0.6nm,0.3s,baz=216,slow=21,SNR=3.3						
HNR	Honiara	9.49	114	LR	LR	13 34 30.4	
	comp=Z,119nm,21.6s,baz=358,slow=32						
CTA	Charters Tower	15.16	198	LR	LR	13 37 55.8	
	comp=Z,258nm,18.3s,baz=183,slow=34						
GUMO	Guam	20.08	342	LR	LR	13 39 55.1	
	comp=Z,174nm,18.2s,MS3.4,baz=156,slow=32						
WRA	Warramunga Arr	21.70	227	P	P	13 34 14.9	-0.5
	3.0nm,1.0s,mb3.7,baz=52,slow=10,SNR=7.5						
ASAR	Alice Springs	24.46	221	P	P	13 34 43.8	+0.5
	1.1nm,0.8s,mb3.3,baz=56,slow=8.2,SNR=8.8						
FITZ	Fitzroy Crossi	27.85	241	P	P	13 35 12.2	-1.7
	2.4nm,0.8s,mb3.9,baz=97,slow=8.0,SNR=5.6						
MJAR	Matsushiro Arr	43.66	345	P	P	13 37 28.0	-0.9
	1.9nm,0.9s,mb3.8,baz=156,slow=11,SNR=4.3						
PSI	Prapat	52.85	278	LR	LR	13 59 37.9	
	comp=Z,27nm,20.3s,MS3.3,baz=267,slow=34						
SONM	Songino Array	66.16	329	P	P	13 40 13.7	+2.0
	1.6nm,1.1s,mb4.0,baz=128,slow=6.6,SNR=5.4						
TORD	Torodi Ar. Bea	149.00	286	PKPbc	PKPbc	13 49 12.4	+0.3
	0.5nm,0.7s,baz=67,slow=3.1,SNR=4.0						

ISCJB **10** *13:38:49.1±4.4, 5.5S±0.2×150.3E±0.3, h77^{km}±31^{km}, mb4.0/5, Error ellipse: s-maj=54.7km s-min=31.1km az=20.0*
IDC **10** *13:38:50.9±6.7, 5.61S×150.61E, h94^{km}±46^{km}, mb3.7/4, mb1 3.9/5, mb1mx3.6/14, mbtmp4.1/5, Error ellipse: s-maj=85.7km s-min=34.1km az=108.0*
NEIC **10** *13:38:50.7±3.4, 5.55S×150.35E, h81^{km}±23^{km}, mb4.4/2, Error ellipse: s-maj=38.7km s-min=22.5km az=100.0*
ISC 10 13:38:51.0±4.2**, 5.6S**±0.2×**150.4E**±0.3**, h78**^{km}±29^{km}**, n13, σ0.^{s}20**/14**, mb4.0**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.94	220	P	Pn	13 40 02.9	+0.2
	7.4nm,0.3s,baz=56,slow=9.0,SNR=31						
PMG				S	Sn	13 41 04.9	+6.3
	1.4nm,0.3s,baz=296,slow=14,SNR=1.6						
PMG	Port Moresby	4.94	220	eP	Pn	13 40 02.6	-0.1
PMG				S	Sn	13 41 04.9	+6.3
WRAB	Tennant Creek	21.11	226	eP	P	13 43 28.8	-0.5
WB2	Warramunga Arr	21.12	226	eP	P	13 43 29.2	-0.1
WRA	Warramunga Arr	21.13	226	P	P	13 43 29.5	+0.1
	3.2nm,0.6s,mb3.9,baz=51,slow=11,SNR=30						
AS31	Alice Springs	23.96	220	eP	P	13 43 58.1	+0.2
ASAR	Alice Springs	23.96	220	P	P	13 43 58.1	+0.2
	3.0nm,0.8s,mb3.7,baz=57,slow=8.0,SNR=27						
ASPA	Alice Springs	23.96	220	eP	P	13 43 58.1	+0.1
FITZ	Fitzroy Crossi	27.17	241	eP	P	13 44 27.1	+0.1
	7.1nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	27.17	241	P	P	13 44 26.8	-0.2
	5.2nm,0.7s,mb4.2,baz=57,slow=7.1,SNR=20						
SONM	Songino Array	65.76	329	P	P	13 49 27.6	0.0
	2.1nm,1.3s,mb3.8,baz=151,slow=4.1,SNR=3.8						
SBA	Scott Base	72.70	176	eP	P	13 50 10.3	-0.1
	2.3nm,0.5s,mb4.3						
TORD	Torodi Ar. Bea	148.25	286	PKPbc	PKPbc	13 58 27.1	-1.0
	0.6nm,0.8s,baz=95,slow=3.6,SNR=3.3						

ISCJB **10** *13:42:56.5±3.5, 5.6S±0.1×150.5E±0.2, h82^{km}±26^{km}, mb4.0/10, Error ellipse: s-maj=41.1km s-min=17.8km az=30.3*
NEIC **10** *13:42:57.8±2.5, 5.67S×150.52E, h79^{km}±19^{km}, mb4.3/6, Error ellipse: s-maj=29.1km s-min=12.9km az=102.0*
IDC **10** *13:42:57.8±5.5, 5.65S×150.49E, h74^{km}±42^{km}, mb3.8/7, mb1 4.0/8, mb1mx3.9/14, mbtmp4.1/8, ML3.2/1, MS3.9/14, Ms1 3.9/14, ms1mx3.7/22, Error ellipse: s-maj=50.7km s-min=21.7km az=96.0*
ISC 10 13:42:58.0±3.3**, 56S**±0.1×**150.5E**±0.2**, h81**^{km}±24^{km}**, n29, σ0.^{s}77**/21**, mb4.0**/10**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.01	222	P	Pn	13 44 10.7	0.0
	6.8nm,0.3s,baz=27,slow=11,SNR=18						
PMG				S	Sn	13 45 06.9	-0.4
	baz=322,slow=17,SNR=1.6						
PMG				LR	LR	13 46 13.9	
	comp=Z,515nm,18.6s,baz=21,slow=39						
PMG	Port Moresby	5.01	222	eP	Pn	13 44 10.4	-0.3
PMG				S	Sn	13 45 09.3	+2.0
PMG				LR	LR	13 46 13.9	
HNR	Honiara	10.06	113	LR	LR	13 48 35.9	
	comp=Z,566nm,19.3s,baz=88,slow=34						
CTA	Charters Tower	14.95	196	LR	LR	13 51 37.2	
	comp=Z,449nm,18.1s,baz=17,slow=35						
KAKA	Kakadu	19.18	247	eP	Pn	13 47 15.9	-0.9
	14nm,0.9s						
GUMO	Guam	19.92	344	LR	LR	13 52 41.2	
	comp=Z,188nm,22.0s,baz=149,slow=29						
WRAB	Tennant Creek	21.20	226	eP	P	13 47 35.3	-1.6
	13nm,0.8s,mb4.3						
WB2	Warramunga Arr	21.20	226	eP	P	13 47 37.0	+0.1
WRA	Warramunga Arr	21.21	226	P	P	13 47 36.8	-0.2
	7.6nm,0.8s,mb4.1,baz=53,slow=10,SNR=23						
DZM	Mont Dzumac	22.44	138	LR	LR	13 54 47.7	
	comp=Z,594nm,18.1s,baz=29,slow=32						
AS31	Alice Springs	24.03	220	eP	P	13 48 05.7	+0.4
ASAR	Alice Springs	24.03	220	P	P	13 48 06.8	+1.4
	6.6nm,0.9s,mb4.0,baz=53,slow=8.2,SNR=22						
ASPA	Alice Springs	24.03	220	eP	P	13 48 05.7	+0.3
FITZ	Fitzroy Crossi	27.28	241	eP	P	13 48 34.5	-0.2
	16nm,0.8s,mb4.6						
FITZ	Fitzroy Crossi	27.28	241	P	P	13 48 34.6	-0.1
	11nm,1.1s,mb4.3,baz=90,slow=9.0,SNR=16						
FITZ				LR	LR	14 00 57.0	
	comp=Z,190nm,18.7s,baz=250,slow=40						
STKA	Stephens Creek	27.41	197	LR	LR	13 59 49.6	
	comp=Z,407nm,19.7s,baz=19,slow=37						
MBWA	Marble Bar	33.59	240	eP	P	13 49 30.2	-0.2
	6.0nm,0.7s,mb4.5						
MJAR	Matsushiro Arr	43.52	346	P	P	13 50 53.3	-0.1
	0.6nm,0.6s,mb3.5,baz=165,slow=9.0,SNR=4.3						
MJAR				LR	LR	14 08 20.5	
	comp=Z,97nm,18.4s,baz=180,slow=35						
ASAJ	Asahikawa	50.04	353	LR	LR	14 11 59.7	
	comp=Z,70nm,20.1s,baz=167,slow=35						
SONM	Songino Array	65.85	329	P	P	13 53 36.2	+1.3
	1.1nm,0.8s,mb3.7,baz=140,slow=4.8,SNR=6.4						
SONM				LR	LR	14 21 51.5	
	comp=Z,73nm,21.6s,baz=77,slow=35						
VNDA	Vanda	72.08	177	P	P	13 54 13.2	-0.3
	1.3nm,1.0s,mb3.7,baz=346,slow=8.1,SNR=5.2						
VNDA				LR	LR	14 24 02.0	
	comp=Z,88nm,20.7s,baz=318,slow=34						
VNDA	Vanda	72.08	177	eP	P	13 54 12.7	-0.8
	1.2nm,0.9s,mb3.7						
VNDA				LR	LR	14 24 02.0	
MKAR	Makanchi Array	79.48	320	P	P	13 54 55.7	0.0
	1.0nm,1.0s,mb3.6,baz=104,slow=5.1,SNR=4.4						
MKAR	Makanchi Array	79.48	320	P	P	13 54 55.7	0.0
ZAL	Zalesovo	80.61	327	LR	LR	14 29 19.3	
	comp=Z,73nm,20.0s,baz=5.3,slow=34						
KURK	Kurchatov	83.05	322	eP	P	13 55 14.1	-0.4
	5.3nm,1.3s,mb4.2						
MAW	Mawson	83.93	203	LR	LR	14 32 27.3	
	comp=Z,123nm,19.2s,baz=238,slow=35						
BVAR	Borovoye Array	88.56	323	LR	LR	14 33 03.1	
	comp=Z,54nm,19.4s,baz=314,slow=34						
TORD	Torodi Ar. Bea	148.39	286	PKPbc	PKPbc	14 02 36.5	+1.5
	1.2nm,0.8s,baz=89,slow=1.8,SNR=7.2						

ISCJB **10** *14:02:01.3±0.7, 51.5N±0.2×178.8E±0.1, h52^{km}±7^{km}, mb4.0/11, Error ellipse: s-maj=25.3km s-min=10.9km az=3.3*
IDC **10** *14:02:02.4±1.2, 51.53N×178.77E, h41^{km}±9^{km}, mb3.5/7, mb1 3.8/8, mb1mx3.6/23, mbtmp3.8/8, ML3.9/1, Error ellipse: s-maj=35.3km s-min=18.9km az=171.0*
NEIC **10** *14:02:02.1±0.7, 51.51N×178.78E, mb4.3/4, ML3.6(AEIC), Error ellipse: s-maj=22.8km s-min=9.2km az=184.0*
ISC 10 14:02:02.4±0.8**, 51.5N**±0.2×**178.8E**±0.1**, h48**^{km}±7^{km}**, h45**^{km}±2.0^{km}**:pP-P, n19, σ1.^{s}03**/20**, mb4.0**/11**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.33	108	P	Pn	14 02 11.2	-0.4
AMKA				S	Sn	14 02 17.3	-0.8
SMY	Shemya	3.16	295	P	Pn	14 02 50.6	+1.0
ATKA	Atka Island	4.40	78	P	Pn	14 03 07.7	+1.1
UNV	Unalaska Valle	9.24	69	P	Pn	14 04 14.4	+1.4
KDAK	Kodiak Island	17.63	58	P	Pn	14 06 03.0	-1.5
	0.4nm,0.3s,baz=323,slow=20,SNR=4.2						
KDAK	Kodiak Island	17.63	58	P	Pn	14 06 03.0	-1.5
INK	Inuvik	28.24	36	P	P	14 07 50.6	-0.2
	0.8nm,0.4s,mb3.7,baz=266,slow=6.9,SNR=4.7						
YKA	Yellowknife Ar	36.25	46	P	P	14 09 00.6	-0.2
	1.0nm,0.6s,mb3.9,baz=280,slow=7.7,SNR=7.0						
YKA				pP	pP	14 09 12.1	-1.4
	1.4nm,0.8s,baz=282,slow=7.7,SNR=6.1						
YKA	Yellowknife Ar	36.25	46	P	P	14 09 00.6	-0.2
YKA				pP	pP	14 09 12.2	-1.4
NVAR	Mina Array Bea	45.02	81	P	P	14 10 15.2	+2.0
	0.7nm,0.6s,mb3.7,baz=291,slow=8.4,SNR=7.1						
NVAR				pP	pP	14 10 26.4	+0.2
	0.8nm,0.7s,baz=300,slow=5.4,SNR=5.8						
NVAR	Mina Array Bea	45.02	81	P	P	14 10 15.2	+2.0
NVAR				pP	pP	14 10 26.4	+0.2
SONM	Songino Array	45.26	295	P	P	14 10 16.2	+1.1
	1.1nm,0.7s,mb3.8,baz=59,slow=8.2,SNR=8.7						
TPNV	Topopah Spring	47.22	81	eP	P	14 10 31.4	+0.9
	1.4nm,0.7s,mb4.0						
BW06	Boulder Array	47.70	71	eP	P	14 10 32.4	-1.8
	0.9nm,0.6s,mb4.0						
BW06				e	pP	14 10 45.6	-1.7
PDAR	Pinedale Array	47.70	71	P	P	14 10 34.3	+0.1
	0.9nm,0.5s,mb4.1,baz=332,slow=3.1,SNR=9.8						
PDAR				pP	pP	14 10 46.0	-1.3
	1.4nm,0.6s,baz=317,slow=4.5,SNR=11						
KURK	Kurchatov	57.86	312	eP	P	14 11 48.1	-1.1
	2.5nm,0.5s,mb4.5						
MKAR	Makanchi Array	58.79	307	P	P	14 11 55.1	-0.6
	0.7nm,0.5s,mb4.0,baz=51,slow=7.1,SNR=9.5						
ZRNK	Zerenda	60.46	319	eP	P	14 12 06.3	-0.8
	2.3nm,0.4s,mb4.6						
WRA	Warramunga Arr	81.07	222	P	P	14 14 12.3	-0.1
	0.9nm,1.1s,mb3.6,baz=31,slow=6.1,SNR=4.8						

ISCJB **10** *14:37:41.2±1.1, 31.3S±0.1×179.8W±0.4, h430^{km}±22^{km}, mb3.2/2, Error ellipse: s-maj=61.6km s-min=8.4km az=29.0*
IDC **10** *14:37:42.1±0.9, 31.21S×179.97E, h406^{km}±14^{km}, mb2.9/2, mb1 3.4/4, mb1mx3.2/13, mbtmp4.1/4, Error ellipse: s-maj=39.4km s-min=16.3km az=119.0*
ISC 10 14:37:43.8±0.8**, 31.1S**±0.2×**179.2E**±0.7**, h355**^{km}±49^{km}**, n16, σ1.^{s}15**/22**, mb3.0**/2**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.12	55	P	Pn	14 38 45.0	+0.5
	37nm,0.3s,baz=85,slow=22,SNR=2.7						
RAO				S	S	14 39 32.5	-0.9
	110nm,0.3s,baz=251,slow=24,SNR=3.9						
MXZ	Matakaoa Point	6.51	186	SN	S	14 40 39.4	+0.3
PUZ	Puketiti	7.02	186	PN	Pn	14 39 27.7	+1.3
PUZ				SN	S	14 40 49.4	-0.5
URZ	Urewera	7.36	193	P	Pn	14 39 31.1	+0.7
	18nm,0.3s,baz=21,slow=2.8,SNR=102						
URZ				S	S	14 40 57.8	+0.5
	16nm,0.3s,baz=74,slow=22,SNR=20						
URZ	Urewera	7.36	193	PN	Pn	14 39 31.1	+0.6
URZ				SN	S	14 40 56.2	-1.1
MWZ	Matawai	7.36	190	PN	Pn	14 39 31.6	+1.2
MWZ				SN	S	14 40 57.6	+0.3
KNZ	Kokohu	8.02	188	PN	Pn	14 39 39.9	+1.8
BKZ	Black Stump Fm	8.36	194	PN	Pn	14 39 41.9	-0.2
BKZ				SN	S	14 41 18.4	-0.5
VRZ	Vera Road	8.80	203	PN	Pn	14 39 50.2	+2.8
PXZ	Pawanui	9.13	191	PN	Pn	14 39 50.9	-0.4
PXZ				SN	S	14 41 31.9	-3.7
CAW	Cannon Point	10.54	197	PN	Pn	14 40 07.5	-0.6
NNZ	Nelson	11.14	203	PN	Pn	14 40 12.8	-2.4
TUWZ	Tuamarina	11.15	201	PN	Pn	14 40 12.7	-2.7
ASAR	Alice Springs	40.64	269	P	P	14 44 50.6	+0.1
	0.6nm,0.6s,mb3.0,baz=107,slow=7.4,SNR=10						
WRA	Warramunga Arr	41.70	274	P	P	14 44 58.9	-0.1
	0.6nm,0.4s,mb3.1,baz=112,slow=7.9,SNR=17						
FINES	FINESS Array B	144.89	338	PKPbc	PKPdf	14 56 31.2	-7.7
	0.8nm,0.5s,baz=62,slow=4.0,SNR=14						

IDC **10** *15:09:08.5±0.6, 36.74N×69.92E, h0^{km}, mb4.7/17, mb1 4.8/21, mb1mx4.8/25, mbtmp4.7/21, ML3.5/4, MS3.8/12, Ms1 3.8/12, ms1mx3.5/36, Error ellipse: s-maj=15.6km s-min=11.9km az=32.0*
NEIC **10** *15:09:10.8±3.3, 36.85N×70.00E, h10^{km}±20^{km}, mb4.9/113, Error ellipse: s-maj=8.1km s-min=3.6km az=186.0*
NNC **10** *15:09:10.8±7.4, 36.90N×69.56E, h20^{km}±37^{km}, mb4.7, mpv4.8, Error ellipse: s-maj=36.8km s-min=16.6km az=4.0*
SZGRF **10** *15:09:11.2, 36.50N×70.23E, h33^{km}, mb4.9, Hindu Kush, Afghanistan, region*
ISCJB **10** *15:09:11.3±0.8, 36.76N±0.02×69.95E±0.02, h27^{km}±6^{km}, mb4.9/179, MS4.0/28, Error ellipse: s-maj=4.1km s-min=2.8km az=38.4*
BJI **10** *15:09:11.6, 37.22N×70.11E, h10^{km}, mB5.1, mb4.8, ML4.6, Ms4.5, Msz4.3*
MOS **10** *15:09:12.6±0.9, 36.87N×69.96E, h33^{km}, mb5.1/88, Error ellipse: s-maj=6.3km s-min=3.4km az=134.1*
ISC 10 15:09:15.4±0.4**, 36.85N**±0.02×**69.95E**±0.03**, h43**^{km}±4^{km}**, h3**^{km}±5.2^{km}**:pP-P, n501, σ0.^{s}95**/532**, mb4.9**/178**, MS4.0**/26**, 181C-34D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.42	151	P	Pn	15 10 09.5	+3.4
CHCP	Chirah Chowk	4.18	139	P	Pn	15 10 20.2	+3.6
CHCP				S	Sn	15 11 31.0	+27
THW	Thamme Wali	4.30	159	⇑P	Pn	15 10 20.9	+2.6
DRP	Derazinda	5.09	178	P	Pn	15 10 31.7	+2.6
SARP	Sargodha	5.40	155	P	Pn	15 10 35.1	+1.7
KSH	Kashi	5.44	59	ePG	Pn	15 10 36.9	+3.0
KSH				eSG	Sn	15 11 42.1	+6.8
KSH				LR	LR		
	comp=Z,13μm,4.2s						
AML	Almayashu	6.02	28	P	Pn	15 10 42.5	+0.6
	SNR=122						
KK31	Karatay Array	6.26	4	⇓Pn	Pn	15 10 44.3	-0.9
	comp=Z,29nm,0.6s,baz=199,slow=13,SNR=327						
KK31				⇓Sn	Sn	15 11 54.1	-1.4
	comp=Z,284nm,0.9s,baz=194,slow=24						
KK31				⇓Lg		15 12 29.9	
	comp=Z,678nm,1.4s						
UCH	Uchtor	6.43	32	P	Pn	15 10 48.2	+0.8
	SNR=213						
EKS2	Erkin-Say	6.51	26	P	Pn	15 10 49.6	+1.0
	SNR=46						
DLH	Dalhousie	6.56	129	eP	Pn	15 10 50.0	+0.8
DLH				ex	x	15 12 15.0	
KZA	Kyzart	6.64	36	P	Pn	15 10 51.2	+0.8
	SNR=53						
AAK	Ala-Archa	6.76	30	P	Pn	15 10 53.3	+1.3
	SNR=100						
AAK	Ala-Archa	6.76	30	⇑P	Pn	15 10 52.4	+0.5
	SNR=34						
AAK	Ala-Archa	6.76	30	d iPN	Pn	15 10 51.7	-0.3
AAK	Ala-Archa	6.76	30	ePn	Pn	15 10 50.8	-1.1
	comp=Z,169nm,0.6s						
PONG	Pong	6.96	133	ex	x	15 11 01.0	
KBK	Karagaybulak	6.96	32	P	Pn	15 10 56.6	+1.8
	SNR=64						
FRU	Bishkek	6.97	30	⇓iPN	Pn	15 10 55.0	+0.1
FRU				i		15 11 22.0	
FRU				eS	Sn	15 12 18.0	+5.1
FRU				e		15 12 43.0	
FRU				pmax	pmax		
	comp=Z,2μm,2.0s						
FRU				pmax	pmax		
	comp=Z,2μm,2.0s						
FRU				pmax	pmax		
	comp=E,4μm,3.0s						
FRU				pmax	pmax		
	comp=E,2μm,2.0s						
FRU				MLR	MLR		
	comp=N,4μm,8.0s						
CHMS	Chumysh	7.17	29	P	Pn	15 10 58.0	+0.4
	SNR=208						
ULHL	Ulahol	7.26	40	P	Pn	15 10 59.7	+0.9
	SNR=9.2						
USP	Ospenovka	7.30	27	P	Pn	15 10 59.6	+0.3
	SNR=24						
TKM2	Tokmak 2	7.46	34	P	Pn	15 11 02.3	+0.7
	SNR=122						
TKM2	Tokmak 2	7.46	34	⇑Pn	Pn	15 11 02.1	+0.5
	comp=N,16nm,0.8s						
TKM2				⇑Lg		15 12 59.2	
	comp=N,130nm,1.9s						
BHK	Bhakra	7.62	133	ex	x	15 11 16.2	
BHK				eS	Sn	15 12 26.4	-2.4
SMLA	Simla	8.27	132	eP	Pn	15 11 13.3	+0.6
SMLA				eS	Sn	15 12 44.6	-0.2
KNDC	Almaty	8.33	38	⇑Pn	Pn	15 11 15.0	+1.5
	comp=N,230nm,0.9s						
KNDC				⇑Lg		15 13 38.8	
	comp=N,1μm,2.0s						
AAA	Alma-Ata	8.36	38	iP	Pn	15 11 14.6	+0.6
AAA				iS	Sn	15 12 44.5	-2.5
AAA				pmax	pmax		
	comp=Z,6μm,1.8s						
AAA				smax			
	comp=N,5μm,2.1s						
AAA				MLR	MLR		
	comp=Z,59μm,7.9s						
KLP	Kalpa	8.68	125	eP	Pn	15 11 20.3	+2.0
KKR	Kurukshetra	8.95	138	eP	Pn	15 11 22.2	+0.2
DDI	Dehra Dun	9.38	132	ex	x	15 11 34.0	
JASL	Jaisalmer	9.93	175	eP	Pn	15 11 30.5	-4.9
KHET	Khetri	10.05	149	eP	Pn	15 11 35.7	-1.4
KHET				AMb	AMB	15 11 46.8	
	comp=Z,33nm,1.1s						
JOSI	Joshimath	10.17	125	eP	Pn	15 11 28.9	-10
JOSI				eS	Sn	15 13 21.4	-10
NDI	New Delhi	10.18	141	eP	Pn	15 11 39.4	+0.6
NDI				AMb	AMB	15 11 45.9	
	comp=Z,56nm,1.0s						
NDI				eS	Sn	15 13 27.0	-4.6
AYAN	Aya Nagar	10.30	142	eP	Pn	15 11 40.2	-0.3
SONA	Sohna	10.47	143	eP	Pn	15 11 42.1	-0.8
SONA				AMb	AMB	15 11 42.5	
	comp=Z,12nm,0.2s						
AJM	Ajmer	11.08	158	eP	Pn	15 11 48.3	-2.9

AJM eP 15 11 49.0
AJM AMb AMB 15 11 55.5
comp=Z,26nm,1.1s
AJM eS **Sn** **15 13 45.0 -8.6**
LGTI Lohaghat 11.35 128 *i* P **Pn** **15 11 52.0 -2.8**
LGTI ex x 15 14 15.0
AGRA Agra 11.74 142 *eP* **Pn** **15 11 57.5 -2.6**
AGRA AMb AMB 15 11 58.6
comp=Z,30nm,0.4s
AGRA eP 15 11 59.6
MK02 Makanchi Array 13.52 39 ⇓Pn **Pn** **15 12 23.0 -1.5**
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 13.53 39 Pn **Pn** **15 12 23.0 -1.6**
comp=Z,0.5nm,0.3s,baz=222,slow=17,SNR=66
MKAR Lg 15 16 26.3
comp=Z,0.1nm,0.3s,baz=232,slow=31,SNR=3.4
AB31 Akbulak array 14.38 333 ⇑Pn **Pn** **15 12 30.5 -5.7**
comp=Z,27nm,0.7s,baz=151,slow=12,SNR=248
AB31 ⇓Sn **Sn** **15 15 01.2 -13**
comp=Z,44nm,1.1s
KOLN Koldanda 14.65 124 *eP* **Pn** **15 12 35.6 -4.2**
comp=Z,68nm,0.9s
BHPL Bhopal 15.02 152 *eP* **Pn** **15 12 42.9 -1.7**
BHPL AMb AMB 15 12 44.2
comp=Z,43nm,0.8s
BHPL ex x 15 15 26.0
KURK Kurchatov 15.20 21 ⇑Pn **Pn** **15 12 41.1 -5.8**
comp=Z,8.5nm,0.8s
KURK ⇑Sn **Sn** **15 15 50.8 +17**
comp=Z,14nm,1.3s
KURK ⇑Lg 15 17 29.8
comp=Z,128nm,2.6s
KURK Kurchatov 15.20 21 ⇓P **Pn** **15 12 42.4 -4.6**
SNR=10.0
KURK Kurchatov 15.20 21⇑*eP* **Pn** **15 12 42.2 -4.7**
KURK Kurchatov 15.20 21 *eP* **Pn** **15 12 41.5 -5.4**
comp=Z,14nm,0.8s
GKN Gorkha 15.20 121 *eP* **Pn** **15 12 43.2 -3.8**
comp=Z,215nm,0.8s
WMQ Urumqi 15.21 57 P **Pn** **15 12 47.6 +0.5**
WMQ AP pP 15 12 50.6 -11
WMQ XP sP 15 12 54.1 -13
WMQ PP 15 12 59.8
WMQ S **S** **15 15 35.6 -14**
WMQ XS sS 15 15 40.6 -25
WMQ SS 15 15 53.0
WMQ PCP PcP 15 17 55.6 +4.4
WMQ SCP ScP 15 21 27.6 +5.8
WMQ AMB AMB
comp=Z,18nm,0.8s
WMQ AMB AMB
comp=Z,199nm,5.0s
WMQ LR LR
comp=N,53nm,8.2s
WMQ LR LR
comp=E,246nm,6.4s
WMQ LR LR
comp=Z,318nm,6.0s
DMN Daman 15.77 121 *eP* **Pn** **15 12 50.3 -4.1**
comp=Z,87nm,0.8s
KKN Kakani 15.78 121 *eP* **Pn** **15 12 50.2 -4.3**
comp=Z,102nm,0.8s
VOSK Vostochnaya 15.89 2 ⇑Pn **Pn** **15 12 51.0 -5.0**
comp=Z,23nm,0.8s
VOSK ⇑Sn **Sn** **15 15 57.2 +6.2**
comp=Z,28nm,1.1s
VOSK ⇑Lg 15 17 29.3
comp=Z,96nm,1.7s
PKI Pulchoki 16.01 121 *eP* **Pn** **15 12 53.6 -3.8**
comp=Z,121nm,0.7s
AKTK Aktyubinsk 16.07 331 Pn **Pn** **15 12 53.4 -4.7**
AKTK Sn **Sn** **15 15 45.6 -10**
AKTK Lg 15 17 35.4
AKTK LR LR 15 19 02.6
AKTO Aktyubinsk 16.07 331 ⇑Pn **Pn** **15 12 53.5 -4.6**
comp=Z,5.4nm,0.8s
AKTO ⇓Sn **Sn** **15 15 44.3 -11**
comp=Z,3.0nm,1.4s
AKTO ⇑Lg 15 17 38.2
comp=Z,9.5nm,2.3s
AKTO Aktyubinsk 16.07 331 Pn **Pn** **15 12 53.4 -4.7**
comp=Z,0.6nm,0.3s,baz=148,slow=15,SNR=54
AKTO Sn **Sn** **15 15 45.6 -10**
comp=Z,0.3nm,0.3s,baz=218,slow=19,SNR=3.4
AKTO Lg 15 17 35.4
comp=Z,0.1nm,0.3s,baz=196,slow=18,SNR=2.0
AKTO LR LR 15 19 02.6
comp=Z,145nm,20.6s,baz=146,slow=37
AKTO Aktyubinsk 16.07 331 P **Pn** **15 12 53.4 -4.8**
AKTO 15 15 45.6
ZRNK Zerenda 16.12 358 ⇓Pn **Pn** **15 12 53.4 -5.4**
comp=Z,18nm,0.9s
ZRNK ⇓Sn **Sn** **15 16 03.0 +6.5**
comp=Z,32nm,1.2s
ZRNK ⇓Lg 15 17 39.3
comp=Z,84nm,2.0s
ZRNK Zerenda 16.12 358 *eP* **Pn** **15 12 52.9 -5.9**
ZRNK pmax pmax
comp=Z,20nm,0.8s
ZRNK Zerenda 16.12 358 *eP* **Pn** **15 12 52.9 -5.9**
comp=Z,20nm,0.8s
GUN Gumba 16.12 119 *eP* **Pn** **15 12 54.5 -4.4**
BVA0 Borovoye Array 16.18 1 Pn **Pn** **15 12 55.4 -4.2**
comp=Z,3.1nm,0.8s,baz=173,slow=14,SNR=98
BVA0 ⇓Sn **Sn** **15 16 06.3 +8.3**
comp=Z,7.0nm,1.6s,baz=170,slow=22,SNR=5.8
BVA0 ⇓Lg 15 17 43.8
comp=Z,15nm,1.6s
BVAR Borovoye Array 16.18 1 Pn **Pn** **15 12 55.4 -4.2**
comp=Z,0.8nm,0.3s,baz=171,slow=10,SNR=37
BVAR Sn **Sn** **15 16 06.7 +8.7**
comp=Z,0.1nm,0.3s,baz=163,slow=15,SNR=5.2
BVAR Lg 15 17 44.4
comp=Z,0.2nm,0.3s,baz=202,slow=26,SNR=2.9
BRVK Borovoye 16.21 1 *eP* **Pn** **15 12 55.9 -4.1**
BRVK pmax pmax
comp=Z,21nm,0.7s
BRVK Borovoye 16.21 1 *e*Pn **Pn** **15 12 55.9 -4.1**
comp=Z,21nm,0.7s
BRVK *eP* 15 13 00.4
JIRN Jiri 16.49 119 *eP* **Pn** **15 13 00.0 -3.6**
comp=Z,86nm,0.8s
CHKZ Chkalovo 16.84 1 ⇓Pn **Pn** **15 13 03.2 -4.7**
comp=Z,8.3nm,0.6s
CHKZ ⇑Sn **Sn** **15 16 02.9 -11**
comp=Z,54nm,1.5s
CHKZ ⇓Lg 15 18 08.9
comp=Z,80nm,1.9s
CHKZ Chkalovo 16.84 1 *eP* **Pn** **15 13 04.0 -3.9**
CHKZ *eS* **S** **15 16 20.2 -2.7**
CHKZ pmax pmax
comp=Z,13nm,0.6s
CHKZ Chkalovo 16.84 1 *eP* **Pn** **15 13 04.0 -3.9**
comp=Z,13nm,0.6s
CHKZ *eS* **S** **15 16 20.2 -2.6**
AKL Akola 17.23 157 *ex* x 15 13 22.0
AKL AMb AMB 15 13 28.2
comp=Z,75nm,1.3s
NGP Nagpur 17.53 151 *eP* **Pn** **15 13 15.8 -0.7**
NGP AMb AMB 15 13 19.4
comp=Z,44nm,1.2s
BLSP Bilaspur 18.07 141 *eP* **Pn** **15 13 22.4 -0.7**
comp=Z,28nm,0.8s
BLSP AMb AMB 15 13 26.0
comp=Z,28nm,0.8s
MAK Makhachkala 18.25 296 *eP* **Pn** **15 13 24.3 -0.9**
MAK pmax pmax
comp=Z,103nm,0.8s
BOK Bokaro 18.90 129 *eP* **Pn** **15 13 33.1 -0.1**
BOK AMb AMB 15 13 43.1
comp=Z,37nm,0.7s
LSA Lhasa 19.09 106 P **Pn** **15 13 35.4 0.0**
LSA Lhasa 19.09 106 *eP* **Pn** **15 13 35.0 -0.4**
LSA pmax pmax
comp=Z,25nm,0.8s
LSA Lhasa 19.09 106 *eP* **Pn** **15 13 35.0 -0.3**
comp=Z,25nm,0.8s
ZAL Zalesovo 19.95 26 P **Pn** **15 13 42.2 -3.5**
comp=Z,37nm,0.7s,baz=251,slow=10,SNR=154
ZAL LR LR 15 22 47.1
comp=Z,665nm,19.4s,baz=252,slow=41
ZAL Zalesovo 19.95 26 P **Pn** **15 13 42.2 -3.5**
ZAL LR LR 15 22 47.1
GNI Garni 19.98 287 P **Pn** **15 13 44.5 -1.6**
comp=Z,0.9nm,0.3s,baz=360,slow=4.6,SNR=12
GNI LR LR 15 24 13.5
comp=Z,232nm,18.7s,baz=95,slow=45
GNI Garni 19.98 287 ⇑P **Pn** **15 13 45.0 -1.0**
SNR=7.4
GNI Garni 19.98 287 *eP* **Pn** **15 13 44.3 -1.7**
GNI pmax pmax
comp=Z,89nm,1.0s
GNI Garni 19.98 287 *eP* **Pn** **15 13 44.2 -1.8**
comp=Z,89nm,1.0s
NVS Novosibirsk 20.17 23⇓*i*P **P** **15 13 44.6 -1.5**
NVS *i* S **S** **15 17 28.4 -1.8**
NVS pmax pmax
comp=N,58nm,1.4s
NVS pmax pmax
comp=Z,54nm,1.4s
NVS pmax pmax
comp=E,20nm,0.9s
NVS smax
comp=N,40nm,1.6s
NVS smax
comp=E,19nm,1.6s
ZEI Tsey 20.83 295 *eP* **P** **15 13 52.5 -0.7**
ZEI pmax pmax
comp=Z,42nm,0.9s
SVE Sverdlovsk 20.94 346⇓*eP* **P** **15 13 53.0 -1.4**
SVE *e* 15 14 16.5
SVE *eS* **S** **15 17 41.0 -4.4**
SVE pmax pmax
comp=Z,24nm,1.8s
SVE MLR MLR
comp=N,700nm,9.0s
SVE MLR MLR
comp=E,500nm,9.0s
SVE MLR MLR
comp=Z,1μm,9.0s
ARU Arti 21.04 342⇑*iP* **P** **15 13 54.4 -1.1**
ARU *e*PPP 15 14 21.4
ARU *eS* **S** **15 17 44.9 -2.4**
ARU *e*SS 15 18 08.8
ARU *e*SSS 15 18 18.3
ARU pmax pmax
comp=Z,43nm,1.1s,mb4.7
ARU MLR MLR
comp=Z,300nm,15.0s,MS3.8
ARU MLR MLR
comp=N,200nm,16.0s,MS3.8
ARU MLR MLR
comp=E,200nm,15.0s,MS3.8
ARU Arti 21.04 342 *eP* **P** **15 13 54.1 -1.3**
comp=E,31nm,0.8s,mb4.7
BHD Baghdad 21.21 268 *ex* x 15 13 54.0
MSL Mosul 21.56 277 *ex* x 15 14 03.5
GOF Gofitskoye 21.85 300 *eP* **P** **15 14 01.2 -2.9**
GOF pmax pmax
comp=Z,252nm,0.8s,mb5.7
KIV Kislovodsk 21.88 297 ⇓P **P** **15 14 02.3 -2.2**
SNR=14
KIV Kislovodsk 21.88 297 *eP* **P** **15 14 02.4 -2.1**
KIV *e* 15 14 28.3
KIV *eS* **S** **15 17 58.7 -5.0**
KIV pmax pmax
comp=Z,68nm,1.0s,mb5.0
KIV MLR MLR
comp=Z,72nm,11.0s,MS3.3
KIV Kislovodsk 21.88 297 *eP* **P** **15 14 02.4 -2.1**
comp=Z,43nm,0.7s,mb5.0
MARD Mardin 23.24 280 *i* P **P** **15 14 18.5 -0.4**
GTA Gaotai 23.58 75 *eP* **P** **15 14 22.5 +0.4**
GTA AP 15 14 30.9
GTA XP sP 15 14 34.8 -3.8
GTA PP 15 14 56.5
GTA S **S** **15 18 37.4 +4.2**
GTA AMB AMB
comp=Z,17nm,1.8s,mb4.2
GTA AMB AMB
comp=Z,142nm,5.7s
GTA LR LR
comp=N,390nm,16.0s,MS4.1
GTA LR LR
comp=E,345nm,16.3s,MS4.1
GTA LR LR
comp=Z,469nm,18.6s,MS4.0
SOC Sochi 23.96 296*c iP* **P** **15 14 25.4 -0.2**
SOC *e* 15 14 59.0
SOC *eS* **S** **15 18 39.6 +0.3**
SOC *e**SS sS 15 18 59.3 +0.8
SOC pmax pmax
comp=Z,38nm,0.8s,mb4.9
SOKR Solikamsk 24.28 344*d iP* **P** **15 14 28.4 -0.1**
SOKR pmax pmax
comp=Z,50nm,1.2s,mb4.8
SOKR MLR MLR
comp=Z,290nm,18.0s,MS3.8
KRAR Krasnoyarsk 24.64 32 *eP* **P** **15 14 31.1 -0.7**
KRAR pmax pmax
comp=Z,21nm,0.8s,mb4.7
VRHR Novokhopersk 24.68 314 *eP* **P** **15 14 31.5 -0.6**
VRHR pmax pmax
comp=Z,30nm,0.7s,mb4.9
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.6s
MALT Malatya 24.97 283 *eP* **P** **15 14 36.2 +1.5**
MALT pmax pmax
comp=Z,43nm,0.8s,mb5.0
MALT Malatya 24.97 283 *eP* **P** **15 14 36.2 +1.4**
comp=Z,43nm,0.8s,mb5.0
ANN Anapa 25.73 298 *eP* **P** **15 14 40.5 -1.1**
ANN *i* 15 14 46.1
ANN *i* *PP pP 15 14 53.2 0.0
ANN *eS* **S** **15 19 05.5 -2.0**
ANN *e*SS 15 20 09.9
ANN pmax pmax
comp=Z,115nm,0.8s,mb5.5
ANN MLR MLR
comp=Z,225nm,16.0s,MS3.8
VRSR Storozhevoye 26.14 313 *eP* **P** **15 14 43.9 -1.4**
VRSR pmax pmax
comp=Z,50nm,0.7s,mb5.2
VRSR pmax pmax
comp=N,7.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,0.4s
VRSR MLR MLR
comp=Z,210nm,10.0s,MS4.0
VRSR MLR MLR
comp=N,230nm,14.0s,MS4.0
VRSR MLR MLR
comp=E,150nm,14.0s,MS4.0
VOR Voronezh 26.32 314 P **P** **15 14 45.0 -2.0**
VOR pmax pmax
comp=Z,100nm,1.2s,mb5.2
MOY Mondy 26.47 46 *eP* **P** **15 14 50.6 +2.3**
MOY pmax pmax
comp=Z,72nm,1.9s,mb4.9
LZH Lanzhou 27.19 81 *eP* **P** **15 14 59.6 +4.8**
LZH AP pP 15 15 02.3 -4.1
LZH XP sP 15 15 04.5 -7.1
LZH *eS* **S** **15 19 36.0 +5.4**
LZH XS sS 15 19 41.0 -9.0
LZH *e*SS 15 20 50.1
LZH AMB AMB
comp=Z,27nm,1.5s,mb4.6
LZH AMB AMB
comp=Z,90nm,5.8s
LZH LR LR
comp=E,571nm,13.6s
LZH LR LR
comp=Z,669nm,14.2s,MS4.3
ZAK Zakamensk 27.41 50 *eP* **P** **15 14 57.6 +0.8**
ZAK pmax pmax
comp=Z,16nm,0.9s,mb4.5
ASF Jabal al Asfar 27.55 270 LR LR 15 28 04.0
comp=Z,125nm,21.0s,MS3.5,baz=301,slow=41
SIM Simferopol' 28.09 298 *eP* **P** **15 15 02.3 -0.6**
SIM pmax pmax
comp=Z,33nm,0.8s,mb5.0
MMAI Mount Meron Ar 28.49 273 LR LR 15 28 58.1
comp=Z,73nm,18.1s,MS3.3,baz=75,slow=42
BR131 Keskin Array S 28.52 287 *eP* **P** **15 15 06.7 -0.1**
comp=Z,22nm,0.7s,mb5.0
BRTR Keskin Array B 28.52 287 P **P** **15 15 06.5 -0.3**
comp=Z,28nm,0.7s,mb5.1,baz=100,slow=8.5,SNR=162
IRK Irkutsk 28.57 46 *eP* **P** **15 15 07.6 +0.4**
IRK pmax pmax
comp=Z,31nm,1.1s,mb5.0
CD2 Chengdu 28.59 92⇑*iP* **P** **15 15 09.6 +2.3**
CD2 AP pP 15 15 13.9 -5.0
CD2 PP PP 15 16 01.8 -11
CD2 S **S** **15 19 56.1 +3.5**
CD2 XS sS 15 20 03.3 -8.7
CD2 SS SS 15 21 21.9 -33
CD2 AMB AMB
comp=Z,10.0nm,1.6s,mb4.3
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,370nm,14.4s
CD2 LR LR
comp=Z,180nm,12.0s,MS3.9
SONM Songino Array 28.84 56 P **P** **15 15 09.7 +0.2**
comp=Z,9.6nm,0.9s,mb4.5,baz=261,slow=8.8,SNR=40
SONM LR LR 15 27 34.9
comp=Z,562nm,21.7s,MS4.1,baz=264,slow=38
OBN Obninsk 29.13 319*ceP* **P** **15 15 11.7 -0.4**
OBN *eS* **S** **15 19 50.5 -11**
OBN pmax pmax
comp=Z,22nm,1.0s,mb4.8
OBN MLR MLR
comp=Z,200nm,17.0s,MS3.8
ANTO Ankara 29.16 287 *eP* **P** **15 15 13.1 +0.7**
ANTO pmax pmax
comp=Z,11nm,0.6s,mb4.8
ANTO Ankara 29.16 287 *eP* **P** **15 15 13.1 +0.8**
comp=Z,11nm,0.6s,mb4.8
ULN Ulaanbaatar 29.28 56 ⇑P **P** **15 15 14.1 +0.6**
SNR=8.6
ULN Ulaanbaatar 29.28 56 *eP* **P** **15 15 14.6 +1.1**
ULN pmax pmax
comp=Z,13nm,0.9s,mb4.7
ULN Ulaanbaatar 29.28 56 *eP* **P** **15 15 14.6 +1.1**
comp=Z,13nm,0.9s,mb4.7
KMI Kunming 30.30 103 P **P** **15 15 26.2 +3.7**
KMI AP pP 15 15 29.1 -5.0
KMI XP sP 15 15 30.3 -9.0
KMI PP PP 15 16 25.5 -5.9
KMI PPP 15 16 39.4
KMI S **S** **15 20 24.7 +5.2**
KMI XS sS 15 20 30.3 -8.6
KMI SS SS 15 22 04.5 -25
KMI SSS 15 22 25.6
KMI SCS ScS 15 26 00.9 +4.2
KMI AMB AMB
comp=Z,7.0nm,1.2s,mb4.3
KMI LR LR
comp=N,273nm,14.1s,MS4.1
KMI LR LR
comp=E,206nm,14.6s,MS4.1
KMI LR LR
comp=Z,194nm,12.3s,MS4.0
KLMR Klimovskoe 30.77 331 *eP* **P** **15 15 24.5 -2.1**
KLMR pmax pmax
comp=Z,30nm,1.5s,mb4.9
ISP Isparta 31.21 284 *eP* **P** **15 15 30.6 +0.1**
AKASG Malin Array Be 32.07 309 P **P** **15 15 37.4 -0.7**
comp=Z,19nm,0.7s,mb5.0,baz=83,slow=7.3,SNR=75
AKBB Malin Array Si 32.07 309 *eP* **P** **15 15 37.0 -1.1**
CFR Carcaliu 32.33 298⇓*iP* **P** **15 15 40.4 0.0**
CFR Carcaliu 32.33 298 ⇓P **P** **15 15 40.4 0.0**
HHC Hu-ho-hao-te 32.44 70 *eP* **P** **15 15 41.0 -0.3**
HHC XP sP 15 15 46.8 -11
HHC PP PP 15 16 49.8 -5.3
HHC PCP PcP 15 18 28.6 +0.8
HHC S **S** **15 20 53.1 +0.2**
HHC PCS PcS 15 22 13.3 +0.5
HHC SS SS 15 22 48.4 -25
HHC AMB AMB
comp=Z,13nm,0.6s,mb4.9
HHC AMB AMB
comp=Z,139nm,6.5s
HHC LR LR
comp=N,327nm,13.7s,MS4.3
HHC LR LR
comp=E,350nm,16.1s,MS4.3
HHC LR LR
comp=Z,473nm,15.5s,MS4.3
GYA Guiyang 32.75 98⇑*iP* **P** **15 15 44.8 +0.8**
GYA AP pP 15 15 48.9 -6.8
GYA XP sP 15 15 53.8 -7.0
GYA PP PP 15 16 53.6 -4.9
GYA S **S** **15 20 58.9 +1.2**
GYA SCP ScP 15 22 13.2 +4.1
GYA SS SS 15 22 55.7 -24
GYA SCS ScS 15 26 11.3 +2.4
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,110nm,3.8s
GYA LR LR
comp=N,480nm,16.8s,MS4.4
GYA LR LR
comp=E,470nm,17.0s,MS4.4
GYA LR LR
comp=Z,540nm,17.2s,MS4.3
VRI Vrincioaia 33.32 299⇓*iP* **P** **15 15 50.1 +1.1**
VRI Vrincioaia 33.32 299 ⇓P **P** **15 15 50.1 +1.1**
PLOR Plostina 33.38 299⇓*iP* **P** **15 15 50.6 +1.1**
MLR Muntele Rosu 33.87 299⇓*iP* **P** **15 15 55.7 +1.9**
MLR Muntele Rosu 33.87 299 ⇓P **P** **15 15 55.7 +1.9**
BURAR Bucovina Array 34.39 303⇑*iP* **P** **15 15 58.6 +0.3**
BURAR Bucovina Array 34.39 303 ⇑P **P** **15 15 58.6 +0.4**
VOIR 34.51 299⇑*iP* **P** **15 15 59.9 +0.6**
VOIR 34.51 299 ⇑P **P** **15 15 59.9 +0.6**
JOF Joensuu 35.15 330 *ep* **P** **15 16 02.8 -2.0**
comp=Z,5.3nm,0.5s,mb4.7
JOF Joensuu 35.15 330 *eP* **P** **15 16 02.8 -2.0**
JOF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
LVV L'vov 35.28 306⇑*iP* **P** **15 16 06.0 +0.1**
LVV *eS* **S** **15 21 38.2 +1.4**
VSU Vasula 35.39 322*diP* **P** **15 16 05.4 -1.5**
BOD Bodaibo 35.62 40⇑*iP* **P** **15 16 08.4 -0.5**
BOD pmax pmax
comp=Z,21nm,0.9s,mb5.1
DRGR 36.09 301⇑*iP* **P** **15 16 14.1 +1.1**
KWP Kalwaria 36.12 306 *eP* **P** **15 16 14.1 +0.9**
SUW Suwalki 36.27 313 *eP* **P** **15 16 13.8 -0.6**
KOLS Kolonicke sedl 36.39 305 *eP* **P** **15 16 13.8 -1.6**
KOLS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
KOLS Kolonicke sedl 36.39 305 *eP* **P** **15 16 13.8 -1.6**
comp=Z,8.6nm,0.9s,mb4.7
KOLS *e*PP PP 15 17 36.2 -2.5
FIA1 FINESS Array S 36.73 326 *eP* **P** **15 16 17.5 -0.8**
FINES FINESS Array B 36.73 326 P **P** **15 16 17.7 -0.6**
comp=Z,13nm,0.7s,mb4.8,baz=111,slow=10,SNR=33
FINES LR LR 15 32 49.1
comp=Z,78nm,20.0s,MS3.5,baz=175,slow=39
KAF Kangasniemi 36.88 327 *ep* **P** **15 16 17.4 -2.2**
comp=Z,24nm,0.9s,mb5.0,baz=112,slow=8.6
KAF Kangasniemi 36.88 327 *eP* **P** **15 16 17.4 -2.2**
KAF pmax pmax
comp=Z,24nm,0.9s,mb5.0
BZS Buzias 36.91 299⇑*iP* **P** **15 16 20.2 +0.3**
BZS Buzias 36.91 299 ⇑P **P** **15 16 20.2 +0.3**
SVIS Svilajnac 37.30 297 *i* P **P** **15 16 23.6 +0.4**
KECS Kecovo 37.57 304 *eP* **P** **15 16 26.0 +0.5**
KECS pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
KECS Kecovo 37.57 304 *eP* **P** **15 16 26.0 +0.5**
comp=Z,4.4nm,0.8s,mb4.2
KECS *e*PP PP 15 17 49.9 -1.8
NIE Niedzica 37.68 306 *i* P **P** **15 16 27.6 +1.2**
GRUS Gruza 37.70 296 *i* P **P** **15 16 26.7 +0.1**
HIA Hailar 37.78 55 *eP* **P** **15 16 28.4 +1.1**
HIA pmax pmax
comp=Z,10.0nm,0.9s
HIA Hailar 37.78 55 *eP* **P** **15 16 28.4 +1.2**
comp=Z,10.0nm,0.9s,mb4.5
PSZ Piszkesteto 37.98 303⇑*eP* **P** **15 16 30.0 +1.1**
PSZ Piszkesteto 37.98 303 *eP* **P** **15 16 29.6 +0.7**
PSZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
PSZ Piszkesteto 37.98 303 *eP* **P** **15 16 29.6 +0.7**
comp=Z,9.8nm,0.8s,mb4.6
OJC Ojcow 38.02 307 *eP* **P** **15 16 28.9 -0.4**
DIVS Divcibare 38.20 297 *i* P **P** **15 16 31.4 +0.6**
BUD Budapest 38.58 302⇑*eP* **P** **15 16 35.1 +1.1**
VYHS Vyhne 38.66 304 *i* P **P** **15 16 35.0 +0.3**
VYHS *e*PP PP 15 17 57.8 -6.0

VYHS Vyhne 38.66 304 *i* P **P** **15 16 35.1 +0.4**
VYHS pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
VYHS Vyhne 38.66 304 *i* P **P** **15 16 35.1 +0.4**
comp=Z,6.0nm,1.2s,mb4.2
VYHS *e*PP PP 15 17 57.8 -6.0
PKSM Moragy 38.93 300⇑*i*P **P** **15 16 37.6 +0.6**
PKSM Moragy 38.93 300⇑P **P** **15 16 37.6 +0.6**
SRO1 Iza 39.10 303 *e*P **P** **15 16 39.3 +0.9**
SRO1 pmax pmax
comp=Z,52nm,1.1s,mb5.2
MORC Moravsky Berou 39.48 306⇑*i*P **P** **15 16 41.9 +0.4**
GKP Gorka Klasztor 39.71 312 *e*P **P** **15 16 43.5 0.0**
ZST Bratislava 39.83 304 *e*P **P** **15 16 45.3 +0.8**
ZST pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
ZST Bratislava 39.83 304 *e*P **P** **15 16 45.3 +0.8**
comp=Z,9.0nm,1.0s,mb4.5
VRAC Vranov 40.11 305⇓*i*P **P** **15 16 47.0 +0.2**
VRAC Vranov 40.11 305⇓P **P** **15 16 47.0 +0.2**
DPC Dobruska-Polom 40.25 307 *e*P **P** **15 16 48.6 +0.7**
NJ2 Nanjing 40.26 82 *e*P **P** **15 16 51.8 +3.8**
NJ2 PP PP 15 18 29.3 +8.1
NJ2 S **S** **15 22 58.0 +5.7**
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,432nm,5.8s
NJ2 LR LR
comp=N,190nm,18.0s
NJ2 LR LR
comp=E,2µm,26.0s
NJ2 LR LR
comp=Z,2µm,16.0s,MS5.1
UPC Upice 40.44 307 *e*P **P** **15 16 50.0 +0.5**
ARCES ARCESS Array B 40.50 338 P **P** **15 16 49.2 -0.8**
comp=Z,22nm,0.9s,mb4.8,baz=119,slow=7.5,SNR=37
ARCES ARCESS Array B 40.50 338 P **P** **15 16 49.2 -0.8**
CONA Conrad Observa 40.68 303⇑*i*P **P** **15 16 52.3 +0.7**
comp=Z,34nm,1.1s,mb4.9
TREC Trest 40.84 305 *e*P **P** **15 16 53.3 +0.5**
ARSA Arzberg 40.97 302⇑*i*P **P** **15 16 54.4 +0.5**
comp=Z,6.7nm,0.9s,mb4.3
SNY Shenyang 41.22 66⇓P **P** **15 16 58.2 +2.3**
SNY AMB AMB
comp=Z,15nm,0.3s,mb5.1
SNY AMB AMB
comp=Z,142nm,4.4s
PERS Pernice 41.32 301 *e*P **P** **15 16 57.3 +0.6**
PVCC Panska Ves 41.36 307 *e*P **P** **15 16 57.6 +0.5**
BOJS Bojanci 41.37 300 *e*P **P** **15 16 57.5 +0.4**
PRU Pruhonice 41.41 307 *e*P **P** **15 16 58.0 +0.5**
BRG Berggiesshubel 41.74 308 *e*P **P** **15 17 00.5 +0.3**
comp=Z,29nm,1.0s,mb4.9
BRG Berggiesshubel 41.74 308 *i* P **P** **15 17 00.8 +0.5**
comp=Z,17nm,1.0s,mb4.6
BRG
comp=N,74nm,15.5s
BRG
comp=E,51nm,13.6s
BRG
comp=Z,86nm,14.1s
BRG Berggiesshubel 41.74 308 *i* P **P** **15 17 00.8 +0.6**
BRG pmax pmax
comp=Z,17nm,1.0s,mb4.6
BRG MLR MLR
comp=N,74nm,15.5s,MS3.8
BRG MLR MLR
comp=E,51nm,13.5s,MS3.8
BRG MLR MLR
comp=Z,86nm,14.1s,MS3.8
MOA Molln 41.76 303⇑*i*P **P** **15 17 00.6 +0.3**
comp=Z,22nm,1.2s,mb4.7
GEC2 GERESS Array S 42.04 305 *e*P **P** **15 17 02.8 +0.2**
comp=Z,9.0nm,1.1s,mb4.3
GEC2 GERESS Array S 42.04 305 *e*P **P** **15 17 02.8 +0.2**
GEC2 pmax pmax
comp=Z,9.0nm,1.1s,mb4.3
GERES GERESS Array B 42.04 305 P **P** **15 17 02.8 +0.2**
comp=Z,3.9nm,0.9s,mb4.0,baz=89,slow=7.2,SNR=23
KHC Kasperske Hory 42.10 305 *e*P **P** **15 17 03.2 +0.1**
KHC Kasperske Hory 42.10 305 *e*P **P** **15 17 03.3 +0.2**
FBE Freiberg 42.12 308 *e*P **P** **15 17 03.8 +0.6**
comp=Z,35nm,1.0s,mb4.9
JAVS Javornik 42.14 300 *i* P **P** **15 17 03.8 +0.3**
CN2 Changchun 42.20 63 *e*P **P** **15 17 04.2 +0.3**
CN2 *e*XP sP 15 17 11.0 -10
CN2 *e*S **S** **15 23 22.4 +1.3**
CN2 LR LR
comp=N,300nm,16.0s,MS4.6
CN2 LR LR
comp=E,500nm,16.0s,MS4.6
CN2 LR LR
comp=Z,600nm,17.0s,MS4.5
SGO Sicignano 42.23 292 P **P** **15 17 04.6 +0.4**
SGO pmax pmax
comp=Z,15nm,0.8s,mb4.7
SGO Sicignano 42.23 292 P **P** **15 17 04.6 +0.4**
comp=Z,15nm,0.8s,mb4.7
VOY Vojsko 42.23 301 *e*P **P** **15 17 04.3 +0.1**
CLL Collm 42.32 309 *e*P **P** **15 17 04.8 -0.1**
comp=Z,18nm,1.0s,mb4.7
CLL Collm 42.32 309⇑P **P** **15 17 04.8 -0.1**
comp=Z,logA/T=1.3,mb4.7
CLL *i* *PP pP 15 17 07.4 -9.4
CLL *e**SP sP 15 17 09.0 -13
CLL *e* 15 18 50.0
CLL Collm 42.32 309⇑*i*P **P** **15 17 04.8 -0.1**
comp=Z,18nm,1.0s,mb4.7
CLL *i* pP pP 15 17 07.4 -9.4
CLL *es*P sP 15 17 09.0 -13
CLL *e*(sPP) 15 18 50.0
CLL Collm 42.32 309⇑*i*P **P** **15 17 04.8 -0.1**
CLL pmax pmax
comp=Z,18nm,1.0s,mb4.7
CLL Collm 42.32 309⇑*i*P **P** **15 17 04.8 -0.1**
comp=Z,18nm,1.0s,mb4.7
CLL *i* 15 17 07.4
SSE Sheshan 42.47 82 *e*P **P** **15 17 06.1 0.0**
SSE AP pP 15 17 09.2 -8.8
SSE PCP PcP 15 19 01.8 +3.4
SSE S **S** **15 23 25.0 0.0**
SSE SCS ScS 15 27 08.2 +4.2
SSE AMB AMB
comp=Z,29nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,255nm,3.7s
SSE LR LR
comp=N,188nm,23.1s,MS3.9
SSE LR LR
comp=E,61nm,23.1s,MS3.9
SSE LR LR
comp=Z,154nm,18.8s,MS3.9
ROBS Robic 42.47 301 *e*P **P** **15 17 06.2 +0.1**
KBA Koelnbreinsper 42.47 302⇑*i*P **P** **15 17 06.9 +0.7**
comp=Z,23nm,1.1s,mb4.8
KBA Koelnbreinsper 42.47 302⇑*i*P **P** **15 17 06.9 +0.8**
KBA pmax pmax
comp=Z,23nm,1.0s,mb4.8
PTCC Patocco-Chiusa 42.55 301 P **P** **15 17 07.0 +0.2**
comp=Z,9.9nm,0.7s,mb4.7
GMNA Gemona 42.65 301 P **P** **15 17 07.3 -0.3**
comp=Z,147nm,0.9s,mb5.7
TANN Tannenbergstha 42.72 307 *e*P **P** **15 17 08.5 +0.4**
comp=Z,14nm,1.0s,mb4.7
NKC Novy Kostel 42.74 307 *e*P **P** **15 17 08.7 +0.4**
GUNZ Gunzen 42.80 307 *e*P **P** **15 17 09.3 +0.5**
comp=Z,18nm,1.1s,mb4.7
WERD Werda 42.81 307 *e*P **P** **15 17 09.2 +0.3**
comp=Z,13nm,1.1s,mb4.6
ROTZ Rotzenmuhle 42.93 306 *e*P **P** **15 17 10.7 +0.8**
comp=Z,22nm,1.3s,mb4.7
MANZ Manzenberg 42.98 307 *e*P **P** **15 17 10.8 +0.6**
comp=Z,17nm,1.0s,mb4.7
PSI Prapat 43.12 135 P **P** **15 17 11.5 +0.1**
comp=Z,6.3nm,0.7s,mb4.5,baz=200,slow=20,SNR=5.3
MOX Moxa 43.23 308 *e*P **P** **15 17 12.9 +0.6**
comp=Z,18nm,1.1s,mb4.7
MOX Moxa 43.23 308 *e*P **P** **15 17 12.8 +0.5**
comp=Z,21nm,1.1s,mb4.8
MOX Moxa 43.23 308 *e*P **P** **15 17 12.8 +0.5**
MOX pmax pmax
comp=Z,21nm,1.1s,mb4.8
NRCA Norcia 43.34 296 P **P** **15 17 13.7 +0.5**
comp=Z,5.4nm,0.8s,mb4.3
SNTG Esanatoglia 43.38 297 P **P** **15 17 14.2 +0.7**
comp=Z,19nm,0.6s,mb5.0
GRA1 Grafenberg Arr 43.58 306 *e*P **P** **15 17 16.1 +1.0**
comp=Z,34nm,1.1s,mb5.0
GRF Grafenberg Arr 43.58 306 *e*P **P** **15 17 16.1 +1.0**
comp=Z,34nm,1.1s,mb5.0
GRF Grafenberg Arr 43.58 306 *e*P **P** **15 17 16.1 +1.0**
GRF pmax pmax
comp=Z,34nm,1.1s,mb5.0
GRF Grafenberg Arr 43.58 306 *e*P **P** **15 17 16.1 +1.0**
GRF pmax pmax
comp=Z,34nm,1.1s,mb5.0
NB2 NORSAR Subarra 43.60 323 P **P** **15 17 13.6 -1.6**
comp=Z,38nm,0.9s,mb5.1,baz=96,slow=8.6
NOA NORSAR Array B 43.60 323 P **P** **15 17 13.8 -1.5**
comp=Z,26nm,0.8s,mb5.0,baz=97,slow=8.1,SNR=49
NOA PP PP 15 18 51.7 -5.4
comp=Z,5.6nm,1.0s,baz=94,slow=10,SNR=3.9
NOA LR LR 15 37 00.6
comp=Z,79nm,20.1s,MS3.6,baz=90,slow=38
NOA NORSAR Array B 43.60 323 P **P** **15 17 13.8 -1.5**
NOA PP PP 15 18 51.7 -5.4
NOA LR LR 15 37 00.6
WTTA Wattenberg 43.60 303⇑*i*P **P** **15 17 15.1 -0.1**
comp=Z,19nm,1.2s,mb4.7
WTTA Wattenberg 43.60 303⇑*i*P **P** **15 17 15.1 -0.2**
WTTA pmax pmax
comp=Z,19nm,1.2s,mb4.7
WATA Walderalm 43.63 303⇑*i*P **P** **15 17 15.0 -0.5**
comp=Z,10nm,1.0s,mb4.5
WATA Walderalm 43.63 303⇑*i*P **P** **15 17 15.0 -0.5**
WATA pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
FUR Furstenfeldbru 43.72 304 *e*P **P** **15 17 17.0 +0.8**
comp=Z,29nm,0.6s,mb5.2
FUR Furstenfeldbru 43.72 304 *e*P **P** **15 17 17.0 +0.8**
FUR pmax pmax
comp=Z,29nm,0.6s,mb5.2
CTI Castel Tesino 43.78 301 P **P** **15 17 16.8 +0.1**
CTI pmax pmax
comp=Z,15nm,0.7s,mb4.8
CTI Castel Tesino 43.78 301 P **P** **15 17 16.8 +0.1**
comp=Z,15nm,0.7s,mb4.8
BADI Badiali 43.83 297 P **P** **15 17 18.3 +1.2**
BSEG Bad Segeberg 43.84 313 *e*P **P** **15 17 17.6 +0.4**
comp=Z,33nm,0.9s,mb5.1
BSEG Bad Segeberg 43.84 313 *e*P **P** **15 17 17.6 +0.4**
BSEG pmax pmax
comp=Z,33nm,0.9s,mb5.1
SQTA Sankt Quirin 43.89 303⇑*i*P **P** **15 17 17.2 -0.4**
comp=Z,14nm,1.1s,mb4.6
SQTA Sankt Quirin 43.89 303⇑*i*P **P** **15 17 17.2 -0.4**
SQTA pmax pmax
comp=Z,14nm,1.1s,mb4.6
CLZ Clausthal 43.92 310 *e*P **P** **15 17 18.2 +0.3**
comp=Z,24nm,1.1s,mb4.8
CLZ Clausthal 43.92 310 *e*P **P** **15 17 18.2 +0.3**
CLZ pmax pmax
comp=Z,24nm,1.1s,mb4.8
MOTA Moosalm 43.95 303⇑*i*P **P** **15 17 17.6 -0.4**
comp=Z,14nm,0.9s,mb4.7
MOTA Moosalm 43.95 303⇑*i*P **P** **15 17 17.6 -0.5**
MOTA pmax pmax
comp=Z,15nm,0.9s,mb4.7
SFI Santa Sofia 44.03 298 P **P** **15 17 19.9 +1.2**
SFI pmax pmax
comp=Z,18nm,0.8s,mb4.8
SFI Santa Sofia 44.03 298 P **P** **15 17 19.9 +1.2**
comp=Z,18nm,0.8s,mb4.8
NRDL Niedersach Rie 44.04 310 *e*P **P** **15 17 20.1 +1.3**
comp=Z,24nm,1.0s,mb4.9
YAK Yakutsk 44.18 36*d*⇑P **P** **15 17 19.4 -0.5**
YAK pmax pmax
comp=Z,37nm,0.8s,mb5.2
YAK Yakutsk 44.18 36 *e*P **P** **15 17 18.9 -1.0**
comp=Z,36nm,0.9s,mb5.1
VMG Vicchio 44.23 298 P **P** **15 17 22.2 +1.9**
comp=Z,132nm,0.7s,mb5.8
UBBA Unterbreizbach 44.24 308 *e*P **P** **15 17 20.7 +0.3**
comp=Z,6.0nm,0.8s,mb4.4
KONO Kongsberg 44.28 321⇑*e*P **P** **15 17 20.9 +0.1**
CSNT Castellina Chi 44.51 298 P **P** **15 17 21.9 -0.7**
comp=Z,27nm,0.9s,mb5.1
DAVA Damuels 44.78 303⇑*i*P **P** **15 17 24.6 -0.1**
comp=Z,28nm,1.0s,mb5.1
GSCL Gusciola 44.83 299 P **P** **15 17 26.0 +0.9**
comp=Z,22nm,1.0s,mb5.0
DAVOX Davos 44.86 302⇑*i*P **P** **15 17 24.6 -0.8**
comp=Z,31nm,1.2s,mb5.0
DAVOX Davos 44.86 302⇑*i*P **P** **15 17 25.2 -0.2**
ERBM Eremo 44.94 299 P **P** **15 17 27.5 +1.5**
MDJ Mudanjiang 44.97 61 P **P** **15 17 25.1 -1.1**
MDJ AP pP 15 17 28.3 -10
MDJ XP sP 15 17 29.5 -14
MDJ PP PP 15 19 09.4 -2.4
MDJ S **S** **15 24 01.1 -0.4**
MDJ AMB AMB
comp=Z,5.0nm,1.0s,mb4.3
MDJ AMB AMB
comp=Z,58nm,4.9s
MDJ LR LR
comp=N,183nm,13.6s,MS4.3
MDJ LR LR
comp=E,203nm,14.7s,MS4.3
MDJ LR LR
comp=Z,286nm,14.7s,MS4.3
STU Stuttgart 45.01 305 *e*P **P** **15 17 27.0 +0.5**
LIENZ Alp Oberkamor 45.04 303⇑*i*P **P** **15 17 25.2 -1.6**
comp=Z,52nm,0.8s,mb5.4
LIENZ Alp Oberkamor 45.04 303⇑*i*P **P** **15 17 26.7 -0.1**
PLONS Plons 45.15 303⇑*i*P **P** **15 17 26.7 -1.0**
comp=Z,51nm,0.9s,mb5.4
PLONS Plons 45.15 303⇑*i*P **P** **15 17 27.4 -0.3**
LLS Linth-Limmern 45.44 303⇑*i*P **P** **15 17 27.4 -2.5**
comp=Z,32nm,0.9s,mb5.2
LLS Linth-Limmern 45.44 303⇑*i*P **P** **15 17 29.6 -0.3**
IBBN Ibbenburen 45.49 310 *e*P **P** **15 17 30.9 +0.6**
comp=Z,51nm,1.0s,mb5.3
MUGIO Muggio 45.59 301⇑*i*P **P** **15 17 29.6 -1.5**
comp=Z,26nm,0.9s,mb5.2
MUGIO Muggio 45.59 301⇑*i*P **P** **15 17 30.1 -1.0**
KLR Kul'dur 45.62 54 P **P** **15 17 29.0 -2.4**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,50nm,1.8s,mb5.1
BFO Black Forest 45.64 305 *e*P **P** **15 17 31.0 -0.6**
comp=Z,14nm,1.0s,mb4.8
BFO Black Forest 45.64 305 *e*P **P** **15 17 31.0 -0.6**
BFO pmax pmax
comp=Z,14nm,1.0s,mb4.8
MUO Muotathal 45.67 303⇑*i*P **P** **15 17 30.1 -1.7**
comp=Z,78nm,0.8s,mb5.7
MUO Muotathal 45.67 303⇑*i*P **P** **15 17 31.7 -0.1**
TIXI Tiksi 45.77 22*d*⇑*i*P **P** **15 17 32.3 -0.3**
TIXI pmax pmax
comp=Z,48nm,0.8s,mb5.5
BNALP Bannalp 45.83 303⇑*i*P **P** **15 17 31.7 -1.3**
comp=Z,60nm,0.9s,mb5.5
BNALP Bannalp 45.83 303⇑*i*P **P** **15 17 32.9 -0.1**
BUG Bochum--Univer 45.88 309 *e*P **P** **15 17 33.5 0.0**
comp=Z,24nm,1.0s,mb5.1
SULZ Sulz-Cheisache 45.92 304⇑*i*P **P** **15 17 32.9 -0.8**
comp=Z,58nm,0.9s,mb5.5
SULZ Sulz-Cheisache 45.92 304⇑*i*P **P** **15 17 33.4 -0.3**
FELD Feldberg im Sc 45.93 304 *e*P **P** **15 17 33.9 +0.1**
HASLI Hasliberg 46.04 303⇑*i*P **P** **15 17 33.4 -1.3**
comp=Z,53nm,0.8s,mb5.5
HASLI Hasliberg 46.04 303⇑*i*P **P** **15 17 34.3 -0.4**
RUP Ruppelstein 46.25 307 *e*P **P** **15 17 37.0 +0.6**
CORF Corte 46.31 296 *e*P **P** **15 17 36.3 -0.5**
CDF Champ du Feu 46.32 305⇑*i*P **P** **15 17 38.2 +1.3**
comp=Z,16nm,0.9s,mb4.7
CDF Champ du Feu 46.32 305⇑*i*P **P** **15 17 38.2 +1.3**
CDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CDF Champ du Feu 46.32 305⇑*i*P **P** **15 17 38.2 +1.3**
comp=Z,7.8nm,0.9s,mb4.6
BBS Basel-Blauen 46.34 304 *e*P **P** **15 17 36.1 -0.9**
PGF Pioggiola 46.36 297⇑*i*P **P** **15 17 37.0 -0.2**
comp=Z,45nm,1.0s,mb5.1
PGF Pioggiola 46.36 297⇑*i*P **P** **15 17 37.0 -0.2**
PGF pmax pmax
comp=Z,23nm,1.0s,mb5.1
PGF Pioggiola 46.36 297⇑*i*P **P** **15 17 37.0 -0.2**
comp=Z,22nm,1.0s,mb5.0
WIMIS Wimmis 46.41 303⇑*i*P **P** **15 17 34.3 -3.3**
comp=Z,38nm,0.9s,mb5.3
WIMIS Wimmis 46.41 303⇑*i*P **P** **15 17 37.3 -0.3**
ECH Echery 46.43 305 *e*P **P** **15 17 38.8 +1.0**
MOF Molkenrain 46.51 304 *e*P **P** **15 17 38.3 -0.1**
SENIN Lac Senin 46.69 302⇑*i*P **P** **15 17 37.3 -2.5**
comp=Z,21nm,0.7s,mb5.2
SENIN Lac Senin 46.69 302⇑*i*P **P** **15 17 39.8 0.0**
HINF Hinteralfeld 46.71 304⇑*i*P **P** **15 17 39.8 -0.1**
comp=Z,42nm,1.0s,mb5.0
HINF Hinteralfeld 46.71 304⇑*i*P **P** **15 17 39.8 -0.1**
HINF pmax pmax
comp=Z,21nm,1.0s,mb5.0
HINF Hinteralfeld 46.71 304⇑*i*P **P** **15 17 39.8 -0.1**
comp=Z,21nm,1.0s,mb5.0
MEM Membach 46.79 308 P **P** **15 17 40.2 -0.3**
LOMF Lomont 46.81 304 *e*P **P** **15 17 40.4 -0.3**
GRYON Gryon 46.84 302⇑*i*P **P** **15 17 39.8 -1.2**
comp=Z,38nm,0.9s,mb5.3
GRYON Gryon 46.84 302⇑*i*P **P** **15 17 40.9 -0.1**
WLF Walferdange 46.84 307 *e*P **P** **15 17 41.7 +0.7**
comp=Z,39nm,1.0s,mb5.3
WLF Walferdange 46.84 307 P **P** **15 17 41.0 0.0**
WLF Walferdange 46.84 307 *e*P **P** **15 17 41.6 +0.6**
WLF pmax pmax
comp=Z,34nm,0.9s,mb5.3
WLF Walferdange 46.84 307 *e*P **P** **15 17 41.6 +0.6**
comp=Z,34nm,0.9s,mb5.3
AIGLE Aigle 46.93 302⇑*i*P **P** **15 17 40.9 -0.7**
comp=Z,57nm,0.8s,mb5.5
AIGLE Aigle 46.93 302⇑*i*P **P** **15 17 41.6 0.0**
SALAN Lac Salanfe 46.96 302⇑*i*P **P** **15 17 41.6 -0.3**
comp=Z,156nm,3.0s
SALAN Lac Salanfe 46.96 302⇑*i*P **P** **15 17 42.0 +0.1**
HAU Haudompre 47.01 305⇑*i*P **P** **15 17 42.1 -0.2**
AUTN L'Aution 47.12 299 *e*P **P** **15 17 43.1 -0.1**
SBF Sospel 47.15 299⇑*i*P **P** **15 17 43.6 +0.2**
comp=Z,63nm,0.9s,mb5.3
SBF Sospel 47.15 299⇑*i*P **P** **15 17 43.6 +0.2**
SBF pmax pmax
comp=Z,32nm,0.9s,mb5.2
SBF Sospel 47.15 299⇑*i*P **P** **15 17 43.6 +0.2**
comp=Z,32nm,0.9s,mb5.2
THEF They Montfort 47.20 305 *e*P **P** **15 17 43.9 +0.1**
LUCF Luceram 47.20 299 *e*P **P** **15 17 44.3 +0.5**
TOUF Mont Tournerai 47.24 299 *e*P **P** **15 17 44.8 +0.7**
LPG La Plagne 47.25 301⇑*i*P **P** **15 17 44.6 +0.5**
comp=Z,33nm,0.8s,mb5.0
LPG La Plagne 47.25 301⇑*i*P **P** **15 17 44.6 +0.5**
LPG pmax pmax
comp=Z,17nm,0.8s,mb5.0
LPG La Plagne 47.25 301⇑*i*P **P** **15 17 44.6 +0.5**
comp=Z,17nm,0.8s,mb5.0
LPL La Plagne 47.26 301⇑*i*P **P** **15 17 44.7 +0.5**
comp=Z,37nm,1.0s,mb5.0
LPL La Plagne 47.26 301⇑*i*P **P** **15 17 44.7 +0.5**
LPL pmax pmax
comp=Z,19nm,1.0s,mb5.0
LPL La Plagne 47.26 301⇑*i*P **P** **15 17 44.7 +0.5**
comp=Z,18nm,1.0s,mb5.0
BCLA Clavier 47.26 308 P **P** **15 17 44.8 +0.6**
MVIF Mont Vial 47.34 299 *e*P **P** **15 17 45.0 +0.1**
GIMEL Gimel 47.35 303⇑*i*P **P** **15 17 42.0 -3.0**
comp=Z,61nm,0.8s,mb5.6
GIMEL Gimel 47.35 303⇑*i*P **P** **15 17 45.4 +0.4**
BNI Bardonecchia 47.40 301 *e*P **P** **15 17 45.7 +0.4**
BNI pmax pmax
comp=Z,24nm,1.2s,mb5.0
BNI Bardonecchia 47.40 301 *e*P **P** **15 17 45.7 +0.4**
comp=Z,24nm,1.2s,mb5.0
CABF La Chapelle 47.46 303⇑*i*P **P** **15 17 46.1 +0.3**
comp=Z,55nm,0.8s,mb5.2
CABF La Chapelle 47.46 303⇑*i*P **P** **15 17 46.1 +0.3**
CABF pmax pmax
comp=Z,27nm,0.8s,mb5.2
CABF La Chapelle 47.46 303⇑*i*P **P** **15 17 46.1 +0.3**
comp=Z,27nm,0.8s,mb5.2
GIVF Givet 47.62 308⇑*i*P **P** **15 17 47.3 +0.3**
MEZF Maizieres J'vi 47.76 306⇑*i*P **P** **15 17 48.7 +0.6**
DOU Dourbes 47.76 308 P **P** **15 17 48.6 +0.5**
FRF La Foret Royal 47.78 299⇑*i*P **P** **15 17 48.1 -0.2**
comp=Z,46nm,0.8s,mb5.2
FRF La Foret Royal 47.78 299⇑*i*P **P** **15 17 48.1 -0.2**
FRF pmax pmax
comp=Z,23nm,0.8s,mb5.3
FRF La Foret Royal 47.78 299⇑*i*P **P** **15 17 48.1 -0.2**
comp=Z,23nm,0.8s,mb5.2
SNF Seneffe 47.89 308 P **P** **15 17 49.3 +0.2**
HABR Khabarovsk 47.90 54 *e*P **P** **15 17 49.7 +0.5**
HABR S **S** **15 24 43.5 0.0**
HABR pmax pmax
comp=Z,16nm,0.9s,mb5.0
LMR La Mourre 47.93 298⇑*i*P **P** **15 17 49.2 -0.3**
ORIF Oris-en-Rattie 47.98 301⇑*i*P **P** **15 17 49.4 -0.4**
BAIF Baives 48.02 308⇑*i*P **P** **15 17 50.9 +0.8**
comp=Z,79nm,1.0s,mb5.4
BAIF Baives 48.02 308⇑*i*P **P** **15 17 50.9 +0.8**
BAIF pmax pmax
comp=Z,39nm,1.0s,mb5.4
BAIF Baives 48.02 308⇑*i*P **P** **15 17 50.9 +0.8**
comp=Z,39nm,1.0s,mb5.4
KBS Kingsbay 48.09 347 *e*P **P** **15 17 50.7 0.0**
KBS pmax pmax
comp=Z,18nm,0.8s,mb5.2
KBS Kingsbay 48.09 347 *e*P **P** **15 17 50.7 0.0**
comp=Z,18nm,0.8s,mb5.2
VILF Villemus 48.36 299 *e*P **P** **15 17 49.0 -3.7**
SMRF Simiane la Rot 48.42 300⇑*i*P **P** **15 17 53.6 +0.4**
comp=Z,19nm,1.0s,mb4.8
SMRF Simiane la Rot 48.42 300⇑*i*P **P** **15 17 53.6 +0.4**
comp=Z,19nm,1.0s,mb5.1
KMBO Kilima Mbogo 48.45 226 LR LR 15 39 17.6
comp=Z,88nm,18.3s,MS3.8,baz=93,slow=37
TREF Trevaresse 48.65 299 *e*P **P** **15 17 56.3 +1.3**
PRAF Pradon 48.75 299 *e*P **P** **15 17 57.2 +1.4**
LOR Lormes 48.80 304⇑*i*P **P** **15 17 55.5 -0.7**
comp=Z,20nm,1.0s,mb4.8
LOR Lormes 48.80 304⇑*i*P **P** **15 17 55.5 -0.7**
LOR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
LOR Lormes 48.80 304⇑*i*P **P** **15 17 55.5 -0.7**
comp=Z,10nm,1.0s,mb4.8
VIVF Saint-Julien-l 48.83 301⇑*i*P **P** **15 17 56.8 +0.5**
comp=Z,72nm,1.1s,mb5.3
VIVF Saint-Julien-l 48.83 301⇑*i*P **P** **15 17 56.8 +0.5**
VIVF pmax pmax
comp=Z,36nm,1.1s,mb5.3
VIVF Saint-Julien-l 48.83 301⇑*i*P **P** **15 17 56.8 +0.5**
comp=Z,36nm,1.1s,mb5.3
SMF Signal de Mont 48.96 303⇑*i*P **P** **15 17 57.5 +0.1**
comp=Z,65nm,1.0s,mb5.3
SMF Signal de Mont 48.96 303⇑*i*P **P** **15 17 57.5 +0.1**
SMF pmax pmax
comp=Z,33nm,1.0s,mb5.3
SMF Signal de Mont 48.96 303⇑*i*P **P** **15 17 57.5 +0.1**
comp=Z,33nm,1.0s,mb5.3
SSF Saint Saulge 49.09 304⇑*i*P **P** **15 17 58.1 -0.2**
comp=Z,27nm,1.2s,mb4.9
SSF Saint Saulge 49.09 304⇑*i*P **P** **15 17 58.1 -0.2**
SSF pmax pmax
comp=Z,13nm,1.2s,mb4.8
SSF Saint Saulge 49.09 304⇑*i*P **P** **15 17 58.1 -0.2**
comp=Z,13nm,1.2s,mb4.8
AVF Avril sur Loir 49.25 304⇑*i*P **P** **15 17 59.6 0.0**
comp=Z,54nm,0.8s,mb5.3
AVF Avril sur Loir 49.25 304⇑*i*P **P** **15 17 59.6 0.0**
AVF pmax pmax
comp=Z,27nm,0.8s,mb5.3
AVF Avril sur Loir 49.25 304⇑*i*P **P** **15 17 59.6 0.0**
comp=Z,27nm,0.8s,mb5.3
PLDF La Plantade 49.27 303 *e*P **P** **15 17 59.6 -0.1**
COLF Collangettes 49.33 302 *e*P **P** **15 18 00.8 +0.6**
AGO Saint Agoulin 49.58 303 *e*P **P** **15 18 04.1 +2.0**
LASF Ste Croix 49.59 300⇑*i*P **P** **15 18 02.7 +0.5**
comp=Z,71nm,1.0s,mb5.3
BGF Bois d'Agland 49.65 303⇑*i*P **P** **15 18 02.5 -0.1**
comp=Z,26nm,0.9s,mb5.0
BGF Bois d'Agland 49.65 303⇑*i*P **P** **15 18 02.5 -0.1**
BGF pmax pmax
comp=Z,13nm,0.9s,mb5.0
BGF Bois d'Agland 49.65 303⇑*i*P **P** **15 18 02.5 -0.1**
comp=Z,13nm,0.9s,mb5.0
TCF Toulx Ste Croi 50.14 303⇑*i*P **P** **15 18 06.8 +0.5**
comp=Z,54nm,0.9s,mb5.3
TCF Toulx Ste Croi 50.14 303⇑*i*P **P** **15 18 06.8 +0.5**
TCF pmax pmax
comp=Z,27nm,0.9s,mb5.3

TCF Toulx Ste Croi 50.14 303⇑iP P 15 18 06.8 +0.5
comp=Z,27nm,0.9s,mb5.3
CAF Calviac 50.60 302⇑iP P 15 18 10.5 +0.7
comp=Z,35nm,0.9s,mb5.0
CAF Calviac 50.60 302⇑iP P 15 18 10.5 +0.7
CAF pmax pmax
comp=Z,18nm,0.9s,mb5.0
CAF Calviac 50.60 302⇑iP P 15 18 10.5 +0.7
comp=Z,18nm,0.9s,mb5.0
EJON La Jonquera 50.73 298 P P 15 18 10.1 -0.7
comp=Z,7.3nm,1.1s,mb4.5
RJF Les Rejaudoux 50.87 302⇑iP P 15 18 12.5 +0.7
comp=Z,48nm,1.4s,mb4.9
RJF Les Rejaudoux 50.87 302⇑iP P 15 18 12.5 +0.7
RJF pmax pmax
comp=Z,24nm,1.4s,mb4.9
RJF Les Rejaudoux 50.87 302⇑iP P 15 18 12.5 +0.7
comp=Z,24nm,1.4s,mb4.9
MTLF Montolieu 50.94 300⇑iP P 15 18 12.7 +0.3
comp=Z,24nm,1.0s,mb4.8
MTLF Montolieu 50.94 300⇑iP P 15 18 12.7 +0.3
MTLF pmax pmax
comp=Z,12nm,1.0s,mb4.8
MTLF Montolieu 50.94 300⇑iP P 15 18 12.7 +0.3
comp=Z,12nm,1.0s,mb4.8
LDF La Druitiere 51.09 307⇑iP P 15 18 13.3 -0.2
comp=Z,53nm,1.2s,mb5.1
LDF La Druitiere 51.09 307⇑iP P 15 18 13.3 -0.2
LDF pmax pmax
comp=Z,27nm,1.2s,mb5.0
LDF La Druitiere 51.09 307⇑iP P 15 18 13.3 -0.2
comp=Z,26nm,1.2s,mb5.0
FLN La Foliniere 51.28 307⇑iP P 15 18 14.7 -0.3
comp=Z,34nm,0.8s,mb5.0
FLN La Foliniere 51.28 307⇑iP P 15 18 14.7 -0.3
FLN pmax pmax
comp=Z,17nm,0.8s,mb5.0
FLN La Foliniere 51.28 307⇑iP P 15 18 14.7 -0.3
comp=Z,17nm,0.8s,mb5.0
LFF La Frestale 51.50 302⇑iP P 15 18 16.9 +0.3
comp=Z,39nm,0.8s,mb5.1
LFF La Frestale 51.50 302⇑iP P 15 18 16.9 +0.3
LFF pmax pmax
comp=Z,20nm,0.8s,mb5.1
LFF La Frestale 51.50 302⇑iP P 15 18 16.9 +0.3
comp=Z,20nm,0.8s,mb5.1
GRR Gorron 51.62 307⇑iP P 15 18 17.2 -0.3
comp=Z,32nm,0.9s,mb4.9
GRR Gorron 51.62 307⇑iP P 15 18 17.2 -0.3
GRR pmax pmax
comp=Z,16nm,0.9s,mb5.0
GRR Gorron 51.62 307⇑iP P 15 18 17.2 -0.3
comp=Z,16nm,0.9s,mb5.0
MFF Saint Martin d 51.63 304⇑iP P 15 18 17.3 -0.2
comp=Z,31nm,1.0s,mb4.9
MFF Saint Martin d 51.63 304⇑iP P 15 18 17.3 -0.2
MFF pmax pmax
comp=Z,15nm,1.0s,mb4.9
MFF Saint Martin d 51.63 304⇑iP P 15 18 17.3 -0.2
comp=Z,15nm,1.0s,mb4.9
MLS Moulis 51.84 299 eP P 15 18 18.8 -0.3
EMIR Miracle 51.86 298 P P 15 18 19.2 -0.1
comp=Z,15nm,0.9s,mb4.9
EPOB Poblet 52.36 298 P P 15 18 21.9 -1.1
comp=Z,25nm,2.0s,mb4.8
EBIE Bielsa 52.59 299 P P 15 18 25.0 +0.3
comp=Z,5.8nm,1.0s,mb4.5
SGMF Saint Gilles 52.75 307⇑iP P 15 18 25.9 0.0
EIBI Ibiza 52.96 295 P P 15 18 27.6 +0.2
comp=Z,94nm,2.6s,mb5.3
ETSF Etsaut 53.01 300⇑iP P 15 18 28.3 +0.5
comp=Z,25nm,0.9s,mb4.8
ETSF Etsaut 53.01 300⇑iP P 15 18 28.3 +0.5
ETSF pmax pmax
comp=Z,13nm,0.9s,mb4.9
ETSF Etsaut 53.01 300⇑iP P 15 18 28.3 +0.5
comp=Z,13nm,0.9s,mb4.8
ERTA Horta de San J 53.02 297 P P 15 18 27.5 -0.3
comp=Z,29nm,1.5s,mb5.0
ROSF Rostrenen 53.19 307⇑iP P 15 18 28.8 -0.3
comp=Z,59nm,1.0s,mb5.2
ROSF Rostrenen 53.19 307⇑iP P 15 18 28.8 -0.3
ROSF pmax pmax
comp=Z,29nm,1.0s,mb5.2
ROSF Rostrenen 53.19 307⇑iP P 15 18 28.8 -0.3
comp=Z,30nm,1.0s,mb5.2
QUIF Quistinic 53.23 307⇑iP P 15 18 29.2 -0.2
comp=Z,22nm,0.9s,mb4.8
QUIF Quistinic 53.23 307⇑iP P 15 18 29.2 -0.2
QUIF pmax pmax
comp=Z,11nm,0.9s,mb4.8
QUIF Quistinic 53.23 307⇑iP P 15 18 29.2 -0.2
comp=Z,11nm,0.9s,mb4.8
YSS Yuzh-Sakhalins 53.31 55⇑eP P 15 18 31.0 +1.0
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 53.31 55 eP P 15 18 30.7 +0.7
comp=Z,24nm,0.9s,mb5.1
ESAC San Caprasio 53.34 298 P P 15 18 30.8 +0.6
comp=Z,80nm,1.6s,mb5.4
EALK Alkurruntz 53.56 301 P P 15 18 31.2 -0.7
comp=Z,43nm,1.6s,mb5.1
MAJO Matsushiro 53.61 68 eP P 15 18 33.7 +1.5
MAJO pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MAJO Matsushiro 53.61 68 eP P 15 18 33.7 +1.5
comp=Z,6.3nm,0.8s,mb4.6
MJAR Matsushiro Arr 53.61 68 P P 15 18 33.6 +1.4
comp=Z,2.2nm,0.7s,mb4.2,baz=290,slow=10,SNR=8.8
DAG Danmarks Havn 54.16 344⇑iP P 15 18 35.8 -0.4
comp=Z,5.2nm,0.8s,mb4.5
DAG Danmarks Havn 54.16 344⇑eP P 15 18 35.8 -0.4
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
DAG Danmarks Havn 54.16 344⇑eP P 15 18 35.8 -0.4
comp=Z,5.2nm,0.8s,mb4.5
EBEN Beniarda 54.22 295 P P 15 18 37.2 +0.6
comp=Z,45nm,1.4s,mb5.2
ECHE Chera 54.43 296 P P 15 18 37.6 -0.6
ECHE pmax pmax
comp=Z,18nm,1.3s,mb4.8
ECHE Chera 54.43 296 P P 15 18 37.6 -0.6
comp=Z,18nm,1.3s,mb4.8
ELAN Lanestosa 54.89 301 P P 15 18 41.1 -0.3
comp=Z,22nm,0.8s,mb5.2
ETOB Tobarra 55.20 295 P P 15 18 43.4 -0.3
comp=Z,47nm,2.2s,mb5.1
GUD Guadarrama 56.32 298 P P 15 18 51.8 0.0
GUD pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
GUD Guadarrama 56.32 298 P P 15 18 51.8 +0.1
comp=Z,5.3nm,0.8s,mb4.6
ESDC Sonseca Array 56.55 297 P P 15 18 52.8 -0.6
comp=Z,1.1nm,0.4s,mb4.3,baz=64,slow=7.2,SNR=7.5
ESDC Sonseca Array 56.55 297 P P 15 18 53.0 -0.4
comp=Z,3.3nm,0.8s,mb4.4
EQES Quesada 56.63 295 P P 15 18 53.8 -0.2
comp=Z,19nm,1.1s,mb5.0
EBER Berja 56.86 294 P P 15 18 55.0 -0.6
comp=Z,55nm,2.0s,mb5.2
EBAN Banos Encina 57.01 296 P P 15 18 56.7 0.0
EBAN pmax pmax
comp=Z,12nm,0.9s,mb4.9
EBAN Banos Encina 57.01 296 P P 15 18 56.7 0.0
comp=Z,12nm,0.9s,mb4.9
EGUA Guajares 57.38 294 P P 15 18 58.9 -0.4
EGUA pmax pmax
comp=Z,52nm,2.7s,mb5.1
EGUA Guajares 57.38 294 P P 15 18 58.9 -0.4
comp=Z,52nm,2.7s,mb5.1
EPON Pontenova 57.39 302 P P 15 18 59.2 -0.2
comp=Z,51nm,1.6s,mb5.3
ERON Agron 57.48 294 P P 15 19 00.1 +0.1
comp=Z,6.6nm,0.6s,mb4.8
EADA Adamuz 57.58 296 P P 15 19 00.1 -0.6
comp=Z,7.2nm,0.8s,mb4.8
ECAL Calabor 57.63 301 P P 15 19 00.7 -0.4
comp=Z,57nm,3.3s
EMIJ Mijas 58.38 294 P P 15 19 04.7 -1.5
comp=Z,15nm,1.4s,mb4.8
ELOB Lobios 58.57 301 P P 15 19 08.4 +0.8
comp=Z,7.7nm,0.8s,mb4.8
BILL Bilibino 58.67 26 eP P 15 19 09.0 +0.7
MTE Manteigas 58.79 299 eP P 15 19 10.0 +0.8
comp=Z,37nm,1.1s,mb5.3
PVIS Viseu 58.91 300 eP P 15 19 10.9 +0.9
comp=Z,14nm,0.9s,mb5.0
ESPR Espera 59.04 295 P P 15 19 09.7 -1.2
comp=Z,36nm,2.1s,mb5.0
EBAD Badajoz 59.09 297 P P 15 19 11.2 0.0
comp=Z,11nm,0.7s,mb5.0
EMIN Mina Concepcio 59.25 296 P P 15 19 11.9 -0.5
comp=Z,46nm,2.7s,mb5.0
EGRO El Granado 59.94 296 P P 15 19 15.9 -1.2
comp=Z,32nm,1.2s,mb5.2
SUMG Summit 60.46 341 P P 15 19 20.2 -0.5
comp=Z,7.9nm,0.9s,mb4.7
PET Petropavlovsk 60.87 44 P P 15 19 23.6 +0.2
PET pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
PET Petropavlovsk 60.87 44 P P 15 19 23.6 +0.1
comp=Z,5.0nm,0.9s,mb4.6
TORD Torodi Ar. Bea 64.88 268 P P 15 19 49.0 -1.1
comp=Z,7.9nm,0.8s,mb4.8,baz=48,slow=5.7,SNR=50
TORD LR LR 15 53 07.3
comp=Z,81nm,18.1s,MS4.0,baz=35,slow=41
TORD Torodi Ar. Bea 64.88 268 P P 15 19 49.0 -1.1
TORD LR LR 15 53 07.3
INK Inuvik 73.70 9 eP P 15 20 43.9 -0.7
INK pmax pmax
comp=Z,9.0nm,1.0s
INK Inuvik 73.70 9 eP P 15 20 43.9 -0.7
comp=Z,9.3nm,1.0s,mb4.7
DBIC Dimbokro 73.88 266 P P 15 20 45.7 0.0
comp=Z,7.7nm,0.8s,mb4.7,baz=59,slow=5.5,SNR=7.2
DBIC LR LR 15 57 52.6
comp=Z,60nm,18.4s,MS3.9,baz=35,slow=40
DBIC Dimbokro 73.88 266 P P 15 20 45.7 0.0
DBIC LR LR 15 57 52.6
COLA College 74.38 16d iP P 15 20 48.7 +0.1
COLA College 74.38 16 eP P 15 20 48.0 -0.6
comp=Z,15nm,0.8s,mb5.0
FITZ Fitzroy Crossi 75.78 126 P P 15 20 56.1 -0.6
comp=Z,2.9nm,0.9s,mb4.2,baz=340,slow=8.7,SNR=3.7
DAWY Dawson 76.78 13 eP P 15 21 02.4 +0.1
SML Sawmill 76.91 18 eP P 15 21 01.7 -1.4
YKA Yellowknife Ar 80.94 2 P P 15 21 24.8 -0.3
comp=Z,2.2nm,0.5s,mb4.3,baz=352,slow=5.5,SNR=23
YKA Yellowknife Ar 80.94 2 P P 15 21 24.8 -0.3
SCHQ Schefferville 81.44 336 LR LR 16 01 57.5
comp=Z,88nm,20.2s,MS4.1,baz=349,slow=39
WRA Warramunga Arr 82.89 121 P P 15 21 34.2 -1.2
comp=Z,6.7nm,0.7s,mb4.8,baz=322,slow=4.8,SNR=57
WRAB Tennant Creek 82.89 121 eP P 15 21 33.9 -1.5
WRAB Tennant Creek 82.89 121 eP P 15 21 34.3 -1.1
comp=Z,17nm,0.8s,mb5.1
WB2 Warramunga Arr 82.90 121 eP P 15 21 34.2 -1.3
DLBC Dease Lake 83.61 10 eP P 15 21 39.7 +0.6
ASPA Alice Springs 85.14 124 eP P 15 21 45.9 -1.0
AS31 Alice Springs 85.15 124 eP P 15 21 45.9 -1.0
ASAR Alice Springs 85.15 124 P P 15 21 46.0 -0.9
comp=Z,6.3nm,0.7s,mb4.8,baz=312,slow=4.9,SNR=58
EDM Edmonton 90.26 2 P P 15 22 11.9 +0.5

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*SZGRF **10** 15:30:16.8, 6397N×17067W, h10km, mb5.2, St. Lawrence Island, United States, region*
*BJI **10** 15:30:25.7, 6561N×16972W, h11km, mB5.2, mb5.1, Ms5.0, Msz4.7*
*IDC **10** 15:30:27.7±0.5, 6580N×16991W, h0km, mb4.9/25, mb1 4.9/28, mb1mx4.9/29, mbtmp4.8/28, ML4.4/3, MS3.9/16, Ms1 3.9/16, ms1mx3.8/33, Error ellipse: s-maj=16.0km s-min=10.0km az=21.0*
*MOS **10** 15:30:27.2±0.7, 6581N×16990W, h8km, mb5.2/109, MS4.1/13, Error ellipse: s-maj=10.6km s-min=3.9km az=94.6*
*NERS **10** 15:30:28.1, 6580N×16976W, h0km, MPV5.2, MSH4.1, Felt I=II-III MSK at Lavrentia Chukotskiy region)*
*ISCJB **10** 15:30:28.3±0.1, 6585N±002×16983W±004, h13km, mb5.0/248, MS4.2/42, Error ellipse: s-maj=3.4km s-min=1.8km az=50.4*
*HRVD **10** 15:30:29.5±0.3, 6582N×16967W, h12km, MW4.9/72, Centroid moment Tensor Solution. LP body waves: s29,c34; Mantle waves: s72,c118; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.53±.07; $M_{\theta\theta}$2.66±.07; $M_{\phi\phi}$-0.13±.06; $M_{r\theta}$0.10±.23; $M_{\theta\phi}$0.62±.07; $M_{\phi r}$0.49±.23; Best double couple: $M_0$2.71400×10^{16} NP1:ϕ_s89.00000°, δ44.00000°, λ-74.00000°. NP2: ϕ_s247.00000°, δ48.00000°, λ-105.00000°. Principal axes: T 2.8000, Plg2.0000°, Azm348.0000°; N -0.1730, Plg11.0000°, Azm257.0000°; P -2.6270, Plg79.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 15:30:29.4±0.1, 6585N×16968W, mb5.1/149, MS4.0/8 Error ellipse: s-maj=4.4km s-min=2.1km az=213.0*
NEIC Felt at Nome, Alaska.
*BGS **10** 15:30:30.4±1.6, 6588N×16963W, h10km, mb5.4*
ISC 10 15:30:29.8±0.1, **6585N**±002×**16982W**±004, **h14**km±1.3km**:pP-P, n746, σ0^{s}82**/756, **mb5.0**/248, **MS4.2**/42, **69C-77D, Eastern Siberia**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LAVR Lavrentia 0.56 242⇓iPg Pg 15 30 38.2 -2.6
LAVR Pgmax 15 30 40.1
3μm,0.3s
LAVR Pgmax 15 30 40.1
7μm,0.3s
LAVR Pgmax 15 30 40.1
7μm,0.3s
LAVR eSg Sg 15 30 46.3 -1.9
LAVR Sgmax 15 30 51.9
109μm,0.3s
LAVR Sgmax 15 30 51.9
60μm,0.4s
LAVR Lavrentia 0.56 242d iP Pg 15 30 38.3 -2.5
LAVR i 15 30 46.5
LAVR pmax pmax
comp=Z,1μm,0.1s
LAVR smax
comp=E,8μm,0.3s
TNA Tin City 0.84 109 P Pg 15 30 42.1 -3.9
TNA S Sg 15 30 54.2 -2.9
PRVR Provideniya 2.00 227 ePg Pg 15 31 04.5 -3.6
PRVR Pgmax 15 31 06.4
comp=E,900nm,0.5s
PRVR eSg Sg 15 31 30.7 -3.3
PRVR Sgmax 15 31 37.5
comp=E,4μm,0.4s
TTA Tatalina 6.66 110 P Pn 15 32 06.2 -1.1
TTA S Sn 15 33 20.0 -3.0
COLD Coldfoot 7.94 71 P Pn 15 32 24.0 -0.9
SVW2 Sparrevohn 7.95 120 P Pn 15 32 23.1 -1.8
KTH Kantishna Hill 8.41 97 P Pn 15 32 29.3 -1.9
SPIA Saint Paul Isl 8.71 182 ePn Pn 15 32 33.0 -2.3
TRF Thorofare Moun 8.71 97 P Pn 15 32 33.2 -2.1
MCK McKinley 9.15 94 P Pn 15 32 39.7 -1.7
COLA College 9.21 86 P Pn 15 32 40.2 -2.1
COLA pmax pmax
comp=Z,32nm,0.5s
COLA College 9.21 86 P Pn 15 32 40.1 -2.2
BILL Bilibino 9.60 294 eP Pn 15 32 49.2 +1.6
BILL eS Sn 15 34 42.0 +6.6
PMR Palmer 10.09 105 P Pn 15 32 53.9 -0.4
PMR pmax pmax
comp=Z,51nm,0.6s
PMR Palmer 10.09 105 eP Pn 15 32 53.5 -0.8
comp=Z,33nm,0.4s
SML Sawmill 10.29 103 P Pn 15 32 55.5 -1.6
SML Sawmill 10.29 103 eP Pn 15 32 55.3 -1.8
SLKM Skilak Lake 10.32 112 P Pn 15 32 58.4 +1.0
SLKM Skilak Lake 10.32 112 eP Pn 15 32 56.9 -0.6
KDAK Kodiak Island 11.44 127 Pn Pn 15 33 14.0 +1.2
comp=Z,919nm,0.9s,SNR=20
KDAK Kodiak Island 11.44 127 Pn Pn 15 33 10.9 -1.8
comp=Z,7.1nm,0.3s,baz=335,slow=7.7,SNR=29
KDAK Kodiak Island 11.44 127 eP Pn 15 33 13.4 +0.6
comp=Z,129nm,0.8s
MENT Mentasta 11.62 92 eP Pn 15 33 13.8 -1.5
EYAK Cordova Ski Ar 12.04 105 eP Pn 15 33 19.1 -1.9
DAWY Dawson 12.95 84 eP Pn 15 33 30.8 -2.6
INK Inuvik 14.21 64 Pn Pn 15 33 48.1 -2.6
comp=Z,0.8nm,0.3s,baz=266,slow=15,SNR=22
INK LR LR 15 39 39.9
comp=Z,251nm,21.8s,baz=274,slow=39
INK Inuvik 14.21 64 eP Pn 15 33 47.5 -3.2
INK pmax pmax
comp=Z,93nm,0.8s
INK Inuvik 14.21 64 eP Pn 15 33 47.5 -3.2
comp=Z,93nm,0.8s
INK e 15 33 58.3
OMS Omsukchan 15.22 273 e Pn 15 34 03.0 -1.4
OMS e 15 38 23.0
OMS eL 15 38 40.0
AMKA Amchitka 15.54 206 P Pn 15 34 09.7 +1.2
SEY Seymchan 16.42 277 eP Pn 15 34 21.3 +1.4
SEY Pmax 15 34 24.3
comp=Z,20nm,1.4s
SEY Pmax 15 34 24.3
comp=Z,60nm,1.4s
SEY Pmax 15 34 24.3
comp=Z,80nm,1.4s
SEY eS Sn 15 37 32.1 +10
SEY Smax 15 37 40.2
comp=Z,2μm,5.6s
SEY Smax 15 37 40.2
comp=Z,3μm,9.4s
SEY Smax 15 39 11.3
SEY Smax 15 39 34.6
comp=Z,68μm,12.0s
SEY Smax 15 39 34.6
comp=Z,26μm,12.0s
SEY eLR LR 15 40 24.7
SEY eLR LR 15 42 21.3
comp=Z,5μm,4.6s
SEY eLR LR 15 42 21.3
comp=Z,4μm,5.5s
SEY eLR LR 15 42 21.3
comp=Z,5μm,4.2s
SKAG Skagway 16.90 96 eP Pn 15 34 25.3 -0.7
comp=Z,74nm,1.3s
SUUS Susuman 18.21 280⇑iP Pn 15 34 44.6 +2.5
SUUS Pmax 15 34 48.0
comp=Z,20nm,1.0s
SUUS Pmax 15 34 48.0
comp=Z,90nm,1.0s
SUUS Pmax 15 34 48.0
comp=Z,120nm,1.0s
SUUS Pmax 15 40 05.3
SUUS Pmax 15 40 28.0
comp=Z,640nm,4.3s
SIT Sitka 18.44 102 P Pn 15 34 45.7 +0.7
SIT pmax pmax
comp=Z,25nm,0.9s
SIT Sitka 18.44 102 eP Pn 15 34 45.3 +0.3
comp=Z,24nm,0.7s
MGD Magadan 1 18.59 270 eP Pn 15 34 47.6 +0.7
MGD eP 15 40 26.2
MGD eP 15 40 43.3
comp=Z,900nm,4.9s
MGD eP 15 40 43.3
comp=Z,240nm,4.9s
MA2 Magadan 18.85 269 eP Pn 15 34 53.3 +3.3
MA2 Pmax 15 34 55.5
comp=Z,200nm,4.1s
MA2 eS Sn 15 38 27.8 +7.0
MA2 Smax 15 38 33.6
comp=Z,1μm,6.9s
MA2 Smax 15 38 33.6
comp=Z,140nm,5.5s
MA2 Smax 15 38 55.0
MA2 Smax 15 39 29.7
MA2 Smax 15 40 16.3
MA2 eLR LR 15 41 34.7
MA2 eLR LR 15 42 46.2
comp=Z,720nm,6.3s
MA2 eLR LR 15 42 46.2
comp=Z,1μm,6.3s
MA2 eLR LR 15 42 46.2
comp=Z,1μm,6.3s
MA2 Magadan 18.85 269 eP Pn 15 34 49.1 -0.9
MA2 S Sn 15 38 14.2 -6.6
MA2 pmax pmax
comp=N,20nm,0.9s
MA2 pmax pmax
comp=E,10.0nm,0.9s
MA2 pmax pmax
comp=Z,30nm,0.9s
MA2 MLR MLR
comp=Z,400nm,5.4s
MA2 Magadan 18.85 269 eP Pn 15 34 51.6 +1.6
comp=Z,37nm,0.9s
DLBC Dease Lake 19.70 93 P Pn 15 34 59.1 -1.1
comp=Z,0.3nm,0.3s,baz=292,slow=12,SNR=32
DLBC LR LR 15 43 58.2
comp=Z,142nm,18.7s,baz=301,slow=41
DLBC Dease Lake 19.70 93 eP Pn 15 34 59.1 -1.1
PET Petropavlovsk 20.25 246⇓iP P 15 35 04.5 -0.2
PET e 15 35 23.1
PET eS S 15 38 54.4 +3.0
PET pmax pmax
comp=Z,39nm,0.6s
PET pmax pmax
comp=Z,100nm,9.0s
PET smax
comp=N,200nm,10.6s
PET MLR MLR
comp=Z,400nm,14.0s,MS3.9
PET Petropavlovsk 20.25 246 eP P 15 35 04.6 -0.1
comp=Z,23nm,0.5s
CRAG Craig 20.43 103 eP P 15 35 06.4 -0.3
comp=Z,66nm,1.0s
TIXI Tiksi 22.02 312 eP P 15 35 22.3 -1.5
TIXI eS S 15 39 24.0 -2.3
TIXI pmax pmax
comp=Z,51nm,0.8s,mb5.0
TIXI MLR MLR
comp=Z,352nm,10.0s,MS4.1
SKR Severo-Kuril's 23.07 245 eP P 15 35 25.0 -10
SKR e 15 36 18.0
SKR eS S 15 39 46.0 +0.6
SKR pmax pmax
comp=Z,800nm,4.0s
SKR pmax pmax
comp=Z,110nm,1.0s,mb5.2
SKR smax
comp=N,1μm,8.0s
SKR smax
comp=E,800nm,8.0s
SKR MLR MLR
comp=N,1μm,12.0s,MS4.6
SKR MLR MLR
comp=E,800nm,12.0s,MS4.6
SKR MLR MLR
comp=Z,1μm,12.0s,MS4.5
YKA Yellowknife Ar 23.62 72 P P 15 35 39.8 -0.8
comp=Z,14nm,0.7s,mb4.5,baz=298,slow=9.3,SNR=44
YKA PcP PcP 15 39 23.6 -1.4
comp=Z,11nm,0.7s,baz=306,slow=2.3,SNR=28
YKA LR LR 15 46 27.2
comp=Z,179nm,19.5s,MS3.5,baz=0.0,slow=40
YKA Yellowknife Ar 23.62 72 P P 15 35 39.9 -0.7
YKA 15 39 23.7
BBB Bella Bella 24.86 103 P P 15 35 52.2 +0.2
comp=Z,26nm,1.1s,mb4.7,baz=318,slow=12,SNR=3.6
BBB Bella Bella 24.86 103 P P 15 35 52.2 +0.2
YAK Yakutsk 25.93 290c iP P 15 36 01.2 -0.4
YAK e*PP pP 15 36 07.7 +1.9
YAK e 15 36 43.4
YAK ePPP 15 36 50.5
YAK e 15 39 29.2
YAK eS S 15 40 34.9 +3.4
YAK eSS 15 41 36.3
YAK i 15 46 53.5
YAK pmax pmax
comp=Z,35nm,1.0s,mb4.8
YAK pmax pmax
comp=N,8.0nm,1.4s
YAK pmax pmax
comp=E,15nm,1.4s
YAK pmax pmax
comp=Z,25nm,0.9s,mb4.7
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=E,12nm,1.1s
YAK smax
comp=N,56nm,8.1s
YAK smax
comp=E,51nm,7.2s
YAK MLR MLR
comp=Z,554nm,11.0s,MS4.3
YAK MLR MLR

comp=N,174nm,8.0s
YAK MLR MLR
comp=E,455nm,10.0s
YAK Yakutsk 25.93 290 eP P 15 36 01.2 -0.5
comp=E,93nm,0.9s,mb5.3
ALE Alert 27.46 16 P P 15 36 15.3 -0.1
comp=E,83nm,0.7s,mb5.4,SNR=8.3
A05A Maple Falls 29.76 101 ⇓P P 15 36 35.5 -0.4
baz=30
B04A Port Angeles 29.94 104 ⇑P P 15 36 37.6 +0.1
baz=30
EDM Edmonton 30.13 87 eP P 15 36 39.2 0.0
B05A Bryant 30.34 102 ⇓P P 15 36 41.0 0.0
baz=30
C05A Tolt Reservoir 30.96 102 ⇓P P 15 36 46.5 0.0
baz=31
E03A Lebam 31.14 105 ⇑P P 15 36 48.5 +0.4
baz=31,SNR=5.3
D05A Enumclaw 31.25 103 ⇓P P 15 36 49.8 +0.7
baz=31
YSS Yuzh-Sakhalins 31.27 256 ⇓eP P 15 36 48.8 -0.5
YSS pmax pmax
comp=N,30nm,1.0s
YSS pmax pmax
comp=E,30nm,1.0s
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 31.27 256 eP P 15 36 49.0 -0.3
comp=Z,22nm,0.8s,mb5.0
YSS LR LR
comp=Z,328nm,20.0s,MS4.0
E05A Randle 31.85 103 ⇑P P 15 36 54.0 -0.4
baz=32,SNR=7.1
EBG Ellensburg 32.05 102 P P 15 36 56.1 0.0
F04A Amboy 32.10 105 ⇑P P 15 36 56.5 -0.1
baz=32,SNR=8.0
NEW Newport 32.36 97 P P 15 36 59.0 +0.1
comp=Z,4.8nm,0.5s,mb4.6,baz=355,slow=9.6,SNR=5.0
NEW LR LR 15 51 27.6
comp=Z,211nm,19.9s,MS3.8,baz=315,slow=39
MXC Moxie City 32.43 102 P P 15 36 59.8 +0.4
F05A White Salmon 32.53 104 ⇓P P 15 37 00.5 +0.3
baz=32,SNR=5.8
G04A Mulino 32.67 106 ⇓P P 15 37 01.7 +0.1
baz=32,SNR=9.8
H03A Soap Creek Ran 32.80 107 ⇓P P 15 37 03.3 +0.7
baz=33
WALA Waterton Lakes 33.05 93 eP P 15 37 04.3 -0.6
comp=Z,46nm,1.5s,mb5.2
G05A Wamic 33.11 104 ⇑P P 15 37 05.6 +0.2
baz=33,SNR=7.6
I02A Mapleton 33.15 108 ⇓P P 15 37 06.3 +0.5
baz=33
HABR Khabarovsk 33.19 266 eP P 15 37 05.4 -0.7
HABR *eS* **S 15 42 28.2 +2.9**
HABR pmax pmax
comp=Z,17nm,1.2s,mb4.8
H04A Detroit Lake 33.23 106 ⇓P P 15 37 06.4 0.0
baz=33,SNR=13
I03A Eugene 33.39 108 ⇓P P 15 37 08.5 +0.6
baz=33,SNR=7.7
BROR Big Rock Looko 33.47 107 P P 15 37 09.3 +0.7
H05A Madras 33.63 105 ⇑P P 15 37 10.3 +0.3
baz=34
FFC Flin Flon 33.65 76 P P 15 37 09.3 -0.8
comp=Z,68nm,1.0s,mb5.5,SNR=5.0
IRO Indian Ridge 33.77 107 P P 15 37 11.5 +0.4
J02A Umpqua 33.78 109 ⇓P P 15 37 12.0 +0.8
baz=34
HBO Huckleberry Mo 33.88 107 P P 15 37 12.6 +0.5
WIFE Three Sisters- 33.89 106 P P 15 37 12.9 +0.7
KEBM Edson Butte 33.91 110 eP P 15 37 13.7 +1.3
K01A Sixes 33.91 110 ⇓P P 15 37 13.4 +1.0
baz=34
KLR Kul'dur 33.95 270 eP P 15 37 08.8 -3.9
KLR *e* 15 39 45.8
KLR MLR MLR
comp=E,1μm,13.0s
KLR MLR MLR
comp=N,1μm,9.0s
KLR MLR MLR
comp=Z,1μm,9.0s
VIPM Ingram Point 34.00 104 P P 15 37 13.5 +0.4
J03A Ideyld Park 34.02 108 ⇓P P 15 37 13.9 +0.6
baz=34,SNR=19
I05A Bend 34.03 105 ⇓P P 15 37 13.7 +0.4
baz=34
K02A Glendale 34.32 109 ⇓P P 15 37 16.9 +1.0
baz=34,SNR=15
BBOR Butler Butte 34.54 108 P P 15 37 19.0 +1.2
BOD Bodaibo 34.66 294 eP P 15 37 17.2 -1.6
BOD pmax pmax
comp=Z,24nm,1.3s,mb5.0
HUMO Hull Mountain 34.67 109 eP P 15 37 19.9 +1.0
comp=Z,23nm,0.9s,mb5.1
HUMO Hull Mountain 34.67 109 ⇑P P 15 37 19.9 +1.0
baz=34,SNR=11
L02A Cave Junction 34.80 110 ⇓P P 15 37 20.7 +0.7
baz=35
MSO Missoula 34.81 95 eP P 15 37 19.7 -0.5
comp=Z,8.6nm,1.1s,mb4.6
MSO LR LR
comp=Z,244nm,20.0s,MS4.0
CHMT Chamberlain Mo 35.02 94 eP P 15 37 21.4 -0.5
KTRM Thompson Ridge 35.10 110 P P 15 37 23.5 +0.9
K04A Chilquin 35.15 107 ⇓P P 15 37 23.7 +0.6
baz=35
J06A Christmas Vall 35.23 105 P P 15 37 24.4 +0.6
baz=35,SNR=58
KBS Kingsbay 35.44 359 eP P 15 37 26.7 +1.1
KBS pmax pmax
comp=Z,27nm,0.8s,mb5.2
KBS MLR MLR
comp=Z,260nm,20.0s,MS4.0
KBS Kingsbay 35.44 359 eP P 15 37 26.7 +1.1
comp=Z,27nm,0.8s,mb5.2
KBS LR LR
comp=Z,260nm,20.0s,MS4.0
L04A Klamath Falls 35.46 108 ⇑P P 15 37 26.4 +0.6
baz=35
J07A Hines 35.47 104 ⇑P P 15 37 26.1 +0.3
baz=35,SNR=8.3
YBH Yreka Blue Hor 35.51 109 P P 15 37 27.2 +1.0
comp=Z,25nm,0.9s,mb5.2,baz=8.4,slow=3.3,SNR=46
YBH Yreka Blue Hor 35.51 109 P P 15 37 27.2 +1.0
YBH pmax pmax
comp=Z,28nm,1.0s
YBH Yreka Blue Hor 35.51 109 eP P 15 37 27.1 +0.9
comp=Z,28nm,1.0s,mb5.1
YBH Yreka Blue Hor 35.51 109 ⇑P P 15 37 27.1 +0.9
baz=35,SNR=20
K06A Valley Falls 35.57 106 ⇓P P 15 37 27.5 +0.8
baz=35,SNR=20
EGMT Eagleton 35.58 90 eP P 15 37 26.1 -0.7
comp=Z,32nm,1.1s,mb5.2
M02C Callahan 35.75 110 ⇑P P 15 37 29.3 +1.0
baz=36,SNR=15
HRY Holter Researc 35.77 93 eP P 15 37 28.1 -0.2
JCC Jacoby Creek 35.79 112 ⇑P P 15 37 29.1 +0.6
baz=36
LHEM Herd Peak 35.79 109 P P 15 37 29.5 +0.9
M04C Macdoel 35.81 108 ⇑P P 15 37 29.3 +0.5
baz=36,SNR=13
J08A Circle Bar Ran 35.81 103 ⇑P P 15 37 29.5 +0.7
baz=36
L05A Lakeview 35.98 107 P P 15 37 31.3 +1.1
baz=36,SNR=29
N02C Big Bar 36.06 111 P P 15 37 31.6 +0.7
baz=36,SNR=11
M05C Lookout 36.44 108 P P 15 37 34.7 +0.6
baz=36,SNR=24
O01C Eel River Cons 36.45 112 ⇑P P 15 37 35.0 +0.7
baz=36
DAG Danmarks Havn 36.49 11 ⇑*i*P P 15 37 34.7 +0.1
comp=Z,6.7nm,0.9s,mb4.6
DAG Danmarks Havn 36.49 11 ⇑*i*P P 15 37 34.7 +0.1
DAG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
DLMT Dillon 36.54 95 eP P 15 37 35.3 +0.3
comp=Z,8.7nm,1.0s,mb4.5
WDC Whiskeytown Da 36.56 110 eP P 15 37 35.5 +0.3
WDC pmax pmax
comp=Z,34nm,1.0s,mb5.1
WDC Whiskeytown Da 36.56 110 eP P 15 37 35.5 +0.3
comp=Z,34nm,1.0s,mb5.1
WDC Whiskeytown Da 36.56 110 P P 15 37 35.8 +0.6
baz=36,SNR=12

L07A Adell 36.59 105 ⇓P P 15 37 36.3 +0.8
baz=36,SNR=7.7
BOZ Bozeman (W) 36.71 94 P P 15 37 36.9 +0.5
BOZ pmax pmax
comp=Z,34nm,1.0s,mb5.1
BOZ Bozeman (W) 36.71 94 eP P 15 37 36.8 +0.4
comp=Z,34nm,1.1s,mb5.1
HATC Hat Creek Radi 36.78 109 ⇓P P 15 37 37.6 +0.6
baz=37
O02C Red Bluff 36.81 111 ⇑P P 15 37 38.0 +0.7
baz=37,SNR=7.9
M06C Likely Place G 36.84 107 ⇓P P 15 37 38.1 +0.6
baz=37,SNR=14
KIPM Iron Peak 36.87 112 eP P 15 37 38.5 +0.7
MCMT McKenzie Canyo 36.88 96 eP P 15 37 37.9 +0.1
M07A Soldier Meadow 37.19 106 P P 15 37 41.5 +0.9
baz=37,SNR=44
P01C Double 8 Ranch 37.22 112 ⇓P P 15 37 41.8 +1.0
baz=37
ELFS Eagle Lake Fie 37.23 108 P P 15 37 41.8 +0.9
baz=37,SNR=39
L09A Wilkinson Ranc 37.26 104 ⇑P P 15 37 41.6 +0.5
baz=37,SNR=12
O03C Acorn Hollow, 37.26 110 ⇑P P 15 37 41.6 +0.5
baz=37
HLID Hailey 37.28 99 eP P 15 37 41.2 -0.1
comp=Z,16nm,0.9s,mb4.8
HLID LR LR
comp=Z,314nm,20.0s,MS4.1
GASB Alder Springs 37.30 111 ⇓P P 15 37 42.1 +0.7
baz=37,SNR=9.4
O04C Chester 37.35 109 ⇓P P 15 37 42.6 +0.7
baz=37,SNR=33
GCMT Greycliff 37.40 92 eP P 15 37 42.5 +0.2
M08A Happy Creek Ra 37.45 105 ⇑P P 15 37 43.6 +0.8
baz=37,SNR=5.4
QLMT Earthquake Lak 37.45 95 eP P 15 37 43.4 +0.6
O05C Quincy 37.73 109 ⇑P P 15 37 45.2 +0.1
baz=38
HOPS Hopland 37.73 112 ⇓P P 15 37 45.2 +0.1
baz=38
N07B Gerlach 37.79 106 ⇓P P 15 37 46.0 +0.4
baz=38
M09A Marrel Ranch, 37.85 104 ⇑P P 15 37 47.1 +0.9
baz=38,SNR=11
ORV Oroville 37.85 110 ⇑P P 15 37 45.2 -0.9
baz=38,SNR=12
O06A Flanigan 37.98 107 ⇓P P 15 37 47.5 +0.2
baz=38,SNR=26
YFT Old Faithful 38.01 95 eP P 15 37 49.4 +2.0
SUTB Sutter Butte 38.02 110 ⇓P P 15 37 46.4 -1.1
baz=38
OHCM Honcut 38.05 110 eP P 15 37 46.7 -1.1
MNRC McLaughlin Nat 38.08 111 ⇓P P 15 37 48.6 +0.6
baz=38,SNR=7.1
SUMG Summit 38.08 22 eP P 15 37 49.0 +1.0
comp=Z,36nm,0.7s,mb5.2
LAO LASA Array 38.09 88 eP P 15 37 48.2 +0.1
comp=Z,107nm,0.8s,mb5.6
N08A GE Springer Mi 38.12 105 ⇓P P 15 37 48.8 +0.3
baz=38,SNR=53
M10A I.L. Ranch, Tu 38.13 103 ⇓P P 15 37 48.9 +0.4
baz=38,SNR=5.1
O07A Toulon 38.36 106 ⇑P P 15 37 50.6 +0.2
baz=38,SNR=28
P06A Stead Airport, 38.37 108 ⇓P P 15 37 50.8 +0.3
baz=38
P05C Yuba Gap, Truc 38.42 109 ⇓P P 15 37 50.3 -0.6
baz=38,SNR=15
IMW Indian Meadow 38.42 95 eP P 15 37 51.9 +0.9
comp=Z,35nm,1.0s,mb5.0
Q03C Winters 38.46 111 ⇓P P 15 37 49.6 -1.7
baz=38
M11A Holland Ranch, 38.51 102 ⇓P P 15 37 52.4 +0.7
baz=38
MDJ Mudanjiang 38.53 267 P P 15 37 51.8 0.0
MDJ AP pP 15 37 54.9 -1.2
MDJ XP sP 15 37 56.2 -1.5
MDJ PP PP 15 39 18.4 -1.6
MDJ S **S 15 43 47.6 +0.4**
MDJ SCS ScS 15 48 01.4 -0.9
MDJ AMB AMB
comp=Z,3.0nm,0.7s,mb4.1
MDJ AMB AMB
comp=Z,270nm,11.1s
MDJ LR LR
comp=N,328nm,11.4s
MDJ LR LR
comp=E,306nm,8.7s
MDJ LR LR
comp=Z,412nm,10.9s,MS4.5
CVS Carmenet Viney 38.53 112 ⇑P P 15 37 51.9 0.0
baz=38,SNR=5.9
PAHR Pah Rah Range 38.55 107 eP P 15 37 52.1 +0.1
comp=Z,45nm,1.2s,mb5.1
MOOW Moose Ponds 38.62 95 eP P 15 37 53.1 +0.5
comp=Z,22nm,1.3s,mb4.5
WCN Washoe City 38.75 108 ⇑P P 15 37 53.6 -0.1
baz=39,SNR=6.0
TPAW Teton Pass 38.75 96 eP P 15 37 54.5 +0.8
comp=Z,51nm,1.4s,mb5.1
BMN Battle Mountai 38.78 104 P P 15 37 54.4 +0.4
BMN pmax pmax
comp=Z,22nm,1.0s,mb4.8
BMN Battle Mountai 38.78 104 eP P 15 37 54.3 +0.3
comp=Z,22nm,1.1s,mb4.8
LAVA Lava Cap Winer 38.83 110 ⇓P P 15 37 53.7 -0.7
baz=39,SNR=13
M12A Wells 38.87 101 ⇓P P 15 37 55.2 +0.5
baz=39,SNR=14
P07A Fallon 38.88 107 ⇑P P 15 37 55.3 +0.5
baz=39
REDW Red Top Meadow 38.90 96 eP P 15 37 55.7 +0.7
comp=Z,53nm,1.4s,mb5.1
O09A Fish Creek Ran 39.02 105 ⇓P P 15 37 56.5 +0.6
baz=39,SNR=41
N11A Elko Archery C 39.04 103 ⇑P P 15 37 56.9 +0.7
baz=39
P08A Dixie Valley 39.07 106 ⇓P P 15 37 57.2 +0.8
baz=39,SNR=8.1
R05C Kirkwood Meado 39.14 109 ⇓P P 15 37 57.0 0.0
baz=39,SNR=11
M13A Montello 39.22 101 ⇑P P 15 37 57.9 +0.3
baz=39,SNR=6.6
N12A Oliver Valley, 39.30 102 ⇓P P 15 37 58.9 +0.7
baz=39,SNR=8.3
ELK Elko 39.31 102 P P 15 37 59.0 +0.6
ELK pmax pmax
comp=Z,22nm,1.0s
ELK Elko 39.31 102 eP P 15 37 58.9 +0.5
comp=Z,22nm,1.0s,mb4.8
ELK LR LR
comp=Z,126nm,20.0s,MS3.8
HVU Hansel Valley 39.43 99 eP P 15 37 59.3 -0.1
HVU pmax pmax
comp=Z,40nm,1.4s,mb5.0
HVU Hansel Valley 39.43 99 eP P 15 37 59.3 -0.1
comp=Z,40nm,1.4s,mb5.0
ULM Lac du Bonnet 39.48 76 P P 15 37 58.8 -1.0
comp=Z,16nm,0.7s,mb4.9,baz=318,slow=8.1,SNR=33
ULM PcP PcP 15 40 06.3 -1.1
comp=Z,7.7nm,1.1s,baz=300,slow=4.9,SNR=3.5
ULM LR LR 15 53 55.6
comp=Z,96nm,20.2s,MS3.6,baz=355,slow=36
ULM Lac du Bonnet 39.48 76 P P 15 37 58.8 -1.0
ULM PcP PcP 15 40 06.3 -1.1
ULM LR LR 15 53 55.6
R06C Coleville 39.54 108 P P 15 38 00.7 +0.4
baz=39,SNR=18
CMB Columbia Colle 39.60 110 P P 15 38 00.6 -0.2
CMB pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
CMB Columbia Colle 39.60 110 eP P 15 38 00.2 -0.6
comp=Z,3.2nm,0.5s,mb4.3
CMB Columbia Colle 39.60 110 ⇑P P 15 38 00.5 -0.3
baz=39
N13A Wendover, West 39.63 101 ⇓P P 15 38 01.3 +0.2
baz=39,SNR=9.7
O11A Cowboy Ranch, 39.66 103 ⇓P P 15 38 01.8 +0.5
baz=40,SNR=25
S04C Ingram Canyon, 39.70 111 ⇑P P 15 38 01.4 -0.3
baz=40
P10A Eureka 39.78 104 ⇓P P 15 38 02.6 +0.4
baz=40,SNR=6.3
Q08A Gabbs 39.85 107 ⇑P P 15 38 03.3 +0.4
baz=40,SNR=28
PDAR Pinedale Array 39.92 95 P P 15 38 03.5 +0.1
comp=Z,15nm,0.9s,mb4.7,baz=316,slow=4.1,SNR=86
PDAR LR LR 15 54 49.1
comp=Z,148nm,19.3s,MS3.8,baz=151,slow=37
S06C San Francisco 39.94 109 ⇑P P 15 38 03.5 -0.2
baz=40
SPUT South Promonto 39.96 99 eP P 15 38 04.1 +0.3
HWUT Hardware Ranch 40.07 98 eP P 15 38 04.8 +0.1
comp=Z,8.7nm,1.0s,mb4.4
NVAR Mina Array Bea 40.07 107 P P 15 38 05.1 +0.4
comp=Z,23nm,0.8s,mb5.0,baz=328,slow=6.3,SNR=138
R07C Lee Vining 40.07 108 ⇑P P 15 38 05.1 +0.4
baz=40,SNR=13
P11A Circle Ranch, 40.12 104 ⇑P P 15 38 05.7 +0.5
baz=40,SNR=7.8
MNV Mina 40.13 107 P P 15 38 05.5 +0.3
MNV pmax pmax
comp=Z,34nm,1.0s,mb5.0
MNV Mina 40.13 107 eP P 15 38 05.4 +0.2
comp=Z,34nm,1.0s,mb5.0
PACP Pacheco Peak 40.15 112 ⇓P P 15 38 05.5 +0.1
baz=40,SNR=5.0
Q09A Carvers 40.17 106 ⇑P P 15 38 06.1 +0.5
baz=40
S05C Merced 40.22 110 ⇑P P 15 38 05.5 -0.4
baz=40
P12A McGill 40.53 103 ⇑P P 15 38 08.7 +0.2
baz=40,SNR=12
TCUT Toone Canyon 40.55 98 eP P 15 38 09.2 +0.5
HAST UC Hastings Re 40.59 112 ⇓P P 15 38 08.6 -0.4
baz=40,SNR=10
SFJD Kangerlussuaq 40.61 32 P P 15 38 09.1 -0.1
SFJD Kangerlussuaq 40.61 32 eP P 15 38 08.7 -0.5
KCC Kaiser Creek 40.63 109 ⇑P P 15 38 09.0 -0.4
baz=40
DUG Dugway 40.75 100 eP P 15 38 10.4 0.0
DUG pmax pmax
comp=Z,38nm,1.4s,mb4.8
DUG Dugway 40.75 100 eP P 15 38 10.3 0.0
comp=Z,38nm,1.4s,mb4.8
T06C Millerton Lake 40.76 110 ⇑P P 15 38 10.0 -0.4
baz=41,SNR=5.4
Q11A Duckwater 40.76 104 P P 15 38 10.9 +0.5
baz=41,SNR=36
LRV Little Rabbit 40.77 112 eP P 15 38 11.2 +0.7
TPH Tonopah 40.80 106 eP P 15 38 11.0 +0.2
TPH pmax pmax
comp=Z,46nm,1.5s,mb4.9
TPH Tonopah 40.80 106 eP P 15 38 11.0 +0.3
comp=Z,46nm,1.5s,mb4.9
CN2 Changchun 40.90 270 ⇑P P 15 38 10.8 -0.8
CN2 *eXP* sP 15 38 17.0 -0.5
CN2 *eS* **S 15 44 21.1 -1.7**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,400nm,11.0s,MS4.7
CN2 LR LR
comp=E,400nm,11.0s,MS4.7
CN2 LR LR
comp=Z,600nm,12.0s,MS4.7
MTUM Tungsten Hills 40.90 108 eP P 15 38 12.5 +0.9
U04C Hernandez Rese 40.91 111 ⇑P P 15 38 12.0 +0.3
baz=41
Q12A Willow Creek R 40.92 103 ⇓P P 15 38 11.9 +0.2
baz=41,SNR=9.7
R10A Warm Springs 40.98 105 ⇑P P 15 38 12.4 +0.1
baz=41,SNR=12
V03C Hunter Liggett 41.04 112 ⇑P P 15 38 13.0 +0.3
baz=41
RSSD Black Hills 41.08 89 P P 15 38 12.9 -0.1
RSSD pmax pmax
comp=Z,41nm,1.1s,mb5.0
RSSD Black Hills 41.08 89 eP P 15 38 12.7 -0.3
comp=Z,41nm,1.1s,mb5.0
S09A Goldfield 41.11 107 ⇓P P 15 38 13.2 -0.1
baz=41,SNR=40
DAU Daniels Canyon 41.20 98 eP P 15 38 14.4 +0.3
NLU North Lily Min 41.26 100 eP P 15 38 14.8 +0.2
PKD Parkfield 41.37 111 ⇑P P 15 38 15.4 0.0
baz=41
V04C Ramage Ranch, 41.51 112 ⇑P P 15 38 16.8 +0.2
baz=41
V05C Boulder Hill, 41.68 111 ⇓P P 15 38 18.1 +0.1
baz=42
PTRM Twissleman Ran 41.75 111 P P 15 38 18.5 0.0
RWWY Rawlins 41.78 94 eP P 15 38 18.3 -0.5
comp=Z,56nm,1.1s,mb5.1
CWC Cottonwood Cre 41.89 108 P P 15 38 20.1 +0.4
baz=42,SNR=7.6
MAJO Matsushiro 41.89 252 P P 15 38 19.3 -0.4
MAJO pmax pmax
comp=Z,42nm,0.8s,mb5.1
MAJO Matsushiro 41.89 252 eP P 15 38 19.3 -0.3
comp=Z,42nm,0.8s,mb5.1
MAT Matsushiro 41.89 252 P P 15 38 19.1 -0.6
MAT Matsushiro 41.89 252 eP P 15 38 19.0 -0.7
MAT pmax pmax
comp=Z,27nm,0.7s,mb5.0
MAT Matsushiro 41.89 252 eP P 15 38 19.0 -0.7
comp=Z,27nm,0.7s,mb5.0
MJAR Matsushiro Arr 41.89 252 P P 15 38 19.4 -0.3
comp=Z,23nm,0.7s,mb4.9,baz=21,slow=8.0,SNR=79
MJAR PcP PcP 15 40 13.8 -1.4
comp=Z,5.8nm,0.8s,baz=38,slow=3.5,SNR=8.4
MJAR LR LR 15 56 10.1
comp=Z,201nm,20.6s,MS4.0,baz=0.0,slow=37
MJAR Matsushiro Arr 41.89 252 P P 15 38 19.4 -0.3
MJAR 15 40 13.9
MJAR Matsushiro Arr 41.89 252 P P 15 38 19.4 -0.3
MJAR PcP PcP 15 40 13.8 -1.4
MJAR LR LR 15 56 10.1
SCO Scoresbysund 42.16 15 *i*P P 15 38 22.3 +0.4
comp=Z,13nm,0.7s,mb4.7
SCO Scoresbysund 42.16 15 *i*P P 15 38 22.3 +0.4
SCO pmax pmax
comp=Z,13nm,0.7s,mb4.7
TPNV Topopah Spring 42.16 106 P P 15 38 21.9 0.0
TPNV pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
TPNV Topopah Spring 42.16 106 eP P 15 38 21.5 -0.4
comp=Z,9.1nm,0.9s,mb4.4
DAC Darwin (Calif) 42.22 108 P P 15 38 24.0 +1.6
DAC pmax pmax
comp=Z,17nm,1.2s,mb4.5
ISA Isabella 42.41 109 ⇑P P 15 38 23.3 -0.7
baz=42,SNR=7.9
MSU Marysvale 42.45 101 P P 15 38 25.0 +0.8
MSU Marysvale 42.45 101 eP P 15 38 24.9 +0.7
IRK Irkutsk 42.54 295 eP P 15 38 24.1 -0.9
IRK *e* 15 40 16.2
IRK pmax pmax
comp=Z,58nm,1.1s,mb5.2
ARUT Antelope Range 42.56 103 eP P 15 38 24.8 -0.3
U10A Ash Meadows, A 42.59 107 ⇓P P 15 38 25.3 -0.1
baz=42,SNR=7.3
SRU San Rafael 42.60 99 P P 15 38 25.9 +0.4
SRU pmax pmax
comp=Z,60nm,1.2s,mb5.2
SRU San Rafael 42.60 99 eP P 15 38 25.8 +0.3
comp=Z,60nm,1.2s,mb5.2
CCUT Cedar City 42.79 103 eP P 15 38 27.4 +0.3
PHWY Pilot Hill 42.83 92 eP P 15 38 26.7 -0.6
EYMN Ely 43.06 75 eP P 15 38 28.1 -1.1
comp=Z,8.0nm,0.6s,mb4.6
TLY Talaya 43.22 295 P P 15 38 31.8 +1.3
comp=Z,40nm,0.7s,mb5.3,SNR=5.5
U12A Valley of Fire 43.29 105 ⇑P P 15 38 31.3 +0.2
baz=43,SNR=6.0
SNY Shenyang 43.31 270 ⇓P P 15 38 30.2 -1.0
SNY AP pP 15 38 34.3 -1.2
SNY XP sP 15 38 37.8 +0.7
SNY PP PP 15 40 11.9 0.0
SNY XS sS 15 45 12.7 +7.4
SNY SS SS 15 48 00.7 -11
SNY AMB AMB
comp=Z,32nm,0.7s,mb5.2
SNY AMB AMB
comp=Z,241nm,6.0s
SNY LR LR
comp=E,849nm,12.6s
SNY LR LR
comp=Z,384nm,9.9s
GSC Goldstone 43.38 108 P P 15 38 32.0 +0.2
baz=43,SNR=17

V11A Goodsprings 43.45 106 ⇓P **P 15 38 32.7 +0.3**
baz=43
KRAR Krasnoyarsk 43.55 306 *e*P **P 15 38 31.5 -1.7**
KRAR pmax pmax
comp=Z,61nm,1.3s,mb5.2
TUQ Turquoise Mtn. 43.61 107 P **P 15 38 34.1 +0.4**
baz=43,SNR=19
V12A Nelson 43.78 106 ⇓P **P 15 38 35.2 +0.2**
baz=44,SNR=13
PV10 Paradox Valley 43.84 98 *e*P **P 15 38 36.1 +0.6**
SMCO Snowmass 44.00 95 *e*P **P 15 38 36.5 -0.3**
comp=Z,12nm,1.0s,mb4.6
ISCO Idaho Springs 44.03 94 *e*P **P 15 38 37.4 +0.4**
ISCO pmax pmax
comp=Z,26nm,0.9s,mb5.0
ISCO Idaho Springs 44.03 94 *e*P **P 15 38 37.4 +0.3**
comp=Z,26nm,0.9s,mb5.0
SNCC San Nicolas Is 44.14 112 ⇑P **P 15 38 37.5 -0.5**
baz=44
W12A Cal Nev Ari 44.15 106 ⇑P **P 15 38 38.2 +0.3**
baz=44
KEV Kevo 44.16 352 *e*p **P 15 38 37.3 -0.8**
comp=Z,9.4nm,0.7s,mb4.6
KEV Kevo 44.16 352 P **P 15 38 38.1 0.0**
KEV pmax pmax
comp=Z,90nm,1.5s,mb5.3
MOY Mondy 44.22 297 *e*P **P 15 38 40.6 +2.1**
MOY pmax pmax
comp=Z,44nm,1.4s,mb5.0
PV01 Paradox Valley 44.23 98 *e*P **P 15 38 38.4 -0.2**
ZAK Zakamensk 44.40 294⇓*e*P **P 15 38 40.8 +0.8**
ZAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
ARCES ARCESS Array B 44.47 352 P **P 15 38 40.4 -0.1**
comp=Z,7.6nm,0.8s,mb4.5,baz=11,slow=6.8,SNR=11
ARCES PcP PcP 15 40 22.6 -1.3
comp=Z,7.4nm,0.7s,baz=13,slow=3.9,SNR=10
ARCES LR LR 15 59 07.8
comp=Z,160nm,18.5s,MS4.0,baz=266,slow=39
ARCES ARCESS Array B 44.47 352 P **P 15 38 40.4 -0.1**
ARCES 15 40 22.7
ARCES ARCESS Array B 44.47 352 P **P 15 38 40.4 -0.1**
ARCES PcP PcP 15 40 22.6 -1.3
ARCES LR LR 15 59 07.8
W14A Seligman 44.94 104 P **P 15 38 44.7 +0.4**
baz=45,SNR=24
PFO Pinyon Flat Ob 45.01 109 P **P 15 38 44.6 -0.2**
comp=Z,90nm,1.4s,mb5.4,SNR=6.2
PFO Pinyon Flat Ob 45.01 109 P **P 15 38 44.2 -0.6**
PFO pmax pmax
comp=Z,35nm,1.4s,mb5.0
PFO Pinyon Flat Ob 45.01 109 *e*P **P 15 38 44.1 -0.8**
comp=Z,35nm,1.4s,mb5.0
PFO Pinyon Flat Ob 45.01 109 P **P 15 38 44.3 -0.6**
baz=45,SNR=8.8
ULN Ulaanbaatar 45.01 289 ⇓P **P 15 38 45.9 +1.0**
SNR=12
ULN Ulaanbaatar 45.01 289*d i*P **P 15 38 45.2 +0.3**
ULN Ulaanbaatar 45.01 289 *e*P **P 15 38 45.5 +0.7**
comp=Z,20nm,1.0s,mb4.9
W15A Williams 45.28 103 ⇑P **P 15 38 47.5 +0.4**
baz=45,SNR=6.4
SONM Songino Array 45.29 290 P **P 15 38 48.4 +1.3**
comp=Z,17nm,0.7s,mb5.0,baz=37,slow=7.5,SNR=146
SONM PcP PcP 15 40 26.9 +0.2
comp=Z,7.7nm,0.7s,baz=41,slow=1.2,SNR=8.4
SONM LR LR 15 58 58.6
comp=Z,576nm,18.1s,MS4.5,baz=33,slow=38
SONM Songino Array 45.29 290 P **P 15 38 48.4 +1.3**
SONM 15 40 26.9
WUAZ Wupatki 45.35 102 *e*P **P 15 38 47.7 +0.1**
comp=Z,69nm,1.2s,mb5.4
109C Camp Elliot, M 45.39 110 ⇓P **P 15 38 47.1 -0.8**
baz=45
LVZ Lovozero 45.42 347 *e*P **P 15 38 46.5 -1.6**
LVZ pmax pmax
comp=Z,22nm,1.0s,mb4.9
LVZ pmax pmax
comp=N,13nm,1.2s
LVZ pmax pmax
comp=E,8.0nm,1.2s
LVZ MLR MLR
comp=Z,173nm,17.0s,MS4.1
Y12C Blythe 45.64 107 ⇓P **P 15 38 49.8 -0.1**
baz=46,SNR=6.8
X14A Yava 45.66 105 ⇑P **P 15 38 50.3 +0.3**
baz=46
X15A Humboldt 45.90 104 ⇑P **P 15 38 51.9 0.0**
baz=46,SNR=6.9
Y14A Wickenburg 46.08 105 P **P 15 38 53.5 +0.2**
baz=46,SNR=11
GLA Glamis 46.13 107 ⇑P **P 15 38 53.5 -0.3**
baz=46,SNR=16
SCHQ Schefferville 46.38 51 P **P 15 38 54.8 -0.9**
comp=Z,9.4nm,0.9s,mb4.7,baz=338,slow=7.0,SNR=8.0
SCHQ PcP PcP 15 40 29.4 -1.2
comp=Z,14nm,0.8s,baz=357,slow=3.9,SNR=11
DL2 Dalian 46.57 270 P **P 15 38 57.5 +0.3**
DL2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
Z14A Wintersburg 46.60 105 P **P 15 38 57.7 +0.2**
baz=46,SNR=8.3
SCIA State Center 47.34 81 *e*P **P 15 39 02.4 -0.8**
115A Sonoran Desert 47.47 105 ⇑P **P 15 39 04.4 +0.2**
baz=47
NVS Novosibirsk 47.62 311 *i* P **P 15 39 04.1 -1.2**
NVS *e* 15 40 33.2
NVS *i* S **S 15 45 58.9 -1.5**
NVS pmax pmax
comp=Z,33nm,2.0s,mb5.0
NVS pmax pmax
comp=N,23nm,1.8s
NVS pmax pmax
comp=E,14nm,1.8s
NVS smax
comp=N,26nm,1.8s
NVS smax
comp=E,32nm,1.8s
116A Eloy 47.80 105 ⇓P **P 15 39 07.0 +0.2**
baz=48
ANMO Albuquerque 47.83 98 P **P 15 39 07.3 +0.3**
ANMO pmax pmax
comp=Z,23nm,1.3s
ANMO Albuquerque 47.83 98 *e*P **P 15 39 06.8 -0.2**
comp=Z,23nm,1.4s,mb5.0
BJI Beijing 47.85 275 *e*P **P 15 39 06.9 -0.3**
BJI S **S 15 46 03.3 -0.5**
BJI AMB AMB
comp=Z,15nm,1.3s,mb4.9
BJI LR LR
comp=N,607nm,9.5s
BJI LR LR
comp=E,740nm,9.8s
BJI LR LR
comp=Z,174nm,17.7s,MS4.1
BJT Baijiatuau 47.87 275 *e*P **P 15 39 06.9 -0.4**
BJT pmax pmax
comp=Z,9.0nm,0.5s
BJT Baijiatuau 47.87 275 *e*P **P 15 39 06.9 -0.4**
comp=Z,8.5nm,0.5s,mb5.0
ZAL Zalesovo 47.89 310 P **P 15 39 06.8 -0.7**
comp=Z,12nm,0.8s,mb5.0,baz=77,slow=7.8,SNR=43
ZAL LR LR 15 59 44.0
comp=Z,258nm,19.1s,MS4.2,baz=83,slow=37
LAZ Ladron 48.03 99 *e*P **P 15 39 09.1 +0.5**
LENM Lemitar 48.30 99 *e*P **P 15 39 11.1 +0.5**
LPM Los Pinos Moun 48.32 98 *e*P **P 15 39 10.8 0.0**
TUC Tucson 48.39 104 P **P 15 39 11.5 +0.2**
TUC pmax pmax
comp=Z,19nm,1.3s,mb5.0
TUC Tucson 48.39 104 *e*P **P 15 39 11.3 -0.1**
comp=Z,19nm,1.3s,mb5.0
Y22C IRIS PASSCAL I 48.41 99 ⇓P **P 15 39 12.0 +0.5**
baz=48
BNM Barren Site 48.46 99 *e*P **P 15 39 12.1 +0.3**
HHC Hu-ho-hao-te 49.05 280 *e*P **P 15 39 16.6 +0.2**
HHC XP sP 15 39 22.5 +0.2
HHC PCP PcP 15 40 41.0 +0.9
HHC PP PP 15 41 10.2 +0.3
HHC S **S 15 46 20.6 0.0**
HHC SCS ScS 15 49 06.2 -2.1
HHC SS SS 15 49 45.1 -6.5
HHC AMB AMB
comp=Z,28nm,1.3s,mb5.1
HHC AMB AMB
comp=Z,117nm,6.2s
HHC LR LR
comp=N,939nm,16.1s,MS5.1
HHC LR LR
comp=E,1μm,14.9s,MS5.1
HHC LR LR
comp=Z,710nm,15.5s,MS4.8
AMTX Amarillo 49.85 93 *e*P **P 15 39 21.4 -1.1**
comp=Z,44nm,1.0s,mb5.4
SOKR Solikamsk 50.16 331*d i*P **P 15 39 24.2 -0.7**
SOKR pmax pmax
comp=Z,20nm,1.1s,mb5.1
JOF Joensuu 50.60 348 *e*p **P 15 39 26.8 -1.4**
comp=Z,9.4nm,0.6s,mb4.9
JOF Joensuu 50.60 348 *e*P **P 15 39 26.8 -1.4**
JOF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
KLMR Klimovskoe 51.74 342 *e*P **P 15 39 36.5 -0.3**
KLMR pmax pmax
comp=Z,60nm,1.5s,mb5.3
KAF Kangasniemi 51.79 350 *e*p **P 15 39 35.5 -1.6**
comp=Z,10nm,0.5s,mb5.0,baz=5.8,slow=7.1
KAF Kangasniemi 51.79 350 *e*P **P 15 39 35.5 -1.6**
KAF pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
SVE Sverdlovsk 51.88 327⇓*e*P **P 15 39 38.2 +0.4**
SVE pmax pmax
comp=Z,56nm,1.5s,mb5.3
SVE MLR MLR
comp=N,200nm,15.0s,MS4.4
SVE MLR MLR
comp=E,200nm,15.0s,MS4.4
SVE MLR MLR
comp=Z,200nm,15.0s,MS4.3
CHKZ Chkalovo 52.28 319 P **P 15 39 40.0 -0.8**
CHKZ pmax pmax
comp=Z,22nm,0.8s,mb5.1
CHKZ Chkalovo 52.28 319 *e*P **P 15 39 39.9 -0.9**
comp=Z,22nm,0.8s,mb5.2
LONY Lake Ozonia 52.33 64 *e*P **P 15 39 38.5 -2.6**
FINES FINESS Array B 52.47 350 P **P 15 39 42.0 -0.2**
comp=Z,5.5nm,0.7s,mb4.6,baz=26,slow=7.1,SNR=30
FINES PcP PcP 15 40 51.4 -1.3
comp=Z,5.8nm,0.9s,baz=38,slow=7.2,SNR=3.8
FINES LR LR 16 03 58.7
comp=Z,158nm,20.6s,MS4.0,baz=189,slow=38
FINES FINESS Array B 52.47 350 P **P 15 39 42.0 -0.2**
FINES 15 40 51.4
FINES FINESS Array B 52.47 350 P **P 15 39 42.0 -0.2**
FINES PcP PcP 15 40 51.4 -1.3
FINES LR LR 16 03 58.6
FRNY Flat Rock 52.51 63 *e*P **P 15 39 40.6 -1.9**
KURK Kurchatov 52.59 312 P **P 15 39 42.7 -0.4**
comp=Z,162nm,0.8s,mb6.0,SNR=23
KURK Kurchatov 52.59 312 P **P 15 39 43.1 0.0**
SNR=11
KURK Kurchatov 52.59 312 *e*P **P 15 39 42.9 -0.2**
KURK pmax pmax
comp=Z,26nm,0.9s,mb5.2
KURK Kurchatov 52.59 312 *e*P **P 15 39 42.9 -0.2**
comp=Z,26nm,0.8s,mb5.2
ARU Arti 52.70 329 P **P 15 39 43.1 -0.8**
comp=Z,142nm,0.8s,mb6.0,SNR=9.0
ARU Arti 52.70 329⇓*i*P **P 15 39 43.2 -0.7**
ARU *e* 15 40 50.9
ARU *e* 15 41 41.5
ARU *e*PPP 15 42 49.5
ARU *e*S **S 15 47 13.7 +2.5**
ARU *e*SS SS 15 50 49.7 0.0
ARU pmax pmax
comp=Z,21nm,0.9s,mb5.1
ARU Arti 52.70 329 *e*P **P 15 39 43.4 -0.5**
comp=Z,21nm,0.8s,mb5.1
ALLY Alegheny Colle 52.76 70 *e*P **P 15 39 42.7 -1.6**
ACSO Alum Creek Sta 52.86 74 *e*P **P 15 39 43.6 -1.5**
comp=Z,9.7nm,0.9s,mb4.7
BRVK Borovoye 52.92 319 P **P 15 39 45.2 -0.3**
comp=Z,238nm,0.9s,mb6.1,SNR=19
BRVK Borovoye 52.92 319 P **P 15 39 45.4 -0.1**
BRVK pmax pmax
comp=Z,20nm,0.8s,mb5.1
BRVK Borovoye 52.92 319 *e*P **P 15 39 45.2 -0.3**
comp=Z,20nm,0.8s,mb5.1
BVAR Borovoye Array 52.92 319 P **P 15 39 45.2 -0.4**
comp=Z,28nm,0.7s,mb5.3,baz=31,slow=8.4,SNR=89
ZRNK Zerenda 53.36 320 *e*P **P 15 39 48.4 -0.4**
ZRNK pmax pmax
comp=Z,16nm,0.8s,mb5.0
ZRNK Zerenda 53.36 320 *e*P **P 15 39 48.4 -0.4**
comp=Z,16nm,0.8s,mb5.0
NB2 NORSAR Subarra 53.42 359 P **P 15 39 48.9 -0.3**
comp=Z,0.8nm,0.7s,baz=359,slow=6.9
NOA NORSAR Array B 53.42 359 P **P 15 39 49.4 +0.2**
comp=Z,7.3nm,0.8s,mb4.7,baz=357,slow=7.2,SNR=15
NOA LR LR 15 59 37.7
comp=Z,62nm,21.6s,MS3.6,baz=10.0,slow=33
MIAR Mount Ida 53.47 86 P **P 15 39 48.2 -1.4**
MIAR pmax pmax
comp=Z,35nm,1.0s,mb5.2
MIAR Mount Ida 53.47 86 *e*P **P 15 39 48.0 -1.6**
comp=Z,35nm,1.0s,mb5.2
SSE Sheshan 53.49 265 *e*P **P 15 39 48.8 -0.9**
SSE AP pP 15 39 51.9 -2.2
SSE XP sP 15 39 53.2 -2.5
SSE S **S 15 47 21.8 -0.3**
SSE XS sS 15 47 27.3 -1.9
SSE AMB AMB
comp=Z,27nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,186nm,5.1s
SSE LR LR
comp=N,42nm,14.7s,MS4.0
SSE LR LR
comp=E,99nm,14.7s,MS4.0
SSE LR LR
comp=Z,76nm,16.5s,MS3.8
NJ2 Nanjing 53.61 268 *e*P **P 15 39 49.1 -1.5**
NJ2 PP PP 15 41 52.1 +0.8
NJ2 S **S 15 47 15.0 -8.7**
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
NJ2 AMB AMB
comp=Z,502nm,5.0s
NJ2 LR LR
comp=N,4μm,25.1s
NJ2 LR LR
comp=E,6μm,27.0s
LBNH Lisbon 53.63 62 P **P 15 39 50.4 -0.3**
LBNH pmax pmax
comp=Z,20nm,1.0s,mb5.0
LBNH Lisbon 53.63 62 *e*P **P 15 39 49.6 -1.1**
comp=Z,20nm,1.0s,mb5.0
UALR University of 53.78 85 *e*P **P 15 39 50.1 -1.7**
comp=Z,30nm,1.0s,mb5.2
LTX Lajitas 53.88 99 P **P 15 39 52.8 +0.2**
LTX pmax pmax
comp=Z,43nm,1.4s,mb5.2
LTX Lajitas 53.88 99 *e*P **P 15 39 52.3 -0.3**
comp=Z,43nm,1.4s,mb5.2
WVT Waverly 54.45 80 P **P 15 39 55.3 -1.4**
WVT pmax pmax
comp=Z,18nm,1.3s,mb4.8
WVT Waverly 54.45 80 *e*P **P 15 39 55.3 -1.4**
comp=Z,18nm,1.3s,mb4.8
JCT Junction City 54.45 94 P **P 15 39 56.1 -0.7**
JCT pmax pmax
comp=Z,64nm,0.8s,mb5.6
SSPA Standing Stone 54.50 69 *e*P **P 15 39 54.2 -2.9**
comp=Z,26nm,1.4s,mb5.1
MKAR Makanchi Array 54.87 307 P **P 15 39 59.1 -0.7**
comp=Z,4.9nm,0.8s,mb4.6,baz=45,slow=7.2,SNR=21
GTA Gaotai 54.95 289⇓*i*P **P 15 40 00.9 +0.5**
GTA AP pP 15 40 08.1 +3.4
GTA XP sP 15 40 11.4 +5.0
GTA PCP PcP 15 41 02.5 +0.3
GTA PP PP 15 42 06.1 +2.7
GTA S **S 15 47 41.1 -0.6**
GTA AMB AMB
comp=Z,36nm,0.8s,mb5.5
GTA AMB AMB
comp=Z,142nm,5.7s
GTA LR LR
comp=N,159nm,14.4s,MS4.4
GTA LR LR
comp=E,202nm,16.7s,MS4.4
GTA LR LR
comp=Z,72nm,7.2s
PLAL Pickwick Lake 55.34 81 *e*P **P 15 40 01.6 -1.6**
comp=Z,30nm,1.3s,mb5.2
VSU Vasula 55.38 350 *e*P **P 15 40 02.7 -0.8**
WMQ Urumqi 55.63 301 P **P 15 40 08.6 +3.3**
WMQ AP pP 15 40 12.7 +3.1
WMQ XP sP 15 40 15.1 +3.8
WMQ PCP PcP 15 41 07.8 +3.0
WMQ PP PP 15 42 14.5 +5.0
WMQ SCP ScP 15 45 05.2 +1.8
WMQ S **S 15 47 52.8 +1.9**
WMQ XS sS 15 48 00.4 +2.4
WMQ AMB AMB
comp=Z,51nm,2.3s,mb5.2
WMQ AMB AMB
comp=Z,290nm,6.5s
WMQ LR LR
comp=N,1μm,13.0s,MS5.1
WMQ LR LR
comp=E,691nm,16.0s,MS5.1
WMQ LR LR
comp=Z,358nm,10.0s
XAN Xi'an 55.96 278 P **P 15 40 06.0 -1.6**
XAN AP pP 15 40 11.1 -0.9
XAN AMB AMB
comp=Z,10.0nm,1.9s,mb4.5
FWV Forest Hill 56.00 73 *e*P **P 15 40 06.0 -2.0**
LZH Lanzhou 56.23 284 *e*P **P 15 40 09.9 +0.3**
LZH AP pP 15 40 13.0 -0.9
LZH XP sP 15 40 14.9 -0.7
LZH PP PP 15 42 16.2 +1.4
LZH *e*S **S 15 47 58.0 -0.9**
LZH SS SS 15 51 41.0 -4.5
LZH AMB AMB
comp=Z,101nm,1.0s,mb5.8
LZH AMB AMB
comp=Z,495nm,4.0s
LZH LR LR
comp=N,720nm,15.5s
LZH LR LR
comp=Z,1μm,17.0s,MS5.1
ELN Prospectdale 56.33 74 *e*P **P 15 40 08.3 -2.0**
CPCT Cooper Cave 56.37 78 P **P 15 40 08.7 -1.9**
MCD Coleburn Disti 56.47 9 *e*P **P 15 40 10.8 -0.5**
MCD Coleburn Disti 56.47 9 *e*P **P 15 40 10.8 -0.5**
BLA Blacksburg 56.48 73 P **P 15 40 10.2 -1.1**
BLA Blacksburg 56.48 73 *e*P **P 15 40 10.0 -1.4**
comp=Z,1.0nm,0.8s
MME1 Meikle Cairn 56.76 8 *e*P **P 15 40 13.5 +0.2**
MME1 Meikle Cairn 56.76 8 *e*P **P 15 40 13.5 +0.2**
WHN Wuhan 56.78 271 ⇓P **P 15 40 12.5 -1.0**
KAR1 Arisaig 56.96 10 *e*P **P 15 40 14.0 -0.8**
KAR1 Arisaig 56.96 10 *e*P **P 15 40 14.0 -0.8**
MOS Moscow 56.97 342 *e*P **P 15 40 13.6 -1.2**
LRAL Lakeview Retre 57.47 81 *e*P **P 15 40 16.4 -2.0**
comp=Z,7.2nm,0.8s,mb4.8
OBN Obninsk 57.71 342*de*P **P 15 40 19.4 -0.6**
OBN *e* 15 42 34.6
OBN *e*S **S 15 48 14.6 -3.7**
OBN pmax pmax
comp=Z,35nm,1.7s,mb5.1
OBN MLR MLR
comp=Z,300nm,23.0s,MS4.3
EAB Aberfoyle 57.79 10⇑*e*P **P 15 40 20.6 0.0**
EAB Aberfoyle 57.79 10⇑*e*P **P 15 40 20.6 0.0**
PGBU Glenifferbraes 58.16 10 *e*P **P 15 40 23.3 +0.1**
PGBU Glenifferbraes 58.16 10 *e*P **P 15 40 23.3 +0.1**
ESY Stoneypath 58.17 8⇑*e*P **P 15 40 23.2 -0.1**
ESY Stoneypath 58.17 8⇑*e*P **P 15 40 23.2 -0.1**
EBL Broad Law 58.29 9⇑*e*P **P 15 40 24.3 +0.2**
EBL Broad Law 58.29 9⇑*e*P **P 15 40 24.3 +0.2**
AKTO Aktyubinsk 58.39 326 *i* P **P 15 40 24.4 -0.4**
AKTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ESK Eskdalemuir 58.73 9⇑*e*P **P 15 40 27.7 +0.4**
ESK Eskdalemuir 58.73 9⇑*e*P **P 15 40 27.7 +0.4**
ESK Eskdalemuir 58.73 9 *e*P **P 15 40 27.3 +0.1**
ESK pmax pmax
comp=Z,25nm,0.9s,mb5.2
ESK Eskdalemuir 58.73 9 *e*P **P 15 40 27.3 +0.1**
comp=Z,25nm,0.9s,mb5.2
BWH Wardlaw 58.84 9 *e*P **P 15 40 28.1 +0.1**
BWH Wardlaw 58.84 9 *e*P **P 15 40 28.1 +0.1**
BHH Howats Hill 58.95 9 *e*P **P 15 40 28.9 +0.1**
BHH Howats Hill 58.95 9 *e*P **P 15 40 28.9 +0.1**
BBO1 Bothel 59.31 9 *e*P **P 15 40 30.6 -0.6**
BBO1 Bothel 59.31 9 *e*P **P 15 40 30.6 -0.6**
XDE Dent Fell 59.52 9 *e*P **P 15 40 32.4 -0.3**
XDE AMb AMB 15 40 36.5
comp=Z,55nm,1.2s,mb5.4
XDE Dent Fell 59.52 9 *e*P **P 15 40 32.4 -0.3**
XDE AMb AMB 15 40 36.5
comp=Z,55nm,1.2s,mb5.4
DMUB Kingscourt 59.87 12 *e*P **P 15 40 35.0 -0.1**
SUW Suwalki 60.06 351 *e*P **P 15 40 36.4 0.0**
DCN Croghan 60.39 12 *e*P **P 15 40 37.0 -1.6**
TKM2 Tokmak 2 60.48 310 P **P 15 40 40.5 +1.2**
SNR=14
USP Ospenovka 60.51 311 P **P 15 40 40.4 +0.9**
SNR=5.2
BSEG Bad Segeberg 60.54 360 *e*P **P 15 40 40.7 +1.0**
comp=Z,24nm,1.0s,mb5.3
BSEG Bad Segeberg 60.54 360 *e*P **P 15 40 40.7 +1.0**
BSEG pmax pmax
comp=Z,24nm,1.0s,mb5.3
WCB1 Church Bay 60.57 10 *e*P **P 15 40 39.1 -0.8**
WCB1 AMb AMB 15 40 40.2
comp=Z,63nm,0.8s,mb5.8
WCB1 Church Bay 60.57 10 *e*P **P 15 40 39.1 -0.8**
WCB1 AMb AMB 15 40 40.2
comp=Z,63nm,0.8s,mb5.8
LHO Holmfirth 60.58 8 *e*P **P 15 40 39.7 -0.3**
LHO Holmfirth 60.58 8 *e*P **P 15 40 39.7 -0.3**
WLF1 Llynfaes 60.67 10 *e*P **P 15 40 40.1 -0.5**
WLF1 AMb AMB 15 40 41.2
comp=Z,91nm,1.3s,mb5.8
WLF1 Llynfaes 60.67 10 *e*P **P 15 40 40.1 -0.5**
WLF1 AMb AMB 15 40 41.2
comp=Z,91nm,1.3s,mb5.8
CHMS Chumysh 60.68 311 P **P 15 40 41.8 +1.2**
SNR=18
CD2 Chengdu 60.79 281 *e*P **P 15 40 40.8 -0.6**
CD2 AP pP 15 40 45.4 -0.4
CD2 XP sP 15 40 47.8 +0.4
CD2 PP PP 15 42 56.4 +1.1
CD2 SS SS 15 52 54.3 -2.8
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,30nm,6.2s
CD2 LR LR
comp=Z,60nm,14.4s,MS3.9
FRU Bishkek 60.87 311 *e*P **P 15 40 42.0 +0.1**
FRU MLR MLR
comp=Z,500nm,13.0s,MS4.8
KBI1 Birley Grange 60.89 8 *e*P **P 15 40 42.0 0.0**
KBI1 Birley Grange 60.89 8 *e*P **P 15 40 42.0 0.0**
KBK Karagaybulak 60.92 310 P **P 15 40 43.7 +1.4**
SNR=16
AAK Ala-Archa 61.09 311 P **P 15 40 44.8 +1.4**
SNR=8.9
AAK Ala-Archa 61.09 311 P **P 15 40 43.7 +0.3**
comp=Z,160nm,0.9s,SNR=6.9
AAK Ala-Archa 61.09 311 ⇓P **P 15 40 43.8 +0.4**
SNR=5.3
AAK Ala-Archa 61.09 311 P **P 15 40 43.7 +0.3**
AAK pmax pmax
comp=Z,26nm,1.0s,mb5.3
AAK Ala-Archa 61.09 311 *e*P **P 15 40 43.7 +0.3**
comp=Z,26nm,0.9s,mb5.3
SBD1 Bryn Du 61.13 9 *e*P **P 15 40 43.8 +0.1**
SBD1 Bryn Du 61.13 9 *e*P **P 15 40 43.8 +0.1**
VRSR Storozhevoye 61.17 340 *e*P **P 15 40 43.1 -0.8**
VRSR pmax pmax
comp=N,10.0nm,0.6s
VRSR pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
VRSR pmax pmax
comp=E,10.0nm,0.7s
EKS2 Erkin-Say 61.29 311 P **P 15 40 46.3 +1.6**
SNR=8.4
KZA Kyzart 61.35 310 P **P 15 40 46.8 +1.6**
SNR=10.0
HLM1 Long Mynd 61.54 9 *e*P **P 15 40 46.5 0.0**
HLM1 AMb AMB 15 40 52.8

comp=Z,49nm,1.4s,mb5.5
HLM1 Long Mynd 61.54 9 *e*P **P** **15 40 46.5 0.0**
HLM1 AMb AMB 15 40 52.8

comp=Z,49nm,1.4s,mb5.5
KK31 Karatay Array 61.87 314 *i* P **P** **15 40 48.7 0.0**
KK31 pmax pmax

comp=Z,7.0nm,0.7s,mb4.9
HTR Trewern Hill 61.95 9 *e*P **P** **15 40 49.5 +0.2**
HTR AMb AMB 15 40 50.5

comp=Z,55nm,1.3s,mb5.5
HTR Trewern Hill 61.95 9 *e*P **P** **15 40 49.5 +0.2**
HTR AMb AMB 15 40 50.5

comp=Z,55nm,1.3s,mb5.5
NRDL Niedersach Rie 61.99 0 *e*P **P** **15 40 50.6 +1.1**
comp=Z,13nm,1.1s,mb5.0
MCH1 Michaelchurch 62.05 9 *e*P **P** **15 40 50.1 +0.2**
MCH1 Michaelchurch 62.05 9 *e*P **P** **15 40 50.1 +0.2**
IBBN Ibbenburen 62.16 2 *e*P **P** **15 40 51.4 +0.8**
comp=Z,28nm,1.1s,mb5.3
HGH Gray Hill 62.42 9 *e*P **P** **15 40 52.5 +0.2**
HGH AMb AMB 15 40 53.8

comp=Z,84nm,1.3s,mb5.7
HGH Gray Hill 62.42 9 *e*P **P** **15 40 52.5 +0.2**
HGH AMb AMB 15 40 53.8

comp=Z,84nm,1.3s,mb5.7
WTSB Winterswijk 62.49 2 *e*P **P** **15 40 53.3 +0.5**
comp=Z,18nm,0.9s,mb5.2
CLZ Clausthal 62.64 360 *e*P **P** **15 40 54.6 +0.7**
comp=Z,33nm,1.0s,mb5.4
CLZ Clausthal 62.64 360 *e*P **P** **15 40 54.6 +0.7**
CLZ pmax pmax

comp=Z,33nm,1.0s,mb5.4
AKASG Malin Array Be 62.87 347 P **P** **15 40 54.7 -0.7**
comp=Z,12nm,0.7s,mb5.1,baz=9.2,slow=6.4,SNR=34
AKASG LR LR 16 10 25.3

comp=Z,137nm,21.4s,MS4.1,baz=355,slow=38
AKASG Malin Array Be 62.87 347 P **P** **15 40 54.7 -0.7**
AKASG LR LR 16 10 25.3
BUG Bochum--Univer 63.02 2 *e*P **P** **15 40 56.4 0.0**
comp=Z,12nm,0.4s,mb5.4
CLL Collm 63.16 358 *e*P **P** **15 40 57.5 +0.2**
comp=Z,14nm,1.0s,mb5.0
CLL Collm 63.16 358 *i* P **P** **15 40 57.4 +0.1**
CLL *i* pP pP 15 40 59.9 -1.8

comp=Z,24nm,1.4s
FBE Freiberg 63.54 358 *e*P **P** **15 41 00.1 +0.3**
comp=Z,16nm,1.2s,mb4.9
GYA Guiyang 63.54 276 ⇓*i*P **P** **15 40 59.8 0.0**
GYA AP pP 15 41 04.2 0.0
GYA XP sP 15 41 07.8 +1.9
GYA PP PP 15 43 20.9 +1.4
GYA S **S** **15 49 30.4 -2.5**
GYA AMB AMB

comp=Z,90nm,0.8s,mb5.8
GYA AMB AMB

comp=Z,130nm,3.9s
GYA LR LR

comp=N,540nm,17.9s,MS5.0
GYA LR LR

comp=E,740nm,18.0s,MS5.0
GYA LR LR

comp=Z,530nm,18.6s,MS4.8
KSP Ksiaz 63.55 356 *e*P **P** **15 41 00.1 +0.2**
KSP Ksiaz 63.55 356 *e*P **P** **15 40 59.9 0.0**
BRG Berggiesshubel 63.58 357 *e*P **P** **15 41 00.2 +0.1**
comp=Z,15nm,1.3s,mb4.9
BRG Berggiesshubel 63.58 357 *e*P **P** **15 41 00.3 +0.2**
comp=Z,8.9nm,1.3s,mb4.6
BRG Berggiesshubel 63.58 357 *e*P **P** **15 41 00.3 +0.2**
BRG pmax pmax

comp=Z,9.0nm,1.2s,mb4.7
UCC Uccle 63.60 4 P **P** **15 41 00.5 +0.3**
UBBA Unterbreizbach 63.67 0 *e*P **P** **15 41 01.4 +0.8**
comp=Z,18nm,1.5s,mb4.9
HGN Heimansgroeve 63.67 3 *e*P **P** **15 41 00.7 0.0**
comp=Z,25nm,1.4s,mb5.1
CCA1 Carnmenellis 63.69 11 *e*P **P** **15 41 00.7 -0.1**
CCA1 Carnmenellis 63.69 11 *e*P **P** **15 41 00.7 -0.1**
CRQ2 Rosemanowes 2 63.72 11 *e*P **P** **15 41 01.0 0.0**
CRQ2 AMb AMB 15 41 04.7

comp=Z,66nm,1.2s,mb5.5
CRQ2 Rosemanowes 2 63.72 11 *e*P **P** **15 41 01.0 0.0**
CRQ2 AMb AMB 15 41 04.7

comp=Z,66nm,1.2s,mb5.5
MEM Membach 63.83 3 P **P** **15 41 01.7 -0.1**
MEM AP pP 15 41 04.8 -1.3
MOX Moxa 63.84 359 *e*P **P** **15 41 02.0 +0.2**
comp=Z,11nm,1.0s,mb4.8
MOX Moxa 63.84 359 *e*P **P** **15 41 02.3 +0.5**
comp=Z,20nm,1.4s,mb5.0
MOX Moxa 63.84 359 *e*P **P** **15 41 02.3 +0.5**
MOX pmax pmax

comp=Z,20nm,1.4s,mb5.0
SNF Seneffe 63.89 4 P **P** **15 41 02.5 +0.4**
UPC Upice 63.89 356 *e*P **P** **15 41 02.6 +0.5**
UPC *ex* x 15 41 15.5
WERD Werda 64.03 358 *e*P **P** **15 41 03.7 +0.7**
comp=Z,16nm,1.2s,mb4.9
OJC Ojcow 64.03 353 *e*P **P** **15 41 04.1 +1.1**
DPC Dobruska-Polom 64.04 356 *e*P **P** **15 41 03.4 +0.3**
DPC *ex* x 15 41 15.9
TANN Tannenbergstha 64.06 358 *e*P **P** **15 41 03.7 +0.5**
comp=Z,16nm,1.2s,mb4.9
GUNZ Gunzen 64.11 358 *e*P **P** **15 41 04.0 +0.4**
comp=Z,14nm,1.3s,mb4.8
NKC Novy Kostel 64.24 358 *e*P **P** **15 41 04.9 +0.5**
NKC *ex* x 15 41 15.0
DOU Dourbes 64.31 4 P **P** **15 41 05.1 +0.2**
GIVF Givet 64.31 4 *e*P **P** **15 41 04.5 -0.4**
BAIF Baives 64.33 4 *e*P **P** **15 41 05.1 +0.1**
comp=Z,61nm,1.0s,mb5.3
BAIF Baives 64.33 4 *e*P **P** **15 41 05.1 +0.1**
BAIF pmax pmax

comp=Z,31nm,1.0s,mb5.3
BAIF Baives 64.33 4 *e*P **P** **15 41 05.1 +0.1**
comp=Z,30nm,1.0s,mb5.3
PRU Pruhonice 64.45 357 *e*P **P** **15 41 06.0 +0.2**
KWP Kalwaria 64.45 351 *e*P **P** **15 41 06.3 +0.5**
OKC Ostrava-Krasne 64.48 354 *e*P **P** **15 41 06.4 +0.4**
MANZ Manzenberg 64.49 359 *e*P **P** **15 41 06.5 +0.4**
comp=Z,10.0nm,1.2s,mb4.7
ROTZ Rotzenmuhle 64.71 359 *e*P **P** **15 41 07.9 +0.4**
comp=Z,13nm,1.3s,mb4.8
RUP Ruppelstein 64.76 2 *e*P **P** **15 41 08.3 +0.5**
WLF Walferdange 64.78 3 *e*P **P** **15 41 08.3 +0.3**
comp=Z,15nm,0.9s,mb5.0
WLF Walferdange 64.78 3 P **P** **15 41 08.3 +0.4**
GRA1 Grafenberg Arr 64.79 359 *e*P **P** **15 41 08.8 +0.8**
comp=Z,21nm,1.1s,mb5.1
GRA1 *e*pP pP 15 41 11.5 -0.9
GRF Grafenberg Arr 64.79 359 *e*P **P** **15 41 08.8 +0.8**
comp=Z,21nm,1.1s,mb5.1
GRF *e*pP pP 15 41 11.5 -0.9
GRF Grafenberg Arr 64.79 359 *e*P **P** **15 41 08.8 +0.8**
GRF *e**PP pP 15 41 11.5 -0.9
GRF pmax pmax

comp=Z,21nm,1.1s,mb5.1
GRF Grafenberg Arr 64.79 359 *e*P **P** **15 41 08.8 +0.8**
GRF *e**PP pP 15 41 11.5 -0.9
GRF pmax pmax

comp=Z,21nm,1.1s,mb5.1
TREC Trest 65.12 356 *e*P **P** **15 41 10.3 +0.1**
KOLS Kolonicke sedl 65.17 351 *e*P **P** **15 41 11.0 +0.5**
KOLS pmax pmax

comp=Z,7.0nm,0.6s,mb4.9
KOLS Kolonicke sedl 65.17 351 *e*P **P** **15 41 11.0 +0.5**
comp=Z,6.8nm,0.6s,mb4.8
CRVS Cervenica-Dubn 65.25 352 *e*P **P** **15 41 11.4 +0.4**
CRVS pmax pmax

comp=Z,5.0nm,0.8s,mb4.6
CRVS Cervenica-Dubn 65.25 352 *e*P **P** **15 41 11.4 +0.4**
comp=Z,4.5nm,0.8s,mb4.5
KHC Kasperske Hory 65.33 358 *e*P **P** **15 41 12.0 +0.5**
KHC *ex* x 15 41 23.2
FLN La Foliniere 65.43 8 *e*P **P** **15 41 11.3 -0.9**
comp=Z,65nm,0.8s,mb5.4
FLN La Foliniere 65.43 8 *e*P **P** **15 41 11.3 -0.9**
FLN pmax pmax

comp=Z,32nm,0.8s,mb5.4
FLN La Foliniere 65.43 8 *e*P **P** **15 41 11.3 -0.9**
comp=Z,32nm,0.8s,mb5.4
GEC2 GERESS Array S 65.61 357 *e*P **P** **15 41 13.8 +0.5**
comp=Z,30nm,1.7s,mb5.0
GEC2 GERESS Array S 65.61 357 *e*P **P** **15 41 13.8 +0.5**
GEC2 pmax pmax

comp=Z,30nm,1.7s,mb5.0
GERES GERESS Array B 65.61 357 P **P** **15 41 13.7 +0.4**
comp=Z,4.4nm,0.8s,mb4.5,baz=20,slow=4.3,SNR=29
LDF La Druitiere 65.62 7 *e*P **P** **15 41 12.7 -0.7**
comp=Z,48nm,1.0s,mb5.2
LDF La Druitiere 65.62 7 *e*P **P** **15 41 12.7 -0.7**
LDF pmax pmax

comp=Z,24nm,1.0s,mb5.2
LDF La Druitiere 65.62 7 *e*P **P** **15 41 12.7 -0.7**
comp=Z,24nm,1.0s,mb5.2
ROSF Rostrenen 65.68 10 *e*P **P** **15 41 13.4 -0.4**
comp=Z,84nm,1.0s,mb5.4
ROSF Rostrenen 65.68 10 *e*P **P** **15 41 13.4 -0.4**
ROSF pmax pmax

comp=Z,42nm,1.0s,mb5.4
ROSF Rostrenen 65.68 10 *e*P **P** **15 41 13.4 -0.4**
comp=Z,42nm,1.0s,mb5.4
KECS Kecovo 65.73 352 *e*P **P** **15 41 12.7 -1.4**
KECS pmax pmax

comp=Z,4.0nm,1.0s,mb4.4
KECS Kecovo 65.73 352 *e*P **P** **15 41 12.7 -1.4**
comp=Z,4.0nm,1.0s,mb4.4
GRR Gorron 65.78 8 *e*P **P** **15 41 13.9 -0.5**
comp=Z,31nm,0.7s,mb5.1
GRR Gorron 65.78 8 *e*P **P** **15 41 13.9 -0.5**
GRR pmax pmax

comp=Z,15nm,0.7s,mb5.1
GRR Gorron 65.78 8 *e*P **P** **15 41 13.9 -0.5**
comp=Z,15nm,0.7s,mb5.1
VYHS Vyhne 65.80 354 *e*P **P** **15 41 14.6 0.0**
VYHS pmax pmax

comp=Z,9.0nm,1.3s,mb4.6
VYHS Vyhne 65.80 354 *e*P **P** **15 41 14.6 0.0**
comp=Z,8.8nm,1.3s,mb4.6
SGMF Saint Gilles 65.81 9 *e*P **P** **15 41 14.3 -0.3**
comp=Z,75nm,1.0s,mb5.3
SGMF Saint Gilles 65.81 9 *e*P **P** **15 41 14.3 -0.3**
SGMF pmax pmax

comp=Z,37nm,1.0s,mb5.4
SGMF Saint Gilles 65.81 9 *e*P **P** **15 41 14.3 -0.3**
comp=Z,37nm,1.0s,mb5.4
MEZF Maizieres J'vi 65.92 4 *e*P **P** **15 41 15.1 -0.2**
CDF Champ du Feu 66.05 2 *e*P **P** **15 41 16.1 -0.1**
comp=Z,12nm,0.8s,mb4.7
CDF Champ du Feu 66.05 2 *e*P **P** **15 41 16.1 -0.1**
CDF pmax pmax

comp=Z,6.0nm,0.8s,mb4.7
CDF Champ du Feu 66.05 2 *e*P **P** **15 41 16.1 -0.1**
comp=Z,6.2nm,0.8s,mb4.7
WLS Welschbruch 66.05 2 *e*P **P** **15 41 16.8 +0.6**
QUIF Quistinic 66.10 10 *e*P **P** **15 41 16.1 -0.4**
comp=Z,88nm,1.3s,mb5.3
QUIF Quistinic 66.10 10 *e*P **P** **15 41 16.1 -0.4**
QUIF pmax pmax

comp=Z,44nm,1.3s,mb5.3
QUIF Quistinic 66.10 10 *e*P **P** **15 41 16.1 -0.4**
comp=Z,44nm,1.3s,mb5.3
BFO Black Forest 66.15 1 *e*P **P** **15 41 17.0 +0.2**
comp=Z,14nm,1.3s,mb4.8
BFO Black Forest 66.15 1 *e*P **P** **15 41 17.0 +0.2**
BFO pmax pmax

comp=Z,14nm,1.3s,mb4.8
ZST Bratislava 66.17 355 *e*P **P** **15 41 17.6 +0.7**
ZST pmax pmax

comp=Z,23nm,1.3s,mb5.0
ZST Bratislava 66.17 355 *e*P **P** **15 41 17.6 +0.7**
comp=Z,23nm,1.3s,mb5.0
THEF They Montfort 66.22 3 *e*P **P** **15 41 17.9 +0.7**
ECH Echery 66.25 2 *e*P **P** **15 41 17.9 +0.5**
PSZ Piszkesteto 66.32 353 P **P** **15 41 18.9 +1.0**
PSZ pmax pmax

comp=Z,9.0nm,1.0s,mb4.8
PSZ Piszkesteto 66.32 353 *e*P **P** **15 41 18.9 +1.0**
comp=Z,9.1nm,1.0s,mb4.8
KMI Kunming 66.33 279 ⇓P **P** **15 41 17.8 -0.2**
KMI AP pP 15 41 22.3 -0.1
KMI XP sP 15 41 23.7 -0.3
KMI PCP PcP 15 41 50.2 +2.4
KMI PP PP 15 43 48.0 +4.0
KMI S S 15 50 06.4 -0.8
KMI SKS 15 51 12.6
KMI SS SS 15 54 25.3 +1.8
KMI SSS 15 57 20.4
KMI AMB AMB

comp=Z,37nm,0.9s,mb5.4
KMI LR LR

comp=N,505nm,15.5s,MS5.2
KMI LR LR

comp=E,839nm,14.0s,MS5.2
KMI LR LR

comp=Z,247nm,13.7s,MS4.6
HAU Haudompre 66.44 3 *e*P **P** **15 41 18.5 -0.2**
comp=Z,25nm,1.0s,mb4.9
HAU *e*R

comp=Z,80nm,20.2s
HAU Haudompre 66.44 3 *e*P **P** **15 41 18.5 -0.2**
HAU pmax pmax

comp=Z,13nm,1.0s,mb4.9
HAU MLR MLR

comp=Z,80nm,20.3s,MS3.9
HAU Haudompre 66.44 3 *e*P **P** **15 41 18.5 -0.2**
comp=Z,13nm,1.0s,mb4.9
HAU LR LR

comp=Z,80nm,20.3s,MS3.9
CONA Conrad Observa 66.47 356 ⇓*i*P **P** **15 41 19.5 +0.6**
comp=Z,39nm,1.6s,mb5.2,SNR=9.9
GOF Gofitskoye 66.55 335 *e*P **P** **15 41 18.4 -1.0**
MOA Molln 66.59 357 ⇓*i*P **P** **15 41 20.0 +0.3**
comp=Z,24nm,1.5s,mb5.0
FELD Feldberg im Sc 66.60 2 *e*P **P** **15 41 19.7 0.0**
MOF Molkenrain 66.61 2 *e*P **P** **15 41 20.4 +0.6**
HINF Hinteralfeld 66.64 2 *e*P **P** **15 41 19.4 -0.6**
LSA Lhasa 66.85 291 P **P** **15 41 23.2 +1.9**
LSA Lhasa 66.85 291 *e*P **P** **15 41 22.9 +1.6**
LSA pmax pmax

comp=Z,55nm,1.0s,mb5.5
LSA Lhasa 66.85 291 *e*P **P** **15 41 22.9 +1.6**
comp=Z,55nm,1.0s,mb5.5
LOMF Lomont 67.11 2 *e*P **P** **15 41 23.5 +0.6**
LOR Lormes 67.11 5 *e*P **P** **15 41 22.2 -0.8**
comp=Z,30nm,0.9s,mb5.0
LOR *e*R

comp=Z,89nm,20.8s
LOR Lormes 67.11 5 *e*P **P** **15 41 22.2 -0.8**
LOR pmax pmax

comp=Z,15nm,0.9s,mb5.0
LOR MLR MLR

comp=Z,90nm,20.8s,MS4.0
LOR Lormes 67.11 5 *e*P **P** **15 41 22.2 -0.8**
comp=Z,15nm,0.9s,mb5.0
LOR LR LR

comp=Z,90nm,20.8s,MS4.0
WTTA Wattenberg 67.22 359 ⇑*i*P **P** **15 41 24.5 +0.8**
comp=Z,49nm,1.4s,mb5.3
WTTA Wattenberg 67.22 359 ⇑*i*P **P** **15 41 24.5 +0.9**
WTTA pmax pmax

comp=Z,49nm,1.4s,mb5.3
SSF Saint Saulge 67.31 5 *e*P **P** **15 41 23.9 -0.3**
comp=Z,44nm,1.0s,mb5.2
SSF Saint Saulge 67.31 5 *e*P **P** **15 41 23.9 -0.3**
SSF pmax pmax

comp=Z,22nm,1.0s,mb5.1
SSF Saint Saulge 67.31 5 *e*P **P** **15 41 23.9 -0.3**
comp=Z,22nm,1.0s,mb5.1
AVF Avril sur Loir 67.57 5 *e*P **P** **15 41 25.5 -0.4**
comp=Z,34nm,0.8s,mb5.1
AVF Avril sur Loir 67.57 5 *e*P **P** **15 41 25.5 -0.4**
AVF pmax pmax

comp=Z,17nm,0.8s,mb5.1
AVF Avril sur Loir 67.57 5 *e*P **P** **15 41 25.5 -0.4**
comp=Z,17nm,0.8s,mb5.1
MFF Saint Martin d 67.60 8 *e*P **P** **15 41 25.8 -0.3**
comp=Z,29nm,0.9s,mb5.0
MFF Saint Martin d 67.60 8 *e*P **P** **15 41 25.8 -0.3**
MFF pmax pmax

comp=Z,15nm,0.9s,mb5.0
MFF Saint Martin d 67.60 8 *e*P **P** **15 41 25.8 -0.3**
comp=Z,15nm,0.9s,mb5.0
KIV Kislovodsk 67.68 335 ⇓P **P** **15 41 26.8 +0.3**
SNR=10
KIV Kislovodsk 67.68 335 *e*P **P** **15 41 26.4 -0.1**
KIV *e*S S 15 50 25.8 +2.3
KIV *e*SS SS 15 54 45.5 +1.1
KIV pmax pmax

comp=Z,38nm,1.0s,mb5.4
KIV MLR MLR

comp=Z,113nm,17.0s,MS4.2
KIV Kislovodsk 67.68 335 *e*P **P** **15 41 26.8 +0.2**
comp=Z,32nm,0.9s,mb5.3
ANN Anapa 67.69 339 *e*P **P** **15 41 23.4 -3.2**
ANN *e*S S 15 50 24.1 +0.5
ANN pmax pmax

comp=Z,21nm,0.7s,mb5.3
SMF Signal de Mont 67.74 5 *e*P **P** **15 41 26.3 -0.6**
comp=Z,57nm,0.9s,mb5.3
SMF Signal de Mont 67.74 5 *e*P **P** **15 41 26.3 -0.6**
SMF pmax pmax

comp=Z,28nm,0.9s,mb5.3
SMF Signal de Mont 67.74 5 *e*P **P** **15 41 26.3 -0.6**
comp=Z,28nm,0.9s,mb5.3
BGF Bois d'Agland 67.79 5 *e*P **P** **15 41 26.8 -0.4**
comp=Z,39nm,1.0s,mb5.1
BGF Bois d'Agland 67.79 5 *e*P **P** **15 41 26.8 -0.4**
BGF pmax pmax

comp=Z,19nm,1.0s,mb5.1
BGF Bois d'Agland 67.79 5 *e*P **P** **15 41 26.8 -0.4**
comp=Z,19nm,1.0s,mb5.1
PERS Pernice 67.79 356 *e*P **P** **15 41 27.7 +0.5**
CABF La Chapelle 67.83 3 *e*P **P** **15 41 27.5 0.0**
comp=Z,30nm,1.0s,mb5.0
CABF La Chapelle 67.83 3 *e*P **P** **15 41 27.5 0.0**
CABF pmax pmax

comp=Z,15nm,1.0s,mb5.0
CABF La Chapelle 67.83 3 *e*P **P** **15 41 27.5 0.0**
comp=Z,15nm,1.0s,mb5.0
OBKA Obir 67.93 357 ⇓*i*P **P** **15 41 28.6 +0.5**
comp=Z,56nm,1.4s,mb5.4,SNR=15
TCF Toulx Ste Croi 68.03 6 *e*P **P** **15 41 28.3 -0.5**
comp=Z,23nm,0.8s,mb5.0
TCF Toulx Ste Croi 68.03 6 *e*P **P** **15 41 28.3 -0.5**
TCF pmax pmax

comp=Z,12nm,0.8s,mb5.0
TCF Toulx Ste Croi 68.03 6 *e*P **P** **15 41 28.3 -0.5**
comp=Z,12nm,0.8s,mb5.0
ROBS Robic 68.21 358 *e*P **P** **15 41 29.3 -0.6**
TEIG Tepich 68.28 89 *e*P **P** **15 41 29.6 -0.8**
comp=Z,27nm,1.3s,mb5.1
PLDF La Plantade 68.40 5 *e*P **P** **15 41 31.8 +0.7**
ZEI Tsey 68.61 334 *e*P **P** **15 41 32.1 -0.3**
ZEI *e**PP pP 15 41 35.4 -1.4
ZEI *e* 15 44 01.5
ZEI pmax pmax

comp=Z,24nm,0.8s,mb5.2
COLF Collangettes 68.86 5 *e*P **P** **15 41 34.6 +0.7**
LPL La Plagne 68.94 3 *e*P **P** **15 41 35.0 +0.5**
comp=Z,8.2nm,0.8s,mb4.4
LPL La Plagne 68.94 3 *e*P **P** **15 41 35.0 +0.5**
LPL pmax pmax

comp=Z,4.0nm,0.8s,mb4.4
LPL La Plagne 68.94 3 *e*P **P** **15 41 35.0 +0.5**
comp=Z,4.1nm,0.8s,mb4.4
LPG La Plagne 68.96 3 *e*P **P** **15 41 35.3 +0.7**
comp=Z,16nm,1.0s,mb4.6
LPG La Plagne 68.96 3 *e*P **P** **15 41 35.3 +0.7**
LPG pmax pmax

comp=Z,8.0nm,1.0s,mb4.6
LPG La Plagne 68.96 3 *e*P **P** **15 41 35.3 +0.7**
comp=Z,7.8nm,1.0s,mb4.6
RJF Les Rejaudoux 68.98 7 *e*P **P** **15 41 34.0 -0.7**
RJF *e*R

comp=Z,103nm,20.8s
RJF Les Rejaudoux 68.98 7 *e*P **P** **15 41 34.0 -0.7**
RJF LR LR

comp=Z,100nm,20.8s,MS4.0
LBL Lubilhac 69.13 5 *e*P **P** **15 41 36.2 +0.6**
LFF La Frestale 69.31 7 *e*P **P** **15 41 36.5 -0.2**
CAF Calviac 69.38 6 *e*P **P** **15 41 36.9 -0.3**
comp=Z,27nm,0.7s,mb5.0
CAF Calviac 69.38 6 *e*P **P** **15 41 36.9 -0.3**
CAF pmax pmax

comp=Z,14nm,0.7s,mb5.0
CAF Calviac 69.38 6 *e*P **P** **15 41 36.9 -0.3**
comp=Z,14nm,0.7s,mb5.0
ORIF Oris-en-Rattie 69.52 3 *e*P **P** **15 41 38.3 +0.3**
ORIF *e*R

comp=Z,75nm,23.0s
VIVF Saint-Julien-l 69.55 4 *e*P **P** **15 41 38.1 -0.1**
comp=Z,29nm,0.9s,mb4.9
VIVF Saint-Julien-l 69.55 4 *e*P **P** **15 41 38.1 -0.1**
VIVF pmax pmax

comp=Z,15nm,0.9s,mb4.9
VIVF Saint-Julien-l 69.55 4 *e*P **P** **15 41 38.1 -0.1**
comp=Z,15nm,0.9s,mb4.9
OG25 Le Caire 70.07 3 *e*P **P** **15 41 39.0 -2.5**
ABKT Ailbek 70.13 321 P **P** **15 41 42.5 +0.7**
comp=Z,176nm,0.8s,mb6.0,SNR=9.6
SHL Shillong 70.27 288 *ex* x 15 42 23.7
LASF Ste Croix 70.30 5 *e*P **P** **15 41 43.2 +0.3**
EPON Pontenova 70.33 13 P **P** **15 41 43.0 -0.1**
comp=Z,2nm,0.4s,mb5.0
TOUF Mont Tournerai 70.45 2 *e*P **P** **15 41 44.3 +0.5**
SMRF Simiane la Rot 70.45 4 *e*P **P** **15 41 43.5 -0.3**
comp=Z,31nm,0.9s,mb5.0
SMRF Simiane la Rot 70.45 4 *e*P **P** **15 41 43.5 -0.3**
comp=Z,31nm,0.9s,mb5.2
GUN Gumba 70.46 294 *e*P **P** **15 41 44.4 +0.6**
comp=Z,110nm,1.1s,mb5.7
AUTN L'Aution 70.47 2 *e*P **P** **15 41 44.7 +0.8**
EMAZ Mazaricos 70.53 15 P **P** **15 41 42.8 -1.4**
comp=Z,81nm,1.7s,mb5.4
EARI Arriondas 70.53 12 P **P** **15 41 43.0 -1.2**
comp=Z,15nm,0.8s,mb5.0
MVIF Mont Vial 70.57 2 *e*P **P** **15 41 44.7 +0.2**
JIRN Jiri 70.57 294 *e*P **P** **15 41 45.4 +0.9**
comp=Z,72nm,0.9s,mb5.6
LUCF Luceram 70.57 2 *e*P **P** **15 41 42.4 -2.1**
VILF Villemus 70.58 3 *e*P **P** **15 41 47.2 +2.6**
SBF Sospel 70.61 2 *e*P **P** **15 41 44.1 -0.6**
comp=Z,47nm,0.7s,mb5.2
SBF Sospel 70.61 2 *e*P **P** **15 41 44.1 -0.6**
SBF pmax pmax

comp=Z,23nm,0.7s,mb5.2
SBF Sospel 70.61 2 *e*P **P** **15 41 44.1 -0.6**
comp=Z,23nm,0.7s,mb5.2
PRAF Pradon 70.61 4 *e*P **P** **15 41 46.9 +2.1**
STS Santiago 70.63 14 P **P** **15 41 44.7 -0.2**
STS pmax pmax

comp=Z,15nm,0.8s,mb5.0
STS Santiago 70.63 14 P **P** **15 41 44.7 -0.2**
comp=Z,15nm,0.8s,mb5.0
SMLA Simla 70.67 303 *e*P **P** **15 41 45.5 +0.4**
SMLA AMb AMB 15 41 48.9

comp=Z,47nm,1.5s,mb5.2
ELAN Lanestosa 70.75 10 P **P** **15 41 43.8 -1.8**
comp=Z,91nm,3.1s
KKN Kakani 70.79 295 *e*P **P** **15 41 46.4 +0.6**
comp=Z,43nm,0.7s,mb5.5
TAVF Tavernes 70.82 3 *e*P **P** **15 41 47.9 +1.9**
GKN Gorkha 70.84 296 *e*P **P** **15 41 46.7 +0.6**
comp=Z,167nm,1.3s,mb5.8
EALK Alkurruntz 70.89 9 P **P** **15 41 46.4 -0.1**
comp=Z,31nm,1.6s,mb5.0
FRF La Foret Royal 70.89 3 *e*P **P** **15 41 46.1 -0.4**
PKI Pulchoki 70.94 295 *e*P **P** **15 41 47.1 +0.3**
comp=Z,38nm,1.0s,mb5.3
ELIZ Elizondo 70.94 9 P **P** **15 41 46.5 -0.3**
ELIZ pmax pmax

comp=Z,21nm,1.4s,mb4.9
ELIZ Elizondo 70.94 9 P **P** **15 41 46.5 -0.2**
comp=Z,21nm,1.4s,mb4.9
MTLF Montolieu 70.97 6 *e*P **P** **15 41 46.8 -0.1**
comp=Z,24nm,0.7s,mb4.9
MTLF Montolieu 70.97 6 *e*P **P** **15 41 46.8 -0.1**
MTLF pmax pmax

comp=Z,12nm,0.7s,mb4.9
MTLF Montolieu 70.97 6 *e*P **P** **15 41 46.8 -0.1**
comp=Z,12nm,0.7s,mb4.9
GNI Garni 71.00 333 *e*P **P** **15 41 46.7 -0.4**
GNI pmax pmax

comp=Z,21nm,1.0s
DMN Daman 71.02 295 *e*P **P** **15 41 47.3 +0.1**
comp=Z,25nm,0.8s,mb5.2
LMR La Mourre 71.12 3 *e*P **P** **15 41 47.0 -0.8**
BERF Bertagne 71.12 3 *e*P **P** **15 41 50.0 +2.2**
EPF Esparros 71.19 8 *e*P **P** **15 41 47.2 -1.1**
comp=Z,24nm,0.9s,mb4.8
EPF Esparros 71.19 8 *e*P **P** **15 41 47.2 -1.1**
EPF pmax pmax

comp=Z,12nm,0.9s,mb4.8
EPF Esparros 71.19 8 *e*P **P** **15 41 47.2 -1.1**
comp=Z,12nm,0.9s,mb4.8
ETSF Etsaut 71.27 8 *e*P **P** **15 41 48.7 0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,19nm,0.8s,mb4.8						
ETSF	**Etsaut**	**71.27**	**8**	*e*P	**P**	**15 41 48.7**	**0.0**
ETSF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
ETSF	**Etsaut**	**71.27**	**8**	*e*P	**P**	**15 41 48.7**	**0.0**
	comp=Z,9.4nm,0.8s,mb4.8						
MLS	**Moulis**	**71.30**	**7**	*e*P	**P**	**15 41 49.2**	**+0.3**
KOLN	**Koldanda**	**71.43**	**296**	*e*P	**P**	**15 41 50.1**	**+0.4**
	comp=Z,31nm,0.9s,mb5.2						
EBIE	**Bielsa**	**71.52**	**8**	P	**P**	**15 41 50.5**	**+0.3**
	comp=Z,16nm,0.9s,mb5.0						
ELOB	**Lobios**	**71.69**	**14**	P	**P**	**15 41 51.7**	**+0.4**
	comp=Z,15nm,0.7s,mb5.0						
VALF	**Valcebollere**	**71.90**	**6**	*e*P	**P**	**15 41 53.1**	**+0.6**
PGF	**Pioggiola**	**71.94**	**1**	*e*P	**P**	**15 41 52.3**	**-0.5**
	comp=Z,44nm,0.9s,mb5.1						
PGF	**Pioggiola**	**71.94**	**1**	*e*P	**P**	**15 41 52.3**	**-0.5**
PGF				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.1						
PGF	**Pioggiola**	**71.94**	**1**	*e*P	**P**	**15 41 52.3**	**-0.5**
	comp=Z,22nm,0.9s,mb5.1						
EGRA	**Graus**	**72.02**	**8**	P	**P**	**15 41 53.2**	**-0.1**
	comp=Z,9.1nm,0.7s,mb4.8						
PVRL	**Vila Real**	**72.31**	**14**	*e*P	**P**	**15 41 55.5**	**+0.5**
	comp=Z,36nm,1.4s,mb5.1						
PTO	**Porto**	**72.36**	**15**	*e*P	**P**	**15 41 55.6**	**+0.3**
	comp=Z,39nm,1.0s,mb5.3						
EMIR	**Miracle**	**72.36**	**7**	P	**P**	**15 41 54.5**	**-0.9**
	comp=Z,43nm,2.2s,mb5.0						
ESAC	**San Caprasio**	**72.45**	**8**	P	**P**	**15 41 55.6**	**-0.2**
	comp=Z,12nm,0.4s,mb5.2						
PVIS	**Viseu**	**72.85**	**14**	*e*P	**P**	**15 41 58.6**	**+0.4**
	comp=Z,17nm,0.9s,mb5.0						
NDI	**New Delhi**	**72.89**	**302**	*e*P	**P**	**15 41 58.7**	**+0.2**
EPOB	**Poblet**	**72.90**	**7**	P	**P**	**15 41 57.9**	**-0.7**
	comp=Z,11nm,0.7s,mb4.9						
ANTO	**Ankara**	**73.16**	**342**	*e*P	**P**	**15 42 00.5**	**+0.4**
ANTO				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
ANTO	**Ankara**	**73.16**	**342**	*e*P	**P**	**15 42 00.5**	**+0.4**
	comp=Z,15nm,0.8s,mb5.0						
MTE	**Manteigas**	**73.20**	**14**	*e*P	**P**	**15 42 00.1**	**-0.2**
	comp=Z,38nm,1.2s,mb5.2						
MTE	**Manteigas**	**73.20**	**14**	*e*P	**P**	**15 42 00.3**	**+0.1**
	comp=Z,19nm,0.8s,mb5.1						
BRTR	**Keskin Array B**	**73.20**	**341**	P	**P**	**15 42 00.4**	**+0.1**
	comp=Z,8.2nm,0.8s,mb4.7,baz=24,slow=3.5,SNR=41						
BRTR				LR	LR	16 16 47.3	
	comp=Z,88nm,20.6s,MS4.0,baz=23,slow=38						
ETOR	**Torete**	**73.24**	**10**	P	**P**	**15 42 00.1**	**-0.4**
ETOR				pmax	pmax		
	comp=Z,299nm,2.5s,mb5.8						
ETOR	**Torete**	**73.24**	**10**	P	**P**	**15 42 00.1**	**-0.4**
	comp=Z,299nm,2.5s,mb5.8						
ERTA	**Horta de San J**	**73.26**	**8**	P	**P**	**15 41 59.9**	**-0.8**
	comp=Z,28nm,1.9s,mb4.9						
GUD	**Guadarrama**	**73.26**	**11**	P	**P**	**15 42 01.0**	**+0.4**
GUD				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
GUD	**Guadarrama**	**73.26**	**11**	P	**P**	**15 42 01.0**	**+0.3**
	comp=Z,6.6nm,0.7s,mb4.7						
PCBR	**Castelo Branco**	**73.76**	**14**	*e*P	**P**	**15 42 03.6**	**0.0**
	comp=Z,20nm,0.9s,mb5.0						
EMOS	**Mosqueruela**	**73.80**	**8**	P	**P**	**15 42 03.9**	**0.0**
	comp=Z,32nm,2.5s,mb4.8						
MALT	**Malatya**	**73.88**	**337**	P	**P**	**15 42 05.1**	**+0.8**
MALT				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MALT	**Malatya**	**73.88**	**337**	*e*P	**P**	**15 42 05.0**	**+0.7**
	comp=Z,8.4nm,1.0s,mb4.6						
BOK	**Bokaro**	**74.18**	**293**	*e*P	**P**	**15 42 06.3**	**+0.3**
BOK				AMb	AMB	15 42 09.6	
	comp=Z,17nm,1.3s,mb4.8						
ESDC	**Sonseca Array**	**74.24**	**11**	P	**P**	**15 42 06.5**	**+0.1**
	comp=Z,13nm,0.7s,mb5.0,baz=356,slow=6.1,SNR=61						
ESDC				LR	LR	16 16 38.8	
	comp=Z,47nm,20.1s,MS3.8,baz=40,slow=37						
ECHE	**Chera**	**74.54**	**9**	P	**P**	**15 42 08.7**	**+0.6**
ECHE				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
ECHE	**Chera**	**74.54**	**9**	P	**P**	**15 42 08.7**	**+0.5**
	comp=Z,19nm,0.8s,mb5.1						
ETOS	**Mallorca**	**74.56**	**6**	P	**P**	**15 42 07.9**	**-0.3**
	comp=Z,33nm,1.1s,mb5.2						
EBAD	**Badajoz**	**74.88**	**14**	P	**P**	**15 42 09.8**	**-0.3**
	comp=Z,13nm,0.8s,mb4.9						
EVIA	**Vianos**	**75.38**	**10**	P	**P**	**15 42 12.7**	**-0.3**
EVIA				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
EVIA	**Vianos**	**75.38**	**10**	P	**P**	**15 42 12.7**	**-0.3**
	comp=Z,7.6nm,0.7s,mb4.7						
PBEJ	**Beja**	**75.51**	**15**	*e*P	**P**	**15 42 13.7**	**-0.1**
	comp=Z,14nm,0.7s,mb5.0						
EADA	**Adamuz**	**75.68**	**12**	P	**P**	**15 42 15.4**	**+0.6**
	comp=Z,6.7nm,0.9s,mb4.6						
EBAN	**Banos Encina**	**75.75**	**11**	P	**P**	**15 42 15.5**	**+0.4**
EBAN				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
EBAN	**Banos Encina**	**75.75**	**11**	P	**P**	**15 42 15.5**	**+0.4**
	comp=Z,12nm,1.1s,mb4.7						
AJM	**Ajmer**	**75.81**	**303**	*e*P	**P**	**15 42 15.1**	**-0.3**
AJM				AMb	AMB	15 42 18.7	
	comp=Z,26nm,1.3s,mb5.0						
EMIN	**Mina Concepcio**	**75.89**	**14**	P	**P**	**15 42 15.9**	**0.0**
	comp=Z,13nm,0.8s,mb4.9						
PTEO	**Sao Teotonio**	**75.90**	**15**	*e*P	**P**	**15 42 16.1**	**+0.2**
	comp=Z,46nm,1.1s,mb5.3						
EQES	**Quesada**	**76.17**	**11**	P	**P**	**15 42 17.4**	**-0.1**
	comp=Z,20nm,1.7s,mb4.8						
EMUR	**La Murta**	**76.26**	**9**	P	**P**	**15 42 11.7**	**-6.3**
	comp=Z,28nm,1.5s,mb5.0						
ECOG	**Cogollos-Vega**	**76.65**	**11**	P	**P**	**15 42 21.1**	**+0.9**
ECOG				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
ECOG	**Cogollos-Vega**	**76.65**	**11**	P	**P**	**15 42 21.1**	**+0.8**
	comp=Z,4.9nm,0.6s,mb4.6						
ELOJ	**Sierra Loja**	**76.73**	**12**	P	**P**	**15 42 21.9**	**+1.2**
ELOJ				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
ELOJ	**Sierra Loja**	**76.73**	**12**	P	**P**	**15 42 21.9**	**+1.2**
	comp=Z,2.2nm,0.3s,mb4.6						
ESPR	**Espera**	**76.86**	**13**	P	**P**	**15 42 21.9**	**+0.5**
	comp=Z,8.0nm,0.5s,mb4.9						
ERON	**Agron**	**76.89**	**11**	P	**P**	**15 42 22.1**	**+0.5**
	comp=Z,12nm,0.7s,mb4.9						
EGUA	**Guajares**	**77.09**	**11**	P	**P**	**15 42 22.9**	**+0.2**
EGUA				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
EGUA	**Guajares**	**77.09**	**11**	P	**P**	**15 42 22.9**	**+0.2**
	comp=Z,2.8nm,1.2s,mb4.1						
BLSP	**Bilaspur**	**77.11**	**295**	*e*P	**P**	**15 42 22.6**	**-0.2**
EMIJ	**Mijas**	**77.26**	**12**	P	**P**	**15 42 23.2**	**-0.5**
	comp=Z,15nm,1.0s,mb4.9						
EJIF	**Jimena Fronter**	**77.31**	**13**	P	**P**	**15 42 24.5**	**+0.6**
EJIF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
EJIF	**Jimena Fronter**	**77.31**	**13**	P	**P**	**15 42 24.5**	**+0.6**
	comp=Z,6.9nm,0.8s,mb4.6						
BHPL	**Bhopal**	**77.81**	**300**	*e*P	**P**	**15 42 26.8**	**+0.1**
KKM	**Kota Kinabalu**	**77.97**	**258**	*e*P	**P**	**15 42 28.1**	**+0.4**
NGP	**Nagpur**	**79.14**	**298**	*e*P	**P**	**15 42 33.0**	**-1.0**
NGP				AMb	AMB	15 42 36.2	
	comp=Z,58nm,1.3s,mb5.3						
ASF	**Jabal al Asfar**	**80.14**	**337**	P	**P**	**15 42 39.8**	**+0.3**
	comp=Z,7.9nm,0.9s,mb4.7,baz=283,slow=1.6,SNR=7.1						
KAD	**Karad**	**84.42**	**300**	*e*P	**P**	**15 43 02.2**	**+0.3**
KAD				AMb	AMB	15 43 06.2	
	comp=Z,53nm,1.2s,mb5.5						
PPT	**Papeete**	**84.56**	**161**	*e*LR	LR	16 09 35.8	
	comp=Z,235nm,22.2s,baz=352						
PPT	**Papeete**	**84.56**	**161**	LR	LR	16 14 44.5	
	comp=Z,217nm,19.2s,MS4.5,baz=137,slow=31						
ROSC	**El Rosal**	**87.86**	**83**	P	**P**	**15 43 19.5**	**+0.7**
	comp=Z,4.8nm,0.4s,mb5.1,baz=287,slow=19,SNR=3.1						
TBI	**Tubuai**	**90.27**	**161**	*e*LR	LR	16 12 14.5	
	comp=Z,266nm,33.8s,baz=352						
WRA	**Warramunga Arr**	**95.26**	**231**	P	**P**	**15 43 51.8**	**-1.5**
	comp=Z,2.9nm,0.8s,mb4.8,baz=24,slow=5.5,SNR=11						
FITZ	**Fitzroy Crossi**	**96.50**	**240**	P	**P**	**15 43 56.2**	**-2.7**
	comp=Z,3.4nm,1.0s,mb4.7,baz=18,slow=12,SNR=3.9						
ASAR	**Alice Springs**	**98.88**	**231**	P	**P**	**15 44 08.1**	**-1.5**
	comp=Z,1.4nm,0.7s,mb4.6,baz=23,slow=4.0,SNR=14						
TORD	**Torodi Ar. Bea**	**100.98**	**8**	PKKPbc	PKKPbc	16 00 27.4	-3.0
	comp=Z,0.6nm,0.8s,baz=128,slow=1.6,SNR=3.2						
CPUP	**Villa Florida**	**122.91**	**81**	PKP	PKPdf	15 49 23.6	-2.0
	comp=Z,1.2nm,0.5s,baz=5.0,slow=2.5,SNR=7.3						
PLCA	**Paso Flores**	**130.00**	**102**	PKP	PKPdf	15 49 36.7	-2.5
	comp=Z,8.4nm,0.9s,baz=324,slow=2.8,SNR=9.7						
CASY	**Casey**	**143.47**	**222**	*e*PKPpre		15 49 58.4	
SBA	**Scott Base**	**144.17**	**188**	*e*PKIKP	PKPdf	15 50 01.6	-3.6
VNDA	**Vanda**	**144.18**	**190**	PKP	PKPdf	15 50 00.7	-4.5
	comp=Z,11nm,0.8s,baz=335,slow=4.2,SNR=63						
SUR	**Sutherland**	**145.88**	**344**	PKPbc	PKPbc	15 50 08.6	-0.2
	comp=Z,10nm,0.8s,baz=264,slow=3.7,SNR=8.3						
MIR	**Mirnyy**	**148.85**	**230***c*	*i*PKP2	PKPab	15 50 16.0	-4.9
MIR				pmax	pmax		
	comp=Z,200nm,1.0s						
QSPA	**South Pole Qui**	**155.65**	**180**	*e*P	PKPdf	15 50 23.4	+0.2
MAW	**Mawson**	**159.62**	**241**	PKPab	PKPab	15 51 04.4	-2.1
	comp=Z,5.7nm,0.9s,baz=33,slow=3.6,SNR=5.3						
VNA1	**Neumayer--Stat**	**171.66**	**133**	*e*PKPdf	PKPdf	15 50 37.4	-0.6
VNA1				*e*		15 50 41.3	
VNA1				*e*		15 50 42.8	
SNAA	**Sanae**	**172.50**	**147**	*e*PKPdf	PKPdf	15 50 40.8	+2.4
SNAA				*e*		15 50 43.6	
SNAA				*e*		15 50 44.8	
SNAA				*e*		15 52 00.0	
SNAA				*e*		15 52 01.3	

STR ***10*** *16:01:07.8±1.0, 42.79N×1.59W, h10km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISCJB ***10*** *16:01:08.4±0.4, 42.82N±0.03×1.53W±0.03, h11km±2km, Error ellipse: s-maj=4.6km s-min=3.2km az=171.2*
CSEM ***10*** *16:01:09.8±0.1, 42.82N×1.49W, h2km, ML2.7/8, Error ellipse: s-maj=1.3km s-min=1.1km az=171.0*
NEIC ***10*** *16:01:09.9, 42.82N×1.48W, h3km, ML2.6(STR), ML2.7(LDG), MN2.1(MDD), After MDD.*
MDD ***10*** *16:01:10.0±0.1, 42.82N×1.48W, h0km, mbLg2.1/18, Error ellipse: s-maj=1.1km s-min=1.0km az=7.0, PRXIMO*
LDG ***10*** *16:01:10.3±0.5, 42.80N×1.49W, h2km, Md2.8/2, Ml2.7/9, Error ellipse: s-maj=9.7km s-min=5.1km az=23.0*
ISC 10 16:01:09.2±0.4, **42.82N**±0.02×**1.52W**±0.03, **h8**km±2km, **n67**, σ**0.96**/111, **4C-1D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EARA	**Aranguren**	**0.07**	**220**	⇑Pg	**Pg**	**16 01 11.6**	**+0.6**
	166nm,0.0s,SNR=18						
EARA				Lg		16 01 13.7	
	381nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.12**	**98**	⇑Pg	**Pg**	**16 01 11.6**	**-0.3**
	67nm,0.1s,SNR=18						
IPRE				Lg		16 01 13.3	
	120nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.12**	**98**	Pg	**Pg**	**16 01 11.6**	**-0.4**
	67nm,0.1s,SNR=18						
IPRE				Lg		16 01 13.3	
	120nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.12**	**352**	⇓Pg	**Pg**	**16 01 12.4**	**+0.4**
	29nm,0.2s,SNR=18						
IUSE				Lg		16 01 14.8	
	22nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.12**	**352**	Pg	**Pg**	**16 01 12.4**	**+0.4**
	29nm,0.2s,SNR=18						
IUSE				Lg		16 01 14.8	
	22nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.34**	**359**	⇑Pg	**Pg**	**16 01 16.3**	**+0.4**
	22nm,0.1s,SNR=18						
ELIZ				Lg		16 01 22.0	
	31nm,0.1s,SNR=7.2						
EALK	**Alkurruntz**	**0.40**	**2**	⇑Pg	**Pg**	**16 01 17.1**	**+0.2**
	9.7nm,0.1s,SNR=18						
EALK				Lg		16 01 23.5	
	33nm,0.1s,SNR=5.0						
LARF	**Larrau**	**0.45**	**61**	Pg	**Pg**	**16 01 17.8**	**-0.1**
LARF				Sg	**Sg**	**16 01 24.3**	**+0.5**
LARF	**Larrau**	**0.45**	**61**	P	**Pg**	**16 01 17.9**	**0.0**
LARF				S	**Sg**	**16 01 24.1**	**+0.3**
OSSF	**Osses**	**0.47**	**24**	Pg	**Pg**	**16 01 18.2**	**-0.2**
ORDF	**Ordiarp**	**0.58**	**48**	Pg	**Pg**	**16 01 20.3**	**-0.1**
ORDF				Sg	**Sg**	**16 01 28.8**	**+0.8**
ORDF	**Ordiarp**	**0.58**	**48**	P	**Pg**	**16 01 20.4**	**0.0**
ORDF				S	**Sg**	**16 01 28.3**	**+0.3**
ATE	**Arette**	**0.66**	**66**	Pg	**Pg**	**16 01 21.7**	**-0.2**
ATE				Sg	**Sg**	**16 01 30.9**	**+0.4**
ATE	**Arette**	**0.66**	**66**	P	**Pg**	**16 01 21.7**	**-0.2**
ATE				S	**Sg**	**16 01 30.7**	**+0.2**
FDAF	**Les Forges d'A**	**0.70**	**90**	P	**Pg**	**16 01 22.7**	**-0.1**
FDAF				S	**Sg**	**16 01 32.1**	**+0.2**
ETSF	**Etsaut**	**0.71**	**84**	*e*Pg	**Pg**	**16 01 22.7**	**-0.3**
ETSF				*e*Sg	**Sg**	**16 01 32.5**	**+0.3**
	24nm,0.2s						
ETSF	**Etsaut**	**0.71**	**84**	*e*Pg	**Pg**	**16 01 22.7**	**-0.3**
ETSF				*e*Sg	**Sg**	**16 01 32.5**	**+0.3**
	12nm,0.2s						
REYF	**Montagne du Re**	**0.87**	**73**	P	**Pg**	**16 01 25.3**	**-0.6**
REYF				S	**Sg**	**16 01 37.1**	**0.0**
VIEF	**Viey**	**1.14**	**86**	P	**Pg**	**16 01 30.3**	**-0.8**
LABF	**Labassere**	**1.19**	**79**	P	**Pb**	**16 01 31.8**	**-0.3**
LABF				S	**Sg**	**16 01 47.6**	**0.0**
EBIE	**Bielsa**	**1.23**	**96**	Pg	**Pg**	**16 01 33.1**	**+0.2**
	6.3nm,0.3s,SNR=39						
EBIE				Lg		16 01 49.6	
	15nm,0.1s						
EBIE	**Bielsa**	**1.23**	**96**	Pg	**Pg**	**16 01 33.1**	**+0.2**
	6.3nm,0.3s,SNR=39						
ESAC	**San Caprasio**	**1.35**	**144**	Pg	**Pg**	**16 01 35.3**	**+0.2**
	14nm,0.2s,SNR=14						
ESAC				Lg		16 01 53.7	
	73nm,0.3s						
ESAC	**San Caprasio**	**1.35**	**144**	Pg	**Pg**	**16 01 35.3**	**+0.2**
	14nm,0.2s,SNR=14						
EPF	**Esparros**	**1.38**	**81**	*e*Pn	**Pn**	**16 01 34.9**	**0.0**
EPF				*e*Sg	**Sg**	**16 01 53.4**	**-0.3**
	19nm,0.2s						
EPF	**Esparros**	**1.38**	**81**	*e*Pn	**Pn**	**16 01 34.9**	**0.0**
EPF				*e*Sg	**Sg**	**16 01 53.4**	**-0.3**
	9.3nm,0.2s						
ELAN	**Lanestosa**	**1.46**	**287**	Pg	**Pg**	**16 01 37.3**	**0.0**
	3.6nm,0.1s,SNR=32						
ELAN				Lg		16 01 58.2	
	5.1nm,0.3s						
ELAN	**Lanestosa**	**1.46**	**287**	Pg	**Pg**	**16 01 37.3**	**+0.1**
	3.6nm,0.1s,SNR=32						
EGRA	**Graus**	**1.50**	**114**	Pg	**Pg**	**16 01 37.5**	**-0.5**
	6.4nm,0.2s,SNR=12						
EGRA				Lg		16 01 58.1	
	3.9nm,0.2s,SNR=5.1						
EGRA	**Graus**	**1.50**	**114**	Pg	**Pg**	**16 01 37.5**	**-0.5**
EGRA				Lg		16 01 59.4	
MELF	**Melles**	**1.68**	**88**	Sg	**Sg**	**16 02 04.9**	**+1.7**
MELF	**Melles**	**1.68**	**88**	P	**Pn**	**16 01 40.6**	**+1.7**
MELF				S	**Sn**	**16 02 03.3**	**+2.7**
MLS	**Moulis**	**1.93**	**85**	S	**Sn**	**16 02 10.7**	**+3.9**
SALF	**Salau**	**2.00**	**91**	P	**Pn**	**16 01 45.4**	**+2.1**
SALF				S	**Sn**	**16 02 10.9**	**+2.4**
ETOR	**Torete**	**2.04**	**191**	Pg	**Pg**	**16 01 47.0**	**-1.4**
	3.6nm,0.3s,SNR=14						
ETOR				Lg		16 02 14.7	
	5.2nm,0.3s,SNR=6.3						
ERTA	**Horta de San J**	**2.32**	**143**	Pn	**Pn**	**16 01 47.6**	**-0.1**
	0.3nm,0.1s,SNR=7.9						
ERTA				Pg	**Pg**	**16 01 53.5**	**-0.3**
	1.6nm,0.2s,SNR=7.9						
ERTA				Lg		16 02 23.8	
	5.7nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.32**	**143**	Pn	**Pn**	**16 01 47.6**	**-0.2**
ERTA				Pg	**Pg**	**16 01 54.3**	**+0.6**
ERTA				Lg		16 02 23.8	
ERTA	**Horta de San J**	**2.32**	**143**	Pn	**Pn**	**16 01 47.6**	**-0.2**
	SNR=7.9						
ERTA	**Horta de San J**	**2.32**	**143**	Pg	**Pg**	**16 01 54.3**	**+0.5**
	1.6nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.43**	**126**	Pn	**Pn**	**16 01 49.2**	**-0.1**
	0.4nm,0.1s,SNR=7.9						
EPOB				Pg	**Pg**	**16 01 53.3**	**-2.5**
	0.2nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**16 02 18.3**	**-0.9**
	0.5nm,0.1s,SNR=7.9						
EPOB				Lg		16 02 26.2	
	2.1nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.43**	**126**	Pn	**Pn**	**16 01 49.2**	**-0.1**
EPOB				Pg	**Pg**	**16 01 53.3**	**-2.5**
EPOB				Sn	**Sn**	**16 02 17.1**	**-2.0**
EPOB				Lg		16 02 26.2	
EPOB	**Poblet**	**2.43**	**126**	Pn	**Pn**	**16 01 49.2**	**-0.1**
	0.4nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.43**	**126**	Pg	**Pg**	**16 01 53.3**	**-2.5**
	0.2nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**16 02 17.1**	**-2.1**
	SNR=7.9						
EMIR	**Miracle**	**2.44**	**111**	Pn	**Pn**	**16 01 49.3**	**0.0**
	0.2nm,0.1s,SNR=4.0						
EMIR				Pg	**Pg**	**16 01 54.8**	**-1.1**
	1.8nm,0.1s,SNR=7.9						
EMIR				Lg		16 02 26.6	
	5.3nm,0.2s,SNR=5.2						
EMIR	**Miracle**	**2.44**	**111**	Pn	**Pn**	**16 01 49.3**	**0.0**
	0.2nm,0.1s,SNR=4.0						
EMIR	**Miracle**	**2.44**	**111**	Pg	**Pg**	**16 01 54.8**	**-1.1**
	1.8nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**2.74**	**281**	Pn	**Pn**	**16 01 55.1**	**+1.5**
	0.3nm,0.1s,SNR=7.9						
EARI				Sn	**Sn**	**16 02 28.2**	**+1.3**
	0.3nm,0.1s,SNR=7.9						
EARI				Lg		16 02 37.6	
	5.4nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**2.74**	**281**	Pn	**Pn**	**16 01 54.6**	**+1.0**
EARI				Sn	**Sn**	**16 02 27.1**	**+0.1**
EARI				Lg		16 02 37.6	
EARI	**Arriondas**	**2.74**	**281**	Pn	**Pn**	**16 01 54.6**	**+1.0**
	SNR=7.9						
EARI				Sn	**Sn**	**16 02 27.0**	**+0.1**
	SNR=7.9						
MTLF	**Montolieu**	**2.79**	**78**	*e*Pn	**Pn**	**16 01 55.3**	**+1.1**
MTLF				*e*Sn	**Sn**	**16 02 27.6**	**-0.4**
	5.1nm,0.4s						
MTLF	**Montolieu**	**2.79**	**78**	*e*Pn	**Pn**	**16 01 55.3**	**+1.1**
MTLF				*e*Sn	**Sn**	**16 02 27.6**	**-0.4**
	2.5nm,0.4s						
RJF	**Les Rejaudoux**	**3.31**	**40**	*e*Pn	**Pn**	**16 02 01.4**	**+0.1**
RJF				*e*Sn	**Sn**	**16 02 39.2**	**-1.6**
	5.9nm,0.3s						
RJF	**Les Rejaudoux**	**3.31**	**40**	Pn	**Pn**	**16 02 01.4**	**+0.1**
RJF				Sn	**Sn**	**16 02 39.2**	**-1.6**
	3.0nm,0.3s						
CAF	**Calviac**	**3.34**	**50**	*e*Pn	**Pn**	**16 02 02.6**	**+0.9**
CAF				*e*Sn	**Sn**	**16 02 39.3**	**-2.3**
	4.4nm,0.3s						
CAF	**Calviac**	**3.34**	**50**	*e*Pn	**Pn**	**16 02 02.6**	**+0.9**
CAF				*e*Sn	**Sn**	**16 02 39.3**	**-2.3**
	2.2nm,0.3s						
MFF	**Saint Martin d**	**3.90**	**14**	*e*Pg	**Pg**	**16 02 23.2**	**-0.8**
MFF				*e*Sg	**Sg**	**16 03 14.0**	**-0.6**
	2.3nm,0.3s						
MFF	**Saint Martin d**	**3.90**	**14**	Pn	**Pn**	**16 02 11.2**	**+1.7**
MFF				Pg	**Pg**	**16 02 23.2**	**-0.8**
MFF				Lg		16 03 14.0	
	1.1nm,0.3s						
MFF	**Saint Martin d**	**3.90**	**14**	*e*Pn	**Pn**	**16 02 11.2**	**+1.7**
MFF				*e*Pg	**Pg**	**16 02 23.2**	**-0.8**
MFF				*e*Sg	**Sg**	**16 03 14.0**	**-0.6**
MFF	**Saint Martin d**	**3.90**	**14**	*e*Pg	**Pg**	**16 02 23.2**	**-0.8**
MFF				*e*Sg	**Sg**	**16 03 14.0**	**-0.6**
	1.1nm,0.3s						
ECAL	**Calabor**	**3.96**	**259**	Pn	**Pn**	**16 02 10.4**	**+0.1**
	2.1nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**16 02 56.4**	**-0.5**
	2.6nm,0.3s,SNR=7.9						
ECAL				Lg		16 03 13.6	
	2.7nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**3.96**	**259**	Pn	**Pn**	**16 02 10.4**	**+0.1**
LASF	**Ste Croix**	**4.11**	**70**	*e*Pn	**Pn**	**16 02 12.8**	**+0.4**
LASF				*e*Sn	**Sn**	**16 02 58.8**	**-1.9**
	2.2nm,0.3s						
LASF	**Ste Croix**	**4.11**	**70**	*e*Pn	**Pn**	**16 02 12.8**	**+0.4**
LASF				*e*Sn	**Sn**	**16 02 58.8**	**-1.9**
	1.1nm,0.3s						
QUIF	**Quistinic**	**5.22**	**348**	*e*Pn	**Pn**	**16 02 27.7**	**+0.1**
QUIF				*e*Sn	**Sn**	**16 03 26.6**	**-1.5**
	3.7nm,0.4s						
QUIF	**Quistinic**	**5.22**	**348**	*e*Pn	**Pn**	**16 02 27.7**	**+0.1**
QUIF				*e*Sn	**Sn**	**16 03 26.6**	**-1.5**
	1.9nm,0.4s						
ROSF	**Rostrenen**	**5.65**	**348**	*e*Pn	**Pn**	**16 02 33.7**	**+0.2**
ROSF				*e*Sn	**Sn**	**16 03 34.3**	**-4.2**
	3.5nm,0.5s						
ROSF	**Rostrenen**	**5.65**	**348**	*e*Pn	**Pn**	**16 02 33.7**	**+0.2**
ROSF				*e*Sn	**Sn**	**16 03 34.3**	**-4.2**
	1.8nm,0.5s						

IDC ***10*** *16:02:40.9±0.4, 58.72S×25.25W, h0km, mb4.9/13, mb1 5.0/13, mb1mx4.9/17, mbtmp4.9/13, MS4.5/17, Ms1 4.5/17, ms1mx4.5/20, Error ellipse: s-maj=20.8km s-min=14.8km az=58.0*
ISCJB ***10*** *16:02:40.6±0.4, 58.69S±0.06×25.1W±0.1, h10km, mb4.9/23, MS4.7/34, Error ellipse: s-maj=12.0km s-min=7.3km az=104.6*
MOS ***10*** *16:02:45.1±1.1, 58.67S×25.10W, h33km, mb5.4/3, Error ellipse: s-maj=29.2km s-min=15.1km az=103.9*
BJI ***10*** *16:02:45.3, 58.70S×25.00W, h44km, mB5.4, Ms5.1, Msz4.9*
HRVD ***10*** *16:02:47.3±0.2, 59.03S×24.76W, h35km, MW5.2/77, Centroid moment Tensor Solution. LP body waves: s61,c96;Mantle waves: s77,c117; Half duration: 1.0s Moment tensor: Scale 10^{17}Nm; M_{rr}0.61±.02; $M_{\theta\theta}$0.22±.02; $M_{\phi\phi}$-0.83±.02; $M_{r\theta}$-0.10±.03; $M_{\theta\phi}$-0.10±.01; $M_{\phi r}$0.12±.02; Best double couple: $M_0$0.75100×10^{17} NP1:ϕ_s201.00000°, δ43.00000°, λ113.00000°. NP2:ϕ_s351.00000°, δ51.00000°, λ70.00000°. Principal axes: T 0.6510, Plg74.0000°, Azm201.0000°; N 0.1990, Plg15.0000°, Azm4.0000°; P -0.8510, Plg4.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***10*** *16:02:47.3±1.2, 58.72S×25.02W, h45km±9km, mb5.1/14, MS4.6/5 Error ellipse: s-maj=9.9km s-min=6.0km az=51.0*
ISC 10 16:02:42.2±0.4, **58.72S**±0.06×**25.1W**±0.1, **h10**km, **n258**, σ**0.94**/43, **mb4.9**/22, **MS4.7**/34, **52C-56D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.69**	**300**	Pn	**Pn**	**16 04 41.0**	**+6.8**
	3µm,0.9s,SNR=6.5						
HOPE	**Hope Point**	**7.69**	**300**	P	**Pn**	**16 04 39.6**	**+5.4**
	580nm,0.9s						
VNA1	**Neumayer--Stat**	**13.90**	**156**	⇑*i*Pn	**Pn**	**16 05 58.3**	**-0.9**
VNA1				*e*		16 06 06.7	
VNA1				*e*		16 06 12.2	
VNA1				*e*		16 06 17.6	
VNA1				*e*		16 06 32.9	
VNA1				*e*		16 06 36.9	
VNA1				*e*		16 06 39.5	
VNA1				*e*		16 06 43.8	
VNA1				*e*		16 06 57.7	
VNA1				*e*		16 08 26.8	
VNA1				*e*		16 08 29.7	
VNA1				*e*		16 08 39.2	
VNA1				*e*		16 08 48.2	
VNA1				*e*		16 11 21.7	
VNA1				*e*		16 11 53.3	
SNAA	**Sanae**	**15.85**	**154**	*e*Pn	**Pn**	**16 06 24.3**	**-1.0**
SNAA				*e*		16 06 25.2	
SNAA				*e*		16 06 28.3	
SNAA				*e*		16 06 30.1	
SNAA				*e*		16 06 32.8	
SNAA				*e*		16 06 36.4	
SNAA				*e*		16 06 38.8	
SNAA				*e*		16 06 47.8	
SNAA				*e*		16 06 55.0	
SNAA				*e*		16 07 02.6	
SNAA				*e*		16 07 29.0	
SNAA				*e*		16 08 00.0	
SNAA				*e*		16 08 21.7	
SNAA				*e*		16 09 07.3	
SNAA				*e*		16 09 14.4	
SNAA				*e*		16 09 19.2	
SNAA				*e*		16 10 52.1	
SNAA				*e*		16 11 23.6	
SNAA				*e*		16 11 31.7	
SNAA				*e*		16 12 01.4	
SNAA	**Sanae**	**15.85**	**154**	*e*P	**Pn**	**16 06 24.2**	**-1.1**
SNAA				pmax	pmax		
	comp=Z,107nm,0.8s						
SNAA	**Sanae**	**15.85**	**154**	*e*P	**Pn**	**16 06 24.1**	**-1.1**
	comp=Z,107nm,0.8s						
PMSA	**Palmer Station**	**19.13**	**235**	P	**Pn**	**16 07 07.9**	**+1.7**
	comp=Z,88nm,1.0s						
MAIT	**Maitri**	**19.41**	**143**	*e*P	**Pn**	**16 07 07.8**	**-1.7**
MAIT				*e*S	**Sn**	**16 10 29.5**	**-18**
NVL	**N'lazarevskaya**	**19.44**	**143**	⇑*i*P	**Pn**	**16 07 15.9**	**+6.1**

NVL *i* S **Sn** **16 10 50.2 +2.3**
NVL pmax pmax
comp=Z,131nm,1.8s
NVL MLR MLR
comp=Z,1μm,17.6s
EFI **East Falkland** **19.91 276** *e*P **Pn** **16 07 16.0 +0.5**
EFI pmax pmax
comp=Z,197nm,1.3s
EFI **East Falkland** **19.91 276** *e*P **Pn** **16 07 16.0 +0.5**
comp=Z,197nm,1.3s
SYO **Syowa Base** **28.83 137**‖*e*pP pP 16 08 46.6 +3.0
SYO **Syowa Base** **28.83 137**‖*e*sP sP 16 08 52.4 +7.5
SYO **Syowa Base** **28.83 137**‖*e*PP PP 16 09 40.0 -5.6
SYO **Syowa Base** **28.83 137**‖*e*PcP PcP 16 11 48.8 -1.3
TRQA **Tornquist** **31.43 295** *e*P **P** **16 09 03.3 -0.2**
comp=Z,28nm,1.1s,mb5.0
TRQA LR LR
comp=Z,2μm,20.0s,MS4.8
QSPA **South Pole Qui** **31.52 180**⇑*i*P **P** **16 09 05.4 +1.0**
comp=Z,56nm,0.9s,mb5.4
PLCA **Paso Flores** **33.61 282** P **P** **16 09 22.6 +0.1**
comp=Z,15nm,0.8s,mb5.0,baz=143,slow=8.0,SNR=24
PLCA PcP PcP 16 12 03.0 +0.2
comp=Z,3.0nm,0.8s,baz=14,slow=3.8,SNR=3.4
PLCA LR LR 16 23 00.0
comp=Z,965nm,18.1s,MS4.6,baz=142,slow=36
PLCA **Paso Flores** **33.61 282** P **P** **16 09 22.7 +0.1**
PLCA 16 12 03.0
MAW **Mawson** **37.35 141** P **P** **16 09 54.4 -0.4**
comp=Z,11nm,0.9s,mb4.7,baz=221,slow=9.9,SNR=12
MAW PcP PcP 16 12 13.9 +0.1
comp=Z,8.1nm,0.9s,baz=278,slow=2.2,SNR=4.4
MAW LR LR 16 23 23.7
comp=Z,1μm,19.8s,MS4.7,baz=247,slow=33
MAW **Mawson** **37.35 141** P **P** **16 09 54.4 -0.4**
MAW 16 12 13.9
CPUP **Villa Florida** **39.41 311** P **P** **16 10 10.7 -1.5**
comp=Z,1.9nm,0.6s,mb4.0,baz=127,slow=8.1,SNR=8.5
SBA **Scott Base** **43.48 184** *e*P **P** **16 10 46.5 +0.9**
SBA pmax pmax
comp=Z,50nm,1.1s,mb5.2
SBA **Scott Base** **43.48 184** *e*P **P** **16 10 46.5 +1.0**
comp=Z,50nm,1.1s,mb5.2
VNDA **Vanda** **43.95 182** P **P** **16 10 50.4 +1.1**
comp=Z,41nm,0.9s,mb5.2,baz=186,slow=7.0,SNR=194
VNDA PcP PcP 16 12 34.5 -0.6
comp=Z,7.2nm,0.9s,baz=245,slow=3.4,SNR=3.8
VNDA LR LR 16 27 36.0
comp=Z,386nm,21.7s,MS4.3,baz=175,slow=34
VNDA **Vanda** **43.95 182** P **P** **16 10 50.4 +1.1**
VNDA 16 12 34.5
BDFB **Brasilia** **46.23 329** P **P** **16 11 08.2 +0.7**
comp=Z,13nm,0.7s,mb4.9,baz=158,slow=5.5,SNR=16
BDFB PcP PcP 16 12 43.5 +0.5
comp=Z,8.6nm,0.7s,baz=156,slow=6.7,SNR=5.2
BDFB LR LR 16 27 16.4
comp=Z,549nm,21.4s,MS4.5,baz=162,slow=32
BDFB **Brasilia** **46.23 329** P **P** **16 11 08.2 +0.8**
BDFB 16 12 43.5
LVC **Limon Verde** **47.60 300** *e*P **P** **16 11 17.9 -0.2**
comp=Z,13nm,0.9s,mb5.0
LVC LR LR
comp=Z,314nm,20.0s,MS4.3
LBTB **Lobatse** **48.83 69** P **P** **16 11 28.2 +0.6**
comp=Z,4.6nm,0.9s,mb4.5,baz=227,slow=6.3,SNR=7.3
TSUM **Tsumeb** **50.12 57** *e*P **P** **16 11 38.7 +1.2**
comp=Z,71nm,2.0s,mb5.3
TSUM LR LR
comp=Z,757nm,22.0s,MS4.7
CASY **Casey** **51.01 159** *e*P **P** **16 11 43.7 -0.5**
comp=Z,18nm,1.3s,mb4.8
CASY *e*pP pP 16 11 56.3 +8.9
CASY LR LR
comp=Z,1μm,20.0s,MS5.0
LPAZ **La Paz** **52.82 305** P **P** **16 11 57.8 0.0**
comp=Z,7.9nm,0.7s,mb4.8,baz=149,slow=6.9,SNR=35
SAML **Samuel** **57.46 314** *e*P **P** **16 12 29.6 -1.6**
comp=Z,10nm,0.8s,mb4.9
SAML LR LR
comp=Z,394nm,22.0s,MS4.5
DBIC **Dimbokro** **67.19 22** P **P** **16 13 36.9 +0.5**
comp=Z,5.6nm,0.7s,mb4.7,baz=159,slow=9.2,SNR=8.6
DBIC LR LR 16 36 55.2
comp=Z,179nm,19.3s,MS4.3,baz=152,slow=31
OTAV **Otavalo** **72.05 303** *e*P **P** **16 14 07.1 +0.7**
comp=Z,8.6nm,1.0s,mb4.6
ROSC **El Rosal** **74.45 308** LR LR 16 48 00.9
comp=Z,263nm,19.4s,MS4.5,baz=163,slow=37
TORD **Torodi Ar. Bea** **74.89 27** P **P** **16 14 24.0 +0.9**
comp=Z,22nm,0.8s,mb5.1,baz=194,slow=6.5,SNR=96
TORD LR LR 16 41 53.7
comp=Z,301nm,19.0s,MS4.6,baz=185,slow=31
KMBO **Kilima Mbogo** **75.02 67** LR LR 16 44 26.2
comp=Z,747nm,18.9s,MS5.0,baz=97,slow=33
SDV **Santo Domingo** **76.67 314** P **P** **16 14 32.8 -0.5**
comp=Z,15nm,1.1s,mb4.8
RKT **Rikitea** **80.21 242** *e*LQ 16 36 41.9
comp=Z,341nm,32.8s
RKT *e*LR LR 16 40 05.3
comp=Z,478nm,25.0s
URZ **Urewera** **81.61 198** P **P** **16 14 59.3 -1.0**
comp=Z,22nm,1.1s,mb5.0,baz=144,slow=17,SNR=3.8
URZ LR LR 16 45 57.0
comp=Z,354nm,18.0s,MS4.8,baz=224,slow=32
TBI **Tubuai** **86.23 230** *e*LQ 16 39 07.8
comp=Z,271nm,33.8s
TBI *e*LR LR 16 42 50.2
comp=Z,279nm,23.0s,baz=160
FORT **Forrest** **88.08 157** *e*P **P** **16 15 33.0 +0.1**
comp=Z,27nm,0.9s,mb5.5
STKA **Stephens Creek** **89.07 169** *e*P **P** **16 15 37.4 -0.1**
comp=Z,14nm,1.0s,mb5.2
STKA **Stephens Creek** **89.07 169** P **P** **16 15 37.3 -0.2**
comp=Z,14nm,0.9s,mb5.3,baz=176,slow=5.1,SNR=11
RAO **Raoul Island** **89.47 204** LR LR 16 48 44.1
comp=Z,245nm,19.1s,MS4.7,baz=13,slow=31
PPT **Papeete** **91.47 232** *e*LR LR 16 45 16.0
comp=Z,339nm,23.2s,baz=131
PPT **Papeete** **91.47 232** LR LR 16 48 28.2
comp=Z,289nm,18.1s,MS4.8,baz=354,slow=30
RAR **Rarotonga** **92.02 222** LR LR 16 55 52.9
comp=Z,188nm,18.2s,MS4.6,baz=125,slow=35
CMIG **Matias Romero** **94.38 296** LR LR 16 53 56.3
comp=Z,183nm,18.1s,MS4.6,baz=351,slow=33
TAOE **Nuku Hiva Isla** **95.02 244** *e*LR LR 16 46 57.0
comp=Z,1μm,26.1s
ASPA **Alice Springs** **96.10 161** *e*P **P** **16 16 09.4 -0.6**
ASAR **Alice Springs** **96.10 161** P **P** **16 16 09.1 -0.9**
comp=Z,5.2nm,0.8s,mb5.0,baz=181,slow=4.3,SNR=39
ASAR PKKP PKKPbc 16 32 53.2 -3.7
comp=Z,0.7nm,0.6s,baz=14,slow=2.3,SNR=8.5
ASAR LR LR 16 57 50.2
comp=Z,468nm,18.6s,MS5.0,baz=210,slow=34
AS31 **Alice Springs** **96.10 161** *e*P **P** **16 16 09.4 -0.6**
ESDC **Sonseca Array** **99.61 16** LR LR 16 55 37.7
comp=Z,73nm,19.3s,MS4.2,baz=150,slow=32
FITZ **Fitzroy Crossi** **99.77 152** LR LR 17 01 14.6
comp=Z,178nm,18.9s,MS4.6,baz=350,slow=35
WRA **Warramunga Arr** **99.82 160** P Pdif 16 16 25.6 -1.1
comp=Z,0.7nm,0.9s,baz=194,slow=3.8,SNR=7.3
WRA PKKP PKKPbc 16 32 44.4 -2.3
comp=Z,0.8nm,0.8s,baz=359,slow=2.9,SNR=9.5
WRA LR LR 16 59 55.9
comp=Z,378nm,18.6s,MS4.9,baz=185,slow=34
BRTR **Keskin Array B** **109.54 44** PKKPbc PKKPbc 16 32 17.5 +0.2
comp=Z,0.4nm,0.5s,baz=143,slow=2.6,SNR=3.9
BRTR PKKPab PKKPab 16 32 26.0 -3.2
comp=Z,0.8nm,0.8s,baz=121,slow=2.2,SNR=4.3
Z14A **Wintersburg** **116.76 291**‖P PKPdf 16 21 26.8 +0.1
baz=117
Y14A **Wickenburg** **117.25 291**⇑P PKPdf 16 21 27.7 0.0
baz=118
X15A **Humboldt** **117.33 292**⇑P PKPdf 16 21 27.8 0.0
baz=118
GLA **Glamis** **117.43 289**⇑P PKPdf 16 21 27.9 -0.1
baz=118
X14A **Yava** **117.62 291**‖P PKPdf 16 21 28.3 -0.1
baz=118
AKASG **Malin Array Be** **117.71 36** PKP PKPdf 16 21 26.9 -1.7
comp=Z,0.7nm,0.6s,baz=243,slow=1.8,SNR=7.0
Y12C **Blythe** **117.84 290**‖P PKPdf 16 21 28.6 -0.3
baz=118
SCHQ **Schefferville** **118.06 334** PKP PKPdf 16 21 27.7 -1.5
comp=Z,2.6nm,0.8s,baz=195,slow=7.4,SNR=3.7
W14A **Seligman** **118.31 292**‖P PKPdf 16 21 29.9 +0.1
baz=119
ISCO **Idaho Springs** **118.51 300** *e*PKIKP PKPdf 16 21 30.0 -0.1

PFO **Pinyon Flat Ob** **118.69 288**⇑P PKPdf 16 21 30.8 +0.4
baz=119
V12A **Nelson** **119.59 291**‖P PKPdf 16 21 32.1 0.0
baz=120
TUQ **Turquoise Mtn.** **119.88 290**‖P PKPdf 16 21 32.9 +0.2
baz=120
SNCC **San Nicolas Is** **119.93 285**⇑P PKPdf 16 21 33.3 +0.5
baz=120
V11A **Goodsprings** **119.96 290**⇑P PKPdf 16 21 32.9 0.0
baz=120
U12A **Valley of Fire** **120.00 291**⇑P PKPdf 16 21 33.3 +0.4
baz=120
GSC **Goldstone** **120.21 289**⇑P PKPdf 16 21 33.6 +0.2
baz=120
SRU **San Rafael** **120.22 296** *e*PKIKP PKPdf 16 21 32.0 -1.4
CCUT **Cedar City** **120.32 293** *e*PKPdf PKPdf 16 21 33.9 +0.3
U11A **Corn Creek** **120.40 291**‖P PKPdf 16 21 34.4 +0.7
baz=121
MSU **Marysvale** **120.52 295** *e*PKIKP PKPdf 16 21 34.0 0.0
TMUT **Trail Mountain** **120.69 296** *e*PKPdf PKPdf 16 21 34.1 -0.2
U10A **Ash Meadows, A** **120.86 290**‖P PKPdf 16 21 35.0 +0.4
baz=121
TPNV **Topopah Spring** **121.24 290** *e*PKIKP PKPdf 16 21 35.3 -0.1
RSSD **Black Hills** **121.30 304** *e*PKIKP PKPdf 16 21 33.9 -1.6
ISA **Isabella** **121.32 288**⇑P PKPdf 16 21 36.0 +0.5
baz=122
DAU **Daniels Canyon** **121.59 297** *e*PKIKP PKPdf 16 21 35.7 -0.3
NLU **North Lily Min** **121.62 296** *e*PKPdf PKPdf 16 21 35.7 -0.4
CWC **Cottonwood Cre** **121.74 289**⇑P PKPdf 16 21 36.7 +0.3
baz=122
CTU **Camp Tracy** **122.05 296** *e*PKPdf PKPdf 16 21 36.8 -0.2
DUG **Dugway** **122.15 295** *e*PKIKP PKPdf 16 21 36.7 -0.4
Q12A **Willow Creek R** **122.20 293**‖P PKPdf 16 21 37.2 0.0
baz=122
TCUT **Toone Canyon** **122.22 297** *e*PKPdf PKPdf 16 21 37.3 0.0
R10A **Warm Springs** **122.33 291**⇑P PKPdf 16 21 37.8 +0.3
baz=123
S09A **Goldfield** **122.33 290**⇑P PKPdf 16 21 37.7 +0.3
baz=123
Q11A **Duckwater** **122.45 292**‖P PKPdf 16 21 37.9 +0.3
baz=123
PKD **Parkfield** **122.58 287**⇑P PKPdf 16 21 38.1 +0.2
baz=123
P12A **McGill** **122.58 293**‖P PKPdf 16 21 37.8 -0.1
baz=123
PDAR **Pinedale Array** **122.67 299** PKP PKPdf 16 21 36.8 -1.3
comp=Z,3.3nm,0.8s,baz=131,slow=3.8,SNR=26
HWUT **Hardware Ranch** **122.68 297** *e*PKPdf PKPdf 16 21 37.3 -0.8
MTUM **Tungsten Hills** **122.70 289** *e*PKPdf PKPdf 16 21 38.5 +0.3
NOA **NORSAR Array B** **122.73 20** PKP PKPdf 16 21 37.1 -1.1
comp=Z,3.5nm,1.0s,baz=195,slow=1.7,SNR=4.5
BGU **Big Grassy Mou** **122.83 296** *e*PKPdf PKPdf 16 21 38.2 -0.2
SPUT **South Promonto** **122.86 296** *e*PKPdf PKPdf 16 21 37.5 -1.0
ULM **Lac du Bonnet** **122.92 314** PKP PKPdf 16 21 36.6 -2.0
comp=Z,6.5nm,0.7s,baz=177,slow=0.9,SNR=15
V03C **Hunter Liggett** **122.98 286**‖P PKPdf 16 21 39.3 +0.6
baz=123
T06C **Millerton Lake** **123.00 288**⇑P PKPdf 16 21 38.8 +0.1
baz=123
KCC **Kaiser Creek** **123.05 288**‖P PKPdf 16 21 39.1 +0.3
baz=123
MNV **Mina** **123.34 290** *e*PKIKP PKPdf 16 21 39.2 -0.2
HVU **Hansel Valley** **123.38 297** *e*PKIKP PKPdf 16 21 39.0 -0.5
NVAR **Mina Array Bea** **123.41 290** PKP PKPdf 16 21 40.2 +0.7
comp=Z,6.3nm,0.7s,baz=147,slow=3.1,SNR=23
HAST **UC Hastings Re** **123.43 286**‖P PKPdf 16 21 40.1 +0.5
baz=124
O11A **Cowboy Ranch,** **123.46 293**‖P PKPdf 16 21 39.8 +0.2
baz=124
R07C **Lee Vining** **123.51 289**⇑P PKPdf 16 21 40.5 +0.8
baz=124
Q08A **Gabbs** **123.56 291**‖P PKPdf 16 21 40.4 +0.6
baz=124
S05C **Merced** **123.57 288**‖P PKPdf 16 21 40.4 +0.6
baz=124
M13A **Montello** **123.70 295**⇑P PKPdf 16 21 40.0 -0.1
baz=124
N12A **Clover Valley,** **123.72 294**‖P PKPdf 16 21 40.6 +0.5
baz=124
REDW **Red Top Meadow** **123.72 299** *e*PKPdf PKPdf 16 21 39.2 -0.9
ELK **Elko** **123.73 294** *e*PKIKP PKPdf 16 21 39.9 -0.2
S06C **San Francisco** **123.75 288**‖P PKPdf 16 21 40.6 +0.5
baz=124
PACP **Pacheco Peak** **123.78 287**⇑P PKPdf 16 21 40.9 +0.6
baz=124
OBN **Obninsk** **123.79 37**‖*i*/*e* PKIKP PKPdf 16 21 38.4 -1.8
OBN 16 28 53.8
OBN pmax pmax
comp=Z,4.0nm,0.6s
OBN MLR MLR
comp=Z,100nm,22.0s,MS4.4
TPAW **Teton Pass** **123.87 299** *e*PKPdf PKPdf 16 21 40.0 -0.4
MOOW **Moose Ponds** **123.98 299** *e*PKPdf PKPdf 16 21 39.7 -0.9
R06C **Coleville** **124.05 289**⇑P PKPdf 16 21 41.8 +1.1
baz=124
M12A **Wells** **124.10 295**‖P PKPdf 16 21 41.5 +0.7
baz=124
CMB **Columbia Colle** **124.13 288** *e*PKIKP PKPdf 16 21 40.9 0.0
CMB **Columbia Colle** **124.13 288**‖P PKPdf 16 21 41.5 +0.6
baz=124
S04C **Ingram Canyon,** **124.19 287**‖P PKPdf 16 21 41.6 +0.5
baz=124
O09A **Fish Creek Ran** **124.22 292**‖P PKPdf 16 21 41.4 +0.3
baz=124
LAO **LASA Array** **124.27 305** *e*PKPdf PKPdf 16 21 39.8 -1.4
P08A **Dixie Valley** **124.28 291**‖P PKPdf 16 21 41.8 +0.6
baz=125
BNLO **Ben Lomond (Sa** **124.32 286**‖P PKPdf 16 21 41.6 +0.3
baz=125
BMN **Battle Mountai** **124.44 292** *e*PKIKP PKPdf 16 21 41.6 +0.1
R05C **Kirkwood Meado** **124.50 289**‖P PKPdf 16 21 41.8 +0.2
baz=125
M11A **Holland Ranch,** **124.53 294**⇑P PKPdf 16 21 41.9 +0.3
baz=125
YFT **Old Faithful** **124.56 300** *e*PKPdf PKPdf 16 21 42.7 +1.0
JRSC **Jasper Ridge** **124.56 286**⇑P PKPdf 16 21 42.0 +0.3
baz=125
WCN **Washoe City** **124.80 290**‖P PKPdf 16 21 42.6 +0.4
baz=125
LAVA **Lava Cap Winer** **124.87 288**⇑P PKPdf 16 21 42.5 +0.2
baz=125
M10A **LL. Ranch, Tu** **124.95 294**‖P PKPdf 16 21 42.7 +0.2
baz=125
O07A **Toulon** **125.04 291**⇑P PKPdf 16 21 43.4 +0.7
baz=125
QLMT **Earthquake Lak** **125.12 300** *e*PKPdf PKPdf 16 21 43.5 +0.7
N08A **GE Springer Mi** **125.15 292**⇑P PKPdf 16 21 43.3 +0.4
baz=125
P05C **Yuba Gap, Truc** **125.22 289**‖P PKPdf 16 21 43.3 +0.3
baz=126
M09A **Marrel Ranch,** **125.31 293**⇑P PKPdf 16 21 43.7 +0.5
baz=126
CVS **Carmenet Viney** **125.40 287**‖P PKPdf 16 21 43.8 +0.4
baz=126
O06A **Flanigan** **125.50 290**⇑P PKPdf 16 21 44.1 +0.6
baz=126
HLID **Hailey** **125.52 297** *e*PKPdf PKPdf 16 21 43.6 0.0
N07B **Gerlach** **125.56 291**‖P PKPdf 16 21 44.1 +0.5
baz=126
NSHM **Saint Helena R** **125.61 287** *e*PKPdf PKPdf 16 21 43.8 +0.1
OHCM **Honcut** **125.68 288** *e*PKPdf PKPdf 16 21 44.0 +0.1
SUTB **Sutter Butte** **125.75 288**‖P PKPdf 16 21 44.1 +0.1
baz=126
MCMT **McKenzie Canyo** **125.77 299** *e*PKPdf PKPdf 16 21 43.9 -0.2
M08A **Happy Creek Ra** **125.78 292**‖P PKPdf 16 21 44.6 +0.5
baz=126
MNRC **McLaughlin Nat** **125.81 287**⇑P PKPdf 16 21 44.6 +0.4
baz=126
BOZ **Bozeman (W)** **125.84 300** *e*PKIKP PKPdf 16 21 43.8 -0.4
ORV **Oroville** **125.86 289**⇑P PKPdf 16 21 44.5 +0.3
baz=126
L09A **Wilkinson Ranc** **125.88 293**⇑P PKPdf 16 21 45.0 +0.8
baz=126
O05C **Quincy** **125.88 289**⇑P PKPdf 16 21 44.6 +0.4
baz=126
DLMT **Dillon** **126.06 299** *e*PKPdf PKPdf 16 21 44.5 -0.2
M07A **Soldier Meadow** **126.12 292**⇑P PKPdf 16 21 45.2 +0.5
baz=126
FINES **FINESS Array B** **126.23 28** PKP PKPdf 16 21 43.4 -1.6
comp=Z,2.8nm,0.6s,baz=159,slow=2.3,SNR=11
O04C **Chester** **126.24 289**⇑P PKPdf 16 21 45.1 +0.1
baz=126
ELFS **Eagle Lake Fie** **126.29 290**‖P PKPdf 16 21 45.2 +0.2
baz=127
GASB **Alder Springs** **126.53 288**⇑P PKPdf 16 21 46.3 +0.8
baz=127

M06C **Likely Place G** **126.61 291**‖P PKPdf 16 21 46.4 +0.7
baz=127
WVOR **Wild Horse Val** **126.66 293** *e*PKIKP PKPdf 16 21 45.9 +0.2
L07A **Adell** **126.68 292**‖P PKPdf 16 21 46.7 +0.9
baz=127
HRY **Holter Researc** **126.75 301** *e*PKPdf PKPdf 16 21 45.7 -0.2
HATC **Hat Creek Radi** **126.80 290**‖P PKPdf 16 21 46.4 +0.4
baz=127
EGMT **Eagleton** **126.83 303** *e*PKPdf PKPdf 16 21 45.0 -1.1
O02C **Red Bluff** **126.97 288**‖P PKPdf 16 21 46.9 +0.6
baz=127
M05C **Lookout** **127.06 290**‖P PKPdf 16 21 46.8 +0.3
baz=127
WDC **Whiskeytown Da** **127.16 289** *e*PKIKP PKPdf 16 21 46.0 -0.7
WDC **Whiskeytown Da** **127.16 289**‖P PKPdf 16 21 46.5 -0.1
baz=127
J08A **Circle Bar Ran** **127.28 294**⇑P PKPdf 16 21 47.3 +0.4
baz=128
L05A **Lakeview** **127.43 291**‖P PKPdf 16 21 47.6 +0.4
baz=128
CHMT **Chamberlain Mo** **127.54 300** *e*PKPdf PKPdf 16 21 47.2 -0.3
J07A **Hines** **127.69 293**⇑P PKPdf 16 21 48.2 +0.5
baz=128
K06A **Valley Falls** **127.71 292**⇑P PKPdf 16 21 48.0 +0.3
baz=128
N02C **Big Bar** **127.72 288**⇑P PKPdf 16 21 48.3 +0.5
baz=128
M04C **Macdoel** **127.72 290**‖P PKPdf 16 21 47.9 +0.1
baz=128
MSO **Missoula** **127.78 300** *e*PKPdf PKPdf 16 21 47.4 -0.5
M02C **Callahan** **127.92 289**‖P PKPdf 16 21 48.3 +0.2
baz=128
J06A **Christmas Vall** **128.00 293**‖P PKPdf 16 21 48.2 -0.1
baz=128
L04A **Klamath Falls** **128.04 290**‖P PKPdf 16 21 48.6 +0.3
baz=128
YBH **Yreka Blue Hor** **128.11 289** PKP PKPdf 16 21 47.8 -0.7
baz=159,slow=6.7
YBH **Yreka Blue Hor** **128.11 289**⇑P PKPdf 16 21 48.2 -0.3
baz=128
JOF **Joensuu** **128.79 29** *e*p PKPdf 16 21 47.0 -2.8
comp=Z,24nm,1.0s
L02A **Cave Junction** **128.87 289**⇑P PKPdf 16 21 50.0 +0.1
baz=129
HUMO **Hull Mountain** **128.89 290** *e*PKPdf PKPdf 16 21 49.2 -0.8
HUMO **Hull Mountain** **128.89 290**‖P PKPdf 16 21 50.2 +0.2
baz=129
I05A **Bend** **129.22 293**⇑P PKPdf 16 21 51.1 +0.5
baz=130
K02A **Glendale** **129.27 290**⇑P PKPdf 16 21 50.8 +0.1
baz=130
WALA **Waterton Lakes** **129.43 302** *e*PKPdf PKPdf 16 21 49.4 -1.6
J03A **Ideyld Park** **129.46 291**⇑P PKPdf 16 21 51.1 0.0
baz=130
H05A **Madras** **129.57 293**‖P PKPdf 16 21 52.1 +0.8
baz=130
J02A **Umpqua** **129.75 290**⇑P PKPdf 16 21 52.0 +0.3
baz=130
AAK **Ala-Archa** **129.80 71**⇑*i*/PKIKP PKPdf 16 21 51.2 -0.5
H04A **Detroit Lake** **130.05 292**‖P PKPdf 16 21 52.6 +0.4
baz=130
I03A **Eugene** **130.06 291**⇑P PKPdf 16 21 52.2 0.0
baz=130
I02A **Mapleton** **130.35 291**⇑P PKPdf 16 21 52.7 -0.1
baz=131
H03A **Soap Creek Ran** **130.58 292**⇑P PKPdf 16 21 53.8 +0.5
baz=131
KMI **Kunming** **130.59 110** PKP PKPdf 16 21 54.1 +0.9
KMI XPKP 16 22 10.1
KMI PP PP 16 24 12.1 +4.2
KMI PKS 16 25 29.1
KMI PPP 16 27 02.3
KMI SKS SKSdf 16 28 59.6 -5.2
KMI SKKS SKKSac 16 30 59.5 -5.3
KMI SS SS 16 41 37.8 +1.5
KMI SSS 16 46 27.1
KMI PP PP
comp=Z,92nm,7.0s
KMI LR LR
comp=N,196nm,21.4s,MS4.9
KMI LR LR
comp=E,168nm,19.6s,MS4.9
KMI LR LR
comp=Z,213nm,20.5s,MS4.8
F04A **Amboy** **131.08 293**⇑P PKPdf 16 21 54.4 +0.2
baz=131
E05A **Randle** **131.22 294**‖P PKPdf 16 21 54.7 +0.3
baz=132
EDM **Edmonton** **132.21 306** *e*PKIKP PKPdf 16 21 54.4 -1.9
B05A **Bryant** **132.60 296**‖P PKPdf 16 21 57.1 +0.1
baz=133
ARU **Arti** **132.65 49** *i* PKIKP PKPdf 16 21 54.2 -2.9
ARU *e* 16 28 59.1
ARU MLR MLR
comp=Z,200nm,21.0s,MS4.8
ARU MLR MLR
comp=N,90nm,20.5s,MS4.5
ARU MLR MLR
comp=E,50nm,18.0s,MS4.5
ARCES **ARCESS Array B** **133.01 22** PKP PKPdf 16 21 54.5 -3.3
comp=E,4.0nm,0.7s,baz=225,slow=1.0,SNR=15
A05A **Maple Falls** **133.12 296**‖P PKPdf 16 21 58.3 +0.3
baz=133
GYA **Guiyang** **133.62 113** *e*PKP PKPdf 16 21 52.9 -6.0
GYA PKS 16 25 27.9
GYA PP PP
comp=Z,120nm,7.6s
GYA LR LR
comp=N,130nm,20.8s,MS4.8
GYA LR LR
comp=E,140nm,21.0s,MS4.8
GYA LR LR
comp=Z,150nm,20.8s,MS4.7
CHKZ **Chkalovo** **135.79 58** *e*PKIKP PKPdf 16 22 01.7 -1.3
CD2 **Chengdu** **135.86 106** *e*PKP PKPdf 16 22 02.4 -0.7
CD2 PP PP 16 24 44.4 +2.8
CD2 PKS 16 25 37.3
CD2 SKS SKSdf 16 29 07.9 -6.3
CD2 SKKS SKKSac 16 31 31.7 -5.2
CD2 SS SS 16 42 38.0 -2.2
CD2 PP PP
comp=Z,80nm,9.0s
CD2 LR LR
comp=N,100nm,19.8s
CD2 LR LR
comp=Z,120nm,15.6s,MS4.7
MKAR **Makanchi Array** **136.65 73** PKhKP 16 21 49.0
comp=Z,0.3nm,0.8s,baz=288,slow=1.4,SNR=3.0
MKAR PKP PKPdf 16 22 05.0 +0.3
comp=Z,1.8nm,0.9s,baz=354,slow=3.7,SNR=4.4
MKAR SKPbc SKPbc 16 25 32.4 -4.8
comp=Z,3.2nm,1.2s,baz=243,slow=4.8,SNR=6.3
MKAR PKKP 16 31 39.8
comp=Z,0.3nm,0.6s,baz=66,slow=3.6,SNR=3.8
MKAR **Makanchi Array** **136.65 73** PKHKP 16 21 49.0
MKAR 16 22 05.0
WMQ **Urumqi** **137.32 80** PKP PKPdf 16 21 59.2 -6.6
WMQ PP PP 16 24 47.5 -3.2
WMQ PKS 16 25 33.9
WMQ PP PP
comp=Z,231nm,6.6s
WMQ LR LR
comp=N,230nm,20.8s,MS5.0
WMQ LR LR
comp=E,172nm,19.7s,MS5.0
WMQ LR LR
comp=Z,205nm,21.3s,MS4.8
KURK **Kurchatov** **137.51 66**⇑*i*/PKIKP PKPdf 16 22 03.2 -3.0
YKA **Yellowknife Ar** **138.88 315** PKhKP 16 21 57.0
comp=Z,0.4nm,0.4s,baz=124,slow=3.6,SNR=5.0
YKA PKP PKPdf 16 22 06.6 -2.1
comp=Z,13nm,0.7s,baz=127,slow=2.3,SNR=50
YKA SKPbc SKPbc 16 25 41.3 -2.3
comp=Z,0.9nm,0.6s,baz=137,slow=3.2,SNR=4.2
YKA **Yellowknife Ar** **138.88 315** PKHKP 16 21 57.0
YKA 16 22 06.6
YKA **Yellowknife Ar** **138.88 315** PKP PKPdf 16 21 57.0 -12
YKA PKP PKPdf 16 22 06.6 -2.1
YKA SKPbc SKPbc 16 25 41.3 -2.4
LZH **Lanzhou** **140.01 102** *e*PKP PKPdf 16 22 06.4 -4.4
LZH XPKP 16 22 24.5
LZH PP PP 16 25 07.2 -0.2
LZH SKKS SKKSac 16 31 52.2 -9.3
LZH SS SS 16 43 24.0 -5.3
LZH PP PP
comp=Z,132nm,5.6s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LZH				LR	LR		
	comp=E,270nm,18.9s						
LZH				LR	LR		
	comp=Z,338nm,20.0s,MS5.1						
GTA	Gaotai	140.44	94	PKP	PKPdf	16 22 08.4	-3.2
GTA				XPKP		16 22 23.9	
GTA				PKS		16 25 43.4	
GTA				SKS	SKSdf	16 29 14.1	-7.8
GTA				SKKS	SKKSac	16 31 54.5	-10
GTA				PP	PP		
	comp=Z,40nm,6.9s						
GTA				LR	LR		
	comp=N,149nm,15.2s,MS4.9						
GTA				LR	LR		
	comp=E,128nm,17.5s,MS4.9						
GTA				LR	LR		
	comp=Z,203nm,18.3s,MS4.9						
XAN	Xi'an	140.95	109	PKP	PKPdf	16 22 05.4	-7.1
NVS	Novosibirsk	142.28	64	*e*PKIKP	PKPdf	16 22 11.0	-3.9
NVS				pmax	pmax		
	comp=Z,12nm,1.3s						
NVS				pmax	pmax		
	comp=E,10.0nm,2.0s						
ZAL	Zalesovo	142.48	66	PKhKP		16 22 07.9	
	comp=E,1.7nm,0.3s,baz=254,slow=5.7,SNR=4.8						
DLBC	Dease Lake	142.75	303	*e*PKPpre		16 22 10.1	
NJ2	Nanjing	143.99	122	*e*PKP	PKPdf	16 22 18.4	+0.5
NJ2				XPKP		16 22 32.6	
NJ2				PP	PP	16 25 33.0	+1.4
NJ2				PKS		16 25 52.6	
NJ2				SKS	SKSdf	16 29 22.0	-5.4
NJ2				PP	PP		
	comp=Z,330nm,6.4s						
SSE	Sheshan	144.19	126	*e*PKP	PKPdf	16 22 18.9	+0.7
SSE				PP	PP	16 25 35.9	+3.2
SSE				SS	SS	16 44 14.1	-3.7
SSE				PP	PP		
	comp=Z,157nm,3.5s						
SSE				LR	LR		
	comp=N,18nm,21.0s,MS4.4						
SSE				LR	LR		
	comp=E,61nm,21.0s,MS4.4						
SSE				LR	LR		
	comp=Z,77nm,20.4s,MS4.5						
SKAG	Skagway	145.63	302	*e*PKP	PKPdf	16 22 19.3	-1.4
BTO	Baotou	146.59	103	*e*PKP	PKPdf	16 22 23.0	+0.7
TIA	Tai'an	146.67	116	*e*PKP	PKPdf	16 22 22.9	+0.4
HHC	Hu-ho-hao-te	147.56	104	*e*PKP	PKPdf	16 22 25.6	+1.6
HHC				APKP		16 22 38.2	
HHC				XPKP		16 22 43.5	
HHC				PP	PP	16 25 58.6	+5.9
HHC				PP	PP		
	comp=Z,111nm,10.7s						
HHC				LR	LR		
	comp=E,118nm,23.2s						
HHC				LR	LR		
	comp=Z,105nm,20.2s,MS4.6						
INK	Inuvik	148.55	317	*e*PKP2	PKPbc	16 22 27.1	-2.1
MOY	Mondy	149.21	79	*e*PKP2	PKPbc	16 22 30.5	-0.4
BJT	Baijiatuau	149.22	110	*e*PKPbc	PKPbc	16 22 29.9	-1.0
BJT				*e*PKPab	PKPab	16 22 34.8	-0.5
BJI	Beijing	149.24	110	PKP	PKPbc	16 22 30.0	-1.0
BJI				LR	LR		
	comp=Z,97nm,18.5s,MS4.6						
DAWY	Dawson	149.36	308	*e*PKPbc	PKPbc	16 22 29.4	-1.9
ZAK	Zakamensk	149.65	83	*e*PKIKP	PKPdf	16 22 25.5	-1.9
ZAK				*i*		16 22 30.6	
SONM	Songino Array	149.71	89	PKP	PKPdf	16 22 26.4	-1.0
	comp=Z,20nm,1.0s,baz=90,slow=1.5,SNR=37						
SONM				PKPbc	PKPbc	16 22 31.1	-1.0
	comp=Z,20nm,0.9s,baz=205,slow=3.0,SNR=82						
ULN	Ulaanbaatar	150.07	90	*e*PKIKP	PKPdf	16 22 26.3	-1.7
ULN				*e*		16 22 31.5	
EYAK	Cordova Ski Ar	150.80	299	*e*PKPbc	PKPbc	16 22 33.9	-0.9
IRK	Irkutsk	151.22	81	*e*PKIKP	PKPbc	16 22 33.7	-2.0
IRK				*e*		16 22 50.1	
IRK				pmax	pmax		
	comp=Z,50nm,1.0s						
SML	Sawmill	152.42	301	*e*PKIKP	PKPbc	16 22 36.0	-2.5
PMR	Palmer	152.71	300	*e*PKIKP	PKPbc	16 22 38.2	-0.9
SLKM	Skilak Lake	152.84	298	*e*PKIKP	PKPbc	16 22 38.0	-1.4
KDAK	Kodiak Island	152.91	291	PKPbc	PKPbc	16 22 38.6	-0.9
	baz=181,slow=6.8						
KDAK	Kodiak Island	152.91	291	*e*PKPbc	PKPbc	16 22 38.2	-1.3
COLA	College	153.10	307	*e*PKIKP	PKPbc	16 22 37.9	-2.1
MCK	McKinley	153.27	305	*e*PKIKP	PKPbc	16 22 39.0	-1.3
SNY	Shenyang	154.17	117	*e*PKP	PKPdf	16 22 37.5	+3.4
MJAR	Matsushiro Arr	155.27	147	PKPbc	PKPdf	16 22 41.6	+5.9
	comp=Z,1.3nm,0.8s,baz=189,slow=4.2,SNR=4.1						
MJAR				PKPab	PKPab	16 23 00.1	-0.6
	comp=Z,3.7nm,0.9s,baz=158,slow=3.0,SNR=4.1						
SVW2	Sparrevohn	155.51	297	*e*PKPdif		16 22 42.8	
TTA	Tatalina	156.17	301	⇓*e*PKIKP	PKPdf	16 22 45.7	+8.8
CN2	Changchun	156.56	117	*e*PKP	PKPdf	16 22 38.1	+0.7
BOD	Bodaibo	158.72	75	*e*PKIKP	PKPdf	16 22 35.7	-4.4
BOD				*e*		16 23 13.5	
BOD				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BOD				pmax	pmax		
	comp=Z,7.0nm,1.3s						
MDJ	Mudanjiang	159.09	121	PKP	PKPdf	16 22 41.3	+0.8
MDJ				PP	PP	16 26 59.4	+1.5
MDJ				PP	PP		
	comp=Z,102nm,5.7s						
MDJ				LR	LR		
	comp=N,64nm,20.7s,MS4.6						
MDJ				LR	LR		
	comp=E,81nm,23.1s,MS4.6						
MDJ				LR	LR		
	comp=Z,101nm,21.9s,MS4.6						

IDC 10 16:40:53.1±3.0**, 1521S**×**17389W, h0**^{km}**, mb4.1**/2**, mb1 4.4**/3**, mb1mx3.9**/14**, mbtmp4.2**/3**, ML2.5**/1**, Error ellipse: s-maj=208.6km s-min=26.4km az=152.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.41	58	Pn	Pn	16 41 33.6	-0.2
	58nm,0.3s,baz=110,slow=1.9,SNR=95						
AFI				Sn	Sn	16 41 56.5	-7.6
	452nm,0.3s,baz=180,slow=23,SNR=28						
WRA	Warramunga Arr	49.43	257	P	P	16 49 45.3	+0.5
	0.7nm,0.6s,baz=91,slow=7.3,SNR=17						
ASAR	Alice Springs	49.73	252	P	P	16 49 47.1	+0.1
	4.6nm,0.8s,baz=90,slow=7.5,SNR=70						
BRTR	Keskin Array B	145.71	321	PKPbc	PKPbc	17 00 34.1	+0.3
	0.5nm,0.5s,baz=67,slow=2.0,SNR=4.8						

*ISCJB **10** 16:45:23.0±4.4, 55S±02×1508E±03, h67^{km}±32^{km}, mb3.8/7, Error ellipse: s-maj=49.8km s-min=24.5km az=36.2*
*NEIC **10** 16:45:23.0±4.5, 575S×151.16E, h66^{km}±32^{km}, mb4.6/3, Error ellipse: s-maj=44.6km s-min=24.8km az=95.0*
*IDC **10** 16:45:26.1±6.5, 564S×15089E, h78^{km}±50^{km}, mb3.5/6, mb1 3.8/7, mb1mx3.7/14, mbtmp3.9/7, ML3.4/1, MS3.6/5, Ms1 3.6/5, ms1mx3.2/19, Error ellipse: s-maj=54.8km s-min=27.3km az=92.0*
ISC 10 16:45:23.7±4.3**, 56S**±02×**1510E**±03**, h62**^{km}±31^{km}**, n20, σ1^{s}04**/17**, mb3.9**/7**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.39	225	P	Pn	16 46 41.3	-0.2
	9.3nm,0.3s,baz=32,slow=3.2,SNR=36						
PMG				S	Sn	16 47 43.6	+1.4
	baz=324,slow=19,SNR=1.8						
PMG				LR	LR	16 48 37.4	
	comp=Z,359nm,20.5s,baz=47,slow=36						
PMG	Port Moresby	5.39	225	*e*P	Pn	16 46 40.8	-0.7
PMG				S	Sn	16 47 43.6	+1.4
PMG				LR	LR	16 48 37.4	
HNR	Honiara	9.64	114	LR	LR	16 51 03.6	
	comp=Z,166nm,21.5s,baz=356,slow=35						
KAKA	Kakadu	19.65	248	*e*P	Pn	16 49 45.9	-3.4
	42nm,1.5s						
GUMO	Guam	20.00	342	LR	LR	16 56 56.6	
	comp=Z,90nm,18.5s,baz=208,slow=34						
WRAB	Tennant Creek	21.59	227	*e*P	P	16 50 07.6	-0.7
	25nm,0.9s,mb4.6						
WB2	Warramunga Arr	21.60	227	*e*P	P	16 50 07.4	-0.9
WRA	Warramunga Arr	21.61	227	P	P	16 50 07.6	-0.9
	3.1nm,0.6s,mb3.9,baz=49,slow=10,SNR=27						
AS31	Alice Springs	24.39	221	*e*P	P	16 50 36.6	+0.5
ASAR	Alice Springs	24.39	221	P	P	16 50 37.0	+0.9
	1.8nm,0.6s,mb3.7,baz=56,slow=8.6,SNR=14						
ASPA	Alice Springs	24.39	221	*e*P	P	16 50 36.6	+0.5
FITZ	Fitzroy Crossi	27.73	241	*e*P	P	16 51 05.3	-0.9
	12nm,0.7s,mb4.6						
FITZ	Fitzroy Crossi	27.73	241	P	P	16 51 05.5	-0.7
	2.8nm,0.6s,mb4.1,baz=56,slow=10,SNR=15						
NWAO	Narrogin (SRO)	41.58	225	LR	LR	17 10 10.5	
	comp=Z,232nm,20.7s,baz=118,slow=36						
MJAR	Matsushiro Arr	43.59	345	LR	LR	17 11 06.2	
	comp=Z,106nm,18.9s,baz=180,slow=35						
SONM	Songino Array	66.05	329	P	P	16 56 05.8	+1.9
	0.4nm,0.8s,mb3.5,baz=144,slow=5.4,SNR=2.3						
VNDA	Vanda	72.12	178	P	P	16 56 41.7	+0.1
	0.5nm,0.8s,mb3.5,baz=342,slow=7.3,SNR=3.3						
VNDA	Vanda	72.12	178	*e*P	P	16 56 37.4	-4.1
MKAR	Makanchi Array	79.75	319	P	P	16 57 24.5	-0.5
	0.4nm,0.7s,mb3.5,baz=96,slow=7.4,SNR=3.8						
TORD	Torodi Ar. Bea	148.84	286	PKPbc	PKPbc	17 05 04.8	+0.6
	0.8nm,0.6s,baz=74,slow=2.5,SNR=6.3						

*IDC **10** 17:03:41.0±1.2, 350N×12689E, h0^{km}, mb4.0/7, mb1 4.2/7, mb1mx4.0/18, mbtmp4.0/7, MS3.7/1, Ms1 3.6/1, ms1mx2.6/23, Error ellipse: s-maj=106.6km s-min=17.6km az=71.0*
*ISCJB **10** 17:03:48.1±5.6, 34N±02×1267E±05, h71^{km}±54^{km}, mb4.0/9, Error ellipse: s-maj=85.2km s-min=18.7km az=142.8*
*NEIC **10** 17:03:50.2±3.7, 342N×12683E, h74^{km}±36^{km}, mb4.4/4, Error ellipse: s-maj=53.5km s-min=12.6km az=71.0*
ISC 10 17:03:50.7±4.9**, 34N**±02×**1269E**±05**, h77**^{km}±47^{km}**, n16, σ0^{s}43**/16**, mb4.0**/9**, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	16.96	161	*e*P	Pn	17 07 43.3	+0.3
	10.0nm,0.7s						
FITZ	Fitzroy Crossi	21.42	183	*e*P	P	17 08 32.3	0.0
	2.6nm,0.4s,mb3.9						
FITZ	Fitzroy Crossi	21.42	183	P	P	17 08 32.3	0.0
	1.7nm,0.5s,mb3.6,baz=4.4,slow=8.6,SNR=16						
WRAB	Tennant Creek	24.35	163	*e*P	P	17 09 00.7	-0.6
	20nm,0.8s,mb4.5						
WRA	Warramunga Arr	24.36	163	P	P	17 09 00.8	-0.6
	9.3nm,0.7s,mb4.3,baz=340,slow=11,SNR=81						
WB2	Warramunga Arr	24.36	163	⇑*i*P	P	17 09 01.1	-0.3
AS31	Alice Springs	27.79	166	*e*P	P	17 09 32.1	-0.2
ASAR	Alice Springs	27.79	166	P	P	17 09 32.3	0.0
	1.1nm,0.6s,mb3.6,baz=346,slow=6.9,SNR=36						
ASPA	Alice Springs	27.79	166	*e*P	P	17 09 32.1	-0.2
FORT	Forrest	34.03	178	*e*P	P	17 10 27.7	+0.5
	16nm,1.0s,mb4.8						
STKA	Stephens Creek	37.80	159	*e*P	P	17 11 00.3	+0.8
	3.7nm,0.4s,mb4.6						
STKA	Stephens Creek	37.80	159	P	P	17 10 59.8	+0.4
	6.5nm,0.6s,mb4.6,baz=337,slow=7.5,SNR=14						
STKA				LR	LR	17 29 27.3	
	comp=Z,92nm,18.1s,baz=25,slow=41						
SONM	Songino Array	47.62	341	P	P	17 12 19.3	+0.4
	0.5nm,0.6s,mb3.5,baz=154,slow=7.1,SNR=5.0						
MKAR	Makanchi Array	57.87	325	P	P	17 13 33.9	-0.6
	0.4nm,0.3s,mb3.9,baz=119,slow=8.1,SNR=15						
VNDA	Vanda	83.11	173	P	P	17 16 08.5	+0.6
	0.6nm,0.8s,mb3.5,baz=264,slow=2.6,SNR=4.6						
VNDA	Vanda	83.11	173	P	P	17 16 08.5	+0.6

MEX 10 17:52:42.9±0.6**, 1707N**×**9589W, h57**^{km}±12^{km}**, MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OXX	Oaxaca	0.80	271	*e*P	Pn	17 52 57.0	-1.2
OXX				*i* S	Sn	17 53 08.0	-1.4
VHO	Vista Hermosa	0.81	271	*i* P	Pn	17 52 56.9	-1.5
VHO				*i* S	Sn	17 53 07.7	-1.9
CMIG	Matias Romero	0.96	88	*i* P	Pn	17 52 59.0	-1.3
CMIG				*i* S	Sn	17 53 11.1	-2.0
HUIG	Huatulco	1.31	189	*i* P	Pn	17 53 03.2	-1.7
HUIG				*i* S	Sn	17 53 19.5	-1.8
UTMO	Huajuapan	1.98	293	*e*P	Pn	17 53 18.0	+4.0
UTMO				*i* S	Sn	17 53 45.0	+7.3
CCIG	Comitan	3.68	102	*i* P	Pn	17 53 36.8	-0.4
PLIG	Platanillo	3.69	292	*i* S	Sn	17 54 17.5	-2.1

NNC 10 18:03:31.6±5.5**, 3934N**×**7168E, h0**^{km}**, mb3.3, mpv2.8, 5C, Error ellipse: s-maj=56.1km s-min=20.0km az=44.0, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	3.86	347	⇑Pn	Pn	18 04 31.9	-0.2
	3.0nm,0.3s,baz=161,slow=12,SNR=113						
KK31				⇑Sn	Sn	18 05 21.5	+3.3
	3.3nm,0.5s,baz=150,slow=25						
KK31				⇑Lg		18 05 33.9	
	7.8nm,0.4s,baz=151,slow=27						
TKM2	Tokmak 2	4.64	38	⇑Pn	Pn	18 04 43.1	+0.2
	0.1nm,0.2s						
AB31	Akbulak array	12.98	324	P	Pn	18 06 35.0	-2.2
	0.2nm,0.2s,baz=134,slow=14,SNR=11						
AB31				⇑S	Sn	18 09 02.0	-0.3
	0.2nm,0.2s,baz=133,slow=26,SNR=3.6						

*NIED **10** 18:09:00, 3400N×13120E, h14^{km}, Mw3.7 Best double couple: $M_0$4.33000×10^{14} NP1:ϕ_s212.00000°, δ76.00000°, λ165.00000°. NP2:ϕ_s306.00000°, δ75.00000°, λ15.00000°.*
*ISCJB **10** 18:09:17.0±0.7, 3402N±004×131.16E±007, h16^{km}, mb2.9/2, Error ellipse: s-maj=8.0km s-min=6.0km az=149.5*
*JMA **10** 18:09:16.8, 3403N×131.17E, h16^{km}, M4.0 Broadband fault plane solution: P waves. NP1:ϕ_s214.00000°, δ72.00000°, λ169.00000°. NP2:ϕ_s308.00000°, δ80.00000°, λ18.00000°. Principal axes: T Plg20.0000°, Azm172.0000°; N Plg69.0000°, Azm337.0000°; P Plg5.0000°, Azm80.0000°;*
JMA Felt III J1.
*IDC **10** 18:09:18.2±6.5, 3396N×13130E, h0^{km}, mb3.1/2, mb1 3.2/3, mb1mx3.1/21, mbtmp3.2/3, ML3.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/8 Error ellipse: s-maj=141.3km s-min=23.8km az=171.0*
ISC 10 18:09:16.9±0.7**, 3402N**±004×**13116E**±006**, h16**^{km}**, n8, σ0^{s}91**/11**, mb2.9**/2**, 2C-1D, Western Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTY	Toyota	0.25	343	⇑P	Pg	18 09 22.4	-0.1
JTY				S	Sg	18 09 26.3	0.0
JFA	Akaike	0.43	224	⇓P	Pg	18 09 25.4	-0.2
JFA				S	Sg	18 09 31.5	+0.1
JKI	Kunimi	0.52	138	⇑P	Pg	18 09 27.1	-0.1
JKI				S	Sg	18 09 34.2	0.0
MAT	Matsushiro	6.29	64	P	Pn	18 10 47.6	-1.4
MAT				S	Sg	18 12 34.2	-4.6
MJAR	Matsushiro Arr	6.29	64	Pn	Pn	18 10 51.5	+2.5
	0.6nm,0.3s,baz=248,slow=12,SNR=6.3						
MJAR				Lg		18 12 36.1	
	0.5nm,0.3s,baz=233,slow=30,SNR=10						
JOW	Kunigami	7.58	200	LR	LR	18 13 53.5	
	comp=Z,127nm,18.8s,baz=47,slow=36						
SONM	Songino Array	23.12	314	P	P	18 14 27.2	+5.0
	0.3nm,0.7s,mb2.9,baz=130,slow=9.3,SNR=4.1						
MKAR	Makanchi Array	38.73	304	P	P	18 16 45.1	+4.8
	0.2nm,0.7s,mb3.0,baz=91,slow=10.0,SNR=2.7						

*ISCJB **10** 18:09:30.3±0.6, 4373N±003×105.14W±007, h0^{km}, mb4.1/3, Error ellipse: s-maj=7.9km s-min=4.7km az=20.1*
*IDC **10** 18:09:30.6±1.7, 4346N×10529W, h0^{km}, mb3.9/3, mb1 4.0/7, mb1mx3.7/24, mbtmp3.8/7, ML4.0/4, Error ellipse: s-maj=44.5km s-min=7.3km az=152.0*
*NEIC **10** 18:09:32.4±0.6, 4370N×105.19W, h0^{km}, ML3.6, Error ellipse: s-maj=7.7km s-min=4.7km az=96.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
ISC 10 18:09:32.2±0.6**, 4374N**±003×**10516W**±007**, h0**^{km}**, n43, σ0^{s}94**/48**, mb4.1**/3**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RWWY	Rawlins	2.54	217	*e*Pn	Pn	18 10 15.2	+0.4
RWWY				*e*S	Sn	18 10 46.6	+0.2
LAO	LASA Array	3.05	346	*e*Pn	Pn	18 10 22.2	+0.6
BW06	Boulder Array	3.36	255	*e*Pn	Pn	18 10 25.2	-0.7
BW06				*e*Sn	Sn	18 11 11.0	+4.5
PDAR	Pinedale Array	3.36	255	Pn	Pn	18 10 25.4	-0.6
	9.7nm,0.3s,baz=75,slow=16,SNR=102						
PDAR				Pg	Pg	18 10 30.8	-5.8
	34nm,0.3s,baz=72,slow=20,SNR=96						
PDAR				Lg		18 11 11.4	
	40nm,0.3s,baz=69,slow=27,SNR=22						
GCMT	Greycliff	3.81	304	*e*Pn	Pn	18 10 32.5	+0.4
LKWY	Lake	3.86	284	*e*Pn	Pn	18 10 33.5	+0.6
LKWY				*e*Pg	Pg	18 10 42.7	-3.5
ISCO	Idaho Springs	3.95	185	*e*Pn	Pn	18 10 34.6	+0.5
ISCO				*e*Sn	Sb	18 11 31.2	+0.2
YFT	Old Faithful	4.15	282	*e*Pn	Pn	18 10 39.6	+2.8
REDW	Red Top Meadow	4.16	267	*e*Pn	Pn	18 10 37.1	+0.2
IMW	Indian Meadow	4.19	274	*e*Pn	Pn	18 10 38.0	+0.7
TPAW	Teton Pass	4.21	269	*e*Pn	Pn	18 10 37.6	-0.1
DCID1	Drake Creek	4.37	270	P	Pn	18 10 41.5	+1.6
AHID	Auburn Hatcher	4.45	259	*e*Pn	Pn	18 10 40.8	-0.1
RRI2	Red Ridge	4.50	267	*e*Pn	Pn	18 10 41.7	+0.1
SMCO	Snowmass	4.75	197	*e*P	Pb	18 10 58.5	+2.0
HWUT	Hardware Ranch	5.18	248	*e*Pn	Pn	18 10 50.4	-0.6
	18nm,0.5s						
TCUT	Toone Canyon	5.31	243	*e*Pn	Pn	18 10 52.1	-0.7
EGMT	Eagleton	5.36	325	*e*Pn	Pn	18 10 54.2	+0.8
	23nm,0.4s						
DLMT	Dillon	5.56	290	*e*Pn	Pn	18 10 57.9	+1.7
	16nm,0.8s						
DAU	Daniels Canyon	5.62	236	*e*Pn	Pn	18 10 56.9	-0.1
SPUT	South Promonto	5.91	248	*e*Pn	Pn	18 11 00.9	-0.1
HVU	Hansel Valley	5.94	253	*e*Pn	Pn	18 11 00.9	-0.5
	12nm,0.5s						
MPU	Maple Canyon	6.10	235	*e*Pn	Pn	18 11 03.8	+0.3
	15nm,0.7s						
PV10	Paradox Valley	6.10	210	*e*Pn	Pn	18 11 04.4	+0.7
SRU	San Rafael	6.13	223	*e*Pn	Pn	18 11 02.8	-1.3
	17nm,0.4s						
PV01	Paradox Valley	6.16	206	*e*Pn	Pn	18 11 05.1	+0.6
TMUT	Trail Mountain	6.34	228	*e*Pn	Pn	18 11 07.2	+0.2
NLU	North Lily Min	6.40	236	*e*Pn	Pn	18 11 05.9	-1.8
BGU	Big Grassy Mou	6.47	247	*e*Pn	Pn	18 11 07.4	-1.3
DUG	Dugway	6.71	241	*e*Pn	Pn	18 11 10.8	-1.2
	8.0nm,0.5s						
HLID	Hailey	6.72	272	*e*Pn	Pn	18 11 14.0	+1.9
	4.1nm,0.6s						
MSO	Missoula	6.92	300	*e*Pn	Pn	18 11 14.7	-0.2
	2.4nm,0.4s						
MVCO	Mesa Verde	7.00	202	P	Pn	18 11 17.1	+1.1
MSU	Marysvale	7.43	228	*e*Pn	Pn	18 11 21.8	-0.1
WALA	Waterton Lakes	8.05	314	*e*Pn	Pn	18 11 29.9	-0.5
	3.3nm,0.6s						
CCUT	Cedar City	8.78	228	*e*Pn	Pn	18 11 38.6	-1.7
ULM	Lac du Bonnet	9.09	41	Pn	Pn	18 11 44.6	-0.1
	4.6nm,0.3s,baz=235,slow=12,SNR=25						
ULM				Lg		18 14 19.6	
	1.1nm,0.3s,baz=142,slow=19,SNR=3.9						
WUAZ	Wupatki	9.50	212	*e*Pn	Pn	18 11 50.0	-0.3
	7.6nm,0.5s						
NVAR	Mina Array Bea	11.24	246	Pn	Pn	18 12 13.3	-0.9
	0.2nm,0.3s,baz=63,slow=10,SNR=5.1						
YKA	Yellowknife Ar	19.59	347	P	Pn	18 14 01.9	-1.2
	baz=155,slow=8.7,SNR=8.2						
ARCES	ARCESS Array B	61.40	18	P	P	18 19 49.2	-0.9
	1.1nm,0.4s,mb4.3,baz=333,slow=6.6,SNR=26						
FINES	FINESS Array B	68.00	23	P	P	18 20 32.6	-0.6
	1.2nm,0.9s,mb4.1,baz=324,slow=6.6,SNR=7.1						
SONM	Songino Array	84.67	339	P	P	18 22 08.2	+0.3
	0.3nm,0.5s,mb3.8,baz=356,slow=5.5,SNR=4.0						

*IDC **10** 18:20:07.9±0.6, 5124N×17904W, h0^{km}, mb4.7/22, mb1 4.8/23, mb1mx4.7/26, mbtmp4.7/23, ML4.8/1, MS3.9/14, Ms1 3.9/14, ms1mx3.7/32, Error ellipse: s-maj=19.4km s-min=12.5km az=149.0*
*SZGRF **10** 18:20:11.0, 5028N×17839E, h33^{km}, mb4.8, Rat Islands, Aleutian Islands, United States*
*BJI **10** 18:20:12.7, 5126N×17941W, h36^{km}, mB5.1, mb5.0, Ms4.6, Msz4.3*
*ISCJB **10** 18:20:13.8±0.7, 5123N±005×17906W±003, h48^{km}±5^{km}, mb4.8/162, MS4.0/29, Error ellipse: s-maj=9.2km s-min=3.5km az=169.1*
*MOS **10** 18:20:13.8±0.8, 5124N×17908W, h48^{km}, mb5.1/77, Error ellipse: s-maj=9.0km s-min=5.0km az=95.4*
*HRVD **10** 18:20:15.3±0.8, 51.14N×17883W, h24^{km}±2^{km}, MW4.8/41, Centroid moment Tensor Solution. LP body waves: s10,c10;Mantle waves: s41,c47; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.09±.22; $M_{\theta\theta}$-1.30±.14; $M_{\phi\phi}$0.20±.11; $M_{r\theta}$0.87±.19; $M_{\theta\phi}$-0.58±.08; $M_{\phi r}$0.98±.20; Best double couple: $M_0$1.86600×10^{16} NP1:ϕ_s277.00000°, δ29.00000°, λ134.00000°. NP2: ϕ_s49.00000°, δ69.00000°, λ68.00000°. Principal axes: T 1.7850, Plg60.0000°, Azm288.0000°; N 0.1610, Plg20.0000°, Azm57.0000°; P -1.9480, Plg22.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 18:20:15.3±0.6, 5122N×179.10W, h50^{km}±4^{km}, mb4.8/98, MS4.1/4, ML4.5(AEIC) Error ellipse: s-maj=6.6km s-min=3.1km az=181.0*
ISC 10 18:20:16.1±0.6**, 5132N**±005×**17906W**±004**, h55**^{km}±5^{km}**, h38**^{km}±8.2^{km}**:pP-P, n404, σ0^{s}91**/409**, mb4.8**/162**, MS4.0**/29**, 24C-11D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	1.03	274	P	Pn	18 20 30.9	-3.4
AMKA				S	Sn	18 20 47.4	-0.4
ATKA	Atka Island	3.15	72	P	Pn	18 21 02.5	-0.7
ATKA				S	Sn	18 21 42.2	+2.7
SMY	Shemya	4.46	291	P	Pn	18 21 21.2	+0.1
NIKO	Nikolski	6.50	71	*e*P	Pn	18 21 48.3	-0.8
SPIA	Saint Paul Isl	7.81	38	P	Pn	18 22 09.8	+2.7
UNV	Unalaska Valle	8.06	67	*e*P	Pn	18 22 10.9	+0.4
	300nm,1.1s						
SDPT	Sand Point	11.81	63	*e*P	Pn	18 23 00.2	-1.6
	30nm,0.4s						
PET	Petropavlovsk	13.78	286	*e*P	Pn	18 23 36.2	+7.6
PET				*e*S	Sn	18 26 06.0	+6.0
PET				pmax	pmax		
	comp=Z,26nm,0.9s						
PET				MLR	MLR		
	comp=Z,700nm,24.0s						
SKR	Severo-Kuril's	15.63	277	*e*P	Pn	18 23 52.9	+0.1
SKR				pmax	pmax		
	comp=Z,110nm,1.0s						
SVW2	Sparrevohn	16.23	44	*e*P	Pn	18 24 03.0	+2.6
KDAK	Kodiak Island	16.59	57	Pn	Pn	18 24 00.5	-4.5
	comp=Z,3.7nm,0.3s,baz=258,slow=4.5,SNR=18						
KDAK				Sn	Sn	18 27 06.4	-1.9
	comp=Z,0.5nm,0.3s,baz=326,slow=13,SNR=3.6						
KDAK	Kodiak Island	16.59	57	Pn	Pn	18 24 00.5	-4.5
KDAK				Sn	Sn	18 27 06.4	-1.9
TTA	Tatalina	16.96	38	*e*P	Pn	18 24 11.7	+2.1
SLKM	Skilak Lake	18.45	49	*e*P	Pn	18 24 27.7	-0.1
SML	Sawmill	19.72	46	*e*P	Pn	18 24 39.0	-3.9
MCK	McKinley	20.16	40	P	P	18 24 42.4	-3.4
MCK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MCK	McKinley	20.16	40	P	P	18 24 42.4	-3.4
	comp=Z,6.3nm,0.7s						
COLA	College	21.06	38	*e*P	P	18 24 56.9	+1.3
COLA	College	21.06	38	*e*P	P	18 24 56.7	+1.1
	comp=Z,18nm,0.9s,mb4.4						
MENT	Mentasta	22.11	45	*e*P	P	18 25 08.2	+1.5
DAWY	Dawson	24.26	43	*e*P	P	18 25 27.0	-1.0
YSS	Yuzh-Sakhalins	25.16	275	⇑*e*P	P	18 25 36.5	+0.3
YSS				pmax	pmax		
	comp=E,70nm,1.0s						
YSS				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.2						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.1						
YSS	Yuzh-Sakhalins	25.16	275	*e*P	P	18 25 36.9	+0.6
	comp=Z,80nm,1.0s,mb5.2						
ASAJ	Asahikawa	26.54	269	P	P	18 25 47.7	-1.0

comp=Z,37nm,1.1s,mb4.8,baz=74,slow=9.4,SNR=8.5
ASAJ LR LR 18 36 16.8
comp=Z,136nm,18.1s,MS3.5,baz=70,slow=36
ASAJ Asahikawa 26.54 269 P **P 18 25 47.7 -1.0**
ASAJ pmax pmax
comp=Z,37nm,1.1s
ASAJ MLR MLR
comp=Z,136nm,18.2s
INK Inuvik 27.60 35 P **P 18 25 56.8 -1.5**
comp=Z,3.3nm,0.4s,mb4.3,baz=236,slow=12,SNR=6.3
INK Inuvik 27.60 35 *e*P **P 18 25 57.1 -1.1**
INK pmax pmax
comp=Z,13nm,1.0s
INK Inuvik 27.60 35 *e*P **P 18 25 57.0 -1.2**
comp=Z,13nm,1.0s,mb4.5
DLBC Dease Lake 28.53 56 LR LR 18 38 43.2
comp=Z,177nm,18.6s,MS3.7,baz=289,slow=39
HABR Khabarovsk 29.33 283 *e*P **P 18 26 13.7 +0.1**
HABR S **S 18 31 00.8 -2.3**
YAK Yakutsk 29.34 311⇑*e*P **P 18 26 13.5 -0.1**
YAK pmax pmax
comp=Z,9.0nm,1.2s,mb4.4
KLR Kul'dur 31.04 286⇓*i*P **P 18 26 25.2 -3.5**
KLR pmax pmax
comp=E,45nm,1.2s
KLR pmax pmax
comp=Z,73nm,1.2s,mb5.4
MAJO Matsushiro 33.62 261 *e*P **P 18 26 50.9 -0.3**
MAJO pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
MAJO Matsushiro 33.62 261 *e*P **P 18 26 50.9 -0.4**
comp=Z,4.4nm,0.6s,mb4.6
MAT Matsushiro 33.62 261 P **P 18 26 50.6 -0.6**
MAT *e*S **S 18 32 17.0 +7.0**
MAT Matsushiro 33.62 261 *e*P **P 18 26 51.0 -0.2**
MAT S **S 18 32 18.0 +8.0**
MAT pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MAT Matsushiro 33.62 261 *e*P **P 18 26 51.0 -0.2**
comp=Z,7.0nm,1.0s,mb4.5
MAT S **S 18 32 18.0 +8.0**
MJAR Matsushiro Arr 33.62 261 P **P 18 26 50.1 -1.1**
comp=Z,4.1nm,0.9s,mb4.4,baz=49,slow=7.9,SNR=14
MJAR PcP PcP 18 29 29.3 -1.1
comp=Z,0.5nm,0.6s,baz=55,slow=7.0,SNR=4.2
MJAR LR LR 18 38 13.5
comp=Z,165nm,21.0s,MS3.7,baz=70,slow=32
MJAR Matsushiro Arr 33.62 261 P **P 18 26 50.1 -1.1**
MJAR 18 29 29.3
VLA Vladivostok 33.76 276*d i*P **P 18 26 51.4 -1.0**
VLA pmax pmax
comp=Z,17nm,1.3s,mb4.8
MDJ Mudanjiang 34.42 279 P **P 18 26 57.0 -1.2**
MDJ PP PP 18 28 14.9 -2.1
MDJ PCP PcP 18 29 32.1 -0.6
MDJ S **S 18 32 27.2 +4.7**
MDJ SCS ScS 18 37 19.2 +3.3
MDJ AMB AMB
comp=Z,16nm,1.0s,mb4.9
MDJ AMB AMB
comp=Z,66nm,5.6s
MDJ LR LR
comp=N,64nm,23.4s,MS3.4
MDJ LR LR
comp=E,75nm,28.0s,MS3.4
MDJ LR LR
comp=Z,129nm,22.3s
YKA Yellowknife Ar 35.39 46 P **P 18 27 05.6 -1.0**
comp=Z,5.3nm,0.7s,mb4.6,baz=282,slow=8.4,SNR=27
YKA PcP PcP 18 29 34.2 -1.3
comp=Z,1.7nm,0.9s,baz=280,slow=3.0,SNR=5.5
YKA LR LR 18 43 33.7
comp=Z,187nm,19.2s,MS3.9,baz=270,slow=40
YKA Yellowknife Ar 35.39 46 P **P 18 27 05.6 -1.0**
YKA 18 29 34.2
YKA Yellowknife Ar 35.39 46 P **P 18 27 05.6 -1.0**
YKA PcP PcP 18 29 34.2 -1.3
YKA LR LR 18 43 33.7
RCM Mount Rainier- 36.99 74 P **P 18 27 22.1 +1.8**
CN2 Changchun 37.40 281 *e*P **P 18 27 24.0 +0.3**
EBG Ellensburg 37.66 73 P **P 18 27 27.0 +1.1**
BOD Bodaibo 37.89 307 *e*P **P 18 27 26.4 -1.4**
BOD pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
HIA Hailar 38.16 292 *e*P **P 18 27 29.3 -0.8**
HIA pmax pmax
comp=Z,28nm,0.9s
HIA Hailar 38.16 292 *e*P **P 18 27 29.3 -0.8**
comp=Z,28nm,0.9s,mb5.0
HAWA Hanford 38.53 73 *e*P **P 18 27 33.0 -0.3**
comp=Z,0.7nm,0.7s
YBH Yreka Blue Hor 39.05 81 P **P 18 27 41.4 +3.8**
comp=Z,4.6nm,0.9s,mb4.2,baz=260,slow=4.6,SNR=7.9
YBH Yreka Blue Hor 39.05 81 *e*P **P 18 27 42.0 +4.4**
YBH pmax pmax
comp=Z,9.0nm,1.1s
YBH Yreka Blue Hor 39.05 81 *e*P **P 18 27 42.0 +4.4**
comp=Z,8.6nm,1.1s,mb4.4
NEW Newport 39.06 69 *e*P **P 18 27 37.5 -0.1**
NEW pmax pmax
comp=Z,18nm,1.1s
NEW Newport 39.06 69 *e*P **P 18 27 37.5 -0.2**
comp=Z,18nm,1.1s,mb4.7
WALA Waterton Lakes 40.54 67 *e*P **P 18 27 49.8 -0.2**
comp=Z,24nm,1.2s,mb4.7
BSMT Basso Peak 40.63 69 P **P 18 27 50.9 +0.2**
BMO Blue Mountains 40.67 74 *e*P **P 18 27 51.3 +0.3**
comp=Z,5.8nm,0.9s,mb4.2
WVOR Wild Horse Val 41.17 78 *e*P **P 18 27 56.2 +1.1**
WVOR pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
WVOR Wild Horse Val 41.17 78 *e*P **P 18 27 56.2 +1.0**
comp=Z,6.8nm,0.8s,mb4.3
MSO Missoula 41.64 70 *e*P **P 18 27 58.9 -0.1**
comp=Z,13nm,1.1s,mb4.5
CHMT Chamberlain Mo 42.00 69 *e*P **P 18 28 01.6 -0.3**
HRY Holter Researc 42.94 69 *e*P **P 18 28 09.7 +0.1**
HLID Hailey 43.11 74 *e*P **P 18 28 11.1 +0.2**
comp=Z,12nm,1.0s,mb4.6
MCMT McKenzie Canyo 43.35 72 *e*P **P 18 28 12.5 -0.3**
EGMT Eagleton 43.45 66 *e*P **P 18 28 12.8 -0.8**
comp=Z,13nm,0.8s,mb4.7
NVAR Mina Array Bea 43.72 83 P **P 18 28 16.2 +0.3**
comp=Z,2.1nm,0.8s,mb3.9,baz=274,slow=12,SNR=5.7
NVAR Mina Array Bea 43.72 83 P **P 18 28 16.2 +0.3**
MNV Mina 43.81 82 *e*P **P 18 28 13.5 -3.1**
MNV pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
MNV Mina 43.81 82 *e*P **P 18 28 13.5 -3.0**
comp=Z,4.4nm,1.1s,mb4.1
QLMT Earthquake Lak 44.19 71 *e*P **P 18 28 19.7 0.0**
ELK Elko 44.23 78 *e*P **P 18 28 20.5 +0.6**
ELK pmax pmax
comp=Z,6.0nm,0.8s
ELK Elko 44.23 78 *e*P **P 18 28 20.5 +0.6**
comp=Z,5.7nm,0.8s,mb4.3
GCMT Greycliff 44.70 69 *e*P **P 18 28 23.7 0.0**
YFT Old Faithful 44.76 71 *e*P **P 18 28 25.4 +1.3**
IMW Indian Meadow 45.01 72 *e*P **P 18 28 26.4 +0.3**
comp=Z,8.9nm,1.0s,mb4.5
RRI2 Red Ridge 45.09 72 *e*P **P 18 28 27.0 +0.2**
comp=Z,26nm,1.3s,mb4.9
HVU Hansel Valley 45.12 75 *e*P **P 18 28 27.1 +0.1**
HVU pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
HVU Hansel Valley 45.12 75 *e*P **P 18 28 27.1 +0.1**
comp=Z,8.3nm,0.8s,mb4.6
MOOW Moose Ponds 45.21 72 *e*P **P 18 28 27.0 -0.7**
comp=Z,4.0nm,1.0s,mb4.2
BJI Beijing 45.23 282 *e*P **P 18 28 28.1 +0.2**
BJI AMB AMB
comp=Z,11nm,1.1s,mb4.6
BJI LR LR
comp=Z,112nm,21.3s,MS3.8
TPAW Teton Pass 45.23 72 *e*P **P 18 28 29.0 +1.1**
comp=Z,6.8nm,0.9s,mb4.5
BJT Baijiatuau 45.25 282 *e*P **P 18 28 27.8 -0.2**
BJT pmax pmax
comp=Z,8.0nm,0.8s
BJT Baijiatuau 45.25 282 *e*P **P 18 28 27.8 -0.2**
comp=Z,8.3nm,0.8s,mb4.6
BGU Big Grassy Mou 45.47 76 *e*P **P 18 28 30.9 +1.1**
TPNV Topopah Spring 45.91 83 *e*P **P 18 28 32.4 -0.9**
TPNV pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
TPNV Topopah Spring 45.91 83 *e*P **P 18 28 32.4 -0.9**
comp=Z,5.8nm,0.7s,mb4.6
HWUT Hardware Ranch 45.96 75 *e*P **P 18 28 34.0 +0.4**
comp=Z,9.4nm,1.0s,mb4.7
DUG Dugway 46.04 77 *e*P **P 18 28 34.8 +0.5**
DUG pmax pmax
comp=Z,15nm,1.0s,mb4.9
DUG Dugway 46.04 77 *e*P **P 18 28 34.8 +0.5**
comp=Z,15nm,1.0s,mb4.9
ULN Ulaanbaatar 46.15 296⇑*e*P **P 18 28 35.7 +0.6**
ULN Ulaanbaatar 46.15 296 *e*P **P 18 28 35.2 +0.1**
comp=Z,17nm,0.8s,mb5.0
PDAR Pinedale Array 46.48 72 P **P 18 28 37.8 0.0**
comp=Z,19nm,0.9s,mb5.0,baz=306,slow=3.6,SNR=100
SONM Songino Array 46.53 297 P **P 18 28 39.0 +0.8**
comp=Z,13nm,0.8s,mb4.9,baz=55,slow=9.6,SNR=95
SONM LR LR 18 49 27.0
comp=Z,331nm,18.6s,MS4.3,baz=56,slow=38
ZAK Zakamensk 46.85 301⇑*i*P **P 18 28 41.4 +0.8**
ZAK pmax pmax
comp=Z,12nm,1.3s,mb4.7
DAU Daniels Canyon 46.86 76 *e*P **P 18 28 41.6 +0.9**
MSU Marysvale 47.46 78 *e*P **P 18 28 46.1 +0.7**
HHC Hu-ho-hao-te 47.55 286 *e*P **P 18 28 47.7 +1.6**
HHC XP sP 18 28 55.0 -12
HHC PP PP 18 30 37.9 +0.1
HHC SCP ScP 18 34 10.8 +6.0
HHC SCS ScS 18 38 38.3 +3.5
HHC AMB AMB
comp=Z,21nm,0.9s,mb5.2
HHC AMB AMB
comp=Z,105nm,6.2s
HHC LR LR
comp=N,149nm,20.2s,MS4.2
HHC LR LR
comp=E,246nm,20.8s,MS4.2
HHC LR LR
comp=Z,170nm,22.6s,MS4.0
TMUT Trail Mountain 47.57 77 *e*P **P 18 28 46.6 +0.4**
SSE Sheshan 47.84 269 *e*P **P 18 28 44.2 -4.1**
SSE AMB AMB
comp=Z,20nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,210nm,3.6s
SSE LR LR
comp=Z,53nm,20.4s,MS3.5
SRU San Rafael 48.10 77 *e*P **P 18 28 51.5 +1.2**
SRU pmax pmax
comp=Z,22nm,1.1s,mb5.1
SRU San Rafael 48.10 77 *e*P **P 18 28 51.5 +1.2**
comp=Z,22nm,1.1s,mb5.1
NJ2 Nanjing 48.65 272 *e*P **P 18 28 54.9 +0.3**
NJ2 PP PP 18 30 50.0 +2.1
NJ2 S **S 18 35 48.0 -4.8**
NJ2 AMB AMB
comp=Z,20nm,1.2s,mb5.0
NJ2 AMB AMB
comp=Z,704nm,6.2s
RSSD Black Hills 48.93 67 *e*P **P 18 28 56.2 -0.5**
RSSD pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
RSSD Black Hills 48.93 67 *e*P **P 18 28 56.2 -0.5**
comp=Z,9.2nm,1.0s,mb4.8
PV10 Paradox Valley 49.47 76 *e*P **P 18 29 01.2 +0.4**
ULM Lac du Bonnet 49.85 57 LR LR 18 51 24.9
comp=Z,86nm,18.5s,MS3.8,baz=326,slow=38
MVCO Mesa Verde 50.54 77 P **P 18 29 08.5 -0.4**
ISCO Idaho Springs 50.64 73 *e*P **P 18 29 10.0 +0.3**
ISCO pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ISCO Idaho Springs 50.64 73 *e*P **P 18 29 10.0 +0.3**
comp=Z,7.0nm,0.9s,mb4.6
TUC Tucson 52.35 83 P **P 18 29 26.5 +4.0**
FRB Frobisher Bay 53.16 31 P **P 18 29 28.2 -0.3**
comp=Z,40nm,1.1s,mb5.3,baz=343,slow=7.3,SNR=4.8
FRB Frobisher Bay 53.16 31 P **P 18 29 28.2 -0.3**
ANMO Albuquerque 53.26 78 *e*P **P 18 29 25.8 -3.4**
SUMG Summit 53.40 14 *e*P **P 18 29 29.9 -0.2**
comp=Z,18nm,1.0s,mb5.0
XAN Xi'an 53.51 281 P **P 18 29 30.5 -0.5**
XAN AP pP 18 29 38.1 -7.6
XAN AMB AMB
comp=Z,2.0nm,1.0s,mb4.0
EYMN Ely 53.54 57 P **P 18 29 29.9 -1.3**
comp=Z,7.2nm,1.0s,mb4.8
ZAL Zalesovo 53.98 313 P **P 18 29 33.9 -0.5**
comp=Z,1.3nm,0.6s,mb4.0,baz=41,slow=10.0,SNR=5.7
ZAL PcP PcP 18 30 38.5 -0.5
comp=Z,3.5nm,0.9s,baz=90,slow=6.5,SNR=9.8
ZAL LR LR 18 54 51.1
comp=Z,119nm,18.6s,MS4.0,baz=53,slow=39
ZAL Zalesovo 53.98 313 P **P 18 29 33.9 -0.5**
ZAL 18 30 38.6
ZAL Zalesovo 53.98 313 P **P 18 29 33.9 -0.5**
ZAL PcP PcP 18 30 38.5 -0.5
ZAL LR LR 18 54 51.1
LZH Lanzhou 55.25 286 *e*P **P 18 29 44.5 +0.9**
LZH AMB AMB
comp=Z,51nm,1.1s,mb5.5
LZH AMB AMB
comp=Z,160nm,4.0s
LZH LR LR
comp=E,335nm,15.0s
LZH LR LR
comp=Z,470nm,17.5s,MS4.6
GTA Gaotai 55.44 292 *e*P **P 18 29 45.5 +0.5**
GTA AP pP 18 29 58.9 -0.8
GTA XP sP 18 30 04.1 -1.9
GTA PP PP 18 31 50.8 +1.5
GTA S **S 18 37 31.1 +5.3**
GTA SS SS 18 41 09.0 -2.0
GTA AMB AMB
comp=Z,23nm,0.7s,mb5.3
GTA AMB AMB
comp=Z,142nm,5.7s
GTA LR LR
comp=N,155nm,14.1s,MS4.3
GTA LR LR
comp=E,110nm,17.5s,MS4.3
GTA LR LR
comp=Z,188nm,14.1s,MS4.3
KEV Kevo 57.75 350 *ep* **P 18 29 59.5 -1.9**
ARCES ARCESS Array B 58.13 350 P **P 18 30 02.5 -1.6**
comp=Z,4.0nm,0.6s,mb4.6,baz=21,slow=7.6,SNR=33
ARCES ARCESS Array B 58.13 350 P **P 18 30 02.5 -1.6**
LTX Lajitas 58.82 81 *e*P **P 18 30 12.5 +3.6**
LTX pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
LTX Lajitas 58.82 81 *e*P **P 18 30 12.5 +3.6**
comp=Z,8.1nm,1.1s,mb4.7
CD2 Chengdu 58.83 282 P **P 18 30 09.1 +0.2**
CD2 PP PP 18 32 20.5 +1.1
CD2 S **S 18 38 11.0 +0.6**
CD2 SS SS 18 42 05.3 +0.9
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,30nm,5.6s
CD2 LR LR
comp=E,50nm,13.2s
CD2 LR LR
comp=Z,110nm,16.8s,MS4.0
KURK Kurchatov 58.95 314⇑*e*P **P 18 30 09.9 +0.1**
KURK Kurchatov 58.95 314 *e*P **P 18 30 08.7 -1.1**
comp=Z,18nm,1.0s,mb5.1
WMQ Urumqi 59.24 303 P **P 18 30 14.7 +2.9**
WMQ AP pP 18 30 22.3 -4.3
WMQ XP sP 18 30 25.6 -7.2
WMQ PP PP 18 32 27.3 +4.2
WMQ AMB AMB
comp=Z,6.0nm,1.3s,mb4.5
WMQ AMB AMB
comp=Z,76nm,5.4s
WMQ LR LR
comp=N,325nm,11.8s,MS4.8
WMQ LR LR
comp=E,244nm,10.7s,MS4.8
WMQ LR LR
comp=Z,277nm,12.3s,MS4.6
MKAR Makanchi Array 59.95 308 P **P 18 30 16.1 -0.5**
comp=Z,2.7nm,0.3s,mb4.7,baz=47,slow=6.7,SNR=101
SCHQ Schefferville 60.15 38 P **P 18 30 15.7 -2.3**
comp=Z,9.3nm,1.0s,mb4.8,baz=350,slow=8.6,SNR=6.0
SCHQ LR LR 18 58 00.4
comp=Z,131nm,19.0s,MS4.1,baz=293,slow=38
CHKZ Chkalovo 60.26 320 *e*P **P 18 30 20.4 +1.6**
CHKZ pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
CHKZ Chkalovo 60.26 320 *e*P **P 18 30 20.4 +1.6**
comp=Z,10nm,1.5s,mb4.6
JCT Junction City 60.40 77 *e*P **P 18 30 22.1 +2.3**
JCT pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
JCT Junction City 60.40 77 *e*P **P 18 30 22.1 +2.3**
comp=Z,7.4nm,0.7s,mb4.8
BRVK Borovoye 60.85 320 *e*P **P 18 30 22.0 -0.8**
MIAR Mount Ida 61.30 70 *e*P **P 18 30 25.0 -0.8**
MIAR pmax pmax
comp=Z,14nm,1.0s,mb5.0
MIAR Mount Ida 61.30 70 *e*P **P 18 30 25.0 -0.9**
comp=Z,14nm,1.0s,mb5.0
ZRNK Zerenda 61.45 320 *e*P **P 18 30 25.7 -1.2**
ZRNK pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
ZRNK Zerenda 61.45 320 *e*P **P 18 30 25.7 -1.1**
comp=Z,5.8nm,0.9s,mb4.7
SADO Sadowa 62.00 53 P **P 18 30 27.3 -3.3**
comp=Z,6.3nm,0.8s,mb4.8,baz=298,slow=4.5,SNR=4.0
USIN University of 62.30 63 *e*P **P 18 30 32.3 -0.3**
comp=Z,63nm,1.0s,mb5.7
ARU Arti 62.57 328 *e*P **P 18 30 33.5 -0.9**
ARU *e* 18 32 52.7
ARU *e*S **S 18 38 54.6 -3.6**
ARU *e*SS SS 18 43 05.3 +2.3
ARU MLR MLR
comp=Z,100nm,19.0s,MS4.0
ARU MLR MLR
comp=N,100nm,21.0s,MS4.0
ARU MLR MLR
comp=E,30nm,20.0s,MS4.0
ARU Arti 62.57 328 *e*P **P 18 30 33.4 -1.1**
WCI Wyandotte Cave 62.88 62 *e*P **P 18 30 36.0 -0.4**
WCI pmax pmax
comp=Z,21nm,0.9s,mb5.3
WCI Wyandotte Cave 62.88 62 *e*P **P 18 30 36.0 -0.4**
comp=Z,20nm,0.9s,mb5.3
WVT Waverly 63.50 65 *e*P **P 18 30 39.0 -1.6**
WVT pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
WVT Waverly 63.50 65 *e*P **P 18 30 39.0 -1.6**
comp=Z,7.4nm,1.1s,mb4.6
KMI Kunming 63.58 278 P **P 18 30 42.8 +1.8**
KMI S **S 18 39 16.1 +5.4**
KMI AMB AMB
comp=Z,7.0nm,1.1s,mb4.6
KMI LR LR
comp=Z,54nm,24.6s,MS3.6
JOF Joensuu 63.62 345 *ep* **P 18 30 40.0 -1.3**
KLMR Klimovskoe 63.98 340 *e*P **P 18 30 42.7 -1.0**
KLMR pmax pmax
comp=Z,20nm,1.1s,mb5.1
KAF Kangasniemi 65.14 347 *ep* **P 18 30 50.2 -1.1**
comp=Z,5.4nm,0.4s,mb4.9,baz=13,slow=5.8
KAF Kangasniemi 65.14 347 *e*P **P 18 30 50.2 -1.1**
KAF pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
TZTN Tazewell 65.60 62 *e*P **P 18 30 54.3 0.0**
FINES FINESS Array B 65.81 347 P **P 18 30 54.6 -1.0**
comp=Z,6.6nm,0.8s,mb4.7,baz=24,slow=7.3,SNR=19
FINES LR LR 19 05 33.6
comp=Z,81nm,18.1s,MS4.0,baz=358,slow=41
USP Ospenovka 66.30 310 P **P 18 31 00.2 +1.4**
SNR=11
CHMS Chumysh 66.38 310 P **P 18 31 00.6 +1.4**
SNR=6.4
KBK Karagaybulak 66.55 309 P **P 18 31 01.8 +1.5**
SNR=5.9
AAK Ala-Archa 66.78 310 P **P 18 31 03.3 +1.5**
SNR=7.6
AAK Ala-Archa 66.78 310 *e*P **P 18 31 02.0 +0.2**
AAK pmax pmax
comp=Z,17nm,0.9s,mb5.1
AAK Ala-Archa 66.78 310 *e*P **P 18 31 02.0 +0.2**
comp=Z,17nm,0.9s,mb5.1
UCH Uchtor 67.08 309 P **P 18 31 06.0 +2.3**
SNR=5.4
EKS2 Erkin-Say 67.11 310 P **P 18 31 05.6 +1.7**
SNR=9.7
LSA Lhasa 67.31 289 P **P 18 31 07.2 +2.0**
LSA AMB AMB
comp=Z,20nm,0.9s,mb5.2
LSA Lhasa 67.31 289 *e*P **P 18 31 07.3 +2.1**
LSA pmax pmax
comp=Z,13nm,0.8s,mb5.0
LSA Lhasa 67.31 289 *e*P **P 18 31 07.3 +2.1**
comp=Z,13nm,0.8s,mb5.0
AML Almayashu 67.55 310 P **P 18 31 09.2 +2.6**
SNR=6.4
NB2 NORSAR Subarra 67.69 355 P **P 18 31 06.2 -1.4**
comp=Z,2.3nm,0.8s,mb4.3,baz=6.3,slow=6.5
NOA NORSAR Array B 67.69 355 P **P 18 31 06.6 -1.0**
comp=Z,2.5nm,0.7s,mb4.3,baz=6.7,slow=6.3,SNR=9.7
NOA LR LR 19 03 25.3
comp=Z,38nm,19.6s,MS3.6,baz=350,slow=38
TAOE Nuku Hiva Isla 68.68 138 *e*LR LR 18 51 41.8
comp=Z,830nm,24.6s
OBN Obninsk 69.87 339*ce*P **P 18 31 20.3 -0.8**
OBN *e* 18 34 03.8
OBN pmax pmax
comp=Z,41nm,1.0s,mb5.3
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
OBN Obninsk 69.87 339 *e*P **P 18 31 20.6 -0.6**
comp=Z,31nm,0.8s,mb5.3
GUN Gumba 71.73 292 *e*P **P 18 31 33.7 +1.3**
JIRN Jiri 71.74 291 *e*P **P 18 31 33.9 +1.4**
comp=Z,69nm,0.8s,mb5.6
KKN Kakani 72.17 292 *e*P **P 18 31 36.2 +1.1**
comp=Z,23nm,0.7s,mb5.2
PKI Pulchoki 72.26 292 *e*P **P 18 31 36.6 +1.0**
GKN Gorkha 72.38 293 *e*P **P 18 31 37.1 +0.8**
comp=Z,17nm,0.5s,mb5.3
DMN Daman 72.41 292 *e*P **P 18 31 37.4 +0.9**
comp=Z,32nm,1.0s,mb5.2
KOLN Koldanda 73.16 293 *e*P **P 18 31 41.6 +0.7**
comp=Z,20nm,0.8s,mb5.1
PPT Papeete 73.28 151 *e*LR LR 18 53 48.9
comp=Z,86nm,20.8s
PPT Papeete 73.28 151 LR LR 18 54 30.1
comp=Z,121nm,21.3s,MS4.2,baz=322,slow=28
SUW Suwalki 73.40 347 *e*P **P 18 31 41.5 -0.9**
BSEG Bad Segeberg 74.83 354 *e*P **P 18 31 50.8 +0.1**
comp=Z,20nm,0.9s,mb5.0
BOK Bokaro 74.83 289 *e*P **P 18 31 50.1 -0.6**
BOK AMb AMB 18 31 53.1
comp=Z,15nm,0.6s,mb5.1
AKASG Malin Array Be 75.56 342 P **P 18 31 54.0 -0.9**
comp=Z,19nm,0.6s,mb5.2,baz=16,slow=5.8,SNR=9.0
AKASG LR LR 19 07 42.7
comp=Z,52nm,20.3s,MS3.8,baz=30,slow=38
NRDL Niedersach Rie 76.28 354 *e*P **P 18 31 59.7 +0.7**
comp=Z,15nm,1.0s,mb4.9
IBBN Ibbenburen 76.59 356 *e*P **P 18 32 01.4 +0.6**
comp=Z,34nm,1.2s,mb5.2
CLZ Clausthal 76.91 354 *e*P **P 18 32 02.7 +0.2**
comp=Z,16nm,1.0s,mb4.9
CLZ Clausthal 76.91 354 *e*P **P 18 32 02.7 +0.2**
CLZ pmax pmax
comp=Z,16nm,1.0s,mb4.9
WTSB Winterswijk 76.98 356 *e*P **P 18 32 02.6 -0.3**
comp=Z,13nm,0.7s,mb5.0
GTTG Gvttingen 77.23 354 *e*P **P 18 32 04.5 +0.2**
comp=Z,13nm,1.0s,mb4.8
CLL Collm 77.24 352 *e*P **P 18 32 03.6 -0.8**
comp=Z,6.0nm,0.8s,mb4.6
CLL Collm 77.24 352 ⇑P **P 18 32 03.7 -0.7**
comp=Z,logA/T=0.9,mb4.6
CLL *i* *PP pP 18 32 18.5 -1.3
CLL Collm 77.24 352⇑*i*P **P 18 32 03.7 -0.7**
comp=Z,6.0nm,0.8s,mb4.6
CLL *i* pP pP 18 32 18.5 -1.3
CLL Collm 77.24 352⇑*i*P **P 18 32 03.7 -0.7**
CLL *i* pP 18 32 18.5 -1.3
CLL pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LVV L'vov 77.34 345 *e*P **P 18 32 04.8 -0.1**
GOF Gofitskoye 77.34 331 *e*P **P 18 32 05.1 +0.1**
GOF pmax pmax
comp=Z,55nm,1.0s,mb5.4
BUG Bochum--Univer 77.48 356 *e*P **P 18 32 06.0 +0.3**
comp=Z,10.0nm,0.4s,mb5.1
OJC Ojcow 77.58 348 *e*P **P 18 32 06.0 -0.3**
BRG Berggiesshubel 77.59 352 *e*P **P 18 32 05.7 -0.7**
comp=Z,7.0nm,1.0s,mb4.5

BRG Berggiesshubel 77.59 352 *e*P P 18 32 05.8 -0.5
comp=Z,4.3nm,1.0s,mb4.3
BRG Berggiesshubel 77.59 352 *e*P P 18 32 05.8 -0.6
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
FBE Freiberg 77.60 352 *e*P P 18 32 06.0 -0.4
comp=Z,11nm,1.0s,mb4.7
KWP Kalwaria 77.73 346 *e*P P 18 32 07.7 +0.6
UPC Upice 77.75 350 *e*P P 18 32 07.1 -0.1
DPC Dobruska-Polom 77.87 350 *e*P P 18 32 07.7 -0.2
PVCC Panska Ves 77.88 351 *e*P P 18 32 07.8 -0.1
UBBA Unterbreizbach 77.95 354 *e*P P 18 32 08.9 +0.5
comp=Z,3.0nm,0.8s,mb4.3
MOX Moxa 78.01 353 *e*P P 18 32 08.4 -0.3
comp=Z,10.0nm,1.0s,mb4.7
MOX Moxa 78.01 353 *e*P P 18 32 08.4 -0.3
MOX pmax pmax
comp=Z,13nm,1.2s,mb4.7
WERD Werda 78.16 353 *e*P P 18 32 09.1 -0.4
comp=Z,7.0nm,1.1s,mb4.5
OKC Ostrava-Krasne 78.16 349 *e*P P 18 32 09.3 -0.2
TANN Tannenbergstha 78.17 353 *e*P P 18 32 09.2 -0.4
comp=Z,9.0nm,1.4s,mb4.5
HGN Heimansgroeve 78.21 357 *e*P P 18 32 09.5 -0.3
comp=Z,16nm,0.9s,mb5.0
GUNZ Gunzen 78.24 353 *e*P P 18 32 09.6 -0.3
comp=Z,11nm,1.2s,mb4.7
NIE Niedzica 78.29 347 *e*P P 18 32 10.9 +0.7
MORC Moravsky Berou 78.30 349⇑*i*P P 18 32 10.8 +0.5
MORC Moravsky Berou 78.30 349 ⇑P P 18 32 10.8 +0.6
BLSP Bilaspur 78.32 291 *e*P P 18 32 11.3 +0.9
BLSP AMb AMB 18 32 19.6
comp=Z,20nm,1.5s,mb4.8
NKC Novy Kostel 78.36 352 *e*P P 18 32 10.5 -0.1
MEM Membach 78.36 357 P P 18 32 10.9 +0.3
comp=Z,7.8nm,1.0s,mb4.6
PRU Pruhonice 78.41 351 *e*P P 18 32 10.7 -0.2
KIV Kislovodsk 78.45 331 *e*P P 18 32 11.5 +0.4
KIV pmax pmax
comp=Z,15nm,1.0s,mb4.9
KIV Kislovodsk 78.45 331 *e*P P 18 32 11.5 +0.4
comp=Z,15nm,1.0s,mb4.9
KOLS Kolonicke sedl 78.48 346 *e*P P 18 32 11.4 +0.1
KOLS *e* pP 18 32 21.8 -4.9
KOLS pmax pmax
comp=Z,12nm,0.9s,mb4.8
KOLS Kolonicke sedl 78.48 346 *e*P P 18 32 11.4 +0.1
comp=Z,12nm,0.9s,mb4.8
KOLS *e* pP 18 32 21.8 -4.9
SNF Seneffe 78.52 358 P P 18 32 11.7 +0.2
comp=Z,4.3nm,0.9s,mb4.4
BCLA Clavier 78.58 357 P P 18 32 11.9 +0.1
comp=Z,6.0nm,0.9s,mb4.5
MANZ Manzenberg 78.63 353 *e*P P 18 32 11.8 -0.3
comp=Z,6.0nm,1.1s,mb4.4
CRVS Cervenica-Dubn 78.63 346 *e*P P 18 32 12.3 +0.2
CRVS Cervenica-Dubn 78.63 346 *e*P P 18 32 12.4 +0.3
CRVS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
CRVS Cervenica-Dubn 78.63 346 *e*P P 18 32 12.4 +0.3
comp=Z,3.3nm,0.9s,mb4.3
TBI Tubuai 78.77 152 *e*LR LR 18 56 21.3
comp=Z,176nm,24.5s
ROTZ Rotzenmuhle 78.84 353 *e*P P 18 32 13.2 -0.1
comp=Z,11nm,1.3s,mb4.6
VRAC Vranov 78.87 350⇑*i*P P 18 32 13.6 +0.2
GIVF Givet 78.91 357 *e*P P 18 32 13.1 -0.5
DOU Dourbes 78.92 358 P P 18 32 13.6 -0.1
comp=Z,3.9nm,1.0s,mb4.3
BAIF Baives 78.97 358 *e*P P 18 32 13.7 -0.2
comp=Z,39nm,1.0s,mb5.0
BAIF Baives 78.97 358 *e*P P 18 32 13.7 -0.2
BAIF pmax pmax
comp=Z,19nm,1.0s,mb5.0
BAIF Baives 78.97 358 *e*P P 18 32 13.7 -0.2
comp=Z,19nm,1.0s,mb5.0
GRA1 Grafenberg Arr 78.99 353 *e*P P 18 32 14.4 +0.3
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 78.99 353 *e*P P 18 32 14.4 +0.3
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 78.99 353 *e*P P 18 32 14.4 +0.3
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 78.99 353 *e*P P 18 32 14.4 +0.3
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
TREC Trest 79.00 350 *e*P P 18 32 14.0 -0.1
KECS Kecovo 79.18 347 *e*P P 18 32 15.3 +0.2
KECS pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
KECS Kecovo 79.18 347 *e*P P 18 32 15.3 +0.2
comp=Z,6.8nm,1.0s,mb4.5
AJM Ajmer 79.20 299 *e*P P 18 32 15.9 +0.6
BURAR Bucovina Array 79.27 344⇓*i*P P 18 32 16.3 +0.7
BURAR Bucovina Array 79.27 344 ⇓P P 18 32 16.3 +0.7
WLF Walferdange 79.30 357 *e*P P 18 32 15.8 0.0
comp=Z,11nm,1.0s,mb4.7
WLF Walferdange 79.30 357 P P 18 32 15.6 -0.2
comp=Z,5.5nm,0.9s,mb4.5
KHC Kasperske Hory 79.35 352 *e*P P 18 32 15.8 -0.3
VYHS Vyhne 79.40 348 *e*P P 18 32 16.5 +0.2
VYHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
VYHS Vyhne 79.40 348 *e*P P 18 32 16.5 +0.2
comp=Z,5.2nm,1.1s,mb4.4
GEC2 GERESS Array S 79.62 351 *e*P P 18 32 17.2 -0.3
comp=Z,5.0nm,0.9s,mb4.4
GEC2 GERESS Array S 79.62 351 *e*P P 18 32 17.2 -0.3
GEC2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GERES GERESS Array B 79.62 351 P P 18 32 16.7 -0.8
comp=Z,2.4nm,0.7s,mb4.2,baz=35,slow=4.9,SNR=26
GERES LR LR 19 14 39.3
comp=Z,78nm,18.2s,MS4.1,baz=22,slow=41
PSZ Piszkesteto 79.82 347 *e*P P 18 32 19.1 +0.5
PSZ pmax pmax
comp=Z,13nm,1.0s,mb4.8
PSZ Piszkesteto 79.82 347 *e*P P 18 32 19.1 +0.5
comp=Z,13nm,1.0s,mb4.8
ZST Bratislava 79.91 349 *e*P P 18 32 19.8 +0.7
ZST pmax pmax
comp=Z,12nm,1.1s,mb4.7
ZST Bratislava 79.91 349 *e*P P 18 32 19.8 +0.7
comp=Z,12nm,1.1s,mb4.7
BHPL Bhopal 80.18 295 *e*P P 18 32 21.4 +0.9
FLN La Foliniere 80.30 1 *e*P P 18 32 20.4 -0.8
comp=Z,31nm,1.0s,mb4.9
FLN *e*R
comp=Z,80nm,20.5s
FLN La Foliniere 80.30 1 *e*P P 18 32 20.4 -0.8
FLN pmax pmax
comp=Z,16nm,1.0s,mb4.9
FLN MLR MLR
comp=Z,80nm,20.5s,MS4.0
FLN La Foliniere 80.30 1 *e*P P 18 32 20.4 -0.8
comp=Z,16nm,1.0s,mb4.9
FLN LR LR
comp=Z,80nm,20.5s,MS4.0
LDF La Druitiere 80.47 1 *e*P P 18 32 21.2 -0.9
comp=Z,38nm,1.0s,mb5.0
LDF La Druitiere 80.47 1 *e*P P 18 32 21.2 -0.9
LDF pmax pmax
comp=Z,19nm,1.0s,mb5.0
LDF La Druitiere 80.47 1 *e*P P 18 32 21.2 -0.9
comp=Z,19nm,1.0s,mb5.0
DRGR 80.49 345⇓*i*P P 18 32 22.8 +0.6
DRGR 80.49 345 ⇓P P 18 32 22.8 +0.6
MEZF Maizieres J'vi 80.50 357 *e*P P 18 32 22.0 -0.3
comp=Z,22nm,0.8s,mb4.8
MEZF Maizieres J'vi 80.50 357 *e*P P 18 32 22.0 -0.3
comp=Z,22nm,0.8s,mb5.1
CDF Champ du Feu 80.50 356 *e*P P 18 32 21.7 -0.6
comp=Z,13nm,0.9s,mb4.6
CDF Champ du Feu 80.50 356 *e*P P 18 32 21.7 -0.6
CDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CDF Champ du Feu 80.50 356 *e*P P 18 32 21.7 -0.6
comp=Z,6.4nm,0.9s,mb4.5
BFO Black Forest 80.53 355 *e*P P 18 32 21.8 -0.6
comp=Z,7.0nm,1.1s,mb4.5
BFO Black Forest 80.53 355 *e*P P 18 32 21.8 -0.6
BFO pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
ROSF Rostrenen 80.66 3 *e*P P 18 32 22.8 -0.3
comp=Z,54nm,1.4s,mb5.0
ROSF Rostrenen 80.66 3 *e*P P 18 32 22.8 -0.3
ROSF pmax pmax
comp=Z,27nm,1.4s,mb5.0
ROSF Rostrenen 80.66 3 *e*P P 18 32 22.8 -0.3
comp=Z,27nm,1.4s,mb5.0
GRR Gorron 80.67 1 *e*P P 18 32 22.6 -0.5
comp=Z,27nm,0.9s,mb4.9
GRR Gorron 80.67 1 *e*P P 18 32 22.6 -0.5
GRR pmax pmax
comp=Z,14nm,0.9s,mb4.9
GRR Gorron 80.67 1 *e*P P 18 32 22.6 -0.5
comp=Z,14nm,0.9s,mb4.9
VRI Vrincioaia 80.67 342⇓*i*P P 18 32 24.0 +0.8
VRI Vrincioaia 80.67 342 ⇓P P 18 32 24.0 +0.8
SGMF Saint Gilles 80.77 2 *e*P P 18 32 23.1 -0.6
comp=Z,54nm,1.1s,mb5.1
SGMF Saint Gilles 80.77 2 *e*P P 18 32 23.1 -0.6
SGMF pmax pmax
comp=Z,27nm,1.1s,mb5.1
SGMF Saint Gilles 80.77 2 *e*P P 18 32 23.1 -0.6
comp=Z,27nm,1.1s,mb5.1
HAU Haudompre 80.95 356 *e*P P 18 32 24.0 -0.7
HAU *e*R
comp=Z,70nm,19.0s
HAU Haudompre 80.95 356 *e*P P 18 32 24.0 -0.7
HAU LR LR
comp=Z,70nm,19.0s,MS4.0
VIS Vishakhapatnam 81.01 287 *e*P P 18 32 25.0 0.0
ARSA Arzberg 81.02 350⇑*i*P P 18 32 25.5 +0.5
comp=Z,14nm,1.3s,mb4.7
QUIF Quistinic 81.09 3 *e*P P 18 32 25.0 -0.4
comp=Z,63nm,1.4s,mb5.1
QUIF Quistinic 81.09 3 *e*P P 18 32 25.0 -0.4
QUIF pmax pmax
comp=Z,32nm,1.4s,mb5.1
QUIF Quistinic 81.09 3 *e*P P 18 32 25.0 -0.4
comp=Z,32nm,1.4s,mb5.0
HINF Hinteralfeld 81.12 356 *e*P P 18 32 24.8 -0.8
comp=Z,15nm,1.1s,mb4.5
HINF Hinteralfeld 81.12 356 *e*P P 18 32 24.8 -0.8
HINF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
HINF Hinteralfeld 81.12 356 *e*P P 18 32 24.8 -0.8
comp=Z,7.6nm,1.1s,mb4.5
MLR Muntele Rosu 81.18 342⇑*i*P P 18 32 28.7 +2.8
MLR Muntele Rosu 81.18 342 ⇑P P 18 32 28.7 +2.8
WTTA Wattenberg 81.37 353⇑*i*P P 18 32 27.3 +0.4
comp=Z,14nm,1.0s,mb4.8
WTTA Wattenberg 81.37 353⇑*i*P P 18 32 27.3 +0.4
WTTA pmax pmax
comp=Z,14nm,1.0s,mb4.8
VOIR 81.40 343⇑*i*P P 18 32 28.3 +1.2
VOIR 81.40 343 ⇑P P 18 32 28.3 +1.2
KBA Koelnbreinsper 81.41 351⇑*i*P P 18 32 28.0 +0.9
comp=Z,28nm,1.0s,mb5.2
KBA Koelnbreinsper 81.41 351⇑*i*P P 18 32 28.0 +0.9
KBA pmax pmax
comp=Z,29nm,1.0s,mb5.2
PERS Pernice 81.67 350 *e*P P 18 32 28.6 +0.1
LOR Lormes 81.77 358 *e*P P 18 32 28.2 -0.8
comp=Z,18nm,0.9s,mb4.7
LOR *e*R
comp=Z,99nm,21.0s
LOR Lormes 81.77 358 *e*P P 18 32 28.2 -0.8
LOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LOR MLR MLR
comp=Z,100nm,21.0s,MS4.2
LOR Lormes 81.77 358 *e*P P 18 32 28.2 -0.8
comp=Z,9.0nm,0.9s,mb4.7
LOR LR LR
comp=Z,100nm,21.0s,MS4.2
BZS Buzias 81.81 346⇑*i*P P 18 32 29.3 +0.1
BZS Buzias 81.81 346 ⇑P P 18 32 29.3 +0.1
OBKA Obir 81.85 351⇑*i*P P 18 32 29.9 +0.4
comp=Z,8.9nm,1.0s,mb4.7
WRA Warramunga Arr 81.86 224 P P 18 32 27.5 -1.9
comp=Z,2.3nm,0.9s,mb4.1,baz=30,slow=5.7,SNR=11
SSF Saint Saulge 81.98 358 *e*P P 18 32 29.7 -0.4
comp=Z,23nm,1.1s,mb4.7
SSF Saint Saulge 81.98 358 *e*P P 18 32 29.7 -0.4
SSF pmax pmax
comp=Z,11nm,1.1s,mb4.7
SSF Saint Saulge 81.98 358 *e*P P 18 32 29.7 -0.4
comp=Z,11nm,1.1s,mb4.7
ROBS Robic 82.22 351 *e*P P 18 32 30.6 -0.7
AVF Avril sur Loir 82.25 358 *e*P P 18 32 31.1 -0.4
comp=Z,28nm,1.0s,mb4.8
AVF Avril sur Loir 82.25 358 *e*P P 18 32 31.1 -0.4
AVF pmax pmax
comp=Z,14nm,1.0s,mb4.8
AVF Avril sur Loir 82.25 358 *e*P P 18 32 31.1 -0.4
comp=Z,14nm,1.0s,mb4.8
CABF La Chapelle 82.35 356 *e*P P 18 32 31.9 -0.2
comp=Z,40nm,1.2s,mb4.9
CABF La Chapelle 82.35 356 *e*P P 18 32 31.9 -0.2
CABF pmax pmax
comp=Z,20nm,1.2s,mb4.9
CABF La Chapelle 82.35 356 *e*P P 18 32 31.9 -0.2
comp=Z,20nm,1.2s,mb4.9
SMF Signal de Mont 82.39 358 *e*P P 18 32 31.7 -0.5
comp=Z,30nm,0.9s,mb4.9
SMF Signal de Mont 82.39 358 *e*P P 18 32 31.7 -0.5
SMF pmax pmax
comp=Z,15nm,0.9s,mb4.9
SMF Signal de Mont 82.39 358 *e*P P 18 32 31.7 -0.5
comp=Z,15nm,0.9s,mb4.9
MFF Saint Martin d 82.46 1 *e*P P 18 32 32.2 -0.4
comp=Z,27nm,0.9s,mb4.9
MFF Saint Martin d 82.46 1 *e*P P 18 32 32.2 -0.4
MFF pmax pmax
comp=Z,14nm,0.9s,mb4.9
MFF Saint Martin d 82.46 1 *e*P P 18 32 32.2 -0.4
comp=Z,14nm,0.9s,mb4.9
BGF Bois d'Agland 82.50 359 *e*P P 18 32 32.3 -0.5
BOJS Bojanci 82.77 350 *i* P P 18 32 34.0 -0.2
TCF Toulx Ste Croi 82.77 359 *e*P P 18 32 33.7 -0.5
comp=Z,15nm,0.9s,mb4.7
TCF Toulx Ste Croi 82.77 359 *e*P P 18 32 33.7 -0.5
TCF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
TCF Toulx Ste Croi 82.77 359 *e*P P 18 32 33.7 -0.5
comp=Z,7.4nm,0.9s,mb4.7
SVIS Svilajnac 83.16 345 *i* P P 18 32 39.5 +3.3
LPL La Plagne 83.42 356 *e*P P 18 32 38.1 +0.5
LPG La Plagne 83.44 356 *e*P P 18 32 38.5 +0.8
comp=Z,12nm,0.9s,mb4.6
LPG La Plagne 83.44 356 *e*P P 18 32 38.5 +0.8
LPG pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
LPG La Plagne 83.44 356 *e*P P 18 32 38.5 +0.8
comp=Z,5.8nm,0.9s,mb4.6
DIVS Divcibare 83.54 346 *i* P P 18 32 38.3 +0.1
GRUS Gruza 83.64 346 *i* P P 18 32 39.1 +0.4
RJF Les Rejaudoux 83.76 360 *e*P P 18 32 38.9 -0.4
comp=Z,34nm,1.1s,mb5.1
RJF *e*R
comp=Z,93nm,20.8s
RJF Les Rejaudoux 83.76 360 *e*P P 18 32 38.9 -0.4
RJF pmax pmax
comp=Z,17nm,1.1s,mb5.1
RJF MLR MLR
comp=Z,90nm,20.8s,MS4.1
RJF Les Rejaudoux 83.76 360 *e*P P 18 32 38.9 -0.4
comp=Z,17nm,1.1s,mb5.1
RJF LR LR
comp=Z,90nm,20.8s,MS4.1
BNI Bardonecchia 83.89 356 *e*P P 18 32 40.3 +0.3
BNI pmax pmax
comp=Z,14nm,1.0s,mb5.0
BNI Bardonecchia 83.89 356 *e*P P 18 32 40.3 +0.4
comp=Z,14nm,1.0s,mb5.1
ORIF Oris-en-Rattie 84.05 356 *e*P P 18 32 41.2 +0.4
comp=Z,29nm,1.1s,mb5.0
ORIF *e*R
comp=Z,57nm,20.8s
ORIF Oris-en-Rattie 84.05 356 *e*P P 18 32 41.2 +0.4
ORIF pmax pmax
comp=Z,15nm,1.1s,mb5.0
ORIF Oris-en-Rattie 84.05 356 *e*P P 18 32 41.2 +0.4
comp=Z,15nm,1.1s,mb5.0
LFF La Frestale 84.13 0 *e*P P 18 32 40.9 -0.3
comp=Z,70nm,1.1s,mb5.4
LFF La Frestale 84.13 0 *e*P P 18 32 40.9 -0.3
LFF pmax pmax
comp=Z,35nm,1.1s,mb5.4
LFF La Frestale 84.13 0 *e*P P 18 32 40.9 -0.3
comp=Z,35nm,1.1s,mb5.4
CAF Calviac 84.14 359 *e*P P 18 32 41.1 -0.1
comp=Z,25nm,1.0s,mb5.0
CAF Calviac 84.14 359 *e*P P 18 32 41.1 -0.1
CAF pmax pmax
comp=Z,12nm,1.0s,mb5.0
CAF Calviac 84.14 359 *e*P P 18 32 41.1 -0.1
comp=Z,12nm,1.0s,mb5.0
VIVF Saint-Julien-l 84.16 357 *e*P P 18 32 41.2 -0.1
comp=Z,20nm,1.0s,mb4.9
VIVF Saint-Julien-l 84.16 357 *e*P P 18 32 41.2 -0.1
VIVF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
VIVF Saint-Julien-l 84.16 357 *e*P P 18 32 41.2 -0.1
comp=Z,10nm,1.0s,mb4.9
FITZ Fitzroy Crossi 84.30 232 *e*P P 18 32 41.2 -0.9
comp=Z,14nm,0.8s,mb5.2
FITZ Fitzroy Crossi 84.30 232 P P 18 32 41.4 -0.7
comp=Z,10nm,0.9s,mb4.9,baz=43,slow=5.3,SNR=17
MALT Malatya 84.90 331⇓*i*P P 18 32 46.3 +1.2
MALT Malatya 84.90 331 *e*P P 18 32 45.7 +0.6
comp=Z,17nm,1.0s,mb5.1
BRTR Keskin Array B 84.94 335 P P 18 32 45.7 +0.4
comp=Z,10nm,0.8s,mb5.0,baz=56,slow=3.1,SNR=56
BRTR LR LR 19 11 18.6
comp=Z,31nm,19.1s,MS3.7,baz=214,slow=36
LASF Ste Croix 84.96 358 *e*P P 18 32 45.4 0.0
comp=Z,13nm,0.9s,mb4.8
SMRF Simiane la Rot 85.00 357 *e*P P 18 32 46.2 +0.6
comp=Z,26nm,0.9s,mb5.1
SMRF Simiane la Rot 85.00 357 *e*P P 18 32 46.2 +0.6
comp=Z,26nm,0.9s,mb5.4
ANTO Ankara 85.02 336⇓*i*P P 18 32 46.9 +1.2
ANTO Ankara 85.02 336 ⇓P P 18 32 46.9 +1.2
SBF Sospel 85.04 355 *e*P P 18 32 45.2 -0.6
comp=Z,56nm,0.9s,mb5.4
SBF Sospel 85.04 355 *e*P P 18 32 45.2 -0.6
SBF pmax pmax
comp=Z,28nm,0.9s,mb5.4
SBF Sospel 85.04 355 *e*P P 18 32 45.2 -0.6
comp=Z,28nm,0.9s,mb5.4
AS31 Alice Springs 85.33 222 *e*P P 18 32 46.1 -1.1
ASAR Alice Springs 85.33 222 P P 18 32 46.0 -1.3
comp=Z,3.4nm,1.0s,mb4.4,baz=25,slow=5.3,SNR=14
ASPA Alice Springs 85.33 222 *e*P P 18 32 46.1 -1.2
FRF La Foret Royal 85.38 356 *e*P P 18 32 46.9 -0.6
comp=Z,22nm,0.9s,mb5.0
FRF La Foret Royal 85.38 356 *e*P P 18 32 46.9 -0.6
FRF pmax pmax
comp=Z,11nm,0.9s,mb5.0
FRF La Foret Royal 85.38 356 *e*P P 18 32 46.9 -0.6
comp=Z,11nm,0.9s,mb5.0
LMR La Mourre 85.61 356 *e*P P 18 32 48.2 -0.4
comp=Z,38nm,1.1s,mb5.2
LMR La Mourre 85.61 356 *e*P P 18 32 48.2 -0.4
LMR pmax pmax
comp=Z,19nm,1.1s,mb5.2
LMR La Mourre 85.61 356 *e*P P 18 32 48.2 -0.4
comp=Z,19nm,1.1s,mb5.2
MTLF Montolieu 85.72 359 *e*P P 18 32 49.0 -0.2
comp=Z,20nm,1.1s,mb5.0
MTLF Montolieu 85.72 359 *e*P P 18 32 49.0 -0.2
MTLF pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
MTLF Montolieu 85.72 359 *e*P P 18 32 49.0 -0.2
comp=Z,10nm,1.1s,mb5.0
EPF Esparros 86.03 0 *e*P P 18 32 49.9 -0.8
AQU L'Aquila 86.08 351 P P 18 32 52.2 +1.2
AQU pmax pmax
comp=Z,22nm,0.9s,mb5.4
AQU L'Aquila 86.08 351 P P 18 32 52.2 +1.2
comp=Z,22nm,0.9s,mb5.4
ETSF Etsaut 86.16 1 *e*P P 18 32 51.5 +0.1
comp=Z,12nm,0.7s,mb4.9
ETSF Etsaut 86.16 1 *e*P P 18 32 51.5 +0.1
ETSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
ETSF Etsaut 86.16 1 *e*P P 18 32 51.5 +0.1
comp=Z,6.0nm,0.7s,mb4.9
PGF Pioggiola 86.25 354 *e*P P 18 32 51.4 -0.4
comp=Z,56nm,0.9s,mb5.5
PGF Pioggiola 86.25 354 *e*P P 18 32 51.4 -0.4
PGF pmax pmax
comp=Z,28nm,0.9s,mb5.5
PGF Pioggiola 86.25 354 *e*P P 18 32 51.4 -0.4
comp=Z,28nm,0.9s,mb5.5
KAD Karad 86.72 294 *e*P P 18 32 53.1 -1.0
KAD AMb AMB 18 32 54.8
comp=Z,51nm,2.0s,mb5.4
ESDC Sonseca Array 89.29 4 P P 18 33 05.5 -0.8
comp=Z,5.4nm,0.9s,mb4.9,baz=357,slow=4.5,SNR=13
STKA Stephens Creek 89.78 213 P P 18 33 07.8 -0.9
comp=Z,9.1nm,1.0s,mb5.0,baz=334,slow=9.8,SNR=5.5
DBIC Dimbokro 122.03 7 PKP PKPdf 18 39 03.8 -0.6
comp=Z,1.3nm,0.5s,baz=0.0,slow=2.0,SNR=4.3
TSUM Tsumeb 145.37 332 *e*P PKPbc 18 39 47.8 0.0
MAW Mawson 146.33 218 PKPbc PKPbc 18 39 47.9 -2.8
comp=Z,5.9nm,1.0s,baz=97,slow=5.5,SNR=6.6
MAW Mawson 146.33 218 PKP2 PKPbc 18 39 47.9 -2.8
MAW pmax pmax
comp=Z,6.0nm,1.0s

ISCJB ***10*** *18:33:28.7±1.0, 153S±02×1749W±0.1, h245km±14km, mb4.0/13, Error ellipse: s-maj=28.3km s-min=16.6km az=125.3*
IDC ***10*** *18:33:29.6±1.2, 1527S×17490W, h241km±14km, mb3.8/9, mb1 4.0/10, mb1mx3.8/16, mbtmp4.3/10, Error ellipse: s-maj=25.5km s-min=13.2km az=140.0*
NEIC ***10*** *18:33:29.9±0.9, 1527S×17489W, h246km±9km, mb4.1/3, Error ellipse: s-maj=18.6km s-min=9.3km az=142.0*
ISC 10 18:33:30.0±1.0**, 154S**±02×**1749W**±01**, h242**km±14km**, n45, σ0ˢ29**/17**, mb4.0**/13**, 1C, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	3.31	64	P	Pn	18 34 25.5	+0.1
	23nm,0.3s,baz=67,slow=1.9,SNR=26						
AFI				S	S	18 35 09.2	-0.1
	18nm,0.3s,baz=248,slow=23,SNR=5.1						
URZ	Urewera	23.89	196	P	P	18 38 21.7	0.0
	2.6nm,0.3s,mb4.3,baz=323,slow=7.5,SNR=6.1						
CTAO	Charters Tower	37.29	257	*e*P	P	18 40 19.3	+0.4
	3.7nm,0.7s,mb4.0						
STKA	Stephens Creek	42.85	240	P	P	18 41 03.9	-0.5
	1.6nm,0.5s,mb3.7,baz=2.8,slow=13,SNR=5.6						
WB2	Warramunga Arr	48.48	257	⇑*i*P	P	18 41 47.9	-0.4
WRAB	Tennant Creek	48.48	257	*e*P	P	18 41 48.8	+0.4
	7.0nm,0.7s,mb4.1						
WRA	Warramunga Arr	48.49	257	P	P	18 41 47.9	-0.5
	2.4nm,0.5s,mb3.8,baz=85,slow=7.5,SNR=52						
ASAR	Alice Springs	48.79	252	P	P	18 41 51.0	+0.2
	28nm,0.6s,mb4.8,baz=87,slow=7.9,SNR=681						
ASPA	Alice Springs	48.80	252	*e*P	P	18 41 50.8	+0.1
KAKA	Kakadu	51.11	266	*e*P	P	18 42 08.0	0.0
	8.9nm,0.9s,mb4.2						
FITZ	Fitzroy Crossi	56.85	258	P	P	18 42 49.6	+0.1
	4.1nm,1.1s,mb4.0,baz=169,slow=16,SNR=4.3						
MBWA	Marble Bar	62.03	254	*e*P	P	18 43 24.9	+0.1
	2.6nm,0.7s,mb4.0						
VNDA	Vanda	63.27	186	P	P	18 43 33.4	+0.4
	1.5nm,0.9s,mb3.6,baz=6.9,slow=7.6,SNR=6.1						
NVAR	Mina Array Bea	75.24	43	P	P	18 44 46.0	-0.1
	0.2nm,0.7s,mb2.9,baz=157,slow=6.0,SNR=3.7						
PDAR	Pinedale Array	83.17	42	P	P	18 45 29.1	+0.2
	1.7nm,0.6s,mb4.0,baz=209,slow=2.5,SNR=16						
MAW	Mawson	87.38	199	P	P	18 45 49.4	-0.4
	1.7nm,0.4s,mb4.1,baz=124,slow=8.6,SNR=5.1						
CHKZ	Chkalovo	116.74	323	*e*PKPdf	PKPdf	18 51 43.7	-1.6
ARU	Arti	122.57	328	*e*PKPdf	PKPdf	18 51 55.6	-1.0
ARCES	ARCESS Array B	124.37	351	PKP	PKPdf	18 51 58.1	-1.9
	1.7nm,0.6s,baz=27,slow=3.3,SNR=11						
KMBO	Kilima Mbogo	144.28	246	PKP	PKPdf	18 52 36.4	-0.6
	1.2nm,0.7s,baz=71,slow=9.8,SNR=4.3						
KMBO	Kilima Mbogo	144.28	246	PKP	PKPdf	18 52 36.4	-0.6
KECS	Kecovo	144.64	342	*e*PKP	PKPdf	18 52 36.5	-1.1
VYHS	Vyhne	145.09	344	*e*PKP	PKPdf	18 52 38.3	-0.1
BRTR	Keskin Array B	145.24	320	PKPbc	PKPbc	18 52 38.6	-0.2
	1.5nm,0.7s,baz=102,slow=1.9,SNR=9.5						
GIVF	Givet	145.35	0	*e*PKP1	PKPbc	18 52 38.4	-0.8
BAIF	Baives	145.39	1	*e*PKP1	PKPbc	18 52 38.6	-0.7
GRA1	Grafenberg Arr	145.41	353	*e*PKP	PKPdf	18 52 39.4	+0.5
GRF	Grafenberg Arr	145.41	353	*e*PKP	PKPdf	18 52 39.4	+0.5
GERES	GERESS Array B	145.88	350	PKPbc	PKPbc	18 52 39.4	-1.4
	0.8nm,0.5s,baz=16,slow=3.7,SNR=8.4						
FLN	La Foliniere	146.37	7	*e*PKP1	PKPbc	18 52 41.9	-0.4

ROSF	Rostrenen	146.39	10	ePKP1	PKPbc	18 52 40.9	-1.4
	31nm,1.2s						
LDF	La Druitiere	146.58	6	ePKP1	PKPbc	18 52 42.6	-0.3
	6.0nm,0.7s						
SGMF	Saint Gilles	146.59	9	ePKP1	PKPbc	18 52 41.6	-1.3
	14nm,0.8s						
GRR	Gorron	146.70	7	ePKP1	PKPbc	18 52 42.9	-0.3
	5.1nm,0.6s						
QUIF	Quistinic	146.82	10	ePKP1	PKPbc	18 52 42.4	-1.1
CDF	Champ du Feu	147.00	357	ePKP1	PKPbc	18 52 43.4	-0.6
	8.7nm,0.8s						
HAU	Haudompre	147.44	359	ePKP1	PKPbc	18 52 44.5	-0.7
LOR	Lormes	148.17	2	ePKP1	PKPbc	18 52 46.2	-0.9
	5.9nm,0.8s						
SSF	Saint Saulge	148.37	2	ePKP1	PKPbc	18 52 47.0	-0.6
	8.8nm,0.9s						
AVF	Avril sur Loir	148.63	2	ePKP1	PKPbc	18 52 47.3	-1.0
SMF	Signal de Mont	148.79	2	ePKP1	PKPbc	18 52 47.6	-1.1
CABF	La Chapelle	148.84	359	ePKP1	PKPbc	18 52 48.9	+0.1
	24nm,1.1s						
LPL	La Plagne	149.91	358	ePKP1	PKPbc	18 52 51.9	+0.4
LPG	La Plagne	149.93	358	ePKP1	PKPbc	18 52 52.1	+0.6
	6.3nm,0.7s						
VIVF	Saint-Julien-l	150.60	1	ePKP1	PKPbc	18 52 52.7	-0.4
	7.8nm,1.0s						

*NEIC **10** 19:12:25.6±0.9,21.35S×178.84W,h568km±11km,mb4.4/9, Error ellipse: s-maj=13.5km s-min=8.3km az=145.0*
*ISCJB **10** 19:12:30.1±1.9,21.4S±0.1×179.1W±0.1,h631km±24km, mb4.2/17,Error ellipse: s-maj=21.0km s-min=14.8km az=139.0*
*IDC **10** 19:12:32.3±2.2,21.37S×179.08W,h644km±27km,mb3.5/11, mb1 3.7/11,mb1mx3.6/15,mbtmp4.5/11,Error ellipse: s-maj=17.9km s-min=12.0km az=162.0*
ISC 10 19:12:29.1±1.8,**21.5S**±0.1×**179.0W**±0.1,**h602**km±21km,**n40**, σ**0.67s**/32,**mb4.2**/17,**3C-1D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	10.17	44	P	P	19 14 43.2	-6.2
	6.4nm,0.3s,baz=45,slow=19,SNR=7.2						
DZM	Mont Dzumac	13.55	265	P	P	19 15 22.7	-0.7
	0.7nm,0.3s,baz=72,slow=6.4,SNR=5.9						
URZ	Urewera	17.09	191	P	P	19 15 53.2	-3.0
	2.7nm,0.3s,baz=314,slow=2.7,SNR=16						
CNB	Canberra Magne	30.93	237	eP	P	19 17 58.9	+0.3
	17nm,0.7s,mb4.8						
CTA	Charters Tower	32.49	266	P	P	19 18 12.5	+0.8
	4.5nm,0.3s,mb4.5,baz=95,slow=12,SNR=17						
CTA	Charters Tower	32.49	266	P	P	19 18 12.5	+0.8
CTAO	Charters Tower	32.49	266	eP	P	19 18 12.4	+0.6
	4.8nm,0.4s,mb4.5						
TOO	Toolangi	34.60	234	eP	P	19 18 29.9	+0.5
	4.0nm,0.5s,mb4.3						
STKA	Stephens Creek	36.55	245	eP	P	19 18 46.2	+0.7
	7.4nm,0.9s,mb4.2						
STKA	Stephens Creek	36.55	245	P	P	19 18 46.0	+0.6
	10nm,0.8s,mb4.4,baz=96,slow=9.3,SNR=21						
AS31	Alice Springs	43.41	258	⇑iP	P	19 19 40.4	+0.4
ASAR	Alice Springs	43.41	258	P	P	19 19 40.4	+0.4
	6.9nm,0.6s,mb4.4,baz=90,slow=7.8,SNR=193						
ASAR				S	S	19 25 24.8	-0.9
	1.8nm,0.8s,baz=99,slow=15,SNR=6.8						
ASPA	Alice Springs	43.41	258	⇑iP	P	19 19 40.4	+0.4
WB2	Warramunga Arr	43.55	263	⇑iP	P	19 19 41.0	-0.1
WRAB	Tennant Creek	43.56	263	eP	P	19 19 40.7	-0.5
	12nm,1.0s,mb4.4						
WRA	Warramunga Arr	43.56	263	P	P	19 19 41.1	-0.2
	3.1nm,0.3s,mb4.3,baz=96,slow=7.6,SNR=290						
WRA				S	S	19 25 26.4	-1.4
	0.6nm,0.6s,baz=98,slow=13,SNR=4.7						
FORT	Forrest	48.08	247	eP	P	19 20 15.3	0.0
	14nm,0.9s,mb4.5						
FITZ	Fitzroy Crossi	51.99	263	eP	P	19 20 43.9	0.0
	2.3nm,0.3s,mb4.0						
FITZ	Fitzroy Crossi	51.99	263	P	P	19 20 44.6	+0.8
	1.3nm,0.3s,mb3.7,baz=117,slow=4.9,SNR=28						
MBWA	Marble Bar	56.75	258	eP	P	19 21 17.0	0.0
KLBR	Kellerberrin	56.82	246	eP	P	19 21 17.6	0.0
	57nm,1.3s,mb4.6						
VNDA	Vanda	56.89	185	P	P	19 21 18.4	+0.4
	1.4nm,0.5s,mb3.5,baz=3.3,slow=7.1,SNR=17						
MUN	Mundaring	58.09	245	eP	P	19 21 27.0	+0.9
CASY	Casey	62.72	205	eP	P	19 21 56.6	+0.1
QSPA	South Pole Qui	68.62	180	eP	P	19 22 33.4	+0.2
	8.6nm,0.8s,mb4.2						
MJAR	Matsushiro Arr	70.43	324	P	P	19 22 43.0	-0.9
	2.8nm,0.5s,mb3.9,baz=164,slow=5.6,SNR=9.4						
MAW	Mawson	80.36	200	P	P	19 23 38.4	-0.4
	1.9nm,0.7s,mb3.5,baz=137,slow=9.9,SNR=3.7						
YBH	Yreka Blue Hor	81.60	39	P	P	19 23 45.3	+0.1
	3.0nm,0.9s,mb3.8,baz=318,slow=6.0,SNR=4.6						
NVAR	Mina Array Bea	82.34	44	P	P	19 23 49.2	+0.2
	1.6nm,0.6s,mb3.7,baz=221,slow=7.9,SNR=11						
PDAR	Pinedale Array	90.28	44	P	P	19 24 26.6	-0.2
	1.2nm,0.6s,mb3.9,baz=193,slow=6.1,SNR=8.1						
ARCES	ARCESS Array B	129.68	349	PKP	PKPdf	19 30 28.6	-2.2
	1.9nm,0.6s,baz=25,slow=1.3,SNR=15						
FINES	FINESS Array B	136.41	343	PKP	PKPdf	19 30 42.5	-0.8
	1.8nm,0.8s,baz=106,slow=4.2,SNR=5.1						
NOA	NORSAR Array B	139.80	352	PKhKP		19 30 40.7	
	1.0nm,0.7s,baz=18,slow=2.8,SNR=4.0						
AKASG	Malin Array Be	143.38	330	PKP	PKPdf	19 30 52.9	-3.1
	4.3nm,0.5s,baz=41,slow=4.1,SNR=34						
BRTR	Keskin Array B	146.77	311	PKPbc	PKPbc	19 31 03.6	-0.9
	1.3nm,0.7s,baz=127,slow=3.8,SNR=6.1						
CLL	Collm	148.76	345	⇓iPKPbc	PKPbc	19 31 09.2	-0.4
	comp=Z,7.0nm,1.0s						
BRG	Berggiesshubel	148.93	344	eP	PKPbc	19 31 09.9	-0.2
	comp=Z,2.4nm,0.7s						
KHC	Kasperske Hory	150.62	343	eP	PKPbc	19 31 13.5	-0.5
GERES	GERESS Array B	150.84	343	PKPbc	PKPbc	19 31 13.6	-1.0
	comp=Z,1.3nm,0.6s,baz=17,slow=1.8,SNR=8.8						
TORD	Torodi Ar. Bea	171.72	185	PKPab	PKPab	19 32 54.8	-1.2
	comp=Z,0.6nm,0.7s,baz=177,slow=4.4,SNR=5.8						

*NEIC **10** 19:14:49.0±3.3,43.67N×14.95W,h10km,MG4.5(MDD), Error ellipse: s-maj=39.1km s-min=7.9km az=94.0*
*ISCJB **10** 19:14:55.1±0.8,43.58N±0.04×13.92W±0.07,h10km,Error ellipse: s-maj=7.2km s-min=6.1km az=147.2*
*MDD **10** 19:14:56.0±1.8,43.50N×14.25W,h0km,mb4.4/7,Error ellipse: s-maj=16.8km s-min=12.8km az=92.0,PRXIMO*
*IGIL **10** 19:14:57.1,43.44N×14.68W,h10km,ML3.2*
*CSEM **10** 19:14:58.9±0.3,43.71N×14.09W,h10km,ML3.9/10,Error ellipse: s-maj=6.0km s-min=3.5km az=78.0*
*LDG **10** 19:14:59.9±0.6,43.19N×13.73W,h10km,Ml3.5/10,Error ellipse: s-maj=11.0km s-min=6.1km az=99.0*
*INMG **10** 19:14:59.2±0.7,43.50N×14.62W,h10km,ML2.8,Error ellipse: s-maj=5.4km s-min=3.7km az=90.0*
ISC 10 19:14:58.0±0.8,**43.53N**±0.04×**13.93W**±0.07,**h10**km,**n79**, σ**1.26s**/140,**6C,North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	Mazaricos	3.67	97	⇑P	Pn	19 15 56.4	+1.6
	2.5nm,0.1s						
EMAZ				S	Sn	19 16 38.9	+0.9
	18nm,0.1s,SNR=5.2						
EMAZ	Mazaricos	3.67	97	P	Pn	19 15 56.4	+1.7
	2.5nm,0.1s						
EMAZ				S	Sn	19 16 38.9	+0.9
	18nm,0.1s,SNR=5.2						
STS	Santiago	3.99	97	⇑P	Pn	19 16 01.0	+1.9
	15nm,0.1s,SNR=18						
STS				S	Sn	19 16 48.0	+2.1
	9.4nm,0.2s,SNR=7.6						
STS	Santiago	3.99	97	⇑P	Pn	19 16 00.3	+1.2
STS				S	Sn	19 16 48.0	+2.1
PTO	Porto	4.62	119	ePn	Pn	19 16 09.0	+1.2
PTO				eSn	Sn	19 17 01.5	+0.1
ELOB	Lobios	4.63	109	⇑P	Pn	19 16 09.8	+1.8
	4.0nm,0.1s,SNR=18						
ELOB				S	Sn	19 17 02.7	+0.8
	7.7nm,0.2s,SNR=14						
ELOB	Lobios	4.63	109	P	Pn	19 16 08.5	+0.5
ELOB				S	Sn	19 17 02.7	+0.8
ELOB	Lobios	4.63	109	P	Pn	19 16 09.8	+1.8
	4.0nm,0.1s,SNR=18						
ELOB				S	Sn	19 17 02.7	+0.8
	7.7nm,0.2s,SNR=14						
PCAB	Cabril	4.72	111	ePn	Pn	19 16 11.0	+1.8
PCAB				eSn	Sn	19 17 04.3	+0.3
PCAB							
	20nm,0.2s						
PCAB	Cabril	4.72	111	ePn	Pn	19 16 11.0	+1.8
PCAB				eSn	Sn	19 17 04.3	+0.3
	20nm,0.2s						
EPON	Pontenova	4.95	90	P	Pn	19 16 13.8	+1.6
	1.7nm,0.3s,SNR=7.9						
EPON				S	Sn	19 17 09.1	-0.4
	9.3nm,0.2s,SNR=13						
EPON	Pontenova	4.95	90	P	Pn	19 16 13.0	+0.7
EPON				S	Sn	19 17 09.2	-0.4
EPON	Pontenova	4.95	90	P	Pn	19 16 13.9	+1.6
	1.7nm,0.3s,SNR=7.9						
PVRL	Vila Real	5.12	114	ePn	Pn	19 16 16.2	+1.5
PVRL				eSn	Sn	19 17 14.0	+0.1
PVRL							
	13nm,0.1s						
PVRL	Vila Real	5.12	114	ePn	Pn	19 16 16.2	+1.5
PVRL				eSn	Sn	19 17 14.0	+0.1
	13nm,0.1s						
PVIS	Viseu	5.30	120	ePn	Pn	19 16 18.2	+1.1
PVIS				eSn	Sn	19 17 17.3	-0.9
ECAL	Calabor	5.53	104	P	Pn	19 16 22.4	+2.0
	2.7nm,0.2s,SNR=9.9						
ECAL				S	Sn	19 17 24.5	+0.5
	17nm,0.2s,SNR=10						
ECAL	Calabor	5.53	104	P	Pn	19 16 22.0	+1.7
ECAL				S	Sn	19 17 24.5	+0.5
ECAL	Calabor	5.53	104	P	Pn	19 16 22.4	+2.0
	2.7nm,0.2s,SNR=9.9						
ECAL				S	Sn	19 17 24.5	+0.5
	17nm,0.2s,SNR=10						
PBRG	Braganca	5.57	106	eSn	Sn	19 17 26.2	+1.1
PBRG							
	4.1nm,0.1s						
PBRG	Braganca	5.57	106	Sn	Sn	19 17 26.2	+1.1
	2.0nm,0.1s						
PTOM	Tomar	5.69	131	ePn	Pn	19 16 22.4	-0.2
PTOM				eSn	Sn	19 17 25.1	-2.8
PTOM							
	9.7nm,0.2s						
PTOM	Tomar	5.69	131	ePn	Pn	19 16 22.4	-0.2
PTOM				eSn	Sn	19 17 25.1	-2.8
	9.7nm,0.2s						
MTE	Manteigas	5.70	121	ePn	Pn	19 16 23.1	+0.5
MTE				eSn	Sn	19 17 26.7	-1.3
MTE							
	6.4nm,0.3s						
MTE	Manteigas	5.70	121	ePn	Pn	19 16 23.1	+0.5
MTE				eSn	Sn	19 17 26.7	-1.3
	6.4nm,0.3s						
PLOU	Loures	5.87	141	ePn	Pn	19 16 24.6	-0.4
PLOU				eSn	Sn	19 17 28.2	-4.2
PLOU							
	13nm,0.2s						
PLOU	Loures	5.87	141	ePn	Pn	19 16 24.6	-0.4
PLOU				eSn	Sn	19 17 28.2	-4.2
	13nm,0.2s						
PCBR	Castelo Branco	6.08	125	ePn	Pn	19 16 28.1	+0.3
PCBR				eSn	Sn	19 17 34.7	-2.7
PCBR							
	2.1nm,0.1s						
EARI	Arriondas	6.36	89	P	Pn	19 16 33.4	+1.7
	0.7nm,0.2s,SNR=9.4						
EARI				S	Sn	19 17 44.3	-0.1
	3.9nm,0.2s,SNR=6.3						
EARI	Arriondas	6.36	89	P	Pn	19 16 34.1	+2.4
EARI				S	Sn	19 17 44.3	-0.1
EARI	Arriondas	6.36	89	P	Pn	19 16 33.4	+1.7
	0.7nm,0.2s,SNR=9.4						
EARI				S	Sn	19 17 44.3	-0.1
	3.9nm,0.2s,SNR=6.3						
EBAD	Badajoz	7.07	130	P	Pn	19 16 41.0	-0.5
	1.5nm,0.1s,SNR=4.0						
EBAD				S	Sn	19 17 57.7	-4.2
	1.5nm,0.1s						
EBAD	Badajoz	7.07	130	P	Pn	19 16 41.6	+0.2
EBAD				S	Sn	19 17 56.8	-5.0
EBAD	Badajoz	7.07	130	P	Pn	19 16 41.6	+0.1
	1.5nm,0.1s,SNR=4.0						
PBEJ	Beja	7.17	138	ePn	Pn	19 16 42.8	0.0
PTEO	Sao Teotonio	7.17	145	ePn	Pn	19 16 41.8	-1.1
PTEO				eSn	Sn	19 17 58.0	-6.3
PTEO							
	6.1nm,0.3s						
MORF	Marmelete	7.40	145	eP	Pn	19 16 45.5	-0.5
MORF				eS	Sn	19 18 04.6	-5.5
MORF				eS	Sn	19 18 04.6	-5.5
MORF				AML	AML	19 18 10.0	
	comp=N,18nm,0.2s						
MORF	Marmelete	7.40	145	eP	Pn	19 16 45.5	-0.6
MORF				eS	Sn	19 18 04.6	-5.5
ELAN	Lanestosa	7.66	89	P	Pn	19 16 51.4	+1.8
	comp=N,0.4nm,0.2s,SNR=4.0						
ELAN				S	Sn	19 18 16.4	+0.1
	comp=N,6.8nm,0.2s,SNR=7.9						
ELAN	Lanestosa	7.66	89	P	Pn	19 16 51.4	+1.9
	comp=N,0.4nm,0.2s,SNR=4.0						
EGRO	El Granado	7.74	138	P	Pn	19 16 50.2	-0.5
	comp=N,1.0nm,0.1s,SNR=11						
EGRO				S	Sn	19 18 13.2	-5.2
	comp=N,2.0nm,0.2s,SNR=7.9						
EGRO	El Granado	7.74	138	P	Pn	19 16 50.2	-0.5
EGRO				S	Sn	19 18 12.5	-5.9
EGRO	El Granado	7.74	138	P	Pn	19 16 50.2	-0.5
	comp=N,1.0nm,0.1s,SNR=11						
GUD	Guadarrama	7.82	108	⇑P	Pn	19 16 54.6	+2.7
	comp=N,4.0nm,0.2s,SNR=18						
GUD				S	Sn	19 18 19.4	-1.0
	comp=N,2.6nm,0.3s,SNR=6.5						
GUD	Guadarrama	7.82	108	⇑P	Pn	19 16 54.6	+2.7
GUD				S	Sn	19 18 20.3	-0.1
GUD	Guadarrama	7.82	108	P	Pn	19 16 54.6	+2.8
	comp=N,4.0nm,0.2s,SNR=18						
GUD				S	Sn	19 18 20.3	-0.1
	comp=N,2.6nm,0.3s,SNR=6.5						
EMIN	Mina Concepcio	7.97	134	P	Pn	19 16 53.5	-0.3
	comp=N,6.5nm,0.2s,SNR=64						
EMIN				S	Sn	19 18 18.5	-5.5
	comp=N,0.9nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	7.97	134	P	Pn	19 16 52.7	-1.1
EMIN				S	Sn	19 18 18.3	-5.8
EMIN	Mina Concepcio	7.97	134	P	Pn	19 16 53.8	0.0
	comp=N,6.5nm,0.2s,SNR=64						
QUIF	Quistinic	8.72	56	ePn	Pn	19 17 02.1	-2.0
QUIF				eSn	Sn	19 18 34.2	-8.2
	comp=N,1.4nm,0.2s						
QUIF	Quistinic	8.72	56	Pn	Pn	19 17 02.1	-2.0
QUIF				Sn	Sn	19 18 34.2	-8.2
	comp=N,0.7nm,0.2s						
ROSF	Rostrenen	8.85	53	ePn	Pn	19 17 03.8	-2.1
ROSF				eSn	Sn	19 18 37.5	-8.1
	comp=N,0.7nm,0.2s						
ROSF	Rostrenen	8.85	53	Pn	Pn	19 17 03.8	-2.1
ROSF				Sn	Sn	19 18 37.5	-8.1
	comp=N,0.3nm,0.2s						
EADA	Adamuz	8.88	124	P	Pn	19 17 06.5	+0.2
	comp=N,1.0nm,0.2s,SNR=11						
EADA				S	Sn	19 18 42.1	-4.3
	comp=N,1.0nm,0.3s,SNR=7.9						
EADA	Adamuz	8.88	124	P	Pn	19 17 06.5	+0.1
EADA				S	Sn	19 18 42.1	-4.3
EADA	Adamuz	8.88	124	P	Pn	19 17 06.5	+0.2
	comp=N,1.0nm,0.2s,SNR=11						
EALK	Alkurruntz	9.06	88	S	Sn	19 18 48.5	-2.3
	comp=N,2.8nm,0.3s,SNR=7.9						
ESPR	Espera	9.07	134	P	Pn	19 17 09.4	+0.4
	comp=N,1.6nm,0.2s,SNR=7.9						
ESPR				S	Sn	19 18 46.6	-4.6
	comp=N,1.4nm,0.3s,SNR=4.0						
ESPR	Espera	9.07	134	P	Pn	19 17 09.4	+0.4
ESPR				S	Sn	19 18 48.8	-2.3
ESPR	Espera	9.07	134	P	Pn	19 17 09.4	+0.4
	comp=N,1.6nm,0.2s,SNR=7.9						
ESPR				S	Sn	19 18 48.8	-2.4
SGMF	Saint Gilles	9.23	55	ePn	Pn	19 17 09.9	-1.3
SGMF				eSn	Sn	19 18 46.6	-8.5
	comp=N,1.4nm,0.4s						
SGMF	Saint Gilles	9.23	55	Pn	Pn	19 17 09.9	-1.3
SGMF				Sn	Sn	19 18 46.6	-8.5
	comp=N,0.7nm,0.4s						
ETSF	Etsaut	9.79	89	ePn	Pn	19 17 15.5	-3.3
ETSF				eSn	Sn	19 19 01.3	-7.4
	comp=N,3.1nm,0.4s						
ETSF	Etsaut	9.79	89	Pn	Pn	19 17 15.5	-3.3
ETSF				Sn	Sn	19 19 01.3	-7.4
	comp=N,1.6nm,0.4s						
MFF	Saint Martin d	10.23	68	ePn	Pn	19 17 23.7	-1.1
MFF				eSn	Sn	19 19 12.6	-6.9
	comp=N,1.2nm,0.3s						
MFF	Saint Martin d	10.23	68	ePn	Pn	19 17 23.7	-1.1
MFF				eSn	Sn	19 19 12.6	-6.9
	comp=N,0.6nm,0.3s						
LFF	La Frestale	10.63	77	ePn	Pn	19 17 29.9	-0.4
FLN	La Foliniere	10.70	56	ePn	Pn	19 17 30.8	-0.4
LDF	La Druitiere	10.85	57	eSn	Sn	19 19 28.0	-6.7
	comp=N,1.7nm,0.4s						
LDF	La Druitiere	10.85	57	eSn	Sn	19 19 28.0	-6.7
	comp=N,0.9nm,0.4s						
RJF	Les Rejaudoux	11.20	76	eSn	Sn	19 19 35.8	-7.4
	comp=N,2.4nm,0.2s						
RJF	Les Rejaudoux	11.20	76	eSn	Sn	19 19 35.8	-7.4
	comp=N,1.2nm,0.2s						
CAF	Calviac	11.57	78	ePn	Pn	19 17 42.3	-0.8
CAF				eSn	Sn	19 19 45.0	-7.3
	comp=N,1.1nm,0.2s						
CAF	Calviac	11.57	78	ePn	Pn	19 17 42.3	-0.8
CAF				eSn	Sn	19 19 45.0	-7.3
	comp=N,0.6nm,0.2s						
BGF	Bois d'Agland	12.25	70	ePn	Pn	19 17 51.8	-0.7
BGF				eSn	Sn	19 20 00.6	-8.5
	comp=N,5.1nm,0.4s						
BGF	Bois d'Agland	12.25	70	ePn	Pn	19 17 51.8	-0.7
BGF				eSn	Sn	19 20 00.6	-8.5
	comp=N,2.5nm,0.4s						
AVF	Avril sur Loir	12.63	69	ePn	Pn	19 17 57.2	-0.5
SMF	Signal de Mont	12.94	70	eSn	Sn	19 20 17.0	-9.0
	comp=N,2.0nm,0.4s						
SMF	Signal de Mont	12.94	70	eSn	Sn	19 20 17.0	-9.0
	comp=N,1.0nm,0.4s						

*NEIC **10** 19:15:25.5±1.1,23.48S×179.73W,h516km±13km,mb4.5/12, Error ellipse: s-maj=14.5km s-min=9.0km az=151.0*
*ISCJB **10** 19:15:29.8±1.6,23.8S±0.1×179.9W±0.2,h572km±17km, mb4.4/16,Error ellipse: s-maj=26.2km s-min=12.6km az=104.8*
*IDC **10** 19:15:32.3±2.3,23.66S×179.96E,h579km±25km,mb3.7/7, mb1 3.8/8,mb1mx3.6/14,mbtmp4.7/8,Error ellipse: s-maj=27.0km s-min=15.7km az=14.0*
ISC 10 19:15:30.9±1.6,**24.0S**±0.1×**180.0W**±0.2,**h554**km±16km,**n41**, σ**0.90s**/39,**mb4.4**/16,**3D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.64	276	P	P	19 18 16.6	+0.6
	0.3nm,0.3s,baz=72,slow=19,SNR=3.3						
AFI	Afiamalu	12.66	39	P	P	19 18 05.4	-11
	2.5nm,0.3s,baz=242,slow=17,SNR=3.4						
URZ	Urewera	14.46	189	P	P	19 18 29.8	-4.9
	1.4nm,0.3s,baz=298,slow=2.8,SNR=3.1						
URZ				S	S	19 21 04.4	-1.6
	2.1nm,0.3s,baz=208,slow=22,SNR=9.3						
URZ	Urewera	14.46	189	PN	P	19 18 29.8	-4.9
QRZ	Quartz Range	17.95	199	PN	P	19 19 08.4	+0.4
THZ	Tophouse	18.71	197	PN	P	19 19 14.7	-0.2
LTZ	Lake Taylor	19.83	197	PN	P	19 19 23.7	-1.4
ARMA	Armidale	26.01	249	eP	P	19 20 22.0	+1.7
CNB	Canberra Magne	28.83	240	eP	P	19 20 46.3	+1.4
	20nm,0.9s,mb4.8						
CTA	Charters Tower	31.49	270	eP	P	19 21 07.9	+0.1
	17nm,0.3s,mb5.1						
CTA	Charters Tower	31.49	270	P	P	19 21 07.7	-0.1
	20nm,0.4s,mb5.0,baz=96,slow=11,SNR=54						
CTAO	Charters Tower	31.49	270	eP	P	19 21 07.8	-0.1
TOO	Toolangi	32.42	237	eP	P	19 21 16.8	+1.1
	10nm,0.5s,mb4.6						
STKA	Stephens Creek	34.71	248	eP	P	19 21 35.5	+0.6
	4.0nm,0.4s,mb4.3						
STKA	Stephens Creek	34.71	248	P	P	19 21 35.1	+0.2
	6.7nm,0.6s,mb4.3,baz=99,slow=10,SNR=15						
AS31	Alice Springs	42.04	261	⇓iP	P	19 22 34.1	-0.2
AS31				eS	S	19 28 15.3	+1.7
ASAR	Alice Springs	42.04	261	P	P	19 22 34.2	-0.1
	14nm,0.8s,mb4.5,baz=96,slow=7.9,SNR=45						
ASAR				ScP	ScP	19 27 19.8	+5.8
	2.4nm,0.8s,baz=107,slow=4.6,SNR=11						
ASAR				S	S	19 28 13.4	-0.2
	0.4nm,0.6s,baz=94,slow=15,SNR=4.4						
ASPA	Alice Springs	42.04	261	⇓iP	P	19 22 34.1	-0.2
ASPA				eS	S	19 28 15.3	+1.6
WB2	Warramunga Arr	42.41	266	⇓iP	P	19 22 36.3	-0.9
WB2				eS	S	19 28 17.6	-1.3
WRAB	Tennant Creek	42.41	266	eP	P	19 22 35.9	-1.3
	20nm,0.8s,mb4.7						
WRA	Warramunga Arr	42.42	266	P	P	19 22 36.4	-0.9
	14nm,0.5s,mb4.7,baz=103,slow=8.2,SNR=74						
WRA				ScP	ScP	19 27 21.8	+6.2
	1.2nm,0.8s,baz=99,slow=4.0,SNR=6.0						
WRA				S	S	19 28 17.2	-1.9
	1.1nm,0.8s,baz=97,slow=14,SNR=4.9						
FORT	Forrest	46.30	250	eP	P	19 23 06.9	-0.3
	74nm,0.6s,mb5.4						
KAKA	Kakadu	46.33	275	eP	P	19 23 06.3	-1.1
	6.3nm,0.5s,mb4.4						
FITZ	Fitzroy Crossi	50.84	266	eP	P	19 23 41.0	+0.2
	11nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	50.84	266	P	P	19 23 41.0	+0.2
	5.2nm,0.6s,mb4.0,baz=104,slow=8.5,SNR=21						
VNDA	Vanda	54.31	185	P	P	19 24 06.6	+1.0
	1.2nm,0.8s,mb3.3,baz=359,slow=7.0,SNR=6.9						
VNDA	Vanda	54.31	185	P	P	19 24 06.6	+1.0
KLBR	Kellerberrin	54.98	247	eP	P	19 24 10.0	-0.2
	127nm,1.8s,mb4.8						
MBWA	Marble Bar	55.38	260	eP	P	19 24 12.6	-0.4
	8.2nm,0.7s,mb4.1						
MUN	Mundaring	56.22	247	eP	P	19 24 19.2	+0.4
CASY	Casey	60.05	206	eP	P	19 24 44.7	-0.1
	6.3nm,0.6s,mb4.1						
QSPA	South Pole Qui	66.11	180	eP	P	19 25 24.1	+0.5
	3.1nm,0.7s,mb4.0						
MAW	Mawson	77.69	200	P	P	19 26 31.0	+0.3
	3.6nm,0.7s,mb3.8,baz=121,slow=8.8,SNR=7.6						
SCHQ	Schefferville	122.52	39	PKP	PKPdf	19 33 21.1	-2.6
	3.2nm,1.0s,baz=225,slow=19,SNR=2.1						
ARCES	ARCESS Array B	131.96	348	PKP	PKPdf	19 33 38.9	-2.8
	1.7nm,0.9s,baz=35,slow=3.0,SNR=10						
FINES	FINESS Array B	138.52	341	PKP	PKPdf	19 33 52.2	-1.6
	2.7nm,0.9s,baz=65,slow=1.6,SNR=6.0						
FINES	FINESS Array B	138.52	341	PKP	PKPdf	19 33 52.2	-1.6
AKASG	Malin Array Be	145.04	327	PKP	PKPdf	19 34 03.8	-1.6
	3.2nm,0.6s,baz=42,slow=4.1,SNR=11						
BRTR	Keskin Array B	147.63	307	PKPbc	PKPbc	19 34 10.6	-2.8
	0.8nm,0.7s,baz=137,slow=5.2,SNR=4.3						
CLL	Collm	150.93	343	i PKPbc	PKPbc	19 34 19.6	-1.6
	comp=Z,5.0nm,0.6s						
TORD	Torodi Ar. Bea	169.12	189	PKPab	PKPab	19 35 50.9	+0.3
	comp=Z,0.6nm,0.7s,baz=164,slow=3.8,SNR=7.0						

*ATH **10** 19:51:22.4,37.07N×28.47E,h3km,MD3.2/4*
*ISK **10** 19:51:27.8,37.06N×27.95E,h21km,MD3.1*
*ISCJB **10** 19:51:28.8±0.6,37.03N±0.04×27.95E±0.04,h22km±9km, Error ellipse: s-maj=6.3km s-min=4.6km az=134.5*
*CSEM **10** 19:51:28.1±0.1,37.04N×27.96E,h10km,MD3.1,Error ellipse: s-maj=2.4km s-min=1.7km az=167.0*
ISC 10 19:51:28.7±0.5,**37.03N**±0.03×**27.96E**±0.03,**h18**km±5km,**n15**, σ**0.67s**/22,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.28	68	PG	Pg	19 51 34.5	-0.3
YER				SG	Sg	19 51 39.6	+0.6
MLSB	Milas	0.30	331	PG	Pg	19 51 35.0	-0.2
MLSB				SG	Sg	19 51 38.8	-0.8
BDRM	Kayabasi	0.41	275	i P	Pg	19 51 36.6	-0.5
BDRM				i S	Sg	19 51 43.3	+0.5
DAT	Datca	0.43	226	PG	Pg	19 51 37.5	+0.1
DAT				SG	Sg	19 51 44.4	+1.1
BODT	Bodrum	0.52	274	PG	Pg	19 51 38.6	-0.5
BODT				SG	Sg	19 51 46.3	+0.3
DALT	Dalyan (Mudla)	0.60	115	ePG	Pg	19 51 40.4	-0.2
AYDN	Tasoluk	0.63	354	i P	Pg	19 51 41.3	+0.1
AYDN				i S	Sg	19 51 49.9	+0.3
NISR	Nisiros	0.79	238	ePB	Pb	19 51 44.5	+0.7
ARG	Arkhangelos	0.82	170	ePG	Pg	19 51 39.5	-5.2
FETY	Fethiye	0.99	113	ePG	Pg	19 51 46.9	-0.9
DNZL	Cakiroluk	1.09	52	i P	Pb	19 51 49.3	+0.3
DNZL				i S	Sb	19 52 04.7	+1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**1.12**	**50**	*e*PN	**Pn**	**19 51 48.7**	**-0.8**
SMG	**Samos**	**1.12**	**308**	*e*PB	**Pb**	**19 51 49.7**	**+0.2**
IZM	**Izmir**	**1.47**	**338**	*e*PN	**Pn**	**19 51 53.7**	**-0.6**
KARP	**Karpathos**	**1.61**	**204**	*e*PB	**Pb**	**19 51 57.1**	**-0.8**

IDC 10 20:11:30.1±9.4**, 1808S×17341W, h0km, mb4.2**/4**, mb1 4.3**/5**, mb1mx4.0**/15**, mbtmp4.2**/5**, ML4.2**/1**, Error ellipse: s-maj=166.5km s-min=159.3km az=53.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.34**	**255**	P	Pn	20 15 57.4	-0.5
	0.7nm,0.3s,baz=62,slow=18,SNR=5.9						
CTA	**Charters Tower**	**38.11**	**260**	P	P	20 18 51.6	+0.8
	3.2nm,0.5s,baz=91,slow=14,SNR=7.6						
STKA	**Stephens Creek**	**42.74**	**242**	P	P	20 19 28.4	-0.8
	1.5nm,0.8s,baz=94,slow=17,SNR=3.2						
WB2	**Warramunga Arr**	**49.27**	**259**	*e*P	P	20 20 21.2	+0.7
WRA	**Warramunga Arr**	**49.28**	**259**	P	P	20 20 21.4	+0.8
	0.9nm,0.3s,baz=96,slow=7.4,SNR=86						
ASAR	**Alice Springs**	**49.32**	**254**	P	P	20 20 21.1	+0.2
	2.3nm,0.7s,baz=97,slow=8.2,SNR=41						
ASPA	**Alice Springs**	**49.33**	**254**	*e*P	P	20 20 21.5	+0.5
KAKA	**Kakadu**	**52.34**	**268**	*e*P	P	20 20 47.5	+3.8
	4.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**57.69**	**260**	*e*P	P	20 21 25.6	+3.2
	7.5nm,1.4s						

CASC 10 20:17:45.9±1.8**, 1080N×8683W, h32km**±28km**, MD3.7, 3C-1D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.08**	**63**	⇑*e*P	Pn	20 18 04.9	+0.1
SSNN				*e*S	Sn	20 18 21.1	+2.5
APON	**Apoyo**	**1.34**	**34**	⇑*e*P	Pn	20 18 08.8	+0.5
COPN	**Copaltepe**	**1.39**	**10**	*e*P	Pn	20 18 08.9	-0.2
CONN	**Concepcion**	**1.40**	**57**	*e*P	Pn	20 18 09.3	+0.1
MADN	**Villa Maderas**	**1.41**	**64**	*e*P	Pn	20 18 09.3	0.0
MGAN	**Managua**	**1.45**	**23**	⇓*e*P	Pn	20 18 10.2	+0.3
APYN	**Apoyeque**	**1.50**	**18**	*e*P	Pn	20 18 10.9	+0.4
LIM1	**Limonal**	**1.55**	**94**	*e*P	Pn	20 18 10.8	-0.5
LIM1				*e*S	Sn	20 18 30.3	0.0
LEON	**Leon**	**1.61**	**358**	⇑*e*P	Pn	20 18 11.8	-0.3
MOMJ	**Momotombo**	**1.62**	**10**	*e*P	Pn	20 18 12.2	0.0
MIRN	**Miramar**	**1.63**	**4**	*e*P	Pn	20 18 12.4	-0.1
LCR2	**La Lucha 2**	**2.97**	**110**	*e*P	Pn	20 18 32.6	+1.7
URSC	**Urasca**	**3.15**	**107**	*e*P	Pn	20 18 35.8	+2.5
BUS	**Buena Vista**	**3.27**	**112**	*e*P	Pn	20 18 36.8	+1.9

*NEIC **10** 20:38:59.1, 3505S×7047W, h18km, MD3.6(GUC), After GUC.*

GUC 10 20:38:59.1±0.5**, 3505S×7047W, h18km**±3km**, MD3.6, 4C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.63**	**314**	⇑*i*P	Pg	20 39 11.0	-0.5
SFDO				*i* S	Sg	20 39 19.9	+0.1
CICH	**Cipreses**	**0.73**	**3**	⇑*i*P	Pb	20 39 12.6	-0.6
CICH				*i* S	Sb	20 39 23.4	+0.5
CACH	**El Canelo**	**0.94**	**353**	⇑*i*P	Pb	20 39 16.4	-0.5
CACH				*i* S	Sb	20 39 29.7	+0.8
CHCH	**Chadas Angostu**	**1.12**	**352**	⇑*i*P	Pn	20 39 20.0	+0.1
CHCH				*e*S	Sb	20 39 35.5	+1.2
LNV	**Longovilo**	**1.34**	**324**	⇓*i*P	Pn	20 39 23.5	+0.6
LNV				*i* S	Sn	20 39 41.6	+1.3
TACH	**Talagante**	**1.45**	**344**	*e*P	Pn	20 39 24.8	+0.5
LCCH	**Las Cruces**	**1.82**	**330**	*i* P	Pn	20 39 31.5	+2.1
LCCH				*e*S	Sn	20 39 55.6	+3.6

NNC 10 20:40:57.0±14.0**, 3696N×7120E, h150km**±593km**, mb2.8, mpv3.5, 1D, Error ellipse: s-maj=224.6km s-min=165.5km az=49.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.16**	**355**	P	Pn	20 42 25.9	+0.1
	1.7nm,0.4s,baz=179,slow=12,SNR=69						
KK31				⇓S	Sn	20 43 35.5	+0.3
	0.6nm,0.3s,baz=190,slow=23						
TKM2	**Tokmak 2**	**6.84**	**28**	P	Pn	20 42 32.8	-2.1
AB31	**Akbulak array**	**14.76**	**330**	P	Pn	20 44 18.4	+0.1
	0.5nm,0.4s,baz=156,slow=11,SNR=8.8						

*IDC **10** 20:49:05.9±4.9, 468S×15025E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/13, mbtmp3.9/5, ML2.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/24, Error ellipse: s-maj=77.3km s-min=65.2km az=90.0*

NEIC 10 20:49:11.6±4.2**, 480S×15030E, h35km, mb4.0**/1**, Error ellipse: s-maj=61.6km s-min=54.7km az=57.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.54**	**214**	Pn	Pn	20 50 31.8	+0.4
	1.8nm,0.3s,baz=47,slow=13,SNR=5.3						
PMG				Sn	Sn	20 51 37.1	+3.3
	0.9nm,0.3s,baz=198,slow=9.4,SNR=2.7						
WRAB	**Tennant Creek**	**21.62**	**225**	P	P	20 53 59.7	+1.2
	8.5nm,1.2s						
WRA	**Warramunga Arr**	**21.63**	**225**	P	P	20 53 57.7	-1.0
	1.2nm,0.8s,baz=49,slow=10,SNR=9.5						
ASAR	**Alice Springs**	**24.53**	**219**	P	P	20 54 27.1	-0.6
	1.0nm,0.9s,baz=55,slow=8.4,SNR=6.7						
FITZ	**Fitzroy Crossi**	**27.49**	**239**	P	P	20 54 55.5	+1.0
	1.6nm,0.8s,baz=94,slow=12,SNR=5.9						
FITZ				LR	LR	21 05 59.5	
	comp=Z,53nm,19.8s,baz=256,slow=37						
STKA	**Stephens Creek**	**28.15**	**196**	P	P	20 55 00.9	+0.6
	7.4nm,1.1s,baz=350,slow=11,SNR=3.0						

IDC 10 20:57:59.8±1.6**, 816S×12869E, h0km, mb3.7**/2**, mb1 3.9**/5**, mb1mx3.8**/12**, mbtmp3.8**/5**, ML3.8**/3**, Error ellipse: s-maj=77.1km s-min=23.9km az=69.0, Timor Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.32**	**196**	Pn	Pn	21 00 31.1	+1.9
	0.7nm,0.3s,baz=12,slow=14,SNR=27						
FITZ				Sn	Sn	21 02 17.2	-8.4
	2.0nm,0.3s,baz=258,slow=20,SNR=6.6						
WRA	**Warramunga Arr**	**12.93**	**156**	Pn	Pn	21 01 03.8	-1.0
	0.6nm,0.3s,baz=323,slow=14,SNR=51						
WRA				Sn	Sn	21 03 17.7	-12
	1.5nm,0.3s,baz=329,slow=23,SNR=9.9						
ASAR	**Alice Springs**	**16.21**	**163**	Pn	Pn	21 01 48.6	-0.3
	0.2nm,0.3s,baz=332,slow=10,SNR=16						
ASAR				Sn	Sn	21 04 33.1	-16
	0.1nm,0.3s,baz=326,slow=16,SNR=3.7						
STKA	**Stephens Creek**	**26.48**	**155**	P	P	21 03 38.8	+0.1
	2.6nm,0.8s,baz=309,slow=13,SNR=2.1						
MKAR	**Makanchi Array**	**68.49**	**328**	P	P	21 09 04.0	+0.1
	0.2nm,0.6s,baz=130,slow=7.4,SNR=3.1						

*IDC **10** 21:07:04.3±3.0, 5131N×179.19W, h0km, mb4.0/10, mb1 4.1/11, mb1mx4.0/23, mbtmp4.0/11, ML4.3/1, Error ellipse: s-maj=80.1km s-min=22.4km az=2.0*

*ISCJB **10** 21:07:08.4±1.9, 51.1N±0.3×179.12W±0.08, h51km±8km, mb4.1/12, Error ellipse: s-maj=47.8km s-min=8.4km az=173.1*

*NEIC **10** 21:07:08.2, 5109N×179.09W, h19km, mb4.4/1, ML3.7(AEIC), After AEIC.*

ISC 10 21:07:09.2±2.1**, 511N**±03**×17918W**±008**, h50km**±8km**, n21, σ1s00**/22**, mb4.1**/12**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.00**	**289**	P	**Pn**	**21 07 26.0**	**-1.0**
AMKA				S	**Sn**	**21 07 40.5**	**+0.4**
ATKA	**Atka Island**	**3.31**	**68**	P	**Pn**	**21 07 58.7**	**+0.1**
SPIA	**Saint Paul Isl**	**8.06**	**37**	*e*P	**Pn**	**21 09 05.9**	**+2.2**
UNV	**Unalaska Valle**	**8.23**	**65**	*e*P	**Pn**	**21 09 06.7**	**+0.6**
SDPT	**Sand Point**	**12.00**	**62**	P	**Pn**	**21 09 56.6**	**-0.9**
KDAK	**Kodiak Island**	**16.80**	**56**	Pn	**Pn**	**21 10 58.5**	**-2.4**
	1.0nm,0.3s,baz=133,slow=20,SNR=9.8						
KDAK	**Kodiak Island**	**16.80**	**56**	*e*P	**Pn**	**21 10 59.5**	**-1.4**
SLKM	**Skilak Lake**	**18.68**	**48**	*e*P	**Pn**	**21 11 23.9**	**-0.1**
YKA	**Yellowknife Ar**	**35.63**	**46**	P	**P**	**21 14 01.5**	**-0.6**
	1.3nm,0.5s,mb4.1,baz=282,slow=7.3,SNR=12						
PDAR	**Pinedale Array**	**46.64**	**72**	P	**P**	**21 15 34.0**	**+1.4**
	5.2nm,0.7s,mb4.5,baz=313,slow=4.1,SNR=39						
ARCES	**ARCESS Array B**	**58.37**	**350**	P	**P**	**21 16 58.9**	**-0.4**
	1.0nm,0.8s,mb3.9,baz=33,slow=9.2,SNR=5.2						
ARCES	**ARCESS Array B**	**58.37**	**350**	P	**P**	**21 16 58.9**	**-0.4**
MKAR	**Makanchi Array**	**60.04**	**308**	P	**P**	**21 17 11.4**	**+0.5**
	0.6nm,0.4s,mb4.0,baz=49,slow=6.5,SNR=16						
BVAR	**Borovoye Array**	**60.98**	**320**	P	**P**	**21 17 19.4**	**+2.2**
	0.7nm,0.6s,mb4.0,baz=76,slow=7.7,SNR=4.9						
JOF	**Joensuu**	**63.84**	**345**	*e*p	**P**	**21 17 35.6**	**-0.8**
	1.7nm,0.5s,mb4.3						
KAF	**Kangasniemi**	**65.37**	**347**	*e*p	**P**	**21 17 44.7**	**-1.7**
	2.0nm,0.7s,mb4.3						
FINES	**FINESS Array B**	**66.04**	**347**	P	**P**	**21 17 50.6**	**-0.1**
	0.8nm,0.6s,mb4.0,baz=33,slow=7.3,SNR=7.1						
HFS	**Hagfors**	**68.67**	**353**	P	**P**	**21 18 07.2**	**-0.1**
	2.4nm,0.9s,mb4.1,baz=36,slow=2.8,SNR=6.3						
AKASG	**Malin Array Be**	**75.78**	**342**	P	**P**	**21 18 49.9**	**+0.1**
	1.1nm,0.4s,mb4.2,baz=18,slow=5.8,SNR=8.5						
GERES	**GERESS Array B**	**79.86**	**351**	P	**P**	**21 19 12.8**	**+0.3**
	0.3nm,0.5s,mb3.5,baz=38,slow=6.8,SNR=6.0						
BRTR	**Keskin Array B**	**85.14**	**335**	P	**P**	**21 19 40.1**	**+0.2**
	0.7nm,0.7s,mb3.9,baz=38,slow=2.7,SNR=4.7						

*LDG **10** 21:10:38.7±1.1, 4296N×095W, h2km, Md2.3/2, Ml1.8/1, Error ellipse: s-maj=52.5km s-min=17.6km az=12.0*

MDD 10 21:10:30.2±0.3**, 4278N×132W, h0km, mbLg1.2**/7**, 2C, Error ellipse: s-maj=2.8km s-min=2.2km az=136.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPRE	**Itoiz**	**0.04**	**310**	⇑Pg	Pg	21 10 30.8	0.0
	14nm,0.1s,SNR=18						
IPRE				Lg		21 10 31.3	
	62nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.19**	**267**	⇑Pg	Pg	21 10 33.6	-0.2
	32nm,0.1s,SNR=18						
EARA				Lg		21 10 36.5	
	74nm,0.2s,SNR=9.5						
IUSE	**Utxeti**	**0.23**	**314**	Pg	Pg	21 10 34.1	-0.5
	1.5nm,0.1s,SNR=7.9						
IUSE				Lg		21 10 37.5	
	7.0nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.41**	**338**	Pg	Pg	21 10 37.8	-0.2
	0.8nm,0.2s,SNR=7.9						
ELIZ				Lg		21 10 43.7	
	1.3nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.46**	**343**	Pg	Pg	21 10 38.5	-0.4
	0.2nm,0.1s,SNR=7.9						
EALK				Lg		21 10 44.9	
	4.7nm,0.3s,SNR=7.9						
ETSF	**Etsaut**	**0.57**	**78**	*e*Pg	Pg	21 10 42.5	+1.4
ETSF				*e*Sg	Sg	21 10 46.9	-1.6
	2.9nm,0.3s						
ETSF	**Etsaut**	**0.57**	**78**	Pg	Pg	21 10 42.5	+1.4
ETSF				Lg		21 10 46.9	
	1.4nm,0.3s						
EBIE	**Bielsa**	**1.08**	**95**	Pg	Pg	21 10 54.5	+3.6
	0.6nm,0.3s,SNR=4.0						
EBIE				Lg		21 11 10.9	
	0.8nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.23**	**149**	Pg	Pg	21 10 56.1	+2.3
	3.3nm,0.2s,SNR=7.9						
ESAC				Lg		21 11 14.5	
	7.3nm,0.3s,SNR=7.9						
EPF	**Esparros**	**1.24**	**78**	*e*Pg	Pg	21 10 55.9	+1.9
EPF	**Esparros**	**1.24**	**78**	*e*Pn	Pn	21 10 57.5	+2.7
EPF				*e*Sg	Sg	21 11 08.8	-1.4
	2.2nm,0.2s						

IDC 10 21:14:19.9±3.1**, 652S×14775E, h0km, mb3.0**/1**, mb1 3.4**/3**, mb1mx3.4**/12**, mbtmp3.2**/3**, ML2.9**/2**, Error ellipse: s-maj=86.3km s-min=38.9km az=103.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.93**	**192**	Pn	Pn	21 15 09.6	+1.9
	3.3nm,0.3s,baz=22,slow=8.0,SNR=7.2						
PMG				Sn	Sn	21 15 49.7	+6.1
	9.9nm,0.3s,baz=168,slow=16,SNR=6.7						
WRA	**Warramunga Arr**	**18.65**	**223**	P	Pn	21 18 37.5	-1.9
	0.1nm,0.3s,baz=49,slow=11,SNR=7.8						
ASAR	**Alice Springs**	**21.63**	**217**	P	P	21 19 10.6	-1.0
	0.3nm,0.6s,baz=54,slow=9.1,SNR=6.4						
TORD	**Torodi Ar. Bea**	**145.94**	**284**	PKPbc	PKPbc	21 34 02.6	+1.3
	0.3nm,0.7s,baz=70,slow=4.5,SNR=5.9						

IDC 10 21:30:38.3±3.0**, 003N×1773W, h0km, mb3.8**/2**, mb1 4.0**/3**, mb1mx3.5**/23**, mbtmp4.1**/3**, ML4.6**/1**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.6**/24**, Error ellipse: s-maj=67.0km s-min=37.3km az=95.0, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**14.43**	**63**	Pn	Pn	21 34 04.2	+0.4
	2.6nm,0.3s,baz=236,slow=13,SNR=46						
DBIC				Sn	Sn	21 36 37.4	-7.2
	0.3nm,0.3s,baz=119,slow=4.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**23.24**	**55**	P	P	21 35 47.4	+0.2
	1.9nm,0.6s,baz=238,slow=9.4,SNR=17						
TORD				LR	LR	21 43 29.9	
	comp=Z,40nm,21.2s,baz=290,slow=33						
FINES	**FINESS Array B**	**69.68**	**21**	P	P	21 41 49.6	-0.1
	0.5nm,0.4s,baz=211,slow=4.9,SNR=4.9						

*IDC **10** 22:09:45.8±5.2, 1898S×16930E, h207km±45km, mb3.6/4, mb1 3.7/5, mb1mx3.4/13, mbtmp4.0/5, Error ellipse: s-maj=88.3km s-min=41.5km az=164.0*

*NEIC **10** 22:09:45.9±2.3, 1898S×16928E, h208km±16km, mb4.0/4, Error ellipse: s-maj=26.3km s-min=15.2km az=211.0*

*ISCJB **10** 22:09:46.3±7.8, 19.1S±0.6×169.2E±0.5, h223km±36km, mb3.8/8, Error ellipse: s-maj=119.6km s-min=23.6km az=70.5*

ISC 10 22:09:42.7±8.7**, 188S**±06**×1695E**±05**, h195km**±43km**, n15, σ0s53**/13**, mb3.8**/8**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.38**	**221**	P	**Pn**	**22 10 48.9**	**-0.2**
	1.7nm,0.3s,baz=345,slow=21,SNR=13						
NOUC	**Port Laguerre**	**4.49**	**222**	*e*P	**Pn**	**22 10 50.6**	**+0.2**
CTAO	**Charters Tower**	**21.99**	**263**	*e*P	**P**	**22 14 21.2**	**+0.1**
	4.4nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**28.33**	**237**	P	**P**	**22 15 18.3**	**+0.1**
	1.5nm,0.6s,mb3.8,baz=73,slow=11,SNR=5.3						
WRAB	**Tennant Creek**	**33.18**	**262**	*e*P	**P**	**22 16 00.4**	**-0.4**
	3.1nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**33.19**	**262**	P	**P**	**22 16 00.1**	**-0.8**
	0.6nm,0.3s,mb3.6,baz=97,slow=8.2,SNR=27						
ASAR	**Alice Springs**	**33.51**	**255**	P	**P**	**22 16 03.4**	**-0.3**
	5.4nm,0.5s,mb4.3,baz=83,slow=8.9,SNR=68						
FITZ	**Fitzroy Crossi**	**41.57**	**264**	P	**P**	**22 17 12.6**	**+1.4**
	1.6nm,0.8s,mb3.5,baz=84,slow=9.2,SNR=4.3						
SBA	**Scott Base**	**59.14**	**181**	*e*P	**P**	**22 19 22.9**	**+0.2**
	0.3nm,0.6s,mb3.1						
CASY	**Casey**	**60.67**	**203**	P	**P**	**22 19 33.0**	**-0.1**
QSPA	**South Pole Qui**	**71.28**	**180**	*e*P	**P**	**22 20 41.3**	**+0.5**
	1.2nm,0.5s,mb3.8						
MAW	**Mawson**	**78.97**	**202**	P	**P**	**22 21 24.8**	**+0.1**
SNAA	**Sanae**	**89.64**	**182**	*e*P	**P**	**22 22 17.6**	**-0.7**
FVM	**French Village**	**109.06**	**55**	*e*PKiKP	PKiKP	22 27 52.2	+3.2
ARCES	**ARCESS Array B**	**124.68**	**345**	PKP	PKPdf	22 28 19.9	+1.0
	0.7nm,0.8s,baz=77,slow=3.9,SNR=3.1						

*CSEM **10** 22:15:16.9±1.7, 3757N×2534W, h5km±6km, ML2.7, Error ellipse: s-maj=4.7km s-min=3.0km az=63.0, After PDA*

*PDA **10** 22:15:16.9±1.7, 3757N×2534W, h5km±6km, MD2.6, ML2.7, Error ellipse: s-maj=4.7km s-min=3.0km az=63.0*

SVSA 10 22:15:16.9±1.7**, 3757N×2534W, h5km**±6km**, MD2.6, ML2.7, Error ellipse: s-maj=4.7km s-min=3.0km az=63.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FRA1	**Furnas**	**0.18**	**355**	*i* P	Pg	22 15 20.3	-0.1
FRA1				*i* S	Sg	22 15 22.9	+0.1
FRA1	**Furnas**	**0.18**	**355**	*i* S	Sg	22 15 22.9	+0.1
VIF	**Vila Franca**	**0.20**	**336**	*e*P	Pg	22 15 20.7	-0.1
VIF				*i* S	Sg	22 15 23.9	+0.5
VIF							
	527nm,0.3s						
VIF	**Vila Franca**	**0.20**	**336**	*e*P	Pg	22 15 20.7	-0.1
VIF				*i* S	Sg	22 15 23.9	+0.5
PRCH	**Ribeira Ch**	**0.20**	**325**	*e*P	Pg	22 15 20.8	0.0
PRCH				*i* S	Sg	22 15 23.9	+0.5
PRCH							
	848nm,0.2s						
PRCH	**Ribeira Ch**	**0.20**	**325**	*e*P	Pg	22 15 20.8	0.0
PRCH				*i* S	Sg	22 15 23.9	+0.5
PCNG	**Congro**	**0.21**	**347**	*e*P	Pg	22 15 20.8	-0.2
PCNG				*e*S	Sg	22 15 23.9	+0.2
PCNG							
	603nm,0.3s						
PCNG	**Congro**	**0.21**	**347**	*e*P	Pg	22 15 20.8	-0.2
PCNG				*e*S	Sg	22 15 23.9	+0.2
MIRA	**Miradouro**	**0.23**	**12**	*i* P	Pg	22 15 21.1	-0.2
LFA	**Lagoa do Fogo**	**0.24**	**331**	*i* P	Pg	22 15 21.5	0.0
MESC	**Monte Escuro**	**0.24**	**339**	*e*P	Pg	22 15 21.3	-0.3
MESC				*e*S	Sg	22 15 24.6	-0.3
CML	**Cha da Macela**	**0.26**	**321**	*i* P	Pg	22 15 21.8	-0.2
CML				*i* S	Sg	22 15 25.3	-0.2
CML	**Cha da Macela**	**0.26**	**321**	*i* S	Sg	22 15 25.3	-0.2
PVER	**Pico Vermelho**	**0.27**	**329**	*e*P	Pg	22 15 21.8	-0.4
PVER				*e*S	Sg	22 15 25.6	-0.1
PVER							
	272nm,0.3s						
PVER	**Pico Vermelho**	**0.27**	**329**	*e*P	Pg	22 15 21.8	-0.4
PVER				*e*S	Sg	22 15 25.6	-0.1
PMAT	**Coroa da Mata**	**0.27**	**337**	*e*P	Pg	22 15 21.9	-0.3
PMAT				*i* S	Sg	22 15 25.1	-0.7
PMAT							
	190nm,0.2s						
PMAT	**Coroa da Mata**	**0.27**	**337**	*e*P	Pg	22 15 21.9	-0.3
PMAT				*i* S	Sg	22 15 25.1	-0.7
PFAD	**Fenais da Ajud**	**0.27**	**2**	*i* P	Pg	22 15 21.7	-0.5
PDA	**Ponta Delgada**	**0.32**	**305**	*e*P	Pg	22 15 22.1	-0.9
PDA				*e*S	Sg	22 15 26.6	-0.6
FAC	**Faja de Cima**	**0.32**	**310**	*e*P	Pg	22 15 23.0	-0.2
FAC				*e*S	Sg	22 15 27.2	-0.2
PSET	**Sete Cidades**	**0.40**	**310**	*i* P	Pg	22 15 23.3	-1.3
PSET				*e*S	Sg	22 15 28.7	-1.1
PSET							
	1μm,0.3s						
PSET	**Sete Cidades**	**0.40**	**310**	*e*S	Sg	22 15 28.7	-1.1
PSAN	**Santo Antonio**	**0.42**	**313**	*e*P	Pg	22 15 24.4	-0.6
PSAN				*e*S	Sg	22 15 30.0	-0.5
PFET	**Feteiras**	**0.44**	**305**	*e*P	Pg	22 15 24.7	-0.6
PFET				*e*S	Sg	22 15 30.5	-0.5
SET2	**Ginetes**	**0.47**	**307**	*e*P	Pg	22 15 25.2	-0.7
SET2				*e*S	Sg	22 15 31.0	-0.9
SET4	**Mosteiros**	**0.48**	**310**	*e*P	Pg	22 15 25.1	-1.0
SET4				*e*S	Sg	22 15 31.4	-1.0
PSMN	**Pico do Norte,**	**0.60**	**159**	*e*P	Pg	22 15 27.3	-1.2
PSMN				*e*S	Sg	22 15 35.1	-1.2
PFAV	**Pico das Favas**	**1.79**	**310**	*e*P	Pn	22 15 44.5	-4.0
PFAV				*e*S	Sn	22 16 05.3	-6.3
PFAV							
	18nm,0.1s						
PFAV	**Pico das Favas**	**1.79**	**310**	*e*P	Pn	22 15 44.5	-4.0
PFAV				*e*S	Sn	22 16 05.3	-6.3
RIB2	**Ribeirinha**	**1.82**	**308**	*e*S	Sn	22 16 06.1	-6.2
RIB2							
	21nm,0.2s						
PVNV	**Vila Nova**	**1.87**	**310**	*e*P	Pn	22 15 44.5	-5.0
PVNV				*e*S	Sn	22 16 07.0	-6.4
PVNV							
	19nm,0.2s						
PVNV	**Vila Nova**	**1.87**	**310**	*e*P	Pn	22 15 44.5	-5.0
PVNV				*e*S	Sn	22 16 07.0	-6.4
PPAD	**Pico dos Padre**	**1.91**	**307**	*e*P	Pn	22 15 46.3	-3.8
PPAD				*e*S	Sn	22 16 08.6	-5.9
PPAD							
	12nm,0.1s						
PPAD	**Pico dos Padre**	**1.91**	**307**	*e*P	Pn	22 15 46.3	-3.8
PPAD				*e*S	Sn	22 16 08.6	-5.9
ASBA	**Santa Barbara**	**1.95**	**307**	*e*S	Sn	22 16 09.4	-6.0
ASBA							
	20nm,0.3s						

CASC 10 22:18:44.3±2.0**, 835N×8270W, h7km**±6km**, MD4.2, 3C-3D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.26**	**71**	⇓*i*P	Pg	22 18 51.2	+1.7
BRU	**Baru**	**0.47**	**17**	⇑*i*P	Pg	22 18 54.8	+1.3
CNI	**Changuinola**	**1.07**	**10**	⇓*i*P	Pg	22 19 03.5	-1.4
CNI				*e*S	Sg	22 19 18.4	-0.5
AZU	**Azuero**	**2.46**	**103**	⇑*e*P	Pn	22 19 24.4	-0.5
ACH	**Altos**	**2.76**	**83**	*e*P	Pn	22 19 30.2	+1.2
ACH				*e*S	Sn	22 20 03.6	+1.1
UPA	**Univ. de Panam**	**3.19**	**78**	*e*P	Pn	22 19 35.5	+0.6
UPA				*e*S	Sn	22 20 13.1	-0.1
LIM1	**Limonal**	**3.44**	**313**	⇓*e*P	Pn	22 19 38.0	-0.3
LIM1				*e*S	Sn	22 20 19.5	+0.3
PTP	**Ponta Puerca**	**19.29**	**58**	⇑*i*P		22 18 48.8	

*IDC **10** 22:26:01.8±2.3, 502S×15055E, h0km, mb4.2/5, mb1 4.4/6, mb1mx4.1/13, mbtmp4.2/6, ML3.4/1, MS3.8/8, Ms1 3.8/8, ms1mx3.6/19, Error ellipse: s-maj=51.7km s-min=42.3km az=127.0*

*ISCJB **10** 22:26:04.1±0.7, 5.01S±0.08×150.6E±0.1, h33km, mb4.2/8, MS3.8/5, Error ellipse: s-maj=15.8km s-min=11.8km az=28.9*

*NEIC **10** 22:26:06.0±0.5, 501S×15062E, h35km, mb4.2/7, Error ellipse: s-maj=10.5km s-min=9.4km az=112.0*

ISC 10 22:26:02.2±6.3**, 50S**±01**×15062E**±009**, h8km**±40km**, n29, σ0s65**/25**, mb4.2**/8**, MS3.8**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.59**	**218**	Pn	**Pn**	**22 27 26.5**	**+0.9**
	7.5nm,0.3s,baz=46,slow=9.5,SNR=17						
PMG				LR	LR	22 29 47.5	
	comp=Z,450nm,20.3s,baz=44,slow=41						
HNR	**Honiara**	**10.26**	**116**	LR	LR	22 31 52.7	
	comp=Z,409nm,19.8s,baz=358,slow=34						
HNR	**Honiara**	**10.26**	**116**	Pn	**Pn**	**22 28 29.6**	**-0.2**
CTA	**Charters Tower**	**15.62**	**195**	Pn	**Pn**	**22 29 46.6**	**+4.0**
	0.3nm,0.3s,baz=35,slow=18,SNR=4.9						
CTA				LR	LR	22 34 55.4	
	comp=Z,448nm,18.9s,baz=17,slow=34						
CTAO	**Charters Tower**	**15.62**	**195**	*e*Pn	**Pn**	**22 29 42.1**	**-0.5**
	5.1nm,0.7s						
KAKA	**Kakadu**	**19.53**	**246**	*e*P	**Pn**	**22 30 31.0**	**-0.4**
	5.2nm,0.6s						
WRAB	**Tennant Creek**	**21.73**	**225**	*e*P	**P**	**22 30 53.5**	**-0.4**
	20nm,1.1s,mb4.5						
WB2	**Warramunga Arr**	**21.73**	**225**	*e*P	**P**	**22 30 53.9**	**-0.1**
WRA	**Warramunga Arr**	**21.74**	**225**	P	**P**	**22 30 53.6**	**-0.5**
	6.2nm,0.9s,mb4.0,baz=51,slow=9.9,SNR=24						
DZM	**Mont Dzumac**	**22.88**	**139**	LR	LR	22 38 36.2	
	comp=Z,592nm,21.1s,MS4.0,baz=224,slow=33						
AS31	**Alice Springs**	**24.60**	**219**	*e*P	**P**	**22 31 22.6**	**-0.2**
ASAR	**Alice Springs**	**24.60**	**219**	P	**P**	**22 31 22.4**	**-0.4**
	3.0nm,0.7s,mb3.9,baz=56,slow=9.2,SNR=13						
ASAR				LR	LR	22 39 32.4	
	comp=Z,150nm,21.9s,MS3.4,baz=45,slow=33						
ASPA	**Alice Springs**	**24.60**	**219**	*e*P	**P**	**22 31 22.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**27.68**	**240**	*e*P	**P**	**22 31 51.2**	**+0.5**
	15nm,1.0s,mb4.6						
FITZ	**Fitzroy Crossi**	**27.68**	**240**	P	**P**	**22 31 51.1**	**+0.3**
	10nm,1.0s,mb4.4,baz=86,slow=11,SNR=8.5						
STKA	**Stephens Creek**	**28.07**	**196**	P	**P**	**22 31 55.0**	**+0.8**
	4.4nm,1.0s,mb4.0,baz=17,slow=14,SNR=3.6						
STKA				LR	LR	22 42 56.6	
	comp=Z,303nm,18.7s,MS3.9,baz=23,slow=36						
STKA	**Stephens Creek**	**28.07**	**196**	P	**P**	**22 31 55.0**	**+0.8**
STKA				LR	LR	22 42 56.6	
MBWA	**Marble Bar**	**34.01**	**239**	*e*P	**P**	**22 32 48.6**	**+2.1**
	3.4nm,0.6s,mb4.5						
KKM	**Kota Kinabalu**	**36.05**	**287**	*e*P	**P**	**22 33 03.5**	**-0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NACB	Ninganchiao	40.48	317	eP	P	22 33 41.3	-0.1
NWAO	Narrogin (SRO)	41.74	224	eP	P	22 33 51.2	-0.6
	4.2nm,0.8s,mb4.1						
MJAR	Matsushiro Arr	42.90	345	LR	LR	22 48 56.7	
	comp=Z,92nm,20.9s,MS3.6,baz=215,slow=32						
LSA	Lhasa	66.55	305	P	P	22 36 52.8	+0.1
VNDA	Vanda	72.75	177	P	P	22 37 31.6	+0.6
	1.2nm,1.1s,mb3.7,baz=332,slow=5.9,SNR=3.5						
VNDA				LR	LR	23 03 40.2	
	comp=Z,59nm,20.9s,MS3.9,baz=325,slow=31						
VNDA	Vanda	72.75	177	eP	P	22 37 31.3	+0.3
	1.6nm,1.0s,mb3.9						
SBA	Scott Base	73.33	176	P	P	22 37 33.6	-0.9
KURK	Kurchatov	82.57	322	P	P	22 38 26.0	+0.2
COLA	College	82.82	22	P	P	22 38 27.5	+0.4
TORD	Torodi Ar. Bea	148.29	287	PKPbc	PKPbc	22 45 50.1	+1.1
	0.9nm,0.9s,baz=63,slow=1.8,SNR=4.7						

MAN 10 22:32:59.5, 1113N×12566E, h1km, mb1.9, ML3.6, MS1.1, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.51	335	eP	Pg	22 33 09.7	+0.4
PLP	Palo	0.67	273	i P	Pg	22 33 12.4	+0.1
PLP				i S	Sg	22 33 22.7	+1.9
OCLP	Ormoc	1.03	266	eP	Pg	22 33 19.9	+0.6
OCLP				eS	Sg	22 33 34.9	+2.3
MSLP	Maasin	1.26	218	eP	Pg	22 33 24.3	+0.5
MSLP				eS	Sg	22 33 42.8	+2.7
SCPH	Surigao	1.35	187	eP	Pg	22 33 24.7	-0.7
SCPH				i S	Sg	22 33 44.4	+1.5
PVCP	Virac	2.85	329	eP	Pn	22 33 47.0	+0.8
PVCP				eS	Sn	22 34 26.4	+5.2

*SZGRF **10** 22:50:06.8, 50.13N×17833E, h33km, mb5.0, Rat Islands, Aleutian Islands, United States*

*IDC **10** 22:50:07.5±0.6, 5131N×179.17W, h0km, mb4.8/20, mb1 4.9/21, mb1mx4.9/23, mbtmp4.8/21, ML4.6/1, MS4.0/19, Ms1 4.0/19, ms1mx3.8/31, Error ellipse: s-maj=19.7km s-min=12.8km az=154.0*

*BJI **10** 22:50:11.9, 5127N×17925W, h43km, mB5.1, mb5.1, Ms4.7, Msz4.4*

*ISCJB **10** 22:50:12.8±0.2, 5125N±004×179.10W±002, h45km, mb5.1/228, MS4.1/39, Error ellipse: s-maj=6.0km s-min=2.1km az=10.4*

*MOS **10** 22:50:13.0±0.9, 5133N×179.12W, h45km, mb5.3/97, MS4.1/12, Error ellipse: s-maj=7.8km s-min=4.1km az=93.0*

*HRVD **10** 22:50:14.1±0.7, 5090N×17895W, h36km±1km, MW4.8/43, Centroid moment Tensor Solution. LP body waves: s21,c24;Mantle waves: s43,c56; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.89±.20; $M_{\theta\theta}$-1.90±.12; $M_{\phi\phi}$0.01±.12; $M_{r\theta}$0.97±.12; $M_{\theta\phi}$-0.68±.09; $M_{\phi r}$0.67±.11; Best double couple: $M_0$2.32700×10^{16} NP1:ϕ_s262.00000°,δ31.00000°,λ107.00000°. NP2: ϕ_s63.00000°,δ60.00000°,λ80.00000°. Principal axes: T 2.2380, Plg73.0000°, Azm309.0000°; N 0.1820, Plg9.0000°, Azm68.0000°; P -2.4160, Plg15.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **10** 22:50:14.1±0.2, 5127N×179.16W, mb5.1/141, ML4.8(AEIC) Error ellipse: s-maj=5.5km s-min=2.5km az=6.0*

ISC 10 22:50:14.7±0.2**, 5136N**±004×**17913W**±003**, h47**km**, h47**km±2.0km**:pP-P, n686,** σ0s**87**/684**, mb5.1**/228**, MS4.1**/39**, 61C-57D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.98	272	P	Pn	22 50 30.0	-2.1
AMKA				S	Sn	22 50 45.2	+0.3
ATKA	Atka Island	3.18	73	P	Pn	22 51 01.7	-0.4
ATKA				S	Sn	22 51 43.3	+4.5
SMY	Shemya	4.40	291	eP	Pn	22 51 20.1	+1.2
SMY	Shemya	4.40	291	P	Pn	22 51 20.9	+2.1
NIKO	Nikolski	6.53	72	ePn	Pn	22 51 49.3	+1.3
SPIA	Saint Paul Isl	7.81	38	P	Pn	22 52 10.0	+4.4
UNV	Unalaska Valle	8.08	67	ePn	Pn	22 52 09.9	+0.5
AKUT	Akutan	8.57	66	ePn	Pn	22 52 20.9	+4.9
FALS	False Pass	10.07	64	ePn	Pn	22 52 37.7	+1.1
PET	Petropavlovsk	13.72	286	eP	Pn	22 53 21.6	-4.9
PET				eS	Sn	22 56 01.1	+3.7
PET				pmax	pmax		
	comp=Z,100nm,31.8s						
PET				pmax	pmax		
	comp=Z,37nm,1.0s						
PET				smax			
	comp=N,200nm,26.1s						
PET				MLR	MLR		
	comp=Z,400nm,20.0s						
SKR	Severo-Kuril's	15.58	277	eP	Pn	22 53 50.3	-0.7
SKR				pmax	pmax		
	comp=Z,110nm,1.0s						
SKR				MLR	MLR		
	comp=Z,800nm,14.0s						
SVW2	Sparrevohn	16.23	44	eP	Pn	22 54 01.1	+1.8
KDAK	Kodiak Island	16.61	57	Pn	Pn	22 54 02.0	-2.0
	comp=Z,2.0nm,0.3s,baz=297,slow=10.0,SNR=11						
TTA	Tatalina	16.95	38	eP	Pn	22 54 10.4	+2.0
TTA	Tatalina	16.95	38	eP	Pn	22 54 10.2	+1.8
SLKM	Skilak Lake	18.46	49	P	Pn	22 54 27.3	+0.5
SLKM	Skilak Lake	18.46	49	eP	Pn	22 54 26.7	-0.2
MA2	Magadan	18.80	308	P	Pn	22 54 32.0	+1.0
SML	Sawmill	19.72	46	eP	Pn	22 54 39.7	-2.3
MCK	McKinley	20.15	41	eP	P	22 54 44.6	-0.2
EYAK	Cordova Ski Ar	20.61	51	eP	P	22 54 49.4	-0.4
DIV	Divide	20.72	49	ePn	P	22 54 53.0	+1.9
COLA	College	21.05	38	eP	P	22 54 55.1	+0.5
COLA				pmax	pmax		
	comp=Z,42nm,0.9s,mb4.8						
COLA	College	21.05	38	eP	P	22 54 55.1	+0.5
	comp=Z,42nm,0.9s,mb4.8						
MENT	Mentasta	22.10	45	eP	P	22 55 06.9	+1.1
DAWY	Dawson	24.26	43	eP	P	22 55 26.3	-0.9
DAWY				eScP	ScP	23 02 45.7	+4.7
YSS	Yuzh-Sakhalins	25.12	275	⇑eP	P	22 55 35.7	+0.7
YSS				e		22 56 12.0	
YSS				pmax	pmax		
	comp=E,90nm,1.0s						
YSS				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.3						
YSS				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.7						
YSS	Yuzh-Sakhalins	25.12	275	eP	P	22 55 36.2	+1.2
ASAJ	Asahikawa	26.50	269	P	P	22 55 47.9	+0.3
	comp=Z,59nm,1.1s,mb5.0,baz=58,slow=4.3,SNR=13						
ASAJ				LR	LR	23 05 45.4	
	comp=Z,153nm,18.6s,MS3.6,baz=3.2,slow=35						
ASAJ	Asahikawa	26.50	269	P	P	22 55 47.9	+0.4
ASAJ				pmax	pmax		
	comp=Z,59nm,1.1s						
ASAJ				MLR	MLR		
	comp=Z,153nm,18.6s						
INK	Inuvik	27.59	35	P	P	22 55 56.0	-1.3
	comp=Z,10nm,0.9s,mb4.5,baz=239,slow=8.2,SNR=16						
INK				PcP	PcP	22 59 13.2	-0.9
	comp=Z,3.0nm,0.7s,baz=299,slow=2.1,SNR=4.6						
INK	Inuvik	27.59	35	P	P	22 55 56.1	-1.2
INK						22 59 13.2	
INK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	Inuvik	27.59	35	eP	P	22 55 56.8	-0.5
DLBC	Dease Lake	28.54	56	LR	LR	23 08 41.4	
	comp=Z,188nm,18.4s,MS3.7,baz=72,slow=39						
HABR	Khabarovsk	29.28	283	eP	P	22 56 12.8	+0.5
HABR				S	S	23 01 04.3	+2.3
TIXI	Tiksi	30.55	331	eP	P	22 56 24.7	+1.1
TIXI				e		23 03 00.1	
KLR	Kul'dur	30.99	286	⇓iP	P	22 56 24.2	-3.2
KLR				pmax	pmax		
	comp=E,47nm,1.2s						
KLR				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.5						
MAJO	Matsushiro	33.58	261	eP	P	22 56 50.1	-0.1
MAJO				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
MAJO	Matsushiro	33.58	261	eP	P	22 56 50.1	0.0
	comp=Z,16nm,0.9s,mb5.0						
MJAR	Matsushiro Arr	33.58	261	P	P	22 56 49.7	-0.4
	comp=Z,5.0nm,0.8s,mb4.5,baz=50,slow=8.2,SNR=14						
MJAR				PcP	PcP	22 59 29.3	-0.5
	comp=Z,1.5nm,0.8s,baz=18,slow=1.2,SNR=6.5						
MJAR				LR	LR	23 08 34.7	
	comp=Z,253nm,19.6s,MS3.9,baz=70,slow=33						
MJAR	Matsushiro Arr	33.58	261	P	P	22 56 49.7	-0.4
MJAR						22 59 29.3	
VLA	Vladivostok	33.71	275	eP	P	22 56 48.3	-3.0
VLA				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.3						
MDJ	Mudanjiang	34.37	279	P	P	22 56 56.1	-0.9
MDJ				AP	pP	22 57 10.9	+1.4
MDJ				XP	sP	22 57 18.3	+3.2
MDJ				PP	PP	22 58 12.0	-3.5
MDJ				PCP	PcP	22 59 28.2	-3.8
MDJ				S	S	23 02 20.6	-0.8
MDJ				XS	sS	23 02 41.8	-0.6
MDJ				SCS	ScS	23 07 11.6	-4.2
MDJ				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,131nm,5.2s						
MDJ				LR	LR		
	comp=N,98nm,14.4s,MS3.9						
MDJ				LR	LR		
	comp=E,132nm,18.8s,MS3.9						
MDJ				LR	LR		
	comp=Z,196nm,18.0s,MS3.9						
MDJ	Mudanjiang	34.37	279	eP	P	22 56 56.0	-1.0
	comp=Z,18nm,0.9s,mb5.0						
YKW3	Yellowknife Ar	35.37	46	eP	P	22 57 04.5	-1.1
YKW3				ePcP	PcP	22 59 34.6	-0.3
YKA	Yellowknife Ar	35.39	46	P	P	22 57 04.9	-0.9
	comp=Z,13nm,0.6s,mb5.0,baz=282,slow=8.0,SNR=56						
YKA				PcP	PcP	22 59 34.6	-0.4
	comp=Z,2.2nm,0.9s,baz=288,slow=3.0,SNR=7.6						
YKA				LR	LR	23 13 32.4	
	comp=Z,208nm,18.9s,MS3.9,baz=270,slow=40						
YKA	Yellowknife Ar	35.39	46	P	P	22 57 04.9	-0.9
YKA						22 59 34.6	
YKA	Yellowknife Ar	35.39	46	P	P	22 57 04.9	-0.9
YKA				PcP	PcP	22 59 34.6	-0.4
YKA				LR	LR	23 13 32.4	
B04A	Port Angeles	35.39	73	⇓P	P	22 57 06.7	+0.9
	baz=35						
A04A	Legoe Bay, Lum	35.57	72	⇑P	P	22 57 08.2	+0.9
	baz=36						
D03A	Wishkah Elem.	35.66	75	⇓P	P	22 57 09.0	+0.9
	baz=36						
A05A	Maple Falls	35.82	71	⇓P	P	22 57 09.9	+0.4
	baz=36						
GNW	Green Mountain	36.02	73	eP	P	22 57 12.4	+1.2
E03A	Lebam	36.06	75	⇓P	P	22 57 12.2	+0.7
	baz=36						
B05A	Bryant	36.14	72	P	P	22 57 13.2	+1.0
	baz=36,SNR=6.4						
F03A	Seaside	36.36	76	⇑P	P	22 57 14.8	+0.8
	baz=36						
C05A	Tolt Reservoir	36.65	73	⇓P	P	22 57 16.8	+0.2
	baz=36						
D05A	Enumclaw	36.70	73	⇓P	P	22 57 17.8	+0.8
	baz=37,SNR=6.0						
FMW	Mount Fremont	37.02	74	P	P	22 57 20.4	+0.7
F04A	Amboy	37.05	76	⇓P	P	22 57 19.9	0.0
	baz=37						
E05A	Randle	37.14	74	P	P	22 57 21.1	+0.4
	baz=37,SNR=8.0						
WPW	White Pass	37.20	74	P	P	22 57 21.9	+0.6
CN2	Changchun	37.35	281	eP	P	22 57 24.1	+1.6
G04A	Mulino	37.37	77	⇑P	P	22 57 23.1	+0.3
	baz=37						
I03A	Eugene	37.52	79	⇑P	P	22 57 24.3	+0.3
	baz=37						
TBM	Table Mountain	37.55	73	P	P	22 57 24.7	+0.5
F05A	White Salmon	37.66	75	⇑P	P	22 57 25.4	+0.2
	baz=38						
J02A	Umpqua	37.66	80	⇑P	P	22 57 25.7	+0.5
	baz=38						
EBG	Ellensburg	37.69	73	P	P	22 57 26.1	+0.7
H04A	Detroit Lake	37.82	77	P	P	22 57 27.3	+0.8
	baz=38,SNR=6.5						
HOOD	Mount Hood Mea	37.82	76	eP	P	22 57 27.0	+0.5
BOD	Bodaibo	37.82	307	eP	P	22 57 25.0	-1.5
BOD				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
KBO	Bosley Butte	37.88	82	eScP	ScP	23 03 23.6	-2.4
J03A	Ideyld Park	38.04	79	⇓P	P	22 57 27.8	-0.5
	baz=38						
G05A	Wamic	38.06	76	P	P	22 57 29.2	+0.6
	baz=38,SNR=5.9						
HIA	Hailar	38.10	292	eP	P	22 57 28.5	-0.4
HIA				pmax	pmax		
	comp=Z,54nm,1.1s						
HIA	Hailar	38.10	292	eP	P	22 57 28.5	-0.4
	comp=Z,54nm,1.1s,mb5.2						
H05A	Madras	38.42	77	⇑P	P	22 57 32.3	+0.7
	baz=38						
HUMO	Hull Mountain	38.45	80	⇓P	P	22 57 32.1	+0.3
	baz=38						
HAWA	Hanford	38.56	73	eP	P	22 57 32.6	-0.2
EDM	Edmonton	39.00	61	eP	P	22 57 35.8	-0.6
NEW	Newport	39.08	69	eP	P	22 57 36.9	-0.2
NEW				pmax	pmax		
	comp=Z,27nm,1.0s						
NEW	Newport	39.08	69	eP	P	22 57 36.9	-0.2
	comp=Z,27nm,1.0s,mb4.9						
YBH	Yreka Blue Hor	39.09	81	eP	P	22 57 39.2	+2.1
YBH	Yreka Blue Hor	39.09	81	⇓P	P	22 57 38.2	+1.0
	baz=39,SNR=5.6						
M02C	Callahan	39.19	82	⇓P	P	22 57 40.2	+2.1
	baz=39						
N02C	Big Bar	39.23	83	⇓P	P	22 57 39.4	+1.1
	baz=39						
L04A	Klamath Falls	39.35	80	⇑P	P	22 57 39.9	+0.6
	baz=39						
SNY	Shenyang	39.58	279	⇑P	P	22 57 41.6	+0.4
SNY				AMB	AMB		
	comp=Z,35nm,1.1s,mb5.0						
SNY				AMB	AMB		
	comp=Z,119nm,4.8s						
M04C	Macdoel	39.60	81	⇓P	P	22 57 41.8	+0.4
	baz=40						
J06A	Christmas Vall	39.83	78	P	P	22 57 44.2	+0.9
	baz=40,SNR=11						
WDC	Whiskeytown Da	39.85	83	⇓P	P	22 57 43.3	-0.2
	baz=40						
O02C	Red Bluff	39.92	84	⇑P	P	22 57 45.4	+1.4
	baz=40						
P01C	Double 8 Ranch	40.00	85	⇑P	P	22 57 44.5	-0.2
	baz=40						
K06A	Valley Falls	40.01	79	⇑P	P	22 57 45.1	+0.3
	baz=40						
L05A	Lakeview	40.07	80	⇓P	P	22 57 45.5	+0.2
	baz=40						
M05C	Lookout	40.26	81	⇑P	P	22 57 46.9	-0.1
	baz=40						
J07A	Hines	40.28	77	⇑P	P	22 57 46.8	-0.2
	baz=40						
BSMT	Bassoo Peak	40.65	69	eP	P	22 57 51.4	+1.3
BMO	Blue Mountains	40.70	74	eP	P	22 57 50.3	-0.2
M06C	Likely Place G	40.77	81	⇑P	P	22 57 51.1	0.0
	baz=41						
J08A	Circle Bar Ran	40.80	77	⇑P	P	22 57 51.5	+0.2
	baz=41,SNR=6.9						
L07A	Adell	41.01	79	⇑P	P	22 57 53.3	+0.3
	baz=41						
WVOR	Wild Horse Val	41.21	78	eP	P	22 57 54.8	+0.1
WVOR				e*PP	pP	22 58 08.7	+1.3
WVOR				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.6						
WVOR	Wild Horse Val	41.21	78	eP	P	22 57 54.8	+0.2
	comp=Z,13nm,0.8s,mb4.6						
WVOR				epP	pP	22 58 08.7	+1.3
M07A	Soldier Meadow	41.47	80	⇑P	P	22 57 57.6	+0.7
	baz=41,SNR=23						
MSO	Missoula	41.67	70	eP	P	22 57 58.3	-0.2
	comp=Z,19nm,1.1s,mb4.6						
O06A	Flanigan	41.77	82	⇓P	P	22 57 59.9	+0.6
	baz=42						
M08A	Happy Creek Ra	41.92	79	⇓P	P	22 58 01.3	+0.8
	baz=42						
JRSC	Jasper Ridge	41.93	87	⇓P	P	22 58 01.5	+0.9
	baz=42						
CHMT	Chamberlain Mo	42.03	69	eP	P	22 58 00.7	-0.7
LAVA	Lava Cap Winer	42.04	84	⇓P	P	22 58 02.1	+0.5
	baz=42						
PAHR	Pah Rah Range	42.32	82	eP	P	22 58 04.4	+0.6
PAHR				epP	pP	22 58 13.6	-2.9
O07A	Toulon	42.36	81	⇓P	P	22 58 04.7	+0.6
	baz=42,SNR=5.8						
N08A	GE Springer Mi	42.46	80	⇓P	P	22 58 05.6	+0.7
	baz=42						
R05C	Kirkwood Meado	42.49	83	⇓P	P	22 58 05.6	+0.5
	baz=42						
M09A	Marrel Ranch,	42.51	78	⇑P	P	22 58 05.8	+0.5
	baz=42						
ALE	Alert	42.68	10	P	P	22 58 06.9	+0.2
	comp=Z,61nm,0.7s,mb5.4,SNR=5.1						
HRY	Holter Researc	42.96	69	eP	P	22 58 09.0	0.0
R06C	Coleville	42.99	83	⇑P	P	22 58 09.5	+0.2
	baz=43						
WAKR	Walker	43.01	83	eP	P	22 58 11.8	+2.5
M10A	I.L. Ranch, Tu	43.01	78	⇑P	P	22 58 09.7	+0.3
	baz=43						
LRM	Limekiln Ridge	43.08	70	eP	P	22 58 09.6	-0.3
HLID	Hailey	43.14	74	eP	P	22 58 10.5	0.0
	comp=Z,19nm,0.9s,mb4.8						
BMN	Battle Mountai	43.23	79	eP	P	22 58 13.1	+2.0
MCMT	McKenzie Canyo	43.38	72	eP	P	22 58 12.1	-0.3
O09A	Fish Creek Ran	43.40	80	⇑P	P	22 58 13.2	+0.7
	baz=43,SNR=5.2						
EGMT	Eagleton	43.48	66	eP	P	22 58 12.6	-0.5
	comp=Z,30nm,0.8s,mb5.1						
M11A	Holland Ranch,	43.52	77	P	P	22 58 13.9	+0.4
	baz=43,SNR=9.9						
BOZ	Bozeman (W)	43.65	70	eP	P	22 58 14.5	-0.1
BOZ				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.9						
BOZ	Bozeman (W)	43.65	70	eP	P	22 58 14.5	-0.1
	comp=Z,17nm,0.7s,mb4.9						
Q08A	Gabbs	43.73	82	⇑P	P	22 58 14.7	-0.5
	baz=44						
NVAR	Mina Array Bea	43.76	83	P	P	22 58 16.6	+1.2
	comp=Z,4.5nm,0.8s,mb4.3,baz=298,slow=5.8,SNR=26						
NVAR	Mina Array Bea	43.76	83	P	P	22 58 16.6	+1.2
MNV	Mina	43.85	82	eP	P	22 58 19.9	+3.8
M12A	Wells	44.07	77	⇑P	P	22 58 18.2	+0.3
	baz=44						
P10A	Eureka	44.18	80	⇑P	P	22 58 18.3	-0.5
	baz=44						
Q09A	Carvers	44.21	81	⇓P	P	22 58 19.4	+0.3
	baz=44						
QLMT	Earthquake Lak	44.22	71	eP	P	22 58 19.2	+0.1
MTUM	Tungsten Hills	44.26	84	eP	P	22 58 18.9	-0.5
ELK	Elko	44.26	78	eP	P	22 58 19.5	+0.1
N12A	Clover Valley,	44.32	78	⇓P	P	22 58 20.2	+0.3
	baz=44						
M13A	Montello	44.56	76	⇓P	P	22 58 22.0	+0.2
	baz=44,SNR=8.8						
GCMT	Greycliff	44.73	69	eP	P	22 58 22.8	-0.4
YFT	Old Faithful	44.78	71	eP	P	22 58 25.4	+1.8
N13A	Wendover, West	44.83	77	⇓P	P	22 58 24.2	+0.2
	baz=45						
IMW	Indian Meadow	45.04	72	eP	P	22 58 26.2	+0.6
	comp=Z,14nm,0.9s,mb4.8						
R10A	Warm Springs	45.09	81	⇑P	P	22 58 25.6	-0.4
	baz=45						
RRI2	Red Ridge	45.12	72	eP	P	22 58 27.1	+0.8
Q11A	Duckwater	45.15	80	P	P	22 58 26.4	0.0
	baz=45,SNR=7.2						
HVU	Hansel Valley	45.16	75	eP	P	22 58 25.5	-1.1
HVU				e*PP	pP	22 58 38.6	-0.8
BJI	Beijing	45.18	282	eP	P	22 58 27.0	+0.3
BJI				S	S	23 05 05.9	+2.8
BJI				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.8						
BJI				LR	LR		
	comp=Z,124nm,22.0s,MS3.8						
P12A	McGill	45.23	79	⇓P	P	22 58 26.8	-0.4
	baz=45						
MOOW	Moose Ponds	45.24	72	eP	P	22 58 27.1	-0.1
TPAW	Teton Pass	45.26	72	eP	P	22 58 28.1	+0.7
	comp=Z,8.9nm,0.8s,mb4.7						
ISA	Isabella	45.38	86	⇓P	P	22 58 28.8	+0.4
	baz=45						
REDW	Red Top Meadow	45.39	72	eP	P	22 58 28.6	+0.2
	comp=Z,11nm,1.0s,mb4.7						
BGU	Big Grassy Mou	45.51	76	eP	P	22 58 28.0	-1.4
BGU				epP	pP	22 58 40.6	-1.6
BGU				esP	sP	22 58 47.4	-0.4
Q12A	Willow Creek R	45.54	79	⇓P	P	22 58 29.7	+0.2
	baz=45						
DAC	Darwin (Calif)	45.54	84	eP	P	22 58 24.0	-5.6
SPUT	South Promonto	45.63	75	eP	P	22 58 30.4	+0.1
TLY	Talaya	45.90	302	P	P	22 58 33.3	+0.9
	comp=Z,122nm,0.7s,mb5.9,SNR=8.0						
TPNV	Topopah Spring	45.95	83	eP	P	22 58 32.7	-0.2
TPNV				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
TPNV	Topopah Spring	45.95	83	eP	P	22 58 32.7	-0.2
	comp=Z,14nm,0.9s,mb4.9						
HWUT	Hardware Ranch	45.99	75	eP	P	22 58 33.9	+0.7
	comp=Z,8.1nm,0.8s,mb4.7						
DUG	Dugway	46.07	77	P	P	22 58 34.1	+0.3
DUG				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
DUG	Dugway	46.07	77	eP	P	22 58 33.8	0.0
	comp=Z,26nm,1.0s,mb5.1						
ULN	Ulaanbaatar	46.08	296	⇑P	P	22 58 34.9	+1.0
	SNR=14						
ULN	Ulaanbaatar	46.08	296	P	P	22 58 34.7	+0.8
ULN				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.2						
ULN	Ulaanbaatar	46.08	296	eP	P	22 58 33.9	0.0
	comp=Z,24nm,0.8s,mb5.2						
NOQ	North Oquirrh	46.22	76	eP	P	22 58 37.2	+2.3
U10A	Ash Meadows, A	46.24	83	⇓P	P	22 58 34.4	-0.7
	baz=46						
TCUT	Toone Canyon	46.38	75	eP	P	22 58 36.3	+0.1
CTU	Camp Tracy	46.42	76	eP	P	22 58 36.3	-0.2
SONM	Songino Array	46.47	296	LR	LR	23 19 35.1	
	comp=Z,339nm,18.1s,MS4.3,baz=69,slow=38						
BW06	Boulder Array	46.51	72	eP	P	22 58 37.0	-0.2
PDAR	Pinedale Array	46.51	72	P	P	22 58 36.9	-0.4
	comp=Z,38nm,0.8s,mb5.4,baz=310,slow=3.5,SNR=206						
GSC	Goldstone	46.66	85	eP	P	22 58 40.1	+1.7
GSC	Goldstone	46.66	85	⇓P	P	22 58 36.9	-1.5
	baz=46						
ZAK	Zakamensk	46.79	301	⇑iP	P	22 58 40.4	+1.0
ZAK				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
DAU	Daniels Canyon	46.89	76	eP	P	22 58 41.7	+1.5
TUQ	Turquoise Mtn.	47.12	84	⇑P	P	22 58 40.8	-1.2
	baz=47						
ARUT	Antelope Range	47.17	80	P	P	22 58 44.7	+2.3
ARUT	Antelope Range	47.17	80	eP	P	22 58 42.7	+0.3
V11A	Goodsprings	47.17	83	⇓P	P	22 58 41.6	-0.7
	baz=47						
MOY	Mondy	47.30	303	eP	P	22 58 44.6	+1.2
U12A	Valley of Fire	47.34	82	⇑P	P	22 58 42.5	-1.3
	baz=47						
CCUT	Cedar City	47.37	80	eP	P	22 58 43.9	0.0
CCUT				epP	pP	22 58 56.0	-0.9
CCUT				esP	sP	22 59 01.6	-0.7
MSU	Marysvale	47.49	78	eP	P	22 58 45.6	+0.7
HHC	Hu-ho-hao-te	47.50	286	eP	P	22 58 46.1	+1.2
HHC				AP	pP	22 58 58.6	+0.7
HHC				XP	sP	22 59 04.6	+1.2
HHC				PP	PP	23 00 38.0	+1.5
HHC				PCS	PcS	23 04 10.9	+1.0
HHC				S	S	23 05 35.4	-0.9
HHC				XS	sS	23 05 55.6	-2.3
HHC				SS	SS	23 08 57.5	-7.0
HHC				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.9						
HHC				AMB	AMB		
	comp=Z,188nm,9.6s						
HHC				LR	LR		
	comp=N,146nm,18.4s,MS4.1						
HHC				LR	LR		
	comp=E,175nm,22.6s,MS4.1						
HHC				LR	LR		
	comp=Z,210nm,21.4s,MS4.1						
V12A	Nelson	47.60	83	⇓P	P	22 58 44.2	-1.5
	baz=48						
SSE	Sheshan	47.79	269	eP	P	22 58 46.5	-0.7
SSE				AMB	AMB		

SSE AMB AMB
comp=Z,26nm,0.8s,mb5.3
SSE LR LR
comp=Z,100nm,3.5s
RWWY **Rawlins** 48.55 72 *e*P **P** **22 58 53.1 0.0**
comp=Z,57nm,26.8s,MS3.4
BTO **Baotou** 48.57 286 *e*P **P** **22 58 54.0 +0.7**
NJ2 **Nanjing** 48.61 272 *e*P **P** **22 58 55.1 +1.6**
NJ2 PP PP 23 00 49.4 +2.7
NJ2 S **S** **23 05 51.0 -1.0**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
NJ2 AMB AMB
comp=Z,306nm,4.5s
NJ2 LR LR
comp=N,6μm,24.1s
NJ2 LR LR
comp=E,2μm,22.0s
NJ2 LR LR
comp=Z,3μm,22.9s,MS5.2
RSSD **Black Hills** 48.96 67 *e*P **P** **22 58 55.5 -0.7**
RSSD pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
RSSD **Black Hills** 48.96 67 *e*P **P** **22 58 55.5 -0.7**
comp=Z,5.9nm,0.6s,mb4.8
W14A **Seligman** 49.04 82 ⇓P **P** **22 58 54.0 -2.8**
baz=49
Y12C **Blythe** 49.10 85 ⇑P **P** **22 58 55.7 -1.6**
baz=49
GLA **Glamis** 49.37 86 *e*P **P** **22 58 58.6 -0.7**
GLA **Glamis** 49.37 86 ⇓P **P** **22 58 57.2 -2.1**
baz=49
PV10 **Paradox Valley** 49.50 76 *e*P **P** **22 58 59.6 -0.7**
PV10 *ep*P pP 22 59 12.9 -0.4
PV10 *es*P sP 22 59 18.2 -0.7
W15A **Williams** 49.56 82 ⇓P **P** **22 58 59.4 -1.4**
baz=49
X14A **Yava** 49.64 83 ⇓P **P** **22 58 59.5 -1.9**
baz=50
KBS **Kingsbay** 49.81 357 *e*P **P** **22 59 03.4 +0.7**
PHWY **Pilot Hill** 49.83 71 *e*P **P** **22 59 01.9 -1.0**
ULM **Lac du Bonnet** 49.87 57 P **P** **22 59 01.6 -1.6**
comp=Z,1.4nm,0.5s,mb4.2,baz=314,slow=8.0,SNR=3.5
ULM LR LR 23 21 33.3
comp=Z,107nm,18.2s,MS3.9,baz=4.9,slow=38
WUAZ **Wupatki** 49.90 81 *e*P **P** **22 59 03.7 +0.3**
comp=Z,8.0nm,0.7s,mb4.9
PV01 **Paradox Valley** 49.94 76 *e*P **P** **22 59 02.4 -1.2**
PV01 *ep*P pP 22 59 15.9 -0.8
X15A **Humboldt** 50.03 82 ⇓P **P** **22 59 02.2 -2.1**
baz=50
Z14A **Wintersburg** 50.33 84 ⇑P **P** **22 59 05.0 -1.7**
baz=50
MVCO **Mesa Verde** 50.57 77 *e*P **P** **22 59 07.9 -0.6**
MVCO *ep*P pP 22 59 22.1 +0.6
ISCO **Idaho Springs** 50.67 73 *e*P **P** **22 59 09.7 +0.5**
ISCO *e**PP pP 22 59 20.6 -1.7
ISCO pmax pmax
comp=Z,12nm,1.0s,mb4.8
ISCO **Idaho Springs** 50.67 73 *e*P **P** **22 59 09.7 +0.5**
comp=Z,12nm,1.0s,mb4.8
ISCO *ep*P pP 22 59 20.6 -1.7
115A **Sonoran Desert** 51.22 84 ⇑P **P** **22 59 12.6 -0.8**
baz=51
116A **Eloy** 51.65 84 ⇓P **P** **22 59 15.5 -1.0**
baz=52
TUC **Tucson** 52.39 83 P **P** **22 59 23.7 +1.7**
TUC pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
TUC **Tucson** 52.39 83 *e*P **P** **22 59 23.6 +1.6**
WHN **Wuhan** 52.45 274 P **P** **22 59 22.0 -0.5**
LAZ **Ladron** 53.24 79 *e*P **P** **22 59 28.8 +0.5**
LAZ *ep*P pP 22 59 41.1 -0.4
LAZ *es*P sP 22 59 47.9 +1.0
ANMO **Albuquerque** 53.30 78 *e*P **P** **22 59 29.2 +0.5**
ANMO *e**PP pP 22 59 40.4 -1.5
SUMG **Summit** 53.37 14 *e*P **P** **22 59 29.2 0.0**
comp=Z,28nm,1.0s,mb5.1
XAN **Xi'an** 53.46 281 P **P** **22 59 29.5 -0.5**
XAN AMB AMB
comp=Z,11nm,1.6s,mb4.5
EYMN **Ely** 53.55 57 *e*P **P** **22 59 29.6 -1.0**
comp=Z,20nm,1.1s,mb5.0
BNM **Barren Site** 53.73 79 *e*P **P** **22 59 32.3 +0.4**
QZH **Quanzhou** 53.74 265 P **P** **22 59 32.6 +0.6**
QZH AMB AMB
comp=Z,80nm,1.0s,mb5.6
ZAL **Zalesovo** 53.91 313 P **P** **22 59 32.8 -0.5**
comp=Z,1.8nm,0.8s,mb4.1,baz=63,slow=6.3,SNR=7.6
ZAL PcP PcP 23 00 37.8 -0.4
comp=Z,5.9nm,0.8s,baz=80,slow=4.3,SNR=14
ZAL LR LR 23 24 49.6
comp=Z,124nm,19.3s,MS4.0,baz=54,slow=39
ZAL **Zalesovo** 53.91 313 P **P** **22 59 32.8 -0.4**
ZAL 23 00 37.8
NVS **Novosibirsk** 54.04 315 *i* P **P** **22 59 33.7 -0.5**
NVS pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
NVS pmax pmax
comp=N,7.0nm,1.5s
NVS pmax pmax
comp=E,10.0nm,1.5s
LZH **Lanzhou** 55.19 286 *e*P **P** **22 59 43.4 +0.9**
LZH AP pP 22 59 58.5 +2.8
LZH PCP PcP 23 00 42.5 -0.6
LZH PP PP 23 01 48.7 +2.4
LZH SCP ScP 23 04 35.5 -2.4
LZH *e*S **S** **23 07 21.0 -1.4**
LZH SS SS 23 10 59.9 -7.0
LZH AMB AMB
comp=Z,41nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,120nm,4.4s
LZH LR LR
comp=E,440nm,14.4s
LZH LR LR
comp=Z,668nm,15.4s,MS4.8
GTA **Gaotai** 55.38 292 *e*P **P** **22 59 44.6 +0.7**
GTA AP pP 22 59 53.0 -4.1
GTA XP sP 22 59 57.6 -4.9
GTA PP PP 23 01 48.5 +0.5
GTA PPP 23 03 06.1
GTA S **S** **23 07 25.4 +0.5**
GTA PS 23 07 39.1
GTA XS sS 23 07 42.1 -4.9
GTA SS SS 23 11 05.9 -4.0
GTA AMB AMB
comp=Z,35nm,0.7s,mb5.5
GTA AMB AMB
comp=Z,152nm,5.3s
GTA LR LR
comp=N,127nm,16.7s,MS4.3
GTA LR LR
comp=E,175nm,16.0s,MS4.3
GTA LR LR
comp=Z,191nm,17.1s,MS4.2
AMTX **Amarillo** 56.25 75 *e*P **P** **22 59 51.7 +1.6**
GDL2 **Guadalupe Moun** 56.44 79 *e*ScP ScP 23 04 45.1 +1.7
SCIA **State Center** 56.51 63 *e*P **P** **22 59 51.5 -0.5**
KEV **Kevo** 57.70 350 *ep* **P** **22 59 59.3 -1.1**
ARCES **ARCESS Array B** 58.07 350 P **P** **23 00 02.2 -0.8**
comp=Z,8.2nm,0.6s,mb4.9,baz=21,slow=7.3,SNR=48
ARCES LR LR 23 28 10.4
comp=Z,75nm,20.0s,MS3.8,baz=247,slow=39
CD2 **Chengdu** 58.78 282 P **P** **23 00 07.2 -0.7**
CD2 AP pP 23 00 19.9 -1.3
CD2 XP sP 23 00 25.2 -1.4
CD2 PP PP 23 02 18.8 +0.6
CD2 S **S** **23 08 06.2 -3.4**
CD2 XS sS 23 08 27.7 -4.1
CD2 SS SS 23 12 00.5 -2.8
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 LR LR
comp=N,100nm,16.8s
CD2 LR LR
comp=Z,110nm,14.4s,MS4.1
LTX **Lajitas** 58.86 81 P **P** **23 00 08.6 +0.1**
LTX pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
LTX **Lajitas** 58.86 81 *e*P **P** **23 00 08.2 -0.2**
comp=Z,9.4nm,1.0s,mb4.8
KURK **Kurchatov** 58.88 313 P **P** **23 00 08.3 -0.3**
comp=Z,139nm,1.1s,mb5.9,SNR=20
KURK **Kurchatov** 58.88 313 ⇓P **P** **23 00 08.9 +0.3**
SNR=8.4
KURK **Kurchatov** 58.88 313 ⇑*e*P **P** **23 00 08.4 -0.2**
KURK **Kurchatov** 58.88 313 *e*P **P** **23 00 08.0 -0.7**
WMQ **Urumqi** 59.18 303 P **P** **23 00 14.0 +3.3**
WMQ PCP PcP 23 01 01.6 +2.8
WMQ PP PP 23 02 27.1 +5.4
WMQ AMB AMB
comp=Z,19nm,1.9s,mb4.8
WMQ AMB AMB
comp=Z,154nm,6.0s
WMQ LR LR
comp=N,744nm,21.0s,MS4.9
WMQ LR LR
comp=E,558nm,19.9s,MS4.9
WMQ LR LR
comp=Z,745nm,21.5s,MS4.8
MKAR **Makanchi Array** 59.88 308 P **P** **23 00 14.4 -1.1**
comp=Z,10nm,0.4s,mb5.2,baz=53,slow=6.2,SNR=394
GYA **Guiyang** 60.12 276 ⇑*i*P **P** **23 00 16.2 -1.0**
GYA AP pP 23 00 32.3 +1.8
GYA XP sP 23 00 39.2 +3.3
GYA PP PP 23 02 30.5 +0.4
GYA S **S** **23 08 21.2 -5.7**
GYA XS sS 23 08 48.6 -0.6
GYA SS SS 23 12 19.4 -5.0
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,110nm,4.2s
GYA LR LR
comp=N,480nm,18.4s,MS4.8
GYA LR LR
comp=E,460nm,17.8s,MS4.8
GYA LR LR
comp=Z,410nm,18.0s,MS4.6
SCHQ **Schefferville** 60.15 38 P **P** **23 00 16.1 -1.2**
comp=Z,26nm,1.2s,mb5.2,baz=328,slow=8.4,SNR=11
SCHQ LR LR 23 27 59.2
comp=Z,136nm,18.4s,MS4.1,baz=298,slow=38
CHKZ **Chkalovo** 60.20 320 *e*P **P** **23 00 18.3 +0.6**
CCM **Cathedral Cave** 60.23 65 *e*P **P** **23 00 16.1 -1.8**
CCM pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
CCM **Cathedral Cave** 60.23 65 *e*P **P** **23 00 16.1 -1.8**
comp=Z,6.4nm,0.9s,mb4.7
JCT **Junction City** 60.43 77 *e*P **P** **23 00 21.3 +2.0**
JCT pmax pmax
comp=Z,16nm,0.9s,mb5.0
JCT **Junction City** 60.43 77 *e*P **P** **23 00 21.3 +2.0**
comp=Z,16nm,0.9s,mb5.1
FVM **French Village** 60.75 65 *e*P **P** **23 00 20.1 -1.3**
FVM pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
FVM **French Village** 60.75 65 *e*P **P** **23 00 20.1 -1.4**
comp=Z,9.2nm,0.6s,mb5.1
BRVK **Borovoye** 60.79 320 ⇓P **P** **23 00 21.3 -0.5**
SNR=12
BRVK **Borovoye** 60.79 320 *e*P **P** **23 00 20.7 -1.0**
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
BRVK **Borovoye** 60.79 320 *e*P **P** **23 00 20.7 -1.0**
comp=Z,6.0nm,0.8s,mb4.8
MIAR **Mount Ida** 61.32 70 *e*P **P** **23 00 24.9 -0.5**
MIAR *e**PP pP 23 00 36.2 -2.5
MIAR pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
MIAR **Mount Ida** 61.32 70 *e*P **P** **23 00 24.9 -0.5**
comp=Z,9.1nm,0.8s,mb5.0
MIAR *ep*P pP 23 00 36.2 -2.5
ZRNK **Zerenda** 61.38 320 *e*P **P** **23 00 24.8 -1.0**
ZRNK *e* 23 01 08.0
ZRNK pmax pmax
comp=Z,72nm,0.6s,mb6.0
ZRNK **Zerenda** 61.38 320 *e*P **P** **23 00 24.8 -1.0**
comp=Z,72nm,0.6s,mb6.0
ZRNK *e*PcP PcP 23 01 08.0 +0.4
SIUC **Southern Illin** 61.62 64 *e*P **P** **23 00 26.5 -0.9**
PARMO **Parma** 62.05 66 *e*P **P** **23 00 29.2 -1.1**
BLO **Bloomington** 62.10 61 P **P** **23 00 30.1 -0.5**
BLO pmax pmax
comp=Z,56nm,1.0s,mb5.7
BLO **Bloomington** 62.10 61 *e*P **P** **23 00 28.8 -1.8**
USIN **University of** 62.32 63 *e*P **P** **23 00 31.6 -0.4**
USIN *ep*P pP 23 00 44.2 -1.2
ARU **Arti** 62.51 328 P **P** **23 00 32.7 -0.6**
comp=Z,63nm,0.5s,mb6.0,SNR=5.8
ARU **Arti** 62.51 328 *e*P **P** **23 00 31.7 -1.6**
ARU *e* 23 01 09.3
ARU *e*S **S** **23 08 55.5 -1.8**
ARU *e*SS SS 23 12 59.7 -2.1
ARU MLR MLR
comp=Z,100nm,20.0s,MS4.0
ARU MLR MLR
comp=N,100nm,21.0s,MS4.1
ARU MLR MLR
comp=E,80nm,21.0s,MS4.1
ARU **Arti** 62.51 328 *e*P **P** **23 00 32.1 -1.2**
comp=E,5.9nm,0.6s,mb4.9
WCI **Wyandotte Cave** 62.89 62 *e*P **P** **23 00 35.2 -0.7**
WCI *e**PP pP 23 00 47.3 -2.0
HNR **Honiara** 63.19 203 LR LR 23 24 03.1
comp=E,104nm,21.6s,MS4.0,baz=358,slow=32
KMI **Kunming** 63.52 278 P **P** **23 00 40.4 +0.4**
KMI PP PP 23 03 03.1 +3.0
KMI S **S** **23 09 05.6 -4.4**
KMI SS SS 23 13 15.4 -2.3
KMI AMB AMB
comp=Z,9.0nm,0.7s,mb4.9
KMI AMB AMB
comp=Z,119nm,6.2s
KMI LR LR
comp=N,152nm,10.3s,MS4.5
KMI LR LR
comp=E,124nm,13.0s,MS4.5
KMI LR LR
comp=Z,107nm,13.9s,MS4.2
WVT **Waverly** 63.52 65 *e*P **P** **23 00 39.3 -0.7**
WVT pmax pmax
comp=Z,17nm,1.0s,mb5.0
WVT **Waverly** 63.52 65 *e*P **P** **23 00 39.3 -0.8**
comp=Z,17nm,1.0s,mb5.0
JOF **Joensuu** 63.56 345 *ep* **P** **23 00 39.5 -0.8**
comp=Z,18nm,0.5s,mb5.4
OXF **Oxford** 63.77 67 P **P** **23 00 41.7 0.0**
OXF pmax pmax
comp=Z,24nm,0.7s,mb5.3
OXF **Oxford** 63.77 67 *e*P **P** **23 00 41.3 -0.4**
KLMR **Klimovskoe** 63.92 340 *e*P **P** **23 00 42.1 -0.6**
KLMR pmax pmax
comp=Z,30nm,1.0s,mb5.3
PLAL **Pickwick Lake** 64.20 66 *e*P **P** **23 00 43.3 -1.2**
comp=Z,9.4nm,0.6s,mb5.0
KAF **Kangasniemi** 65.08 347 *ep* **P** **23 00 48.9 -1.3**
comp=Z,15nm,0.5s,mb5.3,baz=14,slow=5.8
KAF **Kangasniemi** 65.08 347 *e*P **P** **23 00 48.9 -1.3**
KAF pmax pmax
comp=Z,15nm,0.5s,mb5.3
AFI **Afiamalu** 65.31 172 LR LR 23 28 52.2
comp=Z,100nm,18.4s,MS4.0,baz=121,slow=36
SSPA **Standing Stone** 65.65 55 *e*P **P** **23 00 53.0 -0.9**
ACCN **Adirondack Com** 65.71 50 *e*P **P** **23 00 53.1 -1.2**
FINES **FINESS Array B** 65.76 347 P **P** **23 00 53.2 -1.4**
comp=Z,11nm,0.6s,mb5.0,baz=18,slow=7.2,SNR=56
FINES LR LR 23 35 41.8
comp=Z,81nm,18.1s,MS4.0,baz=116,slow=42
FINES **FINESS Array B** 65.76 347 P **P** **23 00 53.2 -1.4**
FINES LR LR 23 35 41.8
CPCT **Cooper Cave** 65.88 63 *e*P **P** **23 00 55.4 0.0**
TKM2 **Tokmak 2** 65.97 309 P **P** **23 00 57.5 +1.5**
SNR=19
USP **Ospenovka** 66.24 310 P **P** **23 00 59.2 +1.5**
SNR=33
CHMS **Chumysh** 66.32 310 P **P** **23 00 59.5 +1.3**
SNR=9.2
KBK **Karagaybulak** 66.48 309 P **P** **23 01 00.1 +0.8**
SNR=11
FRU **Bishkek** 66.51 310 *e*P **P** **23 01 00.0 +0.6**
AAK **Ala-Archa** 66.72 310 P **P** **23 01 01.9 +1.2**
SNR=14
AAK **Ala-Archa** 66.72 310 P **P** **23 01 01.3 +0.5**
comp=Z,185nm,0.7s,SNR=8.3
AAK **Ala-Archa** 66.72 310 P **P** **23 01 01.6 +0.8**
SNR=8.9
AAK **Ala-Archa** 66.72 310 *e*P **P** **23 01 01.0 +0.2**
AAK pmax pmax
comp=Z,20nm,0.7s,mb5.3
AAK **Ala-Archa** 66.72 310 *e*P **P** **23 01 01.0 +0.2**
comp=Z,20nm,0.7s,mb5.2
KZA **Kyzart** 66.77 309 P **P** **23 01 03.2 +2.1**
SNR=6.7
BLA **Blacksburg** 66.84 59 *e*P **P** **23 01 01.0 -0.5**
BLA *e**PP pP 23 01 13.4 -1.6
BLA pmax pmax
comp=Z,1.0nm,0.8s
BLA **Blacksburg** 66.84 59 *e*P **P** **23 01 01.0 -0.5**
comp=Z,0.8nm,0.8s
BLA *ep*P pP 23 01 13.4 -1.6
MVL **Millersville** 66.91 55 *e*P **P** **23 01 01.4 -0.6**
UCH **Uchtor** 67.02 309 P **P** **23 01 05.0 +2.4**
SNR=12
EKS2 **Erkin-Say** 67.04 310 P **P** **23 01 04.5 +1.7**
SNR=32
LSA **Lhasa** 67.25 289 P **P** **23 01 06.3 +2.1**
LSA AMB AMB
comp=Z,20nm,0.9s,mb5.2
LSA **Lhasa** 67.25 289 *e*P **P** **23 01 06.0 +1.8**
LSA pmax pmax
comp=Z,17nm,0.4s,mb5.4
LSA **Lhasa** 67.25 289 *e*P **P** **23 01 06.0 +1.8**
comp=Z,17nm,0.4s,mb5.4
AML **Almayashu** 67.48 310 P **P** **23 01 07.8 +2.2**
SNR=11
NB2 **NORSAR Subarra** 67.64 355 P **P** **23 01 05.7 -0.9**
comp=Z,7.2nm,0.8s,mb4.8,baz=6.6,slow=6.2
NOA **NORSAR Array B** 67.64 355 P **P** **23 01 06.0 -0.6**
comp=Z,5.9nm,0.7s,mb4.7,baz=6.9,slow=6.3,SNR=26
NOA LR LR 23 31 54.2
comp=Z,53nm,18.7s,MS3.8,baz=345,slow=37
KSH **Kashi** 68.34 306 *e*P **P** **23 01 13.0 +2.0**
KSH *e*AP pP 23 01 29.4 +4.8
KSH *e*PCP PcP 23 01 39.5 +3.2
KSH *e*SCP 23 05 35.9
KSH *e*PCS 23 05 43.3
KSH *e*S S 23 10 06.5 -2.1
KSH *e*SCS ScS 23 11 04.1 -2.5
KSH *e*SS SS 23 14 34.4 +1.8
KSH AMB AMB
comp=Z,38nm,1.1s,mb5.3
KSH LR LR
comp=N,402nm,4.9s
KSH LR LR
comp=E,373nm,5.0s
KSH LR LR
comp=Z,501nm,11.8s,MS5.0
VSU **Vasula** 68.52 346 *d*/*P* **P** **23 01 11.5 -0.6**
TAOE **Nuku Hiva Isla** 68.75 138 *e*LR LR 23 21 14.5
comp=Z,562nm,23.1s
MOS **Moscow** 69.00 339 *e*P **P** **23 01 15.0 -0.1**
MOS *e* 23 03 50.8
MOS pmax pmax
comp=Z,74nm,0.9s,mb5.6
MOS pmax pmax
comp=Z,100nm,0.8s,mb5.8
OBN **Obninsk** 69.81 339 P **P** **23 01 20.5 +0.4**
comp=Z,342nm,0.9s,SNR=5.4
OBN **Obninsk** 69.81 339 ⇓*i*P **P** **23 01 20.0 -0.1**
OBN pmax pmax
comp=Z,44nm,0.9s,mb5.4
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
OBN **Obninsk** 69.81 339 *e*P **P** **23 01 19.6 -0.5**
SHL **Shillong** 69.86 286 *e*P **P** **23 01 20.8 +0.4**
GUN **Gumba** 71.67 292 *e*P **P** **23 01 32.8 +1.4**
comp=Z,186nm,0.7s,mb6.1
JIRN **Jiri** 71.68 291 *e*P **P** **23 01 33.0 +1.5**
comp=Z,82nm,0.7s,mb5.8
KKN **Kakani** 72.11 292 *e*P **P** **23 01 35.3 +1.2**
comp=Z,32nm,0.4s,mb5.6
PKI **Pulchoki** 72.20 292 *e*P **P** **23 01 35.5 +0.9**
comp=Z,26nm,0.4s,mb5.5
VRHR **Novokhopersk** 72.23 334 *e*P **P** **23 01 33.7 -1.1**
VRHR pmax pmax
comp=Z,20nm,0.9s,mb5.0
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR pmax pmax
comp=E,3.0nm,0.5s
GKN **Gorkha** 72.32 293 *e*P **P** **23 01 36.2 +0.9**
comp=E,29nm,0.4s,mb5.6
DMN **Daman** 72.35 292 *e*P **P** **23 01 36.6 +1.1**
VRSR **Storozhevoye** 72.77 336 *e*P **P** **23 01 38.0 0.0**
VRSR pmax pmax
comp=N,20nm,0.8s
VRSR pmax pmax
comp=Z,20nm,0.8s,mb5.1
VRSR pmax pmax
comp=E,10.0nm,1.0s
KOLN **Koldanda** 73.10 293 *e*P **P** **23 01 40.8 +0.9**
comp=E,28nm,0.8s,mb5.2
PPT **Papeete** 73.35 151 *e*LR LR 23 23 22.3
comp=E,177nm,27.5s
PPT **Papeete** 73.35 151 LR LR 23 27 15.0
comp=E,193nm,19.0s,MS4.4,baz=330,slow=30
SUW **Suwalki** 73.35 346 *e*P **P** **23 01 40.1 -1.3**
SMLA **Simla** 74.14 300 *e*P **P** **23 01 45.9 -0.1**
RAR **Rarotonga** 74.23 161 LR LR 23 27 44.8
comp=E,255nm,19.0s,MS4.5,baz=14,slow=30
NIL **Nilore** 74.26 304 P **P** **23 01 48.0 +1.3**
comp=E,105nm,0.6s,mb5.9,SNR=5.5
BOK **Bokaro** 74.77 289 *e*P **P** **23 01 50.4 +0.7**
BOK AMb AMB 23 01 52.1
comp=Z,27nm,0.9s,mb5.2
BSEG **Bad Segeberg** 74.78 354 *e*P **P** **23 01 49.9 +0.2**
comp=Z,25nm,0.9s,mb5.1
GKP **Gorka Klasztor** 74.84 350 *e*P **P** **23 01 49.4 -0.7**
DCN **Croghan** 75.44 5 *e*P **P** **23 01 53.0 -0.6**
AKASG **Malin Array Be** 75.50 342 P **P** **23 01 53.2 -0.7**
comp=Z,23nm,0.5s,mb5.4,baz=19,slow=5.8,SNR=128
AKASG LR LR 23 39 44.4
comp=Z,50nm,18.4s,MS3.9,baz=20,slow=39
AKASG **Malin Array Be** 75.50 342 P **P** **23 01 53.2 -0.7**
AKASG LR LR 23 39 44.4
DLF **Lyons Farm** 75.53 5 *e*P **P** **23 01 54.0 -0.1**
NDI **New Delhi** 76.00 298 *e*P **P** **23 01 57.1 +0.3**
NDI AMb AMB 23 01 57.8
comp=Z,44nm,1.6s,mb5.2
WIT **Witteveen** 76.09 356 *e*P **P** **23 01 57.8 +0.6**
NRDL **Niedersach Rie** 76.23 354 *e*P **P** **23 01 58.8 +0.8**
comp=Z,18nm,1.0s,mb5.0
KAKA **Kakadu** 76.37 229 *e*P **P** **23 01 57.2 -1.7**
comp=Z,16nm,1.0s,mb4.9
CLZ **Clausthal** 76.86 354 *e*P **P** **23 02 01.9 +0.3**
comp=Z,28nm,1.0s,mb5.2
CLZ **Clausthal** 76.86 354 *e*P **P** **23 02 01.9 +0.3**
CLZ pmax pmax
comp=Z,28nm,1.0s,mb5.2
WTSB **Winterswijk** 76.93 356 *e*P **P** **23 02 01.7 -0.3**
comp=Z,18nm,1.0s,mb5.0
GTTG **Gyttingen** 77.18 354 *e*P **P** **23 02 03.4 0.0**
comp=Z,17nm,1.0s,mb4.9
CLL **Collm** 77.19 352 *e*P **P** **23 02 02.9 -0.6**
comp=Z,8.0nm,0.6s,mb4.8
CLL **Collm** 77.19 352 *i* P **P** **23 02 00.0 -3.5**
CLL ⇑*i*P(2) 23 02 02.7
comp=Z,9.0nm,0.6s
CLL **Collm** 77.19 352 ⇑*i*P **P** **23 02 02.7 -0.8**
CLL pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
CLL **Collm** 77.19 352 ⇑*i*P **P** **23 02 02.7 -0.8**
comp=Z,9.0nm,0.6s,mb4.9
GOF **Gofitskoye** 77.28 331 *e*P **P** **23 02 03.1 -0.9**
GOF pmax pmax
comp=Z,64nm,0.8s,mb5.6
LVV **L'vov** 77.28 345 *e*P **P** **23 02 03.7 -0.3**
OJC **Ojcow** 77.52 348 *e*P **P** **23 02 04.9 -0.4**
BRG **Berggiesshubel** 77.54 352 *e*P **P** **23 02 04.8 -0.6**
comp=Z,11nm,0.9s,mb4.8
BRG **Berggiesshubel** 77.54 352 *e*P **P** **23 02 05.1 -0.3**
comp=Z,6.6nm,0.9s,mb4.5
BRG **Berggiesshubel** 77.54 352 *e*P **P** **23 02 05.1 -0.3**
BRG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
FBE **Freiberg** 77.55 352 *e*P **P** **23 02 05.2 -0.3**
comp=Z,20nm,1.2s,mb4.9
KWP **Kalwaria** 77.68 346 *e*P **P** **23 02 06.5 +0.3**
UPC **Upice** 77.70 350 *e*P **P** **23 02 06.3 0.0**
PVCC **Panska Ves** 77.82 351 *e*P **P** **23 02 07.0 0.0**
PVCC AMS AMS 23 42 50.0
MOX **Moxa** 77.96 353 *e*P **P** **23 02 07.4 -0.4**
comp=Z,11nm,0.9s,mb4.8

MOX Moxa 77.96 353 *e*P P 23 02 07.5 -0.3
comp=Z,15nm,1.1s,mb4.8
MOX Moxa 77.96 353 *e*P P 23 02 07.5 -0.3
MOX pmax pmax
comp=Z,15nm,1.1s,mb4.8
WERD Werda 78.10 353 *e*P P 23 02 08.3 -0.3
comp=Z,9.0nm,1.1s,mb4.6
OKC Ostrava-Krasne 78.11 349 *e*P P 23 02 08.2 -0.4
OKC AMS AMS 23 42 30.0
TANN Tannenbergstha 78.12 352 *e*P P 23 02 08.4 -0.3
comp=Z,5.0nm,0.8s,mb4.5
HGN Heimansgroeve 78.16 357 *e*P P 23 02 08.8 -0.1
comp=Z,25nm,1.1s,mb5.1
GUNZ Gunzen 78.19 353 *e*P P 23 02 08.9 -0.1
comp=Z,11nm,1.1s,mb4.7
NIE Niedzica 78.24 347 *e*P P 23 02 09.5 +0.2
MORC Moravsky Berou 78.24 349⇑*i*P P 23 02 08.3 -1.0
MORC Moravsky Berou 78.24 349 P P 23 02 09.5 +0.2
BLSP Bilaspur 78.26 291 *e*P P
BLSP AMb AMB 23 02 11.1
comp=Z,32nm,1.0s,mb5.2
NKC Novy Kostel 78.31 352 *e*P P 23 02 09.7 0.0
MEM Membach 78.31 357 P P 23 02 09.7 -0.1
comp=Z,14nm,0.9s,mb4.9
PRU Pruhonice 78.36 351 *e*P P 23 02 09.7 -0.3
PRU AMS AMS 23 37 30.0
comp=Z,100nm,22.6s
KIV Kislovodsk 78.38 331 P P 23 02 10.5 +0.4
comp=Z,115nm,1.0s,mb5.8,SNR=7.8
KIV Kislovodsk 78.38 331⇓P P 23 02 10.8 +0.7
SNR=6.4
KIV Kislovodsk 78.38 331 *e*P P 23 02 10.7 +0.6
KIV pmax pmax
comp=Z,19nm,0.9s,mb5.0
KIV Kislovodsk 78.38 331 *e*P P 23 02 10.7 +0.6
comp=Z,19nm,0.9s,mb5.0
KOLS Kolonicke sedl 78.42 346 *e*P P 23 02 10.5 +0.2
KOLS pmax pmax
comp=Z,14nm,0.8s,mb4.9
KOLS Kolonicke sedl 78.42 346 *e*P P 23 02 10.5 +0.2
comp=Z,14nm,0.8s,mb5.0
SNF Seneffe 78.47 358 P P 23 02 10.6 0.0
comp=Z,6.0nm,1.0s,mb4.5
BCLA Clavier 78.53 357 P P 23 02 10.7 -0.2
comp=Z,9.1nm,0.8s,mb4.8
CRVS Cervenica-Dubn 78.58 346 *e*P P 23 02 11.1 -0.1
CRVS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CRVS Cervenica-Dubn 78.58 346 *e*P P 23 02 11.1 -0.1
comp=Z,5.8nm,0.8s,mb4.6
MANZ Manzenberg 78.58 353 *e*P P 23 02 10.9 -0.3
comp=Z,7.0nm,0.9s,mb4.6
LIKS Likavka 78.76 348 *e*P P 23 02 11.4 -0.8
LIKS pmax pmax
comp=Z,21nm,0.9s,mb5.1
LIKS Likavka 78.76 348 *e*P P 23 02 11.4 -0.8
comp=Z,21nm,0.9s,mb5.1
ROTZ Rotzenmuhle 78.79 353 *e*P P 23 02 12.3 0.0
comp=Z,10.0nm,1.0s,mb4.7
VRAC Vranov 78.81 350⇑*i*P P 23 02 12.4 -0.1
VRAC Vranov 78.81 350 P P 23 02 12.9 +0.4
TBI Tubuai 78.83 152 *e*LR LR 23 25 54.7
comp=Z,165nm,25.2s
GIVF Givet 78.86 357 *e*P P 23 02 12.3 -0.4
DOU Dourbes 78.87 358 P P 23 02 12.5 -0.3
comp=Z,6.5nm,0.9s,mb4.6
BAIF Baives 78.92 358 *e*P P 23 02 12.8 -0.3
comp=Z,49nm,0.9s,mb5.1
BAIF Baives 78.92 358 *e*P P 23 02 12.8 -0.3
BAIF pmax pmax
comp=Z,25nm,0.9s,mb5.1
BAIF Baives 78.92 358 *e*P P 23 02 12.8 -0.3
comp=Z,25nm,0.9s,mb5.1
GRA1 Grafenberg Arr 78.94 353 *e*P P 23 02 13.4 +0.2
comp=Z,27nm,0.9s,mb5.2
GRF Grafenberg Arr 78.94 353 *e*P P 23 02 13.4 +0.2
comp=Z,27nm,0.9s,mb5.2
GRF Grafenberg Arr 78.94 353 *e*P P 23 02 13.4 +0.2
GRF pmax pmax
comp=Z,27nm,0.9s,mb5.2
GRF Grafenberg Arr 78.94 353 *e*P P 23 02 13.4 +0.2
GRF pmax pmax
comp=Z,27nm,0.9s,mb5.2
TREC Trest 78.95 350 *e*P P 23 02 12.7 -0.5
TREC AMS AMS 23 44 20.0
comp=Z,200nm,20.3s
ZEI Tsey 79.07 329 *e*P P 23 02 14.4 +0.5
ZEI pmax pmax
comp=Z,25nm,0.8s,mb5.2
KECS Kecovo 79.13 347 *e*P P 23 02 14.1 -0.1
KECS pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KECS Kecovo 79.13 347 *e*P P 23 02 14.1 -0.1
comp=Z,10nm,1.0s,mb4.7
RUP Ruppelstein 79.18 356 *e*P P 23 02 14.5 0.0
IAS Iasi 79.18 342⇓*i*P P 23 02 15.0 +0.5
IAS Iasi 79.18 342⇓P P 23 02 15.0 +0.5
TOD Tromm 79.19 355 *e*P P 23 02 14.4 -0.1
BURAR Bucovina Array 79.21 344⇑*i*P P 23 02 15.1 +0.4
BURAR Bucovina Array 79.21 344⇑P P 23 02 15.1 +0.4
WLF Walferdange 79.25 357 *e*P P 23 02 15.0 +0.1
comp=Z,12nm,1.0s,mb4.8
WLF Walferdange 79.25 357 P P 23 02 14.6 -0.3
comp=Z,6.4nm,1.0s,mb4.5
WLF Walferdange 79.25 357 *e*P P 23 02 15.2 +0.3
WLF pmax pmax
comp=Z,11nm,0.8s,mb4.8
WLF Walferdange 79.25 357 *e*P P 23 02 15.2 +0.3
comp=Z,11nm,0.8s,mb4.8
KHC Kasperske Hory 79.30 352 *e*P P 23 02 15.3 +0.2
KHC *e*PCP PcP 23 02 19.7 -3.5
KHC AMS AMS 23 44 00.0
comp=Z,100nm,17.4s
VYHS Vyhne 79.34 348 *e*P P 23 02 15.7 +0.3
VYHS pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
VYHS Vyhne 79.34 348 *e*P P 23 02 15.7 +0.3
comp=Z,8.4nm,1.2s,mb4.5
GEC2 GERESS Array S 79.57 351 *e*P P 23 02 16.3 -0.3
comp=Z,7.0nm,0.7s,mb4.7
GEC2 GERESS Array S 79.57 351 *e*P P 23 02 16.3 -0.3
GEC2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
GERES GERESS Array B 79.57 351 P P 23 02 15.9 -0.7
comp=Z,4.8nm,0.6s,mb4.6,baz=28,slow=5.4,SNR=66
GERES LR LR 23 38 24.3
comp=Z,72nm,20.4s,MS4.0,baz=25,slow=36
GERES GERESS Array B 79.57 351 P P 23 02 15.9 -0.7
GERES LR LR 23 38 24.3
PSZ Piszkesteto 79.76 347 *e*P P 23 02 18.1 +0.4
PSZ pmax pmax
comp=Z,19nm,1.0s,mb5.0
PSZ Piszkesteto 79.76 347 *e*P P 23 02 18.1 +0.5
comp=Z,19nm,1.0s,mb5.0
ZST Bratislava 79.85 349 *e*P P 23 02 18.5 +0.4
ZST Bratislava 79.85 349 *e*P P 23 02 18.6 +0.5
ZST pmax pmax
comp=Z,15nm,1.0s,mb4.9
ZST Bratislava 79.85 349 *e*P P 23 02 18.6 +0.5
comp=Z,15nm,1.0s,mb4.9
SIM Simferopol' 79.86 337 P P 23 02 18.4 +0.2
SIM *PP pP 23 02 28.0 -4.0
SIM pmax pmax
comp=Z,11nm,0.9s,mb4.8
SIM MLR MLR
comp=Z,180nm,19.0s,MS4.4
BHPL Bhopal 80.12 295 *e*P P 23 02 19.6 0.0
BHPL AMb AMB 23 02 21.2
comp=Z,59nm,0.8s,mb5.6
FLN La Foliniere 80.25 1 *e*P P 23 02 19.6 -0.7
comp=Z,50nm,1.0s,mb5.1
FLN *e*R
comp=Z,68nm,22.5s
FLN La Foliniere 80.25 1 *e*P P 23 02 19.6 -0.7
FLN pmax pmax
comp=Z,25nm,1.0s,mb5.1
FLN MLR MLR
comp=Z,70nm,22.5s,MS4.0
FLN La Foliniere 80.25 1 *e*P P 23 02 19.6 -0.7
comp=Z,25nm,1.0s,mb5.1
FLN LR LR
comp=Z,70nm,22.5s,MS4.0
CONA Conrad Observa 80.26 350⇓*i*P P 23 02 20.8 +0.4
comp=Z,13nm,1.1s,mb4.8,SNR=14
LDF La Druitiere 80.42 1 *e*P P 23 02 20.3 -0.9
comp=Z,26nm,0.6s,mb5.1
LDF La Druitiere 80.42 1 *e*P P 23 02 20.3 -0.9
LDF pmax pmax
comp=Z,13nm,0.6s,mb5.0
LDF La Druitiere 80.42 1 *e*P P 23 02 20.3 -0.9
comp=Z,13nm,0.6s,mb5.0
DRGR 80.44 345⇑*i*P P 23 02 21.5 +0.2
DRGR 80.44 345 P P 23 02 21.5 +0.2
WLS Welschbruch 80.45 356 *e*P P 23 02 21.1 -0.3
FUR Furstenfeldbru 80.45 353 *e*P P 23 02 21.2 -0.2
comp=Z,26nm,1.0s,mb5.1
FUR Furstenfeldbru 80.45 353 *e*P P 23 02 21.2 -0.2
FUR pmax pmax
comp=Z,26nm,1.0s,mb5.1
MEZF Maizieres J'vi 80.45 357 *e*P P 23 02 21.1 -0.3
comp=Z,49nm,0.9s,mb5.1
MEZF Maizieres J'vi 80.45 357 *e*P P 23 02 21.1 -0.3
comp=Z,49nm,0.9s,mb5.4
CDF Champ du Feu 80.46 356 *e*P P 23 02 20.7 -0.7
comp=Z,15nm,0.8s,mb4.7
CDF Champ du Feu 80.46 356 *e*P P 23 02 20.7 -0.7
CDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CDF Champ du Feu 80.46 356 *e*P P 23 02 20.7 -0.7
comp=Z,7.3nm,0.8s,mb4.7
BFO Black Forest 80.48 355 *e*P P 23 02 21.3 -0.2
comp=Z,10.0nm,1.1s,mb4.7
BFO Black Forest 80.48 355 P P 23 02 21.6 +0.1
MOA Molln 80.50 351⇑*i*P P 23 02 21.6 -0.1
comp=Z,3.9nm,0.7s,mb4.5
VRI Vrincioaia 80.62 342⇑*i*P P 23 02 22.7 +0.5
VRI Vrincioaia 80.62 342 P P 23 02 23.0 +0.8
GRR Gorron 80.62 1 *e*P P 23 02 21.5 -0.8
comp=Z,52nm,0.8s,mb5.2
GRR Gorron 80.62 1 *e*P P 23 02 21.5 -0.8
GRR pmax pmax
comp=Z,26nm,0.8s,mb5.2
GRR Gorron 80.62 1 *e*P P 23 02 21.5 -0.8
comp=Z,26nm,0.8s,mb5.2
ROSF Rostrenen 80.62 3 *e*P P 23 02 21.7 -0.6
comp=Z,12nm,0.6s,mb4.7
ROSF Rostrenen 80.62 3 *e*P P 23 02 21.7 -0.6
ROSF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ROSF Rostrenen 80.62 3 *e*P P 23 02 21.7 -0.6
comp=Z,5.8nm,0.6s,mb4.7
PLOR Plostina 80.65 342⇓*i*P P 23 02 23.0 +0.6
THEF They Montfort 80.70 357 *e*P P 23 02 22.6 -0.1
SGMF Saint Gilles 80.72 2 *e*P P 23 02 22.3 -0.5
NGP Nagpur 80.82 292 *e*P P 23 02 22.4 -1.0
NGP AMb AMB 23 02 24.9
comp=Z,31nm,2.0s,mb4.9
HAU Haudompre 80.90 356 *e*P P 23 02 23.0 -0.8
comp=Z,24nm,0.9s,mb4.8
HAU *e*R
comp=Z,110nm,20.2s
HAU Haudompre 80.90 356 *e*P P 23 02 23.0 -0.8
HAU pmax pmax
comp=Z,12nm,0.9s,mb4.8
HAU MLR MLR
comp=Z,110nm,20.3s,MS4.2
HAU Haudompre 80.90 356 *e*P P 23 02 23.0 -0.8
comp=Z,12nm,0.9s,mb4.8
HAU LR LR
comp=Z,110nm,20.3s,MS4.2
FELD Feldberg im Sc 80.95 355 *e*P P 23 02 23.6 -0.5
ARSA Arzberg 80.97 350⇓*i*P P 23 02 24.5 +0.4
comp=Z,9.9nm,1.1s,mb4.7,SNR=7.6
MOF Molkenrain 81.02 356 *e*P P 23 02 24.0 -0.4
QUIF Quistinic 81.04 3 *e*P P 23 02 23.8 -0.7
HINF Hinteralfeld 81.07 356 *e*P P 23 02 23.8 -0.9
comp=Z,14nm,0.9s,mb4.6
HINF Hinteralfeld 81.07 356 *e*P P 23 02 23.8 -0.9
HINF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
HINF Hinteralfeld 81.07 356 *e*P P 23 02 23.8 -0.9
comp=Z,7.0nm,0.9s,mb4.6
MLR Muntele Rosu 81.13 342⇓*i*P P 23 02 26.5 +1.5
MLR Muntele Rosu 81.13 342⇓P P 23 02 26.5 +1.5
WATA Walderalm 81.25 353⇑*i*P P 23 02 25.8 +0.1
comp=Z,14nm,1.0s,mb4.8,SNR=10
WATA Walderalm 81.25 353⇑*i*P P 23 02 25.8 +0.1
WATA pmax pmax
comp=Z,14nm,1.0s,mb4.8
MOTA Moosalm 81.28 353⇑*i*P P 23 02 25.8 0.0
comp=Z,16nm,1.2s,mb4.8,SNR=8.8
MOTA Moosalm 81.28 353⇑*i*P P 23 02 25.8 0.0
MOTA pmax pmax
comp=Z,16nm,1.2s,mb4.8
WTTA Wattenberg 81.32 353⇑*i*P P 23 02 26.4 +0.4
comp=Z,24nm,1.3s,mb5.0,SNR=17
WTTA Wattenberg 81.32 353⇑*i*P P 23 02 26.4 +0.4
WTTA pmax pmax
comp=Z,24nm,1.3s,mb5.0
VOIR 81.34 343⇓*i*P P 23 02 27.1 +1.0
VOIR 81.34 343⇓P P 23 02 27.1 +1.0
KBA Koelnbreinsper 81.36 351 *i*P P 23 02 27.0 +0.8
comp=Z,39nm,0.9s,mb5.3,SNR=51
KBA Koelnbreinsper 81.36 351 *i*P P 23 02 27.0 +0.8
KBA pmax pmax
comp=Z,39nm,0.9s,mb5.3
SQTA Sankt Quirin 81.40 353⇑*i*P P 23 02 26.8 +0.4
comp=Z,9.8nm,0.9s,mb4.7
SQTA Sankt Quirin 81.40 353⇑*i*P P 23 02 26.8 +0.4
SQTA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MTUR Matau 81.55 343 P P 23 02 29.4 +2.2
PKSM Moragy 81.61 348⇑*i*P P 23 02 27.1 -0.4
PKSM Moragy 81.61 348⇑P P 23 02 27.2 -0.3
PKSM Moragy 81.61 348 P P 23 02 27.1 -0.4
LOR Lormes 81.72 358 *e*P P 23 02 27.3 -0.8
comp=Z,32nm,0.9s,mb4.9
LOR *e*R
comp=Z,100nm,21.8s
LOR Lormes 81.72 358 *e*P P 23 02 27.3 -0.8
LOR pmax pmax
comp=Z,16nm,0.9s,mb5.0
LOR MLR MLR
comp=Z,100nm,21.8s,MS4.1
LOR Lormes 81.72 358 *e*P P 23 02 27.3 -0.8
comp=Z,16nm,0.9s,mb5.0
LOR LR LR
comp=Z,100nm,21.8s,MS4.1
BZS Buzias 81.76 345⇑*i*P P 23 02 28.5 +0.2
BZS Buzias 81.76 345 P P 23 02 28.6 +0.3
OBKA Obir 81.80 351⇑*i*P P 23 02 28.7 +0.2
comp=Z,18nm,1.0s,mb4.9,SNR=10
WB2 Warramunga Arr 81.85 224⇑*i*P P 23 02 26.5 -2.3
WRA Warramunga Arr 81.86 224 P P 23 02 26.6 -2.2
comp=Z,4.1nm,0.9s,mb4.3,baz=32,slow=5.8,SNR=26
SSF Saint Saulge 81.93 358 *e*P P 23 02 28.8 -0.4
comp=Z,21nm,0.9s,mb4.8
SSF Saint Saulge 81.93 358 *e*P P 23 02 28.8 -0.4
SSF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SSF Saint Saulge 81.93 358 *e*P P 23 02 28.8 -0.4
comp=Z,10nm,0.9s,mb4.8
PTCC Patocco-Chiusa 82.02 351 P P 23 02 29.0 -0.7
comp=Z,9.5nm,0.6s,mb4.9
GMNA Gemona 82.16 351 P P 23 02 29.4 -1.0
comp=Z,67nm,0.7s,mb5.7
GOLS Golise 82.18 350 *i*P P 23 02 30.6 +0.1
BRMO Bormio 82.20 353 P P 23 02 31.3 +0.7
AVF Avril sur Loir 82.21 358 *e*P P 23 02 30.0 -0.7
comp=Z,30nm,1.0s,mb4.9
AVF Avril sur Loir 82.21 358 *e*P P 23 02 30.0 -0.7
AVF pmax pmax
comp=Z,15nm,1.0s,mb4.9
AVF Avril sur Loir 82.21 358 *e*P P 23 02 30.0 -0.7
comp=Z,15nm,1.0s,mb4.9
CABF La Chapelle 82.31 356 *e*P P 23 02 30.9 -0.3
comp=Z,43nm,1.1s,mb5.0
CABF La Chapelle 82.31 356 *e*P P 23 02 30.9 -0.3
CABF pmax pmax
comp=Z,22nm,1.1s,mb5.0
CABF La Chapelle 82.31 356 *e*P P 23 02 30.9 -0.3
comp=Z,22nm,1.1s,mb5.0
LCHF La Chataignera 82.34 1 *e*P P 23 02 31.9 +0.5
SMF Signal de Mont 82.34 358 *e*P P 23 02 30.8 -0.6
comp=Z,50nm,0.9s,mb5.2
SMF Signal de Mont 82.34 358 *e*P P 23 02 30.8 -0.6
SMF pmax pmax
comp=Z,25nm,0.9s,mb5.1
SMF Signal de Mont 82.34 358 *e*P P 23 02 30.8 -0.6
comp=Z,25nm,0.9s,mb5.2
AKL Akola 82.34 293 *ex* x 23 02 40.2
AKL AMb AMB 23 02 43.8
comp=Z,39nm,1.1s,mb5.3
MFF Saint Martin d 82.41 1 *e*P P 23 02 31.3 -0.4
comp=Z,39nm,0.9s,mb5.0
MFF Saint Martin d 82.41 1 *e*P P 23 02 31.3 -0.4
MFF pmax pmax
comp=Z,20nm,0.9s,mb5.0
MFF Saint Martin d 82.41 1 *e*P P 23 02 31.3 -0.4
comp=Z,20nm,0.9s,mb5.0
BGF Bois d'Agland 82.45 359 *e*P P 23 02 31.5 -0.4
comp=Z,22nm,1.0s,mb4.7
BGF Bois d'Agland 82.45 359 *e*P P 23 02 31.5 -0.4
BGF pmax pmax
comp=Z,11nm,1.0s,mb4.7
BGF Bois d'Agland 82.45 359 *e*P P 23 02 31.5 -0.4
comp=Z,11nm,1.0s,mb4.7
CTI Castel Tesino 82.53 352 P P 23 02 32.1 -0.2
CTI pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
CTI Castel Tesino 82.53 352 P P 23 02 32.1 -0.2
comp=Z,4.0nm,0.4s,mb4.8
MABI Malga Bissina 82.61 353 P P 23 02 32.4 -0.4
BEO Belgrade 82.71 346 *i*P P 23 02 34.5 +1.2
TCF Toulx Ste Croi 82.73 359 *e*P P 23 02 32.8 -0.6
comp=Z,21nm,0.9s,mb4.9
TCF Toulx Ste Croi 82.73 359 *e*P P 23 02 32.8 -0.6
TCF pmax pmax
comp=Z,11nm,0.9s,mb4.9
TCF Toulx Ste Croi 82.73 359 *e*P P 23 02 32.8 -0.6
comp=Z,11nm,0.9s,mb4.9
MCGN Macugnaga 82.87 355 P P 23 02 34.8 +0.7
comp=Z,14nm,1.0s,mb5.0
AGO Saint Agoulin 82.95 358 *e*P P 23 02 34.9 +0.4
PLDF La Plantade 83.02 358 *e*P P 23 02 35.4 +0.5
SVIS Svilajnac 83.11 345 *i*P P 23 02 35.4 0.0
LPL La Plagne 83.37 356 *e*P P 23 02 36.5 -0.2
LPG La Plagne 83.39 356 *e*P P 23 02 36.5 -0.3
DIVS Divcibare 83.49 346 *i*P P 23 02 37.4 +0.1
GRUS Gruza 83.58 346 *i*P P 23 02 38.6 +0.8
RJF Les Rejaudoux 83.72 360 *e*P P 23 02 37.8 -0.7
comp=Z,29nm,1.0s,mb5.1
RJF *e*R
comp=Z,95nm,21.5s
RJF Les Rejaudoux 83.72 360 *e*P P 23 02 37.8 -0.7
RJF pmax pmax
comp=Z,14nm,1.0s,mb5.0
RJF MLR MLR
comp=Z,100nm,21.5s,MS4.2
RJF Les Rejaudoux 83.72 360 *e*P P 23 02 37.8 -0.7
comp=Z,14nm,1.0s,mb5.1
RJF LR LR
comp=Z,100nm,21.5s,MS4.2
LBL Lubilhac 83.77 358 *e*P P 23 02 39.5 +0.8
BBLS Bajina Basta - 83.80 347 *i*P P 23 02 40.2 +1.3
BNI Bardonecchia 83.84 356 *e*P P 23 02 40.6 +1.5
BNI pmax pmax
comp=Z,15nm,0.8s,mb5.2
BNI Bardonecchia 83.84 356 *e*P P 23 02 40.6 +1.5
comp=Z,15nm,0.8s,mb5.2
BOB Bobbio (Coli) 83.97 354 P P 23 02 39.3 -0.5
ORIF Oris-en-Rattie 84.00 356 *e*P P 23 02 39.4 -0.5
ORIF *e*R
comp=Z,83nm,22.0s
HYB Hyderabad 84.03 290 *i*P P 23 02 40.0 -0.1
HYB Hyderabad 84.03 290 *e*P P 23 02 40.0 -0.1
LFF La Frestale 84.08 0 *e*P P 23 02 40.0 -0.3
comp=Z,51nm,0.8s,mb5.4
LFF La Frestale 84.08 0 *e*P P 23 02 40.0 -0.3
LFF pmax pmax
comp=Z,26nm,0.8s,mb5.4
LFF La Frestale 84.08 0 *e*P P 23 02 40.0 -0.3
comp=Z,26nm,0.8s,mb5.4
CAF Calviac 84.09 359 *e*P P 23 02 40.1 -0.3
comp=Z,40nm,1.0s,mb5.2
CAF Calviac 84.09 359 *e*P P 23 02 40.1 -0.3
CAF pmax pmax
comp=Z,20nm,1.0s,mb5.2
CAF Calviac 84.09 359 *e*P P 23 02 40.1 -0.3
comp=Z,20nm,1.0s,mb5.2
VIVF Saint-Julien-l 84.11 357 *e*P P 23 02 40.4 -0.1
comp=Z,21nm,1.0s,mb4.9
VIVF Saint-Julien-l 84.11 357 *e*P P 23 02 40.4 -0.1
VIVF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
VIVF Saint-Julien-l 84.11 357 *e*P P 23 02 40.4 -0.1
comp=Z,10nm,1.0s,mb4.9
ERBM Eremo 84.24 353 P P 23 02 41.9 +0.7
comp=Z,14nm,0.8s,mb5.2
ZCCA Zocca 84.27 353 P P 23 02 42.8 +1.5
comp=Z,13nm,0.5s,mb5.3
FITZ Fitzroy Crossi 84.29 232⇑*i*P P 23 02 40.4 -1.0
comp=Z,18nm,0.9s,mb5.2
FNVD Fontana Vidola 84.44 353 P P 23 02 43.0 +0.9
SEI Scarperia 84.53 352 P P 23 02 44.2 +1.6
comp=Z,62nm,0.5s,mb6.0
FIN Finale Ligure 84.60 355 P P 23 02 42.4 -0.6
FIN pmax pmax
comp=Z,18nm,1.0s,mb5.2
FIN Finale Ligure 84.60 355 P P 23 02 42.4 -0.6
comp=Z,18nm,1.0s,mb5.2
VMG Vicchio 84.61 352 P P 23 02 44.4 +1.4
comp=Z,108nm,1.0s,mb5.9
SFI Santa Sofia 84.64 352 P P 23 02 43.8 +0.6
FSSB Fossombrone 84.77 351 P P 23 02 44.1 +0.3
comp=Z,11nm,0.6s,mb5.2
MALT Malatya 84.84 331⇓*i*P P 23 02 44.8 +0.6
MALT Malatya 84.84 331 P P 23 02 45.3 +1.1
MALT Malatya 84.84 331 *e*P P 23 02 45.0 +0.8
TOUF Mont Tournerai 84.85 355 *e*P P 23 02 44.7 +0.5
AUTN L'Aution 84.86 355 *e*P P 23 02 44.6 +0.4
BR131 Keskin Array S 84.88 335 *e*P P 23 02 44.5 +0.2
comp=Z,13nm,0.8s,mb5.1
BRTR Keskin Array B 84.88 335 P P 23 02 44.7 +0.3
comp=Z,15nm,0.7s,mb5.2,baz=49,slow=2.8,SNR=102
BRTR LR LR 23 41 04.3
comp=Z,26nm,19.3s,MS3.6,baz=170,slow=36
LASF Ste Croix 84.91 358 *e*P P 23 02 44.3 -0.2
comp=Z,16nm,0.8s,mb4.9
CRE Caprese Michel 84.91 352 P P 23 02 45.1 +0.6
CRE pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
CRE Caprese Michel 84.91 352 P P 23 02 45.1 +0.6
comp=Z,8.8nm,0.6s,mb5.1
IMI Imperia 84.92 355 P P 23 02 44.3 -0.3
comp=Z,16nm,0.6s,mb5.3
STOF St-Etienne Org 84.92 356 *e*P P 23 02 45.2 +0.6
ARV Arcevia 84.94 351 P P 23 02 45.2 +0.5
comp=Z,22nm,0.8s,mb5.3
SMRF Simiane la Rot 84.96 357 *e*P P 23 02 44.3 -0.5
comp=Z,45nm,0.9s,mb5.3
SMRF Simiane la Rot 84.96 357 *e*P P 23 02 44.3 -0.5
comp=Z,45nm,0.9s,mb5.6
ANTO Ankara 84.96 336⇓*i*P P 23 02 46.0 +1.2
ANTO Ankara 84.96 336⇑P P 23 02 46.0 +1.3
SNR=5.6
ANTO Ankara 84.96 336 P P 23 02 46.1 +1.3
LUCF Luceram 84.96 355 *e*P P 23 02 44.8 0.0
MVIF Mont Vial 84.97 355 *e*P P 23 02 44.9 +0.1
SBF Sospel 84.99 355 *e*P P 23 02 44.4 -0.5
comp=Z,74nm,0.8s,mb5.5
SBF Sospel 84.99 355 *e*P P 23 02 44.4 -0.5
SBF pmax pmax
comp=Z,37nm,0.8s,mb5.6
SBF Sospel 84.99 355 *e*P P 23 02 44.4 -0.5
comp=Z,37nm,0.8s,mb5.6
CING Cingoli 85.04 351 P P 23 02 45.1 -0.1
VILF Villemus 85.08 356 *e*P P 23 02 46.3 +0.9
CSNT Castellina Chi 85.12 352 P P 23 02 44.8 -0.8
comp=Z,34nm,0.8s,mb5.5
PRAF Pradon 85.14 357 *e*P P 23 02 46.5 +0.8
SNTG Esanatoglia 85.18 351 P P 23 02 46.3 +0.4
comp=Z,23nm,0.5s,mb5.6
MURB Monte Urbino 85.22 351 P P 23 02 46.5 +0.4
TAVF Tavernes 85.30 356 *e*P P 23 02 47.2 +0.7
TREF Trevaresse 85.31 357 *e*P P 23 02 47.5 +0.9
FRF La Foret Royal 85.33 356 *e*P P 23 02 45.9 -0.7
comp=Z,42nm,0.8s,mb5.3
FRF La Foret Royal 85.33 356 *e*P P 23 02 45.9 -0.7
FRF pmax pmax
comp=Z,21nm,0.8s,mb5.3
FRF La Foret Royal 85.33 356 *e*P P 23 02 45.9 -0.7
comp=Z,21nm,0.8s,mb5.3
ASAR Alice Springs 85.33 222 P P 23 02 45.2 -1.4
comp=Z,5.8nm,1.0s,mb4.7,baz=25,slow=5.3,SNR=20
ASAR LR LR 23 36 11.9
comp=Z,136nm,21.6s,MS4.3,baz=178,slow=32
PUYF Puyloubier 85.39 356 *e*P P 23 02 47.6 +0.7

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EPON	Pontenova	85.44	6	P	P	23 02 47.0	-0.2
	comp=Z,63nm,1.5s,mb5.5						
GRFL	Gerfalco	85.46	353	P	P	23 02 47.0	-0.3
	comp=Z,24nm,0.6s,mb5.5						
GELF	Grande-Etoile	85.55	357	eP	P	23 02 48.3	+0.6
LMR	La Mourre	85.56	356	eP	P	23 02 47.3	-0.5
	comp=Z,39nm,0.8s,mb5.4						
LMR	La Mourre	85.56	356	eP	P	23 02 47.3	-0.5
LMR				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.4						
LMR	La Mourre	85.56	356	eP	P	23 02 47.3	-0.5
	comp=Z,19nm,0.8s,mb5.4						
EARI	Arriondas	85.57	4	P	P	23 02 47.8	0.0
	comp=Z,46nm,1.3s,mb5.5						
NRCA	Norcia	85.58	351	P	P	23 02 48.2	+0.3
	comp=Z,41nm,1.0s,mb5.6						
BERF	Bertagne	85.61	356	eP	P	23 02 48.7	+0.7
MTLF	Montolieu	85.67	359	eP	P	23 02 48.1	-0.2
	comp=Z,24nm,0.9s,mb5.2						
MTLF	Montolieu	85.67	359	eP	P	23 02 48.1	-0.2
MTLF				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.1						
MTLF	Montolieu	85.67	359	eP	P	23 02 48.1	-0.2
	comp=Z,12nm,0.9s,mb5.1						
ELAN	Lanestosa	85.71	3	P	P	23 02 48.1	-0.4
	comp=Z,82nm,1.5s,mb5.7						
TERO	Teramo	85.74	351	P	P	23 02 48.8	+0.1
STS	Santiago	85.78	7	P	P	23 02 48.0	-0.8
STS				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.2						
STS	Santiago	85.78	7	P	P	23 02 48.0	-0.8
	comp=Z,15nm,0.9s,mb5.2						
ELIZ	Elizondo	85.83	2	P	P	23 02 49.1	0.0
ELIZ				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.4						
ELIZ	Elizondo	85.83	2	P	P	23 02 49.1	0.0
	comp=Z,28nm,1.2s,mb5.4						
EPF	Esparros	85.99	0	eP	P	23 02 48.9	-1.0
	comp=Z,13nm,0.7s,mb5.0						
EPF	Esparros	85.99	0	eP	P	23 02 48.9	-1.0
EPF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.9						
EPF	Esparros	85.99	0	eP	P	23 02 48.9	-1.0
	comp=Z,6.3nm,0.7s,mb5.0						
AQU	L'Aquila	86.03	351	⇓iP	P	23 02 51.0	+0.9
AQU	L'Aquila	86.03	351	eP	P	23 02 50.7	+0.6
MLS	Moulis	86.06	360	eP	P	23 02 50.8	+0.5
MNS	Montasola	86.07	351	P	P	23 02 49.1	-1.2
ETSF	Etsaut	86.11	1	eP	P	23 02 50.1	-0.4
	comp=Z,28nm,0.7s,mb5.3						
ETSF	Etsaut	86.11	1	eP	P	23 02 50.1	-0.4
ETSF				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.3						
ETSF	Etsaut	86.11	1	eP	P	23 02 50.1	-0.4
	comp=Z,14nm,0.7s,mb5.3						
FIAM	Fiamignano	86.14	351	P	P	23 02 50.7	0.0
PGF	Pioggiola	86.20	354	eP	P	23 02 50.4	-0.6
	comp=Z,79nm,0.8s,mb5.7						
PGF	Pioggiola	86.20	354	eP	P	23 02 50.4	-0.6
PGF				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.7						
PGF	Pioggiola	86.20	354	eP	P	23 02 50.4	-0.6
	comp=Z,39nm,0.8s,mb5.7						
RESF	Ens	86.21	0	eP	P	23 02 51.9	+0.9
EBIE	Bielsa	86.33	1	P	P	23 02 52.4	+0.8
	comp=Z,8.0nm,0.6s,mb5.1						
CORF	Corte	86.44	354	eP	P	23 02 52.5	+0.4
VVLD	Villa Vallelon	86.49	350	P	P	23 02 51.5	-0.8
SDI	San Donato	86.63	350	P	P	23 02 52.6	-0.4
SDI				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.3						
SDI	San Donato	86.63	350	P	P	23 02 52.6	-0.4
	comp=Z,8.5nm,0.5s,mb5.2						
KAD	Karad	86.66	294	eP	P	23 02 52.7	-0.5
KAD				AMb	AMB	23 02 54.6	
	comp=Z,58nm,1.2s,mb5.7						
EGRA	Graus	86.82	0	P	P	23 02 53.8	-0.2
	comp=Z,7.3nm,0.7s,mb5.0						
PBRG	Braganca	86.98	6	eP	P	23 02 53.7	-1.0
	comp=Z,15nm,1.2s,mb5.1						
ESAC	San Caprasio	87.29	1	P	P	23 02 55.7	-0.5
	comp=Z,23nm,0.7s,mb5.5						
PVRL	Vila Real	87.44	6	eP	P	23 02 56.5	-0.5
	comp=Z,23nm,1.1s,mb5.3						
EPOB	Poblet	87.67	360	P	P	23 02 57.4	-0.7
	comp=Z,15nm,1.2s,mb5.1						
MGR	Morigerati	87.98	349	P	P	23 02 57.7	-1.9
PVIS	Viseu	87.98	7	eP	P	23 02 59.3	-0.3
	comp=Z,18nm,1.1s,mb5.2						
ETOR	Torete	88.16	2	P	P	23 02 59.4	-1.0
ETOR				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.7						
ETOR	Torete	88.16	2	P	P	23 02 59.4	-1.1
	comp=Z,6.2nm,1.2s,mb4.7						
GUD	Guadarrama	88.27	4	P	P	23 03 00.4	-0.5
GUD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.9						
GUD	Guadarrama	88.27	4	P	P	23 03 00.4	-0.5
	comp=Z,7.2nm,0.9s,mb4.9						
MTE	Manteigas	88.32	6	eP	P	23 03 00.8	-0.4
	comp=Z,13nm,0.9s,mb5.2						
PCBR	Castelo Branco	88.88	6	eP	P	23 03 03.0	-0.8
	comp=Z,12nm,1.4s,mb5.0						
VSL	Villasalto	89.22	353	eP	P	23 03 05.4	+0.1
ESDC	Sonseca Array	89.24	4	P	P	23 03 05.0	-0.5
	comp=Z,3.2nm,0.6s,mb4.8,baz=353,slow=4.1,SNR=20						
ESDC	Sonseca Array	89.24	4	P	P	23 03 04.5	-1.1
	comp=Z,7.3nm,0.8s,mb5.1						
ESLA	Sonseca Array	89.24	4	eP	P	23 03 04.6	-0.9
	comp=Z,3.2nm,1.2s,mb4.5						
CPD	Cerro la Pandu	89.73	61	eP	P	23 03 08.9	+1.1
STKA	Stephens Creek	89.80	213	eP	P	23 03 07.3	-0.8
	comp=Z,10nm,0.9s,mb5.2						
STKA	Stephens Creek	89.80	213	P	P	23 03 07.4	-0.7
	comp=Z,14nm,1.0s,mb5.3,baz=6.9,slow=8.8,SNR=10						
MBWA	Marble Bar	89.83	235	eP	P	23 03 06.2	-2.0
	comp=Z,8.5nm,0.9s,mb5.1						
EBAD	Badajoz	90.00	6	P	P	23 03 07.6	-1.5
	comp=Z,26nm,1.9s,mb5.2						
EVIA	Vianos	90.33	3	P	P	23 03 09.9	-0.7
EVIA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb5.1						
EVIA	Vianos	90.33	3	P	P	23 03 09.9	-0.6
	comp=Z,5.9nm,0.6s,mb5.1						
ETOB	Tobarra	90.35	2	P	P	23 03 10.1	-0.6
	comp=Z,23nm,1.6s,mb5.3						
PBEJ	Beja	90.66	7	eP	P	23 03 10.8	-1.3
	comp=Z,17nm,0.9s,mb5.4						
EADA	Adamuz	90.72	4	P	P	23 03 10.9	-1.5
	comp=Z,25nm,1.8s,mb5.2						
EBAN	Banos Encina	90.76	4	P	P	23 03 11.4	-1.2
EBAN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.8						
EBAN	Banos Encina	90.76	4	P	P	23 03 11.4	-1.2
	comp=Z,5.4nm,0.9s,mb4.9						
EMIN	Mina Concepcio	91.00	6	P	P	23 03 12.4	-1.3
	comp=Z,30nm,1.4s,mb5.4						
EQES	Quesada	91.14	3	P	P	23 03 13.3	-1.0
	comp=Z,14nm,1.1s,mb5.2						
EHUE	Huescar	91.15	3	P	P	23 03 14.3	-0.1
EHUE				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb5.0						
EHUE	Huescar	91.15	3	P	P	23 03 14.3	-0.1
	comp=Z,9.5nm,1.2s,mb5.0						
EGRO	El Granado	91.18	7	P	P	23 03 12.3	-2.2
	comp=Z,28nm,1.1s,mb5.5						
ELOJ	Sierra Loja	91.75	4	P	P	23 03 16.4	-0.8
ELOJ				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb5.0						
ELOJ	Sierra Loja	91.75	4	P	P	23 03 16.4	-0.8
	comp=Z,7.0nm,0.8s,mb5.0						
ESPR	Espera	91.95	5	P	P	23 03 17.6	-0.4
	comp=Z,35nm,1.8s,mb5.4						
EMIJ	Mijas	92.31	5	P	P	23 03 18.7	-1.1
	comp=Z,12nm,0.9s,mb5.2						
EJIF	Jimena Fronter	92.38	5	P	P	23 03 20.0	-0.1
EJIF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb5.0						
EJIF	Jimena Fronter	92.38	5	P	P	23 03 20.0	-0.1
	comp=Z,7.0nm,0.9s,mb5.0						
TORD	Torodi Ar. Bea	115.76	359	PKP	PKPdf	23 08 50.8	-1.0
	comp=Z,0.4nm,0.5s,baz=353,slow=2.7,SNR=13						
TORD				PKKPbc	PKKPbc	23 19 21.0	-2.6
	comp=Z,1.1nm,1.0s,baz=172,slow=2.3,SNR=4.3						
DBIC	Dimbokro	121.99	7	PKP	PKPdf	23 09 02.9	-0.9
	comp=Z,2.5nm,0.6s,baz=19,slow=1.1,SNR=8.1						
PLCA	Paso Flores	131.16	107	PKP	PKPdf	23 09 21.0	-0.3
	comp=Z,4.0nm,1.0s,baz=276,slow=7.6,SNR=4.0						
TSUM	Tsumeb	145.30	331	PKPbc	PKPbc	23 09 47.6	+0.6
	comp=Z,26nm,1.0s,baz=350,slow=6.0,SNR=43						

ISCJB **10** *23:18:43.5±3.6, 18.6S±0.5×177.9W±0.4, h600km, mb4.1/9, Error ellipse: s-maj=82.0km s-min=19.9km az=76.6*
IDC **10** *23:18:49.9±17.0, 18.54S×178.13W, h657km±181km, mb3.4/3, mb1 3.6/3, mb1mx3.1/12, mbtmp4.6/3, Error ellipse: s-maj=132.5km s-min=105.5km az=87.0*
NEIC **10** *23:18:49.8±6.2, 18.56S×178.06W, h659km±66km, mb4.0/6, Error ellipse: s-maj=46.8km s-min=18.1km az=59.0*
ISC 10 23:18:44.8±3.6**, 18.6S**±0.5×**177.8W**±0.4**, h600**km**, n19, σ0.43**/17**, mb4.1**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTAO	Charters Tower	33.89	261	eP	P	23 24 39.3	0.0
	3.0nm,0.5s,mb4.2						
PMG	Port Moresby	35.13	280	P	P	23 24 50.2	+0.7
STKA	Stephens Creek	38.79	242	eP	P	23 25 19.8	+0.4
	2.0nm,0.4s,mb4.0						
STKA	Stephens Creek	38.79	242	P	P	23 25 19.9	+0.4
	2.1nm,0.4s,mb4.0,baz=90,slow=9.7,SNR=9.3						
WB2	Warramunga Arr	45.05	260	eP	P	23 26 08.1	-0.3
WRAB	Tennant Creek	45.05	260	eP	P	23 26 08.3	-0.2
	8.6nm,0.3s,mb4.8						
WRA	Warramunga Arr	45.06	260	P	P	23 26 08.2	-0.3
	3.5nm,0.4s,mb4.3,baz=98,slow=7.1,SNR=207						
AS31	Alice Springs	45.14	255	eP	P	23 26 09.0	-0.1
ASAR	Alice Springs	45.15	255	P	P	23 26 09.1	-0.1
	7.0nm,0.6s,mb4.3,baz=90,slow=7.6,SNR=94						
ASAR				PcP	PcP	23 27 35.8	-0.6
	0.8nm,0.7s,baz=104,slow=3.9,SNR=4.5						
ASPA	Alice Springs	45.15	255	eP	P	23 26 09.0	-0.2
KAKA	Kakadu	48.13	269	eP	P	23 26 31.6	0.0
	2.1nm,0.3s,mb4.2						
FITZ	Fitzroy Crossi	53.47	261	eP	P	23 27 10.2	+0.1
	1.9nm,0.3s,mb3.9						
MBWA	Marble Bar	58.45	256	eP	P	23 27 44.0	-0.4
	1.9nm,0.3s,mb3.7						
NWAO	Narrogin (SRO)	59.38	242	P	P	23 27 51.0	+0.4
NWAO				ePcP	PcP	23 28 29.7	-0.9
SBA	Scott Base	59.77	184	P	P	23 27 54.2	+1.1
CASY	Casey	65.75	205	eP	P	23 28 31.1	-0.4
QSPA	South Pole Qui	71.46	180	eP	P	23 29 05.0	-0.8
	0.7nm,0.4s,mb3.5						
ARCES	ARCESS Array B	127.09	350	PKP	PKPdf	23 36 40.2	-1.5
	1.3nm,0.9s,baz=2.1,slow=4.9,SNR=5.5						
ARCES	ARCESS Array B	127.09	350	PKP	PKPdf	23 36 40.2	-1.5

IDC **10** *23:21:27.4±56.0, 17.09S×173.01W, h0km, mb4.5/3, mb1 4.7/3, mb1mx4.0/14, mbtmp4.5/3, Error ellipse: s-maj=1072.0km s-min=169.9km az=81.0*
NEIC 10 23:21:32.0±6.0**, 16.95S**×**172.95W, h35**km**, mb4.5**/6**, Error ellipse: s-maj=119.0km s-min=48.7km az=66.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTAO	Charters Tower	38.74	259	eP	P	23 28 53.9	+1.2
	3.2nm,0.6s						
PMG	Port Moresby	39.49	276	eP	P	23 28 59.1	0.0
	18nm,0.9s						
STKA	Stephens Creek	43.65	241	eP	P	23 29 33.7	+0.6
	4.6nm,1.0s						
STKA	Stephens Creek	43.65	241	P	P	23 29 33.8	+0.7
	2.0nm,0.3s,baz=94,slow=11,SNR=7.5						
WB2	Warramunga Arr	49.91	258	eP	P	23 30 22.2	+0.1
WRAB	Tennant Creek	49.91	258	eP	P	23 30 22.5	+0.4
	5.5nm,0.3s						
WRA	Warramunga Arr	49.92	258	P	P	23 30 22.3	+0.2
	2.3nm,0.3s,baz=98,slow=7.1,SNR=55						
AS31	Alice Springs	50.05	253	eP	P	23 30 23.0	-0.1
ASAR	Alice Springs	50.05	253	P	P	23 30 23.2	0.0
	4.3nm,0.5s,baz=90,slow=7.6,SNR=56						
ASPA	Alice Springs	50.06	253	eP	P	23 30 23.0	-0.2
KAKA	Kakadu	52.82	267	eP	P	23 30 45.7	+1.8
	3.4nm,0.6s						
FITZ	Fitzroy Crossi	58.32	259	eP	P	23 31 24.4	+1.0
	1.4nm,0.3s						
MBWA	Marble Bar	63.35	254	eP	P	23 31 58.0	+0.4
	1.2nm,0.4s						
NWAO	Narrogin (SRO)	64.24	241	eP	P	23 32 03.9	+0.5

MAN 10 23:26:51.8, 17.33N×120.17E, h19km, mb2.7, ML4.2, MS1.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	Dolores	0.60	58	eP	Pb	23 27 04.0	+0.3
ABRA				eS	Sb	23 27 13.8	+1.9
BOLP	Bolinao	0.98	195	eP	Pb	23 27 09.1	-1.0
BOLP				eS	Sb	23 27 24.7	+2.1
BCPH	Baguio City Da	1.02	157	⇑iP	Pb	23 27 10.4	-0.4
BCPH				i S	Sb	23 27 24.4	+0.5
APYP	Conner	1.15	62	eP	Pn	23 27 11.4	-1.5
APYP				eS	Sb	23 27 26.9	-0.6
SCZP	Santa Cruz	1.56	189	eP	Pn	23 27 18.5	-0.1
CVP	Callao Caves	1.62	76	eP	Pn	23 27 18.0	-1.3
CVP				eS	Sn	23 27 38.5	-1.1
CAUP	Cauayan	1.62	103	eP	Pn	23 27 20.5	+1.2
SGCP	Mt. Cagua	2.00	63	eP	Pn	23 27 25.4	+0.9
BALP	Baler	2.08	139	eP	Pn	23 27 25.9	+0.3

WEL 10 23:28:30.9±0.4**, 38.47S**×**175.99E, h147**km±3km**, ML3.6**/12**, 4C, Error ellipse: s-maj=3.4km s-min=2.8km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWVZ	Taurewa	0.74	215	⇑PN	Pn	23 28 53.5	+0.1
BKZ	Black Stump Fm	0.81	151	⇑PN	Pn	23 28 54.1	+0.4
BKZ				SN	Sn	23 29 11.5	+0.3
TUVZ	Tukino	0.84	198	PN	Pn	23 28 54.4	+0.3
WNVZ	Wahianoa	0.91	199	⇑PN	Pn	23 28 54.8	+0.2
MOVZ	Moawhango	0.96	191	⇑PN	Pn	23 28 54.8	-0.1
MOVZ				SN	Sn	23 29 12.6	-0.8
PKVZ	Pokaka	0.96	211	PN	Pn	23 28 55.0	0.0
MWZ	Matawai	1.22	84	PN	Pn	23 28 57.2	-0.1
MWZ				SN	Sn	23 29 17.1	-0.4
KNZ	Kokohu	1.43	113	SN	Sn	23 29 21.2	-0.1
TSZ	Takapari Road	1.59	181	PN	Pn	23 29 00.7	-0.5
PXZ	Pawanui	1.71	157	PN	Pn	23 29 02.6	+0.1
PXZ				SN	Sn	23 29 26.5	-0.1
PUZ	Puketiti	1.83	78	PN	Pn	23 29 03.3	-0.5
PUZ				SN	Sn	23 29 27.6	-1.5
MRZ	Mangatainoka R	2.22	188	PN	Pn	23 29 06.7	-1.7
MRZ				SN	Sn	23 29 34.2	-3.0
KIW	Kapiti Island	2.53	199	PN	Pn	23 29 09.8	-2.4
KIW				SN	Sn	23 29 40.1	-4.0
MTW	Mount Morrison	2.72	188	PN	Pn	23 29 11.4	-3.1
MRW	Makara Radio	2.93	199	PN	Pn	23 29 14.3	-3.0
TRWZ	Traveller	2.94	184	PN	Pn	23 29 14.9	-2.5
TRWZ				SN	Sn	23 29 48.7	-4.5
PAWZ	Paruwai Farm	2.94	188	SN	Sn	23 29 49.4	-3.9
MSWZ	Moikau Station	3.00	191	SN	Sn	23 29 49.4	-5.2
TCW	Tory Channel	3.04	205	PN	Pn	23 29 15.6	-3.1
TCW				SN	Sn	23 29 51.3	-4.3
TUWZ	Tuamarina	3.35	207	PN	Pn	23 29 19.3	-3.3
NNZ	Nelson	3.40	215	SN	Sn	23 29 59.8	-4.1
QRZ	Quartz Range	3.56	227	PN	Pn	23 29 21.1	-4.2
QRZ				SN	Sn	23 30 02.4	-5.1
THZ	Tophouse	4.05	215	PN	Pn	23 29 27.6	-4.1
KHZ	Kahutara	4.37	205	PN	Pn	23 29 32.0	-3.9

IDC **10** *23:48:00.5±1.6, 3.17S×129.47E, h0km, mb4.2/3, mb1 4.3/5, mb1mx3.9/16, mbtmp4.1/5, ML3.9/2, MS4.5/1, Ms1 4.5/1, ms1mx2.9/23, Error ellipse: s-maj=96.9km s-min=26.2km az=71.0*
ISCJB **10** *23:48:03.2±0.6, 3.21S±0.08×129.4E±0.1, h33km, mb4.0/3, MS4.5/1, Error ellipse: s-maj=18.6km s-min=8.4km az=123.7*
NEIC **10** *23:48:05.2±0.6, 3.20S×129.47E, h35km, mb4.1/3, Error ellipse: s-maj=18.4km s-min=8.5km az=62.0*
ISC 10 23:48:05.5±0.6**, 3.19S**±0.08×**129.5E**±0.1**, h35**km**, n20, σ0.98**/18**, mb4.0**/3**, MS4.5**/1**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.29	194	eP	Pn	23 51 39.8	+1.3
	4.5nm,0.5s						
FITZ	Fitzroy Crossi	15.29	194	Pn	Pn	23 51 39.4	+0.9
	0.1nm,0.3s,baz=20,slow=15,SNR=3.9						
KKM	Kota Kinabalu	16.10	305	ePn	Pn	23 51 47.4	-1.6
WRAB	Tennant Creek	17.31	164	ePn	Pn	23 52 03.7	-0.6
	4.3nm,0.3s						
WRA	Warramunga Arr	17.32	164	P	Pn	23 52 02.3	-2.1
	0.8nm,0.3s,baz=346,slow=13,SNR=26						
WB2	Warramunga Arr	17.32	164	eP	Pn	23 52 02.6	-1.8
MBWA	Marble Bar	20.22	207	P	P	23 52 37.8	+0.5
AS31	Alice Springs	20.80	168	eP	P	23 52 44.4	+0.7
ASAR	Alice Springs	20.80	168	P	P	23 52 44.5	+0.9
	10nm,0.6s,baz=351,slow=10,SNR=79						
ASAR				PcP	PcP	23 56 52.5	+0.9
	0.3nm,0.5s,baz=355,slow=1.5,SNR=5.5						
ASPA	Alice Springs	20.80	168	eP	P	23 52 44.4	+0.7
CTAO	Charters Tower	23.46	137	eP	P	23 53 11.3	-0.6
KULM	Kulim	29.99	286	P	P	23 54 10.7	+0.1
STKA	Stephens Creek	30.73	160	P	P	23 54 17.5	+0.3
	1.3nm,0.4s,mb4.2,baz=335,slow=14,SNR=3.0						
HNR	Honiara	30.91	103	eP	P	23 54 19.4	+0.6
JHJ	Hachijo jima 2	37.41	14	LR	LR	00 06 52.4	
	comp=Z,784nm,21.2s,MS4.5,baz=192,slow=30						
KURK	Kurchatov	69.01	328	eP	P	23 59 07.5	+0.1
	2.3nm,0.9s,mb4.1						
BVAR	Borovoye Array	74.58	327	P	P	23 59 41.3	+0.5
	0.4nm,0.5s,mb3.6,baz=90,slow=1.8,SNR=3.9						
BRVK	Borovoye	74.65	327	eP	P	23 59 42.5	+1.3
CHKZ	Chkalovo	74.76	328	eP	P	23 59 41.0	-0.8
LTX	Lajitas	123.37	57	Pdif	Pdif	00 03 29.6	-1.2

IDC **11** *00:05:43.5±8.0, 24.58S×178.50E, h591km±70km, mb3.4/4, mb1 3.5/5, mb1mx3.3/12, mbtmp4.5/5, Error ellipse: s-maj=100.9km s-min=47.7km az=136.0*
NEIC **11** *00:05:44.3±2.4, 24.57S×178.44E, h603km±23km, mb4.6/2, Error ellipse: s-maj=30.1km s-min=14.0km az=57.0*
ISCJB **11** *00:05:46.4±3.8, 24.8S±0.3×178.2E±0.4, h628km±30km, mb4.2/5, Error ellipse: s-maj=74.1km s-min=19.0km az=96.7*
ISC 11 00:05:44.8±3.8**, 24.7S**±0.3×**178.4E**±0.4**, h602**km±29km**, n18, σ0.69**/14**, mb4.2**/5**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.28	281	P	P	00 08 15.8	-0.5
	1.5nm,0.3s,baz=97,slow=13,SNR=13						
SNZO	South Karori	16.86	190	P	P	00 09 10.4	+0.5
CTA	Charters Tower	30.02	272	P	P	00 11 07.9	+1.3
	3.8nm,0.3s,mb4.5,baz=103,slow=10.0,SNR=6.9						
CTAO	Charters Tower	30.02	272	eP	P	00 11 07.8	+1.2
	3.9nm,0.3s,mb4.5						
STKA	Stephens Creek	33.07	249	P	P	00 11 32.1	-0.3
	2.9nm,0.9s,mb3.9,baz=93,slow=14,SNR=7.4						
PMG	Port Moresby	33.39	292	P	P	00 11 35.2	+0.1
ASAR	Alice Springs	40.47	262	P	P	00 12 33.0	+0.3
	1.9nm,0.5s,mb3.9,baz=90,slow=7.0,SNR=18						
WRAB	Tennant Creek	40.89	268	eP	P	00 12 36.2	+0.2
	7.9nm,0.3s,mb4.7						
WRA	Warramunga Arr	40.90	268	P	P	00 12 36.3	+0.1
	2.9nm,0.3s,mb4.3,baz=99,slow=6.7,SNR=153						
SBA	Scott Base	53.52	183	P	P	00 14 10.8	+0.4
MBWA	Marble Bar	53.80	261	P	P	00 14 11.0	-1.3
CASY	Casey	58.77	206	P	P	00 14 46.0	-0.4
QSPA	South Pole Qui	65.40	180	eP	P	00 15 28.1	-1.2
SNAA	Sanae	83.90	180	eP	P	00 17 13.2	+0.7
BVAR	Borovoye Array	120.05	318	PKP	PKPdf	00 23 27.8	-0.3
	0.5nm,0.5s,baz=112,slow=2.4,SNR=3.7						
NB2	NORSAR Subarra	142.61	350	PKP	PKPdf	00 24 08.4	-1.9
	comp=Z,1.5nm,0.7s,baz=20,slow=3.6						
NOA	NORSAR Array B	142.61	350	PKP	PKPdf	00 24 08.3	-2.0
	comp=Z,1.8nm,0.7s,baz=16,slow=5.0,SNR=7.0						
HFS	Hagfors	143.01	347	PKP	PKPdf	00 24 09.5	-1.5
	comp=Z,4.2nm,0.5s,baz=62,slow=3.9,SNR=33						

ISCJB **11** *00:05:49.3±2.6, 5.2S±0.1×150.4E±0.1, h66km±28km, mb3.9/6, Error ellipse: s-maj=25.9km s-min=13.7km az=117.0*
NEIC **11** *00:05:51.3±1.4, 5.27S×150.35E, h66km±16km, mb4.4/2, Error ellipse: s-maj=15.9km s-min=9.0km az=142.0*
IDC **11** *00:05:52.5±6.1, 5.30S×150.42E, h77km±42km, mb3.6/4, mb1 3.8/5, mb1mx3.6/12, mbtmp3.9/5, ML2.5/1, MS3.7/11, Ms1 3.7/11, ms1mx3.4/24, Error ellipse: s-maj=96.5km s-min=26.4km az=110.0*
ISC 11 00:05:51.7±2.1**, 5.3S**±0.1×**150.4E**±0.1**, h69**km±25km**, n22, σ0.66**/16**, mb3.9**/6**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.23	218	P	Pn	00 07 06.2	-1.0
	1.2nm,0.3s,baz=10,slow=11,SNR=3.8						
PMG				S	Sn	00 08 09.0	+2.8
	1.5nm,0.3s,baz=14,slow=20,SNR=4.5						
PMG				LR	LR	00 09 23.9	
	comp=Z,413nm,19.2s,baz=55,slow=41						
HNR	Honiara	10.33	114	LR	LR	00 11 51.3	
	comp=Z,294nm,18.6s,baz=179,slow=35						
HNR	Honiara	10.33	114	Pn	Pn	00 08 17.2	+0.2
CTA	Charters Tower	15.29	195	LR	LR	00 14 23.5	
	comp=Z,294nm,21.4s,baz=46,slow=34						
CTAO	Charters Tower	15.29	195	P	Pn	00 09 23.3	-0.1
GUMO	Guam	19.51	344	LR	LR	00 17 10.1	
	comp=Z,95nm,20.2s,baz=98,slow=35						
WRAB	Tennant Creek	21.37	226	eP	P	00 10 33.6	+0.2
	16nm,1.2s,mb4.2						
WRA	Warramunga Arr	21.39	226	P	P	00 10 33.1	-0.4
	2.8nm,0.9s,mb3.6,baz=49,slow=10,SNR=11						
WRA				LR	LR	00 19 04.2	
	comp=Z,110nm,21.7s,baz=95,slow=37						
DZM	Mont Dzumac	22.81	139	LR	LR	00 18 27.0	
	comp=Z,365nm,19.1s,baz=6.0,slow=33						
ASAR	Alice Springs	24.24	219	P	P	00 11 01.4	-0.7
	1.2nm,0.7s,mb3.4,baz=56,slow=8.0,SNR=11						
ASAR				LR	LR	00 19 39.0	
	comp=Z,180nm,18.5s,baz=274,slow=34						
ASAR	Alice Springs	24.24	219	P	P	00 11 01.4	-0.7
ASAR				LR	LR	00 19 39.0	
FITZ	Fitzroy Crossi	27.36	240	P	P	00 11 30.7	+0.5
	2.6nm,0.7s,mb3.9,baz=74,slow=8.6,SNR=9.5						
FITZ				LR	LR	00 24 15.4	
	comp=Z,103nm,20.2s,baz=69,slow=40						
STKA	Stephens Creek	27.74	196	LR	LR	00 22 35.7	
	comp=Z,238nm,19.0s,baz=23,slow=36						
MBWA	Marble Bar	33.68	239	eP	P	00 12 26.2	+0.2
	4.7nm,0.7s,mb4.4						
KKM	Kota Kinabalu	35.93	288	eP	P	00 12 44.9	-0.5
MJAR	Matsushiro Arr	43.12	346	P	P	00 13 45.8	+0.7
	0.8nm,0.3s,mb3.9,baz=167,slow=8.1,SNR=5.5						
MJAR				LR	LR	00 29 24.9	
	comp=Z,70nm,18.4s,baz=125,slow=33						
KULM	Kulim	50.77	281	eP	P	00 14 44.4	-0.4
LSA	Lhasa	66.54	305	eP	P	00 16 34.7	+0.4
MAW	Mawson	84.23	203	LR	LR	00 51 59.1	
	comp=Z,93nm,19.9s,baz=244,slow=33						
CHKZ	Chkalovo	88.17	324	P	P	00 18 35.2	+0.2
BRVK	Borovoye	88.25	323	eP	P	00 18 35.1	-0.3
TORD	Torodi Ar. Bea	148.16	286	PKPbc	PKPbc	00 25 30.2	+0.6
	0.8nm,0.8s,baz=77,slow=2.1,SNR=5.3						

ISCJB **11** *00:16:20.6±9.2, 4.7S±0.2×151.0E±0.1, h6km±61km, mb4.1/8, Error ellipse: s-maj=27.9km s-min=17.8km az=132.0*
IDC **11** *00:16:21.9±7.5, 4.69S×151.00E, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.0/14, mbtmp4.2/5, ML3.4/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/24, Error ellipse: s-maj=113.4km s-min=72.1km az=40.0*
NEIC **11** *00:16:26.6±0.6, 4.73S×150.99E, h35km, mb4.3/5, Error ellipse: s-maj=11.6km s-min=10.0km az=81.0*
ISC 11 00:16:25.2±7.0**, 4.7S**±0.2×**151.0E**±0.1**, h22**km±53km**, n16, σ0.65**/15**, mb4.1**/8**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.02	219	Pn	Pn	00 17 53.6	+0.6
	5.8nm,0.3s,baz=25,slow=9.8,SNR=14						
PMG				LR	LR	00 20 20.4	
	comp=Z,103nm,21.8s,baz=89,slow=40						
HNR	Honiara	10.05	118	ePn	Pn	00 18 48.2	0.0
CTA	Charters Tower	15.97	196	LR	LR	00 24 29.4	

	comp=Z,68nm,19.1s,baz=50,slow=30						
CTAO	**Charters Tower**	**15.97**	**196**	*e*Pn	**Pn**	**00 20 08.0**	**-0.5**
	0.9nm,0.3s						
WRAB	**Tennant Creek**	**22.18**	**226**	*e*P	**P**	**00 21 19.2**	**-0.5**
	9.1nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**22.19**	**226**	P	**P**	**00 21 19.2**	**-0.6**
	3.8nm,0.9s,mb3.8,baz=51,slow=10,SNR=14						
ASAR	**Alice Springs**	**25.04**	**220**	P	**P**	**00 21 48.3**	**+0.6**
	1.9nm,0.8s,mb3.7,baz=56,slow=8.6,SNR=9.7						
FITZ	**Fitzroy Crossi**	**28.14**	**240**	P	**P**	**00 22 16.6**	**+1.0**
	5.0nm,0.7s,mb4.2,baz=106,slow=8.1,SNR=13						
STKA	**Stephens Creek**	**28.43**	**197**	P	**P**	**00 22 18.4**	**+0.2**
	3.6nm,1.0s,mb4.0,baz=28,slow=7.4,SNR=3.1						
MBWA	**Marble Bar**	**34.47**	**239**	*e*P	**P**	**00 23 10.5**	**-0.8**
	3.3nm,0.7s,mb4.4						
KKM	**Kota Kinabalu**	**36.33**	**287**	P	**P**	**00 23 26.7**	**-0.6**
QIZ	**Qiongzhong**	**46.87**	**301**	*e*P	**P**	**00 24 54.1**	**+0.5**
KULM	**Kulim**	**51.25**	**281**	P	**P**	**00 25 27.5**	**+0.4**
KURK	**Kurchatov**	**82.59**	**322**	P	**P**	**00 28 45.1**	**-1.4**
BRVK	**Borovoye**	**88.16**	**323**	*e*P	**P**	**00 29 14.8**	**+0.5**
	0.7nm,0.5s,mb4.2						
ZRNK	**Zerenda**	**88.90**	**323**	*e*P	**P**	**00 29 18.3**	**+0.5**
	0.4nm,0.2s,mb4.4						

IDC 11 00:38:44.1±3.5**,475S×15030E,h0km,mb4.0**/3**,mb1 4.2**/4**, mb1mx3.9**/13**,mbtmp4.1**/4**,ML3.2**/1**,MS3.3**/2**,Ms1 3.3**/2**, ms1mx2.6**/25**,Error ellipse: s-maj=103.5km s-min=44.3km az=113.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.58**	**214**	Pn	Pn	00 40 08.7	+0.3
	4.5nm,0.3s,baz=42,slow=12,SNR=12						
GUMO	**Guam**	**19.00**	**344**	LR	LR	00 48 36.3	
	comp=Z,77nm,21.1s,baz=96,slow=31						
WRA	**Warramunga Arr**	**21.67**	**224**	P	P	00 43 36.2	-0.1
	3.1nm,0.8s,baz=49,slow=10,SNR=20						
ASAR	**Alice Springs**	**24.57**	**218**	P	P	00 44 05.5	-0.1
	2.1nm,0.9s,baz=51,slow=9.4,SNR=10						
FITZ	**Fitzroy Crossi**	**27.52**	**239**	P	P	00 44 33.6	+1.2
	3.0nm,0.7s,baz=68,slow=9.0,SNR=12						
MJAR	**Matsushiro Arr**	**42.60**	**346**	LR	LR	01 02 46.4	
	comp=Z,59nm,21.2s,baz=220,slow=34						
TORD	**Torodi Ar. Bea**	**147.92**	**287**	PKPbc	PKPbc	00 58 31.6	+0.3
	0.6nm,0.7s,baz=58,slow=2.4,SNR=4.6						

*IDC **11** 00:39:41.2±3.9,476S×15001E,h0km,mb3.7/2,mb1 4.0/3, mb1mx3.8/12,mbtmp3.9/3,ML2.9/1,MS2.9/1,Ms1 2.9/1, ms1mx2.2/25,Error ellipse: s-maj=137.9km s-min=45.0km az=111.0*

*ISCJB **11** 00:39:43.8±0.9,49S±0.1×150.1E±0.1,h33km,mb3.7/3, Error ellipse: s-maj=16.5km s-min=15.0km az=73.9*

*NEIC **11** 00:39:45.6±0.6,481S×15006E,h35km,mb3.8/2,Error ellipse: s-maj=13.5km s-min=11.2km az=106.0*

ISC 11 00:39:46.2±0.9**,49S**±0.1**×150.1E**±0.1**,h35km,n13,σ0.58**/12**, mb3.7**/3**,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.36**	**212**	Pn	**Pn**	**00 41 03.4**	**-0.3**
	2.4nm,0.3s,baz=25,slow=9.1,SNR=4.5						
PMG				LR	LR	00 43 06.4	
	comp=Z,104nm,18.8s,baz=234,slow=38						
HNR	**Honiara**	**10.79**	**115**	*e*Pn	**Pn**	**00 42 18.2**	**0.0**
CTAO	**Charters Tower**	**15.59**	**193**	Pn	**Pn**	**00 43 23.4**	**+0.1**
	1.4nm,0.4s						
WRAB	**Tennant Creek**	**21.42**	**224**	*e*P	**P**	**00 44 31.1**	**0.0**
	4.3nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**21.43**	**224**	P	**P**	**00 44 31.7**	**+0.4**
	1.4nm,0.5s,mb3.6,baz=50,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**24.34**	**218**	P	**P**	**00 45 01.1**	**+0.4**
	1.8nm,0.7s,mb3.6,baz=54,slow=8.5,SNR=9.7						
MBWA	**Marble Bar**	**33.60**	**238**	*e*P	**P**	**00 46 23.1**	**0.0**
NWAO	**Narrogin (SRO)**	**41.44**	**224**	*e*P	**P**	**00 47 28.7**	**-0.7**
LSA	**Lhasa**	**66.05**	**305**	P	**P**	**00 50 29.2**	**-0.2**
CHKZ	**Chkalovo**	**87.66**	**324**	*e*P	**P**	**00 52 24.5**	**-6.5**
BRVK	**Borovoye**	**87.74**	**324**	*e*P	**P**	**00 52 30.4**	**-1.0**
ZRNK	**Zerenda**	**88.48**	**323**	P	**P**	**00 52 36.2**	**+1.3**
TORD	**Torodi Ar. Bea**	**147.74**	**287**	PKPbc	PKPbc	00 59 28.2	+1.0
	0.7nm,0.7s,baz=69,slow=2.4,SNR=4.3						

*ISCJB **11** 00:41:01.2±2.5,307S±0.06×129.8E±0.1,h15km±18km, mb4.1/8,Error ellipse: s-maj=25.2km s-min=8.5km az=159.8*

*IDC **11** 00:41:01.2±1.0,308S×12975E,h0km,mb4.1/6,mb1 4.3/8, mb1mx4.1/16,mbtmp4.1/8,ML4.0/2,MS3.4/1,Ms1 3.4/1, ms1mx2.3/32,Error ellipse: s-maj=94.7km s-min=18.0km az=70.0*

*NEIC **11** 00:41:06.4±0.5,308S×12979E,h35km,mb4.3/5,Error ellipse: s-maj=22.7km s-min=8.3km az=74.0*

ISC 11 00:41:07.6±1.6**,316S**±0.08**×1298E**±0.2**,h50km**±15km**,n25, σ1.10**/30**,mb4.1**/8**,Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.84**	**165**	*e*P	**Pn**	**00 43 25.6**	**-0.8**
	14nm,0.8s						
KAKA				*e*S	**Sn**	**00 45 14.0**	**-1.4**
FITZ	**Fitzroy Crossi**	**15.41**	**195**	*e*P	**Pn**	**00 44 33.7**	**-8.1**
	12nm,0.6s						
FITZ				*e*S	**S**	**00 47 32.4**	**-13**
FITZ	**Fitzroy Crossi**	**15.41**	**195**	Pn	**Pn**	**00 44 42.5**	**+0.7**
	0.5nm,0.3s,baz=37,slow=13,SNR=9.2						
FITZ				LR	LR	00 50 42.8	
	comp=Z,166nm,21.6s,baz=200,slow=38						
FITZ	**Fitzroy Crossi**	**15.41**	**195**	Pn	**Pn**	**00 44 42.5**	**+0.7**
FITZ				LR	LR	00 50 42.8	
WRAB	**Tennant Creek**	**17.25**	**166**	*e*Pn	**Pn**	**00 45 06.1**	**+1.2**
	19nm,0.9s						
WRAB				*e*Sn	**Sn**	**00 48 19.3**	**+3.5**
WRA	**Warramunga Arr**	**17.25**	**166**	P	**Pn**	**00 45 03.4**	**-1.6**
	0.5nm,0.3s,baz=351,slow=12,SNR=18						
WRA				S	**S**	**00 48 08.6**	**-14**
	0.3nm,0.3s,baz=349,slow=24,SNR=4.7						
WB2	**Warramunga Arr**	**17.26**	**166**	*e*P	**Pn**	**00 45 03.5**	**-1.5**
WB2				*e*S	**S**	**00 48 04.9**	**-18**
MBWA	**Marble Bar**	**20.42**	**208**	*e*P	**P**	**00 45 41.8**	**+1.2**
AS31	**Alice Springs**	**20.77**	**169**	*e*P	**P**	**00 45 45.3**	**+1.0**
AS31				*e*S	**S**	**00 49 32.2**	**-1.1**
ASPA	**Alice Springs**	**20.77**	**169**	*e*P	**P**	**00 45 45.3**	**+1.0**
ASPA				*e*S	**S**	**00 49 32.2**	**-1.1**
ASAR	**Alice Springs**	**20.77**	**169**	P	**P**	**00 45 45.3**	**+1.0**
	16nm,0.5s,baz=348,slow=10,SNR=76						
ASAR				S	**S**	**00 49 32.5**	**-0.8**
	3.2nm,0.9s,baz=348,slow=21,SNR=8.2						
CTA	**Charters Tower**	**23.23**	**138**	*e*P	**P**	**00 46 12.4**	**+1.8**
	10nm,0.9s,mb4.3						
QIZ	**Qiongzhong**	**29.55**	**319**	P	**P**	**00 47 11.9**	**+4.4**
STKA	**Stephens Creek**	**30.64**	**160**	*e*P	**P**	**00 47 18.0**	**+0.9**
	4.3nm,1.1s,mb4.2						
STKA	**Stephens Creek**	**30.64**	**160**	P	**P**	**00 47 17.7**	**+0.6**
	2.0nm,0.4s,mb4.3,baz=355,slow=7.2,SNR=7.5						
ULN	**Ulaanbaatar**	**54.59**	**341**	*e*P	**P**	**00 50 30.6**	**-0.3**
	5.2nm,1.3s,mb4.4						
MKAR	**Makanchi Array**	**64.95**	**326**	P	**P**	**00 51 42.0**	**-0.1**
	0.6nm,0.5s,mb3.9,baz=115,slow=8.7,SNR=6.2						
ZAL	**Zalesovo**	**68.09**	**333**	P	**P**	**00 52 01.7**	**-0.5**
	0.6nm,0.4s,mb4.0,baz=190,slow=14,SNR=4.4						
ZAL	**Zalesovo**	**68.09**	**333**	P	**P**	**00 52 01.7**	**-0.5**
KURK	**Kurchatov**	**69.18**	**328**	*e*P	**P**	**00 52 07.4**	**-1.5**
	4.9nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**74.75**	**327**	P	**P**	**00 52 42.2**	**-0.1**
	0.4nm,0.5s,mb3.6,baz=125,slow=9.3,SNR=4.8						
VNDA	**Vanda**	**76.26**	**173**	P	**P**	**00 52 51.2**	**+0.3**
	0.7nm,0.6s,mb3.8,baz=322,slow=5.9,SNR=5.3						
TORD	**Torodi Ar. Bea**	**127.82**	**284**	PKP	PKPdf	01 00 09.9	+2.3
	0.3nm,0.8s,baz=107,slow=1.9,SNR=5.6						
CPUP	**Villa Florida**	**149.88**	**167**	PKPbc	PKPbc	01 00 54.6	+2.4
	0.3nm,0.4s,baz=211,slow=2.1,SNR=4.3						
LPAZ	**La Paz**	**153.76**	**138**	PKPbc	PKPbc	01 01 05.6	+4.5
	0.5nm,0.4s,baz=29,slow=4.4,SNR=3.8						

KRSC 11 00:46:14,5148N×15808E,h125km,ML3.5,Near east coast of Kamchatka Peninsula

*IDC **11** 00:53:20.6±1.6,595S×10366E,h0km,mb4.1/7,mb1 4.2/7, mb1mx3.9/16,mbtmp4.1/7,Error ellipse: s-maj=97.8km s-min=18.4km az=49.0*

*ISCJB **11** 00:53:23.7±0.5,60S±0.1×1038E±0.1,h33km,mb4.4/17, Error ellipse: s-maj=22.3km s-min=8.2km az=103.9*

*NEIC **11** 00:53:25.9±0.5,587S×10378E,h35km,mb4.4/4,Error ellipse: s-maj=17.7km s-min=7.2km az=55.0*

ISC 11 00:53:26.3±0.5**,59S**±0.1**×1038E**±0.1**,h35km,n25,σ0.97**/25**, mb4.4**/17**,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**11.56**	**344**	Pn	**Pn**	**00 56 06.5**	**-2.2**
KKM	**Kota Kinabalu**	**17.15**	**46**	*e*Pn	**Pn**	**00 57 23.1**	**0.0**
MBWA	**Marble Bar**	**21.63**	**136**	P	**P**	**00 58 11.1**	**-2.2**
NWAO	**Narrogin (SRO)**	**29.65**	**157**	P	**P**	**00 59 28.2**	**-0.2**
WRA	**Warramunga Arr**	**32.77**	**118**	P	**P**	**00 59 55.2**	**-0.7**
	0.6nm,0.8s,mb3.5,baz=287,slow=12,SNR=6.1						
WRAB	**Tennant Creek**	**32.78**	**118**	*e*P	**P**	**00 59 56.0**	**0.0**
	1.2nm,0.5s,mb4.1						
ASAR	**Alice Springs**	**33.90**	**125**	P	**P**	**01 00 07.1**	**+1.3**
	0.5nm,0.3s,mb3.9,baz=305,slow=8.8,SNR=4.5						
JIRN	**Jiri**	**37.46**	**334**	*e*P	**P**	**01 00 37.6**	**+1.3**
	20nm,0.6s,mb5.1						
GUN	**Gumba**	**37.82**	**334**	*e*P	**P**	**01 00 40.5**	**+1.2**
	28nm,0.6s,mb5.2						
KKN	**Kakani**	**37.98**	**333**	*e*P	**P**	**01 00 41.5**	**+0.8**
	9.9nm,0.5s,mb4.8						
GKN	**Gorkha**	**38.46**	**332**	*e*P	**P**	**01 00 45.4**	**+0.7**
	5.5nm,0.3s,mb4.7						
KOLN	**Koldanda**	**38.76**	**331**	*e*P	**P**	**01 00 48.2**	**+1.0**
	9.8nm,0.7s,mb4.7						
CTAO	**Charters Tower**	**43.54**	**113**	P	**P**	**01 01 27.5**	**+1.0**
STKA	**Stephens Creek**	**43.73**	**131**	P	**P**	**01 01 29.7**	**+1.6**
	0.8nm,0.4s,mb3.8,baz=333,slow=14,SNR=3.5						
STKA	**Stephens Creek**	**43.73**	**131**	P	**P**	**01 01 29.7**	**+1.6**
TAU	**Tasmania Unive**	**53.17**	**141**	*e*P	**P**	**01 02 40.0**	**-0.8**
MKAR	**Makanchi Array**	**55.84**	**342**	P	**P**	**01 03 00.1**	**0.0**
	4.1nm,0.7s,mb4.6,baz=147,slow=7.4,SNR=24						
KURK	**Kurchatov**	**60.44**	**342**	*e*P	**P**	**01 03 31.8**	**-0.5**
	3.0nm,0.8s,mb4.4						
ZAL	**Zalesovo**	**61.73**	**347**	P	**P**	**01 03 41.0**	**-0.1**
	3.1nm,0.4s,mb4.8,baz=331,slow=4.5,SNR=14						
BVAR	**Borovoye Array**	**65.16**	**338**	P	**P**	**01 04 03.1**	**-0.6**
	2.1nm,0.5s,mb4.4,baz=144,slow=8.9,SNR=28						
BRVK	**Borovoye**	**65.23**	**338**	P	**P**	**01 04 03.6**	**-0.5**
CHKZ	**Chkalovo**	**65.60**	**339**	*e*P	**P**	**01 04 06.3**	**-0.2**
	2.5nm,0.6s,mb4.4						
CHKZ				*e*		01 04 20.3	
ZRNK	**Zerenda**	**65.62**	**338**	*e*P	**P**	**01 04 05.7**	**-0.9**
	2.2nm,0.7s,mb4.3						
BRTR	**Keskin Array B**	**78.75**	**312**	P	**P**	**01 05 24.4**	**-0.7**
	0.4nm,0.7s,mb3.4,baz=160,slow=5.5,SNR=3.4						
FINES	**FINESS Array B**	**89.32**	**332**	P	**P**	**01 06 18.8**	**-0.1**
	1.6nm,1.0s,mb4.3,baz=85,slow=8.6,SNR=4.2						

*IDC **11** 00:58:22.0±0.4,072N×9730E,h0km,mb5.0/26, mb1 5.1/26,mb1mx5.0/27,mbtmp5.0/26,ML3.4/1,MS4.0/4, Ms1 4.0/4,ms1mx3.3/24,Error ellipse: s-maj=16.0km s-min=10.7km az=45.0*

*ISCJB **11** 00:58:24.7±0.9,070N±0.03×97.35E±0.03,h28km±6km, mb5.2/184,MS4.5/26,Error ellipse: s-maj=5.3km s-min=4.8km az=14.1*

*MOS **11** 00:58:25.4±0.8,077N×9740E,h33km,mb5.4/77,MS4.4/5, Error ellipse: s-maj=9.7km s-min=4.4km az=123.3*

*BJI **11** 00:58:26.4,060N×9733E,h52km,mB5.0,mb5.0,Ms4.8, Msz4.6*

*SZGRF **11** 00:58:27.4,074N×9653E,h17km,mb5.0,Off west coast of northern Sumatera, Indonesia*

*NEIC **11** 00:58:28.7±0.9,074N×9733E,h46km±7km,mb5.2/83, Error ellipse: s-maj=5.6km s-min=3.8km az=216.0*

ISC 11 00:58:28.1±0.6**,069N**±0.03**×9734E**±0.03**,h39km**±5km**, h40km**±3.3km**:pP-P,n502,σ0.82**/452**,mb5.2**/184**,MS4.5**/26**, 109C-37D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.62**	**37**	Pn	**Pn**	**00 59 06.6**	**-1.3**
	8.2nm,0.3s,baz=192,slow=8.4,SNR=29						
PSI	**Prapat**	**2.62**	**37**	Pn	**Pn**	**00 59 06.6**	**-1.3**
PPI	**Padang Panjang**	**3.26**	**111**	P	**Pn**	**00 59 15.6**	**-1.1**
	797nm,0.7s						
BSI	**Banda Aceh**	**5.19**	**337**	P	**Pn**	**00 59 40.9**	**-2.3**
	236nm,0.8s						
IPM	**Ipoh**	**5.26**	**44**	P	**Pn**	**00 59 45.0**	**+0.9**
KULM	**Kulim**	**5.63**	**36**	*e*Pn	**Pn**	**00 59 48.5**	**-0.7**
KGM	**Kluang**	**6.12**	**78**	P	**Pn**	**00 59 55.9**	**0.0**
KSI	**Kapahiang**	**6.79**	**129**	P	**Pn**	**01 00 04.9**	**-0.3**
	649nm,0.8s						
SNG	**Songkhla**	**7.22**	**27**	P	**Pn**	**01 00 08.0**	**-3.0**
	798nm,1.0s						
PBA	**Port Blair**	**11.81**	**337**	*e*x	x	01 03 19.2	
PBA				*e*S	**Sn**	**01 03 19.2**	**-5.1**
PBA				*e*x	x	01 09 36.8	
KSM	**Kuching**	**12.99**	**86**	*e*Pn	**Pn**	**01 01 39.9**	**+10**
BJII	**Banjamegara**	**14.69**	**123**	P	**Pn**	**01 02 00.1**	**+6.9**
	59nm,1.1s						
NST	**Nakhon Sawan**	**15.13**	**10**	P	**Pn**	**01 02 02.7**	**+3.7**
PALK	**Pallekele**	**17.83**	**292**	*e*Pn	**Pn**	**01 02 35.0**	**+1.9**
NANT	**Nan**	**18.29**	**10**	⇓P	**Pn**	**01 02 40.0**	**+1.3**
	188nm,0.5s						
CHRT	**Chiangrai**	**19.21**	**7**	PG	**Pn**	**01 02 48.0**	**-1.8**
KKM	**Kota Kinabalu**	**19.57**	**74**	P	**Pn**	**01 02 54.2**	**+0.1**
KKM	**Kota Kinabalu**	**19.57**	**74**	*e*Pn	**Pn**	**01 02 53.8**	**-0.3**
TSM	**Tawau**	**20.82**	**80**	P	**P**	**01 03 07.5**	**+1.4**
TRD	**Trivandrum**	**21.74**	**292**	*e*P	**P**	**01 03 16.8**	**+0.8**
TRD				AMb	AMB	01 03 18.4	
	comp=Z,95nm,1.1s,mb5.2						
TRD				⇑*e*x	x	01 07 30.0	
VIS	**Vishakhapatnam**	**21.82**	**322**	*i* P	**P**	**01 03 18.1**	**+1.2**
VIS				*e*P		01 03 18.4	
VIS				AMb	AMB	01 03 25.2	
	comp=Z,97nm,1.2s,mb5.1						
QIZ	**Qiongzhong**	**21.96**	**33**	P	**P**	**01 03 18.6**	**+0.2**
QIZ				AP		01 03 26.7	
QIZ				XP	sP	01 03 38.0	+4.7
QIZ				AMB	AMB		
	comp=Z,23nm,0.9s,mb4.6						
QIZ				AMB	AMB		
	comp=Z,222nm,2.9s,mb5.1						
QIZ				LR	LR		
	comp=N,910nm,15.9s,MS4.6						
QIZ				LR	LR		
	comp=E,1μm,15.5s,MS4.6						
QIZ				LR	LR		
	comp=Z,797nm,15.3s,MS4.2						
QIZ	**Qiongzhong**	**21.96**	**33**	*e*P	**P**	**01 03 21.4**	**+3.0**
	comp=Z,11nm,0.6s,mb4.5						
PCI	**Palu**	**22.55**	**94**	P	**P**	**01 03 30.9**	**+6.3**
	comp=Z,79nm,1.1s,mb5.1						
KMI	**Kunming**	**24.84**	**12**	P	**P**	**01 03 48.0**	**+1.3**
KMI				AP		01 04 00.7	
KMI				XP	sP	01 04 06.6	+4.4
KMI				PP		01 04 27.7	
KMI				PCP	PcP	01 07 22.0	-0.1
KMI				S	**S**	**01 08 07.1**	**+0.3**
KMI				XS	sS	01 08 29.0	+4.3
KMI				SS		01 09 09.3	
KMI				SSS		01 09 26.6	
KMI				SCP	ScP	01 10 55.3	-2.5
KMI				PCS	PcS	01 11 00.9	-1.3
KMI				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.7						
KMI				AMB	AMB		
	comp=Z,206nm,4.2s						
KMI				LR	LR		
	comp=N,1μm,12.6s,MS4.6						
KMI				LR	LR		
	comp=E,748nm,13.6s,MS4.6						
KMI				LR	LR		
	comp=Z,1μm,13.6s,MS4.6						
HYB	**Hyderabad**	**24.86**	**313**	*i* P	**P**	**01 03 49.0**	**+2.2**
HYB	**Hyderabad**	**24.86**	**313**	*e*P	**P**	**01 03 49.0**	**+2.2**
SHL	**Shillong**	**25.28**	**348**	*e*P	**P**	**01 03 51.1**	**+0.4**
SHL				AMb	AMB	01 03 57.5	
	comp=Z,282nm,0.4s,mb6.2						
BOK	**Bokaro**	**25.51**	**335**	*i* P	**P**	**01 03 52.6**	**-0.1**
BOK				*e*P		01 03 54.4	
BOK				AMb	AMB	01 04 00.1	
	comp=Z,101nm,0.9s,mb5.4						
BOK				*i* x	x	01 04 10.6	
BLSP	**Bilaspur**	**25.95**	**326**	*e*P	**P**	**01 03 57.5**	**+0.8**
BLSP				AMb	AMB	01 03 58.8	
	comp=Z,50nm,0.7s,mb5.2						
NGP	**Nagpur**	**27.06**	**320**	*e*P	**P**	**01 04 07.3**	**+0.5**
NGP				AMb	AMB	01 04 13.0	
	comp=Z,32nm,1.3s,mb4.7						
GYA	**Guiyang**	**27.14**	**19**	⇑*i*P	**P**	**01 04 07.1**	**-0.4**
GYA				AP	pP	01 04 18.8	+0.5
GYA				XP	sP	01 04 24.3	+1.3
GYA				PP		01 04 53.0	
GYA				S	**S**	**01 08 38.1**	**-5.1**
GYA				XS	sS	01 08 58.6	-2.7
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,130nm,3.6s						
GYA				LR	LR		
	comp=N,1μm,14.1s,MS4.7						
GYA				LR	LR		
	comp=E,870nm,15.3s,MS4.7						
GYA				LR	LR		
	comp=Z,2μm,13.4s,MS4.8						
JIRN	**Jiri**	**28.87**	**339**	*e*P	**P**	**01 04 24.1**	**+1.2**
	comp=Z,152nm,0.9s,mb5.7						
PKI	**Pulchoki**	**29.07**	**338**	*e*P	**P**	**01 04 25.9**	**+1.2**
	comp=Z,57nm,0.7s,mb5.4						
GUN	**Gumba**	**29.21**	**339**	*e*P	**P**	**01 04 27.0**	**+1.1**
	comp=Z,118nm,0.6s,mb5.8						
DMN	**Daman**	**29.22**	**337**	*e*P	**P**	**01 04 26.6**	**+0.6**
	comp=Z,92nm,0.8s,mb5.5						
KKN	**Kakani**	**29.32**	**338**	*e*P	**P**	**01 04 27.5**	**+0.6**
	comp=Z,100nm,0.8s,mb5.6						
BHPL	**Bhopal**	**29.61**	**321**	*e*P	**P**	**01 04 30.4**	**+0.9**
BHPL				AMb	AMB	01 04 31.2	
	comp=Z,19nm,0.7s,mb4.9						
GKN	**Gorkha**	**29.76**	**337**	*e*P	**P**	**01 04 31.4**	**+0.6**
	comp=Z,126nm,0.9s,mb5.7						
KOLN	**Koldanda**	**29.97**	**335**	*e*P	**P**	**01 04 33.6**	**+0.9**
CD2	**Chengdu**	**30.66**	**11**	P	**P**	**01 04 42.4**	**+3.6**
CD2				AP	pP	01 04 53.7	+4.1
CD2				XP	sP	01 04 59.4	+5.1
CD2				PP	PP	01 05 43.8	-4.6
CD2				S	**S**	**01 09 39.0**	**+0.5**
CD2				XS	sS	01 09 56.8	+0.2
CD2				SS	SS	01 11 21.0	-29
CD2				SCS	ScS	01 15 09.5	-2.6
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
CD2				AMB	AMB		
	comp=Z,120nm,4.5s						
CD2				LR	LR		
	comp=N,710nm,14.4s						
CD2				LR	LR		
	comp=Z,610nm,15.0s,MS4.4						
MBWA	**Marble Bar**	**30.83**	**136**	*e*P	pP	01 04 51.1	-0.1
ENH	**Enshi**	**31.60**	**20**	*e*P	**P**	**01 04 46.8**	**-0.3**
ENH				*e*pP	pP	01 04 58.1	+0.2
QZH	**Quanzhou**	**31.67**	**39**	⇓*i*P	**P**	**01 04 48.6**	**+0.9**
QZH				S	**S**	**01 09 57.0**	**+2.6**
QZH				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.5						
QZH				LR	LR		
	comp=Z,1μm,16.0s,MS4.7						
NACB	**Ninganchiao**	**33.12**	**43**	*e*P	**P**	**01 05 00.5**	**+0.1**
NACB				*e*pP	pP	01 05 10.9	-0.3
NACB				*e*sP	sP	01 05 16.5	+0.6
FITZ	**Fitzroy Crossi**	**33.52**	**125**	P	**P**	**01 05 03.6**	**-0.3**
	comp=Z,15nm,0.7s,mb5.0,baz=270,slow=4.1,SNR=7.9						
TATO	**Taipei**	**33.58**	**42**	*e*P	**P**	**01 05 05.9**	**+1.6**
AJM	**Ajmer**	**33.68**	**321**	*e*P	**P**	**01 05 06.1**	**+0.8**
NDI	**New Delhi**	**33.83**	**327**	*e*P	**P**	**01 05 05.8**	**-0.7**
NDI				AMb	AMB	01 05 10.6	
	comp=Z,28nm,1.9s,mb4.9						
XAN	**Xi'an**	**34.90**	**17**	P	**P**	**01 05 14.8**	**-1.0**
XAN				S	**S**	**01 10 35.4**	**-9.0**
XAN				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.5						
XAN				LR	LR		
	comp=N,258nm,12.3s,MS4.8						
XAN				LR	LR		
	comp=E,966nm,13.3s,MS4.8						
XAN				LR	LR		
	comp=Z,773nm,15.6s,MS4.6						
LZH	**Lanzhou**	**35.73**	**9**	*e*P	**P**	**01 05 23.2**	**+0.3**
LZH				AP	pP	01 05 36.5	+2.6
LZH				XP	sP	01 05 41.7	+3.1
LZH				PP	PP	01 06 45.3	+0.8
LZH				PCP	PcP	01 07 49.5	-0.9
LZH				*e*S	**S**	**01 10 56.2**	**-0.9**
LZH				XS	sS	01 11 18.4	+3.1
LZH				SCP	ScP	01 11 30.5	-2.8
LZH				PCS	PcS	01 11 34.2	-3.5
LZH				SS	SS	01 13 19.5	-14
LZH				SCS	ScS	01 15 33.9	-4.4
LZH				AMB	AMB		
	comp=Z,39nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,237nm,5.3s						
LZH				LR	LR		
	comp=N,957nm,13.3s						
LZH				LR	LR		
	comp=Z,2μm,17.2s,MS4.9						
SMLA	**Simla**	**35.80**	**330**	*e*P	**P**	**01 05 23.5**	**-0.1**
SMLA				AMb	AMB	01 05 28.4	
	comp=Z,58nm,0.7s,mb5.6						
NJ2	**Nanjing**	**37.22**	**31**	*e*P	**P**	**01 05 36.9**	**+1.3**
NJ2				AP	pP	01 05 52.1	+5.5
NJ2				PP	PP	01 07 06.6	+5.7
NJ2				S	**S**	**01 11 19.0**	**-0.9**
NJ2				XS	sS	01 11 46.0	+7.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,120nm,3.6s						
NJ2				LR	LR		
	comp=Z,6μm,14.5s,MS5.5						
SSE	**Sheshan**	**37.74**	**35**	*e*P	**P**	**01 05 41.5**	**+1.4**
SSE				AP	pP	01 05 54.8	+3.7
SSE				XP	sP	01 06 01.4	+5.6
SSE				PP	PP	01 07 08.9	+2.2
SSE				PCP	PcP	01 07 57.6	+1.2
SSE				S	**S**	**01 11 29.0**	**+1.1**
SSE				XS	sS	01 11 51.8	+5.7
SSE				AMB	AMB		
	comp=Z,28nm,0.9s,mb5.0						
SSE				AMB	AMB		
	comp=Z,157nm,3.5s						
SSE				LR	LR		
	comp=N,198nm,25.5s,MS4.0						
SSE				LR	LR		
	comp=E,263nm,25.5s,MS4.0						
SSE				LR	LR		
	comp=Z,306nm,20.3s						
NWAO	**Narrogin (SRO)**	**38.35**	**153**	P	**P**	**01 05 45.5**	**+0.4**
	comp=Z,38nm,1.1s,mb5.0,baz=321,slow=9.6,SNR=5.0						
NWAO	**Narrogin (SRO)**	**38.35**	**153**	P	**P**	**01 05 45.5**	**+0.4**
NWAO				*e*P		01 05 46.2	
GTA	**Gaotai**	**38.60**	**3**	*e*P	**P**	**01 05 47.1**	**-0.2**
GTA				AP	pP	01 05 59.7	+1.4
GTA				XP	sP	01 06 04.4	+1.4
GTA				PP	PP	01 07 21.9	+5.9
GTA				PCP	PcP	01 07 58.9	-0.2
GTA				S	**S**	**01 11 42.0**	**+1.2**
GTA				PCS	PcS	01 11 47.2	-1.2
GTA				XS	sS	01 12 01.4	+2.3
GTA				SS	SS	01 14 25.5	-6.2
GTA				SCS	ScS	01 15 52.1	-2.4
GTA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
GTA				AMB	AMB		
	comp=Z,139nm,6.1s						
GTA				LR	LR		
	comp=N,350nm,11.4s,MS4.5						
GTA				LR	LR		
	comp=E,287nm,13.3s,MS4.5						
GTA				LR	LR		
	comp=Z,323nm,12.5s,MS4.3						
WRA	**Warramunga Arr**	**41.65**	**122**	P	**P**	**01 06 11.9**	**-0.6**
	comp=Z,22nm,0.9s,mb4.8,baz=300,slow=9.1,SNR=15						
WRAB	**Tennant Creek**	**41.66**	**122**	*e*P	**P**	**01 06 10.4**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,46nm,0.8s,mb5.2						
WRAB	**Tennant Creek**	**41.66**	**122**	*e*P	**P**	**01 06 10.4**	**-2.2**
	comp=Z,46nm,0.8s,mb5.2						
HHC	**Hu-ho-hao-te**	**42.00**	**16**	*e*P	**P**	**01 06 16.7**	**+1.3**
HHC				AP	pP	01 06 29.4	+2.9
HHC				XP	sP	01 06 34.0	+2.8
HHC				PP	PP	01 07 59.1	+6.1

HHC PCP PcP 01 08 10.7 +0.7
HHC SCP ScP 01 11 56.7 -0.6
HHC PCS PcS 01 11 58.8 -2.9
HHC S **S** **01 12 31.8 +0.3**
HHC XS sS 01 12 55.0 +5.0
HHC SS SS 01 15 36.9 -2.5
HHC SCS ScS 01 16 12.4 -2.3
HHC AMB AMB
comp=Z,17nm,0.9s,mb4.7
HHC AMB AMB
comp=Z,96nm,4.6s
HHC LR LR
comp=N,309nm,13.4s,MS4.7
HHC LR LR
comp=E,689nm,15.0s,MS4.7
HHC LR LR
comp=Z,660nm,14.5s,MS4.7
BJT Baijiatuau 42.73 21 *e*P **P** **01 06 22.3 +0.9**
BJT pmax pmax
comp=Z,50nm,0.6s
BJT Baijiatuau 42.73 21 *e*P **P** **01 06 22.3 +1.0**
comp=Z,50nm,0.6s,mb5.4
BJI Beijing 42.75 21 *e*P **P** **01 06 22.5 +1.0**
BJI S **S** **01 12 40.5 -2.1**
BJI AMB AMB
comp=Z,63nm,0.7s,mb5.5
BJI AMB AMB
comp=Z,226nm,3.8s
BJI LR LR
comp=N,510nm,12.9s,MS4.7
BJI LR LR
comp=E,428nm,13.9s,MS4.7
BJI LR LR
comp=Z,361nm,17.8s,MS4.3
ASAR Alice Springs 42.98 127 P **P** **01 06 23.8 +0.4**
comp=Z,4.7nm,1.0s,mb4.2,baz=301,slow=7.2,SNR=4.3
WSAR Wadi Sarin 43.75 304 P **P** **01 06 30.7 +1.1**
comp=Z,12nm,1.0s,mb4.6,baz=48,slow=23,SNR=4.8
WMQ Urumqi 43.79 350 P **P** **01 06 31.1 +1.2**
WMQ AP pP 01 06 46.5 +5.4
WMQ XP sP 01 06 53.7 +8.0
WMQ PP PP 01 08 15.3 +3.0
WMQ PCP PcP 01 08 17.8 +1.8
WMQ SCP ScP 01 12 02.8 -1.7
WMQ S **S** **01 12 56.2 -1.7**
WMQ XS sS 01 13 22.6 +6.2
WMQ AMB AMB
comp=Z,38nm,0.9s,mb5.1
WMQ AMB AMB
comp=Z,166nm,4.6s
WMQ LR LR
comp=Z,2μm,15.5s,MS5.2
JMDO Jabal Madar 43.83 302 ⇑P **P** **01 06 32.2 +2.0**
DL2 Dalian 44.05 27 P **P** **01 06 32.0 0.0**
DL2 AMB AMB
comp=Z,38nm,1.0s,mb5.1
SMDO Samad 44.16 303 ⇓P **P** **01 06 33.9 +1.1**
BIDO Bidbid 44.28 304 ⇓P **P** **01 06 35.1 +1.2**
BIDO ⇑P 01 06 35.6
SNR=5.8
BIDO ⇑P 01 06 35.8
BSY Bisya 44.74 302 ⇑P **P** **01 06 39.2 +1.6**
WHFO Wadi Hawf 46.10 294 ⇑P **P** **01 06 49.4 +1.2**
KS15 Wonju Array Si 46.15 34 *e*P **P** **01 06 49.0 +0.3**
KS15 *e*pP pP 01 07 00.2 +0.2
UCH Uchtor 46.17 336 P **P** **01 06 50.0 +1.2**
SNR=20
TKM2 Tokmak 2 46.34 338 P **P** **01 06 51.0 +0.8**
SNR=14
KBK Karagaybulak 46.36 337 P **P** **01 06 51.7 +1.4**
SNR=9.9
AML Almayashu 46.42 336 P **P** **01 06 52.0 +1.2**
SNR=11
AAK Ala-Archa 46.52 337 ⇑P **P** **01 06 51.4 -0.2**
SNR=9.4
AAK Ala-Archa 46.52 337 *e*P **P** **01 06 52.1 +0.5**
EKS2 Erkin-Say 46.83 336 P **P** **01 06 55.4 +1.4**
SNR=7.2
USP Ospenovka 47.05 337 P **P** **01 06 56.3 +0.5**
SNR=31
ULN Ulaanbaatar 47.73 9 P **P** **01 07 01.7 +0.7**
SNR=7.5
ULN Ulaanbaatar 47.73 9⇑ *e*P **P** **01 07 01.1 +0.1**
ULN Ulaanbaatar 47.73 9 *e*P **P** **01 07 01.0 0.0**
comp=Z,20nm,1.2s,mb5.0
MKAR Makanchi Array 47.76 346 P **P** **01 07 01.3 +0.1**
comp=Z,51nm,0.7s,mb5.7,baz=157,slow=7.7,SNR=193
CN2 Changchun 49.69 27 *e*P **P** **01 07 16.0 -0.1**
CN2 *e*S **S** **01 14 21.3 -0.8**
CN2 AMB AMB
comp=Z,30nm,0.8s,mb5.4
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,16.0s,MS4.7
CN2 LR LR
comp=E,500nm,16.0s,MS4.7
CN2 LR LR
comp=Z,500nm,18.0s,MS4.6
ZAK Zakamensk 49.76 5⇓ *i*P **P** **01 07 16.4 -0.2**
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
PMG Port Moresby 50.60 103 P **P** **01 07 23.4 +0.4**
comp=Z,50nm,0.7s,mb5.5,baz=303,slow=6.4,SNR=13
PMG Port Moresby 50.60 103 *e*P **P** **01 07 23.3 +0.3**
PMG pmax pmax
comp=Z,54nm,0.7s
PMG Port Moresby 50.60 103 *e*P **P** **01 07 23.3 +0.3**
comp=Z,54nm,0.7s,mb5.6
TLY Talaya 51.08 5 P **P** **01 07 27.3 +0.7**
comp=Z,90nm,0.8s,mb5.8,SNR=5.8
ABKT Ailbek 51.69 320 P **P** **01 07 30.5 -0.6**
comp=Z,114nm,0.8s,mb5.9,SNR=6.3
IRK Irkutsk 51.70 5 *e*P **P** **01 07 29.2 -2.0**
IRK *e* 01 08 43.3
IRK pmax pmax
comp=Z,58nm,0.7s,mb5.6
MAT Matsushiro 51.97 42 P **P** **01 07 32.4 -0.8**
MAT *e*S S 01 14 21.2 -32
MAT Matsushiro 51.97 42 *e*P **P** **01 07 32.0 -1.2**
MJAR Matsushiro Arr 51.97 42 P **P** **01 07 32.9 -0.3**
comp=Z,5.6nm,0.8s,mb4.5,baz=224,slow=7.2,SNR=18
MJAR LR LR 01 30 15.2
comp=Z,196nm,18.2s,MS4.2,baz=240,slow=37
HIA Hailar 52.07 18 *e*P **P** **01 07 34.3 +0.3**
HIA *e**PP pP 01 07 45.7 +0.4
HIA pmax pmax
comp=Z,20nm,0.8s
HIA Hailar 52.07 18 *e*P **P** **01 07 34.2 +0.3**
comp=Z,20nm,0.8s,mb5.1
HIA *e*pP pP 01 07 45.7 +0.4
CTAO Charters Tower 52.15 116 *e*P **P** **01 07 35.2 +0.6**
CTAO pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
CTAO Charters Tower 52.15 116 *e*P **P** **01 07 35.2 +0.7**
comp=Z,4.5nm,0.5s,mb4.7
MDJ Mudanjiang 52.24 29 P **P** **01 07 36.0 +0.8**
MDJ AP pP 01 07 47.7 +1.1
MDJ XP sP 01 07 54.8 +3.6
MDJ PCP PcP 01 08 43.0 -3.3
MDJ PP PP 01 09 38.4 +4.5
MDJ SCP ScP 01 12 36.1 -4.1
MDJ PCS PcS 01 12 42.4 -2.2
MDJ S **S** **01 14 59.3 +2.0**
MDJ SCS ScS 01 17 21.4 -0.5
MDJ AMB AMB
comp=Z,9.0nm,0.9s,mb4.7
MDJ AMB AMB
comp=Z,89nm,6.3s
MDJ LR LR
comp=N,391nm,14.8s,MS4.8
MDJ LR LR
comp=E,485nm,15.8s,MS4.8
MDJ LR LR
comp=Z,322nm,15.8s,MS4.5
KURK Kurchatov 52.31 345 P **P** **01 07 35.4 -0.4**
comp=Z,128nm,1.0s,mb5.8,SNR=21
KURK Kurchatov 52.31 345 P **P** **01 07 36.0 +0.2**
SNR=19
KURK Kurchatov 52.31 345 *e*P **P** **01 07 35.6 -0.2**
KURK pmax pmax
comp=Z,23nm,0.8s,mb5.2
KURK Kurchatov 52.31 345 *e*P **P** **01 07 35.6 -0.2**
comp=Z,23nm,0.8s,mb5.2
VLA Vladivostok 52.32 32 *e*P **P** **01 07 36.2 +0.4**
VLA pmax pmax
comp=Z,29nm,0.7s,mb5.3
VLA MLR MLR
comp=Z,400nm,14.0s,MS4.6
OPO Ambohidratompo 52.85 246 P **P** **01 07 40.0 +0.3**
comp=Z,6.5nm,0.9s,mb4.6,baz=59,slow=7.3,SNR=4.5
STKA Stephens Creek 52.91 132⇑ *i*P **P** **01 07 40.9 +0.7**
comp=Z,23nm,0.8s,mb5.2
STKA Stephens Creek 52.91 132 P **P** **01 07 41.1 +0.9**
comp=Z,30nm,0.8s,mb5.2,baz=308,slow=7.3,SNR=16
STKA LR LR 01 33 00.4
comp=Z,272nm,18.7s,MS4.3,baz=217,slow=39
ZAL Zalesovo 54.07 351 P **P** **01 07 48.3 -0.4**
comp=Z,22nm,0.5s,mb5.3,baz=310,slow=5.7,SNR=73
RDF Al-Radifah 55.13 305 *e*P **P** **01 07 56.4 0.0**
RDF AMb AMB 01 08 02.2
comp=Z,149nm,0.7s,mb6.1
ATD Arta Tunnel 55.14 284 LR LR 01 25 45.6
comp=Z,51nm,20.4s,MS3.6,baz=37,slow=30
NVS Novosibirsk 55.20 350 *i*P **P** **01 07 56.1 -0.7**
NVS *e* 01 08 56.0
NVS *i*S **S** **01 15 38.8 +1.4**
NVS pmax pmax
comp=Z,36nm,1.2s,mb5.3
NVS pmax pmax
comp=N,28nm,1.3s
NVS pmax pmax
comp=E,19nm,1.3s
NVS smax
comp=N,13nm,1.7s
NVS smax
comp=E,21nm,1.7s
UMR Umm Al-Rimmam 55.23 306 *e*P **P** **01 07 57.0 -0.1**
UMR AMb AMB 01 08 02.2
comp=Z,70nm,0.7s,mb5.8
NAY Al-Naaiem 55.50 306 *e*P **P** **01 07 58.7 -0.4**
NAY AMb AMB 01 08 04.0
comp=Z,60nm,0.6s,mb5.8
MIB Mutribah 55.63 306 *e*P **P** **01 07 60.0 0.0**
MIB AMb AMB 01 08 01.1
comp=Z,103nm,1.0s,mb5.8
RST Umm Al-Ruwaisa 55.79 306 *e*P **P** **01 08 00.7 -0.4**
RST AMb AMB 01 08 05.8
comp=Z,73nm,0.7s,mb5.8
KLR Kul'dur 56.64 26 *e*P **P** **01 08 04.7 -2.5**
KLR pmax pmax
comp=E,20nm,1.0s
KLR pmax pmax
comp=Z,40nm,1.0s,mb5.4
KLR MLR MLR
comp=E,600nm,14.0s
KLR MLR MLR
comp=Z,1μm,14.0s,MS5.1
BVAR Borovoye Array 56.77 341 P **P** **01 08 07.1 -1.0**
comp=Z,14nm,0.7s,mb5.1,baz=140,slow=7.8,SNR=106
BRVK Borovoye 56.83 341 P **P** **01 08 07.1 -1.5**
comp=Z,118nm,0.8s,mb6.0,SNR=20
BRVK Borovoye 56.83 341⇓ P **P** **01 08 08.0 -0.6**
SNR=11
BRVK Borovoye 56.83 341⇑ *e*P **P** **01 08 07.5 -1.1**
ZRNK Zerenda 57.17 340 *e*P **P** **01 08 10.1 -0.9**
ZRNK pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
ZRNK Zerenda 57.17 340 *e*P **P** **01 08 10.1 -0.9**
comp=Z,4.9nm,0.5s,mb4.8
CHKZ Chkalovo 57.25 341 *e*P **P** **01 08 11.0 -0.5**
CHKZ pmax pmax
comp=Z,33nm,0.8s,mb5.4
CHKZ Chkalovo 57.25 341 *e*P **P** **01 08 11.0 -0.5**
comp=Z,33nm,0.8s,mb5.4
HABR Khabarovsk 57.63 29 *e*P **P** **01 08 14.0 -0.2**
HABR *e*S **S** **01 16 11.5 +1.9**
HABR pmax pmax
comp=Z,13nm,0.3s,mb5.4
BOD Bodaibo 58.48 10 *e*P **P** **01 08 19.8 -0.3**
BOD pmax pmax
comp=Z,24nm,0.9s,mb5.2
KMBO Kilima Mbogo 60.11 268 P **P** **01 08 31.6 +0.2**
comp=Z,7.9nm,0.8s,mb4.8,baz=52,slow=10.0,SNR=14
ARMA Armidale 60.12 126⇑ *i*P **P** **01 08 33.8 +2.3**
CNB Canberra Magne 60.24 132 *e*P **P** **01 08 33.3 +1.0**
comp=Z,19nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 60.68 34⇑ *e*P **P** **01 08 36.0 +0.7**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.4
YSS MLR MLR
comp=Z,200nm,17.0s,MS4.3
YSS Yuzh-Sakhalins 60.68 34 *e*P **P** **01 08 35.8 +0.5**
GNI Garni 61.76 316⇑ *e*P **P** **01 08 42.8 +0.2**
DGRG David-gareji 61.90 318 P **P** **01 08 43.9 +0.4**
DGRG David-gareji 61.90 318 P **P** **01 08 43.4 -0.2**
TAU Tasmania Unive 62.34 141 P **P** **01 08 47.1 +0.6**
MTA Mtatsminda 62.40 318 P **P** **01 08 46.5 -0.4**
MTA Mtatsminda 62.40 318 P **P** **01 08 46.5 -0.3**
TBLG Delisi 62.45 318 P **P** **01 08 46.4 -0.8**
TBLG Delisi 62.45 318 P **P** **01 08 47.2 0.0**
TBLG Delisi 62.45 318 P **P** **01 08 47.2 0.0**
HNR Honiara 63.13 101 *e*P **P** **01 08 52.2 +0.5**
HNR *e**PP pP 01 09 05.1 +1.7
AKH Akhalkalaki 63.15 317 P **P** **01 08 52.9 +1.0**
SVE Sverdlovsk 63.21 338 *e*P **P** **01 08 52.0 -0.3**
SVE *e* 01 09 09.0
SVE pmax pmax
comp=Z,44nm,1.3s,mb5.4
SVE MLR MLR
comp=N,100nm,14.0s,MS4.3
SVE MLR MLR
comp=E,100nm,14.0s,MS4.3
SVE MLR MLR
comp=Z,200nm,14.0s,MS4.4
ZEI Tsey 63.47 319 *e*P **P** **01 08 54.1 +0.1**
ZEI *e**PP pP 01 09 01.5 -4.1
ZEI pmax pmax
comp=Z,12nm,0.5s,mb5.3
ONI Oni 63.68 318 P **P** **01 08 46.6 -8.8**
ARU Arti 63.70 337 P **P** **01 08 54.0 -1.5**
comp=Z,127nm,1.0s,mb5.9,SNR=10.0
ARU Arti 63.70 337⇓ *i*P **P** **01 08 54.1 -1.4**
ARU *e* 01 09 31.1
ARU *e* 01 11 13.5
ARU *e*PPP 01 12 45.5
ARU *e*S **S** **01 17 27.9 +0.7**
ARU *e*SS SS 01 21 32.3 -3.0
ARU pmax pmax
comp=Z,24nm,1.0s,mb5.2
ARU Arti 63.70 337 *e*P **P** **01 08 54.2 -1.3**
comp=Z,27nm,1.0s,mb5.2
KIV Kislovodsk 64.78 319 P **P** **01 09 02.2 -0.4**
comp=Z,129nm,1.1s,mb5.9,SNR=8.1
KIV Kislovodsk 64.78 319⇓ P **P** **01 09 02.6 0.0**
SNR=8.9
KIV Kislovodsk 64.78 319 *e*P **P** **01 09 02.1 -0.5**
KIV pmax pmax
comp=Z,31nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,94nm,18.0s,MS4.0
KIV Kislovodsk 64.78 319 *e*P **P** **01 09 02.5 -0.1**
ASF Jabal al Asfar 64.87 305 P **P** **01 09 04.2 +1.0**
comp=Z,17nm,0.8s,mb5.1,baz=337,slow=4.2,SNR=23
GOF Gofitskoye 65.04 321 *e*P **P** **01 09 07.9 +3.6**
MALT Malatya 65.57 312 *e*P **P** **01 09 08.3 +0.6**
MALT pmax pmax
comp=Z,33nm,1.4s,mb5.2
MALT Malatya 65.57 312 *e*P **P** **01 09 08.3 +0.6**
comp=Z,33nm,1.4s,mb5.2
YAK Yakutsk 65.86 16 *e*P **P** **01 09 09.9 +0.3**
YAK *e* 01 09 46.4
YAK *e*S S 01 17 42.4 -11
YAK pmax pmax
comp=Z,40nm,0.9s,mb5.5
YAK pmax pmax
comp=N,21nm,1.4s
YAK pmax pmax
comp=E,17nm,1.6s
YAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.7s
YAK smax
comp=N,4.0nm,1.7s
YAK smax
comp=E,2.0nm,0.8s
YAK smax
comp=Z,3.0nm,0.8s
YAK MLR MLR
comp=Z,952nm,44.0s,MS4.7
YAK MLR MLR
comp=N,190nm,18.0s
YAK MLR MLR
comp=E,175nm,14.0s
YAK Yakutsk 65.86 16⇑ *e*P **P** **01 09 08.6 -1.0**
GZT Gaziantep 65.90 311 *i*P **P** **01 09 09.6 -0.2**
CASY Casey 67.49 174 *e*P **P** **01 09 20.2 +0.2**
CSS Prodhromos 68.48 307 P **P** **01 09 26.4 +0.1**
comp=E,16nm,1.0s,mb5.0
CSS *e*pP pP 01 09 38.3 +0.3
VRHR Novokhopersk 68.62 326 *e*P **P** **01 09 25.7 -1.4**
VRHR pmax pmax
comp=Z,40nm,1.0s,mb5.3
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,9.0nm,0.6s
BRTR Keskin Array B 69.56 312 P **P** **01 09 31.8 -1.1**
comp=E,9.8nm,0.8s,mb4.8,baz=126,slow=7.1,SNR=44
VRSR Storozhevoye 70.05 325 *e*P **P** **01 09 33.7 -2.2**
VRSR pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,1.0s
LSZ Lusaka 70.11 254 P **P** **01 09 36.5 +0.2**
LSZ pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LSZ Lusaka 70.11 254 P **P** **01 09 36.5 +0.2**
comp=Z,9.8nm,0.9s,mb4.7
ANTO Ankara 70.22 312 *e*P **P** **01 09 36.0 -1.0**
ANTO *e**PP pP 01 09 47.6 -1.1
ANTO pmax pmax
comp=Z,27nm,1.0s,mb5.1
ANTO Ankara 70.22 312 *e*P **P** **01 09 36.0 -0.9**
comp=Z,27nm,1.0s,mb5.1
ANTO *e*pP pP 01 09 47.6 -1.2
VOR Voronezh 70.27 326 *e*P **P** **01 09 34.0 -3.2**
VOR pmax pmax
comp=Z,70nm,1.4s,mb5.4
BALT Daday 70.27 314 *i*P **P** **01 09 36.8 -0.5**
MATP Matopo 70.47 248 P **P** **01 09 39.0 +0.6**
comp=Z,19nm,0.8s,mb5.1,baz=82,slow=6.1,SNR=35
SIM Simferopol' 70.83 318 *ce*P **P** **01 09 39.7 -1.0**
SIM pmax pmax
comp=Z,26nm,0.7s,mb5.3
DZM Mont Dzumac 70.95 114 P **P** **01 09 42.7 +1.3**
comp=Z,13nm,1.0s,mb4.8,baz=113,slow=21,SNR=4.2
TKTP Tekketepe 71.60 310 *i*P **P** **01 09 44.1 -1.3**
MAW Mawson 72.25 193 *e*P **P** **01 09 49.7 +0.4**
comp=Z,8.1nm,0.7s,mb4.8
MAW Mawson 72.25 193 P **P** **01 09 49.6 +0.3**
comp=Z,13nm,0.9s,mb4.9,baz=24,slow=5.5,SNR=20
MAW LR LR 01 34 58.2
comp=Z,124nm,18.6s,MS4.2,baz=60,slow=30
MAW Mawson 72.25 193 *e*P **P** **01 09 49.7 +0.4**
MAW pmax pmax
comp=Z,8.0nm,0.7s
PET Petropavlovsk 72.57 34⇑ *e*P **P** **01 09 51.0 -0.1**
MOS Moscow 72.84 329 *e*P **P** **01 09 50.8 -1.9**
MOS *i* 01 09 56.2
MOS *e* 01 12 35.9
MOS pmax pmax
comp=Z,54nm,0.8s,mb5.5
ULDT Uludag 73.00 312 *i*P **P** **01 09 53.3 -0.4**
OBN Obninsk 73.12 328 P **P** **01 09 53.4 -1.0**
comp=Z,272nm,0.7s,SNR=6.1
OBN Obninsk 73.12 328 *c i*P **P** **01 09 53.3 -1.1**
OBN *i* 01 10 11.1
OBN pmax pmax
comp=Z,44nm,1.2s,mb5.3
OBN Obninsk 73.12 328⇑ *i*P **P** **01 09 53.4 -1.0**
OBN LR LR
comp=Z,100nm,19.0s,MS4.1
TIXI Tiksi 73.66 10⇑ *i*P **P** **01 09 56.2 -1.3**
LBTB Lobatse 73.79 244 *e*P **P** **01 09 58.7 +0.3**
LBTB pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LBTB Lobatse 73.79 244 *e*P **P** **01 09 58.7 +0.4**
comp=Z,9.0nm,0.8s,mb4.8
KLMR Klimovskoe 74.27 335 *e*P **P** **01 09 59.8 -1.3**
KLMR pmax pmax
comp=Z,40nm,1.3s,mb5.2
AKASG Malin Array Be 75.74 322 P **P** **01 10 08.3 -1.3**
comp=Z,14nm,0.6s,mb5.1,baz=88,slow=5.1,SNR=57
VRI Vrincioaia 76.08 317⇑ P **P** **01 10 11.3 -0.3**
PLOR Plostina 76.13 317⇓ P **P** **01 10 12.3 +0.5**
MLR Muntele Rosu 76.53 317⇓ P **P** **01 10 14.5 +0.4**
VOIR 77.13 317⇓ P **P** **01 10 16.5 -1.0**
BURAR Bucovina Array 77.50 319⇑ P **P** **01 10 20.3 +0.8**
VTS Vitosha 77.88 313⇑ P **P** **01 10 20.9 -0.8**
JOF Joensuu 78.66 335 *ep* P **P** **01 10 24.6 -1.4**
comp=Z,18nm,0.7s,mb5.1
JOF Joensuu 78.66 335 *e*P **P** **01 10 24.6 -1.4**
JOF pmax pmax
comp=Z,18nm,0.7s,mb5.1
LVV L'vov 78.75 321 *e*P **P** **01 10 26.3 -0.2**
DRGR 79.00 318⇓ P **P** **01 10 28.2 +0.4**
LVZ Lovozero 79.35 340 *e*P **P** **01 10 28.1 -1.7**
LVZ pmax pmax
comp=Z,22nm,0.8s,mb5.1
LVZ pmax pmax
comp=N,7.0nm,0.9s
LVZ pmax pmax
comp=E,8.0nm,0.9s
BZS Buzias 79.54 316⇑ P **P** **01 10 30.2 -0.6**
KWP Kalwaria 79.55 320 *e*P **P** **01 10 30.7 -0.1**
SYO Syowa Base 79.57 198⇓ *e*P **P** **01 10 30.6 -0.4**
KOLS Kolonicke sedl 79.69 320 *e*P **P** **01 10 32.0 +0.4**
KOLS pmax pmax
comp=Z,14nm,1.2s,mb4.8
KOLS Kolonicke sedl 79.69 320 *e*P **P** **01 10 32.0 +0.4**
comp=Z,14nm,1.2s,mb4.8
SUW Suwalki 80.17 325 *e*P **P** **01 10 33.1 -1.1**
SUW *e* 01 10 37.7
CRVS Cervenica-Dubn 80.21 320 *e*P **P** **01 10 34.3 -0.1**
CRVS pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CRVS Cervenica-Dubn 80.21 320 *e*P **P** **01 10 34.3 -0.1**
comp=Z,6.8nm,1.0s,mb4.5
DIVS Divcibare 80.44 315 *e*P **P** **01 10 35.2 -0.5**
FINES FINESS Array B 80.51 333 P **P** **01 10 35.2 -0.8**
comp=Z,10nm,0.5s,mb5.0,baz=102,slow=6.0,SNR=45
FINES FINESS Array B 80.51 333 P **P** **01 10 35.2 -0.8**
TSUM Tsumeb 80.56 251 *e*P **P** **01 10 37.2 +0.9**
comp=Z,15nm,1.0s,mb4.9
TSUM *e*PcP PcP 01 10 42.5 -0.6
KAF Kangasniemi 80.59 333 *ep* P **P** **01 10 35.3 -1.2**
comp=Z,21nm,0.7s,mb5.2,baz=103,slow=5.0
KAF Kangasniemi 80.59 333 *e*P **P** **01 10 35.3 -1.2**
KAF pmax pmax
comp=Z,21nm,0.7s,mb5.2
KECS Kecovo 80.78 319 *e*P **P** **01 10 37.4 -0.1**
KECS pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
KECS Kecovo 80.78 319 *e*P **P** **01 10 37.4 -0.1**
comp=Z,6.3nm,0.7s,mb4.7
NIE Niedzica 81.04 320 *e*P **P** **01 10 39.0 +0.1**
PSZ Piszkesteto 81.08 318⇑ *e*P **P** **01 10 38.9 -0.2**
OJC Ojcow 81.50 321 *e*P **P** **01 10 41.0 -0.3**
PKSM Moragy 81.68 317⇓ P **P** **01 10 42.1 -0.2**
PKSM Moragy 81.68 317⇑ *e*P **P** **01 10 41.8 -0.5**
VYHS Vyhne 81.86 319 *e*P **P** **01 10 42.8 -0.4**
VYHS pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
VYHS Vyhne 81.86 319 *e*P **P** **01 10 42.8 -0.4**
comp=Z,6.3nm,1.1s,mb4.5
URZ Urewera 82.39 129 P **P** **01 10 45.9 -0.1**
comp=Z,10nm,0.8s,mb4.8,baz=26,slow=1.9,SNR=5.6
OKC Ostrava-Krasne 82.50 320 *e*P **P** **01 10 46.5 -0.1**
OKC *e*PCP PcP 01 10 50.8 -0.8
KEV Kevo 82.62 341 *ep* P **P** **01 10 45.1 -2.1**
comp=Z,10nm,0.8s,mb4.9
KEV Kevo 82.62 341 *e*P **P** **01 10 45.1 -2.1**
KEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MORC Moravsky Berou 82.88 320 ⇓P **P** **01 10 48.2 -0.3**
ZST Bratislava 82.97 318 *e*P **P** **01 10 49.0 0.0**
ZST pmax pmax
comp=Z,20nm,0.8s,mb5.2
ZST Bratislava 82.97 318 *e*P **P** **01 10 49.0 0.0**
comp=Z,20nm,0.8s,mb5.2

ZST *e* 01 10 53.6
ARCES ARCESS Array B 83.06 340 P **P** **01 10 49.1 -0.3**
comp=Z,8.4nm,0.6s,mb5.0,baz=109,slow=4.5,SNR=43
FG4 Candela 83.38 311 P **P** **01 10 51.0 -0.1**
FG4 pmax pmax
comp=Z,77nm,1.0s,mb5.7
FG4 Candela 83.38 311 P **P** **01 10 51.0 -0.1**
comp=Z,77nm,1.0s,mb5.7
SGO Sicignano 83.49 311 P **P** **01 10 50.8 -0.9**
SGO pmax pmax
comp=Z,11nm,1.0s,mb4.8
SGO Sicignano 83.49 311 P **P** **01 10 50.8 -0.9**
comp=Z,11nm,1.0s,mb4.8
GKP Gorka Klasztor 83.52 323 *eP* **P** **01 10 51.2 -0.6**
DPC Dobruska-Polom 83.73 320 *eP* **P** **01 10 53.3 +0.4**
DPC *ePCP* PcP 01 10 57.8 +0.8
GOLS Golise 83.74 316 *eP* **P** **01 10 53.1 +0.1**
GOLS *i* pP pP 01 10 57.1 -7.9
KSP Ksiaz 83.80 321 *eP* **P** **01 10 53.9 +0.6**
KSP Ksiaz 83.80 321 *eP* **P** **01 10 53.4 +0.1**
KSP *ePcP* PcP 01 10 57.8 +0.5
GROS Grobnik 83.87 317 *eP* **P** **01 10 53.4 -0.2**
GROS *i* pP pP 01 10 57.9 -7.7
ARSA Arzberg 83.93 317⇑*iP* **P** **01 10 53.9 -0.1**
comp=Z,41nm,1.6s,mb5.3,SNR=7.3
UPC Upice 83.94 321 *eP* **P** **01 10 54.2 +0.2**
UPC *ePCP* PcP 01 10 58.7 +0.8
PERS Pernice 84.15 317 *eP* **P** **01 10 55.1 0.0**
PERS *i* pP pP 01 10 59.6 -7.5
TREC Trest 84.16 319 *eP* **P** **01 10 54.9 -0.2**
TREC *ePCP* PcP 01 10 59.3 +0.4
LJU Ljubljana 84.51 316 *eP* **P** **01 10 56.9 0.0**
LJU *epP* pP 01 11 01.4 -7.5
OBKA Obir 84.53 316⇑*iP* **P** **01 10 57.0 0.0**
comp=Z,22nm,1.8s,mb5.0
MOA Molln 84.83 318⇑*iP* **P** **01 10 57.9 -0.6**
comp=Z,49nm,1.8s,mb5.3
PRU Pruhonice 84.83 320 *eP* **P** **01 10 58.3 -0.2**
PRU *ePCP* PcP 01 11 02.8 +1.0
PVCC Panska Ves 84.86 321 *eP* **P** **01 10 58.3 -0.4**
PVCC *ePCP* PcP 01 11 02.8 +0.8
VOJS Vojsko 84.95 316 *eP* **P** **01 10 58.5 -0.6**
AQU L'Aquila 85.05 312 *eP* **P** **01 10 59.8 +0.2**
AQU pmax pmax
comp=Z,24nm,0.9s,mb5.3
AQU L'Aquila 85.05 312 *eP* **P** **01 10 59.8 +0.2**
comp=Z,24nm,0.9s,mb5.3
CADS Cadrg 85.07 316 *eP* **P** **01 10 59.0 -0.7**
CING Cingoli 85.26 313 P **P** **01 11 00.7 0.0**
GEC2 GERESS Array S 85.28 319 *eP* **P** **01 11 00.8 0.0**
comp=Z,23nm,1.2s,mb5.2
GEC2 pmax pmax
comp=Z,23nm,1.2s,mb5.2
GERES GERESS Array B 85.28 319 P **P** **01 11 01.0 +0.2**
comp=Z,9.2nm,0.8s,mb4.9,baz=98,slow=5.5,SNR=62
BRG Berggiesshubel 85.29 321 *eP* **P** **01 11 00.6 -0.2**
BRG Berggiesshubel 85.29 321 *eP* **P** **01 11 00.7 -0.1**
comp=Z,7.6nm,1.1s,mb4.7
BRG *i* 01 11 05.0
comp=Z,9.1nm,1.0s
BRG Berggiesshubel 85.29 321 *eP* **P** **01 11 00.7 -0.1**
BRG pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
VNDA Vanda 85.31 169 P **P**
comp=Z,2.5nm,1.0s,mb4.3,baz=292,slow=7.8,SNR=7.9 **01 11 00.2 -0.7**
PTCC Patocco-Chiusa 85.34 316 P **P** **01 11 00.4 -0.7**
comp=Z,12nm,0.7s,mb5.2
KHC Kasperske Hory 85.39 319 *eP* **P** **01 11 00.7 -0.6**
KHC *ePCP* PcP 01 11 05.1 +0.8
KBA Koelnbreinsper 85.40 317⇑*iP* **P** **01 11 00.7 -0.7**
comp=Z,8.8nm,1.6s,mb4.7
KBA Koelnbreinsper 85.40 317⇑*iP* **P** **01 11 00.7 -0.6**
KBA pmax pmax
comp=Z,9.0nm,1.5s,mb4.7
ARV Arcevia 85.45 313 P **P** **01 11 01.6 0.0**
ARV pmax pmax
comp=Z,42nm,1.1s,mb5.5
ARV Arcevia 85.45 313 P **P** **01 11 01.6 0.0**
comp=Z,42nm,1.1s,mb5.5
RUE Ruedersdorf 85.52 322 *eP* **P** **01 11 01.3 -0.6**
comp=Z,20nm,0.7s,mb5.5
FSSB Fossombrone 85.58 314 P **P** **01 11 02.4 +0.1**
comp=Z,118nm,2.0s,mb5.8
FBE Freiberg 85.66 321 *eP* **P** **01 11 02.6 -0.1**
comp=Z,20nm,1.3s,mb5.2
FVI Forni Avoltri 85.75 316 P **P** **01 11 02.2 -0.9**
FVI pmax pmax
comp=Z,11nm,1.0s,mb5.0
FVI Forni Avoltri 85.75 316 P **P** **01 11 02.2 -0.9**
comp=Z,11nm,1.0s,mb5.0
CLL Collm 85.91 321 *eP* **P** **01 11 03.3 -0.6**
comp=Z,11nm,1.0s,mb5.0
CLL Collm 85.91 321⇑P **P** **01 11 03.3 -0.6**
comp=Z,logA/T=1.0,mb5.0
CLL *i* PCP PcP 01 11 07.8 +1.2
CLL *e* 01 11 26.0
CLL Collm 85.91 321⇑*iP* **P** **01 11 03.3 -0.6**
comp=Z,11nm,1.0s,mb5.0
CLL *i* PcP PcP 01 11 07.8 +1.2
CLL *es*PcP 01 11 26.0
CLL Collm 85.91 321⇑*iP* **P** **01 11 03.3 -0.6**
CLL pmax pmax
comp=Z,11nm,1.0s,mb5.0
TANN Tannenbergstha 86.20 320 *eP* **P** **01 11 05.0 -0.3**
comp=Z,8.0nm,1.1s,mb4.9
WERN Wernitzgruen 86.24 320 *eP* **P** **01 11 05.4 -0.1**
comp=Z,10.0nm,1.1s,mb5.0
SFI Santa Sofia 86.27 314 P **P** **01 11 06.5 +0.9**
SFI pmax pmax
comp=Z,34nm,1.1s,mb5.5
SFI Santa Sofia 86.27 314 P **P** **01 11 06.5 +0.9**
comp=Z,34nm,1.1s,mb5.5
GUNZ Gunzen 86.28 320 *eP* **P** **01 11 05.6 -0.1**
comp=Z,9.0nm,0.9s,mb5.0
WERD Werda 86.30 320 *eP* **P** **01 11 05.5 -0.3**
comp=Z,8.0nm,1.1s,mb4.9
ROTZ Rotzenmuhle 86.32 320 *eP* **P** **01 11 06.2 +0.3**
comp=Z,10.0nm,1.0s,mb5.0
MANZ Manzenberg 86.40 320 *eP* **P** **01 11 06.7 +0.4**
comp=Z,19nm,1.0s,mb5.3
VMG Vicchio 86.49 314 P **P** **01 11 07.6 +0.9**
comp=Z,41nm,0.8s,mb5.7
CTI Castel Tesino 86.51 316 P **P** **01 11 05.9 -0.9**
WTTA Wattenberg 86.57 317⇑*iP* **P** **01 11 06.4 -0.7**
comp=Z,34nm,1.8s,mb5.3,SNR=5.5
WTTA Wattenberg 86.57 317⇑*iP* **P** **01 11 06.4 -0.7**
WTTA pmax pmax
comp=Z,34nm,1.8s,mb5.3
MOX Moxa 86.75 321 *eP* **P** **01 11 07.8 -0.2**
comp=Z,19nm,1.6s,mb5.1
MOX Moxa 86.75 321 *eP* **P** **01 11 07.6 -0.4**
comp=Z,18nm,1.5s,mb5.1
MOX Moxa 86.75 321 *eP* **P** **01 11 07.6 -0.4**
MOX pmax pmax
comp=Z,18nm,1.5s,mb5.1
FUR Furstenfeldbru 86.86 318 *eP* **P** **01 11 07.9 -0.6**
comp=Z,6.0nm,0.8s,mb4.9
FUR Furstenfeldbru 86.86 318 *eP* **P** **01 11 07.9 -0.6**
FUR pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
GRFL Gerfalco 86.87 313 P **P** **01 11 07.8 -0.8**
ZCCA Zocca 86.91 314 P **P** **01 11 10.3 +1.5**
comp=Z,15nm,0.8s,mb5.3
MOTA Moosalm 86.94 317⇓*iP* **P** **01 11 08.1 -0.8**
comp=Z,8.9nm,1.1s,mb4.9,SNR=5.2
MOTA Moosalm 86.94 317⇓*iP* **P** **01 11 08.2 -0.7**
MOTA pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
GRA1 Grafenberg Arr 86.96 320 *eP* **P** **01 11 09.2 +0.2**
comp=Z,14nm,0.9s,mb5.2
GRA1 *epP* pP 01 11 14.0 -7.1
GRF Grafenberg Arr 86.96 320 *eP* **P** **01 11 09.2 +0.2**
comp=Z,14nm,0.9s,mb5.2
GRF *epP* pP 01 11 14.0 -7.1
GRF Grafenberg Arr 86.96 320 *eP* **P** **01 11 09.2 +0.2**
GRF pmax pmax
comp=Z,14nm,0.9s,mb5.2
GRF Grafenberg Arr 86.96 320 *eP* **P** **01 11 09.2 +0.2**
GRF pmax pmax
comp=Z,14nm,0.9s,mb5.2
GSCL Gusciola 87.19 314 P **P** **01 11 08.8 -1.4**
comp=Z,8.6nm,0.8s,mb5.0

BRMO Bormio 87.41 316 P **P** **01 11 11.4 +0.2**
comp=Z,1.9nm,0.4s,mb4.7
NB2 NORSAR Subarra 87.51 331 P **P** **01 11 10.9 -0.8**
comp=Z,7.4nm,0.8s,mb5.0,baz=97,slow=4.6
NOA NORSAR Array B 87.51 331 P **P** **01 11 09.8 -1.9**
comp=Z,8.6nm,0.8s,mb5.0,baz=94,slow=4.9,SNR=5.8
NOA NORSAR Array B 87.51 331 P **P** **01 11 09.8 -1.9**
CLZ Clausthal 87.58 322 *eP* **P** **01 11 12.0 0.0**
comp=Z,14nm,1.1s,mb5.1
CLZ Clausthal 87.58 322 *eP* **P** **01 11 12.0 0.0**
CLZ pmax pmax
comp=Z,14nm,1.1s,mb5.1
BSEG Bad Segeberg 87.69 324 *eP* **P** **01 11 12.7 +0.2**
comp=Z,27nm,1.1s,mb5.4
BSEG Bad Segeberg 87.69 324 *eP* **P** **01 11 12.7 +0.2**
BSEG pmax pmax
comp=Z,27nm,1.1s,mb5.4
NRDL Niedersach Rie 87.76 322 *eP* **P** **01 11 13.2 +0.3**
comp=Z,27nm,1.2s,mb5.3
DAVA Damuels 87.77 317⇓*iP* **P** **01 11 12.7 -0.2**
comp=Z,24nm,1.4s,mb5.2,SNR=8.3
UBBA Unterbreizbach 87.78 321 *eP* **P** **01 11 13.3 +0.3**
comp=Z,3.0nm,0.8s,mb4.6
GTTG Gvttingen 87.82 321 *eP* **P** **01 11 13.3 +0.1**
comp=Z,9.0nm,0.7s,mb5.1
PGF Pioggiola 88.31 312 *eP* **P** **01 11 15.4 -0.1**
MUD Monsted U'grnd 88.41 326 *iP* **P** **01 11 16.4 +0.4**
comp=Z,22nm,1.0s,mb5.3
MUD *e* 01 24 01.7
MUD Monsted U'grnd 88.41 326 *iP* **P** **01 11 16.4 +0.4**
MUD pmax pmax
comp=Z,22nm,1.0s,mb5.3
KBS Kingsbay 88.44 349⇑*eP* **P** **01 11 14.1 -2.0**
SPAK Spaichingen-Ko 88.52 318 *eP* **P** **01 11 16.0 -0.5**
BFO Black Forest 88.83 318 *eP* **P** **01 11 17.3 -0.6**
comp=Z,4.0nm,0.8s,mb4.8
BFO Black Forest 88.83 318 *eP* **P** **01 11 17.3 -0.6**
BFO pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
FIN Finale Ligure 88.90 314 P **P** **01 11 18.1 -0.2**
FIN pmax pmax
comp=Z,25nm,0.8s,mb5.6
FIN Finale Ligure 88.90 314 P **P** **01 11 18.1 -0.2**
comp=Z,24nm,0.8s,mb5.6
FELD Feldberg im Sc 89.05 318 *eP* **P** **01 11 17.7 -1.3**
IBBN Ibbenburen 89.20 322 *eP* **P** **01 11 19.9 +0.2**
comp=Z,28nm,0.7s,mb5.7
ABH Alteburg 89.34 320 *eP* **P** **01 11 20.3 0.0**
SBF Sospel 89.46 314⇑*iP* **P** **01 11 20.7 -0.2**
comp=Z,44nm,0.9s,mb5.5
SBF Sospel 89.46 314⇑*iP* **P** **01 11 20.7 -0.2**
SBF pmax pmax
comp=Z,22nm,0.9s,mb5.5
SBF Sospel 89.46 314⇑*iP* **P** **01 11 20.7 -0.2**
comp=Z,22nm,0.9s,mb5.5
AUTN L'Aution 89.46 314 *eP* **P** **01 11 21.4 +0.5**
BUG Bochum--Univer 89.51 321 *eP* **P** **01 11 21.2 +0.1**
comp=Z,16nm,1.0s,mb5.3
LUCF Luceram 89.52 314 *eP* **P** **01 11 21.0 -0.2**
CDF Champ du Feu 89.53 318 *eP* **P** **01 11 20.7 -0.5**
comp=Z,25nm,1.3s,mb5.1
CDF Champ du Feu 89.53 318 *eP* **P** **01 11 20.7 -0.5**
CDF pmax pmax
comp=Z,13nm,1.3s,mb5.1
CDF Champ du Feu 89.53 318 *eP* **P** **01 11 20.7 -0.5**
comp=Z,13nm,1.3s,mb5.1
TOUF Mont Tournerai 89.59 314 *eP* **P** **01 11 21.9 +0.4**
ECH Echery 89.61 318 *eP* **P** **01 11 21.0 -0.6**
MVIF Mont Vial 89.66 314 *eP* **P** **01 11 22.1 +0.3**
WTSB Winterswijk 89.79 322⇑*iP* **P** **01 11 22.4 -0.1**
comp=Z,20nm,0.7s,mb5.5
HINF Hinteralfeld 89.82 318 *eP* **P** **01 11 22.4 -0.2**
LPG La Plagne 89.92 315⇑*iP* **P** **01 11 23.3 +0.2**
comp=Z,26nm,0.9s,mb5.3
LPG La Plagne 89.92 315⇑*iP* **P** **01 11 23.3 +0.2**
LPG pmax pmax
comp=Z,13nm,0.9s,mb5.3
LPG La Plagne 89.92 315⇑*iP* **P** **01 11 23.3 +0.2**
comp=Z,13nm,0.9s,mb5.3
LPL La Plagne 89.94 315⇑*iP* **P** **01 11 23.2 +0.1**
comp=Z,30nm,0.9s,mb5.3
LPL La Plagne 89.94 315⇑*iP* **P** **01 11 23.2 +0.1**
LPL pmax pmax
comp=Z,15nm,0.9s,mb5.3
LPL La Plagne 89.94 315⇑*iP* **P** **01 11 23.2 +0.1**
comp=Z,15nm,0.9s,mb5.3
BNI Bardonecchia 89.98 315 *eP* **P** **01 11 23.2 -0.2**
BNI pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
BNI Bardonecchia 89.98 315 *eP* **P** **01 11 23.2 -0.2**
comp=Z,10nm,0.9s,mb5.2
FRF La Foret Royal 90.03 313⇑*iP* **P** **01 11 23.6 0.0**
comp=Z,58nm,1.2s,mb5.5
FRF La Foret Royal 90.03 313⇑*iP* **P** **01 11 23.6 0.0**
FRF pmax pmax
comp=Z,29nm,1.2s,mb5.5
FRF La Foret Royal 90.03 313⇑*iP* **P** **01 11 23.6 0.0**
comp=Z,29nm,1.2s,mb5.5
LMR La Mourre 90.14 313⇑*iP* **P** **01 11 24.0 -0.1**
comp=Z,33nm,1.2s,mb5.2
LMR La Mourre 90.14 313⇑*iP* **P** **01 11 24.0 -0.1**
LMR pmax pmax
comp=Z,17nm,1.2s,mb5.2
LMR La Mourre 90.14 313⇑*iP* **P** **01 11 24.0 -0.1**
comp=Z,16nm,1.2s,mb5.2
HAU Haudompre 90.16 318⇑*iP* **P** **01 11 23.8 -0.4**
comp=Z,32nm,1.0s,mb5.3
HAU Haudompre 90.16 318⇑*iP* **P** **01 11 23.8 -0.4**
HAU pmax pmax
comp=Z,16nm,1.0s,mb5.3
HAU Haudompre 90.16 318⇑*iP* **P** **01 11 23.8 -0.4**
comp=Z,16nm,1.0s,mb5.3
WLF Walferdange 90.25 319 *eP* **P** **01 11 25.0 +0.4**
comp=Z,13nm,1.1s,mb5.2
WLF Walferdange 90.25 319 P **P** **01 11 24.7 +0.1**
WLF AP pP 01 11 29.8 -6.9
WLF Walferdange 90.25 319 *eP* **P** **01 11 22.2 -2.4**
WLF pmax pmax
comp=Z,64nm,1.6s,mb5.7
WLF Walferdange 90.25 319 *eP* **P** **01 11 22.1 -2.4**
comp=Z,64nm,1.6s,mb5.7
MEM Membach 90.32 320 P **P** **01 11 24.7 -0.2**
MEM AP pP 01 11 29.3 -7.7
HGN Heimansgroeve 90.36 321 *eP* **P** **01 11 24.7 -0.5**
comp=Z,10nm,1.4s,mb5.0
CABF La Chapelle 90.36 316 *eP* **P** **01 11 25.2 +0.1**
comp=Z,40nm,1.2s,mb5.3
CABF La Chapelle 90.36 316 *eP* **P** **01 11 25.2 +0.1**
CABF pmax pmax
comp=Z,20nm,1.2s,mb5.3
CABF La Chapelle 90.36 316 *eP* **P** **01 11 25.2 +0.1**
comp=Z,20nm,1.2s,mb5.3
THEF They Montfort 90.39 318 *eP* **P** **01 11 24.6 -0.7**
TAVF Tavernes 90.46 313 *eP* **P** **01 11 26.2 +0.6**
ORIF Oris-en-Rattie 90.55 315⇑*iP* **P** **01 11 26.2 +0.2**
comp=Z,26nm,1.0s,mb5.2
ORIF Oris-en-Rattie 90.55 315⇑*iP* **P** **01 11 26.2 +0.2**
ORIF pmax pmax
comp=Z,13nm,1.0s,mb5.2
ORIF Oris-en-Rattie 90.55 315⇑*iP* **P** **01 11 26.2 +0.2**
comp=Z,13nm,1.0s,mb5.2
STOF St-Etienne Org 90.56 314 *eP* **P** **01 11 26.9 +0.9**
QSPA South Pole Qui 90.64 180 *eP* **P** **01 11 26.6 +0.2**
comp=Z,3.4nm,1.2s,mb4.5
VILF Villemus 90.70 314 *eP* **P** **01 11 27.4 +0.7**
PUYF Puyloubier 90.72 313 *eP* **P** **01 11 27.1 +0.3**
BERF Bertagne 90.73 313 *eP* **P** **01 11 27.1 +0.3**
BCLA Clavier 90.77 320 P **P** **01 11 26.9 -0.1**
comp=Z,4.3nm,1.2s,mb4.7
BCLA AP pP 01 11 32.5 -6.7
SMRF Simiane la Rot 90.80 314⇑*iP* **P** **01 11 27.7 +0.6**
comp=Z,37nm,1.2s,mb5.3
SMRF Simiane la Rot 90.80 314⇑*iP* **P** **01 11 27.7 +0.6**
comp=Z,37nm,1.2s,mb5.6
GELF Grande-Etoile 90.92 313 *eP* **P** **01 11 28.6 +0.9**
TREF Trevaresse 90.95 313 *eP* **P** **01 11 28.6 +0.8**
MEZF Maizieres J'vi 91.01 318⇑*iP* **P** **01 11 28.1 0.0**
comp=Z,37nm,0.9s,mb5.4
MEZF Maizieres J'vi 91.01 318⇑*iP* **P** **01 11 28.1 0.0**
comp=Z,37nm,0.9s,mb5.7
GIVF Givet 91.09 320 *eP* **P** **01 11 28.5 0.0**
PRAF Pradon 91.10 314 *eP* **P** **01 11 29.0 +0.5**
DOU Dourbes 91.24 320 P **P** **01 11 29.3 +0.1**
comp=Z,4.4nm,0.9s,mb4.8
DOU AP pP 01 11 34.2 -7.2
VIVF Saint-Julien-l 91.41 315⇑*iP* **P** **01 11 30.0 0.0**
comp=Z,28nm,1.2s,mb5.2
VIVF Saint-Julien-l 91.41 315⇑*iP* **P** **01 11 30.0 0.0**
VIVF pmax pmax
comp=Z,14nm,1.2s,mb5.2
VIVF Saint-Julien-l 91.41 315⇑*iP* **P** **01 11 30.0 0.0**
comp=Z,14nm,1.2s,mb5.2
SNF Seneffe 91.42 320 P **P** **01 11 30.2 +0.2**
SNF AP pP 01 11 34.9 -7.2
BAIF Baives 91.49 320⇑*iP* **P** **01 11 30.6 +0.2**
comp=Z,54nm,0.9s,mb5.6
BAIF Baives 91.49 320⇑*iP* **P** **01 11 30.6 +0.2**
BAIF pmax pmax
comp=Z,27nm,0.9s,mb5.6
BAIF Baives 91.49 320⇑*iP* **P** **01 11 30.6 +0.2**
comp=Z,27nm,0.9s,mb5.6
LOR Lormes 91.87 317⇑*iP* **P** **01 11 31.7 -0.4**
comp=Z,53nm,1.0s,mb5.5
LOR Lormes 91.87 317⇑*iP* **P** **01 11 31.7 -0.4**
LOR pmax pmax
comp=Z,26nm,1.0s,mb5.5
LOR Lormes 91.87 317⇑*iP* **P** **01 11 31.7 -0.4**
comp=Z,26nm,1.0s,mb5.5
SMF Signal de Mont 91.91 317⇑*iP* **P** **01 11 32.0 -0.3**
comp=Z,48nm,1.0s,mb5.5
SMF Signal de Mont 91.91 317⇑*iP* **P** **01 11 32.0 -0.3**
SMF pmax pmax
comp=Z,24nm,1.0s,mb5.5
SMF Signal de Mont 91.91 317⇑*iP* **P** **01 11 32.0 -0.3**
comp=Z,24nm,1.0s,mb5.5
LASF Ste Croix 92.03 314 *eP* **P** **01 11 33.1 +0.2**
comp=Z,26nm,1.1s,mb5.2
PLDF La Plantade 92.10 316 *eP* **P** **01 11 33.5 +0.3**
SSF Saint Saulge 92.12 317⇑*iP* **P** **01 11 33.2 -0.1**
comp=Z,43nm,1.3s,mb5.3
SSF Saint Saulge 92.12 317⇑*iP* **P** **01 11 33.2 -0.1**
SSF pmax pmax
comp=Z,22nm,1.3s,mb5.3
SSF Saint Saulge 92.12 317⇑*iP* **P** **01 11 33.2 -0.1**
comp=Z,22nm,1.3s,mb5.3
AVF Avril sur Loir 92.24 317⇑*iP* **P** **01 11 33.6 -0.2**
comp=Z,38nm,1.1s,mb5.4
AVF Avril sur Loir 92.24 317⇑*iP* **P** **01 11 33.6 -0.2**
AVF pmax pmax
comp=Z,19nm,1.1s,mb5.3
AVF Avril sur Loir 92.24 317⇑*iP* **P** **01 11 33.6 -0.2**
comp=Z,19nm,1.1s,mb5.3
LBL Lubilhac 92.40 315 *eP* **P** **01 11 35.6 +1.0**
AGO Saint Agoulin 92.44 316 *eP* **P** **01 11 34.9 +0.2**
BGF Bois d'Agland 92.60 316⇑*iP* **P** **01 11 35.8 +0.3**
comp=Z,50nm,1.1s,mb5.5
BGF Bois d'Agland 92.60 316⇑*iP* **P** **01 11 35.8 +0.3**
BGF pmax pmax
comp=Z,25nm,1.1s,mb5.6
BGF Bois d'Agland 92.60 316⇑*iP* **P** **01 11 35.8 +0.3**
comp=Z,25nm,1.1s,mb5.5
TCF Toulx Ste Croi 93.06 316 *eP* **P** **01 11 37.8 +0.2**
comp=Z,7.3nm,0.9s,mb4.8
TCF Toulx Ste Croi 93.06 316 *eP* **P** **01 11 37.8 +0.2**
TCF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
TCF Toulx Ste Croi 93.06 316 *eP* **P** **01 11 37.8 +0.2**
comp=Z,3.7nm,0.9s,mb4.8
CAF Calviac 93.26 315 *eP* **P** **01 11 38.8 +0.3**
comp=Z,24nm,1.3s,mb5.2
CAF Calviac 93.26 315 *eP* **P** **01 11 38.8 +0.3**
CAF pmax pmax
comp=Z,12nm,1.3s,mb5.2
CAF Calviac 93.26 315 *eP* **P** **01 11 38.8 +0.3**
comp=Z,12nm,1.3s,mb5.2
MTLF Montolieu 93.26 313⇑*iP* **P** **01 11 38.7 +0.2**
comp=Z,37nm,1.4s,mb5.3
MTLF Montolieu 93.26 313⇑*iP* **P** **01 11 38.7 +0.2**
MTLF pmax pmax
comp=Z,19nm,1.4s,mb5.3
MTLF Montolieu 93.26 313⇑*iP* **P** **01 11 38.7 +0.2**
comp=Z,19nm,1.4s,mb5.3
RJF Les Rejaudoux 93.62 315 *eP* **P** **01 11 40.6 +0.4**
LFF La Frestale 94.20 315 *eP* **P** **01 11 43.3 +0.5**
FLN La Foliniere 94.65 319 *eP* **P** **01 11 44.5 -0.4**
comp=Z,9.3nm,0.7s,mb5.0
FLN La Foliniere 94.65 319 *eP* **P** **01 11 44.5 -0.4**
FLN pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
FLN La Foliniere 94.65 319 *eP* **P** **01 11 44.5 -0.4**
comp=Z,4.7nm,0.7s,mb5.0
MFF Saint Martin d 94.65 317 *eP* **P** **01 11 44.7 -0.2**
comp=Z,19nm,1.1s,mb5.1
MFF Saint Martin d 94.65 317 *eP* **P** **01 11 44.7 -0.2**
MFF pmax pmax
comp=Z,10.0nm,1.1s,mb5.2
MFF Saint Martin d 94.65 317 *eP* **P** **01 11 44.7 -0.2**
comp=Z,9.7nm,1.1s,mb5.2
GRR Gorron 94.94 319 *eP* **P** **01 11 45.9 -0.3**
DAG Danmarks Havn 95.12 348⇑*iP* **P** **01 11 45.8 -1.3**
comp=Z,2.7nm,0.7s,mb4.8
DAG Danmarks Havn 95.12 348⇑*iP* **P** **01 11 45.8 -1.3**
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
TORD Torodi Ar. Bea 95.34 283 P **P** **01 11 48.5 +0.4**
comp=Z,2.0nm,1.0s,mb4.5,baz=71,slow=5.9,SNR=7.9
TORD PP PP 01 15 44.7 +6.1
comp=Z,1.3nm,0.9s,baz=83,slow=7.0,SNR=6.9
TORD Torodi Ar. Bea 95.34 283 P **P** **01 11 48.5 +0.4**
TORD PP PP 01 15 44.7 +6.0
F04A Amboy 121.86 32 ⇓P PKPdf 01 17 18.5 +0.6
baz=122
SCHQ Schefferville 123.15 349 PKP PKPdf 01 17 19.9 -0.5
comp=Z,2.3nm,0.7s,baz=32,slow=9.5,SNR=3.0
J03A Ideyld Park 123.22 34 ⇓P PKPdf 01 17 22.1 +1.5
baz=123
K02A Glendale 123.30 35 ⇓P PKPdf 01 17 21.7 +1.0
baz=123
L02A Cave Junction 123.61 36 ⇑P PKPdf 01 17 22.3 +1.0
baz=124
HUMO Hull Mountain 123.70 35 ⇓P PKPdf 01 17 22.5 +1.0
baz=124
M02C Callahan 124.53 36 ⇑P PKPdf 01 17 24.2 +1.1
baz=124
J06A Christmas Vall 124.85 33 ⇓P PKPdf 01 17 24.6 +0.9
baz=125
M04C Macdoel 124.87 35 ⇓P PKPdf 01 17 24.3 +0.6
baz=125
K06A Valley Falls 125.10 33 ⇑P PKPdf 01 17 25.2 +1.1
baz=125
WDC Whiskeytown Da 125.21 37 ⇑P PKPdf 01 17 25.1 +0.8
baz=125
L05A Lakeview 125.27 34 ⇑P PKPdf 01 17 25.4 +0.9
baz=125
MSO Missoula 125.31 26 *e*PKPdf PKPdf 01 17 24.5 -0.1
M05C Lookout 125.54 35 ⇓P PKPdf 01 17 26.3 +1.3
baz=125
J08A Circle Bar Ran 125.67 32 ⇓P PKPdf 01 17 26.3 +1.0
baz=126
ORV Oroville 126.48 37 ⇑P PKPdf 01 17 27.5 +0.7
baz=126
CVS Carmenet Viney 126.63 39 ⇓P PKPdf 01 17 28.3 +1.2
baz=126
M07A Soldier Meadow 126.64 34 ⇓P PKPdf 01 17 28.3 +1.2
baz=126
M08A Happy Creek Ra 127.04 33 ⇓P PKPdf 01 17 28.8 +0.9
baz=127
O06A Flanigan 127.08 35 ⇓P PKPdf 01 17 28.7 +0.8
baz=127
N07B Gerlach 127.16 34 ⇑P PKPdf 01 17 29.3 +1.2
baz=127
BOZ Bozeman (W) 127.23 25 *e*PKIKP PKPdf 01 17 28.9 +0.7
MCMT McKenzie Canyo 127.34 27 *e*PKPdf PKPdf 01 17 29.9 +1.5
LAVA Lava Cap Winer 127.43 37 ⇓P PKPdf 01 17 30.0 +1.3
baz=127
HLID Hailey 127.58 29 *e*PKPdf PKPdf 01 17 30.0 +1.1
O07A Toulon 127.62 35 ⇑P PKPdf 01 17 30.3 +1.3
baz=128
N08A GE Springer Mi 127.63 34 ⇓P PKPdf 01 17 30.7 +1.7
baz=128
S04C Ingram Canyon, 127.85 39 ⇓P PKPdf 01 17 31.1 +1.7
baz=128
R05C Kirkwood Meado 127.87 37 ⇓P PKPdf 01 17 30.5 +1.1
baz=128
ULM Lac du Bonnet 128.00 11 PKP PKPdf 01 17 29.4 -0.3
comp=Z,3.7nm,0.8s,baz=2.3,slow=4.1,SNR=6.1
M12A Wells 128.91 31 ⇓P PKPdf 01 17 33.1 +1.7
baz=129
Q08A Gabbs 129.04 35 ⇑P PKPdf 01 17 32.4 +0.8
baz=129
NVAR Mina Array Bea 129.11 36 PKP PKPdf 01 17 34.2 +2.4
comp=Z,3.3nm,0.8s,baz=248,slow=1.4,SNR=7.5
T06C Millerton Lake 129.17 38 ⇑P PKPdf 01 17 33.2 +1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=129						
M13A	Montello	129.33	31	⇑P	PKPdf	01 17 34.0	+1.8
	baz=129						
O11A	Cowboy Ranch,	129.44	33	⇑P	PKPdf	01 17 34.0	+1.5
	baz=129						
MTUM	Tungsten Hills	129.65	37	*e*PKPdf	PKPdf	01 17 34.6	+1.7
N13A	Wendover, West	129.68	31	⇑P	PKPdf	01 17 34.6	+1.6
	baz=130						
S09A	Goldfield	130.22	36	⇑P	PKPdf	01 17 36.1	+2.2
	baz=130						
P12A	McGill	130.31	33	⇑P	PKPdf	01 17 36.0	+1.9
	baz=130						
Q11A	Duckwater	130.34	34	⇑P	PKPdf	01 17 36.1	+1.9
	baz=130						
PDAR	Pinedale Array	130.43	26	PKP	PKPdf	01 17 35.3	+1.0
	comp=Z,1.2nm,0.7s,baz=243,slow=0.3,SNR=7.7						
DUG	Dugway	130.88	31	*e*PKIKP	PKPdf	01 17 37.3	+2.1
TMUT	Trail Mountain	132.37	30	*e*PKPdf	PKPdf	01 17 39.4	+1.3
MSU	Marysvale	132.47	32	*e*PKIKP	PKPdf	01 17 39.1	+0.9
V12A	Nelson	132.96	36	⇓P	PKPdf	01 17 41.0	+1.9
	baz=133						
W14A	Seligman	134.36	35	⇑P	PKPdf	01 17 44.4	+2.6
	baz=134						
Y12C	Blythe	134.50	38	⇓P	PKPdf	01 17 44.4	+2.4
	baz=134						
SADO	Sadowa	134.63	356	PKP	PKPdf	01 17 43.1	+0.9
	comp=Z,1.9nm,0.3s,baz=337,slow=3.6,SNR=3.4						
WUAZ	Wupatki	135.11	34	*e*PKPdf	PKPdf	01 17 44.1	+1.0
Y14A	Wickenburg	135.29	37	⇑P	PKPdf	01 17 45.5	+2.0
	baz=135						
X15A	Humboldt	135.36	35	⇑P	PKPdf	01 17 44.9	+1.3
	baz=135						
ANMO	Albuquerque	138.13	30	PKhKP		01 17 42.9	
	comp=Z,1.3nm,0.8s,baz=90,slow=3.3,SNR=4.6						
BDFB	Brasilia	142.73	245	PKhKP		01 17 54.6	
	comp=Z,5.0nm,0.7s,baz=153,slow=4.9,SNR=5.8						
WVT	Waverly	143.05	7	*e*PKIKP	PKPdf	01 17 58.8	+1.2
MIAR	Mount Ida	143.48	15	*e*PKIKP	PKPdf	01 17 55.9	-2.5
MIAR				*e*		01 18 12.7	
LTX	Lajitas	144.02	32	*e*PKIKP	PKPdf	01 17 58.0	-1.3
PLAL	Pickwick Lake	144.15	8	*e*PKPdf	PKPdf	01 17 57.1	-2.4
CPUP	Villa Florida	144.73	222	PKP	PKPdf	01 18 00.3	-0.3
	comp=Z,66nm,0.8s,baz=97,slow=2.8,SNR=149						
JCT	Junction City	144.97	26	*e*PKIKP	PKPdf	01 18 00.6	-0.4
JCT				*e*		01 18 15.6	
MDZ	Mendoza	145.44	201	*e*PKP2	PKPab	01 18 04.0	+2.0
NATX	Nacogdoches	145.78	18	*e*PKP	PKPdf	01 18 04.7	+2.4
LRAL	Lakeview Retre	146.20	7	*e*PKPdf	PKPdf	01 18 03.6	+0.6
LRAL				*e*pPKPdf	pPKPdf	01 18 16.6	+1.0
HKT	Hockley	147.04	21	*e*PKP2	PKPab	01 18 06.4	-1.7
LPAZ	La Paz	158.90	222	PKP	PKPdf	01 18 23.9	+2.2
	comp=Z,3.6nm,0.8s,baz=218,slow=1.3,SNR=9.8						

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*IDC **11** 01:00:10.9±0.8, 357S×13079E, h0^{km}, mb4.4/6, mb1 4.5/7, mb1mx4.3/15, mbtmp4.5/7, ML4.4/1, MS4.0/3, Ms1 4.0/3, ms1mx3.4/21, Error ellipse: s-maj=65.7km s-min=17.9km az=65.0*

*ISCJB **11** 01:00:14.1±0.5, 378S±005×1306E±0.1, h33^{km}, mb4.4/10, MS4.0/3, Error ellipse: s-maj=17.6km s-min=5.9km az=144.1*

*NEIC **11** 01:00:15.9±0.4, 368S×13071E, h35^{km}, mb4.5/9, Error ellipse: s-maj=17.4km s-min=6.7km az=65.0*

ISC 11 01:00:16.1±0.5,**376S**±005×**1306E**±01,**h35**^{km},**n35**, σ**1^{s}24**/34,**mb4.4**/10,**MS4.0**/3,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.07	169	*e*P	Pn	01 02 25.4	+0.8
	21nm,0.3s						
KAKA				*e*S	Sn	01 04 07.4	+1.9
FITZ	Fitzroy Crossi	15.07	199	*e*P	Pn	01 03 46.4	+0.1
	14nm,0.8s						
FITZ				*e*S	S	01 06 28.8	-20
FITZ	Fitzroy Crossi	15.07	199	Pn	Pn	01 03 46.5	+0.2
	1.1nm,0.3s,baz=22,slow=13,SNR=25						
FITZ				Sn	Sn	01 06 30.7	-1.3
	0.4nm,0.3s,baz=278,slow=23,SNR=2.9						
WRAB	Tennant Creek	16.48	168	*e*Pn	Pn	01 04 03.4	-1.2
	47nm,0.9s						
WRAB				*e*Sn	Sn	01 06 59.0	-7.4
WRA	Warramunga Arr	16.49	168	Pn	Pn	01 04 00.9	-3.8
	1.0nm,0.3s,baz=352,slow=13,SNR=14						
WRA				Sn	Sn	01 07 02.3	-4.2
	1.7nm,0.3s,baz=341,slow=19,SNR=6.5						
WB2	Warramunga Arr	16.49	168	*e*P	Pn	01 04 02.5	-2.2
WB2				*e*S	S	01 07 00.1	-18
KKM	Kota Kinabalu	17.37	304	*e*P	Pn	01 04 15.7	-0.1
AS31	Alice Springs	20.04	171	*e*P	P	01 04 49.5	+3.4
ASAR	Alice Springs	20.04	171	P	P	01 04 48.2	+2.1
	14nm,0.6s,baz=346,slow=8.6,SNR=42						
ASPA	Alice Springs	20.04	171	*e*P	P	01 04 49.5	+3.4
KSM	Kuching	20.96	284	*e*P	P	01 05 00.4	+4.4
CTA	Charters Tower	22.26	138	P	P	01 05 08.8	-1.1
	5.4nm,0.7s,mb4.1,baz=326,slow=14,SNR=4.0						
CTAO	Charters Tower	22.26	138	*e*P	P	01 05 09.3	-0.7
	3.1nm,0.5s,mb4.0						
STKA	Stephens Creek	29.81	161	*e*P	P	01 06 21.4	+1.7
	1.1nm,0.3s,mb4.1						
STKA	Stephens Creek	29.81	161	P	P	01 06 20.8	+1.1
	1.8nm,0.3s,mb4.3,baz=342,slow=9.3,SNR=9.2						
KULM	Kulim	31.26	287	P	P	01 06 33.1	+0.6
NWAO	Narrogin (SRO)	31.61	202	*e*P	P	01 06 37.8	+2.2
CBIJ	Chichi jima	32.64	19	LR	LR	01 17 47.7	
	comp=Z,194nm,18.4s,MS3.8,baz=164,slow=33						
JHJ	Hachijo jima 2	37.69	13	LR	LR	01 20 40.1	
	comp=Z,254nm,19.8s,MS4.0,baz=138,slow=33						
MKAR	Makanchi Array	65.89	326	P	P	01 10 58.5	+0.2
	4.7nm,0.7s,mb4.6,baz=120,slow=7.9,SNR=6.5						
ZAL	Zalesovo	68.98	333	P	P	01 11 17.0	-0.8
	2.5nm,0.7s,mb4.2,baz=313,slow=1.9,SNR=3.5						
ZAL	Zalesovo	68.98	333	P	P	01 11 17.0	-0.8
KURK	Kurchatov	70.11	328	*e*P	P	01 11 24.5	-0.3
	7.9nm,0.7s,mb4.8						
VNDA	Vanda	75.57	173	*e*P	P	01 11 57.7	+0.5
BVAR	Borovoye Array	75.68	327	P	P	01 11 57.5	-0.3
	6.8nm,0.8s,mb4.6,baz=130,slow=6.2,SNR=13						
BRVK	Borovoye	75.75	327	*e*P	P	01 11 58.1	-0.1
	3.7nm,0.6s,mb4.5						
CHKZ	Chkalovo	75.85	328	*e*P	P	01 11 58.2	-0.6
	3.8nm,0.7s,mb4.4						
ZRNK	Zerenda	76.40	327	*e*P	P	01 12 01.7	-0.2
	8.3nm,0.8s,mb4.7						
SBA	Scott Base	76.45	173	*e*P	P	01 12 02.8	+0.6
QSPA	South Pole Qui	86.20	180	*e*P	P	01 12 54.1	+0.3
	1.3nm,0.5s,mb4.4						
KMBO	Kilima Mbogo	93.29	269	LR	LR	01 51 12.4	
	comp=Z,105nm,21.3s,MS4.3,baz=100,slow=33						
TORD	Torodi Ar. Bea	128.72	284	PKP	PKPdf	01 19 20.4	+0.8
	0.6nm,0.7s,baz=87,slow=1.9,SNR=8.5						
CPUP	Villa Florida	149.11	166	PKPbc	PKPbc	01 20 03.7	+3.0
	1.6nm,0.6s,baz=151,slow=4.0,SNR=3.1						
LPAZ	La Paz	152.78	138	PKPbc	PKPbc	01 20 12.1	+2.8
	1.4nm,0.4s,baz=356,slow=3.5,SNR=7.2						
LPAZ	La Paz	152.78	138	PKPbc	PKPbc	01 20 12.1	+2.8

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*IDC **11** 01:05:58.2±2.0, 4.18N×9499E, h0^{km}, mb3.8/7, mb1 3.9/8, mb1mx3.7/20, mbtmp3.8/8, ML3.0/1, Error ellipse: s-maj=99.9km s-min=19.0km az=49.0*

*ISCJB **11** 01:06:01.7±0.8, 43N±0.1×95.1E±0.1, h33^{km}, mb3.9/10, Error ellipse: s-maj=24.3km s-min=9.2km az=86.9*

*NEIC **11** 01:06:03.2±0.5, 426N×95.10E, h30^{km}, mb4.0/3, Error ellipse: s-maj=15.0km s-min=5.7km az=224.0*

ISC 11 01:06:04.2±0.8,**43N**±01×**951E**±01,**h35**^{km},**n18**,σ**0^{s}39**/18, **mb3.9**/10,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.10	111	Pn	Pn	01 07 04.0	-0.2
	0.8nm,0.3s,baz=324,slow=18,SNR=13						
KULM	Kulim	5.62	80	*e*Pn	Pn	01 07 25.0	-0.2
KKM	Kota Kinabalu	21.10	84	P	P	01 10 46.0	+0.4
MBWA	Marble Bar	34.98	137	P	P	01 12 52.9	-0.1
MKAR	Makanchi Array	43.76	347	P	P	01 14 05.9	-0.3
	0.5nm,0.4s,mb3.6,baz=156,slow=7.7,SNR=4.1						
WRA	Warramunga Arr	45.46	123	P	P	01 14 19.6	-0.1
	0.7nm,0.5s,mb3.7,baz=301,slow=9.3,SNR=7.1						
WRAB	Tennant Creek	45.47	123	*e*P	P	01 14 20.5	+0.7
	2.9nm,0.4s,mb4.5						
ASAR	Alice Springs	46.94	128	P	P	01 14 31.0	-0.3
	0.2nm,0.4s,mb3.4,baz=302,slow=7.9,SNR=4.3						
KURK	Kurchatov	48.29	346	*e*P	P	01 14 42.1	+0.3
	0.8nm,0.5s,mb4.0						
ZAL	Zalesovo	50.20	352	P	P	01 14 56.1	-0.3
	1.1nm,0.3s,mb4.3,baz=230,slow=3.7,SNR=3.4						
BVAR	Borovoye Array	52.66	341	P	P	01 15 15.0	+0.2
	0.7nm,0.7s,mb3.7,baz=144,slow=8.0,SNR=4.3						
BRVK	Borovoye	52.72	341	*e*P	P	01 15 16.4	+1.1
	0.2nm,0.4s,mb3.4						
ZRNK	Zerenda	53.05	341	*e*P	P	01 15 17.3	-0.4
CHKZ	Chkalovo	53.15	342	*e*P	P	01 15 18.2	-0.2
STKA	Stephens Creek	56.98	133	P	P	01 15 46.1	0.0
FINES	FINESS Array B	76.30	332	P	P	01 17 49.2	-0.2
	1.2nm,0.9s,mb3.8,baz=117,slow=7.5,SNR=5.7						
FINES	FINESS Array B	76.30	332	P	P	01 17 49.2	-0.2
ARCES	ARCESS Array B	78.93	340	P	P	01 18 03.8	-0.2
	2.1nm,1.0s,mb4.0,baz=105,slow=7.2,SNR=5.7						

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*ISCJB **11** 01:10:28.2±1.9, 470S±0.10×1518E±0.1, h173^{km}±15^{km}, mb4.2/10, Error ellipse: s-maj=20.0km s-min=14.1km az=56.7*

*IDC **11** 01:10:29.6±2.0, 473S×15173E, h170^{km}±16^{km}, mb3.9/7, mb1 4.0/8, mb1mx3.8/17, mbtmp4.3/8, MS3.5/1, Ms1 3.5/1, ms1mx2.8/21, Error ellipse: s-maj=22.5km s-min=14.6km az=133.0*

*NEIC **11** 01:10:30.9±2.2, 474S×15180E, h186^{km}±18^{km}, mb5.2/4, Error ellipse: s-maj=16.6km s-min=12.8km az=75.0*

ISC 11 01:10:30.0±1.5,**472S**±009×**1518E**±01,**h176**^{km}±11^{km},**n24**, σ**0^{s}66**/28,**mb4.2**/10,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.57	225	P	Pn	01 12 04.4	0.0
	4.5nm,0.3s,baz=23,slow=5.3,SNR=9.2						
PMG				S	Sn	01 13 18.4	-0.3
	12nm,0.3s,baz=171,slow=22,SNR=18						
PMG				LR	LR	01 14 33.4	
	comp=Z,465nm,20.9s,baz=309,slow=38						
PMG	Port Moresby	6.57	225	*e*Pn	Pn	01 12 05.4	+1.0
PMG				*e*P		01 12 53.4	
PMG				S	Sn	01 13 18.4	-0.3
PMG				LR	LR	01 14 33.5	
CTAO	Charters Tower	16.21	199	*e*P	Pn	01 14 07.2	-0.7
KAKA	Kakadu	20.73	246	*e*P	P	01 14 56.4	-0.4
	56nm,0.7s						
DZM	Mont Dzumac	22.32	142	P	P	01 15 13.1	0.0
	6.0nm,0.4s,mb4.3,baz=214,slow=12,SNR=11						
WRAB	Tennant Creek	22.77	227	*e*P	P	01 15 17.6	+0.4
	47nm,0.4s,mb5.3						
WB2	Warramunga Arr	22.77	227	*e*P	P	01 15 16.7	-0.6
WB2				*e*S	S	01 19 12.6	-0.1
WRA	Warramunga Arr	22.78	227	P	P	01 15 17.6	+0.2
	21nm,0.4s,mb4.9,baz=50,slow=10,SNR=178						
WRA				S	S	01 19 13.3	+0.5
	2.2nm,0.8s,baz=48,slow=16,SNR=5.2						
AS31	Alice Springs	25.56	221	*e*P	P	01 15 43.1	+0.5
ASAR	Alice Springs	25.57	221	P	P	01 15 43.0	+0.4
	2.5nm,0.4s,mb4.2,baz=52,slow=9.0,SNR=36						
ASAR				S	S	01 19 56.4	-0.8
	0.6nm,0.8s,baz=49,slow=14,SNR=4.6						
ASPA	Alice Springs	25.57	221	*e*P	P	01 15 43.1	+0.5
STKA	Stephens Creek	28.67	198	P	P	01 16 09.9	-0.4
FITZ	Fitzroy Crossi	28.85	240	*e*P	P	01 16 11.1	-0.8
	9.4nm,0.3s,mb5.0						
FITZ	Fitzroy Crossi	28.85	240	P	P	01 16 11.6	-0.3
	5.5nm,0.3s,mb4.7,baz=55,slow=13,SNR=65						
MBWA	Marble Bar	35.17	239	*e*P	P	01 17 07.2	+0.2
	3.7nm,0.4s,mb4.4						
NWAO	Narrogin (SRO)	42.76	225	P	P	01 18 10.7	+0.8
VNDA	Vanda	72.94	178	P	P	01 21 40.1	+0.1
	1.1nm,0.7s,mb3.7,baz=333,slow=6.3,SNR=7.7						
MKAR	Makanchi Array	79.63	319	P	P	01 22 18.5	+0.8
	0.4nm,0.6s,mb3.2,baz=89,slow=8.6,SNR=2.8						
KURK	Kurchatov	83.11	322	P	P	01 22 36.0	0.0
CHKZ	Chkalovo	88.57	324	*e*P	P	01 23 04.5	+1.7
BVAR	Borovoye Array	88.60	323	P	P	01 23 02.0	-1.0
	0.4nm,0.5s,mb3.6,baz=101,slow=7.7,SNR=3.6						
BRVK	Borovoye	88.67	323	*e*P	P	01 23 02.4	-0.9
	0.9nm,0.8s,mb3.8						
ZRNK	Zerenda	89.41	323	P	P	01 23 05.5	-1.2
TORD	Torodi Ar. Bea	149.36	288	PKPbc	PKPbc	01 29 58.5	+0.5
	1.0nm,0.5s,baz=77,slow=2.6,SNR=26						

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*ISCJB **11** 01:54:09.6±4.6, 482S±0.10×1503E±02, h2^{km}±32^{km}, mb4.0/5, MS3.8/3, Error ellipse: s-maj=42.1km s-min=12.1km az=30.9*

*IDC **11** 01:54:11.6±3.4, 479S×15020E, h0^{km}, mb4.1/3, mb1 4.4/4, mb1mx4.0/13, mbtmp4.2/4, ML3.4/1, MS3.9/5, Ms1 3.8/5, ms1mx3.4/17, Error ellipse: s-maj=106.6km s-min=37.4km az=114.0*

*NEIC **11** 01:54:16.4±1.1, 488S×15033E, h35^{km}, mb3.9/3, Error ellipse: s-maj=28.3km s-min=10.1km az=97.0*

ISC 11 01:54:10.9±5.5,**48S**±01×**1504E**±02,**h2**^{km}±37^{km},**n19**, σ**0^{s}64**/15,**mb4.0**/5,**MS3.8**/3,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.60	215	Pn	Pn	01 55 35.8	+0.5
	7.4nm,0.3s,baz=41,slow=5.9,SNR=28						
PMG				Sn	Sn	01 56 40.2	+0.1
	1.9nm,0.3s,baz=35,slow=22,SNR=3.5						
HNR	Honiara	10.50	116	LR	LR	02 00 19.8	
	comp=Z,379nm,18.6s,baz=353,slow=34						
CTA	Charters Tower	15.72	195	LR	LR	02 02 54.6	
	comp=Z,330nm,18.5s,baz=23,slow=33						
CTAO	Charters Tower	15.72	195	*e*Pn	Pn	01 57 53.4	-0.1
	1.3nm,0.4s						
WRAB	Tennant Creek	21.70	225	*e*P	P	01 59 02.5	-0.7
	6.8nm,0.7s,mb4.2						
WRA	Warramunga Arr	21.71	225	P	P	01 59 02.7	-0.7
	4.3nm,0.6s,mb4.0,baz=49,slow=10,SNR=26						
DZM	Mont Dzumac	23.13	139	LR	LR	02 07 05.1	
	comp=Z,556nm,19.7s,MS4.0,baz=25,slow=33						
ASAR	Alice Springs	24.60	219	P	P	01 59 31.6	-0.9
	2.0nm,0.6s,mb3.8,baz=54,slow=8.1,SNR=25						
ASAR				LR	LR	02 10 02.3	
	comp=Z,143nm,18.8s,MS3.5,baz=42,slow=39						
FITZ	Fitzroy Crossi	27.59	239	P	P	02 00 00.2	+0.6
	3.6nm,0.7s,mb4.1,baz=94,slow=10,SNR=8.4						
STKA	Stephens Creek	28.17	196	LR	LR	02 11 25.6	
	comp=Z,300nm,20.3s,MS3.9,baz=19,slow=37						
STKA	Stephens Creek	28.17	196	P	P	02 00 05.1	+0.4
MBWA	Marble Bar	33.93	239	*e*P	P	02 00 56.4	+0.9
NWAO	Narrogin (SRO)	41.72	224	P	P	02 02 01.3	0.0
QIZ	Qiongzhong	46.45	302	P	P	02 02 39.5	+0.2
KULM	Kulim	50.71	281	*e*P	P	02 03 11.6	-0.5
KURK	Kurchatov	82.33	322	*e*P	P	02 06 34.4	+0.1
	0.8nm,0.6s,mb3.8						
BRVK	Borovoye	87.91	323	P	P	02 07 01.1	-1.2
ZRNK	Zerenda	88.65	323	*e*P	P	02 07 06.9	+1.2
TORD	Torodi Ar. Bea	148.05	287	PKPbc	PKPbc	02 13 59.2	+1.1
	0.5nm,0.7s,baz=92,slow=1.4,SNR=5.3						

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*IDC **11** 01:55:34.7±3.4, 505S×15105E, h0^{km}, mb4.0/3, mb1 4.3/4, mb1mx4.0/13, mbtmp4.1/4, ML3.1/1, MS4.2/1, Ms1 4.2/1, ms1mx3.1/17, Error ellipse: s-maj=119.8km s-min=42.6km az=120.0*

*ISCJB **11** 01:55:37.2±0.9, 5.1S±0.1×1512E±0.1, h33^{km}, mb3.9/5, MS4.2/1, Error ellipse: s-maj=18.9km s-min=15.3km az=161.9*

*NEIC **11** 01:55:39.3±0.6, 5.10S×15109E, h35^{km}, mb4.1/2, Error ellipse: s-maj=13.7km s-min=11.4km az=165.0*

ISC 11 01:55:39.9±2.8,**51S**±02×**1511E**±01,**h39**^{km}±31^{km},**n11**, σ**0^{s}55**/9,**mb3.9**/5,**MS4.2**/1,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.79	222	Pn	Pn	01 57 03.3	+0.1
	3.3nm,0.3s,baz=45,slow=8.6,SNR=3.0						
HNR	Honiara	9.75	117	*e*Pn	Pn	01 57 57.5	0.0
WRAB	Tennant Creek	21.98	226	*e*P	P	02 00 29.9	-0.4
	5.2nm,0.6s,mb4.1						
WRA	Warramunga Arr	21.99	226	P	P	02 00 29.6	-0.9
	3.0nm,0.7s,mb3.8,baz=53,slow=10,SNR=6.0						
ASAR	Alice Springs	24.80	220	P	P	02 00 59.3	+1.2
	1.9nm,0.6s,mb3.8,baz=54,slow=7.9,SNR=6.9						
FITZ	Fitzroy Crossi	28.04	240	P	P	02 01 27.2	0.0
	3.9nm,0.7s,mb4.1,baz=58,slow=11,SNR=3.8						
KKM	Kota Kinabalu	36.56	287	P	P	02 02 42.3	+0.5
PSI	Prapat	52.73	277	LR	LR	02 25 24.9	
	comp=Z,230nm,20.3s,MS4.2,baz=360,slow=34						
KURK	Kurchatov	82.99	322	*e*P	P	02 08 00.7	-0.2
	0.7nm,0.6s,mb3.9						
CHKZ	Chkalovo	88.48	324	P	P	02 08 27.9	-0.2
TORD	Torodi Ar. Bea	148.80	287	PKPbc	PKPbc	02 15 24.6	+1.6
	0.7nm,0.9s,baz=60,slow=2.9,SNR=3.5						

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*IDC **11** 02:11:35.7±1.4, 884S×11125E, h0^{km}, mb3.9/7, mb1 4.1/7, mb1mx3.9/15, mbtmp3.9/7, MS3.6/4, Ms1 3.6/4, ms1mx3.1/28, Error ellipse: s-maj=61.1km s-min=19.5km az=52.0*

*ISCJB **11** 02:11:37.6±1.0, 9.1S±02×1110E±03, h33^{km}, mb4.0/10, MS3.6/3, Error ellipse: s-maj=45.7km s-min=11.1km az=101.7*

*NEIC **11** 02:11:40.0±0.9, 9.11S×11109E, h35^{km}, mb4.4/3, Error ellipse: s-maj=44.8km s-min=11.8km az=53.0*

ISC 11 02:11:39.7±1.0,**92S**±02×**1110E**±02,**h35**^{km},**n17**,σ**1^{s}10**/13, **mb4.0**/10,**MS3.6**/3,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	Marble Bar	14.61	146	*e*Pn	Pn	02 15 01.7	-2.1
	18nm,1.2s						
MBWA				*e*Sn	Sn	02 17 26.6	-18
FITZ	Fitzroy Crossi	16.78	124	LR	LR	02 21 10.9	
	comp=Z,110nm,19.3s,baz=285,slow=34						
NWAO	Narrogin (SRO)	24.35	167	LR	LR	02 25 36.6	
	comp=Z,211nm,20.0s,MS3.6,baz=211,slow=34						
WRA	Warramunga Arr	24.98	118	P	P	02 17 00.3	+0.2
	0.5nm,0.3s,mb3.5,baz=300,slow=11,SNR=22						
WRAB	Tennant Creek	24.99	118	*e*P	P	02 17 00.9	+0.8
	10nm,1.2s,mb4.2						
WB2	Warramunga Arr	25.00	118	*e*P	P	02 17 00.7	+0.6
ASAR	Alice Springs	26.24	126	P	P	02 17 12.8	+1.4
	1.1nm,0.7s,mb3.5,baz=303,slow=9.1,SNR=9.2						
ASAR				PcP	PcP	02 20 39.9	+2.5
	0.6nm,0.6s,baz=314,slow=1.5,SNR=4.8						
ASAR				LR	LR	02 27 09.7	
	comp=Z,93nm,19.8s,MS3.3,baz=81,slow=36						
STKA	Stephens Creek	36.28	133	LR	LR	02 33 23.4	
	comp=Z,156nm,18.8s,MS3.8,baz=248,slow=36						
MJAR	Matsushiro Arr	52.17	28	P	P	02 20 44.7	-2.1
	2.6nm,1.0s,mb4.1,baz=204,slow=7.9,SNR=6.6						
SONM	Songino Array	56.89	356	P	P	02 21 21.3	+0.3
	1.3nm,0.5s,mb4.2,baz=178,slow=8.6,SNR=13						
SONM				PcP	PcP	02 22 17.4	+1.1
	0.8nm,0.6s,baz=172,slow=3.3,SNR=4.2						
MKAR	Makanchi Array	61.30	338	P	P	02 21 52.3	+0.7
	1.9nm,0.7s,mb4.3,baz=142,slow=7.4,SNR=13						
ZAL	Zalesovo	66.65	343	P	P	02 22 25.0	-1.7
	1.0nm,0.4s,mb4.2,baz=15,slow=16,SNR=6.4						
CHKZ	Chkalovo	71.31	336	*e*P	P	02 22 56.1	+0.4
	3.5nm,0.8s,mb4.3						
ZRNK	Zerenda	71.44	335	*e*P	P	02 22 56.9	+0.4
	3.3nm,0.7s,mb4.4						
AKASG	Malin Array Be	91.83	321	P	P	02 24 44.4	+0.3
	0.1nm,0.2s,mb3.7,baz=83,slow=5.4,SNR=4.1						
MIAR	Mount Ida	146.16	38	*e*PKPdf	PKPdf	02 31 18.1	+2.9
WVT	Waverly	148.16	30	*e*PKPbc	PKPbc	02 31 23.0	+1.2

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*BJI **11** 02:17:51.7, 6.10S×10370E, h42^{km}, mB5.4, mb4.9*

*ISCJB **11** 02:17:52.1±0.6, 6.1S±02×1037E±02, h42^{km}, mb4.4/23, MS3.7/1, Error ellipse: s-maj=32.6km s-min=8.4km az=96.2*

*IDC **11** 02:17:53.6±0.7, 623S×10360E, h43^{km}±5^{km}, mb3.8/10, mb1 3.9/10, mb1mx3.8/16, mbtmp4.1/10, MS3.8/1, Ms1 3.8/1, ms1mx2.9/25, Error ellipse: s-maj=39.7km s-min=11.2km az=50.0*

*NEIC **11** 02:17:53.7±0.4, 6.10S×10369E, mb4.5/7, Error ellipse: s-maj=21.5km s-min=6.3km az=47.0*

ISC 11 02:17:54.1±0.6,**62S**±02×**1036E**±02,**h44**^{km}, **h44**^{km}±2.3^{km}**:pP-P**,**n34**,σ**0^{s}73**/30,**mb4.4**/23,**MS3.7**/1, **Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	24.52	121	P	P	02 23 10.7	+1.3
	2.9nm,1.0s,mb3.8,baz=243,slow=4.5,SNR=3.0						
FITZ				pP		02 23 20.8	
	2.2nm,0.8s,baz=257,slow=4.2,SNR=3.3						
NWAO	Narrogin (SRO)	29.45	156	LR	LR	02 35 16.4	
	comp=Z,195nm,19.3s,MS3.7,baz=14,slow=35						
WRA	Warramunga Arr	32.80	118	P	P	02 24 22.9	-0.3
	0.7nm,0.6s,mb3.8,baz=286,slow=13,SNR=9.1						
WRA				pP	pP	02 24 34.6	-0.4
	1.0nm,0.5s,baz=287,slow=13,SNR=6.7						
WRAB	Tennant Creek	32.81	117	*e*P	P	02 24 23.2	0.0
	6.2nm,0.8s,mb4.6						
WRAB				*e*pP	pP	02 24 34.5	-0.6
ASAR	Alice Springs	33.89	124	P	P	02 24 32.6	-0.1
	1.0nm,0.8s,mb3.8,baz=303,slow=8.4,SNR=7.6						
ASAR				pP	pP	02 24 43.6	-0.9
	0.8nm,0.4s,baz=299,slow=8.2,SNR=5.6						
JIRN	Jiri	37.65	334	*e*P	P	02 25 05.8	+1.0
	39nm,0.7s,mb5.2						
PKI	Pulchoki	37.91	333	*e*P	P	02 25 07.5	+0.4
GUN	Gumba	38.00	334	*e*P	P	02 25 08.7	+0.9
	41nm,0.6s,mb5.3						
DMN	Daman	38.08	333	*e*P	P	02 25 09.8	+1.3
KKN	Kakani	38.16	333	*e*P	P	02 25 09.5	+0.4
	21nm,0.8s,mb4.9						
GKN	Gorkha	38.63	333	*e*P	P	02 25 13.7	+0.6
	17nm,0.7s,mb4.9						
KOLN	Koldanda	38.92	331	*e*P	P	02 25 16.3	+0.8
	24nm,0.8s,mb5.0						
PMG	Port Moresby	43.23	97	*e*P	P	02 25 50.9	0.0
	6.3nm,0.4s,mb4.7						
PMG				pP	pP	02 26 02.6	-0.5
STKA	Stephens Creek	43.68	131	P	P	02 25 54.9	+0.3
	2.2nm,0.7s,mb4.0,baz=102,slow=10,SNR=4.0						
GTA	Gaotai	45.52	356	*e*P	P	02 26 09.9	+0.7
GTA				AP	pP	02 26 17.5	-4.0
GTA				XP	sP	02 26 22.8	-3.8
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
ULN	Ulaanbaatar	53.92	3	*e*P	P	02 27 12.3	-0.8
	comp=Z,3.5nm,0.9s,mb4.3						
ULN				*e*pP	pP	02 27 23.1	-2.4
MKAR	Makanchi Array	56.06	342	P	P	02 27 28.0	-0.6
	comp=Z,7.1nm,0.7s,mb4.8,baz=149,slow=7.4,SNR=34						
MKAR				pP	pP	02 27 41.8	+0.6
	comp=Z,2.9nm,0.8s,baz=146,slow=8.8,SNR=5.3						
MKAR	Makanchi Array	56.06	342	P	P	02 27 28.0	-0.6
MKAR				pP	pP	02 27 41.8	+0.6
ZAL	Zalesovo	61.98	348	P	P	02 28 08.1	-1.4
	baz=311,slow=5.3						
ZAL				pP	pP	02 28 22.3	+0.1
	baz=352,slow=5.9						
BVAR	Borovoye Array	65.37	339	P	P	02 28 30.8	-1.1
	comp=Z,3.9nm,0.6s,mb4.6,baz=144,slow=9.0,SNR=23						
BVAR				pP	pP	02 28 45.1	+0.4
	comp=Z,1.1nm,0.7s,baz=149,slow=6.9,SNR=2.7						
BRVK	Borovoye	65.43	339	*e*P	P	02 28 31.2	-1.2
	comp=Z,1.9nm,0.6s,mb4.3						
CHKZ	Chkalovo	65.81	339	*e*P	P	02 28 34.3	-0.5
	comp=Z,4.5nm,0.6s,mb4.7						
ZRNK	Zerenda	65.82	338	*e*P	P	02 28 34.0	-0.9
	comp=Z,3.7nm,0.7s,mb4.5						
AKTK	Aktyubinsk	68.76	331	P	P	02 28 53.0	-0.5
AKTO	Aktyubinsk	68.76	331	P	P	02 28 53.0	-0.5
	comp=Z,1.6nm,0.6s,mb4.1,baz=281,slow=13,SNR=4.2						
VNDA	Vanda	77.37	169	P	P	02 29 43.7	-0.6
	comp=Z,0.4nm,0.8s,mb3.4,baz=308,slow=4.7,SNR=3.5						
VNDA				pP	pP	02 29 55.4	-2.0
	comp=Z,1.2nm,0.9s,baz=312,slow=3.7,SNR=4.0						
BR131	Keskin Array S	78.81	312	*e*P	P	02 29 52.5	+0.2
	comp=Z,1.4nm,0.5s,mb4.2						
BRTR	Keskin Array B	78.81	312	P	P	02 29 52.9	+0.6
	comp=Z,2.0nm,0.6s,mb4.2,baz=112,slow=6.5,SNR=9.3						
BRTR				pP	pP	02 30 05.1	-0.2
	comp=Z,1.1nm,0.5s,baz=65,slow=13,SNR=4.7						
AKASG	Malin Array Be	85.00	322	P	P	02 30 24.8	0.0
	comp=Z,1.8nm,0.7s,mb4.3,baz=84,slow=5.2,SNR=6.0						
AKASG	Malin Array Be	85.00	322	P	P	02 30 24.8	0.0
FINES	FINESS Array B	89.49	332	P	P	02 30 46.8	+0.3
	comp=Z,1.8nm,0.7s,mb4.5,baz=125,slow=12,SNR=4.8						
CCM	Cathedral Cave	145.53	21	*e*PKPdf	PKPdf	02 37 26.5	-0.9
WVT	Waverly	148.41	18	*e*PKPbc	PKPbc	02 37 35.7	-0.1
PLAL	Pickwick Lake	149.39	19	*e*PKPbc	PKPbc	02 37 37.9	-0.3

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*IDC **11** 02:18:02.7±2.9, 5129N×17925W, h0^{km}, mb3.9/12, mb1 4.0/13, mb1mx3.9/23, mbtmp4.0/13, ML4.3/1, Error ellipse: s-maj=72.7km s-min=20.9km az=1.0*

*BJI **11** 02:18:05.3, 51.20N×179.10W, h41km, mB4.8, mb4.6, Ms4.5, Msz4.3*
*ISCJB **11** 02:18:07.6±1.2, 51.4N±.02×179.10W±0.09, h46km±9km, mb4.0/18, Error ellipse: s-maj=31.4km s-min=8.4km az=167.7*
*NEIC **11** 02:18:08.4±1.2, 51.22N×179.12W, h42km±9km, mb3.9/4, ML4.0(AEIC), Error ellipse: s-maj=30.7km s-min=8.2km az=183.0*
ISC 11 02:18:08.6±1.2**, 51.4N**±.02×**179.11W**±0.09**, h39**km±10km**, n28,** σ**0.95**/29**, mb4.0**/18**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.00**	**270**	P	**Pn**	**02 18 24.6**	**-1.5**
AMKA				S	**Sn**	**02 18 39.0**	**+0.1**
ATKA	**Atka Island**	**3.15**	**73**	P	**Pn**	**02 18 56.4**	**+0.7**
SMY	**Shemya**	**4.40**	**290**	*e*Pn	**Pn**	**02 19 14.9**	**+2.1**
KDAK	**Kodiak Island**	**16.57**	**57**	Pn	**Pn**	**02 21 55.9**	**-2.1**
	1.2nm,0.3s,baz=94,slow=19,SNR=5.4						
SLKM	**Skilak Lake**	**18.42**	**49**	*e*Pn	**Pn**	**02 22 10.8**	**-10**
DAWY	**Dawson**	**24.23**	**43**	*e*P	**P**	**02 23 21.7**	**+0.1**
INK	**Inuvik**	**27.56**	**35**	P	**P**	**02 23 52.0**	**+0.3**
	0.5nm,0.5s,mb3.4,baz=188,slow=7.1,SNR=3.4						
INK	**Inuvik**	**27.56**	**35**	*e*P	**P**	**02 23 51.2**	**-0.5**
	0.6nm,0.7s,mb3.3						
MDJ	**Mudanjiang**	**34.38**	**279**	P	**P**	**02 24 49.6**	**-2.2**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,74nm,4.5s						
YKA	**Yellowknife Ar**	**35.36**	**46**	P	**P**	**02 25 00.5**	**+0.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=281,slow=7.5,SNR=8.1						
CN2	**Changchun**	**37.36**	**281**	*e*P	**P**	**02 25 18.5**	**+1.2**
BOZ	**Bozeman (W)**	**43.63**	**70**	*e*P	**P**	**02 26 09.5**	**+0.4**
	comp=Z,1.6nm,0.6s,mb3.9						
TPNV	**Topopah Spring**	**45.94**	**83**	*e*P	**P**	**02 26 27.5**	**0.0**
	comp=Z,2.3nm,0.8s,mb4.2						
BW06	**Boulder Array**	**46.49**	**72**	*e*P	**P**	**02 26 31.6**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.9						
PDAR	**Pinedale Array**	**46.49**	**72**	P	**P**	**02 26 32.2**	**+0.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=308,slow=4.5,SNR=12						
NJ2	**Nanjing**	**48.62**	**272**	*e*P	**P**	**02 26 48.3**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
ARCES	**ARCESS Array B**	**58.04**	**350**	P	**P**	**02 27 57.2**	**-0.4**
	comp=Z,1.1nm,0.7s,mb4.0,baz=20,slow=6.8,SNR=12						
MKAR	**Makanchi Array**	**59.87**	**308**	P	**P**	**02 28 10.1**	**-0.2**
	comp=Z,1.0nm,0.3s,mb4.3,baz=48,slow=6.7,SNR=15						
SCHQ	**Schefferville**	**60.11**	**38**	P	**P**	**02 28 13.0**	**+1.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=321,slow=6.5,SNR=2.8						
BVAR	**Borovoye Array**	**60.75**	**320**	P	**P**	**02 28 15.6**	**-0.7**
	comp=Z,0.4nm,0.3s,mb4.0,baz=61,slow=6.2,SNR=3.8						
JOF	**Joensuu**	**63.53**	**345**	*e*p	**P**	**02 28 31.0**	**-3.9**
KMI	**Kunming**	**63.53**	**278**	P	**P**	**02 28 35.8**	**+0.9**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.7						
FINES	**FINESS Array B**	**65.73**	**347**	P	**P**	**02 28 48.7**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.9,baz=20,slow=6.1,SNR=12						
FINES	**FINESS Array B**	**65.73**	**347**	P	**P**	**02 28 48.7**	**-0.5**
NOA	**NORSAR Array B**	**67.61**	**355**	P	**P**	**02 29 02.7**	**+1.4**
	comp=Z,0.4nm,0.6s,mb3.6,baz=1.7,slow=4.7,SNR=2.6						
HFS	**Hagfors**	**68.35**	**353**	P	**P**	**02 29 05.3**	**-0.6**
	comp=Z,0.8nm,0.4s,mb4.1,baz=47,slow=2.8,SNR=8.6						
AKASG	**Malin Array Be**	**75.47**	**342**	P	**P**	**02 29 48.1**	**-0.5**
	comp=Z,2.1nm,0.4s,mb4.4,baz=14,slow=4.9,SNR=13						
GERES	**GERESS Array B**	**79.54**	**351**	P	**P**	**02 30 11.7**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=18,slow=4.8,SNR=4.8						

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*ISCJB **11** 02:27:57.0±0.3, 42.58N±0.02×43.44E±0.02, h10km±2km, Error ellipse: s-maj=2.7km s-min=2.6km az=152.7*
*CSEM **11** 02:27:57.9±0.1, 42.56N×43.46E, h5km, mb4.5, Error ellipse: s-maj=2.7km s-min=2.3km az=87.0*
*TIF **11** 02:27:57.1, 42.57N×43.49E, h13km±1km*
*MOS **11** 02:27:58.3±1.4, 42.56N×43.51E, h20km, mb4.5/1, Error ellipse: s-maj=8.4km s-min=5.8km az=93.3*
ISC 11 02:27:57.8±0.3**, 42.56N**±.001×**43.45E**±.002**, h10**km±2km**, n58,** σ**1.14**/101**, 1C, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.02**	**3**	P	**Pg**	**02 27 59.6**	**0.0**
ONI				S	**Sg**	**02 28 01.2**	**+0.3**
AMRG		**0.23**	**258**	P	**Pg**	**02 28 03.1**	**+0.5**
AMRG				S	**Sg**	**02 28 07.9**	**+2.0**
DIGR	**Digorskoe uzhe**	**0.35**	**16**	*i* Pg	**Pg**	**02 28 04.5**	**-0.2**
DIGR				*i* Sg	**Sg**	**02 28 10.3**	**+0.9**
ZEI	**Tsey**	**0.39**	**58**	*i* Pg	**Pg**	**02 28 05.4**	**-0.1**
ZEI				*i* Sg	**Sg**	**02 28 11.7**	**+1.0**
KORR	**Kora**	**0.69**	**41**	*e*Pg	**Pg**	**02 28 10.6**	**-0.6**
KORR				*e*Sg	**Sg**	**02 28 20.8**	**+0.5**
GOR	**Gori**	**0.76**	**139**	P	**Pg**	**02 28 12.0**	**-0.4**
GOR				S	**Sg**	**02 28 23.2**	**+0.9**
KMSR	**Komsomolskaya**	**1.02**	**37**	*e*Pg	**Pg**	**02 28 16.5**	**-0.9**
KMSR				*e*Sg	**Sg**	**02 28 30.9**	**+0.3**
VLKR	**Vladikavkaz**	**1.02**	**61**	*i* Pg	**Pg**	**02 28 16.5**	**-1.0**
VLKR				*e*Sg	**Sg**	**02 28 31.0**	**+0.1**
SNJR	**Sundja**	**1.12**	**63**	*e*Pg	**Pg**	**02 28 18.1**	**-1.3**
SNJR				*e*Sg	**Sg**	**02 28 33.7**	**-0.3**
BTKR	**Batakoyurt**	**1.14**	**44**	*i* Pg	**Pg**	**02 28 18.4**	**-1.3**
BTKR				*i* Sg	**Sg**	**02 28 34.2**	**-0.3**
AKH	**Akhalkalaki**	**1.15**	**178**	P	**Pb**	**02 28 18.9**	**-0.9**
AKH				S	**Sb**	**02 28 33.7**	**-1.0**
KUBR	**Kubataba**	**1.24**	**359**	PG	**Pg**	**02 28 22.4**	**+0.8**
KUBR				S	**Sg**	**02 28 40.7**	**+3.1**
KUBR				pmax	pmax		
	comp=Z,960nm,0.5s						
KUBR	**Kubataba**	**1.24**	**359**	Pg	**Pg**	**02 28 22.4**	**+0.8**
	comp=Z,960nm,0.5s						
KUBR				Sg	**Sg**	**02 28 40.7**	**+3.1**
TBLG	**Delisi**	**1.27**	**130**	P	**Pn**	**02 28 21.3**	**-0.2**
TBLG				S	**Sb**	**02 28 38.6**	**+0.5**
TBLG	**Delisi**	**1.27**	**130**	P	**Pn**	**02 28 21.2**	**-0.3**
TBLG				S	**Sb**	**02 28 38.9**	**+0.8**
TBLG	**Delisi**	**1.27**	**130**	Pg	**Pg**	**02 28 21.2**	**-1.0**
TBLG				Sg	**Sg**	**02 28 38.9**	**+0.2**
MTA	**Mtatsminda**	**1.32**	**131**	P	**Pn**	**02 28 22.9**	**+0.6**
MTA				S	**Sb**	**02 28 41.0**	**+1.3**
MTA	**Mtatsminda**	**1.32**	**131**	P	**Pn**	**02 28 22.0**	**-0.3**
MTA				S	**Sb**	**02 28 40.7**	**+1.0**
MTA	**Mtatsminda**	**1.32**	**131**	Pg	**Pg**	**02 28 22.0**	**-1.2**
MTA				Sg	**Sg**	**02 28 40.7**	**+0.3**
PRTR	**Priterechnaya**	**1.33**	**27**	*e*Pg	**Pg**	**02 28 21.5**	**-1.9**
PRTR				*e*Sg	**Sg**	**02 28 39.7**	**-1.1**
KIV0	**Kislovodsk Arr**	**1.50**	**339**	Pg	**Pg**	**02 28 26.0**	**-0.5**
KIV0				Sg	**Sg**	**02 28 45.6**	**-0.4**
PYA	**Pyatigorsk**	**1.50**	**349**	PG	**Pg**	**02 28 26.2**	**-0.3**
PYA				S	**Sn**	**02 28 46.4**	**+2.2**
KIV	**Kislovodsk**	**1.50**	**338**	PG	**Pg**	**02 28 25.9**	**-0.7**
KIV				S	**Sg**	**02 28 45.7**	**-0.3**
KIV				pmax	pmax		
	comp=Z,833nm,0.9s						
KIV	**Kislovodsk**	**1.50**	**338**	Pg	**Pg**	**02 28 25.9**	**-0.7**
	comp=Z,833nm,0.9s						
KIV				Sg	**Sg**	**02 28 45.7**	**-0.3**
BCA	**Borcka**	**1.76**	**231**	PN	**Pn**	**02 28 28.6**	**+0.3**
BCA				SN	**Sn**	**02 28 52.3**	**+1.6**
DGRG	**David-gareji**	**1.81**	**127**	P	**Pn**	**02 28 31.3**	**+2.3**
DGRG				S	**Sg**	**02 28 58.5**	**+2.4**
DGRG	**David-gareji**	**1.81**	**127**	P	**Pn**	**02 28 31.2**	**+2.2**
DGRG				S	**Sg**	**02 28 58.1**	**+2.0**
DGRG	**David-gareji**	**1.81**	**127**	Pn	**Pn**	**02 28 31.2**	**+2.2**
DGRG				Sg	**Sg**	**02 28 58.1**	**+2.0**
DIGO	**Kars**	**2.15**	**182**	*i* P	**Pb**	**02 28 36.6**	**-0.1**
DIGO				*i* S	**Sg**	**02 29 06.1**	**-0.7**
GOF	**Gofitskoye**	**2.51**	**353**	*e*PN	**Pn**	**02 28 40.8**	**+2.2**
GOF				*i* S	**Sg**	**02 29 19.5**	**+1.0**
GOF				pmax			
	comp=Z,59nm,0.8s						
GOF				smax			
	comp=E,2μm,1.3s						
GOF	**Gofitskoye**	**2.51**	**353**	*e*Pn	**Pn**	**02 28 40.8**	**+2.2**
	comp=E,59nm,0.8s						
DBC	**Dubki**	**2.53**	**78**	*e*PN	**Pn**	**02 28 38.5**	**-0.4**
DBC				*e*S	**Sb**	**02 29 15.0**	**+0.6**
GNI	**Garni**	**2.60**	**158**	PN	**Pb**	**02 28 46.0**	**+1.5**
SOC	**Sochi**	**2.92**	**292**	*e*PN	**Pb**	**02 28 49.0**	**-0.9**
SOC				*e*		02 28 54.6	
SOC				*e*		02 28 56.5	
SOC				*e*		02 29 25.6	
SOC				*e*		02 29 27.0	
SOC				pmax	pmax		
	comp=Z,34nm,0.6s						
SOC				MLR	MLR		
	comp=Z,334nm,12.0s						
SOC	**Sochi**	**2.92**	**292**	*e*Pn	**Pb**	**02 28 49.0**	**-0.9**
	comp=Z,34nm,0.6s						
SOC	**Sochi**	**2.92**	**292**	*e*Pg	**Pg**	**02 28 56.5**	**+2.8**
SOC				*e*Sn	**Sb**	**02 29 25.6**	**0.0**
	comp=Z,334nm,12.0s						
MAK	**Makhachkala**	**3.01**	**81**	*e*PN	**Pn**	**02 28 45.2**	**-0.3**
MAK				*e*S	**Sn**	**02 29 21.1**	**-0.5**
MAK				MLR	MLR		
	comp=Z,921nm,15.0s						
MAK	**Makhachkala**	**3.01**	**81**	*e*Pn	**Pn**	**02 28 45.2**	**-0.3**
	comp=Z,921nm,15.0s						
MAK				*e*Sn	**Sn**	**02 29 21.1**	**-0.5**
ERZM	**Erzurum**	**3.08**	**211**	*i* P	**Pn**	**02 28 49.4**	**+2.9**
ERZM				*i* S	**Sg**	**02 29 40.3**	**+3.4**
EZM	**Erzurum**	**3.09**	**211**	PN	**Pb**	**02 28 50.0**	**-2.7**
CLDR	**Caldiran**	**3.44**	**174**	*e*PN	**Pb**	**02 28 57.3**	**-1.4**
EZC	**Erzincan**	**3.93**	**225**	*e*PN	**Pb**	**02 29 02.7**	**-4.4**
VANB	**Van**	**3.96**	**181**	*e*PN	**Pb**	**02 29 04.5**	**-3.2**
BNGL	**BINGOL**	**4.01**	**207**	*i* P	**Pg**	**02 29 14.0**	**-0.5**
ANN	**Anapa**	**4.90**	**299**	*e*PN	**Pn**	**02 29 16.5**	**+5.0**
ANN				*e*S	**Sn**	**02 30 13.9**	**+5.7**
ANN				pmax	pmax		
	comp=Z,24nm,1.0s						
ANN				smax			
	comp=N,70nm,1.2s						
ANN				smax			
	comp=E,50nm,1.2s						
ANN	**Anapa**	**4.90**	**299**	*e*Pn	**Pn**	**02 29 16.5**	**+5.0**
	comp=E,24nm,1.0s						
ANN				*e*Sn	**Sn**	**02 30 13.9**	**+5.7**
SVSK	**Karacayir**	**5.54**	**244**	*e*PN	**Pn**	**02 29 20.5**	**+0.3**
KVT	**Kavak**	**5.73**	**257**	*e*PN	**Pn**	**02 29 21.4**	**-1.4**
DIKM	**Dikmen**	**6.16**	**264**	*e*P	**Pn**	**02 29 27.2**	**-1.6**
BOYT	**Boyabat**	**6.47**	**263**	*i* P	**Pn**	**02 29 33.2**	**+0.2**
YAL	**Yalta**	**7.02**	**289**	*e*P	**Pn**	**02 29 40.7**	**+0.1**
YAL				*e*S	**Sn**	**02 30 59.1**	**-1.4**
YAL				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YAL				smax			
	comp=N,10.0nm,0.5s						
YAL	**Yalta**	**7.02**	**289**	*e*P	**Pn**	**02 29 40.7**	**+0.1**
	comp=N,10.0nm,0.5s						
YAL				*e*S	**Sn**	**02 30 59.1**	**-1.4**
	comp=N,10.0nm,0.5s						
SEV	**Sevastopol’**	**7.38**	**289**	*e*P	**Pn**	**02 29 46.3**	**+0.8**
SEV				*e*S	**Sn**	**02 31 06.3**	**-2.9**
SEV				smax			
	comp=N,10.0nm,0.4s						
SEV				smax			
	comp=E,10.0nm,0.4s						
SEV	**Sevastopol’**	**7.38**	**289**	*e*P	**Pn**	**02 29 46.3**	**+0.8**
SEV				*e*S	**Sn**	**02 31 06.3**	**-2.9**
OBN	**Obninsk**	**13.34**	**343**⇑	*e*P	**Pn**	**02 31 08.3**	**+1.1**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s						
OBN	**Obninsk**	**13.34**	**343**	*e*P	**Pn**	**02 31 08.3**	**+1.1**
	comp=Z,200nm,18.0s						
ARU	**Arti**	**16.94**	**30**	*e*P	**Pn**	**02 31 50.4**	**-4.5**
ARU				*e*S	**Sn**	**02 34 55.3**	**-7.8**
ARU				MLR	MLR		
	comp=Z,100nm,18.0s						
ARU				MLR	MLR		
	comp=N,40nm,19.0s						
ARU				MLR	MLR		
	comp=E,80nm,17.0s						
ARU	**Arti**	**16.94**	**30**	*e*P	**Pn**	**02 31 50.4**	**-4.5**
ARU				*e*S	**Sn**	**02 34 55.3**	**-7.8**
	comp=E,40nm,19.0s						

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*IDC **11** 02:30:36.0±1.0, 9.31S×123.38E, h0km, mb4.3/3, mb1 4.3/6, mb1mx4.0/14, mbtmp4.2/6, ML4.2/3, Error ellipse: s-maj=97.8km s-min=22.2km az=66.0*
*ISCJB **11** 02:30:37.4±0.7, 9.76S±0.06×123.22E±0.08, h33km, mb4.5/5, Error ellipse: s-maj=13.4km s-min=6.5km az=113.6*
*NEIC **11** 02:30:44.1±2.9, 9.58S×123.34E, h71km±31km, mb4.9/2, Error ellipse: s-maj=26.7km s-min=22.3km az=54.0*
ISC 11 02:30:40.4±0.7**, 9.63S**±.008×**123.18E**±.009**, h35**km**, n17,** σ**1.43**/24**, mb4.5**/5**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.75**	**164**	*e*P	**Pn**	**02 32 48.8**	**+4.5**
	10nm,0.3s						
FITZ				*e*S	**Sn**	**02 34 19.6**	**-2.1**
FITZ	**Fitzroy Crossi**	**8.75**	**164**	Pn	**Pn**	**02 32 48.9**	**+4.5**
	2.5nm,0.3s,baz=3.1,slow=11,SNR=54						
FITZ				Sn	**Sn**	**02 34 20.0**	**-1.7**
	8.9nm,0.3s,baz=136,slow=11,SNR=18						
KAKA	**Kakadu**	**9.58**	**109**	*e*P	**Pn**	**02 32 59.2**	**+3.4**
	10nm,0.5s						
KAKA				*e*S	**Sn**	**02 34 42.1**	**-0.1**
WRA	**Warramunga Arr**	**14.87**	**135**	Pn	**Pn**	**02 34 07.2**	**-0.8**
	0.8nm,0.3s,baz=313,slow=13,SNR=46						
WRA				Sn	**Sn**	**02 36 42.0**	**-9.5**
	2.3nm,0.3s,baz=298,slow=25,SNR=15						
WRAB	**Tennant Creek**	**14.87**	**135**	*e*Pn	**Pn**	**02 34 08.4**	**+0.4**
	20nm,0.6s						
WRAB				*e*Sn	**Sn**	**02 36 43.5**	**-8.0**
WB2	**Warramunga Arr**	**14.88**	**135**	*e*P	**Pn**	**02 34 08.0**	**-0.1**
WB2				*e*S	**Sn**	**02 36 41.8**	**-10**
ASPA	**Alice Springs**	**17.31**	**145**	*e*P	**Pn**	**02 34 41.7**	**+2.5**
ASPA				*e*S	**S**	**02 37 41.8**	**-17**
AS31	**Alice Springs**	**17.31**	**145**	*e*P	**Pn**	**02 34 41.7**	**+2.5**
AS31				*e*S	**S**	**02 37 41.8**	**-17**
ASAR	**Alice Springs**	**17.31**	**145**	P	**Pn**	**02 34 41.4**	**+2.2**
	0.8nm,0.3s,baz=322,slow=13,SNR=29						
ASAR				S	**S**	**02 37 42.1**	**-16**
	0.7nm,0.3s,baz=321,slow=23,SNR=14						
COCO	**West Island**	**25.99**	**262**	*e*P	**P**	**02 36 11.6**	**+1.8**
	222nm,1.2s,mb5.6						
SONM	**Songino Array**	**59.12**	**347**	P	**P**	**02 40 37.8**	**+0.4**
	1.7nm,0.5s,mb4.4,baz=163,slow=8.3,SNR=12						
MKAR	**Makanchi Array**	**66.96**	**331**	P	**P**	**02 41 29.2**	**-0.1**
	1.7nm,0.6s,mb4.3,baz=134,slow=7.9,SNR=17						
ZAL	**Zalesovo**	**71.16**	**337**	P	**P**	**02 41 53.7**	**-1.7**
	1.8nm,0.4s,mb4.4,baz=198,slow=20,SNR=5.0						
ZAL	**Zalesovo**	**71.16**	**337**	P	**P**	**02 41 53.7**	**-1.7**
KURK	**Kurchatov**	**71.44**	**332**	*e*P	**P**	**02 41 55.8**	**-1.3**
	2.3nm,0.8s,mb4.2						
TORD	**Torodi Ar. Bea**	**122.64**	**279**	PKP	PKPdf	02 49 34.9	+2.6
	0.8nm,0.5s,baz=78,slow=1.7,SNR=32						
CPUP	**Villa Florida**	**144.25**	**179**	PKP	PKPdf	02 50 13.8	+1.3
	0.6nm,0.4s,baz=185,slow=3.2,SNR=3.8						

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*ISCJB **11** 03:05:07.9±0.5, 22.80S±0.04×68.45W±0.08, h108km±6km, mb4.3/10, Error ellipse: s-maj=12.2km s-min=6.2km az=29.6*
*NEIC **11** 03:05:08.6±0.6, 22.75S×68.43W, h93km±8km, mb4.6/5, Error ellipse: s-maj=13.9km s-min=8.2km az=109.0*
*IDC **11** 03:05:10.1±0.5, 22.57S×68.53W, h110km±4km, mb4.0/7, mb1 4.0/10, mb1mx3.9/15, mbtmp4.3/10, MS3.0/2, Ms1 3.1/2, ms1mx2.6/23, Error ellipse: s-maj=18.9km s-min=16.6km az=144.0*
*GUC **11** 03:05:10.0±1.2, 22.85S×72.05W, h18km±13km, MD4.3, ML4.3*
ISC 11 03:05:09.3±0.5**, 22.82S**±.004×**68.44W**±.007**, h101**km±5km**, h111**km±1.8km**:pP-P, n42,** σ**1.48**/51**, mb4.3**/10**, 1C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.48**	**295**	P	**Pn**	**03 05 25.5**	**+0.4**
	baz=73,slow=2.0						
LVC				S	**Sn**	**03 05 36.8**	**-0.1**
	7μm,0.3s,baz=255,slow=20,SNR=141						
LVC	**Limon Verde**	**0.48**	**295**	*e*Pn	**Pn**	**03 05 25.0**	**-0.1**
LVC				*e*Sn	**Sn**	**03 05 37.2**	**+0.3**
CEN1	**Los Morros**	**1.72**	**250**	*e*P	**Pn**	**03 05 40.8**	**+2.5**
CEN1				*i* S	**Sn**	**03 06 03.7**	**+3.4**
CEN1				AML	AML	03 06 07.2	
	comp=E,5μm,0.7s						
ANCH	**Antofagasta**	**2.00**	**244**⇓	*i*P	**Pn**	**03 05 38.9**	**-3.0**
ANCH				*i* S	**Sn**	**03 06 01.2**	**-5.7**
ANCH				AML	AML	03 06 05.7	
	comp=E,5μm,0.5s						
ANCH	**Antofagasta**	**2.00**	**244**⇓	*i*P	**Pn**	**03 05 38.9**	**-3.0**
ANCH				*i* S	**Sn**	**03 06 01.2**	**-5.7**
CPN1	**Cerro Paranal**	**2.54**	**225**	*e*P	**Pn**	**03 05 50.3**	**+1.3**
CPN1				*i* S	**Sn**	**03 06 20.5**	**+1.0**
CPN1				AML	AML	03 06 27.1	
	comp=E,4μm,0.4s						
CRCH	**Chaqaral**	**4.03**	**209**	*e*P	**Pn**	**03 06 09.1**	**+0.2**
CRCH				*i* S	**Sn**	**03 06 53.1**	**-2.0**
CDCH	**Caldera**	**4.76**	**207**	*e*P	**Pn**	**03 06 17.4**	**-1.3**
CDCH				*i* S	**Sn**	**03 07 09.0**	**-3.7**
CPCH	**Copiapo**	**4.84**	**201**	*e*P	**Pn**	**03 06 20.1**	**+0.3**
CPCH				*i* S	**Sn**	**03 07 15.2**	**+0.5**
VACH	**Vallenar**	**6.10**	**200**⇑	*i*P	**Pn**	**03 06 35.8**	**-1.1**
VACH				*i* S	**Sn**	**03 07 43.4**	**-1.9**
LPAZ	**La Paz**	**6.50**	**3**	P	**Pn**	**03 06 41.9**	**-0.5**
	comp=E,5.8nm,0.3s,baz=188,slow=5.4,SNR=217						
LPAZ				LR	LR	03 08 41.6	
	comp=E,73nm,18.8s,baz=281,slow=34						
ARE	**Arequipa**	**6.95**	**335**	*e*P	**Pn**	**03 06 50.0**	**+1.6**
ARE				*e*S	**Sn**	**03 07 56.0**	**-10**
CFAA	**Coronel Fontan**	**8.75**	**179**	P	**Pn**	**03 07 13.3**	**+0.3**
	comp=E,0.5nm,0.3s,baz=352,slow=13,SNR=79						
CFAA				S	**Sn**	**03 08 48.0**	**-1.8**
	comp=E,0.6nm,0.3s,baz=246,slow=20,SNR=4.2						
CFAA	**Coronel Fontan**	**8.75**	**179**	P	**Pn**	**03 07 13.3**	**+0.3**
CFAA				S	**Sn**	**03 08 48.0**	**-1.8**
SIV	**San Ignacio**	**9.72**	**47**	P	**Pn**	**03 07 22.6**	**-3.5**
	comp=E,4.6nm,0.3s,baz=237,slow=11,SNR=80						
SIV				S	**Sn**	**03 09 02.3**	**-11**
	comp=E,2.3nm,0.3s,baz=315,slow=19,SNR=6.2						
CPUP	**Villa Florida**	**10.70**	**111**	P	**Pn**	**03 07 40.9**	**+1.5**
	comp=E,1.4nm,0.3s,baz=274,slow=12,SNR=21						
CPUP	**Villa Florida**	**10.70**	**111**	P	**Pn**	**03 07 40.9**	**+1.5**
SAML	**Samuel**	**14.69**	**21**	*e*Pn	**Pn**	**03 08 26.7**	**-5.2**
	comp=E,2.8nm,0.7s						
TRQA	**Tornquist**	**16.17**	**161**	*e*P	**Pn**	**03 08 52.6**	**+2.1**
	comp=E,11nm,0.7s						
PLCA	**Paso Flores**	**17.95**	**185**	P	**Pn**	**03 09 14.0**	**+1.8**
	comp=E,0.4nm,0.3s,baz=8.6,slow=13,SNR=8.5						
PLCA	**Paso Flores**	**17.95**	**185**	P	**Pn**	**03 09 14.0**	**+1.8**
BDFB	**Brasilia**	**20.55**	**73**	P	**P**	**03 09 39.1**	**-0.6**
	comp=E,25nm,0.7s,baz=262,slow=11,SNR=47						
BDFB				LR	LR	03 17 47.2	
	comp=E,86nm,20.2s,baz=237,slow=37						
CAM4	**Nova Friburgo**	**23.89**	**94**	*e*P	**P**	**03 10 10.7**	**-2.8**
CAM4				*i*		03 10 13.6	
CAM4				*i*		03 10 14.9	
CAM4				*i*		03 10 44.0	
CAM4				*i*		03 11 32.9	
RCBR	**Riachuelo**	**35.63**	**67**	*e*P	**P**	**03 11 56.6**	**-0.7**
	comp=E,23nm,0.9s,mb5.1						
VNA1	**Neumayer--Stat**	**58.90**	**160**	*e*	**P**	**03 15 01.2**	**+3.6**
VNA1				*e*		03 15 10.7	
VNA1				*e*		03 15 12.8	
SNAA	**Sanae**	**60.90**	**161**	P	**P**	**03 15 12.2**	**+0.9**
	comp=E,1.3nm,0.5s,mb4.2						
QSPA	**South Pole Qui**	**67.38**	**180**	*e*P	**P**	**03 15 55.6**	**+2.0**
	comp=E,8.0nm,0.6s,mb4.7						
ANMO	**Albuquerque**	**67.84**	**327**	*e*P	**P**	**03 15 55.3**	**-1.3**
DBIC	**Dimbokro**	**68.70**	**73**	P	**P**	**03 16 01.8**	**-0.2**
	comp=E,5.5nm,0.6s,mb4.6,baz=223,slow=5.4,SNR=17						
PDAR	**Pinedale Array**	**75.47**	**330**	P	**P**	**03 16 41.1**	**-1.2**
	comp=E,0.4nm,0.7s,mb3.3,baz=128,slow=12,SNR=3.4						
PDAR				pP	pP	03 17 08.6	+0.5
	comp=E,0.4nm,0.5s,baz=142,slow=7.5,SNR=3.5						
VNDA	**Vanda**	**75.63**	**190**	P	**P**	**03 16 45.3**	**+2.1**
	comp=E,0.8nm,0.9s,mb3.5,baz=138,slow=6.9,SNR=4.5						
VNDA				pP	pP	03 17 13.0	+3.9
	comp=E,0.7nm,0.8s,baz=265,slow=3.2,SNR=2.8						
ULM	**Lac du Bonnet**	**76.70**	**342**	pP	pP	03 17 15.2	0.0
	comp=E,1.3nm,0.5s,baz=140,slow=6.6,SNR=3.8						
NVAR	**Mina Array Bea**	**76.80**	**322**	pP	pP	03 17 17.1	+1.3
	comp=E,0.7nm,0.8s,baz=144,slow=7.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**77.39**	**70**	P	**P**	**03 16 52.9**	**-0.2**
	comp=E,9.1nm,0.4s,mb4.9,baz=256,slow=5.5,SNR=430						
TORD				pP	pP	03 17 22.3	+3.2
	comp=E,13nm,1.0s,baz=253,slow=5.6,SNR=5.5						
TORD	**Torodi Ar. Bea**	**77.39**	**70**	P	**P**	**03 16 52.9**	**-0.2**
TORD				pP	pP	03 17 22.3	+3.2
TSUM	**Tsumeb**	**79.25**	**106**	*e*P	**P**	**03 17 04.9**	**+1.5**
	comp=E,11nm,0.9s,mb4.7						
MDT	**Midelt**	**82.26**	**50**	P	**P**	**03 17 19.9**	**+0.5**
	comp=E,2.3nm,0.9s,mb4.0,baz=302,slow=10.0,SNR=4.9						
MDT				pP	pP	03 17 47.9	+2.2
	comp=E,2.1nm,0.9s,baz=330,slow=8.1,SNR=3.0						
YKA	**Yellowknife Ar**	**92.57**	**340**	P	**P**	**03 18 06.8**	**-2.5**
	comp=E,0.2nm,0.5s,mb3.8,baz=143,slow=4.6,SNR=4.7						
YKA				pP	pP	03 18 35.5	-0.4
	comp=E,1.2nm,0.7s,baz=138,slow=4.4,SNR=6.8						
YKA	**Yellowknife Ar**	**92.57**	**340**	P	**P**	**03 18 06.8**	**-2.5**
YKA				pP	pP	03 18 35.5	-0.4
ASAR	**Alice Springs**	**128.94**	**207**	PKP	PKPdf	03 24 05.8	+0.7
	comp=E,0.9nm,0.8s,baz=143,slow=2.3,SNR=7.1						
ASAR				pPKP	pPKPdf	03 24 36.2	+3.3
	comp=E,0.5nm,0.7s,baz=140,slow=1.6,SNR=2.6						
WRA	**Warramunga Arr**	**132.03**	**209**	PKP	PKPdf	03 24 12.0	+1.1
	comp=E,1.1nm,0.7s,baz=154,slow=1.7,SNR=19						
WRA				pPKP	pPKPdf	03 24 42.6	+3.9
	comp=E,0.5nm,0.5s,baz=159,slow=1.8,SNR=2.7						
MKAR	**Makanchi Array**	**146.43**	**37**	PKPbc	PKPbc	03 24 38.0	-0.5
	comp=E,3.8nm,0.8s,baz=320,slow=3.4,SNR=17						
MKAR				pPKPbc	pPKPbc	03 25 07.9	+1.9
	comp=E,1.8nm,0.7s,baz=336,slow=2.7,SNR=4.5						

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*ISCJB **11** 03:06:23.3±0.5, 6.94N±0.10×73.1W±0.1, h166km±9km, mb3.9/3, Error ellipse: s-maj=23.8km s-min=5.7km az=80.6*
*FUNV **11** 03:06:23.6, 6.73N×73.14W, h161km, MW3.5*
*IDC **11** 03:06:24.2±0.7, 6.89N×73.08W, h159km±12km, mb3.7/3, mb1 3.8/6, mb1mx3.4/22, mbtmp4.2/6, Error ellipse: s-maj=38.0km s-min=7.5km az=131.0*
*NEIC **11** 03:06:24.5±1.0, 6.89N×73.11W, h165km±14km, mb3.9/1, Error ellipse: s-maj=46.8km s-min=15.2km az=124.0*
ISC 11 03:06:24.4±0.5**, 6.94N**±.010×**73.1W**±.01**, h160**km±9km**, n20,** σ**0.90**/26**, mb3.9**/3**, 4C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.41**	**211**	P	**Pn**	**03 07 05.3**	**+0.4**
	107nm,0.3s,baz=87,slow=23,SNR=133						
ROSC				S	**Sn**	**03 07 36.5**	**+0.4**
	115nm,0.3s,baz=269,slow=23,SNR=11						
VIGV	**El Vigia**	**2.55**	**42**⇑	*e*P	**Pn**	**03 07 07.6**	**+1.1**
VIGV				*e*S	**Sn**	**03 07 38.9**	**-0.2**
SOCV	**Socops**	**2.58**	**59**⇑	*e*P	**Pn**	**03 07 08.0**	**+1.0**
SOCV				*e*S	**Sn**	**03 07 39.1**	**-0.8**
SDV	**Santo Domingo**	**3.11**	**51**	P	**Pn**	**03 07 14.6**	**+1.2**
	34nm,0.3s,baz=224,slow=4.2,SNR=100						
SDV				S	**Sn**	**03 07 52.0**	**+0.6**
	44nm,0.3s,baz=58,slow=19,SNR=30						
SDV	**Santo Domingo**	**3.11**	**51**⇑	*i*Pn	**Pn**	**03 07 14.4**	**+1.0**
SDV				*e*Sn	**Sn**	**03 07 51.6**	**+0.1**
VIRV	**Villa del Rosa**	**3.61**	**11**	*e*P	**Pn**	**03 07 19.7**	**-0.1**
QARV	**Quebrada Arrib**	**4.12**	**38**	*e*P	**Pn**	**03 07 27.3**	**+0.9**
QARV				*e*S	**Sn**	**03 08 14.1**	**-0.7**
SANV	**Sanarito**	**4.34**	**54**⇑	*e*P	**Pn**	**03 07 29.4**	**+0.1**
CURV	**Curarigua**	**4.35**	**45**	*e*P	**Pn**	**03 07 29.6**	**+0.2**
CURV				*e*S	**Sn**	**03 08 18.4**	**-1.6**
TEPV	**Terepaima**	**4.89**	**52**	*e*P	**Pn**	**03 07 36.1**	**-0.3**
SIQV	**Siquisique**	**4.91**	**41**	*e*P	**Pn**	**03 07 36.9**	**+0.2**
BAUV	**El Baul**	**5.38**	**68**	*e*P	**Pn**	**03 07 41.1**	**-1.8**
OTAV	**Otavalo**	**8.54**	**219**	*e*Pn	**Pn**	**03 08 17.4**	**-7.4**
	1.0nm,0.3s						
OTAV				*e*Sn	**Sn**	**03 09 58.5**	**-1.4**
PCRV	**Puerto La Cruz**	**8.95**	**68**	P	**Pn**	**03 08 31.2**	**+0.9**
	0.9nm,0.3s,baz=135,slow=4.3,SNR=3.8						
ULM	**Lac du Bonnet**	**47.19**	**340**	P	**P**	**03 14 39.3**	**-1.6**
	1.2nm,0.4s,mb3.8,baz=167,slow=6.7,SNR=4.9						
SCHQ	**Schefferville**	**48.02**	**5**	P	**P**	**03 14 48.4**	**+1.1**
	2.2nm,0.6s,mb4.0,baz=201,slow=6.4,SNR=9.1						
SCHQ	**Schefferville**	**48.02**	**5**	P	**P**	**03 14 48.4**	**+1.1**
YKA	**Yellowknife Ar**	**63.17**	**340**	P	**P**	**03 16 35.7**	**+0.4**
	1.0nm,0.5s,mb3.9,baz=133,slow=6.4,SNR=16						
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc	PKPbc	03 25 53.9	0.0
	0.6nm,0.7s,baz=111,slow=3.2,SNR=4.6						
WRA	**Warramunga Arr**	**150.42**	**241**	PKPbc	PKPbc	03 25 57.3	+0.4
	0.4nm,0.7s,baz=106,slow=2.6,SNR=3.7						

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*NEIC **11** 03:12:26.2, 37.74N×20.89E, h16km, MD3.5(ATH), After ATH.*
*ATH **11** 03:12:26.2, 37.74N×20.89E, h16km±4km, MD3.5/4*
*ISCJB **11** 03:12:28.2±1.0, 37.68N±0.05×20.99E±0.08, h16km, Error*

ellipse: s-maj=9.8km s-min=6.1km az=129.2
*CSEM **11** 03:12:28.9±0.2, 3769N×2104E, h5km, MD3.5, Error ellipse: s-maj=7.6km s-min=3.2km az=61.0*
*THE **11** 03:12:30.2, 3760N×2093E, h21km, ML2.9*
ISC 11 03:12:29.0±1.0**, 3769N**±005×**2105E**±008**, h16km, n13, σ1.s20**/20**, 2C, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.50	42	⇑iPN	Pg	03 12 36.3	-2.6
RLS				eSN	Sg	03 12 44.8	-0.8
RLS	Riolos of Patr	0.50	42	⇑iPn	Pg	03 12 36.2	-2.7
RLS				eSn	Sg	03 12 44.8	-0.8
ITM	Ithomi	0.87	126	ePN	Pn	03 12 44.8	-1.8
ITM				eSN	Sn	03 12 59.2	+0.3
EVR	Evrytania	1.36	26	ePN	Pn	03 12 53.1	-0.3
AGG	Agios Georgios	1.67	37	ePb	Pb	03 12 58.7	-0.7
AGG				eSb	Sb	03 13 20.3	+0.1
VLI	Veliai	1.79	122	ePN	Pn	03 13 01.0	+1.7
LKR	Lokris	1.81	57	ePN	Pn	03 12 59.9	+0.3
IGT	Igoumenitsa	1.92	343	ePn	Pn	03 13 01.4	+0.3
IGT				eSn	Sn	03 13 25.2	+0.3
IGT	Igoumenitsa	1.92	343	ePn	Pn	03 13 01.4	+0.3
IGT				eSn	Sn	03 13 25.2	+0.3
KEK	Kerkira	2.24	335	ePN	Pn	03 13 03.3	-2.2
NEO	Neokhori	2.35	46	ePN	Pn	03 13 07.2	+0.2
LIT	Litokhoron	2.66	25	ePn	Pn	03 13 12.3	+1.1
LIT				eSn	Sn	03 13 45.8	+2.7
FNA	Florina	3.10	5	ePn	Pn	03 13 18.2	+0.9

IDC 11 03:13:24.9±1.9**, 4405N**×**2829W, h0km, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.6**/22**, mbtmp3.7**/3**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.5**/25**, Error ellipse: s-maj=59.6km s-min=30.6km az=44.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GERES	GERESS Array B	29.05	66	LR	LR	03 30 49.9	
	comp=Z,40nm,20.8s,baz=206,slow=36						
AKASG	Malin Array Be	38.65	59	P	P	03 20 49.7	-0.3
	0.2nm,0.3s,baz=281,slow=8.2,SNR=4.9						
TORD	Torodi Ar. Bea	40.09	131	P	P	03 21 02.0	0.0
	2.0nm,0.9s,baz=327,slow=6.8,SNR=8.4						
YKA	Yellowknife Ar	50.57	323	P	P	03 22 24.6	-0.6
	1.0nm,0.8s,baz=68,slow=7.3,SNR=5.7						

*ISCJB **11** 03:30:39.8±0.5, 4260N±002×4340E±004, h10km±4km, Error ellipse: s-maj=4.6km s-min=3.4km az=142.0*
*TIF **11** 03:30:39.8, 4258N×4347E, h12km*
*MOS **11** 03:30:42.2±1.1, 4264N×4359E, h18km, mb4.1/1, Error ellipse: s-maj=14.9km s-min=7.9km az=81.0*
*CSEM **11** 03:30:42.2, 4264N×4359E, h18km, mb4.1, After OBN*
ISC 11 03:30:40.3±0.5**, 4257N**±002×**4340E**±004**, h10km**±4km**, n26, σ0.s70**/51**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.04	77	P	Pg	03 30 42.2	+0.1
ONI				S	Sg	03 30 43.7	+0.2
AMRG		0.20	254	P	Pg	03 30 45.6	+1.1
DIGR	Digorskoe uzhe	0.35	22	iPg	Pg	03 30 47.3	0.0
DIGR				iSg	Sg	03 30 52.6	+0.6
ZEI	Tsey	0.42	61	iPg	Pg	03 30 48.4	-0.1
ZEI				iSg	Sg	03 30 54.5	+0.5
KORR	Kora	0.71	43	iPg	Pg	03 30 53.7	-0.3
KORR				eSg	Sg	03 31 03.6	+0.3
GOR	Gori	0.79	138	P	Pg	03 30 54.8	-0.6
GOR				S	Sg	03 31 06.8	+1.1
KMSR	Komsomolskaya	1.03	39	ePg	Pg	03 30 59.6	-0.6
KMSR				eSg	Sg	03 31 14.0	+0.4
VLKR	Vladikavkaz	1.05	63	iPg	Pg	03 30 59.8	-0.7
VLKR				eSg	Sg	03 31 14.4	+0.1
SNJR	Sundja	1.15	64	iPg	Pg	03 31 01.7	-0.7
SNJR				iSg	Sg	03 31 17.5	+0.1
BTKR	Batakoyurt	1.16	46	ePg	Pg	03 31 01.9	-0.7
BTKR				eSg	Sg	03 31 17.9	+0.3
AKH	Akhalkalaki	1.16	177	P	Pb	03 31 01.5	-1.0
AKH				S	Sb	03 31 17.5	-0.1
KUBR	Kubataba	1.23	0	PG	Pg	03 31 05.0	+1.1
KUBR				S	Sg	03 31 23.0	+3.2
KUBR				pmax	pmax		
	comp=Z,61nm,0.2s						
KUBR				smax			
	comp=N,200nm,0.5s						
KUBR	Kubataba	1.23	0	Pg	Pg	03 31 05.0	+1.1
	comp=N,61nm,0.2s						
KUBR				Sg	Sg	03 31 23.0	+3.2
	comp=N,200nm,0.5s						
TBLG	Delisi	1.30	130	P	Pn	03 31 04.2	-0.3
TBLG				S	Sb	03 31 21.9	+0.2
TBLG	Delisi	1.30	130	P	Pn	03 31 04.6	+0.1
TBLG				S	Sb	03 31 21.9	+0.3
TBLG	Delisi	1.30	130	Pg	Pg	03 31 04.6	-0.7
TBLG				Sg	Sg	03 31 21.9	-0.3
PRTR	Priterechnaya	1.34	28	ePg	Pg	03 31 05.0	-1.1
PRTR				eSg	Sg	03 31 23.2	-0.4
MTA	Mtatsminda	1.36	130	P	Pn	03 31 05.5	+0.2
MTA				S	Sb	03 31 23.1	-0.1
MTA	Mtatsminda	1.36	130	P	Pn	03 31 06.2	+0.9
MTA				S	Sb	03 31 22.9	-0.3
KIV0	Kislovodsk Arr	1.48	340	Pg	Pg	03 31 08.2	-0.4
KIV0				Sg	Sg	03 31 27.8	0.0
KIV	Kislovodsk	1.48	340	PG	Pg	03 31 08.0	-0.6
KIV				S	Sg	03 31 27.8	0.0
KIV				pmax	pmax		
	comp=Z,30nm,0.5s						
KIV				smax			
	comp=N,84nm,0.7s						
KIV	Kislovodsk	1.48	340	Pg	Pg	03 31 08.0	-0.6
	comp=N,30nm,0.5s						
KIV				Sg	Sg	03 31 27.8	0.0
	comp=N,84nm,0.7s						
BEYR	Belyy Ugol+	1.50	344	PG	Pg	03 31 08.4	-0.7
BEYR				S	Sg	03 31 28.6	0.0
BEYR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BEYR				smax			
	comp=N,16nm,0.4s						
BEYR	Belyy Ugol+	1.50	344	Pg	Pg	03 31 08.4	-0.7
	comp=N,3.0nm,0.3s						
BEYR				Sg	Sg	03 31 28.6	0.0
	comp=N,16nm,0.4s						
DGRG	David-gareji	1.85	127	P	Pn	03 31 14.2	+2.1
DGRG				S	Sn	03 31 40.7	+5.2
DGRG	David-gareji	1.85	127	P	Pn	03 31 14.2	+2.1
DGRG				S	Sn	03 31 40.8	+5.3

*NEIC **11** 03:41:24.9, 4029N×2532E, h22km, MD3.2(ATH), After ATH.*
*ATH **11** 03:41:24.9, 4029N×2532E, h22km±4km, MD3.2/3*
*ISCJB **11** 03:41:26.0±0.7, 4029N±004×2528E±005, h27km±8km, Error ellipse: s-maj=6.6km s-min=6.3km az=74.2*
*CSEM **11** 03:41:25.6±0.2, 4033N×2524E, h20km, MD3.2, Error ellipse: s-maj=5.2km s-min=4.6km az=33.0*
*THE **11** 03:41:26.9, 4031N×2528E, h20km, ML3.1*
ISC 11 03:41:26.0±0.8**, 4030N**±004×**2528E**±005**, h22km**±8km**, n11, σ0.s79**/18**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.41	191	ePB	Pb	03 41 33.4	-1.2
ALN	Alexandroupoli	0.83	44	ePg	Pb	03 41 41.2	-0.6
ALN				eSg	Sb	03 41 53.8	+1.3
RDO	Rodhopi	0.87	13	ePN	Pn	03 41 41.4	-1.4
RDO				eSN	Sn	03 41 54.4	-0.4
OUR	Ouranopolis	0.99	272	ePg	Pb	03 41 44.1	-0.4
OUR				eSg	Sb	03 41 57.8	+0.6
PRK	Paraskevi	1.30	144	ePN	Pn	03 41 49.1	+0.3
PLG	Polygyros	1.41	274	ePN	Pn	03 41 52.0	+1.7
NVR	Nevrokopi	1.50	315	ePN	Pn	03 41 52.4	+0.8
SRS	Serrai	1.52	303	ePg	Pn	03 41 51.8	-0.1
SRS				eSg	Sn	03 42 10.8	-0.2
SOH	Sokhos	1.56	290	ePg	Pn	03 41 52.1	-0.3
SOH				eSg	Sn	03 42 11.3	-0.6
CHOS	Chios island	2.00	162	ePn	Pn	03 41 58.9	+0.3
CHOS				eSn	Sn	03 42 23.0	+0.1
CHOS	Chios island	2.00	162	ePn	Pn	03 41 58.8	+0.3
CHOS				eSn	Sn	03 42 23.0	+0.1

*SZGRF **11** 04:04:15.3, 5016N×17889E, h33km, mb5.2, Rat Islands, Aleutian Islands, United States*
*IDC **11** 04:04:17.6±2.5, 5120N×17907W, h17km±14km, mb4.8/27, mb1 5.0/28, mb1mx4.9/30, mbtmp5.0/28, ML5.0/1, MS4.1/23, Ms1 4.1/23, ms1mx4.0/38, Error ellipse: s-maj=16.7km s-min=10.8km az=159.0*
*BJI **11** 04:04:19.7, 5142N×17939W, h38km, mB5.1, mb5.2, Ms4.7, Msz4.3*
*ISCJB **11** 04:04:20.7±0.2, 5124N±004×17909W±002, h49km, mb5.2/285, MS4.2/46, Error ellipse: s-maj=5.5km s-min=1.9km az=10.7*
*MOS **11** 04:04:20.6±0.8, 5127N×17909W, h48km, mb5.4/120, MS4.3/11, Error ellipse: s-maj=7.4km s-min=4.0km az=93.2*
*NEIC **11** 04:04:22.4±0.5, 5120N×17912W, h54km±3km, mb5.2/188, MS4.4/3, ML5.0(AEIC), Error ellipse: s-maj=5.0km s-min=2.3km az=188.0*
*HRVD **11** 04:04:22.4±0.4, 5097N×17896W, h31km±1km, MW5.0/62, Centroid moment Tensor Solution. LP body waves: s33,c45;Mantle waves: s62,c91; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.60±.17; $M_{\theta\theta}$-2.64±.12; $M_{\phi\phi}$0.03±.11; $M_{r\theta}$2.21±.16; $M_{\theta\phi}$-0.77±.07; $M_{\phi r}$1.22±.15; Best double couple: $M_0$3.71600×10^{16} NP1:ϕ_s266.00000°,δ25.00000°,λ109.00000°. NP2: ϕ_s65.00000°,δ67.00000°,λ82.00000°. Principal axes: T 3.6350, Plg67.0000°, Azm320.0000°; N 0.1610, Plg8.0000°, Azm69.0000°; P -3.7970, Plg21.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 11 04:04:22.4±0.2**, 5131N**±004×**17913W**±002**, h51km**±1.1km**:pP-P, n798, σ0.s78**/803**, mb5.2**/285**, MS4.2**/46**, 214C-61D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.99	275	P	Pn	04 04 37.4	-2.6
AMKA				S	Sn	04 04 53.6	+0.7
ATKA	Atka Island	3.19	72	P	Pn	04 05 08.9	-1.2
ATKA				S	Sn	04 05 46.1	-0.8
SMY	Shemya	4.42	291	P	Pn	04 05 28.4	+1.5
SMY				S	Sn	04 06 24.9	+7.8
NIKO	Nikolski	6.54	71	P	Pn	04 05 54.9	-1.1
OKCD	Okmok Cone D	7.07	68	P	Pn	04 06 05.0	+1.7
SPIA	Saint Paul Isl	7.84	38	P	Pn	04 06 16.8	+2.9
AKUT	Akutan	8.59	66	eP	Pn	04 06 26.6	+2.6
FALS	False Pass	10.10	63	ePn	Pn	04 06 45.8	+1.1
SDPT	Sand Point	11.85	63	eP	Pn	04 07 07.0	-1.7
	34nm,0.3s						
PET	Petropavlovsk	13.74	286	eP	Pn	04 07 33.2	-1.2
PET				iS	Sn	04 10 08.6	+3.2
PET				smax			
	comp=N,600nm,24.5s						
PET				MLR	MLR		
	comp=Z,1μm,19.0s						
SKR	Severo-Kuril's	15.58	277	eP	Pn	04 07 52.0	-6.7
SKR				S	S	04 10 52.0	-11
SKR				pmax	pmax		
	comp=Z,800nm,4.0s						
SKR				pmax	pmax		
	comp=Z,130nm,1.0s						
SKR				smax			
	comp=N,800nm,10.0s						
SVW2	Sparrevohn	16.26	44	eP	Pn	04 08 08.9	+1.5
KDAK	Kodiak Island	16.63	57	Pn	Pn	04 08 08.0	-4.0
	comp=N,250nm,0.3s,SNR=17						
KDAK	Kodiak Island	16.63	57	Pn	Pn	04 08 07.3	-4.6
	comp=N,5.3nm,0.3s,baz=274,slow=7.5,SNR=23						
KDAK				Sn	Sn	04 11 10.1	-5.7
	comp=N,0.9nm,0.3s,baz=138,slow=18,SNR=4.7						
KDAK	Kodiak Island	16.63	57	ePn	Pn	04 08 07.9	-4.1
	comp=N,38nm,0.4s						
TTA	Tatalina	16.99	38	eP	Pn	04 08 17.9	+1.4
TTA				pmax	pmax		
	comp=Z,110nm,1.1s						
TTA	Tatalina	16.99	38	eP	Pn	04 08 18.2	+1.7
SLKM	Skilak Lake	18.49	49	eP	Pn	04 08 34.3	-0.6
SLKM				eSn	Sn	04 11 54.5	-6.0
MA2	Magadan	18.83	308	P	Pn	04 08 39.4	+0.5
PMR	Palmer	19.33	46	eP	Pn	04 08 43.7	-1.1
PMR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PMR	Palmer	19.33	46	eP	Pn	04 08 43.7	-1.1
	comp=Z,6.9nm,0.7s						
MID	Middleton Isla	20.15	53	eP	P	04 08 53.9	+1.6
EYAK	Cordova Ski Ar	20.64	50	eP	P	04 08 58.2	+0.5
COLA	College	21.09	38	eP	P	04 09 03.1	+0.6
COLA				eS	S	04 12 56.1	+1.7
COLA				pmax	pmax		
	comp=Z,78nm,0.8s,mb5.1						
COLA	College	21.09	38	eP	P	04 09 03.0	+0.5
	comp=Z,78nm,0.8s,mb5.1						
COLA				eS	S	04 12 56.1	+1.7
MENT	Mentasta	22.14	45	eP	P	04 09 14.6	+0.9
DAWY	Dawson	24.30	43	eP	P	04 09 34.0	-1.0
UGL	Uglegorsk	24.75	280	eP	P	04 09 39.0	-0.1
UGL				pmax	pmax		
	comp=Z,135nm,1.0s,mb5.4						
UGL				MLR	MLR		
	comp=N,500nm,21.0s,MS4.1						
UGL				MLR	MLR		
	comp=E,500nm,21.0s,MS4.1						
UGL				MLR	MLR		
	comp=Z,700nm,21.0s,MS4.1						
YSS	Yuzh-Sakhalins	25.12	275α	iP	P	04 09 43.0	+0.5
YSS				S	S	04 14 03.0	-0.7
YSS				pmax	pmax		
	comp=N,40nm,1.0s						
YSS				pmax	pmax		
	comp=E,90nm,1.0s						
YSS				pmax	pmax		
	comp=Z,150nm,1.0s,mb5.5						
YSS				MLR	MLR		
	comp=E,300nm,18.0s						
YSS				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.0						
YSS	Yuzh-Sakhalins	25.12	275	eP	P	04 09 43.8	+1.3
	comp=Z,184nm,1.1s,mb5.5						
ASAJ	Asahikawa	26.50	269	P	P	04 09 52.8	-2.2
	comp=Z,47nm,1.0s,mb5.0,baz=21,slow=5.0,SNR=14						
ASAJ				LR	LR	04 18 28.5	
	comp=Z,331nm,20.7s,MS3.9,baz=340,slow=32						
INK	Inuvik	27.63	35	P	P	04 10 04.2	-0.9
	comp=Z,4.8nm,0.4s,mb4.5,baz=246,slow=10,SNR=16						
INK				PcP	PcP	04 13 20.6	-0.9
	comp=Z,3.2nm,0.5s,baz=168,slow=1.8,SNR=4.4						
INK				ScP	ScP	04 16 59.7	+1.9
	comp=Z,1.7nm,0.7s,baz=221,slow=11,SNR=5.5						
INK	Inuvik	27.63	35	eP	P	04 10 04.3	-0.9
INK				pmax	pmax		
	comp=Z,35nm,1.0s						
INK	Inuvik	27.63	35	eP	P	04 10 04.3	-0.8
	comp=Z,35nm,1.0s,mb5.0						
DLBC	Dease Lake	28.57	56	P	P	04 10 08.2	-5.2
	comp=Z,0.4nm,0.3s,baz=162,slow=20,SNR=3.2						
DLBC	Dease Lake	28.57	56	eP	P	04 10 08.8	-4.7
HABR	Khabarovsk	29.29	283	eP	P	04 10 20.2	+0.3
HABR				eS	S	04 15 09.7	+0.3
HABR				pmax	pmax		
	comp=Z,29nm,0.5s,mb5.3						
KLR	Kul'dur	31.00	286	⇓iP	P	04 10 32.0	-3.0
KLR				pmax	pmax		
	comp=E,86nm,1.2s						
KLR				pmax	pmax		
	comp=Z,130nm,1.2s,mb5.6						
MJAR	Matsushiro Arr	33.57	261	P	P	04 10 57.4	-0.1
	comp=Z,4.4nm,0.7s,mb4.5,baz=50,slow=7.5,SNR=14						
MJAR				PcP	PcP	04 13 36.9	-0.2
	comp=Z,0.9nm,0.5s,baz=253,slow=1.3,SNR=4.1						
MJAR				LR	LR	04 24 12.6	
	comp=Z,248nm,19.2s,MS3.9,baz=70,slow=36						
MJAR	Matsushiro Arr	33.57	261	P	P	04 10 57.4	-0.1
MJAR						04 13 36.9	
MAJO	Matsushiro	33.57	261	eP	P	04 10 57.2	-0.3
MAJO				*PP	pP	04 11 10.5	-0.2
MAJO				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.1						
MAJO	Matsushiro	33.57	261	eP	P	04 10 57.1	-0.4
	comp=Z,29nm,1.2s,mb5.1						
MAJO				pP	pP	04 11 10.5	-0.2
MAT	Matsushiro	33.57	261	P	P	04 10 57.3	-0.2
MAT				eS	S	04 16 07.0	-9.3
MAT	Matsushiro	33.57	261	eP	P	04 10 57.0	-0.5
MAT				S	S	04 16 07.0	-9.3
MAT				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
MAT	Matsushiro	33.57	261	eP	P	04 10 57.0	-0.5
	comp=Z,16nm,1.0s,mb4.9						
MAT				S	S	04 16 07.0	-9.3
MDJ	Mudanjiang	34.38	279	P	P	04 11 03.7	-0.9
MDJ				PP	PP	04 12 18.2	-4.9
MDJ				PCP	PcP	04 13 36.2	-3.2
MDJ				S	S	04 16 25.7	-3.1
MDJ				PCS	PcS	04 17 22.8	-3.0
MDJ				SCS	ScS	04 21 18.4	-4.5
MDJ				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,123nm,4.2s						
MDJ				LR	LR		
	comp=N,111nm,26.3s,MS3.7						
MDJ				LR	LR		
	comp=E,170nm,29.5s,MS3.7						
MDJ				LR	LR		
	comp=Z,247nm,26.8s,MS3.8						
MDJ	Mudanjiang	34.38	279	eP	P	04 11 03.4	-1.1
	comp=Z,23nm,1.0s,mb5.1						
C03A	Quillayute Air	34.81	74	⇑P	P	04 11 09.1	+0.8
	baz=35						
JHJ	Hachijo jima 2	34.88	255	LR	LR	04 23 28.7	
	comp=Z,158nm,19.3s,MS3.8,baz=96,slow=33						
OBC	Olympics--Boni	35.07	73	P	P	04 11 11.9	+1.4
B04A	Port Angeles	35.41	73	⇓P	P	04 11 13.8	+0.4
	baz=35						
YKA	Yellowknife Ar	35.43	46	P	P	04 11 12.2	-1.3
	comp=Z,12nm,0.5s,mb5.0,baz=281,slow=7.2,SNR=149						
YKA				PcP	PcP	04 13 42.0	-0.4
	comp=Z,3.8nm,0.8s,baz=290,slow=3.2,SNR=8.3						
YKA				ScP	ScP	04 17 25.5	+1.6
	comp=Z,2.6nm,0.9s,baz=284,slow=3.6,SNR=5.6						
YKA				LR	LR	04 27 50.3	
	comp=Z,588nm,18.4s,MS4.4,baz=270,slow=40						
YKA	Yellowknife Ar	35.43	46	P	P	04 11 12.2	-1.4
YKA						04 13 42.0	
YKA	Yellowknife Ar	35.43	46	P	P	04 11 12.2	-1.3
YKA				PcP	PcP	04 13 42.0	-0.4
YKA				ScP	ScP	04 17 25.6	+1.6
YKA				LR	LR	04 27 50.3	
A04A	Legoe Bay, Lum	35.59	71	⇓P	P	04 11 15.4	+0.4
	baz=36						
D03A	Wishkah Elem.	35.67	74	⇓P	P	04 11 16.4	+0.8
	baz=36						
VDB	Vedder Mountai	35.81	71	P	P	04 11 17.0	+0.1
A05A	Maple Falls	35.83	71	⇑P	P	04 11 17.2	+0.1
	baz=36,SNR=8.4						
MBW	Mount Baker	36.04	71	P	P	04 11 19.4	+0.6
E03A	Lebam	36.07	75	⇓P	P	04 11 19.7	+0.6
	baz=36,SNR=12						
B05A	Bryant	36.16	72	⇑P	P	04 11 20.2	+0.4
	baz=36,SNR=18						
D04A	Dobbs Creek Ra	36.27	74	⇑P	P	04 11 21.6	+0.9
	baz=36						
JCW	Jim Creek	36.29	72	P	P	04 11 21.4	+0.5
F03A	Seaside	36.37	76	⇓P	P	04 11 22.2	+0.5
	baz=36						
E04A	Onalaska	36.56	75	⇓P	P	04 11 24.0	+0.8
	baz=36						
C05A	Tolt Reservoir	36.66	72	⇓P	P	04 11 24.3	+0.2
	baz=36,SNR=12						
D05A	Enumclaw	36.72	73	⇑P	P	04 11 25.3	+0.7
	baz=37,SNR=15						
H02A	Toledo	36.72	78	⇓P	P	04 11 25.2	+0.6
	baz=37						
RVC	Mount Rainier-	36.84	74	P	P	04 11 26.6	+0.9
F04A	Amboy	37.06	75	P	P	04 11 27.9	+0.3
	baz=37,SNR=12						
E05A	Randle	37.16	74	⇓P	P	04 11 28.2	-0.1
	baz=37,SNR=13						
H03A	Soap Creek Ran	37.16	78	⇑P	P	04 11 28.6	+0.2
	baz=37						
COR	Corvallis	37.20	78	eP	P	04 11 30.7	+2.0
COR				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.3						
COR	Corvallis	37.20	78	eP	P	04 11 30.7	+2.0
	comp=Z,54nm,1.0s,mb5.3						
CN2	Changchun	37.36	281	eP	P	04 11 29.1	-0.9
CN2				eS	S	04 17 10.0	-4.3
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,18.0s,MS4.3						
CN2				LR	LR		
	comp=E,400nm,18.0s,MS4.3						
CN2				LR	LR		
	comp=Z,400nm,18.0s,MS4.3						
G04A	Mulino	37.38	77	⇓P	P	04 11 30.5	+0.3
	baz=37						
TWW	Teanaway	37.41	73	P	P	04 11 31.5	+1.0
I03A	Eugene	37.53	79	⇓P	P	04 11 32.0	+0.5
	baz=37						
J02A	Umpqua	37.67	80	⇑P	P	04 11 33.3	+0.6
	baz=38						
F05A	White Salmon	37.67	75	⇓P	P	04 11 32.9	+0.2
	baz=38						
WTV	Waterville	37.69	72	P	P	04 11 33.0	+0.2
EBG	Ellensburg	37.70	73	P	P	04 11 33.8	+0.8
H04A	Detroit Lake	37.83	77	⇓P	P	04 11 34.4	+0.3
	baz=38,SNR=13						
BOD	Bodaibo	37.85	307	eP	P	04 11 33.4	-0.8
BOD				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.0						
CBIJ	Chichi jima	37.87	245	LR	LR	04 25 37.1	
	comp=Z,132nm,19.3s,MS3.8,baz=122,slow=34						
J03A	Ideyld Park	38.05	79	⇓P	P	04 11 35.0	-0.8
	baz=38						
G05A	Wamic	38.08	76	⇑P	P	04 11 36.6	+0.5
	baz=38,SNR=7.5						
HIA	Hailar	38.12	292	eP	P	04 11 36.0	-0.5
HIA				pmax	pmax		
	comp=Z,63nm,0.9s						
HIA	Hailar	38.12	292	eP	P	04 11 36.0	-0.5
	comp=Z,63nm,0.9s,mb5.3						
L02A	Cave Junction	38.30	81	⇑P	P	04 11 38.5	+0.5
	baz=38						
H05A	Madras	38.43	77	⇑P	P	04 11 39.3	+0.2
	baz=38						
HUMO	Hull Mountain	38.46	80	eP	P	04 11 40.6	+1.3
	comp=Z,19nm,1.4s,mb4.6						
HUMO				ePcP	PcP	04 13 51.8	+0.2
HUMO	Hull Mountain	38.46	80	⇓P	P	04 11 40.0	+0.7
	baz=38						
HAWA	Hanford	38.58	73	P	P	04 11 40.4	+0.1
OD2	Odessa Site #2	38.58	71	P	P	04 11 40.1	-0.3
I05A	Bend	38.66	77	⇑P	P	04 11 41.3	+0.3
	baz=38						
JCC	Jacoby Creek	38.79	84	⇓P	P	04 11 42.9	+0.8
	baz=39						
EDM	Edmonton	39.02	61	eP	P	04 11 43.0	-1.1
YBH	Yreka Blue Hor	39.09	81	P	P	04 11 44.6	0.0
	comp=Z,4.8nm,0.9s,mb4.2,baz=338,slow=3.8						
YBH				LR	LR	04 26 10.3	
	comp=Z,242nm,19.6s,MS4.0,baz=302,slow=34						
YBH	Yreka Blue Hor	39.09	81	⇑P	P	04 11 45.4	+0.8
	baz=39,SNR=6.8						
NEW	Newport	39.10	69	eP	P	04 11 44.3	-0.4
NEW				e*PP	pP	04 11 57.0	-1.0
NEW				e*SP	sP	04 12 04.3	+0.3
NEW				pmax	pmax		
	comp=Z,21nm,0.7s						
NEW	Newport	39.10	69	eP	P	04 11 44.2	-0.4
	comp=Z,21nm,0.7s,mb5.0						
NEW				epP	pP	04 11 57.0	-1.0
NEW				esP	sP	04 12 04.3	+0.4
M02C	Callahan	39.20	82	⇓P	P	04 11 46.1	+0.6
	baz=39						
N02C	Big Bar	39.23	83	⇑P	P	04 11 46.5	+0.7
	baz=39						
O01C	Eel River Cons	39.31	84	⇑P	P	04 11 47.2	+0.8
	baz=39						
L04A	Klamath Falls	39.36	80	⇑P	P	04 11 47.2	+0.4
	baz=39						
KS15	Wonju Array Si	39.47	271	eP	P	04 11 48.1	+0.4
SNY	Shenyang	39.59	279	⇓P	P	04 11 48.6	-0.1
SNY				PP	PP	04 13 24.8	+4.5
SNY				PCP	PcP	04 13 53.1	-2.1

SNY S **S** **04 17 45.5 -2.4**
SNY AMB AMB
comp=Z,42nm,1.2s,mb5.0
SNY AMB AMB
comp=Z,344nm,5.5s
SNY LR LR
comp=N,303nm,17.2s
SNY LR LR
comp=Z,317nm,20.8s,MS4.1
M04C Macdoel 39.61 81 ⇓P **P 04 11 49.6 +0.7**
baz=40
J06A Christmas Vall 39.84 78 ⇑P **P 04 11 51.2 +0.3**
baz=40,SNR=20
WDC Whiskeytown Da 39.85 83 *eP* **P 04 11 52.5 +1.6**
comp=Z,9.8nm,1.0s,mb4.5
WDC Whiskeytown Da 39.85 83 ⇑P **P 04 11 51.7 +0.7**
baz=40
O02C Red Bluff 39.93 83 ⇓P **P 04 11 52.4 +0.9**
baz=40
K06A Valley Falls 40.02 78 ⇑P **P 04 11 52.9 +0.5**
baz=40
L05A Lakeview 40.08 80 ⇓P **P 04 11 53.4 +0.6**
baz=40
M05C Lookout 40.27 81 ⇓P **P 04 11 55.0 +0.6**
baz=40
GASB Alder Springs 40.28 84 ⇑P **P 04 11 55.1 +0.6**
baz=40
J07A Hines 40.29 77 ⇑P **P 04 11 55.0 +0.5**
baz=40
HATC Hat Creek Radi 40.39 82 ⇑P **P 04 11 56.3 +0.9**
baz=40
WALA Waterton Lakes 40.59 67 *eP* **P 04 11 56.5 -0.5**
comp=Z,44nm,1.1s,mb5.0
BSMT Bassoo Peak 40.67 69 P **P 04 11 57.8 +0.1**
BMO Blue Mountains 40.71 74 *eP* **P 04 11 57.8 -0.2**
comp=Z,17nm,1.0s,mb4.6
M06C Likely Place G 40.78 81 ⇑P **P 04 11 58.9 +0.3**
baz=41
J08A Circle Bar Ran 40.81 77 ⇑P **P 04 11 59.0 +0.1**
baz=41,SNR=9.4
O04C Chester 40.91 82 ⇑P **P 04 11 59.9 +0.3**
baz=41
L07A Adell 41.02 79 ⇑P **P 04 12 00.9 +0.3**
baz=41,SNR=14
ORV Oroville 41.10 83 ⇑P **P 04 12 01.4 +0.1**
baz=41
WVOR Wild Horse Val 41.22 78 *eP* **P 04 12 02.6 +0.4**
WVOR *e**PP pP 04 12 15.1 -0.5
WVOR pmax pmax
comp=Z,20nm,0.8s,mb4.8
WVOR Wild Horse Val 41.22 78 *eP* **P 04 12 02.5 +0.3**
comp=Z,20nm,0.8s,mb4.8
WVOR *ep*P pP 04 12 15.1 -0.5
O05C Quincy 41.22 82 ⇓P **P 04 12 02.5 +0.3**
baz=41
M07A Soldier Meadow 41.48 80 ⇑P **P 04 12 04.8 +0.4**
baz=41,SNR=37
MSO Missoula 41.68 70 *eP* **P 04 12 05.4 -0.6**
comp=Z,27nm,1.0s,mb4.8
O06A Flanigan 41.78 81 ⇓P **P 04 12 07.1 +0.3**
baz=42
P05C Yuba Gap, Truc 41.80 83 ⇓P **P 04 12 07.5 +0.5**
baz=42
M08A Happy Creek Ra 41.93 79 ⇑P **P 04 12 08.4 +0.3**
baz=42,SNR=14
N07B Gerlach 41.95 80 ⇑P **P 04 12 08.2 0.0**
baz=42
P06A Stead Airport, 42.02 82 ⇑P **P 04 12 08.9 +0.1**
baz=42
L09A Wilkinson Ranc 42.04 78 ⇓P **P 04 12 09.0 +0.1**
baz=42,SNR=9.6
CHMT Chamberlain Mo 42.04 69 *eP* **P 04 12 08.2 -0.8**
LAVA Lava Cap Winer 42.05 84 ⇑P **P 04 12 09.0 0.0**
baz=42
PAHR Pah Rah Range 42.33 82 *eP* **P 04 12 09.3 -1.9**
comp=Z,12nm,0.8s,mb4.6
WCN Washoe City 42.33 82 ⇑P **P 04 12 11.7 +0.3**
baz=42
O07A Toulon 42.37 81 ⇑P **P 04 12 11.4 -0.2**
baz=42,SNR=5.0
N08A GE Springer Mi 42.47 80 ⇓P **P 04 12 12.4 0.0**
baz=42,SNR=8.9
R05C Kirkwood Meado 42.49 83 ⇓P **P 04 12 12.8 +0.2**
baz=42
M09A Marrel Ranch, 42.52 78 ⇑P **P 04 12 12.9 0.0**
baz=42
CMB Columbia Colle 42.71 84 ⇑P **P 04 12 14.5 +0.1**
baz=43
ALE Alert 42.73 10 P **P 04 12 14.0 -0.5**
comp=Z,110nm,1.1s,mb5.5,SNR=12
HRY Holter Researc 42.98 69 *eP* **P 04 12 16.2 -0.4**
HRY pP pP 04 12 29.2 -0.8
R06C Coleville 42.99 83 ⇓P **P 04 12 17.3 +0.7**
baz=43
M10A I.L. Ranch, Tu 43.02 78 ⇓P **P 04 12 17.2 +0.3**
baz=43
Q07A Schurz 43.14 82 ⇓P **P 04 12 18.5 +0.6**
baz=43
HLID Hailey 43.16 74 *eP* **P 04 12 18.0 0.0**
comp=Z,31nm,0.9s,mb5.0
HLID *ep*P pP 04 12 32.4 +0.9
BMN Battle Mountai 43.24 79 *eP* **P 04 12 18.2 -0.4**
BMN pmax pmax
comp=Z,14nm,0.9s,mb4.7
BMN Battle Mountai 43.24 79 *eP* **P 04 12 18.2 -0.4**
comp=Z,14nm,0.9s,mb4.7
DLMT Dillon 43.25 71 *eP* **P 04 12 18.5 -0.3**
comp=Z,11nm,0.9s,mb4.6
DLMT PcP PcP 04 14 06.2 -1.0
MCMT McKenzie Canyo 43.40 71 *eP* **P 04 12 19.5 -0.4**
O09A Fish Creek Ran 43.41 80 ⇓P **P 04 12 20.4 +0.3**
baz=43,SNR=7.4
EGMT Eagleton 43.49 66 *eP* **P 04 12 19.9 -0.8**
comp=Z,37nm,0.9s,mb5.1
M11A Holland Ranch, 43.53 77 ⇓P **P 04 12 21.4 +0.4**
baz=43,SNR=12
BOZ Bozeman (W) 43.67 70⇑*iP* **P 04 12 21.7 -0.4**
BOZ pmax pmax
comp=Z,20nm,0.6s,mb5.0
BOZ Bozeman (W) 43.67 70⇑*iP* **P 04 12 21.7 -0.4**
comp=Z,20nm,0.6s,mb5.0
Q08A Gabbs 43.73 82 ⇑P **P 04 12 22.6 0.0**
baz=44,SNR=9.9
T06C Millerton Lake 43.76 85 ⇑P **P 04 12 22.8 -0.1**
baz=44
NVAR Mina Array Bea 43.76 82 P **P 04 12 22.6 -0.3**
comp=Z,8.2nm,0.9s,mb4.5,baz=300,slow=6.8,SNR=27
NVAR ScP ScP 04 17 57.2 +0.9
comp=Z,1.1nm,0.8s,baz=274,slow=9.4,SNR=3.7
NVAR Mina Array Bea 43.76 82 P **P 04 12 22.6 -0.3**
NVAR ScP ScP 04 17 57.2 +0.9
KCC Kaiser Creek 43.81 84 ⇑P **P 04 12 23.5 +0.2**
baz=44
MNV Mina 43.86 82 P **P 04 12 24.9 +1.3**
MNV pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
MNV Mina 43.86 82 *eP* **P 04 12 23.9 +0.3**
comp=Z,7.7nm,0.8s,mb4.5
N11A Elko Archery C 43.92 78 ⇑P **P 04 12 24.2 +0.1**
baz=44
M12A Wells 44.08 77 ⇓P **P 04 12 25.6 +0.2**
baz=44,SNR=8.7
P10A Eureka 44.19 80 ⇑P **P 04 12 26.4 +0.1**
baz=44
QLMT Earthquake Lak 44.24 71 *eP* **P 04 12 26.3 -0.4**
MTUM Tungsten Hills 44.26 84 *eP* **P 04 12 27.1 +0.2**
ELK Elko 44.27 78 *eP* **P 04 12 27.0 0.0**
ELK pmax pmax
comp=Z,13nm,0.8s
ELK Elko 44.27 78 *eP* **P 04 12 27.0 0.0**
comp=Z,13nm,0.8s,mb4.7
N12A Clover Valley, 44.33 78 ⇓P **P 04 12 27.2 -0.2**
baz=44,SNR=15
O11A Cowboy Ranch, 44.38 79 ⇑P **P 04 12 28.0 +0.2**
baz=44
M13A Montello 44.57 76 P **P 04 12 29.4 +0.1**
baz=44,SNR=18
YMR Madison River 44.60 71 *eP* **P 04 12 28.9 -0.7**
comp=Z,30nm,0.9s,mb5.1
TPH Tonopah 44.65 82 *eP* **P 04 12 33.1 +3.1**
TPH pmax pmax
comp=Z,13nm,0.8s,mb4.8
TPH Tonopah 44.65 82 *eP* **P 04 12 33.1 +3.1**
comp=Z,13nm,0.8s,mb4.8
GCMT Greycliff 44.74 69 *eP* **P 04 12 30.7 0.0**
GCMT *ep*P pP 04 12 43.9 -0.4
YFT Old Faithful 44.80 71 *eP* **P 04 12 31.8 +0.6**

N13A Wendover, West 44.84 77 ⇓P **P 04 12 31.4 -0.1**
baz=45,SNR=10.0
S09A Goldfield 44.87 83 ⇓P **P 04 12 32.2 +0.4**
baz=45,SNR=10
LKWY Lake 44.99 70 *eP* **P 04 12 33.7 +1.0**
LKWY pmax pmax
comp=Z,22nm,0.7s,mb5.1
LKWY Lake 44.99 70 *eP* **P 04 12 33.7 +1.0**
comp=Z,22nm,0.7s,mb5.1
IMW Indian Meadow 45.05 72 *eP* **P 04 12 33.0 -0.2**
comp=Z,24nm,1.0s,mb5.0
RRI2 Red Ridge 45.14 72 *eP* **P 04 12 34.1 +0.2**
comp=Z,24nm,0.9s,mb5.0
Q11A Duckwater 45.16 80 ⇑P **P 04 12 33.8 -0.2**
baz=45,SNR=13
HVU Hansel Valley 45.17 75 *eP* **P 04 12 34.1 0.0**
HVU pmax pmax
comp=Z,19nm,0.6s,mb5.1
HVU Hansel Valley 45.17 75 *eP* **P 04 12 34.1 0.0**
comp=Z,19nm,0.6s,mb5.1
BJI Beijing 45.19 282 *eP* **P 04 12 34.7 +0.4**
BJI AMB AMB
comp=Z,25nm,0.8s,mb5.1
BJI LR LR
comp=N,199nm,21.8s,MS4.3
BJI LR LR
comp=E,285nm,19.8s,MS4.3
BJI LR LR
comp=Z,254nm,22.8s,MS4.1
P12A McGill 45.23 79 ⇑P **P 04 12 34.6 0.0**
baz=45,SNR=6.6
MOOW Moose Ponds 45.25 72 *eP* **P 04 12 34.9 +0.1**
comp=Z,8.1nm,0.8s,mb4.6
TPAW Teton Pass 45.28 72 *eP* **P 04 12 35.1 +0.2**
comp=Z,12nm,0.8s,mb4.8
ISA Isabella 45.38 86 ⇑P **P 04 12 36.0 +0.2**
baz=45
REDW Red Top Meadow 45.41 72 *eP* **P 04 12 36.4 +0.4**
comp=Z,16nm,1.1s,mb4.8
BGU Big Grassy Mou 45.52 76 *eP* **P 04 12 36.3 -0.5**
Q12A Willow Creek R 45.55 79 ⇑P **P 04 12 36.9 -0.2**
baz=45
AHID Auburn Hatcher 45.60 73 *eP* **P 04 12 37.9 +0.4**
comp=Z,27nm,0.8s,mb5.2
SPUT South Promonto 45.64 75 *eP* **P 04 12 37.5 -0.3**
TLY Talaya 45.93 302 P **P 04 12 40.9 +0.8**
comp=Z,273nm,0.8s,mb6.2,SNR=10.0
TPNV Topopah Spring 45.96 83 *eP* **P 04 12 39.9 -0.5**
TPNV pmax pmax
comp=Z,23nm,0.8s,mb5.2
TPNV Topopah Spring 45.96 83 *eP* **P 04 12 39.9 -0.4**
comp=Z,23nm,0.8s,mb5.2
HWUT Hardware Ranch 46.00 74 *eP* **P 04 12 40.8 +0.1**
comp=Z,17nm,1.0s,mb4.9
DUG Dugway 46.09 77 *eP* **P 04 12 41.3 0.0**
DUG *e**PP pP 04 12 54.7 -0.2
DUG pmax pmax
comp=Z,56nm,1.1s,mb5.4
DUG Dugway 46.09 77 *eP* **P 04 12 41.3 0.0**
comp=Z,56nm,1.1s,mb5.4
DUG *ep*P pP 04 12 54.6 -0.3
ULN Ulaanbaatar 46.11 296 ⇑P **P 04 12 42.6 +1.1**
SNR=15
ULN Ulaanbaatar 46.11 296⇑*iP* **P 04 12 42.2 +0.7**
ULN *PP pP 04 12 54.4 -0.7
ULN pmax pmax
comp=Z,40nm,0.9s,mb5.3
ULN Ulaanbaatar 46.11 296⇑*iP* **P 04 12 42.2 +0.7**
comp=Z,40nm,0.9s,mb5.3
ULN pP pP 04 12 54.4 -0.7
FCC Fort Churchill 46.16 46 *eP* **P 04 12 40.3 -1.6**
FCC pmax pmax
comp=Z,29nm,1.4s,mb5.0
FCC Fort Churchill 46.16 46 *eP* **P 04 12 40.3 -1.6**
comp=Z,29nm,1.4s,mb5.0
NOQ North Oquirrh 46.23 76 *eP* **P 04 12 43.5 +1.0**
comp=Z,20nm,0.9s,mb5.0
LAO LASA Array 46.24 66 *eP* **P 04 12 42.5 -0.1**
comp=Z,56nm,0.8s,mb5.5
LAO pP pP 04 12 54.5 -1.6
U10A Ash Meadows, A 46.24 83 ⇑P **P 04 12 42.3 -0.3**
baz=46,SNR=6.4
TCUT Toone Canyon 46.39 75 *eP* **P 04 12 43.2 -0.5**
CTU Camp Tracy 46.43 76 *eP* **P 04 12 42.6 -1.5**
comp=Z,26nm,1.0s,mb5.1
SONM Songino Array 46.49 296 P **P 04 12 45.6 +1.1**
comp=Z,25nm,0.8s,mb5.2,baz=66,slow=8.1,SNR=145
SONM LR LR 04 33 34.5
comp=Z,691nm,19.1s,MS4.6,baz=67,slow=38
PDAR Pinedale Array 46.53 72 P **P 04 12 44.5 -0.3**
comp=Z,38nm,0.5s,mb5.5,baz=317,slow=2.8,SNR=188
PDAR ScP ScP 04 18 11.7 +4.1
comp=Z,0.9nm,0.9s,baz=17,slow=0.9,SNR=5.7
PDAR LR LR 04 30 01.7
comp=Z,200nm,19.5s,MS4.1,baz=304,slow=33
GSC Goldstone 46.66 85 ⇓P **P 04 12 45.3 -0.6**
baz=46
NLU North Lily Min 46.68 77 *eP* **P 04 12 46.2 +0.1**
NLU *ep*P pP 04 12 58.0 -1.7
ZAK Zakamensk 46.81 301 ⇓*iP* **P 04 12 47.6 +0.5**
ZAK pmax pmax
comp=Z,27nm,1.3s,mb5.0
ZAK pmax pmax
comp=Z,3.0nm,1.2s
DAU Daniels Canyon 46.90 76 *eP* **P 04 12 48.3 +0.6**
MPU Maple Canyon 46.91 76 *eP* **P 04 12 48.0 +0.2**
comp=Z,11nm,0.7s,mb4.9
MPU *ep*P pP 04 13 01.2 -0.2
TUQ Turquoise Mtn. 47.12 84 ⇑P **P 04 12 49.3 -0.2**
baz=47
ARUT Antelope Range 47.18 80 P **P 04 12 45.5 -4.4**
MOY Mondy 47.33 304 *eP* **P 04 12 51.7 +0.6**
MOY pmax pmax
comp=Z,33nm,1.5s,mb5.0
U12A Valley of Fire 47.35 82 ⇑P **P 04 12 50.7 -0.5**
baz=47,SNR=6.1
CCUT Cedar City 47.37 80 *eP* **P 04 12 51.8 +0.4**
MSU Marysvale 47.50 78 *eP* **P 04 12 53.2 +0.8**
HHC Hu-ho-hao-te 47.51 286 *eP* **P 04 12 53.2 +0.7**
HHC PCP PcP 04 14 24.0 +2.1
HHC PP PP 04 14 44.9 +0.8
HHC SCP ScP 04 18 10.9 -0.9
HHC PCS PcS 04 18 18.2 +0.8
HHC S **S** **04 19 41.2 -2.5**
HHC SCS ScS 04 22 37.2 -4.5
HHC SS SS 04 23 00.9 -11
HHC AMB AMB
comp=Z,24nm,1.2s,mb5.1
HHC AMB AMB
comp=Z,148nm,5.1s
HHC LR LR
comp=N,221nm,11.8s,MS4.6
HHC LR LR
comp=E,326nm,12.7s,MS4.6
HHC LR LR
comp=Z,357nm,17.6s,MS4.4
V12A Nelson 47.60 83 ⇓P **P 04 12 52.7 -0.5**
baz=48
TMUT Trail Mountain 47.61 77 *eP* **P 04 12 53.2 0.0**
TMUT *e* 04 14 42.6
SSE Sheshan 47.79 269 *eP* **P 04 12 54.2 -0.4**
SSE PCP PcP 04 14 24.9 +2.0
SSE PP PP 04 14 44.0 -2.7
SSE S **S** **04 19 41.4 -6.2**
SSE SCS ScS 04 22 39.3 -4.3
SSE AMB AMB
comp=Z,33nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,141nm,4.7s
SSE LR LR
comp=N,74nm,25.2s,MS3.6
SSE LR LR
comp=E,31nm,25.1s,MS3.6
SSE LR LR
comp=Z,92nm,17.3s
SRU San Rafael 48.15 77 *eP* **P 04 12 57.6 +0.2**
SRU *PP pP 04 13 10.5 -0.5
SRU pmax pmax
comp=Z,26nm,0.6s,mb5.4
SRU San Rafael 48.15 77 *eP* **P 04 12 57.6 +0.2**
comp=Z,26nm,0.6s,mb5.4
SRU pP pP 04 13 10.5 -0.5
RWWY Rawlins 48.57 72 *eP* **P 04 13 00.2 -0.5**
comp=Z,35nm,0.9s,mb5.4
BTO Baotou 48.59 286 *eP* **P 04 13 00.5 -0.3**
NJ2 Nanjing 48.61 272 *eP* **P 04 13 03.4 +2.4**

NJ2 S **S** **04 20 01.0 +1.8**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
NJ2 AMB AMB
comp=Z,180nm,4.0s
NJ2 LR LR
comp=N,570nm,14.2s,MS4.8
NJ2 LR LR
comp=E,340nm,14.1s,MS4.8
RSSD Black Hills 48.98 67 *eP* **P 04 13 02.8 -1.0**
RSSD pmax pmax
comp=Z,13nm,0.6s,mb5.1
RSSD Black Hills 48.98 67 *eP* **P 04 13 02.8 -0.9**
comp=Z,13nm,0.6s,mb5.1
W14A Seligman 49.04 82 ⇑P **P 04 13 03.7 -0.6**
baz=49,SNR=5.4
Y12C Blythe 49.10 85 ⇓P **P 04 13 04.1 -0.6**
baz=49
GLA Glamis 49.37 86 ⇑P **P 04 13 06.4 -0.4**
baz=49
PV10 Paradox Valley 49.51 76 *eP* **P 04 13 08.0 +0.2**
PV10 *ep*P pP 04 13 20.5 -1.0
W15A Williams 49.56 82 ⇓P **P 04 13 07.0 -1.2**
baz=49,SNR=5.2
X14A Yava 49.64 83 ⇑P **P 04 13 08.4 -0.4**
baz=50,SNR=7.3
PHWY Pilot Hill 49.85 71 *eP* **P 04 13 09.6 -0.8**
KBS Kingsbay 49.86 357 *eP* **P 04 13 09.5 -1.0**
KBS pmax pmax
comp=Z,25nm,0.6s,mb5.4
KBS Kingsbay 49.86 357 *eP* **P 04 13 09.5 -1.0**
comp=Z,25nm,0.6s,mb5.4
ULM Lac du Bonnet 49.89 56 P **P 04 13 08.9 -1.9**
comp=Z,2.4nm,0.5s,mb4.5,baz=310,slow=7.9,SNR=9.7
ULM LR LR 04 35 31.7
comp=Z,164nm,18.9s,MS4.1,baz=273,slow=38
WUAZ Wupatki 49.90 81 *eP* **P 04 13 10.8 0.0**
comp=Z,22nm,1.0s,mb5.2
Y14A Wickenburg 49.92 83 ⇑P **P 04 13 10.1 -0.8**
baz=50
PV01 Paradox Valley 49.95 76 *eP* **P 04 13 10.8 -0.4**
X15A Humboldt 50.03 82 ⇓P **P 04 13 11.4 -0.4**
baz=50
SMCO Snowmass 50.26 74 *eP* **P 04 13 13.2 -0.4**
comp=Z,8.5nm,0.6s,mb5.0
MVCO Mesa Verde 50.58 77 *eP* **P 04 13 16.4 +0.5**
ISCO Idaho Springs 50.69 73 *eP* **P 04 13 17.4 +0.6**
ISCO pmax pmax
comp=Z,19nm,1.0s,mb5.0
ISCO Idaho Springs 50.69 73 *eP* **P 04 13 17.4 +0.6**
comp=Z,19nm,1.0s,mb5.0
115A Sonoran Desert 51.23 84 ⇑P **P 04 13 20.3 -0.6**
baz=51,SNR=5.8
DAG Danmarks Havn 51.59 6⇑*iP* **P 04 13 22.8 -0.7**
comp=Z,5.0nm,1.0s,mb4.4
DAG Danmarks Havn 51.59 6⇑*iP* **P 04 13 22.8 -0.7**
DAG pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
116A Eloy 51.65 84 ⇑P **P 04 13 23.3 -0.7**
baz=52
TUC Tucson 52.39 83 *eP* **P 04 13 28.8 -0.7**
TUC pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
TUC Tucson 52.39 83 *eP* **P 04 13 28.8 -0.8**
comp=Z,9.3nm,1.0s,mb4.7
WHN Wuhan 52.46 274 P **P 04 13 29.5 -0.5**
LAZ Ladron 53.25 79 *eP* **P 04 13 35.7 -0.2**
ANMO Albuquerque 53.30 78 *eP* **P 04 13 36.0 -0.2**
ANMO pmax pmax
comp=Z,9.0nm,1.1s
ANMO Albuquerque 53.30 78 *eP* **P 04 13 36.0 -0.3**
comp=Z,8.5nm,1.1s,mb4.6
SUMG Summit 53.41 14 *eP* **P 04 13 37.0 0.0**
comp=Z,42nm,0.9s,mb5.4
SUMG *ep*P pP 04 13 51.8 +0.9
XAN Xi'an 53.47 281 P **P 04 13 37.0 -0.4**
XAN AMB AMB
comp=Z,12nm,1.3s,mb4.7
LENM Lemitar 53.51 79 *eP* **P 04 13 39.0 +1.3**
EYMN Ely 53.58 57 *eP* **P 04 13 36.8 -1.5**
comp=Z,26nm,1.1s,mb5.1
LPM Los Pinos Moun 53.62 79 *eP* **P 04 13 38.4 -0.2**
BNM Barren Site 53.73 79 *eP* **P 04 13 39.7 +0.3**
ZAL Zalesovo 53.95 313 P **P 04 13 40.1 -0.8**
comp=Z,2.7nm,0.6s,mb4.4,baz=56,slow=8.4,SNR=12
ZAL PcP PcP 04 14 46.1 +0.4
comp=Z,8.3nm,0.9s,baz=73,slow=5.7,SNR=9.3
NVS Novosibirsk 54.07 315 *iP* **P 04 13 41.2 -0.6**
NVS *e* pP 04 13 55.5 -0.2
NVS *i* 04 14 46.4
NVS pmax pmax
comp=Z,14nm,1.2s,mb4.8
NVS pmax pmax
comp=N,10.0nm,1.0s
NVS pmax pmax
comp=E,10.0nm,1.3s
LZH Lanzhou 55.21 286 ⇑P **P 04 13 51.2 +1.1**
LZH PP PP 04 15 57.2 +3.4
LZH *e*S **S** **04 21 25.2 -4.5**
LZH SS SS 04 25 10.3 -4.0
LZH AMB AMB
comp=Z,36nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,156nm,7.6s
LZH LR LR
comp=E,614nm,15.7s
LZH LR LR
comp=Z,857nm,17.9s,MS4.9
GTA Gaotai 55.40 292 P **P 04 13 52.2 +0.7**
GTA PP PP 04 15 53.0 -2.6
GTA SCP ScP 04 18 42.4 -3.4
GTA PCS PcS 04 18 52.8 +1.4
GTA S **S** **04 21 29.9 -2.4**
GTA SCS ScS 04 23 30.7 -5.5
GTA SS SS 04 25 12.3 -5.1
GTA AMB AMB
comp=Z,46nm,1.1s,mb5.4
GTA AMB AMB
comp=Z,81nm,6.5s
GTA LR LR
comp=N,226nm,16.7s,MS4.4
GTA LR LR
comp=E,207nm,17.9s,MS4.4
GTA LR LR
comp=Z,305nm,17.9s,MS4.4
AMTX Amarillo 56.26 75 *eP* **P 04 13 59.2 +1.6**
comp=Z,14nm,0.3s,mb5.5
SCIA State Center 56.53 63 *eP* **P 04 13 58.8 -0.7**
SCO Scoresbysund 57.40 9 *iP* **P 04 14 05.4 -0.3**
comp=Z,5.0nm,0.7s,mb4.7
KEV Kevo 57.75 350 *ep* **P 04 14 07.2 -0.9**
JMIC Jan Mayen 57.82 4 LR LR 04 37 52.2
comp=Z,63nm,19.1s,MS3.8,baz=291,slow=35
ARCES ARCESS Array B 58.12 350 P **P 04 14 09.8 -1.0**
comp=Z,21nm,0.9s,mb5.2,baz=21,slow=6.4,SNR=63
ARCES LR LR 04 42 51.0
comp=Z,108nm,20.6s,MS4.0,baz=190,slow=40
ARCES ARCESS Array B 58.12 350 P **P 04 14 09.8 -1.0**
ARCES LR LR 04 42 51.0
LVZ Lovozero 58.46 346 P **P 04 14 12.6 -0.5**
comp=Z,329nm,0.5s,SNR=7.9
TRO Tromso 58.65 353 *eP* **P 04 14 13.0 -1.5**
TRO AMb AMB 04 14 14.6
comp=Z,28nm,1.2s,mb5.2
TRO Tromso 58.65 353 *eP* **P 04 14 13.0 -1.5**
comp=Z,28nm,1.2s,mb5.2
CD2 Chengdu 58.79 282 P **P 04 14 15.4 0.0**
CD2 PCP PcP 04 15 04.2 -0.4
CD2 PP PP 04 16 27.1 +1.4
CD2 SCP ScP 04 18 56.3 -4.5
CD2 PCS PcS 04 19 04.4 -2.0
CD2 S **S** **04 22 11.5 -5.4**
CD2 SCS ScS 04 23 53.9 -7.0
CD2 SS SS 04 26 06.9 -3.8
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CD2 AMB AMB
comp=Z,40nm,6.4s
CD2 LR LR
comp=N,210nm,22.0s
CD2 LR LR
comp=Z,170nm,22.8s,MS4.1
LTX Lajitas 58.87 81 *eP* **P 04 14 15.3 -0.6**
LTX pmax pmax
comp=Z,18nm,1.0s,mb5.1
LTX Lajitas 58.87 81 *eP* **P 04 14 15.2 -0.7**

comp=Z,18nm,1.0s,mb5.0
KURK Kurchatov 58.92 314 P **P** **04 14 16.3 0.0**
comp=Z,260nm,0.8s,mb6.3,SNR=18
KURK Kurchatov 58.92 314 ⇑P **P** **04 14 16.3 0.0**
SNR=15
KURK Kurchatov 58.92 314 *e*P **P** **04 14 15.6 -0.7**
KURK pmax pmax
comp=Z,52nm,1.0s,mb5.5
KURK Kurchatov 58.92 314 *e*P **P** **04 14 15.6 -0.7**
comp=Z,52nm,1.0s,mb5.5
APA Apatity 58.95 346 ⇑*i*P **P** **04 14 09.5 -7.0**
APA *i* 04 15 05.0
APA pmax pmax
comp=Z,18nm,1.0s,mb5.1
WMQ Urumqi 59.21 303 P **P** **04 14 20.0 +1.7**
WMQ PCP PcP 04 15 08.0 +1.8
WMQ PP PP 04 16 32.0 +2.6
WMQ SCP ScP 04 19 00.3 -2.3
WMQ S **S** **04 22 18.9 -3.4**
WMQ AMB AMB
comp=Z,26nm,1.3s,mb5.1
WMQ AMB AMB
comp=Z,161nm,5.1s
WMQ LR LR
comp=N,742nm,16.7s,MS5.0
WMQ LR LR
comp=E,557nm,15.6s,MS5.0
WMQ LR LR
comp=Z,731nm,17.2s,MS4.9
MKAR Makanchi Array 59.92 308 P **P** **04 14 22.9 -0.3**
comp=Z,17nm,0.4s,mb5.4,baz=50,slow=6.2,SNR=144
GYA Guiyang 60.13 276 ⇓*i*P **P** **04 14 22.8 -1.8**
GYA PP PP 04 16 37.4 -0.2
GYA S **S** **04 22 26.5 -7.7**
GYA SS SS 04 26 24.8 -6.9
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,120nm,4.6s
GYA LR LR
comp=N,460nm,18.4s,MS4.8
GYA LR LR
comp=E,430nm,17.8s,MS4.8
GYA LR LR
comp=Z,450nm,18.0s,MS4.7
SCHQ Schefferville 60.19 38 P **P** **04 14 23.8 -1.2**
comp=Z,24nm,1.0s,mb5.2,baz=329,slow=6.9,SNR=32
SCHQ LR LR 04 43 44.6
comp=Z,232nm,18.1s,MS4.4,baz=201,slow=39
CHKZ Chkalovo 60.24 320 *e*P **P** **04 14 24.3 -1.1**
CHKZ pmax pmax
comp=Z,22nm,1.3s,mb5.0
CHKZ Chkalovo 60.24 320 *e*P **P** **04 14 24.3 -1.0**
comp=Z,22nm,1.3s,mb5.0
CCM Cathedral Cave 60.25 65 *e*P **P** **04 14 23.4 -2.1**
CCM pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
CCM Cathedral Cave 60.25 65 *e*P **P** **04 14 23.4 -2.0**
comp=Z,7.2nm,0.6s,mb4.9
JCT Junction City 60.44 77 *e*P **P** **04 14 26.2 -0.6**
JCT pmax pmax
comp=Z,31nm,1.0s,mb5.3
JCT Junction City 60.44 77 *e*P **P** **04 14 26.2 -0.6**
comp=Z,31nm,1.0s,mb5.3
FVM French Village 60.77 65 *e*P **P** **04 14 27.2 -1.8**
FVM pmax pmax
comp=Z,14nm,0.6s,mb5.3
FVM French Village 60.77 65 *e*P **P** **04 14 27.2 -1.8**
comp=Z,14nm,0.6s,mb5.3
BVAR Borovoye Array 60.81 320 LR LR 04 42 28.9
comp=Z,304nm,21.8s,MS4.4,baz=319,slow=38
BRVK Borovoye 60.83 320 *e*P **P** **04 14 27.8 -1.6**
BRVK *e* 04 15 12.3
BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
BRVK Borovoye 60.83 320 *e*P **P** **04 14 27.8 -1.6**
comp=Z,5.9nm,0.6s,mb4.9
BRVK *e*PcP PcP 04 15 12.3 -0.4
MIAR Mount Ida 61.34 70 *e*P **P** **04 14 32.2 -0.7**
MIAR pmax pmax
comp=Z,28nm,1.0s,mb5.3
MIAR Mount Ida 61.34 70 *e*P **P** **04 14 32.2 -0.6**
comp=Z,28nm,1.0s,mb5.3
ZRNK Zerenda 61.42 320 *e*P **P** **04 14 32.5 -0.9**
ZRNK *e* 04 15 14.1
ZRNK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ZRNK Zerenda 61.42 320 *e*P **P** **04 14 32.5 -1.0**
comp=Z,9.6nm,0.7s,mb5.0
ZRNK *e*PcP PcP 04 15 14.1 -1.0
AAM Ann Arbor 61.47 57 P **P** **04 14 33.3 -0.4**
AAM pmax pmax
comp=Z,16nm,0.3s,mb5.6
AAM Ann Arbor 61.47 57 P **P** **04 14 33.3 -0.5**
comp=Z,16nm,0.3s,mb5.6
SVE Sverdlovsk 61.54 327 *e*P **P** **04 14 34.8 +0.6**
SVE *e* 04 15 16.0
SVE MLR MLR
comp=N,400nm,16.0s,MS4.7
SVE MLR MLR
comp=E,200nm,16.0s,MS4.7
SVE MLR MLR
comp=Z,400nm,16.0s,MS4.7
PARMO Parma 62.07 66 *e*P **P** **04 14 37.0 -0.8**
BLO Bloomington 62.12 61 *e*P **P** **04 14 37.3 -0.8**
BLO pmax pmax
comp=Z,103nm,1.1s,mb5.9
BLO Bloomington 62.12 61 *e*P **P** **04 14 37.3 -0.9**
comp=Z,103nm,1.1s,mb5.9
USIN University of 62.34 63 *e*P **P** **04 14 38.8 -0.8**
comp=Z,133nm,1.0s,mb6.0
USIN *e*pP pP 04 14 53.6 -0.1
ARU Arti 62.55 328 ⇑*i*P **P** **04 14 40.5 -0.5**
ARU *e* 04 15 18.1
ARU *e*S **S** **04 23 03.8 -1.2**
ARU *e*SS SS 04 27 13.0 +3.3
ARU pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
ARU MLR MLR
comp=Z,200nm,21.0s,MS4.3
ARU MLR MLR
comp=N,200nm,20.0s,MS4.3
ARU MLR MLR
comp=E,70nm,19.0s,MS4.3
ARU Arti 62.55 328 *e*P **P** **04 14 40.5 -0.6**
comp=E,7.9nm,0.6s,mb5.0
UTMT University of 62.81 65 *e*P **P** **04 14 42.6 -0.1**
comp=E,85nm,1.0s,mb5.8
WCI Wyandotte Cave 62.92 62 *e*P **P** **04 14 42.8 -0.6**
WCI pmax pmax
comp=Z,38nm,0.8s,mb5.6
WCI Wyandotte Cave 62.92 62 *e*P **P** **04 14 42.8 -0.6**
comp=Z,38nm,0.8s,mb5.6
HNR Honiara 63.15 203 LR LR 04 39 28.8
comp=Z,155nm,18.4s,MS4.2,baz=358,slow=34
HKT Hockley 63.24 75 *e*P **P** **04 14 45.6 +0.1**
HKT pmax pmax
comp=Z,15nm,1.4s,mb4.9
HKT Hockley 63.24 75 *e*P **P** **04 14 45.6 0.0**
comp=Z,15nm,1.4s,mb4.9
ACSO Alum Creek Sta 63.30 58 *e*P **P** **04 14 45.2 -0.8**
comp=Z,10nm,0.7s,mb5.1
KMI Kunming 63.53 278 P **P** **04 14 47.3 -0.2**
KMI PP PP 04 17 11.2 +3.6
KMI S **S** **04 23 16.6 -0.6**
KMI PS 04 23 47.2
KMI SKS 04 24 30.0
KMI SS SS 04 27 28.6 +3.6
KMI SSS 04 30 18.6
KMI AMB AMB
comp=Z,14nm,1.2s,mb4.9
KMI LR LR
comp=Z,99nm,30.8s,MS3.8
JOF Joensuu 63.61 345 *ep* **P** **04 14 46.9 -1.1**
comp=Z,27nm,0.5s,mb5.5
JOF Joensuu 63.61 345 *e*P **P** **04 14 46.9 -1.1**
JOF pmax pmax
comp=Z,27nm,0.5s,mb5.5
ALLY Alegheny Colle 63.77 56 *e*P **P** **04 14 48.9 -0.2**
KLMR Klimovskoe 63.97 340 *e*P **P** **04 14 49.7 -0.7**
KLMR pmax pmax
comp=Z,50nm,0.9s,mb5.5
NSS Namsos 64.18 355 *e*P **P** **04 14 50.0 -1.7**
NSS AMb AMB 04 14 57.5
comp=Z,54nm,1.7s,mb5.3
NSS Namsos 64.18 355 *e*P **P** **04 14 50.0 -1.7**
comp=Z,54nm,1.7s,mb5.3
PLAL Pickwick Lake 64.22 66 *e*P **P** **04 14 51.1 -1.0**
comp=Z,16nm,0.8s,mb5.1
KAF Kangasniemi 65.13 347 *ep* **P** **04 14 56.7 -1.3**
comp=Z,17nm,0.5s,mb5.3
KAF Kangasniemi 65.13 347 *e*P **P**
KAF pmax pmax **04 14 56.7 -1.3**
comp=Z,17nm,0.5s,mb5.3
MCWV Mont Chateau 65.37 57 *e*P **P** **04 14 58.9 -0.6**
comp=Z,10nm,0.5s,mb5.1
SSPA Standing Stone 65.67 55 *e*P **P** **04 15 00.4 -1.1**
comp=Z,9.0nm,0.7s,mb4.9
ACCN Adirondack Com 65.74 50 *e*P **P** **04 15 00.1 -1.8**
FINES FINESS Array B 65.81 347 P **P** **04 15 01.2 -1.1**
comp=Z,14nm,0.6s,mb5.2,baz=24,slow=8.0,SNR=72
FINES LR LR 04 49 22.9
comp=Z,152nm,18.6s,MS4.2,baz=144,slow=41
CPCT Cooper Cave 65.90 63 *e*P **P** **04 15 02.6 -0.3**
TKM2 Tokmak 2 66.00 309 P **P** **04 15 04.1 +0.6**
SNR=28
ULHL Ulahol 66.19 308 P **P** **04 15 05.8 +1.1**
SNR=20
USP Ospenovka 66.27 310 P **P** **04 15 06.9 +1.6**
SNR=45
CHMS Chumysh 66.35 310 P **P** **04 15 07.1 +1.3**
SNR=9.5
FWV Forest Hill 66.38 59 *e*P **P** **04 15 05.6 -0.4**
MYNC Murphy 66.39 63 ⇑*i*P **P** **04 15 05.6 -0.5**
MYNC pmax pmax
comp=Z,32nm,0.6s,mb5.5
MYNC Murphy 66.39 63 ⇑*i*P **P** **04 15 05.5 -0.5**
comp=Z,32nm,0.6s,mb5.5
KBK Karagaybulak 66.52 309 P **P** **04 15 08.2 +1.3**
SNR=12
FRU Bishkek 66.54 310 *e*P **P** **04 15 07.0 0.0**
FRU *e* 04 15 35.0
FRU pmax pmax
comp=Z,60nm,1.2s,mb5.5
ELN Prospectdale 66.67 59 *e*P **P** **04 15 07.4 -0.4**
ELN *e*PcP PcP 04 15 35.1 -1.6
AAK Ala-Archa 66.75 310 P **P** **04 15 09.3 +0.9**
SNR=21
AAK Ala-Archa 66.75 310 P **P** **04 15 08.0 -0.4**
comp=Z,282nm,0.6s,SNR=12
AAK Ala-Archa 66.75 310 ⇑P **P** **04 15 09.0 +0.7**
SNR=13
AAK Ala-Archa 66.75 310 *e*P **P** **04 15 08.4 0.0**
AAK pmax pmax
comp=Z,33nm,0.7s,mb5.5
AAK Ala-Archa 66.75 310 *e*P **P** **04 15 08.4 0.0**
comp=Z,33nm,0.7s,mb5.5
KZA Kyzart 66.80 309 P **P** **04 15 10.8 +2.1**
SNR=16
BLA Blacksburg 66.86 59 *e*P **P** **04 15 08.5 -0.6**
BLA pmax pmax
comp=Z,2.0nm,1.0s
BLA Blacksburg 66.86 59 *e*P **P** **04 15 08.4 -0.6**
comp=Z,1.9nm,1.0s
MVL Millersville 66.94 55 *e*P **P** **04 15 08.6 -1.0**
UCH Uchtor 67.05 309 P **P** **04 15 12.2 +1.9**
SNR=19
EKS2 Erkin-Say 67.08 310 P **P** **04 15 12.3 +1.8**
SNR=6.6
PMG Port Moresby 67.12 216 LR LR 04 41 06.5
comp=Z,181nm,19.8s,MS4.3,baz=135,slow=33
AML Almayashu 67.52 310 P **P** **04 15 15.0 +1.7**
SNR=9.1
AKTO Aktyubinsk 67.62 324 LR LR 04 48 01.3
comp=Z,444nm,18.0s,MS4.7,baz=36,slow=39
NB2 NORSAR Subarra 67.70 355 P **P** **04 15 13.4 -1.0**
comp=Z,7.9nm,0.7s,mb4.8,baz=4.7,slow=6.2
NOA NORSAR Array B 67.70 355 P **P** **04 15 13.8 -0.6**
comp=Z,8.0nm,0.8s,mb4.8,baz=6.6,slow=6.3,SNR=24
NOA LR LR 04 45 44.0
comp=Z,68nm,21.0s,MS3.9,baz=345,slow=37
KSH Kashi 68.38 306 *e*P **P** **04 15 21.3 +2.7**
KSH *e*PCP PcP 04 15 45.9 +2.1
KSH *e*PP PP 04 17 54.7 +4.8
KSH *e*SCP 04 19 40.3
KSH *e*PCS 04 19 50.5
KSH *e*S S 04 24 14.2 -1.9
KSH *e*SCS ScS 04 25 10.0 -3.9
KSH *e*SS SS 04 28 41.2 +1.0
KSH LR LR
comp=Z,415nm,4.7s
TAOE Nuku Hiva Isla 68.71 138 *e*LR LR 04 35 54.6
comp=Z,1µm,22.5s,baz=331
MOS Moscow 69.05 339 *e*P **P** **04 15 21.4 -1.4**
MOS pmax pmax
comp=Z,124nm,0.9s,mb5.8
BLS5 Blasjo 69.53 357 *e*P **P** **04 15 27.2 +1.4**
OBN Obninsk 69.86 339 *ce*P **P** **04 15 27.3 -0.5**
OBN pmax pmax
comp=Z,102nm,1.0s,mb5.7
OBN MLR MLR
comp=Z,300nm,16.0s,MS4.6
OBN Obninsk 69.86 339 *e*P **P** **04 15 27.5 -0.3**
comp=Z,81nm,0.9s,mb5.7
SHL Shillong 69.87 286 *ex* x 04 15 01.2
IZAR Zarasai 71.25 345 *e*P **P** **04 15 35.8 -0.5**
IZAR AMb AMB 04 15 37.1
comp=Z,212nm,1.1s,mb6.0
ISAL Salakas 71.44 345 *e*P **P** **04 15 37.0 -0.5**
ISAL AMb AMB 04 15 38.5
comp=Z,219nm,1.1s,mb6.0
IDID Didziasalis 71.59 345 *e*P **P** **04 15 37.7 -0.6**
IDID AMb AMB 04 15 39.2
comp=Z,306nm,1.1s,mb6.2
IIGN Ignalina 71.64 345 *e*P **P** **04 15 38.2 -0.4**
IIGN AMb AMB 04 15 39.6
comp=Z,3µm,1.1s
GUN Gumba 71.69 292 *e*P **P** **04 15 40.5 +1.6**
comp=Z,324nm,0.5s
JIRN Jiri 71.70 291 *e*P **P** **04 15 40.6 +1.6**
comp=Z,168nm,0.7s,mb6.1
KKN Kakani 72.13 292 *e*P **P** **04 15 42.9 +1.3**
comp=Z,90nm,0.5s,mb6.0
PKI Pulchoki 72.22 292 *e*P **P** **04 15 43.3 +1.2**
comp=Z,74nm,0.5s,mb5.9
GKN Gorkha 72.34 293 *e*P **P** **04 15 43.8 +1.0**
comp=Z,82nm,0.6s,mb5.8
DMN Daman 72.37 292 *e*P **P** **04 15 44.2 +1.2**
comp=Z,78nm,0.8s,mb5.7
VRSR Storozhevoye 72.81 336 *e*P **P** **04 15 45.3 -0.3**
VRSR pmax pmax
comp=Z,30nm,0.8s,mb5.3
VRSR pmax pmax
comp=N,20nm,0.6s
VRSR pmax pmax
comp=E,20nm,0.8s
KOLN Kolanda 73.12 293 *e*P **P** **04 15 48.3 +0.9**
comp=E,32nm,0.7s,mb5.4
PPT Papeete 73.30 151 *e*LR LR 04 37 58.9
comp=E,369nm,27.0s
PPT Papeete 73.30 151 LR LR 04 43 20.4
comp=E,210nm,18.1s,MS4.5,baz=321,slow=32
SUW Suwalki 73.40 346 *e*P **P** **04 15 47.9 -1.2**
LGTI Lohaghat 73.75 297 *i* P **P** **04 15 52.0 +0.8**
SMLA Simla 74.16 300 *e*P **P** **04 15 54.0 +0.5**
NIL Nilore 74.28 304 P **P** **04 15 56.8 +2.5**
comp=E,206nm,0.6s,mb6.2,SNR=5.3
BOK Bokaro 74.79 289 *e*P **P** **04 15 57.9 +0.7**
BOK AMb AMB 04 15 59.3
comp=Z,39nm,1.1s,mb5.2
BSEG Bad Segeberg 74.83 354 *e*P **P** **04 15 57.6 +0.2**
comp=Z,52nm,0.9s,mb5.5
BSEG Bad Segeberg 74.83 354 *e*P **P** **04 15 57.6 +0.2**
BSEG pmax pmax
comp=Z,52nm,0.9s,mb5.5
DCN Croghan 75.50 5 *e*P **P** **04 15 54.3 -7.0**
DCN Croghan 75.50 5 ⇑*i*P **P** **04 16 01.2 -0.1**
DCN Croghan 75.50 5 ⇑*i*P **P** **04 16 01.2 -0.1**
AKASG Malin Array Be 75.55 342 P **P** **04 16 01.1 -0.5**
comp=Z,58nm,0.6s,mb5.7,baz=19,slow=5.8,SNR=156
AKASG LR LR 04 54 02.2
comp=Z,85nm,18.7s,MS4.1,baz=20,slow=39
DLF Lyons Farm 75.58 5 *e*P **P** **04 15 54.7 -7.1**
DLF Lyons Farm 75.58 5 ⇑*i*P **P** **04 16 01.6 -0.2**
DLF Lyons Farm 75.58 5 ⇑*i*P **P** **04 16 01.6 -0.2**
NDI New Delhi 76.03 298 *e*P **P** **04 16 04.4 +0.1**
NDI AMb AMB 04 16 06.7
comp=Z,88nm,1.0s,mb5.7
NRDL Niedersach Rie 76.28 354 *e*P **P** **04 16 06.4 +0.7**
comp=Z,30nm,1.0s,mb5.2
KAKA Kakadu 76.34 229 *e*P **P** **04 16 04.6 -1.5**
comp=Z,16nm,0.9s,mb4.9
IBBN Ibbenburen 76.59 356 *e*P **P** **04 16 07.8 +0.3**
comp=Z,80nm,1.1s,mb5.6
CLZ Clausthal 76.91 354 *e*P **P** **04 16 09.4 +0.1**
comp=Z,52nm,1.1s,mb5.4
CLZ Clausthal 76.91 354 *e*P **P** **04 16 09.4 +0.1**
CLZ pmax pmax
comp=Z,52nm,1.1s,mb5.4
WTSB Winterswijk 76.98 356 ⇑*i*P **P** **04 16 09.2 -0.5**
comp=Z,29nm,1.2s,mb5.1
CLL Collm 77.24 352 *e*P **P** **04 16 10.4 -0.8**
comp=Z,23nm,1.1s,mb5.0
CLL Collm 77.24 352 ⇑P **P** **04 16 10.6 -0.6**
comp=Z,logA/T=1.3,mb5.0
CLL *i* 04 16 41.6
CLL Collm 77.24 352 ⇑*i*P **P** **04 16 10.6 -0.6**
comp=Z,23nm,1.1s,mb5.0
CLL *i* sPcP 04 16 41.6
CLL Collm 77.24 352 ⇑*i*P **P** **04 16 10.6 -0.6**
CLL pmax pmax
comp=Z,23nm,1.1s,mb5.0
GOF Gofitskoye 77.33 331 ⇓*i*P **P** **04 16 11.8 +0.2**
GOF pmax pmax
comp=Z,111nm,0.8s,mb5.8
LVV L'vov 77.33 345 *e*P **P** **04 16 11.3 -0.4**
KSP Ksiaz 77.39 350 *e*P **P** **04 16 11.3 -0.7**
BUG Bochum--Univer 77.48 356 *e*P **P** **04 16 12.2 -0.3**
comp=Z,34nm,1.2s,mb5.2
OJC Ojcow 77.57 348 *e*P **P** **04 16 12.9 -0.1**
BRG Berggiesshubel 77.59 352 *e*P **P** **04 16 12.4 -0.7**
comp=Z,23nm,1.3s,mb5.0
BRG Berggiesshubel 77.59 352 *e*P **P** **04 16 12.6 -0.5**
comp=Z,12nm,1.1s,mb4.7
BRG
comp=N,74nm,26.8s
BRG
comp=E,56nm,17.9s
BRG
comp=Z,86nm,23.5s
BRG Berggiesshubel 77.59 352 *e*P **P** **04 16 12.6 -0.5**
BRG pmax pmax
comp=Z,12nm,1.2s,mb4.7
BRG MLR MLR
comp=N,74nm,26.8s
BRG MLR MLR
comp=E,56nm,18.0s
BRG MLR MLR
comp=Z,86nm,23.5s,MS4.0
KWP Kalwaria 77.73 346 *e*P **P** **04 16 14.3 +0.4**
UPC Upice 77.75 350 *e*P **P** **04 16 13.5 -0.5**
DPC Dobruska-Polom 77.87 350 ⇑*i*P **P** **04 16 14.8 +0.2**
PVCC Panska Ves 77.87 351 ⇑*e*P **P** **04 16 14.4 -0.3**
UBBA Unterbreizbach 77.95 354 *e*P **P** **04 16 14.9 -0.2**
comp=Z,8.0nm,1.1s,mb4.6
MOX Moxa 78.01 353 *e*P **P** **04 16 15.1 -0.4**
comp=Z,22nm,1.1s,mb5.0
MOX Moxa 78.01 353 *e*P **P** **04 16 15.2 -0.3**
comp=Z,23nm,1.1s,mb5.0
MOX Moxa 78.01 353 *e*P **P** **04 16 15.2 -0.3**
MOX pmax pmax
comp=Z,23nm,1.1s,mb5.0
OKC Ostrava-Krasne 78.16 349 ⇑*i*P **P** **04 16 16.0 -0.3**
TANN Tannenbergstha 78.17 352 *e*P **P** **04 16 15.9 -0.4**
comp=Z,14nm,1.2s,mb4.8
HGN Heimansgroeve 78.21 357 ⇑*i*P **P** **04 16 16.6 0.0**
comp=Z,38nm,1.0s,mb5.3
BLSP Bilaspur 78.28 291 *e*P **P** **04 16 16.6 -0.4**
BLSP AMb AMB 04 16 18.1
comp=Z,23nm,1.2s,mb5.0
NIE Niedzica 78.29 347 *e*P **P** **04 16 17.7 +0.7**
MORC Moravsky Berou 78.29 349 ⇑*i*P **P** **04 16 17.0 0.0**
MORC Moravsky Berou 78.29 349 P **P** **04 16 17.0 0.0**
NKC Novy Kostel 78.36 352 ⇑*i*P **P** **04 16 17.4 0.0**
MEM Membach 78.36 357 P **P** **04 16 17.3 -0.1**
PRU Pruhonice 78.41 351 ⇑*i*P **P** **04 16 17.4 -0.2**
KIV Kislovodsk 78.43 331 P **P** **04 16 18.8 +1.1**
SNR=9.7
KIV Kislovodsk 78.43 331 *e*P **P** **04 16 18.4 +0.6**
KIV *e**PP pP 04 16 32.0 -0.3
KIV pmax pmax
comp=Z,39nm,0.9s,mb5.3
KIV Kislovodsk 78.43 331 *e*P **P** **04 16 18.4 +0.6**
comp=Z,39nm,0.9s,mb5.3
KIV *e*pP pP 04 16 31.9 -0.4
KOLS Kolonicke sedl 78.47 346 *e*P **P** **04 16 18.2 +0.2**
KOLS pmax pmax
comp=Z,24nm,0.9s,mb5.1
KOLS Kolonicke sedl 78.47 346 *e*P **P** **04 16 18.2 +0.2**
comp=Z,24nm,0.9s,mb5.1
MENF Mencas 78.50 359 *e*P **P** **04 16 17.8 -0.4**
SNF Seneffe 78.52 358 P **P** **04 16 18.1 -0.1**
BCLA Clavier 78.58 357 P **P** **04 16 18.4 -0.2**
CRVS Cervenica-Dubn 78.63 346 *e*P **P** **04 16 19.0 +0.2**
CRVS pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CRVS Cervenica-Dubn 78.63 346 *e*P **P** **04 16 19.0 +0.2**
comp=Z,7.8nm,0.8s,mb4.7
MANZ Manzenberg 78.63 353 *e*P **P** **04 16 18.6 -0.3**
comp=Z,19nm,1.2s,mb4.9
TBI Tubuai 78.78 152 *e*LR LR 04 40 34.7
comp=Z,357nm,22.8s,baz=339
ROTZ Rotzenmuhle 78.84 353 *e*P **P** **04 16 20.0 0.0**
comp=Z,19nm,1.1s,mb4.9
VRAC Vranov 78.87 350 ⇓*i*P **P** **04 16 20.4 +0.2**
VRAC Vranov 78.87 350 P **P** **04 16 20.6 +0.4**
GIVF Givet 78.91 357 ⇑*i*P **P** **04 16 19.9 -0.5**
comp=Z,71nm,1.1s,mb5.2
GIVF Givet 78.91 357 ⇑*i*P **P** **04 16 19.9 -0.5**
GIVF pmax pmax
comp=Z,35nm,1.1s,mb5.2
GIVF Givet 78.91 357 ⇑*i*P **P** **04 16 19.9 -0.5**
comp=Z,35nm,1.1s,mb5.2
DOU Dourbes 78.92 358 P **P** **04 16 20.3 -0.1**
BAIF Baives 78.97 358 ⇑*i*P **P** **04 16 20.5 -0.2**
comp=Z,101nm,1.0s,mb5.4
BAIF Baives 78.97 358 ⇑*i*P **P** **04 16 20.5 -0.2**
BAIF pmax pmax
comp=Z,51nm,1.0s,mb5.4
BAIF Baives 78.97 358 ⇑*i*P **P** **04 16 20.5 -0.2**
comp=Z,51nm,1.0s,mb5.4
GRA1 Grafenberg Arr 78.99 353 *e*P **P** **04 16 21.0 +0.2**
comp=Z,47nm,1.0s,mb5.4
GRF Grafenberg Arr 78.99 353 *e*P **P** **04 16 21.0 +0.2**
comp=Z,47nm,1.0s,mb5.4
GRF Grafenberg Arr 78.99 353 *e*P **P** **04 16 21.0 +0.2**
GRF pmax pmax
comp=Z,47nm,1.0s,mb5.4
GRF Grafenberg Arr 78.99 353 *e*P **P** **04 16 21.0 +0.2**
GRF pmax pmax
comp=Z,47nm,1.0s,mb5.4
TREC Trest 79.00 350 ⇑*e*P **P** **04 16 20.6 -0.3**
ABH Alteburg 79.03 356 *e*P **P** **04 16 21.0 0.0**
ZEI Tsey 79.12 329 *e*P **P** **04 16 21.7 +0.2**
ZEI pmax pmax
comp=Z,36nm,0.9s,mb5.3
AJM Ajmer 79.17 299 *e*P **P** **04 16 22.0 +0.2**
AJM AMb AMB 04 16 23.2
comp=Z,76nm,1.2s,mb5.5
KECS Kecovo 79.18 347 *i* P **P** **04 16 22.1 +0.2**
KECS Kecovo 79.18 347 *i* P **P** **04 16 22.2 +0.3**
KECS pmax pmax
comp=Z,18nm,0.9s,mb5.0
KECS Kecovo 79.18 347 *i* P **P** **04 16 22.2 +0.3**
comp=Z,18nm,0.9s,mb5.0
RUP Ruppelstein 79.23 356 *e*P **P** **04 16 22.1 0.0**
TOD Tromm 79.24 355 *e*P **P** **04 16 22.4 +0.2**
BURAR Bucovina Array 79.26 344 ⇑*i*P **P** **04 16 23.0 +0.7**
BURAR Bucovina Array 79.26 344 ⇑P **P** **04 16 23.0 +0.7**
WLF Walferdange 79.30 357 *e*P **P** **04 16 22.8 +0.3**
comp=Z,36nm,1.2s,mb5.2
WLF Walferdange 79.30 357 P **P** **04 16 22.9 +0.3**
WLF Walferdange 79.30 357 *e*P **P** **04 16 22.6 +0.1**
WLF pmax pmax
comp=Z,26nm,1.0s,mb5.1
WLF Walferdange 79.30 357 *e*P **P** **04 16 22.6 0.0**
comp=Z,26nm,1.0s,mb5.1
KHC Kasperske Hory 79.35 352 ⇑*i*P **P** **04 16 23.0 +0.2**
VYHS Vyhne 79.39 348 *i* P **P** **04 16 23.3 +0.3**
VYHS pmax pmax
comp=Z,12nm,1.0s,mb4.8
VYHS Vyhne 79.39 348 *i* P **P** **04 16 23.3 +0.3**
comp=Z,12nm,1.0s,mb4.8
GEC2 GERESS Array S 79.62 351 *e*P **P** **04 16 23.8 -0.5**
comp=Z,10.0nm,0.7s,mb4.8
GEC2 GERESS Array S 79.62 351 *e*P **P** **04 16 23.8 -0.5**
GEC2 pmax pmax

comp=Z,10.0nm,0.7s,mb4.8
GERES GERESS Array B 79.62 351 P **P** **04 16 24.1 -0.1**
comp=Z,6.7nm,0.6s,mb4.7,baz=22,slow=4.6,SNR=62
GERES LR LR 04 58 46.5
comp=Z,134nm,18.1s,MS4.3,baz=17,slow=41
SOC Sochi 79.66 332 *c* *i*P **P** **04 16 23.7 -0.8**
SOC *e**PP pP 04 16 44.2 +5.1
SOC *e*PPP 04 21 19.8
SOC *i* S S 04 26 19.4 -3.4
SOC *e* 04 26 42.0
SOC *e*SS SS 04 31 27.3 -4.6
SOC *e*SSS 04 34 55.6
SOC pmax pmax
comp=Z,32nm,1.0s,mb5.2
SOC MLR MLR
comp=Z,394nm,21.0s,MS4.7
PSZ Piszkesteto 79.81 347⇑ *i*P **P** **04 16 26.1 +0.8**
PSZ Piszkesteto 79.81 347⇓ *i*P **P** **04 16 26.2 +0.9**
PSZ Piszkesteto 79.81 347 P **P** **04 16 26.1 +0.8**
PSZ pmax pmax
comp=Z,44nm,1.1s,mb5.3
PSZ Piszkesteto 79.81 347 P **P** **04 16 26.2 +0.9**
SIM Simferopol' 79.90 337 *ce*P **P** **04 16 26.4 +0.6**
SIM pmax pmax
comp=Z,17nm,0.7s,mb5.1
ZST Bratislava 79.90 349 *e*P **P** **04 16 26.7 +0.9**
ZST pmax pmax
comp=Z,27nm,1.0s,mb5.1
ZST Bratislava 79.90 349 *e*P **P** **04 16 26.7 +0.9**
comp=Z,27nm,1.0s,mb5.1
STU Stuttgart 80.04 354 *e*P **P** **04 16 26.7 +0.1**
comp=Z,29nm,0.8s,mb5.3
BHPL Bhopal 80.14 295 *e*P **P** **04 16 26.9 -0.2**
BHPL AMb AMB 04 16 29.5
comp=Z,81nm,0.8s,mb5.7
FLN La Foliniere 80.30 1⇑ *i*P **P** **04 16 27.2 -0.7**
comp=Z,101nm,1.0s,mb5.4
FLN La Foliniere 80.30 1⇑ *i*P **P** **04 16 27.2 -0.7**
FLN pmax pmax
comp=Z,51nm,1.0s,mb5.4
FLN La Foliniere 80.30 1⇑ *i*P **P** **04 16 27.2 -0.7**
comp=Z,51nm,1.0s,mb5.4
CONA Conrad Observa 80.31 350⇑ *i*P **P** **04 16 28.5 +0.5**
comp=Z,20nm,1.1s,mb5.0,SNR=15
BUD Budapest 80.36 348‖ *e*P **P** **04 16 29.5 +1.2**
LDF La Druitiere 80.47 1⇑ *i*P **P** **04 16 27.9 -1.0**
comp=Z,39nm,0.5s,mb5.3
LDF La Druitiere 80.47 1⇑ *i*P **P** **04 16 27.9 -1.0**
LDF pmax pmax
comp=Z,20nm,0.5s,mb5.3
LDF La Druitiere 80.47 1⇑ *i*P **P** **04 16 27.9 -1.0**
comp=Z,20nm,0.5s,mb5.3
DRGR 80.49 345⇑ *i*P **P** **04 16 29.0 +0.1**
DRGR 80.49 345 P **P** **04 16 29.5 +0.5**
WLS Welschbruch 80.50 356 *e*P **P** **04 16 28.8 -0.2**
MEZF Maizieres J'vi 80.50 357⇑ *i*P **P** **04 16 28.8 -0.2**
comp=Z,90nm,1.0s,mb5.3
MEZF Maizieres J'vi 80.50 357⇑ *i*P **P** **04 16 28.8 -0.2**
comp=Z,90nm,1.0s,mb5.7
CDF Champ du Feu 80.51 356⇑ *i*P **P** **04 16 28.5 -0.6**
comp=Z,21nm,0.9s,mb4.8
CDF Champ du Feu 80.51 356⇑ *i*P **P** **04 16 28.5 -0.6**
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CDF Champ du Feu 80.51 356⇑ *i*P **P** **04 16 28.5 -0.6**
comp=Z,10nm,0.9s,mb4.8
BFO Black Forest 80.53 355 P **P** **04 16 29.4 +0.2**
comp=Z,66nm,0.6s,mb5.7,SNR=6.0
BFO Black Forest 80.53 355 *e*P **P** **04 16 28.8 -0.4**
comp=Z,11nm,0.8s,mb4.8
BFO Black Forest 80.53 355 *e*P **P** **04 16 28.8 -0.4**
BFO pmax pmax
comp=Z,11nm,0.8s,mb4.8
MOA Molln 80.55 351⇑ *i*P **P** **04 16 29.3 0.0**
comp=Z,8.9nm,1.3s,mb4.5
VRI Vrincioaia 80.67 342⇑ *i*P **P** **04 16 30.5 +0.6**
VRI Vrincioaia 80.67 342 P **P** **04 16 30.8 +0.9**
GRR Gorron 80.67 1⇑ *i*P **P** **04 16 29.4 -0.5**
comp=Z,48nm,0.7s,mb5.2
GRR Gorron 80.67 1⇑ *i*P **P** **04 16 29.4 -0.5**
GRR pmax pmax
comp=Z,24nm,0.7s,mb5.2
GRR Gorron 80.67 1⇑ *i*P **P** **04 16 29.4 -0.5**
comp=Z,24nm,0.7s,mb5.2
ROSF Rostrenen 80.67 3⇑ *i*P **P** **04 16 29.5 -0.4**
comp=Z,16nm,0.6s,mb4.8
ROSF Rostrenen 80.67 3⇑ *i*P **P** **04 16 29.5 -0.4**
ROSF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ROSF Rostrenen 80.67 3⇑ *i*P **P** **04 16 29.5 -0.4**
comp=Z,7.8nm,0.6s,mb4.8
PLOR Plostina 80.69 342⇑ *i*P **P** **04 16 30.8 +0.7**
ECH Echery 80.71 356 *e*P **P** **04 16 29.7 -0.4**
SPAK Spaichingen-Ko 80.74 355 *e*P **P** **04 16 30.1 -0.2**
THEF They Montfort 80.75 357 *e*P **P** **04 16 30.2 -0.1**
SGMF Saint Gilles 80.77 2⇑ *i*P **P** **04 16 30.0 -0.5**
comp=Z,52nm,0.6s,mb5.3
SGMF Saint Gilles 80.77 2⇑ *i*P **P** **04 16 30.0 -0.5**
SGMF pmax pmax
comp=Z,26nm,0.6s,mb5.3
SGMF Saint Gilles 80.77 2⇑ *i*P **P** **04 16 30.0 -0.5**
comp=Z,26nm,0.6s,mb5.3
NGP Nagpur 80.84 292 AMb AMB 04 16 31.0
comp=Z,39nm,0.9s,mb5.3
NGP *e*P 04 16 31.0
HAU Haudompre 80.95 356⇑ *i*P **P** **04 16 30.9 -0.5**
comp=Z,31nm,0.8s,mb5.0
HAU *e*R
comp=Z,162nm,21.5s
HAU Haudompre 80.95 356⇑ *i*P **P** **04 16 30.9 -0.5**
HAU pmax pmax
comp=Z,16nm,0.8s,mb5.0
HAU MLR MLR
comp=Z,160nm,21.5s,MS4.3
HAU Haudompre 80.95 356⇑ *i*P **P** **04 16 30.9 -0.5**
comp=Z,16nm,0.8s,mb5.0
HAU LR LR
comp=Z,160nm,21.5s,MS4.3
VIS Vishakhapatnam 80.97 287 *e*P **P** **04 16 31.3 -0.3**
VIS AMb AMB 04 16 34.1
comp=Z,35nm,1.4s,mb5.1
FELD Feldberg im Sc 81.00 355 *e*P **P** **04 16 31.2 -0.5**
ARSA Arzberg 81.02 350 *i* P **P** **04 16 32.3 +0.6**
comp=Z,21nm,1.1s,mb5.0,SNR=9.7
CFR Carcaliu 81.04 341⇓ *i*P **P** **04 16 32.3 +0.4**
CFR Carcaliu 81.04 341⇓ *i*P **P** **04 16 32.3 +0.4**
MOF Molkenrain 81.07 356 *e*P **P** **04 16 32.1 0.0**
QUIF Quistinic 81.09 3⇑ *i*P **P** **04 16 31.6 -0.6**
comp=Z,54nm,1.0s,mb5.1
QUIF Quistinic 81.09 3⇑ *i*P **P** **04 16 31.6 -0.6**
QUIF pmax pmax
comp=Z,27nm,1.0s,mb5.1
QUIF Quistinic 81.09 3⇑ *i*P **P** **04 16 31.6 -0.6**
comp=Z,27nm,1.0s,mb5.1
HINF Hinteralfeld 81.12 356⇑ *i*P **P** **04 16 31.5 -0.8**
MLR Muntele Rosu 81.18 342 P **P** **04 16 34.4 +1.7**
comp=Z,44nm,0.6s,mb5.5,baz=319,slow=3.2,SNR=55
MLR Muntele Rosu 81.18 342⇑ *i*P **P** **04 16 34.3 +1.7**
MLR Muntele Rosu 81.18 342 P **P** **04 16 34.3 +1.7**
GNI Garni 81.19 327 P **P** **04 16 34.2 +1.5**
comp=Z,3.8nm,0.4s,mb4.7,baz=20,slow=5.8,SNR=4.1
WATA Walderalm 81.31 353⇓ *i*P **P** **04 16 33.7 +0.4**
comp=Z,26nm,1.1s,mb5.1
WATA Walderalm 81.31 353⇓ *i*P **P** **04 16 33.7 +0.4**
WATA pmax pmax
comp=Z,26nm,1.1s,mb5.1
MOTA Moosalm 81.33 353⇑ *i*P **P** **04 16 33.7 +0.2**
comp=Z,28nm,1.2s,mb5.1,SNR=13
MOTA Moosalm 81.33 353⇑ *i*P **P** **04 16 33.7 +0.2**
MOTA pmax pmax
comp=Z,28nm,1.2s,mb5.1
WTTA Wattenberg 81.37 353⇑ *i*P **P** **04 16 34.1 +0.4**
comp=Z,33nm,1.0s,mb5.2,SNR=19
WTTA Wattenberg 81.37 353⇑ *i*P **P** **04 16 34.1 +0.4**
WTTA pmax pmax
comp=Z,33nm,1.0s,mb5.2
VOIR 81.39 343⇑ *i*P **P** **04 16 34.9 +1.1**
VOIR 81.39 343⇑ *i*P **P** **04 16 34.9 +1.1**
KBA Koelnbreinsper 81.41 351 *i* P **P** **04 16 34.8 +0.9**
comp=Z,65nm,1.0s,mb5.5,SNR=75
KBA Koelnbreinsper 81.41 351 *i* P **P** **04 16 34.8 +1.0**
KBA pmax pmax
comp=Z,65nm,1.0s,mb5.5
SQTA Sankt Quirin 81.45 353⇑ *i*P **P** **04 16 34.4 +0.3**
comp=Z,24nm,1.2s,mb5.0
SQTA Sankt Quirin 81.45 353⇑ *i*P **P** **04 16 34.4 +0.3**
SQTA pmax pmax
comp=Z,24nm,1.2s,mb5.0
LOMF Lomont 81.59 356 *e*P **P** **04 16 34.7 -0.1**
MTUR Matau 81.60 343⇓ *i*P **P** **04 16 36.8 +2.0**
MTUR Matau 81.60 343 P **P** **04 16 36.9 +2.0**
PKSM Moragy 81.66 348⇓ *i*P **P** **04 16 35.2 0.0**
PKSM Moragy 81.66 348 P **P** **04 16 35.1 -0.1**
PERS Pernice 81.67 350 *i* P **P** **04 16 35.3 +0.1**
TIRR Tirgusor 81.67 340⇓ *i*P **P** **04 16 35.5 +0.2**
TIRR Tirgusor 81.67 340⇓ *i*P **P** **04 16 35.5 +0.2**
LOR Lormes 81.77 358⇑ *i*P **P** **04 16 35.0 -0.8**
comp=Z,51nm,1.1s,mb5.1
LOR *e*R
comp=Z,185nm,20.5s
LOR Lormes 81.77 358⇑ *i*P **P** **04 16 35.0 -0.8**
LOR pmax pmax
comp=Z,25nm,1.1s,mb5.1
LOR MLR MLR
comp=Z,180nm,20.5s,MS4.4
LOR Lormes 81.77 358⇑ *i*P **P** **04 16 35.0 -0.8**
comp=Z,25nm,1.1s,mb5.1
LOR LR LR
comp=Z,180nm,20.5s,MS4.4
GROS Grobnik 81.80 350 *i* P **P** **04 16 36.0 +0.1**
BZS Buzias 81.81 345⇑ *i*P **P** **04 16 36.2 +0.3**
BZS Buzias 81.81 345 P **P** **04 16 36.4 +0.5**
WB2 Warramunga Arr 81.82 224 *e*P **P** **04 16 34.0 -2.0**
WRA Warramunga Arr 81.82 224 P **P** **04 16 34.3 -1.8**
comp=Z,3.2nm,0.7s,mb4.3,baz=32,slow=6.0,SNR=20
WRA LR LR 04 53 43.0
comp=Z,101nm,19.7s,MS4.2,baz=115,slow=36
GZR Gura Zlata 81.83 345⇓ *i*P **P** **04 16 36.7 +0.6**
GZR Gura Zlata 81.83 345⇓ *i*P **P** **04 16 36.7 +0.6**
OBKA Obir 81.85 351⇑ *i*P **P** **04 16 36.3 +0.1**
comp=Z,21nm,0.9s,mb5.1,SNR=21
FVI Forni Avoltri 81.94 352 P **P** **04 16 37.4 +0.8**
FVI pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
FVI Forni Avoltri 81.94 352 P **P** **04 16 37.4 +0.8**
comp=Z,9.1nm,0.6s,mb4.9
SSF Saint Saulge 81.98 358⇑ *i*P **P** **04 16 36.5 -0.4**
comp=Z,45nm,1.0s,mb5.1
SSF Saint Saulge 81.98 358⇑ *i*P **P** **04 16 36.5 -0.4**
SSF pmax pmax
comp=Z,23nm,1.0s,mb5.1
SSF Saint Saulge 81.98 358⇑ *i*P **P** **04 16 36.5 -0.4**
comp=Z,23nm,1.0s,mb5.0
PTCC Patocco-Chiusa 82.07 351 P **P** **04 16 36.7 -0.7**
comp=Z,8.8nm,0.6s,mb4.9
CADS Cadrg 82.21 351 *e*P **P** **04 16 37.2 -0.9**
GMNA Gemona 82.21 351 P **P** **04 16 37.6 -0.5**
comp=Z,160nm,0.8s,mb6.0
BRMO Bormio 82.25 353 P **P** **04 16 39.2 +0.9**
comp=Z,13nm,0.7s,mb5.0
AVF Avril sur Loir 82.26 358⇑ *i*P **P** **04 16 37.8 -0.5**
comp=Z,54nm,1.0s,mb5.2
AVF Avril sur Loir 82.26 358⇑ *i*P **P** **04 16 37.8 -0.5**
AVF pmax pmax
comp=Z,27nm,1.0s,mb5.1
AVF Avril sur Loir 82.26 358⇑ *i*P **P** **04 16 37.8 -0.5**
comp=Z,27nm,1.0s,mb5.1
TUE Stuetta 82.33 354 P **P** **04 16 39.3 +0.6**
CABF La Chapelle 82.36 356⇑ *i*P **P** **04 16 38.7 -0.1**
comp=Z,58nm,1.0s,mb5.2
CABF La Chapelle 82.36 356⇑ *i*P **P** **04 16 38.7 -0.1**
CABF pmax pmax
comp=Z,29nm,1.0s,mb5.2
CABF La Chapelle 82.36 356⇑ *i*P **P** **04 16 38.7 -0.1**
comp=Z,29nm,1.0s,mb5.2
AKL Akola 82.37 293 *ex* x 04 16 48.7
AKL AMb AMB 04 16 51.9
comp=Z,46nm,1.7s,mb5.1
GCIS Gornji Cirnik 82.37 350 *e*P **P** **04 16 38.9 0.0**
SMF Signal de Mont 82.39 358⇑ *i*P **P** **04 16 38.5 -0.5**
comp=Z,99nm,1.0s,mb5.4
SMF Signal de Mont 82.39 358⇑ *i*P **P** **04 16 38.5 -0.5**
SMF pmax pmax
comp=Z,50nm,1.0s,mb5.4
SMF Signal de Mont 82.39 358⇑ *i*P **P** **04 16 38.5 -0.5**
comp=Z,50nm,1.0s,mb5.4
MFF Saint Martin d 82.47 1⇑ *i*P **P** **04 16 39.1 -0.3**
comp=Z,69nm,1.0s,mb5.3
MFF Saint Martin d 82.47 1⇑ *i*P **P** **04 16 39.1 -0.3**
MFF pmax pmax
comp=Z,35nm,1.0s,mb5.2
MFF Saint Martin d 82.47 1⇑ *i*P **P** **04 16 39.1 -0.3**
comp=Z,35nm,1.0s,mb5.2
BGF Bois d'Agland 82.50 359⇑ *i*P **P** **04 16 39.1 -0.5**
comp=Z,43nm,1.0s,mb5.0
BGF Bois d'Agland 82.50 359⇑ *i*P **P** **04 16 39.1 -0.5**
BGF pmax pmax
comp=Z,22nm,1.0s,mb5.0
BGF Bois d'Agland 82.50 359⇑ *i*P **P** **04 16 39.1 -0.5**
comp=Z,22nm,1.0s,mb5.0
JAVS Javornik 82.51 351 *i* P **P** **04 16 38.9 -0.8**
CTI Castel Tesino 82.58 352 P **P** **04 16 39.7 -0.3**
MABI Malga Bissina 82.66 353 P **P** **04 16 40.3 -0.1**
BEO Belgrade 82.76 346 *i* P **P** **04 16 41.9 +0.9**
BOJS Bojanci 82.77 350 *i* P **P** **04 16 40.8 -0.2**
BOJS *i* 04 16 41.8
BOJS *e* 04 17 08.9
TCF Toulx Ste Croi 82.78 359⇑ *i*P **P** **04 16 40.6 -0.4**
comp=Z,36nm,0.9s,mb5.1
TCF Toulx Ste Croi 82.78 359⇑ *i*P **P** **04 16 40.6 -0.4**
TCF pmax pmax
comp=Z,18nm,0.9s,mb5.1
TCF Toulx Ste Croi 82.78 359⇑ *i*P **P** **04 16 40.6 -0.4**
comp=Z,18nm,0.9s,mb5.1
KNDS Knezji Dol 82.84 350 *i* P **P** **04 16 41.0 -0.3**
MCGN Macugnaga 82.92 355 P **P** **04 16 42.7 +0.9**
comp=Z,14nm,0.6s,mb5.2
VAI Varese 82.97 354 P **P** **04 16 41.5 -0.5**
VAI pmax pmax
comp=Z,47nm,1.1s,mb5.4
VAI Varese 82.97 354 P **P** **04 16 41.5 -0.5**
comp=Z,47nm,1.1s,mb5.4
AGO Saint Agoulin 83.00 358 *e*P **P** **04 16 42.4 +0.2**
PLDF La Plantade 83.07 358 *e*P **P** **04 16 42.9 +0.3**
SVIS Svilajnac 83.16 345 *i* P **P** **04 16 42.7 -0.3**
SZH Strazhica 83.32 342 P **P** **04 16 44.5 +0.7**
LPL La Plagne 83.42 356⇑ *i*P **P** **04 16 45.0 +0.6**
LPG La Plagne 83.44 356⇑ *i*P **P** **04 16 45.3 +0.9**
comp=Z,15nm,0.8s,mb4.8
LPG La Plagne 83.44 356⇑ *i*P **P** **04 16 45.3 +0.9**
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
LPG La Plagne 83.44 356⇑ *i*P **P** **04 16 45.3 +0.9**
comp=Z,7.6nm,0.8s,mb4.8
COLF Collangettes 83.52 358 *e*P **P** **04 16 45.1 +0.2**
DIVS Divcibare 83.54 346 *i* P **P** **04 16 45.1 +0.2**
GRUS Gruza 83.63 346 *i* P **P** **04 16 45.8 +0.3**
RKT Rikitea 83.65 140 *e*LR LR 04 42 53.5
comp=Z,324nm,24.0s
RSP Reno Superiore 83.76 355 P **P** **04 16 45.9 -0.2**
RJF Les Rejaudoux 83.77 360⇑ *i*P **P** **04 16 45.5 -0.6**
comp=Z,42nm,1.0s,mb5.2
RJF *e*R
comp=Z,191nm,21.5s
RJF Les Rejaudoux 83.77 360⇑ *i*P **P** **04 16 45.5 -0.6**
RJF pmax pmax
comp=Z,21nm,1.0s,mb5.2
RJF MLR MLR
comp=Z,190nm,21.5s,MS4.4
RJF Les Rejaudoux 83.77 360⇑ *i*P **P** **04 16 45.5 -0.6**
comp=Z,21nm,1.0s,mb5.2
RJF LR LR
comp=Z,190nm,21.5s,MS4.4
LBL Lubilhac 83.82 358 *e*P **P** **04 16 46.6 +0.2**
BNI Bardonecchia 83.89 356 *e*P **P** **04 16 47.6 +0.9**
BNI pmax pmax
comp=Z,30nm,1.0s,mb5.4
BNI Bardonecchia 83.89 356 *e*P **P** **04 16 47.6 +0.8**
comp=Z,30nm,1.0s,mb5.4
BOB Bobbio (Coli) 84.02 354 P **P** **04 16 46.8 -0.6**
HYB Hyderabad 84.05 290 *i* P **P** **04 16 48.0 +0.5**
ORIF Oris-en-Rattie 84.06 356⇑ *i*P **P** **04 16 48.0 +0.4**
comp=Z,24nm,0.7s,mb5.1
ORIF *e*R
comp=Z,77nm,20.0s
ORIF Oris-en-Rattie 84.06 356⇑ *i*P **P** **04 16 48.0 +0.4**
ORIF pmax pmax
comp=Z,12nm,0.7s,mb5.1
ORIF Oris-en-Rattie 84.06 356⇑ *i*P **P** **04 16 48.0 +0.4**
comp=Z,12nm,0.7s,mb5.1
LFF La Frestale 84.13 0⇑ *i*P **P** **04 16 47.7 -0.3**
comp=Z,28nm,0.6s,mb5.3
LFF La Frestale 84.13 0⇑ *i*P **P** **04 16 47.7 -0.3**
LFF pmax pmax
comp=Z,14nm,0.6s,mb5.3
LFF La Frestale 84.13 0⇑ *i*P **P** **04 16 47.7 -0.3**
comp=Z,14nm,0.6s,mb5.3
CAF Calviac 84.14 359⇑ *i*P **P** **04 16 47.9 -0.1**
comp=Z,69nm,1.1s,mb5.4
CAF Calviac 84.14 359⇑ *i*P **P** **04 16 47.9 -0.1**
CAF pmax pmax
comp=Z,34nm,1.1s,mb5.4
CAF Calviac 84.14 359⇑ *i*P **P** **04 16 47.9 -0.1**
comp=Z,34nm,1.1s,mb5.4
VIVF Saint-Julien-l 84.16 357⇑ *i*P **P** **04 16 48.1 0.0**
comp=Z,35nm,1.0s,mb5.2
VIVF Saint-Julien-l 84.16 357⇑ *i*P **P** **04 16 48.1 0.0**
VIVF pmax pmax
comp=Z,18nm,1.0s,mb5.2
VIVF Saint-Julien-l 84.16 357⇑ *i*P **P** **04 16 48.1 0.0**
comp=Z,18nm,1.0s,mb5.2
FITZ Fitzroy Crossi 84.26 232 *e*P **P** **04 16 47.7 -0.9**
comp=Z,23nm,0.7s,mb5.4
FITZ Fitzroy Crossi 84.26 232 P **P** **04 16 47.9 -0.8**
comp=Z,14nm,0.7s,mb5.2,baz=33,slow=4.7,SNR=51
ZCCA Zocca 84.32 353 P **P** **04 16 50.7 +1.8**
comp=Z,82nm,1.2s,mb5.7
GSCL Gusciola 84.35 353 P **P** **04 16 50.0 +0.9**
comp=Z,44nm,1.2s,mb5.5
VTS Vitosha 84.48 344⇓ *i*P **P** **04 16 49.8 +0.1**
VTS Vitosha 84.48 344 P **P** **04 16 50.0 +0.3**
FNVD Fontana Vidola 84.49 353 P **P** **04 16 50.6 +0.8**
VLC Villacollemand 84.56 353 P **P** **04 16 49.9 -0.2**
SEI Scarperia 84.58 352 P **P** **04 16 51.6 +1.3**
comp=Z,91nm,0.5s,mb6.2
OG25 Le Caire 84.59 356 *e*P **P** **04 16 47.7 -2.6**
FIN Finale Ligure 84.65 355 P **P** **04 16 49.8 -0.8**
FIN pmax pmax
comp=Z,26nm,1.0s,mb5.3
FIN Finale Ligure 84.65 355 P **P** **04 16 49.8 -0.8**
comp=Z,26nm,1.0s,mb5.3
VMG Vicchio 84.66 352 P **P** **04 16 52.2 +1.6**
comp=Z,212nm,1.1s,mb6.2
STV Sta Anna Valdi 84.66 355 P **P** **04 16 49.4 -1.3**
SFI Santa Sofia 84.69 352 P **P** **04 16 51.7 +0.9**
SFI pmax pmax
comp=Z,23nm,0.5s,mb5.6
SFI Santa Sofia 84.69 352 P **P** **04 16 51.7 +0.9**
comp=Z,23nm,0.5s,mb5.6
MALT Malatya 84.88 331⇑ *i*P **P** **04 16 53.2 +1.4**
MALT Malatya 84.88 331 P **P** **04 16 53.0 +1.2**
TOUF Mont Tournerai 84.90 355 *e*P **P** **04 16 52.2 +0.4**
AUTN L'Aution 84.91 355 *e*P **P** **04 16 52.3 +0.4**
BRTR Keskin Array B 84.92 335 P **P** **04 16 52.1 +0.2**
comp=Z,26nm,0.8s,mb5.4,baz=50,slow=2.7,SNR=137
BRTR LR LR 04 57 04.7
comp=Z,68nm,19.7s,MS4.0,baz=180,slow=37
LASF Ste Croix 84.96 358⇑ *i*P **P** **04 16 52.1 -0.1**
comp=Z,28nm,0.9s,mb5.1
CRE Caprese Michel 84.96 352 P **P** **04 16 52.3 +0.1**
CRE pmax pmax
comp=Z,22nm,0.9s,mb5.3
CRE Caprese Michel 84.96 352 P **P** **04 16 52.3 +0.1**
comp=Z,22nm,0.9s,mb5.3
IMI Imperia 84.97 355 P **P** **04 16 51.8 -0.4**
comp=Z,26nm,0.8s,mb5.4
STOF St-Etienne Org 84.97 356 *e*P **P** **04 16 52.7 +0.5**
PII Pisa 84.98 353 P **P** **04 16 51.7 -0.6**
PII pmax pmax
comp=Z,56nm,1.0s,mb5.7
PII Pisa 84.98 353 P **P** **04 16 51.7 -0.6**
comp=Z,56nm,1.0s,mb5.7
ARV Arcevia 84.99 351 P **P** **04 16 52.8 +0.5**
comp=Z,31nm,0.8s,mb5.5
ANTO Ankara 85.01 336⇓ *i*P **P** **04 16 53.7 +1.3**
ANTO Ankara 85.01 336⇑ P **P** **04 16 53.8 +1.4**
SNR=8.3
ANTO Ankara 85.01 336 P **P** **04 16 53.6 +1.2**
SMRF Simiane la Rot 85.01 357⇑ *i*P **P** **04 16 52.9 +0.5**
comp=Z,77nm,1.0s,mb5.5
SMRF Simiane la Rot 85.01 357⇑ *i*P **P** **04 16 52.9 +0.5**
comp=Z,77nm,1.0s,mb5.8
LUCF Luceram 85.01 355 *e*P **P** **04 16 52.5 +0.1**
MVIF Mont Vial 85.02 355 *e*P **P** **04 16 52.7 +0.2**
SBF Sospel 85.04 355⇑ *i*P **P** **04 16 52.0 -0.5**
comp=Z,128nm,0.9s,mb5.8
SBF Sospel 85.04 355⇑ *i*P **P** **04 16 52.0 -0.5**
SBF pmax pmax
comp=Z,64nm,0.9s,mb5.8
SBF Sospel 85.04 355⇑ *i*P **P** **04 16 52.0 -0.5**
comp=Z,64nm,0.9s,mb5.8
BADI Badiali 85.05 352 P **P** **04 16 53.0 +0.4**
CING Cingoli 85.09 351 P **P** **04 16 53.1 +0.3**
VILF Villemus 85.13 356 *e*P **P** **04 16 53.9 +0.9**
REVF Revere 85.16 355 *e*P **P** **04 16 53.0 +0.2**
CSNT Castellina Chi 85.17 352 P **P** **04 16 52.7 -0.5**
comp=Z,60nm,1.0s,mb5.7
PRAF Pradon 85.19 357 *e*P **P** **04 16 54.2 +0.9**
SNTG Esanatoglia 85.23 351 P **P** **04 16 54.1 +0.6**
comp=Z,41nm,0.5s,mb5.8
MURB Monte Urbino 85.27 351 P **P** **04 16 54.4 +0.7**
ASAR Alice Springs 85.30 222 P **P** **04 16 52.5 -1.3**
comp=Z,3.8nm,0.8s,mb4.6,baz=29,slow=4.6,SNR=21
TAVF Tavernes 85.35 356 *e*P **P** **04 16 54.9 +0.8**
MMB Musomiste 85.36 343 P **P** **04 16 54.0 -0.2**
TREF Trevaresse 85.37 357 *e*P **P** **04 16 54.9 +0.7**
FRF La Foret Royal 85.38 356⇑ *i*P **P** **04 16 53.8 -0.4**
comp=Z,48nm,0.8s,mb5.4
FRF La Foret Royal 85.38 356⇑ *i*P **P** **04 16 53.8 -0.4**
FRF pmax pmax
comp=Z,24nm,0.8s,mb5.4
FRF La Foret Royal 85.38 356⇑ *i*P **P** **04 16 53.8 -0.4**
comp=Z,24nm,0.8s,mb5.4
PUYF Puyloubier 85.45 356 *e*P **P** **04 16 55.1 +0.5**
EPON Pontenova 85.49 6 P **P** **04 16 55.0 +0.2**
comp=Z,16nm,0.6s,mb5.3
GRFL Gerfalco 85.52 353 P **P** **04 16 54.9 0.0**
comp=Z,52nm,0.8s,mb5.8
GELF Grande-Etoile 85.61 357 *e*P **P** **04 16 56.0 +0.6**
LMR La Mourre 85.61 356⇑ *i*P **P** **04 16 55.1 -0.3**
comp=Z,31nm,0.6s,mb5.4
LMR La Mourre 85.61 356⇑ *i*P **P** **04 16 55.1 -0.3**
LMR pmax pmax
comp=Z,16nm,0.6s,mb5.4
LMR La Mourre 85.61 356⇑ *i*P **P** **04 16 55.1 -0.3**
comp=Z,16nm,0.6s,mb5.4
EARI Arriondas 85.62 4 P **P** **04 16 55.4 -0.1**
comp=Z,80nm,1.5s,mb5.7
NRCA Norcia 85.64 351 P **P** **04 16 55.7 +0.2**
comp=Z,64nm,1.1s,mb5.8
BERF Bertagne 85.67 356 *e*P **P** **04 16 56.5 +0.8**
MTLF Montolieu 85.72 359⇑ *i*P **P** **04 16 55.8 -0.2**
comp=Z,47nm,1.1s,mb5.3
MTLF Montolieu 85.72 359⇑ *i*P **P** **04 16 55.8 -0.2**
MTLF pmax pmax
comp=Z,24nm,1.1s,mb5.3
MTLF Montolieu 85.72 359⇑ *i*P **P** **04 16 55.8 -0.2**
comp=Z,24nm,1.1s,mb5.3
ELAN Lanestosa 85.77 3 P **P** **04 16 55.9 -0.2**
comp=Z,45nm,0.8s,mb5.8
TERO Teramo 85.79 351 P **P** **04 16 56.6 +0.3**
EALK Alkurruntz 85.83 2 P **P** **04 16 56.9 +0.4**
comp=Z,28nm,0.9s,mb5.5
POO Poona 85.90 295 *ex* x 04 16 56.5
POO *ex* x 04 17 37.4
EPF Esparros 86.04 0⇑ *i*P **P** **04 16 56.6 -0.9**
comp=Z,16nm,0.8s,mb5.0
EPF Esparros 86.04 0⇑ *i*P **P** **04 16 56.6 -0.9**
EPF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
EPF Esparros 86.04 0⇑ *i*P **P** **04 16 56.6 -0.9**
comp=Z,7.9nm,0.8s,mb5.0
AQU L'Aquila 86.08 351⇑ *i*P **P** **04 16 58.8 +1.1**
AQU L'Aquila 86.08 351⇑ P **P** **04 16 58.8 +1.0**
MNS Montasola 86.12 351 P **P** **04 16 57.6 -0.3**
ETSF Etsaut 86.16 1⇑ *i*P **P** **04 16 58.3 +0.2**
comp=Z,23nm,0.7s,mb5.2
ETSF Etsaut 86.16 1⇑ *i*P **P** **04 16 58.3 +0.2**
ETSF pmax pmax
comp=Z,12nm,0.7s,mb5.2
ETSF Etsaut 86.16 1⇑ *i*P **P** **04 16 58.3 +0.2**
comp=Z,12nm,0.7s,mb5.2
PGF Pioggiola 86.26 354⇑ *i*P **P** **04 16 58.2 -0.4**
comp=Z,78nm,0.7s,mb5.7
PGF Pioggiola 86.26 354⇑ *i*P **P** **04 16 58.2 -0.4**
PGF pmax pmax
comp=Z,39nm,0.7s,mb5.8

PGF	**Pioggiola**	**86.26**	**354**⇑	iP	**P**	**04 16 58.2**	**-0.4**
	comp=Z,39nm,0.7s,mb5.8						
EBIE	**Bielsa**	**86.38**	**1**	P	**P**	**04 17 00.4**	**+1.1**
	comp=Z,18nm,0.6s,mb5.5						
MDRS	**Chennai**	**86.44**	**286**	eP	**P**	**04 16 59.4**	**-0.1**
CORF	**Corte**	**86.49**	**354**	eP	**P**	**04 16 59.7**	**-0.1**
VVLD	**Villa Vallelon**	**86.54**	**350**	P	**P**	**04 16 59.1**	**-0.9**
KAD	**Karad**	**86.68**	**294**	eP	**P**	**04 17 00.4**	**-0.2**
KAD				AMb	AMB	04 17 01.5	
	comp=Z,56nm,1.2s,mb5.7						
SDI	**San Donato**	**86.68**	**350**	P	**P**	**04 16 59.9**	**-0.8**
SDI				pmax	pmax		
	comp=Z,58nm,1.2s,mb5.7						
SDI	**San Donato**	**86.68**	**350**	P	**P**	**04 16 59.9**	**-0.8**
	comp=Z,58nm,1.2s,mb5.7						
ELOB	**Lobios**	**86.88**	**7**	P	**P**	**04 17 01.7**	**+0.1**
	comp=Z,25nm,0.9s,mb5.4						
PBRG	**Braganca**	**87.03**	**6**	eP	**P**	**04 17 02.2**	**-0.2**
	comp=Z,12nm,1.9s,mb4.8						
PCAB	**Cabril**	**87.04**	**7**	eP	**P**	**04 17 02.2**	**-0.2**
	comp=Z,26nm,1.1s,mb5.4						
EMIR	**Miracle**	**87.16**	**360**	P	**P**	**04 17 03.1**	**+0.2**
	comp=Z,24nm,1.2s,mb5.3						
ESAC	**San Caprasio**	**87.34**	**1**	P	**P**	**04 17 04.2**	**+0.3**
	comp=Z,17nm,0.7s,mb5.4						
PVRL	**Vila Real**	**87.49**	**6**	eP	**P**	**04 17 04.3**	**-0.3**
	comp=Z,29nm,1.3s,mb5.3						
EPOB	**Poblet**	**87.72**	**360**	P	**P**	**04 17 05.4**	**-0.3**
	comp=Z,28nm,1.2s,mb5.4						
MGR	**Morigerati**	**88.03**	**349**	P	**P**	**04 17 05.5**	**-1.7**
PVIS	**Viseu**	**88.03**	**7**	eP	**P**	**04 17 07.0**	**-0.2**
	comp=Z,30nm,1.1s,mb5.4						
ERTA	**Horta de San J**	**88.11**	**0**	P	**P**	**04 17 06.9**	**-0.6**
	comp=Z,15nm,1.2s,mb5.1						
ETOR	**Torete**	**88.22**	**2**	P	**P**	**04 17 07.1**	**-0.9**
ETOR				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.0						
ETOR	**Torete**	**88.22**	**2**	P	**P**	**04 17 07.1**	**-0.9**
	comp=Z,7.7nm,0.9s,mb4.9						
GUD	**Guadarrama**	**88.32**	**4**	P	**P**	**04 17 08.2**	**-0.4**
GUD				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.2						
GUD	**Guadarrama**	**88.32**	**4**	P	**P**	**04 17 08.2**	**-0.4**
	comp=Z,14nm,1.0s,mb5.2						
MTE	**Manteigas**	**88.37**	**6**	eP	**P**	**04 17 08.0**	**-0.8**
	comp=Z,29nm,1.1s,mb5.4						
EMOS	**Mosqueruela**	**88.70**	**1**	P	**P**	**04 17 09.9**	**-0.4**
	comp=Z,10.0nm,0.9s,mb5.2						
PCBR	**Castelo Branco**	**88.94**	**6**	eP	**P**	**04 17 10.6**	**-0.8**
	comp=Z,18nm,1.3s,mb5.2						
PTOM	**Tomar**	**89.09**	**7**	eP	**P**	**04 17 11.7**	**-0.5**
	comp=Z,33nm,1.1s,mb5.6						
ETOS	**Mallorca**	**89.28**	**359**	P	**P**	**04 17 12.2**	**-0.9**
	comp=Z,13nm,0.9s,mb5.3						
ESDC	**Sonseca Array**	**89.30**	**4**	P	**P**	**04 17 12.8**	**-0.4**
	comp=Z,5.1nm,0.7s,mb5.0,baz=355,slow=4.5,SNR=28						
ESDC	**Sonseca Array**	**89.30**	**4**	P	**P**	**04 17 12.5**	**-0.6**
	comp=Z,8.9nm,0.6s,mb5.3						
STKA	**Stephens Creek**	**89.76**	**213**	P	**P**	**04 17 14.4**	**-0.9**
	comp=Z,5.0nm,0.4s,mb5.2,baz=349,slow=14,SNR=6.1						
CPD	**Cerro la Pandu**	**89.76**	**61**	eP	**P**	**04 17 15.2**	**-0.1**
WSAR	**Wadi Sarin**	**90.15**	**309**	P	**P**	**04 17 18.0**	**+0.9**
	comp=Z,10.0nm,0.9s,mb5.1,baz=57,slow=12,SNR=2.5						
EBEN	**Beniarda**	**90.36**	**1**	P	**P**	**04 17 18.1**	**0.0**
	comp=Z,31nm,1.5s,mb5.4						
EVIA	**Vianos**	**90.38**	**3**	P	**P**	**04 17 18.3**	**+0.1**
EVIA				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb5.1						
EVIA	**Vianos**	**90.38**	**3**	P	**P**	**04 17 18.3**	**+0.1**
	comp=Z,4.5nm,0.5s,mb5.0						
ETOB	**Tobarra**	**90.40**	**2**	P	**P**	**04 17 17.9**	**-0.3**
	comp=Z,7.4nm,0.7s,mb5.1						
MMAI	**Mount Meron Ar**	**90.71**	**332**	P	**P**	**04 17 19.8**	**0.0**
	comp=Z,5.5nm,0.8s,mb4.9,baz=20,slow=11,SNR=4.8						
PBEJ	**Beja**	**90.71**	**7**	eP	**P**	**04 17 19.6**	**-0.1**
	comp=Z,19nm,1.3s,mb5.3						
EADA	**Adamuz**	**90.77**	**4**	P	**P**	**04 17 19.1**	**-0.9**
	comp=Z,21nm,1.2s,mb5.3						
EBAN	**Banos Encina**	**90.81**	**4**	P	**P**	**04 17 19.3**	**-0.9**
EBAN				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb5.0						
EBAN	**Banos Encina**	**90.81**	**4**	P	**P**	**04 17 19.3**	**-0.9**
	comp=Z,4.5nm,0.6s,mb5.0						
ASF	**Jabal al Asfar**	**91.03**	**330**	P	**P**	**04 17 21.8**	**+0.6**
	comp=Z,1.3nm,0.3s,mb4.8,baz=326,slow=3.7,SNR=9.2						
EMIN	**Mina Concepcio**	**91.05**	**6**	P	**P**	**04 17 20.3**	**-1.1**
	comp=Z,42nm,1.3s,mb5.6						
EQES	**Quesada**	**91.19**	**3**	P	**P**	**04 17 21.4**	**-0.6**
	comp=Z,14nm,1.3s,mb5.1						
EGRO	**El Granado**	**91.23**	**7**	P	**P**	**04 17 21.2**	**-0.9**
	comp=Z,58nm,1.6s,mb5.7						
ELOJ	**Sierra Loja**	**91.81**	**4**	P	**P**	**04 17 25.2**	**+0.4**
ELOJ				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb5.2						
ELOJ	**Sierra Loja**	**91.81**	**4**	P	**P**	**04 17 25.2**	**+0.4**
	comp=Z,6.4nm,0.5s,mb5.2						
ESPR	**Espera**	**92.00**	**5**	P	**P**	**04 17 25.0**	**-0.7**
	comp=Z,12nm,0.9s,mb5.2						
EMIJ	**Mijas**	**92.36**	**5**	P	**P**	**04 17 25.7**	**-1.7**
	comp=Z,20nm,1.0s,mb5.4						
PMAR	**Madeira**	**94.87**	**15**	eP	**P**	**04 17 39.4**	**+0.5**
	comp=Z,124nm,1.3s,mb6.2						
TORD	**Torodi Ar. Bea**	**115.81**	**359**	PKP	PKPdf	04 22 58.4	-0.9
	comp=Z,0.4nm,0.4s,baz=352,slow=2.1,SNR=21						
TORD				PP	PP	04 23 52.6	-10
	comp=Z,0.6nm,0.8s,baz=345,slow=4.1,SNR=2.8						
DBIC	**Dimbokro**	**122.04**	**7**	PKP	PKPdf	04 23 10.7	-0.5
	comp=Z,2.7nm,0.4s,baz=304,slow=2.3,SNR=19						
CPUP	**Villa Florida**	**129.81**	**83**	PKP	PKPdf	04 23 25.5	-0.6
	comp=Z,0.6nm,0.5s,baz=252,slow=6.4,SNR=4.2						
CPUP				SKPbc		04 26 49.2	
	comp=Z,0.6nm,0.5s,baz=313,slow=3.7,SNR=4.7						
MAW	**Mawson**	**146.30**	**218**	eP	PKPdf	04 23 54.7	-1.5
	comp=Z,8.4nm,0.9s						
MAW	**Mawson**	**146.30**	**218**	PKPbc	PKPbc	04 23 54.4	-3.0
	comp=Z,6.1nm,0.8s,baz=8.4,slow=4.4,SNR=13						
SYO	**Syowa Base**	**154.51**	**212**⇑	eX	PKPbc	04 24 14.4	-3.0

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*NIED **11** 04:29:00,3320N×14090E,h26^{km},Mw3.6 Best double couple: $M_0$3.31000×10^{14} NP1:ϕ_s232.00000°,δ78.00000°, λ-168.00000°. NP2:ϕ_s139.00000°,δ78.00000°, λ-12.00000°.*

*IDC **11** 04:29:29.3±1.4,3255N×13937E,h0^{km},mb3.9/2, mb1 4.1/3,mb1mx3.6/18,mbtmp3.8/3,ML3.6/1,MS2.3/1, Ms1 2.3/1,ms1mx2.2/32,Error ellipse: s-maj=57.1km s-min=14.3km az=113.0*

*ISCJB **11** 04:29:30.4±1.0,33.14N±005×1408E±0.1,h64^{km}±12^{km}, mb4.0/2,Error ellipse: s-maj=16.3km s-min=9.1km az=173.3*

*JMA **11** 04:29:30.4±0.2,33.19N×14088E,h49^{km},M3.6*

ISC 11 04:29:31.1±1.2**,3312N**±006×**1408E**±01**,h47**^{km}±17^{km}**,n17,** σ**0**^{s}**97**/21**,mb4.0**/2**,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.84**	**270**	P	**Pn**	**04 29 47.0**	**+0.4**
JHJ	**Hachijo jima 2**	**0.87**	**270**	Pn	**Pn**	**04 29 46.9**	**0.0**
	225nm,0.3s,baz=85,slow=7.7,SNR=66						
JHJ				Sn	**Sn**	**04 29 57.2**	**-1.3**
	586nm,0.3s,baz=73,slow=19,SNR=41						
BSO1	**Boso 1**	**1.53**	**5**	P	**Pn**	**04 29 54.7**	**-1.3**
BSO3	**Boso 3**	**1.70**	**351**	P	**Pn**	**04 29 57.2**	**-1.0**
JKO	**Kozu shima**	**1.76**	**308**	P	**Pn**	**04 29 59.4**	**+0.3**
NJJJ	**Nii jima 2**	**1.81**	**315**	P	**Pn**	**04 29 59.9**	**+0.2**
BSO4	**Boso 4**	**1.91**	**348**	P	**Pn**	**04 30 00.6**	**-0.5**
JIM2	**Oshima 3**	**1.97**	**324**	P	**Pn**	**04 30 01.9**	**0.0**
JIZS	**Izushimoda**	**2.27**	**315**	P	**Pn**	**04 30 06.6**	**+0.6**
KTJJ	**Kamata 2**	**2.32**	**321**	P	**Pn**	**04 30 06.6**	**-0.1**
KTJJ				eS	**Sn**	**04 30 32.3**	**-1.6**
JOD2	**Odawara 2**	**2.57**	**327**	P	**Pn**	**04 30 10.6**	**+0.4**
JOD2				eS	**Sn**	**04 30 39.6**	**-0.7**
TK04	**Tokai 4**	**2.76**	**298**	P	**Pn**	**04 30 14.2**	**+1.4**
MJAR	**Matsushiro Arr**	**4.03**	**329**	Pn	**Pn**	**04 30 32.7**	**+2.4**
	4.0nm,0.3s,baz=164,slow=12,SNR=18						
MJAR				Sn	**Sn**	**04 31 16.5**	**+0.3**
	1.8nm,0.3s,baz=174,slow=34,SNR=5.5						
MAT	**Matsushiro**	**4.03**	**329**	P	**Pn**	**04 30 32.5**	**+2.2**
MAT				S	**Sn**	**04 31 16.5**	**+0.3**
TGY	**Tagaytay City**	**26.19**	**228**	LR	LR	04 43 06.2	
	comp=Z,6.1nm,19.2s,baz=226,slow=33						
WRA	**Warramunga Arr**	**53.13**	**188**	P	**P**	**04 38 43.3**	**-0.7**
	0.9nm,0.3s,mb4.1,baz=4.3,slow=7.5,SNR=38						
ASAR	**Alice Springs**	**56.85**	**188**	P	**P**	**04 39 10.7**	**-0.2**
	0.5nm,0.5s,mb3.8,baz=1.8,slow=6.6,SNR=6.5						

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*ISCJB **11** 04:35:50.8±0.8,3827N±002×922W±008,h10^{km},Error ellipse: s-maj=8.7km s-min=3.0km az=171.4*

*IGIL **11** 04:35:51.9,38.17N×937W,h2^{km},ML2.3*

*INMG **11** 04:35:52.6±1.0,38.17N×933W,h15^{km}±2^{km},ML1.9,Error ellipse: s-maj=5.2km s-min=1.5km az=81.0*

*MDD **11** 04:35:52.5±0.9,3820N×928W,h11^{km}±1^{km},mbLg1.9/11, Error ellipse: s-maj=11.0km s-min=3.4km az=76.0, PRXIMO*

ISC 11 04:35:51.7±1.0**,3822N**±002×**926W**±008**,h17**^{km}±4^{km}**,n24,** σ**0**^{s}**88**/48**,Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**0.67**	**7**	eP	**Pg**	**04 36 05.6**	**+0.7**
PLOU				eS	**Sg**	**04 36 15.5**	**+1.6**
PLOU							
	32nm,0.3s						
PTEO	**Sao Teotonio**	**0.79**	**147**	eP	**Pb**	**04 36 07.0**	**0.0**
PTEO				eS	**Sb**	**04 36 17.8**	**+0.4**
PTEO							
	25nm,0.4s						
MORF	**Marmelete**	**1.03**	**152**	eP	**Pb**	**04 36 11.0**	**0.0**
MORF				eS	**Sb**	**04 36 23.7**	**-0.5**
MORF				eS	**Sb**	**04 36 23.7**	**-0.5**
MORF				AML	AML	04 36 27.9	
	comp=N,52nm,0.2s						
MORF	**Marmelete**	**1.03**	**152**	eP	**Pb**	**04 36 11.0**	**0.0**
MORF				eS	**Sb**	**04 36 23.7**	**-0.5**
ALMR	**Almeirim**	**1.08**	**30**	eP	**Pb**	**04 36 12.7**	**+0.8**
ALMR				eS	**Sb**	**04 36 27.7**	**+2.0**
ALMR				eS	**Sb**	**04 36 27.7**	**+2.0**
ALMR				AML	AML	04 36 29.0	
	comp=N,53nm,0.4s						
ALMR	**Almeirim**	**1.08**	**30**	eP	**Pb**	**04 36 12.7**	**+0.8**
ALMR				eS	**Sb**	**04 36 27.7**	**+2.0**
PBEJ	**Beja**	**1.12**	**99**	eP	**Pn**	**04 36 12.3**	**-0.2**
PBEJ				eS	**Sb**	**04 36 28.2**	**+1.4**
PBEJ							
	comp=N,13nm,0.2s						
PTOM	**Tomar**	**1.55**	**25**	ePg	**Pg**	**04 36 21.3**	**-0.2**
PTOM				eSn	**Sn**	**04 36 38.8**	**+0.7**
PTOM				eSg	**Sg**	**04 36 42.1**	**+0.4**
PTOM							
	comp=N,16nm,0.2s						
PTOM	**Tomar**	**1.55**	**25**	Pg	**Pg**	**04 36 21.3**	**-0.2**
PTOM				Sn	**Sn**	**04 36 38.8**	**+0.7**
PTOM				Lg		04 36 42.1	
	comp=N,8.2nm,0.2s						
EGRO	**El Granado**	**1.56**	**115**	Pn	**Pn**	**04 36 18.6**	**0.0**
	comp=N,0.7nm,0.1s,SNR=16						
EGRO				Pg	**Pg**	**04 36 20.6**	**-1.2**
	comp=N,0.9nm,0.2s,SNR=7.9						
EGRO				Lg		04 36 42.7	
	comp=N,3.9nm,0.1s,SNR=9.0						
EBAD	**Badajoz**	**1.85**	**72**	Pn	**Pn**	**04 36 23.2**	**+0.7**
	comp=N,0.3nm,0.1s,SNR=4.0						
EBAD				Pg	**Pg**	**04 36 25.1**	**-2.1**
	comp=N,1.6nm,0.1s,SNR=7.9						
EBAD				Lg		04 36 50.7	
	comp=N,5.9nm,0.1s,SNR=16						
EMIN	**Mina Concepcio**	**2.10**	**102**	Pn	**Pn**	**04 36 26.6**	**+0.7**
	comp=N,0.2nm,0.1s,SNR=7.9						
EMIN				Pg	**Pg**	**04 36 31.3**	**-0.7**
	comp=N,0.8nm,0.1s,SNR=7.9						
EMIN				Lg		04 37 00.1	
	comp=N,2.6nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**2.14**	**40**	ePg	**Pg**	**04 36 31.6**	**-1.1**
PCBR				eSn	**Sn**	**04 36 52.5**	**-0.1**
PCBR				eSg	**Sg**	**04 37 00.2**	**-0.3**
PCBR							
	comp=N,3.9nm,0.2s						
PCBR	**Castelo Branco**	**2.14**	**40**	Pg	**Pg**	**04 36 31.6**	**-1.1**
PCBR				Sn	**Sn**	**04 36 52.5**	**-0.1**
PCBR				Lg		04 37 00.2	
	comp=N,1.9nm,0.2s						
MTE	**Manteigas**	**2.56**	**31**	eSg	**Sg**	**04 37 13.8**	**-0.1**
MTE							
	comp=N,5.2nm,0.5s						
MTE	**Manteigas**	**2.56**	**31**	Lg		04 37 13.8	
	comp=N,2.6nm,0.5s						
PVIS	**Viseu**	**2.71**	**23**	ePn	**Pn**	**04 36 34.9**	**+0.5**
PVIS				eSn	**Sn**	**04 37 06.3**	**-0.5**
PVIS				eSg	**Sg**	**04 37 19.0**	**+0.1**
PVIS							
	comp=N,4.1nm,0.3s						
PVIS	**Viseu**	**2.71**	**23**	Pn	**Pn**	**04 36 34.9**	**+0.5**
PVIS				Sn	**Sn**	**04 37 06.3**	**-0.5**
PVIS				Lg		04 37 19.0	
	comp=N,2.0nm,0.3s						
PCAB	**Cabril**	**3.62**	**15**	ePn	**Pn**	**04 36 47.1**	**+0.2**
PCAB				eSn	**Sn**	**04 37 27.6**	**-1.5**
EADA	**Adamuz**	**3.69**	**89**	Pn	**Pn**	**04 36 48.7**	**+0.8**
	comp=N,0.2nm,0.1s,SNR=4.0						
EADA				Sn	**Sn**	**04 37 31.7**	**+0.7**
	comp=N,0.6nm,0.1s,SNR=4.0						
EADA				Lg		04 37 49.4	
	comp=N,0.7nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**3.76**	**14**	Pn	**Pn**	**04 36 49.2**	**+0.3**
	comp=N,0.2nm,0.1s,SNR=7.9						
ELOB				Sn	**Sn**	**04 37 31.9**	**-0.8**
	comp=N,0.4nm,0.1s,SNR=7.9						
ELOB				Lg		04 37 50.5	
	comp=N,0.9nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**4.08**	**28**	eSn	**Sn**	**04 37 38.8**	**-1.6**
PBRG							
	comp=N,1.1nm,0.1s						
PBRG	**Braganca**	**4.08**	**28**	Sn	**Sn**	**04 37 38.8**	**-1.6**
	comp=N,0.6nm,0.1s						
ECAL	**Calabor**	**4.20**	**27**	Pn	**Pn**	**04 36 55.0**	**+0.2**
	comp=N,0.4nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**04 37 41.9**	**-1.5**
	comp=N,0.5nm,0.2s,SNR=7.9						
ECAL				Lg		04 38 06.7	
	comp=N,2.1nm,0.3s,SNR=7.9						

IDC 11 04:44:59.7±8.3**,418S**×**15081E,h59**^{km}±65^{km}**,mb3.1**/2**, mb1 3.5**/3**,mb1mx3.3**/13**,mbtmp3.5**/3**,ML3.0**/1**,Error ellipse: s-maj=136.1km s-min=52.0km az=122.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.33**	**215**	P	Pn	04 46 30.6	+0.2
	2.1nm,0.3s,baz=27,slow=6.8,SNR=5.4						
PMG				S	Sn	04 47 42.5	+1.2
	0.7nm,0.3s,baz=282,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**22.43**	**224**	P	P	04 49 53.1	-0.4
	0.3nm,0.4s,baz=51,slow=10,SNR=9.8						
ASAR	**Alice Springs**	**25.33**	**219**	P	P	04 50 22.1	+1.1
	0.7nm,1.0s,baz=46,slow=9.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**148.23**	**288**	PKPbc	PKPbc	05 04 39.5	+0.5
	0.1nm,0.5s,baz=77,slow=2.4,SNR=5.8						

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*NEIC **11** 04:59:55.9±5.6,476S×15371E,h140^{km}±36^{km},mb4.3/1, Error ellipse: s-maj=69.1km s-min=29.6km az=101.0*

*ISCJB **11** 04:59:56.6±5.4,48S±03×1536E±03,h153^{km}±39^{km}, mb3.9/6,Error ellipse: s-maj=63.0km s-min=35.7km az=62.0*

*IDC **11** 04:59:57.9±7.9,475S×15354E,h152^{km}±56^{km},mb3.7/5, mb1 3.9/6,mb1mx3.7/14,mbtmp4.3/6,MS3.5/3,Ms1 3.5/3, ms1mx2.8/30,Error ellipse: s-maj=72.5km s-min=34.7km az=99.0*

ISC 11 04:59:56.2±5.7**,48S**±03×**1537E**±04**,h139**^{km}±40^{km}**,n12,** σ**0**^{s}**53**/9**,mb3.9**/6**,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.70**	**127**	LR	LR	05 03 57.5	
	comp=Z,68nm,21.8s,baz=180,slow=30						
PMG	**Port Moresby**	**7.95**	**235**	P	**Pn**	**05 01 48.9**	**0.0**
	14nm,0.3s,baz=40,slow=8.1,SNR=24						
PMG				S	**Sn**	**05 03 17.2**	**-0.1**
	2.1nm,0.3s,baz=229,slow=20,SNR=3.0						
DZM	**Mont Dzumac**	**21.13**	**145**	LR	LR	05 10 49.6	
	comp=Z,484nm,21.5s,baz=205,slow=31						
WRAB	**Tennant Creek**	**24.12**	**230**	eP	**P**	**05 04 59.5**	**+0.5**
	9.5nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**24.13**	**230**	P	**P**	**05 05 00.1**	**+0.9**
	3.7nm,0.6s,mb4.1,baz=53,slow=9.9,SNR=40						
ASAR	**Alice Springs**	**26.77**	**224**	P	**P**	**05 05 23.1**	**+0.1**
	1.2nm,0.6s,mb3.7,baz=54,slow=8.6,SNR=14						
FITZ	**Fitzroy Crossi**	**30.46**	**242**	P	**P**	**05 05 54.8**	**-0.9**
	2.4nm,0.5s,mb4.2,baz=87,slow=13,SNR=11						
SONM	**Songino Array**	**66.82**	**327**	LR	LR	05 38 47.3	
	comp=Z,55nm,19.6s,baz=101,slow=35						
MKAR	**Makanchi Array**	**80.93**	**319**	P	**P**	**05 11 55.2**	**+0.2**
	1.1nm,0.9s,mb3.5,baz=90,slow=5.8,SNR=5.2						
MKAR	**Makanchi Array**	**80.93**	**319**	P	**P**	**05 11 55.2**	**+0.2**
MAW	**Mawson**	**85.91**	**203**	P	**P**	**05 12 20.0**	**-0.6**
	1.3nm,0.7s,mb3.8,baz=121,slow=9.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**151.18**	**289**	PKPbc	PKPbc	05 19 33.1	+0.1
	0.5nm,0.3s,baz=76,slow=1.5,SNR=16						

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*CSEM **11** 05:04:22.3,2231S×179.18W,h33^{km},mb5.9*

*SZGRF **11** 05:05:20.6,2295S×17905W,h33^{km},South of Fiji Islands*

*MOS **11** 05:05:21.7±2.8,2206S×17965W,h586^{km},mb4.7/11, Error ellipse: s-maj=11.4km s-min=10.4km az=56.8*

*IDC **11** 05:05:21.2±0.8,2203S×17948W,h588^{km}±7^{km},mb4.1/16, mb1 4.2/20,mb1mx4.2/21,mbtmp5.0/20,Error ellipse: s-maj=11.8km s-min=9.7km az=168.0*

*ISCJB **11** 05:05:21.1±0.2,2225S±004×17955W±004,h603^{km}, mb4.8/53,Error ellipse: s-maj=5.3km s-min=4.7km az=67.8*

*BJI **11** 05:05:21.7,2159S×179.13W,h604^{km},mB4.9,mb4.8*

*NEIC **11** 05:05:22.6±0.2,22.11S×17955W,mb4.8/23,Error ellipse: s-maj=8.5km s-min=5.9km az=149.0*

*HRVD **11** 05:05:22.5±0.7,2165S×17962W,h625^{km}±5^{km},MW5.2/43, Centroid moment Tensor Solution. LP body waves: s43,c48; Half duration: 0 Moment tensor: Scale 10^{16} Nm; M_{rr}-4.15±.36; $M_{\theta\theta}$0.87±.71; $M_{\phi\phi}$3.28±.64; $M_{r\theta}$-0.47±.62; $M_{\theta\phi}$0.45±.58; $M_{\phi r}$-6.30±.52; Best double couple: $M_0$7.34800×10^{16} NP1:ϕ_s192.00000°,δ15.00000°, λ-83.00000°. NP2:ϕ_s5.00000°,δ75.00000°,λ-92.00000°. Principal axes: T 6.9440, Plg30.0000°, Azm97.0000°; N 0.8130, Plg2.0000°, Azm6.0000°; P -7.7530, Plg60.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s.*

ISC 11 05:05:22.5±0.2**,2225S**±004×**17952W**±004**,h604**^{km}**, h604**^{km}±2.7^{km}**:pP-P,n278,**σ**1**^{s}**03**/135**,mb4.8**/52**,18C-37D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.12**	**169**	P	**P**	**05 07 12.6**	**-1.1**
	164nm,0.3s,baz=91,slow=15,SNR=10						
RAO				S	**S**	**05 08 41.1**	**-3.7**
	59nm,0.3s,baz=261,slow=19,SNR=2.5						
RAO	**Raoul Island**	**7.12**	**169**	eP	**P**	**05 07 12.7**	**-1.0**
RAO				pmax	pmax		
	comp=Z,585nm,0.3s						
RAO	**Raoul Island**	**7.12**	**169**	eP	**P**	**05 07 12.7**	**-1.0**
	comp=Z,585nm,0.3s						
AFI	**Afiamalu**	**11.09**	**43**	P	**P**	**05 07 47.3**	**-4.7**
	comp=Z,8.0nm,0.3s,baz=193,slow=22,SNR=8.0						
AFI				S	**S**	**05 09 43.6**	**-11**
	comp=Z,3.6nm,0.3s,baz=194,slow=19,SNR=3.7						
DZM	**Mont Dzumac**	**13.01**	**268**	eP	**P**	**05 08 10.8**	**-0.5**
DZM	**Mont Dzumac**	**13.01**	**268**	P	**P**	**05 08 10.9**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=104,slow=14,SNR=21						
DZM				ScP	ScP	05 15 32.6	+3.6
	comp=Z,0.3nm,0.3s,baz=90,slow=7.3,SNR=5.5						
NOUC	**Port Laguerre**	**13.14**	**268**	eP	**P**	**05 08 12.5**	**-0.1**
PUZ	**Puketiti**	**15.89**	**186**	PN	**P**	**05 08 38.1**	**-0.4**
URZ	**Urewera**	**16.22**	**190**	P	**P**	**05 08 40.2**	**-1.4**
	comp=Z,4.9nm,0.3s,baz=357,slow=2.9,SNR=24						
URZ				S	**S**	**05 11 18.6**	**-5.1**
	comp=Z,4.0nm,0.3s,baz=53,slow=22,SNR=16						
MWZ	**Matawai**	**16.23**	**188**	PN	**P**	**05 08 40.1**	**-1.6**
RAR	**Rarotonga**	**18.38**	**90**	P	**P**	**05 09 01.3**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=278,slow=8.2,SNR=3.5						
CAW	**Cannon Point**	**19.35**	**192**	ePN	**P**	**05 09 09.0**	**-1.0**
TCW	**Tory Channel**	**19.62**	**194**	ePN	**P**	**05 09 12.1**	**-0.4**
QRZ	**Quartz Range**	**19.70**	**198**	PN	**P**	**05 09 14.0**	**+0.7**
NNZ	**Nelson**	**19.84**	**196**	PN	**P**	**05 09 14.1**	**-0.4**
NNZ				SN	**S**	**05 12 17.7**	**-4.2**
TUWZ	**Tuamarina**	**19.90**	**195**	ePN	**P**	**05 09 15.3**	**+0.2**
THZ	**Tophouse**	**20.47**	**196**	PN	**P**	**05 09 19.8**	**-0.4**
KHZ	**Kahutara**	**20.93**	**195**	PN	**P**	**05 09 23.3**	**-1.1**
LTZ	**Lake Taylor**	**21.59**	**197**	PN	**P**	**05 09 29.1**	**-1.1**
FOZ	**Fox Glacier**	**23.07**	**200**	PN	**P**	**05 09 42.1**	**-1.2**
HNR	**Honiara**	**23.47**	**300**	P	**P**	**05 09 41.4**	**-5.4**
	comp=Z,163nm,0.5s,mb5.9,baz=57,slow=2.9,SNR=10						
LBZ	**Lake Benmore**	**23.66**	**199**	PN	**P**	**05 09 47.4**	**-1.1**
ARMA	**Armidale**	**27.05**	**246**	eP	**P**	**05 10 20.2**	**+1.8**
TBI	**Tubuai**	**27.71**	**98**	eP	**P**	**05 10 24.9**	**+0.8**
	comp=Z,57nm,0.9s,mb5.2						
TBI				epP		05 11 57.5	
	comp=Z,22nm,0.7s						
PPT	**Papeete**	**28.51**	**86**	eP	**P**	**05 10 31.2**	**+0.2**
	comp=Z,9.6nm,0.5s,mb4.7						
TVO	**Taravao**	**28.76**	**87**	eP	**P**	**05 10 33.6**	**+0.4**
	comp=Z,30nm,0.5s,mb5.1						
CNB	**Canberra Magne**	**30.09**	**237**	eP	**P**	**05 10 46.7**	**+2.1**
	comp=Z,84nm,0.7s,mb5.5						
PMOR	**Pomariorio Ree**	**30.78**	**82**	eP	**P**	**05 10 50.4**	**-0.1**
	comp=Z,120nm,1.2s,mb5.4						
CTA	**Charters Tower**	**31.95**	**267**	eP	**P**	**05 11 00.4**	**-0.1**
	comp=Z,26nm,0.4s,mb5.2						
CTA				eSCP	ScP	05 16 22.0	+3.5
CTA	**Charters Tower**	**31.95**	**267**	P	**P**	**05 11 01.2**	**+0.7**
	comp=Z,36nm,0.4s,mb5.3,baz=91,slow=11,SNR=81						
CTA				ScP	ScP	05 16 21.8	+3.4
	comp=Z,12nm,0.9s,baz=70,slow=1.6,SNR=5.9						
CTA	**Charters Tower**	**31.95**	**267**	eP	**P**	**05 11 00.4**	**-0.1**
CTA				pmax	pmax		
	comp=Z,26nm,0.4s						
CTAO	**Charters Tower**	**31.95**	**267**	eP	**P**	**05 11 00.9**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,79nm,0.9s,mb5.3						
CTAO	**Charters Tower**	**31.95**	**267**	eP	**P**	**05 11 00.9**	**+0.4**
	comp=Z,79nm,0.9s,mb5.3						
TOO	**Toolangi**	**33.73**	**235**	eP	**P**	**05 11 17.0**	**+1.5**
	comp=Z,31nm,0.7s,mb5.0						
TOO	**Toolangi**	**33.73**	**235**	eP	**P**	**05 11 17.0**	**+1.5**
TOO				pmax	pmax		
	comp=Z,31nm,0.7s,mb5.0						
PMG	**Port Moresby**	**34.41**	**286**	P	**P**	**05 11 21.6**	**+0.5**
	comp=Z,78nm,0.9s,mb5.4,baz=116,slow=4.7,SNR=17						
PMG	**Port Moresby**	**34.41**	**286**	eP	**P**	**05 11 21.0**	**-0.1**
PMG				epP		05 12 60.0	
STKA	**Stephens Creek**	**35.77**	**246**⇓	iP	**P**	**05 11 33.3**	**+1.0**
	comp=Z,26nm,0.6s,mb4.9						
STKA				eSCP	ScP	05 16 35.2	+3.0
STKA	**Stephens Creek**	**35.77**	**246**	P	**P**	**05 11 33.6**	**+1.3**
	comp=Z,33nm,0.6s,mb5.1,baz=90,slow=9.1,SNR=75						
STKA				S	**S**	**05 16 28.0**	**+0.1**
	comp=Z,5.7nm,1.0s,baz=289,slow=18,SNR=3.1						
STKA				ScP	ScP	05 16 35.8	+3.7
	comp=Z,6.7nm,0.8s,baz=113,slow=7.8,SNR=4.4						
TAOE	**Nuku Hiva Isla**	**40.06**	**77**	eP	**P**	**05 12 06.7**	**-0.3**
	comp=Z,120nm,0.8s,mb5.5						
AS31	**Alice Springs**	**42.76**	**259**⇓	iP	**P**	**05 12 28.6**	**+0.3**
AS31				eS	**S**	**05 18 08.9**	**-0.7**
ASAR	**Alice Springs**	**42.77**	**259**	P	**P**	**05 12 28.7**	**+0.4**
	comp=Z,105nm,0.9s,mb5.4,baz=92,slow=8.2,SNR=514						
ASAR				PcP	PcP	05 14 06.0	+0.6
	comp=Z,10nm,0.8s,baz=110,slow=3.3,SNR=10						
ASAR				ScP	ScP	05 17 03.0	+3.5
	comp=Z,3.6nm,0.8s,baz=111,slow=4.0,SNR=8.1						
ASAR				S	**S**	**05 18 08.4**	**-1.2**
	comp=Z,12nm,0.9s,baz=96,slow=15,SNR=25						
ASAR	**Alice Springs**	**42.77**	**259**	P	**P**	**05 12 28.7**	**+0.4**
ASAR						05 14 06.0	
ASAR				S	**S**	**05 18 08.4**	**-1.2**
ASPA	**Alice Springs**	**42.77**	**259**⇓	iP	**P**	**05 12 28.6**	**+0.3**
ASPA				eS	**S**	**05 18 08.9**	**-0.8**
WB2	**Warramunga Arr**	**42.98**	**264**⇓	iP	**P**	**05 12 29.6**	**-0.3**
WB2				i SCP	ScP	05 17 04.1	+3.8
WB2				eS	**S**	**05 18 09.2**	**-3.4**
WRAB	**Tennant Creek**	**42.98**	**264**	eP	**P**	**05 12 29.4**	**-0.5**
WRAB				e*PP	pP	05 14 06.9	-7.9
WRA	**Warramunga Arr**	**42.99**	**264**	P	**P**	**05 12 29.7**	**-0.3**
	comp=Z,30nm,0.4s,mb5.2,baz=95,slow=8.1,SNR=362						
WRA				PcP	PcP	05 14 07.1	+0.9
	comp=Z,10nm,1.0s,baz=102,slow=3.9,SNR=7.5						
WRA				ScP	ScP	05 17 04.2	+3.8
	comp=Z,11nm,0.9s,baz=96,slow=4.3,SNR=15						
WRA				S	**S**	**05 18 10.8**	**-2.0**
	comp=Z,6.7nm,0.9s,baz=102,slow=14,SNR=12						
WRA	**Warramunga Arr**	**42.99**	**264**	P	**P**	**05 12 29.7**	**-0.3**
WRA						05 14 07.1	
WRA				S	**S**	**05 18 10.8**	**-2.0**
KAKA	**Kakadu**	**46.63**	**273**⇓	iP	**P**	**05 12 57.3**	**-0.5**

comp=Z,43nm,0.3s,mb5.5
FORT Forrest 47.32 248 ⇓*i*P P 05 13 02.8 -0.1
comp=Z,96nm,0.7s,mb5.4
FITZ Fitzroy Crossi 51.42 264 ⇓*i*P P 05 13 33.1 +0.2
comp=Z,66nm,1.1s,mb5.0
FITZ *e*S S 05 20 09.5 +0.8
FITZ Fitzroy Crossi 51.42 264 P P 05 13 33.4 +0.5
comp=Z,35nm,1.0s,mb4.8,baz=94,slow=4.7,SNR=32
FITZ S S 05 20 09.8 +1.1
comp=Z,3.4nm,1.0s,baz=276,slow=23,SNR=5.7
SBA Scott Base 56.05 183 *e*P P 05 14 08.4 +2.9
SBA *e**PP pP 05 16 03.6 +4.2
SBA pmax pmax
comp=Z,17nm,0.9s,mb4.3
SBA Scott Base 56.05 183 *e*P P 05 14 08.3 +2.9
comp=Z,17nm,0.9s,mb4.3
SBA *e*pP pP 05 16 03.6 +4.2
KLBR Kellerberrin 56.05 246 *e*P P 05 14 05.7 +0.2
comp=Z,87nm,0.9s,mb5.0
VNDA Vanda 56.05 185 P P 05 14 07.5 +1.9
comp=Z,5.1nm,0.7s,mb3.9,baz=356,slow=7.6,SNR=58
VNDA PcP PcP 05 14 55.0 +0.4
comp=Z,3.1nm,0.8s,baz=358,slow=6.5,SNR=3.9
VNDA Vanda 56.05 185 P P 05 14 07.5 +1.9
VNDA PcP PcP 05 14 55.0 +0.4
MBWA Marble Bar 56.11 259 *e*P P 05 14 06.0 +0.1
comp=Z,67nm,0.7s,mb5.0
NWAO Narrogin (SRO) 56.33 244 P P 05 14 08.2 +0.7
comp=Z,23nm,0.7s,mb4.5,baz=102,slow=9.8,SNR=13
MUN Mundaring 57.30 245 *e*P P 05 14 14.6 +0.6
CASY Casey 61.78 206 ⇓*i*P P 05 14 44.0 +0.3
QSPA South Pole Qui 67.83 180 ⇓*i*P P 05 15 23.1 +1.5
comp=Z,34nm,0.9s,mb4.8
MIR Mirnyy 68.81 205*d i*P P 05 15 29.5 +1.9
MIR pmax pmax
comp=Z,310nm,1.5s,mb5.5
MJAR Matsushiro Arr 70.80 325 P P 05 15 38.4 -0.9
comp=Z,12nm,0.7s,mb4.5,baz=161,slow=5.8,SNR=28
MAJO Matsushiro 70.80 325 *e*P P 05 15 38.4 -0.9
MAJO *e**PP pP 05 17 38.9 -2.5
MAJO pmax pmax
comp=Z,18nm,0.8s,mb4.7
MAJO Matsushiro 70.80 325 *e*P P 05 15 38.4 -0.9
comp=Z,18nm,0.8s,mb4.7
MAJO *e*pP pP 05 17 38.9 -2.6
MAT Matsushiro 70.80 325 P P 05 15 38.1 -1.2
MAT Matsushiro 70.80 325 *e*P P 05 15 38.0 -1.3
MAT pmax pmax
comp=Z,14nm,0.9s,mb4.5
MAT Matsushiro 70.80 325 *e*P P 05 15 38.0 -1.3
comp=Z,14nm,0.9s,mb4.5
KSM Kuching 72.27 279 *e*P P 05 15 48.2 +0.3
YHNB Yeheng 73.95 306 *e*P P 05 15 57.6 +0.2
ASAJ Asahikawa 74.60 333 P P 05 16 01.6 +0.5
comp=Z,18nm,0.8s,mb4.6,baz=223,slow=11,SNR=11
QZH Quanzhou 76.21 304 ⇑*i*P P 05 16 10.5 +0.6
QZH AMB AMB
comp=Z,80nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 76.84 335 P P 05 16 12.0 -1.4
YSS pmax pmax
comp=Z,30nm,1.0s,mb4.7
SSE Sheshan 77.74 311 *e*P P 05 16 19.2 +1.0
SSE AMB AMB
comp=Z,27nm,0.8s,mb4.7
SSE AMB AMB
comp=Z,116nm,4.5s
MAW Mawson 79.44 200 *e*P P 05 16 27.8 +0.5
comp=Z,9.4nm,0.7s,mb4.2
MAW Mawson 79.44 200 P P 05 16 28.2 +0.9
comp=Z,10nm,0.7s,mb4.3,baz=122,slow=7.7,SNR=22
MAW Mawson 79.44 200 *e*P P 05 16 27.8 +0.5
MAW pmax pmax
comp=Z,21nm,0.9s
MAW Mawson 79.44 200 *e*P P 05 16 27.8 +0.5
comp=Z,21nm,0.9s,mb4.5
NJ2 Nanjing 79.92 311 *e*P P 05 16 30.2 +0.4
NJ2 AP pP 05 18 37.8 +1.7
NJ2 XP sP 05 19 38.3 +1.0
NJ2 PP PP 05 19 45.4 +2.6
NJ2 S S 05 25 44.0 -0.8
NJ2 SKS 05 25 47.0
NJ2 AMB AMB
comp=Z,40nm,1.1s,mb4.7
NJ2 AMB AMB
comp=Z,160nm,3.8s
MDJ Mudanjiang 81.15 326 P P 05 16 35.5 -0.6
comp=Z,5.1nm,0.6s,mb4.1
MDJ AP pP 05 18 42.0 -1.0
MDJ XP sP 05 19 39.9 -4.1
MDJ PP PP 05 19 50.2 -2.5
MDJ S S 05 25 56.8 -0.4
MDJ XS sS 05 29 38.2 -5.0
MDJ AMB AMB
comp=Z,18nm,1.1s,mb4.4
MDJ AMB AMB
comp=Z,88nm,6.0s
MDJ Mudanjiang 81.15 326 *e*P P 05 16 35.3 -0.8
CMB Columbia Colle 81.70 43 *e*P P 05 16 39.0 +0.1
CMB *e**PP pP 05 18 47.8 +1.8
SNY Shenyang 82.65 321 ⇓P P 05 16 43.0 -0.7
SNY AMB AMB
comp=Z,23nm,0.9s,mb4.7
CN2 Changchun 82.83 323 *e*P P 05 16 44.0 -0.6
CN2 *e*AP pP 05 18 52.5 +0.3
CN2 *e*XP sP 05 19 52.0 -1.0
CN2 *e*S S 05 26 12.9 -1.0
CN2 AMB AMB
comp=Z,40nm,1.1s,mb4.9
NVAR Mina Array Bea 83.26 44 P P 05 16 47.1 +0.4
comp=Z,2.4nm,0.8s,mb3.8,baz=211,slow=6.8,SNR=15
KLR Kul'dur 83.32 330 *e*P P 05 16 43.8 -3.3
KLR pmax pmax
comp=Z,28nm,1.4s,mb4.6
TPNV Topopah Spring 83.77 46 *e*P P 05 16 49.8 +0.5
SYO Syowa Base 84.71 193 ⇑*e*P P 05 16 52.8 -1.1
SYO Syowa Base 84.71 193 ⇓*e*PcP PcP 05 16 55.0 -1.0
MA2 Magadan 85.10 345*ce*P P 05 16 54.3 -1.4
MA2 pmax pmax
comp=Z,30nm,0.9s,mb4.9
TUC Tucson 85.17 52 *e*P P 05 16 56.9 +0.8
TUC pmax pmax
comp=Z,2.0nm,0.9s,mb3.8
TUC Tucson 85.17 52 *e*P P 05 16 56.9 +0.8
comp=Z,2.4nm,0.9s,mb3.8
GNW Green Mountain 86.13 35 *e*P P 05 17 01.3 +0.6
BJT Baijiatuao 86.14 316 *e*P P 05 16 59.4 -1.3
BJT pmax pmax
comp=Z,7.0nm,0.6s
BJT Baijiatuao 86.14 316 *e*P P 05 16 59.4 -1.3
comp=Z,7.5nm,0.6s,mb4.5
GYA Guiyang 86.29 300 ⇓*i*P P 05 17 01.6 +0.2
GYA AP pP 05 19 11.0 +0.5
GYA XP sP 05 20 10.1 -0.8
GYA PP PP 05 20 34.4 +0.5
GYA SKS 05 26 29.3
GYA S 05 26 45.6
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
GYA AMB AMB
comp=Z,70nm,3.4s
SNAA Sanae 86.30 179 P P 05 16 59.4 -2.1
SNAA pmax pmax
comp=Z,2.0nm,0.6s
SNAA Sanae 86.30 179 P P 05 16 59.4 -2.1
comp=Z,2.0nm,0.6s,mb3.9
TTA Tatalina 86.91 11 *e*P P 05 17 02.1 -2.2
PMR Palmer 87.04 14 *e*P P 05 17 03.2 -1.7
PMR pmax pmax
comp=Z,15nm,0.8s,mb4.8
PMR Palmer 87.04 14 *e*P P 05 17 03.2 -1.7
comp=Z,15nm,0.8s,mb4.8
NST Nakhon Sawan 87.22 288 P P 05 17 07.4 +1.6
XAN Xi'an 88.08 308 P P 05 17 10.3 +0.5
XAN AMB AMB
comp=Z,28nm,1.0s,mb5.0
HLID Hailey 88.57 41 *e*P P 05 17 12.3 +0.2
comp=Z,1.9nm,0.8s,mb4.0
SRU San Rafael 88.75 47 *e*P P 05 17 13.6 +0.7
SRU *e**PP pP 05 19 24.9 +2.1
KMI Kunming 88.89 298 P P 05 17 15.3 +1.8
KMI AMB AMB
comp=Z,20nm,1.5s,mb4.7
PLCA Paso Flores 89.09 134 P P 05 17 16.1 +1.7
comp=Z,3.0nm,0.8s,mb4.2,baz=267,slow=8.5,SNR=5.8
CHRT Chiangrai 89.21 292 ⇑P P 05 17 16.5 +1.5
comp=Z,468nm,1.1s
HHC Hu-ho-hao-te 89.57 315 *e*P P 05 17 17.2 +0.5
HHC PP PP 05 20 59.7 +0.1
HHC SKS 05 26 50.3
HHC S 05 27 18.2
HHC XS sS 05 31 07.5 -2.1
HHC SS SS 05 33 34.9 +2.7
HHC AMB AMB
comp=Z,22nm,0.9s,mb5.0
HHC AMB AMB
comp=Z,178nm,5.5s
ANMO Albuquerque 89.59 52 *e*P P 05 17 17.8 +1.0
ANMO pmax pmax
comp=Z,3.0nm,1.1s
ANMO Albuquerque 89.59 52 *e*P P 05 17 17.8 +1.0
comp=Z,3.0nm,1.1s,mb4.0
DLBC Dease Lake 90.21 24 *e*P P 05 17 20.1 +0.4
COLA College 90.22 13 *e*P P 05 17 17.4 -2.3
COLA pmax pmax
comp=Z,12nm,1.1s,mb4.6
COLA College 90.22 13 *e*P P 05 17 17.4 -2.3
comp=Z,12nm,1.1s,mb4.6
CD2 Chengdu 90.55 303 P P 05 17 22.4 +1.2
PDAR Pinedale Array 91.20 44 P P 05 17 24.3 +0.1
comp=Z,0.7nm,0.8s,baz=245,slow=3.1,SNR=7.6
DAWY Dawson 91.53 16 *e*P P 05 17 24.7 -1.0
LZH Lanzhou 92.71 308 ⇓P P 05 17 31.8 +0.6
LZH AP pP 05 19 42.5 +0.8
LZH XP sP 05 20 41.7 +0.1
LZH PP PP 05 21 27.3 +3.3
YAK Yakutsk 93.21 339 *e*P P 05 17 31.3 -2.1
YAK pmax pmax
comp=Z,19nm,1.1s,mb5.0
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
CFAA Coronel Fontan 95.20 127 P P 05 17 43.2 +0.7
comp=E,0.1nm,0.6s,baz=274,slow=4.4,SNR=6.6
GTA Gaotai 96.99 310 *e*P P 05 17 50.9 +0.4
GTA AP pP 05 20 02.0 +0.6
GTA XP sP 05 21 01.7 +0.4
GTA SKS 05 27 29.5
GTA S 05 28 12.8
GTA AMB AMB
comp=Z,6.0nm,1.8s,mb4.5
GTA AMB AMB
comp=Z,92nm,5.7s
YKA Yellowknife Ar 98.69 25 P Pdif 05 17 56.6 -1.4
comp=Z,0.5nm,0.8s,baz=233,slow=4.6,SNR=4.8
MKAR Makanchi Array 111.36 313 Pdiff Pdif 05 18 53.0 -1.3
comp=Z,0.6nm,0.8s,baz=93,slow=5.8,SNR=2.9
MKAR PKiKP PKiKP 05 22 47.2 -1.6
comp=Z,0.8nm,0.4s,baz=128,slow=1.0,SNR=9.2
MKAR PKKPbc PKKPbc 05 33 44.8 -0.7
comp=Z,0.5nm,0.6s,baz=270,slow=4.4,SNR=3.9
MKAR PKKPab PKKPab 05 33 57.6 +0.1
comp=Z,0.5nm,0.7s,baz=287,slow=2.4,SNR=3.9
MKAR Makanchi Array 111.36 313 P Pdif 05 18 53.0 -1.4
MKAR 05 22 47.2
MKAR Makanchi Array 111.36 313 Pdif Pdif 05 18 53.0 -1.3
MKAR PKPdf PKiKP 05 22 47.2 -1.6
MKAR PKKPbc PKKPbc 05 33 44.8 -0.7
MKAR PKKPab PKKPab 05 33 57.6 +0.1
KURK Kurchatov 114.31 317 *e*PKiKP PKiKP 05 22 52.1 -2.4
CHKZ Chkalovo 119.33 320 *e*PKPdf PKPdf 05 23 01.9 -2.2
CHKZ *e*SKPdf SKPdf 05 25 42.1 -0.8
BVAR Borovoye Array 119.49 319 PKP PKPdf 05 23 02.8 -1.6
comp=Z,4.1nm,0.3s,baz=119,slow=2.6,SNR=28
BVAR SKP 05 25 43.2
comp=Z,1.7nm,0.7s,baz=79,slow=2.3,SNR=6.7
ZRNK Zerenda 120.33 319 *e*PKPdf PKPdf 05 23 04.1 -1.9
ZRNK *e*SKPdf SKPdf 05 25 44.5 -0.3
SCHQ Schefferville 120.92 38 PKP PKPdf 05 23 05.8 -1.4
comp=Z,1.8nm,0.8s,baz=180,slow=3.0,SNR=2.4
ARU Arti 125.81 324 *i* PKiKP PKPdf 05 23 12.9 -3.6
ARU Arti 125.81 324 *e*PKPdf PKPdf 05 23 15.1 -1.5
KEV Kevo 129.90 348 *e*p PKPdf 05 23 21.6 -2.7
KEV Kevo 129.90 348 *e*PKiKP PKPdf 05 23 18.3 -6.0
ARCES ARCESS Array B 130.36 349 PKhKP 05 23 11.7
comp=Z,1.9nm,0.9s,baz=54,slow=1.6,SNR=4.3
ARCES PKP PKPdf 05 23 22.9 -2.3
comp=Z,3.0nm,0.5s,baz=71,slow=1.6,SNR=32
ARCES SKPbc SKPbc 05 25 52.9 -0.2
comp=Z,14nm,0.9s,baz=46,slow=3.5,SNR=21
ARCES ARCESS Array B 130.36 349 PKP 05 23 11.7
ARCES PKP PKPdf 05 23 22.9 -2.3
ARCES SKPbc SKPbc 05 25 52.9 -0.2
LSZ Lusaka 133.87 218 *e*PKiKP PKPdf 05 23 30.5 -1.3
JOF Joensuu 134.33 341 *e*p PKPdf 05 23 31.0 -1.7
KAF Kangasniemi 136.41 343 *e*p PKPdf 05 23 35.2 -1.3
FINES FINESS Array B 137.02 342 PKhKP 05 23 25.8
comp=Z,1.5nm,0.7s,baz=35,slow=3.8,SNR=7.8
FINES PKP PKPdf 05 23 37.5 -0.2
comp=Z,1.6nm,0.4s,baz=96,slow=1.3,SNR=9.5
FINES SKPbc SKPbc 05 26 14.2 -0.4
comp=Z,3.8nm,0.8s,baz=48,slow=2.8,SNR=9.0
FINES FINESS Array B 137.02 342 PKHKP 05 23 25.8
FINES 05 23 37.5
FINES FINESS Array B 137.02 342 PKP 05 23 25.8
FINES PKP PKPdf 05 23 37.5 -0.2
FINES SKPbc SKPbc 05 26 14.2 -0.4
KMBO Kilima Mbogo 137.28 242 PKP PKPdf 05 23 39.2 +1.1
comp=Z,2.7nm,0.9s,baz=119,slow=2.3,SNR=5.7
KMBO SKP 05 26 18.4
comp=Z,6.0nm,0.9s,baz=59,slow=7.1,SNR=8.8
OBN Obninsk 137.58 330 *e*PKiKP PKPdf 05 23 39.6 +0.9
OBN pmax pmax
comp=Z,9.0nm,0.9s
NOA NORSAR Array B 140.52 352 PKhKP 05 23 36.5
comp=Z,4.0nm,0.9s,baz=15,slow=4.7,SNR=8.5
NOA PKP PKPdf 05 23 45.2 +1.2
comp=Z,1.2nm,0.6s,baz=13,slow=4.1,SNR=3.3
NOA SKP 05 26 22.5
comp=Z,5.6nm,0.8s,baz=14,slow=4.3,SNR=13
NOA NORSAR Array B 140.52 352 PKHKP 05 23 36.5
NOA 05 23 45.2
NOA NORSAR Array B 140.52 352 PKP 05 23 36.5
NOA PKP PKPdf 05 23 45.2 +1.1
NOA SKP 05 26 22.5
EZM Erzurum 141.20 307 *e*P PKPdf 05 23 42.3 -2.9
ANN Anapa 142.32 316 *i* PKHKP 05 23 43.0
ANN pmax pmax
comp=Z,89nm,1.3s
EZC Erzincan 142.39 307 *e*P PKPdf 05 23 46.2 -1.1
URFA Urfa 143.73 303 *e*P PKPdf 05 23 49.3 -0.4
AKASG Malin Array Be 143.81 329 PKP PKPdf 05 23 47.3 -2.5
comp=Z,9.9nm,0.3s,baz=40,slow=4.2,SNR=132
AKASG SKPbc SKPbc 05 26 31.7 -0.6
comp=Z,8.0nm,0.9s,baz=44,slow=2.4,SNR=16
MALT Malatya 143.82 305 ⇓*i*P PKPdf 05 23 49.9 +0.1
MALT Malatya 143.82 305 ⇓P PKPdf 05 23 49.9 +0.1
SUW Suwalki 143.93 337 *e*PKP PKPdf 05 23 48.2 -1.8
SIM Simferopol' 144.37 318 *i* PKiKP PKPdf 05 23 51.4 +0.6
SVSK Karacayir 144.41 308 *e*P PKPdf 05 23 51.2 +0.3
KVT Kavak 144.70 310 *e*P PKPdf 05 23 51.7 +0.3
DIKM Dikmen 145.04 312 *e*P PKPdf 05 23 52.0 0.0
BSD Bornholm Skovb 145.45 345 ⇓*i*P PKPdf 05 23 52.4 -0.2
comp=Z,49nm,0.8s
BSD *e* 05 25 33.4
BSD Bornholm Skovb 145.45 345 ⇓*i*PKiKP PKPdf 05 23 52.4 -0.2
BSD pmax pmax
comp=Z,49nm,0.8s
CORM Corum 146.03 310 *e*P PKPdf 05 23 56.5 +2.8
GKP Gorka Klasztor 146.49 342 *e*PKP PKPdf 05 23 56.1 +1.7
LVV L'vov 146.82 332 *e*PKiKP PKPdf 05 23 57.1 +2.2
BR131 Keskin Array S 146.91 309 *e*PKPdf PKPdf 05 23 55.9 +0.8
BRTR Keskin Array B 146.91 309 PKP PKPdf 05 23 54.0 -1.1
comp=Z,11nm,0.8s,baz=138,slow=3.7,SNR=51
BRTR PKPbc PKPbc 05 23 57.2 -0.9
comp=Z,11nm,0.8s,baz=134,slow=4.0,SNR=50
KAMT Kaman 146.99 309 *i* P PKPbc 05 23 58.4 0.0
MERS Mersin 147.20 304 *e*P PKPbc 05 23 58.7 -0.1
ANTO Ankara 147.45 310 *e*P PKPdf 05 23 58.9 +2.9
ANTO Ankara 147.45 310 ⇓*i*P PKPbc 05 23 59.3 -0.2
ANTO Ankara 147.45 310 ⇓PKiKP PKPbc 05 23 59.4 -0.1
ANTO Ankara 147.45 310 P PKPbc 05 23 59.7 +0.2
BSEG Bad Segeberg 147.49 349 *e*PKPbc PKPbc 05 23 58.9 -0.7
KWP Kalwaria 147.53 333 *e*PKP PKPdf 05 23 59.2 +3.1
BURAR Bucovina Array 147.83 328 ⇑*i*P PKPbc 05 24 00.7 +0.2
BURAR Bucovina Array 147.83 328 ⇑P PKPbc 05 24 00.7 +0.2
CFR Carcaliu 147.84 322 ⇓*i*P PKPbc 05 24 00.5 0.0
DMUB Kingscourt 147.90 8 *e*P PKPdf 05 23 59.0 +2.3
IKL Isikli 148.02 303 *e*P PKPdf 05 24 00.1 +3.1
VRI Vrincioaia 148.20 324 ⇑*i*P PKPbc 05 24 01.2 -0.2
VRI Vrincioaia 148.20 324 ⇑P PKPbc 05 24 01.2 -0.2
OJC Ojcow 148.23 336 *e*PKP PKPbc 05 24 00.5 -1.0
HARR Harsova 148.24 321 ⇓*i*P PKPbc 05 24 01.2 -0.3
HARR Harsova 148.24 321 ⇓P PKPbc 05 24 01.2 -0.3
KOLS Kolonicke sedl 148.24 332 *e*PKP PKPbc 05 24 01.0 -0.5
DCN Croghan 148.40 9 *e*P PKPdf 05 24 00.3 +2.8
KIZT Kizilcal 148.49 309 *i* P PKPbc 05 24 01.5 -0.7
DLF Lyons Farm 148.54 8 *e*P PKPdf 05 24 00.5 +2.7
CRVS Cervenica-Dubn 148.61 333 *e*PKP PKPbc 05 24 01.9 -0.5
CSS Prodhromos 148.65 301 *e*PKPbc PKPbc 05 24 01.8 -0.7
CSS *e*PKPab PKPab 05 24 09.0 +0.3
NIE Niedzica 148.67 335 *e*PKPdf PKPbc 05 24 02.7 +0.1
MLR Muntele Rosu 148.86 324 ⇑*i*P PKPbc 05 24 02.6 -0.4
MLR Muntele Rosu 148.86 324 P PKPbc 05 24 02.5 -0.6
KSP Ksiaz 148.90 340 *e*PKP PKPbc 05 24 02.8 -0.3
KSP Ksiaz 148.90 340 ⇓*i*PKP PKPbc 05 24 02.7 -0.4
KSP *e* 05 24 09.4
HRT Hereke 149.20 314 *e*P PKPdf 05 24 02.0 +3.2
UPC Upice 149.28 340 *e*PKPbc PKPbc 05 24 03.6 -0.4
DPC Dobruska-Polom 149.32 340 *e*PKPbc PKPbc 05 24 03.9 -0.2
KECS Kecovo 149.34 333 *e*PKP PKPbc 05 24 03.5 -0.7
KECS *e* 05 24 10.6
VOIR 149.38 325 ⇑*i*P PKPdf 05 24 03.2 +4.1
VOIR 149.38 325 ⇑P PKPdf 05 24 03.2 +4.1
CLL Collm 149.40 344 ⇓*i*PKPbc PKPbc 05 24 03.6 -0.7
comp=Z,70nm,0.9s
CLL *e*PKPab PKPab 05 24 10.5 -1.3
CLL *ep*PKPbc pPKPbc 05 26 24.1 +1.7
CLL Collm 149.40 344 ⇓*i*PKPbc PKPbc 05 24 03.6 -0.7
comp=Z,69nm,0.9s
CLL ⇑*i*PKPab PKPab 05 24 10.4 -1.4
comp=Z,30nm,1.0s
CLL *i* x x 05 24 18.4
CLL *ep*PKPbc pPKPbc 05 26 24.0 +1.6
CLL Collm 149.40 344 ⇓*i*PKHKP 05 24 03.6
CLL *e* 05 24 10.0
CLL pmax pmax
comp=Z,69nm,0.9s
CLL pmax pmax
comp=Z,30nm,1.0s
CLL Collm 149.40 344 ⇓*i*PKP PKPbc 05 24 03.6 -0.7
CLL ⇑*e*PKP PKPab 05 24 10.0 -1.8
CLL *ep*PKP pPKPbc 05 26 24.0 +1.6
MORC Moravsky Berou 149.41 338 ⇑*i*P PKPbc 05 24 04.0 -0.3
MORC Moravsky Berou 149.41 338 P PKPbc 05 24 04.2 -0.2
IBBN Ibbenburen 149.47 351 *e*PKPbc PKPbc 05 24 03.6 -0.9
IBBN *e*PKPab PKPab 05 24 10.9 -1.2
CLZ Clausthal 149.48 348 *e*PKPdf PKPdf 05 23 58.8 -0.4
CLZ *e*PKPbc PKPbc 05 24 04.1 -0.4
BRG Berggiesshubel 149.55 343 *e*PKPdf PKPdf 05 23 58.8 -0.6
BRG *e*PKPbc PKPbc 05 24 04.1 -0.6
BRG *e*PKPab PKPab 05 24 11.9 -0.5
BRG Berggiesshubel 149.55 343 *e*PKP PKPdf 05 23 59.6 +0.2
comp=Z,5.3nm,1.4s
BRG *ep*PKP pPKPdf 05 26 16.6 -2.5
comp=Z,2.1nm,0.8s
BRG Berggiesshubel 149.55 343 *e*PKIKP PKPdf 05 23 59.6 +0.2
BRG *e* 05 26 16.6
BRG pmax pmax
comp=Z,5.0nm,1.4s
BRG pmax pmax
comp=Z,2.0nm,0.8s
DRGR 149.63 329 ⇓*i*P PKPbc 05 24 04.8 -0.1
DRGR 149.63 329 P PKPbc 05 24 04.3 -0.6
PVCC Panska Ves 149.69 342 *e*PKPbc PKPbc 05 24 04.6 -0.4
WTSB Winterswijk 149.94 352 ⇓*i*P PKPbc 05 24 04.6 -0.9
comp=Z,70nm,0.9s
VYHS Vyhne 150.00 335 *i* PKP PKPbc 05 24 04.9 -0.8
VYHS *i* 05 24 13.5
PSZ Piszkesteto 150.03 333 ⇓*e*PKP PKPbc 05 24 05.1 -0.7
PSZ Piszkesteto 150.03 333 P PKPbc 05 24 05.4 -0.4
VRAC Vranov 150.13 339 ⇓*i*P PKPbc 05 24 05.5 -0.5
VRAC Vranov 150.13 339 P PKPbc 05 24 05.8 -0.2
PRU Pruhonice 150.18 342 *e*PKPbc PKPbc 05 24 05.5 -0.7
PRU *e*PKPab PKPab 05 24 14.0 -1.0
MOX Moxa 150.35 346 *e*PKPbc PKPbc 05 24 05.8 -0.7
MOX *e*PKPab PKPab 05 24 14.5 -1.2
MOX Moxa 150.35 346 *e*PKP PKPbc 05 24 05.7 -0.8
comp=Z,36nm,1.3s
MOX *e* 05 24 14.5
MOX Moxa 150.35 346 *e*PKIKP PKPbc 05 24 05.7 -0.8
MOX *e* 05 24 14.5
MOX pmax pmax
comp=Z,36nm,1.3s
TANN Tannenbergstha 150.36 344 *e*PKPbc PKPbc 05 24 06.0 -0.6
TANN *e*PKPab PKPab 05 24 14.6 -1.2
BUG Bochum--Univer 150.39 351 *e*PKPbc PKPbc 05 24 05.8 -0.8
BUG *e*PKPab PKPab 05 24 15.0 -0.9
TREC Trest 150.51 340 *e*PKPbc PKPbc 05 24 06.0 -0.9
TREC *e*PKPab PKPab 05 24 15.9 -0.5
NKC Novy Kostel 150.53 344 *e*PKPbc PKPbc 05 24 06.4 -0.6
NKC *e*PKPab PKPab 05 24 15.6 -0.9
UBBA Unterbreizbach 150.53 348 *e*PKPbc PKPbc 05 24 06.2 -0.8
UBBA *e*PKPab PKPab 05 24 14.9 -1.6
GZR Gura Zlata 150.59 327 ⇓*i*P PKPbc 05 24 06.3 -0.8
GZR Gura Zlata 150.59 327 ⇓P PKPbc 05 24 06.3 -0.8
MANZ Manzenberg 150.84 345 *e*PKPdf PKPdf 05 24 00.7 -0.6
MANZ *e*PKPbc PKPbc 05 24 07.4 -0.3
BZS Buzias 151.00 329 ⇑*i*P PKPbc 05 24 07.2 -0.8
BZS Buzias 151.00 329 P PKPbc 05 24 07.3 -0.7
ROTZ Rotzenmuhle 151.02 344 *e*PKPbc PKPbc 05 24 07.5 -0.6
ROTZ *e*PKPab PKPab 05 24 18.2 -0.4
HGN Heimansgroeve 151.22 353 ⇓*e*P PKPbc 05 24 07.4 -1.1
comp=Z,14nm,1.1s
KHC Kasperske Hory 151.23 342 *e*PKPbc PKPbc 05 24 07.9 -0.6
KHC *e*PKPab PKPab 05 24 19.1 -0.4
GRA1 Grafenberg Arr 151.33 345 *e*PKPbc PKPbc 05 24 08.3 -0.5
GRA1 *e*PKPab PKPab 05 24 19.3 -0.6
GRF Grafenberg Arr 151.33 345 *e*PKPbc PKPbc 05 24 08.3 -0.5
GRF *e*PKPab PKPab 05 24 19.3 -0.6
UCC Uccle 151.34 355 PKPbc PKPbc 05 24 08.3 -0.5
GEC2 GERESS Array S 151.45 342 *e*PKPbc PKPbc 05 24 08.3 -0.7
GEC2 *e*PKPab PKPab 05 24 19.7 -0.7
GERES GERESS Array B 151.45 342 PKPbc PKPbc 05 24 08.2 -0.8
comp=Z,3.2nm,0.4s,baz=64,slow=3.1,SNR=32
GERES PKPab PKPab 05 24 20.2 -0.2
comp=Z,3.4nm,0.7s,baz=26,slow=3.4,SNR=7.8
CONA Conrad Observa 151.56 338 ⇓*i*PKiKP PKiKP 05 24 08.8 -0.8
comp=Z,20nm,1.0s
SNF Seneffe 151.64 355 PKPbc PKPbc 05 24 08.9 -0.6
SNF PKPab PKPab 05 24 19.7 -1.5
PKSM Moragy 151.91 333 ⇑*i*P PKPbc 05 24 09.2 -0.9
PKSM Moragy 151.91 333 P PKPbc 05 24 09.1 -0.9
MOA Molln 152.16 340 ⇑*i*P PKPbc 05 24 10.0 -0.6
comp=Z,8.4nm,1.0s
WLF Walferdange 152.28 352 *e*PKPbc PKPbc 05 24 10.6 -0.3
WLF *e*PKPab PKPab 05 24 23.1 -0.8
WLF Walferdange 152.28 352 PKPbc PKPbc 05 24 10.7 -0.2
KBA Koelnbreinsper 153.14 340 ⇑*i*P PKPbc 05 24 11.8 -1.0
comp=Z,6.9nm,1.0s
BFO Black Forest 153.23 348 *e*PKPbc PKPbc 05 24 12.0 -0.9
BFO *e*PKPab PKPab 05 24 26.6 -1.4
BFO Black Forest 153.23 348 *e*PKP2 PKPab 05 24 26.6 -1.4
CDF Champ du Feu 153.34 350 *e*PKIKP PKPdf 05 24 03.7 -1.3
WTTA Wattenberg 153.47 343 ⇓*i*P PKPbc 05 24 12.5 -0.9
comp=Z,9.9nm,1.0s
LJU Ljubljana 153.65 338 *e*PKPdf PKPdf 05 24 04.4 -1.1
LJU *i* PKPab PKPbc 05 24 13.0 -0.9
LOR Lormes 154.89 355 *e*PKIKP PKPdf 05 24 06.1 -1.0
comp=Z,5.2nm,0.5s
SSF Saint Saulge 155.12 355 *e*PKIKP PKPdf 05 24 06.6 -0.8
comp=Z,3.9nm,0.7s
CABF La Chapelle 155.27 351 *e*PKIKP PKPdf 05 24 06.9 -0.7
comp=Z,3.3nm,0.5s
AVF Avril sur Loir 155.41 355 *e*PKIKP PKPdf 05 24 06.5 -1.3
comp=Z,4.1nm,0.8s
SMF Signal de Mont 155.51 354 *e*PKIKP PKPdf 05 24 06.9 -1.1
BGF Bois d'Agland 155.67 356 *e*PKIKP PKPdf 05 24 07.4 -0.8
comp=Z,40nm,1.4s
MFF Saint Martin d 155.70 1 *e*PKIKP PKPdf 05 24 07.2 -1.0
TCF Toulx Ste Croi 155.98 357 *e*PKIKP PKPdf 05 24 07.7 -0.9
comp=Z,8.3nm,0.9s
LPL La Plagne 156.23 349 *e*PKIKP PKPdf 05 24 08.5 -0.4
LPG La Plagne 156.25 349 *e*PKIKP PKPdf 05 24 08.6 -0.3
RJF Les Rejaudoux 156.99 358 *e*PKIKP PKPdf 05 24 08.9 -1.0
comp=Z,16nm,1.0s
SMRF Simiane la Rot 157.93 350 *e*PKIKP PKPdf 05 24 10.5 -0.5
LASF Ste Croix 158.05 353 *e*PKIKP PKPdf 05 24 10.7 -0.5
comp=Z,8.0nm,0.8s
LMR La Mourre 158.38 348 *e*PKIKP PKPdf 05 24 10.3 -1.2
PGF Pioggiola 158.54 343 *e*PKIKP PKPdf 05 24 11.3 -0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,24nm,1.1s						
MTLF	Montolieu	158.92	356	ePKIKP	PKPdf	05 24 11.2	-1.0
	comp=Z,26nm,1.4s						
ESDC	Sonseca Array	162.22	11	PKPab	PKPab	05 25 05.6	-1.5
	comp=Z,1.1nm,0.7s,baz=344,slow=5.8,SNR=8.1						
DBIC	Dimbokro	163.68	161	PKP	PKPdf	05 24 17.1	0.0
	comp=Z,2.8nm,0.7s,baz=122,slow=4.4,SNR=3.8						
DBIC				PKPab	PKPab	05 25 14.3	+0.8
	comp=Z,2.8nm,0.6s,baz=180,slow=13,SNR=5.9						
DBIC	Dimbokro	163.68	161	PKP	PKPdf	05 24 17.1	0.0
DBIC				PKPab	PKPab	05 25 14.3	+0.8
TORD	Torodi Ar. Bea	170.88	187	PKP	PKPdf	05 24 21.4	-0.8
	comp=Z,3.6nm,0.9s,baz=289,slow=0.7,SNR=18						
TORD				PKPab	PKPab	05 25 46.0	+0.6
	comp=Z,4.3nm,0.8s,baz=179,slow=3.8,SNR=18						
TORD				PP	PP	05 29 35.7	-1.3
	comp=Z,2.0nm,1.1s,baz=165,slow=4.8,SNR=4.2						
TORD	Torodi Ar. Bea	170.88	187	PKP	PKPdf	05 24 21.4	-0.8
TORD				PKPab	PKPab	05 25 46.0	+0.6
TORD				PP	PP	05 29 35.7	-1.3

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*IDC **11** 05:25:01.3±2.4, 539S×15101E, h0^{km}, mb4.2/5, mb1 4.4/6, mb1mx4.1/14, mbtmp4.3/6, ML3.3/1, MS3.9/5, Ms1 3.9/5, ms1mx3.5/17, Error ellipse: s-maj=68.3km s-min=26.4km az=105.0*

*NEIC **11** 05:25:07.0±1.1, 534S×15081E, h35^{km}, mb4.6/6, Error ellipse: s-maj=22.6km s-min=13.9km az=99.0*

*ISCJB **11** 05:25:08.4±4.3, 54S±02×1507E±02, h58^{km}±31^{km}, mb4.4/8, MS3.8/4, Error ellipse: s-maj=41.3km s-min=27.1km az=137.8*

ISC 11 05:25:10.4±4.0, **55S**±02×**1507E**±02, **h55**^{km}±28^{km}, **n17**, σ**0^{s}62**/13, **mb4.4**/8, **MS3.8**/4, **New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.25	221	Pn	Pn	05 26 26.7	+0.5
	5.9nm,0.3s,baz=37,slow=8.4,SNR=15						
CTA	Charters Tower	15.17	196	LR	LR	05 33 54.1	
	comp=Z,418nm,20.9s,baz=17,slow=35						
CTAO	Charters Tower	15.17	196	Pn	Pn	05 28 40.7	-0.5
	42nm,1.7s						
KAKA	Kakadu	19.37	247	eP	Pn	05 29 31.8	-1.3
	7.0nm,0.5s						
WRAB	Tennant Creek	21.42	226	eP	P	05 29 54.3	+0.5
	12nm,0.6s,mb4.4						
WB2	Warramunga Arr	21.43	226	eP	P	05 29 54.0	+0.2
WRA	Warramunga Arr	21.44	226	P	P	05 29 54.3	+0.4
	5.3nm,0.6s,mb4.0,baz=52,slow=10,SNR=23						
DZM	Mont Dzumac	22.50	139	LR	LR	05 37 44.3	
	comp=Z,508nm,18.5s,MS4.0,baz=204,slow=34						
ASAR	Alice Springs	24.26	220	P	P	05 30 23.1	+0.9
	4.3nm,0.8s,mb3.9,baz=56,slow=8.7,SNR=18						
FITZ	Fitzroy Crossi	27.48	241	eP	P	05 30 51.5	+0.1
	19nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	27.48	241	P	P	05 30 51.8	+0.4
	9.2nm,0.7s,mb4.4,baz=113,slow=10.0,SNR=34						
FITZ				LR	LR	05 41 54.6	
	comp=Z,104nm,18.1s,MS3.5,baz=76,slow=36						
STKA	Stephens Creek	27.63	197	P	P	05 30 51.8	-0.9
	2.5nm,0.7s,mb4.0,baz=27,slow=18,SNR=3.8						
STKA				LR	LR	05 41 56.7	
	comp=Z,341nm,19.9s,MS3.9,baz=21,slow=36						
MBWA	Marble Bar	33.80	240	eP	P	05 31 46.5	-0.5
	15nm,0.9s,mb4.9						
TAU	Tasmania Unive	37.42	184	P	P	05 32 18.3	+0.1
	91nm,1.1s,mb5.5						
SONM	Songino Array	65.75	329	P	P	05 35 49.6	+0.2
	0.5nm,0.6s,mb3.7,baz=162,slow=5.7,SNR=4.6						
ZAL	Zalesovo	80.52	327	LR	LR	06 15 55.1	
	comp=Z,51nm,18.5s,MS3.9,baz=149,slow=38						
TORD	Torodi Ar. Bea	148.46	286	PKPbc	PKPbc	05 44 50.8	0.0
	1.0nm,0.8s,baz=64,slow=3.4,SNR=5.8						

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*ISCJB **11** 05:40:24.9±0.9, 3566N±006×223E±0.1, h2^{km}, Error ellipse: s-maj=17.9km s-min=6.9km az=150.0*

*CSEM **11** 05:40:25.0±0.2, 3561N×2228E, h2^{km}, MD3.3, Error ellipse: s-maj=7.7km s-min=2.9km az=85.0*

*NEIC **11** 05:40:29.0, 3584N×2250E, h35^{km}, MD3.3(ATH), After ATH.*

*HLW **11** 05:40:29.8, 3562N×2221E, h33^{km}, Mb3.6*

*ATH **11** 05:40:29.0, 3584N×2250E, h35^{km}±7^{km}, MD3.3/6*

ISC 11 05:40:27.8±3.1, **3575N**±008×**224E**±02, **h11**^{km}±21^{km}, **n12**, σ**0^{s}52**/14, **3D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.72	42	ePN	Pg	05 40 41.8	0.0
VLI	Veliai	1.05	23	ePN	Pn	05 40 47.5	-0.9
VAM	Vamos	1.48	103	ePN	Pn	05 40 54.9	+0.6
ITM	Ithomi	1.49	344	ePN	Pn	05 40 54.2	-0.2
RLS	Riolos of Patr	2.43	342	ePN	Pn	05 41 07.6	+0.2
LKR	Lokris	2.94	9	ePN	Pn	05 41 13.9	-0.4
EVR	Evrytania	3.20	351	ePN	Pn	05 41 19.0	+1.0
EVR	Evrytania	3.20	351	ePn	Pn	05 41 19.1	+1.1
SLUM		4.84	151	⇓P	Pn	05 41 40.2	-0.2
HMAT	Matruh	6.06	139	P	Pn	05 41 57.8	+0.5
SWA2		6.97	158	⇓P	Pn	05 42 09.4	-0.4
SWA2				S	Sn	05 43 22.1	-6.8
SWA1		7.03	156	⇓P	Pn	05 42 10.3	-0.2
SWA1				S	Sn	05 43 24.0	-6.5

IDC 11 05:59:06.8±3.1, **1647S**×**17371W**, **h56**^{km}±36^{km}, **mb3.8**/4, **mb1 4.0**/5, **mb1mx3.7**/14, **mbtmp4.1**/5, **ML2.3**/1, **Error ellipse: s-maj=49.5km s-min=19.9km az=127.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.15	36	P	Pn	05 59 56.0	+2.1
	22nm,0.3s,baz=211,slow=3.4,SNR=22						
AFI				S	Sn	06 00 30.6	+0.3
	92nm,0.3s,baz=261,slow=22,SNR=15						
URZ	Urewera	23.16	199	P	P	06 04 08.2	-0.3
	6.7nm,0.5s,baz=70,slow=4.0,SNR=11						
WRA	Warramunga Arr	49.32	258	P	P	06 07 50.6	+0.3
	0.3nm,0.5s,baz=95,slow=6.9,SNR=11						
ASAR	Alice Springs	49.51	253	P	P	06 07 52.0	+0.3
	5.5nm,0.6s,baz=88,slow=8.4,SNR=80						
PDAR	Pinedale Array	83.25	42	P	P	06 11 28.1	+0.9
	0.2nm,0.8s,baz=172,slow=1.4,SNR=4.2						

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*ISCJB **11** 06:18:42.1±1.2, 307N±007×1226E±0.1, h539^{km}±18^{km}, mb4.3/16, Error ellipse: s-maj=20.8km s-min=9.2km az=136.7*

*NEIC **11** 06:18:43.0±0.9, 308N×12258E, h534^{km}±12^{km}, mb4.6/9, Error ellipse: s-maj=16.4km s-min=6.3km az=64.0*

*IDC **11** 06:18:47.0±2.1, 305N×12280E, h584^{km}±29^{km}, mb3.4/10, mb1 3.5/10, mb1mx3.3/18, mbtmp4.4/10, Error ellipse: s-maj=25.7km s-min=9.0km az=77.0*

ISC 11 06:18:43.3±1.1, **308N**±007×**1226E**±01, **h537**^{km}±17^{km}, **n25**, σ**0^{s}60**/26, **mb4.3**/16, **Celebes Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	6.99	295	ePn	P	06 20 30.1	-0.6
KSM	Kuching	12.37	263	ePn	P	06 21 25.9	+0.3
KAKA	Kakadu	18.50	148	eP	P	06 22 26.4	+0.2
	20nm,0.6s						
FITZ	Fitzroy Crossi	21.26	172	eP	P	06 22 51.4	+0.1
	4.4nm,0.2s,mb4.7						
FITZ	Fitzroy Crossi	21.26	172	P	P	06 22 51.6	+0.3
	4.3nm,0.4s,mb4.4,baz=7.6,slow=6.8,SNR=91						
MBWA	Marble Bar	24.25	186	eP	P	06 23 17.4	-0.5
	4.3nm,0.5s,mb4.3						
WRAB	Tennant Creek	25.63	154	eP	P	06 23 29.8	-0.4
	11nm,0.3s,mb5.0						
WRA	Warramunga Arr	25.63	154	P	P	06 23 30.0	-0.2
	5.5nm,0.3s,mb4.6,baz=336,slow=9.6,SNR=118						
WRA				S	S	06 27 16.2	-4.3
	1.0nm,0.7s,baz=338,slow=16,SNR=3.7						
WB2	Warramunga Arr	25.64	154	eP	P	06 23 29.5	-0.7
AS31	Alice Springs	28.78	158	eP	P	06 23 57.6	-0.2
ASPA	Alice Springs	28.78	158	eP	P	06 23 57.6	-0.2
ASAR	Alice Springs	28.78	158	P	P	06 23 58.4	+0.6
	2.3nm,0.5s,mb4.1,baz=335,slow=7.1,SNR=41						
ASAR				S	S	06 28 09.0	-0.8
	0.5nm,0.6s,baz=351,slow=21,SNR=5.1						
CBIJ	Chichi jima	30.37	36	P	P	06 24 11.5	0.0
	18nm,0.3s,mb5.1,baz=285,slow=19,SNR=5.3						
FORT	Forrest	34.07	172	eP	P	06 24 43.5	+0.5
	13nm,0.4s,mb4.8						
KLBR	Kellerberrin	34.78	187	eP	P	06 24 48.8	-0.1
	123nm,1.8s,mb5.1						
NWAO	Narrogin (SRO)	36.17	188	P	P	06 25 00.9	+0.5
	14nm,0.8s,mb4.5,baz=30,slow=8.1,SNR=4.5						
MJAR	Matsushiro Arr	36.28	22	P	P	06 25 01.6	+0.2
	2.2nm,0.4s,mb4.0,baz=191,slow=7.8,SNR=6.8						
STKA	Stephens Creek	39.18	154	eP	P	06 25 26.3	+1.3
	3.2nm,0.8s,mb3.9						
STKA	Stephens Creek	39.18	154	P	P	06 25 26.4	+1.4
	2.4nm,0.4s,mb4.1,baz=328,slow=5.3,SNR=12						
MKAR	Makanchi Array	55.80	328	P	P	06 27 30.7	+1.2
	0.6nm,0.3s,mb3.2,baz=125,slow=8.5,SNR=11						
KURK	Kurchatov	60.12	329	eP	P	06 27 59.1	+0.3
	1.2nm,0.4s,mb3.6						
ZRNK	Zerenda	66.34	328	eP	P	06 28 38.9	+0.2
	0.8nm,0.3s,mb3.7						
ARCES	ARCESS Array B	89.61	340	P	P	06 30 42.8	-0.9
	1.3nm,0.8s,mb3.8,baz=7.6,slow=3.7,SNR=3.6						
FINES	FINESS Array B	90.43	331	P	P	06 30 46.4	-1.1
	0.8nm,0.7s,mb3.6,baz=45,slow=6.1,SNR=3.3						
TORD	Torodi Ar. Bea	119.16	287	PKP	PKPdf	06 36 32.2	+1.0
	0.2nm,0.3s,baz=63,slow=1.4,SNR=8.1						

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*NIED **11** 06:36:00, 3490N×13750E, h300^{km}, Mw3.7 Best double couple: M$_0$3.79000×10^{14} NP1:φ$_s$73.00000°, δ84.00000°, λ-59.00000°. NP2:φ$_s$173.00000°, δ31.00000°, λ-168.00000°.*

*JMA **11** 06:36:35.9±0.2, 3490N×13748E, h301^{km}±2^{km}, M3.5*

*ISCJB **11** 06:36:36.5±0.4, 3489N±007×13751E±005, h291^{km}±3^{km}, mb3.3/8, Error ellipse: s-maj=11.0km s-min=6.8km az=165.4*

*IDC **11** 06:36:37.4±0.8, 3491N×13736E, h287^{km}±6^{km}, mb3.1/8, mb1 3.3/9, mb1mx3.2/22, mbtmp3.7/9, Error ellipse: s-maj=20.8km s-min=10.0km az=72.0*

ISC 11 06:36:37.3±0.4, **3489N**±007×**13752E**±005, **h286**^{km}±3^{km}, **n32**, σ**0^{s}71**/44, **mb3.3**/8, **Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HMMJ	Hamamatsu 2	0.17	102	P	Pn	06 37 14.3	+0.5
JHMK	Hamakita	0.21	111	P	Pn	06 37 14.1	+0.3
JAO	Obara	0.43	330	P	Pn	06 37 14.6	+0.4
JNY	Yasuok	0.54	31	P	Pn	06 37 15.0	+0.6
JNY				S	S	06 37 45.6	+1.7
JIE	Ise	0.84	234	P	Pn	06 37 15.7	+0.2
JEG	Eigenji	0.96	285	P	Pn	06 37 16.2	+0.2
JEG				S	S	06 37 46.4	-0.3
JYN	Shimob	1.03	54	P	Pn	06 37 17.0	+0.7
JGM	Miyama	1.04	321	P	Pn	06 37 16.6	+0.2
JGM				S	S	06 37 47.3	-0.1
JKN2	Miekihoku	1.22	238	P	Pn	06 37 17.4	+0.1
JRY	Ryogami san	1.59	45	P	Pn	06 37 20.7	+1.0
JHU	Hanno	1.73	56	P	Pn	06 37 21.2	+0.5
JHU				S	S	06 37 55.4	+0.3
MAT	Matsushiro	1.74	18	P	Pn	06 37 21.0	+0.2
MAT				S	S	06 37 54.8	-0.5
MJAR	Matsushiro Arr	1.74	19	P	Pn	06 37 21.3	+0.5
	2.3nm,0.3s,baz=199,slow=9.1,SNR=15						
MJAR				S	S	06 37 55.4	+0.1
	0.9nm,0.3s,baz=192,slow=39,SNR=6.9						
JWT	Wachi	1.78	283	P	Pn	06 37 21.0	-0.1
JWT				S	S	06 37 54.5	-1.4
JWZ	Kozaga	2.02	228	P	Pn	06 37 22.8	-0.2
JAG	Ashikaga	2.19	45	P	Pn	06 37 24.0	-0.5
JAG				S	S	06 38 00.7	-1.2
BSO4	Boso 4	2.31	87	P	Pn	06 37 25.9	+0.4
BSO4				S	S	06 38 04.0	+0.1
BSO3	Boso 3	2.46	91	P	Pn	06 37 26.6	-0.2
BSO3				S	S	06 38 05.6	-0.6
JYT	Yasato	2.55	58	P	Pn	06 37 27.2	-0.5
JHJ	Hachijo jima 2	2.58	133	P	Pn	06 37 28.8	+0.8
	13nm,0.3s,baz=264,slow=19,SNR=5.6						
JHJ				S	S	06 38 12.6	+4.3
	16nm,0.3s,baz=253,slow=24,SNR=9.6						
JAI	Aioi	2.77	248	P	Pn	06 37 29.1	-0.7
BSO1	Boso 1	2.85	94	P	Pn	06 37 29.7	-0.9
BSO1				S	S	06 38 12.1	-1.0
JHO	Hitachi	3.01	54	P	Pn	06 37 31.8	-0.4
JFK	Kawauchi	3.67	47	P	Pn	06 37 38.6	-0.5
SONM	Songino Array	26.50	309	P	P	06 41 49.9	+1.0
	1.2nm,0.6s,mb3.5,baz=104,slow=9.0,SNR=8.1						
MKAR	Makanchi Array	42.62	304	P	P	06 44 05.2	-0.7
	0.2nm,0.5s,mb2.6,baz=89,slow=10,SNR=3.1						
WRA	Warramunga Arr	54.61	184	P	P	06 45 35.6	-1.1
	0.4nm,0.3s,mb3.3,baz=360,slow=7.6,SNR=18						
INK	Inuvik	57.71	26	P	P	06 45 58.3	-0.2
	1.1nm,0.8s,mb3.3,baz=291,slow=8.6,SNR=3.5						
YKA	Yellowknife Ar	67.22	29	P	P	06 47 00.9	-0.1
	0.3nm,0.5s,mb3.3,baz=299,slow=6.0,SNR=5.7						
FINES	FINESS Array B	69.21	331	P	P	06 47 12.2	-1.1
	0.8nm,0.6s,mb3.6,baz=57,slow=7.0,SNR=8.3						
NVAR	Mina Array Bea	78.79	51	P	P	06 48 10.0	+1.4
	0.5nm,0.7s,mb3.4,baz=319,slow=5.0,SNR=4.1						
PDAR	Pinedale Array	81.40	43	P	P	06 48 23.4	+1.0
	0.7nm,0.8s,mb3.4,baz=211,slow=0.9,SNR=5.4						

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*ISK **11** 06:44:55.5, 3706N×2890E, h11^{km}, MD2.9*

*CSEM **11** 06:44:56.5±0.3, 3700N×2882E, h5^{km}, MD2.9, Error ellipse: s-maj=7.0km s-min=5.2km az=63.0*

*ATH **11** 06:44:57.3, 3664N×27.17E, h32^{km}, MD2.7/3*

*ISCJB **11** 06:44:58.1±0.6, 3694N±003×2884E±005, h10^{km}, Error ellipse: s-maj=5.6km s-min=4.8km az=141.0*

ISC 11 06:44:58.2±0.6, **3694N**±004×**2882E**±005, **h13**^{km}±6^{km}, **n12**, σ**1^{s}31**/18, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DALT	Dalyan (Mudla)	0.23	220	i PG	Pg	06 45 03.0	-0.1
DALT				i SG	Sg	06 45 08.4	+2.0
FETY	Fethiye	0.37	145	PG	Pg	06 45 05.1	-0.6
FETY				SG	Sg	06 45 11.4	+0.7
YER	Yerkesik	0.47	294	ePG	Pg	06 45 06.2	-1.3
DNZL	Cakiroluk	0.77	14	i P	Pg	06 45 12.2	-0.9
DNZL				i S	Sg	06 45 23.8	+0.6
DENT	Denizli	0.83	12	ePG	Pg	06 45 08.5	-5.8
MLSB	Milas	0.90	293	ePG	Pg	06 45 13.2	-2.5
ARG	Arkhangelos	0.91	218	ePN	Pn	06 45 14.5	-2.3
DAT	Datca	1.02	258	ePN	Pn	06 45 17.5	-0.7
AYDN	Tasoluk	1.04	314	i P	Pb	06 45 18.1	0.0
AYDN				i S	Sb	06 45 32.7	+1.1
BDRM	Kayabasi	1.11	277	i P	Pb	06 45 20.2	+0.9
BDRM				i S	Sb	06 45 35.5	+1.9
BODT	Bodrum	1.21	276	ePN	Pn	06 45 19.8	-1.1
TKTP	Tekketepe	1.62	47	i P	Pn	06 45 28.3	+1.8
TKTP				i S	Sn	06 45 52.0	+4.7

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*NIED **11** 06:47:00, 4060N×14270E, h50^{km}, Mw4.4 Best double couple: M$_0$5.30000×10^{15} NP1:φ$_s$347.00000°, δ56.00000°, λ75.00000°. NP2:φ$_s$192.00000°, δ37.00000°, λ111.00000°.*

*MOS **11** 06:47:03.9±0.9, 4091N×14228E, h33^{km}, mb4.8/26, Error ellipse: s-maj=10.8km s-min=6.1km az=105.2*

*BJI **11** 06:47:04.1, 4064N×14251E, h61^{km}, mB4.7, mb4.7, Ms4.3, Msz3.9*

*JMA **11** 06:47:04.0±0.1, 4063N×14268E, h31^{km}±3^{km}, M4.5 Broadband fault plane solution: P waves. NP1: φ$_s$172.00000°, δ29.00000°, λ98.00000°. NP2: φ$_s$344.00000°, δ61.00000°, λ86.00000°. Principal axes: T Plg74.0000°, Azm243.0000°; N Plg4.0000°, Azm346.0000°; P Plg16.0000°, Azm77.0000°;*

JMA Felt II J1.

*SZGRF **11** 06:47:04.4, 4045N×14246E, h33^{km}, mb4.6, Near east coast of eastern Honshu, Japan*

*ISCJB **11** 06:47:04.3±0.3, 4063N±003×14262E±004, h58^{km}, mb4.7/59, MS3.8/18, Error ellipse: s-maj=4.7km s-min=3.3km az=67.4*

*NEIC **11** 06:47:06.5±0.3, 4065N×14246E, mb4.7/27, MW4.4(NIED), Error ellipse: s-maj=8.3km s-min=4.8km az=103.0*

NEIC Recorded [2 JMA] in Aomori and Iwate Prefectures. Recorded [1 JMA] in southwestern Hokkaido.

*IDC **11** 06:47:06.7±0.6, 4068N×14250E, h61^{km}±5^{km}, mb4.0/14, mb1 4.2/16, mb1mx4.1/21, mbtmp4.3/16, MS3.5/8, Ms1 3.5/8, ms1mx3.1/31, Error ellipse: s-maj=17.8km s-min=10.7km az=90.0*

ISC 11 06:47:06.3±0.3, **4066N**±003×**14251E**±004, **h60**^{km}, **h60**^{km}±1.2^{km}**:pP-P, n170**, σ**0^{s}97**/191, **mb4.7**/59, **MS3.8**/18, **1C-12D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JANG	Nango	0.81	250	⇓P	Pn	06 47 20.9	-1.0
JANG				eS	Sn	06 47 32.6	-0.8
JTH	Tanohata	0.87	215	⇓P	Pn	06 47 20.9	-1.8
JTH				eS	Sn	06 47 33.0	-1.7
JTM	Tenmabayashi	1.11	277	⇓P	Pn	06 47 25.5	-0.2
JTM				eS	Sn	06 47 40.8	+0.7
JOT	Ohata	1.32	304	⇓P	Pn	06 47 28.1	-0.5
JOT				eS	Sn	06 47 45.6	+0.3
JEM	Erimo	1.44	19	P	Pn	06 47 28.3	-1.8
JAH	Hinai	1.51	252	⇓P	Pn	06 47 31.4	+0.3
JAH				eS	Sn	06 47 50.8	+1.1
JOM	Ohasama	1.51	219	⇓P	Pn	06 47 30.8	-0.3
JOM				eS	Sn	06 47 49.5	-0.3
JNBK	Urakawa-nobuka	1.63	6	⇓P	Pn	06 47 31.6	-1.1
JKB	Kayabe	1.66	318	P	Pn	06 47 32.5	-0.6
JKB				eS	Sn	06 47 53.4	+0.1
JSR	Shiriuchi	1.81	299	⇓P	Pn	06 47 35.2	+0.1
JSR				eS	Sn	06 47 58.5	+1.6
JMK	Ichinoseki	1.98	211	⇑P	Pn	06 47 37.3	-0.1
ASAJ	Asahikawa	3.46	1	P	Pn	06 47 57.1	-0.4
	12nm,0.3s,baz=202,slow=9.7,SNR=16						
ASAJ				S	Sn	06 48 37.0	-0.2
	23nm,0.3s,baz=46,slow=21,SNR=5.7						
ASAJ				LR	LR	06 50 03.2	
	comp=Z,425nm,19.4s,baz=181,slow=51						
YUK	Yuzh-Kuril'sk	4.19	35	eP	Pn	06 48 05.5	-2.1
YUK				i S	Sn	06 48 48.5	-6.7
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
YUK				pmax	pmax		
	comp=N,210nm,0.5s						
YUK				pmax	pmax		
	comp=N,1μm,1.0s						
YUK				pmax	pmax		
	comp=Z,2μm,1.0s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
YUK				smax			
	comp=N,4μm,0.8s						
YUK				smax			
	comp=E,4μm,0.8s						
MAJO	Matsushiro	5.32	221	eP	Pn	06 48 24.7	+1.6
MAJO				pmax	pmax		
	comp=Z,62nm,0.6s						
MAJO	Matsushiro	5.32	221	ePn	Pn	06 48 24.7	+1.6
	comp=Z,62nm,0.6s						
MAT	Matsushiro	5.32	221	P	Pn	06 48 24.2	+1.1
MAT				eS	Sn	06 49 24.5	+1.5
MAT	Matsushiro	5.32	221	eP	Pn	06 48 24.0	+0.9
MAT				S	Sn	06 49 33.0	+10
MAT				pmax	pmax		
	comp=Z,40nm,0.8s						
MAT	Matsushiro	5.32	221	eP	Pn	06 48 24.0	+0.9
	comp=Z,40nm,0.8s						
MAT				S	Sn	06 49 33.0	+10
MJAR	Matsushiro Arr	5.32	221	P	Pn	06 48 24.4	+1.3
	comp=Z,3.8nm,0.3s,baz=31,slow=12,SNR=62						
KUR	Kuril'sk	6.03	39	⇓iP	Pn	06 48 27.0	-5.8
KUR				eS	Sn	06 49 31.0	-9.4
KUR				pmax	pmax		
	comp=N,100nm,0.8s						
KUR				pmax	pmax		
	comp=E,210nm,0.8s						
KUR				pmax	pmax		
	comp=Z,430nm,0.8s						
KUR				smax			
	comp=N,420nm,0.6s						
KUR				smax			
	comp=E,230nm,0.6s						
YSS	Yuzh-Sakhalins	6.29	2	eP	Pn	06 48 36.0	-0.5
YSS				pmax	pmax		
	comp=Z,58nm,1.0s						
YSS	Yuzh-Sakhalins	6.29	2	ePn	Pn	06 48 36.0	-0.5
	comp=Z,58nm,1.0s						
JHJ	Hachijo jima 2	7.84	197	P	Pn	06 48 54.5	-3.1
	comp=Z,9.9nm,0.3s,baz=238,slow=19,SNR=4.4						
JHJ				S	Sn	06 50 18.8	-6.0
	comp=Z,23nm,0.3s,baz=220,slow=23,SNR=7.4						
HABR	Khabarovsk	9.45	328	eP	Pn	06 49 14.9	-4.7
HABR				e		06 51 00.2	
MDJ	Mudanjiang	10.31	297	P	Pn	06 49 36.5	+5.1
MDJ				S	Sn	06 51 24.0	-1.3
MDJ				PCP	PcP	06 55 37.8	+3.6
MDJ				AMB	AMB		
	comp=Z,12nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,89nm,6.0s						
MDJ	Mudanjiang	10.31	297	ePn	Pn	06 49 36.9	+5.5
	comp=Z,16nm,0.9s						
KLR	Kul'dur	11.46	322	eP	Pn	06 49 45.2	-1.9
CN2	Changchun	13.03	290	eP	Pn	06 50 08.4	-0.1
DL2	Dalian	16.15	271	P	Pn	06 50 51.8	+2.5
DL2				AMB	AMB		
	comp=Z,20nm,0.8s						
MA2	Magadan	19.63	13	P	Pn	06 51 28.9	-2.9
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SSE	Sheshan	19.70	248	eP	Pn	06 51 30.3	-2.3
SSE				AP	pP	06 51 41.7	-1.9
SSE				S	S	06 55 08.3	-1.2
SSE				XS	sS	06 55 28.4	-2.1
SSE				AMB	AMB		
	comp=Z,20nm,0.6s						
SSE				AMB	AMB		
	comp=Z,44nm,5.5s						
BJI	Beijing	20.06	277	eP	P	06 51 33.0	-1.6
BJI				AMB	AMB		
	comp=Z,6.0nm,0.7s						
BJI				LR	LR		
	comp=Z,87nm,19.2s,MS3.1						
BJT	Baijiatuau	20.07	277	eP	P	06 51 32.8	-1.9
BJT				pmax	pmax		
	comp=Z,7.0nm,0.4s						
BJT	Baijiatuau	20.07	277	eP	P	06 51 32.8	-1.9
	comp=Z,6.7nm,0.4s						
NJ2	Nanjing	20.86	253	eP	P	06 51 42.6	-0.5
NJ2				PP		06 52 05.2	
NJ2				S	S	06 55 25.0	-7.4
NJ2				AMB	AMB		
	comp=Z,30nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,160nm,4.2s						
NJ2				LR	LR		
	comp=N,370nm,16.5s,MS4.0						
NJ2				LR	LR		
	comp=E,340nm,14.7s,MS4.0						
HHC	Hu-ho-hao-te	23.39	281	eP	P	06 52 10.1	+0.4
HHC				AP		06 52 24.1	
HHC				PP		06 52 43.0	
HHC				PCP	PcP	06 55 54.9	+0.3
HHC				S	S	06 56 17.3	-0.9
HHC				SS		06 57 03.8	
HHC				PCS	PcS	06 59 35.6	+1.7
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.6						
HHC				AMB	AMB		
	comp=Z,110nm,6.0s						
HHC				LR	LR		
	comp=N,124nm,4.4s						
HHC				LR	LR		
	comp=E,130nm,4.5s						
HHC				LR	LR		
	comp=Z,95nm,5.2s						
BOD	Bodaibo	25.04	323	eP	P	06 52 23.6	-1.2
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.2						
ULN	Ulaanbaatar	26.22	298	eP	P	06 52 36.0	+0.5
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
ULN	Ulaanbaatar	26.22	298	eP	P	06 52 36.0	+0.5
	comp=Z,2.2nm,0.7s,mb3.8						
SONM	Songino Array	26.66	298	LR	LR	07 04 07.0	
	comp=Z,120nm,18.2s,MS3.5,baz=76,slow=38						
ZAK	Zakamensk	28.86	303	eP	P	06 52 59.0	0.0
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LZH	Lanzhou	30.49	274	eP	P	06 53 13.5	0.0
LZH				PP	PP	06 54 14.2	-9.0
LZH				AMB	AMB		
	comp=Z,25nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,49nm,6.3s						
LZH				LR	LR		
	comp=N,379nm,13.5s						
LZH				LR	LR		
	comp=Z,543nm,17.6s,MS4.2						
GTA	Gaotai	32.48	282	eP	P	06 53 31.3	+0.3
GTA				AP	pP	06 53 45.8	-0.1
GTA				PP	PP	06 54 40.7	-4.6
GTA				PCP	PcP	06 56 18.8	+2.0
GTA				S	S	06 58 41.4	-0.3
GTA				SCP	ScP	06 59 56.0	+0.6
GTA				PCS	PcS	07 00 03.3	+1.4
GTA				SS	SS	07 00 35.5	-28
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb4.0						
GTA				AMB	AMB		
	comp=Z,104nm,5.7s						
GTA				LR	LR		
	comp=N,77nm,13.3s,MS3.9						
GTA				LR	LR		
	comp=E,141nm,15.6s,MS3.9						
GTA				LR	LR		
	comp=Z,213nm,18.2s,MS3.9						
CD2	Chengdu	32.69	265	eP	P	06 53 31.9	-0.9
CD2				AP	pP	06 53 46.8	-0.8
CD2				PP	PP	06 54 42.4	-5.1
CD2				S	S	06 58 42.2	-2.6
CD2				SS	SS	07 00 42.2	-25
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.6s						
CD2				LR	LR		
	comp=N,80nm,14.8s						
CD2				LR	LR		
	comp=Z,70nm,13.2s,MS3.5						
GYA	Guiyang	32.82	256⇓	iP	P	06 53 34.0	+0.1
GYA				AP	pP	06 53 49.4	+0.6
GYA				PP	PP	06 54 48.6	-0.4
GYA				S	S	06 58 49.8	+2.9
GYA				XS	sS	06 59 14.4	+2.3
GYA				SCP	ScP	06 59 52.5	-4.1
GYA				SCS	ScS	07 03 52.0	-4.6
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
GYA				AMB	AMB		
	comp=Z,90nm,4.2s						
GYA				LR	LR		
	comp=N,340nm,16.8s,MS4.2						
GYA				LR	LR		
	comp=E,280nm,16.4s,MS4.2						
GYA				LR	LR		
	comp=Z,380nm,15.8s,MS4.2						
KMI	Kunming	36.48	257	P	P	06 54 04.9	-0.7
KMI				S	S	06 59 41.4	-1.8
KMI				AMB	AMB		
	comp=Z,16nm,0.5s,mb5.2						
KMI				LR	LR		
	comp=Z,175nm,16.0s,MS3.9						
WMQ	Urumqi	40.09	293	P	P	06 54 36.8	+1.0
WMQ				AP	pP	06 54 52.1	+1.1
WMQ				XP	sP	06 54 59.3	+1.4
WMQ				PP	PP	06 56 13.8	+4.9
WMQ				PCP	PcP	06 56 41.6	+2.1
WMQ				S	S	07 00 37.8	+0.1
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,76nm,4.6s						
WMQ				LR	LR		
	comp=N,218nm,13.0s,MS4.3						
WMQ				LR	LR		
	comp=E,164nm,11.9s,MS4.3						
WMQ				LR	LR		
	comp=Z,228nm,13.5s,MS4.2						
ZAL	Zalesovo	40.21	309	P	P	06 54 37.2	+0.3
	comp=Z,2.2nm,0.3s,mb4.3,baz=25,slow=9.3,SNR=8.1						
ZAL				LR	LR	07 12 47.7	
	comp=Z,70nm,18.9s,MS3.5,baz=30,slow=38						
ZAL	Zalesovo	40.21	309	P	P	06 54 37.2	+0.3
ZAL				LR	LR	07 12 47.7	
NVS	Novosibirsk	41.04	311	eP	P	06 54 43.9	+0.2
MKAR	Makanchi Array	43.02	299	P	P	06 55 00.1	+0.3
	comp=Z,5.7nm,0.6s,mb4.5,baz=84,slow=9.7,SNR=58						
KURK	Kurchatov	44.45	305	eP	P	06 55 11.1	-0.3
KURK				e*PP	pP	06 55 26.5	-0.2
KURK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
KURK	Kurchatov	44.45	305	eP	P	06 55 11.1	-0.3
	comp=Z,11nm,0.9s,mb4.6						
KURK				epP	pP	06 55 26.5	-0.2
COLA	College	45.58	34	eP	P	06 55 21.5	+1.2
COLA				e*PP	pP	06 55 35.3	-0.4
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
COLA	College	45.58	34	eP	P	06 55 21.5	+1.2
	comp=Z,5.5nm,0.8s,mb4.5						
COLA				epP	pP	06 55 35.3	-0.4
COLA				esP	sP	06 55 42.9	+0.4
JIRN	Jiri	47.63	272	eP	P	06 55 37.7	+1.3
	comp=Z,22nm,0.6s,mb5.4						
GUN	Gumba	47.74	273	eP	P	06 55 38.5	+1.3
	comp=Z,78nm,0.6s						
GUN	Gumba	47.74	273	eP	P	06 55 38.5	+1.3
	comp=Z,78nm,0.6s						
KKN	Kakani	48.26	273	eP	P	06 55 42.3	+1.1
	comp=Z,47nm,0.7s,mb5.7						
KKN	Kakani	48.26	273	eP	P	06 55 42.3	+1.1
	comp=Z,47nm,0.7s,mb5.7						
PKI	Pulchoki	48.27	273	eP	P	06 55 42.1	+0.8
PKI	Pulchoki	48.27	273	eP	P	06 55 42.1	+0.8
DMN	Daman	48.48	273	eP	P	06 55 43.9	+1.0
	comp=Z,24nm,0.8s,mb5.3						
DMN	Daman	48.48	273	eP	P	06 55 43.9	+1.0
	comp=Z,24nm,0.8s,mb5.3						
CHKZ	Chkalovo	48.52	311	eP	P	06 55 42.8	-0.4
CHKZ				e*PP	pP	06 55 56.5	-2.3
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
CHKZ	Chkalovo	48.52	311	eP	P	06 55 42.8	-0.4
	comp=Z,2.6nm,0.4s,mb4.6						
CHKZ				epP	pP	06 55 56.5	-2.3
GKN	Gorkha	48.64	274	eP	P	06 55 44.7	+0.6
	comp=Z,11nm,0.3s,mb5.3						
GKN	Gorkha	48.64	274	eP	P	06 55 44.9	+0.8
	comp=Z,11nm,0.3s,mb5.3						
BVAR	Borovoye Array	48.83	310	P	P	06 55 44.5	-1.1
	comp=Z,2.5nm,0.4s,mb4.6,baz=93,slow=8.9,SNR=11						
BVAR				PcP	PcP	06 57 10.0	+0.5
	comp=Z,1.6nm,0.5s,baz=63,slow=5.4,SNR=2.7						
KOLN	Koldanda	49.54	274	eP	P	06 55 52.1	+1.1
	comp=Z,27nm,0.9s,mb5.3						
KOLN	Koldanda	49.54	274	eP	P	06 55 52.1	+1.1
	comp=Z,27nm,0.9s,mb5.3						
AAK	Ala-Archa	49.60	296	eP	P	06 55 50.6	-0.9
AAK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
AAK	Ala-Archa	49.60	296	eP	P	06 55 50.6	-0.9
	comp=Z,3.4nm,0.4s,mb4.7						
ZRNK	Zerenda	49.65	310	eP	P	06 55 51.9	0.0
ZRNK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
ZRNK	Zerenda	49.65	310	eP	P	06 55 51.9	0.0
	comp=Z,8.9nm,1.0s,mb4.8						
KSH	Kashi	49.79	292	eP	P	06 55 54.6	+1.7
KSH				eAP	pP	06 56 11.5	+3.0
KSH				eXP	sP	06 56 18.7	+3.4
KSH				ePCP	PcP	06 57 14.7	+1.7
KSH				ePP	PP	06 57 51.4	+3.5
KSH				eSCP	ScP	07 01 04.0	+0.7
KSH				eS	S	07 02 57.4	-0.5
KSH				eSCS	ScS	07 05 36.4	-2.5
KSH				eSS	SS	07 06 27.6	-3.4
KSH				AMB	AMB		
	comp=Z,38nm,1.1s,mb5.3						
KSH				LR	LR		
	comp=N,296nm,5.2s						
KSH				LR	LR		
	comp=E,422nm,6.0s						
INK	Inuvik	50.78	29	P	P	06 55 59.0	-1.5
	comp=E,0.9nm,0.5s,mb4.0,baz=233,slow=2.7,SNR=3.5						
INK	Inuvik	50.78	29	eP	P	06 56 01.4	+1.0
INK				e*PP	pP	06 56 16.3	+0.3
INK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
INK	Inuvik	50.78	29	eP	P	06 56 01.4	+0.9
	comp=Z,3.4nm,0.5s,mb4.5						
INK				epP	pP	06 56 16.3	+0.3
SVE	Sverdlovsk	53.04	317	eP	P	06 56 17.0	-0.2
KAKA	Kakadu	53.91	192	eP	P	06 56 23.5	-0.1
	comp=Z,11nm,0.8s,mb4.8						
ARU	Arti	54.25	317⇓	iP	P	06 56 20.4	-5.7
ARU				eS	S	07 03 52.7	-6.4
ARU				pmax	pmax		
	comp=Z,13nm,1.6s,mb4.6						
ARU	Arti	54.25	317	eP	P	06 56 21.2	-4.9
	comp=Z,3.4nm,0.4s,mb4.6						
YKA	Yellowknife Ar	60.26	31	P	P	06 57 13.1	+4.7
	comp=Z,0.5nm,0.7s,mb3.7,baz=308,slow=6.4,SNR=3.5						
YKA				LR	LR	07 24 38.7	
	comp=Z,36nm,20.4s,MS3.5,baz=270,slow=37						
KEV	Kevo	60.37	339	ep	P	06 57 08.0	-1.2
	comp=Z,0.8nm,0.3s,mb4.2						
KEV	Kevo	60.37	339	eP	P	06 57 08.0	-1.2
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
FITZ	Fitzroy Crossi	60.53	198	eP	P	06 57 10.5	+0.3
	comp=Z,4.7nm,0.6s,mb4.8						
WRAB	Tennant Creek	60.76	189	eP	P	06 57 11.2	-0.6
WRAB				e*PP	pP	06 57 27.3	-0.5
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb5.0						
WRAB	Tennant Creek	60.76	189	eP	P	06 57 11.2	-0.6
	comp=Z,8.4nm,0.6s,mb5.0						
WRAB				epP	pP	06 57 27.3	-0.5
WB2	Warramunga Arr	60.76	189	eP	P	06 57 10.5	-1.4
WRA	Warramunga Arr	60.77	189	P	P	06 57 11.3	-0.6
	comp=Z,4.6nm,0.7s,mb4.7,baz=7.3,slow=7.1,SNR=82						
WRA				PcP	PcP	06 57 55.5	+0.2
	comp=Z,1.9nm,0.6s,baz=357,slow=4.0,SNR=6.1						
ARCES	ARCESS Array B	60.92	339	P	P	06 57 12.4	-0.5
	comp=Z,1.2nm,0.5s,mb4.3,baz=52,slow=7.9,SNR=14						
KLMR	Klimovskoe	61.17	327	eP	P	06 57 13.3	-1.3
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.8						
JOF	Joensuu	63.18	331	ep	P	06 57 26.9	-1.2
	comp=Z,5.4nm,0.4s,mb5.0						
JOF	Joensuu	63.18	331	eP	P	06 57 26.9	-1.2
JOF				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb5.0						
AS31	Alice Springs	64.49	189	eP	P	06 57 36.2	-0.5
ASAR	Alice Springs	64.49	189	P	P	06 57 36.5	-0.1
	comp=Z,5.1nm,0.8s,mb4.6,baz=0.9,slow=5.2,SNR=47						
ASAR				LR	LR	07 24 11.8	
	comp=Z,102nm,19.4s,MS4.0,baz=176,slow=34						
ASPA	Alice Springs	64.49	189	eP	P	06 57 36.2	-0.5
MOS	Moscow	64.87	323	eP	P	06 57 39.0	-0.1
MOS				e		06 59 57.4	
MBWA	Marble Bar	65.05	203	eP	P	06 57 40.1	-0.2
	comp=Z,10nm,0.6s,mb5.0						
MBWA				epP	pP	06 57 55.8	-0.7
KAF	Kangasniemi	65.49	332	ep	P	06 57 41.8	-1.4
	comp=Z,5.2nm,0.6s,mb4.7						
KAF	Kangasniemi	65.49	332	eP	P	06 57 41.8	-1.4
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
OBN	Obninsk	65.72	323⇓	iP	P	06 57 44.8	+0.1
OBN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
FINES	FINESS Array B	66.02	332	P	P	06 57 46.2	-0.4
	comp=Z,3.8nm,0.5s,mb4.7,baz=41,slow=9.1,SNR=27						
FINES				pP	pP	06 58 02.5	-0.3
	comp=Z,7.5nm,0.8s,baz=46,slow=8.2,SNR=9.9						
FINES	FINESS Array B	66.02	332	P	P	06 57 46.2	-0.4
FINES				pP	pP	06 58 02.5	-0.3
SUMG	Summit	67.06	0	eP	P	06 57 53.5	+0.2
SUMG				epP	pP	06 58 06.5	-3.0
KIV	Kislovodsk	69.20	310	eP	P	06 58 07.9	+1.3
KIV				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
KIV				MLR	MLR		
	comp=Z,27nm,17.0s,MS3.6						
NB2	NORSAR Subarra	71.18	337	P	P	06 58 18.3	-0.4
	comp=Z,8.5nm,1.0s,mb4.6,baz=39,slow=6.5						
NOA	NORSAR Array B	71.18	337	P	P	06 58 18.6	-0.1
	comp=Z,4.2nm,0.8s,mb4.4,baz=38,slow=6.0,SNR=11						
NOA				pP	pP	06 58 34.9	-0.2
	comp=Z,5.3nm,0.7s,baz=38,slow=6.2,SNR=11						
NOA				LR	LR	07 33 35.7	
	comp=Z,26nm,18.3s,MS3.5,baz=120,slow=39						
NOA	NORSAR Array B	71.18	337	P	P	06 58 18.6	-0.1
NOA				*PP	pP	06 58 34.9	-0.2
BOZ	Bozeman (W)	71.53	45	eP	P	06 58 21.1	+0.3
BOZ				e*PP	pP	06 58 36.8	-0.4
BOZ				e*SP	sP	06 58 46.1	+2.2
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BOZ	Bozeman (W)	71.53	45	eP	P	06 58 21.1	+0.3
	comp=Z,3.2nm,0.9s,mb4.2						
BOZ				epP	pP	06 58 36.8	-0.4
BOZ				esP	sP	06 58 46.1	+2.2
AKASG	Malin Array Be	71.96	322	P	P	06 58 23.3	-0.1
	comp=Z,0.8nm,0.4s,mb4.0,baz=41,slow=6.1,SNR=14						
AKASG				pP	pP	06 58 40.0	+0.2
	comp=Z,2.0nm,0.5s,baz=44,slow=5.8,SNR=5.1						
AKASG	Malin Array Be	71.96	322	P	P	06 58 23.3	-0.2
AKASG				pP	pP	06 58 40.0	+0.2
NVAR	Mina Array Bea	72.16	55	P	P	06 58 26.9	+2.3
	comp=Z,0.5nm,0.8s,baz=290,slow=4.6,SNR=3.6						
NVAR				pP	pP	06 58 43.0	+2.1
	comp=Z,1.8nm,1.0s,baz=299,slow=4.0,SNR=6.1						
NVAR	Mina Array Bea	72.16	55	P	P	06 58 26.9	+2.3
NVAR				pP	pP	06 58 43.0	+2.1
PDAR	Pinedale Array	74.54	47	P	P	06 58 39.0	+0.5
	comp=Z,0.5nm,0.5s,mb3.7,baz=346,slow=0.9,SNR=6.9						
PDAR				pP	pP	06 58 55.6	+0.5
	comp=Z,0.7nm,0.6s,baz=319,slow=2.2,SNR=5.3						
MALT	Malatya	75.22	308	eP	P	06 58 44.2	+1.7
MALT				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
MALT	Malatya	75.22	308	eP	P	06 58 44.2	+1.7
	comp=Z,11nm,1.3s,mb4.6						
OJC	Ojcow	76.51	326	eP	P	06 58 50.5	+0.6
BRTR	Keskin Array B	77.09	312	P	P	06 58 54.1	+0.9
	comp=Z,1.9nm,0.6s,mb4.2,baz=85,slow=4.1,SNR=9.5						
BRTR				LR	LR	07 37 47.3	
	comp=Z,14nm,19.1s,MS3.3,baz=284,slow=40						
CLL	Collm	78.38	330	P	P	06 59 00.4	+0.1
	comp=Z,logA/T=0.9,mb4.6						
CLL				e*PP	pP	06 59 17.0	+0.1
CLL	Collm	78.38	330	i P	P	06 59 00.4	+0.1
	comp=Z,9.0nm,1.2s,mb4.6						
CLL				epP	pP	06 59 17.0	+0.1
CLL	Collm	78.38	330	i P	P	06 59 00.4	+0.1
CLL				e	pP	06 59 17.0	+0.1
CLL				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
KHC	Kasperske Hory	79.90	329	eP	P	06 59 09.0	+0.4
GERES	GERESS Array B	80.08	328	P	P	06 59 10.3	+0.7
	comp=Z,0.6nm,0.4s,mb3.9,baz=54,slow=6.8,SNR=7.0						
GRA1	Grafenberg Arr	80.36	330	eP	P	06 59 12.0	+0.9
	comp=Z,7.0nm,1.1s,mb4.5						
GRF	Grafenberg Arr	80.36	330	eP	P	06 59 12.0	+0.9
	comp=Z,7.0nm,1.1s,mb4.5						
GRF	Grafenberg Arr	80.36	330	eP	P	06 59 12.0	+0.9
GRF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
GRF	Grafenberg Arr	80.36	330	eP	P	06 59 12.0	+0.9
GRF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
GROS	Grobnik	81.23	326	eP	P	06 59 16.1	+0.4
JAVS	Javornik	82.29	326	eP	P	06 59 20.9	-0.4
DAVOX	Davos	83.26	329	LR	LR	07 40 00.2	
	comp=Z,42nm,18.9s,MS3.8,baz=269,slow=38						
LOR	Lormes	85.05	333	eP	P	06 59 35.2	-0.2
	comp=Z,20nm,1.0s,mb4.9						
LOR				eR			
	comp=Z,42nm,17.0s						
LOR	Lormes	85.05	333	eP	P	06 59 35.2	-0.2
LOR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
LOR				MLR	MLR		
	comp=Z,40nm,17.0s,MS3.9						
LOR	Lormes	85.05	333	eP	P	06 59 35.2	-0.2
	comp=Z,9.8nm,1.0s,mb4.9						
LOR				LR	LR		
	comp=Z,40nm,17.0s,MS3.9						
LDF	La Druitiere	85.19	336	eP	P	06 59 36.5	+0.4
SSF	Saint Saulge	85.35	333	eP	P	06 59 37.1	+0.2
PPT	Papeete	85.52	118	eLR	LR	07 26 20.4	
	comp=Z,60nm,21.8s						
PPT	Papeete	85.52	118	eT		08 33 54.2	
	comp=Z,3.0nm,0.3s						
LPL	La Plagne	85.52	331	eP	P	06 59 38.5	+0.7
	comp=Z,12nm,0.8s,mb4.9						
LPL	La Plagne	85.52	331	eP	P	06 59 38.5	+0.7
LPL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
LPL	La Plagne	85.52	331	eP	P	06 59 38.5	+0.7
	comp=Z,6.3nm,0.8s,mb4.9						
LPG	La Plagne	85.53	331	eP	P	06 59 38.7	+0.9
	comp=Z,15nm,0.7s,mb5.0						
LPG	La Plagne	85.53	331	eP	P	06 59 38.7	+0.9
LPG				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb5.0						
LPG	La Plagne	85.53	331	eP	P	06 59 38.7	+0.9
	comp=Z,7.3nm,0.7s,mb5.0						
GRR	Gorron	85.59	336	eP	P	06 59 38.6	+0.5
SMF	Signal de Mont	85.59	333	eP	P	06 59 38.5	+0.4
	comp=Z,6.6nm,0.6s,mb4.7						
SMF	Signal de Mont	85.59	333	eP	P	06 59 38.5	+0.4
SMF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.7						
SMF	Signal de Mont	85.59	333	eP	P	06 59 38.5	+0.4
	comp=Z,3.3nm,0.6s,mb4.7						
AVF	Avril sur Loir	85.64	333	eP	P	06 59 38.7	+0.3
	comp=Z,23nm,0.8s,mb5.2						
AVF	Avril sur Loir	85.64	333	eP	P	06 59 38.7	+0.3
AVF				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.2						
AVF	Avril sur Loir	85.64	333	eP	P	06 59 38.7	+0.3
	comp=Z,12nm,0.8s,mb5.2						
ORIF	Oris-en-Rattie	86.34	331	eP	P	06 59 42.4	+0.6
	comp=Z,5.8nm,0.7s,mb4.6						
ORIF				eR			
	comp=Z,50nm,19.2s						
ORIF	Oris-en-Rattie	86.34	331	eP	P	06 59 42.4	+0.6
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.6						
ORIF	Oris-en-Rattie	86.34	331	eP	P	06 59 42.4	+0.6
	comp=Z,2.9nm,0.7s,mb4.6						
ROSF	Rostrenen	86.35	338	eP	P	06 59 42.5	+0.6
TCF	Toulx Ste Croi	86.46	334	eP	P	06 59 43.0	+0.6
	comp=Z,2.5nm,0.5s,mb4.4						
TCF	Toulx Ste Croi	86.46	334	eP	P	06 59 43.0	+0.6
TCF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.3						
TCF	Toulx Ste Croi	86.46	334	eP	P	06 59 43.0	+0.6
	comp=Z,1.3nm,0.5s,mb4.4						
SBF	Sospel	86.64	329	eP	P	06 59 43.8	+0.5
VIVF	Saint-Julien-l	86.84	331	eP	P	06 59 44.8	+0.5
MFF	Saint Martin d	86.96	335	eP	P	06 59 45.6	+0.8
RJF	Les Rejaudoux	87.56	334	eP	P	06 59 48.5	+0.8
RJF				eR			
	comp=Z,57nm,22.0s						
RJF	Les Rejaudoux	87.56	334	eP	P	06 59 48.5	+0.8
RJF				LR	LR		
	comp=Z,60nm,22.0s,MS4.0						
CAF	Calviac	87.70	333	eP	P	06 59 49.6	+1.2
	comp=Z,12nm,0.8s,mb4.9						
CAF	Calviac	87.70	333	eP	P	06 59 49.6	+1.2
CAF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
CAF	Calviac	87.70	333	eP	P	06 59 49.6	+1.2
	comp=Z,6.2nm,0.8s,mb4.9						
LASF	Ste Croix	87.81	332	eP	P	06 59 49.8	+0.9
	comp=Z,4.0nm,0.7s,mb4.5						
LPAZ	La Paz	144.05	56	PKP	PKPdf	07 06 34.6	-0.4
	comp=Z,0.6nm,0.7s,baz=19,slow=3.9,SNR=3.5						

ISCJB 11 06:53:22.6±1.8, 164S±0.1×1744W±0.1, h97km±18km, mb4.3/13, Error ellipse: s-maj=27.5km s-min=13.9km az=82.6

IDC 11 06:53:24.4±2.9, 1637S×17438W, h99km±27km, mb3.8/7, mb1 4.1/8, mb1mx4.0/14, mbtmp4.2/8, Error ellipse: s-maj=31.2km s-min=15.7km az=134.0

NEIC 11 06:53:24.5±1.3, 1635S×17437W, h101km±12km, mb4.5/6, Error ellipse: s-maj=17.3km s-min=9.2km az=131.0

ISC 11 06:53:23.6±1.7, 164S±01×1743W±01, h93km±17km, n19, σ0.85/19, mb4.3/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	3.44	45	P	Pn	06 54 17.2	+2.2
	66nm,0.3s,baz=194,slow=2.6,SNR=135						
AFI				S	Sn	06 54 53.6	-1.2
	108nm,0.3s,baz=36,slow=24,SNR=17						
AFI	Afiamalu	3.44	45	ePn	Pn	06 54 17.0	+1.9
AFI				eSn	Sn	06 54 52.7	-2.1
URZ	Urewera	23.09	197	P	P	06 58 20.1	-1.2
	7.3nm,0.6s,mb4.2,baz=8.6,slow=4.1,SNR=7.4						
STKA	Stephens Creek	42.83	241	P	P	07 01 12.6	+0.2
	1.0nm,0.5s,mb3.8,baz=227,slow=19,SNR=3.8						
STKA	Stephens Creek	42.83	241	P	P	07 01 12.6	+0.2
WRAB	Tennant Creek	48.80	258	eP	P	07 01 59.8	+0.5
	12nm,1.3s,mb4.7						
WRA	Warramunga Arr	48.81	258	P	P	07 01 58.8	-0.6
	1.0nm,0.5s,mb4.0,baz=94,slow=7.5,SNR=26						
ASAR	Alice Springs	49.01	253	P	P	07 02 00.7	-0.2
	4.0nm,0.6s,mb4.5,baz=87,slow=8.3,SNR=48						
SBA	Scott Base	62.23	184	eP	P	07 03 36.1	+0.6
	3.1nm,0.7s,mb4.5						
MBWA	Marble Bar	62.28	254	eP	P	07 03 35.9	0.0
	10nm,1.1s,mb4.8						
VNDA	Vanda	62.34	186	P	P	07 03 36.3	+0.1
	1.8nm,0.7s,mb4.2,baz=9.4,slow=6.2,SNR=12						
QSPA	South Pole Qui	73.68	180	eP	P	07 04 46.9	-0.4
	7.6nm,1.1s,mb4.3						
NVAR	Mina Array Bea	75.61	42	P	P	07 04 59.5	+1.1
	2.2nm,1.0s,mb3.8,baz=218,slow=7.1,SNR=10						
IMW	Indian Meadow	83.23	41	eP	P	07 05 40.4	+0.6
	3.5nm,0.9s,mb4.2						
COLA	College	83.46	11	eP	P	07 05 40.0	-1.0
	8.5nm,1.0s,mb4.5						
PDAR	Pinedale Array	83.55	42	P	P	07 05 41.4	0.0
	1.6nm,0.9s,mb3.9,baz=224,slow=3.1,SNR=13						
DAWY	Dawson	84.56	15	eP	P	07 05 46.2	-0.3
BRTR	Keskin Array B	146.35	319	PKPbc	PKPbc	07 12 53.2	-0.5
	2.6nm,0.9s,baz=101,slow=2.5,SNR=12						
GERES	GERESS Array B	146.96	350	PKPbc	PKPbc	07 12 55.3	-0.1
	0.2nm,0.2s,baz=28,slow=6.0,SNR=4.2						

NNC 11 07:25:19.6±3.1, 3720N×7043E, h0km, mb3.1, mpv2.9, 4C-2D, Error ellipse: s-maj=25.4km s-min=23.7km az=94.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	5.89	1	Pn	Pn	07 26 51.5	+3.4
	1.6nm,0.3s,baz=176,slow=12,SNR=48						
KK31				⇑Sn	Sn	07 28 03.0	+6.6
	5.0nm,0.5s,baz=185,slow=28,SNR=3.5						
TKM2	Tokmak 2	6.95	33	⇓Pn	Pn	07 27 01.5	-1.2
	0.1nm,0.5s						
TKM2				⇑Sn	Sn	07 28 23.7	+1.3
	0.3nm,0.7s						
AB31	Akbulak array	14.25	331	Pn	Pn	07 28 43.9	+1.4
	0.1nm,0.2s,baz=171,slow=11,SNR=13						
AB31				⇓Sn	Sn	07 31 20.2	-1.1
	0.6nm,0.5s,baz=133,slow=26,SNR=4.4						
AKTO	Aktyubinsk	15.94	330	⇑Pn	Pn	07 29 00.9	-4.3
	0.4nm,2.3s						
AKTO				⇑Sn	Sn	07 32 02.8	+0.2

IDC 11 07:46:31.9±1.2, 2053S×17412W, h0km, mb4.0/5, mb1 4.3/6, mb1mx4.1/15, mbtmp4.0/6, ML4.6/1, Error ellipse: s-maj=55.9km s-min=23.3km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	6.95	19	Pn	Pn	07 48 11.3	-3.6
	3.6nm,0.3s,baz=54,slow=23,SNR=9.4						
AFI				Sn	Sn	07 49 24.0	-11
	11nm,0.3s,baz=30,slow=20,SNR=3.4						
URZ	Urewera	19.23	201	P	Pn	07 50 57.1	-1.4
	1.6nm,0.3s,baz=311,slow=3.4,SNR=12						
URZ				S	Sn	07 54 16.7	-18
	0.4nm,0.3s,baz=171,slow=19,SNR=4.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	48.05	256	P	P	07 55 13.7	+0.8
	2.6nm,0.8s,baz=94,slow=8.1,SNR=28						
WRA	Warramunga Arr	48.19	261	P	P	07 55 14.2	+0.2
	0.9nm,0.3s,baz=96,slow=7.4,SNR=58						
FITZ	Fitzroy Crossi	56.62	261	P	P	07 56 16.9	+0.4
	0.8nm,0.3s,baz=117,slow=6.8,SNR=14						
NVAR	Mina Array Bea	78.59	42	P	P	07 58 36.2	+0.9
	0.6nm,0.6s,baz=216,slow=6.5,SNR=7.5						
PDAR	Pinedale Array	86.52	42	P	P	07 59 16.4	-0.3
	0.4nm,0.8s,baz=288,slow=1.4,SNR=3.5						

*IDC **11** 07:58:33.0±1.0,21.53S×169.58E,h0^{km},mb4.2/8, mb1 4.4/9,mb1mx4.3/13,mbtmp4.2/9,ML4.2/1,MS3.6/6, Ms1 3.6/6,ms1mx3.3/24,Error ellipse: s-maj=40.0km s-min=21.0km az=155.0*

*NEIC **11** 07:58:35.0±0.6,21.40S×169.53E,h10^{km},mb4.5/9,Error ellipse: s-maj=18.6km s-min=12.1km az=160.0*

*ISCJB **11** 07:58:38.6±2.1,21.5S±0.1×169.4E±0.1,h51^{km}±17^{km}, mb4.3/13,MS3.9/3,Error ellipse: s-maj=21.9km s-min=12.6km az=85.4*

*LDG **11** 07:58:42.2±1.1,20.84S×168.53E,h10^{km},Ms4.1/4,Error ellipse: s-maj=235.0km s-min=5.7km az=144.0*

ISC 11 07:58:39.1±2.1**,215S**±0.1×**169.4E**±0.1**,h39**^{km}±17^{km}**,n47,** σ**0^{s}.81**/24**,mb4.3**/13**,MS3.9**/3**,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.84	258	eP	Pn	07 59 21.7	-0.2
DZM				eS	Sn	07 59 53.4	-1.5
DZM	Mont Dzumac	2.84	258	Pn	Pn	07 59 21.8	-0.1
	33nm,0.3s,baz=78,slow=17,SNR=663						
DZM				Sn	Sn	07 59 54.7	-0.1
	54nm,0.3s,baz=88,slow=18,SNR=15						
BKM	Butte a Klehm	3.98	343	i P	Pn	07 59 37.8	+0.2
RAO	Raoul Island	13.78	127	LR	LR	08 05 31.2	
	comp=Z,176nm,19.2s,baz=155,slow=31						
HNR	Honiara	15.09	321	LR	LR	08 06 20.3	
	comp=Z,36nm,18.8s,baz=9.2,slow=31						
ARMA	Armidale	18.29	237	eP	Pn	08 02 53.2	+3.5
AFI	Afiamalu	19.41	70	LR	LR	08 09 04.6	
	comp=Z,212nm,20.8s,baz=225,slow=33						
CTA	Charters Tower	21.72	270	eP	P	08 03 29.1	+2.3
	7.6nm,0.9s,mb4.1						
CTA	Charters Tower	21.72	270	P	P	08 03 28.9	+2.1
	4.2nm,0.6s,mb4.0,baz=93,slow=12,SNR=4.0						
CTAO	Charters Tower	21.72	270	eP	P	08 03 27.0	+0.2
	19nm,1.1s,mb4.4						
STKA	Stephens Creek	26.86	242	eP	P	08 04 13.5	-2.6
	7.0nm,1.5s,mb4.0						
STKA	Stephens Creek	26.86	242	P	P	08 04 16.3	+0.3
	1.2nm,0.3s,mb3.9,baz=104,slow=4.2,SNR=3.6						
STKA				LR	LR	08 14 16.8	
	comp=Z,195nm,19.1s,MS3.7,baz=28,slow=35						
WB2	Warramunga Arr	32.81	266	eP	P	08 05 08.2	-0.5
WRAB	Tennant Creek	32.82	266	eP	P	08 05 08.4	-0.4
	12nm,1.1s,mb4.7						
WRA	Warramunga Arr	32.83	266	P	P	08 05 08.7	-0.2
	1.0nm,0.6s,mb3.9,baz=96,slow=7.8,SNR=15						
WRA				PcP	PcP	08 07 53.9	+0.8
	0.7nm,0.9s,baz=113,slow=2.2,SNR=3.5						
WRA				LR	LR	08 18 59.8	
	comp=Z,208nm,18.6s,MS3.9,baz=65,slow=37						
ASAR	Alice Springs	32.83	259	P	P	08 05 09.2	+0.3
	2.2nm,0.8s,mb4.2,baz=81,slow=9.0,SNR=17						
ASAR				PcP	PcP	08 07 53.6	+0.5
	1.1nm,0.9s,baz=92,slow=3.6,SNR=5.2						
FITZ	Fitzroy Crossi	41.25	267	eP	P	08 06 21.6	+1.2
	6.5nm,0.8s,mb4.3						
FITZ	Fitzroy Crossi	41.25	267	P	P	08 06 21.7	+1.4
	3.9nm,0.8s,mb4.1,baz=130,slow=7.2,SNR=11						
NWAO	Narrogin (SRO)	47.38	245	LR	LR	08 26 38.7	
	comp=Z,238nm,19.2s,MS4.2,baz=69,slow=36						
SBA	Scott Base	56.41	181	eP	P	08 08 17.0	+0.4
	3.5nm,1.1s,mb4.3						
MJAR	Matsushiro Arr	64.84	333	P	P	08 09 13.8	-0.2
	2.0nm,0.5s,mb4.4,baz=163,slow=6.2,SNR=6.5						
MAJO	Matsushiro	64.84	333	eP	P	08 09 13.8	-0.2
	4.1nm,0.5s,mb4.7						
QSPA	South Pole Qui	68.56	180	eP	P	08 09 37.6	-0.1
	4.6nm,1.0s,mb4.4						
MAW	Mawson	76.41	202	P	P	08 10 24.3	-0.2
	1.1nm,0.8s,mb3.9,baz=54,slow=8.7,SNR=3.5						
NVAR	Mina Array Bea	90.16	48	P	P	08 11 35.3	+0.1
	1.3nm,0.7s,mb4.4,baz=214,slow=6.0,SNR=12						
TPNV	Topopah Spring	90.94	50	eP	P	08 11 38.1	-0.7
	4.2nm,0.9s,mb4.8						
ARCES	ARCESS Array B	127.30	345	PKP	PKPdf	08 17 38.1	-1.3
	1.4nm,0.6s,baz=40,slow=2.1,SNR=5.3						
FINES	FINESS Array B	132.74	337	PKP	PKPdf	08 17 49.9	+0.1
	1.1nm,0.9s,baz=52,slow=3.1,SNR=4.7						
BRG	Berggiesshubel	144.97	333	i P	PKPdf	08 18 11.4	-0.7
	5.8nm,0.6s						
BRG				i		08 18 19.4	
	3.8nm,1.2s						
CLL	Collm	145.04	334	i PKIKP	PKPdf	08 18 11.1	-1.1
	logA/T=1.3						
CLL	Collm	145.04	334	i PKPdf	PKPdf	08 18 11.1	-1.1
	comp=Z,9.0nm,0.5s						
KHC	Kasperske Hory	146.41	331	eP	PKPdf	08 18 15.5	+1.0
GERES	GERESS Array B	146.56	330	PKPbc	PKPbc	08 18 16.3	0.0
	comp=Z,3.9nm,0.6s,baz=37,slow=3.3,SNR=26						
GRA1	Grafenberg Arr	147.01	334	ePKP	PKPdf	08 18 17.7	+2.2
GRF	Grafenberg Arr	147.01	334	ePKP	PKPdf	08 18 17.7	+2.2
GIVF	Givet	148.99	341	ePKIKP	PKPbc	08 18 24.4	+1.6
MEZF	Maizieres J'vi	150.31	339	ePKIKP	PKPbc	08 18 26.3	+0.2
CABF	La Chapelle	151.53	336	ePKIKP	PKPbc	08 18 29.1	+0.2
	comp=Z,13nm,0.7s						
FLN	La Foliniere	151.64	346	ePKIKP	PKPbc	08 18 28.6	-0.6
	comp=Z,19nm,0.6s						
LDF	La Druitiere	151.71	345	ePKIKP	PKPbc	08 18 28.7	-0.7
LOR	Lormes	151.78	339	ePKIKP	PKPbc	08 18 28.9	-0.6
LOR				eR			
	comp=Z,58nm,19.5s						
SSF	Saint Saulge	152.07	339	ePKIKP	PKPbc	08 18 30.0	-0.2
LPL	La Plagne	152.17	333	ePKIKP	PKPbc	08 18 30.7	+0.3
LPG	La Plagne	152.18	333	ePKIKP	PKPbc	08 18 30.8	+0.4
	comp=Z,8.7nm,0.6s						
AVF	Avril sur Loir	152.36	339	ePKIKP	PKPbc	08 18 30.3	-0.5
ORIF	Oris-en-Rattie	153.01	334	ePKIKP	PKPbc	08 18 32.2	-0.1
	comp=Z,7.7nm,0.6s						
ORIF				eR			
	comp=Z,96nm,23.0s						
LASF	Ste Croix	154.51	335	ePKIKP	PKPbc	08 18 33.4	-2.1

*IDC **11** 08:10:32.0±3.4,5.14S×150.86E,h0^{km},mb4.2/3,mb1 4.4/4, mb1mx4.0/13,mbtmp4.3/4,ML3.1/1,MS3.9/11,Ms1 3.9/11, ms1mx3.5/22,Error ellipse: s-maj=111.5km s-min=43.0km az=118.0*

NEIC 11 08:10:42.5±5.3**,4.96S×150.09E,h59**^{km}±36^{km}**,mb4.4**/5**, Error ellipse: s-maj=46.8km s-min=38.9km az=208.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.28	213	Pn	Pn	08 11 58.8	0.0
	3.9nm,0.3s,baz=45,slow=6.6,SNR=14						
PMG				Sn	Sn	08 12 59.4	+0.9
	1.4nm,0.3s,baz=354,slow=15,SNR=3.1						
PMG				LR	LR	08 13 34.4	
	comp=Z,333nm,19.4s,baz=43,slow=32						
HNR	Honiara	10.74	115	LR	LR	08 16 23.8	
	comp=Z,553nm,18.1s,baz=353,slow=35						
CTA	Charters Tower	15.49	194	eP	Pn	08 14 18.2	+0.9
	10.0nm,1.1s						
CTA	Charters Tower	15.49	194	Pn	Pn	08 14 17.6	+0.3
	0.2nm,0.3s,baz=45,slow=9.4,SNR=4.0						
CTA				LR	LR	08 19 26.8	
	comp=Z,446nm,20.2s,baz=16,slow=34						
CTAO	Charters Tower	15.49	194	eP	Pn	08 14 17.6	+0.3
	27nm,1.4s						
WRAB	Tennant Creek	21.36	224	eP	P	08 15 24.4	-0.5
	18nm,0.9s						
WB2	Warramunga Arr	21.36	224	eP	P	08 15 23.9	-1.0
WRA	Warramunga Arr	21.37	224	P	P	08 15 25.3	+0.2
	7.7nm,0.8s,baz=52,slow=10,SNR=29						
DZM	Mont Dzumac	23.24	139	LR	LR	08 23 07.6	
	comp=Z,627nm,18.3s,baz=207,slow=33						
AS31	Alice Springs	24.27	218	eP	P	08 15 51.4	-2.7
ASAR	Alice Springs	24.27	218	P	P	08 15 54.1	0.0
	2.9nm,0.9s,baz=55,slow=8.0,SNR=25						
ASPA	Alice Springs	24.27	218	eP	P	08 15 51.4	-2.8
FITZ	Fitzroy Crossi	27.23	239	eP	P	08 16 22.9	+2.0
	16nm,0.9s						
FITZ	Fitzroy Crossi	27.23	239	P	P	08 16 23.1	+2.2
	5.0nm,0.8s,baz=110,slow=7.4,SNR=11						
STKA	Stephens Creek	27.93	196	LR	LR	08 26 57.2	
	comp=Z,360nm,18.7s,baz=21,slow=35						
CBIJ	Chichi jima	32.77	347	LR	LR	08 29 04.3	
	comp=Z,262nm,19.6s,baz=172,slow=34						
MBWA	Marble Bar	33.56	239	eP	P	08 17 18.0	+1.2
	5.9nm,0.8s						
JHJ	Hachijo jima 2	39.11	346	LR	LR	08 32 29.6	
	comp=Z,81nm,19.2s,baz=310,slow=33						
NWAO	Narrogin (SRO)	41.38	224	LR	LR	08 35 35.6	
	comp=Z,181nm,19.9s,baz=152,slow=36						
VNDA	Vanda	72.78	177	LR	LR	08 52 44.0	
	comp=Z,46nm,19.0s,baz=356,slow=35						
ZAL	Zalesovo	79.81	327	LR	LR	08 57 56.2	
	comp=Z,54nm,20.4s,baz=140,slow=35						
MAW	Mawson	84.38	203	LR	LR	08 57 02.4	
	comp=Z,90nm,19.6s,baz=238,slow=33						
TORD	Torodi Ar. Bea	147.78	287	PKPbc	PKPbc	08 30 21.8	+1.1
	1.2nm,0.9s,baz=69,slow=2.0,SNR=6.3						

*ISCJB **11** 08:26:52.3±0.4,30.89N±0.03×34.87E±0.05,h0^{km},Error ellipse: s-maj=7.0km s-min=3.3km az=41.2*

*GII **11** 08:26:52.9±0.7,30.86N×35.07E,h0^{km}±3^{km},ML2.3/4*

*HLW **11** 08:26:53.6,31.15N×34.96E,h30^{km},Mb2.8*

ISC 11 08:26:53.1±0.7**,3090N**±0.03×**3489E**±0.07**,h6**^{km}±6^{km}**,n19,** σ**0^{s}.79**/25**,3C-4D,Dead Sea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZFRI	Zfri	0.42	144	Pg	Pg	08 27 00.2	-1.1
PRNI	Paran	0.55	169	Pg	Pg	08 27 03.4	-0.3
PRNI				Sg	Sg	08 27 11.6	+0.7
MZDA	Masada	0.58	45	Pg	Pg	08 27 03.7	-0.5
MZDA				Sg	Sg	08 27 11.7	0.0
DRGI	Dragot	0.82	32	Pg	Pg	08 27 09.2	+0.5
HRFI	Mount Harif	0.87	171	Pg	Pg	08 27 09.2	-0.5
MKRJ	Makawir	0.92	45	Pg	Pg	08 27 10.4	-0.3
MBH	Mount Berech	1.10	179	Pg	Pg	08 27 14.2	0.0
AQBJ	Aqaba	1.18	173	Pg	Pg	08 27 15.6	+0.1
EIL	Elat	1.23	177	Pg	Pg	08 27 15.8	-0.7
HNKL	Nakhl	1.24	219	⇑iP	Pg	08 27 17.2	+0.3
HNKL				S	Sg	08 27 35.2	+2.2
HMDT	Nahal Hemdat	1.46	22	Pn	Pn	08 27 19.7	-0.3
HMDT				Sn	Sn	08 27 40.0	+0.6
AMAG	Maghara	1.47	260	⇓P	Pn	08 27 19.1	-1.0
MMLI	Mount Malkishu	1.60	16	Pn	Pn	08 27 23.4	+1.5
HBST	Basata	1.68	185	⇓iP	Pn	08 27 23.4	+0.4
HBST				S	Sn	08 27 45.4	+0.5
SUZ		2.06	240	⇓P	Pn	08 27 27.7	-0.6
SUZ				S	Sn	08 27 52.6	-1.8
HDHB	Dhahab	2.18	186	⇓P	Pn	08 27 29.7	-0.2
TR2		2.70	202	⇑eP	Pn	08 27 37.4	+0.3
TR1		2.99	196	⇑P	Pn	08 27 41.5	+0.4
CTKT	Corum	9.70	360	i S	Sn	08 31 10.2	+7.6

*IDC **11** 08:28:26.8±1.0,33.27N×138.56E,h0^{km},mb3.6/4, mb1 3.7/5,mb1mx3.6/19,mbtmp3.5/5,ML3.3/1,Error ellipse: s-maj=22.5km s-min=17.1km az=37.0*

*ISCJB **11** 08:28:29.8±0.7,33.98N±0.04×140.30E±0.07,h91^{km}±6^{km}, mb3.5/4,Error ellipse: s-maj=9.9km s-min=6.1km az=1.1*

*JMA **11** 08:28:30.8±0.1,34.01N×140.31E,h77^{km}±2^{km},M3.4*

ISC 11 08:28:31.0±0.6**,3399N**±0.04×**14029E**±0.07**,h82**^{km}±6^{km}**, n19,**σ**0^{s}.52**/27**,mb3.5**/4**,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMY	Miyakejima3	0.65	278	P	Pn	08 28 46.0	-0.3
BSO3	Boso 3	0.83	13	P	Pn	08 28 47.7	-0.5
BSO3				S	Sn	08 29 01.5	+0.4
BSO2	Boso 2	0.85	27	S	Sn	08 29 02.2	+0.7
BSO1	Boso 1	0.88	40	P	Pn	08 28 47.7	-1.0
NJJJ	Nii jima 2	0.93	297	P	Pn	08 28 49.2	-0.2
JHJ2	Mitsune	0.96	204	P	Pn	08 28 49.7	0.0
JHJ2				S	Sn	08 29 04.0	+0.3
JHJ	Hachijo jima 2	0.96	206	Pn	Pn	08 28 49.8	+0.1
	208nm,0.3s,baz=330,slow=14,SNR=74						
JHJ				Sn	Sn	08 29 04.0	+0.3
	575nm,0.3s,baz=242,slow=23,SNR=57						
JKO	Kozu shima	0.98	282	P	Pn	08 28 49.8	-0.1
BSO4	Boso 4	1.00	2	P	Pn	08 28 50.2	0.0
JIM2	Oshima 3	1.02	316	P	Pn	08 28 49.7	-0.7
JIZS	Izushimoda	1.38	302	P	Pn	08 28 54.9	+0.1
JIZS				S	Sn	08 29 13.0	+0.3
KTJJ	Kamata 2	1.38	313	P	Pn	08 28 54.5	-0.3
KTJJ				S	Sn	08 29 12.3	-0.5
JOD2	Odawara 2	1.61	322	P	Pn	08 28 57.6	-0.2
JOD2				S	Sn	08 29 17.4	-0.8
MJAR	Matsushiro Arr	3.06	327	Pn	Pn	08 29 18.1	+0.9
	3.1nm,0.3s,baz=159,slow=12,SNR=20						
MJAR				Sn	Sn	08 29 59.7	+6.8
	2.6nm,0.3s,baz=164,slow=23,SNR=6.8						
MAT	Matsushiro	3.07	327	P	Pn	08 29 18.6	+1.4
MAT				eS	Sn	08 29 53.3	+0.4
MKAR	Makanchi Array	45.02	305	P	P	08 36 38.5	+0.2
	0.5nm,0.5s,mb3.5,baz=88,slow=8.9,SNR=3.6						
WRA	Warramunga Arr	53.93	187	P	P	08 37 45.8	-0.3
	0.3nm,0.4s,mb3.7,baz=2.8,slow=7.9,SNR=10						
ASAR	Alice Springs	57.66	187	P	P	08 38 12.6	-0.1
	0.2nm,0.4s,mb3.5,baz=6.1,slow=7.7,SNR=3.5						
FINES	FINESS Array B	71.08	332	P	P	08 39 45.9	+5.6
	0.4nm,0.6s,mb3.4,baz=40,slow=7.3,SNR=3.6						

MAN 11 09:14:14.1,1060N×12629E,h14^{km}**,mb3.3,ML4.6,MS4.1, 1C,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	1.13	224	eP	Pb	09 14 33.8	-1.7
SCPH				eS	Sb	09 14 48.2	-1.8
BESP	Borongan	1.30	320	eP	Pn	09 14 36.6	-1.2
PLP	Palo	1.41	294	eP	Pn	09 14 38.0	-1.2
PLP						09 14 57.6	
MSLP	Maasin	1.48	252	eP	Pn	09 14 39.7	-0.7
TBP	Tagbilaran	2.56	250	eP	Pn	09 14 56.5	+1.4
TBP				eS	Sn	09 15 28.2	+2.2
BUKP	Musuan	2.96	204	eP	Pn	09 15 01.0	+0.3
BUKP				eS	Sn	09 15 38.1	+2.1
SNPH	Sibulan	3.26	248	eP	Pn	09 15 10.0	+5.2
RCP	Roxas	3.61	286	⇑eP	Pn	09 15 11.4	+1.8
PVCP	Virac	3.64	325	eP	Pn	09 15 10.9	+1.0

*IDC **11** 09:25:22.7±1.3,5.29S×150.61E,h0^{km},mb4.1/7,mb1 4.4/7, mb1mx4.2/12,mbtmp4.2/7,MS3.4/4,Ms1 3.4/4, ms1mx3.1/24,Error ellipse: s-maj=42.4km s-min=26.0km az=117.0*

*ISCJB **11** 09:25:30.8±3.5,5.3S±0.2×150.5E±0.2,h71^{km}±27^{km}, mb4.0/10,Error ellipse: s-maj=31.8km s-min=26.3km az=84.2*

*NEIC **11** 09:25:30.6±1.4,5.29S×150.47E,mb4.4/5,Error ellipse: s-maj=27.4km s-min=19.6km az=97.0*

ISC 11 09:25:32.6±3.2**,5.4S**±0.2×**150.5E**±0.2**,h72**^{km}±25^{km}**,n20,** σ**0^{s}.93**/20**,mb4.0**/10**,New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.19	220	Pn	Pn	09 26 47.5	-0.2
	10nm,0.3s,baz=52,slow=6.2,SNR=32						
PMG				Sn	Sn	09 27 51.9	+5.6
	3.8nm,0.3s,baz=60,slow=21,SNR=3.6						
PMG				LR	LR	09 28 13.3	
	comp=Z,118nm,20.0s,baz=46,slow=32						
PMG	Port Moresby	5.19	220	ePn	Pn	09 26 47.1	-0.6
	112nm,0.8s						
PMG				eSn	Sn	09 27 51.2	+5.0
HNR	Honiara	10.17	114	LR	LR	09 31 13.4	
	comp=Z,180nm,20.0s,baz=355,slow=35						
CTA	Charters Tower	15.18	195	Pn	Pn	09 29 03.8	+1.0
	0.3nm,0.3s,baz=28,slow=14,SNR=4.8						
CTA				LR	LR	09 34 25.1	
	comp=Z,193nm,21.1s,baz=20,slow=35						
CTAO	Charters Tower	15.18	195	eP	Pn	09 29 04.1	+1.3
	5.5nm,0.7s						
WRAB	Tennant Creek	21.36	226	eP	P	09 30 13.4	-0.5
	10.0nm,0.6s,mb4.3						
WB2	Warramunga Arr	21.36	226	eP	P	09 30 13.3	-0.7
WRA	Warramunga Arr	21.37	226	P	P	09 30 13.8	-0.2
	13nm,1.0s,mb4.2,baz=52,slow=10,SNR=36						
AS31	Alice Springs	24.21	220	eP	P	09 30 43.5	+1.1
ASAR	Alice Springs	24.21	220	P	P	09 30 42.6	+0.2
	5.0nm,0.8s,mb3.9,baz=56,slow=8.5,SNR=27						
ASPA	Alice Springs	24.21	220	eP	P	09 30 43.5	+1.1
FITZ	Fitzroy Crossi	27.39	240	eP	P	09 31 11.1	0.0
	21nm,0.9s,mb4.7						
FITZ	Fitzroy Crossi	27.39	240	P	P	09 31 11.4	+0.2
	11nm,0.9s,mb4.4,baz=80,slow=7.4,SNR=13						
STKA	Stephens Creek	27.64	197	P	P	09 31 12.0	-1.4
	3.2nm,0.8s,mb3.9,baz=348,slow=12,SNR=5.1						
STKA				LR	LR	09 42 17.2	
	comp=Z,225nm,19.5s,baz=24,slow=36						
MBWA	Marble Bar	33.71	239	eP	P	09 32 06.2	-0.7
	4.8nm,0.7s,mb4.4						
MBWA				epP	pP	09 32 20.8	-3.3
VNDA	Vanda	72.33	177	P	P	09 36 52.0	+1.5
	1.3nm,1.0s,mb3.7,baz=313,slow=7.8,SNR=4.4						
MKAR	Makanchi Array	79.29	320	P	P	09 37 31.2	+0.9
	0.2nm,0.2s,mb3.5,baz=120,slow=8.5,SNR=3.9						
QSPA	South Pole Qui	84.56	180	eP	P	09 37 56.2	-1.7
	1.8nm,0.7s,mb4.1						
QSPA				epP	pP	09 38 11.1	-6.3
NVAR	Mina Array Bea	94.24	52	P	P	09 38 43.2	-0.5
	0.3nm,0.8s,mb3.7,baz=248,slow=12,SNR=3.8						
TORD	Torodi Ar. Bea	148.31	286	PKPbc	PKPbc	09 45 09.9	-0.6
	1.2nm,0.8s,baz=46,slow=3.1,SNR=5.4						

*IDC **11** 09:37:15.5±4.9,5.55S×150.76E,h52^{km}±42^{km},mb4.0/9, mb1 4.2/11,mb1mx4.2/15,mbtmp4.3/11,ML3.4/2,MS4.0/18, Ms1 4.0/18,ms1mx3.9/24,Error ellipse: s-maj=36.8km s-min=20.2km az=93.0*

*ISCJB **11** 09:37:17.5±2.9,5.62S±0.09×150.6E±0.1,h77^{km}±24^{km}, mb4.3/16,Error ellipse: s-maj=23.5km s-min=14.6km az=0.1*

*HRVD **11** 09:37:18.2±0.4,5.47S×150.85E,h21^{km}±2^{km},MW4.9/57, Centroid moment Tensor Solution. LP body waves: s16,c18;Mantle waves: s57,c76; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.71±.23; $M_{\theta\theta}$2.72±.16; $M_{\phi\phi}$-2.01±.15; $M_{r\theta}$0.76±.27; $M_{\theta\phi}$0.79±.15; $M_{\phi r}$-0.67±.32; Best double couple: $M_0$2.73200×10^{16} NP1:ϕ_s37.00000°,δ65.00000°,λ-169.00000°. NP2: ϕ_s303.00000°,δ80.00000°,λ-25.00000°. Principal axes: T 2.9640, Plg10.0000°, Azm352.0000°; N -0.4680, Plg63.0000°, Azm103.0000°; P -2.5000, Plg25.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **11** 09:37:18.2,5.60S×150.60E,h72^{km},mB4.8,mb5.0,Ms4.8, Msz4.6*

*NEIC **11** 09:37:18.2±2.5,5.60S×150.59E,h72^{km}±21^{km},mb4.6/11, Error ellipse: s-maj=20.3km s-min=13.7km az=86.0*

ISC 11 09:37:19.6±2.7**,570S**±0.09×**1507E**±0.2**,h80**^{km}±22^{km}**,n46,** σ**0^{s}.85**/33**,mb4.3**/16**,New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.07	223	P	Pn	09 38 32.0	-1.1
	9.2nm,0.3s,baz=34,slow=11,SNR=29						
PMG				S	Sn	09 39 31.6	+1.3
	3.4nm,0.3s,baz=90,slow=11,SNR=3.1						
PMG				LR	LR	09 40 50.4	
	comp=Z,1μm,18.5s,baz=46,slow=41						
PMG	Port Moresby	5.07	223	P	Pn	09 38 32.0	-1.1
PMG				S	Sn	09 39 31.6	+1.3
CTA	Charters Tower	14.94	196	eP	Pn	09 40 51.4	+5.1
	14nm,1.0s						
CTA	Charters Tower	14.94	196	P	Pn	09 40 46.2	-0.1
	0.1nm,0.3s,baz=343,slow=9.9,SNR=2.7						
CTA				LR	LR	09 45 50.8	
	comp=Z,780nm,21.0s,baz=15,slow=34						
CTAO	Charters Tower	14.94	196	eP	Pn	09 40 47.6	+1.3
	30nm,1.1s						
KAKA	Kakadu	19.29	248	eP	Pn	09 41 35.8	-3.9
	14nm,0.9s						
GUMO	Guam	20.01	343	LR	LR	09 47 51.4	
	comp=Z,231nm,20.4s,baz=280,slow=32						
WRAB	Tennant Creek	21.27	227	eP	P	09 41 58.5	-0.7
	76nm,1.1s,mb4.9						
WB2	Warramunga Arr	21.27	227	eP	P	09 41 58.8	-0.5
WRA	Warramunga Arr	21.28	227	P	P	09 41 58.9	-0.5
	15nm,0.8s,mb4.3,baz=48,slow=9.7,SNR=50						
WRA				LR	LR	09 50 38.3	
	comp=Z,265nm,19.6s,baz=65,slow=37						
DZM	Mont Dzumac	22.30	138	LR	LR	09 49 52.9	
	comp=Z,826nm,18.1s,baz=200,slow=34						
AS31	Alice Springs	24.08	220	eP	P	09 42 27.9	+0.5
ASAR	Alice Springs	24.08	220	P	P	09 42 27.9	+0.5
	12nm,1.1s,mb4.1,baz=53,slow=8.9,SNR=32						
ASAR				LR	LR	09 51 17.2	
	comp=Z,321nm,20.4s,baz=50,slow=35						
ASPA	Alice Springs	24.08	220	eP	P	09 42 27.9	+0.4
ARMA	Armidale	24.61	178	eP	P	09 42 33.3	+1.1
FITZ	Fitzroy Crossi	27.38	241	eP	P	09 42 56.4	-0.8
	40nm,0.9s,mb5.0						
FITZ	Fitzroy Crossi	27.38	241	P	P	09 42 56.6	-0.6
	19nm,1.0s,mb4.6,baz=76,slow=7.7,SNR=24						
FITZ				LR	LR	09 55 35.6	
	comp=Z,221nm,18.2s,baz=241,slow=40						
STKA	Stephens Creek	27.40	197	eP	P	09 42 57.2	-0.2
	7.8nm,0.9s,mb4.2						
STKA	Stephens Creek	27.40	197	P	P	09 42 57.4	-0.1
	7.4nm,0.8s,mb4.3,baz=356,slow=12,SNR=5.0						
STKA				LR	LR	09 53 42.6	
	comp=Z,524nm,20.9s,baz=18,slow=36						
CBIJ	Chichi jima	33.62	346	LR	LR	09 55 27.5	
	comp=Z,367nm,20.5s,baz=176,slow=33						
MBWA	Marble Bar	33.69	240	eP	P	09 43 51.9	-1.0
	8.2nm,0.6s,mb4.7						
AFI	Afiamalu	37.84	105	LR	LR	09 56 09.1	
	comp=Z,162nm,20.7s,baz=270,slow=30						
JOW	Kunigami	38.94	327	LR	LR	09 57 27.6	
	comp=Z,188nm,21.0s,baz=107,slow=31						
KLBR	Kellerberrin	40.16	226	eP	P	09 44 47.1	-0.6
	36nm,1.2s,mb5.1						
NWAO	Narrogin (SRO)	41.26	225	LR	LR	10 02 30.9	
	comp=Z,326nm,18.3s,baz=221,slow=37						
MJAR	Matsushiro Arr	43.61	345	P	P	09 45 11.8	-4.0
	2.2nm,1.0s,mb3.9,baz=166,slow=10,SNR=4.8						
BJI	Beijing	55.50	328	eP	P	09 46 46.7	+0.5
PPT	Papeete	59.48	107	eLR	LR	10 04 38.7	
	64nm,22.8s						
PPT	Papeete	59.48	107	LR	LR	10 08 44.1	
	comp=Z,93nm,21.9s,baz=146,slow=32						
TBI	Tubuai	60.13	114	eLR	LR	10 04 57.4	
	123nm,35.0s						
LZH	Lanzhou	60.42	317	eP	P	09 47 20.5	-0.1
LZH				AMB	AMB		
	comp=Z,25nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,49nm,6.3s						
LZH				LR	LR		
	comp=N,336nm,15.2s						
LZH				LR	LR		
	comp=Z,397nm,17.6s						
GTA	Gaotai	64.90	318	eP	P	09 47 54.7	+4.4
ULN	Ulaanbaatar	65.66	329	eP	P	09 47 57.1	+1.8
	comp=Z,6.0nm,1.4s,mb4.2						
SONM	Songino Array	65.97	329	P	P	09 47 57.5	+0.2
	comp=Z,1.7nm,0.9s,mb3.9,baz=140,slow=5.7,SNR=9.3						
SONM				LR	LR	10 16 02.2	
	comp=Z,112nm,20.9s,baz=293,slow=35						
VNDA	Vanda	72.02	177	P	P	09 48 34.7	-0.1
	comp=Z,0.9nm,0.8s,mb3.6,baz=341,slow=7.7,SNR=4.1						
VNDA				LR	LR	10 18 12.9	
	comp=Z,103nm,19.4s,baz=314,slow=34						
VNDA	Vanda	72.02	177	eP	P	09 48 34.6	-0.1
	comp=Z,2.1nm,1.0s,mb3.9						
MKAR	Makanchi Array	79.62	320	P	P	09 49 17.4	-0.6
	comp=Z,0.5nm,0.7s,mb3.4,baz=116,slow=5.5,SNR=6.4						
ZAL	Zalesovo	80.74	327	LR	LR	10 27 40.2	
	comp=Z,72nm,19.2s,baz=358,slow=38						
KURK	Kurchatov	83.18	322	eP	P	09 49 37.9	+1.1
	comp=Z,2.4nm,0.9s,mb4.0						
MAW	Mawson	83.93	203	LR	LR	10 24 42.1	
	comp=Z,85nm,21.1s,baz=68,slow=34						
QSPA	South Pole Qui	84.27	180	eP	P	09 49 42.5	0.0
	comp=Z,22nm,1.6s,mb4.7						
NVAR	Mina Array Bea	94.30	52	P	P	09 50 28.9	-1.1
	comp=Z,0.6nm,0.8s,mb4.0,baz=244,slow=5.0,SNR=4.9						
YKA	Yellowknife Ar	97.20	28	LR	LR	10 31 14.0	
	comp=Z,36nm,19.6s,baz=235,slow=33						
LPAZ	La Paz	135.83	120	PKP	PKPdf	09 56 32.0	+1.1
	comp=Z,1.1nm,0.9s,baz=360,slow=8.2,SNR=4.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**148.54**	**286**	PKPbc	PKPbc	09 56 57.3	+0.2
	comp=Z,1.4nm,0.8s,baz=63,slow=1.9,SNR=8.5						
DBIC	**Dimbokro**	**155.66**	**274**	PKPbc	PKPdf	09 57 12.7	+8.7
	comp=Z,4.1nm,0.9s,baz=195,slow=5.7,SNR=3.8						

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*NIED **11** 09:37:00, 4050N×14200E, h8^{km}, Mw3.6 Best double couple: M₀2.39000×10^{14} NP1:φs335.00000°, δ52.00000°, λ112.00000°. NP2:φs122.00000°, δ43.00000°, λ64.00000°.*

JMA 11 09:37:44.3±0.1**, 4051N×14203E, h41^{km}**±1^{km}**, M3.6, 3C-4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.42**	**251**	⇓P	Pn	09 37 54.0	0.0
JANG				S	Sn	09 38 00.3	-0.5
JTH	**Tanohata**	**0.58**	**193**	⇓P	Pn	09 37 56.1	-0.1
JTH				*e*S	Sn	09 38 03.9	-0.7
JKZ	**Kuzumaki**	**0.75**	**226**	⇓P	Pn	09 37 58.9	+0.5
JKZ				*e*S	Sn	09 38 08.9	+0.3
JTM	**Tenmabayashi**	**0.78**	**291**	⇑P	Pn	09 37 58.5	-0.4
JTM				S	Sn	09 38 08.4	-1.0
JAH	**Hinai**	**1.11**	**254**	⇑P	Pn	09 38 03.6	+0.2
JAH				*e*S	Sn	09 38 17.6	+0.1
JOT	**Ohata**	**1.15**	**320**	⇑P	Pn	09 38 03.4	-0.4
JOT				*e*S	Sn	09 38 17.0	-1.3
JOM	**Ohasama**	**1.18**	**209**	⇓P	Pn	09 38 04.9	+0.6
JOM				*e*S	Sn	09 38 19.3	+0.1

IDC 11 10:05:57.0±1.8**, 646S×13057E, h0^{km}, mb4.1**/2**, mb1 4.4**/5**, mb1mx4.1**/13**, mbtmp4.2**/5**, ML4.3**/3**, Error ellipse: s-maj=83.8km s-min=24.9km az=80.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.54**	**202**	Pn	Pn	10 08 58.4	+1.8
	2.5nm,0.3s,baz=32,slow=11,SNR=79						
FITZ				Sn	Sn	10 11 11.2	-5.8
	2.1nm,0.3s,baz=158,slow=24,SNR=6.9						
WRA	**Warramunga Arr**	**13.89**	**165**	Pn	Pn	10 09 13.8	-1.4
	1.0nm,0.3s,baz=347,slow=13,SNR=38						
WRA				Sn	Sn	10 11 39.4	-11
	3.0nm,0.3s,baz=343,slow=20,SNR=9.1						
ASAR	**Alice Springs**	**17.41**	**170**	P	Pn	10 10 01.6	+0.3
	1.4nm,0.3s,baz=347,slow=9.5,SNR=49						
ASAR				S	Sn	10 13 05.0	-11
	0.7nm,0.3s,baz=356,slow=27,SNR=9.2						
SONM	**Songino Array**	**58.11**	**341**	P	P	10 15 52.7	+0.5
	0.3nm,0.3s,baz=162,slow=6.3,SNR=5.4						
MKAR	**Makanchi Array**	**68.09**	**326**	P	P	10 16 58.5	0.0
	4.2nm,0.6s,baz=126,slow=7.8,SNR=46						

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*ISCJB **11** 10:08:32.9±0.7, 4606N±003×387E±008, h13^{km}±9^{km}, Error ellipse: s-maj=9.8km s-min=4.3km az=18.5*
*STR **11** 10:08:32.9±0.6, 4617N×357E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **11** 10:08:33.9±0.2, 4604N×391E, h2^{km}, Md1.9/3, Ml2.1/5, Error ellipse: s-maj=4.1km s-min=3.1km az=73.0*

ISC 11 10:08:33.4±0.8**, 4605N**±003×**390E**±009**, h11^{km}**±10^{km}**, n9, σ0^{s}63**/18**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLDF	**La Plantade**	**0.21**	**248**	Pg	**Pg**	**10 08 37.1**	**-0.7**
PLDF				Sg	**Sg**	**10 08 40.7**	**-0.1**
SMF	**Signal de Mont**	**0.60**	**356**	*e*Pg	**Pg**	**10 08 45.7**	**+0.7**
SMF				*e*Sg	**Sg**	**10 08 53.9**	**+1.0**
	5.4nm,0.2s						
AVF	**Avril sur Loir**	**0.83**	**333**	*e*Pg	**Pg**	**10 08 49.6**	**+0.1**
AVF				*e*Sg	**Sg**	**10 09 01.4**	**+1.0**
	3.3nm,0.2s						
BGF	**Bois d'Agland**	**0.89**	**305**	*e*Pg	**Pg**	**10 08 50.6**	**+0.1**
BGF				*e*Sg	**Sg**	**10 09 02.6**	**+0.5**
	9.7nm,0.3s						
LBL	**Lubilhac**	**0.93**	**209**	Pg	**Pg**	**10 08 51.3**	**-0.1**
LBL				Sg	**Sg**	**10 09 04.5**	**+1.0**
SSF	**Saint Saulge**	**1.05**	**345**	*e*Pg	**Pg**	**10 08 53.2**	**-0.4**
SSF				*e*Sg	**Sg**	**10 09 07.4**	**+0.1**
	1.4nm,0.2s						
TCF	**Toulx Ste Croi**	**1.20**	**282**	*e*Pg	**Pg**	**10 08 55.9**	**-0.5**
TCF				*e*Sg	**Sg**	**10 09 11.3**	**-0.6**
	3.4nm,0.2s						
LOR	**Lormes**	**1.22**	**359**	*e*Pg	**Pg**	**10 08 55.8**	**-1.1**
LOR				*e*Sg	**Sg**	**10 09 11.8**	**-1.0**
	2.7nm,0.2s						
VIVF	**Saint-Julien-l**	**1.31**	**155**	*e*Pn	**Pn**	**10 08 57.2**	**-0.4**
VIVF				*e*Sn	**Sn**	**10 09 15.4**	**+0.4**
	1.5nm,0.1s						

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*SOF **11** 10:20:18.7, 4022N×2542E, h10^{km}, MD2.7*
*ISCJB **11** 10:20:20.1±0.4, 4024N±002×2522E±003, h2^{km}, Error ellipse: s-maj=3.6km s-min=3.3km az=10.0*
*THE **11** 10:20:21.3, 4022N×2525E, h2^{km}, ML3.4*
*NEIC **11** 10:20:21.5, 4029N×2522E, h25^{km}, MD2.7(SOF), MD3.3(ATH), After ATH.*
*ATH **11** 10:20:21.5, 4029N×2522E, h25^{km}±1^{km}, MD3.3/5*
*CSEM **11** 10:20:22.7±0.1, 4031N×2524E, h20^{km}, ML3.4, Error ellipse: s-maj=2.3km s-min=1.8km az=132.0*

ISC 11 10:20:20.5±0.6**, 4022N**±002×**2523E**±003**, h1^{km}**±5^{km}**, n21, σ1^{s}04**/33**, 2C-1D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.30**	**203**	*e*Pg	**Pg**	**10 20 26.2**	**-0.1**
LOS				*e*Sg	**Sg**	**10 20 29.4**	**-0.8**
LIA	**Limnos Island**	**0.32**	**187**	⇑*i*PB	**Pg**	**10 20 30.5**	**+3.9**
LIA				*e*SB	**Sg**	**10 20 36.1**	**+5.3**
ALN	**Alexandroupoli**	**0.92**	**42**	*e*Pg	**Pg**	**10 20 38.2**	**+0.1**
ALN				*e*Sg	**Sg**	**10 20 50.0**	**0.0**
RDO	**Rodhopi**	**0.96**	**14**	⇑*i*PN	**Pg**	**10 20 38.4**	**-0.4**
RDO				*e*SN	**Sg**	**10 20 51.6**	**+0.4**
OUR	**Ouranopolis**	**0.96**	**277**	*e*Pg	**Pg**	**10 20 41.0**	**+2.1**
OUR				*e*Sg	**Sg**	**10 20 53.6**	**+2.2**
PRK	**Paraskevi**	**1.26**	**140**	*e*PN	**Pn**	**10 20 45.8**	**+0.7**
PRK				*e*SN	**Sn**	**10 21 04.8**	**+2.2**
PLG	**Polygyros**	**1.38**	**277**	⇓*i*PN	**Pn**	**10 20 47.1**	**+0.3**
PLG				*e*SN	**Sn**	**10 21 04.8**	**-0.8**
KDZ	**Kurdzhali**	**1.44**	**5**	P	**Pn**	**10 20 46.0**	**-1.6**
AOS	**Alonnisos**	**1.48**	**225**	*e*Pg	**Pg**	**10 20 49.1**	**+0.3**
NVR	**Nevrokopi**	**1.54**	**318**	*e*PN	**Pn**	**10 20 48.3**	**-0.7**
SRS	**Serrai**	**1.54**	**306**	*e*Pg	**Pg**	**10 20 48.5**	**-1.5**
SRS				*e*Sg	**Sg**	**10 21 09.9**	**0.0**
SOH	**Sokhos**	**1.56**	**293**	*e*Pg	**Pg**	**10 20 49.5**	**-0.8**
SOH				*e*Sg	**Sg**	**10 21 10.1**	**-0.4**
MMB	**Musomiste**	**1.79**	**321**	P	**Pn**	**10 20 51.0**	**-1.4**
XOR	**Xorichti**	**1.79**	**242**	*e*Pb	**Pb**	**10 20 52.6**	**-1.4**
CHOS	**Chios island**	**1.94**	**161**	*e*Pb	**Pb**	**10 20 55.7**	**-0.8**
CHOS				*e*Sb	**Sb**	**10 21 19.8**	**-1.3**
KNT	**Kendrikon**	**2.01**	**299**	*e*Pn	**Pn**	**10 20 56.2**	**+0.7**
KNT				*e*Sn	**Sn**	**10 21 21.3**	**0.0**
LIT	**Litokhoron**	**2.11**	**268**	*e*Pn	**Pn**	**10 20 57.8**	**+1.0**
KKB	**Krupnik**	**2.32**	**316**	P	**Pn**	**10 21 03.2**	**+3.5**
JMB	**Yambol**	**2.47**	**24**	*e*Pn	**Pn**	**10 21 02.7**	**+0.9**
JMB				*e*Sn	**Sn**	**10 21 32.5**	**0.0**
AGG	**Agios Georgios**	**2.54**	**243**	*e*Pn	**Pn**	**10 21 03.4**	**+0.6**
VTS	**Vitosha**	**2.82**	**328**	P	**Pg**	**10 21 15.0**	**+0.5**

IDC 11 10:45:05.3±6.4**, 367S×15092E, h0^{km}, mb3.7**/3**, mb1 3.9**/4**, mb1mx3.7**/13**, mbtmp3.8**/4**, ML2.6**/1**, Error ellipse: s-maj=107.8km s-min=83.0km az=163.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.81**	**213**	Pn	Pn	10 46 44.6	-1.8
	0.8nm,0.3s,baz=297,slow=13,SNR=3.7						
WRA	**Warramunga Arr**	**22.87**	**224**	P	P	10 50 10.5	+0.3
	0.6nm,0.5s,baz=48,slow=10.0,SNR=13						
ASAR	**Alice Springs**	**25.79**	**218**	P	P	10 50 39.0	+1.2
	0.7nm,0.7s,baz=57,slow=7.9,SNR=11						
STKA	**Stephens Creek**	**29.39**	**196**	P	P	10 51 10.1	-0.1
	2.8nm,0.8s,baz=41,slow=11,SNR=4.4						

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*ISCJB **11** 10:54:17.9±2.6, 560S±009×1507E±0.1, h79^{km}±22^{km}, mb4.3/19, Error ellipse: s-maj=18.9km s-min=14.3km az=173.1*
*IDC **11** 10:54:17.5±4.3, 560S×15085E, h60^{km}±38^{km}, mb4.0/11, mb1 4.2/13, mb1mx4.2/15, mbtmp4.3/13, ML3.5/2, MS4.1/17, Ms1 4.1/17, ms1mx4.0/21, Error ellipse: s-maj=25.5km s-min=20.9km az=68.0*
*BJI **11** 10:54:18.0, 570S×15080E, h80^{km}, mb5.0*
*HRVD **11** 10:54:20.0±0.3, 548S×15087E, h15^{km}±1^{km}, MW4.9/66, Centroid moment Tensor Solution. LP body waves: s19,c23;Mantle waves: s66,c102; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.29±.13; $M_{\theta\theta}$2.58±.11; $M_{\phi\phi}$-2.29±.11; $M_{r\theta}$0.17±.32; $M_{\theta\phi}$1.61±.10; $M_{\phi r}$0.71±.36; Best double couple: M₀3.01600×10^{16} NP1:φs118.00000°, δ76.00000°, λ-5.00000°. NP2: φs209.00000°, δ85.00000°, λ-166.00000°. Principal axes: T 3.1050, Plg6.0000°, Azm343.0000°; N -0.1810, Plg75.0000°, Azm228.0000°; P -2.9280, Plg14.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 10:54:20.1±2.0, 570S×15077E, h81^{km}±17^{km}, mb4.9/8 Error ellipse: s-maj=14.7km s-min=11.9km az=84.0*

ISC 11 10:54:19.1±2.3**, 563S**±009×**1508E**±01**, h73^{km}**±20^{km}**, n42, σ1^{s}07**/33**, mb4.3**/19**, 1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.19**	**223**	P	**Pn**	**10 55 34.7**	**+0.5**
	11nm,0.3s,baz=54,slow=6.7,SNR=33						
PMG				S	**Sn**	**10 56 40.4**	**+7.7**
	3.4nm,0.3s,baz=64,slow=24,SNR=4.2						
PMG				LR	LR	10 57 11.1	
	comp=Z,779nm,19.0s,baz=226,slow=33						
PMG	**Port Moresby**	**5.19**	**223**	P	**Pn**	**10 55 34.7**	**+0.5**
PMG				S	**Sn**	**10 56 40.5**	**+7.7**
HNR	**Honiara**	**9.85**	**113**	LR	LR	10 59 51.5	
	comp=Z,1μm,20.1s,baz=353,slow=34						
CTA	**Charters Tower**	**15.03**	**197**	*e*P	**Pn**	**10 57 53.8**	**+6.4**
	12nm,0.9s						
CTA	**Charters Tower**	**15.03**	**197**	P	**Pn**	**10 57 47.9**	**+0.5**
	0.1nm,0.3s,baz=14,slow=15,SNR=3.0						
CTA				LR	LR	11 03 03.2	
	comp=Z,999nm,20.4s,baz=17,slow=35						
CTAO	**Charters Tower**	**15.03**	**197**	*e*P	**Pn**	**10 57 46.6**	**-0.7**
	29nm,1.1s						
KAKA	**Kakadu**	**19.41**	**247**	*e*P	**Pn**	**10 58 38.8**	**-2.4**
	11nm,0.5s						
GUMO	**Guam**	**19.97**	**343**	LR	LR	11 05 02.7	
	comp=Z,280nm,18.0s,baz=118,slow=32						
WRAB	**Tennant Creek**	**21.38**	**227**	*e*P	**P**	**10 59 01.1**	**+0.4**
	68nm,1.2s,mb4.9						
WB2	**Warramunga Arr**	**21.39**	**227**	*e*P	**P**	**10 59 00.1**	**-0.6**
WRA	**Warramunga Arr**	**21.40**	**227**	P	**P**	**10 59 00.3**	**-0.5**
	14nm,1.0s,mb4.2,baz=51,slow=10,SNR=36						
WRA				LR	LR	11 07 41.4	
	comp=Z,259nm,18.3s,baz=50,slow=37						
DZM	**Mont Dzumac**	**22.29**	**139**	P	**P**	**10 59 09.3**	**-1.0**
	8.3nm,0.8s,mb4.1,baz=54,slow=14,SNR=3.4						
DZM				LR	LR	11 06 24.3	
	comp=Z,1μm,20.8s,baz=21,slow=33						
AS31	**Alice Springs**	**24.20**	**220**	*e*P	**P**	**10 59 29.8**	**+1.1**
ASAR	**Alice Springs**	**24.20**	**220**	P	**P**	**10 59 29.8**	**+1.0**
	4.3nm,0.7s,mb3.9,baz=56,slow=7.9,SNR=49						
ASPA	**Alice Springs**	**24.20**	**220**	*e*P	**P**	**10 59 29.8**	**+1.0**
ARMA	**Armidale**	**24.67**	**178**	*e*P	**P**	**10 59 33.6**	**+0.5**
STKA	**Stephens Creek**	**27.49**	**197**	P	**P**	**10 59 58.9**	**+0.4**
	8.8nm,1.0s,mb4.2,baz=338,slow=8.0,SNR=4.7						
STKA				LR	LR	11 11 15.0	
	comp=Z,869nm,18.1s,baz=15,slow=37						
FITZ	**Fitzroy Crossi**	**27.50**	**241**	⇓*i*P	**P**	**10 59 57.8**	**-0.7**
	27nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**27.50**	**241**	P	**P**	**10 59 57.9**	**-0.6**
	16nm,0.9s,mb4.6,baz=83,slow=7.9,SNR=27						
FITZ				LR	LR	11 12 24.5	
	comp=Z,212nm,18.1s,baz=244,slow=39						
FORT	**Forrest**	**32.89**	**218**	*e*P	**P**	**11 00 46.0**	**-0.2**
	29nm,0.8s,mb5.2						
MBWA	**Marble Bar**	**33.81**	**240**	*e*P	**P**	**11 00 54.0**	**-0.2**
	12nm,0.7s,mb4.8						
AFI	**Afiamalu**	**37.77**	**105**	LR	LR	11 13 10.5	
	comp=Z,178nm,20.2s,baz=114,slow=30						
KLBR	**Kellerberrin**	**40.28**	**226**	*e*P	**P**	**11 01 48.3**	**-0.7**
	38nm,1.3s,mb5.1						
URZ	**Urewera**	**40.34**	**147**	LR	LR	11 15 21.3	
	comp=Z,256nm,20.4s,baz=242,slow=31						
MUN	**Mundaring**	**41.60**	**227**	*e*P	**P**	**11 01 59.8**	**0.0**
MJAR	**Matsushiro Arr**	**43.57**	**345**	P	**P**	**11 02 18.9**	**+3.1**
	2.0nm,0.9s,mb3.8,baz=162,slow=9.5,SNR=4.4						
MJAR				LR	LR	11 19 56.4	
	comp=Z,118nm,19.3s,baz=170,slow=35						
INCN	**Inchon**	**48.44**	**334**	*e*P	**P**	**11 02 55.6**	**+1.6**
	82nm,1.3s,mb5.4						
BJI	**Beijing**	**55.49**	**328**	*e*P	**P**	**11 03 45.7**	**-0.8**
BJI				AMB	AMB		
	comp=Z,6.0nm,1.5s,mb4.4						
PPT	**Papeete**	**59.41**	**107**	*e*LR	LR	11 22 12.2	
	comp=Z,179nm,24.8s						
PPT	**Papeete**	**59.41**	**107**	LR	LR	11 24 10.9	
	comp=Z,142nm,20.5s,baz=157,slow=30						
TBI	**Tubuai**	**60.07**	**114**	*e*LQ		11 20 00.8	
	comp=Z,467nm,31.5s						
TBI				*e*LR	LR	11 22 30.4	
	comp=Z,190nm,28.8s						
SONM	**Songino Array**	**65.97**	**329**	P	**P**	**11 04 59.2**	**+1.6**
	comp=Z,2.6nm,1.0s,mb4.0,baz=138,slow=6.7,SNR=14						
SONM				LR	LR	11 33 15.5	
	comp=Z,186nm,20.5s,baz=132,slow=35						
VNDA	**Vanda**	**72.09**	**177**	P	**P**	**11 05 36.5**	**+1.0**
	comp=Z,1.7nm,1.0s,mb3.8,baz=53,slow=4.2,SNR=2.9						
VNDA				LR	LR	11 33 46.1	
	comp=Z,131nm,21.6s,baz=314,slow=33						
MKAR	**Makanchi Array**	**79.63**	**319**	P	**P**	**11 06 18.0**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.5,baz=97,slow=5.6,SNR=5.7						
ZAL	**Zalesovo**	**80.73**	**327**	P	**P**	**11 06 22.7**	**-1.7**
	comp=Z,0.8nm,0.4s,mb3.9,baz=102,slow=4.9,SNR=4.2						
ZAL				LR	LR	11 41 43.8	
	comp=Z,108nm,21.5s,baz=352,slow=35						
MAW	**Mawson**	**84.03**	**203**	P	**P**	**11 06 40.6**	**-1.0**
	comp=Z,2.9nm,0.8s,mb4.1,baz=80,slow=3.0,SNR=4.5						
MAW				LR	LR	11 40 52.6	
	comp=Z,182nm,20.6s,baz=67,slow=33						
QSPA	**South Pole Qui**	**84.34**	**180**	*e*P	**P**	**11 06 46.5**	**+3.3**
	comp=Z,6.7nm,1.1s,mb4.4						
NVAR	**Mina Array Bea**	**94.18**	**52**	P	**P**	**11 07 28.6**	**-1.3**
	comp=Z,0.5nm,0.8s,mb3.9,baz=253,slow=6.3,SNR=2.5						
YKA	**Yellowknife Ar**	**97.09**	**28**	LR	LR	11 54 59.3	
	comp=Z,56nm,18.2s,baz=270,slow=38						
LPAZ	**La Paz**	**135.78**	**120**	PKP	PKPdf	11 13 34.2	+2.9
	comp=Z,1.8nm,1.0s,baz=17,slow=5.3,SNR=6.2						
LPAZ	**La Paz**	**135.78**	**120**	PKP	PKPdf	11 13 34.2	+2.9
TORD	**Torodi Ar. Bea**	**148.62**	**286**	PKPbc	PKPbc	11 13 59.5	+1.8
	comp=Z,2.7nm,0.8s,baz=73,slow=2.3,SNR=17						

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*IDC **11** 11:05:21.5±1.4, 1669S×17245W, h0^{km}, mb4.3/6, mb1 4.5/6, mb1mx4.2/15, mbtmp4.3/6, MS3.6/2, Ms1 3.7/2, ms1mx3.0/22, Error ellipse: s-maj=51.6km s-min=30.6km az=154.0*
*ISCJB **11** 11:05:25.0±1.2, 168S±02×1726W±02, h33^{km}, mb4.5/10, MS3.7/2, Error ellipse: s-maj=36.3km s-min=23.9km az=149.0*
*NEIC **11** 11:05:26.9±1.1, 1667S×17255W, h35^{km}, mb4.7/4, Error ellipse: s-maj=35.8km s-min=23.8km az=163.0*

ISC 11 11:05:27.2±1.1**, 168S**±02×**1725W**±02**, h35^{km}, n15, σ0^{s}97**/14**, mb4.5**/10**, MS3.7**/2**, 2D, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**39.92**	**275**	*e*P	**P**	**11 12 57.7**	**-0.1**
	13nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**44.13**	**241**	*e*P	**P**	**11 13 34.3**	**+2.1**
	3.3nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**44.13**	**241**	P	**P**	**11 13 34.0**	**+1.9**
	5.1nm,0.7s,mb4.4,baz=94,slow=11,SNR=17						
WB2	**Warramunga Arr**	**50.39**	**258**	*e*P	**P**	**11 14 19.5**	**-1.4**
WRAB	**Tennant Creek**	**50.39**	**258**	*e*P	**P**	**11 14 20.0**	**-0.9**
	4.5nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**50.40**	**258**	P	**P**	**11 14 19.6**	**-1.3**
	2.2nm,0.5s,mb4.4,baz=96,slow=6.9,SNR=94						
AS31	**Alice Springs**	**50.53**	**253**	⇓*i*P	**P**	**11 14 21.8**	**-0.2**
ASAR	**Alice Springs**	**50.53**	**253**	P	**P**	**11 14 21.9**	**0.0**
	24nm,0.6s,mb5.3,baz=88,slow=8.1,SNR=494						
ASPA	**Alice Springs**	**50.54**	**253**	⇓*i*P	**P**	**11 14 21.8**	**-0.2**
GUMO	**Guam**	**51.81**	**303**	LR	LR	11 34 23.4	
	comp=Z,24nm,19.5s,MS3.2,baz=323,slow=34						
KAKA	**Kakadu**	**53.28**	**266**	*e*P	**P**	**11 14 42.6**	**+0.2**
	6.6nm,0.3s,mb5.0						
FITZ	**Fitzroy Crossi**	**58.79**	**259**	P	**P**	**11 15 23.1**	**+1.3**
	1.0nm,0.3s,mb4.3,baz=104,slow=6.1,SNR=19						
VNDA	**Vanda**	**62.11**	**186**	P	**P**	**11 15 43.9**	**-0.6**
	0.6nm,0.6s,mb3.9,baz=9.1,slow=4.0,SNR=3.6						
MBWA	**Marble Bar**	**63.83**	**254**	*e*P	**P**	**11 15 57.4**	**+1.5**
	3.9nm,0.3s,mb4.9						
PDAR	**Pinedale Array**	**82.70**	**41**	P	**P**	**11 17 47.3**	**+0.1**
	0.8nm,0.8s,mb3.8,baz=134,slow=4.3,SNR=4.7						
PDAR				LR	LR	11 49 47.6	
	comp=Z,90nm,19.1s,MS4.2,baz=259,slow=32						

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*ISCJB **11** 11:29:48.6±0.6, 4612N±004×631E±003, h3^{km}±6^{km}, Error ellipse: s-maj=5.9km s-min=4.0km az=6.7*
*CSEM **11** 11:29:49.6±0.2, 4611N×643E, h10^{km}, MD2.4/6, Error ellipse: s-maj=6.6km s-min=4.3km az=7.0*
*GEN **11** 11:29:50.0, 4609N×639E, h0^{km}, ML2.0*
*NEIC **11** 11:29:51.2, 4621N×619E, h5^{km}, ML2.0(ROM), ML2.6(STR), After STR.*
*ROM **11** 11:29:51.1±0.6, 4610N×647E, h10^{km}, Md2.4/6, Ml2.0/2, Error ellipse: s-maj=7.4km s-min=5.2km az=61.0*

ISC 11 11:29:49.8±0.5**, 4610N**±004×**635E**±004**, h11^{km}**±5^{km}**, n19, σ0^{s}90**/29**, 1D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMV	**Vieux Emosson**	**0.39**	**95**	Pg	**Pg**	**11 29 57.1**	**-0.3**
EMV				Sg	**Sg**	**11 30 02.7**	**+0.2**
MRGE	**Morge**	**0.60**	**123**	⇓*i*Pg	**Pg**	**11 30 01.3**	**-0.1**
MRGE				Sg	**Sg**	**11 30 09.6**	**+0.4**
	50nm,0.5s						
DIX	**Grande Dixence**	**0.74**	**91**	Pg	**Pg**	**11 30 04.1**	**0.0**
GRN	**Grenoble**	**0.96**	**206**	Pg	**Pg**	**11 30 10.1**	**+1.9**
BNI	**Bardonecchia**	**1.07**	**167**	*e*Pg	**Pg**	**11 30 12.8**	**+2.3**
BNI				*e*Sg	**Sg**	**11 30 29.0**	**+4.6**
BNI	**Bardonecchia**	**1.07**	**167**	*e*Pg	**Pg**	**11 30 12.8**	**+2.3**
BNI				*e*Sg	**Sg**	**11 30 29.0**	**+4.6**
MMK	**Mattmark**	**1.13**	**92**	Pg	**Pg**	**11 30 10.7**	**-0.7**
TRAV		**1.14**	**121**	P	**Pb**	**11 30 10.8**	**-0.7**
TRAV				S	**Sb**	**11 30 25.2**	**-1.2**
RSP	**Reno Superiore**	**1.14**	**146**	P	**Pb**	**11 30 11.1**	**-0.5**
RSP	**Reno Superiore**	**1.14**	**146**	Pg	**Pg**	**11 30 11.7**	**-0.1**
	55nm,0.5s						
RSP				S	**Sb**	**11 30 25.5**	**-0.9**
MCGN	**Macugnaga**	**1.15**	**97**	Pg	**Pg**	**11 30 11.3**	**-0.6**
	12nm,0.5s						
RRL	**Cesana Torines**	**1.22**	**165**	P	**Pn**	**11 30 12.6**	**-0.2**
LOMF	**Lomont**	**1.29**	**15**	Pn	**Pn**	**11 30 15.1**	**+1.3**
BBS	**Basel-Blauen**	**1.58**	**30**	Pn	**Pn**	**11 30 18.2**	**+0.5**
BBS				Sg	**Sg**	**11 30 40.7**	**+0.1**
PZZ	**Prazzo**	**1.68**	**161**	P	**Pn**	**11 30 19.4**	**+0.2**
COLF	**Collangettes**	**1.95**	**254**	Pn	**Pn**	**11 30 22.8**	**0.0**
COLF				Pg	**Pg**	**11 30 26.4**	**-0.7**
COLF				Sg	**Sg**	**11 30 51.5**	**-0.9**
COLF	**Collangettes**	**1.95**	**254**	Pg	**Pg**	**11 30 26.4**	**-0.7**
TOUF	**Mont Tournerai**	**2.18**	**163**	Pn	**Pn**	**11 30 28.5**	**+2.5**
AGO	**Saint Agoulin**	**2.24**	**270**	Pn	**Pn**	**11 30 26.6**	**-0.2**
AGO				Sg	**Sg**	**11 31 01.0**	**-0.8**

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*IDC **11** 11:44:31.7±1.9, 549S×15084E, h0^{km}, mb4.2/5, mb1 4.3/6, mb1mx4.1/14, mbtmp4.2/6, ML4.0/1, MS3.3/4, Ms1 3.3/4, ms1mx3.0/22, Error ellipse: s-maj=58.9km s-min=24.9km az=104.0*
*ISCJB **11** 11:44:36.3±4.0, 55S±02×1510E±02, h58^{km}±30^{km}, mb4.1/6, MS3.1/1, Error ellipse: s-maj=40.2km s-min=27.5km az=30.2*
*NEIC **11** 11:44:41.3±3.4, 555S×15064E, h73^{km}±24^{km}, mb4.3/3, Error ellipse: s-maj=34.2km s-min=22.2km az=86.0*

ISC 11 11:44:41.3±4.0**, 56S**±02×**1507E**±03**, h64^{km}**±27^{km}**, n18, σ0^{s}63**/14**, mb4.1**/6**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.16**	**222**	Pn	**Pn**	**11 45 56.3**	**+0.4**
	11nm,0.3s,baz=46,slow=7.1,SNR=49						
PMG				Sn	**Sn**	**11 47 01.0**	**+7.0**
	2.6nm,0.3s,baz=57,slow=17,SNR=3.2						
HNR	**Honiara**	**9.95**	**113**	LR	LR	11 50 00.5	
	comp=Z,111nm,20.2s,baz=179,slow=33						
CTA	**Charters Tower**	**15.04**	**196**	Pn	**Pn**	**11 48 09.8**	**-0.3**
	0.4nm,0.3s,baz=191,slow=1.6,SNR=2.8						
CTA				LR	LR	11 52 49.8	
	comp=Z,149nm,20.5s,baz=21,slow=33						
KAKA	**Kakadu**	**19.34**	**247**	*e*P	**Pn**	**11 48 59.7**	**-3.3**
	5.7nm,0.6s						
GUMO	**Guam**	**19.91**	**343**	LR	LR	11 54 44.5	
	comp=Z,105nm,18.5s,baz=237,slow=31						
WRAB	**Tennant Creek**	**21.35**	**227**	*e*P	**P**	**11 49 22.9**	**-0.2**
	8.3nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**21.35**	**227**	*e*P	**P**	**11 49 22.9**	**-0.2**
WRA	**Warramunga Arr**	**21.36**	**227**	P	**P**	**11 49 23.1**	**-0.1**
	5.8nm,0.7s,mb4.0,baz=49,slow=9.8,SNR=34						
AS31	**Alice Springs**	**24.17**	**220**	*e*P	**P**	**11 49 52.1**	**+0.7**
ASAR	**Alice Springs**	**24.17**	**220**	P	**P**	**11 49 52.3**	**+0.8**
	3.7nm,0.8s,mb3.9,baz=53,slow=8.4,SNR=43						
ASPA	**Alice Springs**	**24.17**	**220**	*e*P	**P**	**11 49 52.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**27.44**	**241**	*e*P	**P**	**11 50 20.4**	**-0.6**
	20nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**27.44**	**241**	P	**P**	**11 50 20.6**	**-0.4**
	11nm,0.8s,mb4.5,baz=80,slow=7.9,SNR=30						
FITZ				LR	LR	12 02 13.2	
	comp=Z,59nm,21.5s,baz=255,slow=38						
STKA	**Stephens Creek**	**27.50**	**197**	P	**P**	**11 50 20.8**	**-0.8**
	2.0nm,0.8s,mb3.8,baz=297,slow=19,SNR=3.4						
SONM	**Songino Array**	**65.88**	**329**	P	**P**	**11 55 20.2**	**+0.1**
	1.5nm,1.0s,mb4.0,baz=142,slow=5.9,SNR=8.6						
LPAZ	**La Paz**	**135.88**	**120**	PKP	PKPdf	12 03 56.3	+1.6
	1.2nm,0.9s,baz=198,slow=3.2,SNR=5.5						
TORD	**Torodi Ar. Bea**	**148.52**	**286**	PKPbc	PKPbc	12 04 19.8	-0.9
	0.9nm,0.8s,baz=85,slow=2.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**148.52**	**286**	PKPbc	PKPbc	12 04 19.8	-0.9

JMA 11 11:55:15.0±0.4**, 4535N×15031E, h30^{km}, M4.1, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.83**	**240**	P	Pn	11 56 11.1	-0.8
NEM2				*e*S	Sn	11 56 52.1	-3.8
JRA	**Rausu**	**3.96**	**251**	P	Pn	11 56 15.5	+1.8
JRA				*e*S	Sn	11 57 01.4	+2.3
JNK	**Nakash**	**4.37**	**248**	P	Pn	11 56 20.3	+0.9
JNK				*e*S	Sn	11 57 08.8	-0.5
JAK	**Akkeshi**	**4.67**	**242**	P	Pn	11 56 22.7	-0.8
JAK				*e*S	Sn	11 57 13.2	-3.5
JTKR	**Abashiri--Toko**	**4.77**	**255**	P	Pn	11 56 26.8	+2.0
JAR	**Ashorobuto**	**5.12**	**249**	P	Pn	11 56 30.9	+1.3
JAR				*e*S	Sn	11 57 26.9	-0.8
JMP	**Maruseppu**	**5.13**	**257**	P	Pn	11 56 32.4	+2.6
JOB	**Onbets**	**5.26**	**245**	*e*S	Sn	11 57 28.9	-2.3
JKK2	**Kamakawa 2**	**5.60**	**257**	P	Pn	11 56 38.6	+2.4
JCH	**Churui**	**5.71**	**244**	P	Pn	11 56 37.3	-0.4
JCH				*e*S	Sn	11 57 38.6	-3.6
JNBK	**Urakawa-nobuka**	**6.27**	**243**	P	Pn	11 56 45.0	-0.4
JNBK				*e*S	Sn	11 57 50.7	-5.3
JBT2	**Biratori 2**	**6.28**	**249**	P	Pn	11 56 45.4	-0.1
JKB	**Kayabe**	**7.57**	**246**	P	Pn	11 57 02.6	-0.6
JKB				*e*S	Sn	11 58 21.5	-6.5
JANG	**Nango**	**8.15**	**235**	P	Pn	11 57 08.3	-2.9
JANG				*e*S	Sn	11 58 32.9	-9.4
JTM	**Tenmabayashi**	**8.16**	**239**	*e*S	Sn	11 58 34.2	-8.3
JTH	**Tanohata**	**8.24**	**232**	*e*S	Sn	11 58 34.4	-10
OFUJ	**Ofunato**	**8.96**	**229**	*e*S	Sn	11 58 52.3	-10
JRG	**Rokugo**	**9.31**	**234**	*e*S	Sn	11 59 00.3	-10
JIO	**Ouri**	**9.59**	**227**	*e*S	Sn	11 59 05.9	-12

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*NIED **11** 12:14:00, 3850N×14220E, h38^{km}, Mw3.5 Best double couple: M₀1.84000×10^{14} NP1:φs14.00000°, δ78.00000°, λ105.00000°. NP2:φs141.00000°, δ19.00000°, λ39.00000°.*

JMA 11 12:14:39.1±0.1**, 3848N×14215E, h40^{km}**±1^{km}**, M3.6, 7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.63**	**268**	⇓P	Pn	12 14 51.6	0.0
JIO				*e*S	Sn	12 15 00.0	-0.5
OFUJ	**Ofunato**	**0.71**	**328**	⇓P	Pn	12 14 52.8	+0.2
OFUJ				S	Sn	12 15 02.2	-0.1
JMK	**Ichinoseki**	**0.87**	**303**	⇓P	Pn	12 14 55.1	+0.3

JOU	Okura	1.17	265	⇓P	Pn	12 14 59.4	+0.4
JOU				eS	Sn	12 15 14.5	+0.7
JOM	Ohasama	1.20	326	⇓P	Pn	12 15 00.0	+0.7
JOM				eS	Sn	12 15 15.3	+1.0
JMM	Marumori	1.23	241	⇓P	Pn	12 14 59.5	-0.3
JMM				eS	Sn	12 15 14.2	-1.0
JYK	Kaneyama	1.47	288	⇓P	Pn	12 15 03.9	+0.8
JFK	Kawauchi	1.50	223	P	Pn	12 15 03.1	-0.4
MAT	Matsushiro	3.68	240	P	Pn	12 15 36.5	+3.0
MAT				eS	Sn	12 16 23.3	+7.6

IDC 11 12:19:39.3±3.3,498S×15063E,h0km,mb4.3/3,mb1 4.5/4, mb1mx4.0/14,mbtmp4.3/4,ML3.4/1,MS3.3/1,Ms1 3.3/1, ms1mx2.2/25,Error ellipse: s-maj=106.2km s-min=38.2km az=118.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.59	218	Pn	Pn	12 21 05.8	+2.1
	7.7nm,0.3s,baz=39,slow=4.8,SNR=22						
PMG				Sn	Sn	12 22 11.6	+3.1
	3.5nm,0.3s,baz=260,slow=9.3,SNR=4.0						
HNR	Honiara	10.24	116	LR	LR	12 25 21.2	
	comp=Z,164nm,19.9s,baz=178,slow=33						
WB2	Warramunga Arr	21.73	225	eP	P	12 24 31.3	-0.9
WRA	Warramunga Arr	21.74	225	P	P	12 24 31.9	-0.4
	7.5nm,0.8s,baz=51,slow=10,SNR=33						
ASAR	Alice Springs	24.60	219	P	P	12 25 00.8	-0.4
	4.1nm,0.8s,baz=55,slow=8.7,SNR=29						
ASPA	Alice Springs	24.60	219	eP	P	12 25 01.3	+0.2
FITZ	Fitzroy Crossi	27.69	240	eP	P	12 25 29.5	+0.4
	12nm,0.7s						
FITZ	Fitzroy Crossi	27.69	240	P	P	12 25 29.4	+0.3
	7.2nm,0.8s,baz=81,slow=9.1,SNR=22						
TORD	Torodi Ar. Bea	148.30	287	PKPbc	PKPbc	12 39 28.6	+1.1
	0.7nm,0.7s,baz=67,slow=1.7,SNR=4.6						

*MOS **11** 12:27:19.9±0.9,539S×15083E,h33km,mb4.9/3,Error ellipse: s-maj=22.8km s-min=11.2km az=61.6*
*BJI **11** 12:27:22.2,560S×15080E,h65km,mB5.1,mb4.7,Ms4.3, Msz4.5*
*ISCJB **11** 12:27:24.6±2.0,552S±006×15078E±009,h75km±16km, mb4.4/27,Error ellipse: s-maj=15.5km s-min=10.2km az=179.7*
*IDC **11** 12:27:24.4±3.5,551S×15091E,h62km±30km,mb4.1/13, mb1 4.3/15,mb1mx4.3/18,mbtmp4.5/15,ML3.6/2,MS3.9/14, Ms1 3.9/14,ms1mx3.8/24,Error ellipse: s-maj=22.4km s-min=16.4km az=92.0*
*HRVD **11** 12:27:25.3±0.4,548S×15094E,h20km±2km,MW4.8/49, Centroid moment Tensor Solution. LP body waves: s11,c14;Mantle waves: s49,c64; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.80±.21; $M_{\theta\theta}$2.28±.14; $M_{\phi\phi}$-1.47±.13; $M_{r\theta}$0.20±.22; $M_{\theta\phi}$0.53±.10; $M_{\phi r}$0.23±.32; Best double couple: $M_0$1.98100×10^{16} NP1:ϕ_s127.00000°,δ77.00000°,λ-7.00000°. NP2: ϕ_s218.00000°,δ83.00000°,λ-167.00000°. Principal axes: T 2.3700, Plg4.0000°, Azm352.0000°; N -0.7690, Plg75.0000°, Azm246.0000°; P -1.5920, Plg14.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 12:27:25.3±1.7,556S×15079E,h66km±15km,mb4.9/9 Error ellipse: s-maj=12.0km s-min=9.6km az=86.0*
ISC 11 12:27:26.0±1.9,555S±006×15087E±010,h74km±16km, n52,σ1^{s}05/48,mb4.4/27,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.32	224	P	Pn	12 28 41.6	-1.3
	17nm,0.3s,baz=37,slow=6.2,SNR=72						
PMG				S	Sn	12 29 44.6	+1.9
	baz=338,slow=16,SNR=2.9						
PMG				LR	LR	12 30 26.9	
	comp=Z,586nm,21.4s,baz=43,slow=34						
PMG	Port Moresby	5.32	224	P	Pn	12 28 41.6	-1.3
PMG				S	Sn	12 29 44.6	+1.9
CTA	Charters Tower	15.14	197	eP	Pn	12 31 00.2	+4.6
	23nm,2.0s						
CTA	Charters Tower	15.14	197	P	Pn	12 30 55.8	+0.2
	0.1nm,0.3s,baz=28,slow=17,SNR=2.6						
CTA				LR	LR	12 35 59.1	
	comp=Z,701nm,21.5s,baz=16,slow=34						
CTA	Charters Tower	15.14	197	P	Pn	12 30 55.8	+0.2
CTA				eP		12 31 00.2	
KAKA	Kakadu	19.53	247	eP	Pn	12 31 45.7	-3.7
	20nm,0.6s						
GUMO	Guam	19.92	343	LR	LR	12 38 44.2	
	comp=Z,157nm,21.6s,baz=152,slow=34						
WRAB	Tennant Creek	21.51	227	eP	P	12 32 08.1	-0.7
WRAB				pmax	pmax		
	comp=Z,30nm,0.8s,mb4.7						
WRAB	Tennant Creek	21.51	227	eP	P	12 32 08.1	-0.8
	comp=Z,30nm,0.8s,mb4.7						
WB2	Warramunga Arr	21.52	227	eP	P	12 32 08.1	-0.8
WRA	Warramunga Arr	21.52	227	P	P	12 32 08.2	-0.8
	comp=Z,25nm,1.0s,mb4.5,baz=52,slow=10,SNR=77						
WRA				LR	LR	12 41 07.0	
	comp=Z,204nm,19.0s,baz=50,slow=38						
DZM	Mont Dzumac	22.29	139	P	P	12 32 16.3	-0.8
	comp=Z,4.5nm,0.5s,mb4.0,baz=344,slow=17,SNR=9.8						
DZM				LR	LR	12 39 29.7	
	comp=Z,733nm,18.4s,baz=20,slow=32						
AS31	Alice Springs	24.32	221	eP	P	12 32 37.4	+0.7
ASAR	Alice Springs	24.32	221	P	P	12 32 37.1	+0.4
	comp=Z,1.0nm,0.7s,mb3.3,baz=192,slow=24,SNR=4.1						
ASAR				LR	LR	12 41 03.8	
	comp=Z,257nm,19.2s,baz=51,slow=34						
ASPA	Alice Springs	24.32	221	eP	P	12 32 37.4	+0.7
ARMA	Armidale	24.75	178	eP	P	12 32 41.7	+1.1
STKA	Stephens Creek	27.60	197	P	P	12 33 06.3	+0.1
	comp=Z,14nm,0.9s,mb4.5,baz=0.4,slow=7.1,SNR=8.9						
STKA				LR	LR	12 43 51.8	
	comp=Z,468nm,20.6s,baz=19,slow=36						
FITZ	Fitzroy Crossi	27.62	241	eP	P	12 33 05.7	-0.8
	comp=Z,29nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	27.62	241	P	P	12 33 05.7	-0.7
	comp=Z,17nm,0.7s,mb4.7,baz=112,slow=8.1,SNR=36						
FORT	Forrest	33.01	218	eP	P	12 33 53.9	-0.2
	comp=Z,35nm,0.8s,mb5.2						
MBWA	Marble Bar	33.94	240	eP	P	12 34 01.4	-0.7
	comp=Z,17nm,0.8s,mb4.9						
AFI	Afiamalu	37.69	106	LR	LR	12 49 03.9	
	comp=Z,195nm,18.1s,baz=118,slow=34						
URZ	Urewera	40.35	147	LR	LR	12 48 37.5	
	comp=Z,115nm,20.4s,baz=235,slow=32						
KLBR	Kellerberrin	40.40	226	eP	P	12 34 55.7	-1.1
	comp=Z,19nm,0.8s,mb5.0						
NWAO	Narrogin (SRO)	41.51	225	P	P	12 35 06.0	+0.1
	comp=Z,13nm,1.0s,mb4.6,baz=304,slow=3.6,SNR=2.8						
MUN	Mundaring	41.72	227	eP	P	12 35 06.7	-1.0
RPZ	Rata Peaks	41.97	158	LR	LR	12 50 04.0	
	comp=Z,438nm,18.7s,baz=111,slow=32						
MJAR	Matsushiro Arr	43.52	345	P	P	12 35 21.9	-0.2
	comp=Z,2.4nm,0.8s,mb4.0,baz=161,slow=9.0,SNR=6.4						
MJAR				LR	LR	12 51 57.5	
	comp=Z,68nm,20.0s,baz=150,slow=34						
SSE	Sheshan	46.17	324	eP	P	12 35 42.4	-0.9
SSE				AP	pP	12 36 02.4	+0.8
SSE				XP	sP	12 36 11.3	+1.3
SSE				PCP	PcP	12 37 17.4	-0.6
SSE				PP	PP	12 37 31.3	-1.5
SSE				S	S	12 42 20.8	-3.2
SSE				SCS	ScS	12 45 30.5	-1.1
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,103nm,3.6s						
SSE				LR	LR		
	comp=N,35nm,23.5s						
SSE				LR	LR		
	comp=E,118nm,23.5s						
QIZ	Qiongzhong	47.22	302	eP	P	12 35 51.7	+0.3
QIZ				S	S	12 42 42.6	+3.7
QIZ				LR	LR		
	comp=N,152nm,33.1s						
NJ2	Nanjing	48.24	323	eP	P	12 36 00.6	+1.2
NJ2				AP	pP	12 36 16.5	-1.3
NJ2				XP	sP	12 36 24.0	-2.2
NJ2				PP	PP	12 37 54.9	+2.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,210nm,3.7s						
NJ2				LR	LR		
	comp=N,500nm,16.6s						
NJ2				LR	LR		
	comp=E,350nm,17.8s						
NJ2				LR	LR		
	comp=Z,360nm,14.6s						
INCN	Inchon	48.41	334	eP	P	12 36 02.7	+2.1
	comp=Z,56nm,1.1s,mb5.3						
ASAJ	Asahikawa	49.99	352	P	P	12 36 11.9	-0.8
	comp=Z,3.8nm,0.7s,mb4.4,baz=204,slow=12,SNR=3.3						
BJI	Beijing	55.48	328	eP	P	12 36 55.9	+2.7
BJI				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.6						
BJI				LR	LR		
	comp=Z,109nm,23.0s						
HABR	Khabarovsk	55.55	347	eP	P	12 36 51.9	-1.8
HABR				eS	S	12 44 31.6	-2.0
XAN	Xi'an	55.86	318	P	P	12 36 55.2	-0.7
XAN				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.8						
LZH	Lanzhou	60.44	317	eP	P	12 37 30.0	+2.1
LZH				AMB	AMB		
	comp=Z,21nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,123nm,5.1s						
LZH				LR	LR		
	comp=N,267nm,12.5s						
LZH				LR	LR		
	comp=Z,394nm,16.3s						
GTA	Gaotai	64.92	318	eP	P	12 38 01.4	+3.8
GTA				AMB	AMB		
	comp=Z,4.0nm,1.8s,mb4.0						
SONM	Songino Array	65.95	329	LR	LR	13 06 00.8	
	comp=Z,104nm,21.9s,baz=247,slow=35						
ZAK	Zakamensk	69.14	330	eP	P	12 38 24.8	+0.4
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.1						
VNDA	Vanda	72.16	178	P	P	12 38 43.0	+0.2
	comp=Z,2.3nm,0.8s,mb4.0,baz=357,slow=5.5,SNR=5.5						
MKAR	Makanchi Array	79.63	319	P	P	12 39 25.6	+0.3
	comp=Z,0.2nm,0.3s,mb3.5,baz=96,slow=8.7,SNR=7.1						
ZAL	Zalesovo	80.72	327	P	P	12 39 30.9	-0.3
	comp=Z,0.8nm,0.6s,mb3.7,baz=191,slow=5.2,SNR=3.1						
ZAL				LR	LR	13 15 12.8	
	comp=Z,63nm,19.8s,baz=356,slow=36						
KURK	Kurchatov	83.18	322	eP	P	12 39 43.9	-0.1
KURK				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.4						
KURK	Kurchatov	83.18	322	eP	P	12 39 43.9	-0.2
	comp=Z,8.8nm,1.3s,mb4.4						
MAW	Mawson	84.15	203	P	P	12 39 49.6	+0.6
	comp=Z,1.9nm,0.7s,mb4.1,baz=58,slow=9.5,SNR=3.6						
QSPA	South Pole Qui	84.42	180	eP	P	12 39 50.6	+0.2
	comp=Z,6.6nm,1.1s,mb4.4						
NVAR	Mina Array Bea	94.05	52	P	P	12 40 36.7	+0.6
	comp=Z,1.3nm,1.1s,mb4.2,baz=249,slow=6.2,SNR=4.8						
YKA	Yellowknife Ar	96.98	28	LR	LR	13 20 21.9	
	comp=Z,33nm,20.5s,baz=270,slow=33						
LPAZ	La Paz	135.73	120	PKP	PKPdf	12 46 39.0	+1.0
	comp=Z,2.6nm,1.0s,baz=358,slow=2.8,SNR=7.4						
TORD	Torodi Ar. Bea	148.69	286	PKPbc	PKPbc	12 47 05.0	+0.3
	comp=Z,2.0nm,0.9s,baz=48,slow=1.8,SNR=8.5						
BDFB	Brasilia	151.84	139	PKPbc	PKPbc	12 47 13.2	+1.0
	comp=Z,3.9nm,0.7s,baz=196,slow=1.6,SNR=6.3						

MAN 11 12:53:02.4,901N×12522E,h1km,mb2.6,ML4.1,MS3.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	0.40	96	eP	Pg	12 53 11.0	+0.8
BUTP				eS	Sg	12 53 22.8	+7.4
SCPH	Surigao	0.81	19	eP	Pg	12 53 17.8	-0.2
SCPH				eS	Sg	12 53 33.9	+5.3
BUKP	Musuan	1.14	188	eP	Pg	12 53 24.2	0.0
BUKP				eS	Sg	12 53 47.5	+8.6

*BJI **11** 13:11:06.5,4966S×10622E,h10km,mB5.2,mb5.1,Ms5.1, Msz4.9*
*ISCJB **11** 13:11:11.5±0.4,4880S±007×1066E±0.1,h10km,mb4.8/23, MS4.2/10,Error ellipse: s-maj=13.2km s-min=9.4km az=47.1*
*IDC **11** 13:11:11.5±0.7,4874S×10644E,h0km,mb4.4/8, mb1 4.6/8,mb1mx4.5/13,mbtmp4.4/8,MS4.1/10, Ms1 4.1/10,ms1mx4.1/12,Error ellipse: s-maj=30.6km s-min=19.8km az=138.0*
*NEIC **11** 13:11:13.1±0.4,4875S×10646E,h10km,mb4.7/6,Error ellipse: s-maj=17.1km s-min=8.6km az=120.0*
ISC 11 13:11:13.0±0.4,4881S±007×1065E±01,h10km, (h29km±5.5km:pP-P),n89,σ0^{s}70/36,mb4.8/23,MS4.2/10, 14C-25D,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CASY	Casey	17.65	175	eP	Pn	13 15 18.4	-0.5
CASY				eP		13 15 18.9	
NWAO	Narrogin (SRO)	17.79	31	LR	LR	13 20 27.3	
	comp=Z,1μm,20.6s,baz=199,slow=31						
MAW	Mawson	28.80	213	LR	LR	13 25 51.1	
	comp=Z,573nm,19.8s,MS4.2,baz=67,slow=30						
STKA	Stephens Creek	31.29	70	eP	P	13 17 33.0	-0.1
	4.9nm,1.0s,mb4.3						
STKA	Stephens Creek	31.29	70	P	P	13 17 33.3	+0.2
	2.9nm,0.8s,mb4.2,baz=236,slow=3.3,SNR=3.7						
STKA				LR	LR	13 27 39.2	
	comp=Z,317nm,20.0s,MS4.0,baz=213,slow=32						
ASPA	Alice Springs	33.10	51	⇓iP	P	13 17 49.0	0.0
ASAR	Alice Springs	33.10	51	P	P	13 17 49.1	+0.1
	7.0nm,0.8s,mb4.6,baz=207,slow=8.6,SNR=38						
ASAR				PcP	PcP	13 20 31.4	-0.8
	1.5nm,0.9s,baz=220,slow=2.6,SNR=6.6						
ASAR				LR	LR	13 29 26.6	
	comp=Z,540nm,20.1s,MS4.2,baz=213,slow=33						
ASAR	Alice Springs	33.10	51	P	P	13 17 49.1	+0.1
ASAR				PcP	PcP	13 20 31.4	-0.8
AS31	Alice Springs	33.11	51	⇓iP	P	13 17 49.0	0.0
FITZ	Fitzroy Crossi	34.33	34	eP	P	13 18 00.7	+1.0
	9.9nm,0.9s,mb4.7						
FITZ	Fitzroy Crossi	34.33	34	P	P	13 18 00.8	+1.1
	6.5nm,0.9s,mb4.6,baz=204,slow=8.2,SNR=13						
VNDA	Vanda	35.50	162	P	P	13 18 10.1	+0.3
	3.3nm,0.9s,mb4.3,baz=290,slow=8.6,SNR=8.0						
VNDA				LR	LR	13 31 12.5	
	comp=Z,609nm,20.8s,MS4.3,baz=298,slow=34						
VNDA	Vanda	35.50	162	eP	P	13 18 10.1	+0.3
VNDA				LR	LR	13 31 12.5	
WRA	Warramunga Arr	36.45	48	P	P	13 18 18.2	+0.3
	12nm,0.8s,mb4.8,baz=211,slow=8.2,SNR=40						
WRA				PcP	PcP	13 20 41.0	-0.9
	1.0nm,0.8s,baz=220,slow=2.9,SNR=4.7						
WRA				LR	LR	13 31 19.3	
	comp=Z,511nm,21.2s,MS4.3,baz=170,slow=33						
WRA	Warramunga Arr	36.45	48	P	P	13 18 18.2	+0.3
WRA				PcP	PcP	13 20 41.0	-0.9
WB2	Warramunga Arr	36.45	48	⇓iP	P	13 18 17.9	0.0
WRAB	Tennant Creek	36.46	48	eP	P	13 18 18.0	0.0
	15nm,0.8s,mb5.0						
QSPA	South Pole Qui	41.33	180	eP	P	13 18 59.0	+0.2
	12nm,1.2s,mb4.4						
KAKA	Kakadu	41.91	40	eP	P	13 19 03.5	-0.1
	11nm,0.9s,mb4.5						
CTA	Charters Tower	42.78	62	⇓iP	P	13 19 11.0	+0.3
	12nm,0.9s,mb4.6						
CTAO	Charters Tower	42.78	62	eP	P	13 19 10.6	-0.1
SNAA	Sanae	50.03	203	eP	P	13 20 07.2	-0.4
	13nm,1.1s,mb4.9						
SUR	Sutherland	63.78	250	P	P	13 21 46.7	+1.6
	10nm,1.2s,mb4.8,baz=178,slow=8.0,SNR=4.2						
SUR				LR	LR	13 41 14.5	
	comp=Z,102nm,20.7s,MS4.0,baz=43,slow=28						
GUMO	Guam	70.80	40	LR	LR	13 52 53.1	
	comp=Z,82nm,21.9s,MS3.9,baz=212,slow=35						
KMI	Kunming	73.67	356	P	P	13 22 48.8	+2.0
KMI				AP	pP	13 22 58.0	+7.9
KMI				XP	sP	13 23 01.4	+10
KMI				PP	PP	13 25 39.5	+8.5
KMI				S	S	13 32 24.7	+7.3
KMI				SKS		13 32 51.1	
KMI				AMB	AMB		
	comp=Z,22nm,1.1s,mb5.0						
KMI				AMB	AMB		
	comp=Z,167nm,5.6s						
KMBO	Kilima Mbogo	75.60	285	P	P	13 22 58.2	+0.2
	comp=Z,0.8nm,0.6s,mb3.9,baz=134,slow=9.4,SNR=3.3						
KMBO				LR	LR	13 47 55.8	
	comp=Z,50nm,19.4s,MS3.8,baz=91,slow=29						
KMBO	Kilima Mbogo	75.60	285	P	P	13 22 58.2	+0.2
JIRN	Jiri	78.26	342	eP	P	13 23 13.1	+0.1
PKI	Pulchoki	78.34	341	eP	P	13 23 12.8	-0.6
DMN	Daman	78.44	341	eP	P	13 23 13.6	-0.4
	comp=Z,31nm,1.0s,mb5.2						
GUN	Gumba	78.57	341	eP	P	13 23 14.9	+0.2
	comp=Z,70nm,0.9s,mb5.6						
KKN	Kakani	78.58	341	eP	P	13 23 14.3	-0.4
	comp=Z,29nm,1.0s,mb5.2						
GKN	Gorkha	78.93	340	eP	P	13 23 16.0	-0.6
	comp=Z,53nm,1.1s,mb5.4						
KOLN	Koldanda	78.94	339	eP	P	13 23 15.7	-1.0
	comp=Z,40nm,1.3s,mb5.2						
CD2	Chengdu	79.39	358	P	P	13 23 19.7	+0.5
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
XAN	Xi'an	82.50	2	P	P	13 23 35.6	-0.2
XAN				AMB	AMB		
	comp=Z,17nm,1.1s,mb5.0						
LZH	Lanzhou	84.55	358	⇓P	P	13 23 46.5	+0.2
LZH				AP	pP	13 23 57.4	+7.8
LZH				AMB	AMB		
	comp=Z,39nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,57nm,6.2s						
LZH				LR	LR		
	comp=N,356nm,14.2s						
LZH				LR	LR		
	comp=Z,443nm,17.5s,MS4.9						
GTA	Gaotai	88.04	355	eP	P	13 24 03.0	-0.5
GTA				AP	pP	13 24 07.6	+0.8
GTA				XP	sP	13 24 11.0	+3.0
GTA				AMB	AMB		
	comp=Z,17nm,1.2s,mb5.2						
MJAR	Matsushiro Arr	89.53	25	P	P	13 24 08.4	-2.1
	comp=Z,1.2nm,0.6s,mb4.4,baz=123,slow=3.6,SNR=4.0						
SONM	Songino Array	96.26	360	LR	LR	14 03 43.4	
	comp=Z,90nm,21.1s,MS4.2,baz=175,slow=33						
GERES	GERESS Array B	125.78	306	PKP	PKPdf	13 30 13.3	-1.6
	comp=Z,0.3nm,0.2s,baz=138,slow=4.6,SNR=5.0						
DAG	Danmarks Havn	144.87	341	⇓iP	PKPdf	13 30 47.1	-3.1
	comp=Z,16nm,1.2s						
INK	Inuvik	145.01	34	PKP	PKPdf	13 30 47.0	-3.4
	comp=Z,15nm,1.2s,baz=257,slow=4.2,SNR=14						
YBH	Yreka Blue Hor	145.16	83	PKPbc	PKPbc	13 30 50.3	+0.1
	comp=Z,7.3nm,0.9s,baz=179,slow=1.3,SNR=16						
CWC	Cottonwood Cre	145.42	94	⇑P	PKPbc	13 30 51.0	-0.1
	baz=146						
GLA	Glamis	145.50	102	⇓P	PKPdf	13 30 52.2	+0.9
	baz=146						
GSC	Goldstone	145.59	97	P	PKPdf	13 30 52.1	+0.6
	baz=146,SNR=12						
TUQ	Turquoise Mtn.	146.25	97	⇓P	PKPdf	13 30 53.5	+1.0
	baz=146						
NVAR	Mina Array Bea	146.38	91	PKPbc	PKPbc	13 30 54.3	+0.3
	comp=Z,4.1nm,0.8s,baz=217,slow=5.9,SNR=26						
MNV	Mina	146.48	91	eP	PKPdf	13 30 54.8	+1.8
U10A	Ash Meadows, A	146.56	96	⇑P	PKPdf	13 30 55.0	+1.9
	baz=147,SNR=6.7						
S09A	Goldfield	146.71	93	⇓P	PKPdf	13 30 54.9	+1.6
	baz=147,SNR=10						
Q08A	Gabbs	146.86	91	⇓P	PKPdf	13 30 55.3	+1.7
	baz=147						
W12A	Cal Nev Ari	146.86	98	⇑P	PKPdf	13 30 55.2	+1.6
	baz=147						
O07A	Toulon	146.91	88	P	PKPdf	13 30 55.9	+2.2
	baz=147,SNR=10						
Z14A	Wintersburg	146.91	103	⇑P	PKPdf	13 30 55.2	+1.6
	baz=147						
TPNV	Topopah Spring	146.92	95	eP	PKPdf	13 30 55.9	+2.2
115A	Sonoran Desert	146.95	105	⇑P	PKPdf	13 30 55.4	+1.6
	baz=147						
V12A	Nelson	147.13	98	⇓P	PKPdf	13 30 56.1	+2.0
	baz=147						
N07B	Gerlach	147.16	87	⇑P	PKPdf	13 30 56.0	+1.9
	baz=147,SNR=9.0						
116A	Eloy	147.20	105	⇑P	PKPdf	13 30 56.1	+1.9
	baz=147						
M07A	Soldier Meadow	147.32	86	⇑P	PKPdf	13 30 56.6	+2.2
	baz=148,SNR=12						
L07A	Adell	147.51	84	⇓P	PKPbc	13 30 57.4	+0.2
	baz=148						
J06A	Christmas Vall	147.54	82	⇑P	PKPdf	13 30 56.8	+2.1
	baz=148						
X14A	Yava	147.65	101	⇓P	PKPbc	13 30 57.7	+0.1
	baz=148						
E05A	Randle	147.85	75	⇓P	PKPdf	13 30 57.1	+1.9
	baz=148						
M08A	Happy Creek Ra	147.87	86	⇓P	PKPbc	13 30 58.2	0.0
	baz=148						
W14A	Seligman	147.98	100	⇑P	PKPbc	13 30 58.9	+0.4
	baz=148						
O09A	Fish Creek Ran	148.03	89	P	PKPbc	13 30 59.2	+0.5
	baz=148,SNR=10						
X15A	Humboldt	148.08	102	⇓P	PKPbc	13 30 58.9	+0.1
	baz=148						
J07A	Hines	148.14	82	⇑P	PKPbc	13 30 58.8	-0.1
	baz=148						
B05A	Bryant	148.24	72	P	PKPbc	13 30 59.1	-0.2
	baz=148,SNR=6.9						
C05A	Tolt Reservoir	148.31	73	⇓P	PKPbc	13 30 59.0	-0.4
	baz=148						
Q11A	Duckwater	148.36	92	⇓P	PKPbc	13 30 59.7	+0.1
	baz=148						
W15A	Williams	148.49	101	⇓P	PKPbc	13 30 60.0	+0.1
	baz=149						
L09A	Wilkinson Ranc	148.61	86	⇑P	PKPbc	13 31 00.4	+0.2
	baz=149,SNR=5.5						
P11A	Circle Ranch,	148.66	91	⇓P	PKPbc	13 31 00.2	-0.1
	baz=149						
J08A	Circle Bar Ran	148.69	83	P	PKPbc	13 31 00.3	-0.1
	baz=149,SNR=7.5						
Q12A	Willow Creek R	149.00	93	⇓P	PKPbc	13 31 01.4	+0.2
	baz=149						
O11A	Cowboy Ranch,	149.02	90	⇓P	PKPbc	13 31 01.5	+0.3
	baz=149						
P12A	McGill	149.18	92	⇓P	PKPbc	13 31 01.9	+0.2
	baz=149						
M11A	Holland Ranch,	149.57	88	⇓P	PKPbc	13 31 02.2	-0.4
	baz=150						
ELK	Elko	149.60	89	eP	PKPbc	13 31 02.9	+0.2
N12A	Clover Valley,	149.79	89	⇑P	PKPbc	13 31 03.2	+0.1
	baz=150						
M12A	Wells	150.14	89	⇑P	PKPbc	13 31 04.0	0.0
	baz=150						
M13A	Montello	150.61	89	⇓P	PKPbc	13 31 04.9	-0.2
	baz=151						
ANMO	Albuquerque	152.06	107	PKPbc	PKPbc	13 31 07.5	-1.0
	comp=Z,2.0nm,0.6s,baz=305,slow=1.1,SNR=6.3						
YKA	Yellowknife Ar	153.61	43	PKPab	PKPab	13 31 23.6	-0.8
	comp=Z,3.7nm,0.9s,baz=281,slow=4.6,SNR=11						
PDAR	Pinedale Array	154.31	90	PKPbc	PKPbc	13 31 12.8	-0.6
	comp=Z,0.8nm,1.0s,baz=304,slow=2.1,SNR=4.8						
PDAR				PKPab	PKPab	13 31 27.6	+0.1
	comp=Z,1.2nm,1.0s,baz=198,slow=3.0,SNR=6.0						

*IDC **11** 13:15:43.9±1.7,31.11S×6843W,h0km,mb1 3.7/3, mb1mx3.5/15,mbtmp3.5/3,ML3.8/3,Error ellipse: s-maj=31.1km s-min=11.9km az=79.0*
*ISCJB **11** 13:15:46.6±1.4,3171S±007×6770W±007,h10km±9km, Error ellipse: s-maj=11.1km s-min=10.6km az=10.1*
*GUC **11** 13:15:47.0±0.7,3177S×6768W,h142km±43km,ML4.7*
ISC 11 13:15:47.2±1.6,3176S±007×6774W±008,h2km±11km,n12, σ0^{s}95/16,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	0.45	290	Pg	Pg	13 15 55.3	-0.5
	98nm,0.3s,baz=72,slow=13,SNR=4662						
CFAA				Lg		13 15 60.0	
	baz=280,slow=17						
FCH	Farellones	2.66	233	eP	Pn	13 16 34.7	+3.6
FCH				i S	Sn	13 17 02.7	-1.3
CMCH	Combarbala	2.84	281	eP	Pn	13 16 33.7	+0.1
CMCH				i S	Sn	13 17 08.7	+0.2
CMCH				AML	AML	13 17 11.1	
	comp=N,4μm,0.3s						
PEL	Peldehue	2.85	240	eP	Pn	13 16 35.6	+1.9
PEL				eS	Sn	13 17 08.7	+0.1
PEL				AML	AML	13 17 20.7	
	comp=N,709nm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CLCH	**Cerro Calan**	**2.87**	**235**	*e*P	**Pn**	**13 16 35.3**	**+1.3**
PCH	**Pirque**	**2.99**	**231**	*e*P	**Pn**	**13 16 34.8**	**-0.8**
TLL	**Tololo Astrono**	**3.07**	**300**	*e*P	**Pn**	**13 16 36.8**	**+0.1**
TLL				*i* S	**Sn**	**13 17 14.7**	**+0.6**
TLL				AML	AML	13 17 24.9	
	comp=N,1µm,0.6s						
CHNG	**Los Chungos**	**3.20**	**267**	*e*P	**Pn**	**13 16 37.9**	**-0.7**
CHNG				*e*S	**Sn**	**13 17 16.4**	**-0.9**
CHNG				AML	AML	13 17 24.8	
	comp=N,810nm,0.6s						
PLCA	**Paso Flores**	**9.24**	**193**	Pn	**Pn**	**13 18 06.0**	**+4.6**
	comp=N,0.1nm,0.3s,baz=110,slow=19,SNR=3.1						
PLCA				Lg		13 20 52.0	
	comp=N,0.2nm,0.3s,baz=323,slow=20,SNR=3.4						
CPUP	**Villa Florida**	**10.59**	**62**	Pn	**Pn**	**13 18 19.4**	**-0.7**
	comp=N,0.5nm,0.3s,baz=256,slow=4.2,SNR=2.4						
CPUP				Lg		13 21 29.0	
	comp=N,0.4nm,0.3s,baz=141,slow=18,SNR=4.1						
LPAZ	**La Paz**	**15.40**	**359**	Pn	**Pn**	**13 19 13.7**	**-12**
	comp=N,0.1nm,0.3s,baz=306,slow=15,SNR=3.2						
WRA	**Warramunga Arr**	**124.41**	**205**	PKP	PKPdf	13 34 45.3	-2.6
	comp=N,0.3nm,0.5s,baz=161,slow=1.8,SNR=12						

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*CSEM **11** 13:17:54.4±0.1, 4442N×733E, h12^{km}, ML2.8/11, Error ellipse: s-maj=1.4km s-min=0.9km az=66.0*
*ROM **11** 13:17:54.0±0.3, 4440N×731E, h15^{km}±5^{km}, Md2.7/7, Ml2.3/4, Error ellipse: s-maj=5.0km s-min=2.5km az=124.0*
*NEIC **11** 13:17:54.0, 4440N×731E, h15^{km}, ML2.8(LDG), ML2.3(ROM), ML2.8(STR), After ROM.*
*GEN **11** 13:17:54.7, 4439N×724E, h16^{km}, ML2.0*
*ISCJB **11** 13:17:54.6±0.2, 4441N±001×729E±003, h21^{km}±3^{km}, Error ellipse: s-maj=3.3km s-min=2.2km az=130.5*
*STR **11** 13:17:54.8±0.1, 4440N×729E, h9^{km}±1^{km}, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **11** 13:17:55.1±0.1, 4439N×731E, h6^{km}, Md2.7/2, Ml2.8/12, Error ellipse: s-maj=2.8km s-min=1.4km az=70.0*
ISC 11 13:17:54.5±0.2, **4440N**±001×**729E**±002, **h18**^{km}±2^{km}, **n62**, σ**0^{s}79**/116, **Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.11**	**344**	Pg	**Pg**	**13 17 58.5**	**+0.2**
DOI				Sg	**Sg**	**13 18 00.8**	**+0.1**
	2µm,0.2s						
STV	**Sta Anna Valdi**	**0.16**	**170**	Pg	**Pg**	**13 17 58.8**	**-0.1**
STV				Sg	**Sg**	**13 18 01.0**	**-0.8**
	934nm,0.1s						
PZZ	**Prazzo**	**0.17**	**308**	P	**Pg**	**13 17 59.0**	**0.0**
SURF	**Saint Ours**	**0.35**	**284**	Pg	**Pg**	**13 18 01.9**	**0.0**
SURF				Sg	**Sg**	**13 18 07.3**	**+0.4**
TOUF	**Mont Tournerai**	**0.39**	**184**	Pg	**Pg**	**13 18 02.6**	**0.0**
AUTN	**L'Aution**	**0.42**	**166**	Pg	**Pg**	**13 18 03.1**	**0.0**
AUTN				Sg	**Sg**	**13 18 08.8**	**0.0**
ROB	**Roburent**	**0.43**	**104**	P	**Pg**	**13 18 03.8**	**+0.4**
ROB				S	**Sg**	**13 18 10.1**	**+0.8**
SAOF	**Saorge**	**0.46**	**155**	Pg	**Pg**	**13 18 03.8**	**0.0**
SAOF				Sg	**Sg**	**13 18 09.8**	**-0.2**
MONE	**Monesi**	**0.46**	**133**	P	**Pg**	**13 18 04.0**	**0.0**
MONE				S	**Sg**	**13 18 10.4**	**+0.1**
OG22	**Abries**	**0.49**	**330**	Pg	**Pg**	**13 18 04.3**	**-0.1**
OG22				Sg	**Sg**	**13 18 11.4**	**+0.4**
LUCF	**Luceram**	**0.51**	**175**	Pg	**Pg**	**13 18 04.8**	**0.0**
LUCF				Sg	**Sg**	**13 18 11.7**	**+0.1**
MVIF	**Mont Vial**	**0.51**	**191**	Pg	**Pg**	**13 18 04.8**	**0.0**
MVIF				Sg	**Sg**	**13 18 11.6**	**-0.2**
SBF	**Sospel**	**0.55**	**169**	*e*Pg	**Pg**	**13 18 05.4**	**-0.1**
SBF				*e*Sg	**Sg**	**13 18 12.8**	**0.0**
	180nm,0.2s						
SBF	**Sospel**	**0.55**	**169**	*e*Pg	**Pg**	**13 18 05.4**	**-0.1**
SBF				*e*Sg	**Sg**	**13 18 12.8**	**0.0**
	90nm,0.2s						
NEGI	**Negi**	**0.63**	**151**	P	**Pg**	**13 18 07.1**	**+0.1**
NEGI				S	**Sg**	**13 18 15.3**	**-0.1**
RORO		**0.63**	**117**	P	**Pg**	**13 18 07.3**	**+0.3**
RORO				S	**Sg**	**13 18 15.2**	**-0.2**
RRL	**Cesana Torines**	**0.63**	**326**	P	**Pg**	**13 18 07.0**	**0.0**
RRL				S	**Sg**	**13 18 15.0**	**-0.5**
FENE	**Fenestrelle**	**0.65**	**346**	P	**Pg**	**13 18 06.8**	**-0.6**
FENE				S	**Sg**	**13 18 15.1**	**-1.0**
IMI	**Imperia**	**0.65**	**138**	Pg	**Pg**	**13 18 07.4**	**0.0**
IMI				Sg	**Sg**	**13 18 16.5**	**+0.3**
	169nm,0.2s						
REVF	**Revere**	**0.66**	**175**	Pg	**Pg**	**13 18 07.7**	**+0.1**
REVF				Sg	**Sg**	**13 18 17.0**	**+0.6**
FIN	**Finale Ligure**	**0.69**	**106**	Pg	**Pg**	**13 18 08.1**	**0.0**
FIN				Sg	**Sg**	**13 18 17.4**	**+0.1**
	45nm,0.2s						
RSP	**Reno Superiore**	**0.75**	**358**	Pg	**Pg**	**13 18 08.2**	**-1.1**
	45nm,0.3s						
RSP				S	**Sb**	**13 18 17.6**	**-1.4**
BNI	**Bardonecchia**	**0.78**	**327**	Pg	**Pg**	**13 18 09.9**	**0.0**
BNI				Sg	**Sg**	**13 18 21.2**	**+0.9**
	24nm,0.3s						
BNI	**Bardonecchia**	**0.78**	**327**	*e*Pg	**Pg**	**13 18 09.6**	**-0.3**
BNI				Pg	**Pg**	**13 18 09.9**	**0.0**
BNI				*e*Sg	**Sg**	**13 18 19.8**	**-0.5**
BNI				Sg	**Sg**	**13 18 21.2**	**+0.9**
PCP	**Pian Castagno**	**0.91**	**81**	P	**Pb**	**13 18 12.1**	**+0.3**
PCP				S	**Sb**	**13 18 24.4**	**+0.8**
FRF	**La Foret Royal**	**0.96**	**209**	*e*Pg	**Pg**	**13 18 12.6**	**-0.6**
FRF				*e*Sg	**Sg**	**13 18 24.7**	**-1.1**
	28nm,0.2s						
FRF	**La Foret Royal**	**0.96**	**209**	*e*Pg	**Pg**	**13 18 12.6**	**-0.6**
FRF				*e*Sg	**Sg**	**13 18 24.7**	**-1.1**
	14nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.13**	**298**	*e*Pn	**Pn**	**13 18 16.1**	**+0.6**
ORIF				*e*Sn	**Sn**	**13 18 30.4**	**-0.2**
	59nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.13**	**298**	*e*Pn	**Pn**	**13 18 16.1**	**+0.6**
ORIF				*e*Sn	**Sn**	**13 18 30.4**	**-0.2**
	30nm,0.3s						
TRAV		**1.16**	**16**	P	**Pn**	**13 18 14.5**	**-1.4**
LPG	**La Plagne**	**1.16**	**341**	*e*Pn	**Pn**	**13 18 16.5**	**+0.6**
LPG				*e*Sn	**Sn**	**13 18 31.1**	**-0.2**
	26nm,0.3s						
LPG	**La Plagne**	**1.16**	**341**	*e*Pn	**Pn**	**13 18 16.5**	**+0.6**
LPG				*e*Sn	**Sn**	**13 18 31.1**	**-0.2**
	13nm,0.3s						
TAVF	**Tavernes**	**1.18**	**229**	Pg	**Pg**	**13 18 17.4**	**0.0**
TAVF				Sg	**Sg**	**13 18 33.6**	**+0.7**
LPL	**La Plagne**	**1.18**	**341**	*e*Pn	**Pn**	**13 18 16.8**	**+0.6**
LPL				*e*Sn	**Sn**	**13 18 32.0**	**+0.1**
	29nm,0.3s						
LPL	**La Plagne**	**1.18**	**341**	*e*Pn	**Pn**	**13 18 16.8**	**+0.6**
LPL				*e*Sn	**Sn**	**13 18 32.0**	**+0.1**
	14nm,0.3s						
LMR	**La Mourre**	**1.21**	**208**	*e*Pn	**Pn**	**13 18 16.9**	**+0.4**
LMR				*e*Sn	**Sn**	**13 18 32.0**	**-0.4**
	15nm,0.2s						
LMR	**La Mourre**	**1.21**	**208**	*e*Pn	**Pn**	**13 18 16.9**	**+0.4**
LMR				*e*Sn	**Sn**	**13 18 32.0**	**-0.4**
	7.6nm,0.2s						
SMRF	**Simiane la Rot**	**1.30**	**252**	*e*Pg	**Pg**	**13 18 19.9**	**+0.2**
SMRF				*e*Sg	**Sg**	**13 18 36.9**	**+0.2**
	32nm,0.3s						
SMRF	**Simiane la Rot**	**1.30**	**252**	*e*Pg	**Pg**	**13 18 19.9**	**+0.2**
SMRF				*e*Sg	**Sg**	**13 18 36.9**	**+0.2**
	16nm,0.3s						
PUYF	**Puyloubier**	**1.44**	**233**	Pn	**Pn**	**13 18 19.8**	**+0.1**
BERF	**Bertagne**	**1.59**	**227**	Pn	**Pn**	**13 18 21.0**	**-0.8**
BOB	**Bobbio (Coli)**	**1.59**	**76**	Pg	**Pg**	**13 18 23.6**	**-1.5**
	8.0nm,0.4s						
VIVF	**Saint-Julien-l**	**1.92**	**285**	*e*Pn	**Pn**	**13 18 25.3**	**-1.1**
VIVF				*e*Sn	**Sn**	**13 18 50.8**	**+0.7**
	8.8nm,0.3s						
VIVF	**Saint-Julien-l**	**1.92**	**285**	*e*Pn	**Pn**	**13 18 25.3**	**-1.1**
VIVF				*e*Sn	**Sn**	**13 18 50.8**	**+0.7**
	4.4nm,0.3s						
PGF	**Pioggiola**	**2.23**	**145**	*e*Pn	**Pn**	**13 18 30.1**	**-0.5**
PGF				*e*Sn	**Sn**	**13 18 55.3**	**-2.4**
	3.9nm,0.2s						
PGF	**Pioggiola**	**2.23**	**145**	*e*Pn	**Pn**	**13 18 30.1**	**-0.5**
PGF				*e*Sn	**Sn**	**13 18 55.3**	**-2.4**
	2.0nm,0.2s						
CABF	**La Chapelle**	**2.37**	**340**	*e*Pn	**Pn**	**13 18 33.9**	**+1.4**
LASF	**Ste Croix**	**2.49**	**264**	*e*Pg	**Pg**	**13 18 41.5**	**-0.8**
LASF				*e*Sn	**Sn**	**13 19 02.6**	**-1.4**
	2.7nm,0.2s						
LASF	**Ste Croix**	**2.49**	**264**	*e*Pn	**Pn**	**13 18 34.9**	**+0.8**
LASF				*e*Pg	**Pg**	**13 18 41.5**	**-0.8**
LASF				*e*Sn	**Sn**	**13 19 02.6**	**-1.4**
LASF	**Ste Croix**	**2.49**	**264**	*e*Pg	**Pg**	**13 18 41.5**	**-0.8**
LASF				*e*Sn	**Sn**	**13 19 02.6**	**-1.4**
	1.4nm,0.2s						
SMF	**Signal de Mont**	**3.30**	**314**	*e*Pn	**Pn**	**13 18 47.0**	**+1.6**
SMF				*e*Sn	**Sn**	**13 19 23.2**	**-1.0**
SMF				*e*Sg	**Sg**	**13 19 39.9**	**-0.8**
	4.3nm,0.3s						
SMF	**Signal de Mont**	**3.30**	**314**	*e*Pn	**Pn**	**13 18 47.0**	**+1.6**
SMF				*e*Sn	**Sn**	**13 19 23.2**	**-1.0**
SMF				*e*Sg	**Sg**	**13 19 39.9**	**-0.8**
	2.2nm,0.3s						
HINF	**Hinteralfeld**	**3.43**	**355**	*e*Sn	**Sn**	**13 19 26.7**	**-0.6**
	4.2nm,0.3s						
HINF	**Hinteralfeld**	**3.43**	**355**	*e*Sn	**Sn**	**13 19 26.7**	**-0.6**
	2.1nm,0.3s						
AVF	**Avril sur Loir**	**3.65**	**312**	*e*Pn	**Pn**	**13 18 51.9**	**+1.7**
HAU	**Haudompre**	**3.67**	**350**	*e*Pn	**Pn**	**13 18 51.0**	**+0.7**
HAU				*e*Sn	**Sn**	**13 19 32.2**	**-0.9**
	9.8nm,0.3s						
HAU	**Haudompre**	**3.67**	**350**	*e*Pn	**Pn**	**13 18 51.0**	**+0.7**
HAU				*e*Sn	**Sn**	**13 19 32.2**	**-0.9**
	4.9nm,0.3s						
LOR	**Lormes**	**3.74**	**321**	*e*Pn	**Pn**	**13 18 52.5**	**+1.2**
LOR				*e*Sn	**Sn**	**13 19 34.2**	**-0.7**
SSF	**Saint Saulge**	**3.75**	**316**	*e*P	**Pn**	**13 18 53.6**	**+2.0**
CAF	**Calviac**	**3.76**	**280**	*e*Pn	**Pn**	**13 18 52.8**	**+1.1**
CAF				*e*Sn	**Sn**	**13 19 34.2**	**-1.3**
BGF	**Bois d'Agland**	**3.80**	**306**	*e*Pn	**Pn**	**13 18 54.0**	**+1.9**
TCF	**Toulx Ste Croi**	**4.05**	**300**	*e*P	**Pn**	**13 18 58.3**	**+2.7**

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*ISCJB **11** 13:24:41.6±0.4, 5139N±002×1617E±002, h0^{km}, Error ellipse: s-maj=3.2km s-min=2.0km az=49.5*
*NEIC **11** 13:24:42.1±0.3, 5156N×1626E, h5^{km}, ML3.4(SZGRF), Error ellipse: s-maj=5.3km s-min=4.2km az=101.0*
*IDC **11** 13:24:42.9±1.0, 5142N×1587E, h0^{km}, mb1 3.6/6, mb1mx3.4/21, mbtmp3.5/6, ML3.5/6, Error ellipse: s-maj=24.1km s-min=8.8km az=80.0*
*IPEC **11** 13:24:43.8±0.2, 5143N×1619E, h9^{km}±1^{km}, ML2.7/3, Error ellipse: s-maj=1.4km s-min=0.6km az=44.0*
*PRU **11** 13:24:43.7, 5142N×1618E, h0^{km}, Felt In Harrachov*
*WAR **11** 13:24:44.1, 5145N×1618E, ML2.9, Mining Induced*
*BGR **11** 13:24:44.3±0.5, 5141N×1613E, h1^{km}, ML3.4, Error ellipse: s-maj=6.7km s-min=5.6km az=136.0*
*VIE **11** 13:24:44.8±0.5, 5127N×1620E, h0^{km}, mb2.7/6, ML3.2/6, Error ellipse: s-maj=2.8km s-min=1.9km az=11.0 59 km WNW of Breslau Suspected Mining induced.*
*CSEM **11** 13:24:44.0±0.1, 5141N×1621E, h0^{km}, ML3.7/8, Error ellipse: s-maj=1.8km s-min=1.1km az=16.0*
ISC 11 13:24:42.0±0.3, **5148N**±002×**1620E**±002, **h0**^{km}, **n65**, σ**1^{s}00**/120, **6C-2D**, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**175**	*i* Pg	**Pg**	**13 24 55.2**	**+0.9**
KSP				*e*Sg	**Sg**	**13 25 02.1**	**-0.5**
KSP				*e*L		13 25 07.6	
KSP	**Ksiaz**	**0.64**	**175**	*e*Pg	**Pg**	**13 24 55.2**	**+0.9**
KSP				*e*Sg	**Sg**	**13 25 02.1**	**-0.5**
DPC	**Dobruska-Polom**	**1.13**	**176**	*e*PG	**Pg**	**13 25 04.0**	**+0.3**
DPC				*e*SG	**Sg**	**13 25 18.4**	**0.0**
	131nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**228**	*e*PG	**Pg**	**13 25 09.1**	**+0.1**
PVCC				*e*SG	**Sg**	**13 25 27.6**	**+0.4**
	162nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**228**	*e*Pg	**Pg**	**13 25 09.1**	**+0.1**
PVCC				*e*Sg	**Sg**	**13 25 27.2**	**0.0**
BRG	**Berggiesshubel**	**1.55**	**248**	*e*Pn	**Pn**	**13 25 10.3**	**-0.5**
BRG				*e*Sg	**Sg**	**13 25 32.2**	**+0.4**
BRG	**Berggiesshubel**	**1.55**	**248**	PN	**Pn**	**13 25 10.3**	**-0.5**
BRG				PG	**Pg**	**13 25 11.8**	**+0.2**
BRG				SG	**Sg**	**13 25 32.0**	**+0.3**
	78nm,0.3s						
RUE	**Ruedersdorf**	**1.80**	**305**	*e*Pn	**Pn**	**13 25 14.3**	**-0.1**
RUE				*e*Sg	**Sg**	**13 25 42.2**	**+2.2**
RUE	**Ruedersdorf**	**1.80**	**305**	*e*Pn	**Pn**	**13 25 14.0**	**-0.3**
RUE				*e*Pn	**Pn**	**13 25 14.3**	**-0.1**
RUE				*e*Sn	**Sn**	**13 25 39.3**	**+1.3**
RUE				*e*Sg	**Sg**	**13 25 42.2**	**+2.2**
PRU	**Pruhonice**	**1.83**	**216**	*e*PN	**Pn**	**13 25 15.2**	**+0.5**
PRU				*e*PG	**Pg**	**13 25 16.3**	**-0.8**
PRU				*e*SG	**Sg**	**13 25 40.2**	**-0.6**
	137nm,0.4s						
PRU	**Pruhonice**	**1.83**	**216**	*e*Pn	**Pn**	**13 25 15.0**	**+0.3**
PRU	**Pruhonice**	**1.83**	**216**	*e*Pg	**Pg**	**13 25 16.3**	**-0.8**
PRU				*e*Sg	**Sg**	**13 25 39.8**	**-1.0**
FBE	**Freiberg**	**1.88**	**254**	*e*Pn	**Pn**	**13 25 14.9**	**-0.5**
FBE				*e*Sg	**Sg**	**13 25 42.0**	**-0.3**
MORC	**Moravsky Berou**	**1.91**	**153**	*e*Pn	**Pn**	**13 25 15.7**	**-0.1**
MORC				*e*Sg	**Sg**	**13 25 41.5**	**-1.8**
	66nm,0.6s						
CLL	**Collm**	**2.01**	**266**	*e*Pn	**Pn**	**13 25 17.1**	**-0.2**
CLL				*i* Pg	**Pg**	**13 25 20.0**	**-0.6**
CLL				*e*Sg	**Sg**	**13 25 48.0**	**+1.3**
CLL	**Collm**	**2.01**	**266**	*e*Pn	**Pn**	**13 25 17.0**	**-0.2**
CLL				*i* Pg	**Pg**	**13 25 20.0**	**-0.6**
CLL				*i* Sg	**Sg**	**13 25 47.6**	**+0.9**
	comp=Z,62nm,0.6s						
CLL	**Collm**	**2.01**	**266**	Pg	**Pg**	**13 25 20.0**	**-0.6**
CLL				Sg	**Sg**	**13 25 48.0**	**+1.3**
OKC	**Ostrava-Krasne**	**2.06**	**142**	*e*PN	**Pn**	**13 25 17.8**	**0.0**
OKC				*e*PG	**Pg**	**13 25 21.5**	**0.0**
OKC				*e*SG	**Sg**	**13 25 46.7**	**-1.4**
VRAC	**Vranov**	**2.19**	**173**	Pn	**Pn**	**13 25 20.2**	**+0.6**
	comp=Z,8.9nm,0.3s,baz=342,slow=15,SNR=21						
VRAC				Lg		13 25 51.3	
	comp=Z,13nm,0.3s,baz=78,slow=22,SNR=13						
VRAC	**Vranov**	**2.19**	**173**	Pn	**Pn**	**13 25 20.2**	**+0.6**
VRAC				*e*Sg	**Sg**	**13 25 50.8**	**-1.5**
	comp=Z,63nm,0.5s						
TREC	**Trest**	**2.23**	**192**	*e*Pn	**Pn**	**13 25 20.8**	**+0.5**
KRUC	**Moravsky**	**2.42**	**177**	*e*Pn	**Pn**	**13 25 24.0**	**+1.1**
KRUC				*e*Sg	**Sg**	**13 25 58.9**	**-1.0**
	comp=Z,26nm,0.3s						
TANN	**Tannenbergstha**	**2.59**	**247**	*e*Pn	**Pn**	**13 25 25.9**	**+0.6**
TANN				*e*Sg	**Sg**	**13 26 04.1**	**-1.4**
OJC	**Ojcow**	**2.60**	**118**	*e*Pn	**Pn**	**13 25 24.0**	**-1.4**
OJC				*e*Pg	**Pg**	**13 25 32.2**	**+0.2**
OJC				*e*Sg	**Sg**	**13 26 06.5**	**+0.8**
WERD	**Werda**	**2.67**	**249**	*e*Pn	**Pn**	**13 25 26.2**	**-0.1**
WERD				*e*Sg	**Sg**	**13 26 06.7**	**-1.2**
NKC	**Novy Kostel**	**2.69**	**244**	*e*PN	**Pn**	**13 25 27.0**	**+0.5**
NKC				*e*PG	**Pg**	**13 25 31.7**	**-1.8**
NKC				*e*SG	**Sg**	**13 26 08.4**	**0.0**
	comp=Z,110nm,0.3s						
NKC	**Novy Kostel**	**2.69**	**244**	*e*Pn	**Pn**	**13 25 26.8**	**+0.3**
GUNZ	**Gunzen**	**2.69**	**247**	*e*Pn	**Pn**	**13 25 27.3**	**+0.7**
GUNZ				*e*Sg	**Sg**	**13 26 08.9**	**+0.3**
WERN	**Wernitzgruen**	**2.70**	**245**	*e*Pn	**Pn**	**13 25 27.1**	**+0.4**
WERN				*e*Sg	**Sg**	**13 26 09.1**	**+0.3**
KHC	**Kasperske Hory**	**2.89**	**217**	*e*PN	**Pn**	**13 25 29.4**	**+0.1**
KHC				*e*PG	**Pg**	**13 25 35.6**	**-1.8**
KHC				*e*x	x	13 26 02.6	
KHC				*e*SG	**Sg**	**13 26 12.9**	**-2.0**
	comp=Z,28nm,0.5s						
MANZ	**Manzenberg**	**3.00**	**242**	*e*Pn	**Pn**	**13 25 31.6**	**+0.8**
MOX	**Moxa**	**3.01**	**256**	*e*Pn	**Pn**	**13 25 31.6**	**+0.6**
MOX				*e*Pg	**Pg**	**13 25 39.5**	**-0.3**
MOX				*e*Sg	**Sg**	**13 26 19.7**	**+0.9**
MOX	**Moxa**	**3.01**	**256**	*e*PN	**Pn**	**13 25 31.5**	**+0.5**
MOX				*e*PG	**Pg**	**13 25 39.5**	**-0.3**
MOX				*e*SG	**Sg**	**13 26 19.8**	**+1.0**
ROTZ	**Rotzenmuhle**	**3.07**	**238**	*e*Pn	**Pn**	**13 25 32.4**	**+0.6**
GEC2	**GERESS Array S**	**3.09**	**212**	*e*Pn	**Pn**	**13 25 33.2**	**+1.2**
GEC2				*e*Sg	**Sg**	**13 26 18.1**	**-3.2**
GEC2	**GERESS Array S**	**3.09**	**212**	*e*Pn	**Pn**	**13 25 33.2**	**+1.2**
GEC2				*e*Sg	**Sg**	**13 26 18.1**	**-3.2**
GEC2	**GERESS Array S**	**3.09**	**212**	Pn	**Pn**	**13 25 33.2**	**+1.2**
GEC2				Sg	**Sg**	**13 26 18.1**	**-3.2**
GERES	**GERESS Array B**	**3.09**	**212**	Lg		13 26 17.9	
	comp=Z,9.4nm,0.3s,baz=33,slow=27,SNR=3.4						
ZST	**Bratislava**	**3.34**	**170**	*e*P	**Pg**	**13 25 46.8**	**+0.8**
ZST				*e*Sg	**Sg**	**13 26 28.7**	**-0.6**
NIE	**Niedzica**	**3.34**	**127**	*e*P	**Pg**	**13 25 46.1**	**+0.1**
NIE				*e*S	**Sg**	**13 26 30.8**	**+1.5**
VYHS	**Vyhne**	**3.44**	**149**	*e*PN	**Pn**	**13 25 37.7**	**+0.9**
VYHS				*e*		13 25 49.8	
VYHS	**Vyhne**	**3.44**	**149**	*e*Pn	**Pn**	**13 25 37.7**	**+0.9**
VYHS				*e*		13 25 49.8	
VYHS				*e*Sg	**Sg**	**13 26 34.6**	**+2.1**
VYHS	**Vyhne**	**3.44**	**149**	*e*Pn	**Pn**	**13 25 37.7**	**+0.9**
VYHS				*e*Sg	**Sg**	**13 26 34.6**	**+2.1**
CONA	**Conrad Observa**	**3.56**	**184**	⇓*i*Pn	**Pn**	**13 25 39.3**	**+0.8**
	SNR=5.8						
CONA				⇑*i*Sg	**Sg**	**13 26 36.0**	**-0.5**
	comp=Z,46nm,0.5s						
GRA1	**Grafenberg Arr**	**3.64**	**243**	*e*Pn	**Pn**	**13 25 40.2**	**+0.5**
GRA1				*e*Sg	**Sg**	**13 26 47.2**	**+8.1**
GRA1	**Grafenberg Arr**	**3.64**	**243**	Pn	**Pn**	**13 25 40.2**	**+0.5**
GRF	**Grafenberg Arr**	**3.64**	**243**	*e*Pn	**Pn**	**13 25 40.2**	**+0.5**
GRF				*e*Sg	**Sg**	**13 26 47.2**	**+8.0**
GRF	**Grafenberg Arr**	**3.64**	**243**	*e*Pn	**Pn**	**13 25 40.2**	**+0.5**
GRF				*e*Sg	**Sg**	**13 26 47.2**	**+8.1**
CLZ	**Clausthal**	**3.65**	**278**	*e*Pn	**Pn**	**13 25 41.2**	**+1.4**
BSD	**Bornholm Skovb**	**3.72**	**349**	*i* P	**Pn**	**13 25 40.4**	**-0.4**
BSD				*i* S	**Sn**	**13 26 23.7**	**-1.6**
MOA	**Molln**	**3.84**	**200**	⇑*i*Pn	**Pn**	**13 25 43.2**	**+0.8**
	SNR=8.5						
MOA				⇑*i*Sg	**Sg**	**13 26 45.7**	**+0.2**
	comp=Z,35nm,0.5s						
KECS	**Kecovo**	**4.08**	**136**	*e*PN	**Pn**	**13 25 46.4**	**+0.8**
KECS				*e*		13 26 02.3	
KECS	**Kecovo**	**4.08**	**136**	*e*SG	**Sg**	**13 26 53.4**	**+0.4**
KECS	**Kecovo**	**4.08**	**136**	*e*Pn	**Pn**	**13 25 46.4**	**+0.8**
KECS				*e*		13 26 02.3	
KECS				*e*Sg	**Sg**	**13 26 53.4**	**+0.4**
ARSA	**Arzberg**	**4.25**	**186**	⇑*i*Pn	**Pn**	**13 25 47.6**	**-0.4**
ARSA				⇓*i*Sg	**Sg**	**13 26 58.4**	**-0.3**
	comp=Z,57nm,0.9s						
KOLS	**Kolonicke sedl**	**4.66**	**121**	*e*PN	**Pn**	**13 25 55.4**	**+1.8**
KOLS				*e*		13 26 15.8	
KBA	**Koelnbreinsper**	**4.78**	**204**	⇑*i*Pn	**Pn**	**13 25 56.7**	**+1.3**
KBA				⇑*i*Sg	**Sg**	**13 27 16.8**	**+1.1**
	comp=Z,26nm,0.6s						
AKASG	**Malin Array Be**	**8.24**	**90**	Pn	**Pn**	**13 26 42.4**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=280,slow=12,SNR=4.1						
AKASG	**Malin Array Be**	**8.24**	**90**	Pn	**Pn**	**13 26 42.3**	**-0.5**
HFS	**Hagfors**	**8.79**	**352**	Pn	**Pn**	**13 26 48.8**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=167,slow=14,SNR=9.9						
NOA	**NORSAR Array B**	**9.97**	**346**	Pn	**Pn**	**13 27 05.1**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=172,slow=13,SNR=2.6						
FINES	**FINESS Array B**	**11.37**	**25**	Pn	**Pn**	**13 27 24.2**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=206,slow=12,SNR=13						
KAF	**Kangasniemi**	**11.99**	**23**	*e*p	**Pn**	**13 27 30.8**	**-3.4**
	comp=Z,1.0nm,0.4s						
JOF	**Joensuu**	**14.04**	**29**	*e*p	**Pn**	**13 27 59.0**	**-3.2**
	comp=Z,0.8nm,0.4s						
ARCES	**ARCESS Array B**	**18.64**	**10**	Pn	**Pn**	**13 28 57.4**	**-4.2**
	comp=Z,0.5nm,0.3s,baz=200,slow=15,SNR=11						

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*BJI **11** 13:26:36.5, 1870N×8170W, h10^{km}, mB5.5, Ms5.4, Msz4.9*
*IDC **11** 13:26:37.7±0.7, 1869N×8164W, h0^{km}, mb4.1/8, mb1 4.3/10, mb1mx4.0/25, mbtmp4.1/10, ML4.1/2, MS3.6/11, Ms1 3.6/11, ms1mx3.3/24, Error ellipse: s-maj=30.3km s-min=15.9km az=60.0*
*NEIC **11** 13:26:39.0±0.5, 1867N×8170W, h10^{km}, mb4.4/6, Error ellipse: s-maj=17.1km s-min=9.0km az=46.0*
NEIC Felt at George Town.
*ISCJB **11** 13:26:40.9±0.4, 1877N±005×8160W±004, h33^{km}, mb4.1/12, MS3.9/10, Error ellipse: s-maj=7.6km s-min=4.8km az=20.8*
*JSN **11** 13:26:41.9±0.4, 1973N×8154W, h50^{km}±999^{km}, MD4.6*
*SSNC **11** 13:26:42.3, 1901N×8191W, h25^{km}, MD4.3, ML4.4*
ISC 11 13:26:43.2±0.4, **1878N**±005×**8159W**±004, **h35**^{km}, **n52**, σ**1^{s}11**/42, **mb4.1**/12, **MS3.9**/10, **3C-1D**, **North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGV	**Manicaragua**	**3.64**	**24**	*e*P	**Pn**	**13 27 36.8**	**-0.3**
MGV				*e*S	**Sn**	**13 28 16.9**	**-1.9**
	comp=N,31µm,0.1s						
MGV				*e*			
	comp=E,53µm,0.1s						
CVJ	**Coleyville**	**3.89**	**97**	*e*P	**Pn**	**13 27 40.5**	**+0.1**
BBJ	**Bamboo Saint A**	**4.12**	**95**	*e*P	**Pn**	**13 27 43.2**	**-0.5**
LMGC	**Las Mercedes**	**4.51**	**73**	*e*P	**Pn**	**13 27 51.2**	**+2.2**
LMGC				*e*S	**Sn**	**13 28 39.6**	**-0.7**
	comp=N,58nm,0.2s						
LMGC				*e*			
	comp=E,92nm,0.2s						
STH	**Stony Hill**	**4.59**	**98**	⇑*e*P	**Pn**	**13 27 50.3**	**+0.2**
STH				*e*S	**Sn**	**13 28 41.3**	**-0.9**
HOJ	**Hope**	**4.66**	**99**	⇓*e*P	**Pn**	**13 27 51.5**	**+0.4**
GWJ	**Greenwich**	**4.67**	**98**	⇑*e*P	**Pn**	**13 27 51.4**	**+0.2**
CMJ	**Castle Mountai**	**4.99**	**97**	⇑*i*P	**Pn**	**13 27 55.6**	**-0.1**
HLGC	**Holguin**	**5.61**	**67**	*e*P	**Pn**	**13 28 05.0**	**+0.8**
HLGC				*e*S	**Sn**	**13 29 09.8**	**+2.4**
	comp=N,7.5nm,0.6s						
HLGC				*e*			
	comp=E,8µm,0.6s						
RCC	**Rio Carpintero**	**5.70**	**77**	*e*P	**Pn**	**13 28 07.5**	**+2.2**
RCC				*e*S	**Sn**	**13 29 07.0**	**-2.4**
	comp=N,6.2nm,0.3s						
RCC				*e*			
	comp=E,12nm,0.3s						
TEIG	**Tepich**	**6.47**	**284**	*e*Pn	**Pn**	**13 28 10.5**	**-5.4**
	comp=E,78nm,0.4s						
TEIG				*e*Sn	**Sn**	**13 29 17.3**	**-11**
CMIG	**Matias Romero**	**12.76**	**265**	Pn	**Pn**	**13 29 40.8**	**-1.3**
	comp=E,0.5nm,0.3s,baz=39,slow=13,SNR=3.7						
CMIG				Sn	**Sn**	**13 31 47.6**	**-15**
	comp=E,0.3nm,0.3s,baz=11,slow=18,SNR=2.0						
CMIG				LR	LR	13 34 27.9	
	comp=E,191nm,19.9s,baz=98,slow=37						
CMIG	**Matias Romero**	**12.76**	**265**	Pn	**Pn**	**13 29 40.8**	**-1.3**
CMIG				Sn	**Sn**	**13 31 47.6**	**-15**
SDV	**Santo Domingo**	**14.48**	**131**	Pn	**Pn**	**13 30 04.5**	**-1.1**
	comp=E,1.7nm,0.3s,baz=334,slow=5.2,SNR=16						
SDV	**Santo Domingo**	**14.48**	**131**	*e*P	**Pn**	**13 30 04.0**	**-1.5**
	comp=E,23nm,0.8s						
SDV				*e*		13 30 14.7	
ROSC	**El Rosal**	**15.55**	**152**	LR	LR	13 36 08.4	
	comp=E,96nm,21.2s,baz=55,slow=37						
TZTN	**Tazewell**	**17.78**	**355**	*e*P	**Pn**	**13 30 40.7**	**-7.2**
PCRV	**Puerto La Cruz**	**18.50**	**115**	LR	LR	13 38 28.2	
	comp=E,154nm,18.2s,baz=298,slow=38						
MIAR	**Mount Ida**	**18.98**	**328**	*e*P	**Pn**	**13 30 59.3**	**-3.2**
	comp=E,8.6nm,0.9s						
JCT	**Junction City**	**20.21**	**309**	*e*P	**P**	**13 31 09.4**	**-5.6**
JCT				*e*		13 31 20.1	
CCM	**Cathedral Cave**	**20.98**	**338**	*e*P	**P**	**13 31 23.4**	**+0.1**
	comp=E,91nm,2.4s						
SSPA	**Standing Stone**	**22.02**	**8**	*e*P	**P**	**13 31 26.6**	**-7.8**
	comp=E,7.9nm,0.6s,mb4.3						
SSPA				*e*		13 32 56.7	
AMTX	**Amarillo**	**23.98**	**316**	P	**P**	**13 31 53.6**	**-0.8**
	comp=E,8.6nm,0.8s,mb4.2						
SADO	**Sadowa**	**26.00**	**4**	LR	LR	13 43 11.2	
	comp=E,154nm,18.9s,MS3.6,baz=212,slow=38						
LPIG	**La Paz**	**27.22**	**286**	LR	LR	13 43 29.5	
	comp=E,92nm,20.3s,MS3.3,baz=278,slow=37						
SRU	**San Rafael**	**32.21**	**315**	*e*P	**P**	**13 33 09.1**	**+1.1**
	comp=E,9.5nm,0.7s,mb4.7						
ULM	**Lac du Bonnet**	**33.41**	**343**	LR	LR	13 47 30.1	
	comp=E,64nm,18.2s,MS3.4,baz=9.4,slow=37						
PDAR	**Pinedale Array**	**33.62**	**321**	P	**P**	**13 33 20.6**	**+0.3**
	comp=E,0.8nm,0.9s,mb3.6,baz=123,slow=11,SNR=4.4						
PDAR				PcP	PcP	13 35 60.0	0.0
	comp=E,1.2nm,0.8s,baz=116,slow=4.2,SNR=7.5						
BW06	**Boulder Array**	**33.63**	**321**	*e*P	**P**	**13 33 19.5**	**-0.8**
	comp=E,3.7nm,1.3s,mb4.2						
TPNV	**Topopah Spring**	**35.33**	**308**	*e*P	**P**	**13 33 36.0**	**+1.0**
ELK	**Elko**	**36.17**	**314**	*e*P	**P**	**13 33 43.1**	**+0.8**
LPAZ	**La Paz**	**37.28**	**158**	P	**P**	**13 33 52.4**	**+0.7**
	comp=E,0.6nm,0.7s,mb3.5,baz=340,slow=12,SNR=2.6						
LPAZ				PcP	PcP	13 36 11.9	+1.3
	comp=E,0.8nm,0.7s,baz=23,slow=13,SNR=4.3						
LPAZ				LR	LR	13 50 19.0	
	comp=E,51nm,18.2s,MS3.4,baz=232,slow=38						
LPAZ	**La Paz**	**37.28**	**158**	P	**P**	**13 33 52.4**	**+0.7**
LPAZ				PcP	PcP	13 36 11.9	+1.3
NVAR	**Mina Array Bea**	**37.39**	**309**	P	**P**	**13 33 53.5**	**+0.9**
	comp=E,0.8nm,0.6s,mb3.7,baz=114,slow=7.3,SNR=6.3						
NVAR				PcP	PcP	13 36 12.2	+1.3
	comp=E,2.3nm,0.7s,baz=136,slow=4.6,SNR=18						
SCHQ	**Schefferville**	**37.72**	**14**	LR	LR	13 50 10.2	
	comp=E,100nm,18.8s,MS3.6,baz=88,slow=37						
SIV	**San Ignacio**	**40.02**	**148**	P	**P**	**13 34 14.6**	**-0.1**
	comp=E,10nm,0.6s,mb4.7,baz=333,slow=8.9,SNR=58						
LVC	**Limon Verde**	**42.96**	**163**	P	**P**	**13 34 37.6**	**-1.2**
	comp=E,2.3nm,0.6s,mb4.1,baz=291,slow=8.6,SNR=2.5						
INK	**Inuvik**	**59.05**	**340**	P	**P**	**13 36 40.1**	**+0.4**
	comp=E,1.5nm,0.7s,mb4.1,baz=118,slow=12,SNR=4.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EKA	**Eskdalemuir Ar**	**68.21**	**37**	P	**P**	**13 37 40.7**	**+0.6**
	comp=E,1.3nm,0.7s,mb4.1,baz=266,slow=5.5,SNR=4.2						
NOA	**NORSAR Array B**	**75.11**	**30**	LR	LR	14 07 38.9	
	comp=E,21nm,20.3s,MS3.4,baz=215,slow=33						
DBIC	**Dimbokro**	**75.35**	**88**	LR	LR	14 04 43.8	
	comp=E,74nm,21.2s,MS4.0,baz=167,slow=30						
ARCES	**ARCESS Array B**	**78.37**	**20**	P	**P**	**13 38 39.9**	**-0.2**
	comp=E,2.0nm,0.6s,mb4.2,baz=305,slow=4.3,SNR=7.0						
TORD	**Torodi Ar. Bea**	**79.62**	**80**	LR	LR	14 09 47.2	
	comp=E,70nm,19.3s,MS4.0,baz=230,slow=32						
CN2	**Changchun**	**112.98**	**339**	*e*PKP	PKiKP	13 45 16.9	+0.4
SNY	**Shenyang**	**115.36**	**339**	*e*PKP	PKPdf	13 45 14.0	-7.1
WMQ	**Urumqi**	**116.94**	**9**	PKP	PKPdf	13 45 23.3	-0.8
HHC	**Hu-ho-hao-te**	**119.43**	**349**	*e*PKP	PKPdf	13 45 24.0	-4.9
HHC				SKS	SKSdf	13 52 35.5	-2.8
HHC				LR	LR		
	comp=N,130nm,6.7s						
HHC				LR	LR		
	comp=E,126nm,6.7s						
HHC				LR	LR		
	comp=Z,133nm,6.0s						
LZH	**Lanzhou**	**125.19**	**355**	*e*PKP	PKPdf	13 45 33.8	-6.2
LZH				LR	LR		
	comp=E,153nm,18.5s						
LZH				LR	LR		
	comp=Z,278nm,20.3s,MS4.9						
NJ2	**Nanjing**	**125.80**	**339**	*e*PKP	PKPdf	13 45 36.9	-4.2
NJ2				PP	PP		
	comp=Z,330nm,6.4s						
NJ2				LR	LR		
	comp=N,370nm,24.2s,MS5.2						
NJ2				LR	LR		
	comp=E,420nm,24.0s,MS5.2						
NJ2				LR	LR		
	comp=Z,250nm,19.9s,MS4.9						
SSE	**Sheshan**	**125.80**	**336**	*e*PKP	PKPdf	13 45 42.1	+0.9
SSE				PP	PP		
	comp=Z,90nm,3.5s						
WRA	**Warramunga Arr**	**146.12**	**262**	PKPbc	PKPbc	13 46 18.9	-0.7
	comp=Z,4.3nm,0.8s,baz=87,slow=3.6,SNR=51						
ASAR	**Alice Springs**	**146.61**	**255**	PKPbc	PKPbc	13 46 19.9	-1.1
	comp=Z,1.4nm,0.5s,baz=102,slow=3.8,SNR=29						

BJI 11 13:36:42.9, 3848N×9050E, h15km, ML3.6, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**5.74**	**339**	P	Pn	13 38 11.9	+4.4
WMQ				S	Sn	13 39 16.1	+3.0
WMQ				SG	Sg	13 39 43.6	-3.5
WMQ				Smax			
	comp=N,50nm,0.5s						
WMQ				Smax			
	comp=E,76nm,0.5s						
GTA	**Gaotai**	**7.32**	**80**	P	Pn	13 38 30.1	+0.9
GTA				SG	Sn	13 40 32.7	+41
GTA				Smax			
	comp=N,12nm,1.1s						
GTA				Smax			
	comp=E,10.0nm,1.0s						

MEX 11 13:52:45.2±0.8, 1615N×9953W, h16km±21km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.80**	**333**	*i* P	Pb	13 52 57.5	-3.3
ACX				*i* S	Sb	13 53 07.5	-3.9
CAIG	**El Cayaco**	**1.14**	**322**	*i* P	Pn	13 53 03.3	-3.2
CAIG				*i* S	Sb	13 53 16.7	-4.4
MEIG	**Mezcala**	**1.77**	**357**	*i* P	Pn	13 53 12.2	-3.0
MEIG				*i* S	Sn	13 53 32.9	-4.4
PLIG	**Platanillo**	**2.23**	**1**	*i* P	Pn	13 53 19.2	-2.2
PLIG				*i* S	Sn	13 53 42.9	-5.8
UTMO	**Huajuapan**	**2.35**	**44**	*i* P	Pn	13 53 19.4	-3.8
UTMO				*i* S	Sn	13 53 49.0	-2.7
VHO	**Vista Hermosa**	**2.84**	**71**	*i* P	Pn	13 53 26.7	-3.2
VHO				*i* S	Sn	13 53 59.2	-4.4
PPM	**Popocatepetl**	**3.03**	**16**	*i* P	Pn	13 53 36.5	+4.0
PPM				*i* S	Sn	13 54 06.5	-1.9

*IDC **11** 14:07:27.5±1.2, 1054N×12631E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, MS3.5/2, Ms1 3.5/2, ms1mx2.9/38, Error ellipse: s-maj=115.3km s-min=15.5km az=72.0*
*NEIC **11** 14:07:29.0±0.7, 1052N×12626E, h10km, mb4.5/1, Error ellipse: s-maj=73.1km s-min=9.5km az=71.0*
*ISCJB **11** 14:07:30.9±1.2, 1062N±004×12653E±008, h39km±11km, mb4.0/10, MS3.5/1, Error ellipse: s-maj=13.7km s-min=7.0km az=167.4*
*MAN **11** 14:07:31.2, 1061N×12639E, h14km, mb3.5, ML4.7, MS5.0*
ISC 11 14:07:27.9±1.5, 1065N±004×12652E±006, h1km±8km, n28, σ1.03/32, mb4.0/10, MS3.5/1, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.33**	**230**	*e*P	**Pg**	**14 07 52.1**	**-1.3**
SCPH				*e*S	**Sg**	**14 08 10.0**	**-0.7**
BESP	**Borongan**	**1.43**	**312**	*e*P	**Pn**	**14 07 55.2**	**+0.3**
BESP				*e*S	**Sg**	**14 08 14.2**	**+0.5**
PLP	**Palo**	**1.60**	**289**	*e*P	**Pn**	**14 07 56.4**	**-0.9**
PLP						14 08 15.5	
MSLP	**Maasin**	**1.71**	**253**	*e*P	**Pn**	**14 07 58.1**	**-0.7**
BUTP	**Butuan**	**1.89**	**208**	*e*P	**Pn**	**14 08 01.5**	**+0.3**
BUTP				*e*S	**Sn**	**14 08 27.4**	**+1.8**
OCLP	**Ormoc**	**1.92**	**282**	*e*P	**Pn**	**14 08 01.9**	**+0.2**
LLP	**Lapu-Lapu**	**2.53**	**263⇓**	*e*P	**Pn**	**14 08 10.4**	**+0.3**
LLP				*e*S	**Sn**	**14 08 39.7**	**-1.9**
TBP	**Tagbilaran**	**2.78**	**250**	*e*P	**Pn**	**14 08 14.5**	**+1.0**
TBP				*e*S	**Sn**	**14 08 47.1**	**-0.7**
BUKP	**Musuan**	**3.10**	**208**	*e*P	**Pn**	**14 08 19.2**	**+1.2**
BUKP				*e*S	**Sn**	**14 08 56.6**	**+0.9**
SNPH	**Sibulan**	**3.48**	**248**	*e*P	**Pn**	**14 08 21.5**	**-1.7**
PVCP	**Virac**	**3.74**	**322**	*e*P	**Pn**	**14 08 28.1**	**+1.4**
RCP	**Roxas**	**3.82**	**284⇑**	*e*P	**Pn**	**14 08 29.6**	**+1.8**
GUIM	**Jordan**	**3.87**	**270**	*e*P	**Pn**	**14 08 29.7**	**+1.2**
IPIL	**Ipil**	**4.82**	**234**	*e*P	**Pn**	**14 08 42.9**	**+1.2**
GUMO	**Guam**	**18.18**	**79**	LR	LR	14 17 08.8	
	comp=Z,115nm,20.9s,baz=195,slow=32						
FITZ	**Fitzroy Crossi**	**28.58**	**182**	P	**P**	**14 13 24.8**	**-0.6**
	1.0nm,0.4s,mb4.0,baz=5.4,slow=12,SNR=14						
WRA	**Warramunga Arr**	**31.35**	**166**	P	**P**	**14 13 48.7**	**-1.3**
	0.4nm,0.6s,mb3.5,baz=348,slow=9.3,SNR=5.6						
ASAR	**Alice Springs**	**34.86**	**168**	P	**P**	**14 14 20.1**	**-0.4**
	0.4nm,0.6s,mb3.6,baz=353,slow=7.0,SNR=8.8						
HNR	**Honiara**	**38.78**	**120**	LR	LR	14 28 18.8	
	comp=Z,76nm,20.2s,MS3.5,baz=180,slow=32						
SONM	**Songino Array**	**40.76**	**339**	P	**P**	**14 15 11.6**	**+1.2**
	1.0nm,0.8s,mb3.6,baz=158,slow=11,SNR=7.2						
STKA	**Stephens Creek**	**44.67**	**162**	P	**P**	**14 15 42.6**	**+0.4**
	2.3nm,0.8s,mb4.1,baz=309,slow=21,SNR=3.3						
MKAR	**Makanchi Array**	**51.88**	**322**	P	**P**	**14 16 37.4**	**-0.5**
	1.9nm,0.6s,mb4.2,baz=111,slow=7.8,SNR=19						
MKAR	**Makanchi Array**	**51.88**	**322**	P	**P**	**14 16 37.4**	**-0.5**
ZAL	**Zalesovo**	**54.42**	**331**	P	**P**	**14 16 55.9**	**-0.8**
	0.8nm,0.3s,mb4.2,baz=21,slow=2.7,SNR=4.9						
KURK	**Kurchatov**	**55.90**	**325**	*e*P	**P**	**14 17 06.5**	**-0.8**
	4.1nm,0.8s,mb4.5						
ARCES	**ARCESS Array B**	**83.93**	**340**	P	**P**	**14 19 59.0**	**-0.6**
	2.4nm,0.9s,mb4.4,baz=64,slow=6.3,SNR=6.3						
ARCES	**ARCESS Array B**	**83.93**	**340**	P	**P**	**14 19 59.0**	**-0.6**
FINES	**FINESS Array B**	**85.68**	**332**	P	**P**	**14 20 07.3**	**-1.1**
	0.5nm,0.6s,mb3.8,baz=46,slow=5.5,SNR=5.3						

CSEM 11 14:28:24.1±0.5, 4319N×246W, h0km, mb3.7/2, Error ellipse: s-maj=11.2km s-min=3.2km az=8.0, After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELIZ	**Elizondo**	**0.68**	**91**	Pg	Pg	14 28 34.6	-2.5
	48nm,0.7s,SNR=7.1						
ELIZ				Lg		14 28 46.5	
	53nm,0.7s,SNR=5.0						
EALK	**Alkurruntz**	**0.69**	**87**	Pg	Pg	14 28 35.2	-2.2
	20nm,0.6s,SNR=6.1						
EALK				Lg		14 28 48.0	
	40nm,0.5s,SNR=10						
IUSE	**Utxeti**	**0.71**	**109**	Pg	Pg	14 28 38.3	+0.7
	3.6nm,0.5s,SNR=7.9						
IUSE				Lg		14 28 45.1	
	54nm,1.0s,SNR=7.9						
ELAN	**Lanestosa**	**0.72**	**274**	Pg	Pg	14 28 37.2	-0.7
	21nm,0.7s,SNR=5.7						
ELAN				Lg		14 28 47.9	
	24nm,0.8s,SNR=5.2						
EARA	**Aranguren**	**0.76**	**122**	Pg	Pg	14 28 38.7	0.0
	17nm,0.4s,SNR=4.9						
EARA				Lg		14 28 48.5	
	51nm,0.6s,SNR=9.3						
IPRE	**Itoiz**	**0.89**	**115**	Pg	Pg	14 28 41.5	+0.3
	10nm,0.5s,SNR=4.9						
IPRE				Lg		14 28 49.8	
	12nm,0.5s,SNR=8.3						
EARI	**Arriondas**	**2.02**	**274**	Pn	Pn	14 28 57.3	-2.1
	9.7nm,0.8s,SNR=5.5						
EARI				Sn	Sn	14 29 23.0	-2.3
	20nm,0.6s,SNR=5.0						
ESAC	**San Caprasio**	**2.07**	**134**	Pn	Pn	14 28 58.2	-1.9
	SNR=7.9						

*ISCJB **11** 14:36:02.6±0.6, 4405N±003×761E±005, h14km±4km, Error ellipse: s-maj=6.3km s-min=4.5km az=164.4*
*LDG **11** 14:36:03.9±0.2, 4402N×766E, h6km, Md2.1/3, Ml2.1/5, Error ellipse: s-maj=3.4km s-min=2.6km az=77.0*
*STR **11** 14:36:05.3±0.1, 4405N×738E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 11 14:36:03.4±0.6, 4402N±003×761E±005, h14km±4km, n13, σ0.91/25, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAOF	**Saorge**	**0.06**	**228**	Pg	**Pg**	**14 36 08.6**	**+2.5**
AUTN	**L'Aution**	**0.14**	**258**	Pg	**Pg**	**14 36 07.3**	**+0.3**
AUTN				Sg	**Sg**	**14 36 08.6**	**-1.0**
SBF	**Sospel**	**0.20**	**219**	*e*Pg	**Pg**	**14 36 09.3**	**+1.2**
SBF				*e*Sg	**Sg**	**14 36 12.3**	**+1.0**
	36nm,0.3s						
LUCF	**Luceram**	**0.23**	**236**	Pg	**Pg**	**14 36 08.9**	**+0.4**
LUCF				Sg	**Sg**	**14 36 11.6**	**-0.4**
MVIF	**Mont Vial**	**0.36**	**249**	Pg	**Pg**	**14 36 10.1**	**-0.6**
MVIF				Sg	**Sg**	**14 36 13.4**	**-2.1**
FRF	**La Foret Royal**	**0.84**	**237**	*e*Pg	**Pg**	**14 36 20.2**	**+0.5**
FRF				*e*Sg	**Sg**	**14 36 31.8**	**+1.1**
	3.1nm,0.2s						
LMR	**La Mourre**	**1.06**	**230**	*e*Pg	**Pg**	**14 36 23.9**	**+0.1**
LMR				*e*Sg	**Sg**	**14 36 36.9**	**-0.7**
	3.0nm,0.2s						
SMRF	**Simiane la Rot**	**1.47**	**269**	*e*Pg	**Pg**	**14 36 31.9**	**+0.2**
SMRF				*e*Sn	**Sn**	**14 36 48.4**	**-0.1**
SMRF				*e*Sg	**Sg**	**14 36 50.7**	**-0.1**
	2.9nm,0.2s						
LPG	**La Plagne**	**1.60**	**338**	*e*Pn	**Pn**	**14 36 32.3**	**+1.1**
LPG	**La Plagne**	**1.60**	**338**	*e*Pg	**Pg**	**14 36 34.6**	**+0.5**
LPG				*e*Sg	**Sg**	**14 36 54.5**	**-0.3**
	1.4nm,0.2s						
LPL	**La Plagne**	**1.62**	**338**	*e*Pg	**Pg**	**14 36 34.8**	**+0.3**
LPL				*e*Sg	**Sg**	**14 36 54.5**	**-1.1**
	5.4nm,0.4s						
PGF	**Pioggiola**	**1.79**	**145**	*e*Pn	**Pn**	**14 36 33.0**	**-0.8**
PGF	**Pioggiola**	**1.79**	**145**	*e*Pg	**Pg**	**14 36 36.8**	**-1.0**
PGF				*e*Sn	**Sn**	**14 36 57.0**	**+0.7**
PGF				*e*Sg	**Sg**	**14 36 59.8**	**-1.2**

IDC 11 14:37:23.4±3.2, 515S×15018E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, ML2.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/25, Error ellipse: s-maj=106.2km s-min=36.2km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.19**	**215**	Pn	Pn	14 38 41.6	-0.6
	0.7nm,0.3s,baz=315,slow=5.7,SNR=4.4						
PMG				Sn	Sn	14 39 42.5	-0.3
	0.7nm,0.3s,baz=328,slow=19,SNR=2.4						
CTA	**Charters Tower**	**15.34**	**194**	LR	LR	14 46 33.2	
	comp=Z,59nm,18.9s,baz=215,slow=36						
WB2	**Warramunga Arr**	**21.30**	**225**	*e*P	P	14 42 12.2	+0.6
WRA	**Warramunga Arr**	**21.31**	**225**	P	P	14 42 12.5	+0.8
	2.9nm,0.9s,baz=50,slow=10,SNR=16						
ASAR	**Alice Springs**	**24.19**	**219**	P	P	14 42 41.4	-0.1
	1.1nm,0.7s,baz=52,slow=8.7,SNR=12						
FITZ	**Fitzroy Crossi**	**27.22**	**240**	*e*P	P	14 43 09.9	+0.9
	5.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.22**	**240**	P	P	14 43 10.3	+1.4
	2.3nm,0.7s,baz=107,slow=4.4,SNR=8.8						
TORD	**Torodi Ar. Bea**	**147.92**	**287**	PKPbc	PKPbc	14 57 10.6	+0.1
	0.4nm,0.6s,baz=63,slow=4.5,SNR=2.9						

SKHL 11 14:44:09.3±0.4, 5433N×12691E, h10km, mb3.7/4, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KROS	**Kirovskiy**	**0.11**	**19**	*i* Pg	Pg	14 44 12.6	+0.6
KROS				AMB	AMB	14 44 12.7	
	140nm,0.4s						
KROS				*e*Sg	Sg	14 44 15.0	+1.1
CLNS	**Chul'man**	**2.76**	**336**	*e*Pg	Pg	14 45 01.4	-0.8
CLNS				AMB	AMB	14 45 03.1	
	4.0nm,0.3s						
CLNS				AMB	AMB	14 45 03.1	
	12nm,0.3s						
CLNS				*e*Sg	Sg	14 45 36.8	-1.2
CLNS				A		14 45 41.9	
	20nm,0.2s						
CLNS				A		14 45 41.9	
	14nm,0.2s						
CLNS				A		14 45 41.9	
	4.0nm,0.2s						
EKMR	**Ekimchan**	**3.81**	**107**	*e*Pg	Pg	14 45 18.4	-3.8
EKMR				AMB	AMB	14 45 23.3	
	3.0nm,0.4s						
EKMR				*e*Sg	Sg	14 46 07.0	-4.5
EKMR				A		14 46 14.5	
	16nm,0.5s						
EKMR				A		14 46 14.5	
	8.0nm,0.5s						
TUP	**Tupik**	**4.07**	**274**	*e*Pn	Pn	14 45 14.0	+2.4
TUP				*e*Pg	Pg	14 45 25.4	-1.9
TUP				AMB	AMB	14 45 27.4	
	4.0nm,0.3s						
TUP				*e*Sg	Sg	14 46 17.3	-2.7
TUP				A		14 46 23.0	
	49nm,0.7s						
CRS	**Chara**	**5.53**	**301**	*e*Sg	Sg	14 47 03.1	-3.8

CASC 11 14:49:30.1±2.0, 1048N×8666W, h19km±6km, MD3.7, 7C-4D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**1.07**	**109**	*e*P	Pb	14 49 48.0	-2.0
VCR				*e*S	Sb	14 50 03.1	-0.4
SSNN	**San Juan del S**	**1.13**	**44⇑**	*e*P	Pn	14 49 50.8	-0.1
LIM1	**Limonal**	**1.40**	**81⇑**	*e*P	Pn	14 49 54.2	-0.4
LIM1				*e*S	Sn	14 50 13.8	+1.3
MADN	**Villa Maderas**	**1.44**	**50⇑**	*e*P	Pn	14 49 55.5	+0.3
CONN	**Concepcion**	**1.48**	**43⇑**	*e*P	Pn	14 49 55.3	-0.4
TICN	**Ticuantepe**	**1.60**	**15**	*e*P	Pn	14 49 58.4	+1.1
COPN	**Copaltepe**	**1.70**	**2⇓**	*e*P	Pn	14 49 58.6	0.0
COPN				*e*S	Sn	14 50 20.9	+1.2
MGAN	**Managua**	**1.71**	**14**	*e*S	Sn	14 50 21.6	+1.4
APYN	**Apoyeque**	**1.77**	**10⇑**	*e*P	Pn	14 50 00.1	+0.4
APYN				*e*S	Sn	14 50 22.8	+1.1
LEON	**Leon**	**1.94**	**353⇑**	*e*P	Pn	14 50 01.9	-0.1
LEON				*e*S	Sn	14 50 26.1	+0.2
MIRN	**Miramar**	**1.95**	**358⇑**	*e*P	Pn	14 50 02.1	-0.1
MIRN				*e*S	Sn	14 50 26.4	+0.3
CNGN	**Cerro Negro**	**2.01**	**359⇓**	*e*P	Pn	14 50 02.7	-0.3
CNGN				*e*S	Sn	14 50 28.1	+0.5
CRIN	**San Cristobal**	**2.24**	**350⇓**	*e*P	Pn	14 50 06.3	+0.1
CRIN				*e*S	Sn	14 50 32.5	-0.8
PRS1	**Puriscal**	**2.36**	**102⇓**	*e*P	Pn	14 50 08.9	+1.1
PRS1				*e*S	Sn	14 50 36.5	+0.3
LCR2	**La Lucha 2**	**2.71**	**105**	*e*P	Pn	14 50 14.0	+1.3
LCR2				*e*S	Sn	14 50 45.5	+0.6
ICR	**Volcan Irazu**	**2.83**	**100**	*e*P	Pn	14 50 16.5	+2.3
URSC	**Urasca**	**2.91**	**102**	*e*P	Pn	14 50 17.1	+1.8
URSC				*e*S	Sn	14 50 51.0	+1.4
BUS	**Buena Vista**	**3.00**	**107**	*e*P	Pn	14 50 17.4	+0.9
BUS				*e*S	Sn	14 50 52.6	+0.6

*MOS **11** 14:49:54.3±1.4, 644N×12667E, h86km, mb4.7/9, Error ellipse: s-maj=28.8km s-min=9.0km az=115.8*
*ISCJB **11** 14:49:55.1±0.6, 641N±004×12677E±006, h96km±4km, mb4.6/46, Error ellipse: s-maj=11.0km s-min=4.9km az=139.6*
*BJI **11** 14:49:56.0, 640N×12680E, h95km, mB4.9, mb4.7*
*HRVD **11** 14:49:56.7±0.4, 633N×12674E, h88km±6km, MW4.9/50, Centroid moment Tensor Solution. LP body waves: s13,c13;Mantle waves: s50,c70; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.57±.13; Mθθ-2.00±.12; Mφφ2.58±.15; Mrθ1.01±.06; Mθφ-0.29±.14; Mφr0.43±.09; Best double couple: M0 2.60300×10^16 NP1:φs315.00000°, δ66.00000°, λ-164.00000°. NP2: φs218.00000°, δ76.00000°, λ-25.00000°. Principal axes: T 2.6430, Plg7.0000°, Azm268.0000°; N -0.0730, Plg61.0000°, Azm11.0000°; P -2.5640, Plg28.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 14:49:56.7±1.2, 643N×12681E, h96km±10km, mb4.9/14 Error ellipse: s-maj=15.8km s-min=5.3km az=66.0*
*IDC **11** 14:49:57.0±2.5, 637N×12665E, h94km±21km, mb4.2/17, mb1 4.3/17, mb1mx4.2/23, mbtmp4.5/17, MS3.6/12, Ms1 3.6/12, ms1mx3.3/27, Error ellipse: s-maj=46.0km s-min=10.2km az=71.0*
*MAN **11** 14:49:58.1, 650N×12658E, h59km, mb4.6, ML5.4, MS4.0*
ISC 11 14:49:56.6±0.6, 643N±004×12678E±007, h93km±4km, h98km±2.7km:pP-P, n108, σ1.10/121, mb4.6/46, 8C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.73**	**314**	*e*P	**Pn**	**14 50 12.0**	**-1.6**
MATI				*e*S	**Sn**	**14 50 24.8**	**-1.5**
DAV	**Davao City (W)**	**1.35**	**298⇑**	*i*P	**Pn**	**14 50 21.0**	**+0.4**
DAV	**Davao City (W)**	**1.35**	**298**	*e*Pn	**Pn**	**14 50 20.7**	**+0.1**
DAV				*e*Sn	**Sn**	**14 50 36.8**	**-2.0**
KCP	**Kidapawan**	**1.78**	**289⇓**	*i*P	**Pn**	**14 50 28.1**	**+2.2**
KCP				*i* S	**Sn**	**14 50 51.7**	**+3.5**
BUKP	**Musuan**	**2.23**	**310**	*e*P	**Pn**	**14 50 31.8**	**-0.1**
BUKP				*e*S	**Sn**	**14 50 59.2**	**+0.3**
CTBH	**Cotabato--PC H**	**2.64**	**287**	*e*P	**Pn**	**14 50 36.1**	**-1.2**
CTBH				*i* S	**Sn**	**14 51 05.1**	**-3.4**
BUTP	**Butuan**	**2.77**	**336**	*e*P	**Pn**	**14 50 40.2**	**+1.1**
BUTP				*e*S	**Sn**	**14 51 17.4**	**+5.7**
CGP	**Cagayan de Oro**	**2.89**	**314**	*e*P	**Pn**	**14 50 40.7**	**+0.1**
CGP				*e*S	**Sn**	**14 51 13.8**	**-0.6**
SCPH	**Surigao**	**3.57**	**339**	*e*P	**Pn**	**14 50 50.4**	**+0.7**
SCPH				*e*S	**Sn**	**14 51 29.7**	**-1.2**
PAGZ	**Pagadian**	**3.66**	**293**	*e*P	**Pn**	**14 50 50.6**	**-0.3**
MSLP	**Maasin**	**4.14**	**333**	*e*P	**Pn**	**14 50 58.1**	**+0.6**
MSLP				*e*S	**Sn**	**14 51 47.4**	**+2.6**
TBP	**Tagbilaran**	**4.34**	**318**	*e*P	**Pn**	**14 50 59.8**	**-0.5**
TBP				*e*S	**Sn**	**14 51 48.1**	**-1.6**
IPIL	**Ipil**	**4.39**	**288⇑**	*e*P	**Pn**	**14 51 00.3**	**-0.6**
IPIL	**Ipil**	**4.39**	**288**	*e*P	**Pn**	**14 51 00.5**	**-0.4**
SNPH	**Sibulan**	**4.55**	**310⇑**	*e*P	**Pn**	**14 51 01.3**	**-1.8**
LLP	**Lapu-Lapu**	**4.76**	**324⇓**	*e*P	**Pn**	**14 51 07.3**	**+1.4**
LLP				*e*S	**Sn**	**14 51 59.9**	**+0.1**
OCLP	**Ormoc**	**5.07**	**335**	*e*P	**Pn**	**14 51 11.7**	**+1.7**
GUIM	**Jordan**	**5.88**	**315**	*e*P	**Pn**	**14 51 22.5**	**+1.4**
CUYO	**Cuyo Island**	**7.19**	**308**	*e*P	**Pn**	**14 51 40.3**	**+1.3**
ENPP	**El Nido**	**8.68**	**304**	*e*P	**Pn**	**14 52 00.8**	**+1.5**
TSM	**Tawau**	**9.12**	**257**	P	**Pn**	**14 52 06.4**	**+1.1**
TSM	**Tawau**	**9.12**	**257**	P	**Pn**	**14 52 06.4**	**+1.1**
KKM	**Kota Kinabalu**	**10.51**	**268**	P	**Pn**	**14 52 26.6**	**+2.4**
KKM	**Kota Kinabalu**	**10.51**	**268**	*e*P	**Pn**	**14 52 25.9**	**+1.7**
KSM	**Kuching**	**17.15**	**254**	*e*P	**Pn**	**14 53 51.3**	**+1.0**
KAKA	**Kakadu**	**19.83**	**164**	*e*P	**Pn**	**14 54 19.1**	**-3.2**
	79nm,0.6s						
JOW	**Kunigami**	**20.34**	**4**	LR	LR	15 01 32.8	
	comp=Z,193nm,19.9s,baz=171,slow=34						
QIZ	**Qiongzhong**	**20.70**	**309**	P	**P**	**14 54 28.0**	**-1.2**
QIZ				AP		14 54 46.6	
QIZ				S	**S**	**14 58 20.1**	**+4.8**
QIZ				XS	sS	14 58 46.6	+1.4
QIZ				AMB	AMB		
	comp=Z,25nm,1.6s						
QIZ				AMB	AMB		
	comp=Z,389nm,3.5s						
KGM	**Kluang**	**23.80**	**260**	P	**P**	**14 55 05.7**	**+4.9**
FITZ	**Fitzroy Crossi**	**24.40**	**183**	*e*P	**P**	**14 55 05.7**	**-0.5**
	comp=Z,51nm,0.7s,mb5.0						
FITZ				*e*S	**S**	**14 59 27.1**	**+7.8**
FITZ	**Fitzroy Crossi**	**24.40**	**183**	P	**P**	**14 55 05.8**	**-0.4**
	comp=Z,39nm,0.9s,mb4.7,baz=356,slow=9.7,SNR=80						
SSE	**Sheshan**	**25.09**	**349**	*e*P	**P**	**14 55 16.8**	**+4.4**
SSE				AP	pP	14 55 39.3	+6.1
SSE				S	**S**	**14 59 37.0**	**+6.8**
SSE				SCS	ScS	15 06 00.3	-3.4
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.6						
SSE				AMB	AMB		
	comp=Z,165nm,6.9s						
SSE				LR	LR		
	comp=N,52nm,36.4s						
SSE				LR	LR		
	comp=E,40nm,36.2s						
SSE				LR	LR		
	comp=Z,67nm,42.4s						
NJ2	**Nanjing**	**26.54**	**345**	*e*P	**P**	**14 55 30.1**	**+4.5**
NJ2				AP	pP	14 55 53.6	+7.2
NJ2				PP		14 56 20.1	
NJ2				S	**S**	**14 59 55.0**	**+1.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
NJ2				AMB	AMB		
	comp=Z,30nm,3.8s						
NJ2				LR	LR		
	comp=N,1μm,23.2s						
NJ2				LR	LR		
	comp=E,1μm,24.3s						
NJ2				LR	LR		
	comp=Z,1μm,19.5s						
WRAB	**Tennant Creek**	**27.24**	**164**	*e*P	**P**	**14 55 31.1**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,34nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**27.24**	**164**	*e*P	**P**	**14 55 31.1**	**-0.7**
	comp=Z,34nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**27.24**	**164**	P	**P**	**14 55 31.4**	**-0.5**
	comp=Z,6.5nm,0.5s,mb4.4,baz=344,slow=10,SNR=54						
WRA				ScP	ScP	15 02 21.6	+0.1
	comp=Z,1.3nm,0.5s,baz=343,slow=3.1,SNR=8.4						
WB2	**Warramunga Arr**	**27.25**	**164⇑**	*i*P	**P**	**14 55 31.2**	**-0.7**
PSI	**Prapat**	**28.00**	**264**	LR	LR	15 07 03.7	
	comp=Z,93nm,20.7s,baz=185,slow=37						
MBWA	**Marble Bar**	**28.28**	**194**	*e*P	**P**	**14 55 41.0**	**-0.1**
	comp=Z,44nm,0.6s,mb5.2						
KMI	**Kunming**	**29.58**	**312**	P	**P**	**14 55 53.4**	**+0.8**
KMI				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.6						
AS31	**Alice Springs**	**30.71**	**167⇑**	*i*P	**P**	**14 56 02.3**	**-0.3**
ASAR	**Alice Springs**	**30.71**	**167**	P	**P**	**14 56 02.2**	**-0.3**
	comp=Z,4.4nm,0.5s,mb4.5,baz=342,slow=7.4,SNR=61						
ASAR				ScP	ScP	15 02 32.1	-0.3
	comp=Z,1.6nm,0.9s,baz=351,slow=2.9,SNR=5.9						
ASPA	**Alice Springs**	**30.71**	**167⇑**	*i*P	**P**	**14 56 02.3**	**-0.3**
MJAR	**Matsushiro Arr**	**31.74**	**18**	LR	LR	15 07 49.0	
	comp=Z,114nm,18.9s,baz=200,slow=34						
CD2	**Chengdu**	**32.54**	**321**	P	**P**	**14 56 18.3**	**-0.4**
CD2				AP	pP	14 56 40.4	+0.6
CD2				XP	sP	14 56 52.1	+1.6
CD2				PP	PP	14 57 30.5	-3.3
CD2				S	**S**	**15 01 25.8**	**-1.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				LR	LR		
	comp=N,110nm,12.0s						
CD2				LR	LR		
	comp=Z,110nm,13.2s						
CTA	**Charters Tower**	**32.58**	**144**	*e*P	**P**	**14 56 20.5**	**+1.5**
	comp=Z,2.2nm,0.4s,mb4.3						
CTA	**Charters Tower**	**32.58**	**144**	P	**P**	**14 56 20.2**	**+1.3**
	comp=Z,5.1nm,0.8s,mb4.4,baz=309,slow=12,SNR=5.6						
CTA				LR	LR	15 10 05.7	

comp=Z,140nm,20.2s,baz=121,slow=37
CTA Charters Tower 32.58 144 *e*P **P 14 56 20.5 +1.5**
CTA pmax pmax
comp=Z,2.0nm,0.4s
CTAO Charters Tower 32.58 144 *e*P **P 14 56 20.1 +1.1**
CTAO pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
CTAO Charters Tower 32.58 144 *e*P **P 14 56 20.1 +1.1**
comp=Z,8.3nm,1.0s,mb4.5
BJI Beijing 34.79 346 *e*P **P 14 56 40.8 +2.6**
BJI AMB AMB
comp=Z,13nm,1.2s,mb4.6
BJI LR LR
comp=Z,56nm,29.0s
LZH Lanzhou 36.24 328 *e*P **P 14 56 52.0 +1.5**
LZH AP pP 14 57 16.1 +4.2
LZH XP sP 14 57 26.3 +3.7
LZH AMB AMB
comp=Z,37nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,53nm,6.3s
LZH LR LR
comp=E,432nm,13.6s
LZH LR LR
comp=Z,512nm,17.8s
HHC Hu-ho-hao-te 36.87 341 *e*P **P 14 56 57.2 +1.3**
HHC AP pP 14 57 19.3 +1.9
HHC XP sP 14 57 31.8 +3.7
HHC PP PP 14 58 27.2 +5.6
HHC S **S 15 02 33.0 -0.7**
HHC SCP ScP 15 02 53.5 -0.6
HHC SCS ScS 15 07 00.9 -0.6
HHC AMB AMB
comp=Z,13nm,0.5s,mb5.1
HHC AMB AMB
comp=Z,131nm,6.6s
HHC LR LR
comp=N,166nm,6.7s
HHC LR LR
comp=E,112nm,5.1s
HHC LR LR
comp=Z,106nm,4.9s
FORT Forrest 37.02 178 *e*P **P 14 56 57.6 +0.4**
comp=Z,45nm,0.5s,mb5.7
MDJ Mudanjiang 38.11 3 P **P 14 57 04.7 -1.7**
MDJ AMB AMB
comp=Z,7.0nm,2.9s,mb4.0
MDJ AMB AMB
comp=Z,74nm,3.4s
KLBR Kellerberrin 38.78 192⇑*i*P **P 14 57 11.9 -0.1**
comp=Z,40nm,0.7s,mb5.3
NWAO Narrogin (SRO) 40.18 192 P **P 14 57 24.5 +0.9**
comp=Z,50nm,0.5s,mb5.6,baz=19,slow=8.5,SNR=42
NWAO Narrogin (SRO) 40.18 192 *e*P **P 14 57 24.0 +0.4**
NWAO pmax pmax
comp=Z,80nm,0.9s
NWAO Narrogin (SRO) 40.18 192 *e*P **P 14 57 24.0 +0.3**
comp=Z,80nm,0.9s,mb5.5
STKA Stephens Creek 40.63 160 *e*P **P 14 57 26.2 -1.1**
comp=Z,13nm,0.5s,mb5.0
STKA Stephens Creek 40.63 160 P **P 14 57 27.5 +0.2**
comp=Z,22nm,0.6s,mb5.1,baz=336,slow=8.0,SNR=59
GTA Gaotai 40.84 328 *e*P **P 14 57 28.6 -0.4**
GTA AMB AMB
comp=Z,2.0nm,0.6s,mb4.1
HABR Khabarovsk 42.48 8⇑*i*P **P 14 57 49.5 +7.1**
HABR pmax pmax
comp=Z,30nm,2.4s,mb4.6
ARMA Armidale 43.70 148 *e*P **P 14 57 53.4 +1.1**
JIRN Jiri 43.88 304 *e*P **P 14 57 54.1 +0.4**
comp=Z,18nm,0.6s,mb5.0
GUN Gumba 44.23 304 *e*P **P 14 57 56.8 +0.3**
PKI Pulchoki 44.50 303 *e*P **P 14 57 58.4 -0.3**
KKN Kakani 44.68 303 *e*P **P 14 57 59.5 -0.6**
comp=Z,18nm,1.0s,mb4.8
DMN Daman 44.77 303 *e*P **P 14 58 00.3 -0.5**
comp=Z,13nm,0.7s,mb4.8
SONM Songino Array 44.78 341 P **P 14 58 03.0 +2.2**
comp=Z,4.1nm,1.0s,mb4.1,baz=151,slow=8.7,SNR=23
SONM LR LR 15 17 11.6
comp=Z,87nm,18.4s,baz=156,slow=36
GKN Gorkha 45.29 303 *e*P **P 14 58 04.5 -0.4**
KOLN Koldanda 46.08 303 *e*P **P 14 58 11.2 +0.1**
comp=Z,20nm,0.6s,mb5.0
WMQ Urumqi 50.57 324 P **P 14 58 47.2 +1.6**
WMQ AP pP 14 59 10.5 +2.4
WMQ XP sP 14 59 21.8 +3.3
WMQ PP PP 15 00 45.6 +3.4
WMQ AMB AMB
comp=Z,11nm,1.7s,mb4.6
WMQ AMB AMB
comp=Z,82nm,5.2s
WMQ LR LR
comp=N,253nm,17.5s
WMQ LR LR
comp=E,190nm,16.4s
WMQ LR LR
comp=Z,256nm,18.0s
BOD Bodaibo 52.22 351 *e*P **P 14 58 55.5 -2.4**
MKAR Makanchi Array 55.39 324 P **P 14 59 20.6 -0.5**
comp=Z,3.1nm,0.6s,mb4.5,baz=120,slow=7.7,SNR=33
ZAL Zalesovo 58.23 332 P **P 14 59 39.6 -1.5**
comp=Z,1.2nm,0.4s,mb4.3,baz=4.8,slow=7.8,SNR=3.9
ZAL LR LR 15 28 49.1
comp=Z,39nm,18.8s,baz=216,slow=40
NVS Novosibirsk 59.51 332 *e*P **P 14 59 48.3 -1.7**
NVS pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
NVS pmax pmax
comp=N,2.0nm,0.7s
NVS pmax pmax
comp=E,3.0nm,1.1s
KURK Kurchatov 59.52 327 *e*P **P 14 59 49.2 -0.8**
KURK pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
KURK Kurchatov 59.52 327 *e*P **P 14 59 49.2 -0.8**
comp=Z,5.8nm,0.6s,mb4.8
BVAR Borovoye Array 65.11 326 P **P 15 00 27.2 -0.1**
comp=Z,2.0nm,0.7s,mb4.1,baz=120,slow=10,SNR=10
BVAR PcP PcP 15 01 00.8 +1.4
comp=Z,2.4nm,0.6s,baz=122,slow=7.3,SNR=5.1
BVAR LR LR 15 28 13.1
comp=Z,37nm,20.5s,baz=108,slow=35
BVAR Borovoye Array 65.11 326 P **P 15 00 27.2 -0.1**
BVAR 15 01 00.8
BRVK Borovoye 65.18 326 *e*P **P 15 00 27.4 -0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
BRVK Borovoye 65.18 326 *e*P **P 15 00 27.4 -0.3**
comp=Z,2.6nm,0.7s,mb4.2
CHKZ Chkalovo 65.25 327 *e*P **P 15 00 27.1 -1.2**
CHKZ pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
CHKZ Chkalovo 65.25 327 *e*P **P 15 00 27.1 -1.2**
comp=Z,2.6nm,1.0s,mb4.0
ZRNK Zerenda 65.84 326 *e*P **P 15 00 30.5 -1.6**
ZRNK pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
ZRNK Zerenda 65.84 326 *e*P **P 15 00 30.5 -1.5**
comp=Z,6.2nm,0.7s,mb4.5
AKTK Aktyubinsk 71.59 321 P **P 15 01 06.8 -0.9**
AKTK LR LR 15 35 29.7
AKTO Aktyubinsk 71.59 321 P **P 15 01 06.8 -0.9**
comp=Z,2.1nm,0.6s,mb4.1,baz=106,slow=11,SNR=8.6
AKTO LR LR 15 35 29.7
comp=Z,40nm,18.4s,baz=253,slow=38
SVE Sverdlovsk 71.70 328 *e*P **P 15 01 13.0 +4.6**
SVE *e* 15 01 42.0
ARU Arti 72.70 327⇓*i*P **P 15 01 14.7 +0.3**
ARU *e* pP 15 01 38.6 +0.4
ARU *e* 15 03 59.7
ARU *e*PPP 15 05 45.1
ARU *e*S S 15 10 32.2 -0.1
ARU *e*SS SS 15 15 14.3 +0.9
ARU pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
CASY Casey 73.49 187 *e*P **P 15 01 19.3 +0.3**
MIR Mirnyy 76.78 193 *e*P **P 15 01 39.0 +1.1**
MIR pmax pmax
comp=Z,110nm,1.2s,mb5.5
OBN Obninsk 84.90 325⇓*e*P **P 15 02 21.2 +0.1**
OBN *i* pP 15 02 44.0 -1.5
OBN pmax pmax
comp=Z,21nm,1.6s,mb4.8
VNDA Vanda 86.08 173 P **P 15 02 26.5 -0.5**
comp=Z,1.6nm,0.9s,mb4.0,baz=303,slow=7.5,SNR=7.7
VNDA LR LR 15 40 17.9
comp=Z,40nm,20.6s,baz=49,slow=35
VNDA Vanda 86.08 173 P **P 15 02 26.5 -0.5**
VNDA LR LR 15 40 17.9
MAW Mawson 86.29 200 P **P 15 02 28.2 +0.2**
comp=Z,1.3nm,0.8s,mb3.9,baz=32,slow=12,SNR=2.2
JOF Joensuu 86.81 333 *e*p **P 15 02 30.4 -0.2**
comp=Z,11nm,0.7s,mb4.9
JOF Joensuu 86.81 333 *e*P **P 15 02 30.4 -0.2**
JOF pmax pmax
comp=Z,11nm,0.7s,mb4.9
ARCES ARCESS Array B 87.95 340 P **P 15 02 37.4 +1.4**
comp=Z,4.8nm,0.7s,mb4.6,baz=77,slow=6.4,SNR=12
ARCES LR LR 15 43 39.4
comp=Z,28nm,20.3s,baz=283,slow=37
ARCES ARCESS Array B 87.95 340 P **P 15 02 37.4 +1.4**
ARCES LR LR 15 43 39.4
BRTR Keskin Array B 88.35 310 P **P 15 02 38.6 +0.8**
comp=Z,0.4nm,0.4s,mb3.8,baz=112,slow=5.6,SNR=4.4
BRTR LR LR 15 43 48.9
comp=Z,20nm,20.3s,baz=196,slow=37
FINES FINESS Array B 89.49 332 P **P 15 02 42.9 -0.4**
comp=Z,1.8nm,0.6s,mb4.3,baz=65,slow=5.3,SNR=9.5
HFS Hagfors 95.67 332 P **P 15 03 11.7 -0.1**
comp=Z,1.8nm,0.7s,mb4.6,baz=120,slow=8.8,SNR=4.5
NB2 NORSAR Subarra 96.40 334 P **P 15 03 15.2 +0.1**
comp=Z,1.7nm,0.7s,mb4.6,baz=65,slow=4.4
NOA NORSAR Array B 96.40 334 P **P 15 03 15.5 +0.4**
comp=Z,2.1nm,0.7s,mb4.7,baz=65,slow=4.6,SNR=9.1
NOA LR LR 15 48 57.2
comp=Z,28nm,20.2s,baz=60,slow=37
NOA NORSAR Array B 96.40 334 P **P 15 03 15.5 +0.4**
NOA LR LR 15 48 57.2
TORD Torodi Ar. Bea 122.10 290 PKP PKPdf 15 08 41.9 +1.6
comp=Z,0.8nm,0.7s,baz=52,slow=1.0,SNR=4.7

*ISCJB **11** 14:54:01.4±0.4, 4759N±002×12335W±004, h58km±7km, Error ellipse: s-maj=4.3km s-min=2.4km az=148.6*
*PNSN **11** 14:54:02.5, 4756N×12328W, h47km, MD2.5, Fault plane solution: NP1:ϕ=60.00000°, δ=80.00000°, NP2: ϕ=154.00000°, δ=70.00000°, Principal axes: T Plg7.0000°, Azm108.0000°; P Plg21.0000°, Azm15.0000°;*
*PGC **11** 14:54:02.7, 4762N×12340W, h52km±15km, ML2.3/21, 80km northwest of Seattle, Wa Olympic Peninsula, Washington.*
ISC 11 14:54:02.3±0.4, 4759N±002×12334W±004, h49km±9km, n41, σ0=57/72, 18C-15D, Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
B04A	**Port Angeles**	**0.48**	**347**	⇓P	**Pn**	**14 54 13.5**	**+0.1**
	baz=0.5,SNR=50						
B04A				⇓S	**Sn**	**14 54 21.6**	**+0.4**
	baz=0.5						
D03A	**Wishkah Elem.**	**0.55**	**212**	⇓P	**Pn**	**14 54 14.0**	**-0.1**
	baz=0.6,SNR=26						
D03A				⇓S	**Sn**	**14 54 23.3**	**+0.7**
	baz=0.6						
D04A	**Dobbs Creek Ra**	**0.60**	**142**	⇑P	**Pn**	**14 54 14.4**	**-0.4**
	baz=0.6,SNR=16						
D04A				⇓S	**Sn**	**14 54 24.4**	**+0.6**
	baz=0.6						
VGZ	**Gonzales**	**0.83**	**1**	P	**Pn**	**14 54 17.4**	**-0.2**
VGZ				S	**Sn**	**14 54 28.4**	**-0.5**
VGZ				Trac		14 54 28.7	
	comp=Z,106nm,0.2s						
C03A	**Quillayute Air**	**0.91**	**294**	⇑P	**Pn**	**14 54 18.9**	**+0.2**
	baz=0.9,SNR=14						
C03A				⇑S	**Sn**	**14 54 31.6**	**+0.8**
	baz=0.9						
D05A	**Enumclaw**	**1.00**	**113**	⇓P	**Pn**	**14 54 19.7**	**-0.3**
	baz=1.0,SNR=13						
D05A				⇓S	**Sn**	**14 54 32.5**	**-0.5**
	baz=1.0						
E03A	**Lebam**	**1.05**	**188**	⇑P	**Pn**	**14 54 20.3**	**-0.3**
	baz=1.0,SNR=6.1						
E03A				⇑S	**Sn**	**14 54 33.6**	**-0.6**
	baz=1.0						
PGC	**Sidney**	**1.07**	**356**	P	**Pn**	**14 54 20.6**	**-0.3**
PGC				S	**Sn**	**14 54 34.1**	**-0.5**
PGC				Trac		14 54 35.2	
	comp=Z,54nm,0.1s						
B05A	**Bryant**	**1.07**	**51**	⇓P	**Pn**	**14 54 21.1**	**+0.2**
	baz=1.1,SNR=55						
B05A				⇑S	**Sn**	**14 54 34.8**	**0.0**
	baz=1.1						
LZB	**Mount Lazard**	**1.07**	**343**	P	**Pn**	**14 54 21.0**	**0.0**
LZB				S	**Sn**	**14 54 34.2**	**-0.6**
LZB				Trac		14 54 35.2	
	comp=Z,29nm,0.1s						
E04A	**Onalaska**	**1.08**	**157**	⇑S	**Sn**	**14 54 35.4**	**+0.3**
	baz=1.0						
C05A	**Tolt Reservoir**	**1.12**	**84**	⇑P	**Pn**	**14 54 21.1**	**-0.5**
	baz=1.1,SNR=20						
C05A				⇓S	**Sn**	**14 54 35.0**	**-1.0**
	baz=1.1						
SNB	**Saturna Island**	**1.19**	**5**	⇓P	**Pn**	**14 54 23.1**	**+0.5**
SNB				S	**Sn**	**14 54 38.0**	**+0.2**
SNB				Trac		14 54 38.5	
	comp=Z,17nm,0.2s						
A04A	**Legoe Bay, Lum**	**1.21**	**20**	⇓P	**Pn**	**14 54 23.2**	**+0.4**
	baz=1.2,SNR=12						
A04A				⇓S	**Sn**	**14 54 38.2**	**+0.1**
	baz=1.2						
PFB	**Port Renfrew**	**1.23**	**324**	⇑P	**Pn**	**14 54 22.9**	**-0.2**
PFB				S	**Sn**	**14 54 38.2**	**-0.5**
PFB				Trac		14 54 38.9	
	comp=Z,44nm,0.1s						
GOBB	**Galiano Island**	**1.37**	**355**	P	**Pn**	**14 54 25.4**	**+0.5**
GOBB				S	**Sn**	**14 54 42.0**	**+0.1**
GOBB				Trac		14 54 44.9	
	comp=Z,24nm,0.1s						
E05A	**Randle**	**1.49**	**133**	P	**Pn**	**14 54 26.3**	**-0.4**
	baz=1.4,SNR=81						
E05A				⇑S	**Sn**	**14 54 44.2**	**-0.7**
	baz=1.4						
A05A	**Maple Falls**	**1.64**	**30**	⇑P	**Pn**	**14 54 29.4**	**+0.6**
	baz=1.6,SNR=8.0						
A05A				⇑S	**Sn**	**14 54 49.6**	**+0.9**
	baz=1.6						
VDB	**Vedder Mountai**	**1.66**	**29**	⇓P	**Pn**	**14 54 29.6**	**+0.6**
VDB				S	**Sn**	**14 54 49.5**	**+0.4**
VDB				Trac		14 54 50.5	
	comp=Z,222nm,0.3s						
F03A	**Seaside**	**1.67**	**185**	⇑P	**Pn**	**14 54 28.8**	**-0.2**
	baz=1.6						
F03A				⇑S	**Sn**	**14 54 48.4**	**-0.8**
	baz=1.6						
MGB	**Mount Grey**	**1.68**	**328**	⇑P	**Pn**	**14 54 29.3**	**+0.1**
MGB				S	**Sn**	**14 54 49.2**	**-0.4**
MGB				Trac		14 54 50.4	
	comp=Z,27nm,0.2s						
NLLB	**Nanaimo Lost L**	**1.70**	**345**	P	**Pn**	**14 54 29.6**	**+0.1**
NLLB				S	**Sn**	**14 54 49.3**	**-0.7**
NLLB				Trac		14 54 50.8	
	comp=Z,26nm,0.2s						
HNB	**Haney**	**1.76**	**16**	Trac		14 54 54.1	
	comp=Z,21nm,0.1s						
HNB	**Haney**	**1.76**	**16**	S	**Sn**	**14 54 51.0**	**-0.6**
F04A	**Amboy**	**1.77**	**159**	⇓P	**Pn**	**14 54 30.5**	**-0.1**
	baz=1.7						
F04A				⇑S	**Sn**	**14 54 51.9**	**0.0**
	baz=1.7						
BIB	**Bowen Island**	**1.82**	**1**	P	**Pn**	**14 54 31.9**	**+0.7**
BIB				S	**Sn**	**14 54 52.6**	**-0.4**
BIB				Trac		14 54 54.1	
	comp=Z,7.0nm,0.1s						
ALB	**Alberni**	**1.96**	**330**	P	**Pn**	**14 54 33.2**	**+0.1**
ALB				S	**Sn**	**14 54 55.8**	**-0.6**
ALB				Trac		14 54 57.2	
	comp=Z,9.0nm,0.1s						
OZB	**Mount Ozzard**	**1.99**	**314**	P	**Pn**	**14 54 32.9**	**-0.6**
OZB				S	**Sn**	**14 54 55.9**	**-1.3**
OZB				Trac		14 54 56.6	
	comp=Z,20nm,0.1s						
SHB	**Sechelt**	**2.04**	**350**	P	**Pn**	**14 54 34.8**	**+0.6**
SHB				S	**Sn**	**14 54 58.2**	**-0.3**
SHB				Trac		14 55 01.2	
	comp=Z,18nm,0.1s						
WPB	**Watts Point**	**2.07**	**2**	P	**Pn**	**14 54 35.2**	**+0.6**
WPB				S	**Sn**	**14 54 58.8**	**-0.4**
WPB				Trac		14 54 59.9	
	comp=Z,16nm,0.2s						
F05A	**White Salmon**	**2.14**	**142**	⇓S	**Sn**	**14 55 01.9**	**+0.9**
	baz=2.1						
TXB	**Texada**	**2.23**	**341**	P	**Pn**	**14 54 37.5**	**+0.7**
TXB				S	**Sn**	**14 55 03.1**	**-0.1**
TXB				Trac		14 55 04.0	
	comp=Z,10.0nm,0.2s						
BTB	**Buttle Lake**	**2.38**	**323**	P	**Pn**	**14 54 39.1**	**+0.3**
BTB				S	**Sn**	**14 55 06.4**	**-0.3**
BTB				Trac		14 55 08.7	
	comp=Z,14nm,0.2s						
CBB	**Campbell River**	**2.79**	**332**	Trac		14 55 19.4	
	comp=Z,3.0nm,0.3s						
CBB	**Campbell River**	**2.79**	**332**	P	**Pn**	**14 54 43.9**	**-0.6**
CBB				S	**Sn**	**14 55 16.1**	**-0.8**
GDR	**Gold River**	**2.83**	**322**	P	**Pn**	**14 54 46.3**	**+1.3**
GDR				S	**Sn**	**14 55 17.5**	**-0.3**
GDR				Trac		14 55 24.1	
	comp=Z,6.0nm,0.3s						
H03A	**Soap Creek Ran**	**2.91**	**179**	⇑S	**Sn**	**14 55 19.6**	**-0.2**
	baz=2.9						
H02A	**Toledo**	**2.94**	**189**	⇑S	**Sn**	**14 55 20.7**	**0.0**
	baz=2.9						
LLLB	**Lillooet**	**3.17**	**17**	P	**Pn**	**14 54 50.4**	**+0.7**
LLLB				S	**Sn**	**14 55 25.9**	**-0.4**
LLLB				Trac		14 55 27.3	
	comp=Z,7.0nm,0.2s						
NCRB	**Newcastle Ridg**	**3.34**	**329**	P	**Pn**	**14 54 53.8**	**+1.8**
NCRB				S	**Sn**	**14 55 30.7**	**+0.3**
NCRB				Trac		14 55 31.8	
	comp=Z,1.0nm,0.2s						
WOSB	**Woss**	**3.34**	**322**	P	**Pn**	**14 54 53.2**	**+1.2**

*IGIL **11** 14:55:21.2, 3630N×990W, h31km, ML3.1*
*INMG **11** 14:55:22.3±0.9, 3646N×975W, h10km, ML2.6, Error ellipse: s-maj=4.5km s-min=2.4km az=62.0*
*NEIC **11** 14:55:22.2, 3657N×972W, h9km, MN2.7(MDD), After MDD.*
*CSEM **11** 14:55:24.6±0.6, 3652N×922W, h10km, ML2.6, Error ellipse: s-maj=13.3km s-min=7.0km az=35.0*
MDD 11 14:55:20.9±1.3, 3652N×974W, h0km, mbLg2.8/19, Error ellipse: s-maj=11.2km s-min=6.7km az=52.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORF	**Marmelete**	**1.18**	**48**	*e*P	Pg	14 55 43.8	+0.4
MORF				*e*S	Sg	14 55 59.8	+1.1
MORF				*e*S	Sg	14 55 59.8	+1.1
MORF				AML	AML	14 56 01.8	
	comp=N,230nm,0.2s						
MORF	**Marmelete**	**1.18**	**48**	*e*P	Pg	14 55 43.8	+0.4
MORF				*e*S	Sg	14 55 59.8	+1.2
PTEO	**Sao Teotonio**	**1.31**	**38**	*i*P	Pg	14 55 45.6	-0.4
PTEO				*e*S	Sg	14 56 03.4	+0.5
PTEO							
	comp=N,48nm,0.1s						
EGRO	**El Granado**	**2.07**	**60**	P	Pn	14 55 55.8	-1.1
	comp=N,1.7nm,0.1s,SNR=46						
EGRO				S	Sn	14 56 19.6	-3.8
	comp=N,27nm,0.3s,SNR=6.5						
EGRO	**El Granado**	**2.07**	**60**	P	Pn	14 55 55.8	-1.1
	comp=N,1.7nm,0.1s,SNR=46						
EGRO				S	Sn	14 56 19.5	-3.9
	comp=N,27nm,0.3s,SNR=6.5						
PBEJ	**Beja**	**2.12**	**44**	*e*Pn	Pn	14 55 56.5	-1.1
PBEJ				*e*Sn	Sn	14 56 22.9	-1.7
PBEJ							
	comp=N,21nm,0.1s						
PLOU	**Loures**	**2.41**	**11**	*e*Pn	Pn	14 56 00.6	-0.9
PLOU				*e*Sn	Sn	14 56 29.7	-2.0
PLOU							
	comp=N,40nm,0.1s						
PLOU	**Loures**	**2.41**	**11**	*e*Pn	Pn	14 56 00.6	-0.9
PLOU				*e*Sn	Sn	14 56 29.7	-2.0
EMIN	**Mina Concepcio**	**2.75**	**62**	P	Pn	14 56 04.6	-1.6
	comp=N,1.2nm,0.1s,SNR=63						
EMIN				S	Sn	14 56 36.7	-3.4
	comp=N,11nm,0.2s						
EMIN	**Mina Concepcio**	**2.75**	**62**	P	Pn	14 56 04.7	-1.5
EMIN				S	Sn	14 56 35.5	-4.6
EMIN	**Mina Concepcio**	**2.75**	**62**	P	Pn	14 56 04.7	-1.5
EMIN				S	Sn	14 56 35.5	-4.6
	comp=N,11nm,0.2s						
EBAD	**Badajoz**	**3.11**	**43**	P	Pn	14 56 09.8	-1.3
	comp=N,0.4nm,0.1s,SNR=75						
EBAD				S	Sn	14 56 45.6	-3.4
	comp=N,7.5nm,0.3s,SNR=6.1						
EBAD	**Badajoz**	**3.11**	**43**	P	Pn	14 56 09.8	-1.4
	comp=N,0.4nm,0.1s,SNR=75						
EBAD				S	Sn	14 56 45.6	-3.4
	comp=N,7.5nm,0.3s,SNR=6.1						
ESPR	**Espera**	**3.14**	**82**	P	Pn	14 56 10.0	-1.5
	comp=N,0.8nm,0.1s,SNR=7.6						
ESPR				S	Sn	14 56 45.8	-3.9
	comp=N,29nm,0.3s,SNR=9.1						
ESPR	**Espera**	**3.14**	**82**	P	Pn	14 56 10.0	-1.6
	comp=N,0.8nm,0.1s,SNR=7.6						
ESPR				S	Sn	14 56 45.8	-3.9
	comp=N,29nm,0.3s,SNR=9.1						
PTOM	**Tomar**	**3.27**	**18**	*e*Pn	Pn	14 56 12.3	-1.0
PTOM				*e*Sn	Sn	14 56 49.8	-3.1
PTOM							
	comp=N,22nm,0.1s						
EJIF	**Jimena Fronter**	**3.44**	**90**	P	Pn	14 56 14.3	-1.4
	comp=N,0.7nm,0.2s,SNR=7.9						
EJIF				S	Sn	14 56 52.7	-4.5
	comp=N,6.9nm,0.5s,SNR=7.9						
PCBR	**Castelo Branco**	**3.77**	**28**	*e*Pn	Pn	14 56 19.3	-0.9
PCBR				*e*Sn	Sn	14 57 02.2	-3.0
PCBR							
	comp=N,5.8nm,0.1s						
EMIJ	**Mijas**	**4.00**	**88**	P	Pn	14 56 21.4	-2.0
	comp=N,0.3nm,0.1s,SNR=7.9						
EMIJ				S	Sn	14 57 06.9	-4.1
	comp=N,3.8nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.00**	**88**	P	Pn	14 56 21.4	-2.0
EMIJ				S	Sn	14 57 04.9	-6.1
EMIJ	**Mijas**	**4.00**	**88**	P	Pn	14 56 21.4	-2.0
	comp=N,0.3nm,0.1s,SNR=7.9						
EMIJ				S	Sn	14 57 04.9	-6.0
	comp=N,3.8nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**4.24**	**23**	*e*Pn	Pn	14 56 25.7	-1.0
MTE				*e*Sn	Sn	14 57 13.8	-3.1
MTE							
	comp=N,6.2nm,0.3s						
EADA	**Adamuz**	**4.43**	**67**	P	Pn	14 56 27.7	-1.6
	comp=N,0.0nm,0.0s,SNR=38						
EADA				S	Sn	14 57 17.0	-4.6
	comp=N,7.2nm,0.3s,SNR=8.8						
EADA	**Adamuz**	**4.43**	**67**	P	Pn	14 56 27.7	-1.6
	SNR=38						
EADA				S	Sn	14 57 17.0	-4.6
	comp=N,7.2nm,0.3s,SNR=8.8						
PVIS	**Viseu**	**4.43**	**18**	*e*Pn	Pn	14 56 28.0	-1.4
PVIS				*e*Sn	Sn	14 57 18.5	-3.2
ELOJ	**Sierra Loja**	**4.53**	**80**	P	Pn	14 56 30.3	-0.3
	comp=N,0.1nm,0.0s,SNR=4.0						
ELOJ				S	Sn	14 57 19.4	-4.5
	comp=N,4.8nm,0.3s,SNR=5.6						
PVRL	**Vila Real**	**5.01**	**18**	*e*Pn	Pn	14 56 36.2	-1.0
PVRL				*e*Sn	Sn	14 57 31.2	-4.6
PVRL							
	comp=N,20nm,0.1s						
EBAN	**Banos Encina**	**5.02**	**69**	P	Pn	14 56 35.8	-1.6
	comp=N,0.1nm,0.1s,SNR=7.9						
EBAN				S	Sn	14 57 29.9	-6.3
	comp=N,0.4nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**5.10**	**80**	S	Sn	14 57 34.1	-3.9
	comp=N,3.3nm,0.3s,SNR=5.3						
PCAB	**Cabril**	**5.36**	**14**	*e*Pn	Pn	14 56 40.7	-1.3
PCAB				*e*Sn	Sn	14 57 38.9	-5.5
PCAB							
	comp=N,5.1nm,0.1s						
EQES	**Quesada**	**5.48**	**74**	P	Pn	14 56 42.2	-1.5
	comp=N,0.8nm,0.1s,SNR=6.3						
EQES				S	Sn	14 57 41.2	-6.2
	comp=N,6.4nm,0.3s,SNR=14						
EQES	**Quesada**	**5.48**	**74**	P	Pn	14 56 42.2	-1.5
	comp=N,0.8nm,0.1s,SNR=6.3						
EQES				S	Sn	14 57 41.2	-6.2
	comp=N,6.4nm,0.3s,SNR=14						
ELOB	**Lobios**	**5.50**	**13**	P	Pn	14 56 42.6	-1.4
	comp=N,0.2nm,0.1s,SNR=8.3						
ELOB				S	Sn	14 57 42.7	-5.3
	comp=N,9.2nm,0.6s,SNR=7.1						

ESDC	Sonseca Array	5.54	54	P	Pn	14 56 43.4	-1.2
	comp=N,0.2nm,0.1s,baz=238,slow=13,SNR=42						
ESDC				S	Sn	14 57 41.9	-7.0
	comp=N,3.0nm,0.2s,baz=238,slow=23,SNR=17						
ESDC	Sonseca Array	5.54	54	P	Pn	14 56 43.4	-1.1
	comp=N,0.2nm,0.1s,SNR=42						
ESDC				S	Sn	14 57 41.9	-7.0
	comp=N,3.0nm,0.2s,SNR=17						
PBRG	Braganca	5.77	23	ePn	Pn	14 56 46.9	-0.8
PBRG				eSn	Sn	14 57 50.0	-4.6
PBRG							
	comp=N,4.0nm,0.1s						
ECAL	Calabor	5.90	22	P	Pn	14 56 48.5	-1.0
	comp=N,0.0nm,0.1s,SNR=11						
ECAL				S	Sn	14 57 52.1	-5.6
	comp=N,4.6nm,0.3s						
ECAL	Calabor	5.90	22	P	Pn	14 56 48.5	-1.0
	SNR=11						
GUD	Guadarrama	6.01	45	P	Pn	14 56 50.0	-1.0
	comp=N,0.2nm,0.1s,SNR=8.9						
GUD				S	Sn	14 57 55.9	-4.6
	comp=N,1.8nm,0.3s						
EVIA	Vianos	6.12	68	P	Pn	14 56 50.9	-1.6
	comp=N,0.2nm,0.2s,SNR=7.9						
EVIA				S	Sn	14 57 56.6	-6.7
	comp=N,5.4nm,0.5s,SNR=6.1						
STS	Santiago	6.43	8	P	Pn	14 56 51.3	-5.4
EMAZ	Mazaricos	6.45	5	S	Sn	14 58 04.6	-6.8
	SNR=7.9						
ETOB	Tobarra	6.84	69	P	Pn	14 57 00.2	-2.3
	comp=N,0.2nm,0.2s,SNR=5.9						
ETOB				S	Sn	14 58 14.8	-6.2
	comp=N,2.4nm,0.3s,SNR=6.4						
ETOB	Tobarra	6.84	69	P	Pn	14 57 00.2	-2.2
	comp=N,0.2nm,0.2s,SNR=5.9						
ETOB				S	Sn	14 58 14.8	-6.2
	comp=N,2.4nm,0.3s,SNR=6.4						
ETOR	Torete	7.39	52	P	Pn	14 57 08.7	-1.2
	comp=N,11nm,0.2s,SNR=7.9						
ETOR				S	Sn	14 58 27.4	-7.0
	comp=N,1.2nm,0.4s						
ETOR	Torete	7.39	52	P	Pn	14 57 08.8	-1.1
ETOR				S	Sn	14 58 27.4	-7.0
ETOR	Torete	7.39	52	P	Pn	14 57 08.8	-1.1
	SNR=7.9						
EARI	Arriondas	7.62	26	P	Pn	14 57 12.4	-0.7
	comp=N,0.3nm,0.1s,SNR=7.9						
EARI				S	Sn	14 58 36.6	-3.4
	comp=N,47nm,1.5s						
EARI	Arriondas	7.62	26	P	Pn	14 57 12.4	-0.7
EARI				S	Sn	14 58 36.7	-3.4
EBEN	Beniarda	7.86	71	S	Sn	14 58 38.9	-7.2
	comp=N,0.9nm,0.3s,SNR=4.0						

*NAO **11** 14:56:05.0±1.6, 60.10N×25.67E, ML2.0*
*BER **11** 14:56:05.8±2.6, 60.11N×25.61E, h0^{km}, ML2.0(NAO), Suspected explosion*
*ISCJB **11** 14:56:07.2±0.6, 60.23N±0.03×25.16E±0.07, h0^{km}, Error ellipse: s-maj=5.5km s-min=4.5km az=60.2*
*IDC **11** 14:56:07.2±3.3, 60.01N×25.92E, h32^{km}±23^{km}, mb1 3.0/3, mb1mx2.8/19, mbtmp2.9/3, ML2.7/3, Error ellipse: s-maj=26.2km s-min=13.4km az=150.0*
*HEL **11** 14:56:08.3±0.2, 60.21N×25.16E, h0^{km}, ML2.2, ML2.0(NAO), Explosion*
ISC 11 14:56:07.6±0.6**, 60.24N**±0.03×**25.13E**±0.07**, h0**^{km}**, n19, σ1^{s}25**/34**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEF	Metsahovi	0.37	267	eP	Pg	14 56 14.7	0.0
MEF				eS	Sg	14 56 20.1	+0.7
FIA0	FINESS Array S	1.30	20	eP	Pg	14 56 31.3	-1.2
FIA0				eS	Sg	14 56 48.5	-0.8
FIA0	FINESS Array S	1.30	20	Pn	Pn	14 56 31.3	-1.6
	baz=189,slow=18						
FIA0				Lg		14 56 48.3	
	baz=188,slow=37						
FIA0				Rg		14 56 55.1	
	baz=190,slow=37						
FINES	FINESS Array B	1.30	20	Pn	Pn	14 56 31.1	-1.8
	3.1nm,0.3s,baz=192,slow=17,SNR=85						
FINES				Pg	Pg	14 56 33.8	+1.3
	3.1nm,0.3s,baz=202,slow=13,SNR=84						
FINES				Lg		14 56 53.4	
	5.6nm,0.3s,baz=196,slow=23,SNR=37						
RAF	Rauma	1.84	297	eP	Pn	14 56 41.1	+0.7
RAF				eS	Sn	14 57 05.6	+1.3
KEF	Keuruu	1.94	356	eP	Pn	14 56 43.1	+1.3
KEF				eS	Sn	14 57 08.8	+1.9
KEF				MSG		14 57 11.1	
	comp=Z,17nm,0.1s						
VSU	Vasula	1.96	155	eP	Pn	14 56 42.2	+0.2
VSU				eS	Sn	14 57 07.3	0.0
KAF	Kangasniemi	1.97	16	eP	Pn	14 56 43.0	+0.8
KAF				eS	Sn	14 57 08.2	+0.7
KAF				MSG		14 57 11.1	
	comp=Z,11nm,0.1s						
SUF	Sumiainen	2.54	11	eP	Pn	14 56 52.0	+2.0
SUF				eSB	Sb	14 57 24.6	-1.2
SUF				MSG		14 57 26.4	
	comp=Z,7.6nm,0.1s						
VAF	Ylistaro	3.05	338	eP	Pn	14 56 58.9	+1.9
VAF				eSB	Sb	14 57 40.3	-0.2
HFS	Hagfors	5.71	274	eP	Pn	14 57 34.0	+0.4
HFS				eS	Sn	14 58 38.3	-1.5
HFS	Hagfors	5.71	274	Pn	Pn	14 57 34.1	+0.5
	comp=Z,0.1nm,0.3s,baz=122,slow=14,SNR=7.6						
HFS				Sn	Sn	14 58 39.2	-0.6
	comp=Z,0.2nm,0.3s,baz=89,slow=28,SNR=5.0						
HFS	Hagfors	5.71	274	Pn	Pn	14 57 34.0	+0.4
	baz=103,slow=11						
HFS				Sn	Sn	14 58 38.3	-1.5
	baz=92,slow=28						
NB2	NORSAR Subarra	6.89	283	Pn	Pn	14 57 48.9	-0.9
	baz=90,slow=14						
NB2	NORSAR Subarra	6.89	283	eP	Pn	14 57 48.9	-0.9
NOA	NORSAR Array B	6.89	283	Pn	Pn	14 57 48.0	-1.8
	comp=Z,0.1nm,0.3s,baz=142,slow=12,SNR=2.2						
NOA				Sn	Sn	14 59 06.8	-2.1
	comp=Z,0.2nm,0.3s,baz=70,slow=16,SNR=2.6						
ARA0	ARCESS Array S	9.34	1	Pn	Pn	14 58 21.6	-1.9
	baz=177,slow=14						
ARA0				Sn	Sn	15 00 02.9	-6.3
	baz=180,slow=28						
ARA0	ARCESS Array S	9.34	1	eP	Pn	14 58 21.6	-1.9
ARA0				eS	Sn	15 00 02.9	-6.3
ARCES	ARCESS Array B	9.34	1	Pn	Pn	14 58 21.6	-1.8
	comp=Z,0.1nm,0.3s,baz=180,slow=13,SNR=6.6						

WEL 11 15:26:54.1±0.5**, 37.06S**×**176.53E, h299**^{km}±4^{km}**, ML3.7**/11**, Error ellipse: s-maj=8.3km s-min=6.1km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	1.28	159	PN	Pn	15 27 35.9	+0.1
URZ				SN	S	15 28 08.2	-0.8
MWZ	Matawai	1.50	148	PN	Pn	15 27 37.5	+0.4
MXZ	Matakaoa Point	1.50	110	PN	Pn	15 27 37.2	0.0
PUZ	Puketiti	1.70	127	PN	Pn	15 27 38.6	+0.1
PUZ				SN	S	15 28 12.4	-1.4
BKZ	Black Stump Fm	2.10	181	PN	Pn	15 27 41.8	+0.3
BKZ				SN	S	15 28 19.7	+0.3
KNZ	Kokohu	2.15	156	PN	Pn	15 27 42.3	+0.3
PXZ	Pawanui	2.98	175	PN	Pn	15 27 49.3	-0.2
TSZ	Takapari Road	3.03	188	PN	Pn	15 27 49.7	-0.4
TSZ				SN	S	15 28 34.6	0.0
MRZ	Mangatainoka R	3.67	191	SN	S	15 28 45.2	-1.5
KIW	Kapiti Island	4.00	198	PN	Pn	15 27 59.3	-1.0
KIW				SN	S	15 28 51.1	-2.1
MTW	Mount Morrison	4.17	191	PN	Pn	15 28 00.6	-1.5
CAW	Cannon Point	4.20	195	PN	Pn	15 28 01.2	-1.2
TCW	Tory Channel	4.50	202	PN	Pn	15 28 04.8	-1.1
TCW				SN	S	15 29 00.5	-2.8
TUWZ	Tuamarina	4.80	204	PN	Pn	15 28 08.0	-1.3
NNZ	Nelson	4.82	210	PN	Pn	15 28 07.7	-1.8
NNZ				SN	S	15 29 07.3	-2.7
THZ	Tophouse	5.47	210	ePN	Pn	15 28 15.2	-1.9
KHZ	Kahutara	5.83	202	PN	Pn	15 28 19.9	-1.3
MQZ	McQueen's Vall	7.27	203	SN	S	15 29 57.1	-6.2

*NEIC **11** 15:41:25.8, 38.63S×175.28E, h239^{km}, MG4.0(WEL), After WEL.*
WEL 11 15:41:26.9±0.4**, 38.59S**×**175.33E, h226**^{km}±3^{km}**, ML3.9**/9**, 2C, Error ellipse: s-maj=3.6km s-min=3.3km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HIZ	Hauiti	0.38	281	ePN	Pn	15 41 56.3	-0.3
HIZ				SN	S	15 42 21.1	+1.3
HIZ	Hauiti	0.38	281	eP	Pn	15 41 56.5	-0.1
HIZ				S	S	15 42 21.1	+1.3
FWVZ	Far West T-bar	0.69	166	PN	Pn	15 41 58.1	+0.5
FWVZ				SN	S	15 42 21.8	+0.1
FWVZ	Far West T-bar	0.69	166	P	Pn	15 41 58.2	+0.5
MOVZ	Moawhango	0.88	158	PN	Pn	15 41 58.6	0.0
MOVZ				SN	S	15 42 22.1	-1.3
MOVZ	Moawhango	0.88	158	P	Pn	15 41 58.6	0.0
BKZ	Black Stump Fm	1.07	123	PN	Pn	15 42 00.1	+0.4
BKZ				SN	S	15 42 25.2	-0.2
WAZ	Wanganui	1.20	193	PN	Pn	15 42 00.4	-0.2
WAZ				SN	S	15 42 26.1	-0.8
WAZ	Wanganui	1.20	193	P	Pn	15 42 00.4	-0.2
WAZ				S	S	15 42 26.2	-0.7
PKE	Pukeiti	1.21	240	PN	Pn	15 42 00.2	-0.5
PKE	Pukeiti	1.21	240	P	Pn	15 41 59.8	-0.9
URZ	Urewera	1.43	77	PN	Pn	15 42 02.2	-0.2
URZ				SN	S	15 42 29.0	-1.1
URZ	Urewera	1.43	77	P	Pn	15 42 02.2	-0.2
TSZ	Takapari Road	1.54	162	PN	Pn	15 42 03.1	-0.1
TSZ	Takapari Road	1.54	162	P	Pn	15 42 03.2	-0.1
MWZ	Matawai	1.74	82	PN	Pn	15 42 05.2	+0.2
MWZ	Matawai	1.74	82	P	Pn	15 42 05.1	+0.1
PXZ	Pawanui	1.86	141	PN	Pn	15 42 06.0	0.0
KNZ	Kokohu	1.88	104	PN	Pn	15 42 06.9	+0.7
KNZ				SN	S	15 42 36.9	-0.1
MRZ	Mangatainoka R	2.08	175	PN	Pn	15 42 06.8	-1.3
MRZ				SN	S	15 42 37.2	-3.3
MRZ	Mangatainoka R	2.08	175	P	Pn	15 42 06.9	-1.2
BFZ	Birch Farm	2.20	162	PN	Pn	15 42 08.3	-1.1
BFZ				SN	S	15 42 40.5	-2.2
BFZ	Birch Farm	2.20	162	eP	Pn	15 42 08.3	-1.1
KIW	Kapiti Island	2.29	188	PN	Pn	15 42 08.5	-1.8
KIW				SN	S	15 42 40.8	-3.4
KIW	Kapiti Island	2.29	188	P	Pn	15 42 08.5	-1.8
KIW				S	S	15 42 41.2	-3.1
PUZ	Puketiti	2.36	78	PN	Pn	15 42 10.8	-0.1
PUZ				SN	S	15 42 43.7	-1.7
PUZ	Puketiti	2.36	78	eP	Pn	15 42 10.9	0.0
DUWZ	D'Urville Isla	2.46	206	PN	Pn	15 42 09.6	-2.4
DUWZ				SN	S	15 42 43.1	-4.4
CAW	Cannon Point	2.52	185	⇑PN	Pn	15 42 10.8	-1.9
CAW	Cannon Point	2.52	185	P	Pn	15 42 10.8	-1.9
MTW	Mount Morrison	2.57	177	PN	Pn	15 42 10.9	-2.2
MRW	Makara Radio	2.68	190	PN	Pn	15 42 12.1	-2.3
MRW	Makara Radio	2.68	190	P	Pn	15 42 12.1	-2.3
TCW	Tory Channel	2.74	197	PN	Pn	15 42 12.8	-2.3
TCW	Tory Channel	2.74	197	P	Pn	15 42 12.8	-2.2
SNZO	South Karori	2.76	190	PN	Pn	15 42 12.7	-2.6
SNZO	South Karori	2.76	190	P	Pn	15 42 12.9	-2.3
MSWZ	Moikau Station	2.82	181	PN	Pn	15 42 13.6	-2.3
NNZ	Nelson	3.02	209	⇑PN	Pn	15 42 14.8	-3.4
NNZ				SN	S	15 42 53.9	-4.6
NNZ	Nelson	3.02	209	P	Pn	15 42 14.9	-3.3
TUWZ	Tuamarina	3.03	200	PN	Pn	15 42 15.3	-2.9
QRZ	Quartz Range	3.11	223	PN	Pn	15 42 15.1	-4.1
QRZ	Quartz Range	3.11	223	P	Pn	15 42 15.3	-3.9
BSWZ	Blackbirch Sta	3.31	199	PN	Pn	15 42 18.9	-2.6
BSWZ	Blackbirch Sta	3.31	199	P	Pn	15 42 18.9	-2.6
THZ	Tophouse	3.67	210	PN	Pn	15 42 21.6	-4.1
THZ	Tophouse	3.67	210	P	Pn	15 42 21.8	-3.9
KHZ	Kahutara	4.06	199	PN	Pn	15 42 26.8	-3.5
KHZ	Kahutara	4.06	199	P	Pn	15 42 26.9	-3.5
DSZ	Denniston Nort	4.15	220	PN	Pn	15 42 26.7	-4.8
DSZ				SN	S	15 43 14.3	-8.3
DSZ	Denniston Nort	4.15	220	eP	Pn	15 42 26.7	-4.8
LTZ	Lake Taylor	4.79	208	PN	Pn	15 42 34.8	-4.6
LTZ	Lake Taylor	4.79	208	P	Pn	15 42 34.7	-4.6
CRLZ	Canterbury Las	5.39	202	PN	Pn	15 42 41.1	-5.7
CRLZ	Canterbury Las	5.39	202	eP	Pn	15 42 41.4	-5.4
MQZ	McQueen's Vall	5.50	201	PN	Pn	15 42 42.5	-5.7
MQZ				SN	S	15 43 43.1	-10
MQZ	McQueen's Vall	5.50	201	P	Pn	15 42 42.5	-5.7
WVZ	Waitaha Valley	5.68	216	ePN	Pn	15 42 43.8	-6.6
WVZ	Waitaha Valley	5.68	216	eP	Pn	15 42 45.0	-5.5

FUNV 11 15:41:53.7, 10.90N×73.10W, h14^{km}, MW3.5, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIRV	Villa del Rosa	0.79	120	⇓iP	Pg	15 42 08.2	-0.8
VIRV				eS	Sg	15 42 19.2	-0.1
DABV	Dabajuro	2.42	89	eP	Pn	15 42 31.5	-1.3
DABV				eS	Sn	15 43 00.7	-1.5
IMOV	Isla Los Monje	2.60	56	eP	Pn	15 42 34.7	-0.6
IMOV				eS	Sn	15 43 05.3	-1.3
QARV	Quebrada Arrib	2.62	105	eP	Pn	15 42 34.9	-0.7
QARV				eS	Sn	15 43 04.9	-2.3
VIGV	El Vigia	2.66	140	eP	Pn	15 42 35.2	-1.0
VIGV				eS	Sn	15 43 05.9	-2.3
CURV	Curarigua	3.21	106	eP	Pn	15 42 42.6	-1.1
CURV				eS	Sn	15 43 18.4	-3.3
MONV	Montecano	3.24	71	eP	Pn	15 42 43.0	-1.1
MONV				eS	Sn	15 43 19.4	-3.1
SIQV	Siquisique	3.25	94	eP	Pn	15 42 42.9	-1.3
SIQV				eS	Sn	15 43 20.4	-2.1
SOCV	Socops	3.41	139	eP	Pn	15 42 45.4	-1.0
SOCV				eS	Sn	15 43 24.3	-2.3
SANV	Sanarito	3.77	111	eP	Pn	15 42 51.1	-0.3
SANV				eS	Sn	15 43 33.3	-2.3
TEPV	Terepaima	3.96	103	eP	Pn	15 42 53.3	-0.6
TEPV				eS	Sn	15 43 36.7	-3.4
JACV	Jacura	4.20	87	eP	Pn	15 42 56.2	-1.0
TURV	Turiamo	5.19	94	eP	Pn	15 43 08.9	-2.0
TURV				eS	Sn	15 44 04.2	-6.3
ELOV	Elorza	5.27	137	eP	Pn	15 43 10.2	-1.8
BAUV	El Baul	5.35	111	⇑iP	Pn	15 43 11.3	-1.7
BAUV				eS	Sn	15 44 09.1	-5.3
BIRV	Birongo	6.73	93	eP	Pn	15 43 30.1	-1.9
CUPV	Cœpira	7.24	96	eP	Pn	15 43 37.1	-1.9

*BJI **11** 15:54:12.5, 17.77S×173.99W, h10^{km}, mB5.3, mb4.9, Ms5.1, Msz4.9*
*IDC **11** 15:54:12.1±0.8, 17.89S×173.99W, h0^{km}, mb4.4/9, mb1 4.6/10, mb1mx4.3/19, mbtmp4.4/10, ML2.8/1, MS3.6/6, Ms1 3.6/6, ms1mx3.2/26, Error ellipse: s-maj=46.5km s-min=15.7km az=143.0*
*NEIC **11** 15:54:13.1±0.4, 18.03S×173.86W, h10^{km}, mb4.5/9, Error ellipse: s-maj=15.2km s-min=8.1km az=148.0*
*ISCJB **11** 15:54:15.3±0.5, 18.0S±0.1×174.0W±0.1, h33^{km}, mb4.5/20, MS4.2/7, Error ellipse: s-maj=23.5km s-min=10.2km az=107.3*
ISC 11 15:54:17.3±0.5**, 18.0S**±0.1×**173.9W**±0.1**, h35**^{km}**, (h21**^{km}±2.3^{km}**:pP-P), n56, σ1^{s}06**/33**, mb4.5**/20**, MS4.2**/7**, 2C, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	4.57	27	Pn	Pn	15 55 20.6	-3.3
	30nm,0.3s,baz=110,slow=1.6,SNR=46						
AFI				Sn	Sn	15 56 08.1	-7.7
	89nm,0.3s,baz=88,slow=22,SNR=7.2						
AFI				LR	LR	15 56 54.9	
	comp=Z,413nm,19.1s,baz=135,slow=36						
AFI	Afiamalu	4.57	27	ePn	Pn	15 55 20.4	-3.5
AFI				eSn	Sn	15 55 59.5	-16
RAR	Rarotonga	13.72	106	Pn	Pn	15 57 24.8	-4.3
	2.2nm,0.3s,baz=278,slow=9.4,SNR=2.7						
URZ	Urewera	21.64	199	P	P	15 59 05.1	+0.6
	6.7nm,0.3s,mb4.6,baz=58,slow=0.0						
URZ				S	S	16 02 49.6	-13
	5.2nm,0.6s,baz=100,slow=22,SNR=9.6						
CTA	Charters Tower	37.63	260	eP	P	16 01 29.7	+1.0
	3.0nm,0.6s,mb4.2						
CTA	Charters Tower	37.63	260	P	P	16 01 29.9	+1.2
	5.6nm,0.7s,mb4.4,baz=88,slow=12,SNR=8.8						
CTAO	Charters Tower	37.63	260	eP	P	16 01 30.0	+1.3
	4.1nm,0.6s,mb4.3						
STKA	Stephens Creek	42.34	242	P	P	16 02 08.0	+0.2
	3.0nm,0.8s,mb4.0,baz=133,slow=12,SNR=5.1						
STKA	Stephens Creek	42.34	242	P	P	16 02 08.0	+0.2
WB2	Warramunga Arr	48.79	259	eP	P	16 02 57.0	-1.8
WRAB	Tennant Creek	48.79	259	eP	P	16 02 57.9	-0.9
	3.5nm,0.3s,mb4.9						
WRA	Warramunga Arr	48.80	259	P	P	16 02 58.2	-0.7
	1.7nm,0.4s,mb4.4,baz=98,slow=6.0,SNR=43						
ASAR	Alice Springs	48.86	254	P	P	16 02 59.1	-0.3
	2.8nm,0.6s,mb4.5,baz=91,slow=8.7,SNR=43						
KAKA	Kakadu	51.84	268	eP	P	16 03 22.5	+0.6
	5.1nm,0.7s,mb4.6						
FITZ	Fitzroy Crossi	57.21	260	eP	P	16 04 02.0	+1.2
	4.2nm,0.9s,mb4.5						
CASY	Casey	67.84	205	eP	P	16 05 10.8	-1.0
MJAR	Matsushiro Arr	70.61	321	LR	LR	16 31 44.4	
	comp=Z,65nm,19.6s,MS3.9,baz=95,slow=32						
YBH	Yreka Blue Hor	75.98	37	P	P	16 06 01.4	+0.8
	3.1nm,1.0s,mb4.2,baz=67,slow=1.1,SNR=7.5						
YBH	Yreka Blue Hor	75.98	37	P	P	16 06 01.4	+0.8
NVAR	Mina Array Bea	76.60	42	P	P	16 06 04.9	+0.7
	3.4nm,0.5s,mb4.5,baz=229,slow=8.2,SNR=16						
MNV	Mina	76.70	42	eP	P	16 06 05.5	+0.8
	8.4nm,1.0s,mb4.6						
TPNV	Topopah Spring	77.08	44	eP	P	16 06 07.6	+0.8
	2.7nm,0.9s,mb4.2						
ELK	Elko	79.87	41	eP	P	16 06 21.6	-0.6
	1.8nm,0.8s,mb4.0						
NJ2	Nanjing	81.33	308	eP	P	16 06 29.9	-0.2
NJ2				AP	pP	16 06 37.4	-3.7
NJ2				XP	sP	16 06 39.9	-5.2
NJ2				S	S	16 16 36.0	-2.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,270nm,7.2s						
NJ2				LR	LR		
	comp=N,480nm,18.6s,MS5.1						
NJ2				LR	LR		
	comp=E,440nm,15.2s,MS5.1						
NJ2				LR	LR		
	comp=Z,2μm,18.3s,MS5.4						
ANMO	Albuquerque	82.86	50	P	P	16 06 38.9	+0.7
	comp=Z,1.2nm,0.6s,mb4.1,baz=320,slow=3.7,SNR=4.3						
PDAR	Pinedale Array	84.54	42	P	P	16 06 46.8	+0.1
	comp=Z,1.7nm,0.7s,mb4.3,baz=229,slow=3.2,SNR=16						
PDAR				LR	LR	16 37 47.4	
	comp=Z,28nm,18.5s,MS3.7,baz=78,slow=31						
COLA	College	85.00	11	eP	P	16 06 48.6	-0.5
	comp=Z,6.5nm,0.8s,mb4.8						
DAWY	Dawson	86.06	14	eP	P	16 06 54.3	0.0
SYO	Syowa Base	89.95	191	⇑ePcP	PcP	16 07 15.0	+0.9
SYO	Syowa Base	89.95	191	⇑epP	pP	16 07 19.0	-5.0
HHC	Hu-ho-hao-te	90.42	313	eP	P	16 07 16.3	+1.2
HHC				AP	pP	16 07 24.5	-1.7
HHC				XP	sP	16 07 28.0	-2.2
HHC				PP	PP	16 10 54.7	+5.1
HHC				SKS		16 17 43.7	
HHC				S		16 18 07.0	
HHC				XS	sS	16 18 20.8	-5.0
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb5.7						
HHC				AMB	AMB		
	comp=Z,132nm,4.5s						
HHC				LR	LR		
	comp=N,186nm,4.7s						
HHC				LR	LR		
	comp=E,144nm,4.9s						
HHC				LR	LR		
	comp=Z,106nm,6.7s						
KMI	Kunming	91.69	296	P	P	16 07 24.9	+3.9
KMI				AP	pP	16 07 31.3	-0.8
KMI				XP	sP	16 07 34.7	-1.4
KMI				S		16 18 18.2	
KMI				XS	sS	16 18 28.9	-8.5
KMI				SS	SS	16 24 28.2	+1.8
KMI				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.8						
KMI				AMB	AMB		
	comp=Z,114nm,3.8s						
YKA	Yellowknife Ar	92.68	24	LR	LR	16 40 43.5	
	comp=Z,25nm,20.1s,MS3.7,baz=0.0,slow=30						
LZH	Lanzhou	94.35	306	eP	P	16 07 31.5	-1.7
LZH				AP	pP	16 07 37.9	-6.5
LZH				ePP	PP	16 11 21.6	+1.0
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,51nm,9.4s						
LZH				LR	LR		
	comp=N,305nm,18.3s						
LZH				LR	LR		
	comp=Z,473nm,19.8s,MS5.0						
ULM	Lac du Bonnet	96.27	39	LR	LR	16 43 59.0	
	comp=Z,50nm,21.9s,MS4.0,baz=46,slow=31						
SONM	Songino Array	96.44	318	LR	LR	16 51 54.2	
	comp=Z,28nm,18.2s,MS3.8,baz=356,slow=36						
BVAR	Borovoye Array	119.60	321	PKP	PKPdf	16 13 02.5	-0.8
	comp=Z,0.6nm,0.4s,baz=122,slow=1.9,SNR=6.0						
ARCES	ARCESS Array B	127.11	352	PKP	PKPdf	16 13 16.4	-1.3
	comp=Z,3.9nm,1.0s,baz=86,slow=1.7,SNR=4.5						
CLL	Collm	146.32	352	i PKPbc	PKPbc	16 13 54.1	-0.1
	comp=Z,10.0nm,1.0s						
CLL				i (pPKPbc)		16 14 14.6	
CLL				i x	x	16 14 18.2	
BRTR	Keskin Array B	147.80	318	PKPbc	PKPbc	16 13 59.0	+0.7
	comp=Z,0.8nm,0.6s,baz=50,slow=1.9,SNR=4.5						
BAIF	Baives	147.99	2	ePKP1	PKPbc	16 13 58.9	0.0
	comp=Z,13nm,1.1s						
GERES	GERESS Array B	148.62	350	PKPbc	PKPbc	16 14 00.7	+0.2
	comp=Z,0.9nm,0.7s,baz=28,slow=3.2,SNR=8.9						
FLN	La Foliniere	148.87	8	ePKP1	PKPbc	16 14 00.6	-0.6
	comp=Z,38nm,1.1s						
LDF	La Druitiere	149.08	8	ePKP1	PKPbc	16 14 01.2	-0.5
GRR	Gorron	149.18	9	ePKP1	PKPbc	16 14 01.7	-0.2
	comp=Z,12nm,0.7s						
CDF	Champ du Feu	149.66	358	ePKP1	PKPbc	16 14 03.1	0.0
HAU	Haudompre	150.08	360	ePKP1	PKPbc	16 14 04.2	0.0
LOR	Lormes	150.76	3	ePKP1	PKPbc	16 14 05.5	-0.3
SSF	Saint Saulge	150.95	4	ePKP1	PKPbc	16 14 06.4	+0.2
	comp=Z,15nm,1.0s						
MFF	Saint Martin d	151.03	9	ePKP1	PKPbc	16 14 06.2	-0.2
DAVOX	Davos	151.14	355	PKPbc	PKPbc	16 14 07.7	+1.1
	comp=Z,2.7nm,0.6s,baz=43,slow=5.1,SNR=3.8						
AVF	Avril sur Loir	151.21	4	ePKP1	PKPbc	16 14 06.5	-0.3
	comp=Z,4.4nm,0.6s						
SMF	Signal de Mont	151.38	3	ePKP1	PKPbc	16 14 07.0	-0.2
BGF	Bois d'Agland	151.41	5	ePKP1	PKPbc	16 14 07.1	-0.2
CABF	La Chapelle	151.48	360	ePKP1	PKPbc	16 14 08.1	+0.7
	comp=Z,9.1nm,0.8s						
TCF	Toulx Ste Croi	151.62	6	ePKP1	PKPbc	16 14 07.4	-0.4
	comp=Z,5.3nm,0.7s						

MEX 11 16:23:04.2±0.6**, 15.68N**×**96.40W, h29**^{km}±8^{km}**, MD3.8, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.29	72	i P	Pb	16 23 10.0	-1.5
HUIG				i S	Sb	16 23 14.9	-1.5
VHO	Vista Hermosa	1.43	347	i P	Pn	16 23 26.0	-2.1
VHO				i S	Sn	16 23 42.7	-3.1
OXX	Oaxaca	1.43	347	i P	Pn	16 23 26.5	-1.7
OXX				i S	Sn	16 23 43.5	-2.5
CMIG	Matias Romero	2.02	46	i P	Pn	16 23 34.5	-1.8
CMIG				i S	Sn	16 23 57.5	-3.1
UTMO	Huajuapan	2.53	328	eP	Pn	16 23 40.4	-2.8
UTMO				i S	Sn	16 24 10.9	-2.2
MEIG	Mezcala	3.81	306	i S	Sn	16 24 42.1	-2.6
PPM	Popocatepetl	3.99	328	i S	Sn	16 24 48.0	-1.1

*IDC **11** 16:31:05.8±1.3, 5.74N×126.75E, h0^{km}, mb3.9/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=102.7km s-min=17.6km az=70.0*
*ISCJB **11** 16:31:12.7±1.9, 5.8N±0.1×127.2E±0.3, h75^{km}±17^{km}, mb3.8/9, Error ellipse: s-maj=47.4km s-min=11.6km az=125.3*
*NEIC **11** 16:31:15.5±2.5, 5.69N×126.87E, h81^{km}±20^{km}, mb4.1/2, Error ellipse: s-maj=80.3km s-min=9.3km az=68.0*
ISC 11 16:31:13.9±2.0**, 5.8N**±0.2×**127.1E**±0.3**, h67**^{km}±17^{km}**, n15,**

σ0s80/18, mb3.8/9, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	1.43	323	eP	Pn	16 31 38.0	+0.2
MATI				eS	Sn	16 32 09.1	+13
DAV	Davao City (W)	1.99	309	eP	Pn	16 31 45.9	+0.6
DAV				eS	Sn	16 32 09.1	-0.2
KCP	Kidapawan	2.36	301	⇓iP	Pn	16 31 49.4	-0.9
BUKP	Musuan	2.91	315	eP	Pn	16 31 56.4	-1.4
BUKP				eS	Sn	16 32 33.2	+1.6
FITZ	Fitzroy Crossi	23.79	184	P	P	16 36 20.0	-0.4
	1.6nm,0.9s,mb3.4,baz=0.0,slow=10,SNR=4.0						
WRAB	Tennant Creek	26.54	165	eP	P	16 36 43.9	-1.4
	2.2nm,0.4s,mb4.0						
WRA	Warramunga Arr	26.54	165	P	P	16 36 45.6	+0.2
	1.4nm,0.6s,mb3.7,baz=342,slow=10,SNR=19						
WB2	Warramunga Arr	26.55	165	eP	P	16 36 46.0	+0.6
ASAR	Alice Springs	30.02	168	P	P	16 37 17.4	+1.2
	0.3nm,0.6s,mb3.1,baz=354,slow=8.2,SNR=6.7						
STKA	Stephens Creek	39.92	161	P	P	16 38 41.9	+0.5
	1.4nm,0.7s,mb3.9,baz=323,slow=13,SNR=3.5						
MKAR	Makanchi Array	56.11	324	P	P	16 40 45.8	-0.5
	1.0nm,0.6s,mb4.1,baz=114,slow=7.3,SNR=17						
KURK	Kurchatov	60.23	327	eP	P	16 41 14.5	-0.5
	1.1nm,0.6s,mb4.1						
BVAR	Borovoye Array	65.82	326	P	P	16 41 51.9	-0.2
	0.7nm,0.8s,mb3.5,baz=96,slow=8.2,SNR=4.4						
ARCES	ARCESS Array B	88.66	340	P	P	16 44 00.2	+0.5
	3.3nm,0.9s,mb4.3,baz=64,slow=4.1,SNR=3.7						
ARCES	ARCESS Array B	88.66	340	P	P	16 44 00.2	+0.5

MEX 11 16:50:17.8±0.8, 1648N×9847W, h14km±12km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	Acapulco	1.45	286	i P	Pn	16 50 39.5	-4.1
UTMO	Huajuapan	1.49	25	eP	Pn	16 50 40.4	-3.8
UTMO				i S	Sn	16 50 58.0	-5.4
VHO	Vista Hermosa	1.76	70	i P	Pn	16 50 44.5	-3.4
VHO				i S	Sn	16 51 06.3	-3.9
OXX	Oaxaca	1.77	70	i P	Pn	16 50 47.5	-0.6
OXX				i S	Sn	16 51 06.5	-4.0
MEIG	Mezcala	1.82	323	i P	Pn	16 50 45.5	-3.2
MEIG				i S	Sn	16 51 06.8	-4.8
CAIG	El Cayaco	1.82	289	i P	Pn	16 50 46.3	-2.4
CAIG				i S	Sn	16 51 06.7	-4.9
PLIG	Platanillo	2.15	333	i P	Pn	16 50 51.4	-1.9
PLIG				i S	Sn	16 51 16.3	-3.4
TPIG	Tehuac#an	2.20	28	i P	Pn	16 50 50.7	-3.3
TPIG				i S	Sn	16 51 18.9	-2.2
PPM	Popocatepetl	2.58	357	i P	Pn	16 50 57.5	-1.7
PPM				i S	Sn	16 51 26.8	-3.7
IIZ	Mezontepec	2.80	345	i P	Pn	16 51 00.2	-2.0
IIZ				i S	Sn	16 51 30.6	-5.1

IDC 11 17:06:12.4±9.9, 1721S×17882W, h502km±116km, mb3.3/6, mb1 3.5/6, mb1mx3.2/15, mbtmp4.2/6, Error ellipse: s-maj=92.8km s-min=37.1km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	33.18	259	P	P	17 12 07.5	+0.8
	2.2nm,0.6s,baz=111,slow=13,SNR=4.0						
STKA	Stephens Creek	38.62	240	P	P	17 12 51.9	0.0
	2.2nm,0.5s,baz=94,slow=9.5,SNR=12						
WRA	Warramunga Arr	44.37	259	P	P	17 13 37.3	-0.2
	1.1nm,0.5s,baz=91,slow=6.8,SNR=60						
ASAR	Alice Springs	44.60	254	P	P	17 13 39.4	+0.1
	12nm,0.5s,baz=88,slow=8.3,SNR=275						
FITZ	Fitzroy Crossi	52.76	260	P	P	17 14 40.6	+0.7
	1.0nm,0.9s,baz=92,slow=7.2,SNR=8.1						
NVAR	Mina Array Bea	79.20	44	P	P	17 17 25.2	+0.4
	0.8nm,0.7s,baz=232,slow=11,SNR=6.0						
GERES	GERESS Array B	146.84	345	PKPbc	PKPbc	17 24 57.5	-0.3
	0.5nm,0.5s,baz=28,slow=3.8,SNR=6.5						

IDC 11 17:16:08.2±5.3, 821S×11741E, h0km, mb3.0/3, mb1 3.4/4, mb1mx3.3/15, mbtmp3.3/4, ML2.7/1, Error ellipse: s-maj=262.6km s-min=27.1km az=59.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.68	142	Pn	Pn	17 19 08.2	-1.5
	0.0nm,0.3s,baz=333,slow=16,SNR=3.9						
WRA	Warramunga Arr	20.12	127	P	P	17 20 44.0	+0.4
	0.4nm,0.8s,baz=302,slow=12,SNR=6.0						
ASAR	Alice Springs	22.05	136	P	P	17 21 05.2	+0.9
	0.4nm,0.8s,baz=316,slow=9.4,SNR=11						
SONM	Songino Array	56.65	351	P	P	17 25 53.1	+0.1
	0.3nm,0.7s,baz=151,slow=6.3,SNR=3.5						

*IDC **11** 17:39:57.5±3.5, 506S×15121E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/14, mbtmp3.9/5, ML2.9/1, Error ellipse: s-maj=79.8km s-min=41.3km az=166.0*
*ISCJB **11** 17:40:02.9±5.5, 5.1S±03×1510E±03, h45km±39km, mb3.8/4, Error ellipse: s-maj=52.5km s-min=37.7km az=97.4*
*NEIC **11** 17:40:02.3±2.3, 497S×151.15E, h35km, mb4.2/2, Error ellipse: s-maj=45.4km s-min=26.8km az=173.0*
ISC 11 17:40:03.2±5.1, 50S±03×1511E±03, h40km±36km, n11, σ0s71/12, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.87	221	Pn	Pn	17 41 28.1	+0.4
	2.1nm,0.3s,baz=35,slow=9.3,SNR=13						
PMG				Sn	Sn	17 42 33.6	-0.2
	0.8nm,0.3s,baz=129,slow=17,SNR=4.1						
PMG	Port Moresby	5.87	221	eP	Pn	17 41 28.2	+0.5
KAKA	Kakadu	19.94	246	eP	Pn	17 44 32.3	-1.3
	3.5nm,0.6s						
WRAB	Tennant Creek	22.05	226	eP	P	17 44 54.2	-0.3
WB2	Warramunga Arr	22.05	226	eP	P	17 44 55.0	+0.5
WRA	Warramunga Arr	22.06	226	P	P	17 44 54.5	-0.1
	2.9nm,0.9s,mb3.7,baz=52,slow=10,SNR=14						
AS31	Alice Springs	24.89	220	eP	P	17 45 23.0	+0.8
ASAR	Alice Springs	24.89	220	P	P	17 45 21.9	-0.3
	1.0nm,0.8s,mb3.4,baz=52,slow=8.7,SNR=9.7						
FITZ	Fitzroy Crossi	28.07	240	eP	P	17 45 52.3	+1.3
	8.4nm,0.7s,mb4.5						
FITZ	Fitzroy Crossi	28.07	240	P	P	17 45 52.2	+1.2
	4.5nm,0.7s,mb4.2,baz=52,slow=11,SNR=14						
VNDA	Vanda	72.73	178	P	P	17 51 26.5	-0.7
	0.3nm,0.3s,mb3.7,baz=349,slow=5.8,SNR=6.6						

*IDC **11** 17:41:09.2±4.7, 469S×15098E, h0km, mb4.3/5, mb1 4.5/7, mb1mx4.1/16, mbtmp4.4/7, ML3.6/2, MS3.5/5, Ms1 3.5/5, ms1mx3.1/21, Error ellipse: s-maj=82.1km s-min=31.7km az=9.0*
*ISCJB **11** 17:41:15.3±1.4, 50S±02×1508E±01, h33km, mb4.2/7, MS3.4/4, Error ellipse: s-maj=24.5km s-min=14.8km az=122.1*
*NEIC **11** 17:41:15.1±2.2, 481S×15095E, h35km, mb4.4/4, Error ellipse: s-maj=36.0km s-min=16.8km az=190.0*
ISC 11 17:41:16.9±1.4, 50S±02×1509E±01, h35km, n16, σ0s89/17, mb4.2/7, MS3.4/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.75	219	Pn	Pn	17 42 39.8	+0.2
	5.5nm,0.3s,baz=49,slow=12,SNR=12						
PMG				Sn	Sn	17 43 43.7	-0.6
	3.1nm,0.3s,baz=115,slow=18,SNR=3.6						
PMG	Port Moresby	5.75	219	eP	Pn	17 42 40.0	+0.4
PMG				Sn	Sn	17 43 43.7	-0.6
CTA	Charters Tower	15.70	196	Pn	Pn	17 44 57.2	+1.9
	0.3nm,0.3s,baz=23,slow=14,SNR=3.7						
CTA				LR	LR	17 49 17.7	
	comp=Z,98nm,18.9s,baz=34,slow=31						
CTA	Charters Tower	15.70	196	Pn	Pn	17 44 57.2	+1.9
CTA				LR	LR	17 49 17.7	
KAKA	Kakadu	19.75	246	eP	Pn	17 45 44.4	-1.0
	6.7nm,0.5s						
WRAB	Tennant Creek	21.91	226	eP	P	17 46 06.3	-0.6
	7.7nm,0.8s,mb4.2						
WB2	Warramunga Arr	21.91	226	eP	P	17 46 06.5	-0.5
WRA	Warramunga Arr	21.92	226	P	P	17 46 06.5	-0.6
	7.0nm,0.9s,mb4.1,baz=51,slow=10,SNR=17						
DZM	Mont Dzumac	22.74	140	P	P	17 46 14.7	-1.1
	8.5nm,0.8s,mb4.2,baz=315,slow=11,SNR=8.1						
DZM				LR	LR	17 52 46.2	
	comp=Z,98nm,20.4s,MS3.2,baz=203,slow=30						
AS31	Alice Springs	24.76	220	eP	P	17 46 36.2	+1.0
	8.7nm,0.6s,mb4.5						
ASAR	Alice Springs	24.76	220	P	P	17 46 35.7	+0.5
	2.8nm,0.7s,mb3.9,baz=55,slow=8.6,SNR=20						
ASAR				LR	LR	17 55 37.1	
	comp=Z,109nm,18.8s,MS3.4,baz=306,slow=35						
ASPA	Alice Springs	24.76	220	eP	P	17 46 36.2	+1.0
FITZ	Fitzroy Crossi	27.90	240	eP	P	17 47 04.5	+1.0
	16nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	27.90	240	P	P	17 47 03.6	+0.2
	14nm,1.0s,mb4.5,baz=90,slow=6.0,SNR=10						
STKA	Stephens Creek	28.15	197	P	P	17 47 05.2	-0.6
	3.7nm,0.9s,mb4.0,baz=42,slow=12,SNR=2.8						
STKA				LR	LR	17 57 16.5	
	comp=Z,101nm,19.8s,MS3.4,baz=25,slow=34						
CBIJ	Chichi jima	32.95	346	LR	LR	17 59 11.1	
	comp=Z,129nm,19.9s,MS3.6,baz=269,slow=33						

IDC 11 18:06:01.0±3.2, 2971S×17797W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/11, mbtmp3.7/2, Error ellipse: s-maj=69.2km s-min=10.1km az=109.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	0.45	5	Pg	Pg	18 06 10.4	+0.8
	623nm,0.3s,baz=107,slow=20,SNR=43						
RAO				Lg		18 06 15.1	
	2µm,0.3s,baz=73,slow=20,SNR=39						
ASAR	Alice Springs	43.18	266	P	P	18 14 03.3	-0.2
	0.7nm,0.7s,baz=101,slow=7.8,SNR=12						
WRA	Warramunga Arr	44.11	271	P	P	18 14 11.6	+0.7
	0.9nm,0.6s,baz=109,slow=8.0,SNR=9.5						
FINES	FINESS Array B	144.50	340	PKP	PKPdf	18 25 36.0	-3.3
	0.6nm,0.7s,baz=46,slow=4.0,SNR=3.5						

MAN 11 18:10:16.6, 1260N×12584E, h24km, mb2.7, ML4.1, MS4.5, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	Borongan	1.07	201	eP	Pn	18 10 35.6	-0.4
PLP	Palo	1.66	211	eP	Pn	18 10 43.7	-0.4
PLP						18 11 05.4	
PVCP	Virac	1.91	301	eP	Pn	18 10 48.0	+0.3
PVCP				eS	Sn	18 11 20.3	+9.3
OCLP	Ormoc	1.95	218	eP	Pn	18 10 50.0	+1.8

*IDC **11** 18:48:12.6±0.5, 2095S×3320E, h0km, mb4.5/20, mb1 4.6/24, mb1mx4.6/27, mbtmp4.5/24, ML4.3/4, MS4.2/24, Ms1 4.2/24, ms1mx4.2/29, Error ellipse: s-maj=17.4km s-min=14.7km az=73.0*
*ISCJB **11** 18:48:13.4±0.2, 2106S±003×3319E±005, h10km, mb4.8/120, MS4.3/30, Error ellipse: s-maj=7.2km s-min=4.1km az=46.4*
*BJI **11** 18:48:13.8, 21.10S×3330E, h10km, mB5.4, mb5.0, Ms4.5, Msz4.6*
*NEIC **11** 18:48:14.9±0.3, 21.10S×3331E, h10km, mb5.0/89, MS4.1/3, Error ellipse: s-maj=8.2km s-min=6.6km az=88.0*
*HRVD **11** 18:48:14.9±0.3, 2094S×33.14E, h12km, MW4.9/71, Centroid moment Tensor Solution. LP body waves: s30,c34;Mantle waves: s71,c94; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.64±.09; Mθθ0.15±.11; Mφφ2.50±.08; Mrθ-0.52±.38; Mθφ0.30±.08; Mφr0.53±.30; Best double couple: M0 2.68800×10^16 NP1:φs18.00000°, δ41.00000°, λ-73.00000°. NP2: φs176.00000°, δ51.00000°, λ-104.00000°. Principal axes: T 2.5790, Plg5.0000°, Azm276.0000°; N 0.2270, Plg11.0000°, Azm185.0000°; P -2.7970, Plg78.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **11** 18:48:15.9, 2143S×3291E, h33km, mb5.0, Mozambique*
*PRE **11** 18:48:16.0±1.5, 2082S×3273E, h5km, ML5.3*
*MOS **11** 18:48:17.0±0.9, 2094S×3349E, h33km, mb5.1/61, MS4.2/7, Error ellipse: s-maj=17.9km s-min=5.1km az=101.2*
ISC 11 18:48:14.8±0.2, 2116S±004×3321E±005, h10km, (h18km±3.8km:pP-P), n393, σ1s18/327, mb4.8/120, MS4.3/30, 54C-52D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSNA	Messina	3.19	248	eP	Pn	18 49 05.7	+0.6
MSNA				eS	Sn	18 49 41.2	-2.0
MSNA				AML	AML	18 49 58.6	
	comp=Z,2µm,0.6s						
MATP	Matopo	4.47	279	Pn	Pn	18 49 20.1	-2.5
	comp=Z,7.0nm,0.3s,baz=92,slow=14,SNR=113						
MATP				Sn	Sn	18 50 08.8	-5.9
	comp=Z,52nm,0.3s,baz=167,slow=21,SNR=5.1						
MATP				Lg		18 50 26.7	
	comp=Z,281nm,0.3s,baz=183,slow=21,SNR=32						
MATP				LR	LR	18 51 21.2	
	comp=Z,5µm,20.8s,baz=79,slow=43						
POGA	Pongola	6.36	193	eP	Pn	18 49 54.9	+6.3
POGA				eS	Sn	18 51 06.2	+5.0
POGA				AML	AML	18 51 49.2	
	comp=Z,443nm,0.6s						
SLR	Silverton	6.42	224	eP	Pn	18 49 51.0	+1.6
SLR				eS	Sn	18 51 01.3	-1.5
SLR				AML	AML	18 51 42.1	
	comp=Z,1µm,0.5s						
LSZ	Lusaka	7.55	320	Pn	Pn	18 50 00.7	-4.2
	comp=Z,12nm,0.3s,baz=144,slow=13,SNR=112						
LSZ				Sn	Sn	18 51 20.1	-10
	comp=Z,25nm,0.3s,baz=55,slow=19,SNR=10.0						
LSZ				Lg		18 51 59.9	
	comp=Z,92nm,0.3s,baz=74,slow=6.5,SNR=7.1						
LSZ				LR	LR	18 53 01.4	
	comp=Z,4µm,18.6s,baz=138,slow=39						
LSZ	Lusaka	7.55	320	ePn	Pn	18 50 00.0	-4.9
LSZ				eSn	Sn	18 51 21.0	-9.5
LBTB	Lobatse	7.99	240	Pn	Pn	18 50 10.4	-0.6
	comp=Z,3.4nm,0.3s,baz=70,slow=13,SNR=36						
LBTB				Sn	Sn	18 51 38.6	-2.9
	comp=Z,13nm,0.3s,baz=147,slow=18,SNR=4.8						
LBTB				Lg		18 52 18.6	
	comp=Z,50nm,0.3s,baz=166,slow=22,SNR=9.7						
LBTB				LR	LR	18 53 23.6	
	comp=Z,5µm,18.5s,baz=73,slow=38						
SEK	Senekal	8.76	214	eP	Pn	18 50 25.2	+3.7
SEK				eS	Sn	18 51 58.7	-1.6
SEK				AML	AML	18 52 20.8	
	comp=Z,212nm,0.6s						
SWZ	Schweizer	9.37	229	eP	Pn	18 50 31.3	+1.5
SWZ				eS	Sn	18 52 10.7	-4.5
SWZ				AML	AML	18 52 15.3	
	comp=Z,118nm,0.6s						
KSD	Kokstad	9.95	199	eP	Pn	18 50 42.5	+4.7
UPI	Upington	13.02	234	eP	Pn	18 51 20.9	+1.1
UPI				eS	Sn	18 53 35.9	-8.8
UPI				AML	AML	18 54 00.6	
	comp=Z,46nm,0.5s						
OPO	Ambohidratompo	13.40	81	Pn	Pn	18 51 22.7	-2.3
	comp=Z,1.6nm,0.3s,baz=251,slow=12,SNR=15						
OPO				Sn	Sn	18 53 44.8	-9.1
	comp=Z,4.0nm,0.3s,baz=163,slow=19,SNR=4.3						
TSUM	Tsumeb	14.80	275	Pn	Pn	18 51 40.5	-3.6
	comp=Z,2.0nm,0.3s,baz=95,slow=12,SNR=17						
TSUM				Sn	Sn	18 54 15.8	-12
	comp=Z,0.8nm,0.3s,baz=236,slow=20,SNR=5.0						
TSUM				Lg		18 55 52.4	
	comp=Z,4.3nm,0.3s,baz=233,slow=16,SNR=4.0						
TSUM				LR	LR	18 57 22.2	
	comp=Z,4µm,18.3s,baz=93,slow=37						
TSUM	Tsumeb	14.80	275	ePn	Pn	18 51 38.5	-5.6
	comp=Z,51nm,0.9s						
TSUM				eSn	Sn	18 54 15.4	-13
SUR	Sutherland	15.72	222	Pn	Pn	18 51 55.9	-0.4
	comp=Z,596nm,1.2s,SNR=25						
SUR	Sutherland	15.72	222	eP	Pn	18 51 59.9	+3.6
SUR				eS	Sn	18 54 44.2	-6.3
SUR	Sutherland	15.72	222	Pn	Pn	18 51 54.2	-2.1
	comp=Z,2.3nm,0.3s,baz=56,slow=13,SNR=32						
SUR				Sn	Sn	18 54 42.0	-8.5
	comp=Z,2.5nm,0.3s,baz=1.2,slow=16,SNR=8.7						
SUR				Lg		18 56 21.3	
	comp=Z,3.5nm,0.3s,baz=328,slow=22,SNR=3.1						
SUR				LR	LR	18 58 21.0	
	comp=Z,1µm,19.3s,baz=203,slow=38						
SUR	Sutherland	15.72	222	⇑P	Pn	18 51 57.4	+1.1
	SNR=6.1						
SUR	Sutherland	15.72	222	ePn	Pn	18 51 54.3	-2.0
	comp=Z,166nm,1.2s						
SUR				eSn	Sn	18 54 41.3	-9.2
KMBO	Kilima Mbogo	20.29	12	P	P	18 52 50.1	-0.6
	comp=Z,4.8nm,0.7s,baz=173,slow=15,SNR=5.5						
KMBO				LR	LR	19 01 02.1	
	comp=Z,255nm,21.0s,MS3.5,baz=98,slow=38						
TOA0	Torodi Ar. Sit	46.05	315	eP	P	18 56 38.4	-0.2
TORD	Torodi Ar. Bea	46.05	315	P	P	18 56 36.9	-1.8
	comp=Z,19nm,0.9s,mb5.0,baz=125,slow=5.9,SNR=67						
TORD				PP	PP	18 58 25.4	-1.2
	comp=Z,3.7nm,0.8s,baz=134,slow=8.7,SNR=4.3						
TORD				LR	LR	19 17 58.2	
	comp=Z,263nm,20.0s,MS4.2,baz=165,slow=39						
TORD	Torodi Ar. Bea	46.05	315	P	P	18 56 36.9	-1.8
TORD				PP	PP	18 58 25.4	-1.2
TORD				LR	LR	19 17 58.1	
DBIC	Dimbokro	46.49	302	P	P	18 56 41.3	-0.8
	comp=Z,3.3nm,0.7s,mb4.4,baz=125,slow=15,SNR=3.9						
DBIC				LR	LR	19 14 40.2	
	comp=Z,589nm,20.4s,MS4.5,baz=113,slow=34						
DBIC	Dimbokro	46.49	302	P	P	18 56 43.8	+1.7
DBIC				pmax	pmax		
	comp=Z,15nm,1.2s						
DBIC	Dimbokro	46.49	302	P	P	18 56 43.8	+1.7
	comp=Z,16nm,1.2s,mb4.8						
MAW	Mawson	50.04	166	P	P	18 57 10.1	+0.5
	comp=Z,3.9nm,0.7s,mb4.5,baz=314,slow=11,SNR=9.3						
MAW				LR	LR	19 14 44.5	
	comp=Z,186nm,20.3s,MS4.1,baz=250,slow=32						
MAW	Mawson	50.04	166	eP	P	18 57 10.6	+1.1
MAW				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MAW	Mawson	50.04	166	eP	P	18 57 10.6	+1.0
	comp=Z,5.6nm,0.8s,mb4.7						
SNAA	Sanae	54.61	193	eP	P	18 57 43.9	+0.4
SNAA				pmax	pmax		
	comp=Z,12nm,1.2s						
SNAA	Sanae	54.61	193	eP	P	18 57 43.9	+0.4
	comp=Z,12nm,1.2s,mb4.8						
VNA1	Neumayer--Stat	55.15	196	⇑iP	P	18 57 38.2	-9.2
VNA1				e		18 57 48.8	
VNA1				e		18 57 52.7	
MIR	Mirnyy	58.89	156	d iP	P	18 58 11.5	-2.4
MIR				pmax	pmax		
	comp=Z,170nm,1.8s,mb5.8						
MALT	Malatya	59.35	5	eP	P	18 58 18.4	+1.3
MALT				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
MALT	Malatya	59.35	5	eP	P	18 58 18.4	+1.3
	comp=Z,4.5nm,0.9s,mb4.5						
BRTR	Keskin Array B	60.56	0	P	P	18 58 24.6	-0.8
	comp=Z,4.9nm,0.9s,mb4.6,baz=179,slow=9.3,SNR=25						
SOC	Sochi	64.69	5	eP	P	18 58 48.5	-4.5
SOC				e		18 59 22.2	
SOC				ePPP		19 02 48.4	
SOC				eS	S	19 07 28.4	-4.8
SOC				e*SS	sS	19 07 53.3	+15
SOC				e		19 08 34.1	
SOC				eSS	SS	19 11 40.2	-3.8
SOC				MLR	MLR		
	comp=Z,88nm,14.0s,MS4.1						
TIRR	Tirgusor	65.44	356	⇑iP	P	18 58 58.8	+1.0
TIRR	Tirgusor	65.44	356	⇑P	P	18 58 58.8	+1.0
TIRR				P		18 58 59.2	
CASY	Casey	65.73	154	eP	P	18 59 00.1	+0.4
	comp=Z,3.5nm,0.8s,mb4.4						
DIVS	Divcibare	66.05	350	i P	P	18 59 03.5	+1.7
GOF	Gofitskoye	66.50	8	eP	P	18 59 03.6	-1.0
MLR	Muntele Rosu	66.65	354	⇓iP	P	18 59 05.7	+0.1
MLR	Muntele Rosu	66.65	354	P	P	18 59 06.7	+1.0
BEO	Belgrade	66.68	350	i P	P	18 59 04.3	-1.5
VOIR		66.69	354	⇓iP	P	18 59 05.3	-0.5
VOIR		66.69	354	⇓P	P	18 59 05.3	-0.5
EIBI	Ibiza	66.89	333	P	P	18 59 07.7	+0.6
	comp=Z,38nm,1.3s,mb5.3						
GZR	Gura Zlata	66.91	352	⇓iP	P	18 59 05.5	-1.7
GZR	Gura Zlata	66.91	352	⇓P	P	18 59 05.5	-1.7
ETOS	Mallorca	66.92	335	P	P	18 59 08.3	+1.0
	comp=Z,19nm,1.3s,mb5.0						
PLOR	Plostina	66.95	355	⇓iP	P	18 59 07.1	-0.4
VRI	Vrincioaia	66.96	355	⇑iP	P	18 59 07.2	-0.4
VRI	Vrincioaia	66.96	355	⇑P	P	18 59 07.2	-0.4
VRI				P		18 59 07.8	
EMUR	La Murta	67.03	331	P	P	18 59 08.4	+0.4
	comp=Z,24nm,1.6s,mb5.0						
EBER	Berja	67.04	329	P	P	18 59 09.3	+1.2
	comp=Z,75nm,2.2s,mb5.3						
PGF	Pioggiola	67.21	341	eP	P	18 59 08.9	-0.3
	comp=Z,38nm,1.1s,mb5.0						
PGF	Pioggiola	67.21	341	eP	P	18 59 08.9	-0.3
PGF				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
PGF	Pioggiola	67.21	341	eP	P	18 59 08.9	-0.3
	comp=Z,19nm,1.1s,mb5.0						
BZS	Buzias	67.28	351	⇑iP	P	18 59 09.5	-0.1
BZS	Buzias	67.28	351	P	P	18 59 10.8	+1.2
EBEN	Beniarda	67.29	332	P	P	18 59 10.6	+0.9
	comp=Z,43nm,2.0s,mb5.1						
ERON	Agron	67.58	329	P	P	18 59 13.6	+2.1
	comp=Z,2.6nm,0.4s,mb4.6						
ECOG	Cogollos-Vega	67.67	329	P	P	18 59 13.3	+1.2
ECOG				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
ECOG	Cogollos-Vega	67.67	329	P	P	18 59 13.3	+1.2
	comp=Z,14nm,0.7s,mb5.1						
EMIJ	Mijas	67.70	328	P	P	18 59 13.8	+1.6
	comp=Z,21nm,1.8s,mb4.9						
ELOJ	Sierra Loja	67.85	328	P	P	18 59 15.3	+2.1
ELOJ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
ELOJ	Sierra Loja	67.85	328	P	P	18 59 15.3	+2.0
	comp=Z,4.8nm,0.7s,mb4.6						
EQES	Quesada	67.85	330	P	P	18 59 13.7	+0.5
	comp=Z,18nm,1.7s,mb4.8						
DRGR		68.29	352	⇑iP	P	18 59 14.8	-1.2
DRGR		68.29	352	⇓iP	P	18 59 16.3	+0.3
DRGR		68.29	352	⇑P	P	18 59 14.8	-1.2
DRGR				P	pP	18 59 16.3	-2.9
PKSM	Moragy	68.34	349	⇓iP	P	18 59 15.8	-0.5
PKSM	Moragy	68.34	349	P	P	18 59 17.1	+0.8
ECHE	Chera	68.35	332	P	P	18 59 17.2	+0.8
ECHE				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
ECHE	Chera	68.35	332	P	P	18 59 17.2	+0.8
	comp=Z,5.8nm,0.8s,mb4.7						
GCIS	Gornji Cirnik	68.59	347	eP	P	18 59 19.4	+1.6
LMR	La Mourre	68.71	339	eP	P	18 59 18.3	-0.3
	comp=Z,21nm,1.1s,mb4.7						
LMR	La Mourre	68.71	339	eP	P	18 59 18.3	-0.3
LMR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
LMR	La Mourre	68.71	339	eP	P	18 59 18.3	-0.3
	comp=Z,10nm,1.1s,mb4.7						
CEY	Cerknica	68.73	346	i P	P	18 59 20.0	+1.3
EBAJ	Bajamar	68.76	314	P	P	18 59 22.5	+3.6
	comp=Z,208nm,1.9s,mb5.7						
EMOS	Mosqueruela	68.78	333	P	P	18 59 20.2	+1.2
	comp=Z,11nm,0.8s,mb4.8						
BURAR	Bucovina Array	68.83	354	⇓iP	P	18 59 21.5	+2.2
BURAR	Bucovina Array	68.83	354	⇓P	P	18 59 21.4	+2.1
EADA	Adamuz	68.86	329	P	P	18 59 20.7	+1.2
	comp=Z,8.0nm,0.9s,mb4.7						
FRF	La Foret Royal	68.87	340	eP	P	18 59 19.3	-0.3
	comp=Z,24nm,1.0s,mb4.8						
FRF	La Foret Royal	68.87	340	eP	P	18 59 19.3	-0.3
FRF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
FRF	La Foret Royal	68.87	340	eP	P	18 59 19.3	-0.3
	comp=Z,12nm,1.0s,mb4.8						
SBF	Sospel	68.89	340	eP	P	18 59 19.7	0.0
	comp=Z,48nm,1.0s,mb5.1						
SBF	Sospel	68.89	340	eP	P	18 59 19.7	0.0
SBF				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						

SBF Sospel 68.89 340 *e*P P 18 59 19.7 0.0
comp=Z,24nm,1.0s,mb5.1
ERTA Horta de San J 68.94 334 P P 18 59 20.5 +0.5
comp=Z,21nm,2.0s,mb4.7
EPOB Poblet 68.97 335 P P 18 59 21.0 +0.8
comp=Z,14nm,1.0s,mb4.8
QSPA South Pole Qui 69.00 180 *e*P P 18 59 21.1 +0.7
comp=Z,30nm,1.7s,mb4.9
VOY Vojsko 69.13 346 *e*P P 18 59 22.3 +1.1
GROS Grobnik 69.18 347 *e*P P 18 59 22.7 +1.2
EMIR Miracle 69.27 335 P P 18 59 22.5 +0.4
comp=Z,6.0nm,0.7s,mb4.6
CADS Cadrg 69.35 346 *e*P P 18 59 23.7 +1.2
ROBS Robic 69.42 346 *e*P P 18 59 24.1 +1.1
OBKA Obir 69.43 346 ⇑*i*P P 18 59 23.0 0.0
comp=Z,12nm,1.1s,mb4.7
SMRF Simiane la Rot 69.59 339 *e*P P 18 59 24.9 +0.8
comp=Z,67nm,1.5s,mb5.0
SMRF Simiane la Rot 69.59 339 *e*P P 18 59 24.9 +0.8
comp=Z,67nm,1.5s,mb5.3
ESDC Sonseca Array 69.77 330 P P 18 59 24.0 -1.1
comp=Z,7.3nm,0.8s,mb4.7,baz=142,slow=6.1,SNR=24
ESDC LR LR 19 33 51.4
comp=Z,79nm,18.2s,MS4.0,baz=170,slow=39
ESDC Sonseca Array 69.77 330 P P 18 59 26.2 +1.1
comp=Z,6.5nm,0.8s,mb4.6
ESLA Sonseca Array 69.77 330 *e*P P 18 59 25.3 +0.2
comp=Z,6.6nm,1.2s,mb4.4
PSZ Piszkesteto 69.79 350 ⇓*i*P P 18 59 25.8 +0.5
PSZ Piszkesteto 69.79 350 P P 18 59 25.8 +0.5
ETOR Torete 69.83 332 P P 18 59 26.0 +0.4
ETOR pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ETOR Torete 69.83 332 P P 18 59 26.0 +0.5
comp=Z,4.7nm,0.9s,mb4.4
MBDF Montbardon 69.87 340 *e*P P 18 59 26.3 +0.5
comp=Z,38nm,1.2s,mb4.9
MBDF Montbardon 69.87 340 *e*P P 18 59 26.3 +0.5
MBDF pmax pmax
comp=Z,19nm,1.2s,mb4.9
MBDF Montbardon 69.87 340 *e*P P 18 59 26.3 +0.5
comp=Z,19nm,1.2s,mb4.9
EGRA Graus 69.98 335 P P 18 59 26.8 +0.3
comp=Z,7.0nm,0.8s,mb4.6
BNI Bardonecchia 70.19 340 *e*P P 18 59 29.6 +1.8
BNI pmax pmax
comp=Z,18nm,1.1s,mb4.9
BNI Bardonecchia 70.19 340 *e*P P 18 59 29.6 +1.8
comp=Z,18nm,1.1s,mb4.8
MTLF Montolieu 70.22 336 *e*P P 18 59 27.5 -0.5
comp=Z,36nm,1.5s,mb4.8
MTLF Montolieu 70.22 336 *e*P P 18 59 27.5 -0.5
MTLF pmax pmax
comp=Z,18nm,1.5s,mb4.8
MTLF Montolieu 70.22 336 *e*P P 18 59 27.5 -0.5
comp=Z,18nm,1.5s,mb4.8
KBA Koelnbreinsper 70.24 346 ⇑*i*P P 18 59 27.9 -0.2
comp=Z,14nm,1.1s,mb4.8
KBA Koelnbreinsper 70.24 346 ⇑*i*P P 18 59 27.9 -0.2
KBA pmax pmax
comp=Z,14nm,1.1s,mb4.8
KBA Koelnbreinsper 70.24 346 ⇑*i*P P 18 59 27.9 -0.2
comp=Z,14nm,1.1s,mb4.8
KECS Kecovo 70.25 351 *e*P P 18 59 28.3 +0.2
KECS pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
KECS Kecovo 70.25 351 *e*P P 18 59 28.3 +0.2
comp=Z,4.9nm,1.4s,mb4.2
LASF Ste Croix 70.27 338 *e*P P 18 59 28.3 +0.1
comp=Z,48nm,1.3s,mb5.0
ORIF Oris-en-Rattie 70.33 340 *e*P P 18 59 29.0 +0.4
comp=Z,13nm,0.9s,mb4.6
ORIF *e*R
comp=Z,210nm,18.0s
ORIF Oris-en-Rattie 70.33 340 *e*P P 18 59 29.0 +0.4
ORIF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ORIF Oris-en-Rattie 70.33 340 *e*P P 18 59 29.0 +0.4
comp=Z,6.3nm,0.9s,mb4.5
KOLS Kolonicke sedl 70.45 352 *e* P 18 59 39.0 +10
EBIE Bielsa 70.47 335 P P 18 59 29.7 +0.3
comp=Z,6.9nm,0.8s,mb4.6
CONA Conrad Observa 70.51 348 ⇓*i*P P 18 59 29.8 0.0
comp=Z,13nm,1.0s,mb4.8
VYHS Vyhne 70.52 350 *e*P P 18 59 28.5 -1.2
VYHS pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
VYHS Vyhne 70.52 350 *e*P P 18 59 28.5 -1.2
comp=Z,7.0nm,1.4s,mb4.4
CRVS Cervenica-Dubn 70.52 352 *e*P P 18 59 29.2 -0.6
CRVS pmax pmax
comp=Z,4.0nm,1.6s,mb4.1
CRVS Cervenica-Dubn 70.52 352 *e*P P 18 59 29.2 -0.6
comp=Z,3.9nm,1.6s,mb4.1
ZST Bratislava 70.53 349 *e*P P 18 59 27.1 -2.7
ZST pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ZST Bratislava 70.53 349 *e*P P 18 59 27.1 -2.7
comp=Z,2.7nm,0.5s,mb4.4
LPG La Plagne 70.57 341 *e*P P 18 59 29.9 -0.2
comp=Z,22nm,1.0s,mb4.7
LPG La Plagne 70.57 341 *e*P P 18 59 29.9 -0.2
LPG pmax pmax
comp=Z,11nm,1.0s,mb4.7
LPG La Plagne 70.57 341 *e*P P 18 59 29.9 -0.2
comp=Z,11nm,1.0s,mb4.8
LPL La Plagne 70.59 341 *e*P P 18 59 30.0 -0.2
comp=Z,23nm,1.0s,mb4.7
LPL La Plagne 70.59 341 *e*P P 18 59 30.0 -0.2
LPL pmax pmax
comp=Z,11nm,1.0s,mb4.7
LPL La Plagne 70.59 341 *e*P P 18 59 30.0 -0.2
comp=Z,11nm,1.0s,mb4.8
GUD Guadarrama 70.63 331 P P 18 59 30.4 0.0
GUD pmax pmax
comp=Z,17nm,1.8s,mb4.7
GUD Guadarrama 70.63 331 P P 18 59 30.4 -0.1
comp=Z,17nm,1.8s,mb4.7
VIVF Saint-Julien-l 70.67 339 *e*P P 18 59 30.8 +0.1
comp=Z,27nm,1.3s,mb4.7
VIVF Saint-Julien-l 70.67 339 *e*P P 18 59 30.8 +0.1
VIVF pmax pmax
comp=Z,13nm,1.3s,mb4.7
VIVF Saint-Julien-l 70.67 339 *e*P P 18 59 30.8 +0.1
comp=Z,13nm,1.3s,mb4.7
EPF Esparros 70.68 335 *e*P P 18 59 30.7 0.0
comp=Z,24nm,1.0s,mb4.8
EPF Esparros 70.68 335 *e*P P 18 59 30.7 0.0
EPF pmax pmax
comp=Z,12nm,1.0s,mb4.8
EPF Esparros 70.68 335 *e*P P 18 59 30.7 0.0
comp=Z,12nm,1.0s,mb4.8
MOA Molln 70.76 347 ⇑*i*P P 18 59 30.8 -0.4
comp=Z,19nm,1.1s,mb4.9
WTTA Wattenberg 70.82 345 ⇑*i*P P 18 59 32.9 +1.3
comp=Z,12nm,1.4s,mb4.6
WTTA Wattenberg 70.82 345 ⇑*i*P P 18 59 32.9 +1.3
WTTA pmax pmax
comp=Z,12nm,1.4s,mb4.6
ETSF Etsaut 70.92 334 *e*P P 18 59 32.1 -0.1
comp=Z,15nm,0.8s,mb4.7
ETSF Etsaut 70.92 334 *e*P P 18 59 32.1 -0.1
ETSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ETSF Etsaut 70.92 334 *e*P P 18 59 32.1 -0.1
comp=Z,7.6nm,0.8s,mb4.7
NIE Niedzica 71.19 351 *e*P P 18 59 35.0 +1.2
DAVA Damuels 71.30 343 ⇓*i*P P 18 59 35.8 +1.3
comp=Z,17nm,1.3s,mb4.8
AKASG Malin Array Be 71.62 357 P P 18 59 32.9 -3.5
comp=Z,6.9nm,0.9s,mb4.6,baz=181,slow=5.9,SNR=24
AKASG LR LR 19 35 22.9
comp=Z,34nm,18.9s,MS3.6,baz=185,slow=40
AKASG Malin Array Be 71.62 357 P P 18 59 32.9 -3.6
AKASG LR LR 19 35 22.9
AKBB Malin Array Si 71.62 357 *e*P P 18 59 34.7 -1.8
CAF Calviac 71.64 337 *e*P P 18 59 36.7 +0.1
comp=Z,25nm,1.1s,mb4.8
CAF Calviac 71.64 337 *e*P P 18 59 36.7 +0.1
CAF pmax pmax
comp=Z,13nm,1.1s,mb4.8
CAF Calviac 71.64 337 *e*P P 18 59 36.7 +0.1
comp=Z,13nm,1.1s,mb4.8
CABF La Chapelle 71.77 341 *e*P P 18 59 37.3 -0.1
comp=Z,90nm,1.4s,mb5.2
CABF La Chapelle 71.77 341 *e*P P 18 59 37.3 -0.1
CABF pmax pmax
comp=Z,45nm,1.4s,mb5.2
CABF La Chapelle 71.77 341 *e*P P 18 59 37.3 -0.1
comp=Z,45nm,1.4s,mb5.2
GEC2 GERESS Array S 71.83 347 *e*P P 18 59 38.3 +0.6
comp=Z,20nm,1.4s,mb4.8
GEC2 GERESS Array S 71.83 347 *e*P P 18 59 38.3 +0.6
GEC2 pmax pmax
comp=Z,20nm,1.4s,mb4.8
GERES GERESS Array B 71.83 347 P P 18 59 36.2 -1.5
comp=Z,3.6nm,0.8s,mb4.3,baz=164,slow=5.3,SNR=27
TREC Trest 71.89 348 *e*P P 18 59 36.4 -1.7
OKC Ostrava-Krasne 71.93 350 *e*P P 18 59 38.0 -0.3
MORC Moravsky Berou 71.97 349 ⇓*i*P P 18 59 36.5 -2.1
MORC Moravsky Berou 71.97 349 ⇓P P 18 59 36.5 -2.0
OJC Ojcow 72.04 351 *e*P P 18 59 39.0 0.0
KHC Kasperske Hory 72.13 347 *e*P P 18 59 39.1 -0.4
LFF La Frestale 72.14 336 *e*P P 18 59 39.5 -0.1
RJF Les Rejaudoux 72.17 337 *e*P P 18 59 39.5 -0.2
comp=Z,15nm,0.8s,mb4.6
RJF *e*R
comp=Z,246nm,17.5s
RJF Les Rejaudoux 72.17 337 *e*P P 18 59 39.5 -0.2
RJF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
RJF MLR MLR
comp=Z,250nm,17.5s,MS4.5
RJF Les Rejaudoux 72.17 337 *e*P P 18 59 39.5 -0.2
comp=Z,7.3nm,0.8s,mb4.7
RJF LR LR
comp=Z,250nm,17.5s,MS4.5
SMF Signal de Mont 72.52 339 *e*P P 18 59 41.3 -0.5
comp=Z,24nm,1.0s,mb4.8
SMF Signal de Mont 72.52 339 *e*P P 18 59 41.3 -0.5
SMF pmax pmax
comp=Z,12nm,1.0s,mb4.8
SMF Signal de Mont 72.52 339 *e*P P 18 59 41.3 -0.5
comp=Z,12nm,1.0s,mb4.8
HINF Hinteralfeld 72.62 342 *e*P P 18 59 41.9 -0.6
comp=Z,49nm,1.6s,mb4.9
HINF Hinteralfeld 72.62 342 *e*P P 18 59 41.9 -0.6
HINF pmax pmax
comp=Z,24nm,1.6s,mb4.9
HINF Hinteralfeld 72.62 342 *e*P P 18 59 41.9 -0.6
comp=Z,24nm,1.6s,mb4.9
BFO Black Forest 72.67 343 *e*P P 18 59 43.7 +1.0
comp=Z,16nm,1.6s,mb4.7
BFO Black Forest 72.67 343 *e*P P 18 59 43.7 +1.0
BFO pmax pmax
comp=Z,16nm,1.6s,mb4.7
PRU Pruhonice 72.74 348 *e*P P 18 59 43.4 +0.3
DPC Dobruska-Polom 72.74 349 *e*P P 18 59 41.6 -1.6
TCF Toulx Ste Croi 72.76 338 *e*P P 18 59 43.5 +0.2
comp=Z,34nm,1.1s,mb4.9
TCF Toulx Ste Croi 72.76 338 *e*P P 18 59 43.5 +0.2
TCF pmax pmax
comp=Z,17nm,1.1s,mb4.9
TCF Toulx Ste Croi 72.76 338 *e*P P 18 59 43.5 +0.2
comp=Z,17nm,1.1s,mb4.9
BGF Bois d'Agland 72.78 339 *e*P P 18 59 42.3 -1.1
AVF Avril sur Loir 72.81 339 *e*P P 18 59 43.2 -0.4
comp=Z,39nm,1.3s,mb4.9
AVF Avril sur Loir 72.81 339 *e*P P 18 59 43.2 -0.4
AVF pmax pmax
comp=Z,19nm,1.3s,mb4.9
AVF Avril sur Loir 72.81 339 *e*P P 18 59 43.2 -0.4
comp=Z,19nm,1.3s,mb4.9
HAU Haudompre 72.94 341 *e*P P 18 59 43.9 -0.5
comp=Z,49nm,1.2s,mb5.0
HAU *e*R
comp=Z,90nm,19.8s
HAU Haudompre 72.94 341 *e*P P 18 59 43.9 -0.5
HAU pmax pmax
comp=Z,24nm,1.2s,mb5.0
HAU MLR MLR
comp=Z,90nm,19.8s,MS4.0
HAU Haudompre 72.94 341 *e*P P 18 59 43.9 -0.5
comp=Z,24nm,1.2s,mb5.0
HAU LR LR
comp=Z,90nm,19.8s,MS4.0
SSF Saint Saulge 73.00 339 *e*P P 18 59 44.0 -0.7
comp=Z,12nm,1.0s,mb4.5
SSF Saint Saulge 73.00 339 *e*P P 18 59 44.0 -0.7
SSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
SSF Saint Saulge 73.00 339 *e*P P 18 59 44.0 -0.7
comp=Z,6.3nm,1.0s,mb4.5
ROTZ Rotzenmuhle 73.03 346 *e*P P 18 59 44.4 -0.5
comp=Z,31nm,1.4s,mb5.0
CDF Champ du Feu 73.04 342 *e*P P 18 59 44.2 -0.7
comp=Z,12nm,0.8s,mb4.5
CDF Champ du Feu 73.04 342 *e*P P 18 59 44.2 -0.7
CDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CDF Champ du Feu 73.04 342 *e*P P 18 59 44.2 -0.7
comp=Z,6.0nm,0.8s,mb4.6
LOR Lormes 73.06 340 *e*P P 18 59 44.1 -1.0
LOR *e*R
comp=Z,138nm,17.8s
LOR Lormes 73.06 340 *e*P P 18 59 44.1 -1.0
LOR LR LR
comp=Z,140nm,17.8s,MS4.3
GRA1 Grafenberg Arr 73.19 345 *e*P P 18 59 46.8 +1.0
comp=Z,58nm,1.9s,mb5.2
GRF Grafenberg Arr 73.19 345 *e*P P 18 59 46.8 +1.0
comp=Z,58nm,1.9s,mb5.2
GRF Grafenberg Arr 73.19 345 *e*P P 18 59 46.8 +1.0
GRF pmax pmax
comp=Z,58nm,1.9s,mb5.2
GRF Grafenberg Arr 73.19 345 *e*P P 18 59 46.8 +1.0
GRF pmax pmax
comp=Z,58nm,1.9s,mb5.2
MANZ Manzenberg 73.26 346 *e*P P 18 59 47.2 +1.0
comp=Z,16nm,1.2s,mb4.8
NKC Novy Kostel 73.41 346 *e*P P 18 59 47.9 +0.8
GUNZ Gunzen 73.56 346 *e*P P 18 59 49.1 +1.1
comp=Z,17nm,1.4s,mb4.8
TANN Tannenbergstha 73.58 346 *e*P P 18 59 48.8 +0.7
comp=Z,20nm,1.2s,mb4.9
WERD Werda 73.64 346 *e*P P 18 59 49.7 +1.2
comp=Z,22nm,1.2s,mb5.0
BRG Berggiesshubel 73.70 347 *e*P P 18 59 49.0 +0.2
comp=Z,10.0nm,1.4s,mb4.5
BRG Berggiesshubel 73.70 347 *e*P P 18 59 49.4 +0.6
comp=Z,2.9nm,1.0s,mb4.2
BRG Berggiesshubel 73.70 347 *e*P P 18 59 49.4 +0.6
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
MEZF Maizieres J'vi 73.78 341 *e*P P 18 59 49.3 0.0
FBE Freiberg 73.87 347 *e*P P 18 59 50.1 +0.3
comp=Z,13nm,1.7s,mb4.6
MFF Saint Martin d 73.88 337 *e*P P 18 59 49.7 -0.2
comp=Z,37nm,1.1s,mb4.9
MFF Saint Martin d 73.88 337 *e*P P 18 59 49.7 -0.2
MFF pmax pmax
comp=Z,19nm,1.1s,mb4.9
MFF Saint Martin d 73.88 337 *e*P P 18 59 49.7 -0.2
comp=Z,19nm,1.1s,mb4.9
MOX Moxa 73.98 346 *e*P P 18 59 50.0 -0.5
comp=Z,14nm,1.3s,mb4.7
MOX Moxa 73.98 346 *e*P P 18 59 50.2 -0.3
comp=Z,11nm,1.2s,mb4.7
MOX
comp=Z,100nm,18.0s
MOX Moxa 73.98 346 *e*P P 18 59 50.2 -0.3
MOX pmax pmax
comp=Z,11nm,1.2s,mb4.7
MOX MLR MLR
comp=Z,100nm,18.0s,MS4.2
NWAO Narrogin (SRO) 73.98 120 LR LR 19 26 54.9
comp=Z,311nm,20.0s,MS4.6,baz=273,slow=31
CLL Collm 74.30 347 *e*P P 18 59 52.5 +0.1
comp=Z,22nm,1.5s,mb4.9
CLL Collm 74.30 347 P P 18 59 52.5 +0.1
comp=Z,logA/T=1.2,mb4.9
CLL Collm 74.30 347 *i* P P 18 59 52.5 +0.1
comp=Z,22nm,1.5s,mb4.9
CLL Collm 74.30 347 *i* P P 18 59 52.5 +0.1
CLL pmax pmax
comp=Z,22nm,1.5s,mb4.9
AKTK Aktyubinsk 74.57 16 P P 18 59 51.8 -2.1
AKTO Aktyubinsk 74.57 16 P P 18 59 51.8 -2.1
comp=Z,6.0nm,1.0s,mb4.5,baz=189,slow=5.2,SNR=11
GTTG Gyttingen 75.21 345 *e*P P 18 59 58.8 +1.2
comp=Z,7.0nm,0.8s,mb4.6
RUE Ruedersdorf 75.25 348 *e*P P 18 59 58.1 +0.3
comp=Z,51nm,1.3s,mb5.3
GIVF Givet 75.27 342 *e*P P 18 59 57.4 -0.5
SUW Suwalki 75.35 354 *e*P P 18 59 58.8 +0.4
BAIF Baives 75.41 341 *e*P P 18 59 58.5 -0.3
comp=Z,48nm,1.3s,mb5.0
BAIF Baives 75.41 341 *e*P P 18 59 58.5 -0.3
BAIF pmax pmax
comp=Z,24nm,1.3s,mb5.0
BAIF Baives 75.41 341 *e*P P 18 59 58.5 -0.3
comp=Z,24nm,1.3s,mb5.0
LDF La Druitiere 75.56 338 *e*P P 18 59 58.9 -0.7
comp=Z,35nm,1.2s,mb4.9
LDF La Druitiere 75.56 338 *e*P P 18 59 58.9 -0.7
LDF pmax pmax
comp=Z,18nm,1.2s,mb4.9
LDF La Druitiere 75.56 338 *e*P P 18 59 58.9 -0.7
comp=Z,18nm,1.2s,mb4.9
FLN La Foliniere 75.83 338 *e*P P 19 00 00.3 -0.8
FLN *e*R
comp=Z,133nm,19.5s
FLN La Foliniere 75.83 338 *e*P P 19 00 00.3 -0.8
FLN LR LR
comp=Z,130nm,19.5s,MS4.2
OBN Obninsk 76.01 2*d i*P P 18 59 59.0 -3.2
OBN pmax pmax
comp=Z,30nm,1.6s,mb5.0
NRDL Niedersach Rie 76.05 346 *e*P P 19 00 04.6 +2.2
comp=Z,15nm,1.4s,mb4.7
SGMF Saint Gilles 76.16 336 *e*P P 19 00 02.2 -0.8
comp=Z,44nm,1.3s,mb4.9
SGMF Saint Gilles 76.16 336 *e*P P 19 00 02.2 -0.8
SGMF pmax pmax
comp=Z,22nm,1.3s,mb4.9
SGMF Saint Gilles 76.16 336 *e*P P 19 00 02.2 -0.8
comp=Z,22nm,1.3s,mb4.9
ROSF Rostrenen 76.50 336 *e*P P 19 00 05.4 +0.5
comp=Z,38nm,1.2s,mb4.9
ROSF Rostrenen 76.50 336 *e*P P 19 00 05.4 +0.5
ROSF pmax pmax
comp=Z,19nm,1.2s,mb4.9
ROSF Rostrenen 76.50 336 *e*P P 19 00 05.4 +0.5
comp=Z,19nm,1.2s,mb4.9
BDFB Brasilia 76.51 258 P P 19 00 04.9 -0.1
comp=Z,6.9nm,0.8s,mb4.6,baz=125,slow=4.4,SNR=7.7
BDFB LR LR 19 29 45.3
comp=Z,611nm,19.7s,MS4.9,baz=110,slow=33
VNDA Vanda 77.09 170 P P 19 00 08.8 +0.4
comp=Z,2.5nm,0.7s,mb4.2,baz=278,slow=6.3,SNR=10
VNDA LR LR 19 33 04.4
comp=Z,162nm,19.9s,MS4.3,baz=52,slow=35
VNDA Vanda 77.09 170 *e*P P 19 00 09.5 +1.2
VNDA pmax pmax
comp=Z,17nm,1.4s
VNDA Vanda 77.09 170 *e*P P 19 00 09.5 +1.2
comp=Z,17nm,1.4s,mb4.8
SBA Scott Base 77.62 171 *e*P P 19 00 12.9 +1.6
SBA pmax pmax
comp=Z,43nm,1.8s,mb5.1
SBA Scott Base 77.62 171 *e*P P 19 00 12.9 +1.7
comp=Z,43nm,1.8s,mb5.1
ZRNK Zerenda 80.07 21 *e*P P 19 00 22.4 -2.3
ZRNK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ZRNK Zerenda 80.07 21 *e*P P 19 00 22.4 -2.3
comp=Z,8.9nm,1.0s,mb4.7
ARU Arti 80.19 14 P P 19 00 23.3 -2.1
comp=Z,66nm,1.2s,mb5.4,SNR=5.7
ARU Arti 80.19 14 ⇓*i*P P 19 00 23.4 -2.0
ARU *e* 19 03 27.8
ARU *e*PPP 19 05 21.1
ARU *e*SS S 19 10 30.2 -0.2
ARU *e*SS SS 19 15 43.8 +2.8
ARU pmax pmax
comp=Z,14nm,1.1s,mb4.8
ARU MLR MLR
comp=N,80nm,20.0s,MS4.2
ARU MLR MLR
comp=Z,100nm,20.0s,MS4.2
ARU MLR MLR
comp=E,70nm,19.0s,MS4.2
ARU Arti 80.19 14 *e*P P 19 00 23.2 -2.2
comp=E,21nm,1.3s,mb4.9
BRVK Borovoye 80.59 22 ⇓P P 19 00 26.2 -1.3
SNR=5.8
BRVK Borovoye 80.59 22 *e*P P 19 00 25.7 -1.8
BRVK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BRVK Borovoye 80.59 22 *e*P P 19 00 25.7 -1.8
comp=Z,5.5nm,0.9s,mb4.5
MKAR Makanchi Array 80.83 32 P P 19 00 26.9 -1.9
comp=Z,2.9nm,0.7s,mb4.3,baz=216,slow=3.9,SNR=19
MKAR Makanchi Array 80.83 32 P P 19 00 26.9 -1.9
TRQA Tornquist 81.17 233 *e*P P 19 00 32.9 +2.2
CHKZ Chkalovo 81.21 21 *e*P P 19 00 28.6 -2.3
CHKZ pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CHKZ Chkalovo 81.21 21 *e*P P 19 00 28.6 -2.2
comp=Z,8.5nm,0.9s,mb4.7
CPUP Villa Florida 81.35 245 *e*P P 19 00 34.1 +2.5
CPUP pmax pmax
comp=Z,20nm,1.1s
CPUP Villa Florida 81.35 245 *e*P P 19 00 34.1 +2.5
comp=Z,20nm,1.1s,mb5.0
WMQ Urumqi 81.67 37 P P 19 00 34.9 +1.7
WMQ AP pP 19 00 39.6 +3.0
WMQ XP sP 19 00 41.9 +4.1
WMQ PP PP 19 03 43.6 +3.7
WMQ AMB AMB
comp=Z,15nm,2.0s,mb4.6
WMQ AMB AMB
comp=Z,97nm,5.2s
WMQ LR LR
comp=Z,368nm,19.5s,MS4.8
KLMR Klimovskoe 81.88 3 *e*P P 19 00 32.4 -2.0
KLMR pmax pmax
comp=Z,20nm,1.7s,mb4.8
KURK Kurchatov 81.97 27 ⇓P P 19 00 33.7 -1.1
SNR=6.0
KURK Kurchatov 81.97 27 *e*P P 19 00 33.4 -1.5
KURK pmax pmax
comp=Z,31nm,1.3s,mb5.1
KURK Kurchatov 81.97 27 *e*P P 19 00 33.4 -1.5
comp=Z,31nm,1.3s,mb5.1
FINES FINESS Array B 82.51 357 P P 19 00 35.8 -1.9
comp=Z,5.1nm,1.0s,mb4.5,baz=169,slow=3.9,SNR=9.9
FINES LR LR 19 39 11.4
comp=Z,46nm,21.0s,MS3.8,baz=22,slow=37
KAF Kangasniemi 83.16 357 *ep* P 19 00 38.6 -2.5
comp=Z,10nm,0.8s,mb4.9
KAF Kangasniemi 83.16 357 *e*P P 19 00 38.6 -2.5
KAF pmax pmax
comp=Z,11nm,0.8s,mb4.9
JOF Joensuu 83.80 359 *ep* P 19 00 42.0 -2.4
comp=Z,1.5nm,0.6s,mb4.3
JOF Joensuu 83.80 359 *e*P P 19 00 42.0 -2.4
JOF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
NB2 NORSAR Subarra 83.81 349 P P 19 00 43.6 -0.8
comp=Z,15nm,1.2s,mb5.0,baz=151,slow=5.3
NOA NORSAR Array B 83.81 349 P P 19 00 42.8 -1.6
comp=Z,3.6nm,0.9s,mb4.5,baz=152,slow=4.7,SNR=4.7
NOA LR LR 19 40 39.8
comp=Z,28nm,19.4s,MS3.6,baz=305,slow=38
CD2 Chengdu 85.19 54 P P 19 00 50.6 -0.8
CD2 XP sP 19 00 58.0 +2.1
CD2 PP PP 19 04 09.8 +1.0
CD2 SKS 19 11 11.5
CD2 S 19 11 18.7
CD2 SS SS 19 16 55.8 +0.6
CD2 AMB AMB
comp=Z,10.0nm,1.5s,mb4.7
CD2 AMB AMB
comp=Z,30nm,6.4s
CD2 LR LR
comp=N,110nm,16.8s
CD2 LR LR
comp=Z,130nm,18.0s,MS4.4
FITZ Fitzroy Crossi 85.80 108 P P 19 00 55.1 +0.7
comp=Z,2.4nm,0.8s,mb4.5,baz=250,slow=4.5,SNR=5.1
FITZ LR LR 19 31 14.0
comp=Z,26nm,21.5s,MS3.6,baz=268,slow=30
PLCA Paso Flores 86.31 228 P P 19 00 59.0 +2.0
comp=Z,10nm,1.3s,mb4.9,baz=53,slow=11,SNR=3.4
PLCA LR LR 19 33 34.0
comp=Z,145nm,18.7s,MS4.4,baz=137,slow=32
PLCA Paso Flores 86.31 228 *e*P P 19 00 59.8 +2.9
PLCA pmax pmax
comp=Z,20nm,1.4s

PLCA	Paso Flores	86.31	228	eP	P	19 00 59.8	+2.9
	comp=Z,20nm,1.4s,mb5.2						
GTA	Gaotai	86.54	45	eP	P	19 00 58.8	+0.7
GTA				AP	pP	19 01 03.6	+2.2
GTA				XP	sP	19 01 06.6	+4.0
GTA				AMB	AMB		
	comp=Z,7.0nm,1.5s,mb4.7						
NVS	Novosibirsk	86.89	26	eP	P	19 00 54.1	-5.7
NVS				pmax	pmax		
	comp=N,4.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.8						
LZH	Lanzhou	87.69	50	eP	P	19 01 05.1	+1.5
LZH				AP	pP	19 01 10.3	+3.3
LZH				XP	sP	19 01 13.2	+5.0
LZH				AMB	AMB		
	comp=Z,26nm,1.4s,mb5.3						
ARCES	ARCESS Array B	90.60	357	LR	LR	19 45 04.2	
	comp=Z,66nm,20.7s,MS4.0,baz=100,slow=38						
ASAR	Alice Springs	90.89	116	P	P	19 01 19.4	+0.7
	comp=Z,2.7nm,0.8s,mb4.6,baz=242,slow=3.9,SNR=30						
ASAR				LR	LR	19 35 44.8	
	comp=Z,118nm,21.3s,MS4.3,baz=62,slow=31						
LCO	Las Campanas	91.35	238	eP	P	19 01 27.4	+6.6
LVC	Limon Verde	92.52	245	eP	P	19 01 26.0	-0.3
	comp=Z,7.2nm,1.1s,mb5.0						
SAML	Samuel	92.71	259	eP	P	19 01 30.1	+2.9
	comp=Z,3.9nm,1.1s,mb4.8						
WRA	Warramunga Arr	92.74	112	P	P	19 01 27.3	0.0
	comp=Z,1.1nm,0.8s,mb4.3,baz=242,slow=2.8,SNR=7.5						
WRA				LR	LR	19 37 44.5	
	comp=Z,237nm,20.8s,MS4.6,baz=230,slow=32						
STKA	Stephens Creek	93.55	126	LR	LR	19 34 38.7	
	comp=Z,220nm,18.9s,MS4.6,baz=209,slow=30						
LPAZ	La Paz	94.38	251	P	P	19 01 36.4	+1.6
	comp=Z,1.6nm,0.9s,mb4.5,baz=90,slow=5.6,SNR=6.7						
LPAZ				LR	LR	19 40 55.6	
	comp=Z,246nm,20.7s,MS4.7,baz=139,slow=34						
LPAZ	La Paz	94.38	251	eP	P	19 01 36.1	+1.3
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LPAZ	La Paz	94.38	251	eP	P	19 01 36.1	+1.3
	comp=Z,3.7nm,1.1s,mb4.7						
SONM	Songino Array	94.77	40	P	P	19 01 35.0	-1.6
	comp=Z,0.4nm,0.6s,mb4.0,baz=238,slow=6.1,SNR=4.9						
SONM				LR	LR	19 43 56.7	
	comp=Z,146nm,19.7s,MS4.5,baz=238,slow=35						
ULN	Ulaanbaatar	95.18	40	eP	P	19 01 37.4	-1.1
ULN				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.6						
ULN	Ulaanbaatar	95.18	40	eP	P	19 01 37.4	-1.1
	comp=Z,2.7nm,1.2s,mb4.5						
NJ2	Nanjing	97.42	59	eP	P	19 01 47.2	-1.5
NJ2				AP	pP	19 01 58.9	+6.9
NJ2				XP	sP	19 02 01.2	+8.0
NJ2				PP	PP	19 05 49.1	+3.5
NJ2				S		19 13 10.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,110nm,5.4s						
NJ2				LR	LR		
	comp=Z,750nm,18.2s,MS5.2						
SSE	Sheshan	98.98	60	eP	P	19 01 54.3	-1.3
SSE				AP	pP	19 02 03.4	+4.4
SSE				S		19 13 24.0	
SSE				AMB	AMB		
	comp=Z,70nm,3.5s						
SSE				LR	LR		
	comp=N,14nm,18.8s,MS4.2						
SSE				LR	LR		
	comp=E,72nm,18.8s,MS4.2						
SSE				LR	LR		
	comp=Z,93nm,19.8s,MS4.3						
HABR	Khabarovsk	113.28	45	eP	Pdif	19 02 54.9	-4.3
MSU	Marysvale	145.61	308	ePKP2	PKPab	19 07 54.8	+1.0
M13A	Montello	145.89	314	⇓P	PKPbc	19 07 56.8	+2.3
	baz=146						
WUAZ	Wupatki	145.91	303	ePKPbc	PKPbc	19 07 55.6	+1.2
BMO	Blue Mountains	146.12	321	ePKHKP	PKPdf	19 07 53.8	-0.4
TUC	Tucson	146.13	297	ePKP2	PKPab	19 07 56.5	+0.7
N13A	Wendover, West	146.14	313	⇑P	PKPbc	19 07 57.6	+2.5
	baz=146						
M12A	Wells	146.37	314	⇓P	PKPbc	19 07 58.4	+2.6
	baz=146						
A04A	Legoe Bay, Lum	146.43	331	⇑P	PKPbc	19 07 58.9	+2.8
	baz=146						
HAWA	Hanford	146.44	325	ePKPbc	PKPbc	19 07 56.6	+0.5
B05A	Bryant	146.48	330	⇑P	PKPbc	19 07 58.7	+2.5
	baz=146						
W15A	Williams	146.70	302	⇑P	PKPbc	19 07 59.5	+2.7
	baz=147						
N12A	Clover Valley,	146.71	313	⇓P	PKPbc	19 07 59.4	+2.5
	baz=147						
116A	Eloy	146.84	297	⇑P	PKPbc	19 07 59.8	+2.6
	baz=147						
X15A	Humboldt	146.86	301	⇓P	PKPbc	19 07 59.9	+2.6
	baz=147,SNR=6.0						
M11A	Holland Ranch,	146.95	315	⇑P	PKPbc	19 08 00.0	+2.5
	baz=147						
D05A	Enumclaw	147.17	328	⇓P	PKPbc	19 07 59.6	+1.4
	baz=147						
P12A	McGill	147.22	311	⇓P	PKPbc	19 08 00.9	+2.6
	baz=147						
115A	Sonoran Desert	147.25	298	⇑P	PKPbc	19 08 01.0	+2.6
	baz=147						
B04A	Port Angeles	147.27	331	⇑P	PKPbc	19 08 00.4	+1.9
	baz=147						
W14A	Seligman	147.33	303	⇓P	PKPbc	19 08 01.7	+3.1
	baz=147,SNR=11						
Q12A	Willow Creek R	147.33	310	⇓P	PKPbc	19 08 00.8	+2.2
	baz=147						
X14A	Yava	147.38	301	⇑P	PKPbc	19 08 01.1	+2.3
	baz=147						
O11A	Cowboy Ranch,	147.46	313	⇑P	PKPbc	19 08 01.0	+2.0
	baz=148						
E05A	Randle	147.49	327	⇑P	PKPbc	19 08 00.5	+1.4
	baz=148						
Y14A	Wickenburg	147.60	300	⇑P	PKPbc	19 08 01.4	+2.0
	baz=148						
J08A	Circle Bar Ran	147.65	320	⇓P	PKPbc	19 08 00.9	+1.4
	baz=148						
Z14A	Wintersburg	147.70	299	⇓P	PKPbc	19 08 01.5	+1.9
	baz=148						
F05A	White Salmon	147.79	326	⇑P	PKPbc	19 08 01.5	+1.6
	baz=148						
C03A	Quillayute Air	147.84	331	⇑P	PKPbc	19 08 01.6	+1.6
	baz=148						
L09A	Wilkinson Ranc	147.88	317	⇓P	PKPbc	19 08 02.5	+2.4
	baz=148						
Q11A	Duckwater	148.00	310	⇑P	PKPbc	19 08 02.2	+1.8
	baz=148						
M09A	Marrel Ranch,	148.04	316	⇑P	PKPbc	19 08 02.6	+2.0
	baz=148						
D03A	Wishkah Elem.	148.08	330	⇓P	PKPbc	19 08 02.8	+2.2
	baz=148						
U12A	Valley of Fire	148.08	306	⇑P	PKPbc	19 08 02.7	+2.0
	baz=148						
X13A	Yucca	148.09	302	⇑P	PKPbc	19 08 03.0	+2.3
	baz=148						
P10A	Eureka	148.23	312	⇓P	PKPbc	19 08 02.8	+1.7
	baz=148						
H05A	Madras	148.47	324	⇓P	PKPbc	19 08 03.9	+2.3
	baz=148						
V12A	Nelson	148.55	304	⇑P	PKPbc	19 08 04.2	+2.3
	baz=149						
J06A	Christmas Vall	148.72	321	⇓P	PKPbc	19 08 04.3	+2.0
	baz=149						
I05A	Bend	148.80	323	⇓P	PKPbc	19 08 04.5	+2.0
	baz=149						
N08A	GE Springer Mi	148.81	315	⇑P	PKPbc	19 08 04.6	+2.0
	baz=149						
F03A	Seaside	148.83	328	⇑P	PKPbc	19 08 04.6	+2.0
	baz=149						
Y12C	Blythe	148.87	301	⇓P	PKPbc	19 08 04.9	+2.2
	baz=149						
L07A	Adell	148.93	318	⇑P	PKPbc	19 08 05.3	+2.5
	baz=149						
V11A	Goodsprings	148.96	305	⇑P	PKPbc	19 08 05.6	+2.7
	baz=149						
K06A	Valley Falls	149.04	320	⇑P	PKPbc	19 08 05.1	+2.0
	baz=149						
M07A	Soldier Meadow	149.16	317	⇑P	PKPbc	19 08 05.8	+2.3
	baz=149						
GLA	Glamis	149.30	299	⇓P	PKPbc	19 08 05.9	+2.1
	baz=149						
P08A	Dixie Valley	149.31	313	⇑P	PKPbc	19 08 06.0	+2.1
	baz=149						
N07B	Gerlach	149.36	316	⇓P	PKPbc	19 08 06.0	+2.1
	baz=149						
U10A	Ash Meadows, A	149.44	306	⇑P	PKPbc	19 08 07.3	+3.2
	baz=150						
S09A	Goldfield	149.59	309	⇓P	PKPbc	19 08 06.9	+2.4
	baz=150,SNR=7.4						
O07A	Toulon	149.62	315	⇓P	PKPbc	19 08 07.1	+2.5
	baz=150						
L05A	Lakeview	149.83	320	⇓P	PKPbc	19 08 07.7	+2.6
	baz=150						
NVAR	Mina Array Bea	150.05	311	PKPbc	PKPbc	19 08 03.7	-1.9
	comp=Z,2.8nm,0.8s,baz=116,slow=2.1,SNR=10.0						
NVAR	Mina Array Bea	150.05	311	PKPbc	PKPbc	19 08 03.7	-1.9
GSC	Goldstone	150.20	305	⇑P	PKPbc	19 08 07.6	+1.6
	baz=150						
O06A	Flanigan	150.24	316	⇓P	PKPbc	19 08 07.5	+1.5
	baz=150						
M05C	Lookout	150.42	319	⇑P	PKPbc	19 08 08.4	+1.9
	baz=150						
PFO	Pinyon Flat Ob	150.46	301	⇑P	PKPbc	19 08 09.2	+2.6
	baz=150						
M04C	Macdoel	150.59	320	⇓P	PKPbc	19 08 08.7	+1.8
	baz=151						
R07C	Lee Vining	150.73	311	⇑P	PKPbc	19 08 10.3	+3.0
	baz=151						
HUMO	Hull Mountain	150.74	322	ePKPdf	PKPbc	19 08 02.5	-4.7
HUMO	Hull Mountain	150.74	322	⇑P	PKPbc	19 08 08.9	+1.6
	baz=151						
R06C	Coleville	150.81	312	⇓P	PKPbc	19 08 10.1	+2.6
	baz=151,SNR=5.8						
YBH	Yreka Blue Hor	151.14	321	PKPbc	PKPbc	19 08 08.1	-0.1
	comp=Z,0.5nm,0.3s,baz=122,slow=5.4,SNR=5.0						
YBH	Yreka Blue Hor	151.14	321	⇓P	PKPbc	19 08 09.3	+1.1
	baz=151						
R05C	Kirkwood Meado	151.15	313	⇑P	PKPbc	19 08 10.3	+2.0
	baz=151						
P05C	Yuba Gap, Truc	151.20	315	⇓P	PKPbc	19 08 10.1	+1.8
	baz=151						
KCC	Kaiser Creek	151.26	310	⇑P	PKPbc	19 08 09.8	+1.3
	baz=151						
ISA	Isabella	151.33	306	⇓P	PKPbc	19 08 11.2	+2.5
	baz=151						
L02A	Cave Junction	151.39	322	⇓P	PKPbc	19 08 10.4	+1.6
	baz=151						
M02C	Callahan	151.43	320	⇓P	PKPbc	19 08 10.7	+1.8
	baz=151						
ORV	Oroville	151.65	316	⇑P	PKPbc	19 08 10.8	+1.4
	baz=152						
T06C	Millerton Lake	151.68	310	⇓P	PKPbc	19 08 11.4	+1.9
	baz=152						
WDC	Whiskeytown Da	151.73	319	⇓P	PKPbc	19 08 10.6	+1.1
	baz=152						
M01C	Crescent City	151.88	322	⇑P	PKPbc	19 08 12.0	+2.0
	baz=152						
N02C	Big Bar	152.06	320	⇑P	PKPbc	19 08 11.9	+1.6
	baz=152						
O02C	Red Bluff	152.12	318	⇑P	PKPbc	19 08 11.9	+1.5
	baz=152						

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*IDC **11** 19:02:09.0±1.1, 4360N×10531W, h0km, mb4.2/1, mb1 3.9/3, mb1mx3.5/20, mbtmp3.7/3, MS2.7/4, Ms1 2.7/4, ms1mx2.4/36, Error ellipse: s-maj=28.8km s-min=9.0km az=159.0*
*ISCJB **11** 19:02:09.6±0.5, 4358N±005×10526W±006, h0km, mb4.5/1, Error ellipse: s-maj=7.7km s-min=5.4km az=128.9*
*NEIC **11** 19:02:09.6±0.8, 4370N×10534W, h0km, ML3.0, Error ellipse: s-maj=11.7km s-min=8.9km az=164.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] S of Gillette.
ISC 11 19:02:11.0±0.5**, 4358N**±005×**10526W**±006**, h0**km**, n28, σ1§37**/27**, mb4.5**/1**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	Black Hills	1.04	58	ePg	Pg	19 02 30.5	-0.4
RSSD				eSg	Sg	19 02 43.8	-0.5
PHWY	Pilot Hill	2.28	184	ePn	Pn	19 02 50.1	+0.3
RWWY	Rawlins	2.38	218	ePn	Pn	19 02 53.0	+1.8
LAO	LASA Array	3.19	348	ePn	Pn	19 03 03.8	+1.5
PDAR	Pinedale Array	3.25	257	Pn	Pn	19 03 03.5	+0.4
	2.7nm,0.3s,baz=77,slow=18,SNR=26						
PDAR				Pg	Pg	19 03 09.3	-3.9
	4.8nm,0.3s,baz=71,slow=18,SNR=46						
PDAR				Lg		19 03 51.6	
	10nm,0.3s,baz=77,slow=32,SNR=16						
ISCO	Idaho Springs	3.78	184	ePn	Pn	19 03 11.4	+0.9
GCMT	Greycliff	3.85	307	ePn	Pn	19 03 11.9	+0.6
MOOW	Moose Ponds	3.99	274	ePn	Pn	19 03 11.0	-2.3
REDW	Red Top Meadow	4.08	269	Pn	Pn	19 03 14.0	-0.6
YFT	Old Faithful	4.12	284	Pn	Pn	19 03 15.3	+0.2
IMW	Indian Meadow	4.13	276	ePn	Pn	19 03 17.1	+1.8
TPAW	Teton Pass	4.14	271	ePn	Pn	19 03 11.6	-3.9
RRI2	Red Ridge	4.42	269	ePn	Pn	19 03 20.7	+1.4
SMCO	Snowmass	4.58	197	Pn	Pn	19 03 21.6	+0.1
QLMT	Earthquake Lak	4.61	288	ePg	Pg	19 03 35.3	-4.0
TCUT	Toone Canyon	5.18	244	ePn	Pn	19 03 26.4	-3.3
DAU	Daniels Canyon	5.47	237	P	Pn	19 03 24.0	-10
DLMT	Dillon	5.55	291	P	Pn	19 03 36.1	+1.3
	5.8nm,0.7s						
MCMT	McKenzie Canyo	5.60	286	Pn	Pn	19 03 34.7	-0.8
HRY	Holter Researc	5.61	306	ePn	Pn	19 03 35.9	+0.3
SRU	San Rafael	5.97	223	ePn	Pn	19 03 39.5	-1.0
	5.8nm,0.5s						
MVU	Marysvale	7.30	228	ePn	Pn	19 03 54.6	-4.2
	4.5nm,0.4s						
ULM	Lac du Bonnet	9.26	41	Pn	Pn	19 04 21.7	-4.0
ULM				LR	LR	19 08 29.7	
ULM	Lac du Bonnet	9.26	41	Pn	Pn	19 04 21.7	-4.0
	0.2nm,0.3s,baz=233,slow=11,SNR=2.1						
ULM				LR	LR	19 08 29.7	
	comp=Z,51nm,21.3s,baz=28,slow=41						
NEW	Newport	9.50	304	LR	LR	19 08 39.1	
	comp=Z,44nm,20.6s,baz=342,slow=41						
SADO	Sadowa	18.75	77	LR	LR	19 13 43.5	
	comp=Z,34nm,20.6s,baz=248,slow=37						
YKA	Yellowknife Ar	19.73	347	LR	LR	19 14 01.9	
	comp=Z,23nm,19.6s,baz=90,slow=36						
LPAZ	La Paz	68.59	141	P	P	19 13 15.3	-0.3
	0.9nm,0.3s,mb4.5,baz=318,slow=4.6,SNR=6.1						

CASC 11 19:03:59.3±5.0**, 1372N**×**8884W, h116**km±38km**, MD3.7, 2C-5D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNVI	San Vicente	0.11	181	eP	x	19 04 19.2	
SNVI				eS	x	19 04 29.7	
LCBS	La Ceiba	0.15	244	⇓eP	x	19 04 19.1	
LCBS				eS	x	19 04 29.8	
LBRS	Las Brisas	0.20	275	⇓eP	x	19 04 20.5	
LBRS				eS	x	19 04 32.1	
LFRS	El Faro	0.24	246	eS	x	19 04 29.2	
LFU	La Fuente	0.27	276	eP	x	19 04 20.7	
LFU				eS	x	19 04 32.0	
SNET	Serv Nac Est T	0.39	265	eP	x	19 04 28.0	
SNET				eS	x	19 04 43.0	
BOQS	Boqueron	0.43	272	⇑eP	x	19 04 21.2	
BOQS				eS	x	19 04 33.1	
BLLM	Bellamira	0.65	115	⇓eP	x	19 04 22.2	
BLLM				eS	x	19 04 35.6	
SNJE	San Jose	0.76	281	eP	x	19 04 25.0	
SNJE				eS	x	19 04 39.5	
SBLS	San Blas	0.77	279	eP	x	19 04 25.1	
SBLS				eS	x	19 04 38.8	
RTR	El Retiro	0.81	283	eP	x	19 04 25.9	
RTR				eS	x	19 04 40.8	
RBDL	Robledal	0.91	295	⇓eP	x	19 04 28.4	
RBDL				eS	x	19 04 46.1	
CNCH	Conchagua	1.07	114	⇑eP	x	19 04 26.4	
CNCH				eS	x	19 04 42.7	
IXG	Ixpaco	1.63	286	⇓eP	Pn	19 04 29.0	+0.9
IXG				eS	Sn	19 04 50.7	+0.7

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*IDC **11** 19:07:09.6±6.3, 705S×12978E, h70km±56km, mb4.0/2, mb1 4.3/5, mb1mx4.0/11, mbtmp4.4/5, ML4.5/3, Error ellipse: s-maj=99.6km s-min=22.5km az=63.0*
*NEIC **11** 19:07:13.5±2.4, 720S×12966E, h111km±23km, mb4.3/4, Error ellipse: s-maj=28.4km s-min=15.4km az=51.0*
*ISCJB **11** 19:07:15.1±1.4, 739S±006×12954E±009, h141km±15km, mb3.8/5, Error ellipse: s-maj=14.8km s-min=8.9km az=145.9*
ISC 11 19:07:18.9±1.1**, 767S**±006×**12951E**±009**, h179**km±10km**, n22, σ1§23**/29**, mb3.8**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	5.78	150	eP	Pn	19 08 44.0	+1.0
	34nm,0.2s						
KAKA				eS	Sn	19 09 49.4	+0.3
FITZ	Fitzroy Crossi	11.03	200	eP	Pn	19 09 54.8	+3.0
	20nm,0.3s						
FITZ				eS	Sn	19 11 54.9	+0.5
FITZ	Fitzroy Crossi	11.03	200	P	Pn	19 09 53.8	+2.0
	5.0nm,0.3s,baz=34,slow=12,SNR=80						
FITZ				S	Sn	19 11 54.9	+0.5
	2.6nm,0.3s,baz=262,slow=19,SNR=4.7						
WRAB	Tennant Creek	13.06	159	ePn	Pn	19 10 18.2	+0.4
	13nm,0.6s						
WRAB				eSn	Sn	19 12 39.9	-3.1
WRA	Warramunga Arr	13.07	159	P	Pn	19 10 17.8	-0.1
	1.9nm,0.3s,baz=338,slow=13,SNR=76						
WRA				S	Sn	19 12 40.6	-2.5
	3.2nm,0.3s,baz=338,slow=22,SNR=11						
WB2	Warramunga Arr	13.07	159	eP	Pn	19 10 18.5	+0.5
WB2				eS	Sn	19 12 41.1	-2.1
MBWA	Marble Bar	16.41	214	ePn	Pn	19 11 04.3	+5.3
MBWA				eSn	Sn	19 13 59.9	-2.9
AS31	Alice Springs	16.45	166	eP	Pn	19 11 04.6	+5.0
AS31				eS	S	19 14 01.9	-0.2
ASAR	Alice Springs	16.46	166	P	Pn	19 11 03.9	+4.2
	1.4nm,0.3s,baz=341,slow=9.1,SNR=56						
ASAR				S	S	19 14 03.9	+1.8
	0.6nm,0.3s,baz=343,slow=24,SNR=4.4						
ASPA	Alice Springs	16.46	166	eP	Pn	19 11 04.6	+5.0
ASPA				eS	S	19 14 01.9	-0.2
KSM	Kuching	21.20	295	P	P	19 11 50.0	-0.4
STKA	Stephens Creek	26.59	157	eP	P	19 12 45.6	+5.2
	3.4nm,1.1s,mb3.9						
STKA	Stephens Creek	26.59	157	P	P	19 12 45.5	+5.1
	0.9nm,0.4s,mb3.7,baz=333,slow=11,SNR=5.2						
STKA	Stephens Creek	26.59	157	P	P	19 12 45.5	+5.1
SONM	Songino Array	58.92	342	P	P	19 16 58.5	-0.7
	0.2nm,0.4s,mb3.3,baz=169,slow=5.8,SNR=4.2						
MKAR	Makanchi Array	68.52	327	P	P	19 18 02.2	+0.3
	3.1nm,0.5s,mb4.3,baz=111,slow=8.6,SNR=60						
MKAR	Makanchi Array	68.52	327	P	P	19 18 02.2	+0.3
ZRNK	Zerenda	79.06	328	eP	P	19 19 02.4	-0.8
	1.2nm,0.7s,mb3.6						
QSPA	South Pole Qui	82.31	180	eP	P	19 19 25.1	+4.6
	1.2nm,0.6s,mb3.7						
CPUP	Villa Florida	145.56	169	PKPbc	PKPbc	19 26 41.7	+5.5
	1.5nm,0.6s,baz=172,slow=2.7,SNR=5.3						
CPUP	Villa Florida	145.56	169	PKPbc	PKPbc	19 26 41.7	+5.5
LPAZ	La Paz	150.48	144	PKPbc	PKPbc	19 26 55.5	+6.3
	0.7nm,0.4s,baz=6.4,slow=2.2,SNR=6.3						

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*IDC **11** 19:17:16.7±4.8, 7.14S×12962E, h65km±40km, mb4.0/4, mb1 4.1/7, mb1mx3.9/12, mbtmp4.2/7, ML4.1/3, Error ellipse: s-maj=52.3km s-min=22.0km az=66.0*
*NEIC **11** 19:17:16.5±2.2, 690S×12991E, h74km±18km, mb4.2/5, Error ellipse: s-maj=25.5km s-min=16.4km az=57.0*
*ISCJB **11** 19:17:17.8±2.0, 7.1S±0.1×1299E±02, h99km±18km, mb4.0/8, Error ellipse: s-maj=28.8km s-min=13.8km az=129.5*
ISC 11 19:17:17.7±2.3**, 71S**±01×**1295E**±01**, h78**km±20km**, n22, σ1§34**/26**, mb4.0**/8**, 1C-1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	6.25	153	⇓iP	Pn	19 18 49.3	+2.0
	14nm,0.2s						
KAKA				eS	Sn	19 19 56.4	-0.9
FITZ	Fitzroy Crossi	11.55	199	eP	Pn	19 20 02.4	+2.8
	5.6nm,0.2s						
FITZ				eS	Sn	19 22 05.5	-1.2
FITZ	Fitzroy Crossi	11.55	199	P	Pn	19 20 01.0	+1.4
	0.5nm,0.3s,baz=32,slow=12,SNR=43						
FITZ				S	Sn	19 22 04.2	-2.6
	5.0nm,0.3s,baz=83,slow=15,SNR=11						
WRAB	Tennant Creek	13.57	160	ePn	Pn	19 20 25.5	-1.2
WRAB				eSn	Sn	19 22 45.4	-10
WRA	Warramunga Arr	13.57	160	P	Pn	19 20 25.6	-1.1
	1.8nm,0.3s,baz=340,slow=13,SNR=50						
WRA				S	Sn	19 22 46.8	-9.1
	2.2nm,0.3s,baz=328,slow=24,SNR=12						
WB2	Warramunga Arr	13.57	160	eP	Pn	19 20 25.7	-1.1
WB2				eS	Sn	19 22 48.1	-7.8
MBWA	Marble Bar	16.86	213	P	Pn	19 21 13.4	+4.7
	18nm,1.0s						
AS31	Alice Springs	16.98	166	ePn	Pn	19 21 10.4	+0.3
ASAR	Alice Springs	16.98	166	P	Pn	19 21 11.6	+1.5
	0.7nm,0.3s,baz=344,slow=9.3,SNR=26						
ASAR				S	S	19 24 12.3	-11
	0.8nm,0.3s,baz=322,slow=16,SNR=6.4						
FORT	Forrest	23.57	183	eP	P	19 22 23.4	+2.2
	23nm,0.8s,mb4.5						
STKA	Stephens Creek	27.08	157	⇑iP	P	19 22 53.4	+0.5
	2.1nm,0.3s,mb4.2						
STKA	Stephens Creek	27.08	157	P	P	19 22 53.5	+0.6
	2.7nm,0.3s,mb4.2,baz=321,slow=10.0,SNR=16						
STKA	Stephens Creek	27.08	157	P	P	19 22 52.8	-0.1
MKAR	Makanchi Array	68.07	327	P	P	19 28 09.3	+0.3
	2.0nm,0.4s,mb4.3,baz=112,slow=7.6,SNR=48						
KURK	Kurchatov	72.38	329	P	P	19 28 34.2	-1.1
	1.6nm,0.7s,mb4.0						
VNDA	Vanda	72.38	173	P	P	19 28 35.0	-0.3
	0.3nm,0.4s,mb3.5,baz=310,slow=10,SNR=6.0						
MAW	Mawson	74.66	201	P	P	19 28 50.3	+1.6
	1.7nm,0.5s,mb4.0,baz=62,slow=7.2,SNR=4.3						
ZRNK	Zerenda	78.61	327	P	P	19 29 08.7	-2.3
	0.9nm,0.7s,mb3.7						
QSPA	South Pole Qui	82.85	180	eP	P	19 29 33.3	-0.2
	1.9nm,0.5s,mb4.2						
CPUP	Villa Florida	146.09	169	PKPbc	PKPbc	19 36 49.7	+0.9
	1.6nm,0.7s,baz=208,slow=5.4,SNR=3.8						
CPUP	Villa Florida	146.09	169	PKPbc	PKPbc	19 36 49.7	+0.9
LPAZ	La Paz	150.91	143	PKPbc	PKPbc	19 37 03.1	+1.8
	0.3nm,0.4s,baz=153,slow=2.3,SNR=2.2						

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*IDC **11** 19:28:21.1±4.4, 255S×13937E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.7/10, mbtmp3.8/3, ML4.1/1, Error ellipse: s-maj=175.9km s-min=27.8km az=88.0*
*ISCJB **11** 19:28:22.3±3.0, 26S±0.1×1395E±0.1, h23km±23km, mb4.2/4, Error ellipse: s-maj=25.7km s-min=17.6km az=48.7*
*NEIC **11** 19:28:25.9±1.0, 267S×13954E, h35km, mb4.4/3, Error ellipse: s-maj=18.1km s-min=13.7km az=129.0*
ISC 11 19:28:28.9±2.0**, 28S**±01×**1395E**±01**, h53**km±19km**, n11, σ1§22**/17**, mb4.1**/4**, 2C, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	12.02	215	⇑iP	Pn	19 31 17.8	+0.4
	16nm,0.5s						
KAKA				eS	Sn	19 33 27.9	-2.0
WRAB	Tennant Creek	17.71	196	ePn	Pn	19 32 31.7	+0.1
WB2	Warramunga Arr	17.72	196	eP	Pn	19 32 31.4	-0.3
WB2				eS	S	19 35 39.2	-14
WRA	Warramunga Arr	17.72	196	P	Pn	19 32 31.1	-0.7
	0.6nm,0.3s,baz=16,slow=12,SNR=35						
WRA				S	S	19 35 38.9	-14
	0.3nm,0.3s,baz=11,slow=22,SNR=5.3						
FITZ	Fitzroy Crossi	20.34	221	eP	P	19 33 01.2	+0.5
	5.1nm,0.7s						
FITZ				eS	S	19 36 37.1	-8.5
HNR	Honiara	21.38	109	eP	P	19 33 10.6	-1.3
	65nm,0.9s,mb5.0						
AS31	Alice Springs	21.39	194	ePn	P	19 33 12.9	+1.0
AS31				eS	S	19 37 05.4	-0.9
ASAR	Alice Springs	21.39	194	P	P	19 33 13.9	+1.9
	1.4nm,0.5s,mb3.5,baz=26,slow=10,SNR=37						
ASPA	Alice Springs	21.39	194	⇑iP	P	19 33 13.7	+1.7
ASPA				eS	S	19 37 05.4	-0.9
MBWA	Marble Bar	26.47	225	eP	P	19 34 02.2	+1.3
	7.2nm,0.8s,mb4.2						
MKAR	Makanchi Array	70.35	322	P	P	19 39 35.2	-1.8
	0.6nm,0.5s,mb3.8,baz=116,slow=6.6,SNR=8.5						

IDC 11 19:38:12.7±1.4, 2661N×12972E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/19, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=33.5km s-min=24.5km az=56.0
ISCJB 11 19:38:15.3±0.6, 2650N±004×12970E±003, h33km, mb3.5/3, Error ellipse: s-maj=5.8km s-min=4.4km az=176.8
JMA 11 19:38:15.1±0.1, 2646N×12972E, h46km, M3.1
ISC 11 19:38:15.8±2.4, **2653N**±005×**12968E**±004, **h28**km±20km, **n15**, σ**0s96**/24, **mb3.5**/3, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.29**	**284**	Pn	**Pn**	**19 38 38.1**	**+0.1**
	52nm,0.3s,baz=110,slow=17,SNR=59						
JOW				Sn	**Sn**	**19 38 53.5**	**-0.8**
	55nm,0.3s,baz=122,slow=29,SNR=19						
JOW	**Kunigami**	**1.29**	**284**	P	**Pn**	**19 38 38.1**	**+0.1**
JOW				*e*S	**Sn**	**19 38 54.3**	**0.0**
JTK	**Tokunoshima**	**1.41**	**333**	P	**Pn**	**19 38 40.1**	**+0.5**
JTK				*e*S	**Sn**	**19 38 56.5**	**-0.8**
JMZ	**Minamidaito 2**	**1.55**	**117**	P	**Pn**	**19 38 40.0**	**-1.5**
JMZ				*e*S	**Sn**	**19 38 57.8**	**-2.9**
JIH	**Iheya**	**1.61**	**289**	P	**Pn**	**19 38 42.8**	**+0.4**
JIH				*e*S	**Sn**	**19 39 02.1**	**-0.1**
JJT2	**Tamagusuku 2**	**1.78**	**258**	*e*S	**Sn**	**19 39 06.3**	**+0.1**
JZK	**Kikaishima**	**1.80**	**8**	P	**Pn**	**19 38 45.9**	**+1.0**
JZK				*e*S	**Sn**	**19 39 08.1**	**+1.3**
NAH1	**Naha**	**1.81**	**260**	*e*S	**Sn**	**19 39 06.6**	**-0.6**
JAM	**Amami Oshima**	**1.88**	**358**	P	**Pn**	**19 38 46.1**	**+0.1**
JAM				*e*S	**Sn**	**19 39 07.6**	**-1.2**
JAGN	**Aguni-jima**	**2.19**	**272**	P	**Pn**	**19 38 50.7**	**+0.5**
JAGN				*e*S	**Sn**	**19 39 15.9**	**-0.4**
JKE	**Kume jima 2**	**2.60**	**266**	P	**Pn**	**19 38 56.2**	**+0.2**
JKE				*e*S	**Sn**	**19 39 25.9**	**-0.7**
MJAR	**Matsushiro Arr**	**12.35**	**34**	Pn	**Pn**	**19 41 08.6**	**-1.0**
	0.3nm,0.3s,baz=227,slow=8.5,SNR=3.5						
WRA	**Warramunga Arr**	**46.41**	**174**	P	**P**	**19 46 40.8**	**+1.0**
	0.2nm,0.4s,mb3.4,baz=353,slow=8.5,SNR=6.1						
WRA				pP	pP	19 46 51.7	+3.4
	0.8nm,0.8s,baz=353,slow=8.4,SNR=7.0						
ASAR	**Alice Springs**	**50.06**	**175**	P	**P**	**19 47 10.9**	**+2.9**
	0.3nm,0.6s,mb3.5,baz=6.4,slow=14,SNR=5.1						
ASAR				pP	pP	19 47 21.8	+5.2
	0.3nm,0.5s,baz=6.5,slow=14,SNR=8.5						
FINES	**FINESS Array B**	**73.25**	**331**	P	**P**	**19 49 45.2**	**+0.9**
	0.3nm,0.4s,mb3.6,baz=59,slow=5.4,SNR=4.5						

JMA 11 19:40:29.1±0.1, 2648N×12972E, h44km, M3.2
ISCJB 11 19:40:30.3±0.6, 2653N±004×12965E±004, h41km, mb3.8/9, Error ellipse: s-maj=6.1km s-min=4.5km az=107.3
IDC 11 19:40:33.3±1.0, 2642N×12949E, h42km±9km, mb3.3/5, mb1 3.5/6, mb1mx3.4/19, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=22.2km s-min=7.6km az=32.0
NEIC 11 19:40:33.2±0.6, 2640N×12945E, mb4.2/4, Error ellipse: s-maj=14.6km s-min=10.3km az=70.0
ISC 11 19:40:29.8±2.2, **2655N**±004×**12963E**±005, **h20**km±17km, **h40**km±1.5km**:pP-P, n23**, σ**0s86**/33, **mb3.8**/9, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.24**	**283**	P	**Pn**	**19 40 52.1**	**+0.1**
	86nm,0.3s,baz=124,slow=18,SNR=18						
JOW				S	**Sn**	**19 41 07.5**	**-0.5**
	61nm,0.3s,baz=119,slow=23,SNR=18						
JOW	**Kunigami**	**1.24**	**283**	P	**Pn**	**19 40 52.0**	**0.0**
JOW				*e*S	**Sn**	**19 41 08.2**	**+0.1**
JTK	**Tokunoshima**	**1.37**	**334**	P	**Pn**	**19 40 54.0**	**+0.3**
JTK				*e*S	**Sn**	**19 41 11.1**	**-0.1**
JIH	**Iheya**	**1.56**	**288**	P	**Pn**	**19 40 56.8**	**+0.5**
JIH				*e*S	**Sn**	**19 41 16.2**	**+0.3**
JMZ	**Minamidaito 2**	**1.61**	**117**	P	**Pn**	**19 40 54.0**	**-3.0**
JJT2	**Tamagusuku 2**	**1.74**	**257**	P	**Pn**	**19 40 58.8**	**0.0**
JJT2				*e*S	**Sn**	**19 41 19.8**	**-0.5**
NAH1	**Naha**	**1.77**	**259**	P	**Pn**	**19 40 59.5**	**+0.2**
NAH1				S	**Sn**	**19 41 20.7**	**-0.5**
JZK	**Kikaishima**	**1.78**	**10**	P	**Pn**	**19 40 59.8**	**+0.4**
JZK				S	**Sn**	**19 41 22.2**	**+0.8**
JAM	**Amami Oshima**	**1.85**	**359**	P	**Pn**	**19 41 00.1**	**-0.2**
JAM				*e*S	**Sn**	**19 41 21.8**	**-1.3**
JAGN	**Aguni-jima**	**2.14**	**271**	P	**Pn**	**19 41 04.6**	**+0.3**
JAGN				*e*S	**Sn**	**19 41 30.3**	**+0.1**
JKE	**Kume jima 2**	**2.56**	**266**	P	**Pn**	**19 41 09.5**	**-0.6**
JKE				*e*S	**Sn**	**19 41 39.6**	**-1.0**
JNN	**Nakanoshima**	**3.28**	**4**	*e*S	**Sn**	**19 41 56.9**	**-1.5**
MJAR	**Matsushiro Arr**	**12.35**	**34**	P	**Pn**	**19 43 29.1**	**+4.7**
	0.2nm,0.3s,baz=203,slow=12,SNR=3.2						
SONM	**Songino Array**	**27.98**	**325**	P	**P**	**19 46 21.5**	**+2.5**
	0.2nm,0.2s,mb3.4,baz=160,slow=4.6,SNR=3.2						
SONM				pP	pP	19 46 32.2	+7.0
	0.3nm,0.6s,baz=178,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**42.26**	**311**	P	**P**	**19 48 21.9**	**+0.3**
	0.3nm,0.6s,mb3.1,baz=97,slow=12,SNR=4.2						
WRAB	**Tennant Creek**	**46.44**	**174**	*e*P	**P**	**19 48 54.8**	**-0.2**
	2.3nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**46.44**	**174**	P	**P**	**19 48 54.8**	**-0.3**
	0.4nm,0.4s,mb3.7,baz=353,slow=8.4,SNR=8.2						
WRA				pP	pP	19 49 06.0	+4.4
	0.8nm,0.5s,baz=354,slow=8.1,SNR=5.0						
ASAR	**Alice Springs**	**50.10**	**175**	P	**P**	**19 49 23.9**	**+0.6**
	0.4nm,0.5s,mb3.7,baz=5.0,slow=12,SNR=8.0						
ASAR				pP	pP	19 49 36.1	+6.3
	0.7nm,0.5s,baz=4.4,slow=14,SNR=5.0						
ZRNK	**Zerenda**	**51.69**	**318**	*e*P	**P**	**19 49 36.1**	**+0.8**
	1.8nm,0.9s,mb4.0						
ARU	**Arti**	**57.91**	**322**	P	**P**	**19 50 21.9**	**+1.5**
	4.9nm,1.3s,mb4.4						
INK	**Inuvik**	**68.10**	**23**	P	**P**	**19 51 24.6**	**-3.5**
	2.1nm,1.0s,mb4.1						
FINES	**FINESS Array B**	**73.20**	**331**	P	**P**	**19 51 59.0**	**-0.1**
	0.4nm,0.4s,mb3.7,baz=84,slow=5.9,SNR=6.6						
FINES	**FINESS Array B**	**73.20**	**331**	P	**P**	**19 51 59.0**	**-0.2**

ISCJB 11 19:48:20.0±0.4, 960N±003×12569E±006, h132km±3km, mb4.3/29, Error ellipse: s-maj=9.5km s-min=4.7km az=145.4
NEIC 11 19:48:19.4±0.3, 966N×12578E, mb4.6/15, Error ellipse: s-maj=10.5km s-min=5.7km az=76.0
IDC 11 19:48:20.1±0.8, 957N×12556E, h118km±7km, mb4.0/12, mb1 4.1/12, mb1mx4.0/18, mbtmp4.3/12, MS3.3/1, Ms1 3.3/1, ms1mx2.8/26, Error ellipse: s-maj=36.3km s-min=11.3km az=75.0
MAN 11 19:48:21.2, 957N×12564E, h111km, mb3.9, ML4.9, MS2.5
ISC 11 19:48:20.9±0.4, **961N**±003×**12571E**±006, **h125**km±3km, **h118**km±1.7km**:pP-P, n69**, σ**0s99**/74, **mb4.4**/29, **3C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.65**	**187**	*e*P	**Pn**	**19 48 39.9**	**+4.9**
BUTP				*e*S	**Sn**	**19 48 56.0**	**+0.8**
MSLP	**Maasin**	**0.98**	**302**	*e*P	**Pn**	**19 48 43.1**	**+3.6**
MSLP				*e*S	**Sn**	**19 49 00.1**	**-0.1**
CGP	**Cagayan de Oro**	**1.52**	**221**	⇓*i*P	**Pn**	**19 48 48.1**	**+1.2**
CGP				*e*S	**Sn**	**19 49 08.9**	**-1.5**
PLP	**Palo**	**1.70**	**335**	*e*P	**Pn**	**19 48 51.1**	**+1.9**
PLP						19 49 13.5	
OCLP	**Ormoc**	**1.79**	**323**	*e*P	**Pn**	**19 48 53.0**	**+2.6**
OCLP				*e*S	**Sn**	**19 49 17.4**	**+1.6**
TBP	**Tagbilaran**	**1.82**	**273**	*e*P	**Pn**	**19 48 52.0**	**+1.2**
TBP				*e*S	**Sn**	**19 49 15.1**	**-1.4**
BUKP	**Musuan**	**1.84**	**200**	*e*P	**Pn**	**19 48 52.8**	**+1.7**
BUKP				*e*S	**Sn**	**19 49 18.6**	**+1.7**
LLP	**Lapu-Lapu**	**1.85**	**292**	⇑*i*P	**Pn**	**19 48 52.9**	**+1.6**
LLP				*i* S	**Sn**	**19 49 15.8**	**-1.4**
BESP	**Borongan**	**1.99**	**352**	*e*P	**Pn**	**19 48 54.4**	**+1.3**
DAV	**Davao City (W)**	**2.53**	**183**	*e*Pn	**Pn**	**19 49 00.1**	**-0.4**
KCP	**Kidapawan**	**2.66**	**193**	⇑*e*P	**Pn**	**19 49 06.3**	**+4.1**
MATI	**Mati**	**2.71**	**168**	*e*P	**Pn**	**19 49 04.2**	**+1.3**
MATI				*e*S	**Sn**	**19 49 39.4**	**+3.0**
CTBH	**Cotabato--PC H**	**2.78**	**211**	*e*P	**Pn**	**19 49 04.1**	**+0.3**
CTBH				*i* S	**Sn**	**19 49 23.5**	**-15**
PAGZ	**Pagadian**	**2.89**	**233**	*e*P	**Pn**	**19 49 05.9**	**+0.6**
GUIM	**Jordan**	**3.23**	**288**	*e*P	**Pn**	**19 49 10.1**	**+0.2**
RCP	**Roxas**	**3.49**	**304**	⇓*e*P	**Pn**	**19 49 15.1**	**+1.6**
IPIL	**Ipil**	**3.59**	**240**	⇑*e*P	**Pn**	**19 49 15.1**	**+0.3**
IPIL	**Ipil**	**3.59**	**240**	*e*P	**Pn**	**19 49 15.2**	**+0.4**
PVCP	**Virac**	**4.24**	**339**	*e*P	**Pn**	**19 49 23.1**	**-0.4**
KKM	**Kota Kinabalu**	**10.05**	**250**	*e*Pn	**Pn**	**19 50 40.6**	**-1.3**
YHNB	**Yeheng**	**15.53**	**345**	Pn	**Pn**	**19 51 58.4**	**+5.4**
KSM	**Kuching**	**17.32**	**243**	*e*P	**Pn**	**19 52 15.7**	**+0.9**
KAKA	**Kakadu**	**23.17**	**163**	*e*P	**P**	**19 53 16.5**	**+0.2**
	12nm,0.6s,mb4.4						
KULM	**Kulim**	**25.21**	**262**	*e*P	**P**	**19 53 35.8**	**+1.0**
FITZ	**Fitzroy Crossi**	**27.54**	**180**	*e*P	**P**	**19 53 55.8**	**0.0**
	14nm,1.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.54**	**180**	P	**P**	**19 53 55.8**	**0.0**
	1.9nm,0.7s,mb3.7,baz=14,slow=11,SNR=10						
WRAB	**Tennant Creek**	**30.57**	**164**	*e*P	**P**	**19 54 19.5**	**-3.2**
	21nm,1.4s,mb4.7						
WRAB				*e*		19 54 56.0	
WRA	**Warramunga Arr**	**30.57**	**164**	P	**P**	**19 54 21.8**	**-0.9**
	1.2nm,0.6s,mb3.8,baz=343,slow=9.4,SNR=16						
WB2	**Warramunga Arr**	**30.58**	**164**	*e*P	**P**	**19 54 22.2**	**-0.5**
MBWA	**Marble Bar**	**31.14**	**191**	*e*P	**P**	**19 54 27.1**	**-0.6**
	42nm,1.3s,mb5.0						
AS31	**Alice Springs**	**34.03**	**166**	*e*P	**P**	**19 54 53.1**	**+0.2**
ASAR	**Alice Springs**	**34.03**	**166**	P	**P**	**19 54 52.0**	**-0.8**
	2.4nm,0.5s,mb4.3,baz=340,slow=6.7,SNR=38						
ASPA	**Alice Springs**	**34.03**	**166**	*e*P	**P**	**19 54 53.1**	**+0.2**
CTAO	**Charters Tower**	**35.78**	**146**	*e*P	**P**	**19 54 59.3**	**-8.6**
	13nm,1.2s,mb4.7						
ASAJ	**Asahikawa**	**37.37**	**20**	P	**P**	**19 55 23.1**	**+1.8**
	5.1nm,0.8s,mb4.5,baz=249,slow=6.8,SNR=4.2						
YSS	**Yuzh-Sakhalins**	**39.94**	**18**	P	**P**	**19 55 41.9**	**-0.9**
	11nm,1.1s,mb4.6						
FORT	**Forrest**	**40.22**	**177**	*e*P	**P**	**19 55 45.5**	**+0.4**
	29nm,0.6s,mb5.3						
ULN	**Ulaanbaatar**	**41.25**	**341**	P	**P**	**19 55 53.4**	**-0.2**
ULN				*e*	pP	19 56 19.2	-2.5
JIRN	**Jiri**	**41.29**	**301**	*e*P	**P**	**19 55 55.4**	**+1.5**
SONM	**Songino Array**	**41.44**	**340**	P	**P**	**19 55 55.0**	**-0.1**
	0.2nm,0.5s,mb3.2,baz=146,slow=8.4,SNR=2.8						
SONM				pP	pP	19 56 22.1	-1.2
	0.6nm,0.6s,baz=157,slow=7.5,SNR=4.4						
SONM				sP	sP	19 56 35.1	-2.5
	0.8nm,0.7s,baz=147,slow=8.5,SNR=4.4						
SONM				ScP	ScP	20 01 28.3	-0.7
	1.1nm,1.0s,baz=151,slow=3.3,SNR=4.9						
SONM				LR	LR	20 15 19.1	
	comp=Z,42nm,20.2s,baz=350,slow=39						
GUN	**Gumba**	**41.63**	**301**	*e*P	**P**	**19 55 58.1**	**+1.5**
KLBR	**Kellerberrin**	**41.67**	**190**	⇓*i*P	**P**	**19 55 57.1**	**+0.1**
	11nm,0.5s,mb4.8						
PKI	**Pulchoki**	**41.92**	**301**	*e*P	**P**	**19 56 01.3**	**+2.3**
KKN	**Kakani**	**42.09**	**301**	*e*P	**P**	**19 56 01.5**	**+1.1**
	41nm,1.3s,mb5.0						
DMN	**Daman**	**42.19**	**301**	*e*P	**P**	**19 56 02.1**	**+0.9**
	20nm,1.0s,mb4.8						
MUN	**Mundaring**	**42.34**	**192**	*e*P	**P**	**19 56 03.0**	**+0.6**
GKN	**Gorkha**	**42.70**	**301**	*e*P	**P**	**19 56 05.3**	**-0.1**
NWAO	**Narrogin (SRO)**	**43.07**	**190**	P	**P**	**19 56 09.0**	**+0.7**
	28nm,0.7s,mb5.1,baz=6.5,slow=8.4,SNR=18						
NWAO	**Narrogin (SRO)**	**43.07**	**190**	*e*P	**P**	**19 56 08.1**	**-0.2**
	21nm,0.6s,mb5.0						
KOLN	**Koldanda**	**43.51**	**300**	*e*P	**P**	**19 56 13.0**	**+1.1**
	21nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**43.97**	**160**	*e*P	**P**	**19 56 16.1**	**+0.6**
	2.9nm,0.3s,mb4.5						
STKA	**Stephens Creek**	**43.97**	**160**	P	**P**	**19 56 15.7**	**+0.2**
	4.7nm,0.5s,mb4.5,baz=340,slow=5.6,SNR=19						
PALK	**Pallekele**	**44.55**	**271**	P	**P**	**19 56 21.5**	**+1.3**
	18nm,1.1s,mb4.7						
MKAR	**Makanchi Array**	**52.21**	**323**	P	**P**	**19 57 18.6**	**-0.2**
	1.3nm,0.8s,mb4.0,baz=120,slow=8.9,SNR=12						
MKAR				pP	pP	19 57 46.5	-1.8
	0.9nm,0.6s,baz=118,slow=7.8,SNR=4.0						
KURK	**Kurchatov**	**56.29**	**326**	*e*P	**P**	**19 57 47.1**	**-1.3**
	1.4nm,0.6s,mb4.2						
KURK				*e*		19 58 06.8	
ZRNK	**Zerenda**	**62.63**	**325**	*e*P	**P**	**19 58 29.9**	**-2.0**
	2.1nm,0.6s,mb4.2						
ARU	**Arti**	**69.47**	**327**	*e*P	**P**	**19 59 14.4**	**-1.2**
	2.7nm,0.8s,mb4.1						
JOF	**Joensuu**	**83.52**	**333**	*e*p	**P**	**20 00 33.6**	**-1.1**
	0.8nm,0.4s,mb3.9						
ARCES	**ARCESS Array B**	**84.61**	**340**	P	**P**	**20 00 39.8**	**-0.5**
	3.8nm,0.9s,mb4.3,baz=64,slow=11,SNR=3.6						
INK	**Inuvik**	**85.10**	**22**	*e*P	**P**	**20 00 41.1**	**-1.6**
	3.9nm,1.2s,mb4.2						
BRTR	**Keskin Array B**	**85.52**	**309**	P	**P**	**20 00 44.6**	**-0.2**
	0.9nm,0.7s,mb3.8,baz=104,slow=5.2,SNR=5.3						
FINES	**FINESS Array B**	**86.20**	**332**	P	**P**	**20 00 47.5**	**-0.6**
	0.7nm,0.3s,mb4.0,baz=68,slow=4.7,SNR=12						
AKASG	**Malin Array Be**	**86.72**	**321**	pP	pP	20 01 20.7	-2.1
	0.1nm,0.3s,baz=68,slow=4.2,SNR=2.1						
KMBO	**Kilima Mbogo**	**88.66**	**269**	P	**P**	**20 01 00.5**	**+0.6**
	2.3nm,0.8s,mb4.2,baz=62,slow=10,SNR=4.9						
KMBO	**Kilima Mbogo**	**88.66**	**269**	P	**P**	**20 01 00.5**	**+0.6**
VNDA	**Vanda**	**89.35**	**173**	P	**P**	**20 01 02.8**	**-0.4**
	1.2nm,0.6s,mb4.1,baz=316,slow=5.2,SNR=12						
TORD	**Torodi Ar. Bea**	**119.99**	**291**	PKP	PKPdf	20 06 57.3	+0.7
	1.4nm,0.8s,baz=89,slow=2.7,SNR=8.6						
PLCA	**Paso Flores**	**145.82**	**158**	PKPbc	PKPbc	20 07 46.4	+1.0
	4.0nm,1.0s,baz=132,slow=4.8,SNR=3.6						
PLCA	**Paso Flores**	**145.82**	**158**	PKPbc	PKPbc	20 07 46.4	+1.0

IDC 11 19:50:06.2±3.4, **504S**×**15063E, h0**km**, mb4.0**/3**, mb1 4.3**/4**, mb1mx3.9**/13**, mbtmp4.1**/4**, ML3.3**/1**, MS3.4**/4**, Ms1 3.4**/4**, ms1mx2.7**/24**, Error ellipse: s-maj=108.9km s-min=39.3km az=118.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.54**	**218**	Pn	Pn	19 51 32.0	+2.1
	5.8nm,0.3s,baz=44,slow=10,SNR=30						
PMG				Sn	Sn	19 52 37.1	+2.8
	2.1nm,0.3s,baz=148,slow=19,SNR=4.1						
CTA	**Charters Tower**	**15.56**	**196**	LR	LR	19 59 03.1	
	comp=Z,101nm,21.3s,baz=30,slow=34						
WRA	**Warramunga Arr**	**21.70**	**226**	P	P	19 54 58.4	-0.3
	4.1nm,0.8s,baz=51,slow=11,SNR=15						
ASAR	**Alice Springs**	**24.56**	**219**	P	P	19 55 27.1	-0.5
	2.6nm,0.9s,baz=55,slow=8.1,SNR=12						
FITZ	**Fitzroy Crossi**	**27.66**	**240**	P	P	19 55 56.0	+0.3
	4.2nm,0.8s,baz=44,slow=4.9,SNR=6.9						
STKA	**Stephens Creek**	**28.01**	**197**	LR	LR	20 07 34.7	
	comp=Z,54nm,19.7s,baz=210,slow=37						
BVAR	**Borovoye Array**	**88.14**	**323**	LR	LR	20 44 48.1	
	comp=Z,22nm,18.5s,baz=75,slow=37						
AKTO	**Aktyubinsk**	**95.52**	**320**	LR	LR	20 50 08.9	
	comp=Z,23nm,18.7s,baz=97,slow=38						
TORD	**Torodi Ar. Bea**	**148.32**	**287**	PKPbc	PKPbc	20 09 55.6	+1.3
	0.3nm,0.6s,baz=76,slow=2.2,SNR=3.5						

IDC 11 19:58:39.0±3.5, **500S**×**15091E, h0**km**, mb3.8**/4**, mb1 4.0**/5**, mb1mx3.8**/13**, mbtmp3.9**/5**, ML2.9**/1**, MS3.8**/2**, Ms1 3.8**/2**, ms1mx3.0**/20**, Error ellipse: s-maj=77.2km s-min=41.3km az=165.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.75**	**220**	Pn	Pn	20 00 06.7	+1.2
	1.9nm,0.3s,baz=45,slow=16,SNR=12						
PMG				Sn	Sn	20 01 12.3	+0.2
	1.5nm,0.3s,baz=243,slow=12,SNR=4.5						
HNR	**Honiara**	**9.98**	**117**	LR	LR	20 04 40.7	
	comp=Z,90nm,18.1s,baz=359,slow=36						
WRA	**Warramunga Arr**	**21.93**	**226**	P	P	20 03 33.4	-0.5
	1.7nm,0.8s,baz=52,slow=10,SNR=9.5						
ASAR	**Alice Springs**	**24.76**	**220**	P	P	20 04 03.1	+0.9
	1.0nm,0.7s,baz=53,slow=8.5,SNR=16						
FITZ	**Fitzroy Crossi**	**27.92**	**240**	P	P	20 04 31.0	+0.3
	2.4nm,0.6s,baz=75,slow=8.3,SNR=11						
JHJ	**Hachijo jima 2**	**39.35**	**345**	LR	LR	20 18 04.0	
	comp=Z,673nm,21.7s,baz=315,slow=30						
VNDA	**Vanda**	**72.70**	**178**	P	P	20 10 08.2	-0.5
	0.5nm,0.6s,baz=354,slow=7.7,SNR=5.3						

ISCJB 11 20:00:48.0±1.2, 4279N±007×047E±004, h12km±11km, Error ellipse: s-maj=11.6km s-min=5.0km az=3.5
STR 11 20:00:48.3±0.6, 4278N×048E, h10km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG 11 20:00:48.8±0.1, 4280N×048E, h2km, Md1.7/2, Error ellipse: s-maj=2.3km s-min=0.9km az=3.0
MDD 11 20:00:49.3±0.9, 4280N×045E, h0km, mbLg0.7/1, Error ellipse: s-maj=8.8km s-min=2.9km az=106.0, PRXIMO SIN SOLUCIN
ISC 11 20:00:48.6±1.1, **4279N**±007×**047E**±004, **h9**km±12km, **n8**, σ**0s15**/13, **1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RESF	**Ens**	**0.10**	**279**	Pg	**Pg**	**20 00 51.1**	**0.0**
RESF				Sg	**Sg**	**20 00 52.8**	**0.0**
MELF	**Melles**	**0.23**	**69**	Pg	**Pg**	**20 00 53.3**	**+0.1**
MELF				Sg	**Sg**	**20 00 56.3**	**0.0**
EPF	**Esparros**	**0.26**	**338**	*e*Pg	**Pg**	**20 00 53.9**	**+0.1**
EPF				*e*Sg	**Sg**	**20 00 57.2**	**-0.1**
	1.7nm,0.3s						
EPF	**Esparros**	**0.26**	**338**	Pg	**Pg**	**20 00 53.9**	**+0.1**
EPF				Lg		20 00 57.2	
	0.9nm,0.3s						
EBIE	**Bielsa**	**0.26**	**246**	⇑Pg	**Pg**	**20 00 54.0**	**+0.1**
	1.0nm,0.1s,SNR=18						
EBIE				Lg		20 00 57.5	
	0.3nm,0.0s,SNR=7.9						
SALF	**Salau**	**0.53**	**93**	Pg	**Pg**	**20 00 58.7**	**-0.2**
SALF				Sg	**Sg**	**20 01 05.8**	**0.0**
ETSF	**Etsaut**	**0.77**	**278**	*e*Pg	**Pg**	**20 01 03.6**	**+0.3**
ETSF				*e*Sg	**Sg**	**20 01 13.0**	**-0.3**
	0.4nm,0.2s						
ETSF	**Etsaut**	**0.77**	**278**	Pg	**Pg**	**20 01 03.6**	**+0.3**
ETSF				Lg		20 01 13.0	
	0.2nm,0.2s						

IDC 11 20:03:13.9±3.5, **476S**×**15011E, h0**km**, mb3.7**/3**, mb1 3.9**/4**, mb1mx3.6**/13**, mbtmp3.7**/4**, ML2.5**/1**, MS2.9**/2**, Ms1 2.9**/2**, ms1mx2.8**/17**, Error ellipse: s-maj=113.8km s-min=37.5km az=113.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.47**	**212**	Pn	Pn	20 04 37.8	+1.2
	1.0nm,0.3s,baz=34,slow=11,SNR=5.6						
PMG				Sn	Sn	20 05 42.0	+1.9
	0.6nm,0.3s,baz=162,slow=20,SNR=3.1						
PMG				LR	LR	20 06 09.6	
	comp=Z,111nm,19.3s,baz=332,slow=32						
CTA	**Charters Tower**	**15.69**	**194**	LR	LR	20 12 53.4	
	comp=Z,44nm,18.7s,baz=250,slow=37						
WRA	**Warramunga Arr**	**21.53**	**224**	P	P	20 08 03.9	-0.6
	0.8nm,0.5s,baz=48,slow=10,SNR=14						
ASAR	**Alice Springs**	**24.45**	**218**	P	P	20 08 33.7	-0.6
	1.1nm,0.6s,baz=53,slow=8.7,SNR=20						
FITZ	**Fitzroy Crossi**	**27.36**	**239**	P	P	20 09 02.2	+1.6
	1.5nm,0.8s,baz=58,slow=10,SNR=5.7						
TORD	**Torodi Ar. Bea**	**147.74**	**287**	PKPbc	PKPbc	20 23 01.1	+0.6
	0.7nm,0.8s,baz=53,slow=2.6,SNR=5.1						

TRN 11 20:13:52.3, 1859N×6331W, h10km
NEIC 11 20:13:54.4, 1875N×6308W, h25km, MD3.7(RSPR), After RSPR.
RSPR 11 20:13:54.4, 1875N×**6308W, h25**km±44km**, MD3.7**/3**, MD3.7**/3**, 7C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.49**	**257**	*e*S	Sn	20 14 36.4	-1.8
STVI	**Saint Thomas**	**1.83**	**258**	⇑*e*P	Pn	20 14 21.9	-2.3
STVI				*e*S	Sn	20 14 43.5	-3.1
CDVI	**St. Croix**	**1.89**	**238**	*e*S	Sn	20 14 45.1	-3.0
MTP	**Monte Pirata**	**2.44**	**255**	*e*P	Pn	20 14 31.6	-1.1
MTP				*e*S	Sn	20 14 59.9	-1.9
CBYP	**Canovanas**	**2.68**	**260**	⇑*e*P	Pn	20 14 34.1	-1.8
CBYP				*e*S	Sn	20 15 05.6	-2.0
HUMP	**Col San Antoni**	**2.70**	**257**	⇑*e*P	Pn	20 14 34.6	-1.7
HUMP				*e*S	Sn	20 15 05.2	-2.9
HUMP	**Col San Antoni**	**2.70**	**257**	⇑*e*P	Pn	20 14 34.6	-1.7
HUMP				*e*S	Sn	20 15 05.2	-2.9
LSP	**Las Mesas**	**3.84**	**262**	⇑*e*P	Pn	20 14 51.1	-0.9
LSP				*e*S	Sn	20 15 33.5	-2.9
LSP	**Las Mesas**	**3.84**	**262**	⇑*e*P	Pn	20 14 51.1	-0.9
LSP				*e*S	Sn	20 15 33.5	-2.9
LSP	**Las Mesas**	**3.84**	**262**	⇑*e*P	Pn	20 14 51.1	-0.9
LSP				*e*S	Sn	20 15 33.5	-2.9
CRPR	**Cabo Rojo, PR**	**3.90**	**260**	*e*P	Pn	20 14 50.7	-2.0
CRPR				*e*S	Sn	20 15 36.8	-0.9

ISCJB 11 20:16:14.3±3.3, 1892S±007×6324W±007, h11km±22km, mb4.4/4, MS3.3/1, Error ellipse: s-maj=11.9km s-min=11.1km az=85.9
IDC 11 20:16:15.5±1.1, 1902S×6326W, h0km, mb4.6/2, mb1 4.4/6, mb1mx4.0/19, mbtmp4.3/6, ML4.7/4, MS3.2/2, Ms1 3.1/2, ms1mx2.7/22, Error ellipse: s-maj=28.2km s-min=17.7km az=135.0
NEIC 11 20:16:18.0±3.0, 1905S×6326W, h22km±24km, mb4.6/2, Error ellipse: s-maj=15.1km s-min=12.4km az=98.0
ISC 11 20:16:20.0±1.0, **1904S**±007×**6333W**±007, **h36**km±12km, **n16**, σ**1s23**/21, **mb4.4**/4, **MS3.3**/1, **Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**3.72**	**36**	Pn	**Pn**	**20 17 15.7**	**+0.8**
	17nm,0.3s,baz=234,slow=9.2,SNR=203						
SIV				Sn	**Sn**	**20 17 58.2**	**+0.8**
	29nm,0.3s,baz=231,slow=14,SNR=14						
SIV				Lg		20 18 11.6	
	42nm,0.3s,baz=238,slow=18,SNR=5.3						
LPAZ	**La Paz**	**5.34**	**300**	Pn	**Pn**	**20 17 37.9**	**+0.8**
	9.7nm,0.3s,baz=130,slow=11,SNR=231						
LPAZ				Sn	**Sn**	**20 18 36.8**	**-0.5**
	9.9nm,0.3s,baz=270,slow=18,SNR=7.9						
LPAZ				Lg		20 18 59.7	
	3.4nm,0.3s,baz=60,slow=20,SNR=2.0						
LPAZ	**La Paz**	**5.34**	**300**	Pn	**Pn**	**20 17 37.9**	**+0.8**
LPAZ				Sn	**Sn**	**20 18 36.8**	**-0.5**
LPAZ				Lg		20 18 59.7	
LVC	**Limon Verde**	**6.32**	**235**	Pn	**Pn**	**20 17 51.7**	**+1.2**
	5.6nm,0.3s,baz=19,slow=6.4,SNR=42						
LVC				Sn	**Sn**	**20 19 06.9**	**+5.5**
	baz=272,slow=17,SNR=3.0						
LVC	**Limon Verde**	**6.32**	**235**	*e*Pn	**Pn**	**20 17 51.4**	**+0.8**
LVC				Pn	**Pn**	**20 17 51.8**	**+1.2**
LVC				Sn	**Sn**	**20 19 07.0**	**+5.5**
CPUP	**Villa Florida**	**9.12**	**144**	Pn	**Pn**	**20 18 27.6**	**-1.4**
	1.3nm,0.3s,baz=317,slow=14,SNR=7.1						
CPUP	**Villa Florida**	**9.12**	**144**	*e*Pn	**Pn**	**20 18 27.0**	**-2.0**
CPUP				Pn	**Pn**	**20 18 27.6**	**-1.4**
SAML	**Samuel**	**10.04**	**1**	*e*Pn	**Pn**	**20 18 39.3**	**-2.3**
	4.5nm,0.7s						
SAML				*e*Sn	**Sn**	**20 20 27.4**	**-5.4**
BDFB	**Brasilia**	**15.00**	**79**	LR	LR	20 25 45.8	
	comp=Z,52nm,18.7s,baz=1.3,slow=38						
PCRV	**Puerto La Cruz**	**29.06**	**357**	LR	LR	20 34 41.9	
	comp=Z,75nm,20.1s,MS3.3,baz=141,slow=38						
SADO	**Sadowa**	**65.12**	**348**	P	**P**	**20 26 57.2**	**+0.3**
	2.3nm,0.6s,mb4.4,baz=202,slow=11,SNR=5.2						
QSPA	**South Pole Qui**	**71.14**	**180**	*e*P	**P**	**20 27 35.0**	**+0.2**
	1.5nm,0.7s,mb4.0						
TORD	**Torodi Ar. Bea**	**71.59**	**69**	P	**P**	**20 27 38.9**	**+1.5**
	1.8nm,0.6s,mb4.2,baz=256,slow=6.0,SNR=31						
TORD	**Torodi Ar. Bea**	**71.59**	**69**	P	**P**	**20 27 38.9**	**+1.5**
ESK	**Eskdalemuir**	**89.81**	**30**	P	**P**	**20 29 12.9**	**-1.8**
	8.7nm,1.0s,mb5.0						
SONM	**Songino Array**	**150.08**	**14**	PKPbc	PKPbc	20 36 07.9	+1.2
	0.6nm,0.5s,baz=327,slow=1.5,SNR=6.7						
SONM				PKPab	PKPab	20 36 13.1	+0.5
	0.4nm,0.5s,baz=339,slow=2.6,SNR=4.2						

NEIC 11 20:20:20.9, 1568N×6145W, h23km, MD3.4(TRN), After TRN.
TRN 11 20:20:19.6, 1573N×**6149W, h22**km**, MD3.3, M3.5**(FDF)**, 10C-4D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBG	**Guadaloupe-3**	**0.20**	**309**	⇑*i*P	Pb	20 20 25.7	+0.9
TBG				*e*S	Sb	20 20 29.1	+0.7
BBL	**Barber's Block**	**0.20**	**176**	⇓*i*P	Pb	20 20 25.8	+0.9
DWS	**Wesley**	**0.23**	**133**	⇑*i*P	Pb	20 20 27.4	+2.1
DWS				*e*S	Sb	20 20 31.6	+2.4
MGG	**Marie-Galante**	**0.25**	**41**	⇑*i*P	Pb	20 20 27.6	+2.0
PHG	**Guadaloupe-2**	**0.32**	**332**	⇑*e*P	Pb	20 20 28.6	+1.9
HMG	**Houelmont**	**0.33**	**321**	⇑*e*P	Pb	20 20 28.3	+1.5
SCG	**Saint Claude**	**0.35**	**328**	⇑*i*P	Pb	20 20 28.9	+1.7
MDN	**Morne-Daniel**	**0.42**	**168**	⇓*e*P	Pb	20 20 30.7	+2.4
MDN				*e*S	Sb	20 20 36.9	+2.7
DBCT	**Belle View Cho**	**0.47**	**163**	*e*P	Pb	20 20 31.9	+2.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DBCT				eS	Sb	20 20 39.2	+3.3
LZG	**Guadaloupe-1**	**0.49**	**326**	⇑iP	Pb	20 20 31.3	+1.7
DSHT	**Scott's Head**	**0.52**	**168**	eP	Pb	20 20 32.7	+2.6
DSHT				eS	Sb	20 20 40.5	+3.3
SFG	**Saint Francois**	**0.59**	**28**	eP	Pb	20 20 33.1	+1.9
SEG	**Port Louis**	**0.67**	**358**	⇑iP	Pb	20 20 34.5	+2.0
DEG	**La Desirade**	**0.71**	**35**	⇑iP	Pb	20 20 34.7	+1.4
FDF	**Fort de France**	**1.04**	**162**	⇑eP	Pn	20 20 40.3	+1.5
FDF				eS	Sb	20 20 56.1	+4.0
CRM	**Caravelle**	**1.11**	**150**	⇓eP	Pn	20 20 41.2	+1.3
BIM	**Bigot**	**1.27**	**162**	eP	Pn	20 20 44.5	+2.5
MVM	**Montagne Vaucl**	**1.30**	**154**	⇓eP	Pn	20 20 44.3	+1.9
MVM				eS	Sn	20 21 01.9	+2.8
BPA	**Boggy Peak**	**1.36**	**345**	eP	Pn	20 20 46.8	+3.6
BPA				eS	Sn	20 21 05.2	+4.7
CPB	**Codrington**	**1.93**	**350**	eP	Pn	20 20 54.8	+3.8
CPB				eS	Sn	20 21 20.2	+5.5

*ISCJB **11** 20:30:00.5±1.5, 6.81S±0.05×129.56E±0.08, h133km±15km, mb4.5/17, Error ellipse: s-maj=14.7km s-min=7.4km az=135.5*
*IDC **11** 20:30:00.9±5.2, 6.71S×129.62E, h116km±51km, mb4.1/8, mb1 4.3/11, mb1mx4.1/17, mbtmp4.6/11, Error ellipse: s-maj=42.1km s-min=20.8km az=57.0*
*NEIC **11** 20:30:01.3±1.8, 6.75S×129.58E, h124km±19km, mb4.5/13, Error ellipse: s-maj=14.8km s-min=10.7km az=49.0*
ISC 11 20:30:01.2±1.8**, 6.76S**±0.09×**129.62E**±0.09**, h121**km±19km**, n41, σ1.12**/48**, mb4.6**/17**, 2D, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.54**	**155**	⇓iP	**Pn**	**20 31 37.4**	**+2.5**
	236nm,0.4s						
KAKA				eS	**Sn**	**20 32 47.0**	**-1.1**
FITZ	**Fitzroy Crossi**	**11.93**	**199**	eP	**Pn**	**20 32 47.3**	**0.0**
	29nm,0.4s						
FITZ				eS	**Sn**	**20 34 52.9**	**-5.7**
FITZ	**Fitzroy Crossi**	**11.93**	**199**	P	**Pn**	**20 32 47.6**	**+0.3**
	3.1nm,0.3s,baz=24,slow=12,SNR=94						
FITZ				S	**Sn**	**20 34 51.9**	**-6.6**
	3.8nm,0.3s,baz=73,slow=19,SNR=6.1						
WRAB	**Tennant Creek**	**13.88**	**161**	ePn	**Pn**	**20 33 11.2**	**-1.6**
	51nm,0.4s						
WRAB				eSn	Sn	20 35 23.8	-22
WRA	**Warramunga Arr**	**13.89**	**161**	P	**Pn**	**20 33 11.8**	**-1.0**
	6.1nm,0.3s,baz=338,slow=13,SNR=221						
WRA				S	**Sn**	**20 35 36.7**	**-9.3**
	6.6nm,0.3s,baz=340,slow=22,SNR=8.7						
WB2	**Warramunga Arr**	**13.89**	**161**	⇓iP	**Pn**	**20 33 10.8**	**-2.0**
WB2				eS	**Sn**	**20 35 38.2**	**-7.9**
MBWA	**Marble Bar**	**17.22**	**213**	ePn	**Pn**	**20 33 55.6**	**+1.4**
	34nm,1.2s						
AS31	**Alice Springs**	**17.31**	**167**	eP	**Pn**	**20 33 56.5**	**+1.2**
AS31				eS	**S**	**20 37 00.7**	**-7.4**
ASAR	**Alice Springs**	**17.31**	**167**	P	**Pn**	**20 33 56.5**	**+1.2**
	6.8nm,0.3s,baz=344,slow=9.3,SNR=317						
ASAR				S	**S**	**20 36 59.4**	**-8.8**
	1.1nm,0.3s,baz=340,slow=22,SNR=5.4						
ASPA	**Alice Springs**	**17.31**	**167**	eP	**Pn**	**20 33 56.5**	**+1.2**
ASPA				eS	**S**	**20 37 00.7**	**-7.5**
PMG	**Port Moresby**	**17.57**	**100**	ePn	**Pn**	**20 33 57.8**	**-0.6**
CTA	**Charters Tower**	**20.89**	**131**	eP	**P**	**20 34 35.5**	**+1.8**
	5.4nm,0.8s						
CTA	**Charters Tower**	**20.89**	**131**	P	**P**	**20 34 35.4**	**+1.6**
	5.3nm,0.5s,baz=300,slow=12,SNR=10.0						
CTAO	**Charters Tower**	**20.89**	**131**	eP	**P**	**20 34 35.2**	**+1.5**
	16nm,1.0s						
KSM	**Kuching**	**20.93**	**292**	eP	**P**	**20 34 33.1**	**-1.1**
KSM				e		20 34 50.2	
FORT	**Forrest**	**23.94**	**183**	eP	**P**	**20 35 02.6**	**-1.5**
	24nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**27.38**	**157**	eP	**P**	**20 35 35.5**	**+0.4**
	4.4nm,0.3s,mb4.5						
STKA	**Stephens Creek**	**27.38**	**157**	P	**P**	**20 35 35.8**	**+0.7**
	6.7nm,0.4s,mb4.5,baz=329,slow=8.0,SNR=36						
KULM	**Kulim**	**31.29**	**292**	eP	**P**	**20 36 08.2**	**-1.5**
BJT	**Baijiatuau**	**48.17**	**346**	eP	**P**	**20 38 28.8**	**-0.3**
	4.9nm,0.5s,mb4.6						
JIRN	**Jiri**	**54.14**	**311**	eP	**P**	**20 39 14.3**	**+0.6**
GUN	**Gumba**	**54.51**	**311**	eP	**P**	**20 39 16.6**	**+0.2**
KKN	**Kakani**	**54.89**	**311**	eP	**P**	**20 39 19.5**	**+0.3**
DMN	**Daman**	**54.93**	**311**	eP	**P**	**20 39 19.9**	**+0.5**
GKN	**Gorkha**	**55.48**	**311**	eP	**P**	**20 39 23.8**	**+0.4**
	19nm,0.3s,mb5.5						
KOLN	**Koldanda**	**56.15**	**310**	eP	**P**	**20 39 28.2**	**0.0**
	9.6nm,0.5s,mb5.1						
ULN	**Ulaanbaatar**	**57.91**	**342**	eP	**P**	**20 39 41.4**	**+0.8**
	4.3nm,0.6s,mb4.7						
SONM	**Songino Array**	**58.09**	**342**	P	**P**	**20 39 42.6**	**+0.8**
	1.0nm,0.4s,mb4.2,baz=161,slow=6.8,SNR=18						
MIDW	**Midway**	**61.81**	**53**	P	**P**	**20 40 11.3**	**+4.1**
	60nm,0.7s,mb5.7						
MKAR	**Makanchi Array**	**67.81**	**327**	P	**P**	**20 40 46.5**	**+0.4**
	3.1nm,0.3s,mb4.6,baz=117,slow=7.9,SNR=80						
YAK	**Yakutsk**	**68.58**	**0**	P	**P**	**20 40 50.3**	**-0.6**
	13nm,0.9s,mb4.8						
ZAL	**Zalesovo**	**71.20**	**334**	P	**P**	**20 41 05.8**	**-1.1**
	2.4nm,0.6s,mb4.2,baz=338,slow=6.9,SNR=9.8						
KURK	**Kurchatov**	**72.11**	**329**	eP	**P**	**20 41 12.2**	**-0.2**
	9.0nm,1.1s,mb4.5						
WSAR	**Wadi Sarin**	**75.42**	**296**	P	**P**	**20 41 33.8**	**+2.1**
	5.7nm,1.0s,mb4.3,baz=117,slow=4.5,SNR=6.0						
BVAR	**Borovoye Array**	**77.65**	**328**	P	**P**	**20 41 44.0**	**-0.3**
	3.8nm,0.9s,mb4.1,baz=134,slow=6.4,SNR=13						
CHKZ	**Chkalovo**	**77.86**	**329**	eP	**P**	**20 41 44.5**	**-0.9**
	2.7nm,1.0s,mb3.9						
ZRNK	**Zerenda**	**78.35**	**327**	eP	**P**	**20 41 47.4**	**-0.7**
	4.6nm,0.8s,mb4.3						
QSPA	**South Pole Qui**	**83.22**	**180**	P	**P**	**20 42 13.7**	**-0.3**
AKTK	**Aktyubinsk**	**83.65**	**322**	P	**P**	**20 42 16.1**	**-0.1**
AKTO	**Aktyubinsk**	**83.65**	**322**	P	**P**	**20 42 16.1**	**-0.1**
	1.6nm,0.5s,mb4.1,baz=112,slow=7.5,SNR=9.6						
TORD	**Torodi Ar. Bea**	**128.39**	**281**	PKP	PKPdf	20 48 53.9	+0.3
	0.6nm,0.6s,baz=75,slow=1.5,SNR=6.7						

PRE 11 21:00:45.3±0.7**, 19.78S**×**32.86E, h5**km**, ML3.9, Zimbabwe**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.68**	**226**	eP	Pn	21 01 44.9	+2.0
MSNA				eS	Sn	21 02 27.6	+0.9
MSNA				AML	AML	21 02 43.8	
	comp=Z,125nm,0.2s						
POGA	**Pongola**	**7.65**	**188**	eP	Pn	21 02 37.5	+0.2
POGA				eS	Sn	21 04 00.3	-4.0
POGA				AML	AML	21 04 28.9	
	comp=Z,22nm,0.5s						
UPI	**Upington**	**13.61**	**229**	eP	Pn	21 04 01.1	+2.1

KRSC 11 21:18:06, 50.17N×156.94E, h5km**, ML3.7, Kuril Islands**

*ISCJB **11** 21:23:44.6±4.1, 5.3S±0.2×150.3E±0.3, h72km±30km, mb4.2/8, Error ellipse: s-maj=47.0km s-min=24.4km az=27.3*
*NEIC **11** 21:23:44.0±4.8, 5.56S×150.68E, h68km±35km, mb4.3/6, Error ellipse: s-maj=45.5km s-min=26.9km az=92.0*
*IDC **11** 21:23:46.3±7.0, 5.57S×150.75E, h88km±48km, mb3.8/4, mb1 4.0/5, mb1mx3.7/13, mbtmp4.2/5, MS3.6/9, Ms1 3.6/9, ms1mx3.4/20, Error ellipse: s-maj=86.7km s-min=34.0km az=108.0*
ISC 11 21:23:44.4±4.0**, 5.4S**±0.2×**150.7E**±0.3**, h68**km±29km**, n24, σ0.99**/18**, mb4.2**/8**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.30**	**222**	P	**Pn**	**21 25 00.9**	**0.0**
	5.5nm,0.3s,baz=44,slow=6.4,SNR=24						
PMG				S	**Sn**	**21 26 02.4**	**+1.8**
	0.4nm,0.3s,baz=158,slow=18,SNR=3.1						
PMG				LR	LR	21 26 44.6	
	comp=Z,133nm,20.2s,baz=43,slow=34						
PMG	**Port Moresby**	**5.30**	**222**	ePn	**Pn**	**21 24 59.0**	**-2.0**
PMG				S	**Sn**	**21 26 02.5**	**+1.8**
PMG				LR	LR	21 26 44.6	
HNR	**Honiara**	**9.96**	**114**	LR	LR	21 29 25.2	
	comp=Z,169nm,18.9s,baz=180,slow=34						
CTA	**Charters Tower**	**15.20**	**196**	LR	LR	21 32 27.9	
	comp=Z,258nm,18.1s,baz=21,slow=35						
KAKA	**Kakadu**	**19.45**	**247**	eP	**Pn**	**21 28 02.6**	**-4.5**
	3.2nm,0.5s						
GUMO	**Guam**	**19.79**	**343**	LR	LR	21 33 47.5	
	comp=Z,105nm,19.7s,baz=96,slow=30						
WRAB	**Tennant Creek**	**21.48**	**226**	eP	**P**	**21 28 26.4**	**-0.9**
	13nm,0.9s,mb4.2						
WB2	**Warramunga Arr**	**21.49**	**226**	eP	**P**	**21 28 27.0**	**-0.4**
WRA	**Warramunga Arr**	**21.50**	**226**	P	**P**	**21 28 26.8**	**-0.7**
	6.1nm,0.8s,mb4.0,baz=51,slow=10,SNR=32						
DZM	**Mont Dzumac**	**22.45**	**139**	LR	LR	21 36 08.4	
	comp=Z,300nm,19.7s,baz=28,slow=33						
AS31	**Alice Springs**	**24.31**	**220**	eP	**P**	**21 28 56.1**	**+0.6**
ASAR	**Alice Springs**	**24.31**	**220**	P	**P**	**21 28 55.6**	**+0.2**
	5.4nm,1.0s,mb3.8,baz=54,slow=8.7,SNR=25						
ASPA	**Alice Springs**	**24.32**	**220**	eP	**P**	**21 28 56.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**27.55**	**241**	eP	**P**	**21 29 24.3**	**-0.4**
	14nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**27.55**	**241**	P	**P**	**21 29 24.5**	**-0.3**
	7.9nm,0.8s,mb4.3,baz=90,slow=8.0,SNR=17						
STKA	**Stephens Creek**	**27.66**	**197**	LR	LR	21 40 50.8	
	comp=Z,186nm,19.3s,baz=23,slow=37						
STKA	**Stephens Creek**	**27.66**	**197**	eP	**P**	**21 29 21.4**	**-4.3**
MBWA	**Marble Bar**	**33.87**	**240**	P	**P**	**21 30 18.9**	**-1.5**
	40nm,1.2s,mb5.1						
MJAR	**Matsushiro Arr**	**43.38**	**345**	LR	LR	21 47 46.9	
	comp=Z,44nm,19.6s,baz=165,slow=33						
SONM	**Songino Array**	**65.79**	**329**	P	**P**	**21 34 23.9**	**+1.6**
	0.5nm,0.8s,mb3.4,baz=148,slow=6.8,SNR=4.3						
SONM				LR	LR	22 03 01.6	
	comp=Z,45nm,18.4s,baz=131,slow=36						
KURK	**Kurchatov**	**83.02**	**322**	P	**P**	**21 36 02.1**	**-0.1**
	2.6nm,1.0s,mb4.0						
MAW	**Mawson**	**84.19**	**203**	LR	LR	22 09 25.5	
	comp=Z,83nm,18.0s,baz=240,slow=33						
QSPA	**South Pole Qui**	**84.52**	**180**	P	**P**	**21 36 10.3**	**+0.5**
	2.2nm,0.8s,mb4.1						
TORD	**Torodi Ar. Bea**	**148.53**	**286**	PKPbc	PKPbc	21 43 22.6	-0.7
	0.7nm,0.7s,baz=85,slow=3.2,SNR=5.9						

IDC 11 21:44:30.3±2.5**, 6.99S**×**105.96E, h0**km**, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.6**/16**, mbtmp3.6**/5**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.7**/23**, Error ellipse: s-maj=121.0km s-min=20.8km az=55.0, Sunda Strait**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.39**	**118**	P	P	21 50 43.9	-0.1
	0.5nm,0.5s,baz=291,slow=8.6,SNR=9.5						
WRA				PcP	PcP	21 53 44.0	+0.1
	0.3nm,0.5s,baz=308,slow=2.2,SNR=9.0						
ASAR	**Alice Springs**	**31.54**	**125**	P	P	21 50 54.1	0.0
	0.3nm,0.4s,baz=298,slow=8.3,SNR=4.1						
STKA	**Stephens Creek**	**41.42**	**131**	P	P	21 52 19.6	+1.1
	1.7nm,0.4s,baz=311,slow=12,SNR=11						
STKA				LR	LR	22 09 24.8	
	comp=Z,78nm,18.1s,baz=204,slow=36						
SONM	**Songino Array**	**54.58**	**0**	P	P	21 54 01.0	+0.7
	0.1nm,0.5s,baz=180,slow=9.5,SNR=2.6						
MKAR	**Makanchi Array**	**57.53**	**341**	P	P	21 54 21.0	-0.4
	0.2nm,0.5s,baz=166,slow=8.5,SNR=3.8						

*NEIC **11** 21:49:04.9, 30.07S×71.54W, h45km, MG4.1(GUC), After GUC.*
GUC 11 21:49:04.9±0.7**, 30.07S**×**71.54W, h45**km±2km**, MD4.0, ML4.1, 5C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.61**	**151**	⇓iP	Pn	21 49 17.6	+0.3
OVCH				iS	Sn	21 49 26.7	+0.5
TLL	**Tololo Astrono**	**0.65**	**99**	⇓iP	Pn	21 49 19.1	+1.4
TLL				iS	Sn	21 49 29.1	+2.1
TLL				AML	AML	21 49 29.8	
	comp=N,13μm,0.4s						
CMCH	**Combarbala**	**1.19**	**157**	⇓iP	Pn	21 49 25.9	+0.7
CMCH				iS	Sn	21 49 41.7	+1.5
CMCH				AML	AML	21 49 42.5	
	comp=N,8μm,0.4s						
CMCH	**Combarbala**	**1.19**	**157**	⇓iP	Pn	21 49 25.9	+0.7
CMCH				iS	Sn	21 49 41.7	+1.5
LCO	**Las Campanas**	**1.29**	**35**	⇓iP	Pn	21 49 27.6	+1.2
LCO				iS	Sn	21 49 45.0	+2.5
VACH	**Vallenar**	**1.64**	**25**	⇑iP	Pn	21 49 33.0	+1.7
VACH				iS	Sn	21 49 53.8	+2.6
VACH				AML	AML	21 49 57.7	
	comp=E,4μm,0.1s						
VACH	**Vallenar**	**1.64**	**25**	⇑iP	Pn	21 49 33.0	+1.7
VACH				iS	Sn	21 49 53.8	+2.6
CHNG	**Los Chungos**	**1.81**	**179**	⇑iP	Pn	21 49 33.8	+0.3
JACH	**Jahuel**	**2.73**	**163**	eP	Pn	21 49 47.2	+1.1
JACH				iS	Sn	21 50 19.0	+1.1
PEL	**Peldehue**	**3.15**	**167**	eP	Pn	21 49 53.6	+1.7
PEL				iS	Sn	21 50 30.0	+1.7
PEL				AML	AML	21 50 45.3	
	comp=E,527nm,0.4s						
PEL	**Peldehue**	**3.15**	**167**	eP	Pn	21 49 53.6	+1.7
PEL				iS	Sn	21 50 30.0	+1.7
LCCH	**Las Cruces**	**3.39**	**180**	⇑iP	Pn	21 49 55.8	+0.5
LCCH				iS	Sn	21 50 34.6	+0.3
FCH	**Farellones**	**3.42**	**162**	AML	AML	21 50 58.6	
	comp=E,181nm,0.6s						
CLCH	**Cerro Calan**	**3.42**	**166**	iP	Pn	21 49 57.1	+1.4
CLCH				iS	Sn	21 50 36.3	+1.3
CLCH				AML	AML	21 50 54.6	
	comp=E,375nm,0.3s						
ANTU	**Antumapu**	**3.57**	**168**	AML	AML	21 50 58.8	
	comp=E,247nm,0.5s						
TACH	**Talagante**	**3.61**	**172**	iP	Pn	21 49 59.2	+0.9
TACH				iS	Sn	21 50 40.4	+0.8
PCH	**Pirque**	**3.65**	**166**	⇑iP	Pn	21 49 60.0	+1.2
PCH				iS	Sn	21 50 41.7	+1.2
CHCH	**Chadas Angostu**	**3.92**	**169**	iP	Pn	21 50 03.5	+0.9
CHCH				iS	Sn	21 50 48.0	+0.6

*ISCJB **11** 22:02:35.1±0.6, 41.26N±0.03×140.44E±0.07, h147km±4km, mb3.8/3, Error ellipse: s-maj=9.2km s-min=5.4km az=178.6*
*JMA **11** 22:02:36.6±0.1, 41.27N×140.45E, h140km±1km, M2.9*
*IDC **11** 22:02:36.2±1.5, 41.29N×140.62E, h154km±20km, mb3.5/3, mb1 3.4/5, mb1mx3.1/20, mbtmp3.7/5, Error ellipse: s-maj=34.3km s-min=15.3km az=97.0*
ISC 11 22:02:36.0±0.5**, 41.26N**±0.03×**140.44E**±0.08**, h144**km±4km**, n21, σ0.60**/33**, mb3.8**/3**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JSI2	**Shiura 2**	**0.21**	**187**	P	**Pn**	**22 02 55.7**	**+0.1**
JSI2				S	**Sn**	**22 03 10.1**	**-0.3**
JSR	**Shiriuchi**	**0.27**	**356**	P	**Pn**	**22 02 55.7**	**-0.1**
JSR				S	**Sn**	**22 03 10.2**	**-0.5**
JOT	**Ohata**	**0.47**	**75**	P	**Pn**	**22 02 56.6**	**+0.1**
JTM	**Tenmabayashi**	**0.67**	**135**	P	**Pn**	**22 02 57.9**	**+0.2**
JTM				S	**Sn**	**22 03 13.8**	**-0.4**
JIW	**Iwasaki**	**0.75**	**206**	P	**Pn**	**22 02 58.6**	**+0.4**
JIW				S	**Sn**	**22 03 15.0**	**-0.1**
JKB	**Kayabe**	**0.77**	**35**	P	**Pn**	**22 02 58.5**	**+0.2**
JYM2	**Yakumo 2**	**0.86**	**356**	P	**Pn**	**22 02 59.2**	**+0.2**
JYM2				eS	**Sn**	**22 03 16.4**	**-0.1**
JAH	**Hinai**	**1.08**	**172**	P	**Pn**	**22 03 01.4**	**+0.4**
JAH				eS	**Sn**	**22 03 20.6**	**+0.6**
JOSM	**Okushiri--Mats**	**1.09**	**319**	P	**Pn**	**22 03 01.0**	**-0.1**
JOSM				eS	**Sn**	**22 03 19.2**	**-1.0**
JANG	**Nango**	**1.20**	**137**	P	**Pn**	**22 03 01.8**	**-0.3**
JANG				S	**Sn**	**22 03 21.0**	**-1.0**
JNB	**Noboribetsu**	**1.28**	**20**	P	**Pn**	**22 03 03.1**	**+0.2**
JSH	**Shimam**	**1.41**	**348**	P	**Pn**	**22 03 04.5**	**+0.3**
JSH				eS	**Sn**	**22 03 25.5**	**-0.2**
JEW	**Eniwo**	**1.75**	**25**	eS	**Sn**	**22 03 34.0**	**+1.8**
JOM	**Ohasama**	**1.90**	**160**	P	**Pn**	**22 03 09.6**	**0.0**
JOM				S	**Sn**	**22 03 35.2**	**-0.2**
JNBK	**Urakawa-nobuka**	**2.00**	**59**	P	**Pn**	**22 03 11.2**	**+0.4**
JNBK				eS	**Sn**	**22 03 37.3**	**-0.2**
JSK	**Shakotan**	**2.09**	**1**	P	**Pn**	**22 03 12.7**	**+0.9**
ASAJ	**Asahikawa**	**3.27**	**28**	P	**Pn**	**22 03 26.9**	**+0.3**
	2.6nm,0.3s,baz=228,slow=11,SNR=20						
ASAJ				S	**Sn**	**22 04 04.7**	**-0.9**
	2.6nm,0.3s,baz=99,slow=30,SNR=11						
MJAR	**Matsushiro Arr**	**5.03**	**201**	P	**Pn**	**22 03 51.0**	**+1.3**
	0.6nm,0.3s,baz=8.8,slow=13,SNR=6.3						
MKAR	**Makanchi Array**	**41.35**	**298**	P	**P**	**22 10 07.6**	**0.0**
	1.6nm,0.8s,mb3.7,baz=84,slow=9.9,SNR=9.7						
WRA	**Warramunga Arr**	**61.15**	**187**	P	**P**	**22 12 34.5**	**-0.7**
	0.7nm,0.4s,mb3.8,baz=4.8,slow=7.2,SNR=34						
FINES	**FINESS Array B**	**64.74**	**331**	P	**P**	**22 12 57.7**	**-1.1**
	1.0nm,0.8s,mb3.7,baz=54,slow=7.1,SNR=3.6						

IDC 11 22:11:35.8±1.9**, 4.29N**×**123.79E, h0**km**, mb3.6**/4**, mb1 3.9**/4**, mb1mx3.6**/18**, mbtmp3.7**/4**, Error ellipse: s-maj=145.1km s-min=24.2km az=66.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.33**	**175**	P	P	22 16 35.1	+0.1
	1.3nm,0.7s,baz=12,slow=14,SNR=6.4						
WRA	**Warramunga Arr**	**26.22**	**157**	P	P	22 17 12.9	+0.6
	0.8nm,0.3s,baz=338,slow=9.5,SNR=32						
ASAR	**Alice Springs**	**29.49**	**161**	P	P	22 17 41.5	+0.1
	0.5nm,0.5s,baz=336,slow=7.1,SNR=8.0						
MKAR	**Makanchi Array**	**55.44**	**326**	P	P	22 21 12.2	+0.1
	0.4nm,0.5s,baz=122,slow=8.4,SNR=6.1						

*ISCJB **11** 22:21:59.0±0.3, 5.49S±0.03×150.88E±0.06, h34km, mb4.8/38, MS4.4/23, Error ellipse: s-maj=8.3km s-min=4.9km az=15.7*
*BJI **11** 22:21:59.6, 5.07S×150.76E, h13km, mB5.1, mb4.7, Ms4.8, Msz4.5*
*MOS **11** 22:21:59.7±1.0, 5.43S×150.76E, h39km, mb5.0/12, Error ellipse: s-maj=11.8km s-min=7.4km az=84.6*
*NEIC **11** 22:22:01.0±0.3, 5.48S×150.83E, mb4.9/19, Error ellipse: s-maj=9.6km s-min=6.0km az=95.0*
*HRVD **11** 22:22:01.0±0.2, 5.47S×150.89E, h12km, MW5.1/78, Centroid moment Tensor Solution. LP body waves: s50,c77;Mantle waves: s78,c147; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.21±.11; $M_{\theta\theta}$4.12±.09; $M_{\phi\phi}$-2.91±.10; $M_{r\theta}$-1.02±.26; $M_{\theta\phi}$3.36±.08; $M_{\phi r}$1.57±.27; Best double couple: $M_0$5.30500×10^{16} NP1:ϕ_s206.00000°,δ70.00000°,λ-164.00000°. NP2: ϕ_s110.00000°,δ75.00000°,λ-21.00000°. Principal axes: T 5.4880, Plg3.0000°, Azm159.0000°; N -0.3660, Plg65.0000°, Azm256.0000°; P -5.1230, Plg25.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **11** 22:22:03.1±2.5, 5.49S×150.77E, h60km±21km, mb4.3/12, mb1 4.6/15, mb1mx4.5/17, mbtmp4.7/15, ML4.4/3, MS4.4/21, Ms1 4.4/21, ms1mx4.3/25 Error ellipse: s-maj=17.8km s-min=11.1km az=112.0*
ISC 11 22:22:03.2±1.1**, 5.57S**±0.04×**150.87E**±0.06**, h55**km±11km**, h37**km±5.3km**:pP-P, n122, σ1.05**/111**, mb4.8**/37**, MS4.4**/23**, 4C-3D, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.30**	**224**	P	**Pn**	**22 23 19.4**	**-0.4**
	38nm,0.3s,baz=40,slow=5.9,SNR=63						
PMG				S	**Sn**	**22 24 20.4**	**+1.0**
	5.5nm,0.3s,baz=194,slow=18,SNR=4.7						
PMG				LR	LR	22 24 56.4	
	comp=Z,2μm,20.7s,baz=37,slow=33						
PMG	**Port Moresby**	**5.30**	**224**	eP	**Pn**	**22 23 19.5**	**-0.2**
PMG				e		22 24 14.1	
PMG				pmax	pmax		
	comp=Z,358nm,0.7s						
PMG	**Port Moresby**	**5.30**	**224**	ePn	**Pn**	**22 23 19.5**	**-0.2**
	comp=Z,358nm,0.7s						
PMG				eSn	**Sn**	**22 24 14.1**	**-5.4**
HNR	**Honiara**	**9.78**	**114**	LR	LR	22 27 45.7	
	comp=Z,3μm,18.7s,baz=354,slow=35						
HNR	**Honiara**	**9.78**	**114**	eP	**Pn**	**22 24 21.5**	**+0.4**
CTA	**Charters Tower**	**15.11**	**197**	eP	**Pn**	**22 25 40.1**	**+6.8**
	comp=Z,32nm,1.0s						
CTA				eS	**S**	**22 28 25.3**	**-8.8**
CTA	**Charters Tower**	**15.11**	**197**	P	**Pn**	**22 25 33.5**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=26,slow=16,SNR=4.1						
CTA				LR	LR	22 30 47.6	
	comp=Z,2μm,19.7s,baz=16,slow=35						
CTA	**Charters Tower**	**15.11**	**197**	P	**Pn**	**22 25 33.6**	**+0.3**
CTA				eS	**S**	**22 28 25.3**	**-8.8**
CTA	**Charters Tower**	**15.11**	**197**	P	**Pn**	**22 25 33.5**	**+0.3**
CTA				eP		22 25 40.1	
CTA				eS	**S**	**22 28 25.3**	**-8.8**
CTA				LR	LR	22 30 47.6	
CTAO	**Charters Tower**	**15.11**	**197**	eP	**Pn**	**22 25 33.2**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,139nm,1.4s						
CTAO	**Charters Tower**	**15.11**	**197**	ePn	**Pn**	**22 25 33.1**	**-0.1**
	comp=Z,139nm,1.4s						
KAKA	**Kakadu**	**19.52**	**247**	eP	**Pn**	**22 26 23.6**	**-4.1**
	comp=Z,39nm,0.8s						
GUMO	**Guam**	**19.94**	**343**	P	**Pn**	**22 26 27.5**	**-5.2**
	comp=Z,5.7nm,0.3s,baz=180,slow=20,SNR=2.6						
GUMO				LR	LR	22 32 57.1	
	comp=Z,517nm,18.7s,baz=147,slow=33						
WRAB	**Tennant Creek**	**21.49**	**227**	eP	**P**	**22 26 46.8**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,80nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**21.49**	**227**	eP	**P**	**22 26 46.8**	**-0.6**
	comp=Z,80nm,0.9s,mb5.0						
WB2	**Warramunga Arr**	**21.50**	**227**	eP	**P**	**22 26 46.5**	**-0.9**
WB2				eS	**S**	**22 30 42.1**	**-0.5**
WRA	**Warramunga Arr**	**21.51**	**227**	P	**P**	**22 26 46.7**	**-0.7**
	comp=Z,29nm,1.0s,mb4.7,baz=49,slow=10,SNR=95						
WRA				S	**S**	**22 30 41.6**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=47,slow=17,SNR=3.0						
DZM	**Mont Dzumac**	**22.27**	**139**	P	**P**	**22 26 55.8**	**+0.2**
	comp=Z,28nm,1.0s,mb4.7,baz=358,slow=7.2,SNR=8.7						
DZM				LR	LR	22 34 09.3	
	comp=Z,3μm,21.1s,MS4.7,baz=8.8,slow=32						
AS31	**Alice Springs**	**24.30**	**221**	eP	**P**	**22 27 15.9**	**+0.4**
ASAR	**Alice Springs**	**24.30**	**221**	P	**P**	**22 27 15.8**	**+0.3**
	comp=Z,16nm,0.8s,mb4.5,baz=56,slow=8.8,SNR=78						
ASAR				LR	LR	22 37 46.3	
	comp=Z,776nm,19.9s,MS4.2,baz=49,slow=39						
ASPA	**Alice Springs**	**24.31**	**221**	eP	**P**	**22 27 15.9**	**+0.4**
ARMA	**Armidale**	**24.73**	**178**	eP	**P**	**22 27 21.1**	**+1.7**
STKA	**Stephens Creek**	**27.57**	**197**	eP	**P**	**22 27 45.6**	**+0.5**
	comp=Z,12nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**27.57**	**197**	P	**P**	**22 27 45.0**	**0.0**
	comp=Z,9.6nm,0.8s,mb4.5,baz=345,slow=9.3,SNR=11						
STKA				LR	LR	22 38 41.0	
	comp=Z,2μm,19.6s,MS4.6,baz=13,slow=36						
STKA	**Stephens Creek**	**27.57**	**197**	eP	**P**	**22 27 46.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**27.61**	**241**	eP	**P**	**22 27 44.0**	**-1.3**
	comp=Z,83nm,1.1s,mb5.3						
FITZ				eS	S	22 32 45.3	+22
FITZ	**Fitzroy Crossi**	**27.61**	**241**	P	**P**	**22 27 44.8**	**-0.5**
	comp=Z,43nm,0.9s,mb5.1,baz=73,slow=8.3,SNR=36						
FITZ				LR	LR	22 39 43.1	
	comp=Z,558nm,19.9s,MS4.1,baz=248,slow=38						
TOO	**Toolangi**	**32.23**	**188**	⇑iP	**P**	**22 28 28.4**	**+2.2**
	comp=Z,13nm,1.0s,mb4.7						
TOO	**Toolangi**	**32.23**	**188**	⇑iP	**P**	**22 28 28.4**	**+2.2**
TOO				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
FORT	**Forrest**	**32.99**	**218**	eP	**P**	**22 28 32.6**	**-0.3**
	comp=Z,40nm,0.8s,mb5.4						
CBIJ	**Chichi jima**	**33.54**	**346**	LR	LR	22 40 49.3	
	comp=Z,671nm,21.6s,MS4.3,baz=126,slow=34						
MBWA	**Marble Bar**	**33.92**	**240**	eP	**P**	**22 28 41.1**	**+0.1**
	comp=Z,115nm,1.3s,mb5.7						
TAU	**Tasmania Unive**	**37.32**	**184**	P	**P**	**22 29 10.7**	**+0.6**
AFI	**Afiamalu**	**37.69**	**105**	LR	LR	22 43 08.5	
	comp=Z,233nm,18.8s,MS4.0,baz=247,slow=34						
RAO	**Raoul Island**	**37.74**	**132**	LR	LR	22 42 39.0	
	comp=Z,629nm,18.6s,MS4.5,baz=167,slow=33						
URZ	**Urewera**	**40.34**	**147**	LR	LR	22 43 41.1	
	comp=Z,394nm,20.4s,MS4.2,baz=319,slow=32						
KLBR	**Kellerberrin**	**40.39**	**226**	eP	**P**	**22 29 34.8**	**-1.0**
	comp=Z,106nm,1.4s,mb5.4						
NACB	**Ninganchiao**	**41.09**	**317**	eP	**P**	**22 29 40.8**	**-0.8**
NWAO	**Narrogin (SRO)**	**41.49**	**225**	LR	LR	22 46 36.0	
	comp=Z,694nm,18.4s,MS4.6,baz=223,slow=36						
NWAO	**Narrogin (SRO)**	**41.49**	**225**	eP	**P**	**22 29 45.3**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,35nm,1.1s						
NWAO	**Narrogin (SRO)**	**41.49**	**225**	eP	**P**	**22 29 45.3**	**+0.5**
	comp=Z,34nm,1.1s,mb4.9						
YHNB	**Yeheng**	**41.57**	**318**	eP	**P**	**22 29 45.5**	**0.0**
MUN	**Mundaring**	**41.71**	**227**	eP	**P**	**22 29 46.0**	**-0.6**
RPZ	**Rata Peaks**	**41.95**	**158**	LR	LR	22 44 45.5	
	comp=Z,1μm,20.4s,MS4.8,baz=299,slow=32						
MJAR	**Matsushiro Arr**	**43.53**	**345**	P	**P**	**22 29 59.6**	**-1.8**
	comp=Z,13nm,1.2s,mb4.5,baz=163,slow=9.3,SNR=10						

MAJO	Matsushiro	43.54	345	eP	P	22 30 00.5	-1.0
MAJO				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.8						
MAJO	Matsushiro	43.54	345	eP	P	22 30 00.5	-0.9
	comp=Z,27nm,1.3s,mb4.8						
MAT	Matsushiro	43.54	345	P	P	22 29 59.8	-1.7
MAT				S	S	22 36 28.0	+1.5
MAT	Matsushiro	43.54	345	P	P	22 30 00.0	-1.5
MAT				eS	S	22 36 29.0	+2.5
MAT				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
MAT	Matsushiro	43.54	345	P	P	22 30 00.0	-1.5
	comp=Z,13nm,1.0s,mb4.6						
MAT				eS	S	22 36 29.0	+2.5
QIZ	Qiongzhong	47.23	302	P	P	22 30 30.0	-0.6
QIZ				PP	PP	22 32 20.8	-1.1
QIZ				S	S	22 37 23.6	+3.9
QIZ				AMB	AMB		
	comp=Z,13nm,2.1s,mb4.5						
QIZ				AMB	AMB		
	comp=Z,149nm,5.3s						
QIZ				LR	LR		
	comp=E,468nm,26.9s						
QIZ				LR	LR		
	comp=Z,815nm,25.5s,MS4.6						
QIZ	Qiongzhong	47.23	302	eP	P	22 30 32.8	+2.2
KS15	Wonju Array Si	47.86	335	eP	P	22 30 36.6	+1.1
INCN	Inchon	48.42	334	eP	P	22 30 40.5	+0.5
	comp=Z,185nm,1.2s,mb6.0						
WHN	Wuhan	50.11	318	P	P	22 30 54.0	+1.2
RAR	Rarotonga	50.24	113	LR	LR	22 48 55.1	
	comp=Z,205nm,20.0s,MS4.1,baz=249,slow=32						
KULM	Kulim	51.29	281	eP	P	22 31 01.9	+0.2
YSS	Yuzh-Sakhalins	52.79	353	P	P	22 31 12.5	-0.3
ENH	Enshi	53.29	314	P	P	22 31 16.7	+0.2
CN2	Changchun	54.24	337	eP	P	22 31 23.1	-0.3
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
BJT	Baijiatuau	55.48	328	eP	P	22 31 32.9	+0.5
BJI	Beijing	55.49	328	eP	P	22 31 32.4	-0.1
BJI				S	S	22 39 21.8	+8.2
BJI				AMB	AMB		
	comp=Z,16nm,1.6s,mb4.8						
BJI				AMB	AMB		
	comp=Z,196nm,3.1s						
BJI				LR	LR		
	comp=N,422nm,18.9s,MS4.6						
BJI				LR	LR		
	comp=E,265nm,17.9s,MS4.6						
BJI				LR	LR		
	comp=Z,482nm,23.5s						
KMI	Kunming	55.84	305	P	P	22 31 37.1	+2.1
KMI				AP	pP	22 31 47.1	-2.6
KMI				XP	sP	22 31 51.1	-4.8
KMI				PP	PP	22 33 45.0	+5.1
KMI				S	S	22 39 25.0	+6.8
KMI				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.5						
KMI				LR	LR		
	comp=N,252nm,16.0s						
KMI				LR	LR		
	comp=E,352nm,21.3s						
KMI				LR	LR		
	comp=Z,387nm,24.2s						
XAN	Xi'an	55.87	318	P	P	22 31 35.4	+0.2
XAN				AMB	AMB		
	comp=Z,25nm,1.4s,mb5.0						
KLR	Kul'dur	57.06	345	eP	P	22 31 39.0	-4.7
CD2	Chengdu	57.80	312	P	P	22 31 52.0	+3.2
CD2				PCP	PcP	22 32 43.9	+2.9
CD2				PP	PP	22 34 02.1	+4.8
CD2				SCP	ScP	22 36 37.9	+1.6
CD2				PCS	PcS	22 36 43.2	+0.9
CD2				S	S	22 39 46.9	+2.9
CD2				SCS	ScS	22 41 33.9	+0.4
CD2				SS	SS	22 43 39.4	+4.2
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
CD2				AMB	AMB		
	comp=Z,60nm,6.5s						
CD2				LR	LR		
	comp=E,380nm,19.2s						
CD2				LR	LR		
	comp=Z,440nm,22.8s,MS4.5						
HHC	Hu-ho-hao-te	58.57	326	eP	P	22 31 56.0	+1.8
HHC				PP	PP	22 34 08.1	+3.9
HHC				SCP	ScP	22 36 41.1	+1.4
HHC				PCS	PcS	22 36 46.2	+0.5
HHC				SS	SS	22 43 48.1	+0.7
HHC				AMB	AMB		
	comp=Z,15nm,1.6s,mb4.8						
HHC				AMB	AMB		
	comp=Z,250nm,4.7s						
HHC				LR	LR		
	comp=N,242nm,14.1s,MS4.6						
HHC				LR	LR		
	comp=E,273nm,17.7s,MS4.6						
HHC				LR	LR		
	comp=Z,375nm,16.9s,MS4.6						
PPT	Papeete	59.33	107	eLQ		22 47 05.3	
	comp=Z,990nm,25.2s						
PPT				eLR	LR	22 49 12.3	
	comp=Z,227nm,25.5s						
PPT	Papeete	59.33	107	LR	LR	22 51 05.9	
	comp=Z,156nm,20.2s,MS4.1,baz=303,slow=29						
TBI	Tubuai	60.00	114	eLQ		22 47 16.4	
	comp=Z,966nm,33.5s						
TBI				eLR	LR	22 49 48.7	
	comp=Z,530nm,31.8s						
LZH	Lanzhou	60.46	317	eP	P	22 32 08.5	+1.3
LZH				AP	pP	22 32 17.6	-4.5
LZH				XP	sP	22 32 21.7	-6.6
LZH				AMB	AMB		
	comp=Z,41nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,49nm,7.7s						
LZH				LR	LR		
	comp=N,298nm,15.7s						
LZH				LR	LR		
	comp=Z,396nm,17.6s,MS4.6						
HIA	Hailar	60.97	337	eP	P	22 32 10.5	-0.2
GTA	Gaotai	64.93	318	eP	P	22 32 37.8	+0.8
GTA				AP	pP	22 32 45.3	-6.7
GTA				XP	sP	22 32 49.6	-8.6
GTA				PP	PP	22 35 01.1	+0.8
GTA				S	S	22 41 21.7	+7.2
GTA				XS	sS	22 41 30.1	-10
GTA				SS	SS	22 45 25.8	-1.1
GTA				AMB	AMB		
	comp=Z,2.0nm,1.2s,mb4.0						
GTA				AMB	AMB		
	comp=Z,138nm,4.6s						
GTA				LR	LR		
	comp=N,158nm,17.5s,MS4.6						
GTA				LR	LR		
	comp=E,291nm,16.7s,MS4.6						
GTA				LR	LR		
	comp=Z,337nm,19.4s,MS4.5						
MA2	Magadan	64.94	360	eP	P	22 32 37.0	-0.1
ULN	Ulaanbaatar	65.65	329	eP	P	22 32 41.4	-0.3
ULN				e*PP	pP	22 32 52.8	-3.9
ULN				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
ULN	Ulaanbaatar	65.65	329	eP	P	22 32 41.4	-0.3
	comp=Z,6.9nm,1.1s,mb4.6						
ULN				epP	pP	22 32 52.8	-4.0
SONM	Songino Array	65.97	329	P	P	22 32 44.1	+0.4
	comp=Z,5.4nm,1.1s,mb4.5,baz=140,slow=6.7,SNR=14						
SONM				LR	LR	23 00 50.2	
	comp=Z,421nm,21.7s,MS4.6,baz=137,slow=35						
CASY	Casey	66.73	197	eP	P	22 32 45.7	-2.9
ZAK	Zakamensk	69.16	330	⇑iP	P	22 33 03.5	-0.4
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
BOD	Bodaibo	69.83	340	eP	P	22 33 01.3	-6.7
PALK	Pallekele	71.16	280	eP	P	22 33 16.4	+0.4
VNDA	Vanda	72.14	178	P	P	22 33 22.0	0.0
	comp=Z,4.7nm,0.9s,mb4.4,baz=326,slow=6.9,SNR=21						
VNDA	Vanda	72.14	178	eP	P	22 33 22.2	+0.2
VNDA				e*PP	pP	22 33 33.5	-3.7
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VNDA	Vanda	72.14	178	eP	P	22 33 22.2	+0.2
	comp=Z,4.8nm,0.9s,mb4.4						
VNDA				epP	pP	22 33 33.5	-3.7
MIR	Mirnyy	72.53	201	eP	P	22 33 25.5	+1.2
MIR				pmax	pmax		
	comp=Z,120nm,1.5s,mb5.6						
SBA	Scott Base	72.72	177	P	P	22 33 25.5	+0.1
SBA				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
SBA	Scott Base	72.72	177	P	P	22 33 25.5	+0.1
	comp=Z,6.2nm,1.1s,mb4.5						
RKT	Rikitea	73.27	112	eLR	LR	22 56 05.5	
	comp=Z,535nm,29.0s						
WMQ	Urumqi	75.01	318	P	P	22 33 40.7	+1.9
MKAR	Makanchi Array	79.65	319	P	P	22 34 04.0	-0.7
	comp=Z,1.9nm,0.9s,mb4.0,baz=134,slow=8.7,SNR=8.0						
ZAL	Zalesovo	80.74	327	P	P	22 34 08.4	-2.2
	comp=Z,1.6nm,0.6s,mb4.1,baz=26,slow=3.5,SNR=8.0						
ZAL				LR	LR	23 10 59.4	
	comp=Z,255nm,18.7s,MS4.6,baz=358,slow=36						
KURK	Kurchatov	83.19	322	eP	P	22 34 21.5	-2.0
KURK				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.9						
KURK	Kurchatov	83.19	322	eP	P	22 34 21.5	-2.0
	comp=Z,16nm,1.3s,mb4.9						
COLA	College	83.28	22	P	P	22 34 24.4	+0.5
AAK	Ala-Archa	83.80	314	eP	P	22 34 26.0	-0.6
MAW	Mawson	84.12	203	⇓iP	P	22 34 28.1	-0.2
	comp=Z,4.2nm,0.8s,mb4.6						
MAW	Mawson	84.12	203	P	P	22 34 28.0	-0.2
	comp=Z,6.1nm,0.9s,mb4.7,baz=94,slow=7.8,SNR=9.3						
MAW				LR	LR	23 06 48.7	
	comp=Z,371nm,19.6s,MS4.8,baz=75,slow=32						
MAW	Mawson	84.12	203	⇓iP	P	22 34 28.1	-0.2
MAW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
QSPA	South Pole Qui	84.40	180	eP	P	22 34 29.2	-0.4
	comp=Z,10nm,1.0s,mb4.9						
CHKZ	Chkalovo	88.70	324	eP	P	22 34 48.5	-2.1
CHKZ				e*PP	pP	22 35 04.0	-2.3
CHKZ				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.7						
CHKZ	Chkalovo	88.70	324	eP	P	22 34 48.5	-2.2
	comp=Z,4.0nm,1.1s,mb4.7						
CHKZ				epP	pP	22 35 04.0	-2.3
BVAR	Borovoye Array	88.70	323	LR	LR	23 13 43.7	
	comp=Z,72nm,21.5s,MS4.1,baz=319,slow=35						
BRVK	Borovoye	88.77	323	eP	P	22 34 47.6	-3.4
ZRNK	Zerenda	89.52	323	eP	P	22 34 53.5	-1.0
SYO	Syowa Base	92.31	200	⇑eP	P	22 35 06.3	-1.2
SYO	Syowa Base	92.31	200	⇓ePcP	PcP	22 35 07.8	-0.4
NVAR	Mina Array Bea	94.07	52	P	P	22 35 14.4	-1.2
	comp=Z,1.5nm,0.9s,mb4.4,baz=243,slow=4.0,SNR=5.9						
ARU	Arti	95.88	326	eP	P	22 35 24.8	+1.0
ARU	Arti	95.88	326	eP	P	22 35 24.8	+0.9
YKA	Yellowknife Ar	97.00	28	LR	LR	23 15 47.3	
	comp=Z,78nm,18.7s,MS4.2,baz=270,slow=33						
EDM	Edmonton	97.89	37	eP	P	22 35 33.0	0.0
WUAZ	Wupatki	99.52	55	ePdif	Pdif	22 35 38.0	-2.2
	comp=Z,8.0nm,0.7s						
PDAR	Pinedale Array	100.78	48	P	Pdif	22 35 44.0	-1.8
	comp=Z,0.4nm,0.6s,baz=290,slow=4.4,SNR=3.6						
LBTB	Lobatse	118.75	238	ePKIKP	PKPdf	22 40 45.9	+0.7
SANT	Santorini	121.49	310	ePKPdf	PKPdf	22 40 51.7	+1.2
GERES	GERESS Array B	123.68	327	PKP	PKPdf	22 40 52.5	-2.2
	comp=Z,0.7nm,0.7s,baz=85,slow=3.2,SNR=6.1						
LPAZ	La Paz	135.72	120	PKP	PKPdf	22 41 19.7	+2.2
	comp=Z,4.3nm,0.8s,baz=11,slow=3.0,SNR=16						
SDV	Santo Domingo	138.71	83	ePKPdf	PKPdf	22 41 23.7	+0.7
TOA0	Torodi Ar. Sit	148.69	286	ePKPbc	PKPbc	22 41 44.2	0.0
TORD	Torodi Ar. Bea	148.69	286	PKPbc	PKPbc	22 41 43.7	-0.6
	comp=Z,5.4nm,0.8s,baz=68,slow=2.8,SNR=31						
TORD	Torodi Ar. Bea	148.69	286	PKPbc	PKPbc	22 41 43.7	-0.6
BDFB	Brasilia	151.82	139	PKP	PKPdf	22 41 46.8	+1.5
	comp=Z,5.4nm,0.9s,baz=193,slow=4.9,SNR=6.0						
BDFB				PKPbc	PKPbc	22 41 52.6	+0.8
	comp=Z,9.0nm,0.9s,baz=201,slow=2.9,SNR=9.4						

IDC 11 22:27:18.4±4.6**, 1944S**×**17592W, h0**km**, mb3.9**/2**, mb1 4.1**/2**, mb1mx3.8**/13**, mbtmp3.9**/2**, Error ellipse: s-maj=280.2km s-min=41.5km az=152.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.67	255	P	P	22 35 49.2	+0.5
	0.9nm,0.6s,baz=95,slow=8.1,SNR=11						
WRA	Warramunga Arr	46.69	261	P	P	22 35 49.1	+0.2
	0.6nm,0.3s,baz=97,slow=7.1,SNR=59						
WRA				pP		22 36 29.0	
	0.2nm,0.3s,baz=98,slow=7.0,SNR=1.7						
ARCES	ARCESS Array B	128.22	351	PKP	PKPdf	22 46 25.2	-1.5
	2.3nm,0.8s,baz=343,slow=2.8,SNR=4.1						
GERES	GERESS Array B	149.66	347	PKPbc	PKPbc	22 47 10.2	+0.3
	0.5nm,0.6s,baz=22,slow=1.4,SNR=5.9						

JMA 11 22:28:37.5±0.3**, 4362N**×**14778E, h9**km**, M3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.50	261	P	Pn	22 29 04.8	+0.2
NEM2				eS	Sn	22 29 24.6	+0.3
JNK	Nakash	2.22	270	P	Pn	22 29 15.2	+0.7
JAK	Akkeshi	2.34	256	P	Pn	22 29 17.2	+1.1
JTKR	Abashiri--Toko	2.83	278	P	Pn	22 29 24.2	+1.4
JAR	Ashorobuto	2.94	265	P	Pn	22 29 26.1	+1.8
JAR				eS	Sn	22 30 00.5	+0.8
JCH	Churui	3.39	254	P	Pn	22 29 32.5	+2.0
JNBK	Urakawa-nobuka	3.93	252	P	Pn	22 29 40.0	+2.1
JNBK				eS	Sn	22 30 26.6	+2.5

*IDC **11** 22:53:07.6±1.0, 3645N×7105E, h0km, mb3.8/6, mb1 3.9/10, mb1mx3.7/22, mbtmp3.8/10, ML3.8/4, Error ellipse: s-maj=24.9km s-min=20.3km az=56.0*
*MOS **11** 22:53:10.7±0.8, 3649N×7093E, h31km, mb4.3/1, Error ellipse: s-maj=22.9km s-min=9.4km az=90.4*
*NEIC **11** 22:53:15.4±2.7, 3664N×7106E, h57km±23km, mb3.2/3, Error ellipse: s-maj=21.8km s-min=11.7km az=198.0*
*ISCJB **11** 22:53:18.1±0.6, 3690N±003×7102E±009, h91km±9km, mb3.7/7, Error ellipse: s-maj=12.1km s-min=5.1km az=9.2*
*NNC **11** 22:53:25.4±6.7, 3739N×7098E, h218km±63km, mb2.0, mpv3.1, Error ellipse: s-maj=59.8km s-min=37.6km az=17.0*
ISC 11 22:53:19.6±0.5**, 3689N**±003×**7099E**±009**, h90**km±8km**, n41,** σ**1§08**/49**, mb3.7**/7**, 4C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.15	166	⇓P	Pn	22 54 07.8	+0.7
CHCP	Chirah Chowk	3.72	149	P	Pn	22 54 15.9	+1.0
THW	Thamme Wali	4.13	171	P	Pn	22 54 20.4	0.0
THW				S	Sn	22 55 07.0	-0.6
SARP	Sargodha	5.15	164	P	Pn	22 54 29.9	-4.3
DRP	Derazinda	5.17	187	⇑P	Pn	22 54 34.2	-0.4
AML	Almayashu	5.63	21	P	Pn	22 54 41.2	+0.3
	SNR=52						
DLH	Dalhousie	5.96	135	eP	Pn	22 54 50.0	+4.7
DLH				eS	Sn	22 55 24.0	-28
UCH	Uchtor	5.98	26	P	Pn	22 54 46.6	+1.0
	SNR=15						
EKS2	Erkin-Say	6.15	20	P	Pn	22 54 48.6	+0.7
	SNR=18						
KK31	Karatay Array	6.22	357	P	Pn	22 54 48.1	-0.6
	1.3nm,0.2s,baz=175,slow=12,SNR=207						
KK31				S	Sn	22 55 57.3	-1.1
	8.7nm,0.3s,baz=177,slow=20,SNR=7.9						
AAK	Ala-Archa	6.34	24	ePN	Pn	22 54 50.3	-0.1
AAK				pmax	pmax		
	comp=Z,8.0nm,0.4s						
AAK	Ala-Archa	6.34	24	ePn	Pn	22 54 50.3	-0.1
	comp=Z,7.8nm,0.4s						
AAK				eSn	Sn	22 56 02.7	+1.3
CHMS	Chumysh	6.75	24	P	Pn	22 54 56.6	+0.6
	SNR=7.4						
USP	Ospenovka	6.91	22	P	Pn	22 54 58.0	-0.2
	SNR=16						
TKM2	Tokmak 2	6.98	29	⇑P	Pn	22 54 59.4	+0.2
	comp=Z,0.3nm,0.5s						
TKM2				⇑S	Sn	22 56 16.4	-0.7
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	12.98	37	Pn	Pn	22 56 18.9	-1.6
	comp=Z,0.1nm,0.3s,baz=224,slow=14,SNR=4.1						
AB31	Akbulak array	14.74	330	P	Pn	22 56 39.8	-3.6
	comp=Z,0.4nm,0.3s,baz=139,slow=13,SNR=17						
AB31				⇓S	Sn	22 59 13.4	-12
	comp=Z,0.8nm,0.5s,baz=147,slow=24,SNR=4.9						
KURK	Kurchatov	14.86	19	P	Pn	22 56 43.9	-1.1
ZRNK	Zerenda	16.12	356	eP	Pn	22 57 02.5	+1.7
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZRNK	Zerenda	16.12	356	ePn	Pn	22 57 02.5	+1.7
	comp=Z,0.8nm,0.3s						
BVAR	Borovoye Array	16.14	359	Pn	Pn	22 56 57.8	-3.3
	comp=Z,0.1nm,0.3s,baz=167,slow=9.8,SNR=3.2						
BRVK	Borovoye	16.18	358	eP	Pn	22 57 03.1	+1.6
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	Borovoye	16.18	358	ePn	Pn	22 57 03.1	+1.6
	comp=Z,1.1nm,0.6s						
AKTK	Aktyubinsk	16.44	330	Pn	Pn	22 57 03.7	-1.1
AKTK				Sn	Sn	22 59 55.3	-12
AKTO	Aktyubinsk	16.44	330	⇓P	Pn	22 57 03.0	-1.8
	comp=Z,0.1nm,0.8s						
AKTO				⇑S	S	22 59 53.3	-20
	comp=Z,0.3nm,2.0s						
AKTO	Aktyubinsk	16.44	330	Pn	Pn	22 57 03.7	-1.1
	comp=Z,0.4nm,0.3s,baz=140,slow=13,SNR=6.3						
AKTO				Sn	Sn	22 59 55.3	-12
	comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=2.7						
CHKZ	Chkalovo	16.79	359	eP	Pn	22 57 09.0	-0.1
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	Chkalovo	16.79	359	ePn	Pn	22 57 09.0	-0.1
	comp=Z,1.3nm,0.6s						
ZAL	Zalesovo	19.55	25	P	Pn	22 57 38.9	-3.4
	comp=Z,2.1nm,0.3s,baz=262,slow=5.9,SNR=7.3						
SONM	Songino Array	28.12	56	P	P	22 59 03.8	+0.7
	comp=Z,0.5nm,0.5s,mb3.4,baz=264,slow=9.4,SNR=6.5						
BR131	Keskin Array S	29.31	287	eP	P	22 59 14.4	+0.8
JOF	Joensuu	35.53	330	ep	P	23 00 08.5	+0.6
	comp=Z,1.1nm,0.4s,mb4.1						
JOF	Joensuu	35.53	330	eP	P	23 00 08.5	+0.6
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	FINESS Array B	37.16	326	P	P	23 00 22.7	+0.9
	comp=Z,0.6nm,0.6s,mb3.7,baz=115,slow=10.0,SNR=4.0						
FINES	FINESS Array B	37.16	326	P	P	23 00 22.7	+0.9
PSZ	Piszkesteto	38.65	303	P	P	23 00 34.8	+0.5
KEV	Kevo	40.44	338	P	P	23 00 50.7	+1.5
ARCES	ARCESS Array B	40.78	337	P	P	23 00 52.6	+0.7
	comp=Z,1.9nm,0.8s,mb4.0,baz=116,slow=8.4,SNR=5.2						
TORD	Torodi Ar. Bea	65.72	268	P	P	23 03 54.5	-0.2
	comp=Z,0.8nm,1.1s,mb3.5,baz=46,slow=5.2,SNR=5.1						
WRA	Warramunga Arr	82.20	122	P	P	23 05 29.2	-1.5
	comp=Z,1.8nm,1.2s,mb3.8,baz=323,slow=4.9,SNR=12						
ASAR	Alice Springs	84.48	125	P	P	23 05 41.4	-1.1
	comp=Z,0.3nm,0.6s,mb3.3,baz=318,slow=5.8,SNR=5.1						

*ISCJB **11** 23:22:26.2±1.1, 3425N±005×243E±0.1, h1km±10km, Error ellipse: s-maj=17.5km s-min=6.3km az=141.5*
*HLW **11** 23:22:26.6, 3458N×2406E, h33km, Mb3.6*
*CSEM **11** 23:22:27.0±0.1, 3427N×2443E, h2km, MD3.2, Error ellipse: s-maj=6.1km s-min=1.8km az=68.0*
*NEIC **11** 23:22:29.5, 3441N×2393E, h5km, MD3.2(ATH), After ATH.*
*ATH **11** 23:22:35.2, 3476N×24.11E, h17km±2km, MD3.1/5*
ISC 11 23:22:27.9±1.4**, 3429N**±005×**241E**±01**, h7**km±11km**, n16,** σ**0§88**/21**, 4D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.55	355	ePb	Pg	23 22 38.5	0.0
GVD				eSb	Sg	23 22 44.5	-1.2
VAM	Vamos	1.12	2	ePg	Pg	23 22 48.0	-1.3
VAM				eSb	Sb	23 23 04.5	+0.2
NPS	Neapolis	1.55	51	ePN	Pg	23 23 00.0	+2.4
KYTH	Kithira	2.19	336	ePN	Pb	23 23 07.2	-0.6
KYTH	Kithira	2.19	336	ePn	Pb	23 23 08.0	+0.2
VLI	Veliai	2.62	338	ePB	Pn	23 23 12.0	+1.4
SLUM		2.93	162	P	Pn	23 23 15.1	+0.3
SLUM				S	Sn	23 23 50.2	-0.1
HMAT	Matruh	4.04	141	⇓P	Pn	23 23 30.1	0.0
HMAT				S	Sn	23 24 16.6	-1.1
SWA2		5.15	167	⇓P	Pn	23 23 45.9	+0.6
SWA1		5.18	165	P	Pn	23 23 46.4	+0.6
SWA1				S	Sn	23 24 44.5	-1.4
HBRG	Burj al 'Arab	6.07	126	P	Pn	23 23 57.3	-0.7
AWBH		7.21	144	⇓P	Pn	23 24 14.0	+0.4
GLL	Jalalah	7.96	124	P	Pn	23 24 24.3	+0.3
AMAG	Maghara	8.47	113	⇓P	Pn	23 24 30.6	-0.4
ASUT		9.37	135	P	Pn	23 24 43.4	+0.1
HDK1	Dakhla	9.83	151	P	Pn	23 24 50.7	+1.1

*CSEM **11** 23:38:01.9±0.1, 30.12N×5186E, h30km, ML4.0, Error ellipse: s-maj=2.3km s-min=1.3km az=67.0*
*IDC **11** 23:38:02.4±1.8, 3050N×5184E, h0km, mb3.9/11, mb1 3.9/13, mb1mx3.8/24, mbtmp3.8/13, ML3.3/2, MS3.3/6, Ms1 3.3/6, ms1mx3.0/28, Error ellipse: s-maj=37.9km s-min=19.2km az=150.0*
*THR **11** 23:38:02.0±0.7, 30.15N×5205E, h16km±6km, ML3.8*
*TEH **11** 23:38:04.2, 3024N×5193E, h8km, Mn4.0*
*ISCJB **11** 23:38:04.5±0.3, 30.17N±002×5204E±003, h57km±5km, mb3.8/11, MS3.3/4, Error ellipse: s-maj=4.2km s-min=4.0km az=145.3*
*MOS **11** 23:38:04.3±1.1, 3039N×5195E, h33km, mb3.8/1, Error ellipse: s-maj=15.3km s-min=9.4km az=100.3*
*NEIC **11** 23:38:04.0, 3020N×5190E, h8km, ML3.8(THR), MN4.0(TEH), After TEH.*
ISC 11 23:38:06.1±0.3**, 3022N**±002×**5205E**±003**, h48**km±5km**, n87,** σ**1§16**/137**, mb3.8**/11**, MS3.3**/4**, 1C-6D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	2.10	157	ePG	Pn	23 38 39.0	+0.3
GHIR				AML	AML	23 39 20.5	
	comp=E,794nm,0.4s						
GHIR				AML	AML	23 39 22.7	
	comp=N,509nm,0.4s						
IMEH	Mehriz	2.50	62	ePn	Pn	23 38 46.0	+1.8
IMEH				eSn	Sn	23 39 16.9	+3.5
IMEH				eLg		23 39 24.6	
IMEH	Mehriz	2.50	62	Pn	Pn	23 38 46.0	+1.8
IMEH				Sn	Sn	23 39 16.9	+3.5
IMEH				Lg		23 39 24.5	
IMEH	Mehriz	2.50	62	ePn	Pn	23 38 46.0	+1.8
IMEH				eSn	Sn	23 39 16.9	+3.5
IPIR	Pirpir	2.65	338	ePn	Pn	23 38 46.3	0.0
IPIR				eSn	Sn	23 39 17.4	+0.3
IPIR				eSn	Sn	23 39 17.5	+0.4
IPIR	Pirpir	2.65	338	Pn	Pn	23 38 46.2	-0.1
IPIR				Sn	Sn	23 39 17.3	+0.2
NASN	Na'in	2.65	14	ePn	Pn	23 38 47.0	+0.7
NASN				eSG	Sn	23 39 27.3	+10
NASN				AML	AML	23 39 31.7	
	comp=E,165nm,0.5s						
NASN				AML	AML	23 39 33.0	
	comp=N,141nm,0.7s						
NASN	Na'in	2.65	14	ePn	Pn	23 38 47.0	+0.7
	SNR=52						
NASN				eSg	Sn	23 39 27.0	+10
IZEF	Zefreh	2.68	5	ePn	Pn	23 38 47.2	+0.5
IZEF				eSn	Sn	23 39 18.2	+0.3
IZEF				eSn	Sn	23 39 19.2	+1.3
IZEF	Zefreh	2.68	5	Pn	Pn	23 38 47.2	+0.5
IZEF				Sn	Sn	23 39 18.1	+0.2
IZEF				Sn	Sn	23 39 19.1	+1.2
ICHK	Chekchek	2.86	44	ePn	Pn	23 38 50.6	+1.5
ICHK				eSn	Sn	23 39 23.8	+1.5
ICHK				eSn	Sn	23 39 24.9	+2.6
ICHK	Chekchek	2.86	44	Pn	Pn	23 38 50.6	+1.5
ICHK				Sn	Sn	23 39 23.8	+1.5
ICHK				Sn	Sn	23 39 24.8	+2.5
IKLH	Kalahroud	3.11	353	ePn	Pn	23 38 53.0	+0.3
IKLH				eSn	Sn	23 39 28.8	+0.2
IKLH				eSn	Sn	23 39 29.0	+0.4
IKLH	Kalahroud	3.11	353	Pn	Pn	23 38 52.9	+0.2
IKLH				Sn	Sn	23 39 28.7	+0.1
IKLH				Sn	Sn	23 39 28.9	+0.3
IKLH	Kalahroud	3.11	353	ePn	Pn	23 38 53.0	+0.3
IKLH				eSn	Sn	23 39 28.8	+0.2
IBAF	Bafgh	3.32	65	ePn	Pn	23 38 56.9	+1.4

IBAF				eSn	Sn	23 39 36.5	+2.8
IBAF				eSn	Sn	23 39 36.6	+2.9
SHGR	Shooshtar-Gavs	3.36	305	ePN	Pn	23 38 56.5	+0.5
SHGR				AML	AML	23 39 59.9	
	comp=N,239nm,0.1s						
SHGR				AML	AML	23 40 19.2	
	comp=E,212nm,0.7s						
SHGR	Shooshtar-Gavs	3.36	305	ePn	Pn	23 38 56.0	0.0
UMR	Umm Al-Rimmam	3.82	261	eP	Pn	23 39 02.7	+0.3
UMR				AML	AML	23 39 57.5	
	comp=Z,88nm,0.3s						
QRN	Al-Qurain	3.89	249	eP	Pn	23 39 03.7	+0.3
QRN				eS	Sn	23 39 48.9	+1.2
QRN				AML	AML	23 39 51.2	
	comp=Z,48nm,0.3s						
KBD	Kabd	3.93	256	eP	Pn	23 39 04.5	+0.7
KBD				AML	AML	23 39 57.6	
	comp=Z,203nm,0.3s						
KRBR	Kerman	4.09	92	ePN	Pn	23 39 06.5	+0.3
KRBR				AML	AML	23 40 21.8	
	comp=E,227nm,0.6s						
KRBR				AML	AML	23 40 31.1	
	comp=N,216nm,0.6s						
KRBR	Kerman	4.09	92	ePn	Pn	23 39 06.0	-0.1
MIB	Mutribah	4.10	265	eP	Pn	23 39 06.2	0.0
MIB				eS	Sn	23 39 54.6	+1.6
MIB				AML	AML	23 40 17.4	
	comp=Z,112nm,0.6s						
RDF	Al-Radifah	4.12	253	eP	Pn	23 39 06.7	+0.2
RDF				AML	AML	23 40 03.6	
	comp=Z,87nm,0.5s						
NAY	Al-Naaiem	4.29	258	eP	Pn	23 39 09.2	+0.4
NAY				eS	Sn	23 39 58.4	+0.8
RST	Umm Al-Ruwaisa	4.44	262	eP	Pn	23 39 11.5	+0.6
BNDS	Bandar-Abbas	4.58	127	ePn	Pn	23 39 12.4	-0.5
IDMV	Damavand	5.34	360	ePn	Pn	23 39 23.2	0.0
IDMV				eSn	Sn	23 40 21.9	-1.5
IDMV				eSn	Sn	23 40 22.1	-1.3
IDMV	Damavand	5.34	360	Pn	Pn	23 39 23.2	0.0
IDMV				Sn	Sn	23 40 21.8	-1.6
IDMV				Sn	Sn	23 40 22.1	-1.3
IRAZ	Razeghan	5.47	342	ePn	Pn	23 39 30.7	+5.7
IRAZ				eSn	Sn	23 40 24.0	-2.5
IRAZ				eSn	Sn	23 40 24.1	-2.4
IRAZ	Razeghan	5.47	342	Pn	Pn	23 39 30.6	+5.6
IRAZ				Sn	Sn	23 40 24.0	-2.5
IRAZ	Razeghan	5.47	342	eSn	Sn	23 40 24.0	-2.5
IAFJ	Afjeh	5.62	357	ePn	Pn	23 39 26.9	-0.3
IAFJ				eSn	Sn	23 40 28.3	-2.1
IAFJ				eSn	Sn	23 40 28.5	-1.9
IAFJ	Afjeh	5.62	357	Pn	Pn	23 39 26.9	-0.3
IAFJ				Sn	Sn	23 40 28.2	-2.2
IAFJ				Sn	Sn	23 40 28.4	-2.0
IAFJ	Afjeh	5.62	357	ePn	Pn	23 39 26.9	-0.3
IAFJ				eSn	Sn	23 40 28.5	-1.9
BANOM	Banah	5.70	138	⇓P	Pn	23 39 27.7	-0.4
	SNR=13						
IPRN	Paran-Amol	6.01	2	ePn	Pn	23 39 32.4	0.0
IPRN				eSn	Sn	23 40 37.5	-2.3
IPRN				eSn	Sn	23 40 37.7	-2.1
IPRN	Paran-Amol	6.01	2	Pn	Pn	23 39 32.4	0.0
IPRN				Sn	Sn	23 40 37.4	-2.4
IPRN				Sn	Sn	23 40 37.7	-2.1
IPRN	Paran-Amol	6.01	2	ePn	Pn	23 39 32.4	0.0
IPRN				eSn	Sn	23 40 37.7	-2.1
IKIA	Kiasar	6.12	13	ePn	Pn	23 39 35.6	+1.6
IKIA				eSn	Sn	23 40 41.0	-1.7
IKIA				eSn	Sn	23 40 41.0	-1.7
IKIA	Kiasar	6.12	13	Pn	Pn	23 39 35.5	+1.5
IKIA				Sn	Sn	23 40 40.9	-1.8
IGHG	Ghaleghazi	6.19	313	ePn	Pn	23 39 33.8	-1.1
IGHG				eSn	Sn	23 40 39.6	-4.7
IGHG				eSn	Sn	23 40 40.3	-4.0
IGHG	Ghaleghazi	6.19	313	Pn	Pn	23 39 33.8	-1.1
IGHG				Sn	Sn	23 40 39.5	-4.8
IGHG				Sn	Sn	23 40 40.2	-4.1
IGHG	Ghaleghazi	6.19	313	ePn	Pn	23 39 33.8	-1.1
IGHG				eSn	Sn	23 40 39.6	-4.7
IDHR	Dehrash	6.54	315	eSn	Sn	23 40 48.8	-4.2
IDHR				eSn	Sn	23 40 49.5	-3.5
ASHO	Ashiyiah	6.57	146	⇓P	Pn	23 39 39.4	-0.7
	SNR=26						
BHD	Baghdad	7.20	297	ex	x	23 39 18.0	
BHD				ex	x	23 41 06.0	
BHD				ex	x	23 41 40.0	
BHD				ex	x	23 42 08.0	
ARQ	Araqi	7.94	149	⇓P	Pn	23 39 57.7	-1.2
HOQ	Hoqain	8.11	143	⇓P	Pn	23 40 00.5	-0.7
BIDO	Bidbid	8.60	139	⇑P	Pn	23 40 08.5	+0.6
BSY	Bisya	8.76	147	⇓P	Pn	23 40 08.9	-1.3
BSYO	Bisya	8.79	147	P	Pn	23 40 08.9	-1.6
SMDO	Samad	8.93	142	⇓P	Pn	23 40 11.9	-0.5
WSAR	Wadi Sarin	9.11	138	Pn	Pn	23 40 13.4	-1.5
	comp=Z,2.1nm,0.3s,baz=335,slow=12,SNR=37						
WSAR				Sn	Sn	23 41 53.0	-3.0
	comp=Z,0.5nm,0.3s,baz=154,slow=18,SNR=3.8						
WSAR				LR	LR	23 44 32.4	
	comp=Z,147nm,18.3s,baz=320,slow=41						
MSL	Mosul	9.63	311	ex	x	23 40 20.0	
MSL				ex	x	23 42 48.0	
MSL				ex	x	23 43 37.0	
GNI	Garni	11.56	331	eP	Pn	23 40 48.4	0.0
GNI				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GNI	Garni	11.56	331	ePn	Pn	23 40 48.4	0.0
	comp=Z,0.9nm,0.4s						
ASF	Jabal al Asfar	13.12	282	Pn	Pn	23 41 03.3	-6.3
	comp=Z,0.2nm,0.3s,baz=65,slow=19,SNR=2.5						
ASF				Sn	Sn	23 43 28.9	-5.1
	comp=Z,0.1nm,0.3s,baz=47,slow=19,SNR=2.1						
ASF				Lg		23 45 01.0	
	comp=Z,0.1nm,0.3s,baz=128,slow=19,SNR=1.7						
ASF	Jabal al Asfar	13.12	282	Pn	Pn	23 41 03.3	-6.3
ASF				S	Sn	23 43 28.9	-5.1
MALT	Malatya	13.84	309	eP	Pn	23 41 18.8	-0.8
MMAI	Mount Meron Ar	14.45	285	Pn	Pn	23 41 24.8	-3.0
	comp=Z,0.2nm,0.3s,baz=106,slow=16,SNR=2.3						
MMAI				LR	LR	23 47 51.2	
	comp=Z,72nm,20.8s,baz=75,slow=41						
BRTR	Keskin Array B	17.79	307	P	Pn	23 42 08.6	-1.6
	comp=Z,0.1nm,0.3s,baz=117,slow=11,SNR=12						
ATD	Arta Tunnel	20.47	207	LR	LR	23 51 30.0	
	comp=Z,100nm,18.6s,MS3.2,baz=302,slow=39						
AKTK	Aktyubinsk	20.68	11	P	P	23 42 42.2	+0.2
AKTO	Aktyubinsk	20.68	11	P	P	23 42 42.2	+0.2
	comp=Z,1.5nm,0.7s,baz=188,slow=12,SNR=7.1						
AAK	Ala-Archa	21.83	49	P	P	23 42 54.1	-0.2
IDI	Anoyia	23.36	290	P	P	23 43 11.5	+1.1
	comp=Z,8.2nm,0.9s,mb4.2,baz=123,slow=17,SNR=4.4						
MLR	Muntele Rosu	25.48	314	P	P	23 43 32.8	+3.1
	comp=Z,3.9nm,0.8s,mb4.0,baz=213,slow=3.8,SNR=8.4						
ZRNK	Zerenda	25.88	24	eP	P	23 43 34.2	+0.8
BRVK	Borovoye	26.43	25	P	P	23 43 37.6	-0.7
BVAR	Borovoye Array	26.44	25	P	P	23 43 39.8	+1.4
	comp=Z,2.0nm,0.7s,mb3.8,baz=205,slow=6.6,SNR=13						
AKASG	Malin Array Be	26.64	327	P	P	23 43 38.4	-1.8
	comp=Z,0.8nm,0.6s,mb3.4,baz=133,slow=8.5,SNR=6.2						
CHKZ	Chkalovo	27.04	25	P	P	23 43 44.2	+0.4
KURK	Kurchatov	28.51	37	P	P	23 43 56.8	-0.1
MKAR	Makanchi Array	28.64	46	P	P	23 43 59.7	+1.6
	comp=Z,0.3nm,0.2s,mb3.6,baz=235,slow=10,SNR=2.9						
KMBO	Kilima Mbogo	34.22	207	LR	LR	23 59 34.8	
	comp=Z,84nm,18.3s,MS3.5,baz=96,slow=38						
GERES	GERESS Array B	34.47	314	P	P	23 44 48.5	-0.8
	comp=Z,0.4nm,0.6s,mb3.5,baz=108,slow=8.6,SNR=5.1						
GERES				LR	LR	00 00 35.8	
	comp=Z,39nm,21.1s,MS3.1,baz=243,slow=40						
KHC	Kasperske Hory	34.64	314	eP	P	23 44 50.5	-0.2
JOF	Joensuu	35.33	344	ep	P	23 44 56.1	-0.6
FINES	FINESS Array B	35.60	339	P	P	23 44 58.6	-0.4
	comp=Z,1.3nm,0.7s,mb4.0,baz=132,slow=11,SNR=9.1						
NOA	NORSAR Array B	40.87	331	P	P	23 45 41.8	-1.5
	comp=Z,0.9nm,0.8s,mb3.5,baz=121,slow=8.0,SNR=3.1						
ARCES	ARCESS Array B	42.17	346	P	P	23 45 55.0	+1.0
	comp=Z,1.3nm,0.8s,mb3.6,baz=139,slow=8.4,SNR=3.2						
ARCES	ARCESS Array B	42.17	346	P	P	23 45 55.0	+1.0
SONM	Songino Array	44.77	51	LR	LR	00 04 52.8	
	comp=Z,38nm,18.2s,MS3.4,baz=202,slow=36						
TORD	Torodi Ar. Bea	49.37	261	P	P	23 46 52.1	+1.4
	comp=Z,1.5nm,0.5s,mb4.3,baz=57,slow=8.0,SNR=16						
DBIC	Dimbokro	58.18	258	P	P	23 47 58.5	+3.4
	comp=Z,2.4nm,0.7s,mb4.3,baz=334,slow=18,SNR=3.7						

*IDC **11** 23:39:16.4±1.6, 32.13S×68.80W, h0km, mb3.9/1, mb1 3.8/4, mb1mx3.6/14, mbtmp3.7/4, ML4.1/3, Error ellipse: s-maj=57.6km s-min=36.9km az=119.0*
*ISCJB **11** 23:39:31.3±0.6, 31.47S±0.04×68.53W±0.08, h110km±11km, mb3.7/3, Error ellipse: s-maj=11.0km s-min=6.3km az=159.1*
*GUC **11** 23:39:31.6±0.7, 31.48S×68.79W, h150km, MD3.7, ML3.7*
*NEIC **11** 23:39:32.0±0.6, 31.48S×68.53W, h108km±9km, mb3.7/2, Error ellipse: s-maj=12.9km s-min=7.3km az=88.0*
ISC 11 23:39:32.1±0.6, 31.45S±0.04×68.50W±0.07, h97km±11km, n28, σ0.95/42, mb3.7/3, 4C-7D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDZ	Mendoza	1.46	192	⇓iP	Pn	23 39 58.3	+0.6
MDZ				e		23 40 17.2	
MDZ				S	Sn	23 40 18.2	+1.2
CMCH	Combarbala	2.16	277	⇓iP	Pn	23 40 06.4	-0.2
CMCH				iS	Sn	23 40 33.1	0.0
CMCH				AML	AML	23 40 34.2	
	comp=E,3μm,0.6s						
CMCH	Combarbala	2.16	277	⇓iP	Pn	23 40 06.4	-0.2
CMCH				iS	Sn	23 40 33.1	0.0
JACH	Jahuel	2.16	235	⇓iP	Pn	23 40 06.8	+0.1
JACH				iS	Sn	23 40 33.5	+0.5
TLL	Tololo Astrono	2.36	302	⇑iP	Pn	23 40 09.9	+0.6
TLL				iS	Sn	23 40 39.0	+1.2
TLL				AML	AML	23 40 43.8	
	comp=N,419nm,0.3s						
TLL	Tololo Astrono	2.36	302	⇑iP	Pn	23 40 09.9	+0.6
TLL				iS	Sn	23 40 39.0	+1.2
FCH	Farellones	2.41	219	iP	Pn	23 40 11.0	+1.1
FCH				iS	Sn	23 40 41.1	+2.2
FCH				AML	AML	23 40 48.0	
	comp=E,166nm,0.2s						
PEL	Peldehue	2.50	227	iP	Pn	23 40 10.9	-0.3
PEL				iS	Sn	23 40 40.6	-0.5
PEL				AML	AML	23 40 43.3	
	comp=E,536nm,0.3s						
PEL	Peldehue	2.50	227	iP	Pn	23 40 10.9	-0.3
PEL				iS	Sn	23 40 40.6	-0.5
CHNG	Los Chungos	2.59	260	iP	Pn	23 40 10.8	-1.6
CHNG				iS	Sn	23 40 40.9	-2.3
CHNG				AML	AML	23 40 48.4	
	comp=E,151nm,0.5s						
CLCH	Cerro Calan	2.59	221	⇓iP	Pn	23 40 12.6	+0.2
CLCH				iS	Sn	23 40 43.7	+0.4
CLCH				AML	AML	23 40 51.9	
	comp=N,260nm,0.5s						
PCH	Pirque	2.75	218	eP	Pn	23 40 14.6	+0.1
PCH				iS	Sn	23 40 47.0	0.0
ANTU	Antumapu	2.78	220	iP	Pn	23 40 14.7	-0.1
ANTU				iS	Sn	23 40 47.2	-0.4
ANTU				AML	AML	23 40 50.1	
	comp=E,184nm,0.5s						
ANTU	Antumapu	2.78	220	iP	Pn	23 40 14.7	-0.1
ANTU				iS	Sn	23 40 47.2	-0.4
TACH	Talagante	3.01	223	⇑iP	Pn	23 40 17.0	-0.9
TACH				iS	Sn	23 40 51.7	-1.5
CHCH	Chadas Angostu	3.07	216	⇓iP	Pn	23 40 18.5	-0.2
CHCH				iS	Sn	23 40 54.5	-0.2
LCO	Las Campanas	3.09	321	⇑iP	Pn	23 40 19.4	+0.4
CACH	El Canelo	3.19	213	⇓iP	Pn	23 40 20.8	+0.5
TRQA	Tornquist	8.49	143	ePn	Pn	23 41 31.6	-0.6
LVC	Limon Verde	8.81	358	Pn	Pn	23 41 35.2	-1.4
	comp=E,0.5nm,0.3s,baz=197,slow=9.3,SNR=6.9						
CPUP	Villa Florida	11.04	65	Pn	Pn	23 42 04.2	-2.6
	comp=E,0.8nm,0.3s,baz=225,slow=16,SNR=8.8						
CPUP	Villa Florida	11.04	65	Pn	Pn	23 42 04.2	-2.6
SIV	San Ignacio	16.82	25	P	Pn	23 43 22.4	+0.9
	comp=E,0.0nm,0.3s,baz=219,slow=16,SNR=6.1						
SAML	Samuel	22.93	14	eP	P	23 44 28.7	+0.7
	comp=E,0.6nm,0.5s,mb3.2						
SDV	Santo Domingo	40.16	357	eP	P	23 46 59.8	+1.2
	comp=E,1.3nm,0.3s,mb4.2						
TORD	Torodi Ar. Bea	80.52	68	P	P	23 51 33.0	-0.5
	comp=E,0.8nm,0.7s,mb3.7,baz=265,slow=5.0,SNR=7.5						
WRA	Warramunga Arr	124.40	206	PKP	PKPdf	23 58 17.2	-2.5
	comp=E,0.3nm,0.6s,baz=161,slow=1.7,SNR=8.8						
ZAL	Zalesovo	150.48	33	PKPbc	PKPbc	23 59 09.8	-2.6
	comp=E,0.8nm,0.3s,baz=36,slow=14,SNR=4.2						

IDC 11 23:43:17.2±1.9, 1.96N×126.41E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=115.3km s-min=24.6km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.95	182	P	Pn	23 47 51.0	-1.4
	0.1nm,0.3s,baz=0.0,slow=20,SNR=3.3						
WRA	Warramunga Arr	23.12	161	P	P	23 48 24.1	-0.7
	2.4nm,0.6s,baz=339,slow=11,SNR=26						
ASAR	Alice Springs	26.50	164	P	P	23 48 57.5	+1.3
	0.7nm,0.5s,baz=347,slow=12,SNR=9.0						
MKAR	Makanchi Array	58.82	326	P	P	23 53 17.4	0.0
	0.3nm,0.5s,baz=120,slow=7.0,SNR=4.9						

*IDC **11** 23:45:59.7±3.1, 51.52N×179.25W, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.9/7, Error ellipse: s-maj=84.4km s-min=25.9km az=1.0*
*NEIC **11** 23:46:00.9, 51.00N×179.25W, h7km, ML3.3(AEIC), After AEIC.*
*ISCJB **11** 23:46:03.7±1.3, 51.5N±0.5×179.3W±0.2, h41km±23km, mb4.0/7, Error ellipse: s-maj=82.5km s-min=11.7km az=165.3*
ISC 11 23:46:04.5±1.4, 51.5N±0.5×179.3W±0.1, h36km±23km, n9, σ0.58/10, mb4.0/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	Amchitka	0.88	263	P	Pn	23 46 19.3	-1.1
AMKA				S	Sn	23 46 32.6	+0.6
ATKA	Atka Island	3.25	75	P	Pn	23 46 53.4	+0.5
YKA	Yellowknife Ar	35.38	46	P	P	23 52 57.0	+0.3
	0.6nm,0.6s,mb3.7,baz=283,slow=8.3,SNR=3.2						
SONM	Songino Array	46.32	296	P	P	23 54 27.8	+1.0
	0.3nm,0.5s,mb3.5,baz=69,slow=9.6,SNR=3.2						
PDAR	Pinedale Array	46.57	72	P	P	23 54 28.4	-0.3
	1.2nm,1.1s,mb3.8,baz=319,slow=4.3,SNR=5.7						
ARCES	ARCESS Array B	57.93	350	P	P	23 55 52.8	-0.3
	5.3nm,1.1s,mb4.5,baz=36,slow=9.4,SNR=3.8						
MKAR	Makanchi Array	59.72	308	P	P	23 56 05.6	+0.1
	0.3nm,0.3s,mb3.9,baz=46,slow=7.8,SNR=4.2						
FINES	FINESS Array B	65.61	347	P	P	23 56 44.2	-0.6
	1.5nm,1.0s,mb4.0,baz=19,slow=8.1,SNR=4.8						
AKASG	Malin Array Be	75.35	342	P	P	23 57 44.1	-0.1
	1.7nm,0.3s,mb4.4,baz=19,slow=6.5,SNR=8.1						

*IDC **11** 23:59:57.3±1.8, 6.58S×130.31E, h0km, mb4.0/2, mb1 4.3/5, mb1mx3.9/13, mbtmp4.1/5, ML4.2/3, Error ellipse: s-maj=72.6km s-min=25.8km az=71.0*
*NEIC **12** 00:00:02.5±0.8, 6.63S×130.33E, h35km, mb4.1/4, Error ellipse: s-maj=23.5km s-min=10.1km az=69.0*
*ISCJB **12** 00:00:08.7±1.6, 7.17S±0.06×130.1E±0.1, h121km±16km, mb4.0/5, Error ellipse: s-maj=18.9km s-min=9.1km az=149.2*
ISC 12 00:00:14.2±1.5, 7.43S±0.07×130.2E±0.1, h164km±15km, n19, σ0.94/28, mb3.9/5, 1C, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	5.71	157	eP	Pn	00 01 36.9	-0.3
	11nm,0.2s						
KAKA				eS	Sn	00 02 43.6	+1.3
FITZ	Fitzroy Crossi	11.48	202	eP	Pn	00 02 54.5	+1.2
	4.7nm,0.3s						
FITZ				eS	Sn	00 05 00.8	+0.3
FITZ	Fitzroy Crossi	11.48	202	Pn	Pn	00 02 54.0	+0.7
	0.9nm,0.3s,baz=35,slow=12,SNR=42						
FITZ				Sn	Sn	00 05 00.8	+0.3
	1.7nm,0.3s,baz=254,slow=23,SNR=10						
WRAB	Tennant Creek	13.08	162	ePn	Pn	00 03 14.4	+0.5
	15nm,1.1s						
WRAB				eSn	Sn	00 05 37.4	-1.5
WRA	Warramunga Arr	13.09	162	Pn	Pn	00 03 13.9	0.0
	1.1nm,0.3s,baz=347,slow=13,SNR=65						
WRA				Sn	Sn	00 05 37.7	-1.4
	1.0nm,0.3s,baz=337,slow=22,SNR=8.6						
WB2	Warramunga Arr	13.09	162	eP	Pn	00 03 13.5	-0.5
WB2				eS	Sn	00 05 38.2	-0.9
AS31	Alice Springs	16.54	168	eP	Pn	00 04 03.1	+6.4
AS31				eS	S	00 07 00.4	0.0
ASAR	Alice Springs	16.54	168	Pn	Pn	00 04 02.2	+5.5
	0.8nm,0.3s,baz=347,slow=9.2,SNR=39						
ASAR				Sn	S	00 07 01.6	+1.1
	0.5nm,0.3s,baz=331,slow=14,SNR=7.6						
ASPA	Alice Springs	16.54	168	eP	Pn	00 04 03.1	+6.4
ASPA				eS	S	00 07 00.4	-0.1
MBWA	Marble Bar	16.96	215	ePn	Pn	00 04 07.2	+5.4
CTAO	Charters Tower	20.05	130	eP	P	00 04 37.0	+2.4
	9.1nm,1.1s						
STKA	Stephens Creek	26.56	158	⇑iP	P	00 05 43.6	+6.8
	6.8nm,1.5s,mb4.1						
STKA	Stephens Creek	26.56	158	P	P	00 05 43.7	+6.9
	1.7nm,0.3s,mb4.1,baz=333,slow=9.9,SNR=9.6						
QIZ	Qiongzhong	33.04	323	P	P	00 06 29.5	-4.4
TAU	Tasmania Unive	38.44	160	eP	P	00 07 26.7	+6.8
MKAR	Makanchi Array	68.66	327	P	P	00 10 58.8	-0.9
	0.2nm,0.3s,mb3.3,baz=107,slow=9.5,SNR=4.6						
SBA	Scott Base	72.89	172	eP	P	00 11 32.4	+7.2
	80nm,2.5s,mb5.0						
KURK	Kurchatov	72.96	329	eP	P	00 11 25.5	-0.1
	0.9nm,0.7s,mb3.6						
BRVK	Borovoye	78.57	328	eP	P	00 11 57.2	-0.2
	1.1nm,0.6s,mb3.7						

*MOS **12** 00:12:50.7±0.9, 54.51N×162.43E, h34km, mb4.3/1, Error ellipse: s-maj=22.5km s-min=15.2km az=68.6*
KRSC 12 00:12:49, 54.54N×162.51E, h28km, ML4.1, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.46	272	P	Pb	00 12 59.6	+1.0
MKZ				S	Sb	00 13 06.9	+1.8
KII	Karymskiy	1.86	256	P	Pn	00 13 20.9	+1.9
KII				S	Sn	00 13 43.9	+2.3
SPN	Mys Shipunski	2.06	227	P	Pn	00 13 22.4	+0.6
SPN				S	Sn	00 13 46.5	-0.1
KLY	Klyuchi	2.07	330	P	Pn	00 13 22.8	+1.0
KLY				S	Sn	00 13 47.1	+0.4
KOZR	Kozyr	2.14	317	PN	Pn	00 13 25.0	+2.2
KOZR				S	Sn	00 13 50.3	+1.9
KOZ	Kozyrevsk	2.14	316	P	Pn	00 13 25.0	+2.1
KOZ				S	Sn	00 13 50.3	+1.8
NLC	Nalytchevo	2.32	235	P	Pn	00 13 26.5	+1.2
NLC				S	Sn	00 13 53.6	+0.6
PET	Petropavlovsk	2.75	238	P	Pn	00 13 33.8	+2.6
PET				S	Sn	00 14 05.9	+2.5
PET	Petropavlovsk	2.75	238	⇓iPN	Pn	00 13 33.0	+1.8
PET				eS	Sn	00 14 05.3	+1.9
PET				pmax	pmax		
	comp=Z,67nm,0.4s						
PET				smax			
	comp=N,307nm,0.7s						
PET				smax			
	comp=E,238nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,18.0s						
RUS	Russkaya	3.19	230	P	Pn	00 13 38.7	+1.5
RUS				S	Sn	00 14 14.0	-0.3

*CSEM **12** 00:16:40.3±1.2, 39.09N×28.20W, h0km±4km, ML1.7, Error ellipse: s-maj=5.9km s-min=2.5km az=147.0, After PDA*
*PDA **12** 00:16:40.3±1.2, 39.09N×28.20W, h0km±4km, MD2.6, ML1.7, Error ellipse: s-maj=5.9km s-min=2.5km az=147.0*
SVSA 12 00:16:40.3±1.2, 39.09N×28.20W, h0km±4km, MD2.6, ML1.7, Error ellipse: s-maj=5.9km s-min=2.5km az=147.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVIA	Vitoria	0.12	102	eP	Pg	00 16 42.8	+0.3
PVIA				eS	Sg	00 16 44.6	+0.5
PVIA							
	50nm,0.1s						
SRBC	Serra Branca	0.13	114	eP	Pg	00 16 42.8	-0.1
SRBC				eS	Sg	00 16 45.1	+0.5
STGR	Santa Cruz	0.15	94	eP	Pg	00 16 43.5	+0.3
STGR				eS	Sg	00 16 46.2	+1.0
STGR							
	140nm,0.2s						
STGR	Santa Cruz	0.15	94	eP	Pg	00 16 43.5	+0.3
STGR				eS	Sg	00 16 46.2	+1.0
PGRA	Graciosa	0.18	110	iP	Pg	00 16 43.3	-0.4
PGRA				iS	Sg	00 16 46.1	0.0
PGRA							
	107nm,0.2s						
PGRA	Graciosa	0.18	110	iS	Sg	00 16 46.1	0.0
ROSA	Rosais	0.37	185	eP	Pg	00 16 47.4	-0.1
ROSA				eS	Sg	00 16 52.7	+0.4
PAMA	Santo Amaro	0.41	178	eS	Sg	00 16 53.5	0.0
PAMA							
	18nm,0.2s						
PLUZ	Luz	0.61	263	eP	Pg	00 16 44.1	-7.9
PLUZ				eS	Sg	00 16 46.9	-13
PLUZ							
	78nm,0.2s						
PICO	Pico	0.62	197	eP	Pg	00 16 51.3	-0.8
PID	Ribeirinha	0.65	175	eP	Pg	00 16 51.8	-1.0

*IDC **12** 01:03:35.3±2.1, 23.02N×94.25E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.6/19, mbtmp4.0/4, Error ellipse: s-maj=205.7km s-min=21.4km az=57.0*
*ISCJB **12** 01:03:53.2±1.8, 23.0N±0.2×93.9E±0.2, h181km±21km, mb4.0/4, Error ellipse: s-maj=50.2km s-min=12.8km az=75.5*
ISC 12 01:03:41.3±0.9, 23.3N±0.2×94.7E±0.2, h35km, n11, σ0.90/18, mb4.1/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIRN	Jiri	8.81	302	ePn	Pn	01 05 52.6	+6.4
JIRN				eSn	Sn	01 07 24.9	+0.7
	67nm,0.3s						
GUN	Gumba	9.18	302	ePn	Pn	01 05 57.0	+5.9
GUN				eSn	Sn	01 07 33.9	+0.8
	64nm,0.3s						
PKI	Pulchoki	9.39	299	ePn	Pn	01 06 00.3	+6.2
PKI				eSn	Sn	01 07 38.7	+0.2
	17nm,0.3s						
KKN	Kakani	9.59	300	ePn	Pn	01 06 02.6	+5.8
KKN				eSn	Sn	01 07 44.1	+0.8
	35nm,0.4s						
DMN	Daman	9.65	299	ePn	Pn	01 06 03.6	+5.9
DMN				eSn	Sn	01 07 45.2	+0.3
	26nm,0.5s						
GKN	Gorkha	10.20	300	ePn	Pn	01 06 10.3	+5.2
GKN				eSn	Sn	01 07 57.2	-1.0
	39nm,0.2s						
KOLN	Koldanda	10.95	297	ePn	Pn	01 06 20.4	+5.0
KOLN				eSn	Sn	01 08 14.7	-1.8
	30nm,0.5s						
MKAR	Makanchi Array	25.51	340	P	P	01 09 06.8	+0.4
	3.7nm,0.5s,mb4.2,baz=145,slow=12,SNR=24						
WRA	Warramunga Arr	57.81	135	P	P	01 13 29.2	+0.1
	1.0nm,0.5s,mb4.1,baz=322,slow=7.5,SNR=32						
FINES	FINESS Array B	59.62	329	P	P	01 13 40.2	-1.5
	1.5nm,1.0s,mb4.0,baz=90,slow=6.1,SNR=3.4						
ASAR	Alice Springs	60.24	138	P	P	01 13 46.5	+0.5
	1.2nm,0.5s,mb4.2,baz=320,slow=7.0,SNR=19						

NEIC 12 01:10:26.7, 61.68N×151.48W, h95km, MG2.9(AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FIB	Fire Island	0.81	129	P	Pn	01 10 44.8	+0.1
FIB				S	Sn	01 10 57.7	-0.5
PMR	Palmer	1.12	94	P	Pn	01 10 47.3	-0.8
GHO	Glory Hole Cre	1.22	85	P	Pn	01 10 49.0	-0.3
SLKM	Skilak Lake	1.33	152	P	Pn	01 10 49.7	-0.9
KNK	Knik Glacier	1.47	99	P	Pn	01 10 51.7	-0.7
SML	Sawmill	1.50	84	P	Pn	01 10 49.7	-3.0
TRF	Thorofare Moun	1.86	17	P	Pn	01 10 56.6	-0.7
SEW	Seward	1.87	147	P	Pn	01 10 56.6	-0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KTH	Kantishna Hill	1.90	8	P	Pn	01 10 56.9	-0.8
SVW2	Sparrevohn	2.06	255	P	Pn	01 10 59.2	-0.7
MCK	McKinley	2.37	29	P	Pn	01 11 03.3	-0.6
TTA	Tatalina	2.46	303	P	Pn	01 11 03.6	-1.5
EYAK	Cordova Ski Ar	3.00	110	P	Pn	01 11 10.7	-1.7
IMA2	Indian Mountai	4.51	348	ePn	Pn	01 11 31.6	-1.1
IMA2				eSn	Sn	01 12 20.6	-3.3
DAWY	Dawson	6.02	61	ePn	Pn	01 11 52.9	-0.4
DAWY				eSn	Sn	01 13 00.2	-0.5
DLBC	Dease Lake	11.18	97	P	Pn	01 12 59.7	-3.7

*ISCJB **12** 01:34:28.6±0.9, 3003N±005×10311E±008, h10km, mb3.7/3, Error ellipse: s-maj=9.7km s-min=6.7km az=41.8*
*IDC **12** 01:34:28.2±1.5, 2969N×10260E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/19, mbtmp3.7/4, Error ellipse: s-maj=84.1km s-min=24.1km az=63.0*
*BJI **12** 01:34:31.6, 2999N×10293E, h16km, ML3.7, Ms3.1, Msz3.1*
ISC 12 01:34:30.8±1.4, **3001N**±004×**10294E**±008, **h12**km±9km, **n9**, σ**1.22**/16, **mb3.7**/3, **1D, Sichuan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CD2	Chengdu	1.15	38	⇓iPG	Pg	01 34 54.2	+1.4
CD2				SG	Sg	01 35 12.0	+4.2
CD2				Smax			
	comp=N,2μm,0.7s						
CD2				Smax			
	comp=E,1μm,0.6s						
GYA	Guiyang	4.83	136	PG	Pg	01 36 01.5	-1.7
GYA				S	Sn	01 36 39.1	+0.2
GYA				SG	Sg	01 36 57.7	-8.0
GYA				Smax			
	comp=N,120nm,0.8s						
GYA				Smax			
	comp=E,80nm,0.8s						
KMI	Kunming	4.87	182	P	Pn	01 35 44.7	+1.0
KMI				Smax			
	comp=N,28nm,0.9s						
KMI				Smax			
	comp=E,28nm,0.9s						
LZH	Lanzhou	6.11	7	ePG	Pg	01 36 22.7	-5.1
LZH				SG	Sg	01 37 45.4	-1.6
LZH				Smax			
	comp=N,35nm,1.2s						
LZH				Smax			
	comp=E,32nm,1.2s						
LZH				LR	LR		
	comp=E,115nm,6.5s						
LZH				LR	LR		
	comp=Z,132nm,7.9s						
XAN	Xi'an	6.48	50	P	Pn	01 36 07.9	+2.0
XAN				PG	Pg	01 36 27.5	-7.3
XAN				S	Sn	01 37 18.7	-1.0
XAN				SG	Sg	01 37 59.3	+0.6
XAN				Smax			
	comp=N,106nm,0.8s						
XAN				Smax			
	comp=E,155nm,1.0s						
SONM	Songino Array	18.00	8	P	Pn	01 38 45.2	+4.5
	baz=194,slow=10,SNR=6.6						
MKAR	Makanchi Array	23.19	322	P	P	01 39 38.3	+1.0
	comp=E,0.8nm,0.7s,mb3.2,baz=121,slow=12,SNR=4.1						
ZAL	Zalesovo	27.30	336	P	P	01 40 14.2	-0.8
	comp=E,0.8nm,0.3s,mb3.7,baz=50,slow=2.5,SNR=3.2						
WRA	Warramunga Arr	58.14	145	P	P	01 44 23.2	-1.0
	comp=E,1.3nm,0.6s,mb4.1,baz=337,slow=7.8,SNR=13						

CASC 12 01:59:31.2±2.6, **847N**×**8286W**, **h10**km±11km, **MD3.8, 2C-3D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVD	David	0.41	94	⇓iP	Pg	01 59 40.0	+0.7
DVD				eS	Sg	01 59 46.2	+1.5
BRU	Baru	0.45	41	eP	Pg	01 59 41.8	+1.8
CNI	Changuinola	1.00	20	⇓iP	Pg	01 59 50.3	-0.3
BUS	Buena Vista	1.40	321	⇑eP	Pn	01 59 55.2	-1.5
URSC	Urasca	1.63	327	eP	Pn	01 59 58.8	-1.2
URSC				eS	Sn	02 00 20.3	-0.7
LCR2	La Lucha 2	1.69	319	eP	Pn	02 00 00.5	-0.4
LCR2				eS	Sn	02 00 24.2	+1.6
PRS1	Puriscal	2.08	317	⇓eP	Pn	02 00 04.9	-1.2
PRS1				eS	Sn	02 00 33.6	+1.6
CGA2	Cerro Gallo 2	2.21	314	eP	Pn	02 00 09.3	+1.4
CGA2				eS	Sn	02 00 38.1	+2.8
AZU	Azuero	2.65	104	eS	Sn	02 00 45.9	-0.2
PTP	Ponta Puerca	19.37	58	⇑iP		01 59 36.8	
PTP				eS		01 59 41.4	

*CSEM **12** 02:00:54.6±0.1, 3471N×2555E, h60km, ML2.8, Error ellipse: s-maj=2.5km s-min=1.5km az=83.0*
*HLW **12** 02:00:54.0, 3486N×2540E, h33km, Mb2.8*
*ISCJB **12** 02:00:55.6±1.3, 3463N±009×2555E±0.1, h60km±20km, Error ellipse: s-maj=21.5km s-min=10.3km az=111.6*
*NEIC **12** 02:00:57.2, 3479N×2531E, h42km, MD2.8(ATH), After ATH.*
*ATH **12** 02:00:57.2, 3479N×2531E, h42km, MD2.8/4*
ISC 12 02:00:56.7±1.2, **3466N**±008×**254E**±01, **h52**km±22km, **n9**, σ**0.56**/13, **1C-1D, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.32	48	eP	Pn	02 01 05.5	-0.7
XRY				eS	Sn	02 01 13.5	+0.5
NPS	Neapolis	0.62	16	eP	Pn	02 01 09.0	-0.6
GVD	Gavdhos	1.10	280	eP	Pn	02 01 16.5	+0.7
VAM	Vamos	1.24	307	eP	Pn	02 01 17.3	-0.4
SLUM		3.17	183	P	Pn	02 01 44.4	+0.3
SLUM				S	Sn	02 02 20.2	-0.4
HMAT	Matruh	3.83	158	⇑P	Pn	02 01 53.6	+0.4
HMAT				S	Sn	02 02 37.2	+0.3
SWA1		5.39	177	⇓P	Pn	02 02 15.0	+0.5
SWA1				S	Sn	02 03 14.1	-1.2
SWA2		5.40	180	P	Pn	02 02 15.1	+0.4
AWBH		6.99	154	P	Pn	02 02 36.7	+0.2

*IDC **12** 02:07:04.2±3.9, 258N×9616E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/18, mbtmp3.9/4, MS3.4/1, Ms1 3.4/1, ms1mx2.8/29, Error ellipse: s-maj=146.9km s-min=27.6km az=58.0*
*ISCJB **12** 02:07:06.8±1.1, 25N±02×960E±0.1, h33km, mb4.3/12, MS3.4/1, Error ellipse: s-maj=26.8km s-min=12.8km az=81.0*
*NEIC **12** 02:07:07.4±1.0, 243N×9583E, h30km, mb4.2/4, Error ellipse: s-maj=23.7km s-min=13.4km az=47.0*
ISC 12 02:07:09.4±1.1, **25N**±02×**960E**±01, **h35**km, **n17**, σ**1.05**/17, **mb4.3**/12, **MS3.4**/1, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.43	59	ePn	Pn	02 08 28.5	+0.6
JIRN	Jiri	26.75	340	eP	P	02 12 46.0	+0.3
	21nm,0.8s,mb4.7						
PKI	Pulchoki	26.94	339	eP	P	02 12 49.7	+2.3
DMN	Daman	27.09	338	eP	P	02 12 50.8	+2.1
GUN	Gumba	27.09	340	eP	P	02 12 48.8	+0.1
	15nm,0.5s,mb4.8						
KKN	Kakani	27.19	339	eP	P	02 12 49.5	-0.1
	20nm,0.9s,mb4.6						
GKN	Gorkha	27.61	338	eP	P	02 12 53.3	-0.2
KOLN	Koldanda	27.81	336	eP	P	02 12 55.9	+0.7
	10nm,0.6s,mb4.6						
WRA	Warramunga Arr	43.73	122	P	P	02 15 10.8	-0.4
	0.8nm,1.0s,mb3.4,baz=299,slow=9.3,SNR=4.6						
WRAB	Tennant Creek	43.73	122	P	P	02 15 11.9	+0.7
	12nm,1.4s,mb4.5						
MKAR	Makanchi Array	45.74	347	P	P	02 15 26.5	-0.6
	1.1nm,0.6s,mb4.0,baz=161,slow=8.6,SNR=10						
MKAR	Makanchi Array	45.74	347	P	P	02 15 26.5	-0.7
SONM	Songino Array	46.08	10	P	P	02 15 29.0	-0.9
	1.5nm,0.7s,mb4.0,baz=188,slow=8.9,SNR=12						
SONM				LR	LR	02 34 39.6	
	comp=Z,47nm,19.6s,MS3.4,baz=139,slow=36						
ULN	Ulaanbaatar	46.23	10	eP	P	02 15 30.3	-0.7
	0.7nm,0.7s,mb3.7						
KURK	Kurchatov	50.27	346	eP	P	02 16 01.6	-0.6
	1.3nm,0.5s,mb4.2						
ZAL	Zalesovo	52.13	352	P	P	02 16 15.2	-0.9
	1.1nm,0.3s,mb4.2,baz=60,slow=9.2,SNR=3.9						
CHKZ	Chkalovo	55.15	342	eP	P	02 16 35.5	-2.8
	3.1nm,0.9s,mb4.3						

*NEIC **12** 02:08:49.3, 3631N×2334E, h56km, MD3.1(ATH), After ATH.*
*ISCJB **12** 02:08:49.4±0.5, 3635N±003×2329E±004, h66km±6km, Error ellipse: s-maj=6.3km s-min=3.1km az=114.9*
*ATH **12** 02:08:49.3, 3630N×2334E, h56km±3km, MD3.1/13, ML3.3*
*CSEM **12** 02:08:50.2±0.1, 3635N×2331E, h40km, ML3.3, Error ellipse: s-maj=3.4km s-min=1.9km az=65.0*
*THE **12** 02:08:51.2, 3644N×2337E, h21km, ML3.2*
*HLW **12** 02:08:51.8, 3598N×2333E, h33km, Mb3.3*
ISC 12 02:08:50.4±0.4, **3634N**±002×**2330E**±004, **h58**km±7km, **n43**, σ**1.18**/68, **2D, Southern Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.22	255	eP	Pn	02 08 58.5	-1.3
KYTH				eS	Sn	02 09 06.5	0.0
VLI	Veliai	0.48	322	⇓iP	Pn	02 09 01.8	-0.2
VLI				eS	Sn	02 09 10.0	-0.4
KARN	Karanos	1.06	152	ePg	Pn	02 09 10.4	+1.3
KARN				eSg	Sn	02 09 24.4	+1.4
VAM	Vamos	1.18	142	eP	Pn	02 09 10.4	-0.4
VAM				eS	Sn	02 09 24.4	-1.5
ITM	Ithomi	1.39	308	⇓iP	Pn	02 09 14.3	+0.7
NAIG	Nisos Aigina	1.43	6	eP	Pn	02 09 15.0	+0.9
NAIG				eS	Sn	02 09 32.5	+0.7
KVR	Kavouri	1.53	14	eP	Pn	02 09 15.5	0.0
KVR				eS	Sn	02 09 34.5	+0.1
GVD	Gavdhos	1.63	157	ePb	Pn	02 09 18.9	+2.2
GVD	Gavdhos	1.63	157	eP	Pn	02 09 17.0	+0.2
GVD	Gavdhos	1.63	157	ePb	Pn	02 09 18.9	+2.1
MGER	Gerania Oros	1.65	359	eP	Pn	02 09 17.0	0.0
ATH	Athens Observa	1.66	11	eP	Pn	02 09 18.1	+0.8
ATH				eS	Sn	02 09 37.5	-0.1
SANT	Santorini	1.74	88	ePb	Pn	02 09 17.9	-0.4
SANT				eSb	Sn	02 09 38.6	-0.8
PTL	Penteli	1.77	15	eP	Pn	02 09 19.0	+0.3
PTL	Penteli	1.77	15	eP	Pn	02 09 18.5	-0.2
PTL				eS	Sn	02 09 39.0	-1.0
SIVA	Sivas	1.80	137	ePb	Pn	02 09 20.5	+1.3
SIVA				eSb	Sn	02 09 42.1	+1.2
APE	Apeiranthos	1.93	67	ePb	Pn	02 09 20.1	-0.8
APE				eSb	Sn	02 09 42.5	-1.6
APE	Apeiranthos	1.93	67	eP	Pn	02 09 21.6	+0.7
APE				eSb	Sn	02 09 42.5	-1.6
LAST	Lasithi	2.12	123	ePn	Pn	02 09 24.4	+0.8
LAST				eSn	Sn	02 09 50.2	+1.5
NPS	Neapolis	2.16	119	eP	Pn	02 09 23.1	-1.0
RLS	Riolos of Patr	2.26	320	eP	Pn	02 09 27.1	+1.7
LKR	Lokris	2.32	354	eP	Pn	02 09 26.3	+0.1
LKR				eS	Sn	02 09 53.8	+0.2
XRY	Khrisi	2.43	126	eP	Pn	02 09 27.5	-0.3
ZKR	Zakros	2.67	116	ePn	Pn	02 09 32.2	+1.2
ZKR				eSn	Sn	02 10 03.6	+1.6
AGG	Agios Georgios	2.79	344	ePn	Pn	02 09 34.1	+1.5
AGG				eSn	Sn	02 10 05.6	+0.6
EVR	Evrytania	2.83	336	eP	Pn	02 09 34.8	+1.6
EVR	Evrytania	2.83	336	eP	Pn	02 09 35.5	+2.3
VLS	Valsamata	2.84	311	eP	Pn	02 09 33.4	+0.1
CHOS	Chios island	3.00	46	ePn	Pn	02 09 31.5	-4.0
CHOS				eSn	Sn	02 10 09.0	-1.2
XOR	Xorichti	3.02	358	ePn	Pn	02 09 36.3	+0.4
XOR				eSn	Sn	02 10 10.1	-0.7
LKD	Levkas	3.17	319	ePn	Pn	02 09 38.6	+0.8
LKD				eSn	Sn	02 10 12.6	-1.8
LIT	Litokhoron	3.81	351	ePn	Pn	02 09 47.5	+0.9
LIT				eSn	Sn	02 10 30.2	0.0
JAN	Janina	3.84	330	eP	Pn	02 09 48.4	+1.4
IGT	Igoumenitsa	3.96	325	ePn	Pn	02 09 48.6	0.0
OUR	Ouranopolis	4.03	7	ePn	Pn	02 09 50.1	+0.6
PLG	Polygyros	4.03	2	eP	Pn	02 09 50.8	+1.2
KEK	Kerkira	4.36	322	eP	Pn	02 09 53.5	-0.6
FNA	Florina	4.69	342	ePn	Pn	02 09 57.0	-1.6
FNA				eSn	Sn	02 10 50.6	-1.1
SLUM		5.09	161	P	Pn	02 10 01.7	-2.4
SLUM				S	Sn	02 10 51.4	-10
HMAT	Matruh	6.11	148	P	Pn	02 10 15.7	-2.4
HMAT				S	Sn	02 11 17.4	-9.2
SWA2		7.30	165	P	Pn	02 10 31.5	-2.9
SWA1		7.34	163	P	Pn	02 10 32.4	-2.5
SWA1				S	Sn	02 11 46.4	-10
STON	Ston	7.83	328	iPn	Pn	02 10 39.0	-2.6
STON				iSn	Sn	02 11 59.4	-9.4

MEX 12 02:13:43.8±1.2, **1679N**×**9480W**, **h113**km±13km, **MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.31	346	iP	Pn	02 13 58.8	-1.2
CMIG				iS	Sn	02 14 10.3	-1.9
HUIG	Huatulco	1.61	231	iP	Pn	02 14 10.0	-2.1
HUIG				iS	Sn	02 14 32.9	-0.8
OXX	Oaxaca	1.86	279	iP	Pn	02 14 14.8	-0.4
OXX				iS	Sn	02 14 37.5	-1.6
VHO	Vista Hermosa	1.87	279	iP	Pn	02 14 14.4	-0.9
VHO				iS	Sn	02 14 37.3	-2.0
UTMO	Huajuapan	3.05	290	iP	Pn	02 14 29.3	-1.2
UTMO				iS	Sn	02 15 04.3	-2.2

*ISCJB **12** 02:23:40.0±2.2, 1084S±009×1647E±0.1, h104km±19km, mb3.9/9, Error ellipse: s-maj=22.3km s-min=10.0km az=114.0*
*IDC **12** 02:23:40.6±3.0, 1073S×16477E, h95km±24km, mb3.7/10, mb1 3.9/13, mb1mx3.9/18, mbtmp4.1/13, MS3.1/2, Ms1 3.1/2, ms1mx2.7/22, Error ellipse: s-maj=23.6km s-min=16.5km az=54.0*
*NEIC **12** 02:23:40.1±1.6, 1064S×16472E, h91km±13km, mb4.1/2, Error ellipse: s-maj=15.2km s-min=12.3km az=218.0*
ISC 12 02:23:40.7±1.8, **1079S**±009×**1648E**±01, **h97**km±15km, **n18**, σ**1.14**/21, **mb3.9**/9, **Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.95	285	P	Pn	02 24 51.1	-1.6
	71nm,0.3s,baz=116,slow=0.7,SNR=17						
HNR				S	Sn	02 25 50.6	+1.8
	4.6nm,0.3s,baz=270,slow=20,SNR=1.8						
HNR	Honiara	4.95	285	ePn	Pn	02 24 51.2	-1.5
DZM	Mont Dzumac	11.33	172	P	Pn	02 26 20.8	+1.4
	0.5nm,0.3s,baz=350,slow=19,SNR=6.9						
DZM				S	Sn	02 28 22.8	-1.2
	0.7nm,0.3s,baz=150,slow=20,SNR=4.6						
DZM				LR	LR	02 29 14.8	
	comp=Z,77nm,21.2s,baz=58,slow=29						
DZM	Mont Dzumac	11.33	172	P	Pn	02 26 20.8	+1.4
DZM				S	Sn	02 28 22.8	-1.2
DZM				LR	LR	02 29 14.8	
PMG	Port Moresby	17.41	273	P	Pn	02 27 35.5	-1.8
	0.5nm,0.3s,baz=315,slow=12,SNR=3.1						
CTA	Charters Tower	20.09	240	P	P	02 28 07.7	+1.2
	7.1nm,1.0s,baz=60,slow=12,SNR=3.5						
CTA				LR	LR	02 34 28.6	
	comp=Z,87nm,20.6s,baz=48,slow=32						
CTA	Charters Tower	20.09	240	P	P	02 28 07.7	+1.2
CTA				LR	LR	02 34 28.6	
CTAO	Charters Tower	20.09	240	eP	P	02 28 07.3	+0.8
	8.2nm,1.0s						
WRA	Warramunga Arr	30.69	249	P	P	02 29 45.5	-0.7
	0.7nm,0.8s,mb3.4,baz=74,slow=9.8,SNR=9.3						
WRA				PcP	PcP	02 32 43.0	+1.1
	0.6nm,0.8s,baz=80,slow=4.0,SNR=5.8						
ASAR	Alice Springs	32.07	242	P	P	02 29 57.5	-0.7
	1.0nm,1.0s,mb3.5,baz=71,slow=9.4,SNR=5.8						
FITZ	Fitzroy Crossi	38.54	255	P	P	02 30 54.1	+0.4
	1.0nm,0.6s,mb3.9,baz=45,slow=11,SNR=6.8						
VNDA	Vanda	66.73	181	P	P	02 34 23.5	+2.1
	2.3nm,1.0s,mb3.9,baz=351,slow=5.5,SNR=7.7						
VNDA	Vanda	66.73	181	eP	P	02 34 23.3	+1.8
	4.2nm,1.2s,mb4.1						
SONM	Songino Array	77.91	324	P	P	02 35 28.7	+0.8
	0.9nm,0.8s,mb3.5,baz=126,slow=7.5,SNR=6.9						
NVAR	Mina Array Bea	86.58	50	P	P	02 36 13.0	-0.1
	0.9nm,0.8s,mb3.7,baz=231,slow=4.8,SNR=4.0						
MKAR	Makanchi Array	92.69	317	P	P	02 36 41.2	-0.6
	1.5nm,0.7s,mb4.5,baz=89,slow=6.6,SNR=9.0						
ZAL	Zalesovo	92.81	324	P	P	02 36 41.4	-0.9
	0.9nm,0.4s,mb4.4,baz=353,slow=5.8,SNR=3.5						
PDAR	Pinedale Array	94.08	47	P	P	02 36 48.4	+0.3
	0.5nm,0.8s,mb3.9,baz=222,slow=2.0,SNR=4.7						

*IDC **12** 02:36:07.0±0.9, 550S×15076E, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.2/14, mbtmp4.1/9, MS3.7/10, Ms1 3.7/10, ms1mx3.5/21, Error ellipse: s-maj=29.8km s-min=19.0km az=87.0*
*ISCJB **12** 02:36:13.9±3.2, 55S±0.1×1507E±0.1, h67km±28km, mb3.9/12, Error ellipse: s-maj=23.5km s-min=17.8km az=162.1*
*NEIC **12** 02:36:14.7±2.2, 549S×15071E, h62km±19km, mb4.1/6, Error ellipse: s-maj=15.2km s-min=12.7km az=71.0*
ISC 12 02:36:15.0±2.8, **55S**±01×**1507E**±01, **h61**km±25km, **n25**, σ**0.91**/20, **mb4.0**/12, **New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.21	222	Pn	Pn	02 37 31.2	+0.8
	2.4nm,0.3s,baz=41,slow=13,SNR=8.1						
PMG				Sn	Sn	02 38 36.5	+7.3
	1.8nm,0.3s,baz=105,slow=23,SNR=6.2						
PMG				LR	LR	02 39 14.0	
	comp=Z,248nm,19.9s,baz=41,slow=35						
HNR	Honiara	9.95	113	LR	LR	02 41 56.4	
	comp=Z,296nm,19.5s,baz=180,slow=35						
CTA	Charters Tower	15.10	196	LR	LR	02 44 48.0	
	comp=Z,298nm,20.3s,baz=28,slow=34						
KAKA	Kakadu	19.38	247	eP	Pn	02 40 36.3	-1.2
	7.1nm,0.8s						
WRAB	Tennant Creek	21.40	227	eP	P	02 40 57.4	-0.3
	13nm,1.1s,mb4.2						
WB2	Warramunga Arr	21.40	227	eP	P	02 40 57.5	-0.2
WRA	Warramunga Arr	21.41	227	P	P	02 40 57.0	-0.8
	4.4nm,0.9s,mb3.8,baz=52,slow=10,SNR=17						
DZM	Mont Dzumac	22.41	139	P	P	02 41 08.3	-0.2
	9.3nm,0.9s,mb4.2,baz=332,slow=15,SNR=5.6						
DZM				LR	LR	02 48 19.7	
	comp=Z,361nm,20.4s,baz=24,slow=33						
ASAR	Alice Springs	24.23	220	P	P	02 41 27.1	+1.0
	1.6nm,0.9s,mb3.5,baz=56,slow=9.0,SNR=9.5						
ASAR				LR	LR	02 49 51.1	
	comp=Z,134nm,21.1s,baz=269,slow=34						
FITZ	Fitzroy Crossi	27.48	241	eP	P	02 41 55.8	+0.4
	12nm,0.9s,mb4.4						
FITZ	Fitzroy Crossi	27.48	241	P	P	02 41 55.9	+0.5
	5.6nm,0.8s,mb4.2,baz=76,slow=11,SNR=9.3						
FITZ				LR	LR	02 54 34.5	
	comp=Z,106nm,19.5s,baz=253,slow=40						
STKA	Stephens Creek	27.56	197	P	P	02 41 56.2	+0.1
	3.0nm,0.9s,mb3.9,baz=96,slow=0.2,SNR=3.1						
STKA				LR	LR	02 52 16.3	
	comp=Z,228nm,21.6s,baz=24,slow=35						
MJAR	Matsushiro Arr	43.45	345	P	P	02 44 10.3	-1.7
	2.3nm,0.8s,mb4.0,baz=165,slow=10,SNR=6.4						
MJAR	Matsushiro Arr	43.45	345	P	P	02 44 10.3	-1.7
ULN	Ulaanbaatar	65.53	329	eP	P	02 46 52.5	+0.5
	1.6nm,0.9s,mb4.0						
SONM	Songino Array	65.84	329	P	P	02 46 56.5	+2.4
	2.0nm,1.1s,mb4.1,baz=148,slow=6.0,SNR=8.0						
SONM				LR	LR	03 15 34.5	
	comp=Z,65nm,18.7s,baz=119,slow=36						
SONM	Songino Array	65.84	329	P	P	02 46 56.5	+2.4
SONM				LR	LR	03 15 34.5	
VNDA	Vanda	72.19	177	P	P	02 47 33.2	-0.2
	1.0nm,0.8s,mb3.8,baz=313,slow=5.7,SNR=4.6						
VNDA	Vanda	72.19	177	eP	P	02 47 33.0	-0.4
	2.0nm,1.1s,mb4.0						
MKAR	Makanchi Array	79.51	319	P	P	02 48 15.9	+0.8
	0.7nm,0.8s,mb3.6,baz=90,slow=7.3,SNR=4.0						
KURK	Kurchatov	83.06	322	eP	P	02 48 33.1	-0.8
	2.8nm,1.0s,mb4.2						
MAW	Mawson	84.10	203	LR	LR	03 23 38.2	
	comp=Z,85nm,18.4s,baz=235,slow=34						
YKA	Yellowknife Ar	97.04	28	LR	LR	03 34 46.9	
	comp=Z,28nm,18.3s,baz=215,slow=36						
TORD	Torodi Ar. Bea	148.52	286	PKPbc	PKPbc	02 55 54.8	-0.1
	0.8nm,0.8s,baz=178,slow=2.5,SNR=5.8						
BDFB	Brasilia	151.97	139	PKPbc	PKPbc	02 56 04.9	+1.7
	1.1nm,0.6s,baz=191,slow=4.5,SNR=3.1						

GUC 12 02:42:08.3±0.7, **3401S**×**7009W**, **h2**km±4km, **MD3.5, ML2.3, 2C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJCH	San Jose de Ma	0.43	329	eP	Pg	02 42 16.4	-0.1
SJCH				iS	Sg	02 42 22.6	+0.5
SJCH				AML	AML	02 42 24.1	
	comp=N,480nm,0.3s						
CACH	El Canelo	0.44	256	⇓iP	Pg	02 42 16.8	+0.1
CACH				iS	Sg	02 42 23.2	+0.8
CHCH	Chadas Angostu	0.47	279	⇓iP	Pg	02 42 17.8	+0.4
CHCH				iS	Sg	02 42 24.8	+1.3
PCH	Pirque	0.52	317	⇓iP	Pg	02 42 18.7	+0.4
PCH				iS	Sg	02 42 26.3	+1.1
ANTU	Antumapu	0.63	314	eP	Pg	02 42 20.6	+0.3
ANTU				iS	Sg	02 42 29.8	+1.2
ANTU				AML	AML	02 42 30.3	
	comp=E,379nm,0.2s						
FCH	Farellones	0.70	346	eP	Pg	02 42 21.6	-0.1
FCH				iS	Sg	02 42 32.3	+1.5
FCH				AML	AML	02 42 33.5	
	comp=E,340nm,0.2s						
CLCH	Cerro Calan	0.72	328	⇑iP	Pg	02 42 22.2	+0.1
CLCH				iS	Sg	02 42 32.7	+1.4
CLCH				AML	AML	02 42 34.0	
	comp=E,302nm,0.6s						
TACH	Talagante	0.79	296	⇓iP	Pg	02 42 23.2	-0.3
TACH				iS	Sg	02 42 34.6	+0.9
SFDO	San Fernando	0.97	231	⇑iP	Pg	02 42 26.4	-0.6
PEL	Peldehue	1.00	330	eP	Pg	02 42 27.3	-0.1
PEL				iS	Sg	02 42 40.9	+0.6
PEL				AML	AML	02 42 43.9	
	comp=E,189nm,0.3s						
LNV	Longovilo	1.10	272	⇓iP	Pg	02 42 28.4	-1.0
LNV				iS	Sg	02 42 43.5	-0.1
LCCH	Las Cruces	1.34	293	⇓iP	Pg	02 42 32.7	-1.4

CASC 12 02:44:18.4±2.6, **852N**×**8288W**, **h3**km±16km, **MD3.6, 1C, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.31	296	eP	Pg	02 44 26.0	+1.6
BRU	Baru	0.43	48	eP	Pg	02 44 27.9	+1.2
DVD	David	0.43	100	eP	Pg	02 44 27.8	+1.0
CNI	Changuinola	0.97	22	eP	Pg	02 44 37.1	+0.1
BUS	Buena Vista	1.35	320	eP	Pn	02 44 43.0	-1.1
BUS				eS	Sg	02 45 01.7	0.0
URSC	Urasca	1.58	326	iP	Pn	02 44 46.6	-0.7
URSC				eS	Sn	02 45 07.5	-0.7
LCR2	La Lucha 2	1.65	318	⇑eP	Pn	02 44 48.1	0.0
LCR2				eS	Sn	02 45 11.4	+1.6
PRS1	Puriscal	2.03	316	eP	Pn	02 44 52.8	-0.7
PRS1				eS	Sn	02 45 20.7	+1.4
CGA2	Cerro Gallo 2	2.16	314	eP	Pn	02 44 57.3	+2.1
CGA2				eS	Sn	02 45 24.9	+2.4
PTP	Ponta Puerca	19.36	58	eP	Px	02 44 24.0	

*CSEM **12** 03:43:55.9±0.1, 3203N×3553E, h5km, Mw2.4, Error ellipse: s-maj=3.2km s-min=1.4km az=94.0*
*ISCJB **12** 03:43:56.9±0.5, 3201N±002×3550E±006, h3km, Error ellipse: s-maj=7.0km s-min=3.1km az=23.6*
*GII **12** 03:43:56.4±0.3, 3202N×3549E, h3km±1km, ML2.5/6, Mw2.4/5*
*GRAL **12** 03:43:56.0±2.6, 3180N×3601E, h0km±999km, MD3.3*
ISC 12 03:43:57.4±0.5, **3201N**±002×**3550E**±006, **h3**km, **n17**, σ**0.97**/26, **Dead Sea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HMDT	Nahal Hemdat	0.25	5	Pg	Pg	03 44 01.6	-0.5
DRGI	Dragot	0.42	193	Pg	Pg	03 44 05.3	-0.2
MMLI	Mount Malkishu	0.43	351	Pg	Pg	03 44 05.2	-0.5
SLTI	Sal'it	0.46	301	Pg	Pg	03 44 05.5	-0.6
SLTI				Sg	Sg	03 44 12.7	+0.6

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKRJ	Makawir	0.47	165	Pg	Pg	03 44 06.6	+0.2
AMAZ	Amatzia	0.69	227	Pg	Pg	03 44 10.1	-0.4
AMAZ				Sg	Sg	03 44 21.7	+2.2
MZDA	Masada	0.70	190	Pg	Pg	03 44 10.6	-0.3
GLH	Golan-Tel Qazi	0.72	10	Pg	Pg	03 44 11.0	-0.1
OFRI	‘Ofer	0.75	325	Pg	Pg	03 44 10.7	-1.1
MMA0B	Mount Meron ar	1.01	355	Pg	Pg	03 44 15.8	-0.9
MMA0B				Sg	Sg	03 44 29.9	+0.1
KSDI	Kefar Szold	1.19	6	Pg	Pg	03 44 19.2	-1.0
KZIT	Kziot	1.45	221	Pn	Pn	03 44 23.4	-1.0
KZIT				Sn	Sn	03 44 43.2	-0.7
KZIT	Kziot	1.45	221	Pn	Pn	03 44 23.4	-1.0
KZIT				Sn	Sn	03 44 43.2	-0.7
RCY	Rachaya	1.50	10	ePn	Pn	03 44 24.1	-1.0
RCY				Sn	Sn	03 44 45.8	+0.6
BHL	Bhannes	1.90	4	ePn	Pn	03 44 32.5	+1.9
BHL				Sn	Sn	03 44 58.3	+3.3
HRFI	Mount Harif	2.00	192	Pn	Pn	03 44 32.0	-0.1
HRFI				Sn	Sn	03 44 58.5	+0.8
HWQ	Hawqa	2.29	9	ePn	Pn	03 44 36.4	+0.3
HWQ				Sn	Sn	03 45 06.8	+1.9

MEX 12 03:57:28.9±0.8, 1613N×9838W, h16km±12km, MD4.3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	Acapulco	1.65	297	i P	Pn	03 57 53.7	-3.5
UTMO	Huajuapan	1.77	18	i P	Pn	03 57 55.0	-3.9
UTMO				i S	Sn	03 58 16.3	-4.8
VHO	Vista Hermosa	1.83	59	i P	Pn	03 57 56.2	-3.4
VHO				eS	Sn	03 58 19.2	-3.2
OXX	Oaxaca	1.84	59	i P	Pn	03 57 56.7	-3.1
OXX				i S	Sn	03 58 20.5	-2.3
CAIG	El Cayaco	2.03	297	eP	Pn	03 57 59.6	-2.8
CAIG				i S	Sn	03 58 23.0	-4.4
MEIG	Mezcala	2.15	326	i P	Pn	03 58 01.4	-2.6
MEIG				i S	Sn	03 58 24.3	-5.9
HUIG	Huatulco	2.21	99	i P	Pn	03 58 00.9	-3.9
HUIG				i S	Sn	03 58 26.8	-5.1
PLIG	Platanillo	2.49	335	i P	Pn	03 58 05.9	-2.9
PLIG				i S	Sn	03 58 34.3	-4.5
YAIG	Yautepec	2.79	346	i P	Pn	03 58 11.6	-1.3
YAIG				i S	Sn	03 58 43.0	-3.2
PPM	Popocatepetl	2.93	355	eP	Pn	03 58 13.8	-1.0
PPM				eP		03 58 17.5	
IIZ	Mezontepec	3.15	345	eP	Pn	03 58 16.5	-1.3
IIZ				i S	Sn	03 58 50.0	-5.0
UNM	Universidad Na	3.27	347	eP	Pn	03 58 17.6	-1.8
UNM				eP		03 58 18.0	
UNM				i P		03 58 18.2	
UNM				i S	Sn	03 58 55.4	-2.6
ZIIG	Zihuatanejo	3.30	297	i S	Sn	03 58 55.3	-3.5
CMIG	Matias Romero	3.48	74	i P	Pn	03 58 18.7	-3.6
CMIG				i S	Sn	03 58 59.8	-3.4
MOIG	Morelia	4.43	323	i P	Pn	03 58 31.7	-3.7
MOIG				i S	Sn	03 59 24.9	-1.6
MRX	Morelia	4.45	323	eP	Pn	03 58 35.0	-0.7
CCIG	Comitan	6.00	88	i S	Sn	04 00 01.8	-3.4
SFJM	Santa Fe	6.20	315	eP	Pn	03 59 02.0	+2.4

ISCJB 12 04:31:46.1±0.7, 2086S±005×687W±01, h117km±7km, mb4.2/7, Error ellipse: s-maj=15.9km s-min=9.0km az=2.8
IDC 12 04:31:46.5±0.7, 2084S×6871W, h109km±6km, mb3.9/5, mb1 3.9/9, mb1mx3.7/16, mbtmp4.2/9, MS2.9/1, Ms1 2.8/1, ms1mx2.4/20, Error ellipse: s-maj=21.3km s-min=7.9km az=102.0
NEIC 12 04:31:47.0±0.6, 2084S×6867W, h110km±6km, mb4.2/6, Error ellipse: s-maj=9.6km s-min=6.4km az=88.0
ISC 12 04:31:47.2±0.7, 2085S±005×687W±01, h109km±7km, n23, σ0^{s}69/27, mb4.2/7, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	1.77	187	P	Pn	04 32 17.3	+0.1
	93nm,0.3s,baz=14,slow=11,SNR=1592						
LVC				S	Sn	04 32 40.1	0.0
	432nm,0.3s,baz=298,slow=12,SNR=42						
LPAZ	La Paz	4.57	7	P	Pn	04 32 55.1	+0.9
	4.2nm,0.3s,baz=198,slow=5.9,SNR=156						
LPAZ				S	Sn	04 33 36.6	-9.5
	3.7nm,0.3s,baz=185,slow=9.8,SNR=5.1						
ARE	Arequipa	5.11	328	eP	Pn	04 33 02.0	+0.5
ARE				eS	Sn	04 33 52.0	-7.3
SIV	San Ignacio	8.69	57	P	Pn	04 33 48.5	-1.5
	1.7nm,0.3s,baz=251,slow=11,SNR=40						
CFAA	Coronel Fontan	10.72	178	P	Pn	04 34 13.2	-4.3
	0.3nm,0.3s,baz=0.4,slow=15,SNR=8.2						
CFAA				S	Sn	04 36 05.7	-10
	0.2nm,0.3s,baz=188,slow=13,SNR=4.2						
CFAA	Coronel Fontan	10.72	178	P	Pn	04 34 13.2	-4.3
CFAA				S	Sn	04 36 05.7	-10
CPUP	Villa Florida	11.75	120	P	Pn	04 34 31.4	+0.1
	0.9nm,0.3s,baz=291,slow=11,SNR=7.8						
CPUP	Villa Florida	11.75	120	P	Pn	04 34 31.4	+0.1
SAML	Samuel	12.97	25	ePn	Pn	04 34 46.6	-0.7
TRQA	Tornquist	18.11	163	eP	P	04 35 50.7	+0.2
	8.5nm,1.0s						
PLCA	Paso Flores	19.89	184	P	P	04 36 09.4	-0.4
	baz=270,slow=24,SNR=6.2						
PLCA	Paso Flores	19.89	184	eP	P	04 36 09.2	-0.6
	6.9nm,0.8s						
BDFB	Brasilia	20.30	79	P	P	04 36 15.0	+0.8
	8.3nm,0.3s,baz=255,slow=8.9,SNR=23						
BDFB				LR	LR	04 45 10.9	
	comp=Z,36nm,21.5s,baz=231,slow=40						
RCBR	Riachuelo	35.11	69	eP	P	04 38 30.6	+0.6
	40nm,1.4s,mb5.0						
SNAA	Sanae	62.83	161	eP	P	04 42 00.8	-0.4
	0.7nm,0.6s,mb3.8						
DBIC	Dimbokro	68.35	74	P	P	04 42 36.6	-0.2
	7.6nm,0.8s,mb4.5,baz=246,slow=6.4,SNR=12						
DBIC	Dimbokro	68.35	74	eP	P	04 42 36.7	-0.1
	11nm,1.0s,mb4.6						
PDAR	Pinedale Array	73.65	330	P	P	04 43 08.2	-0.6
	0.3nm,0.3s,mb3.5,baz=346,slow=1.9,SNR=5.4						
TOA0	Torodi Ar. Sit	76.94	70	eP	P	04 43 27.7	+0.1
TORD	Torodi Ar. Bea	76.94	70	P	P	04 43 27.4	-0.2
	2.1nm,0.4s,mb4.3,baz=256,slow=5.1,SNR=69						
TORD				pP	pP	04 43 55.5	0.0
	2.1nm,0.7s,baz=250,slow=5.5,SNR=4.1						
TORD				sP	sP	04 44 07.7	+0.5
	2.3nm,0.6s,baz=253,slow=5.6,SNR=3.8						
TSUM	Tsumeb	80.03	107	eP	P	04 43 46.0	+1.5
	6.1nm,1.2s,mb4.3						
YKA	Yellowknife Ar	90.64	341	P	P	04 44 36.8	-0.6
	0.5nm,0.8s,mb3.7,baz=124,slow=6.0,SNR=2.9						
YKA				pP	pP	04 45 04.0	-1.8
	1.2nm,0.7s,baz=135,slow=4.7,SNR=8.4						
MKAR	Makanchi Array	144.99	36	PKP	PKPdf	04 51 10.7	-0.8
	2.0nm,0.8s,baz=320,slow=3.2,SNR=9.6						
MKAR				pPKP	pPKPdf	04 51 39.3	-2.0
	0.2nm,0.3s,baz=336,slow=2.7,SNR=2.7						

IDC 12 04:31:59.2±6.0, 331N×12680E, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/17, mbtmp4.0/3, Error ellipse: s-maj=201.2km s-min=94.1km az=74.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.27	163	P	P	04 37 17.5	-0.5
	1.6nm,0.4s,baz=342,slow=9.8,SNR=31						
ASAR	Alice Springs	27.69	166	P	P	04 37 49.5	+0.5
	0.8nm,0.5s,baz=348,slow=7.6,SNR=9.4						
STKA	Stephens Creek	37.72	159	P	P	04 39 17.4	+0.9
	1.0nm,0.4s,baz=0.0,slow=7.1,SNR=3.6						

IDC 12 04:32:23.3±7.6, 1589S×17487W, h129km±35km, mb3.4/3, mb1 3.8/4, mb1mx3.5/14, mbtmp3.9/4, Error ellipse: s-maj=846.7km s-min=24.7km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	3.58	57	P	Pn	04 33 19.5	+2.1
	11nm,0.3s,baz=46,slow=17,SNR=6.1						
AFI				S	Sn	04 33 59.1	-0.1
	34nm,0.3s,baz=46,slow=21,SNR=7.8						
ASAR	Alice Springs	48.62	252	P	P	04 40 53.9	0.0
	0.8nm,0.6s,baz=91,slow=8.0,SNR=5.5						
NVAR	Mina Array Bea	75.64	43	P	P	04 43 55.3	+1.1
	0.6nm,0.7s,baz=231,slow=9.4,SNR=3.8						
PDAR	Pinedale Array	83.57	42	P	P	04 44 37.2	+0.2
	0.6nm,0.6s,baz=227,slow=3.6,SNR=6.0						

NEIC 12 04:33:56.9±0.3, 151N×12843E, mb4.5/7, Error ellipse: s-maj=12.3km s-min=5.7km az=69.0
BJI 12 04:33:56.8, 150N×12840E, h82km, mb4.7
ISCJB 12 04:33:58.0±3.1, 145N±008×1283E±01, h106km±29km, mb4.5/27, Error ellipse: s-maj=24.7km s-min=8.9km az=125.8
IDC 12 04:33:57.2±0.7, 151N×12840E, h85km±6km, mb4.0/12, mb1 4.0/13, mb1mx3.9/19, mbtmp4.3/13, Error ellipse: s-maj=33.9km s-min=10.9km az=73.0
ISC 12 04:33:57.8±2.6, 145N±008×1284E±01, h89km±25km, h84km±1.9km:pP-P, n36, σ0^{s}83/35, mb4.5/27, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	13.00	291	ePn	Pn	04 36 58.6	-0.4
KSM	Kuching	18.11	270	eP	Pn	04 38 03.0	-0.4
FITZ	Fitzroy Crossi	19.62	188	P	Pn	04 38 19.2	-2.2
	0.1nm,0.3s,baz=30,slow=13,SNR=6.7						
WRAB	Tennant Creek	22.04	165	eP	P	04 38 45.7	+0.6
	9.8nm,0.8s,mb4.2						
WRA	Warramunga Arr	22.04	165	P	P	04 38 45.2	+0.1
	3.3nm,0.7s,mb3.8,baz=345,slow=11,SNR=19						
WB2	Warramunga Arr	22.05	165	eP	P	04 38 45.9	+0.8
ASAR	Alice Springs	25.53	168	P	P	04 39 18.9	+0.7
	1.5nm,0.9s,mb3.4,baz=349,slow=15,SNR=8.5						
ASAR				pP	pP	04 39 38.2	+0.2
	4.5nm,0.9s,baz=350,slow=12,SNR=8.7						
PSI	Prapat	29.50	273	P	P	04 39 53.1	-0.5
	6.6nm,0.7s,mb4.4,baz=117,slow=4.5,SNR=4.9						
STKA	Stephens Creek	35.42	160	P	P	04 40 46.0	+0.7
	2.8nm,0.8s,mb4.2,baz=311,slow=18,SNR=4.5						
STKA				pP	pP	04 41 06.0	+0.1
	2.7nm,0.7s,baz=348,slow=9.6,SNR=2.3						
MJAR	Matsushiro Arr	36.07	13	P	P	04 40 49.1	-1.7
	1.6nm,0.6s,mb4.1,baz=185,slow=9.4,SNR=4.7						
XAN	Xi’an	37.20	333	P	P	04 41 01.0	+0.6
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
BJT	Baijiatuau	39.97	345	eP	P	04 41 23.9	+0.3
	comp=Z,8.5nm,0.6s,mb4.8						
BJI	Beijing	39.99	345	eP	P	04 41 24.2	+0.4
BJI				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.9						
LZH	Lanzhou	41.31	329	eP	P	04 41 35.5	+0.9
LZH				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.7						
GTA	Gaotai	45.90	329	eP	P	04 42 12.8	+1.3
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
JIRN	Jiri	48.07	307	eP	P	04 42 29.1	+0.8
	comp=Z,23nm,0.7s,mb5.1						
GUN	Gumba	48.43	307	eP	P	04 42 31.7	+0.6
	comp=Z,23nm,0.5s,mb5.2						
PKI	Pulchoki	48.66	306	eP	P	04 42 33.3	+0.4
KKN	Kakani	48.86	306	eP	P	04 42 34.5	+0.1
DMN	Daman	48.92	306	eP	P	04 42 35.7	+0.8
	comp=Z,21nm,0.9s,mb5.1						
GKN	Gorkha	49.46	306	eP	P	04 42 39.4	+0.4
ULN	Ulaanbaatar	49.80	341	eP	P	04 42 42.4	+0.9
	comp=Z,8.8nm,1.0s,mb4.6						
SONM	Songino Array	49.98	341	P	P	04 42 43.5	+0.5
	comp=Z,2.9nm,0.8s,mb4.3,baz=153,slow=8.0,SNR=18						
SONM				pP	pP	04 43 02.2	-2.2
	comp=Z,0.9nm,0.6s,baz=164,slow=7.4,SNR=3.1						
SONM				PcP	PcP	04 44 01.8	+0.1
	comp=Z,1.1nm,0.8s,baz=170,slow=5.1,SNR=4.5						
KOLN	Koldanda	50.21	306	eP	P	04 42 45.6	+1.0
	comp=Z,41nm,0.7s,mb5.4						
MKAR	Makanchi Array	60.37	325	P	P	04 43 58.0	+0.3
	comp=Z,5.5nm,0.5s,mb4.8,baz=119,slow=8.5,SNR=56						
MKAR				pP	pP	04 44 19.1	-0.8
	comp=Z,2.6nm,0.6s,baz=120,slow=8.6,SNR=5.7						
MKAR				PcP	PcP	04 44 41.8	0.0
	comp=Z,1.6nm,0.7s,baz=116,slow=5.5,SNR=4.2						
ZAL	Zalesovo	63.37	333	P	P	04 44 16.2	-1.5
	comp=Z,1.1nm,0.3s,mb4.2,baz=260,slow=7.5,SNR=4.2						
KURK	Kurchatov	64.55	327	eP	P	04 44 25.0	-0.5
	comp=Z,13nm,0.7s,mb4.9						
KURK				e		04 44 32.4	
BVAR	Borovoye Array	70.14	327	P	P	04 44 59.9	-0.8
	comp=Z,3.4nm,0.8s,mb4.2,baz=126,slow=7.5,SNR=11						
BVAR				pP	pP	04 45 21.9	-1.6
	comp=Z,2.0nm,0.7s,baz=122,slow=7.2,SNR=4.4						
BRVK	Borovoye	70.21	327	eP	P	04 45 00.8	-0.3
	comp=Z,3.3nm,0.9s,mb4.2						
CHKZ	Chkalovo	70.30	328	eP	P	04 45 00.6	-1.1
	comp=Z,2.7nm,0.9s,mb4.1						
ZRNK	Zerenda	70.86	327	eP	P	04 45 04.2	-1.0
	comp=Z,3.3nm,0.6s,mb4.3						
ZRNK				e		04 45 12.6	
ZRNK				ePcP	PcP	04 45 24.1	-1.1
AKTK	Aktyubinsk	76.48	322	P	P	04 45 37.3	-0.7
AKTO	Aktyubinsk	76.48	322	P	P	04 45 37.3	-0.7
	comp=Z,2.8nm,0.7s,mb4.1,baz=107,slow=6.5,SNR=12						
VNDA	Vanda	80.97	173	P	P	04 46 02.0	-0.6
	comp=Z,1.1nm,0.8s,mb3.7,baz=281,slow=3.5,SNR=4.6						
ARCES	ARCESS Array B	93.15	340	P	P	04 47 01.3	-0.7
	comp=Z,3.5nm,1.0s,mb4.6,baz=66,slow=6.8,SNR=4.3						
TORD	Torodi Ar. Bea	125.21	287	PKP	PKPdf	04 52 48.0	0.0
	comp=Z,0.1nm,0.3s,baz=84,slow=1.8,SNR=8.7						

IDC 12 04:37:21.3±5.1, 1536S×17347W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.7/15, mbtmp3.6/4, ML2.4/1, Error ellipse: s-maj=362.0km s-min=23.6km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.18	49	Pn	Pn	04 37 57.4	-1.4
	70nm,0.3s,baz=198,slow=1.4,SNR=44						
AFI				Sn	Sn	04 38 18.8	-7.6
	165nm,0.3s,baz=63,slow=21,SNR=24						
WRA	Warramunga Arr	49.79	257	P	P	04 46 16.1	+0.4
	0.1nm,0.3s,baz=94,slow=6.6,SNR=5.7						
ASAR	Alice Springs	50.06	252	P	P	04 46 17.9	0.0
	0.6nm,0.6s,baz=86,slow=8.0,SNR=6.9						
NVAR	Mina Array Bea	74.34	42	P	P	04 49 02.5	+1.8
	0.4nm,0.6s,baz=240,slow=7.2,SNR=2.2						

IDC 12 04:46:00.4±1.2, 4854N×15529E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, Error ellipse: s-maj=33.9km s-min=33.0km az=108.0
MOS 12 04:46:02.1±1.2, 4852N×15465E, h17km, mb4.0/4, Error ellipse: s-maj=51.6km s-min=24.8km az=92.5
ISCJB 12 04:46:06.2±3.3, 485N±02×1553E±03, h55km±27km, mb3.7/6, Error ellipse: s-maj=35.9km s-min=26.6km az=30.8
ISC 12 04:46:07.4±3.3, 486N±02×1552E±03, h50km±27km, n11, σ0^{s}42/12, mb3.7/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril’s	2.19	15	ePN	Pn	04 46 41.5	+0.2
SKR				eS	Sn	04 47 07.0	-0.2
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,500nm,0.2s						
SKR				smax			
	comp=E,240nm,0.2s						
SKR				smax			
	comp=Z,100nm,0.6s						
MKAR	Makanchi Array	47.39	297	P	P	04 54 36.3	-0.3
	comp=Z,1.2nm,0.7s,mb4.0,baz=63,slow=8.3,SNR=6.4						
MKAR	Makanchi Array	47.39	297	P	P	04 54 36.3	-0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	Pinedale Array	62.52	56	P	P	04 56 25.8	-0.1
	comp=Z,0.3nm,0.8s,mb3.5,baz=300,slow=4.1,SNR=2.6						
NOA	NORSAR Array B	66.95	342	P	P	04 56 54.9	+0.2
	comp=Z,0.6nm,0.6s,mb3.8,baz=24,slow=6.3,SNR=3.0						
NOA	NORSAR Array B	66.95	342	P	P	04 56 54.9	+0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	70.72	201	P	P	04 57 18.0	-0.2
	comp=Z,0.6nm,1.0s,mb3.5,baz=23,slow=6.7,SNR=5.3						
WRA	Warramunga Arr	70.72	201	P	P	04 57 18.0	-0.1
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AKASG	Malin Array Be	70.81	327	P	P	04 57 18.1	-0.6
	comp=Z,0.2nm,0.3s,mb3.5,baz=34,slow=5.7,SNR=5.7						
BRTR	Keskin Array B	78.02	318	P	P	04 58 01.5	+0.9
	comp=Z,1.1nm,0.9s,mb3.8,baz=74,slow=5.3,SNR=4.4						
BRTR	Keskin Array B	78.02	318	P	P	04 58 01.5	+0.9
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

IDC 12 04:54:37.1±8.8, 518S×14980E, h78km±62km, mb3.4/3, mb1 3.7/4, mb1mx3.4/14, mbtmp3.9/4, ML3.1/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/21, Error ellipse: s-maj=107.1km s-min=71.8km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.95	212	P	Pn	04 55 48.8	0.0
	4.7nm,0.3s,baz=41,slow=8.2,SNR=15						
PMG				S	Sn	04 56 53.5	+8.8
	0.8nm,0.3s,baz=29,slow=15,SNR=4.4						
CTA	Charters Tower	15.21	193	LR	LR	05 02 32.8	
	comp=Z,77nm,19.8s,baz=229,slow=31						
WRA	Warramunga Arr	21.02	224	P	P	04 59 15.6	+1.3
	1.8nm,0.6s,baz=49,slow=10.0,SNR=15						
DZM	Mont Dzumac	23.26	138	LR	LR	05 07 00.5	
	comp=Z,112nm,20.0s,baz=212,slow=32						
ASAR	Alice Springs	23.93	218	P	P	04 59 44.0	+0.3
	1.4nm,0.7s,baz=54,slow=8.6,SNR=15						
FITZ	Fitzroy Crossi	26.88	239	P	P	05 00 09.7	-0.7
	1.8nm,0.8s,baz=95,slow=11,SNR=2.3						
STKA	Stephens Creek	27.65	195	LR	LR	05 09 42.0	
	comp=Z,66nm,21.5s,baz=26,slow=33						
TORD	Torodi Ar. Bea	147.57	286	PKPbc	PKPbc	05 14 13.0	+0.6
	0.5nm,0.9s,baz=68,slow=3.6,SNR=4.6						

NEIC 12 05:04:45.4, 3328S×7028W, h100km, MG3.1(GUC), After GUC.
GUC 12 05:04:45.4±0.7, 3328S×7028W, h100km±2km, MD3.6, ML3.1, 3C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	Farellones	0.05	188	⇓*i*P	Pn	05 05 00.1	+0.8
FCH				i S	Sn	05 05 11.3	+1.8
FCH				AML	AML	05 05 11.8	
	comp=E,2μm,0.2s						
CLCH	Cerro Calan	0.24	241	⇑*i*P	Pn	05 05 00.4	+0.7
CLCH				i S	Sn	05 05 11.6	+1.2
CLCH				AML	AML	05 05 13.2	
	comp=E,2μm,0.6s						
DSCH	Colegio Aleman	0.27	243	⇓*i*P	Pn	05 04 59.8	0.0
DSCH				i S	Sn	05 05 11.1	+0.5
STL	Santa Lucia	0.34	242	⇑*i*P	Pn	05 04 60.0	-0.2
STL				i S	Sn	05 05 11.2	+0.1
PEL	Peldehue	0.36	291	⇓*i*P	Pn	05 05 00.7	+0.4
PEL				i S	Sn	05 05 12.1	+0.6
PEL				AML	AML	05 05 13.2	
	comp=E,1μm,0.6s						
PEL	Peldehue	0.36	291	⇓*i*P	Pn	05 05 00.7	+0.4
PEL				i S	Sn	05 05 12.1	+0.6
SJCH	San Jose de Ma	0.37	189	eP	Pn	05 05 00.4	+0.1
SJCH				i S	Sn	05 05 12.3	+0.8
SJCH				AML	AML	05 05 12.9	
	comp=E,418nm,0.3s						
ANTU	Antumapu	0.41	225	eP	Pn	05 05 01.1	+0.5
ANTU				i S	Sn	05 05 12.7	+0.8
ANTU				AML	AML	05 05 13.4	
	comp=E,632nm,0.4s						
ANTU	Antumapu	0.41	225	eP	Pn	05 05 01.1	+0.5
ANTU				i S	Sn	05 05 12.7	+0.8
TACH	Talagante	0.66	235	⇓*i*P	Pn	05 05 02.6	+0.1
TACH				i S	Sn	05 05 15.3	+0.1
CHCH	Chadas Angostu	0.72	205	eP	Pn	05 05 03.5	+0.5
CHCH				i S	Sn	05 05 17.2	+1.0
CACH	El Canelo	0.88	197	eP	Pn	05 05 05.4	+0.9
CACH				i S	Sn	05 05 20.5	+1.6
LNV	Longovilo	1.16	234	⇑*i*P	Pn	05 05 07.6	0.0
SFDO	San Fernando	1.47	204	eP	Pn	05 05 11.6	+0.4

IDC 12 05:16:20.4±0.6, 3376N×6926E, h0km, mb4.3/20, mb1 4.4/24, mb1mx4.4/27, mbtmp4.3/24, ML4.1/4, MS3.7/11, Ms1 3.7/11, ms1mx3.4/30, Error ellipse: s-maj=15.8km s-min=11.1km az=49.0
BJI 12 05:16:24.8, 34.12N×6939E, h19km, mB5.0, mb4.7, Ms4.4, Msz4.1
MOS 12 05:16:24.5±0.9, 3394N×6924E, h33km, mb4.8/38, Error ellipse: s-maj=8.6km s-min=5.6km az=97.0
ISCJB 12 05:16:24.5±0.6, 3389N±002×6931E±003, h34km±5km, mb4.6/73, MS3.9/21, Error ellipse: s-maj=4.8km s-min=3.7km az=117.8
NEIC 12 05:16:26.5±3.1, 3394N×6930E, h33km±22km, mb4.7/39, Error ellipse: s-maj=8.8km s-min=5.3km az=200.0
NEIC Felt [III] at Kabul.
NNC 12 05:16:32.6±1.5, 3435N×69.19E, h70km±10km, mb4.1, mpv4.7, Error ellipse: s-maj=13.5km s-min=11.3km az=17.0
ISC 12 05:16:27.7±0.4, 3386N±002×6930E±003, h47km±4km, h30km±4.5km:pP-P, n231, σ1^{s}36/261, mb4.6/73, MS3.9/21, 17C-10D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.17	90	⇑P	Pn	05 17 04.1	+2.8
DRP	Derazinda	2.25	160	P	Pn	05 17 05.3	+3.0
THW	Thamme Wali	2.30	117	⇑P	Pn	05 17 05.4	+2.3
CHCP	Chirah Chowk	3.31	92	⇓P	Pn	05 17 19.2	+2.3
SARP	Sargodha	3.43	123	⇓P	Pn	05 17 20.0	+1.4
DLH	Dalhousie	5.74	101	eP	Pn	05 17 51.0	+0.7
DLH				ex	x	05 19 01.0	
PONG	Pong	5.90	107	eP	Pn	05 17 53.0	+0.4
BHK	Bhakra	6.48	110	eP	Pn	05 18 01.8	+1.4
BHK				ex	x	05 19 22.6	
SMLA	Simla	7.18	110	eP	Pn	05 18 10.6	+0.6
SMLA				eS	Sn	05 19 26.7	-3.5
SMLA				AML	AML	05 19 58.9	
	comp=E,682nm,0.8s						
SMLA				AML	AML	05 20 00.9	
	comp=N,920nm,0.5s						
KLP	Kalpa	7.89	105	eP	Pn	05 18 20.2	+0.4
KLP				eS	Sn	05 19 42.8	-4.9
KLP				AML	AML	05 20 33.0	
	comp=N,991nm,0.8s						
KLP				AML	AML	05 20 41.0	
	comp=E,1μm,0.1s						
KHET	Khetri	8.03	134	eP	Pn	05 18 20.8	-0.9
KHET				eS	Sn	05 19 47.1	-3.9
DDI	Dehra Dun	8.22	113	eP	Pn	05 18 25.0	+0.7
DDI				ex	x	05 19 26.0	
KUDL	Kundal	8.39	131	eP	Pn	05 18 26.3	-0.4
KUDL				ex	x	05 19 21.6	
NDI	New Delhi	8.51	125	eP	Pn	05 18 27.7	-0.6
NDI				eS	Sn	05 19 57.8	-5.2
NDI				AML	AML	05 20 21.8	
	comp=N,78nm,0.5s						
NDI				AML	AML	05 20 25.7	
	comp=E,108nm,0.4s						
AYAN	Aya Nagar	8.58	127	eP	Pn	05 18 29.0	-0.3
AYAN				eS	Sn	05 19 59.2	-5.4
AJM	Ajmer	8.69	146	i P	Pn	05 18 29.0	-1.7
AJM				eS	Sn	05 20 03.0	-4.2
AML	Almayashu	8.95	21	P	Pn	05 18 34.9	+0.6
	SNR=32						
KK31	Karatay Array	9.27	5	⇓P	Pn	05 18 36.8	-1.9
	comp=E,12nm,0.3s,baz=195,slow=18,SNR=250						
KK31				⇑S	Sn	05 20 16.6	-5.0
	comp=E,134nm,1.1s,baz=195,slow=21,SNR=4.1						
JOSI	Joshimath	9.29	108	ex	x	05 18 27.6	
JOSI				ex	x	05 19 56.1	
JOSI				AML	AML	05 20 40.1	
	comp=N,779nm,0.3s						
JOSI				AML	AML	05 20 47.3	
	comp=Z,401nm,1.0s						
UCH	Uchtor	9.30	25	P	Pn	05 18 40.2	+1.0
	SNR=63						
KZA	Kyzart	9.45	28	P	Pn	05 18 41.5	+0.4
	SNR=19						
EKS2	Erkin-Say	9.46	20	P	Pn	05 18 42.9	+1.6
	SNR=18						
AAK	Ala-Archa	9.66	23	P	Pn	05 18 44.7	+0.7

SNR=44
AAK Ala-Archa 9.66 23 *e*P **Pn 05 18 43.5 -0.5**
AAK *e* 05 20 30.9
AAK pmax pmax
comp=Z,83nm,0.6s
AAK Ala-Archa 9.66 23 *e*Pn **Pn 05 18 43.5 -0.5**
comp=Z,82nm,0.6s
AAK *e*Sn **Sn 05 20 30.9 -0.1**
KBK Karagaybulak 9.83 25 P **Pn 05 18 47.8 +1.4**
SNR=19
FRU Bishkek 9.88 23⇓*e*P **Pn 05 18 48.0 +1.0**
FRU *i* S **Sn 05 20 43.0 +6.6**
FRU pmax pmax
comp=Z,150nm,1.1s
FRU smax
comp=N,570nm,1.7s
FRU MLR MLR
comp=E,3μm,8.0s
AGRA Agra 9.96 129 *e*P **Pn 05 18 47.3 -0.7**
AGRA *e*S **Sn 05 20 31.1 -7.2**
ULHL Ulahol 9.99 31 P **Pn 05 18 48.5 -0.1**
SNR=7.2
CHMS Chumysh 10.07 23 P **Pn 05 18 50.7 +1.1**
SNR=39
USP Ospenovka 10.23 22 P **Pn 05 18 53.1 +1.3**
SNR=7.9
PTH Pithoragarh 10.24 112 *e*P **Pn 05 18 51.1 -0.8**
PTH *e*x x 05 20 46.9
TKM2 Tokmak 2 10.30 27 P **Pn 05 18 52.8 0.0**
SNR=32
TKM2 Tokmak 2 10.30 27⇓Pn **Pn 05 18 52.5 -0.3**
comp=E,9.2nm,0.8s
TKM2 ⇑Sn **Sn 05 20 42.7 -4.1**
comp=E,7.3nm,0.8s
TKM2 ⇑Lg 05 21 48.3
comp=E,101nm,2.5s
LGTI Lohaghat 10.31 112 *i* P **Pn 05 18 49.8 -3.1**
LGTI *e*x x 05 21 51.5
BHJ Bhuj 10.57 178 *e*P **Pn 05 18 56.2 -0.3**
BHJ *e*S **Sn 05 20 45.8 -7.7**
BHJ *e*S **Sn 05 20 46.7 -6.8**
BHPL Bhopal 12.76 144 *e*P **Pn 05 19 26.0 -0.3**
BHPL *e*x x 05 21 29.8
KOLN Koldanda 13.70 112 *e*P **Pn 05 19 36.1 -3.1**
comp=E,169nm,0.7s
KOLN *e*S **Sn 05 22 05.1 -4.7**
WSAR Wadi Sarin 14.13 224 Pn **Pn 05 19 39.9 -5.2**
comp=E,0.1nm,0.3s,baz=94,slow=19,SNR=2.2
WSAR LR LR 05 26 06.5
comp=E,275nm,18.9s,baz=214,slow=42
GKN Gorkha 14.39 110 *e*P **Pn 05 19 45.1 -3.5**
comp=E,279nm,0.6s
AKL Akola 14.78 151 *e*x x 05 20 00.2
AKL *e*S **Sn 05 22 40.7 +4.5**
DMN Daman 14.94 110 *e*P **Pn 05 19 52.1 -3.7**
comp=E,362nm,0.6s
DMN *e*S **Sn 05 22 33.6 -6.5**
KKN Kakani 14.99 110 *e*P **Pn 05 19 52.3 -4.2**
comp=E,371nm,0.6s
KKN *e*S **Sn 05 22 34.3 -7.0**
PKI Pulchoki 15.20 110 *e*P **Pn 05 19 54.9 -4.2**
comp=E,232nm,0.5s
NGP Nagpur 15.32 143 *e*x x 05 19 58.5
NGP *e*x x 05 22 44.1
GUN Gumba 15.41 108 *e*P **Pn 05 19 57.6 -4.3**
comp=E,372nm,0.7s
GUN *e*S **S 05 22 45.0 -21**
JIRN Jiri 15.77 109 *e*P **Pn 05 20 02.8 -3.7**
comp=E,365nm,0.7s
JIRN *e*S **S 05 22 53.5 -19**
POO Poona 15.80 164 *e*P **Pn 05 20 09.0 +2.1**
comp=E,20nm,1.0s
POO *i* x x 05 23 40.0
POO *i* x x 05 24 05.0
POO *e*x x 05 24 18.0
MK05 Makanchi Array 16.25 34 ⇑P **Pn 05 20 11.3 -1.3**
comp=E,18nm,0.8s
MKAR Makanchi Array 16.25 33 Pn **Pn 05 20 10.5 -2.0**
comp=E,1.1nm,0.3s,baz=220,slow=15,SNR=21
BLSP Bilaspur 16.26 133 *e*P **Pn 05 20 11.2 -1.5**
BLSP AMb AMB 05 20 18.1
comp=Z,29nm,1.4s
BLSP *e*x x 05 23 09.9
LATR Latur 16.70 155 *e*x x 05 23 14.5
AB31 Akbulak array 16.88 338 ⇓P **Pn 05 20 17.7 -2.8**
comp=Z,15nm,0.8s
AB31 ⇑S **S 05 23 18.6 -17**
comp=Z,6.7nm,0.8s,baz=157,slow=21,SNR=4.3
KAD Karad 17.06 164 *e*P **Pn 05 20 23.7 +0.9**
KAD *e*S **S 05 23 34.7 -4.6**
WMQ Urumqi 17.40 50 P **Pn 05 20 26.7 -0.3**
WMQ AP pP 05 20 34.5 -4.2
WMQ XP sP 05 20 39.1 -5.5
WMQ PP 05 20 41.4
WMQ S **S 05 23 35.3 -11**
WMQ XS sS 05 23 47.7 -16
WMQ SS 05 23 56.8
WMQ PCP PcP 05 25 10.3 +3.9
WMQ AMB AMB
comp=Z,59nm,1.0s
WMQ AMB AMB
comp=Z,238nm,4.0s
WMQ LR LR
comp=N,810nm,6.6s
WMQ LR LR
comp=E,571nm,11.2s
WMQ LR LR
comp=Z,315nm,6.6s
BOK Bokaro 17.63 120 *e*x x 05 20 28.0
BOK AMb AMB 05 20 35.5
comp=Z,35nm,0.8s
BOK *e*x x 05 23 41.3
KURK Kurchatov 18.17 19 ⇑P **Pn 05 20 33.4 -3.1**
comp=Z,13nm,1.1s
KURK ⇑S **S 05 23 52.2 -10**
comp=Z,1.8nm,0.9s
KURK Kurchatov 18.17 19 *e*P **Pn 05 20 34.3 -2.1**
KURK pmax pmax
comp=Z,16nm,0.7s
KURK Kurchatov 18.17 19 *e*Pn **Pn 05 20 34.3 -2.2**
comp=Z,16nm,0.7s
HYB Hyderabad 18.36 151⇑*i*P **Pn 05 20 40.0 +1.3**
HYB *e*S **S 05 24 06.0 +0.3**
HYB Hyderabad 18.36 151⇑*e*P **Pn 05 20 40.0 +1.3**
HYB *e*S **S 05 24 22.0 +16**
AKTK Aktyubinsk 18.52 337 P **Pn 05 20 38.1 -2.5**
AKTK S **S 05 24 07.8 -1.0**
AKTK LR LR 05 28 10.8
AKTO Aktyubinsk 18.52 337 ⇑P **Pn 05 20 38.3 -2.3**
comp=Z,1.5nm,0.9s
AKTO Aktyubinsk 18.52 337 P **Pn 05 20 38.1 -2.5**
comp=Z,1.0nm,0.3s,baz=153,slow=12,SNR=77
AKTO S **S 05 24 07.8 -1.0**
comp=Z,0.2nm,0.3s,baz=240,slow=20,SNR=3.7
AKTO LR LR 05 28 10.8
comp=Z,90nm,20.7s,baz=337,slow=38
AKTO Aktyubinsk 18.52 337 P **Pn 05 20 38.1 -2.5**
AKTO S **S 05 24 07.8 -1.0**
VOSK Vostochnaya 18.89 3 ⇑P **Pn 05 20 41.7 -3.5**
comp=Z,20nm,0.9s
VOSK ⇓S **S 05 24 07.8 -8.6**
comp=Z,16nm,1.1s
ZRNK Zerenda 19.08 359 ⇑P **Pn 05 20 43.7 -3.7**
comp=Z,25nm,0.9s
ZRNK Zerenda 19.08 359 *e*P **Pn 05 20 44.4 -3.0**
ZRNK *e* 05 24 22.8
ZRNK pmax pmax
comp=Z,28nm,0.9s
ZRNK Zerenda 19.08 359 *e*P **Pn 05 20 44.4 -3.0**
comp=Z,28nm,0.9s
ZRNK *e*Sn **Sn 05 24 22.8 +2.5**
BVA0 Borovoye Array 19.17 2 ⇓P **Pn 05 20 45.7 -2.8**
comp=Z,3.2nm,0.8s,baz=169,slow=13,SNR=122
BVA0 ⇓S **S 05 24 12.7 -9.3**
comp=Z,5.8nm,1.6s
BVAR Borovoye Array 19.17 2 P **Pn 05 20 45.0 -3.5**
comp=Z,1.9nm,0.3s,baz=172,slow=12,SNR=27
BRVK Borovoye 19.20 2 *e*P **Pn 05 20 46.0 -2.8**
BRVK pmax pmax
comp=Z,17nm,0.8s
BRVK Borovoye 19.20 2 *e*P **Pn 05 20 46.0 -2.8**
comp=Z,16nm,0.8s
CHKZ Chkalovo 19.83 2 ⇓P **Pn 05 20 53.2 -3.1**
comp=Z,10nm,0.7s
CHKZ ⇑S **S 05 24 26.5 -8.6**
comp=Z,36nm,1.9s
CHKZ Chkalovo 19.83 2 *e*P **Pn 05 20 52.6 -3.7**
CHKZ *e* pmax pmax
comp=Z,14nm,0.7s
CHKZ Chkalovo 19.83 2 *e*P **Pn 05 20 52.6 -3.7**
comp=Z,14nm,0.7s
DGRG David-gareji 20.36 299 P **P 05 21 07.6 +7.4**
VIS Vishakhapatnam 20.40 139 *e*P **P 05 21 01.7 +1.1**
GNI Garni 20.56 295 P **P 05 21 02.5 +0.1**
comp=Z,2.9nm,0.5s,baz=210,slow=20,SNR=1.9
GNI LR LR 05 30 23.4
comp=Z,163nm,20.0s,MS3.4,baz=132,slow=41
GNI Garni 20.56 295 *e*P **P 05 21 05.0 +2.6**
GNI pmax pmax
comp=Z,35nm,0.9s
GNI Garni 20.56 295 *e*P **P 05 21 05.0 +2.7**
comp=Z,35nm,0.9s
MTA Mtatsminda 20.85 299 P **P 05 21 06.6 +1.2**
TBLG Delisi 20.89 299 P **P 05 21 07.0 +1.0**
AKH Akhalkalaki 21.73 298 P **P 05 21 17.7 +2.7**
ZEI Tsey 21.76 302 *e*P **P 05 21 20.6 +5.3**
ZEI pmax pmax
comp=Z,11nm,0.3s,mb4.8
ONI Oni 22.03 301 P **P 05 21 20.1 +1.9**
AMRG 22.24 301 P **P 05 21 24.1 +3.7**
ZAL Zalesovo 22.87 24 P **P 05 21 25.0 -2.0**
comp=Z,12nm,0.4s,mb4.7,baz=261,slow=5.9,SNR=17
ZAL Zalesovo 22.87 24 P **P 05 21 25.0 -2.0**
NVS Novosibirsk 23.13 21 *e*P **P 05 21 28.9 -0.9**
NVS *e*S **S 05 25 38.1 +0.5**
NVS pmax pmax
comp=N,16nm,0.6s
NVS pmax pmax
comp=E,6.0nm,0.6s
NVS pmax pmax
comp=Z,20nm,0.6s,mb4.7
NVS smax
comp=N,52nm,1.9s
NVS smax
comp=E,32nm,2.4s
SVE Sverdlovsk 23.72 348 *e*P **P 05 21 39.0 +3.6**
SVE *e* 05 26 45.0
SVE pmax pmax
comp=Z,28nm,2.0s,mb4.3
SVE MLR MLR
comp=N,400nm,13.0s,MS4.2
SVE MLR MLR
comp=E,400nm,13.0s,MS4.2
SVE MLR MLR
comp=Z,300nm,13.0s,MS4.0
ARU Arti 23.75 345 *e*P **P 05 21 34.0 -1.6**
ARU *e* 05 22 05.6
ARU *e*PPP 05 22 13.4
ARU *e*S **S 05 25 36.3 -11**
ARU MLR MLR
comp=Z,200nm,16.0s,MS3.7
ARU MLR MLR
comp=N,100nm,15.0s
ARU Arti 23.75 345 *e*P **P 05 21 34.8 -0.8**
comp=N,21nm,0.8s,mb4.6
GTA Gaotai 25.03 68 *e*P **P 05 21 50.1 +2.8**
GTA AP pP 05 21 57.4 -2.1
GTA XP sP 05 22 01.2 -3.9
GTA AMB AMB
comp=Z,25nm,1.0s,mb4.7
GTA AMB AMB
comp=Z,131nm,5.4s
GTA LR LR
comp=N,381nm,14.5s,MS4.2
GTA LR LR
comp=E,250nm,11.1s,MS4.2
GTA LR LR
comp=Z,503nm,14.1s,MS4.2
MALT Malatya 25.28 289 *e*P **P 05 21 53.3 +3.7**
MALT pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
MALT Malatya 25.28 289 *e*P **P 05 21 53.3 +3.7**
comp=Z,7.7nm,0.9s,mb4.2
ANN Anapa 26.80 304 *e*P pP 05 22 16.9 +1.4
ANN pmax pmax
comp=Z,36nm,1.0s,mb4.9
ANN MLR MLR
comp=Z,134nm,15.0s,MS3.6
ASF Jabal al Asfar 27.17 276 LR LR 05 34 13.2
comp=Z,65nm,21.4s,MS3.2,baz=139,slow=40
MMAI Mount Meron Ar 28.23 278 LR LR 05 35 16.6
comp=Z,209nm,18.5s,MS3.8,baz=85,slow=40
LZH Lanzhou 28.30 76 *e*P **P 05 22 18.5 +1.7**
LZH PP PP 05 23 10.5 -11
LZH *e*S **S 05 26 51.5 -8.3**
LZH AMB AMB
comp=Z,19nm,1.2s,mb4.6
LZH AMB AMB
comp=Z,58nm,4.6s
LZH LR LR
comp=E,279nm,12.3s
LZH LR LR
comp=Z,441nm,14.7s,MS4.2
BR131 Keskin Array S 29.02 292 *e*P **P 05 22 25.3 +2.1**
comp=Z,4.4nm,0.8s,mb4.2
BRTR Keskin Array B 29.02 292 P **P 05 22 23.2 +0.1**
comp=Z,1.6nm,0.8s,mb3.8,baz=111,slow=7.9,SNR=7.0
BRTR LR LR 05 35 56.7
comp=Z,120nm,18.2s,MS3.5,baz=231,slow=40
CD2 Chengdu 29.16 86 *e*P **P 05 22 24.0 -0.4**
CD2 AP pP 05 22 33.5 -3.2
CD2 XP sP 05 22 38.0 -4.3
CD2 PP PP 05 23 18.2 -13
CD2 S **S 05 27 11.5 -1.9**
CD2 XS sS 05 27 27.5 -6.5
CD2 SS SS 05 28 41.2 -37
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.4
CD2 LR LR
comp=N,390nm,16.6s
CD2 LR LR
comp=Z,240nm,13.1s,MS4.0
ZAK Zakamensk 29.79 46 *e*P **P 05 22 30.3 +0.3**
ZAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
KMI Kunming 30.27 98 P **P 05 22 35.6 +1.4**
KMI AP pP 05 22 45.7 -0.8
KMI XP sP 05 22 50.1 -2.0
KMI PP PP 05 23 34.4 -8.7
KMI S **S 05 27 30.7 -0.1**
KMI XS sS 05 27 46.8 -4.6
KMI SS SS 05 29 08.9 -32
KMI AMB AMB
comp=Z,9.0nm,0.8s,mb4.5
KMI LR LR
comp=Z,124nm,20.7s,MS3.5
CM31 Chiang Mai Arr 30.57 113 *e*P **P 05 22 37.7 +0.9**
comp=Z,35nm,0.9s,mb5.2
SONM Songino Array 31.01 52 P **P 05 22 41.5 +0.7**
comp=Z,3.8nm,0.8s,mb4.3,baz=254,slow=9.3,SNR=21
SONM LR LR 05 36 21.8
comp=Z,315nm,18.4s,MS4.0,baz=76,slow=39
OBN Obninsk 31.12 323 P **P 05 22 46.0 +4.3**
OBN *e* 05 29 44.8
OBN pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
OBN MLR MLR
comp=Z,200nm,14.0s,MS3.9
ULN Ulaanbaatar 31.45 52 *e*P **P 05 22 45.2 +0.6**
ULN pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
ULN Ulaanbaatar 31.45 52 *e*P **P 05 22 45.2 +0.5**
comp=Z,3.8nm,0.8s,mb4.3
XAN Xi'an 32.72 78 P **P 05 22 56.8 +1.0**
XAN AMB AMB
comp=Z,18nm,1.2s,mb4.9
BTO Baotou 32.88 66 *e*P **P 05 22 58.4 +1.2**
KLMR Klimovskoe 33.16 334 *e*P **P 05 22 56.1 -3.5**
KLMR pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
AKASG Malin Array Be 33.60 312 P **P 05 23 03.3 -0.1**
comp=Z,1.0nm,0.6s,mb3.9,baz=90,slow=7.3,SNR=6.1
HHC Hu-ho-hao-te 34.05 66 *e*P **P 05 23 08.7 +1.4**
HHC AP pP 05 23 18.4 -1.3
HHC XP sP 05 23 22.1 -3.2
HHC PP PP 05 24 22.1 -2.9
HHC PCP PcP 05 25 46.3 +2.1
HHC S **S 05 28 28.8 -0.8**
HHC XS sS 05 28 43.5 -6.9
HHC SCP ScP 05 29 27.0 +1.9
HHC PCS PcS 05 29 34.3 +4.0
HHC SS SS 05 30 35.7 -22
HHC SCS ScS 05 33 30.5 +3.3
HHC AMB AMB
comp=Z,12nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,176nm,5.2s
HHC LR LR
comp=N,353nm,19.0s
HHC LR LR
comp=E,249nm,6.9s
HHC LR LR
comp=Z,214nm,11.4s
MLR Muntele Rosu 34.94 303 P **P 05 23 16.3 +1.3**
comp=Z,4.7nm,0.9s,mb4.4,baz=69,slow=5.0,SNR=5.4
JOF Joensuu 37.51 332 *e*p **P 05 23 35.9 -1.0**
comp=Z,2.2nm,0.5s,mb4.1
JOF Joensuu 37.51 332 *e*P **P 05 23 35.9 -1.0**
JOF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
BJT Baijiatuau 37.61 67 *e*P **P 05 23 37.6 -0.2**
BJT pmax pmax
comp=Z,13nm,1.0s
BJT Baijiatuau 37.61 67 *e*P **P 05 23 37.6 -0.2**
comp=Z,13nm,1.0s,mb4.6
BJI Beijing 37.62 67 *e*P **P 05 23 40.3 +2.5**
BJI AMB AMB
comp=Z,12nm,0.9s,mb4.6
BJI LR LR
comp=N,307nm,10.5s,MS4.4
BJI LR LR
comp=E,157nm,10.5s,MS4.4
BJI LR LR
comp=Z,156nm,19.2s
WHN Wuhan 38.03 82 P **P 05 23 43.5 +2.1**
BOD Bodaibo 38.27 37 *e*P **P 05 23 43.0 -0.4**
BOD pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
FINES FINESS Array B 38.95 328 P **P 05 23 50.1 +1.0**
comp=Z,2.5nm,0.6s,mb4.1,baz=113,slow=15,SNR=9.4
KAF Kangasniemi 39.14 329 *e*p **P 05 23 52.9 +2.3**
comp=Z,7.3nm,0.7s,mb4.5
KAF Kangasniemi 39.14 329 *e*P **P 05 23 52.9 +2.3**
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
NJ2 Nanjing 41.29 78 *e*P **P 05 24 13.2 +4.7**
NJ2 PP PP 05 25 52.2 +7.8
NJ2 S **S 05 30 17.0 -2.3**
NJ2 AMB AMB
comp=Z,20nm,1.2s,mb4.6
NJ2 AMB AMB
comp=Z,440nm,5.8s
NJ2 LR LR
comp=N,940nm,15.6s,MS5.0
NJ2 LR LR
comp=E,1μm,15.0s,MS5.0
NJ2 LR LR
comp=Z,620nm,15.2s,MS4.6
PSI Prapat 41.46 132 P **P 05 24 08.5 -1.3**
comp=Z,14nm,0.9s,mb4.6,baz=318,slow=18,SNR=4.4
KEV Kevo 42.76 340 *e*p **P 05 24 19.4 -1.1**
comp=Z,5.7nm,0.8s,mb4.3
KEV Kevo 42.76 340 *e*P **P 05 24 19.4 -1.1**
KEV pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
ARCES ARCESS Array B 43.08 339 P **P 05 24 22.1 -0.9**
comp=Z,3.2nm,0.7s,mb4.2,baz=120,slow=6.6,SNR=13
GERES GERESS Array B 43.37 307 P **P 05 24 25.1 -0.3**
comp=Z,0.3nm,0.2s,mb3.6,baz=96,slow=6.8,SNR=5.2
GERES LR LR 05 45 20.1
comp=Z,98nm,18.5s,MS3.7,baz=288,slow=40
SSE Sheshan 43.48 79 P **P 05 24 28.9 +2.7**
SSE PP PP 05 26 09.6 +1.7
SSE S **S 05 30 45.0 -6.5**
SSE SS SS 05 33 59.8 -7.2
SSE AMB AMB
comp=Z,26nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,434nm,5.2s
SSE LR LR
comp=N,161nm,18.3s,MS4.0
SSE LR LR
comp=E,100nm,18.4s,MS4.0
SSE LR LR
comp=Z,96nm,22.0s,MS3.7
CLL Collm 43.82 311 *e*PP PP 05 26 13.0 +1.4
CLL Collm 43.82 311 *e*PP PP 05 26 13.0 +1.4
CLL Collm 43.82 311 *e*P **P 05 24 33.0 +4.0**
CLL pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
CLL Collm 43.82 311 *e*P **P 05 24 33.0 +4.0**
comp=Z,5.0nm,0.7s,mb4.3
NB2 NORSAR Subarra 45.69 325 P **P 05 24 43.5 -0.4**
comp=Z,2.5nm,0.7s,mb4.2,baz=100,slow=7.9
NOA NORSAR Array B 45.69 325 P **P 05 24 43.2 -0.7**
comp=Z,2.7nm,0.6s,mb4.3,baz=101,slow=8.0,SNR=8.6
NOA LR LR 05 45 55.5
comp=Z,96nm,19.8s,MS3.7,baz=95,slow=39
KMBO Kilima Mbogo 46.03 227 LR LR 05 46 51.5
comp=Z,64nm,19.0s,MS3.6,baz=274,slow=40
YAK Yakutsk 46.92 34 *e*P **P 05 24 53.8 +0.3**
YAK pmax pmax
comp=Z,20nm,0.4s,mb5.4
YAK Yakutsk 46.92 34 *e*P **P 05 24 53.8 +0.3**
comp=Z,20nm,0.4s,mb5.4
PGF Pioggiola 47.29 299 *e*P **P 05 24 55.4 -1.0**
comp=Z,22nm,1.0s,mb4.7
PGF Pioggiola 47.29 299 *e*P **P 05 24 55.4 -1.0**
PGF pmax pmax
comp=Z,11nm,1.0s,mb4.7
PGF Pioggiola 47.29 299 *e*P **P 05 24 55.4 -1.0**
comp=Z,11nm,1.0s,mb4.7
KLR Kul'dur 47.84 52 *e*P **P 05 25 00.0 -0.7**
LPG La Plagne 48.39 303 *e*P **P 05 25 04.8 -0.1**
comp=Z,12nm,0.7s,mb4.7
LPG La Plagne 48.39 303 *e*P **P 05 25 04.8 -0.1**
LPG pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
LPG La Plagne 48.39 303 *e*P **P 05 25 04.8 -0.1**
comp=Z,5.9nm,0.7s,mb4.7
LPL La Plagne 48.40 303 *e*P **P 05 25 04.8 -0.2**
comp=Z,12nm,0.8s,mb4.7
LPL La Plagne 48.40 303 *e*P **P 05 25 04.8 -0.2**
LPL pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LPL La Plagne 48.40 303 *e*P **P 05 25 04.8 -0.2**
comp=Z,6.2nm,0.8s,mb4.7
CABF La Chapelle 48.68 305 *e*P **P 05 25 07.2 0.0**
comp=Z,21nm,1.0s,mb4.8
CABF La Chapelle 48.68 305 *e*P **P 05 25 07.2 0.0**
CABF pmax pmax
comp=Z,11nm,1.0s,mb4.8
CABF La Chapelle 48.68 305 *e*P **P 05 25 07.2 0.0**
comp=Z,11nm,1.0s,mb4.8
TIXI Tiksi 48.73 21 *e*P **P 05 25 08.0 +0.4**
TIXI pmax pmax
comp=Z,12nm,0.8s,mb5.0
ORIF Oris-en-Rattie 49.10 303 *e*P **P 05 25 10.0 -0.3**
comp=Z,12nm,0.9s,mb4.6
ORIF *e*R
comp=Z,87nm,18.0s
ORIF Oris-en-Rattie 49.10 303 *e*P **P 05 25 10.0 -0.3**
ORIF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ORIF Oris-en-Rattie 49.10 303 *e*P **P 05 25 10.0 -0.3**
comp=Z,5.8nm,0.9s,mb4.6
BAIF Baives 49.47 310 *e*P **P 05 25 13.0 -0.2**
VIVF Saint-Julien-l 49.95 303 *e*P **P 05 25 16.5 -0.4**
comp=Z,18nm,0.9s,mb4.8
VIVF Saint-Julien-l 49.95 303 *e*P **P 05 25 16.5 -0.4**
VIVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
VIVF Saint-Julien-l 49.95 303 *e*P **P 05 25 16.5 -0.4**
comp=Z,8.8nm,0.9s,mb4.8
KSM Kuching 50.06 121 *e*P **P 05 25 18.4 +0.7**
HABR Khabarovsk 50.10 52 *e*P **P 05 25 18.0 0.0**
HABR *e*S **S 05 32 16.6 -9.4**
SMF Signal de Mont 50.20 305 *e*P **P 05 25 18.3 -0.5**
comp=Z,26nm,0.8s,mb5.0
SMF Signal de Mont 50.20 305 *e*P **P 05 25 18.3 -0.5**
SMF pmax pmax
comp=Z,13nm,0.8s,mb5.0
SMF Signal de Mont 50.20 305 *e*P **P 05 25 18.3 -0.5**
comp=Z,13nm,0.8s,mb5.0
SSF Saint Saulge 50.36 306 *e*P **P 05 25 19.3 -0.6**
comp=Z,7.6nm,0.9s,mb4.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SSF	**Saint Saulge**	**50.36**	**306**	*e*P	**P**	**05 25 19.3**	**-0.6**
SSF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
SSF	**Saint Saulge**	**50.36**	**306**	*e*P	**P**	**05 25 19.3**	**-0.6**
	comp=Z,3.8nm,0.9s,mb4.4						
AVF	**Avril sur Loir**	**50.51**	**306**	*e*P	**P**	**05 25 20.5**	**-0.6**
	comp=Z,19nm,0.9s,mb4.7						
AVF	**Avril sur Loir**	**50.51**	**306**	*e*P	**P**	**05 25 20.5**	**-0.6**
AVF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
AVF	**Avril sur Loir**	**50.51**	**306**	*e*P	**P**	**05 25 20.5**	**-0.6**
	comp=Z,9.6nm,0.9s,mb4.7						
LASF	**Ste Croix**	**50.68**	**302**	*e*P	**P**	**05 25 22.0**	**-0.4**
	comp=Z,19nm,0.9s,mb4.7						
KBS	**Kingsbay**	**50.88**	**348**	*e*P	**P**	**05 25 25.1**	**+1.2**
KBS				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
KBS	**Kingsbay**	**50.88**	**348**	*e*P	**P**	**05 25 25.1**	**+1.3**
	comp=Z,14nm,0.9s,mb4.9						
BGF	**Bois d'Agland**	**50.89**	**305**	*e*P	**P**	**05 25 23.4**	**-0.6**
TCF	**Toulx Ste Croi**	**51.38**	**305**	*e*P	**P**	**05 25 27.6**	**0.0**
KKM	**Kota Kinabalu**	**51.44**	**112**	*e*P	**P**	**05 25 29.7**	**+1.6**
CAF	**Calviac**	**51.76**	**303**	*e*P	**P**	**05 25 29.7**	**-0.7**
	comp=Z,8.8nm,0.8s,mb4.4						
CAF	**Calviac**	**51.76**	**303**	*e*P	**P**	**05 25 29.7**	**-0.7**
CAF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CAF	**Calviac**	**51.76**	**303**	*e*P	**P**	**05 25 29.7**	**-0.7**
	comp=Z,4.4nm,0.8s,mb4.4						
MTLF	**Montolieu**	**52.00**	**301**	*e*P	**P**	**05 25 31.6**	**-0.6**
	comp=Z,8.2nm,0.8s,mb4.4						
MTLF	**Montolieu**	**52.00**	**301**	*e*P	**P**	**05 25 31.6**	**-0.6**
MTLF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
MTLF	**Montolieu**	**52.00**	**301**	*e*P	**P**	**05 25 31.6**	**-0.6**
	comp=Z,4.1nm,0.8s,mb4.4						
RJF	**Les Rejaudoux**	**52.05**	**304**	*e*P	**P**	**05 25 31.8**	**-0.8**
	comp=Z,14nm,0.9s,mb4.6						
RJF				*e*R			
	comp=Z,68nm,18.0s						
RJF	**Les Rejaudoux**	**52.05**	**304**	*e*P	**P**	**05 25 31.8**	**-0.8**
RJF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
RJF				MLR	MLR		
	comp=Z,70nm,18.0s,MS3.7						
RJF	**Les Rejaudoux**	**52.05**	**304**	*e*P	**P**	**05 25 31.8**	**-0.8**
	comp=Z,7.1nm,0.9s,mb4.6						
RJF				LR	LR		
	comp=Z,70nm,18.0s,MS3.7						
LDF	**La Druitiere**	**52.49**	**308**	*e*P	**P**	**05 25 35.5**	**-0.4**
	comp=Z,11nm,0.7s,mb4.6						
LDF	**La Druitiere**	**52.49**	**308**	*e*P	**P**	**05 25 35.5**	**-0.4**
LDF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
LDF	**La Druitiere**	**52.49**	**308**	*e*P	**P**	**05 25 35.5**	**-0.4**
	comp=Z,5.6nm,0.7s,mb4.6						
ETSF	**Etsaut**	**54.08**	**302**	*e*P	**P**	**05 25 47.0**	**-0.6**
	comp=Z,9.8nm,0.7s,mb4.5						
ETSF	**Etsaut**	**54.08**	**302**	*e*P	**P**	**05 25 47.0**	**-0.6**
ETSF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
ETSF	**Etsaut**	**54.08**	**302**	*e*P	**P**	**05 25 47.0**	**-0.6**
	comp=Z,4.9nm,0.7s,mb4.5						
SGMF	**Saint Gilles**	**54.15**	**308**	*e*P	**P**	**05 25 47.8**	**-0.3**
MAJO	**Matsushiro**	**55.25**	**66**	*e*P	**P**	**05 25 56.5**	**+0.5**
MAJO				*e**PP	pP	05 26 02.8	-6.3
MAJO				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2						
MAJO	**Matsushiro**	**55.25**	**66**	*e*P	**P**	**05 25 56.5**	**+0.4**
	comp=Z,19nm,0.8s,mb5.2						
MAJO				*e*pP	pP	05 26 02.8	-6.3
MAT	**Matsushiro**	**55.25**	**66**	P	**P**	**05 25 56.7**	**+0.7**
MAT	**Matsushiro**	**55.25**	**66**	*e*P	**P**	**05 25 57.0**	**+1.0**
MAT				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
MAT	**Matsushiro**	**55.25**	**66**	*e*P	**P**	**05 25 57.0**	**+1.0**
	comp=Z,13nm,0.8s,mb5.0						
MJAR	**Matsushiro Arr**	**55.25**	**66**	P	**P**	**05 25 56.5**	**+0.5**
	comp=Z,12nm,1.0s,mb4.9,baz=292,slow=9.6,SNR=23						
MJAR				LR	LR	05 51 46.2	
	comp=Z,96nm,19.3s,MS3.9,baz=205,slow=38						
YSS	**Yuzh-Sakhalins**	**55.50**	**53**	P	**P**	**05 26 01.1**	**+3.3**
DAG	**Danmarks Havn**	**56.87**	**344**	⇑*i*P	**P**	**05 26 10.5**	**+2.9**
	comp=Z,6.0nm,1.0s,mb4.6						
DAG	**Danmarks Havn**	**56.87**	**344**	⇑*i*P	**P**	**05 26 10.5**	**+2.9**
DAG				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
ESDC	**Sonseca Array**	**57.48**	**299**	P	**P**	**05 26 11.6**	**-0.3**
	comp=Z,1.2nm,0.7s,mb4.1,baz=60,slow=8.3,SNR=4.6						
MDT	**Midelt**	**60.45**	**292**	P	**P**	**05 26 32.9**	**+0.5**
	comp=Z,3.0nm,0.9s,mb4.3,baz=58,slow=17,SNR=2.2						
SUMG	**Summit**	**63.10**	**341**	*e*P	**P**	**05 26 52.0**	**+1.7**
	comp=Z,19nm,1.0s,mb5.2						
TOA0	**Torodi Ar. Sit**	**64.27**	**269**	*e*P	**P**	**05 26 56.6**	**-1.4**
TORD	**Torodi Ar. Bea**	**64.27**	**269**	P	**P**	**05 26 55.9**	**-2.1**
	comp=Z,2.6nm,0.8s,mb4.3,baz=51,slow=5.5,SNR=18						
TORD	**Torodi Ar. Bea**	**64.27**	**269**	P	**P**	**05 26 55.9**	**-2.1**
SFJD	**Kangerlussuaq**	**69.71**	**339**	P	**P**	**05 27 31.7**	**-0.9**
	comp=Z,4.8nm,0.5s,mb4.7,baz=34,slow=3.6,SNR=2.2						
LBTB	**Lobatse**	**71.79**	**221**	*e*P	**P**	**05 27 45.9**	**+0.7**
LBTB				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
LBTB	**Lobatse**	**71.79**	**221**	*e*P	**P**	**05 27 45.9**	**+0.7**
	comp=Z,11nm,1.1s,mb4.7						
DBIC	**Dimbokro**	**73.17**	**267**	P	**P**	**05 27 52.1**	**-1.3**
	comp=Z,2.2nm,0.7s,mb4.2,baz=7.3,slow=6.8,SNR=2.9						
IMA2	**Indian Mountai**	**75.04**	**17**	*e*P	**P**	**05 28 04.8**	**+0.5**
KAKA	**Kakadu**	**75.78**	**116**	*e*P	**P**	**05 28 10.1**	**+1.5**
	comp=Z,7.5nm,0.6s,mb4.8						
INK	**Inuvik**	**76.72**	**9**	*e*P	**P**	**05 28 13.8**	**-0.1**
INK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
INK	**Inuvik**	**76.72**	**9**	*e*P	**P**	**05 28 13.8**	**-0.2**
	comp=Z,6.5nm,1.0s,mb4.5						
COLA	**College**	**77.39**	**15**	*e*P	**P**	**05 28 17.1**	**-0.6**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
COLA	**College**	**77.39**	**15**	*e*P	**P**	**05 28 17.1**	**-0.5**
	comp=Z,5.3nm,0.8s,mb4.5						
DAWY	**Dawson**	**79.80**	**12**	*e*P	**P**	**05 28 33.1**	**+2.1**
WRA	**Warramunga Arr**	**81.82**	**120**	P	**P**	**05 28 40.7**	**-1.0**
	comp=Z,3.6nm,0.9s,mb4.3,baz=320,slow=5.0,SNR=18						
WRA				PP	PP	05 31 48.8	-0.5
	comp=Z,1.7nm,1.0s,baz=317,slow=7.8,SNR=4.6						
WRAB	**Tennant Creek**	**81.82**	**120**	*e*P	**P**	**05 28 42.2**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
WRAB	**Tennant Creek**	**81.82**	**120**	*e*P	**P**	**05 28 42.1**	**+0.4**
	comp=Z,15nm,1.1s,mb4.8						
WB2	**Warramunga Arr**	**81.82**	**120**	*e*P	**P**	**05 28 39.7**	**-2.0**
ASAR	**Alice Springs**	**83.92**	**124**	P	**P**	**05 28 53.0**	**+0.4**
	comp=Z,3.5nm,1.0s,mb4.5,baz=312,slow=4.8,SNR=15						
YKA	**Yellowknife Ar**	**83.93**	**2**	P	**P**	**05 28 52.8**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.4,baz=352,slow=5.0,SNR=7.0						
SCHQ	**Schefferville**	**83.96**	**336**	P	**P**	**05 28 52.9**	**+0.1**
	comp=Z,2.6nm,0.9s,mb4.4,baz=16,slow=18,SNR=2.5						
SCHQ	**Schefferville**	**83.96**	**336**	P	**P**	**05 28 52.9**	**+0.1**
EDM	**Edmonton**	**93.25**	**2**	*e*P	**P**	**05 29 37.6**	**+0.4**

IDC 12 05:39:16.2±2.6**,1569S**×**17325W,h0**km**,mb4.0**/4**, mb1 4.3**/4**,mb1mx3.9**/14**,mbtmp4.0**/4**,Error ellipse: s-maj=161.2km s-min=27.4km az=145.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AFI	**Afiamalu**	**2.27**	**39**	Pn	Pn	05 39 47.7	-7.3
	24nm,0.3s,baz=219,slow=6.2,SNR=25						
AFI				Sn	Sn	05 40 06.0	-18
	206nm,0.3s,baz=68,slow=23,SNR=29						
STKA	**Stephens Creek**	**44.02**	**240**	P	P	05 47 26.3	+0.8
	1.4nm,0.5s,baz=34,slow=7.3,SNR=2.8						
WRA	**Warramunga Arr**	**49.92**	**257**	P	P	05 48 11.5	-0.1
	1.4nm,0.5s,baz=91,slow=6.7,SNR=35						
ASAR	**Alice Springs**	**50.16**	**252**	P	P	05 48 13.6	+0.1
	2.1nm,0.6s,baz=88,slow=8.0,SNR=34						
PDAR	**Pinedale Array**	**82.38**	**42**	P	P	05 51 40.2	+0.1
	0.5nm,0.8s,baz=262,slow=3.0,SNR=5.0						
GERES	**GERESS Array B**	**146.45**	**352**	PKPbc	PKPbc	05 58 57.9	-1.3
	0.4nm,0.2s,baz=336,slow=2.2,SNR=4.0						
BRTR	**Keskin Array B**	**146.47**	**321**	PKPbc	PKPbc	05 59 00.5	+1.2
	3.0nm,1.0s,baz=71,slow=1.8,SNR=10						

CASC 12 06:14:08.2±2.8**,1335N**×**9104W,h25**km±11km**,MD3.9, 3C-5D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
IXG	**Ixpaco**	**1.00**	**34**	*e*P	Pn	06 14 26.1	-0.5
IXG				*e*S	Sb	06 14 40.7	+1.1
TER	**Terranova**	**1.01**	**20**	⇑*e*P	Pn	06 14 26.8	0.0
FUG	**Fuego 3**	**1.11**	**10**	⇓*i*P	Pn	06 14 28.7	+0.6
PCG	**Pacaya**	**1.12**	**22**	*e*P	Pn	06 14 29.0	+0.7
JAT	**Jato**	**1.13**	**329**	⇑*e*P	Pn	06 14 29.2	+0.8
TP2	**Tecpan 2**	**1.43**	**1**	*e*P	Pn	06 14 33.0	+0.5
TP2				*e*S	Sn	06 14 52.0	+1.5
RTR	**El Retiro**	**1.46**	**68**	⇓*e*P	x	06 14 44.6	
RTR				*e*S	x	06 15 04.7	
SBLS	**San Blas**	**1.46**	**70**	⇑*e*P	x	06 14 44.5	
SBLS				*e*S	x	06 15 04.2	
RBDL	**Robledal**	**1.52**	**60**	⇓*e*P	x	06 14 45.4	
RBDL				*e*S	x	06 15 06.4	
BOQS	**Boqueron**	**1.75**	**77**	*e*P	x	06 14 50.4	
BOQS				*e*S	x	06 15 12.3	
MTO2	**Montecristo 2**	**1.94**	**57**	⇓*e*P	x	06 14 51.8	
MTO2				*e*S	x	06 15 17.0	
LFRS	**El Faro**	**1.94**	**82**	*e*P	x	06 14 52.1	
LFRS				*e*S	x	06 15 17.7	
LBRS	**Las Brisas**	**1.98**	**78**	*e*P	x	06 14 52.7	
LBRS				*e*S	x	06 15 18.1	
LCBS	**La Ceiba**	**2.03**	**81**	⇓*e*P	x	06 14 53.1	
LCBS				*e*S	x	06 15 18.8	
CNCH	**Conchagua**	**3.12**	**91**	*e*P	x	06 15 08.7	
CNCH				*e*S	x	06 15 46.5	

NNC 12 06:14:49.6±3.1**,5343N**×**8695E,h0**km**,mb3.8,mpv3.5, 6C-5D,Error ellipse: s-maj=28.8km s-min=11.2km az=78.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KURK	**Kurchatov**	**5.81**	**245**	⇓Pn	Pn	06 16 17.4	+0.3
	2.4nm,0.7s						
KURK				⇓Lg		06 17 54.0	
	24nm,1.0s						
MK05	**Makanchi Array**	**7.29**	**206**	⇑Pn	Pn	06 16 35.1	-2.2
	3.0nm,0.8s						
MK05				⇓Sn	Sn	06 18 02.3	+1.6
	7.1nm,0.9s						
MK05				⇑Lg		06 18 40.7	
	8.9nm,0.9s						
VOSK	**Vostochnaya**	**9.64**	**272**	⇑Pn	Pn	06 17 07.9	-1.7
	3.6nm,1.2s						
VOSK				⇑Sn	Sn	06 18 57.7	-1.0
	7.7nm,0.9s						
CHKZ	**Chkalovo**	**9.73**	**278**	⇑Pn	Pn	06 17 11.6	+0.8
	3.2nm,0.9s						
CHKZ				⇓Sn	Sn	06 19 00.2	-0.6
	4.0nm,0.8s						
BVA0	**Borovoye Array**	**9.95**	**274**	Pn	Pn	06 17 17.5	+3.7
	0.6nm,1.4s,baz=83,slow=14,SNR=4.5						
BVA0				Sn	Sn	06 19 06.0	-0.1
	1.1nm,1.0s,baz=87,slow=18,SNR=7.3						
ZRNK	**Zerenda**	**10.78**	**275**	⇓Pn	Pn	06 17 24.1	-1.1
	2.9nm,1.4s						
ZRNK				⇑Sn	Sn	06 19 26.6	-0.1
	3.4nm,0.8s						

IDC ***12*** *06:32:20.4±2.4, 2434N×12222E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.5/3, Error ellipse: s-maj=378.7km s-min=28.7km az=70.0*

ISCJB ***12*** *06:32:21.5±3.7, 245N±0.1×1224E±02, h21km±28km, mb3.4/3, Error ellipse: s-maj=39.2km s-min=17.2km az=136.9*

NEIC ***12*** *06:32:21.4±1.2, 2449N×12238E, h10km, MG3.2(JMA), Error ellipse: s-maj=18.9km s-min=11.9km az=213.0*

ISC 12 06:32:21.3±3.8**,245N**±01×**1224E**±02**,h6**km±25km**,n6, σ1s18**/8**,mb3.4**/3**,Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NACB	**Ninganchiao**	**0.78**	**247**	*e*Pg	**Pg**	**06 32 37.2**	**+1.1**
YHNB	**Yeheng**	**0.93**	**282**	*e*Pg	**Pg**	**06 32 39.2**	**+0.1**
YHNB				*e*Sg	**Sg**	**06 32 50.4**	**-0.7**
TATO	**Taipei**	**0.94**	**301**	*e*Pg	**Pg**	**06 32 38.5**	**-0.9**
TATO				*e*Sg	**Sg**	**06 32 52.0**	**+0.4**
SONM	**Songino Array**	**26.53**	**335**	P	**P**	**06 38 00.5**	**+0.9**
	0.5nm,0.8s,mb3.1,baz=151,slow=9.7,SNR=4.0						
WRA	**Warramunga Arr**	**45.67**	**164**	P	**P**	**06 40 41.3**	**-1.4**
	0.4nm,0.6s,mb3.5,baz=346,slow=8.1,SNR=5.1						
ASAR	**Alice Springs**	**49.15**	**166**	P	**P**	**06 41 10.3**	**+0.5**
	0.6nm,0.7s,mb3.7,baz=347,slow=7.8,SNR=3.0						

KNET ***12*** *06:38:50.8±0.3, 4225N×7478E, h19km±2km, ml2.4, Error ellipse: s-maj=2.5km s-min=1.9km az=24.0*

ISCJB ***12*** *06:38:51.7±0.6, 4225N±004×7482E±004, h15km±5km, Error ellipse: s-maj=6.6km s-min=4.7km az=168.3*

NNC ***12*** *06:38:56.0±3.2, 4268N×7477E, h0km, mb3.2, mpv2.4, Error ellipse: s-maj=69.9km s-min=6.7km az=173.0*

ISC 12 06:38:51.7±0.6**,4226N**±004×**7480E**±004**,h17**km±4km**,n13, σ0s62**/22**,9C-10D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
UCH	**Uchtor**	**0.21**	**263**	P	**Pg**	**06 38 56.6**	**-0.2**
	197nm,0.2s,SNR=918						
UCH				⇑S	**Sg**	**06 39 00.0**	**-0.2**
	444nm,0.1s						
KZA	**Kyzart**	**0.38**	**118**	⇓P	**Pg**	**06 38 59.5**	**-0.1**
	47nm,0.1s,SNR=58						
KZA				⇓S	**Sg**	**06 39 05.5**	**+0.7**
	3μm,0.2s						
KBK	**Karagaybulak**	**0.42**	**15**	P	**Pg**	**06 39 00.2**	**0.0**
	504nm,0.1s,SNR=732						
KBK				⇑S	**Sg**	**06 39 06.2**	**+0.3**
	1μm,0.2s						
AAK	**Ala-Archa**	**0.44**	**329**	P	**Pg**	**06 39 00.7**	**0.0**
	157nm,0.2s,SNR=149						
AAK				⇑S	**Sg**	**06 39 06.7**	**0.0**
	185nm,0.2s						
CHMS	**Chumysh**	**0.74**	**357**	P	**Pb**	**06 39 05.8**	**-0.4**
	81nm,0.2s,SNR=95						
CHMS				⇓S	**Sb**	**06 39 15.8**	**-0.2**
	174nm,0.4s						
AML	**Almayashu**	**0.83**	**262**	⇓P	**Pb**	**06 39 06.4**	**-1.2**
	18nm,0.1s,SNR=42						
AML				⇑S	**Sb**	**06 39 18.7**	**+0.2**
	108nm,0.2s						
EKS2	**Erkin-Say**	**0.86**	**299**	⇑P	**Pb**	**06 39 08.1**	**-0.1**
	24nm,0.1s,SNR=60						
EKS2				⇓S	**Sb**	**06 39 20.5**	**+1.2**
	105nm,0.2s						
TKM2	**Tokmak 2**	**0.89**	**41**	⇓P	**Pb**	**06 39 08.3**	**-0.3**
	29nm,0.1s,SNR=91						
TKM2	**Tokmak 2**	**0.89**	**41**	⇑P	**Pb**	**06 39 08.2**	**-0.4**
	0.4nm,0.3s						
TKM2				⇓S	**Sb**	**06 39 19.2**	**-0.9**
	0.2nm,0.1s						
USP	**Ospenovka**	**1.03**	**348**	P	**Pb**	**06 39 11.0**	**-0.1**
	34nm,0.1s,SNR=22						
USP				⇑S	**Sb**	**06 39 24.7**	**+0.3**
	95nm,0.1s						
ULHL	**Ulahol**	**1.07**	**90**	⇓P	**Pb**	**06 39 11.3**	**-0.4**
	16nm,0.1s,SNR=66						
KK31	**Karatay Array**	**3.27**	**286**	⇑Pn	**Pn**	**06 39 51.1**	**+8.9**
	1.5nm,0.5s,baz=107,slow=16,SNR=12						
KK31				⇓Lg		06 40 34.7	
	3.5nm,0.4s,baz=100,slow=28,SNR=9.3						
MK05	**Makanchi Array**	**7.02**	**47**	⇑Pn	**Pn**	**06 40 35.3**	**+1.7**
	0.9nm,0.8s						
MK05				⇓Lg		06 42 31.9	
	1.3nm,0.6s						

MOS ***12*** *06:58:05.1±1.1, 6131N×16732E, h10km, mb4.3/11, Error ellipse: s-maj=16.9km s-min=12.2km az=90.3*

IDC ***12*** *06:58:05.1±1.9, 6125N×16754E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/22, mbtmp4.0/11, MS3.3/1, Ms1 3.4/1, ms1mx2.3/31, Error ellipse: s-maj=54.9km s-min=18.3km az=2.0*

ISCJB ***12*** *06:58:06.4±0.3, 6135N±008×16741E±007, h15km, mb4.3/32, MS4.0/4, Error ellipse: s-maj=11.3km s-min=4.8km az=158.6*

NEIC ***12*** *06:58:08.2±0.3, 6132N×16741E, mb4.3/17, Error ellipse: s-maj=9.4km s-min=4.5km az=183.0*

BJI ***12*** *06:58:09.5, 6153N×16642E, h16km, mB4.6, mb4.6, Ms4.6, Msz4.2*

ISC 12 06:58:08.2±0.3**,6141N**±008×**16741E**±007**,h16**km**, h16**km±.5km**:pP-P,n64,σ0s99**/67**,mb4.3**/32**,MS4.0**/4**, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MA2	**Magadan**	**8.41**	**265**	*e*Pn	**Pn**	**07 00 09.7**	**+0.3**
MA2				*e*pPn		07 00 12.5	
SMY	**Shemya**	**9.43**	**154**	*e*Pn	**Pn**	**07 00 22.0**	**-1.3**
SMY				*e*pPn		07 00 25.5	
PET	**Petropavlovsk**	**9.64**	**213**	*e*PN	**Pn**	**07 00 33.0**	**+6.7**
PET				*e*		07 02 20.9	
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
TTA	**Tatalina**	**17.00**	**69**	*e*P	**Pn**	**07 02 05.6**	**+0.3**
IMA2	**Indian Mountai**	**17.61**	**58**	*e*Pn	**Pn**	**07 02 14.4**	**+1.6**
IMA2				*e*pP	pP	07 02 18.4	0.0
IMA2				*e*sP	sP	07 02 21.5	+1.0
SVW2	**Sparrevohn**	**17.66**	**75**	*e*Pn	**Pn**	**07 02 12.8**	**-0.6**
MCK	**McKinley**	**19.95**	**64**	*e*P	**Pn**	**07 02 41.1**	**-0.1**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MCK	**McKinley**	**19.95**	**64**	*e*P	**Pn**	**07 02 41.1**	**-0.2**
	comp=Z,7.8nm,1.1s						
COLA	**College**	**20.18**	**61**	*e*P	**P**	**07 02 42.3**	**+0.4**
COLA				pmax	pmax		
	comp=Z,12nm,1.2s						
COLA	**College**	**20.18**	**61**	*e*P	**P**	**07 02 42.3**	**+0.3**
	comp=Z,12nm,1.2s						
YSS	**Yuzh-Sakhalins**	**20.25**	**236**	*e*P	**P**	**07 02 43.2**	**+0.4**
KDAK	**Kodiak Island**	**20.34**	**82**	P	**P**	**07 02 41.2**	**-2.5**
	comp=Z,11nm,0.9s,baz=302,slow=13,SNR=2.9						
SML	**Sawmill**	**20.75**	**69**	*e*P	**P**	**07 02 48.5**	**+0.3**
SML				*e*		07 02 52.2	
DAWY	**Dawson**	**23.93**	**60**	*e*P	**P**	**07 03 20.2**	**-1.2**
DAWY				*e*PcP	PcP	07 07 03.0	-0.6
INK	**Inuvik**	**25.07**	**49**	P	**P**	**07 03 31.3**	**-0.6**
	comp=Z,9.9nm,0.8s,mb4.4,baz=288,slow=12,SNR=30						
INK	**Inuvik**	**25.07**	**49**	*e*P	**P**	**07 03 32.6**	**+0.7**
INK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
INK	**Inuvik**	**25.07**	**49**	*e*P	**P**	**07 03 32.6**	**+0.8**
	comp=Z,9.1nm,0.8s,mb4.4						
BOD	**Bodaibo**	**26.61**	**286**	*e*P	**P**	**07 03 43.8**	**-2.0**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.8						
MDJ	**Mudanjiang**	**27.74**	**250**	P	**P**	**07 03 55.4**	**-0.5**
MDJ				AP	pP	07 03 58.4	-2.5
MDJ				PCP	PcP	07 07 12.6	+0.2
MDJ				S	**S**	**07 08 37.8**	**+0.1**
MDJ				XS	sS	07 08 43.3	-2.6
MDJ				SCP	ScP	07 10 53.3	+0.9
MDJ				PCS	PcS	07 10 54.4	+0.1
MDJ				AMB	AMB		
	comp=Z,5.0nm,2.3s,mb3.7						
MDJ				AMB	AMB		
	comp=Z,71nm,3.4s						
MDJ				LR	LR		
	comp=N,243nm,26.2s						
MDJ				LR	LR		
	comp=E,157nm,16.5s						
MDJ				LR	LR		
	comp=Z,145nm,13.8s						
CN2	**Changchun**	**30.27**	**254**	*e*P	**P**	**07 04 19.2**	**+0.8**
SONM	**Songino Array**	**36.40**	**277**	P	**P**	**07 05 11.9**	**+0.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=52,slow=9.3,SNR=3.7						
HHC	**Hu-ho-hao-te**	**39.09**	**265**	*e*P	**P**	**07 05 33.5**	**-1.1**
HHC				AP	pP	07 05 38.9	-0.7
HHC				XP	sP	07 05 43.3	+1.7
HHC				PP	PP	07 07 07.8	+3.6
HHC				S	**S**	**07 11 31.2**	**-2.2**
HHC				XS	sS	07 11 41.0	-0.7
HHC				SS	SS	07 14 15.0	-11
HHC				SCS	ScS	07 15 42.7	-0.6
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,133nm,5.4s						
HHC				LR	LR		
	comp=N,162nm,6.8s						
HHC				LR	LR		
	comp=E,269nm,6.3s						
HHC				LR	LR		
	comp=Z,200nm,7.3s						
NJ2	**Nanjing**	**42.83**	**249**	*e*P	**P**	**07 06 07.0**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
WALA	**Waterton Lakes**	**43.75**	**69**	*e*P	**P**	**07 06 12.4**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.0						
BMO	**Blue Mountains**	**45.32**	**75**	*e*P	**P**	**07 06 24.7**	**-0.7**
	comp=Z,4.4nm,1.1s,mb4.2						
BMO				*e*pP	pP	07 06 29.5	-1.0
BMO				*e*PcP	PcP	07 08 05.0	+0.2
LZH	**Lanzhou**	**46.56**	**267**	*e*P	**P**	**07 06 32.5**	**-2.6**
LZH				AP	pP	07 06 37.2	-3.0
LZH				PP	PP	07 08 22.6	-1.9
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,46nm,7.5s						
LZH				LR	LR		
	comp=N,399nm,15.7s						
LZH				LR	LR		
	comp=Z,453nm,18.2s,MS4.5						
ARCES	**ARCESS Array B**	**46.56**	**343**	P	**P**	**07 06 34.8**	**-0.4**
	comp=Z,3.1nm,1.1s,mb4.2,baz=25,slow=6.9,SNR=3.1						
ARE0	**ARCESS Array S**	**46.56**	**343**	*e*P	**P**	**07 06 34.2**	**-0.9**
KURK	**Kurchatov**	**46.91**	**299**	*e*P	**P**	**07 06 38.5**	**+0.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
KURK	**Kurchatov**	**46.91**	**299**	*e*P	**P**	**07 06 38.5**	**+0.7**
	comp=Z,3.1nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**47.87**	**307**	*e*P	**P**	**07 06 45.0**	**-0.3**
CHKZ				*e*		07 08 14.0	
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**47.87**	**307**	*e*P	**P**	**07 06 45.0**	**-0.3**
	comp=Z,1.4nm,0.6s,mb4.2						
CHKZ				*e*PcP	PcP	07 08 14.0	+0.2
GCMT	**Greycliff**	**48.10**	**69**	*e*P	**P**	**07 06 46.9**	**-0.2**
WMQ	**Urumqi**	**48.16**	**287**	P	**P**	**07 06 50.2**	**+2.7**
WMQ				AP	pP	07 06 54.7	+2.0
WMQ				XP	sP	07 06 57.2	+2.5
WMQ				PP	PP	07 08 42.0	+2.2
WMQ				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,31nm,4.1s						
WMQ				LR	LR		
	comp=N,93nm,15.0s,MS4.0						
WMQ				LR	LR		
	comp=E,70nm,13.9s,MS4.0						
WMQ				LR	LR		
	comp=Z,95nm,15.5s,MS3.9						
MKAR	**Makanchi Array**	**48.31**	**294**	P	**P**	**07 06 47.9**	**-0.9**
	comp=Z,0.5nm,0.6s,mb3.7,baz=48,slow=7.9,SNR=4.4						
BVAR	**Borovoye Array**	**48.46**	**307**	P	**P**	**07 06 50.3**	**+0.4**
	comp=Z,1.7nm,0.5s,mb4.3,baz=56,slow=8.0,SNR=9.5						
BRVK	**Borovoye**	**48.47**	**307**	*e*P	**P**	**07 06 49.9**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
BRVK	**Borovoye**	**48.47**	**307**	*e*P	**P**	**07 06 49.9**	**0.0**
	comp=Z,1.7nm,0.7s,mb4.2						
FLWY	**Flagg Ranch**	**48.95**	**71**	*e*P	**P**	**07 06 54.2**	**+0.5**
	comp=Z,8.0nm,0.9s,mb4.8						
FLWY				*e*pP	pP	07 06 59.5	+0.6
IMW	**Indian Meadow**	**48.99**	**71**	*e*P	**P**	**07 06 54.6**	**+0.6**
	comp=Z,2.8nm,0.8s,mb4.3						
IMW				*e*pP	pP	07 07 00.2	+1.1
ZRNK	**Zerenda**	**49.05**	**308**	*e*P	**P**	**07 06 54.2**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
ZRNK	**Zerenda**	**49.05**	**308**	*e*P	**P**	**07 06 54.2**	**-0.2**
	comp=Z,7.2nm,1.4s,mb4.5						
TPAW	**Teton Pass**	**49.30**	**72**	*e*P	**P**	**07 06 56.8**	**+0.5**
	comp=Z,3.5nm,0.9s,mb4.4						
TPAW				*e*pP	pP	07 07 01.5	+0.1
ELK	**Elko**	**49.46**	**77**	*e*P	**P**	**07 06 58.2**	**+0.7**
ELK				*e**PP	pP	07 07 02.6	-0.1
ELK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ELK	**Elko**	**49.46**	**77**	*e*P	**P**	**07 06 58.1**	**+0.6**
	comp=Z,1.7nm,0.8s,mb4.1						

ELK epP pP 07 07 02.6 -0.1
PDAR Pinedale Array 50.50 71 P P 07 07 04.8 -0.6
comp=Z,2.3nm,0.7s,mb4.2,baz=328,slow=3.5,SNR=26
ULM Lac du Bonnet 50.50 56 P P 07 07 04.8 -0.7
comp=Z,2.3nm,0.9s,mb4.1,baz=326,slow=12,SNR=3.3
ULM Lac du Bonnet 50.50 56 eP P 07 07 05.4 -0.1
ULM epP pP 07 07 10.1 -0.5
MSU Marysvale 52.67 77 eP P 07 07 22.8 +1.2
CCUT Cedar City 52.88 78 eP P 07 07 23.7 +0.4
CCUT epP pP 07 07 27.9 -0.5
CCUT esP sP 07 07 31.4 +1.0
SRU San Rafael 52.96 75 eP P 07 07 24.3 +0.5
SRU pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
SRU San Rafael 52.96 75 eP P 07 07 24.3 +0.5
comp=Z,4.9nm,0.6s,mb4.6
FINES FINESS Array B 53.96 338 P P 07 07 31.9 +0.7
comp=Z,1.1nm,0.8s,mb3.9,baz=305,slow=8.3,SNR=2.7
WUAZ Wupatki 55.46 78 eP P 07 07 42.4 +0.3
comp=Z,4.0nm,0.8s,mb4.5
WUAZ epP pP 07 07 47.4 +0.2
KMI Kunming 56.17 261 P P 07 07 49.5 +2.4
KMI AP pP 07 07 53.6 +1.3
KMI XP sP 07 07 56.3 +2.0
KMI S S 07 15 34.4 -1.3
KMI XS sS 07 15 43.7 -0.6
KMI SS SS 07 19 19.3 -2.9
KMI AMB AMB
comp=Z,5.0nm,0.6s,mb4.7
KMI AMB AMB
comp=Z,150nm,4.1s
KMI LR LR
comp=N,292nm,21.1s,MS4.4
KMI LR LR
comp=E,197nm,20.4s,MS4.4
KMI LR LR
comp=Z,210nm,31.6s
NOA NORSAR Array B 56.52 346 P P 07 07 49.2 -0.5
comp=Z,0.7nm,0.6s,mb3.9,baz=13,slow=7.3,SNR=2.6
NOA LR LR 07 37 55.5
comp=Z,22nm,18.1s,MS3.3,baz=30,slow=42
QIZ Qiongzhong 58.11 250 P P 07 08 02.0 +1.1
QIZ eS S 07 16 02.4 +1.0
QIZ AMB AMB
comp=Z,19nm,2.1s,mb4.8
QIZ AMB AMB
comp=Z,307nm,3.1s
QIZ LR LR
comp=N,354nm,18.7s
QIZ LR LR
comp=Z,343nm,28.1s
ANMO Albuquerque 58.23 75 eP P 07 08 02.5 +0.8
ANMO e*PP pP 07 08 07.1 +0.2
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 58.23 75 eP P 07 08 02.5 +0.8
comp=Z,2.1nm,0.9s,mb4.2
ANMO epP pP 07 08 07.1 +0.2
LAZ Ladron 58.36 76 eP P 07 07 59.0 -3.6
AKASG Malin Array Be 63.35 332 P P 07 08 36.2 -0.3
comp=Z,0.2nm,0.2s,mb3.8,baz=21,slow=6.2,SNR=3.5
WVT Waverly 65.46 59 eP P 07 08 49.5 -0.8
WVT e*PP pP 07 08 54.4 -1.2
WVT pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
WVT Waverly 65.46 59 eP P 07 08 49.5 -0.8
comp=Z,2.6nm,0.7s,mb4.4
WVT epP pP 07 08 54.4 -1.3
QSPA South Pole Qui 151.18 180 ePKPdf PKPdf 07 17 52.9 -1.9
QSPA epPKPdf pPKPdf 07 17 57.5 -2.8

MOS 12 07:02:52.2±1.5, 5.22S×150.40E, h31km, mb4.9/4, Error ellipse: s-maj=15.3km s-min=9.7km az=66.6
IDC 12 07:02:53.9±3.5, 5.33S×150.74E, h44km±31km, mb4.2/13, mb1 4.4/15, mb1mx4.4/18, mbtmp4.5/15, ML3.9/1, MS4.2/21, Ms1 4.2/21, ms1mx4.1/29, Error ellipse: s-maj=23.3km s-min=18.6km az=92.0
ISCJB 12 07:02:54.4±2.4, 5.44S±0.06×150.72E±0.10, h56km±21km, mb4.6/29, MS4.2/20, Error ellipse: s-maj=16.5km s-min=10.1km az=176.4
NEIC 12 07:02:55.6±1.6, 5.39S×150.78E, h59km±14km, mb4.9/15, Error ellipse: s-maj=11.0km s-min=8.1km az=83.0
HRVD 12 07:02:55.6±0.3, 5.52S×150.92E, h12km, MW5.0/74, Centroid moment Tensor Solution. LP body waves: s19,c25;Mantle waves: s74,c110; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.39±.11; $M_{\theta\theta}$3.18±.09; $M_{\phi\phi}$-2.80±.10; $M_{r\theta}$-0.15±.28; $M_{\theta\phi}$1.48±.09; $M_{\phi r}$0.85±.31; Best double couple: $M_0$3.46000×10^{16} NP1:ϕ_s121.00000°,δ78.00000°,λ-11.00000°. NP2: ϕ_s213.00000°,δ79.00000°,λ-168.00000°. Principal axes: T 3.5270, Plg1.0000°, Azm347.0000°; N -0.1390, Plg74.0000°, Azm254.0000°; P -3.3940, Plg16.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
BJI 12 07:02:55.5, 5.40S×150.80E, h58km, mB5.3, mb4.7, Ms4.8, Msz4.5
ISC 12 07:02:56.1±2.0, **5.47S**±0.06×**150.78E**±0.10, **h56**km±18km, **h35**km±6.8km**:pP-P, n70,** σ**1.16**/58, **mb4.7**/29, **MS4.2**/20, **New Britain region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 5.32 222 P Pn 07 04 13.8 +0.9
26nm,0.3s,baz=47,slow=11,SNR=46
PMG S Sn 07 05 11.7 -1.1
5.0nm,0.3s,baz=20,slow=12,SNR=3.8
PMG LR LR 07 06 24.2
comp=Z,2µm,18.3s,baz=45,slow=39
PMG Port Moresby 5.32 222 eP Pn 07 04 13.2 +0.3
PMG e 07 05 01.8
PMG pmax pmax
comp=Z,212nm,0.8s
PMG Port Moresby 5.32 222 ePn Pn 07 04 13.2 +0.3
comp=Z,212nm,0.8s
PMG eSn Sn 07 05 01.8 -11
HNR Honiara 9.90 114 LR LR 07 08 47.4
comp=Z,1µm,18.2s,baz=353,slow=35
JAY Jayapura 10.47 286 eP Pn 07 05 15.1 -8.4
CTA Charters Tower 15.19 196 eP Pn 07 06 28.1 +1.0
comp=Z,14nm,1.2s
CTA epP pP 07 06 33.4 -10
CTA Charters Tower 15.19 196 P Pn 07 06 27.8 +0.7
baz=18,slow=13,SNR=5.2
CTA LR LR 07 11 31.4
comp=Z,2µm,21.4s,baz=16,slow=34
CTA Charters Tower 15.19 196 eP Pn 07 06 28.1 +1.0
CTA pmax pmax
comp=Z,14nm,1.2s
CTAO Charters Tower 15.19 196 eP Pn 07 06 28.2 +1.1
CTAO pmax pmax
comp=Z,191nm,1.7s
CTAO Charters Tower 15.19 196 ePn Pn 07 06 28.2 +1.1
comp=Z,191nm,1.7s
KAKA Kakadu 19.48 247 eP Pn 07 07 18.0 -2.0
comp=Z,56nm,1.2s
GUMO Guam 19.82 343 LR LR 07 13 51.5
comp=Z,366nm,18.8s,baz=154,slow=33
WRAB Tennant Creek 21.50 227 eP P 07 07 39.3 -0.9
WRAB pmax pmax
comp=Z,64nm,1.0s,mb5.0
WRAB Tennant Creek 21.50 227 eP P 07 07 39.2 -0.9
comp=Z,64nm,1.0s,mb5.0
WB2 Warramunga Arr 21.51 227 eP P 07 07 39.7 -0.6
WRA Warramunga Arr 21.52 227 P P 07 07 39.7 -0.6
comp=Z,26nm,0.9s,mb4.7,baz=52,slow=10,SNR=90
DZM Mont Dzumac 22.41 139 P P 07 07 49.3 -0.5
comp=Z,7.8nm,0.8s,mb4.2,baz=328,slow=19,SNR=6.3
DZM LR LR 07 15 22.7
comp=Z,2µm,19.7s,MS4.5,baz=324,slow=33
AS31 Alice Springs 24.32 220 eP P 07 08 09.7 +1.3
ASAR Alice Springs 24.33 220 P P 07 08 09.2 +0.8
comp=Z,13nm,0.8s,mb4.4,baz=52,slow=8.3,SNR=57
ASAR LR LR 07 16 35.7
comp=Z,419nm,19.9s,MS3.9,baz=51,slow=34
ASAR Alice Springs 24.33 220 P P 07 08 09.2 +0.8
ASAR LR LR 07 16 35.7
ASPA Alice Springs 24.33 220 eP P 07 08 09.7 +1.2
ARMA Armidale 24.84 178 eP P 07 08 14.0 +0.9
FITZ Fitzroy Crossi 27.58 241 eP P 07 08 37.2 -0.7
comp=Z,55nm,0.8s,mb5.2
FITZ Fitzroy Crossi 27.58 241 P P 07 08 37.2 -0.7
comp=Z,31nm,0.8s,mb5.0,baz=78,slow=9.6,SNR=40
FITZ LR LR 07 21 19.5
comp=Z,352nm,18.2s,MS4.0,baz=246,slow=40
STKA Stephens Creek 27.65 197 eP P 07 08 39.3 +0.8
comp=Z,8.6nm,1.0s,mb4.3
STKA Stephens Creek 27.65 197 P P 07 08 38.9 +0.4
comp=Z,6.6nm,0.8s,mb4.3,baz=7.6,slow=7.4,SNR=5.8
STKA LR LR 07 19 43.6
comp=Z,1µm,18.4s,MS4.5,baz=142,slow=36
FORT Forrest 33.02 218 eP P 07 09 25.9 0.0
comp=Z,63nm,0.9s,mb5.5
FORT epP pP 07 09 41.8 +1.7
CBIJ Chichi jima 33.42 346 LR LR 07 21 20.1
comp=Z,720nm,21.1s,MS4.4,baz=150,slow=33
MBWA Marble Bar 33.90 240 eP P 07 09 33.4 -0.1
comp=Z,31nm,0.8s,mb5.3
RAO Raoul Island 37.88 132 LR LR 07 22 13.9
comp=Z,264nm,21.4s,MS4.0,baz=289,slow=30
JOW Kunigami 38.80 327 LR LR 07 23 26.1
comp=Z,380nm,19.4s,MS4.2,baz=178,slow=32
KLBR Kellerberrin 40.40 226 eP P 07 10 27.7 -0.9
comp=Z,42nm,1.0s,mb5.1
KSM Kuching 41.01 279 eP P 07 10 34.7 +1.1
NWAO Narrogin (SRO) 41.50 225 P P 07 10 37.2 -0.5
comp=Z,12nm,0.9s,mb4.5,baz=54,slow=5.6,SNR=4.7
NWAO Narrogin (SRO) 41.50 225 eP P 07 10 37.7 0.0
NWAO pmax pmax
comp=Z,13nm,1.0s
NWAO Narrogin (SRO) 41.50 225 eP P 07 10 37.7 0.0
comp=Z,12nm,1.0s,mb4.5
MUN Mundaring 41.72 226 eP P 07 10 39.3 -0.1
MJAR Matsushiro Arr 43.41 345 P P 07 10 51.3 -1.9
comp=Z,3.2nm,0.9s,mb4.0,baz=168,slow=8.8,SNR=8.2
MJAR LR LR 07 28 33.9
comp=Z,211nm,18.7s,MS4.1,baz=175,slow=36
SSE Sheshan 46.06 324 P P 07 11 17.8 +3.6
SSE AP pP 07 11 26.8 -2.2
SSE PCP PcP 07 12 50.5 +0.7
SSE XS sS 07 18 23.8 +3.4
SSE AMB AMB
comp=Z,21nm,0.9s,mb5.1
SSE AMB AMB
comp=Z,202nm,5.2s
SSE LR LR
comp=N,141nm,20.7s,MS4.1
SSE LR LR
comp=E,163nm,20.7s,MS4.1
SSE LR LR
comp=Z,250nm,18.5s,MS4.2
KS15 Wonju Array Si 47.73 335 eP P 07 11 27.2 -0.1
NJ2 Nanjing 48.12 323 eP P 07 11 33.1 +2.7
NJ2 AP pP 07 11 42.9 -2.3
NJ2 PP PP 07 13 27.3 +4.4
NJ2 XS sS 07 18 53.0 +3.0
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,300nm,4.8s
NJ2 LR LR
comp=N,1µm,6.4s
NJ2 LR LR
comp=E,620nm,9.6s
NJ2 LR LR
comp=Z,1µm,6.1s
INCN Inchon 48.29 334 P P 07 11 29.8 -1.9
comp=Z,141nm,1.3s,mb5.8
ASAJ Asahikawa 49.90 352 LR LR 07 31 50.7
comp=Z,210nm,21.4s,MS4.1,baz=180,slow=35
RAR Rarotonga 50.36 113 LR LR 07 28 52.7
comp=Z,164nm,18.2s,MS4.1,baz=230,slow=31
BJI Beijing 55.36 328 eP P 07 12 25.4 +1.1
BJI AMB AMB
comp=Z,13nm,1.6s,mb4.7
BJI AMB AMB
comp=Z,196nm,4.7s
BJI LR LR
comp=N,323nm,19.6s,MS4.4
BJI LR LR
comp=E,160nm,21.4s,MS4.4
BJI LR LR
comp=Z,290nm,22.7s,MS4.3
HABR Khabarovsk 55.45 347 eP P 07 12 26.0 +1.1
HABR eS S 07 20 14.1 +8.4
XAN Xi'an 55.74 318 P P 07 12 28.0 +1.0
XAN AMB AMB
comp=Z,13nm,1.3s,mb4.8
PPT Papeete 59.45 107 eLR LR 07 30 20.4
comp=Z,175nm,23.2s
PPT Papeete 59.45 107 LR LR 07 34 33.2
comp=Z,119nm,21.3s,MS4.0,baz=360,slow=32
TBI Tubuai 60.12 114 eLQ 07 28 16.1
comp=Z,677nm,33.0s
TBI eLR LR 07 30 36.8
comp=Z,261nm,30.0s
LZH Lanzhou 60.32 317 eP P 07 13 01.5 +2.4
LZH AMB AMB
comp=Z,21nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,123nm,5.1s
LZH LR LR
comp=E,226nm,10.5s
LZH LR LR
comp=Z,375nm,14.8s,MS4.7
GTA Gaotai 64.80 318 eP P 07 13 30.9 +2.0
GTA AMB AMB
comp=Z,4.0nm,1.6s,mb4.2
ULN Ulaanbaatar 65.52 329 P P 07 13 32.6 -0.9
ULN pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
ULN Ulaanbaatar 65.52 329 P P 07 13 32.6 -0.9
comp=Z,2.4nm,0.8s,mb4.3
SONM Songino Array 65.83 329 P P 07 13 37.0 +1.5
comp=Z,2.8nm,1.0s,mb4.2,baz=145,slow=5.4,SNR=12
SONM LR LR 07 41 43.6
comp=Z,293nm,21.7s,MS4.5,baz=140,slow=36
ZAK Zakamensk 69.03 330 eP P 07 13 56.2 +0.4
ZAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
VNDA Vanda 72.25 177 P P 07 14 15.6 +0.2
comp=Z,1.5nm,0.8s,mb4.0,baz=327,slow=6.5,SNR=5.3
VNDA LR LR 07 44 03.4
comp=Z,126nm,19.7s,MS4.2,baz=343,slow=34
MKAR Makanchi Array 79.51 319 P P 07 14 55.1 -1.6
comp=Z,2.2nm,1.0s,mb4.1,baz=103,slow=5.5,SNR=12
MKAR PP PP 07 17 56.5 -1.1
comp=Z,0.6nm,0.9s,baz=101,slow=6.3,SNR=4.1
ZAL Zalesovo 80.60 327 LR LR 07 51 53.0
comp=Z,173nm,18.1s,MS4.4,baz=352,slow=36
KURK Kurchatov 83.06 322 eP P 07 15 14.7 -0.8
KURK pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
KURK Kurchatov 83.06 322 eP P 07 15 14.7 -0.8
comp=Z,9.8nm,1.1s,mb4.8
MAW Mawson 84.19 203 P P 07 15 20.8 -0.5
comp=Z,3.3nm,1.0s,mb4.4,baz=108,slow=8.2,SNR=4.7
MAW LR LR 07 49 19.4
comp=Z,234nm,21.6s,MS4.5,baz=67,slow=33
QSPA South Pole Qui 84.50 180 eP P 07 15 22.9 0.0
comp=Z,11nm,1.3s,mb4.8
BVAR Borovoye Array 88.57 323 P P 07 15 40.7 -2.1
comp=Z,1.9nm,1.0s,mb4.4,baz=86,slow=7.9,SNR=6.7
INK Inuvik 89.79 21 P P 07 15 46.8 -1.7
comp=Z,3.5nm,1.1s,mb4.6,baz=285,slow=8.1,SNR=3.8
INK LR LR 07 54 31.7
comp=Z,111nm,18.3s,MS4.3,baz=354,slow=34
NVAR Mina Array Bea 94.07 52 P P 07 16 08.1 -0.2
comp=Z,1.2nm,1.0s,mb4.3,baz=299,slow=4.1,SNR=5.8
YKA Yellowknife Ar 96.95 28 LR LR 07 55 51.9
comp=Z,65nm,20.3s,MS4.1,baz=270,slow=33
SIV San Ignacio 141.94 125 PKP PKPdf 07 22 20.9 -0.7
comp=Z,2.1nm,0.9s,baz=271,slow=5.2,SNR=6.5
TORD Torodi Ar. Bea 148.58 286 PKPbc PKPbc 07 22 36.6 -0.1
comp=Z,2.9nm,0.8s,baz=68,slow=2.6,SNR=14
BDFB Brasilia 151.96 139 PKP PKPdf 07 22 38.4 +0.1
comp=Z,2.8nm,0.9s,baz=231,slow=6.5,SNR=3.1
BDFB PKPbc PKPbc 07 22 44.9 +0.1
comp=Z,4.0nm,0.8s,baz=156,slow=3.4,SNR=4.6

ISCJB 12 07:15:31.2±0.7, 24.18S±0.06×67.0W±0.1, h188km±17km, mb3.5/1, Error ellipse: s-maj=21.4km s-min=10.1km az=164.3
IDC 12 07:15:31.3±1.0, 24.25S×66.95W, h166km±10km, mb3.4/1, mb1 3.6/6, mb1mx3.4/16, mbtmp4.0/6, Error ellipse: s-maj=16.4km s-min=13.1km az=71.0
NEIC 12 07:15:32.2±0.7, 24.22S×66.94W, h178km±27km, mb4.0/1, Error ellipse: s-maj=20.6km s-min=10.3km az=93.0
ISC 12 07:15:32.2±0.7, **24.20S**±0.07×**67.0W**±0.1, **h176**km±17km, **n12,** σ**0.95**/14, **mb3.5**/1, **Salta Province**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LVC Limon Verde 2.39 311 P Pn 07 16 14.4 +1.0
98nm,0.3s,baz=157,slow=4.7,SNR=911
LVC S Sn 07 16 45.1 -0.2
69nm,0.3s,baz=251,slow=20,SNR=9.8
CFAA Coronel Fontan 7.47 188 P Pn 07 17 18.3 -0.1
0.1nm,0.3s,baz=9.5,slow=12,SNR=7.5
CFAA S Sn 07 18 36.5 -5.9
0.3nm,0.3s,baz=146,slow=21,SNR=10
LPAZ La Paz 7.94 352 P Pn 07 17 25.8 +1.1
0.8nm,0.3s,baz=172,slow=7.4,SNR=29
LPAZ S Sn 07 18 51.2 -2.5
0.3nm,0.3s,baz=24,slow=17,SNR=5.5
LPAZ La Paz 7.94 352 P Pn 07 17 25.8 +1.1
LPAZ S Sn 07 18 51.2 -2.5
CPUP Villa Florida 8.97 106 P Pn 07 17 38.4 +0.2
0.2nm,0.3s,baz=225,slow=6.0,SNR=3.3
CPUP Villa Florida 8.97 106 P Pn 07 17 38.4 +0.2
SIV San Ignacio 9.86 35 P Pn 07 17 49.1 -0.8
0.8nm,0.3s,baz=250,slow=10,SNR=23
TRQA Tornquist 14.46 164 ePn Pn 07 18 47.6 -1.0
3.0nm,0.4s
TRQA eP 07 18 50.8
BDFB Brasilia 19.72 68 P P 07 19 49.2 +1.1
1.0nm,0.3s,baz=247,slow=11,SNR=22
TORD Torodi Ar. Bea 76.60 69 P P 07 27 03.1 -0.1
0.4nm,0.3s,mb3.5,baz=263,slow=5.7,SNR=14
TORD PP PP 07 30 01.1 +3.3
1.5nm,1.1s,baz=236,slow=10,SNR=4.3
WRA Warramunga Arr 131.47 207 PKP PKPdf 07 34 24.8 +1.2
0.2nm,0.8s,baz=159,slow=1.9,SNR=5.0
WRA SKPbc SKPbc 07 37 33.3 +0.9
0.3nm,0.6s,baz=149,slow=3.5,SNR=6.5
MKAR Makanchi Array 146.65 40 PKPbc PKPbc 07 34 54.1 +1.1
0.6nm,0.5s,baz=310,slow=2.7,SNR=7.2

IDC 12 08:00:33.2±3.4, **52.62N**×**34.72E, h0**km, **mb1 3.6**/2, **mb1mx3.2**/16, **mbtmp3.6**/2, **ML3.1**/3, **Error ellipse: s-maj=40.1km s-min=12.4km az=116.0, Baltic States - Belarus - Northwestern Russia**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AKASG Malin Array Be 3.92 243 Pn Pn 08 01 35.0 +0.4
1.2nm,0.3s,baz=60,slow=15,SNR=4.1
AKASG Pg Pg 08 01 44.8 -3.6
2.1nm,0.3s,baz=59,slow=15,SNR=8.5
AKASG Sn Sn 08 02 17.6 -3.8
2.3nm,0.3s,baz=200,slow=7.1,SNR=6.1
AKASG Lg 08 02 37.8
2.8nm,0.3s,baz=354,slow=27,SNR=4.6
FINES FINESS Array B 10.01 335 Pn Pn 08 02 51.2 -7.0
0.2nm,0.3s,baz=150,slow=14,SNR=7.5
FINES Sn Sn 08 04 43.6 -7.5
0.1nm,0.3s,baz=158,slow=23,SNR=2.7
ARCES ARCESS Array B 17.51 349 Pn Pn 08 04 33.4 -5.2
0.2nm,0.3s,baz=166,slow=12,SNR=11

NAO 12 08:45:45.2±1.1, 59.33N×26.92E, ML2.5
BER 12 08:45:45.5±2.7, 59.36N×27.17E, h0km, ML2.5(NAO), Suspected explosion
IDC 12 08:45:47.8±2.1, 59.43N×27.09E, h0km, mb1 3.1/4, mb1mx3.0/19, mbtmp3.0/4, ML2.7/4, Error ellipse: s-maj=18.8km s-min=11.1km az=132.0
HEL 12 08:45:45.4±0.2, **59.35N**×**27.22E, h0**km, **ML2.5**(NAO), **Explosion, Baltic States - Belarus - Northwestern Russia**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VSU Vasula 0.93 196 eP Pg 08 46 02.3 -0.9
VSU eS Sg 08 46 13.3 -1.8
FIA0 FINESS Array S 2.17 345 ePB Pb 08 46 23.6 -2.0
FIA0 eSG Sg 08 46 52.4 -2.9
FIA0 eRG 08 47 06.4
FIA0 FINESS Array S 2.17 345 Pn Pn 08 46 23.6 +0.8
baz=163,slow=18
FIA0 Lg 08 46 52.8
baz=170,slow=28
FINES FINESS Array B 2.17 345 Pn Pn 08 46 23.6 +0.8
1.7nm,0.3s,baz=162,slow=16,SNR=59
FINES Pg Pg 08 46 24.9 -2.2
1.7nm,0.3s,baz=164,slow=16,SNR=58
FINES Lg 08 46 53.9
5.1nm,0.3s,baz=159,slow=18,SNR=4.3
FINES Rg 08 47 06.4
3.3nm,0.3s,baz=148,slow=26,SNR=4.2
HFS Hagfors 6.88 282 Lg 08 49 16.4
baz=98,slow=37
HFS Hagfors 6.88 282 eSG Sg 08 49 16.4 -10
HFS Hagfors 6.88 282 Pn Pn 08 47 26.5 -1.0
0.2nm,0.3s,baz=91,slow=15,SNR=3.2
HFS Sn Sn 08 48 42.9 -3.6
0.4nm,0.3s,baz=105,slow=27,SNR=5.5
HFS Lg 08 49 17.5
1.1nm,0.3s,baz=96,slow=30,SNR=7.7
HFS Hagfors 6.88 282 Lg 08 49 16.4
baz=98,slow=37
NB2 NORSAR Subarra 8.15 289 eP Pn 08 47 43.9 -1.1
NOA NORSAR Array B 8.15 289 Pn Pn 08 47 43.8 -1.2
0.2nm,0.3s,baz=95,slow=14,SNR=2.8
NOA Lg 08 49 56.9
0.6nm,0.3s,baz=124,slow=17,SNR=3.1
ARA0 ARCESS Array S 10.25 357 Pn Pn 08 48 10.4 -3.3
baz=171,slow=14
ARA0 Sn Sn 08 50 01.4 -8.0
baz=174,slow=28
ARA0 Lg 08 50 59.7
baz=170,slow=22
ARA0 ARCESS Array S 10.25 357 eP Pn 08 48 10.4 -3.3
ARA0 eS Sn 08 50 01.4 -8.0
ARA0 eSG Sn 08 50 59.7 +50
ARCES ARCESS Array B 10.25 357 Pn Pn 08 48 11.4 -2.3
0.2nm,0.3s,baz=172,slow=14,SNR=14
ARCES Sn Sn 08 50 02.5 -6.9
0.2nm,0.3s,baz=173,slow=23,SNR=4.9

NEIC 12 08:47:29.6, 28.17S×71.02W, h43km, MG3.8(GUC), After GUC.
GUC 12 08:47:29.6±0.9, **28.17S**×**71.02W, h43**km±5km, **MD3.8, ML3.8, 8C, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VACH Vallenar 0.47 151 ⇑iP Pn 08 47 40.6 +0.6
VACH i S Sn 08 47 48.2 +0.7
VACH AML AML 08 47 48.5
comp=E,16µm,0.1s
CPCH Copiapo 1.00 36 ⇑iP Pn 08 47 48.3 +1.2
CPCH i S Sn 08 48 01.4 +1.4
CPCH AML AML 08 48 04.3
comp=E,15µm,0.1s
CPCH Copiapo 1.00 36 ⇑iP Pn 08 47 48.3 +1.2
CPCH i S Sn 08 48 01.4 +1.4
CDCH Caldera 1.10 9 ⇑iP Pn 08 47 49.1 +0.5
CDCH i S Sn 08 48 04.6 +2.0
CRCH Chaqaral 1.85 11 ⇑iP Pn 08 47 59.4 +0.6
CRCH i S Sn 08 48 22.4 +1.5
CRCH AML AML 08 48 30.1
comp=N,376nm,0.1s
CRCH Chaqaral 1.85 11 ⇑iP Pn 08 47 59.4 +0.6
CRCH i S Sn 08 48 22.4 +1.5
TLL Tololo Astrono 2.00 175 ⇑iP Pn 08 48 02.5 +1.6
TLL i S Sn 08 48 27.6 +2.9
TLL AML AML 08 48 32.4
comp=E,441nm,0.4s
TLL Tololo Astrono 2.00 175 ⇑iP Pn 08 48 02.5 +1.6
TLL i S Sn 08 48 27.6 +2.9
OVCH Ovalle 2.44 184 AML AML 08 48 47.9
comp=E,335nm,0.3s
CMCH Combarbala 3.00 180 eP Pn 08 48 15.2 +0.6
CMCH i S Sn 08 48 50.5 +1.3
CMCH AML AML 08 49 03.5
comp=E,700nm,0.4s
CMCH Combarbala 3.00 180 eP Pn 08 48 15.2 +0.6
CMCH i S Sn 08 48 50.5 +1.3

*ISCJB **12** 08:50:38.6±2.1,3357N±006×349E±0.1,h10^{km},Error ellipse: s-maj=16.2km s-min=6.9km az=36.2*
*GRAL **12** 08:50:44.0±1.2,3358N×3509E,h3^{km}±212^{km},MD3.2*
*GII **12** 08:50:51.3±4.0,3301N×3540E,h0^{km}*
ISC 12 08:50:39.3±2.4,**3356N**±006×**349E**±01,**h10^{km},n9,** σ**1^{s}40**/12,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATL	**Matirih**	**0.37**	**100**	*e*Pg	**Pg**	**08 50 48.0**	**+1.6**
HNTI	**Hanita**	**0.52**	**154**	Sg	**Sg**	**08 50 59.2**	**+2.8**
MMC7	**Mount Meron ar**	**0.67**	**142**	Pg	**Pg**	**08 50 51.1**	**-1.2**
MMA1	**Mount Meron ar**	**0.68**	**141**	Pg	**Pg**	**08 50 51.0**	**-1.5**
MMA0	**Mount Meron ar**	**0.69**	**142**	Pg	**Pg**	**08 50 51.2**	**-1.3**
HRI	**Mount Hermon**	**0.76**	**112**	Pg	**Pg**	**08 51 01.0**	**+7.2**
HRI				Sg	**Sg**	**08 51 08.2**	**+4.4**
RCY	**Rachaya**	**0.77**	**95**	*e*Pg	**Pg**	**08 50 54.5**	**+0.3**
RCY				*e*Sg	**Sg**	**08 51 03.7**	**-0.5**
KSHT	**Keshet**	**0.95**	**127**	Sg	**Sg**	**08 51 05.5**	**-4.5**
HWQ	**Hawqa**	**1.13**	**50**	*e*Pg	**Pg**	**08 51 02.6**	**+1.6**
HWQ				*e*Sg	**Sg**	**08 51 14.8**	**-0.9**

MEX 12 08:54:24.3±1.2,**1473N×9402W,h43^{km}**±999^{km}**,MD4.2, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.38**	**49**	*e*P	Pn	08 54 59.6	-1.2
CCIG				*i* S	Sn	08 55 25.9	-2.9
SCX	**San Cristobal**	**2.40**	**34**	*i* P	Pn	08 55 01.2	+0.2
SCX				*i* S	Sn	08 55 28.5	-0.7
CMIG	**Matias Romero**	**2.49**	**341**	*i* P	Pn	08 55 00.9	-1.5
CMIG				*i* S	Sn	08 55 29.5	-2.0
OXX	**Oaxaca**	**3.50**	**312**	*i* P	Pn	08 55 19.0	+2.8
VHO	**Vista Hermosa**	**3.50**	**312**	*i* P	Pn	08 55 14.5	-1.7
VHO				*i* S	Sn	08 55 54.5	-1.8
UTMO	**Huajuapan**	**4.77**	**311**	*i* S	Sn	08 56 25.6	-2.0

*HLW **12** 08:55:44.7,3122N×3498E,h20^{km},Mb2.5*
*GII **12** 08:55:45.7±0.9,3085N×3501E,h0^{km},ML2.3/2*
*ISCJB **12** 08:55:46.3±0.5,3086N±003×3502E±006,h5^{km}±6^{km}, Error ellipse: s-maj=8.8km s-min=4.3km az=21.0*
ISC 12 08:55:46.8±0.5,**3086N**±003×**3501E**±006,**h8^{km}**±5^{km}**,n22,** σ**0^{s}53**/26,**Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASH	**Mash'abbe Sade**	**0.23**	**306**	Pg	**Pg**	**08 55 51.2**	**-0.2**
RTMM	**Retamin**	**0.34**	**305**	Pg	**Pg**	**08 55 53.2**	**-0.1**
ZFRI	**Zfri**	**0.34**	**154**	Pg	**Pg**	**08 55 53.3**	**-0.1**
PRNI	**Paran**	**0.51**	**180**	Pg	**Pg**	**08 55 56.5**	**0.0**
PRNI				Sg	**Sg**	**08 56 04.2**	**+1.1**
KZIT	**Kziot**	**0.53**	**275**	Pg	**Pg**	**08 55 56.7**	**-0.2**
MZDA	**Masada**	**0.54**	**34**	Pg	**Pg**	**08 55 56.9**	**-0.4**
AMAZ	**Amatzia**	**0.68**	**353**	Pg	**Pg**	**08 56 00.4**	**+0.6**
DRGI	**Dragot**	**0.80**	**24**	Pg	**Pg**	**08 56 02.5**	**+0.3**
HRFI	**Mount Harif**	**0.82**	**178**	Pg	**Pg**	**08 56 02.0**	**-0.5**
HRFI	**Mount Harif**	**0.82**	**178**	Pg	**Pg**	**08 56 02.0**	**-0.5**
MKRJ	**Makawir**	**0.88**	**38**	Pg	**Pg**	**08 56 03.6**	**-0.1**
EIL	**Elat**	**1.19**	**182**	Pg	**Pg**	**08 56 09.5**	**0.0**
HNKL	**Nakhl**	**1.28**	**224**	P	**Pn**	**08 56 10.0**	**-1.0**
HNKL				S	**Sb**	**08 56 28.4**	**+0.6**
HNKL	**Nakhl**	**1.28**	**224**	P	**Pn**	**08 56 10.0**	**-1.0**
	201nm,0.2s						
HNKL				S	**Sb**	**08 56 28.4**	**+0.6**
SLTI	**Sal'it**	**1.38**	**1**	Pn	**Pn**	**08 56 11.7**	**-0.7**
SLTI				Sn	**Sn**	**08 56 31.6**	**+0.8**
HMDT	**Nahal Hemdat**	**1.46**	**18**	Pn	**Pn**	**08 56 13.0**	**-0.5**
MMLI	**Mount Malkishu**	**1.61**	**13**	Pn	**Pn**	**08 56 15.1**	**-0.5**
HBST	**Basata**	**1.65**	**188**	P	**Pn**	**08 56 16.4**	**+0.2**
OFRI	**'Ofer**	**1.76**	**359**	Pn	**Pn**	**08 56 18.3**	**+0.7**
HDHB	**Dhahab**	**2.15**	**189**	P	**Pn**	**08 56 22.5**	**-0.5**
MMC7	**Mount Meron ar**	**2.18**	**9**	Pn	**Pn**	**08 56 23.9**	**+0.5**
MMC7	**Mount Meron ar**	**2.18**	**9**	Pn	**Pn**	**08 56 23.9**	**+0.5**

*ISCJB **12** 09:41:31.8±0.8,4441N±003×737E±006,h12^{km}±5^{km}, Error ellipse: s-maj=7.9km s-min=4.0km az=114.6*
*LDG **12** 09:41:31.6±0.3,4444N×751E,h2^{km},Md2.0/4,Ml2.2/5, Error ellipse: s-maj=5.0km s-min=2.0km az=60.0*
*STR **12** 09:41:32.8±0.7,4438N×750E,h5^{km}±1^{km},Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 12 09:41:31.6±1.0,**4442N**±004×**746E**±007,**h17^{km}**±5^{km}**,n16,** σ**0^{s}77**/31,**Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUTN	**L'Aution**	**0.43**	**183**	Pg	**Pg**	**09 41 40.2**	**-0.1**
AUTN				Sg	**Sg**	**09 41 45.9**	**-0.3**
TOUF	**Mont Tournerai**	**0.44**	**200**	Pg	**Pg**	**09 41 40.2**	**-0.3**
TOUF				Sg	**Sg**	**09 41 45.6**	**-0.8**
SAOF	**Saorge**	**0.44**	**171**	Pg	**Pg**	**09 41 41.2**	**+0.6**
LUCF	**Luceram**	**0.54**	**189**	Pg	**Pg**	**09 41 42.3**	**0.0**
LUCF				Sg	**Sg**	**09 41 49.6**	**+0.1**
SBF	**Sospel**	**0.56**	**182**	*e*Pg	**Pg**	**09 41 42.9**	**+0.2**
SBF				*e*Sg	**Sg**	**09 41 50.0**	**-0.3**
	5.7nm,0.2s						
MBDF	**Montbardon**	**0.58**	**302**	*e*Pg	**Pg**	**09 41 42.6**	**-0.4**
MBDF	**Montbardon**	**0.58**	**302**	*e*Pn	**Pg**	**09 41 45.2**	**+2.2**
MBDF				*e*Sg	**Sg**	**09 41 51.6**	**+0.9**
	5.8nm,0.2s						
MBDF				*e*Sn	**Sg**	**09 41 56.1**	**+5.4**
FRF	**La Foret Royal**	**1.04**	**214**	*e*Pg	**Pg**	**09 41 51.7**	**-0.1**
FRF				*e*Sg	**Sg**	**09 42 06.5**	**+1.0**
	3.7nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.23**	**294**	*e*Pg	**Pg**	**09 41 54.8**	**-0.6**
ORIF				*e*Sg	**Sg**	**09 42 12.0**	**+0.6**
LMR	**La Mourre**	**1.29**	**213**	*e*Pg	**Pg**	**09 41 55.9**	**-0.6**
LMR				*e*Sg	**Sg**	**09 42 12.8**	**-0.5**
	5.9nm,0.2s						
TAVF	**Tavernes**	**1.29**	**232**	Pg	**Pg**	**09 41 56.8**	**+0.3**
TAVF				Sg	**Sg**	**09 42 15.7**	**+2.3**
SMRF	**Simiane la Rot**	**1.43**	**252**	*e*Pg	**Pg**	**09 41 59.6**	**+0.5**
SMRF				*e*Sg	**Sg**	**09 42 18.0**	**+0.3**
	2.3nm,0.3s						
VIVF	**Saint-Julien-l**	**2.03**	**283**	*e*Pn	**Pn**	**09 42 06.2**	**+1.1**
VIVF	**Saint-Julien-l**	**2.03**	**283**	*e*Pg	**Pg**	**09 42 09.1**	**-1.6**
VIVF				*e*Sn	**Sn**	**09 42 30.0**	**-0.1**
VIVF				*e*Sg	**Sg**	**09 42 36.6**	**-0.5**
	1.3nm,0.2s						
LASF	**Ste Croix**	**2.61**	**264**	*e*Pn	**Pn**	**09 42 13.6**	**+0.6**
LASF	**Ste Croix**	**2.61**	**264**	*e*Pg	**Pg**	**09 42 20.9**	**-0.8**
LASF				*e*Sn	**Sn**	**09 42 43.5**	**-0.8**
LASF				*e*Sg	**Sg**	**09 42 54.6**	**-0.9**
	10nm,0.9s						

IDC 12 09:46:40.5±8.9,**522S×15026E,h71^{km}**±62^{km}**,mb3.5**/3,**mb1 3.8**/4,**mb1mx3.4**/14,**mbtmp3.9**/4,**ML2.8**/1,**Error ellipse: s-maj=104.6km s-min=67.7km az=116.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.17**	**216**	P	Pn	09 47 55.5	+0.1
	2.1nm,0.3s,baz=37,slow=7.5,SNR=8.7						
PMG				S	Sn	09 48 59.3	+5.6
	0.7nm,0.3s,baz=1.4,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**21.31**	**225**	P	P	09 51 21.7	+0.2
	1.4nm,0.6s,baz=50,slow=9.9,SNR=22						
ASAR	**Alice Springs**	**24.18**	**219**	P	P	09 51 50.8	+0.5
	1.4nm,0.7s,baz=56,slow=8.3,SNR=24						
FITZ	**Fitzroy Crossi**	**27.25**	**240**	*e*P	P	09 52 19.7	+1.8
	6.2nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.25**	**240**	P	P	09 52 18.1	+0.2
	2.5nm,0.8s,baz=47,slow=8.9,SNR=5.5						
TORD	**Torodi Ar. Bea**	**148.01**	**286**	PKPbc	PKPbc	10 06 18.3	+0.5
	0.5nm,0.8s,baz=73,slow=2.7,SNR=2.3						

*ISCJB **12** 09:46:55.2±5.4,58S±03×1514E±05,h81^{km}±37^{km}, mb3.6/4,Error ellipse: s-maj=94.2km s-min=32.1km az=64.6*
*IDC **12** 09:47:02.4±6.1,557S×15065E,h92^{km}±47^{km},mb3.5/4, mb1 3.7/5,mb1mx3.5/14,mbtmp3.9/5,Error ellipse: s-maj=57.0km s-min=35.1km az=99.0*
*NEIC **12** 09:47:06.8±2.6,623S×14779E,h85^{km},mb4.1/3,Error ellipse: s-maj=51.9km s-min=27.4km az=90.0*
ISC 12 09:46:55.7±5.2,**59S**±03×**1517E**±05,**h76^{km}**±34^{km}**,n8,** σ**1^{s}38**/7,**mb3.6**/4,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.65**	**232**	P	**Pn**	**09 48 16.6**	**-0.4**
	4.4nm,0.3s,baz=48,slow=7.9,SNR=11						
PMG				S	**Sn**	**09 49 21.1**	**+0.5**
	0.9nm,0.3s,baz=216,slow=18,SNR=4.4						
WRA	**Warramunga Arr**	**21.86**	**229**	P	**P**	**09 51 42.0**	**-0.1**
	1.2nm,0.6s,mb3.4,baz=50,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**24.57**	**222**	P	**P**	**09 52 11.3**	**+3.0**
	0.7nm,0.5s,mb3.3,baz=53,slow=8.2,SNR=8.0						
FITZ	**Fitzroy Crossi**	**28.14**	**242**	P	**P**	**09 52 39.4**	**-1.1**
	2.8nm,0.6s,mb4.0,baz=85,slow=8.9,SNR=6.7						
MBWA	**Marble Bar**	**34.44**	**241**	*e*pP	**P**	**09 53 35.2**	**-0.7**
SONM	**Songino Array**	**66.68**	**329**	P	**P**	**09 57 39.1**	**+0.7**
	0.8nm,0.9s,mb3.6,baz=142,slow=6.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**149.56**	**286**	PKPbc	PKPbc	10 06 38.1	+1.9
	1.0nm,0.7s,baz=77,slow=2.2,SNR=5.3						
BDFB	**Brasilia**	**151.03**	**138**	PKPbc	PKPbc	10 06 47.2	+7.4
	1.5nm,0.3s,baz=192,slow=8.6,SNR=3.0						

IDC 12 09:52:40.8±3.7,**1575S×17368W,h0^{km},mb3.8**/3,**mb1 4.1**/4,**mb1mx3.8**/15,**mbtmp3.8**/4,**ML1.9**/1,**Error ellipse: s-maj=227.7km s-min=23.7km az=148.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.59**	**45**	Pn	Pn	09 53 22.8	-1.2
	12nm,0.3s,baz=72,slow=5.3,SNR=14						
AFI				Sn	Sn	09 53 52.2	-4.0
	33nm,0.3s,baz=48,slow=21,SNR=11						
WRA	**Warramunga Arr**	**49.50**	**257**	P	P	10 01 32.8	-0.2
	0.3nm,0.6s,baz=93,slow=7.6,SNR=7.6						
ASAR	**Alice Springs**	**49.75**	**252**	P	P	10 01 35.1	+0.2
	2.1nm,0.6s,baz=89,slow=8.3,SNR=48						
PDAR	**Pinedale Array**	**82.70**	**42**	P	P	10 05 06.8	+0.5
	0.5nm,0.7s,baz=197,slow=4.6,SNR=5.5						
BRTR	**Keskin Array B**	**146.26**	**320**	PKPbc	PKPbc	10 12 24.6	+1.4
	0.8nm,0.7s,baz=104,slow=3.0,SNR=4.7						

*ISCJB **12** 09:55:17.0±0.7,3423N±003×2420E±0.10,h10^{km},mb3.8/6, Error ellipse: s-maj=11.6km s-min=4.6km az=167.1*
*CSEM **12** 09:55:19.8±0.1,3426N×2444E,h20^{km},MD3.5,Error ellipse: s-maj=4.0km s-min=0.7km az=71.0*
*ATH **12** 09:55:20.0,3435N×2421E,h10^{km}±3^{km},MD3.5/5*
*NEIC **12** 09:55:20.0,3435N×2421E,h10^{km},MD3.5(ATH),After ATH.*
*HLW **12** 09:55:22.4,3440N×2449E,h33^{km},Mb3.7*
*IDC **12** 09:55:26.4±10.0,3461N×2390E,h88^{km}±101^{km},mb3.5/6, mb1 3.5/7,mb1mx3.4/19,mbtmp3.8/7,ML4.3/1,Error ellipse: s-maj=40.3km s-min=22.4km az=127.0*
ISC 12 09:55:18.9±0.6,**3430N**±003×**2424E**±009,**h10^{km},n21,** σ**1^{s}27**/25,**mb3.8**/6,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.55**	**347**	*e*PG	**Pg**	**09 55 29.5**	**0.0**
VAM	**Vamos**	**1.10**	**358**	*e*PB	**Pb**	**09 55 40.1**	**+0.1**
VAM				*e*SB	**Sb**	**09 55 54.8**	**+0.4**
XRY	**Khrisi**	**1.33**	**64**	*e*PB	**Pb**	**09 55 45.0**	**+1.1**
NPS	**Neapolis**	**1.48**	**49**	*e*PG	**Pg**	**09 55 47.7**	**+0.4**
KYTH	**Kithira**	**2.20**	**334**	*e*PN	**Pn**	**09 55 58.5**	**+3.0**
KARP	**Karpathos**	**2.70**	**62**	*e*PB	**Pb**	**09 56 05.6**	**-1.7**
SLUM		**2.92**	**163**	P	**Pn**	**09 56 07.3**	**+1.9**
SLUM				S	**Sn**	**09 56 39.4**	**-1.1**
SWA1		**5.18**	**166**	P	**Pn**	**09 56 38.4**	**+2.0**
SWA1				S	**Sn**	**09 57 34.0**	**-2.2**
SWA1		**5.18**	**166**	P	**Pn**	**09 56 38.4**	**+2.0**
SWA1				S	**Sn**	**09 57 34.0**	**-2.2**
AWBH		**7.18**	**145**	P	**Pn**	**09 57 04.6**	**+0.7**
KOT	**Kottamia**	**7.78**	**122**	P	**Pn**	**09 57 12.2**	**+0.2**
KOT	**Kottamia**	**7.78**	**122**	P	**Pn**	**09 57 12.2**	**+0.1**
GLL	**Jalalah**	**7.91**	**125**	P	**Pn**	**09 57 14.5**	**+0.6**
HDK1	**Dakhla**	**9.81**	**151**	P	**Pn**	**09 57 41.6**	**+1.6**
AKASG	**Malin Array Be**	**16.79**	**11**	P	**Pn**	**09 59 13.3**	**-0.7**
	1.2nm,0.3s,baz=200,slow=10,SNR=4.5						
HFS	**Hagfors**	**26.75**	**348**	P	**P**	**10 00 54.3**	**-4.3**
	2.0nm,0.5s,mb3.9,baz=141,slow=9.6,SNR=7.5						
NOA	**NORSAR Array B**	**28.04**	**347**	P	**P**	**10 01 05.8**	**-4.4**
	1.6nm,0.8s,mb3.7,baz=149,slow=9.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**29.36**	**230**	P	**P**	**10 01 21.0**	**-0.9**
	0.7nm,0.6s,mb3.6,baz=38,slow=8.4,SNR=7.0						
ARCES	**ARCESS Array B**	**35.29**	**1**	P	**P**	**10 02 09.4**	**-4.5**
	1.4nm,0.8s,mb3.9,baz=187,slow=8.4,SNR=5.1						
MKAR	**Makanchi Array**	**44.88**	**56**	P	**P**	**10 03 31.9**	**-1.6**
	0.6nm,0.3s,mb3.9,baz=285,slow=6.0,SNR=6.5						
SONM	**Songino Array**	**60.62**	**50**	P	**P**	**10 05 28.6**	**-1.2**
	0.3nm,0.5s,mb3.7,baz=287,slow=6.8,SNR=4.5						

*ISCJB **12** 10:07:46.8±0.4,6150N±004×15184W±008,h99^{km}±6^{km}, mb3.6/6,Error ellipse: s-maj=6.5km s-min=6.1km az=172.5*
*IDC **12** 10:07:46.8±2.2,6152N×15208W,h75^{km}±23^{km},mb3.5/6, mb1 3.7/9,mb1mx3.5/21,mbtmp3.7/9,MS2.4/1,Ms1 2.4/1, ms1mx2.1/32,Error ellipse: s-maj=21.4km s-min=15.0km az=110.0*
*NEIC **12** 10:07:49.0,6148N×15183W,h94^{km},MG3.4(AEIC),After AEIC.*
ISC 12 10:07:48.0±0.4,**6151N**±004×**15182W**±008,**h88^{km}**±6^{km}**, n37,**σ**1^{s}09**/42,**mb3.6**/6,**Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	**Fire Island**	**0.86**	**113**	P	**Pn**	**10 08 08.3**	**+2.2**
FIB				S	**Sn**	**10 08 22.6**	**+3.2**
SLKM	**Skilak Lake**	**1.27**	**142**	P	**Pn**	**10 08 11.4**	**+0.6**
PMR	**Palmer**	**1.29**	**85**	P	**Pn**	**10 08 11.6**	**+0.6**
GHO	**Glory Hole Cre**	**1.41**	**78**	P	**Pn**	**10 08 13.3**	**+0.9**
SML	**Sawmill**	**1.69**	**78**	*e*Pn	**Pn**	**10 08 13.7**	**-2.3**
SML				*e*Sn	**Sn**	**10 08 33.4**	**-3.9**
SEW	**Seward**	**1.83**	**140**	P	**Pn**	**10 08 18.1**	**+0.2**
SVW2	**Sparrevohn**	**1.86**	**259**	P	**Pn**	**10 08 17.9**	**-0.5**
TRF	**Thorofare Moun**	**2.07**	**19**	P	**Pn**	**10 08 22.1**	**+1.1**
KTH	**Kantishna Hill**	**2.09**	**11**	P	**Pn**	**10 08 22.2**	**+0.9**
TTA	**Tatalina**	**2.42**	**308**	*e*P	**Pn**	**10 08 25.6**	**-0.1**
MCK	**McKinley**	**2.59**	**30**	P	**Pn**	**10 08 28.9**	**+0.9**
DIV	**Divide**	**2.94**	**95**	P	**Pn**	**10 08 32.1**	**-0.5**
EYAK	**Cordova Ski Ar**	**3.11**	**105**	*e*Pn	**Pn**	**10 08 33.8**	**-1.1**
EYAK				*e*Sn	**Sn**	**10 09 08.6**	**-2.4**
MID	**Middleton Isla**	**3.42**	**125**	*e*P	**Pn**	**10 08 40.0**	**+0.8**
BMRM	**Bremner River**	**3.53**	**96**	P	**Pn**	**10 08 39.8**	**-0.8**
KDAK	**Kodiak Island**	**3.76**	**186**	P	**Pn**	**10 08 43.9**	**+0.1**
	5.1nm,0.3s,baz=50,slow=7.1,SNR=18						
KDAK				S	**Sn**	**10 09 25.2**	**-1.8**
	6.8nm,0.3s,baz=309,slow=21,SNR=13						
KDAK	**Kodiak Island**	**3.76**	**186**	P	**Pn**	**10 08 43.9**	**+0.2**
COLA	**College**	**3.82**	**26**	P	**Pn**	**10 08 45.0**	**+0.4**
GCSA	**Galena City Sc**	**3.98**	**327**	P	**Pn**	**10 08 46.5**	**-0.1**
MENT	**Mentasta**	**4.05**	**66**	*e*P	**Pn**	**10 08 48.2**	**+0.5**
IMA2	**Indian Mountai**	**4.65**	**351**	*e*P	**Pn**	**10 08 55.9**	**+0.1**
COLD	**Coldfoot**	**5.78**	**6**	P	**Pn**	**10 09 10.5**	**-0.7**
CHGN	**Chignik**	**6.24**	**216**	*e*P	**Pn**	**10 09 17.3**	**-0.2**
DAWY	**Dawson**	**6.25**	**60**	P	**Pn**	**10 09 17.1**	**-0.4**
PNL	**Peninsula**	**6.39**	**101**	P	**Pn**	**10 09 18.5**	**-1.0**
SDPT	**Sand Point**	**7.67**	**220**	*e*P	**Pn**	**10 09 36.7**	**-0.2**
SKAG	**Skagway**	**8.39**	**97**	*e*P	**Pn**	**10 09 46.7**	**-0.1**
SIT	**Sitka**	**9.54**	**111**	*e*P	**Pn**	**10 10 01.9**	**-0.5**
	4.7nm,0.9s						
INK	**Inuvik**	**10.29**	**41**	P	**Pn**	**10 10 12.2**	**-0.4**
	0.3nm,0.3s,baz=237,slow=15,SNR=13						
INK				S	**Sn**	**10 12 03.8**	**-2.4**
	0.1nm,0.3s,baz=217,slow=20,SNR=3.8						
INK				LR	LR	10 14 36.7	
	comp=Z,21nm,20.0s,baz=350,slow=40						
YKA	**Yellowknife Ar**	**17.34**	**70**	P	**Pn**	**10 11 44.6**	**+0.2**
	baz=276,slow=9.8,SNR=9.5						
NEW	**Newport**	**23.61**	**108**	P	**P**	**10 12 51.5**	**+0.6**
	0.8nm,0.4s,mb3.4,baz=312,slow=14,SNR=2.8						
NEW	**Newport**	**23.61**	**108**	P	**P**	**10 12 51.5**	**+0.6**
YBH	**Yreka Blue Hor**	**26.43**	**125**	P	**P**	**10 13 18.8**	**+2.3**
	0.3nm,0.5s,mb3.0,baz=359,slow=5.2,SNR=4.4						
NVAR	**Mina Array Bea**	**31.00**	**123**	P	**P**	**10 13 58.9**	**+1.8**
	1.4nm,0.7s,mb3.8,baz=317,slow=9.4,SNR=11						
PDAR	**Pinedale Array**	**31.24**	**107**	P	**P**	**10 14 00.1**	**+1.0**
	0.4nm,0.4s,mb3.5,baz=332,slow=4.1,SNR=8.6						
ULM	**Lac du Bonnet**	**32.30**	**84**	P	**P**	**10 14 08.2**	**-0.3**
	1.6nm,0.5s,mb4.0,baz=299,slow=7.0,SNR=6.2						
SONM	**Songino Array**	**54.37**	**306**	P	**P**	**10 17 04.5**	**-1.2**
	0.5nm,0.5s,mb3.8,baz=46,slow=6.3,SNR=5.9						

*ISCJB **12** 10:26:58.2±1.7,196S±07×1777W±04,h600^{km},mb4.0/7, Error ellipse: s-maj=96.6km s-min=17.2km az=129.0*
*IDC **12** 10:27:01.8±14.0,1967S×17772W,h633^{km}±193^{km}, mb3.2/6,mb1 3.5/6,mb1mx3.2/14,mbtmp4.3/6,Error ellipse: s-maj=101.4km s-min=58.1km az=142.0*
ISC 12 10:26:59.4±1.7,**197S**±07×**1776W**±04,**h600^{km},n12,** σ**0^{s}30**/12,**mb4.0**/7,**1D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.93**	**263**	*e*P	**P**	**10 32 53.9**	**-0.3**
	5.0nm,0.5s,mb4.4						
CTA	**Charters Tower**	**33.93**	**263**	P	**P**	**10 32 54.6**	**+0.4**
	6.7nm,0.5s,mb4.5,baz=88,slow=6.5,SNR=16						
STKA	**Stephens Creek**	**38.45**	**243**	*e*P	**P**	**10 33 31.3**	**0.0**
	3.0nm,1.2s,mb3.7						
STKA	**Stephens Creek**	**38.45**	**243**	P	**P**	**10 33 31.1**	**-0.1**
	2.2nm,0.5s,mb3.9,baz=43,slow=13,SNR=7.6						
ASAR	**Alice Springs**	**45.05**	**256**	P	**P**	**10 34 23.4**	**+0.4**
	4.5nm,0.5s,mb4.3,baz=87,slow=8.4,SNR=148						
ASPA	**Alice Springs**	**45.05**	**256**	*e*P	**P**	**10 34 23.2**	**+0.2**
WB2	**Warramunga Arr**	**45.06**	**261**	⇓*i*P	**P**	**10 34 22.6**	**-0.5**
WRA	**Warramunga Arr**	**45.07**	**261**	P	**P**	**10 34 22.9**	**-0.3**
	2.5nm,0.5s,mb4.0,baz=98,slow=7.9,SNR=113						
KAKA	**Kakadu**	**48.33**	**270**	*e*P	**P**	**10 34 47.9**	**+0.3**
	3.2nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	**53.49**	**262**	*e*P	**P**	**10 35 24.8**	**-0.1**
	4.1nm,0.5s,mb4.0						
NVAR	**Mina Array Bea**	**80.22**	**43**	P	**P**	**10 38 08.3**	**-0.3**
	0.3nm,0.5s,baz=240,slow=7.4,SNR=3.6						
PDAR	**Pinedale Array**	**88.16**	**43**	P	**P**	**10 38 47.8**	**+0.3**
	0.5nm,0.6s,mb3.4,baz=132,slow=2.2,SNR=5.3						

*NEIC **12** 10:32:46.5,4523S×16695E,h10^{km},ML3.9(WEL),After WEL.*
WEL 12 10:32:47.2±0.2,**4523S×16698E,h12^{km},ML3.9**/14,**Error ellipse: s-maj=2.4km s-min=0.9km az=90.0,Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.27**	**154**	P*	Pg	10 32 52.9	+0.1
DCZ				S*	Sg	10 32 57.0	+0.4
DCZ	**Deep Cove**	**0.27**	**154**	P	Pg	10 32 52.9	+0.1
DCZ				S	Sg	10 32 57.0	+0.5
MLZ	**Mavora Lakes**	**0.85**	**98**	P*	Pb	10 33 02.0	-1.8
MLZ				S*	Sb	10 33 13.2	-1.9
MLZ	**Mavora Lakes**	**0.85**	**98**	P	Pg	10 33 02.0	-1.5
MSZ	**Milford Sound**	**0.87**	**50**	P*	Pb	10 33 01.6	-2.7
MSZ				S*	Sb	10 33 15.7	-0.2
MSZ	**Milford Sound**	**0.87**	**50**	P	Pg	10 33 01.1	-2.9
WHZ	**Wether Hill Ro**	**0.94**	**135**	P*	Pb	10 33 04.0	-1.5
WHZ				S*	Sb	10 33 17.0	-1.0
WHZ	**Wether Hill Ro**	**0.94**	**135**	P	Pg	10 33 04.0	-1.4
WKZ	**Wanaka**	**1.50**	**75**	PN	Pn	10 33 13.2	-0.6
WKZ				SN	Sn	10 33 32.6	-0.7
WKZ	**Wanaka**	**1.50**	**75**	P	Pn	10 33 13.2	-0.6
EAZ	**Earnscleugh**	**1.64**	**91**	PN	Pn	10 33 15.4	-0.4
EAZ	**Earnscleugh**	**1.64**	**91**	P	Pn	10 33 15.4	-0.4
JCZ	**Jackson Bay**	**1.72**	**48**	PN	Pn	10 33 15.7	-1.1
JCZ				SN	Sn	10 33 38.8	+0.1
JCZ	**Jackson Bay**	**1.72**	**48**	*e*P	Pn	10 33 15.7	-1.2
APZ	**The Paps**	**1.75**	**157**	PN	Pn	10 33 17.0	-0.3
SYZ	**Scrubby Hill**	**1.99**	**132**	PN	Pn	10 33 19.6	-1.1
TUZ	**Tuapeka**	**1.99**	**112**	PN	Pn	10 33 19.6	-1.1
TUZ	**Tuapeka**	**1.99**	**112**	P	Pn	10 33 19.6	-1.1
LBZ	**Lake Benmore**	**2.43**	**71**	PN	Pn	10 33 25.3	-1.4
LBZ	**Lake Benmore**	**2.43**	**71**	*e*P	Pn	10 33 25.3	-1.4
FOZ	**Fox Glacier**	**2.56**	**50**	PN	Pn	10 33 27.3	-1.1
FOZ	**Fox Glacier**	**2.56**	**50**	*e*P	Pn	10 33 27.4	-1.0
ODZ	**Otahua Downs**	**2.60**	**87**	PN	Pn	10 33 27.3	-1.6
ODZ	**Otahua Downs**	**2.60**	**87**	P	Pn	10 33 27.3	-1.7
HHSZ	**Highcliff Hill**	**2.62**	**106**	PN	Pn	10 33 28.4	-0.9
RPZ	**Rata Peaks**	**3.29**	**64**	PN	Pn	10 33 37.7	-0.7
RPZ	**Rata Peaks**	**3.29**	**64**	*e*P	Pn	10 33 37.7	-0.7
WVZ	**Waitaha Valley**	**3.46**	**53**	PN	Pn	10 33 38.5	-2.3
WVZ	**Waitaha Valley**	**3.46**	**53**	P	Pn	10 33 38.0	-2.8
MQZ	**McQueen's Vall**	**4.33**	**71**	*e*P	Pn	10 33 50.6	-2.3
CRLZ	**Canterbury Las**	**4.37**	**70**	*e*P	Pn	10 33 52.4	-0.9
LTZ	**Lake Taylor**	**4.53**	**59**	*e*P	Pn	10 33 53.9	-1.7
THZ	**Tophouse**	**5.53**	**53**	PN	Pn	10 34 08.0	-1.2
THZ	**Tophouse**	**5.53**	**53**	*e*P	Pn	10 34 07.9	-1.4
QRZ	**Quartz Range**	**5.99**	**45**	*e*P	Pn	10 34 13.2	-2.4
NNZ	**Nelson**	**6.16**	**52**	PN	Pn	10 34 16.7	-1.2
TCW	**Tory Channel**	**6.67**	**56**	P	Pn	10 34 24.7	-0.3

*IDC **12** 10:58:01.4±0.8,1807N×14729E,h0^{km},mb4.0/10, mb1 4.2/10,mb1mx4.0/19,mbtmp4.0/10,MS3.5/3, Ms1 3.5/3,ms1mx2.8/37,Error ellipse: s-maj=33.9km s-min=18.1km az=82.0*
*ISCJB **12** 10:58:05.0±0.4,1816N±005×1472E±0.1,h33^{km},mb4.1/18, MS3.6/3,Error ellipse: s-maj=14.7km s-min=6.6km az=28.6*
*NEIC **12** 10:58:07.5±1.6,1811N×14725E,h42^{km}±14^{km},mb4.3/10, Error ellipse: s-maj=12.9km s-min=6.5km az=88.0*
ISC 12 10:58:07.0±0.4,**1820N**±005×**1472E**±01,**h35^{km},n35,** σ**0^{s}94**/33,**mb4.1**/18,**MS3.6**/3,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.10**	**206**	Pn	**Pn**	**10 59 21.4**	**+0.5**
	25nm,0.3s,baz=324,slow=5.9,SNR=8.5						
GUMO				Sn	**Sn**	**11 00 19.9**	**+1.3**
	13nm,0.3s,baz=233,slow=14,SNR=3.7						
GUMO	**Guam**	**5.10**	**206**	Pn	**Pn**	**10 59 21.4**	**+0.5**
GUMO				Sn	**Sn**	**11 00 19.9**	**+1.3**
MJAR	**Matsushiro Arr**	**19.92**	**338**	P	**Pn**	**11 02 36.3**	**-1.2**
	4.1nm,0.9s,baz=163,slow=9.7,SNR=6.4						
MAJO	**Matsushiro**	**19.92**	**338**	*e*P	**Pn**	**11 02 35.3**	**-2.1**
	5.8nm,0.5s						
MAT	**Matsushiro**	**19.92**	**338**	P	**Pn**	**11 02 37.0**	**-0.5**
MAT	**Matsushiro**	**19.92**	**338**	*e*P	**Pn**	**11 02 37.0**	**-0.5**
WRAB	**Tennant Creek**	**39.94**	**199**	*e*P	**P**	**11 05 36.7**	**-1.2**
	4.7nm,0.7s,mb4.3						
WB2	**Warramunga Arr**	**39.95**	**199**	*e*P	**P**	**11 05 38.0**	**+0.1**
WRA	**Warramunga Arr**	**39.95**	**199**	P	**P**	**11 05 36.1**	**-1.9**
	1.4nm,0.8s,mb3.7,baz=30,slow=8.8,SNR=13						
WRA				PcP	PcP	11 07 42.9	+0.1
	0.5nm,0.6s,baz=15,slow=3.2,SNR=6.2						
FITZ	**Fitzroy Crossi**	**41.84**	**212**	*e*P	**P**	**11 05 53.5**	**0.0**
	5.1nm,0.9s,mb4.2						
AS31	**Alice Springs**	**43.59**	**198**	*e*P	**P**	**11 06 06.8**	**-0.8**
ASAR	**Alice Springs**	**43.59**	**198**	P	**P**	**11 06 06.9**	**-0.8**
	0.8nm,0.7s,mb3.6,baz=21,slow=8.5,SNR=13						
ASAR				PcP	PcP	11 07 55.0	+0.3
	0.3nm,0.5s,baz=18,slow=2.7,SNR=4.3						
ASPA	**Alice Springs**	**43.59**	**198**	*e*P	**P**	**11 06 06.8**	**-0.9**
SONM	**Songino Array**	**44.42**	**321**	P	**P**	**11 06 15.2**	**+0.8**
	1.1nm,0.6s,mb3.8,baz=138,slow=9.0,SNR=8.4						
SONM				LR	LR	11 25 05.8	
	comp=Z,62nm,19.6s,MS3.5,baz=251,slow=36						
ZAL	**Zalesovo**	**59.28**	**322**	P	**P**	**11 08 07.2**	**+2.0**
	1.0nm,0.4s,mb4.2,baz=26,slow=7.6,SNR=3.1						
MKAR	**Makanchi Array**	**59.83**	**314**	P	**P**	**11 08 10.5**	**+1.6**
	0.3nm,0.3s,mb3.8,baz=89,slow=7.7,SNR=5.5						
BVAR	**Borovoye Array**	**67.76**	**321**	P	**P**	**11 09 01.4**	**+0.3**
	1.0nm,0.4s,mb4.2,baz=107,slow=9.8,SNR=7.2						
BRVK	**Borovoye**	**67.83**	**321**	*e*P	**P**	**11 09 01.8**	**+0.3**
	2.1nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**68.60**	**320**	*e*P	**P**	**11 09 07.0**	**+0.7**
	1.4nm,0.6s,mb4.1						
YKA	**Yellowknife Ar**	**77.76**	**28**	LR	LR	11 40 00.7	
	comp=Z,27nm,20.8s,MS3.5,baz=55,slow=32						
YBH	**Yreka Blue Hor**	**78.19**	**50**	*e*P	**P**	**11 10 03.5**	**+0.7**
	3.9nm,1.2s,mb4.2						
RES	**Resolute Bay**	**79.57**	**14**	*e*P	**P**	**11 10 09.8**	**-0.6**
	6.7nm,0.9s,mb4.6						
CMB	**Columbia Colle**	**80.86**	**53**	*e*P	**P**	**11 10 17.4**	**0.0**
	1.5nm,0.6s,mb4.1						
NVAR	**Mina Array Bea**	**82.32**	**52**	P	**P**	**11 10 25.2**	**+0.1**
	1.4nm,0.7s,mb4.0,baz=264,slow=5.9,SNR=14						
ARCES	**ARCESS Array B**	**83.40**	**342**	P	**P**	**11 10 30.6**	**0.0**
	1.7nm,0.8s,mb4.1,baz=55,slow=16,SNR=3.5						
ELK	**Elko**	**83.87**	**49**	*e*P	**P**	**11 10 33.5**	**+0.5**
	2.7nm,0.9s,mb4.4						
MCMT	**McKenzie Canyo**	**84.19**	**45**	*e*P	**P**	**11 10 35.9**	**+1.2**
PDAR	**Pinedale Array**	**87.16**	**46**	LR	LR	11 46 39.1	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,29nm,18.5s,MS3.7,baz=249,slow=34						
SRU	San Rafael	87.84	50	eP	P	11 10 52.4	-0.3
	2.3nm,0.7s,mb4.5						
FINES	FINESS Array B	87.93	336	P	P	11 10 51.9	-1.2
	1.7nm,0.8s,mb4.3,baz=49,slow=4.2,SNR=4.7						
FINES	FINESS Array B	87.93	336	P	P	11 10 51.9	-1.2
PV10	Paradox Valley	89.19	50	eP	P	11 10 59.4	+0.4
PV01	Paradox Valley	89.62	50	eP	P	11 11 01.7	+0.6
LPAZ	La Paz	146.24	92	PKPbc	PKPbc	11 17 46.0	+2.3
	1.4nm,0.6s,baz=278,slow=5.4,SNR=5.2						
SAML	Samuel	149.11	77	ePKPbc	PKPbc	11 17 51.9	+0.3

*MOS **12** 11:22:30.5±1.7, 5636N×118.11E, h6^{km}, mb4.4/1, Error ellipse: s-maj=19.0km s-min=16.4km az=46.1*

BYKL 12 11:22:30.6±0.2**, 5633N**×**11811E, h7**^{km}±16^{km}**, 9C-3D, East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRS	Chara	0.58	9	⇑iPg	Pg	11 22 41.3	-0.4
	141nm,0.6s						
CRS				⇑iPg	Pg	11 22 41.3	-0.4
	41nm,0.6s						
CRS				⇑iPg	Pg	11 22 41.3	-0.4
	323nm,0.6s						
CRS				eSg	Sg	11 22 49.6	+0.3
CRS				Pmax			
	284nm,0.5s						
CRS				Smax			
	2µm,1.9s						
CRS	Chara	0.58	9	ePG	Pg	11 22 41.2	-0.5
CRS				e		11 22 48.0	
CRS				pmax	pmax		
	comp=Z,285nm,0.5s						
CRS				smax			
	comp=E,907nm,0.7s						
KHNR	Khani	1.19	59	ePg	Pg	11 22 52.3	-1.1
KHNR				ePb	Pb	11 22 54.6	+1.1
KHNR				eSg	Sg	11 23 08.4	-0.5
KHNR				e		11 23 13.2	
NLYR	Nelyaty	1.35	278	⇑iPg	Pg	11 22 54.3	-2.1
NLYR				⇓iPb	Pb	11 22 55.7	-0.5
NLYR				eSg	Sg	11 23 13.0	-0.9
NLYR				eSb	Sb	11 23 15.4	+1.8
NLYR				max			
	comp=E,286nm,0.4s						
NLYR				max			
	comp=E,3µm,0.7s						
NLYR	Nelyaty	1.35	278	ePG	Pg	11 22 54.2	-2.2
NLYR				e		11 23 11.5	
NLYR				pmax	pmax		
	comp=Z,317nm,0.4s						
NLYR				smax			
	comp=N,3µm,1.1s						
TUP	Tupik	2.18	150	ePn	Pn	11 23 07.8	+0.5
TUP				⇓iPg	Pg	11 23 09.7	-2.7
TUP				eSn	Sn	11 23 34.3	-0.2
TUP				i Sg	Sg	11 23 38.0	-2.7
TUP				e		11 23 49.8	
TUP				Pmax			
	comp=N,212nm,0.8s						
TUP				max			
	comp=N,577nm,1.9s						
TUP	Tupik	2.18	150	ePN	Pn	11 23 07.7	+0.4
TUP				e		11 23 10.1	
TUP				eS	Sn	11 23 34.6	+0.1
TUP				e		11 23 38.0	
TUP				pmax	pmax		
	comp=Z,163nm,0.6s						
TUP				smax			
	comp=N,384nm,0.8s						
SVKR	Severomuysk	2.55	267	ePn	Pn	11 23 13.1	+0.7
SVKR				⇓iPg	Pg	11 23 16.4	-3.1
SVKR				eSn	Sn	11 23 43.8	+0.2
SVKR				eSg	Sg	11 23 49.4	-3.1
SVKR				Pmax			
	comp=N,127nm,0.2s						
SVKR				Smax			
	comp=N,882nm,0.5s						
SVKR	Severomuysk	2.55	267	ePN	Pn	11 23 13.8	+1.4
SVKR				e		11 23 16.2	
SVKR				e		11 23 48.3	
SVKR				pmax	pmax		
	comp=Z,134nm,0.2s						
SVKR				smax			
	comp=E,872nm,0.6s						
BOD	Bodaibo	2.69	305	ePn	Pn	11 23 14.5	+0.2
BOD				⇑iPg	Pg	11 23 18.6	-3.6
BOD				eSn	Sn	11 23 46.8	-0.4
BOD				i Sg	Sg	11 23 53.8	-3.3
BOD				Pmax			
	comp=E,226nm,0.3s						
BOD				Smax			
	comp=E,239nm,0.6s						
CLNS	Chul'man	3.79	79	⇑iPn	Pn	11 23 30.7	+1.4
CLNS				ePg	Pg	11 23 38.3	-4.8
CLNS				eSn	Sn	11 24 12.3	-1.8
CLNS				e		11 24 16.5	
CLNS				eSg	Sg	11 24 26.1	-6.1
CLNS	Chul'man	3.79	79	ePN	Pn	11 23 17.1	-12
CLNS				e		11 24 25.9	
CLNS				pmax	pmax		
	comp=N,12nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,19nm,0.7s						
CLNS				pmax	pmax		
	comp=E,14nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,15nm,0.4s						
CLNS				pmax	pmax		
	comp=N,16nm,0.5s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.4s						
CLNS				smax			
	comp=E,90nm,0.4s						
CLNS				smax			
	comp=Z,64nm,0.8s						
CLNS				smax			
	comp=N,127nm,0.5s						
KMO	Kumora	3.90	266	⇑iPn	Pn	11 23 31.7	+0.9
KMO				⇑iPg	Pg	11 23 39.5	-5.7
KMO				eSn	Sn	11 24 15.8	-1.0
KMO				eSg	Sg	11 24 31.2	-4.5
KMO				Pmax			
	comp=N,31nm,0.3s						
KMO				Smax			
	comp=N,198nm,1.4s						
KMO	Kumora	3.90	266	ePN	Pn	11 23 29.7	-1.1
KMO				e		11 23 39.2	
KMO				eS	Sn	11 24 14.9	-1.9
KMO				e		11 24 29.3	
KMO				pmax	pmax		
	comp=Z,25nm,0.4s						
KMO				smax			
	comp=E,198nm,1.3s						
TNDR	Tynda	3.92	105	ePn	Pn	11 23 31.8	+0.6
TNDR				ePg	Pg	11 23 40.3	-5.4
TNDR				eSn	Sn	11 24 17.0	-0.5
TNDR				eSg	Sg	11 24 32.7	-3.8
YLYR	Ulyunkhan	4.20	253	ePN	Pn	11 23 35.8	+0.7
YLYR				e		11 23 46.2	
YLYR				e		11 24 40.2	
YLYR				pmax	pmax		
	comp=Z,16nm,0.7s						
YLYR				smax			
	comp=E,200nm,1.5s						
ALDR	Aldan	4.55	57	eSg	Sg	11 24 51.0	-5.9
NIZ	Nizh Angarsk	4.84	267	ePn	Pn	11 23 45.0	+1.2
NIZ				ePg	Pg	11 23 58.1	-5.1
NIZ				eSn	Sn	11 24 39.2	-0.8
NIZ				eSg	Sg	11 24 59.7	-6.2
NIZ				Pmax			
	comp=E,13nm,1.0s						
NIZ				Smax			
	comp=E,74nm,0.7s						
NIZ	Nizh Angarsk	4.84	267	ePN	Pn	11 23 45.1	+1.3
NIZ				e		11 23 58.9	
NIZ				e		11 25 02.1	
NIZ				pmax	pmax		
	comp=Z,13nm,0.6s						
NIZ				smax			
	comp=N,74nm,0.9s						
KROS	Kirovskiy	5.40	107	ePn	Pn	11 23 49.2	-2.3
KROS				⇑iPg	Pg	11 24 05.3	-8.7
KROS				eSn	Sn	11 24 48.3	-5.6
KROS				eSg	Sg	11 25 15.2	-8.7
MXMB	Maximikha	6.23	244	eSg	Sg	11 25 41.9	-8.6
MXMB				e		11 25 48.5	
MXMB				max			
	comp=N,215nm,1.1s						
OGRR	Ongureny	6.62	250	ePn	Pn	11 24 08.4	+0.1
OGRR				ePg	Pg	11 24 30.3	-7.1
OGRR				eSn	Sn	11 25 20.6	-3.5
OGRR				eSg	Sg	11 25 56.3	-6.9
OGRR				Pmax			
	comp=N,16nm,2.3s						
OGRR				Smax			
	comp=N,57nm,1.4s						
OGRR	Ongureny	6.62	250	ePN	Pn	11 24 09.1	+0.8
OGRR				e		11 24 30.8	
OGRR				e		11 25 56.4	
OGRR				pmax	pmax		
	comp=Z,2.0nm,0.1s						
OGRR				smax			
	comp=N,57nm,1.5s						
TRTB	Turuntaevo	7.38	241	eSg	Sg	11 26 18.4	-9.1
TRTB				Smax			
	comp=N,73nm,1.7s						
KPC	Khapcheranga	7.48	210	ePn	Pn	11 24 20.0	-0.1
KPC				e		11 24 39.9	
KPC				eSg	Sg	11 26 22.8	-7.9
KPC				e		11 26 27.7	
KPC				max			
	comp=N,62nm,1.3s						
TRG	Tyrgan	7.72	247	eSg	Sg	11 26 29.3	-9.0
TRG				Smax			
	comp=N,13nm,0.2s						

IDC 12 13:28:25.3±3.0**, 947S**×**15426E, h0**^{km}**, mb3.6**/3**, mb1 3.8**/4**, mb1mx3.6**/13**, mbtmp3.7**/4**, ML2.5**/1**, MS2.6**/1**, Ms1 2.6**/1**, ms1mx2.5**/16**, Error ellipse: s-maj=62.2km s-min=40.9km az=134.0, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.62	90	LR	LR	13 31 07.0	
	comp=Z,68nm,21.6s,baz=180,slow=29						
PMG	Port Moresby	7.00	270	Pn	Pn	13 30 09.1	0.0
	0.5nm,0.3s,baz=99,slow=18,SNR=3.1						
PMG				Sn	Sn	13 31 30.9	+1.5
	0.6nm,0.3s,baz=124,slow=7.6,SNR=3.8						
WRA	Warramunga Arr	21.87	239	P	P	13 33 20.4	+0.8
	1.7nm,0.8s,baz=62,slow=10,SNR=10						
ASAR	Alice Springs	24.03	232	P	P	13 33 41.8	-0.1
	1.3nm,1.0s,baz=60,slow=9.3,SNR=6.0						
MKAR	Makanchi Array	84.78	319	P	P	13 41 01.7	+0.3
	0.2nm,0.2s,baz=90,slow=6.5,SNR=4.1						

*ISCJB **12** 13:35:12.4±0.5, 3836N±002×2228E±002, h10^{km}±3^{km}, mb3.8/9, Error ellipse: s-maj=3.4km s-min=2.9km az=96.4*
*CSEM **12** 13:35:12.8±0.1, 3835N×2231E, h1^{km}, ML3.7, Error ellipse: s-maj=1.4km s-min=1.3km az=2.0*
*NEIC **12** 13:35:12.4, 3835N×2226E, h17^{km}, ML3.7(ATH), After ATH.*
*ATH **12** 13:35:12.4, 3835N×2226E, h17^{km}±1^{km}, MD3.7/15, ML3.7*
*THE **12** 13:35:14.2, 3838N×2230E, h11^{km}, ML3.7*
*MOS **12** 13:35:15.3±1.0, 3841N×2227E, h33^{km}, mb3.8/1, Error ellipse: s-maj=11.2km s-min=6.0km az=95.7*
*IDC **12** 13:35:16.4±2.8, 3844N×2224E, h38^{km}±28^{km}, mb3.6/10, mb1 3.8/12, mb1mx3.7/22, mbtmp3.8/12, ML4.0/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/27, Error ellipse: s-maj=19.8km s-min=17.0km az=96.0*

ISC 12 13:35:13.1±0.5**, 3836N**±002×**2231E**±002**, h6**^{km}±3^{km}**, n83, σ1^{s}07**/104**, mb3.8**/9**, 3C, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKR	Lokris	0.61	62	ePN	Pg	13 35 25.3	+0.4
LKR				eSN	Sg	13 35 34.0	+1.1
AGG	Agios Georgios	0.66	2	ePg	Pg	13 35 25.6	-0.1
AGG				eSg	Sg	13 35 35.4	+1.0
EVR	Evrytania	0.68	325	⇑iPN	Pg	13 35 25.5	-0.6
EVR				eSN	Sg	13 35 35.1	+0.2
RLS	Riolos of Patr	0.73	246	⇑iPN	Pg	13 35 25.9	-1.2
RLS				eSN	Sg	13 35 35.5	-1.0
MGER	Gerania Oros	0.84	116	ePN	Pg	13 35 29.5	+0.3
NAIG	Nisos Aigina	1.11	122	ePN	Pn	13 35 34.2	-0.9
ATH	Athens Observa	1.18	109	ePN	Pn	13 35 36.0	0.0
NEO	Neokhori	1.19	37	ePN	Pn	13 35 35.9	-0.2
ITM	Ithomi	1.22	194	ePN	Pn	13 35 35.0	-1.6
XOR	Xorichti	1.22	34	ePg	Pg	13 35 35.9	-0.5
XOR				eSg	Sg	13 35 53.7	+1.5
PTL	Penteli	1.27	104	ePN	Pn	13 35 36.0	-1.2
KVR	Kavouri	1.27	114	ePN	Pn	13 35 37.0	-0.3
LKD	Levkas	1.34	285	ePg	Pg	13 35 37.3	-1.5
LKD				eSg	Sg	13 35 56.3	0.0
VLS	Valsamata	1.36	263	ePB	Pb	13 35 36.5	-2.5
VLS	Valsamata	1.36	263	ePb	Pb	13 35 36.4	-2.6
AOS	Alonnisos	1.47	56	ePg	Pg	13 35 40.3	-1.0
AOS				eSg	Sg	13 35 59.4	-1.0
AOS	Alonnisos	1.47	56	ePg	Pg	13 35 40.3	-1.0
AOS				eSg	Sg	13 35 59.3	-1.0
MEV	Metsovon	1.65	330	ePb	Pb	13 35 44.0	+0.2
MEV				eSb	Sb	13 36 03.8	-1.1
VLI	Veliai	1.71	163	ePN	Pn	13 35 43.9	+0.5
JAN	Janina	1.72	319	ePN	Pn	13 35 44.3	+0.8
LIT	Litokhoron	1.74	5	ePb	Pb	13 35 43.5	-1.9
LIT				eSb	Sb	13 36 05.7	-1.9
KZN	Kozani	1.99	348	ePN	Pn	13 35 47.4	+0.2
KYTH	Kithira	2.16	164	ePN	Pn	13 35 50.0	+0.5
PLG	Polygyros	2.19	23	ePN	Pn	13 35 49.6	-0.4
THE	Thessaloniki	2.33	12	ePn	Pn	13 35 51.1	-0.7
OUR	Ouranopolis	2.36	33	ePn	Pn	13 35 52.3	0.0
KEK	Kerkira	2.38	305	ePN	Pn	13 35 53.2	+0.7
FNA	Florina	2.52	344	ePn	Pn	13 35 54.9	+0.3
FNA				eSn	Sn	13 36 26.0	+0.4
SOH	Sokhos	2.59	18	ePn	Pn	13 35 55.8	+0.3
SOH				eSn	Sn	13 36 27.7	+0.5
LIA	Limnos Island	2.71	55	ePN	Pn	13 35 57.3	+0.2
BIA	Bitola	2.76	344	i Pn	Pn	13 35 59.5	+1.7
BIA	Bitola	2.76	344	i Pn	Pn	13 35 59.4	+1.6
KNT	Kendrikon	2.83	9	ePn	Pn	13 35 59.0	+0.2
KNT				eSn	Sn	13 36 33.1	-0.1
APE	Apeiranthos	2.86	116	ePn	Pn	13 36 00.1	+0.9
APE				eSn	Sn	13 36 34.3	+0.4
CHOS	Chios island	2.94	88	ePn	Pn	13 36 01.5	+1.2
VAY	Valandovo	2.96	4	ePn	Pn	13 36 00.5	-0.1
VAY				eSn	Sn	13 36 34.9	-1.5
VAY	Valandovo	2.96	4	i Pn	Pn	13 36 01.1	+0.5
OHR	Ohrid	2.98	338	ePn	Pn	13 36 00.8	0.0
OHR				eSn	Sn	13 36 37.1	+0.2
OHR	Ohrid	2.98	338	ePn	Pn	13 36 01.3	+0.4
NVR	Nevrokopi	3.22	21	ePN	Pn	13 36 04.9	+0.8
KARN	Karanos	3.22	156	ePn	Pn	13 36 03.8	-0.4
KARN				eSn	Sn	13 36 43.7	+0.8
VAM	Vamos	3.31	152	ePN	Pn	13 36 05.9	+0.5
SKO	Skopje	3.67	350	i Pn	Pn	13 36 10.6	+0.3
IDI	Anoyia	3.70	145	Pn	Pn	13 36 11.7	+0.9
	4.2nm,0.3s,baz=315,slow=13,SNR=16						
IDI				Sn	Sn	13 36 54.6	-0.1
	8.6nm,0.3s,baz=67,slow=18,SNR=5.7						
IDI				LR	LR	13 38 07.0	
	comp=Z,104nm,18.2s,baz=90,slow=45						
IDI	Anoyia	3.70	145	Pn	Pn	13 36 11.7	+0.9
IDI				Sn	Sn	13 36 54.6	-0.1
IDI	Anoyia	3.70	145	Pn	Pn	13 36 11.7	+1.0
IDI				Sn	Sn	13 36 54.6	0.0
LCI	Lecce	3.80	303	Pn	Pn	13 36 12.7	+0.6
VTS	Vitosha	4.28	9	ePn	Pn	13 36 18.6	-0.1
VTS	Vitosha	4.28	9	ePn	Pn	13 36 18.6	-0.1
TIP	Timpagrande	4.41	282	ePn	Pn	13 36 21.0	+0.5
TIP	Timpagrande	4.41	282	ePn	Pn	13 36 21.0	+0.5
CEL	Celeste	5.05	271	Pn	Pn	13 36 30.5	+1.3
	23nm,0.5s						
CUC	Castrocucco	5.30	290	Pn	Pn	13 36 35.1	+2.4
	29nm,0.5s						
MGR	Morigerati	5.54	291	Pn	Pn	13 36 37.1	+1.2
	20nm,0.4s						
SLCN	Sala Consilina	5.55	293	Pn	Pn	13 36 37.9	+1.7
	85nm,0.4s						
GRUS	Gruza	5.65	348	i Pn	Pn	13 36 39.0	+1.5
STON	Ston	5.71	324	i Pn	Pn	13 36 37.7	-0.6
STON				i Sn	Sn	13 37 40.6	-3.6
STON	Ston	5.71	324	i Pn	Pn	13 36 37.6	-0.7
MRLC	Muro Lucano	5.79	297	Pn	Pn	13 36 40.5	+1.1
	17nm,0.3s						
SGO	Sicignano	5.84	294	P	Pn	13 36 42.4	+2.2
SGO				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SGO	Sicignano	5.84	294	Pn	Pn	13 36 42.4	+2.2
	comp=Z,6.6nm,0.6s						
SLNA	Salina	5.87	274	Pn	Pn	13 36 40.4	-0.1
	comp=Z,40nm,0.4s						
FGMS	Monte Sant'Ang	5.91	306	Pn	Pn	13 36 41.3	+0.2
	comp=Z,9.8nm,0.4s						
BBLS	Bajina Basta -	5.92	339	i Pn	Pn	13 36 42.6	+1.3
DIVS	Divcibare	5.99	344	i Pn	Pn	13 36 45.2	+3.0
DIVS	Divcibare	5.99	344	ePn	Pn	13 36 42.7	+0.5
RGNG	Rignano Grg	6.13	305	Pn	Pn	13 36 44.5	+0.4
FG5	Orsara di Pugl	6.15	301	P	Pn	13 36 45.2	+0.7
FG5				pmax	pmax		
	comp=Z,21nm,0.3s						
FG5	Orsara di Pugl	6.15	301	Pn	Pn	13 36 45.2	+0.7
	comp=Z,21nm,0.3s						
CIGN	Sant'Elia a Pi	6.56	302	Pn	Pn	13 36 51.3	+1.2
	comp=Z,25nm,0.7s						
MLR	Muntele Rosu	7.62	20	Pn	Pn	13 37 05.9	+1.3
	comp=Z,1.2nm,0.3s,baz=179,slow=13,SNR=5.8						
MLR	Muntele Rosu	7.62	20	⇑iP	Pn	13 37 06.7	+2.1
ESDC	Sonseca Array	20.43	282	P	P	13 39 50.3	-0.7
	comp=Z,2.2nm,0.7s,baz=79,slow=11,SNR=5.8						
HFS	Hagfors	22.47	349	P	P	13 40 10.5	-2.4
	comp=Z,1.7nm,0.5s,mb3.7,baz=153,slow=10.0,SNR=9.1						
FINES	FINESS Array B	23.23	5	P	P	13 40 18.1	-2.8
	comp=Z,1.3nm,0.7s,mb3.5,baz=167,slow=9.2,SNR=4.3						
NB2	NORSAR Subarra	23.74	347	P	P	13 40 23.4	-2.7
	comp=Z,2.6nm,0.8s,mb3.7,baz=160,slow=11						
NOA	NORSAR Array B	23.74	347	P	P	13 40 23.5	-2.6
	comp=Z,1.3nm,0.6s,mb3.5,baz=156,slow=8.0,SNR=3.3						
EKA	Eskdalemuir Ar	24.11	323	P	P	13 40 27.9	-1.5
	comp=Z,3.3nm,0.9s,mb3.8,baz=128,slow=11,SNR=6.7						
TORD	Torodi Ar. Bea	31.08	222	P	P	13 41 31.5	-0.4
	comp=Z,0.8nm,0.6s,mb3.7,baz=33,slow=9.1,SNR=8.0						
ARCES	ARCESS Array B	31.28	2	P	P	13 41 31.5	-2.2
	comp=Z,1.4nm,0.9s,mb3.8,baz=191,slow=11,SNR=8.3						
MKAR	Makanchi Array	44.01	59	P	P	13 43 20.4	-0.8
	comp=Z,1.7nm,0.5s,mb4.0,baz=273,slow=7.5,SNR=16						
ZAL	Zalesovo	44.51	48	P	P	13 43 23.7	-1.6
	comp=Z,2.5nm,0.3s,mb4.6,baz=170,slow=5.9,SNR=5.9						
SONM	Songino Array	59.25	51	P	P	13 45 14.2	-1.1
	comp=Z,0.8nm,0.9s,mb3.7,baz=296,slow=8.1,SNR=4.3						

*ISCJB **12** 13:35:46.9±5.8, 75N±0.1×7801W±009, h15^{km}±43^{km}, mb3.7/5, MS3.1/2, Error ellipse: s-maj=21.8km s-min=15.4km az=177.3*
*IDC **12** 13:35:46.3±1.1, 746N×7805W, h0^{km}, mb3.8/5, mb1 4.1/7, mb1mx3.9/21, mbtmp4.0/7, ML4.6/2, MS3.2/4, Ms1 3.2/4, ms1mx3.0/22, Error ellipse: s-maj=30.1km s-min=21.6km az=45.0*

ISC 12 13:35:48.1±5.6**, 75N**±01×**7806W**±009**, h10**^{km}±36^{km}**, n10, σ1^{s}46**/8**, mb3.7**/5**, MS3.1**/2**, Panama**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	7.48	79	Pn	Pn	13 37 38.7	+1.4
	12nm,0.3s,baz=275,slow=9.0,SNR=34						
SDV				Sn	Sn	13 39 02.0	-0.2
	8.2nm,0.3s,baz=322,slow=20,SNR=6.3						
SDV				LR	LR	13 40 58.0	
	comp=Z,186nm,18.9s,baz=201,slow=42						
PCRV	Puerto La Cruz	13.53	78	Pn	Pn	13 38 58.9	-1.2
	2.2nm,0.3s,baz=335,slow=17,SNR=5.0						
CMIG	Matias Romero	18.99	302	LR	LR	13 48 27.1	
	comp=Z,69nm,21.0s,baz=5.2,slow=40						
LPAZ	La Paz	25.59	157	P	P	13 41 17.9	+0.6
	0.5nm,0.5s,mb3.3,baz=315,slow=8.6,SNR=2.6						
LPAZ				LR	LR	13 53 04.4	
	comp=Z,27nm,20.2s,MS2.8,baz=281,slow=41						
SIV	San Ignacio	28.77	144	P	P	13 41 44.7	-1.2
	0.9nm,0.5s,mb3.7,baz=303,slow=5.8,SNR=5.2						
BDFB	Brasilia	37.61	128	LR	LR	13 59 45.3	
	comp=Z,73nm,18.0s,MS3.5,baz=118,slow=38						
PDAR	Pinedale Array	44.74	327	P	P	13 44 02.2	+0.6
	0.7nm,0.7s,mb3.6,baz=111,slow=8.1,SNR=5.4						
ULM	Lac du Bonnet	45.14	344	P	P	13 44 03.6	-1.2
	2.2nm,0.7s,mb4.1,baz=153,slow=9.4,SNR=5.1						
TORD	Torodi Ar. Bea	78.40	78	P	P	13 47 50.1	+1.2
	0.8nm,1.0s,mb3.6,baz=261,slow=4.9,SNR=4.6						
ASAR	Alice Springs	145.39	239	PKPbc	PKPbc	13 55 26.8	+0.6
	0.5nm,0.5s,baz=112,slow=3.8,SNR=8.1						

IDC 12 13:43:25.6±2.4**, 2071S**×**11424W, h0**^{km}**, mb3.9**/3**, mb1 4.3**/3**, mb1mx3.9**/13**, mbtmp3.9**/3**, MS3.9**/10**, Ms1 3.9**/10**, ms1mx3.7**/21**, Error ellipse: s-maj=79.7km s-min=38.6km az=38.0, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	42.02	128	LR	LR	14 04 24.8	
	comp=Z,291nm,18.7s,baz=291,slow=30						
CMIG	Matias Romero	42.10	28	LR	LR	14 04 01.6	
	comp=Z,41nm,21.5s,baz=201,slow=29						
LPAZ	La Paz	43.84	92	P	P	13 51 34.5	+1.1
	2.2nm,1.0s,baz=272,slow=8.1,SNR=5.9						
LPAZ				LR	LR	14 05 27.5	
	comp=Z,128nm,22.0s,baz=80,slow=30						
RAO	Raoul Island	57.74	248	LR	LR	14 12 04.8	
	comp=Z,158nm,18.7s,baz=172,slow=30						
NVAR	Mina Array Bea	58.95	356	P	P	13 53 27.5	+0.8
	1.7nm,0.9s,baz=173,slow=10,SNR=8.2						
URZ	Urewera	60.98	237	LR	LR	14 13 30.5	
	comp=Z,190nm,19.6s,baz=159,slow=30						
BDFB	Brasilia	62.76	97	LR	LR	14 17 33.3	
	comp=Z,103nm,21.3s,baz=264,slow=33						
PDAR	Pinedale Array	63.31	4	P	P	13 53 55.9	-0.3
	0.6nm,0.7s,baz=146,slow=6.6,SNR=4.9						
PDAR				LR	LR	14 17 21.8	
	comp=Z,66nm,18.7s,baz=354,slow=32						
VNDA	Vanda	68.60	193	LR	LR	14 20 00.4	
	comp=Z,79nm,19.5s,baz=227,slow=32						
YKA	Yellowknife Ar	82.92	360	LR	LR	14 28 43.9	
	comp=Z,70nm,18.2s,baz=180,slow=33						
SCHQ	Schefferville	85.42	25	LR	LR	14 31 29.1	
	comp=Z,79nm,19.9s,baz=106,slow=34						
SONM	Songino Array	137.60	319	PKP	PKPdf	14 02 52.8	+1.3
	0.5nm,0.9s,baz=90,slow=4.3,SNR=3.4						
MKAR	Makanchi Array	150.70	336	PKPbc	PKPbc	14 03 19.0	-0.6
	3.3nm,0.8s,baz=42,slow=3.8,SNR=16						

*ISCJB **12** 14:09:40.6±0.5, 50.12N±003×1840E±003, h0^{km}, Error ellipse: s-maj=4.9km s-min=2.9km az=31.1*
*IPEC **12** 14:09:41.7±0.1, 50.11N×1841E, h8^{km}±1^{km}, ML1.7/3, Error ellipse: s-maj=1.6km s-min=0.7km az=162.0*
*NEIC **12** 14:09:41.8±0.7, 50.12N×1843E, h5^{km}, ML2.5(BRA), Error ellipse: s-maj=9.7km s-min=5.6km az=186.0*
*WAR **12** 14:09:41.9, 5008N×1843E, ML2.4, Mining Induced*
*PRU **12** 14:09:42.0, 50.11N×1839E, h0^{km}*
*CSEM **12** 14:09:42.9±0.2, 5008N×1835E, h1^{km}±1^{km}, ML2.7/4, Error ellipse: s-maj=3.5km s-min=2.3km az=31.0*

ISC 12 14:09:41.4±0.5**, 5010N**±003×**1839E**±003**, h0**^{km}**, n19, σ1^{s}02**/36**, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.13	264	ePg	Pg	14 09 45.4	+1.5
RAC				eSg	Sg	14 09 48.6	+3.1
OKC	Ostrava-Krasne	0.30	211	ePG	Pg	14 09 47.9	+0.7
OKC				eSG	Sg	14 09 52.8	+1.6
	107nm,0.9s						
OKC	Ostrava-Krasne	0.30	211	ePg	Pg	14 09 47.9	+0.7
OKC				eSg	Sg	14 09 52.6	+1.4
MORC	Moravsky Berou	0.64	240	ePg	Pg	14 09 54.0	+0.4
MORC				eSg	Sg	14 10 02.9	+1.1
MORC	Moravsky Berou	0.64	240	ePg	Pg	14 09 54.0	+0.4
MORC				eSg	Sg	14 10 02.9	+1.1
OJC	Ojcow	0.91	82	ePg	Pg	14 09 58.2	-0.7
OJC				eSg	Sg	14 10 11.0	+0.2
OJC	Ojcow	0.91	82	ePg	Pg	14 09 58.4	-0.5
OJC				eSg	Sg	14 10 11.0	+0.2
LIKS	Likavka	1.15	156	ePN	Pn	14 10 04.5	-0.2
LIKS				eSN	Sn	14 10 21.9	+0.8
DPC	Dobruska-Polom	1.35	282	ePG	Pg	14 10 06.9	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DPC				*e*SG	**Sg**	**14 10 25.2**	**+0.3**
	18nm,0.6s						
VRAC	**Vranov**	**1.41**	**237**	*e*Pn	**Pn**	**14 10 07.5**	**-0.8**
VRAC				*e*Sg	**Sg**	**14 10 26.0**	**-0.7**
	12nm,0.3s						
NIE	**Niedzica**	**1.42**	**118**	*e*Pg	**Pg**	**14 10 08.5**	**-0.1**
NIE				*e*Sg	**Sg**	**14 10 28.2**	**+1.2**
KSP	**Ksiaz**	**1.54**	**300**	*e*Pg	**Pg**	**14 10 11.6**	**+0.8**
KSP				*e*Sg	**Sg**	**14 10 31.9**	**+1.2**
UPC	**Upice**	**1.58**	**286**	*e*PG	**Pg**	**14 10 11.8**	**+0.1**
UPC				*e*SG	**Sg**	**14 10 32.3**	**+0.1**
VYHS	**Vyhne**	**1.63**	**170**	*e*PN	**Pn**	**14 10 11.2**	**-0.2**
VYHS				*e*SN	**Sn**	**14 10 33.1**	**0.0**
KRUC	**Moravsky**	**1.66**	**232**	*e*Pn	**Pn**	**14 10 11.3**	**-0.5**
KRUC				*e*Sg	**Sg**	**14 10 33.7**	**-1.1**
	8.1nm,0.3s						
CRVS	**Cervenica-Dubn**	**2.33**	**120**	*e*PG	**Pg**	**14 10 23.9**	**-2.2**
PRU	**Pruhonice**	**2.48**	**269**	*e*SG	**Sg**	**14 10 58.9**	**-2.3**
	6.7nm,0.6s						
KHC	**Kasperske Hory**	**3.28**	**255**	*e*PN	**Pn**	**14 10 34.0**	**0.0**
KHC				*e*PG	**Pg**	**14 10 43.0**	**-1.2**
KHC				*e*SG	**Sg**	**14 11 25.2**	**-1.5**
	3.9nm,0.5s						
CLL	**Collm**	**3.63**	**292**	*e*SG	**Sg**	**14 11 43.0**	**+4.8**

*IDC **12** 14:25:17.1±8.3, 2489N×12659E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.7/3, Error ellipse: s-maj=217.3km s-min=55.1km az=12.0*

*ISCJB **12** 14:25:36.7±0.7, 264N±01×12634E±009, h101km±9km, mb3.6/3, Error ellipse: s-maj=20.7km s-min=6.1km az=105.4*

*JMA **12** 14:25:37.6±0.3, 2642N×12635E, h99km±2km, M3.8*

ISC 12 14:25:37.1±0.7**, 264N**±01×**12632E**±009**, h99**km±9km**, n15,** σ**0^{s}80**/23**, mb3.6**/3**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.42**	**100**	P	**Pn**	**14 25 52.8**	**+0.5**
JKE				*e*S	**Sn**	**14 26 04.0**	**+0.4**
JAGN	**Aguni-jima**	**0.84**	**77**	P	**Pn**	**14 25 56.2**	**+0.4**
JAGN				S	**Sn**	**14 26 10.0**	**+0.2**
NAH1	**Naha**	**1.24**	**99**	P	**Pn**	**14 26 00.7**	**+0.5**
NAH1				*e*S	**Sn**	**14 26 17.3**	**-0.3**
JJT2	**Tamagusuku 2**	**1.31**	**101**	P	**Pn**	**14 26 01.8**	**+0.8**
JJT2				*e*S	**Sn**	**14 26 20.1**	**+1.1**
JIH	**Iheya**	**1.60**	**66**	P	**Pn**	**14 26 05.2**	**+0.7**
JIH				S	**Sn**	**14 26 24.9**	**-0.4**
JOW	**Kunigami**	**1.80**	**76**	P	**Pn**	**14 26 07.2**	**+0.2**
JOW				S	**Sn**	**14 26 28.5**	**-1.3**
JMJ	**Miyako jima 2**	**1.84**	**211**	*e*S	**Sn**	**14 26 30.3**	**-0.4**
JTJ	**Tarama**	**2.29**	**220**	*e*S	**Sn**	**14 26 40.5**	**-0.6**
JTK	**Tokunoshima**	**2.72**	**59**	P	**Pn**	**14 26 19.4**	**+0.4**
JTK				*e*S	**Sn**	**14 26 50.3**	**-1.0**
JIJ	**Ishigaki jima**	**2.83**	**225**	*e*S	**Sn**	**14 26 50.8**	**-3.2**
JAM	**Amami Oshima**	**3.54**	**55**	P	**Pn**	**14 26 29.9**	**-0.1**
JAM				*e*S	**Sn**	**14 27 09.8**	**-1.1**
JMZ	**Minamidaito 2**	**4.44**	**96**	*e*S	**Sn**	**14 27 26.6**	**-6.2**
SONM	**Songino Array**	**26.50**	**329**	P	**P**	**14 31 09.2**	**+4.0**
	0.5nm,0.5s,mb3.3,baz=144,slow=10.0,SNR=5.2						
MKAR	**Makanchi Array**	**40.15**	**312**	P	**P**	**14 33 04.4**	**+1.1**
	0.4nm,0.3s,mb3.8,baz=93,slow=11,SNR=4.4						
YKA	**Yellowknife Ar**	**79.08**	**24**	P	**P**	**14 37 30.1**	**-0.4**
	0.9nm,0.7s,mb3.7,baz=302,slow=5.6,SNR=5.0						

*ISCJB **12** 14:39:50.9±1.3, 490S±01×1087E±04, h10km, mb4.2/8, Error ellipse: s-maj=43.6km s-min=13.5km az=34.8*

*IDC **12** 14:39:50.2±1.4, 4894S×10834E, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.2/11, mbtmp4.3/5, Error ellipse: s-maj=52.9km s-min=26.3km az=107.0*

*NEIC **12** 14:39:52.0±0.6, 4892S×10837E, h10km, mb4.2/3, Error ellipse: s-maj=26.2km s-min=9.8km az=109.0*

ISC 12 14:39:51.7±1.3**, 490S**±01×**1084E**±04**, h10**km**, n22,** σ**0^{s}57**/12**, mb4.2**/8**, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.21**	**68**	P	**P**	**14 46 01.0**	**-1.3**
	2.5nm,0.8s,mb4.0,baz=239,slow=12,SNR=4.4						
STKA	**Stephens Creek**	**30.21**	**68**	*e*P	**P**	**14 46 01.1**	**-1.2**
ASAR	**Alice Springs**	**32.29**	**48**	P	**P**	**14 46 20.9**	**+0.3**
	5.0nm,0.8s,mb4.4,baz=210,slow=8.1,SNR=48						
ASAR				PcP	PcP	14 49 07.4	-1.3
	0.8nm,0.9s,baz=189,slow=3.2,SNR=6.0						
AS31	**Alice Springs**	**32.29**	**48**	*e*P	**P**	**14 46 20.6**	**0.0**
VNDA	**Vanda**	**34.98**	**162**	P	**P**	**14 46 43.7**	**-0.4**
	0.8nm,0.6s,mb3.9,baz=287,slow=9.7,SNR=12						
VNDA	**Vanda**	**34.98**	**162**	P	**P**	**14 46 43.7**	**-0.4**
WRA	**Warramunga Arr**	**35.67**	**45**	P	**P**	**14 46 50.6**	**+0.6**
	8.8nm,0.8s,mb4.7,baz=208,slow=8.3,SNR=40						
WRA				PcP	PcP	14 49 17.5	-0.8
	0.3nm,0.8s,baz=224,slow=2.8,SNR=4.8						
WB2	**Warramunga Arr**	**35.68**	**45**	*e*P	**P**	**14 46 50.5**	**+0.4**
WRAB	**Tennant Creek**	**35.69**	**45**	*e*P	**P**	**14 46 50.5**	**+0.3**
	13nm,0.8s,mb4.9						
SBA	**Scott Base**	**36.09**	**162**	P	**P**	**14 46 53.9**	**+0.3**
	0.2nm,0.4s,mb3.4						
QSPA	**South Pole Qui**	**41.17**	**180**	*e*P	**P**	**14 47 36.7**	**+0.4**
	4.8nm,0.9s,mb4.1						
SONM	**Songino Array**	**96.42**	**359**	P	**P**	**14 53 20.3**	**-0.8**
	0.5nm,0.9s,mb3.9,baz=170,slow=9.0,SNR=4.3						
INK	**Inuvik**	**144.46**	**34**	*e*PKP	PKPdf	14 59 25.3	-2.9
NVAR	**Mina Array Bea**	**145.17**	**90**	PKPbc	PKPbc	14 59 29.5	+0.5
	2.6nm,0.7s,baz=211,slow=4.1,SNR=18						
NVAR	**Mina Array Bea**	**145.17**	**90**	PKPbc	PKPbc	14 59 29.5	+0.5
MNV	**Mina**	**145.27**	**90**	*e*PKP	PKPdf	14 59 29.7	0.0
TPNV	**Topopah Spring**	**145.70**	**94**	*e*PKP	PKPdf	14 59 31.4	+1.1
MSU	**Marysvale**	**149.25**	**94**	*e*PKPbc	PKPbc	14 59 41.7	+1.2
JCT	**Junction City**	**151.79**	**120**	*e*PKPbc	PKPbc	14 59 46.3	-0.3
YKA	**Yellowknife Ar**	**152.88**	**44**	PKPbc	PKPbc	14 59 47.8	-1.2
	2.1nm,0.9s,baz=288,slow=2.2,SNR=5.3						
YKA	**Yellowknife Ar**	**152.88**	**44**	PKPbc	PKPbc	14 59 47.8	-1.2
PDAR	**Pinedale Array**	**153.09**	**89**	PKPbc	PKPbc	14 59 49.8	+0.2
	0.8nm,0.9s,baz=242,slow=3.2,SNR=5.5						

*CSEM **12** 14:40:55.5, 3881N×2675E, h15km, ML4.6*

*THE **12** 14:40:55.5, 3882N×2682E, h10km, ML4.3*

*ISCJB **12** 14:40:55.3±0.5, 3881N±001×2674E±002, h7km±4km, mb3.9/15, MS3.3/3, Error ellipse: s-maj=2.6km s-min=2.4km az=78.5*

*ATH **12** 14:40:56.0, 3881N×2669E, h29km±1km, MD4.1/12, ML4.2*

*IDC **12** 14:40:56.4±0.8, 3849N×2690E, h0km, mb3.9/11, mb1 4.0/16, mb1mx4.0/24, mbtmp3.9/16, ML3.9/5, MS3.4/7, Ms1 3.4/7, ms1mx3.1/33, Error ellipse: s-maj=16.4km s-min=15.3km az=16.0*

*ISK **12** 14:40:56.6, 3873N×2668E, h34km, ML4.3*

*NEIC **12** 14:40:56.6±1.1, 3879N×2672E, h13km±8km, mb4.0/13, ML4.2(ATH), ML4.2(ISK), Error ellipse: s-maj=3.4km s-min=2.7km az=80.0*

*MOS **12** 14:40:59.9±2.0, 3852N×2684E, h34km, mb4.5/4, Error ellipse: s-maj=7.3km s-min=4.5km az=132.0*

ISC 12 14:40:56.3±0.5**, 3880N**±001×**2676E**±002**, h7**km±3km**, n241,** σ**1^{s}24**/260**, mb3.9**/15**, MS3.3**/3**, 20C-10D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.47**	**152**	*i* PG	**Pg**	**14 41 06.3**	**+1.0**
BLCB				*i* SG	**Sg**	**14 41 13.6**	**+2.1**
AYVA	**Ayvalik**	**0.51**	**354**	*i* P	**Pg**	**14 41 05.6**	**-0.5**
AYVA				*i* S	**Sg**	**14 41 13.2**	**+0.4**
AYVA	**Ayvalik**	**0.51**	**354**	*i* P	**Pg**	**14 41 05.6**	**-0.6**
AYVA				*i* S	**Sg**	**14 41 13.2**	**+0.4**
KDAG	**Bornova**	**0.56**	**135**	*i* P	**Pg**	**14 41 07.8**	**+0.7**
KDAG				*i* S	**Sg**	**14 41 16.4**	**+2.1**
IZM	**Izmir**	**0.56**	**135**	*i* PG	**Pg**	**14 41 08.1**	**+1.0**
PRK	**Paraskevi**	**0.59**	**320**	⇑*i*PN	**Pg**	**14 41 07.6**	**0.0**
PRK				*e*SN	**Sg**	**14 41 15.6**	**+0.4**
PRK	**Paraskevi**	**0.59**	**320**	*e*Sn	**Sg**	**14 41 15.6**	**+0.4**
CHOS	**Chios island**	**0.69**	**234**	*e*Pg	**Pg**	**14 41 09.9**	**+0.3**
CHOS				*e*Sg	**Sg**	**14 41 19.3**	**+0.8**
EZN	**Ezine**	**1.08**	**342**	*i* PN	**Pn**	**14 41 16.4**	**-1.5**
SMG	**Samos**	**1.09**	**177**	⇑*e*PN	**Pn**	**14 41 16.9**	**-1.1**
SMG				*e*SN	**Sn**	**14 41 32.6**	**-0.8**
CANB	**Canakkale**	**1.24**	**11**	*i* PN	**Pn**	**14 41 18.5**	**-1.6**
CANB				*i* SN	**Sn**	**14 41 36.5**	**-0.5**
BTOK	**Tokmak**	**1.38**	**45**	*i* P	**Pn**	**14 41 20.5**	**-1.5**
BTOK				*i* S	**Sb**	**14 41 39.4**	**-0.8**
AYDN	**Tasoluk**	**1.44**	**142**	*i* P	**Pn**	**14 41 22.3**	**-0.5**
AYDN				*i* S	**Sb**	**14 41 42.9**	**+0.9**
GADA	**Gvkgeada**	**1.54**	**335**	PN	**Pn**	**14 41 23.2**	**-1.0**
LIA	**Limnos Island**	**1.64**	**312**	⇑*i*PN	**Pn**	**14 41 24.6**	**-1.0**
LIA				*e*SN	**Sn**	**14 41 44.5**	**-2.5**
DST	**Dursunbey**	**1.66**	**60**	PN	**Pn**	**14 41 25.5**	**-0.3**
MLSB	**Milas**	**1.70**	**152**	PN	**Pn**	**14 41 24.8**	**-1.6**
EDC	**Edincik**	**1.77**	**29**	PN	**Pn**	**14 41 26.2**	**-1.1**
BODT	**Bodrum**	**1.79**	**166**	PN	**Pn**	**14 41 25.9**	**-1.7**
BNT	**Bandirma**	**1.79**	**30**	PN	**Pn**	**14 41 26.9**	**-0.8**
BDRM	**Kayabasi**	**1.81**	**162**	*i* P	**Pn**	**14 41 27.1**	**-0.9**
BDRM				*i* S	**Sn**	**14 41 55.9**	**+4.7**
MRMT	**Marmara Adasi**	**1.91**	**19**	PN	**Pn**	**14 41 28.0**	**-1.3**
RKY	**Sarkoy-Tekirda**	**1.91**	**10**	PN	**Pn**	**14 41 28.6**	**-0.7**
KCT	**Karacabey**	**1.92**	**40**	PN	**Pn**	**14 41 29.1**	**-0.3**
APE	**Apeiranthos**	**1.98**	**210**	*e*Pn	**Pn**	**14 41 28.6**	**-1.7**
APE				*e*Sn	**Sn**	**14 41 58.2**	**+2.8**
APE	**Apeiranthos**	**1.98**	**210**	⇑*i*P	**Pn**	**14 41 30.8**	**+0.5**
APE	**Apeiranthos**	**1.98**	**210**	*e*Pn	**Pn**	**14 41 28.9**	**-1.4**
APE	**Apeiranthos**	**1.98**	**210**	P	**Pn**	**14 41 30.8**	**+0.5**
YER	**Yerkesik**	**2.05**	**144**	PN	**Pn**	**14 41 29.3**	**-1.9**
DENT	**Denizli**	**2.07**	**120**	PN	**Pn**	**14 41 31.1**	**-0.4**
ORLT	**Orhaneli**	**2.07**	**52**	PN	**Pn**	**14 41 30.9**	**-0.6**
ALN	**Alexandroupoli**	**2.17**	**345**	*e*Pn	**Pn**	**14 41 31.9**	**-1.0**
ALN				*e*Sn	**Sn**	**14 42 01.0**	**+1.1**
DAT	**Datca**	**2.17**	**162**	PN	**Pn**	**14 41 31.5**	**-1.3**
KHL	**Karahalli**	**2.22**	**102**	PN	**Pn**	**14 41 33.2**	**-0.3**
ULDT	**Uludag**	**2.27**	**53**	*i* P	**Pn**	**14 41 34.2**	**-0.1**
AOS	**Alonnisos**	**2.28**	**280**	*e*Pn	**Pn**	**14 41 34.5**	**+0.2**
AOS				*e*Sn	**Sn**	**14 42 01.5**	**-1.2**
PTL	**Penteli**	**2.40**	**253**	*e*PN	**Pn**	**14 41 34.5**	**-1.5**
GEMT	**Gemlik**	**2.49**	**48**	PN	**Pn**	**14 41 38.0**	**+0.8**
DALT	**Dalyan (Mudla)**	**2.51**	**143**	PN	**Pn**	**14 41 36.3**	**-1.3**
RDO	**Rodhopi**	**2.52**	**339**	⇑*i*PN	**Pn**	**14 41 36.9**	**-0.9**
ATH	**Athens Observa**	**2.53**	**252**	*e*PN	**Pn**	**14 41 36.1**	**-1.7**
KVR	**Kavouri**	**2.54**	**249**	*e*PN	**Pn**	**14 41 36.0**	**-2.0**
ALT	**Altintas**	**2.62**	**83**	PN	**Pn**	**14 41 38.9**	**-0.2**
SANT	**Santorini**	**2.64**	**204**	*e*Pn	**Pn**	**14 41 37.9**	**-1.4**
OUR	**Ouranopolis**	**2.64**	**306**	*e*Pn	**Pn**	**14 41 38.6**	**-0.8**
OUR				*e*Sn	**Sn**	**14 42 13.4**	**+1.8**
CTT	**Catalca**	**2.67**	**28**	PN	**Pn**	**14 41 39.5**	**-0.3**
YLV	**Yalova**	**2.68**	**48**	PN	**Pn**	**14 41 40.5**	**+0.6**
NAIG	**Nisos Aigina**	**2.78**	**249**	*e*PN	**Pn**	**14 41 40.8**	**-0.4**
ARG	**Arkhangelos**	**2.80**	**157**	*e*PN	**Pn**	**14 41 41.5**	**0.0**
ADVT	**Abdulvahap**	**2.82**	**54**	PN	**Pn**	**14 41 42.3**	**+0.5**
XOR	**Xorichti**	**2.83**	**283**	*e*Pn	**Pn**	**14 41 41.9**	**-0.2**
XOR				*e*Sn	**Sn**	**14 42 23.1**	**+6.6**
FETY	**Fethiye**	**2.84**	**139**	PN	**Pn**	**14 41 41.6**	**-0.5**
MGER	**Gerania Oros**	**2.87**	**255**	*e*PN	**Pn**	**14 41 41.5**	**-1.0**
ISK	**Istanbul-Kandi**	**2.87**	**37**	PN	**Pn**	**14 41 42.1**	**-0.4**
TKTP	**Tekketepe**	**2.90**	**104**	*i* P	**Pn**	**14 41 42.8**	**-0.1**
LKR	**Lokris**	**2.95**	**268**	*e*PN	**Pn**	**14 41 42.6**	**-0.9**
PLG	**Polygyros**	**3.01**	**303**	*e*PN	**Pn**	**14 41 43.3**	**-1.1**
KLYT	**Kilyos**	**3.01**	**35**	PN	**Pn**	**14 41 45.3**	**+0.9**
HRT	**Hereke**	**3.02**	**47**	PN	**Pn**	**14 41 44.3**	**-0.2**
EDRB	**Edirne**	**3.04**	**360**	PN	**Pn**	**14 41 44.8**	**-0.1**
ISP	**Isparta**	**3.10**	**107**	PN	**Pn**	**14 41 46.0**	**+0.4**
GPA	**Golpazari**	**3.12**	**60**	*e*PN	**Pn**	**14 41 46.2**	**+0.3**
ELL	**Elmali**	**3.23**	**128**	*e*PN	**Pn**	**14 41 47.1**	**-0.3**
ESKT	**Eskisehir**	**3.26**	**76**	*i* P	**Pn**	**14 41 48.5**	**+0.6**
SEYT	**Eskypehyr**	**3.26**	**76**	*i* P	**Pn**	**14 41 48.5**	**+0.7**
KARP	**Karpathos**	**3.26**	**174**	*e*PN	**Pn**	**14 41 47.6**	**-0.3**
SOH	**Sokhos**	**3.31**	**309**	*e*Pn	**Pn**	**14 41 48.3**	**-0.3**
SOH				*e*Sn	**Sn**	**14 42 31.3**	**+3.1**
SRS	**Serrai**	**3.36**	**315**	*e*Pn	**Pn**	**14 41 48.5**	**-0.7**
SRS				*e*Sn	**Sn**	**14 42 29.5**	**+0.1**
NVR	**Nevrokopi**	**3.38**	**320**	⇑*i*PN	**Pn**	**14 41 49.0**	**-0.5**
THE	**Thessaloniki**	**3.45**	**303**	*e*Pn	**Pn**	**14 41 50.2**	**-0.3**
THE				*e*Sn	**Sn**	**14 42 31.1**	**-0.6**
AGG	**Agios Georgios**	**3.46**	**275**	*e*Pn	**Pn**	**14 41 50.8**	**+0.1**
AGG				*e*Sn	**Sn**	**14 42 33.6**	**+1.6**
LIT	**Litokhoron**	**3.55**	**293**	*e*Pn	**Pn**	**14 41 51.9**	**+0.1**
LIT				*e*Sn	**Sn**	**14 42 30.7**	**-3.4**
JMB	**Yambol**	**3.67**	**358**	*e*Pn	**Pn**	**14 41 52.9**	**-0.6**
JMB	**Yambol**	**3.67**	**358**	*e*Pn	**Pn**	**14 41 52.8**	**-0.6**
VLI	**Veliai**	**3.67**	**237**	*e*PN	**Pn**	**14 41 53.3**	**-0.3**
HENT	**Hendek**	**3.77**	**56**	*i* P	**Pn**	**14 41 57.0**	**+2.1**
KNT	**Kendrikon**	**3.79**	**310**	*e*Pn	**Pn**	**14 41 51.6**	**-3.5**
KNT				*e*Sn	**Sn**	**14 42 43.2**	**+3.2**
IDI	**Anoyia**	**3.81**	**204**	Pn	**Pn**	**14 41 54.4**	**-1.0**
	2.0nm,0.3s,baz=33,slow=11,SNR=12						
IDI				Sn	**Sn**	**14 42 36.5**	**-4.0**
	6.6nm,0.3s,baz=187,slow=23,SNR=3.9						
IDI				Lg		14 42 58.9	
	8.4nm,0.3s,baz=116,slow=20,SNR=3.0						
IDI	**Anoyia**	**3.81**	**204**	Pn	**Pn**	**14 41 54.4**	**-1.0**
IDI				Sn	**Sn**	**14 42 36.5**	**-4.0**
MDU	**Mudurnu**	**3.82**	**63**	*e*PN	**Pn**	**14 41 56.5**	**+0.9**
EVR	**Evrytania**	**3.87**	**273**	*e*PN	**Pn**	**14 41 54.6**	**-1.6**
KYTH	**Kithira**	**3.88**	**231**	*e*PN	**Pn**	**14 41 55.0**	**-1.4**
VAM	**Vamos**	**3.96**	**212**	*e*PN	**Pn**	**14 41 57.3**	**-0.1**
KIZT	**Kizilcal**	**4.00**	**87**	*e*PN	**Pn**	**14 41 59.0**	**+1.0**
XRY	**Khrisi**	**4.01**	**193**	*e*PN	**Pn**	**14 41 59.0**	**+0.8**
VAY	**Valandovo**	**4.08**	**309**	*e*Pn	**Pn**	**14 41 59.3**	**+0.1**
VAY				*e*Sn	**Sn**	**14 42 53.5**	**+6.2**
VAY	**Valandovo**	**4.08**	**309**	*i* Pn	**Pn**	**14 41 59.5**	**+0.3**
VAY				*i*		14 43 05.5	
SIVA	**Sivas**	**4.09**	**203**	*e*Pn	**Pn**	**14 41 59.1**	**-0.1**
ITM	**Ithomi**	**4.15**	**249**	*e*PN	**Pn**	**14 42 00.2**	**+0.1**
MEV	**Metsovon**	**4.40**	**285**	*e*Pn	**Pn**	**14 42 07.3**	**+3.7**
SGKT	**Sivrigoynuk**	**4.45**	**65**	*i* P	**Pn**	**14 42 04.7**	**+0.4**
KONT	**Konya--Tatoy**	**4.48**	**99**	*e*PN	**Pn**	**14 42 05.6**	**+0.9**
GVD	**Gavdhos**	**4.50**	**209**	*e*Pn	**Pn**	**14 42 07.7**	**+2.8**
FNA	**Florina**	**4.60**	**297**	*e*Pn	**Pn**	**14 42 07.4**	**+1.2**
VTS	**Vitosha**	**4.65**	**326**	*e*Pn	**Pn**	**14 42 07.4**	**+0.4**
VTS				*e*Sn	**Sn**	**14 42 56.2**	**-5.1**
VTS	**Vitosha**	**4.65**	**326**	⇑*i*P	**Pn**	**14 42 07.3**	**+0.3**
BIA	**Bitola**	**4.73**	**300**	*e*Pn	**Pn**	**14 42 07.3**	**-0.8**
LKD	**Levkas**	**4.78**	**271**	*e*Pn	**Pn**	**14 42 08.5**	**-0.2**
ANTO	**Ankara**	**4.80**	**75**	*e*PN	**Pn**	**14 42 09.8**	**+0.8**
ANTO	**Ankara**	**4.80**	**75**	⇑*i*P	**Pg**	**14 42 27.1**	**-1.1**
ANTO	**Ankara**	**4.80**	**75**	⇑P	**Pg**	**14 42 27.1**	**-1.1**
IGT	**Igoumenitsa**	**5.05**	**280**	*e*Pn	**Pn**	**14 42 14.0**	**+1.5**
SKO	**Skopje**	**5.15**	**310**	*e*Pn	**Pn**	**14 42 14.5**	**+0.6**
SAFT	**Safranbolu**	**5.16**	**60**	*e*PN	**Pn**	**14 42 15.7**	**+1.7**
ELDT	**Eldivan**	**5.42**	**70**	*i* P	**Pn**	**14 42 17.0**	**-0.5**
BR131	**Keskin Array S**	**5.42**	**78**	*e*Pn	**Pn**	**14 42 17.4**	**-0.1**
	18nm,0.7s						
BR131	**Keskin Array S**	**5.42**	**78**	*e*Pn	**Pn**	**14 42 17.4**	**-0.1**
	18nm,0.7s						
BRTR	**Keskin Array B**	**5.42**	**78**	Pn	**Pn**	**14 42 18.4**	**+0.9**
	1.2nm,0.3s,baz=254,slow=13,SNR=30						
BRTR				Pg	**Pg**	**14 42 37.2**	**-2.8**
	1.1nm,0.3s,baz=257,slow=16,SNR=13						
BRTR				Lg		14 43 51.1	
	baz=238,slow=19,SNR=2.3						
BRTR	**Keskin Array B**	**5.42**	**78**	Pg	**Pg**	**14 42 37.2**	**-2.9**
TIRR	**Tirgusor**	**5.79**	**12**	⇓*i*P	**Pn**	**14 42 21.9**	**-0.7**
TIRR	**Tirgusor**	**5.79**	**12**	⇓P	**Pn**	**14 42 21.9**	**-0.7**
CDAG	**Cicekdag**	**5.97**	**80**	*i* P	**Pn**	**14 42 26.3**	**+1.2**
IKL	**Isikli**	**6.07**	**113**	*e*PN	**Pn**	**14 42 27.3**	**+0.8**
CORM	**Corum**	**6.24**	**75**	*e*PN	**Pn**	**14 42 29.5**	**+0.7**
CFR	**Carcaliu**	**6.46**	**9**	⇑*i*P	**Pn**	**14 42 30.9**	**-0.9**
CFR	**Carcaliu**	**6.46**	**9**	⇑P	**Pn**	**14 42 30.9**	**-0.9**
MLR	**Muntele Rosu**	**6.71**	**355**	Pn	**Pn**	**14 42 36.0**	**+0.7**
	1.7nm,0.3s,baz=222,slow=4.5,SNR=18						
MLR				Lg		14 44 39.6	
	1.5nm,0.3s,baz=95,slow=14,SNR=2.8						
MLR	**Muntele Rosu**	**6.71**	**355**	⇓*i*P	**Pn**	**14 42 35.6**	**+0.3**
MLR	**Muntele Rosu**	**6.71**	**355**	⇓P	**Pn**	**14 42 35.6**	**+0.2**
VOIR		**6.75**	**350**	⇑*i*P	**Pn**	**14 42 35.3**	**-0.6**
VOIR		**6.75**	**350**	⇑P	**Pn**	**14 42 35.3**	**-0.6**
GRUS	**Gruza**	**6.82**	**320**	*i* Pn	**Pn**	**14 42 36.5**	**-0.3**
SVIS	**Svilajnac**	**6.88**	**325**	*i* Pn	**Pn**	**14 42 37.9**	**+0.2**
SVIS	**Svilajnac**	**6.88**	**325**	Pn	**Pn**	**14 42 37.8**	**+0.1**
PLOR	**Plostina**	**7.05**	**359**	⇓*i*P	**Pn**	**14 42 40.4**	**+0.5**
VRI	**Vrincioaia**	**7.06**	**360**	⇑*i*P	**Pn**	**14 42 42.4**	**+2.3**
VRI	**Vrincioaia**	**7.06**	**360**	⇑P	**Pn**	**14 42 42.4**	**+2.3**
GZR	**Gura Zlata**	**7.22**	**337**	⇓*i*P	**Pn**	**14 42 41.5**	**-0.8**
GZR	**Gura Zlata**	**7.22**	**337**	⇓P	**Pn**	**14 42 41.5**	**-0.9**
DIVS	**Divcibare**	**7.34**	**318**	*i* Pn	**Pn**	**14 42 44.0**	**+0.1**
DIVS	**Divcibare**	**7.34**	**318**	*e*Pn	**Pn**	**14 42 43.7**	**-0.2**
SEV	**Sevastopol'**	**7.72**	**40**	*e*P	**Pn**	**14 42 49.0**	**-0.2**
SEV				pmax	pmax		
	comp=Z,20nm,0.5s						
SEV	**Sevastopol'**	**7.72**	**40**	*e*P	**Pn**	**14 42 49.0**	**-0.2**
	comp=Z,20nm,0.5s						
BZS	**Buzias**	**7.81**	**332**	⇑*i*P	**Pn**	**14 42 49.6**	**-0.7**
BZS	**Buzias**	**7.81**	**332**	⇑P	**Pn**	**14 42 49.6**	**-0.7**
YAL	**Yalta**	**7.93**	**42**	*e*P	**Pn**	**14 42 51.6**	**-0.4**
YAL				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YAL	**Yalta**	**7.93**	**42**	*e*P	**Pn**	**14 42 51.6**	**-0.4**
	comp=Z,10.0nm,0.4s						
FGSL	**Fruska Gora**	**8.19**	**323**	Pn	**Pn**	**14 42 55.1**	**-0.5**
ALU	**Alushta**	**8.19**	**42**	*e*P	**Pn**	**14 42 58.8**	**+3.2**
ALU				*e*S	**Sn**	**14 44 26.5**	**-2.0**
ALU				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ALU				smax			
	comp=N,10.0nm,0.5s						
ALU				smax			
	comp=E,10.0nm,0.5s						
ALU	**Alushta**	**8.19**	**42**	*e*P	**Pn**	**14 42 58.8**	**+3.2**
	comp=E,10.0nm,0.3s						
SIM	**Simferopol'**	**8.23**	**39**	*e*P	**Pn**	**14 43 05.0**	**+8.8**
SUDU	**Sudak**	**8.65**	**43**	*e*P	**Pn**	**14 43 03.5**	**+1.6**
BURAR	**Bucovina Array**	**8.88**	**353**	⇑*i*P	**Pn**	**14 43 06.4**	**+1.3**
BURAR	**Bucovina Array**	**8.88**	**353**	⇑P	**Pn**	**14 43 06.4**	**+1.3**
MMAI	**Mount Meron Ar**	**9.08**	**127**	Pn	**Pn**	**14 43 06.3**	**-1.4**
	comp=E,3.7nm,0.3s,baz=312,slow=11,SNR=12						
PKSM	**Moragy**	**9.53**	**324**	⇓*i*P	**Pn**	**14 43 11.7**	**-2.2**
PKSM	**Moragy**	**9.53**	**324**	⇓P	**Pn**	**14 43 11.7**	**-2.1**
PKSM	**Moragy**	**9.53**	**324**	⇑*e*P	**Pn**	**14 43 13.3**	**-0.6**
PSZ	**Piszkesteto**	**10.39**	**334**	*e*P	**Pn**	**14 43 25.5**	**-0.2**
ASF	**Jabal al Asfar**	**10.58**	**126**	Pn	**Pn**	**14 43 29.0**	**+0.7**
	comp=E,0.3nm,0.3s,baz=30,slow=1.6,SNR=2.7						
ASF				LR	LR	14 48 23.6	
	comp=E,83nm,20.2s,baz=125,slow=43						
KECS	**Kecovo**	**10.69**	**337**	*e*PN	**Pn**	**14 43 29.7**	**-0.1**
VYHS	**Vyhne**	**11.26**	**332**	*e*PN	**Pn**	**14 43 36.3**	**-1.3**
EIL	**Elat**	**11.35**	**141**	Pn	**Pn**	**14 43 38.3**	**-0.5**
	comp=E,145nm,0.8s						
EIL	**Elat**	**11.35**	**141**	Pn	**Pn**	**14 43 38.3**	**-0.5**
	comp=E,145nm,0.8s						
OKC	**Ostrava-Krasne**	**12.63**	**334**	AMS	AMS	14 49 30.0	
	comp=E,400nm,10.7s						
VRAC	**Vranov**	**12.79**	**329**	Pn	**Pn**	**14 44 03.7**	**+5.2**
	comp=E,0.8nm,0.3s,baz=162,slow=9.6,SNR=3.2						
VRAC				LR	LR	14 48 42.2	
	comp=E,164nm,19.6s,baz=137,slow=36						
TREC	**Trest**	**13.24**	**326**	AMS	AMS	14 49 50.0	
	comp=E,700nm,11.6s						
DPC	**Dobruska-Polom**	**13.72**	**331**	*e*P	**Pn**	**14 44 21.7**	**+10**
DPC				AMS	AMS	14 50 10.0	
	comp=E,600nm,9.1s						
GERES	**GERESS Array B**	**13.75**	**321**	Pn	**Pn**	**14 44 18.6**	**+6.8**
	comp=E,0.1nm,0.3s,baz=124,slow=8.8,SNR=2.3						
GNI	**Garni**	**13.96**	**79**	LR	LR	14 49 38.0	
	comp=E,175nm,21.2s,baz=322,slow=38						
PGF	**Pioggiola**	**13.99**	**291**	*e*P	**Pn**	**14 44 20.1**	**+5.2**
	comp=E,6.9nm,0.9s						
PGF	**Pioggiola**	**13.99**	**291**	*e*P	**Pn**	**14 44 20.1**	**+5.2**
PGF				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PGF	**Pioggiola**	**13.99**	**291**	*e*P	**Pn**	**14 44 20.1**	**+5.2**
	comp=Z,3.5nm,0.9s						
KHC	**Kasperske Hory**	**14.01**	**322**	*e*P	**Pn**	**14 44 23.4**	**+8.2**
KHC				AMS	AMS	14 50 10.0	
	comp=Z,600nm,12.1s						
PRU	**Pruhonice**	**14.17**	**326**	AMS	AMS	14 50 20.0	
	comp=Z,500nm,11.0s						
PVCC	**Panska Ves**	**14.56**	**328**	AMS	AMS	14 50 40.0	
DAVOX	**Davos**	**14.72**	**308**	Pn	**Pn**	**14 44 33.4**	**+8.5**
	comp=Z,0.4nm,0.3s,baz=136,slow=16,SNR=6.7						
DAVOX				LR	LR	14 49 47.8	
	comp=Z,82nm,18.3s,baz=277,slow=35						
NKC	**Novy Kostel**	**15.29**	**323**	AMS	AMS	14 51 00.0	
	comp=Z,600nm,9.4s						
SBF	**Sospel**	**15.37**	**295**	*e*P	**Pn**	**14 44 38.0**	**+4.4**
GRA1	**Grafenberg Arr**	**15.54**	**320**	*e*P	**Pn**	**14 44 45.2**	**+9.3**
GRF	**Grafenberg Arr**	**15.54**	**320**	*e*P	**Pn**	**14 44 45.2**	**+9.3**
CLL	**Collm**	**15.81**	**327**	*e*PP		14 44 49.0	
CLL				*e*SS		14 47 46.0	
CLL	**Collm**	**15.81**	**327**	*e*PP		14 44 49.0	
	comp=Z,21nm,1.7s						
CLL				*e*(SS)		14 47 46.0	
LMR	**La Mourre**	**15.92**	**293**	*e*P	**Pn**	**14 44 45.1**	**+4.3**
MOX	**Moxa**	**15.96**	**323**	*e*P	**Pn**	**14 44 46.0**	**+4.6**
MBDF	**Montbardon**	**16.03**	**298**	*e*P	**Pn**	**14 44 47.1**	**+4.8**
	comp=Z,8.7nm,0.7s						
MBDF	**Montbardon**	**16.03**	**298**	*e*P	**Pn**	**14 44 47.1**	**+4.8**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MBDF	**Montbardon**	**16.03**	**298**	*e*P	**Pn**	**14 44 47.1**	**+4.8**
	comp=Z,4.3nm,0.7s						
BNI	**Bardonecchia**	**16.18**	**299**	*e*P	**Pn**	**14 44 43.1**	**-1.1**
BNI				pmax	pmax		
	comp=Z,21nm,1.4s						
BNI	**Bardonecchia**	**16.18**	**299**	*e*P	**Pn**	**14 44 43.1**	**-1.1**
	comp=Z,21nm,1.4s						
BNI	**Bardonecchia**	**16.18**	**299**	*e*P	**Pn**	**14 44 43.1**	**-1.1**
	comp=Z,21nm,1.4s						
LPG	**La Plagne**	**16.26**	**301**	*e*P	**Pn**	**14 44 50.3**	**+5.1**
	comp=Z,14nm,0.9s						
LPG	**La Plagne**	**16.26**	**301**	*e*P	**Pn**	**14 44 50.3**	**+5.1**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LPG	**La Plagne**	**16.26**	**301**	*e*P	**Pn**	**14 44 50.3**	**+5.1**
	comp=Z,7.2nm,0.9s						
ORIF	**Oris-en-Rattie**	**16.70**	**298**	*e*P	**Pn**	**14 44 55.5**	**+4.8**
SMRF	**Simiane la Rot**	**16.70**	**295**	*e*P	**Pn**	**14 44 55.3**	**+4.5**
CDF	**Champ du Feu**	**17.03**	**311**	*e*P	**Pn**	**14 45 00.0**	**+5.1**
	comp=Z,3.7nm,0.5s						
CDF	**Champ du Feu**	**17.03**	**311**	*e*P	**Pn**	**14 45 00.0**	**+5.1**
CDF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CDF	**Champ du Feu**	**17.03**	**311**	*e*P	**Pn**	**14 45 00.0**	**+5.1**
	comp=Z,1.9nm,0.5s						
CABF	**La Chapelle**	**17.05**	**304**	*e*P	**Pn**	**14 45 00.2**	**+5.0**
	comp=Z,48nm,1.4s						
CABF	**La Chapelle**	**17.05**	**304**	*e*P	**Pn**	**14 45 00.2**	**+5.0**
CABF				pmax	pmax		
	comp=Z,24nm,1.4s						
CABF	**La Chapelle**	**17.05**	**304**	*e*P	**Pn**	**14 45 00.2**	**+5.0**
	comp=Z,24nm,1.4s						
OBN	**Obninsk**	**17.61**	**19**	⇓*e*P	**Pn**	**14 45 08.5**	**+6.3**
OBN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,200nm,14.0s						
LASF	**Ste Croix**	**17.94**	**294**	*e*P	**Pn**	**14 45 10.6**	**+4.3**
SMF	**Signal de Mont**	**18.53**	**302**	*e*P	**Pn**	**14 45 18.0**	**+4.5**
	comp=Z,19nm,1.1s						
SMF	**Signal de Mont**	**18.53**	**302**	*e*P	**Pn**	**14 45 18.0**	**+4.5**
SMF				pmax	pmax		
	comp=Z,9.0nm,1.1s						
SMF	**Signal de Mont**	**18.53**	**302**	*e*P	**Pn**	**14 45 18.0**	**+4.5**
	comp=Z,9.4nm,1.1s						
SSF	**Saint Saulge**	**18.88**	**303**	*e*P	**Pn**	**14 45 22.2**	**+4.5**
	comp=Z,19nm,0.9s						
SSF	**Saint Saulge**	**18.88**	**303**	*e*P	**Pn**	**14 45 22.2**	**+4.5**
SSF				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SSF	**Saint Saulge**	**18.88**	**303**	*e*P	**Pn**	**14 45 22.2**	**+4.5**
	comp=Z,9.3nm,0.9s						
AVF	**Avril sur Loir**	**18.90**	**303**	*e*P	**Pn**	**14 45 22.2**	**+4.3**
	comp=Z,17nm,0.9s						
AVF	**Avril sur Loir**	**18.90**	**303**	*e*P	**Pn**	**14 45 22.2**	**+4.3**
AVF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
AVF	**Avril sur Loir**	**18.90**	**303**	*e*P	**Pn**	**14 45 22.2**	**+4.3**
	comp=Z,8.3nm,0.9s						
MTLF	**Montolieu**	**19.03**	**292**	*e*P	**Pn**	**14 45 23.1**	**+3.6**
	comp=Z,6.2nm,0.9s						
MTLF	**Montolieu**	**19.03**	**292**	*e*P	**Pn**	**14 45 23.1**	**+3.6**
MTLF				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MTLF	**Montolieu**	**19.03**	**292**	*e*P	**Pn**	**14 45 23.1**	**+3.6**
	comp=Z,3.1nm,0.9s						
BGF	**Bois d'Agland**	**19.17**	**302**	*e*P	**Pn**	**14 45 25.4**	**+4.2**
TCF	**Toulx Ste Croi**	**19.53**	**300**	*e*P	**Pn**	**14 45 29.2**	**+3.7**
RJF	**Les Rejaudoux**	**19.80**	**297**	*e*P	**Pn**	**14 45 32.3**	**+3.6**
ETSF	**Etsaut**	**21.03**	**290**	*e*P	**P**	**14 45 44.6**	**+4.0**
	comp=Z,11nm,0.9s,mb3.9						
ETSF	**Etsaut**	**21.03**	**290**	*e*P	**P**	**14 45 44.6**	**+4.0**
ETSF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.8						
ETSF	**Etsaut**	**21.03**	**290**	*e*P	**P**	**14 45 44.6**	**+4.0**
	comp=Z,5.4nm,0.9s,mb3.9						
MFF	**Saint Martin d**	**21.18**	**300**	*e*P	**P**	**14 45 46.8**	**+4.5**
	comp=Z,24nm,1.0s,mb4.2						
MFF	**Saint Martin d**	**21.18**	**300**	*e*P	**P**	**14 45 46.8**	**+4.5**
MFF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.2						
MFF	**Saint Martin d**	**21.18**	**300**	*e*P	**P**	**14 45 46.8**	**+4.5**
	comp=Z,12nm,1.0s,mb4.2						
LDF	**La Druitiere**	**21.66**	**306**	*e*P	**P**	**14 45 50.7**	**+3.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GRR	**Gorron**	**22.08**	**305**	*e*P	**P**	**14 45 55.7**	**+3.8**
	comp=Z,51nm,1.2s,mb4.5						
GRR	**Gorron**	**22.08**	**305**	*e*P	**P**	**14 45 55.7**	**+3.8**
GRR				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.5						
GRR	**Gorron**	**22.08**	**305**	*e*P	**P**	**14 45 55.7**	**+3.8**
	comp=Z,26nm,1.2s,mb4.5						
FINES	**FINESS Array B**	**22.67**	**359**	LR	LR	14 54 29.4	
	comp=Z,114nm,19.6s,MS3.3,baz=181,slow=35						
HFS	**Hagfors**	**22.90**	**343**	LR	LR	14 55 31.4	
	comp=Z,119nm,21.1s,MS3.3,baz=256,slow=38						
SGMF	**Saint Gilles**	**23.14**	**304**	*e*P	**P**	**14 46 06.6**	**+3.4**
QUIF	**Quistinic**	**23.47**	**303**	*e*P	**P**	**14 46 09.4**	**+2.8**
ROSF	**Rostrenen**	**23.63**	**304**	*e*P	**P**	**14 46 10.7**	**+2.5**
	comp=Z,50nm,1.2s,mb4.5						
ROSF	**Rostrenen**	**23.63**	**304**	*e*P	**P**	**14 46 10.7**	**+2.5**
ROSF				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.5						
ROSF	**Rostrenen**	**23.63**	**304**	*e*P	**P**	**14 46 10.7**	**+2.5**
	comp=Z,25nm,1.2s,mb4.5						
ESDC	**Sonseca Array**	**23.76**	**282**	P	**P**	**14 46 12.9**	**+3.4**
	comp=Z,2.7nm,0.7s,mb3.8,baz=86,slow=9.2,SNR=11						
NB2	**NORSAR Subarra**	**24.28**	**342**	P	**P**	**14 46 17.0**	**+2.8**
	comp=Z,1.1nm,0.7s,mb3.4,baz=154,slow=10						
NOA	**NORSAR Array B**	**24.28**	**342**	P	**P**	**14 46 17.4**	**+3.2**
	comp=Z,1.4nm,0.8s,mb3.4,baz=151,slow=9.2,SNR=4.3						
NOA				LR	LR	14 56 24.7	
	comp=Z,100nm,18.8s,MS3.3,baz=150,slow=38						
AKTK	**Aktyubinsk**	**24.92**	**52**	P	**P**	**14 46 20.3**	**+0.3**
AKTK	**Aktyubinsk**	**24.92**	**52**	P	**P**	**14 46 20.3**	**+0.3**
AKTO	**Aktyubinsk**	**24.92**	**52**	P	**P**	**14 46 20.3**	**+0.3**
	comp=Z,3.0nm,1.0s,mb3.8,baz=248,slow=12,SNR=6.6						
EKA	**Eskdalemuir Ar**	**25.96**	**319**	P	**P**	**14 46 32.8**	**+3.3**
	comp=Z,2.4nm,0.7s,mb3.9,baz=119,slow=9.7,SNR=7.0						
TORD	**Torodi Ar. Bea**	**33.85**	**228**	P	**P**	**14 47 38.3**	**-1.1**
	comp=Z,0.9nm,1.0s,mb3.7,baz=57,slow=0.8,SNR=5.0						
MKAR	**Makanchi Array**	**40.77**	**60**	P	**P**	**14 48 38.2**	**+0.1**
	comp=Z,1.9nm,1.0s,mb3.7,baz=282,slow=6.1,SNR=6.1						
KMBO	**Kilima Mbogo**	**40.89**	**164**	P	**P**	**14 48 37.3**	**-1.7**
	comp=Z,0.4nm,0.4s,mb3.5,baz=328,slow=17,SNR=3.3						
ZAL	**Zalesovo**	**41.60**	**49**	P	**P**	**14 48 48.3**	**+3.4**
	comp=Z,0.8nm,0.5s,mb3.6,baz=239,slow=4.0,SNR=3.1						
SONM	**Songino Array**	**56.23**	**53**	P	**P**	**14 50 40.6**	**+3.4**
	comp=Z,0.4nm,0.8s,mb3.5,baz=288,slow=9.3,SNR=4.2						
SCHQ	**Schefferville**	**61.27**	**319**	P	**P**	**14 51 15.6**	**+3.3**
	comp=Z,2.5nm,0.7s,mb4.5,baz=83,slow=11,SNR=3.8						
SCHQ	**Schefferville**	**61.27**	**319**	P	**P**	**14 51 15.6**	**+3.3**
ULM	**Lac du Bonnet**	**78.00**	**326**	P	**P**	**14 52 58.3**	**+2.8**
	comp=Z,0.6nm,0.3s,mb4.1,baz=45,slow=1.4,SNR=3.8						

*ISCJB **12** 14:43:44.0±0.7, 3878N±002×2661E±005, h12km±5km, Error ellipse: s-maj=6.7km s-min=3.2km az=151.9*
*ISK **12** 14:43:43.9, 3875N×2661E, h18km, ML3.8*
*CSEM **12** 14:43:44.9±0.1, 3875N×2670E, h20km, MD3.7, Error ellipse: s-maj=2.7km s-min=1.6km az=73.0*
*ATH **12** 14:43:45.0, 3871N×2634E, h18km±1km, MD3.7/4*
*NEIC **12** 14:43:45.0, 3871N×2634E, h18km, MD3.7(ATH), ML3.7(ISK), After ATH.*
ISC 12 14:43:45.0±0.5, **3878N**±002×**2664E**±005, **h14**km±4km, **n43**, σ**0.s89**/51, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.50**	**141**	*i* PG	**Pg**	**14 43 54.7**	**-0.3**
BLCB				*i* SG	**Sg**	**14 44 01.1**	**-0.6**
AYVA	**Ayvalik**	**0.53**	**4**	*i* P	**Pg**	**14 43 54.1**	**-1.3**
AYVA				*i* S	**Sg**	**14 44 02.0**	**-0.6**
PRK	**Paraskevi**	**0.55**	**329**	*e*PN	**Pg**	**14 43 55.7**	**-0.1**
PRK				*e*SN	**Sg**	**14 44 03.2**	**+0.1**
IZM	**Izmir**	**0.62**	**128**	*i* PG	**Pg**	**14 43 56.6**	**-0.5**
KDAG	**Bornova**	**0.62**	**127**	*i* P	**Pg**	**14 43 56.4**	**-0.7**
KDAG				*i* S	**Sg**	**14 44 06.9**	**+1.6**
EZN	**Ezine**	**1.07**	**347**	PN	**Pn**	**14 44 04.7**	**-0.9**
SMG	**Samos**	**1.08**	**172**	*e*PN	**Pn**	**14 44 05.4**	**-0.2**
SMG				*e*SN	**Sn**	**14 44 20.3**	**0.0**
CANB	**Canakkale**	**1.28**	**15**	PN	**Pn**	**14 44 08.1**	**-0.3**
BTOK	**Tokmak**	**1.46**	**47**	*i* P	**Pn**	**14 44 10.7**	**-0.2**
BTOK				*i* S	**Sn**	**14 44 28.3**	**-1.5**
AYDN	**Tasoluk**	**1.48**	**138**	*i* P	**Pn**	**14 44 10.6**	**-0.5**
AYDN				*i* S	**Sn**	**14 44 29.9**	**-0.4**
GADA	**Gvkgeada**	**1.52**	**338**	PN	**Pn**	**14 44 11.1**	**-0.7**
LIA	**Limnos Island**	**1.59**	**315**	*e*PN	**Pn**	**14 44 13.4**	**+0.7**
MLSB	**Milas**	**1.73**	**148**	PN	**Pn**	**14 44 13.8**	**-0.8**
DST	**Dursunbey**	**1.75**	**61**	PN	**Pn**	**14 44 14.0**	**-0.9**
BODT	**Bodrum**	**1.79**	**163**	PN	**Pn**	**14 44 14.3**	**-1.2**
BDRM	**Kayabasi**	**1.82**	**159**	*i* P	**Pn**	**14 44 18.5**	**+2.6**
BDRM				*i* S	**Sg**	**14 44 45.3**	**+1.6**
EDC	**Edincik**	**1.83**	**31**	PN	**Pn**	**14 44 15.6**	**-0.4**
BNT	**Bandirma**	**1.86**	**32**	PN	**Pn**	**14 44 15.5**	**-0.9**
APE	**Apeiranthos**	**1.92**	**208**	*e*PN	**Pn**	**14 44 16.8**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.95**	**12**	PN	**Pn**	**14 44 17.5**	**-0.2**
MRMT	**Marmara Adasi**	**1.97**	**22**	PN	**Pn**	**14 44 16.8**	**-1.1**
KCT	**Karacabey**	**1.99**	**41**	PN	**Pn**	**14 44 17.3**	**-0.9**
MFT	**Murefte**	**2.07**	**14**	PN	**Pn**	**14 44 19.7**	**+0.5**
YER	**Yerkesik**	**2.09**	**141**	PN	**Pn**	**14 44 19.5**	**-0.1**
DENT	**Denizli**	**2.14**	**118**	PN	**Pn**	**14 44 20.1**	**-0.2**
ORLT	**Orhaneli**	**2.16**	**53**	PN	**Pn**	**14 44 21.3**	**+0.8**
DAT	**Datca**	**2.18**	**160**	PN	**Pn**	**14 44 19.7**	**-1.0**
KHL	**Karahalli**	**2.31**	**100**	PN	**Pn**	**14 44 23.3**	**+0.8**
RDO	**Rodhopi**	**2.51**	**341**	*e*PN	**Pn**	**14 44 27.3**	**+1.9**
DALT	**Dalyan (Mudla)**	**2.56**	**141**	*e*PN	**Pn**	**14 44 25.5**	**-0.4**
GEMT	**Gemlik**	**2.57**	**49**	*e*PN	**Pn**	**14 44 26.8**	**+0.6**
CTT	**Catalca**	**2.74**	**30**	*e*PN	**Pn**	**14 44 29.3**	**+0.8**
YLV	**Yalova**	**2.77**	**49**	*e*PN	**Pn**	**14 44 29.5**	**+0.7**
FETY	**Fethiye**	**2.89**	**137**	*e*PN	**Pn**	**14 44 29.3**	**-1.2**
ADVT	**Abdulvahap**	**2.91**	**54**	*e*PN	**Pn**	**14 44 31.4**	**+0.6**
ISK	**Istanbul-Kandi**	**2.95**	**38**	*e*PN	**Pn**	**14 44 31.9**	**+0.6**
EDRB	**Edirne**	**3.07**	**1**	*e*PN	**Pn**	**14 44 34.1**	**+1.1**
KLYT	**Kilyos**	**3.08**	**36**	*e*PN	**Pn**	**14 44 34.1**	**+0.9**
HRT	**Hereke**	**3.10**	**48**	*e*PN	**Pn**	**14 44 33.8**	**+0.4**
GPA	**Golpazari**	**3.21**	**61**	*e*PN	**Pn**	**14 44 35.7**	**+0.7**
NVR	**Nevrokopi**	**3.34**	**321**	*e*PN	**Pn**	**14 44 37.8**	**+1.1**
ESKT	**Eskisehir**	**3.36**	**76**	*i* P	**Pb**	**14 44 45.8**	**+1.5**
KDHN	**Kadinhani**	**4.30**	**92**	*i* P	**Pn**	**14 44 53.9**	**+4.0**

*BJI **12** 14:44:38.4, 9.12S×6724E, h10km, mB5.4, mb5.3, Ms5.3, Msz4.9*
*ISCJB **12** 14:44:44.0±0.2, 857S±003×6782E±003, h10km, mb5.1/160, MS5.1/171, Error ellipse: s-maj=4.9km s-min=4.1km az=6.8*
*CSEM **12** 14:44:44.3, 850S×6780E, h10km, ML5.7*
*MOS **12** 14:44:44.3±0.9, 845S×6786E, h10km, mb5.3/59, MS4.9/58, Error ellipse: s-maj=8.6km s-min=4.4km az=114.3*
*IDC **12** 14:44:44.2±0.4, 855S×6786E, h0km, mb4.8/35, mb1 4.8/35, mb1mx4.8/36, mbtmp4.8/35, MS4.9/24, Ms1 4.9/24, ms1mx4.9/27, Error ellipse: s-maj=12.1km s-min=11.5km az=12.0*
*NEIC **12** 14:44:46.0±0.1, 855S×6781E, h10km, mb5.1/66, MS5.1/126, MW5.6, Error ellipse: s-maj=4.8km s-min=3.4km az=210.0, Moment Tensor Solution. s5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.13; $M_{\theta\theta}$-3.40; $M_{\phi\phi}$3.26; $M_{r\theta}$-0.92; $M_{\theta\phi}$0.18; $M_{\phi r}$-1.25; Best double couple: $M_0$3.70000×10^{17} NP1:ϕ_s227.00000°, δ86.00000°, λ25.00000°. NP2:ϕ_s136.00000°, δ65.00000°, λ176.00000°. Principal axes: T 3.7300, Plg20.0000°, Azm94.0000°; N -0.1100, Plg65.0000°, Azm236.0000°; P -3.6300, Plg14.0000°, Azm359.0000°;*
*HRVD **12** 14:44:46.0±0.1, 874S×6772E, h21km, MW5.7/101, Centroid moment Tensor Solution. LP body waves: s77,c136; Mantle waves: s101,c285; Half duration: 1.s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.73±.05; $M_{\theta\theta}$-4.02±.04; $M_{\phi\phi}$4.75±.05; $M_{r\theta}$-0.87±.09; $M_{\theta\phi}$0.48±.04; $M_{\phi r}$0.63±.09; Best double couple: $M_0$4.55800×10^{17} NP1:ϕ_s48.00000°, δ76.00000°, λ-6.00000°. NP2: ϕ_s139.00000°, δ84.00000°, λ-165.00000°. Principal axes: T 4.8380, Plg6.0000°, Azm273.0000°; N -0.5580, Plg74.0000°, Azm160.0000°; P -4.2790, Plg14.0000°, Azm4.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*SZGRF **12** 14:44:51.9, 8.16S×6729E, h33km, mb5.0, MS4.7, Mid-Indian Ridge*
ISC 12 14:44:46.1±0.2, **858S**±003×**6778E**±003, **h10**km, **(h15**km±1.1km**:pP-P), n619**, σ**0.s90**/399, **mb5.1**/160, **MS5.1**/171, **69C-74D, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**4.77**	**76**	Pn	**Pn**	**14 45 53.6**	**-4.4**
	14µm,0.7s,SNR=24						
DGAR	**Diego Garcia**	**4.77**	**76**	⇑P	**Pn**	**14 45 53.4**	**-4.7**
	SNR=11						
DGAR	**Diego Garcia**	**4.77**	**76**	*e*Pn	**Pn**	**14 45 53.1**	**-4.9**
DGAR				*e*Sn	**Sn**	**14 46 45.0**	**-8.3**
MSEY	**Mahe Island**	**12.82**	**287**	Pn	**Pn**	**14 47 50.8**	**+2.4**
	2µm,0.7s,SNR=12						
TRD	**Trivandrum**	**19.28**	**29**	*e*x	x	14 48 15.0	
TRD				*e*x	x	14 52 59.0	
PALK	**Pallekele**	**20.34**	**40**	*e*P	**P**	**14 49 22.6**	**0.0**
	60nm,1.1s						
PALK				LR	LR		
	comp=Z,5µm,20.0s,MS4.9						
OPO	**Ambohidratompo**	**22.32**	**241**	P	**P**	**14 49 45.2**	**+1.4**
	comp=Z,10nm,0.9s,mb4.3,baz=71,slow=15,SNR=4.8						
MNGI	**Mangalore**	**22.49**	**18**	*e*P	**P**	**14 49 43.4**	**-2.2**
MNGI				*i* x	x	14 53 59.9	
MDRS	**Chennai**	**24.81**	**30**	*e*x	x	14 54 49.9	
MDRS				*e*x	x	14 56 22.9	
KAD	**Karad**	**26.48**	**14**	*e*P	**P**	**14 50 23.7**	**+0.2**
KAD				AMb	AMB	14 50 26.3	
	comp=Z,53nm,1.5s,mb4.8						
POO	**Poona**	**27.59**	**13**	*e*P	**P**	**14 50 33.0**	**-0.4**
POO				*e*x	x	14 51 14.8	
HYB	**Hyderabad**	**27.93**	**22**	*i* P	**P**	**14 50 41.0**	**+4.5**
HYB				*e*S	**S**	**14 55 26.0**	**+5.7**
HYB				LR	LR		
	comp=Z,8.8nm,14.0s						
HYB	**Hyderabad**	**27.93**	**22**	*e*P	**P**	**14 50 38.0**	**+1.5**
VIS	**Vishakhapatnam**	**30.31**	**30**	*e*P	**P**	**14 50 57.5**	**-0.1**
VIS				AMb	AMB	14 51 01.1	
	comp=Z,42nm,1.0s,mb5.1						
AKL	**Akola**	**30.48**	**17**	*e*x	x	14 51 09.4	
KMBO	**Kilima Mbogo**	**31.28**	**282**	P	**P**	**14 51 07.5**	**+1.3**
	comp=Z,4.2nm,0.8s,mb4.3,baz=96,slow=12,SNR=12						
KMBO				LR	LR	15 01 14.7	
	comp=Z,2µm,21.3s,MS4.8,baz=95,slow=32						
NGP	**Nagpur**	**31.55**	**20**	*e*P	**P**	**14 51 07.7**	**-0.8**
NGP				*e*S	**S**	**14 56 18.8**	**+1.9**
NGP				*e*x	x	15 02 44.2	
	comp=Z,5µm,15.9s						
ATD	**Arta Tunnel**	**31.84**	**308**	P	**P**	**14 51 15.8**	**+4.7**
	comp=Z,3.7nm,0.5s,mb4.5,baz=90,slow=19,SNR=2.0						
ATD				LR	LR	15 02 02.1	
	comp=Z,3µm,18.3s,MS5.0,baz=290,slow=33						
WSAR	**Wadi Sarin**	**32.86**	**344**	P	**P**	**14 51 20.8**	**+0.7**
	comp=Z,12nm,0.9s,mb4.8,baz=154,slow=7.9,SNR=4.2						
WSAR				LR	LR	15 01 29.4	
	comp=Z,3µm,19.6s,MS5.0,baz=146,slow=31						
BHPL	**Bhopal**	**33.00**	**16**	*e*P	**P**	**14 51 21.0**	**-0.3**
BHPL				AMb	AMB	14 51 24.4	
	comp=Z,83nm,1.6s,mb5.4						
PSI	**Prapat**	**33.05**	**71**	P	**P**	**14 51 21.8**	**+0.1**
	comp=Z,14nm,0.9s,mb4.9,baz=267,slow=10.0,SNR=5.6						
PSI	**Prapat**	**33.05**	**71**	P	**P**	**14 51 21.8**	**+0.1**
HOQ	**Hoqain**	**33.56**	**342**	⇑P	**P**	**14 51 27.8**	**+1.7**
	SNR=10.0						
ARQ	**Araqi**	**33.57**	**341**	⇑P	**P**	**14 51 27.4**	**+1.1**
BLSP	**Bilaspur**	**33.60**	**25**	*e*P	**P**	**14 51 26.3**	**-0.3**
ASHO	**Ashiyiah**	**34.98**	**341**	⇑P	**P**	**14 51 38.9**	**+0.5**
	SNR=7.0						
AJM	**Ajmer**	**35.48**	**11**	*e*P	**P**	**14 51 43.4**	**+0.6**
AJM				*i* P		14 51 44.0	
AJM				AMb	AMB	14 51 46.3	
	comp=Z,68nm,1.5s,mb5.4						
KULM	**Kulim**	**35.55**	**68**	*e*P	**P**	**14 51 44.2**	**+0.8**
IPM	**Ipoh**	**35.60**	**70**	P	**P**	**14 51 53.2**	**+9.4**
BANOM	**Banah**	**36.06**	**342**	⇑P	**P**	**14 51 48.5**	**+0.7**
	SNR=11						
SNG	**Songkhla**	**36.28**	**65**	P	**P**	**14 51 50.0**	**+0.4**
	comp=Z,252nm,0.8s						
CAL	**Calcutta**	**36.90**	**33**	*e*P	**P**	**14 51 53.3**	**-1.6**
CAL				*e*x	x	14 57 21.0	
CAL				AMP		15 04 20.8	
	comp=Z,2µm,21.2s						
KGM	**Kluang**	**36.96**	**75**	P	**P**	**14 51 51.5**	**-3.9**
NDI	**New Delhi**	**38.14**	**13**	*e*P	**P**	**14 52 05.3**	**-0.2**
KOLN	**Koldanda**	**39.24**	**22**	*e*P	**P**	**14 52 15.5**	**+0.8**
	comp=Z,637nm,1.5s,mb6.1						
LSZ	**Lusaka**	**39.26**	**256**	P	**P**	**14 52 15.2**	**+0.4**
	comp=Z,36nm,1.1s,mb5.0,baz=84,slow=7.4,SNR=33						
LSZ	**Lusaka**	**39.26**	**256**	P	**P**	**14 52 15.2**	**+0.4**
LGTI	**Lohaghat**	**39.67**	**17**	*i* P	**P**	**14 52 17.7**	**-0.5**
DMN	**Daman**	**39.69**	**24**	*e*P	**P**	**14 52 20.1**	**+1.7**
MATP	**Matopo**	**39.70**	**248**	P	**P**	**14 52 18.6**	**+0.1**
	comp=Z,12nm,0.9s,mb4.7,baz=81,slow=9.9,SNR=20						
MATP				LR	LR	15 06 02.9	
	comp=Z,3µm,21.7s,MS5.1,baz=82,slow=32						
PKI	**Pulchoki**	**39.78**	**25**	*e*P	**P**	**14 52 20.5**	**+1.3**
	comp=Z,167nm,1.1s,mb5.7						
GKN	**Gorkha**	**39.85**	**24**	*e*P	**P**	**14 52 20.9**	**+1.1**
	comp=Z,361nm,1.0s,mb6.1						
KKN	**Kakani**	**39.92**	**25**	*e*P	**P**	**14 52 21.3**	**+1.0**
	comp=Z,237nm,1.0s,mb5.9						
NST	**Nakhon Sawan**	**40.09**	**53**	P	**P**	**14 52 22.0**	**+0.2**
JIRN	**Jiri**	**40.19**	**26**	*e*P	**P**	**14 52 23.9**	**+1.3**
	comp=Z,166nm,1.0s,mb5.7						
GUN	**Gumba**	**40.28**	**25**	*e*P	**P**	**14 52 24.9**	**+1.6**
	comp=Z,448nm,1.1s,mb6.1						
CM31	**Chiang Mai Arr**	**40.83**	**49**	PFAKE		14 52 40.0	+12
CM31				LR	LR		
	comp=Z,1µm,19.0s,MS4.8						
SHL	**Shillong**	**41.25**	**34**	*e*x	x	14 51 40.4	
CHRT	**Chiangrai**	**42.33**	**48**	⇓P	**P**	**14 52 40.5**	**+0.3**
	comp=Z,171nm,1.0s,mb5.6						
NANT	**Nan**	**42.35**	**50**	⇑P	**P**	**14 52 43.0**	**+2.6**
	comp=Z,125nm,1.2s,mb5.4						
NAY	**Al-Naaiem**	**42.50**	**333**	*e*P	**P**	**14 52 40.6**	**-0.9**
NAY				AMb	AMB	14 52 42.5	
	comp=Z,25nm,0.9s,mb4.8						
RST	**Umm Al-Ruwaisa**	**42.82**	**333**	*e*P	**P**	**14 52 43.6**	**-0.6**
RST				AMb	AMB	14 52 46.4	
	comp=Z,71nm,1.0s,mb5.3						
MIB	**Mutribah**	**42.93**	**334**	*e*P	**P**	**14 52 44.0**	**-1.0**
MIB				AMb	AMB	14 52 46.1	
	comp=Z,53nm,0.8s,mb5.3						
LBTB	**Lobatse**	**43.35**	**243**	P	**P**	**14 52 48.3**	**-0.1**
	comp=Z,26nm,1.0s,mb4.9,baz=100,slow=9.0,SNR=22						
LBTB	**Lobatse**	**43.35**	**243**	*e*P	**P**	**14 52 48.2**	**-0.2**
LBTB				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.1						
LBTB				MLR	MLR		
	comp=Z,1µm,21.0s,MS4.8						
LBTB	**Lobatse**	**43.35**	**243**	*e*P	**P**	**14 52 48.2**	**-0.2**
	comp=Z,44nm,1.1s,mb5.1						
LBTB				LR	LR		
	comp=Z,1µm,21.0s,MS4.8						
KSM	**Kuching**	**43.55**	**79**	*e*P	**P**	**14 52 51.0**	**+1.0**
BHD	**Baghdad**	**47.19**	**333**	*e*x	x	14 53 16.0	
BHD				*e*x	x	15 00 08.0	
KMI	**Kunming**	**47.76**	**45**	P	**P**	**14 53 24.7**	**+1.3**
KMI				AP	pP	14 53 27.7	+1.2
KMI				XP	sP	14 53 28.9	+1.1
KMI				PCP	PcP	14 54 53.7	+1.3
KMI				PP	PP	14 55 16.2	+1.1
KMI				PPP		14 56 05.5	
KMI				SCP	ScP	14 58 46.7	0.0
KMI				PCS	PcS	14 58 47.9	0.0
KMI				S	**S**	**15 00 20.8**	**+1.0**
KMI				SCS	ScS	15 03 15.6	-1.5
KMI				AMB	AMB		
	comp=Z,17nm,1.0s,mb5.0						
KMI				AMB	AMB		
	comp=Z,252nm,8.4s						
KMI				LR	LR		
	comp=N,1µm,22.3s,MS5.0						
KMI				LR	LR		
	comp=E,1µm,21.3s,MS5.0						
KMI				LR	LR		
	comp=Z,1µm,25.3s,MS4.7						
KSH	**Kashi**	**48.45**	**8**	P	**P**	**14 53 29.3**	**+0.6**
KSH				*e*AP	pP	14 53 35.3	+3.5
KSH				*e*XP	sP	14 53 37.7	+4.7
KSH				*e*PP	PP	14 55 22.0	+0.7
KSH				*e*SCP	ScP	14 58 47.5	-2.1
KSH				*e*S	**S**	**15 00 28.9**	**-0.6**
KSH				*e*XS	sS	15 00 39.4	+4.8
KSH				*e*PS		15 00 48.3	
KSH				*e*SCS	ScS	15 03 18.6	-3.0
KSH				*e*SS	SS	15 03 55.9	-3.2
KSH				AMB	AMB		
	comp=Z,639nm,3.4s						
KSH				LR	LR		
	comp=N,4µm,12.7s,MS5.8						
KSH				LR	LR		
	comp=E,4µm,10.1s,MS5.8						
KSH				LR	LR		
	comp=Z,4µm,14.4s,MS5.5						
SUR	**Sutherland**	**49.46**	**234**	P	**P**	**14 53 37.2**	**+0.8**
	comp=Z,14nm,1.0s,mb4.9,baz=298,slow=7.6,SNR=3.1						
SUR	**Sutherland**	**49.46**	**234**	P	**P**	**14 53 37.2**	**+0.8**
SUR				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
TSUM	**Tsumeb**	**49.70**	**252**	P	**P**	**14 53 39.2**	**+0.9**
	comp=Z,5.6nm,1.0s,mb4.5,baz=87,slow=8.3,SNR=5.9						
TSUM				LR	LR	15 11 32.6	
	comp=Z,1µm,21.4s,MS4.8,baz=263,slow=32						
QIZ	**Qiongzhong**	**49.72**	**56**	P	**P**	**14 53 39.3**	**+0.9**
QIZ				AP	pP	14 53 42.0	+0.5
QIZ				XP	sP	14 53 43.6	+0.8
QIZ				PP	PP	14 55 34.0	+1.1
QIZ				S	**S**	**15 00 49.3**	**+2.0**
QIZ				XS	sS	15 00 57.8	+5.3
QIZ				AMB	AMB		
	comp=Z,13nm,1.5s,mb4.7						
QIZ				AMB	AMB		
	comp=Z,447nm,7.9s						
QIZ				LR	LR		
	comp=N,2µm,15.0s						
QIZ				LR	LR		
	comp=Z,1µm,18.8s,MS5.0						
QIZ	**Qiongzhong**	**49.72**	**56**	PFAKE		14 53 50.0	+12
QIZ				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
ASF	**Jabal al Asfar**	**50.11**	**325**	P	**P**	**14 53 43.1**	**+1.7**
	comp=Z,4.6nm,0.8s,mb4.5,baz=3.2,slow=0.6,SNR=6.7						
MSL	**Mosul**	**50.31**	**334**	*e*x	x	14 53 44.5	
MSL				*e*x	x	12 01 01.0	
KKM	**Kota Kinabalu**	**50.43**	**75**	P	**P**	**14 53 45.4**	**+1.6**
MUN	**Mundaring**	**50.52**	**125**	*e*P	**P**	**14 53 44.8**	**+0.3**
MUN				*e*S	**S**	**15 01 05.9**	**+7.4**
AML	**Almayashu**	**50.75**	**6**	P	**P**	**14 53 47.6**	**+1.4**
	SNR=12						
KZA	**Kyzart**	**50.87**	**7**	P	**P**	**14 53 48.7**	**+1.6**
	SNR=7.5						
UCH	**Uchtor**	**50.93**	**6**	P	**P**	**14 53 49.0**	**+1.4**
	SNR=27						
ULHL	**Ulahol**	**51.16**	**8**	P	**P**	**14 53 50.5**	**+1.2**
	SNR=5.3						
EKS2	**Erkin-Say**	**51.28**	**6**	P	**P**	**14 53 51.8**	**+1.5**
	SNR=39						
AAK	**Ala-Archa**	**51.33**	**6**	P	**P**	**14 53 51.6**	**+1.0**
	SNR=17						
AAK	**Ala-Archa**	**51.33**	**6**	P	**P**	**14 53 50.9**	**+0.3**
	comp=Z,281nm,0.9s,SNR=12						
AAK	**Ala-Archa**	**51.33**	**6**	⇑P	**P**	**14 53 49.6**	**-0.9**
	SNR=22						
AAK	**Ala-Archa**	**51.33**	**6**	*e*P	**P**	**14 53 49.6**	**-1.0**
AAK				pmax	pmax		
	comp=Z,63nm,1.1s,mb5.5						
AAK				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.1						
AAK	**Ala-Archa**	**51.33**	**6**	*e*P	**P**	**14 53 49.6**	**-0.9**
	comp=Z,63nm,1.1s,mb5.5						
AAK				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
GYA	**Guiyang**	**51.36**	**46**	⇑*i*P	**P**	**14 53 50.9**	**+0.1**
GYA				AP	pP	14 53 55.2	+1.2
GYA				XP	sP	14 53 58.6	+3.4
GYA				PCP	PcP	14 55 03.3	-2.2
GYA				PP	PP	14 55 48.4	+0.6
GYA				PPP		14 56 55.0	
GYA				SCP	ScP	14 58 58.2	-3.9
GYA				S	**S**	**15 01 12.0**	**+1.9**
GYA				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.6						
GYA				AMB	AMB		
	comp=Z,160nm,4.2s						
GYA				LR	LR		
	comp=N,950nm,18.4s,MS5.0						
GYA				LR	LR		
	comp=E,860nm,16.8s,MS5.0						
GYA				LR	LR		
	comp=Z,870nm,17.4s,MS4.8						
KBK	**Karagaybulak**	**51.40**	**7**	P	**P**	**14 53 52.1**	**+1.0**
	SNR=33						
MBWA	**Marble Bar**	**51.53**	**110**	*e*P	**P**	**14 53 52.5**	**+0.4**
	comp=Z,32nm,1.1s,mb5.2						
MBWA				LR	LR		
	comp=Z,2µm,20.0s,MS5.2						
FRU	**Bishkek**	**51.54**	**6**	⇓*e*P	**P**	**14 53 52.0**	**-0.1**
FRU				*e*		15 01 24.0	
FRU				pmax	pmax		
	comp=Z,110nm,1.8s,mb5.5						
TSM	**Tawau**	**51.56**	**78**	P	**P**	**14 53 50.2**	**-2.1**
MMAI	**Mount Meron Ar**	**51.58**	**325**	P	**P**	**14 53 53.4**	**+0.9**
	comp=Z,12nm,1.0s,mb4.8,baz=130,slow=11,SNR=9.4						
NWAO	**Narrogin (SRO)**	**51.62**	**125**	P	**P**	**14 53 51.8**	**-1.0**
	comp=Z,13nm,0.9s,mb4.8,baz=326,slow=9.3,SNR=5.6						
NWAO	**Narrogin (SRO)**	**51.62**	**125**	P	**P**	**14 53 51.8**	**-1.0**
NWAO				LR	LR		
	comp=Z,2µm,21.0s,MS5.0						
KLBR	**Kellerberrin**	**51.68**	**124**	*e*P	**P**	**14 53 52.5**	**-0.7**
	comp=Z,26nm,1.0s,mb5.1						
CHMS	**Chumysh**	**51.72**	**7**	P	**P**	**14 53 53.3**	**-0.2**
	SNR=6.4						
TKM2	**Tokmak 2**	**51.74**	**7**	P	**P**	**14 53 54.4**	**+0.8**
	SNR=43						
USP	**Ospenovka**	**51.95**	**6**	P	**P**	**14 53 55.7**	**+0.5**
	SNR=26						
CD2	**Chengdu**	**52.25**	**40**	⇓*i*P	**P**	**14 53 57.7**	**+0.2**
CD2				AP	pP	14 54 02.8	+2.1
CD2				XP	sP	14 54 04.8	+2.9
CD2				PCP	PcP	14 55 08.4	-0.4
CD2				PP	PP	14 55 57.4	+1.5
CD2				SCP	ScP	14 59 03.2	-2.7
CD2				PCS	PcS	14 59 06.5	-0.6
CD2				S	**S**	**15 01 19.9**	**-2.5**
CD2				SCS	ScS	15 03 45.6	-2.0
CD2				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.5						
CD2				AMB	AMB		
	comp=Z,280nm,6.9s						
CD2				LR	LR		
	comp=N,830nm,17.4s						
CD2				LR	LR		
	comp=Z,570nm,16.2s,MS4.7						
GNI	**Garni**	**52.95**	**338**	P	**P**	**14 54 02.8**	**+0.1**
	comp=Z,4.5nm,0.4s,mb4.8,baz=311,slow=14,SNR=4.4						
GNI	**Garni**	**52.95**	**338**	P	**P**	**14 54 02.8**	**+0.1**
GNI				LR	LR		
	comp=Z,2µm,19.0s,MS5.1						
GZT	**Gaziantep**	**53.74**	**330**	*i* P	**P**	**14 54 09.4**	**+1.0**
ELZG	**Elazig**	**53.97**	**332**	*i* P	**P**	**14 54 11.3**	**+1.2**
MALT	**Malatya**	**54.08**	**332**	*e*P	**P**	**14 54 12.2**	**+1.3**
MALT				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
MALT	**Malatya**	**54.08**	**332**	*e*P	**P**	**14 54 12.2**	**+1.3**
	comp=Z,14nm,1.0s,mb4.8						
MAK	**Makhachkala**	**54.52**	**342**	*e*P	**P**	**14 54 15.0**	**+0.9**
MAK				*e*		14 55 14.0	
MAK				*e*		14 56 22.6	
MAK				*e*S	**S**	**15 01 56.3**	**+3.1**
MAK				*i*		15 03 59.3	
MAK				pmax	pmax		
	comp=Z,196nm,1.0s,mb6.1						
MAK				MLR	MLR		
	comp=Z,653nm,14.0s,MS4.8						
WMQ	**Urumqi**	**55.19**	**17**	P	**P**	**14 54 20.8**	**+1.8**
WMQ				AP	pP	14 54 25.2	+3.0
WMQ				XP	sP	14 54 27.7	+4.3
WMQ				PCP	PcP	14 55 22.0	+2.0
WMQ				PP	PP	14 56 26.2	+3.8
WMQ				SCP	ScP	14 59 18.8	0.0
WMQ				S	**S**	**15 02 02.3**	**+0.1**
WMQ				SCS	ScS	15 04 06.4	-2.0
WMQ				SS	SS	15 05 46.2	-0.1
WMQ				AMB	AMB		
	comp=Z,57nm,1.8s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,431nm,5.1s						
WMQ				LR	LR		
	comp=N,3µm,15.4s,MS5.6						
WMQ				LR	LR		
	comp=E,2µm,15.4s,MS5.6						

WMQ LR LR
comp=Z,4µm,15.4s,MS5.6
ZEI Tsey 55.55 339 *e*P **P 14 54 21.9 +0.3**
ZEI *i* *PP pP 14 54 29.1 +4.3
ZEI pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
LZH Lanzhou 55.90 35 ⇑P **P 14 54 25.5 +1.4**
LZH AP pP 14 54 28.7 +1.4
LZH XP sP 14 54 30.2 +1.7
LZH PCP PcP 14 55 23.5 +0.8
LZH PP PP 14 56 32.1 +3.4
LZH PPP 14 57 47.6
LZH SCP ScP 14 59 20.8 -1.1
LZH *e*S **S 15 02 12.3 +0.6**
LZH PS 15 02 24.7
LZH SS SS 15 05 57.5 +0.1
LZH AMB AMB
comp=Z,65nm,1.4s,mb5.5
LZH AMB AMB
comp=Z,469nm,7.3s
LZH LR LR
comp=E,2µm,16.2s
LZH LR LR
comp=Z,2µm,18.3s,MS5.3
GTA Gaotai 56.23 30 P **P 14 54 26.5 0.0**
GTA AP pP 14 54 30.6 +0.9
GTA XP sP 14 54 33.9 +3.0
GTA PCP PcP 14 55 25.5 +1.5
GTA PP PP 14 56 33.5 +1.8
GTA PPP 14 57 52.3
GTA SCP ScP 14 59 20.8 -2.5
GTA PCS PcS 14 59 22.6 -1.9
GTA S **S 15 02 17.5 +1.4**
GTA SCS ScS 15 04 14.8 -1.0
GTA SS SS 15 06 03.5 +0.9
GTA AMB AMB
comp=Z,79nm,1.0s,mb5.7
GTA AMB AMB
comp=Z,401nm,7.6s
GTA LR LR
comp=N,1µm,18.7s,MS5.2
GTA LR LR
comp=E,1µm,21.8s,MS5.2
GTA LR LR
comp=Z,2µm,20.6s,MS5.2
GRSN GIRESUNGRSN 56.26 333 *i* P **P 14 54 26.9 +0.3**
MKAR Makanchi Array 56.62 12 P **P 14 54 27.9 -1.4**
comp=Z,16nm,0.6s,mb5.2,baz=206,slow=8.3,SNR=120
MKAR PcP PcP 14 55 24.1 -1.4
comp=Z,11nm,1.0s,baz=183,slow=2.9,SNR=3.7
FITZ Fitzroy Crossi 56.90 106 *e*P **P 14 54 31.3 +0.1**
comp=Z,31nm,1.0s,mb5.3
FITZ Fitzroy Crossi 56.90 106 LR LR 15 14 01.1
comp=E,898nm,20.6s,MS4.8,baz=227,slow=31
CDAG Cicekdag 57.08 330 *i* P **P 14 54 32.1 -0.4**
BR131 Keskin Array S 57.52 329 *e*P **P 14 54 35.8 +0.2**
comp=Z,9.9nm,0.9s,mb4.8
BR131 LR LR
comp=Z,1µm,20.0s,MS5.0
BRTR Keskin Array B 57.52 329 P **P 14 54 35.9 +0.3**
comp=Z,12nm,0.9s,mb4.9,baz=140,slow=9.7,SNR=59
BRTR LR LR 15 18 40.2
comp=Z,1µm,18.7s,MS5.1,baz=136,slow=35
XAN Xi'an 57.59 40 P **P 14 54 34.8 -1.3**
XAN SS SS 15 06 28.0 +3.9
XAN AMB AMB
comp=Z,60nm,1.1s,mb5.5
XAN LR LR
comp=N,512nm,25.5s,MS4.6
XAN LR LR
comp=E,356nm,27.2s,MS4.6
XAN LR LR
comp=Z,853nm,19.9s
SOC Sochi 57.83 336 *d* *i*P **P 14 54 36.7 -1.1**
SOC *e* 14 55 23.0
SOC *e* 14 56 43.0
SOC *e*PPP 14 58 10.1
SOC *i* S **S 15 02 34.1 -3.1**
SOC *e* 15 04 28.8
SOC *e*SS SS 15 06 23.9 -3.9
SOC *e*SSS 15 08 44.3
SOC pmax pmax
comp=Z,21nm,1.1s,mb5.1
SOC pmax pmax
comp=Z,218nm,4.5s
SOC MLR MLR
comp=Z,1µm,17.0s,MS5.0
GOF Gofitskoye 57.85 339 *e*P **P 14 54 36.9 -1.1**
ANTO Ankara 58.06 329 PFAKE 14 54 50.0 +11
ANTO LR LR
comp=Z,960nm,19.0s,MS4.9
ELDT Eldivan 58.20 330 *i* P **P 14 54 40.3 -0.1**
SGKT Sivrigoynuk 58.96 329 *i* P **P 14 54 45.3 -0.4**
MAW Mawson 59.04 182 *e*P **P 14 54 44.1 -2.1**
comp=Z,19nm,1.1s,mb5.0
MAW *e*S **S 15 02 52.4 -0.6**
MAW Mawson 59.04 182 P **P 14 54 45.1 -1.2**
comp=Z,6.0nm,0.9s,mb4.6,baz=338,slow=6.7,SNR=7.3
MAW LR LR 15 13 34.4
comp=Z,1µm,19.9s,MS5.1,baz=359,slow=29
MAW Mawson 59.04 182 *e*P **P 14 54 44.1 -2.1**
MAW *e*S **S 15 02 52.4 -0.6**
MAW pmax pmax
comp=Z,19nm,1.1s
WHN Wuhan 59.23 47 ⇑P **P 14 54 48.4 +0.9**
AKTK Aktyubinsk 59.38 353 P **P 14 54 47.2 -1.4**
AKTO Aktyubinsk 59.38 353 P **P 14 54 47.2 -1.4**
comp=Z,89nm,0.9s,mb5.8,baz=162,slow=6.8,SNR=237
DAV Davao City (W) 59.67 77 PFAKE 14 55 00.0 +9.4
DAV LR LR
comp=Z,2µm,20.0s,MS5.2
ANN Anapa 59.76 335 *e*P **P 14 54 49.1 -2.1**
ANN *e*S **S 15 02 58.8 -3.5**
ANN pmax pmax
comp=Z,65nm,2.5s,mb5.2
ANN MLR MLR
comp=N,961nm,14.0s,MS5.1
ANN MLR MLR
comp=E,343nm,14.0s,MS5.1
ANN MLR MLR
comp=Z,607nm,14.0s,MS4.9
KURK Kurchatov 59.79 8 P **P 14 54 50.4 -1.0**
comp=Z,564nm,0.7s,SNR=57
KURK Kurchatov 59.79 8 ⇓P **P 14 54 50.8 -0.7**
SNR=27
KURK Kurchatov 59.79 8 *e*P **P 14 54 50.1 -1.3**
KURK pmax pmax
comp=Z,66nm,0.8s,mb5.7
KURK MLR MLR
comp=Z,1µm,19.0s,MS5.1
KURK Kurchatov 59.79 8 *e*P **P 14 54 50.1 -1.3**
comp=Z,66nm,0.8s,mb5.7
KURK LR LR
comp=Z,1µm,19.0s,MS5.1
ULDT Uludag 60.20 327 *i* P **P 14 54 53.8 -0.4**
MIR Mirnyy 60.41 169 *e*P **P 14 55 03.5 +7.8**
MIR pmax pmax
comp=Z,190nm,2.0s,mb5.8
ZRNK Zerenda 61.29 1 *e*P **P 14 55 00.4 -1.3**
ZRNK pmax pmax
comp=Z,90nm,0.9s,mb5.9
ZRNK Zerenda 61.29 1 *e*P **P 14 55 00.4 -1.2**
comp=Z,90nm,0.9s,mb5.9
SIM Simferopol' 61.30 333 *de*P **P 14 55 01.8 +0.1**
SIM *e*S **S 15 03 21.0 -1.0**
SIM *e*SS SS 15 07 21.0 -1.3
SIM pmax pmax
comp=Z,19nm,0.9s,mb5.2
BRVK Borovoye 61.43 2 P **P 14 55 02.2 -0.4**
comp=Z,318nm,0.7s,SNR=26
BRVK Borovoye 61.43 2 ⇓P **P 14 55 01.4 -1.2**
SNR=21
BRVK Borovoye 61.43 2 *e*P **P 14 55 01.3 -1.3**
BRVK pmax pmax
comp=Z,39nm,1.0s,mb5.5
BRVK MLR MLR
comp=Z,684nm,21.0s,MS4.8
BRVK Borovoye 61.43 2 *e*P **P 14 55 01.3 -1.3**
comp=Z,39nm,1.0s,mb5.5
BRVK LR LR
comp=Z,684nm,21.0s,MS4.8
CHKZ Chkalovo 62.06 2 *e*P **P 14 55 05.6 -1.2**
CHKZ pmax pmax
comp=Z,82nm,0.9s,mb5.9
CHKZ Chkalovo 62.06 2 *e*P **P 14 55 05.5 -1.3**
comp=Z,82nm,0.9s,mb5.9
BTO Baotou 62.52 35 *e*P **P 14 55 09.3 -0.6**
SYO Syowa Base 63.11 191 ⇑*e*P **P 14 55 13.0 -0.9**
NJ2 Nanjing 63.29 48 *e*P **P 14 55 15.5 +0.4**
NJ2 AP pP 14 55 20.2 +1.9
NJ2 XP sP 14 55 22.3 +2.8
NJ2 PP PP 14 57 36.3 +2.1
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.3
KAKA Kakadu 63.55 100 *e*P **P 14 55 16.9 +0.1**
comp=Z,42nm,1.1s,mb5.4
KAKA *e*PCP PcP 14 55 52.3 -1.0
HHC Hu-ho-hao-te 63.57 36 *e*P **P 14 55 18.1 +1.2**
HHC AP pP 14 55 22.0 +1.9
HHC XP sP 14 55 25.6 +4.3
HHC SCP 14 59 54.5
HHC S **S 15 03 48.6 -1.9**
HHC SCS ScS 15 05 03.4 -7.0
HHC AMB AMB
comp=Z,33nm,1.1s,mb5.3
HHC AMB AMB
comp=Z,297nm,5.6s
HHC LR LR
comp=N,422nm,15.5s,MS5.0
HHC LR LR
comp=E,722nm,17.8s,MS5.0
HHC LR LR
comp=Z,473nm,15.5s,MS4.8
TIRR Tirgusor 63.63 330 ⇑*i*P **P 14 55 17.0 -0.3**
TIRR Tirgusor 63.63 330 ⇑P **P 14 55 17.0 -0.3**
ZAL Zalesovo 63.92 11 P **P 14 55 17.4 -1.8**
comp=Z,16nm,0.9s,mb5.1,baz=262,slow=7.1,SNR=76
ZAL LR LR 15 24 38.1
comp=Z,2µm,19.5s,MS5.2,baz=272,slow=38
TIA Tai'an 64.28 43 *e*P **P 14 55 21.4 -0.2**
VRSR Storozhevoye 64.47 341 *e*P **P 14 55 21.2 -1.6**
VRSR pmax pmax
comp=Z,20nm,1.1s,mb5.1
VRSR pmax pmax
comp=N,20nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.8s
VRSR MLR MLR
comp=Z,360nm,16.0s,MS4.7
VRSR MLR MLR
comp=N,220nm,15.0s,MS4.8
VRSR MLR MLR
comp=E,400nm,14.0s,MS4.8
NVS Novosibirsk 64.50 10 *e*P **P 14 55 20.9 -2.1**
NVS *e*S **S 15 03 56.9 -5.2**
NVS pmax pmax
comp=Z,74nm,1.1s,mb5.6
NVS pmax pmax
comp=N,71nm,1.4s
NVS pmax pmax
comp=E,24nm,1.3s
NVS smax
comp=N,8.0nm,1.9s
NVS smax
comp=E,18nm,2.0s
SSE Sheshan 64.56 50 P **P 14 55 25.2 +1.8**
SSE AP pP 14 55 28.5 +1.9
SSE XP sP 14 55 29.8 +2.0
SSE S **S 15 04 02.9 +0.1**
SSE AMB AMB
comp=Z,20nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,440nm,6.8s
SSE LR LR
comp=N,1µm,19.8s,MS5.2
SSE LR LR
comp=E,566nm,19.9s,MS5.2
SSE LR LR
comp=Z,428nm,19.1s,MS4.7
ASPA Alice Springs 64.77 112 *e*P **P 14 55 24.3 -0.5**
ASAR Alice Springs 64.78 112 P **P 14 55 23.9 -0.9**
comp=Z,6.4nm,0.6s,mb4.9,baz=279,slow=6.3,SNR=170
ASAR LR LR 15 19 15.0
comp=Z,1µm,21.1s,MS5.0,baz=276,slow=32
AS31 Alice Springs 64.78 112 *e*P **P 14 55 24.3 -0.5**
VTS Vitosha 65.14 325 ⇓*i*P **P 14 55 27.4 +0.2**
VTS Vitosha 65.14 325 ⇓P **P 14 55 27.4 +0.2**
WRA Warramunga Arr 65.14 108 P **P 14 55 27.2 0.0**
comp=Z,16nm,0.9s,mb5.0,baz=276,slow=6.1,SNR=59
WRA LR LR 15 19 59.7
comp=Z,2µm,20.4s,MS5.2,baz=270,slow=32
WRAB Tennant Creek 65.15 108 *e*P **P 14 55 27.3 0.0**
WRAB pmax pmax
comp=Z,57nm,1.0s,mb5.6
WRAB MLR MLR
comp=Z,3µm,22.0s,MS5.4
WRAB Tennant Creek 65.15 108 *e*P **P 14 55 27.3 +0.1**
comp=Z,57nm,1.0s,mb5.6
WRAB LR LR
comp=Z,3µm,22.0s,MS5.4
WB2 Warramunga Arr 65.16 108 *e*P **P 14 55 27.1 -0.2**
ARU Arti 65.22 354 P **P 14 55 26.4 -1.3**
comp=Z,401nm,1.0s,SNR=14
ARU Arti 65.22 354 ⇓*i*P **P 14 55 26.6 -1.1**
ARU *e* 14 56 01.1
ARU *e* 14 57 52.1
ARU *e*PPP 14 59 20.8
ARU *e*S S 15 04 08.7 -2.3
ARU *e*SS SS 15 08 16.3 -7.2
ARU pmax pmax
comp=Z,74nm,1.0s,mb5.7
ARU MLR MLR
comp=N,400nm,19.0s,MS4.7
ARU MLR MLR
comp=Z,500nm,19.0s,MS4.7
ARU MLR MLR
comp=E,300nm,18.0s,MS4.7
ARU Arti 65.22 354 *e*P **P 14 55 26.4 -1.3**
comp=E,68nm,1.0s,mb5.6
ARU LR LR
comp=Z,690nm,21.0s,MS4.8
KIS Kishinev 65.27 332 *e*P **P 14 55 27.0 -1.0**
KIS *e* 14 55 56.0
KIS *e*S S 15 04 07.0 -4.6
KIS *e*PS 15 04 28.0
KIS MLR MLR
comp=N,500nm,18.0s
KIS MLR MLR
comp=Z,800nm,18.0s,MS5.0
KIS MLR MLR
comp=Z,800nm,18.0s
SVE Sverdlovsk 65.43 356 ⇓*i*P **P 14 55 28.0 -1.1**
SVE *e*S S 15 04 08.0 -5.6
SVE pmax pmax
comp=Z,100nm,1.2s,mb5.7
VRI Vrincioaia 65.47 330 ⇑*i*P **P 14 55 29.3 0.0**
VRI Vrincioaia 65.47 330 ⇑P **P 14 55 29.3 -0.1**
PLOR Plostina 65.50 330 ⇓*i*P **P 14 55 30.5 +1.0**
MLR Muntele Rosu 65.61 329 ⇓*i*P **P 14 55 31.4 +1.2**
MLR Muntele Rosu 65.61 329 ⇓P **P 14 55 31.4 +1.1**
SONM Songino Array 65.72 27 P **P 14 55 31.0 0.0**
comp=Z,48nm,1.0s,mb5.5,baz=216,slow=6.2,SNR=200
SONM LR LR 15 23 29.1
comp=Z,2µm,21.9s,MS5.2,baz=221,slow=35
SONM PKPPKP 15 24 18.8
comp=Z,0.6nm,0.8s,baz=51,slow=1.7,SNR=4.0
SKO Skopje 65.77 324 *i* P **P 14 55 31.3 0.0**
BJT Baijiatuau 65.83 39 *e*P **P 14 55 32.1 +0.5**
BJT pmax pmax
comp=Z,14nm,0.6s
BJT MLR MLR
comp=Z,758nm,20.0s
BJT Baijiatuau 65.83 39 *e*P **P 14 55 32.1 +0.5**
comp=Z,14nm,0.6s,mb5.2
BJT LR LR
comp=Z,758nm,20.0s,MS4.9
BJI Beijing 65.84 39 *e*P **P 14 55 32.2 +0.5**
BJI S S 15 04 21.0 +2.4
BJI SS SS 15 08 41.2 +8.0
BJI AMB AMB
comp=Z,39nm,1.0s,mb5.4
BJI AMB AMB
comp=Z,399nm,6.1s
BJI LR LR
comp=N,829nm,14.6s,MS5.1
BJI LR LR
comp=E,512nm,18.6s,MS5.1
BJI LR LR
comp=Z,428nm,33.1s
VOIR 66.03 328 ⇓*i*P **P 14 55 32.2 -0.7**
VOIR 66.03 328 ⇓P **P 14 55 32.2 -0.8**
ULN Ulaanbaatar 66.05 28 ⇓P **P 14 55 32.1 -1.0**
SNR=16
ULN Ulaanbaatar 66.05 28 *e*P **P 14 55 33.3 +0.3**
ULN pmax pmax
comp=Z,21nm,1.1s,mb5.1
ULN MLR MLR
comp=Z,2µm,21.0s,MS5.3
ULN Ulaanbaatar 66.05 28 *e*P **P 14 55 33.3 +0.2**
comp=Z,21nm,1.1s,mb5.1
ULN LR LR
comp=Z,2µm,21.0s,MS5.3
ZAK Zakamensk 66.32 24 *e*P **P 14 55 34.1 -0.7**
ZAK *e* 14 58 02.8
ZAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
ZAK pmax pmax
comp=Z,4.0nm,1.5s,mb4.2
MOY Mondy 66.46 22 *e*P **P 14 55 36.0 +0.3**
MOY pmax pmax
comp=Z,39nm,2.2s,mb5.0
SVIS Svilajnac 67.34 326 *i* P **P 14 55 40.8 -0.5**
GRUS Gruza 67.37 325 *i* P **P 14 55 41.1 -0.5**
BURAR Bucovina Array 67.43 330 ⇓*i*P **P 14 55 42.1 +0.2**
AKASG Malin Array Be 67.82 335 P **P 14 55 43.1 -1.3**
comp=Z,8.6nm,0.7s,mb4.9,baz=137,slow=5.5,SNR=36
AKASG LR LR 15 25 26.0
comp=Z,274nm,19.8s,MS4.5,baz=170,slow=36
AKBB Malin Array Si 67.82 335 *e*P **P 14 55 43.2 -1.2**
DIVS Divcibare 67.91 325 *i* P **P 14 55 44.4 -0.5**
BZS Buzias 67.96 327 ⇑*i*P **P 14 55 43.1 -2.1**
BZS Buzias 67.96 327 ⇑P **P 14 55 43.1 -2.1**
IRK Irkutsk 68.16 23 *e*P **P 14 55 44.9 -1.6**
IRK *e* 14 56 11.8
IRK pmax pmax
comp=Z,66nm,2.0s,mb5.3
OBN Obninsk 68.61 341 *c* *i*P **P 14 55 48.6 -0.7**
OBN *e* 14 56 10.1
OBN *e*S S 15 04 52.5 +0.6
OBN *e* 15 05 40.9
OBN *e*SS SS 15 09 13.7 -2.4
OBN pmax pmax
comp=Z,69nm,1.5s,mb5.4
OBN MLR MLR
comp=Z,800nm,17.0s,MS5.0
OBN Obninsk 68.61 341 PFAKE 14 56 00.0 +11
OBN LR LR
comp=Z,842nm,19.0s,MS5.0
DL2 Dalian 68.74 43 P **P 14 55 50.0 -0.1**
DL2 S S 15 04 53.0 -0.5
DL2 XS sS 15 05 04.1 +5.2
DL2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
DL2 AMB AMB
comp=Z,180nm,5.9s
DL2 LR LR
comp=N,310nm,17.7s,MS4.8
DL2 LR LR
comp=E,340nm,16.1s,MS4.8
DL2 LR LR
comp=Z,410nm,14.7s,MS4.8
MOS Moscow 68.81 342 *e*P **P 14 55 47.0 -3.5**
MOS *i* 14 56 10.5
MOS pmax pmax
comp=Z,173nm,1.3s,mb5.8
MOS pmax pmax
comp=Z,400nm,2.0s,mb6.0
MOS MLR MLR
comp=N,2µm,20.0s
MOS MLR MLR
comp=Z,1µm,20.0s,MS5.0
TORD Torodi Ar. Bea 69.08 288 P **P 14 55 52.7 +0.4**
comp=Z,1.0nm,1.0s,baz=114,slow=4.3,SNR=5.0
TORD LR LR 15 23 27.2
comp=Z,898nm,21.7s,MS5.0,baz=100,slow=34
TORD PKPPKP 15 24 05.3
comp=Z,2.2nm,1.2s,baz=298,slow=3.2,SNR=5.1
TORD Torodi Ar. Bea 69.08 288 P **P 14 55 52.7 +0.4**
TORD LR LR 15 23 27.2
TORD P'P' 15 24 05.3
LVV L'vov 69.52 331 *e*P **P 14 55 53.8 -1.1**
LVV *e* 14 58 25.0
LVV *e*S S 15 04 52.4 -10
LVV *e* 15 12 38.2
LVV MLR MLR
comp=N,240nm,17.0s,MS4.6
LVV MLR MLR
comp=E,190nm,17.0s,MS4.6
LVV MLR MLR
comp=Z,280nm,17.0s,MS4.6
UZH Uzhgorod 69.57 330 *i* P **P 14 55 56.0 +0.8**
UZH *e* 14 58 29.0
UZH *e*S S 15 05 03.0 -0.2
UZH *e*SS SS 15 09 29.0 -1.8
KOLS Kolonicke sedl 69.78 330 *e*P **P 14 55 56.8 +0.3**
KOLS pmax pmax
comp=Z,12nm,1.1s,mb4.7
KOLS MLR MLR
comp=Z,700nm,24.2s,MS4.8
KOLS Kolonicke sedl 69.78 330 *e*P **P 14 55 56.8 +0.3**
comp=Z,12nm,1.1s,mb4.7
KOLS LR LR
comp=Z,700nm,24.2s,MS4.8
CRVS Cervenica-Dubn 70.16 330 *e*P **P 14 55 58.7 -0.2**
CRVS pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CRVS MLR MLR
comp=Z,600nm,28.0s,MS4.7
CRVS Cervenica-Dubn 70.16 330 *e*P **P 14 55 58.7 -0.2**
comp=Z,7.6nm,1.0s,mb4.6
CRVS LR LR
comp=Z,600nm,28.0s,MS4.7
KECS Kecovo 70.39 329 *e*P **P 14 55 59.7 -0.6**
KECS pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
KECS Kecovo 70.39 329 *e*P **P 14 55 59.7 -0.6**
comp=Z,4.5nm,1.3s,mb4.2
NVL N'lazarevskaya 71.14 197 ⇓*i*P **P 14 56 06.1 +1.2**
NVL pmax pmax
comp=Z,19nm,1.1s,mb4.9
VYHS Vyhne 71.25 328 *i* P **P 14 56 05.2 -0.3**
VYHS pmax pmax
comp=Z,17nm,1.6s,mb4.7
VYHS MLR MLR
comp=Z,500nm,36.4s,MS4.5
VYHS Vyhne 71.25 328 *i* P **P 14 56 05.2 -0.3**
comp=Z,17nm,1.6s,mb4.7
VYHS LR LR
comp=Z,500nm,36.4s,MS4.5
BOJS Bojanci 71.47 324 *e*P **P 14 56 06.7 -0.2**
INCN Inchon 71.51 46 PFAKE 14 56 20.0 +13
INCN LR LR
comp=Z,791nm,20.0s,MS5.0
SNY Shenyang 71.51 41 ⇓P **P 14 56 07.0 -0.1**
SNY AP pP 14 56 11.5 +1.1
SNY XP sP 14 56 13.5 +1.9
SNY S S 15 05 24.6 -1.3
SNY PS 15 05 52.0
SNY SKS 15 06 04.0
SNY SS SS 15 10 06.5 +5.7
SNY AMB AMB
comp=Z,29nm,0.8s,mb5.3
SNY AMB AMB
comp=Z,120nm,5.0s
SNY LR LR
comp=N,795nm,23.7s
SNY LR LR
comp=Z,582nm,20.6s,MS4.8
DOBS Dobrina 71.71 325 *e*P **P 14 56 08.3 0.0**
STKA Stephens Creek 71.80 121 *e*P **P 14 56 08.1 -0.7**
comp=Z,5.7nm,1.0s,mb4.5
STKA *e*S S 15 05 38.8 +10
STKA Stephens Creek 71.80 121 P **P 14 56 08.3 -0.5**
comp=Z,3.3nm,0.8s,mb4.3,baz=261,slow=8.1,SNR=3.7
STKA LR LR 15 22 47.3
comp=Z,762nm,18.6s,MS5.0,baz=253,slow=32
OJC Ojcow 71.84 330 *e*P **P 14 56 07.8 -1.3**
PERS Pernice 72.18 325 *e*P **P 14 56 10.8 -0.3**
LJU Ljubljana 72.19 324 *e*P **P 14 56 11.3 +0.1**
ARSA Arzberg 72.30 326 ⇑*i*P **P 14 56 11.5 -0.3**
comp=Z,16nm,1.4s,mb4.8,SNR=7.0
OKC Ostrava-Krasne 72.43 329 AMS AMS 15 29 30.0
comp=Z,700nm,17.9s
CONA Conrad Observa 72.51 326 ⇓*i*P **P 14 56 12.7 -0.4**
comp=Z,59nm,1.8s,mb5.2,SNR=8.1

MORC **Moravsky Berou** 72.70 329⇓ *i*P P **14 56 13.8 -0.5**
MORC **Moravsky Berou** 72.70 329 *e*P P **14 56 13.4 -0.8**
comp=Z,8.2nm,1.1s,mb4.6
KLMR **Klimovskoe** 72.71 346 *d i*P P **14 56 13.3 -1.0**
KLMR *e*S S 15 05 37.3 -2.3
KLMR pmax pmax
comp=Z,170nm,1.6s,mb5.7
KLMR pmax pmax
comp=Z,120nm,9.4s
KLMR MLR MLR
comp=Z,600nm,18.0s,MS4.9
SUW **Suwalki** 72.78 334 *e*P P **14 56 14.3 -0.4**
ROBS **Robic** 72.89 324 *e*P P **14 56 14.9 -0.5**
VRAC **Vranov** 72.92 328 P P **14 56 13.9 -1.6**
comp=Z,2.3nm,0.3s,mb4.5,baz=180,slow=16,SNR=4.9
HIA **Hailar** 73.31 33 *e*P P **14 56 18.1 +0.3**
HIA pmax pmax
comp=Z,51nm,1.4s
HIA MLR MLR
comp=Z,966nm,22.0s
HIA **Hailar** 73.31 33 *e*P P **14 56 18.1 +0.3**
comp=Z,51nm,1.4s,mb5.3
HIA LR LR
comp=Z,966nm,22.0s,MS5.0
MOA **Molln** 73.34 326⇓ *i*P P **14 56 18.0 -0.1**
comp=Z,40nm,1.3s,mb5.2,SNR=10
TREC **Trest** 73.50 327 *e*P P **14 56 18.5 -0.5**
TREC AMS AMS 15 29 40.0
comp=Z,500nm,22.1s
DPC **Dobruska-Polom** 73.68 329 *e*P P **14 56 19.5 -0.5**
DPC *e*S S 15 05 47.4 -3.3
DPC AMS AMS 15 30 20.0
comp=Z,700nm,15.0s
CN2 **Changchun** 73.69 40 *e*P P **14 56 19.5 -0.6**
CN2 *e*AP pP 14 56 26.8 +3.4
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CN2 LR LR
comp=N,800nm,20.0s,MS5.1
CN2 LR LR
comp=E,700nm,20.0s,MS5.1
CN2 LR LR
comp=Z,600nm,18.0s,MS4.9
PGF **Pioggiola** 73.80 319 *e*P P **14 56 21.0 +0.3**
UPC **Upice** 73.93 329 *e*P P **14 56 20.5 -1.0**
DBIC **Dimbokro** 73.97 279 P P **14 56 21.2 -0.5**
comp=Z,6.8nm,1.1s,mb4.5,baz=54,slow=5.2,SNR=2.3
DBIC LR LR 15 27 14.9
comp=Z,764nm,21.2s,MS5.0,baz=82,slow=34
PRU **Pruhonice** 74.40 328 *e*P P **14 56 24.0 -0.2**
PRU *e*S S 15 05 52.1 -6.7
PRU AMS AMS 15 34 10.0
comp=Z,600nm,17.5s
KHC **Kasperske Hory** 74.44 326 *e*P P **14 56 23.6 -0.8**
KHC *e*S S 15 05 54.0 -5.2
KHC *e*S S 15 05 54.1 -5.1
KHC MLR MLR
comp=Z,600nm,20.4s,MS4.9
KHC **Kasperske Hory** 74.44 326 *e*P P **14 56 23.6 -0.8**
KHC *e*S S 15 05 54.0 -5.2
KHC *e*S S 15 05 54.1 -5.1
KHC LR LR
comp=Z,600nm,20.4s,MS4.9
WTTA **Wattenberg** 74.53 324⇓ *i*P P **14 56 25.0 0.0**
comp=Z,48nm,1.3s,mb5.3,SNR=9.7
WTTA **Wattenberg** 74.53 324⇓ *i*P P **14 56 25.0 0.0**
WTTA pmax pmax
comp=Z,48nm,1.3s,mb5.3
PVCC **Panska Ves** 74.69 328 *e*P P **14 56 26.1 +0.2**
PVCC AMS AMS 15 34 10.0
SQTA **Sankt Quirin** 74.75 324⇓ *i*P P **14 56 26.2 -0.1**
comp=Z,12nm,0.9s,mb4.8
SQTA **Sankt Quirin** 74.75 324⇓ *i*P P **14 56 26.2 -0.1**
SQTA pmax pmax
comp=Z,12nm,0.9s,mb4.8
WET **Wettzell** 74.83 326 *e*P P **14 56 26.0 -0.7**
comp=Z,6.0nm,1.2s,mb4.4
WET **Wettzell** 74.83 326 *e*P P **14 56 26.0 -0.7**
WET pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
MOTA **Moosalm** 74.88 324⇓ *i*P P **14 56 26.7 -0.3**
comp=Z,17nm,1.0s,mb4.9
MOTA **Moosalm** 74.88 324⇓ *i*P P **14 56 26.7 -0.3**
MOTA pmax pmax
comp=Z,17nm,1.0s,mb4.9
MOTA **Moosalm** 74.88 324⇓ *i*P P **14 56 26.7 -0.3**
comp=Z,17nm,1.0s,mb4.9
GKP **Gorka Klasztor** 74.99 331 *e*P P **14 56 27.6 0.0**
FUR **Furstenfeldbru** 75.20 325 *e*P P **14 56 29.0 +0.1**
comp=Z,59nm,1.0s,mb5.5
FUR **Furstenfeldbru** 75.20 325 *e*P P **14 56 29.0 +0.1**
FUR pmax pmax
comp=Z,59nm,1.0s,mb5.5
BRG **Berggiesshubel** 75.22 328 *e*P P **14 56 29.4 +0.4**
comp=Z,12nm,0.9s,mb4.8
BRG **Berggiesshubel** 75.22 328 *i*P P **14 56 29.2 +0.3**
comp=Z,7.2nm,0.8s,mb4.6
BRG S S 15 06 08.0 +0.1
BRG SS SS 15 10 24.0 -33
BRG
comp=N,283nm,21.8s
BRG
comp=E,213nm,16.2s
BRG
comp=Z,213nm,19.9s
DAVOX **Davos** 75.31 323 P P **14 56 30.1 +0.6**
comp=Z,7.5nm,0.6s,mb4.8,baz=143,slow=10,SNR=9.2
SBF **Sospel** 75.42 319 *e*P P **14 56 29.9 -0.2**
comp=Z,40nm,1.0s,mb5.0
SBF **Sospel** 75.42 319 *e*P P **14 56 29.9 -0.2**
SBF pmax pmax
comp=Z,20nm,1.0s,mb5.0
SBF **Sospel** 75.42 319 *e*P P **14 56 29.9 -0.2**
comp=Z,20nm,1.0s,mb5.0
ROTZ **Rotzenmuhle** 75.53 326 *e*P P **14 56 31.0 +0.2**
comp=Z,9.0nm,1.1s,mb4.6
DAVA **Damuels** 75.56 323⇓ *i*P P **14 56 31.0 0.0**
comp=Z,33nm,1.2s,mb5.1
NKC **Novy Kostel** 75.66 327 *e*P P **14 56 31.9 +0.4**
NKC *e*S S 15 06 11.2 -1.6
MANZ **Manzenberg** 75.71 327 *e*P P **14 56 32.0 +0.2**
comp=Z,7.0nm,1.0s,mb4.5
TANN **Tannenbergstha** 75.75 327 *e*P P **14 56 32.8 +0.8**
comp=Z,8.0nm,1.2s,mb4.5
LMR **La Mourre** 75.78 319 *e*P P **14 56 32.1 -0.1**
FRF **La Foret Royal** 75.80 319 *e*P P **14 56 32.3 0.0**
SNAA **Sanae** 75.86 198 *e*P P **14 56 32.3 -0.3**
SNAA *e* pP 14 56 36.4 +0.5
SNAA *e* 14 56 42.9
SNAA *e* 14 56 45.9
SNAA *e* 14 56 52.2
SNAA *e* 14 57 00.9
SNAA *e* 14 57 02.6
CLL **Collm** 75.95 328 *e*P P **14 56 33.7 +0.5**
comp=Z,14nm,0.9s,mb4.9
CLL **Collm** 75.95 328 ⇑P P **14 56 33.9 +0.7**
comp=Z,logA/T=1.3,mb5.0
CLL *i* *SP sP 14 56 38.5 +0.8
CLL *i* 14 56 42.9
CLL *e*S S 15 06 11.0 -5.0
CLL *e* 15 10 38.0
CLL *e*SS SS 15 11 06.0 -2.5
CLL **Collm** 75.95 328 ⇑*i*P P **14 56 33.9 +0.7**
comp=Z,22nm,1.1s,mb5.0
CLL *i* sP sP 14 56 38.5 +0.8
CLL *i* x x 14 56 42.9
CLL *e*S S 15 06 11.0 -5.0
CLL *e*x x 15 10 38.0
CLL *e*SS SS 15 11 06.0 -2.5
CLL Lm 15 23 00.0
comp=Z,700nm,20.9s
CLL **Collm** 75.95 328 ⇑*i*P P **14 56 33.9 +0.7**
CLL *i* pP 14 56 38.5 +2.0
CLL *e*S S 15 06 11.0 -5.0
CLL pmax pmax
comp=Z,22nm,1.1s,mb5.0
CLL MLR MLR
comp=Z,700nm,20.9s,MS5.0
CLL **Collm** 75.95 328 ⇑*i*P P **14 56 33.9 +0.7**
comp=Z,22nm,1.1s,mb5.0
CLL *i* pP 14 56 38.5 +2.0
CLL *e*S S 15 06 11.0 -5.0
CLL LR LR
comp=Z,700nm,20.9s,MS5.0
GRA1 **Grafenberg Arr** 76.04 326 *e*P P **14 56 33.7 +0.1**
comp=Z,26nm,1.0s,mb5.1
GRA1 *e*S S 15 06 26.4 +9.4
GRA1 *e*SS SS 15 10 58.9 -11
GRA1 LR LR
comp=Z,400nm,19.9s,MS4.7
GRF **Grafenberg Arr** 76.04 326 *e*P P **14 56 33.7 +0.1**
comp=Z,26nm,1.0s,mb5.1
GRF *e*S S 15 06 26.5 +10
GRF *e*SS SS 15 10 58.9 -11
GRF *e*L 15 31 11.1
comp=Z,390nm,19.9s
GRF **Grafenberg Arr** 76.04 326 *e*P P **14 56 33.7 +0.1**
GRF pmax pmax
comp=Z,26nm,1.0s,mb5.1
GRF MLR MLR
comp=Z,400nm,19.9s,MS4.7
GRF **Grafenberg Arr** 76.04 326 *e*P P **14 56 33.7 +0.1**
GRF pmax pmax
comp=Z,26nm,1.0s,mb5.1
GRF MLR MLR
comp=Z,400nm,19.9s,MS4.7
MBDF **Montbardon** 76.24 320 *e*P P **14 56 35.3 +0.5**
comp=Z,16nm,0.9s,mb4.7
MBDF **Montbardon** 76.24 320 *e*P P **14 56 35.3 +0.5**
MBDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MBDF **Montbardon** 76.24 320 *e*P P **14 56 35.3 +0.5**
comp=Z,8.2nm,0.9s,mb4.7
MOX **Moxa** 76.33 327 *e*P P **14 56 35.9 +0.6**
comp=Z,11nm,0.9s,mb4.8
MOX **Moxa** 76.33 327 *e*P P **14 56 35.8 +0.5**
comp=Z,25nm,1.7s,mb4.9
MOX
comp=Z,400nm,22.0s
MOX **Moxa** 76.33 327 *e*P P **14 56 35.8 +0.5**
MOX pmax pmax
comp=Z,25nm,1.7s,mb4.9
MOX MLR MLR
comp=Z,400nm,22.0s,MS4.7
CTA **Charters Tower** 76.33 109 *e*P P **14 56 35.3 0.0**
comp=Z,7.7nm,0.9s,mb4.6
CTA *e*PCP PcP 14 56 47.2 0.0
CTA *e*S S 15 06 24.0 +3.8
CTA **Charters Tower** 76.33 109 LR LR 15 26 21.6
comp=Z,2µm,21.8s,MS5.4,baz=252,slow=33
CTA **Charters Tower** 76.33 109 *e*P P **14 56 35.3 0.0**
CTA *e* 14 56 47.2
CTA *e*S S 15 06 24.0 +3.8
CTA pmax pmax
comp=Z,8.0nm,0.9s
CTAO **Charters Tower** 76.33 109 PFAKE 14 56 50.0 +15
CTAO LR LR
comp=Z,3µm,22.0s,MS5.5
JOF **Joensuu** 76.57 344 *e*p P **14 56 34.4 -2.3**
comp=Z,24nm,0.7s,mb5.2
LPG **La Plagne** 76.61 321 *e*P P **14 56 37.0 +0.1**
LPL **La Plagne** 76.63 321 *e*P P **14 56 37.4 +0.4**
SMRF **Simiane la Rot** 76.68 319 *e*P P **14 56 37.9 +0.6**
comp=Z,15nm,0.9s,mb4.6
SMRF **Simiane la Rot** 76.68 319 *e*P P **14 56 37.9 +0.6**
comp=Z,15nm,0.9s,mb4.9
MDJ **Mudanjiang** 76.70 40 P P **14 56 37.3 -0.1**
MDJ AP pP 14 56 40.6 -0.1
MDJ XP sP 14 56 42.0 +0.1
MDJ PCP PcP 14 56 48.5 -0.3
MDJ PP PP 14 59 29.5 -0.4
MDJ S S 15 06 25.0 +0.7
MDJ SCS ScS 15 06 53.6 -0.2
MDJ AMB AMB
comp=Z,46nm,1.1s,mb5.3
MDJ AMB AMB
comp=Z,223nm,6.2s
MDJ LR LR
comp=N,770nm,44.9s,MS4.7
MDJ LR LR
comp=E,274nm,41.4s,MS4.7
MDJ LR LR
comp=Z,617nm,25.3s
MDJ **Mudanjiang** 76.70 40 *e*P P **14 56 37.1 -0.4**
comp=Z,39nm,0.9s,mb5.3
MDJ LR LR
comp=Z,421nm,21.0s,MS4.7
STU **Stuttgart** 76.71 325 *e*P P **14 56 37.4 0.0**
comp=Z,30nm,1.0s,mb5.2
ORIF **Oris-en-Rattie** 76.90 320 *e*P P **14 56 39.4 +0.9**
comp=Z,30nm,1.0s,mb4.9
ORIF *e*R
comp=Z,514nm,20.8s
ORIF **Oris-en-Rattie** 76.90 320 *e*P P **14 56 39.4 +0.9**
ORIF pmax pmax
comp=Z,15nm,1.0s,mb4.9
ORIF **Oris-en-Rattie** 76.90 320 *e*P P **14 56 39.4 +0.9**
comp=Z,15nm,1.0s,mb4.9
BFO **Black Forest** 76.99 324 *e*P P **14 56 39.2 +0.2**
comp=Z,10.0nm,1.1s,mb4.7
BFO **Black Forest** 76.99 324 *e*P P **14 56 39.2 +0.2**
BFO pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
FINES **FINESS Array B** 77.00 341 P P **14 56 38.5 -0.6**
comp=Z,6.8nm,0.9s,mb4.6,baz=116,slow=8.7,SNR=10
FINES LR LR 15 28 14.7
comp=Z,353nm,19.7s,MS4.7,baz=324,slow=34
UBBA **Unterbreizbach** 77.29 327 *e*P P **14 56 41.6 +0.8**
comp=Z,33nm,1.8s,mb5.0
VNA1 **Neumayer--Stat** 77.34 199 *e*P P **14 56 41.4 +0.4**
VNA1 *e* pP 14 56 44.9 +0.6
VNA1 *e* 14 56 52.5
VNA1 *e* 14 57 01.0
KAF **Kangasniemi** 77.43 341 *e*p P **14 56 39.6 -1.9**
comp=Z,18nm,0.8s,mb5.0
KAF **Kangasniemi** 77.43 341 *e*P P **14 56 39.6 -1.9**
KAF pmax pmax
comp=Z,18nm,0.8s,mb5.0
CABF **La Chapelle** 77.53 322 *e*P P **14 56 42.1 0.0**
comp=Z,9.3nm,0.7s,mb4.5
CABF **La Chapelle** 77.53 322 *e*P P **14 56 42.1 0.0**
CABF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CABF **La Chapelle** 77.53 322 *e*P P **14 56 42.1 0.0**
comp=Z,4.7nm,0.7s,mb4.5
VLA **Vladivostok** 77.57 42 *e*P P **14 56 39.3 -3.0**
VLA pmax pmax
comp=Z,46nm,1.8s,mb5.1
VLA MLR MLR
comp=Z,700nm,20.4s,MS5.0
HINF **Hinteralfeld** 77.62 323 *e*P P **14 56 41.9 -0.7**
CLZ **Clausthal** 77.62 328 *e*P P **14 56 43.4 +0.8**
comp=Z,32nm,1.3s,mb5.1
CLZ **Clausthal** 77.62 328 *e*P P **14 56 43.4 +0.8**
CLZ pmax pmax
comp=Z,32nm,1.3s,mb5.1
VIVF **Saint-Julien-l** 77.64 320 *e*P P **14 56 42.8 +0.1**
comp=Z,18nm,1.2s,mb4.6
VIVF **Saint-Julien-l** 77.64 320 *e*P P **14 56 42.8 +0.1**
VIVF pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
VIVF **Saint-Julien-l** 77.64 320 *e*P P **14 56 42.8 +0.1**
comp=Z,9.1nm,1.2s,mb4.6
CDF **Champ du Feu** 77.64 324 *e*P P **14 56 42.3 -0.4**
LASF **Ste Croix** 77.84 319 *e*P P **14 56 44.2 +0.4**
comp=Z,12nm,0.9s,mb4.5
TNS **Taunus Mts** 77.85 326 *e*P P **14 56 44.5 +0.6**
comp=Z,30nm,1.5s,mb5.0
TNS **Taunus Mts** 77.85 326 *e*P P **14 56 44.5 +0.6**
TNS pmax pmax
comp=Z,30nm,1.5s,mb5.0
NRDL **Niedersach Rie** 78.10 328 *e*P P **14 56 46.1 +0.8**
comp=Z,13nm,1.2s,mb4.7
PMG **Port Moresby** 78.23 98 *e*P P **14 56 46.5 +0.5**
PMG pmax pmax
comp=Z,32nm,1.1s
PMG MLR MLR
comp=Z,813nm,22.0s
PMG **Port Moresby** 78.23 98 *e*P P **14 56 46.5 +0.5**
comp=Z,32nm,1.1s,mb5.2
PMG LR LR
comp=Z,813nm,22.0s,MS5.0
MTLF **Montolieu** 78.63 317 *e*P P **14 56 48.6 +0.4**
comp=Z,36nm,1.2s,mb4.9
MTLF **Montolieu** 78.63 317 *e*P P **14 56 48.6 +0.4**
MTLF pmax pmax
comp=Z,18nm,1.2s,mb4.9
MTLF **Montolieu** 78.63 317 *e*P P **14 56 48.6 +0.4**
comp=Z,18nm,1.2s,mb4.9
BSEG **Bad Segeberg** 78.75 329 *e*P P **14 56 48.3 -0.6**
WLF **Walferdange** 78.89 324 ⇑P P **14 56 49.9 +0.3**
comp=Z,7.2nm,0.8s,mb4.7
SMF **Signal de Mont** 78.93 321 *e*P P **14 56 49.5 -0.3**
MEZF **Maizieres J'vi** 79.00 323 *e*P P **14 56 50.2 0.0**
BUG **Bochum--Univer** 79.09 326 *e*P P **14 56 51.4 +0.7**
comp=Z,16nm,0.9s,mb5.0
LOR **Lormes** 79.19 321 *e*P P **14 56 51.0 -0.2**
LOR *e*R
comp=Z,442nm,19.2s
LOR **Lormes** 79.19 321 *e*P P **14 56 51.0 -0.2**
LOR LR LR
comp=Z,440nm,19.3s,MS4.8
AVF **Avril sur Loir** 79.30 321 *e*P P **14 56 51.4 -0.4**
SSF **Saint Saulge** 79.32 321 *e*P P **14 56 51.9 -0.1**
comp=Z,22nm,0.9s,mb4.8
SSF **Saint Saulge** 79.32 321 *e*P P **14 56 51.9 -0.1**
SSF pmax pmax
comp=Z,11nm,0.9s,mb4.8
SSF **Saint Saulge** 79.32 321 *e*P P **14 56 51.9 -0.1**
comp=Z,11nm,0.9s,mb4.8
CAF **Calviac** 79.36 319 *e*P P **14 56 52.6 +0.4**
MEM **Membach** 79.41 325 P P **14 56 52.8 +0.3**
comp=Z,4.3nm,1.1s,mb4.3
BGF **Bois d'Agland** 79.52 321 *e*P P **14 56 53.4 +0.3**
comp=Z,23nm,0.7s,mb4.9
BGF **Bois d'Agland** 79.52 321 *e*P P **14 56 53.4 +0.3**
BGF pmax pmax
comp=Z,12nm,0.7s,mb4.9
BGF **Bois d'Agland** 79.52 321 *e*P P **14 56 53.4 +0.3**
comp=Z,12nm,0.7s,mb4.9
GUMO **Guam** 79.61 74 LR LR 15 28 46.7
comp=Z,387nm,20.5s,MS4.7,baz=248,slow=33
MAJO **Matsushiro** 79.69 50 *e*P P **14 56 54.1 +0.1**
MAJO pmax pmax
comp=Z,18nm,1.0s,mb5.0
MAJO MLR MLR
comp=Z,767nm,19.0s,MS5.1
MAJO **Matsushiro** 79.69 50 *e*P P **14 56 54.1 +0.1**
comp=Z,18nm,1.0s,mb5.0
MAJO LR LR
comp=Z,767nm,19.0s,MS5.1
MAT **Matsushiro** 79.69 50 P P **14 56 54.0 0.0**
MAT S S 15 06 54.0 -2.4
MAT **Matsushiro** 79.69 50 *e*P P **14 56 54.0 0.0**
MAT *e*S S 15 06 54.0 -2.4
MAT pmax pmax
comp=Z,23nm,1.1s,mb5.0
MAT MLR MLR
comp=Z,710nm,20.0s,MS5.0
MAT **Matsushiro** 79.69 50 *e*P P **14 56 54.0 0.0**
comp=Z,23nm,1.1s,mb5.0
MAT *e*S S 15 06 54.0 -2.4
MAT LR LR
comp=Z,710nm,20.0s,MS5.0
MJAR **Matsushiro Arr** 79.69 50 P P **14 56 53.7 -0.3**
comp=Z,21nm,1.0s,mb5.0,baz=246,slow=6.3,SNR=45
MJAR LR LR 15 30 50.0
comp=Z,652nm,21.5s,MS4.9,baz=230,slow=35
MJAR **Matsushiro Arr** 79.69 50 P P **14 56 53.7 -0.3**
MJAR LR LR 15 30 50.0
BCLA **Clavier** 79.72 325 P P **14 56 54.7 +0.6**
EPF **Esparros** 79.78 317 *e*P P **14 56 55.6 +1.1**
QIVF **Givet** 79.85 324 *e*P P **14 56 54.7 -0.2**
RJF **Les Rejaudoux** 79.86 319 *e*P P **14 56 54.8 -0.1**
comp=Z,23nm,0.9s,mb4.8
RJF *e*R
comp=Z,402nm,19.4s
RJF **Les Rejaudoux** 79.86 319 *e*P P **14 56 54.8 -0.1**
RJF pmax pmax
comp=Z,12nm,0.9s,mb4.8
RJF MLR MLR
comp=Z,400nm,19.4s,MS4.8
RJF **Les Rejaudoux** 79.86 319 *e*P P **14 56 54.8 -0.1**
comp=Z,12nm,0.9s,mb4.8
RJF LR LR
comp=Z,400nm,19.4s,MS4.8
DOU **Dourbes** 79.98 324 P P **14 56 56.3 +0.8**
DOU XP sP 14 57 03.1 +3.0
KLR **Kul'dur** 80.06 37 *e*P P **14 56 51.2 -4.8**
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,38nm,1.2s,mb5.2
MDT **Midelt** 80.10 305 P P **14 56 57.5 +1.3**
comp=Z,3.6nm,0.8s,mb4.4,baz=144,slow=1.2,SNR=4.0
BAIF **Baives** 80.19 324 *e*P P **14 56 56.9 +0.2**
LFF **La Frestale** 80.23 318 *e*P P **14 56 57.7 +0.8**
comp=Z,35nm,0.8s,mb5.0
LFF **La Frestale** 80.23 318 *e*P P **14 56 57.7 +0.8**
LFF pmax pmax
comp=Z,17nm,0.8s,mb5.0
LFF **La Frestale** 80.23 318 *e*P P **14 56 57.7 +0.8**
comp=Z,17nm,0.8s,mb5.0
ETSF **Etsaut** 80.34 316 *e*P P **14 56 57.7 +0.2**
comp=Z,15nm,0.8s,mb4.6
ETSF **Etsaut** 80.34 316 *e*P P **14 56 57.7 +0.2**
ETSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ETSF **Etsaut** 80.34 316 *e*P P **14 56 57.7 +0.2**
comp=Z,7.4nm,0.8s,mb4.7
SNF **Seneffe** 80.34 325 P P **14 56 57.7 +0.2**
MUD **Monsted U'grnd** 80.63 331 *i*P P **14 56 59.9 +0.8**
MUD pmax pmax
comp=Z,23nm,0.9s,mb5.1
MUD MLR MLR
comp=Z,410nm,19.0s,MS4.8
MUD **Monsted U'grnd** 80.63 331 *i*P P **14 56 59.9 +0.8**
comp=Z,23nm,0.9s,mb5.1
MUD *e* 15 12 04.7
HFS **Hagfors** 80.67 336 P P **14 56 59.0 -0.2**
comp=Z,12nm,0.8s,mb4.8,baz=142,slow=7.4,SNR=14
ASCN **Ascension** 81.13 263 PFAKE 14 57 10.0 +8.3
ASCN LR LR
comp=Z,903nm,20.0s,MS5.1
MFF **Saint Martin d** 81.43 320 *e*P P **14 57 03.5 +0.2**
QSPA **South Pole Qui** 81.47 180 *e*P P **14 57 04.9 +1.4**
comp=Z,24nm,1.2s,mb5.0
ESDC **Sonseca Array** 81.67 312 P P **14 57 05.1 +0.5**
comp=Z,3.6nm,0.7s,mb4.4,baz=95,slow=4.8,SNR=12
ESDC LR LR 15 35 53.8
comp=Z,393nm,18.3s,MS4.8,baz=355,slow=38
ESLA **Sonseca Array** 81.67 312 PFAKE 14 57 20.0 +15
ESLA LR LR
comp=Z,2µm,19.0s,MS5.4
HABR **Khabarovsk** 81.74 38⇓ *i*P P **14 57 04.1 -0.8**
HABR *e*S S 15 07 14.0 -3.8
HABR pmax pmax
comp=Z,41nm,1.2s,mb5.2
KONO **Kongsberg** 82.11 334 PFAKE 14 57 20.0 +13
KONO LR LR
comp=Z,607nm,19.0s,MS5.0
LDF **La Druitiere** 82.17 322 *e*P P **14 57 07.2 0.0**
NB2 **NORSAR Subarra** 82.19 336 P P **14 57 07.2 -0.1**
comp=Z,18nm,1.4s,mb4.8,baz=124,slow=5.3
NOA **NORSAR Array B** 82.19 336 P P **14 57 07.1 -0.2**
comp=Z,3.9nm,0.9s,mb4.3,baz=116,slow=5.6,SNR=5.7
GRR **Gorron** 82.55 321 *e*P P **14 57 09.1 -0.1**
VNDA **Vanda** 82.57 167 P P **14 57 10.5 +1.2**
comp=Z,1.2nm,0.7s,mb4.0,baz=279,slow=7.6,SNR=7.9
VNDA LR LR 15 29 21.2
comp=Z,457nm,19.8s,MS4.8,baz=268,slow=32
VNDA **Vanda** 82.57 167 P P **14 57 10.5 +1.2**
VNDA LR LR 15 29 21.2
KEV **Kevo** 83.00 347 *e*P P **14 57 09.7 -1.9**
KEV pmax pmax
comp=Z,22nm,0.9s,mb5.2
KEV MLR MLR
comp=Z,599nm,19.0s,MS5.0
KEV **Kevo** 83.00 347 *e*P P **14 57 09.7 -1.9**
comp=Z,22nm,0.9s,mb5.2
KEV LR LR
comp=Z,599nm,19.0s,MS5.0
ARCES **ARCESS Array B** 83.18 346 P P **14 57 11.9 -0.6**
comp=Z,16nm,0.8s,mb5.1,baz=144,slow=6.7,SNR=5.3
ARCES LR LR 15 36 17.0
comp=Z,509nm,18.3s,MS4.9,baz=44,slow=37
ARE0 **ARCESS Array S** 83.18 346 *e*P P **14 57 12.2 -0.2**
SGMF **Saint Gilles** 83.56 321 *e*P P **14 57 14.3 -0.1**
comp=Z,27nm,0.9s,mb5.1
SGMF **Saint Gilles** 83.56 321 *e*P P **14 57 14.3 -0.1**
SGMF pmax pmax
comp=Z,13nm,0.9s,mb5.1
SGMF **Saint Gilles** 83.56 321 *e*P P **14 57 14.3 -0.1**
comp=Z,13nm,0.9s,mb5.1
QUIF **Quistinic** 83.82 320 *e*P P **14 57 15.5 -0.3**
ROSF **Rostrenen** 84.03 321 *e*P P **14 57 16.5 -0.4**
comp=Z,61nm,1.4s,mb5.2

ROSF Rostrenen 84.03 321 *e*P **P** 14 57 16.5 -0.4
ROSF pmax pmax
comp=Z,31nm,1.4s,mb5.2
ROSF Rostrenen 84.03 321 *e*P **P** 14 57 16.5 -0.4
comp=Z,31nm,1.4s,mb5.2
YAK Yakutsk 84.89 25 *e*P **P** 14 57 19.1 -2.1
YAK pmax pmax
comp=Z,18nm,0.8s,mb5.2
YAK pmax pmax
comp=E,12nm,1.3s
YAK MLR MLR
comp=Z,525nm,20.0s,MS4.9
YAK Yakutsk 84.89 25 *e*P **P** 14 57 18.8 -2.5
comp=Z,26nm,0.8s,mb5.4
YAK LR LR
comp=Z,453nm,19.0s,MS4.9
YSS Yuzh-Sakhalins 86.12 42⇑ *i*P **P** 14 57 26.7 -0.6
YSS *i* *SP sP 14 57 31.6 -0.2
YSS *e*S 15 07 58.0
YSS pmax pmax
comp=Z,50nm,1.2s,mb5.6
YSS MLR MLR
comp=Z,500nm,17.0s,MS5.0
YSS Yuzh-Sakhalins 86.12 42 PFAKE 14 57 40.0 +13
YSS LR LR
comp=Z,488nm,19.0s,MS4.9
EKA Eskdalemuir Ar 86.39 327 P **P** 14 57 28.8 +0.1
comp=Z,2.7nm,0.8s,mb4.5,baz=128,slow=7.5,SNR=5.9
TIXI Tiksi 89.37 16 *e*P **P** 14 57 39.7 -3.2
TIXI pmax pmax
comp=Z,24nm,0.9s,mb5.5
TIXI Tiksi 89.37 16 PFAKE 14 57 50.0 +7.1
TIXI LR LR
comp=Z,2μm,20.0s,MS5.5
HNR Honiara 90.73 100 PFAKE 14 58 00.0 +11
HNR LR LR
comp=Z,660nm,20.0s,MS5.1
KBS Kingsbay 92.18 351 PFAKE 14 58 10.0 +14
KBS LR LR
comp=Z,483nm,20.0s,MS4.9
MA2 Magadan 93.79 30 *e*P **P** 14 58 02.5 -0.9
MA2 pmax pmax
comp=Z,14nm,0.9s,mb5.4
MA2 MLR MLR
comp=Z,644nm,20.0s,MS5.1
MA2 Magadan 93.79 30 *e*P **P** 14 58 02.5 -0.9
comp=Z,14nm,0.9s,mb5.4
MA2 LR LR
comp=Z,644nm,20.0s,MS5.1
DZM Mont Dzumac 94.75 113 LR LR 15 36 38.8
comp=Z,906nm,21.2s,MS5.2,baz=59,slow=33
SNZO South Karori 96.86 133 PFAKE 14 58 30.0 +13
SNZO LR LR
comp=Z,473nm,21.0s,MS5.0
PET Petropavlovsk 97.31 38 *e*P **P** 14 58 17.4 -2.0
PET *e* 15 09 01.5
PET *e*S 15 09 34.4
PET *e*PPS 15 11 39.7
PET *e*SS SS 15 16 25.9 +4.7
PET *e*SSS 15 20 01.3
PET Petropavlovsk 97.31 38 PFAKE 14 58 30.0 +11
PET LR LR
comp=Z,649nm,21.0s,MS5.1
RCBR Riachuelo 102.58 262 PFAKE 14 59 00.0 +17
RCBR LR LR
comp=Z,499nm,19.0s,MS5.1
FUNA Funafuti 109.59 102 PFAKE 15 03 30.0 +13
FUNA LR LR
comp=Z,11μm,22.0s
TNA Tin City 111.50 22 PFAKE 15 03 30.0 +9.3
TNA LR LR
comp=Z,326nm,20.0s,MS4.9
BDFB Brasilia 112.02 249 PFAKE 15 03 30.0 +8.4
BDFB LR LR
comp=Z,1μm,22.0s,MS5.5
AFI Afiamalu 116.82 110 PFAKE 15 03 40.0 +9.2
AFI LR LR
comp=Z,825nm,20.0s,MS5.3
UNV Unalaska Valle 117.48 33 PFAKE 15 03 40.0 +7.9
UNV LR LR
comp=Z,1μm,20.0s,MS5.5
COLA College 118.50 16 PFAKE 15 03 50.0 +16
COLA LR LR
comp=Z,786nm,20.0s,MS5.3
MCK McKinley 119.04 18 PFAKE 15 03 50.0 +15
MCK LR LR
comp=Z,292nm,19.0s,MS4.9
PMR Palmer 120.55 19 PFAKE 15 03 50.0 +12
PMR LR LR
comp=Z,409nm,21.0s,MS5.0
DAWY Dawson 121.33 14 *e*PKPdf PKPdf 15 03 38.8 -0.7
SCHQ Schefferville 121.51 331 PFAKE 15 03 50.0 +10
SCHQ LR LR
comp=Z,366nm,20.0s,MS5.0
KDAK Kodiak Island 121.92 24 PFAKE 15 03 50.0 +9.4
KDAK LR LR
comp=Z,182nm,19.0s,MS4.7
YKA Yellowknife Ar 126.16 1 PKP PKPdf 15 03 47.7 -1.1
comp=Z,3.8nm,0.8s,baz=343,slow=2.3,SNR=12
YKA PP PP 15 05 40.9 -1.8
comp=Z,2.5nm,1.0s,baz=350,slow=7.1,SNR=4.6
YKA Yellowknife Ar 126.16 1 PKP PKPdf 15 03 47.7 -1.1
YKA PP PP 15 05 40.9 -1.8
SAML Samuel 128.15 252 PFAKE 15 04 10.0 +17
SAML LR LR
comp=Z,870nm,20.0s,MS5.4
SIT Sitka 128.40 16 PFAKE 15 04 00.0 +7.0
SIT LR LR
comp=Z,845nm,19.0s,MS5.5
LPAZ La Paz 129.86 241 PKP PKPdf 15 03 59.6 +3.8
comp=Z,3.0nm,1.0s,baz=67,slow=8.4,SNR=8.9
BBSR BB Station 130.10 305 PFAKE 15 04 10.0 +14
BBSR LR LR
comp=Z,383nm,20.0s,MS5.1
LBNH Lisbon 130.18 323 PFAKE 15 04 10.0 +14
LBNH LR LR
comp=Z,508nm,20.0s,MS5.2
WES Weston 130.79 320 PFAKE 15 04 10.0 +12
WES LR LR
comp=Z,1μm,20.0s,MS5.5
HRV Harvard--Oak R 130.88 320 PFAKE 15 04 10.0 +12
HRV LR LR
comp=Z,282nm,20.0s,MS5.0
NCB Newcomb 131.70 323 PFAKE 15 04 10.0 +11
NCB LR LR
comp=Z,422nm,22.0s,MS5.1
TBI Tubuai 131.70 132 *e*SS SS 15 23 53.2 -0.7
comp=Z,176nm,37.8s
TBI *e*LR LR 15 45 41.3
comp=Z,473nm,30.2s
FFC Flin Flon 133.25 352 PFAKE 15 04 10.0 +7.8
FFC LR LR
comp=Z,384nm,21.0s,MS5.1
PPT Papeete 134.87 125 *e*SS SS 15 24 35.7 +3.5
comp=Z,319nm,28.5s
PPT *e*LR LR 15 47 12.6
comp=Z,555nm,26.0s
SSPA Standing Stone 135.86 322 PFAKE 15 04 20.0 +13
SSPA LR LR
comp=Z,425nm,20.0s,MS5.2
ERPA Erie 136.17 325 PFAKE 15 04 20.0 +12
ERPA LR LR
comp=Z,362nm,20.0s,MS5.1
ULM Lac du Bonnet 136.29 345 PKP PKPdf 15 04 07.4 -0.5
comp=Z,1.7nm,0.6s,baz=55,slow=3.5,SNR=5.0
ULM PP PP 15 06 43.1 -5.2
comp=Z,3.7nm,1.0s,baz=12,slow=5.0,SNR=4.7
ULM Lac du Bonnet 136.29 345 PKP PKPdf 15 04 07.4 -0.5
ULM PP PP 15 06 43.1 -5.2
ULM LR LR
comp=Z,421nm,22.0s,MS5.1
CBN Corbin 136.94 319 PFAKE 15 04 20.0 +11
CBN LR LR
comp=Z,474nm,19.0s,MS5.2
EYMN Ely 137.01 340 PFAKE 15 04 20.0 +11
EYMN LR LR
comp=Z,394nm,19.0s,MS5.2
MCWV Mont Chateau 137.64 322 PFAKE 15 04 20.0 +10
MCWV LR LR
comp=Z,677nm,21.0s,MS5.4
AAM Ann Arbor 138.05 328 PFAKE 15 04 20.0 +8.8
AAM LR LR
comp=Z,433nm,19.0s,MS5.2
SDV Santo Domingo 138.91 274 PFAKE 15 04 30.0 +17
SDV LR LR
comp=Z,225nm,21.0s,MS4.9

ACSO Alum Creek Sta 139.11 325 PFAKE 15 04 30.0 +17
ACSO LR LR
comp=Z,254nm,22.0s,MS4.9
NNA Nana 139.33 240 PFAKE 15 04 30.0 +16
NNA LR LR
comp=Z,832nm,19.0s,MS5.5
BLA Blacksburg 139.49 320 PFAKE 15 04 30.0 +16
BLA LR LR
comp=Z,25nm,21.0s
NEW Newport 140.23 5 PFAKE 15 04 30.0 +15
NEW LR LR
comp=Z,460nm,21.0s,MS5.2
D05A Enumclaw 140.63 11 ⇓P PKPdf 15 04 24.2 +8.3
baz=140
EGMT Eagleton 140.63 357 *e*PKPdf PKPdf 15 04 16.4 +0.5
EGMT LR LR
comp=Z,330nm,20.0s,MS5.1
RKT Rikitea 141.43 145 *e*SS SS 15 25 46.7 -3.2
comp=Z,454nm,26.5s
LAO LASA Array 141.68 353 PFAKE 15 04 30.0 +12
LAO LR LR
comp=Z,573nm,21.0s,MS5.3
HAWA Hanford 141.80 8 PFAKE 15 04 30.0 +12
HAWA LR LR
comp=Z,34nm,20.0s,MS4.1
MSO Missoula 141.85 2 *e*PKPdf PKPdf 15 04 18.2 +0.1
MSO LR LR
comp=Z,346nm,22.0s,MS5.1
WCI Wyandotte Cave 142.35 326 PFAKE 15 04 30.0 +11
WCI LR LR
comp=Z,368nm,21.0s,MS5.1
COR Corvallis 142.86 13 PFAKE 15 04 30.0 +10
COR LR LR
comp=Z,337nm,20.0s,MS5.1
BOZ Bozeman (W) 143.06 359 PFAKE 15 04 30.0 +10
BOZ LR LR
comp=Z,425nm,22.0s,MS5.2
BMO Blue Mountains 143.59 6 PKHKP 15 04 20.9
BMO MLR MLR
comp=Z,347nm,19.0s,MS5.1
RSSD Black Hills 143.88 350 *e*PKIKP PKPdf 15 04 19.3 -2.4
RSSD MLR MLR
comp=Z,627nm,21.0s,MS5.4
J02A Umpqua 143.94 14 ⇓P PKPdf 15 04 19.9 -1.9
baz=144
YMR Madison River 144.03 358 PFAKE 15 04 30.0 +8.1
YMR LR LR
comp=Z,3μm,22.0s,MS6.0
I06A Prineville 144.09 10 P PKPdf 15 04 21.0 -1.1
baz=144
J03A Ideyld Park 144.09 13 ⇓P PKPdf 15 04 20.8 -1.2
baz=144
LKWY Lake 144.11 358 PFAKE 15 04 30.0 +7.9
LKWY LR LR
comp=Z,751nm,19.0s,MS5.5
K01A Sixes 144.24 15 ⇑P PKPdf 15 04 21.2 -1.0
baz=144
K02A Glendale 144.53 14 ⇑P PKPdf 15 04 22.1 -0.7
baz=144
WVT Waverly 144.70 325 PFAKE 15 04 40.0 +17
WVT LR LR
comp=Z,413nm,20.0s,MS5.2
FVM French Village 144.73 329 *e*PKIKP PKPdf 15 04 22.0 -1.1
J06A Christmas Vall 144.77 10 ⇑P PKPdf 15 04 22.2 -1.0
baz=145
J07A Hines 144.79 9 ⇓P PKPdf 15 04 23.8 +0.5
baz=145
IMW Indian Meadow 144.80 358 *e*PKPdf PKPdf 15 04 23.7 +0.4
HUMO Hull Mountain 144.81 14 PFAKE 15 04 30.0 +6.7
HUMO LR LR
comp=Z,243nm,20.0s,MS5.0
HUMO Hull Mountain 144.81 14 ⇑P PKPdf 15 04 23.3 0.0
baz=145
J08A Circle Bar Ran 144.92 8 ⇑P PKPdf 15 04 23.4 -0.1
baz=145
MOOW Moose Ponds 144.94 358 *e*PKPdf PKPdf 15 04 23.9 +0.5
CCM Cathedral Cave 145.08 330 *e*PKP2 PKPab 15 04 21.7 -1.5
CCM MLR MLR
comp=Z,417nm,20.0s,MS5.2
L02A Cave Junction 145.08 15 ⇑P PKPbc 15 04 24.2 +1.0
baz=145
DWPF Disney 145.08 308 PFAKE 15 04 40.0 +17
DWPF LR LR
comp=Z,796nm,20.0s,MS5.5
HLID Hailey 145.10 3 *e*PKP PKPdf 15 04 24.0 +0.3
HLID LR LR
comp=Z,569nm,20.0s,MS5.3
K06A Valley Falls 145.19 10 ⇓P PKPbc 15 04 24.8 +1.3
baz=145
TPAW Teton Pass 145.20 358 *e*PKP PKPdf 15 04 24.9 +1.0
M01C Crescent City 145.23 16 ⇑P PKPbc 15 04 24.9 +1.2
baz=145
RRI2 Red Ridge 145.35 359 *e*PKP PKPdf 15 04 25.2 +0.9
L04A Klamath Falls 145.47 13 ⇑P PKPdf 15 04 25.2 +0.8
baz=145
KRMB Red Mountain 145.59 16 *e*PKP PKPdf 15 04 26.2 +1.6
PLAL Pickwick Lake 145.65 323 *e*PKP PKPdf 15 04 24.7 -0.1
PLAL LR LR
comp=Z,564nm,22.0s,MS5.3
YBH Yreka Blue Hor 145.70 14 *e*PKIKP PKPdf 15 04 24.9 +0.1
YBH MLR MLR
comp=Z,319nm,21.0s
YBH Yreka Blue Hor 145.70 14 ⇑P PKPdf 15 04 25.5 +0.7
baz=146
L05A Lakeview 145.81 11 ⇓P PKPdf 15 04 26.1 +1.1
baz=146
WVOR Wild Horse Val 145.81 8 *e*PKP2 PKPab 15 04 25.4 -0.5
WVOR MLR MLR
comp=Z,415nm,21.0s,MS5.2
M04C Macdoel 145.85 13 ⇑P PKPdf 15 04 26.4 +1.4
baz=146
BW06 Boulder Array 145.86 357 PFAKE 15 04 40.0 +15
BW06 LR LR
comp=Z,507nm,20.0s,MS5.3
PDAR Pinedale Array 145.86 357 PKPbc PKPbc 15 04 25.6 -0.1
comp=Z,7.4nm,0.8s,baz=70,slow=1.1,SNR=56
AHID Auburn Hatcher 145.93 359 PFAKE 15 04 40.0 +15
AHID LR LR
comp=Z,473nm,21.0s,MS5.2
M02C Callahan 145.99 14 ⇓P PKPdf 15 04 27.1 +1.8
baz=146
L07A Adell 146.10 10 ⇓P PKPdf 15 04 27.6 +2.1
baz=146
JCC Jacoby Creek 146.22 16 ⇓P PKPdf 15 04 27.8 +2.1
baz=146
BEKR Beckwourth 146.24 337 ⇑P PKPbc 15 04 32.8
baz=148
KHMM Horse Mountain 146.25 16 *e*PKPdf PKPdf 15 04 25.9 +0.2
LRAL Lakeview Retre 146.30 320 *e*PKPdf PKPdf 15 04 26.5 +0.6
LRAL LR LR
comp=Z,428nm,22.0s,MS5.2
L09A Wilkinson Ranc 146.34 7 ⇑P PKPdf 15 04 28.7 +2.8
baz=146
M05C Lookout 146.40 12 ⇑P PKPdf 15 04 28.1 +2.1
baz=146
N02C Big Bar 146.41 15 ⇑P PKPdf 15 04 28.2 +2.2
baz=146
M06C Likely Place G 146.69 11 ⇑P PKPbc 15 04 29.5 +1.4
baz=146
RWWY Rawlins 146.72 353 *e*PKPbc PKPbc 15 04 28.8 +0.5
M07A Soldier Meadow 146.74 10 ⇓P PKPdf 15 04 28.3 +1.8
baz=147
OXF Oxford 146.76 324 PFAKE 15 04 40.0 +13
OXF LR LR
comp=Z,594nm,22.0s,MS5.3
M08A Happy Creek Ra 146.81 8 ⇓P PKPbc 15 04 29.6 +1.1
baz=147
WDC Whiskeytown Da 146.83 14 *e*PKP2 PKPab 15 04 27.6 -2.2
WDC MLR MLR
comp=Z,308nm,21.0s,MS5.1
WDC Whiskeytown Da 146.83 14 ⇑P PKPdf 15 04 28.8 +2.1
baz=147
HATC Hat Creek Radi 146.85 13 ⇑P PKPbc 15 04 29.9 +1.3
baz=147
PHWY Pilot Hill 146.86 351 PKPdf PKPdf 15 04 27.8 +1.0
O01C Eel River Cons 146.91 16 ⇑P PKPbc 15 04 30.3 +1.5
baz=147
HVU Hansel Valley 146.93 1 *e*PKP2 PKPab 15 04 29.5 -0.7
M09A Marrel Ranch, 146.96 7 ⇓P PKPbc 15 04 30.9 +2.0
baz=147
M10A I.L. Ranch, Tu 146.97 6 ⇓P PKPbc 15 04 30.8 +1.9
baz=147
M11A Holland Ranch, 147.13 5 ⇓P PKPbc 15 04 30.6 +1.3
baz=147
O02C Red Bluff 147.15 15 ⇓P PKPbc 15 04 30.3 +0.9
baz=147

ELFS Eagle Lake Fie 147.20 12 ⇑P PKPbc 15 04 30.8 +1.2
baz=147
M12A Wells 147.21 4 ⇑P PKPbc 15 04 31.1 +1.5
baz=147
TAOE Nuku Hiva Isla 147.23 121 *e*LR LR 15 53 12.1
comp=Z,4μm,35.0s
M13A Montello 147.30 3 ⇓P PKPbc 15 04 31.1 +1.2
baz=147
KIPM Iron Peak 147.31 16 *e*PKPbc PKPbc 15 04 30.6 +0.7
N07B Gerlach 147.37 10 ⇓P PKPbc 15 04 31.2 +1.1
baz=147
SPUT South Promonto 147.40 0 *e*PKPbc PKPbc 15 04 30.3 +0.2
O04C Chester 147.41 13 ⇑P PKPbc 15 04 31.3 +1.1
baz=147
N08A GE Springer Mi 147.50 8 ⇑P PKPbc 15 04 31.7 +1.3
baz=147
TCUT Toone Canyon 147.58 359 *e*PKPbc PKPbc 15 04 31.9 +1.3
GASB Alder Springs 147.66 15 ⇓P PKPbc 15 04 32.5 +1.7
baz=148
P01C Double 8 Ranch 147.66 16 ⇑P PKPbc 15 04 32.0 +1.1
baz=148
N12A Clover Valley, 147.76 4 ⇓P PKPbc 15 04 32.4 +1.3
baz=148
BGU Big Grassy Mou 147.78 1 *e*PKPbc PKPbc 15 04 31.8 +0.7
O05C Quincy 147.80 13 ⇓P PKPbc 15 04 32.2 +1.0
baz=148
N13A Wendover, West 147.81 3 ⇑P PKPbc 15 04 32.5 +1.2
baz=148
O06A Flanigan 147.82 11 ⇑P PKPbc 15 04 32.1 +0.8
baz=148
ELK Elko 147.85 4 *e*PKP2 PKPab 15 04 32.4 -1.4
ELK MLR MLR
comp=Z,539nm,21.0s
BMN Battle Mountai 147.97 7 *e*PKP2 PKPab 15 04 33.0 -1.3
BMN MLR MLR
comp=Z,429nm,22.0s,MS5.2
O07A Toulon 147.99 10 ⇑P PKPbc 15 04 32.4 +0.6
baz=148
CTU Camp Tracy 148.01 359 *e*PKPbc PKPbc 15 04 32.6 +0.8
ORV Oroville 148.05 14 ⇑P PKPbc 15 04 32.2 +0.3
baz=148
NOQ North Oquirrh 148.06 360 *e*PKPbc PKPbc 15 04 32.4 +0.5
HOPS Hopland 148.18 16 *e*PKPbc PKPbc 15 04 33.2 +0.9
HOPS LR LR
comp=Z,446nm,19.0s,MS5.3
HOPS Hopland 148.18 16 ⇓P PKPbc 15 04 33.2 +1.0
baz=148
O09A Fish Creek Ran 148.23 7 ⇓P PKPbc 15 04 33.3 +0.9
baz=148
OHCM Honcut 148.26 14 *e*PKPbc PKPbc 15 04 33.0 +0.6
DAU Daniels Canyon 148.28 359 *e*PKP2 PKPab 15 04 34.0 -1.6
PAHR Pah Rah Range 148.34 11 *e*PKPbc PKPbc 15 04 33.7 +1.0
ISCO Idaho Springs 148.35 350 *e*PKP2 PKPbc 15 04 33.4 +0.7
ISCO MLR MLR
comp=Z,703nm,21.0s,MS5.4
O11A Cowboy Ranch, 148.43 5 ⇑P PKPbc 15 04 33.6 +0.7
baz=148
MNRC McLaughlin Nat 148.46 15 ⇓P PKPbc 15 04 34.5 +1.5
baz=148
P05C Yuba Gap, Truc 148.50 13 ⇓P PKPdf 15 04 34.1 +4.7
baz=148
DUG Dugway 148.51 1 *e*PKIKP PKPdf 15 04 29.8 +0.3
DUG *e* 15 04 34.2
DUG MLR MLR
comp=Z,322nm,19.0s,MS5.1
WCN Washoe City 148.67 11 ⇓P PKPbc 15 04 34.4 +0.9
baz=148
MPU Maple Canyon 148.69 359 PFAKE 15 04 40.0 +10
MPU LR LR
comp=Z,1μm,22.0s,MS5.6
NSHM Saint Helena R 148.75 16 *e*PKPbc PKPbc 15 04 34.9 +1.1
P10A Eureka 148.86 6 ⇓P PKPbc 15 04 34.9 +0.9
baz=149
CVS Carmenet Viney 148.96 16 ⇓P PKPbc 15 04 35.2 +0.9
baz=149
LAVA Lava Cap Winer 148.99 13 ⇓P PKPbc 15 04 35.2 +0.9
baz=149
MIAR Mount Ida 148.99 329 *e*PKIKP PKPdf 15 04 31.2 +0.9
MIAR *e* 15 04 35.0
MIAR MLR MLR
comp=Z,601nm,22.0s,MS5.3
P11A Circle Ranch, 149.00 5 ⇑P PKPbc 15 04 35.5 +1.2
baz=149
MCCM Marconi Confer 149.03 16 ⇓P PKPbc 15 04 35.7 +1.3
baz=149
P12A McGill 149.14 4 ⇓P PKPbc 15 04 35.7 +1.0
baz=149
SMCO Snowmass 149.17 352 *e*PKPdf PKPdf 15 04 31.9 +1.4
SMCO *e*PKPbc PKPbc 15 04 36.1 +1.4
R05C Kirkwood Meado 149.18 12 ⇑P PKPbc 15 04 35.8 +1.0
baz=149
TMUT Trail Mountain 149.40 358 *e*PKPbc PKPbc 15 04 36.6 +1.3
R06C Coleville 149.48 11 ⇓P PKPbc 15 04 37.3 +1.7
baz=149
Q09A Carvers 149.55 8 ⇓P PKPbc 15 04 36.8 +1.1
baz=149
SRU San Rafael 149.56 357 *e*PKP2 PKPbc 15 04 36.4 +0.7
Q12A Willow Creek R 149.58 4 ⇓P PKPbc 15 04 36.7 +0.9
baz=149
CMB Columbia Colle 149.76 13 *e*PKP2 PKPbc 15 04 36.8 +0.6
CMB MLR MLR
comp=Z,336nm,20.0s,MS5.1
CMB Columbia Colle 149.76 13 ⇑P PKPbc 15 04 36.7 +0.5
baz=150
NVAR Mina Array Bea 149.78 10 PKP PKPdf 15 04 32.0 +0.5
comp=Z,22nm,0.7s,baz=94,slow=2.4,SNR=43
NVAR PKPbc PKPbc 15 04 38.0 +1.7
comp=Z,24nm,0.7s,baz=282,slow=1.7,SNR=129
MNV Mina 149.80 9 PKHKP PKPdf 15 04 33.3 +1.7
MNV *e* 15 04 37.8
MNV MLR MLR
comp=Z,412nm,20.0s,MS5.2
S06C San Francisco 150.02 12 ⇑P PKPbc 15 04 38.4 +1.5
baz=150
S04C Ingram Canyon, 150.05 15 ⇓P PKPbc 15 04 38.0 +1.1
baz=150
BNLO Ben Lomond (Sa 150.18 16 ⇑P PKPbc 15 04 38.9 +1.7
baz=150
R10A Warm Springs 150.19 6 ⇓P PKPbc 15 04 38.8 +1.5
baz=150
PV10 Paradox Valley 150.19 355 *e*PKPdf PKPdf 15 04 33.4 +1.2
PV10 *e*PKPbc PKPbc 15 04 38.6 +1.3
MSU Marysvale 150.19 360 *e*PKIKP PKPdf 15 04 32.3 +0.1
MSU *e* 15 04 38.9
MSU Marysvale 150.19 360 *e*PKPdf PKPdf 15 04 32.3 +0.1
MSU *e*PKPbc PKPbc 15 04 38.9 +1.6
MSU *e*PKPab PKPab 15 04 44.4 +1.0
MVU Marysvale 150.20 360 PFAKE 15 04 40.0 +7.8
MVU LR LR
comp=Z,370nm,20.0s,MS5.2
TPH Tonopah 150.28 8 PFAKE 15 04 40.0 +7.7
TPH LR LR
comp=Z,315nm,20.0s,MS5.1
SDCO Great Sand Dun 150.33 349 PFAKE 15 04 40.0 +7.6
SDCO LR LR
comp=Z,511nm,20.0s,MS5.3
PV01 Paradox Valley 150.39 354 *e*PKPbc PKPbc 15 04 38.5 +0.8
S05C Merced 150.43 13 ⇓P PKPbc 15 04 39.4 +1.6
baz=150
PACP Pacheco Peak 150.52 15 ⇑P PKPbc 15 04 39.7 +1.7
baz=150
S09A Goldfield 150.63 8 ⇑P PKPbc 15 04 39.8 +1.4
baz=150
SAO San Andreas Ge 150.71 15 PFAKE 15 04 40.0 +7.0
SAO LR LR
comp=Z,314nm,21.0s,MS5.1
MTUM Tungsten Hills 150.78 10 *e*PKPbc PKPbc 15 04 40.3 +1.6
T06C Millerton Lake 150.89 12 ⇑P PKPbc 15 04 39.9 +0.9
baz=151
HAST UC Hastings Re 151.04 16 ⇑P PKPbc 15 04 40.4 +1.1
baz=151
CCUT Cedar City 151.14 2 *e*PKPbc PKPbc 15 04 41.0 +1.4
LRV Little Rabbit 151.14 15 *e*PKPbc PKPbc 15 04 41.3 +1.8
U04C Hernandez Rese 151.26 14 ⇑P PKPbc 15 04 41.8 +2.0
baz=151
MVCO Mesa Verde 151.29 354 *e*PKPbc PKPbc 15 04 40.5 +0.7
V03C Hunter Liggett 151.47 15 ⇑P PKPbc 15 04 42.3 +2.0
baz=151
TPNV Topopah Spring 151.52 7 *e*PKIKP PKPbc 15 04 41.3 +0.9
TPNV MLR MLR
comp=Z,757nm,20.0s,MS5.5
NATX Nacogdoches 151.74 327 PFAKE 15 04 50.0 +15
NATX LR LR
comp=Z,468nm,22.0s,MS5.2
CWC Cottonwood Cre 151.75 10 ⇑P PKPbc 15 04 41.9 +1.0
baz=152

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAC	Darwin (Calif)	151.99	9	ePKIKP	PKPbc	15 04 42.8	+1.3
DAC				MLR	MLR		
	comp=Z,446nm,20.0s,MS5.3						
U10A	Ash Meadows, A	152.03	7	⇓P	PKPbc	15 04 43.8	+2.3
	baz=152						
AMTX	Amarillo	152.09	341	ePKPbc	PKPbc	15 04 41.9	+0.2
AMTX				LR	LR		
	comp=Z,473nm,22.0s,MS5.2						
U12A	Valley of Fire	152.19	4	⇓P	PKPbc	15 04 43.5	+1.6
	baz=152						
ISA	Isabella	152.44	11	PFAKE		15 04 50.0	+14
ISA				LR	LR		
	comp=Z,119nm,22.0s,MS4.7						
V12A	Nelson	152.87	5	⇓P	PKPbc	15 04 44.9	+1.5
	baz=153						
GSC	Goldstone	153.07	8	ePKIKP	PKPbc	15 04 45.5	+1.6
GSC	Goldstone	153.07	8	⇑P	PKPbc	15 04 45.4	+1.5
	baz=153						
WUAZ	Wupatki	153.17	358	ePKPdf	PKPdf	15 04 38.4	+1.7
WUAZ				ePKPbc	PKPbc	15 04 45.7	+1.6
WUAZ				LR	LR		
	comp=Z,793nm,22.0s,MS5.5						
ANMO	Albuquerque	153.22	349	ePKIKP	PKPbc	15 04 44.6	+0.4
ANMO				MLR	MLR		
	comp=Z,737nm,21.0s						
W14A	Seligman	153.48	2	⇑P	PKPbc	15 04 46.8	+2.0
	baz=153						
W15A	Williams	153.52	0	⇑P	PKPbc	15 04 47.3	+2.4
	baz=153						
W13A	Hualapai Mount	153.56	3	⇑P	PKPbc	15 04 46.8	+1.8
	baz=153						
HKT	Hockley	153.77	326	PFAKE		15 04 50.0	+12
HKT				LR	LR		
	comp=Z,490nm,20.0s,MS5.3						
LAZ	Ladron	153.88	350	ePKPdf	PKPdf	15 04 40.1	+2.4
LAZ				ePKPbc	PKPbc	15 04 46.8	+1.1
LPM	Los Pinos Moun	153.88	349	ePKPbc	PKPbc	15 04 46.2	+0.6
X13A	Yucca	154.07	3	⇓P	PKPbc	15 04 46.1	+0.1
	baz=154						
TEIG	Tepich	154.12	299	PFAKE		15 04 50.0	+12
TEIG				LR	LR		
	comp=Z,234nm,21.0s,MS5.0						
X15A	Humboldt	154.21	0	⇓P	PKPbc	15 04 48.1	+1.8
	baz=154						
SNCC	San Nicolas Is	154.54	14	PFAKE		15 04 50.0	+11
SNCC				LR	LR		
	comp=Z,482nm,19.0s,MS5.3						
PFO	Pinyon Flat Ob	154.78	8	PFAKE		15 04 50.0	+11
PFO				LR	LR		
	comp=Z,478nm,19.0s,MS5.3						
JCT	Junction City	155.31	334	PFAKE		15 04 50.0	+10
JCT				LR	LR		
	comp=Z,509nm,19.0s,MS5.4						
PAYG	Puerto Ayora	156.29	248	PFAKE		15 04 50.0	+9.0
PAYG				LR	LR		
	comp=Z,701nm,19.0s,MS5.5						
TUC	Tucson	156.35	357	PFAKE		15 04 50.0	+8.9
TUC				LR	LR		
	comp=Z,487nm,22.0s,MS5.3						
LTX	Lajitas	157.84	340	PFAKE		15 04 50.0	+7.0
LTX				LR	LR		
	comp=Z,491nm,22.0s,MS5.3						

IDC 12 15:45:07.3±4.0**, 1170S**×**11667E, h0**km**, mb3.2**/2**, mb1 3.5**/4**, mb1mx3.4**/14**, mbtmp3.3**/4**, ML3.1**/2**, Error ellipse: s-maj=241.5km s-min=27.4km az=45.0, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.76	127	Pn	Pn	15 47 41.0	-1.6
	0.2nm,0.3s,baz=331,slow=20,SNR=15						
FITZ				Sn	Sn	15 49 38.2	-5.5
	0.2nm,0.3s,baz=201,slow=23,SNR=5.0						
WRA	Warramunga Arr	18.86	118	P	Pn	15 49 30.4	+0.9
	0.1nm,0.3s,baz=299,slow=13,SNR=5.1						
WRA				S	Sn	15 52 51.2	-10
	0.1nm,0.3s,baz=289,slow=25,SNR=4.2						
ASAR	Alice Springs	20.26	128	P	P	15 49 44.9	+0.6
	0.3nm,0.5s,baz=299,slow=10.0,SNR=11						
MKAR	Makanchi Array	65.85	335	P	P	15 55 54.5	-0.1
	0.3nm,0.5s,baz=139,slow=7.0,SNR=3.1						

*ISCJB **12** 15:54:18.8±0.7, 3697N±005×2794E±004, h19km±7km, Error ellipse: s-maj=7.8km s-min=5.9km az=22.2*
*TIF **12** 15:54:18.3, 3702N×2796E, h25km±2km*
*CSEM **12** 15:54:18.1±0.1, 3698N×2792E, h18km±1km, MD3.0, Error ellipse: s-maj=2.6km s-min=1.9km az=34.0*
*ISK **12** 15:54:18.3, 3698N×2794E, h18km, MD3.0*
ISC 12 15:54:18.7±0.7**, 3697N**±004×**2794E**±004**, h17**km±4km**, n16,** σ**0**^{s}**66**/23**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.32	59	iPG	Pg	15 54 25.0	-0.6
YER				iSG	Sg	15 54 30.6	+0.5
MLSB	Milas	0.35	338	iPG	Pg	15 54 26.0	-0.1
MLSB				iSG	Sg	15 54 31.5	+0.5
DAT	Datca	0.38	231	iPG	Pg	15 54 26.4	-0.1
BDRM	Kayabasi	0.41	284	iP	Pg	15 54 26.8	-0.3
BDRM				iS	Sg	15 54 33.4	+0.6
BDRM	Kayabasi	0.41	284	iP	Pg	15 54 26.8	-0.3
BDRM				iS	Sg	15 54 33.3	+0.6
BODT	Bodrum	0.51	281	PG	Pg	15 54 29.3	+0.3
DALT	Dalyan (Mudla)	0.59	109	PG	Pg	15 54 30.7	+0.2
AYDN	Tasoluk	0.69	356	iP	Pg	15 54 32.0	-0.3
AYDN				iS	Sg	15 54 41.2	-0.4
FETY	Fethiye	0.98	110	PG	Pg	15 54 37.9	+0.2
DENT	Denizli	1.17	48	ePN	Pn	15 54 40.5	+0.1
IZM	Izmir	1.53	340	ePN	Pn	15 54 44.7	-0.5
KDAG	Bornova	1.53	340	iP	Pn	15 54 44.6	-0.7
KDAG				iS	Sn	15 55 05.7	+0.9
KHL	Karahalli	1.85	42	ePN	Pn	15 54 50.1	+0.4
AKS	Akhisar	1.91	357	ePN	Pn	15 54 50.7	+0.2
TKTP	Tekketepe	2.17	60	iP	Pg	15 54 59.3	-1.2
TKTP				iS	Sg	15 55 31.9	+3.1
ULDT	Uludag	3.31	16	iP	Pg	15 55 21.2	-0.9

*NIED **12** 16:17:00, 4760N×15430E, h14km, Mw4.5 Best double couple: M0 6.59000×10^15 NP1: φs219.00000°, δ87.00000°, λ133.00000°. NP2: φs312.00000°, δ43.00000°, λ5.00000°.*
*ISCJB **12** 16:17:46.1±0.3, 4694N±005×15412E±005, h40km, mb4.8/101, MS4.2/16, Error ellipse: s-maj=7.7km s-min=2.8km az=109.3*
*MOS **12** 16:17:46.3±1.1, 4717N×15404E, h33km, mb5.0/52, Error ellipse: s-maj=9.9km s-min=5.2km az=107.6*
*BJI **12** 16:17:46.5, 4756N×15423E, h44km, mB5.0, mb4.8, Ms4.6, Msz4.4*
*IDC **12** 16:17:47.8±0.6, 4712N×15406E, h37km±5km, mb4.2/15, mb1 4.4/15, mb1mx4.2/21, mbtmp4.4/15, MS3.8/5, Ms1 3.8/5, ms1mx3.5/26, Error ellipse: s-maj=17.4km s-min=16.0km az=163.0*
*NEIC **12** 16:17:48.1±0.3, 4704N×15407E, mb4.7/65, Error ellipse: s-maj=7.1km s-min=4.8km az=147.0*
*SZGRF **12** 16:17:55.5, 4780N×15370E, h48km, mb4.9, Kuril Islands, Russia*
ISC 12 16:17:48.3±0.3**, 4706N**±004×**15407E**±005**, h42**km**, h43**km±1.5km**:pP-P, n314,** σ**1**^{s}**14**/334**, mb4.8**/101**, MS4.2**/16**, 14C-22D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.87	20	ePN	Pn	16 18 39.0	-6.2
SKR				pmax	pmax		
	comp=N,140nm,0.8s						
SKR				pmax	pmax		
	comp=E,70nm,0.8s						
SKR				pmax	pmax		
	comp=Z,360nm,0.8s						
SKR				pmax	pmax		
	comp=Z,1µm,2.0s						
SKR				MLR	MLR		
	comp=N,2µm,14.0s						
SKR				MLR	MLR		
	comp=E,3µm,14.0s						
SKR				MLR	MLR		
	comp=Z,2µm,14.0s						
KUR	Kuril'sk	4.69	249⇓	iPN	Pn	16 18 55.0	-1.5
KUR				pmax	pmax		
	comp=N,90nm,0.7s						
KUR				pmax	pmax		
	comp=E,50nm,0.7s						
KUR				pmax	pmax		
	comp=Z,390nm,0.7s						
KUR				MLR	MLR		
	comp=N,4µm,14.0s						
KUR				MLR	MLR		
	comp=Z,3µm,14.0s						
YUK	Yuzh-Kuril'sk	6.51	245	ePN	Pn	16 19 22.5	+1.0
YUK				eS	Sn	16 20 39.0	+4.5
YUK				pmax	pmax		
	comp=Z,270nm,0.5s						
YUK				pmax	pmax		
	comp=N,240nm,0.4s						
YUK				pmax	pmax		
	comp=E,170nm,0.4s						
YUK				pmax	pmax		
	comp=Z,2µm,1.0s						
YUK				smax			
	comp=N,4µm,1.2s						
YUK				smax			
	comp=N,500nm,0.5s						
YUK				smax			
	comp=E,270nm,0.5s						
PET	Petropavlovsk	6.66	25	ePN	Pn	16 19 18.9	-4.6
PET				pmax	pmax		
	comp=Z,54nm,0.6s						
PET				MLR	MLR		
	comp=Z,1µm,17.0s						
PET				MLR	MLR		
	comp=Z,600nm,15.0s						
PET	Petropavlovsk	6.66	25	eP	Pn	16 19 18.7	-4.8
	comp=Z,94nm,1.0s						
NEM2	Nemuro 2	6.95	241	P	Pn	16 19 25.7	-1.8
NEM2				eS	Sn	16 20 43.5	-1.7
JRA	Rausu	7.02	247	P	Pn	16 19 29.6	+1.1
JNK	Nakash	7.45	246	P	Pn	16 19 34.7	+0.3
JNK				eS	Sn	16 20 57.9	+0.3
YSS	Yuzh-Sakhalins	7.74	273⇑	ePN	Pn	16 19 42.0	+3.6
YSS				iS	Sn	16 21 12.0	+7.3
YSS				pmax	pmax		
	comp=E,30nm,0.5s						
YSS				pmax	pmax		
	comp=Z,30nm,0.5s						
YSS				smax			
	comp=E,40nm,0.8s						
YSS				MLR	MLR		
	comp=E,1µm,16.0s						
YSS				MLR	MLR		
	comp=Z,2µm,16.0s						
YSS	Yuzh-Sakhalins	7.74	273	eP	Pn	16 19 42.4	+4.0
	comp=Z,60nm,0.8s						
YSS				eS	Sn	16 21 12.7	+8.0
JTKR	Abashiri--Toko	7.78	250	P	Pn	16 19 40.2	+1.3
JAK	Akkeshi	7.79	242	P	Pn	16 19 38.0	-1.0
JAK				eS	Sn	16 21 04.4	-1.4
JMP	Maruseppu	8.12	252	P	Pn	16 19 45.3	+1.7
JAR	Ashorobuto	8.19	246	P	Pn	16 19 45.2	+0.6
JAR				eS	Sn	16 21 17.5	+1.6
UGL	Uglegorsk	8.29	288	ePN	Pn	16 19 50.0	+4.1
UGL				e		16 21 31.0	
UGL				pmax	pmax		
	comp=Z,36nm,0.6s						
UGL				pmax	pmax		
	comp=Z,300nm,1.6s						
UGL				MLR	MLR		
	comp=N,2µm,14.0s						
UGL				MLR	MLR		
	comp=E,1µm,14.0s						
UGL				MLR	MLR		
	comp=Z,2µm,14.0s						
JOB	Onbets	8.36	244	P	Pn	16 19 46.2	-0.7
JOB				eS	Sn	16 21 18.9	-1.1
ASAJ	Asahikawa	8.57	254	Pn	Pn	16 19 52.8	+3.0
	comp=Z,1.8nm,0.3s,baz=95,slow=14,SNR=20						
ASAJ				LR	LR	16 23 05.4	
	comp=Z,331nm,19.9s,baz=13,slow=37						
ASAJ	Asahikawa	8.57	254	P	Pn	16 19 52.4	+2.6
JKK2	Kamakawa 2	8.57	252	P	Pn	16 19 51.8	+2.0
JCH	Churui	8.81	244	P	Pn	16 19 52.0	-1.1
JCH				eS	Sn	16 21 27.9	-3.1
JFR	Furan	9.00	249	P	Pn	16 19 57.7	+2.0
JAB	Ashibetsu	9.08	251	P	Pn	16 19 59.0	+2.3
JEM	Erimo	9.28	241	P	Pn	16 19 58.4	-1.1
JEM				eS	Sn	16 21 39.8	-2.8
JBT2	Biratori 2	9.35	247	P	Pn	16 20 00.5	+0.1
JNBK	Urakawa-nobuka	9.37	243	P	Pn	16 19 59.7	-1.1
JNBK				eS	Sn	16 21 42.0	-2.8
JKB	Kayabe	10.65	246	P	Pn	16 20 16.4	-1.9
JKB				eS	Sn	16 22 10.1	-6.1
JYM2	Yakumo 2	10.95	248	P	Pn	16 20 21.3	-1.0
JANG	Nango	11.28	238	P	Pn	16 20 22.4	-4.4
JANG				eS	Sn	16 22 20.7	-11
JTM	Tenmabayashi	11.28	241	P	Pn	16 20 23.8	-3.0
JTM				eS	Sn	16 22 21.4	-10
JTH	Tanohata	11.36	236	eS	Sn	16 22 21.8	-12
JRG	Rokugo	12.43	237	P	Pn	16 20 39.8	-2.8
JRG				eS	Sn	16 22 54.0	-5.6
MA2	Magadan	12.69	352	ePN	Pn	16 20 43.6	-2.5
MA2				pmax	pmax		
	comp=Z,20nm,0.6s						
MA2				pmax	pmax		
	comp=N,7.0nm,0.5s						
MA2	Magadan	12.69	352	eP	Pn	16 20 44.6	-1.4
	comp=N,15nm,0.6s						
JIO	Ouri	12.69	232	P	Pn	16 20 42.7	-3.4
JIO				eS	Sn	16 22 55.3	-11
HABR	Khabarovsk	12.88	283⇓	iPN	Pn	16 20 54.7	+6.0
HABR				e		16 23 20.9	
HABR				pmax	pmax		
	comp=Z,67nm,1.6s						
HABR				MLR	MLR		
	comp=Z,843nm,15.5s						
KLR	Kul'dur	15.05	286	eP	Pn	16 21 19.8	+1.8
KLR				MLR	MLR		
	comp=Z,1µm,14.0s						
MAJO	Matsushiro	15.79	234	eP	Pn	16 21 25.0	-2.7
MAJO				pmax	pmax		
	comp=Z,29nm,0.7s						
MAJO	Matsushiro	15.79	234	eP	Pn	16 21 25.0	-2.6
	comp=Z,29nm,0.7s						
MAT	Matsushiro	15.79	234	P	Pn	16 21 26.6	-1.1
MAT				S	S	16 24 28.0	-6.6
MAT	Matsushiro	15.79	234	eP	Pn	16 21 27.0	-0.7
MAT				eS	S	16 24 28.0	-6.6
MAT				pmax	pmax		
	comp=Z,15nm,1.0s						
MAT	Matsushiro	15.79	234	eP	Pn	16 21 27.0	-0.7
	comp=Z,15nm,1.0s						
MAT				eS	S	16 24 28.0	-6.6
MJAR	Matsushiro Arr	15.79	234	Pn	Pn	16 21 24.8	-2.9
	comp=Z,0.3nm,0.3s,baz=26,slow=12,SNR=16						
VLA	Vladivostok	16.14	264	eP	Pn	16 21 33.2	+1.2
VLA				pmax	pmax		
	comp=Z,40nm,1.3s						
VLA				MLR	MLR		
	comp=Z,600nm,18.4s						
MDJ	Mudanjiang	17.22	271	P	Pn	16 21 45.6	0.0
MDJ				AP	pP	16 21 56.9	0.0
MDJ				XP	sP	16 22 02.4	+0.1
MDJ				S	S	16 24 55.1	-8.5
MDJ				PCP	PcP	16 26 27.5	+0.2
MDJ				SCP	ScP	16 30 00.3	+1.6
MDJ				PCS	PcS	16 30 05.0	+1.6
MDJ				AMB	AMB		
	comp=Z,18nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,94nm,5.6s						
MDJ				LR	LR		
	comp=N,372nm,16.8s						
MDJ				LR	LR		
	comp=E,320nm,19.7s						
MDJ				LR	LR		
	comp=Z,636nm,14.7s						
MDJ	Mudanjiang	17.22	271	eP	Pn	16 21 46.0	+0.4
	comp=Z,22nm,0.9s						
CLNS	Chul'man	20.32	310	eP	P	16 22 21.3	+0.6
CLNS				pmax	pmax		
	comp=N,28nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,32nm,0.9s						
CLNS				pmax	pmax		
	comp=E,19nm,0.8s						
YAK	Yakutsk	20.42	326	eP	P	16 22 21.2	-0.6
YAK				pmax	pmax		
	comp=Z,27nm,1.0s						
YAK				pmax	pmax		
	comp=N,11nm,1.2s						
YAK				pmax	pmax		
	comp=E,17nm,1.3s						
YAK	Yakutsk	20.42	326	eP	P	16 22 17.8	-4.0
	comp=E,49nm,1.0s						
SNY	Shenyang	22.31	268	⇓P	P	16 22 41.9	-0.2
SNY				AP		16 22 51.1	
SNY				XP	sP	16 22 55.1	-2.8
SNY				S	S	16 26 44.4	-0.7
SNY				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
SNY				AMB	AMB		
	comp=Z,200nm,5.1s						
SNY				LR	LR		
	comp=E,623nm,16.9s						
SNY				LR	LR		
	comp=Z,681nm,14.5s,MS4.2						
INCN	Inchon	22.35	255	eP	P	16 22 44.2	+1.7
	comp=Z,20nm,0.6s,mb4.7						
DL2	Dalian	24.96	263	P	P	16 23 09.2	+1.5
DL2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8						
BOD	Bodaibo	26.30	309	eP	P	16 23 16.5	-3.3
BOD				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.0						
BJI	Beijing	28.14	270	eP	P	16 23 41.5	+5.2
BJI				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.5						
BJI				LR	LR		
	comp=N,337nm,14.3s,MS4.4						
BJI				LR	LR		
	comp=E,556nm,14.7s,MS4.4						
BJI				LR	LR		
	comp=Z,369nm,16.2s,MS4.1						
SSE	Sheshan	29.83	249	P	P	16 23 54.8	+3.5
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,158nm,5.5s						
HHC	Hu-ho-hao-te	30.93	274	eP	P	16 24 02.9	+1.9
HHC				PP	PP	16 25 03.4	-7.9
HHC				PCP	PcP	16 26 54.3	-2.4
HHC				S	S	16 29 05.2	+2.8
HHC				SS	SS	16 30 45.0	-31
HHC				AMB	AMB		
	comp=Z,24nm,0.5s,mb5.3						
HHC				AMB	AMB		
	comp=Z,106nm,5.6s						
HHC				LR	LR		
	comp=N,335nm,16.1s						
HHC				LR	LR		
	comp=E,209nm,9.8s						
HHC				LR	LR		
	comp=Z,250nm,12.1s,MS4.1						
ULN	Ulaanbaatar	31.42	289	eP	P	16 24 04.4	-0.9
ULN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
ULN	Ulaanbaatar	31.42	289	eP	P	16 24 04.4	-0.9
	comp=Z,5.7nm,0.9s,mb4.4						
TTA	Tatalina	31.75	42	P	P	16 24 06.9	-1.4
TTA				e	pP	16 24 18.8	-1.0
TTA				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.7						
TTA	Tatalina	31.75	42	P	P	16 24 06.9	-1.4
	comp=Z,16nm,1.2s,mb4.7						
TTA				e	pP	16 24 18.8	-0.9
SONM	Songino Array	31.85	289	P	P	16 24 08.6	-0.6
	comp=Z,4.5nm,0.8s,mb4.3,baz=67,slow=8.4,SNR=40						
SONM				LR	LR	16 38 01.8	
	comp=Z,329nm,18.3s,MS4.0,baz=58,slow=38						
ZAK	Zakamensk	33.14	295	eP	P	16 24 19.1	-1.4
IMA2	Indian Mountai	33.16	36	eP	P	16 24 18.9	-1.7
KDAK	Kodiak Island	33.39	51	pP	pP	16 24 31.0	-3.2
	comp=Z,13nm,0.7s,baz=322,slow=4.0,SNR=5.4						
MCK	McKinley	34.99	41	eP	P	16 24 34.8	-1.6
MCK				e	pP	16 24 47.0	-1.0
MCK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
MCK	McKinley	34.99	41	eP	P	16 24 34.8	-1.6
	comp=Z,2.5nm,0.8s,mb4.2						
MCK				e	pP	16 24 47.0	-1.0
COLA	College	35.48	39	eP	P	16 24 39.5	-1.2
COLA				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
COLA	College	35.48	39	eP	P	16 24 39.5	-1.2
	comp=Z,15nm,0.8s,mb5.0						
XAN	Xi'an	36.20	265	P	P	16 24 48.1	+1.3
XAN				AMB	AMB		
	comp=Z,41nm,0.9s,mb5.4						
LZH	Lanzhou	38.54	272	eP	P	16 25 07.6	+1.0
LZH				AP	pP	16 25 19.8	+1.5
LZH				XP	sP	16 25 25.1	+1.7
LZH				PP	PP	16 26 39.7	+4.4
LZH				eS	S	16 30 58.7	-0.8
LZH				XS	sS	16 31 19.6	+0.7
LZH				eSS	SS	16 33 40.3	-10
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,85nm,5.6s						
LZH				LR	LR		
	comp=N,512nm,13.7s						
LZH				LR	LR		
	comp=Z,743nm,17.5s,MS4.6						
DAWY	Dawson	39.18	40	eP	P	16 25 11.3	-0.8
GTA	Gaotai	39.57	279	eP	P	16 25 15.6	+0.3
GTA				AP	pP	16 25 28.1	+1.1
GTA				XP	sP	16 25 32.9	+0.9
GTA				PP	PP	16 26 51.4	+4.8
GTA				PPP		16 27 17.3	
GTA				PCP	PcP	16 27 23.3	+1.3
GTA				SCP	ScP	16 31 08.3	+1.1
GTA				PCS	PcS	16 31 12.7	+0.7
GTA				S	S	16 31 15.7	+0.7
GTA				XS	sS	16 31 36.9	+2.3
GTA				SS	SS	16 34 07.1	-3.9
GTA				SCS	ScS	16 35 18.6	-1.0
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.3						
GTA				AMB	AMB		
	comp=Z,105nm,4.6s						
GTA				LR	LR		
	comp=N,329nm,16.0s,MS4.4						
GTA				LR	LR		
	comp=E,207nm,14.1s,MS4.4						
GTA				LR	LR		
	comp=Z,299nm,14.4s,MS4.3						
INK	Inuvik	41.03	33	P	P	16 25 26.7	-0.7
	comp=Z,3.9nm,0.8s,mb4.1,baz=278,slow=8.2,SNR=11						
INK	Inuvik	41.03	33	eP	P	16 25 25.8	-1.6
INK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
INK	Inuvik	41.03	33	eP	P	16 25 25.8	-1.6
	comp=Z,3.9nm,0.7s,mb4.2						
CD2	Chengdu	41.56	266	P	P	16 25 33.3	+1.6
CD2				PP	PP	16 27 12.1	+3.8
CD2				S	S	16 31 49.1	+4.4
CD2				SS	SS	16 34 47.3	-3.3
CD2				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.3						
CD2				AMB	AMB		
	comp=Z,120nm,5.6s						
CD2				LR	LR		
	comp=N,200nm,14.4s						
CD2				LR	LR		
	comp=Z,320nm,9.6s						
GYA	Guiyang	42.42	258⇑	iP	P	16 25 39.9	+1.1
GYA				AP	pP	16 25 52.2	+1.6
GYA				XP	sP	16 25 57.6	+2.0
GYA				PP	PP	16 27 21.3	+3.7
GYA				PPP		16 27 53.8	
GYA				SCP	ScP	16 31 19.6	+1.1
GYA				S	S	16 31 56.4	-1.0
GYA				SS	SS	16 34 59.9	-7.7
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,90nm,3.4s						
GYA				LR	LR		
	comp=N,340nm,16.4s,MS4.4						
GYA				LR	LR		
	comp=E,310nm,16.8s,MS4.4						

GYA LR LR
comp=Z,300nm,16.2s,MS4.3
ZAL Zalesovo 42.98 306 P **P** **16 25 41.6 -1.7**
comp=Z,5.0nm,0.8s,mb4.3,baz=45,slow=8.6,SNR=29
ZAL LR 16 43 40.2
comp=Z,107nm,18.9s,MS3.8,baz=56,slow=36
ZAL Zalesovo 42.98 306 P **P** **16 25 41.6 -1.7**
ZAL LR 16 43 40.2
NVS Novosibirsk 43.52 307⇑*iP* **P** **16 25 45.3 -2.3**
NVS pmax pmax
comp=Z,39nm,2.0s,mb4.8
NVS pmax pmax
comp=N,11nm,1.9s
NVS pmax pmax
comp=E,32nm,1.8s
WMQ Urumqi 45.43 291 P **P** **16 25 58.0 -4.8**
WMQ PCP PcP 16 27 37.8 -3.7
WMQ PP PP 16 27 44.9 -4.7
WMQ S **S** **16 32 39.6 -1.6**
WMQ AMB AMB
comp=Z,12nm,1.1s,mb4.6
WMQ AMB AMB
comp=Z,124nm,4.7s
WMQ LR LR
comp=N,693nm,16.0s,MS4.8
WMQ LR LR
comp=E,520nm,14.9s,MS4.8
WMQ LR LR
comp=Z,709nm,16.5s,MS4.7
KMI Kunming 45.95 260 P **P** **16 26 08.7 +1.7**
KMI AP pP 16 26 21.5 +2.6
KMI XP sP 16 26 26.6 +2.8
KMI PP PP 16 27 56.8 +1.7
KMI PPP 16 28 40.9
KMI S **S** **16 32 48.5 -0.2**
KMI XS sS 16 33 10.6 +2.1
KMI SS SS 16 36 04.6 -9.1
KMI SSS 16 37 10.8
KMI AMB AMB
comp=Z,12nm,0.9s,mb4.8
KMI LR LR
comp=Z,57nm,17.5s,MS3.6
MKAR Makanchi Array 47.38 298 P **P** **16 26 17.5 -0.7**
comp=Z,12nm,0.9s,mb4.8,baz=64,slow=8.2,SNR=64
MKAR Makanchi Array 47.38 298 P **P** **16 26 17.5 -0.7**
KURK Kurchatov 47.74 304 *eP* **P** **16 26 19.7 -1.3**
KURK pmax pmax
comp=Z,38nm,0.9s,mb5.4
KURK Kurchatov 47.74 304 *eP* **P** **16 26 19.7 -1.3**
comp=Z,38nm,0.9s,mb5.4
YKA Yellowknife Ar 50.28 37 P **P** **16 26 39.6 -0.8**
comp=Z,1.5nm,0.8s,mb4.1,baz=296,slow=7.3,SNR=3.6
YKA pP pP 16 26 49.6 -2.8
comp=Z,4.0nm,0.8s,baz=295,slow=7.5,SNR=10
YKA LR LR 16 48 55.7
comp=Z,82nm,19.5s,MS3.8,baz=180,slow=37
YKA Yellowknife Ar 50.28 37 P **P** **16 26 39.6 -0.8**
YKA *PP pP 16 26 49.7 -2.7
CHKZ Chkalovo 50.73 310 *eP* **P** **16 26 42.2 -1.6**
CHKZ pmax pmax
comp=Z,23nm,0.7s,mb5.2
CHKZ Chkalovo 50.73 310 *eP* **P** **16 26 42.1 -1.7**
comp=Z,23nm,0.7s,mb5.2
BVAR Borovoye Array 51.17 310 P **P** **16 26 46.3 -0.8**
comp=Z,5.7nm,0.6s,mb4.7,baz=54,slow=7.5,SNR=31
BRVK Borovoye 51.21 310 *eP* **P** **16 26 46.4 -1.0**
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BRVK Borovoye 51.21 310 *eP* **P** **16 26 46.4 -1.0**
comp=Z,8.9nm,0.9s,mb4.7
ZRNK Zerenda 51.93 310 *eP* **P** **16 26 51.2 -1.6**
ZRNK pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
ZRNK Zerenda 51.93 310 *eP* **P** **16 26 51.2 -1.6**
comp=Z,4.1nm,0.5s,mb4.6
SHL Shillong 53.04 269 *eP* **P** **16 27 00.2 -0.8**
SVE Sverdlovsk 54.05 317 *eP* **P** **16 27 07.0 -1.4**
SVE pmax pmax
comp=Z,16nm,0.7s,mb5.1
SVE MLR MLR
comp=N,200nm,16.0s,MS4.4
SVE MLR MLR
comp=E,200nm,16.0s,MS4.4
SVE MLR MLR
comp=Z,200nm,16.0s,MS4.3
AAK Ala-Archa 54.28 297 *eP* **P** **16 27 09.3 -0.8**
AAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
AAK Ala-Archa 54.28 297 *eP* **P** **16 27 09.3 -0.8**
comp=Z,6.5nm,0.8s,mb4.6
ARU Arti 55.23 318⇑*iP* **P** **16 27 15.3 -1.6**
ARU *e* 16 28 12.2
ARU *e* 16 29 16.4
ARU *e*PPP 16 30 30.5
ARU *e*S **S** **16 34 55.9 -1.5**
ARU pmax pmax
comp=Z,21nm,0.8s,mb5.2
ARU MLR MLR
comp=Z,200nm,16.0s,MS4.3
ARU MLR MLR
comp=N,70nm,15.0s,MS4.1
ARU MLR MLR
comp=E,100nm,17.0s,MS4.1
ARU Arti 55.23 318 *eP* **P** **16 27 15.2 -1.7**
comp=E,24nm,0.8s,mb5.3
JIRN Jiri 55.58 275 *eP* **P** **16 27 21.7 +2.2**
comp=E,132nm,0.7s
GUN Gumba 55.63 275 *eP* **P** **16 27 21.8 +2.0**
comp=E,71nm,0.6s,mb5.8
KKN Kakani 56.11 276 *eP* **P** **16 27 25.2 +1.9**
comp=E,77nm,0.8s,mb5.8
PKI Pulchoki 56.16 275 *eP* **P** **16 27 25.9 +2.2**
comp=E,79nm,0.9s,mb5.7
DMN Daman 56.35 276 *eP* **P** **16 27 27.1 +2.1**
comp=E,165nm,0.9s
DAG Danmarks Havn 56.36 358⇑*iP* **P** **16 27 24.2 -0.8**
comp=E,5.2nm,0.8s,mb4.6
DAG Danmarks Havn 56.36 358⇑*iP* **P** **16 27 24.2 -0.8**
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
GKN Gorkha 56.41 276 *eP* **P** **16 27 27.2 +1.8**
comp=Z,174nm,0.9s
KOLN Koldanda 57.27 277 *eP* **P** **16 27 33.3 +1.8**
comp=Z,115nm,0.9s
BMO Blue Mountains 58.35 57 *eP* **P** **16 27 39.6 +0.5**
comp=Z,2.4nm,0.8s,mb4.3
LGTI Lohaghat 58.46 281 *iP* **P** **16 27 41.5 +1.6**
SMLA Simla 59.45 284 *eP* **P** **16 27 46.8 +0.1**
FFC Flin Flon 60.08 41 P **P** **16 27 51.0 0.0**
FFC pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
FFC Flin Flon 60.08 41 P **P** **16 27 51.0 0.0**
comp=Z,6.5nm,0.9s,mb4.7
SUMG Summit 60.34 4 *eP* **P** **16 27 53.1 +0.2**
comp=Z,20nm,0.9s,mb5.2
MCMT McKenzie Canyo 60.88 54 *eP* **P** **16 27 56.0 -0.5**
MCMT *e* pP 16 28 08.4 -0.4
NDI New Delhi 60.98 282 *eP* **P** **16 27 58.2 +1.0**
BOZ Bozeman (W) 61.04 53 P **P** **16 27 58.6 +1.0**
BOZ *e* pP 16 28 09.1 -0.8
BOZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
BOZ Bozeman (W) 61.04 53 P **P** **16 27 58.6 +1.0**
comp=Z,3.9nm,0.8s,mb4.6
BOZ *e* pP 16 28 09.1 -0.8
JOF Joensuu 61.34 334 *ep* **P** **16 27 57.7 -2.0**
comp=Z,9.9nm,0.7s,mb5.0
NVAR Mina Array Bea 61.70 63 P **P** **16 28 02.3 +0.2**
comp=Z,0.3nm,0.6s,baz=318,slow=7.3,SNR=3.1
NVAR pP pP 16 28 13.1 -1.3
comp=Z,1.4nm,0.8s,baz=302,slow=7.7,SNR=8.0
NVAR Mina Array Bea 61.70 63 P **P** **16 28 02.3 +0.2**
NVAR pP pP 16 28 13.1 -1.3
BLSP Bilaspur 61.98 273 *eP* **P** **16 28 04.8 +0.9**
BLSP AMb AMB 16 28 07.5
comp=Z,20nm,1.3s,mb5.1
GCMT Greycliff 62.01 52 *eP* **P** **16 28 03.7 -0.5**
GCMT *e* pP 16 28 15.3 -1.1
ELK Elko 62.08 59 P **P** **16 28 08.6 +4.0**
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 62.08 59 P **P** **16 28 08.6 +4.0**
comp=Z,1.9nm,0.8s,mb4.3
TPAW Teton Pass 62.78 55 P **P** **16 28 10.2 +0.9**
comp=Z,4.5nm,0.8s,mb4.7
TPAW *e* pP 16 28 21.7 +0.1

KAF Kangasniemi 63.44 335 *ep* **P** **16 28 12.4 -1.2**
comp=Z,2.0nm,0.6s,mb4.4
KAF Kangasniemi 63.44 335 *eP* **P** **16 28 12.4 -1.2**
KAF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
PDAR Pinedale Array 64.03 54 P **P** **16 28 16.6 -0.9**
comp=Z,0.7nm,0.9s,mb3.7,baz=325,slow=2.3,SNR=5.2
PDAR pP pP 16 28 28.9 -1.1
comp=Z,2.6nm,0.8s,baz=315,slow=3.0,SNR=17
FIA1 FINESS Array S 64.03 335 *eP* **P** **16 28 17.1 -0.5**
FINES FINESS Array B 64.04 335 P **P** **16 28 16.8 -0.8**
comp=Z,15nm,1.1s,mb5.0,baz=43,slow=7.4,SNR=35
AJM Ajmer 64.15 282 *eP* **P** **16 28 18.4 +0.1**
AJM AMb AMB 16 28 20.7
comp=Z,38nm,1.0s,mb5.4
BHPL Bhopal 64.43 277 *eP* **P** **16 28 20.8 +0.6**
NGP Nagpur 64.74 274 *eP* **P** **16 28 22.6 +0.4**
NGP AMb AMB 16 28 38.1
comp=Z,26nm,2.1s,mb4.9
OBN Obninsk 65.42 326 P **P** **16 28 25.0 -1.6**
OBN *e* 16 28 31.3
OBN pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
AKL Akola 66.43 275 *ex* x 16 28 44.1
NB2 NORSAR Subarra 68.14 342 P **P** **16 28 43.4 -0.5**
comp=Z,23nm,0.8s,mb5.3,baz=26,slow=6.5
NOA NORSAR Array B 68.14 342 P **P** **16 28 43.6 -0.3**
comp=Z,25nm,0.9s,mb5.2,baz=26,slow=6.3,SNR=48
NOA LR LR 17 03 14.5
comp=Z,97nm,20.4s,MS4.0,baz=250,slow=40
NAO01 NORSAR Array S 68.39 342 *eP* **P** **16 28 44.5 -1.0**
comp=Z,9.2nm,0.8s,mb4.9
WB2 Warramunga Arr 69.02 200 *eP* **P** **16 28 50.0 +0.6**
WRA Warramunga Arr 69.03 200 P **P** **16 28 48.9 -0.5**
comp=Z,2.4nm,1.0s,mb4.1,baz=18,slow=6.2,SNR=8.7
MDRS Chennai 69.54 267 *eP* **P** **16 28 51.6 -1.1**
GOF Gofitskoye 70.07 315 *eP* **P** **16 28 55.6 -0.3**
POO Poona 70.08 276 AMb AMB 16 29 41.0
KAD Karad 70.71 275 *eP* **P** **16 29 01.0 +1.3**
DGRG David-gareji 71.55 311 P **P** **16 29 05.6 +0.7**
AKASG Malin Array Be 71.65 327 P **P** **16 29 04.6 -0.9**
comp=Z,16nm,0.7s,mb5.0,baz=33,slow=6.2,SNR=36
AKBB Malin Array Si 71.65 327 *eP* **P** **16 29 04.1 -1.4**
MTA Mtatsminda 71.67 312 P **P** **16 29 06.6 +1.0**
TBLG Delisi 71.67 312 P **P** **16 29 06.4 +0.8**
ONI Oni 71.69 313 P **P** **16 29 06.4 +0.7**
AMRG 71.89 313 P **P** **16 29 08.3 +1.3**
BSD Bornholm Skovb 72.53 337 *i* P **P** **16 29 09.8 -1.0**
comp=Z,20nm,1.0s,mb5.0
BSD Bornholm Skovb 72.53 337 *i* P **P** **16 29 09.8 -1.0**
BSD pmax pmax
comp=Z,20nm,1.0s,mb5.0
AKH Akhalkalaki 72.53 312 P **P** **16 29 12.2 +1.5**
AS31 Alice Springs 72.72 199 *eP* **P** **16 29 12.8 +1.0**
ASAR Alice Springs 72.72 199 P **P** **16 29 12.8 +0.9**
comp=Z,2.5nm,0.7s,mb4.3,baz=12,slow=5.4,SNR=29
ASPA Alice Springs 72.72 199 *eP* **P** **16 29 12.8 +0.9**
ANN Anapa 72.89 318 *eP* **P** **16 29 09.9 -3.0**
ANN pmax pmax
comp=Z,18nm,1.3s,mb4.8
ERZM Erzurum 74.73 313 *i* P **P** **16 29 25.8 +2.1**
TRD Trivandrum 75.05 266 *ex* x 16 28 41.1
RUE Ruedersdorf 75.19 336 *eP* **P** **16 29 26.8 +0.5**
comp=Z,18nm,0.5s,mb5.2
OJC Ojcow 75.36 332 *eP* **P** **16 29 27.2 -0.1**
KOLS Kolonicke sedl 75.63 330 *eP* **P** **16 29 28.3 -0.6**
KOLS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KOLS Kolonicke sedl 75.63 330 *eP* **P** **16 29 28.3 -0.6**
comp=Z,4.3nm,0.9s,mb4.4
BURAR Bucovina Array 75.69 327⇑*iP* **P** **16 29 29.4 +0.2**
BURAR Bucovina Array 75.69 327⇑P **P** **16 29 29.4 +0.2**
NIE Niedzica 75.88 331 *eP* **P** **16 29 31.8 +1.5**
CRVS Cervenica-Dubn 75.94 330 *eP* **P** **16 29 30.8 +0.2**
OKC Ostrava-Krasne 76.22 332 *eP* **P** **16 29 32.7 +0.5**
UPC Upice 76.29 334 *eP* **P** **16 29 32.4 -0.2**
UPC epP pP 16 29 43.0 -2.3
UPC Upice 76.29 334 *eP* **P** **16 29 32.4 -0.2**
UPC *e* pP 16 29 43.0 -2.3
DPC Dobruska-Polom 76.34 334 *eP* **P** **16 29 32.7 -0.2**
DPC epP pP 16 29 43.0 -2.5
CLL Collm 76.45 336 P **P** **16 29 33.1 -0.4**
comp=Z,25nm,0.9s,mb5.1
CLL Collm 76.45 336 P **P** **16 29 33.1 -0.4**
comp=Z,logA/T=1.4,mb5.1
CLL *i* *SP sP 16 29 50.6 -0.4
CLL Collm 76.45 336 *iP* **P** **16 29 33.1 -0.4**
comp=Z,25nm,0.9s,mb5.1
CLL *i* sP sP 16 29 50.6 -0.4
CLL Collm 76.45 336 *iP* **P** **16 29 33.1 -0.4**
CLL *i* *SP sP 16 29 50.6 -0.4
CLL pmax pmax
comp=Z,25nm,0.9s,mb5.1
MORC Moravsky Berou 76.47 333⇓*iP* **P** **16 29 33.9 +0.3**
MORC Moravsky Berou 76.47 333 *eP* **P** **16 29 32.9 -0.7**
MORC *e* pP 16 29 45.5 -0.7
MORC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MORC Moravsky Berou 76.47 333 *eP* **P** **16 29 32.9 -0.7**
comp=Z,10nm,0.9s,mb4.8
MORC *e* pP 16 29 45.5 -0.7
BRG Berggiesshubel 76.58 335 *eP* **P** **16 29 33.9 -0.3**
comp=Z,8.0nm,1.0s,mb4.6
BRG Berggiesshubel 76.58 335 *eP* **P** **16 29 33.9 -0.3**
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
PLOR Plostina 76.61 325⇑*iP* **P** **16 29 37.7 +3.3**
KECS Kecovo 76.63 330 *eP* **P** **16 29 34.2 -0.3**
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KECS Kecovo 76.63 330 *eP* **P** **16 29 34.2 -0.3**
comp=Z,4.5nm,0.9s,mb4.4
CLZ Clausthal 76.67 338 *eP* **P** **16 29 35.1 +0.3**
comp=Z,13nm,0.9s,mb4.9
CLZ Clausthal 76.67 338 *eP* **P** **16 29 35.1 +0.3**
CLZ pmax pmax
comp=Z,13nm,0.9s,mb4.9
BOYT Boyabat 76.68 318 *iP* **P** **16 29 35.7 +0.9**
PVCC Panska Ves 76.70 335 *eP* **P** **16 29 35.8 +0.9**
LTX Lajitas 76.77 61 *eP* **P** **16 29 34.2 -1.1**
LTX *e* pP 16 29 46.8 -1.1
LTX pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
LTX Lajitas 76.77 61 *eP* **P** **16 29 34.1 -1.1**
comp=Z,2.2nm,0.8s,mb4.1
LTX *e* pP 16 29 46.8 -1.1
HARR Harsova 77.06 324⇓*iP* **P** **16 29 37.6 +0.6**
HARR Harsova 77.06 324⇓P **P** **16 29 37.6 +0.7**
VYHS Vyhne 77.17 331 *eP* **P** **16 29 37.8 +0.2**
VYHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
VYHS Vyhne 77.17 331 *eP* **P** **16 29 37.8 +0.2**
comp=Z,4.9nm,1.1s,mb4.3
VRAC Vranov 77.17 333⇓*iP* **P** **16 29 38.4 +0.8**
VRAC Vranov 77.17 333⇓P **P** **16 29 38.4 +0.8**
MLR Muntele Rosu 77.19 325⇓*iP* **P** **16 29 38.8 +1.2**
MLR Muntele Rosu 77.19 325⇓P **P** **16 29 38.8 +1.1**
PRU Pruhonice 77.19 335 *eP* **P** **16 29 38.1 +0.4**
PRU epP pP 16 29 49.3 -1.0
PSZ Piszkesteto 77.32 330 *eP* **P** **16 29 38.3 -0.1**
PSZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
PSZ Piszkesteto 77.32 330 *eP* **P** **16 29 38.3 -0.1**
comp=Z,6.2nm,0.9s,mb4.5
TANN Tannenbergstha 77.40 336 *eP* **P** **16 29 39.3 +0.4**
comp=Z,8.0nm,1.3s,mb4.5
MALT Malatya 77.42 313⇑*iP* **P** **16 29 41.2 +2.2**
MALT Malatya 77.42 313 *eP* **P** **16 29 40.8 +1.9**
comp=Z,11nm,1.1s,mb4.7
MOX Moxa 77.43 337 *eP* **P** **16 29 39.1 +0.1**
comp=Z,7.0nm,0.8s,mb4.6
MOX Moxa 77.43 337 *eP* **P** **16 29 39.2 +0.2**
comp=Z,14nm,1.4s,mb4.7
MOX Moxa 77.43 337 *eP* **P** **16 29 39.2 +0.2**
MOX pmax pmax
comp=Z,14nm,1.4s,mb4.7
TREC Trest 77.53 334 *eP* **P** **16 29 39.3 -0.2**
TREC epP pP 16 29 49.2 -3.0
NKC Novy Kostel 77.57 336 *eP* **P** **16 29 39.3 -0.5**
VOIR 77.58 326⇓*iP* **P** **16 29 40.7 +0.9**
VOIR 77.58 326⇓P **P** **16 29 40.7 +0.9**
UBBA Unterbreizbach 77.70 338 *eP* **P** **16 29 40.5 0.0**
comp=Z,8.0nm,1.3s,mb4.5
MANZ Manzenberg 77.89 336 *eP* **P** **16 29 41.7 +0.1**

comp=Z,7.0nm,0.3s,mb5.1
ROTZ Rotzenmuhle 78.06 336 *eP* **P** **16 29 42.9 +0.4**
comp=Z,12nm,0.9s,mb4.8
KHC Kasperske Hory 78.24 335 *eP* **P** **16 29 43.5 0.0**
GRA1 Grafenberg Arr 78.40 336 *eP* **P** **16 29 44.8 +0.4**
comp=Z,19nm,0.9s,mb5.0
GRA1 epP pP 16 29 58.6 +1.5
GRF Grafenberg Arr 78.40 336 *eP* **P** **16 29 44.8 +0.4**
comp=Z,19nm,0.9s,mb5.0
GRF epP pP 16 29 58.6 +1.5
GRF Grafenberg Arr 78.40 336 *eP* **P** **16 29 44.8 +0.4**
GRF *e**PP pP 16 29 58.6 +1.5
GRF pmax pmax
comp=Z,19nm,0.9s,mb5.0
GRF Grafenberg Arr 78.40 336 *eP* **P** **16 29 44.8 +0.4**
GRF *e**PP pP 16 29 58.6 +1.5
GRF pmax pmax
comp=Z,19nm,0.9s,mb5.0
WET Wettzell 78.43 335 *eP* **P** **16 29 44.9 +0.3**
comp=Z,12nm,0.9s,mb4.8
WET Wettzell 78.43 335 *eP* **P** **16 29 44.9 +0.3**
WET pmax pmax
comp=Z,12nm,0.9s,mb4.8
GERES GERESS Array B 78.46 335 P **P** **16 29 44.8 +0.1**
comp=Z,3.5nm,0.8s,mb4.3,baz=35,slow=4.9,SNR=18
BR131 Keskin Array S 78.61 317 *eP* **P** **16 29 46.0 +0.5**
comp=Z,4.5nm,0.8s,mb4.5
BRTR Keskin Array B 78.61 317 P **P** **16 29 46.5 +1.0**
comp=Z,5.4nm,0.8s,mb4.5,baz=67,slow=4.1,SNR=24
CONA Conrad Observa 78.62 333⇓*iP* **P** **16 29 46.7 +1.1**
comp=Z,8.6nm,0.8s,mb4.8
SGKT Sivrigoynuk 78.65 319 *iP* **P** **16 29 44.4 -1.4**
BZS Buzias 78.70 328⇓*iP* **P** **16 29 46.0 -0.1**
BZS Buzias 78.70 328⇓P **P** **16 29 46.0 0.0**
MEM Membach 78.88 340 P **P** **16 29 47.1 0.0**
MOA Molln 79.18 334⇓*iP* **P** **16 29 49.4 +0.7**
comp=Z,8.9nm,1.0s,mb4.6
BCLA Clavier 79.22 340 P **P** **16 29 49.8 +0.8**
PKSM Moragy 79.23 330⇑*iP* **P** **16 29 48.3 -0.6**
GIVF Givet 79.63 340 *eP* **P** **16 29 50.9 -0.2**
DOU Dourbes 79.69 341 P **P** **16 29 49.0 -2.5**
DOU E 16 29 52.9
BAIF Baives 79.81 341 *eP* **P** **16 29 51.9 -0.2**
PERS Pernice 80.00 333 *eP* **P** **16 29 53.1 -0.1**
KBA Koelnbreinsper 80.15 334⇑*iP* **P** **16 29 55.5 +1.6**
comp=Z,21nm,0.9s,mb5.1
KBA Koelnbreinsper 80.15 334⇑*iP* **P** **16 29 55.5 +1.5**
KBA pmax pmax
comp=Z,21nm,0.9s,mb5.1
BFO Black Forest 80.42 338 *eP* **P** **16 29 55.4 0.0**
comp=Z,7.0nm,1.0s,mb4.5
BFO Black Forest 80.42 338 *eP* **P** **16 29 55.4 0.0**
BFO pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
WTTA Wattenberg 80.49 335⇓*iP* **P** **16 29 57.0 +1.2**
comp=Z,16nm,0.7s,mb5.0
WTTA Wattenberg 80.49 335⇓*iP* **P** **16 29 57.0 +1.2**
WTTA pmax pmax
comp=Z,16nm,0.7s,mb5.1
MOTA Moosalm 80.57 335⇓*iP* **P** **16 29 57.0 +0.8**
comp=Z,12nm,1.0s,mb4.8
MOTA Moosalm 80.57 335⇓*iP* **P** **16 29 57.0 +0.8**
MOTA pmax pmax
comp=Z,12nm,1.0s,mb4.8
DIVS Divcibare 80.59 328 *iP* **P** **16 29 55.8 -0.5**
CDF Champ du Feu 80.61 338 *eP* **P** **16 29 56.4 0.0**
comp=Z,16nm,1.0s,mb4.6
CDF Champ du Feu 80.61 338 *eP* **P** **16 29 56.4 0.0**
CDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CDF Champ du Feu 80.61 338 *eP* **P** **16 29 56.4 0.0**
comp=Z,8.2nm,1.0s,mb4.6
VTS Vitosha 80.69 326⇓*iP* **P** **16 29 57.5 +0.7**
VTS Vitosha 80.69 326⇓P **P** **16 29 57.5 +0.7**
VISS Visnje 80.83 332 *eP* **P** **16 29 57.2 -0.4**
DAVA Damuels 80.96 336⇑*iP* **P** **16 29 58.4 +0.1**
comp=Z,6.9nm,0.9s,mb4.6
HAU Haudompre 81.22 339 *eP* **P** **16 29 59.4 -0.3**
HAU *e*R
comp=Z,200nm,17.2s
HAU Haudompre 81.22 339 *eP* **P** **16 29 59.4 -0.3**
HAU LR LR
comp=Z,200nm,17.3s,MS4.5
HINF Hinteralfeld 81.27 338 *eP* **P** **16 29 59.5 -0.4**
comp=Z,5.7nm,0.6s,mb4.4
HINF Hinteralfeld 81.27 338 *eP* **P** **16 29 59.5 -0.4**
HINF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
HINF Hinteralfeld 81.27 338 *eP* **P** **16 29 59.5 -0.4**
comp=Z,2.8nm,0.6s,mb4.4
GRR Gorron 82.46 343 *eP* **P** **16 30 06.0 -0.2**
CABF La Chapelle 82.59 338 *eP* **P** **16 30 07.0 +0.2**
SSF Saint Saulge 82.79 340 *eP* **P** **16 30 07.7 -0.2**
comp=Z,7.6nm,0.8s,mb4.5
SSF Saint Saulge 82.79 340 *eP* **P** **16 30 07.7 -0.2**
SSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
SSF Saint Saulge 82.79 340 *eP* **P** **16 30 07.7 -0.2**
comp=Z,3.8nm,0.8s,mb4.5
SGMF Saint Gilles 82.91 345 *eP* **P** **16 30 08.4 -0.1**
comp=Z,32nm,1.1s,mb5.0
SGMF Saint Gilles 82.91 345 *eP* **P** **16 30 08.4 -0.1**
SGMF pmax pmax
comp=Z,16nm,1.1s,mb5.0
SGMF Saint Gilles 82.91 345 *eP* **P** **16 30 08.4 -0.1**
comp=Z,16nm,1.1s,mb5.0
ROSF Rostrenen 82.96 345 *eP* **P** **16 30 08.6 -0.2**
comp=Z,30nm,1.2s,mb4.9
ROSF Rostrenen 82.96 345 *eP* **P** **16 30 08.6 -0.2**
ROSF pmax pmax
comp=Z,15nm,1.2s,mb4.9
ROSF Rostrenen 82.96 345 *eP* **P** **16 30 08.6 -0.2**
comp=Z,15nm,1.2s,mb4.9
AVF Avril sur Loir 83.08 340 *eP* **P** **16 30 09.3 -0.1**
comp=Z,19nm,1.0s,mb4.8
AVF Avril sur Loir 83.08 340 *eP* **P** **16 30 09.3 -0.1**
AVF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
AVF Avril sur Loir 83.08 340 *eP* **P** **16 30 09.3 -0.1**
comp=Z,9.6nm,1.0s,mb4.8
SMF Signal de Mont 83.10 340 *eP* **P** **16 30 09.5 0.0**
comp=Z,38nm,1.1s,mb5.0
SMF Signal de Mont 83.10 340 *eP* **P** **16 30 09.5 0.0**
SMF pmax pmax
comp=Z,19nm,1.1s,mb5.0
SMF Signal de Mont 83.10 340 *eP* **P** **16 30 09.5 0.0**
comp=Z,19nm,1.1s,mb5.0
LPL La Plagne 83.44 338 *eP* **P** **16 30 12.1 +0.8**
comp=Z,18nm,0.8s,mb4.8
LPL La Plagne 83.44 338 *eP* **P** **16 30 12.1 +0.8**
LPL pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LPL La Plagne 83.44 338 *eP* **P** **16 30 12.1 +0.8**
comp=Z,9.3nm,0.8s,mb4.9
LPG La Plagne 83.45 338 *eP* **P** **16 30 12.3 +1.0**
comp=Z,24nm,0.9s,mb4.9
LPG La Plagne 83.45 338 *eP* **P** **16 30 12.3 +1.0**
LPG pmax pmax
comp=Z,12nm,0.9s,mb4.9
LPG La Plagne 83.45 338 *eP* **P** **16 30 12.3 +1.0**
comp=Z,12nm,0.9s,mb4.9
TCF Toulx Ste Croi 83.81 341 *eP* **P** **16 30 13.3 +0.1**
comp=Z,10nm,0.9s,mb4.7
TCF Toulx Ste Croi 83.81 341 *eP* **P** **16 30 13.3 +0.1**
TCF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
TCF Toulx Ste Croi 83.81 341 *eP* **P** **16 30 13.3 +0.1**
comp=Z,5.2nm,0.9s,mb4.7
MFF Saint Martin d 84.02 342 *eP* **P** **16 30 14.2 0.0**
MBDF Montbardon 84.16 337 *eP* **P** **16 30 15.0 +0.1**
comp=Z,7.6nm,0.6s,mb4.7
MBDF Montbardon 84.16 337 *eP* **P** **16 30 15.0 +0.1**
MBDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
MBDF Montbardon 84.16 337 *eP* **P** **16 30 15.0 +0.1**
comp=Z,3.8nm,0.6s,mb4.7
ORIF Oris-en-Rattie 84.22 338 *eP* **P** **16 30 15.9 +0.7**
comp=Z,20nm,0.9s,mb5.0
ORIF *e*R
comp=Z,130nm,17.5s
ORIF Oris-en-Rattie 84.22 338 *eP* **P** **16 30 15.9 +0.7**
ORIF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
ORIF Oris-en-Rattie 84.22 338 *eP* **P** **16 30 15.9 +0.7**
comp=Z,10nm,0.9s,mb5.0
VIVF Saint-Julien-l 84.58 339 *eP* **P** **16 30 17.5 +0.4**

	comp=Z,13nm,0.9s,mb4.7						
VIVF	Saint-Julien-l	84.58	339	eP	P	16 30 17.5	+0.4
VIVF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
VIVF	Saint-Julien-l	84.58	339	eP	P	16 30 17.5	+0.4
	comp=Z,6.6nm,0.9s,mb4.8						
SBF	Sospel	84.78	336	eP	P	16 30 17.8	-0.3
RJF	Les Rejaudoux	84.90	341	eP	P	16 30 18.7	0.0
	comp=Z,9.3nm,0.9s,mb4.6						
RJF				eR			
	comp=Z,182nm,17.5s						
RJF	Les Rejaudoux	84.90	341	eP	P	16 30 18.7	0.0
RJF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
RJF				MLR	MLR		
	comp=Z,180nm,17.5s,MS4.5						
RJF	Les Rejaudoux	84.90	341	eP	P	16 30 18.7	0.0
	comp=Z,4.7nm,0.9s,mb4.6						
RJF				LR	LR		
	comp=Z,180nm,17.5s,MS4.5						
CAF	Calviac	85.14	340	eP	P	16 30 19.6	-0.3
	comp=Z,9.8nm,0.9s,mb4.6						
CAF	Calviac	85.14	340	eP	P	16 30 19.6	-0.3
CAF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
CAF	Calviac	85.14	340	eP	P	16 30 19.6	-0.3
	comp=Z,4.9nm,0.9s,mb4.6						
FRF	La Foret Royal	85.28	337	eP	P	16 30 20.4	-0.2
LMR	La Mourre	85.53	337	eP	P	16 30 21.9	+0.1
	comp=Z,26nm,1.1s,mb5.1						
LMR	La Mourre	85.53	337	eP	P	16 30 21.9	+0.1
LMR				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.1						
LMR	La Mourre	85.53	337	eP	P	16 30 21.9	+0.1
	comp=Z,13nm,1.1s,mb5.1						
MTLF	Montolieu	86.60	340	eP	P	16 30 26.6	-0.5
	comp=Z,8.8nm,1.0s,mb4.6						
MTLF	Montolieu	86.60	340	eP	P	16 30 26.6	-0.5
MTLF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
MTLF	Montolieu	86.60	340	eP	P	16 30 26.6	-0.5
	comp=Z,4.4nm,1.0s,mb4.6						
PLCA	Paso Flores	147.58	95	PKPbc	PKPbc	16 37 26.4	-1.5
	comp=Z,1.6nm,0.7s,baz=45,slow=5.7,SNR=3.0						
PLCA				pPKPbc	pPKPbc	16 37 39.3	-1.8
	comp=Z,7.2nm,0.8s,baz=220,slow=4.8,SNR=8.0						
CPUP	Villa Florida	147.74	61	PKPbc	PKPbc	16 37 27.9	-0.4
	comp=Z,0.3nm,0.3s,baz=233,slow=5.1,SNR=2.7						
CPUP				pPKPbc	pPKPbc	16 37 40.0	-1.6
	comp=Z,2.4nm,0.7s,baz=317,slow=3.0,SNR=3.1						
CPUP	Villa Florida	147.74	61	PKPbc	PKPbc	16 37 27.9	-0.4
CPUP				pPKPbc	pPKPbc	16 37 40.0	-1.6
SNAA	Sanae	153.04	196	ePKPdf	PKPdf	16 37 38.8	+5.1
SNAA				e		16 37 51.9	
SNAA				e		16 37 54.7	
SNAA				e		16 38 02.8	
VNA1	Neumayer--Stat	154.85	194	ePKPdf	PKPdf	16 37 35.6	-0.7
VNA1				e		16 37 45.1	
VNA1				e		16 37 48.5	

*ROM **12** 17:06:12.7±0.2, 44.14N×7.91E, h10km±1km, Md1.7/3, Ml0.9/1, Error ellipse: s-maj=2.7km s-min=0.6km az=54.0*
*ISCJB **12** 17:06:13.0±0.7, 44.15N±0.04×7.86E±0.04, h10km, Error ellipse: s-maj=6.5km s-min=3.8km az=150.0*
*STR **12** 17:06:14.2±0.6, 44.17N×7.81E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **12** 17:06:14.2±0.3, 44.21N×7.79E, h10km, Md2.4/3, Ml2.0/3, Error ellipse: s-maj=4.9km s-min=3.7km az=73.0*

ISC 12 17:06:13.4±0.7**, 44.16N**±0.04×**7.87E**±0.04**, h10km, n11, σ0.63s/22, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMI	Imperia	0.25	177	Pg	Pg	17 06 18.3	-0.2
IMI				Sg	Sg	17 06 21.8	-0.1
	5.0nm,0.1s						
FIN	Finale Ligure	0.25	78	Pg	Pg	17 06 18.4	-0.1
FIN				Sg	Sg	17 06 21.9	0.0
	16nm,0.2s						
SAOF	Saorge	0.28	233	Pg	Pg	17 06 19.1	-0.1
SAOF				Sg	Sg	17 06 23.3	+0.3
AUTN	L'Aution	0.36	243	Pg	Pg	17 06 20.4	-0.1
AUTN				Sg	Sg	17 06 25.7	+0.4
STV	Sta Anna Valdi	0.40	283	Pg	Pg	17 06 22.0	+0.7
STV				Sg	Sg	17 06 27.7	+1.0
	7.0nm,0.3s						
SBF	Sospel	0.43	227	ePg	Pg	17 06 22.7	+0.8
SBF				eSg	Sg	17 06 28.2	+0.6
	11nm,0.2s						
LUCF	Luceram	0.46	235	Pg	Pg	17 06 22.9	+0.4
LUCF				Sg	Sg	17 06 29.3	+0.7
TOUF	Mont Tournerai	0.47	252	Pg	Pg	17 06 23.1	+0.5
TOUF				Sg	Sg	17 06 28.4	-0.5
FRF	La Foret Royal	1.07	236	ePg	Pg	17 06 33.9	-0.1
FRF				eSg	Sg	17 06 47.5	-0.3
	4.2nm,0.2s						
LMR	La Mourre	1.28	231	ePg	Pg	17 06 37.2	-0.9
LMR				eSg	Sg	17 06 54.3	-0.5
	2.3nm,0.2s						
SMRF	Simiane la Rot	1.67	265	ePg	Pg	17 06 44.1	-1.3
SMRF				eSg	Sg	17 07 05.5	-1.5
	2.0nm,0.2s						

IDC 12 17:54:41.7±67.0**, 15.90S**×**173.13W, h0km, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.8**/15**, mbtmp4.0**/3**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.7**/30**, Error ellipse: s-maj=1294.0km s-min=189.9km az=79.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.38	34	LR	LR	17 55 55.2	
	comp=Z,389nm,21.6s,baz=242,slow=31						
STKA	Stephens Creek	44.01	240	P	P	18 02 52.0	+1.1
	2.9nm,0.8s,baz=104,slow=6.7,SNR=4.3						
WRA	Warramunga Arr	49.98	257	P	P	18 03 37.8	+0.2
	0.5nm,0.4s,baz=96,slow=8.0,SNR=11						
ASAR	Alice Springs	50.20	252	P	P	18 03 39.3	0.0
	1.1nm,0.3s,baz=90,slow=7.3,SNR=36						

IDC 12 17:56:38.4±5.1**, 17.23S**×**174.98W, h0km, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.8**/13**, mbtmp3.9**/3**, Error ellipse: s-maj=181.1km s-min=101.7km az=157.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.83	241	P	P	18 04 31.1	+1.2
	1.3nm,0.8s,baz=90,slow=13,SNR=3.7						
WRA	Warramunga Arr	47.98	258	P	P	18 05 18.9	+0.1
	0.7nm,0.4s,baz=97,slow=7.0,SNR=9.7						
ASAR	Alice Springs	48.12	253	P	P	18 05 20.0	0.0
	1.1nm,0.4s,baz=92,slow=7.9,SNR=23						
ASAR				PcP	PcP	18 06 48.1	+0.5
	0.3nm,0.5s,baz=107,slow=3.9,SNR=4.8						

*NEIC **12** 18:08:25.4±3.0, 3.72S×152.34E, h170km±25km, mb4.7/4, Error ellipse: s-maj=23.2km s-min=20.8km az=210.0*
*IDC **12** 18:08:26.9±4.4, 3.94S×152.35E, h171km±30km, mb4.0/4, mb1 4.0/5, mb1mx3.6/16, mbtmp4.3/5, Error ellipse: s-maj=42.0km s-min=24.7km az=1.0*
*ISCJB **12** 18:08:27.6±3.8, 3.9S±0.2×152.3E±0.2, h192km±30km, mb4.4/7, Error ellipse: s-maj=34.8km s-min=25.1km az=175.6*

ISC 12 18:08:27.1±3.8**, 3.9S**±0.2×**152.3E**±0.2**, h173km**±29km**, n13, σ0.30s/13, mb4.4**/7**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.51	223	P	Pn	18 10 14.2	+0.4
	0.3nm,0.3s,baz=90,slow=6.1,SNR=2.7						
PMG				S	Sn	18 11 37.6	-0.4
	3.0nm,0.3s,baz=324,slow=18,SNR=8.7						
KAKA	Kakadu	21.52	245	eP	P	18 13 02.4	0.0
	10nm,0.5s,mb4.5						
DZM	Mont Dzumac	22.68	144	P	P	18 13 13.7	-0.1
	4.7nm,0.4s,mb4.3,baz=312,slow=9.7,SNR=14						
WRAB	Tennant Creek	23.69	226	eP	P	18 13 23.3	+0.3
	23nm,0.6s,mb4.9						
WB2	Warramunga Arr	23.70	226	eP	P	18 13 23.3	+0.3
WRA	Warramunga Arr	23.71	226	P	P	18 13 23.6	+0.5
	8.6nm,0.4s,mb4.6,baz=52,slow=9.7,SNR=129						
WRA				ScP	ScP	18 20 25.1	+0.9
	0.5nm,1.0s,baz=55,slow=2.9,SNR=5.1						
AS31	Alice Springs	26.51	220	eP	P	18 13 48.3	-0.1
ASAR	Alice Springs	26.51	220	P	P	18 13 48.3	-0.2
	0.8nm,0.3s,mb3.8,baz=51,slow=8.7,SNR=66						
ASPA	Alice Springs	26.52	220	eP	P	18 13 48.3	-0.2
FITZ	Fitzroy Crossi	29.69	240	eP	P	18 14 16.2	-0.5
	8.7nm,0.4s,mb4.8						
FITZ	Fitzroy Crossi	29.69	240	P	P	18 14 16.7	+0.1
	4.3nm,0.3s,mb4.6,baz=56,slow=9.1,SNR=58						
KURK	Kurchatov	82.75	322	P	P	18 20 31.3	-0.3
	1.1nm,0.6s,mb3.8						
TORD	Torodi Ar. Bea	149.56	289	PKPbc	PKPbc	18 27 56.6	+0.7
	0.5nm,0.3s,baz=85,slow=2.3,SNR=12						

*IDC **12** 18:09:59.9±0.9, 9.24S×107.82E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/16, mbtmp4.0/7, MS3.5/2, Ms1 3.5/2, ms1mx3.0/27, Error ellipse: s-maj=38.2km s-min=19.9km az=65.0*
*NEIC **12** 18:10:01.6±0.6, 9.24S×107.85E, h10km, mb4.4/2, Error ellipse: s-maj=25.6km s-min=12.6km az=63.0*
*ISCJB **12** 18:10:02.8±0.8, 9.2S±0.1×107.9E±0.2, h33km, mb4.0/9, MS3.7/1, Error ellipse: s-maj=32.4km s-min=14.6km az=124.0*

ISC 12 18:10:05.2±0.8**, 9.3S**±0.1×**107.8E**±0.2**, h35km, n11, σ0.45s/9, mb4.0**/9**, MS3.7**/1**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.42	119	LR	LR	18 20 07.9	
	comp=Z,88nm,21.2s,baz=85,slow=31						
WRA	Warramunga Arr	27.75	115	P	P	18 15 51.2	+0.8
	1.0nm,0.7s,mb3.6,baz=287,slow=11,SNR=3.4						
ASAR	Alice Springs	28.77	123	P	P	18 15 59.0	-0.6
	0.7nm,0.8s,mb3.4,baz=316,slow=7.7,SNR=3.5						
STKA	Stephens Creek	38.56	131	P	P	18 17 24.5	0.0
	2.9nm,0.7s,mb4.1,baz=319,slow=6.1,SNR=4.9						
CTA	Charters Tower	38.63	111	LR	LR	18 31 49.3	
	comp=Z,112nm,19.7s,MS3.7,baz=93,slow=34						
SONM	Songino Array	56.85	359	P	P	18 19 46.5	+0.2
	1.1nm,0.6s,mb4.1,baz=171,slow=7.9,SNR=8.6						
ULN	Ulaanbaatar	56.87	359	eP	P	18 19 45.9	-0.5
	2.9nm,0.9s,mb4.3						
ULN				e	pP	18 19 54.8	-2.2
MKAR	Makanchi Array	60.27	340	P	P	18 20 09.8	-0.3
	2.0nm,0.5s,mb4.4,baz=145,slow=8.0,SNR=22						
KURK	Kurchatov	64.88	340	eP	P	18 20 41.3	+0.5
	3.8nm,0.9s,mb4.4						
MAW	Mawson	65.45	197	P	P	18 20 44.9	+0.3
	1.6nm,0.9s,mb4.0,baz=32,slow=7.8,SNR=3.8						
VNDA	Vanda	73.62	169	P	P	18 21 34.5	-0.4
	1.0nm,0.8s,mb3.8,baz=312,slow=8.4,SNR=4.8						

IDC 12 18:35:46.8±2.3**, 10.61S**×**161.17E, h0km, mb3.6**/3**, mb1 3.8**/4**, mb1mx3.6**/14**, mbtmp3.7**/4**, ML3.1**/1**, MS3.6**/2**, Ms1 3.6**/2**, ms1mx2.9**/21**, Error ellipse: s-maj=49.9km s-min=24.6km az=67.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.68	314	Pn	Pn	18 36 17.9	+0.6
	24nm,0.3s,baz=120,slow=0.9,SNR=12						
HNR				Sn	Sn	18 36 41.8	+2.3
	43nm,0.3s,baz=48,slow=1.6,SNR=5.6						
DZM	Mont Dzumac	12.47	157	Pn	Pn	18 38 47.1	+1.6
	0.1nm,0.3s,baz=17,slow=14,SNR=10						
DZM				Sn	Sn	18 41 02.9	-2.2
	0.2nm,0.3s,baz=311,slow=20,SNR=2.9						
WRA	Warramunga Arr	27.45	247	P	P	18 41 34.8	+0.4
	0.9nm,0.9s,baz=76,slow=9.0,SNR=3.0						
ASAR	Alice Springs	29.04	240	P	P	18 41 48.5	0.0
	0.3nm,0.7s,baz=64,slow=9.6,SNR=4.9						
ASAR				LR	LR	18 53 21.6	
	comp=Z,96nm,18.8s,baz=173,slow=36						
SONM	Songino Array	75.70	325	P	P	18 47 33.9	-0.1
	0.7nm,0.7s,baz=133,slow=6.2,SNR=5.1						
LPIG	La Paz	92.93	66	LR	LR	19 20 41.7	
	comp=Z,41nm,21.0s,baz=146,slow=29						

*ORF **12** 19:07:45.4, 17.98S×155.13E, h30km, mb5.6*
*BJI **12** 19:08:05.0, 6.63S×148.96E, h49km, mB5.5, mb5.6, Ms5.2, Msz4.9*
*MOS **12** 19:08:09.7±0.8, 5.92S×148.47E, h33km, mb5.9/32, MS5.1/38, Error ellipse: s-maj=8.8km s-min=5.6km az=91.6*
*ISCJB **12** 19:08:11.7±0.1, 6.00S±0.02×148.46E±0.03, h54km, mb5.6/111, MS5.1/174, Error ellipse: s-maj=3.6km s-min=3.4km az=45.6*
*HRVD **12** 19:08:12.3±0.1, 6.29S×148.71E, h53km, MW5.6/99, Centroid moment Tensor Solution. LP body waves: s98,c182; Mantle waves: s99,c231; Half duration: 1.6s Moment tensor: Scale 10^{17}Nm; M_{rr}2.95±.04; $M_{\theta\theta}$-3.34±.03; $M_{\phi\phi}$0.39±.04; $M_{r\theta}$0.08±.03; $M_{\theta\phi}$-1.02±.03; $M_{\phi r}$0.55±.03; Best double couple: $M_0$3.33600×10^{17} NP1:ϕ_s268.00000°, δ44.00000°, λ107.00000°. NP2: ϕ_s64.00000°, δ48.00000°, λ74.00000°. Principal axes: T 3.0650, Plg78.0000°, Azm264.0000°; N 0.5470, Plg12.0000°, Azm75.0000°; P -3.6070, Plg2.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **12** 19:08:12.3±0.1, 5.99S×148.52E, mb5.7/52, MS5.1/134, MW5.7 Error ellipse: s-maj=4.5km s-min=3.2km az=105.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^{17}Nm; M_{rr}3.10; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-3.13; $M_{r\theta}$0.76; $M_{\theta\phi}$1.20; $M_{\phi r}$1.61; Best double couple: $M_0$3.80000×10^{17} NP1: ϕ_s1.00000°, δ59.00000°, λ112.00000°. NP2:ϕ_s142.00000°, δ38.00000°, λ58.00000°. Principal axes: T 3.7800, Plg68.0000°, Azm316.0000°; N 0.0100, Plg19.0000°, Azm169.0000°; P -3.7900, Plg11.0000°, Azm75.0000°;*
*IDC **12** 19:08:12.6±0.9, 5.96S×148.45E, h48km±7km, mb5.3/25, mb1 5.4/28, mb1mx5.4/29, mbtmp5.6/28, MS4.9/22, Ms1 4.9/22, ms1mx4.7/27 Error ellipse: s-maj=9.5km s-min=6.7km az=105.0*

ISC 12 19:08:13.6±0.1**, 6.02S**±0.02×**148.50E**±0.03**, h56km, h56km**±2.0km**:pP-P, n680, σ0.80s/403, mb5.6**/111**, MS5.1**/174**, 106C-81D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.62	201	P	Pn	19 09 08.5	+1.4
	1µm,0.3s,baz=25,slow=7.0,SNR=949						
PMG				S	Sn	19 09 51.3	+2.8
	1µm,0.3s,baz=20,slow=20,SNR=23						
PMG				LR	LR	19 10 30.4	
	comp=Z,16µm,18.6s,baz=50,slow=38						
PMG	Port Moresby	3.62	201⇓	iP	Pn	19 09 08.3	+1.2
PMG				eS	Sn	19 09 50.9	+2.4
HNR	Honiara	11.84	107	P	Pn	19 10 59.1	-0.6
	11nm,0.3s,baz=125,slow=1.0,SNR=9.2						
HNR				LR	LR	19 15 01.2	
	comp=Z,5µm,20.6s,baz=352,slow=34						
HNR	Honiara	11.84	107⇓	eP	Pn	19 10 58.9	-0.7
HNR				pmax	pmax		
	comp=Z,365nm,0.9s						
HNR	Honiara	11.84	107⇓	eP	Pn	19 10 58.9	-0.7
	comp=Z,365nm,0.9s						
CTA	Charters Tower	14.15	189	eP	Pn	19 11 30.9	-0.1
	comp=Z,114nm,0.6s						
CTA				eS	Sn	19 14 13.9	+7.4
CTA				ePCP	PcP	19 16 46.1	-0.3
CTA	Charters Tower	14.15	189	P	Pn	19 11 31.4	+0.4
	comp=Z,12nm,0.3s,baz=14,slow=13,SNR=96						
CTA				LR	LR	19 17 00.3	
	comp=Z,5µm,18.4s,baz=8.4,slow=37						
CTA	Charters Tower	14.15	189	eP	Pn	19 11 30.9	-0.1
CTA				eS	Sn	19 14 13.9	+7.4
CTA				pmax	pmax		
	comp=Z,114nm,0.6s						
CTAO	Charters Tower	14.15	189	eP	Pn	19 11 30.9	-0.1
CTAO				pmax	pmax		
	comp=Z,164nm,0.7s						
CTAO	Charters Tower	14.15	189	eP	Pn	19 11 30.9	-0.2
	comp=Z,164nm,0.7s						
KAKA	Kakadu	17.18	246	eP	Pn	19 12 09.5	-0.1
	comp=Z,305nm,0.6s						
WRAB	Tennant Creek	19.50	224	Pn	Pn	19 12 37.0	-0.8
WRAB	Tennant Creek	19.50	224	eP	Pn	19 12 36.9	-0.9
WRAB				pmax	pmax		
	comp=Z,690nm,0.8s						
WRAB	Tennant Creek	19.50	224	eP	Pn	19 12 36.9	-0.9
	comp=Z,690nm,0.8s						
WB2	Warramunga Arr	19.51	224	eP	Pn	19 12 36.7	-1.1
WB2				eS	S	19 16 07.5	-6.0
WRA	Warramunga Arr	19.52	224	P	Pn	19 12 37.0	-1.0
	comp=Z,20nm,0.3s,baz=51,slow=11,SNR=244						
WRA				S	S	19 16 12.2	-1.4
	baz=43,slow=21,SNR=12						
WRA				PcP	PcP	19 16 55.8	+1.0
	comp=Z,2.3nm,0.3s,baz=28,slow=1.6,SNR=8.4						
WRA				ScP	ScP	19 20 25.4	-0.6
	comp=Z,0.9nm,0.3s,baz=46,slow=2.4,SNR=8.6						
WRA				LR	LR	19 21 00.7	
	comp=Z,3µm,19.7s,baz=50,slow=39						
WRA	Warramunga Arr	19.52	224	P	Pn	19 12 37.0	-0.9
WRA				S	S	19 16 12.2	-1.4
GUMO	Guam	19.81	350	P	Pn	19 12 43.2	+1.8
	comp=Z,74nm,0.3s,baz=170,slow=8.3,SNR=51						
AS31	Alice Springs	22.47	217⇑	iP	P	19 13 09.0	+1.0
ASAR	Alice Springs	22.47	217	P	P	19 13 09.1	+1.0
	comp=Z,240nm,1.0s,mb5.6,baz=46,slow=9.3,SNR=509						
ASAR				PcP	PcP	19 17 01.9	+1.4
	comp=Z,80nm,0.9s,baz=40,slow=2.5,SNR=11						
ASAR				S	S	19 17 12.0	+0.9
	comp=Z,156nm,0.9s,baz=35,slow=21,SNR=14						
ASAR				ScP	ScP	19 20 34.4	+1.2
	comp=Z,7.6nm,0.9s,baz=20,slow=4.0,SNR=4.8						
ASAR				LR	LR	19 22 45.0	
	comp=Z,4µm,18.4s,MS4.9,baz=44,slow=39						
ASAR	Alice Springs	22.47	217	P	P	19 13 09.1	+1.1
ASAR						19 17 01.9	
ASAR				S	S	19 17 12.0	+0.9
ASPA	Alice Springs	22.48	217⇑	iP	P	19 13 09.0	+1.0
NOUC	Port Laguerre	23.49	135	eP	P	19 13 17.1	-1.2
DZM	Mont Dzumac	23.57	134	eP	P	19 13 18.1	-0.9
DZM	Mont Dzumac	23.57	134	P	P	19 13 18.1	-0.9
	comp=Z,39nm,0.6s,mb5.0,baz=347,slow=9.0,SNR=52						
DZM				PcP	PcP	19 17 04.8	+2.0
	comp=Z,26nm,0.7s,baz=151,slow=10,SNR=4.8						
DZM				S	S	19 17 33.1	+4.1
	comp=Z,5.5nm,0.9s,baz=240,slow=16,SNR=2.5						
DZM				ScP	ScP	19 20 35.5	-0.6
	comp=Z,11nm,1.0s,baz=149,slow=18,SNR=3.7						
DZM				LR	LR	19 21 10.3	
	comp=Z,8µm,21.9s,MS5.1,baz=318,slow=33						
ARMA	Armidale	24.45	173⇓	iP	P	19 13 27.1	+0.1
ARMA				e		19 13 33.1	
ARMA				ePCP	PcP	19 17 06.0	+1.4
ARMA				eS	S	19 17 44.0	+0.8
ARMA				i SCP	ScP	19 20 42.5	+4.0
FITZ	Fitzroy Crossi	25.33	240⇑	iP	P	19 13 36.7	+1.6
	comp=Z,2µm,0.9s,mb6.6						
FITZ				ePCP	PcP	19 17 07.5	+0.9
FITZ				eS	S	19 17 59.0	+1.7
FITZ	Fitzroy Crossi	25.33	240	P	P	19 13 36.7	+1.6
	comp=Z,1µm,1.0s,mb6.4,baz=68,slow=8.8,SNR=838						
FITZ				S	S	19 17 59.8	+2.5
	comp=Z,43nm,0.9s,baz=268,slow=18,SNR=7.6						
FITZ				LR	LR	19 24 45.3	
	comp=Z,3µm,20.1s,MS4.8,baz=65,slow=39						
STKA	Stephens Creek	26.52	193	eP	P	19 13 45.5	-0.3
	comp=Z,40nm,0.5s,mb5.2						
STKA				e	pP	19 14 01.6	+1.8
STKA				ePCP	PcP	19 17 09.7	+0.4
STKA				eS	S	19 18 14.0	-2.1
STKA				i SCP	ScP	19 20 46.7	+2.3
STKA	Stephens Creek	26.52	193	P	P	19 13 46.0	+0.2
	comp=Z,56nm,0.8s,mb5.2,baz=350,slow=8.5,SNR=40						
STKA				ScP	ScP	19 20 46.8	+2.3
	comp=Z,50nm,1.1s,baz=30,slow=1.6,SNR=9.2						
STKA				LR	LR	19 25 33.2	
	comp=Z,4µm,19.3s,MS5.0,baz=98,slow=39						
RIV	Riverview	27.78	175	eP	P	19 14 03.0	+5.9
CNB	Canberra Magne	29.16	179	eP	P	19 14 09.6	+0.2
	comp=Z,34nm,0.9s,mb5.1						
CNB				ePCP	PcP	19 17 15.8	0.0
CNB				eSCP	ScP	19 20 54.4	+1.9
ADE	Adelaide	30.19	196	eP	P	19 14 19.2	+0.7
FUNA	Funafuti	30.55	97	eP	P	19 14 20.6	-1.1
FUNA				LR	LR		
	comp=Z,10µm,19.0s,MS5.5						
WAKE	Wake Island	30.85	35	PFAKE		19 14 40.0	+16
WAKE				LR	LR		
	comp=Z,2µm,21.0s,MS4.8						
FORT	Forrest	31.23	215⇓	iP	P	19 14 27.3	-0.3
	comp=Z,224nm,0.6s,mb6.2						
TOO	Toolangi	31.52	185	eP	P	19 14 31.0	+0.7
	comp=Z,26nm,0.8s,mb5.1						
TOO				ePCP	PcP	19 17 22.1	+0.2
TOO				eSCP	ScP	19 21 01.5	+1.2
TOO	Toolangi	31.52	185	eP	P	19 14 31.0	+0.7
TOO				e		19 17 22.1	
TOO				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.1						
MBWA	Marble Bar	31.66	239	⇑P	P	19 14 32.9	+1.4
	SNR=5.1						
MBWA	Marble Bar	31.66	239⇑	eP	P	19 14 32.3	+0.8
	comp=Z,196nm,0.8s,mb6.0						
MBWA				LR	LR		
	comp=Z,4µm,19.0s,MS5.1						
TSM	Tawau	32.25	288	P	P	19 14 40.0	+3.3
CBIJ	Chichi jima	33.48	350	P	P	19 14 47.0	-0.4
	comp=Z,570nm,0.7s,mb6.6,baz=184,slow=1.3,SNR=17						
CBIJ				LR	LR	19 27 34.7	
	comp=Z,675nm,18.5s,MS4.4,baz=170,slow=35						
TGY	Tagaytay City	33.88	306	P	P	19 14 50.7	-0.1
	comp=Z,74nm,0.2s,baz=130,slow=7.9,SNR=3.6						
KKM	Kota Kinabalu	34.38	290	P	P	19 15 00.9	+5.7
TAU	Tasmania Unive	36.75	181	PFAKE		19 15 30.0	+14
TAU				LR	LR		
	comp=Z,4µm,19.0s,MS5.3						
JOW	Kunigami	38.08	330	P	P	19 15 24.4	-2.4
	comp=Z,106nm,1.1s,mb5.5,baz=128,slow=26,SNR=6.5						
JOW				LR	LR	19 27 56.5	
	comp=Z,4µm,21.1s,MS5.2,baz=200,slow=31						
KLBR	Kellerberrin	38.39	225	eP	P	19 15 29.7	+0.3
	comp=Z,488nm,1.2s,mb6.1						
KLBR				ePCP	PcP	19 17 41.6	-0.3
KSM	Kuching	38.85	280	eP	P	19 15 31.8	-1.4
RAO	Raoul Island	39.22	130	P	P	19 15 36.6	+0.3
	comp=Z,192nm,0.5s,mb6.1,baz=322,slow=21,SNR=5.7						
RAO	Raoul Island	39.22	130	eP	P	19 15 36.8	+0.5
RAO				pmax	pmax		
	comp=Z,510nm,1.0s,mb6.2						
RAO	Raoul Island	39.22	130	eP	P	19 15 36.2	-0.2
	comp=Z,511nm,0.9s,mb6.2						
RAO				LR	LR		
	comp=Z,1µm,21.0s,MS4.7						
NWAO	Narrogin (SRO)	39.52	223	P	P	19 15 39.5	+0.6
	comp=Z,54nm,0.7s,mb5.4,baz=56,slow=8.1,SNR=34						
NWAO				LR	LR	19 33 59.8	
	comp=Z,3µm,19.0s,MS5.1,baz=199,slow=39						
NWAO	Narrogin (SRO)	39.52	223	eP	P	19 15 39.2	+0.3
NWAO				pmax	pmax		
	comp=Z,104nm,1.2s						
NWAO				MLR	MLR		
	comp=Z,852nm,19.0s						
NWAO	Narrogin (SRO)	39.52	223	eP	P	19 15 39.2	+0.3
	comp=Z,104nm,1.2s,mb5.4						
NWAO				LR	LR		
	comp=Z,852nm,19.0s,MS4.6						
MUN	Mundaring	39.70	225	eP	P	19 15 41.1	+0.8
MUN				eS	S	19 21 45.9	+6.1
JHJ	Hachijo jima 2	39.80	349	P	P	19 15 41.4	+0.3
	comp=Z,244nm,0.8s,mb6.0,baz=137,slow=11,SNR=6.3						
JHJ				LR	LR	19 31 42.0	
	comp=Z,1µm,19.1s,MS4.7,baz=209,slow=36						
AFI	Afiamalu	39.85	104	P	P	19 15 41.7	+0.1
	comp=Z,221nm,0.9s,mb5.9,baz=85,slow=17,SNR=16						
AFI	Afiamalu	39.85	104	P	P	19 15 41.2	-0.4
AFI				pmax	pmax		
	comp=Z,290nm,1.0s,mb6.0						
AFI	Afiamalu	39.85	104	eP	P	19 15 41.1	-0.5
	comp=Z,293nm,1.0s,mb6.0						
AFI				LR	LR		
	comp=Z,2µm,22.0s,MS4.8						
NACB	Ninganchiao	39.86	320	eP	P	19 15 42.1	+0.5
YHNB	Yeheng	40.35	320	eP	P	19 15 46.8	+1.1
TATO	Taipei	40.50	321	eP	P	19 15 47.2	+0.3
	comp=Z,344nm,1.1s,mb6.0						
TATO				epP	pP	19 16 05.1	+3.7
URZ	Urewera	41.27	145	P	P	19 15 52.6	-0.7

comp=Z,13nm,0.6s,mb4.8,baz=14,slow=8.0,SNR=7.2
URZ PcP PcP 19 17 49.3 -1.8
comp=Z,43nm,0.8s,baz=18,slow=6.6,SNR=5.8
SNZO South Karori 42.20 150 PFAKE 19 16 10.0 +9.1
SNZO LR LR
comp=Z,1μm,21.0s,MS4.8
QZH Quanzhou 42.36 318⇑*iP* **P 19 16 02.8 +0.6**
QZH AMB AMB
comp=Z,250nm,0.6s,mb6.0
RPZ Rata Peaks 42.46 156 P **P 19 16 03.0 +0.1**
comp=Z,32nm,0.8s,mb5.0,baz=23,slow=5.8,SNR=15
MJAR Matsushiro Arr 43.42 348 P **P 19 16 11.5 +0.7**
comp=Z,158nm,1.1s,mb5.7,baz=168,slow=8.6,SNR=203
MJAR PcP PcP 19 17 58.5 +0.3
comp=Z,19nm,0.8s,baz=148,slow=3.4,SNR=4.5
MJAR ScP ScP 19 21 44.9 +0.1
comp=Z,6.5nm,1.1s,baz=178,slow=4.8,SNR=7.6
MJAR LR LR 19 33 57.6
comp=Z,1μm,19.1s,MS4.8,baz=165,slow=36
MJAR Matsushiro Arr 43.42 348 P **P 19 16 11.5 +0.7**
MJAR 19 17 58.5
MJAR Matsushiro Arr 43.42 348 P **P 19 16 11.5 +0.7**
MJAR PcP PcP 19 17 58.5 +0.3
MJAR ScP ScP 19 21 44.9 +0.1
MJAR LR LR 19 33 57.5
MAJO Matsushiro 43.42 348⇑*iP* **P 19 16 11.4 +0.6**
MAJO *e**PP pP 19 16 28.0 +2.6
MAJO pmax pmax
comp=Z,398nm,1.3s,mb6.0
MAJO MLR MLR
comp=Z,776nm,19.0s,MS4.6
MAJO Matsushiro 43.42 348⇑*iP* **P 19 16 11.4 +0.6**
comp=Z,398nm,1.3s,mb6.0
MAJO *e*pP pP 19 16 28.0 +2.6
MAJO LR LR
comp=Z,776nm,19.0s,MS4.6
MAT Matsushiro 43.42 348 P **P 19 16 11.6 +0.8**
MAT S **S 19 22 29.0 -6.0**
MAT Matsushiro 43.42 348 *e*P **P 19 16 12.0 +1.2**
MAT *e*S **S 19 22 30.0 -5.0**
MAT pmax pmax
comp=Z,359nm,1.2s,mb6.0
MAT MLR MLR
comp=Z,1μm,18.0s,MS4.8
MAT Matsushiro 43.42 348 *e*P **P 19 16 12.0 +1.2**
comp=Z,359nm,1.2s,mb6.0
MAT *e*S **S 19 22 30.0 -5.0**
MAT LR LR
comp=Z,1μm,18.0s,MS4.8
GZH Guangzhou 44.91 311 P **P 19 16 23.3 +0.6**
GZH S **S 19 22 59.9 +3.3**
GZH LR LR
comp=N,657nm,23.6s,MS4.8
GZH LR LR
comp=E,1μm,23.0s,MS4.8
GZH LR LR
comp=Z,2μm,28.6s
SSE Sheshan 45.21 326 P **P 19 16 25.4 +0.3**
SSE AP pP 19 16 43.0 +3.3
SSE PP PP 19 18 11.6 0.0
SSE S **S 19 23 00.4 -0.5**
SSE XS sS 19 23 30.6 +5.0
SSE SCS ScS 19 26 15.2 -1.5
SSE SS SS 19 26 25.2 +0.5
SSE AMB AMB
comp=Z,100nm,1.0s,mb5.6
SSE AMB AMB
comp=Z,298nm,4.3s
SSE LR LR
comp=N,1μm,25.1s,MS5.0
SSE LR LR
comp=E,1μm,25.0s,MS5.0
SSE LR LR
comp=Z,3μm,19.1s
QIZ Qiongzhong 45.49 304 P **P 19 16 28.0 +0.7**
QIZ AP pP 19 16 39.6 -2.4
QIZ XP sP 19 16 49.0 +0.5
QIZ S **S 19 23 08.5 +3.5**
QIZ XS sS 19 23 27.6 -2.1
QIZ AMB AMB
comp=Z,25nm,0.8s,mb5.1
QIZ AMB AMB
comp=Z,274nm,8.8s
QIZ LR LR
comp=E,670nm,22.9s
QIZ LR LR
comp=Z,1μm,24.0s,MS4.7
QIZ Qiongzhong 45.49 304 *e*P **P 19 16 27.8 +0.4**
comp=Z,23nm,0.8s,mb5.1
QIZ LR LR
comp=Z,1μm,21.0s,MS4.8
KGM Kluang 45.81 279 P **P 19 16 28.3 -1.6**
NJ2 Nanjing 47.24 325 *e*P **P 19 16 42.2 +1.2**
NJ2 AP pP 19 16 58.1 +2.4
NJ2 XP sP 19 17 04.2 +2.0
NJ2 S **S 19 23 29.0 -0.9**
NJ2 XS sS 19 23 56.0 +1.2
NJ2 AMB AMB
comp=Z,100nm,0.8s,mb5.8
NJ2 AMB AMB
comp=Z,650nm,5.6s
NJ2 LR LR
comp=N,4μm,24.1s,MS5.5
NJ2 LR LR
comp=E,5μm,25.4s,MS5.5
NJ2 LR LR
comp=Z,4μm,24.2s,MS5.3
INCN Inchon 47.85 336⇑P **P 19 16 47.2 +1.5**
SNR=7.5
INCN Inchon 47.85 336 *e*P **P 19 16 46.9 +1.2**
comp=Z,135nm,0.8s,mb6.0
INCN *e*pP pP 19 17 00.7 +0.2
INCN LR LR
comp=Z,772nm,21.0s,MS4.7
IPM Ipoh 48.54 281 P **P 19 16 49.6 -1.4**
WHN Wuhan 48.90 320⇓P **P 19 16 55.0 +1.2**
KULM Kulim 49.07 282 *e*P **P 19 16 54.5 -0.6**
ASAJ Asahikawa 50.19 354 P **P 19 17 04.5 +0.9**
comp=Z,50nm,0.7s,mb5.7,baz=224,slow=16,SNR=25
ASAJ LR LR 19 36 59.1
comp=Z,1μm,21.7s,MS4.8,baz=169,slow=34
DL2 Dalian 51.17 333⇑P **P 19 17 11.9 +0.9**
DL2 AP pP 19 17 26.5 +0.6
DL2 XP sP 19 17 33.3 +1.0
DL2 S **S 19 24 25.7 +0.7**
DL2 XS sS 19 24 51.5 +1.4
DL2 AMB AMB
comp=Z,60nm,0.6s,mb5.7
DL2 AMB AMB
comp=Z,180nm,4.8s
DL2 LR LR
comp=N,710nm,18.3s,MS4.8
DL2 LR LR
comp=E,490nm,17.8s,MS4.8
DL2 LR LR
comp=Z,920nm,18.1s,MS4.8
VLA Vladivostok 51.18 344*d iP* **P 19 17 12.8 +1.7**
VLA *i* *PP pP 19 17 27.1 +1.1
VLA *e* 19 19 10.6
VLA *e*S **S 19 24 27.6 +2.4**
VLA *e**SS sS 19 24 49.2 -1.1
VLA pmax pmax
comp=Z,219nm,1.4s,mb5.9
VLA MLR MLR
comp=Z,400nm,16.2s,MS4.5
TIA Tai'an 51.29 327⇑P **P 19 17 11.5 -0.4**
TIA AMB AMB
comp=Z,131nm,1.1s,mb5.8
GYA Guiyang 51.82 310⇓*iP* **P 19 17 16.6 +0.7**
GYA PCP PcP 19 18 28.8 +0.6
GYA PP PP 19 19 16.1 +2.1
GYA SCP ScP 19 22 16.6 -3.6
GYA S **S 19 24 31.5 -2.5**
GYA XS sS 19 25 04.2 +5.0
GYA AMB AMB
comp=Z,40nm,0.7s,mb5.5
GYA AMB AMB
comp=Z,390nm,6.8s
GYA LR LR
comp=N,590nm,17.9s,MS4.8
GYA LR LR
comp=E,670nm,18.0s,MS4.8
GYA LR LR
comp=Z,840nm,17.6s,MS4.8
NST Nakhon Sawan 52.52 295 P **P 19 17 20.4 -0.6**
comp=Z,33nm,0.9s,mb5.3
SNY Shenyang 52.78 337⇑P **P 19 17 23.6 +0.6**
SNY AP pP 19 17 37.6 -0.3
SNY XP sP 19 17 46.1 +1.7
SNY PP PP 19 19 27.4 +4.7
SNY S **S 19 24 49.0 +1.9**
SNY XS sS 19 25 17.7 +5.4
SNY SS SS 19 28 25.5 -0.8
SNY AMB AMB
comp=Z,81nm,0.9s,mb5.7
SNY LR LR
comp=N,719nm,20.1s,MS4.9
SNY LR LR
comp=E,913nm,22.1s,MS4.9
SNY LR LR
comp=Z,1μm,24.5s,MS4.9
YSS Yuzh-Sakhalins 52.99 355α*iP* **P 19 17 25.3 +0.8**
YSS *e* pP 19 17 39.1 -0.4
YSS *e* 19 18 36.0
YSS *e* 19 19 27.3
YSS *e*S **S 19 24 48.0 -2.0**
YSS *e*PS 19 25 03.0
YSS *e* 19 27 03.0
YSS pmax pmax
comp=Z,90nm,1.2s,mb5.6
YSS pmax pmax
comp=N,60nm,1.3s
YSS MLR MLR
comp=N,300nm,17.0s
YSS MLR MLR
comp=Z,400nm,17.0s,MS4.5
YSS Yuzh-Sakhalins 52.99 355⇑*iP* **P 19 17 25.5 +1.0**
YSS LR LR
comp=Z,1μm,20.0s,MS5.0
NANT Nan 53.17 299 P **P 19 17 26.0 +0.2**
MDJ Mudanjiang 53.20 343 P **P 19 17 26.9 +0.8**
MDJ AP pP 19 17 38.5 -2.5
MDJ XP sP 19 17 43.4 -4.1
MDJ PCP PcP 19 18 33.9 +0.5
MDJ PP PP 19 19 27.4 +0.9
MDJ PCS PcS 19 22 32.9 +0.6
MDJ XS sS 19 25 16.1 -2.0
MDJ AMB AMB
comp=Z,129nm,1.0s,mb5.8
MDJ AMB AMB
comp=Z,381nm,6.1s
MDJ LR LR
comp=N,963nm,29.8s,MS4.7
MDJ LR LR
comp=E,637nm,32.0s,MS4.7
MDJ LR LR
comp=Z,2μm,35.2s,MS4.8
MDJ Mudanjiang 53.20 343 *e*P **P 19 17 26.9 +0.9**
comp=Z,122nm,0.9s,mb5.8
MDJ LR LR
comp=Z,885nm,20.0s,MS4.8
CN2 Changchun 53.79 339 *e*P **P 19 17 30.4 0.0**
CN2 *e*AP pP 19 17 46.1 +0.7
CN2 *e*S **S 19 24 59.0 -1.8**
CN2 AMB AMB
comp=Z,90nm,0.7s,mb5.8
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,900nm,21.0s,MS4.9
CN2 LR LR
comp=E,800nm,21.0s,MS4.9
CN2 LR LR
comp=Z,1μm,21.0s,MS5.0
KMI Kunming 54.20 307 P **P 19 17 34.2 +0.9**
KMI AP pP 19 17 52.4 +4.0
KMI PCP PcP 19 18 37.4 +0.2
KMI PP PP 19 19 39.1 +3.6
KMI PPP 19 20 51.2
KMI SCP ScP 19 22 28.1 -2.4
KMI PCS PcS 19 22 35.4 -1.3
KMI S **S 19 25 06.9 +0.6**
KMI PS 19 25 27.8
KMI XS sS 19 25 37.3 +5.7
KMI SCS ScS 19 27 14.2 -3.4
KMI SS SS 19 28 50.2 +1.5
KMI SSS 19 30 49.8
KMI AMB AMB
comp=Z,25nm,1.1s,mb5.1
KMI AMB AMB
comp=Z,318nm,5.7s
KMI LR LR
comp=N,669nm,18.6s,MS4.9
KMI LR LR
comp=E,693nm,21.9s,MS4.9
KMI LR LR
comp=Z,1μm,23.8s,MS4.8
CHRT Chiangrai 54.38 300⇓P **P 19 17 35.5 +0.8**
BJT Baijiatuau 54.65 330 *e*P **P 19 17 36.6 0.0**
BJT pmax pmax
comp=Z,109nm,1.2s
BJT MLR MLR
comp=Z,2μm,21.0s
BJT Baijiatuau 54.65 330 *e*P **P 19 17 36.6 0.0**
comp=Z,108nm,1.2s,mb5.8
BJT LR LR
comp=Z,2μm,21.0s,MS5.2
XAN Xi'an 54.66 320 P **P 19 17 36.3 -0.4**
XAN AP pP 19 17 47.8 -3.9
XAN S **S 19 25 21.3 +8.8**
XAN AMB AMB
comp=Z,112nm,1.0s,mb5.8
XAN LR LR
comp=N,442nm,26.2s,MS4.7
XAN LR LR
comp=E,613nm,25.7s,MS4.7
XAN LR LR
comp=Z,1μm,26.4s,MS4.9
BJI Beijing 54.66 330 *e*P **P 19 17 36.7 0.0**
BJI XP sP 19 17 50.1 -8.0
BJI PP PP 19 19 41.3 +1.7
BJI S **S 19 25 14.5 +2.0**
BJI AMB AMB
comp=Z,68nm,1.2s,mb5.5
BJI AMB AMB
comp=Z,676nm,5.3s
BJI LR LR
comp=N,2μm,21.9s,MS5.2
BJI LR LR
comp=E,1μm,20.6s,MS5.2
BJI LR LR
comp=Z,3μm,30.4s
HABR Khabarovsk 55.53 349⇑*iP* **P 19 17 44.5 +1.5**
HABR *eS* **S 19 25 24.1 -0.1**
HABR pmax pmax
comp=Z,242nm,0.9s,mb6.2
HABR pmax pmax
comp=Z,671nm,1.7s,mb6.4
CD2 Chengdu 56.36 313⇑*iP* **P 19 17 48.8 -0.1**
CD2 AP pP 19 18 02.5 -1.5
CD2 XP sP 19 18 07.8 -2.6
CD2 PCP PcP 19 18 45.3 -0.3
CD2 PP PP 19 19 57.1 +2.3
CD2 SCP ScP 19 22 39.8 -0.2
CD2 PCS PcS 19 22 44.9 -1.3
CD2 S **S 19 25 35.8 +0.5**
CD2 XS sS 19 25 57.8 -2.9
CD2 SCS ScS 19 27 30.8 -2.4
CD2 SS SS 19 29 24.8 +2.0
CD2 AMB AMB
comp=Z,60nm,0.7s,mb5.7
CD2 AMB AMB
comp=Z,290nm,8.4s
CD2 LR LR
comp=N,570nm,13.2s
CD2 LR LR
comp=Z,500nm,19.2s
SKR Severo-Kuril's 56.86 6 *eP* **P 19 17 49.6 -2.8**
SKR pmax pmax
comp=Z,1μm,4.0s
SKR pmax pmax
comp=N,120nm,0.8s
SKR pmax pmax
comp=E,80nm,0.8s
SKR pmax pmax
comp=Z,220nm,0.8s,mb6.2
KLR Kul'dur 56.93 347⇓*iP* **P 19 17 50.8 -2.2**
KLR *eS* **S 19 25 40.5 -2.3**
KLR pmax pmax
comp=E,110nm,1.4s
KLR pmax pmax
comp=Z,320nm,1.4s,mb6.2
KLR MLR MLR
comp=E,500nm,15.0s
KLR MLR MLR
comp=Z,700nm,15.0s,MS4.9
HHC Hu-ho-hao-te 57.64 327 *eP* **P 19 17 58.8 +0.8**
HHC AP pP 19 18 11.5 -1.6
HHC XP sP 19 18 17.1 -2.4
HHC PP PP 19 20 09.3 +3.1
HHC S **S 19 25 55.0 +2.9**
HHC XS sS 19 26 16.0 -1.6
HHC PS 19 26 29.6
HHC SCS ScS 19 27 40.9 -1.6
HHC SS SS 19 29 49.4 +6.5
HHC AMB AMB
comp=Z,51nm,0.7s,mb5.7
HHC AMB AMB
comp=Z,388nm,6.1s
HHC LR LR
comp=N,952nm,23.1s,MS5.1
HHC LR LR
comp=E,1μm,20.2s,MS5.1
HHC LR LR
comp=Z,2μm,21.0s,MS5.2
BTO Baotou 58.32 326 *eP* **P 19 18 02.1 -0.6**
BTO AMB AMB
comp=Z,22nm,0.7s,mb5.3
KIP Kipapa 59.10 61 PFAKE 19 18 20.0 +12
KIP LR LR
comp=Z,2μm,22.0s,MS5.2
LZH Lanzhou 59.20 318⇑*iP* **P 19 18 09.8 +0.9**
LZH AP pP 19 18 26.9 +2.8
LZH PCP PcP 19 18 56.1 -0.7
LZH PP PP 19 20 23.4 +3.3
LZH PPP 19 21 49.3
LZH SCP ScP 19 22 51.2 -1.4
LZH PCS PcS 19 22 55.0 -3.7
LZH XS sS 19 26 41.5 +3.5
LZH SCS ScS 19 27 49.8 -4.2
LZH SS SS 19 30 09.5 +2.0
LZH AMB AMB
comp=Z,157nm,1.5s,mb5.8
LZH AMB AMB
comp=Z,489nm,7.6s
LZH LR LR
comp=N,2μm,16.5s
LZH LR LR
comp=Z,3μm,18.3s,MS5.4
PET Petropavlovsk 59.45 7*c iP* **P 19 18 10.7 +0.2**
PET *e* 19 18 57.8
PET *e* 19 20 24.8
PET *e*S **S 19 26 14.8 -0.8**
PET *e*SS SS 19 30 14.0 +2.7
PET pmax pmax
comp=Z,900nm,4.7s
PET pmax pmax
comp=Z,225nm,1.0s,mb6.2
PET pmax pmax
comp=Z,200nm,13.5s
PET pmax pmax
comp=Z,43nm,0.8s,mb5.5
PET pmax pmax
comp=Z,73nm,0.9s,mb5.7
PET pmax pmax
comp=Z,200nm,18.0s
PET smax
comp=N,200nm,22.5s
PET MLR MLR
comp=Z,700nm,21.0s,MS4.8
PET Petropavlovsk 59.45 7 *eP* **P 19 18 11.4 +0.9**
comp=Z,114nm,0.7s,mb6.0
PET *e*PcP PcP 19 18 57.8 +0.1
PET LR LR
comp=Z,750nm,20.0s,MS4.8
HIA Hailar 60.50 339 *eP* **P 19 18 18.1 +0.3**
HIA pmax pmax
comp=Z,194nm,0.8s
HIA MLR MLR
comp=Z,1μm,20.0s
HIA Hailar 60.50 339 *eP* **P 19 18 18.1 +0.3**
comp=Z,194nm,0.8s,mb6.3
HIA LR LR
comp=Z,1μm,20.0s,MS5.0
POHA Pohakuloa 60.71 64 PFAKE 19 18 30.0 +11
POHA LR LR
comp=Z,1μm,19.0s,MS5.1
DRV Dumont d'Urvil 60.83 184 P **P 19 18 16.0 -4.0**
DRV S **S 19 26 37.0 +3.7**
PPT Papeete 61.46 107 *eP* **P 19 18 24.7 +0.4**
comp=Z,140nm,1.4s,mb5.9
PPT Papeete 61.46 107 *eS* **S 19 26 41.6 +0.3**
comp=Z,2μm,28.2s
PPT *e*LR LR 19 36 42.9
comp=Z,1μm,26.5s
PAE Paea 61.46 107 *eP* **P 19 18 24.3 0.0**
comp=Z,203nm,1.1s,mb6.2
TVO Taravao 61.78 107 *eP* **P 19 18 26.9 +0.5**
comp=Z,395nm,1.2s,mb6.4
TBI Tubuai 61.99 113 *eS* **S 19 26 48.4 +0.4**
comp=Z,1μm,29.0s
TBI *e*SS SS 19 30 54.1 +3.0
comp=Z,503nm,34.0s
TBI *e*LQ 19 34 33.4
comp=Z,1μm,38.0s
TBI *e*LR LR 19 36 56.6
comp=Z,2μm,36.2s
SMY Shemya 62.44 17 *eP* **P 19 18 31.3 +0.5**
SMY pmax pmax
comp=Z,458nm,1.1s,mb6.5
SMY MLR MLR
comp=Z,500nm,23.0s,MS4.6
SMY Shemya 62.44 17 *eP* **P 19 18 31.3 +0.5**
comp=Z,458nm,1.1s,mb6.5
SMY LR LR
comp=Z,500nm,23.0s,MS4.6
GTA Gaotai 63.72 320 P **P 19 18 39.8 +0.5**
GTA AP pP 19 18 56.9 +2.2
GTA PCP PcP 19 19 16.3 +1.3
GTA PP PP 19 21 01.7 +1.8
GTA PPP 19 22 33.7
GTA SCP 19 23 11.8
GTA PCS 19 23 17.9
GTA S **S 19 27 09.7 +0.1**
GTA XS sS 19 27 38.2 +2.7
GTA SS SS 19 31 18.8 +0.7
GTA AMB AMB
comp=Z,24nm,1.7s,mb5.0
GTA AMB AMB
comp=Z,181nm,8.4s
GTA LR LR
comp=N,440nm,19.4s,MS4.8
GTA LR LR
comp=E,460nm,20.2s,MS4.8
GTA LR LR
comp=Z,705nm,23.6s,MS4.8
ULN Ulaanbaatar 64.85 331⇑P **P 19 18 47.4 +0.7**
SNR=22
ULN Ulaanbaatar 64.85 331⇑*iP* **P 19 18 47.6 +0.9**
ULN LR LR
comp=Z,2μm,22.0s,MS5.2
SONM Songino Array 65.16 330 P **P 19 18 49.0 +0.3**
comp=Z,26nm,0.6s,mb5.4,baz=145,slow=5.9,SNR=161
SONM LR LR 19 46 18.4
comp=Z,2μm,21.2s,MS5.2,baz=131,slow=35
SONM PKPPKP 19 47 34.8
comp=Z,7.9nm,1.0s,baz=311,slow=1.9,SNR=16
MA2 Magadan 65.41 1*c iP* **P 19 18 49.9 -0.5**
MA2 *e* pP 19 19 04.7 -1.1
MA2 *e* 19 21 18.4
MA2 *e*S S 19 27 24.5 -6.0
MA2 pmax pmax
comp=Z,400nm,0.9s,mb6.5
MA2 pmax pmax
comp=N,100nm,1.0s
MA2 pmax pmax
comp=E,40nm,0.8s
MA2 Magadan 65.41 1 *eP* **P 19 18 50.0 -0.4**
comp=E,248nm,0.9s,mb6.2
MA2 LR LR
comp=Z,688nm,21.0s,MS4.8
CLNS Chul'man 65.56 346⇑*iP* **P 19 18 51.6 +0.3**
CLNS *e**PP pP 19 18 57.9 -8.8
CLNS *e* 19 19 21.1
CLNS *e*PPP 19 22 48.3

CLNS eS S 19 27 34.8 +2.6
CLNS pmax pmax
comp=Z,127nm,0.9s,mb6.0
CLNS pmax pmax
comp=N,71nm,1.0s
CLNS pmax pmax
comp=E,18nm,0.9s
CLNS pmax pmax
comp=N,23nm,0.9s
CLNS pmax pmax
comp=Z,20nm,0.9s,mb5.2
CLNS pmax pmax
comp=E,8.0nm,0.7s
CLNS smax
comp=N,413nm,11.3s
CLNS smax
comp=Z,425nm,13.1s
CLNS smax
comp=E,143nm,11.5s
CASY Casey 65.64 196 ⇑i P **P 19 18 51.3 -0.5**
CASY i pP 19 19 06.1 -1.1
CASY Casey 65.64 196 ⇑i P **P 19 18 51.3 -0.5**
CASY i pP 19 19 06.1 -1.1
CASY LR LR
comp=Z,3μm,22.0s,MS5.4
ZAK Zakamensk 68.38 331 ⇓i P **P 19 19 08.8 -0.4**
ZAK e pP 19 19 23.8 -0.9
ZAK pmax pmax
comp=Z,34nm,0.8s,mb5.4
ZAK pmax pmax
comp=Z,40nm,1.0s,mb5.4
JIRN Jiri 68.79 303 eP **P 19 19 11.3 -0.5**
comp=Z,105nm,0.6s,mb5.9
PALK Pallekele 68.92 280 PFAKE 19 19 20.0 +7.5
PALK LR LR
comp=Z,679nm,20.0s,MS4.9
NIKO Nikolski 68.94 26 eP **P 19 19 12.5 -0.1**
TLY Talaya 69.06 332 P **P 19 19 13.4 0.0**
comp=Z,138nm,0.9s,mb5.9,SNR=6.9
GUN Gumba 69.13 303 eP **P 19 19 13.8 -0.1**
comp=Z,153nm,0.6s,mb6.1
IRK Irkutsk 69.14 333 eP **P 19 19 13.1 -0.9**
IRK e pP 19 19 31.0 +1.5
IRK pmax pmax
comp=Z,80nm,0.8s,mb5.7
YAK Yakutsk 69.39 351 eP **P 19 19 16.1 +0.6**
YAK i *PP pP 19 19 41.4 +10
YAK ePPP 19 23 35.3
YAK eS S 19 28 21.2 +2.9
YAK e*SS sS 19 29 04.4 +20
YAK e 19 29 14.1
YAK pmax pmax
comp=Z,82nm,1.3s,mb5.5
YAK pmax pmax
comp=N,43nm,1.5s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
YAK smax
comp=N,366nm,20.2s
YAK smax
comp=E,148nm,13.5s
YAK Yakutsk 69.39 351 eP **P 19 19 14.8 -0.7**
comp=E,128nm,1.0s,mb5.8
YAK LR LR
comp=Z,769nm,22.0s,MS4.9
PKI Pulchoki 69.41 302 eP **P 19 19 15.1 -0.5**
BOD Bodaibo 69.47 341 ⇓i P **P 19 19 14.9 -1.1**
BOD pmax pmax
comp=Z,36nm,0.9s,mb5.3
KKN Kakani 69.59 302 eP **P 19 19 16.0 -0.7**
comp=Z,100nm,0.7s,mb5.8
DMN Daman 69.68 302 eP **P 19 19 16.8 -0.5**
comp=Z,148nm,0.7s,mb6.0
GKN Gorkha 70.20 302 eP **P 19 19 19.4 -1.1**
comp=Z,131nm,0.6s,mb6.0
MOY Mondy 70.31 331 eP **P 19 19 21.3 +0.2**
MOY pmax pmax
comp=Z,69nm,2.8s,mb5.1
UNV Unalaska Valle 70.56 26 PFAKE 19 19 30.0 +7.3
UNV LR LR
comp=Z,2μm,21.0s,MS5.4
TAOE Nuku Hiva Isla 70.72 97 eLR LR 19 40 54.0
comp=Z,1μm,32.3s
KOLN Koldanda 71.00 302 eP **P 19 19 24.5 -0.8**
comp=Z,131nm,0.7s,mb6.0
AKUT Akutan 71.08 26 eP **P 19 19 26.4 +0.6**
SPIA Saint Paul Isl 71.35 22 eP **P 19 19 28.7 +1.3**
VNDA Vanda 71.81 177 P **P 19 19 30.4 +0.2**
comp=Z,56nm,0.9s,mb5.5,baz=329,slow=7.3,SNR=230
VNDA Vanda 71.81 177 eP **P 19 19 30.0 -0.2**
VNDA e*PP pP 19 19 43.4 -2.4
VNDA pmax pmax
comp=Z,98nm,0.7s
VNDA MLR MLR
comp=Z,694nm,20.0s
VNDA Vanda 71.81 177 eP **P 19 19 30.0 -0.2**
comp=Z,98nm,0.7s,mb5.8
VNDA epP pP 19 19 43.4 -2.4
VNDA LR LR
comp=Z,694nm,20.0s,MS4.9
SBA Scott Base 72.43 176 eP **P 19 19 34.6 +0.7**
SBA e*PP pP 19 19 48.2 -1.3
SBA pmax pmax
comp=Z,129nm,1.3s,mb5.7
SBA MLR MLR
comp=Z,1μm,21.0s,MS5.1
SBA Scott Base 72.43 176 eP **P 19 19 34.6 +0.7**
comp=Z,129nm,1.3s,mb5.7
SBA epP pP 19 19 48.2 -1.3
SBA LR LR
comp=Z,1μm,21.0s,MS5.1
FALS False Pass 72.59 27 eP **P 19 19 35.2 +0.3**
WMQ Urumqi 73.78 319 P **P 19 19 43.8 +1.9**
WMQ AP pP 19 19 56.9 -0.7
WMQ PCP PcP 19 19 59.5 +2.2
WMQ XP sP 19 20 02.2 -1.6
WMQ PP PP 19 22 30.6 +3.6
WMQ S S 19 29 10.4 +1.6
WMQ XS sS 19 29 32.6 -2.6
WMQ SKS 19 29 42.1
WMQ SCS ScS 19 29 46.2 -0.6
WMQ PS 19 29 50.1
WMQ AMB AMB
comp=Z,36nm,0.8s,mb5.3
WMQ AMB AMB
comp=Z,161nm,4.0s
WMQ LR LR
comp=N,3μm,19.7s,MS5.7
WMQ LR LR
comp=E,2μm,18.6s,MS5.7
WMQ LR LR
comp=Z,3μm,20.2s,MS5.6
SDPT Sand Point 74.23 27 eP **P 19 19 44.6 +0.1**
comp=Z,283nm,0.9s,mb6.2
SDPT LR LR
comp=Z,1μm,22.0s,MS5.1
LGTI Lohaghat 74.31 303 i P **P 19 19 44.3 -0.7**
RKT Rikitea 75.29 112 eP **P 19 19 50.3 -0.3**
comp=Z,138nm,1.1s,mb5.8
RKT Rikitea 75.29 112 eS S 19 29 25.3 -0.3
comp=Z,477nm,24.5s
RKT eLQ 19 39 53.4
RKT LR LR 19 43 12.4
comp=Z,2μm,32.0s
CHGN Chignik 75.73 27 eP **P 19 19 52.7 -0.5**
NDI New Delhi 76.66 301 eP **P 19 19 55.0 -3.5**
TNA Tin City 78.17 17 eP **P 19 20 06.4 -0.5**
comp=Z,21nm,0.9s,mb5.1
TNA LR LR
comp=Z,657nm,22.0s,MS4.9
MKAR Makanchi Array 78.47 320 P **P 19 20 07.5 -1.0**
comp=Z,37nm,0.7s,mb5.4,baz=98,slow=6.7,SNR=171
MKAR PKKP PKKPbc 19 38 41.7 -23
comp=Z,0.5nm,0.7s,baz=354,slow=1.4,SNR=4.2
MKAR PKKPbc PKKPbc 19 39 04.5 -0.1
comp=Z,3.9nm,0.7s,baz=304,slow=2.1,SNR=30
MKAR PKPPKP 19 47 05.2
comp=Z,1.3nm,0.9s,baz=266,slow=4.9,SNR=4.5
MKAR Makanchi Array 78.47 320 P **P 19 20 07.5 -1.0**
MKAR PKKP PKKPbc 19 38 41.7 -23
MKAR PKKPbc PKKPbc 19 39 04.5 -0.1
MKAR P'P' 19 47 05.2
TIXI Tiksi 78.59 354 eP **P 19 20 07.6 -1.6**
TIXI eS S 19 29 52.2 -9.3
TIXI pmax pmax
comp=Z,16nm,0.8s,mb5.0
TIXI Tiksi 78.59 354 ⇑i P **P 19 20 07.9 -1.3**
TIXI LR LR
comp=Z,389nm,22.0s,MS4.7
KDAK Kodiak Island 79.22 28 P **P 19 20 13.0 +0.4**
comp=Z,348nm,0.9s,mb6.3,SNR=7.4
KDAK Kodiak Island 79.22 28 P **P 19 20 13.2 +0.6**
comp=Z,51nm,0.9s,mb5.5,baz=178,slow=1.5,SNR=20
KDAK LR LR 19 49 45.8
comp=Z,431nm,20.5s,MS4.8,baz=242,slow=32
KDAK Kodiak Island 79.22 28 eP **P 19 20 12.6 -0.1**
comp=Z,63nm,1.0s,mb5.5
KDAK LR LR
comp=Z,170nm,22.0s,MS4.3
SVW2 Sparrevohn 79.65 24 eP **P 19 20 15.6 +0.6**
PTCN Pitcairn Islan 79.71 114 PFAKE 19 20 30.0 +15
PTCN LR LR
comp=Z,2μm,19.0s,MS5.4
ZAL Zalesovo 79.83 327 P **P 19 20 13.6 -2.4**
comp=Z,28nm,0.7s,mb5.3,baz=359,slow=5.6,SNR=102
ZAL PKKPbc PKKPbc 19 39 01.6 0.0
comp=Z,3.5nm,0.8s,baz=180,slow=2.3,SNR=16
ZAL PKPPKP 19 47 02.3
comp=Z,1.3nm,0.8s,baz=194,slow=4.0,SNR=6.2
ZAL LR LR 19 55 07.0
comp=Z,2μm,21.7s,MS5.4,baz=344,slow=35
ZAL Zalesovo 79.83 327 P **P 19 20 13.6 -2.4**
ZAL PKKPbc PKKPbc 19 39 01.6 0.0
ZAL P'P' 19 47 02.3
ZAL LR LR 19 55 07.0
TTA Tatalina 80.50 22 eP **P 19 20 19.8 +0.3**
KSH Kashi 80.50 312 ⇑P **P 19 20 20.5 +0.9**
KSH ePP PP 19 23 26.1 +2.7
KSH S S 19 30 18.3 -3.5
KSH eSKS 19 30 29.2
KSH eXS sS 19 30 49.6 +1.0
KSH ePS 19 31 14.5
KSH eSS SS 19 35 36.4 +1.6
KSH AMB AMB
comp=Z,383nm,4.1s
KSH LR LR
comp=N,458nm,4.8s
KSH LR LR
comp=E,377nm,6.3s
KSH LR LR
comp=Z,280nm,11.2s,MS4.9
NVS Novosibirsk 81.04 328 eP **P 19 20 19.5 -3.0**
NVS eS S 19 30 22.8 -4.6
NVS pmax pmax
comp=Z,39nm,1.2s,mb5.2
NVS pmax pmax
comp=N,18nm,1.6s
NVS pmax pmax
comp=E,28nm,1.5s
NVS smax
comp=N,55nm,2.9s
NVS smax
comp=E,47nm,2.3s
NIL Nilore 81.15 305 P **P 19 20 24.3 +1.3**
comp=E,86nm,0.6s,mb5.8,SNR=6.0
SLKM Skilak Lake 81.61 26 eP **P 19 20 24.7 -0.8**
SLKM Skilak Lake 81.61 26 eP **P 19 20 24.4 -1.1**
TKM2 Tokmak 2 81.72 315 P **P 19 20 25.3 -0.7**
SNR=23
KZA Kyzart 81.73 314 P **P 19 20 26.8 +0.7**
SNR=15
KBK Karagaybulak 82.10 314 P **P 19 20 27.5 -0.6**
SNR=11
KURK Kurchatov 82.12 323 P **P 19 20 26.5 -1.7**
comp=E,216nm,0.8s,mb6.1,SNR=43
KURK Kurchatov 82.12 323 ⇑P **P 19 20 26.7 -1.5**
SNR=14
KURK Kurchatov 82.12 323 eP **P 19 20 26.7 -1.5**
KURK pmax pmax
comp=Z,30nm,0.8s,mb5.3
KURK MLR MLR
comp=Z,709nm,22.0s,MS5.0
KURK Kurchatov 82.12 323 eP **P 19 20 26.7 -1.5**
comp=Z,30nm,0.8s,mb5.3
KURK LR LR
comp=Z,709nm,22.0s,MS5.0
UCH Uchtor 82.30 314 P **P 19 20 29.4 +0.3**
SNR=30
CHMS Chumysh 82.33 315 P **P 19 20 28.2 -1.0**
SNR=14
FRU Bishkek 82.39 315 eP **P 19 20 28.0 -1.5**
FRU pmax pmax
comp=Z,70nm,2.2s,mb5.2
FRU MLR MLR
comp=Z,400nm,20.0s,MS4.8
AAK Ala-Archa 82.42 314 P **P 19 20 29.1 -0.7**
SNR=14
AAK Ala-Archa 82.42 314 P **P 19 20 28.8 -0.9**
comp=Z,136nm,0.7s,mb6.0,SNR=8.8
AAK Ala-Archa 82.42 314 ⇓P **P 19 20 27.4 -2.3**
SNR=8.0
AAK Ala-Archa 82.42 314 eP **P 19 20 28.1 -1.6**
AAK pmax pmax
comp=Z,17nm,0.7s,mb5.1
AAK MLR MLR
comp=Z,538nm,22.0s,MS4.9
AAK Ala-Archa 82.42 314 eP **P 19 20 28.1 -1.6**
comp=Z,17nm,0.7s,mb5.1
AAK LR LR
comp=Z,538nm,22.0s,MS4.9
USP Ospenovka 82.58 315 P **P 19 20 29.8 -0.8**
SNR=22
PMR Palmer 82.58 25 eP **P 19 20 30.2 -0.4**
PMR pmax pmax
comp=Z,53nm,0.6s,mb5.8
PMR MLR MLR
comp=Z,1μm,22.0s,MS5.2
PMR Palmer 82.58 25 eP **P 19 20 30.2 -0.4**
comp=Z,53nm,0.6s,mb5.8
PMR LR LR
comp=Z,1μm,22.0s,MS5.2
MAW Mawson 82.80 203 ⇑i P **P 19 20 31.2 -0.5**
comp=Z,35nm,0.8s,mb5.4
MAW Mawson 82.80 203 P **P 19 20 31.3 -0.4**
comp=Z,47nm,0.8s,mb5.5,baz=90,slow=6.2,SNR=95
MAW PKKPbc PKKPbc 19 38 55.3 +0.5
comp=Z,1.9nm,0.8s,baz=358,slow=7.2,SNR=5.4
MAW LR LR 19 54 59.0
comp=Z,554nm,21.2s,MS4.9,baz=78,slow=34
MAW Mawson 82.80 203 ⇑i P **P 19 20 31.2 -0.5**
MAW pmax pmax
comp=Z,35nm,0.8s
AML Almayashu 82.86 314 P **P 19 20 32.6 +0.6**
SNR=7.6
MID Middleton Isla 82.88 28 eP **P 19 20 32.3 +0.2**
EKS2 Erkin-Say 82.94 314 P **P 19 20 32.0 -0.4**
SNR=24
SML Sawmill 83.02 25 eP **P 19 20 27.8 -5.0**
IMA2 Indian Mountai 83.05 20 eP **P 19 20 32.6 -0.4**
EYAK Cordova Ski Ar 83.61 27 eP **P 19 20 35.5 -0.4**
MCK McKinley 83.65 23 eP **P 19 20 34.3 -1.8**
MCK pmax pmax
comp=Z,118nm,0.9s,mb6.0
MCK MLR MLR
comp=Z,386nm,22.0s,MS4.7
MCK McKinley 83.65 23 eP **P 19 20 34.3 -1.8**
comp=Z,118nm,0.9s,mb6.0
MCK LR LR
comp=Z,386nm,22.0s,MS4.7
QSPA South Pole Qui 83.95 180 ⇑i P **P 19 20 37.2 -0.4**
comp=Z,215nm,1.1s,mb6.2
QSPA LR LR
comp=Z,1μm,19.0s,MS5.2
COLA College 84.59 23 i P **P 19 20 39.4 -1.4**
COLA College 84.59 23 eP **P 19 20 39.1 -1.7**
comp=Z,111nm,0.8s,mb6.0
COLA LR LR
comp=Z,444nm,21.0s,MS4.8
MENT Mentasta 85.45 25 eP **P 19 20 45.5 +0.4**
SIT Sitka 87.56 32 eP **P 19 20 55.7 +0.2**
SIT pmax pmax
comp=Z,30nm,0.9s,mb5.5
SIT MLR MLR
comp=Z,1μm,22.0s,MS5.3
SIT Sitka 87.56 32 eP **P 19 20 55.7 +0.3**
comp=Z,30nm,0.9s,mb5.5
SIT LR LR
comp=Z,1μm,22.0s,MS5.3
DAWY Dawson 87.66 25 eP **P 19 20 55.6 -0.4**
BVAR Borovoye Array 87.67 324 P **P 19 20 53.5 -2.5**
comp=Z,15nm,0.5s,mb5.4,baz=114,slow=4.7,SNR=86
BVAR PKKPbc PKKPbc 19 38 43.7 +0.3
comp=Z,1.7nm,0.6s,baz=291,slow=3.7,SNR=8.8
BVAR PKPPKP 19 46 52.3
comp=Z,1.8nm,1.0s,baz=270,slow=4.4,SNR=7.8
BVAR LR LR 20 03 08.7
comp=Z,444nm,18.9s,MS4.9,baz=136,slow=38
BRVK Borovoye 87.73 324 P **P 19 20 54.4 -1.9**
comp=Z,108nm,0.6s,mb6.2,SNR=16
BRVK Borovoye 87.73 324 eP **P 19 20 53.6 -2.7**
BRVK pmax pmax
comp=Z,12nm,0.8s,mb5.2
BRVK MLR MLR
comp=Z,298nm,21.0s,MS4.7
BRVK Borovoye 87.73 324 eP **P 19 20 53.6 -2.7**
comp=Z,12nm,0.8s,mb5.2
BRVK LR LR
comp=Z,298nm,21.0s,MS4.7
SKAG Skagway 88.18 30 eP **P 19 20 58.7 +0.3**
comp=Z,134nm,1.0s,mb6.1
SKAG LR LR
comp=Z,500nm,19.0s,MS5.0
DLBC Dease Lake 90.63 31 eP **P 19 21 10.2 +0.3**
SYO Syowa Base 91.08 200 ⇓eP **P 19 21 10.6 -1.4**
SYO Syowa Base 91.08 200 ⇓ePcP PcP 19 21 12.1 -0.9
INK Inuvik 91.13 21 P **P 19 21 11.7 -0.5**
comp=Z,122nm,1.1s,mb6.2,baz=255,slow=6.7,SNR=85
INK Inuvik 91.13 21 eP **P 19 21 10.3 -1.9**
INK pmax pmax
comp=Z,122nm,1.0s
INK Inuvik 91.13 21 eP **P 19 21 10.3 -1.9**
comp=Z,122nm,1.0s,mb6.2
K01A Sixes 91.87 47 ⇓P **P 19 21 15.6 0.0**
baz=92
JCC Jacoby Creek 91.98 49 ⇑P **P 19 21 16.2 0.0**
baz=92
M01C Crescent City 92.02 48 ⇑P **P 19 21 16.5 +0.1**
baz=92
O01C Eel River Cons 92.07 50 ⇓P **P 19 21 16.8 +0.2**
baz=92
KRMB Red Mountain 92.15 49 eP **P 19 21 16.9 0.0**
KHMM Horse Mountain 92.21 49 eP **P 19 21 17.7 +0.5**
WSAR Wadi Sarin 92.22 293 P **P 19 21 18.1 +0.8**
comp=Z,6.3nm,0.7s,mb5.1,baz=61,slow=3.2,SNR=4.6
WSAR PKKPbc PKKPbc 19 38 33.0 +1.0
comp=Z,10nm,0.8s,baz=53,slow=1.4,SNR=9.7
KIPM Iron Peak 92.29 50 eP **P 19 21 18.1 +0.5**
P01C Double 8 Ranch 92.36 51 ⇑P **P 19 21 17.7 -0.2**
baz=92
C03A Quillayute Air 92.37 42 ⇑P **P 19 21 18.8 +0.8**
baz=92
H02A Toledo 92.41 46 ⇑P **P 19 21 18.4 +0.3**
baz=92
L02A Cave Junction 92.44 48 ⇑P **P 19 21 18.4 +0.1**
baz=92
FARB Farallon Islan 92.45 53 ⇓P **P 19 21 18.4 +0.1**
baz=92
I02A Mapleton 92.46 46 ⇑P **P 19 21 18.2 -0.2**
baz=92
N02C Big Bar 92.52 49 ⇑P **P 19 21 18.8 +0.2**
baz=92,SNR=6.2
HOPS Hopland 92.53 51 PFAKE 19 21 30.0 +11
HOPS LR LR
comp=Z,897nm,22.0s,MS5.2
HOPS Hopland 92.53 51 ⇓P **P 19 21 19.8 +1.1**
baz=92
K02A Glendale 92.58 47 ⇓P **P 19 21 18.2 -0.7**
baz=93
MCCM Marconi Confer 92.59 52 ⇑P **P 19 21 19.7 +0.7**
baz=93
D03A Wishkah Elem. 92.82 43 ⇓P **P 19 21 20.0 0.0**
baz=93
F03A Seaside 92.85 44 ⇓P **P 19 21 19.7 -0.5**
baz=93
I03A Eugene 92.86 46 ⇑P **P 19 21 20.6 +0.4**
baz=93
O02C Red Bluff 92.86 50 ⇓P **P 19 21 20.7 +0.5**
baz=93,SNR=15
GASB Alder Springs 92.86 51 ⇑P **P 19 21 20.9 +0.6**
baz=93,SNR=9.7
COR Corvallis 92.90 46 PFAKE 19 21 30.0 +10
COR LR LR
comp=Z,1μm,22.0s,MS5.3
E03A Lebam 92.91 44 ⇑P **P 19 21 20.1 -0.4**
baz=93
H03A Soap Creek Ran 92.92 46 ⇑P **P 19 21 20.6 +0.1**
baz=93
M02C Callahan 92.92 49 ⇑P **P 19 21 20.8 +0.3**
baz=93,SNR=13
CVS Carmenet Viney 92.94 52 ⇑P **P 19 21 20.0 -0.6**
baz=93
HUMO Hull Mountain 92.96 48 eP **P 19 21 21.1 +0.4**
comp=Z,15nm,1.0s,mb5.4
HUMO LR LR
comp=Z,1μm,22.0s,MS5.2
HUMO Hull Mountain 92.96 48 ⇑P **P 19 21 20.8 +0.1**
baz=93,SNR=11
MNRC McLaughlin Nat 93.00 51 ⇓P **P 19 21 21.0 +0.1**
baz=93
JRSC Jasper Ridge 93.03 53 ⇑P **P 19 21 21.0 0.0**
baz=93
J03A Ideyld Park 93.03 47 ⇑P **P 19 21 20.9 -0.1**
baz=93
BNLO Ben Lomond (Sa 93.06 53 ⇑P **P 19 21 20.9 -0.2**
baz=93
YBH Yreka Blue Hor 93.06 49 LR LR 19 58 03.2
comp=Z,564nm,19.4s,MS5.0,baz=263,slow=32
YBH Yreka Blue Hor 93.06 49 eP **P 19 21 21.1 0.0**
YBH pmax pmax
comp=Z,13nm,1.0s
YBH MLR MLR
comp=Z,955nm,22.0s
YBH Yreka Blue Hor 93.06 49 eP **P 19 21 21.1 -0.1**
comp=Z,13nm,1.0s,mb5.3
YBH LR LR
comp=Z,955nm,22.0s,MS5.2
YBH Yreka Blue Hor 93.06 49 P **P 19 21 21.4 +0.3**
baz=93,SNR=12
WDC Whiskeytown Da 93.08 50 eP **P 19 21 21.0 -0.2**
WDC pmax pmax
comp=Z,25nm,1.5s,mb5.4
WDC MLR MLR
comp=Z,629nm,20.0s,MS5.1
WDC Whiskeytown Da 93.08 50 eP **P 19 21 21.0 -0.2**
comp=Z,25nm,1.5s,mb5.4
WDC LR LR
comp=Z,629nm,20.0s,MS5.1
WDC Whiskeytown Da 93.08 50 ⇑P **P 19 21 21.3 0.0**
baz=93,SNR=5.6
B04A Port Angeles 93.10 42 ⇑P **P 19 21 21.9 +0.6**
baz=93
Q03C Winters 93.32 52 ⇑P **P 19 21 22.5 +0.2**
baz=93
BDM Black Diamond 93.37 52 ⇓P **P 19 21 22.9 +0.4**
baz=93
O03C Acorn Hollow, 93.42 50 ⇓P **P 19 21 23.2 +0.4**
baz=93
WENL Wente Brothers 93.43 53 ⇓P **P 19 21 23.2 +0.3**
baz=93
HAST UC Hastings Re 93.49 54 ⇓P **P 19 21 23.4 +0.3**
baz=94
E04A Onalaska 93.49 44 ⇓P **P 19 21 23.7 +0.6**
baz=94
G04A Mulino 93.54 45 ⇑P **P 19 21 23.4 +0.1**
baz=94
SUTB Sutter Butte 93.54 51 ⇓P **P 19 21 23.8 +0.5**
baz=94
SAO San Andreas Ge 93.60 54 PFAKE 19 21 30.0 +6.4
SAO LR LR
comp=Z,828nm,21.0s,MS5.2
F04A Amboy 93.64 44 ⇑P **P 19 21 24.1 +0.3**
baz=94
A04A Legoe Bay, Lum 93.68 42 ⇑P **P 19 21 24.6 +0.6**
baz=94
H04A Detroit Lake 93.70 46 ⇑P **P 19 21 23.8 -0.2**
baz=94
L04A Klamath Falls 93.71 48 ⇓P **P 19 21 24.3 +0.1**
baz=94
V03C Hunter Liggett 93.71 54 ⇓P **P 19 21 24.6 +0.5**
baz=94
M04C Macdoel 93.71 49 ⇑P **P 19 21 24.3 +0.2**
baz=94,SNR=8.9
PACP Pacheco Peak 93.75 53 ⇓P **P 19 21 24.5 +0.1**
baz=94
S04C Ingram Canyon, 93.76 53 ⇓P **P 19 21 24.1 -0.2**
baz=94,SNR=5.6
OHCM Honcut 93.78 51 eP **P 19 21 24.4 -0.1**

ORV Oroville 93.79 51 ⇑P P 19 21 24.1 -0.4
baz=94,SNR=6.4
SVE Sverdlovsk 93.82 327 *e*P P 19 21 23.0 -1.6
SVE pmax pmax
comp=Z,20nm,2.2s,mb5.2
SVE MLR MLR
comp=N,300nm,18.0s,MS5.0
SVE MLR MLR
comp=E,400nm,18.0s,MS5.0
SVE MLR MLR
comp=Z,1μm,18.0s,MS5.3
K04A Chilquin 93.86 48 ⇑P P 19 21 24.4 -0.4
baz=94
HATC Hat Creek Radi 93.92 50 ⇑P P 19 21 24.9 -0.2
baz=94
V04C Ramage Ranch, 93.98 55 ⇓P P 19 21 25.3 0.0
baz=94
B05A Bryant 94.05 42 ⇑P P 19 21 26.1 +0.4
baz=94
U04C Hernandez Rese 94.11 54 ⇑P P 19 21 26.2 +0.3
baz=94
E05A Randle 94.15 44 ⇑P P 19 21 27.0 +0.8
baz=94
O04C Chester 94.16 50 ⇑P P 19 21 26.4 +0.2
baz=94
M05C Lookout 94.20 49 ⇑P P 19 21 26.1 -0.2
baz=94
O05C Quincy 94.27 50 ⇓P P 19 21 26.5 -0.2
baz=94
PKD Parkfield 94.27 54 ⇓P P 19 21 27.0 +0.3
baz=94
F05A White Salmon 94.31 44 ⇓P P 19 21 26.8 0.0
baz=94
I05A Bend 94.31 46 ⇑P P 19 21 26.8 -0.1
baz=94
LAVA Lava Cap Winer 94.32 52 ⇓P P 19 21 26.7 -0.2
baz=94,SNR=5.3
P05C Yuba Gap, Truc 94.46 51 ⇓P P 19 21 27.7 +0.1
baz=94
L05A Lakeview 94.49 48 ⇓P P 19 21 27.8 +0.1
baz=94
S05C Merced 94.54 53 ⇓P P 19 21 27.5 -0.4
baz=94
CMB Columbia Colle 94.54 52 *e*P P 19 21 27.9 -0.1
CMB pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
CMB MLR MLR
comp=Z,755nm,22.0s,MS5.1
CMB Columbia Colle 94.54 52 *e*P P 19 21 27.9 -0.1
comp=Z,7.9nm,1.1s,mb5.1
CMB LR LR
comp=Z,755nm,22.0s,MS5.1
CMB Columbia Colle 94.54 52 ⇑P P 19 21 27.7 -0.2
baz=94
U05C Westside ANR, 94.64 54 ⇓P P 19 21 28.5 +0.2
baz=95
M06C Likely Place G 94.69 49 ⇓P P 19 21 28.8 +0.2
baz=95
R05C Kirkwood Meado 94.83 52 ⇓P P 19 21 29.2 -0.1
baz=95
SBC Santa Barbara 94.83 56 ⇑P P 19 21 29.4 +0.1
baz=95
AKTK Aktyubinsk 94.90 320 P P 19 21 28.5 -1.1
AKTK PKKPbc PKKPbc 19 38 24.9 -0.2
AKTO Aktyubinsk 94.90 320 P P 19 21 28.5 -1.1
comp=Z,2.1nm,0.5s,mb4.9,baz=101,slow=5.4,SNR=13
AKTO PKKPbc PKKPbc 19 38 24.9 -0.2
comp=Z,3.5nm,0.8s,baz=342,slow=1.9,SNR=9.9
SNCC San Nicolas Is 94.91 57 PFAKE 19 21 40.0 +10
SNCC LR LR
comp=Z,808nm,19.0s,MS5.2
SNCC San Nicolas Is 94.91 57 ⇓P P 19 21 30.0 +0.3
baz=95
ARU Arti 94.94 326 *e*P P 19 21 28.0 -1.8
ARU *e* 19 25 18.3
ARU *e*PPP 19 27 22.8
ARU *e*S 19 31 53.8
ARU *e*SP SP 19 33 59.2 +3.3
ARU *e*PS PS 19 34 08.6 +5.6
ARU *e*SS SS 19 39 15.6 +10
ARU *e*SSS 19 42 46.6
ARU MLR MLR
comp=Z,900nm,23.0s,MS5.2
ARU MLR MLR
comp=N,400nm,22.0s,MS5.1
ARU MLR MLR
comp=E,700nm,23.0s,MS5.1
ARU Arti 94.94 326 *e*P P 19 21 27.1 -2.7
comp=E,4.3nm,0.7s,mb5.0
ARU LR LR
comp=Z,1μm,22.0s,MS5.3
S06C San Francisco 94.96 53 ⇓P P 19 21 29.7 -0.2
baz=95
K06A Valley Falls 94.96 48 ⇓P P 19 21 29.8 -0.1
baz=95
T06C Millerton Lake 95.01 53 ⇓P P 19 21 29.8 -0.3
baz=95
J06A Christmas Vall 95.06 47 ⇑P P 19 21 29.8 -0.5
baz=95
O06A Flanigan 95.12 50 ⇑P P 19 21 30.5 -0.1
baz=95
WCN Washoe City 95.12 51 ⇑P P 19 21 31.0 +0.4
baz=95
R06C Coleville 95.31 52 ⇑P P 19 21 31.7 +0.2
baz=95
KCC Kaiser Creek 95.34 53 ⇓P P 19 21 32.0 +0.4
baz=95
L07A Adell 95.59 48 ⇓P P 19 21 33.0 +0.3
baz=96
R07C Lee Vining 95.60 52 ⇑P P 19 21 32.7 -0.1
baz=96
HAWA Hanford 95.67 44 PFAKE 19 21 40.0 +6.9
HAWA LR LR
comp=Z,44nm,21.0s
J07A Hines 95.68 47 ⇓P P 19 21 33.2 +0.1
baz=96
M07A Soldier Meadow 95.69 49 ⇑P P 19 21 33.1 -0.1
baz=96
O07A Toulon 95.84 50 ⇓P P 19 21 33.6 -0.3
baz=96
ISA Isabella 95.93 55 PFAKE 19 21 50.0 +16
ISA LR LR
comp=Z,188nm,22.0s,MS4.5
ISA Isabella 95.93 55 ⇓P P 19 21 34.3 +0.1
baz=96
MTUM Tungsten Hills 95.94 53 *e*P P 19 21 34.1 -0.3
WVOR Wild Horse Val 96.13 48 *e*P P 19 21 35.5 +0.3
WVOR pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
WVOR Wild Horse Val 96.13 48 *e*P P 19 21 35.0 -0.2
comp=Z,9.0nm,1.1s,mb5.1
WVOR LR LR
comp=Z,1μm,22.0s,MS5.3
TIN Tinemaha 96.20 53 ⇓P P 19 21 35.7 +0.2
baz=96
NVAR Mina Array Bea 96.20 52 P P 19 21 36.2 +0.7
comp=Z,4.1nm,0.7s,mb5.0,baz=262,slow=4.2,SNR=24
NVAR PKKPbc PKKPbc 19 38 24.3 +2.8
comp=Z,1.5nm,0.6s,baz=78,slow=3.2,SNR=9.4
NVAR PKP2bc 19 45 56.8
comp=Z,0.6nm,0.7s,baz=157,slow=4.9,SNR=3.9
NVAR Mina Array Bea 96.20 52 P P 19 21 36.2 +0.7
NVAR PKKPbc PKKPbc 19 38 24.3 +2.8
NVAR ⇑*e* 19 45 56.8
J08A Circle Bar Ran 96.30 47 ⇓P P 19 21 36.1 +0.1
baz=96
MNV Mina 96.32 52 PFAKE 19 21 50.0 +14
MNV LR LR
comp=Z,665nm,22.0s,MS5.1
N08A GE Springer Mi 96.44 50 ⇑P P 19 21 36.3 -0.3
baz=96
Q08A Gabbs 96.52 52 ⇑P P 19 21 37.3 +0.3
baz=96
DAC Darwin (Calif) 96.67 54 *e*P P 19 21 38.5 +0.9
DAC *e* pP 19 21 52.5 -1.3
DAC pmax pmax
comp=Z,17nm,1.0s,mb5.4
DAC Darwin (Calif) 96.67 54 PFAKE 19 21 50.0 +12
DAC LR LR
comp=Z,640nm,20.0s,MS5.1
L09A Wilkinson Ranc 96.83 48 ⇑P P 19 21 38.2 -0.1
baz=97
109C Camp Elliot, M 96.91 58 ⇑P P 19 21 38.7 0.0
baz=97
M09A Marrel Ranch, 96.98 49 ⇓P P 19 21 39.0 0.0
baz=97
S09A Goldfield 97.03 53 ⇑P P 19 21 39.5 +0.2
baz=97
TPH Tonopah 97.04 52 PFAKE 19 21 50.0 +11
TPH LR LR
comp=Z,707nm,21.0s,MS5.1
Q09A Carvers 97.10 52 ⇓P P 19 21 39.9 +0.3
baz=97
BMN Battle Mountai 97.12 50 PFAKE 19 21 50.0 +10
BMN LR LR
comp=Z,528nm,20.0s,MS5.0
O09A Fish Creek Ran 97.14 50 ⇓P P 19 21 40.3 +0.5
baz=97
BMO Blue Mountains 97.18 46 *e*P P 19 21 39.7 -0.3
BMO pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
BMO MLR MLR
comp=Z,623nm,22.0s,MS5.0
BMO Blue Mountains 97.18 46 *e*P P 19 21 39.7 -0.3
comp=Z,3.6nm,0.8s,mb4.8
BMO LR LR
comp=Z,623nm,22.0s,MS5.0
GSC Goldstone 97.27 55 ⇓P P 19 21 40.2 -0.1
baz=97
NEW Newport 97.37 42 *e*P P 19 21 40.7 -0.1
NEW pmax pmax
comp=Z,6.0nm,0.7s
NEW MLR MLR
comp=Z,426nm,20.0s
NEW Newport 97.37 42 *e*P P 19 21 40.7 -0.1
comp=Z,5.6nm,0.7s,mb5.1
NEW LR LR
comp=Z,426nm,20.0s,MS4.9
PFO Pinyon Flat Ob 97.49 57 PFAKE 19 21 50.0 +8.6
PFO LR LR
comp=Z,645nm,20.0s,MS5.1
PFO Pinyon Flat Ob 97.49 57 ⇑P P 19 21 41.2 -0.2
baz=98
TPNV Topopah Spring 97.78 54 *e*P P 19 21 42.1 -0.5
TPNV pmax pmax
comp=Z,5.0nm,0.8s,mb5.1
TPNV MLR MLR
comp=Z,626nm,20.0s,MS5.1
TPNV Topopah Spring 97.78 54 *e*P P 19 21 42.1 -0.5
comp=Z,5.3nm,0.8s,mb5.1
TPNV LR LR
comp=Z,626nm,20.0s,MS5.1
TUQ Turquoise Mtn. 97.99 55 ⇑P P 19 21 43.6 -0.1
baz=98
RPN Rapa Nui 98.02 118 LR LR 19 55 08.6
comp=Z,421nm,21.6s,MS4.9,baz=137,slow=29
NVL N'lazarevskaya 98.13 193 ⇓*i*P P 19 21 43.3 -0.9
NVL pmax pmax
comp=Z,43nm,1.8s,mb5.7
NVL MLR MLR
comp=Z,925nm,15.2s,MS5.4
M11A Holland Ranch, 98.23 49 ⇑P P 19 21 44.9 +0.2
baz=98
N11A Elko Archery C 98.26 50 ⇓P P 19 21 44.9 +0.1
baz=98
Q11A Duckwater 98.30 52 ⇑P P 19 21 45.2 +0.2
baz=98
O11A Cowboy Ranch, 98.31 50 ⇓P P 19 21 45.0 0.0
baz=98
YKA Yellowknife Ar 98.50 28 P P 19 21 44.9 -0.9
comp=Z,16nm,1.0s,mb5.5,baz=277,slow=5.0,SNR=22
YKA PP PP 19 25 44.8 -1.9
comp=Z,3.9nm,0.9s,baz=268,slow=8.0,SNR=5.9
YKA PKKPbc PKKPbc 19 38 14.2 -1.1
comp=Z,8.0nm,0.7s,baz=88,slow=2.8,SNR=26
YKA LR LR 20 04 02.4
comp=Z,626nm,20.9s,MS5.1,baz=285,slow=34
YKA Yellowknife Ar 98.50 28 P P 19 21 44.9 -1.0
YKA 19 25 44.8
YKA Yellowknife Ar 98.50 28 P P 19 21 44.9 -0.9
YKA PP PP 19 25 44.8 -1.9
YKA PKKPbc PKKPbc 19 38 14.2 -1.1
YKA LR LR 20 04 02.4
ELK Elko 98.64 50 PFAKE 19 22 00.0 +13
ELK LR LR
comp=Z,636nm,21.0s,MS5.1
N12A Clover Valley, 98.79 50 ⇓P P 19 21 47.6 +0.4
baz=99
GLA Glamis 98.84 58 ⇓P P 19 21 47.9 +0.5
baz=99
V12A Nelson 98.88 55 ⇑P P 19 21 48.0 +0.4
baz=99
P12A McGill 98.88 51 ⇓P P 19 21 47.1 -0.5
baz=99
M12A Wells 98.89 49 ⇓P P 19 21 47.2 -0.4
baz=99
Q12A Willow Creek R 98.94 52 ⇑P P 19 21 48.0 +0.1
baz=99
U12A Valley of Fire 99.14 54 ⇓P P 19 21 49.3 +0.6
baz=99
HLID Hailey 99.25 47 *e*P P 19 21 48.7 -0.6
comp=Z,2.9nm,0.9s,mb4.8
HLID LR LR
comp=Z,1μm,22.0s,MS5.3
N13A Wendover, West 99.42 50 ⇓P P 19 21 50.0 0.0
baz=99
M13A Montello 99.45 49 ⇓P P 19 21 49.9 -0.2
baz=99
MSO Missoula 99.53 44 PFAKE 19 22 00.0 +10
MSO LR LR
comp=Z,357nm,22.0s,MS4.8
W13A Hualapai Mount 99.65 56 ⇓P Pdif 19 21 51.0 0.0
baz=100
EDM Edmonton 99.67 37 *e*P Pdif 19 21 50.1 -1.0
X13A Yucca 99.70 56 ⇑P Pdif 19 21 51.6 +0.4
baz=100
SNAA Sanae 100.21 189 ⇓*i*Pdiff Pdif 19 21 51.3 -2.2
SNAA *e* 19 22 05.9
SNAA *e* 19 22 09.4
SNAA *e* 19 22 13.4
SNAA *e* 19 22 17.6
SNAA *e* 19 22 20.2
SNAA *e* 19 22 29.0
SNAA *e* 19 25 25.5
SNAA *e* 19 25 47.1
SNAA *e* 19 25 57.2
SNAA *e* 19 26 22.5
SNAA *e* 19 26 24.9
SNAA *e* 19 28 26.8
SNAA *e* 19 29 22.3
SNAA Sanae 100.21 189 *e*P Pdif 19 21 52.2 -1.3
SNAA pmax pmax
comp=Z,16nm,1.2s
SNAA Sanae 100.21 189 *e*P Pdif 19 21 52.2 -1.3
comp=Z,16nm,1.2s
W14A Seligman 100.32 55 ⇑P Pdif 19 21 54.7 +0.7
baz=100
Y14A Wickenburg 100.38 57 ⇓P Pdif 19 21 55.3 +1.0
baz=100
Z14A Wintersburg 100.42 57 ⇓P Pdif 19 21 55.3 +0.9
baz=100
X14A Yava 100.47 56 ⇑P Pdif 19 21 55.6 +0.9
baz=100
DUG Dugway 100.49 50 PFAKE 19 22 10.0 +15
DUG LR LR
comp=Z,437nm,19.0s,MS5.0
W15A Williams 100.98 55 ⇑P Pdif 19 21 57.4 +0.4
baz=101
MVU Marysvale 100.98 52 PFAKE 19 22 10.0 +13
MVU LR LR
comp=Z,911nm,22.0s,MS5.2
X15A Humboldt 101.01 56 ⇓P Pdif 19 21 57.4 +0.4
baz=101
115A Sonoran Desert 101.02 58 ⇑P Pdif 19 21 57.2 +0.1
baz=101
BOZ Bozeman (W) 101.18 45 P Pdif 19 22 02.2 +4.4
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 101.18 45 *e*Pdif Pdif 19 21 57.6 -0.2
comp=Z,2.6nm,0.8s
BOZ LR LR
comp=Z,589nm,22.0s,MS5.1
MPU Maple Canyon 101.40 51 PFAKE 19 22 10.0 +11
MPU LR LR
comp=Z,1μm,22.0s,MS5.5
AHID Auburn Hatcher 101.70 48 PFAKE 19 22 10.0 +10
AHID LR LR
comp=Z,1μm,22.0s,MS5.3
WUAZ Wupatki 101.71 55 PFAKE 19 22 10.0 +10
WUAZ LR LR
comp=Z,699nm,19.0s,MS5.2
VNA1 Neumayer--Stat 101.91 188 ⇑*i*Pdiff Pdif 19 21 59.1 -2.0
VNA1 *e* 19 22 16.5
VNA1 *e* 19 26 10.4
VNA1 *e* 19 26 17.4
LKWY Lake 102.11 46 PFAKE 19 22 10.0 +8.1
LKWY LR LR
comp=Z,812nm,20.0s,MS5.2
TUC Tucson 102.24 58 PFAKE 19 22 10.0 +7.5
TUC LR LR
comp=Z,591nm,21.0s,MS5.1
EGMT Eagleton 102.31 42 PFAKE 19 22 10.0 +7.2
EGMT LR LR
comp=Z,289nm,20.0s,MS4.8
BW06 Boulder Array 102.83 48 PFAKE 19 22 20.0 +15
BW06 LR LR
comp=Z,1μm,22.0s,MS5.5
PDAR Pinedale Array 102.83 48 P Pdif 19 22 04.8 -0.3
comp=Z,4.3nm,0.8s,baz=275,slow=1.9,SNR=35
PDAR PP PP 19 26 19.6 +0.1
comp=Z,0.9nm,0.9s,baz=258,slow=5.8,SNR=4.5
PDAR PKKPbc PKKPbc 19 38 02.9 0.0
comp=Z,1.0nm,0.6s,baz=109,slow=6.2,SNR=7.8
PDAR PKPPKP 19 46 21.1
comp=Z,1.5nm,1.1s,baz=82,slow=6.6,SNR=5.8
KBS Kingsbay 104.00 352 PFAKE 19 22 20.0 +10
KBS LR LR
comp=Z,423nm,21.0s,MS5.0
GNI Garni 104.37 310 PFAKE 19 22 20.0 +8.0
GNI LR LR
comp=Z,272nm,22.0s,MS4.7
LVZ Lovozero 104.40 339 PFAKE 19 22 20.0 +7.9
LVZ LR LR
comp=Z,604nm,19.0s,MS5.2
LAO LASA Array 104.83 43 PFAKE 19 22 30.0 +16
LAO LR LR
comp=Z,602nm,19.0s,MS5.2
KIV Kislovodsk 105.53 314 PFAKE 19 26 40.0 +10
KIV LR LR
comp=Z,345nm,22.0s,MS4.8
ANMO Albuquerque 105.75 56 PFAKE 19 26 40.0 +9.3
ANMO LR LR
comp=Z,471nm,20.0s,MS5.0
ISCO Idaho Springs 106.03 50 PFAKE 19 26 40.0 +8.7
ISCO LR LR
comp=Z,521nm,19.0s,MS5.1
FFC Flin Flon 106.12 35 PFAKE 19 26 40.0 +8.6
FFC LR LR
comp=Z,601nm,20.0s,MS5.1
KEV Kevo 106.17 342 PFAKE 19 26 40.0 +8.5
KEV LR LR
comp=Z,641nm,19.0s,MS5.2
SDCO Great Sand Dun 106.31 53 PFAKE 19 26 40.0 +8.2
SDCO LR LR
comp=Z,911nm,21.0s,MS5.3
RSSD Black Hills 106.69 46 PFAKE 19 26 40.0 +7.5
RSSD LR LR
comp=Z,707nm,22.0s,MS5.2
ARCES ARCESS Array B 106.74 342 Pdiff Pdif 19 22 21.6 -0.9
comp=Z,3.0nm,0.6s,baz=69,slow=7.5,SNR=26
ARCES PKiKP PKiKP 19 26 31.7 -0.9
comp=Z,1.5nm,0.6s,baz=109,slow=0.5,SNR=9.4
ARCES PKKPbc PKKPbc 19 37 49.7 -1.4
comp=Z,3.7nm,0.6s,baz=256,slow=1.9,SNR=23
ARCES ARCESS Array B 106.74 342 Pdif Pdif 19 22 21.6 -0.9
ARCES PKPdf PKiKP 19 26 31.7 -0.9
ARCES PKKPbc PKKPbc 19 37 49.7 -1.4
ARE0 ARCESS Array S 106.74 342 *e*Pdif Pdif 19 22 22.1 -0.5
OBN Obninsk 107.38 326 P Pdif 19 22 25.0 -0.4
OBN *e* 19 26 53.3
OBN MLR MLR
comp=Z,1μm,21.0s,MS5.3
OBN Obninsk 107.38 326 PFAKE 19 26 40.0 +6.2
OBN LR LR
comp=Z,1μm,22.0s,MS5.3
LTX Lajitas 108.47 61 PFAKE 19 26 50.0 +14
LTX LR LR
comp=Z,507nm,20.0s,MS5.1
AMTX Amarillo 109.67 55 PFAKE 19 26 50.0 +12
AMTX LR LR
comp=Z,518nm,20.0s,MS5.1
FINES FINESS Array B 110.34 334 Pdiff Pdif 19 22 35.5 -3.0
comp=Z,2.7nm,0.9s,baz=84,slow=5.9,SNR=7.8
FINES PKiKP PKiKP 19 26 38.5 -0.8
comp=Z,1.8nm,0.6s,baz=87,slow=4.0,SNR=10
FINES PP PP 19 27 13.6 -1.1
comp=Z,2.9nm,0.7s,baz=72,slow=12,SNR=4.6
FINES PKKPbc PKKPbc 19 37 39.0 -0.7
comp=Z,2.9nm,0.8s,baz=273,slow=5.2,SNR=5.7
FINES PKKPab PKKPab 19 37 50.3 -0.4
comp=Z,2.8nm,0.9s,baz=318,slow=2.6,SNR=4.0
FINES FINESS Array B 110.34 334 Pdif Pdif 19 22 35.5 -3.0
FINES PKPdf PKiKP 19 26 38.5 -0.8
FINES PP PP 19 27 13.6 -1.1
FINES PKKPbc PKKPbc 19 37 39.0 -0.7
FINES PKKPab PKKPab 19 37 50.3 -0.4
ULM Lac du Bonnet 110.86 38 PKiKP PKiKP 19 26 39.9 -0.4
comp=Z,2.6nm,0.6s,baz=236,slow=1.0,SNR=7.6
ULM PP PP 19 27 15.9 -2.5
comp=Z,2.9nm,0.8s,baz=284,slow=6.8,SNR=3.6
ULM PKKPbc PKKPbc 19 37 36.5 -1.5
comp=Z,1.5nm,0.7s,baz=106,slow=6.2,SNR=4.8
ULM Lac du Bonnet 110.86 38 *e*PKiKP PKiKP 19 26 38.9 -1.4
ULM LR LR
comp=Z,833nm,21.0s,MS5.3
KMBO Kilima Mbogo 111.00 266 PKiKP PKiKP 19 26 41.0 +0.5
comp=Z,2.0nm,0.9s,baz=2.8,slow=7.1,SNR=5.0
ASF Jabal al Asfar 111.45 302 PKKPbc PKKPbc 19 37 38.0 +1.9
comp=Z,8.0nm,0.9s,baz=121,slow=1.3,SNR=11
JCT Junction City 111.72 60 PKiKP PKiKP 19 26 41.8 -0.1
JCT Junction City 111.72 60 *e*PKiKP PKiKP 19 26 41.6 -0.3
JCT LR LR
comp=Z,808nm,21.0s,MS5.3
WMOK Wichita Mounta 112.05 55 *e*PKiKP PKiKP 19 26 42.2 -0.4
WMOK MLR MLR
comp=Z,573nm,22.0s,MS5.1
MMAI Mount Meron Ar 112.60 303 PKKPbc PKKPbc 19 37 31.2 -1.0
comp=Z,4.8nm,0.7s,baz=270,slow=0.6,SNR=8.3
BR131 Keskin Array S 112.88 311 PFAKE 19 27 00.0 +16
BR131 LR LR
comp=Z,174nm,19.0s,MS4.7
BRTR Keskin Array B 112.88 311 PKiKP PKiKP 19 26 43.8 -0.4
comp=Z,1.2nm,0.8s,baz=153,slow=0.3,SNR=5.2
BRTR PP PP 19 27 27.9 -5.0
comp=Z,0.8nm,0.8s,baz=50,slow=6.7,SNR=3.8
BRTR PKKPbc PKKPbc 19 37 32.5 +1.2
comp=Z,4.8nm,0.8s,baz=214,slow=3.7,SNR=17
AKASG Malin Array Be 112.94 323 PKiKP PKiKP 19 26 42.8 -1.4
comp=Z,2.9nm,0.7s,baz=62,slow=2.3,SNR=14
AKASG PP PP 19 27 30.6 -2.8
comp=Z,4.1nm,1.0s,baz=58,slow=6.8,SNR=9.0
AKASG PKKPbc PKKPbc 19 37 30.3 -0.8
comp=Z,4.0nm,0.6s,baz=263,slow=4.1,SNR=27
AKASG Malin Array Be 112.94 323 PKiKP PKiKP 19 26 42.8 -1.4
AKASG 19 27 30.6
AKBB Malin Array Si 112.94 323 PKiKP PKiKP 19 26 43.7 -0.5
AKBB Malin Array Si 112.94 323 *e*PKiKP PKiKP 19 26 43.0 -1.2
ANTO Ankara 113.49 311 PFAKE 19 27 00.0 +15
ANTO LR LR
comp=Z,211nm,22.0s,MS4.7
EYMN Ely 114.30 40 *e*PKiKP PKiKP 19 26 46.4 -0.5
EYMN LR LR
comp=Z,522nm,20.0s,MS5.1
HKT Hockley 115.19 60 PFAKE 19 27 00.0 +11
HKT LR LR
comp=Z,887nm,22.0s,MS5.3
CFR Carcaliu 115.42 317 ⇑*i*P PKPdf 19 26 45.4 -3.6
CFR Carcaliu 115.42 317 ⇑P PKPdf 19 26 45.4 -3.6
HFS Hagfors 116.17 337 PKP PKPdf 19 26 48.9 -1.5
comp=Z,3.5nm,0.8s,baz=76,slow=6.3,SNR=5.7
HFS PKKPbc PKKPbc 19 37 19.3 -0.8
comp=Z,3.8nm,0.9s,baz=188,slow=7.3,SNR=5.6
MIAR Mount Ida 116.32 54 PKiKP PKPdf 19 26 51.8 +1.1
MIAR Mount Ida 116.32 54 *e*PKPdf PKPdf 19 26 50.3 -0.4
MIAR LR LR
comp=Z,659nm,21.0s,MS5.2
LBTB Lobatse 116.51 238 PKiKP PKPdf 19 26 52.2 +1.1
LBTB Lobatse 116.51 238 *e*PKPdf PKPdf 19 26 51.2 +0.1
LBTB LR LR
comp=Z,982nm,22.0s,MS5.4
NB2 NORSAR Subarra116.53 338 PKiK 19 26 49.0
comp=Z,3.1nm,0.7s,baz=49,slow=2.0
NB2 NORSAR Subarra116.53 338 *e*P PKPdf 19 26 49.0 -2.1
NOA NORSAR Array B116.53 338 PKP PKPdf 19 26 49.1 -2.0
comp=Z,2.8nm,0.6s,baz=50,slow=1.8,SNR=11
NOA PP PP 19 27 58.1 -0.6
comp=Z,5.4nm,1.1s,baz=50,slow=6.3,SNR=3.6
NOA PKKPbc PKKPbc 19 37 18.6 -0.2
comp=Z,4.4nm,0.7s,baz=231,slow=3.0,SNR=16

NOA NORSAR Array B 116.53 338 PKIKP PKPdf 19 26 49.1 -2.0
NOA 19 27 58.1
MLR Muntele Rosu 116.78 318 PKP PKPdf 19 26 50.9 -0.7
comp=Z,5.4nm,0.8s,baz=91,slow=1.8,SNR=9.2
MLR PKKPbc PKKPbc 19 37 17.2 -0.7
comp=Z,3.9nm,0.6s,baz=203,slow=7.7,SNR=7.0
MLR Muntele Rosu 116.78 318 ⇓*iP* PKPdf 19 26 51.2 -0.4
MLR Muntele Rosu 116.78 318 ⇓P PKPdf 19 26 51.2 -0.4
LSZ Lusaka 117.20 250 PFAKE 19 27 00.0 +7.6
LSZ LR LR
comp=Z,496nm,20.0s,MS5.1
SUR Sutherland 117.32 229 PFAKE 19 27 00.0 +7.4
SUR LR LR
comp=Z,933nm,20.0s,MS5.4
CCM Cathedral Cave 117.36 50 PFAKE 19 27 00.0 +7.3
CCM LR LR
comp=Z,648nm,22.0s,MS5.2
KOLS Kolonicke sedl 117.77 323 *e*PKP PKPdf 19 26 53.3 -0.2
KOLS Kolonicke sedl 117.77 323 *e*PKP PKPdf 19 26 53.4 -0.1
KONO Kongsberg 118.06 338 PFAKE 19 27 10.0 +16
KONO LR LR
comp=Z,653nm,20.0s,MS5.2
CRVS Cervenica-Dubn 118.27 323 *e*PKP PKPdf 19 26 53.6 -0.9
BZS Buzias 119.55 320⇑*iP* PKPdf 19 26 56.2 -0.7
BZS Buzias 119.55 320⇑P PKPdf 19 26 56.2 -0.7
PSZ Piszkesteto 119.64 323⇑*e*PKP PKPdf 19 26 56.4 -0.7
VTS Vitosha 119.64 316⇓*iP* PKPdf 19 26 57.1 0.0
VTS Vitosha 119.64 316⇓P PKPdf 19 26 57.1 0.0
OXF Oxford 119.68 54 PFAKE 19 27 10.0 +13
OXF LR LR
comp=Z,644nm,22.0s,MS5.2
OKC Ostrava-Krasne 119.76 325 *e*PKPdf PKPdf 19 26 57.1 -0.2
OKC AMS AMS 20 18 00.0
comp=Z,900nm,22.4s
VYHS Vyhne 120.00 324 *e*PKP PKPdf 19 26 56.4 -1.4
VYHS *e*PP PP 19 28 20.4 -2.3
MORC Moravsky Berou 120.13 326⇓*iP* PKPdf 19 26 58.1 0.0
MORC Moravsky Berou 120.13 326 *e*PKPdf PKPdf 19 26 57.5 -0.6
WVT Waverly 120.50 51 PFAKE 19 27 10.0 +11
WVT LR LR
comp=Z,667nm,21.0s,MS5.3
DPC Dobruska-Polom 120.52 327 *e*PKPdf PKPdf 19 26 58.1 -0.7
DPC *ex* x 19 36 55.2
DPC *e*PKKP PKKPbc 19 37 04.9 +0.5
DPC *e*SP SP 19 38 14.5 +3.7
DPC AMS AMS 20 17 20.0
comp=Z,1μm,24.6s
UPC Upice 120.61 327 *e*PKPdf PKPdf 19 26 58.5 -0.5
UPC *e*PKKP PKKPbc 19 37 04.6 +0.5
PLAL Pickwick Lake 120.62 53 PFAKE 19 27 10.0 +11
PLAL LR LR
comp=Z,676nm,22.0s,MS5.2
IDI Anoyia 120.68 308 PKP PKPdf 19 27 00.1 +1.0
comp=Z,7.4nm,0.7s,baz=196,slow=15,SNR=4.6
VRAC Vranov 120.90 325 PKP PKPdf 19 26 59.7 +0.2
comp=Z,0.9nm,0.3s,baz=305,slow=11,SNR=4.1
WCI Wyandotte Cave 121.05 49 PKIKP PKPdf 19 26 59.7 -0.1
WCI Wyandotte Cave 121.05 49 *e*PKPdf PKPdf 19 26 58.8 -1.0
WCI LR LR
comp=Z,567nm,21.0s,MS5.2
PKSM Moragy 121.17 321⇑*iP* PKPdf 19 26 59.1 -1.0
PKSM Moragy 121.17 321⇑*e*P PKPdf 19 26 59.4 -0.7
PLCA Paso Flores 121.28 146 PKP PKPdf 19 27 00.8 +0.5
comp=Z,41nm,0.7s,baz=220,slow=2.6,SNR=70
PLCA Paso Flores 121.28 146 *e*P PKPdf 19 27 00.6 +0.3
PVCC Panska Ves 121.37 327 *e*PKPdf PKPdf 19 26 59.8 -0.6
PVCC AMS AMS 20 12 50.0
BSEG Bad Segeberg 121.49 332 *e*PKKP PKKPbc 19 37 01.5 +0.8
BSEG Bad Segeberg 121.49 332 *e*PKKP PKKPbc 19 37 01.5 +0.8
AAM Ann Arbor 121.50 43 PFAKE 19 27 10.0 +9.3
AAM LR LR
comp=Z,410nm,21.0s,MS5.0
BRG Berggiesshubel 121.52 328 *e*PKKP PKKPbc 19 37 00.8 +0.2
BRG Berggiesshubel 121.52 328 *e*PKKP PKKPbc 19 37 00.8 +0.2
BRG Berggiesshubel 121.52 328 *e*PKP PKPdf 19 27 00.2 -0.5
comp=Z,7.1nm,0.7s
BRG *e* 19 37 00.8
comp=Z,4.1nm,1.1s
BRG
comp=N,292nm,23.1s
BRG
comp=E,271nm,18.1s
BRG
comp=Z,452nm,19.7s
BRG Berggiesshubel 121.52 328 *e*PKIKP PKPdf 19 27 00.2 -0.5
BRG pmax pmax
comp=Z,7.0nm,0.7s
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG MLR MLR
comp=N,292nm,23.2s
BRG MLR MLR
comp=E,271nm,18.1s
BRG MLR MLR
comp=Z,452nm,19.7s,MS5.1
BRG Berggiesshubel 121.52 328 *e*PKP PKPdf 19 27 00.2 -0.5
BRG *e* 19 37 00.8
BRG LR LR
comp=Z,450nm,19.7s,MS5.1
TREC Trest 121.53 326 *e*PKPdf PKPdf 19 27 00.4 -0.3
TREC *ep*PKP pPKPdf 19 27 13.9 -3.5
TREC *e*PKKP PKKPbc 19 37 00.7 +0.1
TREC AMS AMS 20 18 00.0
comp=Z,1μm,23.4s
TREC Trest 121.53 326 *e*PKIKP PKPdf 19 27 00.4 -0.3
TREC *e* 19 27 13.9
TREC MLR MLR
comp=Z,1μm,23.4s,MS5.4
PRU Pruhonice 121.68 327 *e*PKPdf PKPdf 19 27 00.2 -0.8
PRU *ep*PKP pPKPdf 19 27 14.7 -3.0
PRU *e*PKKP PKKPbc 19 36 59.7 -0.3
PRU *ex* x 19 38 38.5
PRU AMS AMS 20 18 50.0
comp=Z,900nm,23.0s
PRU Pruhonice 121.68 327 *e*PKIKP PKPdf 19 27 00.2 -0.8
PRU *e* 19 27 14.7
PRU MLR MLR
comp=Z,900nm,23.0s,MS5.3
CLL Collm 121.76 329 *e*PKKP PKKPbc 19 37 00.0 +0.3
CLL Collm 121.76 329 *e*PKKP PKKPbc 19 37 00.0 +0.3
CLL Collm 121.76 329 *i* PKIKP PKPdf 19 27 00.4 -0.8
comp=Z,logA/T=1.2
CLL *e* 19 27 32.0
CLL *e**SPP 19 28 54.0
CLL *i* PKKP PKKPbc 19 37 00.0 +0.3
CLL *i* 19 37 14.4
CLL Collm 121.76 329 *i* PKPdf PKPdf 19 27 00.4 -0.8
comp=Z,14nm,0.8s
CLL *ex* x 19 27 32.0
CLL *es*PP 19 28 54.0
CLL *i* PKKPbc PKKPbc 19 37 00.0 +0.3
comp=Z,9.0nm,0.9s
CLL *i* pPKKPbc 19 37 14.4
CLL Lm 20 20 00.0
comp=N,800nm,21.8s
CLL Lm 20 20 00.0
comp=E,800nm,22.0s
CLL Collm 121.76 329 *i* PKP PKPdf 19 27 00.4 -0.8
CLL *e* 19 27 32.0
CLL *i* PKKP PKKPbc 19 37 00.0 +0.3
CLL LR LR
comp=Z,1μm,24.0s,MS5.5
LRAL Lakeview Retre 121.99 55 *e*PKPdf PKPdf 19 27 01.1 -0.5
LRAL *ep*PKPdf pPKPdf 19 27 15.4 -3.0
LRAL LR LR
comp=Z,500nm,20.0s,MS5.2
CONA Conrad Observa 122.02 324⇑*i*PKiKP PKiKP 19 27 01.2 -0.6
comp=Z,6.6nm,0.6s,SNR=12
TANN Tannenbergstha 122.55 328 *e*PKKP PKKPbc 19 36 57.3 +0.6
TANN Tannenbergstha 122.55 328 *e*PKKP PKKPbc 19 36 57.3 +0.6
WERD Werda 122.62 328 *e*PKKP PKKPbc 19 36 57.0 +0.6
WERD Werda 122.62 328 *e*PKKP PKKPbc 19 36 57.0 +0.6
NKC Novy Kostel 122.67 328 *e*PKPdf PKPdf 19 27 02.0 -0.9
NKC *ep*PKP pPKPdf 19 27 15.6 -4.0
NKC *e*PKKP PKKPbc 19 36 56.1 -0.1
NKC Novy Kostel 122.67 328 *e*PKIKP PKPdf 19 27 02.0 -0.9
NKC *e* 19 27 15.6
KHC Kasperske Hory 122.67 326 *e*PKPdf PKPdf 19 27 02.4 -0.5
KHC *ep*PKP pPKPdf 19 27 16.2 -3.4
KHC *e*PKKP PKKPbc 19 36 55.2 -1.0
KHC *ex* x 19 37 12.5
KHC *e*SP SP 19 38 32.7 +2.7
KHC AMS AMS 20 18 50.0
comp=Z,1μm,23.0s
KHC Kasperske Hory 122.67 326 *e*PKIKP PKPdf 19 27 02.4 -0.5
KHC *e* 19 27 16.2
KHC *e* 19 38 32.7
KHC MLR MLR
comp=Z,1μm,23.0s,MS5.5
GERES GERESS Array B 122.76 326 PKP PKPdf 19 27 02.6 -0.5
comp=Z,7.0nm,0.6s,baz=67,slow=1.5,SNR=59
GERES PKKPbc PKKPbc 19 36 56.3 +0.4
comp=Z,1.8nm,0.7s,baz=222,slow=1.8,SNR=12
ACSO Alum Creek Sta 122.77 45 *e*PKPdf PKPdf 19 27 02.5 -0.6
ACSO LR LR
comp=Z,324nm,22.0s,MS4.9
MOX Moxa 122.86 329 *e*PKKP PKKPbc 19 36 56.1 +0.6
MOX Moxa 122.86 329 *e*PKKP PKKPbc 19 36 56.1 +0.6
MOX Moxa 122.86 329 *e*PKP PKPdf 19 27 03.0 -0.3
MOX
comp=Z,900nm,20.0s
MOX Moxa 122.86 329 *e*P PKKPbc 19 36 55.8 +0.3
comp=Z,6.0nm,1.1s
MOA Mollm 122.98 325⇑*iP* PKPdf 19 27 02.6 -0.9
comp=Z,3.5nm,0.6s
MANZ Manzenberg 122.99 328 *e*PKKP PKKPbc 19 36 55.5 +0.5
MANZ Manzenberg 122.99 328 *e*PKKP PKKPbc 19 36 55.5 +0.5
WET Wettzell 123.05 327 *e*PKKP PKKPbc 19 36 54.8 +0.1
WET Wettzell 123.05 327 *e*PKKP PKKPbc 19 36 54.8 +0.1
ROTZ Rotzenmuhle 123.06 328 *e*PKKP PKKPbc 19 36 55.2 +0.5
ROTZ Rotzenmuhle 123.06 328 *e*PKKP PKKPbc 19 36 55.2 +0.5
PERS Pernice 123.11 323 *i* PKPdf PKPdf 19 27 02.8 -1.0
PERS *ep*PKPdf pPKPdf 19 27 11.2 -9.2
TEIG Tepich 123.20 70 *e*PKPdf PKPdf 19 27 04.0 +0.1
TEIG *ep*PKPdf pPKPdf 19 27 19.3 -1.4
TEIG LR LR
comp=Z,193nm,19.0s,MS4.8
CPCT Cooper Cave 123.27 51 *e*PKPdf PKPdf 19 27 03.7 -0.4
BOJS Bojanci 123.59 322 *i* PKPdf PKPdf 19 27 04.4 -0.3
BOJS *i* pPKPdf pPKPdf 19 27 14.2 -7.1
GRA1 Grafenberg Arr 123.62 328 *e*PKPdf PKPdf 19 27 04.1 -0.7
GRA1 *e*PKKPbc PKKPbc 19 36 52.9 +0.4
GRF Grafenberg Arr 123.62 328 *e*PKKP PKKPbc 19 36 52.9 +0.4
GRF Grafenberg Arr 123.62 328 *e*PKKP PKKPbc 19 36 52.9 +0.4
GRF Grafenberg Arr 123.62 328 *e*PKP PKPdf 19 27 04.1 -0.7
GRF PKKPbc PKKPbc 19 36 52.9 +0.4
TZTN Tazewell 123.67 50 *e*PKPdf PKPdf 19 27 04.7 -0.1
SCHQ Schefferville 123.67 24 PKP PKPdf 19 27 04.3 -0.6
comp=Z,5.3nm,0.7s,baz=65,slow=5.1,SNR=8.2
SCHQ PP PP 19 28 53.9 +6.3
comp=Z,4.1nm,0.9s,baz=324,slow=7.0,SNR=3.9
SCHQ PKKPbc PKKPbc 19 36 53.1 +0.9
comp=Z,3.4nm,0.7s,baz=192,slow=1.8,SNR=5.6
SCHQ Schefferville 123.67 24 PKP PKPdf 19 27 04.3 -0.6
SCHQ PP PP 19 28 53.9 +6.3
SCHQ PKKPbc PKKPbc 19 36 53.1 +0.9
SCHQ LR LR
comp=Z,906nm,21.0s,MS5.4
MYNC Murphy 123.70 52 PFAKE 19 27 20.0 +15
MYNC LR LR
comp=Z,554nm,22.0s,MS5.2
KBA Koelnbreinsper 123.92 324⇑*iP* PKPdf 19 27 04.0 -1.3
comp=Z,5.1nm,0.7s
ERPA Erie 124.06 42 PFAKE 19 27 20.0 +14
ERPA LR LR
comp=Z,558nm,21.0s,MS5.2
VOY Vojsko 124.15 323 *e*PKPdf PKPdf 19 27 04.7 -1.1
ROBS Robic 124.26 324 *e*PKPdf PKPdf 19 27 04.9 -1.1
WATA Walderalm 124.78 326⇑*iP* PKPdf 19 27 06.2 -0.8
comp=Z,7.4nm,1.1s
WTTA Wattenberg 124.79 325 *i* P PKPdf 19 27 06.6 -0.4
comp=Z,17nm,0.7s,SNR=6.9
MOTA Moosalm 125.05 326⇑*iP* PKPdf 19 27 06.8 -0.7
comp=Z,12nm,0.9s,SNR=14
SQTA Sankt Quirin 125.06 326⇑*iP* PKPdf 19 27 06.9 -0.6
comp=Z,8.5nm,0.9s,SNR=7.2
MCWV Mont Chateau 125.21 45 *e*PKPdf PKPdf 19 27 07.6 -0.2
MCWV LR LR
comp=Z,684nm,21.0s,MS5.3
ELN Prospectdale 125.52 48 *e*PKPdf PKPdf 19 27 07.8 -0.6
TSUM Tsumeb 125.56 241 *e*PKPdf PKPdf 19 27 09.8 +1.3
TSUM *ep*PKPdf pPKPdf 19 27 23.9 -1.2
TSUM LR LR
comp=Z,736nm,19.0s,MS5.4
MEM Membach 125.66 331 PKP PKPdf 19 27 08.3 -0.4
MEM APKP 19 27 21.6
DAVA Damuels 125.76 326⇑*iP* PKPdf 19 27 08.6 -0.2
comp=Z,17nm,0.7s
BLA Blacksburg 125.77 48 *e*PKIKP PKPdf 19 27 08.5 -0.4
BLA Blacksburg 125.77 48 *e*PKPdf PKPdf 19 27 08.3 -0.6
EKA Eskdalemuir Ar 125.85 340 PKP PKPdf 19 27 08.8 -0.2
comp=Z,12nm,0.6s,baz=18,slow=3.6,SNR=45
EKA PKKPbc 19 36 43.8
comp=Z,2.3nm,0.9s,baz=224,slow=3.4,SNR=5.6
ESK Eskdalemuir 125.88 340 PFAKE 19 27 20.0 +11
ESK LR LR
comp=Z,790nm,21.0s,MS5.4
SGO Sicignano 125.88 317 PKIKP PKPdf 19 27 08.9 -0.2
BRMO Bormio 125.95 325 PKP PKPdf 19 27 08.9 -0.3
BFO Black Forest 125.97 328 PKIKP PKPdf 19 27 08.4 -0.8
BFO Black Forest 125.97 328 *e*PKPdf PKPdf 19 27 08.3 -1.0
ARV Arcevia 126.03 321 PKIKP PKPdf 19 27 08.9 -0.5
DAVOX Davos 126.05 326 PKP PKPdf 19 27 07.8 -1.6
comp=Z,13nm,0.7s,baz=92,slow=3.4,SNR=16
BCLA Clavier 126.12 332 PKP PKPdf 19 27 09.4 -0.2
SSPA Standing Stone 126.14 43 *e*PKPdf PKPdf 19 27 09.1 -0.5
SSPA LR LR
comp=Z,432nm,20.0s,MS5.1
WLF Walferdange 126.22 331 PKP PKPdf 19 27 09.4 -0.4
NRCA Norcia 126.25 320 PKP PKPdf 19 27 09.2 -0.6
LONY Lake Ozonia 126.28 37 *e*PKPdf PKPdf 19 27 09.5 -0.4
UCC Uccle 126.30 333 PKP PKPdf 19 27 10.2 +0.3
AQU L'Aquila 126.31 320⇓*iP* PKPdf 19 27 11.1 +1.2
AQU L'Aquila 126.31 320 PKIKP PKPdf 19 27 11.2 +1.3
AQU L'Aquila 126.31 320 *e*PKPdf PKPdf 19 27 10.9 +1.0
SDI San Donato 126.35 319 PKIKP PKPdf 19 27 09.3 -0.7
SOI Samo 126.42 314 PKIKP PKPdf 19 27 10.5 +0.4
CDF Champ du Feu 126.46 329 *e*PKIKP PKPdf 19 27 09.5 -0.7
comp=Z,7.2nm,0.7s
SFI Santa Sofia 126.50 322 PKIKP PKPdf 19 27 10.2 -0.1
FIAM Fiamignano 126.53 320 PKP PKPdf 19 27 09.6 -0.7
SNF Seneffe 126.54 332 PKP PKPdf 19 27 10.2 -0.2
GIVF Givet 126.56 332 *e*PKIKP PKPdf 19 27 10.2 -0.2
comp=Z,23nm,0.8s
DOU Dourbes 126.68 332 PKP PKPdf 19 27 10.1 -0.5
DOU APKP 19 27 23.9
ZCCA Zocca 126.79 323 PKP PKPdf 19 27 11.3 +0.5
NCB Newcomb 126.84 38 *e*PKPdf PKPdf 19 27 10.6 -0.3
NCB LR LR
comp=Z,636nm,20.0s,MS5.3
BAIF Baives 126.88 332 *e*PKIKP PKPdf 19 27 10.7 -0.3
comp=Z,15nm,0.8s
HINF Hinteralfeld 127.06 328 *e*PKIKP PKPdf 19 27 10.6 -0.7
comp=Z,21nm,0.9s
HAU Haudompre 127.20 329 *e*PKIKP PKPdf 19 27 11.3 -0.3
comp=Z,22nm,0.8s
HAU *e*R
comp=Z,936nm,20.2s
HAU Haudompre 127.20 329 *e*PKPdf PKPdf 19 27 11.3 -0.3
HAU LR LR
comp=Z,940nm,20.3s,MS5.5
MIV Mineville/With 127.21 37 *e*PKPdf PKPdf 19 27 11.9 +0.3
MVL Millersville 127.47 43 *e*PKPdf PKPdf 19 27 12.6 +0.5
MEZF Maizieres J'vi 127.53 330 *e*PKIKP PKPdf 19 27 12.1 -0.1
comp=Z,19nm,0.8s
CBN Corbin 127.57 46 PFAKE 19 27 20.0 +7.7
CBN LR LR
comp=Z,766nm,20.0s,MS5.4
MCGN Macugnaga 127.60 326 PKP PKPdf 19 27 12.0 -0.4
TRQA Tornquist 127.78 150 *e*PKPdf PKPdf 19 27 12.8 +0.1
TRQA *ep*PKPdf pPKPdf 19 27 26.8 -2.6
DWPF Disney 127.91 59 PFAKE 19 27 20.0 +7.0
DWPF LR LR
comp=Z,459nm,20.0s,MS5.2
TLL Tololo Astrono 127.91 136⇑*iP* PKPdf 19 27 13.7 +0.8
LBNH Lisbon 128.07 36 PFAKE 19 27 20.0 +6.7
LBNH LR LR
comp=Z,1μm,20.0s,MS5.5
HNH Hanover 128.16 37 *e*PKPdf PKPdf 19 27 13.9 +0.5
CABF La Chapelle 128.23 328 *e*PKIKP PKPdf 19 27 13.9 +0.3
comp=Z,27nm,0.9s
FIN Finale Ligure 128.51 324 PKIKP PKPdf 19 27 13.6 -0.5
LPL La Plagne 128.56 326 *e*PKIKP PKPdf 19 27 14.4 +0.2
comp=Z,7.9nm,0.7s
LPG La Plagne 128.56 326 *e*PKIKP PKPdf 19 27 14.4 +0.2
comp=Z,15nm,0.8s
BNI Bardonecchia 128.88 326 *e*PKIKP PKPdf 19 27 14.1 -0.7
LOR Lormes 128.95 330 *e*PKIKP PKPdf 19 27 14.4 -0.5
LOR *e*R
comp=Z,1μm,20.2s
LOR Lormes 128.95 330 *e*PKPdf PKPdf 19 27 14.4 -0.5
LOR LR LR
comp=Z,1μm,20.3s,MS5.5
PGF Pioggiola 128.98 322 *e*PKIKP PKPdf 19 27 14.9 -0.1
comp=Z,8.4nm,0.5s
MBDF Montbardon 129.03 325 *e*PKIKP PKPdf 19 27 14.9 -0.2
comp=Z,8.8nm,0.7s
SBF Sospel 129.16 324 *e*PKIKP PKPdf 19 27 15.0 -0.3
SSF Saint Saulge 129.27 330 *e*PKIKP PKPdf 19 27 16.3 +0.7
comp=Z,11nm,0.8s
HRV Harvard--Oak R 129.28 38 PFAKE 19 27 30.0 +14
HRV LR LR
comp=Z,631nm,19.0s,MS5.3
SMF Signal de Mont 129.38 329 *e*PKIKP PKPdf 19 27 15.8 0.0
comp=Z,26nm,1.0s
ORIF Oris-en-Rattie 129.41 326 *e*PKIKP PKPdf 19 27 15.4 -0.4
comp=Z,16nm,0.9s
ORIF *e*R
comp=Z,1μm,22.8s
WES Weston 129.49 38 PFAKE 19 27 30.0 +14
WES LR LR
comp=Z,537nm,21.0s,MS5.2
AVF Avril sur Loir 129.53 329 *e*PKIKP PKPdf 19 27 15.7 -0.3
comp=Z,7.4nm,0.8s
FRF La Foret Royal 129.80 324 *e*PKIKP PKPdf 19 27 16.7 +0.1
comp=Z,6.2nm,0.6s
LDF La Druitiere 129.91 333 *e*PKIKP PKPdf 19 27 16.4 -0.4
comp=Z,9.8nm,0.8s
BGF Bois d'Agland 129.94 329 *e*PKIKP PKPdf 19 27 17.1 +0.3
comp=Z,19nm,0.7s
FLN La Foliniere 129.95 334 *e*PKIKP PKPdf 19 27 16.6 -0.2
comp=Z,17nm,0.6s
FLN *e*R
comp=Z,1μm,22.8s
FLN La Foliniere 129.95 334 *e*PKPdf PKPdf 19 27 16.6 -0.2
FLN LR LR
comp=Z,1μm,22.8s,MS5.5
LMR La Mourre 130.02 324 *e*PKIKP PKPdf 19 27 16.9 -0.1
comp=Z,17nm,1.0s
VIVF Saint-Julien-l 130.11 327 *e*PKIKP PKPdf 19 27 16.7 -0.4
comp=Z,9.9nm,0.9s
SMRF Simiane la Rot 130.16 325 *e*PKIKP PKPdf 19 27 16.9 -0.3
comp=Z,18nm,0.9s
GRR Gorron 130.40 334 *e*PKIKP PKPdf 19 27 17.7 0.0
comp=Z,19nm,0.6s
TCF Toul-Ste Croi 130.45 330 *e*PKIKP PKPdf 19 27 18.0 +0.2
comp=Z,21nm,0.7s
LASF Ste Croix 131.06 326 *e*PKIKP PKPdf 19 27 18.7 -0.2
comp=Z,17nm,0.8s
SGMF Saint Gilles 131.24 335 *e*PKIKP PKPdf 19 27 19.8 +0.5
comp=Z,20nm,0.6s
MFF Saint Martin d 131.38 331 *e*PKIKP PKPdf 19 27 19.1 -0.5
comp=Z,11nm,0.7s
ATAH Atahualpa 131.45 105 PKP PKPdf 19 27 22.3 +2.6
comp=Z,44nm,1.0s,baz=284,slow=2.2,SNR=32
ATAH SKPbc SKPbc 19 30 44.2 +4.1
comp=Z,13nm,0.5s,baz=166,slow=5.4,SNR=8.4
CAF Calviac 131.46 328 *e*PKIKP PKPdf 19 27 20.4 +0.7
comp=Z,6.0nm,0.8s
ROSF Rostrenen 131.48 335 *e*PKIKP PKPdf 19 27 19.6 -0.1
comp=Z,15nm,0.7s
RJF Les Rejaudoux 131.48 329 *e*PKIKP PKPdf 19 27 19.4 -0.3
RJF *e*R
comp=Z,921nm,21.5s
RJF Les Rejaudoux 131.48 329 *e*PKPdf PKPdf 19 27 19.4 -0.3
RJF LR LR
comp=Z,920nm,21.5s,MS5.5
NNA Nana 131.49 112 *e*P PKPdf 19 27 19.6 -0.2
NNA LR LR
comp=Z,562nm,22.0s,MS5.2
QUIF Quistinic 131.76 335 *e*PKIKP PKPdf 19 27 20.8 +0.5
comp=Z,13nm,0.8s
MTLF Montolieu 132.44 327 *e*PKIKP PKPdf 19 27 21.8 +0.2
comp=Z,9.2nm,0.8s
OTAV Otavalo 132.79 95 *e*PKPdf PKPdf 19 27 23.2 +1.0
OTAV LR LR
comp=Z,159nm,20.0s,MS4.7
LVC Limon Verde 133.64 129 PKhKP 19 27 11.4
comp=Z,1.4nm,0.4s,baz=287,slow=3.8,SNR=4.0
LVC PKP PKPdf 19 27 25.8 +2.0
comp=Z,25nm,0.6s,baz=242,slow=2.4,SNR=25
LVC SKPbc SKPbc 19 30 52.6 +5.0
comp=Z,16nm,0.9s,baz=238,slow=3.4,SNR=11
LVC Limon Verde 133.64 129 PKP PKPdf 19 27 25.9 +2.0
LVC SKPbc SKPbc 19 30 52.6 +5.0
LVC LR LR
comp=Z,453nm,20.0s,MS5.2
EPF Esparros 133.66 328 *e*PKIKP PKPdf 19 27 24.4 +0.5
comp=Z,7.9nm,0.8s
ETSF Etsaut 134.23 328 *e*PKIKP PKPdf 19 27 25.3 +0.4
comp=Z,19nm,0.8s
ROSC El Rosal 137.36 89 PKhKP 19 27 26.0
comp=Z,36nm,0.6s,baz=278,slow=1.8,SNR=17
ROSC PKP PKPdf 19 27 32.3 +1.6
comp=Z,45nm,0.6s,baz=277,slow=22,SNR=17
ROSC SKPbc SKPbc 19 31 01.5 +2.2
comp=Z,5.3nm,0.4s,baz=113,slow=18,SNR=4.4
ROSC El Rosal 137.36 89 *e*PKPpre 19 27 25.6
ROSC *e*PKPdf PKPdf 19 27 32.0 +1.3
ROSC PKP PKPdf 19 27 32.3 +1.6
ROSC SKPbc SKPbc 19 31 01.5 +2.2
LPAZ La Paz 137.52 122 PKhKP 19 27 13.2
comp=Z,5.2nm,0.5s,baz=330,slow=4.1,SNR=30
LPAZ PKP PKPdf 19 27 33.4 +2.4
comp=Z,40nm,0.8s,baz=346,slow=1.3,SNR=16
LPAZ SKPbc SKPbc 19 31 03.7 +3.9
comp=Z,8.8nm,0.9s,baz=360,slow=1.6,SNR=5.2
LPAZ La Paz 137.52 122 PKP PKPdf 19 27 33.4 +2.4
LPAZ SKPbc SKPbc 19 31 03.7 +3.9
ESDC Sonseca Array 138.32 328 PKP PKPdf 19 27 32.9 +0.3
comp=Z,0.8nm,0.5s,baz=5.0,slow=2.6,SNR=3.1
ESDC PP PP 19 30 25.6 +3.3
comp=Z,0.7nm,0.7s,baz=36,slow=7.0,SNR=3.3
ESDC PKKP 19 37 05.3
comp=Z,0.4nm,0.6s,baz=250,slow=1.6,SNR=5.4
ESLA Sonseca Array 138.32 328 PFAKE 19 27 40.0 +7.5
ESLA LR LR
comp=Z,4μm,21.0s
CPUP Villa Florida 139.24 143 PKhKP 19 27 25.9
comp=Z,5.1nm,0.7s,baz=203,slow=2.6,SNR=14
CPUP PKP PKPdf 19 27 35.6 +1.4
comp=Z,32nm,0.7s,baz=252,slow=2.0,SNR=30
CPUP Villa Florida 139.24 143 *e*PKHKP 19 27 25.4
CPUP *e* 19 27 35.0
CPUP Villa Florida 139.24 143 *e*PKPpre 19 27 25.4
CPUP *e*PKPdf PKPdf 19 27 35.0 +0.8
CPUP PKP PKPdf 19 27 35.6 +1.4
BBSR BB Station 139.45 45 PFAKE 19 27 50.0 +15
BBSR LR LR
comp=Z,468nm,21.0s,MS5.2
SDV Santo Domingo 141.11 83 PKhKP 19 27 32.8
comp=Z,55nm,0.9s,baz=301,slow=7.2,SNR=27
SDV PKP PKPdf 19 27 39.3 +1.7
comp=Z,105nm,0.8s,baz=290,slow=2.1,SNR=38
SDV SKPbc SKPbc 19 31 12.1 +2.5
comp=Z,22nm,0.8s,baz=304,slow=2.2,SNR=6.1
SDV Santo Domingo 141.11 83 *e*PKPpre 19 27 32.1
SDV PKPdf PKPdf 19 27 39.2 +1.6
SDV SKPbc SKPbc 19 31 12.1 +2.5
SDV LR LR
comp=Z,215nm,22.0s,MS4.9
SIV San Ignacio 143.46 127 PKhKP 19 27 39.3
comp=Z,108nm,0.8s,baz=236,slow=4.0,SNR=226
CPD Cerro la Pandu 144.36 67 *e*PKIKP PKPdf 19 27 43.6 +0.3
MTP Monte Pirata 144.68 67 *e*PKPpre 19 27 41.7
SAML Samuel 145.09 115 PKPbc PKPbc 19 27 44.2 0.0
SAML Samuel 145.09 115 *e*PKPdf PKPdf 19 27 44.1 -0.5
SAML *ep*PKPdf pPKPdf 19 27 58.0 -3.3
SAML LR LR
comp=Z,281nm,20.0s,MS5.0
TOA0 Torodi Ar. Sit 146.54 285 *e*PKPdf PKPdf 19 27 48.1 +1.0
TORD Torodi Ar. Bea 146.54 285 PKPbc PKPbc 19 27 47.3 -1.4
comp=Z,68nm,0.7s,baz=50,slow=3.2,SNR=233
PCRV Puerto La Cruz 146.95 81 PKPbc PKPbc 19 27 49.0 -0.8
comp=Z,81nm,0.8s,baz=149,slow=1.4,SNR=14
FDF Fort de France 149.61 71 *e*P PKPdf 19 27 58.4 +6.2
GRW Mount Saint Ca 149.62 76 *e*P PKPdf 19 27 55.8 +3.6
BIM Bigot 149.74 71 *e*P PKPdf 19 27 56.2 +3.9
CAM4 Nova Friburgo 149.79 159 *e*P PKPdf 19 27 52.0 -0.4
CAM4 *i* 19 27 54.6
CAM4 *i* 19 27 58.6
CAM4 *i* 19 28 01.3
CAM4 *i* 19 28 01.3
CAM4 *i* 19 28 14.0

TRN	**Trinidad (W)**	**150.07**	**79**	*e*P	PKPdf	19 27 58.1	+5.3
TBH	**Brigand Hill**	**150.42**	**79**	*e*P	PKPdf	19 28 01.1	+7.7
BDFB	**Brasilia**	**152.97**	**143**	PKP	PKPdf	19 27 58.6	+1.4
	comp=Z,58nm,0.8s,baz=208,slow=1.2,SNR=62						
BDFB				PKPbc	PKPbc	19 28 05.5	+0.9
	comp=Z,215nm,0.8s,baz=126,slow=0.3,SNR=70						
BDFB	**Brasilia**	**152.97**	**143**	PKP	PKPdf	19 27 58.6	+1.4
BDFB				PKPbc	PKPbc	19 28 05.5	+0.9
BDFB				LR	LR		
	comp=Z,682nm,19.0s,MS5.5						
DBIC	**Dimbokro**	**153.51**	**273**	PKP	PKPdf	19 27 58.7	+0.7
	comp=Z,5.1nm,0.9s,baz=159,slow=7.5,SNR=5.2						
DBIC				PKPbc	PKPbc	19 28 07.0	+1.2
	comp=Z,30nm,0.7s,baz=86,slow=2.6,SNR=41						
DBIC	**Dimbokro**	**153.51**	**273**	PKIKP	PKPdf	19 27 58.7	+0.7
DBIC				*e*		19 28 06.6	
DBIC						19 28 07.0	
DBIC				MLR	MLR		
	comp=Z,576nm,21.0s						
DBIC	**Dimbokro**	**153.51**	**273**	PKP	PKPdf	19 27 58.7	+0.7
DBIC				*e*PKPbc	PKPbc	19 28 06.6	+0.8
DBIC				PKPbc	PKPbc	19 28 07.0	+1.2
DBIC				LR	LR		
	comp=Z,576nm,21.0s,MS5.4						
RCBR	**Riachuelo**	**167.44**	**159**	PFAKE		19 28 20.0	+6.8
RCBR				LR	LR		
	comp=Z,515nm,21.0s						

CASC 12 19:36:14.4±2.2, 943N×8557W, h16km±5km, MD3.9, ML4.1, 17C-6D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.70**	**355**	⇑*i*P	Pg	19 36 27.0	-1.0
CGA2	**Cerro Gallo 2**	**1.24**	**62**	⇑*e*P	Pn	19 36 36.4	-0.6
CGA2				*e*S	Sb	19 36 55.7	+2.6
LIM1	**Limonal**	**1.30**	**14**	⇑*i*P	Pn	19 36 36.9	-1.0
LIM1				*i* S	Sb	19 36 55.5	+0.6
PRS1	**Puriscal**	**1.36**	**66**	⇑*e*P	Pn	19 36 37.0	-1.8
PRS1				*e*S	Sn	19 36 54.8	-1.7
LCR2	**La Lucha 2**	**1.58**	**78**	⇑*e*P	Pn	19 36 40.7	-1.1
LCR2				*e*S	Sn	19 37 02.6	+0.7
SJS	**Escuela Geolog**	**1.58**	**71**	*e*P	Pn	19 36 42.5	+0.8
BUS	**Buena Vista**	**1.79**	**86**	⇓*e*P	Pn	19 36 44.4	-0.3
BUS				*e*S	Sn	19 37 09.0	+1.8
URSC	**Urasca**	**1.81**	**77**	⇑*e*P	Pn	19 36 44.9	-0.1
SSNN	**San Juan del S**	**1.87**	**352**	⇑*e*P	Pn	19 36 45.8	+0.1
SSNN				*e*S	Sn	19 37 10.3	+1.3
SSNN				*i*		19 37 13.0	
	comp=Z,1μm,0.4s						
MADN	**Villa Maderas**	**1.97**	**1**	⇑*e*P	Pn	19 36 47.8	+0.6
CONN	**Concepcion**	**2.12**	**359**	⇑*e*P	Pn	19 36 49.4	+0.1
APON	**Apoyo**	**2.52**	**349**	⇓*e*P	Pn	19 36 55.2	+0.5
APON				*e*S	Sn	19 37 25.6	+0.5
TICN	**Ticuantepe**	**2.67**	**346**	⇓*e*P	Pn	19 36 57.3	+0.6
TICN				*e*S	Sn	19 37 27.2	-1.6
MGAN	**Managua**	**2.78**	**346**	⇓*i*P	Pn	19 36 58.9	+0.5
MGAN				*e*S	Sn	19 37 32.2	+0.6
MGAN				*i*		19 37 34.7	
	comp=E,1μm,0.4s						
TISN	**Laguna Tiscapa**	**2.78**	**346**	⇑*i*P	Pn	19 36 58.9	+0.6
TISN				*e*S	Sn	19 37 32.9	+1.3
XAVN	**Gruta Xavier**	**2.80**	**345**	⇑*e*P	Pn	19 36 59.5	+0.9
XAVN				*e*S	Sn	19 37 31.7	-0.4
APYN	**Apoyeque**	**2.89**	**345**	⇑*e*P	Pn	19 37 00.4	+0.6
APYN				*e*S	Sn	19 37 34.2	-0.1
APYN				*i*		19 37 38.5	
	comp=Z,2μm,0.3s						
COPN	**Copaltepe**	**2.91**	**340**	⇓*e*P	Pn	19 37 00.2	+0.1
COPN				*e*S	Sn	19 37 36.0	+1.2
COPN				*i*		19 37 37.2	
	comp=Z,994nm,0.5s						
MOMJ	**Momotombo**	**3.11**	**342**	⇓*e*P	Pn	19 37 03.0	+0.1
PYTN	**Playitas**	**3.13**	**351**	⇑*i*P	Pn	19 37 03.5	+0.4
PYTN				*e*S	Sn	19 37 42.6	+2.5
LEON	**Leon**	**3.24**	**337**	⇑*e*P	Pn	19 37 04.7	+0.1
LEON				*e*S	Sn	19 37 43.0	+0.1
CNGN	**Cerro Negro**	**3.25**	**340**	⇑*e*P	Pn	19 37 04.8	+0.1
CNGN				*e*S	Sn	19 37 43.6	+0.6
TELN	**Telica**	**3.39**	**339**	⇑*e*P	Pn	19 37 07.1	+0.5
CRIN	**San Cristobal**	**3.56**	**336**	⇑*e*P	Pn	19 37 09.4	+0.3
CRIN				*e*S	Sn	19 37 51.2	+0.4

WEL 12 19:39:03.3±0.4, 3856S×17571E, h173km±3km, ML3.6/15, Error ellipse: s-maj=4.1km s-min=3.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FWVZ	**Far West T-bar**	**0.70**	**190**	PN	Pn	19 39 28.6	+0.3
FWVZ				SN	Sn	19 39 48.0	+0.5
WNVZ	**Wahianoa**	**0.77**	**187**	PN	Pn	19 39 29.0	+0.3
WNVZ				SN	Sn	19 39 48.7	+0.6
MOVZ	**Moawhango**	**0.84**	**178**	PN	Pn	19 39 29.1	0.0
MOVZ				SN	Sn	19 39 48.3	-0.7
BKZ	**Black Stump Fm**	**0.86**	**135**	PN	Pn	19 39 29.4	+0.2
BKZ				SN	Sn	19 39 49.2	0.0
URZ	**Urewera**	**1.14**	**75**	PN	Pn	19 39 30.8	-0.6
WAZ	**Wanganui**	**1.32**	**205**	PN	Pn	19 39 32.7	-0.2
MWZ	**Matawai**	**1.44**	**81**	PN	Pn	19 39 34.9	+0.9
TSZ	**Takapari Road**	**1.51**	**173**	PN	Pn	19 39 34.6	-0.1
KNZ	**Kokohu**	**1.60**	**107**	PN	Pn	19 39 35.8	+0.2
PXZ	**Pawanui**	**1.72**	**149**	PN	Pn	19 39 37.0	+0.2
MRZ	**Mangatainoka R**	**2.10**	**183**	PN	Pn	19 39 39.8	-1.1
BFZ	**Birch Farm**	**2.15**	**169**	PN	Pn	19 39 40.7	-0.8
KIW	**Kapiti Island**	**2.38**	**195**	PN	Pn	19 39 42.3	-1.8
CAW	**Cannon Point**	**2.59**	**191**	PN	Pn	19 39 44.8	-1.8
MTW	**Mount Morrison**	**2.60**	**183**	PN	Pn	19 39 44.7	-2.0
DUWZ	**D'Urville Isla**	**2.63**	**211**	PN	Pn	19 39 44.6	-2.4
PAWZ	**Paruwai Farm**	**2.82**	**184**	PN	Pn	19 39 47.2	-2.2

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*ISCJB **12** 19:41:06.4±1.0, 559S±0.1×278W±05, h100km, mb4.0/4, Error ellipse: s-maj=39.5km s-min=18.4km az=146.5*
*NEIC **12** 19:41:08.9±6.4, 5589S×2784W, h112km±59km, mb4.0/2, Error ellipse: s-maj=33.9km s-min=21.6km az=66.0*
*IDC **12** 19:41:15.1±13.0, 5596S×28.14W, h167km±121km, mb3.6/3, mb1 3.7/3, mb1mx3.4/14, mbtmp4.0/3, Error ellipse: s-maj=46.4km s-min=24.2km az=83.0*
ISC 12 19:41:08.0±1.0, 560S±01×279W±05, h100km, n10, σ0^{s}48/8, mb4.0/4, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.99**	**156**	⇑*i*	**P**	**19 45 21.4**	**-0.2**
SNAA				*e*		19 45 23.2	
SNAA				*e*		19 45 24.6	
SNAA				*e*		19 45 32.2	
SNAA	**Sanae**	**18.99**	**156**	*e*P	**P**	**19 45 21.3**	**-0.3**
	4.5nm,0.5s						
QSPA	**South Pole Qui**	**34.30**	**180**	*e*P	**P**	**19 47 45.6**	**+0.8**
	2.0nm,0.7s,mb4.1						
VNDA	**Vanda**	**46.66**	**183**	P	**P**	**19 49 25.8**	**-0.6**
	0.7nm,0.6s,mb3.6,baz=186,slow=7.3,SNR=11						
VNDA	**Vanda**	**46.66**	**183**	P	**P**	**19 49 25.8**	**-0.6**
LPAZ	**La Paz**	**50.02**	**306**	P	**P**	**19 49 52.1**	**-0.1**
	0.9nm,0.6s,mb3.9,baz=162,slow=5.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**73.15**	**30**	P	**P**	**19 52 27.8**	**+0.1**
	1.9nm,0.4s,mb4.3,baz=200,slow=6.4,SNR=38						
TORD	**Torodi Ar. Bea**	**73.15**	**30**	P	**P**	**19 52 27.8**	**+0.1**
FINES	**FINESS Array B**	**124.46**	**28**	PKP	PKPdf	19 59 52.5	-2.9
	1.7nm,1.0s,baz=270,slow=1.4,SNR=4.0						
SONM	**Songino Array**	**151.09**	**87**	PKPbc	PKPbc	20 00 47.7	-1.6
	1.1nm,0.6s,baz=222,slow=3.7,SNR=14						

MEX 12 19:44:04.0±0.6, 1596N×9708W, h16km±9km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.95**	**101**	*e*P	Pb	19 44 18.9	-3.2
HUIG				*i* S	Sb	19 44 30.5	-4.0
VHO	**Vista Hermosa**	**1.16**	**16**	*i* P	Pn	19 44 21.8	-3.7
VHO				*i* S	Sb	19 44 36.0	-4.4
OXX	**Oaxaca**	**1.17**	**17**	*i* P	Pn	19 44 22.2	-3.5
OXX				*i* S	Sb	19 44 36.3	-4.4
UTMO	**Huajuapan**	**1.99**	**340**	*i* P	Pn	19 44 35.1	-1.9
UTMO				*i* S	Sn	19 44 56.1	-5.4
CMIG	**Matias Romero**	**2.38**	**62**	*e*P	Pn	19 44 38.9	-3.6
CMIG				*i* S	Sn	19 45 07.8	-3.5
ACX	**Acapulco**	**2.87**	**289**	*i* P	Pn	19 44 49.5	+0.4
MEIG	**Mezcala**	**3.12**	**309**	*i* P	Pn	19 44 51.3	-1.3
MEIG				*i* S	Sn	19 45 26.3	-3.3
PLIG	**Platanillo**	**3.35**	**317**	*i* P	Pn	19 44 56.1	+0.3
PLIG				*i* S	Sn	19 45 31.1	-4.1
PPM	**Popocatepetl**	**3.43**	**335**	*i* P	Pn	19 44 55.0	-1.8
PPM				*i* S	Sn	19 45 37.0	-0.1
LVIG	**Laguna Verde**	**3.80**	**9**	*i* P	Pn	19 45 05.7	+3.8
LVIG				*i* S	Sn	19 45 43.5	-2.7

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*LDG **12** 19:47:24.1±0.3, 4032N×098W, h3km, Ml2.4/4, Error ellipse: s-maj=9.2km s-min=5.3km az=109.0*
MDD 12 19:47:23.0±0.6, 4030N×104W, h13km±8km, mbLg1.8/10, 1C, Error ellipse: s-maj=6.7km s-min=4.5km az=119.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMOS	**Mosqueruela**	**0.44**	**81**	⇑Pg	Pg	19 47 31.8	+0.2
	12nm,0.1s,SNR=18						
EMOS				Lg		19 47 38.3	
	8.1nm,0.1s,SNR=23						
ECHE	**Chera**	**0.71**	**175**	Pg	Pg	19 47 36.5	-0.2
	7.1nm,0.2s,SNR=37						
ECHE				Lg		19 47 46.2	
	2.6nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**1.24**	**57**	Pn	Pn	19 47 46.3	+0.3
	4.0nm,0.1s,SNR=33						
ERTA				Lg		19 48 03.2	
	5.7nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.49**	**17**	Pg	Pg	19 47 50.6	-1.0
	5.1nm,0.1s,SNR=13						
ESAC				Lg		19 48 09.4	
	149nm,0.4s,SNR=60						
ETOB	**Tobarra**	**1.70**	**194**	Pg	Pg	19 47 54.7	-0.9
	1.9nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	19 48 13.2	-0.7
	1.1nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**1.71**	**158**	Pn	Pn	19 47 53.6	+1.1
	0.1nm,0.1s,SNR=7.9						
EBEN				Sn	Sn	19 48 14.2	-0.1
	0.4nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**1.92**	**56**	Pn	Pn	19 47 55.6	+0.2
	0.2nm,0.0s,SNR=7.9						
EPOB				Pg	Pg	19 47 58.3	-1.6
	1.7nm,0.2s,SNR=7.9						
EPOB				Lg		19 48 23.4	
	2.4nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**2.01**	**215**	Pg	Pg	19 47 58.6	-2.9
	6.0nm,0.4s,SNR=7.9						
EVIA				Lg		19 48 26.8	
	0.9nm,0.1s,SNR=7.9						
EGRA	**Graus**	**2.15**	**28**	Pn	Pn	19 47 58.8	+0.2
	0.1nm,0.1s,SNR=7.9						
EGRA				Pg	Pg	19 48 02.3	-2.0
	0.5nm,0.1s,SNR=7.9						
EGRA				Lg		19 48 30.0	
	1.5nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**2.33**	**255**	Pg	Pg	19 48 05.6	-2.1
	2.1nm,0.1s,baz=78,slow=17,SNR=11						
GUD	**Guadarrama**	**2.40**	**279**	Pn	Pn	19 48 01.6	-0.3
	0.4nm,0.2s,SNR=7.9						
GUD				Pg	Pg	19 48 06.8	-2.2
	1.1nm,0.4s,SNR=7.9						
GUD				Lg		19 48 39.3	
	3.6nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.52**	**49**	Pn	Pn	19 48 04.3	+0.6
	1.0nm,0.1s,SNR=7.9						
EMIR				Lg		19 48 45.0	
	1.7nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**2.62**	**8**	*e*Pn	Pn	19 48 05.2	+0.1
ETSF	**Etsaut**	**2.62**	**8**	*e*Pg	Pg	19 48 12.3	-1.0
ETSF				*e*Sn	Sn	19 48 35.0	-1.8
ETSF				*e*Sg	Sg	19 48 45.6	-1.7
	3.5nm,0.3s						
ETSF	**Etsaut**	**2.62**	**8**	Pn	Pn	19 48 05.2	+0.1
ETSF				Pg	Pg	19 48 12.3	-1.0
ETSF				Sn	Sn	19 48 35.0	-1.8
ETSF				Lg		19 48 45.6	
	1.8nm,0.3s						
EPF	**Esparros**	**2.92**	**20**	*e*Pn	Pn	19 48 09.6	+0.5
EPF	**Esparros**	**2.92**	**20**	*e*Pg	Pg	19 48 18.0	-0.9
EPF				*e*Sn	Sn	19 48 42.4	-1.7
EPF				*e*Sg	Sg	19 48 54.7	-2.1
	8.8nm,0.5s						
EPF	**Esparros**	**2.92**	**20**	Pn	Pn	19 48 09.6	+0.5
EPF				Pg	Pg	19 48 18.0	-0.9
EPF				Sn	Sn	19 48 42.4	-1.7
EPF				Lg		19 48 54.7	
	4.4nm,0.5s						
EALK	**Alkurruntz**	**2.94**	**353**	Pg	Pg	19 48 17.3	-2.0
	0.2nm,0.1s,SNR=7.9						
EALK				Sn	Sn	19 48 43.6	-0.9
	1.0nm,0.2s,SNR=7.9						
EALK				Lg		19 48 55.7	
	1.3nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.95**	**213**	Pg	Pg	19 48 18.4	-1.1
	0.7nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.47**	**233**	Pn	Pn	19 48 16.3	-0.5
	0.2nm,0.1s,SNR=4.0						
EADA				Pg	Pg	19 48 27.2	-2.3
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	Sn	19 48 55.2	-2.5
	0.4nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**3.90**	**38**	*e*Pn	Pn	19 48 22.1	-0.4
MTLF				*e*Sg	Sg	19 49 24.3	-3.8
	2.4nm,0.5s						
CAF	**Calviac**	**5.16**	**25**	*e*Pn	Pn	19 48 39.2	-0.7
CAF				*e*Sn	Sn	19 49 36.6	-2.8
CAF				*e*Sg	Sg	19 50 04.6	-4.1
	1.1nm,0.3s						

IDC 12 19:52:21.4±1.2, 5409S×2514E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/15, mbtmp3.8/4, Error ellipse: s-maj=80.9km s-min=31.7km az=30.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**67.61**	**274**	P	P	20 03 20.1	+0.2
	4.0nm,0.9s,baz=133,slow=9.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**69.89**	**336**	P	P	20 03 34.0	-0.1
	0.3nm,0.7s,baz=174,slow=7.1,SNR=2.1						
ASAR	**Alice Springs**	**81.44**	**119**	P	P	20 04 40.5	+0.2
	0.6nm,0.6s,baz=210,slow=4.7,SNR=14						
WRA	**Warramunga Arr**	**84.74**	**117**	P	P	20 04 57.2	-0.2
	0.4nm,0.6s,baz=211,slow=3.6,SNR=7.2						

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*IDC **12** 19:59:46.2±1.4, 3380N×771E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/22, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=46.0km s-min=22.8km az=121.0*
*ISCJB **12** 19:59:48.3±1.0, 3402N±007×759E±006, h10km, mb3.6/5, Error ellipse: s-maj=10.2km s-min=6.7km az=12.8*
*NEIC **12** 19:59:50.2, 3379N×780E, h0km, MG4.6(MDD), After MDD.*
*CSEM **12** 19:59:53.1±0.5, 34.11N×765E, h40km, mb4.6/4, Error ellipse: s-maj=19.0km s-min=6.4km az=11.0*
ISC 12 19:59:49.8±1.0, 3396N±007×768E±006, h10km, n23, σ1^{s}46/34, mb3.6/5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSL	**Villasalto**	**5.70**	**13**	*e*P	**Pn**	**20 01 16.3**	**+1.9**
	8.7nm,0.4s						
VSL				*e*Sn	**Sn**	**20 02 20.2**	**+0.4**
VSL	**Villasalto**	**5.70**	**13**	*e*P	**Pn**	**20 01 16.3**	**+1.9**
	8.7nm,0.4s						
ETOS	**Mallorca**	**6.99**	**328**	P	**Pn**	**20 01 35.7**	**+3.5**
ETOS				S	**Sn**	**20 02 53.0**	**+1.3**
ETOS	**Mallorca**	**6.99**	**328**	P	**Pn**	**20 01 35.7**	**+3.5**
	0.5nm,0.3s,SNR=7.9						
ETOS				S	**Sn**	**20 02 53.0**	**+1.3**
	1.1nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**7.18**	**317**	P	**Pn**	**20 01 37.9**	**+3.0**
EIBI				S	**Sn**	**20 02 55.9**	**-0.6**
EIBI	**Ibiza**	**7.18**	**317**	P	**Pn**	**20 01 37.9**	**+3.0**
	1.6nm,0.3s,SNR=7.9						
EIBI				S	**Sn**	**20 02 55.9**	**-0.6**
	5.2nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**8.21**	**301**	P	**Pn**	**20 01 50.3**	**+1.4**
EMUR				S	**Sn**	**20 03 21.1**	**-0.6**
EMUR	**La Murta**	**8.21**	**301**	P	**Pn**	**20 01 50.3**	**+1.4**
	5.2nm,0.3s,SNR=8.6						
EMUR				S	**Sn**	**20 03 21.1**	**-0.6**
	19nm,0.7s,SNR=7.9						
ETOB	**Tobarra**	**8.79**	**305**	P	**Pn**	**20 02 00.0**	**+3.1**
ETOB				S	**Sn**	**20 03 35.0**	**-1.1**
ETOB	**Tobarra**	**8.79**	**305**	P	**Pn**	**20 02 00.0**	**+3.1**
	3.5nm,0.3s,SNR=13						
ETOB				S	**Sn**	**20 03 35.0**	**-1.1**
	2.8nm,0.3s,SNR=5.9						
EPOB	**Poblet**	**9.05**	**327**	S	**Sn**	**20 03 40.7**	**-1.6**
	0.8nm,0.3s,SNR=7.9						
EBER	**Berja**	**9.11**	**292**	P	**Pn**	**20 02 02.2**	**+0.9**
EMOS	**Mosqueruela**	**9.12**	**317**	S	**Sn**	**20 03 43.4**	**-0.7**
	0.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**9.53**	**297**	P	**Pn**	**20 02 10.3**	**+3.3**
EQES				S	**Sn**	**20 03 53.3**	**-0.9**
EQES	**Quesada**	**9.53**	**297**	P	**Pn**	**20 02 10.3**	**+3.3**
	1.0nm,0.2s,SNR=5.9						
EQES				S	**Sn**	**20 03 53.3**	**-0.8**
	3.2nm,0.3s,SNR=5.7						
ECOG	**Cogollos-Vega**	**9.73**	**293**	P	**Pn**	**20 02 13.2**	**+3.4**
ECOG	**Cogollos-Vega**	**9.73**	**293**	P	**Pn**	**20 02 13.2**	**+3.4**
	4.7nm,0.1s,SNR=4.0						
MDT	**Midelt**	**10.34**	**267**	Pn	**Pn**	**20 02 17.4**	**-0.7**
	0.3nm,0.3s,baz=212,slow=17,SNR=11						
TORD	**Torodi Ar. Bea**	**21.42**	**196**	P	**P**	**20 04 33.8**	**-4.0**
	1.0nm,0.3s,mb3.6,baz=14,slow=9.5,SNR=17						
AKASG	**Malin Array Be**	**22.97**	**37**	P	**P**	**20 04 53.3**	**-1.1**
	0.4nm,0.4s,mb3.2,baz=232,slow=9.7,SNR=5.4						
FINES	**FINESS Array B**	**29.94**	**18**	P	**P**	**20 05 56.8**	**-1.2**
	1.6nm,0.9s,mb3.8,baz=226,slow=7.5,SNR=3.8						
ARCES	**ARCESS Array B**	**36.99**	**10**	P	**P**	**20 06 57.7**	**-1.7**
	2.1nm,0.9s,mb4.0,baz=203,slow=9.2,SNR=13						
MKAR	**Makanchi Array**	**56.26**	**53**	P	**P**	**20 09 29.8**	**-0.5**
	0.3nm,0.6s,mb3.5,baz=284,slow=5.8,SNR=2.4						

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*IDC **12** 20:25:00.5±2.3, 521S×15080E, h0km, mb4.0/5, mb1 4.2/6, mb1mx4.0/14, mbtmp4.1/6, ML3.4/1, MS3.5/3, Ms1 3.5/3, ms1mx2.8/29, Error ellipse: s-maj=67.7km s-min=27.2km az=108.0*
*ISCJB **12** 20:25:10.4±4.8, 53S±02×1502E±03, h60km±33km, mb3.9/7, Error ellipse: s-maj=45.5km s-min=35.0km az=155.6*
*NEIC **12** 20:25:12.8±4.2, 5.18S×14999E, h70km±29km, mb4.1/4, Error ellipse: s-maj=41.5km s-min=28.8km az=88.0*
ISC 12 20:25:12.4±4.6, 53S±02×1502E±03, h64km±31km, n16, σ0^{s}91/14, mb3.9/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.08**	**217**	Pn	**Pn**	**20 26 25.8**	**-0.1**
	7.0nm,0.3s,baz=38,slow=12,SNR=25						
PMG				Sn	**Sn**	**20 27 30.7**	**+7.4**
	1.9nm,0.3s,baz=116,slow=21,SNR=6.3						
PMG				LR	LR	20 28 37.1	
	comp=Z,187nm,20.0s,baz=226,slow=39						
KAKA	**Kakadu**	**19.03**	**246**	*e*P	**Pn**	**20 29 31.6**	**+1.1**
	3.1nm,0.5s						
WRAB	**Tennant Creek**	**21.21**	**225**	*e*P	**P**	**20 29 52.5**	**-0.3**
	5.3nm,0.7s,mb4.0						
WB2	**Warramunga Arr**	**21.21**	**225**	*e*P	**P**	**20 29 52.9**	**+0.1**
WRA	**Warramunga Arr**	**21.22**	**225**	P	**P**	**20 29 52.7**	**-0.2**
	2.6nm,0.7s,mb3.7,baz=51,slow=10,SNR=18						
DZM	**Mont Dzumac**	**22.89**	**138**	LR	LR	20 37 15.2	
	comp=Z,270nm,19.1s,baz=190,slow=32						
AS31	**Alice Springs**	**24.09**	**219**	*e*P	**P**	**20 30 21.7**	**-0.2**
ASAR	**Alice Springs**	**24.09**	**219**	P	**P**	**20 30 22.4**	**+0.5**
	2.3nm,0.8s,mb3.6,baz=56,slow=8.0,SNR=15						
FITZ	**Fitzroy Crossi**	**27.17**	**240**	*e*P	**P**	**20 30 47.9**	**-1.9**
	8.9nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.17**	**240**	P	**P**	**20 30 50.4**	**+0.7**
	4.6nm,0.8s,mb4.0,baz=121,slow=7.6,SNR=4.4						
STKA	**Stephens Creek**	**27.64**	**196**	P	**P**	**20 30 51.6**	**-2.4**
	2.1nm,0.8s,mb3.8,baz=36,slow=15,SNR=3.2						
STKA	**Stephens Creek**	**27.64**	**196**	*e*P	**P**	**20 30 52.8**	**-1.1**
RPZ	**Rata Peaks**	**42.43**	**158**	LR	LR	20 46 05.6	
	comp=Z,84nm,19.9s,baz=356,slow=30						
VNDA	**Vanda**	**72.43**	**177**	*e*P	**P**	**20 36 33.5**	**+1.7**
	2.5nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**79.03**	**320**	P	**P**	**20 37 09.1**	**-0.5**
	1.0nm,1.1s,mb3.7,baz=103,slow=5.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**148.00**	**286**	PKPbc	PKPbc	20 44 49.4	-1.2
	0.6nm,0.8s,baz=51,slow=1.9,SNR=4.0						

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*ISCJB **12** 20:25:43.0±0.7, 6042N±004×2702E±009, h0km, Error ellipse: s-maj=6.4km s-min=5.0km az=31.0*
*HEL **12** 20:25:44.2±0.2, 6041N×2707E, h0km, ML1.9, Explosion*
*IDC **12** 20:25:46.4±2.0, 6050N×2695E, h0km, mb1 3.0/3, mb1mx2.8/19, mbtmp2.9/3, ML2.6/2, Error ellipse: s-maj=15.2km s-min=9.2km az=126.0*
ISC 12 20:25:43.8±0.7, 6043N±004×2699E±008, h0km, n12, σ0^{s}88/21, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVF	**Pernaja**	**0.57**	**282**	*e*P	**Pg**	**20 25 55.1**	**+0.4**
PVF				*e*S	**Sg**	**20 26 03.4**	**+1.3**
FIA0	**FINESS Array S**	**1.11**	**337**	*e*P	**Pg**	**20 26 04.3**	**-0.7**
FINES	**FINESS Array B**	**1.11**	**337**	Pg	**Pg**	**20 26 04.5**	**-0.6**
	0.6nm,0.3s,baz=151,slow=16,SNR=41						
FINES				Lg		20 26 20.4	
	1.0nm,0.3s,baz=158,slow=32,SNR=12						
FINES				Rg		20 26 26.5	
	41nm,0.8s,baz=158,slow=26,SNR=39						
MEF	**Metsahovi**	**1.31**	**262**	*e*P	**Pg**	**20 26 08.0**	**-0.8**
MEF				*e*S	**Sg**	**20 26 25.2**	**-0.5**
KAF	**Kangasniemi**	**1.72**	**349**	*e*P	**Pn**	**20 26 15.5**	**+0.6**
KAF				*e*S	**Sn**	**20 26 37.3**	**-0.3**
KAF				MSG		20 26 40.9	
	comp=Z,8.4nm,0.1s						
VSU	**Vasula**	**1.98**	**184**	*e*P	**Pn**	**20 26 18.7**	**+0.2**
VSU				*e*S	**Sn**	**20 26 43.8**	**-0.2**
SUF	**Sumiainen**	**2.33**	**350**	*e*P	**Pn**	**20 26 24.4**	**+1.0**
SUF				*e*SB	**Sb**	**20 26 56.0**	**0.0**
SUF				MSG		20 26 58.2	
	comp=Z,5.1nm,0.1s						
RAF	**Rauma**	**2.63**	**285**	*e*P	**Pn**	**20 26 29.0**	**+1.5**
RAF				*e*SB	**Sb**	**20 27 04.5**	**-0.2**
RAF				MSG		20 27 05.2	
	comp=Z,3.9nm,0.1s						
JOF	**Joensuu**	**3.24**	**38**	*e*P	**Pn**	**20 26 35.6**	**-0.2**
HFS	**Hagfors**	**6.62**	**273**	Pn	**Pn**	**20 27 22.7**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=106,slow=16,SNR=2.2						
HFS				Sn	**Sn**	**20 28 36.2**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=86,slow=29,SNR=3.2						
HFS				Lg		20 29 12.4	
	comp=Z,0.3nm,0.3s,baz=84,slow=33,SNR=5.5						
NOA	**NORSAR Array B**	**7.75**	**281**	Pn	**Pn**	**20 27 38.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=87,slow=13,SNR=3.0						
NOA				Sn	**Sn**	**20 29 01.8**	**-4.6**
	comp=Z,0.1nm,0.3s,baz=232,slow=17,SNR=3.2						
ARCES	**ARCESS Array B**	**9.17**	**357**	Pn	**Pn**	**20 27 55.7**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=174,slow=13,SNR=8.4						
ARCES				Sn	**Sn**	**20 29 34.5**	**-6.6**
	comp=Z,0.0nm,0.3s,baz=182,slow=20,SNR=2.7						

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*ISCJB **12** 20:40:52.2±5.6, 5.1S±03×1520E±03, h67km±38km, mb4.0/5, Error ellipse: s-maj=60.0km s-min=39.8km az=100.0*
*NEIC **12** 20:40:52.7±5.3, 503S×15204E, h63km±32km, mb4.4/2, Error ellipse: s-maj=48.9km s-min=38.6km az=73.0*
*IDC **12** 20:40:57.6±6.6, 524S×15195E, h98km±48km, mb3.8/4, mb1 3.9/5, mb1mx3.6/15, mbtmp4.1/5, Error ellipse: s-maj=58.3km s-min=41.8km az=122.0*
ISC 12 20:40:53.7±5.1, 50S±03×1520E±03, h70km±34km, n15, σ1^{s}09/15, mb4.0/5, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.51**	**227**	P	**Pn**	**20 42 28.1**	**+1.3**
	1.4nm,0.3s,baz=21,slow=7.1,SNR=4.1						
PMG				S	**Sn**	**20 43 39.7**	**0.0**
	4.9nm,0.3s,baz=336,slow=22,SNR=6.1						
PMG	**Port Moresby**	**6.51**	**227**	Pn	**Pn**	**20 42 26.1**	**-0.8**
PMG				S	**Sn**	**20 43 39.7**	**0.0**
KAKA	**Kakadu**	**20.79**	**247**	*e*P	**P**	**20 45 29.0**	**-0.1**
	13nm,0.5s						
WRAB	**Tennant Creek**	**22.72**	**228**	*e*P	**P**	**20 45 48.9**	**-0.7**
	6.0nm,0.5s,mb4.2						
WB2	**Warramunga Arr**	**22.73**	**228**	⇓*i*P	**P**	**20 45 49.2**	**-0.5**
WRA	**Warramunga Arr**	**22.73**	**228**	P	**P**	**20 45 49.2**	**-0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	3.5nm,0.4s,mb4.0,baz=53,slow=10.0,SNR=48						
AS31	Alice Springs	25.48	221	eP	P	20 46 17.3	+2.1
ASAR	Alice Springs	25.48	221	P	P	20 46 15.1	-0.2
	2.4nm,0.4s,mb4.0,baz=56,slow=9.2,SNR=41						
ASPA	Alice Springs	25.49	221	eP	P	20 46 17.3	+2.0
STKA	Stephens Creek	28.47	199	P	P	20 46 40.9	-1.1
	1.5nm,0.7s,mb3.6,baz=23,slow=13,SNR=3.9						
STKA	Stephens Creek	28.47	199	P	P	20 46 40.9	-1.1
FITZ	Fitzroy Crossi	28.88	241	eP	P	20 46 42.8	-2.9
	12nm,1.2s,mb4.4						
FITZ	Fitzroy Crossi	28.88	241	P	P	20 46 45.9	+0.1
	2.5nm,0.7s,mb3.9,baz=81,slow=23,SNR=12						
TORD	Torodi Ar. Bea	149.62	287	PKPbc	PKPbc	21 00 36.7	+1.5
	0.6nm,0.5s,baz=98,slow=2.9,SNR=18						
TORD	Torodi Ar. Bea	149.62	287	PKPbc	PKPbc	21 00 36.7	+1.5

ISCJB **12** *21:31:56.6±5.6, 52S±03×151.1E±03, h46^{km}±40^{km}, mb3.9/5, MS3.2/1, Error ellipse: s-maj=71.8km s-min=39.4km az=90.0*

NEIC **12** *21:32:07.4±4.6, 570S×15070E, h81^{km}±27^{km}, mb4.2/2, Error ellipse: s-maj=49.0km s-min=39.0km az=97.0*

IDC **12** *21:32:08.7±8.6, 575S×15063E, h83^{km}±57^{km}, mb3.7/4, mb1 3.8/5, mb1mx3.5/13, mbtmp4.0/5, ML3.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.1/28, Error ellipse: s-maj=76.4km s-min=56.0km az=80.0*

ISC 12 21:31:57.6±5.3**, 51S**±04×**1511E**±04**, h43**^{km}±36^{km}**, n10, σ0^{s}64**/9**, mb3.9**/5**, MS3.2**/1**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.80	223	P	Pn	21 33 21.2	+0.2
	4.5nm,0.3s,baz=40,slow=8.5,SNR=13						
PMG				S	Sn	21 34 26.4	+0.2
	1.0nm,0.3s,baz=135,slow=20,SNR=3.9						
WRAB	Tennant Creek	21.99	226	eP	P	21 36 47.0	-1.0
	7.9nm,1.0s,mb4.1						
WB2	Warramunga Arr	21.99	226	eP	P	21 36 47.0	-1.0
WRA	Warramunga Arr	22.00	226	P	P	21 36 48.1	0.0
	3.9nm,0.9s,mb3.8,baz=52,slow=11,SNR=17						
DZM	Mont Dzumac	22.45	140	LR	LR	21 43 18.8	
	comp=Z,86nm,20.7s,MS3.2,baz=182,slow=30						
ASAR	Alice Springs	24.81	220	P	P	21 37 16.6	+1.0
	1.5nm,0.8s,mb3.6,baz=55,slow=8.1,SNR=16						
FITZ	Fitzroy Crossi	28.05	241	eP	P	21 37 45.3	+0.5
	7.3nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	28.05	241	P	P	21 37 45.6	+0.7
	4.6nm,0.9s,mb4.1,baz=76,slow=13,SNR=7.6						
STKA	Stephens Creek	28.08	197	P	P	21 37 45.1	0.0
	1.2nm,0.6s,mb3.7,baz=14,slow=8.3,SNR=2.9						
TORD	Torodi Ar. Bea	148.81	287	PKPbc	PKPbc	21 51 46.4	+6.0
	0.4nm,0.7s,baz=68,slow=3.1,SNR=2.8						

NEIC **12** *21:42:00.8, 3162S×7170W, h32^{km}, ML3.6(GUC), After GUC.*

GUC 12 21:42:00.8±0.8**, 3162S**×**7170W, h32**^{km}±2^{km}**, MD4.0, ML3.6, 5C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.31	146	⇓iP	Pb	21 42 08.4	-0.2
CHNG				i S	Sb	21 42 13.8	-0.1
CHNG				AML	AML	21 42 14.3	
	comp=E,6µm,0.5s						
CMCH	Combarbala	0.75	54	⇑iP	Pn	21 42 14.9	-0.2
CMCH				i S	Sb	21 42 25.6	+0.3
CMCH				AML	AML	21 42 26.8	
	comp=E,10µm,0.6s						
CMCH	Combarbala	0.75	54	⇑iP	Pn	21 42 14.9	-0.2
CMCH				i S	Sb	21 42 25.6	+0.3
PACH	Papudo	0.94	166	⇓iP	Pn	21 42 17.9	+0.1
PACH				i S	Sn	21 42 30.7	+0.6
OVCH	Ovalle	1.10	23	AML	AML	21 42 39.6	
	comp=E,2µm,0.3s						
JACH	Jahuel	1.42	139	⇓iP	Pn	21 42 25.9	+1.5
JACH				i S	Sn	21 42 44.7	+2.8
ROCH	El Roble	1.47	157	eP	Pn	21 42 26.2	+1.2
ROCH				i S	Sn	21 42 46.1	+2.9
TLL	Tololo Astrono	1.64	28	⇑iP	Pn	21 42 29.2	+1.8
TLL				i S	Sn	21 42 50.9	+3.4
TLL				AML	AML	21 42 56.8	
	comp=E,1µm,0.5s						
TLL	Tololo Astrono	1.64	28	⇑iP	Pn	21 42 29.2	+1.8
TLL				i S	Sn	21 42 50.9	+3.4
PEL	Peldehue	1.75	151	⇓iP	Pn	21 42 30.5	+1.6
PEL				i S	Sn	21 42 52.8	+2.8
PEL				AML	AML	21 43 00.1	
	comp=E,1µm,0.3s						
PEL	Peldehue	1.75	151	⇓iP	Pn	21 42 30.5	+1.6
PEL				i S	Sn	21 42 52.8	+2.8
CLCH	Cerro Calan	2.03	151	⇑iP	Pn	21 42 34.4	+1.7
CLCH				i S	Sn	21 43 00.5	+3.6
CLCH				AML	AML	21 43 09.9	
	comp=E,1µm,0.7s						
FCH	Farellones	2.08	145	⇓iP	Pn	21 42 35.7	+2.3
FCH				i S	Sn	21 43 01.6	+3.4
FCH				AML	AML	21 43 09.9	
	comp=E,366nm,0.5s						
TACH	Talagante	2.13	163	⇓iP	Pn	21 42 35.7	+1.6
ANTU	Antumapu	2.14	155	i S	Sn	21 43 02.2	+2.4
ANTU				AML	AML	21 43 10.8	
	comp=N,413nm,0.3s						
PCH	Pirque	2.23	154	i P	Pn	21 42 37.4	+1.9
PCH				i S	Sn	21 43 04.6	+2.6
CHCH	Chadas Angostu	2.47	159	eP	Pn	21 42 39.8	+1.0
CACH	El Canelo	2.66	160	eS	Sn	21 43 15.7	+3.2

IDC **12** *21:43:04.5±0.9, 995N×9278E, h0^{km}, mb4.2/11, mb1 4.4/11, mb1mx4.1/19, mbtmp4.2/11, MS3.7/4, Ms1 3.7/4, ms1mx3.2/30, Error ellipse: s-maj=55.1km s-min=14.2km az=56.0*

BJI **12** *21:43:06.9, 972N×9282E, h48^{km}, mB4.9, mb4.7*

ISCJB **12** *21:43:07.5±0.6, 990N±009×929E±0.1, h33^{km}, mb4.3/18, MS3.8/4, Error ellipse: s-maj=19.8km s-min=7.3km az=111.6*

NEIC **12** *21:43:09.0±0.5, 998N×9286E, h30^{km}, mb4.4/4, Error ellipse: s-maj=31.3km s-min=6.4km az=55.0*

ISC 12 21:43:09.7±0.6**, 990N**±009×**928E**±01**, h35**^{km}**, n36, σ0^{s}69**/32**, mb4.3**/18**, MS3.8**/4**, 1C, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIS	Vishakhapatnam	12.03	311	i P	Pn	21 46 02.9	+4.3
VIS				i S	Sn	21 47 58.1	-13
KMI	Kunming	17.86	31	P	Pn	21 47 16.4	+1.1
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s						
JIRN	Jiri	18.73	342	eP	Pn	21 47 27.2	+1.3
PKI	Pulchoki	18.90	339	eP	Pn	21 47 28.9	+0.8
	comp=Z,56nm,1.0s						
DMN	Daman	19.05	339	eP	Pn	21 47 30.8	+1.0
	comp=Z,45nm,0.9s						
GUN	Gumba	19.06	341	eP	Pn	21 47 30.7	+0.8
	comp=Z,30nm,0.6s						
KKN	Kakani	19.15	339	eP	Pn	21 47 31.1	+0.1
	comp=Z,26nm,0.8s						
GKN	Gorkha	19.57	338	eP	Pn	21 47 35.9	-0.2
KOLN	Koldanda	19.77	335	eP	Pn	21 47 38.2	-0.2
	comp=Z,23nm,0.7s						
LZH	Lanzhou	27.94	19	⇑P	P	21 48 55.6	-1.1
LZH				AP	pP	21 49 12.5	+5.8
LZH				XP	sP	21 49 18.2	+7.2
LZH				AMB	AMB		
	comp=Z,25nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,93nm,4.2s						
GTA	Gaotai	30.05	11	eP	P	21 49 15.7	+0.3
GTA				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.6						
AAK	Ala-Archa	36.33	337	eP	P	21 50 10.2	+0.1
	comp=Z,5.0nm,1.0s,mb4.4						
MKAR	Makanchi Array	37.84	348	P	P	21 50 22.4	-0.6
	comp=Z,6.1nm,0.8s,mb4.4,baz=169,slow=7.6,SNR=45						
SONM	Songino Array	39.52	14	P	P	21 50 36.5	-0.5
	comp=Z,3.9nm,0.8s,mb4.2,baz=201,slow=9.0,SNR=9.3						
SONM				PcP	PcP	21 52 44.5	+0.3
	comp=Z,0.7nm,0.8s,baz=202,slow=2.9,SNR=4.3						
SONM				LR	LR	22 09 01.9	
	comp=Z,84nm,19.8s,MS3.6,baz=174,slow=40						
SONM	Songino Array	39.52	14	P	P	21 50 36.5	-0.5
SONM				PcP	PcP	21 52 44.5	+0.3
SONM				LR	LR	22 09 01.9	
KURK	Kurchatov	42.34	347	eP	P	21 50 59.5	-0.7
	comp=Z,10nm,1.2s,mb4.3						
FITZ	Fitzroy Crossi	42.73	131	P	P	21 51 03.3	-0.1
	comp=Z,5.7nm,1.1s,mb4.2,baz=342,slow=9.6,SNR=4.1						
CN2	Changchun	44.08	34	eP	P	21 51 13.1	-1.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
BVAR	Borovoye Array	46.66	342	P	P	21 51 34.1	-0.6
	comp=Z,2.4nm,0.6s,mb4.3,baz=140,slow=8.7,SNR=26						
BRVK	Borovoye	46.72	341	eP	P	21 51 34.7	-0.5
	comp=Z,4.7nm,1.0s,mb4.4						
MJAR	Matsushiro Arr	48.84	50	PcP	PcP	21 53 16.2	+0.3
	comp=Z,0.8nm,0.5s,baz=241,slow=3.3,SNR=7.5						
MJAR				LR	LR	22 11 48.1	
	comp=Z,126nm,19.4s,MS3.9,baz=150,slow=35						
WRA	Warramunga Arr	50.52	126	P	P	21 52 04.8	+0.3
	comp=Z,5.0nm,0.6s,mb4.7,baz=305,slow=8.5,SNR=101						
WRAB	Tennant Creek	50.53	126	eP	P	21 52 04.5	0.0
	comp=Z,6.6nm,0.6s,mb4.7						
WB2	Warramunga Arr	50.53	126	eP	P	21 52 04.2	-0.3
ASAR	Alice Springs	52.23	130	P	P	21 52 18.0	+0.7
	comp=Z,2.8nm,0.5s,mb4.4,baz=305,slow=7.0,SNR=45						
ASAR				PcP	PcP	21 53 29.3	+0.9
	comp=Z,0.8nm,0.7s,baz=301,slow=2.8,SNR=4.4						
AS31	Alice Springs	52.24	130	eP	P	21 52 17.5	+0.2
KMBO	Kilima Mbogo	56.35	262	LR	LR	22 13 26.1	
	comp=Z,58nm,21.0s,MS3.6,baz=103,slow=32						
STKA	Stephens Creek	62.46	134	P	P	21 53 30.3	+0.9
	comp=Z,3.4nm,0.8s,mb4.5,baz=329,slow=8.4,SNR=6.2						
FINES	FINESS Array B	70.31	332	P	P	21 54 18.8	-0.8
	comp=Z,0.9nm,0.6s,mb3.9,baz=101,slow=6.8,SNR=8.0						
FINES	FINESS Array B	70.31	332	P	P	21 54 18.8	-0.8
ARCES	ARCESS Array B	72.92	340	P	P	21 54 34.9	-0.4
	comp=Z,1.5nm,0.6s,mb4.1,baz=97,slow=5.0,SNR=10						
GERES	GERESS Array B	75.44	318	P	P	21 54 50.4	+0.4
	comp=Z,0.6nm,0.6s,mb3.7,baz=89,slow=5.9,SNR=7.6						
NOA	NORSAR Array B	77.32	330	P	P	21 54 59.8	-0.9
	comp=Z,1.1nm,0.8s,mb3.8,baz=95,slow=4.9,SNR=3.5						
INK	Inuvik	95.42	16	LR	LR	22 46 12.1	
	comp=Z,46nm,18.6s,MS4.0,baz=266,slow=40						
PDAR	Pinedale Array	123.75	20	PKP	PKPdf	22 02 07.1	+3.3
	comp=Z,0.2nm,0.5s,baz=38,slow=4.6,SNR=2.9						
NVAR	Mina Array Bea	123.85	29	PKP	PKPdf	22 02 06.1	+2.2
	comp=Z,0.4nm,0.5s,baz=298,slow=1.6,SNR=3.5						

BJI **12** *21:52:12.9, 808S×12857E, h134^{km}, mB5.1, mb4.7*

MOS **12** *21:52:13.9±1.3, 740S×12791E, h93^{km}, mb4.6/6, Error ellipse: s-maj=19.4km s-min=8.9km az=111.3*

IDC **12** *21:52:17.4±3.2, 743S×128.10E, h109^{km}±29^{km}, mb4.0/8, mb1 4.2/11, mb1mx4.1/14, mbtmp4.5/11, MS3.4/3, Ms1 3.4/3, ms1mx3.0/21, Error ellipse: s-maj=28.4km s-min=13.5km az=78.0*

ISCJB **12** *21:52:19.5±0.7, 759S±003×128.12E±005, h149^{km}±7^{km}, mb4.4/24, Error ellipse: s-maj=8.9km s-min=4.9km az=148.8*

NEIC **12** *21:52:19.8±1.3, 742S×128.13E, h135^{km}±13^{km}, mb4.7/10, Error ellipse: s-maj=11.5km s-min=7.5km az=68.0*

ISC 12 21:52:20.4±0.7**, 756S**±004×**12812E**±007**, h139**^{km}±7^{km}**, n70, σ1^{s}28**/79**, mb4.4**/24**, 2C-1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAI	Ambon	3.85	1	P	Pn	21 53 20.4	+2.1
	260nm,0.7s						
KAKA	Kakadu	6.66	141	eP	Pn	21 53 55.9	+0.2
	62nm,0.1s						
KAKA				eS	Sn	21 55 05.9	-4.4
SWI	Sorong	7.35	25	P	Pn	21 54 05.5	+0.4
	110nm,0.9s						
WSI	Waingapu	8.01	254	P	Pn	21 54 14.0	+0.1
	2µm,0.4s						
BAKI	Biak	10.17	52	P	Pn	21 54 43.0	+0.2
	192nm,0.8s						
FITZ	Fitzroy Crossi	10.75	193	eP	Pn	21 54 48.7	-1.8
	21nm,0.3s						
FITZ				eS	Sn	21 56 38.7	-10
FITZ	Fitzroy Crossi	10.75	193	P	Pn	21 54 48.9	-1.6
	3.6nm,0.3s,baz=27,slow=11,SNR=102						
FITZ				S	Sn	21 56 44.3	-4.9
	22nm,0.3s,baz=137,slow=23,SNR=8.9						
FITZ				LR	LR	21 59 43.2	
	comp=Z,143nm,19.1s,baz=356,slow=41						
JAY	Jayapura	13.50	69	P	Pn	21 55 31.2	+4.9
	28nm,0.8s						
WRAB	Tennant Creek	13.71	154	eP	Pn	21 55 26.6	-2.3
WRAB				pmax	pmax		
	comp=Z,31nm,0.6s						
WRAB	Tennant Creek	13.71	154	ePn	Pn	21 55 26.6	-2.3
	comp=Z,31nm,0.6s						
WRAB				eSn	Sn	21 57 49.7	-11
WRA	Warramunga Arr	13.71	155	P	Pn	21 55 27.1	-1.8
	comp=Z,2.7nm,0.3s,baz=323,slow=13,SNR=56						
WRA				S	Sn	21 57 51.8	-8.7
	comp=Z,6.7nm,0.3s,baz=327,slow=23,SNR=14						
WB2	Warramunga Arr	13.71	154	eP	Pn	21 55 26.4	-2.6
WB2				eS	Sn	21 57 51.7	-8.9
MBWA	Marble Bar	15.76	210	ePn	Pn	21 55 55.3	+0.6
	comp=Z,18nm,0.6s						
MBWA				eSn	Sn	21 58 36.0	-14
AS31	Alice Springs	16.95	162	eP	Pn	21 56 10.9	+1.8
AS31				eS	S	21 59 08.4	-9.4
ASAR	Alice Springs	16.95	162	P	Pn	21 56 10.2	+1.0
	comp=Z,3.7nm,0.3s,baz=340,slow=11,SNR=184						
ASAR				S	S	21 59 09.8	-7.9
	comp=Z,2.8nm,0.3s,baz=338,slow=20,SNR=5.9						
ASPA	Alice Springs	16.95	162	eP	Pn	21 56 10.9	+1.7
ASPA				eS	S	21 59 08.4	-9.4
PMG	Port Moresby	18.93	97	P	P	21 56 33.1	+2.7
	comp=Z,1.2nm,0.3s,baz=282,slow=7.4,SNR=13						
PMG				S	S	21 59 53.0	-5.1
	comp=Z,0.5nm,0.3s,baz=165,slow=20,SNR=4.1						
PMG	Port Moresby	18.93	97	eP	P	21 56 34.6	+4.2
PMG				pmax	pmax		
	comp=Z,30nm,0.8s						
PMG	Port Moresby	18.93	97	eP	P	21 56 34.6	+4.2
	comp=Z,30nm,0.8s						
KSM	Kuching	19.90	296	P	P	21 56 40.1	-0.9
CTA	Charters Tower	21.54	127	eP	P	21 56 59.5	+1.0
	comp=Z,4.2nm,0.4s,mb4.2						
CTA	Charters Tower	21.54	127	P	P	21 56 60.0	+1.5
	comp=Z,5.9nm,0.4s,mb4.3,baz=303,slow=11,SNR=11						
CTA	Charters Tower	21.54	127	eP	P	21 56 59.5	+1.0
CTA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
CTAO	Charters Tower	21.54	127	eP	P	21 56 59.1	+0.6
FORT	Forrest	23.10	180	eP	P	21 57 14.3	+0.4
	comp=Z,9.2nm,0.4s,mb4.6						
FORT				eS	S	22 01 31.6	+17
QLP	Quilpie	24.34	143	eP	P	21 57 26.4	+1.1
KLBR	Kellerberrin	25.79	201	eP	P	21 57 40.0	+1.6
	comp=Z,23nm,1.2s,mb4.7						
KLBR				eS	S	22 02 32.3	+35
MUN	Mundaring	26.71	203	eP	P	21 57 49.9	+3.3
MUN				eS	S	22 02 54.0	+42
NWAO	Narrogin (SRO)	27.19	200	P	P	21 57 52.2	+1.3
	comp=Z,3.3nm,0.6s,mb4.2,baz=42,slow=12,SNR=4.5						
NWAO				LR	LR	22 09 48.4	
	comp=Z,96nm,19.2s,baz=54,slow=38						
STKA	Stephens Creek	27.26	154	eP	P	21 57 52.7	+1.2
	comp=Z,3.6nm,0.3s,mb4.5						
STKA	Stephens Creek	27.26	154	P	P	21 57 53.0	+1.4
	comp=Z,3.7nm,0.3s,mb4.5,baz=337,slow=9.0,SNR=19						
STKA				PcP	PcP	22 01 08.0	+0.2
	comp=Z,1.9nm,0.3s,baz=304,slow=2.8,SNR=3.9						
HNR	Honiara	31.53	96	LR	LR	22 10 31.0	
	comp=Z,89nm,19.1s,baz=181,slow=35						
WHN	Wuhan	40.12	341	⇑P	P	21 59 43.0	+0.6
NJ2	Nanjing	40.37	348	eP	P	21 59 44.1	-0.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
KMI	Kunming	40.81	324	P	P	21 59 49.9	+1.8
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.3						
CD2	Chengdu	44.81	330	P	P	22 00 19.9	-0.4
CD2				AP	pP	22 00 55.5	+4.0
CD2				PP	PP	22 02 07.5	-0.1
CD2				S	S	22 06 44.1	-3.0
CD2				XS	sS	22 07 46.8	+5.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
MJAR	Matsushiro Arr	44.88	12	P	P	22 00 19.3	-1.6
	comp=Z,3.4nm,0.8s,mb4.0,baz=187,slow=8.9,SNR=10.0						
XAN	Xi'an	45.20	337	P	P	22 00 22.5	-0.9
XAN				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.4						
BJT	Baijiatuau	48.61	348	eP	P	22 00 47.9	-2.0
BJT				pmax	pmax		
	comp=Z,15nm,1.2s						
BJT	Baijiatuau	48.61	348	eP	P	22 00 47.9	-2.0
	comp=Z,15nm,1.2s,mb4.5						
BJI	Beijing	48.63	348	eP	P	22 00 49.4	-0.6
BJI				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.5						
HHC	Hu-ho-hao-te	50.52	344	eP	P	22 01 07.0	+2.6
HHC				PP	PP	22 02 59.6	-1.8
HHC				PCS	PcS	22 06 18.5	+0.7
HHC				S	S	22 08 08.8	+1.1
HHC				SCS	ScS	22 10 35.6	-5.5
HHC				SS	SS	22 11 42.7	-0.7
HHC				AMB	AMB		
	comp=Z,11nm,0.3s,mb5.0						
HHC				AMB	AMB		
	comp=Z,189nm,4.3s						
HHC				LR	LR		
	comp=N,276nm,5.1s						
HHC				LR	LR		
	comp=E,213nm,5.9s						
HHC				LR	LR		
	comp=Z,169nm,8.0s						
MDJ	Mudanjiang	51.95	1	P	P	22 01 15.3	+0.3
MDJ				PCP	PcP	22 02 24.5	-1.1
MDJ				PP	PP	22 03 15.3	+1.0
MDJ				SCP	ScP	22 06 06.5	-2.9
MDJ				S	S	22 08 27.3	-0.1
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,88nm,4.7s						
MDJ				LR	LR		
	comp=N,25nm,19.8s						
MDJ				LR	LR		
	comp=E,13nm,26.6s						
MDJ				LR	LR		
	comp=Z,21nm,19.8s						
GTA	Gaotai	53.59	333	eP	P	22 01 27.5	+0.5
GTA				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.3						
HABR	Khabarovsk	56.12	6	eP	P	22 01 46.0	+0.7
HABR				eS	S	22 09 27.7	+4.2
ULN	Ulaanbaatar	58.24	343	eP	P	22 02 00.2	+0.1
ULN				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.7						
ULN	Ulaanbaatar	58.24	343	eP	P	22 02 00.2	+0.1
	comp=Z,14nm,1.1s,mb4.7						
SONM	Songino Array	58.40	343	P	P	22 02 01.3	+0.1
	comp=Z,6.2nm,0.8s,mb4.5,baz=168,slow=7.3,SNR=44						
SONM				PcP	PcP	22 02 50.3	-0.2
	comp=Z,1.0nm,0.6s,baz=162,slow=4.8,SNR=3.5						
ZAK	Zakamensk	61.60	342	eP	P	22 02 22.4	-0.7
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.9						
WMQ	Urumqi	62.86	328	P	P	22 02 32.3	+0.8
WMQ				PP	PP	22 04 53.8	+2.5
WMQ				AMB	AMB		
	comp=Z,16nm,1.9s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,120nm,5.8s						
WMQ				LR	LR		
	comp=N,199nm,19.6s						
WMQ				LR	LR		
	comp=E,149nm,18.5s						
WMQ				LR	LR		
	comp=Z,198nm,20.1s						
MKAR	Makanchi Array	67.68	328	P	P	22 03 02.7	+0.2
	comp=Z,2.6nm,0.4s,mb4.4,baz=112,slow=8.4,SNR=77						
MKAR	Makanchi Array	67.68	328	P	P	22 03 02.7	+0.2
KURK	Kurchatov	72.03	329	eP	P	22 03 27.8	-1.3
KURK				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.7						
KURK	Kurchatov	72.03	329	eP	P	22 03 27.8	-1.3
	comp=Z,16nm,1.1s,mb4.7						
VNDA	Vanda	72.13	173	P	P	22 03 29.9	+0.2
	comp=Z,0.4nm,0.4s,mb3.5,baz=313,slow=9.1,SNR=5.6						
VNDA	Vanda	72.13	173	eP	P	22 03 29.9	+0.2
NVS	Novosibirsk	72.56	335	eP	P	22 03 30.9	-1.3
MAW	Mawson	73.75	201	P	P	22 03 40.3	+1.0
	comp=Z,0.7nm,0.4s,mb3.8,baz=70,slow=7.9,SNR=8.8						
MAW	Mawson	73.75	201	eP	P	22 03 37.9	-1.4
BRVK	Borovoye	77.62	328	eP	P	22 04 00.3	-1.0
BRVK				epP	pP	22 04 41.7	+6.0
QSPA	South Pole Qui	82.42	180	eP	P	22 04 26.0	-1.0
SYO	Syowa Base	82.47	201	⇑eP	P	22 04 27.8	+0.5
SVE	Sverdlovsk	84.28	329	eP	P	22 04 36.0	-0.6
ARU	Arti	85.20	329	⇓iP	P	22 04 39.1	-2.0
ARU				e		22 07 59.0	
ARU				ePPP		22 09 51.4	
ARU				eS		22 14 49.0	
ARU				eSS	SS	22 20 39.8	+3.3
ARU				eSSS		22 24 06.2	
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
ARCES	ARCESS Array B	101.45	340	P	Pdif	22 05 53.7	-2.4
	comp=Z,3.1nm,1.0s,baz=81,slow=5.7,SNR=4.6						
PDAR	Pinedale Array	118.61	45	PKP	PKPdf	22 10 52.0	+0.2
	comp=Z,0.6nm,0.6s,baz=69,slow=2.4,SNR=7.5						
TORD	Torodi Ar. Bea	127.08	281	PKP	PKPdf	22 11 08.7	+0.7
	comp=Z,1.4nm,0.9s,baz=29,slow=2.6,SNR=10						
CPUP	Villa Florida	145.90	171	PKPbc	PKPbc	22 11 44.8	+1.3
	comp=Z,2.0nm,0.3s,baz=171,slow=1.9,SNR=17						
LPAZ	La Paz	151.37	146	PKPbc	PKPbc	22 12 00.2	+2.6
	comp=Z,5.0nm,0.4s,baz=52,slow=3.8,SNR=18						
LPAZ				PKPab	PKPab	22 12 09.4	+3.1
	comp=Z,2.7nm,0.5s,baz=203,slow=4.1,SNR=5.9						
LPAZ	La Paz	151.37	146	PKPbc	PKPbc	22 12 00.2	+2.6
LPAZ				PKPab	PKPab	22 12 09.4	+3.1

ISCJB **12** *22:06:47.2±3.0, 55S±02×1506E±0.1, h65^{km}±27^{km}, mb4.0/5, Error ellipse: s-maj=34.3km s-min=14.2km az=130.3*

IDC **12** *22:06:47.8±8.8, 535S×15054E, h56^{km}±64^{km}, mb3.9/3, mb1 4.2/4, mb1mx3.6/13, mbtmp4.2/4, ML3.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/19, Error ellipse: s-maj=99.1km s-min=56.2km az=122.0*

NEIC **12** *22:06:48.9±1.7, 538S×15056E, h69^{km}±17^{km}, mb4.2/3, Error ellipse: s-maj=21.8km s-min=10.4km az=153.0*

ISC 12 22:06:48.8±2.5**, 54S**±02×**1505E**±01**, h63**^{km}±24^{km}**, n14, σ0^{s}33**/13**, mb4.0**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.23	220	P	Pn	22 08 04.3	0.0
	3.6nm,0.3s,baz=46,slow=7.2,SNR=10						
PMG				S	Sn	22 09 03.0	-0.2
	0.5nm,0.3s,baz=41,slow=9.5,SNR=3.1						
PMG				LR	LR	22 09 29.1	
	comp=Z,65nm,20.0s,baz=227,slow=31						
HNR	Honiara	10.16	114	ePn	Pn	22 09 11.9	+0.1
WRAB	Tennant Creek	21.39	226	P	P	22 11 31.1	-0.1
	12nm,0.9s,mb4.2						
WB2	Warramunga Arr	21.40	226	eP	P	22 11 31.3	+0.1
WRA	Warramunga Arr	21.41	226	P	P	22 11 31.1	-0.2
	7.5nm,0.9s,mb4.0,baz=52,slow=10,SNR=25						
ASAR	Alice Springs	24.24	220	P	P	22 12 00.3	+0.6
	3.0nm,0.9s,mb3.7,baz=54,slow=9.2,SNR=18						
FITZ	Fitzroy Crossi	27.42	240	eP	P	22 12 28.6	+0.1
	11nm,0.9s,mb4.4						
FITZ	Fitzroy Crossi	27.42	240	P	P	22 12 28.8	+0.4
	6.3nm,0.8s,mb4.2,baz=54,slow=9.5,SNR=7.6						
STKA	Stephens Creek	27.67	197	P	P	22 12 30.1	-0.6
CBIJ	Chichi jima	33.28	346	LR	LR	22 23 03.9	
	comp=Z,185nm,21.8s,baz=81,slow=29						
MBWA	Marble Bar	33.74	239	eP	P	22 13 24.7	+0.5
KURK	Kurchatov	82.84	322	eP	P	22 19 05.9	-0.4
	0.4nm,0.3s,mb3.9						
BRVK	Borovoye	88.42	323	P	P	22 19 33.9	-0.1
TORD	Torodi Ar. Bea	148.33	286	PKPbc	PKPbc	22 26 27.7	-0.2
	0.6nm,0.8s,baz=69,slow=3.1,SNR=4.4						

IDC **12** *22:11:45.4±2.8, 240N×97.15E, h0^{km}, mb3.7/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.7/4, MS3.7/1, Ms1 3.7/1, ms1mx3.0/22, Error ellipse: s-maj=117.9km s-min=27.2km az=55.0*

ISCJB **12** *22:11:47.3±1.1, 22N±0.1×968E±02, h33^{km}, mb3.9/6, MS3.7/1, Error ellipse: s-maj=27.0km s-min=15.5km*

az=109.2
*NEIC **12** 22:11:48.8±0.8, 2.21N×96.85E, h30km, mb3.9/2, Error ellipse: s-maj=20.4km s-min=11.3km az=55.0*
ISC 12 22:11:49.9±1.1**, 2.23N**±0.1×**96.9E**±0.2**, h35km, n10,** σ**0.22**/9**, mb3.9**/6**, MS3.7**/1**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.84**	**51**	*e*Pn	**Pn**	**22 13 00.2**	**+0.1**
KKM	**Kota Kinabalu**	**19.66**	**78**	P	**Pn**	**22 16 12.1**	**-5.2**
NWAO	**Narrogin (SRO)**	**39.94**	**153**	LR	LR	22 35 33.7	
	comp=Z,93nm,18.2s,MS3.7,baz=196,slow=36						
WRA	**Warramunga Arr**	**42.88**	**123**	P	**P**	**22 19 44.5**	**-0.3**
	0.8nm,0.6s,mb3.6,baz=303,slow=9.1,SNR=7.4						
WRAB	**Tennant Creek**	**42.88**	**123**	*e*P	**P**	**22 19 45.0**	**+0.2**
	1.5nm,0.5s,mb4.0						
WB2	**Warramunga Arr**	**42.89**	**123**	P	**P**	**22 19 45.0**	**+0.1**
MKAR	**Makanchi Array**	**46.15**	**346**	P	**P**	**22 20 11.2**	**+0.4**
	1.1nm,0.7s,mb3.9,baz=157,slow=7.8,SNR=7.9						
SONM	**Songino Array**	**46.15**	**9**	P	**P**	**22 20 10.6**	**-0.3**
	0.4nm,0.3s,mb3.8,baz=191,slow=9.7,SNR=7.1						
SONM				PcP	PcP	22 21 47.1	+0.7
	0.2nm,0.4s,baz=177,slow=2.7,SNR=3.1						
BVAR	**Borovoye Array**	**55.16**	**341**	P	**P**	**22 21 18.8**	**0.0**
	1.0nm,0.6s,mb4.0,baz=134,slow=8.4,SNR=10.0						
BRVK	**Borovoye**	**55.22**	**341**	*e*P	**P**	**22 21 19.1**	**-0.1**
	0.7nm,0.6s,mb3.9						

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*ISCJB **12** 22:20:49.4±0.2, 36.04N±0.02×117.87W±0.02, h10km, Error ellipse: s-maj=2.7km s-min=2.0km az=63.9*
*NEIC **12** 22:20:50.2, 36.07N×117.90W, h4km, ML3.9(PAS), After PAS.*
NEIC Felt [II] at Ridgecrest. Also felt at El Centro, Menlo Park, Mojave, Onix, Reseda, Trona, Ventura, Weldon and Woodland Hills.
ISC 12 22:20:50.0±0.2**, 36.10N**±0.02×**117.86W**±0.02**, h10km, n83,** σ**1.31**/118**, 40C-41D, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CWC	**Cottonwood Cre**	**0.38**	**332**	⇓P	**Pg**	**22 20 57.4**	**-0.1**
	baz=0.4,SNR=168						
CWC				⇑S	**Sg**	**22 21 02.9**	**+0.3**
	baz=0.4						
ISA	**Isabella**	**0.67**	**229**	P	**Pg**	**22 21 01.8**	**-1.1**
	baz=0.6,SNR=462						
ISA				⇑S	**Sg**	**22 21 10.0**	**-1.6**
	baz=0.6						
TIN	**Tinemaha**	**1.00**	**343**	P	**Pg**	**22 21 09.2**	**-0.1**
	baz=1.0,SNR=68						
TIN				⇑S	**Sg**	**22 21 22.8**	**+0.6**
	baz=1.0						
GSC	**Goldstone**	**1.17**	**133**	⇑P	**Pb**	**22 21 11.8**	**-0.5**
	baz=1.2,SNR=168						
GSC				⇑S	**Sb**	**22 21 27.8**	**+0.3**
	baz=1.2						
U10A	**Ash Meadows, A**	**1.27**	**75**	⇑P	**Pn**	**22 21 13.9**	**0.0**
	baz=1.3,SNR=618						
U10A				⇓S	**Sb**	**22 21 32.1**	**+1.6**
	baz=1.3						
MTUM	**Tungsten Hills**	**1.37**	**336**	⇓*i*Pn	**Pn**	**22 21 15.5**	**+0.2**
MTUM				*i* Sg	**Sg**	**22 21 33.8**	**-0.4**
OSI	**Osito Adit**	**1.64**	**206**	⇓P	**Pn**	**22 21 18.4**	**-0.5**
	baz=1.6						
OSI				⇓S	**Sn**	**22 21 39.8**	**-0.3**
	baz=1.6						
V05C	**Boulder Hill,**	**1.67**	**263**	⇓P	**Pn**	**22 21 18.8**	**-0.5**
	baz=1.6						
V05C				⇓S	**Sn**	**22 21 39.7**	**-1.1**
	baz=1.6						
KCC	**Kaiser Creek**	**1.69**	**317**	⇓P	**Pn**	**22 21 20.8**	**+1.1**
	baz=1.7,SNR=62						
KCC				⇑S	**Sn**	**22 21 41.5**	**+0.1**
	baz=1.7						
S09A	**Goldfield**	**1.69**	**17**	⇑P	**Pn**	**22 21 21.4**	**+1.7**
	baz=1.7,SNR=1000						
TUQ	**Turquoise Mtn.**	**1.71**	**112**	⇑P	**Pn**	**22 21 19.4**	**-0.4**
	baz=1.7,SNR=45						
MLAC	**Mammoth Lakes**	**1.72**	**333**	⇑P	**Pn**	**22 21 21.8**	**+1.9**
	baz=1.7,SNR=8.4						
T06C	**Millerton Lake**	**1.75**	**302**	⇓P	**Pn**	**22 21 20.8**	**+0.5**
	baz=1.7,SNR=90						
T06C				⇑S	**Sn**	**22 21 43.0**	**+0.4**
	baz=1.7						
U05C	**Westside ANR,**	**1.85**	**278**	⇑P	**Pn**	**22 21 23.0**	**+1.3**
	baz=1.8						
PKD	**Parkfield**	**2.18**	**267**	P	**Pn**	**22 21 25.8**	**-0.6**
	baz=2.1,SNR=202						
PKD				⇑S	**Sn**	**22 21 53.4**	**0.0**
	baz=2.1						
R07C	**Lee Vining**	**2.20**	**335**	⇓P	**Pn**	**22 21 30.4**	**+3.8**
	baz=2.2,SNR=44						
SBC	**Santa Barbara**	**2.25**	**223**	⇓P	**Pn**	**22 21 29.9**	**+2.6**
	baz=2.2						
MNV	**Mina**	**2.34**	**354**	*e*Pn	**Pn**	**22 21 29.9**	**+1.4**
MNV				*e*Pg	**Pg**	**22 21 34.3**	**-0.5**
MNV				*e*Sg	**Sg**	**22 22 10.2**	**+5.0**
S05C	**Merced**	**2.35**	**303**	⇑P	**Pn**	**22 21 29.4**	**+0.8**
	baz=2.3,SNR=274						
U04C	**Hernandez Rese**	**2.38**	**277**	⇓P	**Pn**	**22 21 29.0**	**-0.1**
	baz=2.3,SNR=258						
S06C	**San Francisco**	**2.39**	**319**	⇓P	**Pn**	**22 21 30.9**	**+1.8**
	baz=2.4,SNR=236						
T05C	**Eagle Field, D**	**2.40**	**290**	⇓P	**Pn**	**22 21 32.1**	**+2.8**
	baz=2.4,SNR=15						
FMP	**Fort Macarthur**	**2.41**	**189**	⇓P	**Pn**	**22 21 35.2**	**+5.7**
	baz=2.4						
V12A	**Nelson**	**2.47**	**98**	⇑P	**Pn**	**22 21 30.2**	**-0.1**
	baz=2.5						
V04C	**Ramage Ranch,**	**2.49**	**260**	⇑P	**Pn**	**22 21 31.7**	**+1.1**
	baz=2.4						
V04C				⇓S	**Sn**	**22 22 01.4**	**+0.4**
	baz=2.4						
R10A	**Warm Springs**	**2.51**	**29**	⇓P	**Pn**	**22 21 36.9**	**+6.0**
	baz=2.6,SNR=52						
W12A	**Cal Nev Ari**	**2.56**	**107**	⇑P	**Pn**	**22 21 31.4**	**-0.1**
	baz=2.6						
LRV	**Little Rabbit**	**2.58**	**278**	*e*Pn	**Pn**	**22 21 32.4**	**+0.6**
LRV				*e*Sn	**Sn**	**22 22 06.3**	**+3.2**
U12A	**Valley of Fire**	**2.70**	**82**	⇓P	**Pb**	**22 21 37.1**	**-1.3**
	baz=2.7						
R06C	**Coleville**	**2.73**	**333**	⇑P	**Pb**	**22 21 38.9**	**0.0**
	baz=2.7						
PFO	**Pinyon Flat Ob**	**2.74**	**155**	*e*Pn	**Pn**	**22 21 33.6**	**-0.4**
PFO				*e*Pg	**Pg**	**22 21 40.0**	**-2.6**
PFO				*e*Sn	**Sn**	**22 22 09.9**	**+2.8**
PFO				*e*Sg	**Sg**	**22 22 17.4**	**-0.6**
PFO	**Pinyon Flat Ob**	**2.74**	**155**	P	**Pn**	**22 21 33.7**	**-0.3**
	baz=2.7,SNR=35						
V03C	**Hunter Liggett**	**2.74**	**269**	⇓P	**Pn**	**22 21 33.4**	**-0.6**
	baz=2.7,SNR=25						
Q08A	**Gabbs**	**2.75**	**359**	⇓P	**Pb**	**22 21 39.1**	**-0.2**
	baz=2.8,SNR=6.0						
Q09A	**Carvers**	**2.78**	**11**	⇑P	**Pn**	**22 21 36.0**	**+1.5**
	baz=2.8						
CMB	**Columbia Colle**	**2.80**	**314**	*e*Pn	**Pn**	**22 21 36.6**	**+1.8**
CMB				*e*Pg	**Pg**	**22 21 39.3**	**-4.3**
CMB				*e*Sg	**Sg**	**22 22 15.4**	**-4.4**
CMB	**Columbia Colle**	**2.80**	**314**	⇓P	**Pn**	**22 21 38.3**	**+3.5**
	baz=2.8,SNR=89						
PACP	**Pacheco Peak**	**2.91**	**289**	⇑P	**Pn**	**22 21 36.7**	**+0.4**
	baz=2.9,SNR=8.0						
SAO	**San Andreas Ge**	**2.97**	**284**	*e*Pn	**Pn**	**22 21 37.4**	**+0.2**
SAO				*e*Pg	**Pg**	**22 21 46.3**	**-0.7**
SAO				*e*Sn	**Sn**	**22 22 14.9**	**+2.0**
HAST	**UC Hastings Re**	**3.00**	**277**	P	**Pn**	**22 21 37.2**	**-0.4**
	baz=3.0,SNR=26						
HAST				⇑S	**Sn**	**22 22 13.2**	**-0.4**
	baz=3.0						
S04C	**Ingram Canyon,**	**3.12**	**298**	⇑P	**Pn**	**22 21 39.4**	**+0.2**
	baz=3.1,SNR=15						
R05C	**Kirkwood Meado**	**3.14**	**326**	⇑P	**Pn**	**22 21 44.5**	**+5.0**
	baz=3.1,SNR=16						
SNCC	**San Nicolas Is**	**3.16**	**206**	⇑P	**Pn**	**22 21 39.3**	**-0.5**
	baz=3.1						
SNCC				⇑S	**Sn**	**22 22 15.4**	**-2.1**
	baz=3.1						
Q11A	**Duckwater**	**3.26**	**32**	⇓P	**Pg**	**22 21 50.9**	**-1.6**
	baz=3.3						
109C	**Camp Elliot, M**	**3.26**	**169**	⇓P	**Pn**	**22 21 40.9**	**-0.3**
	baz=3.2						
R04C	**Big Horse Ranc**	**3.27**	**312**	⇓P	**Pn**	**22 21 42.1**	**+0.8**
	baz=3.3						
WENL	**Wente Brothers**	**3.48**	**297**	⇓P	**Pn**	**22 21 44.5**	**+0.4**
	baz=3.5						
LAVA	**Lava Cap Winer**	**3.51**	**320**	⇓P	**Pb**	**22 21 49.8**	**-2.4**
	baz=3.5						
WCN	**Washoe City**	**3.53**	**335**	⇓P	**Pg**	**22 21 55.3**	**-2.4**
	baz=3.5						
Y12C	**Blythe**	**3.61**	**130**	⇑P	**Pn**	**22 21 44.7**	**-1.3**
	baz=3.6,SNR=15						
BNLO	**Ben Lomond (Sa**	**3.62**	**288**	⇑P	**Pn**	**22 21 46.8**	**+0.7**
	baz=3.6						
BNLO				⇓S	**Sn**	**22 22 29.9**	**+1.1**
	baz=3.6						
Q04C	**Lincoln**	**3.92**	**315**	⇓P	**Pg**	**22 22 02.2**	**-2.9**
	baz=3.9						
P06A	**Stead Airport,**	**3.92**	**336**	⇓P	**Pg**	**22 22 03.3**	**-1.9**
	baz=3.9						
GLA	**Glamis**	**3.94**	**140**	P	**Pn**	**22 21 49.2**	**-1.2**
	baz=3.9,SNR=7.9						
W14A	**Seligman**	**3.99**	**101**	⇑P	**Pn**	**22 21 52.0**	**+0.8**
	baz=4.0						
P12A	**McGill**	**4.09**	**34**	⇑P	**Pn**	**22 21 53.8**	**+1.2**
	baz=4.1						
O09A	**Fish Creek Ran**	**4.10**	**7**	⇓P	**Pn**	**22 21 54.5**	**+1.8**
	baz=4.1						
O07A	**Toulon**	**4.13**	**349**	⇓P	**Pg**	**22 22 06.6**	**-2.6**
	baz=4.2						
Q03C	**Winters**	**4.16**	**309**	⇑P	**Pg**	**22 22 06.5**	**-3.2**
	baz=4.2						
X14A	**Yava**	**4.38**	**110**	⇑P	**Pn**	**22 21 56.8**	**+0.3**
	baz=4.4						
X14A				⇓S	**Sn**	**22 22 48.5**	**+0.9**
	baz=4.4						
SUTB	**Sutter Butte**	**4.42**	**316**	⇓P	**Pb**	**22 22 07.5**	**-0.2**
	baz=4.4						
NSHM	**Saint Helena R**	**4.49**	**304**	*e*Pn	**Pn**	**22 22 00.0**	**+1.9**
NSHM				*e*Pg	**Pg**	**22 22 14.2**	**-1.8**
NSHM				*e*Sg	**Sg**	**22 23 06.2**	**-8.1**
MCCM	**Marconi Confer**	**4.50**	**298**	*e*Pn	**Pn**	**22 22 00.3**	**+2.0**
MCCM	**Marconi Confer**	**4.50**	**298**	⇑S	**Sn**	**22 22 49.2**	**-1.5**
	baz=4.5						
Y14A	**Wickenburg**	**4.53**	**117**	⇑P	**Pn**	**22 21 58.3**	**-0.3**
	baz=4.5						
O05C	**Quincy**	**4.55**	**329**	⇑P	**Pg**	**22 22 12.5**	**-4.6**
	baz=4.6						
MNRC	**McLaughlin Nat**	**4.58**	**309**	⇓P	**Pn**	**22 22 00.7**	**+1.3**
	baz=4.6						
X15A	**Humboldt**	**4.87**	**108**	⇑P	**Pn**	**22 22 04.3**	**+1.0**
	baz=4.9						
Z14A	**Wintersburg**	**4.88**	**123**	⇑P	**Pn**	**22 22 03.2**	**-0.2**
	baz=4.9						
MSU	**Marysvale**	**5.13**	**60**	*e*Pn	**Pn**	**22 22 11.1**	**+4.3**
MSU				*e*Pg	**Pg**	**22 22 26.9**	**-1.3**
N12A	**Clover Valley,**	**5.23**	**24**	⇓P	**Pn**	**22 22 10.5**	**+2.2**
	baz=5.3						
WUAZ	**Wupatki**	**5.30**	**94**	*e*Pn	**Pn**	**22 22 11.2**	**+2.0**
	63nm,0.6s						
WUAZ				*e*Pg	**Pg**	**22 22 27.7**	**-3.8**
WUAZ				*e*Sg	**Sg**	**22 23 30.4**	**-10**
N13A	**Wendover, West**	**5.54**	**30**	⇑P	**Pg**	**22 22 34.6**	**-1.6**
	baz=5.6						
M11A	**Holland Ranch,**	**5.56**	**16**	⇑P	**Pg**	**22 22 34.7**	**-1.8**
	baz=5.6						
O02C	**Red Bluff**	**5.63**	**318**	⇓P	**Pg**	**22 22 34.4**	**-3.5**
	baz=5.6						
115A	**Sonoran Desert**	**5.76**	**124**	⇑P	**Pn**	**22 22 15.2**	**-0.3**
	baz=5.8						
115A				⇓S	**Sn**	**22 23 23.3**	**+1.8**
	baz=5.8						
M05C	**Lookout**	**5.85**	**335**	⇑P	**Pg**	**22 22 39.3**	**-2.7**
	baz=5.9						
L09A	**Wilkinson Ranc**	**5.91**	**1**	⇓P	**Pg**	**22 22 41.3**	**-1.9**
	baz=6.0						
M13A	**Montello**	**5.99**	**28**	⇓P	**Pg**	**22 22 42.6**	**-2.1**
	baz=6.0						
116A	**Eloy**	**6.20**	**123**	⇓P	**Pn**	**22 22 21.2**	**-0.3**
	baz=6.2						
PV10	**Paradox Valley**	**7.39**	**69**	*e*Pn	**Pn**	**22 22 42.1**	**+4.2**
PV10				*e*Pg	**Pg**	**22 23 09.2**	**-2.4**
PV01	**Paradox Valley**	**7.69**	**72**	*e*Pn	**Pn**	**22 22 47.0**	**+4.9**
PV01				*e*Pg	**Pg**	**22 23 13.0**	**-4.3**
PV01				*e*Sg	**Sg**	**22 24 53.0**	**-3.8**
ANMO	**Albuquerque**	**9.36**	**94**	*e*Pn	**Pn**	**22 23 06.8**	**+1.9**

IDC 12 22:30:02.7±18.0**, 6.16S**×**128.99E, h149**km±194km**, mb2.9**/1**, mb1 3.6**/4**, mb1mx3.3**/12**, mbtmp3.9**/4**, ML3.9**/3**, Error ellipse: s-maj=154.4km s-min=56.5km az=43.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.31**	**195**	P	Pn	22 32 53.0	+0.1
	0.2nm,0.3s,baz=41,slow=14,SNR=17						
FITZ				S	Sn	22 35 00.3	-8.6
	0.3nm,0.3s,baz=90,slow=18,SNR=4.7						
WRA	**Warramunga Arr**	**14.65**	**160**	P	Pn	22 33 22.7	0.0
	0.6nm,0.3s,baz=333,slow=13,SNR=37						
WRA				S	Sn	22 36 00.4	-4.8
	0.2nm,0.3s,baz=337,slow=22,SNR=3.7						
ASAR	**Alice Springs**	**18.03**	**165**	P	P	22 34 02.7	+0.4
	1.2nm,0.3s,baz=344,slow=12,SNR=62						
MKAR	**Makanchi Array**	**66.98**	**327**	P	P	22 40 39.4	+0.1
	0.1nm,0.4s,baz=118,slow=6.7,SNR=4.2						

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*IDC **12** 22:38:53.4±3.5, 4.89S×150.15E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/13, mbtmp3.9/4, ML3.1/1, MS3.3/4, Ms1 3.3/4, ms1mx3.0/17, Error ellipse: s-maj=105.0km s-min=38.9km az=113.0*
*ISCJB **12** 22:38:54.4±1.7, 4.9S±0.2×150.4E±0.2, h33km, mb3.8/4, MS3.4/1, Error ellipse: s-maj=37.6km s-min=18.3km az=55.9*
*NEIC **12** 22:38:57.7±1.6, 5.02S×150.35E, h35km, mb3.9/1, Error ellipse: s-maj=32.7km s-min=20.2km az=97.0*
ISC 12 22:38:56.3±1.7**, 4.9S**±0.2×**150.5E**±0.2**, h35km, n14,** σ**0.62**/10**, mb3.8**/4**, MS3.4**/1**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.56**	**216**	Pn	**Pn**	**22 40 16.7**	**+0.3**
	4.5nm,0.3s,baz=43,slow=12,SNR=7.9						
PMG				Sn	**Sn**	**22 41 19.4**	**+0.3**
	2.0nm,0.3s,baz=315,slow=19,SNR=3.0						
HNR	**Honiara**	**10.39**	**116**	LR	LR	22 44 41.8	
	comp=Z,76nm,18.7s,baz=181,slow=32						
CTA	**Charters Tower**	**15.64**	**195**	LR	LR	22 47 22.1	
	comp=Z,172nm,20.6s,baz=150,slow=33						
CTAO	**Charters Tower**	**15.64**	**195**	P	**Pn**	**22 42 33.4**	**-0.5**
GUMO	**Guam**	**19.22**	**343**	LR	LR	22 48 42.1	
	comp=Z,47nm,18.8s,baz=106,slow=31						
WRAB	**Tennant Creek**	**21.68**	**225**	*e*P	**P**	**22 43 43.4**	**-0.5**
	4.1nm,0.8s,mb3.9						
WB2	**Warramunga Arr**	**21.69**	**225**	*e*P	**P**	**22 43 43.7**	**-0.3**
WRA	**Warramunga Arr**	**21.70**	**225**	P	**P**	**22 43 43.0**	**-1.1**
	3.3nm,1.1s,mb3.7,baz=49,slow=10,SNR=14						
DZM	**Mont Dzumac**	**23.00**	**139**	LR	LR	22 51 26.5	
	comp=Z,140nm,19.0s,MS3.4,baz=238,slow=32						
ASAR	**Alice Springs**	**24.57**	**219**	P	**P**	**22 44 12.3**	**-0.5**
	0.9nm,0.8s,mb3.4,baz=55,slow=8.7,SNR=6.8						
FITZ	**Fitzroy Crossi**	**27.61**	**240**	P	**P**	**22 44 41.0**	**+0.7**
	3.4nm,0.8s,mb4.0,baz=104,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**28.09**	**196**	P	**P**	**22 44 45.6**	**+1.1**
MBWA	**Marble Bar**	**33.94**	**239**	P	**P**	**22 45 36.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**148.16**	**287**	PKPbc	PKPbc	22 58 41.1	+2.7
	0.6nm,0.7s,baz=57,slow=2.9,SNR=3.8						

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*ISCJB **12** 22:39:58.4±0.9, 23.03S±0.07×68.0W±0.1, h83km±18km, mb3.7/1, Error ellipse: s-maj=21.4km s-min=7.5km az=53.2*
*IDC **12** 22:40:00.3±1.1, 22.71S×68.39W, h97km±16km, mb3.7/2, mb1 3.7/4, mb1mx3.4/15, mbtmp4.1/4, Error ellipse: s-maj=54.2km s-min=27.3km az=142.0*
*GUC **12** 22:40:02.0±0.6, 22.95S×68.62W, h120km, MD4.0, ML3.8*
*NEIC **12** 22:40:02.0, 22.95S×68.62W, h120km, MG3.8(GUC), After GUC.*
ISC 12 22:39:60.0±0.8**, 23.00S**±0.07×**68.1W**±0.1**, h79**km±18km**, n14,** σ**0.97**/22**, mb3.7**/1**, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.84**	**297**	P	**Pn**	**22 40 17.8**	**+0.8**
	215nm,0.3s,baz=43,slow=3.8,SNR=2687						
LVC				S	**Sn**	**22 40 29.6**	**-0.2**
	966nm,0.3s,baz=233,slow=20,SNR=189						
CEN1	**Los Morros**	**1.97**	**258**	*e*P	**Pn**	**22 40 32.4**	**+1.0**
CEN1				*i* S	**Sn**	**22 40 55.4**	**0.0**
CEN1				AML	AML	22 41 00.8	
	comp=E,617nm,0.6s						
ANCH	**Antofagasta**	**2.23**	**252**	*e*P	**Pn**	**22 40 29.9**	**-5.0**
ANCH				*i* S	**Sn**	**22 40 53.7**	**-7.8**
ANCH				AML	AML	22 41 00.6	
	comp=N,837nm,0.3s						
ANCH	**Antofagasta**	**2.23**	**252**	*e*P	**Pn**	**22 40 29.9**	**-5.0**
ANCH				*i* S	**Sn**	**22 40 53.7**	**-7.8**
CPN1	**Cerro Paranal**	**2.66**	**232**	*e*P	**Pn**	**22 40 41.2**	**+0.6**
CPN1				*e*S	**Sn**	**22 41 11.6**	**-0.4**
CPN1				AML	AML	22 41 19.8	
	comp=E,758nm,0.7s						
CRCH	**Chaqaral**	**4.05**	**214**	*e*P	**Pn**	**22 41 00.7**	**+1.2**
CRCH				*i* S	**Sn**	**22 41 45.7**	**0.0**
CDCH	**Caldera**	**4.75**	**211**	*i* P	**Pn**	**22 41 09.0**	**-0.1**
CDCH				*i* S	**Sn**	**22 42 01.2**	**-1.8**
LPAZ	**La Paz**	**6.67**	**360**	P	**Pn**	**22 41 33.8**	**-1.5**
	comp=E,0.8nm,0.3s,baz=188,slow=4.6,SNR=30						
ARE	**Arequipa**	**7.24**	**333**	*e*P	**Pn**	**22 41 47.0**	**+4.0**
ARE				*e*S	**Sn**	**22 42 48.0**	**-16**
SIV	**San Ignacio**	**9.61**	**45**	P	**Pn**	**22 42 14.5**	**-0.9**
	comp=E,1.9nm,0.3s,baz=239,slow=11,SNR=33						
SIV				S	**Sn**	**22 43 55.3**	**-6.3**
	comp=E,0.1nm,0.3s,baz=135,slow=20,SNR=3.6						
BDFB	**Brasilia**	**20.30**	**72**	P	**P**	**22 44 31.1**	**+1.7**
	comp=E,5.2nm,0.5s,baz=258,slow=11,SNR=9.2						
TORD	**Torodi Ar. Bea**	**77.16**	**70**	P	**P**	**22 51 44.5**	**-0.6**
	comp=E,0.5nm,0.3s,mb3.7,baz=259,slow=5.3,SNR=15						
TORD				pP	pP	22 52 14.3	+8.4
	comp=E,1.1nm,0.8s,baz=252,slow=5.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**77.16**	**70**	P	**P**	**22 51 44.5**	**-0.6**
TORD				pP	pP	22 52 14.3	+8.4
WRA	**Warramunga Arr**	**132.03**	**209**	PKP	PKPdf	22 59 03.1	-1.3
	comp=E,0.5nm,0.8s,baz=159,slow=1.6,SNR=6.4						

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*ISCJB **12** 22:40:07.3±0.4, 6.78N±0.05×72.94W±0.05, h178km±6km, mb3.7/5, Error ellipse: s-maj=10.1km s-min=5.8km az=85.5*
*FUNV **12** 22:40:07.0, 6.74N×73.24W, h174km, MW3.6*
*IDC **12** 22:40:08.2±0.7, 6.76N×72.97W, h165km±10km, mb3.5/4, mb1 3.7/6, mb1mx3.4/21, mbtmp4.0/6, Error ellipse: s-maj=35.6km s-min=7.9km az=130.0*
*NEIC **12** 22:40:08.7±0.7, 6.72N×73.00W, h172km±7km, mb3.9/3, Error ellipse: s-maj=11.9km s-min=8.1km az=98.0*
ISC 12 22:40:08.6±0.4**, 6.80N**±0.05×**72.96W**±0.05**, h168**km±6km**, n25,** σ**0.93**/28**, mb3.7**/5**, 1C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**31**	⇑*i*P	**Pn**	**22 40 37.3**	**+0.3**
ROSC	**El Rosal**	**2.37**	**215**	P	**Pn**	**22 40 48.8**	**-0.1**
	78nm,0.3s,baz=62,slow=1.9,SNR=75						
ROSC				S	**Sn**	**22 41 19.9**	**-0.3**
	65nm,0.3s,baz=109,slow=18,SNR=7.1						
SOCV	**Socops**	**2.55**	**55**	*e*P	**Pn**	**22 40 52.2**	**+1.0**
VIGV	**El Vigia**	**2.57**	**38**	*e*P	**Pn**	**22 40 52.0**	**+0.7**
SDV	**Santo Domingo**	**3.10**	**48**	P	**Pn**	**22 40 59.1**	**+1.3**
	6.6nm,0.3s,baz=261,slow=5.7,SNR=22						
SDV				S	**Sn**	**22 41 36.7**	**+0.5**
	15nm,0.3s,baz=106,slow=22,SNR=17						
ELOV	**Elorza**	**3.46**	**87**	*e*P	**Pn**	**22 41 03.4**	**+1.1**
ELOV				*e*S	**Sn**	**22 41 45.1**	**+0.8**
VIRV	**Villa del Rosa**	**3.72**	**8**	*e*P	**Pn**	**22 41 04.3**	**-1.4**
QARV	**Quebrada Arrib**	**4.15**	**35**	*e*P	**Pn**	**22 41 11.6**	**+0.3**
QARV				*e*S	**Sn**	**22 41 58.6**	**-1.5**
CURV	**Curarigua**	**4.36**	**43**	*e*P	**Pn**	**22 41 14.0**	**+0.1**
CURV				*e*S	**Sn**	**22 42 04.1**	**-0.8**
BAUV	**El Baul**	**5.32**	**66**	*e*S	**Sn**	**22 42 26.1**	**-1.2**
CAOV	**Caicara del Or**	**6.61**	**85**	*e*S	**Sn**	**22 42 54.9**	**-3.2**
OTAV	**Otavalo**	**8.52**	**220**	*e*Pn	**Pn**	**22 42 08.2**	**-0.4**
SAML	**Samuel**	**18.43**	**148**	*e*P	**P**	**22 44 11.8**	**+0.7**
	2.6nm,0.4s						
PAYG	**Puerto Ayora**	**18.82**	**247**	P	**P**	**22 44 14.8**	**-0.5**
NNA	**Nana**	**19.06**	**192**	P	**P**	**22 44 17.5**	**-0.5**
	9.3nm,0.6s						
TEIG	**Tepich**	**19.97**	**313**	*e*P	**P**	**22 44 28.5**	**+0.8**
LPAZ	**La Paz**	**23.43**	**168**	*e*P	**P**	**22 45 03.4**	**+0.9**
	0.6nm,0.6s,mb3.2						
LVC	**Limon Verde**	**29.50**	**172**	P	**P**	**22 45 54.3**	**-2.6**
ULM	**Lac du Bonnet**	**47.36**	**340**	P	**P**	**22 48 25.0**	**-0.4**
	2.0nm,0.5s,mb4.0,baz=163,slow=9.6,SNR=3.3						
ULM	**Lac du Bonnet**	**47.36**	**340**	P	**P**	**22 48 25.0**	**-0.4**
SCHQ	**Schefferville**	**48.15**	**5**	P	**P**	**22 48 32.4**	**+0.8**
	1.6nm,0.5s,mb3.9,baz=207,slow=14,SNR=5.2						
PDAR	**Pinedale Array**	**48.19**	**324**	P	**P**	**22 48 32.4**	**+0.6**
	0.5nm,0.5s,mb3.4,baz=128,slow=10,SNR=3.5						
YKA	**Yellowknife Ar**	**63.34**	**340**	P	**P**	**22 50 19.5**	**-0.1**
	1.2nm,0.5s,mb4.0,baz=134,slow=6.7,SNR=7.6						
ASAR	**Alice Springs**	**149.23**	**234**	PKPbc	PKPbc	22 59 37.6	+0.5
	0.2nm,0.4s,baz=119,slow=2.8,SNR=3.5						
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	PKPbc	22 59 40.7	+0.5
	0.3nm,0.3s,baz=106,slow=2.8,SNR=19						

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*MOS **12** 23:01:53.9±1.9, 26.35N×53.54E, h33km, mb4.8/1, Error ellipse: s-maj=22.7km s-min=10.2km az=113.7*
*ISCJB **12** 23:01:58.7±0.5, 27.48N±0.05×53.50E±0.05, h10km, mb3.6/10, Error ellipse: s-maj=8.1km s-min=4.2km az=72.5*
*IDC **12** 23:02:00.1±1.4, 27.68N×53.57E, h0km, mb3.6/10, mb1 3.7/11, mb1mx3.7/21, mbtmp3.6/11, ML3.3/1, Error ellipse: s-maj=28.5km s-min=22.4km az=6.0*
*CSEM **12** 23:02:03.7±0.1, 27.66N×53.51E, h40km, ML3.4, Error ellipse: s-maj=3.4km s-min=2.0km az=31.0*
*THR **12** 23:02:04.1±0.4, 27.71N×53.53E, h41km±2km, ML3.4*
*NEIC **12** 23:02:04.1, 27.72N×53.53E, h41km, mb3.6/3, After THR.*
*TEH **12** 23:02:07.1, 27.79N×53.62E, h26km, Mn3.6*
ISC 12 23:02:01.3±0.5**, 27.55N**±0.05×**53.52E**±0.05**, h10km, n56,** σ**1.17**/70**, mb3.6**/10**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.87**	**328**	*e*PG	**Pg**	**23 02 19.0**	**+0.9**
GHIR				*e*Sg	**Sg**	**23 02 30.2**	**+0.7**
GHIR				AML	AML	23 02 38.1	
	comp=E,2μm,0.8s						
GHIR				AML	AML	23 02 39.9	
	comp=N,2μm,0.6s						
GHIR	**Ghir-Karzin**	**0.87**	**328**	*e*Pg	**Pg**	**23 02 18.0**	**-0.1**
GHIR				*e*Sg	**Sg**	**23 02 30.0**	**+0.5**
GHIR	**Ghir-Karzin**	**0.87**	**328**	*e*Pg	**Pg**	**23 02 19.0**	**+0.9**
	SNR=113						
GHIR				*e*Sg	**Sg**	**23 02 30.2**	**+0.7**
	SNR=113						
IMOK	**Mook**	**1.65**	**335**	*e*Pn	**Pn**	**23 02 31.9**	**+1.5**
ISRV	**Sarvestan**	**1.86**	**349**	*e*Pn	**Pn**	**23 02 34.6**	**+1.4**
ISRV				*e*Sn	**Sn**	**23 02 54.9**	**-1.9**
BNDS	**Bandar-Abbas**	**2.36**	**93**	*e*PN	**Pn**	**23 02 42.2**	**+2.1**
BNDS				*e*SG	**Sg**	**23 03 17.2**	**-0.1**
BNDS				AML	AML	23 03 34.9	
	comp=N,121nm,0.4s						
BNDS	**Bandar-Abbas**	**2.36**	**93**	*e*Pn	**Pn**	**23 02 42.0**	**+1.9**
BNDS				*e*Sg	**Sg**	**23 03 17.0**	**-0.3**
BNDS	**Bandar-Abbas**	**2.36**	**93**	*e*Pn	**Pn**	**23 02 42.2**	**+2.1**
	SNR=54						
BNDS				*e*Sg	**Sg**	**23 03 17.2**	**-0.1**
	SNR=96						
KRBR	**Kerman**	**3.74**	**49**	*e*PN	**Pn**	**23 02 59.6**	**+0.5**
KRBR				AML	AML	23 03 44.8	
	comp=N,61nm,0.7s						
KRBR				AML	AML	23 03 56.5	
	comp=E,66nm,0.7s						
KRBR	**Kerman**	**3.74**	**49**	*e*Pn	**Pn**	**23 02 59.0**	**-0.1**
IMEH	**Mehriz**	**3.95**	**14**	*e*Pn	**Pn**	**23 03 02.5**	**+0.6**
ISAD	**Sadrabad**	**4.36**	**2**	*e*Pn	**Pn**	**23 03 08.7**	**+1.2**
IBAF	**Bafgh**	**4.41**	**23**	*e*Pn	**Pn**	**23 03 08.3**	**+0.1**
IBAF				*e*Sn	**Sn**	**23 03 53.6**	**-6.0**
ICHK	**Chekchek**	**4.75**	**9**	*e*Pn	**Pn**	**23 03 13.1**	**+0.2**
NASN	**Na'in**	**5.27**	**353**	*e*PN	**Pn**	**23 03 20.2**	**+0.1**
NASN	**Na'in**	**5.27**	**353**	*e*Pn	**Pn**	**23 03 20.0**	**-0.1**
IZEF	**Zefreh**	**5.43**	**349**	*e*Pn	**Pn**	**23 03 22.2**	**-0.1**
IZEF				*e*Sn	**Sn**	**23 04 18.3**	**-6.5**
IPIR	**Pirpir**	**5.60**	**337**	*e*Pn	**Pn**	**23 03 25.0**	**+0.4**
IKLH	**Kalahroud**	**5.99**	**344**	*e*Pn	**Pn**	**23 03 30.9**	**+0.9**
IKLH				*e*Sn	**Sn**	**23 04 32.1**	**-6.6**
WSAR	**Wadi Sarin**	**6.31**	**132**	Pn	**Pn**	**23 03 35.5**	**+1.1**
	comp=E,0.7nm,0.3s,baz=50,slow=17,SNR=9.5						
WSAR				Sn	**Sn**	**23 04 45.5**	**-0.9**
	comp=E,0.6nm,0.3s,baz=132,slow=19,SNR=5.2						
WSAR	**Wadi Sarin**	**6.31**	**132**	Pn	**Pn**	**23 03 35.5**	**+1.1**

WSAR Sn Sn 23 04 45.5 -0.9
ZHSF Zahedan 6.71 70 ePn Pn 23 03 41.0 +1.2
IDMV Damavand 8.11 351 ePn Pn 23 03 59.1 +0.1
IGHG Ghaleghazi 9.02 320 ePn Pn 23 04 12.0 +0.5
IGHG eSn Sn 23 05 46.3 -6.7
IDHR Dehrash 9.39 321 ePn Pn 23 04 17.0 +0.4
IDHR eSn Sn 23 05 54.6 -7.6
GNI Garni 14.52 332 Pn Pn 23 05 35.5 +8.7
comp=E,1.9nm,0.3s,baz=15,slow=5.6,SNR=9.2
ASF Jabal al Asfar 15.14 292 Pn Pn 23 05 43.6 +8.5
comp=E,0.3nm,0.3s,baz=3.6,slow=7.9,SNR=3.8
MMAI Mount Meron Ar 16.56 294 Pn Pn 23 05 56.7 +3.1
comp=E,0.3nm,0.3s,baz=98,slow=20,SNR=3.3
MALT Malatya 16.58 314 eP Pn 23 05 54.1 +0.2
MALT pmax pmax
comp=Z,5.0nm,0.9s
MALT Malatya 16.58 314 ePn Pn 23 05 54.0 +0.2
comp=Z,5.0nm,0.9s
MALT Malatya 16.58 314 eP Pn 23 05 54.1 +0.2
comp=Z,5.0nm,0.9s
KIV Kislovodsk 18.55 335 eP Pn 23 06 15.9 -2.4
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV Kislovodsk 18.55 335 eP Pn 23 06 15.9 -2.4
comp=Z,8.2nm,1.1s
KIV Kislovodsk 18.55 335 eP Pn 23 06 15.9 -2.4
comp=Z,8.0nm,1.1s
BR131 Keskin Array S 20.48 311 eP P 23 06 38.5 -0.6
comp=Z,1.4nm,0.6s
BR131 Keskin Array S 20.48 311 eP P 23 06 38.5 -0.7
comp=Z,1.4nm,0.6s
BRTR Keskin Array B 20.48 311 P P 23 06 39.0 -0.1
comp=Z,0.8nm,0.6s,baz=133,slow=12,SNR=6.4
BRTR Keskin Array B 20.48 311 P P 23 06 39.0 -0.2
AKTK Aktyubinsk 23.11 7 P P 23 07 07.8 +0.3
AKTK Aktyubinsk 23.11 7 P P 23 07 07.8 +0.4
AKTO Aktyubinsk 23.11 7 P P 23 07 07.8 +0.3
comp=Z,1.3nm,0.5s,mb3.6,baz=156,slow=14,SNR=7.0
GVD Gavdhos 26.14 293 P P 23 07 32.9 -2.6
MLR Muntele Rosu 28.28 317 P P 23 07 57.9 +3.1
comp=Z,1.2nm,0.4s,mb3.8,baz=311,slow=9.3,SNR=3.7
AKASG Malin Array Be 29.58 328 P P 23 08 05.4 -0.9
comp=Z,0.4nm,0.4s,mb3.5,baz=138,slow=8.3,SNR=3.7
MKAR Makanchi Array 29.66 42 P P 23 08 05.6 -1.4
comp=Z,0.4nm,0.6s,mb3.4,baz=229,slow=11,SNR=4.7
KURK Kurchatov 29.98 33 P P 23 08 08.4 -1.4
OBN Obninsk 30.17 341 P P 23 08 09.0 -2.6
KWP Kalwaria 32.29 321 eP P 23 08 29.1 -1.1
PSZ Piszkesteto 33.10 317 eP P 23 08 36.1 -1.2
GERES GERESS Array B 37.26 316 P P 23 09 13.2 +0.1
comp=Z,0.2nm,0.4s,mb3.3,baz=72,slow=6.4,SNR=2.7
GERES GERESS Array B 37.26 316 P P 23 09 13.2 +0.1
FINES FINESS Array B 38.55 339 P P 23 09 23.2 -0.8
comp=Z,1.2nm,0.4s,mb3.9,baz=142,slow=11,SNR=15
NOA NORSAR Array B 43.82 332 P P 23 10 06.0 -1.4
comp=Z,0.6nm,0.6s,mb3.5,baz=139,slow=7.2,SNR=2.7
ARCES ARCESS Array B 45.06 347 P P 23 10 16.2 -1.1
comp=Z,1.0nm,0.7s,mb3.8,baz=151,slow=8.3,SNR=6.0
SONM Songino Array 45.50 49 P P 23 10 20.1 -0.7
comp=Z,0.5nm,0.7s,mb3.5,baz=267,slow=9.0,SNR=5.2
TORD Torodi Ar. Bea 50.31 264 P P 23 10 59.5 +1.4
comp=Z,0.6nm,0.6s,mb3.8,baz=65,slow=7.9,SNR=15

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*NEIC **12** 23:03:01.5, 3490S×7158W, h64km, MG3.3(GUC), After GUC.*

GUC 12 23:03:01.5±0.6**, 3490S×7158W, h64km±8km, MD3.5, ML3.3, 4C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.31**	**110**	eP	Pn	23 03 12.2	+0.1
NICH				i S	Sn	23 03 20.4	+0.5
TALC	**Talca**	**0.50**	**185**⇓	eP	Pn	23 03 14.0	+0.1
TALC				i S	Sn	23 03 22.9	0.0
TALC				AML	AML	23 03 24.5	
	comp=N,5μm,0.1s						
TALC	**Talca**	**0.50**	**185**⇓	eP	Pn	23 03 14.0	+0.1
TALC				i S	Sn	23 03 22.9	0.0
SFDO	**San Fernando**	**0.55**	**59**	i P	Pn	23 03 14.5	+0.2
CACH	**El Canelo**	**1.12**	**47**	eP	Pn	23 03 22.0	+0.7
CACH				i S	Sn	23 03 37.6	+1.5
CNCO	**Chanco**	**1.14**	**223**	eP	Pn	23 03 21.9	+0.4
CNCO				i S	Sn	23 03 37.3	+0.8
CNCO				AML	AML	23 03 40.1	
	comp=E,809nm,0.2s						
CNCO	**Chanco**	**1.14**	**223**	eP	Pn	23 03 21.9	+0.4
CNCO				i S	Sn	23 03 37.3	+0.8
CHCH	**Chadas Angostu**	**1.23**	**39**⇑	iP	Pn	23 03 23.5	+0.8
CHCH				i S	Sn	23 03 39.6	+1.1
TACH	**Talagante**	**1.35**	**24**⇓	iP	Pn	23 03 24.4	+0.2
TACH				i S	Sn	23 03 42.3	+1.0
LCCH	**Las Cruces**	**1.42**	**0**⇓	iP	Pn	23 03 23.8	-1.3
PCH	**Pirque**	**1.55**	**35**⇑	iP	Pn	23 03 27.7	+0.7
PCH				i S	Sn	23 03 47.5	+1.4
CLCH	**Cerro Calan**	**1.73**	**30**	eP	Pn	23 03 30.2	+0.8
CLCH				i S	Sn	23 03 51.6	+1.2
CLCH				AML	AML	23 03 56.6	
	comp=N,558nm,0.7s						
FCH	**Farellones**	**1.90**	**35**	eP	Pn	23 03 32.8	+1.2
FCH				AML	AML	23 04 01.9	
	comp=N,288nm,0.2s						
ROCH	**El Roble**	**1.98**	**14**⇑	iP	Pn	23 03 32.6	-0.1
JACH	**Jahuel**	**2.36**	**21**⇑	iP	Pn	23 03 38.4	+0.5

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*ISCJB **12** 23:06:18.6±0.2, 1764S±004×6583E±004, h10km, mb5.0/117, MS5.0/134, Error ellipse: s-maj=6.3km s-min=4.7km az=62.1*
*IDC **12** 23:06:18.5±0.4, 1765S×6581E, h0km, mb4.8/27, mb1 4.9/28, mb1mx4.9/28, mbtmp4.8/28, ML4.7/1, MS4.7/16, Ms1 4.7/16, ms1mx4.6/20, Error ellipse: s-maj=16.4km s-min=11.7km az=47.0*
*SZGRF **12** 23:06:18.6, 1765S×6689E, h33km, mb5.2, Mauritius - Reunion region*
*BJI **12** 23:06:19.8, 1727S×6583E, h10km, mB5.4, mb4.9, Ms5.1, Msz4.8*
*NEIC **12** 23:06:20.3±0.2, 1764S×6577E, h10km, mb5.1/65, MS5.0/114, Error ellipse: s-maj=6.5km s-min=4.0km az=214.0*
*HRVD **12** 23:06:20.3±0.1, 1756S×6575E, h18km, MW5.5/96, Centroid moment Tensor Solution. LP body waves: s79,c136;Mantle waves: s96,c191; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; Mrr-0.29±.03; Mθθ-1.54±.03; Mφφ1.82±.03; Mrθ-0.40±.06; Mθφ 1.02±.02; Mφr-0.03±.06; Best double couple: M0 2.01200×10^{17} NP1:φs151.00000°,δ79.00000°,λ-173.00000°. NP2: φs60.00000°,δ83.00000°,λ-12.00000°. Principal axes: T 2.1130, Plg3.0000°, Azm106.0000°; N -0.2070, Plg77.0000°, Azm210.0000°; P -1.9120, Plg13.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **12** 23:06:22.2±0.8, 1759S×6586E, h33km, mb5.2/61, MS4.7/24 Error ellipse: s-maj=10.4km s-min=4.6km az=116.1*

ISC 12 23:06:20.5±0.2**, 1764S**±004×**6575E**±004**, h10km, (h19km**±2.6km**:pP-P), n488,** σ0s96/376**, mb5.0**/117**, MS5.0**/134**, 20C-13D, Mauritius - Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**12.08**	**34**	⇓P	**Pn**	**23 09 14.8**	**+2.2**
	SNR=5.7						
DGAR	**Diego Garcia**	**12.08**	**34**	eP	**Pn**	**23 09 12.9**	**+0.2**
DGAR				pmax	pmax		
	comp=Z,580nm,1.1s						
DGAR	**Diego Garcia**	**12.08**	**34**	eP	**Pn**	**23 09 12.9**	**+0.3**
	comp=Z,580nm,1.1s						
OPO	**Ambohidratompo**	**17.68**	**264**	P	**Pn**	**23 10 27.7**	**+1.0**
	comp=Z,2.4nm,0.3s,baz=80,slow=11,SNR=12						
PALK	**Pallekele**	**28.82**	**32**	PFAKE		23 12 30.0	+11
PALK				LR	LR		
	comp=Z,805nm,20.0s,MS4.3						
KMBO	**Kilima Mbogo**	**32.46**	**297**	P	**P**	**23 12 51.7**	**+0.8**
	comp=Z,16nm,0.9s,mb4.8,baz=94,slow=6.7,SNR=36						
KMBO				LR	LR	23 24 21.1	
	comp=Z,2μm,18.1s,MS4.9,baz=104,slow=33						
KMBO	**Kilima Mbogo**	**32.46**	**297**	P	**P**	**23 12 51.7**	**+0.8**
KMBO				LR	LR	23 24 21.1	
LSZ	**Lusaka**	**36.07**	**268**	PFAKE		23 13 30.0	+7.8
LSZ				LR	LR		
	comp=Z,1μm,21.0s,MS4.7						
LBTB	**Lobatse**	**38.01**	**252**	P	**P**	**23 13 39.5**	**+0.8**
	comp=Z,18nm,0.6s,mb5.0,baz=106,slow=8.3,SNR=58						
LBTB	**Lobatse**	**38.01**	**252**	eP	**P**	**23 13 39.2**	**+0.5**
LBTB				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.0						
LBTB				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.8						
LBTB	**Lobatse**	**38.01**	**252**	eP	**P**	**23 13 39.2**	**+0.4**
	comp=Z,23nm,0.8s,mb5.0						
LBTB				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
NGP	**Nagpur**	**40.69**	**19**	eP	**P**	**23 13 58.8**	**-2.3**
NGP				AMP	pP	23 14 03.3	-0.9
	comp=Z,34nm,2.0s						
NGP				eS	**S**	**23 20 06.3**	**-4.9**
NGP				ex	x	23 28 10.4	
	comp=Z,1μm,26.3s						
IPM	**Ipoh**	**41.16**	**61**	P	**P**	**23 14 06.1**	**+1.1**
WSAR	**Wadi Sarin**	**41.22**	**350**	P	**P**	**23 14 06.7**	**+1.3**
	comp=Z,10nm,0.8s,mb4.5,baz=141,slow=13,SNR=8.7						
KULM	**Kulim**	**41.30**	**60**	eP	**P**	**23 14 05.9**	**-0.2**
HOQ	**Hoqain**	**41.79**	**348**	P	**P**	**23 14 11.4**	**+1.3**
	SNR=6.1						
LEM	**Lembang**	**42.20**	**81**	P	**P**	**23 14 16.1**	**+2.6**
SUR	**Sutherland**	**42.98**	**241**	P	**P**	**23 14 21.2**	**+1.4**
SUR				LR	LR		
	comp=Z,1μm,21.0s,MS4.8						
ASHO	**Ashiyiah**	**43.11**	**347**	⇓P	**P**	**23 14 21.4**	**+0.5**
	SNR=7.4						
TSUM	**Tsumeb**	**45.62**	**260**	eP	**P**	**23 14 41.1**	**+0.2**
	comp=Z,20nm,1.3s,mb4.9						
TSUM				LR	LR		
	comp=Z,1μm,21.0s,MS4.8						
MUN	**Mundaring**	**47.57**	**117**	eP	**P**	**23 14 56.7**	**+0.5**
MUN				eS	**S**	**23 21 59.9**	**+8.5**
KOLN	**Koldanda**	**48.34**	**21**	eP	**P**	**23 15 02.8**	**+0.6**
	comp=Z,78nm,0.8s,mb5.8						
CM31	**Chiang Mai Arr**	**48.49**	**44**	eP	**P**	**23 15 03.6**	**+0.2**
CM31				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
NWAO	**Narrogin (SRO)**	**48.52**	**119**	P	**P**	**23 15 04.0**	**+0.4**
	comp=Z,24nm,0.9s,mb5.2,baz=277,slow=6.7,SNR=8.7						
NWAO				LR	LR	23 30 38.8	
	comp=Z,1μm,20.4s,MS4.8,baz=293,slow=30						
NWAO	**Narrogin (SRO)**	**48.52**	**119**	eP	**P**	**23 15 01.9**	**-1.7**
NWAO				pmax	pmax		
	comp=Z,70nm,1.4s						
NWAO				MLR	MLR		
	comp=Z,1μm,20.0s						
NWAO	**Narrogin (SRO)**	**48.52**	**119**	eP	**P**	**23 15 01.9**	**-1.7**
	comp=Z,70nm,1.4s,mb5.5						
NWAO				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
DMN	**Daman**	**48.73**	**23**	eP	**P**	**23 15 06.0**	**+0.8**
PKI	**Pulchoki**	**48.81**	**23**	eP	**P**	**23 15 06.4**	**+0.6**
KLBR	**Kellerberrin**	**48.85**	**117**	eP	**P**	**23 15 05.9**	**-0.3**
	comp=Z,28nm,0.8s,mb5.3						
GKN	**Gorkha**	**48.91**	**22**	eP	**P**	**23 15 07.2**	**+0.6**
KKN	**Kakani**	**48.96**	**23**	eP	**P**	**23 15 07.4**	**+0.4**
	comp=Z,105nm,0.9s,mb5.9						
JIRN	**Jiri**	**49.19**	**24**	eP	**P**	**23 15 09.3**	**+0.6**
	comp=Z,60nm,0.8s,mb5.7						
GUN	**Gumba**	**49.30**	**24**	eP	**P**	**23 15 10.2**	**+0.7**
	comp=Z,110nm,1.0s,mb5.8						
MAW	**Mawson**	**49.98**	**181**⇓	iP	**P**	**23 15 15.0**	**+0.3**
	comp=Z,16nm,1.0s,mb5.0						
MAW				eS	**S**	**23 22 33.2**	**+7.9**
MAW	**Mawson**	**49.98**	**181**	P	**P**	**23 15 15.1**	**+0.4**
	comp=Z,19nm,0.9s,mb5.1,baz=357,slow=8.8,SNR=29						
MAW				LR	LR	23 31 04.3	
	comp=Z,818nm,20.7s,MS4.7,baz=4.7,slow=30						
MAW	**Mawson**	**49.98**	**181**⇓	iP	**P**	**23 15 15.0**	**+0.3**
MAW				eS	**S**	**23 22 33.2**	**+7.9**
MAW				pmax	pmax		
	comp=Z,16nm,1.0s						
MBWA	**Marble Bar**	**50.84**	**103**	P	**P**	**23 15 21.8**	**+0.5**
MBWA				LR	LR		
	comp=Z,997nm,19.0s,MS4.8						
MIR	**Mirnyy**	**52.03**	**167**	eP	**P**	**23 15 32.0**	**+1.8**
MIR				pmax	pmax		
	comp=Z,160nm,1.5s,mb5.7						
SYO	**Syowa Base**	**53.89**	**191**⇑	eP	**P**	**23 15 43.2**	**-0.7**
SYO	**Syowa Base**	**53.89**	**191**⇑	eP	**P**	**23 15 50.0**	**+6.1**
QIZ	**Qiongzhong**	**56.61**	**52**	eP	**P**	**23 16 03.6**	**+0.1**
QIZ				S	**S**	**23 23 59.0**	**+3.5**
QIZ				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.9						
QIZ				AMB	AMB		
	comp=Z,113nm,3.7s						
QIZ				LR	LR		
	comp=N,865nm,24.4s						
QIZ				LR	LR		
	comp=Z,817nm,19.6s,MS4.8						
QIZ	**Qiongzhong**	**56.61**	**52**	PFAKE		23 16 20.0	+16
QIZ				LR	LR		
	comp=Z,829nm,20.0s,MS4.8						
CASY	**Casey**	**56.69**	**160**	eP	**P**	**23 16 04.0**	**-0.1**
ASF	**Jabal al Asfar**	**56.72**	**331**	P	**P**	**23 16 05.8**	**+1.5**
	comp=Z,5.2nm,0.9s,mb4.6,baz=39,slow=4.2,SNR=7.4						
FITZ	**Fitzroy Crossi**	**56.77**	**100**	eP	**P**	**23 16 04.5**	**-0.1**
	comp=Z,35nm,0.9s,mb5.4						
FORT	**Forrest**	**57.67**	**116**	eP	**P**	**23 16 11.4**	**+0.4**
	comp=Z,47nm,0.9s,mb5.5						
MSL	**Mosul**	**57.76**	**338**	ex	x	23 16 15.5	
MMAI	**Mount Meron Ar**	**58.12**	**330**	P	**P**	**23 16 15.9**	**+1.7**
	comp=Z,25nm,1.2s,mb5.1,baz=137,slow=7.8,SNR=6.8						
HAKT	**HAKKARI**	**58.69**	**340**	i P	**P**	**23 16 19.2**	**+1.1**
MARD	**Mardin**	**59.51**	**337**	i P	**P**	**23 16 23.4**	**-0.5**
BEST	**Besiri**	**59.84**	**338**	i P	**P**	**23 16 27.7**	**+1.6**
KNA	**Kununurra**	**60.14**	**98**	P	**P**	**23 16 27.6**	**-0.6**
AAK	**Ala-Archa**	**60.51**	**7**	P	**P**	**23 16 32.1**	**+1.4**
AAK				MLR	MLR		
	comp=Z,589nm,20.0s,MS4.7						
CD2	**Chengdu**	**60.53**	**37**	P	**P**	**23 16 30.6**	**-0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
ATAB	**Bozova**	**60.60**	**335**	i P	**P**	**23 16 32.5**	**+1.2**
CSS	**Prodhromos**	**60.70**	**330**	eP	**P**	**23 16 35.6**	**+3.6**
GNI	**Garni**	**60.73**	**342**	P	**P**	**23 16 33.1**	**+0.9**
	comp=Z,32nm,0.9s,mb5.4,baz=324,slow=5.9,SNR=11						
GNI	**Garni**	**60.73**	**342**	P	**P**	**23 16 33.9**	**+1.6**
	SNR=5.4						
GNI	**Garni**	**60.73**	**342**	P	**P**	**23 16 33.1**	**+0.9**
GNI				LR	LR		
	comp=Z,306nm,20.0s,MS4.5						
GZT	**Gaziantep**	**60.80**	**334**	i P	**P**	**23 16 32.6**	**-0.1**
ELZG	**Elazig**	**61.22**	**336**	i P	**P**	**23 16 38.0**	**+2.4**
MALT	**Malatya**	**61.28**	**336**	eP	**P**	**23 16 38.5**	**+2.5**
MALT				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
MALT	**Malatya**	**61.28**	**336**	eP	**P**	**23 16 38.5**	**+2.5**
	comp=Z,7.0nm,0.9s,mb4.8						
ERMK	**Ermenek**	**62.26**	**330**	i P	**P**	**23 16 45.1**	**+2.5**
MAK	**Makhachkala**	**62.59**	**345**	P	**P**	**23 16 48.4**	**+3.6**
MAK				e		23 19 12.1	
MAK				i S	**S**	**23 25 09.5**	**-3.2**
MAK				i SSS		23 31 56.5	
MAK				pmax	pmax		
	comp=Z,107nm,1.3s,mb5.8						
ZEI	**Tsey**	**63.39**	**342**	eP	**P**	**23 16 52.1**	**+2.0**
ZEI				e*PP	pP	23 16 57.8	+4.5
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb5.0						
ASPA	**Alice Springs**	**63.53**	**108**	eP	**P**	**23 16 50.5**	**-0.6**
ASAR	**Alice Springs**	**63.54**	**108**	P	**P**	**23 16 50.7**	**-0.4**
	comp=Z,18nm,0.7s,mb5.2,baz=264,slow=6.4,SNR=116						
ASAR				LR	LR	23 40 31.2	
	comp=Z,3μm,20.1s,MS5.5,baz=283,slow=32						
AS31	**Alice Springs**	**63.54**	**108**	eP	**P**	**23 16 50.5**	**-0.6**
GRSN	**GIRESUNGRSN**	**63.61**	**337**	i P	**P**	**23 16 47.6**	**-4.0**
DAV	**Davao City (W)**	**63.97**	**73**	PFAKE		23 17 10.0	+16
DAV				LR	LR		
	comp=Z,955nm,20.0s,MS5.0						
CDAG	**Cicekdag**	**64.06**	**333**	i P	**P**	**23 16 52.8**	**-1.6**
KDHN	**Kadinhani**	**64.15**	**331**	i P	**P**	**23 16 48.8**	**-6.3**
KAKA	**Kakadu**	**64.27**	**96**	eP	**P**	**23 16 56.0**	**+0.1**
	comp=Z,40nm,0.7s,mb5.5						
WMQ	**Urumqi**	**64.38**	**17**	P	**P**	**23 16 59.0**	**+2.4**
WMQ				AP	pP	23 17 03.7	+3.9
WMQ				XP	sP	23 17 06.0	+5.0
WMQ				PCP	PcP	23 17 33.2	+2.2
WMQ				PP	PP	23 19 22.5	+4.4
WMQ				SCP		23 21 34.0	
WMQ				S	**S**	**23 25 35.5**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,500nm,5.0s						
WMQ				LR	LR		
	comp=N,871nm,23.0s						
WMQ				LR	LR		
	comp=E,632nm,12.0s						
WMQ				LR	LR		
	comp=Z,928nm,19.6s,MS5.0						
LZH	**Lanzhou**	**64.45**	**34**	eP	**P**	**23 16 56.2**	**-0.8**
LZH				AP	pP	23 17 06.1	+5.8
LZH				XP	sP	23 17 10.6	+9.1
LZH				PP	PP	23 19 21.3	+2.6
LZH				S	**S**	**23 25 35.0**	**-0.8**
LZH				AMB	AMB		
	comp=Z,35nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,117nm,6.7s						
LZH				LR	LR		
	comp=E,579nm,14.5s						
LZH				LR	LR		
	comp=Z,937nm,18.6s,MS5.0						
BR131	**Keskin Array S**	**64.45**	**333**	eP	**P**	**23 16 57.4**	**+0.3**
	comp=Z,4.5nm,0.8s,mb4.5						
BR131				LR	LR		
	comp=Z,487nm,19.0s,MS4.7						
BRTR	**Keskin Array B**	**64.45**	**333**	P	**P**	**23 16 57.0**	**-0.1**
	comp=Z,6.6nm,1.0s,mb4.6,baz=156,slow=7.9,SNR=14						
BRTR				LR	LR	23 43 42.5	
	comp=Z,494nm,20.0s,MS4.7,baz=329,slow=35						
WRA	**Warramunga Arr**	**64.56**	**104**	P	**P**	**23 16 57.8**	**0.0**
	comp=Z,40nm,0.9s,mb5.5,baz=263,slow=5.9,SNR=131						
WRA				LR	LR	23 44 09.0	
	comp=Z,1μm,18.5s,MS5.1,baz=260,slow=35						
WB2	**Warramunga Arr**	**64.57**	**104**	eP	**P**	**23 16 57.5**	**-0.3**
WRAB	**Tennant Creek**	**64.57**	**104**	P	**P**	**23 16 58.9**	**+1.1**
	comp=Z,382nm,0.9s,SNR=18						
WRAB	**Tennant Creek**	**64.57**	**104**	P	**P**	**23 16 57.5**	**-0.3**
WRAB				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
CTKT	**Corum**	**64.72**	**334**	i P	**P**	**23 16 57.6**	**-1.2**
KIV	**Kislovodsk**	**64.83**	**342**	P	**P**	**23 17 03.0**	**+3.5**
KIV				MLR	MLR		
	comp=Z,330nm,21.0s,MS4.5						
ANTO	**Ankara**	**64.94**	**332**	PFAKE		23 17 10.0	+10
ANTO				LR	LR		
	comp=Z,455nm,20.0s,MS4.7						
GTA	**Gaotai**	**65.06**	**29**	eP	**P**	**23 17 01.2**	**+0.1**
GTA				AP	pP	23 17 08.1	+3.8
GTA				XP	sP	23 17 11.5	+6.0
GTA				SCP		23 21 36.7	
GTA				PCS		23 21 39.8	
GTA				S	S	23 25 33.2	-10
GTA				XS	sS	23 25 45.4	-3.3
GTA				AMB	AMB		
	comp=Z,16nm,1.0s,mb5.0						
GTA				AMB	AMB		
	comp=Z,90nm,6.8s						
GTA				LR	LR		
	comp=N,438nm,19.0s,MS4.7						
GTA				LR	LR		
	comp=E,360nm,22.8s,MS4.7						
GTA				LR	LR		
	comp=Z,530nm,24.7s,MS4.6						
ELDT	**Eldivan**	**65.18**	**333**	i P	**P**	**23 17 01.6**	**-0.2**
BOYT	**Boyabat**	**65.34**	**335**	i P	**P**	**23 17 02.1**	**-0.7**
IDI	**Anoyia**	**65.37**	**324**	P	**P**	**23 17 01.4**	**-1.7**
	comp=Z,11nm,0.9s,mb4.9,baz=167,slow=14,SNR=3.5						
SOC	**Sochi**	**65.43**	**339**	eP	**P**	**23 17 04.5**	**+1.0**
SOC				eS	S	23 25 48.0	+0.1
SOC				eSS	SS	23 29 55.4	-5.8
SOC				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
GVD	**Gavdhos**	**65.50**	**323**	eP	**P**	**23 17 03.5**	**-0.4**
ESKT	**Eskisehir**	**65.54**	**331**	i P	**P**	**23 17 03.5**	**-0.7**
GOF	**Gofitskoye**	**65.73**	**343**	eP	**P**	**23 17 08.0**	**+2.6**
GOF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
XAN	**Xi'an**	**65.81**	**39**	P	**P**	**23 17 05.5**	**-0.4**
MKAR	**Makanchi Array**	**65.84**	**12**	P	**P**	**23 17 05.2**	**-0.9**
	comp=Z,4.7nm,0.7s,mb4.6,baz=199,slow=7.2,SNR=26						
SGKT	**Sivrigoynuk**	**65.84**	**332**	i P	**P**	**23 17 06.0**	**-0.1**
BALT	**Daday**	**66.06**	**334**	i P	**P**	**23 17 01.5**	**-6.0**
SWI	**Sorong**	**66.43**	**83**	P	**P**	**23 17 10.2**	**+0.3**
SNAA	**Sanae**	**66.69**	**199**	eP	**P**	**23 17 11.3**	**-0.2**
SNAA				e	pP	23 17 12.7	-2.1
SNAA				e		23 17 17.5	
SNAA				e		23 17 25.6	
SNAA				e		23 17 34.6	
SNAA				e		23 17 37.8	
SNAA				e		23 17 44.3	
SNAA				e		23 17 49.7	
SNAA				e		23 17 59.2	
SNAA				e		23 18 06.3	
SNAA				e		23 18 19.2	
SNAA				e		23 18 31.2	
SNAA	**Sanae**	**66.69**	**199**	eP	**P**	**23 17 11.3**	**-0.2**
SNAA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SNAA	**Sanae**	**66.69**	**199**	eP	**P**	**23 17 11.3**	**-0.2**
	comp=Z,6.9nm,1.0s,mb4.6						
ULDT	**Uludag**	**66.84**	**330**	i P	**P**	**23 17 11.3**	**-1.2**
AKTK	**Aktyubinsk**	**68.11**	**355**	P	**P**	**23 17 19.8**	**-0.7**
AKTO	**Aktyubinsk**	**68.11**	**355**	P	**P**	**23 17 19.8**	**-0.7**
	comp=Z,4.0nm,0.9s,mb4.4,baz=190,slow=1.2,SNR=8.3						
SIM	**Simferopol'**	**68.62**	**336**c	eP	**P**	**23 17 27.3**	**+3.6**
SIM				eS	S	23 26 26.0	-0.4
SIM				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
KURK	**Kurchatov**	**68.99**	**9**	P	**P**	**23 17 24.7**	**-1.3**
	comp=Z,38nm,1.1s,mb5.2,SNR=7.0						
KURK	**Kurchatov**	**68.99**	**9**	eP	**P**	**23 17 24.7**	**-1.3**
KURK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
KURK				MLR	MLR		
	comp=Z,687nm,19.0s,MS4.9						
KURK	**Kurchatov**	**68.99**	**9**	eP	**P**	**23 17 24.7**	**-1.3**
	comp=Z,14nm,1.0s,mb4.8						
KURK				LR	LR		
	comp=Z,687nm,19.0s,MS4.9						
STKA	**Stephens Creek**	**69.10**	**118**	eP	**P**	**23 17 26.8**	**+0.1**
	comp=Z,13nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**69.10**	**118**	P	**P**	**23 17 26.0**	**-0.7**
	comp=Z,16nm,0.9s,mb4.9,baz=270,slow=5.2,SNR=7.0						
STKA				LR	LR	23 42 15.0	
	comp=Z,928nm,21.0s,MS5.0,baz=239,slow=31						
AGG	**Agios Georgios**	**69.47**	**325**	P	**P**	**23 17 28.6**	**-0.4**
KDZ	**Kurdzhali**	**69.80**	**329**	eP	**P**	**23 17 28.0**	**-3.0**
RZN	**Rozhen**	**70.17**	**328**	eP	**P**	**23 17 34.0**	**+0.7**
TOA0	**Torodi Ar. Sit**	**70.23**	**291**	eP	**P**	**23 17 33.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**70.23**	**291**	P	**P**	**23 17 33.7**	**0.0**
	comp=Z,12nm,1.2s,mb4.7,baz=103,slow=3.9,SNR=23						
TORD				LR	LR	23 47 12.2	
	comp=Z,749nm,18.7s,MS5.0,baz=115,slow=35						
BVAR	**Borovoye Array**	**70.48**	**3**	P	**P**	**23 17 34.0**	**-1.2**
	comp=Z,5.0nm,0.9s,mb4.4,baz=146,slow=2.9,SNR=13						
PLD	**Plovdiv**	**70.49**	**329**	P	**P**	**23 17 35.9**	**+0.6**
BRVK	**Borovoye**	**70.51**	**3**	P	**P**	**23 17 34.7**	**-0.7**
	comp=Z,30nm,0.8s,mb5.3,SNR=6.3						
BRVK	**Borovoye**	**70.51**	**3**	eP	**P**	**23 17 33.2**	**-2.2**
BRVK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
BRVK				MLR	MLR		
	comp=Z,302nm,22.0s,MS4.5						
BRVK	**Borovoye**	**70.51**	**3**	eP	**P**	**23 17 33.2**	**-2.1**
	comp=Z,11nm,1.1s,mb4.7						
BRVK				LR	LR		
	comp=Z,302nm,22.0s,MS4.5						
MMB	**Musomiste**	**70.59**	**328**	eP	**P**	**23 17 40.0**	**+4.1**
NJ2	**Nanjing**	**70.90**	**46**	eP	**P**	**23 17 36.6**	**-1.2**
NJ2				AP	pP	23 17 46.8	+5.7
NJ2				XP	sP	23 17 51.3	+9.0
NJ2				PP	PP	23 20 16.1	+1.3
NJ2				S	S	23 26 47.0	-6.2
NJ2				XS	sS	23 27 04.0	+5.4
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,810nm,4.5s						
NJ2				LR	LR		
	comp=N,2μm,16.6s,MS5.5						
NJ2				LR	LR		
	comp=E,500nm,12.0s,MS5.5						

NJ2 LR LR
comp=Z,1µm,15.5s,MS5.2
IGT Igoumenitsa 70.93 324 P **P** **23 17 38.9 +0.9**
VTS Vitosha 71.59 328 *e*P **P** **23 17 42.0 0.0**
VRSR Storozhevoye 72.40 343 *e*P **P** **23 17 46.6 -0.2**
VRSR pmax pmax
comp=Z,20nm,1.2s,mb4.9
VRSR pmax pmax
comp=N,20nm,1.1s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRI Vrincioaia 72.41 333 ⇑*i*P **P** **23 17 47.5 +0.6**
VRI Vrincioaia 72.41 333 P **P** **23 17 47.8 +1.0**
QSPA South Pole Qui 72.46 180 *e*P **P** **23 17 47.1 -0.1**
QSPA LR LR
comp=Z,993nm,20.0s,MS5.1
MLR Muntele Rosu 72.47 332 P **P** **23 17 48.1 +0.9**
comp=Z,17nm,1.0s,mb4.9,baz=171,slow=10,SNR=7.8
MLR Muntele Rosu 72.47 332 ⇓*i*P **P** **23 17 48.0 +0.8**
MLR Muntele Rosu 72.47 332 P **P** **23 17 48.4 +1.2**
VOIR 72.83 331 ⇓*i*P **P** **23 17 48.8 -0.6**
VOIR 72.83 331 ⇓⇓P **P** **23 17 48.8 -0.6**
VOR Voronezh 72.86 343 *e*P **P** **23 17 50.5 +1.0**
VOR pmax pmax
comp=Z,70nm,1.7s,mb5.3
CSLB Castelbuono 73.56 320 P **P** **23 17 55.6 +1.9**
comp=Z,37nm,1.0s,mb5.3
NVS Novosibirsk 73.71 10 *e*P **P** **23 17 53.4 -1.2**
NVS pmax pmax
comp=Z,17nm,1.4s,mb4.8
NVS pmax pmax
comp=N,14nm,1.6s
DBIC Dimbokro 73.76 283 P **P** **23 17 55.8 +0.9**
comp=N,16nm,1.1s,mb4.9,baz=95,slow=6.6,SNR=7.3
DBIC LR LR 23 49 16.9
comp=N,796nm,18.6s,MS5.0,baz=95,slow=35
ARU Arti 74.03 356 *e*P **P** **23 17 55.0 -1.4**
ARU *e* 23 18 11.5
ARU *e* 23 20 40.8
ARU *e*PPP 23 22 30.5
ARU *e*S S 23 27 27.1 -1.8
ARU *e*SS SS 23 32 15.6 +2.1
ARU MLR MLR
comp=N,200nm,20.0s,MS4.5
ARU MLR MLR
comp=Z,300nm,20.0s,MS4.6
ARU MLR MLR
comp=E,200nm,22.0s,MS4.5
ARU Arti 74.03 356 P **P** **23 17 55.2 -1.2**
ARU LR LR
comp=Z,319nm,20.0s,MS4.6
BJT Baijiatuau 74.11 38 PFAKE 23 18 10.0 +13
BJT LR LR
comp=Z,450nm,20.0s,MS4.8
BJI Beijing 74.13 38 *e*P **P** **23 17 57.2 +0.2**
BJI S S 23 27 30.7 +0.6
BJI AMB AMB
comp=Z,9.0nm,1.2s,mb4.6
BJI LR LR
comp=N,404nm,22.2s,MS4.9
BJI LR LR
comp=E,470nm,21.5s,MS4.9
BJI LR LR
comp=Z,299nm,25.1s,MS4.5
VNDA Vanda 74.22 167 P **P** **23 17 56.5 -1.0**
comp=Z,7.1nm,1.0s,baz=275,slow=6.9,SNR=26
VNDA LR LR 23 45 53.0
comp=Z,35nm,18.6s,baz=261,slow=32
SVE Sverdlovsk 74.30 357 *e*P **P** **23 17 56.0 -2.0**
SVE *e* 23 18 13.0
DIVS Divcibare 74.31 328 *i*P **P** **23 17 58.4 +0.3**
BURAR Bucovina Array 74.42 333 ⇑*i*P **P** **23 18 03.8 +5.1**
BURAR Bucovina Array 74.42 333 ⇑⇑P **P** **23 18 03.8 +5.1**
BBLS Bajina Basta - 74.44 327 *i*P **P** **23 17 59.2 +0.4**
SGO Sicignano 74.48 322 P **P** **23 17 57.9 -1.1**
SGO pmax pmax
comp=Z,11nm,1.0s,mb4.7
SGO Sicignano 74.48 322 P **P** **23 17 57.9 -1.1**
comp=Z,11nm,1.0s,mb4.7
BZS Buzias 74.58 330 ⇑*i*P **P** **23 17 59.7 0.0**
BZS Buzias 74.58 330 P **P** **23 17 59.9 +0.3**
BEO Belgrade 74.58 328 *i*P **P** **23 18 02.8 +3.1**
SONM Songino Array 74.63 27 P **P** **23 18 00.1 +0.1**
comp=Z,7.1nm,0.8s,mb4.6,baz=216,slow=5.4,SNR=49
SONM LR LR 23 49 48.9
comp=Z,821nm,20.1s,MS5.0,baz=211,slow=35
DRGR 74.92 331 ⇓*i*P **P** **23 18 01.8 +0.2**
DRGR 74.92 331 P **P** **23 18 02.0 +0.3**
ULN Ulaanbaatar 74.94 27 *e*P **P** **23 18 00.3 -1.4**
ULN pmax pmax
comp=Z,11nm,1.1s,mb4.7
ULN MLR MLR
comp=Z,832nm,21.0s,MS5.0
ULN Ulaanbaatar 74.94 27 *e*P **P** **23 18 00.2 -1.5**
comp=Z,11nm,1.1s,mb4.7
ULN LR LR
comp=Z,832nm,21.0s,MS5.0
SBA Scott Base 75.18 168 P **P** **23 18 04.2 +1.1**
AKASG Malin Array Be 75.23 337 P **P** **23 18 02.8 -0.6**
comp=Z,6.7nm,0.9s,mb4.5,baz=140,slow=5.1,SNR=12
AKASG LR LR 23 48 41.8
comp=Z,99nm,21.6s,MS4.1,baz=110,slow=34
AKBB Malin Array Si 75.23 337 *e*P **P** **23 18 04.1 +0.7**
ZAK Zakamensk 75.35 24 *e*P **P** **23 18 03.3 -0.8**
ZAK pmax pmax
comp=Z,3.0nm,1.8s,mb3.9
CTA Charters Tower 75.48 107 *e*P **P** **23 18 03.8 -1.0**
comp=Z,10nm,0.9s,mb4.8
CTA Charters Tower 75.48 107 *e*P **P** **23 18 03.8 -1.0**
CTA pmax pmax
comp=Z,10.0nm,0.9s
CTAO Charters Tower 75.48 107 *e*P **P** **23 18 05.7 +0.9**
CTAO MLR MLR
comp=Z,2µm,19.0s,MS5.4
MIDA Miranda 75.78 323 P **P** **23 18 06.7 +0.1**
comp=Z,68nm,1.8s,mb5.3
SDI San Donato 76.08 323 P **P** **23 18 07.8 -0.5**
SDI pmax pmax
comp=Z,19nm,1.2s,mb4.9
SDI San Donato 76.08 323 P **P** **23 18 07.8 -0.5**
comp=Z,19nm,1.2s,mb4.9
VVLD Villa Vallelon 76.29 323 P **P** **23 18 08.7 -0.8**
comp=Z,42nm,1.1s,mb5.3
PKSM Moragy 76.47 328 ⇑*i*P **P** **23 18 10.4 -0.1**
PKSM Moragy 76.47 328 ⇓*e*P **P** **23 18 10.4 -0.1**
OBN Obninsk 76.59 343 ⇓*e*P **P** **23 18 11.6 +0.4**
OBN *e* 23 18 20.7
OBN *e* 23 21 05.7
OBN *e*S S 23 27 48.1 -9.3
OBN SSS 23 36 11.0
OBN pmax pmax
comp=Z,26nm,1.7s,mb4.9
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.6
OBN Obninsk 76.59 343 *e*P **P** **23 18 10.4 -0.7**
comp=Z,39nm,1.1s,mb5.2
OBN LR LR
comp=Z,388nm,19.0s,MS4.7
LVV L'vov 76.61 334 *e*P **P** **23 18 13.4 +2.1**
KOLS Kolonicke sedl 76.71 332 *e*P **P** **23 18 11.8 0.0**
KOLS pmax pmax
comp=Z,26nm,1.5s,mb4.9
KOLS Kolonicke sedl 76.71 332 *e*P **P** **23 18 11.8 0.0**
comp=Z,26nm,1.5s,mb4.9
MOS Moscow 76.86 344 *e*P **P** **23 18 12.5 -0.2**
MOS *e* 23 18 31.4
MOS *e* 23 21 02.3
MOS pmax pmax
comp=Z,85nm,1.6s,mb5.4
MOS pmax pmax
comp=Z,200nm,1.8s,mb5.8
KWP Kalwaria 77.03 333 *e*P **P** **23 18 13.6 -0.1**
CRVS Cervenica-Dubn 77.05 332 *e*P **P** **23 18 14.5 +0.8**
CRVS pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
CRVS Cervenica-Dubn 77.05 332 *e*P **P** **23 18 14.5 +0.8**
comp=Z,9.3nm,1.2s,mb4.6
PSZ Piszkesteto 77.06 330 ⇓*e* **P** **23 18 12.9 -0.9**
PSZ Piszkesteto 77.06 330 ⇑*i*P **P** **23 18 16.7 +2.9**
BUD Budapest 77.17 330 ⇓*e*P **P** **23 18 13.8 -0.6**
BUD Budapest 77.17 330 ⇓*e*P **P** **23 18 13.9 -0.5**
KECS Kecovo 77.19 331 *e*P **P** **23 18 14.3 -0.2**
KECS pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
KECS Kecovo 77.19 331 *e*P **P** **23 18 14.3 -0.2**
comp=Z,7.8nm,0.9s,mb4.6
NRCA Norcia 77.19 323 P **P** **23 18 14.1 -0.5**
VSL Villasalto 77.42 319 *e*P **P** **23 18 15.7 -0.1**
comp=Z,26nm,1.0s,mb5.1
VSL *e*PcP PcP 23 18 25.4 -0.9
BOJS Bojanci 77.73 326 *e*P **P** **23 18 17.3 -0.3**
BOJS *e*pP pP 23 18 20.7 -0.2
SRO1 Iza 77.75 329 *e*P **P** **23 18 17.4 -0.3**
SRO1 pmax pmax
comp=Z,25nm,1.0s,mb5.1
ARMA Armidale 77.82 118 *e*P **P** **23 18 24.4 +6.3**
CRES Cresnjev 77.84 327 P **P** **23 18 19.3 +1.1**
NIE Niedzica 77.94 332 *e*P **P** **23 18 18.5 -0.2**
VYHS Vyhne 77.97 330 *e*P **P** **23 18 18.1 -0.8**
VYHS pmax pmax
comp=Z,20nm,1.6s,mb4.8
VYHS Vyhne 77.97 330 *e*P **P** **23 18 18.1 -0.8**
comp=Z,20nm,1.6s,mb4.8
PERS Pernice 78.55 327 *e*P **P** **23 18 22.0 -0.1**
PERS *i* pP pP 23 18 26.4 +1.0
ZST Bratislava 78.60 329 *e*P **P** **23 18 22.0 -0.4**
ZST Bratislava 78.60 329 *e*P **P** **23 18 22.1 -0.3**
ZST pmax pmax
comp=Z,17nm,1.1s,mb4.9
ZST Bratislava 78.60 329 *e*P **P** **23 18 22.1 -0.3**
comp=Z,17nm,1.1s,mb4.9
ARSA Arzberg 78.75 328 ⇑*i*P **P** **23 18 23.2 0.0**
comp=Z,20nm,0.9s,mb5.0
ARSA Arzberg 78.75 328 P **P** **23 18 23.4 +0.2**
OJC Ojcow 78.75 332 *e*P **P** **23 18 22.7 -0.5**
VOY Vojsko 78.80 326 *e*P **P** **23 18 21.3 -2.2**
VOY *e*pP pP 23 18 27.8 +1.0
MNK Minsk 78.80 339 *e*P **P** **23 18 32.0 +8.5**
CONA Conrad Observa 79.03 328 ⇑*i*P **P** **23 18 24.6 -0.1**
comp=Z,51nm,1.5s,mb5.2
PMG Port Moresby 79.08 96 *e*P **P** **23 18 26.5 +1.5**
PMG pmax pmax
comp=Z,58nm,1.3s
PMG MLR MLR
comp=Z,687nm,20.0s
PMG Port Moresby 79.08 96 *e*P **P** **23 18 26.5 +1.5**
comp=Z,58nm,1.3s,mb5.3
PMG LR LR
comp=Z,687nm,20.0s,MS5.0
ROBS Robic 79.14 326 *i*P **P** **23 18 27.3 +1.9**
OKC Ostrava-Krasne 79.23 331 *e*P **P** **23 18 25.3 -0.6**
INCN Inchon 79.24 45 PFAKE 23 18 40.0 +14
INCN LR LR
comp=Z,784nm,20.0s,MS5.0
PGF Pioggiola 79.43 321 *e*P **P** **23 18 26.5 -0.4**
comp=Z,20nm,1.1s,mb4.7
PGF Pioggiola 79.43 321 *e*P **P** **23 18 26.5 -0.4**
PGF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
PGF Pioggiola 79.43 321 *e*P **P** **23 18 26.5 -0.4**
comp=Z,9.9nm,1.1s,mb4.7
MORC Moravsky Berou 79.47 331 ⇓*i*P **P** **23 18 27.0 -0.2**
MORC Moravsky Berou 79.47 331 P **P** **23 18 27.6 +0.4**
VRAC Vranov 79.60 330 P **P** **23 18 28.5 +0.6**
WAR Warsaw 79.68 334 *e*P **P** **23 18 33.3 +5.0**
KBA Koelnbreinsper 79.76 327 ⇑*i*P **P** **23 18 29.4 +0.6**
comp=Z,30nm,1.8s,mb4.9
KBA Koelnbreinsper 79.76 327 ⇑*i*P **P** **23 18 29.4 +0.7**
KBA pmax pmax
comp=Z,30nm,1.8s,mb4.9
MOA Molln 79.78 328 ⇑*i*P **P** **23 18 28.7 -0.2**
comp=Z,26nm,1.0s,mb5.1
MOA Molln 79.78 328 P **P** **23 18 28.9 0.0**
IDID Didziasalis 79.83 339 *e*P **P** **23 18 34.6 +5.5**
IDID AMb AMB 23 18 39.7
comp=Z,236nm,0.3s
IIGN Ignalina 80.04 338 *e*P **P** **23 18 35.9 +5.6**
IIGN AMb AMB 23 18 41.0
comp=Z,848nm,0.3s
TREC Trest 80.13 329 *e*P **P** **23 18 30.1 -0.6**
SUW Suwalki 80.13 336 *e*P **P** **23 18 31.4 +0.7**
ISAL Salakas 80.25 338 *e*P **P** **23 18 37.0 +5.6**
ISAL AMb AMB 23 18 42.4
comp=Z,276nm,0.7s
DPC Dobruska-Polom 80.44 330 *e*P **P** **23 18 31.5 -0.9**
UPC Upice 80.69 330 *e*P **P** **23 18 33.6 -0.2**
GERES GERESS Array B 80.72 328 P **P** **23 18 33.0 -0.9**
comp=Z,1.5nm,0.8s,mb4.0,baz=145,slow=4.9,SNR=8.9
WTTA Wattenberg 80.78 326 ⇑*i*P **P** **23 18 33.7 -0.5**
comp=Z,15nm,0.9s,mb4.9
WTTA Wattenberg 80.78 326 ⇑*i*P **P** **23 18 33.7 -0.5**
WTTA pmax pmax
comp=Z,15nm,0.9s,mb4.9
KSP Ksiaz 80.79 331 *e*P **P** **23 18 35.4 +1.1**
KSP Ksiaz 80.79 331 *e*P **P** **23 18 35.2 +0.9**
KHC Kasperske Hory 80.96 328 *e*P **P** **23 18 34.0 -1.2**
KHC pP pP 23 18 43.5 +5.0
KHC Kasperske Hory 80.96 328 *e*P **P** **23 18 34.0 -1.2**
KHC *e* 23 18 43.5
SQTA Sankt Quirin 80.98 326 ⇑*i*P **P** **23 18 34.7 -0.6**
comp=Z,15nm,1.2s,mb4.8
SQTA Sankt Quirin 80.98 326 ⇑*i*P **P** **23 18 34.7 -0.6**
SQTA pmax pmax
comp=Z,15nm,1.2s,mb4.8
KLMR Klimovskoe 81.02 347 *e*P **P** **23 18 35.8 +0.3**
KLMR pmax pmax
comp=Z,30nm,1.3s,mb5.1
PRU Pruhonice 81.05 329 *e*P **P** **23 18 35.4 -0.3**
SBF Sospel 81.12 321 *e*P **P** **23 18 35.3 -0.8**
comp=Z,45nm,1.1s,mb5.0
SBF Sospel 81.12 321 *e*P **P** **23 18 35.3 -0.8**
SBF pmax pmax
comp=Z,22nm,1.1s,mb5.0
SBF Sospel 81.12 321 *e*P **P** **23 18 35.3 -0.8**
comp=Z,22nm,1.1s,mb5.0
LUCF Luceram 81.19 321 *e*P **P** **23 18 36.1 -0.3**
AUTN L'Aution 81.20 322 *e*P **P** **23 18 35.4 -1.1**
MVIF Mont Vial 81.31 321 *e*P **P** **23 18 36.8 -0.2**
LMR La Mourre 81.38 321 *e*P **P** **23 18 36.5 -0.9**
comp=Z,13nm,1.0s,mb4.5
LMR La Mourre 81.38 321 *e*P **P** **23 18 36.5 -0.9**
LMR pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
LMR La Mourre 81.38 321 *e*P **P** **23 18 36.5 -0.9**
comp=Z,6.4nm,1.0s,mb4.5
PVCC Panska Ves 81.39 330 *e*P **P** **23 18 37.5 0.0**
FRF La Foret Royal 81.42 321 *e*P **P** **23 18 37.5 -0.1**
comp=Z,57nm,1.5s,mb5.0
FRF La Foret Royal 81.42 321 *e*P **P** **23 18 37.5 -0.1**
FRF pmax pmax
comp=Z,29nm,1.5s,mb5.0
FRF La Foret Royal 81.42 321 *e*P **P** **23 18 37.5 -0.1**
comp=Z,28nm,1.5s,mb5.0
DAVA Damuels 81.74 325 ⇑*i*P **P** **23 18 38.9 -0.4**
comp=Z,20nm,0.9s,mb5.0
TAVF Tavernes 81.81 321 *e*P **P** **23 18 43.6 +3.9**
SURF Saint Ours 81.84 322 *e*P **P** **23 18 40.8 +0.9**
BRG Berggiesshubel 81.92 330 *e*P **P** **23 18 41.6 +1.3**
comp=Z,3.3nm,1.1s,mb4.2
BRG *e* pP 23 18 45.6 +2.0
comp=Z,23nm,1.7s
BRG *e* 23 19 03.3
comp=Z,8.6nm,1.4s
BRG *e* 23 28 59.0
BRG Berggiesshubel 81.92 330 *e*P **P** **23 18 41.6 +1.3**
BRG *e* 23 28 59.0
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BRG pmax pmax
comp=Z,23nm,1.7s,mb4.8
BRG pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
HIA Hailar 81.97 32 PFAKE 23 18 50.0 +9.5
HIA LR LR
comp=Z,509nm,20.0s,MS4.9
PUYF Puyloubier 81.98 320 *e*P **P** **23 18 38.8 -1.8**
MBDF Montbardon 82.00 322 *e*P **P** **23 18 41.2 +0.5**
comp=Z,43nm,1.1s,mb5.0
MBDF Montbardon 82.00 322 *e*P **P** **23 18 41.2 +0.5**
MBDF pmax pmax
comp=Z,22nm,1.1s,mb5.0
MBDF Montbardon 82.00 322 *e*P **P** **23 18 41.2 +0.5**
comp=Z,22nm,1.1s,mb5.0
GKP Gorka Klasztor 82.03 333 *e*P **P** **23 18 46.2 +5.3**
GELF Grande-Etoile 82.06 320 *e*P **P** **23 18 38.6 -2.4**
VILF Villemus 82.15 321 *e*P **P** **23 18 42.9 +1.4**
TREF Trevaresse 82.22 320 *e*P **P** **23 18 42.6 +0.7**
NKC Novy Kostel 82.23 329 *e*P **P** **23 18 41.7 -0.2**
BNI Bardonecchia 82.24 322 *e*P **P** **23 18 41.6 -0.4**
BNI pmax pmax
comp=Z,29nm,1.4s,mb5.0
BNI Bardonecchia 82.24 322 *e*P **P** **23 18 41.6 -0.4**
comp=Z,29nm,1.4s,mb5.0
SMRF Simiane la Rot 82.30 321 *e*P **P** **23 18 41.8 -0.5**
comp=Z,20nm,0.9s,mb4.7
SMRF Simiane la Rot 82.30 321 *e*P **P** **23 18 41.8 -0.5**
comp=Z,20nm,0.9s,mb5.0
PRAF Pradon 82.45 320 *e*P **P** **23 18 44.3 +1.2**
LPG La Plagne 82.45 323 *e*P **P** **23 18 42.5 -0.6**
comp=Z,16nm,0.9s,mb4.7
LPG La Plagne 82.45 323 *e*P **P** **23 18 42.5 -0.6**
LPG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LPG La Plagne 82.45 323 *e*P **P** **23 18 42.5 -0.6**
comp=Z,8.1nm,0.9s,mb4.7
LPL La Plagne 82.47 323 *e*P **P** **23 18 42.6 -0.6**
comp=Z,14nm,0.9s,mb4.6
LPL La Plagne 82.47 323 *e*P **P** **23 18 42.6 -0.6**
LPL pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LPL La Plagne 82.47 323 *e*P **P** **23 18 42.6 -0.6**
comp=Z,6.9nm,0.9s,mb4.6
GRA1 Grafenberg Arr 82.51 328 *e*P **P** **23 18 42.5 -0.9**
comp=Z,26nm,1.5s,mb5.0
GRA1 *e*S S 23 29 01.6 +1.5
GRA1 *e*SS SS 23 34 31.1 +10
GRA1 LR LR
comp=Z,200nm,18.4s,MS4.5
GRF Grafenberg Arr 82.51 328 *e*P **P** **23 18 42.5 -0.9**
comp=Z,26nm,1.5s,mb5.0
GRF *e*L 00 06 25.8
comp=Z,240nm,18.4s
GRF *e*S S 23 29 01.5 +1.4
GRF *e*SS SS 23 34 31.1 +10
GRF Grafenberg Arr 82.51 328 *e*P **P** **23 18 42.5 -0.9**
GRF *e*S S 23 29 01.6 +1.5
GRF pmax pmax
comp=Z,26nm,1.5s,mb5.0
GRF MLR MLR
comp=Z,200nm,18.4s,MS4.5
GRF Grafenberg Arr 82.51 328 *e*P **P** **23 18 42.5 -0.9**
GRF *e*S S 23 29 01.6 +1.5
GRF pmax pmax
comp=Z,26nm,1.5s,mb5.0
GRF MLR MLR
comp=Z,200nm,18.4s,MS4.5
GRF Grafenberg Arr 82.51 328 *e*P **P** **23 18 42.5 -0.9**
comp=Z,26nm,1.5s,mb5.0
GRF *e*S S 23 29 01.6 +1.5
GRF *e*SS SS 23 34 31.1 +10
GRF LR LR
comp=Z,200nm,18.4s,MS4.5
ORIF Oris-en-Rattie 82.64 322 *e*P **P** **23 18 44.2 +0.2**
comp=Z,49nm,1.3s,mb5.1
ORIF *e*R
comp=Z,316nm,23.0s
ORIF Oris-en-Rattie 82.64 322 *e*P **P** **23 18 44.2 +0.2**
ORIF pmax pmax
comp=Z,25nm,1.3s,mb5.1
ORIF Oris-en-Rattie 82.64 322 *e*P **P** **23 18 44.2 +0.2**
comp=Z,25nm,1.3s,mb5.1
CLL Collm 82.65 330 P **P** **23 18 44.3 +0.2**
comp=Z,logA/T=1.4,mb5.2
CLL *e* 23 19 03.0
CLL *e* 23 19 12.0
CLL *e*S S 23 29 04.0 +2.4
CLL *e*SS SS 23 34 30.0 +6.7
CLL Collm 82.65 330 *i*P **P** **23 18 44.3 +0.2**
comp=Z,52nm,2.0s,mb5.2
CLL *e*x x 23 19 03.0
CLL *e*x x 23 19 12.0
CLL *e*S S 23 29 04.0 +2.4
CLL *e*SS SS 23 34 30.0 +6.7
CLL LmV 23 55 00.0
comp=Z,200nm,20.8s
CLL Collm 82.65 330 *i*P **P** **23 18 44.3 +0.2**
CLL *i* 23 18 57.4
CLL *e*S S 23 29 04.0 +2.4
CLL pmax pmax
comp=Z,52nm,2.0s,mb5.2
CLL Collm 82.65 330 *i*P **P** **23 18 44.3 +0.2**
comp=Z,52nm,2.0s,mb5.2
CLL *i* 23 18 57.4
CLL *e*S S 23 29 04.0 +2.4
GRN Grenoble 82.90 322 *e*P **P** **23 18 45.5 +0.1**
MOX Moxa 82.91 329 *e*P **P** **23 18 46.6 +1.2**
comp=Z,39nm,1.9s,mb5.1
MOX Moxa 82.91 329 *e*P **P** **23 18 46.6 +1.2**
MOX pmax pmax
comp=Z,39nm,1.9s,mb5.1
FELD Feldberg im Sc 83.11 325 *e*P **P** **23 18 45.7 -0.8**
BBS Basel-Blauen 83.15 324 *e*P **P** **23 18 47.0 +0.3**
BFO Black Forest 83.20 326 *e*P **P** **23 18 46.3 -0.7**
VIVF Saint-Julien-l 83.32 321 *e*P **P** **23 18 47.6 0.0**
LASF Ste Croix 83.39 320 *e*P **P** **23 18 47.3 -0.7**
comp=Z,24nm,1.2s,mb4.8
CABF La Chapelle 83.46 323 *e*P **P** **23 18 48.5 +0.2**
comp=Z,35nm,1.2s,mb5.0
CABF La Chapelle 83.46 323 *e*P **P** **23 18 48.5 +0.2**
CABF pmax pmax
comp=Z,18nm,1.2s,mb5.0
CABF La Chapelle 83.46 323 *e*P **P** **23 18 48.5 +0.2**
comp=Z,18nm,1.2s,mb5.0
HINF Hinteralfeld 83.71 325 *e*P **P** **23 18 48.9 -0.7**
comp=Z,26nm,1.0s,mb5.0
HINF Hinteralfeld 83.71 325 *e*P **P** **23 18 48.9 -0.7**
HINF pmax pmax
comp=Z,13nm,1.0s,mb5.0
HINF Hinteralfeld 83.71 325 *e*P **P** **23 18 48.9 -0.7**
comp=Z,13nm,1.0s,mb5.0
ECH Echery 83.77 325 *e*P **P** **23 18 50.6 +0.7**
WLS Welschbruch 83.78 325 *e*P **P** **23 18 49.5 -0.4**
CDF Champ du Feu 83.82 325 *e*P **P** **23 18 49.7 -0.4**
comp=Z,94nm,1.7s,mb5.3
CDF Champ du Feu 83.82 325 *e*P **P** **23 18 49.7 -0.4**
CDF pmax pmax
comp=Z,47nm,1.7s,mb5.3
CDF Champ du Feu 83.82 325 *e*P **P** **23 18 49.7 -0.4**
comp=Z,47nm,1.7s,mb5.3
MTLF Montolieu 84.03 319 *e*P **P** **23 18 51.3 +0.1**
comp=Z,16nm,0.9s,mb4.9
MTLF Montolieu 84.03 319 *e*P **P** **23 18 51.3 +0.1**
MTLF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
MTLF Montolieu 84.03 319 *e*P **P** **23 18 51.3 +0.1**
comp=Z,8.1nm,0.9s,mb4.8
HAU Haudompre 84.10 324 *e*P **P** **23 18 51.0 -0.6**
HAU *e*R
comp=Z,204nm,19.2s
HAU Haudompre 84.10 324 *e*P **P** **23 18 51.0 -0.6**
HAU LR LR
comp=Z,200nm,19.3s,MS4.5
THEF They Montfort 84.42 325 *e*P **P** **23 18 52.7 -0.5**
PLDF La Plantade 84.54 322 *e*P **P** **23 18 53.8 0.0**
RUP Ruppelstein 84.68 326 *e*P **P** **23 18 54.3 -0.2**
JOF Joensuu 84.71 345 *e*p **P** **23 18 53.6 -1.1**
comp=Z,5.1nm,0.6s,mb4.8
SMF Signal de Mont 84.78 322 *e*P **P** **23 18 54.4 -0.6**
comp=Z,17nm,1.0s,mb4.8
SMF Signal de Mont 84.78 322 *e*P **P** **23 18 54.4 -0.6**
SMF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
SMF Signal de Mont 84.78 322 *e*P **P** **23 18 54.4 -0.6**
comp=Z,8.7nm,1.0s,mb4.8
PYM Petit Puy Mans 84.79 321 *e*P **P** **23 18 58.0 +2.9**
MDJ Mudanjiang 84.86 40 PFAKE 23 19 10.0 +15
MDJ LR LR
comp=Z,490nm,19.0s,MS4.9
FINES FINESS Array B 84.92 342 P **P** **23 18 55.8 0.0**
comp=Z,2.5nm,0.8s,mb4.4,baz=150,slow=8.1,SNR=7.2
FINES PP PP 23 22 14.7 +2.4
comp=Z,5.4nm,1.1s,baz=140,slow=12,SNR=4.7
CAF Calviac 84.93 320 *e*P **P** **23 18 55.1 -0.7**
comp=Z,11nm,1.0s,mb4.7
CAF Calviac 84.93 320 *e*P **P** **23 18 55.1 -0.7**
CAF pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
CAF Calviac 84.93 320 *e*P **P** **23 18 55.1 -0.7**
comp=Z,5.7nm,1.0s,mb4.7
EPF Esparros 85.06 318 *e*P **P** **23 18 56.5 +0.1**
MEZF Maizieres J'vi 85.09 324 *e*P **P** **23 18 56.6 0.0**
comp=Z,26nm,0.9s,mb5.1
MEZF Maizieres J'vi 85.09 324 *e*P **P** **23 18 56.6 0.0**
comp=Z,26nm,0.9s,mb5.4
BOD Bodaibo 85.10 24 *e*P **P** **23 18 54.7 -1.9**
BOD pmax pmax

comp=Z,8.0nm,1.5s,mb4.6
LOR Lormes 85.10 323 *e*P **P 23 18 56.2 -0.4**
comp=Z,17nm,0.8s,mb4.9
LOR *e*R
comp=Z,298nm,22.2s
LOR Lormes 85.10 323 *e*P **P 23 18 56.2 -0.4**
LOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
LOR MLR MLR
comp=Z,300nm,22.3s,MS4.6
LOR Lormes 85.10 323 *e*P **P 23 18 56.2 -0.4**
comp=Z,8.4nm,0.8s,mb4.9
LOR LR LR
comp=Z,300nm,22.3s,MS4.6
AVF Avril sur Loir 85.14 322 *e*P **P 23 18 56.1 -0.7**
comp=Z,12nm,1.1s,mb4.7
AVF Avril sur Loir 85.14 322 *e*P **P 23 18 56.1 -0.7**
AVF pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
AVF Avril sur Loir 85.14 322 *e*P **P 23 18 56.1 -0.7**
comp=Z,5.8nm,1.0s,mb4.7
WLF Walferdange 85.14 326 *e*P **P 23 18 56.9 +0.1**
WLF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
WLF Walferdange 85.14 326 *e*P **P 23 18 56.9 0.0**
comp=Z,8.4nm,0.8s,mb4.9
SSF Saint Saulge 85.19 323 *e*P **P 23 18 56.8 -0.3**
comp=Z,16nm,1.1s,mb4.8
SSF Saint Saulge 85.19 323 *e*P **P 23 18 56.8 -0.3**
SSF pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
SSF Saint Saulge 85.19 323 *e*P **P 23 18 56.8 -0.3**
comp=Z,8.1nm,1.1s,mb4.8
BGF Bois d'Agland 85.31 322 *e*P **P 23 18 57.2 -0.5**
comp=Z,69nm,1.4s,mb5.3
BGF Bois d'Agland 85.31 322 *e*P **P 23 18 57.2 -0.5**
BGF pmax pmax
comp=Z,34nm,1.4s,mb5.3
BGF Bois d'Agland 85.31 322 *e*P **P 23 18 57.2 -0.5**
comp=Z,34nm,1.4s,mb5.3
KAF Kangasniemi 85.38 343 *e*p **P 23 18 56.9 -1.1**
comp=Z,10nm,0.8s,mb5.0
KAF Kangasniemi 85.38 343 *e*P **P 23 18 56.9 -1.1**
KAF pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
RJF Les Rejaudoux 85.46 320 *e*P **P 23 18 58.6 +0.2**
comp=Z,12nm,0.9s,mb4.7
RJF *e*R
comp=Z,478nm,19.8s
RJF Les Rejaudoux 85.46 320 *e*P **P 23 18 58.6 +0.2**
RJF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
RJF MLR MLR
comp=Z,480nm,19.8s,MS4.9
RJF Les Rejaudoux 85.46 320 *e*P **P 23 18 58.6 +0.2**
comp=Z,6.2nm,0.9s,mb4.7
RJF LR LR
comp=Z,480nm,19.8s,MS4.9
TCF Toulx Ste Croi 85.55 321 *e*P **P 23 18 59.4 +0.6**
ETSF Etsaut 85.57 318 *e*P **P 23 18 58.6 -0.4**
comp=Z,21nm,1.0s,mb5.0
ETSF Etsaut 85.57 318 *e*P **P 23 18 58.6 -0.4**
ETSF pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
ETSF Etsaut 85.57 318 *e*P **P 23 18 58.6 -0.4**
comp=Z,10nm,1.0s,mb5.0
LFF La Frestale 85.75 320 *e*P **P 23 19 00.0 +0.1**
GIVF Givet 86.10 326 *e*P **P 23 19 01.6 0.0**
ESDC Sonseca Array 86.35 313 P **P 23 19 03.2 +0.4**
comp=Z,2.3nm,0.7s,mb4.5,baz=109,slow=4.0,SNR=11
ESDC LR LR 23 57 29.6
comp=Z,287nm,19.0s,MS4.7,baz=125,slow=36
ESDC Sonseca Array 86.35 313 P **P 23 19 03.2 +0.4**
ESDC LR LR 23 57 29.6
ESLA Sonseca Array 86.35 313 PFAKE 23 19 10.0 +7.2
ESLA LR LR
comp=Z,2μm,20.0s,MS5.6
BAIF Baives 86.41 325 *e*P **P 23 19 03.3 +0.2**
MAJO Matsushiro 86.96 50 P **P 23 19 07.6 +1.8**
MAJO MLR MLR
comp=Z,348nm,20.0s,MS4.8
MAT Matsushiro 86.96 50 P **P 23 19 06.2 +0.4**
MAT Matsushiro 86.96 50 *e*P **P 23 19 06.0 +0.2**
MAT pmax pmax
comp=Z,38nm,1.2s,mb5.5
MAT Matsushiro 86.96 50 *e*P **P 23 19 06.0 +0.2**
comp=Z,38nm,1.2s,mb5.5
MJAR Matsushiro Arr 86.96 50 P **P 23 19 06.3 +0.5**
comp=Z,12nm,0.8s,mb5.2,baz=225,slow=5.6,SNR=16
MJAR LR LR 23 57 39.3
comp=Z,284nm,20.8s,MS4.7,baz=250,slow=35
MFF Saint Martin d 87.11 321 *e*P **P 23 19 06.5 -0.1**
LDF La Druitiere 88.08 323 *e*P **P 23 19 11.0 -0.2**
LVZ Lovozero 88.27 349 PFAKE 23 19 20.0 +7.9
LVZ LR LR
comp=Z,294nm,21.0s,MS4.7
FLN La Foliniere 88.37 323 *e*P **P 23 19 11.3 -1.3**
FLN *e*R
comp=Z,348nm,21.2s
FLN La Foliniere 88.37 323 *e*P **P 23 19 11.3 -1.3**
FLN LR LR
comp=Z,350nm,21.3s,MS4.8
GRR Gorron 88.40 322 *e*P **P 23 19 12.4 -0.3**
KLR Kul'dur 88.46 37 *e*P **P 23 19 08.8 -4.2**
SGMF Saint Gilles 89.34 322 *e*P **P 23 19 16.1 -1.0**
comp=Z,23nm,1.1s,mb5.1
SGMF Saint Gilles 89.34 322 *e*P **P 23 19 16.1 -1.0**
SGMF pmax pmax
comp=Z,12nm,1.1s,mb5.1
SGMF Saint Gilles 89.34 322 *e*P **P 23 19 16.1 -1.0**
comp=Z,12nm,1.1s,mb5.1
QUIF Quistinic 89.55 321 *e*P **P 23 19 16.7 -1.4**
NOA NORSAR Array B 89.64 337 P **P 23 19 17.4 -1.2**
comp=Z,0.9nm,0.8s,mb4.2,baz=113,slow=4.8,SNR=3.2
NOA LR LR 00 01 42.5
comp=Z,132nm,19.5s,MS4.4,baz=265,slow=37
ROSF Rostrenen 89.80 321 *e*P **P 23 19 17.9 -1.4**
comp=Z,49nm,1.3s,mb5.4
ROSF Rostrenen 89.80 321 *e*P **P 23 19 17.9 -1.4**
ROSF pmax pmax
comp=Z,25nm,1.3s,mb5.4
ROSF Rostrenen 89.80 321 *e*P **P 23 19 17.9 -1.4**
comp=Z,24nm,1.3s,mb5.4
HNR Honiara 91.13 100 PFAKE 23 19 40.0 +15
HNR LR LR
comp=Z,541nm,21.0s,MS5.0
KEV Kevo 91.34 347 PFAKE 23 19 40.0 +14
KEV LR LR
comp=Z,324nm,21.0s,MS4.7
ARCES ARCESS Array B 91.48 347 P **P 23 19 30.4 +3.2**
comp=Z,2.2nm,0.6s,mb4.7,baz=193,slow=5.0,SNR=11
ARCES LR LR 00 04 23.3
comp=Z,182nm,18.6s,MS4.5,baz=336,slow=38
ASAJ Asahikawa 93.01 45 LR LR 23 56 05.7
comp=Z,262nm,21.9s,MS4.7,baz=185,slow=32
YAK Yakutsk 93.90 25 PFAKE 23 19 50.0 +12
YAK LR LR
comp=Z,684nm,19.0s,MS5.1
YSS Yuzh-Sakhalins 94.15 42 PFAKE 23 19 50.0 +11
YSS LR LR
comp=Z,257nm,20.0s,MS4.7
TIXI Tiksi 98.57 17 PFAKE 23 20 10.0 +11
TIXI LR LR
comp=Z,480nm,21.0s,MS5.0
RCBR Riachuelo 99.28 261 PFAKE 23 20 10.0 +7.3
RCBR LR LR
comp=Z,791nm,22.0s,MS5.2
KBS Kingsbay 100.75 351 PFAKE 23 20 20.0 +11
KBS LR LR
comp=Z,251nm,19.0s,MS4.8
MA2 Magadan 102.53 31 PFAKE 23 20 30.0 +13
MA2 LR LR
comp=Z,278nm,20.0s,MS4.8
PET Petropavlovsk 105.61 39 PFAKE 23 25 00.0 +16
PET LR LR
comp=Z,316nm,20.0s,MS4.9
BDFB Brasilia 106.83 247 PFAKE 23 25 00.0 +14
BDFB LR LR
comp=Z,712nm,22.0s,MS5.2
TNA Tin City 120.58 23 PFAKE 23 25 20.0 +7.6
TNA LR LR
comp=Z,208nm,19.0s,MS4.8
SAML Samuel 123.06 246 PFAKE 23 25 30.0 +13
SAML LR LR
comp=Z,371nm,20.0s,MS5.0
LPAZ La Paz 123.43 236 PKP PKPdf 23 25 16.9 -1.0
comp=Z,0.5nm,0.6s,baz=45,slow=1.4,SNR=2.5
LPAZ La Paz 123.43 236 PKP PKPdf 23 25 16.9 -1.0
IMA2 Indian Mountai 125.12 18 *e*PKPdf PKPdf 23 25 20.8 -0.3
TBI Tubuai 126.68 139 *e*LR LR 00 05 03.2
comp=Z,393nm,32.8s
COLA College 127.69 17 PFAKE 23 25 40.0 +14
COLA LR LR
comp=Z,267nm,20.0s,MS4.9
INK Inuvik 127.89 9 *e*PKIKP PKPdf 23 25 27.9 +1.5
MCK McKinley 128.21 19 PFAKE 23 25 40.0 +13
MCK LR LR
comp=Z,114nm,19.0s,MS4.6
SCHQ Schefferville 128.24 327 PFAKE 23 25 40.0 +13
SCHQ LR LR
comp=Z,369nm,19.0s,MS5.1
PMR Palmer 129.68 21 PFAKE 23 25 40.0 +10
PMR LR LR
comp=Z,182nm,20.0s,MS4.8
PPT Papeete 130.68 133 *e*LR LR 00 06 56.6
comp=Z,764nm,30.8s
KDAK Kodiak Island 130.92 26 PFAKE 23 25 40.0 +7.8
KDAK LR LR
comp=Z,127nm,21.0s,MS4.6
NNA Nana 132.77 234 PFAKE 23 25 50.0 +14
NNA LR LR
comp=Z,318nm,19.0s,MS5.0
BBSR BB Station 133.16 298 PFAKE 23 25 50.0 +14
BBSR LR LR
comp=Z,297nm,19.0s,MS5.0
LBNH Lisbon 135.74 316 PFAKE 23 25 50.0 +8.8
LBNH LR LR
comp=Z,472nm,20.0s,MS5.2
WES Weston 136.02 313 PFAKE 23 25 50.0 +8.2
WES LR LR
comp=Z,930nm,19.0s,MS5.5
HRV Harvard--Oak R 136.14 314 PFAKE 23 25 50.0 +8.0
HRV LR LR
comp=Z,361nm,20.0s,MS5.1
SDV Santo Domingo 136.76 264 PFAKE 23 26 00.0 +17
SDV LR LR
comp=Z,229nm,19.0s,MS4.9
NCB Newcomb 137.36 317 PFAKE 23 26 00.0 +16
NCB LR LR
comp=Z,390nm,22.0s,MS5.1
SIT Sitka 137.59 17 PFAKE 23 26 00.0 +15
SIT LR LR
comp=Z,383nm,21.0s,MS5.1
BINY Binghamton 139.28 315 PFAKE 23 26 00.0 +12
BINY LR LR
comp=Z,452nm,21.0s,MS5.2
OTAV Otavalo 140.78 248 PFAKE 23 26 00.0 +9.5
OTAV LR LR
comp=Z,310nm,20.0s,MS5.1
SSPA Standing Stone 141.24 314 PFAKE 23 26 00.0 +8.7
SSPA LR LR
comp=Z,277nm,20.0s,MS5.0
FFC Flin Flon 141.80 349 PFAKE 23 26 00.0 +7.7
FFC LR LR
comp=Z,248nm,20.0s,MS5.0
CBN Corbin 141.85 310 PFAKE 23 26 00.0 +7.6
CBN LR LR
comp=Z,211nm,22.0s,MS4.8
ERPA Erie 141.96 317 PFAKE 23 26 00.0 +7.4
ERPA LR LR
comp=Z,363nm,19.0s,MS5.2
MCWV Mont Chateau 143.02 314 PFAKE 23 26 10.0 +15
MCWV LR LR
comp=Z,591nm,22.0s,MS5.3
AAM Ann Arbor 144.18 320 PFAKE 23 26 10.0 +13
AAM LR LR
comp=Z,435nm,22.0s,MS5.2
ULM Lac du Bonnet 144.28 340 PKP PKPdf 23 25 54.1 -2.6
comp=Z,3.9nm,0.8s,baz=26,slow=5.9,SNR=5.4
ULM Lac du Bonnet 144.28 340 *e*PKPpre 23 25 53.0
ULM LR LR
comp=Z,314nm,20.0s,MS5.1
BLA Blacksburg 144.47 310 *e*PKIKP PKPdf 23 25 57.9 +0.9
BLA MLR MLR
comp=Z,19nm,19.0s,MS3.9
EDM Edmonton 144.48 359 *e*PKIKP PKPdf 23 25 57.3 +0.2
EYMN Ely 144.50 333 PFAKE 23 26 10.0 +13
EYMN LR LR
comp=Z,435nm,21.0s,MS5.2
ACSO Alum Creek Sta 144.86 316 *e*PKPdf PKPdf 23 25 56.4 -1.3
ACSO LR LR
comp=Z,275nm,21.0s,MS5.0
TZTN Tazewell 147.02 311 *e*PKPbc PKPbc 23 26 05.6 +2.1
MYNC Murphy 148.08 309 PFAKE 23 26 10.0 +6.8
MYNC LR LR
comp=Z,768nm,22.0s,MS5.5
WCI Wyandotte Cave 148.10 316 *e*PKP2 PKPab 23 26 08.6 -0.6
WCI MLR MLR
comp=Z,318nm,20.0s,MS5.1
DWPF Disney 148.11 295 PFAKE 23 26 20.0 +17
DWPF LR LR
comp=Z,355nm,22.0s,MS5.1
WALA Waterton Lakes 148.66 360 *e*PKPab PKPab 23 26 09.8 -1.6
USIN University of 149.15 316 PKPdf PKPdf 23 26 05.3 +0.4
NEW Newport 149.36 4 *e*PKP2 PKPab 23 26 12.9 -1.4
NEW MLR MLR
comp=Z,407nm,20.0s
EGMT Eagleton 149.47 354 PFAKE 23 26 20.0 +15
EGMT LR LR
comp=Z,252nm,20.0s,MS5.0
WVT Waverly 150.25 313 PFAKE 23 26 20.0 +13
WVT LR LR
comp=Z,255nm,19.0s,MS5.0
LAO LASA Array 150.28 349 *e*PKP PKPdf 23 26 15.2 +8.5
LAO LR LR
comp=Z,410nm,21.0s,MS5.2
CHMT Chamberlain Mo 150.79 359 *e*PKPbc PKPbc 23 26 13.3 +0.2
MSO Missoula 150.89 360 *e*PKPdf PKPdf 23 26 11.1 +3.4
MSO LR LR
comp=Z,184nm,22.0s,MS4.8
FVM French Village 150.91 319 *e*PKIKP PKPdf 23 26 10.5 +2.8
HAWA Hanford 150.99 8 *e*PKPbc PKPbc 23 26 13.9 +0.3
HAWA LR LR
comp=Z,22nm,21.0s,MS3.9
PLAL Pickwick Lake 151.00 312 *e*PKP PKPdf 23 26 08.1 +0.2
PLAL LR LR
comp=Z,253nm,19.0s,MS5.0
LRAL Lakeview Retre 151.11 307 *e*PKP PKPdf 23 26 14.6 +6.7
LRAL LR LR
comp=Z,265nm,20.0s,MS5.0
CCM Cathedral Cave 151.38 320 *e*PKIKP PKPdf 23 26 12.3 +3.9
CCM MLR MLR
comp=Z,252nm,21.0s,MS5.0
BOZ Bozeman (W) 151.99 356 PFAKE 23 26 20.0 +11
BOZ LR LR
comp=Z,359nm,20.0s,MS5.2
COR Corvallis 152.07 14 PFAKE 23 26 20.0 +11
COR LR LR
comp=Z,287nm,20.0s,MS5.1
OXF Oxford 152.18 312 PFAKE 23 26 20.0 +10
OXF LR LR
comp=Z,247nm,20.0s,MS5.0
RSSD Black Hills 152.23 344 *e*PKIKP PKPdf 23 26 16.0 +6.3
RSSD MLR MLR
comp=Z,689nm,21.0s,MS5.4
BMO Blue Mountains 152.74 5 *e*PKIKP PKPdf 23 26 11.4 +1.0
BMO MLR MLR
comp=Z,315nm,21.0s,MS5.1
QLMT Earthquake Lak 152.78 356 *e*PKPdf PKPdf 23 26 10.3 -0.2
LKWY Lake 152.96 354 PFAKE 23 26 20.0 +9.2
LKWY LR LR
comp=Z,730nm,21.0s,MS5.5
LOHW Long Hollow 153.92 354 *e*PKPbc PKPbc 23 26 21.4 +1.2
HUMO Hull Mountain 154.03 15 *e*PKPdf PKPdf 23 26 15.6 +3.3
HUMO LR LR
comp=Z,239nm,21.0s,MS5.0
HLID Hailey 154.16 0 *e*PKPdf PKPdf 23 26 14.8 +2.3
HLID LR LR
comp=Z,531nm,22.0s,MS5.3
BW06 Boulder Array 154.63 352 PFAKE 23 26 20.0 +6.9
BW06 LR LR
comp=Z,395nm,20.0s,MS5.2
PDAR Pinedale Array 154.63 352 PKP PKPdf 23 26 13.6 +0.5
comp=Z,1.1nm,1.0s,baz=58,slow=9.1,SNR=6.7
PDAR PKPbc PKPbc 23 26 20.4 -1.3
comp=Z,1.8nm,0.8s,baz=96,slow=3.0,SNR=6.7
AHID Auburn Hatcher 154.81 355 PFAKE 23 26 20.0 +6.6
AHID LR LR
comp=Z,335nm,20.0s,MS5.2
YBH Yreka Blue Hor 154.91 15 PFAKE 23 26 20.0 +6.5
YBH LR LR
comp=Z,291nm,21.0s,MS5.1
WVOR Wild Horse Val 155.00 8 PFAKE 23 26 20.0 +6.4
WVOR LR LR
comp=Z,499nm,20.0s,MS5.3
MIAR Mount Ida 155.02 316 PFAKE 23 26 20.0 +6.3
MIAR LR LR
comp=Z,269nm,19.0s,MS5.1
TEIG Tepich 155.31 280 PFAKE 23 26 30.0 +16
TEIG LR LR
comp=Z,201nm,22.0s,MS4.9
WDC Whiskeytown Da 156.04 16 PFAKE 23 26 30.0 +15
WDC LR LR
comp=Z,262nm,20.0s,MS5.1
ISCO Idaho Springs 156.68 343 PFAKE 23 26 30.0 +14
ISCO LR LR
comp=Z,482nm,21.0s,MS5.3
ELK Elko 156.96 2 PFAKE 23 26 30.0 +14
ELK LR LR
comp=Z,413nm,21.0s,MS5.2
BMN Battle Mountai 157.14 6 PFAKE 23 26 30.0 +14
BMN LR LR
comp=Z,351nm,20.0s,MS5.2
HOPS Hopland 157.37 18 PFAKE 23 26 30.0 +13
HOPS LR LR
comp=Z,244nm,20.0s,MS5.0
NATX Nacogdoches 157.37 312 PFAKE 23 26 30.0 +13
NATX LR LR
comp=Z,259nm,20.0s,MS5.1
DUG Dugway 157.49 357 PFAKE 23 26 30.0 +13
DUG LR LR
comp=Z,308nm,19.0s,MS5.2
MPU Maple Canyon 157.59 355 PFAKE 23 26 30.0 +13
MPU LR LR
comp=Z,170nm,22.0s,MS4.8
WMOK Wichita Mounta 158.08 324 PFAKE 23 26 30.0 +12
WMOK LR LR
comp=Z,233nm,20.0s,MS5.0
SDCO Great Sand Dun 158.54 341 PFAKE 23 26 30.0 +12
SDCO LR LR
comp=Z,835nm,22.0s,MS5.5
CMB Columbia Colle 158.98 14 PFAKE 23 26 30.0 +11
CMB LR LR
comp=Z,281nm,22.0s,MS5.1
NVAR Mina Array Bea 158.98 9 PKP PKPdf 23 26 22.3 +3.5
comp=Z,0.2nm,0.3s,baz=325,slow=1.4,SNR=3.5
NVAR PKPab PKPab 23 26 56.3 +1.2
comp=Z,3.4nm,0.8s,baz=16,slow=4.5,SNR=8.5
MNV Mina 159.00 9 PFAKE 23 26 30.0 +11
MNV LR LR
comp=Z,600nm,21.0s,MS5.4
MVU Marysvale 159.13 356 PFAKE 23 26 30.0 +11
MVU LR LR
comp=Z,239nm,21.0s,MS5.0
HKT Hockley 159.20 309 PFAKE 23 26 30.0 +11
HKT LR LR
comp=Z,299nm,22.0s,MS5.1
TPH Tonopah 159.47 7 PFAKE 23 26 30.0 +11
TPH LR LR
comp=Z,354nm,21.0s,MS5.2
AMTX Amarillo 159.49 329 PFAKE 23 26 30.0 +11
AMTX LR LR
comp=Z,378nm,20.0s,MS5.2
SAO San Andreas Ge 159.91 17 PFAKE 23 26 30.0 +10
SAO LR LR
comp=Z,287nm,19.0s,MS5.1
TPNV Topopah Spring 160.68 5 PFAKE 23 26 30.0 +9.4
TPNV LR LR
comp=Z,637nm,20.0s
DAC Darwin (Calif) 161.20 8 PFAKE 23 26 30.0 +8.8
DAC LR LR
comp=Z,419nm,20.0s
ANMO Albuquerque 161.41 340 PFAKE 23 26 30.0 +8.6
ANMO LR LR
comp=Z,320nm,22.0s
ISA Isabella 161.66 11 PFAKE 23 26 30.0 +8.3
ISA LR LR
comp=Z,76nm,22.0s
JCT Junction City 161.66 317 PFAKE 23 26 30.0 +8.3
JCT LR LR
comp=Z,287nm,21.0s
WUAZ Wupatki 162.01 352 PFAKE 23 26 30.0 +8.0
WUAZ LR LR
comp=Z,616nm,22.0s
SNCC San Nicolas Is 163.75 16 PFAKE 23 26 30.0 +6.3
SNCC LR LR
comp=Z,434nm,19.0s
PFO Pinyon Flat Ob 163.97 7 PFAKE 23 26 40.0 +16
PFO LR LR
comp=Z,390nm,20.0s
LTX Lajitas 164.85 322 PFAKE 23 26 40.0 +15
LTX LR LR
comp=Z,294nm,19.0s
TUC Tucson 165.06 349 PFAKE 23 26 40.0 +15
TUC LR LR
comp=Z,342nm,22.0s

CASC 12 23:15:34.0±2.5, 1388N×9152W, h72km±35km, MD3.7, 5C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.45**	**346**	⇑	*e*P		Pn	23 15 46.8	+0.3
FUG	**Fuego 3**	**0.87**	**50**	⇑	*i*P		Pn	23 15 51.9	+1.0
TP2	**Tecpan 2**	**1.02**	**29**	⇓	*e*P		Pn	23 15 53.1	+0.3
TP2					*e*S		Sn	23 16 07.5	+0.7
IXG	**Ixpaco**	**1.08**	**74**	⇓	*e*P		Pn	23 15 54.0	+0.5
IXG					*e*S		Sn	23 16 09.4	+1.3
RBDL	**Robledal**	**1.80**	**82**	⇑	*e*P		x	23 16 10.3	
RBDL					*e*S		x	23 16 34.3	
RTR	**El Retiro**	**1.82**	**89**		*e*P		x	23 16 11.0	
RTR					*e*S		x	23 16 34.5	
SBLS	**San Blas**	**1.85**	**91**		*e*P		x	23 16 11.2	
SBLS					*e*S		x	23 16 34.7	
SNJE	**San Jose**	**1.86**	**90**	⇑	*e*P		x	23 16 11.7	
SNJE					*e*S		x	23 16 35.6	
BOQS	**Boqueron**	**2.19**	**94**	⇑	*e*P		x	23 16 16.0	
BOQS					*e*S		x	23 16 41.8	
LFRS	**El Faro**	**2.41**	**96**	⇓	*e*P		x	23 16 19.2	
LFRS					*e*S		x	23 16 48.1	
SNVI	**San Vicente**	**2.62**	**96**		*e*P		x	23 16 20.5	
SNVI					*e*S		x	23 16 54.1	

*SZGRF **12** 23:19:56.2, 086S×100.77E, h33km, mb4.8, Southern Sumatera, Indonesia*
*IDC **12** 23:20:14.1±0.5, 238N×9.708E, h0km, mb4.4/17, mb1 4.5/17, mb1mx4.4/19, mbtmp4.4/17, MS4.4/2, Ms1 4.4/2, ms1mx3.7/28, Error ellipse: s-maj=22.8km s-min=12.9km az=52.0*
*BJI **12** 23:20:16.5, 196N×9.704E, h50km, mB5.0, mb4.8, Ms4.6, Msz4.3*
*MOS **12** 23:20:17.5±0.8, 242N×97.13E, h35km, mb5.0/22, Error ellipse: s-maj=11.8km s-min=7.0km az=112.9*
*ISCJB **12** 23:20:17.0±0.3, 235N±004×97.13E±004, h32km, mb4.7/57, MS4.5/9, Error ellipse: s-maj=6.2km s-min=5.0km az=99.9*
*NEIC **12** 23:20:18.5±0.2, 232N×9707E, mb4.7/17, Error ellipse: s-maj=7.2km s-min=5.0km az=215.0*
ISC 12 23:20:19.3±0.3, 233N±004×9711E±004, h34km, h34km±.8km; pP-P, n122, σ0s95/123, mb4.7/57, MS4.5/9, 3C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.62**	**330**			P	**Pn**	**23 21 17.1**	**+4.0**
	366nm,1.0s								
KULM	**Kulim**	**4.59**	**50**		*e*Pn		**Pn**	**23 21 29.2**	**+2.8**
KULM							Sn	**23 22 18.4**	**-0.2**
KSI	**Kapahiang**	**8.09**	**137**			P	**Pn**	**23 22 17.6**	**+3.3**
	83nm,0.6s								
KSM	**Kuching**	**13.22**	**93**			Pn	**Pn**	**23 23 23.3**	**-1.3**
PALK	**Pallekele**	**17.07**	**287**			Pn	**Pn**	**23 24 12.4**	**-2.8**
KKM	**Kota Kinabalu**	**19.40**	**78**		*e*P		**Pn**	**23 24 42.5**	**-1.3**
QIZ	**Qiongzhong**	**20.75**	**36**		*e*P		**P**	**23 24 57.6**	**+0.4**
QIZ						S	**S**	**23 28 48.3**	**+1.3**
QIZ						AMB	AMB		
	comp=Z,12nm,1.0s								
QIZ						LR	LR		
	comp=E,797nm,17.1s								
QIZ						LR	LR		
	comp=Z,733nm,20.1s,MS4.0								
QIZ	**Qiongzhong**	**20.75**	**36**		*e*P		**P**	**23 24 57.7**	**+0.5**
PCI	**Palu**	**22.95**	**98**			P	**P**	**23 25 21.2**	**+0.6**

comp=Z,59nm,1.5s,mb4.8
KMI Kunming 23.30 13 P **P** **23 25 25.1 +0.8**
KMI AP 23 25 38.7
KMI AMB AMB
comp=Z,21nm,1.3s,mb4.4
DGAR Diego Garcia 26.44 248 *e*P **P** **23 25 52.8 -0.2**
JIRN Jiri 27.26 338 *e*P **P** **23 26 01.3 +0.9**
comp=Z,52nm,0.7s,mb5.1
PKI Pulchoki 27.48 337 *e*P **P** **23 26 02.7 +0.4**
GUN Gumba 27.61 338 *e*P **P** **23 26 04.3 +0.8**
comp=Z,63nm,0.7s,mb5.3
DMN Daman 27.63 337 *e*P **P** **23 26 04.7 +1.0**
KKN Kakani 27.73 337 *e*P **P** **23 26 04.8 +0.3**
comp=Z,40nm,0.9s,mb5.1
GKN Gorkha 28.17 336 *e*P **P** **23 26 08.9 +0.4**
comp=Z,39nm,0.9s,mb5.0
KOLN Koldanda 28.40 334 *e*P **P** **23 26 11.2 +0.6**
comp=Z,40nm,0.8s,mb5.1
CD2 Chengdu 29.11 12 *e*P **P** **23 26 16.2 -0.7**
CD2 AP pP 23 26 25.7 -0.9
CD2 PP PP 23 27 11.2 -12
CD2 S **S** **23 31 05.1 -1.4**
CD2 SS SS 23 32 36.4 -34
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CD2 LR LR
comp=E,700nm,25.0s
CD2 LR LR
comp=Z,340nm,16.6s
MBWA Marble Bar 32.18 138 P **P** **23 26 44.9 +0.9**
YHNB Yeheng 32.27 44 P **P** **23 26 44.6 -0.1**
FITZ Fitzroy Crossi 34.67 127 *e*P **P** **23 27 04.2 -1.4**
comp=Z,9.3nm,1.1s,mb4.6
NJ2 Nanjing 35.96 32 *e*P **P** **23 27 16.8 +0.1**
NJ2 AP pP 23 27 27.0 +0.5
NJ2 XP sP 23 27 31.1 +0.5
NJ2 PP PP 23 28 38.3 -0.4
NJ2 S **S** **23 32 53.0 +0.1**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,770nm,5.4s
NJ2 LR LR
comp=N,1μm,16.6s
NJ2 LR LR
comp=E,2μm,23.9s
NJ2 LR LR
comp=Z,2μm,16.8s,MS5.0
SSE Sheshan 36.55 36 P **P** **23 27 22.1 +0.3**
SSE AP pP 23 27 30.9 -0.7
SSE PP PP 23 28 46.0 +0.7
SSE S **S** **23 33 02.3 +0.3**
SSE AMB AMB
comp=Z,27nm,1.2s,mb5.0
SSE AMB AMB
comp=Z,576nm,5.4s
SSE LR LR
comp=N,276nm,22.0s,MS4.1
SSE LR LR
comp=E,256nm,21.9s,MS4.1
SSE LR LR
comp=Z,413nm,21.3s,MS4.2
GTA Gaotai 36.99 3 *e*P **P** **23 27 25.4 -0.1**
GTA AMB AMB
comp=Z,21nm,0.8s,mb5.0
KAKA Kakadu 38.13 114 *e*P **P** **23 27 33.7 -1.5**
comp=Z,12nm,0.6s,mb4.8
NWAO Narrogin (SRO) 39.90 153 *e*P **P** **23 27 50.4 +0.4**
HHC Hu-ho-hao-te 40.51 17 *e*P **P** **23 27 55.4 +0.4**
HHC AP pP 23 28 04.9 0.0
HHC XP sP 23 28 10.5 +1.6
HHC PP PP 23 29 33.3 +4.7
HHC PCP PcP 23 29 59.6 +2.5
HHC PCS PcS 23 33 48.7 +1.0
HHC S **S** **23 34 04.4 +2.7**
HHC XS sS 23 34 20.2 +2.2
HHC SS SS 23 36 57.5 -4.4
HHC AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
HHC AMB AMB
comp=Z,128nm,8.8s
HHC LR LR
comp=N,316nm,16.9s,MS4.5
HHC LR LR
comp=E,431nm,17.0s,MS4.5
HHC LR LR
comp=Z,508nm,15.5s,MS4.5
BJT Baijiatuau 41.31 22 *e*P **P** **23 28 01.2 -0.4**
BJT pmax pmax
comp=Z,23nm,0.7s
BJT Baijiatuau 41.31 22 *e*P **P** **23 28 01.2 -0.4**
comp=Z,23nm,0.7s,mb4.9
BJI Beijing 41.33 22 *e*P **P** **23 28 02.5 +0.7**
BJI AMB AMB
comp=Z,30nm,0.7s,mb5.0
BJI LR LR
comp=N,592nm,17.7s,MS4.5
BJI LR LR
comp=E,264nm,18.2s,MS4.5
BJI LR LR
comp=Z,323nm,19.2s,MS4.2
WMQ Urumqi 42.15 350 P **P** **23 28 09.0 +0.5**
WMQ AP pP 23 28 18.8 +0.4
WMQ XP sP 23 28 22.8 +0.3
WMQ PP PP 23 29 50.0 +3.6
WMQ PCP PcP 23 30 03.9 +1.4
WMQ S **S** **23 34 26.0 0.0**
WMQ AMB AMB
comp=Z,8.0nm,1.0s,mb4.3
WMQ AMB AMB
comp=Z,84nm,4.0s
WMQ LR LR
comp=N,301nm,15.4s,MS4.4
WMQ LR LR
comp=E,226nm,14.3s,MS4.4
WMQ LR LR
comp=Z,310nm,15.9s,MS4.3
WRA Warramunga Arr 42.72 123 P **P** **23 28 12.9 -0.2**
comp=Z,7.7nm,0.7s,mb4.5,baz=301,slow=9.3,SNR=46
WRAB Tennant Creek 42.72 123 *e*P **P** **23 28 13.5 +0.4**
WRAB pmax pmax
comp=Z,23nm,0.9s,mb4.9
WRAB Tennant Creek 42.72 123 *e*P **P** **23 28 13.5 +0.4**
comp=Z,23nm,0.9s,mb4.9
WB2 Warramunga Arr 42.73 123 *e*P **P** **23 28 11.3 -1.9**
ASAR Alice Springs 44.15 128 P **P** **23 28 24.9 +0.2**
comp=Z,2.9nm,0.8s,mb4.1,baz=304,slow=7.9,SNR=23
ASAR PcP PcP 23 30 09.9 +0.7
comp=Z,1.3nm,0.7s,baz=299,slow=3.8,SNR=5.3
UCH Uchtor 44.58 336 P **P** **23 28 29.3 +1.2**
SNR=14
TKM2 Tokmak 2 44.74 338 P **P** **23 28 30.1 +0.7**
SNR=6.0
KBK Karagaybulak 44.77 337 P **P** **23 28 31.4 +1.8**
SNR=11
AAK Ala-Archa 44.93 336 *e*P **P** **23 28 31.0 +0.1**
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
AAK Ala-Archa 44.93 336 *e*P **P** **23 28 31.0 +0.1**
comp=Z,5.5nm,0.8s,mb4.4
CHMS Chumysh 45.13 337 P **P** **23 28 33.2 +0.7**
SNR=6.1
EKS2 Erkin-Say 45.24 336 P **P** **23 28 34.8 +1.4**
SNR=9.7
USP Ospenovka 45.46 337 P **P** **23 28 35.4 +0.3**
SNR=26
SONM Songino Array 46.03 9 P **P** **23 28 39.8 +0.2**
comp=Z,3.3nm,0.7s,mb4.4,baz=190,slow=9.1,SNR=23
SONM PcP PcP 23 30 16.5 +0.8
comp=Z,2.9nm,0.7s,baz=193,slow=3.2,SNR=7.1
MKAR Makanchi Array 46.13 346 P **P** **23 28 40.0 -0.3**
comp=Z,11nm,0.8s,mb4.8,baz=157,slow=7.7,SNR=48
ULN Ulaanbaatar 46.16 9 *e*P **P** **23 28 40.8 +0.2**
ZAK Zakamensk 48.16 5 *e*P **P** **23 28 55.5 -0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.7s,mb4.0
KURK Kurchatov 50.68 345 *e*P **P** **23 29 15.3 -0.1**
KURK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KURK Kurchatov 50.68 345 *e*P **P** **23 29 15.3 -0.2**
comp=Z,7.1nm,0.8s,mb4.7
MAJO Matsushiro 50.92 43 P **P** **23 29 17.0 -0.3**
MJAR Matsushiro Arr 50.92 43 P **P** **23 29 17.6 +0.4**
comp=Z,5.6nm,0.9s,mb4.5,baz=217,slow=5.9,SNR=11
MJAR PcP PcP 23 30 34.1 +0.7
comp=Z,1.6nm,0.6s,baz=238,slow=2.5,SNR=5.3

CTA Charters Tower 53.09 117 *e*P **P** **23 29 34.4 +1.0**
comp=Z,9.2nm,0.9s,mb4.7
CTA Charters Tower 53.09 117 *e*P **P** **23 29 34.4 +1.0**
CTA pmax pmax
comp=Z,9.0nm,0.9s
CTAO Charters Tower 53.09 117 *e*P **P** **23 29 34.7 +1.3**
CTAO pmax pmax
comp=Z,11nm,0.8s,mb4.8
CTAO Charters Tower 53.09 117 *e*P **P** **23 29 34.7 +1.3**
comp=Z,11nm,0.8s,mb4.8
NVS Novosibirsk 53.55 350⇑ *i*P **P** **23 29 35.2 -1.6**
NVS *e*S **S** **23 37 05.1 -2.5**
NVS pmax pmax
comp=N,12nm,1.6s
NVS pmax pmax
comp=Z,15nm,1.6s,mb4.7
NVS smax
comp=N,8.0nm,1.6s
NVS smax
comp=E,10.0nm,1.6s
STKA Stephens Creek 54.18 133 *e*P **P** **23 29 42.1 +0.7**
comp=E,4.9nm,0.8s,mb4.5
STKA Stephens Creek 54.18 133 P **P** **23 29 42.4 +1.0**
comp=E,4.7nm,0.7s,mb4.5,baz=307,slow=8.8,SNR=9.1
STKA Stephens Creek 54.18 133 *e*P **P** **23 29 42.2 +0.8**
STKA *e*pP pP 23 29 51.6 0.0
BVAR Borovoye Array 55.16 341 P **P** **23 29 47.7 -0.8**
comp=E,11nm,0.7s,mb5.0,baz=126,slow=7.5,SNR=50
BRVK Borovoye 55.22 341 *e*P **P** **23 29 48.4 -0.5**
BRVK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BRVK Borovoye 55.22 341 *e*P **P** **23 29 48.4 -0.5**
comp=Z,8.2nm,0.9s,mb4.8
KLR Kul'dur 55.29 27 *e*P **P** **23 29 46.2 -3.2**
KLR MLR MLR
comp=Z,600nm,17.0s,MS4.7
HABR Khabarovsk 56.32 29 *e*P **P** **23 29 56.6 -0.2**
BOD Bodaibo 56.92 11 *e*P **P** **23 30 00.6 -0.4**
BOD pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
YSS Yuzh-Sakhalins 59.47 35 *e*P **P** **23 30 19.0 +0.1**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 59.47 35 *e*P **P** **23 30 18.7 -0.2**
KMBO Kilima Mbogo 59.94 267 P **P** **23 30 23.1 +1.0**
comp=Z,0.9nm,0.9s,mb3.8,baz=56,slow=20,SNR=3.6
KMBO LR LR 23 52 18.4
comp=Z,166nm,19.1s,MS4.2,baz=98,slow=32
GNI Garni 60.42 316 *e*P **P** **23 30 26.7 +1.3**
SVE Sverdlovsk 61.61 338‖ *e*P **P** **23 30 33.0 -0.5**
SVE *e* 23 30 48.8
SVE pmax pmax
comp=Z,20nm,1.3s,mb5.1
ARU Arti 62.11 337⇑ *i*P **P** **23 30 35.8 -1.0**
ARU *e* 23 32 54.0
ARU *e*PPP 23 34 26.0
ARU *e*S **S** **23 39 00.3 +0.7**
ARU *e*SS SS 23 43 07.5 +4.8
ARU pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
ARU Arti 62.11 337 *e*P **P** **23 30 35.5 -1.4**
comp=Z,4.5nm,0.8s,mb4.7
ARU *e*pP pP 23 30 45.9 -1.3
KIV Kislovodsk 63.40 319 *e*P **P** **23 30 45.4 0.0**
KIV pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
KIV Kislovodsk 63.40 319 *e*P **P** **23 30 45.4 0.0**
comp=Z,3.9nm,0.7s,mb4.7
HNR Honiara 63.67 102 P **P** **23 30 47.7 +0.4**
comp=Z,66nm,0.3s,mb6.1,baz=236,slow=4.9,SNR=5.0
HNR LR LR 23 59 04.9
comp=Z,508nm,18.8s,MS4.7,baz=188,slow=37
HNR Honiara 63.67 102 *e*P **P** **23 30 47.3 +0.1**
HNR pmax pmax
comp=Z,33nm,0.3s,mb5.8
HNR Honiara 63.67 102 *e*P **P** **23 30 47.3 +0.1**
comp=Z,33nm,0.3s,mb5.8
MALT Malatya 64.31 312 P **P** **23 30 52.3 +0.9**
MALT *e**PP pP 23 31 00.9 -0.9
YAK Yakutsk 64.36 16 *e*P **P** **23 30 51.5 -0.3**
YAK pmax pmax
comp=Z,22nm,0.9s,mb5.2
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.3s
SOC Sochi 65.22 318⇓ *i*P **P** **23 30 55.7 -1.7**
SOC *e**PP pP 23 31 05.2 -2.6
SOC *e* 23 31 27.1
SOC *e* 23 33 21.0
SOC *e*S S 23 39 38.5 +0.2
SOC *e* 23 40 48.9
SOC pmax pmax
comp=Z,12nm,1.1s,mb4.8
BR131 Keskin Array S 68.29 312 *e*P **P** **23 31 16.2 -0.7**
comp=Z,1.2nm,0.6s,mb4.1
BRTR Keskin Array B 68.29 312 P **P** **23 31 16.2 -0.7**
comp=Z,1.1nm,0.8s,mb3.9,baz=132,slow=7.8,SNR=8.6
MA2 Magadan 70.36 26 P **P** **23 31 29.5 -0.2**
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
OBN Obninsk 71.61 328 P **P** **23 31 37.0 -0.3**
OBN *e* pP 23 31 48.0 +0.2
OBN pmax pmax
comp=Z,21nm,2.3s,mb4.7
DZM Mont Dzumac 71.82 114 P **P** **23 31 39.8 +1.3**
comp=Z,4.0nm,0.8s,mb4.4,baz=298,slow=19,SNR=2.2
KLMR Klimovskoe 72.70 334 *e*P **P** **23 31 41.4 -2.4**
KLMR pmax pmax
comp=Z,10.0nm,1.6s,mb4.5
MAW Mawson 73.79 193 P **P** **23 31 51.0 +0.8**
comp=Z,1.0nm,0.5s,mb4.0,baz=337,slow=5.7,SNR=7.6
LBTB Lobatse 74.31 243 P **P** **23 31 54.7 +1.4**
AKASG Malin Array Be 74.31 322 P **P** **23 31 52.5 -0.8**
comp=Z,3.9nm,0.6s,mb4.5,baz=90,slow=5.2,SNR=16
JOF Joensuu 77.09 335 *e*p **P** **23 32 07.5 -1.7**
comp=Z,4.0nm,0.8s,mb4.4
SUW Suwalki 78.70 325 *e*P **P** **23 32 17.4 -0.7**
SUW pmax pmax
comp=Z,12nm,0.7s,mb4.9
SUW Suwalki 78.70 325 *e*P **P** **23 32 17.4 -0.7**
comp=Z,12nm,0.7s,mb5.0
FINES FINESS Array B 78.96 332 P **P** **23 32 19.1 -0.5**
comp=Z,3.7nm,0.7s,mb4.4,baz=122,slow=9.3,SNR=13
KAF Kangasniemi 79.04 333 *e*p **P** **23 32 19.0 -1.0**
comp=Z,5.6nm,0.6s,mb4.7
KAF Kangasniemi 79.04 333 *e*P **P** **23 32 19.0 -1.0**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
KEV Kevo 81.01 341 *e*p **P** **23 32 28.0 -2.6**
comp=Z,4.8nm,0.7s,mb4.5
KEV Kevo 81.01 341 *e*P **P** **23 32 28.0 -2.6**
KEV pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ARCES ARCESS Array B 81.44 340 P **P** **23 32 32.6 -0.3**
comp=Z,3.0nm,0.6s,mb4.4,baz=99,slow=4.6,SNR=19
GERES GERESS Array B 83.91 319 P **P** **23 32 46.4 +0.6**
comp=Z,1.3nm,0.6s,mb4.3,baz=101,slow=5.5,SNR=15
KHC Kasperske Hory 84.00 319 *e*P **P** **23 32 46.0 -0.2**
CLL Collm 84.50 321 *e*P **P** **23 32 49.0 +0.3**
GRA1 Grafenberg Arr 85.57 319 *e*P **P** **23 32 54.3 +0.2**
comp=Z,4.0nm,0.7s,mb4.8
GRF Grafenberg Arr 85.57 319 *e*P **P** **23 32 54.3 +0.2**
comp=Z,4.0nm,0.7s,mb4.8
GRF Grafenberg Arr 85.57 319 *e*P **P** **23 32 54.3 +0.2**
GRF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
GRF Grafenberg Arr 85.57 319 *e*P **P** **23 32 54.3 +0.2**
GRF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
NB2 NORSAR Subarra 85.98 331 P **P** **23 32 55.6 -0.5**
comp=Z,1.7nm,0.7s,mb4.4,baz=97,slow=4.8
NOA NORSAR Array B 85.98 331 P **P** **23 32 55.9 -0.3**
comp=Z,2.6nm,0.8s,mb4.5,baz=93,slow=4.9,SNR=8.4
VNDA Vanda 86.95 169 P **P** **23 33 00.3 -0.5**
comp=Z,0.8nm,0.8s,mb4.0,baz=295,slow=7.3,SNR=3.5
VNDA Vanda 86.95 169 *e*P **P** **23 32 60.0 -0.9**
SBA Scott Base 88.05 169 *e*P **P** **23 33 06.2 0.0**
QSPA South Pole Qui 92.27 180 *e*P **P** **23 33 26.2 +0.3**
ESLA Sonseca Array 97.03 310 *e*P **P** **23 33 48.2 +0.5**
DLMT Dillon 125.67 25 *e*PKPdf PKPdf 23 39 18.2 +1.0
ULM Lac du Bonnet 126.44 10 PKP PKPdf 23 39 18.3 -0.4
comp=Z,0.8nm,0.6s,baz=90,slow=6.1,SNR=4.7
ULM Lac du Bonnet 126.44 10 PKP PKPdf 23 39 18.3 -0.4
NVAR Mina Array Bea 127.92 35 PKP PKPdf 23 39 23.1 +1.6
comp=Z,0.8nm,0.7s,baz=237,slow=0.2,SNR=5.4

PDAR Pinedale Array 129.06 25 PKP PKPdf 23 39 24.6 +0.9
comp=Z,0.6nm,0.6s,baz=190,slow=0.9,SNR=6.0
JCT Junction City 143.60 25 *e*PKIKP PKPdf 23 39 50.6 0.0
CPUP Villa Florida 145.77 224 PKPbc PKPbc 23 39 55.6 +0.8
comp=Z,3.0nm,0.7s,baz=109,slow=2.4,SNR=9.0
CPUP Villa Florida 145.77 224 *e*PKPdf PKPdf 23 39 55.4 +1.1
CPUP PKPbc PKPbc 23 39 55.6 +0.8

MEX 13 00:03:10.3±0.9, 1682N×10182W, h20km±30km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.85**	**24**	*i* P		Pb	00 03 23.2	-3.2
ZIIG				*i* S		Sb	00 03 34.8	-2.5
CAIG	**El Cayaco**	**1.50**	**81**	*i* P		Pn	00 03 32.8	-3.3
CAIG				*i* S		Sn	00 03 50.6	-4.5
ACX	**Acapulco**	**1.82**	**88**	*i* P		Pn	00 03 38.2	-2.3
ACX				*i* S		Sn	00 03 59.3	-3.7
MEIG	**Mezcala**	**2.37**	**62**	*i* P		Pn	00 03 46.3	-1.7
MEIG				*i* S		Sn	00 04 11.9	-4.6
PLIG	**Platanillo**	**2.71**	**54**	*i* P		Pn	00 03 50.8	-1.9
PLIG				*i* S		Sn	00 04 19.2	-5.6
IIZ	**Mezontepec**	**3.40**	**46**	*i* P		Pn	00 04 00.9	-1.2
IIZ				*i* S		Sn	00 04 39.6	-2.3
PPM	**Popocatepetl**	**3.77**	**53**	*i* P		Pn	00 04 05.3	-1.9
PPM				*i* S		Sn	00 04 48.0	-3.1
UTMO	**Huajuapan**	**3.97**	**75**	*e*P		Pn	00 04 08.5	-1.4
UTMO				*i* S		Sn	00 04 53.8	-2.1

*ROM **13** 00:03:16.9±0.2, 4452N×1009E, h26km±4km, Md2.3/9, Ml1.8/5, Error ellipse: s-maj=3.3km s-min=1.8km az=137.0*
*ISCJB **13** 00:03:18.3±0.5, 4448N±005×1005E±005, h27km±7km, Error ellipse: s-maj=9.0km s-min=5.3km az=61.4*
*LDG **13** 00:03:22.2±0.5, 4443N×994E, h17km, Ml2.3/4, Error ellipse: s-maj=10.7km s-min=4.4km az=67.0*

ISC 13 00:03:18.6±0.5, 4448N±005×1006E±005, h22km±8km, n17, σ1s06/30, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.26**	**102**	Pg		**Pb**	**00 03 24.0**	**-0.8**
ERBM				Sg		**Sb**	**00 03 29.3**	**+0.2**
	98nm,0.7s							
VLC	**Villacollemand**	**0.40**	**143**	Pg		**Pb**	**00 03 26.1**	**-0.9**
VLC				Sg		**Sb**	**00 03 33.1**	**+0.5**
	79nm,0.8s							
GSCL	**Gusciola**	**0.40**	**108**	Pg		**Pb**	**00 03 26.4**	**-0.7**
GSCL				Sg		**Sb**	**00 03 32.7**	**-0.1**
	9.0nm,0.2s							
BOB	**Bobbio (Coli)**	**0.52**	**304**	Pg		**Pb**	**00 03 27.8**	**-1.3**
BOB				Sg		**Sb**	**00 03 36.9**	**+0.7**
	27nm,0.5s							
BDI	**Bagni Di Lucca**	**0.57**	**137**	Pg		**Pb**	**00 03 29.4**	**-0.5**
BDI				Sg		**Sb**	**00 03 38.0**	**+0.5**
	33nm,0.4s							
ZCCA	**Zocca**	**0.67**	**100**	Pg		**Pb**	**00 03 30.8**	**-0.8**
ZCCA				Sg		**Sb**	**00 03 40.7**	**+0.2**
PZZT	**Monte Pizzetto**	**0.67**	**121**	Pg		**Pb**	**00 03 31.3**	**-0.4**
PZZT				Sg		**Sb**	**00 03 41.5**	**+0.9**
PII	**Pisa**	**0.83**	**156**	Pg		**Pb**	**00 03 35.0**	**+0.7**
	14nm,0.2s							
CTI	**Castel Tesino**	**1.93**	**35**	Pg		**Pn**	**00 03 49.1**	**-1.0**
	12nm,0.3s							
SBF	**Sospel**	**1.98**	**253**	*e*Pn		**Pn**	**00 03 52.9**	**+2.1**
SBF				*e*Sn		**Sn**	**00 04 14.2**	**-0.7**
	6.8nm,0.4s							
PGF	**Pioggiola**	**2.08**	**202**	*e*Pn		**Pn**	**00 03 53.5**	**+1.5**
PGF	**Pioggiola**	**2.08**	**202**	*e*Pg		**Pn**	**00 03 59.8**	**+7.8**
PGF				*e*Sn		**Sn**	**00 04 16.0**	**-1.2**
	1.6nm,0.4s							
PGF				*e*Sg		**Sn**	**00 04 25.6**	**+8.4**
MBDF	**Montbardon**	**2.36**	**277**	*e*Pn		**Pn**	**00 03 59.0**	**+3.0**
MBDF				*e*Sn		**Sn**	**00 04 24.4**	**+0.2**
LPL	**La Plagne**	**2.58**	**295**	*e*Pg		**Pn**	**00 04 09.0**	**+10**
FRF	**La Foret Royal**	**2.62**	**251**	*e*Pn		**Pn**	**00 04 00.3**	**+0.7**
FRF				*e*Sn		**Sn**	**00 04 28.9**	**-1.8**
	3.6nm,0.4s							
LMR	**La Mourre**	**2.81**	**247**	*e*Pn		**Pn**	**00 04 02.5**	**+0.4**
LMR				*e*Sn		**Sn**	**00 04 33.5**	**-1.7**
	1.9nm,0.3s							
ORIF	**Oris-en-Rattie**	**3.01**	**280**	*e*Pn		**Pn**	**00 04 06.9**	**+2.0**

*ISCJB **13** 00:05:53.9±0.5, 737N±009×3493W±007, h10km, mb4.4/10, MS3.5/1, Error ellipse: s-maj=13.4km s-min=10.6km az=7.0*
*IDC **13** 00:05:53.9±1.0, 740N×3493W, h0km, mb4.3/6, mb1 4.3/6, mb1mx3.9/21, mbtmp4.3/6, MS3.6/1, Ms1 3.5/1, ms1mx2.9/29, Error ellipse: s-maj=38.1km s-min=19.6km az=163.0*
*NEIC **13** 00:05:55.7±0.3, 739N×3496W, h10km, mb4.7/4, Error ellipse: s-maj=9.0km s-min=7.2km az=183.0*

ISC 13 00:05:56.1±0.5, 738N±009×3493W±007, h10km, n18, σ0s74/18, mb4.4/10, MS3.5/1, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**13.16**	**184**	*e*Pn		**Pn**	**00 09 03.0**	**-0.1**
ASCN	**Ascension**	**25.54**	**126**	P		**P**	**00 11 24.9**	**0.0**
BDFB	**Brasilia**	**26.29**	**209**	P		**P**	**00 11 30.7**	**-1.0**
	2.4nm,0.7s,mb3.8,baz=27,slow=14,SNR=3.1							
BDFB				LR		LR	00 20 58.4	
	comp=Z,125nm,18.2s,MS3.5,baz=43,slow=34							
DBIC	**Dimbokro**	**29.86**	**89**	P		**P**	**00 12 02.6**	**-1.0**
	4.5nm,0.9s,mb4.2,baz=259,slow=10,SNR=4.3							
DBIC	**Dimbokro**	**29.86**	**89**	P		**P**	**00 12 04.1**	**+0.5**
SJG	**San Juan**	**32.21**	**292**	P		**P**	**00 12 24.0**	**-0.4**
	6.0nm,0.3s,mb4.9							
SAML	**Samuel**	**32.49**	**241**	*e*P		**P**	**00 12 26.6**	**-0.2**
	5.3nm,1.1s,mb4.3							
SDV	**Santo Domingo**	**35.37**	**275**	P		**P**	**00 12 51.7**	**-0.1**
TOA0	**Torodi Ar. Sit**	**36.46**	**78**	*e*P		**P**	**00 13 02.1**	**+0.9**
TORD	**Torodi Ar. Bea**	**36.46**	**78**	P		**P**	**00 13 01.8**	**+0.5**
	4.2nm,0.8s,mb4.4,baz=269,slow=9.3,SNR=33							
BBSR	**BB Station**	**37.20**	**316**	P		**P**	**00 13 06.7**	**-0.7**
ROSC	**El Rosal**	**39.24**	**269**	P		**P**	**00 13 26.3**	**+1.6**
	6.3nm,0.6s,mb4.5,baz=111,slow=20,SNR=4.6							
LPAZ	**La Paz**	**40.41**	**234**	P		**P**	**00 13 35.4**	**+1.0**
	4.8nm,0.8s,mb4.3,baz=52,slow=7.0,SNR=26							
OTAV	**Otavalo**	**43.97**	**263**	*e*P		**P**	**00 14 04.1**	**+0.7**
	2.1nm,0.3s,mb4.3							
TRIS	**Tristan da Cun**	**49.03**	**156**	P		**P**	**00 14 42.5**	**-0.7**
KWP	**Kalwaria**	**63.76**	**38**	P		**P**	**00 16 27.8**	**-0.4**
PDAR	**Pinedale Array**	**73.74**	**312**	P		**P**	**00 17 29.2**	**-1.2**
	0.5nm,0.6s,mb3.6,baz=113,slow=6.8,SNR=5.4							
HOPS	**Hopland**	**83.97**	**308**	P		**P**	**00 18 26.8**	**+0.3**
	13nm,0.4s,mb5.4							

*ISCJB **13** 00:15:29.7±0.4, 3884N±001×2671E±002, h14km±3km, mb3.5/7, Error ellipse: s-maj=2.7km s-min=2.2km az=135.2*
*NEIC **13** 00:15:29.9, 3880N×2669E, h18km, ML3.9(ISK), ML4.0(ATH), After ISK.*
*IDC **13** 00:15:29.0±1.1, 3875N×2668E, h0km, mb3.6/7, mb1 3.6/11, mb1mx3.5/23, mbtmp3.6/11, ML3.7/5, MS2.8/1, Ms1 2.8/1, ms1mx2.3/27, Error ellipse: s-maj=21.5km s-min=17.0km az=74.0*
*ISK **13** 00:15:30.0, 3880N×2670E, h19km, ML4.0*
*ATH **13** 00:15:30.0, 3881N×2669E, h28km, MD4.0/12, ML4.0*
*CSEM **13** 00:15:30.0±0.0, 3885N×2678E, h15km, ML4.0, Error ellipse: s-maj=1.0km s-min=0.9km az=77.0*
*MOS **13** 00:15:31.5±1.2, 3884N×2676E, h33km, mb3.8/1, Error ellipse: s-maj=6.2km s-min=3.7km az=105.6*
*THE **13** 00:15:32.4, 3885N×2670E, h19km, ML4.0*

ISC 13 00:15:30.9±0.4, 3881N±001×2671E±002, h14km±2km, n198, σ0s97/227, mb3.5/7, 15C-9D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.49**	**148**	*i* PG		**Pg**	**00 15 40.4**	**-0.3**
BLCB				*i* SG		**Sg**	**00 15 47.7**	**+0.4**
BLCB	**Balcova**	**0.49**	**148**	Pg		**Pg**	**00 15 40.5**	**-0.2**
BLCB				Sg		**Sg**	**00 15 47.5**	**+0.1**
BLCB	**Balcova**	**0.49**	**148**	Pg		**Pg**	**00 15 40.5**	**-0.2**
BLCB				*i* Sg		**Sg**	**00 15 47.7**	**+0.4**
AYVA	**Ayvalik**	**0.50**	**358**	*i* P		**Pg**	**00 15 39.5**	**-1.2**
AYVA				*i* S		**Sg**	**00 15 47.4**	**-0.1**

PRK	Paraskevi	0.56	322	⇑iPN	Pg	00 15 41.3	-0.5
PRK				eSN	Sg	00 15 49.4	+0.2
KDAG	Bornova	0.59	133	i P	Pg	00 15 42.0	-0.5
KDAG				i S	Sg	00 15 51.0	+0.6
IZM	Izmir	0.60	133	i PG	Pg	00 15 42.3	-0.3
IZM	Izmir	0.60	133	Pg	Pg	00 15 42.4	-0.2
CHOS	Chios island	0.66	231	ePg	Pg	00 15 43.7	-0.1
CHOS				eSg	Sg	00 15 53.6	+1.0
AKS	Akhisar	0.86	85	PG	Pg	00 15 47.3	-0.3
EZN	Ezine	1.06	344	PG	Pg	00 15 50.6	-0.7
SMG	Samos	1.10	175	ePN	Pn	00 15 51.0	-0.8
SMG				eSN	Sn	00 16 06.8	0.0
CANB	Canakkale	1.24	13	PN	Pn	00 15 52.8	-0.9
CANB	Canakkale	1.24	13	Pn	Pn	00 15 52.9	-0.8
CANB	Canakkale	1.24	13	Pn	Pn	00 15 52.9	-0.8
BTOK	Tokmak	1.40	47	i P	Pn	00 15 54.8	-1.2
AYDN	Tasoluk	1.47	141	i P	Pn	00 15 56.3	-0.6
AYDN				i S	Sn	00 16 15.7	-0.2
GADA	Gvkgeada	1.52	336	PN	Pn	00 15 57.3	-0.2
LIA	Limnos Island	1.61	313	⇑iPN	Pn	00 15 58.5	-0.3
LIA				eSN	Sn	00 16 18.6	-0.7
DST	Dursunbey	1.69	61	PN	Pn	00 15 59.4	-0.5
DST	Dursunbey	1.69	61	Pn	Pn	00 15 59.5	-0.4
MLSB	Milas	1.73	151	PN	Pn	00 16 00.6	+0.2
EDC	Edincik	1.78	30	PN	Pn	00 16 00.5	-0.6
EDC	Edincik	1.78	30	Pn	Pn	00 16 00.6	-0.5
BODT	Bodrum	1.81	165	PN	Pn	00 16 01.5	0.0
BNT	Bandirma	1.81	31	PN	Pn	00 16 00.2	-1.3
BNT	Bandirma	1.81	31	Pn	Pn	00 16 00.3	-1.2
BNT	Bandirma	1.81	31	Pn	Pn	00 16 00.3	-1.2
BDRM	Kayabasi	1.83	161	i P	Pn	00 16 01.5	-0.3
BDRM				i S	Sn	00 16 26.2	+1.3
RKY	Sarkoy-Tekirda	1.91	11	PN	Pn	00 16 01.9	-1.1
RKY	Sarkoy-Tekirda	1.91	11	Pn	Pn	00 16 02.0	-1.0
RKY	Sarkoy-Tekirda	1.91	11	Pn	Pn	00 16 02.0	-1.0
APE	Apeiranthos	1.97	209	ePn	Pn	00 16 02.5	-1.2
APE				eSn	Sn	00 16 29.1	+0.9
APE	Apeiranthos	1.97	209	ePN	Pn	00 16 02.9	-0.8
APE	Apeiranthos	1.97	209	⇑iP	Pn	00 16 02.5	-1.2
APE	Apeiranthos	1.97	209	ePn	Pn	00 16 02.6	-1.1
APE				eSn	Sn	00 16 29.1	+0.9
MFT	Murefte	2.03	12	PN	Pn	00 16 03.8	-0.7
YER	Yerkesik	2.08	143	PN	Pn	00 16 04.3	-1.0
ORLT	Orhaneli	2.10	53	PN	Pn	00 16 05.2	-0.3
ORLT	Orhaneli	2.10	53	Pn	Pn	00 16 05.2	-0.3
DENT	Denizli	2.11	119	PN	Pn	00 16 06.2	+0.5
ALN	Alexandroupoli	2.15	346	ePn	Pn	00 16 05.9	-0.3
ALN				eSn	Sn	00 16 32.4	-0.2
GDZ	Gediz	2.18	82	i P	Pn	00 16 07.2	+0.5
GDZ				i S	Sg	00 16 40.6	-0.4
DAT	Datca	2.19	161	PN	Pn	00 16 05.6	-1.1
NISR	Nisiros	2.22	171	ePN	Pn	00 16 07.0	-0.1
KHL	Karahalli	2.26	101	PN	Pn	00 16 07.6	-0.1
KHL	Karahalli	2.26	101	Pn	Pn	00 16 07.7	0.0
ULDT	Uludag	2.30	54	i P	Pn	00 16 07.7	-0.6
ATH	Athens Observa	2.50	251	ePN	Pn	00 16 10.9	-0.1
RDO	Rodhopi	2.50	339	ePN	Pn	00 16 10.9	-0.2
GEMT	Gemlik	2.51	49	ePN	Pn	00 16 11.6	+0.4
DALT	Dalyan (Mudla)	2.54	143	ePN	Pn	00 16 11.2	-0.4
DALT	Dalyan (Mudla)	2.54	143	Pn	Pn	00 16 11.3	-0.3
OUR	Ouranopolis	2.60	307	ePn	Pn	00 16 12.4	0.0
SANT	Santorini	2.63	203	ePn	Pn	00 16 12.8	0.0
SANT	Santorini	2.63	203	ePn	Pn	00 16 11.7	-1.1
SANT				eSn	Sn	00 16 42.7	-1.7
SANT	Santorini	2.63	203	ePn	Pn	00 16 12.8	0.0
SANT				eSn	Sn	00 16 42.7	-1.7
ALT	Altintas	2.66	84	ePN	Pn	00 16 12.6	-0.7
ALT	Altintas	2.66	84	Pn	Pn	00 16 12.6	-0.7
CTT	Catalca	2.69	29	ePN	Pn	00 16 13.5	-0.1
CTT	Catalca	2.69	29	Pn	Pn	00 16 13.5	0.0
YLV	Yalova	2.70	49	ePN	Pn	00 16 14.5	+0.7
ARG	Arkhangelos	2.82	156	ePN	Pn	00 16 15.8	+0.3
ADVT	Abdulvahap	2.85	54	ePN	Pn	00 16 16.3	+0.5
ADVT	Abdulvahap	2.85	54	Pn	Pn	00 16 16.3	+0.5
FETY	Fethiye	2.87	138	ePN	Pn	00 16 16.3	+0.2
FETY	Fethiye	2.87	138	Pn	Pn	00 16 16.3	+0.2
ISK	Istanbul-Kandi	2.89	38	ePN	Pn	00 16 17.2	+0.8
LKR	Lokris	2.91	268	ePN	Pn	00 16 16.3	-0.3
TKTP	Tekketepe	2.94	104	i P	Pn	00 16 17.4	+0.3
PLG	Polygyros	2.97	303	ePN	Pn	00 16 17.0	-0.5
KLYT	Kilyos	3.03	36	ePN	Pn	00 16 19.0	+0.7
EDRB	Edirne	3.04	0	ePN	Pn	00 16 18.1	-0.3
EDRB	Edirne	3.04	0	Pn	Pn	00 16 18.2	-0.3
EDRB	Edirne	3.04	0	Pn	Pn	00 16 18.2	-0.2
ISP	Isparta	3.14	107	ePN	Pn	00 16 20.4	+0.6
ISP	Isparta	3.14	107	ePn	Pn	00 16 20.5	+0.7
ISP				eSn	Sn	00 16 55.0	-2.0
GPA	Golpazari	3.15	61	ePN	Pn	00 16 19.5	-0.5
GPA	Golpazari	3.15	61	Pn	Pn	00 16 19.6	-0.5
ELL	Elmali	3.26	128	ePN	Pn	00 16 21.6	+0.1
ELL	Elmali	3.26	128	Pn	Pn	00 16 21.6	+0.1
SOH	Sokhos	3.27	309	ePn	Pn	00 16 22.2	+0.5
ESKT	Eskisehir	3.30	76	i P	Pn	00 16 23.4	+1.4
SEYT	Eskypehyr	3.30	76	i P	Pn	00 16 23.4	+1.4
HORT	Hortiatis	3.31	304	ePn	Pn	00 16 22.7	+0.5
SRS	Serrai	3.33	315	ePn	Pn	00 16 22.5	+0.1
SRS				eSn	Sn	00 16 58.5	-3.1
BCK	Bucak	3.34	113	ePN	Pn	00 16 22.8	+0.2
BCK	Bucak	3.34	113	Pn	Pn	00 16 22.9	+0.3
BCK	Bucak	3.34	113	Pn	Pn	00 16 22.9	+0.3
NVR	Nevrokopi	3.35	320	⇑iPN	Pn	00 16 22.9	+0.2
THE	Thessaloniki	3.42	303	ePn	Pn	00 16 24.2	+0.6
AGG	Agios Georgios	3.42	275	ePn	Pn	00 16 24.3	+0.5
AGG				eSn	Sn	00 17 08.7	+4.6
LIT	Litokhoron	3.51	293	ePn	Pn	00 16 25.8	+0.8
LIT				eSn	Sn	00 17 03.7	-2.5
NPS	Neapolis	3.65	194	ePN	Pn	00 16 26.0	-0.8
VLI	Veliai	3.65	236	ePN	Pn	00 16 26.2	-0.6
JMB	Yambol	3.66	359	ePn	Pn	00 16 26.3	-0.7
ZKR	Zakros	3.71	186	ePn	Pn	00 16 27.5	-0.1
ZKR				eSn	Sn	00 17 10.4	-0.6
KNT	Kendrikon	3.75	310	ePn	Pn	00 16 29.2	+0.9
KNT				eSn	Sn	00 17 08.8	-3.4
LAST	Lasithi	3.77	196	ePn	Pn	00 16 29.7	+1.2
LAST				eSn	Sn	00 17 16.9	+4.3
IDI	Anoyia	3.80	203	Pn	Pn	00 16 27.5	-1.4
	1.6nm,0.3s,baz=24,slow=14,SNR=13						
HENT	Hendek	3.80	57	i P	Pn	00 16 28.8	-0.2
EVR	Evrytania	3.83	273	ePN	Pn	00 16 29.8	+0.5
MDU	Mudurnu	3.85	63	ePN	Pn	00 16 30.6	+1.0
MDU	Mudurnu	3.85	63	Pn	Pn	00 16 30.7	+1.1
KYTH	Kithira	3.86	230	ePN	Pn	00 16 30.0	+0.3
VAM	Vamos	3.94	211	ePN	Pn	00 16 31.7	+0.8
KIZT	Kizilcal	4.04	87	ePN	Pn	00 16 33.4	+1.2
KIZT	Kizilcal	4.04	87	Pn	Pn	00 16 33.5	+1.3
VAY	Valandovo	4.05	310	ePn	Pn	00 16 33.5	+1.2
VAY	Valandovo	4.05	310	i Pn	Pn	00 16 33.4	+1.1
KARN	Karanos	4.07	214	ePn	Pn	00 16 34.2	+1.6
KARN				eSn	Sn	00 17 24.1	+4.2
ITM	Ithomi	4.11	248	ePN	Pn	00 16 33.9	+0.7
KDHN	Kadinhani	4.24	92	i P	Pn	00 16 30.9	-4.1
GVD	Gavdhos	4.48	209	ePn	Pn	00 16 36.1	-2.2
GVD	Gavdhos	4.48	209	ePn	Pn	00 16 36.1	-2.2
SGKT	Sivrigoynuk	4.49	65	i P	Pn	00 16 38.3	-0.1
KONT	Konya--Tatoy	4.52	99	ePN	Pn	00 16 40.1	+1.2
KONT	Konya--Tatoy	4.52	99	Pn	Pn	00 16 40.1	+1.3
FNA	Florina	4.56	297	ePn	Pn	00 16 41.1	+1.8
VTS	Vitosha	4.62	326	ePn	Pn	00 16 43.3	+3.1
VTS				eSn	Sn	00 17 31.6	-2.0
VTS	Vitosha	4.62	326	⇓iP	Pn	00 16 41.3	+1.1
VTS	Vitosha	4.62	326	ePn	Pn	00 16 43.3	+3.1
VTS				eSn	Sn	00 17 31.6	-2.1
BIA	Bitola	4.69	300	ePn	Pn	00 16 44.7	+3.5
LKD	Levkas	4.74	271	ePn	Pn	00 16 45.1	+3.3
LOD	Lodumlu	4.82	75	Pn	Pn	00 16 44.5	+1.6
ANTO	Ankara	4.83	75	⇑iP	Pg	00 17 04.2	+0.7
ANTO	Ankara	4.83	75	P	Pg	00 17 04.1	+0.6
ZIMR		4.95	349	⇑iP	Pn	00 16 44.9	+0.2
ZIMR		4.95	349	⇑P	Pn	00 16 44.9	+0.2
IGT	Igoumenitsa	5.01	280	ePn	Pn	00 16 49.5	+3.9
SKO	Skopje	5.12	310	ePn	Pn	00 16 46.4	-0.6
SAFT	Safranbolu	5.19	60	ePN	Pn	00 16 49.5	+1.5
SAFT	Safranbolu	5.19	60	Pn	Pn	00 16 49.6	+1.5
ELDT	Eldivan	5.45	70	i P	Pn	00 16 52.1	+0.5
BR131	Keskin Array S	5.46	78	ePn	Pn	00 16 53.0	+1.3
	5.8nm,0.5s						
BR131	Keskin Array S	5.46	78	ePn	Pn	00 16 53.0	+1.3
	5.8nm,0.5s						
BRTR	Keskin Array B	5.46	78	Pn	Pn	00 16 52.9	+1.2
	0.9nm,0.3s,baz=256,slow=14,SNR=27						
BRTR				Pg	Pg	00 17 12.3	-3.0
	0.6nm,0.3s,baz=251,slow=15,SNR=13						
BRTR				Lg		00 18 27.0	
	baz=266,slow=20,SNR=2.6						
BRTR	Keskin Array B	5.46	78	Pg	Pg	00 17 12.3	-3.0
TIRR	Tirgusor	5.79	12	⇑iP	Pn	00 16 56.0	-0.2
TIRR	Tirgusor	5.79	12	⇑P	Pn	00 16 56.0	-0.3
BALT	Daday	5.79	60	i P	Pn	00 16 56.7	+0.4
CDAG	Cicekdag	6.01	80	i P	Pn	00 17 00.6	+1.3
MTUR	Matau	6.53	350	⇑iP	Pn	00 17 07.8	+1.4
MTUR	Matau	6.53	350	⇑P	Pn	00 17 07.8	+1.4
CSS	Prodhromos	6.55	124	ePn	Pn	00 17 05.7	-1.0
MLR	Muntele Rosu	6.70	355	Pn	Pn	00 17 09.7	+0.9
	1.7nm,0.3s,baz=217,slow=4.7,SNR=16						
MLR	Muntele Rosu	6.70	355	⇓iP	Pn	00 17 10.0	+1.2
MLR	Muntele Rosu	6.70	355	P	Pn	00 17 11.1	+2.3
MLR	Muntele Rosu	6.70	355	P	Pn	00 17 11.1	+2.3
VOIR		6.74	350	⇓iP	Pn	00 17 08.6	-0.7
VOIR		6.74	350	⇓P	Pn	00 17 08.6	-0.7
GRUS	Gruza	6.79	320	i Pn	Pn	00 17 10.3	+0.4
PLOR	Plostina	7.04	360	⇓iP	Pn	00 17 14.3	+0.9
VRI	Vrincioaia	7.05	0	⇑iP	Pn	00 17 14.3	+0.7
VRI	Vrincioaia	7.05	0	P	Pn	00 17 16.5	+2.8
GZR	Gura Zlata	7.20	337	⇑iP	Pn	00 17 14.9	-0.7
GZR	Gura Zlata	7.20	337	⇑P	Pn	00 17 14.9	-0.8
DIVS	Divcibare	7.31	318	i Pn	Pn	00 17 17.6	+0.5
SEV	Sevastopol'	7.74	40	eP	Pn	00 17 22.4	-0.7
SEV				eS	Sn	00 18 44.8	-5.7
SEV				pmax	pmax		
	comp=Z,20nm,0.6s						
SEV				smax			
	comp=N,10.0nm,0.5s						
SEV				smax			
	comp=E,10.0nm,0.5s						
SEV	Sevastopol'	7.74	40	eP	Pn	00 17 22.4	-0.7
	comp=E,20nm,0.6s						
BZS	Buzias	7.78	333	⇑iP	Pn	00 17 23.2	-0.4
BZS	Buzias	7.78	333	P	Pn	00 17 23.6	-0.1
BZS	Buzias	7.78	333	P	Pn	00 17 23.5	-0.1
ALU	Alushta	8.21	42	eP	Pn	00 17 28.7	-0.9
ALU				eS	Sn	00 18 56.8	-5.3
ALU				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ALU				smax			
	comp=N,10.0nm,0.5s						
ALU				smax			
	comp=E,10.0nm,0.7s						
ALU	Alushta	8.21	42	eP	Pn	00 17 28.7	-0.9
	comp=E,10.0nm,0.5s						
DRGR		8.50	341	⇓iP	Pn	00 17 34.0	+0.5
DRGR		8.50	341	P	Pn	00 17 33.9	+0.4
DRGR		8.50	341	P	Pn	00 17 34.1	+0.6
BURAR	Bucovina Array	8.87	353	⇓iP	Pn	00 17 40.7	+2.2
BURAR	Bucovina Array	8.87	353	⇓P	Pn	00 17 40.7	+2.2
MMAI	Mount Meron Ar	9.11	127	Pn	Pn	00 17 40.6	-1.3
	comp=E,1.9nm,0.3s,baz=311,slow=13,SNR=11						
MMAI				Sn	Sn	00 19 19.8	-4.4
	comp=E,0.6nm,0.3s,baz=310,slow=26,SNR=3.5						
MALT	Malatya	9.19	89	eP	Pn	00 17 40.8	-2.2
PKSM	Moragy	9.49	324	⇓iP	Pn	00 17 47.3	+0.2
PKSM	Moragy	9.49	324	P	Pn	00 17 47.5	+0.4
PKSM	Moragy	9.49	324	P	Pn	00 17 47.5	+0.4
PSZ	Piszkesteto	10.37	334	ePn	Pn	00 17 57.8	-1.2
ASF	Jabal al Asfar	10.62	125	Pn	Pn	00 18 02.3	-0.2
	comp=E,0.1nm,0.3s,baz=27,slow=6.8,SNR=3.0						
KWP	Kalwaria	11.19	346	eP	Pn	00 18 11.0	+0.6
VYHS	Vyhne	11.23	332	ePN	Pn	00 18 10.3	-0.6
MORC	Moravsky Berou	12.77	332	eP	Pn	00 18 30.8	-1.1
GERES	GERESS Array B	13.72	321	Pn	Pn	00 18 52.1	+7.1
	comp=E,0.1nm,0.3s,baz=132,slow=17,SNR=2.6						
GNI	Garni	14.00	79	LR	LR	00 24 13.6	
	comp=E,44nm,22.0s,baz=149,slow=37						
GNI	Garni	14.00	79	P	Pn	00 18 48.1	-0.6
WLF	Walferdange	18.24	313	P	Pn	00 19 41.0	-2.4
FINES	FINESS Array B	22.67	359	P	P	00 20 32.5	+0.9
	comp=E,0.5nm,0.6s,mb3.1,baz=160,slow=8.6,SNR=4.7						
HFS	Hagfors	22.88	343	P	P	00 20 35.1	+1.3
	comp=E,3.6nm,1.1s,mb3.7,baz=143,slow=12,SNR=3.6						
ESDC	Sonseca Array	23.72	282	pP	pP	00 20 48.1	+1.3
	comp=E,0.3nm,0.4s,baz=67,slow=11,SNR=2.4						
NB2	NORSAR Subarra	24.26	342	P	P	00 20 46.8	-0.6
	comp=Z,0.8nm,0.6s,mb3.3,baz=142,slow=11						
NOA	NORSAR Array B	24.26	342	P	P	00 20 47.5	+0.2
	comp=Z,1.2nm,0.6s,mb3.5,baz=160,slow=11,SNR=3.8						
NOA	NORSAR Array B	24.26	342	P	P	00 20 47.5	+0.1
AKTK	Aktyubinsk	24.94	52	P	P	00 20 55.1	+1.5
AKTO	Aktyubinsk	24.94	52	P	P	00 20 55.1	+1.5
	comp=Z,0.8nm,0.5s,mb3.5,baz=247,slow=15,SNR=3.7						
EKA	Eskdalemuir Ar	25.93	319	P	P	00 21 03.5	+1.0
	comp=Z,1.2nm,0.6s,mb3.6,baz=116,slow=9.7,SNR=4.6						
EKA	Eskdalemuir Ar	25.93	319	P	P	00 21 03.5	+1.0
BRVK	Borovoye	32.94	50	P	P	00 22 02.6	-2.2
TORD	Torodi Ar. Bea	33.82	228	P	P	00 22 12.8	+0.3
	comp=Z,0.7nm,0.8s,mb3.6,baz=34,slow=9.0,SNR=2.9						
TORD	Torodi Ar. Bea	33.82	228	P	P	00 22 12.8	+0.3
MKAR	Makanchi Array	40.81	60	P	P	00 23 11.9	+0.2
	comp=Z,0.7nm,0.5s,mb3.5,baz=267,slow=6.1,SNR=3.6						

*NIED **13** 00:16:00, 4680N×15320E, h8^{km}, Mw4.2 Best double couple: $M_0$1.98000×10^{15} NP1:ϕ_s51.00000°, δ86.00000°, λ109.00000°. NP2:ϕ_s153.00000°, δ19.00000°, λ12.00000°.*

*IDC **13** 00:16:53.5±0.9, 4631N×153.10E, h0^{km}, mb4.1/19, mb1 4.3/20, mb1mx4.2/27, mbtmp4.1/20, ML3.8/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/27, Error ellipse: s-maj=25.3km s-min=21.0km az=110.0*

*ISCJB **13** 00:16:55.8±1.3, 4633N±007×1532E±0.1, h33^{km}±10^{km}, mb4.4/50, MS3.6/1, Error ellipse: s-maj=14.5km s-min=8.9km az=84.7*

*MOS **13** 00:16:56.9±1.3, 4644N×153.15E, h33^{km}, mb4.7/16, Error ellipse: s-maj=11.5km s-min=6.8km az=101.3*

*NEIC **13** 00:16:58.7±0.4, 4636N×15308E, h35^{km}, mb4.5/21, Error ellipse: s-maj=11.5km s-min=7.1km az=127.0*

*SKHL **13** 00:16:58.4±2.6, 4560N×15360E, h90^{km}±18^{km}, mb5.3/3, ms4.2/1, msh5.7/2, msha5.6/2*

*BJI **13** 00:16:59.6, 4723N×15346E, h54^{km}, mB4.4, mb4.4*

*SZGRF **13** 00:17:03.2, 4652N×15203E, h33^{km}, mb4.6, Kuril Islands, Russia*

ISC 13 00:16:57.6±1.7**, 4640N**±007×**15323E**±009**, h29**^{km}±11^{km}**, n140,** σ1s**24**/147**, mb4.4**/50**, MS3.6**/1**, 6C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.93	255	i P	Pn	00 17 55.5	-0.4
KUR				AMB	AMB	00 17 56.2	
	240nm,0.5s						
KUR				AMB	AMB	00 17 56.2	
	90nm,0.5s						
KUR				AMB	AMB	00 17 56.2	
	680nm,0.5s						
KUR				eS	Sn	00 18 40.5	-0.5
KUR				A		00 18 54.0	
	700nm,1.0s						
KUR				A		00 18 54.0	
	300nm,1.0s						
SKR	Severo-Kuril's	4.70	23	ePN	Pn	00 18 04.5	-2.0
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
YUK	Yuzh-Kuril'sk	5.72	248	eP	Pn	00 18 23.2	+2.7
YUK				AMB	AMB	00 18 25.0	
	comp=Z,130nm,0.4s						
YUK				AMB	AMB	00 18 25.0	
	comp=Z,170nm,0.4s						
YUK				eS	Sn	00 19 25.1	-0.1
YUK				A		00 19 34.5	
	comp=Z,350nm,0.5s						
YUK				A		00 19 34.5	
	comp=Z,180nm,0.5s						
YUK				A		00 19 49.9	
	comp=Z,2μm,2.0s						
YUK				A		00 19 49.9	
	comp=Z,2μm,1.0s						
NEM2	Nemuro 2	6.12	243	P	Pn	00 18 25.1	-1.0
NEM2				eS	Sn	00 19 31.3	-3.9
JRA	Rausu	6.24	250	P	Pn	00 18 29.4	+1.7
JNK	Nakash	6.66	248	P	Pn	00 18 34.5	+1.0
JAK	Akkeshi	6.97	244	P	Pn	00 18 37.1	-0.6
JAK				eS	Sn	00 19 51.1	-4.8
JTKR	Abashiri--Toko	7.02	253	P	Pn	00 18 40.5	+2.1
YSS	Yuzh-Sakhalins	7.23	278	⇑iP	Pn	00 18 47.7	+6.4
YSS				AMB	AMB	00 18 48.5	
	comp=Z,30nm,1.0s						
YSS				AMS	AMS	00 21 24.0	
	comp=Z,500nm,15.0s						
YSS	Yuzh-Sakhalins	7.23	278	Pn	Pn	00 18 38.9	-2.4
JMP	Maruseppu	7.37	255	P	Pn	00 18 44.9	+1.7
JAR	Ashorobuto	7.40	249	P	Pn	00 18 43.5	-0.2
PET	Petropavlovsk	7.50	26	eP	Pn	00 18 56.0	+11
PET				A		00 20 28.6	
	comp=Z,44nm,0.5s						
PET				AMS	AMS	00 21 43.6	
	comp=Z,44nm,0.6s						
PET	Petropavlovsk	7.50	26	ePN	Pn	00 18 45.3	+0.2
JOB	Onbets	7.56	246	P	Pn	00 18 46.0	+0.2
JOB				eS	Sn	00 20 07.4	-3.0
JKK2	Kamakawa 2	7.83	255	P	Pn	00 18 52.2	+2.6
ASAJ	Asahikawa	7.84	257	Pn	Pn	00 18 53.1	+3.4
	comp=Z,2.5nm,0.3s,baz=122,slow=15,SNR=11						
ASAJ				LR	LR	00 21 54.7	
	comp=Z,155nm,18.8s,baz=180,slow=39						
ASAJ	Asahikawa	7.84	257	P	Pn	00 18 53.1	+3.4
ASAJ	Asahikawa	7.84	257	PN	Pn	00 18 53.2	+3.5
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,155nm,18.8s						
UGL	Uglegorsk	7.99	294	eP	Pn	00 18 57.0	+5.3
JCH	Churui	8.00	245	P	Pn	00 18 51.8	-0.1
JCH				eS	Sn	00 20 17.3	-4.1
JEM	Erimo	8.46	242	P	Pn	00 18 58.0	-0.1
JNBK	Urakawa-nobuka	8.56	245	P	Pn	00 18 59.0	-0.6
JNBK				eS	Sn	00 20 31.1	-4.1
JKB	Kayabe	9.86	247	P	Pn	00 19 16.6	-0.7
JKB				eS	Sn	00 21 00.5	-6.5
JYM2	Yakumo 2	10.17	250	P	Pn	00 19 21.7	+0.1
JTM	Tenmabayashi	10.45	242	P	Pn	00 19 23.3	-2.2
JTM				eS	Sn	00 21 13.8	-7.7
NKL	Nikolayevsk	10.55	314	AMS	AMS	00 24 00.0	
	comp=Z,600nm,15.0s						
NKL				AMS	AMS	00 24 00.0	
	comp=Z,500nm,15.0s						
JOSM	Okushiri--Mats	10.77	251	P	Pn	00 19 29.7	-0.1
MA2	Magadan	13.28	355	ePN	Pn	00 20 04.1	-0.1
EKMR	Ekimchan	14.69	304	eP	Pn	00 20 27.9	+4.6
EKMR				AMB	AMB	00 20 30.2	
	comp=Z,6.0nm,0.6s						
KLR	Kul'dur	14.70	289	eP	Pn	00 20 28.8	+5.3
MJAR	Matsushiro Arr	14.94	234	Pn	Pn	00 20 25.4	-1.3
	comp=Z,0.4nm,0.3s,baz=31,slow=13,SNR=5.0						
MDJ	Mudanjiang	16.66	272	Pn	Pn	00 20 46.7	-2.2
CN2	Changchun	19.74	273	eP	Pn	00 21 30.6	+3.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
BOD	Bodaibo	26.27	310	eP	P	00 22 27.8	-2.6
BOD				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb3.5						
ULN	Ulaanbaatar	31.09	290	⇑iP	P	00 23 13.2	-0.1
SONM	Songino Array	31.53	290	P	P	00 23 16.3	-0.8
	comp=Z,0.6nm,0.8s,mb3.5,baz=76,slow=8.6,SNR=7.1						
ZAK	Zakamensk	32.90	296	eP	P	00 23 29.3	+0.1
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
LZH	Lanzhou	37.98	272	eP	P	00 24 14.8	+2.0
LZH				AP	pP	00 24 27.5	+6.0
LZH				XP	sP	00 24 30.9	+5.9
LZH				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.8						
GTA	Gaotai	39.11	280	eP	P	00 24 24.8	+2.5
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.3						
INK	Inuvik	41.91	32	P	P	00 24 46.4	+0.9
	comp=Z,1.4nm,0.7s,mb3.7,baz=276,slow=7.3,SNR=4.6						
INK	Inuvik	41.91	32	P	P	00 24 46.4	+0.9
INK				eP		00 24 46.7	
QIZ	Qiongzhong	44.79	247	eP	P	00 25 09.6	+0.9
MKAR	Makanchi Array	47.17	298	P	P	00 25 27.1	-0.4
	comp=Z,3.4nm,0.8s,mb4.4,baz=66,slow=9.4,SNR=21						
MKAR				PcP	PcP	00 26 60.0	+1.2
	comp=Z,0.3nm,0.3s,baz=63,slow=4.4,SNR=3.9						
KURK	Kurchatov	47.63	304	⇓iP	P	00 25 29.7	-1.3
KURK	Kurchatov	47.63	304	eP	P	00 25 30.3	-0.7
	comp=Z,6.6nm,0.8s,mb4.7						
BVAR	Borovoye Array	51.14	310	P	P	00 25 57.4	-0.4
	comp=Z,1.6nm,0.5s,mb4.2,baz=52,slow=9.6,SNR=8.0						
BVAR				PcP	PcP	00 27 13.9	+0.8
	comp=Z,1.0nm,0.7s,baz=57,slow=5.5,SNR=4.5						
BVAR				LR	LR	00 49 23.9	
	comp=Z,52nm,18.5s,MS3.6,baz=139,slow=38						
BVAR	Borovoye Array	51.14	310	P	P	00 25 57.4	-0.5
BVAR						00 27 13.9	
BRVK	Borovoye	51.19	310	eP	P	00 25 58.0	-0.2
CM31	Chiang Mai Arr	52.37	257	eP	P	00 26 08.2	+1.2
	comp=Z,14nm,0.6s,mb5.1						
AAK	Ala-Archa	54.06	297	eP	P	00 26 19.4	-0.1
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
AAK	Ala-Archa	54.06	297	eP	P	00 26 19.4	-0.1
	comp=Z,2.4nm,0.7s,mb4.2						
JIRN	Jiri	55.05	275	eP	P	00 26 29.4	+2.7
	comp=Z,20nm,0.6s,mb5.3						
GUN	Gumba	55.11	275	eP	P	00 26 29.4	+2.3
ARU	Arti	55.33	318	⇑iP	P	00 26 27.3	-1.3
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
ARU	Arti	55.33	318	eP	P	00 26 27.9	-0.7
KKN	Kakani	55.60	276	eP	P	00 26 33.6	+3.0
	comp=Z,23nm,0.7s,mb5.3						
DMN	Daman	55.83	276	eP	P	00 26 34.7	+2.4
	comp=Z,28nm,0.8s,mb5.3						
GKN	Gorkha	55.91	276	eP	P	00 26 35.1	+2.3
	comp=Z,24nm,0.6s,mb5.4						
KOLN	Koldanda	56.77	277	eP	P	00 26 41.4	+2.5
	comp=Z,20nm,0.8s,mb5.2						
ARCES	ARCESS Array B	58.21	341	P	P	00 26 48.5	-0.6
	comp=Z,3.8nm,0.9s,mb4.4,baz=21,slow=7.7,SNR=5.8						
AKTK	Aktyubinsk	59.02	312	P	P	00 26 54.1	-0.6
AKTO	Aktyubinsk	59.02	312	P	P	00 26 54.1	-0.6
	comp=Z,1.0nm,0.5s,mb4.1,baz=41,slow=9.3,SNR=4.6						
SUMG	Summit	61.05	4	eP	P	00 27 09.8	+1.2
	comp=Z,11nm,0.8s,mb5.0						
JOF	Joensuu	61.68	334	ep	P	00 27 11.0	-1.9
KAF	Kangasniemi	63.80	335	ep	P	00 27 22.6	-4.4
	comp=Z,2.1nm,0.6s,mb4.3						
KAF	Kangasniemi	63.80	335	eP	P	00 27 22.6	-4.4
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
FINES	FINESS Array B	64.39	335	P	P	00 27 30.7	-0.2
	comp=Z,4.2nm,0.7s,mb4.6,baz=39,slow=7.4,SNR=30						
PDAR	Pinedale Array	64.89	54	P	P	00 27 35.3	+1.1
	comp=Z,0.6nm,0.9s,mb3.6,baz=318,slow=2.0,SNR=4.4						
WRAB	Tennant Creek	68.19	199	P	P	00 27 54.2	-1.1
WRA	Warramunga Arr	68.21	199	P	P	00 27 54.2	-1.2
	comp=Z,0.5nm,0.7s,mb3.6,baz=15,slow=6.4,SNR=3.1						
NB2	NORSAR Subarra	68.59	341	P	P	00 27 57.4	-0.3
	comp=Z,2.1nm,0.6s,mb4.2,baz=28,slow=6.5						
NOA	NORSAR Array B	68.59	341	P	P	00 27 57.9	+0.2
	comp=Z,2.2nm,0.5s,mb4.3,baz=28,slow=6.4,SNR=13						
HFS	Hagfors	68.81	340	P	P	00 27 59.3	+0.1
	comp=Z,3.4nm,0.5s,mb4.6,baz=58,slow=5.9,SNR=34						
AKASG	Malin Array Be	71.88	326	P	P	00 28 17.9	0.0
	comp=Z,6.9nm,0.6s,mb4.8,baz=35,slow=6.1,SNR=28						
AKBB	Malin Array Si	71.88	326	P	P	00 28 17.6	-0.3
ASAR	Alice Springs	71.90	199	P	P	00 28 17.6	-0.4
	comp=Z,0.7nm,0.9s,mb3.6,baz=14,slow=5.9,SNR=4.4						
MBWA	Marble Bar	73.76	212	eP	P	00 28 28.2	-0.9
UPC	Upice	76.63	334	epP	pP	00 28 52.5	-2.3
DPC	Dobruska-Polom	76.67	333	eP	P	00 28 46.5	+0.7
EKA	Eskdalemuir Ar	76.70	346	P	P	00 28 46.0	+0.1
	comp=Z,0.8nm,0.7s,mb3.8,baz=15,slow=5.9,SNR=3.2						
CLL	Collm	76.82	336	P	P	00 28 47.9	+1.3
	comp=Z,logA/T=1.1,mb4.8						
CLL	Collm	76.82	336	i P	P	00 28 47.9	+1.3
	comp=Z,7.0nm,0.5s,mb4.8						
CLL	Collm	76.82	336	i P	P	00 28 47.9	+1.3
CLL				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
MLR	Muntele Rosu	77.40	325	P	P	00 28 51.5	+1.7
	comp=Z,4.2nm,0.7s,mb4.5,baz=178,slow=12,SNR=8.6						
VYHS	Vyhne	77.47	331	eP	P	00 28 51.2	+0.9
VYHS				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
VYHS	Vyhne	77.47	331	eP	P	00 28 51.2	+0.9
	comp=Z,1.0nm,0.7s,mb3.9						
VRAC	Vranov	77.50	333	P	P	00 28 51.9	+1.5
	comp=Z,1.6nm,0.4s,mb4.3,baz=333,slow=2.3,SNR=3.3						
PRU	Pruhonice	77.54	334	eP	P	00 28 47.4	-3.3
MOX	Moxa	77.80	336	eP	P	00 28 54.2	+2.1

KHC	**Kasperske Hory**	**78.59**	**334**	*e*P	**P**	**00 28 57.3**	**+0.8**
BR131	**Keskin Array S**	**78.70**	**317**	*e*P	**P**	**00 28 57.1**	**0.0**
BRTR	**Keskin Array B**	**78.70**	**317**	P	**P**	**00 28 58.4**	**+1.3**
	comp=Z,0.6nm,0.9s,mb3.5,baz=57,slow=9.0,SNR=4.6						
GRA1	**Grafenberg Arr**	**78.77**	**336**	*e*P	**P**	**00 28 58.6**	**+1.1**
	comp=Z,4.0nm,0.8s,mb4.4						
GRF	**Grafenberg Arr**	**78.77**	**336**	*e*P	**P**	**00 28 58.7**	**+1.2**
	comp=Z,4.0nm,0.8s,mb4.4						
GRF	**Grafenberg Arr**	**78.77**	**336**	*e*P	**P**	**00 28 58.6**	**+1.1**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
GRF	**Grafenberg Arr**	**78.77**	**336**	*e*P	**P**	**00 28 58.7**	**+1.2**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
GERES	**GERESS Array B**	**78.81**	**334**	P	**P**	**00 28 57.6**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.9,baz=32,slow=5.3,SNR=11						
CONA	**Conrad Observa**	**78.94**	**332**	⇑*i*P	**P**	**00 28 59.7**	**+1.3**
	comp=Z,3.0nm,0.7s,mb4.3						
BAIF	**Baives**	**80.24**	**340**	*e*P	**P**	**00 29 04.6**	**-0.9**
KBA	**Koelnbreinsper**	**80.49**	**333**	⇑*i*P	**P**	**00 29 08.9**	**+2.1**
	comp=Z,9.2nm,0.9s,mb4.7						
KBA	**Koelnbreinsper**	**80.49**	**333**	⇑*i*P	**P**	**00 29 09.0**	**+2.2**
KBA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
CDF	**Champ du Feu**	**81.01**	**338**	*e*P	**P**	**00 29 08.8**	**-0.8**
	comp=Z,9.3nm,1.1s,mb4.3						
CDF	**Champ du Feu**	**81.01**	**338**	*e*P	**P**	**00 29 08.8**	**-0.8**
CDF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
CDF	**Champ du Feu**	**81.01**	**338**	*e*P	**P**	**00 29 08.8**	**-0.8**
	comp=Z,4.7nm,1.1s,mb4.3						
MEZF	**Maizieres J'vi**	**81.49**	**339**	*e*P	**P**	**00 29 11.2**	**-1.0**
	comp=Z,5.5nm,0.6s,mb4.3						
MEZF	**Maizieres J'vi**	**81.49**	**339**	*e*P	**P**	**00 29 11.2**	**-1.0**
	comp=Z,5.5nm,0.6s,mb4.7						
HAU	**Haudompre**	**81.63**	**338**	*e*P	**P**	**00 29 12.2**	**-0.7**
	comp=Z,6.7nm,0.8s,mb4.3						
HAU	**Haudompre**	**81.63**	**338**	*e*P	**P**	**00 29 12.2**	**-0.7**
HAU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
HAU	**Haudompre**	**81.63**	**338**	*e*P	**P**	**00 29 12.2**	**-0.7**
	comp=Z,3.3nm,0.8s,mb4.3						
LOR	**Lormes**	**82.93**	**340**	*e*P	**P**	**00 29 18.9**	**-0.8**
	comp=Z,5.5nm,0.8s,mb4.4						
LOR	**Lormes**	**82.93**	**340**	*e*P	**P**	**00 29 18.9**	**-0.8**
LOR				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
LOR	**Lormes**	**82.93**	**340**	*e*P	**P**	**00 29 18.9**	**-0.8**
	comp=Z,2.8nm,0.8s,mb4.3						
CABF	**La Chapelle**	**82.98**	**338**	*e*P	**P**	**00 29 19.0**	**-1.0**
MMAI	**Mount Meron Ar**	**83.11**	**312**	P	**P**	**00 29 21.4**	**+0.8**
	comp=Z,2.1nm,0.7s,mb4.3,baz=42,slow=11,SNR=4.4						
SSF	**Saint Saulge**	**83.21**	**340**	*e*P	**P**	**00 29 20.5**	**-0.7**
	comp=Z,5.1nm,0.8s,mb4.3						
SSF	**Saint Saulge**	**83.21**	**340**	*e*P	**P**	**00 29 20.5**	**-0.7**
SSF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
SSF	**Saint Saulge**	**83.21**	**340**	*e*P	**P**	**00 29 20.5**	**-0.7**
	comp=Z,2.5nm,0.8s,mb4.3						
ROSF	**Rostrenen**	**83.44**	**344**	*e*P	**P**	**00 29 21.6**	**-0.8**
	comp=Z,24nm,1.2s,mb4.8						
ROSF	**Rostrenen**	**83.44**	**344**	*e*P	**P**	**00 29 21.6**	**-0.8**
ROSF				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
ROSF	**Rostrenen**	**83.44**	**344**	*e*P	**P**	**00 29 21.6**	**-0.8**
	comp=Z,12nm,1.2s,mb4.8						
AVF	**Avril sur Loir**	**83.50**	**340**	*e*P	**P**	**00 29 21.7**	**-1.0**
	comp=Z,4.2nm,0.8s,mb4.3						
AVF	**Avril sur Loir**	**83.50**	**340**	*e*P	**P**	**00 29 21.7**	**-1.0**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
AVF	**Avril sur Loir**	**83.50**	**340**	*e*P	**P**	**00 29 21.7**	**-1.0**
	comp=Z,2.1nm,0.8s,mb4.3						
SMF	**Signal de Mont**	**83.52**	**339**	*e*P	**P**	**00 29 22.0**	**-0.7**
	comp=Z,8.5nm,0.9s,mb4.6						
SMF	**Signal de Mont**	**83.52**	**339**	*e*P	**P**	**00 29 22.0**	**-0.7**
SMF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
SMF	**Signal de Mont**	**83.52**	**339**	*e*P	**P**	**00 29 22.0**	**-0.7**
	comp=Z,4.3nm,0.9s,mb4.6						
LPL	**La Plagne**	**83.83**	**337**	*e*P	**P**	**00 29 23.9**	**-0.4**
LPG	**La Plagne**	**83.84**	**337**	*e*P	**P**	**00 29 23.9**	**-0.5**
TCF	**Toulx Ste Croi**	**84.25**	**340**	*e*P	**P**	**00 29 25.8**	**-0.6**
	comp=Z,5.8nm,0.8s,mb4.5						
TCF	**Toulx Ste Croi**	**84.25**	**340**	*e*P	**P**	**00 29 25.8**	**-0.6**
TCF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
TCF	**Toulx Ste Croi**	**84.25**	**340**	*e*P	**P**	**00 29 25.8**	**-0.6**
	comp=Z,2.9nm,0.8s,mb4.5						
MBDF	**Montbardon**	**84.55**	**337**	*e*P	**P**	**00 29 27.4**	**-0.6**
ORIF	**Oris-en-Rattie**	**84.61**	**337**	*e*P	**P**	**00 29 27.4**	**-0.9**
	comp=Z,5.9nm,0.9s,mb4.4						
ORIF	**Oris-en-Rattie**	**84.61**	**337**	*e*P	**P**	**00 29 27.4**	**-0.9**
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
ORIF	**Oris-en-Rattie**	**84.61**	**337**	*e*P	**P**	**00 29 27.4**	**-0.9**
	comp=Z,3.0nm,0.9s,mb4.4						
CAF	**Calviac**	**85.56**	**340**	*e*P	**P**	**00 29 32.3**	**-0.8**
SMRF	**Simiane la Rot**	**85.56**	**337**	*e*P	**P**	**00 29 32.3**	**-0.8**
	comp=Z,9.2nm,1.2s,mb4.6						
SMRF	**Simiane la Rot**	**85.56**	**337**	*e*P	**P**	**00 29 32.3**	**-0.8**
	comp=Z,9.2nm,1.2s,mb4.9						
LFF	**La Frestale**	**85.86**	**341**	*e*P	**P**	**00 29 33.3**	**-1.2**

MEX 13 00:23:55.1±0.6**, 1623N×9798W, h20km, MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.46**	**55**	*i* P	Pn	00 24 17.4	-2.9
VHO				*i* S	Sn	00 24 35.1	-3.7
OXX	**Oaxaca**	**1.47**	**54**	*i* P	Pn	00 24 17.5	-3.0
UTMO	**Huajuapan**	**1.60**	**6**	*i* P	Pn	00 24 19.7	-2.6
UTMO				*i* S	Sn	00 24 38.6	-3.8
HUIG	**Huatulco**	**1.85**	**104**	*i* P	Pn	00 24 24.4	-1.3
HUIG				*i* S	Sn	00 24 43.2	-5.3
ACX	**Acapulco**	**1.97**	**289**	*i* P	Pn	00 24 25.7	-1.6
MEIG	**Mezcala**	**2.31**	**317**	*i* P	Pn	00 24 28.4	-3.6
MEIG				*i* S	Sn	00 24 57.7	-2.1
PLIG	**Platanillo**	**2.60**	**326**	*i* P	Pn	00 24 35.7	-0.3
PLIG				*i* S	Sn	00 25 03.1	-3.9
PPM	**Popocatepetl**	**2.89**	**348**	*i* P	Pn	00 24 36.2	-3.8
PPM				*i* S	Sn	00 25 10.5	-3.7

*ISCJB **13** 00:32:04.5±1.0, 308N±007×1228E±0.1, h539km±13km, mb4.0/15, Error ellipse: s-maj=19.5km s-min=7.3km az=124.2*
*NEIC **13** 00:32:04.5±0.7, 3.11N×12281E, h520km±9km, mb4.6/7, Error ellipse: s-maj=10.6km s-min=4.3km az=63.0*
*IDC **13** 00:32:05.1±1.9, 3.14N×12283E, h526km±21km, mb3.2/10, mb1 3.4/10, mb1mx3.2/19, mbtmp4.1/10, Error ellipse: s-maj=48.4km s-min=11.0km az=68.0*
ISC 13 00:32:05.4±0.9**, 308N**±007×**1228E**±01**, h532**km±13km**, n31, σ0.60**/37**, mb4.0**/15**, 1C, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**7.17**	**295**	*e*P	**P**	**00 33 53.5**	**-0.7**
KKM				*e*S	**S**	**00 35 23.0**	**-0.4**
KAKA	**Kakadu**	**18.39**	**149**	*e*P	**P**	**00 35 47.8**	**+0.2**
	30nm,0.7s						
NACB	**Ninganchiao**	**21.01**	**357**	P	**P**	**00 36 10.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**21.23**	**172**	⇑*i*P	**P**	**00 36 13.4**	**0.0**
	5.2nm,0.3s,mb4.6						
FITZ	**Fitzroy Crossi**	**21.23**	**172**	P	**P**	**00 36 13.9**	**+0.5**
	4.7nm,0.4s,mb4.4,baz=20,slow=8.4,SNR=30						
KULM	**Kulim**	**22.17**	**276**	P	**P**	**00 36 22.8**	**+1.0**
MBWA	**Marble Bar**	**24.27**	**187**	*e*P	**P**	**00 36 40.6**	**+0.1**
WRAB	**Tennant Creek**	**25.54**	**154**	*e*P	**P**	**00 36 51.7**	**0.0**
	9.9nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**25.54**	**154**	P	**P**	**00 36 51.5**	**-0.3**
	5.6nm,0.3s,mb4.7,baz=335,slow=9.6,SNR=208						
WRA				S	**S**	**00 40 38.9**	**-2.9**
	1.1nm,0.8s,baz=337,slow=15,SNR=3.6						
WRA				ScP	ScP	00 42 55.1	+1.1
	0.7nm,0.7s,baz=336,slow=2.9,SNR=7.3						
WB2	**Warramunga Arr**	**25.55**	**154**	*e*P	**P**	**00 36 51.3**	**-0.5**
WB2				*e*S	**S**	**00 40 39.3**	**-2.6**
AS31	**Alice Springs**	**28.71**	**158**	*e*P	**P**	**00 37 19.9**	**+0.4**
AS31				*e*S	**S**	**00 41 30.7**	**-0.5**
ASAR	**Alice Springs**	**28.71**	**158**	P	**P**	**00 37 20.1**	**+0.6**
	3.1nm,0.5s,mb4.2,baz=340,slow=7.3,SNR=61						
ASAR				S	**S**	**00 41 29.9**	**-1.4**
	0.2nm,0.3s,baz=338,slow=22,SNR=3.3						
ASAR				ScP	ScP	00 43 04.5	+0.7
	0.8nm,0.7s,baz=347,slow=3.1,SNR=5.7						
ASPA	**Alice Springs**	**28.71**	**158**	*e*P	**P**	**00 37 19.9**	**+0.4**
ASPA				*e*S	**S**	**00 41 30.7**	**-0.5**
CTAO	**Charters Tower**	**32.58**	**136**	*e*P	**P**	**00 37 53.1**	**+0.3**
FORT	**Forrest**	**34.04**	**172**	*e*P	**P**	**00 38 05.7**	**+0.6**
	21nm,0.6s,mb4.8						
KLBR	**Kellerberrin**	**34.80**	**188**	*e*P	**P**	**00 38 11.3**	**-0.2**
	2.9nm,0.2s,mb4.5						
MUN	**Mundaring**	**35.41**	**190**	*e*P	**P**	**00 38 16.2**	**-0.4**
NWAO	**Narrogin (SRO)**	**36.19**	**188**	P	**P**	**00 38 23.7**	**+0.7**
	7.7nm,0.6s,mb4.4,baz=18,slow=6.9,SNR=11						
HNR	**Honiara**	**39.07**	**109**	P	**P**	**00 38 47.2**	**+0.6**
STKA	**Stephens Creek**	**39.09**	**154**	*e*P	**P**	**00 38 47.0**	**+0.3**
	3.0nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**39.09**	**154**	P	**P**	**00 38 48.0**	**+1.3**
	3.5nm,0.3s,mb4.3,baz=326,slow=7.9,SNR=15						
SONM	**Songino Array**	**46.77**	**345**	P	**P**	**00 39 46.3**	**-0.4**
	0.3nm,0.4s,mb3.1,baz=162,slow=6.6,SNR=3.8						
TAU	**Tasmania Unive**	**50.86**	**157**	P	**P**	**00 40 16.9**	**-0.1**
MKAR	**Makanchi Array**	**55.90**	**327**	P	**P**	**00 40 53.2**	**+0.4**
	0.4nm,0.3s,mb3.1,baz=127,slow=7.6,SNR=9.2						
MKAR				PcP	PcP	00 41 43.1	-0.6
	0.4nm,0.5s,baz=138,slow=3.2,SNR=4.3						
KURK	**Kurchatov**	**60.22**	**329**	*e*P	**P**	**00 41 22.3**	**+0.2**
	3.3nm,0.3s,mb4.1						
BVAR	**Borovoye Array**	**65.75**	**328**	P	**P**	**00 41 57.5**	**-0.1**
	0.2nm,0.3s,mb3.1,baz=130,slow=8.3,SNR=4.1						
BRVK	**Borovoye**	**65.83**	**328**	*e*P	**P**	**00 41 57.7**	**-0.3**
	0.4nm,0.3s,mb3.4						
AKTK	**Aktyubinsk**	**71.74**	**322**	P	**P**	**00 42 33.5**	**-0.2**
AKTO	**Aktyubinsk**	**71.74**	**322**	P	**P**	**00 42 33.5**	**-0.2**
	0.6nm,0.4s,mb3.4,baz=108,slow=9.6,SNR=3.4						
MAW	**Mawson**	**81.80**	**200**	P	**P**	**00 43 29.4**	**+0.7**
VNDA	**Vanda**	**83.30**	**172**	P	**P**	**00 43 36.3**	**0.0**
	0.4nm,0.6s,mb3.1,baz=270,slow=19,SNR=4.5						

PRE 13 01:10:11.7±1.2**, 2096S×3350E, h5km, ML4.7, Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.51**	**246**	*e*P	Pn	01 11 08.6	+1.7
MSNA				*e*S	Sn	01 11 49.5	+0.7
MSNA				AML	AML	01 12 04.9	
	comp=Z,423nm,0.6s						
POGA	**Pongola**	**6.61**	**195**	*e*P	Pn	01 11 50.3	+0.9
POGA				*e*S	Sn	01 13 01.0	-4.2
POGA				AML	AML	01 13 49.2	
	comp=Z,82nm,0.5s						
SLR	**Silverton**	**6.75**	**224**	*e*P	Pn	01 11 52.6	+1.2
SLR				*e*S	Sn	01 13 05.8	-2.7
SLR				AML	AML	01 13 54.0	
	comp=Z,154nm,0.6s						
KSR	**Koster**	**7.77**	**230**	*e*P	Pn	01 12 06.1	+0.7
KSR				*e*S	Sn	01 13 30.5	-3.3
KSR				AML	AML	01 14 20.8	
	comp=Z,73nm,0.6s						
LBTB	**Lobatse**	**8.32**	**240**	*e*P	Pn	01 12 14.0	+1.1
LBTB				*e*S	Sn	01 13 44.3	-2.9
LBTB				AML	AML	01 14 34.8	
	comp=Z,72nm,0.8s						
SWZ	**Schweizer**	**9.69**	**229**	*e*P	Pn	01 12 32.6	+0.8
SWZ				*e*S	Sn	01 14 16.0	-5.0
SWZ				AML	AML	01 15 19.5	
	comp=Z,45nm,0.6s						
KSD	**Kokstad**	**10.22**	**200**	*e*P	Pn	01 12 39.9	+0.9
KSD				*e*S	Sn	01 14 29.3	-4.7
KSD				AML	AML	01 15 11.2	
	comp=Z,15nm,0.5s						
UPI	**Upington**	**13.34**	**234**	*e*P	Pn	01 13 23.7	+2.0
UPI				*e*S	Sn	01 15 43.3	-7.1
UPI				AML	AML	01 17 16.6	
	comp=Z,27nm,0.7s						
SUR	**Sutherland**	**16.04**	**222**	*e*P	Pn	01 14 01.4	+3.5
SUR				*e*S	Sn	01 16 48.8	-7.4

CASC 13 01:22:37.3±2.8**, 1308N×9001W, h12**km±28km**, MD3.6, 5C-2D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJE	**San Jose**	**0.88**	**26**	*e*P	x	01 23 01.3	
SNJE				*e*S	x	01 23 14.9	
RTR	**El Retiro**	**0.89**	**23**	*e*P	x	01 23 01.7	
RTR				*e*S	x	01 23 14.5	
BOQS	**Boqueron**	**0.96**	**47**	⇑*e*P	x	01 23 02.6	
BOQS				*e*S	x	01 23 16.6	
SNET	**Serv Nac Est T**	**0.97**	**51**	⇑*e*P	x	01 23 00.2	
SNET				*e*S	x	01 23 12.1	
LFRS	**El Faro**	**1.07**	**59**	*e*P	x	01 23 03.7	
LFRS				*e*S	x	01 23 18.0	
RBDL	**Robledal**	**1.08**	**17**	⇓*e*P	x	01 23 04.8	
RBDL				*e*S	x	01 23 19.8	
LBRS	**Las Brisas**	**1.15**	**55**	⇑*i*P	x	01 23 05.2	
LBRS				*e*S	x	01 23 21.0	
LCBS	**La Ceiba**	**1.15**	**60**	⇑*e*P	x	01 23 04.9	
LCBS				*e*S	x	01 23 21.0	
IXG	**Ixpaco**	**1.18**	**338**	⇓*e*P	Pn	01 22 58.7	-0.8
IXG				*e*S	Sb	01 23 13.3	-1.4
MTO2	**Montecristo 2**	**1.46**	**25**	⇑*e*P	x	01 23 10.1	
MTO2				*e*S	x	01 23 30.5	
TP2	**Tecpan 2**	**1.96**	**330**	*e*P	Pn	01 23 10.7	+0.4
TP2				*e*S	Sn	01 23 37.1	+2.3

*ISCJB **13** 01:53:46.7±0.9, 3653N±004×229E±0.1, h19km±7km, Error ellipse: s-maj=17.0km s-min=6.8km az=165.2*
*CSEM **13** 01:53:46.9±0.1, 3653N×2285E, h20km, ML3.1, Error ellipse: s-maj=4.5km s-min=2.2km az=77.0*
*NEIC **13** 01:53:46.5, 3659N×2294E, h24km, ML3.1(ATH), After ATH.*
*ATH **13** 01:53:46.5, 3659N×2294E, h24km±1km, MD3.3/10, ML3.1*
*HLW **13** 01:53:47.8, 3658N×2254E, h33km, Mb3.2*
ISC 13 01:53:47.6±0.9**, 3659N**±004×**229E**±01**, h16**km±5km**, n16, σ0.61**/19**, 3C-2D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.14**	**25**	*e*PB	**Pg**	**01 53 51.5**	**0.0**
VLI				*e*SB	**Sg**	**01 53 54.5**	**+0.4**
KYTH	**Kithira**	**0.34**	**156**	*e*PB	**Pg**	**01 53 54.0**	**-0.8**
ITM	**Ithomi**	**0.95**	**308**	*e*PN	**Pn**	**01 54 05.8**	**-0.5**
NAIG	**Nisos Aigina**	**1.27**	**23**	*e*PN	**Pn**	**01 54 10.8**	**+0.2**
MGER	**Gerania Oros**	**1.43**	**13**	*e*PN	**Pn**	**01 54 13.3**	**+0.5**
KVR	**Kavouri**	**1.43**	**30**	*e*PN	**Pn**	**01 54 12.0**	**-0.8**
ATH	**Athens Observa**	**1.54**	**26**	*e*PN	**Pn**	**01 54 14.4**	**+0.1**
VAM	**Vamos**	**1.60**	**137**	*e*PN	**Pn**	**01 54 14.7**	**-0.5**
PTL	**Penteli**	**1.66**	**28**	*e*PN	**Pn**	**01 54 16.0**	**0.0**
APE	**Apeiranthos**	**2.19**	**77**	*e*PN	**Pn**	**01 54 22.9**	**-0.4**
NPS	**Neapolis**	**2.59**	**120**	*e*PN	**Pn**	**01 54 28.0**	**-0.9**
SLUM		**5.45**	**158**	⇓P	**Pn**	**01 55 08.4**	**+0.3**
HMAT	**Matruh**	**6.52**	**146**	⇑P	**Pn**	**01 55 23.8**	**+1.1**
SWA2		**7.65**	**163**	⇑P	**Pn**	**01 55 38.1**	**-0.2**
SWA2				S	**Sn**	**01 56 59.5**	**-5.0**
SWA1		**7.69**	**161**	⇑P	**Pn**	**01 55 38.9**	**0.0**
SWA1				S	**Sn**	**01 57 00.3**	**-5.3**
AWBH		**9.70**	**147**	⇓P	**Pn**	**01 56 07.7**	**+1.4**

*ISCJB **13** 02:05:12.9±1.9, 207S±0.1×1769W±0.1, h239km±21km, mb4.0/9, Error ellipse: s-maj=28.2km s-min=14.3km az=90.2*
*IDC **13** 02:05:14.6±2.8, 2069S×17686W, h242km±29km, mb3.7/7, mb1 3.9/9, mb1mx3.8/16, mbtmp4.4/9, Error ellipse: s-maj=26.1km s-min=14.7km az=138.0*
*NEIC **13** 02:05:14.4±1.4, 2068S×17687W, h244km±15km, mb4.0/4, Error ellipse: s-maj=19.8km s-min=9.4km az=135.0*
ISC 13 02:05:14.5±1.8**, 207S**±01×**1768W**±01**, h242**km±21km**, n21, σ0.77**/20**, mb4.0**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.31**	**36**	P	**Pn**	**02 07 11.6**	**-0.1**
	9.2nm,0.3s,baz=146,slow=2.9,SNR=4.1						
AFI				S	**S**	**02 08 38.2**	**-7.8**
	5.2nm,0.3s,baz=233,slow=20,SNR=4.9						
DZM	**Mont Dzumac**	**15.63**	**262**	*e*P	**Pn**	**02 08 47.0**	**+4.5**
DZM	**Mont Dzumac**	**15.63**	**262**	P	**Pn**	**02 08 47.1**	**+4.6**
	2.7nm,0.3s,baz=78,slow=19,SNR=25						
URZ	**Urewera**	**18.26**	**195**	P	**P**	**02 09 09.7**	**-0.7**
	6.8nm,0.3s,baz=334,slow=1.5,SNR=28						
URZ				S	**S**	**02 12 16.9**	**-10**
	0.4nm,0.3s,baz=155,slow=19,SNR=3.4						
RPZ	**Rata Peaks**	**25.07**	**201**	P	**P**	**02 10 17.7**	**+0.7**
	15nm,0.6s,mb4.8,baz=11,slow=3.5,SNR=8.2						
CTA	**Charters Tower**	**34.55**	**264**	*e*P	**P**	**02 11 41.7**	**+1.5**
	5.1nm,1.5s,mb3.8						
CTA	**Charters Tower**	**34.55**	**264**	P	**P**	**02 11 41.7**	**+1.5**
	2.0nm,0.3s,mb4.1,baz=103,slow=10,SNR=3.8						
STKA	**Stephens Creek**	**38.68**	**245**	*e*P	**P**	**02 12 14.9**	**-0.1**
	1.6nm,0.3s,mb4.0						
STKA	**Stephens Creek**	**38.68**	**245**	P	**P**	**02 12 15.1**	**0.0**
	1.7nm,0.3s,mb4.0,baz=92,slow=11,SNR=9.6						
AS31	**Alice Springs**	**45.53**	**257**	*e*P	**P**	**02 13 10.3**	**+0.2**
ASAR	**Alice Springs**	**45.53**	**257**	P	**P**	**02 13 09.9**	**-0.2**
	1.7nm,0.4s,mb3.7,baz=90,slow=8.4,SNR=33						
ASPA	**Alice Springs**	**45.53**	**257**	*e*P	**P**	**02 13 10.3**	**+0.1**
WB2	**Warramunga Arr**	**45.64**	**262**	*e*P	**P**	**02 13 10.5**	**-0.5**
WRAB	**Tennant Creek**	**45.64**	**262**	*e*P	**P**	**02 13 10.3**	**-0.7**
	5.1nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**45.65**	**262**	P	**P**	**02 13 10.6**	**-0.4**
	3.3nm,0.9s,mb3.7,baz=94,slow=7.8,SNR=104						
NVAR	**Mina Array Bea**	**80.43**	**43**	P	**P**	**02 17 00.7**	**+1.4**
	1.2nm,0.8s,mb3.6,baz=210,slow=6.7,SNR=5.4						
COLA	**College**	**88.18**	**12**	*e*P	**P**	**02 17 37.0**	**-1.0**
	3.5nm,0.7s,mb4.3						
PDAR	**Pinedale Array**	**88.37**	**43**	P	**P**	**02 17 38.6**	**-0.3**
	0.7nm,1.0s,mb3.5,baz=261,slow=6.9,SNR=3.5						
ARCES	**ARCESS Array B**	**129.31**	**350**	PKP	PKPdf	02 23 52.2	-1.8
	0.6nm,0.5s,baz=2.9,slow=1.0,SNR=14						
CLL	**Collm**	**148.50**	**348**	*i* PKPbc	PKPbc	02 24 31.2	-1.3
	comp=Z,6.0nm,0.8s						
GERES	**GERESS Array B**	**150.68**	**346**	PKPbc	PKPbc	02 24 37.4	-0.5
	comp=Z,0.8nm,0.6s,baz=29,slow=3.0,SNR=8.1						

*ROM **13** 02:06:29.4±0.8, 39.18N×891E, h10km, Md2.5/3, Ml2.7/1, Error ellipse: s-maj=9.1km s-min=8.2km az=153.0*
*NEIC **13** 02:06:29.4, 39.18N×891E, h10km, ML2.7(ROM), ML2.8(LDG), After ROM.*
*CSEM **13** 02:06:30.1±0.4, 39.14N×961E, h13km±1km, ML2.9/5, Error ellipse: s-maj=6.3km s-min=5.4km az=153.0*
*ISCJB **13** 02:06:32.5±1.0, 3932N±006×895E±004, h10km, Error ellipse: s-maj=8.5km s-min=4.6km az=17.6*
*LDG **13** 02:06:32.7±1.3, 39.14N×933E, h10km, Ml2.8/4, Error ellipse: s-maj=26.7km s-min=19.3km az=124.0*
ISC 13 02:06:33.4±1.2**, 3927N**±007×**903E**±005**, h10**km**, n20, σ1.24**/39**, 2C, Sardinia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGL	**Cagliari Serpe**	**0.23**	**66**	Pg	**Pg**	**02 06 37.3**	**-0.9**
CGL				Sg	**Sg**	**02 06 42.9**	**+1.5**
	236nm,0.2s						
VSL	**Villasalto**	**0.35**	**50**	⇑*i*Pg	**Pg**	**02 06 38.8**	**-1.7**
VSL				Sg	**Sg**	**02 06 45.6**	**+0.4**
VSL	**Villasalto**	**0.35**	**50**	*e*Pg	**Pg**	**02 06 38.7**	**-1.8**
VSL				*e*Sg	**Sg**	**02 06 45.4**	**+0.2**
VSL	**Villasalto**	**0.35**	**50**	*e*Pg	**Pg**	**02 06 38.7**	**-1.8**
VSL				*e*Sg	**Sg**	**02 06 45.4**	**+0.2**
DGI	**Dorgali Grotta**	**1.14**	**23**	⇑*e*Pg	**Pg**	**02 06 52.4**	**-2.9**
DGI				Sg	**Sg**	**02 07 09.8**	**-0.3**
	124nm,0.4s						
PGF	**Pioggiola**	**3.27**	**360**	*e*Pg	**Pg**	**02 07 34.3**	**-1.9**
PGF				*e*Sn	**Sn**	**02 08 04.3**	**+0.5**
PGF				*e*Sg	**Sg**	**02 08 19.7**	**+1.0**
	18nm,0.4s						
PGF	**Pioggiola**	**3.27**	**360**	*e*Pn	**Pn**	**02 07 25.1**	**+0.3**
PGF				*e*Pg	**Pg**	**02 07 34.3**	**-1.9**
PGF				*e*Sn	**Sn**	**02 08 04.3**	**+0.5**
PGF				*e*Sg	**Sg**	**02 08 19.7**	**+1.0**
PGF	**Pioggiola**	**3.27**	**360**	*e*Pg	**Pg**	**02 07 34.3**	**-1.9**
PGF				*e*Sn	**Sn**	**02 08 04.3**	**+0.5**
PGF				*e*Sg	**Sg**	**02 08 19.7**	**+1.0**
	9.2nm,0.4s						
LMR	**La Mourre**	**4.48**	**336**	*e*Pn	**Pn**	**02 07 41.1**	**-0.3**
LMR				*e*Sn	**Sn**	**02 08 33.6**	**0.0**
	1.5nm,0.3s						
LMR	**La Mourre**	**4.48**	**336**	*e*Pn	**Pn**	**02 07 41.1**	**-0.3**
LMR				*e*Sn	**Sn**	**02 08 33.6**	**0.0**
	0.8nm,0.3s						
FRF	**La Foret Royal**	**4.64**	**338**	*e*Pn	**Pn**	**02 07 43.2**	**-0.4**
FRF				*e*Pg	**Pg**	**02 07 59.0**	**-3.4**
SBF	**Sospel**	**4.74**	**346**	*e*Pn	**Pn**	**02 07 44.9**	**-0.1**
SMRF	**Simiane la Rot**	**5.37**	**332**	*e*Pn	**Pn**	**02 07 54.4**	**+0.8**
MBDF	**Montbardon**	**5.71**	**344**	*e*Pn	**Pn**	**02 07 59.8**	**+1.6**
LASF	**Ste Croix**	**6.17**	**323**	*e*Pn	**Pn**	**02 08 04.0**	**-0.5**
LASF				*e*Sn	**Sn**	**02 09 13.5**	**-1.6**
	0.3nm,0.2s						
LASF	**Ste Croix**	**6.17**	**323**	*e*Pn	**Pn**	**02 08 04.0**	**-0.5**
LASF				*e*Sn	**Sn**	**02 09 13.5**	**-1.6**
	0.2nm,0.2s						
LPG	**La Plagne**	**6.45**	**346**	*e*Pn	**Pn**	**02 08 11.1**	**+2.7**
LPL	**La Plagne**	**6.47**	**346**	*e*Pn	**Pn**	**02 08 11.4**	**+2.7**
MTLF	**Montolieu**	**6.54**	**311**	*e*Pn	**Pn**	**02 08 09.9**	**+0.2**
MTLF				*e*Sn	**Sn**	**02 09 24.7**	**+0.3**
	1.6nm,0.5s						
MTLF	**Montolieu**	**6.54**	**311**	*e*Pn	**Pn**	**02 08 09.9**	**+0.2**
MTLF				*e*Sn	**Sn**	**02 09 24.7**	**+0.3**
	0.8nm,0.5s						

*IDC **13** 02:09:58.9±2.2, 591S×14795E, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.9/13, mbtmp3.9/6, ML3.4/2, MS2.8/1, Ms1 2.8/1, ms1mx2.1/25, Error ellipse: s-maj=65.8km s-min=22.3km az=96.0*
*ISCJB **13** 02:10:05.1±3.6, 60S±02×1477E±03, h55km±34km, mb3.9/4, Error ellipse: s-maj=58.1km s-min=26.4km az=16.7*
*NEIC **13** 02:10:06.9±2.7, 603S×14781E, h60km±24km, mb3.9/1, Error ellipse: s-maj=37.6km s-min=20.7km az=108.0*
ISC 13 02:10:06.3±3.8**, 59S**±02×**1476E**±03**, h40**km±36km**, n9, σ0.80**/9**, mb3.9**/4**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.48**	**186**	Pn	**Pn**	**02 10 57.7**	**-0.2**
	10nm,0.3s,baz=5.0,slow=12,SNR=22						
PMG				Sn	**Sn**	**02 11 38.7**	**+0.9**
	5.6nm,0.3s,baz=42,slow=21,SNR=6.2						
PMG				LR	LR	02 12 30.8	
	comp=Z,130nm,21.0s,baz=227,slow=43						
WRAB	**Tennant Creek**	**18.94**	**221**	*e*P	**Pn**	**02 14 23.8**	**-0.9**
	4.2nm,0.6s						
WRA	**Warramunga Arr**	**18.95**	**221**	P	**Pn**	**02 14 24.0**	**-0.9**
	0.3nm,0.3s,baz=48,slow=11,SNR=6.3						
AS31	**Alice Springs**	**21.99**	**215**	*e*P	**P**	**02 14 56.7**	**-0.1**
ASAR	**Alice Springs**	**21.99**	**215**	P	**P**	**02 14 57.1**	**+0.3**
	1.9nm,0.5s,mb3.8,baz=51,slow=8.9,SNR=28						
FITZ	**Fitzroy Crossi**	**24.58**	**239**	P	**P**	**02 15 23.9**	**+1.5**
	3.0nm,0.5s,mb4.1,baz=63,slow=10,SNR=16						
STKA	**Stephens Creek**	**26.41**	**191**	P	**P**	**02 15 38.0**	**-1.0**
	1.2nm,0.5s,mb3.7,baz=3.4,slow=10,SNR=3.0						
SONM	**Songino Array**	**64.61**	**331**	P	**P**	**02 20 40.0**	**+0.5**
	0.6nm,0.6s,mb3.8,baz=139,slow=6.7,SNR=5.1						
TORD	**Torodi Ar. Bea**	**145.61**	**285**	PKPbc	PKPbc	02 29 40.4	0.0
	0.6nm,0.4s,baz=66,slow=3.4,SNR=43						

*NEIC **13** 02:15:07.9, 3249S×7172W, h12km, ML3.1(GUC), After GUC.*
GUC 13 02:15:07.9±0.7**, 3249S×7172W, h12**km±4km**, MD3.7, ML3.1, 12C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.54**	**173**	⇑*i*P	Pg	02 15 18.4	-0.1
IHA				*i* S	Sg	02 15 26.8	+1.2
CHNG	**Los Chungos**	**0.63**	**18**	⇓*i*P	Pg	02 15 20.3	+0.1
CHNG				*i* S	Sg	02 15 29.6	+1.1
CHNG				AML	AML	02 15 33.4	
	comp=N,589nm,0.4s						
ROCH	**El Roble**	**0.77**	**129**	⇑*i*P	Pg	02 15 22.7	-0.2
ROCH				*i* S	Sg	02 15 33.5	+0.6
JACH	**Jahuel**	**0.97**	**102**	⇑*i*P	Pg	02 15 25.9	-0.8
JACH				*i* S	Sg	02 15 39.5	+0.1
LCCH	**Las Cruces**	**0.99**	**173**	⇑*i*P	Pg	02 15 25.6	-1.4
LCCH				*i* S	Sg	02 15 39.3	-0.7
PEL	**Peldehue**	**1.09**	**127**	⇑*i*P	Pb	02 15 27.9	-0.9
PEL				*i* S	Sb	02 15 42.6	-0.4
PEL				AML	AML	02 15 43.9	
	comp=E,2µm,0.3s						

PEL	**Peldehue**	**1.09**	**127**	⇑iP	Pb	02 15 27.9	-0.9
PEL				iS	Sb	02 15 42.6	-0.4
DSCH	**Colegio Aleman**	**1.33**	**133**	⇑iP	Pn	02 15 30.7	-1.6
DSCH				iS	Sb	02 15 48.5	-1.3
TACH	**Talagante**	**1.34**	**151**	eP	Pn	02 15 31.4	-1.0
TACH				iS	Sb	02 15 49.5	-0.5
CLCH	**Cerro Calan**	**1.35**	**133**	⇓iP	Pn	02 15 31.6	-0.9
CLCH				iS	Sb	02 15 49.6	-0.7
CLCH				AML	AML	02 15 52.9	
	comp=E,378nm,0.5s						
CLCH				AML	AML	02 15 58.1	
	comp=N,458nm,0.5s						
FSR	**Penalolen**	**1.41**	**135**	⇑iP	Pn	02 15 32.3	-1.1
FSR				iS	Sn	02 15 51.5	-0.5
FSR				AML	AML	02 15 52.1	
	comp=N,373nm,0.2s						
FSR	**Penalolen**	**1.41**	**135**	⇑iP	Pn	02 15 32.3	-1.1
FSR				iS	Sn	02 15 51.5	-0.5
ANTU	**Antumapu**	**1.42**	**140**	iP	Pn	02 15 32.6	-0.8
ANTU				iS	Sn	02 15 51.5	-0.6
ANTU				AML	AML	02 15 52.0	
	comp=E,460nm,0.4s						
ANTU	**Antumapu**	**1.42**	**140**	iP	Pn	02 15 32.6	-0.8
ANTU				iS	Sn	02 15 51.5	-0.6
CMCH	**Combarbala**	**1.45**	**25**	⇑iP	Pn	02 15 32.9	-1.0
CMCH				iS	Sn	02 15 52.1	-0.7
CMCH				AML	AML	02 15 56.2	
	comp=E,2μm,0.5s						
CMCH	**Combarbala**	**1.45**	**25**	⇑iP	Pn	02 15 32.9	-1.0
CMCH				iS	Sn	02 15 52.1	-0.7
PCH	**Pirque**	**1.52**	**138**	⇑iP	Pn	02 15 34.5	-0.4
SFDO	**San Fernando**	**2.20**	**165**	eP	Pn	02 15 45.7	+1.4

IDC 13 02:18:51.7±1.1**,991S×6672E,h0**km**,mb3.9**/5**,mb1 4.1**/5**, mb1mx3.7**/20**,mbtmp3.9**/5**,MS3.4**/2**,Ms1 3.4**/2**, ms1mx3.1**/27**,Error ellipse: s-maj=36.9km s-min=27.2km az=16.0,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**30.57**	**285**	LR	LR	02 36 60.0	
	comp=Z,32nm,19.3s,baz=281,slow=36						
PSI	**Prapat**	**34.47**	**70**	LR	LR	02 37 44.2	
	comp=Z,126nm,18.5s,baz=97,slow=33						
LSZ	**Lusaka**	**37.94**	**258**	P	P	02 26 11.5	+0.6
	5.8nm,1.2s,baz=82,slow=8.1,SNR=5.6						
BVAR	**Borovoye Array**	**62.76**	**2**	P	P	02 29 18.2	-0.5
	0.1nm,0.3s,baz=160,slow=7.1,SNR=3.8						
ASAR	**Alice Springs**	**65.26**	**111**	P	P	02 29 35.5	+0.3
	0.9nm,0.6s,baz=273,slow=5.9,SNR=13						
WRA	**Warramunga Arr**	**65.74**	**107**	P	P	02 29 39.2	+0.9
	1.5nm,0.7s,baz=277,slow=5.3,SNR=14						
SONM	**Songino Array**	**67.38**	**28**	P	P	02 29 49.6	+0.8
	0.4nm,0.4s,baz=226,slow=6.1,SNR=4.3						

*NEIC **13** 02:19:37.9,27.17S×70.42W,h54km,MG3.5(GUC),After GUC.*
GUC 13 02:19:37.9±0.6**,2717S×7042W,h54**km±3km**,MD3.7, ML3.5,4C-4D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.20**	**163**	⇑iP	Pn	02 19 46.5	-0.1
CPCH				iS	Sn	02 19 53.9	+1.0
CPCH				AML	AML	02 19 54.5	
	comp=E,59μm,0.1s						
CPCH	**Copiapo**	**0.20**	**163**	⇑iP	Pn	02 19 46.5	-0.1
CPCH				iS	Sn	02 19 53.9	+1.0
CDCH	**Caldera**	**0.38**	**284**	⇓iP	Pn	02 19 48.1	0.0
CDCH				iS	Sn	02 19 56.2	+0.7
CDCH				AML	AML	02 19 57.0	
	comp=N,2μm,0.5s						
CDCH	**Caldera**	**0.38**	**284**	⇓iP	Pn	02 19 48.1	0.0
CDCH				iS	Sn	02 19 56.2	+0.7
CRCH	**Chaqaral**	**0.84**	**347**	⇓iP	Pn	02 19 54.1	+0.5
CRCH				iS	Sn	02 20 06.1	+0.9
CRCH				AML	AML	02 20 07.2	
	comp=E,1μm,0.5s						
CRCH	**Chaqaral**	**0.84**	**347**	⇓iP	Pn	02 19 54.1	+0.5
CRCH				iS	Sn	02 20 06.1	+0.9
VACH	**Vallenar**	**1.43**	**192**	⇑iP	Pn	02 20 02.1	+0.5
VACH				iS	Sn	02 20 20.6	+1.3
VACH				AML	AML	02 20 21.9	
	comp=E,1μm,0.1s						
VACH	**Vallenar**	**1.43**	**192**	⇑iP	Pn	02 20 02.1	+0.5
VACH				iS	Sn	02 20 20.6	+1.3

*BJI **13** 02:26:25.5,24.48N×141.68E,h217km,mB5.0,mb4.5*
*ISCJB **13** 02:26:32.2±0.6,25.12N±0.04×140.99E±0.07,h214km±5km, mb4.0/41,Error ellipse: s-maj=9.8km s-min=6.0km az=156.1*
*IDC **13** 02:26:32.6±0.9,25.05N×140.97E,h208km±8km,mb3.6/18, mb1 3.7/21,mb1mx3.7/27,mbtmp4.2/21,Error ellipse: s-maj=14.9km s-min=9.3km az=86.0*
*NEIC **13** 02:26:33.5±1.2,25.01N×140.86E,h218km±11km,mb4.0/19, Error ellipse: s-maj=9.5km s-min=5.2km az=95.0*
*JMA **13** 02:26:36.6±0.3,25.33N×140.25E,h123km,M5.2*
ISC 13 02:26:33.2±0.6**,2513N**±004×**14101E**±007**,h208**km±5km**, n79,**σ**1.31**/90**,mb4.0**/41**,1C,Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.83**	**35**	P	**Pn**	**02 27 12.5**	**+1.8**
JHHJ				S	**Sn**	**02 27 39.5**	**-0.4**
CBIJ	**Chichi jima**	**2.23**	**28**	P	**Pn**	**02 27 16.8**	**+2.2**
	166nm,0.3s,baz=217,slow=1.8,SNR=15						
CBIJ				S	**Sn**	**02 27 48.0**	**+1.0**
	638nm,0.3s,baz=286,slow=23,SNR=46						
CBIJ	**Chichi jima**	**2.23**	**28**	P	**Pn**	**02 27 16.8**	**+2.1**
CBIJ				S	**Sn**	**02 27 47.6**	**+0.6**
JHJ2	**Mitsune**	**8.02**	**353**	P	**Pn**	**02 28 28.1**	**+1.4**
JHJ2				S	**Sn**	**02 29 56.9**	**-0.4**
JHJ	**Hachijo jima 2**	**8.03**	**353**	P	**Pn**	**02 28 28.2**	**+1.3**
	15nm,0.3s,baz=217,slow=22,SNR=5.9						
JHJ				S	**Sn**	**02 29 54.2**	**-3.4**
	14nm,0.3s,baz=73,slow=19,SNR=2.4						
BSO1	**Boso 1**	**9.49**	**360**	P	**Pn**	**02 28 44.4**	**-1.3**
BSO1				S	**Sn**	**02 30 28.4**	**-3.8**
BSO3	**Boso 3**	**9.65**	**358**	P	**Pn**	**02 28 46.7**	**-1.1**
BSO3				S	**Sn**	**02 30 31.0**	**-4.9**
BSO4	**Boso 4**	**9.85**	**357**	P	**Pn**	**02 28 49.9**	**-0.4**
BSO4				S	**Sn**	**02 30 37.4**	**-3.1**
JIE	**Ise**	**9.96**	**339**	P	**Pn**	**02 28 54.3**	**+2.6**
SHZ3	**Shizuoka 3**	**10.20**	**347**	P	**Pn**	**02 28 55.3**	**+0.5**
JOD2	**Odawara 2**	**10.24**	**351**	P	**Pn**	**02 28 55.9**	**+0.6**
JOD2				S	**Sn**	**02 30 47.6**	**-2.2**
JNY	**Yasuok**	**10.55**	**346**	P	**Pn**	**02 28 59.8**	**+0.4**
JAO	**Obara**	**10.61**	**343**	P	**Pn**	**02 29 01.3**	**+1.2**
JHU	**Hanno**	**10.79**	**352**	P	**Pn**	**02 29 01.9**	**-0.5**
JHU				S	**S**	**02 30 58.1**	**-4.9**
JRY	**Ryogami san**	**11.00**	**351**	P	**Pn**	**02 29 04.6**	**-0.5**
JRY				S	**S**	**02 31 03.7**	**-4.4**
JAG	**Ashikaga**	**11.34**	**354**	P	**Pn**	**02 29 07.8**	**-1.6**
JAG				S	**S**	**02 31 05.2**	**-11**
JHO	**Hitachi**	**11.45**	**358**	P	**Pn**	**02 29 08.8**	**-2.1**
JHO				S	**S**	**02 31 09.7**	**-9.1**
MJAR	**Matsushiro Arr**	**11.63**	**349**	P	**Pn**	**02 29 14.0**	**+0.9**
	1.4nm,0.3s,baz=156,slow=31,SNR=5.1						
MAT	**Matsushiro**	**11.63**	**349**	P	**Pn**	**02 29 13.9**	**+0.8**
MAT	**Matsushiro**	**11.63**	**349**	eP	**Pn**	**02 29 14.0**	**+0.9**
JFK	**Kawauchi**	**12.20**	**360**	P	**Pn**	**02 29 18.2**	**-2.1**
JFK				S	**S**	**02 31 28.0**	**-8.5**
JMK	**Ichinoseki**	**13.78**	**1**	P	**Pn**	**02 29 40.7**	**+0.6**
JMK				S	**S**	**02 32 05.5**	**-7.9**
JOT	**Ohata**	**16.21**	**0**	P	**P**	**02 30 09.3**	**+0.5**
MDJ	**Mudanjiang**	**21.54**	**337**	P	**P**	**02 31 06.8**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,135nm,6.6s						
CN2	**Changchun**	**22.55**	**330**	eP	**P**	**02 31 16.5**	**+0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
KMI	**Kunming**	**34.57**	**278**	P	**P**	**02 33 01.0**	**-1.1**
KMI				AMB	AMB		
	comp=Z,14nm,0.6s,mb4.7						
SONM	**Songino Array**	**35.44**	**319**	P	**P**	**02 33 09.3**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.3,baz=132,slow=7.3,SNR=4.6						
CTA	**Charters Tower**	**45.23**	**173**	eP	**P**	**02 34 28.3**	**-1.4**
	comp=Z,4.2nm,0.7s,mb3.9						
CTAO	**Charters Tower**	**45.23**	**173**	eP	**P**	**02 34 28.7**	**-1.0**
	comp=Z,7.2nm,0.8s,mb4.0						
WRAB	**Tennant Creek**	**45.26**	**189**	eP	**P**	**02 34 28.2**	**-1.7**
	comp=Z,16nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**45.27**	**189**	⇑iP	**P**	**02 34 28.3**	**-1.6**
WRA	**Warramunga Arr**	**45.27**	**189**	P	**P**	**02 34 28.4**	**-1.6**
	comp=Z,7.7nm,0.5s,mb4.3,baz=11,slow=8.8,SNR=130						
WRA				PcP	PcP	02 36 06.0	0.0
	comp=Z,0.8nm,0.5s,baz=2.1,slow=3.6,SNR=6.2						
FITZ	**Fitzroy Crossi**	**45.50**	**201**	eP	**P**	**02 34 30.6**	**-1.2**
	comp=Z,7.7nm,1.0s,mb4.0						
FITZ	**Fitzroy Crossi**	**45.50**	**201**	P	**P**	**02 34 30.8**	**-0.9**
	comp=Z,3.9nm,1.0s,mb3.7,baz=138,slow=6.2,SNR=17						
WMQ	**Urumqi**	**46.89**	**307**	P	**P**	**02 34 42.1**	**-0.5**
RAMN	**Ramite**	**48.60**	**285**	eP	**P**	**02 34 58.0**	**+2.3**
AKUT	**Akutan**	**48.64**	**39**	eP	**P**	**02 34 56.5**	**+0.5**
JIRN	**Jiri**	**48.83**	**286**	eP	**P**	**02 34 59.9**	**+2.4**
	comp=Z,25nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**48.99**	**189**	P	**P**	**02 34 57.2**	**-1.5**
	comp=Z,0.3nm,0.3s,mb3.1,baz=6.8,slow=5.1,SNR=8.4						
ASAR				PcP	PcP	02 36 18.9	-0.5
	comp=Z,0.7nm,0.5s,baz=9.1,slow=3.3,SNR=5.3						
GUN	**Gumba**	**49.06**	**286**	eP	**P**	**02 35 01.3**	**+2.1**
	comp=Z,14nm,0.4s,mb4.7						
KKN	**Kakani**	**49.60**	**286**	eP	**P**	**02 35 05.3**	**+2.0**
	comp=Z,5.6nm,0.4s,mb4.2						
DMN	**Daman**	**49.79**	**286**	eP	**P**	**02 35 06.3**	**+1.6**
	comp=Z,7.0nm,0.4s,mb4.3						
GKN	**Gorkha**	**50.12**	**286**	eP	**P**	**02 35 08.9**	**+1.7**
	comp=Z,8.7nm,0.4s,mb4.4						
MBWA	**Marble Bar**	**50.44**	**206**	eP	**P**	**02 35 07.5**	**-2.1**
	comp=Z,5.0nm,0.7s,mb4.0						
MKAR	**Makanchi Array**	**50.93**	**311**	P	**P**	**02 35 13.8**	**+0.6**
	comp=Z,1.2nm,0.4s,mb3.7,baz=85,slow=9.6,SNR=12						
KOLN	**Koldanda**	**51.07**	**286**	eP	**P**	**02 35 15.8**	**+1.5**
	comp=Z,20nm,0.8s,mb4.6						
DZM	**Mont Dzumac**	**53.02**	**150**	P	**P**	**02 35 28.6**	**-0.1**
	comp=Z,1.9nm,0.5s,mb3.8,baz=128,slow=18,SNR=5.6						
KURK	**Kurchatov**	**53.62**	**316**	eP	**P**	**02 35 33.3**	**+0.2**
	comp=Z,1.1nm,0.5s,mb3.6						
KDAK	**Kodiak Island**	**56.57**	**36**	P	**P**	**02 35 54.5**	**+0.5**
	comp=Z,2.6nm,0.3s,mb4.3,baz=179,slow=4.0,SNR=12						
KDAK	**Kodiak Island**	**56.57**	**36**	eP	**P**	**02 35 54.4**	**+0.3**
	comp=Z,3.2nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**56.69**	**179**	eP	**P**	**02 35 53.0**	**-1.9**
	comp=Z,1.6nm,0.5s,mb3.9						
STKA	**Stephens Creek**	**56.69**	**179**	P	**P**	**02 35 53.5**	**-1.4**
	comp=Z,1.3nm,0.5s,mb3.8,baz=7.3,slow=8.7,SNR=4.0						
BVAR	**Borovoye Array**	**58.78**	**318**	P	**P**	**02 36 09.4**	**-0.1**
	comp=Z,2.0nm,0.4s,mb4.1,baz=86,slow=6.8,SNR=15						
COLA	**College**	**59.54**	**28**	eP	**P**	**02 36 16.6**	**+1.9**
	comp=Z,2.2nm,0.7s,mb3.9						
INK	**Inuvik**	**65.25**	**24**	P	**P**	**02 36 52.2**	**-0.3**
	comp=Z,0.8nm,0.5s,mb3.6,baz=345,slow=1.2,SNR=8.0						
INK	**Inuvik**	**65.25**	**24**	eP	**P**	**02 36 51.9**	**-0.6**
	comp=Z,0.8nm,0.5s,mb3.6						
AKTK	**Aktyubinsk**	**66.71**	**316**	P	**P**	**02 37 02.0**	**+0.2**
AKTO	**Aktyubinsk**	**66.71**	**316**	P	**P**	**02 37 02.0**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.4,baz=94,slow=17,SNR=3.0						
YKA	**Yellowknife Ar**	**74.37**	**28**	P	**P**	**02 37 47.3**	**-0.7**
	comp=Z,0.6nm,0.4s,mb3.6,baz=293,slow=5.9,SNR=4.1						
ARCES	**ARCESS Array B**	**75.05**	**341**	P	**P**	**02 37 51.0**	**-1.0**
	comp=Z,1.5nm,0.9s,mb3.6,baz=69,slow=6.9,SNR=4.6						
JOF	**Joensuu**	**76.37**	**334**	ep	**P**	**02 37 57.4**	**-2.0**
YBH	**Yreka Blue Hor**	**78.12**	**49**	eP	**P**	**02 38 10.4**	**+1.2**
	comp=Z,2.6nm,1.0s,mb3.8						
NEW	**Newport**	**79.07**	**42**	eP	**P**	**02 38 14.7**	**+0.4**
	comp=Z,3.1nm,0.7s,mb4.0						
FINES	**FINESS Array B**	**79.24**	**334**	P	**P**	**02 38 13.4**	**-1.8**
	comp=Z,0.7nm,0.4s,mb3.6,baz=80,slow=5.5,SNR=14						
BMO	**Blue Mountains**	**80.43**	**45**	eP	**P**	**02 38 21.9**	**+0.3**
	comp=Z,2.5nm,0.9s,mb3.8						
NVAR	**Mina Array Bea**	**82.57**	**51**	P	**P**	**02 38 33.8**	**+1.0**
	comp=Z,1.9nm,0.7s,mb4.0,baz=310,slow=4.4,SNR=9.5						
HLID	**Hailey**	**82.87**	**45**	eP	**P**	**02 38 35.8**	**+1.4**
	comp=Z,1.9nm,1.1s,mb3.7						
BOZ	**Bozeman (W)**	**83.61**	**42**	eP	**P**	**02 38 39.0**	**+0.8**
	comp=Z,2.1nm,0.8s,mb3.9						
ELK	**Elko**	**83.64**	**48**	eP	**P**	**02 38 38.4**	**+0.1**
	comp=Z,4.0nm,1.3s,mb4.0						
TPNV	**Topopah Spring**	**84.69**	**52**	eP	**P**	**02 38 44.0**	**+0.4**
	comp=Z,3.4nm,0.9s,mb4.1						
HFS	**Hagfors**	**84.80**	**336**	P	**P**	**02 38 42.8**	**-1.4**
	comp=Z,0.6nm,0.6s,mb3.5,baz=78,slow=7.5,SNR=4.3						
IMW	**Indian Meadow**	**84.91**	**44**	eP	**P**	**02 38 46.0**	**+1.3**
	comp=Z,3.9nm,1.0s,mb4.1						
NOA	**NORSAR Array B**	**85.03**	**338**	P	**P**	**02 38 43.8**	**-1.5**
	comp=Z,0.4nm,0.6s,mb3.3,baz=38,slow=5.1,SNR=2.4						
DUG	**Dugway**	**85.53**	**48**	eP	**P**	**02 38 48.2**	**+0.5**
	comp=Z,2.0nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**86.35**	**44**	P	**P**	**02 38 51.5**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.4,baz=270,slow=3.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**125.04**	**309**	PKP	PKPdf	02 45 08.2	-0.3
	comp=Z,0.2nm,0.5s,baz=91,slow=1.1,SNR=8.7						
PLCA	**Paso Flores**	**149.48**	**128**	PKPbc	PKPbc	02 45 57.2	-0.4
	comp=Z,2.2nm,0.5s,baz=40,slow=20,SNR=10						
LPAZ	**La Paz**	**151.41**	**78**	PKPbc	PKPbc	02 46 03.2	+1.0
	comp=Z,3.1nm,0.5s,baz=333,slow=2.0,SNR=30						
LPAZ	**La Paz**	**151.41**	**78**	PKPbc	PKPbc	02 46 03.2	+1.0

CASC 13 02:36:48.8±5.0**,1354N×9034W,h35**km±98km**,MD3.5, 7C-5D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.64**	**350**	⇑eP	Pn	02 37 01.2	-0.2
IXG				eS	Sn	02 37 12.0	+1.6
SBLS	**San Blas**	**0.76**	**67**	⇓eP	x	02 37 09.2	
SBLS				eS	x	02 37 21.5	
RTR	**El Retiro**	**0.77**	**62**	⇓eP	x	02 37 09.5	
RTR				eS	x	02 37 22.9	
SNJE	**San Jose**	**0.79**	**65**	⇓eP	x	02 37 09.6	
SNJE				eS	x	02 37 21.7	
TER	**Terranova**	**0.83**	**336**	eP	Pn	02 37 03.9	-0.1
TER				eS	Sn	02 37 16.3	+1.3
RBDL	**Robledal**	**0.86**	**48**	⇓eP	x	02 37 10.5	
RBDL				eS	x	02 37 23.7	
FUG	**Fuego 3**	**1.03**	**332**	⇑eP	Pn	02 37 07.5	+0.7
SNET	**Serv Nac Est T**	**1.09**	**82**	eP	x	02 36 56.2	
SNET				eS	x	02 37 06.1	
LFRS	**El Faro**	**1.25**	**86**	⇑eP	x	02 37 15.6	
LFRS				eS	x	02 37 32.3	
LBRS	**Las Brisas**	**1.28**	**81**	⇑eP	x	02 37 15.9	
LBRS				eS	x	02 37 33.8	
MTO2	**Montecristo 2**	**1.28**	**48**	eP	x	02 37 17.5	
MTO2				eS	x	02 37 32.2	
LCBS	**La Ceiba**	**1.33**	**85**	⇑eP	x	02 37 17.0	
LCBS				eS	x	02 37 35.5	
TP2	**Tecpan 2**	**1.40**	**332**	⇑eP	Pn	02 37 12.3	+0.4
TP2				eS	Sn	02 37 31.5	+2.3
SNVI	**San Vicente**	**1.46**	**87**	⇑eP	x	02 37 18.4	
SNVI				eS	x	02 37 38.4	
JAT	**Jato**	**1.48**	**302**	⇓eP	Pn	02 37 13.4	+0.5
JAT				eS	Sn	02 37 30.5	-0.5

OTT 13 02:55:59.5±0.8**,7155N×6574W,h18**km**,ML3.3**/5**,Baffin Bay Seismic Zone. 160km northeast from Clyde River, Nu,Baffin Bay**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PINU	**Pond Inlet**	**3.94**	**293**	PN	Pn	02 56 24.9	-34
PINU				SN	Sn	02 57 06.1	-39
PINU				Trac		02 57 10.1	
	comp=Z,15nm,0.1s						
GIFN	**Gifford Fjord,**	**5.47**	**261**	PN	Pn	02 57 20.2	0.0
GIFN				SN	Sn	02 58 18.4	-4.2
GIFN				Trac		02 58 23.1	
	comp=Z,4.2nm,0.1s						
ILON	**Igloolik, Nuna**	**5.81**	**256**	PN	Pn	02 57 23.6	-1.2
ILON				SN	Sn	02 58 26.1	-4.9
ILON				Trac		02 58 32.7	
	comp=Z,3.8nm,0.1s						
AP3N	**Apex site 3 Nu**	**6.60**	**261**	PN	Pn	02 57 35.0	-0.5
AP3N				SN	Sn	02 58 43.3	-6.9
AP3N				Trac		02 58 47.8	
	comp=Z,3.5nm,0.1s						
SRLN	**Sarcpa Lake, N**	**6.71**	**252**	PN	Pn	02 57 36.3	-0.8
SRLN				SN	Sn	02 58 48.0	-5.1
SRLN				Trac		02 58 52.6	
	comp=Z,2.1nm,0.1s						
SFJD	**Kangerlussuaq**	**7.03**	**123**	iP	Pn	02 57 39.9	-1.6
SFJD	**Kangerlussuaq**	**7.03**	**123**	PN	Pn	02 57 39.7	-1.7
SFJD				SN	Sn	02 58 52.8	-8.1
FRB	**Frobisher Bay**	**7.91**	**189**	PN	Pn	02 57 53.9	+0.4
FRB				SN	Sn	02 59 18.9	-3.7
FRB				Trac		02 59 34.5	
	comp=Z,2.4nm,0.3s						
QILN	**Qililugaq Expl**	**8.82**	**246**	PN	Pn	02 58 03.7	-2.3
QILN				SN	Sn	02 59 37.2	-7.7
QILN				Trac		02 59 42.6	
	comp=Z,5.0nm,0.2s						
RES	**Resolute Bay**	**8.98**	**304**	PN	Pn	02 58 06.6	-1.6
RES				SN	Sn	02 59 40.0	-8.7
RES				Trac		02 59 48.6	
	comp=Z,3.0nm,0.8s						
YRTN	**Rankin Inlet**	**13.33**	**242**	SN	Sn	03 01 23.3	-12
FCC	**Fort Churchill**	**17.24**	**237**	SN	Sn	03 02 53.5	-17

*BJI **13** 03:03:53.4,4.30N×94.52E,h30km,mB5.2,mb4.8,Ms4.6, Msz4.3*
*MOS **13** 03:04:00.9±1.2,5.24N×94.66E,h33km,mb4.8/11,Error ellipse: s-maj=21.6km s-min=9.1km az=115.0*
*NEIC **13** 03:04:01.9±0.4,5.13N×94.58E,h30km,mb4.5/12,Error ellipse: s-maj=14.6km s-min=6.1km az=221.0*
*ISCJB **13** 03:04:04.5±1.3,5.19N±0.06×94.78E±0.06,h65km±11km, mb4.5/39,Error ellipse: s-maj=12.2km s-min=7.5km az=82.0*
*IDC **13** 03:04:05.5±3.7,5.19N×94.72E,h60km±33km,mb4.0/13, mb1 4.2/14,mb1mx4.0/22,mbtmp4.3/14,ML4.1/1,MS3.5/5, Ms1 3.5/5,ms1mx3.2/27,Error ellipse: s-maj=36.9km s-min=14.0km az=53.0*
*SZGRF **13** 03:04:09.6,6.36N×93.96E,h33km,mb4.4,Nicobar Islands, India, region*
ISC 13 03:04:06.7±1.1**,523N**±006×**9477E**±006**,h67**km±11km**,n77,** σ**0.88**/81**,mb4.5**/39**,5C-3D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.79**	**120**	P	**Pn**	**03 05 16.9**	**+0.6**
	7.7nm,0.3s,baz=324,slow=13,SNR=20						
PSI				S	**Sn**	**03 06 12.4**	**+1.9**
	4.4nm,0.3s,baz=66,slow=18,SNR=3.5						
PSI				LR	LR	03 07 26.7	
	comp=Z,282nm,20.6s,baz=179,slow=41						
PSI	**Prapat**	**4.79**	**120**	P	**Pn**	**03 05 16.9**	**+0.6**
PSI				S	**Sn**	**03 06 12.4**	**+1.9**
KULM	**Kulim**	**5.86**	**89**	ePn	**Pn**	**03 05 30.6**	**-0.3**
KULM				eSn	**Sn**	**03 06 35.8**	**-0.8**
KMI	**Kunming**	**21.21**	**20**	P	**P**	**03 08 51.5**	**+4.7**
KMI				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.4						
JIRN	**Jiri**	**23.76**	**341**	eP	**P**	**03 09 12.9**	**+0.1**
	comp=Z,16nm,0.8s,mb4.4						
PKI	**Pulchoki**	**23.94**	**339**	eP	**P**	**03 09 14.4**	**-0.1**
DMN	**Daman**	**24.09**	**339**	eP	**P**	**03 09 16.8**	**+1.0**
	comp=Z,21nm,0.8s,mb4.5						
GUN	**Gumba**	**24.09**	**340**	eP	**P**	**03 09 14.8**	**-1.1**
	comp=Z,21nm,0.6s,mb4.6						
KKN	**Kakani**	**24.19**	**339**	eP	**P**	**03 09 16.5**	**-0.3**
GKN	**Gorkha**	**24.62**	**338**	eP	**P**	**03 09 20.6**	**-0.1**
	comp=Z,7.0nm,0.3s,mb4.5						
KOLN	**Koldanda**	**24.81**	**336**	eP	**P**	**03 09 22.6**	**+0.2**
	comp=Z,31nm,0.7s,mb4.9						
CD2	**Chengdu**	**26.91**	**17**	eP	**P**	**03 09 41.0**	**-0.4**
CD2				PP		03 10 29.5	
CD2				S	**S**	**03 14 13.7**	**+0.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
XAN	**Xi'an**	**31.54**	**23**	P	**P**	**03 10 21.5**	**-0.9**
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
GTA	**Gaotai**	**34.34**	**7**	eP	**P**	**03 10 46.7**	**-0.1**
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.7						
NJ2	**Nanjing**	**34.93**	**37**	eP	**P**	**03 10 51.2**	**-0.8**
NJ2				AP	pP	03 11 00.0	-8.3
NJ2				XP	sP	03 11 04.4	-12
NJ2				S	**S**	**03 16 20.0**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,190nm,4.2s						
NJ2				LR	LR		
	comp=N,3μm,15.1s						
NJ2				LR	LR		
	comp=E,1μm,15.7s						
NJ2				LR	LR		
	comp=Z,850nm,15.1s						
SSE	**Sheshan**	**35.75**	**41**	P	**P**	**03 10 58.2**	**-0.8**
SSE				AMB	AMB		
	comp=Z,26nm,0.9s,mb5.2						
SSE				AMB	AMB		
	comp=Z,305nm,6.7s						
FITZ	**Fitzroy Crossi**	**38.27**	**128**	P	**P**	**03 11 19.6**	**-0.8**
	comp=Z,2.4nm,0.8s,mb4.1,baz=225,slow=14,SNR=2.9						
WMQ	**Urumqi**	**38.94**	**352**	P	**P**	**03 11 26.6**	**+0.6**
WMQ				PP	PP	03 13 01.3	+5.0
WMQ				PCP	PcP	03 13 32.2	-3.2
WMQ				SCP	ScP	03 17 18.3	+0.5
WMQ				S	**S**	**03 17 20.9**	**+1.3**
WMQ				XS	sS	03 17 46.9	-0.8
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,63nm,4.8s						
WMQ				LR	LR		
	comp=N,172nm,12.4s						
WMQ				LR	LR		
	comp=E,129nm,11.3s						
WMQ				LR	LR		
	comp=Z,180nm,12.9s						
BJT	**Baijiatuau**	**39.64**	**26**	eP	**P**	**03 11 33.0**	**+1.2**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BJT	**Baijiatuau**	**39.64**	**26**	eP	**P**	**03 11 33.0**	**+1.2**
	comp=Z,8.2nm,0.6s,mb4.7						
BJI	**Beijing**	**39.66**	**26**	P	**P**	**03 11 31.5**	**-0.5**
BJI				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.8						
UCH	**Uchtor**	**41.02**	**337**	P	**P**	**03 11 44.7**	**+1.5**
	SNR=9.4						
TKM2	**Tokmak 2**	**41.20**	**339**	P	**P**	**03 11 45.5**	**+0.8**
	SNR=7.3						
KBK	**Karagaybulak**	**41.22**	**338**	P	**P**	**03 11 46.5**	**+1.7**
	SNR=14						
AML	**Almayashu**	**41.26**	**336**	P	**P**	**03 11 46.5**	**+1.2**
	SNR=7.0						
AAK	**Ala-Archa**	**41.37**	**337**	⇓iP	**P**	**03 11 46.9**	**+0.8**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**41.37**	**337**	eP	**P**	**03 11 46.2**	**+0.1**
	comp=Z,4.7nm,0.6s,mb4.5						
USP	**Ospenovka**	**41.91**	**338**	P	**P**	**03 11 51.1**	**+0.6**
	SNR=10.0						
MKAR	**Makanchi Array**	**42.79**	**347**	P	**P**	**03 11 57.5**	**-0.2**
	comp=Z,7.4nm,0.6s,mb4.6,baz=169,slow=7.9,SNR=68						
SONM	**Songino Array**	**43.61**	**11**	P	**P**	**03 12 03.8**	**-0.5**
	comp=Z,4.5nm,0.8s,mb4.3,baz=191,slow=8.0,SNR=42						
SONM				PcP	PcP	03 13 51.3	+0.6
	comp=Z,1.2nm,0.5s,baz=189,slow=4.0,SNR=9.3						
SONM				LR	LR	03 32 08.6	
	comp=Z,65nm,21.0s,baz=174,slow=39						
SONM	**Songino Array**	**43.61**	**11**	P	**P**	**03 12 03.8**	**-0.4**
SONM						03 13 51.3	
ULN	**Ulaanbaatar**	**43.77**	**12**	⇑eP	**P**	**03 12 05.0**	**-0.5**
ULN	**Ulaanbaatar**	**43.77**	**12**	eP	**P**	**03 12 04.6**	**-1.0**
	comp=Z,2.9nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**46.25**	**124**	P	**P**	**03 12 25.3**	**+0.1**
	comp=Z,11nm,0.7s,mb4.7,baz=304,slow=9.2,SNR=99						
WRAB	**Tennant Creek**	**46.25**	**124**	eP	**P**	**03 12 25.4**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.1						
WRAB	**Tennant Creek**	**46.25**	**124**	eP	**P**	**03 12 25.4**	**+0.2**
	comp=Z,36nm,1.0s,mb5.0						
WB2	**Warramunga Arr**	**46.26**	**124**	eP	**P**	**03 12 25.1**	**-0.2**
KURK	**Kurchatov**	**47.31**	**346**	eP	**P**	**03 12 33.6**	**+0.1**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
KURK	**Kurchatov**	**47.31**	**346**	eP	**P**	**03 12 33.6**	**+0.1**
	comp=Z,10nm,0.6s,mb4.7						
ASPA	**Alice Springs**	**47.76**	**129**	eP	**P**	**03 12 36.5**	**-0.5**
ASAR	**Alice Springs**	**47.76**	**129**	P	**P**	**03 12 37.1**	**+0.1**
	comp=Z,3.3nm,0.7s,mb4.3,baz=302,slow=7.6,SNR=32						
AS31	**Alice Springs**	**47.77**	**129**	eP	**P**	**03 12 36.5**	**-0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZAL	Zalesovo	49.24	352	P	P	03 12 47.8	-0.6
	comp=Z,9.4nm,0.5s,mb5.0,baz=301,slow=6.5,SNR=25						
MDJ	Mudanjiang	49.67	32	P	P	03 12 53.5	+1.9
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,48nm,5.5s						
NVS	Novosibirsk	50.34	351	*e*P	P	03 12 54.3	-2.4
MJAR	Matsushiro Arr	50.51	46	P	P	03 12 58.1	+0.1
	comp=Z,0.7nm,0.5s,mb4.0,baz=250,slow=8.9,SNR=4.2						
MJAR				LR	LR	03 38 42.9	
	comp=Z,99nm,19.7s,baz=155,slow=41						
BVAR	Borovoye Array	51.68	341	P	P	03 13 06.5	-0.3
	comp=Z,3.8nm,0.6s,mb4.6,baz=141,slow=9.6,SNR=18						
BRVK	Borovoye	51.74	341	*e*P	P	03 13 06.7	-0.5
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
BRVK	Borovoye	51.74	341	*e*P	P	03 13 06.7	-0.5
	comp=Z,3.3nm,0.5s,mb4.6						
GNI	Garni	56.74	315	*de*P	P	03 13 44.6	+1.1
GNI				pmax	pmax		
	comp=Z,12µm,1.4s						
ASAJ	Asahikawa	57.02	40	LR	LR	03 40 19.0	
	comp=Z,55nm,18.2s,baz=346,slow=38						
KMBO	Kilima Mbogo	57.79	265	LR	LR	03 37 07.0	
	comp=Z,38nm,18.8s,baz=103,slow=34						
SVE	Sverdlovsk	58.08	339	*e*P	P	03 13 54.0	+1.0
ARU	Arti	58.56	337	⇑*i*P	P	03 13 54.1	-2.2
ARU				*e*		03 16 01.1	
ARU				*e*S	S	03 21 56.5	+1.4
ARU				*e*SS	SS	03 25 56.8	+8.3
ARU				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.4						
BR131	Keskin Array S	64.63	312	*e*P	P	03 14 36.0	-1.2
	comp=Z,2.0nm,0.8s,mb4.0						
BRTR	Keskin Array B	64.63	312	P	P	03 14 36.8	-0.4
	comp=Z,1.1nm,0.7s,mb3.8,baz=124,slow=6.7,SNR=7.1						
OBN	Obninsk	67.94	328	⇓*e*P	P	03 14 57.3	-1.1
OBN				*e*S	S	03 23 51.3	-0.7
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.7						
AKASG	Malin Array Be	70.61	322	P	P	03 15 13.0	-1.8
	comp=Z,0.8nm,0.5s,mb3.8,baz=92,slow=4.7,SNR=5.1						
FINES	FINESS Array B	75.33	332	P	P	03 15 42.5	-0.2
	comp=Z,1.0nm,0.6s,mb3.8,baz=97,slow=7.0,SNR=12						
KAF	Kangasniemi	75.42	333	*e*p	P	03 15 42.0	-1.2
PSZ	Piszkesteto	76.01	318	*e*P	P	03 15 46.3	-0.3
PSZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
PSZ	Piszkesteto	76.01	318	*e*P	P	03 15 46.3	-0.3
	comp=Z,1.9nm,0.6s,mb4.0						
MORC	Moravsky Berou	77.78	320	*e*P	P	03 15 56.3	-0.3
MORC				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
MORC	Moravsky Berou	77.78	320	*e*P	P	03 15 56.2	-0.3
	comp=Z,1.8nm,0.6s,mb4.0						
ARCES	ARCESS Array B	77.95	340	P	P	03 15 57.2	-0.3
	comp=Z,2.1nm,0.6s,mb4.0,baz=101,slow=5.4,SNR=15						
ARCES	ARCESS Array B	77.95	340	P	P	03 15 57.2	-0.3
PERS	Pernice	79.12	316	*e*P	P	03 16 04.6	+0.7
LJU	Ljubljana	79.49	316	*e*P	P	03 16 06.8	+0.9
GERES	GERESS Array B	80.21	319	P	P	03 16 10.5	+0.7
	comp=Z,2.7nm,0.7s,mb4.2,baz=90,slow=5.5,SNR=26						
GRA1	Grafenberg Arr	81.87	319	*e*P	P	03 16 18.6	-0.1
	comp=Z,4.0nm,0.8s,mb4.3						
GRF	Grafenberg Arr	81.87	319	*e*P	P	03 16 18.6	-0.1
	comp=Z,4.0nm,0.8s,mb4.3						
GRF	Grafenberg Arr	81.87	319	*e*P	P	03 16 18.6	-0.1
GRF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
GRF	Grafenberg Arr	81.87	319	*e*P	P	03 16 18.6	-0.1
GRF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
LPG	La Plagne	84.92	315	⇑*i*P	P	03 16 34.7	+0.4
	comp=Z,8.4nm,0.8s,mb4.4						
LPG	La Plagne	84.92	315	⇑*i*P	P	03 16 34.7	+0.4
LPG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
LPG	La Plagne	84.92	315	⇑*i*P	P	03 16 34.7	+0.4
	comp=Z,4.2nm,0.8s,mb4.4						
PDAR	Pinedale Array	127.38	22	PKP	PKPdf	03 23 03.9	+0.2
	comp=Z,0.5nm,0.6s,baz=132,slow=2.2,SNR=5.5						

IDC ***13*** *04:13:59.0±0.7, 5405N×16362E, h0^{km}, mb4.0/13, mb1 4.2/13, mb1mx4.0/22, mbtmp4.0/13, Error ellipse: s-maj=23.6km s-min=18.3km az=134.0*
MOS ***13*** *04:14:02.2±0.8, 5403N×16373E, h32^{km}, mb4.4/7, Error ellipse: s-maj=12.5km s-min=9.7km az=98.3*
BJI ***13*** *04:14:02.1, 5421N×16341E, h21^{km}, mB5.0, mb4.5, Ms4.4, Msz4.2*
ISCJB ***13*** *04:14:02.6±0.4, 5406N±004×16364E±005, h34^{km}, mb4.1/22, Error ellipse: s-maj=5.6km s-min=4.5km az=164.1*
KRSC ***13*** *04:14:02, 5404N×16349E, h39^{km}, ML4.3*
NEIC ***13*** *04:14:04.5±0.3, 5408N×16368E, mb4.3/10, Error ellipse: s-maj=10.8km s-min=6.3km az=163.0*
ISC 13 04:14:04.5±0.4**, 5403N**±004×**16355E**±005**, h36^{km}, h36^{km}**±1.3^{km}**:pP-P, n49,** σ**1^{s}12**/61**, mb4.1**/22**, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	1.19	297	P	Pn	04 14 24.9	+0.3
MKZ				S	Sn	04 14 40.7	+1.2
KBTR	Krutoberegovo	2.22	349	P	Pn	04 14 36.5	-2.3
KBTR				S	Sn	04 15 01.7	-3.3
SPN	Mys Shipunski	2.30	247	P	Pn	04 14 39.3	-0.6
SPN				S	Sn	04 15 05.8	-1.2
KII	Karymskiy	2.42	272	P	Pn	04 14 42.6	+1.1
KII				S	Sn	04 15 11.0	+1.1
NLC	Nalytchevo	2.65	253	P	Pn	04 14 44.7	0.0
NLC				S	Sn	04 15 15.2	-0.4
KLY	Klyuchi	2.83	325	P	Pn	04 14 46.3	-0.8
KLY				S	Sn	04 15 17.6	-2.3
KOZR	Kozyr	2.93	316	PN	Pn	04 14 49.7	+1.2
KOZR				S	Sn	04 15 23.0	+0.6
KOZ	Kozyrevsk	2.93	315	P	Pn	04 14 49.7	+1.2
KOZ				S	Sn	04 15 23.0	+0.5
PET	Petropavlovsk	3.09	253	P	Pn	04 14 50.4	-0.4
PET				S	Sn	04 15 24.3	-2.2
PET	Petropavlovsk	3.09	253	*e*Pn	Pn	04 14 53.1	+2.3
PET				*e*Sn	Sn	04 15 23.7	-2.8
RUS	Russkaya	3.42	244	P	Pn	04 14 55.1	-0.2
RUS				S	Sn	04 15 32.8	-1.9
MAJO	Matsushiro	24.76	235	*e*P	P	04 19 23.8	+1.1
MJAR	Matsushiro Arr	24.76	235	P	P	04 19 23.3	+0.6
	1.8nm,0.4s,mb4.0,baz=26,slow=9.3,SNR=8.3						
DAWY	Dawson	29.97	48	*e*P	P	04 20 12.4	+3.0
HHC	Hu-ho-hao-te	36.71	271	*e*P	P	04 21 09.3	+1.3
HHC				AP	pP	04 21 20.0	+1.6
HHC				XP	sP	04 21 24.4	+1.7
HHC				PP	PP	04 22 34.4	+2.5
HHC				PCP	PcP	04 23 32.4	+2.3
HHC				S	S	04 26 46.4	-2.6
HHC				XS	sS	04 27 03.5	-2.7
HHC				PS		04 27 19.6	
HHC				SS	SS	04 29 12.8	-17
HHC				SCS	ScS	04 31 22.4	+1.6
HHC				AMB	AMB		
	comp=Z,150nm,4.3s						
HHC				LR	LR		
	comp=N,189nm,5.0s						
HHC				LR	LR		
	comp=E,237nm,4.8s						
HHC				LR	LR		
	comp=Z,186nm,5.0s						
WMQ	Urumqi	48.59	291	P	P	04 22 47.0	+2.7
KURK	Kurchatov	48.97	303	*e*P	P	04 22 46.9	-0.4
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
KURK	Kurchatov	48.97	303	*e*P	P	04 22 46.9	-0.4
	comp=Z,3.3nm,0.8s,mb4.4						
MKAR	Makanchi Array	49.59	297	P	P	04 22 51.0	-1.0
	comp=Z,1.4nm,0.7s,mb4.1,baz=59,slow=7.7,SNR=8.5						
CHKZ	Chkalovo	50.87	310	*e*P	P	04 23 01.9	+0.2
CHKZ				*e**PP	pP	04 23 12.2	-0.2
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
CHKZ	Chkalovo	50.87	310	*e*P	P	04 23 01.9	+0.1
	comp=Z,3.2nm,0.7s,mb4.4						
CHKZ				*e*pP	pP	04 23 12.2	-0.2
BVAR	Borovoye Array	51.40	309	P	P	04 23 05.3	-0.4
	comp=Z,1.7nm,0.7s,mb4.1,baz=53,slow=7.6,SNR=8.3						
ZRNK	Zerenda	52.08	310	*e*P	P	04 23 11.3	+0.6
ZRNK				*e**PP	pP	04 23 22.1	+0.6
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	Zerenda	52.08	310	*e*P	P	04 23 11.3	+0.6
	comp=Z,1.1nm,0.5s,mb4.0						
ZRNK				*e*pP	pP	04 23 22.1	+0.6
KMI	Kunming	53.01	262	P	P	04 23 20.3	+2.7
NVAR	Mina Array Bea	53.49	73	P	P	04 23 21.2	0.0
	comp=Z,0.6nm,0.6s,mb3.7,baz=298,slow=5.6,SNR=4.1						
NVAR	Mina Array Bea	53.49	73	P	P	04 23 21.2	0.0
ARU	Arti	54.08	318	*e*P	P	04 23 26.7	+1.2
ARU				*e**PP	pP	04 23 36.3	0.0
ARU	Arti	54.08	318	*e*P	P	04 23 26.7	+1.2
ARU				*e*pP	pP	04 23 36.3	0.0
BW06	Boulder Array	55.26	63	*e*P	P	04 23 34.1	+0.1
	comp=Z,1.8nm,1.0s,mb4.1						
BW06				*e*pP	pP	04 23 44.0	-0.9
PDAR	Pinedale Array	55.26	63	P	P	04 23 33.5	-0.5
	comp=Z,1.2nm,0.9s,mb3.9,baz=343,slow=3.8,SNR=8.1						
DUG	Dugway	55.31	68	*e*P	P	04 23 34.5	+0.1
DUG				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
DUG	Dugway	55.31	68	*e*P	P	04 23 34.5	+0.1
	comp=Z,2.8nm,1.0s,mb4.2						
SFJD	Kangerlussuaq	56.59	15	P	P	04 23 41.6	-1.9
	comp=Z,4.4nm,0.6s,mb4.7,baz=326,slow=3.6,SNR=2.8						
ULM	Lac du Bonnet	56.66	49	P	P	04 23 43.2	-0.8
	comp=Z,2.9nm,1.0s,mb4.3,baz=320,slow=10,SNR=4.0						
ULM	Lac du Bonnet	56.66	49	*e*P	P	04 23 42.9	-1.2
	comp=Z,5.7nm,1.0s,mb4.6						
ULM				*e*pP	pP	04 23 53.0	-1.9
RSSD	Black Hills	57.16	59	*e*P	P	04 23 47.3	-0.3
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
RSSD	Black Hills	57.16	59	*e*P	P	04 23 47.3	-0.3
	comp=Z,3.2nm,0.9s,mb4.3						
SMCO	Snowmass	59.19	65	*e*P	P	04 24 01.2	-0.6
	comp=Z,2.2nm,0.9s,mb4.2						
FINES	FINESS Array B	60.05	338	P	P	04 24 08.0	+0.3
	comp=Z,1.7nm,0.9s,mb4.1,baz=35,slow=7.0,SNR=5.4						
ANMO	Albuquerque	62.58	68	*e*P	P	04 24 25.3	+0.5
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ANMO	Albuquerque	62.58	68	*e*P	P	04 24 25.3	+0.5
	comp=Z,1.2nm,0.9s,mb4.0						
NOA	NORSAR Array B	63.19	345	P	P	04 24 28.5	-0.4
	comp=Z,0.6nm,0.8s,mb3.8,baz=19,slow=6.6,SNR=2.7						
LTX	Lajitas	68.38	70	*e*P	P	04 25 02.2	-0.1
LTX				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
LTX	Lajitas	68.38	70	*e*P	P	04 25 02.2	0.0
	comp=Z,2.3nm,0.7s,mb4.3						
GERES	GERESS Array B	74.38	340	P	P	04 25 38.4	-0.2
	comp=Z,0.4nm,0.5s,mb3.6,baz=2.7,slow=6.3,SNR=2.4						
BRTR	Keskin Array B	77.17	323	P	P	04 25 54.5	+0.1
	comp=Z,0.3nm,0.7s,mb3.4,baz=48,slow=4.3,SNR=3.4						
WRA	Warramunga Arr	77.84	208	P	P	04 25 57.8	-0.4
	comp=Z,1.8nm,0.6s,mb4.2,baz=24,slow=6.2,SNR=16						
ASAR	Alice Springs	81.50	207	P	P	04 26 18.3	+0.2
	comp=Z,1.8nm,0.7s,mb4.1,baz=17,slow=5.3,SNR=19						

ISCJB ***13*** *04:42:01.5±0.6, 4276N±003×7588E±004, h10^{km}, Error ellipse: s-maj=5.1km s-min=4.2km az=60.4*
KNET ***13*** *04:42:01.8±0.4, 4270N×7578E, h0^{km}, ml2.4, Error ellipse: s-maj=2.4km s-min=1.9km az=59.0*
NNC ***13*** *04:42:02.7±1.2, 4280N×7583E, h0^{km}, mb3.7, mpv2.8, Error ellipse: s-maj=15.6km s-min=5.2km az=9.0*
ISC 13 04:42:02.3±0.6**, 4273N**±003×**7582E**±004**, h10^{km}, n18,** σ**0^{s}99**/23**, 16C-13D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TKM2	Tokmak 2	0.25	319	⇑P	Pg	04 42 06.8	-0.6
	148nm,0.1s,SNR=799						
TKM2				⇓S	Sg	04 42 10.7	-0.1
	837nm,0.2s						
TKM2	Tokmak 2	0.25	319	⇑P	Pg	04 42 06.8	-0.6
	2.6nm,0.3s						
TKM2				⇑S	Sg	04 42 10.5	-0.3
	141nm,0.9s						
ULHL	Ulahol	0.58	147	⇑P	Pg	04 42 12.8	-0.8
	35nm,0.3s,SNR=105						
ULHL				⇑S	Sg	04 42 20.9	-0.3
	41nm,0.2s						
KBK	Karagaybulak	0.65	263	⇓P	Pg	04 42 14.7	-0.2
	44nm,0.1s,SNR=34						
KBK				⇑S	Sg	04 42 24.2	+0.9
	308nm,0.3s						
KZA	Kyzart	0.78	213	⇓P	Pg	04 42 17.2	-0.2
	32nm,0.3s,SNR=20						
KZA				⇓S	Sg	04 42 28.4	+0.9
	154nm,0.8s						
CHMS	Chumysh	0.83	289	⇑P	Pg	04 42 17.3	-1.0
	8.4nm,0.1s,SNR=5.7						
CHMS				⇑S	Sg	04 42 29.0	-0.1
	46nm,0.2s						
AAK	Ala-Archa	0.98	265	⇓P	Pg	04 42 20.4	-0.8
	20nm,0.3s,SNR=12						
AAK				⇓S	Sg	04 42 34.0	0.0
	64nm,0.3s						
UCH	Uchtor	1.09	243	⇓P	Pb	04 42 22.4	-0.9
	9.9nm,0.3s,SNR=32						
UCH				⇓S	Sg	04 42 37.5	0.0
	54nm,0.4s						
USP	Ospenovka	1.10	299	P	Pb	04 42 22.3	-1.2
	17nm,0.3s,SNR=42						
USP				⇓S	Sg	04 42 39.2	+1.2
	40nm,0.2s						
EKS2	Erkin-Say	1.51	268	⇓P	Pn	04 42 30.6	+1.2
	12nm,0.2s,SNR=23						
AML	Almayashu	1.69	250	⇓P	Pn	04 42 33.7	+1.9
	14nm,0.2s						
KK31	Karatay Array	3.92	277	⇑Pg	Pg	04 43 14.5	-2.9
	2.1nm,0.3s,baz=92,slow=16,SNR=58						
KK31				⇑Lg		04 44 03.7	
	9.6nm,0.4s,baz=96,slow=28,SNR=16						
MK05	Makanchi Array	6.14	46	⇑Pn	Pn	04 43 34.9	+1.9
	1.9nm,0.5s,baz=222,slow=16						
MK05				⇓Sn	Sn	04 44 43.4	+0.1
	1.6nm,0.6s,baz=222,slow=24						
MK05				⇓Lg		04 45 12.6	
	2.8nm,0.6s,baz=225,slow=28						
KURK	Kurchatov	8.21	13	⇑Lg		04 46 16.6	
	12nm,0.9s						
VOSK	Vostochnaya	10.51	344	⇑Lg		04 47 30.0	
	5.3nm,0.8s						
BVA0	Borovoye Array	10.92	342	⇑Lg		04 47 44.2	
	1.3nm,0.9s						
ZRNK	Zerenda	11.20	338	⇑Lg		04 47 50.6	
	6.4nm,1.2s						
CHKZ	Chkalovo	11.48	344	⇑Lg		04 48 06.1	
	4.9nm,0.9s						

ISCJB ***13*** *04:47:34.5±0.5, 4757N±003×1211E±004, h10^{km}, Error ellipse: s-maj=5.3km s-min=2.7km az=116.7*
CSEM ***13*** *04:47:35.4±0.1, 4750N×1209E, h20^{km}, ML2.8/4, Error ellipse: s-maj=2.5km s-min=1.1km az=159.0*
VIE ***13*** *04:47:35.0±0.2, 4754N×1210E, h12^{km}±6^{km}, mb1.6/4, ML2.5/7, Error ellipse: s-maj=1.9km s-min=0.7km az=167.0 5 km NNE of Wgl*
PRU ***13*** *04:47:35.1, 4742N×1226E, h0^{km}*
ISC 13 04:47:35.7±0.5**, 4752N**±003×**1211E**±004**, h10^{km}, n12,** σ**0^{s}72**/21**, 9C-5D, Austria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WATA	Walderalm	0.41	243	⇑*i*Pg	Pg	04 47 43.1	-0.6
	14nm,0.1s						
WATA				⇑*i*Sg	Sg	04 47 49.7	+0.6
	58nm,0.1s						
WTTA	Wattenberg	0.41	232	⇑*i*Pg	Pg	04 47 43.5	-0.3
	8.6nm,0.1s						
WTTA				⇓*i*Sg	Sg	04 47 49.2	0.0
	15nm,0.1s						
SQTA	Sankt Quirin	0.68	244	⇑*i*Pg	Pg	04 47 48.5	-0.4
	7.6nm,0.2s						
SQTA				⇑*i*Sg	Sg	04 47 58.1	+0.3
	15nm,0.1s						
MOTA	Moosalm	0.71	256	⇓*i*Pg	Pg	04 47 48.8	-0.6
	2.9nm,0.1s						
MOTA				⇑*i*Sg	Sg	04 47 58.7	+0.1
	8.3nm,0.1s						
KBA	Koelnbreinsper	0.95	117	⇑*i*Pg	Pg	04 47 53.9	0.0
	1.2nm,0.1s						
KBA				⇓*i*Sg	Sg	04 48 07.0	+0.7
	3.5nm,0.2s						
KBA	Koelnbreinsper	0.95	117	Pg	Pg	04 47 53.9	0.0
	1.2nm,0.1s						
KBA				Sg	Sg	04 48 07.0	+0.7
	3.5nm,0.2s						
MOA	Molln	1.49	76	⇓*i*Pg	Pg	04 48 04.3	-0.1
	3.9nm,0.1s						
MOA				⇓*i*Sg	Sg	04 48 24.7	+1.0
	6.1nm,0.1s						
DAVA	Damuels	1.53	262	⇑*i*Pg	Pg	04 48 04.6	-0.5
	4.0nm,0.2s						
DAVA				⇑*i*Sg	Sg	04 48 25.6	+0.6
	7.5nm,0.2s						
KHC	Kasperske Hory	1.89	31	*e*PG	Pg	04 48 11.0	-0.9
KHC				*e*SG	Sg	04 48 36.5	+0.1
	7.2nm,0.2s						
NKC	Novy Kostel	2.73	5	*e*SG	Sg	04 49 04.7	+1.4
TREC	Trest	2.87	50	*e*SG	Sg	04 49 05.8	-2.0
PRU	Pruhonice	2.95	32	*e*SG	Sg	04 49 10.7	+0.3

NEIC ***13*** *04:55:03.8, 3505S×7055W, h35^{km}, ML3.1(GUC), After GUC.*
GUC 13 04:55:03.8±0.8**, 3505S**×**7055W, h35^{km}**±11^{km}**, MD3.8, ML3.1, 7C-10D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.56	274	⇓*i*P	Pn	04 55 15.0	-0.3
NICH				*i* S	Sn	04 55 23.9	+0.6
SFDO	San Fernando	0.58	318	⇓*i*P	Pn	04 55 14.8	-0.7
SFDO				*i* S	Sn	04 55 22.8	-1.0
CACH	El Canelo	0.93	357	⇑*i*P	Pn	04 55 20.7	+0.4
CACH				*i* S	Sn	04 55 33.5	+1.1
TALC	Talca	0.96	248	⇓*i*P	Pn	04 55 21.5	+0.8
TALC				*i* S	Sn	04 55 34.8	+1.6
TALC				AML	AML	04 55 35.4	
	comp=N,3µm,0.4s						
TALC	Talca	0.96	248	⇓*i*P	Pn	04 55 21.5	+0.8
TALC				*i* S	Sn	04 55 34.8	+1.6
CHCH	Chadas Angostu	1.11	355	⇑*i*P	Pn	04 55 24.3	+1.4
LNCH	Linares	1.18	227	⇑*i*P	Pn	04 55 25.1	+1.4
LNCH				*i* S	Sn	04 55 41.5	+3.0
LNCH				AML	AML	04 55 42.4	
	comp=E,656nm,0.7s						
LNCH	Linares	1.18	227	⇑*i*P	Pn	04 55 25.1	+1.4
LNCH				*i* S	Sn	04 55 41.5	+3.0
LNV	Longovilo	1.30	326	*i* P	Pn	04 55 27.1	+1.7
LNV				*i* S	Sn	04 55 44.7	+3.1
SJCH	San Jose de Ma	1.41	7	*e*P	Pn	04 55 28.8	+1.8
SJCH				*i* S	Sn	04 55 48.5	+4.2
SJCH				AML	AML	04 55 49.5	
	comp=N,262nm,0.5s						
SJCH	San Jose de Ma	1.41	7	*e*P	Pn	04 55 28.8	+1.8
SJCH				*i* S	Sn	04 55 48.5	+4.2
PCH	Pirque	1.42	1	⇓*i*P	Pn	04 55 29.5	+2.4
PCH				*i* S	Sn	04 55 49.2	+4.6
TACH	Talagante	1.43	347	⇓*i*P	Pn	04 55 29.3	+2.2
TACH				*i* S	Sn	04 55 48.6	+3.9
ANTU	Antumapu	1.47	357	⇑*i*P	Pn	04 55 30.5	+2.7
ANTU				*i* S	Sn	04 55 50.5	+4.7
ANTU				AML	AML	04 55 51.6	
	comp=E,510nm,0.2s						
ANTU	Antumapu	1.47	357	⇑*i*P	Pn	04 55 30.5	+2.7
ANTU				*i* S	Sn	04 55 50.5	+4.7
FSR	Penalolen	1.56	1	*e*P	Pn	04 55 32.1	+3.0
FSR				*i* S	Sn	04 55 53.5	+5.4
FSR				AML	AML	04 55 54.5	
	comp=E,316nm,0.8s						
FSR	Penalolen	1.56	1	*e*P	Pn	04 55 32.1	+3.0
FSR				*i* S	Sn	04 55 53.5	+5.4
STL	Santa Lucia	1.61	357	*i* P	Pn	04 55 32.1	+2.4
STL				*i* S	Sn	04 55 53.9	+4.8
STL				AML	AML	04 55 54.7	
	comp=E,163nm,0.2s						
LCCH	Las Cruces	1.78	331	⇓*i*P	Pn	04 55 35.1	+3.0
LCCH				*i* S	Sn	04 55 58.9	+5.4
PEL	Peldehue	1.90	356	⇓*i*P	Pn	04 55 37.4	+3.6
PEL				*i* S	Sn	04 56 02.9	+6.5
PEL				AML	AML	04 56 08.2	
	comp=E,852nm,0.5s						
PEL	Peldehue	1.90	356	⇓*i*P	Pn	04 55 37.4	+3.6
PEL				*i* S	Sn	04 56 02.9	+6.5
ROCH	El Roble	2.10	349	⇑*i*P	Pn	04 55 40.9	+4.4
JACH	Jahuel	2.36	359	⇓*i*P	Pn	04 55 45.0	+5.0
JACH				*i* S	Sn	04 56 16.9	+9.2

ISCJB ***13*** *05:04:37.1±1.0, 4277N±005×7588E±007, h10^{km}, Error ellipse: s-maj=8.8km s-min=4.6km az=94.7*
NNC ***13*** *05:04:37.5±1.2, 4279N×7588E, h3^{km}±21^{km}, mb3.2, mpv2.0, Error ellipse: s-maj=36.4km s-min=18.8km az=0.0*
KNET ***13*** *05:04:37.7±0.4, 4272N×7580E, h0^{km}, ml2.0, Error ellipse: s-maj=2.7km s-min=1.2km az=80.0*
ISC 13 05:04:37.3±1.0**, 4277N**±004×**7586E**±006**, h10^{km}, n12,** σ**0^{s}77**/19**, 14C-6D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TKM2	Tokmak 2	0.24	309	⇑P	Pg	05 04 42.7	+0.4
	54nm,0.1s,SNR=354						
TKM2				⇑S	Sg	05 04 46.5	+0.8
	362nm,0.1s						
TKM2	Tokmak 2	0.24	309	⇑P	Pg	05 04 42.7	+0.4
	0.5nm,0.2s						
TKM2				⇑S	Sg	05 04 46.5	+0.9
	8.5nm,0.3s						
ULHL	Ulahol	0.59	151	⇑P	Pg	05 04 48.7	-0.1
	16nm,0.1s,SNR=95						
ULHL				⇓S	Sg	05 04 57.0	+0.3
	52nm,0.2s						
KBK	Karagaybulak	0.68	261	P	Pg	05 04 50.7	+0.2
	38nm,0.1s,SNR=11						
KBK				⇓S	Sg	05 05 00.1	+0.8
	138nm,0.2s						
KZA	Kyzart	0.82	213	⇑P	Pg	05 04 53.1	-0.1
	17nm,0.2s,SNR=8.2						
KZA				⇓S	Sg	05 05 04.3	+0.4
	23nm,0.2s						
CHMS	Chumysh	0.84	286	⇑P	Pg	05 04 53.0	-0.6
	5.0nm,0.1s,SNR=11						
CHMS				⇑S	Sg	05 05 04.7	+0.1
	46nm,0.2s						
AAK	Ala-Archa	1.01	263	⇑P	Pg	05 04 56.3	-0.5
	12nm,0.3s,SNR=7.9						
AAK				⇓S	Sg	05 05 09.9	-0.1
	20nm,0.2s						
USP	Ospenovka	1.11	297	⇑P	Pb	05 04 58.1	-0.5
	13nm,0.3s,SNR=8.2						
UCH	Uchtor	1.13	242	⇑P	Pb	05 04 58.3	-0.7
	4.4nm,0.2s,SNR=7.9						
UCH				⇑S	Sb	05 05 13.5	-0.2
	11nm,0.2s						
EKS2	Erkin-Say	1.54	267	⇓P	Pn	05 05 06.4	+1.6
	8.9nm,0.2s,SNR=15						
KK31	Karatay Array	3.94	277	⇓Pg	Pg	05 05 50.3	-2.5
	0.8nm,0.3s,baz=82,slow=17,SNR=16						
KK31				⇑Lg		05 06 38.9	
	4.4nm,0.5s,baz=96,slow=29,SNR=8.6						
KURK	Kurchatov	8.17	12	⇑Lg		05 08 56.0	
	5.9nm,1.3s						

LDG ***13*** *05:11:52.2±0.6, 1620S×16736E, h10^{km}, Mb4.4/1, Error ellipse: s-maj=76.3km s-min=49.4km az=38.0*
IDC ***13*** *05:12:12.2±2.6, 1601S×16806E, h173^{km}±20^{km}, mb4.3/15, mb1 4.3/16, mb1mx4.3/19, mbtmp4.7/16, MS3.7/4, Ms1 3.7/4, ms1mx3.1/27, Error ellipse: s-maj=19.6km s-min=13.7km az=44.0*
ISCJB ***13*** *05:12:12.6±0.9, 1609S±007×16796E±007, h186^{km}±7^{km}, mb4.5/26, Error ellipse: s-maj=12.0km s-min=10.9km az=128.3*
BJI ***13*** *05:12:13.7, 1546S×16843E, h189^{km}, mB5.0, mb4.6*
NEIC ***13*** *05:12:14.3±0.3, 1600S×16802E, mb4.6/16, Error ellipse: s-maj=8.8km s-min=7.3km az=168.0*
HRVD ***13*** *05:12:14.3±0.3, 1605S×16776E, h200^{km}±2^{km}, MW5.2/75, Centroid moment Tensor Solution. LP body waves: s30,c35;Mantle waves: s75,c111; Half duration: 0*

Moment tensor: Scale 10^16Nm; M_{rr}-3.34±.20; $M_{\theta\theta}$6.30±.21; $M_{\phi\phi}$-2.96±.20; $M_{r\theta}$-0.47±.21; $M_{\theta\phi}$1.92±.22; $M_{\phi r}$3.19±.18; Best double couple: $M_0$6.62400×10^16 NP1:ϕ_s114.00000°,δ59.00000°,λ-35.00000°. NP2: ϕ_s223.00000°,δ61.00000°,λ-144.00000°. Principal axes: T 6.6850, Plg1.0000°, Azm348.0000°; N -0.1230, Plg45.0000°, Azm257.0000°; P -6.5630, Plg45.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 13 05:12:13.8±0.9**,1610S**±007×**16801E**±007**,h183**km±7km**, h188**km±8.3km**:pP-P,n99,**σ0s75/51**,mb4.5**/26**,1C,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.58**	**172**	*i* P	**Pn**	**05 12 46.3**	**-0.4**
BKM				S	**Sn**	**05 13 12.0**	**-0.2**
DZM	**Mont Dzumac**	**6.12**	**194**⇑	*i*P	**Pn**	**05 13 42.7**	**+0.4**
DZM				*e*S	**Sn**	**05 14 52.2**	**0.0**
DZM	**Mont Dzumac**	**6.12**	**194**	P	**Pn**	**05 13 42.7**	**+0.3**
	44nm,0.3s,baz=54,slow=17,SNR=130						
DZM				S	**Sn**	**05 14 51.4**	**-0.7**
	baz=310,slow=22,SNR=9.9						
HNR	**Honiara**	**10.28**	**309**	LR	LR	05 18 06.1	
	comp=Z,535nm,21.0s,baz=178,slow=34						
AFI	**Afiamalu**	**19.65**	**86**	LR	LR	05 21 44.2	
	comp=Z,188nm,20.2s,baz=274,slow=29						
AFI	**Afiamalu**	**19.65**	**86**	*e*P	**P**	**05 16 29.2**	**+0.7**
	68nm,0.9s						
CTA	**Charters Tower**	**21.05**	**256**	*e*P	**P**	**05 16 45.1**	**+1.6**
	10nm,0.6s,mb4.3						
CTA				*e*pP		05 17 20.1	
CTA	**Charters Tower**	**21.05**	**256**	P	**P**	**05 16 44.6**	**+1.1**
	12nm,0.6s,mb4.4,baz=91,slow=12,SNR=19						
CTAO	**Charters Tower**	**21.05**	**256**	*e*P	**P**	**05 16 46.0**	**+2.5**
	24nm,0.9s,mb4.5						
PMG	**Port Moresby**	**21.38**	**286**	P	**P**	**05 16 47.6**	**+0.7**
	8.2nm,0.5s,mb4.3,baz=291,slow=20,SNR=3.4						
PMG				LR	LR	05 24 18.4	
	comp=Z,166nm,20.1s,baz=289,slow=34						
PMG	**Port Moresby**	**21.38**	**286**	*e*P	**P**	**05 16 45.0**	**-1.9**
	10nm,0.5s,mb4.4						
URZ	**Urewera**	**23.49**	**162**	P	**P**	**05 17 07.1**	**+0.1**
	23nm,0.7s,mb4.7,baz=359,slow=8.0,SNR=10						
RPZ	**Rata Peaks**	**27.65**	**175**	P	**P**	**05 17 44.8**	**+0.4**
	19nm,0.7s,mb4.9,baz=217,slow=5.7,SNR=10						
STKA	**Stephens Creek**	**28.68**	**232**	*e*P	**P**	**05 17 54.6**	**+1.0**
	4.7nm,1.0s,mb4.2						
STKA				*e*pP	pP	05 18 34.0	+2.8
STKA	**Stephens Creek**	**28.68**	**232**	P	**P**	**05 17 54.0**	**+0.4**
	6.1nm,0.9s,mb4.3,baz=49,slow=9.3,SNR=7.0						
STKA				PcP	PcP	05 20 59.6	+0.2
	6.1nm,0.7s,baz=42,slow=6.7,SNR=5.4						
WB2	**Warramunga Arr**	**32.20**	**258**	*e*P	**P**	**05 18 24.5**	**0.0**
WRAB	**Tennant Creek**	**32.20**	**258**	*e*P	**P**	**05 18 23.9**	**-0.6**
	11nm,0.9s,mb4.6						
WRAB				*e*pP	pP	05 19 04.1	+1.7
WRA	**Warramunga Arr**	**32.21**	**258**	P	**P**	**05 18 24.0**	**-0.6**
	4.1nm,0.9s,mb4.2,baz=82,slow=7.4,SNR=27						
WRA				PcP	PcP	05 21 08.9	+0.2
	3.0nm,0.8s,baz=93,slow=2.9,SNR=9.0						
AS31	**Alice Springs**	**32.88**	**251**	*e*P	**P**	**05 18 30.6**	**+0.2**
ASAR	**Alice Springs**	**32.88**	**251**	P	**P**	**05 18 30.5**	**+0.1**
	25nm,0.5s,mb5.2,baz=77,slow=9.1,SNR=315						
ASAR				pP	pP	05 19 05.5	-2.9
	7.8nm,0.9s,baz=81,slow=9.0,SNR=2.6						
ASAR				PcP	PcP	05 21 10.6	+0.1
	2.3nm,0.7s,baz=92,slow=3.2,SNR=7.4						
ASAR				S	**S**	**05 23 32.6**	**-1.7**
	0.7nm,0.9s,baz=86,slow=15,SNR=3.1						
ASAR				ScP	ScP	05 24 38.3	+1.1
	3.5nm,1.0s,baz=83,slow=3.3,SNR=7.6						
ASPA	**Alice Springs**	**32.88**	**251**	*e*P	**P**	**05 18 30.6**	**+0.2**
KAKA	**Kakadu**	**34.59**	**271**	*e*P	**P**	**05 18 44.5**	**-0.6**
	14nm,1.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**40.48**	**261**	*e*P	**P**	**05 19 35.3**	**+0.7**
	17nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**40.48**	**261**	P	**P**	**05 19 34.7**	**+0.1**
	8.1nm,0.7s,mb4.5,baz=82,slow=9.0,SNR=24						
FITZ				LR	LR	05 34 29.6	
	comp=Z,86nm,21.5s,baz=280,slow=33						
MBWA	**Marble Bar**	**45.89**	**256**	*e*P	**P**	**05 20 18.3**	**+0.4**
	19nm,0.8s,mb4.8						
KLBR	**Kellerberrin**	**48.07**	**242**	*e*P	**P**	**05 20 34.1**	**-0.7**
NWAO	**Narrogin (SRO)**	**48.67**	**240**	P	**P**	**05 20 39.0**	**-0.3**
	18nm,0.9s,mb4.7,baz=92,slow=9.3,SNR=6.6						
MUN	**Mundaring**	**49.42**	**242**	*e*P	**P**	**05 20 45.9**	**+0.8**
VNDA	**Vanda**	**61.52**	**182**	P	**P**	**05 22 11.3**	**+0.1**
	3.3nm,0.7s,mb4.3,baz=360,slow=7.5,SNR=19						
VNDA	**Vanda**	**61.52**	**182**	*e*P	**P**	**05 22 11.1**	**-0.2**
	11nm,1.2s,mb4.6						
SBA	**Scott Base**	**61.78**	**180**	*e*P	**P**	**05 22 14.1**	**+1.1**
	27nm,1.1s,mb5.0						
CASY	**Casey**	**62.54**	**203**	*e*P	**P**	**05 22 18.1**	**+0.1**
	13nm,0.9s,mb4.8						
CN2	**Changchun**	**71.18**	**329**	*e*P	**P**	**05 23 13.0**	**+0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
QSPA	**South Pole Qui**	**73.94**	**180**	*e*P	**P**	**05 23 29.2**	**+0.3**
	comp=Z,72nm,1.1s,mb5.3						
KMI	**Kunming**	**75.63**	**302**	P	**P**	**05 23 42.8**	**+4.2**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.3						
MAW	**Mawson**	**80.89**	**202**	P	**P**	**05 24 07.5**	**0.0**
	comp=Z,6.0nm,0.8s,mb4.2,baz=103,slow=4.2,SNR=8.6						
MAW	**Mawson**	**80.89**	**202**	*e*P	**P**	**05 24 07.6**	**+0.2**
	comp=Z,7.8nm,0.9s,mb4.3						
SONM	**Songino Array**	**84.02**	**323**	P	**P**	**05 24 23.6**	**0.0**
	comp=Z,4.7nm,0.9s,mb4.2,baz=145,slow=6.9,SNR=29						
GTA	**Gaotai**	**84.12**	**314**	*e*P	**P**	**05 24 25.6**	**+1.4**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
CMB	**Columbia Colle**	**85.96**	**49**	*e*P	**P**	**05 24 32.7**	**-0.6**
	comp=Z,2.7nm,0.9s,mb4.0						
SYO	**Syowa Base**	**87.60**	**196**⇑	*e*P	**P**	**05 24 40.2**	**-1.0**
NVAR	**Mina Array Bea**	**87.62**	**49**	P	**P**	**05 24 40.3**	**-1.0**
	comp=Z,1.1nm,0.8s,mb3.7,baz=231,slow=6.1,SNR=6.1						
SNAA	**Sanae**	**92.23**	**183**	*e*	**P**	**05 25 01.8**	**-1.0**
SNAA				*e*		05 25 03.1	
SNAA				*e*		05 25 06.5	
SNAA				*e*		05 25 15.3	
SNAA	**Sanae**	**92.23**	**183**	*e*P	**P**	**05 25 01.7**	**-1.1**
	comp=Z,5.9nm,1.0s,mb4.6						
WMQ	**Urumqi**	**94.19**	**314**	P	**P**	**05 25 12.5**	**+0.7**
PDAR	**Pinedale Array**	**95.35**	**47**	PKKPbc	PKKPbc	05 42 08.9	+0.3
	comp=Z,0.5nm,0.8s,baz=66,slow=5.0,SNR=3.6						
MKAR	**Makanchi Array**	**98.68**	**316**	P	**P**	**05 25 32.2**	**+0.1**
	comp=Z,0.3nm,0.3s,mb4.2,baz=90,slow=4.9,SNR=5.7						
MKAR				PKKPbc	PKKPbc	05 41 59.1	-0.5
	comp=Z,0.2nm,0.2s,baz=357,slow=2.4,SNR=3.8						
MKAR	**Makanchi Array**	**98.68**	**316**	P	**P**	**05 25 32.2**	**+0.1**
MKAR				PKKPbc	PKKPbc	05 41 59.1	-0.5
ZAL	**Zalesovo**	**98.92**	**324**	P	**P**	**05 25 31.5**	**-1.6**
	comp=Z,1.6nm,0.3s,mb4.9,baz=25,slow=3.9,SNR=3.2						
ZAL	**Zalesovo**	**98.92**	**324**	P	**P**	**05 25 31.5**	**-1.7**
CPUP	**Villa Florida**	**119.00**	**133**	PKP	PKPdf	05 30 40.0	-0.5
	comp=Z,2.7nm,0.9s,baz=191,slow=5.2,SNR=4.3						
ARCES	**ARCESS Array B**	**121.75**	**345**	PKP	PKPdf	05 30 44.1	-1.7
	comp=Z,0.6nm,0.3s,baz=66,slow=1.9,SNR=30						
ARCES				PKKPbc	PKKPbc	05 40 44.1	-0.8
	comp=Z,1.2nm,0.8s,baz=204,slow=2.7,SNR=6.0						
LSZ	**Lusaka**	**129.54**	**234**	*e*PKPdf	PKPdf	05 31 01.7	+0.9
AKASG	**Malin Array Be**	**132.26**	**326**	PKP	PKPdf	05 31 04.8	-1.1
	comp=Z,1.1nm,0.6s,baz=52,slow=2.2,SNR=5.1						
BRTR	**Keskin Array B**	**133.94**	**310**	PKP	PKPdf	05 31 08.8	-0.2
	comp=Z,0.8nm,0.7s,baz=176,slow=3.2,SNR=4.6						
CLL	**Collm**	**139.59**	**336**	*i* PKIKP	PKPdf	05 31 21.8	+2.3
	comp=Z,logA/T=0.9						
CLL	**Collm**	**139.59**	**336**	*i* PKPdf	PKPdf	05 31 21.8	+2.3
	comp=Z,5.0nm,0.6s						
GERES	**GERESS Array B**	**141.18**	**333**	PKhKP		05 31 17.2	
	comp=Z,0.4nm,0.2s,baz=40,slow=2.3,SNR=5.7						
LEGS	**Legarje**	**142.50**	**328**	*e*PKP	PKPdf	05 31 21.9	-2.8
BOJS	**Bojanci**	**142.84**	**328**	*e*PKP	PKPdf	05 31 22.9	-2.4
CEY	**Cerknica**	**143.09**	**329**	*e*PKP	PKPdf	05 31 22.8	-3.0
CDF	**Champ du Feu**	**144.11**	**338**	*e*PKP1	PKPdf	05 31 25.6	-2.0
	comp=Z,9.1nm,0.5s						
HINF	**Hinteralfeld**	**144.76**	**338**	*e*PKP1	PKPdf	05 31 27.5	-1.2
	comp=Z,14nm,0.7s						
HAU	**Haudompre**	**144.78**	**339**	*e*PKP1	PKPdf	05 31 27.9	-0.8
	comp=Z,67nm,1.2s						
CABF	**La Chapelle**	**146.06**	**337**	*e*PKP1	PKPbc	05 31 32.3	+0.2
	comp=Z,36nm,1.0s						
FLN	**La Foliniere**	**146.09**	**346**	*e*PKP1	PKPbc	05 31 31.5	-0.7
	comp=Z,22nm,0.7s						
LDF	**La Druitiere**	**146.16**	**346**	*e*PKP1	PKPbc	05 31 31.6	-0.8
	comp=Z,12nm,0.6s						
LOR	**Lormes**	**146.26**	**340**	*e*PKP1	PKPbc	05 31 32.4	-0.3
	comp=Z,25nm,0.9s						
GRR	**Gorron**	**146.53**	**347**	*e*PKP1	PKPbc	05 31 33.0	-0.5
	comp=Z,17nm,0.7s						
SSF	**Saint Saulge**	**146.56**	**341**	*e*PKP1	PKPbc	05 31 33.4	-0.1
	comp=Z,21nm,0.7s						
HYF	**Humbligny**	**146.64**	**342**	*e*PKP1	PKPbc	05 31 33.9	+0.1
LPG	**La Plagne**	**146.74**	**336**	*e*PKP1	PKPbc	05 31 34.5	+0.4
	comp=Z,16nm,0.8s						
SMF	**Signal de Mont**	**146.81**	**340**	*e*PKP1	PKPbc	05 31 33.8	-0.5
	comp=Z,18nm,1.0s						
AVF	**Avril sur Loir**	**146.84**	**341**	*e*PKP1	PKPbc	05 31 33.9	-0.5
	comp=Z,8.8nm,0.9s						
SGMF	**Saint Gilles**	**147.01**	**348**	*e*PKP1	PKPbc	05 31 34.2	-0.6
	comp=Z,22nm,0.8s						
ROSF	**Rostrenen**	**147.06**	**349**	*e*PKP1	PKPbc	05 31 34.1	-0.9
BNI	**Bardonecchia**	**147.13**	**335**	*e*PKPbc	PKPbc	05 31 35.9	+0.8
BGF	**Bois d'Agland**	**147.21**	**341**	*e*PKP1	PKPbc	05 31 35.0	-0.4
	comp=Z,22nm,0.9s						
MBDF	**Montbardon**	**147.36**	**335**	*e*PKP1	PKPbc	05 31 35.4	-0.4
ORIF	**Oris-en-Rattie**	**147.56**	**336**	*e*PKP1	PKPbc	05 31 36.3	0.0
	comp=Z,13nm,0.9s						
TCF	**Toulx Ste Croi**	**147.65**	**341**	*e*PKP1	PKPbc	05 31 36.1	-0.5
	comp=Z,10.0nm,0.7s						
SBF	**Sospel**	**147.78**	**333**	*e*PKP1	PKPbc	05 31 36.3	-0.6
	comp=Z,39nm,0.9s						
RCBR	**Riachuelo**	**147.83**	**131**	*e*PKPbc	PKPbc	05 31 36.7	-0.3
MFF	**Saint Martin d**	**148.03**	**344**	*e*PKP1	PKPbc	05 31 37.1	-0.5
	comp=Z,17nm,0.8s						
VIVF	**Saint-Julien-l**	**148.07**	**337**	*e*PKP1	PKPbc	05 31 37.6	-0.1
	comp=Z,9.0nm,0.8s						
PGF	**Pioggiola**	**148.09**	**330**	*e*PKP1	PKPbc	05 31 37.4	-0.3
	comp=Z,54nm,1.1s						
FRF	**La Foret Royal**	**148.36**	**334**	*e*PKP1	PKPbc	05 31 37.9	-0.5
SMRF	**Simiane la Rot**	**148.47**	**335**	*e*PKP1	PKPbc	05 31 38.8	+0.1
	comp=Z,20nm,1.1s						
LMR	**La Mourre**	**148.61**	**334**	*e*PKP1	PKPbc	05 31 38.7	-0.3
	comp=Z,47nm,1.2s						
RJF	**Les Rejaudoux**	**148.75**	**341**	*e*PKP1	PKPbc	05 31 39.1	-0.3
CAF	**Calviac**	**148.91**	**340**	*e*PKP1	PKPbc	05 31 39.7	-0.1
LASF	**Ste Croix**	**149.04**	**338**	*e*PKP1	PKPbc	05 31 40.2	+0.1
	comp=Z,18nm,1.0s						
LFF	**La Frestale**	**149.31**	**342**	*e*PKP1	PKPbc	05 31 39.9	-0.9
VSL	**Villasalto**	**150.14**	**326**	*e*PKPbc	PKPbc	05 31 42.6	-0.2
VSL				*e*PKPab	PKPab	05 31 48.8	-0.7
MTLF	**Montolieu**	**150.27**	**339**	*e*PKP1	PKPbc	05 31 43.0	-0.1
	comp=Z,14nm,0.9s						
EPF	**Esparros**	**151.16**	**341**	*e*PKP1	PKPbc	05 31 46.3	+1.1
ETSF	**Etsaut**	**151.56**	**342**	*e*PKP1	PKPbc	05 31 46.4	+0.3
	comp=Z,11nm,0.7s						
TORD	**Torodi Ar. Bea**	**166.43**	**259**	PKP	PKPdf	05 31 56.5	-0.5
	comp=Z,3.0nm,1.1s,baz=32,slow=0.1,SNR=9.3						
TORD				PKPab	PKPab	05 33 00.3	+0.5
	comp=Z,1.4nm,0.9s,baz=109,slow=2.6,SNR=5.7						
TORD	**Torodi Ar. Bea**	**166.43**	**259**	PKP	PKPdf	05 31 56.5	-0.5
TORD				PKPab	PKPab	05 33 00.3	+0.5

*ISCJB **13** 05:16:30.7±0.2, 1374N±004×14468E±006, h126km, mb4.6/61, Error ellipse: s-maj=8.2km s-min=6.3km az=0.2*
*NEIC **13** 05:16:32.0±0.2, 1379N×14473E, mb4.6/35, Error ellipse: s-maj=8.0km s-min=5.5km az=101.0*
NEIC Felt [III] at Barrigada, Hagatna and Yigo. Felt at Agat, Santa Rita and Tamuning.
*BJI **13** 05:16:31.8, 1380N×14470E, h126km, mB4.8, mb4.9*
*IDC **13** 05:16:32.0±0.4, 1378N×14492E, h128km±3km, mb4.3/22, mb1 4.4/22, mb1mx4.4/27, mbtmp4.6/22, Error ellipse: s-maj=16.8km s-min=9.7km az=87.0*

ISC 13 05:16:32.8±0.5**,1378N**±005×**14474E**±006**,h130**km±4km**, h128**km±.7km**:pP-P,n103,**σ1s03/93**,mb4.5**/61**,1C,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.23**	**146**	P	**Pn**	**05 16 51.0**	**+0.3**
	2μm,0.3s,baz=163,slow=2.6,SNR=485						
GUMO				S	**Sn**	**05 17 03.8**	**-0.4**
	8μm,0.3s,baz=167,slow=6.4,SNR=136						
JOW	**Kunigami**	**20.14**	**313**	P	**P**	**05 20 60.0**	**+3.4**
	43nm,0.7s,baz=159,slow=9.0,SNR=5.3						
MJAR	**Matsushiro Arr**	**23.41**	**347**	P	**P**	**05 21 29.4**	**-0.4**
	6.9nm,0.7s,mb4.2,baz=168,slow=9.8,SNR=15						
MAJO	**Matsushiro**	**23.41**	**347**	*e*P	**P**	**05 21 29.6**	**-0.4**
	17nm,0.7s,mb4.6						
MAT	**Matsushiro**	**23.41**	**347**	P	**P**	**05 21 29.3**	**-0.6**
MAT	**Matsushiro**	**23.41**	**347**	*e*P	**P**	**05 21 29.0**	**-0.9**
	9.7nm,0.8s,mb4.3						
KAKA	**Kakadu**	**29.00**	**205**	*e*P	**P**	**05 22 19.7**	**-0.5**
	6.6nm,0.6s,mb4.5						
CTA	**Charters Tower**	**33.69**	**177**	*e*P	**P**	**05 23 01.2**	**0.0**
	3.5nm,0.5s,mb4.3						
CTA	**Charters Tower**	**33.69**	**177**	P	**P**	**05 23 01.4**	**+0.1**
	6.0nm,0.7s,mb4.5,baz=17,slow=7.0,SNR=8.1						
WRAB	**Tennant Creek**	**35.02**	**197**	*e*P	**P**	**05 23 12.1**	**-0.6**
	21nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**35.03**	**197**	*e*P	**P**	**05 23 12.4**	**-0.4**
WRA	**Warramunga Arr**	**35.04**	**197**	P	**P**	**05 23 12.5**	**-0.3**
	7.7nm,0.5s,mb4.6,baz=19,slow=9.2,SNR=52						
WRA				ScP	ScP	05 29 14.4	-1.0
	2.3nm,1.2s,baz=18,slow=3.4,SNR=7.1						
FITZ	**Fitzroy Crossi**	**36.86**	**211**	*e*P	**P**	**05 23 28.9**	**+0.5**
	8.7nm,1.1s,mb4.3						
FITZ	**Fitzroy Crossi**	**36.86**	**211**	P	**P**	**05 23 28.6**	**+0.2**
	2.3nm,0.2s,mb4.4,baz=45,slow=11,SNR=43						
XAN	**Xi'an**	**38.18**	**308**	P	**P**	**05 23 41.1**	**+1.6**
XAN				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.6						
AS31	**Alice Springs**	**38.69**	**196**	*e*P	**P**	**05 23 43.6**	**-0.2**
ASAR	**Alice Springs**	**38.70**	**196**	P	**P**	**05 23 43.5**	**-0.3**
	comp=Z,3.0nm,0.5s,mb4.2,baz=22,slow=12,SNR=40						
ASPA	**Alice Springs**	**38.70**	**196**	*e*P	**P**	**05 23 43.6**	**-0.2**
KMI	**Kunming**	**41.02**	**292**	P	**P**	**05 24 03.8**	**+0.8**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.4						
CD2	**Chengdu**	**41.29**	**301**	*e*P	**P**	**05 24 02.8**	**-2.4**
CD2				AP	pP	05 24 31.1	-3.3
CD2				PP	PP	05 25 42.8	-0.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
NOUC	**Port Laguerre**	**41.46**	**149**	*e*P	**P**	**05 24 06.8**	**+0.1**
DZM	**Mont Dzumac**	**41.50**	**149**	*e*P	**P**	**05 24 07.4**	**+0.4**
DZM	**Mont Dzumac**	**41.50**	**149**	P	**P**	**05 24 07.3**	**+0.3**
	comp=Z,39nm,0.6s,mb5.2,baz=328,slow=4.9,SNR=54						
LZH	**Lanzhou**	**42.80**	**309**	⇑P	**P**	**05 24 19.5**	**+2.0**
LZH				AMB	AMB		
	comp=Z,27nm,1.2s,mb4.8						
STKA	**Stephens Creek**	**45.49**	**184**	*e*P	**P**	**05 24 37.9**	**-1.0**
	comp=Z,7.8nm,0.3s,mb4.8						
STKA	**Stephens Creek**	**45.49**	**184**	P	**P**	**05 24 38.1**	**-0.8**
	comp=Z,9.6nm,0.4s,mb4.8,baz=9.6,slow=7.4,SNR=44						
ULN	**Ulaanbaatar**	**46.15**	**325**	*e*P	**P**	**05 24 43.0**	**-1.1**
	comp=Z,2.4nm,0.6s,mb4.0						
SONM	**Songino Array**	**46.50**	**325**	P	**P**	**05 24 48.6**	**+1.8**
	comp=Z,3.4nm,0.6s,mb4.1,baz=133,slow=6.7,SNR=14						
SONM				PcP	PcP	05 26 19.5	+0.3
	comp=Z,2.9nm,0.6s,baz=154,slow=3.1,SNR=11						
PSI	**Prapat**	**46.54**	**261**	P	**P**	**05 24 48.9**	**+1.8**
	comp=Z,14nm,0.8s,mb4.7,baz=93,slow=3.9,SNR=6.7						
GTA	**Gaotai**	**46.95**	**312**	P	**P**	**05 24 52.8**	**+2.5**
GTA				AMB	AMB		
	comp=Z,22nm,1.2s,mb4.7						
TOO	**Toolangi**	**51.08**	**179**	*e*P	**P**	**05 25 22.7**	**+0.9**
	comp=Z,7.2nm,0.4s,mb4.7						
WMQ	**Urumqi**	**56.91**	**314**	P	**P**	**05 26 05.9**	**+1.8**
WMQ				AP	pP	05 26 35.8	+0.9
WMQ				XP	sP	05 26 49.9	+0.6
WMQ				PP	PP	05 28 15.5	+3.6
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.8s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,78nm,5.4s						
WMQ				LR	LR		
	comp=N,170nm,18.0s						
WMQ				LR	LR		
	comp=E,128nm,16.9s						
WMQ				LR	LR		
	comp=Z,171nm,18.5s						
MKAR	**Makanchi Array**	**61.27**	**316**	P	**P**	**05 26 35.4**	**+1.3**
	comp=Z,8.2nm,0.5s,mb4.8,baz=90,slow=8.8,SNR=72						
ZAL	**Zalesovo**	**61.40**	**324**	P	**P**	**05 26 35.2**	**+0.2**
	comp=Z,1.8nm,0.4s,mb4.3,baz=59,slow=3.3,SNR=4.3						
KDAK	**Kodiak Island**	**63.98**	**32**	P	**P**	**05 26 50.9**	**-1.2**
	comp=Z,3.5nm,0.4s,mb4.5,baz=318,slow=4.9,SNR=4.4						
KDAK	**Kodiak Island**	**63.98**	**32**	P	**P**	**05 26 50.9**	**-1.2**
KURK	**Kurchatov**	**64.36**	**320**	*e*P	**P**	**05 26 55.2**	**+0.6**
	comp=Z,40nm,1.0s,mb5.2						
CHKZ	**Chkalovo**	**69.61**	**322**	*e*P	**P**	**05 27 27.6**	**-0.2**
	comp=Z,8.7nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**69.70**	**322**	P	**P**	**05 27 29.1**	**+0.8**
	comp=Z,17nm,0.5s,mb5.1,baz=105,slow=7.5,SNR=76						
BRVK	**Borovoye**	**69.77**	**322**	*e*P	**P**	**05 27 29.0**	**+0.2**
	comp=Z,8.3nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**70.53**	**322**	*e*P	**P**	**05 27 33.2**	**-0.2**
	comp=Z,15nm,1.0s,mb4.7						
DAWY	**Dawson**	**71.53**	**27**	*e*P	**P**	**05 27 38.3**	**-1.1**
INK	**Inuvik**	**74.24**	**22**	P	**P**	**05 27 53.5**	**-1.9**
	comp=Z,3.1nm,0.7s,mb4.2,baz=268,slow=8.2,SNR=12						
INK	**Inuvik**	**74.24**	**22**	*e*P	**P**	**05 27 53.1**	**-2.3**
	comp=Z,3.2nm,0.7s,mb4.2						
ARU	**Arti**	**76.54**	**325**	*e*P	**P**	**05 28 08.2**	**-0.4**
AKTK	**Aktyubinsk**	**77.44**	**319**	P	**P**	**05 28 13.4**	**-0.1**
AKTO	**Aktyubinsk**	**77.44**	**319**	P	**P**	**05 28 13.4**	**-0.1**
	comp=Z,2.3nm,0.7s,mb3.9,baz=82,slow=8.6,SNR=8.6						
HDW	**Hoodsport**	**81.43**	**43**	P	**P**	**05 28 36.1**	**+0.9**
MBW	**Mount Baker**	**81.96**	**42**	P	**P**	**05 28 38.3**	**+0.3**
JCW	**Jim Creek**	**82.06**	**42**	P	**P**	**05 28 38.9**	**+0.4**
HUMO	**Hull Mountain**	**82.48**	**48**	*e*P	**P**	**05 28 41.4**	**+0.7**
	comp=Z,2.5nm,0.7s,mb4.0						
YKA	**Yellowknife Ar**	**82.75**	**27**	P	**P**	**05 28 40.5**	**-1.6**
	comp=Z,3.3nm,0.5s,mb4.3,baz=287,slow=5.2,SNR=24						
YKA	**Yellowknife Ar**	**82.75**	**27**	P	**P**	**05 28 40.5**	**-1.6**
YBH	**Yreka Blue Hor**	**82.84**	**49**	*e*P	**P**	**05 28 43.6**	**+1.1**
	comp=Z,12nm,1.1s,mb4.5						
EBG	**Ellensburg**	**83.24**	**43**	P	**P**	**05 28 45.0**	**+0.4**
VIPM	**Ingram Point**	**83.74**	**46**	P	**P**	**05 28 47.6**	**+0.5**
MDW	**Midway**	**83.84**	**44**	P	**P**	**05 28 47.9**	**+0.2**
HAWA	**Hanford**	**84.05**	**44**	*e*P	**P**	**05 28 48.8**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.4						
OD2	**Odessa Site #2**	**84.36**	**43**	P	**P**	**05 28 50.1**	**-0.2**
RES	**Resolute Bay**	**84.40**	**13**	*e*P	**P**	**05 28 49.4**	**-1.1**
	comp=Z,3.5nm,0.8s,mb4.1						
NEW	**Newport**	**85.17**	**42**	*e*P	**P**	**05 28 53.8**	**-0.5**
	comp=Z,12nm,0.7s,mb4.8						
BMO	**Blue Mountains**	**85.95**	**45**	*e*P	**P**	**05 28 58.2**	**0.0**
	comp=Z,14nm,1.0s,mb4.6						
KEV	**Kevo**	**86.30**	**342**	*e*p	**P**	**05 28 58.2**	**-1.7**
	comp=Z,2.6nm,0.4s,mb4.3						
BSMT	**Bassoo Peak**	**86.79**	**42**	P	**P**	**05 29 02.5**	**+0.1**
ARCES	**ARCESS Array B**	**86.86**	**342**	P	**P**	**05 29 01.5**	**-1.2**
	comp=Z,3.1nm,0.6s,mb4.3,baz=68,slow=6.8,SNR=36						
ARE0	**ARCESS Array S**	**86.86**	**342**	*e*P	**P**	**05 29 02.5**	**-0.2**
NVAR	**Mina Array Bea**	**86.90**	**51**	P	**P**	**05 29 03.2**	**+0.3**
	comp=Z,5.3nm,0.8s,mb4.4,baz=268,slow=4.8,SNR=29						
NVAR	**Mina Array Bea**	**86.90**	**51**	P	**P**	**05 29 03.2**	**+0.3**
WALA	**Waterton Lakes**	**86.99**	**40**	*e*P	**P**	**05 29 03.4**	**+0.1**
	comp=Z,5.2nm,0.6s,mb4.5						
MNV	**Mina**	**87.02**	**51**	*e*P	**P**	**05 29 04.4**	**+1.0**
	comp=Z,3.5nm,1.0s,mb4.1						
JOF	**Joensuu**	**88.07**	**335**	*e*p	**P**	**05 29 06.0**	**-2.4**
	comp=Z,2.0nm,0.3s,mb4.4						
HLID	**Hailey**	**88.30**	**46**	*e*P	**P**	**05 29 10.4**	**+0.9**
	comp=Z,7.4nm,0.9s,mb4.5						
ELK	**Elko**	**88.55**	**48**	*e*P	**P**	**05 29 11.5**	**+0.8**
	comp=Z,9.3nm,1.0s,mb4.7						
ELK				*e*pP	pP	05 29 44.0	0.0
TPNV	**Topopah Spring**	**88.87**	**52**	*e*P	**P**	**05 29 12.6**	**+0.4**
	comp=Z,5.3nm,0.7s,mb4.6						
TPNV				*e*pP	pP	05 29 45.8	+0.2
MCMT	**McKenzie Canyo**	**88.99**	**44**	*e*P	**P**	**05 29 13.1**	**+0.3**
BOZ	**Bozeman (W)**	**89.54**	**43**	*e*P	**P**	**05 29 15.5**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.2						
QLMT	**Earthquake Lak**	**89.94**	**44**	*e*P	**P**	**05 29 17.9**	**+0.7**
DUG	**Dugway**	**90.47**	**48**	*e*P	**P**	**05 29 20.4**	**+0.7**
	comp=Z,1.8nm,0.6s,mb4.2						
KAF	**Kangasniemi**	**90.49**	**336**	*e*p	**P**	**05 29 17.1**	**-2.7**
	comp=Z,2.6nm,0.4s,mb4.5						
IMW	**Indian Meadow**	**90.59**	**44**	*e*P	**P**	**05 29 21.2**	**+1.0**
	comp=Z,3.5nm,0.8s,mb4.4						
FLWY	**Flagg Ranch**	**90.69**	**44**	*e*P	**P**	**05 29 22.1**	**+1.5**
	comp=Z,5.5nm,0.8s,mb4.6						
TPAW	**Teton Pass**	**90.72**	**45**	*e*P	**P**	**05 29 21.5**	**+0.7**
	comp=Z,3.9nm,1.0s,mb4.4						
MOOW	**Moose Ponds**	**90.77**	**45**	*e*P	**P**	**05 29 20.4**	**-0.7**
	comp=Z,3.6nm,1.1s,mb4.3						
FIA1	**FINESS Array S**	**90.94**	**335**	*e*P	**P**	**05 29 19.9**	**-2.0**
FINES	**FINESS Array B**	**90.94**	**335**	P	**P**	**05 29 20.3**	**-1.5**
	comp=Z,2.4nm,0.4s,mb4.6,baz=69,slow=5.1,SNR=30						
FINES	**FINESS Array B**	**90.94**	**335**	P	**P**	**05 29 20.3**	**-1.5**
PDAR	**Pinedale Array**	**91.92**	**45**	P	**P**	**05 29 26.1**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.9,baz=291,slow=1.3,SNR=7.2						
LAO	**LASA Array**	**92.67**	**41**	*e*P	**P**	**05 29 28.6**	**-1.2**
	comp=Z,22nm,1.1s,mb5.2						
AKASG	**Malin Array Be**	**94.79**	**325**	P	**P**	**05 29 37.6**	**-2.0**
	comp=Z,0.5nm,0.4s,mb4.1,baz=53,slow=5.5,SNR=4.5						
SMCO	**Snowmass**	**95.05**	**48**	*e*P	**P**	**05 29 42.8**	**+2.0**
	comp=Z,0.8nm,0.7s,mb4.1						
RSSD	**Black Hills**	**95.11**	**42**	*e*P	**P**	**05 29 40.8**	**-0.3**
	comp=Z,2.1nm,0.6s,mb4.5						
NOA	**NORSAR Array B**	**96.83**	**339**	P	**P**	**05 29 47.6**	**-1.3**
	comp=Z,0.7nm,0.8s,mb4.0,baz=49,slow=4.1,SNR=3.3						
LSZ	**Lusaka**	**118.76**	**260**	PKP	PKPdf	05 35 07.3	+1.9
	comp=Z,2.5nm,0.5s,baz=64,slow=2.1,SNR=7.0						
LSZ	**Lusaka**	**118.76**	**260**	*e*PKPdf	PKPdf	05 35 07.2	+1.7
MATP	**Matopo**	**119.01**	**254**	PKP	PKPdf	05 35 06.9	+1.0
	comp=Z,1.3nm,0.6s,baz=108,slow=16,SNR=5.3						
LBTB	**Lobatse**	**121.92**	**249**	*e*PKPdf	PKPdf	05 35 12.3	+0.8
TOA0	**Torodi Ar. Sit**	**134.65**	**305**	*e*PKPdf	PKPdf	05 35 37.8	+2.1
TORD	**Torodi Ar. Bea**	**134.65**	**305**	PKP	PKPdf	05 35 36.6	+0.9
	comp=Z,2.7nm,0.7s,baz=47,slow=1.5,SNR=22						
DBIC	**Dimbokro**	**143.62**	**302**	PKP	PKPdf	05 35 51.1	-0.9
	comp=Z,12nm,0.5s,baz=41,slow=3.5,SNR=36						
DBIC	**Dimbokro**	**143.62**	**302**	*e*PKPdf	PKPdf	05 35 50.7	-1.3
LVC	**Limon Verde**	**146.91**	**110**	*e*PKPbc	PKPbc	05 36 00.2	+0.4
LPAZ	**La Paz**	**148.18**	**99**	PKPbc	PKPbc	05 36 02.6	-0.6
	comp=Z,2.2nm,0.6s,baz=284,slow=2.4,SNR=12						
SAML	**Samuel**	**152.22**	**83**	*e*PKPbc	PKPbc	05 36 13.2	+0.2

*MOS **13** 05:36:34.8±0.8, 834S×3025E, h33km, mb5.0/25, Error ellipse: s-maj=21.4km s-min=8.1km az=85.9*
*ISCJB **13** 05:36:34.4±0.2, 838S±004×3026E±006, h30km, mb4.8/90, MS4.4/17, Error ellipse: s-maj=8.1km s-min=5.4km az=8.7*
*BJI **13** 05:36:35.7, 870S×2987E, h49km, mB5.3, mb5.0, Ms5.1, Msz4.8*
*HRVD **13** 05:36:36.7±0.7, 833S×3025E, h36km±1km, MW5.0/36, Centroid moment Tensor Solution. LP body waves: s18,c18;Mantle waves: s36,c43; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-3.47±.35; $M_{\theta\theta}$0.44±.21; $M_{\phi\phi}$3.03±.23; $M_{r\theta}$-0.03±.20; $M_{\theta\phi}$-0.66±.15; $M_{\phi r}$-1.37±.22; Best double couple: $M_0$3.59900×10^16 NP1:ϕ_s162.00000°,δ34.00000°,λ-98.00000°. NP2: ϕ_s352.00000°,δ56.00000°,λ-85.00000°. Principal axes: T 3.4450, Plg11.0000°, Azm78.0000°; N 0.3090, Plg4.0000°, Azm169.0000°; P -3.7530, Plg78.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **13** 05:36:36.7±0.2, 836S×3032E, mb4.8/60 Error ellipse: s-maj=9.0km s-min=4.7km az=93.0*
*IDC **13** 05:36:36.8±0.6, 828S×3028E, h29km±2km, mb4.5/17, mb1 4.6/19, mb1mx4.5/22, mbtmp4.7/19, ML5.2/1, MS4.3/17, Ms1 4.3/17, ms1mx4.1/26, Error ellipse: s-maj=17.2km s-min=14.4km az=121.0*
*SZGRF **13** 05:36:37.0, 797S×3090E, h33km, mb4.9, Lake Tanganyika region*

ISC 13 05:36:37.0±0.2**,837S**±004×**3030E**±006**,h32**km**, h32**km±.6km**:pP-P,n216,**σ0s92/205**,mb4.8**/90**,MS4.4**/17**, 11C-5D,Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.17**	**197**	Pn	**Pn**	**05 38 20.3**	**+0.8**
	38nm,0.3s,baz=16,slow=14,SNR=232						
LSZ				Sn	**Sn**	**05 39 37.7**	**-2.2**
	100nm,0.3s,baz=337,slow=10,SNR=12						
LSZ				Lg		05 40 22.8	
	134nm,0.3s,baz=319,slow=23,SNR=5.3						
LSZ				LR	LR	05 41 17.8	
	comp=Z,2μm,18.3s,baz=12,slow=39						
LSZ	**Lusaka**	**7.17**	**197**	P	**Pn**	**05 38 20.3**	**+0.7**
LSZ						05 39 37.7	
LSZ				pmax	pmax		
	comp=Z,39nm,0.3s						
LSZ				smax			
	comp=N,100nm,0.3s						
LSZ				MLR	MLR		
	comp=Z,2μm,18.3s						

LSZ Lusaka 7.17 197 *e*Pn **Pn** **05 38 20.1 +0.6**
LSZ *e*Sn **Sn** **05 39 38.4 -1.4**
KMBO Kilima Mbogo 9.99 44 Pn **Pn** **05 38 54.4 -3.8**
comp=Z,30nm,0.3s,baz=222,slow=17,SNR=194
KMBO Sn **Sn** **05 40 39.5 -10**
comp=Z,29nm,0.3s,baz=276,slow=20,SNR=3.3
KMBO Lg 05 41 44.2
comp=Z,17nm,0.3s,baz=210,slow=21,SNR=7.8
KMBO LR LR 05 43 01.5
comp=Z,2µm,18.5s,baz=222,slow=39
KMBO Kilima Mbogo 9.99 44 Pn **Pn** **05 38 54.4 -3.8**
KMBO Sn **Sn** **05 40 39.5 -10**
KMBO Lg 05 41 44.2
KMBO LR LR 05 43 01.5
MATP Matopo 12.11 188 Pn **Pn** **05 39 25.6 -1.7**
comp=Z,19nm,0.3s,baz=11,slow=14,SNR=271
MATP Sn **Sn** **05 41 36.0 -5.1**
comp=Z,14nm,0.3s,baz=30,slow=9.1,SNR=6.4
MATP Lg 05 42 57.5
comp=Z,16nm,0.3s,baz=292,slow=19,SNR=9.8
MATP LR LR 05 44 19.8
comp=Z,1µm,18.6s,baz=13,slow=38
TSUM Tsumeb 16.37 228 Pn **Pn** **05 40 23.6 -0.8**
comp=Z,4.5nm,0.3s,baz=22,slow=12,SNR=42
TSUM Sn **Sn** **05 43 15.8 -9.2**
comp=Z,6.2nm,0.3s,baz=181,slow=12,SNR=4.5
TSUM Lg 05 45 10.0
comp=Z,0.4nm,0.3s,baz=309,slow=22,SNR=1.7
TSUM LR LR 05 47 10.2
comp=Z,2µm,19.0s,baz=39,slow=39
TSUM Tsumeb 16.37 228 *e*Pn **Pn** **05 40 22.8 -1.5**
comp=Z,153nm,0.7s
TSUM *e*Sn **Sn** **05 43 16.1 -8.9**
LBTB Lobatse 17.15 195 P **Pn** **05 40 31.5 -2.6**
comp=Z,13nm,0.3s,baz=22,slow=14,SNR=64
LBTB S **Sn** **05 43 34.5 -9.3**
comp=Z,8.6nm,0.3s,baz=293,slow=18,SNR=7.4
LBTB Lg 05 45 31.7
comp=Z,3.7nm,0.3s,baz=286,slow=23,SNR=4.1
LBTB LR LR 05 47 34.8
comp=Z,453nm,20.0s,baz=30,slow=38
LBTB Lobatse 17.15 195 P **Pn** **05 40 31.5 -2.6**
LBTB S **Sn** **05 43 34.6 -9.2**
LBTB pmax pmax
comp=Z,13nm,0.3s
LBTB smax
comp=N,9.0nm,0.3s
LBTB MLR MLR
comp=Z,453nm,20.0s
LBTB Lobatse 17.15 195 *e*Pn **Pn** **05 40 32.1 -2.1**
comp=Z,8.1nm,0.1s
LBTB *e*Sn **Sn** **05 43 30.9 -13**
ATD Arta Tunnel 23.38 32 LR LR 05 50 53.7
comp=Z,575nm,20.2s,MS4.0,baz=196,slow=37
SUR Sutherland 25.46 199 P **P** **05 42 06.2 +4.1**
comp=Z,9.6nm,0.8s,mb4.4,baz=316,slow=4.6,SNR=7.2
SUR Lg 05 49 53.8
comp=Z,59nm,0.9s,baz=307,slow=20,SNR=2.7
SUR LR LR 05 52 12.8
comp=Z,1µm,18.7s,MS4.4,baz=33,slow=37
SUR Sutherland 25.46 199 *e*P **P** **05 41 56.4 -5.7**
comp=Z,47nm,0.8s,mb5.1
SUR Lg 05 49 53.8
SUR LR LR 05 52 12.8
TOA0 Torodi Ar. Sit 35.56 307 *e*P **P** **05 43 31.6 +0.3**
TOA0 *e*pP pP 05 43 40.6 0.0
TOA0 *e*sP sP 05 43 44.0 -0.5
TORD Torodi Ar. Bea 35.56 307 P **P** **05 43 31.1 -0.1**
comp=Z,37nm,0.9s,mb5.3,baz=117,slow=7.4,SNR=140
TORD sP sP 05 43 44.0 -0.5
comp=Z,50nm,1.0s,baz=122,slow=7.7,SNR=20
TORD Lg 05 55 15.8
comp=Z,2.7nm,1.2s,baz=128,slow=14,SNR=4.1
TORD LR LR 05 59 11.7
comp=Z,295nm,19.0s,MS4.1,baz=125,slow=38
DBIC Dimbokro 38.11 292 P **P** **05 43 52.6 -0.3**
comp=Z,13nm,0.5s,mb4.9,baz=94,slow=8.6,SNR=39
DBIC sP sP 05 44 05.2 -1.0
comp=Z,15nm,0.7s,baz=111,slow=8.3,SNR=7.4
DBIC LR LR 05 59 04.3
comp=Z,232nm,19.4s,MS4.0,baz=96,slow=35
DBIC Dimbokro 38.11 292 P **P** **05 43 52.6 -0.3**
DBIC *SP sP 05 44 05.2 -1.0
DBIC pmax pmax
comp=Z,13nm,0.5s
DBIC pmax pmax
comp=Z,15nm,0.7s
DBIC MLR MLR
comp=Z,232nm,19.4s
DBIC Dimbokro 38.11 292 *e*P **P** **05 43 52.7 -0.2**
comp=Z,22nm,0.8s,mb4.9
DBIC *e*pP pP 05 44 01.9 -0.4
DBIC *e*sP sP 05 44 05.8 -0.4
BRTR Keskin Array B 47.95 3 P **P** **05 45 12.9 +0.4**
comp=Z,5.3nm,0.9s,mb4.6,baz=182,slow=9.6,SNR=24
BRTR pP pP 05 45 21.4 -0.8
comp=Z,8.0nm,0.8s,baz=182,slow=9.3,SNR=17
BRTR Keskin Array B 47.95 3 *i*P **P** **05 45 13.0 +0.5**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BR131 Keskin Array S 47.95 3 *e*P **P** **05 45 12.4 -0.1**
comp=Z,5.2nm,0.7s,mb4.7
BR131 *e*pP pP 05 45 21.7 -0.5
SOC Sochi 52.41 9 *e*P **P** **05 45 45.5 -0.8**
SOC *e*PPP 05 48 51.1
SOC *e*S **S** **05 53 09.9 -0.2**
SOC *e* 05 55 34.6
SOC pmax pmax
comp=Z,12nm,0.9s,mb4.8
MLR Muntele Rosu 53.76 356⇑ *i*P **P** **05 45 58.8 +2.6**
PGF Pioggiola 54.28 341 *e*P **P** **05 45 59.4 -0.7**
comp=Z,14nm,1.0s,mb4.5
PGF Pioggiola 54.28 341 *e*P **P** **05 45 59.4 -0.7**
comp=Z,7.1nm,1.0s,mb4.5
ERON Agron 55.32 327 P **P** **05 46 09.1 +1.6**
comp=Z,2.1nm,0.4s,mb4.5
PKSM Moragy 55.33 350⇑ *i*P **P** **05 46 08.1 +0.5**
ELOJ Sierra Loja 55.60 327 P **P** **05 46 11.1 +1.5**
comp=Z,4.7nm,0.5s,mb4.8
LMR La Mourre 55.83 339 *e*P **P** **05 46 10.7 -0.5**
ECHE Chera 55.83 331 P **P** **05 46 12.5 +1.3**
comp=Z,2.5nm,0.6s,mb4.4
EVIA Vianos 55.85 329 P **P** **05 46 12.2 +0.9**
comp=Z,2.1nm,0.4s,mb4.5
BURAR Bucovina Array 55.92 356⇑ *i*P **P** **05 46 13.5 +1.6**
SBF Sospel 55.97 340 *e*P **P** **05 46 11.9 -0.4**
comp=Z,19nm,0.8s,mb4.9
SBF Sospel 55.97 340 *e*P **P** **05 46 11.9 -0.4**
comp=Z,9.7nm,0.8s,mb4.9
FRF La Foret Royal 55.98 339 *e*P **P** **05 46 11.6 -0.7**
EBAN Banos Encina 56.16 328 P **P** **05 46 14.3 +0.8**
EMOS Mosqueruela 56.20 332 P **P** **05 46 16.5 +2.6**
comp=Z,11nm,0.9s,mb4.9
ERTA Horta de San J 56.31 333 P **P** **05 46 16.0 +1.4**
comp=Z,15nm,0.8s,mb5.1
ESPR Espera 56.34 325 P **P** **05 46 15.2 +0.3**
comp=Z,31nm,0.8s,mb5.4
SMRF Simiane la Rot 56.72 339 *e*P **P** **05 46 17.8 +0.2**
PSZ Piszkesteto 56.80 352 *e*P **P** **05 46 18.0 -0.1**
comp=Z,6.2nm,0.8s,mb4.7
MBDF Montbardon 56.96 340 *e*P **P** **05 46 19.4 +0.1**
comp=Z,8.7nm,0.8s,mb4.5
MBDF Montbardon 56.96 340 *e*P **P** **05 46 19.4 +0.1**
comp=Z,4.3nm,0.8s,mb4.5
KBA Koelnbreinsper 57.23 346⇑ *i*P **P** **05 46 22.0 +0.8**
comp=Z,12nm,1.1s,mb4.8
KECS Kecovo 57.27 352 *e*P **P** **05 46 21.3 -0.2**
KECS pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
KECS Kecovo 57.27 352 *e*P **P** **05 46 21.3 -0.2**
comp=Z,2.9nm,1.1s,mb4.2
ESAC San Caprasio 57.28 333 P **P** **05 46 22.1 +0.6**
comp=Z,30nm,0.7s,mb5.4
EGRA Graus 57.31 334 P **P** **05 46 22.4 +0.6**
comp=Z,11nm,0.7s,mb5.0
ESDC Sonseca Array 57.38 329 P **P** **05 46 22.7 +0.5**
comp=Z,4.6nm,0.8s,mb4.6,baz=143,slow=7.3,SNR=14
ESDC PcP PcP 05 47 16.3 +0.4
comp=Z,1.4nm,0.7s,baz=125,slow=3.6,SNR=4.0
ESDC Sonseca Array 57.38 329 P **P** **05 46 22.2 0.0**
comp=Z,7.4nm,1.3s,mb4.6
ORIF Oris-en-Rattie 57.43 340 *e*P **P** **05 46 22.4 -0.2**
ORIF *e*R
comp=Z,151nm,17.9s
LASF Ste Croix 57.44 338 *e*P **P** **05 46 22.9 +0.3**
comp=Z,42nm,1.0s,mb5.1

EMIN Mina Concepcio 57.44 326 P **P** **05 46 20.8 -1.8**
comp=Z,18nm,1.0s,mb5.1
MTLF Montolieu 57.45 336 *e*P **P** **05 46 22.5 -0.3**
comp=Z,5.3nm,0.8s,mb4.3
MTLF Montolieu 57.45 336 *e*P **P** **05 46 22.5 -0.3**
comp=Z,2.7nm,0.8s,mb4.3
CONA Conrad Observa 57.49 349⇓ *i*P **P** **05 46 23.4 +0.3**
comp=Z,8.2nm,1.0s,mb4.7
VYHS Vyhne 57.52 351 *e*P **P** **05 46 23.1 -0.1**
VYHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
VYHS Vyhne 57.52 351 *e*P **P** **05 46 23.1 -0.1**
comp=Z,3.0nm,1.0s,mb4.3
CRVS Cervenica-Dubn 57.56 353 *e*P **P** **05 46 23.0 -0.5**
LPG La Plagne 57.65 341 *e*P **P** **05 46 24.3 +0.2**
EGRO El Granado 57.73 325 P **P** **05 46 20.8 -3.9**
comp=Z,172nm,2.1s,mb5.7
MOA Molln 57.75 347⇓ *i*P **P** **05 46 25.1 +0.2**
comp=Z,16nm,0.9s,mb5.0
MOA Molln 57.75 347⇓ *i*P **P** **05 46 25.1 +0.2**
comp=Z,16nm,0.9s,mb5.0
EBIE Bielsa 57.78 334 P **P** **05 46 26.2 +1.1**
comp=Z,12nm,0.9s,mb4.9
VIVF Saint-Julien-l 57.80 339 *e*P **P** **05 46 25.7 +0.5**
comp=Z,20nm,1.1s,mb4.8
VIVF Saint-Julien-l 57.80 339 *e*P **P** **05 46 25.7 +0.5**
comp=Z,10nm,1.1s,mb4.8
EPF Esparros 57.98 334 *e*P **P** **05 46 26.9 +0.4**
comp=Z,8.9nm,0.6s,mb4.7
EPF Esparros 57.98 334 *e*P **P** **05 46 26.9 +0.4**
comp=Z,4.4nm,0.6s,mb4.7
GUD Guadarrama 58.20 330 P **P** **05 46 28.4 +0.4**
comp=Z,4.1nm,0.5s,mb4.7
ETSF Etsaut 58.26 334 *e*P **P** **05 46 28.8 +0.4**
comp=Z,11nm,0.9s,mb4.6
ETSF Etsaut 58.26 334 *e*P **P** **05 46 28.8 +0.4**
comp=Z,5.5nm,0.9s,mb4.6
DAVA Damuels 58.31 344⇑ *i*P **P** **05 46 28.6 -0.2**
comp=Z,7.5nm,0.7s,mb4.9
EVO Evora 58.73 325 *e*P **P** **05 46 32.2 +0.5**
comp=Z,109nm,1.8s,mb5.3
EVO *e*R
comp=Z,93nm,19.0s
GERES GERESS Array B 58.81 347 P **P**
comp=Z,3.8nm,0.7s,mb4.6,baz=168,slow=7.9,SNR=30 **05 46 32.0 -0.3**
GERES GERESS Array B 58.81 347 P **P**
GERES pmax pmax **05 46 32.0 -0.3**
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 58.84 359 P **P** **05 46 31.6 -0.8**
comp=Z,7.1nm,0.8s,mb4.8,baz=185,slow=6.5,SNR=21
AKASG pP pP 05 46 40.3 -1.9
comp=Z,6.3nm,0.7s,baz=180,slow=6.4,SNR=8.4
AKASG Malin Array Be 58.84 359 *i*P **P** **05 46 31.7 -0.7**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
CAF Calviac 58.84 337 *e*P **P** **05 46 32.7 +0.3**
comp=Z,9.0nm,0.7s,mb4.6
CAF Calviac 58.84 337 *e*P **P** **05 46 32.7 +0.3**
comp=Z,4.5nm,0.7s,mb4.6
CABF La Chapelle 58.85 341 *e*P **P** **05 46 32.2 -0.3**
MORC Moravsky Berou 58.97 350⇑ *i*P **P** **05 46 32.7 -0.7**
MORC Moravsky Berou 58.97 350 *e*P **P** **05 46 32.8 -0.6**
comp=Z,7.4nm,1.1s,mb4.6
KHC Kasperske Hory 59.11 347 *e*P **P** **05 46 33.8 -0.5**
RJF Les Rejaudoux 59.37 337 *e*P **P** **05 46 36.1 0.0**
RJF *e*R
comp=Z,161nm,17.5s
RJF Les Rejaudoux 59.37 337 *e*P **P** **05 46 36.1 0.0**
RJF LR LR
comp=Z,160nm,17.5s,MS4.2
LFF La Frestale 59.37 336 *e*P **P** **05 46 36.3 +0.1**
SMF Signal de Mont 59.64 339 *e*P **P** **05 46 37.6 -0.4**
comp=Z,10nm,0.8s,mb4.6
SMF Signal de Mont 59.64 339 *e*P **P** **05 46 37.6 -0.4**
comp=Z,5.1nm,0.8s,mb4.6
HINF Hinteralfeld 59.67 342 *e*P **P** **05 46 37.7 -0.5**
BGF Bois d'Agland 59.92 338 *e*P **P** **05 46 39.8 -0.1**
comp=Z,28nm,1.1s,mb4.9
BGF Bois d'Agland 59.92 338 *e*P **P** **05 46 39.8 -0.1**
comp=Z,14nm,1.1s,mb4.9
TCF Toulx Ste Croi 59.93 338 *e*P **P** **05 46 40.4 -0.4**
comp=Z,32nm,1.1s,mb5.0
TCF Toulx Ste Croi 59.93 338 *e*P **P** **05 46 40.4 -0.4**
comp=Z,16nm,1.1s,mb5.0
AVF Avril sur Loir 59.94 339 *e*P **P** **05 46 39.8 -0.2**
comp=Z,20nm,1.0s,mb4.8
AVF Avril sur Loir 59.94 339 *e*P **P** **05 46 39.8 -0.2**
comp=Z,10nm,1.0s,mb4.8
HAU Haudompre 60.00 342 *e*P **P** **05 46 40.0 -0.4**
HAU *e*R
comp=Z,155nm,21.5s
HAU Haudompre 60.00 342 *e*P **P** **05 46 40.0 -0.4**
HAU LR LR
comp=Z,150nm,21.5s,MS4.1
CDF Champ du Feu 60.08 342 *e*P **P** **05 46 40.2 -0.8**
comp=Z,11nm,0.8s,mb4.6
CDF Champ du Feu 60.08 342 *e*P **P** **05 46 40.2 -0.8**
comp=Z,5.7nm,0.8s,mb4.7
SSF Saint Saulge 60.12 339 *e*P **P** **05 46 40.6 -0.7**
comp=Z,14nm,1.1s,mb4.6
SSF Saint Saulge 60.12 339 *e*P **P** **05 46 40.6 -0.7**
comp=Z,6.9nm,1.1s,mb4.6
LOR Lormes 60.17 340 *e*P **P** **05 46 40.9 -0.7**
comp=Z,18nm,1.0s,mb4.7
LOR *e*R
comp=Z,174nm,17.1s
LOR Lormes 60.17 340 *e*P **P** **05 46 40.9 -0.7**
comp=Z,9.0nm,1.0s,mb4.8
LOR LR LR
comp=Z,170nm,17.1s,MS4.2
GRA1 Grafenberg Arr 60.18 346 *e*P **P** **05 46 41.8 +0.1**
comp=Z,13nm,1.0s,mb4.9
GRA1 *e*pP pP 05 46 51.0 -0.5
GRF Grafenberg Arr 60.18 346 *e*P **P** **05 46 41.8 +0.1**
comp=Z,13nm,1.0s,mb4.9
GRF *e*pP pP 05 46 51.0 -0.5
GRF Grafenberg Arr 60.18 346 *e*P **P** **05 46 41.8 +0.1**
GRF *e**PP pP 05 46 51.0 -0.5
GRF pmax pmax
comp=Z,13nm,1.0s,mb4.9
SYO Syowa Base 60.87 176⇑ *e*P **P** **05 46 47.8 +1.4**
MOX Moxa 60.97 347 *e*P **P** **05 46 47.2 +0.1**
comp=Z,15nm,1.6s,mb4.9
MOX Moxa 60.97 347 *e*P **P** **05 46 47.2 +0.1**
MOX pmax pmax
comp=Z,15nm,1.6s,mb4.9
MFF Saint Martin d 61.09 336 *e*P **P** **05 46 47.6 -0.3**
comp=Z,9.6nm,0.6s,mb4.8
MFF Saint Martin d 61.09 336 *e*P **P** **05 46 47.6 -0.3**
comp=Z,4.8nm,0.6s,mb4.8
CLL Collm 61.29 348⇑ P **P** **05 46 49.1 -0.1**
comp=Z,logA/T=0.9,mb4.8
CLL Collm 61.29 348⇑ *i*P **P** **05 46 49.1 -0.1**
comp=Z,10.0nm,1.3s,mb4.8
GIVF Givet 62.32 342 *e*P **P** **05 46 55.6 -0.6**
DOU Dourbes 62.38 342 P **P** **05 46 56.8 +0.1**
SUW Suwalki 62.44 355 *e*P **P** **05 46 56.6 -0.4**
BCLA Clavier 62.45 342 P **P** **05 46 57.1 0.0**
BCLA AP pP 05 47 06.9 -0.1
BAIF Baives 62.48 341 *e*P **P** **05 46 56.7 -0.5**
comp=Z,26nm,1.1s,mb5.0
BAIF Baives 62.48 341 *e*P **P** **05 46 56.7 -0.5**
comp=Z,13nm,1.1s,mb5.0
LDF La Druitiere 62.73 338 *e*P **P** **05 46 58.2 -0.7**
KOLN Koldanda 62.81 53 *e*P **P** **05 46 59.2 -0.2**
comp=Z,28nm,1.1s,mb5.3
GRR Gorron 62.84 337 *e*P **P** **05 46 59.2 -0.4**
SNF Seneffe 62.84 342 P **P** **05 47 00.3 +0.6**
SNF AP pP 05 47 09.2 -0.3
FLN La Foliniere 63.00 338 *e*P **P** **05 46 59.9 -0.8**
MAW Mawson 63.05 167 P **P** **05 47 02.3 +1.3**
comp=Z,8.1nm,0.7s,mb5.0,baz=314,slow=8.6,SNR=26
MAW Mawson 63.05 167 P **P** **05 47 02.3 +1.2**
MAW pmax pmax
comp=Z,8.0nm,0.7s
MAW Mawson 63.05 167 *e*P **P** **05 47 02.6 +1.5**
comp=Z,16nm,1.1s,mb5.1
QUIF Quistinic 63.37 335 *e*P **P** **05 47 02.6 -0.6**
comp=Z,22nm,1.0s,mb5.0
QUIF Quistinic 63.37 335 *e*P **P** **05 47 02.6 -0.6**
comp=Z,11nm,1.0s,mb5.0
SGMF Saint Gilles 63.39 336 *e*P **P** **05 47 02.4 -0.9**
OBN Obninsk 63.47 4⇑ *e*P **P** **05 47 03.4 -0.4**
OBN pmax pmax
comp=Z,36nm,1.5s,mb5.3
GKN Gorkha 63.73 53 *e*P **P** **05 47 05.4 -0.2**
comp=Z,30nm,0.9s,mb5.3

ROSF Rostrenen 63.75 336 *e*P **P** **05 47 05.6 -0.1**
DMN Daman 63.93 54 *e*P **P** **05 47 07.5 +0.6**
KKN Kakani 64.15 54 *e*P **P** **05 47 08.3 0.0**
BSD Bornholm Skovb 64.55 350 *i*P **P** **05 47 10.3 -0.6**
comp=Z,17nm,1.0s,mb5.0
BSD *i* pP 05 47 19.7 -1.2
BSD Bornholm Skovb 64.55 350 *i*P **P** **05 47 10.3 -0.6**
BSD *i* pP 05 47 19.7 -1.2
BSD pmax pmax
comp=Z,17nm,1.0s,mb5.0
GUN Gumba 64.68 54 *e*P **P** **05 47 12.4 +0.6**
JIRN Jiri 64.82 54 *e*P **P** **05 47 13.4 +0.7**
comp=Z,20nm,0.8s,mb5.2
SNAA Sanae 66.46 191 *e*P **P** **05 47 25.1 +1.8**
SNAA *e* 05 47 29.6
SNAA *e*pP pP 05 47 34.9 +1.7
SNAA *e* 05 47 38.6
SNAA *e* 05 47 44.5
SNAA *e* 05 47 52.5
SNAA *e* 05 47 56.7
SNAA *e* 05 48 01.5
SNAA *e* 05 48 19.4
SNAA *e* 05 48 28.1
SNAA *e* 05 48 40.7
SNAA Sanae 66.46 191 *e*P **P** **05 47 25.1 +1.8**
comp=Z,2.9nm,1.0s,mb4.3
SNAA *e*pP pP 05 47 34.9 +1.7
MUD Monsted U'grnd 66.92 347 *i*P **P** **05 47 36.0 +10**
comp=Z,16nm,1.0s,mb5.0
MUD Monsted U'grnd 66.92 347 *i*P **P** **05 47 36.0 +10**
MUD pmax pmax
comp=Z,16nm,1.0s,mb5.0
ARU Arti 68.66 16⇓ *i*P **P** **05 47 36.0 -1.2**
ARU *e* 05 50 04.0
ARU *e*S S 05 56 38.8 +0.9
ARU *e*SS SS 06 01 00.7 -1.9
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ARU Arti 68.66 16 *e*P **P** **05 47 36.5 -0.6**
ZRNK Zerenda 69.39 24 *e*P **P** **05 47 41.1 -0.6**
comp=Z,2.5nm,0.8s,mb4.2
KLMR Klimovskoe 69.39 5 *e*P **P** **05 47 41.0 -0.7**
KLMR pmax pmax
comp=Z,20nm,1.1s,mb5.0
FINES FINESS Array B 69.68 358 P **P** **05 47 41.9 -1.6**
comp=Z,4.6nm,0.8s,mb4.5,baz=157,slow=6.2,SNR=16
FINES pP pP 05 47 52.0 -1.4
comp=Z,2.7nm,0.7s,baz=160,slow=6.1,SNR=4.2
FINES FINESS Array B 69.68 358 P **P** **05 47 41.9 -1.6**
FINES *PP pP 05 47 52.1 -1.4
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 69.98 24 *e*P **P** **05 47 45.1 -0.3**
comp=Z,3.1nm,0.9s,mb4.2
BRVK *e*pP pP 05 47 53.5 -1.9
BVAR Borovoye Array 70.00 24 P **P** **05 47 44.2 -1.3**
comp=Z,2.0nm,0.8s,mb4.1,baz=224,slow=10,SNR=6.9
BVAR pP pP 05 47 54.0 -1.5
comp=Z,2.2nm,0.7s,baz=236,slow=10,SNR=5.9
BVAR Borovoye Array 70.00 24 P **P** **05 47 44.2 -1.3**
BVAR *PP pP 05 47 54.0 -1.5
BVAR pmax pmax
comp=Z,2.0nm,0.8s
BVAR pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 70.34 358 *e*p **P** **05 47 45.8 -1.7**
comp=Z,12nm,0.8s,mb4.9
KAF Kangasniemi 70.34 358 *e*P **P** **05 47 45.8 -1.7**
KAF pmax pmax
comp=Z,12nm,0.8s,mb4.9
CHKZ Chkalovo 70.57 24 *e*P **P** **05 47 48.5 -0.4**
comp=Z,5.5nm,1.0s,mb4.4
CHKZ *e*pP pP 05 47 57.6 -1.4
NB2 NORSAR Subarra 70.81 350 P **P** **05 47 49.7 -0.7**
comp=Z,7.8nm,1.1s,mb4.5,baz=160,slow=6.2
NOA NORSAR Array B 70.81 350 P **P** **05 47 49.3 -1.1**
comp=Z,3.3nm,0.8s,mb4.3,baz=161,slow=5.5,SNR=7.0
NOA pP pP 05 47 59.5 -0.9
comp=Z,4.8nm,0.8s,baz=162,slow=5.6,SNR=7.5
NOA NORSAR Array B 70.81 350 P **P** **05 47 49.3 -1.1**
NOA *PP pP 05 47 59.6 -0.8
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA pmax pmax
comp=Z,5.0nm,0.8s
JOF Joensuu 71.08 0 *e*p **P** **05 47 49.6 -2.5**
comp=Z,6.3nm,0.8s,mb4.6
JOF Joensuu 71.08 0 *e*P **P** **05 47 49.6 -2.5**
JOF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MKAR Makanchi Array 71.73 35 P **P** **05 47 55.9 -0.1**
comp=Z,2.8nm,0.7s,mb4.3,baz=233,slow=6.2,SNR=20
MKAR pP pP 05 48 05.0 -1.0
comp=Z,2.9nm,0.7s,baz=236,slow=5.6,SNR=10
MKAR Makanchi Array 71.73 35 P **P** **05 47 55.9 0.0**
MKAR *PP pP 05 48 05.0 -1.0
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 71.73 35 P **P** **05 47 55.9 -0.1**
MKAR pP pP 05 48 05.0 -1.0
KURK Kurchatov 72.14 30 *e*P **P** **05 47 59.2 +0.8**
KURK Kurchatov 72.14 30 *e*P **P** **05 47 58.6 +0.1**
comp=Z,6.4nm,1.4s,mb4.4
KURK *e*pP pP 05 48 07.8 -0.7
WMQ Urumqi 73.37 40 P **P** **05 48 07.4 +1.7**
WMQ AP pP 05 48 17.8 +2.0
WMQ XP sP 05 48 21.8 +2.3
WMQ PP PP 05 50 53.1 +3.7
WMQ AMB AMB
comp=Z,18nm,1.5s,mb4.8
WMQ AMB AMB
comp=Z,134nm,5.7s
WMQ LR LR
comp=N,470nm,19.0s,MS4.9
WMQ LR LR
comp=E,352nm,17.9s,MS4.9
WMQ LR LR
comp=Z,452nm,19.5s,MS4.8
BDFB Brasilia 76.60 256 P **P** **05 48 25.4 +1.1**
comp=Z,6.1nm,0.5s,mb4.8,baz=108,slow=5.2,SNR=11
BDFB LR LR 06 16 47.6
comp=Z,159nm,18.3s,MS4.4,baz=291,slow=32
NVS Novosibirsk 76.88 28 *e*P **P** **05 48 24.5 -1.4**
NVS pmax pmax
comp=Z,20nm,1.2s,mb4.9
NVS pmax pmax
comp=N,12nm,1.4s
ZAL Zalesovo 77.11 30 P **P** **05 48 25.8 -1.5**
comp=N,3.6nm,0.3s,mb4.8,baz=220,slow=0.9,SNR=4.3
ZAL LR LR 06 26 58.0
comp=N,181nm,19.5s,MS4.4,baz=229,slow=39
ZAL Zalesovo 77.11 30 *i*P **P** **05 48 27.1 -0.1**
ZAL pmax pmax
comp=Z,4.0nm,0.3s
ZAL Zalesovo 77.11 30 P **P** **05 48 25.8 -1.5**
ZAL LR LR 06 26 58.0
ARCES ARCESS Array B 77.80 358 P **P** **05 48 30.5 -0.6**
comp=Z,9.7nm,0.7s,mb4.9,baz=152,slow=5.5,SNR=44
ARCES pP pP 05 48 40.0 -1.2
comp=Z,13nm,0.8s,baz=181,slow=4.9,SNR=12
ARCES LR LR 06 25 23.0
comp=Z,117nm,18.4s,MS4.2,baz=231,slow=38
ARCES ARCESS Array B 77.80 358 P **P** **05 48 30.5 -0.6**
ARCES *PP pP 05 48 40.1 -1.1
ARCES pmax pmax
comp=Z,10.0nm,0.7s
ARCES pmax pmax
comp=Z,13nm,0.8s
ARCES MLR MLR
comp=Z,117nm,18.4s
ARCES ARCESS Array B 77.80 358 P **P** **05 48 30.5 -0.6**
ARCES pP pP 05 48 40.0 -1.2
ARCES LR LR 06 25 22.9
ARE0 ARCESS Array S 77.80 358 *e*P **P** **05 48 30.6 -0.5**
ARE0 *e*pP pP 05 48 40.2 -1.0
KMI Kunming 77.90 62 P **P** **05 48 35.3 +3.6**
KMI AMB AMB
comp=Z,11nm,1.9s,mb4.5
KEV Kevo 77.98 359 *e*p **P** **05 48 30.5 -1.6**
comp=Z,11nm,0.7s,mb4.9
KEV Kevo 77.98 359 *e*P **P** **05 48 30.5 -1.6**

KEV				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
CD2	**Chengdu**	**80.31**	**57**	*e*P	**P**	**05 48 44.6**	**-0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
KRAR	**Krasnoyarsk**	**82.17**	**30**	*i* P	**P**	**05 48 54.9**	**+0.2**
KRAR				pmax	pmax		
	comp=Z,34nm,0.3s,mb5.8						
NWAO	**Narrogin (SRO)**	**82.95**	**122**	LR	LR	06 19 12.9	
	comp=Z,184nm,21.8s,MS4.4,baz=290,slow=31						
MBWA	**Marble Bar**	**86.50**	**111**	*e*P	**P**	**05 49 17.2**	**+0.6**
	comp=Z,19nm,1.2s,mb5.2						
TRQA	**Tornquist**	**86.69**	**232**	*e*P	**P**	**05 49 20.8**	**+3.2**
	comp=Z,12nm,1.0s,mb5.1						
SONM	**Songino Array**	**86.94**	**41**	P	**P**	**05 49 20.5**	**+1.6**
	comp=Z,0.8nm,0.8s,mb4.0,baz=240,slow=3.9,SNR=5.4						
SONM				pP	pP	05 49 28.6	-0.4
	comp=Z,1.8nm,0.8s,baz=238,slow=5.4,SNR=10						
SONM	**Songino Array**	**86.94**	**41**	P	**P**	**05 49 20.5**	**+1.7**
SONM				*PP	pP	05 49 28.6	-0.5
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULN	**Ulaanbaatar**	**87.38**	**41**	⇓*e*P	**P**	**05 49 31.8**	**+11**
HHC	**Hu-ho-hao-te**	**88.87**	**49**	*e*P	**P**	**05 49 28.8**	**+0.8**
HHC				AP	pP	05 49 39.8	+1.5
HHC				XP	sP	05 49 44.0	+2.0
HHC				PP	PP	05 53 01.3	+3.9
HHC				SKS		05 59 53.0	
HHC				S		06 00 11.4	
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb5.6						
HHC				AMB	AMB		
	comp=Z,187nm,5.0s						
HHC				LR	LR		
	comp=N,287nm,4.5s						
HHC				LR	LR		
	comp=E,331nm,5.2s						
HHC				LR	LR		
	comp=Z,190nm,4.9s						
SAML	**Samuel**	**92.12**	**261**	*e*P	**P**	**05 49 44.5**	**+1.4**
	comp=Z,1.9nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**92.46**	**109**	LR	LR	06 26 51.9	
	comp=Z,148nm,19.9s,MS4.4,baz=110,slow=33						
PLCA	**Paso Flores**	**92.72**	**228**	LR	LR	06 26 37.0	
	comp=Z,164nm,18.4s,MS4.5,baz=83,slow=32						
NJ2	**Nanjing**	**93.16**	**58**	*e*P	**P**	**05 49 48.5**	**+0.5**
NJ2				AP	pP	05 49 59.3	+1.1
NJ2				XP	sP	05 50 03.8	+1.9
NJ2				PP	PP	05 53 35.4	+4.0
NJ2				LR	LR		
	comp=N,2µm,16.6s,MS5.8						
NJ2				LR	LR		
	comp=E,2µm,18.0s,MS5.8						
NJ2				LR	LR		
	comp=Z,1µm,15.6s,MS5.4						
SSE	**Sheshan**	**95.02**	**59**	P	**P**	**05 49 55.9**	**-0.6**
LVC	**Limon Verde**	**95.23**	**246**	*e*P	**P**	**05 50 00.1**	**+2.7**
	comp=Z,7.3nm,0.8s,mb5.2						
LPAZ	**La Paz**	**95.68**	**253**	P	**P**	**05 50 00.4**	**+0.9**
	comp=Z,1.7nm,0.8s,mb4.5,baz=94,slow=3.2,SNR=8.2						
LPAZ				LR	LR	06 34 39.3	
	comp=Z,86nm,18.9s,MS4.2,baz=263,slow=36						
LPAZ	**La Paz**	**95.68**	**253**	P	**P**	**05 50 00.4**	**+0.9**
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LPAZ				MLR	MLR		
	comp=Z,86nm,18.9s						
SNY	**Shenyang**	**97.95**	**49**	⇑P	**P**	**05 50 11.6**	**+1.8**
SNY				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb5.5						
ASAR	**Alice Springs**	**98.95**	**116**	P	**P**	**05 50 14.1**	**-0.2**
	comp=Z,0.5nm,0.7s,mb4.1,baz=256,slow=5.0,SNR=5.9						
ASAR				LR	LR	06 28 33.6	
	comp=Z,299nm,21.6s,MS4.8,baz=186,slow=32						
MDJ	**Mudanjiang**	**102.44**	**46**	P	Pdif	05 50 29.9	+0.1
MDJ				AMB	AMB		
	comp=Z,1.0nm,0.4s						
WMOK	**Wichita Mounta**	**126.57**	**307**	*e*PKPdf	PKPdf	05 55 38.3	+1.4
RSSD	**Black Hills**	**126.76**	**320**	*e*PKPdf	PKPdf	05 55 37.6	+0.4
RSSD				*e*pPKPdf	pPKPdf	05 55 48.4	+0.5
EGMT	**Eagleton**	**128.06**	**327**	*e*PKPdf	PKPdf	05 55 40.8	+1.1
EGMT				*e*pPKPdf	pPKPdf	05 55 50.9	+0.6
JCT	**Junction City**	**128.56**	**302**	*e*PKPdf	PKPdf	05 55 42.0	+1.3
AMTX	**Amarillo**	**128.79**	**308**	*e*PKPdf	PKPdf	05 55 42.0	+0.9
BOZ	**Bozeman (W)**	**130.51**	**325**	*e*PKPdf	PKPdf	05 55 46.5	+2.1
BOZ				*e*pPKPdf	pPKPdf	05 55 56.8	+1.9
PDAR	**Pinedale Array**	**130.91**	**321**	PKP	PKPdf	05 55 45.1	0.0
	comp=Z,2.1nm,1.0s,baz=64,slow=3.4,SNR=12						
PDAR				pPKP	pPKPdf	05 55 55.6	-0.1
	comp=Z,0.8nm,0.9s,baz=37,slow=3.7,SNR=3.3						
BW06	**Boulder Array**	**130.91**	**321**	*e*PKPdf	PKPdf	05 55 45.9	+0.7
BW06				*e*pPKPdf	pPKPdf	05 55 56.1	+0.4
SMCO	**Snowmass**	**131.00**	**316**	*e*PKPdf	PKPdf	05 55 47.1	+1.7
SMCO				*e*pPKPdf	pPKPdf	05 55 58.1	+2.2
TPAW	**Teton Pass**	**131.37**	**323**	*e*PKPdf	PKPdf	05 55 47.5	+1.4
BNM	**Barren Site**	**132.87**	**309**	*e*PKPdf	PKPdf	05 55 51.0	+2.1
SRU	**San Rafael**	**133.45**	**317**	*e*PKPdf	PKPdf	05 55 51.6	+1.7
SRU				*e*pPKPdf	pPKPdf	05 56 02.2	+1.7
DUG	**Dugway**	**134.37**	**320**	*e*PKPdf	PKPdf	05 55 52.9	+1.2
ELK	**Elko**	**135.56**	**322**	*e*PKPdf	PKPdf	05 55 54.8	+0.9
TUC	**Tucson**	**136.79**	**309**	*e*PKPdf	PKPdf	05 55 58.4	+2.2
NVAR	**Mina Array Bea**	**138.84**	**322**	PKhKP		05 55 51.5	
	comp=Z,0.6nm,0.7s,baz=58,slow=4.5,SNR=4.2						
NVAR				PKP	PKPdf	05 56 02.1	+2.2
	comp=Z,1.9nm,0.7s,baz=76,slow=2.9,SNR=11						
NVAR	**Mina Array Bea**	**138.84**	**322**	PKP	PKPdf	05 56 02.1	+2.2

*CSEM **13** 05:51:16.0, 1586S×17408W, h33km, mb5.6*
*BJI **13** 05:51:28.8, 1638S×17341W, h185km, mB5.1, mb4.7*
*MOS **13** 05:51:28.6±1.2, 1578S×17422W, h136km, mb5.0/6, Error ellipse: s-maj=15.3km s-min=12.5km az=140.1*
*IDC **13** 05:51:29.8±2.0, 1592S×17405W, h144km±18km, mb4.5/12, mb1 4.6/14, mb1mx4.4/19, mbtmp4.9/14, MS3.9/1, Ms1 3.9/1, ms1mx2.9/22, Error ellipse: s-maj=22.0km s-min=10.8km az=143.0*
*ISCJB **13** 05:51:30.3±0.2, 1583S±006×17418W±005, h157km, mb4.6/58, Error ellipse: s-maj=10.8km s-min=4.2km az=107.2*
*NEIC **13** 05:51:31.8±0.1, 1579S×17421W, mb4.6/42, Error ellipse: s-maj=9.5km s-min=4.0km az=142.0*
*ORF **13** 05:51:42.4, 506S×17672E, h30km, mb5.5*
ISC 13 05:51:32.3±0.2**, 1584S**±006×**17416W**±005**, h159**km**, h159**km±1.5km**:pP-P, n393, σ0.51**/211**, mb4.6**/58**, 68C-65D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.00**	**50**	P	**Pn**	**05 52 16.1**	**-3.9**
	981nm,0.3s,baz=42,slow=1.1,SNR=922						
AFI				S	**Sn**	**05 52 49.4**	**-7.6**
	497nm,0.3s,baz=37,slow=23,SNR=15						
AFI				LR	LR	05 53 08.1	
	comp=Z,2µm,19.4s,baz=118,slow=33						
AFI	**Afiamalu**	**3.00**	**50**	P	**Pn**	**05 52 16.1**	**-3.9**
AFI				S	**Sn**	**05 52 49.4**	**-7.6**
AFI				pmax	pmax		
	comp=Z,981nm,0.3s						
AFI				smax			
	comp=N,497nm,0.3s						
AFI				MLR	MLR		
	comp=Z,2µm,19.4s						
AFI	**Afiamalu**	**3.00**	**50**	*e*Pn	**Pn**	**05 52 16.0**	**-4.0**
AFI				*e*Sn	**Sn**	**05 52 49.6**	**-7.4**
DZM	**Mont Dzumac**	**19.35**	**248**	*e*P	**P**	**05 55 45.4**	**-0.1**
DZM	**Mont Dzumac**	**19.35**	**248**	P	**P**	**05 55 45.1**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=67,slow=20,SNR=15						
URZ	**Urewera**	**23.62**	**197**	P	**P**	**05 56 26.9**	**-1.9**
	comp=Z,51nm,0.6s,mb5.2,baz=4.5,slow=2.1,SNR=23						
RPZ	**Rata Peaks**	**30.50**	**201**	P	**P**	**05 57 30.0**	**-0.3**
	comp=Z,16nm,0.7s,mb4.9,baz=91,slow=3.6,SNR=5.7						
ARMA	**Armidale**	**34.49**	**239**	*e*P	**P**	**05 58 05.0**	**0.0**
ARMA				*e*S	**S**	**06 03 03.9**	**-18**
CTA	**Charters Tower**	**37.83**	**258**	*e*P	**P**	**05 58 34.4**	**+1.0**
	comp=Z,5.9nm,0.4s,mb4.6						
CTA	**Charters Tower**	**37.83**	**258**	P	**P**	**05 58 34.1**	**+0.8**
	comp=Z,6.7nm,0.5s,mb4.6,baz=91,slow=11,SNR=8.5						
CTA	**Charters Tower**	**37.83**	**258**	P	**P**	**05 58 34.2**	**+0.8**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CTAO	**Charters Tower**	**37.83**	**258**	*e*P	**P**	**05 58 32.9**	**-0.5**
	comp=Z,6.9nm,0.5s,mb4.5						
CNB	**Canberra Magne**	**37.90**	**232**	⇑*i*P	**P**	**05 58 34.1**	**+0.1**
	comp=Z,66nm,1.1s,mb5.2						
PMG	**Port Moresby**	**38.24**	**275**	P	**P**	**05 58 38.1**	**+1.3**
	comp=Z,22nm,0.9s,mb4.8,baz=94,slow=9.2,SNR=5.9						
PMG	**Port Moresby**	**38.24**	**275**	⇑*e*P	**P**	**05 58 38.5**	**+1.7**
PMG	**Port Moresby**	**38.24**	**275**	*e*P	**P**	**05 58 38.1**	**+1.3**
	comp=Z,20nm,0.9s,mb4.8						
TOO	**Toolangi**	**41.62**	**231**	*e*P	**P**	**05 59 04.6**	**-0.1**
	comp=Z,51nm,1.1s,mb5.1						
STKA	**Stephens Creek**	**43.18**	**240**	*e*P	**P**	**05 59 17.2**	**-0.1**
	comp=Z,35nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**43.18**	**240**	P	**P**	**05 59 17.1**	**-0.2**
	comp=Z,41nm,0.8s,mb5.1,baz=86,slow=8.9,SNR=59						
WB2	**Warramunga Arr**	**49.02**	**257**	*e*P	**P**	**06 00 02.6**	**-0.3**
WRAB	**Tennant Creek**	**49.02**	**257**	*c i*P	**P**	**06 00 02.1**	**-0.8**
WRAB	**Tennant Creek**	**49.02**	**257**	*e*P	**P**	**06 00 02.5**	**-0.4**
	comp=Z,60nm,0.9s,mb5.2						
WRA	**Warramunga Arr**	**49.03**	**257**	P	**P**	**06 00 02.4**	**-0.6**
	comp=Z,22nm,0.5s,mb5.0,baz=90,slow=6.8,SNR=224						
WRA				PcP	PcP	06 01 24.7	+0.3
	comp=Z,4.2nm,0.7s,baz=85,slow=4.1,SNR=4.8						
WRA	**Warramunga Arr**	**49.03**	**257**	P	**P**	**06 00 02.4**	**-0.6**
WRA						06 01 24.7	
WRA				pmax	pmax		
	comp=Z,22nm,0.5s						
WRA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AS31	**Alice Springs**	**49.28**	**252**	*e*P	**P**	**06 00 04.8**	**0.0**
ASAR	**Alice Springs**	**49.28**	**252**	P	**P**	**06 00 04.7**	**-0.2**
	comp=Z,328nm,0.7s,baz=87,slow=7.9,SNR=1965						
ASAR	**Alice Springs**	**49.28**	**252**	P	**P**	**06 00 04.7**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,328nm,0.7s						
ASPA	**Alice Springs**	**49.28**	**252**	*e*P	**P**	**06 00 04.8**	**-0.1**
KAKA	**Kakadu**	**51.74**	**266**	*e*P	**P**	**06 00 23.2**	**-0.1**
	comp=Z,40nm,0.7s,mb5.2						
FORT	**Forrest**	**54.56**	**243**	*e*P	**P**	**06 00 43.0**	**-0.9**
	comp=Z,73nm,0.6s,mb5.6						
FITZ	**Fitzroy Crossi**	**57.40**	**258**	*e*P	**P**	**06 01 04.4**	**+0.3**
	comp=Z,8.8nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**57.40**	**258**	P	**P**	**06 01 04.0**	**-0.1**
	comp=Z,3.8nm,0.6s,mb4.4,baz=128,slow=5.0,SNR=5.5						
MBWA	**Marble Bar**	**62.53**	**254**	*e*P	**P**	**06 01 39.4**	**+0.3**
	comp=Z,43nm,0.7s,mb5.4						
SBA	**Scott Base**	**62.75**	**184**	*e*P	**P**	**06 01 42.3**	**+1.8**
	comp=Z,28nm,1.0s,mb5.0						
SBA				*e*	pP	06 02 17.2	-0.9
VNDA	**Vanda**	**62.86**	**186**	P	**P**	**06 01 42.2**	**+1.0**
	comp=Z,16nm,1.0s,mb4.8,baz=8.2,slow=8.0,SNR=3.1						
VNDA	**Vanda**	**62.86**	**186**	P	**P**	**06 01 42.2**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,16nm,1.0s						
VNDA	**Vanda**	**62.86**	**186**	*e*P	**P**	**06 01 41.9**	**+0.7**
	comp=Z,19nm,1.0s,mb4.9						
VNDA				*e*	pP	06 02 18.7	-0.1
KLBR	**Kellerberrin**	**63.39**	**242**	*e*P	**P**	**06 01 44.4**	**-0.3**
	comp=Z,110nm,0.7s,mb5.8						
NWAO	**Narrogin (SRO)**	**63.77**	**241**	P	**P**	**06 01 47.2**	**0.0**
	comp=Z,31nm,0.9s,mb5.2,baz=95,slow=7.0,SNR=12						
NWAO	**Narrogin (SRO)**	**63.77**	**241**	P	**P**	**06 01 47.2**	**0.0**
NWAO				pmax	pmax		
	comp=Z,31nm,0.9s						
NWAO	**Narrogin (SRO)**	**63.77**	**241**	*e*P	**P**	**06 01 47.2**	**0.0**
	comp=Z,32nm,0.9s,mb5.1						
NWAO				*e*PcP	PcP	06 02 22.2	+0.4
MUN	**Mundaring**	**64.68**	**242**	*e*P	**P**	**06 01 53.2**	**+0.1**
CASY	**Casey**	**69.70**	**205**	⇑*i*P	**P**	**06 02 24.6**	**-0.1**
FARB	**Farallon Islan**	**71.72**	**41**	⇓P	**P**	**06 02 36.6**	**-0.4**
	baz=72						
V03C	**Hunter Liggett**	**71.85**	**43**	⇑P	**P**	**06 02 37.7**	**0.0**
	baz=72						
HAST	**UC Hastings Re**	**71.86**	**42**	⇓P	**P**	**06 02 37.9**	**+0.1**
	baz=72						
KKM	**Kota Kinabalu**	**72.25**	**282**	*e*P	**P**	**06 02 40.5**	**+0.4**
U04C	**Hernandez Rese**	**72.34**	**43**	⇓P	**P**	**06 02 41.0**	**+0.3**
	baz=72,SNR=5.4						
PACP	**Pacheco Peak**	**72.39**	**42**	⇓P	**P**	**06 02 40.9**	**-0.1**
	baz=73,SNR=5.8						
NSHM	**Saint Helena R**	**72.47**	**40**	*e*P	**P**	**06 02 40.6**	**-0.8**
HOPS	**Hopland**	**72.47**	**39**	*e*P	**P**	**06 02 42.1**	**+0.7**
	comp=Z,18nm,1.1s,mb4.7						
HOPS	**Hopland**	**72.47**	**39**	⇓P	**P**	**06 02 41.5**	**0.0**
	baz=73						
P01C	**Double 8 Ranch**	**72.61**	**39**	⇓P	**P**	**06 02 42.4**	**+0.1**
	baz=73						
S04C	**Ingram Canyon,**	**72.66**	**42**	⇓P	**P**	**06 02 42.8**	**+0.2**
	baz=73,SNR=7.7						
O01C	**Eel River Cons**	**72.74**	**38**	⇑P	**P**	**06 02 43.2**	**+0.2**
	baz=73						
MNRC	**McLaughlin Nat**	**72.79**	**40**	⇓P	**P**	**06 02 43.8**	**+0.5**
	baz=73,SNR=7.1						
JCC	**Jacoby Creek**	**73.04**	**38**	⇓P	**P**	**06 02 45.0**	**+0.2**
	baz=73						
GASB	**Alder Springs**	**73.09**	**39**	⇓P	**P**	**06 02 45.6**	**+0.5**
	baz=73,SNR=7.6						
S05C	**Merced**	**73.21**	**42**	⇓P	**P**	**06 02 45.5**	**-0.3**
	baz=73						
O02C	**Red Bluff**	**73.38**	**39**	⇓P	**P**	**06 02 47.1**	**+0.4**
	baz=74,SNR=7.4						
SUTB	**Sutter Butte**	**73.41**	**40**	⇓P	**P**	**06 02 47.1**	**+0.2**
	baz=74						
T06C	**Millerton Lake**	**73.42**	**43**	⇑P	**P**	**06 02 47.0**	**0.0**
	baz=74						
N02C	**Big Bar**	**73.47**	**38**	⇑P	**P**	**06 02 47.2**	**-0.1**
	baz=74						
ISA	**Isabella**	**73.48**	**45**	*e*P	**P**	**06 02 47.5**	**+0.1**
	comp=Z,8.5nm,1.1s,mb4.4						
ISA	**Isabella**	**73.48**	**45**	⇑P	**P**	**06 02 47.3**	**0.0**
	baz=74						
YSS	**Yuzh-Sakhalins**	**73.51**	**331**	*i* P	**P**	**06 02 47.5**	**0.0**
YSS				*i*		06 03 02.1	
YSS				*i*		06 05 34.0	
YSS				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.8						
YSS	**Yuzh-Sakhalins**	**73.51**	**331**	*e*P	**P**	**06 02 47.1**	**-0.4**
	comp=Z,32nm,1.0s,mb5.0						
CMB	**Columbia Colle**	**73.58**	**42**	*e*P	**P**	**06 02 47.6**	**-0.3**
	comp=Z,6.8nm,0.9s,mb4.4						
CMB	**Columbia Colle**	**73.58**	**42**	⇓P	**P**	**06 02 47.9**	**0.0**
	baz=74,SNR=6.0						
M01C	**Crescent City**	**73.65**	**37**	⇑P	**P**	**06 02 48.5**	**+0.1**
	baz=74						
OHCM	**Honcut**	**73.66**	**40**	*e*P	**P**	**06 02 47.6**	**-0.8**
PFO	**Pinyon Flat Ob**	**73.76**	**47**	⇓P	**P**	**06 02 48.7**	**-0.3**
	baz=74						
WDC	**Whiskeytown Da**	**73.78**	**38**	*e*P	**P**	**06 02 48.5**	**-0.6**
	comp=Z,9.1nm,1.3s,mb4.3						
WDC	**Whiskeytown Da**	**73.78**	**38**	⇑P	**P**	**06 02 49.0**	**0.0**
	baz=74,SNR=5.2						
LAVA	**Lava Cap Winer**	**73.78**	**41**	⇑P	**P**	**06 02 48.7**	**-0.3**
	baz=74						
ORV	**Oroville**	**73.78**	**40**	⇑P	**P**	**06 02 49.0**	**-0.1**
	baz=74						
S06C	**San Francisco**	**73.83**	**42**	⇓P	**P**	**06 02 49.0**	**-0.4**
	baz=74						
KCC	**Kaiser Creek**	**73.86**	**43**	⇑P	**P**	**06 02 49.3**	**-0.2**
	baz=74						
M02C	**Callahan**	**74.10**	**38**	⇓P	**P**	**06 02 51.0**	**0.0**
	baz=74,SNR=6.6						
R05C	**Kirkwood Meado**	**74.17**	**41**	⇓P	**P**	**06 02 51.3**	**0.0**
	baz=74,SNR=9.4						
CWC	**Cottonwood Cre**	**74.18**	**44**	⇑P	**P**	**06 02 51.0**	**-0.4**
	baz=74						
P05C	**Yuba Gap, Truc**	**74.19**	**40**	⇓P	**P**	**06 02 51.3**	**-0.1**
	baz=74						
QSPA	**South Pole Qui**	**74.20**	**180**	*e*P	**P**	**06 02 52.3**	**+0.8**
	comp=Z,80nm,1.1s,mb5.4						
MLAC	**Mammoth Lakes**	**74.35**	**43**	⇑P	**P**	**06 02 52.6**	**+0.2**
	baz=74						
YBH	**Yreka Blue Hor**	**74.39**	**37**	*e*P	**P**	**06 02 52.9**	**+0.3**
	comp=Z,12nm,1.2s,mb4.5						
YBH				*e*pP	pP	06 03 30.7	-0.7
YBH	**Yreka Blue Hor**	**74.39**	**37**	⇓P	**P**	**06 02 53.0**	**+0.4**
	baz=75,SNR=11						
DAC	**Darwin (Calif)**	**74.41**	**44**	*e*PcP	PcP	06 02 59.7	-6.9
GSC	**Goldstone**	**74.42**	**46**	*e*P	**P**	**06 02 52.8**	**0.0**
GSC				*e*PcP	PcP	06 03 03.8	-2.8
GSC	**Goldstone**	**74.42**	**46**	⇑P	**P**	**06 02 52.7**	**-0.1**
	baz=75						
WAKR	**Walker**	**74.46**	**42**	*e*P	**P**	**06 02 53.6**	**+0.5**
R06C	**Coleville**	**74.46**	**42**	⇓P	**P**	**06 02 53.1**	**+0.1**
	baz=75						
R07C	**Lee Vining**	**74.47**	**42**	⇓P	**P**	**06 02 53.3**	**+0.2**
	baz=75						
O04C	**Chester**	**74.50**	**39**	⇑P	**P**	**06 02 53.1**	**-0.1**
	baz=75,SNR=5.8						
HATC	**Hat Creek Radi**	**74.57**	**39**	⇑P	**P**	**06 02 53.6**	**-0.1**
	baz=75						
GLA	**Glamis**	**74.63**	**49**	*e*P	**P**	**06 02 54.6**	**+0.6**
GLA	**Glamis**	**74.63**	**49**	⇑P	**P**	**06 02 53.9**	**-0.1**
	baz=75						
WCN	**Washoe City**	**74.72**	**41**	⇑P	**P**	**06 02 54.7**	**+0.1**
	baz=75,SNR=5.2						
HUMO	**Hull Mountain**	**74.80**	**37**	*e*P	**P**	**06 02 55.2**	**+0.2**
	comp=Z,8.2nm,1.3s,mb4.2						
HUMO	**Hull Mountain**	**74.80**	**37**	⇑P	**P**	**06 02 55.1**	**+0.1**
	baz=75						
J02A	**Umpqua**	**74.93**	**36**	⇓P	**P**	**06 02 55.7**	**0.0**
	baz=75						
M04C	**Macdoel**	**74.94**	**38**	⇑P	**P**	**06 02 55.8**	**+0.1**
	baz=75						
M05C	**Lookout**	**75.09**	**38**	⇑P	**P**	**06 02 56.6**	**-0.1**
	baz=75,SNR=6.2						
TUQ	**Turquoise Mtn.**	**75.10**	**46**	⇑P	**P**	**06 02 56.5**	**-0.2**
	baz=75						
L04A	**Klamath Falls**	**75.15**	**37**	⇓P	**P**	**06 02 56.8**	**-0.1**
	baz=75						
NVAR	**Mina Array Bea**	**75.15**	**42**	P	**P**	**06 02 57.3**	**+0.3**
	comp=Z,8.3nm,1.0s,mb4.3,baz=222,slow=7.8,SNR=26						
O06A	**Flanigan**	**75.18**	**40**	⇓P	**P**	**06 02 57.1**	**-0.1**
	baz=75,SNR=5.4						
Y12C	**Blythe**	**75.21**	**48**	⇑P	**P**	**06 02 57.1**	**-0.2**
	baz=75						
MNV	**Mina**	**75.24**	**42**	*e*P	**P**	**06 02 57.4**	**-0.1**
	comp=Z,12nm,1.1s,mb4.4						
U10A	**Ash Meadows, A**	**75.35**	**45**	⇓P	**P**	**06 02 58.2**	**+0.1**
	baz=76						
M06C	**Likely Place G**	**75.40**	**39**	⇓P	**P**	**06 02 58.6**	**+0.2**
	baz=76,SNR=5.2						
S09A	**Goldfield**	**75.46**	**43**	⇑P	**P**	**06 02 58.5**	**-0.3**
	baz=76,SNR=5.4						
Q08A	**Gabbs**	**75.63**	**42**	⇑P	**P**	**06 02 59.5**	**-0.2**
	baz=76						
V11A	**Goodsprings**	**75.65**	**46**	⇑P	**P**	**06 02 59.8**	**-0.1**
	baz=76						
TPNV	**Topopah Spring**	**75.69**	**44**	*e*P	**P**	**06 03 00.0**	**0.0**
	comp=Z,3.4nm,1.0s,mb3.9						
TPNV				*e*pP	pP	06 03 38.5	-0.4
L05A	**Lakeview**	**75.69**	**38**	⇑P	**P**	**06 03 00.4**	**+0.4**
	baz=76						
O07A	**Toulon**	**75.77**	**41**	⇑P	**P**	**06 03 00.5**	**-0.1**
	baz=76,SNR=9.9						
H03A	**Soap Creek Ran**	**75.92**	**35**	⇓P	**P**	**06 03 01.4**	**0.0**
	baz=76						
U11A	**Corn Creek**	**75.99**	**45**	⇑P	**P**	**06 03 01.9**	**+0.1**
	baz=76						
V12A	**Nelson**	**75.99**	**46**	⇑P	**P**	**06 03 01.8**	**0.0**
	baz=76						
N07B	**Gerlach**	**76.07**	**40**	⇓P	**P**	**06 03 02.2**	**-0.1**
	baz=76						
X13A	**Yucca**	**76.13**	**48**	⇑P	**P**	**06 03 02.6**	**0.0**
	baz=76						
Z14A	**Wintersburg**	**76.15**	**49**	⇑P	**P**	**06 03 02.7**	**+0.1**
	baz=76						
SHPR	**Sheep Range**	**76.19**	**45**	*e*P	**P**	**06 03 03.6**	**+0.7**
M07A	**Soldier Meadow**	**76.30**	**39**	⇓P	**P**	**06 03 03.6**	**+0.1**
	baz=76						
W13A	**Hualapai Mount**	**76.35**	**47**	⇓P	**P**	**06 03 03.7**	**-0.1**
	baz=76						
115A	**Sonoran Desert**	**76.35**	**50**	⇓P	**P**	**06 03 03.5**	**-0.4**
	baz=76						
R10A	**Warm Springs**	**76.38**	**43**	⇑P	**P**	**06 03 04.1**	**+0.1**
	baz=76,SNR=7.8						
Y14A	**Wickenburg**	**76.39**	**49**	⇓P	**P**	**06 03 03.8**	**-0.2**
	baz=76,SNR=6.5						
P09A	**Austin**	**76.53**	**42**	⇓P	**P**	**06 03 04.6**	**-0.2**
	baz=77						
H04A	**Detroit Lake**	**76.54**	**35**	⇓P	**P**	**06 03 05.0**	**+0.1**
	baz=77						
L07A	**Adell**	**76.57**	**39**	⇓P	**P**	**06 03 05.0**	**0.0**
	baz=77,SNR=6.5						
U12A	**Valley of Fire**	**76.58**	**46**	⇓P	**P**	**06 03 04.9**	**-0.2**
	baz=77						
N08A	**GE Springer Mi**	**76.59**	**40**	⇓P	**P**	**06 03 05.0**	**-0.1**
	baz=77						
116A	**Eloy**	**76.67**	**50**	⇑P	**P**	**06 03 05.3**	**-0.3**
	baz=77						
MIR	**Mirnyy**	**76.72**	**204**	*d i*P	**P**	**06 03 07.0**	**+1.1**
MIR				pmax	pmax		
	comp=Z,200nm,1.5s,mb5.5						
X14A	**Yava**	**76.74**	**48**	⇑P	**P**	**06 03 06.3**	**+0.4**
	baz=77,SNR=5.7						
J06A	**Christmas Vall**	**76.82**	**37**	⇓P	**P**	**06 03 06.0**	**-0.5**
	baz=77						
M08A	**Happy Creek Ra**	**76.82**	**40**	⇓P	**P**	**06 03 06.4**	**0.0**
	baz=77						
O09A	**Fish Creek Ran**	**76.84**	**41**	⇓P	**P**	**06 03 06.3**	**-0.3**
	baz=77						
W14A	**Seligman**	**76.97**	**47**	⇑P	**P**	**06 03 07.8**	**+0.5**
	baz=77,SNR=6.8						
E03A	**Lebam**	**76.97**	**33**	⇑P	**P**	**06 03 07.0**	**-0.3**
	baz=77						
P10A	**Eureka**	**77.00**	**42**	⇑P	**P**	**06 03 07.1**	**-0.4**
	baz=77						
H05A	**Madras**	**77.05**	**36**	⇓P	**P**	**06 03 08.5**	**+0.7**
	baz=77						
Q11A	**Duckwater**	**77.10**	**43**	⇓P	**P**	**06 03 08.0**	**-0.1**
	baz=77,SNR=8.3						
X15A	**Humboldt**	**77.22**	**48**	⇑P	**P**	**06 03 09.1**	**+0.4**
	baz=77,SNR=7.8						
TUC	**Tucson**	**77.24**	**51**	*e*P	**P**	**06 03 08.9**	**+0.1**
	comp=Z,4.5nm,0.9s,mb4.1						
TUC				*e*pP	pP	06 03 49.0	+1.3
G05A	**Wamic**	**77.37**	**35**	⇑P	**P**	**06 03 10.0**	**+0.5**
	baz=78						
M09A	**Marrel Ranch,**	**77.38**	**40**	⇓P	**P**	**06 03 09.6**	**0.0**
	baz=78						
J07A	**Hines**	**77.38**	**38**	⇓P	**P**	**06 03 09.5**	**-0.1**
	baz=78						
L09A	**Wilkinson Ranc**	**77.58**	**40**	⇓P	**P**	**06 03 10.6**	**-0.1**
	baz=78						
SSE	**Sheshan**	**77.64**	**307**	P	**P**	**06 03 11.9**	**+0.9**
SSE				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.6						
SSE				AMB	AMB		
	comp=Z,227nm,6.0s						
Q12A	**Willow Creek R**	**77.75**	**43**	⇑P	**P**	**06 03 11.5**	**-0.1**
	baz=78						
O11A	**Cowboy Ranch,**	**77.80**	**42**	⇑P	**P**	**06 03 11.7**	**-0.2**
	baz=78						
J08A	**Circle Bar Ran**	**77.87**	**38**	⇓P	**P**	**06 03 12.1**	**-0.2**
	baz=78						
HABR	**Khabarovsk**	**78.32**	**328**	*e*P	**P**	**06 03 14.5**	**-0.3**
HABR				*e*S	S	06 12 56.8	0.0
WUAZ	**Wupatki**	**78.34**	**48**	*e*P	**P**	**06 03 14.9**	**+0.1**
	comp=Z,11nm,1.2s,mb4.3						
ELK	**Elko**	**78.40**	**42**	*e*P	**P**	**06 03 15.0**	**-0.2**
	comp=Z,4.2nm,1.1s,mb4.0						
ELK				*e*pP	pP	06 03 55.2	+0.9
M11A	**Holland Ranch,**	**78.42**	**41**	⇓P	**P**	**06 03 15.4**	**+0.1**
	baz=79						
N12A	**Clover Valley,**	**78.58**	**42**	⇓P	**P**	**06 03 16.1**	**-0.1**
	baz=79						
MDJ	**Mudanjiang**	**78.93**	**323**	P	**P**	**06 03 19.1**	**+1.0**
MDJ				PP	PP	06 06 19.9	+0.9
MDJ				S	S	06 13 05.8	+2.5
MDJ				SS	SS	06 18 15.4	+3.5
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,172nm,5.9s						
M12A	**Wells**	**78.97**	**41**	⇓P	**P**	**06 03 18.0**	**-0.3**
	baz=79						
N13A	**Wendover, West**	**79.12**	**42**	⇓P	**P**	**06 03 18.8**	**-0.3**
	baz=79						
MVU	**Marysvale**	**79.23**	**45**	*e*P	**P**	**06 03 20.3**	**+0.6**
	comp=Z,4.8nm,1.2s,mb4.0						
MVU				*e*pP	pP	06 03 58.3	-0.6
MSU	**Marysvale**	**79.25**	**45**	*e*P	**P**	**06 03 20.1**	**+0.3**
MSU				*e*PcP	PcP	06 03 27.4	-0.2
MSU				*e*pP	pP	06 04 00.2	+1.1
DUG	**Dugway**	**79.68**	**43**	*e*P	**P**	**06 03 21.9**	**-0.3**
DUG				*e*pP	pP	06 04 03.0	+1.6
NJ2	**Nanjing**	**79.85**	**307**	*e*P	**P**	**06 03 22.8**	**-0.3**
NJ2				PP	PP	06 06 27.5	+0.9
NJ2				S	S	06 13 11.0	-2.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,990nm,5.5s						
NJ2				LR	LR		
	comp=N,3µm,15.1s						
NJ2				LR	LR		

comp=E,1μm,15.7s
NJ2 LR LR
comp=Z,850nm,15.1s
TMUT Trail Mountain 80.30 45 eP **P 06 03 26.2 +0.8**
HLID Hailey 80.43 40 eP **P 06 03 26.4 +0.2**
comp=Z,9.0nm,1.4s,mb4.2
HLID epP pP 06 04 00.6 -4.9
HLID ePP PP 06 06 29.8 -1.6
SRU San Rafael 80.67 45 eP **P 06 03 27.9 +0.4**
SRU epP pP 06 04 12.3 +5.5
LAZ Ladron 80.90 50 eP **P 06 03 29.7 +1.0**
LAZ epP pP 06 04 09.3 +1.3
CN2 Changchun 80.96 320 eP **P 06 03 28.9 -0.1**
SNY Shenyang 81.11 318 ⇑P **P 06 03 30.9 +1.1**
SNY AMB AMB
comp=Z,8.0nm,0.5s,mb4.6
BNM Barren Site 81.17 51 eP **P 06 03 30.5 +0.4**
LPM Los Pinos Moun 81.24 51 eP **P 06 03 30.1 -0.4**
LTX Lajitas 81.47 56 eP **P 06 03 32.4 +0.7**
comp=Z,7.6nm,1.1s,mb4.2
ANMO Albuquerque 81.64 50⇑eP **P 06 03 33.3 +0.7**
ANMO Albuquerque 81.64 50 eP **P 06 03 33.0 +0.4**
comp=Z,5.2nm,1.2s,mb4.0
ANMO epP pP 06 04 13.6 +1.6
MCMT McKenzie Canyo 82.06 39 eP **P 06 03 34.8 0.0**
GDL2 Guadalupe Moun 82.07 53 eP **P 06 03 35.0 +0.2**
GDL2 epP pP 06 04 04.2 -10
TPAW Teton Pass 82.55 41 eP **P 06 03 36.5 -0.8**
comp=Z,11nm,1.4s,mb4.4
TPAW epP pP 06 04 13.6 -3.2
IMW Indian Meadow 82.76 41 eP **P 06 03 38.6 +0.2**
comp=Z,3.5nm,0.9s,mb4.1
IMW epP pP 06 04 17.1 -0.8
COLA College 82.93 11⇓eP **P 06 03 38.4 -0.9**
COLA College 82.93 11 eP **P 06 03 37.9 -1.4**
comp=Z,9.4nm,0.8s,mb4.6
COLA epP pP 06 04 17.3 -1.5
BW06 Boulder Array 83.08 42 eP **P 06 03 39.6 -0.4**
comp=Z,4.0nm,0.7s,mb4.3
PDAR Pinedale Array 83.08 42 P **P 06 03 39.7 -0.4**
comp=Z,2.4nm,0.8s,mb4.0,baz=220,slow=2.9,SNR=19
PDAR pP pP 06 04 18.6 -0.9
comp=Z,1.5nm,0.9s,baz=208,slow=2.9,SNR=3.1
IMA2 Indian Mountai 83.10 8 eP **P 06 03 39.6 -0.6**
SMCO Snowmass 83.14 46 eP **P 06 03 41.0 +0.6**
comp=Z,8.1nm,1.0s,mb4.4
SMCO epP pP 06 04 20.8 +0.9
BOZ Bozeman (W) 83.22 39 eP **P 06 03 40.5 -0.3**
comp=Z,14nm,1.7s,mb4.4
BOZ epP pP 06 04 20.4 +0.1
HRY Holter Researc 83.64 38 eP **P 06 03 42.5 -0.4**
HRY epP pP 06 04 21.5 -1.1
DAWY Dawson 84.03 15 eP **P 06 03 44.2 -0.7**
JCT Junction City 85.00 57 eP **P 06 03 49.8 0.0**
comp=Z,4.3nm,0.3s,mb4.7
AMTX Amarillo 85.19 52 eP **P 06 03 50.6 -0.1**
comp=Z,2.6nm,0.4s,mb4.3
MAW Mawson 87.14 199 eP **P 06 04 00.2 -0.1**
comp=Z,12nm,0.7s,mb4.8
MAW Mawson 87.14 199 P **P 06 03 59.9 -0.4**
comp=Z,13nm,0.7s,mb4.9,baz=123,slow=6.8,SNR=29
MAW Mawson 87.14 199 P **P 06 03 59.9 -0.3**
MAW pmax pmax
comp=Z,13nm,0.7s
GYA Guiyang 87.60 298 P **P 06 04 03.6 +1.1**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
HHC Hu-ho-hao-te 88.79 313 eP **P 06 04 08.6 +0.6**
HHC AP pP 06 04 48.8 +0.7
HHC PP PP 06 07 43.6 +4.3
HHC SKS 06 14 22.1
HHC S S 06 14 38.9 -2.8
HHC SS SS 06 20 40.1 +2.8
HHC AMB AMB
comp=Z,19nm,0.4s,mb5.4
HHC AMB AMB
comp=Z,178nm,6.4s
HHC LR LR
comp=N,324nm,5.1s
HHC LR LR
comp=E,298nm,4.5s
HHC LR LR
comp=Z,228nm,4.9s
INK Inuvik 88.87 14 eP **P 06 04 07.3 -1.1**
comp=Z,1.5nm,0.7s,mb4.0
YAK Yakutsk 89.23 337 i P **P 06 04 08.0 -2.1**
KMI Kunming 90.56 296 P **P 06 04 17.3 +1.0**
KMI AP pP 06 04 57.6 +1.2
KMI PP PP 06 07 58.8 +5.5
KMI S S 06 14 55.6 -2.5
KMI AMB AMB
comp=Z,6.0nm,1.2s,mb4.5
KMI AMB AMB
comp=Z,163nm,4.6s
KMI LR LR
comp=Z,37nm,22.0s
SYO Syowa Base 92.02 192⇓eP **P 06 04 21.6 -1.5**
SYO Syowa Base 92.02 192⇓ePcP PcP 06 04 23.2 -0.6
SNAA Sanae 92.50 177⇓iP **P 06 04 24.9 -0.4**
SNAA e 06 04 25.9
SNAA Sanae 92.50 177d iP **P 06 04 25.1 -0.2**
SNAA Sanae 92.50 177 eP **P 06 04 24.8 -0.5**
comp=Z,7.3nm,1.0s,mb4.8
LZH Lanzhou 92.90 307 ⇓P **P 06 04 23.5 -3.6**
LZH PP PP 06 08 11.5 -0.2
LZH AMB AMB
comp=Z,21nm,1.1s,mb5.2
LZH AMB AMB
comp=Z,53nm,9.5s
LZH LR LR
comp=N,115nm,18.5s
LZH LR LR
comp=Z,183nm,19.7s
ULN Ulaanbaatar 94.28 319 i P **P 06 04 33.4 0.0**
ULN Ulaanbaatar 94.28 319 eP **P 06 04 33.1 -0.3**
comp=Z,2.1nm,0.9s,mb4.3
SONM Songino Array 94.69 318 P **P 06 04 34.6 -0.7**
comp=Z,0.4nm,0.7s,mb3.8,baz=126,slow=3.6,SNR=4.9
MCWV Mont Chateau 103.20 52 ePdif Pdif 06 05 08.8 -4.7
MVL Millersville 105.91 52 ePdif Pdif 06 05 32.9 +7.4
MKAR Makanchi Array 110.61 314 PKiKP PKiKP 06 09 44.5 -1.4
comp=Z,0.6nm,0.4s,baz=97,slow=1.7,SNR=6.6
MKAR Makanchi Array 110.61 314⇑iPKIKP PKiKP 06 09 44.5 -1.4
KURK Kurchatov 112.99 319⇑iPKIKP PKiKP 06 09 49.5 -0.9
KURK Kurchatov 112.99 319 ePKP PKiKP 06 09 49.3 -1.1
CHKZ Chkalovo 117.52 323 ePKPdf PKPdf 06 09 57.5 -1.6
BRVK Borovoye 117.84 322 ePKPdf PKPdf 06 09 58.7 -1.1
BDFB Brasilia 118.31 118 PKP PKPdf 06 09 59.1 -1.6
comp=Z,3.9nm,0.9s,baz=251,slow=7.4,SNR=3.1
BDFB Brasilia 118.31 118 PKIKP PKPdf 06 09 59.1 -1.5
BDFB pmax pmax
comp=Z,4.0nm,0.9s
ZRNK Zerenda 118.61 322 ePKPdf PKPdf 06 09 59.7 -1.6
ARU Arti 123.33 328 i PKIKP PKPdf 06 10 08.2 -2.1
ARU e 06 16 53.1
KEV Kevo 124.53 351 ep PKPdf 06 10 09.9 -2.7
comp=Z,9.3nm,0.7s
KEV Kevo 124.53 351 ePKIKP PKPdf 06 10 09.9 -2.7
KEV pmax pmax
comp=Z,9.0nm,0.7s
ARCES ARCESS Array B 124.94 352 PKP PKPdf 06 10 11.6 -1.7
comp=Z,10nm,0.7s,baz=360,slow=1.1,SNR=35
ARCES ARCESS Array B 124.94 352 PKIKP PKPdf 06 10 11.6 -1.8
ARCES pmax pmax
comp=Z,11nm,0.7s
ARE0 ARCESS Array S 124.94 352 ePKPdf PKPdf 06 10 11.8 -1.6
JOF Joensuu 129.71 345 ep PKPdf 06 10 19.8 -2.7
comp=Z,7.9nm,0.6s
JOF Joensuu 129.71 345 ePKIKP PKPdf 06 10 19.8 -2.7
JOF pmax pmax
comp=Z,8.0nm,0.6s
KAF Kangasniemi 131.56 347 ep PKPdf 06 10 22.0 -4.0
comp=Z,4.7nm,0.5s
KAF Kangasniemi 131.56 347 ePKIKP PKPdf 06 10 22.0 -4.0
KAF pmax pmax
comp=Z,5.0nm,0.5s
FINES FINESS Array B 132.21 347 PKP PKPdf 06 10 25.4 -1.8
comp=Z,1.6nm,0.6s,baz=12,slow=3.9,SNR=11
FINES FINESS Array B 132.21 347⇑iPKIKP PKPdf 06 10 26.7 -0.5
OBN Obninsk 134.22 336c iPKIKP PKPdf 06 10 31.4 +0.4
OBN pmax pmax
comp=Z,5.0nm,0.5s
NB2 NORSAR Subarra 134.70 356 PKPdf PKPdf 06 10 32.7 +0.8
comp=Z,4.6nm,1.1s,baz=6.6,slow=1.8
NOA NORSAR Array B 134.70 356 PKP PKPdf 06 10 30.9 -1.0
comp=Z,2.6nm,0.9s,baz=14,slow=4.1,SNR=4.4
NOA NORSAR Array B 134.70 356 PKIKP PKPdf 06 10 30.9 -1.0
NOA pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 138.07 320 i PKIKP PKPdf 06 10 38.4 +0.3
AKASG Malin Array Be 140.46 337 PKhKP 06 10 34.0
comp=Z,0.7nm,0.5s,baz=37,slow=4.0,SNR=7.7
ANN Anapa 140.73 324 i PKIKP PKPdf 06 10 39.6 -3.4
ANN pmax pmax
comp=Z,56nm,1.2s
LSZ Lusaka 142.01 217 ePKPpre 06 10 41.6
LSZ ePKPdf PKPdf 06 10 46.2 +1.0
TSUM Tsumeb 143.31 199 ePKPpre 06 10 45.7
TSUM ePKPdf PKPdf 06 10 48.6 +1.0
MALT Malatya 143.65 314⇑iP PKPdf 06 10 47.1 -1.1
MALT Malatya 143.65 314 ePKPdf PKPdf 06 10 47.0 -1.2
OJC Ojcow 143.90 345 ePKP PKPdf 06 10 45.7 -2.9
KSP Ksiaz 144.09 349 ePKP PKPdf 06 10 47.5 -1.4
KSP Ksiaz 144.09 349 ePKP PKPdf 06 10 47.0 -1.9
CLL Collm 144.16 352 ePKPdf PKPdf 06 10 46.6 -2.5
CLL Collm 144.16 352⇓iPKIKP PKPdf 06 10 46.4 -2.7
comp=Z,logA/T=1.3
CLL i 06 10 53.8
CLL e 06 11 33.0
CLL Collm 144.16 352⇓iPKPdf PKPdf 06 10 46.4 -2.7
comp=Z,13nm,0.7s
CLL i PKiKP PKiKP 06 10 53.8 +1.1
CLL epPKiKP 06 11 33.0
CLL Collm 144.16 352⇓iPKIKP PKPdf 06 10 46.4 -2.7
CLL e 06 11 33.0
CLL pmax pmax
comp=Z,13nm,0.7s
BOYT Boyabat 144.25 321 i P PKPdf 06 10 48.1 -1.1
KOLS Kolonicke sedl 144.37 341 ePKP PKPdf 06 10 48.0 -1.4
BRG Berggiesshubel 144.45 351 ePKPdf PKPdf 06 10 47.5 -2.1
BRG Berggiesshubel 144.45 351 eP PKPdf 06 10 47.6 -2.0
comp=Z,2.6nm,0.8s
BRG e 06 11 32.2
comp=Z,1.3nm,0.5s
BRG Berggiesshubel 144.45 351 ePKIKP PKPdf 06 10 47.6 -2.0
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG pmax pmax
comp=Z,1.0nm,0.5s
UPC Upice 144.46 349 ePKP PKPdf 06 10 47.9 -1.7
NIE Niedzica 144.50 344 ePKP PKPdf 06 10 48.8 -0.8
BURAR Bucovina Array 144.50 337⇑iP PKPdf 06 10 48.3 -1.3
BURAR Bucovina Array 144.50 337 ⇑P PKPdf 06 10 48.2 -1.4
DPC Dobruska-Polom 144.55 348 ePKP PKPdf 06 10 48.8 -0.9
DPC epPKP pPKPdf 06 11 32.2 +0.4
CRVS Cervenica-Dubn 144.64 342 ePKP PKPdf 06 10 47.9 -2.0
OKC Ostrava-Krasne 144.65 346 ePKP PKPdf 06 10 48.7 -1.2
KMBO Kilima Mbogo 144.68 244 PKP PKPdf 06 10 49.9 -0.1
comp=Z,18nm,1.0s,baz=66,slow=4.1,SNR=26
KMBO Kilima Mbogo 144.68 244⇑iPKIKP PKPdf 06 10 50.4 +0.4
PVCC Panska Ves 144.69 350 ePKP PKPdf 06 10 49.0 -1.0
CTKT Corum 144.79 320 i P PKPdf 06 10 50.3 +0.1
MORC Moravsky Berou 144.84 347⇑iP PKPdf 06 10 49.4 -0.8
MORC Moravsky Berou 144.84 347 ePKPdf PKPdf 06 10 49.4 -0.8
UBBA Unterbreizbach 144.95 355 ePKPdf PKPdf 06 10 49.1 -1.3
MOX Moxa 144.97 354 epPKPdf pPKPdf 06 11 36.5 +4.0
MOX Moxa 144.97 354 epPKPdf pPKPdf 06 11 36.5 +4.0
MOX Moxa 144.97 354 ePKP PKPdf 06 10 49.3 -1.2
comp=Z,20nm,1.2s
MOX Moxa 144.97 354 ePKIKP PKPdf 06 10 49.3 -1.2
MOX pmax pmax
comp=Z,20nm,1.2s
BALT Daday 145.08 323 i P PKPbc 06 10 50.8 +0.4
TANN Tannenbergstha 145.10 353 ePKPdf PKPdf 06 10 50.1 -0.6
PRU Pruhonice 145.22 350 ePKP PKPdf 06 10 50.3 -0.6
PRU epPKP pPKPdf 06 11 34.1 +1.2
NKC Novy Kostel 145.28 353 ePKP PKPdf 06 10 50.5 -0.5
KECS Kecovo 145.30 343 i PKP PKPdf 06 10 50.8 -0.2
KECS e 06 11 35.0
MEM Membach 145.32 360 PKP PKPdf 06 10 50.8 -0.2
VRI Vrincioaia 145.33 334⇑iP PKPdf 06 10 50.8 -0.3
VRI Vrincioaia 145.33 334 P PKPdf 06 10 51.3 +0.2
PLOR Plostina 145.37 334⇑iP PKPdf 06 10 51.1 0.0
VRAC Vranov 145.49 348⇑iP PKPdf 06 10 51.6 +0.3
VRAC Vranov 145.49 348 P PKPdf 06 10 51.6 +0.3
BCLA Clavier 145.51 1 PKP PKPdf 06 10 51.4 0.0
BCLA APKP 06 11 36.0
MANZ Manzenberg 145.57 353 ePKPdf PKPdf 06 10 52.2 +0.7
MANZ epPKPdf pPKPdf 06 11 36.7 +3.2
TIRR Tirgusor 145.67 331⇓iP PKPdf 06 10 51.9 +0.2
TIRR Tirgusor 145.67 331 ⇓P PKPdf 06 10 51.9 +0.3
ELDT Eldivan 145.70 321 i P PKPdf 06 10 53.2 +1.5
TREC Trest 145.72 349 ePKP PKPdf 06 10 51.6 -0.1
VYHS Vyhne 145.73 345 i PKP PKPdf 06 10 52.2 +0.4
VYHS e 06 11 36.6
ROTZ Rotzenmuhle 145.77 353 ePKPdf PKPdf 06 10 52.2 +0.4
ROTZ epPKPdf pPKPdf 06 11 36.7 +2.8
GIVF Givet 145.82 1 ePKP1 PKPbc 06 10 52.2 -0.5
comp=Z,50nm,1.1s
DOU Dourbes 145.82 1 PKP PKPdf 06 10 52.6 +0.7
DOU APKP 06 11 34.0
BAIF Baives 145.85 2 ePKP1 PKPbc 06 10 52.2 -0.6
comp=Z,46nm,0.9s
MLR Muntele Rosu 145.96 334⇑iP PKPdf 06 10 52.7 +0.6
MLR Muntele Rosu 145.96 334 P PKPdf 06 10 53.0 +0.8
GRA1 Grafenberg Arr 145.96 354 ePKPdf PKPdf 06 10 53.1 +1.0
GRA1 epPKPdf pPKPdf 06 11 37.5 +3.3
GRF Grafenberg Arr 145.96 354 ePKPdf PKPdf 06 10 53.1 +1.0
GRF epPKPdf pPKPdf 06 11 37.5 +3.3
PSZ Piszkesteto 145.98 343 ePKPdf PKPdf 06 10 52.3 +0.1
PSZ ePKPbc PKPbc 06 10 53.1 -0.1
ABH Alteburg 146.02 358 PKP PKPdf 06 10 52.6 +0.3
BR131 Keskin Array S 146.03 320 ePKPdf PKPdf 06 10 52.6 +0.3
BR131 ePKPbc PKPbc 06 10 53.5 +0.2
BRTR Keskin Array B 146.03 320 PKPbc PKPbc 06 10 53.1 -0.3
comp=Z,23nm,0.8s,baz=103,slow=2.7,SNR=92
BRTR Keskin Array B 146.03 320⇑iPKP2 PKPab 06 10 53.5 -0.7
COBT Iskenderun 146.04 313 i P PKPdf 06 10 54.2 +1.9
SMOL Smolenice 146.06 346 ePKP PKPdf 06 10 54.1 +1.8
DRGR 146.10 339⇑iP PKPdf 06 10 53.2 +0.8
DRGR 146.10 339 P PKPdf 06 10 53.1 +0.7
KHC Kasperske Hory 146.20 351 ePKP PKPdf 06 10 52.4 -0.2
KHC epPKP pPKPdf 06 11 38.2 +3.6
RUP Ruppelstein 146.22 359 PKP PKPdf 06 10 53.8 +1.2
WLF Walferdange 146.27 360 ePKPdf PKPdf 06 10 54.3 +1.6
WLF Walferdange 146.27 360 PKP PKPdf 06 10 54.1 +1.5
WLF Walferdange 146.27 360 ePKPbc PKPbc 06 10 54.0 -0.1
WLF ePKPab PKPab 06 10 54.8 -0.3
WET Wettzell 146.29 352 epPKPdf PKPdf 06 10 54.3 +1.6
WET Wettzell 146.29 352 epPKPdf PKPdf 06 10 54.3 +1.6
ZST Bratislava 146.43 346 ePKP PKPdf 06 10 54.4 +1.5
ANTO Ankara 146.46 321⇑iP PKPdf 06 10 55.0 +2.0
ANTO Ankara 146.46 321 ePKPbc PKPbc 06 10 55.4 +0.8
SGKT Sivrigoynuk 146.46 322 i P PKPdf 06 10 54.9 +1.9
GERES GERESS Array B 146.46 351 PKPbc PKPbc 06 10 54.1 -0.6
comp=Z,6.8nm,0.7s,baz=28,slow=3.2,SNR=41
GERES GERESS Array B 146.46 351 PKP2 PKPab 06 10 54.1 -1.8
GERES pmax pmax
comp=Z,7.0nm,0.7s
ROSF Rostrenen 146.74 11 ePKP1 PKPbc 06 10 54.0 -1.4
SGMF Saint Gilles 146.95 10 ePKP1 PKPbc 06 10 54.6 -1.4
comp=Z,34nm,0.9s
CONA Conrad Observa 146.95 348⇑iPKPab PKPab 06 10 56.1 -1.7
comp=Z,18nm,0.7s,SNR=11
LDF La Druitiere 146.97 7 ePKP1 PKPbc 06 10 55.1 -1.0
comp=Z,16nm,0.7s
GRR Gorron 147.08 8 ePKP1 PKPbc 06 10 55.6 -0.8
QUIF Quistinic 147.16 11 ePKP1 PKPbc 06 10 54.9 -1.7
MOA Molln 147.33 349⇑iP PKPdf 06 10 56.8 +2.3
comp=Z,11nm,0.7s,SNR=7.0
MEZF Maizieres J'vi 147.43 1 ePKP1 PKPbc 06 10 57.0 -0.3
WLS Welschbruch 147.50 358 PKP PKPdf 06 10 57.5 +2.8
CDF Champ du Feu 147.50 358 ePKP1 PKPbc 06 10 56.9 -0.6
comp=Z,37nm,0.9s
BFO Black Forest 147.54 357 ePKPdf PKPdf 06 10 57.2 +2.4
BFO epPKPdf pPKPdf 06 11 41.4 +4.5
BFO Black Forest 147.54 357 ePKPbc PKPbc 06 10 56.9 -0.8
BFO ePKPdf PKPdf 06 10 57.2 +2.4
BFO epPKPdf pPKPdf 06 11 41.4 +4.5
ARSA Arzberg 147.67 348⇓iP PKPdf 06 10 57.8 +2.8
comp=Z,7.7nm,0.7s
ECH Echery 147.70 358 PKP PKPdf 06 10 57.5 +2.4
THEF They Montfort 147.71 360 PKP PKPdf 06 10 57.7 +2.6
PKSM Moragy 147.88 343⇑iP PKPdf 06 10 57.8 +2.4
PKSM Moragy 147.88 343 P PKPdf 06 10 57.9 +2.6
HAU Haudompre 147.93 359 ePKP1 PKPbc 06 10 58.1 -0.6
comp=Z,38nm,0.8s
FELD Feldberg im Sc 148.01 357 PKP PKPdf 06 10 57.9 +2.3
HINF Hinteralfeld 148.11 359 ePKP1 PKPbc 06 10 58.4 -0.7
KBA Koelnbreinsper 148.24 350⇓iP PKPdf 06 10 58.7 +2.7
comp=Z,8.7nm,0.6s,SNR=6.8
WTTA Wattenberg 148.30 352⇑iP PKPdf 06 10 59.5 +3.4
comp=Z,22nm,0.7s
PERS Pernice 148.34 348 ePKPbc PKPbc 06 10 58.9 -0.9
ULDT Uludag 148.42 325 i P PKPdf 06 10 59.7 +3.5
DAVA Damuels 148.47 355⇑iP PKPdf 06 10 60.0 +3.7
comp=Z,20nm,0.8s,SNR=6.7
HYF Humbligny 148.55 4 ePKP1 PKPbc 06 11 00.2 -0.1
LOR Lormes 148.62 3 ePKP1 PKPbc 06 11 00.1 -0.4
comp=Z,27nm,0.8s
SSF Saint Saulge 148.81 3 ePKP1 PKPbc 06 11 00.8 -0.1
comp=Z,48nm,1.0s
CSS Prodhromos 148.87 313 ePKPbc PKPbc 06 11 00.5 -0.6
CSS ePKPab PKPab 06 11 04.3 -1.2
MFF Saint Martin d 148.93 8 ePKP1 PKPbc 06 11 00.7 -0.5
comp=Z,20nm,0.9s
LJU Ljubljana 149.02 348 ePKPbc PKPbc 06 11 00.8 -0.6
AVF Avril sur Loir 149.07 3 ePKP1 PKPbc 06 11 01.1 -0.5
comp=Z,25nm,0.9s
TKTP Tekketepe 149.11 320 i P PKPdf 06 11 01.8 +4.4
VOJS Vojsko 149.16 349 ePKPbc PKPbc 06 11 00.7 -1.1
SMF Signal de Mont 149.24 3 ePKP1 PKPbc 06 11 01.6 -0.4
comp=Z,28nm,1.0s
JAVS Javornik 149.26 349 ePKPbc PKPbc 06 11 01.2 -0.9
BGF Bois d'Agland 149.28 4 ePKP1 PKPbc 06 11 01.8 -0.3
comp=Z,46nm,1.0s
CABF La Chapelle 149.32 360 ePKP1 PKPbc 06 11 02.1 -0.1
comp=Z,71nm,0.9s
TCF Toulx Ste Croi 149.50 5 ePKP1 PKPbc 06 11 02.2 -0.4
comp=Z,18nm,0.9s
AGO Saint Agoulin 149.80 4 PKP PKPdf 06 11 03.4 +4.9
PLDF La Plantade 149.91 3 PKP PKPdf 06 11 03.4 +4.8
PYM Petit Puy Mans 150.09 4 PKP PKPdf 06 11 04.3 +5.4
RJF Les Rejaudoux 150.41 6 ePKP1 PKPbc 06 11 04.4 -0.4
LPL La Plagne 150.41 359 ePKP1 PKPbc 06 11 05.5 +0.7
comp=Z,34nm,1.0s
LPG La Plagne 150.43 359 ePKP1 PKPbc 06 11 05.7 +0.8
comp=Z,31nm,0.8s
LBL Lubilhac 150.62 4 PKP PKPdf 06 11 06.0 +6.3
LFF La Frestale 150.68 7 ePKP1 PKPbc 06 11 05.1 -0.4
comp=Z,47nm,0.8s
SKO Skopje 150.70 336 i PKP PKPdf 06 11 05.8 +5.9
VAY Valandovo 150.78 334 i PKP PKPdf 06 11 04.4 +4.4
CAF Calviac 150.83 6 ePKP1 PKPbc 06 11 05.6 -0.2
comp=Z,21nm,0.9s
BNI Bardonecchia 150.87 359 ePKPbc PKPbc 06 11 05.8 -0.2
BNI ePKPab PKPab 06 11 13.5 -0.2
ORIF Oris-en-Rattie 151.02 360 ePKP1 PKPbc 06 11 06.4 +0.1
comp=Z,20nm,0.9s
VIVF Saint-Julien-l 151.06 2 ePKP1 PKPbc 06 11 06.5 +0.1
comp=Z,42nm,1.0s
MBDF Montbardon 151.20 359 ePKP1 PKPbc 06 11 06.8 +0.1
comp=Z,19nm,0.8s
OHR Ohrid 151.68 336 i PKP PKPdf 06 11 07.1 +5.7
LASF Ste Croix 151.81 3 ePKP1 PKPbc 06 11 08.3 +0.2
comp=Z,44nm,1.0s
STOF St-Etienne Org 151.94 360 PKP PKPdf 06 11 08.8 +7.1
SMRF Simiane la Rot 151.96 0 ePKP1 PKPbc 06 11 08.9 +0.5
comp=Z,34nm,0.9s
SBF Sospel 152.04 358 ePKP1 PKPbc 06 11 07.9 -0.7
comp=Z,23nm,0.8s
VILF Villemus 152.08 0 PKP PKPdf 06 11 09.5 +7.5
PRAF Pradon 152.12 1 PKP PKPdf 06 11 09.2 +7.2
TAVF Tavernes 152.32 360 PKP PKPdf 06 11 09.5 +7.2
FRF La Foret Royal 152.37 359 ePKP1 PKPbc 06 11 08.8 -0.5
MTLF Montolieu 152.42 6 ePKP1 PKPbc 06 11 09.3 -0.2
comp=Z,15nm,0.9s
ETSF Etsaut 152.48 10 ePKP1 PKPbc 06 11 09.8 +0.2
comp=Z,17nm,0.6s
EPF Esparros 152.50 9 ePKP1 PKPbc 06 11 09.2 -0.4
comp=Z,8.7nm,0.7s
LMR La Mourre 152.59 359 ePKP1 PKPbc 06 11 09.4 -0.4
comp=Z,13nm,0.8s
BERF Bertagne 152.62 0 PKP PKPdf 06 11 10.4 +7.6
PGF Pioggiola 153.25 355 ePKP1 PKPbc 06 11 10.7 -0.6
comp=Z,30nm,1.0s
ESDC Sonseca Array 154.76 18 PKP PKPdf 06 11 05.4 -0.4
comp=Z,0.3nm,0.3s,baz=322,slow=2.0,SNR=5.2
ESDC PKPbc PKPbc 06 11 14.4 -0.1
comp=Z,0.2nm,0.3s,baz=323,slow=2.9,SNR=4.2
ESDC PKPab PKPab 06 11 30.4 +0.2
comp=Z,1.0nm,0.5s,baz=326,slow=3.1,SNR=5.2
TIP Timpagrande 154.86 340 ePKPdf PKPdf 06 11 08.7 +2.8
TORD Torodi Ar. Bea 175.17 123 PKP PKPdf 06 11 21.6 -1.4
comp=Z,3.1nm,1.0s,baz=316,slow=0.7,SNR=10
TORD PKPab PKPab 06 12 59.2 -0.6
comp=Z,1.4nm,0.9s,baz=248,slow=4.4,SNR=4.2

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*ISCJB **13** 06:01:11.8±0.7, 24.06S±0.06×66.8W±0.1, h217km±16km, mb3.2/1, Error ellipse: s-maj=15.9km s-min=8.6km az=34.3*
*IDC **13** 06:01:13.2±1.5, 23.91S×66.70W, h207km±20km, mb3.1/1, mb1 3.1/6, mb1mx3.0/17, mbtmp3.6/6, Error ellipse: s-maj=29.4km s-min=22.7km az=34.0*
*GUC **13** 06:01:15.1±0.6, 24.18S×67.01W, h200km, ML3.9*
*NEIC **13** 06:01:15.1, 24.18S×67.01W, h200km, MG3.9(GUC), After GUC.*
ISC 13 06:01:12.7±0.7**, 24.06S**±0.06×**66.7W**±0.1**, h205**km±17km**, n12,** σ**1.31**/20**, mb3.2**/1**, 1C-1D, Salta Province**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LVC Limon Verde 2.46 305 P **Pn 06 01 58.2 +1.8**
13nm,0.3s,baz=130,slow=5.6,SNR=132
LVC S **Sn 06 02 31.0 +0.3**
14nm,0.3s,baz=269,slow=20,SNR=26
LVC Limon Verde 2.46 305 P **Pn 06 01 58.2 +1.8**
LVC eSn **Sn 06 02 30.5 -0.1**
LVC S **Sn 06 02 31.0 +0.3**
CEN1 Los Morros 3.24 281⇓iP **Pn 06 02 08.1 +2.7**
CEN1 i S **Sn 06 02 47.6 +0.8**
CEN1 AML AML 06 02 51.1
comp=N,96nm,0.3s
ANCH Antofagasta 3.38 276⇑iP **Pn 06 02 04.8 -2.3**
ANCH i S **Sn 06 02 45.1 -4.7**
CPN1 Cerro Paranal 3.39 260 eP **Pn 06 02 08.7 +1.5**
CPN1 i S **Sn 06 02 49.5 -0.5**
CPN1 AML AML 06 02 51.7
comp=E,204nm,0.5s
CRCH Chaqaral 4.19 236 eS **Sn 06 03 06.2 -1.4**
CDCH Caldera 4.76 230 eP **Pn 06 02 25.2 +1.1**
CDCH i S **Sn 06 03 19.2 -1.3**
LPAZ La Paz 7.84 350 P **Pn 06 03 04.4 +0.6**
comp=E,0.3nm,0.3s,baz=168,slow=7.8,SNR=13
LPAZ S **Sn 06 04 30.2 -2.1**
comp=E,0.1nm,0.3s,baz=321,slow=24,SNR=4.0
CPUP Villa Florida 8.81 107 P **Pn 06 03 16.6 +0.1**
comp=E,0.3nm,0.3s,baz=288,slow=11,SNR=6.5
SIV San Ignacio 9.63 35 P **Pn 06 03 25.5 -1.4**
comp=E,0.4nm,0.3s,baz=226,slow=14,SNR=5.9
BDFB Brasilia 19.48 68 P **P 06 05 24.4 +0.3**
comp=E,0.3nm,0.3s,baz=235,slow=14,SNR=4.5
TORD Torodi Ar. Bea 76.36 69 P **P 06 12 39.4 +0.2**
comp=E,0.3nm,0.5s,mb3.2,baz=257,slow=5.6,SNR=6.9

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*IDC **13** 06:19:41.6±7.5, 5.71S×150.98E, h75km±52km, mb3.7/4, mb1 3.9/5, mb1mx3.7/14, mbtmp4.1/5, ML3.3/1, MS3.1/3, Ms1 3.1/3, ms1mx2.9/18, Error ellipse: s-maj=86.4km s-min=34.3km az=108.0*
*ISCJB **13** 06:19:43.1±4.9, 5.5S±0.2×150.2E±0.5, h64km±31km, mb3.9/4, Error ellipse: s-maj=78.0km s-min=31.7km az=22.0*
*NEIC **13** 06:19:44.1±3.7, 5.62S×150.44E, h68km±23km, mb4.3/2, Error ellipse: s-maj=57.3km s-min=22.5km az=103.0*
ISC 13 06:19:45.4±4.7**, 5.6S**±0.2×**150.2E**±0.4**, h68**km±29km**, n13,** σ**0.38**/11**, mb3.8**/4**, New Britain region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 4.88 218 P **Pn 06 20 56.4 +0.2**
6.2nm,0.3s,baz=45,slow=7.3,SNR=17
PMG S **Sn 06 22 00.0 +8.6**
2.8nm,0.3s,baz=353,slow=21,SNR=3.9
KAKA Kakadu 18.93 247 eP **Pn 06 24 02.0 -0.1**
5.5nm,0.5s
GUMO Guam 19.76 344 LR LR 06 31 09.9
comp=Z,66nm,20.6s,baz=277,slow=34
WB2 Warramunga Arr 21.04 226 eP **P 06 24 22.9 -0.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WB2				eP		06 24 23.4	
WRA	Warramunga Arr	21.05	226	P	P	06 24 23.6	-0.2
	5.2nm,0.9s,mb3.8,baz=52,slow=10.0,SNR=17						
DZM	Mont Dzumac	22.70	138	LR	LR	06 29 57.6	
	comp=Z,40nm,21.3s,baz=207,slow=28						
AS31	Alice Springs	23.89	220	eP	P	06 24 52.8	+0.1
ASAR	Alice Springs	23.90	220	P	P	06 24 52.8	+0.1
	1.9nm,0.7s,mb3.5,baz=56,slow=8.4,SNR=13						
ASPA	Alice Springs	23.90	220	eP	P	06 24 52.8	0.0
FITZ	Fitzroy Crossi	27.05	240	eP	P	06 25 22.4	+1.1
	10.0nm,0.7s,mb4.5						
FITZ	Fitzroy Crossi	27.05	240	P	P	06 25 21.8	+0.5
	5.2nm,0.7s,mb4.2,baz=82,slow=10.0,SNR=12						
FITZ				LR	LR	06 35 51.2	
	comp=Z,48nm,20.1s,baz=265,slow=35						
SONM	Songino Array	65.63	329	P	P	06 30 22.2	-0.1
	1.0nm,1.1s,mb3.6,baz=139,slow=7.9,SNR=4.6						
TORD	Torodi Ar. Bea	148.08	286	PKPbc	PKPbc	06 39 20.7	-2.5
	0.8nm,0.7s,baz=88,slow=3.2,SNR=6.1						

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*ISCJB **13** 06:43:53.9±0.9, 7.48S±0.08×128.1E±0.1, h33^{km}, mb3.9/5, MS3.4/1, Error ellipse: s-maj=17.4km s-min=9.7km az=140.4*

*NEIC **13** 06:43:57.1±2.0, 7.23S×128.58E, h47^{km}±19^{km}, mb4.0/1, Error ellipse: s-maj=25.1km s-min=14.3km az=53.0*

*IDC **13** 06:43:58.8±5.0, 7.31S×128.51E, h65^{km}±49^{km}, mb3.7/5, mb1 4.0/8, mb1mx3.8/14, mbtmp4.1/8, ML4.3/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/22, Error ellipse: s-maj=58.2km s-min=22.2km az=60.0*

ISC 13 06:43:56.2±0.8**, 7.42S**±0.07×**128.2E**±0.1**, h35^{km}, n16, σ1^{s}08**/23**, mb3.9**/5**, MS3.4**/1**, 1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	6.74	142	eP	Pn	06 45 36.7	+4.1
	37nm,0.2s						
KAKA				eS	Sn	06 46 46.5	-1.5
FITZ	Fitzroy Crossi	10.90	193	⇓iP	Pn	06 46 35.0	+5.3
	5.2nm,0.4s						
FITZ				eS	Sn	06 48 28.2	-2.2
FITZ	Fitzroy Crossi	10.90	193	P	Pn	06 46 35.0	+5.3
	1.0nm,0.3s,baz=36,slow=13,SNR=22						
FITZ				S	Sn	06 48 29.9	-0.5
	1.4nm,0.3s,baz=80,slow=16,SNR=9.8						
WRAB	Tennant Creek	13.81	155	ePn	Pn	06 47 10.4	+1.0
	10nm,0.4s						
WRA	Warramunga Arr	13.81	155	P	Pn	06 47 09.7	+0.2
	2.4nm,0.3s,baz=331,slow=12,SNR=90						
WRA				S	Sn	06 49 32.1	-9.5
	2.3nm,0.3s,baz=334,slow=22,SNR=13						
WB2	Warramunga Arr	13.82	155	eP	Pn	06 47 09.9	+0.3
WB2				eS	Sn	06 49 31.0	-11
AS31	Alice Springs	17.07	162	eP	Pn	06 47 53.6	+1.6
AS31				eS	S	06 50 51.2	-18
ASPA	Alice Springs	17.07	162	eP	Pn	06 47 53.6	+1.6
ASPA				eS	S	06 50 51.2	-18
ASAR	Alice Springs	17.07	162	P	Pn	06 47 53.2	+1.2
	0.7nm,0.3s,baz=333,slow=9.2,SNR=58						
ASAR				S	S	06 50 48.4	-21
	0.4nm,0.3s,baz=333,slow=21,SNR=8.2						
CTA	Charters Tower	21.58	128	P	P	06 48 41.8	-1.0
	7.9nm,1.1s,mb4.0,baz=308,slow=12,SNR=2.9						
NWAO	Narrogin (SRO)	27.34	200	LR	LR	07 02 48.4	
	comp=Z,92nm,18.6s,MS3.4,baz=296,slow=41						
STKA	Stephens Creek	27.37	155	eP	P	06 49 38.0	-0.1
	2.2nm,0.5s,mb3.9						
STKA	Stephens Creek	27.37	155	P	P	06 49 37.5	-0.5
	3.3nm,0.6s,mb4.0,baz=326,slow=13,SNR=6.0						
SONM	Songino Array	58.28	343	P	P	06 53 46.5	-0.8
	0.6nm,0.6s,mb3.8,baz=160,slow=11,SNR=7.4						
MKAR	Makanchi Array	67.59	328	P	P	06 54 49.4	+0.1
	1.2nm,0.5s,mb4.2,baz=117,slow=8.7,SNR=15						
VNDA	Vanda	72.26	173	P	P	06 55 16.9	-1.0
	0.3nm,0.5s,mb3.5,baz=317,slow=6.5,SNR=2.4						

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*ISCJB **13** 06:49:14.2±0.5, 51.39N±0.03×16.10E±0.03, h0^{km}, Error ellipse: s-maj=3.8km s-min=2.1km az=33.5*

*NEIC **13** 06:49:15.0±0.4, 51.51N×16.18E, h5^{km}, ML2.9(CSEM), ML3.0(SZGRF), Error ellipse: s-maj=5.0km s-min=3.3km az=24.0*

*IPEC **13** 06:49:15.7±0.4, 51.46N×16.37E, h0^{km}, ML2.6/3, Error ellipse: s-maj=3.5km s-min=2.0km az=92.0*

*IDC **13** 06:49:16.2±0.8, 51.44N×16.02E, h0^{km}, mb1 3.4/6, mb1mx3.3/21, mbtmp3.3/6, ML3.1/6, Error ellipse: s-maj=14.7km s-min=7.1km az=109.0*

*PRU **13** 06:49:16.2, 51.42N×16.13E, h0^{km}*

*WAR **13** 06:49:16.3, 51.45N×16.10E, ML2.9, Mining Induced*

*BGR **13** 06:49:16.9±0.7, 51.51N×16.03E, h1^{km}, ML3.0, Error ellipse: s-maj=16.7km s-min=6.7km az=165.0*

*CSEM **13** 06:49:16.5±0.1, 51.42N×16.10E, h1^{km}, ML3.4/8, Error ellipse: s-maj=2.0km s-min=1.2km az=13.0*

*VIE **13** 06:49:18.3±0.5, 51.22N×16.14E, h0^{km}, mb2.5/5, ML2.8/5, Error ellipse: s-maj=3.2km s-min=2.4km az=170.0 62 km WNW of Breslau Suspected Mining induced.*

ISC 13 06:49:14.9±0.4**, 51.46N**±0.02×**16.13E**±0.03**, h0^{km}, n64, σ0^{s}98**/122**, 5C-8D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	170	ePg	Pg	06 49 27.7	+0.7
KSP				eSg	Sg	06 49 35.4	+0.3
KSP				eL		06 49 40.0	
KSP	Ksiaz	0.63	170	ePg	Pg	06 49 27.7	+0.7
KSP				eSg	Sg	06 49 35.4	+0.3
UPC	Upice	0.96	184	ePG	Pg	06 49 33.9	+0.6
DPC	Dobruska-Polom	1.12	174	ePG	Pg	06 49 36.6	+0.2
DPC				eSG	Sg	06 49 51.2	+0.3
	74nm,0.4s						
DPC	Dobruska-Polom	1.12	174	ePg	Pg	06 49 36.6	+0.2
DPC				eSg	Sg	06 49 50.3	-0.6
PVCC	Panska Ves	1.36	227	ePG	Pg	06 49 41.0	+0.1
PVCC	Panska Ves	1.36	227	P	Pg	06 49 40.5	-0.4
PVCC				ePg	Pg	06 49 41.0	+0.1
PVCC	Panska Ves	1.36	227	ePg	Pg	06 49 41.0	+0.1
BRG	Berggiesshubel	1.49	248	ePg	Pg	06 49 43.7	+0.1
BRG				eSg	Sg	06 50 04.3	+1.4
BRG	Berggiesshubel	1.49	248	PN	Pn	06 49 42.1	-0.8
BRG				PG	Pg	06 49 43.5	0.0
BRG				SG	Sg	06 50 03.5	+0.5
	49nm,0.4s						
BRG	Berggiesshubel	1.49	248	Pn	Pn	06 49 42.1	-0.8
BRG				Pg	Pg	06 49 43.5	0.0
BRG				Pg	Pg	06 49 43.7	+0.1
BRG				Sg	Sg	06 50 03.5	+0.5
BRG	Berggiesshubel	1.49	248	Pg	Pg	06 49 43.7	+0.1
BRG				Sg	Sg	06 50 04.3	+1.4
RUE	Ruedersdorf	1.77	306	ePn	Pn	06 49 46.1	-0.7
RUE				ePg	Pg	06 49 49.6	+0.7
RUE	Ruedersdorf	1.77	306	ePn	Pn	06 49 46.2	-0.6
RUE	Ruedersdorf	1.77	306	ePg	Pg	06 49 49.6	+0.7
PRU	Pruhonice	1.79	215	ePN	Pn	06 49 46.9	-0.1
PRU				ePG	Pg	06 49 48.5	-0.6
PRU				eSG	Sg	06 50 11.8	-0.5
	56nm,0.8s						
FBE	Freiberg	1.82	254	ePn	Pn	06 49 49.4	+1.8
FBE				eSg	Sg	06 50 13.4	-0.1
MORC	Moravsky Berou	1.91	151	⇓iP	Pn	06 49 48.6	-0.1
MORC	Moravsky Berou	1.91	151	⇓P	Pn	06 49 48.6	-0.1
MORC				S	Sn	06 50 15.3	+1.8
MORC	Moravsky Berou	1.91	151	ePn	Pn	06 49 48.7	0.0
MORC				eSg	Sg	06 50 13.4	-3.0
MORC				S	Sn	06 50 15.3	+1.8
CLL	Collm	1.96	267	ePn	Pn	06 49 48.8	-0.7
CLL				i Pg	Pg	06 49 52.1	-0.4
CLL				eSg	Sg	06 50 18.6	+0.6
CLL	Collm	1.96	267	i Pn	Pn	06 49 48.8	-0.6
CLL				i Pg	Pg	06 49 52.1	-0.4
CLL				i x	x	06 49 56.0	
CLL				i Sg	Sg	06 50 17.5	-0.5
	comp=Z,37nm,0.7s						
CLL	Collm	1.96	267	i Pn	Pn	06 49 48.8	-0.6
CLL				i Pg	Pg	06 49 52.1	-0.4
CLL				i Sg	Sg	06 50 17.5	-0.5
CLL	Collm	1.96	267	Pg	Pg	06 49 52.1	-0.4
CLL				Sg	Sg	06 50 18.6	+0.6
OKC	Ostrava-Krasne	2.07	141	ePG	Pg	06 49 54.5	-0.2
OKC				eSG	Sg	06 50 20.8	-0.7
	comp=Z,89nm,0.8s						
VRAC	Vranov	2.18	172	Pn	Pn	06 49 52.9	+0.6
	comp=Z,2.6nm,0.3s,baz=348,slow=14,SNR=8.7						
VRAC				Lg		06 50 24.3	
	comp=Z,5.6nm,0.3s,baz=78,slow=22,SNR=6.7						
VRAC	Vranov	2.18	172	⇓iP	Pn	06 49 53.9	+1.5
VRAC	Vranov	2.18	172	⇓P	Pn	06 49 53.9	+1.5
VRAC				S	Sn	06 50 24.4	+4.3
VRAC	Vranov	2.18	172	ePn	Pn	06 49 53.0	+0.6
VRAC	Vranov	2.18	172	⇓P	Pn	06 49 53.9	+1.5
VRAC				eSg	Sg	06 50 23.6	-1.2
	comp=Z,20nm,0.3s						
VRAC				S	Sn	06 50 24.4	+4.4
TREC	Trest	2.21	191	ePG	Pg	06 49 56.8	-0.4
KRUC	Moravsky	2.41	176	ePg	Pg	06 49 59.6	-1.5
KRUC				eSg	Sg	06 50 30.6	-1.7
	comp=Z,34nm,0.7s						
TANN	Tannenbergstha	2.54	247	ePn	Pn	06 49 57.8	+0.4
TANN				eSg	Sg	06 50 36.5	-0.1
WERD	Werda	2.62	249	ePn	Pn	06 49 58.6	+0.2
WERD				eSg	Sg	06 50 39.8	+0.7
NKC	Novy Kostel	2.63	244	ePN	Pn	06 49 59.2	+0.5
NKC				ePG	Pg	06 50 04.8	-0.6
NKC				eSG	Sg	06 50 40.3	+0.7
	comp=Z,55nm,0.3s						
OJC	Ojcow	2.64	117	ePn	Pn	06 49 59.0	+0.3
OJC				ePg	Pg	06 50 07.2	+1.7
OJC				eSn	Sn	06 50 27.0	-4.5
OJC				eSg	Sg	06 50 41.5	+1.8
KHC	Kasperske Hory	2.85	216	ePN	Pn	06 50 02.0	+0.4
KHC				ePG	Pg	06 50 07.9	-1.6
KHC				eSN	Sn	06 50 36.1	-0.5
KHC				eSG	Sg	06 50 46.1	-0.3
	comp=Z,22nm,0.4s						
MANZ	Manzenberg	2.95	242	ePn	Pn	06 50 03.5	+0.5
MOX	Moxa	2.96	256	ePn	Pn	06 50 03.7	+0.6
MOX				ePg	Pg	06 50 11.5	-0.2
MOX				eSg	Sg	06 50 49.8	-0.3
MOX	Moxa	2.96	256	ePN	Pn	06 50 03.7	+0.6
MOX				ePG	Pg	06 50 11.5	-0.2
MOX				eSG	Sg	06 50 51.0	+1.0
MOX	Moxa	2.96	256	ePn	Pn	06 50 03.7	+0.6
MOX				ePg	Pg	06 50 11.5	-0.2
MOX				eSg	Sg	06 50 51.0	+1.0
MOX	Moxa	2.96	256	Pg	Pg	06 50 11.5	-0.2
MOX				Sg	Sg	06 50 49.8	-0.2
ROTZ	Rotzenmuhle	3.02	237	ePn	Pn	06 50 04.6	+0.7
GERES	GERESS Array B	3.05	212	Pn	Pn	06 50 05.1	+0.7
	comp=Z,1.3nm,0.3s,baz=34,slow=13,SNR=22						
GERES				Pg	Pg	06 50 11.1	-2.2
	comp=Z,5.8nm,0.3s,baz=31,slow=17,SNR=45						
GERES				Lg		06 50 49.9	
	comp=Z,4.0nm,0.3s,baz=31,slow=27,SNR=6.7						
GERES	GERESS Array B	3.05	212	Pn	Pn	06 50 05.1	+0.7
GERES				Pg	Pg	06 50 11.1	-2.2
GERES				Lg		06 50 49.9	
GERES	GERESS Array B	3.05	212	Pg	Pg	06 50 11.1	-2.2
SMOL	Smolenice	3.07	164	ePG	Pg	06 50 14.6	+0.9
SMOL				eSG	Sg	06 50 56.6	+3.1
WET	Wettzell	3.12	223	ePn	Pn	06 50 05.6	+0.3
NIE	Niedzica	3.37	126	eP	Pg	06 50 18.2	-1.3
NIE				eS	Sg	06 51 03.8	+0.7
VYHS	Vyhne	3.45	148	ePG	Pg	06 50 20.2	-0.8
VYHS				eSG	Sg	06 51 09.1	+3.4
CONA	Conrad Observa	3.54	183	⇑iPn	Pn	06 50 12.2	+1.0
CONA				⇓iSg	Sg	06 51 07.5	-1.2
	comp=Z,22nm,0.5s						
GRF	Grafenberg Arr	3.59	242	eSg	Sg	06 51 10.3	0.0
MOA	Molln	3.81	199	⇑iPn	Pn	06 50 16.1	+1.3
MOA				⇓iSg	Sg	06 51 16.8	-0.6
	comp=Z,15nm,0.5s						
KECS	Kecovo	4.10	135	ePG	Pg	06 50 33.1	-0.4
KECS				e		06 51 24.5	
CRVS	Cervenica-Dubn	4.28	125	ePG	Pg	06 50 36.4	-0.5
CRVS				eSG	Sg	06 51 36.2	+3.8
KBA	Koelnbreinsper	4.75	204	⇑iPn	Pn	06 50 27.9	+0.2
KBA				⇓iSg	Sg	06 51 48.2	+0.7
	comp=Z,7.7nm,0.6s						
BURAR	Bucovina Array	7.06	120	⇑iP	Pn	06 50 59.3	-0.1
BURAR	Bucovina Array	7.06	120	⇑P	Pn	06 50 59.3	-0.2
AKASG	Malin Array Be	8.29	90	Pn	Pn	06 51 15.7	-0.7
	comp=Z,0.9nm,0.3s,baz=278,slow=12,SNR=4.0						
AKASG	Malin Array Be	8.29	90	Pn	Pn	06 51 15.6	-0.7
HFS	Hagfors	8.80	352	Pn	Pn	06 51 21.6	-1.8
	comp=Z,0.2nm,0.3s,baz=168,slow=15,SNR=5.3						
HFS	Hagfors	8.80	352	Pn	Pn	06 51 21.6	-1.8
FINES	FINESS Array B	11.40	25	Pn	Pn	06 51 56.0	-3.1
	comp=Z,0.3nm,0.3s,baz=226,slow=9.2,SNR=9.7						
FINES				Sn	Sn	06 53 60.0	-7.2
	comp=Z,0.2nm,0.3s,baz=212,slow=21,SNR=3.7						
ARCES	ARCESS Array B	18.67	10	Pn	Pn	06 53 29.9	-4.8
	comp=Z,0.3nm,0.3s,baz=199,slow=13,SNR=13						

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*NEIC **13** 07:03:38.9±4.9, 5.56S×149.59E, h89^{km}±25^{km}, mb4.5/3, Error ellipse: s-maj=59.1km s-min=14.5km az=186.0*

*ISCJB **13** 07:03:40.2±4.5, 5.8S±0.3×149.5E±0.1, h98^{km}±31^{km}, mb3.8/4, Error ellipse: s-maj=43.9km s-min=23.8km az=5.1*

*IDC **13** 07:03:40.7±6.5, 5.79S×149.56E, h92^{km}±46^{km}, mb3.8/5, mb1 4.0/6, mb1mx3.7/15, mbtmp4.2/6, Error ellipse: s-maj=49.2km s-min=27.3km az=10.0*

ISC 13 07:03:41.2±4.3**, 5.8S**±0.3×**149.6E**±0.1**, h94^{km}**±29^{km}**, n13, σ0^{s}49**/13**, mb3.8**/4**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.32	213	P	Pn	07 04 45.1	+0.6
	19nm,0.3s,baz=29,slow=6.0,SNR=36						
PMG				S	Sn	07 05 33.1	-0.5
	34nm,0.3s,baz=346,slow=16,SNR=9.7						
KAKA	Kakadu	18.23	247	eP	Pn	07 07 46.8	-1.1
	32nm,1.7s						
WRAB	Tennant Creek	20.41	225	eP	P	07 08 11.1	+0.5
	15nm,0.4s						
WB2	Warramunga Arr	20.41	225	eP	P	07 08 10.8	+0.2
WRA	Warramunga Arr	20.42	225	P	P	07 08 11.0	+0.3
	8.6nm,0.4s,baz=51,slow=11,SNR=174						
DZM	Mont Dzumac	23.00	136	P	P	07 08 37.6	-0.3
	2.1nm,0.5s,mb3.7,baz=318,slow=16,SNR=6.2						
AS31	Alice Springs	23.31	219	eP	P	07 08 41.0	+0.3
ASAR	Alice Springs	23.31	219	P	P	07 08 41.0	+0.3
	2.8nm,0.6s,mb3.8,baz=56,slow=8.9,SNR=28						
ASPA	Alice Springs	23.31	219	eP	P	07 08 41.0	+0.3
FITZ	Fitzroy Crossi	26.36	240	eP	P	07 09 08.6	+0.2
	4.4nm,0.3s,mb4.4						
FITZ	Fitzroy Crossi	26.36	240	P	P	07 09 08.2	-0.2
	3.0nm,0.3s,mb4.2,baz=43,slow=13,SNR=23						
VNDA	Vanda	71.99	177	P	P	07 14 54.1	-0.5
	0.4nm,0.6s,mb3.5,baz=325,slow=7.5,SNR=3.9						
TORD	Torodi Ar. Bea	147.49	285	PKPbc	PKPbc	07 23 14.2	-0.1
	0.3nm,0.6s,baz=90,slow=2.9,SNR=5.5						

FUNV 13 07:38:17.7, 6.60N×73.20W, h162^{km}, MW3.5, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	Capacho	1.54	35	⇓iP	Pn	07 38 48.6	+0.1
CAPV				eS	Sn	07 39 10.5	-1.8
SOCV	Socops	2.87	54	eP	Pn	07 39 03.5	-0.4
SOCV				eS	Sn	07 39 35.8	-3.8
VIGV	El Vigia	2.88	39	eP	Pn	07 39 03.2	-0.8
VIGV				eS	Sn	07 39 36.1	-3.8
VIRV	Villa del Rosa	3.96	11	eS	Sn	07 39 59.3	-5.1
QARV	Quebrada Arrib	4.46	36	eP	Pn	07 39 23.2	-1.0
CURV	Curarigua	4.67	43	eP	Pn	07 39 25.4	-1.5
CURV				eS	Sn	07 40 15.4	-5.6
TEPV	Terepaima	5.19	50	eP	Pn	07 39 32.4	-1.4
TEPV				eS	Sn	07 40 28.2	-5.1
SIQV	Siquisique	5.24	40	eP	Pn	07 39 32.6	-1.9
SIQV				eS	Sn	07 40 28.8	-5.7
BAUV	El Baul	5.62	65	eP	Pn	07 39 36.9	-2.6
BAUV				eS	Sn	07 40 37.0	-6.5
CAOV	Caicara del Or	6.87	84	eP	Pn	07 39 53.3	-2.7

IDC 13 07:42:04.1±1.3**, 6.29N×33.32W, h0^{km}, mb3.7**/6**, mb1 4.0**/6**, mb1mx3.7**/21**, mbtmp3.7**/6**, MS3.8**/12**, Ms1 3.8**/12**, ms1mx3.6**/31**, Error ellipse: s-maj=55.2km s-min=24.9km az=157.0, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDFB	Brasilia	26.20	214	LR	LR	07 56 47.8	
	comp=Z,243nm,20.5s,baz=219,slow=34						
DBIC	Dimbokro	28.29	88	LR	LR	07 56 48.9	
	comp=Z,94nm,21.0s,baz=253,slow=31						
TORD	Torodi Ar. Bea	35.15	76	P	P	07 49 00.8	+1.4
	0.9nm,0.9s,baz=263,slow=8.5,SNR=3.6						
TORD				LR	LR	08 01 23.9	
	comp=Z,182nm,18.6s,baz=255,slow=33						
ROSC	El Rosal	40.83	270	LR	LR	08 07 17.5	
	comp=Z,119nm,19.3s,baz=60,slow=37						
LPAZ	La Paz	41.10	236	P	P	07 49 50.5	+0.9
	1.6nm,0.8s,baz=83,slow=4.3,SNR=6.2						
LPAZ				LR	LR	08 05 51.9	
	comp=Z,82nm,20.3s,baz=285,slow=35						
ATAH	Atahualpa	46.87	254	LR	LR	08 12 15.6	
	comp=Z,82nm,18.7s,baz=105,slow=39						
DAVOX	Davos	54.76	35	LR	LR	08 13 24.5	
	comp=Z,115nm,18.5s,baz=263,slow=34						
PLCA	Paso Flores	57.94	213	LR	LR	08 17 11.4	
	comp=Z,190nm,18.1s,baz=42,slow=36						
GERES	GERESS Array B	58.04	35	P	P	07 51 59.2	+0.4
	0.3nm,0.5s,baz=243,slow=7.3,SNR=3.5						
VRAC	Vranov	59.92	35	LR	LR	08 16 15.5	
	comp=Z,98nm,19.2s,baz=85,slow=34						
BRTR	Keskin Array B	68.33	50	P	P	07 53 06.4	-0.7
	0.6nm,0.6s,baz=210,slow=3.7,SNR=4.1						
BRTR				LR	LR	08 23 10.5	
	comp=Z,60nm,18.8s,baz=35,slow=36						
KMBO	Kilima Mbogo	70.83	93	LR	LR	08 23 33.7	
	comp=Z,57nm,19.1s,baz=96,slow=35						
ARCES	ARCESS Array B	73.57	18	LR	LR	08 23 36.4	
	comp=Z,109nm,18.9s,baz=234,slow=34						
PDAR	Pinedale Array	75.65	312	P	P	07 53 52.2	+1.2
	0.6nm,0.9s,baz=134,slow=5.2,SNR=3.7						
NVAR	Mina Array Bea	82.20	308	P	P	07 54 27.6	+0.7
	0.3nm,0.7s,baz=111,slow=6.0,SNR=3.6						

MEX 13 08:05:43.5±0.8**, 16.77N×99.63W, h5^{km}**±6^{km}**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	Acapulco	0.29	289	i P	Pg	08 05 48.5	-0.6
ACX				i S	Sg	08 05 53.3	+0.4
CAIG	El Cayaco	0.67	294	i P	Pg	08 05 55.6	-0.7
CAIG				i S	Sg	08 06 05.0	0.0
MEIG	Mezcala	1.15	0	i P	Pg	08 06 02.5	-3.0
MEIG				i S	Sg	08 06 16.4	-3.9
PLIG	Platanillo	1.61	4	eP	Pn	08 06 09.9	-2.7
PLIG				i S	Sn	08 06 29.3	-4.5
UTMO	Huajuapan	2.04	59	eP	Pn	08 06 14.6	-3.8
IIZ	Mezontepec	2.43	9	i P	Pn	08 06 21.1	-2.7
IIZ				i S	Sn	08 06 48.9	-5.0
PPM	Popocatepetl	2.47	23	i P	Pn	08 06 23.4	-1.0
PPM				i S	Sn	08 06 52.4	-2.6
VHO	Vista Hermosa	2.79	83	i P	Pn	08 06 24.9	-3.8
VHO				i S	Sn	08 06 59.0	-3.8

IDC 13 08:08:00.4±59.0**, 17.45S×175.01W, h0^{km}, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/13**, mbtmp3.8**/3**, Error ellipse: s-maj=1109.0km s-min=176.7km az=80.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.69	241	P	P	08 15 52.0	+1.3
	0.6nm,0.5s,baz=72,slow=9.6,SNR=3.0						
WRA	Warramunga Arr	47.90	259	P	P	08 16 40.4	+0.1
	0.5nm,0.4s,baz=98,slow=7.3,SNR=25						
ASAR	Alice Springs	48.03	254	P	P	08 16 41.2	0.0
	1.0nm,0.7s,baz=90,slow=7.7,SNR=13						

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*ISCJB **13** 08:14:31.0±3.8, 5.2S±0.1×150.6E±0.2, h68^{km}±29^{km}, mb3.9/9, Error ellipse: s-maj=33.1km s-min=22.9km az=14.4*

*IDC **13** 08:14:33.3±6.4, 5.31S×150.48E, h66^{km}±50^{km}, mb3.7/7, mb1 3.9/8, mb1mx3.8/14, mbtmp4.0/8, ML3.5/1, MS3.6/6, Ms1 3.6/6, ms1mx3.4/17, Error ellipse: s-maj=54.0km s-min=24.3km az=83.0*

*NEIC **13** 08:14:34.0±3.3, 5.28S×150.55E, h74^{km}±24^{km}, mb4.3/5, Error ellipse: s-maj=30.3km s-min=20.0km az=80.0*

ISC 13 08:14:33.2±3.5**, 5.2S**±0.1×**150.6E**±0.2**, h71^{km}**±26^{km}**, n23, σ0^{s}92**/19**, mb3.9**/9**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.40	219	P	Pn	08 15 49.7	-1.5
	10nm,0.3s,baz=47,slow=9.0,SNR=25						
PMG				S	Sn	08 16 53.3	+1.2
	1.7nm,0.3s,baz=106,slow=22,SNR=4.2						
PMG				LR	LR	08 17 54.3	
	comp=Z,233nm,20.3s,baz=230,slow=38						
HNR	Honiara	10.14	115	LR	LR	08 20 23.6	
	comp=Z,270nm,19.3s,baz=358,slow=34						
CTA	Charters Tower	15.38	196	P	Pn	08 18 08.1	+2.0
	0.3nm,0.3s,baz=26,slow=11,SNR=3.8						
CTA	Charters Tower	15.38	196	P	Pn	08 18 08.1	+2.0
KAKA	Kakadu	19.45	246	eP	Pn	08 18 55.7	-0.1
	9.7nm,0.7s						
GUMO	Guam	19.54	343	LR	LR	08 24 46.3	
	comp=Z,168nm,20.8s,baz=81,slow=31						
WRAB	Tennant Creek	21.57	226	eP	P	08 19 16.5	-0.3
	60nm,1.6s,mb4.7						
WB2	Warramunga Arr	21.57	226	eP	P	08 19 16.7	-0.2
WRA	Warramunga Arr	21.58	226	P	P	08 19 15.2	-1.8
	3.5nm,0.6s,mb3.9,baz=50,slow=10,SNR=35						
DZM	Mont Dzumac	22.69	139	LR	LR	08 26 59.4	
	comp=Z,301nm,20.1s,baz=25,slow=33						
AS31	Alice Springs	24.42	220	eP	P	08 19 45.3	+0.3
AS31				eP		08 19 45.9	
ASAR	Alice Springs	24.42	220	P	P	08 19 44.5	-0.5
	2.0nm,0.6s,mb3.6,baz=57,slow=7.9,SNR=34						
ASPA	Alice Springs	24.42	220	eP	P	08 19 45.9	+0.8
FITZ	Fitzroy Crossi	27.58	240	eP	P	08 20 14.1	+0.6
	20nm,1.8s,mb4.3						
FITZ	Fitzroy Crossi	27.58	240	P	P	08 20 12.9	-0.6
	5.8nm,0.7s,mb4.2,baz=116,slow=5.3,SNR=12						
STKA	Stephens Creek	27.84	197	eP	P	08 20 14.8	-1.1
	2.5nm,0.8s,mb3.8						
STKA	Stephens Creek	27.84	197	P	P	08 20 15.1	-0.8
	2.7nm,0.8s,mb3.9,baz=334,slow=15,SNR=5.9						
STKA				LR	LR	08 30 59.3	
	comp=Z,239nm,20.6s,baz=112,slow=36						
MBWA	Marble Bar	33.90	239	eP	P	08 21 09.2	-0.1
	2.0nm,0.4s,mb4.3						
SONM	Songino Array	65.55	329	P	P	08 25 09.9	+0.6
	0.4nm,0.7s,mb3.4,baz=104,slow=6.1,SNR=2.5						
VNDA	Vanda	72.50	177	P	P	08 25 52.1	-0.2
	1.0nm,0.8s,mb3.7,baz=308,slow=4.8,SNR=6.3						
MKAR	Makanchi Array	79.23	319	P	P	08 26 31.4	+0.7
	0.7nm,0.8s,mb3.5,baz=113,slow=5.7,SNR=4.2						
MAW	Mawson	84.36	203	LR	LR	09 01 33.6	
	comp=Z,54nm,19.1s,baz=240,slow=34						
TORD	Torodi Ar. Bea	148.38	287	PKPbc	PKPbc	08 34 13.2	+1.7
	1.3nm,0.9s,baz=50,slow=2.6,SNR=4.4						

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*CSEM **13** 08:20:52.9±0.4, 41.24N×45.69E, h2^{km}, mb4.1, Error ellipse: s-maj=7.2km s-min=6.6km az=169.0*

*MOS **13** 08:20:52.8±1.7, 41.29N×45.62E, h7^{km}, mb4.1/1, Error ellipse: s-maj=11.1km s-min=5.8km az=112.9*

*ISCJB **13** 08:20:53.0±0.6, 41.27N±0.03×45.69E±0.04, h10^{km}, Error ellipse: s-maj=4.5km s-min=3.8km az=122.7*

*TIF **13** 08:20:55.2, 41.28N×45.38E, h9^{km}±4^{km}*

ISC 13 08:20:54.0±0.6**, 41.28N**±0.03×**45.68E**±0.04**, h10^{km}, n36, σ1^{s}43**/67**, 2C, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DGRG	David-gareji	0.28	307	P	Pg	08 20 59.8	+0.1
DGRG				S	Sg	08 21 04.9	+1.4
DGRG	David-gareji	0.28	307	Pg	Pg	08 20 59.7	0.0
DGRG				Sg	Sg	08 21 04.9	+1.3
MTA	Mtatsminda	0.78	302	P	Pg	08 21 07.2	-1.9
MTA				S	Sg	08 21 17.0	-2.3
MTA	Mtatsminda	0.78	302	Pg	Pg	08 21 07.1	-2.0
MTA				Sg	Sg	08 21 17.0	-2.3
TBLG	Delisi	0.84	303	P	Pg	08 21 05.7	-4.4
TBLG				S	Sg	08 21 16.2	-4.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GNI	**Garni**	**1.33**	**212**	⇑iPG	**Pg**	**08 21 19.0**	**-0.6**
GNI				i S	**Sg**	**08 21 38.1**	**+1.2**
GNI				pmax	pmax		
	comp=Z,578nm,0.4s						
GNI				smax			
	comp=Z,3μm,0.5s						
GNI	**Garni**	**1.33**	**212**	i Pg	**Pg**	**08 21 19.0**	**-0.6**
	comp=Z,578nm,0.4s						
GNI				i Sg	**Sg**	**08 21 38.1**	**+1.2**
GOR	**Gori**	**1.37**	**302**	P	**Pn**	**08 21 18.7**	**-0.5**
GOR				S	**Sb**	**08 21 35.3**	**-2.0**
GOR	**Gori**	**1.37**	**302**	P	**Pn**	**08 21 18.9**	**-0.2**
GOR				S	**Sb**	**08 21 35.4**	**-1.8**
GOR	**Gori**	**1.37**	**302**	Pg	**Pn**	**08 21 18.9**	**-0.3**
GOR				Sg	**Sb**	**08 21 35.4**	**-1.9**
BTLR	**Botlikh**	**1.44**	**16**	ePG	**Pn**	**08 21 18.4**	**-1.8**
BTLR				eS	**Sn**	**08 21 39.2**	**+0.1**
BTLR				pmax	pmax		
	comp=Z,72nm,0.5s						
BTLR	**Botlikh**	**1.44**	**16**	ePg	**Pn**	**08 21 18.4**	**-1.8**
	comp=Z,72nm,0.5s						
BTLR				eSg	**Sn**	**08 21 39.2**	**+0.1**
AKH	**Akhalkalaki**	**1.65**	**275**	P	**Pn**	**08 21 22.0**	**-1.0**
AKH				S	**Sn**	**08 21 42.3**	**-2.0**
AKH	**Akhalkalaki**	**1.65**	**275**	P	**Pn**	**08 21 21.9**	**-1.1**
AKH				S	**Sn**	**08 21 42.4**	**-1.8**
AKH	**Akhalkalaki**	**1.65**	**275**	PG	**Pn**	**08 21 21.9**	**-1.1**
AKH				S	**Sn**	**08 21 42.4**	**-1.8**
UNCR	**Uncukul**	**1.66**	**30**	ePN	**Pn**	**08 21 21.0**	**-2.1**
UNCR				i S	**Sn**	**08 21 44.0**	**-0.5**
UNCR				pmax	pmax		
	comp=Z,36nm,0.2s						
UNCR	**Uncukul**	**1.66**	**30**	ePn	**Pn**	**08 21 21.0**	**-2.1**
	comp=Z,36nm,0.2s						
UNCR				i Sg	**Sn**	**08 21 44.0**	**-0.5**
URKR	**Urkarakh**	**1.71**	**58**	ePn	**Pn**	**08 21 23.5**	**-0.4**
URKR				i Sg	**Sg**	**08 21 48.5**	**-0.6**
SNJR	**Sundja**	**1.90**	**341**	ePN	**Pn**	**08 21 28.6**	**+2.2**
SNJR				i S	**Sg**	**08 21 54.4**	**-0.7**
SNJR	**Sundja**	**1.90**	**341**	i Sg	**Sg**	**08 21 54.4**	**-0.7**
VLKR	**Vladikavkaz**	**1.92**	**338**	ePN	**Pn**	**08 21 28.4**	**+1.7**
VLKR				eS	**Sg**	**08 21 54.3**	**-1.3**
VLKR	**Vladikavkaz**	**1.92**	**338**	eSg	**Sg**	**08 21 54.3**	**-1.3**
ZEI	**Tsey**	**1.99**	**319**	i Pn	**Pn**	**08 21 28.0**	**+0.3**
ONI	**Oni**	**2.11**	**309**	P	**Pn**	**08 21 30.0**	**+0.7**
ONI				S	**Sn**	**08 21 57.2**	**+1.6**
ONI	**Oni**	**2.11**	**309**	P	**Pn**	**08 21 30.0**	**+0.7**
ONI				S	**Sn**	**08 21 57.3**	**+1.7**
ONI	**Oni**	**2.11**	**309**	PN	**Pn**	**08 21 30.0**	**+0.7**
ONI				S	**Sn**	**08 21 57.3**	**+1.7**
KORR	**Kora**	**2.17**	**327**	ePN	**Pn**	**08 21 31.2**	**+1.1**
KORR				eS	**Sn**	**08 21 59.0**	**+2.0**
DIGR	**Digorskoe uzhe**	**2.25**	**317**	ePn	**Pn**	**08 21 31.5**	**+0.3**
DIGR				eSn	**Sn**	**08 21 59.5**	**+0.5**
BTKR	**Batakoyurt**	**2.25**	**338**	ePN	**Pn**	**08 21 33.5**	**+2.2**
BTKR				eS	**Sn**	**08 22 02.8**	**+3.6**
AMRG		**2.26**	**304**	P	**Pn**	**08 21 31.5**	**+0.1**
AMRG				S	**Sn**	**08 22 01.0**	**+1.7**
KMSR	**Komsomolskaya**	**2.33**	**334**	ePN	**Pn**	**08 21 34.0**	**+1.7**
KMSR				eS	**Sn**	**08 22 03.8**	**+2.8**
SHAR	**Shatzhatmas**	**3.32**	**319**	i PN	**Pn**	**08 21 43.3**	**-2.6**
SHAR				i S	**Sn**	**08 22 23.3**	**-2.1**
SHAR				pmax	pmax		
	comp=Z,11nm,0.9s						
SHAR				smax			
	comp=E,81nm,1.2s						
SHAR	**Shatzhatmas**	**3.32**	**319**	i Pn	**Pn**	**08 21 43.3**	**-2.6**
	comp=E,11nm,0.9s						
SHAR				i Sn	**Sn**	**08 22 23.3**	**-2.1**
NAGR	**Nagutskaya**	**3.82**	**327**	i Pn	**Pn**	**08 21 52.2**	**-0.7**
OBN	**Obninsk**	**15.10**	**340**	⇑eP	**Pn**	**08 24 25.8**	**-1.5**
OBN				eS	**Sn**	**08 27 16.2**	**+1.7**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MKAR	**Makanchi Array**	**26.72**	**66**	i P	**P**	**08 26 34.7**	**+1.2**

*STR **13** 08:28:07.4±0.1, 4301N×065W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **13** 08:28:07.5±0.1, 4308N×062W, h12km, Md1.9/2, Ml2.0/1, Error ellipse: s-maj=3.6km s-min=1.5km az=16.0*
MDD 13 08:28:08.3±0.4**, 4309N**×**060W, h7**km±4km**, mbLg1.6**/11**, 1C, Error ellipse: s-maj=3.4km s-min=1.5km az=17.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.07**	**269**	Pg	Pg	08 28 09.9	-0.2
ATE				Sg	Sg	08 28 11.7	+0.3
ATE	**Arette**	**0.07**	**269**	P	Pg	08 28 10.0	-0.1
ATE				S	Sg	08 28 11.5	0.0
REYF	**Montagne du Re**	**0.15**	**97**	P	Pg	08 28 11.3	-0.2
REYF				S	Sg	08 28 13.8	+0.2
ETSF	**Etsaut**	**0.19**	**170**	ePg	Pg	08 28 12.1	-0.1
ETSF				eSg	Sg	08 28 15.0	+0.2
	159nm,0.3s						
ETSF	**Etsaut**	**0.19**	**170**	Pg	Pg	08 28 12.1	-0.1
ETSF				Lg		08 28 15.0	
	80nm,0.3s						
FDAF	**Les Forges d'A**	**0.27**	**174**	P	Pg	08 28 13.5	-0.1
FDAF				S	Sg	08 28 17.5	+0.3
ORDF	**Ordiarp**	**0.27**	**297**	Pg	Pg	08 28 13.2	-0.5
ORDF				Sg	Sg	08 28 17.7	+0.4
ORDF	**Ordiarp**	**0.27**	**297**	P	Pg	08 28 13.4	-0.3
ORDF				S	Sg	08 28 17.8	+0.5
LARF	**Larrau**	**0.29**	**260**	P	Pg	08 28 13.7	-0.2
LARF				S	Sg	08 28 18.1	+0.4
LABF	**Labassere**	**0.50**	**94**	Pg	Pg	08 28 17.6	-0.3
LABF				Sg	Sg	08 28 24.8	+0.4
LABF	**Labassere**	**0.50**	**94**	P	Pg	08 28 17.2	-0.7
LABF				S	Sg	08 28 24.6	+0.2
VIEF	**Viey**	**0.50**	**114**	Pg	Pg	08 28 17.4	-0.6
VIEF				Sg	Sg	08 28 24.4	-0.2
VIEF	**Viey**	**0.50**	**114**	P	Pg	08 28 17.5	-0.5
VIEF				S	Sg	08 28 24.4	-0.2
OSSF	**Osses**	**0.51**	**289**	Pg	Pg	08 28 17.0	-1.2
OSSF	**Osses**	**0.51**	**289**	P	Pg	08 28 17.2	-0.9
OSSF				S	Sg	08 28 24.1	-0.7
EALK	**Alkurruntz**	**0.68**	**282**	Pg	Pg	08 28 20.8	-0.5
	6.3nm,0.7s,SNR=9.2						
EALK				Lg		08 28 28.9	
	6.1nm,0.2s,SNR=11						
EBIE	**Bielsa**	**0.68**	**126**	⇑Pg	Pg	08 28 20.8	-0.6
	5.6nm,0.1s,SNR=18						
EBIE				Lg		08 28 29.4	
	15nm,0.3s,SNR=23						
ELIZ	**Elizondo**	**0.68**	**277**	Pg	Pg	08 28 20.7	-0.7
	1.0nm,0.1s,SNR=8.1						
ELIZ				Lg		08 28 29.5	
	3.4nm,0.2s,SNR=9.8						
EPF	**Esparros**	**0.69**	**94**	ePg	Pg	08 28 20.9	-0.7
EPF				eSg	Sg	08 28 31.1	+0.5
	8.1nm,0.2s						
EPF	**Esparros**	**0.69**	**94**	Pg	Pg	08 28 20.9	-0.7
EPF				Lg		08 28 31.1	
	4.1nm,0.2s						
EGRA	**Graus**	**1.12**	**142**	Pg	Pg	08 28 30.7	+0.9
	0.9nm,0.1s,SNR=4.0						
EGRA				Lg		08 28 44.4	
	1.4nm,0.2s,SNR=7.9						
SALF	**Salau**	**1.36**	**103**	S	Sb	08 28 50.9	-0.6
ESAC	**San Caprasio**	**1.37**	**176**	Pg	Pg	08 28 34.8	+0.2
	3.2nm,0.2s,SNR=7.9						
ESAC				Lg		08 28 53.2	
	7.0nm,0.1s,SNR=8.7						
EMIR	**Miracle**	**1.96**	**126**	Pg	Pg	08 28 43.9	-2.0
	3.4nm,0.1s,SNR=4.0						
EMIR				Lg		08 29 10.6	
	1.9nm,0.1s,SNR=4.0						
MTLF	**Montolieu**	**2.08**	**82**	ePg	Pg	08 28 44.6	-3.5
MTLF				eSg	Sg	08 29 12.6	-2.4
	2.1nm,0.3s						
MTLF	**Montolieu**	**2.08**	**82**	Pg	Pg	08 28 44.6	-3.5
MTLF				Lg		08 29 12.6	
	1.1nm,0.3s						
EPOB	**Poblet**	**2.14**	**144**	Pg	Pg	08 28 47.7	-1.5
	0.4nm,0.1s,SNR=7.9						
EPOB				Lg		08 29 15.4	
	3.3nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.24**	**162**	Lg		08 29 19.7	
	1.4nm,0.1s,SNR=7.9						

IDC 13 09:15:10.3±19.0**, 2204S**×**17480W, h0**km**, mb4.3**/5**, mb1 4.5**/5**, mb1mx4.0**/16**, mbtmp4.3**/5**, Error ellipse: s-maj=366.9km s-min=154.5km az=81.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.33**	**266**	eP	P	09 22 17.2	+1.4
	6.5nm,0.3s						
CTA	**Charters Tower**	**36.33**	**266**	P	P	09 22 17.0	+1.2
	8.7nm,0.4s,baz=95,slow=13,SNR=18						
STKA	**Stephens Creek**	**39.86**	**246**	eP	P	09 22 45.4	-0.1
STKA	**Stephens Creek**	**39.86**	**246**	P	P	09 22 45.2	-0.3
	1.5nm,0.8s,baz=83,slow=8.1,SNR=4.6						
ASAR	**Alice Springs**	**47.09**	**258**	P	P	09 23 43.5	-0.3
	1.6nm,0.6s,baz=94,slow=7.3,SNR=35						
ASPA	**Alice Springs**	**47.09**	**258**	eP	P	09 23 43.6	-0.3
WB2	**Warramunga Arr**	**47.35**	**263**	eP	P	09 23 45.5	-0.3
WRA	**Warramunga Arr**	**47.36**	**263**	P	P	09 23 45.6	-0.3
	1.6nm,0.3s,baz=90,slow=5.9,SNR=214						
FITZ	**Fitzroy Crossi**	**55.79**	**263**	P	P	09 24 50.6	+1.6
	2.6nm,0.8s,baz=90,slow=2.0,SNR=3.7						

*ISCJB **13** 09:24:06.9±3.6, 52S±0.1×1502E±02, h75km±27km, mb4.3/9, Error ellipse: s-maj=39.8km s-min=23.3km az=20.6*
*IDC **13** 09:24:08.8±6.0, 524S×15005E, h68km±48km, mb3.7/5, mb1 4.0/7, mb1mx3.8/15, mbtmp4.1/7, ML3.5/2, MS3.7/7, Ms1 3.7/7, ms1mx3.5/22, Error ellipse: s-maj=82.2km s-min=33.2km az=104.0*
*NEIC **13** 09:24:10.0±3.1, 529S×15000E, h75km±22km, mb4.2/5, Error ellipse: s-maj=34.9km s-min=20.1km az=92.0*
ISC 13 09:24:10.0±3.4**, 53S**±01×**1500E**±03**, h74**km±24km**, n25, σ0s77**/20**, mb4.3**/9**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.98**	**215**	P	**Pn**	**09 25 21.0**	**-1.1**
	4.6nm,0.3s,baz=26,slow=10,SNR=24						
PMG				S	**Sn**	**09 26 23.9**	**+5.6**
	2.1nm,0.3s,baz=50,slow=16,SNR=2.1						
PMG				LR	LR	09 27 25.5	
	comp=Z,295nm,19.4s,baz=42,slow=39						
HNR	**Honiara**	**10.65**	**113**	LR	LR	09 29 56.0	
	comp=Z,339nm,19.7s,baz=178,slow=33						
CTA	**Charters Tower**	**15.15**	**194**	eP	**Pn**	**09 27 41.6**	**+1.9**
	8.5nm,0.9s						
CTA	**Charters Tower**	**15.15**	**194**	P	**Pn**	**09 27 40.9**	**+1.2**
	0.3nm,0.3s,baz=6.2,slow=12,SNR=4.7						
CTA				LR	LR	09 33 06.8	
	comp=Z,228nm,18.3s,baz=14,slow=35						
KAKA	**Kakadu**	**18.86**	**246**	eP	**Pn**	**09 28 26.5**	**+1.1**
	8.2nm,0.8s						
GUMO	**Guam**	**19.45**	**345**	LR	LR	09 34 28.0	
	comp=Z,152nm,18.0s,baz=252,slow=32						
WRAB	**Tennant Creek**	**21.08**	**225**	eP	**P**	**09 28 48.3**	**+0.2**
	7.8nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**21.09**	**225**	eP	**P**	**09 28 48.4**	**+0.2**
WRA	**Warramunga Arr**	**21.10**	**225**	P	**P**	**09 28 48.3**	**0.0**
	8.4nm,0.8s,mb4.1,baz=49,slow=10,SNR=36						
DZM	**Mont Dzumac**	**23.02**	**138**	LR	LR	09 36 09.7	
	comp=Z,407nm,21.4s,baz=21,slow=31						
AS31	**Alice Springs**	**23.98**	**219**	eP	**P**	**09 29 16.9**	**-0.5**
ASAR	**Alice Springs**	**23.98**	**219**	P	**P**	**09 29 17.4**	**-0.1**
	3.7nm,0.8s,mb3.8,baz=56,slow=8.3,SNR=44						
ASPA	**Alice Springs**	**23.98**	**219**	eP	**P**	**09 29 16.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**27.02**	**240**	eP	**P**	**09 29 45.2**	**+0.3**
	14nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**27.02**	**240**	P	**P**	**09 29 45.8**	**+0.9**
	4.9nm,0.8s,mb4.1,baz=75,slow=11,SNR=11						
FORT	**Forrest**	**32.70**	**217**	eP	**P**	**09 30 34.5**	**-0.7**
	15nm,0.7s,mb4.9						
KLBR	**Kellerberrin**	**39.98**	**225**	eP	**P**	**09 31 36.1**	**-1.1**
	46nm,1.6s,mb5.1						
MUN	**Mundaring**	**41.29**	**226**	eP	**P**	**09 31 48.2**	**+0.2**
MJAR	**Matsushiro Arr**	**43.07**	**346**	LR	LR	09 48 53.4	
	comp=Z,137nm,18.2s,baz=100,slow=34						
SONM	**Songino Array**	**65.31**	**329**	P	**P**	**09 34 43.2**	**-0.9**
	0.7nm,0.9s,mb3.5,baz=122,slow=5.3,SNR=4.2						
CASY	**Casey**	**66.75**	**196**	eP	**P**	**09 34 53.6**	**+0.3**
	26nm,0.5s,mb5.3						
KDAK	**Kodiak Island**	**77.87**	**27**	LR	LR	10 07 07.8	
	comp=Z,74nm,18.3s,baz=20,slow=33						
MKAR	**Makanchi Array**	**78.91**	**320**	P	**P**	**09 36 06.2**	**+1.0**
	0.2nm,0.3s,mb3.5,baz=98,slow=7.6,SNR=4.0						
MKAR	**Makanchi Array**	**78.91**	**320**	P	**P**	**09 36 06.2**	**+1.0**
TORD	**Torodi Ar. Bea**	**147.82**	**286**	PKPbc	PKPbc	09 43 44.8	-1.6
	0.7nm,0.8s,baz=71,slow=2.0,SNR=3.9						

*ISCJB **13** 09:49:23.9±0.7, 2407S±005×669W±0.1, h207km±16km, mb3.1/1, Error ellipse: s-maj=15.6km s-min=7.6km az=31.5*
*IDC **13** 09:49:25.9±1.5, 2390S×6671W, h189km±15km, mb3.1/1, mb1 3.2/6, mb1mx3.1/17, mbtmp3.6/6, Error ellipse: s-maj=25.9km s-min=19.2km az=3.0*
*GUC **13** 09:49:27.0±0.6, 24.13S×67.14W, h200km, ML3.9*
*NEIC **13** 09:49:27.0, 24.13S×67.14W, h200km, mb3.5/1, After GUC.*
ISC 13 09:49:24.9±0.6**, 2410S**±006×**668W**±01**, h195**km±16km**, n16, σ1s24**/22**, mb3.1**/1**, 1C, Salta Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.42**	**307**	P	**Pn**	**09 50 08.9**	**+1.4**
	42nm,0.3s,baz=128,slow=6.2,SNR=598						
LVC				S	**Sn**	**09 50 41.3**	**+0.6**
	11nm,0.3s,baz=258,slow=20,SNR=13						
LVC	**Limon Verde**	**2.42**	**307**	ePn	**Pn**	**09 50 08.8**	**+1.3**
LVC				S	**Sn**	**09 50 41.3**	**+0.6**
LVC				eSn	**Sn**	**09 50 41.5**	**+0.7**
CEN1	**Los Morros**	**3.17**	**282**	eP	**Pn**	**09 50 18.4**	**+2.2**
CEN1				i S	**Sn**	**09 50 56.8**	**+0.3**
CEN1				AML	AML	09 50 59.4	
	comp=N,99nm,0.4s						
CPN1	**Cerro Paranal**	**3.31**	**260**	eP	**Pn**	**09 50 19.3**	**+1.4**
CPN1				i S	**Sn**	**09 50 58.8**	**-0.6**
CPN1				AML	AML	09 51 02.0	
	comp=E,255nm,0.3s						
ANCH	**Antofagasta**	**3.31**	**276**	⇑iP	**Pn**	**09 50 15.5**	**-2.4**
ANCH				i S	**Sn**	**09 50 54.7**	**-4.7**
CRCH	**Chaqaral**	**4.10**	**236**	i S	**Sn**	**09 51 16.3**	**-0.7**
CPCH	**Copiapo**	**4.55**	**224**	i S	**Sn**	**09 51 27.3**	**+0.1**
CDCH	**Caldera**	**4.67**	**230**	eP	**Pn**	**09 50 35.2**	**+0.3**
CDCH				i S	**Sn**	**09 51 28.8**	**-1.2**
LPAZ	**La Paz**	**7.87**	**351**	P	**Pn**	**09 51 17.1**	**+0.8**
	comp=E,0.4nm,0.3s,baz=176,slow=7.9,SNR=13						
LPAZ				S	**Sn**	**09 52 41.7**	**-3.2**
	comp=E,0.1nm,0.3s,baz=286,slow=20,SNR=3.8						
CPUP	**Villa Florida**	**8.88**	**106**	P	**Pn**	**09 51 29.5**	**0.0**
	comp=E,0.2nm,0.3s,baz=280,slow=11,SNR=3.6						
SIV	**San Ignacio**	**9.71**	**35**	P	**Pn**	**09 51 38.7**	**-1.6**
	comp=E,0.3nm,0.3s,baz=239,slow=13,SNR=8.7						
SAML	**Samuel**	**15.46**	**14**	ePn	**Pn**	**09 52 51.1**	**-1.7**
	comp=E,0.9nm,0.4s						
BDFB	**Brasilia**	**19.57**	**68**	P	**P**	**09 53 39.1**	**+1.1**
	comp=E,0.4nm,0.3s,baz=242,slow=12,SNR=5.4						
TORD	**Torodi Ar. Bea**	**76.45**	**69**	P	**P**	**10 00 53.7**	**+0.7**
	comp=E,0.2nm,0.4s,mb3.1,baz=260,slow=6.5,SNR=12						
WRA	**Warramunga Arr**	**131.61**	**207**	PKP	PKPdf	10 08 16.9	+2.6
	comp=E,0.6nm,1.1s,baz=151,slow=1.9,SNR=9.5						
MKAR	**Makanchi Array**	**146.50**	**40**	PKPbc	PKPbc	10 08 44.3	+1.2
	comp=E,0.3nm,0.3s,baz=304,slow=2.6,SNR=6.0						

*ISCJB **13** 09:56:41.9±3.6, 56S±0.1×1504E±02, h78km±26km, mb4.2/10, Error ellipse: s-maj=35.2km s-min=22.6km az=1.8*
*IDC **13** 09:56:43.6±6.2, 562S×15042E, h82km±48km, mb3.8/7, mb1 4.0/8, mb1mx3.9/14, mbtmp4.1/8, ML3.3/1, MS3.8/6, Ms1 3.8/6, ms1mx3.6/14, Error ellipse: s-maj=54.3km s-min=25.4km az=83.0*
*NEIC **13** 09:56:44.6±2.8, 557S×15025E, h83km±20km, mb4.6/5, Error ellipse: s-maj=26.7km s-min=17.8km az=78.0*
ISC 13 09:56:44.0±3.3**, 56S**±01×**1503E**±02**, h79**km±24km**, n25, σ0s76**/25**, mb4.2**/10**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.92**	**220**	P	**Pn**	**09 57 55.3**	**-0.2**
	7.4nm,0.3s,baz=32,slow=12,SNR=18						
PMG				S	**Sn**	**09 58 58.1**	**+7.0**
	0.9nm,0.3s,baz=5.0,slow=22,SNR=2.9						
PMG				LR	LR	09 59 58.7	
	comp=Z,326nm,19.5s,baz=38,slow=39						
PMG	**Port Moresby**	**4.92**	**220**	ePn	**Pn**	**09 57 54.2**	**-1.2**
PMG				eSn	**Sn**	**09 58 51.4**	**+0.3**
PMG				S	**Sn**	**09 58 58.1**	**+7.0**
PMG				LR	LR	09 59 58.8	
HNR	**Honiara**	**10.26**	**112**	LR	LR	10 02 29.0	
	comp=Z,344nm,18.7s,baz=178,slow=34						
CTA	**Charters Tower**	**14.94**	**195**	P	**Pn**	**10 00 13.7**	**+2.9**
	0.2nm,0.3s,baz=4.0,slow=11,SNR=4.3						
CTA				LR	LR	10 05 13.4	
	comp=Z,396nm,21.4s,baz=14,slow=34						
CTAO	**Charters Tower**	**14.94**	**195**	ePn	**Pn**	**10 00 11.9**	**+1.2**
	27nm,1.3s						
KAKA	**Kakadu**	**19.02**	**247**	eP	**Pn**	**10 01 00.8**	**-0.3**
	6.1nm,0.5s						
WRAB	**Tennant Creek**	**21.09**	**226**	eP	**P**	**10 01 21.8**	**0.0**
	22nm,1.0s,mb4.5						
WB2	**Warramunga Arr**	**21.10**	**226**	eP	**P**	**10 01 22.4**	**+0.5**
WRA	**Warramunga Arr**	**21.11**	**226**	P	**P**	**10 01 21.5**	**-0.5**
	13nm,1.0s,mb4.2,baz=50,slow=9.8,SNR=34						
DZM	**Mont Dzumac**	**22.60**	**138**	LR	LR	10 08 53.6	
	comp=Z,547nm,19.6s,baz=23,slow=32						
AS31	**Alice Springs**	**23.94**	**220**	eP	**P**	**10 01 49.7**	**-1.0**
ASAR	**Alice Springs**	**23.94**	**220**	P	**P**	**10 01 50.7**	**0.0**
	4.1nm,0.9s,mb3.8,baz=53,slow=7.8,SNR=20						
ASPA	**Alice Springs**	**23.94**	**220**	eP	**P**	**10 01 49.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**27.13**	**241**	eP	**P**	**10 02 19.9**	**+0.3**
	15nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**27.13**	**241**	P	**P**	**10 02 20.3**	**+0.7**
	9.5nm,0.8s,mb4.4,baz=103,slow=11,SNR=11						
STKA	**Stephens Creek**	**27.39**	**196**	P	**P**	**10 02 21.8**	**-0.1**
	4.1nm,0.9s,mb3.9,baz=29,slow=13,SNR=4.8						
STKA				LR	LR	10 12 57.1	
	comp=Z,266nm,21.8s,baz=20,slow=36						
STKA	**Stephens Creek**	**27.39**	**196**	P	**P**	**10 02 21.8**	**-0.1**
STKA				LR	LR	10 12 57.1	
FORT	**Forrest**	**32.65**	**217**	eP	**P**	**10 03 09.8**	**+1.5**
	18nm,0.8s,mb4.9						
KLBR	**Kellerberrin**	**39.99**	**226**	eP	**P**	**10 04 11.1**	**+0.3**
	32nm,1.2s,mb5.0						
MUN	**Mundaring**	**41.30**	**226**	eP	**P**	**10 04 21.8**	**+0.2**
SONM	**Songino Array**	**65.72**	**329**	P	**P**	**10 07 20.7**	**+0.5**
	0.9nm,0.8s,mb3.6,baz=122,slow=1.9,SNR=5.2						
SONM				LR	LR	10 38 08.8	
	comp=Z,78nm,18.3s,baz=236,slow=38						
VNDA	**Vanda**	**72.14**	**177**	P	**P**	**10 07 59.0**	**-1.0**
	0.8nm,0.8s,mb3.6,baz=334,slow=6.7,SNR=5.0						
MKAR	**Makanchi Array**	**79.33**	**320**	P	**P**	**10 08 40.9**	**-0.1**
	0.3nm,0.4s,mb3.5,baz=111,slow=7.9,SNR=3.7						
MKAR	**Makanchi Array**	**79.33**	**320**	P	**P**	**10 08 40.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**148.20**	**286**	PKPbc	PKPbc	10 16 19.5	-1.2
	1.0nm,0.8s,baz=37,slow=2.7,SNR=5.4						

*ISCJB **13** 09:59:49.1±0.6, 1952N±007×69.14W±003, h25km, Error ellipse: s-maj=10.0km s-min=3.3km az=27.3*
*NEIC **13** 09:59:51.9, 1952N×69.16W, h25km, MD3.9(RSPR), After RSPR.*
*RSPR **13** 09:59:51.9, 1952N×69.16W, h25km±42km, MD3.9/13, MD3.9/13*
ISC 13 09:59:50.7±0.5**, 1947N**±007×**6916W**±003**, h25**km**, n22, σ0s77**/41**, 16C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STDO	**Santo Domingo**	**1.25**	**216**	⇑iP	**Pn**	**10 00 12.3**	**-0.2**
STDO				eS	**Sn**	**10 00 28.2**	**-0.4**
MPR	**Mayaguez**	**2.28**	**123**	⇑eP	**Pn**	**10 00 27.3**	**+0.5**
MPR				eS	**Sn**	**10 00 54.3**	**+0.2**
LSP	**Las Mesas**	**2.34**	**123**	⇑eP	**Pn**	**10 00 28.2**	**+0.6**
LSP				eS	**Sn**	**10 00 55.9**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.43**	**127**	⇑eP	**Pn**	**10 00 29.3**	**+0.6**
CRPR				eS	**Sn**	**10 00 58.1**	**+0.5**
MGP	**Maguayo**	**2.44**	**126**	⇑eP	**Pn**	**10 00 29.8**	**+0.9**
MGP				eS	**Sn**	**10 00 57.8**	**-0.1**
LRS	**Lares**	**2.48**	**118**	⇑eP	**Pn**	**10 00 30.0**	**+0.5**
LRS				eS	**Sn**	**10 00 58.4**	**-0.6**
AOPR	**Arecibo Observ**	**2.54**	**116**	⇑eP	**Pn**	**10 00 30.2**	**-0.1**
AOPR				eS	**Sn**	**10 00 59.9**	**-0.5**
OBIP	**Obispado Ponce**	**2.80**	**120**	⇑eP	**Pn**	**10 00 34.5**	**+0.6**
OBIP				eS	**Sn**	**10 01 07.5**	**+0.6**
CELP	**Cerrillos**	**2.81**	**119**	⇑eP	**Pn**	**10 00 34.7**	**+0.7**
CELP				eS	**Sn**	**10 01 06.7**	**-0.3**
ICM	**Isla Caja Muer**	**2.95**	**122**	⇑eP	**Pn**	**10 00 35.9**	**-0.1**
ICM				eS	**Sn**	**10 01 09.5**	**-1.1**
SJG	**San Juan**	**3.15**	**115**	⇑eP	**Pn**	**10 00 38.3**	**-0.4**
SJG				eS	**Sn**	**10 01 14.8**	**-0.7**
CBYP	**Canovanas**	**3.34**	**110**	⇑eP	**Pn**	**10 00 41.1**	**-0.3**
CBYP				eS	**Sn**	**10 01 19.1**	**-1.2**
CPD	**Cerro la Pandu**	**3.38**	**114**	⇑eP	**Pn**	**10 00 41.8**	**-0.1**
CPD				eS	**Sn**	**10 01 21.2**	**-0.1**
HUMP	**Col San Antoni**	**3.40**	**112**	⇑eP	**Pn**	**10 00 41.9**	**-0.2**
HUMP				eS	**Sn**	**10 01 21.1**	**-0.6**
MTP	**Monte Pirata**	**3.67**	**111**	⇑eP	**Pn**	**10 00 46.1**	**+0.1**
MTP				eS	**Sn**	**10 01 27.8**	**-0.7**
CULB	**Culebra**	**3.80**	**107**	⇑eP	**Pn**	**10 00 47.8**	**+0.2**
CULB	**Culebra**	**3.80**	**107**	eS	**Sn**	**10 01 31.5**	**-0.1**
STVI	**Saint Thomas**	**4.12**	**105**	⇑eP	**Pn**	**10 00 53.1**	**+1.1**
MASC	**Masc**	**4.83**	**279**	eP	**Pn**	**10 01 02.9**	**+1.1**
MASC				eS	**Sn**	**10 01 57.4**	**+0.5**
	comp=N,771nm,0.1s						
MASC				e			
	comp=E,1μm,0.1s						
MOAC	**Moa**	**5.58**	**283**	eP	**Pn**	**10 01 12.7**	**+0.6**
MOAC				eS	**Sn**	**10 02 13.6**	**-1.9**
	comp=N,1.3nm,0.1s						
MOAC				e			
	comp=E,1.0nm,0.1s						
RCC	**Rio Carpintero**	**6.18**	**276**	eP	**Pn**	**10 01 20.7**	**+0.3**
RCC				eS	**Sn**	**10 02 28.0**	**-2.3**
	comp=N,9.3nm,0.5s						
RCC				e			
	comp=E,9.2nm,0.7s						
SDV	**Santo Domingo**	**10.62**	**188**	ePn	**Pn**	**10 02 23.3**	**+2.0**
	comp=E,8.1nm,0.6s						
SDV				eSn	**Sn**	**10 04 15.0**	**-4.4**

*KNET **13** 10:09:30.6±0.6, 4273N×7581E, h12km±5km, ml2.9, Error ellipse: s-maj=4.6km s-min=2.2km az=42.0*
*ISCJB **13** 10:09:31.0±0.7, 4276N±003×7585E±004, h9km±5km, Error ellipse: s-maj=5.7km s-min=4.4km az=168.4*
*NNC **13** 10:09:32.2±1.8, 4281N×7585E, h0km, mb4.3, mpv3.4, Error ellipse: s-maj=22.7km s-min=3.8km az=6.0*
ISC 13 10:09:31.4±0.6**, 4275N**±003×**7584E**±003**, h1**km±8km**, n16, σ0s72**/23**, 18C-9D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.24**	**313**	⇓P	**Pg**	**10 09 36.3**	**+0.2**
	193nm,0.1s,SNR=1275						
TKM2				⇑S	**Sg**	**10 09 40.1**	**+0.9**
	3μm,0.2s						
TKM2	**Tokmak 2**	**0.24**	**313**	⇓P	**Pg**	**10 09 36.3**	**+0.2**
	2.9nm,0.2s						
TKM2				⇓S	**Sg**	**10 09 40.0**	**+0.8**
	667nm,1.1s						
ULHL	**Ulahol**	**0.59**	**149**	⇑P	**Pg**	**10 09 42.2**	**-0.4**
	55nm,0.1s,SNR=332						
ULHL				⇓S	**Sg**	**10 09 50.3**	**0.0**
	285nm,0.2s						
KBK	**Karagaybulak**	**0.66**	**262**	⇑P	**Pg**	**10 09 44.2**	**+0.1**
	202nm,0.2s,SNR=189						
KBK				⇑S	**Sg**	**10 09 53.8**	**+1.1**
	1μm,0.6s						
KZA	**Kyzart**	**0.80**	**213**	⇓P	**Pg**	**10 09 46.6**	**-0.2**
	122nm,0.3s,SNR=18						
KZA				⇓S	**Sg**	**10 09 57.8**	**+0.6**
	235nm,0.4s						
CHMS	**Chumysh**	**0.83**	**287**	⇑P	**Pg**	**10 09 46.6**	**-0.8**
	21nm,0.1s,SNR=36						
CHMS				⇑S	**Sg**	**10 09 57.8**	**-0.4**
	110nm,0.2s						
KNDC	**Almaty**	**0.95**	**60**	⇑P	**Pg**	**10 09 49.5**	**0.0**
	177nm,0.5s						
KNDC				⇑S	**Sg**	**10 10 02.5**	**+0.7**
	596nm,0.5s						
AAK	**Ala-Archa**	**1.00**	**264**	⇑P	**Pg**	**10 09 49.9**	**-0.6**
	50nm,0.2s,SNR=43						
AAK				⇑S	**Sg**	**10 10 03.4**	**0.0**
	140nm,0.4s						
USP	**Ospenovka**	**1.11**	**298**	⇑P	**Pg**	**10 09 51.5**	**-1.1**

	28nm,0.1s,SNR=65						
UCH	**Uchtor**	**1.11**	**242**	⇓P	**Pg**	**10 09 51.8**	**-0.9**
	28nm,0.3s,SNR=80						
UCH				⇑S	**Sg**	**10 10 07.0**	**-0.1**
	57nm,0.2s						
EKS2	**Erkin-Say**	**1.52**	**267**	⇑P	**Pn**	**10 09 59.8**	**0.0**
	25nm,0.1s,SNR=65						
AML	**Almayashu**	**1.70**	**249**	⇓P	**Pn**	**10 10 02.9**	**+0.7**
	43nm,0.3s,SNR=43						
MK05	**Makanchi Array**	**6.12**	**46**	⇑Pn	**Pn**	**10 11 04.5**	**+1.6**
	7.5nm,0.6s,baz=222,slow=15						
MK05				⇓Sn	**Sn**	**10 12 12.1**	**-1.4**
	4.6nm,0.6s,baz=223,slow=24						
MK05				⇑Lg		10 12 37.4	
	11nm,0.6s,baz=225,slow=28						
KURK	**Kurchatov**	**8.19**	**13**	⇑Lg		10 13 46.6	
	42nm,0.9s						
VOSK	**Vostochnaya**	**10.49**	**344**	⇑Lg		10 14 59.8	
	20nm,0.8s						
ZRNK	**Zerenda**	**11.18**	**338**	⇑Lg		10 15 20.1	
	27nm,1.2s						

*TIF **13** 10:14:07.8, 38.19N×2675E, h7^{km}±6^{km}*
*CSEM **13** 10:14:07.5, 3838N×2669E, h25^{km}, MD3.0, After ISK*
ISK 13 10:14:07.5, 3838N×2669E, h25^{km}, MD3.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.27**	**88**	PG	Pb	10 14 14.9	+0.8
BLCB				SG	Sb	10 14 19.2	+0.6
IZM	**Izmir**	**0.45**	**87**	PG	Pb	10 14 17.0	+0.2
IZM				SG	Sb	10 14 25.0	+1.8
MLSB	**Milas**	**1.38**	**141**	*e*PN	Pn	10 14 31.5	+0.4
BODT	**Bodrum**	**1.40**	**159**	PN	Pn	10 14 31.9	+0.5
BODT				SN	Sn	10 14 50.2	+1.1
YER	**Yerkesik**	**1.77**	**134**	*e*PN	Pn	10 14 37.7	+1.2

*NEIC **13** 10:27:52.1, 2838S×7045W, h94^{km}, MG3.7(GUC), After GUC.*
GUC 13 10:27:52.1±0.9**, 2838S×7045W, h94**^{km}±6^{km}**, MD3.5, ML3.7, 3C-8D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.33**	**234**	⇓*i*P	Pn	10 28 07.3	+1.2
VACH				*i* S	Sn	10 28 17.8	+1.4
LCO	**Las Campanas**	**0.66**	**199**	⇑*i*P	Pn	10 28 09.9	+1.3
LCO				*e*S	Sn	10 28 22.8	+2.0
CPCH	**Copiapo**	**1.02**	**5**	⇓*i*P	Pn	10 28 12.4	+0.1
CPCH				*i* S	Sn	10 28 27.9	+0.4
CDCH	**Caldera**	**1.35**	**346**	⇓*i*P	Pn	10 28 17.0	+0.9
CDCH				*i* S	Sn	10 28 34.5	+0.3
CDCH				AML	AML	10 28 36.5	
	comp=E,885nm,0.2s						
CDCH	**Caldera**	**1.35**	**346**	⇓*i*P	Pn	10 28 17.0	+0.9
CDCH				*i* S	Sn	10 28 34.5	+0.3
TLL	**Tololo Astrono**	**1.81**	**190**	⇓*i*P	Pn	10 28 23.0	+1.1
TLL				*i* S	Sn	10 28 46.4	+1.8
TLL				AML	AML	10 28 48.1	
	comp=N,747nm,0.3s						
TLL	**Tololo Astrono**	**1.81**	**190**	⇓*i*P	Pn	10 28 23.0	+1.1
TLL				*i* S	Sn	10 28 46.4	+1.8
CRCH	**Chaqaral**	**2.03**	**356**	⇓*i*P	Pn	10 28 25.6	+0.8
CRCH				*i* S	Sn	10 28 50.1	+0.2
CRCH				AML	AML	10 28 52.2	
	comp=N,839nm,0.3s						
CRCH	**Chaqaral**	**2.03**	**356**	⇓*i*P	Pn	10 28 25.6	+0.8
CRCH				*i* S	Sn	10 28 50.1	+0.2
OVCH	**Ovalle**	**2.31**	**196**	*e*P	Pn	10 28 28.6	+0.1
OVCH				*i* S	Sn	10 28 56.5	+0.2
OVCH				AML	AML	10 28 57.2	
	comp=E,400nm,0.6s						
OVCH	**Ovalle**	**2.31**	**196**	*e*P	Pn	10 28 28.6	+0.1
OVCH				*i* S	Sn	10 28 56.5	+0.2
CMCH	**Combarbala**	**2.82**	**190**	⇑*i*P	Pn	10 28 35.0	-0.3
CMCH				*i* S	Sn	10 29 08.1	-0.4
CMCH				AML	AML	10 29 09.7	
	comp=N,437nm,0.7s						
CMCH	**Combarbala**	**2.82**	**190**	⇑*i*P	Pn	10 28 35.0	-0.3
CMCH				*i* S	Sn	10 29 08.1	-0.4

*NEIC **13** 10:35:13.0, 3888S×17622E, h86^{km}, ML3.8(WEL), After WEL.*
WEL 13 10:35:13.1±0.1**, 3888S×17622E, h84**^{km}±1^{km}**, ML3.8**/16**, 14C-19D, Error ellipse: s-maj=0.7km s-min=0.5km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATZ	**Hinemaiaia**	**0.10**	**262**	⇑P*	Pn	10 35 24.9	-0.1
HATZ				S*	Sn	10 35 33.8	-0.1
HATZ	**Hinemaiaia**	**0.10**	**262**	P	Pn	10 35 24.9	-0.1
WHTZ	**Whakaora**	**0.29**	**315**	⇑P*	Pn	10 35 25.9	+0.1
RITZ	**Rihia Road**	**0.30**	**250**	⇑P*	Pn	10 35 26.0	+0.2
RATZ	**Rangitukua**	**0.35**	**271**	⇑P*	Pn	10 35 25.9	-0.2
RATZ	**Rangitukua**	**0.35**	**271**	P	Pn	10 35 25.9	-0.2
BKZ	**Black Stump Fm**	**0.36**	**144**	⇑P*	Pn	10 35 26.4	+0.2
BKZ				S*	Sn	10 35 36.5	+0.7
BKZ	**Black Stump Fm**	**0.36**	**144**	P	Pn	10 35 26.4	+0.3
WATZ	**Wairara**	**0.42**	**293**	⇑P*	Pn	10 35 26.3	-0.3
KATZ	**Kakaramea**	**0.42**	**256**	⇑P*	Pn	10 35 26.6	0.0
KATZ	**Kakaramea**	**0.42**	**256**	P	Pn	10 35 26.6	0.0
PATZ	**Paeroa**	**0.50**	**3**	P*	Pn	10 35 27.4	+0.2
PATZ	**Paeroa**	**0.50**	**3**	P	Pn	10 35 27.5	+0.3
KRVZ	**Karewarewa**	**0.50**	**244**	⇑P*	Pn	10 35 27.2	-0.1
KRVZ				S*	Sn	10 35 37.4	-0.3
OTVZ	**Oturere**	**0.52**	**236**	⇑P*	Pn	10 35 27.6	+0.2
OTVZ				S*	Sn	10 35 38.4	+0.4
WTVZ	**West Tongariro**	**0.55**	**244**	⇑P*	Pn	10 35 27.5	-0.1
WTVZ				S*	Sn	10 35 38.5	+0.2
WTVZ	**West Tongariro**	**0.55**	**244**	P	Pn	10 35 27.5	-0.1
NGZ	**Ngauruhoe**	**0.57**	**238**	⇑P*	Pn	10 35 27.9	+0.1
NGZ				S*	Sn	10 35 38.9	+0.2
NGZ	**Ngauruhoe**	**0.57**	**238**	P	Pn	10 35 27.9	+0.1
TUVZ	**Tukino**	**0.59**	**228**	⇑P*	Pn	10 35 28.2	+0.2
TUVZ				S*	Sn	10 35 38.8	-0.3
TUVZ	**Tukino**	**0.59**	**228**	P	Pn	10 35 28.2	+0.2
WPVZ	**Whakapapa**	**0.62**	**238**	P*	Pn	10 35 28.1	-0.2
WPVZ				S*	Sn	10 35 40.1	+0.6
WPVZ	**Whakapapa**	**0.62**	**238**	P	Pn	10 35 28.2	-0.1
TWVZ	**Taurewa**	**0.64**	**252**	⇑P*	Pn	10 35 28.3	-0.2
TWVZ				S*	Sn	10 35 39.4	-0.5
TWVZ	**Taurewa**	**0.64**	**252**	P	Pn	10 35 28.3	-0.2
TWVZ				S	Sn	10 35 39.4	-0.5
FWVZ	**Far West T-bar**	**0.64**	**234**	P*	Pn	10 35 28.6	+0.1
FWVZ				S*	Sn	10 35 39.8	-0.2
FWVZ	**Far West T-bar**	**0.64**	**234**	P	Pn	10 35 28.6	+0.1
MOVZ	**Moawhango**	**0.64**	**214**	⇓P*	Pn	10 35 28.3	-0.2
MOVZ				S*	Sn	10 35 39.2	-0.7
MOVZ	**Moawhango**	**0.64**	**214**	P	Pn	10 35 28.3	-0.2
DRZ	**Dome Shelter**	**0.65**	**232**	P*	Pn	10 35 28.8	+0.2
DRZ				S*	Sn	10 35 39.9	-0.1
DRZ	**Dome Shelter**	**0.65**	**232**	P	Pn	10 35 28.9	+0.4
WNVZ	**Wahianoa**	**0.66**	**227**	⇓P*	Pn	10 35 28.8	+0.1
WNVZ				S*	Sn	10 35 40.2	-0.1
WNVZ	**Wahianoa**	**0.66**	**227**	P	Pn	10 35 28.8	+0.1
TRVZ	**Turoa**	**0.67**	**231**	P*	Pn	10 35 29.0	+0.2
TAZ	**Tarawera**	**0.68**	**19**	P*	Pn	10 35 28.9	+0.1
TAZ	**Tarawera**	**0.68**	**19**	P	Pn	10 35 29.0	+0.1
UTU	**Utuhina**	**0.70**	**358**	⇓P*	Pn	10 35 29.3	+0.2
UTU	**Utuhina**	**0.70**	**358**	P	Pn	10 35 29.3	+0.3
MKRZ	**Makatiti**	**0.76**	**15**	⇓P*	Pn	10 35 30.0	+0.4
MKRZ	**Makatiti**	**0.76**	**15**	P	Pn	10 35 30.0	+0.3
MTVZ	**Mangateitei**	**0.78**	**229**	⇓P*	Pn	10 35 29.9	+0.1
PKVZ	**Pokaka**	**0.80**	**238**	⇓P*	Pn	10 35 30.0	0.0
PKVZ				S*	Sn	10 35 42.4	-0.3
KARZ	**Kaharoa**	**0.85**	**1**	⇓P*	Pn	10 35 30.7	0.0
KARZ				S*	Sn	10 35 44.6	+0.8
EDRZ	**Edgecumbe**	**0.87**	**28**	⇓P*	Pn	10 35 30.6	-0.2
EDRZ	**Edgecumbe**	**0.87**	**28**	P	Pn	10 35 30.6	-0.3
LIRZ	**Lichensteins R**	**0.88**	**8**	P*	Pn	10 35 31.0	0.0
LIRZ	**Lichensteins R**	**0.88**	**8**	P	Pn	10 35 31.0	0.0
URZ	**Urewera**	**0.93**	**49**	⇓P*	Pn	10 35 31.3	-0.2
URZ				S*	Sn	10 35 45.0	-0.3
URZ	**Urewera**	**0.93**	**49**	P	Pn	10 35 31.3	-0.2
MARZ	**Manawahe**	**0.96**	**22**	⇓P*	Pn	10 35 31.6	-0.2
MARZ	**Manawahe**	**0.96**	**22**	P	Pn	10 35 31.6	-0.3
HIZ	**Hauiti**	**1.13**	**288**	⇑PN	Pn	10 35 33.7	-0.2
HIZ				SN	Sn	10 35 49.4	-0.1
HIZ	**Hauiti**	**1.13**	**288**	P	Pn	10 35 33.7	-0.2
KNZ	**Kokohu**	**1.14**	**98**	PN	Pn	10 35 34.4	+0.3
KNZ	**Kokohu**	**1.14**	**98**	*e*P	Pn	10 35 34.4	+0.4
TGRZ	**Tauranga**	**1.15**	**2**	⇓P*	Pn	10 35 34.0	-0.1
TGRZ	**Tauranga**	**1.15**	**2**	P	Pn	10 35 34.0	-0.1
MWZ	**Matawai**	**1.16**	**63**	⇓P*	Pn	10 35 34.2	-0.1
MWZ	**Matawai**	**1.16**	**63**	P	Pn	10 35 34.2	0.0
VRZ	**Vera Road**	**1.17**	**257**	⇓P*	Pn	10 35 34.2	-0.2
VRZ	**Vera Road**	**1.17**	**257**	P	Pn	10 35 34.2	-0.2
TSZ	**Takapari Road**	**1.20**	**190**	⇓PN	Pn	10 35 34.3	-0.4
TSZ				SN	Sn	10 35 50.4	-0.6
TSZ	**Takapari Road**	**1.20**	**190**	P	Pn	10 35 34.3	-0.4
PXZ	**Pawanui**	**1.26**	**157**	PN	Pn	10 35 35.3	-0.2
TOZ	**Tahuroa Road**	**1.28**	**333**	⇓P*	Pn	10 35 35.6	-0.1
TOZ				S*	Sn	10 35 52.4	-0.4
TOZ	**Tahuroa Road**	**1.28**	**333**	P	Pn	10 35 35.6	-0.1
WAZ	**Wanganui**	**1.30**	**227**	⇓PN	Pn	10 35 36.2	+0.2
WAZ				SN	Sn	10 35 53.7	+0.4
WAZ	**Wanganui**	**1.30**	**227**	P	Pn	10 35 36.2	+0.2
RAEZ	**Rainy Point**	**1.48**	**253**	⇓PN	Pn	10 35 38.7	+0.4
RAEZ	**Rainy Point**	**1.48**	**253**	P	Pn	10 35 38.7	+0.4
NEZ	**North Egmont**	**1.70**	**256**	PN	Pn	10 35 41.7	+0.6
NEZ	**North Egmont**	**1.70**	**256**	P	Pn	10 35 41.7	+0.6
PKE	**Pukeiti**	**1.77**	**259**	⇓PN	Pn	10 35 42.0	0.0
PKE	**Pukeiti**	**1.77**	**259**	P	Pn	10 35 42.0	0.0
PUZ	**Puketiti**	**1.79**	**64**	⇓PN	Pn	10 35 41.9	-0.4
PUZ	**Puketiti**	**1.79**	**64**	P	Pn	10 35 41.9	-0.4
BFZ	**Birch Farm**	**1.80**	**179**	PN	Pn	10 35 41.2	-1.3
BFZ	**Birch Farm**	**1.80**	**179**	P	Pn	10 35 41.2	-1.3
NRZ	**Ngariki Road**	**1.84**	**255**	PN	Pn	10 35 43.0	0.0
NRZ	**Ngariki Road**	**1.84**	**255**	P	Pn	10 35 43.1	+0.2
MRZ	**Mangatainoka R**	**1.85**	**195**	P	Pn	10 35 41.4	-1.7
NWEZ	**Newall Road**	**1.88**	**257**	P	Pn	10 35 43.3	-0.1
MXZ	**Matakaoa Point**	**2.10**	**52**	P	Pn	10 35 46.4	0.0
KIW	**Kapiti Island**	**2.23**	**207**	P	Pn	10 35 45.9	-2.2
CAW	**Cannon Point**	**2.40**	**201**	P	Pn	10 35 47.9	-2.5
PAWZ	**Paruwai Farm**	**2.58**	**193**	P	Pn	10 35 50.0	-2.7
MSWZ	**Moikau Station**	**2.64**	**196**	P	Pn	10 35 50.7	-3.0
WEL	**Wellington**	**2.65**	**204**	P	Pn	10 35 51.0	-2.8
SNZO	**South Karori**	**2.69**	**205**	P	Pn	10 35 51.3	-3.0
BHW	**Baring Head**	**2.73**	**202**	P	Pn	10 35 51.7	-3.2
TCW	**Tory Channel**	**2.77**	**212**	P	Pn	10 35 52.4	-3.0
NNZ	**Nelson**	**3.20**	**222**	P	Pn	10 35 57.7	-3.4
BSWZ	**Blackbirch Sta**	**3.35**	**212**	P	Pn	10 35 59.9	-3.4
QRZ	**Quartz Range**	**3.45**	**234**	*e*P	Pn	10 36 01.5	-3.0
THZ	**Tophouse**	**3.84**	**220**	*e*P	Pn	10 36 06.5	-3.3
KHZ	**Kahutara**	**4.08**	**209**	*e*P	Pn	10 36 09.0	-4.1
DSZ	**Denniston Nort**	**4.43**	**228**	*e*P	Pn	10 36 13.8	-4.1
LTZ	**Lake Taylor**	**4.92**	**216**	*e*P	Pn	10 36 19.5	-5.0
CRLZ	**Canterbury Las**	**5.42**	**209**	*e*P	Pn	10 36 25.9	-5.5
MQZ	**McQueen's Vall**	**5.52**	**208**	*e*P	Pn	10 36 26.4	-6.4

*NEIC **13** 10:36:04.5, 3261S×7159W, h25^{km}, ML3.7(GUC), After GUC.*
GUC 13 10:36:04.5±0.6**, 3261S×7159W, h25**^{km}±3^{km}**, MD3.8, ML3.7, 13C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.42**	**185**	⇑*i*P	Pb	10 36 13.3	0.0
IHA				*i* S	Sb	10 36 19.6	+0.3
ROCH	**El Roble**	**0.61**	**126**	⇑*i*P	Pb	10 36 16.6	+0.1
ROCH				*i* S	Sb	10 36 25.5	+0.8
CHNG	**Los Chungos**	**0.73**	**6**	*e*P	Pb	10 36 18.0	-0.6
CHNG				*i* S	Sb	10 36 27.9	-0.2
LCCH	**Las Cruces**	**0.86**	**179**	*i* P	Pb	10 36 20.2	-0.6
LCCH				*i* S	Sb	10 36 31.4	-0.5
PEL	**Peldehue**	**0.93**	**125**	⇑*i*P	Pb	10 36 21.3	-0.7
PEL				*i* S	Sb	10 36 34.1	+0.2
PEL				AML	AML	10 36 35.2	
	comp=N,6µm,0.3s						
PEL	**Peldehue**	**0.93**	**125**	⇑*i*P	Pb	10 36 21.3	-0.7
PEL				*i* S	Sb	10 36 34.1	+0.2
SAN	**Santiago**	**1.15**	**137**	⇑*i*P	Pn	10 36 24.7	-0.3
SAN				*i* S	Sn	10 36 40.1	+0.2
SAN				AML	AML	10 36 41.0	
	comp=N,1µm,0.5s						
SAN	**Santiago**	**1.15**	**137**	⇑*i*P	Pn	10 36 24.7	-0.3
SAN				*i* S	Sn	10 36 40.1	+0.2
STL	**Santa Lucia**	**1.15**	**136**	⇓*i*P	Pn	10 36 24.0	-1.0
STL				*i* S	Sn	10 36 39.2	-0.7
DSCH	**Colegio Aleman**	**1.17**	**133**	⇑*i*P	Pn	10 36 24.2	-1.0
DSCH				*i* S	Sn	10 36 39.6	-0.7
TACH	**Talagante**	**1.18**	**152**	⇑*i*P	Pn	10 36 25.1	-0.2
TACH				*i* S	Sn	10 36 40.6	+0.1
CLCH	**Cerro Calan**	**1.18**	**132**	⇓*i*P	Pn	10 36 25.2	-0.2
CLCH				*i* S	Sn	10 36 41.1	+0.4
CLCH				AML	AML	10 36 47.5	
	comp=N,2µm,0.3s						
CLCH				AML	AML	10 36 47.9	
	comp=N,2µm,0.5s						
ANTU	**Antumapu**	**1.25**	**140**	⇓*i*P	Pn	10 36 26.3	-0.1
ANTU				*i* S	Sn	10 36 43.0	+0.6
ANTU				AML	AML	10 36 47.1	
	comp=E,2µm,0.4s						
ANTU	**Antumapu**	**1.25**	**140**	⇓*i*P	Pn	10 36 26.3	-0.1
ANTU				*i* S	Sn	10 36 43.0	+0.6
PCH	**Pirque**	**1.35**	**138**	⇑*i*P	Pn	10 36 27.7	-0.1
PCH				*i* S	Sn	10 36 46.0	+1.0
SJCH	**San Jose de Ma**	**1.46**	**135**	*i* P	Pn	10 36 28.5	-0.8
SJCH				*i* S	Sn	10 36 47.9	+0.3
CMCH	**Combarbala**	**1.52**	**20**	⇓*i*P	Pn	10 36 30.0	-0.1
CMCH				*i* S	Sn	10 36 50.1	+1.1
CMCH				AML	AML	10 36 52.2	
	comp=E,7µm,0.6s						
CMCH	**Combarbala**	**1.52**	**20**	⇓*i*P	Pn	10 36 30.0	-0.1
CMCH				*i* S	Sn	10 36 50.1	+1.1
CHCH	**Chadas Angostu**	**1.54**	**149**	⇑*i*P	Pn	10 36 30.9	+0.6
CHCH				*i* S	Sn	10 36 51.1	+1.6
CACH	**El Canelo**	**1.72**	**151**	⇑*i*P	Pn	10 36 34.3	+1.6
CACH				*i* S	Sn	10 36 57.3	+3.4
OVCH	**Ovalle**	**2.02**	**10**	⇑*i*P	Pn	10 36 38.3	+1.3
OVCH				*i* S	Sn	10 37 04.0	+2.5
OVCH				AML	AML	10 37 12.0	
	comp=N,1µm,0.6s						
OVCH	**Ovalle**	**2.02**	**10**	⇑*i*P	Pn	10 36 38.3	+1.3
OVCH				*i* S	Sn	10 37 04.0	+2.5
TLL	**Tololo Astrono**	**2.53**	**16**	AML	AML	10 37 27.7	
	comp=N,965nm,0.4s						

MAN 13 10:39:10.0, 922N×12209E, h3^{km}, mb1.7, ML3.5, MS3.8, Negros

CASC 13 12:18:18.0±2.3**, 1148N×8775W, h180**^{km}±45^{km}**, MD4.1, 2C-3D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**1.26**	**42**	⇓*e*P	Pn	12 18 47.1	-0.6
LEON				*e*S	Sn	12 19 11.6	+1.0
COPN	**Copaltepe**	**1.33**	**58**	*e*P	Pn	12 18 48.4	0.0
COPN				*e*S	Sn	12 19 12.6	+0.8
CRIN	**San Cristobal**	**1.40**	**29**	*e*P	Pn	12 18 50.1	+1.2
MIRN	**Miramar**	**1.40**	**47**	⇑*e*P	Pn	12 18 48.8	-0.2
MIRN				*e*S	Sn	12 19 13.9	+1.1
APON	**Apoyo**	**1.71**	**75**	*e*P	Pn	12 18 55.0	+3.1
APON				*e*S	Sn	12 19 19.5	+1.3
CNCH	**Conchagua**	**1.79**	**357**	⇓*e*P	x	12 19 03.5	
CNCH				*e*S	x	12 19 33.5	
BLLM	**Bellamira**	**2.01**	**346**	⇓*e*P	x	12 19 05.8	
BLLM				*e*S	x	12 19 34.7	
LCBS	**La Ceiba**	**2.47**	**331**	⇑*e*P	x	12 19 10.4	
LCBS				*e*S	x	12 19 44.8	
LBRS	**Las Brisas**	**2.58**	**331**	*e*P	x	12 19 13.3	
LBRS				*e*S	x	12 19 47.1	
BOQS	**Boqueron**	**2.69**	**327**	*e*P	x	12 19 13.4	
BOQS				*e*S	x	12 19 48.5	
SNJE	**San Jose**	**2.98**	**323**	*e*P	x	12 19 17.3	
SNJE				*e*S	x	12 19 56.3	
PRS1	**Puriscal**	**3.69**	**113**	*e*P	Pn	12 19 15.9	+0.7
LCR2	**La Lucha 2**	**4.07**	**115**	*e*P	Pn	12 19 21.6	+1.7
URSC	**Urasca**	**4.23**	**112**	*e*P	Pn	12 19 24.7	+2.6
URSC				*e*S	Sn	12 20 14.2	+2.0
BUS	**Buena Vista**	**4.37**	**116**	*e*P	Pn	12 19 26.4	+2.6

*ISCJB **13** 13:04:59.1±0.2, 49.152N±0010×677E±002, h0^{km}, Error ellipse: s-maj=1.7km s-min=1.4km az=40.1*
*BNS **13** 13:05:01.7±0.4, 49.18N×688E, h1^{km}, ML2.3*
*STR **13** 13:05:01.8±0.3, 49.15N×690E, h1^{km}±1^{km}, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **13** 13:05:01.2±0.1, 49.17N×685E, h1^{km}, ML3.2/14, Error ellipse: s-maj=1.3km s-min=1.0km az=176.0*
*LEDBW **13** 13:05:01.5±0.3, 49.15N±002×683E±003, h1^{km}, ML2.9, Error ellipse: s-maj=8.0km s-min=4.0km az=95.0*
*NEIC **13** 13:05:01.5, 49.16N×685E, h1^{km}, ML2.8(SZGRF), ML2.8(STR), ML2.9(LEDBW), ML3.2(LDG), After LDG.*
*LDG **13** 13:05:01.5±0.1, 49.16N×685E, h1^{km}, Md3.3/3, Ml3.2/17, Error ellipse: s-maj=1.7km s-min=1.6km az=128.0, Suspected Mining induced.*
*BGR **13** 13:05:01.9±0.5, 49.17N×691E, h1^{km}, ML3.0/11, Error ellipse: s-maj=5.6km s-min=3.3km az=29.0*
*PRU **13** 13:05:05.7, 4909N×7.16E, h0^{km}*
ISC 13 13:05:00.2±0.2**, 49168N**±0010×**679E**±002**, h0**^{km}**, n123, σ1§17**/263**, 1C-2D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.56**	**18**	⇓P*	**Pg**	**13 05 12.3**	**+1.4**
RUP				S*	**Sg**	**13 05 20.4**	**+2.1**
RUP	**Ruppelstein**	**0.56**	**18**	⇓P	**Pg**	**13 05 12.3**	**+1.3**
RUP				S	**Sg**	**13 05 20.4**	**+2.1**
RUP	**Ruppelstein**	**0.56**	**18**	Pg	**Pg**	**13 05 12.1**	**+1.1**
RUP				Sg	**Sg**	**13 05 20.3**	**+2.0**
WLF	**Walferdange**	**0.65**	**320**	*e*Pg	**Pg**	**13 05 15.0**	**+2.4**
	SNR=12						
WLF				*e*Sg	**Sg**	**13 05 23.8**	**+2.8**
WLF	**Walferdange**	**0.65**	**320**	P	**Pg**	**13 05 15.0**	**+2.4**
WLF				S	**Sg**	**13 05 24.4**	**+3.3**
	comp=N,151nm,0.0s						
WLF	**Walferdange**	**0.65**	**320**	*e*Pg	**Pg**	**13 05 14.9**	**+2.3**
WLF				*e*Sg	**Sg**	**13 05 24.5**	**+3.5**
WLF	**Walferdange**	**0.65**	**320**	Pg	**Pg**	**13 05 15.0**	**+2.4**
	SNR=12						
WLF				Sg	**Sg**	**13 05 23.8**	**+2.8**
WLF				S	**Sg**	**13 05 24.3**	**+3.3**
CDF	**Champ du Feu**	**0.82**	**157**	*e*Pn	**Pn**	**13 05 17.6**	**-1.4**
CDF				*e*Sg	**Sg**	**13 05 26.6**	**0.0**
CDF				*e*Sn	**Sg**	**13 05 30.3**	**+3.7**
	comp=N,138nm,0.2s						
CDF	**Champ du Feu**	**0.82**	**157**	*e*Pg	**Pg**	**13 05 16.0**	**+0.1**
CDF				*e*Pn	**Pn**	**13 05 17.6**	**-1.4**
CDF				*e*Sg	**Sg**	**13 05 26.6**	**0.0**
CDF				*e*Sn	**Sg**	**13 05 30.3**	**+3.7**
CDF	**Champ du Feu**	**0.82**	**157**	*e*Pn	**Pn**	**13 05 17.6**	**-1.4**
CDF				*e*Sg	**Sg**	**13 05 26.6**	**0.0**
CDF				*e*Sn	**Sg**	**13 05 30.3**	**+3.7**
	comp=N,69nm,0.2s						
WLS	**Welschbruch**	**0.84**	**154**	P*	**Pb**	**13 05 16.6**	**-1.1**
WLS	**Welschbruch**	**0.84**	**154**	Pg	**Pg**	**13 05 16.4**	**+0.1**
KTD	**Kalmit**	**0.86**	**79**	P*	**Pb**	**13 05 17.0**	**-1.0**
KTD				PmP		13 05 19.4	
KTD	**Kalmit**	**0.86**	**79**	P	**Pg**	**13 05 17.0**	**+0.3**
KTD	**Kalmit**	**0.86**	**79**	Pg	**Pg**	**13 05 16.7**	**0.0**
KTD	**Kalmit**	**0.86**	**79**	Px	Px	13 05 19.4	
ABH	**Alteburg**	**0.87**	**34**	P*	**Pb**	**13 05 17.4**	**-0.7**
ABH				S*	**Sb**	**13 05 29.5**	**-0.8**
ABH	**Alteburg**	**0.87**	**34**	P	**Pg**	**13 05 17.4**	**+0.6**
ABH				S	**Sg**	**13 05 29.5**	**+1.4**
ABH	**Alteburg**	**0.87**	**34**	Pg	**Pg**	**13 05 18.2**	**+1.4**
ABH				Sg	**Sg**	**13 05 30.3**	**+2.2**
ECH	**Echery**	**0.98**	**166**	Pg	**Pg**	**13 05 20.3**	**+1.3**
ECH				Sg	**Sg**	**13 05 33.0**	**+1.2**
ECH				Sg	**Sg**	**13 05 34.1**	**+2.3**
ECH	**Echery**	**0.98**	**166**	Pg	**Pg**	**13 05 19.3**	**+0.3**
ECH				Sg	**Sg**	**13 05 33.0**	**+1.2**
ECH	**Echery**	**0.98**	**166**	Pg	**Pg**	**13 05 19.5**	**+0.5**
RFYF	**Reffroy**	**1.02**	**239**	*e*Pn	**Pn**	**13 05 21.7**	**-0.1**
RFYF				*e*Sg	**Sg**	**13 05 34.0**	**+1.0**
	comp=N,100nm,0.3s						
RFYF	**Reffroy**	**1.02**	**239**	*e*Pg	**Pg**	**13 05 20.9**	**+1.1**
RFYF				*e*Pn	**Pn**	**13 05 21.7**	**-0.1**
RFYF				*e*Sg	**Sg**	**13 05 34.0**	**+1.0**
RFYF	**Reffroy**	**1.02**	**239**	*e*Pn	**Pn**	**13 05 21.7**	**-0.1**
RFYF				*e*Sg	**Sg**	**13 05 34.0**	**+1.0**
	comp=N,50nm,0.3s						
THEF	**They Montfort**	**1.08**	**210**	Pg	**Pg**	**13 05 21.3**	**+0.4**
THEF				Sg	**Sg**	**13 05 36.6**	**+1.6**
THEF	**They Montfort**	**1.08**	**210**	Pg	**Pg**	**13 05 21.4**	**+0.5**
BGG	**Burgeitz**	**1.10**	**19**	*e*Pg	**Pg**	**13 05 21.7**	**+0.4**
BGG				*e*Sg	**Sg**	**13 05 36.5**	**+1.0**
	comp=N,103nm,0.4s						
HILG	**Hillesheim**	**1.13**	**356**	*e*Pg	**Pg**	**13 05 22.8**	**+1.0**
HILG				*i* Sg	**Sg**	**13 05 38.3**	**+1.9**
LIBD	**Limburg**	**1.15**	**152**	P	**Pg**	**13 05 23.4**	**+1.1**
LIBD	**Limburg**	**1.15**	**152**	Pg	**Pg**	**13 05 23.2**	**+0.9**
LIBD				Sg	**Sg**	**13 05 38.5**	**+1.3**
LIBD	**Limburg**	**1.15**	**152**	Pn	**Pn**	**13 05 23.4**	**-0.1**
HAU	**Haudompre**	**1.20**	**194**	*e*Pg	**Pg**	**13 05 23.4**	**+0.2**
HAU				*e*Sg	**Sg**	**13 05 39.8**	**+1.1**
	comp=N,87nm,0.3s						
HAU	**Haudompre**	**1.20**	**194**	*e*Pg	**Pg**	**13 05 23.4**	**+0.2**
HAU				*e*Sg	**Sg**	**13 05 39.8**	**+1.1**
	comp=N,44nm,0.3s						
BFO	**Black Forest**	**1.32**	**129**	P	**Pg**	**13 05 25.4**	**-0.1**
BFO				Pg	**Pg**	**13 05 26.3**	**+0.8**
BFO				S	**Sg**	**13 05 41.3**	**-1.3**
BFO				Sg	**Sg**	**13 05 43.1**	**+0.5**
BFO	**Black Forest**	**1.32**	**129**	*e*Pg	**Pg**	**13 05 25.8**	**+0.3**
BFO				*e*Sg	**Sg**	**13 05 43.1**	**+0.5**
BFO	**Black Forest**	**1.32**	**129**	Pn	**Pg**	**13 05 25.4**	**-0.1**
BFO				Sn	**Sg**	**13 05 41.3**	**-1.3**
BFO	**Black Forest**	**1.32**	**129**	P	**Pg**	**13 05 26.3**	**+0.8**
BFO				S	**Sg**	**13 05 43.1**	**+0.5**
MEZF	**Maizieres J'vi**	**1.33**	**241**	*e*Pg	**Pg**	**13 05 26.6**	**+1.0**
MEZF				*e*Sg	**Sg**	**13 05 43.2**	**+0.3**
	comp=N,66nm,0.4s						
MEZF	**Maizieres J'vi**	**1.33**	**241**	*e*Pn	**Pn**	**13 05 25.3**	**-0.7**
MEZF				*e*Pg	**Pg**	**13 05 26.6**	**+1.0**
MEZF				*e*Sg	**Sg**	**13 05 43.2**	**+0.3**
MEZF	**Maizieres J'vi**	**1.33**	**241**	*e*Pg	**Pg**	**13 05 26.6**	**+1.0**
MEZF				*e*Sg	**Sg**	**13 05 43.2**	**+0.3**
	comp=N,33nm,0.4s						
MOF	**Molkenrain**	**1.34**	**170**	Pg	**Pg**	**13 05 26.2**	**+0.3**
MOF				Sg	**Sg**	**13 05 44.0**	**+0.9**
MOF	**Molkenrain**	**1.34**	**170**	Pn	**Pn**	**13 05 25.9**	**-0.2**
MOF				Sg	**Sg**	**13 05 43.7**	**+0.6**
HINF	**Hinteralfeld**	**1.35**	**178**	*e*Pg	**Pg**	**13 05 26.6**	**+0.5**
HINF				*e*Sg	**Sg**	**13 05 44.2**	**+0.5**
	comp=N,82nm,0.2s						
HINF	**Hinteralfeld**	**1.35**	**178**	*e*Pg	**Pg**	**13 05 26.6**	**+0.5**
HINF				*e*Sg	**Sg**	**13 05 44.2**	**+0.5**
	comp=N,41nm,0.2s						
TOD	**Tromm**	**1.39**	**71**	P	**Pg**	**13 05 24.9**	**-1.9**
TOD				Pg	**Pg**	**13 05 27.3**	**+0.5**
TOD				Sg	**Sg**	**13 05 44.2**	**-0.5**
TOD	**Tromm**	**1.39**	**71**	Pg	**Pg**	**13 05 27.3**	**+0.5**
TOD				Sg	**Sg**	**13 05 44.2**	**-0.6**
TOD	**Tromm**	**1.39**	**71**	Pn	**Pg**	**13 05 24.9**	**-1.9**
TOD				Sg	**Sg**	**13 05 43.9**	**-0.8**
TOD	**Tromm**	**1.39**	**71**	P	**Pg**	**13 05 27.3**	**+0.5**
TOD				S	**Sg**	**13 05 44.2**	**-0.5**
TOD	**Tromm**	**1.39**	**71**	Pn	**Pg**	**13 05 24.9**	**-1.9**
STB	**Steinbach**	**1.43**	**1**	*e*Pg	**Pg**	**13 05 26.9**	**-0.6**
STB				*e*Sg	**Sg**	**13 05 45.6**	**-0.5**
	comp=N,57nm,0.5s						
TNS	**Taunus Mts**	**1.51**	**45**	*e*Pg	**Pg**	**13 05 29.0**	**-0.1**
	SNR=11						
TNS				*e*Sg	**Sg**	**13 05 49.3**	**+0.6**
SFTF	**Sexfontaines**	**1.51**	**231**	*e*Pg	**Pg**	**13 05 30.3**	**+1.2**
SFTF				*e*Sg	**Sg**	**13 05 49.4**	**+0.7**
	comp=N,30nm,0.2s						
SFTF	**Sexfontaines**	**1.51**	**231**	*e*Pn	**Pn**	**13 05 28.4**	**-0.1**
SFTF				*e*Pg	**Pg**	**13 05 30.3**	**+1.2**
SFTF				*e*Sg	**Sg**	**13 05 49.4**	**+0.7**
SFTF	**Sexfontaines**	**1.51**	**231**	*e*Pg	**Pg**	**13 05 30.3**	**+1.2**
SFTF				*e*Sg	**Sg**	**13 05 49.4**	**+0.7**
	comp=N,15nm,0.2s						
KLL	**Kalltalsperre**	**1.51**	**348**	*e*Pg	**Pg**	**13 05 28.0**	**-1.2**
KLL				*e*Sg	**Sg**	**13 05 47.3**	**-1.5**
	comp=N,25nm,0.6s						
FELD	**Feldberg im Sc**	**1.52**	**148**	Pg	**Pg**	**13 05 29.5**	**+0.1**
FELD				Sg	**Sg**	**13 05 48.9**	**-0.2**
FELD	**Feldberg im Sc**	**1.52**	**148**	Pg	**Pg**	**13 05 29.5**	**+0.1**
FELD				Sg	**Sg**	**13 05 48.9**	**-0.2**
FELD	**Feldberg im Sc**	**1.52**	**148**	Pn	**Pn**	**13 05 28.9**	**+0.2**
FELD				Sg	**Sg**	**13 05 48.8**	**-0.3**

MEM	**Membach**	**1.53**	**341**	P	**Pn**	**13 05 28.7**	**0.0**
BCLA	**Clavier**	**1.58**	**323**	P	**Pn**	**13 05 29.8**	**+0.3**
BCLA	**Clavier**	**1.58**	**323**	P	**Pn**	**13 05 29.7**	**+0.3**
GIVF	**Givet**	**1.58**	**307**	*e*Pg	**Pg**	**13 05 31.8**	**+1.2**
GIVF				*e*Sn	**Sn**	**13 05 48.5**	**-2.2**
GIVF				*e*Sg	**Sg**	**13 05 52.6**	**+1.5**
	comp=N,37nm,0.3s						
GIVF	**Givet**	**1.58**	**307**	*e*Pn	**Pn**	**13 05 30.0**	**+0.5**
GIVF				*e*Pg	**Pg**	**13 05 31.8**	**+1.2**
GIVF				*e*Sn	**Sn**	**13 05 48.5**	**-2.2**
GIVF				*e*Sg	**Sg**	**13 05 52.6**	**+1.5**
GIVF	**Givet**	**1.58**	**307**	*e*Pg	**Pg**	**13 05 31.8**	**+1.2**
GIVF				*e*Sn	**Sn**	**13 05 48.5**	**-2.2**
GIVF				*e*Sg	**Sg**	**13 05 52.6**	**+1.5**
	comp=N,18nm,0.3s						
STU	**Stuttgart**	**1.63**	**103**	*e*Sg	**Sg**	**13 05 52.0**	**-0.7**
HGN	**Heimansgroeve**	**1.69**	**341**⇑	*i*Pg	**Pg**	**13 05 33.5**	**+0.8**
	comp=N,17nm,0.4s						
HGN				*e*Sg	**Sg**	**13 05 52.7**	**-1.9**
BBS	**Basel-Blauen**	**1.77**	**164**	Pg	**Pg**	**13 05 34.0**	**-0.2**
BBS	**Basel-Blauen**	**1.77**	**164**	Pn	**Pn**	**13 05 33.6**	**+1.5**
BBS	**Basel-Blauen**	**1.77**	**164**	Pg	**Pg**	**13 05 34.0**	**-0.1**
LOMF	**Lomont**	**1.82**	**179**	Pg	**Pg**	**13 05 35.1**	**+0.1**
LOMF				Sg	**Sg**	**13 05 59.0**	**+0.4**
LOMF	**Lomont**	**1.82**	**179**	Pn	**Pn**	**13 05 34.6**	**+1.9**
BUCH	**Bad Urach**	**1.84**	**112**	Pg	**Pg**	**13 05 35.7**	**+0.3**
BUCH				Sg	**Sg**	**13 06 00.4**	**+1.1**
HOBG	**Hohbusch**	**1.85**	**11**	*e*Pg	**Pg**	**13 05 32.6**	**-3.1**
HOBG				*e*Sg	**Sg**	**13 05 55.2**	**-4.4**
SIND	**Sindeldorf**	**1.85**	**83**	Pg	**Pg**	**13 05 35.5**	**-0.2**
SIND				Sg	**Sg**	**13 05 59.8**	**0.0**
GUT	**Gutenstein**	**1.89**	**125**	Pg	**Pg**	**13 05 36.8**	**+0.3**
GUT				Sg	**Sg**	**13 06 00.1**	**-1.0**
BAIF	**Baives**	**1.90**	**299**	*e*Pg	**Pg**	**13 05 37.3**	**+0.7**
BAIF				*e*Sn	**Sn**	**13 05 56.4**	**-2.1**
BAIF				*e*Sg	**Sg**	**13 06 01.6**	**+0.3**
	comp=N,11nm,0.2s						
BAIF	**Baives**	**1.90**	**299**	*e*Pn	**Pn**	**13 05 34.4**	**+0.5**
BAIF				*e*Pg	**Pg**	**13 05 37.3**	**+0.7**
BAIF				*e*Sn	**Sn**	**13 05 56.4**	**-2.1**
BAIF				*e*Sg	**Sg**	**13 06 01.6**	**+0.3**
BAIF	**Baives**	**1.90**	**299**	*e*Pg	**Pg**	**13 05 37.3**	**+0.7**
BAIF				*e*Sn	**Sn**	**13 05 56.4**	**-2.1**
BAIF				*e*Sg	**Sg**	**13 06 01.6**	**+0.3**
	comp=N,5.3nm,0.2s						
SISB	**Singen-Schiene**	**2.07**	**135**	P*	**Pb**	**13 05 45.1**	**+6.4**
SISB				S*	**Sb**	**13 06 08.5**	**+3.5**
SNF	**Seneffe**	**2.11**	**311**	P	**Pn**	**13 05 37.6**	**+0.9**
SNF	**Seneffe**	**2.11**	**311**	P	**Pn**	**13 05 37.5**	**+0.8**
CABF	**La Chapelle**	**2.60**	**191**	*e*Pg	**Pg**	**13 05 49.2**	**-0.9**
CABF				*e*Sn	**Sn**	**13 06 14.4**	**-1.4**
CABF				*e*Sg	**Sg**	**13 06 23.3**	**-0.5**
	comp=N,81nm,0.8s						
CABF	**La Chapelle**	**2.60**	**191**	*e*Pn	**Pn**	**13 05 42.8**	**-0.7**
CABF				*e*Pg	**Pg**	**13 05 49.2**	**-0.9**
CABF				*e*Sn	**Sn**	**13 06 14.4**	**-1.4**
CABF				*e*Sg	**Sg**	**13 06 23.3**	**-0.5**
CABF	**La Chapelle**	**2.60**	**191**	*e*Pg	**Pg**	**13 05 49.2**	**-0.9**
CABF				*e*Sn	**Sn**	**13 06 14.4**	**-1.4**
CABF				*e*Sg	**Sg**	**13 06 23.3**	**-0.5**
	comp=N,41nm,0.8s						
UBBA	**Unterbreizbach**	**2.65**	**50**	*e*Sg	**Sg**	**13 06 23.7**	**-1.6**
UBR	**Ueberruh**	**2.66**	**123**	P	**Pn**	**13 05 46.1**	**+1.8**
UBR				S	**Sn**	**13 06 18.1**	**+0.8**
UBR	**Ueberruh**	**2.66**	**123**	P	**Pn**	**13 05 46.1**	**+1.8**
UBR				S	**Sn**	**13 06 18.1**	**+0.8**
LOR	**Lormes**	**2.73**	**227**	*e*Pg	**Pg**	**13 05 52.6**	**+0.1**
LOR				*e*Sn	**Sn**	**13 06 17.2**	**-1.8**
LOR				*e*Sg	**Sg**	**13 06 28.2**	**+0.3**
	comp=N,30nm,0.3s						
LOR	**Lormes**	**2.73**	**227**	*e*Pn	**Pn**	**13 05 44.5**	**-0.8**
LOR				*e*Pg	**Pg**	**13 05 52.6**	**+0.1**
LOR				*e*Sn	**Sn**	**13 06 17.2**	**-1.8**
LOR				*e*Sg	**Sg**	**13 06 28.2**	**+0.3**
LOR	**Lormes**	**2.73**	**227**	*e*Pg	**Pg**	**13 05 52.6**	**+0.1**
LOR				*e*Sn	**Sn**	**13 06 17.2**	**-1.8**
LOR				*e*Sg	**Sg**	**13 06 28.2**	**+0.3**
	comp=N,15nm,0.3s						
WTSB	**Winterswijk**	**2.80**	**0**	*e*Pg	**Pg**	**13 05 56.5**	**+2.6**
WTSB				*e*Sg	**Sg**	**13 06 28.9**	**-1.3**
GRF	**Grafenberg Arr**	**2.94**	**78**	*e*Sg	**Sg**	**13 06 33.0**	**-1.6**
SSF	**Saint Saulge**	**3.05**	**227**	*e*Pg	**Pg**	**13 05 57.9**	**-0.7**
SSF				*e*Sn	**Sn**	**13 06 24.3**	**-2.5**
SSF				*e*Sg	**Sg**	**13 06 37.5**	**-0.6**
	comp=N,24nm,0.5s						
SSF	**Saint Saulge**	**3.05**	**227**	*e*Pn	**Pn**	**13 05 48.6**	**-1.0**
SSF				*e*Pg	**Pg**	**13 05 57.9**	**-0.7**
SSF				*e*Sn	**Sn**	**13 06 24.3**	**-2.5**
SSF				*e*Sg	**Sg**	**13 06 37.5**	**-0.6**
SSF	**Saint Saulge**	**3.05**	**227**	*e*Pg	**Pg**	**13 05 57.9**	**-0.7**
SSF				*e*Sn	**Sn**	**13 06 24.3**	**-2.5**
SSF				*e*Sg	**Sg**	**13 06 37.5**	**-0.6**
	comp=N,12nm,0.5s						
SMF	**Signal de Mont**	**3.21**	**219**	*e*Pg	**Pg**	**13 06 02.4**	**+0.7**
SMF				*e*Sn	**Sn**	**13 06 27.4**	**-3.4**
SMF				*e*Sg	**Sg**	**13 06 43.4**	**+0.1**
	comp=N,16nm,0.3s						
SMF	**Signal de Mont**	**3.21**	**219**	*e*Pn	**Pn**	**13 05 50.0**	**-1.9**
SMF				*e*Pg	**Pg**	**13 06 02.4**	**+0.7**
SMF				*e*Sn	**Sn**	**13 06 27.4**	**-3.4**
SMF				*e*Sg	**Sg**	**13 06 43.4**	**+0.1**
SMF	**Signal de Mont**	**3.21**	**219**	*e*Pg	**Pg**	**13 06 02.4**	**+0.7**
SMF				*e*Sn	**Sn**	**13 06 27.4**	**-3.4**
SMF				*e*Sg	**Sg**	**13 06 43.4**	**+0.1**
	comp=N,8.0nm,0.3s						
AVF	**Avril sur Loir**	**3.31**	**225**	*e*Pg	**Pg**	**13 06 03.5**	**-0.2**
AVF				*e*Sn	**Sn**	**13 06 30.5**	**-2.9**
AVF				*e*Sg	**Sg**	**13 06 47.0**	**+0.3**
	comp=N,15nm,0.5s						
AVF	**Avril sur Loir**	**3.31**	**225**	*e*Pn	**Pn**	**13 05 52.3**	**-1.0**
AVF				*e*Pg	**Pg**	**13 06 03.5**	**-0.2**
AVF				*e*Sn	**Sn**	**13 06 30.5**	**-2.9**
AVF				*e*Sg	**Sg**	**13 06 47.0**	**+0.3**
AVF	**Avril sur Loir**	**3.31**	**225**	*e*Pg	**Pg**	**13 06 03.5**	**-0.2**
AVF				*e*Sn	**Sn**	**13 06 30.5**	**-2.9**
AVF				*e*Sg	**Sg**	**13 06 47.0**	**+0.3**
	comp=N,7.7nm,0.5s						
MOX	**Moxa**	**3.45**	**63**	*e*Pg	**Pg**	**13 06 08.8**	**+2.5**
MOX				*e*Sg	**Sg**	**13 06 47.9**	**-3.2**
MOX				*e*SG	**Sg**	**13 06 48.4**	**-2.7**
MOX	**Moxa**	**3.45**	**63**	*e*PG	**Pg**	**13 06 08.8**	**+2.5**
CLZ	**Clausthal**	**3.52**	**39**	*e*Pn	**Pn**	**13 05 55.8**	**-0.3**
	SNR=1.4						
CLZ				*e*Sn	**Sn**	**13 06 35.7**	**-2.8**
LPG	**La Plagne**	**3.67**	**180**	*e*Pg	**Pg**	**13 06 09.3**	**-1.3**
LPG	**La Plagne**	**3.67**	**180**	*e*Pn	**Pn**	**13 06 00.7**	**+2.5**
LPG				*e*Pg	**Pg**	**13 06 09.3**	**-1.3**
LPG	**La Plagne**	**3.67**	**180**	*e*Pg	**Pg**	**13 06 09.3**	**-1.3**
BGF	**Bois d'Agland**	**3.72**	**227**	*e*Pg	**Pg**	**13 06 10.8**	**-0.8**
BGF				*e*Sn	**Sn**	**13 06 41.0**	**-2.5**
BGF				*e*Sg	**Sg**	**13 06 59.4**	**-0.4**
	comp=N,28nm,0.4s						
BGF	**Bois d'Agland**	**3.72**	**227**	*e*Pn	**Pn**	**13 05 58.6**	**-0.3**
BGF				*e*Pg	**Pg**	**13 06 10.8**	**-0.8**
BGF				*e*Sn	**Sn**	**13 06 41.0**	**-2.5**
BGF				*e*Sg	**Sg**	**13 06 59.4**	**-0.4**
BGF	**Bois d'Agland**	**3.72**	**227**	*e*Pg	**Pg**	**13 06 10.8**	**-0.8**
BGF				*e*Sn	**Sn**	**13 06 41.0**	**-2.5**
BGF				*e*Sg	**Sg**	**13 06 59.4**	**-0.4**
	comp=N,14nm,0.4s						
WERD	**Werda**	**3.79**	**68**	*e*Sg	**Sg**	**13 06 59.9**	**-2.3**
NKC	**Novy Kostel**	**3.82**	**72**	*e*PG	**Pg**	**13 06 15.1**	**+1.6**
NKC				*e*SG	**Sg**	**13 07 00.7**	**-2.4**
TANN	**Tannenbergstha**	**3.88**	**69**	*e*Sg	**Sg**	**13 07 00.4**	**-4.5**
ORIF	**Oris-en-Rattie**	**4.30**	**189**	*e*Pg	**Pg**	**13 06 21.7**	**-0.8**
ORIF				*e*Sn	**Sn**	**13 06 55.3**	**-2.3**
ORIF				*e*Sg	**Sg**	**13 07 18.0**	**-0.2**
	comp=N,7.6nm,0.5s						
ORIF	**Oris-en-Rattie**	**4.30**	**189**	*e*Pn	**Pn**	**13 06 06.7**	**-0.1**
ORIF				*e*Pg	**Pg**	**13 06 21.7**	**-0.8**
ORIF				*e*Sn	**Sn**	**13 06 55.3**	**-2.3**
ORIF				*e*Sg	**Sg**	**13 07 18.0**	**-0.2**
ORIF	**Oris-en-Rattie**	**4.30**	**189**	*e*Pg	**Pg**	**13 06 21.7**	**-0.8**
ORIF				*e*Sn	**Sn**	**13 06 55.3**	**-2.3**
ORIF				*e*Sg	**Sg**	**13 07 18.0**	**-0.2**
	comp=N,3.8nm,0.5s						
KHC	**Kasperske Hory**	**4.46**	**88**	*e*PG	**Pg**	**13 06 26.5**	**+0.9**
KHC				*e*SG	**Sg**	**13 07 19.1**	**-4.2**
CLL	**Collm**	**4.53**	**59**	*e*SG	**Sg**	**13 07 27.0**	**+1.4**
GEC2	**GERESS Array S**	**4.56**	**91**	*e*Pn	**Pn**	**13 06 10.7**	**+0.3**
	SNR=4.6						
PRU	**Pruhonice**	**5.11**	**78**	*e*SG	**Sg**	**13 07 38.4**	**-5.9**
MFF	**Saint Martin d**	**5.33**	**244**	*e*Pn	**Pn**	**13 06 20.0**	**-0.9**
MFF				*e*Sn	**Sn**	**13 07 15.9**	**-7.1**
	comp=N,3.9nm,0.3s						
MFF	**Saint Martin d**	**5.33**	**244**	*e*Pn	**Pn**	**13 06 20.0**	**-0.9**
MFF				*e*Sn	**Sn**	**13 07 15.9**	**-7.1**
	comp=N,2.0nm,0.3s						

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*ISCJB **13** 13:20:35.3±0.6, 3589N±006×1043E±004, h10km, Error ellipse: s-maj=8.8km s-min=4.1km az=173.5*
*NEIC **13** 13:20:36.7±1.3, 3584N×1051E, h10km, MG4.2(MDD), Error ellipse: s-maj=25.2km s-min=4.9km az=186.0*
NEIC Felt at Hammam Sousse.
*CSEM **13** 13:20:37.9±0.1, 3589N×1039E, h35km, MD3.3, Error ellipse: s-maj=4.6km s-min=2.2km az=3.0*
*TUN **13** 13:20:37.8, 3587N×1034E, h17km, MD3.3*
ISC 13 13:20:36.4±0.6**, 3582N**±006×**1048E**±003**, h10**km**, n22, σ1§07**/32**, Tunisia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZGN	**Zaghouan**	**0.63**	**331**	*i* P	**Pg**	**13 20 49.0**	**+0.4**
TROT	**Trozza**	**0.76**	**251**	*i* P	**Pg**	**13 20 51.5**	**+0.4**
MBZ	**Menzel Bouzelf**	**0.88**	**10**	*i* P	**Pg**	**13 20 55.0**	**+1.7**
KCHT	**Kechabta**	**1.36**	**342**	*i* P	**Pn**	**13 21 00.0**	**-1.5**
GHAT	**Ghardimaou**	**1.89**	**292**	*i* P	**Pn**	**13 21 09.0**	**+0.3**
BERT	**Berda**	**1.98**	**218**	*i* P	**Pn**	**13 21 10.0**	**0.0**
RAFF	**Raffo Rosso**	**3.43**	**65**	Pn	**Pn**	**13 21 29.9**	**0.0**
RAFF				Sn	**Sn**	**13 22 08.1**	**-2.5**
CSLB	**Castelbuono**	**3.56**	**53**	Pn	**Pn**	**13 21 32.5**	**+0.7**
CSLB				Sn	**Sn**	**13 22 16.2**	**+2.3**
GIB	**Gibilmanna**	**3.58**	**52**	Pn	**Pn**	**13 21 32.7**	**+0.8**
GIB				Sn	**Sn**	**13 22 15.6**	**+1.4**
HMDC	**Modica**	**3.65**	**71**	Pn	**Pn**	**13 21 32.2**	**-0.8**
HVZN	**Vizzini**	**3.67**	**67**	Pn	**Pn**	**13 21 32.9**	**-0.3**
VSL	**Villasalto**	**3.77**	**347**	Pn	**Pn**	**13 21 34.0**	**-0.7**
HAVL	**Avola**	**3.92**	**72**	Pn	**Pn**	**13 21 36.1**	**-0.5**
SSY	**Sortino**	**3.93**	**69**	Pn	**Pn**	**13 21 36.7**	**-0.1**
SSY				Sn	**Sn**	**13 22 21.2**	**-1.8**
ETOS	**Mallorca**	**7.24**	**305**	P	**Pn**	**13 22 22.3**	**+0.1**
ETOS				S	**Sn**	**13 23 43.0**	**-1.4**
ETOS	**Mallorca**	**7.24**	**305**	P	**Pn**	**13 22 22.3**	**+0.1**
ETOS				S	**Sn**	**13 23 43.0**	**-1.4**
EIBI	**Ibiza**	**7.94**	**296**	P	**Pn**	**13 22 32.8**	**+0.9**
EIBI				S	**Sn**	**13 24 01.7**	**-0.1**
EIBI	**Ibiza**	**7.94**	**296**	P	**Pn**	**13 22 32.8**	**+0.9**
EIBI				S	**Sn**	**13 24 01.7**	**-0.1**
ECHE	**Chera**	**9.82**	**296**	P	**Pn**	**13 22 58.4**	**+0.8**
	1.7nm,0.5s						
EGRA	**Graus**	**10.15**	**312**	P	**Pn**	**13 23 02.5**	**+0.4**
	2.5nm,0.3s						
EGRA				S	**Sn**	**13 24 54.1**	**-1.9**
EGRA	**Graus**	**10.15**	**312**	P	**Pn**	**13 23 02.5**	**+0.3**
	2.5nm,0.3s						
EGRA				S	**Sn**	**13 24 54.1**	**-1.9**
EBIE	**Bielsa**	**10.54**	**314**	P	**Pn**	**13 23 08.5**	**+0.9**
	1.7nm,0.4s						

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*NIED **13** 13:21:00, 2960N×130.10E, h8km, Mw4.5 Best double couple: M₀6.26000×10^15 NP1:φs287.00000°, δ55.00000°, λ-101.00000°. NP2:φs126.00000°, δ36.00000°, λ-75.00000°.*
*IDC **13** 13:21:50.5±0.6, 2957N×13004E, h0km, mb4.3/14, mb1 4.5/17, mb1mx4.4/25, mbtmp4.4/17, ML4.0/3, MS3.7/7, Ms1 3.7/7, ms1mx3.4/30, Error ellipse: s-maj=21.8km s-min=13.2km az=84.0*
*ISCJB **13** 13:21:51.9±0.7, 2953N±003×13022E±004, h21km±5km, mb4.5/36, MS3.9/8, Error ellipse: s-maj=6.4km s-min=4.1km az=36.4*
*JMA **13** 13:21:52.7±0.2, 2958N×130.15E, h26km±3km, M4.5*
JMA Felt II J1.
*MOS **13** 13:21:53.1±0.9, 2957N×130.15E, h35km, mb5.2/5, Error ellipse: s-maj=15.1km s-min=9.2km az=87.5*
*BJI **13** 13:21:55.2, 2933N×13027E, h55km, mB4.7, mb4.4, Ms4.2, Msz4.0*
*NEIC **13** 13:21:55.6±0.8, 2954N×13007E, h35km±8km, mb4.7/18, MW4.5(NIED), Error ellipse: s-maj=9.1km s-min=5.7km az=98.0*
NEIC Recorded [2 JMA] on Kuchino-shima and Nakano-shima; [1 JMA] on Amami-oshima.
ISC 13 13:21:53.5±0.9**, 2957N**±002×**13011E**±004**, h19**km±5km**, n84, σ1§13**/88**, mb4.5**/36**, MS3.9**/8**, 2C-2D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.34**	**322**	P	**Pg**	**13 22 00.4**	**-0.3**
JNN				S	**Sg**	**13 22 06.2**	**+0.6**
JKC	**Kuchinoerabu**	**0.89**	**5**	P	**Pb**	**13 22 09.1**	**-1.2**
JKC				S	**Sb**	**13 22 21.4**	**-0.4**
JAM	**Amami Oshima**	**1.24**	**201**	P	**Pn**	**13 22 14.1**	**-1.7**
JAM				S	**Sb**	**13 22 30.2**	**-1.7**
JZK	**Kikaishima**	**1.26**	**186**	P	**Pn**	**13 22 16.3**	**+0.3**
JZK				*e*S	**Sb**	**13 22 34.8**	**+2.4**
JTN	**Tanegashima 3**	**1.31**	**35**	P	**Pn**	**13 22 15.3**	**-1.5**
JTSR	**Tashiro 2**	**1.73**	**24**	P	**Pn**	**13 22 21.3**	**-1.3**
JTSR				*e*S	**Sn**	**13 22 43.2**	**-1.0**
JOW	**Kunigami**	**3.18**	**211**	Pn	**Pn**	**13 22 43.1**	**+0.8**
	48nm,0.3s,baz=85,slow=16,SNR=24						
JOW				Sn	**Sn**	**13 23 19.3**	**-0.5**
	60nm,0.3s,baz=163,slow=23,SNR=3.8						
JOW				LR	LR	13 24 02.9	
	comp=Z,1µm,19.9s,baz=283,slow=42						
MAJO	**Matsushiro**	**9.71**	**42**	*e*P	**Pn**	**13 24 12.5**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,23nm,0.8s						
MAJO	**Matsushiro**	**9.71**	**42**	*e*Pn	**Pn**	**13 24 12.5**	**+0.4**
	comp=Z,23nm,0.8s						
MAT	**Matsushiro**	**9.71**	**42**	P	**Pn**	**13 24 13.4**	**+1.2**
MAT				*e*S	**Sn**	**13 26 01.7**	**+0.9**
MAT	**Matsushiro**	**9.71**	**42**	*e*P	**Pn**	**13 24 13.0**	**+0.8**
MJAR	**Matsushiro Arr**	**9.71**	**42**	Pn	**Pn**	**13 24 13.6**	**+1.4**
	comp=Z,1.8nm,0.3s,baz=237,slow=14,SNR=18						
CBIJ	**Chichi jima**	**10.92**	**100**	LR	LR	13 28 00.8	
	comp=Z,163nm,18.1s,baz=138,slow=34						
CN2	**Changchun**	**14.68**	**347**	*e*P	**Pn**	**13 25 28.3**	**+8.2**
CN2				AMB	AMB		
	comp=Z,40nm,1.1s						
BJT	**Baijiatuau**	**15.47**	**316**	*e*P	**Pn**	**13 25 35.4**	**+4.9**
BJT				pmax	pmax		
	comp=Z,45nm,1.3s						
BJT	**Baijiatuau**	**15.47**	**316**	*e*P	**Pn**	**13 25 35.4**	**+4.9**
	comp=Z,45nm,1.3s						
BJI	**Beijing**	**15.47**	**316**	P	**Pn**	**13 25 34.3**	**+3.7**
BJI				AMB	AMB		
	comp=Z,20nm,0.8s						
ASAJ	**Asahikawa**	**17.59**	**31**	P	**Pn**	**13 25 56.6**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=238,slow=20,SNR=7.9						
ASAJ				LR	LR	13 32 24.7	
	comp=Z,156nm,20.2s,baz=84,slow=36						
ASAJ	**Asahikawa**	**17.59**	**31**	P	**Pn**	**13 25 56.6**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,157nm,20.3s						
XAN	**Xi'an**	**18.55**	**289**	P	**Pn**	**13 26 10.8**	**+1.6**
XAN				AMB	AMB		
	comp=Z,26nm,1.3s						
HHC	**Hu-ho-hao-te**	**18.84**	**312**	*e*P	**Pn**	**13 26 16.4**	**+3.7**
HHC				AP	pP	13 26 26.3	+8.8
HHC				XP	sP	13 26 32.3	+12
HHC				PP		13 26 33.8	
HHC				S	**Sn**	**13 29 42.6**	**-0.4**
HHC				XS	sS	13 29 57.8	+3.8
HHC				AMB	AMB		
	comp=Z,37nm,0.4s						
HHC				AMB	AMB		
	comp=Z,126nm,4.3s						
HHC				LR	LR		
	comp=N,467nm,6.0s						
HHC				LR	LR		
	comp=E,324nm,7.2s						
HHC				LR	LR		
	comp=Z,293nm,9.8s						
KLR	**Kul'dur**	**19.67**	**3**	*e*P	**Pn**	**13 26 18.0**	**-4.8**
BTO	**Baotou**	**19.74**	**309**	*e*P	**Pn**	**13 26 22.0**	**-1.6**
YSS	**Yuzh-Sakhalins**	**19.95**	**26**	*e*P	**Pn**	**13 26 29.0**	**+3.0**
YSS	**Yuzh-Sakhalins**	**19.95**	**26**	*e*P	**Pn**	**13 26 26.7**	**+0.6**
	comp=Z,26nm,0.9s						
HIA	**Hailar**	**21.20**	**341**	*e*P	**P**	**13 26 39.9**	**+2.0**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
HIA	**Hailar**	**21.20**	**341**	*e*P	**P**	**13 26 39.9**	**+2.0**
	comp=Z,5.1nm,0.4s,mb4.2						
QIZ	**Qiongzhong**	**21.21**	**245**	*e*P	**P**	**13 26 43.0**	**+4.9**
QIZ				AMB	AMB		
	comp=Z,26nm,2.4s,mb4.1						
QIZ				AMB	AMB		
	comp=Z,369nm,3.3s						
QIZ				LR	LR		
	comp=N,192nm,21.7s,MS3.5						
QIZ				LR	LR		
	comp=E,112nm,19.7s,MS3.5						
CD2	**Chengdu**	**22.79**	**280**⇑	*i*P	**P**	**13 26 54.9**	**0.0**
CD2				AP		13 27 06.3	
CD2				XP	sP	13 27 11.9	+9.2
CD2				PP		13 27 25.9	
CD2				S	**S**	**13 30 57.9**	**-5.4**
CD2				XS	sS	13 31 16.9	+4.4
CD2				SS		13 31 43.9	
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
CD2				LR	LR		
	comp=E,310nm,10.7s						
CD2				LR	LR		
	comp=Z,25nm,9.5s						
LZH	**Lanzhou**	**22.97**	**293**	*e*P	**P**	**13 26 57.5**	**+0.7**
LZH				AP		13 27 09.1	
LZH				XP	sP	13 27 12.5	+7.9
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,125nm,5.1s						
LZH				LR	LR		
	comp=N,255nm,13.5s						
LZH				LR	LR		
	comp=Z,414nm,17.3s,MS3.9						
KMI	**Kunming**	**24.69**	**266**	P	**P**	**13 27 14.5**	**+1.3**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.2						
ULN	**Ulaanbaatar**	**25.48**	**322**⇓	*e*P	**P**	**13 27 20.6**	**+0.2**
ULN	**Ulaanbaatar**	**25.48**	**322**	*e*P	**P**	**13 27 20.3**	**-0.1**
	comp=Z,4.8nm,0.8s,mb4.1						
SONM	**Songino Array**	**25.82**	**322**	P	**P**	**13 27 23.0**	**-0.5**
	comp=Z,1.9nm,0.6s,mb3.8,baz=140,slow=9.7,SNR=11						
SONM				LR	LR	13 37 29.6	
	comp=Z,145nm,18.6s,MS3.5,baz=124,slow=36						
GTA	**Gaotai**	**26.72**	**300**	*e*P	**P**	**13 27 34.1**	**+2.5**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.2						
ZAK	**Zakamensk**	**28.97**	**323**	*e*P	**P**	**13 27 49.9**	**-1.8**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.6						
PET	**Petropavlovsk**	**31.39**	**34**	*e*P	**P**	**13 28 17.3**	**+4.1**
PET				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.0						
PET	**Petropavlovsk**	**31.39**	**34**	*e*P	**P**	**13 28 17.2**	**+4.1**
	comp=Z,29nm,1.1s,mb5.0						
YAK	**Yakutsk**	**32.47**	**360**	*e*P	**P**	**13 28 22.7**	**+0.1**
YAK				pmax	pmax		
	comp=Z,13nm,0.3s,mb5.2						
YAK	**Yakutsk**	**32.47**	**360**	*e*P	**P**	**13 28 22.7**	**+0.1**
	comp=Z,13nm,0.3s,mb5.2						
WMQ	**Urumqi**	**36.46**	**305**	P	**P**	**13 29 00.6**	**+3.5**
WMQ				AP	pP	13 29 12.8	+10
WMQ				XP	sP	13 29 18.1	+13
WMQ				PP	PP	13 30 26.0	+5.8
WMQ				S	**S**	**13 34 39.6**	**+1.6**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,88nm,4.0s						
WMQ				LR	LR		
	comp=N,323nm,13.2s,MS4.4						
WMQ				LR	LR		
	comp=E,242nm,12.1s,MS4.4						
WMQ				LR	LR		
	comp=Z,342nm,13.7s,MS4.3						
MKAR	**Makanchi Array**	**40.66**	**309**	P	**P**	**13 29 32.3**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.5,baz=94,slow=10.0,SNR=5.5						
MKAR				PcP	PcP	13 31 35.4	+1.4
	comp=Z,0.4nm,0.5s,baz=75,slow=6.4,SNR=3.6						
MKAR	**Makanchi Array**	**40.66**	**309**	P	**P**	**13 29 32.3**	**-0.1**
MKAR				PcP	PcP	13 31 35.4	+1.4
PMG	**Port Moresby**	**42.09**	**154**	LR	LR	13 44 06.4	
	comp=Z,100nm,20.0s,MS3.7,baz=147,slow=32						
KURK	**Kurchatov**	**43.63**	**314**	*i* P	**P**	**13 29 56.6**	**0.0**
KURK	**Kurchatov**	**43.63**	**314**	*e*P	**P**	**13 29 56.2**	**-0.5**
	comp=Z,5.3nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**47.59**	**186**	*e*P	**P**	**13 30 28.0**	**0.0**
	comp=Z,21nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**47.59**	**186**	P	**P**	**13 30 27.9**	**-0.1**
	comp=Z,14nm,0.7s,mb5.1,baz=8.4,slow=9.2,SNR=15						
BVAR	**Borovoye Array**	**48.96**	**316**	P	**P**	**13 30 37.5**	**-1.0**
	comp=Z,3.6nm,0.7s,mb4.5,baz=85,slow=8.0,SNR=6.6						
WRAB	**Tennant Creek**	**49.39**	**175***c*	*i*P	**P**	**13 30 41.5**	**-0.3**
WRAB	**Tennant Creek**	**49.39**	**175**	*e*P	**P**	**13 30 41.4**	**-0.5**
	comp=Z,40nm,0.8s,mb5.5						
WRA	**Warramunga Arr**	**49.40**	**175**	P	**P**	**13 30 41.4**	**-0.5**
	comp=Z,24nm,0.8s,mb5.3,baz=351,slow=8.2,SNR=55						
WB2	**Warramunga Arr**	**49.40**	**175**	*e*P	**P**	**13 30 41.6**	**-0.3**
ZRNK	**Zerenda**	**49.79**	**316**	*e*P	**P**	**13 30 43.9**	**-1.0**
AS31	**Alice Springs**	**53.06**	**176**	*e*P	**P**	**13 31 09.6**	**+0.3**
ASAR	**Alice Springs**	**53.06**	**176**	P	**P**	**13 31 09.4**	**0.0**
	comp=Z,7.2nm,0.6s,mb4.8,baz=5.2,slow=14,SNR=20						
ASPA	**Alice Springs**	**53.06**	**176**	*e*P	**P**	**13 31 09.6**	**+0.2**
FORT	**Forrest**	**60.05**	**182**	*e*P	**P**	**13 31 58.2**	**-0.9**
	comp=Z,30nm,0.7s,mb5.4						
STKA	**Stephens Creek**	**62.08**	**169**	P	**P**	**13 32 12.9**	**0.0**
	comp=Z,4.4nm,0.7s,mb4.7,baz=347,slow=8.5,SNR=6.2						
STKA	**Stephens Creek**	**62.08**	**169**	*e*P	**P**	**13 32 12.3**	**-0.6**
DZM	**Mont Dzumac**	**62.12**	**142**	P	**P**	**13 32 14.0**	**+0.8**
	comp=Z,8.2nm,0.8s,mb4.9,baz=14,slow=7.8,SNR=6.1						
INK	**Inuvik**	**65.17**	**24**	*e*P	**P**	**13 32 32.3**	**-1.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**65.17**	**24**	*e*P	**P**	**13 32 32.3**	**-1.0**
	comp=Z,1.4nm,0.6s,mb4.2						
ARCES	**ARCESS Array B**	**67.52**	**338**	LR	LR	14 06 54.9	
	comp=Z,158nm,21.0s,MS4.2,baz=81,slow=40						
OBN	**Obninsk**	**68.23**	**322***d*	*e*P	**P**	**13 32 50.4**	**-2.4**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,12.0s,MS4.3						
FINES	**FINESS Array B**	**70.79**	**330**	P	**P**	**13 33 07.0**	**-1.6**
	comp=Z,1.4nm,0.7s,mb4.0,baz=63,slow=7.4,SNR=7.1						
RES	**Resolute Bay**	**71.96**	**11**	*e*P	**P**	**13 33 14.3**	**-1.4**
RES				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
RES	**Resolute Bay**	**71.96**	**11**	*e*P	**P**	**13 33 14.3**	**-1.4**
	comp=Z,7.7nm,0.8s,mb4.7						
YKA	**Yellowknife Ar**	**74.80**	**26**	P	**P**	**13 33 34.5**	**+2.0**
	comp=Z,2.9nm,0.9s,mb4.2,baz=308,slow=5.8,SNR=5.1						
YKA	**Yellowknife Ar**	**74.80**	**26**	P	**P**	**13 33 34.5**	**+2.0**
BRTR	**Keskin Array B**	**76.30**	**308**	P	**P**	**13 33 41.8**	**+0.7**
	comp=Z,1.1nm,0.8s,mb3.9,baz=96,slow=5.0,SNR=6.2						
SUMG	**Summit**	**77.82**	**356**	*e*P	**P**	**13 33 51.2**	**+1.6**
	comp=Z,4.1nm,0.6s,mb4.5						
FFC	**Flin Flon**	**84.87**	**27**	*e*P	**P**	**13 34 26.1**	**-0.8**
FFC				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.0						
FFC	**Flin Flon**	**84.87**	**27**	*e*P	**P**	**13 34 26.1**	**-0.9**
	comp=Z,8.4nm,0.7s,mb5.0						
DLMT	**Dillon**	**86.18**	**39**	*e*P	**P**	**13 34 34.0**	**+0.6**
	comp=Z,11nm,1.2s,mb5.0						
HLID	**Hailey**	**86.28**	**41**	*e*P	**P**	**13 34 33.9**	**-0.1**
	comp=Z,2.2nm,0.9s,mb4.4						
NVAR	**Mina Array Bea**	**87.01**	**47**	P	**P**	**13 34 37.4**	**-0.2**
	comp=Z,0.3nm,0.6s,mb3.7,baz=291,slow=4.6,SNR=4.1						
IMW	**Indian Meadow**	**88.03**	**39**	*e*P	**P**	**13 34 43.8**	**+1.3**
	comp=Z,3.5nm,1.0s,mb4.5						
PDAR	**Pinedale Array**	**89.53**	**39**	P	**P**	**13 34 50.3**	**+0.8**
	comp=Z,0.7nm,0.7s,mb4.1,baz=318,slow=2.0,SNR=7.0						
ULM	**Lac du Bonnet**	**90.69**	**28**	P	**P**	**13 34 54.6**	**-0.3**
	comp=Z,5.0nm,0.9s,mb4.8,baz=327,slow=8.2,SNR=6.7						
ULM	**Lac du Bonnet**	**90.69**	**28**	*e*P	**P**	**13 34 54.3**	**-0.6**
	comp=Z,5.4nm,0.8s,mb4.9						
SCHQ	**Schefferville**	**94.68**	**10**	LR	LR	14 20 41.0	
	comp=Z,45nm,18.2s,MS4.0,baz=50,slow=37						
FRNY	**Flat Rock**	**102.86**	**17**	*e*Pdif	Pdif	13 35 48.8	-1.2
QSPA	**South Pole Qui**	**119.34**	**180**	*e*PKPdf	PKPdf	13 40 39.6	-1.9

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*IDC **13** 13:24:23.9±1.4, 052S×13285E, h0km, mb4.1/5, mb1 4.2/7,*

mb1mx4.0/17, mbtmp4.1/7, ML4.0/2, Error ellipse: s-maj=60.3km s-min=19.8km az=71.0
*ISCJB **13** 13:24:27.6±3.1, 069S±007×1326E±02, h34km±30km, mb4.0/7, Error ellipse: s-maj=27.7km s-min=11.0km az=171.6*
*NEIC **13** 13:24:28.5±0.6, 061S×13270E, h30km, mb4.1/4, Error ellipse: s-maj=27.8km s-min=7.4km az=76.0*
ISC 13 13:24:36.2±2.2**, 089S**±007×**1324E**±02**, h98**km±22km**, n16, σ1ˢ07**/18**, mb3.9**/7**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	11.74	180	eP	Pn	13 27 17.1	-3.2
	6.3nm,0.3s						
FITZ	Fitzroy Crossi	18.36	201	eP	Pn	13 28 44.9	+0.7
	6.7nm,0.9s						
FITZ	Fitzroy Crossi	18.36	201	P	Pn	13 28 45.7	+1.6
	0.2nm,0.3s,baz=334,slow=11,SNR=13						
FITZ				S	S	13 32 07.6	-0.1
	0.1nm,0.3s,baz=255,slow=19,SNR=2.4						
WRAB	Tennant Creek	19.01	174	eP	Pn	13 28 51.6	-0.3
	16nm,1.0s						
WRA	Warramunga Arr	19.02	175	P	Pn	13 28 51.1	-1.0
	0.7nm,0.3s,baz=356,slow=10,SNR=44						
WRA				S	S	13 32 19.6	-1.3
	0.2nm,0.3s,baz=186,slow=34,SNR=4.8						
WB2	Warramunga Arr	19.02	174	eP	Pn	13 28 51.3	-0.7
AS31	Alice Springs	22.68	177	eP	P	13 29 31.0	+1.6
ASAR	Alice Springs	22.68	177	P	P	13 29 30.9	+1.5
	4.8nm,0.5s,mb4.1,baz=357,slow=10,SNR=92						
ASPA	Alice Springs	22.68	177	eP	P	13 29 31.0	+1.6
CTA	Charters Tower	23.38	146	P	P	13 29 36.2	+0.3
	5.9nm,0.9s,mb3.9,baz=327,slow=8.8,SNR=3.8						
STKA	Stephens Creek	32.01	165	P	P	13 30 53.5	+0.5
	6.0nm,0.6s,mb4.5,baz=345,slow=10.0,SNR=10						
STKA	Stephens Creek	32.01	165	eP	P	13 30 53.1	+0.1
MKAR	Makanchi Array	64.60	324	P	P	13 35 03.1	+0.1
	0.2nm,0.4s,mb3.3,baz=116,slow=6.6,SNR=3.2						
BVAR	Borovoye Array	74.29	326	P	P	13 36 02.5	-0.2
	0.8nm,0.5s,mb3.7,baz=134,slow=6.2,SNR=5.1						
BRVK	Borovoye	74.36	326	eP	P	13 36 02.7	-0.4
	1.3nm,0.5s,mb3.9						
ZRNK	Zerenda	75.04	326	eP	P	13 36 06.3	-0.7
	0.8nm,0.4s,mb3.8						

IDC 13 13:40:13.5±25.0**, 1826S**×**17260W, h0**km**, mb4.4**/4**, mb1 4.5**/4**, mb1mx4.0**/16**, mbtmp4.4**/4**, Error ellipse: s-maj=465.4km s-min=165.1km az=72.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	38.84	260	eP	P	13 47 41.0	+0.8
	4.0nm,0.4s						
CTA	Charters Tower	38.84	260	P	P	13 47 40.9	+0.7
	4.9nm,0.4s,baz=86,slow=12,SNR=14						
STKA	Stephens Creek	43.35	243	eP	P	13 48 17.9	+0.6
	4.9nm,1.3s						
STKA	Stephens Creek	43.35	243	P	P	13 48 17.8	+0.4
	2.7nm,1.0s,baz=90,slow=6.1,SNR=3.0						
WB2	Warramunga Arr	49.99	259	eP	P	13 49 09.5	+0.1
WRA	Warramunga Arr	50.00	259	P	P	13 49 09.7	+0.2
	1.2nm,0.3s,baz=98,slow=7.3,SNR=42						
ASAR	Alice Springs	50.02	254	P	P	13 49 09.8	+0.2
	3.5nm,0.7s,baz=86,slow=8.1,SNR=76						
ASPA	Alice Springs	50.02	254	eP	P	13 49 09.6	0.0
FITZ	Fitzroy Crossi	58.42	260	eP	P	13 50 12.3	+1.5
	4.6nm,0.8s						

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*ISCJB **13** 14:11:01.8±1.3, 1991S±009×17797W±009, h375km±15km, mb4.2/21, Error ellipse: s-maj=16.3km s-min=10.9km az=99.1*
*IDC **13** 14:11:03.4±2.3, 1985S×17798W, h375km±25km, mb3.6/8, mb1 3.9/10, mb1mx3.8/14, mbtmp4.4/10, Error ellipse: s-maj=23.8km s-min=13.7km az=140.0*
*NEIC **13** 14:11:03.1±1.1, 1988S×17796W, h376km±11km, mb4.5/10, Error ellipse: s-maj=11.7km s-min=7.8km az=137.0*
ISC 13 14:11:03.6±1.4**, 1994S**±009×**17790W**±009**, h380**km±16km**, n48, σ0ˢ88**/47**, mb4.2**/21**, 4C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	8.38	45	P	Pn	14 13 02.2	-0.4
	3.7nm,0.3s,baz=98,slow=9.5,SNR=9.4						
AFI				S	S	14 14 33.8	-6.2
	8.5nm,0.3s,baz=32,slow=21,SNR=7.4						
AFI	Afiamalu	8.38	45	ePn	Pn	14 13 01.8	-0.8
AFI				eSn	S	14 14 29.9	-10
DZM	Mont Dzumac	14.77	259	eP	P	14 14 17.8	+3.5
DZM	Mont Dzumac	14.77	259	P	P	14 14 18.8	+4.5
	1.6nm,0.3s,baz=75,slow=18,SNR=28						
NOUC	Port Laguerre	14.90	259	eP	P	14 14 20.3	+4.5
URZ	Urewera	18.76	192	P	P	14 14 57.2	+0.2
	0.9nm,0.3s,baz=339,slow=15,SNR=7.3						
ARMA	Armidale	29.40	243	eP	P	14 16 34.4	+1.0
CTA	Charters Tower	33.64	263	⇑iP	P	14 17 11.0	+0.9
	12nm,0.3s,mb4.6						
CTAO	Charters Tower	33.64	263	eP	P	14 17 11.2	+1.1
PMG	Port Moresby	35.31	282	eP	P	14 17 25.0	+0.7
	26nm,0.9s,mb4.5						
STKA	Stephens Creek	38.12	244	⇑iP	P	14 17 48.1	+0.4
	4.1nm,0.4s,mb4.0						
STKA	Stephens Creek	38.12	244	P	P	14 17 48.2	+0.5
	4.9nm,0.5s,mb4.0,baz=83,slow=11,SNR=24						
STKA	Stephens Creek	38.12	244	eP	P	14 17 47.9	+0.2
AS31	Alice Springs	44.74	256	eP	P	14 18 40.6	-0.2
ASAR	Alice Springs	44.74	256	P	P	14 18 40.9	+0.1
	20nm,0.6s,mb4.4,baz=91,slow=8.5,SNR=268						
ASAR				S	S	14 24 44.5	-3.8
	1.1nm,0.9s,baz=105,slow=14,SNR=6.4						
ASPA	Alice Springs	44.74	256	⇑iP	P	14 18 40.8	0.0
WB2	Warramunga Arr	44.76	261	eP	P	14 18 40.5	-0.4
WB2	Warramunga Arr	44.76	261	eP	P	14 18 40.3	-0.7
WRAB	Tennant Creek	44.76	261	eP	P	14 18 40.0	-1.0
	25nm,1.0s,mb4.3						
WRA	Warramunga Arr	44.77	261	P	P	14 18 40.5	-0.5
	4.7nm,0.4s,mb3.9,baz=96,slow=7.5,SNR=56						
WRA				S	S	14 24 45.0	-3.8
	0.6nm,1.1s,baz=326,slow=18,SNR=2.6						
KAKA	Kakadu	48.05	271	eP	P	14 19 06.1	-0.1
	8.5nm,0.6s,mb4.2						
FORT	Forrest	49.60	246	eP	P	14 19 17.0	-0.8
	16nm,0.4s,mb4.6						
FITZ	Fitzroy Crossi	53.19	262	eP	P	14 19 44.3	+0.2
	5.5nm,0.4s,mb4.2						
MBWA	Marble Bar	58.06	257	eP	P	14 20 17.7	-0.7
	14nm,0.6s,mb4.5						
KLBR	Kellerberrin	58.38	245	eP	P	14 20 19.7	-0.8
	54nm,1.6s,mb4.6						
SBA	Scott Base	58.43	184	eP	P	14 20 21.7	+0.8
	1.1nm,0.6s,mb3.4						
VNDA	Vanda	58.47	185	P	P	14 20 21.8	+0.6
	0.3nm,0.4s,mb3.0,baz=353,slow=2.5,SNR=4.1						
VNDA	Vanda	58.47	185	eP	P	14 20 21.1	-0.1
	1.5nm,1.1s,mb3.2						
CASY	Casey	64.51	205	eP	P	14 20 56.7	-4.4
CASY	Casey	64.51	205	eP	P	14 20 56.3	-4.7
	20nm,1.0s,mb4.7						
KKM	Kota Kinabalu	69.70	285	eP	P	14 21 33.3	-0.1
MJAR	Matsushiro Arr	69.81	323	P	P	14 21 34.0	0.0
	2.7nm,0.5s,mb4.2,baz=158,slow=6.1,SNR=8.3						
MAJO	Matsushiro	69.81	323	eP	P	14 21 32.5	-1.5
	12nm,1.4s,mb4.4						
QSPA	South Pole Qui	70.13	180	eP	P	14 21 35.5	-0.5
	3.0nm,0.7s,mb4.1						
KSM	Kuching	73.42	278	eP	P	14 21 56.8	+1.4
YSS	Yuzh-Sakhalins	75.44	333	eP	P	14 22 07.6	+0.8
	54nm,1.4s,mb5.1						
NVAR	Mina Array Bea	80.56	43	P	P	14 22 36.0	+1.4
	1.3nm,0.7s,mb3.8,baz=225,slow=8.2,SNR=9.7						
KULM	Kulim	83.78	278	eP	P	14 22 52.0	+0.8
PMR	Palmer	84.45	13	eP	P	14 22 53.2	-1.3
SYO	Syowa Base	87.29	193	⇑eP	P	14 23 05.4	-2.8
MCMT	McKenzie Canyo	87.47	40	eP	P	14 23 09.8	+0.7
PDAR	Pinedale Array	88.49	43	P	P	14 23 14.3	+0.4
	1.2nm,0.6s,mb3.9,baz=222,slow=3.3,SNR=12						
SONM	Songino Array	95.39	319	P	P	14 23 45.5	-0.2
	0.1nm,0.5s,mb3.1,baz=90,slow=1.4,SNR=3.6						
ARCES	ARCESS Array B	128.39	350	PKP	PKPdf	14 29 24.4	-1.2
	1.6nm,0.6s,baz=252,slow=2.4,SNR=5.1						
AKASG	Malin Array Be	142.57	332	PKhKP		14 29 46.8	
	0.9nm,0.4s,baz=44,slow=3.8,SNR=5.9						
BRTR	Keskin Array B	146.53	313	PKPbc	PKPbc	14 29 59.9	-0.9
	1.8nm,0.9s,baz=144,slow=3.5,SNR=6.3						
CLL	Collm	147.54	347	ePKPbc	PKPbc	14 30 03.0	-0.6
	comp=Z,6.0nm,0.7s						
GERES	GERESS Array B	149.69	345	PKPbc	PKPbc	14 30 08.0	-0.9
	comp=Z,1.5nm,0.7s,baz=8.7,slow=1.8,SNR=13						

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*ISCJB **13** 14:36:34.6±0.9, 4072N±004×2134E±006, h4km±18km, Error ellipse: s-maj=8.6km s-min=5.8km az=117.2*
*CSEM **13** 14:36:34.9±0.1, 4077N×2137E, h5km, ML2.6, Error ellipse: s-maj=2.5km s-min=1.7km az=72.0*
*THE **13** 14:36:35.4, 4077N×2138E, h5km, ML2.6*
*SKO **13** 14:36:35.2, 4078N×2143E, h10km, M2.0, ML2.4*
ISC 13 14:36:35.4±0.8**, 4074N**±004×**2135E**±006**, h3**km±16km**, n9, σ0ˢ84**/17**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FNA	Florina	0.04	28	ePg	Pg	14 36 35.7	-0.7
FNA				eSg	Sg	14 36 37.4	+0.3
BIA	Bitola	0.28	356	ePg	Pg	14 36 39.8	-0.9
BIA				eSg	Sg	14 36 44.3	0.0
BIA	Bitola	0.28	356	i Pg	Pg	14 36 40.0	-0.7
BIA	Bitola	0.28	356	i Pg	Pg	14 36 40.0	-0.7
BIA				eSg	Sg	14 36 44.3	0.0
OHR	Ohrid	0.56	312	ePg	Pg	14 36 45.8	-0.3
OHR				eSg	Sg	14 36 54.6	+1.4
OHR	Ohrid	0.56	312	i Pg	Pg	14 36 45.8	-0.3
OHR				i Sg	Sg	14 36 54.9	+1.7
OHR				eLg		14 36 55.7	
	comp=N,103nm,0.5s						
OHR				eLg		14 36 56.2	
	comp=E,138nm,0.4s						
OHR	Ohrid	0.56	312	i Pg	Pg	14 36 45.7	-0.3
OHR				eSg	Sg	14 36 54.6	+1.4
LIT	Litokhoron	1.08	126	ePg	Pg	14 36 55.2	-0.9
LIT				eSg	Sg	14 37 11.8	+1.6
IGT	Igoumenitsa	1.44	213	ePg	Pg	14 37 02.3	-0.7
IGT				eSg	Sg	14 37 21.7	+0.1

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*IGQ **13** 15:03:09.3, 190S×8174W, h10km±25km, Mb5.0, Ms4.9, Error ellipse: s-maj=24.6km s-min=6.5km az=157.2*
*ISCJB **13** 15:03:19.7±0.2, 173S±004×8117W±002, h27km, mb4.9/116, MS4.4/14, Error ellipse: s-maj=5.4km s-min=2.8km az=31.0*
*MOS **13** 15:03:20.5±0.8, 166S×8107W, h33km, mb5.2/55, Error ellipse: s-maj=8.9km s-min=5.8km az=100.0*
*NEIC **13** 15:03:23.9±0.8, 169S×8101W, h49km±7km, mb5.0/104, MD4.9(IGQ), Error ellipse: s-maj=5.5km s-min=3.2km az=218.0*
NEIC Felt in Manabi.
*BJI **13** 15:03:23.7, 170S×8100W, h48km, mB5.4, Ms5.3, Msz5.1*
*IDC **13** 15:03:24.1±2.5, 167S×8101W, h52km±22km, mb4.4/17, mb1 4.5/21, mb1mx4.5/25, mbtmp4.6/21, ML4.1/4, MS4.1/10, Ms1 4.1/10, ms1mx3.8/32, Error ellipse: s-maj=19.4km s-min=10.4km az=77.0*
ISC 13 15:03:21.7±0.2**, 177S**±004×**8108W**±002**, h28**km**, h28**km±2.0km**:pP-P, n447, σ0ˢ88**/416**, mb4.9**/116**, MS4.4**/14**, 66C-59D, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAG1	Magdalena	2.13	38	⇑P	Pn	15 03 55.3	-0.2
IGUA	Igualata	2.46	84	⇑P	Pn	15 04 00.8	+0.9
IGUA				S	Sn	15 04 33.2	+4.1
ARRY	Arrayan	2.64	84	⇑P	Pn	15 04 03.2	+0.8
JUIV	Juive	2.64	83	⇑P	Pn	15 04 03.6	+1.2
JUIV				S	Sn	15 04 41.9	+8.4
RETU	Refugio	2.66	83	⇑P	Pn	15 04 04.3	+1.6
RETU				S	Sn	15 04 42.9	+9.0
PATA	Patacocha	2.66	84	P	Pn	15 04 04.2	+1.5
ULBA	Ulba	2.69	83	⇑P	Pn	15 04 04.6	+1.5
PISA	Pisayambo	2.79	75	P	Pn	15 04 05.8	+1.4
VC1	Cotopaxi 1	2.90	67	P	Pn	15 04 07.6	+1.6
TAMB	Tambo	2.92	69	P	Pn	15 04 08.1	+1.9
TERV	Terraza Guagua	2.94	57	⇑P	Pn	15 04 07.1	+0.5
PINO	Pino	2.95	57	P	Pn	15 04 06.9	+0.3
GGP	Refugio Guagua	2.95	58	⇑P	Pn	15 04 07.0	+0.3
YANA	Yana	3.00	57	⇑P	Pn	15 04 07.6	+0.3
ANTI	Antisana	3.20	66	⇓P	Pn	15 04 13.2	+3.0
OTAV	Otavalo	3.30	53	⇑ePn	Pn	15 04 11.4	0.0
OTAV				eSn	Sn	15 04 53.1	+3.3
COTA	Cotacachi	3.45	53	P	Pn	15 04 15.0	+1.5
CAYR	Refugio Cayamb	3.55	60	⇓P	Pn	15 04 18.2	+3.3
CAYA	Cayambe	3.59	59	P	Pn	15 04 18.1	+2.6
LAV3	Lava3-Reventad	3.83	64	P	Pn	15 04 21.4	+2.6
CONE	Cono NE Rev Vo	3.83	64	P	Pn	15 04 21.8	+3.0
ATAH	Atahualpa	5.85	153	P	Pn	15 04 49.9	+3.4
	11nm,0.3s,baz=355,slow=11,SNR=18						
ATAH				S	Sn	15 05 58.7	+6.1
	33nm,0.3s,baz=190,slow=4.7,SNR=8.0						
ROSC	El Rosal	9.42	46	P	Pn	15 05 36.2	+0.6
	6.7nm,0.3s,baz=110,slow=22,SNR=6.8						
ROSC				LR	LR	15 09 25.0	
	comp=Z,749nm,18.1s,baz=217,slow=39						
ROSC	El Rosal	9.42	46	eP	Pn	15 05 36.1	+0.5
NNA	Nana	10.99	158	Pn	Pn	15 05 54.9	-2.1
	391nm,0.4s,SNR=7.6						
NNA	Nana	10.99	158	eP	Pn	15 05 54.3	-2.7
	50nm,0.4s						
SDV	Santo Domingo	14.85	44	P	Pn	15 06 48.6	-1.1
	1.3nm,0.3s,baz=252,slow=11,SNR=15						
SDV	Santo Domingo	14.85	44	eP	Pn	15 06 49.9	+0.2
	130nm,0.9s						
SDV				e		15 06 55.9	
SAML	Samuel	19.19	112	eP	Pn	15 07 38.9	-5.3
	43nm,1.0s						
SAML				e		15 07 42.8	
LPAZ	La Paz	19.26	139	P	Pn	15 07 45.8	+0.8
	0.6nm,0.3s,baz=326,slow=9.2,SNR=16						
PCRV	Puerto La Cruz	20.22	54	P	P	15 07 53.9	-0.5
	59nm,0.7s,baz=205,slow=4.9,SNR=23						
PCRV				LR	LR	15 16 41.3	
	comp=Z,1μm,18.4s,MS4.3,baz=11,slow=40						
PCRV	Puerto La Cruz	20.22	54	P	P	15 07 53.9	-0.5
PCRV				LR	LR	15 16 41.3	
TEIG	Tepich	22.97	342	eP	P	15 08 23.4	-0.4
	12nm,0.8s,mb4.4						
LVC	Limon Verde	23.86	151	P	P	15 08 35.3	+2.7
	8.7nm,0.8s,mb4.2,baz=313,slow=6.1,SNR=8.2						
LVC	Limon Verde	23.86	151	eP	P	15 08 32.9	+0.3
	24nm,1.1s,mb4.5						
SIV	San Ignacio	24.26	127	P	P	15 08 36.5	+0.1
	5.1nm,0.8s,mb4.0,baz=300,slow=10,SNR=26						
SJG	San Juan	24.62	36	P	P	15 08 40.1	+0.5
	101nm,0.8s,mb5.4,baz=207,slow=5.3,SNR=23						
SJG	San Juan	24.62	36	eP	P	15 08 40.0	+0.3
SJG				pmax	pmax		
	comp=Z,84nm,0.8s						
SJG	San Juan	24.62	36	eP	P	15 08 40.0	+0.3
	comp=Z,84nm,0.8s,mb5.3						
CPD	Cerro la Pandu	24.71	37	P	P	15 08 39.6	-0.8
MTP	Monte Pirata	24.96	37	eP	P	15 08 42.1	-0.6
CFAA	Coronel Fontan	32.06	159	P	P	15 09 48.4	+2.3
	comp=Z,0.2nm,0.4s,baz=350,slow=11,SNR=2.6						
CFAA				PcP	PcP	15 12 34.5	-0.6
	comp=Z,0.2nm,0.4s,baz=278,slow=1.0,SNR=4.6						
CPUP	Villa Florida	33.43	139	P	P	15 09 59.8	+1.8
	comp=Z,0.2nm,0.3s,baz=333,slow=8.5,SNR=3.1						
BDFB	Brasilia	35.39	115	P	P	15 10 14.2	-0.8
	comp=Z,5.9nm,0.8s,mb4.6,baz=283,slow=11,SNR=6.8						
BDFB				LR	LR	15 27 03.4	
	comp=Z,424nm,20.6s,MS4.2,baz=51,slow=40						
JCT	Junction City	36.70	332	eP	P	15 10 26.8	+0.6
JCT				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
JCT	Junction City	36.70	332	eP	P	15 10 26.8	+0.6
	comp=Z,9.1nm,0.8s,mb4.7						
OXF	Oxford	36.92	349	eP	P	15 10 27.8	-0.3
OXF				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.2						
OXF	Oxford	36.92	349	eP	P	15 10 27.8	-0.3
	comp=Z,44nm,1.1s,mb5.2						
PLAL	Pickwick Lake	37.14	350	eP	P	15 10 28.1	-1.8
	comp=Z,26nm,1.2s,mb4.9						
CPCT	Cooper Cave	37.16	355	eP	P	15 10 29.8	-0.3
LTX	Lajitas	37.73	327	eP	P	15 10 35.1	+0.2
LTX				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
LTX	Lajitas	37.73	327	eP	P	15 10 35.1	+0.1
	comp=Z,2.4nm,0.6s,mb4.1						
MIAR	Mount Ida	37.98	343	eP	P	15 10 36.2	-0.8
MIAR				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.5						
MIAR	Mount Ida	37.98	343	eP	P	15 10 36.2	-0.8
	comp=Z,14nm,1.3s,mb4.5						
TZTN	Tazewell	38.18	357	eP	P	15 10 37.1	-1.7
WVT	Waverly	38.22	351	eP	P	15 10 37.3	-1.8
WVT				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.8						
WVT	Waverly	38.22	351	eP	P	15 10 37.2	-1.9
	comp=Z,18nm,0.9s,mb4.8						
ELN	Prospectdale	38.80	0	eP	P	15 10 43.7	-0.3
PARMO	Parma	39.08	349	eP	P	15 10 45.7	-0.6
FWV	Forest Hill	39.15	0	eP	P	15 10 46.1	-0.8
WMOK	Wichita Mounta	39.93	337	eP	P	15 10 51.9	-1.5
WMOK				e		15 12 57.8	
WMOK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.5						
WMOK	Wichita Mounta	39.93	337	eP	P	15 10 51.9	-1.4
	comp=Z,12nm,1.2s,mb4.5						
WMOK				ePcP	PcP	15 12 57.8	-0.7
PLCA	Paso Flores	39.94	168	P	P	15 10 53.7	+0.2
	comp=Z,7.7nm,1.0s,mb4.4,baz=348,slow=8.5,SNR=9.0						
PLCA				PcP	PcP	15 12 57.0	-1.6
	comp=Z,3.0nm,1.0s,baz=332,slow=7.2,SNR=3.0						
PLCA				LR	LR	15 27 36.7	
	comp=Z,142nm,18.6s,MS3.8,baz=354,slow=36						
PLCA	Paso Flores	39.94	168	P	P	15 10 53.7	+0.2
PLCA						15 12 57.0	
PLCA	Paso Flores	39.94	168	P	P	15 10 53.7	+0.2
PLCA				PcP	PcP	15 12 57.0	-1.6
PLCA				LR	LR	15 27 36.7	
USIN	University of	40.00	352	eP	P	15 10 52.4	-1.6
	comp=Z,16nm,0.5s,mb5.0						
WCI	Wyandotte Cave	40.09	354	eP	P	15 10 52.2	-2.5
WCI				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
WCI	Wyandotte Cave	40.09	354	eP	P	15 10 52.2	-2.5
	comp=Z,18nm,0.8s,mb4.8						
TRQA	Tornquist	40.15	156	eP	P	15 10 53.3	-1.9
FVM	French Village	40.48	349	eP	P	15 10 56.9	-1.1
FVM				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.2						
FVM	French Village	40.48	349	eP	P	15 10 56.9	-1.1
	comp=Z,38nm,0.8s,mb5.2						
CCM	Cathedral Cave	40.72	348	eP	P	15 10 57.7	-2.2
CCM				pmax	pmax		
	comp=Z,47nm,1.2s,mb5.0						
CCM	Cathedral Cave	40.72	348	eP	P	15 10 57.7	-2.3
	comp=Z,48nm,1.2s,mb5.0						
AMTX	Amarillo	41.26	334	eP	P	15 11 03.6	-0.7
	comp=Z,14nm,0.8s,mb4.6						
ACSO	Alum Creek Sta	41.83	358	eP	P	15 11 07.1	-1.9
	comp=Z,5.2nm,0.6s,mb4.3						
ACSO				e	pP	15 11 14.2	-3.2
SSPA	Standing Stone	42.30	4	eP	P	15 11 11.9	-0.9
	comp=Z,25nm,1.2s,mb4.7						
BNM	Barren Site	43.05	328	eP	P	15 11 19.7	+0.8
LAZ	Ladron	43.51	328	eP	P	15 11 23.4	+0.8
ANMO	Albuquerque	43.58	329c	iP	P	15 11 24.0	+0.8
ANMO	Albuquerque	43.58	329	eP	P	15 11 23.9	+0.6
	comp=Z,11nm,0.9s,mb4.6						
BINY	Binghamton	44.01	5	eP	P	15 11 26.1	-0.5
	comp=Z,31nm,1.1s,mb4.9						
TUC	Tucson	44.03	323	eP	P	15 11 26.9	0.0
TUC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
TUC	Tucson	44.03	323	eP	P	15 11 26.9	0.0
	comp=Z,5.2nm,0.8s,mb4.3						
116A	Eloy	44.77	322	⇑P	P	15 11 33.5	+0.7
	baz=45						
115A	Sonoran Desert	45.19	322	⇓P	P	15 11 36.8	+0.8
	baz=45,SNR=5.0						
ACCN	Adirondack Com	45.44	8	eP	P	15 11 37.3	-0.8
Z14A	Wintersburg	46.08	322	⇑P	P	15 11 43.7	+0.6
	baz=46						
MIV	Mineville/With	46.13	8	eP	P	15 11 42.0	-1.5
MVCO	Mesa Verde	46.37	329	eP	P	15 11 44.9	-0.5
X15A	Humboldt	46.43	324	⇑P	P	15 11 46.6	+0.7
	baz=46						
Y14A	Wickenburg	46.50	323	⇑P	P	15 11 47.0	+0.5
	baz=47,SNR=5.3						
LONY	Lake Ozonia	46.55	6	eP	P	15 11 45.5	-1.3
WUAZ	Wupatki	46.66	326	eP	P	15 11 48.6	+1.0
	comp=Z,44nm,1.4s,mb5.2						
X14A	Yava	46.80	323	⇑P	P	15 11 49.7	+0.9
	baz=47,SNR=10						
FRNY	Flat Rock	46.88	7	eP	P	15 11 48.0	-1.4
Y13A	Salome	46.92	322	⇑P	P	15 11 50.3	+0.5
	baz=47						
W15A	Williams	46.93	325	⇑P	P	15 11 50.9	+1.1
	baz=47						
GLA	Glamis	47.05	320	⇑P	P	15 11 51.1	+0.4
	baz=47						
ISCO	Idaho Springs	47.08	334	eP	P	15 11 51.6	+0.6
ISCO				e		15 13 22.2	
ISCO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
ISCO	Idaho Springs	47.08	334	eP	P	15 11 51.6	+0.6
	comp=Z,5.8nm,0.9s,mb4.5						
ISCO				ePcP	PcP	15 13 22.2	-0.5
PV01	Paradox Valley	47.12	330	eP	P	15 11 51.9	+0.6
SMCO	Snowmass	47.18	332	eP	P	15 11 52.7	+0.9
	comp=Z,9.8nm,0.8s,mb4.8						
SMCO				ePcP	PcP	15 13 23.3	+0.3
Y12C	Blythe	47.31	321	⇑P	P	15 11 53.1	+0.3
	baz=47						
W14A	Seligman	47.42	324	⇓P	P	15 11 54.6	+1.0
	baz=48						
X13A	Yucca	47.45	323	⇑P	P	15 11 54.4	+0.6
	baz=48						
PV10	Paradox Valley	47.55	330	eP	P	15 11 54.1	-0.5
W13A	Hualapai Mount	47.83	323	⇑P	P	15 11 57.8	+1.0
	baz=48,SNR=6.2						
PFO	Pinyon Flat Ob	48.45	320	⇓P	P	15 12 02.2	+0.6
	baz=49						
W12A	Cal Nev Ari	48.56	323	⇑P	P	15 12 03.0	+0.6
	baz=49						
V12A	Nelson	48.83	323	⇓P	P	15 12 05.0	+0.5
	baz=49,SNR=5.1						
SRU	San Rafael	48.85	329	eP	P	15 12 05.0	+0.3
SRU				e	pP	15 12 13.4	+0.3
SRU				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.1						
SRU	San Rafael	48.85	329	eP	P	15 12 05.0	+0.3
	comp=Z,23nm,1.2s,mb5.1						
SRU				e	pP	15 12 13.4	+0.3
U12A	Valley of Fire	49.12	324	⇑P	P	15 12 07.0	+0.3
	baz=49						
CCUT	Cedar City	49.23	326	eP	P	15 12 08.8	+1.2
CCUT				ePcP	PcP	15 13 30.4	0.0
V11A	Goodsprings	49.26	323	⇑P	P	15 12 08.1	+0.3
	baz=49						
MSU	Marysvale	49.27	328	eP	P	15 12 08.4	+0.5
MSU				e		15 13 30.5	
TUQ	Turquoise Mtn.	49.29	322	⇓P	P	15 12 08.4	+0.3
	baz=49						
RWWY	Rawlins	49.32	334	eP	P	15 12 08.4	+0.1
	comp=Z,24nm,1.0s,mb5.2						
TMUT	Trail Mountain	49.34	329	eP	P	15 12 08.9	+0.5
ARUT	Antelope Range	49.44	326	eP	P	15 12 10.4	+1.2
GSC	Goldstone	49.75	321	⇓P	P	15 12 12.1	+0.6
	baz=50						
RSSD	Black Hills	50.09	339	eP	P	15 12 14.6	+0.5
RSSD				pmax	pmax		
	comp=Z,366nm,2.8s,mb5.9						
RSSD	Black Hills	50.09	339	eP	P	15 12 14.6	+0.5
	comp=Z,366nm,2.8s,mb5.9						
U10A	Ash Meadows, A	50.19	323	⇓P	P	15 12 15.8	+1.0
	baz=50						
DAU	Daniels Canyon	50.21	330	eP	P	15 12 15.8	+0.8
DAU				e		15 13 34.2	
SNCC	San Nicolas Is	50.26	317	⇓P	P	15 12 15.9	+0.5
	baz=50						
EYMN	Ely	50.34	351	eP	P	15 12 14.2	-1.8
	comp=Z,4.6nm,0.6s,mb4.7						
EYMN				ePcP	PcP	15 13 30.9	-3.5
TPNV	Topopah Spring	50.49	323	eP	P	15 12 18.1	+1.0
TPNV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
TPNV	Topopah Spring	50.49	323	eP	P	15 12 18.1	+1.0
	comp=Z,7.4nm,1.0s,mb4.7						
TCUT	Toone Canyon	50.82	331	eP	P	15 12 20.1	+0.4
DUG	Dugway	50.84	329	eP	P	15 12 18.6	-1.2
DUG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						

DUG **Dugway** 50.84 329 *e*P P 15 12 18.6 -1.2
comp=Z,4.0nm,0.8s,mb4.4
ISA **Isabella** 51.03 321 ⇑P P 15 12 21.7 +0.5
baz=51
Q12A **Willow Creek R** 51.09 326 ⇓P P 15 12 22.4 +0.7
baz=51,SNR=5.8
PDAR **Pinedale Array** 51.22 333 P P 15 12 22.4 -0.3
comp=Z,6.9nm,0.9s,mb4.6,baz=130,slow=8.0,SNR=46
PDAR PcP PcP 15 13 36.5 -1.2
comp=Z,2.2nm,0.8s,baz=137,slow=4.8,SNR=4.1
PDAR LR LR 15 35 11.5
comp=Z,152nm,18.9s,MS4.0,baz=342,slow=37
CWC **Cottonwood Cre** 51.27 322 ⇑P P 15 12 23.7 +0.7
baz=51
R10A **Warm Springs** 51.41 325 ⇓P P 15 12 25.0 +0.9
baz=52
Q11A **Duckwater** 51.42 325 ⇓P P 15 12 25.1 +1.0
baz=52,SNR=19
P12A **McGill** 51.44 327 ⇑P P 15 12 25.2 +0.9
baz=52,SNR=10
BGU **Big Grassy Mou** 51.49 329 *e*P P 15 12 24.9 +0.2
S09A **Goldfield** 51.58 323 ⇑P P 15 12 25.7 +0.4
baz=52,SNR=11
TPH **Tonopah** 51.81 324 *e*P P 15 12 26.1 -1.0
TPH pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
TPH **Tonopah** 51.81 324 *e*P P 15 12 26.1 -1.0
comp=Z,8.0nm,0.8s,mb4.7
P11A **Circle Ranch,** 51.96 326 ⇑P P 15 12 29.0 +0.8
baz=52
HVU **Hansel Valley** 51.99 330 *e*P P 15 12 28.2 -0.2
HVU pmax pmax
comp=Z,13nm,1.1s,mb4.8
HVU **Hansel Valley** 51.99 330 *e*P P 15 12 28.2 -0.2
comp=Z,13nm,1.1s,mb4.8
N13A **Wendover, West** 52.05 328 ⇓P P 15 12 29.2 +0.4
baz=52,SNR=6.2
MTUM **Tungsten Hills** 52.15 322 *e*P P 15 12 30.5 +0.8
Q09A **Carvers** 52.29 324 ⇓P P 15 12 31.3 +0.7
baz=52
O11A **Cowboy Ranch,** 52.31 327 ⇓P P 15 12 31.7 +0.8
baz=52,SNR=8.7
M13A **Montello** 52.39 329 ⇓P P 15 12 31.4 0.0
baz=52,SNR=9.4
P10A **Eureka** 52.41 326 ⇑P P 15 12 32.4 +0.9
baz=52
TPAW **Teton Pass** 52.42 333 *e*P P 15 12 31.5 -0.1
comp=Z,12nm,0.9s,mb4.8
RRI2 **Red Ridge** 52.48 332 *e*P P 15 12 32.3 +0.3
comp=Z,31nm,0.7s,mb5.3
N12A **Clover Valley,** 52.48 328 ⇑P P 15 12 32.2 +0.1
baz=53
MLAC **Mammoth Lakes** 52.49 322 ⇓P P 15 12 32.6 +0.5
baz=53
ELK **Elko** 52.52 327 *e*P P 15 12 32.7 +0.4
ELK pmax pmax
comp=Z,21nm,1.1s
ELK **Elko** 52.52 327 *e*P P 15 12 32.7 +0.4
comp=Z,21nm,1.1s,mb5.0
MOOW **Moose Ponds** 52.53 333 *e*P P 15 12 32.2 -0.2
comp=Z,9.3nm,1.0s,mb4.7
MNV **Mina** 52.60 323 *e*P P 15 12 33.4 +0.5
MNV pmax pmax
comp=Z,33nm,1.4s,mb5.1
MNV **Mina** 52.60 323 *e*P P 15 12 33.4 +0.5
comp=Z,33nm,1.4s,mb5.1
KCC **Kaiser Creek** 52.60 322 ⇓P P 15 12 33.3 +0.3
baz=53
NVAR **Mina Array Bea** 52.69 323 P P 15 12 34.5 +1.0
comp=Z,12nm,0.8s,mb4.9,baz=147,slow=6.8,SNR=82
NVAR PcP PcP 15 13 43.0 -0.1
comp=Z,3.1nm,0.7s,baz=149,slow=5.0,SNR=5.2
IMW **Indian Meadow** 52.73 333 *e*P P 15 12 33.8 -0.1
comp=Z,14nm,0.7s,mb5.0
IMW *e*PcP PcP 15 13 42.5 -0.8
Q08A **Gabbs** 52.74 324 ⇓P P 15 12 34.2 +0.2
baz=53,SNR=7.5
P09A **Austin** 52.75 325 ⇓P P 15 12 34.6 +0.6
baz=53
FLWY **Flagg Ranch** 52.77 333 *e*P P 15 12 34.6 +0.4
comp=Z,21nm,0.8s,mb5.1
M12A **Wells** 52.82 328 ⇓P P 15 12 34.4 -0.2
baz=53,SNR=8.8
N11A **Elko Archery C** 52.84 327 ⇓P P 15 12 35.1 +0.4
baz=53
U04C **Hernandez Rese** 52.93 320 ⇓P P 15 12 35.4 0.0
baz=53
YFT **Old Faithful** 53.12 334 *e*P P 15 12 38.6 +1.8
O09A **Fish Creek Ran** 53.19 326 ⇓P P 15 12 38.1 +0.8
baz=53,SNR=11
S06C **San Francisco** 53.27 322 ⇓P P 15 12 38.3 +0.4
baz=53
M11A **Holland Ranch,** 53.29 328 ⇑P P 15 12 38.3 +0.2
baz=53
ULM **Lac du Bonnet** 53.35 348 P P 15 12 37.5 -1.0
comp=Z,91nm,0.6s,mb5.9,baz=159,slow=7.8,SNR=139
ULM **Lac du Bonnet** 53.35 348 *e*P P 15 12 37.5 -1.0
comp=Z,118nm,0.7s,mb5.9
P08A **Dixie Valley** 53.38 325 ⇑P P 15 12 39.4 +0.7
baz=54
BMN **Battle Mountai** 53.39 326 *e*P P 15 12 39.5 +0.8
BMN *e* pP 15 12 47.5 +0.3
BMN pmax pmax
comp=Z,25nm,1.1s,mb5.1
BMN **Battle Mountai** 53.39 326 *e*P P 15 12 39.5 +0.7
comp=Z,25nm,1.1s,mb5.1
BMN *e* pP 15 12 47.5 +0.3
R06C **Coleville** 53.43 323 ⇑P P 15 12 40.2 +1.1
baz=54,SNR=6.5
HAST **UC Hastings Re** 53.45 319 ⇓P P 15 12 39.4 +0.2
baz=54
PACP **Pacheco Peak** 53.65 320 ⇓P P 15 12 40.9 +0.2
baz=54
QLMT **Earthquake Lak** 53.68 334 *e*P P 15 12 41.6 +0.7
GCMT **Greycliff** 53.68 335 *e*P P 15 12 40.8 -0.1
M10A **I.L. Ranch, Tu** 53.76 327 ⇑P P 15 12 41.7 +0.2
baz=54
R05C **Kirkwood Meado** 53.93 322 P P 15 12 43.9 +1.1
baz=54,SNR=13
WCN **Washoe City** 54.11 323 ⇓P P 15 12 44.9 +0.9
baz=54
HLID **Hailey** 54.12 330 *e*P P 15 12 43.6 -0.5
comp=Z,14nm,0.8s,mb5.0
N08A **GE Springer Mi** 54.13 326 ⇓P P 15 12 44.6 +0.4
baz=54,SNR=6.8
O07A **Toulon** 54.15 325 ⇓P P 15 12 44.5 +0.1
baz=54,SNR=18
PAHR **Pah Rah Range** 54.15 324 *e*P P 15 12 44.9 +0.6
comp=Z,6.5nm,0.9s,mb4.6
R04C **Big Horse Ranc** 54.19 322 ⇓P P 15 12 45.2 +0.6
baz=54
M09A **Marrel Ranch,** 54.19 327 ⇑P P 15 12 44.6 0.0
baz=54
MCMT **McKenzie Canyo** 54.32 333 *e*P P 15 12 46.5 +0.9
LAVA **Lava Cap Winer** 54.37 322 ⇑P P 15 12 46.2 +0.3
baz=54
BOZ **Bozeman (W)** 54.41 334 *e*P P 15 12 45.9 -0.3
BOZ *e* pP 15 12 54.2 -0.5
BOZ pmax pmax
comp=Z,32nm,1.0s,mb5.2
BOZ **Bozeman (W)** 54.41 334 *e*P P 15 12 45.9 -0.3
comp=Z,32nm,1.0s,mb5.2
BOZ *e* pP 15 12 54.2 -0.5
BDM **Black Diamond** 54.58 321 ⇑P P 15 12 48.1 +0.7
baz=55
N07B **Gerlach** 54.61 325 ⇓P P 15 12 47.5 -0.2
baz=55,SNR=7.5
DLMT **Dillon** 54.62 333 *e*P P 15 12 47.7 0.0
comp=Z,18nm,1.1s,mb5.0
P05C **Yuba Gap, Truc** 54.63 323 ⇓P P 15 12 48.6 +0.8
baz=55,SNR=8.0
L09A **Wilkinson Ranc** 54.72 327 ⇓P P 15 12 48.7 +0.3
baz=55,SNR=6.3
M07A **Soldier Meadow** 55.13 326 ⇓P P 15 12 51.2 -0.2
baz=55,SNR=7.2
OHCM **Honcut** 55.18 322 *e*P P 15 12 51.9 +0.1
OHCM *e*PcP PcP 15 13 52.4 -0.2
CVS **Carmenet Viney** 55.19 321 ⇓P P 15 12 52.2 +0.3
baz=55
O05C **Quincy** 55.23 323 ⇑P P 15 12 52.8 +0.7
baz=55
SUTB **Sutter Butte** 55.30 322 ⇑P P 15 12 52.7 0.0
baz=55
ORV **Oroville** 55.33 322 P P 15 12 53.4 +0.6
baz=55,SNR=11
HRY **Holter Researc** 55.33 335 *e*P P 15 12 52.6 -0.2
MNRC **McLaughlin Nat** 55.50 321 ⇑P P 15 12 54.6 +0.5
baz=56
WVOR **Wild Horse Val** 55.52 327 *e*P P 15 12 54.3 0.0
WVOR pmax pmax
comp=Z,48nm,1.5s,mb5.3
WVOR **Wild Horse Val** 55.52 327 *e*P P 15 12 54.3 0.0
comp=Z,48nm,1.5s,mb5.3
EGMT **Eagleton** 55.53 337 *e*P P 15 12 54.0 -0.3
comp=Z,30nm,0.9s,mb5.3
EGMT *e*PcP PcP 15 13 54.9 +0.9
ELFS **Eagle Lake Fie** 55.53 324 ⇑P P 15 12 54.9 +0.6
baz=56,SNR=20
O04C **Chester** 55.55 323 ⇑P P 15 12 54.9 +0.4
baz=56
L07A **Adell** 55.64 326 P P 15 12 55.1 0.0
baz=56,SNR=5.8
M06C **Likely Place G** 55.75 325 ⇑P P 15 12 56.0 +0.1
baz=56
HOPS **Hopland** 55.96 321 ⇓P P 15 12 58.5 +1.1
baz=56
HATC **Hat Creek Radi** 56.09 324 ⇓P P 15 12 58.2 0.0
baz=56,SNR=6.6
CHMT **Chamberlain Mo** 56.10 334 *e*P P 15 12 58.2 -0.2
GASB **Alder Springs** 56.13 322 ⇓P P 15 12 59.6 +0.9
baz=56,SNR=5.3
M05C **Lookout** 56.24 324 ⇓P P 15 12 59.6 +0.2
baz=56
LTIM **Timbered Crate** 56.33 324 P P 15 13 00.2 +0.2
RKT **Rialto** 56.34 243 *e*T 16 13 34.8
comp=Z,24nm,0.3s
MSO **Missoula** 56.34 333 *e*P P 15 13 00.4 +0.2
comp=Z,20nm,1.3s,mb5.0
BMO **Blue Mountains** 56.49 330 *e*P P 15 13 00.1 -1.1
comp=Z,10nm,1.1s,mb4.8
O02C **Red Bluff** 56.49 322 ⇓P P 15 13 01.1 -0.1
baz=57
L05A **Lakeview** 56.50 325 ⇓P P 15 13 01.7 +0.4
baz=57,SNR=14
J07A **Hines** 56.52 327 ⇑P P 15 13 01.2 -0.2
baz=57
WDC **Whiskeytown Da** 56.58 323 ⇑P P 15 12 60.0 -1.9
baz=57
J06A **Christmas Vall** 56.90 327 P P 15 13 04.1 0.0
baz=57,SNR=8.1
M04C **Macdoel** 56.91 324 ⇓P P 15 13 04.3 +0.2
baz=57,SNR=17
L04A **Klamath Falls** 57.18 325 ⇑P P 15 13 06.0 -0.1
baz=57
N02C **Big Bar** 57.19 323 ⇓P P 15 13 06.1 -0.1
baz=57,SNR=11
M02C **Callahan** 57.26 323 ⇓P P 15 13 05.7 -0.9
baz=57,SNR=6.6
YBH **Yreka Blue Hor** 57.39 324 *e*P P 15 13 06.2 -1.4
YBH pmax pmax
comp=Z,13nm,0.8s
YBH **Yreka Blue Hor** 57.39 324 *e*P P 15 13 06.2 -1.4
comp=Z,13nm,0.8s,mb5.0
YBH **Yreka Blue Hor** 57.39 324 ⇓P P 15 13 06.6 -1.0
baz=58,SNR=15
BUOR **Burton Butte** 57.46 325 P P 15 13 08.5 +0.4
SCHQ **Schefferville** 57.62 10 P P 15 13 07.2 -2.0
comp=Z,11nm,1.0s,mb4.8,baz=202,slow=7.1,SNR=8.2
SCHQ **Schefferville** 57.62 10 *e*P P 15 13 07.0 -2.1
comp=Z,23nm,1.2s,mb5.1
KRMB **Red Mountain** 57.98 323 *e*P P 15 13 12.2 +0.5
WALA **Waterton Lakes** 58.03 335 *e*P P 15 13 12.3 +0.2
comp=Z,26nm,0.8s,mb5.3
HUMO **Hull Mountain** 58.07 325 ⇑P P 15 13 11.3 -1.1
baz=58
I05A **Bend** 58.11 327 ⇑P P 15 13 13.2 +0.6
baz=58
L02A **Cave Junction** 58.18 324 ⇑P P 15 13 12.9 -0.1
baz=58
M01C **Crescent City** 58.30 323 ⇓P P 15 13 14.4 +0.4
baz=58
H05A **Madras** 58.41 327 ⇑P P 15 13 15.2 +0.5
baz=58
K02A **Glendale** 58.48 324 P P 15 13 15.2 0.0
baz=59,SNR=16
KBO **Bosley Butte** 58.58 323 *e*P P 15 13 16.4 +0.5
HAWA **Hanford** 58.69 330 *e*P P 15 13 15.9 -0.7
comp=Z,1.1nm,1.1s
BROR **Big Rock Looko** 58.83 326 P P 15 13 17.3 -0.3
G05A **Wamic** 58.84 328 ⇑P P 15 13 18.6 +0.9
baz=59,SNR=5.9
NEW **Newport** 58.85 333 *e*P P 15 13 17.6 -0.2
NEW pmax pmax
comp=Z,16nm,0.9s
NEW **Newport** 58.85 333 *e*P P 15 13 17.6 -0.1
comp=Z,16nm,0.9s,mb5.0
FFC **Flin Flon** 58.88 346 *e*P P 15 13 16.7 -1.3
FFC pmax pmax
comp=Z,25nm,1.4s,mb5.0
FFC **Flin Flon** 58.88 346 *e*P P 15 13 16.7 -1.4
comp=Z,25nm,1.4s,mb5.0
J02A **Umpqua** 58.90 325 ⇑P P 15 13 18.3 +0.2
baz=59,SNR=13
H04A **Detroit Lake** 58.95 327 ⇓P P 15 13 18.1 -0.3
baz=59,SNR=5.7
OD2 **Odessa Site #2** 58.98 331 P P 15 13 19.1 +0.5
K01A **Sixes** 59.08 324 ⇑P P 15 13 19.8 +0.4
baz=59
I03A **Eugene** 59.10 326 ⇓P P 15 13 19.7 +0.2
baz=59
F05A **White Salmon** 59.34 328 ⇓P P 15 13 21.8 +0.7
baz=59
I02A **Mapleton** 59.43 325 ⇑P P 15 13 22.3 +0.5
baz=60
G04A **Mulino** 59.44 327 ⇓P P 15 13 21.7 -0.2
baz=60
H03A **Soap Creek Ran** 59.55 326 ⇓P P 15 13 22.9 +0.3
baz=60,SNR=7.0
MPOR **Mary's Peak** 59.59 326 P P 15 13 23.7 +0.8
F04A **Amboy** 59.88 328 ⇑P P 15 13 24.9 0.0
baz=60
E05A **Randle** 59.94 329 ⇑P P 15 13 25.4 +0.1
baz=60
D05A **Enumclaw** 60.47 329 ⇑P P 15 13 28.7 -0.2
baz=61
F03A **Seaside** 60.49 327 ⇓P P 15 13 29.7 +0.6
baz=61
C05A **Tolt Reservoir** 60.65 330 ⇑P P 15 13 30.1 0.0
baz=61
PNT **Penticton** 60.76 332 P P 15 13 31.7 +0.8
E03A **Lebam** 60.88 328 ⇓P P 15 13 32.0 +0.3
baz=61
EDM **Edmonton** 61.07 338 *e*P P 15 13 32.1 -0.9
FCC **Fort Churchill** 61.22 352 *e*P P 15 13 32.6 -1.4
FCC pmax pmax
comp=Z,25nm,0.8s,mb5.4
FCC **Fort Churchill** 61.22 352 *e*P P 15 13 32.5 -1.5
comp=Z,25nm,0.8s,mb5.4
B05A **Bryant** 61.24 330 ⇓P P 15 13 33.7 -0.5
baz=61
D03A **Wishkah Elem.** 61.35 328 ⇑P P 15 13 35.4 +0.5
baz=62
A05A **Maple Falls** 61.73 331 ⇑P P 15 13 37.3 -0.1
baz=62,SNR=6.5
B04A **Port Angeles** 61.81 329 ⇓P P 15 13 38.5 +0.4
baz=62
A04A **Legoe Bay, Lum** 61.85 330 ⇑P P 15 13 38.5 +0.3
baz=62
CHIE **El Hierro** 67.27 59 P P 15 14 13.8 +0.2
comp=Z,24nm,0.8s,mb5.3
YKA **Yellowknife Ar** 68.91 344 P P 15 14 22.2 -1.8
comp=Z,6.1nm,0.9s,mb4.5,baz=137,slow=6.2,SNR=14
YKA LR LR 15 44 58.3
comp=Z,47nm,18.6s,MS3.8,baz=180,slow=36
PPT **Papeete** 68.98 252 *e*T 16 29 14.4
comp=Z,6.9nm,0.2s
TBI **Tubuai** 69.48 246 *e*T 16 29 59.6
comp=Z,3.7nm,0.3s
DLBC **Dease Lake** 71.38 335 *e*P P 15 14 38.9 -0.3
SFJD **Kangerlussuaq** 71.91 12 P P 15 14 40.1 -2.2
comp=Z,15nm,0.8s,mb5.0,baz=170,slow=2.9,SNR=5.3
DBIC **Dimbokro** 76.54 83 P P 15 15 09.1 -0.2
comp=Z,19nm,1.0s,mb5.0,baz=228,slow=4.4,SNR=11
DBIC LR LR 15 44 06.1
comp=Z,108nm,20.3s,MS4.2,baz=163,slow=32
DBIC **Dimbokro** 76.54 83 *e*P P 15 15 09.3 0.0
DBIC pmax pmax
comp=Z,40nm,1.2s
DBIC **Dimbokro** 76.54 83 *e*P P 15 15 09.3 0.0
comp=Z,40nm,1.2s,mb5.2
RES **Resolute Bay** 76.80 356 *e*P P 15 15 08.4 -2.3
RES pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
RES **Resolute Bay** 76.80 356 *e*P P 15 15 08.4 -2.4
comp=Z,10.0nm,1.0s,mb4.7
DAWY **Dawson** 78.26 338 *e*P P 15 15 17.6 -1.3
PVIS **Viseu** 78.47 48 *e*P P 15 15 19.8 -0.3
comp=Z,25nm,2.1s,mb4.8
INK **Inuvik** 78.57 343 *e*P P 15 15 19.5 -1.1
INK pmax pmax
comp=Z,23nm,1.0s
INK **Inuvik** 78.57 343 *e*P P 15 15 19.5 -1.2
comp=Z,23nm,1.0s,mb5.1
MTE **Manteigas** 78.67 48 *e*SKS 15 25 51.7
SUMG **Summit** 78.91 12 *e*P P 15 15 21.7 -0.8
comp=Z,39nm,1.1s,mb5.2
BORG **Borgarnes** 79.15 22 LR LR 15 48 54.5
comp=Z,74nm,19.9s,MS4.0,baz=221,slow=34
EJIF **Jimena Fronter** 79.51 53 P P 15 15 26.1 +0.3
EJIF pmax pmax
comp=Z,4.0nm,0.2s,mb5.0
EJIF **Jimena Fronter** 79.51 53 P P 15 15 26.1 +0.3
comp=Z,3.7nm,0.2s,mb5.0
PBRG **Braganca** 79.55 47 *e*P P 15 15 24.7 -1.3
comp=Z,22nm,1.2s,mb5.0
EPON **Pontenova** 79.58 45 P P 15 15 25.4 -0.7
comp=Z,18nm,0.7s,mb5.1
ECAL **Calabor** 79.58 47 P P 15 15 25.7 -0.5
comp=Z,10nm,0.9s,mb4.8
ELOJ **Sierra Loja** 80.67 52 P P 15 15 33.2 +1.2
ELOJ pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ELOJ **Sierra Loja** 80.67 52 P P 15 15 33.2 +1.2
comp=Z,7.1nm,0.7s,mb4.7
ERON **Agron** 80.92 52 P P 15 15 33.7 +0.4
comp=Z,2.9nm,0.4s,mb4.6
EARI **Arriondas** 80.96 46 P P 15 15 33.9 +0.3
comp=Z,16nm,0.7s,mb5.1
ECOG **Cogollos-Vega** 81.15 52 P P 15 15 34.6 0.0
ECOG pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
ECOG **Cogollos-Vega** 81.15 52 P P 15 15 34.6 0.0
comp=Z,5.0nm,0.4s,mb4.8
ESDC **Sonseca Array** 81.23 50 P P 15 15 34.7 -0.4
comp=Z,6.7nm,0.9s,mb4.6,baz=269,slow=5.4,SNR=16
ESDC **Sonseca Array** 81.23 50 P P 15 15 35.1 +0.1
comp=Z,5.6nm,0.8s,mb4.5
ESLA **Sonseca Array** 81.23 50 *e*P P 15 15 34.8 -0.2
comp=Z,8.3nm,1.4s,mb4.5
GUD **Guadarrama** 81.25 49 P P 15 15 35.2 +0.1
GUD pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
GUD **Guadarrama** 81.25 49 P P 15 15 35.2 +0.1
comp=Z,8.3nm,0.7s,mb4.8
SLKM **Skilak Lake** 81.40 332 *e*P P 15 15 34.7 -1.2
EQES **Quesada** 81.62 52 P P 15 15 37.8 +0.7
comp=Z,21nm,1.0s,mb5.0
EBER **Berja** 81.63 52 P P 15 15 37.2 +0.1
comp=Z,8.2nm,0.7s,mb4.8
COLA **College** 81.92 337⇓ *e*P P 15 15 37.7 -0.9
EHUE **Huescar** 82.00 52 P P 15 15 39.3 +0.2
EHUE pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
EHUE **Huescar** 82.00 52 P P 15 15 39.3 +0.2
comp=Z,5.4nm,0.6s,mb4.7
EVIA **Vianos** 82.19 51 P P 15 15 40.5 +0.4
EVIA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
EVIA **Vianos** 82.19 51 P P 15 15 40.5 +0.5
comp=Z,8.7nm,0.8s,mb4.7
ELAN **Lanestosa** 82.22 46 P P 15 15 40.2 -0.1
comp=Z,9.5nm,0.9s,mb4.7
VNA1 **Neumayer--Stat** 82.69 161 *e*P P 15 15 41.8 -0.9
VNA1 *e* 15 15 44.3
VNA1 *e* pP 15 15 48.3 -3.2
VNA1 *e* pP 15 15 51.8 +0.3
VNA1 *e* 15 15 56.2
ETOB **Tobarra** 82.93 51 P P 15 15 45.2 +1.3
comp=Z,11nm,0.8s,mb4.9
EMUR **La Murta** 83.06 52 P P 15 15 43.6 -1.1
comp=Z,6.3nm,0.8s,mb4.7
QUIF **Quistinic** 83.22 41 *e*P P 15 15 44.5 -0.9
comp=Z,19nm,0.9s,mb4.8
QUIF **Quistinic** 83.22 41 *e*P P 15 15 44.5 -0.9
QUIF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
QUIF **Quistinic** 83.22 41 *e*P P 15 15 44.5 -0.9
comp=Z,9.6nm,0.9s,mb4.8
ROSF **Rostrenen** 83.22 41 *e*P P 15 15 44.7 -0.8
comp=Z,16nm,0.9s,mb4.7
ROSF **Rostrenen** 83.22 41 *e*P P 15 15 44.7 -0.8
ROSF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ROSF **Rostrenen** 83.22 41 *e*P P 15 15 44.7 -0.8
comp=Z,7.8nm,0.9s,mb4.7
TORD **Torodi Ar. Bea** 83.37 77 P P 15 15 45.5 -0.7
comp=Z,6.3nm,1.1s,mb4.6,baz=282,slow=5.0,SNR=20
SGMF **Saint Gilles** 83.68 41 *e*P P 15 15 46.9 -0.9
comp=Z,34nm,1.1s,mb5.1
SGMF **Saint Gilles** 83.68 41 *e*P P 15 15 46.9 -0.9
SGMF pmax pmax
comp=Z,17nm,1.1s,mb5.1
SGMF **Saint Gilles** 83.68 41 *e*P P 15 15 46.9 -0.9
comp=Z,17nm,1.1s,mb5.1
EBEN **Beniarda** 83.96 51 P P 15 15 49.9 +0.6
comp=Z,35nm,1.1s,mb5.4
EMOS **Mosqueruela** 83.98 49 P P 15 15 50.2 +0.9
comp=Z,17nm,0.7s,mb5.3
SVW2 **Sparrevohn** 84.09 332 *e*P P 15 15 48.3 -1.6
ETSF **Etsaut** 84.25 47 *e*P P 15 15 50.4 -0.3
comp=Z,20nm,0.9s,mb4.9
ETSF **Etsaut** 84.25 47 *e*P P 15 15 50.4 -0.3
ETSF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
ETSF **Etsaut** 84.25 47 *e*P P 15 15 50.4 -0.3
comp=Z,9.8nm,0.9s,mb4.9
ALE **Alert** 84.61 2 P P 15 15 51.0 -1.5
comp=Z,111nm,0.9s,mb6.0,SNR=7.7
IMA2 **Indian Mountai** 84.61 337 *e*P P 15 15 51.0 -1.5
ERTA **Horta de San J** 84.67 49 P P 15 15 52.9 +0.1
comp=Z,13nm,0.8s,mb5.1
EGRA **Graus** 84.80 48 P P 15 15 54.3 +0.8
comp=Z,21nm,0.6s,mb5.4
GRR **Gorron** 84.82 41 *e*P P 15 15 52.6 -1.0
comp=Z,35nm,1.0s,mb5.1
GRR **Gorron** 84.82 41 *e*P P 15 15 52.6 -1.0
GRR pmax pmax
comp=Z,17nm,1.0s,mb5.1
GRR **Gorron** 84.82 41 *e*P P 15 15 52.6 -1.0
comp=Z,17nm,1.0s,mb5.1
EPF **Esparros** 84.92 47 *e*P P 15 15 53.7 -0.4
comp=Z,42nm,1.0s,mb5.2
EPF **Esparros** 84.92 47 *e*P P 15 15 53.7 -0.4
EPF pmax pmax
comp=Z,21nm,1.0s,mb5.2
EPF **Esparros** 84.92 47 *e*P P 15 15 53.7 -0.4
comp=Z,21nm,1.0s,mb5.2
MFF **Saint Martin d** 85.05 43 *e*P P 15 15 53.8 -0.9
comp=Z,48nm,1.0s,mb5.3
MFF **Saint Martin d** 85.05 43 *e*P P 15 15 53.8 -0.9
MFF pmax pmax
comp=Z,24nm,1.0s,mb5.3
MFF **Saint Martin d** 85.05 43 *e*P P 15 15 53.8 -0.9
comp=Z,24nm,1.0s,mb5.3
FLN **La Foliniere** 85.12 41 *e*P P 15 15 54.2 -0.9
comp=Z,24nm,0.8s,mb5.0
FLN **La Foliniere** 85.12 41 *e*P P 15 15 54.2 -0.9
FLN pmax pmax
comp=Z,12nm,0.8s,mb5.1
FLN **La Foliniere** 85.12 41 *e*P P 15 15 54.2 -0.9
comp=Z,12nm,0.8s,mb5.1
LDF **La Druitiere** 85.33 41 *e*P P 15 15 55.1 -1.1
comp=Z,34nm,1.0s,mb5.1
LDF **La Druitiere** 85.33 41 *e*P P 15 15 55.1 -1.1
LDF pmax pmax
comp=Z,17nm,1.0s,mb5.1
LDF **La Druitiere** 85.33 41 *e*P P 15 15 55.1 -1.1
comp=Z,17nm,1.0s,mb5.1
LFF **La Frestale** 85.45 45 *e*P P 15 15 55.9 -0.8
DAG **Danmarks Havn** 85.60 12⇑ *i*P P 15 15 56.7 -0.8
comp=Z,5.5nm,0.7s,mb4.9
DAG **Danmarks Havn** 85.60 12⇑ *i*P P 15 15 56.7 -0.8
DAG pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
EMIR **Miracle** 85.67 48 P P 15 15 57.4 -0.4
comp=Z,9.1nm,0.7s,mb5.1
RJF **Les Rejaudoux** 86.03 45 *e*P P 15 15 58.6 -1.0
comp=Z,28nm,0.9s,mb5.2
RJF **Les Rejaudoux** 86.03 45 *e*P P 15 15 58.6 -1.0
RJF pmax pmax
comp=Z,14nm,0.9s,mb5.2

RJF	**Les Rejaudoux**	**86.03**	**45**	*e*P	**P**	**15 15 58.6**	**-1.0**
	comp=Z,14nm,0.9s,mb5.2						
MTLF	**Montolieu**	**86.32**	**47**	*e*P	**P**	**15 16 00.1**	**-1.0**
	comp=Z,15nm,0.8s,mb5.0						
MTLF	**Montolieu**	**86.32**	**47**	*e*P	**P**	**15 16 00.1**	**-1.0**
MTLF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.0						
MTLF	**Montolieu**	**86.32**	**47**	*e*P	**P**	**15 16 00.1**	**-1.0**
	comp=Z,7.5nm,0.8s,mb5.0						
CAF	**Calviac**	**86.38**	**45**	*e*P	**P**	**15 16 00.2**	**-1.1**
TCF	**Toulx Ste Croi**	**86.62**	**44**	*e*P	**P**	**15 16 01.4**	**-1.2**
	comp=Z,27nm,1.0s,mb5.1						
TCF	**Toulx Ste Croi**	**86.62**	**44**	*e*P	**P**	**15 16 01.4**	**-1.2**
TCF				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.1						
TCF	**Toulx Ste Croi**	**86.62**	**44**	*e*P	**P**	**15 16 01.4**	**-1.2**
	comp=Z,13nm,1.0s,mb5.1						
BGF	**Bois d'Agland**	**87.09**	**43**	*e*P	**P**	**15 16 03.9**	**-0.9**
AVF	**Avril sur Loir**	**87.46**	**43**	*e*P	**P**	**15 16 05.2**	**-1.4**
	comp=Z,13nm,0.9s,mb4.8						
AVF	**Avril sur Loir**	**87.46**	**43**	*e*P	**P**	**15 16 05.2**	**-1.4**
AVF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.9						
AVF	**Avril sur Loir**	**87.46**	**43**	*e*P	**P**	**15 16 05.2**	**-1.4**
	comp=Z,6.6nm,0.9s,mb4.9						
LASF	**Ste Croix**	**87.58**	**46**	*e*P	**P**	**15 16 06.4**	**-0.8**
SSF	**Saint Saulge**	**87.59**	**43**	*e*P	**P**	**15 16 05.8**	**-1.4**
	comp=Z,2.8nm,0.4s,mb4.5						
SSF	**Saint Saulge**	**87.59**	**43**	*e*P	**P**	**15 16 05.8**	**-1.4**
SSF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.4						
SSF	**Saint Saulge**	**87.59**	**43**	*e*P	**P**	**15 16 05.8**	**-1.4**
	comp=Z,1.4nm,0.4s,mb4.5						
SMF	**Signal de Mont**	**87.78**	**43**	*e*P	**P**	**15 16 07.1**	**-1.1**
LOR	**Lormes**	**87.85**	**43**	*e*P	**P**	**15 16 07.2**	**-1.3**
	comp=Z,6.0nm,0.7s,mb4.6						
LOR	**Lormes**	**87.85**	**43**	*e*P	**P**	**15 16 07.2**	**-1.3**
LOR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.6						
LOR	**Lormes**	**87.85**	**43**	*e*P	**P**	**15 16 07.2**	**-1.3**
	comp=Z,3.0nm,0.7s,mb4.6						
VIVF	**Saint-Julien-l**	**88.22**	**45**	*e*P	**P**	**15 16 09.6**	**-0.6**
QSPA	**South Pole Qui**	**88.30**	**180**	*e*P	**P**	**15 16 10.0**	**-0.6**
	comp=Z,13nm,1.2s,mb5.0						
GIVF	**Givet**	**88.71**	**40**	*e*P	**P**	**15 16 11.8**	**-0.7**
SMRF	**Simiane la Rot**	**88.80**	**46**	*e*P	**P**	**15 16 12.4**	**-0.6**
ORIF	**Oris-en-Rattie**	**89.08**	**45**	*e*P	**P**	**15 16 13.9**	**-0.4**
	comp=Z,15nm,0.9s,mb5.0						
ORIF	**Oris-en-Rattie**	**89.08**	**45**	*e*P	**P**	**15 16 13.9**	**-0.4**
ORIF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.0						
ORIF	**Oris-en-Rattie**	**89.08**	**45**	*e*P	**P**	**15 16 13.9**	**-0.4**
	comp=Z,7.7nm,0.9s,mb5.0						
CABF	**La Chapelle**	**89.32**	**44**	*e*P	**P**	**15 16 14.6**	**-0.8**
	comp=Z,23nm,1.0s,mb5.2						
CABF	**La Chapelle**	**89.32**	**44**	*e*P	**P**	**15 16 14.6**	**-0.8**
CABF				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.2						
CABF	**La Chapelle**	**89.32**	**44**	*e*P	**P**	**15 16 14.6**	**-0.8**
	comp=Z,12nm,1.0s,mb5.2						
LMR	**La Mourre**	**89.44**	**47**	*e*P	**P**	**15 16 15.0**	**-1.0**
	comp=Z,19nm,1.0s,mb5.1						
LMR	**La Mourre**	**89.44**	**47**	*e*P	**P**	**15 16 15.0**	**-1.0**
LMR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.1						
LMR	**La Mourre**	**89.44**	**47**	*e*P	**P**	**15 16 15.0**	**-1.0**
	comp=Z,9.6nm,1.0s,mb5.1						
FRF	**La Foret Royal**	**89.56**	**47**	*e*P	**P**	**15 16 15.3**	**-1.2**
	comp=Z,32nm,1.0s,mb5.3						
FRF	**La Foret Royal**	**89.56**	**47**	*e*P	**P**	**15 16 15.3**	**-1.2**
FRF				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.3						
FRF	**La Foret Royal**	**89.56**	**47**	*e*P	**P**	**15 16 15.3**	**-1.2**
	comp=Z,16nm,1.0s,mb5.3						
BNI	**Bardonecchia**	**89.65**	**45**	*e*P	**P**	**15 16 16.5**	**-0.5**
BNI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.6						
BNI	**Bardonecchia**	**89.65**	**45**	*e*P	**P**	**15 16 16.4**	**-0.5**
	comp=Z,2.1nm,0.7s,mb4.6						
MBDF	**Montbardon**	**89.70**	**45**	*e*P	**P**	**15 16 16.6**	**-0.6**
LPG	**La Plagne**	**89.73**	**45**	*e*P	**P**	**15 16 17.2**	**-0.1**
SBF	**Sospel**	**90.14**	**46**	*e*P	**P**	**15 16 18.0**	**-1.3**
CDF	**Champ du Feu**	**90.22**	**42**	*e*P	**P**	**15 16 18.7**	**-0.9**
PGF	**Pioggiola**	**91.24**	**48**	*e*P	**P**	**15 16 23.0**	**-1.4**
NOA	**NORSAR Array B**	**92.65**	**29**	LR	LR	15 58 48.9	
	comp=Z,110nm,18.1s,MS4.3,baz=0.0,slow=36						
CLL	**Collm**	**93.93**	**39**	*e*P	**P**	**15 16 36.0**	**-0.8**
VNDA	**Vanda**	**93.96**	**191**	P	**P**	**15 16 36.1**	**-0.8**
	comp=Z,1.0nm,0.7s,mb4.3,baz=100,slow=2.9,SNR=5.2						
KHC	**Kasperske Hory**	**94.39**	**41**	*i* P	**P**	**15 16 39.1**	**+0.2**
GERES	**GERESS Array B**	**94.48**	**41**	P	**P**	**15 16 39.4**	**+0.1**
	comp=Z,1.2nm,0.9s,mb4.3,baz=242,slow=2.9,SNR=7.8						
VRAC	**Vranov**	**96.35**	**41**	LR	LR	15 59 01.5	
	comp=Z,97nm,18.2s,MS4.3,baz=108,slow=35						
AKBB	**Malin Array Si**	**104.14**	**38**	*e*P	Pdif	15 17 19.3	-3.3
OBN	**Obninsk**	**106.95**	**32**	*de*P	Pdif	15 17 33.9	-1.2
OBN				*e*SS	SS	15 37 14.9	+9.0
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.5						
SOC	**Sochi**	**113.14**	**43**	*i* PKIKP	PKiKP	15 21 54.7	-1.7
SOC				*e*		15 22 47.2	
SOC				*e*PS	PS	15 32 16.9	-4.7
BVAR	**Borovoye Array**	**123.70**	**20**	PP	PP	15 23 56.5	-2.7
	comp=Z,1.2nm,0.9s,baz=335,slow=6.6,SNR=4.2						
ZAL	**Zalesovo**	**126.72**	**10**	PKP	PKPdf	15 22 21.2	-1.3
	comp=Z,1.4nm,0.6s,baz=274,slow=4.7,SNR=5.2						
STKA	**Stephens Creek**	**127.52**	**227**	*e*PKP	PKPdf	15 22 23.6	-0.4
	comp=Z,4.1nm,0.8s						
STKA	**Stephens Creek**	**127.52**	**227**	PKP	PKPdf	15 22 23.9	-0.2
	comp=Z,2.0nm,0.7s,baz=138,slow=3.2,SNR=7.7						
MJAR	**Matsushiro Arr**	**129.88**	**318**	PKP	PKPdf	15 22 26.9	-1.6
	comp=Z,3.0nm,0.8s,baz=73,slow=1.5,SNR=8.5						
ZAK	**Zakamensk**	**131.42**	**356**	*e*PKIKP	PKPdf	15 22 30.9	-0.5
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s						
CN2	**Changchun**	**131.96**	**334**	*e*PKP	PKPdf	15 22 31.0	-1.5
ULN	**Ulaanbaatar**	**133.54**	**352**	*i* PKIKP	PKPdf	15 22 34.9	-0.5
SONM	**Songino Array**	**133.66**	**353**	PKP	PKPdf	15 22 34.8	-0.8
	comp=Z,0.3nm,0.4s,baz=80,slow=1.8,SNR=4.5						
AAK	**Ala-Archa**	**133.81**	**25**	*i* PKIKP	PKPdf	15 22 35.9	0.0
WMQ	**Urumqi**	**136.95**	**12**	PKP	PKPdf	15 22 41.6	-0.2
WMQ				PP	PP		
	comp=Z,140nm,10.4s						
WMQ				LR	LR		
	comp=N,222nm,20.1s,MS5.0						
WMQ				LR	LR		
	comp=E,167nm,19.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,189nm,20.6s,MS4.8						
ASAR	**Alice Springs**	**137.61**	**231**	PKP	PKPdf	15 22 42.0	-1.1
	comp=Z,1.8nm,0.7s,baz=111,slow=1.4,SNR=9.5						
WB2	**Warramunga Arr**	**139.09**	**236**	*e*PKP	PKPdf	15 22 45.2	-0.5
WRAB	**Tennant Creek**	**139.10**	**236**	*i* PKIKP	PKPdf	15 22 45.5	-0.2
WRA	**Warramunga Arr**	**139.10**	**236**	PKhKP		15 22 36.2	
	comp=Z,1.0nm,0.8s,baz=141,slow=1.3,SNR=6.0						
WRA				PKP	PKPdf	15 22 45.2	-0.5
	comp=Z,2.3nm,0.6s,baz=112,slow=1.9,SNR=26						
HHC	**Hu-ho-hao-te**	**139.45**	**345**	*e*PKP	PKPdf	15 22 45.6	-0.8
HHC				LR	LR		
	comp=Z,307nm,5.7s						
GTA	**Gaotai**	**142.53**	**359**	PKP	PKPdf	15 22 45.8	-6.1
KAKA	**Kakadu**	**143.75**	**246**	*e*PKP	PKPdf	15 22 50.2	-3.9
	comp=Z,6.0nm,0.6s						
SSE	**Sheshan**	**144.02**	**326**	PKP	PKPdf	15 22 54.1	-0.5
NJ2	**Nanjing**	**144.50**	**330**	*e*PKP	PKPdf	15 22 52.3	-3.1
NJ2				LR	LR		
	comp=Z,370nm,25.3s,MS5.0						
LZH	**Lanzhou**	**145.55**	**353**	⇑PKP	PKPdf	15 22 56.9	-0.3
LZH				PP	PP		
	comp=Z,107nm,8.9s						
LZH				LR	LR		
	comp=E,178nm,18.3s						
LZH				LR	LR		
	comp=Z,349nm,20.1s,MS5.1						
XAN	**Xi'an**	**146.56**	**345**	PKP	PKPdf	15 22 58.9	0.0
FITZ	**Fitzroy Crossi**	**147.11**	**232**	*e*PKP	PKPdf	15 23 01.8	+2.0
	comp=Z,20nm,0.8s						
FITZ	**Fitzroy Crossi**	**147.11**	**232**	PKPbc	PKPbc	15 23 02.0	+0.1
	comp=Z,12nm,0.8s,baz=192,slow=3.9,SNR=16						
CD2	**Chengdu**	**150.66**	**351**	*e*PKP	PKPdf	15 23 02.9	-2.7
KMI	**Kunming**	**156.49**	**351**	PKP	PKPdf	15 23 12.0	-1.9
KMI				LR	LR		
	comp=Z,58nm,17.6s,MS4.5						

ISCJB ***13*** *15:13:41.1±0.1, 3576N±001×2731E±001, h10km, mb4.6/55, MS3.8/8, Error ellipse: s-maj=1.8km s-min=1.6km az=23.0*

SZGRF ***13*** *15:13:41.2, 3554N×2798E, h33km, mb3.9, Dodecanese Islands, Greece*

ATH ***13*** *15:13:42.5, 3590N×2721E, h19km±2km, ML4.7*

MOS ***13*** *15:13:43.2±1.3, 3570N×2724E, h33km, mb4.8/21, Error ellipse: s-maj=4.9km s-min=2.7km az=112.9*

CSEM ***13*** *15:13:43.6, 3573N×2736E, h40km, mb4.5*

IDC ***13*** *15:13:46.1±2.3, 3592N×2725E, h35km±19km, mb4.3/20, mb1 4.4/27, mb1mx4.3/30, mbtmp4.4/27, ML3.8/4, MS3.5/8, Ms1 3.5/8, ms1mx3.1/37, Error ellipse: s-maj=13.8km s-min=10.8km az=150.0*

NEIC ***13*** *15:13:46.6±0.3, 3579N×2731E, h50km±3km, mb4.3/40, Error ellipse: s-maj=4.5km s-min=2.9km az=179.0*

BJI ***13*** *15:13:46.6, 3580N×2730E, h50km, mB5.0, mb4.7, Ms4.8, Msz4.7*

THE ***13*** *15:13:47.3, 3587N×2727E, h17km, ML4.4*

NIC ***13*** *15:13:47.1±0.2, 3646N×2758E, h25km, mb4.3, ML3.9, MW4.0*

HLW ***13*** *15:13:49.1, 3552N×2752E, h20km, Mb4.6*

ISC 13 15:13:43.0±0.1**, 3580N**±001×**2728E**±001**, h10km, (h49km**±3.0km**:pP-P), n432,** σ1§**37**/472**, mb4.6**/53**, MS3.8**/8**, 34C-21D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.27**	**201**	*e*PB	**Pg**	**15 13 50.2**	**+1.8**
KARP				*e*SB	**Sg**	**15 13 55.3**	**+3.3**
ARG	**Arkhangelos**	**0.81**	**58**	*e*PN	**Pg**	**15 13 58.2**	**-0.3**
ARG				*e*SN	**Sg**	**15 14 09.5**	**+0.4**
DAT	**Datca**	**0.96**	**15**	PG	**Pg**	**15 14 01.8**	**+0.3**
DAT				SG	**Sg**	**15 14 14.5**	**+0.4**
ZKR	**Zakros**	**1.10**	**232**	*e*Pg	**Pg**	**15 14 04.8**	**+0.6**
ZKR				*e*Sg	**Sg**	**15 14 20.6**	**+2.1**
BODT	**Bodrum**	**1.26**	**1**	PN	**Pn**	**15 14 05.6**	**-1.1**
BODT				SN	**Sn**	**15 14 21.8**	**-1.9**
BODT	**Bodrum**	**1.26**	**1**	Pn	**Pn**	**15 14 05.6**	**-1.1**
BODT				Sn	**Sn**	**15 14 22.6**	**-1.1**
BDRM	**Kayabasi**	**1.27**	**6**	*i* P	**Pn**	**15 13 58.1**	**-8.7**
BDRM				*i* S	**Sn**	**15 14 21.1**	**-2.8**
NPS	**Neapolis**	**1.46**	**249**	*e*PN	**Pn**	**15 14 10.0**	**+0.6**
NPS				*e*SN	**Sn**	**15 14 29.0**	**+0.5**
DALT	**Dalyan (Mudla)**	**1.47**	**48**	PN	**Pn**	**15 14 09.7**	**+0.2**
DALT				SN	**Sn**	**15 14 27.0**	**-1.7**
DALT	**Dalyan (Mudla)**	**1.47**	**48**	Pn	**Pn**	**15 14 09.7**	**+0.2**
DALT				Sn	**Sn**	**15 14 28.7**	**0.0**
MLSB	**Milas**	**1.55**	**15**	PN	**Pn**	**15 14 11.0**	**+0.4**
YER	**Yerkesik**	**1.56**	**31**	PN	**Pn**	**15 14 10.4**	**-0.4**
SANT	**Santorini**	**1.58**	**292**	*e*Pg	**Pn**	**15 14 11.3**	**+0.2**
SANT				*e*Sg	**Sn**	**15 14 30.7**	**-0.9**
LAST	**Lasithi**	**1.60**	**247**	*e*Pb	**Pb**	**15 14 12.2**	**-0.4**
LAST				*e*Sb	**Sb**	**15 14 33.2**	**+0.3**
LAST	**Lasithi**	**1.60**	**247**	*e*Pb	**Pb**	**15 14 12.2**	**-0.4**
LAST				*e*Sb	**Sb**	**15 14 33.2**	**+0.3**
FETY	**Fethiye**	**1.68**	**60**	PN	**Pn**	**15 14 12.8**	**+0.3**
APE	**Apeiranthos**	**1.90**	**313**	*e*Pb	**Pn**	**15 14 15.3**	**-0.1**
APE				*e*Sb	**Sn**	**15 14 37.4**	**-1.9**
APE	**Apeiranthos**	**1.90**	**313**	⇓*i*P	**Pn**	**15 14 15.7**	**+0.3**
APE	**Apeiranthos**	**1.90**	**313**	*e*Pn	**Pn**	**15 14 15.2**	**-0.2**
APE				*e*Sn	**Sn**	**15 14 37.8**	**-1.6**
AYDN	**Tasoluk**	**1.92**	**14**	*i* S	**Sn**	**15 14 38.8**	**-1.2**
IDI	**Anoyia**	**2.01**	**256**	Pn	**Pn**	**15 14 16.9**	**-0.1**
	74nm,0.3s,baz=62,slow=13,SNR=56						
IDI				Sn	**Sn**	**15 14 41.8**	**-0.4**
	837nm,0.3s,baz=95,slow=22,SNR=21						
SIVA	**Sivas**	**2.16**	**250**	*e*Pn	**Pn**	**15 14 21.4**	**+2.3**
SIVA				*e*Sn	**Sn**	**15 14 46.9**	**+1.0**
ELL	**Elmali**	**2.33**	**65**	PN	**Pn**	**15 14 22.0**	**+0.6**
ELL	**Elmali**	**2.33**	**65**	Pn	**Pn**	**15 14 22.2**	**+0.8**
DNZL	**Cakiroluk**	**2.37**	**36**	*i* P	**Pn**	**15 14 23.5**	**+1.7**
DNZL				*i* S	**Sg**	**15 15 00.1**	**+1.1**
DENT	**Denizli**	**2.41**	**35**	PN	**Pn**	**15 14 22.0**	**-0.5**
VAM	**Vamos**	**2.54**	**262**	*e*PN	**Pn**	**15 14 24.8**	**+0.6**
VAM				*e*SN	**Sn**	**15 14 55.6**	**+0.4**
BLCB	**Balcova**	**2.59**	**356**	PN	**Pn**	**15 14 24.8**	**-0.2**
BLCB	**Balcova**	**2.59**	**356**	Pn	**Pn**	**15 14 23.8**	**-1.2**
IZM	**Izmir**	**2.60**	**360**	PN	**Pn**	**15 14 25.5**	**+0.5**
KDAG	**Bornova**	**2.60**	**360**	*i* P	**Pn**	**15 14 26.2**	**+1.1**
KDAG				*i* S	**Sn**	**15 15 03.0**	**+6.2**
URLA	**Izmir**	**2.62**	**348**	*i* P	**Pn**	**15 14 25.6**	**+0.2**
CHOS	**Chios island**	**2.77**	**340**	*e*Pn	**Pn**	**15 14 27.5**	**+0.2**
CHOS				*e*Sn	**Sn**	**15 14 59.8**	**-1.0**
KARN	**Karanos**	**2.77**	**263**	*e*Pn	**Pn**	**15 14 28.2**	**+0.8**
KARN				*e*Sn	**Sn**	**15 15 00.8**	**0.0**
GVD	**Gavdhos**	**2.78**	**251**	*e*Pn	**Pn**	**15 14 31.1**	**+3.5**
GVD				*e*Sn	**Sn**	**15 15 01.9**	**+0.8**
ANTB	**Antalya**	**2.94**	**67**	PN	**Pn**	**15 14 30.7**	**+0.9**
KHL	**Karahalli**	**3.10**	**35**	PN	**Pn**	**15 14 32.1**	**+0.2**
AKHS	**Akhisar**	**3.11**	**8**	*i* P	**Pn**	**15 14 33.8**	**+1.7**
AKHS				*i* S	**Sg**	**15 15 23.5**	**+0.7**
AKS	**Akhisar**	**3.11**	**8**	PN	**Pn**	**15 14 32.7**	**+0.6**
BCK	**Bucak**	**3.14**	**57**	PN	**Pn**	**15 14 33.5**	**+1.0**
BCK	**Bucak**	**3.14**	**57**	Pn	**Pn**	**15 14 31.9**	**-0.6**
ISP	**Isparta**	**3.30**	**51**	PN	**Pn**	**15 14 34.8**	**+0.1**
ISP	**Isparta**	**3.30**	**51**	*i* P	**Pn**	**15 14 37.8**	**+3.1**
ISP	**Isparta**	**3.30**	**51**	*e*P	**Pn**	**15 14 35.0**	**+0.3**
TKTP	**Tekketepe**	**3.31**	**47**	*i* P	**Pn**	**15 14 37.0**	**+2.2**
TKTP				*i* S	**Sb**	**15 15 23.5**	**+1.4**
PRK	**Paraskevi**	**3.54**	**347**	*e*PN	**Pn**	**15 14 37.1**	**-0.9**
ATH	**Athens Observa**	**3.59**	**308**	*e*PN	**Pn**	**15 14 38.5**	**-0.2**
VLI	**Veliai**	**3.63**	**286**	*e*P	**Pn**	**15 14 40.5**	**+1.3**
VLI	**Veliai**	**3.63**	**286**	P	**Pn**	**15 14 40.9**	**+1.7**
GDZ	**Gediz**	**3.73**	**27**	*i* P	**Pn**	**15 14 41.0**	**+0.4**
GDZ				*i* S	**Sg**	**15 15 46.2**	**+3.5**
DST	**Dursunbey**	**3.95**	**15**	PN	**Pn**	**15 14 43.5**	**-0.2**
ALT	**Altintas**	**3.96**	**34**	PN	**Pn**	**15 14 43.5**	**-0.3**
EZN	**Ezine**	**4.09**	**350**	PN	**Pn**	**15 14 47.1**	**+1.5**
EZN	**Ezine**	**4.09**	**350**	Pn	**Pn**	**15 14 47.6**	**+2.0**
CANB	**Canakkale**	**4.22**	**358**	*e*PN	**Pn**	**15 14 48.7**	**+1.4**
PPCY	**Paphos**	**4.24**	**101**	P	**Pn**	**15 14 48.6**	**+1.0**
ALFC	**Alevga**	**4.39**	**97**	P	**Pn**	**15 14 49.8**	**+0.1**
	17nm,0.5s						
ALFC				S	**Sn**	**15 15 38.6**	**-2.3**
LIA	**Limnos Island**	**4.42**	**339**	*e*P	**Pn**	**15 14 50.5**	**+0.4**
LKR	**Lokris**	**4.45**	**311**	*e*P	**Pn**	**15 14 52.0**	**+1.5**
GADA	**Gvkgeada**	**4.52**	**346**	*e*PN	**Pn**	**15 14 51.6**	**+0.1**
ITM	**Ithomi**	**4.53**	**289**	*e*P	**Pn**	**15 14 55.0**	**+3.4**
ITM	**Ithomi**	**4.53**	**289**	P	**Pn**	**15 14 54.4**	**+2.8**
BNT	**Bandirma**	**4.58**	**6**	*e*PN	**Pn**	**15 14 52.9**	**+0.6**
KONT	**Konya--Tatoy**	**4.61**	**61**	*e*PN	**Pn**	**15 14 53.9**	**+1.2**
SLUM		**4.62**	**202**	⇓*i*P	**Pn**	**15 14 54.7**	**+1.8**
SLUM				S	**Sn**	**15 15 42.6**	**-4.1**
ERMK	**Ermenek**	**4.63**	**78**	*i* P	**Pn**	**15 14 55.5**	**+2.5**
HMAT	**Matruh**	**4.69**	**182**	⇑P	**Pn**	**15 14 54.8**	**+0.9**
SZAC	**Souni-Zanaja**	**4.70**	**101**	P	**Pn**	**15 14 54.6**	**+0.6**
	18nm,0.3s						
SZAC				S	**Sn**	**15 15 47.7**	**-0.9**
NEO	**Neokhori**	**4.76**	**319**	*e*P	**Pn**	**15 14 56.0**	**+1.2**
KIZT	**Kizilcal**	**4.79**	**49**	*e*PN	**Pn**	**15 14 57.1**	**+1.9**
MRMT	**Marmara Adasi**	**4.81**	**3**	*e*PN	**Pn**	**15 14 57.4**	**+2.0**
DABA	**Dabaa**	**4.85**	**170**	⇑P	**Pn**	**15 14 56.2**	**+0.3**
GEMT	**Gemlik**	**4.87**	**17**	*e*PN	**Pn**	**15 14 56.8**	**+0.5**
RKY	**Sarkoy-Tekirda**	**4.88**	**359**	*e*PN	**Pn**	**15 14 56.8**	**+0.3**
MFT	**Murefte**	**4.98**	**0**	*e*PN	**Pn**	**15 14 59.5**	**+1.7**
MFT	**Murefte**	**4.98**	**0**	Pn	**Pn**	**15 14 58.0**	**+0.2**
ENEZ	**Enez**	**5.01**	**350**	*e*PN	**Pn**	**15 14 59.7**	**+1.5**
CSS	**Prodhromos**	**5.01**	**98**	P	**Pn**	**15 14 58.3**	**0.0**
	18nm,0.9s						
CSS				S	**Sn**	**15 15 55.0**	**-1.3**
ADVT	**Abdulvahap**	**5.02**	**22**	*e*PN	**Pn**	**15 14 59.7**	**+1.3**
YLV	**Yalova**	**5.04**	**18**	*e*PN	**Pn**	**15 14 59.7**	**+1.1**
AGG	**Agios Georgios**	**5.09**	**311**	*e*Pn	**Pn**	**15 15 01.8**	**+2.6**
ALN	**Alexandroupoli**	**5.18**	**350**	*e*Pn	**Pn**	**15 15 01.1**	**+0.5**
IKL	**Isikli**	**5.21**	**83**	*e*PN	**Pn**	**15 15 02.6**	**+1.6**
EVR	**Evrytania**	**5.36**	**307**	*e*P	**Pn**	**15 15 05.5**	**+2.5**
HRT	**Hereke**	**5.36**	**20**	Pn	**Pn**	**15 15 05.0**	**+2.0**
ISK	**Istanbul-Kandi**	**5.44**	**14**	*e*PN	**Pn**	**15 15 05.4**	**+1.2**
PLG	**Polygyros**	**5.48**	**328**	*e*P	**Pb**	**15 15 11.5**	**-7.3**
RDO	**Rodhopi**	**5.51**	**346**	*e*P	**Pn**	**15 15 05.0**	**-0.1**
RDO	**Rodhopi**	**5.51**	**346**	P	**Pn**	**15 15 08.3**	**+3.2**
MDU	**Mudurnu**	**5.60**	**32**	*e*PN	**Pn**	**15 15 07.9**	**+1.6**
MEST	**Erdemli**	**5.61**	**80**	*i* P	**Pn**	**15 15 08.0**	**+1.5**
MEST				*i* S	**Sn**	**15 16 08.4**	**-2.6**
KLYT	**Kilyos**	**5.62**	**14**	*e*PN	**Pn**	**15 15 07.9**	**+1.3**
HBRG	**Burj al 'Arab**	**5.63**	**157**	⇓P	**Pn**	**15 15 06.8**	**0.0**
LIT	**Litokhoron**	**5.72**	**320**	*e*Pn	**Pn**	**15 15 09.4**	**+1.3**
VLS	**Valsamata**	**5.86**	**296**	*e*P	**Pn**	**15 15 14.5**	**+4.6**
MERS	**Mersin**	**5.95**	**78**	*e*PN	**Pn**	**15 15 12.9**	**+1.8**
LOD	**Lodumlu**	**5.96**	**45**	*e*PN	**Pn**	**15 15 13.1**	**+1.8**
ANTO	**Ankara**	**5.96**	**45**	⇑*i*P	**Pn**	**15 15 13.4**	**+2.1**
ANTO	**Ankara**	**5.96**	**45**	*e*P	**Pn**	**15 15 12.5**	**+1.2**
	70nm,0.9s						
ANTO	**Ankara**	**5.96**	**45**	*e*P	**Pn**	**15 15 12.5**	**+1.2**
	70nm,0.9s						
KDZ	**Kurdzhali**	**6.02**	**347**	P	**Pn**	**15 15 15.5**	**+3.4**
LKD	**Levkas**	**6.03**	**301**	*e*Pn	**Pn**	**15 15 15.3**	**+3.1**
LKD				*e*Sn	**Sn**	**15 16 22.9**	**+1.6**
EDRB	**Edirne**	**6.06**	**356**	*e*PN	**Pn**	**15 15 13.1**	**+0.5**
MEV	**Metsovon**	**6.23**	**312**	*e*Pn	**Pn**	**15 15 17.9**	**+2.9**
KAMT	**Kaman**	**6.23**	**53**	*e*PN	**Pn**	**15 15 15.9**	**+0.9**
KZN	**Kozani**	**6.26**	**318**	*e*P	**Pn**	**15 15 19.0**	**+3.7**
BR131	**Keskin Array S**	**6.38**	**50**	*e*P	**Pn**	**15 15 18.2**	**+1.1**
	7.8nm,0.4s						
BR131	**Keskin Array S**	**6.38**	**50**	*e*P	**Pn**	**15 15 18.2**	**+1.1**
	7.8nm,0.4s						
BRTR	**Keskin Array B**	**6.38**	**50**	Pn	**Pn**	**15 15 17.1**	**-0.1**
	0.8nm,0.3s,baz=222,slow=13,SNR=26						
BRTR				Sn	**Sn**	**15 16 29.0**	**-1.1**
	baz=241,slow=30,SNR=1.6						
BRTR	**Keskin Array B**	**6.38**	**50**	Pn	**Pn**	**15 15 17.0**	**-0.1**
BRTR				Sn	**Sn**	**15 16 29.0**	**-1.1**
JAN	**Janina**	**6.39**	**309**	*e*P	**Pn**	**15 15 10.5**	**-6.6**
MMB	**Musomiste**	**6.42**	**335**	P	**Pn**	**15 15 21.5**	**+4.0**
KARA	**Karaisali**	**6.43**	**75**	*e*PN	**Pn**	**15 15 18.3**	**+0.6**
VAY	**Valandovo**	**6.63**	**328**	*i* P	**Pb**	**15 15 35.4**	**-3.0**
SWA1		**6.65**	**192**	P	**Pn**	**15 15 22.1**	**+1.4**
SWA1				S	**Sn**	**15 16 30.2**	**-6.3**
IGT	**Igoumenitsa**	**6.65**	**306**	*e*Pn	**Pn**	**15 15 22.8**	**+2.0**
IGT				*e*Sn	**Sn**	**15 16 35.7**	**-1.0**
SWA2		**6.71**	**194**	⇑P	**Pn**	**15 15 23.0**	**+1.4**
SQR		**6.76**	**150**	⇑P	**Pn**	**15 15 22.8**	**+0.6**
HNAT	**Natroun**	**6.76**	**154**	⇓P	**Pn**	**15 15 22.2**	**0.0**
CDAG	**Cicekdag**	**6.80**	**54**	*i* P	**Pn**	**15 15 24.1**	**+1.3**
CDAG				*i* S	**Sg**	**15 17 22.3**	**+1.1**
FNA	**Florina**	**6.81**	**319**	*e*Pn	**Pn**	**15 15 24.4**	**+1.6**
FYM	**Al Fayyum**	**6.86**	**151**	⇓P	**Pn**	**15 15 23.6**	**0.0**
AYT	**Al 'Ayyat**	**6.89**	**151**	⇑P	**Pn**	**15 15 23.6**	**-0.5**
CEYT	**Ceyhan**	**6.94**	**77**	*e*PN	**Pn**	**15 15 25.3**	**+0.6**
KOT	**Kottamia**	**6.99**	**146**	⇑P	**Pn**	**15 15 25.4**	**0.0**
BIA	**Bitola**	**7.00**	**320**	*i* P	**Pn**	**15 15 30.6**	**+5.1**
KOZT	**Kozan**	**7.08**	**74**	*e*PN	**Pn**	**15 15 27.9**	**+1.3**
HHAG	**Hagoal**	**7.10**	**144**	⇑P	**Pn**	**15 15 26.9**	**0.0**
HHAG				S	**Sn**	**15 16 38.3**	**-9.3**
KEK	**Kerkira**	**7.10**	**306**	*e*P	**Pn**	**15 15 32.0**	**+5.1**
HSAF	**As Saff**	**7.13**	**148**	⇓P	**Pn**	**15 15 27.6**	**+0.2**
AMAG	**Maghara**	**7.15**	**134**	⇑P	**Pn**	**15 15 27.0**	**-0.6**
HTY	**Hatay**	**7.19**	**85**	*e*PN	**Pn**	**15 15 28.8**	**+0.6**
GLL	**Jalalah**	**7.24**	**148**	⇓*i*P	**Pn**	**15 15 29.1**	**+0.2**
GLL	**Jalalah**	**7.24**	**148**	P	**Pn**	**15 15 29.0**	**+0.2**
MMAI	**Mount Meron Ar**	**7.26**	**110**	Pn	**Pn**	**15 15 28.6**	**-0.6**
	7.1nm,0.3s,baz=308,slow=12,SNR=12						
MMAI				Sn	**Sn**	**15 16 49.0**	**-2.7**
	24nm,0.3s,baz=306,slow=24,SNR=15						
CORM	**Corum**	**7.27**	**51**	*e*P	**Pn**	**15 15 29.9**	**+0.7**
HWQ	**Hawqa**	**7.27**	**100**	*e*Pn	**Pn**	**15 15 29.4**	**+0.1**
COBT	**Iskenderun**	**7.30**	**82**	*i* P	**Pn**	**15 15 30.1**	**+0.5**
COBT				*i* S	**Sn**	**15 16 50.1**	**-2.5**
OHR	**Ohrid**	**7.35**	**318**	*i* P	**Pn**	**15 15 39.9**	**+10**
RCY	**Rachaya**	**7.41**	**106**	*e*Pn	**Pn**	**15 15 30.3**	**-0.8**
TOS	**Tosya**	**7.44**	**43**	Pn	**Pn**	**15 15 32.9**	**+1.3**
VTS	**Vitosha**	**7.49**	**336**	⇓*i*P	**Pn**	**15 15 37.4**	**+5.2**
VTS	**Vitosha**	**7.49**	**336**	P	**Pn**	**15 15 36.5**	**+4.3**
SUZ		**7.56**	**140**	⇑P	**Pn**	**15 15 33.3**	**+0.1**
AWBH		**7.58**	**169**	⇑P	**Pn**	**15 15 33.6**	**+0.1**
HBNS	**Bani Suwayf**	**7.59**	**153**	⇑P	**Pn**	**15 15 33.7**	**0.0**
SKO	**Skopje**	**7.66**	**325**	*e*P	**Pn**	**15 15 47.3**	**+13**
ZAF		**7.87**	**144**	⇑P	**Pn**	**15 15 37.4**	**-0.1**
ZNM		**7.95**	**142**	⇑P	**Pn**	**15 15 38.9**	**+0.3**
HNKL	**Nakhl**	**8.12**	**134**	⇑P	**Pn**	**15 15 41.3**	**+0.3**
ASF	**Jabal al Asfar**	**8.77**	**112**	Pn	**Pn**	**15 15 51.1**	**+1.3**
	0.6nm,0.3s,baz=349,slow=16,SNR=3.8						
ASF				Sn	**Sn**	**15 17 27.1**	**-1.6**
	1.4nm,0.3s,baz=228,slow=21,SNR=2.7						
GRB	**Gharib**	**8.84**	**147**	⇑P	**Pn**	**15 15 51.2**	**+0.5**
EIL	**Elat**	**8.89**	**131**	*e*P	**Pn**	**15 15 50.7**	**-0.8**
	404nm,0.7s						
EIL				*e*Sn	**Sn**	**15 17 23.7**	**-8.0**
EIL	**Elat**	**8.89**	**131**	*e*P	**Pn**	**15 15 50.7**	**-0.8**
	404nm,0.7s						
EIL				*e*Sn	**Sn**	**15 17 23.7**	**-8.0**
TIP	**Timpagrande**	**9.02**	**295**	P	**Pn**	**15 15 56.1**	**+2.9**
HBST	**Basata**	**9.09**	**134**	⇑P	**Pn**	**15 15 54.7**	**+0.5**
HKAT	**Jabal Katrina**	**9.21**	**140**	⇓P	**Pn**	**15 15 55.9**	**0.0**
MALT	**Malatya**	**9.26**	**71**	⇓*i*P	**Pn**	**15 15 59.0**	**+2.4**
MALT	**Malatya**	**9.26**	**71**	*e*P	**Pn**	**15 15 58.5**	**+1.9**
	5.4nm,0.5s						
MALT	**Malatya**	**9.26**	**71**	*e*P	**Pn**	**15 15 58.5**	**+1.9**
	5.4nm,0.5s						
SOI	**Samo**	**9.27**	**288**	P	**Pn**	**15 15 59.3**	**+2.6**
HDHB	**Dhahab**	**9.40**	**137**	⇓P	**Pn**	**15 15 59.0**	**+0.6**
MLR	**Muntele Rosu**	**9.74**	**354**	Pn	**Pn**	**15 16 05.1**	**+2.0**
	0.3nm,0.3s,baz=232,slow=6.2,SNR=4.3						
MLR				LR	LR	15 20 21.7	
	comp=Z,180nm,18.3s,baz=346,slow=41						
MLR	**Muntele Rosu**	**9.74**	**354**	⇑*i*P	**Pn**	**15 16 05.3**	**+2.2**
MLR	**Muntele Rosu**	**9.74**	**354**	⇑P	**Pn**	**15 16 05.3**	**+2.2**
VOIR		**9.78**	**351**	⇑*i*P	**Pn**	**15 16 05.7**	**+2.0**
VOIR		**9.78**	**351**	⇑P	**Pn**	**15 16 05.7**	**+2.0**
HAVL	**Avola**	**9.87**	**280**	P	**Pn**	**15 16 05.6**	**+0.7**
CUC	**Castrocucco**	**9.98**	**298**	Pn	**Pn**	**15 16 09.8**	**+3.4**
DIVS	**Divcibare**	**10.00**	**328**	*i* Pn	**Pn**	**15 16 10.9**	**+4.3**
PZI	**Palazzolo**	**10.02**	**281**	P	**Pn**	**15 16 07.2**	**+0.3**
VRI	**Vrincioaia**	**10.07**	**358**	⇑*i*P	**Pn**	**15 16 13.8**	**+6.2**
VRI	**Vrincioaia**	**10.07**	**358**	⇑P	**Pn**	**15 16 13.8**	**+6.1**
BBLS	**Bajina Basta -**	**10.07**	**326**	*i* Pn	**Pn**	**15 16 12.1**	**+4.4**
HMDC	**Modica**	**10.14**	**280**	P	**Pn**	**15 16 13.0**	**+4.3**
GZR	**Gura Zlata**	**10.18**	**342**	⇓*i*P	**Pn**	**15 16 11.4**	**+2.3**
GZR	**Gura Zlata**	**10.18**	**342**	⇓P	**Pn**	**15 16 11.4**	**+2.3**
HVZN	**Vizzini**	**10.21**	**281**	P	**Pn**	**15 16 11.3**	**+1.7**
SLCN	**Sala Consilina**	**10.26**	**300**	P	**Pn**	**15 16 13.0**	**+2.8**
HDK1	**Dakhla**	**10.38**	**169**	⇑P	**Pn**	**15 16 12.8**	**+0.9**
VAE	**Valguarnera**	**10.47**	**283**	Sn	**Sn**	**15 18 07.2**	**-3.4**
	3.0nm,0.3s,baz=189,slow=16,SNR=4.5						
RAFF	**Raffo Rosso**	**10.49**	**282**	Pn	**Pn**	**15 16 13.7**	**+0.2**
SGO	**Sicignano**	**10.55**	**300**	P	**Pn**	**15 16 15.8**	**+1.5**
GTR	**Jabal at Tayr**	**10.63**	**164**	⇑P	**Pn**	**15 16 14.9**	**-0.5**
FG4	**Candela**	**10.64**	**304**	P	**Pn**	**15 16 21.0**	**+5.5**
CSSN	**Cassano Irpino**	**10.87**	**301**	P	**Pn**	**15 16 22.2**	**+3.6**
DRGR		**11.51**	**344**	⇓*i*P	**Pn**	**15 16 22.2**	**-5.1**
DRGR		**11.51**	**344**	⇓P	**Pn**	**15 16 22.2**	**-5.2**
PKSM	**Moragy**	**12.27**	**331**	P	**Pn**	**15 16 40.9**	**+3.1**
VYHS	**Vyhne**	**14.14**	**336**	*e*P	**Pn**	**15 17 05.6**	**+2.3**
VYHS				pmax	pmax		
	comp=Z,8.0nm,1.5s						
VYHS	**Vyhne**	**14.14**	**336**	*e*P	**Pn**	**15 17 05.6**	**+2.3**
	comp=Z,8.3nm,1.5s						
KWP	**Kalwaria**	**14.22**	**348**	P	**Pn**	**15 17 06.8**	**+2.3**
KWP				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KWP	**Kalwaria**	**14.22**	**348**	P	**Pn**	**15 17 06.8**	**+2.3**
	comp=Z,8.7nm,0.9s						
KWP	**Kalwaria**	**14.22**	**348**	P	**Pn**	**15 17 06.8**	**+2.3**
	comp=Z,8.7nm,0.9s						
KIV	**Kislovodsk**	**14.35**	**51**	P	**Pn**	**15 17 14.6**	**+8.4**
KIV				pmax	pmax		
	comp=Z,15nm,0.8s						
KIV	**Kislovodsk**	**14.35**	**51**	P	**Pn**	**15 17 14.6**	**+8.5**
	comp=Z,15nm,0.8s						
VOY	**Vojsko**	**14.37**	**319**	*e*Pn	**Pn**	**15 17 07.0**	**+0.6**
VOY				*e*		15 17 12.8	
GNI	**Garni**	**14.44**	**67**	LR	LR	15 24 03.0	
	comp=Z,202nm,20.3s,baz=272,slow=43						
GNI	**Garni**	**14.44**	**67**	P	**Pn**	**15 17 03.9**	**-3.5**
NIE	**Niedzica**	**14.54**	**342**	*e*P	**Pn**	**15 17 18.1**	**+9.4**
ZEI	**Tsey**	**14.62**	**57**	*e*P	**Pn**	**15 17 15.5**	**+5.6**
AKASG	**Malin Array Be**	**14.96**	**5**	Pn	**Pn**	**15 17 18.5**	**+4.0**
	comp=Z,0.8nm,0.3s,baz=196,slow=11,SNR=13						
AKASG	**Malin Array Be**	**14.96**	**5**	*i* P	**Pn**	**15 17 19.6**	**+5.0**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKASG	**Malin Array Be**	**14.96**	**5**	Pn	**Pn**	**15 17 18.5**	**+4.0**
KBA	**Koelnbreinsper**	**15.34**	**322**	⇓*i*P	**Pn**	**15 17 24.6**	**+5.0**
	comp=Z,36nm,1.1s						
KBA	**Koelnbreinsper**	**15.34**	**322**	P	**Pn**	**15 17 22.2**	**+2.6**
OJC	**Ojcow**	**15.41**	**342**	*e*P	**Pn**	**15 17 24.5**	**+4.1**
MOA	**Molln**	**15.44**	**325**	⇑*i*P	**Pn**	**15 17 25.5**	**+4.8**
	comp=Z,7.6nm,1.1s						
VRAC	**Vranov**	**15.61**	**333**	Pn	**Pn**	**15 17 23.8**	**+0.8**

comp=Z,1.8nm,0.3s,baz=162,slow=14,SNR=5.2
MORC Moravsky Berou 15.67 336 P **Pn** **15 17 26.9 +3.0**
MORC pmax pmax
comp=Z,4.0nm,0.6s
MORC Moravsky Berou 15.67 336 P **Pn** **15 17 26.9 +3.1**
comp=Z,4.2nm,0.6s
MORC *e* 15 17 38.5
MORC Moravsky Berou 15.67 336 P **Pn** **15 17 26.9 +3.0**
comp=Z,4.0nm,0.6s
PGF Pioggiola 15.68 301 *e*P **Pn** **15 17 22.7 -1.3**
TREC Trest 16.02 331 *e*P **Pn** **15 17 31.5 +3.2**
WTTA Wattenberg 16.35 319⇑ *i*P **Pn** **15 17 36.9 +4.3**
comp=Z,24nm,1.1s
WTTA Wattenberg 16.35 319⇑ *i*P **Pn** **15 17 36.9 +4.3**
WTTA pmax pmax
comp=Z,24nm,1.1s
GEC2 GERESS Array S 16.42 327 *e*P **Pn** **15 17 34.8 +1.3**
comp=Z,10.0nm,1.0s
GEC2 GERESS Array S 16.42 327 *e*P **Pn** **15 17 34.8 +1.3**
GEC2 pmax pmax
comp=Z,10.0nm,1.0s
GERES GERESS Array B 16.42 327 Pn **Pn** **15 17 34.3 +0.8**
comp=Z,0.2nm,0.3s,baz=138,slow=12,SNR=16
MOTA Moosalm 16.68 319⇑ *i*P **Pn** **15 17 39.4 +2.6**
comp=Z,8.0nm,1.1s
MOTA Moosalm 16.68 319⇑ *i*P **Pn** **15 17 39.4 +2.6**
MOTA pmax pmax
comp=Z,8.0nm,1.1s
KHC Kasperske Hory 16.69 327 *e*P **Pn** **15 17 37.9 +1.0**
KHC Kasperske Hory 16.69 327⇓ *e*P **Pn** **15 17 38.5 +1.6**
UPC Upice 16.82 334 *e*P **Pn** **15 17 38.7 +0.2**
PRU Pruhonice 16.94 331 *e*P **Pn** **15 17 40.3 +0.2**
KSP Ksiaz 17.00 336 *e*P **Pn** **15 17 42.4 +1.6**
WET Wettzell 17.01 326 *e*P **Pn** **15 17 42.2 +1.2**
comp=Z,8.0nm,0.9s
WET Wettzell 17.01 326 *e*P **Pn** **15 17 42.2 +1.2**
WET pmax pmax
comp=Z,8.0nm,0.9s
DAVOX Davos 17.03 315 Pn **Pn** **15 17 44.0 +2.8**
comp=Z,0.3nm,0.3s,baz=136,slow=5.4,SNR=3.9
DAVOX LR LR 15 24 31.5
comp=Z,157nm,19.3s,baz=87,slow=38
SBF Sospel 17.21 304 *e*P **Pn** **15 17 42.0 -1.5**
AUTN L'Aution 17.27 304 *e*P **Pn** **15 17 47.8 +3.6**
DAVA Damuels 17.32 317⇓ *i*P **Pn** **15 17 44.9 +0.1**
comp=Z,20nm,1.0s
PVCC Panska Ves 17.36 332 *e*P **Pn** **15 17 47.2 +1.8**
TOUF Mont Tournerai 17.39 304 *e*P **Pn** **15 17 45.6 -0.1**
FRF La Foret Royal 17.64 302 *e*P **Pn** **15 17 47.3 -1.6**
LMR La Mourre 17.67 302 *e*P **Pn** **15 17 47.3 -1.9**
comp=Z,6.5nm,0.7s
LMR La Mourre 17.67 302 *e*P **Pn** **15 17 47.3 -1.9**
LMR pmax pmax
comp=Z,3.0nm,0.6s
LMR La Mourre 17.67 302 *e*P **Pn** **15 17 47.3 -1.9**
comp=Z,3.3nm,0.6s
ROTZ Rotzenmuhle 17.77 326 *e*P **Pn** **15 17 50.8 +0.4**
comp=Z,11nm,1.0s
BRG Berggiesshubel 17.88 332 *e*P **Pn** **15 17 51.2 -0.6**
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 17.88 332 *e*P **Pn** **15 17 52.1 +0.3**
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG Berggiesshubel 17.88 332 *e*P **Pn** **15 17 52.1 +0.3**
comp=Z,2.9nm,0.9s
MANZ Manzenberg 17.97 327 *e*P **Pn** **15 17 53.2 +0.3**
comp=Z,24nm,1.5s
MBDF Montbardon 17.98 306 *e*P **Pn** **15 17 51.2 -1.8**
TAVF Tavernes 18.07 302 *e*P **Pn** **15 17 57.7 +3.6**
FBE Freiberg 18.15 331 *e*P **Pn** **15 17 54.6 -0.5**
comp=Z,13nm,1.0s
GRA1 Grafenberg Arr 18.16 325 *e*P **Pn** **15 17 55.4 +0.1**
comp=Z,27nm,1.2s
GRF Grafenberg Arr 18.16 325 *e*P **Pn** **15 17 55.4 +0.1**
comp=Z,27nm,1.2s
GRF Grafenberg Arr 18.16 325 *e*P **Pn** **15 17 55.4 +0.1**
GRF pmax pmax
comp=Z,27nm,1.2s
GRF Grafenberg Arr 18.16 325 *e*P **Pn** **15 17 55.4 +0.1**
GRF pmax pmax
comp=Z,27nm,1.2s
WERD Werda 18.22 328 *e*P **Pn** **15 17 55.4 -0.6**
comp=Z,8.0nm,0.9s
LPG La Plagne 18.30 308 *e*P **Pn** **15 17 55.6 -1.3**
comp=Z,17nm,0.8s
LPG La Plagne 18.30 308 *e*P **Pn** **15 17 55.6 -1.3**
LPG pmax pmax
comp=Z,8.0nm,0.8s
LPG La Plagne 18.30 308 *e*P **Pn** **15 17 55.6 -1.3**
comp=Z,8.4nm,0.8s
SUW Suwalki 18.44 352 *e*P **Pn** **15 17 59.0 +0.4**
CLL Collm 18.59 331 *e*P **Pn** **15 17 59.3 -1.1**
comp=Z,12nm,1.2s
CLL Collm 18.59 331 ⇑P **Pn** **15 18 01.6 +1.2**
comp=Z,logA/T=1.0
CLL Collm 18.59 331⇑ *i*P **Pn** **15 18 01.6 +1.2**
comp=Z,12nm,1.2s
CLL Collm 18.59 331⇑ *i*P **Pn** **15 18 01.6 +1.2**
CLL pmax pmax
comp=Z,12nm,1.2s
CLL Collm 18.59 331⇑ *i*P **Pn** **15 18 01.6 +1.2**
comp=Z,12nm,1.2s
ORIF Oris-en-Rattie 18.64 306 *e*P **Pn** **15 17 59.4 -1.6**
MOX Moxa 18.66 328 *e*P **Pn** **15 18 02.1 +0.7**
comp=Z,14nm,1.2s
MOX Moxa 18.66 328 *e*P **Pn** **15 18 03.9 +2.5**
FELD Feldberg im Sc 18.70 316 *e*P **Pn** **15 18 01.6 -0.2**
BFO Black Forest 18.77 318 *e*P **Pn** **15 18 02.0 -0.7**
comp=Z,6.0nm,0.9s
BFO Black Forest 18.77 318 *e*P **Pn** **15 18 02.0 -0.7**
BFO pmax pmax
comp=Z,6.0nm,0.9s
GKP Gorka Klasztor 18.85 341 *e*P **Pn** **15 18 03.8 +0.2**
CABF La Chapelle 19.20 311 *e*P **Pn** **15 18 05.5 -2.4**
comp=Z,12nm,0.8s
CABF La Chapelle 19.20 311 *e*P **Pn** **15 18 05.5 -2.4**
CABF pmax pmax
comp=Z,6.0nm,0.8s
CABF La Chapelle 19.20 311 *e*P **Pn** **15 18 05.5 -2.4**
comp=Z,6.2nm,0.8s
RUE Ruedersdorf 19.23 334 Pn **Pn** **15 18 07.7 -0.6**
RUE Ruedersdorf 19.23 334 Pn **Pn** **15 18 07.7 -0.6**
TOD Tromm 19.29 321 *e*P **Pn** **15 18 07.2 -1.7**
WLS Welschbruch 19.36 317 *e*P **Pn** **15 18 08.9 -0.9**
CDF Champ du Feu 19.40 317 *e*P **Pn** **15 18 08.8 -1.5**
comp=Z,28nm,0.9s
CDF Champ du Feu 19.40 317 *e*P **Pn** **15 18 08.8 -1.5**
CDF pmax pmax
comp=Z,14nm,0.9s
CDF Champ du Feu 19.40 317 *e*P **Pn** **15 18 08.8 -1.5**
comp=Z,14nm,0.9s
VIVF Saint-Julien-l 19.42 305 *e*P **Pn** **15 18 08.2 -2.3**
comp=Z,12nm,0.8s
VIVF Saint-Julien-l 19.42 305 *e*P **Pn** **15 18 08.2 -2.3**
VIVF pmax pmax
comp=Z,6.0nm,0.8s
VIVF Saint-Julien-l 19.42 305 *e*P **Pn** **15 18 08.2 -2.3**
comp=Z,6.1nm,0.8s
UBBA Unterbreizbach 19.51 326 *e*P **Pn** **15 18 12.7 +1.1**
comp=Z,9.0nm,1.5s
HAU Haudompre 19.71 315 *e*P **Pn** **15 18 11.8 -2.2**
LASF Ste Croix 19.73 302 *e*P **Pn** **15 18 11.2 -2.9**
THEF They Montfort 20.04 315 *e*P **P** **15 18 15.7 -0.4**
ABH Alteburg 20.10 321 *e*P **P** **15 18 16.1 -0.7**
RUP Ruppelstein 20.25 320 *e*P **P** **15 18 17.6 -0.8**
OBN Obninsk 20.35 15 *de*P **P** **15 18 18.4 -1.1**
OBN *e*S **S** **15 22 04.5 -3.1**
OBN pmax pmax
comp=Z,56nm,0.7s
OBN MLR MLR
comp=Z,200nm,15.0s,MS3.6
OBN Obninsk 20.35 15 *e*P **P** **15 18 18.4 -1.1**
comp=Z,43nm,0.9s
OBN Obninsk 20.35 15 *e*P **P** **15 18 18.4 -1.1**
comp=Z,43nm,0.9s
LBL Lubilhac 20.49 305 *e*P **P** **15 18 23.1 +2.0**
PLDF La Plantade 20.50 307 *e*P **P** **15 18 19.4 -1.7**
SMF Signal de Mont 20.62 309 *e*P **P** **15 18 20.4 -2.0**
comp=Z,25nm,0.9s
SMF Signal de Mont 20.62 309 *e*P **P** **15 18 20.4 -2.0**
SMF pmax pmax
comp=Z,12nm,0.9s
SMF Signal de Mont 20.62 309 *e*P **P** **15 18 20.4 -2.0**
comp=Z,12nm,0.9s
MTLF Montolieu 20.69 299 *e*P **P** **15 18 21.3 -1.8**
AGO Saint Agoulin 20.85 307 *e*P **P** **15 18 23.8 -1.1**

LOR Lormes 20.86 311 *e*P **P** **15 18 23.7 -1.3**
comp=Z,9.9nm,0.7s
LOR Lormes 20.86 311 *e*P **P** **15 18 23.7 -1.3**
LOR pmax pmax
comp=Z,5.0nm,0.7s
LOR Lormes 20.86 311 *e*P **P** **15 18 23.7 -1.3**
comp=Z,4.9nm,0.7s
AVF Avril sur Loir 20.98 309 *e*P **P** **15 18 24.6 -1.8**
comp=Z,14nm,0.8s
AVF Avril sur Loir 20.98 309 *e*P **P** **15 18 24.6 -1.8**
AVF pmax pmax
comp=Z,7.0nm,0.8s
AVF Avril sur Loir 20.98 309 *e*P **P** **15 18 24.6 -1.8**
comp=Z,7.1nm,0.8s
SSF Saint Saulge 21.00 310 *e*P **P** **15 18 24.8 -1.7**
comp=Z,32nm,0.7s
SSF Saint Saulge 21.00 310 *e*P **P** **15 18 24.8 -1.7**
SSF pmax pmax
comp=Z,16nm,0.7s
SSF Saint Saulge 21.00 310 *e*P **P** **15 18 24.8 -1.7**
comp=Z,16nm,0.7s
BSD Bornholm Skovb 21.11 340 *i* P **P** **15 18 26.6 -1.2**
comp=Z,9.3nm,0.7s,mb4.2
BSD Bornholm Skovb 21.11 340 *i* P **P** **15 18 26.6 -1.2**
BSD pmax pmax
comp=Z,9.0nm,0.7s,mb4.2
MOS Moscow 21.17 16 *e*P **P** **15 18 27.0 -1.3**
MOS *e* 15 18 48.2
MOS pmax pmax
comp=Z,87nm,1.6s,mb4.8
MOS Moscow 21.17 16 *e*P **P** **15 18 27.0 -1.3**
comp=Z,87nm,1.6s,mb4.8
CAF Calviac 21.20 303 *e*P **P** **15 18 26.8 -1.9**
comp=Z,15nm,0.8s,mb4.1
CAF Calviac 21.20 303 *e*P **P** **15 18 26.8 -1.9**
CAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.0
CAF Calviac 21.20 303 *e*P **P** **15 18 26.8 -1.9**
comp=Z,7.4nm,0.8s,mb4.1
BGF Bois d'Agland 21.22 308 *e*P **P** **15 18 27.1 -1.8**
MEM Membach 21.33 321 P **P** **15 18 30.0 -0.1**
comp=Z,15nm,0.9s,mb4.3
TCF Toulx Ste Croi 21.53 307 *e*P **P** **15 18 30.0 -2.3**
BCLA Clavier 21.59 319 P **P** **15 18 32.1 -0.8**
BCLA E 15 18 39.2
BCLA AP 15 18 44.2
RJF Les Rejaudoux 21.68 304 *e*P **P** **15 18 31.6 -2.2**
DOU Dourbes 21.79 318 P **P** **15 18 34.2 -0.9**
DOU Dourbes 21.79 318 P **P** **15 18 34.1 -0.9**
BAIF Baives 21.98 318 *e*P **P** **15 18 35.6 -1.5**
SNF Seneffe 22.18 319 P **P** **15 18 39.0 -0.3**
SNF Seneffe 22.18 319 P **P** **15 18 38.9 -0.3**
MFF Saint Martin d 23.18 306 *e*P **P** **15 18 47.4 -2.4**
comp=Z,39nm,0.9s,mb4.5
MFF Saint Martin d 23.18 306 *e*P **P** **15 18 47.4 -2.4**
MFF pmax pmax
comp=Z,19nm,0.9s,mb4.5
MFF Saint Martin d 23.18 306 *e*P **P** **15 18 47.4 -2.4**
comp=Z,19nm,0.9s,mb4.5
LDF La Druitiere 23.84 311 *e*P **P** **15 18 53.5 -2.9**
FLN La Foliniere 24.13 311 *e*P **P** **15 18 56.4 -2.6**
comp=Z,36nm,0.7s,mb4.6
FLN La Foliniere 24.13 311 *e*P **P** **15 18 56.4 -2.6**
FLN pmax pmax
comp=Z,18nm,0.7s,mb4.6
FLN La Foliniere 24.13 311 *e*P **P** **15 18 56.4 -2.6**
comp=Z,18nm,0.7s,mb4.6
GRR Gorron 24.23 310 *e*P **P** **15 18 56.9 -3.0**
comp=Z,42nm,0.7s,mb4.7
GRR Gorron 24.23 310 *e*P **P** **15 18 56.9 -3.0**
GRR pmax pmax
comp=Z,21nm,0.7s,mb4.7
GRR Gorron 24.23 310 *e*P **P** **15 18 56.9 -3.0**
comp=Z,21nm,0.7s,mb4.7
ESDC Sonseca Array 24.94 288 P **P** **15 19 05.3 -1.1**
comp=Z,4.0nm,0.7s,mb4.0,baz=80,slow=10,SNR=9.5
SGMF Saint Gilles 25.25 309 *e*P **P** **15 19 06.5 -2.7**
comp=Z,32nm,0.9s,mb4.6
SGMF Saint Gilles 25.25 309 *e*P **P** **15 19 06.5 -2.7**
SGMF pmax pmax
comp=Z,16nm,0.9s,mb4.5
SGMF Saint Gilles 25.25 309 *e*P **P** **15 19 06.5 -2.7**
comp=Z,16nm,0.9s,mb4.6
QUIF Quistinic 25.53 308 *e*P **P** **15 19 08.9 -2.9**
comp=Z,26nm,0.8s,mb4.5
QUIF Quistinic 25.53 308 *e*P **P** **15 19 08.9 -2.9**
QUIF pmax pmax
comp=Z,13nm,0.8s,mb4.5
QUIF Quistinic 25.53 308 *e*P **P** **15 19 08.9 -2.9**
comp=Z,13nm,0.8s,mb4.5
FINES FINESS Array B 25.68 359 P **P** **15 19 11.0 -2.1**
comp=Z,9.1nm,0.8s,mb4.3,baz=153,slow=14,SNR=24
FINES PcP PcP 15 22 41.8 -1.6
comp=Z,1.9nm,0.5s,baz=157,slow=2.2,SNR=9.5
FINES FINESS Array B 25.68 359 PcP PcP 15 22 41.8 -1.6
ROSF Rostrenen 25.73 309 *e*P **P** **15 19 10.7 -2.8**
comp=Z,19nm,0.7s,mb4.4
ROSF Rostrenen 25.73 309 *e*P **P** **15 19 10.7 -2.8**
ROSF pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
ROSF Rostrenen 25.73 309 *e*P **P** **15 19 10.7 -2.8**
comp=Z,9.5nm,0.7s,mb4.4
HFS Hagfors 25.89 344 P **P** **15 19 13.0 -2.0**
comp=Z,0.0nm,0.6s,mb4.3,baz=151,slow=10,SNR=20
HFA0 Hagfors New Ar 25.90 344 P **P** **15 19 12.7 -2.4**
KLMR Klimovskoe 26.27 14 *e*P **P** **15 19 15.4 -3.1**
KLMR pmax pmax
comp=Z,30nm,1.5s,mb4.6
KLMR Klimovskoe 26.27 14 *e*P **P** **15 19 15.4 -3.1**
comp=Z,30nm,1.5s,mb4.6
KAF Kangasniemi 26.35 359 *e*p **P** **15 19 16.3 -2.8**
comp=Z,7.5nm,0.7s,mb4.3
KAF Kangasniemi 26.35 359 *e*P **P** **15 19 16.3 -2.8**
KAF pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
AKTK Aktyubinsk 26.55 47 P **P** **15 19 20.1 -0.8**
AKTK LR LR 15 32 13.3
AKTK Aktyubinsk 26.55 47 P **P** **15 19 20.1 -0.9**
AKTO Aktyubinsk 26.55 47 P **P** **15 19 20.1 -0.8**
comp=Z,9.7nm,0.8s,mb4.4,baz=254,slow=8.4,SNR=32
AKTO LR LR 15 32 13.3
comp=Z,68nm,18.2s,MS3.2,baz=12,slow=42
NA001 NORSAR Array S 27.17 342 *e*P **P** **15 19 17.6 -8.9**
NB2 NORSAR Subarra 27.26 343 P **P** **15 19 24.3 -3.1**
comp=Z,2.3nm,0.8s,mb3.8,baz=146,slow=10
NOA NORSAR Array B 27.26 343 P **P** **15 19 24.9 -2.5**
comp=Z,2.3nm,0.9s,mb3.7,baz=143,slow=6.8,SNR=5.4
NOA PcP PcP 15 22 45.4 -1.6
comp=Z,2.1nm,1.0s,baz=208,slow=3.9,SNR=3.3
NOA NORSAR Array B 27.26 343 P **P** **15 19 24.9 -2.5**
NOA PcP PcP 15 22 45.4 -1.6
NOA NORSAR Array B 27.26 343 PcP PcP 15 22 45.4 -1.7
EKA Eskdalemuir Ar 28.55 323 P **P** **15 19 38.5 -0.4**
comp=Z,0.9nm,0.5s,mb3.7,baz=116,slow=10,SNR=3.9
EKA PcP PcP 15 22 48.3 -1.9
comp=Z,2.3nm,1.0s,baz=104,slow=2.8,SNR=3.7
EKA Eskdalemuir Ar 28.55 323 PcP PcP 15 22 48.3 -1.9
ARU Arti 29.52 36 *e*P **P** **15 19 47.9 +0.4**
ARU *e* 15 20 43.2
ARU *e* 15 22 45.8
ARU *e*S **S** **15 24 42.4 +0.2**
ARU *e*SS SS 15 26 18.9 -29
TOA0 Torodi Ar. Sit 32.23 232 *e*P **P** **15 20 11.6 +0.2**
TOA0 Torodi Ar. Sit 32.23 232 *e*P **P** **15 20 11.6 +0.2**
TORD Torodi Ar. Bea 32.23 232 P **P** **15 20 11.7 +0.3**
comp=Z,5.4nm,0.4s,mb4.8,baz=36,slow=8.5,SNR=72
TORD LR LR 15 34 07.0
comp=Z,77nm,20.6s,MS3.4,baz=340,slow=38
ARCES ARCESS Array B 33.81 359 P **P** **15 20 22.8 -2.4**
comp=Z,9.1nm,0.8s,mb4.8,baz=171,slow=8.6,SNR=22
ARCES PcP PcP 15 23 01.9 -2.3
comp=Z,1.1nm,0.4s,baz=167,slow=3.3,SNR=9.8
ARCES ARCESS Array B 33.81 359 PcP PcP 15 23 01.9 -2.3
ZRNK Zerenda 33.83 46 *e*P **P** **15 20 24.6 -0.8**
ZRNK pmax pmax
comp=Z,11nm,0.9s,mb4.8
ZRNK Zerenda 33.83 46 *e*P **P** **15 20 24.6 -0.7**
comp=Z,11nm,0.9s,mb4.8
ZRNK Zerenda 33.83 46 *e*P **P** **15 20 24.6 -0.8**
comp=Z,11nm,0.9s,mb4.8
BVAR Borovoye Array 34.66 47 P **P** **15 20 31.8 -0.8**
comp=Z,2.8nm,0.9s,mb4.2,baz=256,slow=6.0,SNR=15
KURK Kurchatov 39.44 51 *d*/*i*P **P** **15 21 12.4 -0.8**
KURK Kurchatov 39.44 51 *e*P **P** **15 21 12.3 -0.9**
comp=Z,9.9nm,1.0s,mb4.5
KURK Kurchatov 39.44 51 *e*P **P** **15 21 12.3 -0.9**
comp=Z,9.9nm,1.0s,mb4.5
DBIC Dimbokro 41.32 233 P **P** **15 21 28.6 -0.2**
comp=Z,3.2nm,0.5s,mb4.2,baz=29,slow=8.1,SNR=11
MKAR Makanchi Array 41.98 57 P **P** **15 21 33.2 -1.0**
comp=Z,5.0nm,0.7s,mb4.3,baz=277,slow=6.8,SNR=22
MKAR PcP PcP 15 23 28.7 -0.7
comp=Z,1.3nm,0.6s,baz=267,slow=3.9,SNR=3.5
MKAR Makanchi Array 41.98 57 P **P** **15 21 33.2 -1.0**
MKAR PcP PcP 15 23 28.7 -0.7
NVS Novosibirsk 42.42 45 *e*P **P** **15 21 37.2 -0.6**
NVS pmax pmax
comp=Z,8.0nm,1.2s,mb4.2
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,4.0nm,0.8s
NVS Novosibirsk 42.42 45 *e*P **P** **15 21 37.2 -0.6**
comp=E,8.0nm,1.2s,mb4.2
ZAL Zalesovo 43.30 47 P **P** **15 21 43.0 -2.0**
comp=E,2.1nm,0.5s,mb4.2,baz=195,slow=6.6,SNR=8.5
ZAL LR LR 15 41 46.1
comp=E,92nm,19.8s,MS3.7,baz=102,slow=39
ZAL Zalesovo 43.30 47 P **P** **15 21 43.0 -2.0**
ZAL LR LR 15 41 46.1
WMQ Urumqi 46.19 61 P **P** **15 22 07.8 -0.2**
WMQ AP pP 15 22 23.3 +12
WMQ XP sP 15 22 30.4 +18
WMQ AMB AMB
comp=Z,9.0nm,1.1s,mb4.6
WMQ AMB AMB
comp=Z,81nm,4.1s
WMQ LR LR
comp=N,216nm,13.0s,MS4.4
WMQ LR LR
comp=E,162nm,11.9s,MS4.4
WMQ LR LR
comp=Z,218nm,13.5s,MS4.3
KOLN Koldanda 47.98 83 *e*P **P** **15 22 22.5 +0.5**
comp=Z,19nm,0.6s,mb5.3
GKN Gorkha 48.72 82 *e*P **P** **15 22 28.4 +0.7**
comp=Z,26nm,0.6s,mb5.4
DMN Daman 49.27 82 *e*P **P** **15 22 32.3 +0.5**
comp=Z,36nm,0.8s,mb5.5
KKN Kakani 49.33 82 *e*P **P** **15 22 32.6 +0.3**
comp=Z,22nm,0.6s,mb5.4
PKI Pulchoki 49.52 82 *e*P **P** **15 22 33.8 0.0**
GUN Gumba 49.76 82 *e*P **P** **15 22 36.3 +0.7**
JIRN Jiri 50.12 82 *e*P **P** **15 22 37.6 -0.7**
comp=Z,13nm,0.4s,mb5.3
LSZ Lusaka 50.80 179 P **P** **15 22 44.6 +1.1**
comp=Z,3.5nm,0.8s,mb4.4,baz=355,slow=8.0,SNR=5.9
LSZ Lusaka 50.80 179 P **P** **15 22 44.6 +1.1**
SONM Songino Array 57.74 51 P **P** **15 23 33.7 -0.4**
comp=Z,1.6nm,0.5s,mb4.3,baz=287,slow=7.8,SNR=13
SONM LR LR 15 49 06.6
comp=Z,48nm,21.4s,MS3.6,baz=70,slow=37
ULN Ulaanbaatar 58.15 51 *i* P **P** **15 23 36.8 -0.1**
BOD Bodaibo 58.89 39⇓ *i*P **P** **15 23 40.1 -1.9**
BOD pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
BOD Bodaibo 58.89 39 *i* P **P** **15 23 40.1 -1.9**
comp=Z,7.0nm,1.0s,mb4.7
TIXI Tiksi 59.96 21 *e*P **P** **15 23 47.6 -1.9**
LZH Lanzhou 60.37 65 *e*P **P** **15 23 51.3 -0.9**
LZH AP pP 15 24 05.8 +10
LZH XP sP 15 24 12.1 +15
LZH PP PP 15 26 06.3 +1.0
LZH PPP 15 27 33.5
LZH *e*S **S** **15 31 59.3 -7.6**
LZH PS 15 32 22.3
LZH AMB AMB
comp=Z,31nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,135nm,7.6s
LZH LR LR
comp=N,398nm,16.1s
LZH LR LR
comp=Z,756nm,18.3s,MS4.9
CD2 Chengdu 62.55 70 *e*P **P** **15 24 03.9 -3.1**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
SCHQ Schefferville 63.82 320 P **P** **15 24 13.3 -2.1**
comp=Z,10.0nm,0.7s,mb5.0,baz=61,slow=7.4,SNR=21
SCHQ Schefferville 63.82 320 *e*P **P** **15 24 12.7 -2.8**
comp=Z,55nm,1.4s,mb5.4
SCHQ Schefferville 63.82 320 *e*P **P** **15 24 12.6 -2.8**
comp=Z,55nm,1.4s,mb5.4
HHC Hu-ho-hao-te 63.84 57 *e*P **P** **15 24 14.9 -0.7**
HHC AP pP 15 24 27.5 +8.7
HHC XP sP 15 24 34.0 +14
HHC PP PP 15 26 36.4 +0.5
HHC SCP 15 28 47.3
HHC S **S** **15 32 44.4 -6.5**
HHC SCS ScS 15 34 02.6 -6.8
HHC AMB AMB
comp=Z,24nm,0.4s,mb5.6
HHC AMB AMB
comp=Z,215nm,5.3s
HHC LR LR
comp=N,245nm,7.0s
HHC LR LR
comp=E,229nm,4.8s
HHC LR LR
comp=Z,173nm,7.0s
YAK Yakutsk 64.46 31 *i* P **P** **15 24 17.4 -2.2**
KMI Kunming 64.48 76 P **P** **15 24 19.0 -0.8**
KMI AP pP 15 24 35.1 +12
KMI XP sP 15 24 40.5 +16
KMI PP PP 15 26 44.5 +3.0
KMI S **S** **15 32 53.1 -5.6**
KMI XS sS 15 33 17.8 +14
KMI AMB AMB
comp=Z,4.0nm,1.3s,mb4.3
KMI AMB AMB
comp=Z,297nm,5.3s
CN2 Changchun 71.46 49 *e*P **P** **15 25 03.0 -0.7**
NJ2 Nanjing 73.23 62 *e*P **P** **15 25 11.6 -2.6**
NJ2 AP pP 15 25 24.4 +6.9
NJ2 XP sP 15 25 30.0 +11
NJ2 PP PP 15 27 58.0 +0.7
NJ2 S S 15 34 35.0 -7.5
NJ2 AMB AMB
comp=Z,40nm,1.1s
NJ2 LR LR
comp=Z,1μm,15.8s
MDJ Mudanjiang 73.52 47 P **P** **15 25 12.3 -3.6**
MDJ AMB AMB
comp=Z,94nm,5.9s
SSE Sheshan 75.42 62 P **P** **15 25 23.6 -3.4**
SSE AMB AMB
comp=Z,18nm,0.7s,mb5.1
FFC Flin Flon 79.87 333 *e*P **P** **15 25 49.9 -1.9**
FFC pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
FFC Flin Flon 79.87 333 *e*P **P** **15 25 49.9 -1.9**
comp=Z,8.3nm,1.1s,mb4.6
FFC Flin Flon 79.87 333 *e*P **P** **15 25 49.9 -1.9**
comp=Z,8.3nm,1.1s,mb4.6
DAWY Dawson 79.91 354 *e*P **P** **15 25 50.4 -1.7**
ULM Lac du Bonnet 80.73 327 P **P** **15 25 54.2 -2.2**
comp=Z,9.2nm,0.6s,mb4.9,baz=22,slow=4.5,SNR=11
ULM Lac du Bonnet 80.73 327 *e*P **P** **15 25 53.8 -2.7**
comp=Z,25nm,1.2s,mb5.0
FWV Forest Hill 81.19 310 *e*P **P** **15 25 56.5 -2.5**
MJAR Matsushiro Arr 83.61 49 P **P** **15 26 10.4 -1.1**
comp=Z,2.3nm,0.9s,mb4.3,baz=303,slow=4.3,SNR=7.9
EDM Edmonton 84.99 337 *e*P **P** **15 26 16.7 -1.9**
WVT Waverly 86.41 313 *e*P **P** **15 26 23.3 -2.3**
CCM Cathedral Cave 87.08 316 *e*P **P** **15 26 26.2 -2.7**
CCM pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
CCM Cathedral Cave 87.08 316 *e*P **P** **15 26 26.2 -2.7**
comp=Z,4.4nm,0.6s,mb4.9
BDFB Brasilia 87.54 249 P **P** **15 26 32.6 +1.4**
comp=Z,4.4nm,0.5s,mb5.0,baz=65,slow=6.1,SNR=7.0
EGMT Eagleton 88.15 333 *e*P **P** **15 26 32.8 -1.3**
comp=Z,12nm,0.9s,mb5.1
RSSD Black Hills 89.00 327 *e*P **P** **15 26 37.1 -1.0**
RSSD pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
RSSD Black Hills 89.00 327 *e*P **P** **15 26 37.1 -1.0**
comp=Z,7.5nm,1.1s,mb4.9
HRY Holter Researc 90.02 333 *e*P **P** **15 26 41.2 -1.7**
DLMT Dillon 91.45 333 *e*P **P** **15 26 47.6 -1.9**
comp=Z,5.1nm,0.9s,mb4.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PHWY	Pilot Hill	91.88	326	eP	P	15 26 50.5	-0.9
PDAR	Pinedale Array	92.45	330	P	P	15 26 52.3	-1.8
	comp=Z,1.1nm,0.8s,mb4.2,baz=66,slow=4.1,SNR=8.8						
PDAR				LR	LR	16 12 46.5	
	comp=Z,43nm,19.5s,MS3.9,baz=170,slow=38						
BMO	Blue Mountains	93.55	336	eP	P	15 26 56.9	-2.3
	comp=Z,3.6nm,1.0s,mb4.8						
NVAR	Mina Array Bea	99.57	333	P	P	15 27 25.6	-0.9
	comp=Z,0.8nm,0.7s,mb4.3,baz=37,slow=4.4,SNR=7.8						
WRA	Warramunga Arr	114.95	97	PKP	PKiKP	15 32 23.3	-0.8
	comp=Z,0.5nm,0.8s,baz=304,slow=1.7,SNR=6.2						
ASAR	Alice Springs	116.47	101	PKP	PKPdf	15 32 26.1	-0.9
	comp=Z,0.6nm,0.6s,baz=319,slow=1.6,SNR=11						
PPT	Papeete	161.63	350	eLR	LR	15 35 12.3	
	comp=Z,163nm,24.8s						

*ISCJB **13** 15:38:11.3±0.7, 67.03N±0.03×20.7E±0.1, h0km, Error ellipse: s-maj=7.3km s-min=5.0km az=166.1*
*HEL **13** 15:38:11.8±0.2, 67.07N×20.43E, h0km, ML1.7, Explosion*
*IDC **13** 15:38:13.8±1.0, 67.10N×21.24E, h0km, mb1 3.0/4, mb1mx2.9/20, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=19.7km s-min=7.7km az=111.0*
ISC 13 15:38:13.0±0.7, **67.06N**±0.03×**20.8E**±0.1, **h0**km, **n11**, σ**0.85**/19, **Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.95	1	eP	Pn	15 38 46.4	-1.0
KIF				eS	Sn	15 39 12.3	-0.3
SGF	Sodankyl	2.28	78	eP	Pn	15 38 51.5	-0.4
SGF				eS	Sn	15 39 21.9	+1.3
OUL	Oulu	2.89	131	eP	Pn	15 39 00.7	+0.4
OUL				eS	Sn	15 39 36.8	+1.1
OUL				MSG		15 39 44.4	
	comp=Z,1.8nm,0.2s						
ARCES	ARCESS Array B	3.05	33	Pn	Pn	15 39 02.3	-0.2
	comp=Z,0.5nm,0.3s,baz=212,slow=14,SNR=67						
ARCES				Lg		15 39 44.1	
	comp=Z,1.1nm,0.3s,baz=216,slow=28,SNR=13						
MSF	Maaselka	3.52	105	eP	Pn	15 39 09.8	+0.8
MSF				eS	Sn	15 39 51.7	+0.4
MSF				MSG		15 40 02.5	
	comp=Z,1.7nm,0.3s						
KEV	Kevo	3.56	38	eP	Pn	15 39 09.1	-0.4
KEV				eS	Sn	15 39 52.3	+0.1
KEV				MSG		15 40 03.3	
	comp=Z,1.5nm,0.3s						
KJN	Kajaani	4.16	133	eP	Pn	15 39 17.9	+0.1
KJN				eS	Sn	15 40 06.5	-0.5
KJN				MSG		15 40 23.4	
	comp=Z,1.1nm,0.3s						
FINES	FINESS Array B	6.10	155	Pn	Pn	15 39 45.1	+0.7
	comp=Z,0.1nm,0.3s,baz=343,slow=14,SNR=8.7						
FINES				Sn	Sn	15 40 53.6	-1.3
	comp=Z,0.1nm,0.3s,baz=351,slow=22,SNR=4.2						
JOF	Joensuu	6.11	128	eP	Pn	15 39 44.2	-0.3
JOF				eS	Sn	15 40 53.0	-2.1
NOA	NORSAR Array B	7.34	219	Pn	Pn	15 40 03.0	+1.5
	comp=Z,0.1nm,0.3s,baz=318,slow=20,SNR=2.6						
HFS	Hagfors	7.63	208	Pn	Pn	15 40 05.2	-0.2
	comp=Z,0.1nm,0.3s,baz=36,slow=14,SNR=7.3						

MEX 13 16:19:57.2±0.5, **16.66N**×**100.02W**, **h7**km±2km, **MD3.6**, **1D**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.23	26	iP	Pg	16 20 01.3	-0.4
ACX				iS	Sg	16 20 05.0	+0.2
CAIG	El Cayaco	0.45	329	⇓iP	Pg	16 20 05.7	-0.3
CAIG				iS	Sg	16 20 12.1	+0.2
MEIG	Mezcala	1.31	17	iP	Pn	16 20 18.6	-3.4
MEIG				iS	Sb	16 20 34.7	-4.6
UTMO	Huajuapan	2.42	61	eP	Pn	16 20 33.7	-3.4
UTMO				iS	Sn	16 21 02.1	-4.8

*CSEM **13** 16:20:48.8±0.1, 35.53N×32.24E, h56km±3km, Mw3.3, Error ellipse: s-maj=3.7km s-min=2.5km az=102.0*
*NEIC **13** 16:20:49.1, 35.75N×32.28E, h19km, ML3.1(NIC), After NIC.*
*ISCJB **13** 16:20:49.5±0.5, 35.49N±0.03×32.13E±0.05, h33km, Error ellipse: s-maj=6.4km s-min=3.9km az=59.9*
*NIC **13** 16:20:49.1±0.2, 35.75N×32.28E, h19km, ML3.1, MW3.3*
*ISK **13** 16:20:50.4, 35.55N×32.39E, h28km, MD3.3, ML3.2*
*HLW **13** 16:20:50.8, 35.49N×32.20E, h33km, Mb3.3*
ISC 13 16:20:51.4±0.4, **35.52N**±0.03×**32.27E**±0.05, **h35**km, **n32**, σ**1.01**/48, **10C-6D**, **Cyprus region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALFC	Alevga	0.45	143	⇓iP	Pn	16 21 01.9	+0.6
	56nm,0.2s						
ALFC				S	Sn	16 21 09.9	+1.7
PPCY	Paphos	0.63	174	⇑iP	Pn	16 21 05.2	+1.3
PPCY				S	Sn	16 21 17.0	+4.3
MAMC	Mammari	0.85	114	P	Pn	16 21 06.6	-0.3
SZAC	Souni-Zanaja	0.91	146	P	Pn	16 21 08.9	+1.2
	30nm,0.2s						
SZAC				S	Sn	16 21 23.6	+4.0
CSS	Prodhromos	1.03	122	PG	Pn	16 21 07.6	-1.8
CSS				SG	Sn	16 21 22.1	-0.4
CSS	Prodhromos	1.03	122	P	Pn	16 21 09.0	-0.4
CSS				eSg	Sn	16 21 22.1	-0.4
CSS				S	Sn	16 21 24.9	+2.4
ERMK	Ermenek	1.24	25	iP	Pn	16 21 13.4	+1.2
ERMK				iS	Sn	16 21 30.0	+2.3
IKL	Isikli	1.36	57	PN	Pn	16 21 13.1	-0.8
IKL				SN	Sn	16 21 27.9	-2.8
PHNC	Paralimni	1.53	109	P	Pn	16 21 16.9	+0.7
PHNC				S	Sn	16 21 40.6	+5.7
MEST	Erdemli	1.86	54	iP	Pn	16 21 21.4	+0.6
MEST				iS	Sn	16 21 43.2	+0.2
MERS	Mersin	2.27	53	PN	Pn	16 21 26.4	0.0
MERS				SN	Sn	16 21 51.4	-1.7
KONT	Konya--Tatoy	2.43	2	PN	Pn	16 21 28.6	0.0
KARA	Karaisali	2.84	51	PN	Pn	16 21 33.2	-1.1
TKTP	Tekketepe	2.97	329	iP	Pn	16 21 41.1	+5.1
TKTP				iS	Sn	16 22 16.1	+5.8
KDHN	Kadinhani	3.00	358	iP	Pn	16 21 38.1	+1.6
CEYT	Ceyhan	3.18	61	ePN	Pn	16 21 38.9	-0.1
COBT	Iskenderun	3.38	72	iP	Pn	16 21 43.0	+1.2
COBT				iS	Sn	16 22 17.8	-2.9
KOZT	Kozan	3.47	55	ePN	Pn	16 21 42.3	-0.7
AMAG	Maghara	4.92	171	⇑P	Pn	16 22 02.4	-0.5
HBRG	Burj al ‘Arab	5.33	203	⇑P	Pn	16 22 07.9	-0.6
HHAG	Hagoal	5.55	182	⇓P	Pn	16 22 11.2	-0.2
KOT	Kottamia	5.58	184	⇑P	Pn	16 22 11.9	0.0
DABA	Dabaa	5.60	218	⇑P	Pn	16 22 11.2	-0.9
SUZ		5.68	175	⇓P	Pn	16 22 12.9	-0.4
HNKL	Nakhl	5.75	165	⇓P	Pn	16 22 14.4	+0.2
HNKL				S	Sn	16 23 14.7	-4.3
GLL	Jalalah	5.94	185	⇑P	Pn	16 22 16.7	-0.1
HMAT	Matruh	6.18	226	⇑P	Pn	16 22 19.4	-0.7
HMAT				S	Sn	16 23 24.0	-5.5
HBST	Basata	6.62	161	⇑P	Pn	16 22 25.9	-0.2
HKAT	Jabal Katrina	7.12	168	⇑P	Pn	16 22 33.2	+0.1
AWBH		7.72	203	⇑P	Pn	16 22 41.5	+0.2
SWA1		8.34	223	⇓P	Pn	16 22 49.3	-0.5
SWA1				S	Sn	16 24 15.7	-7.0
SWA2		8.50	225	⇓P	Pn	16 22 51.5	-0.5

MEX 13 16:27:07.2±0.9, **17.01N**×**99.14W**, **h28**km±23km, **MD4.0**, **1D**, **Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.76	259	iP	Pb	16 27 19.3	-2.6
ACX				iS	Sb	16 27 29.5	-2.4
MEIG	Mezcala	1.02	333	iP	Pn	16 27 23.3	-2.3
MEIG				iS	Sn	16 27 35.7	-3.2
CAIG	El Cayaco	1.08	272	⇓iP	Pn	16 27 24.6	-1.9
CAIG				iS	Sn	16 27 36.4	-4.1
PLIG	Platanillo	1.42	346	iP	Pn	16 27 29.1	-1.9
PLIG				iS	Sn	16 27 46.1	-2.6
UTMO	Huajuapan	1.51	57	eP	Pn	16 27 30.8	-1.6
UTMO				iS	Sn	16 27 48.5	-2.6
PPM	Popocatepetl	2.10	13	iP	Pn	16 27 38.7	-1.7
PPM				iS	Sn	16 28 04.5	-1.2
IIZ	Mezontepec	2.17	357	iP	Pn	16 27 38.8	-2.6
IIZ				iS	Sn	16 28 03.6	-3.7
TPIG	Tehuac#an	2.20	50	iP	Pn	16 27 39.2	-2.6
TPIG				iS	Sn	16 28 05.2	-2.7
VHO	Vista Hermosa	2.30	88	iP	Pn	16 27 42.2	-1.0
VHO				iS	Sn	16 28 09.5	-1.1
OXX	Oaxaca	2.31	88	eP	Pn	16 27 43.2	-0.1
OXX				iS	Sn	16 28 10.5	-0.3

NEIC 13 17:03:26.9, **60.96N**×**150.56W**, **h47**km, **ML3.3**(AEIC), **ML3.6**(PMR), **After AEIC.**, **Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FIB	Fire Island	0.28	42	P	Pn	17 03 35.2	-0.4
FIB				S	Sn	17 03 43.2	+1.5
SLKM	Skilak Lake	0.48	160	P	Pn	17 03 36.6	-1.1
PMR	Palmer	0.94	47	P	Pn	17 03 42.0	-1.7
PMR				S	Sn	17 03 54.9	-1.1
SEW	Seward	1.02	147	P	Pn	17 03 43.5	-1.3
SEW				S	Sn	17 03 57.9	-0.1
GHO	Glory Hole Cre	1.13	43	P	Pn	17 03 45.0	-1.4
EYAK	Cordova Ski Ar	2.40	98	P	Pn	17 04 01.1	-2.5
SVW2	Sparrevohn	2.45	275	P	Pn	17 04 02.4	-1.9
TRF	Thorofare Moun	2.50	3	P	Pn	17 04 05.0	-0.1
KTH	Kantishna Hill	2.61	356	P	Pn	17 04 06.5	0.0
MCK	McKinley	2.88	15	P	Pn	17 04 09.0	-1.3
TTA	Tatalina	3.25	310	P	Pn	17 04 13.5	-1.9
KDAK	Kodiak Island	3.35	199	P	Pn	17 04 14.4	-2.3
COLA	College	4.12	16	P	Pn	17 04 26.3	-1.0
DAWY	Dawson	6.04	54	ePn	Pn	17 04 51.5	-2.0

*ISCJB **13** 17:32:09.7±1.2, 19.0S±0.2×177.5W±0.1, h592km±22km, mb4.1/12, Error ellipse: s-maj=27.0km s-min=17.5km az=163.2*
*NEIC **13** 17:32:09.6±1.1, 19.13S×177.42W, h574km±28km, mb4.1/8, Error ellipse: s-maj=30.2km s-min=19.1km az=207.0*
*IDC **13** 17:32:10.6±1.5, 19.26S×177.33W, h591km±23km, mb3.4/6, mb1 3.6/9, mb1mx3.4/18, mbtmp4.5/9, Error ellipse: s-maj=26.1km s-min=17.9km az=148.0*
ISC 13 17:32:10.4±1.2, **19.1S**±0.2×**177.4W**±0.1, **h584**km±20km, **n22**, σ**0.89**/23, **mb4.1**/12, **4D**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.45	47	P	P	17 34 03.9	0.0
	16nm,0.3s,baz=243,slow=2.3,SNR=19						
AFI	Afiamalu	7.45	47	⇓eP	P	17 34 03.4	-0.5
AFI				P		17 34 03.9	
DZM	Mont Dzumac	15.41	256	P	P	17 35 24.4	+1.4
	0.4nm,0.3s,baz=82,slow=19,SNR=5.6						
URZ	Urewera	19.71	193	P	P	17 35 59.7	-2.5
	2.9nm,0.3s,baz=282,slow=2.4,SNR=19						
CTA	Charters Tower	34.21	262	P	P	17 38 08.9	+0.4
	3.4nm,0.6s,mb4.1,baz=89,slow=14,SNR=4.3						
CTAO	Charters Tower	34.21	262	eP	P	17 38 08.2	-0.3
	19nm,1.3s,mb4.6						
STKA	Stephens Creek	38.92	243	⇓iP	P	17 38 47.7	+0.6
	4.4nm,0.8s,mb4.0						
STKA	Stephens Creek	38.92	243	P	P	17 38 47.8	+0.7
	5.2nm,0.5s,mb4.3,baz=92,slow=9.8,SNR=24						
WB2	Warramunga Arr	45.35	261	eP	P	17 39 37.1	-0.3
WRAB	Tennant Creek	45.35	261	eP	P	17 39 36.9	-0.5
	7.0nm,0.6s,mb4.4						
WRA	Warramunga Arr	45.36	261	P	P	17 39 37.2	-0.3
	3.8nm,0.5s,mb4.2,baz=98,slow=7.7,SNR=78						
WRA				PcP	PcP	17 41 04.7	+0.4
	0.8nm,0.7s,baz=95,slow=3.4,SNR=4.3						
AS31	Alice Springs	45.40	255	⇓iP	P	17 39 37.9	+0.1
ASAR	Alice Springs	45.40	255	P	P	17 39 38.0	+0.2
	5.1nm,0.4s,mb4.4,baz=88,slow=8.0,SNR=127						
ASAR				PcP	PcP	17 41 05.5	+1.1
	0.7nm,0.5s,baz=89,slow=4.3,SNR=4.6						
ASAR				S	S	17 45 35.3	-1.8
	0.6nm,0.6s,baz=91,slow=16,SNR=6.3						
ASPA	Alice Springs	45.40	255	⇓iP	P	17 39 37.9	+0.1
KAKA	Kakadu	48.52	270	eP	P	17 40 01.6	+0.4
	8.2nm,0.4s,mb4.5						
FITZ	Fitzroy Crossi	53.78	261	eP	P	17 40 38.5	-0.6
	8.0nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	53.78	261	P	P	17 40 39.7	+0.5
	3.3nm,0.4s,mb4.0,baz=138,slow=4.0,SNR=58						
MBWA	Marble Bar	58.72	256	eP	P	17 41 12.8	-0.2
	37nm,1.4s,mb4.3						
SBA	Scott Base	59.33	184	eP	P	17 41 19.1	+1.9
	3.3nm,1.0s,mb3.4						
CASY	Casey	65.49	205	eP	P	17 41 56.2	-0.6
	3.4nm,1.0s,mb3.7						
QSPA	South Pole Qui	70.99	180	eP	P	17 42 31.0	+0.9
	2.9nm,0.9s,mb3.8						
PDAR	Pinedale Array	87.54	43	P	P	17 43 56.7	-0.4
	0.4nm,0.7s,mb3.3,baz=213,slow=4.4,SNR=4.2						

MAN 13 17:44:37.1, **8.01N**×**124.57E**, **h1**km, **mb3.0**, **ML4.4**, **MS1.6**, **3C**, **Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CGP	Cagayan de Oro	0.46	15	⇑eP	Pg	17 44 45.5	-0.4
CGP				eS	Sg	17 44 51.7	-0.2
CTBH	Cotabato--PC H	0.85	202	⇑iP	Pg	17 44 53.8	+0.4
CTBH				iS	Sg	17 45 07.0	+2.6
KCP	Kidapawan	1.12	153	⇑eP	Pg	17 44 59.2	+0.6
KCP				iS	Sg	17 45 15.7	+2.6
DCPH	Dipolog City	1.34	295	eP	Pg	17 45 00.9	-1.8
MATI	Mati	1.98	122	eP	Pn	17 45 14.1	+2.4
SCPH	Surigao	1.98	27	eP	Pn	17 45 10.1	-1.7
SCPH				eS	Sn	17 45 38.4	+1.2

IDC 13 17:51:06.8±9.2, **5.06S**×**150.09E**, **h57**km±65km, **mb3.5**/3, **mb1 3.8**/4, **mb1mx3.5**/13, **mbtmp3.9**/4, **ML2.9**/1, **MS3.5**/4, **Ms1 3.5**/4, **ms1mx3.1**/15, **Error ellipse: s-maj=101.4km s-min=69.2km az=117.0**, **New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.21	214	P	Pn	17 52 22.2	+0.1
	2.7nm,0.3s,baz=40,slow=9.6,SNR=15						
HNR	Honiara	10.70	115	LR	LR	17 56 57.0	
	comp=Z,167nm,19.0s,baz=180,slow=33						
WB2	Warramunga Arr	21.30	225	eP	P	17 55 48.6	0.0
WRA	Warramunga Arr	21.30	225	P	P	17 55 48.8	+0.1
	1.4nm,0.6s,baz=50,slow=10,SNR=18						
DZM	Mont Dzumac	23.17	138	LR	LR	18 03 41.1	
	comp=Z,162nm,19.3s,baz=33,slow=33						
ASAR	Alice Springs	24.20	219	P	P	17 56 17.9	0.0
	1.1nm,0.8s,baz=55,slow=8.2,SNR=18						
ASPA	Alice Springs	24.20	219	eP	P	17 56 19.0	+1.1
FITZ	Fitzroy Crossi	27.18	240	eP	P	17 56 46.8	+1.9
	9.8nm,0.9s						
FITZ	Fitzroy Crossi	27.18	240	P	P	17 56 45.7	+0.9
	4.5nm,1.0s,baz=68,slow=19,SNR=2.9						
MJAR	Matsushiro Arr	42.85	346	LR	LR	18 14 20.1	
	comp=Z,78nm,18.1s,baz=195,slow=32						
SONM	Songino Array	65.13	329	LR	LR	18 27 28.0	
	comp=Z,34nm,20.0s,baz=280,slow=34						
TORD	Torodi Ar. Bea	147.80	287	PKPbc	PKPbc	18 10 45.6	+0.4
	0.7nm,0.9s,baz=54,slow=3.4,SNR=3.2						

*IDC **13** 18:22:48.4±1.4, 16.44N×147.00E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.8/18, mbtmp3.8/7, Error ellipse: s-maj=58.7km s-min=20.3km az=83.0*
*NEIC **13** 18:22:49.8±0.8, 16.44N×147.01E, h10km, mb4.3/2, Error ellipse: s-maj=35.1km s-min=12.7km az=83.0*
*ISCJB **13** 18:22:51.9±1.9, 16.5N±0.1×146.8E±0.6, h33km, mb3.8/9, Error ellipse: s-maj=80.3km s-min=16.3km az=174.8*
ISC 13 18:22:53.3±1.9, **16.5N**±0.1×**147.1E**±0.6, **h35**km, **n11**, σ**0.71**/10, **mb3.8**/9, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	21.49	340	P	P	18 27 38.9	0.0
	1.6nm,0.7s,mb3.5,baz=166,slow=10,SNR=5.0						
WRA	Warramunga Arr	38.29	200	P	P	18 30 09.1	-1.2
	0.6nm,0.8s,mb3.4,baz=20,slow=9.1,SNR=3.7						
ASAR	Alice Springs	41.92	198	P	P	18 30 41.8	+1.4
	0.2nm,0.7s,mb2.9,baz=14,slow=9.5,SNR=6.5						
SONM	Songino Array	45.70	322	P	P	18 31 11.4	+0.6
	1.0nm,0.8s,mb3.8,baz=135,slow=8.5,SNR=11						
YAK	Yakutsk	47.15	349	eP	P	18 31 22.4	+0.3
	4.4nm,0.9s,mb4.4						
ZAL	Zalesovo	60.59	323	P	P	18 33 00.2	-0.1
	0.9nm,0.4s,mb4.3,baz=319,slow=8.7,SNR=3.2						
MKAR	Makanchi Array	60.96	315	P	P	18 33 03.2	+0.3
	0.3nm,0.5s,mb3.7,baz=87,slow=7.5,SNR=6.1						
MKAR	Makanchi Array	60.96	315	P	P	18 33 03.2	+0.3
KURK	Kurchatov	63.81	319	eP	P	18 33 21.1	-0.9
	0.7nm,0.6s,mb3.9						
ARCES	ARCESS Array B	85.01	342	P	P	18 35 24.8	-0.3
	4.6nm,0.8s,mb4.6,baz=57,slow=7.4,SNR=9.2						
LPAZ	La Paz	146.24	95	PKPbc	PKPbc	18 42 32.4	+2.4
	0.6nm,0.5s,baz=213,slow=1.0,SNR=3.5						

*CSEM **13** 18:41:00.1±0.1, 43.68N×11.83E, h10km, ML3.5/13, Error ellipse: s-maj=1.2km s-min=0.8km az=14.0*
*GEN **13** 18:41:00.5, 43.66N×11.96E, h14km, ML3.0*
*ISCJB **13** 18:41:01.2±0.2, 43.62N±0.02×11.77E±0.02, h14km±2km, Error ellipse: s-maj=2.9km s-min=2.1km az=166.7*
*ROM **13** 18:41:01.0±0.1, 43.66N×11.83E, h10km±1km, Md3.0/13, Ml3.1/16, Error ellipse: s-maj=1.2km s-min=0.8km az=24.0*
*NEIC **13** 18:41:01.0, 43.66N×11.83E, h10km, ML3.0(STR), ML3.0(LDG), ML3.1(ROM), After ROM.*
*VIE **13** 18:41:02.4±0.5, 43.63N×11.82E, h10km, mb2.6/6, ML2.9/9, Error ellipse: s-maj=3.9km s-min=2.9km az=175.0*
*STR **13** 18:41:02.1±1.3, 43.27N×11.64E, h10km±1km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **13** 18:41:04.0±0.2, 43.61N×11.86E, h10km, Md3.1/4, Ml3.0/14, Error ellipse: s-maj=6.6km s-min=3.7km az=24.0*
ISC 13 18:41:01.9±0.2, **43.61N**±0.02×**11.76E**±0.02, **h9**km±2km, **n85**, σ**1.21**/142, **12C-8D**, **Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRE	Caprese Michel	0.14	86	Pg	Pg	18 41 04.2	-0.8
CRE				Sg	Sg	18 41 06.2	-0.9
	19µm,0.5s						
SFI	Santa Sofia	0.30	12	Pg	Pg	18 41 06.6	-1.3
SFI				Sg	Sg	18 41 10.9	-1.0
	2µm,0.6s						
BADI	Badiali	0.37	106	Pg	Pg	18 41 08.5	-0.6
BADI				Sg	Sg	18 41 13.9	-0.1
	180µm,9.4s						
CSNT	Castellina Chi	0.37	248	Pg	Pg	18 41 09.9	+0.8
CSNT				Sg	Sg	18 41 17.3	+3.3
	1µm,0.6s						
VMG	Vicchio	0.38	336	Pg	Pg	18 41 09.2	-0.2
SEI	Scarperia	0.53	327	Pg	Pg	18 41 12.3	+0.1
SEI				Sg	Sg	18 41 20.8	+1.6
	2µm,0.4s						
RSM	Repubblica di	0.59	57	Pg	Pg	18 41 12.7	-0.7
	821nm,1.2s						
MURB	Monte Urbino	0.66	122	Pg	Pg	18 41 14.2	-0.4
MURB				Sg	Sg	18 41 24.8	+1.6
	3µm,0.4s						
FNVD	Fontana Vidola	0.72	321	Pg	Pg	18 41 15.6	-0.2
	598nm,0.6s						
GRFL	Gerfalco	0.73	231	Pg	Pg	18 41 17.5	+1.4
	109nm,0.7s						
FSSB	Fossombrone	0.74	83	Pg	Pg	18 41 14.4	-1.9
FSSB				Sg	Sg	18 41 25.9	-0.1
	1µm,0.4s						
SACS	San Casciano d	0.77	172	Pg	Pg	18 41 17.4	+0.7
SACS				Sg	Sg	18 41 29.9	+3.1
	483nm,0.3s						
ARCI	Arcidosso	0.79	195	Pg	Pg	18 41 17.8	+0.7
ARCI				Sg	Sg	18 41 30.8	+3.5
	849nm,0.8s						
PZZT	Monte Pizzetto	0.83	309	Pg	Pg	18 41 17.3	-0.6
PZZT				Sg	Sg	18 41 30.2	+1.5
	779nm,0.8s						
PESA	Pesaro	0.85	67	Pg	Pg	18 41 17.5	-0.8
PESA				Sg	Sg	18 41 29.2	-0.1
	1µm,1.0s						
ARV	Arcevia	0.87	97	Pg	Pg	18 41 17.0	-1.6
ARV				Sg	Sg	18 41 30.0	+0.1
	164nm,0.4s						
ARVD	Arcevia	0.87	97	Pg	Pg	18 41 16.9	-1.7
PII	Pisa	0.90	278	Pg	Pg	18 41 19.5	+0.2
	446nm,0.5s						
SNTG	Esanatoglia	0.93	112	Pg	Pg	18 41 18.6	-1.2
SNTG				Sg	Sg	18 41 32.9	+1.0
	274nm,0.4s						
BDI	Bagni Di Lucca	0.95	299	Pg	Pg	18 41 20.1	-0.2
BDI				Sg	Sg	18 41 35.6	+2.9
	363nm,0.7s						
MAIM		0.97	289	P	Pg	18 41 20.2	-0.3
MAIM				S	Sg	18 41 33.4	+0.3
LATE	Laterza	1.00	178	Pg	Pg	18 41 22.1	+1.0
	445nm,0.9s						
CING	Cingoli	1.07	102	Pg	Pg	18 41 21.2	-1.3
CING				Sg	Sg	18 41 37.4	+1.0
	239nm,0.6s						
GSCL	Gusciola	1.12	312	Pg	Pg	18 41 23.3	-0.2
	214nm,1.0s						
VLC	Villacollemand	1.13	299	Pg	Pg	18 41 22.6	-1.1
VLC				Sg	Sg	18 41 41.3	+2.9
	236nm,0.9s						
VLC	Villacollemand	1.13	299	eP	Pg	18 41 22.4	-1.3
VLC				Pg	Pg	18 41 22.6	-1.1
VLC				Sg	Sg	18 41 41.3	+2.9
VLC	Villacollemand	1.13	299	eP	Pg	18 41 22.4	-1.3
VLC	Villacollemand	1.13	299	Pg	Pg	18 41 22.6	-1.1
VLC				Sg	Sg	18 41 41.3	+2.9
	236nm,0.9s						
SARO	Sassorosso	1.14	301	P	Pg	18 41 22.4	-1.3
SARO				S	Sg	18 41 37.3	-1.2
VINC	Vinca	1.28	295	P	Pn	18 41 24.3	-1.7
VALM		1.32	305	P	Pn	18 41 25.1	-1.4
BACM		1.39	299	P	Pn	18 41 25.7	-1.8
GRAM		1.50	306	P	Pn	18 41 27.4	-1.7
CODM		1.58	300	P	Pn	18 41 28.6	-1.6
AQU	L’Aquila	1.74	136	eP	Pn	18 41 33.3	+1.0
AQU	L’Aquila	1.74	136	eP	Pn	18 41 33.3	+0.9
SC2M	Scurtabr	1.79	297	P	Pn	18 41 31.6	-1.4
SC2M				S	Sn	18 41 52.5	-3.4
PGF	Pioggiola	2.28	243	ePn	Pn	18 41 40.1	+0.3
PGF				eSn	Sn	18 42 08.2	+0.1
PGF				eSg	Sg	18 42 17.3	+2.0
	18nm,0.8s						
PGF	Pioggiola	2.28	243	ePn	Pn	18 41 40.1	+0.3
PGF				eSn	Sn	18 42 08.2	+0.1
PGF				eSg	Sg	18 42 17.3	+2.0
	8.8nm,0.8s						
PCP	Pian Castagno	2.50	293	P	Pn	18 41 41.4	-1.3
FIN	Finale Ligure	2.63	284	P	Pn	18 41 42.7	-1.9
RORO		2.72	282	P	Pn	18 41 44.1	-1.7
VOY	Vojsko	2.86	31	ePn	Pn	18 41 46.8	-0.9
VOY				e		18 42 00.7	
VOY				eSn	Sn	18 42 23.5	+1.3
ROB	Roburent	2.89	285	P	Pn	18 41 46.8	-1.3
MONE	Monesi	2.93	281	P	Pn	18 41 47.3	-1.5
NEGI	Negi	2.95	276	P	Pn	18 41 46.7	-2.3
SAOF	Saorge	3.07	278	P	Pn	18 41 50.3	-0.3
SAOF				S	Sn	18 42 28.5	+1.1
SBF	Sospel	3.14	276	ePn	Pn	18 41 52.3	+0.7
SBF				eSn	Sn	18 42 29.2	-0.1
	28nm,0.5s						
SBF	Sospel	3.14	276	ePn	Pn	18 41 52.3	+0.7
SBF				eSn	Sn	18 42 29.2	-0.1
	14nm,0.5s						
AUTN	L’Aution	3.16	278	P	Pn	18 41 51.4	-0.4
AUTN				S	Sn	18 42 33.7	+4.0
ENR	Entracque	3.19	283	P	Pn	18 41 51.2	-1.1
LUCF	Luceram	3.21	277	P	Pn	18 41 52.5	0.0
TOUF	Mont Tournerai	3.29	279	P	Pn	18 41 53.5	-0.1
OBKA	Obir	3.51	33	⇓iPn	Pn	18 41 56.8	+0.1
OBKA				⇑iSn	Sn	18 42 39.3	+1.1
OBKA				⇑iSg	Sg	18 42 56.7	+2.1
	60nm,0.7s						
OBKA	Obir	3.51	33	Pn	Pn	18 41 56.8	+0.2
OBKA				Sn	Sn	18 42 39.3	+1.0
SQTA	Sankt Quirin	3.63	354	⇑iPn	Pn	18 41 59.7	+1.4
SQTA				⇑iSn	Sn	18 42 42.6	+1.3
KBA	Koelnbreinsper	3.64	17	⇑iPn	Pn	18 41 59.0	+0.5
KBA				⇑iSn	Sn	18 42 42.0	+0.4
WTTA	Wattenberg	3.65	359	⇓iPn	Pn	18 41 59.6	+1.0
WTTA				⇓iSn	Sn	18 42 43.8	+1.9
FRF	La Foret Royal	3.71	271	ePn	Pn	18 41 59.2	-0.3
FRF				eSn	Sn	18 42 41.7	-1.7
	10nm,0.5s						

FRF	La Foret Royal	3.71	271	ePn	Pn	18 41 59.2	-0.3
FRF				eSn	Sn	18 42 41.7	-1.7
	5.1nm,0.5s						
WATA	Walderalm	3.73	358	⇓iPn	Pn	18 41 59.9	+0.2
WATA				⇑iSn	Sn	18 42 45.5	+1.8
WATA	Walderalm	3.73	358	⇓iPn	Pn	18 41 59.8	+0.1
WATA				Sn	Sn	18 42 45.5	+1.8
MBDF	Montbardon	3.76	289	ePn	Pn	18 42 00.4	+0.3
MBDF				eSn	Sn	18 42 44.7	+0.3
	32nm,0.6s						
MOTA	Moosalm	3.76	353	⇑iPn	Pn	18 42 00.8	+0.7
MOTA				⇑iSn	Sn	18 42 46.0	+1.5
LMR	La Mourre	3.83	268	ePn	Pn	18 42 00.9	-0.2
LMR				eSn	Sn	18 42 44.8	-1.5
	3.5nm,0.3s						
LMR	La Mourre	3.83	268	ePn	Pn	18 42 00.9	-0.2
LMR				eSn	Sn	18 42 44.8	-1.5
	1.8nm,0.3s						
DAVA	Damuels	3.91	341	⇑iPn	Pn	18 42 03.3	+1.2
DAVA				⇓iSn	Sn	18 42 50.3	+2.2
LPG	La Plagne	4.04	300	ePn	Pn	18 42 08.4	+4.4
LPG				eSn	Sn	18 42 52.4	+0.9
	12nm,0.6s						
LPL	La Plagne	4.07	300	ePn	Pn	18 42 07.5	+3.2
LPL				eSn	Sn	18 42 50.7	-1.3
	5.0nm,0.4s						
VILF	Villemus	4.39	275	P	Pn	18 42 08.4	-0.3
PUYF	Puyloubier	4.40	271	P	Pn	18 42 07.7	-1.2
ORIF	Oris-en-Rattie	4.42	289	ePn	Pn	18 42 11.5	+2.3
ORIF				eSn	Sn	18 43 01.2	+0.4
	30nm,0.7s						
SMRF	Simiane la Rot	4.49	277	ePn	Pn	18 42 11.7	+1.5
SMRF				eSn	Sn	18 43 02.8	+0.3
	7.4nm,0.6s						
MOA	Molln	4.59	22	⇓iPn	Pn	18 42 11.9	+0.4
MOA				⇓iSn	Sn	18 43 03.8	-1.1
CABF	La Chapelle	5.01	309	ePn	Pn	18 42 18.0	+0.7
CABF				eSn	Sn	18 43 14.0	-1.3
	8.5nm,0.7s						
CONA	Conrad Observa	5.18	32	⇑iPn	Pn	18 42 19.4	-0.3
CONA				⇑iSn	Sn	18 43 19.9	+0.3
VIVF	Saint-Julien-l	5.24	286	ePn	Pn	18 42 22.7	+2.2
VIVF				eSn	Sn	18 43 20.6	-0.4
	3.0nm,0.5s						
BFO	Black Forest	5.29	334	eP	Pn	18 42 23.8	+2.7
HINF	Hinteralfeld	5.43	322	ePn	Pn	18 42 23.4	+0.3
HINF				eSn	Sn	18 43 22.6	-3.1
	7.6nm,0.4s						
CDF	Champ du Feu	5.73	329	ePn	Pn	18 42 27.0	-0.1
LASF	Ste Croix	5.73	277	ePn	Pn	18 42 28.2	+1.0
LASF				eSn	Sn	18 43 30.3	-2.9
	1.7nm,0.4s						
HAU	Haudompre	5.80	321	ePn	Pn	18 42 28.1	0.0
HAU				eSn	Sn	18 43 33.4	-1.3
	12nm,0.5s						
LOR	Lormes	6.65	306	ePn	Pn	18 42 40.4	+0.6
MTLF	Montolieu	6.95	271	ePn	Pn	18 42 44.3	+0.4
CAF	Calviac	7.08	284	ePn	Pn	18 42 46.6	+0.8

CASC 13 18:56:05.2±4.2**, 1489N**×**8950W, h0km**±33km**, MD3.7, 1C-4D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RBDL	Robledal	0.80	193	⇓eP	x	18 56 44.2	
RBDL				eS	x	18 56 58.9	
RTR	El Retiro	1.00	188	⇓eP	x	18 56 42.9	
RTR				eS	x	18 56 57.8	
SNJE	San Jose	1.02	186	⇑eP	x	18 56 42.9	
SNJE				eS	x	18 56 57.6	
IXG	Ixpaco	1.17	232	⇓eP	Pg	18 56 24.8	-2.7
IXG				eS	Sg	18 56 43.8	+1.2
BOQS	Boqueron	1.17	169	eP	x	18 56 46.5	
BOQS				eS	x	18 57 04.8	
TP2	Tecpan 2	1.47	266	⇓eP	Pn	18 56 33.9	+1.0
TP2				eS	Sg	18 56 55.8	+3.2

ISCJB ***13*** *19:09:50.3±0.5, 4274N±003×7585E±003, h2km, Error ellipse: s-maj=4.5km s-min=3.5km az=10.4*
NNC ***13*** *19:09:50.6±0.7, 4279N×7581E, h8km±15km, mb3.5, mpv2.6, Error ellipse: s-maj=19.0km s-min=6.2km az=156.0*
KNET ***13*** *19:09:50.5±0.5, 4271N×7578E, h2km±9km, ml2.2, Error ellipse: s-maj=3.0km s-min=2.2km az=55.0*
ISC 13 19:09:51.1±0.5**, 4274N**±003×**7583E**±003**, h2km, n16, σ0s66**/24**, 15C-11D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TKM2	Tokmak 2	0.25	316	⇓P	Pg	19 09 55.8	-0.1
	190nm,0.1s,SNR=187						
TKM2				⇓S	Sg	19 09 59.5	+0.3
	2μm,0.1s						
TKM2	Tokmak 2	0.25	316	⇓P	Pg	19 09 55.8	-0.1
	0.5nm,0.1s						
TKM2				⇑S	Sg	19 09 59.5	+0.4
	9.8nm,0.2s						
ULHL	Ulahol	0.58	148	P	Pg	19 10 01.6	-0.6
	38nm,0.2s,SNR=133						
ULHL				⇓S	Sg	19 10 09.7	0.0
	59nm,0.1s						
KBK	Karagaybulak	0.66	263	⇑P	Pg	19 10 03.6	-0.1
	60nm,0.1s,SNR=166						
KBK				⇓S	Sg	19 10 13.3	+1.1
	105nm,0.2s						
KZA	Kyzart	0.79	213	P	Pg	19 10 06.0	-0.2
	32nm,0.2s,SNR=22						
KZA				⇑S	Sg	19 10 17.2	+0.7
	55nm,0.2s						
CHMS	Chumysh	0.84	288	⇓P	Pg	19 10 06.2	-0.9
	12nm,0.1s,SNR=26						
CHMS				⇑S	Sg	19 10 17.8	-0.2
	38nm,0.1s						
KNDC	Almaty	0.96	60	⇑P	Pg	19 10 08.7	-0.8
	18nm,0.3s						
KNDC				⇑S	Sg	19 10 22.4	+0.6
	91nm,0.2s						
AAK	Ala-Archa	0.99	264	⇑P	Pg	19 10 09.3	-0.8
	20nm,0.3s,SNR=13						
AAK				⇓S	Sg	19 10 22.9	-0.1
	37nm,0.3s						
UCH	Uchtor	1.10	243	⇓P	Pg	19 10 11.4	-0.8
	5.6nm,0.2s,SNR=20						
UCH				⇑S	Sg	19 10 26.4	-0.2
	17nm,0.2s						
USP	Ospenovka	1.11	299	⇑P	Pg	19 10 11.4	-1.0
	9.7nm,0.1s,SNR=50						
USP				⇓S	Sg	19 10 26.8	0.0
	37nm,0.1s						
EKS2	Erkin-Say	1.52	268	⇑P	Pn	19 10 19.2	0.0
	14nm,0.1s,SNR=73						
EKS2				⇓S	Sn	19 10 40.7	+1.2
	24nm,0.2s						
AML	Almayashu	1.70	250	⇓P	Pn	19 10 22.4	+0.7
	15nm,0.2s,SNR=14						
MK02	Makanchi Array	6.12	47	⇑Pn	Pn	19 11 23.8	+1.3
	1.1nm,0.6s,baz=224,slow=16						
MK02				⇑Lg		19 13 02.2	
	3.4nm,0.6s,baz=232,slow=29						
KURK	Kurchatov	8.20	13	⇑Lg		19 14 05.8	
	6.0nm,1.6s						
VOSK	Vostochnaya	10.51	344	⇑Lg		19 15 20.7	
	3.4nm,0.8s						
ZRNK	Zerenda	11.19	338	⇑Lg		19 15 39.6	
	6.3nm,1.4s						

BJI ***13*** *19:13:37.5, 6043S×3691W, h10km, mB5.7, Ms5.7, Msz5.4*
ISCJB ***13*** *19:13:39.8±0.2, 6094S±004×366W±0.1, h10km, mb5.3/38, MS5.2/105, Error ellipse: s-maj=8.8km s-min=5.2km az=122.3*
IDC ***13*** *19:13:39.7±0.4, 6098S×3665W, h0km, mb5.0/23, mb1 5.0/23, mb1mx4.9/25, mbtmp4.9/23, MS5.1/17, Ms1 5.1/17, ms1mx5.0/22, Error ellipse: s-maj=17.0km s-min=11.6km az=54.0*
MOS ***13*** *19:13:40.4±1.0, 6092S×3655W, h10km, mb5.6/17, MS5.2/20, Error ellipse: s-maj=29.0km s-min=11.7km az=101.1*
NEIC ***13*** *19:13:41.0±0.2, 6094S×3647W, h10km, mb5.7/22, MS5.2/87, Error ellipse: s-maj=8.7km s-min=6.0km az=64.0*
HRVD ***13*** *19:13:41.0±0.1, 6120S×3665W, h18km, MW5.7/107, Centroid moment Tensor Solution. LP body waves: s96,c185; Mantle waves: s107,c302; Half duration: 1s8 Moment tensor: Scale 10¹⁷Nm; M_{rr}-1.32±.05; $M_{\theta\theta}$0.27±.05; $M_{\phi\phi}$1.05±.05; $M_{r\theta}$1.82±.13; $M_{\theta\phi}$4.44±.04; $M_{\phi r}$-0.38±.11; Best double couple: $M_0$4.93000×10¹⁷ NP1:ϕ_s360.00000°, δ65.00000°, λ-166.00000°. NP2: ϕ_s264.00000°, δ78.00000°, λ-26.00000°. Principal axes: T 5.2570, Plg9.0000°, Azm314.0000°; N -0.6590, Plg62.0000°, Azm60.0000°; P -4.6030, Plg27.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISC 13 19:13:41.2±0.2**, 6099S**±004×**367W**±01**, h10km, n287, σ1s05**/93**, mb5.3**/38**, MS5.2**/105**, 7C-8D, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	Hope Point	6.73	1	eP	Pn	19 15 20.6	+0.5
	222nm,0.6s						
PMSA	Palmer Station	12.99	241	eP	Pn	19 16 46.8	+0.9
	618nm,1.3s						
VNA1	Neumayer--Stat	14.95	142	⇑iPn	Pn	19 17 12.6	0.0
VNA1				e		19 17 13.0	
VNA1				e		19 17 14.8	
VNA1				e		19 17 15.4	
VNA1				e		19 17 19.1	
VNA1				e		19 17 19.2	
VNA1				e		19 17 21.9	
VNA1				e		19 17 25.2	
VNA1				e		19 17 29.5	
VNA1				e		19 18 04.6	
VNA1				e		19 19 46.9	
VNA1				e		19 19 48.9	
VNA1				e		19 19 53.8	
VNA1				e		19 19 57.7	
VNA1				e		19 20 02.0	
VNA1				e		19 20 07.0	
EFI	East Falkland	15.03	299	Pn	Pn	19 17 15.8	+2.2
	4μm,1.5s,SNR=21						
EFI	East Falkland	15.03	299	eP	Pn	19 17 14.5	+0.9
EFI				pmax	pmax		
	comp=Z,2μm,1.5s						
EFI	East Falkland	15.03	299	eP	Pn	19 17 14.4	+0.8
	comp=Z,2μm,1.5s						
EFI				e		19 17 18.4	
SNAA	Sanae	16.98	143	⇑iPn	Pn	19 17 39.3	+0.6
SNAA				e		19 17 39.7	
SNAA				e		19 17 42.0	
SNAA				e		19 17 42.5	
SNAA				e		19 17 46.1	
SNAA				e		19 20 32.3	
SNAA				e		19 20 35.5	
SNAA				e		19 20 38.9	
SNAA				e		19 20 44.0	
SNAA				e		19 20 48.6	
SNAA	Sanae	16.98	143	eP	Pn	19 17 35.6	-3.1
SNAA				pmax	pmax		
	comp=Z,2μm,1.8s						
SNAA	Sanae	16.98	143	eP	Pn	19 17 35.5	-3.2
	comp=Z,2μm,1.8s						
MAIT	Maitri	21.40	137	eP	P	19 18 29.1	+0.1
MAIT				eS	S	19 22 20.7	-5.7
NVL	N'lazarevskaya	21.43	137	c iP	P	19 18 28.9	-0.5
NVL				i S	S	19 22 31.3	+4.2
NVL				pmax	pmax		
	comp=Z,463nm,1.3s,mb5.7						
NVL				smax			
	comp=E,2μm,15.3s						
NVL				pmax	pmax		
	comp=N,5μm,26.3s						
TRQA	Tornquist	27.89	314	eP	P	19 19 31.0	-0.3
	comp=N,418nm,1.3s,mb5.9						
TRQA				e		19 20 08.4	
PLCA	Paso Flores	28.95	299	P	P	19 19 39.9	-0.8
	comp=N,10nm,0.6s,mb4.7,baz=145,slow=8.6,SNR=45						
PLCA				LR	LR	19 30 46.9	
	comp=N,4μm,18.4s,MS5.1,baz=150,slow=36						
PLCA	Paso Flores	28.95	299	eP	P	19 19 40.1	-0.6
PLCA				pmax	pmax		
	comp=Z,92nm,1.5s						
PLCA				MLR	MLR		
	comp=Z,5μm,20.0s						
PLCA	Paso Flores	28.95	299	eP	P	19 19 40.1	-0.6
	comp=Z,92nm,1.5s,mb5.3						
PLCA				LR	LR		
	comp=Z,5μm,20.0s,MS5.1						
QSPA	South Pole Qui	29.24	180	eP	P	19 19 45.6	+2.3
	comp=Z,159nm,1.1s,mb5.7						
QSPA				LR	LR		
	comp=Z,1μm,22.0s,MS4.5						
LPA	La Plata	29.46	323	deP	P	19 19 42.0	-3.2
SYO	Syowa Base	31.10	137	⇓epP	Px	19 20 59.0	
SYO	Syowa Base	31.10	137	⇓ePnPn		19 20 55.0	
CFAA	Coronel Fontan	35.94	310	P	P	19 20 41.0	-0.8
	comp=Z,6.4nm,0.9s,mb4.5,baz=156,slow=8.1,SNR=57						
CFAA				LR	LR	19 34 21.3	
	comp=Z,289nm,18.3s,baz=179,slow=35						
CPUP	Villa Florida	37.40	329	P	P	19 20 54.9	+0.7
	comp=Z,21nm,0.7s,mb5.1,baz=149,slow=7.5,SNR=71						
CPUP	Villa Florida	37.40	329	P	P	19 20 54.9	+0.7
CPUP				pmax	pmax		
	comp=Z,21nm,0.7s						
CPUP	Villa Florida	37.40	329	eP	P	19 20 54.6	+0.3
	comp=Z,250nm,0.9s,mb6.0						
CPUP				LR	LR		
	comp=Z,531nm,19.0s,MS4.4						
TLL	Tololo Astrono	38.19	308	⇑iP	P	19 21 01.8	+0.9
CAM4	Nova Friburgo	38.83	351	eP	P	19 21 06.8	+0.5
CAM4				i		19 21 06.8	
CAM4				i	pP	19 21 08.5	-0.9
CAM4				i	pP	19 21 11.1	+1.7
CAM4				i		19 21 14.9	
CAM4				i		19 21 21.2	
CAM4				i		19 21 24.9	
CAM4				i		19 21 29.4	
CAM4				i		19 21 39.9	
CAM4	Nova Friburgo	38.83	351	eP	P	19 21 07.1	+0.8
CAM4				i	pP	19 21 10.5	+1.1
CAM4				i		19 21 14.9	
CAM4				i		19 21 21.3	
CAM4				i		19 21 27.8	
CAM4				i		19 21 47.4	
MAW	Mawson	39.14	143	eP	P	19 21 09.8	+0.9
	comp=Z,33nm,1.0s,mb5.0						
MAW				ePCP	PcP	19 23 28.2	+10
MAW				eS	S	19 27 10.5	+1.8
MAW	Mawson	39.14	143	P	P	19 21 09.8	+0.8
	comp=Z,22nm,1.0s,mb4.8,baz=226,slow=8.1,SNR=22						
MAW				LR	LR	19 36 13.0	
	comp=Z,1μm,19.3s,MS4.8,baz=232,slow=35						
MAW	Mawson	39.14	143	eP	P	19 21 09.8	+0.9
MAW				eS	S	19 27 10.5	+1.8
MAW				pmax	pmax		
	comp=Z,33nm,1.0s						
MAW				MLR	MLR		
	comp=Z,2μm,20.0s						
MAW	Mawson	39.14	143	eP	P	19 21 09.8	+0.9
	comp=Z,33nm,1.0s,mb5.0						
MAW				ePcP	PcP	19 23 28.2	+10
MAW				eS	S	19 27 10.5	+1.8
MAW				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
CAM3	Guarapari	40.32	354	eP	P	19 21 15.5	-3.2
CAM3				i		19 21 21.9	
CAM3				i		19 21 27.4	
CAM3				i		19 21 38.3	
SBA	Scott Base	40.66	187	eP	P	19 21 23.7	+2.2
SBA				pmax	pmax		
	comp=Z,86nm,1.3s,mb5.2						
SBA	Scott Base	40.66	187	eP	P	19 21 23.6	+2.1
	comp=Z,86nm,1.3s,mb5.2						
SBA				e		19 21 33.4	
VNDA	Vanda	41.26	186	P	P	19 21 27.1	+0.6
	comp=Z,11nm,1.0s,mb4.4,baz=181,slow=7.0,SNR=34						
VNDA	Vanda	41.26	186	eP	P	19 21 28.2	+1.7
VNDA				pmax	pmax		
	comp=Z,64nm,1.2s						
VNDA				MLR	MLR		
	comp=Z,2μm,19.0s						
VNDA	Vanda	41.26	186	eP	P	19 21 28.2	+1.7
	comp=Z,64nm,1.2s,mb5.1						
VNDA				e		19 21 38.1	
VNDA				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
LVC	Limon Verde	44.38	315	P	P	19 21 52.9	+1.1
	comp=Z,26nm,0.8s,mb5.0,baz=174,slow=5.8,SNR=29						
LVC				LR	LR	19 41 55.4	
	comp=Z,1μm,18.4s,MS4.9,baz=169,slow=38						
LVC	Limon Verde	44.38	315	eP	P	19 21 53.1	+1.3
	comp=Z,55nm,0.9s,mb5.3						
LVC				e		19 23 38.5	
LVC				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
BDFB	Brasilia	46.02	345	P	P	19 22 04.5	-0.4
	comp=Z,8.5nm,0.8s,mb4.7,baz=158,slow=7.9,SNR=6.9						
BDFB	Brasilia	46.02	345	P	P	19 22 04.5	-0.4
BDFB				LR	LR		
	comp=Z,3μm,19.0s,MS5.2						
SUR	Sutherland	46.60	79	P	P	19 22 10.6	+1.2
	comp=Z,11nm,0.9s,mb4.8,baz=206,slow=10,SNR=3.7						
MIR	Mirnyy	47.49	155	d iP	P	19 22 23.0	+6.6
MIR				e		19 24 15.0	
MIR				eS	S	19 29 17.0	+6.0
MIR				e		19 32 40.0	
MIR				pmax	pmax		
	comp=Z,400nm,1.9s,mb6.0						
MIR				pmax	pmax		
	comp=Z,3μm,5.0s						
SIV	San Ignacio	48.25	328	P	P	19 22 22.4	+0.2
	comp=Z,19nm,0.6s,mb5.3,baz=161,slow=8.1,SNR=128						
LPAZ	La Paz	50.01	319	P	P	19 22 37.1	+1.4
	comp=Z,11nm,0.8s,mb5.0,baz=164,slow=5.4,SNR=36						
LPAZ				LR	LR	19 42 51.5	
	comp=Z,1μm,20.4s,MS5.0,baz=8.4,slow=35						
CASY	Casey	50.74	164	eP	P	19 22 42.6	+1.3
CASY				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
DRV	Dumont d'Urvil	52.62	178	P	P	19 22 54.0	-1.3
DRV				S	S	19 30 22.0	-0.6
DRV				SS	SS	19 33 59.0	-1.8
DRV				R		19 39 00.0	
LBTB	Lobatse	55.04	78	P	P	19 23 12.9	0.0
	comp=Z,16nm,0.9s,mb5.0,baz=226,slow=8.3,SNR=16						
LBTB	Lobatse	55.04	78	eP	P	19 23 12.7	-0.3
LBTB				e		19 23 20.2	
LBTB				pmax	pmax		
	comp=Z,287nm,1.6s,mb6.0						
LBTB				MLR	MLR		
	comp=Z,4μm,21.0s,MS5.5						
LBTB	Lobatse	55.04	78	eP	P	19 23 12.7	-0.3
	comp=Z,287nm,1.6s,mb6.0						
LBTB				e		19 23 20.2	
LBTB				LR	LR		
	comp=Z,4μm,21.0s,MS5.5						
RCBR	Riachuelo	55.04	1	eP	P	19 23 12.8	-0.2
RCBR				LR	LR		
	comp=Z,4μm,20.0s,MS5.5						
ASCN	Ascension	55.50	27	PFAKE		19 23 30.0	+14
ASCN				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
SAML	Samuel	55.54	328	P	P	19 23 16.7	0.0
SAML				P		19 23 22.7	
SAML	Samuel	55.54	328	eP	P	19 23 16.6	-0.1
	comp=Z,279nm,1.2s,mb6.2						
SAML				e		19 23 22.4	
SAML				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
TSUM	Tsumeb	56.32	67	P	P	19 23 22.1	-0.1
	comp=Z,3.9nm,0.8s,mb4.5,baz=207,slow=5.3,SNR=4.8						
TSUM	Tsumeb	56.32	67	eP	P	19 23 21.4	-0.8
	comp=Z,20nm,1.2s,mb5.0						
TSUM				e		19 23 29.4	
NNA	Nana	57.01	311	eP	P	19 23 26.6	-0.5
	comp=Z,339nm,1.1s,mb6.3						
NNA				e		19 23 32.9	
ATAH	Atahualpa	62.17	312	P	P	19 24 02.6	-0.1
	comp=Z,21nm,0.8s,mb5.3,baz=161,slow=9.3,SNR=10						
LSZ	Lusaka	64.62	75	PFAKE		19 24 30.0	+11
LSZ				LR	LR		
	comp=Z,3μm,21.0s,MS5.4						
ROSC	El Rosal	71.88	320	P	P	19 25 05.4	+1.0
	comp=Z,3.7nm,0.4s,mb4.7,baz=90,slow=20,SNR=3.6						
ROSC				LR	LR	19 57 39.8	
	comp=Z,1μm,18.5s,MS5.1,baz=186,slow=37						
ROSC	El Rosal	71.88	320	eP	P	19 25 05.5	+1.1
DBIC	Dimbokro	71.90	33	P	P	19 25 04.7	+0.1
	comp=Z,12nm,0.8s,mb4.9,baz=170,slow=7.5,SNR=20						
DBIC				LR	LR	19 49 22.3	
	comp=Z,1μm,21.6s,MS5.1,baz=173,slow=30						
DBIC	Dimbokro	71.90	33	eP	P	19 25 03.8	-0.7
DBIC				pmax	pmax		
	comp=Z,88nm,1.0s						
DBIC				MLR	MLR		
	comp=Z,922nm,20.0s						
DBIC	Dimbokro	71.90	33	eP	P	19 25 03.8	-0.7
	comp=Z,88nm,1.0s,mb5.6						
DBIC				LR	LR		
	comp=Z,922nm,20.0s,MS5.0						
RPZ	Rata Peaks	73.23	201	P	P	19 25 13.5	+1.0
	comp=Z,30nm,0.9s,mb5.2,baz=153,slow=5.0,SNR=6.9						
RKT	Rikitea	73.98	251	eP	P	19 25 18.1	+1.3
	comp=Z,173nm,1.3s,mb5.8						
RKT	Rikitea	73.98	251	eLQ		19 44 57.8	
	comp=Z,4μm,30.5s						
RKT				eLR	LR	19 48 06.2	
	comp=Z,4μm,25.0s,baz=150						
PCRV	Puerto La Cruz	74.31	331	P	P	19 25 18.9	+0.1
	comp=Z,39nm,0.7s,mb5.4,baz=148,slow=2.8,SNR=15						
SDV	Santo Domingo	74.61	325	P	P	19 25 20.5	0.0
	comp=Z,25nm,0.6s,mb5.3,baz=203,slow=4.7,SNR=32						
SDV	Santo Domingo	74.61	325	eP	P	19 25 20.7	+0.2
	comp=Z,81nm,0.9s,mb5.7						
SDV				e		19 25 28.6	
URZ	Urewera	77.32	207	P	P	19 25 35.0	-1.0
	comp=Z,14nm,0.9s,mb4.9,baz=225,slow=1.4,SNR=3.1						
MBAR	Mbarara	78.67	70	i P	P	19 25 44.5	+1.0
TOA0	Torodi Ar. Sit	79.92	38	eP	P	19 25 50.5	+0.1
TOA0				e		19 25 58.2	
TORD	Torodi Ar. Bea	79.92	38	P	P	19 25 50.6	+0.3
	comp=Z,10nm,0.8s,mb4.8,baz=201,slow=6.5,SNR=53						
TORD				LR	LR	19 53 39.1	
	comp=Z,3μm,21.6s,MS5.6,baz=195,slow=30						
TBI	Tubuai	80.18	239	eS	S	19 35 50.1	-6.6
	comp=Z,219nm,25.5s						
TBI				eLQ		19 47 25.3	
	comp=Z,2μm,32.0s						
TBI				eLR	LR	19 51 16.5	
	comp=Z,4μm,23.0s,baz=154						
KMBO	Kilima Mbogo	81.25	76	LR	LR	19 58 16.9	
	comp=Z,2μm,19.1s,MS5.5,baz=100,slow=33						
TOO	Toolangi	81.77	182	eP	P	19 26 00.1	-0.1
	comp=Z,11nm,0.8s,mb4.8						
TOO				e		19 26 09.9	
TOO	Toolangi	81.77	182	eP	P	19 26 00.1	-0.1
TOO				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
CNB	Canberra Magne	83.91	185	eP	P	19 26 11.7	+0.4
	comp=Z,163nm,2.0s,mb5.8						
CNB				e		19 26 20.9	
TVO	Taravao	85.03	242	eP	P	19 26 15.2	-1.8
	comp=Z,344nm,1.2s						
PAE	Paea	85.28	242	eP	P	19 26 16.1	-2.1
	comp=Z,139nm,1.3s,mb5.9						
PPT	Papeete	85.36	242	eS	S	19 36 43.9	-5.6
	comp=Z,348nm,25.8s						
PPT				eLQ		19 49 17.6	
	comp=Z,4μm,30.0s						
PPT				eLR	LR	19 53 26.2	
	comp=Z,6μm,28.0s,baz=160						
PPT	Papeete	85.36	242	LR	LR	19 54 48.5	
	comp=Z,1μm,20.8s,MS5.4,baz=146,slow=29						
KLBR	Kellerberrin	85.41	158	eP	P	19 26 18.5	-0.4
	comp=Z,63nm,1.2s,mb5.6						
PMOR	Pomariorio Ree	86.90	244	eP	P	19 26 24.3	-2.0
	comp=Z,95nm,1.3s,mb5.9						
STKA	Stephens Creek	87.45	179	⇓iP	P	19 26 28.8	-0.1
	comp=Z,10nm,1.6s,mb4.8						
STKA				e		19 26 37.8	
STKA	Stephens Creek	87.45	179	P	P	19 26 28.6	-0.4
	comp=Z,5.3nm,0.8s,mb4.8,baz=139,slow=5.5,SNR=7.6						
STKA				LR	LR	20 03 41.6	
	comp=Z,2μm,18.9s,MS5.5,baz=178,slow=34						
FORT	Forrest	87.71	167	eP	P	19 26 30.2	0.0
	comp=Z,35nm,1.0s,mb5.5						
FORT				e		19 26 40.0	
ARMA	Armidale	88.67	187	eP	P	19 26 44.2	+9.5
TAOE	Nuku Hiva Isla	88.78	254	eLR	LR	19 55 09.8	
	comp=Z,8μm,25.4s,baz=166						

TEIG Tepich 90.91 313 ePKPdf P 19 26 44.3 -0.9
comp=Z,41nm,1.1s,mb5.7
DZM Mont Dzumac 95.14 201 LR LR 20 04 22.4
comp=Z,2μm,20.8s,MS5.5,baz=182,slow=32
ASAR Alice Springs 95.30 171 P P 19 27 04.7 -0.7
comp=Z,5.8nm,0.9s,mb5.0,baz=177,slow=3.4,SNR=42
ASAR PP PP 19 30 53.1 -2.4
comp=Z,5.6nm,1.0s,baz=179,slow=8.1,SNR=8.8
ASAR PKKPbc PKKPbc 19 43 56.3 -1.9
comp=Z,0.7nm,0.8s,baz=4.4,slow=1.8,SNR=7.6
ASAR LR LR 20 08 03.6
comp=Z,1μm,19.0s,MS5.3,baz=188,slow=34
ASAR Alice Springs 95.30 171 P P 19 27 04.7 -0.7
ASAR 19 30 53.1
ASPA Alice Springs 95.30 171 ⇓ iP P 19 27 04.6 -0.8
ASPA e 19 27 14.1
AS31 Alice Springs 95.30 171 ⇓ iP P 19 27 04.6 -0.8
AS31 e 19 27 14.1
BBSR BB Station 95.81 336 PFAKE 19 27 20.0 +12
BBSR LR LR
comp=Z,679nm,20.0s,MS5.1
MBWA Marble Bar 95.94 158 PFAKE 19 27 20.0 +12
MBWA LR LR
comp=Z,2μm,22.0s,MS5.5
DWPF Disney 95.95 321 PFAKE 19 27 20.0 +12
DWPF LR LR
comp=Z,1μm,22.0s,MS5.3
AFI Afiamalu 97.28 224 LR LR 20 03 35.6
comp=Z,517nm,20.2s,MS5.0,baz=128,slow=31
AFI Afiamalu 97.28 224 PFAKE 19 27 30.0 +16
AFI LR LR
comp=Z,796nm,20.0s,MS5.2
WRA Warramunga Arr 99.02 171 P P 19 27 20.9 -1.4
comp=Z,1.9nm,0.8s,mb4.7,baz=190,slow=4.3,SNR=13
WRA LR LR 20 14 56.8
comp=Z,799nm,18.1s,MS5.3,baz=195,slow=37
WB2 Warramunga Arr 99.02 171 eP P 19 27 20.4 -1.9
CTA Charters Tower 99.17 183 LR LR 20 09 39.9
comp=Z,1μm,19.9s,MS5.5,baz=178,slow=34
CTAO Charters Tower 99.17 183 PFAKE 19 27 30.0 +7.1
CTAO LR LR
comp=Z,1μm,20.0s,MS5.5
FITZ Fitzroy Crossi 99.90 163 LR LR 20 10 48.9
comp=Z,901nm,18.7s,MS5.3,baz=196,slow=34
LRAL Lakeview Retre 102.27 319 PFAKE 19 27 50.0 +13
LRAL LR LR
comp=Z,803nm,20.0s,MS5.2
HKT Hockley 102.53 310 PFAKE 19 27 50.0 +12
HKT LR LR
comp=Z,562nm,22.0s,MS5.0
ESLA Sonseca Array 103.81 25 PFAKE 19 27 50.0 +6.5
ESLA LR LR
comp=Z,6μm,20.0s,MS6.1
BLA Blacksburg 104.17 325 PFAKE 19 28 00.0 +15
BLA LR LR
comp=Z,41nm,19.0s
CBN Corbin 104.28 328 PFAKE 19 28 00.0 +14
CBN LR LR
comp=Z,799nm,20.0s,MS5.2
JCT Junction City 104.51 307 PFAKE 19 28 00.0 +13
JCT LR LR
comp=Z,557nm,22.0s,MS5.1
LTX Lajitas 105.03 304 PFAKE 19 32 10.0 +6.3
LTX LR LR
comp=Z,2μm,22.0s,MS5.5
FUNA Funafuti 105.19 217 PFAKE 19 32 20.0 +16
FUNA LR LR
comp=Z,9μm,21.0s,MS6.3
MIAR Mount Ida 105.86 314 PFAKE 19 32 20.0 +15
MIAR LR LR
comp=Z,541nm,20.0s,MS5.1
MCWV Mont Chateau 106.30 327 PFAKE 19 32 20.0 +14
MCWV LR LR
comp=Z,639nm,21.0s,MS5.2
HRV Harvard--Oak R 106.99 334 PFAKE 19 32 20.0 +13
HRV LR LR
comp=Z,554nm,19.0s,MS5.1
ACSO Alum Creek Sta 107.70 324 PFAKE 19 32 20.0 +11
ACSO LR LR
comp=Z,371nm,20.0s,MS4.9
BINY Binghamton 107.71 330 PFAKE 19 32 20.0 +11
BINY LR LR
comp=Z,637nm,20.0s,MS5.2
CCM Cathedral Cave 108.24 317 PFAKE 19 32 20.0 +10
CCM LR LR
comp=Z,536nm,19.0s,MS5.1
HNR Honiara 108.58 197 PFAKE 19 32 20.0 +10
HNR LR LR
comp=Z,917nm,20.0s,MS5.3
ERPA Erie 108.64 327 PFAKE 19 32 20.0 +10
ERPA LR LR
comp=Z,771nm,22.0s,MS5.2
LBNH Lisbon 108.72 334 PFAKE 19 32 20.0 +9.5
LBNH LR LR
comp=Z,1μm,19.0s,MS5.4
AMTX Amarillo 109.14 308 PFAKE 19 32 20.0 +8.7
AMTX LR LR
comp=Z,482nm,19.0s,MS5.1
AAM Ann Arbor 109.81 325 PFAKE 19 32 20.0 +7.5
AAM LR LR
comp=Z,831nm,22.0s,MS5.3
ANMO Albuquerque 111.08 304 i PKIKP PKiKP 19 32 14.6 -0.4
ANMO Albuquerque 111.08 304 PFAKE 19 32 30.0 +15
ANMO LR LR
comp=Z,756nm,20.0s,MS5.3
ISCO Idaho Springs 114.95 308 PFAKE 19 32 30.0 +7.7
ISCO LR LR
comp=Z,865nm,22.0s,MS5.3
ANTO Ankara 115.21 53 PFAKE 19 32 30.0 +7.2
ANTO LR LR
comp=Z,563nm,22.0s,MS5.1
BRTR Keskin Array B 115.41 54 PKP PKPdf 19 32 21.4 -1.8
comp=Z,0.7nm,0.7s,baz=191,slow=2.5,SNR=4.2
BRTR PP PP 19 33 24.3 -0.1
comp=Z,1.2nm,0.9s,baz=230,slow=3.1,SNR=4.0
BR131 Keskin Array S 115.41 54 PFAKE 19 32 30.0 +6.8
BR131 LR LR
comp=Z,445nm,21.0s,MS5.0
MVU Marysvale 116.48 302 PFAKE 19 32 40.0 +15
MVU LR LR
comp=Z,589nm,21.0s,MS5.2
GEC2 GERESS Array S 116.75 35 ePKIKP PKPdf 19 32 24.1 -1.7
GEC2 e 19 32 31.8
GERES GERESS Array B 116.75 35 PKP PKPdf 19 32 24.1 -1.7
comp=Z,1.5nm,0.8s,baz=174,slow=1.3,SNR=11
GERES PP PP 19 33 39.4 +5.6
comp=Z,1.4nm,0.9s,baz=212,slow=4.7,SNR=4.2
ISA Isabella 116.76 295 PFAKE 19 32 40.0 +14
ISA LR LR
comp=Z,103nm,20.0s,MS4.4
GRA1 Grafenberg Arr 116.85 33 ePKPdf PKPdf 19 32 28.6 +2.6
GRA1 eSP SP 19 43 29.0 +13
GRA1 eSS SS 19 49 46.6 +5.0
GRA1 LR LR
comp=Z,600nm,19.9s,MS5.2
GRF Grafenberg Arr 116.85 33 ePKiKP PKiKP 19 32 28.6 +2.6
GRF eSP SP 19 43 29.0 +13
GRF eSS SS 19 49 46.6 +5.0
GRF eL 20 17 16.6
comp=Z,617nm,19.9s
DAC Darwin (Calif) 116.89 297 PFAKE 19 32 40.0 +14
DAC LR LR
comp=Z,522nm,20.0s,MS5.2
KHC Kasperske Hory 116.98 35 ePKP PKPdf 19 32 25.1 -1.1
KHC epPKP pPKPdf 19 32 32.7 +3.0
KHC AMS AMS 20 16 40.0
comp=Z,1μm,21.0s
EYMN Ely 117.23 322 PFAKE 19 32 40.0 +13
EYMN LR LR
comp=Z,570nm,21.0s,MS5.2
MPU Maple Canyon 117.53 303 PFAKE 19 32 40.0 +13
MPU LR LR
comp=Z,956nm,22.0s,MS5.4
TREC Trest 117.66 36 AMS AMS 20 13 00.0
comp=Z,1μm,22.6s
NKC Novy Kostel 117.67 33 ePKP PKPdf 19 32 26.0 -1.6
NKC epPKP pPKPdf 19 32 33.9 +2.9
MOX Moxa 117.83 33 ePKP PKPdf 19 32 21.8 -6.1
MOX
comp=Z,500nm,22.0s
SCHQ Schefferville 117.93 341 PKP PKPdf 19 32 25.5 -2.5
comp=Z,3.3nm,0.8s,baz=201,slow=2.5,SNR=5.1
SCHQ Schefferville 117.93 341 PKP PKPdf 19 32 25.5 -2.5
PRU Pruhonice 118.02 35 epPKP pPKPdf 19 32 34.9 +3.2
PRU AMS AMS 20 17 00.0
comp=Z,1μm,21.8s
DUG Dugway 118.16 302 PFAKE 19 32 40.0 +11
DUG LR LR
comp=Z,476nm,19.0s,MS5.1
PVCC Panska Ves 118.52 34 ePKP PKPdf 19 32 27.7 -1.5
PVCC epPKP pPKPdf 19 32 36.2 +3.6
PVCC AMS AMS 20 17 30.0
PVCC Panska Ves 118.52 34 ePKP PKPdf 19 32 27.7 -1.5
PVCC e 19 32 36.2
BRG Berggiesshubel 118.66 34 eP PKPdf 19 32 28.1 -1.4
comp=Z,3.3nm,1.0s
BRG e 19 32 40.5
comp=Z,3.7nm,1.2s
BRG e 19 33 23.6
comp=Z,7.3nm,1.8s
BRG e 19 33 52.2
comp=Z,4.1nm,1.2s
BRG e 19 42 55.9
comp=Z,3.2nm,1.2s
BRG S Sx 19 43 49.0
BRG SS SS 19 50 26.0 +21
BRG
comp=N,297nm,22.4s
BRG
comp=E,143nm,19.8s
BRG
comp=Z,442nm,20.6s
BRG Berggiesshubel 118.66 34 ePKIKP PKPdf 19 32 28.0 -1.5
BRG e 19 33 52.2
BRG SS SS 19 50 26.0 +21
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,1.2s
BRG pmax pmax
comp=Z,7.0nm,1.8s
BRG pmax pmax
comp=Z,4.0nm,1.2s
BRG pmax pmax
comp=Z,3.0nm,1.2s
BRG MLR MLR
comp=N,297nm,22.4s,MS4.9
BRG MLR MLR
comp=E,143nm,19.8s,MS4.9
BRG MLR MLR
comp=Z,442nm,20.7s,MS5.1
BRG Berggiesshubel 118.66 34 eP PKPdf 19 32 28.1 -1.4
BRG e 19 32 40.5
BRG e 19 33 23.6
BRG e 19 33 52.2
BRG e 19 42 55.9
BRG S Sx 19 43 49.0
BRG SS SS 19 50 26.0 +21
BRG LR LR
comp=Z,440nm,20.6s,MS5.1
CLL Collm 118.80 33 ePKPdf PKPdf 19 32 28.3 -1.4
CLL e 19 32 36.7
CLL eSKKSac SKKSac 19 40 36.6 -12
CLL eSKSP 19 43 43.0
CLL eSKKSdf SKKSdf 19 50 33.6 +7.1
CLL e(SS) 19 50 35.2
CLL eSSSS 19 58 14.2
CLL eLR LR 20 10 16.0
CLL eL 20 17 42.2
comp=Z,734nm,22.0s
CLL Collm 118.80 33 i PKIKP PKPdf 19 32 28.4 -1.3
comp=Z,logA/T=0.7
CLL i 19 32 36.3
CLL eSKSP 19 43 43.0
CLL e 19 43 56.0
CLL e 19 50 34.0
CLL e 19 58 12.0
CLL Collm 118.80 33 i PKPdf PKPdf 19 32 28.4 -1.3
comp=Z,5.0nm,1.1s
CLL i (sPKPdf) 19 32 36.3
comp=Z,6.0nm,0.9s
CLL eSKSP 19 43 43.0
CLL ex x 19 43 56.0
CLL eSKKSdf SKKSdf 19 50 34.0 +7.5
CLL eSSSS 19 58 12.0
CLL Collm 118.80 33 i PKIKP PKPdf 19 32 28.4 -1.3
CLL i 19 32 36.3
CLL Collm 118.80 33 i PKP PKPdf 19 32 28.4 -1.3
CLL i 19 32 36.3
CLL eSKKS SKKSdf 19 50 34.0 +7.5
UPC Upice 118.90 35 ePKP PKPdf 19 32 29.0 -0.9
MNV Mina 118.94 297 PFAKE 19 32 40.0 +10
MNV LR LR
comp=Z,435nm,19.0s,MS5.1
ESK Eskdalemuir 118.95 21 PFAKE 19 32 40.0 +10
ESK LR LR
comp=Z,737nm,19.0s,MS5.3
NVAR Mina Array Bea 119.00 297 PKP PKPdf 19 32 29.4 -0.8
comp=Z,1.2nm,0.9s,baz=130,slow=3.5,SNR=6.8
NVAR PP PP 19 33 53.0 +3.5
comp=Z,2.9nm,1.0s,baz=145,slow=7.1,SNR=6.3
BW06 Boulder Array 119.02 306 PFAKE 19 32 40.0 +10
BW06 LR LR
comp=Z,796nm,20.0s,MS5.3
PDAR Pinedale Array 119.02 306 PKP PKPdf 19 32 27.8 -2.4
comp=Z,0.6nm,0.8s,baz=118,slow=2.2,SNR=4.6
PDAR PP PP 19 33 53.5 +3.9
comp=Z,2.4nm,1.0s,baz=145,slow=5.4,SNR=8.3
CMB Columbia Colle 119.58 296 PFAKE 19 32 40.0 +8.8
CMB LR LR
comp=Z,466nm,20.0s,MS5.1
ELK Elko 119.63 301 PFAKE 19 32 40.0 +8.7
ELK LR LR
comp=Z,488nm,20.0s,MS5.1
AHID Auburn Hatcher 119.63 305 PFAKE 19 32 40.0 +8.7
AHID LR LR
comp=Z,800nm,21.0s,MS5.3
BMN Battle Mountai 120.20 299 PFAKE 19 32 40.0 +7.6
BMN LR LR
comp=Z,462nm,19.0s,MS5.1
GNI Garni 120.33 61 i PKIKP PKPdf 19 32 31.9 -0.8
GNI Garni 120.33 61 PFAKE 19 32 40.0 +7.3
GNI LR LR
comp=Z,988nm,21.0s,MS5.4
ULM Lac du Bonnet 120.62 320 PKP PKPdf 19 32 30.2 -3.0
comp=Z,5.8nm,1.0s,baz=98,slow=0.6,SNR=5.6
LKWY Lake 120.87 307 PFAKE 19 32 40.0 +6.3
LKWY LR LR
comp=Z,1μm,19.0s,MS5.5
LAO LASA Array 121.08 311 PFAKE 19 32 40.0 +5.9
LAO LR LR
comp=Z,583nm,20.0s,MS5.2
ANN Anapa 121.20 53 i PKIKP PKPdf 19 32 35.5 +1.1
ANN e 19 34 08.4
ANN pmax pmax
comp=Z,30nm,1.5s
HOPS Hopland 121.56 294 PFAKE 19 32 50.0 +15
HOPS LR LR
comp=Z,566nm,19.0s,MS5.2
HLID Hailey 121.63 303 PFAKE 19 32 50.0 +15
HLID LR LR
comp=Z,558nm,22.0s,MS5.2
BOZ Bozeman (W) 122.25 307 PFAKE 19 32 50.0 +14
BOZ LR LR
comp=Z,802nm,22.0s,MS5.3
WVOR Wild Horse Val 122.45 300 ePKIKP PKPdf 19 32 35.7 -1.1
KIV Kislovodsk 122.61 57 ePKIKP PKPdf 19 32 35.1 -2.0
KIV MLR MLR
comp=Z,667nm,20.0s,MS5.3
KIV Kislovodsk 122.61 57 ePKPdf PKPdf 19 32 35.1 -1.9
KIV LR LR
comp=Z,667nm,20.0s,MS5.3
AKASG Malin Array Be 123.18 44 PKP PKPdf 19 32 35.8 -2.4
comp=Z,2.2nm,0.6s,baz=242,slow=2.0,SNR=16
AKBB Malin Array Si 123.18 44 ePKIKP PKPdf 19 32 36.0 -2.1
EGMT Eagleton 123.51 310 PFAKE 19 32 50.0 +11
EGMT LR LR
comp=Z,612nm,19.0s,MS5.3
MAK Makhachkala 123.82 62 i PKIKP PKPdf 19 32 39.6 +0.2
MAK i 19 34 22.6
MAK eSS SS 19 51 07.7 -3.4
BMO Blue Mountains 123.88 302 ePKIKP PKPdf 19 32 37.5 -2.0
BMO MLR MLR
comp=Z,612nm,19.0s,MS5.3
CHMT Chamberlain Mo 123.93 307 ePKPdf PKPdf 19 32 38.0 -1.5
SUW Suwalki 124.08 38 ePKPdf PKPdf 19 32 37.8 -2.1
SUW e 19 32 46.4
MSO Missoula 124.13 306 ePKPdf PKPdf 19 32 38.3 -1.7
MSO LR LR
comp=Z,400nm,19.0s,MS5.1
HUMO Hull Mountain 124.45 297 PFAKE 19 32 50.0 +9.4
HUMO LR LR
comp=Z,379nm,20.0s,MS5.1
DAV Davao City (W) 124.57 158 PFAKE 19 32 50.0 +9.2
DAV LR LR
comp=Z,984nm,21.0s,MS5.5
KONO Kongsberg 125.53 27 PFAKE 19 32 50.0 +7.4
KONO LR LR
comp=Z,928nm,19.0s,MS5.5
HAWA Hanford 126.04 302 PFAKE 19 32 50.0 +6.4
HAWA LR LR
comp=Z,51nm,20.0s,MS4.2
COR Corvallis 126.19 298 PFAKE 19 32 50.0 +6.1
COR LR LR
comp=Z,422nm,20.0s,MS5.1
FFC Flin Flon 126.38 319 PFAKE 19 32 50.0 +5.7
FFC LR LR
comp=Z,466nm,20.0s,MS5.2
NB2 NORSAR Subarra 127.13 27 PKPdf PKPdf 19 32 43.8 -1.9
comp=Z,5.2nm,0.8s,baz=208,slow=2.0
NOA NORSAR Array B 127.13 27 PKP PKPdf 19 32 43.9 -1.9
comp=Z,2.9nm,0.7s,baz=207,slow=2.0,SNR=9.0
VRSR Storozhevoye 127.15 50 ePKIKP PKPdf 19 32 44.2 -1.6
VRSR pmax pmax
comp=Z,4.0nm,0.5s
VRSR pmax pmax
comp=N,2.0nm,0.4s
VRSR pmax pmax
comp=E,10.0nm,0.7s
CM31 Chiang Mai Arr 127.25 123 PFAKE 19 33 00.0 +14
CM31 LR LR
comp=Z,306nm,20.0s,MS5.0
VOR Voronezh 127.57 50 PKIKP PKPdf 19 32 46.0 -0.6
VOR pmax pmax
comp=Z,70nm,1.7s
VRHR Novokhopersk 127.97 52 ePKIKP PKPdf 19 32 45.4 -1.9
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,40nm,1.4s
KOLN Koldanda 128.49 102 eP PKPdf 19 32 47.4 -0.9
VSU Vasula 128.91 37 i PKIKP PKPdf 19 32 47.6 -1.5
EDM Edmonton 129.06 311 ePKIKP PKPdf 19 32 46.6 -2.8
EDM Edmonton 129.06 311 ePKPdf PKPdf 19 32 46.5 -2.9
DMN Daman 129.07 104 eP PKPdf 19 32 48.1 -1.3
GKN Gorkha 129.18 103 eP PKPdf 19 32 48.6 -1.0
PKI Pulchoki 129.18 104 eP PKPdf 19 32 49.2 -0.4
KKN Kakani 129.30 104 eP PKPdf 19 32 48.3 -1.6
OBN Obninsk 129.34 45 ⇑ iPKIKP PKPdf 19 32 48.3 -1.6
OBN e 19 35 00.0
OBN e 19 40 00.9
OBN ePS PS 19 45 10.3 +2.1
OBN eSSS 19 57 13.8
OBN pmax pmax
comp=Z,22nm,1.1s
OBN MLR MLR
comp=Z,300nm,16.0s,MS5.1
JIRN Jiri 129.62 105 eP PKPdf 19 32 49.4 -1.1
GUN Gumba 129.69 104 eP PKPdf 19 32 50.5 -0.1
MOS Moscow 130.20 45 ePKIKP PKPdf 19 32 49.7 -1.9
MOS e 19 35 08.0
MOS pmax pmax
comp=Z,53nm,1.2s
FINES FINESS Array B 131.19 35 PKP PKPdf 19 32 51.6 -1.9
comp=Z,4.2nm,0.6s,baz=143,slow=1.9,SNR=31
FIA1 FINESS Array S 131.19 35 ePKPdf PKPdf 19 32 50.9 -2.5
KAF Kangasniemi 131.80 34 ep PKPdf 19 32 51.4 -3.2
comp=Z,5.0nm,0.6s
QIZ Qiongzhong 131.88 135 ePKP PKPdf 19 32 50.6 -4.1
QIZ PP PP 19 35 21.8 +6.5
QIZ PKS 19 36 29.4
QIZ LR LR
comp=N,560nm,42.0s,MS5.0
QIZ LR LR
comp=E,296nm,37.8s,MS5.0
QIZ LR LR
comp=Z,760nm,38.4s,MS5.1
SUMG Summit 133.30 359 ePKPdf PKPdf 19 32 55.2 -2.2
JOF Joensuu 133.84 36 ep PKPdf 19 32 55.1 -3.3
comp=Z,11nm,0.7s
KSH Kashi 134.31 86 ePKP PKPdf 19 32 59.4 +0.1
KSH ePP PP 19 35 35.8 +5.0
KSH ePKS 19 36 33.5
KSH ePPP 19 38 25.1
KSH eSKS SKSdf 19 40 09.0 -1.5
KSH PP PP
comp=Z,370nm,5.5s
KSH LR LR
comp=N,425nm,8.8s
KSH LR LR
comp=E,543nm,5.8s
KSH LR LR
comp=Z,555nm,5.7s
KMI Kunming 134.76 124 PKP PKPdf 19 32 59.8 -0.4
KLMR Klimovskoe 134.78 42 i PKIKP PKPdf 19 32 56.5 -3.7
KLMR e 19 35 35.2
KLMR pmax pmax
comp=Z,20nm,1.3s
AAK Ala-Archa 135.98 82 ePKIKP PKPdf 19 32 59.9 -2.5
AAK MLR MLR
comp=Z,916nm,22.0s,MS5.5
FRU Bishkek 136.19 82 PKIKP PKPdf 19 33 03.6 +0.8
YKA Yellowknife Ar 136.56 319 PKP PKPdf 19 33 00.9 -2.6
comp=Z,9.9nm,0.8s,baz=129,slow=2.3,SNR=17
YKA PP PP 19 35 48.0 +3.0
comp=Z,4.9nm,1.0s,baz=122,slow=6.2,SNR=4.9
YKA Yellowknife Ar 136.56 319 PKP PKPdf 19 33 00.9 -2.6
YKA PP PP 19 35 48.0 +3.0
ARCES ARCESS Array B 137.51 27 PKhKP 19 32 53.2
comp=Z,2.0nm,0.7s,baz=169,slow=1.2,SNR=6.4
ARCES PKP PKPdf 19 33 03.8 -1.5
comp=Z,4.7nm,0.6s,baz=205,slow=2.0,SNR=9.9
ARCES ARCESS Array B 137.51 27 i PKHKP 19 32 53.2
ARCES 19 33 03.8
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES pmax pmax
comp=Z,5.0nm,0.6s
ARCES ARCESS Array B 137.51 27 PKP PKPdf 19 33 03.8 -1.5
DAG Danmarks Havn 137.98 6 ⇑ iP PKPdf 19 33 03.2 -2.9
comp=Z,1.3nm,0.6s
DAG Danmarks Havn 137.98 6 ⇑ eP PKPdf 19 33 03.2 -2.9
KEV Kevo 138.01 28 PFAKE 19 33 20.0 +14
KEV LR LR
comp=Z,1μm,21.0s,MS5.5
MIDW Midway 138.04 237 PFAKE 19 33 20.0 +14
MIDW LR LR
comp=Z,631nm,19.0s,MS5.4
LVZ Lovozero 138.52 33 i PKIKP PKPdf 19 33 13.4 +6.3
LVZ pmax pmax
comp=Z,45nm,1.5s
LVZ pmax pmax
comp=N,24nm,2.4s
LVZ pmax pmax
comp=E,8.0nm,1.4s
LVZ Lovozero 138.52 33 PFAKE 19 33 20.0 +13
LVZ LR LR
comp=Z,1μm,19.0s,MS5.6
ARU Arti 138.65 57 i PKIKP PKPdf 19 33 01.2 -6.2
ARU MLR MLR
comp=N,400nm,20.0s,MS5.3
ARU MLR MLR
comp=Z,600nm,20.0s,MS5.3
ARU MLR MLR
comp=E,300nm,19.0s,MS5.3
ARU Arti 138.65 57 ePKPdf PKPdf 19 33 02.8 -4.6
ARU LR LR
comp=Z,901nm,21.0s,MS5.5
SVE Sverdlovsk 139.77 58 ePKIKP PKPdf 19 33 07.8 -1.6
SVE e 19 36 09.0
SVE MLR MLR
comp=N,300nm,20.0s,MS5.1
SVE MLR MLR
comp=E,100nm,20.0s,MS5.1
SVE MLR MLR
comp=Z,600nm,20.0s,MS5.3
CD2 Chengdu 140.28 121 ePKP PKPdf 19 33 08.3 -2.0
CD2 PP PP 19 36 09.9 +1.8
CD2 SKS SKSdf 19 40 13.0 -7.7
CD2 SKKS SKKSac 19 42 55.8 -6.3
CD2 PP PP
comp=Z,80nm,9.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CD2				LR	LR		
	comp=N,330nm,18.0s						
CD2				LR	LR		
	comp=Z,310nm,19.2s,MS5.1						
RES	**Resolute Bay**	**140.68**	**339**	*e*PKIKP	PKPdf	19 33 08.4	-2.7
BRVK	**Borovoye**	**141.44**	**68**	PFAKE		19 33 20.0	+7.6
BRVK				LR	LR		
	comp=Z,477nm,20.0s,MS5.2						
ENH	**Enshi**	**142.01**	**128**	PFAKE		19 33 20.0	+6.5
ENH				LR	LR		
	comp=Z,30nm,21.0s						
SPB4	**Spitsbergen Ar**	**142.56**	**16**	*e*PKPpre		19 33 08.4	
KBS	**Kingsbay**	**142.60**	**14**	PFAKE		19 33 20.0	+5.5
KBS				LR	LR		
	comp=Z,606nm,20.0s,MS5.4						
MKAR	**Makanchi Array**	**142.80**	**84**	PKhKP		19 33 09.1	
	comp=Z,3.6nm,0.6s,baz=241,slow=3.0,SNR=38						
WMQ	**Urumqi**	**143.28**	**92**	PKP	PKPdf	19 33 15.3	-0.4
WMQ				PP	PP	19 36 29.5	+3.1
WMQ				PP	PP		
	comp=Z,697nm,10.8s						
WMQ				LR	LR		
	comp=N,1μm,20.0s,MS5.7						
WMQ				LR	LR		
	comp=E,773nm,18.9s,MS5.7						
WMQ				LR	LR		
	comp=Z,881nm,20.5s,MS5.5						
KURK	**Kurchatov**	**143.74**	**76**	*e*PKIKP	PKPdf	19 33 12.6	-3.9
KURK				MLR	MLR		
	comp=Z,512nm,22.0s,MS5.2						
LZH	**Lanzhou**	**144.76**	**117**	⇓PKP	PKPdf	19 33 16.5	-1.8
LZH				APKP		19 33 23.3	
LZH				PP	PP	19 36 37.5	+2.3
LZH				PKS		19 36 50.8	
LZH				SKS	SKSdf	19 40 21.5	-6.1
LZH				SKKS	SKKSac	19 43 24.3	-3.6
LZH				SS	SS	19 55 22.6	-0.8
LZH				PP	PP		
	comp=Z,416nm,8.7s						
LZH				LR	LR		
	comp=E,1μm,18.5s						
LZH				LR	LR		
	comp=Z,1μm,20.3s,MS5.7						
XAN	**Xi'an**	**145.12**	**125**	PKP	PKPdf	19 33 17.6	-1.3
GTA	**Gaotai**	**145.68**	**109**	PKP	PKPdf	19 33 19.5	-0.4
GTA				PKS		19 36 55.0	
GTA				SKS	SKSdf	19 40 26.8	-2.2
GTA				SKKS	SKKSac	19 43 31.3	-1.9
GTA				PP	PP		
	comp=Z,310nm,9.9s						
GTA				LR	LR		
	comp=N,319nm,12.5s,MS5.4						
GTA				LR	LR		
	comp=E,360nm,15.2s,MS5.4						
GTA				LR	LR		
	comp=Z,372nm,18.3s,MS5.2						
DAWY	**Dawson**	**146.25**	**309**	*e*PKPdf	PKPdf	19 33 18.9	-1.9
DAWY				*e*		19 33 28.0	
INK	**Inuvik**	**146.33**	**318**	PKPbc	PKPbc	19 33 19.6	-2.6
	comp=Z,40nm,1.0s,baz=106,slow=2.9,SNR=69						
INK	**Inuvik**	**146.33**	**318**	*e*PKPdf	PKPdf	19 33 18.3	-2.7
INK				*e*		19 33 28.2	
SSE	**Sheshan**	**146.72**	**144**	PKP	PKPdf	19 33 19.5	-2.1
SSE				PP	PP	19 36 48.8	+1.9
SSE				PP	PP		
	comp=Z,14nm,13.3s						
SSE				LR	LR		
	comp=N,260nm,20.5s,MS5.1						
SSE				LR	LR		
	comp=E,205nm,20.5s,MS5.1						
SSE				LR	LR		
	comp=Z,358nm,20.7s,MS5.1						
NJ2	**Nanjing**	**146.91**	**140**	*e*PKP	PKPdf	19 33 18.3	-3.6
NJ2				PKP2	PKPab	19 33 22.9	-2.3
NJ2				PP	PP	19 36 48.0	0.0
NJ2				PKS		19 36 50.0	
NJ2				LR	LR		
	comp=N,3μm,16.4s,MS6.2						
NJ2				LR	LR		
	comp=E,1μm,17.2s,MS6.2						
NJ2				LR	LR		
	comp=Z,60nm,14.0s,MS4.5						
EYAK	**Cordova Ski Ar**	**146.91**	**301**	*e*PKPdf	PKPdf	19 33 21.9	0.0
KDAK	**Kodiak Island**	**148.37**	**293**	PKPbc	PKPbc	19 33 25.6	-2.3
	comp=Z,26nm,0.8s,baz=82,slow=1.4,SNR=16						
KDAK	**Kodiak Island**	**148.37**	**293**	*e*PKPdf	PKPdf	19 33 25.9	+1.5
KDAK				LR	LR		
	comp=Z,154nm,19.0s,MS4.8						
NVS	**Novosibirsk**	**148.52**	**74**	*i* PKP2	PKPab	19 33 26.4	-5.2
NVS				pmax	pmax		
	comp=Z,127nm,0.9s						
NVS				pmax	pmax		
	comp=N,58nm,1.7s						
NVS				pmax	pmax		
	comp=E,66nm,1.7s						
ZAL	**Zalesovo**	**148.72**	**76**	PKP	PKPdf	19 33 21.3	-3.6
	comp=E,2.8nm,0.9s,baz=290,slow=5.4,SNR=5.5						
ZAL				PKPbc	PKPbc	19 33 26.2	-2.5
	comp=E,7.5nm,0.6s,baz=257,slow=3.4,SNR=36						
SLKM	**Skilak Lake**	**148.78**	**299**	*e*PKP2	PKPab	19 33 26.8	-5.9
PMR	**Palmer**	**148.86**	**301**	*e*PKP2	PKPab	19 33 27.6	-5.4
COLA	**College**	**149.86**	**308**	*i* PKP2	PKPab	19 33 35.7	-1.4
COLA	**College**	**149.86**	**308**	*e*PKPdf	PKPdf	19 33 29.2	+2.5
COLA				LR	LR		
	comp=Z,501nm,20.0s,MS5.3						
SVW2	**Sparrevohn**	**151.37**	**297**	*e*PKPbc	PKPbc	19 33 31.7	-3.4
HHC	**Hu-ho-hao-te**	**152.04**	**122**	*e*PKP	PKPdf	19 33 28.6	-1.5
HHC				PP	PP	19 37 24.4	+6.7
HHC				SKS	SKSdf	19 40 35.5	-2.0
HHC				SKKS	SKKSac	19 44 09.3	+0.8
HHC				SS	SS	19 56 43.8	-1.4
HHC				PP	PP		
	comp=Z,214nm,5.7s						
HHC				LR	LR		
	comp=N,216nm,7.8s						
HHC				LR	LR		
	comp=E,257nm,11.8s						
HHC				LR	LR		
	comp=Z,219nm,9.2s						
TTA	**Tatalina**	**152.34**	**301**	*e*PKIKP	PKPdf	19 33 35.5	+4.9
TTA				*e*		19 33 44.7	
TTA	**Tatalina**	**152.34**	**301**	*e*PKPdf	PKPdf	19 33 35.5	+5.0
TTA				*e*		19 33 44.7	
TTA				*e*		19 33 50.8	
IMA2	**Indian Mountai**	**152.57**	**308**	*e*PKPdf	PKPdf	19 33 36.1	+5.2
IMA2				*e*		19 33 45.2	
BJT	**Baijiatuau**	**153.16**	**129**	PFAKE		19 33 40.0	+8.2
BJT				LR	LR		
	comp=Z,614nm,19.0s,MS5.4						
INCN	**Inchon**	**154.22**	**148**	PFAKE		19 33 40.0	+6.7
INCN				LR	LR		
	comp=Z,597nm,20.0s,MS5.4						
MOY	**Mondy**	**155.16**	**93**	*e*PKIKP	PKPdf	19 33 32.5	-2.1
SONM	**Songino Array**	**155.19**	**105**	PKP	PKPdf	19 33 32.3	-2.3
	comp=Z,0.7nm,0.8s,baz=224,slow=2.0,SNR=6.7						
SONM				PKPbc	PKPdf	19 33 41.7	+7.1
	comp=Z,2.7nm,0.8s,baz=215,slow=3.1,SNR=16						
MAJO	**Matsushiro**	**155.31**	**170**	*e*PKPab	PKPab	19 33 59.3	-0.6
MAJO				*e*		19 34 06.1	
MAJO				LR	LR		
	comp=Z,558nm,20.0s,MS5.4						
MAT	**Matsushiro**	**155.31**	**170**	PKP	PKPdf	19 33 32.9	-1.9
MJAR	**Matsushiro Arr**	**155.31**	**170**	PKP	PKPdf	19 33 32.5	-2.3
	comp=Z,0.4nm,0.3s,baz=153,slow=11,SNR=2.7						
MJAR				PKPbc	PKPdf	19 33 42.6	+7.8
	comp=Z,2.6nm,0.8s,baz=161,slow=2.8,SNR=6.4						
MJAR				PKPab	PKPab	19 33 59.5	-0.5
	comp=Z,7.9nm,1.0s,baz=193,slow=4.6,SNR=7.8						
ZAK	**Zakamensk**	**155.45**	**97**	*e*PKIKP	PKPdf	19 33 32.9	-2.1
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ULN	**Ulaanbaatar**	**155.52**	**106**	*i* PKIKP	PKPdf	19 33 42.6	+7.5
IRK	**Irkutsk**	**157.12**	**95**	*e*PKIKP	PKPdf	19 33 43.9	+6.7
IRK				*e*		19 37 42.5	
IRK				pmax	pmax		
	comp=Z,60nm,1.7s						
CN2	**Changchun**	**159.74**	**140**	*e*PKP	PKPdf	19 33 35.8	-4.5
CN2				PP	PP	19 37 59.6	-0.9
MDJ	**Mudanjiang**	**161.68**	**147**	PKP	PKPdf	19 33 39.5	-2.9
MDJ				XPKP		19 33 46.9	
MDJ				PP	PP	19 38 12.6	+1.6
MDJ				SS	SS	19 58 28.8	+0.1
MDJ				LR	LR		
	comp=N,200nm,43.1s						
MDJ				LR	LR		
	comp=E,462nm,53.4s						
MDJ				LR	LR		
	comp=Z,341nm,47.2s						
MDJ	**Mudanjiang**	**161.68**	**147**	PFAKE		19 33 50.0	+7.6
MDJ				LR	LR		
	comp=Z,490nm,21.0s						
HIA	**Hailar**	**162.24**	**121**	PFAKE		19 33 50.0	+7.0
HIA				LR	LR		
	comp=Z,616nm,19.0s						
BOD	**Bodaibo**	**164.80**	**89**	*e*PKIKP	PKPdf	19 33 41.2	-4.2
BOD				pmax	pmax		
	comp=Z,7.0nm,1.4s						
BOD				pmax	pmax		
	comp=Z,18nm,1.3s						
KLR	**Kul'dur**	**166.50**	**146**	*e*PKIKP	PKPdf	19 33 46.0	-0.8
TIXI	**Tiksi**	**167.88**	**22**	*i* PKIKP	PKPdf	19 33 46.9	-0.9
YAK	**Yakutsk**	**173.38**	**75**	*e*PKIKP	PKPdf	19 33 45.9	-4.9
YAK				*e*		19 33 53.8	
YAK	**Yakutsk**	**173.38**	**75**	*e*PKPdf	PKPdf	19 33 45.9	-4.9
YAK				*e*		19 33 53.8	
YAK				*e*		19 33 57.5	
MA2	**Magadan**	**176.04**	**252**	PFAKE		19 34 00.0	+8.4
MA2				LR	LR		
	comp=Z,493nm,20.0s						

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*NEIC **13** 19:17:37.0, 3784N×3389E, h5km, ML3.9(ISK), After ISK.*
*ISCJB **13** 19:17:38.4±0.6, 3787N±002×3390E±003, h2km±4km, mb3.5/4, Error ellipse: s-maj=3.8km s-min=2.6km az=110.9*
*IDC **13** 19:17:39.4±1.3, 3788N×3378E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.5/18, mbtmp3.5/5, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/19, Error ellipse: s-maj=27.1km s-min=16.8km az=96.0*
*ISK **13** 19:17:39.5, 3782N×3384E, h22km, MD3.9, ML3.9*
*CSEM **13** 19:17:40.9±0.1, 3788N×3388E, h30km, MD3.9, Error ellipse: s-maj=2.1km s-min=1.4km az=63.0*
*NSSC **13** 19:17:42.7, 38.19N×3426E, h40km*

ISC 13 19:17:39.0±0.4, **3787N**±002×**3388E**±002, **h0**km±4km, **n80**, σ1§**18**/105, **mb3.5**/4, **14D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARA	**Karaisali**	**1.11**	**123**	*i* PN	**Pg**	**19 17 59.7**	**-0.7**
KARA				*i* SN	**Sg**	**19 18 15.7**	**+0.9**
MERS	**Mersin**	**1.12**	**153**	*i* PN	**Pg**	**19 17 59.8**	**-0.8**
KONT	**Konya--Tatoy**	**1.20**	**274**	PN	**Pg**	**19 18 01.3**	**-0.8**
MEST	**Erdemli**	**1.30**	**170**	*i* P	**Pg**	**19 18 03.0**	**-0.9**
MEST				*i* S	**Sg**	**19 18 20.6**	**-0.1**
ERMK	**Ermenek**	**1.45**	**213**	*i* P	**Pn**	**19 18 05.7**	**-0.8**
ERMK				*i* S	**Sg**	**19 18 26.7**	**+1.2**
KAMT	**Kaman**	**1.50**	**355**	PN	**Pn**	**19 18 05.8**	**-1.5**
KDHN	**Kadinhani**	**1.54**	**296**	*i* P	**Pn**	**19 18 07.3**	**-0.4**
KDHN				*i* S	**Sg**	**19 18 31.3**	**+2.9**
KOZT	**Kozan**	**1.59**	**103**	PN	**Pn**	**19 18 07.6**	**-0.9**
IKL	**Isikli**	**1.63**	**186**	PN	**Pn**	**19 18 07.6**	**-1.4**
CEYT	**Ceyhan**	**1.72**	**119**	PN	**Pn**	**19 18 09.5**	**-0.7**
CDAG	**Cicekdag**	**1.80**	**12**	*i* P	**Pn**	**19 18 10.2**	**-1.1**
CDAG				*i* S	**Sg**	**19 18 37.8**	**+1.0**
BNN	**Bunyan**	**1.83**	**57**	PN	**Pn**	**19 18 10.5**	**-1.3**
BRTR	**Keskin Array B**	**1.86**	**354**	Pn	**Pn**	**19 18 10.6**	**-1.6**
	10nm,0.3s,baz=175,slow=16,SNR=139						
BRTR				Lg		19 18 39.2	
	18nm,0.3s,baz=168,slow=30,SNR=12						
BRTR	**Keskin Array B**	**1.86**	**354**	Pn	**Pn**	**19 18 10.6**	**-1.6**
BRTR				Lg		19 18 39.2	
BR131	**Keskin Array S**	**1.86**	**354**	*e*P	**Pn**	**19 18 10.6**	**-1.6**
BR131	**Keskin Array S**	**1.86**	**354**	*e*P	**Pn**	**19 18 10.6**	**-1.6**
KIZT	**Kizilcal**	**1.87**	**303**	PN	**Pn**	**19 18 11.3**	**-1.0**
YOZ	**Yozgat**	**2.10**	**32**	PN	**Pn**	**19 18 15.7**	**+0.3**
ANTO	**Ankara**	**2.17**	**337**	PN	**Pn**	**19 18 15.7**	**-0.7**
ANTO	**Ankara**	**2.17**	**337**	*e*P	**Pn**	**19 18 15.2**	**-1.3**
ANTO	**Ankara**	**2.17**	**337**	*e*P	**Pn**	**19 18 15.2**	**-1.2**
ANTO	**Ankara**	**2.17**	**337**	*e*Pn	**Pn**	**19 18 15.7**	**-0.7**
LOD	**Lodumlu**	**2.20**	**337**	PN	**Pn**	**19 18 16.6**	**-0.2**
COBT	**Iskenderun**	**2.33**	**125**	*i* P	**Pn**	**19 18 20.0**	**+1.5**
COBT				*i* S	**Sg**	**19 18 55.5**	**+1.8**
CORM	**Corum**	**2.38**	**14**	PN	**Pn**	**19 18 19.7**	**+0.4**
DRWC	**Darouich**	**2.55**	**118**	⇑P	**Pn**	**19 18 21.1**	**-0.5**
DRWC				⇑S	**Sn**	**19 18 48.9**	**-4.4**
DRWC	**Darouich**	**2.55**	**118**	⇑*i*P	**Pn**	**19 18 21.1**	**-0.5**
DRWC				⇑*i*S	**Sn**	**19 18 48.9**	**-4.4**
ARNB	**Al Arnab**	**2.61**	**139**	⇑P	**Pb**	**19 18 24.8**	**-2.0**
ARNB				⇑S	**Sn**	**19 18 53.7**	**-1.3**
ELDT	**Eldivan**	**2.64**	**352**	*i* P	**Pb**	**19 18 26.9**	**-0.4**
ELDT				*i* S	**Sg**	**19 19 04.6**	**+0.7**
ISP	**Isparta**	**2.67**	**271**	*e*PN	**Pn**	**19 18 21.5**	**-1.8**
ISP	**Isparta**	**2.67**	**271**	*e*P	**Pn**	**19 18 24.9**	**+1.6**
GAZ	**Gaziantep**	**2.74**	**104**	*e*PN	**Pn**	**19 18 24.0**	**-0.2**
CANT	**Cankiri**	**2.74**	**356**	*e*PN	**Pn**	**19 18 24.6**	**+0.3**
MAMC	**Mammari**	**2.74**	**191**	P	**Pn**	**19 18 25.4**	**+1.1**
BTCH	**Batrach**	**2.76**	**131**	⇓P	**Pn**	**19 18 25.1**	**+0.6**
BTCH				⇓S	**Sn**	**19 18 54.8**	**-3.7**
BTCH	**Batrach**	**2.76**	**131**	⇓*i*P	**Pn**	**19 18 25.1**	**+0.6**
BTCH				⇓*i*S	**Sn**	**19 18 54.8**	**-3.7**
TKTP	**Tekketepe**	**2.82**	**275**	*i* P	**Pb**	**19 18 28.5**	**-1.7**
TKTP				*i* S	**Sg**	**19 19 08.1**	**-1.5**
CTKT	**Corum**	**2.84**	**14**	*i* P	**Pb**	**19 18 29.8**	**-0.9**
CTKT				*i* S	**Sn**	**19 18 56.6**	**-4.0**
PHNC	**Paralimni**	**2.86**	**177**	P	**Pn**	**19 18 26.0**	**+0.1**
	8.0nm,0.7s						
ESKT	**Eskisehir**	**2.89**	**306**	*i* P	**Pb**	**19 18 31.1**	**-0.4**
ALFC	**Alevga**	**2.90**	**201**	P	**Pn**	**19 18 26.3**	**-0.1**
CSS	**Prodhromos**	**2.93**	**189**	P	**Pn**	**19 18 25.8**	**-1.1**
	4.0nm,0.7s						
SLNF	**Slenfeh**	**2.95**	**140**	⇓P	**Pn**	**19 18 28.5**	**+1.4**
SLNF				⇓S	**Sn**	**19 19 02.1**	**-1.1**
SLNF	**Slenfeh**	**2.95**	**140**	⇓*i*P	**Pn**	**19 18 28.5**	**+1.4**
SLNF				⇓*i*S	**Sn**	**19 19 02.1**	**-1.1**
GZT	**Gaziantep**	**2.97**	**99**	*i* P	**Pn**	**19 18 28.9**	**+1.5**
GZT				*i* S	**Sb**	**19 19 08.5**	**-1.2**
SGKT	**Sivrigoynuk**	**3.05**	**333**	*i* P	**Pg**	**19 18 37.1**	**-0.5**
SVST	**Sivas**	**3.06**	**51**	*i* P	**Pg**	**19 18 35.4**	**-2.3**
WRDH	**Warideh**	**3.11**	**138**	⇓P	**Pn**	**19 18 31.3**	**+1.9**
WRDH				⇓S	**Sn**	**19 19 06.0**	**-1.2**
WRDH	**Warideh**	**3.11**	**138**	⇓*i*P	**Pn**	**19 18 31.3**	**+1.9**
WRDH				⇓*i*S	**Sn**	**19 19 06.1**	**-1.2**
TOS	**Tosya**	**3.17**	**2**	*e*PN	**Pn**	**19 18 29.6**	**-0.5**
SVSK	**Karacayir**	**3.18**	**49**	*e*PN	**Pn**	**19 18 30.3**	**0.0**
TOKT	**Tokat**	**3.21**	**39**	*e*PN	**Pn**	**19 18 31.2**	**+0.5**
MDU	**Mudurnu**	**3.32**	**322**	*e*PN	**Pn**	**19 18 31.4**	**-0.8**
BORA	**Eskisehir**	**3.34**	**308**	*i* P	**Pb**	**19 18 40.1**	**+0.9**
BORA				*i* S	**Sg**	**19 19 26.1**	**-0.4**
BIDA	**Albida**	**3.46**	**145**	⇓P	**Pn**	**19 18 34.8**	**+0.6**
BIDA	**Albida**	**3.46**	**145**	⇓*i*P	**Pn**	**19 18 34.8**	**+0.6**
SAFT	**Safranbolu**	**3.49**	**345**	*e*PN	**Pn**	**19 18 34.8**	**+0.2**
MALT	**Malatya**	**3.62**	**82**	*e*P	**Pn**	**19 18 36.2**	**-0.1**
MYA	**Malataya**	**3.62**	**81**	*e*PN	**Pn**	**19 18 37.3**	**+1.0**
SLMH	**Al Salmeh**	**3.63**	**116**	⇑*i*P	**Pn**	**19 18 34.5**	**-2.1**
SLMH				⇑*i*S	**Sn**	**19 19 14.5**	**-5.6**
BOYT	**Boyabat**	**3.64**	**12**	*i* P	**Pn**	**19 18 38.1**	**+1.5**
BYBT	**Boyabat**	**3.66**	**11**	*e*PN	**Pn**	**19 18 37.1**	**+0.2**
GDZ	**Gediz**	**3.66**	**291**	*i* P	**Pn**	**19 18 38.6**	**+1.7**
GDZ				*i* S	**Sg**	**19 19 38.9**	**+2.2**
BALT	**Daday**	**3.68**	**354**	*i* P	**Pb**	**19 18 46.9**	**+2.0**
HENT	**Hendek**	**3.75**	**323**	*i* P	**Pg**	**19 18 50.8**	**-0.1**
HWQ	**Hawqa**	**3.95**	**154**	*e*Pn	**Pn**	**19 18 41.3**	**+0.3**
HWQ				Sn	**Sn**	**19 19 29.3**	**+1.3**
ELZG	**Elazig**	**4.07**	**80**	*i* P	**Pn**	**19 18 44.3**	**+1.7**
ELZG				*i* S	**Sg**	**19 19 52.4**	**+2.5**
BHL	**Bhannes**	**4.21**	**159**	*e*Pn	**Pn**	**19 18 46.4**	**+2.0**
BHL				Sn	**Sn**	**19 19 35.6**	**+1.3**
ULDT	**Uludag**	**4.34**	**303**	*i* P	**Pb**	**19 18 58.2**	**+2.1**
GRSN	**GIRESUNGRSN**	**4.57**	**47**	*i* P	**Pb**	**19 18 59.8**	**-0.2**
BTOK	**Tokmak**	**4.94**	**294**	*i* P	**Pg**	**19 19 11.2**	**-2.5**
MARD	**Mardin**	**5.51**	**94**	*i* P	**Pn**	**19 19 08.2**	**+5.9**
MARD				*i* S	**Sg**	**19 20 34.2**	**-1.8**
MSL	**Mosul**	**7.53**	**99**	*e*x	x	19 19 41.5	
MSL				*e*x	x	19 21 46.0	
EIL	**Elat**	**8.22**	**173**	P	**Pn**	**19 19 40.2**	**+0.6**
EIL	**Elat**	**8.22**	**173**	P	**Pn**	**19 19 40.2**	**+0.6**
GERES	**GERESS Array B**	**18.26**	**313**	P	**Pn**	**19 21 54.1**	**+0.3**
	0.1nm,0.3s,baz=119,slow=11,SNR=4.1						
GERES				LR	LR	19 29 26.9	
	comp=Z,55nm,18.7s,baz=271,slow=39						
FINES	**FINESS Array B**	**24.10**	**351**	P	**P**	**19 22 56.1**	**-0.2**
	2.1nm,0.8s,mb3.7,baz=133,slow=14,SNR=4.9						
MKAR	**Makanchi Array**	**36.38**	**60**	P	**P**	**19 24 46.5**	**+1.5**
	0.9nm,0.6s,mb3.8,baz=287,slow=5.8,SNR=6.9						
TORD	**Torodi Ar. Bea**	**37.76**	**238**	P	**P**	**19 24 56.8**	**+0.1**
	0.3nm,0.6s,mb3.2,baz=33,slow=5.4,SNR=3.1						
SONM	**Songino Array**	**52.27**	**54**	P	**P**	**19 26 52.4**	**+0.3**
	0.4nm,0.8s,mb3.4,baz=305,slow=8.8,SNR=3.8						

NDI 13 19:31:53.5±2.0, **3317N**×**7528E**, **h10**km, **ML4.2**, **Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**0.86**	**137**	*e*P	Pg	19 32 09.0	-1.0
DLH				*e*S	Sg	19 32 21.0	-0.2
PONG	**Pong**	**1.34**	**155**	*e*P	Pn	19 32 18.0	-0.3
PONG				*e*S	Sb	19 32 37.0	+1.1
BHK	**Bhakra**	**2.00**	**151**	*e*P	Pn	19 32 32.2	+4.9
BHK				*e*S	Sn	19 32 58.4	+6.0
SDNR	**Sundarnagar**	**2.20**	**139**	*e*P	Pn	19 32 30.6	+0.5
SDNR				*e*S	Sn	19 32 58.0	+0.7
SMLA	**Simla**	**2.59**	**141**	*e*P	Pn	19 32 37.1	+1.6
SMLA				*e*S	Sn	19 33 11.0	+3.9
	2μm,0.3s						
NDI	**New Delhi**	**4.77**	**159**	*e*x	x	19 32 49.5	
NDI				*e*x	x	19 34 15.0	

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*ISCJB **13** 19:34:30.0±0.2, 3787N±002×3392E±002, h10km, Error ellipse: s-maj=2.8km s-min=2.0km az=113.1*
*ISK **13** 19:34:30.5, 3784N×3388E, h21km, MD3.7, ML3.6*
*CSEM **13** 19:34:31.7±0.1, 3783N×3388E, h30km, Mw3.6, Error ellipse: s-maj=1.7km s-min=1.4km az=63.0*
*NIC **13** 19:34:32.4±0.3, 3792N×3401E, h70km, mb4.1, ML3.7, MW3.6*
*NSSC **13** 19:34:35.1, 3790N×3397E, h40km*

ISC 13 19:34:31.1±0.2, **3786N**±002×**3392E**±002, **h10**km, **n60**, σ1§**24**/87, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARA	**Karaisali**	**1.08**	**123**	*i* PN	**Pg**	**19 34 50.2**	**-1.6**
MERS	**Mersin**	**1.10**	**154**	*i* PN	**Pg**	**19 34 50.7**	**-1.6**
MERS				*i* SN	**Sg**	**19 35 06.8**	**+0.2**
KONT	**Konya--Tatoy**	**1.24**	**274**	*i* PN	**Pg**	**19 34 51.9**	**-3.0**
ERMK	**Ermenek**	**1.46**	**214**	*i* P	**Pn**	**19 34 56.4**	**-1.1**
ERMK				*i* S	**Sn**	**19 35 16.9**	**+0.2**
KAMT	**Kaman**	**1.51**	**354**	PN	**Pn**	**19 34 56.5**	**-1.7**
KAMT				SN	**Sn**	**19 35 16.3**	**-1.6**
KOZT	**Kozan**	**1.56**	**104**	PN	**Pn**	**19 34 58.1**	**-0.7**
KDHN	**Kadinhani**	**1.57**	**295**	*i* P	**Pn**	**19 34 57.3**	**-1.7**
KDHN				*i* S	**Sg**	**19 35 20.6**	**-0.9**
IKL	**Isikli**	**1.63**	**187**	PN	**Pn**	**19 34 58.4**	**-1.4**
CEYT	**Ceyhan**	**1.68**	**120**	PN	**Pn**	**19 35 00.2**	**-0.3**
KRTS	**Karatas**	**1.73**	**138**	PN	**Pn**	**19 35 00.4**	**-0.8**
CDAG	**Cicekdag**	**1.79**	**11**	*i* P	**Pn**	**19 35 00.7**	**-1.3**
CDAG				*i* S	**Sg**	**19 35 27.2**	**-1.4**
BNN	**Bunyan**	**1.81**	**56**	PN	**Pn**	**19 35 02.4**	**+0.2**
KIZT	**Kizilcal**	**1.90**	**303**	PN	**Pn**	**19 35 02.5**	**-1.0**
YOZ	**Yozgat**	**2.08**	**31**	PN	**Pn**	**19 35 05.6**	**-0.4**
ANTO	**Ankara**	**2.19**	**337**	PN	**Pn**	**19 35 07.7**	**+0.2**
LOD	**Lodumlu**	**2.22**	**336**	PN	**Pn**	**19 35 07.7**	**-0.2**
CORM	**Corum**	**2.38**	**13**	PN	**Pn**	**19 35 10.0**	**-0.1**
DRWC	**Darouich**	**2.52**	**119**	⇑P	**Pn**	**19 35 13.5**	**+1.5**
DRWC				⇑S	**Sn**	**19 35 41.0**	**-1.7**
DRWC	**Darouich**	**2.52**	**119**	⇑*i*P	**Pn**	**19 35 13.5**	**+1.5**
DRWC				⇑*i*S	**Sn**	**19 35 41.0**	**-1.7**
ARNB	**Al Arnab**	**2.59**	**140**	⇑P	**Pn**	**19 35 15.1**	**+2.1**
ARNB				⇑S	**Sn**	**19 35 43.2**	**-1.2**
ELDT	**Eldivan**	**2.65**	**352**	*i* P	**Pb**	**19 35 17.2**	**-1.4**
ELDT				*i* S	**Sg**	**19 35 56.8**	**+0.6**
BCK	**Bucak**	**2.68**	**262**	*e*PN	**Pn**	**19 35 13.6**	**-0.6**
GAZ	**Gaziantep**	**2.70**	**104**	*e*PN	**Pn**	**19 35 13.6**	**-1.0**
ISP	**Isparta**	**2.70**	**271**	PN	**Pn**	**19 35 13.6**	**-1.0**
BTCH	**Batrach**	**2.73**	**131**	⇑P	**Pn**	**19 35 17.1**	**+2.2**
BTCH				⇑S	**Sn**	**19 35 47.2**	**-0.7**
BTCH	**Batrach**	**2.73**	**131**	⇑*i*P	**Pn**	**19 35 17.1**	**+2.2**
BTCH				⇑*i*S	**Sn**	**19 35 47.2**	**-0.7**
MAMC	**Mammari**	**2.75**	**192**	P	**Pn**	**19 35 15.5**	**+0.3**
CANT	**Cankiri**	**2.75**	**355**	*e*PN	**Pn**	**19 35 14.8**	**-0.4**
ANTB	**Antalya**	**2.78**	**251**	*e*PN	**Pn**	**19 35 14.7**	**-0.9**
TKTP	**Tekketepe**	**2.85**	**275**	*i* P	**Pn**	**19 35 16.9**	**+0.3**
TKTP				*i* S	**Sg**	**19 36 05.1**	**+2.4**
PHNC	**Paralimni**	**2.85**	**178**	P	**Pn**	**19 35 16.1**	**-0.6**
	6.1nm,0.6s						
PHNC				S	**Sn**	**19 35 53.2**	**+2.1**
ALFC	**Alevga**	**2.91**	**202**	P	**Pn**	**19 35 17.4**	**+0.1**
ALFC				S	**Sn**	**19 35 52.2**	**-0.1**
ESKT	**Eskisehir**	**2.92**	**305**	*i* P	**Pn**	**19 35 20.5**	**+3.0**
ESKT				*i* S	**Sg**	**19 36 06.0**	**+1.1**
SLNF	**Slenfeh**	**2.92**	**140**	⇑P	**Pn**	**19 35 19.3**	**+1.8**
SLNF				⇑S	**Sn**	**19 35 52.0**	**-0.7**
SLNF	**Slenfeh**	**2.92**	**140**	⇑*i*P	**Pn**	**19 35 19.3**	**+1.7**
SLNF				⇑*i*S	**Sn**	**19 35 52.0**	**-0.7**
CSS	**Prodhromos**	**2.94**	**190**	P	**Pn**	**19 35 17.2**	**-0.5**
	3.0nm,0.6s						
CSS				S	**Sn**	**19 35 53.3**	**+0.3**
GZT	**Gaziantep**	**2.94**	**99**	*i* P	**Pn**	**19 35 19.1**	**+1.4**
GZT				*i* S	**Sg**	**19 36 10.5**	**+5.1**
SGKT	**Sivrigoynuk**	**3.07**	**332**	*i* P	**Pb**	**19 35 27.4**	**+1.6**
SGKT				*i* S	**Sg**	**19 36 13.4**	**+3.7**
WRDH	**Warideh**	**3.09**	**139**	⇑P	**Pn**	**19 35 22.0**	**+2.1**
WRDH				⇑S	**Sn**	**19 35 56.6**	**-0.2**
WRDH	**Warideh**	**3.09**	**139**	⇑*i*P	**Pn**	**19 35 22.0**	**+2.2**
WRDH				⇑*i*S	**Sn**	**19 35 56.6**	**-0.2**
SVSK	**Karacayir**	**3.15**	**49**	*e*PN	**Pn**	**19 35 21.2**	**+0.4**
TOS	**Tosya**	**3.17**	**1**	*e*PN	**Pn**	**19 35 21.9**	**+0.9**
TOKT	**Tokat**	**3.19**	**39**	*e*PN	**Pn**	**19 35 21.9**	**+0.7**
PPCY	**Paphos**	**3.23**	**204**	P	**Pn**	**19 35 24.2**	**+2.3**
MDU	**Mudurnu**	**3.34**	**322**	*e*PN	**Pn**	**19 35 23.7**	**+0.3**
ELL	**Elmali**	**3.39**	**252**	*e*PN	**Pn**	**19 35 23.3**	**-0.7**
BIDA	**Albida**	**3.44**	**145**	⇑P	**Pn**	**19 35 25.4**	**+0.7**
BIDA				⇑S	**Sn**	**19 36 03.3**	**-2.2**
BIDA	**Albida**	**3.44**	**145**	⇑*i*P	**Pn**	**19 35 25.4**	**+0.7**
BIDA				⇑*i*S	**Sn**	**19 36 03.3**	**-2.2**
ATAB	**Bozova**	**3.49**	**95**	*i* P	**Pb**	**19 35 36.0**	**+3.1**
ATAB				*i* S	**Sg**	**19 36 24.1**	**+0.9**
SAFT	**Safranbolu**	**3.50**	**345**	*e*PN	**Pn**	**19 35 26.7**	**+1.1**
BOYT	**Boyabat**	**3.63**	**12**	*i* P	**Pn**	**19 35 28.2**	**+0.9**
BOYT				*i* S	**Sg**	**19 36 23.9**	**-3.8**
BYBT	**Boyabat**	**3.66**	**10**	*e*PN	**Pn**	**19 35 29.0**	**+1.3**
BALT	**Daday**	**3.69**	**354**	*i* P	**Pb**	**19 35 36.6**	**+0.3**
BALT				*i* S	**Sg**	**19 36 29.4**	**-0.1**
HENT	**Hendek**	**3.77**	**323**	*i* P	**Pg**	**19 35 42.3**	**-1.1**
URFA	**Urfa**	**3.91**	**95**	*e*PN	**Pn**	**19 35 32.0**	**+0.9**
DIKM	**Dikmen**	**3.92**	**15**	*e*PN	**Pn**	**19 35 32.6**	**+1.3**
ULDT	**Uludag**	**4.37**	**303**	*i* P	**Pb**	**19 35 50.7**	**+2.8**
GRSN	**GIRESUNGRSN**	**4.55**	**46**	*i* P	**Pb**	**19 35 49.5**	**-1.4**
MARD	**Mardin**	**5.47**	**94**	*i* P	**Pg**	**19 36 11.2**	**-4.7**
MARD				*i* S	**Sg**	**19 37 30.4**	**+3.6**
MSL	**Mosul**	**7.49**	**99**	*e*x	x	19 36 51.0	
MSL				*e*x	x	19 38 42.0	

PRE 13 19:53:33.4±1.6, **2699S**×**2670E**, **h2**km, **ML3.7**, **South Africa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSR	**Koster**	**1.15**	**9**	*e*P	Pg	19 53 55.3	-0.1
KSR				*e*S	Sg	19 54 10.7	+0.4
KSR				AML	AML	19 54 13.9	
	comp=Z,695nm,0.1s						
SWZ	**Schweizer**	**1.24**	**261**	*e*P	Pg	19 53 57.3	+0.2
SWZ				*e*S	Sg	19 54 13.8	+0.6
SWZ				AML	AML	19 54 18.9	
	comp=Z,853nm,0.3s						
ERPM	**east rand prop**	**1.57**	**62**	*e*P	Pn	19 54 03.5	+1.2
ERPM				*e*S	Sn	19 54 23.8	+0.7
ERPM				AML	AML	19 54 24.9	
	comp=Z,399nm,0.2s						
SLR	**Silverton**	**1.89**	**49**	*e*P	Pn	19 54 07.9	+1.2
SLR				*e*S	Sn	19 54 31.8	+0.7
SLR				AML	AML	19 54 34.2	
	comp=Z,776nm,0.4s						
LBTB	**Lobatse**	**2.21**	**333**	*e*P	Pn	19 54 12.2	+1.2
LBTB				*e*S	Sn	19 54 40.0	+1.2
LBTB				AML	AML	19 54 42.6	
	comp=Z,249nm,0.5s						
KSD	**Kokstad**	**4.26**	**147**	*e*P	Pn	19 54 39.7	+0.4
KSD				*e*S	Sn	19 55 29.1	-0.5
KSD				AML	AML	19 55 52.0	
	comp=Z,55nm,0.3s						
POGA	**Pongola**	**4.39**	**96**	*e*P	Pn	19 54 43.5	+2.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
POGA				eS	Sn	19 55 32.8	+0.1
POGA				AML	AML	19 55 52.0	
	comp=Z,77nm,0.5s						
UPI	**Upington**	**5.02**	**253**	eP	Pn	19 54 51.1	+1.4
UPI				eS	Sn	19 55 46.8	-1.6
UPI				AML	AML	19 56 21.2	
	comp=Z,47nm,0.6s						
GRM	**Grahamstown**	**6.30**	**181**	eP	Pn	19 55 07.6	+0.3
GRM				eS	Sn	19 56 17.4	-2.5
GRM				AML	AML	19 57 05.2	
	comp=Z,22nm,0.6s						
SUR	**Sutherland**	**7.42**	**222**	eP	Pn	19 55 24.3	+1.7
SUR				eS	Sn	19 56 44.0	-3.4
CVNA	**Calvinia**	**7.53**	**232**	eP	Pn	19 55 25.6	+1.3
CVNA				eS	Sn	19 56 46.8	-3.4
CVNA				AML	AML	19 57 32.9	
	comp=Z,61nm,0.7s						

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*ISCJB **13** 20:03:56.7±0.9, 17.73S±0.06×178.29W±0.04, h514km±11km, mb4.6/60, Error ellipse: s-maj=10.3km s-min=5.1km az=130.5*
*BJI **13** 20:03:56.7, 17.89S×178.69W, h511km, mB4.6, mb4.2*
*IDC **13** 20:03:57.8±1.2, 17.67S×178.24W, h518km±14km, mb4.2/17, mb1 4.3/20, mb1mx4.2/22, mbtmp5.1/20, Error ellipse: s-maj=13.0km s-min=9.1km az=158.0*
*NEIC **13** 20:03:57.8±0.7, 17.70S×178.26W, h516km±8km, mb4.6/38, Error ellipse: s-maj=8.4km s-min=4.1km az=152.0*
*MOS **13** 20:03:58.4±1.4, 17.65S×178.28W, h529km, mb4.7/13, Error ellipse: s-maj=15.8km s-min=9.4km az=157.6*
*SZGRF **13** 20:04:03.6, 17.22S×178.19W, h556km, Fiji Islands region*
ISC 13 20:03:58.1±0.9, **17.74S**±0.06×**178.27W**±0.04, **h518**km±10km, **h529**km±7.7km**:pP-P, n334,** σ0.63/239, **mb4.6**/60, **66C-70D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.32**	**60**	P	**P**	**20 05 46.3**	**-1.7**
	16nm,0.3s,baz=272,slow=5.5,SNR=26						
DZM	**Mont Dzumac**	**15.01**	**251**	eP	**P**	**20 07 08.0**	**-0.1**
DZM	**Mont Dzumac**	**15.01**	**251**	P	**P**	**20 07 08.3**	**+0.2**
	2.1nm,0.3s,baz=74,slow=19,SNR=26						
NOUC	**Port Laguerre**	**15.14**	**251**	eP	**P**	**20 07 09.3**	**-0.1**
RAR	**Rarotonga**	**17.78**	**104**	P	**P**	**20 07 35.6**	**+0.1**
	1.3nm,0.3s,baz=259,slow=8.0,SNR=11						
URZ	**Urewera**	**20.84**	**190**	P	**P**	**20 08 01.9**	**-1.5**
	10nm,0.4s,baz=354,slow=1.9,SNR=12						
HNR	**Honiara**	**22.71**	**288**	P	**P**	**20 08 22.8**	**+2.7**
	88nm,0.7s,mb5.5,baz=95,slow=2.7,SNR=5.5						
PAE	**Paea**	**27.32**	**94**	eP	**P**	**20 09 00.9**	**-0.1**
	132nm,1.0s,mb5.5						
PPT	**Papeete**	**27.33**	**94**	eP	**P**	**20 09 01.3**	**+0.2**
	92nm,1.4s,mb5.2						
PPT	**Papeete**	**27.33**	**94**	P	**P**	**20 09 01.8**	**+0.7**
	30nm,0.5s,mb5.2,baz=3.2,slow=1.7,SNR=3.9						
RPZ	**Rata Peaks**	**27.43**	**197**	P	**P**	**20 09 01.8**	**-0.1**
	9.0nm,0.7s,mb4.5,baz=346,slow=5.6,SNR=6.1						
TBI	**Tubuai**	**27.52**	**107**	eP	**P**	**20 09 03.0**	**+0.3**
	324nm,1.1s						
TVO	**Taravao**	**27.62**	**95**	eP	**P**	**20 09 03.8**	**+0.2**
	84nm,0.8s,mb5.4						
PMOR	**Pomariorio Ree**	**29.25**	**89**	eP	**P**	**20 09 18.0**	**+0.1**
	109nm,1.1s,mb5.4						
ARMA	**Armidale**	**30.14**	**240**	⇓iP	**P**	**20 09 26.8**	**+1.3**
CTA	**Charters Tower**	**33.61**	**260**	eP	**P**	**20 09 55.3**	**+0.2**
	43nm,0.8s,mb5.0						
CTA	**Charters Tower**	**33.61**	**260**	P	**P**	**20 09 55.4**	**+0.3**
	53nm,0.7s,mb5.2,baz=91,slow=10.0,SNR=40						
CTA	**Charters Tower**	**33.61**	**260**	eP	**P**	**20 09 55.3**	**+0.2**
CTA				pmax	pmax		
	comp=Z,43nm,0.8s						
CTAO	**Charters Tower**	**33.61**	**260**	eP	**P**	**20 09 55.3**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,119nm,1.2s,mb5.3						
CTAO	**Charters Tower**	**33.61**	**260**	eP	**P**	**20 09 55.3**	**+0.2**
	comp=Z,119nm,1.2s,mb5.3						
CNB	**Canberra Magne**	**33.64**	**232**	⇓iP	**P**	**20 09 56.5**	**+1.1**
	comp=Z,130nm,0.7s,mb5.6						
PMG	**Port Moresby**	**34.56**	**279**	P	**P**	**20 10 04.5**	**+1.4**
	comp=Z,251nm,0.8s,baz=79,slow=6.1,SNR=47						
PMG	**Port Moresby**	**34.56**	**279**	⇓iP	**P**	**20 10 04.3**	**+1.2**
PMG				pmax	pmax		
	comp=Z,286nm,0.9s						
PMG	**Port Moresby**	**34.56**	**279**	⇓iP	**P**	**20 10 04.3**	**+1.2**
	comp=Z,286nm,0.9s						
TOO	**Toolangi**	**37.38**	**231**	⇓iP	**P**	**20 10 27.3**	**+0.8**
	comp=Z,93nm,0.8s,mb5.4						
TOO	**Toolangi**	**37.38**	**231**	⇓iP	**P**	**20 10 27.3**	**+0.8**
TOO				pmax	pmax		
	comp=Z,93nm,0.8s,mb5.4						
STKA	**Stephens Creek**	**38.83**	**241**	eP	**P**	**20 10 39.2**	**+0.9**
	comp=Z,92nm,1.0s,mb5.3						
STKA	**Stephens Creek**	**38.83**	**241**	P	**P**	**20 10 39.4**	**+1.1**
	comp=Z,109nm,0.9s,mb5.4,baz=88,slow=8.9,SNR=153						
RKT	**Rikitea**	**40.82**	**105**	eP	**P**	**20 10 54.6**	**+0.4**
	comp=Z,79nm,1.1s,mb5.2						
WB2	**Warramunga Arr**	**44.78**	**259**	⇓iP	**P**	**20 11 24.7**	**-0.6**
WRAB	**Tennant Creek**	**44.78**	**259**	d iP	**P**	**20 11 24.6**	**-0.7**
WRAB	**Tennant Creek**	**44.78**	**259**	eP	**P**	**20 11 24.5**	**-0.8**
	comp=Z,98nm,0.9s,mb5.3						
WRA	**Warramunga Arr**	**44.79**	**259**	P	**P**	**20 11 24.8**	**-0.5**
	comp=Z,42nm,0.8s,mb5.0,baz=93,slow=7.5,SNR=212						
WRA				ScP	ScP	20 15 59.4	+0.3
	comp=Z,5.5nm,1.1s,baz=89,slow=4.5,SNR=6.6						
AS31	**Alice Springs**	**44.96**	**254**	⇓iP	**P**	**20 11 26.9**	**+0.2**
ASAR	**Alice Springs**	**44.97**	**254**	P	**P**	**20 11 27.0**	**+0.3**
	comp=Z,319nm,0.7s,baz=88,slow=8.3,SNR=3088						
ASAR				ScP	ScP	20 16 00.3	+0.5
	comp=Z,2.1nm,0.9s,baz=95,slow=4.7,SNR=4.3						
ASAR				S	**S**	**20 17 23.6**	**-3.3**
	comp=Z,1.4nm,0.7s,baz=81,slow=15,SNR=8.1						
ASPA	**Alice Springs**	**44.97**	**254**	⇓iP	**P**	**20 11 26.9**	**+0.2**
KAKA	**Kakadu**	**47.72**	**269**	⇓iP	**P**	**20 11 47.4**	**-0.2**
	comp=Z,86nm,0.6s,mb5.5						
KAKA				eSCP	ScP	20 16 11.1	-0.3
FORT	**Forrest**	**50.20**	**244**	⇓iP	**P**	**20 12 05.5**	**-0.5**
	comp=Z,87nm,0.6s,mb5.4						
FITZ	**Fitzroy Crossi**	**53.19**	**260**	⇓iP	**P**	**20 12 27.4**	**-0.2**
	comp=Z,26nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**53.19**	**260**	P	**P**	**20 12 28.0**	**+0.4**
	comp=Z,14nm,0.6s,mb4.4,baz=123,slow=3.9,SNR=35						
KLBR	**Kellerberrin**	**59.02**	**243**	⇓iP	**P**	**20 13 07.1**	**-0.8**
	comp=Z,81nm,0.8s,mb5.0						
NWAO	**Narrogin (SRO)**	**59.41**	**242**	P	**P**	**20 13 10.3**	**-0.2**
	comp=Z,21nm,0.7s,mb4.5,baz=100,slow=7.6,SNR=16						
MUN	**Mundaring**	**60.32**	**243**	eP	**P**	**20 13 16.2**	**-0.4**
VNDA	**Vanda**	**60.63**	**185**	P	**P**	**20 13 19.4**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=29,slow=7.8,SNR=5.8						
CASY	**Casey**	**66.35**	**205**	eP	**P**	**20 13 54.5**	**-0.7**
TSM	**Tawau**	**66.66**	**283**	P	**P**	**20 13 54.7**	**-2.4**
MJAR	**Matsushiro Arr**	**67.85**	**323**	P	**P**	**20 14 03.8**	**-0.7**
	comp=Z,2.3nm,0.7s,mb3.8,baz=158,slow=6.5,SNR=7.8						
MAT	**Matsushiro**	**67.85**	**323**	P	**P**	**20 14 03.7**	**-0.8**
MAT	**Matsushiro**	**67.85**	**323**	eP	**P**	**20 14 04.0**	**-0.5**
KKM	**Kota Kinabalu**	**68.83**	**284**	P	**P**	**20 14 16.0**	**+5.6**
QSPA	**South Pole Qui**	**72.32**	**180**	⇑iP	**P**	**20 14 31.5**	**+0.5**
	comp=Z,28nm,0.8s,mb4.7						
KSM	**Kuching**	**72.79**	**277**	eP	**P**	**20 14 34.3**	**+0.5**
HAST	**UC Hastings Re**	**75.92**	**44**	⇑P	**P**	**20 14 51.4**	**0.0**
	baz=76,SNR=6.4						
V04C	**Ramage Ranch,**	**75.96**	**45**	⇓P	**P**	**20 14 52.0**	**+0.3**
	baz=76						
PKD	**Parkfield**	**76.35**	**45**	⇓P	**P**	**20 14 53.8**	**0.0**
	baz=76						
U04C	**Hernandez Rese**	**76.42**	**44**	⇑P	**P**	**20 14 55.0**	**+0.8**
	baz=77,SNR=7.6						
PACP	**Pacheco Peak**	**76.45**	**44**	P	**P**	**20 14 55.0**	**+0.6**
	baz=77,SNR=7.5						
HOPS	**Hopland**	**76.46**	**41**	⇑P	**P**	**20 14 54.3**	**-0.1**
	baz=77						
CVS	**Carmenet Viney**	**76.46**	**42**	⇑P	**P**	**20 14 55.0**	**+0.6**
	baz=77						
O01C	**Eel River Cons**	**76.68**	**40**	⇑P	**P**	**20 14 55.9**	**+0.3**
	baz=77						
S04C	**Ingram Canyon,**	**76.70**	**43**	⇑P	**P**	**20 14 56.0**	**+0.3**
	baz=77						
MNRC	**McLaughlin Nat**	**76.79**	**42**	⇓P	**P**	**20 14 56.7**	**+0.5**
	baz=77						
GASB	**Alder Springs**	**77.06**	**41**	⇓P	**P**	**20 14 58.4**	**+0.7**
	baz=77						
S05C	**Merced**	**77.28**	**44**	⇓P	**P**	**20 14 58.6**	**-0.3**
	baz=77						
O02C	**Red Bluff**	**77.34**	**40**	⇑P	**P**	**20 14 59.5**	**+0.3**
	baz=78,SNR=5.5						
N02C	**Big Bar**	**77.40**	**40**	⇑P	**P**	**20 14 59.5**	**0.0**
	baz=78						
T06C	**Millerton Lake**	**77.50**	**44**	⇑P	**P**	**20 14 59.9**	**-0.2**
	baz=78						
ISA	**Isabella**	**77.60**	**46**	⇑P	**P**	**20 15 00.8**	**+0.2**
	baz=78,SNR=15						
CMB	**Columbia Colle**	**77.62**	**43**	eP	**P**	**20 15 00.9**	**+0.2**
CMB				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.2						
CMB	**Columbia Colle**	**77.62**	**43**	eP	**P**	**20 15 00.9**	**+0.2**
	comp=Z,14nm,1.0s,mb4.2						
CMB	**Columbia Colle**	**77.62**	**43**	P	**P**	**20 15 00.7**	**0.0**
	baz=78,SNR=6.1						
WDC	**Whiskeytown Da**	**77.73**	**40**	⇓P	**P**	**20 15 01.0**	**-0.3**
	baz=78,SNR=5.5						
ORV	**Oroville**	**77.77**	**41**	⇑P	**P**	**20 15 01.4**	**-0.2**
	baz=78,SNR=5.7						
LAVA	**Lava Cap Winer**	**77.80**	**42**	⇑P	**P**	**20 15 01.5**	**-0.3**
	baz=78						
S06C	**San Francisco**	**77.89**	**44**	⇑P	**P**	**20 15 02.2**	**0.0**
	baz=78						
KCC	**Kaiser Creek**	**77.93**	**44**	⇑P	**P**	**20 15 02.9**	**+0.5**
	baz=78,SNR=5.6						
NJ2	**Nanjing**	**77.93**	**309**	eP	**P**	**20 15 04.8**	**+2.4**
NJ2				AP	pP	20 16 55.1	+2.0
NJ2				XP	sP	20 17 46.1	-0.3
NJ2				PP	PP	20 18 06.6	-0.9
NJ2				S	S	20 24 20.0	+6.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
NJ2				AMB	AMB		
	comp=Z,1µm,4.4s						
PFO	**Pinyon Flat Ob**	**77.94**	**49**	eP	**P**	**20 15 02.8**	**+0.3**
PFO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb3.9						
PFO	**Pinyon Flat Ob**	**77.94**	**49**	eP	**P**	**20 15 02.8**	**+0.3**
	comp=Z,4.9nm,0.8s,mb3.9						
PFO	**Pinyon Flat Ob**	**77.94**	**49**	⇓P	**P**	**20 15 02.9**	**+0.4**
	baz=78						
M02C	**Callahan**	**78.02**	**39**	⇓P	**P**	**20 15 03.4**	**+0.5**
	baz=78,SNR=6.9						
MDJ	**Mudanjiang**	**78.12**	**325**	P	**P**	**20 15 03.9**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,183nm,7.9s						
P05C	**Yuba Gap, Truc**	**78.19**	**42**	⇓P	**P**	**20 15 03.8**	**0.0**
	baz=78,SNR=6.8						
R05C	**Kirkwood Meado**	**78.19**	**43**	⇓P	**P**	**20 15 03.9**	**+0.1**
	baz=78						
KDAK	**Kodiak Island**	**78.20**	**14**	P	**P**	**20 15 02.3**	**-1.6**
	comp=Z,8.5nm,0.7s,mb4.2,baz=222,slow=2.4,SNR=5.9						
CWC	**Cottonwood Cre**	**78.29**	**46**	⇓P	**P**	**20 15 04.2**	**-0.2**
	baz=78						
YBH	**Yreka Blue Hor**	**78.31**	**39**	eP	**P**	**20 15 04.5**	**+0.1**
YBH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YBH	**Yreka Blue Hor**	**78.31**	**39**	eP	**P**	**20 15 04.5**	**+0.1**
	comp=Z,3.9nm,0.8s,mb3.8						
YBH	**Yreka Blue Hor**	**78.31**	**39**	P	**P**	**20 15 04.8**	**+0.4**
	baz=78,SNR=7.8						
O05C	**Quincy**	**78.37**	**41**	⇓P	**P**	**20 15 04.7**	**-0.1**
	baz=78						
MLAC	**Mammoth Lakes**	**78.42**	**44**	⇓P	**P**	**20 15 05.5**	**+0.4**
	baz=79						
MTUM	**Tungsten Hills**	**78.45**	**45**	eP	**P**	**20 15 05.5**	**+0.3**
O04C	**Chester**	**78.47**	**41**	⇑P	**P**	**20 15 05.2**	**-0.2**
	baz=79						
R06C	**Coleville**	**78.50**	**43**	⇑P	**P**	**20 15 05.7**	**+0.2**
	baz=79,SNR=7.9						
TIN	**Tinemaha**	**78.52**	**45**	⇓P	**P**	**20 15 05.4**	**-0.2**
	baz=79						
R07C	**Lee Vining**	**78.53**	**44**	⇑P	**P**	**20 15 05.8**	**+0.2**
	baz=79						
HATC	**Hat Creek Radi**	**78.53**	**40**	⇓P	**P**	**20 15 05.7**	**0.0**
	baz=79						
GSC	**Goldstone**	**78.57**	**47**	⇓P	**P**	**20 15 05.5**	**-0.3**
	baz=79						
HUMO	**Hull Mountain**	**78.68**	**38**	eP	**P**	**20 15 06.6**	**+0.2**
	comp=Z,6.7nm,1.0s,mb3.9						
HUMO	**Hull Mountain**	**78.68**	**38**	⇑P	**P**	**20 15 06.3**	**-0.1**
	baz=79,SNR=6.5						
WCN	**Washoe City**	**78.74**	**42**	⇑P	**P**	**20 15 07.1**	**+0.4**
	baz=79,SNR=5.8						
J02A	**Umpqua**	**78.79**	**37**	⇑P	**P**	**20 15 07.0**	**0.0**
	baz=79						
GLA	**Glamis**	**78.84**	**50**	⇑P	**P**	**20 15 08.1**	**+0.8**
	baz=79,SNR=8.6						
M04C	**Macdoel**	**78.86**	**39**	⇑P	**P**	**20 15 07.2**	**-0.2**
	baz=79						
I02A	**Mapleton**	**79.02**	**37**	⇓P	**P**	**20 15 08.5**	**+0.3**
	baz=79						
M05C	**Lookout**	**79.04**	**40**	⇓P	**P**	**20 15 08.3**	**0.0**
	baz=79						
L04A	**Klamath Falls**	**79.06**	**39**	⇓P	**P**	**20 15 08.3**	**-0.2**
	baz=79						
J03A	**Ideyld Park**	**79.14**	**38**	⇓P	**P**	**20 15 10.1**	**+1.3**
	baz=79						
O06A	**Flanigan**	**79.17**	**42**	⇓P	**P**	**20 15 09.0**	**-0.1**
	baz=79,SNR=11						
PAHR	**Pah Rah Range**	**79.21**	**42**	eP	**P**	**20 15 09.2**	**0.0**
	comp=Z,25nm,1.4s,mb4.4						
NVAR	**Mina Array Bea**	**79.21**	**44**	P	**P**	**20 15 09.5**	**+0.3**
	comp=Z,11nm,0.8s,mb4.3,baz=214,slow=7.2,SNR=67						
NVAR				pP	pP	20 17 04.9	+4.6
	comp=Z,0.8nm,0.8s,baz=211,slow=8.4,SNR=4.0						
TUQ	**Turquoise Mtn.**	**79.25**	**47**	⇑P	**P**	**20 15 09.6**	**+0.1**
	baz=79,SNR=6.1						
MNV	**Mina**	**79.31**	**44**	eP	**P**	**20 15 09.5**	**-0.3**
MNV				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.3						
MNV	**Mina**	**79.31**	**44**	eP	**P**	**20 15 09.5**	**-0.3**
	comp=Z,16nm,1.0s,mb4.3						
I03A	**Eugene**	**79.32**	**37**	⇑P	**P**	**20 15 09.9**	**+0.1**
	baz=80						
M06C	**Likely Place G**	**79.36**	**41**	⇓P	**P**	**20 15 10.2**	**+0.2**
	baz=80,SNR=5.4						
Y12C	**Blythe**	**79.41**	**49**	⇑P	**P**	**20 15 10.6**	**+0.3**
	baz=80						
U10A	**Ash Meadows, A**	**79.48**	**46**	⇓P	**P**	**20 15 11.1**	**+0.5**
	baz=80						
S09A	**Goldfield**	**79.55**	**45**	⇑P	**P**	**20 15 10.8**	**-0.2**
	baz=80,SNR=6.0						
L05A	**Lakeview**	**79.63**	**40**	⇓P	**P**	**20 15 11.8**	**+0.4**
	baz=80,SNR=7.6						
Q08A	**Gabbs**	**79.69**	**44**	⇑P	**P**	**20 15 11.5**	**-0.2**
	baz=80						
H03A	**Soap Creek Ran**	**79.75**	**36**	⇑P	**P**	**20 15 11.8**	**-0.3**
	baz=80						
O07A	**Toulon**	**79.78**	**42**	⇓P	**P**	**20 15 12.0**	**-0.2**
	baz=80,SNR=16						
V11A	**Goodsprings**	**79.80**	**47**	⇓P	**P**	**20 15 12.7**	**+0.4**
	baz=80						
TPNV	**Topopah Spring**	**79.81**	**46**	eP	**P**	**20 15 12.4**	**0.0**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.9						
TPNV	**Topopah Spring**	**79.81**	**46**	eP	**P**	**20 15 12.4**	**0.0**
	comp=Z,3.8nm,0.6s,mb3.9						
W12A	**Cal Nev Ari**	**79.93**	**48**	⇓P	**P**	**20 15 13.2**	**+0.1**
	baz=80						
IRO	**Indian Ridge**	**79.93**	**37**	P	**P**	**20 15 13.0**	**-0.1**
Y13A	**Salome**	**79.94**	**50**	⇑P	**P**	**20 15 13.7**	**+0.6**
	baz=80						
CN2	**Changchun**	**79.97**	**322**	eP	**P**	**20 15 13.6**	**+0.4**
BROR	**Big Rock Looko**	**79.97**	**37**	P	**P**	**20 15 13.1**	**-0.2**
N07B	**Gerlach**	**80.06**	**42**	⇑P	**P**	**20 15 13.3**	**-0.4**
	baz=80,SNR=6.7						
U11A	**Corn Creek**	**80.13**	**47**	⇓P	**P**	**20 15 14.3**	**+0.2**
	baz=80						
V12A	**Nelson**	**80.16**	**48**	⇑P	**P**	**20 15 14.4**	**+0.2**
	baz=80						
Q09A	**Carvers**	**80.16**	**44**	⇑P	**P**	**20 15 14.0**	**-0.2**
	baz=80						
M07A	**Soldier Meadow**	**80.28**	**41**	⇑P	**P**	**20 15 14.8**	**0.0**
	baz=80,SNR=14						
X13A	**Yucca**	**80.32**	**49**	⇓P	**P**	**20 15 15.1**	**+0.1**
	baz=80,SNR=5.3						
F03A	**Seaside**	**80.36**	**35**	⇑P	**P**	**20 15 15.2**	**-0.1**
	baz=80						
Z14A	**Wintersburg**	**80.37**	**50**	⇑P	**P**	**20 15 15.6**	**+0.3**
	baz=80						
H04A	**Detroit Lake**	**80.37**	**37**	⇑P	**P**	**20 15 14.4**	**-0.9**
	baz=80						
K06A	**Valley Falls**	**80.41**	**39**	⇓P	**P**	**20 15 15.4**	**-0.2**
	baz=81,SNR=8.2						
R10A	**Warm Springs**	**80.47**	**45**	⇑P	**P**	**20 15 16.2**	**+0.4**
	baz=81,SNR=15						
G04A	**Mulino**	**80.52**	**36**	⇓P	**P**	**20 15 17.1**	**+1.0**
	baz=81						
W13A	**Hualapai Mount**	**80.53**	**49**	⇑P	**P**	**20 15 16.4**	**+0.3**
	baz=81						
L07A	**Adell**	**80.53**	**40**	⇓P	**P**	**20 15 16.4**	**+0.3**
	baz=81						
115A	**Sonoran Desert**	**80.59**	**51**	⇓P	**P**	**20 15 16.8**	**+0.4**
	baz=81						
I05A	**Bend**	**80.59**	**38**	⇑P	**P**	**20 15 16.2**	**-0.3**
	baz=81						
N08A	**GE Springer Mi**	**80.60**	**42**	⇑P	**P**	**20 15 16.3**	**-0.2**
	baz=81,SNR=7.7						
U12A	**Valley of Fire**	**80.72**	**47**	⇓P	**P**	**20 15 17.5**	**+0.3**
	baz=81,SNR=5.8						
J06A	**Christmas Vall**	**80.73**	**39**	⇓P	**P**	**20 15 16.8**	**-0.4**
	baz=81,SNR=16						
E03A	**Lebam**	**80.74**	**35**	⇓P	**P**	**20 15 17.1**	**-0.2**
	baz=81						
M08A	**Happy Creek Ra**	**80.81**	**41**	⇓P	**P**	**20 15 18.1**	**+0.5**
	baz=81,SNR=5.2						
O09A	**Fish Creek Ran**	**80.87**	**43**	⇑P	**P**	**20 15 17.9**	**-0.1**
	baz=81,SNR=6.1						
H05A	**Madras**	**80.91**	**37**	⇑P	**P**	**20 15 17.7**	**-0.4**
	baz=81						
116A	**Eloy**	**80.92**	**52**	⇓P	**P**	**20 15 18.6**	**+0.4**
	baz=81,SNR=7.2						
X14A	**Yava**	**80.94**	**50**	⇑P	**P**	**20 15 18.9**	**+0.6**
	baz=81,SNR=8.8						
F04A	**Amboy**	**80.99**	**36**	⇓P	**P**	**20 15 17.8**	**-0.7**
	baz=81						
BMN	**Battle Mountai**	**80.99**	**43**	eP	**P**	**20 15 18.5**	**-0.1**
BMN				pmax	pmax		
	comp=Z,29nm,1.3s,mb4.5						
BMN	**Battle Mountai**	**80.99**	**43**	eP	**P**	**20 15 18.5**	**0.0**
	comp=Z,29nm,1.3s,mb4.5						
P10A	**Eureka**	**81.06**	**44**	⇓P	**P**	**20 15 18.5**	**-0.4**
	baz=81						
W14A	**Seligman**	**81.16**	**49**	⇓P	**P**	**20 15 19.9**	**+0.5**
	baz=81,SNR=12						
WVOR	**Wild Horse Val**	**81.19**	**40**	eP	**P**	**20 15 19.6**	**0.0**
WVOR				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.5						
WVOR	**Wild Horse Val**	**81.19**	**40**	eP	**P**	**20 15 19.6**	**0.0**
	comp=Z,22nm,1.0s,mb4.5						
Q11A	**Duckwater**	**81.19**	**45**	⇓P	**P**	**20 15 19.4**	**-0.2**
	baz=81,SNR=14						
G05A	**Wamic**	**81.20**	**37**	⇓P	**P**	**20 15 19.2**	**-0.5**
	baz=81						
J07A	**Hines**	**81.30**	**39**	⇓P	**P**	**20 15 19.9**	**-0.3**
	baz=82						
M09A	**Marrel Ranch,**	**81.38**	**42**	⇑P	**P**	**20 15 20.7**	**+0.1**
	baz=82						
X15A	**Humboldt**	**81.42**	**50**	⇑P	**P**	**20 15 21.4**	**+0.6**
	baz=82,SNR=7.9						
P11A	**Circle Ranch,**	**81.49**	**44**	⇓P	**P**	**20 15 20.9**	**-0.2**
	baz=82						
TUC	**Tucson**	**81.49**	**52**	eP	**P**	**20 15 22.1**	**+1.0**
TUC				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.4						
TUC	**Tucson**	**81.49**	**52**	eP	**P**	**20 15 22.1**	**+0.9**
	comp=Z,21nm,1.2s,mb4.5						
F05A	**White Salmon**	**81.50**	**36**	⇑P	**P**	**20 15 20.6**	**-0.6**
	baz=82						
L09A	**Wilkinson Ranc**	**81.56**	**41**	⇓P	**P**	**20 15 21.4**	**-0.1**
	baz=82,SNR=7.7						
B04A	**Port Angeles**	**81.70**	**34**	⇓P	**P**	**20 15 21.6**	**-0.7**
	baz=82						
W15A	**Williams**	**81.73**	**49**	⇑P	**P**	**20 15 22.9**	**+0.6**
	baz=82						
E05A	**Randle**	**81.73**	**36**	P	**P**	**20 15 21.7**	**-0.7**
	baz=82,SNR=5.2						
Q12A	**Willow Creek R**	**81.84**	**45**	⇓P	**P**	**20 15 22.8**	**-0.1**
	baz=82,SNR=9.4						
O11A	**Cowboy Ranch,**	**81.85**	**43**	⇑P	**P**	**20 15 23.1**	**+0.2**
	baz=82						
D05A	**Enumclaw**	**81.98**	**35**	⇑P	**P**	**20 15 23.1**	**-0.5**
	baz=82						
P12A	**McGill**	**82.00**	**44**	⇑P	**P**	**20 15 23.7**	**0.0**
	baz=82,SNR=10						
M10A	**I.L. Ranch, Tu**	**82.01**	**42**	⇑P	**P**	**20 15 23.7**	**0.0**
	baz=82						
CCUT	**Cedar City**	**82.10**	**47**	eP	**P**	**20 15 24.9**	**+0.6**
N11A	**Elko Archery C**	**82.15**	**43**	⇑P	**P**	**20 15 24.5**	**0.0**
	baz=82						
M11A	**Holland Ranch,**	**82.44**	**42**	⇑P	**P**	**20 15 26.1**	**+0.1**
	baz=83,SNR=7.8						
ELK	**Elko**	**82.44**	**43**	eP	**P**	**20 15 25.4**	**-0.6**
ELK				pmax	pmax		
	comp=Z,14nm,1.0s						
ELK	**Elko**	**82.44**	**43**	eP	**P**	**20 15 25.4**	**-0.5**
	comp=Z,14nm,1.0s,mb4.3						
C05A	**Tolt Reservoir**	**82.45**	**35**	⇑P	**P**	**20 15 25.2**	**-0.8**
	baz=83,SNR=5.2						
A04A	**Legoe Bay, Lum**	**82.52**	**33**	⇓P	**P**	**20 15 26.2**	**-0.2**
	baz=83						
WUAZ	**Wupatki**	**82.53**	**49**	eP	**P**	**20 15 26.4**	**0.0**
	comp=Z,26nm,1.1s,mb4.7						
B05A	**Bryant**	**82.57**	**34**	⇓P	**P**	**20 15 26.3**	**-0.3**
	baz=83						
N12A	**Clover Valley,**	**82.63**	**43**	⇑P	**P**	**20 15 26.6**	**-0.3**
	baz=83,SNR=5.6						
HAWA	**Hanford**	**82.89**	**37**	eP	**P**	**20 15 27.8**	**-0.4**
	comp=Z,1.4nm,1.0s						
M12A	**Wells**	**83.00**	**43**	⇓P	**P**	**20 15 28.8**	**0.0**
	baz=83,SNR=11						
N13A	**Wendover, West**	**83.17**	**43**	⇓P	**P**	**20 15 29.6**	**0.0**
	baz=83						
BMO	**Blue Mountains**	**83.33**	**39**	eP	**P**	**20 15 29.8**	**-0.6**
BMO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
BMO	**Blue Mountains**	**83.33**	**39**	eP	**P**	**20 15 29.8**	**-0.6**
	comp=Z,4.9nm,0.8s,mb4.1						
MSU	**Marysvale**	**83.38**	**46**	eP	**P**	**20 15 31.2**	**+0.5**
M13A	**Montello**	**83.45**	**43**	⇓P	**P**	**20 15 31.1**	**0.0**
	baz=84,SNR=11						
PSI	**Prapat**	**84.00**	**275**	P	**P**	**20 15 33.3**	**-0.5**
	comp=Z,25nm,0.9s,mb4.7,baz=158,slow=1.7,SNR=9.1						
MAW	**Mawson**	**84.07**	**200**	eP	**P**	**20 15 34.0**	**-0.1**
	comp=Z,2.0nm,1.5s						
MAW	**Mawson**	**84.07**	**200**	P	**P**	**20 15 33.3**	**-0.8**
	comp=Z,1.5nm,0.4s,mb3.8,baz=140,slow=5.2,SNR=12						
HLID	**Hailey**	**84.41**	**41**	eP	**P**	**20 15 34.9**	**-0.9**
	comp=Z,8.1nm,0.9s,mb4.2						
HVU	**Hansel Valley**	**84.56**	**43**	eP	**P**	**20 15 36.3**	**-0.2**
HVU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
HVU	**Hansel Valley**	**84.56**	**43**	eP	**P**	**20 15 36.3**	**-0.2**
	comp=Z,6.8nm,1.0s,mb4.1						
LAZ	**Ladron**	**85.15**	**52**	eP	**P**	**20 15 40.1**	**+0.7**
BNM	**Barren Site**	**85.42**	**52**	eP	**P**	**20 15 40.3**	**-0.4**
COLA	**College**	**85.58**	**13**	⇑eP	**P**	**20 15 39.1**	**-2.3**
PV01	**Paradox Valley**	**85.72**	**48**	eP	**P**	**20 15 41.8**	**-0.3**
LTX	**Lajitas**	**85.79**	**58**	eP	**P**	**20 15 43.5**	**+1.0**
LTX				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.8						
LTX	**Lajitas**	**85.79**	**58**	eP	**P**	**20 15 43.5**	**+1.0**
	comp=Z,26nm,1.0s,mb4.8						
ANMO	**Albuquerque**	**85.89**	**51**	c iP	**P**	**20 15 43.0**	**+0.1**
ANMO	**Albuquerque**	**85.89**	**51**	eP	**P**	**20 15 42.8**	**-0.1**
	comp=Z,9.2nm,1.1s,mb4.3						
RRI2	**Red Ridge**	**86.26**	**42**	eP	**P**	**20 15 44.7**	**0.0**
	comp=Z,24nm,0.9s,mb4.8						
TPAW	**Teton Pass**	**86.57**	**42**	eP	**P**	**20 15 46.1**	**-0.1**
	comp=Z,14nm,1.3s,mb4.4						
IMW	**Indian Meadow**	**86.77**	**42**	eP	**P**	**20 15 47.4**	**+0.3**
	comp=Z,28nm,1.2s,mb4.8						
MOOW	**Moose Ponds**	**86.82**	**42**	eP	**P**	**20 15 47.5**	**+0.1**
	comp=Z,4.4nm,0.9s,mb4.1						
QLMT	**Earthquake Lak**	**86.90**	**41**	eP	**P**	**20 15 48.2**	**+0.5**
FLWY	**Flagg Ranch**	**87.01**	**42**	eP	**P**	**20 15 48.9**	**+0.6**
	comp=Z,17nm,1.1s,mb4.6						
PDAR	**Pinedale Array**	**87.14**	**43**	P	**P**	**20 15 48.3**	**-0.5**
	comp=Z,5.0nm,0.8s,mb4.2,baz=224,slow=2.6,SNR=39						
PDAR				pP	pP	20 17 46.4	+3.6
	comp=Z,1.9nm,1.1s,baz=222,slow=4.0,SNR=6.6						
HHC	**Hu-ho-hao-te**	**87.25**	**314**	eP	**P**	**20 15 50.9**	**+1.5**
HHC				PP	PP	20 19 24.0	+1.3
HHC				SKS		20 25 22.8	
HHC				S		20 25 41.5	
HHC				SS	SS	20 31 46.4	+1.5
HHC				AMB	AMB		
	comp=Z,16nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,274nm,5.3s						
SMCO	**Snowmass**	**87.30**	**47**	eP	**P**	**20 15 49.1**	**-0.5**
	comp=Z,5.3nm,0.8s,mb4.2						
HRY	**Holter Researc**	**87.57**	**39**	eP	**P**	**20 15 50.8**	**-0.1**
KMI	**Kunming**	**87.87**	**297**	P	**P**	**20 15 52.1**	**-0.2**
KMI				AMB	AMB		

comp=Z,6.0nm,1.6s,mb4.1
CD2 Chengdu 89.09 303 *e*P **P** **20 15 58.0 +0.1**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
JCT Junction City 89.33 58 *e*P **P** **20 15 58.6 -0.5**
JCT pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
JCT Junction City 89.33 58 *e*P **P** **20 15 58.6 -0.4**
comp=Z,9.7nm,0.8s,mb4.7
SYO Syowa Base 89.35 193⇓*e*P **P** **20 15 57.0 -2.2**
SYO Syowa Base 89.35 193⇓*e*PcP PcP 20 15 58.0 -2.1
SNAA Sanae 90.77 179 *e*P **P** **20 16 04.4 -1.3**
SNAA *e* 20 16 05.3
SNAA *e* 20 16 10.6
SNAA *e* 20 17 39.4
SNAA *e* 20 18 06.3
SNAA *e* 20 18 18.0
SNAA *e* 20 18 26.3
SNAA Sanae 90.77 179 *e*P **P** **20 16 04.6 -1.1**
SNAA pmax pmax
comp=Z,15nm,1.2s
SNAA Sanae 90.77 179 *e*P **P** **20 16 04.6 -1.1**
comp=Z,15nm,1.2s,mb4.8
LZH Lanzhou 90.89 308 P **P** **20 16 06.9 +0.6**
LZH PP PP 20 19 56.5 +5.2
LZH AMB AMB
comp=Z,23nm,1.1s,mb5.0
LZH AMB AMB
comp=Z,61nm,9.2s
RSSD Black Hills 91.35 44 *e*P **P** **20 16 07.0 -1.4**
RSSD pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
RSSD Black Hills 91.35 44 *e*P **P** **20 16 07.0 -1.4**
comp=Z,8.8nm,1.0s,mb4.6
PLCA Paso Flores 91.35 134 P **P** **20 16 09.8 +1.4**
comp=Z,2.7nm,0.9s,mb4.2,baz=243,slow=4.3,SNR=5.0
VNA1 Neumayer--Stat 91.57 177 *e*P **P** **20 16 09.0 -0.4**
VNA1 *e* 20 16 10.0
VNA1 *e* 20 17 40.2
VNA1 *e* 20 18 11.9
VNA1 *e* 20 18 22.2
VNA1 *e* 20 18 26.5
INK Inuvik 91.69 15 *e*P **P** **20 16 07.5 -2.4**
INK pmax pmax
comp=Z,9.0nm,1.3s
INK Inuvik 91.69 15 *e*P **P** **20 16 07.5 -2.5**
comp=Z,9.2nm,1.3s,mb4.7
YKA Yellowknife Ar 94.12 25 P **P** **20 16 19.2 -1.9**
comp=Z,2.3nm,0.8s,mb4.4,baz=256,slow=4.5,SNR=6.2
MKAR Makanchi Array 109.11 314 PKiKP PKiKP 20 21 27.1 -1.8
comp=Z,0.1nm,0.5s,baz=50,slow=2.8,SNR=4.7
MKAR PKKPbc PKKPbc 20 32 36.1 -0.5
comp=Z,1.1nm,0.9s,baz=277,slow=4.8,SNR=6.5
KSH Kashi 113.08 306 *e*PKP PKiKP 20 21 37.0 +0.6
KSH *e*SS SS 20 37 44.3 +4.2
ARU Arti 122.78 326 *i* PKIKP PKPdf 20 21 52.6 -2.4
ARCES ARCESS Array B 126.17 350 PKP PKPdf 20 21 59.8 -1.7
comp=Z,2.2nm,0.7s,baz=72,slow=4.0,SNR=5.3
FINES FINESS Array B 133.06 344 PKP PKPdf 20 22 12.3 -2.3
comp=Z,0.8nm,0.7s,baz=14,slow=9.8,SNR=3.5
FINES PP PP 20 24 51.9 +3.8
comp=Z,1.5nm,0.9s,baz=93,slow=6.5,SNR=4.5
FINES FINESS Array B 133.06 344 *i* PKIKP PKPdf 20 22 11.6 -3.0
FINES pmax pmax
comp=Z,1.0nm,0.7s
SOC Sochi 138.93 317 *i* PKIKP PKPdf 20 22 27.4 +2.0
SOC *e* 20 25 21.0
SOC pmax pmax
comp=Z,7.0nm,0.6s
NRDL Niedersach Rie 144.69 351 *e*PKPbc PKPdf 20 22 34.7 -1.0
KOLS Kolonicke sedl 144.70 336 *e*PKP PKPdf 20 22 33.0 -2.7
BR131 Keskin Array S 144.75 315 *e*PKPdf PKPdf 20 22 35.5 -0.3
BRTR Keskin Array B 144.75 315 PKP PKPdf 20 22 35.1 -0.7
comp=Z,1.7nm,0.9s,baz=147,slow=2.9,SNR=7.7
BRTR Keskin Array B 144.75 315 *i* PKIKP PKPdf 20 22 35.7 -0.1
BRTR pmax pmax
comp=Z,2.0nm,1.0s
KSP Ksiaz 144.98 344 *e*PKIKP PKPdf 20 22 36.2 0.0
CRVS Cervenica-Dubn 145.03 337 *e*PKP PKPdf 20 22 36.8 +0.6
CLZ Clausthal 145.29 351 *e*PKPbc PKPbc 20 22 36.8 -0.9
CLL Collm 145.32 348 *e*PKPbc PKPbc 20 22 36.7 -1.1
CLL Collm 145.32 348⇑*i*PKPbc PKPbc 20 22 36.7 -1.1
comp=Z,12nm,0.7s
CLL Collm 145.32 348⇑*i*PKIKP PKPdf 20 22 36.7 0.0
CLL pmax pmax
comp=Z,12nm,0.7s
OKC Ostrava-Krasne 145.35 341 *e*PKP PKPdf 20 22 37.0 +0.2
UPC Upice 145.36 344 *e*PKP PKPdf 20 22 37.5 +0.7
UPC *e*pPKP pPKPdf 20 24 31.4 -7.7
BRG Berggiesshubel 145.53 346 *e*PKPbc PKPbc 20 22 37.1 -1.3
BRG Berggiesshubel 145.53 346 *e*P PKPdf 20 22 37.5 +0.5
comp=Z,4.5nm,0.9s
BRG Berggiesshubel 145.53 346 *e*PKIKP PKPdf 20 22 37.5 +0.4
BRG pmax pmax
comp=Z,5.0nm,0.9s
FBE Freiberg 145.62 347 *e*PKPbc PKPbc 20 22 37.5 -1.2
PVCC Panska Ves 145.71 345 *e*PKP PKPdf 20 22 38.5 +1.1
KECS Kecovo 145.74 338 *e*PKP PKPdf 20 22 38.2 +0.8
MBAR Mbarara 146.13 240⇑*e*PKP2 PKPab 20 22 41.0 -1.1
PRU Pruhonice 146.21 345 *e*PKP PKPdf 20 22 39.1 +0.9
PRU *e*pPKP pPKPdf 20 24 45.1 +4.6
MOX Moxa 146.23 349 *e*PKPbc PKPbc 20 22 39.6 -0.8
MOX Moxa 146.23 349 *e*P PKPdf 20 22 39.7 +1.4
comp=Z,15nm,1.7s
MOX Moxa 146.23 349 *e*PKP2 PKPab 20 22 39.7 -2.8
MOX pmax pmax
comp=Z,15nm,1.7s
TANN Tannenbergstha 146.28 348 *e*PKPbc PKPbc 20 22 39.6 -0.9
WERD Werda 146.28 348 *e*PKPbc PKPbc 20 22 39.5 -1.0
VYHS Vyhne 146.31 339 *i* PKP PKPdf 20 22 39.5 +1.1
VYHS Vyhne 146.31 339 *i* PKIKP PKPdf 20 22 39.6 +1.2
TREC Trest 146.61 344 *e*PKP PKPdf 20 22 40.3 +1.4
TREC *e*pPKP pPKPdf 20 24 44.6 +3.4
MANZ Manzenberg 146.76 348 *e*PKPbc PKPbc 20 22 41.5 -0.3
ROTZ Rotzenmuhle 146.95 348 *e*PKPbc PKPbc 20 22 41.7 -0.6
MEM Membach 147.03 355 PKPbc PKPbc 20 22 41.5 -1.1
MEM PKPab PKPab 20 22 45.1 -0.6
GRF Grafenberg Arr 147.22 349 *e*PKPbc PKPbc 20 22 42.5 -0.6
GRF *e*pPKPbc pPKPbc 20 24 50.3 +6.9
SNF Seneffe 147.24 357 PKPbc PKPbc 20 22 42.4 -0.8
KHC Kasperske Hory 147.24 346 *e*PKP PKPdf 20 22 42.5 +2.5
KHC *e*pPKP pPKPdf 20 24 47.8 +5.5
WET Wettzell 147.39 346 *e*PKPbc PKPbc 20 22 42.7 -0.8
GEC2 GERESS Array S 147.48 345 *e*PKPbc PKPbc 20 22 42.8 -0.9
GERES GERESS Array B 147.48 345 PKPbc PKPbc 20 22 42.6 -1.2
comp=Z,3.4nm,0.6s,baz=22,slow=2.8,SNR=34
GIVF Givet 147.62 356 *e*PKP1 PKPbc 20 22 43.1 -1.0
DOU Dourbes 147.64 357 PKPbc PKPbc 20 22 43.2 -1.0
BAIF Baives 147.69 357 *e*PKP1 PKPbc 20 22 43.4 -0.9
comp=Z,15nm,0.8s
CONA Conrad Observa 147.74 342⇑*i*PKPbc PKPbc 20 22 43.8 -0.6
comp=Z,7.6nm,0.8s
WLF Walferdange 147.95 355 *e*PKPbc PKPbc 20 22 44.7 -0.2
WLF Walferdange 147.95 355 PKP PKPdf 20 22 39.7 -1.4
WLF PKPbc PKPbc 20 22 44.7 -0.3
WLF Walferdange 147.95 355 *e*PKPbc PKPbc 20 22 44.1 -0.8
STU Stuttgart 148.45 351 *e*PKPbc PKPbc 20 22 45.5 -0.7
FUR Furstenfeldbru 148.66 348 *e*PKPbc PKPbc 20 22 46.2 -0.5
FLN La Foliniere 149.00 3 *e*PKP1 PKPbc 20 22 46.2 -1.3
comp=Z,48nm,0.9s
BFO Black Forest 149.01 351 *e*PKPbc PKPbc 20 22 46.6 -1.0
CDF Champ du Feu 149.07 353 *e*PKP1 PKPbc 20 22 46.8 -0.9
comp=Z,10nm,0.7s
LDF La Druitiere 149.19 2 *e*PKP1 PKPbc 20 22 46.6 -1.4
comp=Z,44nm,1.1s
MEZF Maizieres J'vi 149.19 356 *e*PKP1 PKPbc 20 22 47.2 -0.8
KBA Koelnbreinsper 149.21 344⇑*i*P PKPbc 20 22 46.5 -1.5
comp=Z,3.7nm,0.6s
GRR Gorron 149.35 3 *e*PKP1 PKPbc 20 22 47.1 -1.3
SGMF Saint Gilles 149.36 6 *e*PKP1 PKPbc 20 22 47.0 -1.4
comp=Z,36nm,0.9s
WTTA Wattenberg 149.44 347⇑*i*P PKPbc 20 22 47.9 -0.7
comp=Z,11nm,0.7s
MOTA Moosalm 149.48 347⇑*i*P PKPbc 20 22 47.7 -1.0
comp=Z,6.0nm,1.0s
HAU Haudompre 149.57 354 *e*PKP1 PKPbc 20 22 47.9 -1.0
comp=Z,9.2nm,0.7s
SQTA Sankt Quirin 149.58 347⇓*i*P PKPbc 20 22 48.1 -0.9
comp=Z,5.1nm,0.9s
QUIF Quistinic 149.63 7 *e*PKP1 PKPbc 20 22 47.7 -1.4
HINF Hinteralfeld 149.71 353 *e*PKP1 PKPbc 20 22 47.9 -1.3
comp=Z,13nm,0.9s
CRES Cresnjev 149.75 341 *e*PKPbc PKPbc 20 22 48.2 -1.2
DAVA Damuels 149.78 349⇑*i*P PKPbc 20 22 48.8 -0.6
comp=Z,12nm,1.1s
LJU Ljubljana 149.84 342 *e*PKPbc PKPbc 20 22 48.2 -1.3
VISS Visnje 149.96 342 *e*PKPbc PKPbc 20 22 48.8 -1.1
BOJS Bojanci 150.10 341 *e*PKPbc PKPbc 20 22 49.4 -0.8
VAY Valandovo 150.47 327 *e*PKP PKPdf 20 22 43.5 -1.6
LOR Lormes 150.50 357 *e*PKP1 PKPbc 20 22 50.2 -0.9
comp=Z,15nm,0.8s
SKO Skopje 150.55 329 *e*PKP PKPbc 20 22 48.4 -2.8
SSF Saint Saulge 150.72 358 *e*PKP1 PKPbc 20 22 50.6 -1.0
comp=Z,20nm,0.9s
CABF La Chapelle 150.98 354 *e*PKP1 PKPbc 20 22 51.7 -0.5
comp=Z,25nm,1.0s
AVF Avril sur Loir 151.00 358 *e*PKP1 PKPbc 20 22 51.0 -1.2
SMF Signal de Mont 151.12 357 *e*PKP1 PKPbc 20 22 51.4 -1.1
MFF Saint Martin d 151.17 3 *e*PKP1 PKPbc 20 22 51.4 -1.2
comp=Z,22nm,1.0s
BGF Bois d'Agland 151.24 358 *e*PKP1 PKPbc 20 22 51.8 -1.0
comp=Z,12nm,0.7s
TCF Toulx Ste Croi 151.53 359 *e*PKP1 PKPbc 20 22 52.3 -1.1
comp=Z,15nm,0.9s
LPL La Plagne 151.99 352 *e*PKP1 PKPbc 20 22 54.2 -0.3
LPG La Plagne 152.00 352 *e*PKP1 PKPbc 20 22 54.4 -0.1
RJF Les Rejaudoux 152.51 0 *e*PKP1 PKPbc 20 22 54.6 -1.0
comp=Z,10nm,0.8s
ORIF Oris-en-Rattie 152.68 354 *e*PKP1 PKPbc 20 22 55.2 -0.8
MBDF Montbardon 152.76 352 *e*PKP1 PKPbc 20 22 55.4 -0.7
comp=Z,4.6nm,0.6s
CAF Calviac 152.89 359 *e*PKP1 PKPbc 20 22 55.7 -0.7
SMRF Simiane la Rot 153.64 354 *e*PKP1 PKPbc 20 22 57.6 -0.4
comp=Z,10nm,1.2s
FRF La Foret Royal 153.92 352 *e*PKP1 PKPbc 20 22 58.5 -0.1
PGF Pioggiola 154.50 347 *e*PKP1 PKPbc 20 22 59.6 -0.3
comp=Z,9.9nm,1.1s
ESDC Sonseca Array 157.59 12 PKPab PKPab 20 23 29.0 -1.4
comp=Z,0.3nm,0.5s,baz=343,slow=2.6,SNR=4.6
DBIC Dimbokro 167.26 149 PKPab PKPab 20 24 13.0 +0.1
comp=Z,4.6nm,1.1s,baz=163,slow=4.3,SNR=3.7
TORD Torodi Ar. Bea 175.44 180 PKP PKPdf 20 23 07.0 -1.3
comp=Z,2.2nm,0.9s,baz=339,slow=1.1,SNR=9.2
TORD PKPab PKPab 20 24 49.5 +0.3
comp=Z,0.9nm,0.7s,baz=198,slow=4.4,SNR=4.8
TORD PP PP 20 28 41.6 -0.7
comp=Z,1.1nm,1.1s,baz=170,slow=5.7,SNR=3.0

IDC 13 20:28:37.5±2.6**, 3189S**×**17851W, h46**km±26km**, mb3.7**/2**, mb1 4.1**/4**, mb1mx3.7**/14**, mbtmp4.0**/4**, ML3.8**/2**, Error ellipse: s-maj=65.5km s-min=19.7km az=115.0, Kermadec Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 2.68 11 P Pn 20 29 18.0 -0.1
20nm,0.3s,baz=105,slow=23,SNR=3.6
RAO S Sn 20 29 47.3 -2.1
42nm,0.3s,baz=255,slow=23,SNR=4.0
URZ Urewera 7.30 208 P Pn 20 30 22.4 +0.9
1.5nm,0.3s,baz=305,slow=10,SNR=18
URZ S Sn 20 31 42.4 -0.5
0.8nm,0.3s,baz=166,slow=21,SNR=5.5
ASAR Alice Springs 42.62 269 P P 20 36 29.5 +0.4
0.9nm,0.6s,baz=102,slow=7.6,SNR=17
WRA Warramunga Arr 43.74 274 P P 20 36 38.4 +0.1
1.2nm,0.5s,baz=114,slow=7.7,SNR=14
FINES FINESS Array B 146.38 339 PKPbc PKPbc 20 48 11.5 -1.8
1.3nm,0.9s,baz=56,slow=4.8,SNR=6.0

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*ISCJB **13** 20:42:11.2±1.6, 16.18S±009×745W±0.1, h88km±18km, mb4.0/4, Error ellipse: s-maj=21.3km s-min=9.8km az=113.3*
*NEIC **13** 20:42:11.8±2.0, 16.14S×7459W, h78km±21km, mb4.0/3, Error ellipse: s-maj=26.7km s-min=13.7km az=68.0*
*IDC **13** 20:42:14.2±2.6, 16.17S×7440W, h112km±22km, mb4.0/3, mb1 4.1/5, mb1mx3.7/16, mbtmp4.4/5, Error ellipse: s-maj=32.5km s-min=20.4km az=66.0*
ISC 13 20:42:13.2±1.3**, 1617S**±008×**745W**±01**, h92**km±14km**, n17, σ0**ˢ**89**/18**, mb4.0**/4**, Near coast of Peru**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ARE Arequipa 2.89 96 *e*P **Pn** **20 42 54.0 -3.3**
ARE *i* S **Sn** **20 43 31.7 +0.4**
LPAZ La Paz 6.11 92 P **Pn** **20 43 41.8 +0.9**
13nm,0.3s,baz=273,slow=9.4,SNR=143
LVC Limon Verde 8.29 141 P **Pn** **20 44 11.0 +0.4**
66nm,0.3s,baz=311,slow=9.8,SNR=178
LVC S **Sn** **20 45 41.8 -0.8**
3.8nm,0.3s,baz=107,slow=21,SNR=3.5
LVC Limon Verde 8.29 141 *e*P **Pn** **20 44 10.1 -0.6**
LVC *e*Sn **Sn** **20 45 41.5 -1.1**
ATAH Atahualpa 9.88 337 P **Pn** **20 44 32.5 +0.2**
2.1nm,0.3s,baz=155,slow=9.2,SNR=6.5
SIV San Ignacio 12.90 91 P **Pn** **20 45 06.9 -6.0**
0.9nm,0.3s,baz=279,slow=14,SNR=15
OTAV Otavalo 16.76 346 *e*P **Pn** **20 46 01.8 -0.4**
5.7nm,0.9s
CPUP Villa Florida 18.90 125 P **Pn** **20 46 29.0 +1.0**
0.7nm,0.3s,baz=301,slow=8.9,SNR=7.7
CPUP Villa Florida 18.90 125 *e*P **Pn** **20 46 28.7 +0.6**
18nm,0.8s
TRQA Tornquist 24.43 156 P **P** **20 47 24.2 +1.0**
4.9nm,1.0s,mb3.8
PLCA Paso Flores 24.71 173 P **P** **20 47 25.9 +0.1**
1.3nm,0.5s,mb3.6,baz=319,slow=8.6,SNR=4.6
PLCA Paso Flores 24.71 173 *e*P **P** **20 47 26.0 +0.2**
SDV Santo Domingo 25.18 9 *e*P **P** **20 47 36.5 +6.5**
BDFB Brasilia 25.46 93 P **P** **20 47 32.6 +0.1**
4.5nm,0.4s,mb4.2,baz=248,slow=8.8,SNR=2.8
TORD Torodi Ar. Bea 80.74 73 P **P** **20 54 15.0 -1.3**
3.7nm,0.8s,mb4.2,baz=259,slow=4.9,SNR=34
WRA Warramunga Arr 134.28 219 PKP PKPdf 21 01 18.9 -1.3
0.2nm,0.5s,baz=128,slow=1.8,SNR=7.6
SONM Songino Array 148.41 359 PKPbc PKPbc 21 01 47.1 -1.9
0.3nm,0.9s,baz=354,slow=5.1,SNR=2.9

IDC 13 21:20:00.7±2.2**, 260S**×**12817E, h0**km**, mb3.5**/2**, mb1 3.6**/3**, mb1mx3.4**/15**, mbtmp3.4**/3**, ML3.2**/1**, Error ellipse: s-maj=180.4km s-min=26.4km az=67.0, Ceram Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 18.25 161 P Pn 21 24 15.8 +0.4
0.1nm,0.3s,baz=344,slow=13,SNR=7.2
ASAR Alice Springs 21.66 166 P P 21 24 53.4 +0.6
0.5nm,0.3s,baz=347,slow=12,SNR=8.0
MKAR Makanchi Array 63.58 327 P P 21 30 33.1 0.0
0.7nm,0.7s,baz=107,slow=6.5,SNR=7.2

IDC 13 21:36:29.2±2.2**, 259N**×**12823E, h0**km**, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.4**/16**, mbtmp3.5**/3**, Error ellipse: s-maj=155.7km s-min=24.7km az=68.0, Halmahera**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 23.18 165 P P 21 41 37.8 +0.4
0.7nm,0.5s,baz=345,slow=11,SNR=22
ASAR Alice Springs 26.67 168 P P 21 42 09.8 0.0
0.4nm,0.5s,baz=354,slow=7.7,SNR=11
MKAR Makanchi Array 59.35 325 P P 21 46 33.4 +0.3
0.3nm,0.5s,baz=129,slow=6.7,SNR=7.3

IDC 13 22:06:33.5±7.8**, 725S**×**11868E, h274**km±86km**, mb2.9**/2**, mb1 2.9**/4**, mb1mx2.8**/16**, mbtmp3.4**/4**, Error ellipse: s-maj=145.6km s-min=30.1km az=61.0, Flores Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FITZ Fitzroy Crossi 12.74 148 P Pn 22 09 26.2 +0.6
0.1nm,0.3s,baz=326,slow=18,SNR=4.9
FITZ S S 22 11 48.2 +1.1
0.1nm,0.3s,baz=33,slow=16,SNR=2.7
WRA Warramunga Arr 19.75 131 P P 22 10 43.3 0.0
0.1nm,0.3s,baz=302,slow=12,SNR=10
ASAR Alice Springs 21.91 140 P P 22 11 05.0 +0.4
0.4nm,0.3s,baz=313,slow=9.6,SNR=9.5
SONM Songino Array 55.91 350 P P 22 15 43.3 +0.1
0.6nm,0.6s,baz=168,slow=7.2,SNR=5.5

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*ISCJB **13** 22:11:35.3±3.3, 48S±02×1519E±0.1, h98km±29km, mb4.3/4, Error ellipse: s-maj=40.3km s-min=14.6km az=143.7*
*IDC **13** 22:11:35.5±5.5, 476S×15183E, h84km±42km, mb4.1/3, mb1 4.3/4, mb1mx3.7/13, mbtmp4.4/4, MS2.9/1, Ms1 2.9/1, ms1mx2.4/20, Error ellipse: s-maj=93.3km s-min=33.6km az=133.0*
*NEIC **13** 22:11:37.1±1.7, 483S×15189E, h105km±15km, mb4.6/3, Error ellipse: s-maj=22.2km s-min=11.0km az=161.0*
ISC 13 22:11:37.2±2.5**, 48S**±02×**1519E**±01**, h104**km±21km**, n15, σ0**ˢ**51**/13**, mb4.3**/4**, 1C, New Britain region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 6.55 226 P **Pn** **22 13 10.3 -0.6**
5.3nm,0.3s,baz=37,slow=13,SNR=13
PMG S **Sn** **22 14 24.2 0.0**
2.9nm,0.3s,baz=200,slow=5.3,SNR=4.6
HNR Honiara 9.21 120 LR LR 22 16 42.3
comp=Z,85nm,21.3s,baz=359,slow=33
HNR Honiara 9.21 120 *e*Pn **Pn** **22 13 47.2 +0.1**
CTAO Charters Tower 16.15 199 *e*Pn **Pn** **22 15 18.5 +0.5**
1.6nm,0.5s
KAKA Kakadu 20.76 247 *e*P **P** **22 16 10.6 +1.0**
15nm,0.4s
WRAB Tennant Creek 22.75 227 *e*P **P** **22 16 30.7 -0.1**
10nm,0.5s,mb4.4
WB2 Warramunga Arr 22.76 227⇑*i*P **P** **22 16 30.2 -0.6**
WRA Warramunga Arr 22.77 227 P **P** **22 16 30.4 -0.5**
3.9nm,0.4s,mb4.1,baz=52,slow=10,SNR=55
AS31 Alice Springs 25.54 221 *e*P **P** **22 16 55.8 -0.3**
ASAR Alice Springs 25.54 221 P **P** **22 16 55.8 -0.3**
2.7nm,0.5s,mb4.0,baz=56,slow=9.0,SNR=27
FITZ Fitzroy Crossi 28.87 241 *e*P **P** **22 17 26.5 +0.7**
8.3nm,0.4s,mb4.7
FITZ Fitzroy Crossi 28.87 241 P **P** **22 17 26.8 +1.0**
4.8nm,0.5s,mb4.4,baz=54,slow=7.8,SNR=54
BRVK Borovoye 88.78 323 P **P** **22 24 19.0 -0.2**
TORD Torodi Ar. Bea 149.46 288 PKPbc PKPbc 22 31 15.6 +1.5
0.8nm,0.8s,baz=90,slow=2.1,SNR=7.0
TORD Torodi Ar. Bea 149.46 288 PKPbc PKPbc 22 31 15.6 +1.5

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*IDC **13** 22:12:17.7±1.3, 1508N×12288E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/19, mbtmp3.9/5, ML4.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.5/36, Error ellipse: s-maj=31.5km s-min=21.3km az=68.0*
*ISCJB **13** 22:12:18.0±2.6, 1506N±005×12294E±008, h15km±20km, mb3.9/6, Error ellipse: s-maj=13.5km s-min=7.6km az=179.7*
*NEIC **13** 22:12:23.1±1.3, 1502N×12278E, h39km±13km, mb4.2/2, Error ellipse: s-maj=17.5km s-min=7.1km az=81.0*
*MAN **13** 22:12:23.3, 1523N×12246E, h11km, mb2.8, ML4.3, MS2.0*
ISC 13 22:12:18.7±1.8**, 1506N**±005×**12285E**±007**, h5**km±11km**, n22, σ1**ˢ**11**/26**, mb3.9**/6**, 1C-1D, Philippine Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
POLP Polilio Island 0.94 249 *e*P **Pg** **22 12 36.9 +0.2**
POLP *e*S **Sg** **22 12 47.0 -1.9**
GQP Guinayangan 1.21 199⇓*i*P **Pg** **22 12 46.2 +4.3**
GQP *i* S **Sg** **22 13 02.7 +5.0**
AUQP San Andres 1.73 186 *e*P **Pn** **22 12 48.3 -1.1**
BOAC Boac 1.87 212 *e*P **Pn** **22 12 42.8 -8.4**
PALP Palanan 2.03 349 *e*P **Pn** **22 12 54.2 +0.7**
PALP *e*S **Sn** **22 13 17.2 -2.0**
TGY Tagaytay City 2.08 243 *e*P **Pn** **22 12 59.6 +5.4**
TGY Tagaytay City 2.08 243 Pn **Pn** **22 12 54.5 +0.2**
87nm,0.3s,baz=109,slow=8.0,SNR=3.8
TGY Sn **Sn** **22 13 22.0 +1.5**
249nm,0.3s,baz=359,slow=14,SNR=7.1
PGP Puerto Galera 2.40 230⇑*e*P **Pn** **22 12 49.7 -8.9**
PGP *i* S **Pg** **22 13 08.0 +3.2**
NACB Ninganchiao 9.14 353 *e*Pn **Pn** **22 14 33.1 +1.9**
JOW Kunigami 12.76 22 LR LR 22 19 23.7
comp=Z,403nm,20.2s,baz=50,slow=33
ULN Ulaanbaatar 35.23 341 *e*P **P** **22 19 14.2 +0.3**
0.6nm,0.4s,mb3.9
SONM Songino Array 35.41 341 P **P** **22 19 15.1 -0.4**
0.6nm,0.6s,mb3.7,baz=158,slow=11,SNR=5.3
WRAB Tennant Creek 36.57 162 *e*P **P** **22 19 25.1 -0.3**
5.8nm,0.7s,mb4.5
WRA Warramunga Arr 36.57 162 P **P** **22 19 25.1 -0.3**
2.9nm,0.5s,mb4.3,baz=342,slow=9.3,SNR=14
WB2 Warramunga Arr 36.58 162 *e*P **P** **22 19 25.3 -0.2**
WB2 Warramunga Arr 36.58 162 *e*P **P** **22 19 25.0 -0.5**
ASAR Alice Springs 39.98 164 P **P** **22 19 54.6 +0.5**
1.0nm,0.5s,mb3.8,baz=339,slow=7.2,SNR=15
MKAR Makanchi Array 46.22 322 P **P** **22 20 44.9 +0.3**
0.1nm,0.4s,mb3.1,baz=119,slow=12,SNR=2.9
NWAO Narrogin (SRO) 48.02 186 *e*P **P** **22 20 58.1 -0.6**
STKA Stephens Creek 50.01 159 *e*P **P** **22 21 13.6 -0.4**
ZRNK Zerenda 56.60 324 P **P** **22 22 01.5 -1.0**
CLL Collm 90.28 324 *e*P **P** **22 25 22.0 +1.5**

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*ISCJB **13** 22:20:34.8±0.3, 5139N±002×1610E±002, h0km, Error ellipse: s-maj=2.7km s-min=1.9km az=21.2*
*MOS **13** 22:20:34.7±1.0, 5162N×16.12E, h15km, mb3.8/1, Error ellipse: s-maj=9.8km s-min=5.1km az=84.5*
*LDG **13** 22:20:35.4±0.5, 5148N×1635E, h1km, Ml3.7/5, Error ellipse: s-maj=12.6km s-min=6.6km az=23.0, Suspected Mining induced.*
*IDC **13** 22:20:36.8±0.8, 5146N×1588E, h0km, mb1 3.4/7, mb1mx3.3/20, mbtmp3.3/7, ML3.0/7, Error ellipse: s-maj=14.0km s-min=8.8km az=100.0*
*IPEC **13** 22:20:36.7±0.3, 5147N×1658E, h0km, ML2.6/3, Error ellipse: s-maj=3.0km s-min=2.1km az=95.0*
*PRU **13** 22:20:37.5, 5140N×16.12E, h0km*
*CSEM **13** 22:20:37.8±0.1, 5142N×1609E, h1km, ML3.5/9, Error ellipse: s-maj=1.7km s-min=1.1km az=178.0*
*BGR **13** 22:20:37.5±0.6, 5147N×1604E, h1km, ML3.1, Error ellipse: s-maj=6.7km s-min=5.6km az=119.0*
*WAR **13** 22:20:37.0, 5148N×16.12E, ML2.9, Mining Induced*
*NEIC **13** 22:20:37.0, 5150N×1600E, h1km, ML3.1(SZGRF), After SZGRF.*
*VIE **13** 22:20:38.1±0.6, 5127N×1609E, h0km, mb2.6/6, ML2.9/6, Error ellipse: s-maj=3.7km s-min=2.5km az=12.0 67 km WNW of Breslau Suspected Mining induced.*
ISC 13 22:20:35.9±0.3**, 5146N**±002×**1609E**±002**, h0**km**, n76, σ0**ˢ**96**/143**, 10C-7D, Poland**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KSP Ksiaz 0.64 168 *e*Pg **Pg** **22 20 48.8 +0.8**
KSP *e*Sg **Sg** **22 20 57.4 +1.1**
KSP Ksiaz 0.64 168 *i* Pg **Pg** **22 20 48.8 +0.8**
KSP e 22 20 54.5
KSP *e*Sg **Sg** **22 20 57.3 +1.0**
KSP *e*L 22 21 01.0
KSP Ksiaz 0.64 168⇓*i*Pg **Pg** **22 20 48.8 +0.8**
KSP *e* 22 20 54.5
KSP *e*Sg **Sg** **22 20 57.3 +1.0**
KSP *e* 22 21 01.0
KSP Ksiaz 0.64 168⇓*i*Pg **Pg** **22 20 48.8 +0.8**
KSP *e*Sg **Sg** **22 20 57.2 +0.9**
UPC Upice 0.96 183 *e*PG **Pg** **22 20 54.9 +0.7**
PVCC Panska Ves 1.34 226 *e*PG **Pg** **22 21 01.9 +0.3**
PVCC *e*SG **Sg** **22 21 20.2 +1.2**
BRG Berggiesshubel 1.48 247 *e*Pn **Pn** **22 21 04.3 +0.6**
BRG *e*Sg **Sg** **22 21 24.8 +1.5**
BRG Berggiesshubel 1.48 247 PN **Pn** **22 21 03.0 -0.7**
BRG PG **Pg** **22 21 04.5 +0.3**
BRG SG **Sg** **22 21 24.6 +1.3**
59nm,0.4s
BRG Berggiesshubel 1.48 247 Pg **Pg** **22 21 04.4 +0.2**
BRG Sg **Sg** **22 21 24.8 +1.5**
RUE Ruedersdorf 1.75 306 *e*Pn **Pn** **22 21 06.4 -1.1**
RUE *e*Sg **Sg** **22 21 33.2 +0.9**
RUE Ruedersdorf 1.75 306 *e*Pn **Pn** **22 21 06.4 -1.1**
RUE *e*Sg **Sg** **22 21 33.2 +0.9**
PRU Pruhonice 1.78 214 *e*PN **Pn** **22 21 07.5 -0.3**
PRU *e*PG **Pg** **22 21 09.2 -0.7**
PRU *e*SG **Sg** **22 21 32.9 0.0**
60nm,0.5s
FBE Freiberg 1.81 254 *e*Pn **Pn** **22 21 10.3 +2.1**
FBE *e*Sg **Sg** **22 21 34.3 +0.4**
MORC Moravsky Berou 1.93 151⇑*i*P **Pn** **22 21 09.7 -0.2**
MORC Moravsky Berou 1.93 151 ⇑P **Pn** **22 21 09.7 -0.2**
MORC S **Sn** **22 21 34.7 -0.1**
MORC Moravsky Berou 1.93 151 *e*Pn **Pn** **22 21 09.3 -0.6**

MORC				eSg	Sg	22 21 32.8	-4.9
MORC				S	Sn	22 21 34.7	-0.1
GKP	Gorka Klasztor	1.94	21	ePg	Pg	22 21 18.0	+4.9
GKP				eSg	Sg	22 21 40.7	+2.5
CLL	Collm	1.94	267	ePn	Pn	22 21 09.5	-0.6
CLL				ePg	Pg	22 21 13.0	-0.1
CLL				eSg	Sg	22 21 38.9	+0.6
CLL	Collm	1.94	267	ePn	Pn	22 21 10.0	-0.1
CLL				ePg	Pg	22 21 13.0	-0.1
CLL				i x	x	22 21 15.7	
CLL				i x	x	22 21 27.5	
CLL				i Sg	Sg	22 21 38.3	0.0
	comp=Z,58nm,0.6s						
CLL				ex	x	22 21 48.0	
CLL	Collm	1.94	267	ePn	Pn	22 21 10.0	-0.1
CLL				ePg	Pg	22 21 13.0	-0.1
CLL				i Sg	Sg	22 21 38.3	0.0
OKC	Ostrava-Krasne	2.09	140	ePN	Pn	22 21 11.4	-0.7
OKC				ePG	Pg	22 21 15.1	-0.8
OKC				eSG	Sg	22 21 41.2	-1.8
VRAC	Vranov	2.18	171	Pn	Pn	22 21 14.1	+0.8
	comp=Z,4.4nm,0.3s,baz=344,slow=14,SNR=16						
VRAC				Lg		22 21 46.0	
	comp=Z,5.6nm,0.3s,baz=256,slow=20,SNR=8.5						
VRAC	Vranov	2.18	171	⇑iP	Pn	22 21 13.8	+0.4
VRAC	Vranov	2.18	171	⇑P	Pn	22 21 13.8	+0.4
VRAC				S	Sn	22 21 42.8	+1.7
VRAC	Vranov	2.18	171	ePn	Pn	22 21 13.8	+0.4
VRAC				S	Sn	22 21 42.8	+1.7
VRAC				eSg	Sg	22 21 44.7	-1.3
	comp=Z,24nm,0.4s						
TREC	Trest	2.21	190	ePN	Pn	22 21 14.1	+0.4
TREC				ePG	Pg	22 21 17.9	-0.2
KRUC	Moravsky	2.41	175	ePn	Pn	22 21 17.2	+0.6
KRUC				eSg	Sg	22 21 51.9	-1.5
	comp=Z,40nm,0.6s						
TANN	Tannenbergstha	2.52	247	ePn	Pn	22 21 18.9	+0.8
TANN				eSg	Sg	22 21 56.0	-1.0
WERD	Werda	2.60	248	ePn	Pn	22 21 19.4	+0.3
NKC	Novy Kostel	2.62	243	ePN	Pn	22 21 19.8	+0.4
NKC				ePG	Pg	22 21 26.1	+0.1
NKC				eSG	Sg	22 22 00.0	0.0
	comp=Z,58nm,0.4s						
OJC	Ojcow	2.66	116	ePg	Pg	22 21 27.4	+0.6
OJC				eSg	Sg	22 22 02.1	+0.8
KHC	Kasperske Hory	2.84	216	ePN	Pn	22 21 22.7	+0.3
KHC				ePG	Pg	22 21 28.8	-1.5
KHC				eSG	Sg	22 22 07.9	+0.9
	comp=Z,37nm,0.7s						
MANZ	Manzenberg	2.93	241	ePn	Pn	22 21 24.5	+0.8
MANZ				eSg	Sg	22 22 11.0	+1.0
MOX	Moxa	2.94	256	ePn	Pn	22 21 23.8	-0.1
MOX				ePg	Pg	22 21 32.2	0.0
MOX				eSg	Sg	22 22 11.9	+1.5
MOX	Moxa	2.94	256	ePG	Pg	22 21 32.2	0.0
MOX				eSG	Sg	22 22 12.2	+1.8
ROTZ	Rotzenmuhle	3.00	237	ePn	Pn	22 21 25.2	+0.5
ROTZ				eSg	Sg	22 22 11.5	-0.8
GEC2	GERESS Array S	3.04	211	ePn	Pn	22 21 26.0	+0.8
GEC2				eSg	Sg	22 22 12.7	-0.8
GEC2	GERESS Array S	3.04	211	ePn	Pn	22 21 26.0	+0.8
GEC2				eSg	Sg	22 22 12.7	-0.8
GERES	GERESS Array B	3.04	211	Pn	Pn	22 21 25.3	+0.1
	comp=Z,1.4nm,0.3s,baz=30,slow=12,SNR=51						
GERES				Lg		22 22 12.2	
	comp=Z,4.8nm,0.3s,baz=36,slow=28,SNR=6.0						
SMOL	Smolenice	3.08	163	ePG	Pg	22 21 34.7	-0.1
SMOL				eSG	Sg	22 22 16.1	+1.4
WET	Wettzell	3.10	223	ePn	Pn	22 21 26.1	+0.1
WET	Wettzell	3.10	223	ePn	Pn	22 21 26.1	0.0
ZST	Bratislava	3.34	168	ePG	Pg	22 21 38.8	-1.0
ZST				eSG	Sg	22 22 23.3	+0.2
NIE	Niedzica	3.39	126	eP	Pg	22 21 39.9	-0.9
NIE				eS	Sg	22 22 24.4	-0.3
VYHS	Vyhne	3.46	148	ePN	Pn	22 21 30.6	-0.4
VYHS				ePG	Pg	22 21 41.5	-0.7
VYHS				eSG	Sg	22 22 26.9	-0.1
CONA	Conrad Observa	3.54	183	⇑iPn	Pn	22 21 32.4	+0.3
CONA				⇑iSg	Sg	22 22 28.3	-1.4
	comp=Z,34nm,0.6s						
GRA1	Grafenberg Arr	3.58	242	ePn	Pn	22 21 33.0	+0.5
GRA1				eSg	Sg	22 22 30.7	0.0
GRF	Grafenberg Arr	3.58	242	ePn	Pn	22 21 33.0	+0.5
GRF				eSg	Sg	22 22 30.7	0.0
BSD	Bornholm Skovb	3.73	350	i P	Pn	22 21 32.8	-1.8
BSD				i S	Sn	22 22 14.3	-4.9
BSD				i		22 22 16.3	
BSD	Bornholm Skovb	3.73	350	i P	Pn	22 21 32.8	-1.8
BSD				i S	Sn	22 22 14.3	-4.9
MOA	Molln	3.81	199	⇑iPn	Pn	22 21 36.3	+0.6
	SNR=9.0						
MOA				⇓iSg	Sg	22 22 38.3	+0.1
	comp=Z,26nm,0.5s						
KECS	Kecovo	4.12	135	ePG	Pg	22 21 55.1	+0.4
KECS				e		22 22 46.9	
ARSA	Arzberg	4.23	185	⇓iPn	Pn	22 21 41.5	-0.1
ARSA				⇓iSg	Sg	22 22 51.3	-0.6
	comp=Z,23nm,0.6s						
CRVS	Cervenica-Dubn	4.30	125	ePN	Pn	22 21 44.9	+2.4
CRVS				ePG	Pg	22 21 58.0	-0.2
CRVS				eSG	Sg	22 22 54.4	+0.4
CRVS	Cervenica-Dubn	4.30	125	ePn	Pn	22 21 44.9	+2.4
CRVS				ePg	Pg	22 21 58.0	-0.2
CRVS				eSg	Sg	22 22 54.5	+0.5
KWP	Kalwaria	4.60	111	ePn	Pn	22 21 47.1	+0.5
KWP				ePg	Pg	22 22 00.7	-3.3
KWP				eSn	Sn	22 22 42.1	+1.4
KWP	Kalwaria	4.60	111	ePn	Pn	22 21 47.1	+0.5
KWP	Kalwaria	4.60	111	ePg	Pg	22 22 00.7	-3.3
KWP				eS	Sn	22 22 42.2	+1.4
KOLS	Kolonicke sedl	4.71	120	ePN	Pn	22 21 48.6	+0.5
KOLS				ePG	Pg	22 22 05.7	-0.4
KOLS				e		22 23 19.2	
KOLS				e		22 49 33.1	
KOLS	Kolonicke sedl	4.71	120	ePn	Pn	22 21 48.6	+0.5
KOLS				ePg	Pg	22 22 05.7	-0.4
KOLS				e		22 23 19.3	
KBA	Koelnbreinsper	4.74	203	⇑iPn	Pn	22 21 49.7	+1.1
KBA				⇓iSg	Sg	22 23 09.2	+1.0
	comp=Z,12nm,0.6s						
PKSM	Moragy	5.52	161	⇓iP	Pn	22 22 00.3	+1.0
CDF	Champ du Feu	6.46	245	ePn	Pn	22 22 11.8	-0.4
CDF				eSg	Sg	22 24 01.7	-1.6
	comp=Z,46nm,1.2s						
HINF	Hinteralfeld	7.02	242	eSg	Sg	22 24 20.3	-1.1
	comp=Z,25nm,1.1s						
BURAR	Bucovina Array	7.08	119	⇑iP	Pn	22 22 20.9	+0.3
BURAR	Bucovina Array	7.08	119	⇑P	Pn	22 22 20.9	+0.3
HAU	Haudompre	7.20	245	eSg	Sg	22 24 27.0	-0.1
	comp=Z,32nm,1.2s						
SFTF	Sexfontaines	7.86	250	eSg	Sg	22 24 47.2	-0.9
	comp=Z,15nm,0.9s						
AKASG	Malin Array Be	8.31	90	Pn	Pn	22 22 37.1	-0.5
	comp=Z,1.1nm,0.3s,baz=281,slow=12,SNR=3.6						
HFS	Hagfors	8.79	352	Pn	Pn	22 22 42.6	-1.6
	comp=Z,0.1nm,0.3s,baz=164,slow=17,SNR=4.3						
MBDF	Montbardon	9.18	226	ePn	Pn	22 22 47.8	-1.7
SBF	Sospel	9.58	221	ePn	Pn	22 22 53.1	-1.9
FRF	La Foret Royal	10.16	223	ePn	Pn	22 23 03.2	+0.3
FINES	FINESS Array B	11.41	25	Pn	Pn	22 23 17.2	-2.9
	comp=Z,0.1nm,0.3s,baz=218,slow=8.8,SNR=4.0						
EKA	Eskdalemuir Ar	12.12	296	Pn	Pn	22 23 26.9	-2.9
	comp=Z,0.1nm,0.3s,baz=101,slow=14,SNR=2.9						
ARCES	ARCESS Array B	18.67	10	Pn	Pn	22 24 50.3	-5.3
	comp=Z,0.2nm,0.3s,baz=187,slow=14,SNR=8.1						

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*ISCJB **13** 22:38:19.2±2.4, 56S±02×1506E±0.1, h92^{km}±22^{km}, mb3.9/8, Error ellipse: s-maj=27.9km s-min=14.0km az=128.9*

*IDC **13** 22:38:20.7±6.6, 561S×15057E, h84^{km}±48^{km}, mb3.6/5, mb1 3.8/6, mb1mx3.6/13, mbtmp4.0/6, ML3.1/1, MS4.0/3, Ms1 4.0/3, ms1mx3.4/21, Error ellipse: s-maj=64.2km s-min=31.2km az=97.0*

*NEIC **13** 22:38:20.3±1.4, 562S×15051E, h80^{km}±14^{km}, mb4.3/4, Error ellipse: s-maj=17.3km s-min=9.1km az=149.0*

ISC 13 22:38:21.0±2.0**, 56S**±02×**1506E**±01**, h90**^{km}±19^{km}**, n19,** σ**0**^{s}**79**/16**, mb3.9**/8**, 1C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.08	222	P	Pn	22 39 33.1	-1.5
	5.1nm,0.3s,baz=51,slow=10,SNR=12						
PMG				S	Sn	22 40 33.7	+1.8
	4.6nm,0.3s,baz=65,slow=17,SNR=2.5						
HNR	Honiara	10.02	113	LR	LR	22 44 11.1	
	comp=Z,648nm,18.0s,baz=355,slow=35						
HNR	Honiara	10.02	113	ePn	Pn	22 40 42.0	+0.2
CTA	Charters Tower	14.99	196	LR	LR	22 47 11.2	
	comp=Z,502nm,18.0s,baz=16,slow=35						
CTAO	Charters Tower	14.99	196	eP	Pn	22 41 48.3	+0.3
WRAB	Tennant Creek	21.26	227	eP	P	22 42 59.6	-0.3
	15nm,0.8s,mb4.4						
WB2	Warramunga Arr	21.27	227	⇑iP	P	22 42 59.4	-0.5
WRA	Warramunga Arr	21.28	227	P	P	22 42 59.4	-0.7
	3.5nm,0.9s,mb3.7,baz=50,slow=10,SNR=21						
ASAR	Alice Springs	24.09	220	P	P	22 43 28.9	+0.9
	1.5nm,0.6s,mb3.5,baz=52,slow=8.3,SNR=15						
FITZ	Fitzroy Crossi	27.35	241	eP	P	22 43 57.4	0.0
	9.3nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	27.35	241	P	P	22 43 57.6	+0.2
	3.2nm,0.5s,mb4.1,baz=69,slow=11,SNR=11						
STKA	Stephens Creek	27.45	197	P	P	22 43 58.2	-0.2
	1.4nm,0.6s,mb3.7,baz=27,slow=14,SNR=3.1						
STKA	Stephens Creek	27.45	197	eP	P	22 43 58.5	+0.1
MBWA	Marble Bar	33.66	240	eP	P	22 44 52.7	-0.4
	2.4nm,0.6s,mb4.2						
URZ	Urewera	40.44	147	LR	LR	22 58 57.3	
	comp=Z,362nm,21.1s,baz=343,slow=31						
NWAO	Narrogin (SRO)	41.26	225	P	P	22 45 56.6	-0.6
SONM	Songino Array	65.86	329	P	P	22 48 58.0	+1.1
	0.7nm,0.8s,mb3.5,baz=158,slow=5.3,SNR=4.7						
KURK	Kurchatov	83.07	322	eP	P	22 50 36.6	+0.1
	1.7nm,0.9s,mb3.9						
TORD	Torodi Ar. Bea	148.45	286	PKPbc	PKPbc	22 57 58.1	+1.1
	0.3nm,0.6s,baz=57,slow=3.0,SNR=4.1						

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*CSEM **13** 22:46:51.8±0.0, 3881N×2683E, h14^{km}, ML3.9, Error ellipse: s-maj=1.2km s-min=1.0km az=163.0*

*ATH **13** 22:46:51.8, 3880N×2668E, h27^{km}±1^{km}, ML3.9*

*ISK **13** 22:46:52.9, 3876N×2675E, h35^{km}, ML4.0*

*IDC **13** 22:46:52.7±1.0, 3878N×2675E, h14^{km}±5^{km}, mb3.5/6, mb1 3.7/10, mb1mx3.6/21, mbtmp3.7/10, ML3.7/4, Error ellipse: s-maj=22.4km s-min=15.1km az=97.0*

*NEIC **13** 22:46:52.0, 3877N×2675E, h34^{km}, ML3.9(ISK), ML3.9(ATH), After ISK.*

*ISCJB **13** 22:46:52.7±0.3, 3880N±002×2672E±002, h27^{km}±3^{km}, mb3.6/6, Error ellipse: s-maj=2.6km s-min=2.5km az=59.7*

*MOS **13** 22:46:53.1±0.9, 3884N×2672E, h27^{km}, mb3.7/1, Error ellipse: s-maj=7.7km s-min=4.5km az=104.3*

*THE **13** 22:46:53.5, 3876N×2668E, h12^{km}, ML4.2*

ISC 13 22:46:52.8±0.3**, 3880N**±001×**2673E**±002**, h14**^{km}±2^{km}**, h15**^{km}±.6^{km}**:pP-P, n148,** σ**0**^{s}**85**/169**, mb3.6**/6**, 19C-6D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.45	193	i P	Pg	22 47 01.7	0.0
URLA				i S	Sg	22 47 09.5	+1.7
BLCB	Balcova	0.48	149	i PG	Pg	22 47 02.3	0.0
BLCB				i SG	Sg	22 47 10.0	+1.3
AYVA	Ayvalik	0.51	357	i P	Pg	22 47 01.7	-1.1
AYVA				i S	Sg	22 47 09.6	0.0
PRK	Paraskevi	0.57	322	ePN	Pg	22 47 03.3	-0.6
PRK				eSN	Sg	22 47 11.2	-0.3
KDAG	Bornova	0.58	133	i P	Pg	22 47 04.4	+0.3
KDAG				i S	Sg	22 47 13.3	+1.5
IZM	Izmir	0.58	134	i PG	Pg	22 47 04.2	+0.1
CHOS	Chios island	0.67	232	ePg	Pg	22 47 05.7	-0.2
CHOS				eSg	Sg	22 47 13.7	-0.9
AKHS	Akhisar	0.85	84	i P	Pg	22 47 08.9	-0.3
AKHS				i S	Sg	22 47 21.0	+0.6
AKS	Akhisar	0.85	84	i PG	Pg	22 47 09.3	+0.1
EZN	Ezine	1.07	343	i PN	Pn	22 47 12.4	-0.9
CANB	Canakkale	1.24	12	i PN	Pn	22 47 14.8	-0.9
BTOK	Tokmak	1.40	46	i P	Pn	22 47 17.0	-0.8
BTOK				i S	Sn	22 47 36.3	+0.4
AYDN	Tasoluk	1.45	141	i P	Pn	22 47 18.3	-0.3
AYDN				i S	Sn	22 47 37.9	+0.5
GADA	Gvkgeada	1.53	335	PN	Pn	22 47 19.1	-0.6
LIA	Limnos Island	1.62	313	ePN	Pn	22 47 20.7	-0.2
DST	Dursunbey	1.68	61	PN	Pn	22 47 21.2	-0.5
MLSB	Milas	1.71	151	PN	Pn	22 47 20.9	-1.3
EDC	Edincik	1.78	29	PN	Pn	22 47 22.4	-0.6
BODT	Bodrum	1.79	165	PN	Pn	22 47 22.5	-0.8
BNT	Bandirma	1.81	30	PN	Pn	22 47 22.7	-0.7
BDRM	Kayabasi	1.82	162	i P	Pn	22 47 23.3	-0.3
BDRM				i S	Sg	22 47 53.6	+2.2
RKY	Sarkoy-Tekirda	1.92	10	PN	Pn	22 47 24.8	-0.2
MRMT	Marmara Adasi	1.92	20	PN	Pn	22 47 23.9	-1.1
APE	Apeiranthos	1.97	209	ePb	Pn	22 47 24.6	-1.1
APE				eSb	Sn	22 47 48.8	-1.4
APE	Apeiranthos	1.97	209	ePB	Pn	22 47 24.6	-1.1
APE	Apeiranthos	1.97	209	⇓iP	Pn	22 47 24.5	-1.2
ENEZ	Enez	1.98	347	PN	Pn	22 47 26.0	+0.1
MFT	Murefte	2.03	12	PN	Pn	22 47 25.4	-1.1
YER	Yerkesik	2.07	143	PN	Pn	22 47 26.0	-1.0
ORLT	Orhaneli	2.09	53	PN	Pn	22 47 26.6	-0.7
DENT	Denizli	2.09	119	PN	Pn	22 47 26.6	-0.8
DNZL	Cakiroluk	2.13	121	i P	Pn	22 47 28.7	+0.7
DNZL				i S	Sg	22 48 02.6	+1.2
ALN	Alexandroupoli	2.16	346	ePn	Pn	22 47 28.1	-0.2
ALN				eSn	Sn	22 47 56.1	+1.2
GDZ	Gediz	2.17	81	i P	Pb	22 47 31.9	+0.2
GDZ				i S	Sb	22 48 00.5	+2.1
DAT	Datca	2.17	162	PN	Pn	22 47 27.7	-0.8
KHL	Karahalli	2.24	101	PN	Pn	22 47 28.4	-1.0
ULDT	Uludag	2.30	54	i P	Pn	22 47 29.9	-0.2
ULDT				i S	Sg	22 48 04.2	-2.4
PTL	Penteli	2.37	252	ePN	Pn	22 47 30.5	-0.7
GEMT	Gemlik	2.51	49	PN	Pn	22 47 33.2	+0.1
ATH	Athens Observa	2.51	252	ePN	Pn	22 47 32.8	-0.3
RDO	Rodhopi	2.52	339	ePN	Pn	22 47 33.1	-0.1
DALT	Dalyan (Mudla)	2.53	143	PN	Pn	22 47 32.9	-0.5
OUR	Ouranopolis	2.62	307	ePn	Pn	22 47 34.5	-0.1
PAIG	Paliouri	2.62	296	ePn	Pn	22 47 34.1	-0.5
PAIG				eSn	Sn	22 48 06.2	0.0
ALT	Altintas	2.65	83	PN	Pn	22 47 34.1	-0.9
CTT	Catalca	2.68	29	PN	Pn	22 47 34.7	-0.8
YLV	Yalova	2.70	48	PN	Pn	22 47 35.8	+0.1
NAIG	Nisos Aigina	2.75	249	ePN	Pn	22 47 37.0	+0.5
NEO	Neokhori	2.78	282	ePN	Pn	22 47 36.2	-0.6
ARG	Arkhangelos	2.81	156	ePN	Pn	22 47 37.8	+0.6
ADVT	Abdulvahap	2.84	54	ePN	Pn	22 47 37.4	-0.3
MGER	Gerania Oros	2.84	254	ePN	Pn	22 47 37.0	-0.7
FETY	Fethiye	2.86	138	ePN	Pn	22 47 36.3	-1.6
ISK	Istanbul-Kandi	2.89	38	ePN	Pn	22 47 38.0	-0.3
LKR	Lokris	2.92	268	ePN	Pn	22 47 38.4	-0.4
PLG	Polygyros	2.98	303	ePN	Pn	22 47 39.5	-0.1
KLYT	Kilyos	3.03	35	ePN	Pn	22 47 40.9	+0.7
HRT	Hereke	3.03	47	ePN	Pn	22 47 40.4	+0.1
EDRB	Edirne	3.04	0	ePN	Pn	22 47 40.4	-0.1
ISP	Isparta	3.12	107	ePN	Pn	22 47 41.4	-0.1
GPA	Golpazari	3.14	61	ePN	Pn	22 47 41.7	-0.1
ELL	Elmali	3.25	128	ePN	Pn	22 47 42.4	-0.8
ESKT	Eskisehir	3.28	76	i P	Pn	22 47 44.8	+1.0
SOH	Sokhos	3.29	309	ePn	Pn	22 47 44.2	+0.3
BCK	Bucak	3.32	113	ePN	Pn	22 47 43.3	-1.0
HORT	Hortiatis	3.33	304	ePn	Pn	22 47 44.7	+0.3
SRS	Serrai	3.34	315	ePn	Pn	22 47 44.5	0.0
SRS				eSn	Sn	22 48 24.8	+0.7
SRS	Serrai	3.34	315	ePn	Pn	22 47 44.5	-0.1
SRS				eSn	Sn	22 48 24.8	+0.8
NVR	Nevrokopi	3.37	320	ePN	Pn	22 47 44.9	0.0
THE	Thessaloniki	3.43	303	ePn	Pn	22 47 46.2	+0.4
AGG	Agios Georgios	3.44	275	ePn	Pn	22 47 46.2	+0.3
LIT	Litokhoron	3.53	293	ePn	Pn	22 47 47.6	+0.4
NPS	Neapolis	3.64	195	ePN	Pn	22 47 48.2	-0.5
VLI	Veliai	3.65	237	ePN	Pn	22 47 48.4	-0.4
JMB	Yambol	3.67	358	ePn	Pn	22 47 48.7	-0.3
ZKR	Zakros	3.70	187	ePn	Pn	22 47 49.2	-0.3
LAST	Lasithi	3.77	196	ePn	Pn	22 47 50.5	+0.1
IDI	Anoyia	3.80	203	Pn	Pn	22 47 50.2	-0.7
	2.4nm,0.3s,baz=12,slow=10,SNR=13						
IDI				Sn	Sn	22 48 34.7	-0.7
	4.9nm,0.3s,baz=60,slow=20,SNR=4.0						
MDU	Mudurnu	3.84	63	ePN	Pn	22 47 51.1	-0.3
EVR	Evrytania	3.84	273	ePN	Pn	22 47 51.9	+0.5
KYTH	Kithira	3.86	231	ePN	Pn	22 47 52.0	+0.3
VAM	Vamos	3.94	212	ePN	Pn	22 47 53.2	+0.4
XRY	Khrisi	4.00	192	ePN	Pn	22 47 54.0	+0.3
KIZT	Kizilcal	4.02	87	ePN	Pn	22 47 54.1	+0.2
VAY	Valandovo	4.07	310	ePn	Pn	22 47 54.3	-0.2
VAY	Valandovo	4.07	310	ePn	Pn	22 47 54.7	+0.2
KARN	Karanos	4.07	214	ePn	Pn	22 47 56.2	+1.6
SIVA	Sivas	4.08	203	ePn	Pn	22 47 54.1	-0.6
ITM	Ithomi	4.12	248	ePN	Pn	22 47 56.0	+0.7
RLS	Riolos of Patr	4.20	261	ePN	Pn	22 47 56.6	+0.3
KONT	Konya--Tatoy	4.51	99	ePN	Pn	22 48 00.6	0.0
FNA	Florina	4.57	297	ePn	Pn	22 48 02.1	+0.6
VTS	Vitosha	4.64	326	ePn	Pn	22 48 03.6	+1.2
VTS	Vitosha	4.64	326	⇓iP	Pn	22 48 03.8	+1.4
LKD	Levkas	4.75	271	ePn	Pn	22 48 07.1	+3.2
LOD	Lodumlu	4.80	75	ePN	Pn	22 48 05.3	+0.6
ANTO	Ankara	4.82	75	⇑iP	Pg	22 48 23.2	-1.9
ANTO	Ankara	4.82	75	⇑P	Pg	22 48 23.2	-1.9
ZIMR		4.96	348	⇑iP	Pn	22 48 07.3	+0.5
ZIMR		4.96	348	⇑P	Pn	22 48 07.2	+0.4
IGT	Igoumenitsa	5.03	280	ePn	Pn	22 48 10.9	+3.3
SAFT	Safranbolu	5.18	60	ePN	Pn	22 48 10.3	+0.4
BR131	Keskin Array S	5.44	78	ePn	Pn	22 48 14.9	+1.5
	10nm,0.6s						
BR131				eSn	Sn	22 49 16.3	+0.4
BR131	Keskin Array S	5.44	78	ePn	Pn	22 48 14.9	+1.5
	10nm,0.6s						
BR131				eSn	Sn	22 49 16.3	+0.5
BRTR	Keskin Array B	5.44	78	Pn	Pn	22 48 14.6	+1.2
	0.7nm,0.3s,baz=254,slow=14,SNR=27						
BRTR				Pg	Pg	22 48 34.7	-2.3
	0.8nm,0.3s,baz=256,slow=15,SNR=8.2						
BRTR	Keskin Array B	5.44	78	Pg	Pg	22 48 34.7	-2.3
KAMT	Kaman	5.46	82	ePN	Pn	22 48 13.7	0.0
TIRR	Tirgusor	5.79	12	⇑iP	Pn	22 48 18.1	-0.1
TIRR	Tirgusor	5.79	12	⇑P	Pn	22 48 18.1	-0.1
IKL	Isikli	6.09	113	ePN	Pn	22 48 22.7	+0.4
MLR	Muntele Rosu	6.71	355	Pn	Pn	22 48 31.5	+0.6
	1.2nm,0.3s,baz=212,slow=3.8,SNR=15						
MLR	Muntele Rosu	6.71	355	⇓iP	Pn	22 48 32.0	+1.1
MLR	Muntele Rosu	6.71	355	P	Pn	22 48 31.5	+0.6
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR	Muntele Rosu	6.71	355	⇓P	Pn	22 48 32.0	+1.1
VOIR		6.75	350	⇑iP	Pn	22 48 31.7	+0.3
VOIR		6.75	350	⇑P	Pn	22 48 31.7	+0.3
PLOR	Plostina	7.05	360	⇑iP	Pn	22 48 36.6	+1.1
VRI	Vrincioaia	7.06	360	⇑iP	Pn	22 48 38.3	+2.6
VRI	Vrincioaia	7.06	360	⇑P	Pn	22 48 38.3	+2.6
GZR	Gura Zlata	7.21	337	⇑iP	Pn	22 48 37.5	-0.3
GZR	Gura Zlata	7.21	337	⇑P	Pn	22 48 37.5	-0.3
DIVS	Divcibare	7.32	318	i Pn	Pn	22 48 39.6	+0.4
SEV	Sevastopol'	7.74	40	eP	Pn	22 48 45.9	+0.9
SEV				e		22 50 08.0	
SEV				pmax	pmax		
	comp=Z,10.0nm,0.4s						
SEV	Sevastopol'	7.74	40	eP	Pn	22 48 45.9	+0.9
	comp=Z,10.0nm,0.4s						
BZS	Buzias	7.80	333	⇑iP	Pn	22 48 45.6	-0.1
BZS	Buzias	7.80	333	⇑P	Pn	22 48 45.6	-0.2
YAL	Yalta	7.95	42	eP	Pn	22 48 49.6	+1.8
YAL				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YAL	Yalta	7.95	42	eP	Pn	22 48 49.6	+1.8
	comp=Z,10.0nm,0.4s						
ALU	Alushta	8.21	42	eP	Pn	22 48 52.5	+1.1
ALU				pmax	pmax		
	comp=Z,10.0nm,0.4s						
ALU				pmax	pmax		
	comp=E,10.0nm,0.4s						
ALU				pmax	pmax		
	comp=N,10.0nm,0.6s						
ALU	Alushta	8.21	42	eP	Pn	22 48 52.5	+1.1
	comp=N,10.0nm,0.6s						
DRGR		8.51	341	⇑iP	Pn	22 48 56.2	+0.6
DRGR		8.51	341	⇑P	Pn	22 48 56.2	+0.6
BURAR	Bucovina Array	8.88	353	⇓iP	Pn	22 49 02.7	+2.1
BURAR	Bucovina Array	8.88	353	⇓P	Pn	22 49 02.7	+2.1
MMAI	Mount Meron Ar	9.10	127	Pn	Pn	22 49 02.0	-1.6
	comp=N,1.8nm,0.3s,baz=304,slow=13,SNR=8.8						
PKSM	Moragy	9.51	324	⇑iP	Pn	22 49 08.5	-0.8
PKSM	Moragy	9.51	324	⇑P	Pn	22 49 08.5	-0.7
FINES	FINESS Array B	22.67	359	P	P	22 51 54.9	+1.2
	comp=N,2.0nm,0.9s,mb3.5,baz=133,slow=8.4,SNR=3.9						
FINES	FINESS Array B	22.67	359	P	P	22 51 54.8	+1.2
ESDC	Sonseca Array	23.74	282	pP	pP	22 52 10.5	+1.7
	comp=N,1.0nm,0.6s,baz=72,slow=10,SNR=3.0						
NB2	NORSAR Subarra	24.27	342	P	P	22 52 12.6	+3.1
	comp=Z,1.8nm,0.8s,mb3.5,baz=153,slow=10						
NOA	NORSAR Array B	24.27	342	P	P	22 52 09.2	-0.2
	comp=Z,1.7nm,0.9s,mb3.5,baz=137,slow=8.5,SNR=4.9						
NOA				pP		22 52 13.2	
	comp=Z,1.7nm,0.9s,baz=160,slow=11,SNR=3.5						
NOA	NORSAR Array B	24.27	342	P	P	22 52 09.3	-0.2
NOA				pP		22 52 13.2	
EKA	Eskdalemuir Ar	25.94	319	P	P	22 52 25.3	+0.7
	comp=Z,0.7nm,0.6s,mb3.4,baz=116,slow=11,SNR=4.8						
EKA				pP	pP	22 52 29.4	+0.6
	comp=Z,1.3nm,0.6s,baz=115,slow=11,SNR=5.2						
TORD	Torodi Ar. Bea	33.83	228	P	P	22 53 35.0	+0.5
	comp=Z,0.4nm,0.8s,mb3.4,baz=33,slow=8.6,SNR=2.9						
TORD				pP	pP	22 53 39.4	+0.6
	comp=Z,0.8nm,0.8s,baz=35,slow=9.2,SNR=5.7						
TORD	Torodi Ar. Bea	33.83	228	P	P	22 53 35.0	+0.5
TORD				pP	pP	22 53 39.4	+0.6
MKAR	Makanchi Array	40.80	60	P	P	22 54 33.5	-0.1
	comp=Z,0.5nm,0.5s,mb3.4,baz=272,slow=6.3,SNR=3.7						
SCHQ	Schefferville	61.26	319	P	P	22 57 07.0	-0.4
	comp=Z,1.9nm,0.7s,mb4.3,baz=55,slow=7.0,SNR=3.1						
SCHQ				pP	pP	22 57 11.1	-0.9
	comp=Z,1.9nm,0.7s,baz=70,slow=12,SNR=2.7						

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*ISCJB **13** 22:47:32.8±8.8, 58S±02×1504E±0.1, h12^{km}±56^{km}, mb3.8/5, Error ellipse: s-maj=31.3km s-min=16.7km az=131.6*

*IDC **13** 22:47:33.2±2.6, 581S×15033E, h0^{km}, mb3.8/4, mb1 4.1/5, mb1mx3.8/13, mbtmp4.0/5, ML3.3/1, Error ellipse: s-maj=69.2km s-min=38.7km az=112.0*

*NEIC **13** 22:47:37.9±0.6, 581S×15039E, h35^{km}, mb4.0/1, Error ellipse: s-maj=13.0km s-min=10.6km az=144.0*

ISC 13 22:47:35.5±9.3**, 58S**±02×**1504E**±01**, h17**^{km}±59^{km}**, n15,** σ**0**^{s}**62**/14**, mb3.8**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.82	221	Pn	Pn	22 48 48.1	+0.8
	9.8nm,0.3s,baz=62,slow=5.4,SNR=24						
HNR	Honiara	10.17	112	Pn	Pn	22 50 00.5	-0.2
WRAB	Tennant Creek	21.00	226	eP	P	22 52 17.6	-0.4
	4.6nm,0.6s,mb4.0						
WB2	Warramunga Arr	21.01	226	ePn	P	22 52 17.5	-0.6
WRA	Warramunga Arr	21.02	226	P	P	22 52 17.6	-0.7
	1.5nm,0.4s,mb3.7,baz=52,slow=11,SNR=40						
AS31	Alice Springs	23.84	220	P	P	22 52 48.5	+0.8
ASAR	Alice Springs	23.84	220	P	P	22 52 48.9	+1.1
	0.5nm,0.3s,mb3.4,baz=55,slow=9.9,SNR=8.8						
FITZ	Fitzroy Crossi	27.08	241	P	P	22 53 16.3	-0.9
	3.5nm,1.1s,mb3.8,baz=48,slow=18,SNR=6.1						
STKA	Stephens Creek	27.25	196	P	P	22 53 17.8	-0.9
	4.1nm,1.0s,mb3.9,baz=16,slow=13,SNR=4.1						
STKA	Stephens Creek	27.25	196	eP	P	22 53 18.6	-0.1
TAU	Tasmania Unive	37.09	184	eP	P	22 54 45.0	+0.1
KURK	Kurchatov	83.04	323	P	P	22 59 59.8	-0.2
BRVK	Borovoye	88.63	324	P	P	23 00 28.0	+0.4
ZRNK	Zerenda	89.37	323	P	P	23 00 31.4	+0.3
TORD	Torodi Ar. Bea	148.27	286	PKPbc	PKPbc	23 07 22.1	+1.4
	0.5nm,0.4s,baz=94,slow=2.5,SNR=25						

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*IDC **13** 22:47:53.0±1.8, 3877N×2686E, h0^{km}, mb3.5/2, mb1 3.6/4, mb1mx3.4/19, mbtmp3.6/4, ML3.6/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/26, Error ellipse: s-maj=57.3km s-min=25.4km az=152.0*

*ISCJB **13** 22:47:53.3±0.6, 3882N±003×2676E±005, h10^{km}±5^{km}, mb3.4/2, Error ellipse: s-maj=6.1km s-min=4.2km az=29.1*

ISC 13 22:47:54.4±0.6**, 3883N**±003×**2674E**±005**, h14**^{km}±4^{km}**, n17,** σ**0**^{s}**90**/26**, mb3.4**/2**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	Ayvalik	0.48	355	i P	Pg	22 48 03.6	-0.3
AYVA				i S	Sg	22 48 10.7	+0.4
URLA	Izmir	0.48	194	i P	Pg	22 48 03.1	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URLA				i S	Sg	22 48 10.9	+0.5
KDAG	Bornova	0.59	136	i P	Pg	22 48 06.2	+0.1
KDAG				i S	Sg	22 48 14.6	+0.8
AKHS	Akhisar	0.84	86	i P	Pg	22 48 10.7	0.0
AKHS				i S	Sg	22 48 22.6	+1.0
BTOK	Tokmak	1.37	47	i P	Pn	22 48 19.4	+0.3
BTOK				i S	Sn	22 48 38.5	+1.4
AYDN	Tasoluk	1.47	142	i P	Pn	22 48 19.9	-0.6
AYDN				i S	Sn	22 48 40.1	+0.5
BDRM	Kayabasi	1.85	162	i P	Pn	22 48 23.1	-2.6
BDRM				i S	Sg	22 48 54.6	+0.8
DNZL	Cakiroluk	2.14	121	i P	Pg	22 48 37.1	+1.6
DNZL				i S	Sg	22 49 02.3	-1.0
GDZ	Gediz	2.15	82	i P	Pg	22 48 35.7	0.0
GDZ				i S	Sg	22 49 02.8	-0.8
ULDT	Uludag	2.27	54	i P	Pg	22 48 37.5	-0.5
ULDT				i S	Sg	22 49 07.8	+0.4
IDI	Anoyia	3.83	203	Sn	Sn	22 49 38.0	+0.2
	baz=318,slow=8.4,SNR=2.2						
BRTR	Keskin Array B	5.43	78	Pn	Pn	22 49 14.4	-0.5
	1.0nm,0.3s,baz=257,slow=14,SNR=7.5						
BRTR				Pg	Pg	22 49 36.4	-1.9
	0.5nm,0.3s,baz=263,slow=17,SNR=4.2						
MMAI	Mount Meron Ar	9.11	127	Pn	Pn	22 50 04.4	-1.1
	1.2nm,0.3s,baz=311,slow=13,SNR=3.4						
DAVOX	Davos	14.69	308	LR	LR	22 57 56.4	
	comp=Z,62nm,18.1s,baz=99,slow=41						
EKA	Eskdalemuir Ar	25.93	319	pP	pP	22 53 31.1	+0.8
	0.6nm,0.6s,baz=111,slow=11,SNR=2.2						
TORD	Torodi Ar. Bea	33.86	228	P	P	22 54 37.5	+1.0
	0.5nm,0.7s,mb3.6,baz=31,slow=9.2,SNR=2.5						
TORD				pP	pP	22 54 41.0	+0.4
	0.5nm,0.7s,baz=36,slow=9.0,SNR=2.4						
MKAR	Makanchi Array	40.77	60	P	P	22 55 35.1	0.0
	0.3nm,0.4s,mb3.2,baz=263,slow=9.1,SNR=2.6						

ISCJB ***13*** *22:48:07.3±2.0,5.45S±0.04×150.74E±0.06,h6^{km}±12^{km}, mb4.8/26,MS4.6/8,Error ellipse: s-maj=9.9km s-min=6.7km az=4.0*

MOS ***13*** *22:48:11.5±1.6,5.32S×150.70E,h33^{km},mb5.0/6,Error ellipse: s-maj=13.6km s-min=8.9km az=78.0*

BJI ***13*** *22:48:11.9,5.31S×151.14E,h44^{km},mB5.4,mb4.8,Ms4.9, Msz4.7*

HRVD ***13*** *22:48:13.9±0.1,5.44S×150.82E,h14^{km}±1^{km},MW5.2/94, Centroid moment Tensor Solution. LP body waves: s67,c94;Mantle waves: s94,c176; Half duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.07±.02; $M_{\theta\theta}$0.51±.01; $M_{\phi\phi}$-0.58±.02; $M_{r\theta}$-0.24±.04; $M_{\theta\phi}$0.68±.02; $M_{\phi r}$0.20±.04; Best double couple: $M_0$0.92300×10^{17} NP1:ϕ_s200.00000°, δ72.00000°,λ-176.00000°. NP2:ϕ_s109.00000°, δ86.00000°,λ-18.00000°. Principal axes: T 0.8590, Plg10.0000°, Azm156.0000°; N 0.1300, Plg72.0000°, Azm278.0000°; P -0.9880, Plg15.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***13*** *22:48:13.9±0.3,5.50S×150.66E,mb5.1/14 Error ellipse: s-maj=8.9km s-min=6.9km az=87.0*

IDC ***13*** *22:48:14.0±3.5,5.52S×150.68E,h39^{km}±30^{km},mb4.4/10, mb1 4.6/12,mb1mx4.6/15,mbtmp4.7/12,ML4.3/2,MS4.7/8, Ms1 4.7/8,ms1mx4.4/16,Error ellipse: s-maj=22.1km s-min=17.2km az=83.0*

ISC 13 22:48:13.7±1.1**,5.51S**±0.05×**150.72E**±0.05**,h37**^{km}±11^{km}**, h38**^{km}±4.3^{km}**:pP-P,n79,σ1**^{s}**05**/82**,mb4.8**/26**,MS4.6**/8**,1D, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.24	222	Pn	Pn	22 49 30.8	+1.4
	26nm,0.3s,baz=50,slow=7.2,SNR=22						
PMG				Sn	Sn	22 50 23.8	-4.7
	4.6nm,0.3s,baz=54,slow=13,SNR=4.7						
PMG				LR	LR	22 51 37.5	
	comp=Z,5μm,20.1s,baz=25,slow=39						
PMG	Port Moresby	5.24	222	P	Pn	22 49 30.8	+1.3
PMG						22 50 23.9	
HNR	Honiara	9.94	114	Pn	Pn	22 50 34.5	+0.4
	12nm,0.3s,baz=256,slow=5.9,SNR=3.6						
HNR				LR	LR	22 54 10.4	
	comp=Z,4μm,18.1s,baz=353,slow=36						
HNR	Honiara	9.94	114	eP	Pn	22 50 34.4	+0.3
HNR				e		22 52 23.4	
HNR				pmax	pmax		
	comp=Z,158nm,0.8s						
HNR	Honiara	9.94	114	ePn	Pn	22 50 34.4	+0.3
	comp=Z,158nm,0.8s						
HNR				eSn	Sn	22 52 23.4	-1.0
CTA	Charters Tower	15.12	196	eP	Pn	22 51 49.2	+4.6
	comp=Z,31nm,1.2s						
CTA				eS	S	22 54 33.1	-14
CTA	Charters Tower	15.12	196	Pn	Pn	22 51 48.4	+3.8
	comp=Z,0.4nm,0.3s,baz=23,slow=14,SNR=10						
CTA				LR	LR	22 57 10.0	
	comp=Z,3μm,18.2s,baz=15,slow=36						
CTA	Charters Tower	15.12	196	eP	Pn	22 51 49.2	+4.6
CTA				eS	S	22 54 33.1	-14
CTA				pmax	pmax		
	comp=Z,31nm,1.2s						
CTAO	Charters Tower	15.12	196	eP	Pn	22 51 49.4	+4.8
CTAO				pmax	pmax		
	comp=Z,128nm,1.4s						
CTAO	Charters Tower	15.12	196	eP	Pn	22 51 49.4	+4.8
	comp=Z,128nm,1.4s						
KAKA	Kakadu	19.40	247	eP	Pn	22 52 35.7	-2.2
	comp=Z,43nm,0.7s						
WRAB	Tennant Creek	21.42	227	P	P	22 52 58.0	-0.4
	SNR=14						
WRAB	Tennant Creek	21.42	227	eP	P	22 52 58.0	-0.4
WRAB				eS	S	22 56 53.3	-0.7
WRAB				pmax	pmax		
	comp=Z,161nm,1.1s,mb5.3						
WRAB	Tennant Creek	21.42	227	eP	P	22 52 58.0	-0.5
	comp=Z,162nm,1.1s,mb5.3						
WRAB				eS	S	22 56 53.3	-0.7
WB2	Warramunga Arr	21.43	227	⇓iP	P	22 52 58.2	-0.3
WB2				e		22 54 07.4	
WB2				eS	S	22 56 54.8	+0.7
WRA	Warramunga Arr	21.43	227	P	P	22 52 58.5	-0.1
	comp=Z,42nm,0.8s,mb4.8,baz=50,slow=12,SNR=55						
WRA				LR	LR	23 01 54.7	
	comp=Z,1μm,18.8s,MS4.3,baz=60,slow=38						
NOUC	Port Laguerre	22.34	139	eP	P	22 53 07.9	-0.4
DZM	Mont Dzumac	22.41	139	eP	P	22 53 04.4	-4.6
DZM	Mont Dzumac	22.41	139	P	P	22 53 09.8	+0.8
	comp=Z,32nm,1.0s,mb4.7,baz=360,slow=13,SNR=7.6						
DZM				LR	LR	23 00 24.4	
	comp=Z,4μm,20.9s,MS4.8,baz=332,slow=33						
AS31	Alice Springs	24.25	220	eP	P	22 53 27.9	+0.8
ASAR	Alice Springs	24.25	220	P	P	22 53 27.4	+0.2
	comp=Z,15nm,0.8s,mb4.5,baz=53,slow=8.8,SNR=37						
ASAR				LR	LR	23 03 46.5	
	comp=Z,1μm,19.2s,MS4.5,baz=50,slow=38						
ASPA	Alice Springs	24.25	220	eP	P	22 53 27.9	+0.7
ARMA	Armidale	24.79	178	eP	P	22 53 32.6	+0.5
FITZ	Fitzroy Crossi	27.50	241	eP	P	22 53 55.8	-0.8
	comp=Z,100nm,0.8s,mb5.5						
FITZ				e	pP	22 54 05.9	-1.1
FITZ				eS	S	22 58 41.2	+6.2
FITZ	Fitzroy Crossi	27.50	241	P	P	22 53 56.0	-0.6
	comp=Z,64nm,0.9s,mb5.3,baz=58,slow=13,SNR=31						
FITZ				LR	LR	23 06 20.4	
	comp=Z,956nm,19.5s,MS4.4,baz=246,slow=40						
STKA	Stephens Creek	27.58	197	eP	P	22 53 56.9	-0.4
	comp=Z,10nm,0.9s,mb4.5						
STKA				eS	S	22 58 33.7	-2.6
STKA	Stephens Creek	27.58	197	P	P	22 53 57.0	-0.4
	comp=Z,10nm,0.9s,mb4.5,baz=348,slow=8.2,SNR=8.2						
STKA				LR	LR	23 05 12.8	
	comp=Z,3μm,18.7s,MS4.9,baz=12,slow=37						
STKA	Stephens Creek	27.58	197	eP	P	22 53 56.8	-0.5
FORT	Forrest	32.94	218	eP	P	22 54 44.5	-0.2
	comp=Z,31nm,0.6s,mb5.4						
MBWA	Marble Bar	33.82	240	eP	P	22 54 51.8	-0.5
	comp=Z,43nm,0.8s,mb5.4						
TAU	Tasmania Unive	37.36	184	eP	P	22 55 24.2	+1.5
KLBR	Kellerberrin	40.32	226	eP	P	22 55 46.5	-1.0
	comp=Z,44nm,1.0s,mb5.1						
NACB	Ninganchiao	40.94	317	P	P	22 55 52.0	-0.7
KSM	Kuching	40.95	279	eP	P	22 55 53.6	+0.9
YHNB	Yeheng	41.42	318	eP	P	22 55 58.0	+1.4
MUN	Mundaring	41.63	226	eP	P	22 55 57.3	-1.0
MJAR	Matsushiro Arr	43.44	345	P	P	22 56 11.4	-1.6
	comp=Z,5.7nm,1.0s,mb4.3,baz=167,slow=8.8,SNR=12						
INCN	Inchon	48.31	334	P	P	22 56 52.2	+0.9
	comp=Z,67nm,1.0s,mb5.6						
KULM	Kulim	51.13	281	eP	P	22 57 12.8	0.0
TIA	Tai'an	52.09	325	eP	P	22 57 19.0	-1.0
MDJ	Mudanjiang	53.39	341	P	P	22 57 29.0	-0.6
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.7s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,127nm,5.1s						
CN2	Changchun	54.13	338	eP	P	22 57 34.9	-0.1
BJI	Beijing	55.37	328	P	P	22 57 43.9	-0.1
BJI				S	S	23 05 31.3	+5.5
BJI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.7						
BJI				LR	LR		
	comp=N,354nm,15.6s,MS4.7						
BJI				LR	LR		
	comp=E,451nm,20.1s,MS4.7						
BJI				LR	LR		
	comp=Z,669nm,24.0s,MS4.6						
KMI	Kunming	55.68	305	P	P	22 57 49.1	+2.8
KMI				AP	pP	22 57 58.3	+1.1
KMI				XP	sP	22 58 04.6	+3.1
KMI				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
KMI				AMB	AMB		
	comp=Z,313nm,5.3s						
KMI				LR	LR		
	comp=N,286nm,19.9s,MS4.6						
KMI				LR	LR		
	comp=E,420nm,24.1s,MS4.6						
KLR	Kul'dur	56.97	345	eP	P	22 57 51.8	-3.6
PPT	Papeete	59.49	107	eLR	LR	23 15 31.6	
	comp=E,455nm,25.0s						
TBI	Tubuai	60.16	114	eS	S	23 06 30.2	+1.6
	comp=E,304nm,30.5s						
TBI				eLQ		23 13 54.7	
	comp=E,2μm,33.2s						
TBI				eLR	LR	23 16 11.4	
	comp=E,664nm,32.2s						
LZH	Lanzhou	60.31	317	eP	P	22 58 20.0	+1.3
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,114nm,6.8s						
LZH				LR	LR		
	comp=N,467nm,16.3s						
LZH				LR	LR		
	comp=Z,798nm,18.5s,MS4.9						
HIA	Hailar	60.86	337	eP	P	22 58 21.9	-0.5
HIA				pmax	pmax		
	comp=Z,30nm,1.1s						
HIA	Hailar	60.86	337	eP	P	22 58 21.9	-0.5
	comp=Z,30nm,1.1s,mb5.3						
GTA	Gaotai	64.79	318	eP	P	22 58 50.3	+1.8
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.3						
ULN	Ulaanbaatar	65.52	329	eP	P	22 58 54.5	+1.2
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
ULN	Ulaanbaatar	65.52	329	eP	P	22 58 54.5	+1.2
	comp=Z,5.7nm,1.0s,mb4.6						
SONM	Songino Array	65.84	329	P	P	22 58 56.5	+1.2
	comp=Z,6.5nm,1.0s,mb4.6,baz=138,slow=6.5,SNR=25						
TAOE	Nuku Hiva Isla	68.59	97	eLR	LR	23 20 09.0	
	comp=Z,1μm,26.2s						
ZAK	Zakamensk	69.04	330	eP	P	22 59 15.6	0.0
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
BOD	Bodaibo	69.73	340	eP	P	22 59 17.4	-2.5
BOD				pmax	pmax		
	comp=Z,4.0nm,1.9s,mb4.0						
VNDA	Vanda	72.20	177	P	P	22 59 34.7	-0.2
	comp=Z,2.3nm,0.8s,mb4.1,baz=336,slow=7.5,SNR=11						
VNDA	Vanda	72.20	177	eP	P	22 59 34.9	0.0
VNDA				e*PP	pP	22 59 45.3	-0.9
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VNDA	Vanda	72.20	177	eP	P	22 59 34.9	0.0
	comp=Z,3.9nm,1.0s,mb4.3						
VNDA				epP	pP	22 59 45.3	-0.9
MIR	Mirnyy	72.52	201	eP	P	22 59 37.5	+0.7
MIR				pmax	pmax		
	comp=Z,110nm,1.0s,mb5.7						
SBA	Scott Base	72.79	176	eP	P	22 59 40.3	+2.0
WMQ	Urumqi	74.87	318	eP	P	22 59 51.3	+0.8
MKAR	Makanchi Array	79.51	319	P	P	23 00 16.9	+0.4
	comp=Z,0.8nm,0.8s,baz=124,slow=4.2,SNR=4.4						
MKAR				PP	PP	23 03 15.8	-1.3
	comp=Z,1.9nm,0.9s,baz=104,slow=10,SNR=6.9						
MKAR	Makanchi Array	79.51	319	P	P	23 00 16.9	+0.4
MKAR				PP	PP	23 03 15.8	-1.3
KURK	Kurchatov	83.06	322	eP	P	23 00 34.4	-1.0
KURK				e*PP	pP	23 00 47.9	+1.1
KURK				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.8						
KURK	Kurchatov	83.06	322	eP	P	23 00 34.4	-1.0
	comp=Z,15nm,1.4s,mb4.8						
KURK				epP	pP	23 00 47.9	+1.1
AAK	Ala-Archa	83.65	314	eP	P	23 00 38.4	0.0
MAW	Mawson	84.12	203	P	P	23 00 39.9	-0.9
	comp=Z,2.9nm,0.8s,mb4.5,baz=115,slow=7.3,SNR=5.4						
MAW	Mawson	84.12	203	eP	P	23 00 40.3	-0.6
QSPA	South Pole Qui	84.45	180	eP	P	23 00 42.0	-0.5
	comp=Z,6.5nm,0.7s,mb4.9						
BRVK	Borovoye	88.64	323	eP	P	23 01 01.0	-2.0
ZRNK	Zerenda	89.38	323	eP	P	23 01 06.3	-0.1
ABKT	Ailbek	95.40	307	P	P	23 01 41.5	+7.2
	comp=Z,201nm,0.5s,SNR=11						
GERES	GERESS Array B	123.55	327	PKP	PKPdf	23 07 08.6	+1.5
	comp=Z,0.4nm,0.6s,baz=96,slow=2.7,SNR=5.3						
LPAZ	La Paz	135.88	120	PKP	PKPdf	23 07 32.6	+2.1
	comp=Z,2.5nm,0.8s,baz=73,slow=2.5,SNR=8.6						
TORD	Torodi Ar. Bea	148.53	286	PKPbc	PKPbc	23 07 56.0	-0.6
	comp=Z,1.4nm,0.6s,baz=41,slow=2.7,SNR=7.4						
TORD	Torodi Ar. Bea	148.53	286	PKPbc	PKPbc	23 07 56.0	-0.6
BDFB	Brasilia	151.97	139	PKPbc	PKPbc	23 08 05.8	+1.0
	comp=Z,6.3nm,0.9s,baz=143,slow=1.4,SNR=5.8						

NEIC ***13*** *22:51:53.2,36.34S×73.38W,h23^{km},ML4.0(GUC),After GUC.*

GUC 13 22:51:53.2±0.7**,36.34S**×**73.38W,h23**^{km}±7^{km}**,ML4.0, 3C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNCO	Chanco	0.92	49	⇓iP	Pb	22 52 09.8	-0.6
CNCO				i S	Sb	22 52 21.8	-0.4
CNCO				AML	AML	22 52 23.9	
	comp=N,12μm,0.4s						
CNCO	Chanco	0.92	49	⇓iP	Pb	22 52 09.8	-0.6
CNCO				i S	Sb	22 52 21.8	-0.4
LNCH	Linares	1.52	72	i P	Pn	22 52 19.1	+0.1
LNCH				i S	Sn	22 52 38.9	+0.8
LNCH				AML	AML	22 52 47.5	
	comp=N,3μm,0.8s						
LNCH	Linares	1.52	72	i P	Pn	22 52 19.1	+0.1
LNCH				i S	Sn	22 52 38.9	+0.8
TALC	Talca	1.71	57	⇑iP	Pn	22 52 21.8	+0.4
TALC				i S	Sn	22 52 44.0	+1.5
TALC				AML	AML	22 52 45.8	
	comp=E,3μm,0.4s						
TALC	Talca	1.71	57	⇑iP	Pn	22 52 21.8	+0.4
TALC				i S	Sn	22 52 44.0	+1.5
NICH	Los Niches	2.21	53	⇑iP	Pn	22 52 30.0	+1.7
SFDO	San Fernando	2.59	49	eP	Pn	22 52 34.9	+1.2
CICH	Cipreses	3.15	51	eP	Pn	22 52 42.7	+1.3
CACH	El Canelo	3.18	47	eP	Pn	22 52 43.6	+1.8
CHCH	Chadas Angostu	3.28	44	⇓iP	Pn	22 52 44.2	+1.0
PLCA	Paso Flores	4.91	154	ePn	Pn	22 53 05.8	+0.2
CPUP	Villa Florida	16.94	58	ePn	Pn	22 55 48.4	-0.2
NNA	Nana	24.45	352	P	P	22 57 09.2	-0.9
SAML	Samuel	28.81	21	P	P	22 57 49.3	-0.1

ISCJB ***13*** *23:12:35.0±0.7,44.06N±0.03×7.06E±0.05,h9^{km}±8^{km},Error ellipse: s-maj=6.2km s-min=4.6km az=102.4*

STR ***13*** *23:12:34.1±0.6,44.09N×7.03E,h5^{km}±1^{km},Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***13*** *23:12:35.7±0.2,44.04N×7.13E,h2^{km},Ml1.6/2,Error ellipse: s-maj=3.1km s-min=2.6km az=68.0*

ISC 13 23:12:35.3±0.8**,44.06N**±0.03×**7.09E**±0.05**,h13**^{km}±7^{km}**,n9, σ0**^{s}**62**/18**,Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TOUF	Mont Tournerai	0.12	112	Pg	Pg	23 12 37.9	-0.6
TOUF				Sg	Sg	23 12 40.8	0.0
MVIF	Mont Vial	0.17	165	Pg	Pg	23 12 38.6	-0.6
MVIF				Sg	Sg	23 12 42.1	+0.2
LUCF	Luceram	0.25	132	Pg	Pg	23 12 40.8	+0.3
LUCF				Sg	Sg	23 12 45.1	+1.0
SBF	Sospel	0.32	128	ePg	Pg	23 12 41.4	-0.3
SBF				eSg	Sg	23 12 45.7	-0.4
	3.8nm,0.2s						
FRF	La Foret Royal	0.59	213	ePg	Pg	23 12 46.5	-0.4
FRF				eSg	Sg	23 12 54.7	0.0
	0.7nm,0.2s						
MBDF	Montbardon	0.71	341	ePg	Pg	23 12 49.9	+0.9
MBDF				eSg	Sg	23 12 58.2	-0.1
	1.7nm,0.3s						
LMR	La Mourre	0.84	210	ePg	Pg	23 12 51.5	-0.1
LMR				eSg	Sg	23 13 02.2	-0.3
	1.4nm,0.2s						
LMR				eSn	Sn	23 13 05.2	+0.1
SMRF	Simiane la Rot	1.10	266	ePg	Pg	23 12 57.2	+0.7
SMRF				eSg	Sg	23 13 11.9	+1.1
	1.1nm,0.3s						
VIVF	Saint-Julien-l	1.91	296	eSg	Sg	23 13 35.2	-1.5
	1.6nm,0.3s						

IDC 13 23:13:59.5±21.0**,18.48N**×**144.98E,h546**^{km}±269^{km}**, mb2.8**/4**,mb1 3.1**/4**,mb1mx2.8**/17**,mbtmp3.7**/4**,Error ellipse: s-maj=89.8km s-min=31.8km az=51.0,Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	39.58	196	P	P	23 20 44.0	+0.1
	0.4nm,0.6s,baz=17,slow=9.0,SNR=5.1						
MKAR	Makanchi Array	58.12	314	P	P	23 23 01.0	0.0
	0.2nm,0.2s,baz=82,slow=8.6,SNR=3.2						
NVAR	Mina Array Bea	83.81	52	P	P	23 25 32.1	+0.5
	0.6nm,0.6s,baz=275,slow=4.2,SNR=5.5						
FINES	FINESS Array B	86.80	335	P	P	23 25 45.6	-0.4
	0.5nm,0.5s,baz=37,slow=7.1,SNR=5.5						

CSEM ***13*** *23:15:14.9±0.0,38.31N×27.79E,h2^{km},MD3.3,Error ellipse: s-maj=1.1km s-min=0.9km az=86.0*

ISK ***13*** *23:15:15.5,38.33N×27.79E,h8^{km},MD3.3*

ISCJB ***13*** *23:15:16.1±0.3,38.33N±0.02×27.78E±0.02,h8^{km},Error ellipse: s-maj=2.9km s-min=2.7km az=32.7*

ATH ***13*** *23:15:25.7,38.69N×25.17E,h10^{km},MD3.4/3*

ISC 13 23:15:15.9±0.5**,38.32N**±0.02×**27.79E**±0.03**,h1**^{km}±5^{km}**,n47, σ0**^{s}**80**/62**,Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KDAG	Bornova	0.42	282	i P	Pg	23 15 24.1	+0.1
KDAG				i S	Sg	23 15 29.6	+0.2
KDAG	Bornova	0.42	282	i P	Pg	23 15 24.0	0.0
IZM	Izmir	0.42	281	i PG	Pg	23 15 24.1	+0.1
IZM				i SG	Sg	23 15 29.9	+0.4
AKHS	Akhisar	0.56	2	i P	Pg	23 15 25.7	-0.9
AKHS				i S	Sg	23 15 33.3	-0.6
AKS	Akhisar	0.56	2	i PG	Pg	23 15 25.8	-0.9
BLCB	Balcova	0.59	277	i PG	Pg	23 15 27.1	-0.2
BLCB				i SG	Sg	23 15 36.1	+1.1
AYDN	Tasoluk	0.66	174	i P	Pg	23 15 28.9	+0.4
AYDN				i S	Sg	23 15 41.8	+4.8
URLA	Izmir	0.94	273	i P	Pg	23 15 34.8	+0.8
URLA				i S	Sg	23 15 45.6	-0.6
MLSB	Milas	1.02	181	i PG	Pg	23 15 35.6	+0.2
DENT	Denizli	1.13	119	PN	Pn	23 15 37.0	-1.8
DNZL	Cakiroluk	1.17	122	i P	Pg	23 15 37.7	-0.6
DNZL				i S	Sg	23 15 55.0	+1.5
YER	Yerkesik	1.24	162	PN	Pn	23 15 39.8	-0.5
BDRM	Kayabasi	1.28	193	i P	Pg	23 15 39.5	-0.9
BDRM				i S	Sg	23 15 56.4	-0.6
BODT	Bodrum	1.31	197	PN	Pn	23 15 40.9	-0.4
AYVA	Ayvalik	1.31	319	i P	Pg	23 15 40.5	-0.5
AYVA				i S	Sg	23 15 58.3	+0.2
KHL	Karahalli	1.36	89	PN	Pn	23 15 41.3	-0.7
DST	Dursunbey	1.44	27	PN	Pn	23 15 42.0	-1.1
BTOK	Tokmak	1.46	7	i P	Pn	23 15 41.0	-2.2
BTOK				i S	Sn	23 15 56.1	-6.9
PRK	Paraskevi	1.51	308	ePB	Pb	23 15 45.0	+0.4
GDZ	Gediz	1.53	59	i P	Pn	23 15 43.3	-1.0
GDZ				i S	Sn	23 16 02.2	-2.6
DAT	Datca	1.59	186	ePN	Pn	23 15 44.9	-0.3
DALT	Dalyan (Mudla)	1.68	156	ePN	Pn	23 15 46.6	+0.2
CANB	Canakkale	1.79	342	ePN	Pn	23 15 47.6	-0.3
EZN	Ezine	1.89	323	ePN	Pn	23 15 49.8	+0.5
ORLT	Orhaneli	1.93	26	ePN	Pn	23 15 49.8	0.0
ALT	Altintas	1.96	67	ePN	Pn	23 15 50.3	+0.1
FETY	Fethiye	1.97	148	ePN	Pn	23 15 50.3	0.0
KCT	Karacabey	2.00	12	ePN	Pn	23 15 51.1	+0.4
TKTP	Tekketepe	2.01	97	i P	Pb	23 15 53.9	+0.7
TKTP				i S	Sb	23 16 23.2	+4.5
EDC	Edincik	2.03	2	ePN	Pn	23 15 50.8	-0.4
BNT	Bandirma	2.04	3	ePN	Pn	23 15 50.7	-0.6
ULDT	Uludag	2.10	29	i P	Pn	23 15 53.5	+1.4
ULDT				i S	Sn	23 16 19.6	+0.7
ULDT	Uludag	2.10	29	i P	Pn	23 15 53.5	+1.3
ULDT				i S	Sn	23 16 19.6	+0.7
APE	Apeiranthos	2.18	236	ePB	Pb	23 15 56.7	+0.5
ELL	Elmali	2.30	132	ePN	Pn	23 15 55.4	+0.5
GEMT	Gemlik	2.38	27	ePN	Pn	23 15 56.3	+0.4
GADA	Gvkgeada	2.38	322	ePN	Pn	23 15 56.3	+0.3
MFT	Murefte	2.50	351	ePN	Pn	23 15 58.1	+0.5
YLV	Yalova	2.56	28	ePN	Pn	23 15 59.0	+0.5
ADVT	Abdulvahap	2.60	35	ePN	Pn	23 15 59.5	+0.5
ESKT	Eskisehir	2.67	62	i P	Pb	23 16 04.7	+0.3
ESKT				i S	Sb	23 16 40.6	+2.9
ENEZ	Enez	2.73	333	ePN	Pn	23 16 00.9	+0.1
GPA	Golpazari	2.77	44	ePN	Pn	23 16 01.8	+0.4
HRT	Hereke	2.89	29	ePN	Pn	23 16 03.6	+0.6
ISK	Istanbul-Kandi	2.92	19	ePN	Pn	23 16 04.1	+0.8
RDO	Rodhopi	3.32	329	ePN	Pn	23 16 08.3	-0.6
MDU	Mudurnu	3.41	50	ePN	Pn	23 16 11.0	+0.8

IDC 13 23:25:26.4±40.0**,23.72S**×**177.89E,h700**^{km}±357^{km}**, mb3.6**/3**,mb1 3.8**/3**,mb1mx3.1**/12**,mbtmp4.9**/3**,Error ellipse: s-maj=410.7km s-min=124.7km az=110.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	29.54	271	eP	P	23 30 40.3	+0.5
	11nm,0.4s						
CTA	Charters Tower	29.54	271	P	P	23 30 40.5	+0.8
	15nm,0.5s,baz=96,slow=10,SNR=32						
ASAR	Alice Springs	40.16	261	P	P	23 32 06.7	+0.2
	6.9nm,0.8s,baz=96,slow=7.9,SNR=51						
WB2	Warramunga Arr	40.48	267	eP	P	23 32 08.8	-0.3
WRA	Warramunga Arr	40.49	267	P	P	23 32 09.0	-0.2
	7.4nm,0.6s,baz=102,slow=8.0,SNR=31						
FORT	Forrest	44.56	250	eP	P	23 32 39.3	-1.2
	17nm,0.6s						
FITZ	Fitzroy Crossi	48.91	266	eP	P	23 33 13.5	+0.7
	8.4nm,0.7s						
BRTR	Keskin Array B	145.93	306	PKPbc	PKPbc	23 43 50.5	-0.2
	0.7nm,0.6s,baz=91,slow=4.1,SNR=4.8						

IDC ***13*** *23:48:47.1±2.8,20.82S×174.00W,h0^{km},mb3.9/5, mb1 4.2/5,mb1mx4.0/14,mbtmp3.9/5,MS3.0/2,Ms1 3.0/2, ms1mx2.8/24,Error ellipse: s-maj=177.3km s-min=23.5km az=150.0*

ISCJB ***13*** *23:48:50.7±0.9,20.8S±0.2×174.1W±0.2,h33^{km},mb3.9/6, Error ellipse: s-maj=31.7km s-min=18.2km az=127.8*

NEIC ***13*** *23:48:52.4±0.5,20.79S×174.02W,h35^{km},mb4.2/1,Error ellipse: s-maj=21.3km s-min=11.6km az=149.0*

ISC 13 23:48:52.7±0.9**,20.8S**±0.2×**174.0W**±0.2**,h35**^{km}**,n16, σ0**^{s}**52**/12**,mb3.9**/6**,Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.20	17	Sn	Sn	23 51 45.2	-11
	10nm,0.3s,baz=52,slow=22,SNR=2.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AFI				LR	LR	23 52 07.1	
	comp=Z,54nm,20.0s,baz=122,slow=28						
RAR	Rarotonga	13.28	94	Pn	Pn	23 51 50.2	-8.5
	3.1nm,0.3s,baz=234,slow=9.2,SNR=5.1						
RAR				LR	LR	23 55 47.4	
	comp=Z,135nm,19.4s,baz=278,slow=32						
CTAO	Charters Tower	37.19	264	eP	P	23 56 01.5	+1.1
TAU	Tasmania Unive	39.08	227	eP	P	23 56 16.0	-0.3
PMG	Port Moresby	39.09	281	P	P	23 56 15.8	-0.6
STKA	Stephens Creek	41.04	245	P	P	23 56 32.5	0.0
	1.7nm,0.8s,mb3.7,baz=96,slow=9.2,SNR=3.0						
ASAR	Alice Springs	48.09	256	P	P	23 57 28.9	+0.1
	1.1nm,0.7s,mb4.0,baz=98,slow=7.5,SNR=11						
WRA	Warramunga Arr	48.27	261	P	P	23 57 29.7	-0.6
	0.5nm,0.7s,mb3.7,baz=94,slow=7.8,SNR=5.5						
MBWA	Marble Bar	61.44	257	eP	P	23 59 05.6	+0.2
QSPA	South Pole Qui	69.24	180	eP	P	23 59 56.0	+0.1
	2.4nm,1.0s,mb4.1						
NVAR	Mina Array Bea	78.74	41	P	P	00 00 52.1	+0.6
	1.8nm,0.7s,mb4.1,baz=215,slow=6.8,SNR=13						
PDAR	Pinedale Array	86.67	42	P	P	00 01 32.1	-0.6
	0.3nm,0.7s,mb3.6,baz=277,slow=1.5,SNR=3.5						
AKASG	Malin Array Be	145.04	334	PKPbc	PKPbc	00 08 25.0	-0.6
	4.1nm,0.6s,baz=39,slow=4.2,SNR=18						
BRTR	Keskin Array B	149.79	315	PKPbc	PKPbc	00 08 39.0	+0.1
	1.0nm,0.9s,baz=116,slow=5.6,SNR=6.0						
KHC	Kasperske Hory	151.13	350	ePKP	PKPdf	00 08 42.0	+5.8
GERES	GERESS Array B	151.38	349	PKPbc	PKPbc	00 08 42.8	+0.1
	0.6nm,0.6s,baz=45,slow=2.3,SNR=7.2						

KRSC 14 00:07:40, 5390N×16162E, h17km, ML3.8, Off east coast of Kamchatka Peninsula

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IDC 14 00:13:39.1±0.9, 3179S×17851W, h0km, mb4.2/5, mb1 4.5/6, mb1mx4.3/13, mbtmp4.3/6, ML4.6/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/25, Error ellipse: s-maj=28.2km s-min=25.7km az=139.0

ISCJB 14 00:13:43.2±0.7, 3205S±004×1787W±0.1, h33km, mb4.5/14, MS3.9/5, Error ellipse: s-maj=16.6km s-min=5.6km az=23.0

NEIC 14 00:13:49.0±1.4, 3158S×17879W, h62km±13km, mb4.7/11, Error ellipse: s-maj=14.8km s-min=10.5km az=114.0

BJI 14 00:13:49.5, 3189S×17839W, h76km, mB5.0, mb4.9, Ms5.1, Msz4.7

ISC 14 00:13:45.4±0.7**, 3213S**±005×**1788W**±01**, h35km, n63, σ1^{s}66**/58**, mb4.5**/14**, MS3.9**/5**, 4C, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.97	15	ePn	Pn	00 14 27.4	-2.6
RAO				eSn	Sn	00 14 54.5	-10
MXZ	Matakaoa Point	5.92	203	PN	Pn	00 15 14.6	+4.1
PUZ	Puketiti	6.40	201	PN	Pn	00 15 21.6	+4.4
PUZ				SN	Sn	00 16 31.7	+2.7
WCZ	Waipu Caves	6.84	234	PN	Pn	00 15 31.1	+7.9
MWZ	Matawai	6.88	205	PN	Pn	00 15 24.6	+0.8
MWZ				SN	Sn	00 16 46.0	+5.2
URZ	Urewera	6.97	208	Pn	Pn	00 15 26.2	+1.2
	10nm,0.3s,baz=303,slow=1.6,SNR=37						
URZ				Sn	Sn	00 16 47.8	+4.8
	16nm,0.3s,baz=106,slow=24,SNR=8.7						
URZ	Urewera	6.97	208	PN	Pn	00 15 25.7	+0.7
URZ				SN	Sn	00 16 46.2	+3.2
KNZ	Kokohu	7.45	202	PN	Pn	00 15 31.4	-0.2
WNVZ	Wahianoa	8.50	211	PN	Pn	00 15 49.2	+3.2
MRZ	Mangatainoka R	9.64	206	PN	Pn	00 15 59.5	-2.2
MRZ				SN	Sn	00 17 44.3	-4.4
KIW	Kapiti Island	10.07	208	PN	Pn	00 16 05.9	-1.7
KIW				SN	Sn	00 17 56.4	-2.9
SNZO	South Karori	10.54	208	P	Pn	00 16 22.5	+8.6
TCW	Tory Channel	10.63	210	SN	Sn	00 18 08.3	-4.6
TUWZ	Tuamarina	10.95	210	PN	Pn	00 16 17.5	-2.0
TUWZ				SN	Sn	00 18 16.3	-4.4
NNZ	Nelson	11.03	212	PN	Pn	00 16 18.7	-1.9
NNZ				SN	Sn	00 18 19.8	-2.8
QRZ	Quartz Range	11.13	216	SN	Sn	00 18 23.0	-2.1
BSWZ	Blackbirch Sta	11.21	209	SN	Sn	00 18 23.1	-4.1
MQZ	McQueen's Vall	13.37	208	SN	Sn	00 19 09.0	-11
WVZ	Waitaha Valley	13.70	214	SN	Sn	00 19 18.7	-9.4
AFI	Afiamalu	19.24	21	eP	Pn	00 18 02.4	-5.4
	19nm,0.3s						
RAR	Rarotonga	20.15	62	LR	LR	00 23 54.5	
	comp=Z,116nm,21.3s,MS3.2,baz=202,slow=31						
TAU	Tasmania Unive	28.77	238	P	P	00 19 43.7	+4.0
HNR	Honiara	29.96	314	eP	P	00 19 48.1	-2.2
CTA	Charters Tower	33.45	282	⇑iP	P	00 20 23.0	+2.1
	9.6nm,0.6s,mb4.9						
CTAO	Charters Tower	33.45	282	eP	P	00 20 24.5	+3.6
	6.0nm,0.6s,mb4.7						
STKA	Stephens Creek	33.45	260	⇑iP	P	00 20 24.3	+3.3
	1.7nm,0.6s,mb4.2						
STKA	Stephens Creek	33.45	260	P	P	00 20 24.0	+3.0
	1.6nm,0.4s,mb4.3,baz=112,slow=11,SNR=7.4						
STKA				LR	LR	00 31 51.6	
	comp=Z,115nm,19.5s,MS3.6,baz=198,slow=32						
PMG	Port Moresby	38.77	298	eP	P	00 21 04.4	-2.1
	4.2nm,0.3s,mb4.7						
AS31	Alice Springs	42.36	269	eP	P	00 21 37.4	+1.3
ASAR	Alice Springs	42.36	269	P	P	00 21 36.8	+0.7
	5.7nm,0.5s,mb4.5,baz=104,slow=7.5,SNR=70						
ASAR				LR	LR	00 38 28.6	
	comp=Z,90nm,18.5s,MS3.7,baz=166,slow=35						
ASPA	Alice Springs	42.37	269	eP	P	00 21 37.2	+1.0
WB2	Warramunga Arr	43.50	274	⇑iP	P	00 21 45.4	+0.1
WB2	Warramunga Arr	43.50	274	eP	P	00 21 45.7	+0.3
WRAB	Tennant Creek	43.50	274	eP	P	00 21 45.5	+0.1
	12nm,0.6s,mb4.8						
WRA	Warramunga Arr	43.51	274	P	P	00 21 45.8	+0.4
	8.9nm,0.4s,mb4.8,baz=112,slow=8.0,SNR=161						
SBA	Scott Base	46.27	184	eP	P	00 22 13.2	+5.8
	1.4nm,0.6s,mb4.1						
VNDA	Vanda	46.31	186	P	P	00 22 10.1	+2.4
	0.5nm,0.6s,mb3.6,baz=28,slow=5.2,SNR=4.8						
VNDA				LR	LR	00 39 13.0	
	comp=Z,79nm,20.3s,MS3.7,baz=316,slow=33						
VNDA	Vanda	46.31	186	eP	P	00 22 13.7	+5.9
VNDA				LR	LR	00 39 13.0	
KAKA	Kakadu	48.58	282	eP	P	00 22 25.1	-0.3
	10nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	51.70	272	eP	P	00 22 49.0	+0.1
	7.0nm,1.6s,mb4.3						
NWAO	Narrogin (SRO)	53.16	251	eP	P	00 23 03.9	+4.0
CASY	Casey	53.30	208	eP	P	00 23 00.8	0.0
	4.4nm,0.5s,mb4.6						
MBWA	Marble Bar	55.37	265	P	P	00 23 17.7	+1.8
QSPA	South Pole Qui	57.98	180	eP	P	00 23 36.6	+2.1
SYO	Syowa Base	75.28	193	⇑eX		00 25 24.2	
SNAA	Sanae	76.45	179	eP	P	00 25 35.9	+4.5
	1.8nm,0.3s,mb4.5						
NVAR	Mina Array Bea	89.97	43	P	P	00 26 38.9	-2.2
	0.6nm,0.8s,mb4.0,baz=237,slow=10,SNR=3.9						
NVAR	Mina Array Bea	89.97	43	P	P	00 26 38.9	-2.2
ENH	Enshi	92.01	305	eP	P	00 26 51.2	+0.6
BJT	Baijiatuau	93.67	316	eP	P	00 26 57.7	-0.6
	3.8nm,0.3s,mb5.3						
HHC	Hu-ho-hao-te	96.94	314	eP	P	00 27 14.5	+1.3
HHC				LR	LR		
	comp=N,437nm,11.6s,MS5.3						
HHC				LR	LR		
	comp=E,371nm,12.2s,MS5.3						
HHC				LR	LR		
	comp=Z,407nm,17.3s						
WMQ	Urumqi	113.75	308	PKP	PKiKP	00 32 20.8	+0.6
BRVK	Borovoye	127.21	315	ePKPdf	PKPdf	00 32 47.4	+1.4
ARCES	ARCESS Array B	140.12	347	PKhKP		00 33 01.7	
	comp=Z,1.7nm,0.8s,baz=46,slow=5.2,SNR=9.0						
ARCES				PKP	PKPdf	00 33 07.4	-2.8
	comp=Z,2.6nm,0.8s,baz=45,slow=2.8,SNR=4.4						
JOF	Joensuu	143.75	337	ep	PKPdf	00 33 10.0	-6.7
KAF	Kangasniemi	145.93	339	ep	PKPdf	00 33 17.1	-3.4
FINES	FINESS Array B	146.51	339	PKPbc	PKPbc	00 33 20.1	-2.8
	comp=Z,2.5nm,0.4s,baz=56,slow=4.0,SNR=56						
NB2	NORSAR Subarra	150.34	350	PKP	PKPdf	00 33 29.9	+2.2
	comp=Z,1.1nm,0.5s,baz=16,slow=2.5						
NOA	NORSAR Array B	150.34	350	PKPbc	PKPbc	00 33 30.5	-2.5
	comp=Z,1.5nm,0.5s,baz=14,slow=4.1,SNR=6.0						
AKASG	Malin Array Be	152.22	320	PKPbc	PKPbc	00 33 37.0	-0.3
	comp=Z,0.8nm,0.4s,baz=48,slow=2.9,SNR=4.4						
BRTR	Keskin Array B	152.77	295	PKPbc	PKPbc	00 33 36.8	-1.7
	comp=Z,0.6nm,0.5s,baz=126,slow=3.5,SNR=5.6						
BRTR				PKPab	PKPab	00 33 49.2	-0.2
	comp=Z,0.4nm,0.5s,baz=72,slow=4.0,SNR=4.1						
DBIC	Dimbokro	154.05	166	PKPbc	PKPbc	00 33 41.1	-0.2
	comp=Z,1.6nm,0.5s,baz=236,slow=3.6,SNR=4.2						
TORD	Torodi Ar. Bea	161.10	181	PKPab	PKPab	00 34 25.7	+0.4
	comp=Z,1.8nm,0.6s,baz=170,slow=4.0,SNR=15						

MEX 14 00:23:19.9±0.6**, 1622N×9757W, h7km±11km, MD3.7, Oaxaca**

MOS 14 00:37:23.3±0.9, 5397N×16169E, h11km, mb5.0/58, MS4.2/12, Error ellipse: s-maj=7.9km s-min=4.3km az=89.3

BJI 14 00:37:25.6, 5450N×16156E, h39km, mB5.1, mb4.8, Ms4.7, Msz4.5

KRSC 14 00:37:26, 5392N×16160E, h17km, ML5.3

ISCJB 14 00:37:27.6±0.1, 5394N±002×16163E±003, h42km, mb4.7/141, MS4.4/33, Error ellipse: s-maj=3.5km s-min=2.3km az=164.0

NEIC 14 00:37:29.4±0.1, 5398N×16160E, mb4.8/90, MS4.3/1, Error ellipse: s-maj=4.4km s-min=2.6km az=177.0

IDC 14 00:37:29.1±0.4, 5404N×16140E, h42km±3km, mb4.2/26, mb1 4.4/27, mb1mx4.4/29, mbtmp4.5/27, ML4.4/1, MS4.2/19, Ms1 4.2/19, ms1mx3.9/44, Error ellipse: s-maj=13.4km s-min=9.4km az=151.0

SZGRF 14 00:37:36.6, 55.17N×15959E, h33km, mb4.9, Kamchatka Peninsula, Russia

ISC 14 00:37:29.4±0.1**, 5400N**±003×**16153E**±003**, h44km**±**.5km:pP-P, n549, σ0^{s}83**/549**, mb4.7**/141**, MS4.3**/33**, 78C-66D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.57	12	P	Pn	00 37 38.2	-3.0
MKZ				S	Sn	00 37 46.4	-3.1
KII	Karymskiy	1.23	272	P	Pn	00 37 49.3	-0.8
SPN	Mys Shipunski	1.28	225	P	Pn	00 37 48.0	-2.7
NLC	Nalytchevo	1.54	238	P	Pn	00 37 52.4	-2.0
NLC				S	Sn	00 38 11.4	-1.9
PET	Petropavlovsk	1.98	241	P	Pn	00 37 59.1	-1.3
PET				S	Sn	00 38 23.3	-0.6
PET	Petropavlovsk	1.98	241	ePn	Pn	00 37 59.0	-1.3
PET				eSn	Sn	00 38 17.8	-6.1
KOZ	Kozyrevsk	2.27	336	P	Pn	00 38 05.9	+1.5
KOZ				S	Sn	00 38 34.9	+3.7
KOZR	Kozyr	2.27	336	PN	Pn	00 38 05.9	+1.5
KOZR				S	Sn	00 38 34.9	+3.7
KBTR	Krutoberegovo	2.33	18	P	Pn	00 38 04.8	-0.4
KBTR				S	Sn	00 38 33.0	+0.3
KLY	Klyuchi	2.37	348	P	Pn	00 38 05.9	+0.1
KLY				S	Sn	00 38 34.9	+1.3
RUS	Russkaya	2.40	230	P	Pn	00 38 06.2	0.0
RUS				S	Sn	00 38 35.2	+0.9
SKR	Severo-Kuril's	4.70	227	ePN	Pn	00 38 32.7	-5.0
SKR				pmax	pmax		
	comp=Z,390nm,0.9s						
SKR				MLR	MLR		
	comp=N,3µm,16.0s						
SKR				MLR	MLR		
	comp=E,3µm,16.0s						
SKR				MLR	MLR		
	comp=Z,2µm,16.0s						
SMY	Shemya	7.63	95	ePN	Pn	00 39 14.4	-3.6
MA2	Magadan	8.12	318	cePN	Pn	00 39 28.2	+3.5
MA2				pmax	pmax		
	comp=N,30nm,0.8s						
MA2				pmax	pmax		
	comp=E,40nm,0.8s						
MA2				pmax	pmax		
	comp=Z,90nm,0.8s						
MA2				MLR	MLR		
	comp=Z,900nm,12.1s						
MA2	Magadan	8.12	318	ePn	Pn	00 39 28.1	+3.4
	comp=Z,77nm,0.9s						
UGL	Uglegorsk	13.06	256	ePN	Pn	00 40 39.5	+7.2
UGL				pmax	pmax		
	comp=Z,56nm,0.7s						
UGL				MLR	MLR		
	comp=Z,1µm,18.0s						
UGL				MLR	MLR		
	comp=N,500nm,17.0s						
UGL				MLR	MLR		
	comp=E,1µm,17.0s						
YSS	Yuzh-Sakhalins	13.86	247	eP	Pn	00 40 45.0	+1.9
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				MLR	MLR		
	comp=N,1µm,16.0s						
YSS				MLR	MLR		
	comp=E,1µm,16.0s						
YSS				MLR	MLR		
	comp=Z,2µm,16.0s						
YSS	Yuzh-Sakhalins	13.86	247	ePn	Pn	00 40 48.8	+5.8
	comp=Z,58nm,1.0s						
BILL	Bilibino	14.27	7	eP	Pn	00 40 55.8	+7.1
BILL	Bilibino	14.27	7	ePn	Pn	00 40 55.8	+7.1
ASAJ	Asahikawa	15.82	239	P	Pn	00 41 08.2	-0.9
	comp=Z,2.7nm,0.3s,baz=76,slow=12,SNR=15						
ASAJ				LR	LR	00 47 00.8	
	comp=Z,793nm,20.8s,baz=357,slow=36						
ASAJ	Asahikawa	15.82	239	P	Pn	00 41 08.2	-0.8
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,793nm,20.8s						
HABR	Khabarovsk	17.42	262	eP	Pn	00 41 31.7	+2.5
HABR				S	S	00 44 50.9	+2.1
HABR				pmax	pmax		
	comp=Z,136nm,1.7s						
HABR				MLR	MLR		
	comp=Z,964nm,13.8s						
YAK	Yakutsk	18.52	308	eP	Pn	00 41 42.4	-0.1
YAK				eS	S	00 45 10.1	-0.8
YAK				pmax	pmax		
	comp=E,14nm,1.0s						
YAK				pmax	pmax		
	comp=Z,35nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				smax			
	comp=N,5.0nm,0.7s						
YAK				smax			
	comp=Z,5.0nm,0.9s						
YAK				smax			
	comp=E,10.0nm,1.3s						
YAK				MLR	MLR		
	comp=Z,709nm,16.0s						
YAK				MLR	MLR		
	comp=N,246nm,14.0s						
YAK				MLR	MLR		
	comp=E,602nm,17.0s						
YAK	Yakutsk	18.52	308	ePn	Pn	00 41 42.3	-0.2
KLR	Kul'dur	19.02	268	eP	Pn	00 41 44.5	-4.1
KLR				pmax	pmax		
	comp=E,78nm,1.8s						
KLR				pmax	pmax		
	comp=Z,100nm,1.8s						
KLR				MLR	MLR		
	comp=E,900nm,16.0s						
KLR				MLR	MLR		
	comp=Z,1µm,16.0s						
TIXI	Tiksi	22.63	334	⇑eP	P	00 42 25.1	-1.4
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,800nm,20.0s,MS4.2						
MDJ	Mudanjiang	22.67	259	P	P	00 42 28.6	+1.8
MDJ				AP		00 42 31.6	
MDJ				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,111nm,6.5s						
MDJ				LR	LR		
	comp=N,660nm,16.2s,MS4.3						
MDJ				LR	LR		
	comp=E,433nm,14.6s,MS4.3						
MDJ				LR	LR		
	comp=Z,840nm,16.2s,MS4.3						
MDJ	Mudanjiang	22.67	259	eP	P	00 42 29.5	+2.6
	comp=Z,16nm,0.9s,mb4.5						
TTA	Tatalina	23.51	51	eP	P	00 42 34.4	-1.1
SVW2	Sparrevohn	23.71	55	eP	P	00 42 36.8	-0.4
MAJO	Matsushiro	23.78	232	eP	P	00 42 37.8	-0.1
MAJO				pmax	pmax		
	comp=Z,74nm,0.8s,mb5.2						
MAJO	Matsushiro	23.78	232	eP	P	00 42 37.8	-0.1
	comp=Z,74nm,0.8s,mb5.2						
MAT	Matsushiro	23.78	232	P	P	00 42 37.7	-0.2
MAT				S	S	00 46 53.0	+2.6
MAT	Matsushiro	23.78	232	eP	P	00 42 38.0	+0.1
MAT				pmax	pmax		
	comp=Z,61nm,0.9s,mb5.0						
MAT	Matsushiro	23.78	232	eP	P	00 42 38.0	+0.1
	comp=Z,61nm,0.9s,mb5.0						
MJAR	Matsushiro Arr	23.78	232	P	P	00 42 37.5	-0.5
	comp=Z,39nm,0.8s,mb4.9,baz=16,slow=12,SNR=71						
IMA2	Indian Mountai	24.79	43	eP	P	00 42 46.4	-0.7
CN2	Changchun	25.55	261	eP	P	00 42 52.5	-1.6
CN2				eS	S	00 47 24.3	+5.6
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,700nm,17.0s,MS4.5						
CN2				LR	LR		
	comp=E,1µm,17.0s,MS4.5						
CN2				LR	LR		
	comp=Z,1µm,17.0s,MS4.5						
KDAK	Kodiak Island	25.62	63	P	P	00 42 52.9	-1.8
	comp=Z,14nm,0.9s,mb4.5,baz=4.7,slow=3.5,SNR=11						
HIA	Hailar	26.08	277	eP	P	00 42 55.4	-3.4
HIA				pmax	pmax		
	comp=Z,20nm,0.8s						
HIA	Hailar	26.08	277	eP	P	00 42 55.4	-3.4
	comp=Z,20nm,0.8s,mb4.7						
BOD	Bodaibo	26.47	298	eP	P	00 42 59.9	-2.4
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
MCK	McKinley	26.71	49	eP	P	00 43 02.8	-1.7
MCK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.4						
MCK	McKinley	26.71	49	eP	P	00 43 02.8	-1.7
	comp=Z,12nm,1.0s,mb4.4						
COLA	College	27.15	46	d iP	P	00 43 07.4	-1.1
COLA	College	27.15	46	eP	P	00 43 07.9	-0.6
	comp=Z,10nm,1.1s,mb4.3						
SNY	Shenyang	27.85	260	⇑P	P	00 43 17.8	+3.1
SNY				AP	pP	00 43 23.5	-2.9
SNY				XP	sP	00 43 26.8	-4.8
SNY				PP	PP	00 44 08.8	-9.3
SNY				XS	sS	00 48 14.0	-0.5
SNY				SS		00 49 21.1	
SNY				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.7						
SNY				AMB	AMB		
	comp=Z,304nm,5.5s						
SNY				LR	LR		
	comp=N,832nm,18.8s						
SNY				LR	LR		
	comp=Z,885nm,17.3s,MS4.4						
DAWY	Dawson	30.87	47	eP	P	00 43 40.3	-1.2
DAWY				epP	pP	00 43 52.3	-1.0
INK	Inuvik	32.62	39	P	P	00 43 55.7	-1.2
	comp=Z,2.3nm,0.7s,mb4.2,baz=294,slow=5.2,SNR=5.2						
INK				pP	pP	00 44 08.6	-0.1
	comp=Z,5.4nm,0.7s,baz=284,slow=7.2,SNR=8.8						
INK				PcP	PcP	00 46 41.4	-0.9
	comp=Z,1.3nm,0.6s,baz=265,slow=7.0,SNR=3.3						
INK				LR	LR	00 58 06.3	
	comp=Z,157nm,21.9s,MS3.7,baz=83,slow=38						
INK	Inuvik	32.62	39	P	P	00 43 55.7	-1.2
INK						00 46 41.4	
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK				MLR	MLR		
	comp=Z,157nm,22.0s						
INK	Inuvik	32.62	39	eP	P	00 43 55.9	-1.0
	comp=Z,11nm,1.0s,mb4.7						
INK				e	pP	00 44 08.1	-0.6
BJI	Beijing	33.31	264	P	P	00 43 58.5	-4.4
BJI				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.7						
BJI				LR	LR		
	comp=N,915nm,16.0s,MS4.6						
BJI				LR	LR		
	comp=E,585nm,18.0s,MS4.6						
BJI				LR	LR		
	comp=Z,623nm,17.0s,MS4.4						
BJT	Baijiatuau	33.33	264	P	P	00 44 04.4	+1.3
SKAG	Skagway	33.88	55	eP	P	00 44 07.8	-0.1
	comp=Z,30nm,0.8s,mb5.3						
ULN	Ulaanbaatar	34.14	282	⇓eP	P	00 44 12.2	+2.1
SONM	Songino Array	34.53	283	P	P	00 44 11.4	-2.1
	comp=Z,1.6nm,0.7s,mb4.1,baz=56,slow=8.2,SNR=17						
SONM				PcP	PcP	00 46 48.3	+0.6
	comp=Z,1.2nm,0.7s,baz=92,slow=2.0,SNR=4.7						
SONM				ScP	ScP	00 50 30.5	+1.2
	comp=Z,1.7nm,1.0s,baz=95,slow=4.6,SNR=3.7						
SONM				LR	LR	00 59 42.5	
	comp=Z,737nm,18.2s,MS4.5,baz=59,slow=39						
SONM	Songino Array	34.53	283	P	P	00 44 11.4	-2.1
SONM						00 46 48.3	
SONM	Songino Array	34.53	283	P	P	00 44 11.4	-2.1
SONM				PcP	PcP	00 46 48.3	+0.6
SONM				ScP	ScP	00 50 30.5	+1.2
SONM				LR	LR	00 59 42.5	
ZAK	Zakamensk	35.02	288	eP	P	00 44 23.2	+5.5
HHC	Hu-ho-hao-te	35.52	269	eP	P	00 44 23.9	+1.9
HHC				AP	pP	00 44 36.8	+3.0
HHC				XP	sP	00 44 40.8	+1.8
HHC				PP	PP	00 45 45.5	+2.4
HHC				XS	sS	00 50 16.1	+1.9
HHC				SS	SS	00 52 13.1	-17
HHC				SCS	ScS	00 54 37.3	-0.2
HHC				AMB	AMB		
	comp=Z,11nm,0.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,184nm,4.7s						
HHC				LR	LR		
	comp=N,282nm,9.2s						
HHC				LR	LR		
	comp=E,382nm,6.7s						
HHC				LR	LR		
	comp=Z,426nm,13.1s,MS4.4						
MOY	Mondy	35.67	292	eP	P	00 44 28.7	+5.3
BTO	Baotou	36.58	270	eP	P	00 44 29.8	-1.3
SSE	Sheshan	36.79	248	P	P	00 44 30.9	-2.0
SSE				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,1µm,5.9s						
DLBC	Dease Lake	36.82	55	P	P	00 44 34.5	+1.4
	comp=Z,5.7nm,0.9s,mb4.4,baz=286,slow=14,SNR=9.4						
DLBC				pP	pP	00 44 46.2	+1.2
	comp=Z,7.6nm,0.8s,baz=297,slow=10,SNR=7.8						
DLBC	Dease Lake	36.82	55	P	P	00 44 34.5	+1.4
DLBC				pP	pP	00 44 46.2	+1.2
NJ2	Nanjing	37.36	252	eP	P	00 44 38.8	+1.1
NJ2				AP	pP	00 44 45.0	-4.6
NJ2				PP	PP	00 46 07.8	+4.3
NJ2				S	S	00 50 26.0	+3.4
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,1µm,5.8s						
NJ2				LR	LR		
	comp=N,2µm,18.8s,MS5.3						
NJ2				LR	LR		
	comp=E,3µm,15.5s,MS5.3						
NJ2				LR	LR		
	comp=Z,2µm,16.1s,MS5.0						
TATO	Taipei	41.49	242	P	P	00 45 12.6	+0.5
YKA	Yellowknife Ar	41.91	44	P	P	00 45 14.4	-1.1
	comp=Z,0.9nm,0.6s,baz=297,slow=7.5,SNR=4.4						
YKA				pP	pP	00 45 26.1	-1.5
	comp=Z,2.6nm,0.7s,baz=298,slow=8.5,SNR=10.0						
YKA				LR	LR	01 04 53.7	
	comp=Z,163nm,18.2s,MS4.0,baz=270,slow=39						
YKA	Yellowknife Ar	41.91	44	P	P	00 45 14.4	-1.1
YKA				pP	pP	00 45 26.1	-1.5
YKA				LR	LR	01 04 53.7	
NACB	Ninganchiao	42.09	241	eP	P	00 45 16.4	-0.6
ZAL	Zalesovo	43.03	302	LR	LR	01 05 30.5	

comp=Z,1µm,18.0s,MS4.8,baz=47,slow=39
LZH Lanzhou 43.20 270 *e*P P **00 45 25.5 -0.5**
LZH AMB AMB
comp=Z,30nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,159nm,4.6s
LZH LR LR
comp=N,980nm,13.2s
LZH LR LR
comp=Z,1µm,15.6s,MS4.9
NVS Novosibirsk 43.31 304 *e*P P **00 45 23.3 -3.6**
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS pmax pmax
comp=E,7.0nm,1.0s
NVS pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
GTA Gaotai 43.36 276 *e*P P **00 45 26.1 -1.2**
GTA AMB AMB
comp=Z,3.0nm,0.8s,mb4.1
ENH Enshi 44.03 259 P P **00 45 33.3 +0.6**
B04A Port Angeles 45.47 65 ⇑P P **00 45 43.8 -0.4**
baz=45
A04A Legoe Bay, Lum 45.50 64 ⇓P P **00 45 43.6 -0.8**
baz=45
A05A Maple Falls 45.66 64 ⇑P P **00 45 45.0 -0.7**
baz=45
MBW Mount Baker 45.89 64 P P **00 45 47.4 -0.1**
HDW Hoodsport 45.96 66 P P **00 45 48.2 +0.2**
B05A Bryant 46.10 64 ⇓P P **00 45 48.5 -0.7**
baz=46,SNR=5.1
JCW Jim Creek 46.23 64 P P **00 45 50.1 -0.1**
C05A Tolt Reservoir 46.66 65 ⇑P P **00 45 52.8 -0.8**
baz=46
F03A Seaside 46.74 68 ⇓P P **00 45 53.6 -0.6**
baz=46
D05A Enumclaw 46.81 65 ⇑P P **00 45 53.8 -0.9**
baz=47
E05A Randle 47.33 66 ⇑P P **00 45 57.9 -0.9**
baz=47
F04A Amboy 47.36 67 ⇑P P **00 45 58.4 -0.6**
baz=47
WMQ Urumqi 47.48 289 P P **00 46 02.3 +2.4**
WMQ AMB AMB
comp=Z,27nm,1.2s,mb5.0
WMQ AMB AMB
comp=Z,247nm,4.3s
WMQ LR LR
comp=N,644nm,16.0s,MS4.8
WMQ LR LR
comp=E,483nm,14.9s,MS4.8
WMQ LR LR
comp=Z,656nm,16.5s,MS4.7
EDM Edmonton 47.54 54 *e*P P **00 45 60.0 -0.4**
EDM *e*pP pP 00 46 11.8 -0.8
H03A Soap Creek Ran 47.68 69 ⇑P P **00 46 01.4 -0.1**
baz=48
EBG Ellensburg 47.75 65 P P **00 46 01.9 -0.1**
KURK Kurchatov 47.98 302 *i* P P **00 46 01.5 -2.3**
KURK Kurchatov 47.98 302 *e*P P **00 46 01.2 -2.6**
comp=Z,3.5nm,0.6s,mb4.6
EPH Ephrata 47.99 64 P P **00 46 03.1 -0.8**
I03A Eugene 48.13 70 ⇓P P **00 46 04.2 -0.8**
baz=48
K01A Sixes 48.22 72 ⇑P P **00 46 05.0 -0.6**
baz=48
H04A Detroit Lake 48.28 68 ⇑P P **00 46 05.6 -0.5**
baz=48
J02A Umpqua 48.36 70 ⇓P P **00 46 06.8 +0.1**
baz=48
G05A Wamic 48.40 67 ⇑P P **00 46 06.8 -0.2**
baz=48
OD2 Odessa Site #2 48.43 63 P P **00 46 06.6 -0.7**
GYA Guiyang 48.53 258 P P **00 46 09.4 +1.4**
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
MKAR Makanchi Array 48.53 296 P P **00 46 05.2 -2.9**
comp=Z,1.4nm,0.5s,mb4.2,baz=57,slow=8.2,SNR=10
HAWA Hanford 48.63 65 *e*P P **00 46 08.2 -0.6**
comp=Z,1.2nm,1.1s,mb3.8
HAWA *e* pP 00 46 20.0 -1.0
J03A Ideyld Park 48.70 70 ⇑P P **00 46 07.8 -1.5**
baz=48,SNR=7.3
NEW Newport 48.71 62 P P **00 46 09.1 -0.3**
comp=Z,6.5nm,0.8s,mb4.7,baz=314,slow=7.4,SNR=10
NEW pP pP 00 46 20.8 -0.9
comp=Z,7.0nm,0.8s,baz=318,slow=6.8,SNR=6.4
NEW Newport 48.71 62 P P **00 46 09.1 -0.3**
NEW pP pP 00 46 20.8 -0.9
K02A Glendale 48.80 71 ⇓P P **00 46 08.9 -1.2**
baz=49
I05A Bend 49.12 68 ⇑P P **00 46 12.3 -0.3**
baz=49
L02A Cave Junction 49.13 72 ⇓P P **00 46 11.8 -0.9**
baz=49
HUMO Hull Mountain 49.20 71 *e*P P **00 46 12.9 -0.3**
comp=Z,4.5nm,0.8s,mb4.5
HUMO Hull Mountain 49.20 71 ⇑P P **00 46 12.6 -0.6**
baz=49
KTRM Thompson Ridge 49.42 72 P P **00 46 15.4 +0.5**
DAG Danmarks Havn 49.50 0 *i* P P **00 46 15.0 -0.5**
DAG Danmarks Havn 49.50 0 *e*P P **00 46 15.0 -0.5**
BUOR Burton Butte 49.81 71 P P **00 46 18.3 +0.4**
WALA Waterton Lakes 49.85 59 *e*P P **00 46 17.4 -0.7**
WALA *e*pP pP 00 46 29.8 -0.6
WALA *e*sP sP 00 46 35.1 -0.4
YBH Yreka Blue Hor 49.91 71 P P **00 46 19.0 +0.4**
comp=Z,12nm,1.0s,mb4.9,baz=339,slow=4.2,SNR=22
YBH Yreka Blue Hor 49.91 71 *e*P P **00 46 18.9 +0.3**
YBH Yreka Blue Hor 49.91 71 P P **00 46 19.3 +0.6**
baz=50,SNR=9.8
M02C Callahan 50.06 72 ⇓P P **00 46 20.4 +0.7**
baz=50,SNR=6.7
L04A Klamath Falls 50.08 71 ⇓P P **00 46 19.8 -0.1**
baz=50
N02C Big Bar 50.19 73 ⇓P P **00 46 20.9 +0.3**
baz=50,SNR=5.6
J06A Christmas Vall 50.33 68 P P **00 46 21.8 +0.1**
baz=50,SNR=30
O01C Eel River Cons 50.35 74 ⇑P P **00 46 22.6 +0.6**
baz=50
M04C Macdoel 50.37 71 ⇑P P **00 46 22.1 +0.1**
baz=50,SNR=6.7
BVAR Borovoye Array 50.50 308 P P **00 46 20.0 -3.1**
comp=Z,2.9nm,0.8s,mb4.4,baz=61,slow=9.5,SNR=15
BVAR LR LR 01 10 27.3
comp=Z,559nm,18.6s,MS4.6,baz=147,slow=39
BVAR Borovoye Array 50.50 308 P P **00 46 20.0 -3.1**
BVAR LR LR 01 10 27.3
BRVK Borovoye 50.52 309 *e*P P **00 46 21.7 -1.5**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BRVK Borovoye 50.52 309 *e*P P **00 46 21.7 -1.6**
comp=Z,3.4nm,0.6s,mb4.5
BRVK *e*pP pP 00 46 34.9 -0.6
BRVK *e*sP sP 00 46 39.7 -0.9
K06A Valley Falls 50.57 69 ⇑P P **00 46 23.8 +0.2**
baz=50,SNR=15
J07A Hines 50.71 68 ⇓P P **00 46 24.4 -0.3**
baz=50
L05A Lakeview 50.75 70 ⇑P P **00 46 25.4 +0.5**
baz=50,SNR=8.0
WDC Whiskeytown Da 50.78 72 *e*P P **00 46 25.2 +0.1**
WDC pmax pmax
comp=Z,15nm,1.1s,mb4.8
WDC Whiskeytown Da 50.78 72 *e*P P **00 46 25.2 +0.1**
comp=Z,15nm,1.1s,mb4.8
WDC *e*pP pP 00 46 37.6 +0.1
WDC Whiskeytown Da 50.78 72 ⇓P P **00 46 25.0 -0.1**
baz=51,SNR=7.5
BMO Blue Mountains 50.81 65 *e*P P **00 46 24.8 -0.7**
comp=Z,14nm,1.2s,mb4.8
BMO *e*pP pP 00 46 36.9 -0.8
O02C Red Bluff 50.91 73 ⇓P P **00 46 26.4 +0.3**
baz=51,SNR=5.5
M05C Lookout 51.04 71 ⇓P P **00 46 27.2 +0.1**
baz=51,SNR=11
ZRNK Zerenda 51.18 309 *e*P P **00 46 26.7 -1.5**
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ZRNK Zerenda 51.18 309 *e*P P **00 46 26.7 -1.4**
comp=Z,3.7nm,0.8s,mb4.4
ZRNK *e*pP pP 00 46 39.1 -1.4
HATC Hat Creek Radi 51.23 72 ⇓P P **00 46 28.8 +0.3**
baz=51
MSO Missoula 51.28 61 *e*P P **00 46 28.4 -0.6**
comp=Z,21nm,1.4s,mb4.9
MSO *e*pP pP 00 46 40.2 -1.1
MSO *e*sP sP 00 46 45.2 -1.1
GASB Alder Springs 51.31 73 ⇑P P **00 46 29.2 +0.1**
baz=51,SNR=6.1
M06C Likely Place G 51.51 71 ⇑P P **00 46 31.0 +0.4**
baz=51
HOPS Hopland 51.55 74 ⇑P P **00 46 30.8 -0.1**
baz=51
CHMT Chamberlain Mo 51.59 61 *e*P P **00 46 30.7 -0.5**
CHMT *e*pP pP 00 46 42.5 -1.0
L07A Adell 51.59 69 ⇑P P **00 46 31.6 +0.4**
baz=51
WVOR Wild Horse Val 51.70 68 *e*P P **00 46 31.8 -0.3**
WVOR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
WVOR Wild Horse Val 51.70 68 *e*P P **00 46 31.8 -0.3**
comp=Z,10nm,0.9s,mb4.8
WVOR *e*pP pP 00 46 43.5 -0.9
O04C Chester 51.77 72 ⇑P P **00 46 33.0 +0.4**
baz=52
MNRC McLaughlin Nat 51.99 74 ⇓P P **00 46 34.6 +0.3**
baz=52
ORV Oroville 52.06 73 ⇑P P **00 46 33.9 -0.8**
baz=52,SNR=8.5
O05C Quincy 52.11 72 ⇑P P **00 46 35.3 +0.2**
baz=52
M07A Soldier Meadow 52.11 70 P P **00 46 35.6 +0.5**
baz=52,SNR=25
SUTB Sutter Butte 52.12 73 ⇓P P **00 46 34.1 -1.1**
baz=52
SVE Sverdlovsk 52.20 317 *e*P P **00 46 28.0 -7.8**
SVE *e*S sS 00 54 12.0 -5.9
SVE MLR MLR
comp=N,600nm,16.0s,MS4.8
SVE MLR MLR
comp=E,200nm,16.0s,MS4.8
SVE MLR MLR
comp=Z,500nm,16.0s,MS4.7
OHCM Honcut 52.22 73 *e*P P **00 46 35.4 -0.5**
OHCM *e*pP pP 00 46 47.6 -0.6
CVS Carmenet Viney 52.35 75 ⇑P P **00 46 36.4 -0.4**
baz=52
HRY Holter Researc 52.45 60 *e*P P **00 46 37.5 -0.2**
HRY *e*pP pP 00 46 49.0 -1.0
M08A Happy Creek Ra 52.51 69 P P **00 46 38.6 +0.6**
baz=52,SNR=7.7
L09A Wilkinson Ranc 52.51 68 ⇑P P **00 46 38.3 +0.2**
baz=52,SNR=5.6
QIZ Qiongzhong 52.57 249 P P **00 46 39.6 +1.1**
QIZ S S **00 53 55.1 -7.2**
QIZ AMB AMB
comp=Z,31nm,1.2s,mb5.1
QIZ AMB AMB
comp=Z,322nm,2.9s,mb5.8
QIZ LR LR
comp=N,150nm,26.6s
QIZ LR LR
comp=Z,120nm,26.6s,MS3.8
QIZ Qiongzhong 52.57 249 P P **00 46 40.7 +2.2**
O06A Flanigan 52.58 71 ⇑P P **00 46 38.7 +0.1**
baz=52,SNR=7.2
N07B Gerlach 52.64 70 ⇑P P **00 46 39.0 0.0**
baz=52,SNR=9.8
ARCES ARCESS Array B 52.69 342 P P **00 46 38.0 -1.4**
comp=Z,4.2nm,0.9s,mb4.4,baz=12,slow=8.7,SNR=7.3
ARCES LR LR 01 11 05.4
comp=Z,137nm,19.9s,MS4.0,baz=35,slow=38
ARCES ARCESS Array B 52.69 342 P P **00 46 38.0 -1.4**
ARCES LR LR 01 11 05.4
P05C Yuba Gap, Truc 52.73 72 ⇑P P **00 46 39.6 -0.1**
baz=52
P06A Stead Airport, 52.88 72 ⇑P P **00 46 41.3 +0.5**
baz=53
SUMG Summit 52.95 7 *e*P P **00 46 42.0 +0.6**
DLMT Dillon 52.96 62 *e*P P **00 46 41.2 -0.2**
comp=Z,26nm,1.4s,mb5.0
DLMT *e*pP pP 00 46 52.4 -1.3
LAVA Lava Cap Winer 53.04 73 ⇑P P **00 46 41.7 -0.2**
baz=53,SNR=9.2
M09A Marrel Ranch, 53.04 68 ⇓P P **00 46 42.4 +0.4**
baz=53
N08A GE Springer Mi 53.10 69 ⇑P P **00 46 42.6 +0.1**
baz=53,SNR=10
O07A Toulon 53.11 70 P P **00 46 43.0 +0.5**
baz=53,SNR=25
PAHR Pah Rah Range 53.14 71 *e*P P **00 46 42.7 0.0**
comp=Z,27nm,1.2s,mb5.0
PAHR *e*pP pP 00 46 54.9 -0.2
MCMT McKenzie Canyo 53.19 62 *e*P P **00 46 43.2 +0.1**
MCMT *e*pP pP 00 46 54.6 -0.9
WCN Washoe City 53.21 72 ⇓P P **00 46 43.5 +0.2**
baz=53
HLID Hailey 53.22 65 *e*P P **00 46 43.0 -0.3**
HLID *e*pP pP 00 46 55.1 -0.6
HLID *e*sP sP 00 47 01.0 +0.2
WENL Wente Brothers 53.25 75 ⇓P P **00 46 43.0 -0.5**
baz=53
BOZ Bozeman (W) 53.27 61 *e*P P **00 46 43.3 -0.4**
BOZ pmax pmax
comp=Z,15nm,1.1s,mb4.8
BOZ Bozeman (W) 53.27 61 *e*P P **00 46 43.3 -0.4**
comp=Z,15nm,1.1s,mb4.8
BOZ *e*pP pP 00 46 55.5 -0.5
BOZ *e*sP sP 00 47 01.9 +0.8
ARU Arti 53.31 318 *e*P P **00 46 42.4 -1.6**
ARU *i* *PP pP 00 46 48.7 -7.6
ARU *i* 00 47 49.3
ARU *i* 00 48 43.0
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ARU MLR MLR
comp=Z,500nm,20.0s,MS4.6
ARU Arti 53.31 318 *e*P P **00 46 41.0 -2.9**
ARU *e*pP pP 00 46 54.1 -2.2
ARU *e*sP sP 00 46 59.1 -2.2
R05C Kirkwood Meado 53.45 73 P P **00 46 45.3 +0.3**
baz=53,SNR=8.3
M10A I.L. Ranch, Tu 53.47 68 ⇓P P **00 46 45.9 +0.7**
baz=53
S04C Ingram Canyon, 53.57 74 ⇓P P **00 46 45.8 -0.1**
baz=53
CMB Columbia Colle 53.74 73 *e*P P **00 46 46.9 -0.2**
CMB pmax pmax
comp=Z,12nm,1.2s,mb4.7
CMB Columbia Colle 53.74 73 *e*P P **00 46 46.9 -0.2**
comp=Z,12nm,1.2s,mb4.7
CMB *e*pP pP 00 46 58.8 -0.7
CMB Columbia Colle 53.74 73 ⇓P P **00 46 47.2 +0.1**
baz=54,SNR=6.2
BMN Battle Mountai 53.84 69 *e*P P **00 46 48.3 +0.4**
BMN pmax pmax
comp=Z,20nm,1.0s,mb5.0
BMN Battle Mountai 53.84 69 *e*P P **00 46 48.3 +0.4**
comp=Z,20nm,1.0s,mb5.0
BMN *e*pP pP 00 47 00.7 +0.4
P08A Dixie Valley 53.88 70 ⇓P P **00 46 49.0 +0.8**
baz=54
R06C Coleville 53.93 72 P P **00 46 49.3 +0.8**
baz=54,SNR=16
QLMT Earthquake Lak 53.93 62 *e*P P **00 46 48.7 +0.2**
QLMT *e*pP pP 00 47 01.1 +0.3
M11A Holland Ranch, 53.94 67 ⇑P P **00 46 49.3 +0.7**
baz=54
PACP Pacheco Peak 53.94 75 ⇓P P **00 46 49.0 +0.3**
baz=54
Q07A Schurz 54.00 72 ⇑P P **00 46 49.3 +0.3**
baz=54
N10A Dunphy 54.04 68 ⇑P P **00 46 49.7 +0.4**
baz=54
O09A Fish Creek Ran 54.04 69 P P **00 46 50.1 +0.8**
baz=54,SNR=24
S06C San Francisco 54.15 73 P P **00 46 50.5 +0.4**
baz=54,SNR=9.7
GCMT Greycliff 54.18 60 *e*P P **00 46 50.6 +0.3**
GCMT *e*pP pP 00 47 01.9 -0.7
HAST UC Hastings Re 54.23 76 ⇑P P **00 46 50.3 -0.3**
baz=54
N11A Elko Archery C 54.39 68 ⇑P P **00 46 52.5 +0.6**
baz=54
M12A Wells 54.43 67 ⇑P P **00 46 52.6 +0.4**
baz=54
R07C Lee Vining 54.45 72 ⇑P P **00 46 52.7 +0.4**
baz=54,SNR=6.2
YFT Old Faithful 54.50 62 *e*P P **00 46 53.0 +0.3**
YFT *e*pP pP 00 47 06.1 +1.1
P09A Austin 54.50 70 ⇑P P **00 46 53.3 +0.6**
baz=54
Q08A Gabbs 54.54 71 P P **00 46 53.5 +0.6**
baz=54,SNR=35
NVAR Mina Array Bea 54.63 72 P P **00 46 54.2 +0.6**
comp=Z,15nm,0.7s,mb5.1,baz=308,slow=6.0,SNR=104
V03C Hunter Liggett 54.67 76 ⇑P P **00 46 54.0 +0.1**
baz=54
U04C Hernandez Rese 54.69 75 ⇑P P **00 46 54.0 0.0**
baz=54
ELK Elko 54.72 68 *e*P P **00 46 54.7 +0.5**
ELK pmax pmax
comp=Z,12nm,0.9s
ELK Elko 54.72 68 *e*P P **00 46 54.7 +0.5**
comp=Z,12nm,0.9s,mb4.9
ELK *e*pP pP 00 47 06.5 -0.1
MNV Mina 54.72 72 *e*P P **00 46 54.3 +0.1**
MNV pmax pmax
comp=Z,19nm,1.1s,mb5.0
MNV Mina 54.72 72 *e*P P **00 46 54.3 0.0**
comp=Z,19nm,1.1s,mb5.0
N12A Clover Valley, 54.75 67 ⇑P P **00 46 55.1 +0.7**
baz=54,SNR=7.5
FLWY Flagg Ranch 54.82 62 *e*P P **00 46 55.9 +0.8**
comp=Z,42nm,1.3s,mb5.3
FLWY *e*pP pP 00 47 07.6 +0.2
IMW Indian Meadow 54.83 62 *e*P P **00 46 55.6 +0.6**
comp=Z,30nm,1.2s,mb5.2
IMW *e*pP pP 00 47 07.5 +0.1
P10A Eureka 54.83 69 ⇓P P **00 46 55.6 +0.6**
baz=55
KCC Kaiser Creek 54.84 73 ⇓P P **00 46 55.6 +0.5**
baz=55,SNR=8.0
T06C Millerton Lake 54.84 74 ⇓P P **00 46 54.9 -0.3**
baz=55
M13A Montello 54.87 66 ⇓P P **00 46 55.7 +0.3**
baz=55,SNR=9.1
O11A Cowboy Ranch, 54.91 68 ⇑P P **00 46 56.1 +0.5**
baz=55
Q09A Carvers 54.98 71 ⇓P P **00 46 56.7 +0.6**
baz=55
RRI2 Red Ridge 55.01 63 *e*P P **00 46 56.9 +0.5**
comp=Z,12nm,1.0s,mb4.9
RRI2 *e*pP pP 00 47 08.1 -0.7
MOOW Moose Ponds 55.03 62 *e*P P **00 46 56.6 +0.1**
comp=Z,1.8nm,1.1s,mb4.0
MOOW *e*pP pP 00 47 08.8 -0.1
TPAW Teton Pass 55.10 62 *e*P P **00 46 57.1 +0.1**
comp=Z,16nm,1.2s,mb4.9
TPAW *e*pP pP 00 47 09.4 0.0
V04C Ramage Ranch, 55.15 76 ⇑P P **00 46 57.5 +0.1**
baz=55
N13A Wendover, West 55.20 67 ⇓P P **00 46 58.2 +0.5**
baz=55,SNR=6.1
P11A Circle Ranch, 55.27 69 ⇑P P **00 46 58.9 +0.7**
baz=55
AAK Ala-Archa 55.44 297 ⇓*e*P P **00 46 58.5 -1.0**
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
AAK MLR MLR
comp=Z,300nm,17.0s,MS4.4
AAK Ala-Archa 55.44 297 P P **00 46 56.5 -3.0**
comp=Z,5.4nm,0.8s,mb4.6
TPH Tonopah 55.49 71 *e*P P **00 47 00.6 +0.8**
PTRM Twissleman Ran 55.51 75 *e*P P **00 47 00.8 +0.8**
V05C Boulder Hill, 55.54 75 ⇓P P **00 47 00.4 +0.3**
baz=55
TIN Tinemaha 55.65 73 ⇓P P **00 47 01.4 +0.4**
baz=55
S09A Goldfield 55.73 71 P P **00 47 01.8 +0.3**
baz=56,SNR=20
P12A McGill 55.79 68 ⇓P P **00 47 02.2 +0.3**
baz=56
BGU Big Grassy Mou 55.79 66 *e*P P **00 47 01.8 -0.1**
BGU *e*pP pP 00 47 14.0 -0.3
Q11A Duckwater 55.82 69 ⇓P P **00 47 02.4 +0.2**
baz=56,SNR=6.0
SPUT South Promonto 55.83 65 *e*P P **00 47 02.2 0.0**
SPUT *e*pP pP 00 47 14.0 -0.7
R10A Warm Springs 55.85 70 ⇑P P **00 47 02.7 +0.3**
baz=56,SNR=7.8
Q12A Willow Creek R 56.13 69 ⇓P P **00 47 04.9 +0.5**
baz=56
CWC Cottonwood Cre 56.16 73 ⇑P P **00 47 04.9 +0.3**
baz=56,SNR=5.6
PDAR Pinedale Array 56.34 62 P P **00 47 05.8 -0.1**
comp=Z,3.0nm,0.9s,mb4.3,baz=318,slow=4.0,SNR=19
PDAR pP pP 00 47 18.1 -0.2
comp=Z,14nm,1.1s,baz=308,slow=3.6,SNR=15
DUG Dugway 56.42 66 *e*P P **00 47 06.9 +0.4**
DUG *e*pP pP 00 47 19.6 +0.8
NOQ North Oquirrh 56.47 66 *e*P P **00 47 07.1 +0.3**
comp=Z,19nm,0.8s,mb5.2
NOQ *e*pP pP 00 47 19.0 -0.3
ISA Isabella 56.50 74 ⇑P P **00 47 06.5 -0.5**
baz=56
TCUT Toone Canyon 56.52 65 P P **00 47 07.6 +0.4**
KLMR Klimovskoe 56.59 330 *e*P P **00 47 06.6 -1.1**
KLMR pmax pmax
comp=Z,30nm,2.0s,mb5.0
CTU Camp Tracy 56.64 65 *e*P P **00 47 07.8 -0.2**
comp=Z,12nm,0.8s,mb5.0
CTU *e*pP pP 00 47 19.7 -0.8
TPNV Topopah Spring 56.83 71 *e*P P **00 47 09.9 +0.5**
TPNV *e*pP pP 00 47 20.8 -1.0
NLU North Lily Min 56.99 66 *e*P P **00 47 10.8 +0.3**
NLU *e*pP pP 00 47 22.9 -0.1
JOF Joensuu 57.10 335 *e*p P **00 47 09.7 -1.6**
comp=Z,2.0nm,0.4s,mb4.5
DAU Daniels Canyon 57.10 65 P P **00 47 12.2 +0.9**
OSI Osito Adit 57.11 75 ⇑P P **00 47 11.3 0.0**
baz=57
U10A Ash Meadows, A 57.17 72 ⇑P P **00 47 11.9 +0.2**
baz=57,SNR=5.0
MPU Maple Canyon 57.18 66 *e*P P **00 47 12.3 +0.4**
comp=Z,21nm,1.3s,mb5.0
MPU *e*pP pP 00 47 24.3 -0.1
ULM Lac du Bonnet 57.58 48 P P **00 47 13.6 -1.1**
comp=Z,2.3nm,0.9s,mb4.2,baz=306,slow=10.0,SNR=4.4
ULM LR LR 01 12 35.4
comp=Z,254nm,20.4s,MS4.3,baz=345,slow=37
ULM Lac du Bonnet 57.58 48 P P **00 47 13.6 -1.1**
ULM LR LR 01 12 35.4
U11A Corn Creek 57.69 71 ⇓P P **00 47 15.8 +0.4**
baz=58
GSC Goldstone 57.70 73 ⇑P P **00 47 15.7 +0.1**
baz=58,SNR=16
ARUT Antelope Range 57.79 69 *e*P P **00 47 16.9 +0.7**
TMUT Trail Mountain 57.93 66 *e*P P **00 47 17.4 +0.3**
TMUT *e*pP pP 00 47 29.4 -0.2
MSU Marysvale 57.96 67 *e*P P **00 47 18.1 +0.7**
MSU *e*pP pP 00 47 30.1 +0.3
CCUT Cedar City 58.01 69 *e*P P **00 47 17.6 -0.1**
CCUT *e*pP pP 00 47 29.6 -0.5
V11A Goodsprings 58.09 72 ⇑P P **00 47 18.3 0.0**
baz=58
TUQ Turquoise Mtn. 58.10 73 ⇑P P **00 47 18.4 0.0**
baz=58,SNR=6.6
U12A Valley of Fire 58.16 71 ⇓P P **00 47 19.0 +0.3**
baz=58
RSSD Black Hills 58.19 58 *e*P P **00 47 18.7 -0.3**
RSSD *e*pP pP 00 47 30.9 -0.5
SRU San Rafael 58.43 66 *e*P P **00 47 20.9 +0.3**
SRU *e*pP pP 00 47 32.9 -0.2
V12A Nelson 58.49 72 ⇓P P **00 47 21.5 +0.4**
baz=58,SNR=6.8
W12A Cal Nev Ari 58.79 72 ⇑P P **00 47 23.1 0.0**
baz=59
KAF Kangasniemi 58.98 337 *ep* P **00 47 23.0 -1.5**
comp=Z,2.3nm,0.4s,mb4.6,baz=28,slow=6.4
KAF Kangasniemi 58.98 337 *e*P P **00 47 23.0 -1.5**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
PFO Pinyon Flat Ob 59.13 74 ⇑P P **00 47 24.9 -0.6**
baz=59
CM31 Chiang Mai Arr 59.20 259 *e*P P **00 47 25.9 -0.1**
CM31 *e*pP pP 00 47 37.8 -0.8
CM31 *e*sP sP 00 47 42.4 -1.1
109C Camp Elliot, M 59.28 75 ⇓P P **00 47 26.3 -0.3**
baz=59
W13A Hualapai Mount 59.49 71 P P **00 47 28.2 +0.3**
baz=59,SNR=6.5
FIA1 FINESS Array S 59.62 337 *e*P P **00 47 28.1 -0.8**
FIA1 *e*pP pP 00 47 39.8 -1.7
FINES FINESS Array B 59.62 337 P P **00 47 28.2 -0.7**
comp=Z,3.4nm,0.5s,mb4.6,baz=28,slow=6.9,SNR=5.5

FINES LR LR 01 14 56.8
comp=Z,154nm,19.7s,MS4.1,baz=252,slow=38
FINES FINESS Array B 59.62 337 P **P** **00 47 28.2 -0.7**
FINES LR LR 01 14 56.8
GUN Gumba 59.65 277 *eP* **P** **00 47 31.6 +2.5**
JIRN Jiri 59.65 276 *eP* **P** **00 47 29.9 +0.8**
PV10 Paradox Valley 59.76 65 *eP* **P** **00 47 29.6 -0.3**
PV10 *epP* pP 00 47 42.7 +0.3
W14A Seligman 59.85 71 ⇓P **P** **00 47 31.0 +0.5**
baz=60,SNR=16
X13A Yucca 59.89 72 ⇑P **P** **00 47 30.7 -0.1**
baz=60,SNR=9.9
KKN Kakani 60.09 277 *eP* **P** **00 47 31.8 -0.3**
Y12C Blythe 60.12 73 ⇑P **P** **00 47 32.2 -0.1**
baz=60
PKI Pulchoki 60.18 277 *eP* **P** **00 47 32.0 -0.7**
PV01 Paradox Valley 60.19 65 *eP* **P** **00 47 33.5 +0.8**
PV01 *epP* pP 00 47 45.3 0.0
SMCO Snowmass 60.27 63 *eP* **P** **00 47 33.6 +0.2**
comp=Z,14nm,1.1s,mb4.9
SMCO *epP* pP 00 47 45.7 -0.2
GKN Gorkha 60.31 278 *eP* **P** **00 47 33.4 -0.2**
comp=Z,11nm,0.6s,mb5.1
DMN Daman 60.33 277 *eP* **P** **00 47 31.6 -2.1**
comp=Z,13nm,0.7s,mb5.1
W15A Williams 60.33 70 ⇓P **P** **00 47 34.6 +0.9**
baz=60
GLA Glamis 60.46 74 ⇓P **P** **00 47 34.4 -0.2**
baz=60,SNR=12
Y13A Salome 60.46 72 ⇑P **P** **00 47 34.5 -0.1**
baz=60
X14A Yava 60.51 71 ⇑P **P** **00 47 35.3 +0.4**
baz=60,SNR=11
ISCO Idaho Springs 60.53 62 *eP* **P** **00 47 35.8 +0.7**
ISCO pmax pmax
comp=Z,36nm,1.4s,mb5.3
ISCO Idaho Springs 60.53 62 *eP* **P** **00 47 35.8 +0.7**
comp=Z,36nm,1.4s,mb5.3
ISCO *epP* pP 00 47 47.7 0.0
WUAZ Wupatki 60.58 69 *eP* **P** **00 47 35.9 +0.5**
comp=Z,35nm,1.4s,mb5.3
WUAZ *epP* pP 00 47 48.1 +0.1
Y14A Wickenburg 60.83 72 ⇑P **P** **00 47 37.1 0.0**
baz=61
X15A Humboldt 60.86 71 ⇑P **P** **00 47 38.0 +0.6**
baz=61,SNR=13
Z14A Wintersburg 61.29 72 ⇓P **P** **00 47 40.2 -0.1**
baz=61
BORG Borgarnes 61.56 1 LR LR 01 14 10.3
comp=Z,90nm,19.4s,MS3.9,baz=328,slow=36
ECSD EROS,Sioux Fal 62.09 53 *eP* **P** **00 47 44.4 -1.3**
ECSD *epP* pP 00 47 56.7 -1.5
115A Sonoran Desert 62.19 72 ⇑P **P** **00 47 46.6 +0.3**
baz=62,SNR=11
OBN Obninsk 62.21 328⇑ *eP* **P** **00 47 45.4 -1.0**
OBN *e* 00 48 23.1
OBN *eSS* SS 01 00 13.1 +0.6
OBN pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
OBN MLR MLR
comp=Z,400nm,18.0s,MS4.6
OBN Obninsk 62.21 328 *eP* **P** **00 47 45.4 -1.0**
OBN *epP* pP 00 47 56.6 -2.5
116A Eloy 62.58 72 ⇓P **P** **00 47 49.1 +0.1**
baz=62
NB2 NORSAR Subarra 62.91 344 P **P** **00 47 49.8 -1.3**
comp=Z,9.2nm,0.7s,mb5.0,baz=20,slow=6.9
NOA NORSAR Array B 62.91 344 P **P** **00 47 50.1 -1.0**
comp=Z,8.7nm,0.7s,mb5.0,baz=20,slow=6.7,SNR=33
NOA LR LR 01 21 48.2
comp=Z,108nm,18.4s,MS4.1,baz=35,slow=42
HNR Honiara 63.20 182 LR LR 01 12 01.9
comp=Z,167nm,19.8s,MS4.2,baz=359,slow=33
HFS Hagfors 63.34 343 LR LR 01 20 48.6
comp=Z,113nm,18.4s,MS4.1,baz=14,slow=41
ANMO Albuquerque 63.69 66 *eP* **P** **00 47 56.4 +0.1**
ANMO *epP* pP 00 48 08.8 -0.1
LAZ Ladron 63.73 67 *eP* **P** **00 47 55.8 -0.8**
LAZ *epP* pP 00 48 09.7 +0.5
BNM Barren Site 64.20 67 *eP* **P** **00 48 00.1 +0.5**
BNM *epP* pP 00 48 10.6 -1.7
SCHQ Schefferville 64.44 29 P **P** **00 47 59.9 -1.4**
comp=Z,1.7nm,0.9s,mb4.0,baz=3.6,slow=16,SNR=2.2
VRSR Storozhevoye 64.61 324 *eP* **P** **00 48 01.7 -0.6**
VRSR pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,3.0nm,0.7s
WMOK Wichita Mounta 67.91 61 *eP* **P** **00 48 22.4 -1.1**
WMOK pmax pmax
comp=Z,14nm,1.0s,mb5.0
WMOK Wichita Mounta 67.91 61 *eP* **P** **00 48 22.4 -1.1**
comp=Z,14nm,1.0s,mb5.0
WMOK *epP* pP 00 48 35.3 -0.9
AKASG Malin Array Be 68.27 330 P **P** **00 48 24.8 -1.0**
comp=Z,2.7nm,0.6s,mb4.5,baz=22,slow=5.6,SNR=6.4
AKASG LR LR 01 22 10.3
comp=Z,241nm,18.2s,MS4.5,baz=315,slow=39
AKBB Malin Array Si 68.27 330 *eP* **P** **00 48 24.6 -1.1**
AKBB *epP* pP 00 48 37.0 -1.4
GOF Gofitskoye 68.30 318 *eP* **P** **00 48 24.9 -1.0**
GOF pmax pmax
comp=Z,26nm,0.7s,mb5.4
CCM Cathedral Cave 69.06 54 *eP* **P** **00 48 29.0 -1.6**
CCM pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
CCM Cathedral Cave 69.06 54 *eP* **P** **00 48 29.0 -1.6**
comp=Z,4.5nm,1.0s,mb4.3
KIV Kislovodsk 69.36 317 *eP* **P** **00 48 32.3 -0.2**
KIV Kislovodsk 69.36 317 *eP* **P** **00 48 32.3 -0.1**
KIV *epP* pP 00 48 45.8 +0.6
LTX Lajitas 69.50 68 *eP* **P** **00 48 33.6 +0.3**
LTX pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LTX Lajitas 69.50 68 *eP* **P** **00 48 33.6 +0.2**
comp=Z,3.2nm,0.6s,mb4.4
LTX *epP* pP 00 48 44.8 -1.3
ZEI Tsey 69.85 316 *eP* **P** **00 48 35.0 -0.5**
ZEI *e*PP* pP 00 48 41.1 -7.2
ZEI pmax pmax
comp=Z,8.0nm,0.4s,mb5.0
JCT Junction City 70.70 65 *eP* **P** **00 48 39.9 -0.8**
JCT pmax pmax
comp=Z,5.0nm,0.3s,mb4.9
JCT Junction City 70.70 65 *eP* **P** **00 48 39.9 -0.8**
comp=Z,5.0nm,0.3s,mb4.9
JCT *epP* pP 00 48 52.5 -1.0
MIAR Mount Ida 70.71 58 *eP* **P** **00 48 39.2 -1.6**
MIAR pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MIAR Mount Ida 70.71 58 *eP* **P** **00 48 39.2 -1.6**
comp=Z,9.4nm,1.0s,mb4.7
MIAR *epP* pP 00 48 52.5 -1.0
KAKA Kakadu 70.92 210 *eP* **P** **00 48 43.0 +1.0**
comp=Z,14nm,0.9s,mb4.9
KWP Kalwaria 71.08 333 *eP* **P** **00 48 43.3 +0.3**
KWP Kalwaria 71.08 333 *eP* **P** **00 48 43.3 +0.3**
OJC Ojcow 71.29 335 *eP* **P** **00 48 44.3 0.0**
GNI Garni 71.67 314 *eP* **P** **00 48 47.7 +1.1**
GNI pmax pmax
comp=Z,7.0nm,0.7s
GNI Garni 71.67 314 *eP* **P** **00 48 47.6 +1.1**
comp=Z,7.2nm,0.7s,mb4.7
CLL Collm 71.81 340 *eP* **P** **00 48 46.9 -0.5**
comp=Z,19nm,1.2s,mb4.9
CLL Collm 71.81 340 P **P** **00 48 47.1 -0.3**
comp=Z,logA/T=1.0,mb4.7
CLL *i* 00 48 50.7
CLL *i* *PP pP 00 48 59.0 -1.2
CLL *i* *SP sP 00 49 04.8 -0.3
CLL Collm 71.81 340 *i* P **P** **00 48 47.1 -0.3**
comp=Z,10.0nm,1.0s,mb4.7
CLL *i* x x 00 48 50.7
CLL *i* pP pP 00 48 59.0 -1.2
CLL *i* sP sP 00 49 04.8 -0.3
CLL Collm 71.81 340 *i* P **P** **00 48 47.1 -0.3**
CLL *i* 00 48 50.7
CLL *i* pP 00 49 01.7 +1.5
CLL pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CLL Collm 71.81 340 *i* P **P** **00 48 47.1 -0.3**
comp=Z,10.0nm,1.0s,mb4.7
CLL *i* 00 48 50.7
CLL *i* pP 00 49 01.7 +1.5
CLZ Clausthal 71.81 342 *eP* **P** **00 48 47.3 -0.1**
comp=Z,21nm,1.2s,mb4.9
CLZ Clausthal 71.81 342 *eP* **P** **00 48 47.3 -0.1**
CLZ pmax pmax
comp=Z,21nm,1.2s,mb4.9
KOLS Kolonicke sedl 71.83 333 *eP* **P** **00 48 46.8 -0.7**
NIE Niedzica 71.90 335 *eP* pP 00 49 00.6 -0.1
UPC Upice 71.91 338 *eP* **P** **00 48 47.9 -0.1**
BRG Berggiesshubel 72.02 339 *eP* **P** **00 48 48.4 -0.3**
comp=Z,3.5nm,1.1s,mb4.2
BRG *e* 00 49 06.2
BRG comp=Z,5.4nm,1.1s
BRG comp=N,148nm,24.6s
BRG comp=E,83nm,17.4s
BRG comp=Z,169nm,18.5s
BRG Berggiesshubel 72.02 339 *eP* **P** **00 48 48.4 -0.3**
BRG *e* 00 49 06.2
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BRG MLR MLR
comp=Z,170nm,18.5s,MS4.3
BRG Berggiesshubel 72.02 339 *eP* **P** **00 48 48.4 -0.3**
comp=Z,3.5nm,1.1s,mb4.2
BRG *e* 00 49 06.2
BRG LR LR
comp=Z,170nm,18.5s,MS4.3
OKC Ostrava-Krasne 72.04 336 *eP* **P** **00 48 53.2 +4.4**
OKC *epP* pP 00 49 00.7 -0.9
CRVS Cervenica-Dubn 72.08 334 *eP* **P** **00 48 50.1 +1.1**
FBE Freiberg 72.10 339 *eP* **P** **00 48 48.9 -0.2**
comp=Z,16nm,1.2s,mb4.8
BURAR Bucovina Array 72.21 331⇓ *iP* **P** **00 48 49.5 -0.3**
BURAR Bucovina Array 72.21 331 ⇓P **P** **00 48 49.5 -0.3**
PVCC Panska Ves 72.21 339 *eP* **P** **00 48 50.0 +0.2**
WVT Waverly 72.22 53 *eP* **P** **00 48 48.6 -1.3**
WVT *e*PP* pP 00 49 01.5 -1.2
WVT pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
WVT Waverly 72.22 53 *eP* **P** **00 48 48.6 -1.3**
comp=Z,4.0nm,0.9s,mb4.3
WVT *epP* pP 00 49 01.5 -1.1
MORC Moravsky Berou 72.25 336⇑ *iP* **P** **00 48 49.8 -0.2**
MORC Moravsky Berou 72.25 336 ⇑P **P** **00 48 49.8 -0.3**
MOX Moxa 72.71 340 *eP* **P** **00 48 52.7 -0.1**
comp=Z,11nm,1.5s,mb4.6
MOX Moxa 72.71 340 *eP* **P** **00 48 52.5 -0.3**
comp=Z,13nm,1.4s,mb4.7
MOX Moxa 72.71 340 *eP* **P** **00 48 52.5 -0.3**
MOX pmax pmax
comp=Z,13nm,1.4s,mb4.7
PRU Pruhonice 72.73 338 *eP* **P** **00 48 52.8 -0.1**
PRU *ex* x 00 48 57.4
PRU *epP* pP 00 49 04.8 -0.9
PRU Pruhonice 72.73 338 *eP* **P** **00 48 52.8 -0.1**
PRU *e* 00 48 57.4
PRU *e* pP 00 49 04.8 -0.9
WERD Werda 72.76 340 *eP* **P** **00 48 52.5 -0.6**
comp=Z,9.0nm,1.2s,mb4.6
VRAC Vranov 72.91 337 LR LR 01 24 37.6
comp=Z,201nm,19.9s,MS4.4,baz=17,slow=39
VRAC Vranov 72.91 337⇓ *iP* **P** **00 48 54.3 +0.4**
VRAC Vranov 72.91 337 ⇓P **P** **00 48 54.3 +0.4**
NKC Novy Kostel 72.94 340 *eP* **P** **00 48 54.0 -0.1**
VYHS Vyhne 73.12 335 *eP* **P** **00 48 55.3 +0.1**
TREC Trest 73.17 338 AMS AMS 01 26 20.0
comp=Z,300nm,21.3s
MANZ Manzenberg 73.24 340 *eP* **P** **00 48 55.0 -0.9**
comp=Z,14nm,1.5s,mb4.7
VRI Vrincioaia 73.34 329⇓ *iP* **P** **00 48 58.3 +1.8**
VRI Vrincioaia 73.34 329 ⇓P **P** **00 48 58.3 +1.8**
PSZ Piszkesteto 73.39 334 *eP* **P** **00 48 57.2 +0.4**
PSZ *e*PP* pP 00 49 09.5 -0.1
PSZ pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
PSZ Piszkesteto 73.39 334 *eP* **P** **00 48 57.2 +0.4**
comp=Z,8.0nm,1.1s,mb4.6
PSZ *epP* pP 00 49 09.5 -0.1
ROTZ Rotzenmuhle 73.43 340 *eP* **P** **00 48 57.3 +0.3**
comp=Z,7.0nm,1.2s,mb4.5
SMOL Smolenice 73.45 336 *eP* **P** **00 48 57.2 0.0**
GRSN GIRESUNGRSN 73.66 319 *i* P **P** **00 49 00.5 +2.1**
DRGR 73.67 332⇓ *iP* **P** **00 48 58.2 -0.3**
DRGR 73.67 332 ⇓P **P** **00 48 58.2 -0.2**
GRA1 Grafenberg Arr 73.70 340 *eP* **P** **00 48 58.6 0.0**
comp=Z,13nm,0.8s,mb4.9
GRF Grafenberg Arr 73.70 340 *eP* **P** **00 48 58.6 0.0**
comp=Z,13nm,0.8s,mb4.9
GRF Grafenberg Arr 73.70 340 *eP* **P** **00 48 58.6 0.0**
GRF pmax pmax
comp=Z,13nm,0.8s,mb4.9
GRF Grafenberg Arr 73.70 340 *eP* **P** **00 48 58.6 0.0**
GRF pmax pmax
comp=Z,13nm,0.8s,mb4.9
KHC Kasperske Hory 73.75 339 *eP* **P** **00 48 58.8 -0.1**
KHC *ex* x 00 49 03.1
ZST Bratislava 73.83 336 *eP* **P** **00 48 59.7 +0.3**
WET Wettzell 73.88 339 *eP* **P** **00 48 59.8 +0.1**
comp=Z,12nm,1.3s,mb4.7
WET Wettzell 73.88 339 *eP* **P** **00 48 59.8 +0.1**
WET pmax pmax
comp=Z,12nm,1.3s,mb4.7
MLR Muntele Rosu 73.92 329 P **P** **00 49 00.9 +1.0**
comp=Z,7.3nm,0.7s,mb4.7,baz=188,slow=9.6,SNR=12
MLR Muntele Rosu 73.92 329⇓ *iP* **P** **00 49 00.6 +0.7**
MLR Muntele Rosu 73.92 329 ⇓P **P** **00 49 00.7 +0.8**
GEC2 GERESS Array S 73.99 339 *eP* **P** **00 49 00.0 -0.3**
comp=Z,6.0nm,1.1s,mb4.4
GEC2 GERESS Array S 73.99 339 *eP* **P** **00 49 00.0 -0.3**
GEC2 pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
GERES GERESS Array B 73.99 339 P **P** **00 48 59.9 -0.4**
comp=Z,2.4nm,0.7s,mb4.2,baz=35,slow=4.9,SNR=24
GERES *pP* pP 00 49 11.8 -1.4
comp=Z,1.9nm,0.6s,baz=36,slow=5.6,SNR=7.5
GERES LR LR 01 26 50.2
comp=Z,152nm,18.3s,MS4.3,baz=199,slow=40
GERES GERESS Array B 73.99 339 P **P** **00 48 59.9 -0.4**
GERES **PP* pP 00 49 11.8 -1.4
VOIR 74.23 330⇓ *iP* **P** **00 49 02.3 +0.6**
VOIR 74.23 330 ⇓P **P** **00 49 02.3 +0.6**
GIVF Givet 74.44 345 *eP* **P** **00 49 02.9 0.0**
BOYT Boyabat 74.51 321 *i* P **P** **00 49 04.0 +0.7**
BAIF Baives 74.57 345 *eP* **P** **00 49 04.2 +0.5**
GZR Gura Zlata 74.93 331⇓ *iP* **P** **00 49 06.1 +0.3**
BALT Daday 74.97 322 *i* P **P** **00 49 06.4 +0.4**
BZS Buzias 75.05 332⇓ *iP* **P** **00 49 06.0 -0.5**
BZS Buzias 75.05 332 ⇓P **P** **00 49 06.0 -0.5**
CTKT Corum 75.25 321 *i* P **P** **00 49 08.2 +0.6**
PKSM Moragy 75.29 334⇑ *iP* **P** **00 49 06.9 -1.0**
PKSM Moragy 75.29 334 ⇑P **P** **00 49 06.9 -1.0**
BFO Black Forest 75.55 342 *eP* **P** **00 49 09.6 +0.2**
comp=Z,12nm,1.2s,mb4.7
BFO Black Forest 75.55 342 *eP* **P** **00 49 09.7 +0.3**
BFO *epP* pP 00 49 20.6 -1.7
CDF Champ du Feu 75.66 343 *eP* **P** **00 49 10.0 0.0**
comp=Z,16nm,1.0s,mb4.6
CDF Champ du Feu 75.66 343 *eP* **P** **00 49 10.0 0.0**
CDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CDF Champ du Feu 75.66 343 *eP* **P** **00 49 10.0 0.0**
comp=Z,8.2nm,1.0s,mb4.6
KBA Koelnbreinsper 75.74 338⇑ *iP* **P** **00 49 11.2 +0.7**
comp=Z,30nm,1.2s,mb5.1
KBA Koelnbreinsper 75.74 338⇑ *iP* **P** **00 49 11.2 +0.8**
KBA pmax pmax
comp=Z,30nm,1.2s,mb5.1
MALT Malatya 75.84 317 *eP* **P** **00 49 11.8 +0.8**
MALT *e* pP 00 49 24.2 +0.3
MALT pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MALT Malatya 75.84 317 *eP* **P** **00 49 11.8 +0.8**
comp=Z,5.6nm,0.8s,mb4.5
MALT *ePcP* PcP 00 49 24.2 +0.8
ELDT Eldivan 75.87 322 *i* P **P** **00 49 12.1 +0.9**
ECH Echery 75.88 343 *eP* **P** **00 49 16.9 +5.7**
MEZF Maizieres J'vi 75.95 344 *eP* **P** **00 49 11.7 +0.1**
comp=Z,5.1nm,0.5s,mb4.4
MEZF Maizieres J'vi 75.95 344 *eP* **P** **00 49 11.7 +0.1**
comp=Z,5.1nm,0.5s,mb4.7
MOTA Moosalm 75.96 340⇓ *iP* **P** **00 49 12.2 +0.5**
comp=Z,8.2nm,1.0s,mb4.6
MOTA Moosalm 75.96 340⇓ *iP* **P** **00 49 12.2 +0.5**
MOTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
OBKA Obir 76.01 337⇑ *iP* **P** **00 49 12.2 +0.3**
comp=Z,17nm,1.0s,mb4.9
THEF They Montfort 76.07 343 *eP* **P** **00 49 16.5 +4.2**
HAU Haudompre 76.22 343 *eP* **P** **00 49 13.6 +0.4**
DAVA Damuels 76.26 341⇑ *iP* **P** **00 49 19.9 +6.5**
comp=Z,9.9nm,1.2s,mb4.6
SGKT Sivrigoynuk 76.29 323 *i* P **P** **00 49 14.1 +0.5**
HINF Hinteralfeld 76.31 343 *eP* **P** **00 49 14.0 +0.3**
PTCC Patocco-Chiusa 76.38 338 P **P** **00 49 13.8 -0.2**
comp=Z,4.2nm,0.5s,mb4.6
BR131 Keskin Array S 76.46 321 *eP* **P** **00 49 14.7 +0.1**
comp=Z,3.2nm,0.7s,mb4.4
BR131 *epP* pP 00 49 26.9 -0.5
BRTR Keskin Array B 76.46 321 P **P** **00 49 14.4 -0.1**
comp=Z,2.9nm,0.7s,mb4.3,baz=69,slow=3.6,SNR=19
BRTR pP pP 00 49 26.9 -0.6
comp=Z,3.8nm,0.7s,baz=51,slow=5.0,SNR=8.4
BRTR LR LR 01 28 25.8
comp=Z,93nm,19.1s,MS4.1,baz=26,slow=40
BRTR Keskin Array B 76.46 321 P **P** **00 49 14.5 0.0**
BRTR *PP pP 00 49 26.9 -0.5
FLN La Foliniere 76.49 348 *eP* **P** **00 49 14.7 0.0**
comp=Z,12nm,0.7s,mb4.6
FLN La Foliniere 76.49 348 *eP* **P** **00 49 14.7 0.0**
FLN pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
FLN La Foliniere 76.49 348 *eP* **P** **00 49 14.7 0.0**
comp=Z,6.1nm,0.7s,mb4.6
LDF La Druitiere 76.61 348 *eP* **P** **00 49 15.4 0.0**
comp=Z,38nm,1.3s,mb4.9
LDF La Druitiere 76.61 348 *eP* **P** **00 49 15.4 0.0**
LDF pmax pmax
comp=Z,19nm,1.3s,mb4.9
LDF La Druitiere 76.61 348 *eP* **P** **00 49 15.4 0.0**
comp=Z,19nm,1.3s,mb4.9
DAVOX Davos 76.75 340 LR LR 01 29 56.1
comp=Z,131nm,19.0s,MS4.3,baz=183,slow=41
GRR Gorron 76.90 348 *eP* **P** **00 49 16.9 -0.1**
comp=Z,37nm,1.0s,mb5.0
GRR Gorron 76.90 348 *eP* **P** **00 49 16.9 -0.1**
GRR pmax pmax
comp=Z,18nm,1.0s,mb5.0
GRR Gorron 76.90 348 *eP* **P** **00 49 16.9 -0.1**
comp=Z,18nm,1.0s,mb5.0
BRMO Bormio 76.94 340 P **P** **00 49 18.6 +1.4**
comp=Z,21nm,1.1s,mb5.0
WRAB Tennant Creek 77.26 206 *eP* **P** **00 49 18.2 -0.8**
WRAB *e*PP* pP 00 49 31.3 -0.6
WRAB pmax pmax
comp=Z,40nm,1.3s,mb5.2
WRAB Tennant Creek 77.26 206 *eP* **P** **00 49 18.2 -0.8**
comp=Z,40nm,1.3s,mb5.2
WRAB *epP* pP 00 49 31.3 -0.6
WB2 Warramunga Arr 77.27 206 *eP* **P** **00 49 18.6 -0.5**
WB2 Warramunga Arr 77.27 206 *eP* **P** **00 49 18.7 -0.3**
WRA Warramunga Arr 77.27 206 P **P** **00 49 18.6 -0.4**
comp=Z,5.3nm,1.0s,mb4.4,baz=19,slow=6.0,SNR=23
WRA pP pP 00 49 31.0 -1.0
comp=Z,7.9nm,0.8s,baz=20,slow=6.1,SNR=13
LOR Lormes 77.34 345 *eP* **P** **00 49 19.1 -0.4**
comp=Z,16nm,0.8s,mb4.7
LOR Lormes 77.34 345 *eP* **P** **00 49 19.1 -0.4**
LOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LOR Lormes 77.34 345 *eP* **P** **00 49 19.1 -0.4**
comp=Z,8.1nm,0.8s,mb4.7
SSF Saint Saulge 77.60 345 *eP* **P** **00 49 20.7 -0.2**
comp=Z,5.6nm,0.8s,mb4.3
SSF Saint Saulge 77.60 345 *eP* **P** **00 49 20.7 -0.2**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SSF Saint Saulge 77.60 345 *eP* **P** **00 49 20.7 -0.2**
comp=Z,2.8nm,0.8s,mb4.2
CABF La Chapelle 77.61 343 *eP* **P** **00 49 21.8 +0.8**
ESKT Eskisehir 77.65 323 *i* P **P** **00 49 21.1 -0.1**
ULDT Uludag 77.69 325 *i* P **P** **00 49 21.6 +0.1**
AVF Avril sur Loir 77.89 345 *eP* **P** **00 49 22.3 -0.2**
comp=Z,16nm,0.9s,mb4.7
AVF Avril sur Loir 77.89 345 *eP* **P** **00 49 22.3 -0.2**
AVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
AVF Avril sur Loir 77.89 345 *eP* **P** **00 49 22.3 -0.2**
comp=Z,8.1nm,0.9s,mb4.7
MCGN Macugnaga 77.90 341 P **P** **00 49 27.3 +4.7**
comp=Z,8.2nm,0.8s,mb4.7
SMF Signal de Mont 77.95 344 *eP* **P** **00 49 22.8 -0.1**
comp=Z,20nm,1.1s,mb4.7
SMF Signal de Mont 77.95 344 *eP* **P** **00 49 22.8 -0.1**
SMF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SMF Signal de Mont 77.95 344 *eP* **P** **00 49 22.8 -0.1**
comp=Z,9.8nm,1.1s,mb4.7
FITZ Fitzroy Crossi 78.13 215 *eP* **P** **00 49 24.1 +0.2**
comp=Z,11nm,0.8s,mb4.8
BGF Bois d'Agland 78.19 345 *eP* **P** **00 49 24.2 0.0**
TCF Toulx Ste Croi 78.55 346 *eP* **P** **00 49 26.4 +0.2**
comp=Z,13nm,1.0s,mb4.5
TCF Toulx Ste Croi 78.55 346 *eP* **P** **00 49 26.4 +0.2**
TCF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TCF Toulx Ste Croi 78.55 346 *eP* **P** **00 49 26.4 +0.2**
comp=Z,6.6nm,1.0s,mb4.5
LPL La Plagne 78.56 342 *eP* **P** **00 49 26.7 +0.5**
comp=Z,20nm,1.0s,mb4.7
LPL La Plagne 78.56 342 *eP* **P** **00 49 26.7 +0.5**
LPL pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LPL La Plagne 78.56 342 *eP* **P** **00 49 26.7 +0.5**
comp=Z,10nm,1.0s,mb4.7
MFF Saint Martin d 78.57 347 *eP* **P** **00 49 26.3 0.0**
LPG La Plagne 78.57 342 *eP* **P** **00 49 26.9 +0.6**
comp=Z,17nm,0.9s,mb4.7
LPG La Plagne 78.57 342 *eP* **P** **00 49 26.9 +0.6**
LPG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LPG La Plagne 78.57 342 *eP* **P** **00 49 26.9 +0.6**
comp=Z,8.4nm,0.9s,mb4.7
AGO Saint Agoulin 78.64 345 *eP* **P** **00 49 29.6 +2.9**
PALK Pallekele 78.76 267 P **P** **00 49 27.6 +0.2**
RSM Repubblica di 78.92 338 P **P** **00 49 28.8 +0.5**
RSM pmax pmax
comp=Z,68nm,1.2s,mb5.5
RSM Repubblica di 78.92 338 P **P** **00 49 28.8 +0.5**
comp=Z,68nm,1.2s,mb5.5
GSCL Gusciola 78.93 339 P **P** **00 49 31.1 +2.8**
comp=Z,21nm,0.8s,mb5.1
PYM Petit Puy Mans 78.95 345 *eP* **P** **00 49 30.3 +1.9**
BNI Bardonecchia 79.02 342 *eP* **P** **00 49 30.3 +1.5**
BNI *e*PP* pP 00 49 41.4 -0.3
BNI pmax pmax
comp=Z,14nm,1.0s,mb4.8
BNI Bardonecchia 79.02 342 *eP* **P** **00 49 30.3 +1.5**
comp=Z,14nm,1.0s,mb4.8
BNI *epP* pP 00 49 41.4 -0.4
FSSB Fossombrone 79.08 337 P **P** **00 49 29.7 +0.6**
SFI Santa Sofia 79.08 338 P **P** **00 49 30.2 +1.1**
SFI pmax pmax
comp=Z,33nm,1.0s,mb5.2
SFI Santa Sofia 79.08 338 P **P** **00 49 30.2 +1.1**
comp=Z,33nm,1.0s,mb5.2
TKTP Tekketepe 79.15 323 *i* P **P** **00 49 29.1 -0.4**
BDI Bagni Di Lucca 79.20 339 P **P** **00 49 30.7 +0.9**
ARV Arcevia 79.23 337 P **P** **00 49 30.8 +0.9**
comp=Z,10nm,0.7s,mb4.9
ORIF Oris-en-Rattie 79.29 343 *eP* **P** **00 49 30.4 +0.2**
comp=Z,11nm,1.0s,mb4.5
ORIF Oris-en-Rattie 79.29 343 *eP* **P** **00 49 30.4 +0.2**
ORIF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ORIF Oris-en-Rattie 79.29 343 *eP* **P** **00 49 30.4 +0.2**
comp=Z,5.3nm,1.0s,mb4.4
MBDF Montbardon 79.31 342 *eP* **P** **00 49 30.7 +0.3**
SNTG Esanatoglia 79.46 337 P **P** **00 49 31.8 +0.6**
comp=Z,14nm,1.0s,mb4.8
VIVF Saint-Julien-l 79.56 343 *eP* **P** **00 49 32.1 +0.4**
comp=Z,11nm,0.9s,mb4.5
VIVF Saint-Julien-l 79.56 343 *eP* **P** **00 49 32.1 +0.4**
VIVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
VIVF Saint-Julien-l 79.56 343 *eP* **P** **00 49 32.1 +0.4**
comp=Z,5.3nm,0.9s,mb4.5
RJF Les Rejaudoux 79.61 346 *eP* **P** **00 49 31.9 -0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NRCA	Norcia	79.82	337	P	P	00 49 33.7	+0.6
	comp=Z,17nm,0.8s,mb5.0						
CAF	Calviac	79.90	345	eP	P	00 49 33.6	0.0
	comp=Z,15nm,1.1s,mb4.5						
CAF	Calviac	79.90	345	eP	P	00 49 33.6	0.0
CAF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
CAF	Calviac	79.90	345	eP	P	00 49 33.6	0.0
	comp=Z,7.6nm,1.1s,mb4.5						
TOUF	Mont Tournerai	79.92	341	eP	P	00 49 37.7	+4.1
DNZL	Cakiroluk	79.92	324	i P	P	00 49 33.9	+0.3
LUCF	Luceram	80.01	341	eP	P	00 49 41.4	+7.2
SBF	Sospel	80.03	341	eP	P	00 49 33.9	-0.3
LFF	La Frestale	80.08	346	eP	P	00 49 34.3	-0.2
AQU	L'Aquila	80.20	337	eP	P	00 49 34.7	-0.5
AQU				e		00 49 43.7	
AQU				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
AQU	L'Aquila	80.20	337	eP	P	00 49 34.7	-0.5
	comp=Z,22nm,1.0s,mb5.0						
AQU				ePcP	PcP	00 49 43.7	+1.4
AQU				epP	pP	00 49 49.1	+0.9
SMRF	Simiane la Rot	80.26	343	eP	P	00 49 35.6	+0.1
AYDN	Tasoluk	80.35	324	i P	P	00 49 36.1	+0.1
LASF	Ste Croix	80.45	344	eP	P	00 49 36.9	+0.4
	comp=Z,20nm,1.2s,mb4.6						
FRF	La Foret Royal	80.47	342	eP	P	00 49 36.5	-0.1
LMR	La Mourre	80.71	342	eP	P	00 49 37.7	-0.2
	comp=Z,16nm,0.9s,mb4.7						
LMR	La Mourre	80.71	342	eP	P	00 49 37.7	-0.2
LMR				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
LMR	La Mourre	80.71	342	eP	P	00 49 37.7	-0.2
	comp=Z,8.1nm,0.9s,mb4.7						
AS31	Alice Springs	80.94	206	eP	P	00 49 39.5	+0.4
AS31				epP	pP	00 49 52.2	+0.1
ASAR	Alice Springs	80.94	206	P	P	00 49 39.4	+0.2
	comp=Z,4.1nm,0.9s,mb4.4,baz=18,slow=5.3,SNR=16						
ASAR				pP	pP	00 49 51.4	-0.8
	comp=Z,5.9nm,0.8s,baz=19,slow=5.3,SNR=12						
PGF	Pioggiola	80.98	340	eP	P	00 49 39.4	0.0
	comp=Z,11nm,0.8s,mb4.6						
PGF	Pioggiola	80.98	340	eP	P	00 49 39.4	0.0
PGF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
PGF	Pioggiola	80.98	340	eP	P	00 49 39.4	0.0
	comp=Z,5.6nm,0.8s,mb4.5						
MTLF	Montolieu	81.43	345	eP	P	00 49 41.9	+0.2
ASF	Jabal al Asfar	81.77	315	P	P	00 49 44.2	+0.7
	comp=Z,3.0nm,0.7s,mb4.3,baz=292,slow=1.1,SNR=6.7						
ASF				pP	pP	00 49 56.5	0.0
	comp=Z,8.8nm,0.9s,baz=150,slow=2.0,SNR=7.1						
ASF				LR	LR	01 30 42.2	
	comp=Z,198nm,19.4s,MS4.5,baz=79,slow=39						
EPF	Esparros	82.01	346	eP	P	00 49 44.7	-0.1
ETSF	Etsaut	82.26	347	eP	P	00 49 46.3	+0.2
MBWA	Marble Bar	83.04	219	eP	P	00 49 50.5	+0.3
MBWA				epP	pP	00 50 02.5	-0.7
VSL	Villasalto	83.83	339	eP	P	00 49 54.2	0.0
	comp=Z,16nm,1.0s,mb5.1						
VSL				epP	pP	00 50 06.5	-0.8
EIL	Elat	84.76	315	eP	P	00 49 59.9	+0.9
	comp=Z,202nm,0.8s						
EIL				epP	pP	00 50 11.1	-1.0
ESDC	Sonseca Array	85.86	349	P	P	00 50 02.9	-1.6
	comp=Z,1.5nm,0.8s,mb4.3,baz=6.8,slow=6.4,SNR=5.2						
ESLA	Sonseca Array	85.86	349	eP	P	00 50 04.5	+0.1
ESLA				epP	pP	00 50 17.2	-0.4
STKA	Stephens Creek	87.25	197	⇑iP	P	00 50 10.8	-0.4
	comp=Z,6.4nm,0.9s,mb4.8						
STKA	Stephens Creek	87.25	197	P	P	00 50 10.8	-0.4
	comp=Z,2.8nm,0.8s,mb4.5,baz=311,slow=11,SNR=4.2						
STKA				pP	pP	00 50 23.2	-1.1
	comp=Z,6.6nm,0.8s,baz=330,slow=6.1,SNR=6.6						
STKA	Stephens Creek	87.25	197	eP	P	00 50 11.9	+0.7
STKA				epP	pP	00 50 23.7	-0.7
SIV	San Ignacio	129.71	58	pPKP	pPKPdf	00 56 46.6	-0.7
	comp=Z,3.5nm,0.9s,baz=4.6,slow=0.7,SNR=12						
VNDA	Vanda	131.25	180	PKP	PKPdf	00 56 33.0	-3.7
	comp=Z,0.4nm,0.8s,baz=270,slow=3.0,SNR=2.8						
VNDA				pPKP	pPKPdf	00 56 47.6	-2.6
	comp=Z,1.0nm,0.8s,baz=327,slow=5.0,SNR=6.1						
VNDA	Vanda	131.25	180	PKP	PKPdf	00 56 33.0	-3.7
VNDA				pPKP	pPKPdf	00 56 47.6	-2.6
PLCA	Paso Flores	143.16	91	PKP	PKPdf	00 56 56.3	-2.3
	comp=Z,1.4nm,0.9s,baz=55,slow=13,SNR=3.3						
QSPA	South Pole Qui	143.75	180	ePKPdf	PKPdf	00 56 54.6	-5.0
SYO	Syowa Base	149.93	218	⇑eP	PKPdf	00 57 12.5	+2.5
SYO	Syowa Base	149.93	218	⇓eP	PKPab	00 57 25.3	+4.7

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*IDC **14** 00:53:57.5±0.9, 4063S×17926W, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.3/13, mbtmp4.2/9, ML4.9/1, MS3.9/9, Ms1 3.9/9, ms1mx3.7/23, Error ellipse: s-maj=36.1km s-min=18.8km az=34.0*

*ISCJB **14** 00:54:01.9±0.4, 4090S±003×17968W±003, h27km, mb4.3/13, MS3.9/8, Error ellipse: s-maj=4.2km s-min=3.6km az=43.8*

*WEL **14** 00:54:02.9±0.4, 4075S×17945W, h33km, ML5.2/58, Error ellipse: s-maj=4.2km s-min=2.4km az=90.0*

*NEIC **14** 00:54:03.7, 4094S×17955W, h33km, mb4.6/6, ML5.2(WEL), After WEL.*

ISC 14 00:54:04.1±0.4**, 4087S**±003×**17969W**±003**, h29**km**, h29**km±2.8km**:pP-P, n179,** $\sigma 1^{s}$**24**/198**, mb4.3**/13**, MS3.9**/8**, 3C-3D, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNZ	Kokohu	2.74	312	PN	Pn	00 54 44.9	-1.2
KNZ				SN	Sn	00 55 16.1	-2.2
KNZ	Kokohu	2.74	312	P	Pn	00 54 44.9	-1.2
KNZ				S	Sn	00 55 16.3	-2.0
PXZ	Pawanui	2.76	287	PN	Pn	00 54 47.0	+0.6
PXZ				SN	Sn	00 55 19.0	+0.3
BFZ	Birch Farm	3.09	272	PN	Pn	00 54 51.6	+0.7
BFZ				SN	Sn	00 55 26.8	-0.1
BFZ	Birch Farm	3.09	272	P	Pn	00 54 51.6	+0.7
PUZ	Puketiti	3.21	330	PN	Pn	00 54 49.0	-3.6
PUZ				SN	Sn	00 55 24.1	-5.8
PUZ	Puketiti	3.21	330	eP	Pn	00 54 49.5	-3.1
MWZ	Matawai	3.32	319	PN	Pn	00 54 51.9	-2.2
MWZ				SN	Sn	00 55 28.8	-3.7
MWZ	Matawai	3.32	319	P	Pn	00 54 52.0	-2.1
TIWZ	Tintock	3.36	270	PN	Pn	00 54 55.3	+0.7
TIWZ				SN	Sn	00 55 33.9	+0.4
BKZ	Black Stump Fm	3.39	299	⇑PN	Pn	00 54 55.2	+0.2
BKZ				SN	Sn	00 55 33.2	-1.1
BKZ	Black Stump Fm	3.39	299	P	Pn	00 54 55.2	+0.2
TSZ	Takapari Road	3.42	282	PN	Pn	00 54 56.1	+0.7
TSZ				SN	Sn	00 55 34.1	-0.8
TRWZ	Traveller	3.53	260	PN	Pn	00 54 56.8	-0.2
TRWZ				SN	Sn	00 55 39.2	+1.5
URZ	Urewera	3.59	315	Pn	Pn	00 54 56.3	-1.6
	86nm,0.3s,baz=203,slow=4.2,SNR=354						
URZ				Sn	Sn	00 55 35.7	-3.6
	157nm,0.3s,baz=236,slow=23,SNR=20						
URZ				LR	LR	00 56 25.4	
	comp=Z,871nm,21.5s,baz=211,slow=40						
URZ	Urewera	3.59	315	PN	Pn	00 54 56.3	-1.5
URZ				SN	Sn	00 55 36.5	-2.8
URZ	Urewera	3.59	315	P	Pn	00 54 56.5	-1.3
MRZ	Mangatainoka R	3.60	272	PN	Pn	00 54 58.3	+0.4
MRZ				SN	Sn	00 55 38.0	-1.4
MRZ	Mangatainoka R	3.60	272	P	Pn	00 54 58.5	+0.6
MTW	Mount Morrison	3.65	264	⇓PN	Pn	00 54 58.6	0.0
MTW				SN	Sn	00 55 39.6	-1.0
MTW	Mount Morrison	3.65	264	P	Pn	00 54 58.6	0.0
MXZ	Matakaoa Point	3.65	334	PN	Pn	00 54 55.4	-3.2
MXZ	Matakaoa Point	3.65	334	P	Pn	00 54 55.6	-3.0
PAWZ	Paruwai Farm	3.72	261	⇓PN	Pn	00 54 59.5	-0.2
PAWZ				SN	Sn	00 55 42.1	-0.4
PAWZ	Paruwai Farm	3.72	261	P	Pn	00 54 59.5	-0.1
MOVZ	Moawhango	3.79	291	PN	Pn	00 55 01.8	+1.3
MOVZ				SN	Sn	00 55 43.6	-0.4
MOVZ	Moawhango	3.79	291	P	Pn	00 55 01.8	+1.3
HATZ	Hinemaiaia	3.80	300	PN	Pn	00 55 01.7	+1.0
HATZ	Hinemaiaia	3.80	300	P	Pn	00 55 01.3	+0.7
MSWZ	Moikau Station	3.86	260	PN	Pn	00 55 01.0	-0.5
MSWZ				SN	Sn	00 55 45.7	-0.1
MSWZ	Moikau Station	3.86	260	P	Pn	00 55 01.1	-0.4
EDRZ	Edgecumbe	3.91	314	PN	Pn	00 55 01.6	-0.5
EDRZ	Edgecumbe	3.91	314	P	Pn	00 55 00.4	-1.7
RITZ	Rihia Road	3.91	297	PN	Pn	00 55 03.6	+1.4
RITZ	Rihia Road	3.91	297	P	Pn	00 55 03.9	+1.7
TUVZ	Tukino	3.91	293	PN	Pn	00 55 04.3	+2.1
TUVZ	Tukino	3.91	293	P	Pn	00 55 04.3	+2.1
WNVZ	Wahianoa	3.93	292	⇓PN	Pn	00 55 04.4	+2.0
WNVZ	Wahianoa	3.93	292	P	Pn	00 55 04.4	+2.0
TAZ	Tarawera	3.95	311	PN	Pn	00 55 02.1	-0.5
TAZ	Tarawera	3.95	311	P	Pn	00 55 02.6	-0.1
OTVZ	Oturere	3.95	294	PN	Pn	00 55 04.0	+1.3
OTVZ				SN	Sn	00 55 47.8	-0.3
DRZ	Dome Shelter	3.97	292	PN	Pn	00 55 05.5	+2.4
DRZ	Dome Shelter	3.97	292	P	Pn	00 55 05.8	+2.8
CAW	Cannon Point	3.98	265	PN	Pn	00 55 03.3	+0.3
CAW	Cannon Point	3.98	265	P	Pn	00 55 03.5	+0.4
FWVZ	Far West T-bar	3.99	292	PN	Pn	00 55 04.7	+1.4
FWVZ	Far West T-bar	3.99	292	P	Pn	00 55 05.0	+1.7
NGZ	Ngauruhoe	3.99	294	PN	Pn	00 55 05.1	+1.8
NGZ	Ngauruhoe	3.99	294	P	Pn	00 55 05.2	+1.9
MTVZ	Mangateitei	4.00	290	PN	Pn	00 55 05.0	+1.6
MTVZ				SN	Sn	00 55 49.7	+0.5
PATZ	Paeroa	4.00	307	PN	Pn	00 55 03.9	+0.5
PATZ	Paeroa	4.00	307	P	Pn	00 55 04.3	+0.9
WPVZ	Whakapapa	4.02	293	P	Pn	00 55 05.2	+1.6
KATZ	Kakaramea	4.02	297	PN	Pn	00 55 05.2	+1.5
KATZ				SN	Sn	00 55 48.8	-1.0
KATZ	Kakaramea	4.02	297	P	Pn	00 55 05.4	+1.7
RATZ	Rangitukua	4.03	298	PN	Pn	00 55 04.3	+0.6
RATZ	Rangitukua	4.03	298	P	Pn	00 55 04.5	+0.8
MARZ	Manawahe	4.03	314	PN	Pn	00 55 03.2	-0.5
MARZ	Manawahe	4.03	314	P	Pn	00 55 03.2	-0.6
KIW	Kapiti Island	4.09	268	PN	Pn	00 55 05.6	+0.9
KIW	Kapiti Island	4.09	268	P	Pn	00 55 05.7	+1.0
PKVZ	Pokaka	4.12	291	PN	Pn	00 55 06.8	+1.7
WIZ	White Island	4.13	323	PN	Pn	00 55 02.5	-2.7
WIZ	White Island	4.13	323	P	Pn	00 55 03.0	-2.1
BHW	Baring Head	4.14	261	PN	Pn	00 55 05.0	-0.3
BHW	Baring Head	4.14	261	P	Pn	00 55 05.0	-0.4
TWVZ	Taurewa	4.15	294	PN	Pn	00 55 07.0	+1.5
TWVZ	Taurewa	4.15	294	P	Pn	00 55 06.8	+1.3
LIRZ	Lichensteins R	4.17	312	PN	Pn	00 55 04.5	-1.3
WEL	Wellington	4.21	263	PN	Pn	00 55 06.5	+0.2
WEL	Wellington	4.21	263	P	Pn	00 55 06.5	+0.2
WAZ	Wanganui	4.22	284	PN	Pn	00 55 09.1	+2.6
WAZ	Wanganui	4.22	284	P	Pn	00 55 09.1	+2.7
KARZ	Kaharoa	4.24	311	PN	Pn	00 55 05.8	-1.0
MRW	Makara Radio	4.26	263	PN	Pn	00 55 07.2	+0.2
MRW				SN	Sn	00 55 53.8	-1.9
MRW	Makara Radio	4.26	263	P	Pn	00 55 07.2	+0.3
SNZO	South Karori	4.26	262	PN	Pn	00 55 07.0	0.0
SNZO	South Karori	4.26	262	P	Pn	00 55 07.0	0.0
SNZO				eSn	Sn	00 55 54.2	-1.4
TCW	Tory Channel	4.58	264	PN	Pn	00 55 11.5	+0.2
TCW	Tory Channel	4.58	264	P	Pn	00 55 11.7	+0.4
VRZ	Vera Road	4.61	290	PN	Pn	00 55 12.8	+1.1
VRZ	Vera Road	4.61	290	eP	Pn	00 55 13.3	+1.6
RAEZ	Rainy Point	4.81	287	PN	Pn	00 55 16.8	+2.4
RAEZ	Rainy Point	4.81	287	P	Pn	00 55 17.2	+2.7
HIZ	Hauiti	4.82	297	PN	Pn	00 55 15.6	+0.9
HIZ	Hauiti	4.82	297	P	Pn	00 55 15.7	+1.0
TUWZ	Tuamarina	4.84	261	PN	Pn	00 55 14.5	-0.4
DUWZ	D'Urville Isla	4.85	269	PN	Pn	00 55 16.2	+1.1
BSWZ	Blackbirch Sta	4.92	258	P	Pn	00 55 15.8	-0.2
NEZ	North Egmont	5.03	287	P	Pn	00 55 21.0	+3.5
NRZ	Ngariki Road	5.12	285	P	Pn	00 55 21.9	+3.0
PKE	Pukeiti	5.13	287	PN	Pn	00 55 21.8	+2.8
PKE				SN	Sn	00 56 18.0	+0.8
PKE	Pukeiti	5.13	287	P	Pn	00 55 21.9	+2.9
NNZ	Nelson	5.25	264	PN	Pn	00 55 21.1	+0.5
NNZ	Nelson	5.25	264	P	Pn	00 55 21.2	+0.6
KHZ	Kahutara	5.30	251	PN	Pn	00 55 20.2	-1.1
KHZ				SN	Sn	00 56 20.1	-1.3
KHZ	Kahutara	5.30	251	eP	Pn	00 55 20.2	-1.1
KUZ	Kuaotunu	5.46	317	ePN	Pn	00 55 20.6	-2.8
KUZ				SN	Sn	00 56 19.1	-6.1
KUZ	Kuaotunu	5.46	317	eP	Pn	00 55 20.6	-2.9
KUZ				S	Sn	00 56 19.1	-6.2
THZ	Tophouse	5.65	258	PN	Pn	00 55 25.3	-0.7
THZ	Tophouse	5.65	258	eP	Pn	00 55 25.3	-0.7
MTAZ	Motutapu	5.86	312	PN	Pn	00 55 28.2	-0.8
MTAZ	Motutapu	5.86	312	P	Pn	00 55 28.7	-0.3
QRZ	Quartz Range	5.90	268	PN	Pn	00 55 30.0	+0.5
QRZ	Quartz Range	5.90	268	eP	Pn	00 55 30.1	+0.6
WTAZ	Waiatarua	5.96	309	P	Pn	00 55 30.4	+0.1
LTZ	Lake Taylor	6.30	250	PN	Pn	00 55 33.6	-1.4
LTZ	Lake Taylor	6.30	250	eP	Pn	00 55 33.9	-1.1
CRLZ	Canterbury Las	6.32	242	PN	Pn	00 55 35.2	0.0
CRLZ	Canterbury Las	6.32	242	P	Pn	00 55 36.1	+0.9
MQZ	McQueen's Vall	6.35	241	PN	Pn	00 55 34.3	-1.3
MQZ				eSN	Sn	00 56 43.7	-3.4
MQZ	McQueen's Vall	6.35	241	eP	Pn	00 55 34.5	-1.1
DSZ	Denniston Nort	6.46	259	PN	Pn	00 55 36.8	-0.4
DSZ	Denniston Nort	6.46	259	eP	Pn	00 55 36.9	-0.4
WCZ	Waipu Caves	6.79	315	PN	Pn	00 55 39.8	-2.0
WCZ	Waipu Caves	6.79	315	eP	Pn	00 55 39.8	-2.0
RPZ	Rata Peaks	7.43	244	Pn	Pn	00 55 49.2	-1.3
	19nm,0.3s,baz=88,slow=4.1,SNR=30						
RPZ				Sn	Sn	00 57 10.2	-3.5
	51nm,0.3s,baz=355,slow=21,SNR=18						
RPZ	Rata Peaks	7.43	244	PN	Pn	00 55 49.0	-1.5
RPZ				SN	Sn	00 57 11.0	-2.7
RPZ	Rata Peaks	7.43	244	eP	Pn	00 55 49.7	-0.8
WVZ	Waitaha Valley	7.47	250	SN	Sn	00 57 12.1	-2.6
ODZ	Otahua Downs	8.22	236	PN	Pn	00 56 00.8	-0.6
ODZ				SN	Sn	00 57 29.5	-3.8
ODZ	Otahua Downs	8.22	236	eP	Pn	00 56 01.6	+0.2
LBZ	Lake Benmore	8.25	241	PN	Pn	00 56 01.1	-0.7
LBZ	Lake Benmore	8.25	241	eP	Pn	00 56 01.4	-0.4
FOZ	Fox Glacier	8.33	248	PN	Pn	00 56 02.5	-0.3
FOZ				SN	Sn	00 57 33.2	-2.7
FOZ	Fox Glacier	8.33	248	eP	Pn	00 56 02.5	-0.4
EAZ	Earnscleugh	9.16	238	PN	Pn	00 56 14.5	+0.3
EAZ	Earnscleugh	9.16	238	eP	Pn	00 56 14.7	+0.5
WKZ	Wanaka	9.19	241	PN	Pn	00 56 15.1	+0.5
WKZ	Wanaka	9.19	241	eP	Pn	00 56 15.9	+1.3
TUZ	Tuapeka	9.28	233	PN	Pn	00 56 16.4	+0.4
TUZ	Tuapeka	9.28	233	eP	Pn	00 56 16.4	+0.5
SYZ	Scrubby Hill	9.87	231	PN	Pn	00 56 24.9	+0.9
MLZ	Mavora Lakes	9.94	239	PN	Pn	00 56 26.0	+1.1
MLZ	Mavora Lakes	9.94	239	eP	Pn	00 56 26.0	+1.1
APZ	The Paps	10.70	232	PN	Pn	00 56 36.6	+1.2
RAO	Raoul Island	11.68	8	ePn	Pn	00 56 49.6	+0.8
TAU	Tasmania Unive	24.56	254	eP	P	00 59 21.1	-0.2
	1.5nm,0.4s,mb3.9						
RAR	Rarotonga	25.88	47	LR	LR	01 06 28.2	
	comp=Z,276nm,18.5s,MS3.8,baz=128,slow=30						
AFI	Afiamalu	27.74	17	eP	P	00 59 49.5	-0.5
TBI	Tubuai	30.79	65	eLR	LR	01 07 47.5	
	356nm,26.5s						
STKA	Stephens Creek	32.22	274	eP	P	01 00 30.8	+1.1
	4.2nm,0.8s,mb4.3						
STKA	Stephens Creek	32.22	274	P	P	01 00 29.9	+0.2
	3.1nm,1.0s,mb4.1,baz=83,slow=14,SNR=2.4						
PPT	Papeete	34.78	57	LR	LR	01 11 21.3	
	comp=Z,228nm,18.6s,MS4.0,baz=234,slow=30						
CTA	Charters Tower	35.60	295	LR	LR	01 14 46.0	
	comp=Z,198nm,21.4s,MS3.8,baz=225,slow=35						
CTAO	Charters Tower	35.60	295	eP	P	01 00 58.4	-0.7
HNR	Honiara	36.14	324	P	P	01 01 04.5	+0.9
SBA	Scott Base	37.51	185	eP	P	01 01 10.2	-5.1
	4.7nm,0.7s,mb4.3						
VNDA	Vanda	37.56	186	P	P	01 01 14.9	-0.9
	0.9nm,1.0s,mb3.5,baz=45,slow=5.7,SNR=3.1						
VNDA				LR	LR	01 13 06.7	
	comp=Z,130nm,19.1s,MS3.8,baz=11,slow=30						
VNDA	Vanda	37.56	186	eP	P	01 01 15.8	0.0
AS31	Alice Springs	42.30	279	eP	P	01 01 55.4	+0.3
AS31				epP	pP	01 02 05.2	+1.4
ASAR	Alice Springs	42.30	279	P	P	01 01 55.1	+0.1
	5.3nm,0.9s,mb4.2,baz=124,slow=7.3,SNR=6.0						
ASAR				LR	LR	01 19 38.8	
	comp=Z,165nm,20.0s,MS3.9,baz=283,slow=36						
PMG	Port Moresby	42.92	308	LR	LR	01 17 24.9	
	comp=Z,147nm,18.9s,MS3.9,baz=254,slow=33						
PMG	Port Moresby	42.92	308	eP	P	01 02 01.1	+0.9
WB2	Warramunga Arr	44.20	284	eP	P	01 02 10.0	-0.4
WB2	Warramunga Arr	44.20	284	eP	P	01 02 10.1	-0.3
WB2				epP	pP	01 02 19.8	+0.7
WB2				esP	sP	01 02 23.9	+1.3
WRAB	Tennant Creek	44.20	284	eP	P	01 02 13.1	+2.6
WRAB				epP	pP	01 02 19.9	+0.8
WRA	Warramunga Arr	44.20	284	P	P	01 02 10.2	-0.2
	4.2nm,0.7s,mb4.3,baz=127,slow=7.4,SNR=33						
QSPA	South Pole Qui	49.26	180	eP	P	01 02 52.4	+2.4
	9.5nm,0.9s,mb4.8						
QSPA				epP	pP	01 02 59.2	+0.3
KLBR	Kellerberrin	50.35	260	eP	P	01 02 59.1	+0.8
	15nm,1.0s,mb5.0						
FITZ	Fitzroy Crossi	51.80	279	LR	LR	01 25 14.4	
	comp=Z,106nm,19.9s,MS3.9,baz=329,slow=36						
MBWA	Marble Bar	54.44	272	eP	P	01 03 28.9	+0.3
MAW	Mawson	62.09	203	P	P	01 04 22.5	+0.4
	4.3nm,1.1s,mb4.5,baz=129,slow=6.5,SNR=3.9						
MAW				LR	LR	01 28 50.3	
	comp=Z,262nm,19.8s,MS4.4,baz=311,slow=34						
MAW	Mawson	62.09	203	P	P	01 04 22.4	+0.3
PMSA	Palmer Station	63.36	154	P	P	01 04 28.7	-2.0
SYO	Syowa Base	66.64	194	⇑eP	P	01 04 51.0	-0.9
SYO	Syowa Base	66.64	194	⇑eP	pP	01 05 01.2	+0.2
SNAA	Sanae	67.74	179	eP	P	01 04 59.2	+0.4
	12nm,1.5s,mb4.7						
PLCA	Paso Flores	76.42	132	P	P	01 05 48.8	-2.1
	2.3nm,1.1s,mb4.0,baz=222,slow=9.0,SNR=4.6						
TRQA	Tornquist	83.01	135	P	P	01 06 24.8	-1.7
CFAA	Coronel Fontan	84.07	127	P	P	01 06 30.7	-1.4
	0.3nm,0.6s,mb3.6,baz=259,slow=5.2,SNR=4.3						
CFAA	Coronel Fontan	84.07	127	P	P	01 06 30.7	-1.4
LPAZ	La Paz	94.93	116	P	P	01 07 20.6	-3.0
	1.8nm,1.1s,mb4.4,baz=237,slow=5.4,SNR=5.1						
KURK	Kurchatov	126.93	309	ePKPdf	PKPdf	01 13 02.0	-3.1
ARCES	ARCESS Array B	148.38	343	PKPbc	PKPbc	01 13 44.1	-3.5
	7.3nm,0.8s,baz=343,slow=3.8,SNR=10						
TORD	Torodi Ar. Bea	152.35	183	PKPbc	PKPbc	01 13 55.7	-1.5
	0.3nm,0.5s,baz=191,slow=6.7,SNR=8.9						
TORD				PKPab	PKPab	01 14 06.4	-0.9
	1.9nm,0.8s,baz=160,slow=2.4,SNR=12						
TORD	Torodi Ar. Bea	152.35	183	PKPbc	PKPbc	01 13 55.7	-1.5
TORD				PKPab	PKPab	01 14 06.4	-0.9
BRTR	Keskin Array B	154.64	278	PKPbc	PKPbc	01 14 00.3	-1.8
	0.4nm,0.8s,baz=139,slow=11,SNR=3.2						

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*NIED **14** 00:57:00, 4670N×15350E, h8km, Mw4.1 Best double couple: $M_0$1.48000×10^{15} NP1:ϕ_s33.00000°, δ84.00000°, λ-161.00000°. NP2:ϕ_s301.00000°, δ72.00000°, λ-7.00000°.*

*SZGRF **14** 00:57:52.1, 45.12N×154.00E, h33km, mb4.3, East of Kuril Islands, Russia*

*SKHL **14** 00:57:55.1±1.1, 4530N×154.10E, h52km±22km, mb4.8/2*

*JMA **14** 00:57:55.2±0.7, 4675N×15350E, h30km, M4.8*

*MOS **14** 00:57:57.6±1.0, 4648N×15333E, h44km, mb4.7/20, Error ellipse: s-maj=11.9km s-min=7.2km az=110.7*

*ISCJB **14** 00:57:58.2±1.1, 4635N±007×15329E±009, h51km±8km, mb4.5/55, Error ellipse: s-maj=13.3km s-min=7.6km az=92.3*

*IDC **14** 00:58:01.3±3.9, 4646N×15327E, h61km±34km, mb4.0/20, mb1 4.2/22, mb1mx4.1/29, mbtmp4.3/22, ML4.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.2/32, Error ellipse: s-maj=20.5km s-min=16.1km az=106.0*

*BJI **14** 00:58:03.7, 4672N×15300E, h84km, mB4.8, mb4.4, Ms4.7, Msz4.1*

*NEIC **14** 00:58:05.0±1.5, 4639N×153.14E, h97km±11km, mb4.4/20, Error ellipse: s-maj=13.0km s-min=7.3km az=108.0*

ISC 14 00:58:00.6±0.9**, 4639N**±006×**15325E**±009**, h60**km±7km**, n169,** $\sigma 1^{s}$**29**/179**, mb4.5**/55**, 13C-11D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.94	255	eP	Pn	00 58 57.6	-0.9
KUR				eS	Sn	00 59 45.2	+1.7
KUR				A		00 59 49.2	
	610nm,0.6s						
KUR				A		00 59 49.2	
	320nm,0.6s						
SKR	Severo-Kuril's	4.70	23	ePN	Pn	00 59 01.8	-7.1
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
YUK	Yuzh-Kuril'sk	5.73	248	eP	Pn	00 59 24.0	+1.0
YUK				AMB	AMB	00 59 24.4	
	comp=Z,190nm,0.5s						
YUK				AMB	AMB	00 59 24.4	
	comp=Z,230nm,0.5s						
YUK				i S	Sn	01 00 31.4	+4.0
YUK				A		01 00 35.5	
	comp=Z,380nm,0.5s						
YUK				A		01 00 35.5	
	comp=Z,190nm,0.5s						
YUK				A		01 00 35.6	
	comp=Z,2µm,1.0s						
YUK				A		01 00 35.6	
	comp=Z,1µm,1.0s						
YUK	Yuzh-Kuril'sk	5.73	248	PN	Pn	00 59 24.0	+1.0
YUK				i S	Sn	01 00 31.4	+4.0
YUK				pmax	pmax		
	comp=Z,230nm,0.4s						
YUK				pmax	pmax		
	comp=N,190nm,0.5s						
YUK				smax			
	comp=N,380nm,0.5s						
YUK				smax			
	comp=E,190nm,0.5s						
YUK				smax			
	comp=N,2µm,0.8s						
YUK				smax			
	comp=E,1µm,1.0s						
NEM2	Nemuro 2	6.13	243	P	Pn	00 59 26.9	-1.7
NEM2				eS	Sn	01 00 35.3	-2.0
JRA	Rausu	6.25	250	P	Pn	00 59 31.3	+1.1
JNK	Nakash	6.67	248	P	Pn	00 59 36.6	+0.7
JAK	Akkeshi	6.98	244	P	Pn	00 59 38.7	-1.4
JAK				eS	Sn	01 00 55.2	-2.8
JTKR	Abashiri--Toko	7.03	253	P	Pn	00 59 42.4	+1.5
YSS	Yuzh-Sakhalins	7.24	278	ePN	Pn	00 59 47.5	+3.7
JAR	Ashorobuto	7.42	249	P	Pn	00 59 46.8	+0.7
JAR				eS	Sn	01 01 09.7	+0.9
PET	Petropavlovsk	7.50	26	ePN	Pn	00 59 48.8	+1.5
JOB	Onbets	7.57	246	P	Pn	00 59 47.0	-1.2
JOB				eS	Sn	01 01 09.7	-2.8
JKK2	Kamakawa 2	7.84	255	P	Pn	00 59 54.0	+2.0
ASAJ	Asahikawa	7.86	257	P	Pn	00 59 54.8	+2.6
	comp=E,3.7nm,0.3s,baz=84,slow=17,SNR=16						
ASAJ				LR	LR	01 02 28.6	
	comp=E,163nm,19.6s,baz=325,slow=34						
ASAJ	Asahikawa	7.86	257	P	Pn	00 59 54.4	+2.3
ASAJ	Asahikawa	7.86	257	PN	Pn	00 59 54.8	+2.7
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,163nm,19.6s						
JCH	Churui	8.01	245	P	Pn	00 59 53.7	-0.6
JFR	Furan	8.24	251	P	Pn	00 59 59.9	+2.5
JEM	Erimo	8.47	243	P	Pn	01 00 00.2	-0.3
JNBK	Urakawa-nobuka	8.57	245	P	Pn	00 59 59.2	-2.8
JNBK				eS	Sn	01 01 33.1	-4.1
JKB	Kayabe	9.87	247	P	Pn	01 00 18.3	-1.4
JKB				eS	Sn	01 02 04.2	-4.7
JANG	Nango	10.44	239	P	Pn	01 00 23.7	-3.8
JTM	Tenmabayashi	10.46	242	P	Pn	01 00 25.6	-2.1
JTM				eS	Sn	01 02 15.2	-8.1
JTH	Tanohata	10.52	236	eS	Sn	01 02 14.6	-10
JRG	Rokugo	11.59	237	eS	Sn	01 02 40.7	-10
JIO	Ouri	11.83	232	eS	Sn	01 02 47.8	-9.1
MA2	Magadan	13.29	354	ePN	Pn	01 01 11.8	+5.4
EKMR	Ekimchan	14.70	304	eP	Pn	01 01 28.5	+3.4
EKMR				AMB	AMB	01 01 34.0	
	comp=Z,4.0nm,0.5s						
KLR	Kul'dur	14.72	289	eP	Pn	01 01 29.7	+4.4
MAJO	Matsushiro	14.94	234	eP	Pn	01 01 35.4	+7.2
MAJO				pmax	pmax		
	comp=Z,11nm,0.8s						
MAJO	Matsushiro	14.94	234	eP	Pn	01 01 35.4	+7.2
	comp=Z,11nm,0.8s						
MJAR	Matsushiro Arr	14.94	234	P	Pn	01 01 29.0	+0.8
	comp=Z,0.4nm,0.3s,baz=30,slow=12,SNR=8.4						
MDJ	Mudanjiang	16.67	272	P	Pn	01 01 52.8	+2.6
MDJ				AMB	AMB		
	comp=Z,12nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,128nm,6.2s						
MDJ	Mudanjiang	16.67	272	eP	Pn	01 01 51.2	+1.0
	comp=Z,6.0nm,0.6s						
CN2	Changchun	19.76	273	eP	Pn	01 02 24.9	-2.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YAK	**Yakutsk**	**20.67**	**328**	P	**P**	**01 02 34.9**	**-0.6**
SNY	**Shenyang**	**21.72**	**269**	⇑P	**P**	**01 02 49.1**	**+2.4**
SNY				AMB	AMB		
	comp=Z,18nm,0.6s,mb4.7						
HIA	**Hailar**	**22.57**	**290**	eP	**P**	**01 02 55.8**	**0.0**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.2s						
HIA	**Hailar**	**22.57**	**290**	eP	**P**	**01 02 55.8**	**0.0**
	comp=Z,7.8nm,0.2s,mb4.8						
BOD	**Bodaibo**	**26.29**	**310**	eP	**P**	**01 03 27.3**	**-3.1**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.7						
BJT	**Baijiatuau**	**27.59**	**270**	eP	**P**	**01 03 41.3**	**-0.7**
HHC	**Hu-ho-hao-te**	**30.42**	**275**	eP	**P**	**01 04 09.1**	**+1.9**
HHC				AP	pP	01 04 33.0	+11
HHC				PP	PP	01 05 11.1	-5.6
HHC				PCP	PcP	01 07 07.8	+2.3
HHC				S	**S**	**01 08 54.6**	**-9.1**
HHC				SS	SS	01 10 46.5	-29
HHC				SCS	ScS	01 14 35.1	-3.8
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,270nm,4.9s						
HHC				LR	LR		
	comp=N,231nm,5.3s						
HHC				LR	LR		
	comp=E,229nm,5.7s						
HHC				LR	LR		
	comp=Z,127nm,5.4s						
ULN	**Ulaanbaatar**	**31.11**	**290**	i P	**P**	**01 04 18.8**	**+5.5**
SONM	**Songino Array**	**31.54**	**290**	P	**P**	**01 04 17.6**	**+0.5**
	comp=Z,0.9nm,0.7s,mb3.7,baz=75,slow=9.2,SNR=6.0						
SONM				PcP	PcP	01 07 10.4	+1.9
	comp=Z,0.3nm,0.7s,baz=118,slow=3.3,SNR=2.8						
ZAK	**Zakamensk**	**32.92**	**296**	eP	**P**	**01 04 20.3**	**-8.8**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s,mb3.8						
YHNB	**Yeheng**	**33.45**	**241**	P	**P**	**01 04 34.7**	**+0.9**
LZH	**Lanzhou**	**38.00**	**272**	eP	**P**	**01 05 16.1**	**+3.4**
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.7						
GTA	**Gaotai**	**39.12**	**280**	eP	**P**	**01 05 25.0**	**+2.9**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.2						
INK	**Inuvik**	**41.90**	**32**	P	**P**	**01 05 44.3**	**-0.8**
	comp=Z,0.7nm,0.5s,mb3.5,baz=315,slow=5.7,SNR=1.9						
WMQ	**Urumqi**	**45.15**	**292**	P	**P**	**01 06 12.6**	**+1.4**
KMI	**Kunming**	**45.27**	**260**	P	**P**	**01 06 10.9**	**-1.3**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.4						
MKAR	**Makanchi Array**	**47.19**	**298**	P	**P**	**01 06 27.4**	**+0.2**
	comp=Z,3.2nm,0.6s,mb4.4,baz=68,slow=7.8,SNR=26						
MKAR				PcP	PcP	01 07 56.9	-1.0
	comp=Z,0.6nm,0.4s,baz=38,slow=2.2,SNR=3.7						
KURK	**Kurchatov**	**47.64**	**304c**	iP	**P**	**01 06 30.0**	**-0.7**
KURK	**Kurchatov**	**47.64**	**304**	eP	**P**	**01 06 30.1**	**-0.6**
	comp=Z,5.0nm,0.8s,mb4.6						
YKA	**Yellowknife Ar**	**51.16**	**37**	P	**P**	**01 06 56.2**	**-1.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=303,slow=7.0,SNR=3.9						
YKA	**Yellowknife Ar**	**51.16**	**37**	i P	**P**	**01 06 59.9**	**+2.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**51.16**	**37**	P	**P**	**01 06 56.2**	**-1.3**
BVAR	**Borovoye Array**	**51.16**	**310**	P	**P**	**01 06 57.3**	**-0.3**
	comp=Z,2.2nm,0.4s,mb4.4,baz=60,slow=7.7,SNR=13						
BRVK	**Borovoye**	**51.20**	**310**	eP	**P**	**01 06 57.5**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.20**	**310**	eP	**P**	**01 06 57.5**	**-0.4**
	comp=Z,2.2nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**51.93**	**310**	eP	**P**	**01 07 02.6**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**51.93**	**310**	eP	**P**	**01 07 02.6**	**-0.7**
	comp=Z,3.3nm,0.6s,mb4.4						
AAK	**Ala-Archa**	**54.08**	**297**	eP	**P**	**01 07 19.1**	**0.0**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
JIRN	**Jiri**	**55.07**	**275**	eP	**P**	**01 07 29.6**	**+3.3**
	comp=Z,20nm,0.4s,mb5.5						
ARU	**Arti**	**55.34**	**318**	⇑iP	**P**	**01 07 26.2**	**-2.0**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
KKN	**Kakani**	**55.62**	**276**	eP	**P**	**01 07 32.7**	**+2.5**
	comp=Z,22nm,0.6s,mb5.4						
PKI	**Pulchoki**	**55.66**	**275**	eP	**P**	**01 07 33.5**	**+3.0**
DMN	**Daman**	**55.85**	**276**	eP	**P**	**01 07 35.1**	**+3.2**
GKN	**Gorkha**	**55.93**	**276**	eP	**P**	**01 07 35.0**	**+2.6**
	comp=Z,15nm,0.3s,mb5.5						
KOLN	**Koldanda**	**56.78**	**277**	eP	**P**	**01 07 41.6**	**+3.1**
	comp=Z,13nm,0.5s,mb5.2						
ARCES	**ARCESS Array B**	**58.22**	**341**	P	**P**	**01 07 48.0**	**-0.6**
	comp=Z,5.1nm,1.0s,mb4.5,baz=33,slow=6.7,SNR=8.7						
AKTK	**Aktyubinsk**	**59.04**	**312**	P	**P**	**01 07 52.5**	**-1.8**
AKTO	**Aktyubinsk**	**59.04**	**312**	P	**P**	**01 07 52.5**	**-1.8**
	comp=Z,1.0nm,0.6s,mb4.0,baz=83,slow=13,SNR=3.6						
JOF	**Joensuu**	**61.70**	**334**	ep	**P**	**01 08 11.4**	**-1.1**
	comp=Z,1.9nm,0.5s,mb4.5						
KAF	**Kangasniemi**	**63.81**	**335**	ep	**P**	**01 08 24.4**	**-2.1**
	baz=37,slow=6.2						
FINES	**FINESS Array B**	**64.41**	**335**	P	**P**	**01 08 29.6**	**-0.8**
	comp=Z,4.7nm,0.4s,mb4.9,baz=40,slow=7.2,SNR=131						
PDAR	**Pinedale Array**	**64.88**	**54**	P	**P**	**01 08 34.6**	**+1.1**
	comp=Z,0.8nm,0.8s,mb3.8,baz=347,slow=2.0,SNR=7.1						
OBN	**Obninsk**	**65.66**	**326**	eP	**P**	**01 08 29.9**	**-8.6**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**68.19**	**199**	eP	**P**	**01 08 55.1**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**68.19**	**199**	eP	**P**	**01 08 55.1**	**+0.5**
	comp=Z,5.5nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**68.20**	**199**	P	**P**	**01 08 55.2**	**+0.5**
	comp=Z,3.1nm,0.9s,mb4.3,baz=17,slow=6.7,SNR=15						
NB2	**NORSAR Subarra**	**68.60**	**341**	P	**P**	**01 08 56.4**	**-0.8**
	comp=Z,3.3nm,0.6s,mb4.4,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.60**	**341**	P	**P**	**01 08 56.8**	**-0.4**
	comp=Z,4.7nm,0.7s,mb4.6,baz=27,slow=6.3,SNR=18						
HFS	**Hagfors**	**68.83**	**340**	P	**P**	**01 08 57.8**	**-0.8**
	comp=Z,5.0nm,0.5s,mb4.7,baz=57,slow=5.5,SNR=47						
KIV	**Kislovodsk**	**71.12**	**314**	eP	**P**	**01 09 13.9**	**+1.3**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
AS31	**Alice Springs**	**71.90**	**199**	P	**P**	**01 09 19.0**	**+1.7**
AKASG	**Malin Array Be**	**71.90**	**326**	P	**P**	**01 09 17.0**	**-0.3**
	comp=Z,6.6nm,0.6s,mb4.8,baz=33,slow=6.1,SNR=12						
AKASG	**Malin Array Be**	**71.90**	**326**	i P	**P**	**01 09 17.2**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ASAR	**Alice Springs**	**71.90**	**199**	P	**P**	**01 09 18.0**	**+0.7**
	comp=Z,3.0nm,0.7s,mb4.3,baz=15,slow=5.9,SNR=33						
GNI	**Garni**	**72.84**	**310**	i P	**P**	**01 09 25.1**	**+2.2**
MBWA	**Marble Bar**	**73.76**	**212**	eP	**P**	**01 09 26.2**	**-2.2**
KWP	**Kalwaria**	**75.18**	**329**	eP	**P**	**01 09 37.2**	**+0.6**
KWP				pmax	pmax		
	comp=Z,58nm,1.8s,mb5.2						
KWP	**Kalwaria**	**75.18**	**329**	eP	**P**	**01 09 37.2**	**+0.6**
	comp=Z,58nm,1.8s,mb5.2						
KOLS	**Kolonicke sedl**	**75.92**	**329**	eP	**P**	**01 09 40.9**	**+0.1**
BURAR	**Bucovina Array**	**75.94**	**327**	⇓iP	**P**	**01 09 41.3**	**+0.4**
BURAR	**Bucovina Array**	**75.94**	**327**	⇓P	**P**	**01 09 41.4**	**+0.4**
CRVS	**Cervenica-Dubn**	**76.23**	**330**	eP	**P**	**01 09 42.4**	**-0.2**
EKA	**Eskdalemuir Ar**	**76.71**	**346**	P	**P**	**01 09 45.2**	**0.0**
	comp=Z,1.1nm,0.5s,mb4.0,baz=22,slow=4.9,SNR=11						
MORC	**Moravsky Berou**	**76.80**	**332**	⇑iP	**P**	**01 09 41.9**	**-3.9**
MORC	**Moravsky Berou**	**76.80**	**332**	⇑P	**P**	**01 09 41.9**	**-3.9**
CLL	**Collm**	**76.83**	**336**	⇓P	**P**	**01 09 45.8**	**-0.2**
	comp=Z,logA/T=1.2,mb4.9						
CLL	**Collm**	**76.83**	**336**	⇓iP	**P**	**01 09 45.8**	**-0.2**
	comp=Z,8.0nm,0.5s,mb4.9						
MLR	**Muntele Rosu**	**77.41**	**325**	P	**P**	**01 09 50.2**	**+1.0**
	comp=Z,7.5nm,0.7s,mb4.7,baz=180,slow=9.0,SNR=10						
MLR	**Muntele Rosu**	**77.41**	**325**	⇑iP	**P**	**01 09 50.4**	**+1.2**
MLR	**Muntele Rosu**	**77.41**	**325**	⇑P	**P**	**01 09 50.4**	**+1.2**
MALT	**Malatya**	**77.47**	**313**	⇓iP	**P**	**01 09 52.0**	**+2.5**
MALT	**Malatya**	**77.47**	**313**	⇓P	**P**	**01 09 52.0**	**+2.5**
VYHS	**Vyhne**	**77.49**	**331**	eP	**P**	**01 09 50.0**	**+0.4**
VRAC	**Vranov**	**77.51**	**333**	P	**P**	**01 09 50.8**	**+1.0**
	comp=Z,2.0nm,0.4s,mb4.4,baz=57,slow=6.1,SNR=4.4						
DRGR		**77.57**	**328**	⇓iP	**P**	**01 09 50.7**	**+0.6**
DRGR		**77.57**	**328**	⇓P	**P**	**01 09 50.7**	**+0.6**
VOIR		**77.81**	**326**	⇓iP	**P**	**01 09 43.9**	**-7.6**
VOIR		**77.81**	**326**	⇓P	**P**	**01 09 43.9**	**-7.6**
KHC	**Kasperske Hory**	**78.60**	**334**	eP	**P**	**01 09 56.0**	**+0.2**
KHC	**Kasperske Hory**	**78.60**	**334**	⇓eP	**P**	**01 09 56.6**	**+0.8**
BR131	**Keskin Array S**	**78.72**	**317**	eP	**P**	**01 09 56.7**	**+0.3**
	comp=Z,1.4nm,0.7s,mb4.0						
BRTR	**Keskin Array B**	**78.72**	**317**	P	**P**	**01 09 57.8**	**+1.3**
	comp=Z,1.6nm,0.7s,mb4.0,baz=67,slow=4.3,SNR=14						
BRTR	**Keskin Array B**	**78.72**	**317**	i P	**P**	**01 09 57.7**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GZR	**Gura Zlata**	**78.72**	**327**	⇑iP	**P**	**01 09 47.7**	**-8.8**
GZR	**Gura Zlata**	**78.72**	**327**	⇑P	**P**	**01 09 47.6**	**-8.8**
GRA1	**Grafenberg Arr**	**78.79**	**336**	eP	**P**	**01 09 57.5**	**+0.7**
	comp=Z,4.0nm,0.9s,mb4.3						
GRF	**Grafenberg Arr**	**78.79**	**336**	eP	**P**	**01 09 57.5**	**+0.7**
	comp=Z,4.0nm,0.9s,mb4.3						
GRF	**Grafenberg Arr**	**78.79**	**336**	eP	**P**	**01 09 57.5**	**+0.7**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
GRF	**Grafenberg Arr**	**78.79**	**336**	eP	**P**	**01 09 57.5**	**+0.7**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
GERES	**GERESS Array B**	**78.82**	**334**	P	**P**	**01 09 57.1**	**+0.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=36,slow=6.0,SNR=10						
BZS	**Buzias**	**78.97**	**328**	⇑iP	**P**	**01 09 58.6**	**+0.8**
BZS	**Buzias**	**78.97**	**328**	⇑P	**P**	**01 09 58.6**	**+0.8**
KBA	**Koelnbreinsper**	**80.50**	**333**	⇑iP	**P**	**01 10 07.1**	**+1.0**
	comp=Z,8.1nm,0.6s,mb4.8						
KBA	**Koelnbreinsper**	**80.50**	**333**	⇑iP	**P**	**01 10 07.1**	**+0.9**
KBA				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
CDF	**Champ du Feu**	**81.02**	**338**	eP	**P**	**01 10 08.5**	**-0.4**
	comp=Z,6.4nm,0.8s,mb4.3						
CDF	**Champ du Feu**	**81.02**	**338**	eP	**P**	**01 10 08.5**	**-0.4**
CDF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CDF	**Champ du Feu**	**81.02**	**338**	eP	**P**	**01 10 08.5**	**-0.4**
	comp=Z,3.2nm,0.8s,mb4.3						
MEZF	**Maizieres J'vi**	**81.50**	**339**	eP	**P**	**01 10 10.9**	**-0.6**
	comp=Z,10nm,0.8s,mb4.5						
MEZF	**Maizieres J'vi**	**81.50**	**339**	eP	**P**	**01 10 10.9**	**-0.6**
	comp=Z,10nm,0.8s,mb4.8						
DAVOX	**Davos**	**81.80**	**336**	P	**P**	**01 10 14.1**	**+1.0**
	comp=Z,2.9nm,0.6s,mb4.4,baz=4.4,slow=12,SNR=3.2						
PPT	**Papeete**	**81.87**	**126**	eLR	LR	01 09 35.1	
	comp=Z,400nm,24.2s						
FLN	**La Foliniere**	**82.50**	**343**	eP	**P**	**01 10 16.3**	**-0.4**
LDF	**La Druitiere**	**82.59**	**343**	eP	**P**	**01 10 16.6**	**-0.6**
LOR	**Lormes**	**82.95**	**340**	eP	**P**	**01 10 18.2**	**-0.8**
	comp=Z,4.4nm,0.7s,mb4.3						
LOR	**Lormes**	**82.95**	**340**	eP	**P**	**01 10 18.2**	**-0.8**
LOR				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
LOR	**Lormes**	**82.95**	**340**	eP	**P**	**01 10 18.2**	**-0.8**
	comp=Z,2.2nm,0.7s,mb4.3						
CABF	**La Chapelle**	**83.00**	**338**	eP	**P**	**01 10 18.8**	**-0.5**
SSF	**Saint Saulge**	**83.22**	**340**	eP	**P**	**01 10 19.9**	**-0.5**
AVF	**Avril sur Loir**	**83.52**	**340**	eP	**P**	**01 10 21.2**	**-0.7**
	comp=Z,6.3nm,0.8s,mb4.5						
AVF	**Avril sur Loir**	**83.52**	**340**	eP	**P**	**01 10 21.2**	**-0.7**
AVF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
AVF	**Avril sur Loir**	**83.52**	**340**	eP	**P**	**01 10 21.2**	**-0.7**
	comp=Z,3.2nm,0.8s,mb4.5						
SMF	**Signal de Mont**	**83.53**	**339**	eP	**P**	**01 10 21.4**	**-0.6**
	comp=Z,31nm,1.2s,mb5.0						
SMF	**Signal de Mont**	**83.53**	**339**	eP	**P**	**01 10 21.4**	**-0.6**
SMF				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.0						
SMF	**Signal de Mont**	**83.53**	**339**	eP	**P**	**01 10 21.4**	**-0.6**
	comp=Z,16nm,1.2s,mb5.0						
BGF	**Bois d'Agland**	**83.86**	**340**	eP	**P**	**01 10 23.0**	**-0.7**
TCF	**Toulx Ste Croi**	**84.26**	**340**	eP	**P**	**01 10 25.1**	**-0.6**
MBDF	**Montbardon**	**84.56**	**337**	eP	**P**	**01 10 26.9**	**-0.3**
	comp=Z,7.8nm,1.0s,mb4.5						
MBDF	**Montbardon**	**84.56**	**337**	eP	**P**	**01 10 26.9**	**-0.3**
MBDF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
MBDF	**Montbardon**	**84.56**	**337**	eP	**P**	**01 10 26.9**	**-0.3**
	comp=Z,3.9nm,1.0s,mb4.5						
ORIF	**Oris-en-Rattie**	**84.62**	**337**	eP	**P**	**01 10 27.1**	**-0.5**
	comp=Z,14nm,1.1s,mb4.7						
ORIF	**Oris-en-Rattie**	**84.62**	**337**	eP	**P**	**01 10 27.1**	**-0.5**
ORIF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.7						
ORIF	**Oris-en-Rattie**	**84.62**	**337**	eP	**P**	**01 10 27.1**	**-0.5**
	comp=Z,6.8nm,1.1s,mb4.7						
SBF	**Sospel**	**85.17**	**336**	eP	**P**	**01 10 30.0**	**-0.3**
RJF	**Les Rejaudoux**	**85.35**	**340**	eP	**P**	**01 10 30.7**	**-0.5**
CAF	**Calviac**	**85.58**	**340**	eP	**P**	**01 10 31.6**	**-0.7**
SMRF	**Simiane la Rot**	**85.58**	**337**	eP	**P**	**01 10 31.9**	**-0.4**
	comp=Z,7.4nm,1.0s,mb4.6						
SMRF	**Simiane la Rot**	**85.58**	**337**	eP	**P**	**01 10 31.9**	**-0.4**
	comp=Z,7.4nm,1.0s,mb4.9						
FRF	**La Foret Royal**	**85.67**	**336**	eP	**P**	**01 10 32.0**	**-0.8**
LFF	**La Frestale**	**85.87**	**341**	eP	**P**	**01 10 33.2**	**-0.6**
PGF	**Pioggiola**	**85.92**	**334**	eP	**P**	**01 10 33.5**	**-0.5**
	comp=Z,13nm,1.1s,mb4.8						
PGF	**Pioggiola**	**85.92**	**334**	eP	**P**	**01 10 33.5**	**-0.5**
PGF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.8						
PGF	**Pioggiola**	**85.92**	**334**	eP	**P**	**01 10 33.5**	**-0.5**
	comp=Z,6.7nm,1.1s,mb4.8						
LASF	**Ste Croix**	**85.93**	**338**	eP	**P**	**01 10 33.5**	**-0.6**
	comp=Z,18nm,1.4s,mb4.8						

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*ISCJB **14** 01:14:22.8±4.4, 49S±02×1502E±02, h48km±34km, mb3.7/5, Error ellipse: s-maj=36.8km s-min=26.6km az=1.6*

*NEIC **14** 01:14:22.6±1.2, 487S×15030E, h35km, mb3.9/3, Error ellipse: s-maj=28.3km s-min=13.8km az=93.0*

*IDC **14** 01:14:25.4±8.8, 494S×150.15E, h51km±66km, mb3.6/3, mb1 3.9/4, mb1mx3.5/14, mbtmp3.9/4, ML2.9/1, Error ellipse: s-maj=102.9km s-min=54.3km az=119.0*

ISC 14 01:14:23.9±4.1**, 49S**±02×**1503E**±02**, h46**km±32km**, n12,** σ**0.70**/11**, mb3.8**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.45**	**215**	P	**Pn**	**01 15 42.4**	**-0.1**
	2.8nm,0.3s,baz=15,slow=8.9,SNR=9.6						
PMG				S	**Sn**	**01 16 44.1**	**+0.2**
	1.6nm,0.3s,baz=15,slow=20,SNR=2.2						
CTAO	**Charters Tower**	**15.59**	**194**	ePn	**Pn**	**01 18 00.8**	**+0.3**
	1.5nm,0.3s						
WRAB	**Tennant Creek**	**21.55**	**225**	eP	**P**	**01 19 10.0**	**+0.7**
	2.8nm,0.6s,mb3.9						
WB2	**Warramunga Arr**	**21.55**	**225**	eP	**P**	**01 19 08.5**	**-0.8**
WRA	**Warramunga Arr**	**21.56**	**225**	P	**P**	**01 19 08.3**	**-1.2**
	1.2nm,0.5s,mb3.5,baz=49,slow=10.0,SNR=16						
ASAR	**Alice Springs**	**24.45**	**219**	P	**P**	**01 19 37.5**	**-0.8**
	1.2nm,0.6s,mb3.5,baz=55,slow=8.2,SNR=16						
FITZ	**Fitzroy Crossi**	**27.45**	**239**	P	**P**	**01 20 06.9**	**+1.4**
	3.2nm,0.8s,mb3.9,baz=53,slow=20,SNR=3.9						
KKM	**Kota Kinabalu**	**35.74**	**287**	eP	**P**	**01 21 18.4**	**+0.1**
TAU	**Tasmania Unive**	**37.93**	**184**	P	**P**	**01 21 37.2**	**+0.3**
KURK	**Kurchatov**	**82.34**	**322**	eP	**P**	**01 26 40.8**	**-0.1**
	0.6nm,0.3s,mb4.0						
TORD	**Torodi Ar. Bea**	**147.98**	**287**	PKPbc	PKPbc	01 34 05.3	+1.1
	0.7nm,0.7s,baz=61,slow=2.7,SNR=6.6						
TORD	**Torodi Ar. Bea**	**147.98**	**287**	PKPbc	PKPbc	01 34 05.3	+1.1

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*ISCJB **14** 01:17:00.1±0.3, 4946N±002×1375E±003, h0km, Error ellipse: s-maj=2.8km s-min=2.4km az=113.5*

*VIE **14** 01:17:00.9±0.6, 4944N×1373E, h7km, mb1.5/1, ML2.5/1, Error ellipse: s-maj=4.8km s-min=2.2km az=64.0 41 km SSE of Plzen*

*CSEM **14** 01:17:01.5±0.1, 4943N×1373E, h2km, ML2.6/9, Error ellipse: s-maj=1.4km s-min=1.1km az=66.0*

*IPEC **14** 01:17:01.6±0.1, 4945N×1372E, h0km±1km, ML1.3/7, Error ellipse: s-maj=0.6km s-min=0.5km az=43.0*

*PRU **14** 01:17:01.8, 4944N×1376E, h0km, Breznice*

ISC 14 01:17:01.2±0.3**, 4945N**±002×**1374E**±003**, h0**km**, n24,** σ**0.57**/43**, 1C-1D, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KHC	**Kasperske Hory**	**0.34**	**198**	ePG	**Pg**	**01 17 07.9**	**+0.3**
KHC				eSG	**Sg**	**01 17 12.4**	**+0.4**
	46nm,0.6s						
KHC	**Kasperske Hory**	**0.34**	**198**	ePg	**Pg**	**01 17 07.6**	**0.0**
KHC				eSg	**Sg**	**01 17 12.2**	**+0.2**
GERES	**GERESS Array B**	**0.60**	**182**	ePg	**Pg**	**01 17 12.8**	**0.0**
GERES				eSg	**Sg**	**01 17 20.8**	**+0.2**
WET	**Wettzell**	**0.64**	**242**	ePg	**Pg**	**01 17 13.4**	**0.0**
WET				eSg	**Sg**	**01 17 21.3**	**-0.4**
PRU	**Pruhonice**	**0.75**	**44**	ePG	**Pg**	**01 17 16.0**	**+0.4**
PRU				eSG	**Sg**	**01 17 25.6**	**+0.3**
	8.2nm,0.6s						
PRU	**Pruhonice**	**0.75**	**44**	ePg	**Pg**	**01 17 16.1**	**+0.5**
PRU				eSg	**Sg**	**01 17 25.6**	**+0.3**
VACK	**Vackovec**	**1.07**	**311**	ePg	**Pg**	**01 17 21.9**	**+0.2**
VACK				eSg	**Sg**	**01 17 35.0**	**-0.7**
	2.7nm,0.1s						
JIND	**Jindrichovice**	**1.09**	**319**	ePg	**Pg**	**01 17 22.7**	**+0.6**
JIND				eSg	**Sg**	**01 17 35.6**	**-0.6**
	3.2nm,0.1s						
BERN	**Bernov**	**1.11**	**315**	ePg	**Pg**	**01 17 22.9**	**+0.3**
BERN				eSg	**Sg**	**01 17 36.4**	**-0.6**
	5.8nm,0.2s						
NKC	**Novy Kostel**	**1.15**	**314**	ePG	**Pg**	**01 17 23.6**	**+0.5**
NKC				eSG	**Sg**	**01 17 37.9**	**-0.1**
	6.0nm,0.3s						
TREC	**Trest**	**1.15**	**97**	ePG	**Pg**	**01 17 23.8**	**+0.5**
TREC	**Trest**	**1.15**	**97**	ePg	**Pg**	**01 17 24.1**	**+0.8**
TREC				eSg	**Sg**	**01 17 38.2**	**-0.1**
LUBY	**Luby**	**1.21**	**313**	ePg	**Pg**	**01 17 24.5**	**+0.2**
LUBY				eSg	**Sg**	**01 17 39.4**	**-0.5**
	4.5nm,0.2s						
PVCC	**Panska Ves**	**1.21**	**26**	ePG	**Pg**	**01 17 24.6**	**+0.3**
PVCC				eSG	**Sg**	**01 17 40.9**	**+1.0**
	5.4nm,0.3s						
PVCC	**Panska Ves**	**1.21**	**26**	ePg	**Pg**	**01 17 24.6**	**+0.3**
PVCC				eSg	**Sg**	**01 17 40.0**	**+0.1**
POCA	**Pocatky**	**1.21**	**316**	ePg	**Pg**	**01 17 24.5**	**+0.1**
POCA				eSg	**Sg**	**01 17 39.6**	**-0.5**
	5.2nm,0.2s						
BRG	**Berggiesshubel**	**1.43**	**5**	PG	**Pg**	**01 17 28.0**	**-0.6**
BRG				SG	**Sg**	**01 17 48.8**	**+1.6**
	2.5nm,0.6s						
MOA	**Molln**	**1.64**	**167**	⇑iPg	**Pg**	**01 17 32.3**	**-0.3**
	comp=Z,1.6nm,0.2s						
MOA				⇓iSg	**Sg**	**01 17 54.0**	**+0.2**
	comp=E,2.2nm,0.1s						
MOA	**Molln**	**1.64**	**167**	ePn	**Pn**	**01 17 32.0**	**+0.8**
MOA	**Molln**	**1.64**	**167**	Pg	**Pg**	**01 17 32.3**	**-0.3**
	1.6nm,0.2s						
MOA				Sg	**Sg**	**01 17 54.0**	**+0.2**
	2.2nm,0.1s						
KRUC	**Moravsky**	**1.78**	**102**	ePn	**Pn**	**01 17 33.5**	**+0.3**
KRUC				eSg	**Sg**	**01 17 57.2**	**-1.3**
	0.9nm,0.1s						
UPC	**Upice**	**1.81**	**53**	eSG	**Sg**	**01 17 58.5**	**-0.9**
VRAC	**Vranov**	**1.87**	**93**	eSg	**Sg**	**01 18 00.3**	**-1.0**
	4.1nm,0.3s						
CLL	**Collm**	**1.92**	**346**	eSG	**Sg**	**01 18 03.0**	**+0.1**

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*MOS **14** 01:41:09.9±1.7, 5401N×16175E, h24km, mb4.3/5, Error ellipse: s-maj=13.3km s-min=7.6km az=84.7*

*IDC **14** 01:41:09.2±1.2, 5423N×16127E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.9/21, mbtmp3.9/10, MS3.6/2, Ms1 3.6/2, ms1mx2.9/31, Error ellipse: s-maj=32.4km s-min=21.8km az=167.0*

*KRSC **14** 01:41:11, 5393N×16155E, h17km, ML4.5*

*ISCJB **14** 01:41:12.5±0.7, 5400N±004×1615E±0.1, h47km±5km, mb4.0/15, MS3.6/2, Error ellipse: s-maj=11.5km s-min=4.5km az=68.9*

*NEIC **14** 01:41:14.5±0.5, 5427N×161.18E, h35km, mb4.0/3, Error ellipse: s-maj=13.1km s-min=9.5km az=139.0*

ISC 14 01:41:12.3±1.1**, 5400N**±005×**16154E**±010**, h28**km±7km**, n42,** σ**1.32**/53**, mb4.0**/15**, MS3.6**/2**, 3C, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.57**	**11**	P	**Pb**	**01 41 22.9**	**-0.9**
MKZ				S	**Sb**	**01 41 31.2**	**-0.5**
KII	**Karymskiy**	**1.23**	**273**	P	**Pn**	**01 41 34.1**	**+0.5**
KII				S	**Sn**	**01 41 50.0**	**+0.7**
SPN	**Mys Shipunski**	**1.28**	**226**	P	**Pn**	**01 41 32.7**	**-1.5**
SPN				S	**Sn**	**01 41 48.3**	**-2.1**
NLC	**Nalytchevo**	**1.55**	**239**	P	**Pn**	**01 41 37.3**	**-0.7**
NLC				S	**Sn**	**01 41 56.6**	**-0.5**
PET	**Petropavlovsk**	**1.98**	**242**	P	**Pn**	**01 41 44.1**	**+0.2**
PET				S	**Sn**	**01 42 08.5**	**+0.8**
PET	**Petropavlovsk**	**1.98**	**242**	⇑iPN	**Pn**	**01 41 44.2**	**+0.3**
PET				i S	**Sn**	**01 42 09.2**	**+1.5**
PET				pmax	pmax		
	comp=Z,126nm,0.6s						
PET				smax			
	comp=E,1μm,1.0s						
PET				smax			
	comp=E,276nm,0.4s						
PET				smax			
	comp=N,817nm,0.6s						
PET				MLR	MLR		
	comp=Z,500nm,14.0s						
PET	**Petropavlovsk**	**1.98**	**242**	ePn	**Pn**	**01 41 44.4**	**+0.5**
PET				eSn	**Sn**	**01 42 09.3**	**+1.5**
KOZ	**Kozyrevsk**	**2.28**	**336**	P	**Pn**	**01 41 50.9**	**+2.9**
KOZ				S	**Sn**	**01 42 21.2**	**+6.1**
KOZR	**Kozyr**	**2.28**	**336**	PN	**Pn**	**01 41 50.9**	**+2.9**
KOZR				S	**Sn**	**01 42 21.2**	**+6.1**
KBTR	**Krutoberegovo**	**2.33**	**18**	P	**Pn**	**01 41 49.4**	**+0.6**
KBTR				S	**Sn**	**01 42 17.5**	**+1.0**
KLY	**Klyuchi**	**2.38**	**348**	P	**Pn**	**01 41 50.6**	**+1.2**
KLY				S	**Sn**	**01 42 18.3**	**+0.8**
RUS	**Russkaya**	**2.40**	**230**	P	**Pn**	**01 41 51.0**	**+1.3**
RUS				S	**Sn**	**01 42 19.7**	**+1.6**
SKR	**Severo-Kuril's**	**4.70**	**227**	ePN	**Pn**	**01 42 27.0**	**+5.7**
MA2	**Magadan**	**8.13**	**318**	⇑ePN	**Pn**	**01 43 13.4**	**+5.0**
MA2	**Magadan**	**8.13**	**318**	ePn	**Pn**	**01 43 13.2**	**+4.8**
	comp=Z,15nm,0.9s						
YAK	**Yakutsk**	**18.52**	**308**	P	**Pn**	**01 45 22.1**	**-4.6**
MAJO	**Matsushiro**	**23.78**	**232**	eP	**P**	**01 46 23.9**	**+1.4**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.3						
MAJO	**Matsushiro**	**23.78**	**232**	eP	**P**	**01 46 23.9**	**+1.3**
	comp=Z,4.0nm,0.3s,mb4.3						
MJAR	**Matsushiro Arr**	**23.78**	**232**	P	**P**	**01 46 23.3**	**+0.8**
	comp=Z,4.2nm,0.9s,mb3.9,baz=19,slow=11,SNR=9.4						
JHJ	**Hachijo jima 2**	**25.96**	**225**	LR	LR	01 59 16.5	
	comp=Z,270nm,18.0s,MS3.8,baz=116,slow=42						
INK	**Inuvik**	**32.63**	**39**	P	**P**	**01 47 41.3**	**-0.3**
ULN	**Ulaanbaatar**	**34.14**	**282**	eP	**P**	**01 47 54.4**	**-0.4**
SONM	**Songino Array**	**34.54**	**283**	P	**P**	**01 47 58.5**	**+0.3**
	comp=Z,0.3nm,0.7s,mb3.4,baz=76,slow=6.1,SNR=2.7						
ZAL	**Zalesovo**	**43.03**	**303**	LR	LR	02 07 17.9	
	comp=Z,36nm,18.5s,MS3.3,baz=153,slow=37						
KURK	**Kurchatov**	**47.99**	**302**	P	**P**	**01 49 47.0**	**-1.6**
BVAR	**Borovoye Array**	**50.50**	**308**	P	**P**	**01 50 04.5**	**-3.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=57,slow=6.4,SNR=5.2						
BRVK	**Borovoye**	**50.53**	**309**	eP	**P**	**01 50 06.1**	**-1.9**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
BRVK	**Borovoye**	**50.53**	**309**	eP	**P**	**01 50 06.1**	**-1.9**
	comp=Z,0.6nm,0.4s,mb3.9						
ZRNK	**Zerenda**	**51.19**	**309**	eP	**P**	**01 50 12.0**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**51.19**	**309**	eP	**P**	**01 50 12.0**	**-0.9**
	comp=Z,0.9nm,0.6s,mb3.9						
ARCES	**ARCESS Array B**	**52.69**	**342**	P	**P**	**01 50 22.0**	**-2.2**
	comp=Z,2.7nm,0.9s,mb4.2,baz=22,slow=9.7,SNR=4.6						
ARU	**Arti**	**53.31**	**318**	⇑iP	**P**	**01 50 26.8**	**-1.9**
ARU				e		01 51 34.1	
ARU				e		01 52 26.4	
ARU				eS	**S**	**01 57 53.6**	**-4.9**
ARU				eSS	SS	02 01 32.0	-6.5
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
NVAR	**Mina Array Bea**	**54.63**	**72**	P	**P**	**01 50 39.4**	**+1.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=308,slow=6.4,SNR=5.3						
PDAR	**Pinedale Array**	**56.34**	**62**	P	**P**	**01 50 52.5**	**+1.9**
	comp=Z,0.4nm,0.9s,mb3.5,baz=266,slow=4.3,SNR=3.2						
FINES	**FINESS Array B**	**59.63**	**337**	P	**P**	**01 51 12.7**	**-1.0**
	comp=Z,1.9nm,0.8s,mb4.2,baz=42,slow=6.6,SNR=9.4						
FINES	**FINESS Array B**	**59.63**	**337**	eP	**P**	**01 51 12.2**	**-1.5**
OBN	**Obninsk**	**62.21**	**328**	eP	**P**	**01 51 29.8**	**-1.5**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
NB2	**NORSAR Subarra**	**62.91**	**344**	P	**P**	**01 51 34.5**	**-1.4**
	comp=Z,2.4nm,0.7s,mb4.4,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**62.91**	**344**	P	**P**	**01 51 35.1**	**-0.8**
	comp=Z,2.8nm,0.6s,mb4.5,baz=20,slow=6.6,SNR=12						
GERES	**GERESS Array B**	**73.99**	**339**	P	**P**	**01 52 45.1**	**-0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
	comp=Z,0.7nm,0.6s,mb3.7,baz=35,slow=4.9,SNR=9.8						
CTAO	**Charters Tower**	**74.94**	**195**	*e*P	**P**	**01 52 53.4**	**+2.7**
BRTR	**Keskin Array B**	**76.46**	**321**	P	**P**	**01 52 59.3**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=61,slow=3.4,SNR=6.0						

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*IDC **14** 01:48:21.8±1.4, 368S×13369E, h0^{km}, mb4.0/2, mb1 4.3/4, mb1mx3.9/13, mbtmp4.2/4, ML4.2/1, MS4.1/1, Ms1 4.1/1, ms1mx3.0/19, Error ellipse: s-maj=62.6km s-min=26.8km az=70.0*
*ISCJB **14** 01:48:23.2±3.2, 379S±006×1335E±01, h20^{km}±24^{km}, mb4.0/3, MS4.1/1, Error ellipse: s-maj=24.4km s-min=9.3km az=160.0*
*NEIC **14** 01:48:26.9±0.6, 377S×13364E, h35^{km}, mb4.1/5, Error ellipse: s-maj=16.3km s-min=8.2km az=71.0*
ISC 14 01:48:29.4±1.8, **389S**±007×**1334E**±01, **h55**^{km}±17^{km}, **n20, σ1^{s}14**/23, **mb4.0**/3, **MS4.1**/1, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.81**	**186**	*e*P	**Pn**	**01 50 34.5**	**+0.4**
	9.0nm,0.5s						
KAKA				*e*S	**Sn**	**01 52 14.1**	**+2.2**
WRAB	**Tennant Creek**	**15.98**	**177**	*e*P	**Pn**	**01 52 11.2**	**+0.8**
	9.9nm,0.5s						
WRA	**Warramunga Arr**	**15.98**	**177**	Pn	**Pn**	**01 52 07.0**	**-3.6**
	0.2nm,0.3s,baz=357,slow=13,SNR=8.4						
WRA				Sn	**Sn**	**01 54 59.1**	**-7.7**
	0.3nm,0.3s,baz=2.0,slow=23,SNR=4.8						
WB2	**Warramunga Arr**	**15.98**	**177**	*e*P	**Pn**	**01 52 08.6**	**-2.0**
WB2				*e*S	**S**	**01 54 57.5**	**-21**
FITZ	**Fitzroy Crossi**	**16.02**	**208**	*e*P	**Pn**	**01 52 12.2**	**+1.2**
	6.1nm,0.6s						
FITZ				*e*S	**S**	**01 55 05.4**	**-13**
FITZ	**Fitzroy Crossi**	**16.02**	**208**	Pn	**Pn**	**01 52 11.0**	**0.0**
	0.7nm,0.3s,baz=320,slow=18,SNR=34						
FITZ				Sn	**Sn**	**01 55 05.8**	**-1.8**
	0.3nm,0.3s,baz=130,slow=18,SNR=5.1						
AS31	**Alice Springs**	**19.67**	**179**	*e*Pn	**Pn**	**01 52 55.7**	**+0.1**
ASAR	**Alice Springs**	**19.67**	**179**	P	**Pn**	**01 52 56.0**	**+0.4**
	0.7nm,0.3s,baz=3.1,slow=11,SNR=47						
ASAR				S	**S**	**01 56 32.5**	**-0.1**
	0.1nm,0.3s,baz=356,slow=29,SNR=5.1						
ASPA	**Alice Springs**	**19.67**	**179**	*e*P	**Pn**	**01 52 56.2**	**+0.6**
KKM	**Kota Kinabalu**	**19.76**	**300**	P	**Pn**	**01 52 56.1**	**-0.6**
CTA	**Charters Tower**	**20.43**	**143**	P	**P**	**01 53 00.1**	**-1.9**
	6.5nm,0.7s,baz=316,slow=13,SNR=4.2						
CTAO	**Charters Tower**	**20.43**	**143**	*e*P	**P**	**01 53 01.2**	**-0.8**
	7.1nm,0.7s						
MBWA	**Marble Bar**	**21.68**	**217**	P	**P**	**01 53 18.2**	**+2.7**
TAU	**Tasmania Unive**	**40.79**	**164**	P	**P**	**01 56 05.3**	**+0.1**
RAO	**Raoul Island**	**52.56**	**124**	LR	LR	02 17 48.0	
	comp=Z,176nm,18.6s,MS4.1,baz=6.0,slow=34						
MKAR	**Makanchi Array**	**67.55**	**325**	P	**P**	**01 59 20.4**	**+0.5**
	1.4nm,0.7s,mb4.1,baz=119,slow=5.4,SNR=7.7						
KURK	**Kurchatov**	**71.69**	**327**	*e*P	**P**	**01 59 45.5**	**+0.1**
	2.0nm,0.5s,mb4.3						
BRVK	**Borovoye**	**77.35**	**327**	*e*P	**P**	**02 00 18.2**	**-0.1**
	0.4nm,0.4s,mb3.7						
LPAZ	**La Paz**	**150.79**	**134**	PKPbc	PKPbc	02 08 17.2	+1.7
	0.4nm,0.5s,baz=302,slow=1.8,SNR=3.6						
LPAZ	**La Paz**	**150.79**	**134**	PKPbc	PKPbc	02 08 17.2	+1.7

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*ISCJB **14** 01:55:29.9±0.4, 5048N±003×597E±004, h5^{km}±11^{km}, Error ellipse: s-maj=4.5km s-min=3.8km az=149.2*
*LDG **14** 01:55:31.7±0.3, 5045N×595E, h11^{km}, Md2.4/3, Ml2.3/3, Error ellipse: s-maj=6.9km s-min=3.1km az=14.0*
*BNS **14** 01:55:31.3±0.4, 5072N×608E, h20^{km}±2^{km}, ML0.9*
ISC 14 01:55:30.2±0.8, **5050N**±003×**597E**±004, **h11**^{km}±13^{km}, **n14, σ0^{s}65**/27, **6C-1D, Belgium**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEM	**Membach**	**0.12**	**11**	⇓P	**Pg**	**01 55 33.2**	**+0.1**
MEM				S	**Sg**	**01 55 35.0**	**-0.2**
	comp=E,27nm,0.3s						
KLL	**Kalltalsperre**	**0.26**	**55**	⇑*i*Pg	**Pg**	**01 55 35.6**	**0.0**
KLL				*i* Sg	**Sg**	**01 55 39.1**	**-0.2**
	comp=E,29nm,0.2s						
HGN	**Heimansgroeve**	**0.27**	**354**	⇑*i*Pg	**Pg**	**01 55 35.6**	**-0.1**
	comp=E,10nm,0.1s,baz=190						
HGN				*i* Sg	**Sg**	**01 55 39.1**	**-0.4**
BEBN	**Eben Emael**	**0.35**	**328**	⇑P	**Pg**	**01 55 37.3**	**+0.1**
BEBN				S	**Sg**	**01 55 41.8**	**-0.2**
BCLA	**Clavier**	**0.43**	**260**	⇑P	**Pg**	**01 55 39.1**	**+0.3**
BCLA				S	**Sg**	**01 55 45.1**	**+0.5**
STB	**Steinbach**	**0.56**	**80**	⇑*e*Pg	**Pg**	**01 55 41.2**	**0.0**
STB				*e*Sg	**Sg**	**01 55 48.0**	**-0.6**
	comp=E,6.7nm,0.1s						
GIVF	**Givet**	**0.84**	**242**	*e*Pg	**Pg**	**01 55 46.9**	**+0.5**
GIVF				*e*Sg	**Sg**	**01 55 58.1**	**+0.8**
	comp=E,5.4nm,0.2s						
WLF	**Walferdange**	**0.84**	**172**	*e*Pg	**Pg**	**01 55 47.3**	**+0.9**
WLF				*e*Sg	**Sg**	**01 55 58.5**	**+1.0**
WLF	**Walferdange**	**0.84**	**172**	P	**Pg**	**01 55 47.4**	**+0.9**
WLF				S	**Sg**	**01 55 58.4**	**+1.0**
BGG	**Burgeitz**	**0.92**	**108**	*e*Pg	**Pg**	**01 55 48.5**	**+0.5**
BGG				*e*Sg	**Sg**	**01 56 00.7**	**+0.7**
	comp=E,2.7nm,0.1s						
DOU	**Dourbes**	**0.97**	**246**	⇑P	**Pg**	**01 55 49.0**	**+0.1**
DOU				S	**Sg**	**01 56 01.7**	**+0.1**
	comp=E,2.9nm,0.2s						
BAIF	**Baives**	**1.21**	**250**	*e*Pg	**Pg**	**01 55 53.6**	**0.0**
BAIF				*e*Sg	**Sg**	**01 56 09.0**	**-0.3**
	comp=E,4.4nm,0.2s						
MEZF	**Maizieres J'vi**	**2.08**	**197**	*e*Pg	**Pg**	**01 56 09.6**	**-0.6**
MEZF				*e*Sg	**Sg**	**01 56 35.6**	**-1.6**
	comp=E,11nm,0.7s						
SFTF	**Sexfontaines**	**2.37**	**195**	*e*Sg	**Sg**	**01 56 44.7**	**-1.8**
	comp=E,4.1nm,0.5s						

IDC 14 01:57:03.3±63.0, **2006S**×**17938W, h0**^{km}, **mb3.7**/3, **mb1 3.8**/3, **mb1mx3.6**/12, **mbtmp3.7**/3, **Error ellipse: s-maj=1134.0km s-min=164.0km az=82.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.82**	**243**	P	P	02 04 12.5	-0.4
	1.3nm,0.6s,baz=76,slow=8.3,SNR=3.4						
ASAR	**Alice Springs**	**43.36**	**256**	P	P	02 05 07.8	+0.6
	0.6nm,0.8s,baz=104,slow=7.9,SNR=6.1						
WRA	**Warramunga Arr**	**43.38**	**262**	P	P	02 05 08.0	+0.6
	0.6nm,0.7s,baz=96,slow=7.6,SNR=7.0						

IDC 14 02:21:11.6±13.0, **047S**×**12421E, h0**^{km}, **mb4.0**/3, **mb1 4.1**/4, **mb1mx3.7**/15, **mbtmp4.0**/4, **ML3.5**/1, **Error ellipse: s-maj=225.0km s-min=120.9km az=132.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.58**	**175**	*e*P	Pn	02 25 19.3	+1.3
	11nm,1.2s						
FITZ	**Fitzroy Crossi**	**17.58**	**175**	P	Pn	02 25 19.5	+1.5
	0.1nm,0.3s,baz=5.2,slow=13,SNR=7.7						
WRA	**Warramunga Arr**	**21.75**	**153**	P	P	02 26 04.7	+0.1
	1.1nm,0.4s,baz=330,slow=11,SNR=33						
WB2	**Warramunga Arr**	**21.75**	**153**	*e*P	P	02 26 04.5	-0.2
ASPA	**Alice Springs**	**24.91**	**159**	*e*P	P	02 26 34.6	-1.6
ASAR	**Alice Springs**	**24.91**	**158**	P	P	02 26 35.5	-0.7
	2.6nm,0.5s,baz=330,slow=7.5,SNR=44						
STKA	**Stephens Creek**	**35.30**	**154**	*e*P	P	02 28 09.1	+0.9
	2.9nm,0.9s						
STKA	**Stephens Creek**	**35.30**	**154**	P	P	02 28 09.4	+1.2
	1.9nm,0.6s,baz=336,slow=7.8,SNR=4.6						

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*ATH **14** 02:46:22.4, 3961N×2073E, h41^{km}±2^{km}, MD3.2/4*
*NEIC **14** 02:46:22.4, 3961N×2073E, h41^{km}, MD3.2(ATH), After ATH.*
*ISCJB **14** 02:46:23.9±0.5, 3943N±003×2064E±004, h2^{km}±6^{km}, Error ellipse: s-maj=4.8km s-min=4.1km az=71.5*
*CSEM **14** 02:46:24.0±0.2, 3939N×2054E, h2^{km}, MD3.2, Error ellipse: s-maj=4.2km s-min=3.4km az=92.0*
*THE **14** 02:46:24.4, 3942N×2062E, h10^{km}, ML2.7*
ISC 14 02:46:24.4±0.5, **3942N**±003×**2060E**±004, **h5**^{km}±6^{km}, **n22, σ1^{s}16**/35, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.23**	**297**	*e*Pg	**Pg**	**02 46 28.6**	**-0.4**
IGT				*e*Sg	**Sg**	**02 46 33.4**	**+1.2**
JAN	**Janina**	**0.30**	**40**	*e*P	**Pg**	**02 46 28.8**	**-1.5**
JAN				*e*S	**Sg**	**02 46 34.5**	**+0.3**
MEV	**Metsovon**	**0.60**	**53**	*e*Pg	**Pg**	**02 46 34.5**	**-1.5**
MEV				*e*Sg	**Sg**	**02 46 45.2**	**+1.3**
SRN	**Sarande**	**0.65**	**315**	*i* Pg	**Pg**	**02 46 36.4**	**-0.5**
SRN				*i* Sg	**Sg**	**02 46 49.5**	**+4.1**
SRN	**Sarande**	**0.65**	**315**	*e*Pg	**Pg**	**02 46 36.4**	**-0.5**
KEK	**Kerkira**	**0.69**	**295**	*e*P	**Pg**	**02 46 37.2**	**-0.4**
LKD	**Levkas**	**0.72**	**177**	*e*Pg	**Pg**	**02 46 37.4**	**-0.8**
LKD				*e*Sg	**Sg**	**02 46 49.4**	**+1.9**
LSK	**Leskovik**	**0.72**	**360**	*i* Pg	**Pg**	**02 46 37.8**	**-0.6**
LSK				*i* Sg	**Sg**	**02 46 52.0**	**+4.2**
LSK	**Leskovik**	**0.72**	**360**	*e*Pg	**Pg**	**02 46 37.8**	**-0.6**
LSK				*i* Sg	**Sg**	**02 46 52.0**	**+4.2**
EVR	**Evrytania**	**1.07**	**118**	*e*P	**Pg**	**02 46 42.5**	**-2.4**
VLS	**Valsamata**	**1.25**	**180**	*e*P	**Pg**	**02 46 47.5**	**-0.8**
VLS				*e*S	**Sg**	**02 47 06.2**	**+1.7**
AGG	**Agios Georgios**	**1.40**	**106**	*e*Pg	**Pn**	**02 46 48.6**	**-2.0**
AGG				*e*Sg	**Sg**	**02 47 10.7**	**+1.2**
AGG	**Agios Georgios**	**1.40**	**106**	*e*Pg	**Pn**	**02 46 48.6**	**-2.0**
AGG				*e*Sg	**Sg**	**02 47 10.6**	**+1.1**
FNA	**Florina**	**1.48**	**23**	*e*Pg	**Pg**	**02 46 52.4**	**-0.4**
FNA				*e*Sg	**Sg**	**02 47 12.8**	**+0.8**
LIT	**Litokhoron**	**1.60**	**64**	*e*Pg	**Pn**	**02 46 53.1**	**-0.3**
LIT				*e*Sg	**Sg**	**02 47 16.2**	**+0.2**
BIA	**Bitola**	**1.69**	**19**	*e*Pb	**Pn**	**02 46 54.6**	**+0.1**
BIA	**Bitola**	**1.69**	**19**	*e*Pn	**Pb**	**02 46 58.2**	**+2.2**
BIA	**Bitola**	**1.69**	**19**	*e*Pn	**Pb**	**02 46 58.1**	**+2.2**
PAIG	**Paliouri**	**2.43**	**77**	*e*Pn	**Pn**	**02 47 04.3**	**-0.4**
PAIG	**Paliouri**	**2.43**	**77**	*e*Pn	**Pn**	**02 47 04.3**	**-0.4**
SOH	**Sokhos**	**2.53**	**56**	*e*Pn	**Pn**	**02 47 05.4**	**-0.7**
SOH				*e*Sn	**Sn**	**02 47 38.6**	**+1.3**
OUR	**Ouranopolis**	**2.75**	**70**	*e*Pn	**Pn**	**02 47 09.6**	**+0.3**

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*ISCJB **14** 02:49:26.2±2.2, 154S±01×1670E±03, h100^{km}, mb3.5/3, Error ellipse: s-maj=46.6km s-min=12.0km az=158.6*
*IDC **14** 02:49:27.2±9.0, 1526S×16702E, h97^{km}±105^{km}, mb3.4/3, mb1 3.6/4, mb1mx3.5/13, mbtmp3.8/4, ML4.2/1, Error ellipse: s-maj=89.0km s-min=47.7km az=135.0*
ISC 14 02:49:27.9±5.0, **154S**±03×**1671E**±05, **h109**^{km}±63^{km}, **n25, σ1^{s}11**/7, **mb3.5**/3, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.71**	**186**	*e*P	**Pn**	**02 51 02.7**	**-1.2**
DZM				*e*S	**Sn**	**02 52 17.6**	**-1.2**
DZM	**Mont Dzumac**	**6.71**	**186**	P	**Pn**	**02 51 05.1**	**+1.3**
	5.1nm,0.3s,baz=50,slow=16,SNR=44						
DZM				S	**Sn**	**02 52 19.9**	**+1.1**
	2.7nm,0.3s,baz=307,slow=23,SNR=8.7						
WRA	**Warramunga Arr**	**31.56**	**257**	P	**P**	**02 55 39.5**	**-0.4**
	0.3nm,0.7s,mb3.1,baz=83,slow=8.6,SNR=5.0						
ASAR	**Alice Springs**	**32.34**	**250**	P	**P**	**02 55 47.1**	**+0.4**
	0.9nm,0.6s,mb3.7,baz=76,slow=9.1,SNR=13						
SONM	**Songino Array**	**82.93**	**324**	P	**P**	**03 01 40.5**	**0.0**
	0.9nm,0.8s,mb3.6,baz=134,slow=4.2,SNR=6.8						
CABF	**La Chapelle**	**145.06**	**337**	*e*PKIKP	PKPdf	03 08 50.7	-1.6
FLN	**La Foliniere**	**145.17**	**346**	*e*PKIKP	PKPdf	03 08 50.7	-1.8
	7.9nm,0.6s						
LOR	**Lormes**	**145.28**	**340**	*e*PKIKP	PKPdf	03 08 51.0	-1.7
	9.3nm,0.9s						
SSF	**Saint Saulge**	**145.58**	**340**	*e*PKIKP	PKPdf	03 08 52.0	-1.2
GRR	**Gorron**	**145.61**	**346**	*e*PKIKP	PKPdf	03 08 51.3	-2.0
LPL	**La Plagne**	**145.71**	**335**	*e*PKIKP	PKPdf	03 08 53.0	-0.5
	3.6nm,0.9s						
LPG	**La Plagne**	**145.72**	**335**	*e*PKIKP	PKPdf	03 08 53.3	-0.2
	3.6nm,0.7s						
SMF	**Signal de Mont**	**145.83**	**339**	*e*PKIKP	PKPdf	03 08 52.9	-0.8
	19nm,1.2s						
AVF	**Avril sur Loir**	**145.87**	**340**	*e*PKIKP	PKPdf	03 08 52.9	-0.8
SGMF	**Saint Gilles**	**146.11**	**348**	*e*PKIKP	PKPdf	03 08 52.5	-1.6
BGF	**Bois d'Agland**	**146.24**	**340**	*e*PKIKP	PKPdf	03 08 53.9	-0.5
	6.2nm,0.8s						
MBDF	**Montbardon**	**146.34**	**334**	*e*PKIKP	PKPdf	03 08 54.6	+0.1
ORIF	**Oris-en-Rattie**	**146.54**	**336**	*e*PKIKP	PKPdf	03 08 54.9	0.0
TCF	**Toulx Ste Croi**	**146.68**	**341**	*e*PKIKP	PKPdf	03 08 54.5	-0.6
SBF	**Sospel**	**146.75**	**333**	*e*PKIKP	PKPdf	03 08 55.2	0.0
PGF	**Pioggiola**	**147.03**	**330**	*e*PKIKP	PKPdf	03 08 55.9	+0.2
	15nm,1.1s						
MFF	**Saint Martin d**	**147.09**	**344**	*e*PKIKP	PKPdf	03 08 55.0	-0.8
	22nm,1.2s						
FRF	**La Foret Royal**	**147.33**	**333**	*e*PKIKP	PKPdf	03 08 55.9	-0.3
LMR	**La Mourre**	**147.57**	**333**	*e*PKIKP	PKPdf	03 08 56.4	-0.2
LASF	**Ste Croix**	**148.04**	**337**	*e*PKIKP	PKPdf	03 08 56.8	-0.6

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*IDC **14** 03:26:01.9±0.9, 9.15S×15806E, h0^{km}, mb4.0/6, mb1 4.2/6, mb1mx4.1/13, mbtmp4.0/6, MS4.1/5, Ms1 4.1/5, ms1mx3.5/27, Error ellipse: s-maj=30.9km s-min=21.2km az=153.0*
*ISCJB **14** 03:26:05.4±0.6, 92S±01×158.13E±009, h33^{km}, mb4.1/11, MS4.0/4, Error ellipse: s-maj=19.9km s-min=11.1km az=129.9*
*NEIC **14** 03:26:07.6±2.2, 926S×15821E, h42^{km}±23^{km}, mb4.5/5, Error ellipse: s-maj=27.3km s-min=10.8km az=146.0*
ISC 14 03:26:07.2±0.6, **92S**±01×**15820E**±010, **h35**^{km}, **n21, σ1^{s}11**/19, **mb4.1**/11, **MS4.0**/4, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.74**	**98**	Pn	**Pn**	**03 26 35.1**	**+0.1**
	93nm,0.3s,baz=258,slow=5.1,SNR=17						
HNR				Sn	**Sn**	**03 27 05.5**	**+10**
	944nm,0.3s,baz=91,slow=20,SNR=21						
HNR	**Honiara**	**1.74**	**98**	Pn	**Pn**	**03 26 35.1**	**+0.1**
HNR				Sn	**Sn**	**03 27 05.5**	**+10**
PMG	**Port Moresby**	**10.90**	**268**	LR	LR	03 32 16.5	
	comp=Z,1μm,21.7s,baz=75,slow=35						
WRAB	**Tennant Creek**	**25.39**	**243**	*e*P	**P**	**03 31 30.9**	**-0.3**
	10nm,0.9s,mb4.4						
WB2	**Warramunga Arr**	**25.39**	**242**	*e*P	**P**	**03 31 31.4**	**+0.2**
WRA	**Warramunga Arr**	**25.41**	**242**	P	**P**	**03 31 30.9**	**-0.4**
	4.4nm,1.0s,mb4.0,baz=67,slow=8.2,SNR=16						
KAKA	**Kakadu**	**25.52**	**260**	*e*P	**P**	**03 31 33.7**	**+1.3**
	9.4nm,0.6s,mb4.5						
AS31	**Alice Springs**	**27.32**	**235**	*e*P	**P**	**03 31 47.9**	**-0.6**
ASAR	**Alice Springs**	**27.32**	**235**	P	**P**	**03 31 48.5**	**-0.1**
	1.6nm,0.9s,mb3.6,baz=68,slow=8.6,SNR=8.8						
ASAR				LR	LR	03 42 46.7	
	comp=Z,350nm,19.0s,MS4.0,baz=51,slow=37						
STKA	**Stephens Creek**	**27.33**	**212**	*e*P	**P**	**03 31 51.9**	**+3.2**
	3.0nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**27.33**	**212**	P	**P**	**03 31 47.9**	**-0.8**
	3.0nm,1.1s,mb3.8,baz=34,slow=16,SNR=3.1						
STKA				LR	LR	03 41 53.0	
	comp=Z,486nm,18.7s,MS4.1,baz=31,slow=35						
STKA	**Stephens Creek**	**27.33**	**212**	*e*P	**P**	**03 31 48.8**	**+0.1**
AFI	**Afiamalu**	**29.77**	**102**	LR	LR	03 41 27.0	
	comp=Z,352nm,21.1s,MS4.0,baz=228,slow=31						
URZ	**Urewera**	**33.57**	**153**	LR	LR	03 43 54.6	
	comp=Z,244nm,20.3s,MS3.9,baz=260,slow=32						
ULN	**Ulaanbaatar**	**72.56**	**327**	*e*P	**P**	**03 37 32.9**	**+2.2**
	5.0nm,1.0s,mb4.4						
SONM	**Songino Array**	**72.90**	**326**	P	**P**	**03 37 32.4**	**-0.3**
	0.6nm,0.6s,mb3.7,baz=143,slow=4.6,SNR=3.3						
MCK	**McKinley**	**82.93**	**21**	*e*P	**P**	**03 38 27.0**	**-1.4**
	6.3nm,1.2s,mb4.5						
COLA	**College**	**84.00**	**20**	*e*P	**P**	**03 38 32.6**	**-1.3**
	1.8nm,0.5s,mb4.5						
MKAR	**Makanchi Array**	**87.14**	**318**	P	**P**	**03 38 48.6**	**-0.9**
	0.5nm,0.5s,mb4.0,baz=99,slow=5.9,SNR=5.5						
NVAR	**Mina Array Bea**	**90.60**	**51**	P	**P**	**03 39 08.1**	**+2.3**
	1.1nm,0.8s,mb4.2,baz=229,slow=6.2,SNR=7.8						
BDFB	**Brasilia**	**144.18**	**133**	PKP	PKPdf	03 45 39.8	+0.6
	2.4nm,0.8s,baz=191,slow=5.2,SNR=2.7						

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*IDC **14** 03:34:34.4±3.9, 1277N×8809W, h45^{km}±34^{km}, mb3.8/7, mb1 3.9/8, mb1mx3.7/20, mbtmp4.0/8, ML4.0/1, MS3.1/1, Ms1 3.0/1, ms1mx2.4/25, Error ellipse: s-maj=46.2km s-min=22.8km az=67.0*
*ISCJB **14** 03:34:37.3±0.4, 1277N±006×88.16W±004, h86^{km}±4^{km}, mb4.0/18, Error ellipse: s-maj=12.0km s-min=3.5km az=66.8*
*CASC **14** 03:34:37.9±2.2, 1269N×8823W, h45^{km}±80^{km}, MD4.1, ML4.3, mb4.0(NEIC)*
*NEIC **14** 03:34:41.6±1.8, 1283N×8794W, h114^{km}±15^{km}, mb4.0/13, MD4.3(SNET), Error ellipse: s-maj=20.2km s-min=8.0km az=51.0*
NEIC Felt [II] at Usulutan, El Salvador.
ISC 14 03:34:38.6±0.4, **1284N**±007×**8813W**±005, **h77**^{km}±4^{km}, **n54, σ1^{s}09**/67, **mb4.0**/18, **12C-9D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.52**	**33**	⇓*e*P	x	03 35 08.4	
CNCH				*e*S	x	03 35 18.9	
BLLM	**Bellamira**	**0.61**	**350**	⇓*i*P	x	03 35 09.0	
BLLM				*e*S	x	03 35 19.7	
SNVI	**San Vicente**	**1.03**	**318**	*e*P	x	03 35 13.6	
SNVI				*e*S	x	03 35 28.0	
CRIN	**San Cristobal**	**1.06**	**98**	⇑*e*P	**Pn**	**03 34 58.5**	**+0.4**
CRIN				*e*S	**Sn**	**03 35 14.4**	**+1.6**
LEON	**Leon**	**1.28**	**109**	⇑*e*P	**Pn**	**03 34 59.6**	**-1.3**
LEON				*e*S	**Sn**	**03 35 17.2**	**-0.4**
TEL3	**Telica 3**	**1.28**	**102**	*e*P	**Pn**	**03 35 00.9**	**-0.1**
TELN	**Telica**	**1.28**	**100**	⇑*e*P	**Pn**	**03 35 00.7**	**-0.3**
TELN				*e*S	**Sn**	**03 35 18.4**	**+0.5**
BOQS	**Boqueron**	**1.43**	**308**	⇑*e*P	x	03 35 18.6	
BOQS				*e*S	x	03 35 37.5	
CNGN	**Cerro Negro**	**1.43**	**104**	⇑*e*P	**Pn**	**03 35 02.4**	**-0.5**
CNGN				*e*S	**Sn**	**03 35 23.5**	**+2.2**
MIRN	**Miramar**	**1.44**	**106**	⇑*i*P	**Pn**	**03 35 02.6**	**-0.4**
MIRN				*e*S	**Sn**	**03 35 19.5**	**-1.8**
MOMJ	**Momotombo**	**1.61**	**105**	⇑*e*P	**Pn**	**03 35 04.8**	**-0.4**
COPN	**Copaltepe**	**1.64**	**114**	⇓*e*P	**Pn**	**03 35 04.7**	**-0.9**
COPN				*e*S	**Sn**	**03 35 25.8**	**-0.2**
APYN	**Apoyeque**	**1.84**	**109**	⇑*e*P	**Pn**	**03 35 08.1**	**-0.1**
APYN				*e*S	**Sn**	**03 35 31.3**	**+0.6**
XAVN	**Gruta Xavier**	**1.89**	**111**	⇓*e*P	**Pn**	**03 35 08.6**	**-0.3**
TISN	**Laguna Tiscapa**	**1.94**	**111**	⇓*e*P	**Pn**	**03 35 09.2**	**-0.4**
TISN				*e*S	**Sn**	**03 35 32.6**	**-0.6**
MGAN	**Managua**	**1.96**	**110**	⇓*e*P	**Pn**	**03 35 09.5**	**-0.4**
MGAN				*e*S	**Sn**	**03 35 32.3**	**-1.3**
MGAN				*i*		03 35 33.9	
	comp=N,3μm,0.4s						
TICN	**Ticuantepe**	**2.02**	**113**	⇑*e*P	**Pn**	**03 35 10.4**	**-0.2**
APON	**Apoyo**	**2.21**	**114**	⇓*e*P	**Pn**	**03 35 12.6**	**-0.7**
APON				*e*S	**Sn**	**03 35 38.4**	**-1.2**
IXG	**Ixpaco**	**2.62**	**301**	⇑*e*P	**Pn**	**03 35 17.2**	**-1.5**
IXG				*e*S	**Sn**	**03 35 49.2**	**-0.5**
SSNN	**San Juan del S**	**2.71**	**125**	⇑*e*P	**Pn**	**03 35 20.0**	**+0.1**
CONN	**Concepcion**	**2.75**	**117**	*e*P	**Pn**	**03 35 19.9**	**-0.6**
TER	**Terranova**	**2.88**	**301**	*e*P	**Pn**	**03 35 20.4**	**-1.8**
TER				*e*S	**Sn**	**03 35 55.0**	**-0.8**
TP2	**Tecpan 2**	**3.41**	**305**	⇓*e*P	**Pn**	**03 35 31.7**	**+2.2**
TP2				*e*S	**Sn**	**03 36 11.4**	**+2.6**
LIM1	**Limonal**	**3.53**	**127**	*e*P	**Pn**	**03 35 30.4**	**-0.6**
JAT	**Jato**	**3.72**	**294**	*e*P	**Pn**	**03 35 33.2**	**-0.4**
CGA2	**Cerro Gallo 2**	**4.56**	**128**	*e*P	**Pn**	**03 35 45.6**	**+0.6**
CGA2				*e*S	**Sn**	**03 36 37.5**	**+0.8**
PRS1	**Puriscal**	**4.70**	**127**	*e*P	**Pn**	**03 35 47.9**	**+0.9**
PRS1				*e*S	**Sn**	**03 36 40.8**	**+0.6**
LCR2	**La Lucha 2**	**5.08**	**127**	*e*P	**Pn**	**03 35 52.9**	**+0.7**
LCR2				*e*S	**Sn**	**03 36 49.5**	**-0.2**
URSC	**Urasca**	**5.21**	**125**	⇑*e*P	**Pn**	**03 35 55.5**	**+1.6**
URSC				*e*S	**Sn**	**03 36 55.0**	**+2.4**
BUS	**Buena Vista**	**5.39**	**127**	⇓*e*P	**Pn**	**03 35 57.4**	**+1.0**
BUS				*e*S	**Sn**	**03 36 58.7**	**+1.6**
TEIG	**Tepich**	**7.34**	**359**	*e*Pn	**Pn**	**03 36 26.3**	**+3.2**
	comp=N,7.4nm,0.8s						
SDV	**Santo Domingo**	**17.62**	**101**	P	**Pn**	**03 38 38.3**	**-0.6**
	comp=N,0.5nm,0.3s,baz=273,slow=7.9,SNR=5.7						
LTX	**Lajitas**	**21.86**	**321**	*e*P	**P**	**03 39 26.0**	**+1.1**
	comp=N,3.4nm,0.6s,mb3.9						
WMOK	**Wichita Mounta**	**23.84**	**338**	*e*P	**P**	**03 39 44.9**	**+0.2**
	comp=N,1.5nm,0.7s,mb3.4						
CCM	**Cathedral Cave**	**25.26**	**354**	*e*P	**P**	**03 39 57.5**	**0.0**
	comp=N,2.9nm,0.6s,mb3.9						
SMCO	**Snowmass**	**31.09**	**331**	*e*P	**P**	**03 40 51.3**	**+1.9**
	comp=N,1.6nm,0.7s,mb3.9						
SADO	**Sadowa**	**32.73**	**12**	P	**P**	**03 41 03.1**	**-0.8**
	comp=N,1.6nm,0.4s,mb4.2,baz=212,slow=14,SNR=5.2						
SAML	**Samuel**	**32.90**	**130**	P	**P**	**03 41 04.0**	**-1.4**
	comp=N,1.6nm,0.8s,mb3.9						
RSSD	**Black Hills**	**34.03**	**339**	*e*P	**P**	**03 41 15.9**	**+0.8**
	comp=N,1.7nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**35.12**	**332**	P	**P**	**03 41 24.9**	**+0.4**
	comp=N,0.6nm,0.6s,mb3.6,baz=123,slow=9.6,SNR=7.2						
TPAW	**Teton Pass**	**36.32**	**332**	*e*P	**P**	**03 41 36.0**	**+1.2**
	comp=N,2.8nm,0.6s,mb4.4						
MOOW	**Moose Ponds**	**36.43**	**332**	*e*P	**P**	**03 41 36.4**	**+0.7**
	comp=N,1.9nm,0.8s,mb4.1						
NVAR	**Mina Array Bea**	**36.98**	**319**	PcP	PcP	03 44 00.9	+0.8
	comp=N,0.4nm,0.5s,baz=131,slow=3.7,SNR=3.7						
NVAR				ScP	ScP	03 47 43.8	+3.7
	comp=N,0.3nm,0.7s,baz=139,slow=4.5,SNR=3.9						
ULM	**Lac du Bonnet**	**37.84**	**352**	P	**P**	**03 41 46.3**	**-1.4**
	comp=N,2.0nm,0.6s,mb4.1,baz=175,slow=6.5,SNR=4.4						
ULM				LR	LR	03 58 49.0	
	comp=N,28nm,19.3s,baz=355,slow=38						
ULM	**Lac du Bonnet**	**37.84**	**352**	*e*P	**P**	**03 41 45.6**	**-2.1**
	comp=N,2.0nm,0.6s,mb4.1						
HLID	**Hailey**	**38.06**	**329**	*e*P	**P**	**03 41 50.6**	**+1.0**
	comp=N,0.7nm,0.7s,mb3.6						
MCMT	**McKenzie Canyo**	**38.23**	**331**	*e*P	**P**	**03 41 52.9**	**+1.9**
MCMT				*e*pP	pP	03 42 10.0	+0.6
FFC	**Flin Flon**	**43.18**	**348**	*e*P	**P**	**03 42 31.2**	**-0.5**
	comp=N,2.2nm,0.6s,mb4.1						
SCHQ	**Schefferville**	**45.10**	**17**	P	**P**	**03 42 45.9**	**-1.2**
	comp=N,1.3nm,0.5s,mb4.0,baz=238,slow=11,SNR=7.7						
FCC	**Fort Churchill**	**46.05**	**356**	*e*P	**P**	**03 42 53.3**	**-1.3**
	comp=N,5.5nm,0.7s,mb4.4						
YKA	**Yellowknife Ar**	**53.06**	**345**	P	**P**	**03 43 46.6**	**-1.2**
	comp=N,0.5nm,0.4s,mb3.9,baz=147,slow=6.4,SNR=10						
DLBC	**Dease Lake**	**55.27**	**335**	P	**P**	**03 44 04.3**	**+0.4**
	comp=N,1.0nm,0.3s,mb4.3,baz=167,slow=14,SNR=4.6						
DLBC	**Dease Lake**	**55.27**	**335**	P	**P**	**03 44 04.3**	**+0.4**
PLCA	**Paso Flores**	**55.73**	**164**	P	**P**	**03 44 05.2**	**-2.1**
	comp=N,1.6nm,0.9s,mb4.0,baz=317,slow=9.0,SNR=3.6						

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*BJI **14** 03:38:28.3, 593S×15188E, h50^{km}, mB5.2, mb4.8, Ms4.8, Msz4.4*
*MOS **14** 03:38:32.5±1.0, 542S×15087E, h33^{km}, mb4.7/10, Error ellipse: s-maj=18.5km s-min=9.8km az=70.8*
*ISCJB **14** 03:38:33.4±2.8, 550S±006×1509E±01, h44^{km}±22^{km}, mb4.6/29, MS4.3/19, Error ellipse: s-maj=23.8km s-min=10.2km az=12.8*
*HRVD **14** 03:38:35.3±0.2, 549S×15085E, h13^{km}±1^{km}, MW5.0/76, Centroid moment Tensor Solution. LP body waves: s28,c39;Mantle waves: s76,c126; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.13±.12; $M_{\theta\theta}$3.29±.11; $M_{\phi\phi}$-2.16±.10; $M_{r\theta}$0.33±.24; $M_{\theta\phi}$2.66±.10; $M_{\phi r}$0.44±.25; Best double couple: $M_0$3.84700×10^{16} NP1:ϕ_s113.00000°, δ81.00000°, λ-2.00000°. NP2: ϕ_s203.00000°, δ88.00000°, λ-171.00000°. Principal axes: T 4.4140, Plg5.0000°, Azm338.0000°; N -1.1340, Plg81.0000°, Azm215.0000°; P -3.2800, Plg8.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **14** 03:38:35.8±3.0, 549S×15094E, h53^{km}±25^{km}, mb4.1/11, mb1 4.3/13, mb1mx4.3/16, mbtmp4.4/13, ML3.7/2, MS4.3/20, Ms1 4.3/20, ms1mx4.1/24 Error ellipse: s-maj=24.6km s-min=12.9km az=117.0*
*NEIC **14** 03:38:35.3±2.0, 550S×15094E, h51^{km}±17^{km}, mb4.7/17, Error ellipse: s-maj=17.4km s-min=10.1km az=97.0*
ISC 14 03:38:35.4±1.9, **555S**±005×**1510E**±01, **h48**^{km}±15^{km}, **n78, σ0^{s}97**/69, **mb4.6**/29, **MS4.3**/19, **2C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.42**	**225**	P	**Pn**	**03 39 53.3**	**-0.2**
	16nm,0.3s,baz=36,slow=6.9,SNR=33						
PMG				S	**Sn**	**03 40 56.3**	**+1.7**
	2.3nm,0.3s,baz=116,slow=14,SNR=4.3						
PMG				LR	LR	03 41 30.5	
	comp=Z,1μm,19.9s,baz=44,slow=32						
PMG	**Port Moresby**	**5.42**	**225**	*e*P	**Pn**	**03 39 53.6**	**+0.1**
PMG				*e*		03 40 46.6	
PMG				pmax	pmax		
	comp=Z,215nm,0.8s						
PMG	**Port Moresby**	**5.42**	**225**	*e*Pn	**Pn**	**03 39 53.6**	**+0.1**
	comp=Z,215nm,0.8s						

PMG				eSn	**Sn**	**03 40 46.5**	**-8.0**
HNR	**Honiara**	**9.65**	**114**	LR	LR	03 43 39.5	
	comp=Z,563nm,20.8s,baz=355,slow=31						
CTA	**Charters Tower**	**15.18**	**197**	eP	**Pn**	**03 42 14.7**	**+8.2**
	comp=Z,22nm,1.5s						
CTA				eS	**S**	**03 45 08.2**	**-0.1**
CTA	**Charters Tower**	**15.18**	**197**	P	**Pn**	**03 42 06.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=356,slow=12,SNR=3.5						
CTA				LR	LR	03 47 22.0	
	comp=Z,2μm,19.9s,baz=16,slow=35						
CTA	**Charters Tower**	**15.18**	**197**	P	**Pn**	**03 42 06.0**	**-0.4**
CTA				eP		03 42 14.7	
CTA				eS	**S**	**03 45 08.2**	**-0.1**
CTA				LR	LR	03 47 22.0	
CTAO	**Charters Tower**	**15.18**	**197**	eP	**Pn**	**03 42 08.2**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,114nm,1.6s						
CTAO	**Charters Tower**	**15.18**	**197**	ePn	**Pn**	**03 42 08.2**	**+1.7**
	comp=Z,114nm,1.6s						
KAKA	**Kakadu**	**19.67**	**248**	eP	**Pn**	**03 42 59.3**	**-2.7**
	comp=Z,51nm,1.2s						
GUMO	**Guam**	**19.97**	**342**	LR	LR	03 49 01.8	
	comp=Z,706nm,18.4s,baz=106,slow=32						
WRAB	**Tennant Creek**	**21.62**	**227**⇑	eP	**P**	**03 43 20.9**	**-0.4**
WRAB	**Tennant Creek**	**21.62**	**227**	eP	**P**	**03 43 20.4**	**-0.9**
	comp=Z,256nm,1.6s,mb5.4						
WB2	**Warramunga Arr**	**21.62**	**227**	eP	**P**	**03 43 20.3**	**-1.0**
WRA	**Warramunga Arr**	**21.63**	**227**	P	**P**	**03 43 20.8**	**-0.7**
	comp=Z,31nm,0.9s,mb4.7,baz=54,slow=11,SNR=59						
WRA				S	**S**	**03 47 18.4**	**+0.2**
	comp=Z,3.6nm,1.2s,baz=49,slow=21,SNR=5.3						
WRA				LR	LR	03 52 18.5	
	comp=Z,496nm,18.7s,MS3.9,baz=50,slow=38						
WRA	**Warramunga Arr**	**21.63**	**227**	P	**P**	**03 43 20.8**	**-0.6**
WRA				S	**S**	**03 47 18.4**	**+0.2**
DZM	**Mont Dzumac**	**22.19**	**139**	LR	LR	03 50 54.4	
	comp=Z,2μm,21.0s,MS4.6,baz=17,slow=33						
AS31	**Alice Springs**	**24.41**	**221**	eP	**P**	**03 43 49.9**	**+0.7**
ASAR	**Alice Springs**	**24.42**	**221**	P	**P**	**03 43 49.9**	**+0.6**
	comp=Z,12nm,0.8s,mb4.4,baz=54,slow=8.5,SNR=74						
ASAR				LR	LR	03 52 40.7	
	comp=Z,420nm,20.6s,MS3.9,baz=50,slow=35						
ASPA	**Alice Springs**	**24.42**	**221**	eP	**P**	**03 43 49.9**	**+0.6**
STKA	**Stephens Creek**	**27.64**	**197**	eP	**P**	**03 44 18.4**	**0.0**
	comp=Z,6.0nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**27.64**	**197**	P	**P**	**03 44 18.9**	**+0.5**
	comp=Z,4.1nm,0.9s,mb4.1,baz=41,slow=9.9,SNR=5.0						
STKA				LR	LR	03 55 15.4	
	comp=Z,1μm,21.0s,MS4.5,baz=15,slow=36						
STKA	**Stephens Creek**	**27.64**	**197**	eP	**P**	**03 44 22.5**	**+4.1**
FITZ	**Fitzroy Crossi**	**27.75**	**241**	eP	**P**	**03 44 17.8**	**-1.5**
	comp=Z,46nm,0.8s,mb5.2						
FITZ	**Fitzroy Crossi**	**27.75**	**241**	P	**P**	**03 44 18.7**	**-0.6**
	comp=Z,24nm,0.8s,mb4.9,baz=85,slow=6.5,SNR=29						
FITZ				LR	LR	03 56 15.7	
	comp=Z,416nm,18.4s,MS4.0,baz=246,slow=38						
FORT	**Forrest**	**33.10**	**218**	eP	**P**	**03 45 07.6**	**+1.0**
	comp=Z,33nm,0.8s,mb5.3						
MBWA	**Marble Bar**	**34.06**	**240**	eP	**P**	**03 45 14.3**	**-0.7**
	comp=Z,122nm,1.6s,mb5.6						
AFI	**Afiamalu**	**37.55**	**106**	LR	LR	03 57 22.6	
	comp=Z,245nm,20.8s,MS4.0,baz=184,slow=30						
RAO	**Raoul Island**	**37.65**	**132**	LR	LR	03 59 22.3	
	comp=Z,512nm,19.6s,MS4.3,baz=346,slow=33						
JOW	**Kunigami**	**39.00**	**327**	LR	LR	04 01 28.0	
	comp=Z,449nm,18.2s,MS4.3,baz=281,slow=35						
URZ	**Urewera**	**40.27**	**148**	LR	LR	03 59 27.8	
	comp=Z,534nm,21.9s,MS4.3,baz=212,slow=31						
KLBR	**Kellerberrin**	**40.51**	**226**	eP	**P**	**03 46 08.8**	**-0.8**
	comp=Z,34nm,1.1s,mb4.9						
NWAO	**Narrogin (SRO)**	**41.61**	**225**	LR	LR	04 03 00.2	
	comp=Z,545nm,19.0s,MS4.5,baz=224,slow=35						
MUN	**Mundaring**	**41.83**	**227**	eP	**P**	**03 46 20.4**	**0.0**
RPZ	**Rata Peaks**	**41.91**	**158**	LR	LR	04 00 55.4	
	comp=Z,1μm,20.5s,MS4.8,baz=261,slow=32						
MJAR	**Matsushiro Arr**	**43.55**	**345**	P	**P**	**03 46 34.0**	**-0.4**
	comp=Z,4.4nm,0.9s,mb4.2,baz=168,slow=8.9,SNR=7.8						
MJAR				LR	LR	04 04 14.6	
	comp=Z,253nm,18.7s,MS4.2,baz=175,slow=35						
MAJO	**Matsushiro**	**43.56**	**345**	eP	**P**	**03 46 34.8**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
MAJO	**Matsushiro**	**43.56**	**345**	eP	**P**	**03 46 34.8**	**+0.4**
	comp=Z,9.7nm,1.0s,mb4.5						
MAT	**Matsushiro**	**43.56**	**345**	P	**P**	**03 46 33.4**	**-1.0**
MAT	**Matsushiro**	**43.56**	**345**	P	**P**	**03 46 33.0**	**-1.4**
MAT				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
MAT	**Matsushiro**	**43.56**	**345**	P	**P**	**03 46 33.0**	**-1.4**
	comp=Z,10.0nm,1.0s,mb4.5						
INCN	**Inchon**	**48.47**	**334**	eP	**P**	**03 47 14.9**	**+1.8**
	comp=Z,120nm,1.1s						
CN2	**Changchun**	**54.28**	**337**	eP	**P**	**03 47 55.3**	**-1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
BJI	**Beijing**	**55.55**	**328**	P	**P**	**03 48 07.1**	**+1.3**
BJI				S		03 56 00.3	
BJI				AMB	AMB		
	comp=Z,14nm,1.7s,mb4.7						
BJI				AMB	AMB		
	comp=Z,312nm,6.5s						
BJI				LR	LR		
	comp=N,323nm,18.7s,MS4.6						
BJI				LR	LR		
	comp=E,398nm,22.5s,MS4.6						
BJI				LR	LR		
	comp=Z,377nm,22.5s,MS4.4						
HHC	**Hu-ho-hao-te**	**58.64**	**326**	eP	**P**	**03 48 29.3**	**+1.8**
HHC				AP	pP	03 48 41.8	+0.8
HHC				XP	sP	03 48 47.4	+0.9
HHC				PP	PP	03 50 39.6	+2.0
HHC				SCP	ScP	03 53 12.5	-1.1
HHC				PCS	PcS	03 53 16.1	-2.8
HHC				XS	sS	03 56 52.5	+1.6
HHC				SCS	ScS	03 58 10.5	-2.8
HHC				AMB	AMB		
	comp=Z,15nm,0.5s,mb5.3						
HHC				AMB	AMB		
	comp=Z,196nm,5.1s						
HHC				LR	LR		
	comp=N,265nm,6.4s						
HHC				LR	LR		
	comp=E,238nm,4.9s						
HHC				LR	LR		
	comp=Z,352nm,19.6s,MS4.5						
PPT	**Papeete**	**59.20**	**107**	LR	LR	04 11 13.0	
	comp=Z,95nm,19.3s,MS3.9,baz=290,slow=33						
LZH	**Lanzhou**	**60.55**	**317**	eP	**P**	**03 48 44.5**	**+3.8**
LZH				AP	pP	03 48 53.5	-0.7
LZH				XP	sP	03 48 56.0	-3.7
LZH				AMB	AMB		
	comp=Z,28nm,1.3s,mb5.2						
GTA	**Gaotai**	**65.01**	**318**	eP	**P**	**03 49 11.3**	**+0.9**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.5s,mb4.2						
ULN	**Ulaanbaatar**	**65.71**	**329**	eP	**P**	**03 49 16.0**	**+1.1**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
ULN	**Ulaanbaatar**	**65.71**	**329**	eP	**P**	**03 49 16.0**	**+1.1**
	comp=Z,5.9nm,1.2s,mb4.5						
SONM	**Songino Array**	**66.03**	**329**	P	**P**	**03 49 17.3**	**+0.4**
	comp=Z,3.5nm,1.1s,mb4.3,baz=138,slow=6.3,SNR=13						
SONM				LR	LR	04 17 24.3	
	comp=Z,360nm,21.4s,MS4.5,baz=283,slow=35						
ZAK	**Zakamensk**	**69.22**	**330**	eP	**P**	**03 49 37.1**	**0.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
VNDA	**Vanda**	**72.16**	**178**	P	**P**	**03 49 55.5**	**+0.6**
	comp=Z,1.7nm,0.9s,mb4.0,baz=339,slow=6.8,SNR=8.6						
VNDA				LR	LR	04 18 25.7	
	comp=Z,124nm,19.2s,MS4.2,baz=345,slow=33						
VNDA	**Vanda**	**72.16**	**178**	eP	**P**	**03 49 55.7**	**+0.8**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VNDA	**Vanda**	**72.16**	**178**	eP	**P**	**03 49 55.7**	**+0.8**
	comp=Z,1.1nm,0.6s,mb4.0						
WMQ	**Urumqi**	**75.10**	**318**	P	**P**	**03 50 12.9**	**+0.7**
MKAR	**Makanchi Array**	**79.73**	**319**	P	**P**	**03 50 38.1**	**0.0**
	comp=Z,0.2nm,0.2s,mb3.6,baz=94,slow=7.5,SNR=6.5						
KURK	**Kurchatov**	**83.27**	**322**	iP	**P**	**03 50 56.3**	**-0.5**
KURK	**Kurchatov**	**83.27**	**322**	eP	**P**	**03 50 56.2**	**-0.6**
	comp=Z,10.0nm,1.2s,mb4.7						
AAK	**Ala-Archa**	**83.89**	**314**	iP	**P**	**03 50 59.4**	**-0.6**
AAK				pmax	pmax		
	comp=Z,9.0nm,2.2s,mb4.5						
AAK				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.3						
MAW	**Mawson**	**84.20**	**203**	P	**P**	**03 51 01.8**	**+0.2**
	comp=Z,0.9nm,0.6s,mb4.1,baz=78,slow=7.7,SNR=4.4						
MAW				LR	LR	04 24 48.2	
	comp=Z,324nm,19.6s,MS4.7,baz=67,slow=33						
MAW	**Mawson**	**84.20**	**203**	eP	**P**	**03 51 01.9**	**+0.3**
MAW				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MAW	**Mawson**	**84.20**	**203**	eP	**P**	**03 51 01.9**	**+0.4**
	comp=Z,5.8nm,1.1s,mb4.6						
QSPA	**South Pole Qui**	**84.42**	**180**	eP	**P**	**03 51 03.6**	**+1.0**
	comp=Z,4.6nm,0.8s,mb4.7						
BRVK	**Borovoye**	**88.85**	**323**	eP	**P**	**03 51 23.5**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.4						
BRVK	**Borovoye**	**88.85**	**323**	eP	**P**	**03 51 23.5**	**-0.7**
	comp=Z,1.1nm,0.5s,mb4.4						
ZRNK	**Zerenda**	**89.59**	**323**	eP	**P**	**03 51 27.5**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**89.59**	**323**	eP	**P**	**03 51 27.5**	**-0.2**
	comp=Z,1.2nm,0.8s,mb4.3						
INK	**Inuvik**	**89.79**	**21**	P	**P**	**03 51 26.3**	**-2.4**
	comp=Z,3.0nm,1.0s,mb4.6,baz=290,slow=2.2,SNR=3.9						
INK	**Inuvik**	**89.79**	**21**	eP	**P**	**03 51 25.9**	**-2.8**
INK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
INK	**Inuvik**	**89.79**	**21**	eP	**P**	**03 51 25.9**	**-2.8**
	comp=Z,4.1nm,1.1s,mb4.7						
SYO	**Syowa Base**	**92.37**	**200**⇑	eP	**P**	**03 51 40.0**	**-0.7**
NVAR	**Mina Array Bea**	**93.94**	**52**	P	**P**	**03 51 47.0**	**-0.8**
	comp=Z,0.3nm,0.5s,mb4.0,baz=230,slow=5.6,SNR=3.2						
LPAZ	**La Paz**	**135.61**	**120**	PKP	PKPdf	03 57 49.9	-0.4
	comp=Z,1.9nm,0.8s,baz=194,slow=2.7,SNR=4.5						
LPAZ	**La Paz**	**135.61**	**120**	ePKPdf	PKPdf	03 57 51.5	+1.3
SAML	**Samuel**	**142.99**	**113**	ePKPdf	PKPdf	03 58 02.8	-0.9
TORD	**Torodi Ar. Bea**	**148.83**	**286**	PKPbc	PKPbc	03 58 17.3	-0.3
	comp=Z,1.9nm,0.9s,baz=66,slow=2.4,SNR=14						
BDFB	**Brasilia**	**151.74**	**138**	PKP	PKPdf	03 58 20.9	+2.8
	comp=Z,3.1nm,0.8s,baz=207,slow=9.0,SNR=3.3						
BDFB				PKPbc	PKPbc	03 58 26.7	+2.2
	comp=Z,6.1nm,0.9s,baz=238,slow=3.1,SNR=7.4						

IDC 14 03:41:09.7±2.4**, 1909S**×**17637E, h0^{km}, mb4.1**/4**, mb1 4.4**/5**, mb1mx4.1**/13**, mbtmp4.2**/5**, ML3.5**/1**, Error ellipse: s-maj=155.8km s-min=31.7km az=154.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.76**	**251**	Pn	Pn	03 43 30.1	-1.2
	0.4nm,0.3s,baz=51,slow=14,SNR=4.1						
STKA	**Stephens Creek**	**33.73**	**241**	P	P	03 47 52.7	-0.1
	2.5nm,0.9s,baz=85,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**39.56**	**262**	P	P	03 48 42.7	+0.3
	1.5nm,0.5s,baz=95,slow=7.8,SNR=14						
ASAR	**Alice Springs**	**39.70**	**256**	P	P	03 48 44.6	+0.9
	6.4nm,0.6s,baz=88,slow=8.6,SNR=49						
PDAR	**Pinedale Array**	**91.65**	**45**	P	P	03 54 18.9	+0.2
	0.4nm,0.9s,baz=330,slow=5.3,SNR=4.3						

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*IDC **14** 03:43:38.4±1.1, 584S×15172E, h0^{km}, mb4.0/5, mb1 4.2/6, mb1mx4.0/14, mbtmp4.1/6, ML3.0/1, Error ellipse: s-maj=36.4km s-min=24.7km az=124.0*

*ISCJB **14** 03:43:46.3±4.6, 59S±02×1513E±02, h63^{km}±36^{km}, mb4.0/7, Error ellipse: s-maj=41.8km s-min=28.0km az=38.0*

*NEIC **14** 03:43:47.8±3.7, 589S×15135E, h63^{km}±28^{km}, mb4.3/2, Error ellipse: s-maj=31.6km s-min=22.9km az=94.0*

ISC 14 03:43:47.6±4.4**, 59S**±02×**1514E**±03**, h58^{km}**±34^{km}**, n14, σ0^{s}89**/11**, mb4.0**/7**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.46**	**230**	Pn	**Pn**	**03 45 06.2**	**-0.2**
	2.5nm,0.3s,baz=58,slow=15,SNR=5.0						
PMG				Sn	**Sn**	**03 46 08.3**	**+0.5**
	2.1nm,0.3s,baz=131,slow=11,SNR=2.4						
WRAB	**Tennant Creek**	**21.66**	**228**	eP	**P**	**03 48 32.5**	**-0.7**
	9.0nm,1.0s,mb4.2						
WB2	**Warramunga Arr**	**21.67**	**228**	eP	**P**	**03 48 32.6**	**-0.7**
WRA	**Warramunga Arr**	**21.68**	**228**	P	**P**	**03 48 32.6**	**-0.8**
	5.4nm,0.9s,mb4.0,baz=53,slow=10,SNR=11						
ASAR	**Alice Springs**	**24.41**	**222**	P	**P**	**03 49 02.4**	**+1.9**
	1.8nm,0.7s,mb3.6,baz=57,slow=9.3,SNR=5.6						
STKA	**Stephens Creek**	**27.42**	**198**	P	**P**	**03 49 29.0**	**+1.3**
	3.5nm,1.0s,mb3.9,baz=39,slow=6.5,SNR=2.9						
STKA	**Stephens Creek**	**27.42**	**198**	eP	**P**	**03 49 28.7**	**+1.0**
FITZ	**Fitzroy Crossi**	**27.92**	**242**	P	**P**	**03 49 31.4**	**-0.7**
	3.7nm,0.7s,mb4.1,baz=72,slow=11,SNR=6.4						
SONM	**Songino Array**	**66.52**	**329**	P	**P**	**03 54 31.9**	**+0.6**
	1.0nm,0.9s,mb3.9,baz=151,slow=7.3,SNR=5.5						
TAOE	**Nuku Hiva Isla**	**67.87**	**97**	eLR	LR	03 54 35.2	
	432nm,21.2s,baz=268						
VNDA	**Vanda**	**71.79**	**178**	eP	**P**	**03 55 03.0**	**-0.8**
	4.0nm,0.6s,mb4.5						
LPAZ	**La Paz**	**135.10**	**120**	PKP	PKPdf	04 03 01.9	+1.7
	1.0nm,0.9s,baz=154,slow=7.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**149.29**	**286**	PKPbc	PKPbc	04 03 30.2	+0.5
	1.3nm,0.7s,baz=71,slow=3.9,SNR=9.6						
BDFB	**Brasilia**	**151.23**	**138**	PKPbc	PKPbc	04 03 34.5	+0.2
	2.9nm,0.8s,baz=180,slow=2.0,SNR=1.6						
BDFB				PKPab	PKPab	04 03 39.3	-3.1
	2.8nm,0.8s,baz=190,slow=6.1,SNR=3.7						

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*ISCJB **14** 03:44:01.6±0.3, 4933N±001×680E±003, h0^{km}, Error ellipse: s-maj=2.5km s-min=1.8km az=178.6*

*BGR **14** 03:44:03.0±0.5, 4925N×670E, h1^{km}, ML1.8/1, Error ellipse: s-maj=12.2km s-min=4.4km az=51.0*

*LDG **14** 03:44:03.5±0.1, 4938N×692E, h1^{km}, Md2.5/3, Ml2.7/14, Error ellipse: s-maj=2.0km s-min=1.7km az=85.0, Suspected Mining induced.*

*CSEM **14** 03:44:03.2±0.1, 4938N×693E, h2^{km}, ML2.6/13, Error ellipse: s-maj=1.3km s-min=1.1km az=60.0*

*NEIC **14** 03:44:03.2, 4936N×687E, h1^{km}, ML2.4(STR), ML2.7(LDG), After STR.*

*BNS **14** 03:44:04.6±0.4, 4941N×696E, h1^{km}, ML1.5*

ISC 14 03:44:02.6±0.3**, 4935N**±001×**685E**±003**, h0^{km}, n54, σ1^{s}05**/125**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.38**	**22**	Pg	**Pg**	**03 44 10.2**	**+0.3**
RUP				Sg	**Sg**	**03 44 15.8**	**+1.0**
WLF	**Walferdange**	**0.55**	**305**	ePg	**Pg**	**03 44 14.2**	**+1.0**
	SNR=4.1						
WLF				eSg	**Sg**	**03 44 19.8**	**-0.6**
	SNR=3.4						
WLF	**Walferdange**	**0.55**	**305**	P	**Pg**	**03 44 14.3**	**+1.1**
WLF				S	**Sg**	**03 44 19.1**	**-1.2**
WLF	**Walferdange**	**0.55**	**305**	ePg	**Pg**	**03 44 13.7**	**+0.4**
ABH	**Alteburg**	**0.70**	**40**	Pg	**Pg**	**03 44 15.3**	**-0.8**
BGG	**Burgeitz**	**0.91**	**20**	ePg	**Pg**	**03 44 20.6**	**+0.4**
BGG				eSg	**Sg**	**03 44 31.9**	**-0.1**
	15nm,0.4s						
CDF	**Champ du Feu**	**0.98**	**163**	ePg	**Pg**	**03 44 22.6**	**+1.1**
CDF				eSg	**Sg**	**03 44 35.0**	**+0.8**
	18nm,0.2s						
CDF	**Champ du Feu**	**0.98**	**163**	ePg	**Pg**	**03 44 22.6**	**+1.1**
CDF				eSg	**Sg**	**03 44 35.0**	**+0.8**
	9.1nm,0.2s						
WLS	**Welschbruch**	**1.00**	**160**	Pg	**Pg**	**03 44 22.9**	**+1.2**
WLS				Sg	**Sg**	**03 44 36.2**	**+1.6**
ECH	**Echery**	**1.15**	**170**	Pg	**Pg**	**03 44 25.6**	**+0.8**
ECH				Sg	**Sg**	**03 44 40.6**	**+0.9**
RFYF	**Reffroy**	**1.16**	**232**	ePg	**Pg**	**03 44 25.7**	**+0.9**
RFYF				eSg	**Sg**	**03 44 41.6**	**+1.8**
	17nm,0.2s						
RFYF	**Reffroy**	**1.16**	**232**	ePg	**Pg**	**03 44 25.7**	**+0.9**
RFYF				eSg	**Sg**	**03 44 41.6**	**+1.8**
	8.6nm,0.2s						
STB	**Steinbach**	**1.25**	**360**	ePg	**Pg**	**03 44 26.2**	**-0.3**
STB				eSg	**Sg**	**03 44 42.9**	**+0.2**
	9.2nm,0.6s						
THEF	**They Montfort**	**1.26**	**207**	Pg	**Pg**	**03 44 27.4**	**+0.6**
THEF				Sg	**Sg**	**03 44 44.0**	**+0.9**
TOD	**Tromm**	**1.30**	**78**	Pg	**Pg**	**03 44 26.9**	**-0.7**
KLL	**Kalltalsperre**	**1.34**	**345**	ePg	**Pg**	**03 44 28.1**	**-0.2**
KLL				eSg	**Sg**	**03 44 45.8**	**0.0**
HAU	**Haudompre**	**1.39**	**194**	ePg	**Pg**	**03 44 29.7**	**+0.5**
HAU				eSg	**Sg**	**03 44 47.8**	**+0.6**
	16nm,0.2s						
HAU	**Haudompre**	**1.39**	**194**	ePg	**Pg**	**03 44 29.7**	**+0.5**
HAU				eSg	**Sg**	**03 44 47.8**	**+0.6**
	7.8nm,0.2s						
BFO	**Black Forest**	**1.42**	**136**	ePg	**Pg**	**03 44 29.9**	**+0.2**
	SNR=7.6						
BFO				eSg	**Sg**	**03 44 47.5**	**-0.7**
	SNR=5.4						
BFO	**Black Forest**	**1.42**	**136**	ePn	**Pn**	**03 44 28.9**	**-0.7**
BFO				eSn	**Sn**	**03 44 47.2**	**-1.7**
BFO	**Black Forest**	**1.42**	**136**	ePn	**Pn**	**03 44 28.9**	**-0.7**
BFO				eSn	**Sn**	**03 44 47.2**	**-1.8**
MEZF	**Maizieres J'vi**	**1.46**	**235**	ePg	**Pg**	**03 44 31.8**	**+1.2**
MEZF				eSg	**Sg**	**03 44 51.6**	**+2.2**
	9.9nm,0.4s						
MEZF	**Maizieres J'vi**	**1.46**	**235**	ePg	**Pg**	**03 44 31.8**	**+1.2**
MEZF				eSg	**Sg**	**03 44 51.6**	**+2.2**
	4.9nm,0.4s						
MOF	**Molkenrain**	**1.51**	**173**	Pg	**Pg**	**03 44 31.9**	**+0.3**
MOF				Sg	**Sg**	**03 44 51.9**	**+0.7**
GIVF	**Givet**	**1.51**	**301**	ePg	**Pg**	**03 44 32.1**	**+0.4**
GIVF				eSg	**Sg**	**03 44 51.7**	**+0.4**
	26nm,0.6s						
GIVF	**Givet**	**1.51**	**301**	ePn	**Pn**	**03 44 30.1**	**-0.9**
GIVF				ePg	**Pg**	**03 44 32.1**	**+0.4**
GIVF				eSg	**Sg**	**03 44 51.7**	**+0.4**
GIVF	**Givet**	**1.51**	**301**	ePg	**Pg**	**03 44 32.1**	**+0.4**
GIVF				eSg	**Sg**	**03 44 51.7**	**+0.4**
	13nm,0.6s						
HINF	**Hinteralfeld**	**1.54**	**180**	ePg	**Pg**	**03 44 32.5**	**+0.4**
HINF				eSn	**Sn**	**03 44 50.2**	**-1.7**
HINF				eSg	**Sg**	**03 44 52.9**	**+0.9**
	50nm,0.2s						
HINF	**Hinteralfeld**	**1.54**	**180**	ePg	**Pg**	**03 44 32.5**	**+0.4**
HINF				eSn	**Sn**	**03 44 50.2**	**-1.7**
HINF				eSg	**Sg**	**03 44 52.9**	**+0.9**
	25nm,0.2s						
DOU	**Dourbes**	**1.64**	**298**	P	**Pn**	**03 44 32.9**	**+0.2**
DOU				S	**Sn**	**03 44 55.5**	**+1.0**
	comp=N,5.4nm,0.0s						
DOU	**Dourbes**	**1.64**	**298**	P	**Pn**	**03 44 32.8**	**+0.1**
DOU				S	**Sn**	**03 44 55.5**	**+1.0**
SFTF	**Sexfontaines**	**1.66**	**227**	ePg	**Pg**	**03 44 32.6**	**-1.8**
SFTF				eSn	**Sn**	**03 44 53.6**	**-1.3**
SFTF				eSg	**Sg**	**03 44 58.3**	**+2.4**
	comp=N,5.5nm,0.2s						
SFTF	**Sexfontaines**	**1.66**	**227**	ePg	**Pg**	**03 44 32.6**	**-1.8**
SFTF				eSn	**Sn**	**03 44 53.6**	**-1.3**
SFTF				eSg	**Sg**	**03 44 58.3**	**+2.4**
	comp=N,2.8nm,0.2s						
FELD	**Feldberg im Sc**	**1.66**	**152**	Pg	**Pg**	**03 44 34.5**	**0.0**
BAIF	**Baives**	**1.85**	**294**	ePg	**Pg**	**03 44 38.4**	**+0.2**
BAIF				eSg	**Sg**	**03 45 03.8**	**+1.6**
	comp=N,4.6nm,0.3s						
BAIF	**Baives**	**1.85**	**294**	ePg	**Pg**	**03 44 38.4**	**+0.2**
BAIF				eSg	**Sg**	**03 45 03.8**	**+1.6**
	comp=N,2.3nm,0.3s						
BUG	**Bochum--Univer**	**2.11**	**7**	eSg	**Sg**	**03 45 13.8**	**+3.3**
	SNR=1.7						
CABF	**La Chapelle**	**2.79**	**191**	ePg	**Pg**	**03 44 56.4**	**+0.3**
CABF				eSn	**Sn**	**03 45 20.0**	**-2.8**
CABF				eSg	**Sg**	**03 45 32.6**	**+0.4**
	comp=N,2.7nm,0.3s						
CABF	**La Chapelle**	**2.79**	**191**	ePn	**Pn**	**03 44 47.8**	**-0.7**
CABF				ePg	**Pg**	**03 44 56.4**	**+0.3**
CABF				eSn	**Sn**	**03 45 20.0**	**-2.8**
CABF				eSg	**Sg**	**03 45 32.6**	**+0.4**
CABF	**La Chapelle**	**2.79**	**191**	ePg	**Pg**	**03 44 56.4**	**+0.3**
CABF				eSn	**Sn**	**03 45 20.0**	**-2.8**
CABF				eSg	**Sg**	**03 45 32.6**	**+0.4**
	comp=N,1.4nm,0.3s						
LOR	**Lormes**	**2.88**	**225**	ePg	**Pg**	**03 44 58.4**	**+0.5**
LOR				eSn	**Sn**	**03 45 23.9**	**-1.3**
LOR				eSg	**Sg**	**03 45 35.3**	**0.0**
	comp=N,4.3nm,0.3s						
LOR	**Lormes**	**2.88**	**225**	ePn	**Pn**	**03 44 48.6**	**-1.2**
LOR				ePg	**Pg**	**03 44 58.4**	**+0.5**
LOR				eSn	**Sn**	**03 45 23.9**	**-1.3**
LOR				eSg	**Sg**	**03 45 35.3**	**0.0**
LOR	**Lormes**	**2.88**	**225**	ePg	**Pg**	**03 44 58.4**	**+0.5**
LOR				eSn	**Sn**	**03 45 23.9**	**-1.3**
LOR				eSg	**Sg**	**03 45 35.3**	**0.0**
	comp=N,2.2nm,0.3s						
SSF	**Saint Saulge**	**3.20**	**226**	ePn	**Pn**	**03 44 52.9**	**-1.3**
SSF				eSn	**Sn**	**03 45 28.7**	**-4.3**
SSF				eSg	**Sg**	**03 45 44.3**	**-1.1**
	comp=N,4.0nm,0.4s						
SSF	**Saint Saulge**	**3.20**	**226**	ePn	**Pn**	**03 44 52.9**	**-1.3**
SSF				eSn	**Sn**	**03 45 28.7**	**-4.3**
SSF				eSg	**Sg**	**03 45 44.3**	**-1.1**
	comp=N,2.0nm,0.4s						
SMF	**Signal de Mont**	**3.38**	**218**	ePn	**Pn**	**03 44 56.0**	**-0.6**
SMF				eSn	**Sn**	**03 45 35.0**	**-2.3**
SMF				eSg	**Sg**	**03 45 51.4**	**+0.3**
	comp=N,3.7nm,0.3s						
SMF	**Signal de Mont**	**3.38**	**218**	ePn	**Pn**	**03 44 56.0**	**-0.6**
SMF				eSn	**Sn**	**03 45 35.0**	**-2.3**
SMF				eSg	**Sg**	**03 45 51.4**	**+0.3**
	comp=N,1.9nm,0.3s						
AVF	**Avril sur Loir**	**3.47**	**224**	ePg	**Pg**	**03 45 07.3**	**-1.9**
AVF				eSn	**Sn**	**03 45 37.9**	**-1.8**
AVF				eSg	**Sg**	**03 45 53.6**	**-0.6**
	comp=N,3.1nm,0.5s						
AVF	**Avril sur Loir**	**3.47**	**224**	ePn	**Pn**	**03 44 57.9**	**0.0**
AVF				ePg	**Pg**	**03 45 07.3**	**-1.9**
AVF				eSn	**Sn**	**03 45 37.9**	**-1.8**
AVF				eSg	**Sg**	**03 45 53.6**	**-0.6**
AVF	**Avril sur Loir**	**3.47**	**224**	ePg	**Pg**	**03 45 07.3**	**-1.9**
AVF				eSn	**Sn**	**03 45 37.9**	**-1.8**
AVF				eSg	**Sg**	**03 45 53.6**	**-0.6**
	comp=N,1.5nm,0.5s						
GEC2	**GERESS Array S**	**4.53**	**94**	ePn	**Pn**	**03 45 12.3**	**-0.2**
LDF	**La Druitiere**	**4.65**	**263**	ePn	**Pn**	**03 45 14.2**	**+0.1**
LDF				ePg	**Pg**	**03 45 30.0**	**-1.8**
LDF				eSn	**Sn**	**03 46 07.8**	**-1.0**
LDF				eSg	**Sg**	**03 46 32.6**	**+0.5**
FLN	**La Foliniere**	**4.85**	**266**	ePn	**Pn**	**03 45 17.3**	**+0.4**
FLN				eSn	**Sn**	**03 46 10.4**	**-3.4**
GRR	**Gorron**	**5.17**	**262**	ePn	**Pn**	**03 45 21.5**	**+0.2**
GRR				eSn	**Sn**	**03 46 17.4**	**-4.3**

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*ISCJB **14** 03:48:51.5±3.2, 55S±0.1×1505E±02, h81^{km}±26^{km}, mb4.0/12, Error ellipse: s-maj=34.0km s-min=20.0km az=25.3*

*NEIC **14** 03:48:51.5±2.4, 552S×15062E, h70^{km}±19^{km}, mb4.2/6, Error ellipse: s-maj=21.7km s-min=13.2km az=102.0*

*IDC **14** 03:48:52.7±5.7, 553S×15061E, h80^{km}±45^{km}, mb3.9/7, mb1 4.0/9, mb1mx3.9/15, mbtmp4.2/9, ML3.3/2, Error ellipse: s-maj=43.4km s-min=25.0km az=77.0*

ISC 14 03:48:52.4±2.9**, 55S**±01×**1506E**±02**, h77^{km}**±24^{km}**, n22, σ0^{s}82**/19**, mb4.0**/12**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.17**	**221**	P	**Pn**	**03 50 07.0**	**-0.3**
	2.7nm,0.3s,baz=77,slow=8.0,SNR=12						
PMG	**Port Moresby**	**5.17**	**221**	ePn	**Pn**	**03 50 06.5**	**-0.7**
	83nm,0.8s						
PMG				eSn	**Sn**	**03 50 54.4**	**-11**
CTA	**Charters Tower**	**15.10**	**196**	P	**Pn**	**03 52 23.3**	**+1.9**
	0.2nm,0.3s,baz=29,slow=9.4,SNR=4.4						
CTA	**Charters Tower**	**15.10**	**196**	P	**Pn**	**03 52 23.3**	**+1.9**
WRAB	**Tennant Creek**	**21.35**	**226**	eP	**P**	**03 53 32.8**	**-0.5**
	9.4nm,0.9s,mb4.1						
WB2	**Warramunga Arr**	**21.36**	**226**	eP	**P**	**03 53 32.7**	**-0.7**
WRA	**Warramunga Arr**	**21.36**	**226**	P	**P**	**03 53 32.8**	**-0.6**
	4.8nm,0.7s,mb4.0,baz=50,slow=9.9,SNR=16						
ASAR	**Alice Springs**	**24.19**	**220**	P	**P**	**03 54 02.0**	**+0.4**
	3.9nm,0.8s,mb3.8,baz=55,slow=8.5,SNR=26						
FITZ	**Fitzroy Crossi**	**27.41**	**241**	P	**P**	**03 54 30.7**	**0.0**
	6.3nm,0.8s,mb4.2,baz=108,slow=9.5,SNR=10.0						
STKA	**Stephens Creek**	**27.56**	**197**	P	**P**	**03 54 32.1**	**0.0**
	2.4nm,0.8s,mb3.8,baz=3.8,slow=15,SNR=2.9						
SONM	**Songino Array**	**65.78**	**329**	P	**P**	**03 59 29.9**	**+0.5**
	1.5nm,1.0s,mb3.8,baz=137,slow=6.1,SNR=7.3						
VNDA	**Vanda**	**72.22**	**177**	P	**P**	**04 00 08.3**	**-0.9**
	2.1nm,0.9s,mb4.0,baz=329,slow=6.0,SNR=9.3						
VNDA	**Vanda**	**72.22**	**177**	eP	**P**	**04 00 09.1**	**0.0**
	3.2nm,1.0s,mb4.1						
MCK	**McKinley**	**82.35**	**23**	eP	**P**	**04 01 05.8**	**-0.1**
	1.6nm,0.8s,mb3.9						

KURK	**Kurchatov**	**82.99**	**322**	*e*P	**P**	**04 01 10.3**	**+1.2**
	3.4nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**83.57**	**314**	*e*P	**P**	**04 01 12.7**	**+0.6**
	1.9nm,0.7s,mb4.0						
MAW	**Mawson**	**84.08**	**203**	P	**P**	**04 01 14.9**	**+0.2**
	2.2nm,0.8s,mb4.0,baz=79,slow=5.9,SNR=3.8						
INK	**Inuvik**	**89.89**	**21**	*e*P	**P**	**04 01 41.1**	**-1.8**
	2.9nm,1.1s,mb4.3						
LPAZ	**La Paz**	**135.98**	**120**	PKP	PKPdf	04 08 06.5	+2.1
	2.4nm,0.9s,baz=26,slow=2.5,SNR=11						
TORD	**Torodi Ar. Bea**	**148.43**	**286**	PKPbc	PKPbc	04 08 30.3	+0.1
	2.5nm,0.9s,baz=60,slow=3.0,SNR=10						
TORD	**Torodi Ar. Bea**	**148.43**	**286**	PKPbc	PKPbc	04 08 30.3	+0.1
BDFB	**Brasilia**	**152.04**	**139**	PKPbc	PKPbc	04 08 39.2	+0.4
	5.3nm,0.8s,baz=222,slow=1.3,SNR=6.2						

IDC ***14*** *04:38:38.1±50.0, 23.16S×17350W, h0km, mb4.3/3, mb1 4.5/3, mb1mx4.0/13, mbtmp4.3/3, Error ellipse: s-maj=948.3km s-min=163.8km az=88.0*

ISCJB ***14*** *04:38:43.7±8.3, 234S±09×174W±, h33km, mb4.6/6, Error ellipse: s-maj=180.0km s-min=45.5km az=94.5*

ISC 14 04:38:48.5±8.5**, 237S**±09×**174W**±**, h35km, n9, σ0s60**/9**, mb4.5**/6**, 2D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.93**	**268**	⇓*i*P	**P**	**04 45 54.0**	**0.0**
	2.8nm,0.3s,mb4.6						
STKA	**Stephens Creek**	**39.87**	**248**	*e*P	**P**	**04 46 19.3**	**+0.5**
	2.3nm,0.3s,mb4.4						
STKA	**Stephens Creek**	**39.87**	**248**	P	**P**	**04 46 19.1**	**+0.3**
	3.5nm,0.4s,mb4.4,baz=103,slow=9.9,SNR=20						
ASAR	**Alice Springs**	**47.44**	**259**	P	**P**	**04 47 19.4**	**-0.2**
	0.8nm,0.4s,mb4.0,baz=96,slow=7.5,SNR=12						
WB2	**Warramunga Arr**	**47.85**	**264**	⇓*i*P	**P**	**04 47 22.0**	**-0.8**
WRA	**Warramunga Arr**	**47.86**	**264**	P	**P**	**04 47 22.3**	**-0.5**
	2.9nm,0.5s,mb4.6,baz=103,slow=8.0,SNR=11						
FORT	**Forrest**	**51.49**	**249**	*e*P	**P**	**04 47 50.5**	**0.0**
	18nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**56.28**	**263**	*e*P	**P**	**04 48 26.8**	**+1.3**
	4.7nm,0.8s,mb4.6						
CASY	**Casey**	**62.73**	**206**	*e*P	**P**	**04 49 09.8**	**-0.2**

KRSC 14 04:49:28, 5534N×16101E, h161km, ML3.6, Near east coast of Kamchatka Peninsula

IDC ***14*** *04:56:41.1±4.6, 560S×12826E, h268km±46km, mb3.3/3, mb1 3.9/6, mb1mx3.7/14, mbtmp4.4/6, Error ellipse: s-maj=73.4km s-min=17.8km az=71.0*

ISCJB ***14*** *04:56:47.9±1.4, 593S±0.10×128.1E±02, h373km±16km, mb3.8/6, Error ellipse: s-maj=29.4km s-min=10.7km az=131.5*

NEIC ***14*** *04:56:51.6±1.4, 602S×128.15E, h400km±18km, mb4.3/5, Error ellipse: s-maj=18.5km s-min=12.1km az=80.0*

ISC 14 04:56:52.3±1.3**, 606S**±010×**1282E**±02**, h407km**±14km**, n16, σ0s62**/22**, mb3.8**/6**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.81**	**148**	*e*P	**P**	**04 58 45.2**	**-0.1**
	198nm,0.6s						
FITZ	**Fitzroy Crossi**	**12.23**	**192**	*e*P	**P**	**04 59 33.9**	**-0.3**
	5.0nm,0.3s						
FITZ				*e*S	**S**	**05 01 59.5**	**+11**
FITZ	**Fitzroy Crossi**	**12.23**	**192**	P	**P**	**04 59 33.6**	**-0.7**
	1.0nm,0.3s,baz=18,slow=11,SNR=74						
WRAB	**Tennant Creek**	**15.02**	**157**	*e*P	**P**	**05 00 04.8**	**+0.2**
	71nm,0.6s						
WRA	**Warramunga Arr**	**15.03**	**157**	P	**P**	**05 00 05.2**	**+0.5**
	8.4nm,0.3s,baz=336,slow=11,SNR=173						
WRA				S	**S**	**05 02 42.9**	**-1.0**
	0.6nm,0.3s,baz=328,slow=21,SNR=5.8						
WB2	**Warramunga Arr**	**15.03**	**157**	*e*P	**P**	**05 00 04.7**	**-0.1**
WB2				*e*S	**S**	**05 02 42.7**	**-1.3**
MBWA	**Marble Bar**	**17.12**	**208**	*e*P	**P**	**05 00 27.0**	**-0.1**
	2.3nm,0.4s						
AS31	**Alice Springs**	**18.34**	**163**	*e*P	**P**	**05 00 40.4**	**+0.4**
AS31				*e*S	**S**	**05 03 48.1**	**-0.1**
ASAR	**Alice Springs**	**18.34**	**163**	P	**P**	**05 00 40.4**	**+0.4**
	5.7nm,0.3s,baz=341,slow=12,SNR=298						
ASAR				S	**S**	**05 03 49.4**	**+1.2**
	0.5nm,0.3s,baz=344,slow=22,SNR=9.3						
ASPA	**Alice Springs**	**18.34**	**163**	*e*P	**P**	**05 00 40.4**	**+0.4**
ASPA				*e*S	**S**	**05 03 48.1**	**-0.1**
FORT	**Forrest**	**24.59**	**180**	*e*P	**P**	**05 01 37.6**	**-0.1**
	10nm,0.6s,mb4.4						
KLBR	**Kellerberrin**	**27.23**	**200**	*e*P	**P**	**05 02 01.2**	**+0.1**
	36nm,1.6s,mb4.5						
STKA	**Stephens Creek**	**28.57**	**156**	*e*P	**P**	**05 02 14.0**	**+1.1**
	3.1nm,1.5s,mb3.4						
SONM	**Songino Array**	**57.01**	**343**	P	**P**	**05 05 56.5**	**-0.9**
	0.7nm,0.7s,mb3.1,baz=163,slow=6.7,SNR=5.6						
MKAR	**Makanchi Array**	**66.48**	**327**	P	**P**	**05 06 59.6**	**-0.1**
	1.1nm,0.4s,mb3.8,baz=119,slow=7.9,SNR=12						
VNDA	**Vanda**	**73.59**	**173**	P	**P**	**05 07 47.5**	**+5.0**
	0.5nm,0.4s,mb3.5,baz=321,slow=4.7,SNR=16						

IDC ***14*** *04:58:04.5±0.8, 1979S×17384W, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.2/17, mbtmp4.1/10, ML2.5/1, Error ellipse: s-maj=34.0km s-min=18.5km az=132.0*

ISCJB ***14*** *04:58:07.7±0.6, 198S±0.1×1739W±02, h33km, mb4.2/10, Error ellipse: s-maj=24.8km s-min=12.5km az=80.3*

NEIC ***14*** *04:58:07.2±5.9, 1973S×17387W, h18km±36km, mb4.7/2, Error ellipse: s-maj=22.7km s-min=10.4km az=127.0*

ISC 14 04:58:09.9±0.6**, 198S**±01×**1739W**±02**, h35km, n20, σ0s90**/16**, mb4.2**/10**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.14**	**19**	Pn	**Pn**	**04 59 36.7**	**-1.3**
	7.1nm,0.3s,baz=82,slow=22,SNR=8.0						
URZ	**Urewera**	**20.04**	**201**	P	**P**	**05 02 39.3**	**-0.5**
	9.9nm,0.9s,baz=137,slow=5.5,SNR=3.5						
STKA	**Stephens Creek**	**41.62**	**244**	P	**P**	**05 05 53.7**	**-0.8**
	2.9nm,0.8s,mb4.0,baz=92,slow=9.8,SNR=3.7						
STKA	**Stephens Creek**	**41.62**	**244**	P	**P**	**05 05 53.7**	**-0.8**
ASAR	**Alice Springs**	**48.48**	**256**	P	**P**	**05 06 49.5**	**+0.5**
	1.5nm,0.5s,mb4.2,baz=88,slow=7.5,SNR=9.0						
WRAB	**Tennant Creek**	**48.56**	**261**	*e*P	**P**	**05 06 49.9**	**+0.3**
	21nm,1.3s,mb5.0						
WRA	**Warramunga Arr**	**48.57**	**260**	P	**P**	**05 06 49.4**	**-0.3**
	2.1nm,0.5s,mb4.4,baz=96,slow=7.6,SNR=7.0						
VNDA	**Vanda**	**59.02**	**186**	P	**P**	**05 08 05.7**	**-0.4**
	0.7nm,0.8s,mb3.7,baz=350,slow=5.7,SNR=5.0						
VNDA	**Vanda**	**59.02**	**186**	*e*P	**P**	**05 08 06.0**	**-0.1**
MJAR	**Matsushiro Arr**	**72.00**	**321**	P	**P**	**05 09 31.4**	**+1.4**
	1.4nm,0.3s,mb4.3,baz=156,slow=5.8,SNR=4.3						
NVAR	**Mina Array Bea**	**77.85**	**41**	P	**P**	**05 10 04.1**	**+0.4**
	0.9nm,0.8s,mb3.8,baz=211,slow=8.2,SNR=7.5						
ANMO	**Albuquerque**	**83.93**	**50**	P	**P**	**05 10 37.4**	**+1.2**
	1.5nm,0.8s,mb4.2,baz=192,slow=2.9,SNR=5.6						
MCMT	**McKenzie Canyo**	**84.90**	**39**	*e*P	**P**	**05 10 41.7**	**+0.6**
MCK	**McKinley**	**85.46**	**11**	*e*P	**P**	**05 10 41.1**	**-2.8**
	1.2nm,0.5s,mb4.3						
PDAR	**Pinedale Array**	**85.78**	**42**	P	**P**	**05 10 45.7**	**+0.2**
	0.7nm,0.9s,mb3.9,baz=220,slow=3.7,SNR=5.5						
DLBC	**Dease Lake**	**85.89**	**21**	*e*P	**P**	**05 10 46.2**	**+0.1**
AKASG	**Malin Array Be**	**144.13**	**335**	PKP	PKPdf	05 17 40.2	-1.6
	1.7nm,0.7s,baz=34,slow=4.4,SNR=12						
CLL	**Collm**	**148.06**	**352**	*e*PKPbc	PKPbc	05 17 53.0	+1.4
	comp=Z,10.0nm,1.2s						
BRG	**Berggiesshubel**	**148.34**	**351**	*e*(P)	PKPbc	05 17 54.0	+1.6
	comp=Z,3.0nm,1.0s						
KHC	**Kasperske Hory**	**150.09**	**350**	*e*PKPbc	PKPbc	05 17 58.0	+1.2

BJI ***14*** *05:05:36.6, 5230N×16930W, h10km, mB4.6, Ms4.0, Msz4.2*

IDC ***14*** *05:05:37.8±1.3, 5232N×16942W, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.1/24, mbtmp4.1/14, MS3.4/3, Ms1 3.5/3, ms1mx2.8/36, Error ellipse: s-maj=34.6km s-min=19.0km az=174.0*

ISCJB ***14*** *05:05:38.2±0.4, 52.14N±004×16931W±005, h14km, mb4.2/36, MS3.4/3, Error ellipse: s-maj=6.3km s-min=4.6km az=143.0*

MOS ***14*** *05:05:41.1±1.0, 5224N×16925W, h33km, mb4.5/13, Error ellipse: s-maj=17.6km s-min=11.6km az=92.4*

NEIC ***14*** *05:05:41.7, 5230N×16934W, h14km, mb4.2/21, ML3.8(AEIC), After AEIC.*

ISC 14 05:05:39.3±1.5**, 5216N**±005×**16933W**±006**, h12km**±8km**, n82, σ1s08**/86**, mb4.2**/36**, MS3.4**/3**, 4C-1D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.87**	**19**	P	**Pg**	**05 05 55.2**	**-0.8**
NIKO				S	**Sg**	**05 06 04.4**	**-3.0**
OKCE	**Okmok Cone E**	**1.46**	**29**	P	**Pn**	**05 06 05.4**	**0.0**
OKCD	**Okmok Cone D**	**1.47**	**30**	P	**Pn**	**05 06 05.5**	**-0.3**
OKCD				S	**Sn**	**05 06 25.9**	**+1.0**
AKLV	**Akutan Long Va**	**2.86**	**44**	P	**Pn**	**05 06 26.0**	**+1.3**
AKUT	**Akutan**	**2.92**	**46**	P	**Pn**	**05 06 26.3**	**+0.7**
ATKA	**Atka Island**	**3.00**	**273**	P	**Pn**	**05 06 28.6**	**+2.0**
ATKA				S	**Sn**	**05 07 04.0**	**+1.5**
FALS	**False Pass**	**4.45**	**50**	*e*Pn	**Pn**	**05 06 48.5**	**+1.9**
SPIA	**Saint Paul Isl**	**5.06**	**354**	P	**Pn**	**05 06 56.8**	**+1.7**
SPIA				S	**Sn**	**05 07 54.4**	**+1.0**
SDPT	**Sand Point**	**6.15**	**55**	P	**Pn**	**05 07 11.2**	**+1.3**
KDAK	**Kodiak Island**	**11.14**	**53**	Pn	**Pn**	**05 08 16.6**	**-1.8**
	1.8nm,0.3s,baz=270,slow=6.5,SNR=17						
KDAK				Sn	**Sn**	**05 10 16.1**	**-6.7**
	0.2nm,0.3s,baz=269,slow=3.5,SNR=2.1						
KDAK	**Kodiak Island**	**11.14**	**53**	*e*Pn	**Pn**	**05 08 17.8**	**-0.6**
SVW2	**Sparrevohn**	**11.70**	**35**	*e*Pn	**Pn**	**05 08 27.6**	**+1.5**
SLKM	**Skilak Lake**	**13.46**	**44**	*e*Pn	**Pn**	**05 08 49.8**	**-0.3**
EYAK	**Cordova Ski Ar**	**15.46**	**48**	*e*Pn	**Pn**	**05 09 15.9**	**-1.3**
COLA	**College**	**16.85**	**33**	*i* P	**Pn**	**05 09 35.6**	**+0.5**
COLA	**College**	**16.85**	**33**	*e*Pn	**Pn**	**05 09 34.8**	**-0.3**
DAWY	**Dawson**	**19.57**	**41**	*e*P	**Pn**	**05 10 08.4**	**-0.1**
SKAG	**Skagway**	**20.27**	**56**	*e*P	**P**	**05 10 15.9**	**+1.2**
CRAG	**Craig**	**21.47**	**67**	*e*P	**P**	**05 10 29.6**	**+1.8**
DLBC	**Dease Lake**	**22.97**	**59**	P	**P**	**05 10 44.6**	**+0.9**
	3.3nm,0.7s,mb3.9,baz=221,slow=7.3,SNR=7.0						
DLBC				S	S	05 14 33.2	-21
	3.4nm,0.8s,baz=73,slow=12,SNR=3.2						
MA2	**Magadan**	**23.28**	**304**	*e*P	**P**	**05 10 47.7**	**+0.7**
MA2				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
MA2	**Magadan**	**23.28**	**304**	*e*P	**P**	**05 10 47.7**	**+0.7**
	comp=Z,9.3nm,0.8s,mb4.3						
INK	**Inuvik**	**23.51**	**33**	P	**P**	**05 10 46.8**	**-2.6**
	comp=Z,2.1nm,0.8s,mb3.6,baz=230,slow=11,SNR=10						
INK				LR	LR	05 20 53.7	
	comp=Z,69nm,21.1s,MS3.1,baz=281,slow=39						
INK	**Inuvik**	**23.51**	**33**	*e*P	**P**	**05 10 48.2**	**-1.2**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**23.51**	**33**	*e*P	**P**	**05 10 48.2**	**-1.1**
	comp=Z,2.7nm,0.6s,mb3.9						
YKA	**Yellowknife Ar**	**30.36**	**49**	P	**P**	**05 11 51.3**	**+0.3**
	comp=Z,2.0nm,0.9s,mb3.9,baz=275,slow=8.5,SNR=9.4						
YBH	**Yreka Blue Hor**	**32.96**	**90**	LR	LR	05 21 47.3	
	comp=Z,63nm,21.9s,MS3.3,baz=200,slow=29						
NEW	**Newport**	**33.04**	**76**	*e*P	**P**	**05 12 12.9**	**-1.7**
NEW				pmax	pmax		
	comp=Z,7.0nm,1.2s						
NEW	**Newport**	**33.04**	**76**	*e*P	**P**	**05 12 12.9**	**-1.7**
	comp=Z,6.9nm,1.2s,mb4.5						
HLID	**Hailey**	**37.03**	**81**	*e*P	**P**	**05 12 49.4**	**+0.4**
	comp=Z,1.3nm,0.8s,mb3.8						
MCMT	**McKenzie Canyo**	**37.30**	**78**	*e*P	**P**	**05 12 51.6**	**+0.3**
EGMT	**Eagleton**	**37.51**	**72**	*e*P	**P**	**05 12 52.4**	**-0.7**
	comp=Z,8.2nm,0.8s,mb4.5						
BOZ	**Bozeman (W)**	**37.60**	**76**	*e*P	**P**	**05 12 54.0**	**+0.2**
BOZ				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
BOZ	**Bozeman (W)**	**37.60**	**76**	*e*P	**P**	**05 12 54.0**	**+0.2**
	comp=Z,2.5nm,1.0s,mb3.9						
IMW	**Indian Meadow**	**38.95**	**78**	*e*P	**P**	**05 13 06.1**	**+0.9**
	comp=Z,3.4nm,0.9s,mb4.1						
MOOW	**Moose Ponds**	**39.15**	**78**	*e*P	**P**	**05 13 07.0**	**+0.1**
	comp=Z,1.5nm,0.9s,mb3.7						
DUG	**Dugway**	**39.94**	**84**	*e*P	**P**	**05 13 13.2**	**-0.2**
DUG				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.0						
DUG	**Dugway**	**39.94**	**84**	*e*P	**P**	**05 13 13.2**	**-0.2**
	comp=Z,5.2nm,1.4s,mb4.1						
MDJ	**Mudanjiang**	**40.17**	**284**	P	**P**	**05 13 17.3**	**+1.9**
MDJ				PP	PP	05 14 48.0	+0.3
MDJ				PCP	PcP	05 15 23.8	+4.3
MDJ				S	**S**	**05 19 20.8**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,7.0nm,4.1s						
MDJ				LR	LR		
	comp=N,58nm,46.8s						
BW06	**Boulder Array**	**40.42**	**79**	*e*P	**P**	**05 13 17.6**	**+0.1**
	comp=N,5.8nm,0.9s,mb4.3						
PDAR	**Pinedale Array**	**40.42**	**79**	P	**P**	**05 13 17.7**	**+0.3**
	comp=N,3.3nm,0.7s,mb4.2,baz=309,slow=4.0,SNR=28						
SMCO	**Snowmass**	**44.13**	**81**	*e*P	**P**	**05 13 47.7**	**+0.1**
	comp=N,1.6nm,0.7s,mb3.9						
TUC	**Tucson**	**46.27**	**92**	*e*P	**P**	**05 14 04.3**	**-0.4**
TUC				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
TUC	**Tucson**	**46.27**	**92**	*e*P	**P**	**05 14 04.2**	**-0.4**
	comp=Z,1.9nm,0.9s,mb4.0						
ANMO	**Albuquerque**	**47.16**	**86**	*e*P	**P**	**05 14 12.5**	**+0.9**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ANMO	**Albuquerque**	**47.16**	**86**	*e*P	**P**	**05 14 12.5**	**+0.9**
	comp=Z,1.9nm,1.1s,mb3.9						
SUMG	**Summit**	**50.98**	**17**	*e*P	**P**	**05 14 40.9**	**+0.1**
	comp=Z,4.1nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**51.06**	**301**	⇑*e*P	**P**	**05 14 42.8**	**+1.3**
ULN	**Ulaanbaatar**	**51.06**	**301**	*e*P	**P**	**05 14 42.3**	**+0.8**
	comp=Z,2.4nm,0.7s,mb4.2						
SONM	**Songino Array**	**51.43**	**301**	P	**P**	**05 14 44.2**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=63,slow=6.0,SNR=5.8						
WMOK	**Wichita Mounta**	**51.99**	**80**	*e*P	**P**	**05 14 48.1**	**-0.4**
WMOK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
WMOK	**Wichita Mounta**	**51.99**	**80**	*e*P	**P**	**05 14 48.1**	**-0.4**
	comp=Z,3.1nm,0.9s,mb4.2						
LTX	**Lajitas**	**52.73**	**89**	*e*P	**P**	**05 14 53.9**	**0.0**
LTX				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
LTX	**Lajitas**	**52.73**	**89**	*e*P	**P**	**05 14 53.9**	**-0.1**
	comp=Z,2.2nm,0.5s,mb4.3						
HHC	**Hu-ho-hao-te**	**53.02**	**291**	*e*P	**P**	**05 14 55.3**	**-0.8**
HHC				AP	pP	05 14 59.9	+0.1
HHC				XP	sP	05 15 02.8	+1.6
HHC				SCP	ScP	05 20 01.1	-0.9
HHC				S	**S**	**05 22 23.8**	**-1.9**
HHC				AMB	AMB		
	comp=Z,91nm,4.4s						
HHC				LR	LR		
	comp=N,106nm,5.5s						
HHC				LR	LR		
	comp=E,188nm,5.7s						
HHC				LR	LR		
	comp=Z,165nm,5.1s						
SCHQ	**Schefferville**	**55.57**	**43**	P	**P**	**05 15 13.1**	**-1.6**
	comp=Z,3.7nm,0.8s,mb4.4,baz=308,slow=7.4,SNR=4.6						
SCHQ	**Schefferville**	**55.57**	**43**	P	**P**	**05 15 13.1**	**-1.6**
ARCES	**ARCESS Array B**	**58.14**	**354**	P	**P**	**05 15 31.2**	**-1.6**
	comp=Z,2.3nm,0.9s,mb4.2,baz=0.0,slow=5.3,SNR=5.1						
KURK	**Kurchatov**	**62.55**	**318**	*i* P	**P**	**05 16 03.3**	**+0.2**
KURK	**Kurchatov**	**62.55**	**318**	*e*P	**P**	**05 16 02.8**	**-0.2**
	comp=Z,2.5nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**63.89**	**324**	P	**P**	**05 16 11.2**	**-0.8**
	comp=Z,1.1nm,0.5s,mb4.1,baz=46,slow=6.6,SNR=6.1						
MKAR	**Makanchi Array**	**63.97**	**313**	P	**P**	**05 16 11.8**	**-0.7**
	comp=Z,1.2nm,0.7s,mb4.0,baz=43,slow=6.0,SNR=7.2						
MKAR	**Makanchi Array**	**63.97**	**313**	⇑*e*P	**P**	**05 16 12.3**	**-0.2**
ZRNK	**Zerenda**	**64.44**	**325**	*e*P	**P**	**05 16 14.9**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**64.44**	**325**	*e*P	**P**	**05 16 14.9**	**-0.7**
	comp=Z,2.1nm,0.6s,mb4.3						
ARU	**Arti**	**64.82**	**333**	⇑*e*P	**P**	**05 16 19.1**	**+1.0**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
FINES	**FINESS Array B**	**66.08**	**352**	P	**P**	**05 16 23.8**	**-2.4**
	comp=Z,2.1nm,0.6s,mb4.3,baz=23,slow=10,SNR=9.3						
FINES	**FINESS Array B**	**66.08**	**352**	*i* P	**P**	**05 16 25.0**	**-1.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**67.15**	**360**	P	**P**	**05 16 32.1**	**-1.0**
	comp=Z,1.3nm,0.7s,mb4.1,baz=358,slow=6.2						
NOA	**NORSAR Array B**	**67.15**	**360**	P	**P**	**05 16 32.1**	**-0.9**
	comp=Z,1.6nm,0.8s,mb4.1,baz=355,slow=5.8,SNR=4.8						
NOA				LR	LR	05 45 09.9	
	comp=Z,52nm,18.2s,MS3.8,baz=0.0,slow=35						
AAK	**Ala-Archa**	**70.67**	**315**	⇓*e*P	**P**	**05 16 54.8**	**-0.1**
AAK	**Ala-Archa**	**70.67**	**315**	*e*P	**P**	**05 16 54.6**	**-0.3**
	comp=Z,4.6nm,0.9s,mb4.4						
OBN	**Obninsk**	**70.96**	**345**	*e*P	**P**	**05 16 55.9**	**-0.8**
OBN				*e*		05 17 16.5	
OBN				*e*		05 19 34.4	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
PMG	**Port Moresby**	**71.76**	**226**	⇑*e*P	**P**	**05 16 58.2**	**-3.4**
AKASG	**Malin Array Be**	**76.32**	**348**	P	**P**	**05 17 27.0**	**-1.2**
	comp=Z,1.4nm,0.6s,mb4.1,baz=13,slow=5.6,SNR=6.1						
GERES	**GERESS Array B**	**79.34**	**358**	P	**P**	**05 17 44.0**	**-1.1**
	comp=Z,0.3nm,0.2s,mb3.8,baz=28,slow=6.5,SNR=3.9						
KIV	**Kislovodsk**	**80.35**	**337**	*i* P	**P**	**05 17 47.8**	**-2.7**
BNI	**Bardonecchia**	**83.11**	**3**	*e*P	**P**	**05 18 05.4**	**+0.4**
BNI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
BNI	**Bardonecchia**	**83.11**	**3**	*e*P	**P**	**05 18 05.4**	**+0.4**
	comp=Z,4.5nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**90.28**	**230**	P	**P**	**05 18 40.0**	**-0.1**
	comp=Z,0.7nm,0.7s,mb4.1,baz=41,slow=5.7,SNR=7.7						
MIR	**Mirnyy**	**139.00**	**217**	*e*PKIKP	PKPdf	05 25 04.5	-1.3
MIR				pmax	pmax		
	comp=Z,300nm,0.2s						
LBTB	**Lobatse**	**150.61**	**332**	*e*PKPbc	PKPbc	05 25 31.4	+0.2

MEX 14 05:15:28.7±0.8**, 2019N×9887W, h72km**±10km**, MD3.7, Veracruz**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IIZ	**Mezontepec**	**1.05**	**200**	*e*P	Pn	05 15 47.4	-0.6
IIZ				*i* S	Sn	05 16 01.4	-0.9
PPM	**Popocatepetl**	**1.14**	**168**	*i* P	Pn	05 15 47.1	-1.9
PPM				*i* S	Sn	05 16 03.0	-1.2
TPIG	**Tehuac#an**	**2.26**	**141**	*i* P	Pn	05 16 03.3	-0.6
TPIG				*i* S	Sn	05 16 29.6	-1.2
MEIG	**Mezcala**	**2.36**	**198**	*i* P	Pn	05 16 03.7	-1.5
MEIG				*i* S	Sn	05 16 30.7	-2.4

NEIC ***14*** *05:15:30.4, 2727S×7129W, h25km, ML3.7(GUC), After GUC.*

GUC 14 05:15:30.4±0.8**, 2727S×7129W, h25km**±6km**, MD3.8, ML3.7, 1C-5D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.46**	**65**	⇓*i*P	Pb	05 15 39.4	-0.6
CDCH				*i* S	Sb	05 15 46.8	+0.4
CPCH	**Copiapo**	**0.84**	**96**	⇓*i*P	Pb	05 15 45.3	-1.0
CPCH				*i* S	Sb	05 15 57.5	+0.2
CPCH				AML	AML	05 15 59.5	
	comp=E,11μm,0.1s						
CPCH	**Copiapo**	**0.84**	**96**	⇓*i*P	Pb	05 15 45.3	-1.0
CPCH				*i* S	Sb	05 15 57.5	+0.2
VACH	**Vallenar**	**1.38**	**160**	*i* P	Pn	05 15 54.6	+0.5
VACH				*i* S	Sn	05 16 12.2	+0.6
LCO	**Las Campanas**	**1.81**	**163**	⇑*i*P	Pn	05 16 01.6	+1.6
LCO				*i* S	Sn	05 16 23.6	+1.6
CPN1	**Cerro Paranal**	**2.75**	**17**	AML	AML	05 17 01.6	
	comp=E,232nm,0.5s						
TLL	**Tololo Astrono**	**2.92**	**172**	⇓*i*P	Pn	05 16 17.3	+2.1
TLL				*i* S	Sn	05 16 52.4	+3.0
TLL				AML	AML	05 17 09.7	
	comp=N,250nm,0.5s						
TLL	**Tololo Astrono**	**2.92**	**172**	⇓*i*P	Pn	05 16 17.3	+2.1
TLL				*i* S	Sn	05 16 52.4	+3.0
CEN1	**Los Morros**	**3.99**	**15**	AML	AML	05 17 35.5	
	comp=E,43nm,0.6s						

NNC 14 05:33:58.4±5.3**, 5429N×8610E, h0km, mb3.8, mpv3.5, 5C-7D, Error ellipse: s-maj=42.2km s-min=27.2km az=58.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.80**	**235**	⇓Pn	Pn	05 35 26.4	+0.8
	5.1nm,0.7s						
KURK				⇑Sn	Sn	05 36 36.3	+3.4
	2.5nm,0.7s						
KURK				⇑Lg		05 37 08.4	
	8.4nm,0.6s						
MK05	**Makanchi Array**	**7.89**	**199**	⇓Pn	Pn	05 35 52.7	-1.6
	1.0nm,0.7s						
MK05				⇑Sn	Sn	05 37 23.4	-0.8
	2.4nm,0.7s						
MK05				⇓Lg		05 38 04.5	
	6.7nm,0.8s						
VOSK	**Vostochnaya**	**9.15**	**266**	⇓Pn	Pn	05 36 13.3	+1.7
	3.2nm,0.6s						
VOSK				⇑Sn	Sn	05 37 53.8	-1.4
	5.2nm,0.6s						
BVA0	**Borovoye Array**	**9.42**	**269**	⇓Pn	Pn	05 36 15.5	+0.2
	0.5nm,0.9s,baz=68,slow=21,SNR=8.4						
BVA0				⇑Sn	Sn	05 37 59.4	-2.5
	1.1nm,0.8s,baz=74,slow=26,SNR=4.0						
ZRNK	**Zerenda**	**10.25**	**269**	⇓Pn	Pn	05 36 28.5	+1.8
	1.9nm,0.7s						
ZRNK				⇓Sn	Sn	05 38 20.7	-1.5
	5.2nm,0.8s						

IDC 14 06:28:17.2±4.0**, 1970S×17822W, h0km, mb3.8**/4**, mb1 4.1**/4**, mb1mx3.9**/12**, mbtmp3.8**/4**, Error ellipse: s-maj=295.1km s-min=27.3km az=155.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.51**	**256**	P	P	06 36 30.7	+0.3
	0.9nm,0.4s,baz=96,slow=7.4,SNR=15						
WRA	**Warramunga Arr**	**44.51**	**261**	P	P	06 36 30.8	+0.4
	0.5nm,0.3s,baz=98,slow=7.7,SNR=12						
NVAR	**Mina Array Bea**	**80.58**	**44**	P	P	06 40 32.5	+0.9
	0.3nm,0.5s,baz=225,slow=10,SNR=3.8						
PDAR	**Pinedale Array**	**88.52**	**43**	P	P	06 41 11.4	-0.2
	0.3nm,0.6s,baz=245,slow=7.8,SNR=3.9						
AKASG	**Malin Array Be**	**142.21**	**331**	PKhKP		06 47 38.8	
	1.3nm,0.4s,baz=46,slow=4.5,SNR=7.5						

ROM ***14*** *06:36:52.7±0.1, 4439N×995E, h17km±2km, Md2.9/14, Ml2.7/11, Error ellipse: s-maj=1.7km s-min=1.2km az=51.0*

NEIC ***14*** *06:36:52.7, 4439N×995E, h17km, ML2.7(ROM), ML3.0(CSEM), ML3.2(STR), After ROM.*

GEN ***14*** *06:36:53.7, 4443N×1002E, h16km, ML3.0*

ISCJB ***14*** *06:36:53.9±0.2, 4437N±002×997E±002, h22km±3km, Error ellipse: s-maj=3.1km s-min=2.2km az=151.5*

CSEM ***14*** *06:36:53.3±0.1, 4437N×1000E, h10km, ML3.2/9, Error ellipse: s-maj=1.3km s-min=1.0km az=167.0*

PRU ***14*** *06:36:55.1, 4440N×1027E, h0km*

LDG ***14*** *06:36:56.2, 4432N×1016E, h33km*

STR ***14*** *06:37:02.2±0.9, 4468N×907E, h10km±1km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 14 06:36:54.3±0.2**, 4435N**±002×**998E**±002**, h16km**±2km**, n97, σ1s16**/161**, 8C-8D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BACM		**0.10**	**138**	P	**Pg**	**06 36 57.8**	**+0.2**
CODM		**0.10**	**293**	P	**Pg**	**06 36 57.3**	**-0.5**
GRAM		**0.15**	**22**	P	**Pg**	**06 36 56.8**	**-1.6**
GRAM				S	**Sg**	**06 36 59.3**	**-1.8**
VALM		**0.19**	**90**	P	**Pg**	**06 36 58.1**	**-0.8**
ERBM	**Eremo**	**0.32**	**77**	Pg	**Pg**	**06 37 00.2**	**-0.8**
ERBM				Sg	**Sg**	**06 37 05.8**	**+0.4**
	1μm,0.6s						
SARO	**Sassorosso**	**0.34**	**119**	P	**Pg**	**06 37 01.1**	**-0.3**
SARO				S	**Sg**	**06 37 06.4**	**+0.2**
VLC	**Villacollemand**	**0.35**	**123**	Pg	**Pg**	**06 37 01.3**	**-0.2**
VLC				Sg	**Sg**	**06 37 07.5**	**+1.2**
GSCL	**Gusciola**	**0.43**	**90**	Pg	**Pg**	**06 37 02.5**	**-0.6**
GSCL				Sg	**Sg**	**06 37 09.4**	**+0.5**
BDI	**Bagni Di Lucca**	**0.53**	**123**	Pg	**Pg**	**06 37 04.3**	**-0.4**
BDI				Sg	**Sg**	**06 37 12.7**	**+0.9**
	405nm,0.2s						
BOB	**Bobbio (Coli)**	**0.57**	**318**	Pg	**Pg**	**06 37 03.6**	**-1.9**
BOB				Sg	**Sg**	**06 37 11.9**	**-1.2**
	566nm,0.6s						
MAIM		**0.57**	**140**	P	**Pg**	**06 37 05.1**	**-0.4**
MAIM				S	**Sg**	**06 37 13.3**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PZZT	Monte Pizzetto	0.67	109	Pg	Pg	06 37 06.8	-0.6
PZZT				Sg	Sg	06 37 18.3	+2.0
	420nm,0.3s						
ZCCA	Zocca	0.71	90	Pg	Pg	06 37 09.0	+0.8
	13nm,0.6s						
PII	Pisa	0.74	148	Pg	Pg	06 37 08.7	0.0
FNVD	Fontana Vidola	0.84	102	Pg	Pg	06 37 10.2	-0.4
FNVD				Sg	Sg	06 37 23.1	+1.4
	263nm,0.7s						
GROG	Isola di Gorgo	0.93	184	Pg	Pg	06 37 12.4	+0.1
	226nm,0.5s						
SEI	Scarperia	1.03	106	Pg	Pg	06 37 13.7	-0.5
	296nm,0.6s						
FIN	Finale Ligure	1.28	264	Pg	Pn	06 37 16.7	-0.8
	96nm,0.3s						
CSNT	Castellina Chi	1.29	132	Pg	Pn	06 37 17.8	+0.2
	72nm,0.7s						
SAL	Salo	1.32	17	Pg	Pn	06 37 17.7	-0.3
SAL				Sg	Sg	06 37 37.3	+0.5
	403nm,0.6s						
SALO	Salr	1.33	17	Pg	Pn	06 37 17.9	-0.2
SALO				Sg	Sg	06 37 36.9	-0.2
	2μm,0.7s						
RORO		1.40	261	P	Pn	06 37 17.4	-1.7
GRFL	Gerfalco	1.40	149	Pg	Pn	06 37 21.5	+2.4
	11nm,0.3s						
SFI	Santa Sofia	1.41	108	Pg	Pn	06 37 19.9	+0.6
	36nm,0.4s						
MDI	Monti di Nese	1.44	352	Pg	Pn	06 37 19.7	0.0
MDI				Sg	Sg	06 37 40.5	-0.3
	189nm,0.3s						
ROB	Roburent	1.52	269	P	Pn	06 37 19.3	-1.4
IMI	Imperia	1.57	255	Pg	Pn	06 37 20.6	-0.9
	80nm,0.4s						
CRE	Caprese Michel	1.60	117	Pg	Pn	06 37 22.5	+0.7
	72nm,0.9s						
MONE	Monesi	1.62	261	P	Pn	06 37 20.6	-1.6
MUGIO	Muggio	1.71	337	Pg	Pn	06 37 23.6	+0.2
NEGI	Negi	1.72	254	P	Pn	06 37 22.2	-1.3
MABI	Malga Bissina	1.75	12	Pg	Pn	06 37 23.5	-0.4
	20nm,0.5s						
SAOF	Saorge	1.79	259	Pn	Pn	06 37 24.1	-0.3
SAOF				Sg	Sn	06 37 46.3	-0.4
ENR	Entracque	1.84	267	P	Pn	06 37 24.1	-1.1
AUTN	L'Aution	1.87	260	Pn	Pn	06 37 25.9	+0.3
AUTN				Sg	Sn	06 37 48.9	0.0
SBF	Sospel	1.90	256	ePn	Pn	06 37 26.0	0.0
SBF				eSn	Sg	06 37 56.6	+1.2
	105nm,0.3s						
STV	Sta Anna Valdi	1.91	268	P	Pn	06 37 24.9	-1.3
PGF	Pioggiola	1.94	202	ePn	Pn	06 37 26.7	+0.2
PGF				eSn	Sn	06 37 48.6	-1.9
	16nm,0.2s						
PGF	Pioggiola	1.94	202	ePn	Pn	06 37 26.7	+0.2
PGF				eSn	Sn	06 37 48.6	-1.9
	8.0nm,0.2s						
LUCF	Luceram	1.95	257	Pn	Pn	06 37 26.7	0.0
REVF	Revere	1.98	253	Pn	Pn	06 37 26.6	-0.5
REVF				Sg	Sn	06 37 50.9	-0.7
TOUF	Mont Tournerai	2.00	261	Pn	Pn	06 37 27.8	+0.5
MVIF	Mont Vial	2.09	258	Pn	Pn	06 37 29.0	+0.4
MBDF	Montbardon	2.33	280	ePn	Pn	06 37 32.7	+0.8
MBDF				eSn	Sg	06 38 09.0	-0.2
	34nm,0.4s						
RRL	Cesana Torines	2.35	285	P	Pn	06 37 33.0	+0.7
FRF	La Foret Royal	2.54	253	ePn	Pn	06 37 34.6	-0.1
FRF				eSn	Sn	06 38 03.7	-1.6
	20nm,0.2s						
FRF	La Foret Royal	2.54	253	ePn	Pn	06 37 34.6	-0.1
FRF				eSn	Sn	06 38 03.7	-1.6
	9.9nm,0.2s						
LPG	La Plagne	2.57	298	ePn	Pn	06 37 37.6	+2.4
LPG				eSn	Sn	06 38 08.3	+2.2
	25nm,0.5s						
LPG	La Plagne	2.57	298	ePn	Pn	06 37 37.6	+2.4
LPG				eSn	Sn	06 38 08.3	+2.2
	13nm,0.5s						
LPL	La Plagne	2.59	298	ePn	Pn	06 37 37.4	+1.9
LPL				eSn	Sn	06 38 08.0	+1.5
	29nm,0.4s						
LPL	La Plagne	2.59	298	ePn	Pn	06 37 37.4	+1.9
LPL				eSn	Sn	06 38 08.0	+1.5
	14nm,0.4s						
LMR	La Mourre	2.71	249	ePn	Pn	06 37 36.7	-0.5
LMR				eSn	Sn	06 38 07.6	-2.0
	29nm,0.3s						
LMR	La Mourre	2.71	249	ePn	Pn	06 37 36.7	-0.5
LMR				eSn	Sn	06 38 07.6	-2.0
	14nm,0.3s						
OG25	Le Caire	2.81	272	Pn	Pn	06 37 36.3	-2.1
OG25				Sg	Sn	06 38 11.6	-0.3
TAVF	Tavernes	2.93	257	Pn	Pn	06 37 40.7	+0.6
DAVA	Damuels	2.94	359	⇑ePn	Pn	06 37 41.6	+1.3
	SNR=10						
DAVA				⇑iSn	Sn	06 38 19.1	+3.9
SCE	Schlegeis	2.95	24	⇓iPn	Pn	06 37 40.3	-0.1
STOF	St-Etienne Org	2.95	265	Pn	Pn	06 37 42.7	+2.2
ORIF	Oris-en-Rattie	2.98	282	ePn	Pn	06 37 43.2	+2.3
ORIF				eSn	Sn	06 38 18.9	+2.6
	28nm,0.5s						
ORIF	Oris-en-Rattie	2.98	282	ePn	Pn	06 37 43.2	+2.3
ORIF				eSn	Sn	06 38 18.9	+2.6
	14nm,0.5s						
SQTA	Sankt Quirin	3.00	16	⇓iPn	Pn	06 37 42.2	+1.2
SQTA				⇓iSn	Sn	06 38 20.2	+3.6
MOTA	Moosalm	3.10	14	⇑iPn	Pn	06 37 43.8	+1.3
MOTA				⇓iSn	Sn	06 38 23.3	+4.2
VILF	Villemus	3.12	262	Pn	Pn	06 37 43.8	+1.1
WTTA	Wattenberg	3.14	21	i Pn	Pn	06 37 44.4	+1.4
	SNR=18						
WTTA				⇑iSn	Sn	06 38 22.6	+2.5
WATA	Walderalm	3.19	20	⇑iPn	Pn	06 37 44.8	+1.1
WATA				⇓iSn	Sn	06 38 24.2	+2.9
SMRF	Simiane la Rot	3.19	265	ePn	Pn	06 37 45.0	+1.2
SMRF				eSn	Sn	06 38 19.8	-1.7
	18nm,0.4s						
SMRF	Simiane la Rot	3.19	265	ePn	Pn	06 37 45.0	+1.2
SMRF				eSn	Sn	06 38 19.8	-1.7
	9.0nm,0.4s						
PUYF	Puyloubier	3.20	257	Pn	Pn	06 37 44.3	+0.4
VOJS	Vojsko	3.23	57	i Pn	Pn	06 37 43.5	-0.8
VOJS				eSn	Sn	06 38 20.8	-1.6
VOY	Vojsko	3.24	57	ePn	Pn	06 37 43.4	-1.0
VOY				eSn	Sn	06 38 20.7	-1.8
JAVS	Javornik	3.27	60	i Pn	Pn	06 37 44.0	-1.0
JAVS				eSn	Sn	06 38 22.1	-1.4
KNDS	Knezji Dol	3.34	68	i Pn	Pn	06 37 44.9	-0.9
KNDS				eSn	Sn	06 38 22.4	-2.6
KNDS	Knezji Dol	3.34	68	i Pn	Pn	06 37 44.8	-1.0
KNDS				eSn	Sn	06 38 22.4	-2.6
GELF	Grande-Etoile	3.43	255	Pn	Pn	06 37 47.5	+0.4
CABF	La Chapelle	3.55	311	ePn	Pn	06 37 50.9	+2.2
CABF				eSn	Sn	06 38 32.0	+1.6
KBA	Koelnbreinsper	3.60	40	⇑iPn	Pn	06 37 50.7	+1.2
	SNR=6.0						
KBA				⇓iSn	Sn	06 38 32.6	+1.0
VISS	Visnje	3.73	65	i Pn	Pn	06 37 50.8	-0.4
VISS				eSn	Sn	06 38 32.8	-2.0
VIVF	Saint-Julien-l	3.83	279	ePn	Pn	06 37 55.7	+3.2
VIVF				eSn	Sn	06 38 36.7	-0.4
	4.0nm,0.3s						
VIVF	Saint-Julien-l	3.83	279	ePn	Pn	06 37 55.7	+3.2
VIVF				eSn	Sn	06 38 36.7	-0.4
	2.0nm,0.3s						
HINF	Hinteralfeld	4.09	329	ePn	Pn	06 37 56.7	+0.5
HINF				eSn	Sn	06 38 42.6	-1.1
LASF	Ste Croix	4.41	269	ePn	Pn	06 38 00.4	-0.2
LASF				eSn	Sn	06 38 50.9	-0.7
	5.2nm,0.5s						
LASF	Ste Croix	4.41	269	ePn	Pn	06 38 00.4	-0.2
LASF				eSn	Sn	06 38 50.9	-0.7
	2.6nm,0.5s						
HAU	Haudompre	4.44	327	ePn	Pn	06 38 01.7	+0.7
HAU				eSn	Sn	06 38 51.4	-0.9
CDF	Champ du Feu	4.47	336	ePn	Pn	06 38 01.2	-0.2
CDF				eSn	Sn	06 38 51.1	-2.0
MOA	Molln	4.60	39	⇑iPn	Pn	06 38 03.7	+0.6
MOA				⇓iSn	Sn	06 38 57.0	+0.9
SMF	Signal de Mont	4.89	300	ePn	Pn	06 38 08.5	+1.4
SMF				eSn	Sn	06 39 03.5	+0.1
GEC2	GERESS Array S	5.17	28	ePn	Pn	06 38 10.2	-0.8
GEC2				eSn	Sn	06 39 08.3	-2.1
GEC2	GERESS Array S	5.17	28	ePn	Pn	06 38 10.2	-0.8
GEC2				eSn	Sn	06 39 08.3	-2.1
LOR	Lormes	5.18	306	ePn	Pn	06 38 12.4	+1.3
LOR				eSn	Sn	06 39 10.5	0.0
AVF	Avril sur Loir	5.26	300	ePn	Pn	06 38 13.4	+1.2
SSF	Saint Saulge	5.29	303	eSn	Sn	06 39 12.4	-0.7
KHC	Kasperske Hory	5.38	26	ePN	Pn	06 38 12.8	-1.1
KHC				ex	x	06 38 23.7	
KHC				eSN	Sn	06 39 12.0	-3.5
CONA	Conrad Observa	5.43	47	⇓iPn	Pn	06 38 14.8	+0.2
CONA				⇑iSn	Sn	06 39 16.2	-0.4
BGF	Bois d'Agland	5.49	296	ePn	Pn	06 38 16.8	+1.5
BGF				eSn	Sn	06 39 16.9	-1.1
MTLF	Montolieu	5.71	263	ePn	Pn	06 38 18.6	+0.3
MTLF				eSn	Sn	06 39 20.2	-3.3
	2.8nm,0.3s						
MTLF	Montolieu	5.71	263	ePn	Pn	06 38 18.6	+0.3
MTLF				eSn	Sn	06 39 20.2	-3.3
	1.4nm,0.3s						
TCF	Toulx Ste Croi	5.81	292	ePn	Pn	06 38 21.4	+1.6
TCF				eSn	Sn	06 39 26.8	+0.7

*NIED **14** 06:52:00, 4730N×15440E, h17km, Mw4.6 Best double couple: $M_0$8.66000×10^{15} NP1:ϕ_s165.00000°, δ63.00000°, λ53.00000°. NP2:ϕ_s43.00000°, δ45.00000°, λ139.00000°.*

*SKHL **14** 06:52:18.9±2.5, 4710N×15450E, h50km±19km, mb5.2/10, mbh6.2/1, mbv5.9/3, ms4.6/9, msh5.6/3*

*IDC **14** 06:52:18.1±0.7, 4705N×15404E, h0km, mb4.5/17, mb1 4.7/18, mb1mx4.6/22, mbtmp4.5/18, ML3.8/1, MS4.1/11, Ms1 4.0/11, ms1mx3.6/38, Error ellipse: s-maj=19.0km s-min=15.8km az=152.0*

*ISCJB **14** 06:52:22.3±0.3, 4692N±005×15419E±004, h40km, mb4.8/124, MS4.3/20, Error ellipse: s-maj=7.3km s-min=3.1km az=125.2*

*NEIC **14** 06:52:24.8±0.3, 4714N×15424E, mb4.9/84, Error ellipse: s-maj=9.5km s-min=4.3km az=172.0*

*MOS **14** 06:52:26.9±0.8, 4759N×15360E, h42km, mb5.2/55, MS4.1/12, Error ellipse: s-maj=14.0km s-min=4.8km az=111.9*

*BJI **14** 06:52:33.8, 4930N×15260E, h40km, mB5.0, mb5.0, Ms4.7, Msz4.4*

*SZGRF **14** 06:52:41.8, 5037N×15555E, h45km, mb5.0, Kuril Islands, Russia*

ISC 14 06:52:24.5±0.3, **4703N**±004×**15417E**±004, **h42**km±.7km**:pP-P, n391,** σ1.**02**/395, **mb4.8**/124, **MS4.3**/20, **35C-13D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.87	19	eP	Pn	06 53 14.0	-7.5
SKR				AMB	AMB	06 53 17.6	
	140nm,0.6s						
SKR				AMB	AMB	06 53 17.6	
	90nm,0.6s						
SKR				AMB	AMB	06 53 17.6	
	320nm,0.6s						
SKR				eS	Sn	06 53 57.0	-8.7
SKR				A		06 53 58.0	
	3μm,6.0s						
SKR				A		06 53 58.0	
	900nm,1.0s						
SKR				A		06 53 58.0	
	1μm,1.0s						
SKR				A		06 53 58.0	
	450nm,1.0s						
SKR				AMS	AMS	06 55 38.0	
	4μm,10.0s						
SKR				AMS	AMS	06 55 38.0	
	6μm,10.0s						
SKR				AMS	AMS	06 55 38.0	
	5μm,10.0s						
SKR				AMS	AMS	06 55 38.0	
	4μm,10.0s						
SKR				AMS	AMS	06 55 38.0	
	7μm,10.0s						
SKR				AMS	AMS	06 55 38.0	
	5μm,10.0s						
KUR	Kuril'sk	4.74	250	eP	Pn	06 53 31.2	-2.1
KUR				AMB	AMB	06 53 33.2	
	220nm,0.8s						
KUR				AMB	AMB	06 53 33.2	
	160nm,0.8s						
KUR				AMB	AMB	06 53 33.2	
	430nm,0.8s						
KUR				AMB	AMB	06 53 38.4	
	2μm,2.0s						
KUR				eS	Sn	06 54 31.4	+4.5
KUR				A		06 54 40.0	
	5μm,2.0s						
KUR				A		06 54 40.0	
	3μm,2.0s						
KUR				A		06 54 51.0	
	880nm,0.8s						
KUR				A		06 54 51.0	
	430nm,0.8s						
KUR				AMS	AMS	06 57 30.0	
	5μm,10.0s						
KUR				AMS	AMS	06 57 30.0	
	5μm,10.0s						
KUR				AMS	AMS	06 57 30.0	
	4μm,10.0s						
KUR	Kuril'sk	4.74	250	ePN	Pn	06 53 32.0	-1.3
KUR				eS	Sn	06 54 33.0	+6.1
KUR				pmax	pmax		
	comp=N,220nm,0.8s						
KUR				pmax	pmax		
	comp=E,160nm,0.8s						
KUR				pmax	pmax		
	comp=Z,430nm,0.8s						
KUR				pmax	pmax		
	comp=Z,2μm,2.0s						
KUR				smax			
	comp=N,5μm,2.0s						
KUR				smax			
	comp=E,3μm,2.0s						
KUR				smax			
	comp=N,880nm,0.8s						
KUR				smax			
	comp=E,430nm,0.8s						
KUR				MLR	MLR		
	comp=N,5μm,10.0s						
KUR				MLR	MLR		
	comp=E,5μm,10.0s						
KUR				MLR	MLR		
	comp=Z,4μm,10.0s						
PAU	Pauzhetka	4.76	20	i P	Pn	06 53 29.6	-4.1
PAU				eS	Sn	06 54 19.9	-7.7
YUK	Yuzh-Kuril'sk	6.56	246	eP	Pn	06 53 59.1	+0.8
YUK				AMB	AMB	06 54 03.5	
	comp=Z,190nm,0.5s						
YUK				AMB	AMB	06 54 03.5	
	comp=Z,170nm,0.5s						
YUK				AMB	AMB	06 54 07.6	
	comp=Z,2μm,3.0s						
YUK				AMB	AMB	06 54 07.6	
	comp=Z,2μm,3.0s						
YUK				AMB	AMB	06 54 07.6	
	comp=Z,2μm,3.0s						
YUK				eS	Sn	06 55 15.4	+3.6
YUK				A		06 55 28.3	
	comp=Z,940nm,0.6s						
YUK				A		06 55 28.3	
	comp=Z,190nm,0.6s						
YUK				A		06 55 45.1	
	comp=Z,5μm,2.0s						
YUK				A		06 55 45.1	
	comp=Z,2μm,2.0s						
YUK				AMS	AMS	07 02 36.0	
	comp=Z,2μm,14.0s						
YUK				AMS	AMS	07 02 36.0	
	comp=Z,2μm,14.0s						
PET	Petropavlovsk	6.66	24	⇓eP	Pn	06 53 55.1	-4.6
PET				AMB	AMB	06 54 07.0	
	comp=Z,60nm,0.5s						
PET				eS	Sn	06 55 08.2	-6.0
PET				A		06 55 14.7	
	comp=Z,140nm,0.7s						
PET				A		06 55 14.7	
	comp=Z,70nm,0.7s						
PET				AMS	AMS	06 56 41.1	
	comp=Z,4μm,18.0s						
PET				AMS	AMS	06 56 50.5	
	comp=Z,800nm,15.0s						
PET				AMS	AMS	06 56 54.2	
	comp=Z,800nm,16.0s						
PET				AMS	AMS	06 59 36.8	
	comp=Z,2μm,15.0s						
PET	Petropavlovsk	6.66	24	⇓iPN	Pn	06 53 55.1	-4.6
PET				pmax	pmax		
	comp=Z,64nm,0.5s						
PET				MLR	MLR		
	comp=E,4μm,18.0s						
PET				MLR	MLR		
	comp=N,800nm,15.0s						
PET				MLR	MLR		
	comp=Z,800nm,16.0s						
PET				MLR	MLR		
	comp=Z,2μm,15.0s						
PET	Petropavlovsk	6.66	24	ePn	Pn	06 53 54.5	-5.2
	comp=Z,39nm,0.6s						
PET				eSn	Sn	06 55 02.5	-12
NEM2	Nemuro 2	6.99	241	P	Pn	06 54 02.0	-2.2
NEM2				eS	Sn	06 55 18.3	-4.1
JRA	Rausu	7.07	247	P	Pn	06 54 05.9	+0.6
JNK	Nakash	7.50	246	P	Pn	06 54 11.3	+0.1
JNK				eS	Sn	06 55 34.3	-0.6
YSS	Yuzh-Sakhalins	7.80	274	⇑iP	Pn	06 54 20.0	+4.6
YSS				AMB	AMB	06 54 21.5	
	comp=Z,100nm,1.2s						
YSS				AMB	AMB	06 54 21.5	
	comp=Z,130nm,1.2s						
YSS				AMS	AMS	06 57 26.0	
	comp=Z,2μm,15.0s						
YSS				AMS	AMS	06 57 26.0	
	comp=Z,2μm,15.0s						
YSS				AMS	AMS	06 57 26.0	
	comp=Z,2μm,15.0s						
YSS	Yuzh-Sakhalins	7.80	274	ePn	Pn	06 54 19.9	+4.5
	comp=Z,59nm,0.7s						
JAK	Akkeshi	7.83	242	eS	Sn	06 55 37.8	-5.2
JTKR	Abashiri--Toko	7.83	251	P	Pn	06 54 16.6	+0.8
JMP	Maruseppu	8.17	252	P	Pn	06 54 21.4	+1.0
JAR	Ashorobuto	8.24	247	P	Pn	06 54 21.4	0.0
JAR				eS	Sn	06 55 51.8	-1.4
UGL	Uglegorsk	8.36	289	eP	Pn	06 54 26.5	+3.4
UGL				AMB	AMB	06 54 28.5	
	comp=Z,260nm,1.0s						
UGL				AMS	AMS	06 58 51.0	
	comp=Z,2μm,13.0s						
UGL				AMS	AMS	06 58 51.0	
	comp=Z,2μm,13.0s						
UGL				AMS	AMS	06 58 51.0	
	comp=Z,2μm,13.0s						
JOB	Onbets	8.41	244	P	Pn	06 54 21.2	-2.5
JOB				eS	Sn	06 55 52.1	-5.2
TYV	Tymovskoe	8.49	301	eP	Pn	06 54 27.2	+2.4
TYV				AMB	AMB	06 54 29.5	
	comp=Z,10.0nm,0.9s						
TYV				AMB	AMB	06 54 29.5	
	comp=Z,30nm,0.9s						
TYV				AMS	AMS	06 58 07.0	
	comp=Z,2μm,16.0s						
TYV				AMS	AMS	06 58 07.0	
	comp=Z,2μm,16.0s						
ASAJ	Asahikawa	8.62	254	Pn	Pn	06 54 28.0	+1.3
	comp=Z,2.9nm,0.3s,baz=91,slow=13,SNR=24						
ASAJ	Asahikawa	8.62	254	P	Pn	06 54 28.6	+1.9
ASAJ	Asahikawa	8.62	254	PN	Pn	06 54 28.0	+1.3
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
JKK2	Kamakawa 2	8.63	253	P	Pn	06 54 28.1	+1.4
JCH	Churui	8.86	244	P	Pn	06 54 27.8	-2.0
JCH				eS	Sn	06 56 02.2	-6.1
JNBK	Urakawa-nobuka	9.42	244	P	Pn	06 54 35.6	-1.9
JNBK				eS	Sn	06 56 16.4	-5.7
OKH	Okha	9.70	316	AMS	AMS	07 00 18.2	
	comp=Z,2μm,13.0s						
OKH				AMS	AMS	07 00 18.2	
	comp=Z,3μm,13.0s						
NKL	Nikolayevsk	10.60	310	i P	Pn	06 54 50.0	-3.7
NKL				AMB	AMB	06 54 52.3	
	comp=Z,84nm,1.4s						
NKL				AMB	AMB	06 54 52.3	
	comp=Z,180nm,1.4s						
NKL				AMB	AMB	06 54 52.3	
	comp=Z,100nm,1.3s						
NKL				AMS	AMS	06 59 34.0	
	comp=Z,600nm,16.0s						
NKL				AMS	AMS	06 59 34.0	
	comp=Z,1μm,16.0s						
NKL				AMS	AMS	06 59 34.0	
	comp=Z,2μm,16.0s						
JKB	Kayabe	10.70	246	P	Pn	06 54 52.9	-2.2
JKB				eS	Sn	06 56 44.9	-8.6
JANG	Nango	11.31	239	P	Pn	06 54 58.5	-5.0
JANG				eS	Sn	06 56 57.0	-12
JTM	Tenmabayashi	11.32	241	eS	Sn	06 56 56.5	-12
GRNR	Gornyy	12.26	294	eP	Pn	06 55 18.0	+1.6
GRNR				AMB	AMB	06 55 20.1	
	comp=Z,50nm,1.0s						
JRG	Rokugo	12.47	237	P	Pn	06 55 15.5	-3.7
JRG				eS	Sn	06 57 26.0	-11
JIO	Ouri	12.72	232	P	Pn	06 55 18.7	-4.0
JIO				eS	Sn	06 57 31.6	-11
MA2	Magadan	12.73	352	ePN	Pn	06 55 21.2	-1.6
MA2				eS	Sn	06 57 38.0	-5.0
MA2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MA2				MLR	MLR		
	comp=Z,600nm,12.1s						
MA2	Magadan	12.73	352	ePn	Pn	06 55 20.2	-2.6
	comp=Z,19nm,0.6s						
HABR	Khabarovsk	12.95	283	⇓iPN	Pn	06 55 32.2	+6.4
HABR				e		06 57 54.4	
HABR				pmax	pmax		
	comp=Z,102nm,1.6s						
HABR				MLR	MLR		
	comp=Z,1μm,14.7s						
EKMR	Ekimchan	14.88	302	eP	Pn	06 55 51.2	-0.8
EKMR				AMB	AMB	06 55 56.9	
	comp=Z,110nm,1.4s						
KLR	Kul'dur	15.12	287	eP	Pn	06 55 54.1	-1.0
KLR				eP		06 55 54.5	
KLR				AMS	AMS	07 02 25.0	
	comp=Z,1μm,16.0s						
KLR				AMS	AMS	07 03 49.0	
	comp=Z,1μm,12.0s						
KLR				AMS	AMS	07 03 49.0	
	comp=Z,2μm,12.0s						
KLR	Kul'dur	15.12	287	eP	Pn	06 55 54.5	-0.6
KLR				MLR	MLR		
	comp=E,1μm,12.0s						
KLR				MLR	MLR		
	comp=Z,2μm,12.0s						
MAJO	Matsushiro	15.83	234	ePn	Pn	06 56 03.5	-0.8
MAT	Matsushiro	15.83	234	P	Pn	06 56 03.3	-1.0
MAT				S	Sx	07 00 01.0	
MAT	Matsushiro	15.83	234	eP	Pn	06 56 03.0	-1.3
	comp=Z,16nm,1.0s						
MAT				eS	Sx	07 00 02.0	
MJAR	Matsushiro Arr	15.83	234	Pn	Pn	06 56 01.1	-3.2
	comp=Z,0.4nm,0.3s,baz=26,slow=12,SNR=22						
MDJ	Mudanjiang	17.28	271	P	Pn	06 56 23.5	+1.0
MDJ				AMB	AMB		
	comp=Z,19nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,141nm,4.9s						
MDJ				LR	LR		
	comp=N,337nm,12.9s						
MDJ				LR	LR		
	comp=E,923nm,14.4s						
MDJ				LR	LR		
	comp=Z,1μm,15.2s						
MDJ	Mudanjiang	17.28	271	eP	Pn	06 56 23.4	+0.9
	comp=Z,14nm,0.8s						
ZEA	Zeya	18.36	301	eP	Pn	06 56 32.6	-3.1
ZEA				AMB	AMB	06 56 38.9	
	comp=Z,42nm,1.0s						
ZEA				AMB	AMB	06 56 38.9	
	comp=Z,35nm,1.0s						
ZEA				AMB	AMB	06 56 38.9	
	comp=Z,40nm,1.0s						
ZEA				AMB	AMB	06 56 40.0	
	comp=Z,400nm,7.0s						
ZEA				AMS	AMS	07 04 36.0	
	comp=Z,800nm,16.0s						
ZEA				AMS	AMS	07 04 36.0	
	comp=Z,1μm,16.0s						
KROS	Kirovskiy	18.65	303	eP	Pn	06 56 34.9	-4.4

KROS AMB AMB 06 56 38.9
comp=Z,4.0nm,0.6s
KROS AMB AMB 06 56 38.9
comp=Z,17nm,0.6s
KROS AMB AMB 06 56 38.9
comp=Z,22nm,0.6s
YAK Yakutsk 20.48 326 *e*P **P 06 57 00.6 +2.0**
YAK pmax pmax
comp=Z,9.0nm,0.7s
YAK pmax pmax
comp=N,7.0nm,1.5s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK MLR MLR
comp=Z,305nm,13.0s,MS3.9
YAK MLR MLR
comp=N,122nm,12.0s,MS3.8
YAK MLR MLR
comp=E,242nm,14.0s,MS3.8
HIA Hailar 22.96 288 *e*P **P 06 57 24.3 -0.9**
HIA pmax pmax
comp=Z,4.0nm,0.4s
HIA Hailar 22.96 288 *e*P **P 06 57 24.3 -0.9**
comp=Z,11nm,1.1s,mb4.2
BOD Bodaibo 26.37 309⇑ *i*P **P 06 57 54.6 -2.0**
BOD pmax pmax
comp=Z,11nm,1.1s,mb4.3
TIXI Tiksi 27.40 343*d i*P **P 06 58 03.3 -2.7**
TIXI pmax pmax
comp=Z,20nm,1.6s,mb4.4
TIXI MLR MLR
comp=Z,700nm,18.0s,MS4.3
BJI Beijing 28.20 270 P **P 06 58 15.8 +2.7**
BJI AMB AMB
comp=Z,9.0nm,1.4s,mb4.2
BJI LR LR
comp=N,746nm,15.6s,MS4.5
BJI LR LR
comp=E,698nm,14.5s,MS4.5
BJI LR LR
comp=Z,577nm,14.5s,MS4.3
HHC Hu-ho-hao-te 30.99 274 *e*P **P 06 58 38.4 +0.6**
HHC AP pP 06 58 50.4 +1.2
HHC XP sP 06 58 57.0 +2.8
HHC PP PP 06 59 35.5 -13
HHC S **S 07 03 30.6 -9.1**
HHC XS sS 07 03 52.0 -6.7
HHC SS SS 07 05 05.3 -48
HHC SCS ScS 07 09 12.9 +3.4
HHC AMB AMB
comp=Z,16nm,0.5s,mb5.1
HHC AMB AMB
comp=Z,137nm,4.5s
HHC LR LR
comp=N,427nm,12.9s,MS4.5
HHC LR LR
comp=E,527nm,13.4s,MS4.5
HHC LR LR
comp=Z,702nm,13.3s,MS4.5
ULN Ulaanbaatar 31.49 289 *e*P **P 06 58 41.5 -0.7**
ULN pmax pmax
comp=Z,14nm,1.3s,mb4.6
ULN Ulaanbaatar 31.49 289 *e*P **P 06 58 40.9 -1.2**
comp=Z,14nm,1.3s,mb4.6
ULN *e*pP pP 06 58 51.9 -1.7
SONM Songino Array 31.92 289 P **P 06 58 44.6 -1.4**
comp=Z,6.2nm,0.9s,mb4.5,baz=65,slow=8.8,SNR=39
SONM LR LR 07 12 39.9
comp=Z,457nm,18.4s,MS4.2,baz=175,slow=38
IMA2 Indian Mountai 33.15 36 *e*P **P 06 58 55.2 -1.5**
ZAK Zakamensk 33.21 295⇑ *i*P **P 06 58 56.4 -0.9**
ZAK pmax pmax
comp=Z,4.0nm,1.5s,mb4.1
KDAK Kodiak Island 33.36 51 P **P 06 59 01.4 +2.8**
comp=Z,6.1nm,0.9s,mb4.5,baz=274,slow=12,SNR=4.0
PMR Palmer 34.89 44 *e*P **P 06 59 18.4 +6.5**
PMR pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
PMR Palmer 34.89 44 P **P 06 59 11.1 -0.8**
comp=Z,7.8nm,1.1s,mb4.5
MCK McKinley 34.97 41 *e*P **P 06 59 11.0 -1.5**
MCK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MCK McKinley 34.97 41 *e*P **P 06 59 11.0 -1.5**
comp=Z,5.9nm,1.0s,mb4.5
MCK *e*pP pP 06 59 20.4 -3.6
COLA College 35.47 39 *e*P **P 06 59 15.7 -1.1**
COLA pmax pmax
comp=Z,13nm,0.6s,mb5.0
COLA College 35.47 39 *e*P **P 06 59 15.4 -1.3**
comp=Z,12nm,0.6s,mb5.0
XAN Xi'an 36.26 266 P **P 06 59 24.3 +0.7**
XAN AMB AMB
comp=Z,46nm,1.0s,mb5.4
LZH Lanzhou 38.60 272 *e*P **P 06 59 44.5 +1.1**
LZH AP pP 06 59 56.0 +1.0
LZH XP sP 07 00 01.0 +1.1
LZH AMB AMB
comp=Z,110nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,430nm,4.6s
LZH LR LR
comp=N,1μm,15.0s
LZH LR LR
comp=Z,1μm,16.8s,MS4.8
DAWY Dawson 39.16 40 *e*P **P 06 59 46.9 -1.2**
GTA Gaotai 39.64 279 *e*P **P 06 59 52.8 +0.7**
GTA AP pP 06 59 59.6 -4.1
GTA XP sP 07 00 04.0 -4.6
GTA AMB AMB
comp=Z,9.0nm,1.1s,mb4.4
GTA AMB AMB
comp=Z,107nm,5.3s
GTA LR LR
comp=N,500nm,15.2s,MS4.6
GTA LR LR
comp=E,439nm,15.2s,MS4.6
GTA LR LR
comp=Z,427nm,14.4s,MS4.4
INK Inuvik 41.02 33 P **P 07 00 03.1 -0.4**
comp=Z,7.4nm,0.8s,mb4.3,baz=294,slow=7.5,SNR=21
INK Inuvik 41.02 33 P **P 07 00 03.3 -0.2**
INK pmax pmax
comp=Z,12nm,1.0s
INK Inuvik 41.02 33 *e*P **P 07 00 02.7 -0.9**
comp=Z,12nm,1.0s,mb4.5
ZAL Zalesovo 43.05 306 P **P 07 00 17.7 -2.4**
comp=Z,7.8nm,0.7s,mb4.5,baz=45,slow=8.2,SNR=34
ZAL LR LR 07 19 57.0
comp=Z,263nm,20.0s,MS4.1,baz=44,slow=39
ZAL Zalesovo 43.05 306 *i* P **P 07 00 18.2 -1.8**
ZAL pmax pmax
comp=Z,8.0nm,0.7s
ZAL Zalesovo 43.05 306 P **P 07 00 17.7 -2.4**
ZAL LR LR 07 19 57.0
NVS Novosibirsk 43.59 308 *e*P **P 07 00 21.8 -2.6**
NVS pmax pmax
comp=Z,18nm,1.1s,mb4.7
NVS pmax pmax
comp=N,14nm,1.0s
NVS pmax pmax
comp=E,15nm,1.0s
DLBC Dease Lake 44.88 46 P **P 07 00 35.2 +0.5**
comp=E,2.7nm,0.8s,mb4.1,baz=240,slow=2.6,SNR=4.8
DLBC Dease Lake 44.88 46 *e*P **P 07 00 34.9 +0.2**
WMQ Urumqi 45.50 291 *e*P **P 07 00 39.4 -0.2**
MKAR Makanchi Array 47.45 298 P **P 07 00 53.8 -1.1**
comp=E,12nm,0.8s,mb4.9,baz=64,slow=8.2,SNR=78
MKAR Makanchi Array 47.45 298⇑ *e*P **P 07 00 53.7 -1.2**
KURK Kurchatov 47.81 304 *e*P **P 07 00 56.1 -1.6**
KURK *e**PP pP 07 01 08.0 -1.6
KURK pmax pmax
comp=Z,38nm,0.8s,mb5.5
KURK Kurchatov 47.81 304 *e*P **P 07 00 56.1 -1.6**
comp=Z,38nm,0.8s,mb5.5
KURK *e*pP pP 07 01 08.0 -1.6
YKA Yellowknife Ar 50.26 37 P **P 07 01 16.2 -0.3**
comp=Z,1.4nm,0.8s,mb4.1,baz=293,slow=6.7,SNR=6.7
YKA LR LR 07 25 31.6
comp=Z,78nm,18.1s,MS3.8,baz=255,slow=40
YKA Yellowknife Ar 50.26 37 P **P 07 01 16.2 -0.3**
YKA LR LR 07 25 31.6
RES Resolute Bay 50.34 19 *e*P **P 07 01 16.5 -0.6**
RES pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
RES Resolute Bay 50.34 19 *e*P **P 07 01 16.5 -0.6**
comp=Z,7.6nm,0.8s,mb4.8
BRVK Borovoye 51.27 310 *e*P **P 07 01 22.8 -1.3**
BRVK *e**PP pP 07 01 34.4 -1.7
BRVK pmax pmax
comp=Z,14nm,0.8s,mb4.9
BRVK Borovoye 51.27 310 *e*P **P 07 01 22.8 -1.4**
comp=Z,14nm,0.8s,mb4.9
BRVK *e*pP pP 07 01 34.4 -1.6
ZRNK Zerenda 52.00 310 *e*P **P 07 01 28.2 -1.3**
ZRNK *e**PP pP 07 01 39.6 -1.9
ZRNK pmax pmax
comp=Z,15nm,0.8s,mb5.0
ZRNK Zerenda 52.00 310 *e*P **P 07 01 28.2 -1.3**
comp=Z,14nm,0.8s,mb5.0
ZRNK *e*pP pP 07 01 39.6 -1.9
ULHL Ulahol 53.50 295 P **P 07 01 41.0 +0.4**
SNR=10.0
TKM2 Tokmak 2 53.52 296 P **P 07 01 41.0 +0.2**
SNR=6.3
USP Ospenovka 54.00 297 P **P 07 01 44.1 -0.2**
SNR=19
SVE Sverdlovsk 54.11 317 *e*P **P 07 01 44.0 -1.1**
SVE MLR MLR
comp=N,200nm,13.0s,MS4.7
SVE MLR MLR
comp=E,400nm,13.0s,MS4.7
SVE MLR MLR
comp=Z,400nm,13.0s,MS4.7
FRU Bishkek 54.17 297 *e*P **P 07 01 45.5 0.0**
FRU MLR MLR
comp=Z,600nm,16.0s,MS4.8
AAK Ala-Archa 54.35 297 P **P 07 01 47.2 +0.4**
SNR=7.4
AAK Ala-Archa 54.35 297 *e*P **P 07 01 45.9 -1.0**
AAK *e**PP pP 07 01 57.3 -1.6
AAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AAK Ala-Archa 54.35 297 *e*P **P 07 01 45.8 -1.1**
comp=Z,8.5nm,0.8s,mb4.7
AAK *e*pP pP 07 01 57.3 -1.6
EKS2 Erkin-Say 54.78 297 P **P 07 01 50.2 +0.3**
SNR=11
AML Almayashu 55.13 297 P **P 07 01 53.2 +0.7**
SNR=5.5
ARU Arti 55.29 318⇑ *i*P **P 07 01 52.0 -1.6**
ARU *e* pP 07 02 03.0 -2.7
ARU *e* 07 02 50.5
ARU *e* 07 03 57.6
ARU *e*S **S 07 09 29.4 -5.1**
ARU *e*SS SS 07 13 12.5 -6.7
ARU pmax pmax
comp=Z,33nm,0.7s,mb5.5
ARU MLR MLR
comp=E,200nm,16.0s,MS4.4
ARU MLR MLR
comp=Z,300nm,16.0s,MS4.5
ARU MLR MLR
comp=N,200nm,17.0s,MS4.4
ARU Arti 55.29 318 *e*P **P 07 01 52.3 -1.3**
comp=N,38nm,0.7s,mb5.5
ARU *e*pP pP 07 02 03.8 -1.8
EDM Edmonton 55.60 47 P **P 07 01 54.3 -1.5**
EDM *e*pP pP 07 02 07.5 -0.4
JIRN Jiri 55.64 275 *e*P **P 07 01 58.2 +2.1**
comp=N,173nm,1.0s
GUN Gumba 55.69 276 *e*P **P 07 01 58.6 +2.1**
comp=N,47nm,0.6s,mb5.7
KKN Kakani 56.18 276 *e*P **P 07 02 02.0 +2.0**
comp=N,138nm,1.1s,mb5.9
PKI Pulchoki 56.23 276 *e*P **P 07 02 02.3 +1.9**
comp=N,77nm,0.9s,mb5.7
DAG Danmarks Havn 56.39 358⇑ *i*P **P 07 02 00.6 -0.9**
comp=N,9.0nm,0.8s,mb4.8
DAG Danmarks Havn 56.39 358⇑ *i*P **P 07 02 00.6 -0.9**
DAG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
DMN Daman 56.41 276 *e*P **P 07 02 03.8 +2.1**
comp=Z,212nm,1.1s
NEW Newport 56.43 53 P **P 07 02 04.1 +2.3**
comp=Z,8.1nm,1.3s,mb4.6
NEW *e* pP 07 02 12.9 -0.9
GKN Gorkha 56.48 276 *e*P **P 07 02 03.8 +1.7**
comp=Z,210nm,1.0s
KOLN Koldanda 57.33 277 *e*P **P 07 02 09.7 +1.5**
comp=Z,151nm,1.1s
ARCES ARCESS Array B 57.82 341 P **P 07 02 09.2 -2.4**
comp=Z,6.0nm,0.8s,mb4.7,baz=31,slow=7.5,SNR=8.5
ARCES LR LR 07 30 27.7
comp=Z,198nm,19.3s,MS4.2,baz=87,slow=40
BMO Blue Mountains 58.32 57 *e*P **P 07 02 26.7 -0.5**
BMO pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BMO Blue Mountains 58.32 57 *e*P **P 07 02 14.9 -0.2**
comp=Z,5.5nm,1.0s,mb4.5
BMO *e*pP pP 07 02 26.1 -1.1
BOK Bokaro 58.36 272 *e*P **P 07 02 16.3 +0.9**
BOK AMP 07 02 21.0
BOK AMb AMB 07 02 21.8
comp=Z,29nm,1.8s,mb5.0
WVOR Wild Horse Val 58.99 60 P **P 07 02 21.6 +1.8**
comp=Z,6.6nm,1.0s,mb4.6
WVOR *e*pP pP 07 02 32.0 0.0
MSO Missoula 59.02 53 P **P 07 02 19.0 -0.9**
comp=Z,12nm,1.3s,mb4.8
MSO *e*pP pP 07 02 31.2 -0.9
CHMT Chamberlain Mo 59.34 53 *e*P **P 07 02 21.6 -0.6**
CHMT *e*pP pP 07 02 32.9 -1.4
CHMT *e* 07 02 44.5
SMLA Simla 59.52 284 *e*P **P 07 02 24.0 +0.6**
SMLA AMb AMB 07 02 25.7
comp=Z,45nm,1.3s,mb5.3
HRY Holter Researc 60.24 52 P **P 07 02 29.1 +0.7**
HRY *e*pP pP 07 02 41.5 +1.0
KLMR Klimovskoe 60.24 329 *e*P **P 07 02 26.9 -1.4**
KLMR pmax pmax
comp=Z,20nm,1.6s,mb4.9
SUMG Summit 60.37 4 *e*P **P 07 02 29.2 0.0**
comp=Z,32nm,1.0s,mb5.3
SUMG *e*pP pP 07 02 39.8 -1.6
EGMT Eagleton 60.53 50 *e*P **P 07 02 28.7 -1.6**
comp=Z,11nm,1.2s,mb4.9
EGMT *e*pP pP 07 02 42.2 -0.3
DLMT Dillon 60.65 54 *e*P **P 07 02 32.0 +0.8**
comp=Z,9.2nm,1.2s,mb4.8
HLID Hailey 60.75 56 P **P 07 02 31.2 -0.6**
comp=Z,9.7nm,1.3s,mb4.8
HLID *e*pP pP 07 02 44.1 0.0
MCMT McKenzie Canyo 60.85 54 *e*P **P 07 02 32.4 -0.1**
BOZ Bozeman (W) 61.01 53 *e*P **P 07 02 33.4 -0.2**
comp=Z,20nm,1.3s,mb5.1
BOZ *e*pP pP 07 02 45.9 +0.1
NDI New Delhi 61.05 282 *e*P **P 07 02 34.4 +0.5**
JOF Joensuu 61.40 334 *e*p **P 07 02 34.7 -1.5**
comp=Z,9.9nm,0.6s,mb5.1
NVAR Mina Array Bea 61.66 63 P **P 07 02 36.6 -1.4**
comp=Z,0.5nm,0.6s,mb3.9,baz=319,slow=5.5,SNR=5.2
GCMT Greycliff 61.98 52 *e*P **P 07 02 40.3 +0.1**
GCMT *e*pP pP 07 02 52.8 +0.5
BLSP Bilaspur 62.04 273 *e*P **P 07 02 41.9 +1.3**
BLSP AMb AMB 07 02 51.8
comp=Z,18nm,1.2s,mb5.1
IMW Indian Meadow 62.50 54 *e*P **P 07 02 42.7 -0.9**
comp=Z,9.6nm,1.1s,mb4.8
IMW *e* pP 07 02 54.8 -1.1
FLWY Flagg Ranch 62.51 54 *e*P **P 07 02 44.1 +0.4**
comp=Z,7.9nm,1.0s,mb4.8
FLWY *e*pP pP 07 02 57.0 +1.1
FLWY *e*sP sP 07 03 04.4 +3.7
RRI2 Red Ridge 62.63 55 *e*P **P 07 02 44.2 -0.4**
comp=Z,6.6nm,0.8s,mb4.8
TPAW Teton Pass 62.75 55 *e*P **P 07 02 46.0 +0.7**
comp=Z,26nm,1.3s,mb5.2
TPAW *e*pP pP 07 02 58.2 +0.6
SCO Scoresbysund 62.76 359 *i* P **P 07 02 45.2 -0.2**
comp=Z,7.1nm,0.9s,mb4.8
SCO *i* pP 07 02 55.3 -2.3
KAF Kangasniemi 63.49 335 *e*p **P 07 02 48.4 -1.8**
comp=Z,22nm,0.9s,mb5.3,baz=36,slow=6.2
KAF Kangasniemi 63.49 335 *e*P **P 07 02 48.4 -1.8**
KAF pmax pmax
comp=Z,22nm,0.9s,mb5.3
PDAR Pinedale Array 64.00 55 P **P 07 02 53.2 -0.3**
comp=Z,0.6nm,0.7s,baz=316,slow=2.5,SNR=6.9
FIA1 FINESS Array S 64.09 335 *e*P **P 07 02 52.6 -1.5**
FIA1 *e*pP pP 07 03 04.4 -2.0
FINES FINESS Array B 64.09 335 P **P 07 02 53.4 -0.8**
comp=Z,28nm,0.9s,mb5.3,baz=38,slow=7.9,SNR=65
FINES LR LR 07 34 09.8
comp=Z,137nm,18.1s,MS4.2,baz=24,slow=39
BHPL Bhopal 64.50 277 *e*P **P 07 02 57.9 +1.1**
BHPL AMb AMB 07 02 59.1
NGP Nagpur 64.81 274 *e*P **P 07 02 58.7 -0.2**
NGP AMb AMB 07 03 07.0
comp=Z,30nm,0.8s,mb5.3
OBN Obninsk 65.48 326⇓ *e*P **P 07 03 02.2 -1.0**
OBN *i* *PP pP 07 03 18.8 +3.3
OBN *e* 07 03 33.7
OBN *e*SS SS 07 15 49.7 -9.2
OBN pmax pmax
comp=Z,56nm,1.6s,mb5.3
OBN Obninsk 65.48 326 *e*P **P 07 03 02.6 -0.6**
comp=Z,34nm,1.0s,mb5.3
SRU San Rafael 65.86 58 *e*P **P 07 03 05.8 +0.2**
comp=Z,9.4nm,1.1s,mb4.7
RSSD Black Hills 66.09 50 P **P 07 03 09.6 +2.4**
comp=Z,11nm,1.1s,mb4.8
RSSD *e*pP pP 07 03 19.4 0.0
VSU Vasula 66.30 333⇑ *e*P **P 07 03 07.2 -1.3**
AKL Akola 66.50 276 *ex* x 07 02 38.0
AKL AMb AMB 07 02 49.9
comp=Z,31nm,1.6s,mb5.1
SMCO Snowmass 67.85 56 *e*P **P 07 03 18.0 -0.3**
comp=Z,5.9nm,1.0s,mb4.6
ISCO Idaho Springs 68.19 55 *e*P **P 07 03 19.9 -0.5**
comp=Z,4.5nm,1.0s,mb4.5
NB2 NORSAR Subarra 68.19 342 P **P 07 03 20.2 -0.3**
comp=Z,30nm,0.8s,mb5.4,baz=26,slow=6.5
NOA NORSAR Array B 68.19 342 P **P 07 03 20.2 -0.2**
comp=Z,22nm,0.8s,mb5.3,baz=26,slow=6.4,SNR=47
NAO01 NORSAR Array S 68.44 342 *e*P **P 07 03 21.4 -0.6**
comp=Z,26nm,0.9s,mb5.3
NAO01 *e*pP pP 07 03 32.8 -1.5
WRAB Tennant Creek 69.01 200 P **P 07 03 24.7 -0.9**
comp=Z,15nm,1.1s,mb4.8
WRA Warramunga Arr 69.02 200 P **P 07 03 25.1 -0.5**
comp=Z,3.0nm,1.0s,mb4.2,baz=17,slow=6.4,SNR=7.1
WRA Warramunga Arr 69.02 200 P **P 07 03 25.1 -0.5**
WRA pmax pmax
comp=Z,3.0nm,1.0s
POO Poona 70.15 276 *ex* x 07 04 14.2
KAD Karad 70.77 275 *e*P **P 07 03 37.7 +1.3**
KAD AMb AMB 07 03 42.0
comp=Z,34nm,1.2s,mb5.1
ANMO Albuquerque 71.07 59⇓ *e*P **P 07 03 39.0 +0.8**
ANMO Albuquerque 71.07 59 *e*P **P 07 03 38.1 -0.1**
comp=Z,1.8nm,0.9s,mb4.0
ANMO *e* pP 07 03 50.6 +0.1
SUW Suwalki 71.09 332 *e*P **P 07 03 37.8 -0.5**
SUW *e* pP 07 03 49.3 -1.4
ZEI Tsey 71.39 313 *e*P **P 07 03 39.8 -0.4**
ZEI *e**PP pP 07 03 56.6 +4.0
ZEI *e* 07 06 15.7
ZEI pmax pmax
comp=Z,17nm,0.7s,mb5.1
DIGR Digorskoe uzhe 71.46 313⇑ *e*P **P 07 03 41.0 +0.5**
DGRG David-gareji 71.61 311 P **P 07 03 42.2 +0.7**
AKASG Malin Array Be 71.71 327 P **P 07 03 41.1 -1.0**
comp=Z,20nm,0.7s,mb5.2,baz=34,slow=6.2,SNR=77
AKASG LR LR 07 37 41.6
comp=Z,104nm,18.7s,MS4.1,baz=20,slow=38
AKASG Malin Array Be 71.71 327 *i* P **P 07 03 41.0 -1.1**
AKASG pmax pmax
comp=Z,20nm,0.7s
AKBB Malin Array Si 71.71 327 *e*P **P 07 03 41.2 -0.9**
AKBB *e**PP pP 07 03 52.5 -2.0
MTA Mtatsminda 71.73 312 P **P 07 03 42.5 +0.3**
TBLG Delisi 71.73 312 P **P 07 03 42.3 +0.1**
ONI Oni 71.76 313 P **P 07 03 44.0 +1.7**
GOR Gori 71.87 313 P **P 07 03 44.1 +1.1**
AMRG 71.96 313 P **P 07 03 51.0 +7.4**
AKH Akhalkalaki 72.60 312 P **P 07 03 44.0 -3.4**
ASAR Alice Springs 72.71 199 P **P 07 03 48.5 +0.4**
comp=Z,3.7nm,0.8s,mb4.3,baz=7.8,slow=5.5,SNR=16
ASAR Alice Springs 72.71 199 P **P 07 03 48.5 +0.5**
ASAR pmax pmax
comp=Z,4.0nm,0.9s
SCHQ Schefferville 72.77 23 P **P 07 03 49.9 +1.6**
comp=Z,4.5nm,0.9s,mb4.4,baz=66,slow=5.9,SNR=4.6
SCHQ LR LR 07 38 57.3
comp=Z,57nm,18.2s,MS3.9,baz=140,slow=38
SCHQ Schefferville 72.77 23 P **P 07 03 49.9 +1.6**
SCHQ LR LR 07 38 57.3
SOC Sochi 72.82 316 *e*P **P 07 03 48.1 -0.6**
SOC *e* 07 04 10.6
SOC *e* 07 06 34.2
SOC *e*S S 07 13 06.5 -5.1
SOC *e* 07 13 51.4
SOC *e*SSS 07 20 54.6
SOC pmax pmax
comp=Z,36nm,0.8s,mb5.3
GNI Garni 72.90 311*c i*P **P 07 03 48.9 -0.2**
GNI pmax pmax
comp=Z,43nm,1.7s
GNI MLR MLR
comp=Z,300nm,18.0s
GNI Garni 72.90 311 *e*P **P 07 03 49.7 +0.6**
comp=Z,17nm,0.6s,mb5.2
LVV L'vov 74.33 329 *e*P **P 07 03 57.8 +0.3**
LVV *e* pP 07 04 09.0 -1.0
BSEG Bad Segeberg 74.83 339 *e*P **P 07 03 58.5 -2.0**
BSEG *e*pP pP 07 04 12.7 -0.2
KWP Kalwaria 74.95 330 *e*P **P 07 04 01.8 +0.7**
KWP *e* pP 07 04 13.3 -0.3
OJC Ojcow 75.42 332 *e*P **P 07 04 03.7 -0.1**
OJC *e*PcP PcP 07 04 15.6 -1.2
KOLS Kolonicke sedl 75.69 330 *e*P **P 07 04 05.2 -0.2**
KOLS pmax pmax
comp=Z,13nm,1.2s,mb4.7
KOLS Kolonicke sedl 75.69 330 *e*P **P 07 04 05.2 -0.2**
comp=Z,13nm,1.2s,mb4.7
BURAR Bucovina Array 75.75 327⇓ *i*P **P 07 04 06.1 +0.4**
BURAR Bucovina Array 75.75 327⇓ P **P 07 04 06.0 +0.3**
NIE Niedzica 75.94 331 *e*P **P 07 04 07.0 +0.2**
NIE *e*PcP PcP 07 04 19.0 -0.1
KSP Ksiaz 75.97 334 *e*P **P 07 04 07.0 0.0**
KSP *e* pP 07 04 19.3 -0.2
KSP Ksiaz 75.97 334 *e*P **P 07 04 06.5 -0.5**
KSP *e*pP pP 07 04 18.8 -0.7
CRVS Cervenica-Dubn 76.00 330 *e*P **P 07 04 07.0 -0.1**
NRDL Niedersach Rie 76.20 338 *e*P **P 07 04 08.3 0.0**
comp=Z,8.0nm,0.8s,mb4.7
OKC Ostrava-Krasne 76.28 332 *e*P **P 07 04 09.6 +0.8**
OKC *e*pP pP 07 04 20.4 -0.9
LPIG La Paz 76.35 69 LR LR 07 30 57.3
comp=Z,49nm,20.0s,MS3.8,baz=263,slow=30
UPC Upice 76.35 334 *e*P **P 07 04 08.9 -0.2**
UPC *e*pP pP 07 04 21.1 -0.6
DPC Dobruska-Polom 76.39 334 *e*P **P 07 04 09.7 +0.3**
DPC *e*pP pP 07 04 21.2 -0.7
DPC AMS AMS 07 42 20.0
comp=Z,300nm,17.5s
CLL Collm 76.50 336 *e*P **P 07 04 09.5 -0.5**
comp=Z,28nm,0.8s,mb5.2
CLL Collm 76.50 336⇑ P **P 07 04 09.4 -0.6**
comp=Z,logA/T=1.5,mb5.2
CLL *i* *PP pP 07 04 21.5 -1.0
CLL Collm 76.50 336⇑ *i*P **P 07 04 09.4 -0.6**
comp=Z,28nm,0.9s,mb5.2
CLL *i* pP pP 07 04 21.5 -1.0
comp=Z,39nm,0.8s
CLL Collm 76.50 336⇑ *i*P **P 07 04 09.4 -0.6**
CLL *i* pP 07 04 21.5 -1.0
CLL pmax pmax
comp=Z,28nm,0.9s,mb5.2
MORC Moravsky Berou 76.52 333⇓ *i*P **P 07 04 10.6 +0.5**
MORC Moravsky Berou 76.52 333⇓ P **P 07 04 10.6 +0.5**
VRI Vrincioaia 76.63 325⇑ *i*P **P 07 04 12.5 +1.8**
VRI Vrincioaia 76.63 325⇑ P **P 07 04 12.5 +1.8**
BRG Berggiesshubel 76.63 335 *e*P **P 07 04 10.1 -0.6**
comp=Z,10.0nm,0.9s,mb4.8
BRG Berggiesshubel 76.63 335 *e*P **P 07 04 10.2 -0.5**
comp=Z,5.9nm,0.9s,mb4.5
BRG *e* pP 07 04 22.1 -1.1
comp=Z,13nm,1.1s
BRG Berggiesshubel 76.63 335 *e*P **P 07 04 10.2 -0.5**
BRG *e* pP 07 04 22.2 -1.0
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MSL Mosul 76.64 309 *ex* x 07 04 02.5

MSL ex x 07 04 23.0
KECS Kecovo 76.69 330 eP **P 07 04 11.2 +0.1**
KECS epP pP 07 04 23.3 -0.3
KECS Kecovo 76.69 330 eP **P 07 04 11.3 +0.2**
KECS e pP 07 04 23.3 -0.3
KECS pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KECS Kecovo 76.69 330 eP **P 07 04 11.3 +0.2**
comp=Z,8.0nm,1.0s,mb4.6
KECS e pP 07 04 23.3 -0.3
CLZ Clausthal 76.72 338 eP **P 07 04 10.5 -0.8**
comp=Z,26nm,1.2s,mb5.0
CLZ Clausthal 76.72 338 eP **P 07 04 10.5 -0.8**
CLZ pmax pmax
comp=Z,26nm,1.2s,mb5.0
BOYT Boyabat 76.75 318 *i* P **P 07 04 12.7 +1.3**
FBE Freiberg 76.75 336 eP **P 07 04 11.3 -0.1**
comp=Z,22nm,1.0s,mb5.0
PVCC Panska Ves 76.76 335 eP **P 07 04 11.7 +0.3**
PVCC epP pP 07 04 21.1 -2.9
VYHS Vyhne 77.23 331 *i* P **P 07 04 14.2 +0.1**
VYHS e pP 07 04 26.4 -0.2
VYHS pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VYHS Vyhne 77.23 331 *i* P **P 07 04 14.2 +0.1**
comp=Z,9.5nm,0.9s,mb4.7
VYHS e pP 07 04 26.4 -0.2
VRAC Vranov 77.23 333⇑ *i* P **P 07 04 14.5 +0.4**
VRAC Vranov 77.23 333⇑ P **P 07 04 14.5 +0.4**
MLR Muntele Rosu 77.25 325⇑ *i* P **P 07 04 14.9 +0.7**
MLR Muntele Rosu 77.25 325⇑ P **P 07 04 14.9 +0.7**
PRU Pruhonice 77.25 335 eP **P 07 04 13.8 -0.4**
PRU epP pP 07 04 25.8 -0.9
PRU AMS AMS 07 41 50.0
comp=Z,300nm,16.7s
BALT Daday 77.35 319 *i* P **P 07 04 15.5 +0.7**
DRGR 77.36 328⇑ *i* P **P 07 04 15.4 +0.6**
PSZ Piszkesteto 77.38 330⇓ eP **P 07 04 15.7 +0.8**
CTKT Corum 77.43 317 *i* P **P 07 04 16.4 +1.2**
TANN Tannenbergstha 77.46 336 eP **P 07 04 15.1 -0.3**
comp=Z,9.0nm,1.4s,mb4.5
WERD Werda 77.47 336 eP **P 07 04 15.3 -0.2**
comp=Z,23nm,1.3s,mb5.0
MOX Moxa 77.48 337 eP **P 07 04 14.8 -0.7**
comp=Z,26nm,1.2s,mb5.0
MOX Moxa 77.48 337 eP **P 07 04 15.1 -0.4**
comp=Z,25nm,1.4s,mb5.0
MOX e pP 07 04 27.8 -0.3
MOX Moxa 77.48 337 eP **P 07 04 15.1 -0.4**
MOX e pP 07 04 27.8 -0.3
MOX pmax pmax
comp=Z,25nm,1.4s,mb5.0
MALT Malatya 77.49 313⇑ *i* P **P 07 04 17.3 +1.8**
MALT Malatya 77.49 313⇑ P **P 07 04 17.3 +1.7**
TREC Trest 77.58 334 eP **P 07 04 15.7 -0.4**
TREC epP pP 07 04 28.0 -0.6
UBBA Unterbreizbach 77.75 338 eP **P 07 04 16.3 -0.7**
comp=Z,14nm,1.4s,mb4.7
BUG Bochum−Univer 77.86 340 eP **P 07 04 19.2 +1.6**
comp=Z,56nm,1.7s,mb5.2
MANZ Manzenberg 77.94 336 eP **P 07 04 18.2 +0.1**
comp=Z,13nm,1.1s,mb4.8
BUD Budapest 78.05 331 eP **P 07 04 17.9 -0.8**
ZST Bratislava 78.05 332 eP **P 07 04 19.8 +1.1**
ZST pmax pmax
comp=Z,12nm,0.8s,mb4.9
ZST Bratislava 78.05 332 eP **P 07 04 19.8 +1.1**
comp=Z,12nm,0.8s,mb4.9
ROTZ Rotzenmuhle 78.11 336 eP **P 07 04 19.1 +0.1**
comp=Z,18nm,1.1s,mb4.9
ROTZ epP pP 07 04 32.1 +0.5
ELDT Eldivan 78.16 318 *i* P **P 07 04 19.9 +0.5**
KHC Kasperske Hory 78.29 335 eP **P 07 04 20.0 0.0**
KHC epP pP 07 04 31.6 -1.0
KHC AMS AMS 07 42 40.0
comp=Z,300nm,20.5s
KHC Kasperske Hory 78.29 335 eP **P 07 04 20.0 0.0**
KHC epP pP 07 04 31.6 -1.0
GRA1 Grafenberg Arr 78.45 336 eP **P 07 04 21.4 +0.5**
comp=Z,21nm,0.9s,mb5.1
GRA1 epP pP 07 04 33.3 -0.2
GRF Grafenberg Arr 78.45 336 eP **P 07 04 21.4 +0.5**
comp=Z,21nm,0.9s,mb5.1
GRF epP pP 07 04 33.3 -0.2
GRF Grafenberg Arr 78.45 336 eP **P 07 04 21.4 +0.5**
GRF e*PP pP 07 04 33.3 -0.2
GRF pmax pmax
comp=Z,21nm,0.9s,mb5.1
GRF Grafenberg Arr 78.45 336 eP **P 07 04 21.4 +0.5**
GRF e*PP pP 07 04 33.3 -0.2
GRF pmax pmax
comp=Z,21nm,0.9s,mb5.1
WET Wettzell 78.48 335 eP **P 07 04 21.5 +0.4**
WET epP pP 07 04 33.9 +0.3
GEC2 GERESS Array S 78.52 335 eP **P 07 04 20.9 -0.4**
comp=Z,75nm,2.9s,mb5.1
GEC2 GERESS Array S 78.52 335 eP **P 07 04 20.9 -0.4**
GEC2 pmax pmax
comp=Z,75nm,2.9s,mb5.1
GERES GERESS Array B 78.52 335 P **P 07 04 20.6 -0.6**
comp=Z,5.1nm,0.9s,mb4.4,baz=44,slow=4.1,SNR=22
GERES LR LR 07 43 17.0
comp=Z,203nm,19.1s,MS4.5,baz=268,slow=39
GZR Gura Zlata 78.53 327⇑ *i* P **P 07 04 21.6 +0.3**
GZR Gura Zlata 78.53 327⇑ P **P 07 04 21.6 +0.3**
GZT Gaziantep 78.66 313 *i* P **P 07 04 23.0 +1.0**
BR131 Keskin Array S 78.67 317 eP **P 07 04 22.5 +0.4**
comp=Z,7.6nm,0.8s,mb4.7
BR131 epP pP 07 04 34.9 +0.2
BRTR Keskin Array B 78.67 317 P **P 07 04 21.7 -0.4**
comp=Z,7.5nm,0.8s,mb4.7,baz=69,slow=3.9,SNR=28
BRTR LR LR 07 44 24.7
comp=Z,67nm,18.1s,MS4.0,baz=179,slow=40
BRTR Keskin Array B 78.67 317 *i* P **P 07 04 23.1 +1.0**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
CONA Conrad Observa 78.68 333⇑ *i* P **P 07 04 22.7 +0.6**
comp=Z,12nm,0.9s,mb4.8
TNS Taunus Mts 78.70 338 eP **P 07 04 22.5 +0.2**
comp=Z,10.0nm,1.1s,mb4.7
TNS Taunus Mts 78.70 338 eP **P 07 04 22.5 +0.2**
TNS pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SGKT Sivrigoynuk 78.72 319 *i* P **P 07 04 22.9 +0.5**
BZS Buzias 78.76 328⇑ *i* P **P 07 04 22.9 +0.3**
TOD Tromm 79.17 338 eP **P 07 04 27.0 +2.1**
PKSM Moragy 79.28 330⇑ *i* P **P 07 04 25.2 -0.3**
PKSM Moragy 79.28 330⇑ eP **P 07 04 24.7 -0.8**
ARSA Arzberg 79.39 333⇑ *i* P **P 07 04 27.2 +1.2**
comp=Z,8.0nm,0.9s,mb4.7
WCI Wyandotte Cave 79.40 44 P **P 07 04 26.6 +0.5**
comp=Z,12nm,1.0s,mb4.8
WCI epP pP 07 04 38.2 -0.5
JMB Yambol 79.51 323 P pP 07 04 40.5 +1.2
FUR Furstenfeldbru 79.83 336 eP **P 07 04 28.8 +0.4**
comp=Z,32nm,0.6s,mb5.4
FUR Furstenfeldbru 79.83 336 eP **P 07 04 28.8 +0.4**
FUR pmax pmax
comp=Z,32nm,0.6s,mb5.4
BAIF Baives 79.86 341 eP **P 07 04 29.0 +0.4**
PERS Pernice 80.06 333 eP **P 07 04 30.2 +0.5**
KBA Koelnbreinsper 80.21 334⇑ *i* P **P 07 04 31.1 +0.6**
comp=Z,33nm,1.0s,mb5.2
KBA Koelnbreinsper 80.21 334⇑ *i* P **P 07 04 31.1 +0.6**
KBA pmax pmax
comp=Z,33nm,1.0s,mb5.2
WVT Waverly 80.32 46 P **P 07 04 30.2 -0.9**
comp=Z,7.0nm,1.0s,mb4.5
WVT epP pP 07 04 40.8 -2.8
WVT esP sP 07 04 46.4 -2.0
BFO Black Forest 80.47 338 eP **P 07 04 31.7 -0.2**
comp=Z,12nm,1.1s,mb4.7
BFO Black Forest 80.47 338 eP **P 07 04 31.7 -0.2**
BFO pmax pmax
comp=Z,12nm,1.1s,mb4.7
WTTA Wattenberg 80.54 335⇑ *i* P **P 07 04 32.9 +0.7**
comp=Z,18nm,1.0s,mb5.0
WTTA Wattenberg 80.54 335⇑ *i* P **P 07 04 32.9 +0.6**
WTTA pmax pmax
comp=Z,18nm,1.0s,mb5.0
PMOR Pomariorio Ree 80.61 124 eT 08 33 42.2
comp=Z,2.5nm,0.2s
MOTA Moosalm 80.62 336⇓ *i* P **P 07 04 33.4 +0.7**
comp=Z,17nm,1.0s,mb4.9
MOTA Moosalm 80.62 336⇓ *i* P **P 07 04 33.4 +0.7**
MOTA pmax pmax
comp=Z,17nm,1.0s,mb4.9
CDF Champ du Feu 80.66 338 eP **P 07 04 33.2 +0.3**
comp=Z,7.8nm,0.6s,mb4.5
CDF Champ du Feu 80.66 338 eP **P 07 04 33.2 +0.3**
CDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CDF Champ du Feu 80.66 338 eP **P 07 04 33.2 +0.3**
comp=Z,3.9nm,0.6s,mb4.5
KDZ Kurdzhali 80.67 324 P **P 07 04 25.0 -8.0**
VTS Vitosha 80.75 326 *i* P **P 07 04 34.0 +0.6**
VTS Vitosha 80.75 326⇑ *i* P **P 07 04 33.5 +0.1**
VISS Visnje 80.89 332 *i* P **P 07 04 33.6 -0.6**
MEST Erdemli 80.94 315 *i* P **P 07 04 34.6 +0.2**
FELD Feldberg im Sc 80.97 338 eP **P 07 04 34.3 -0.3**
DAVA Damuels 81.01 336⇑ *i* P **P 07 04 35.1 +0.3**
comp=Z,9.5nm,0.8s,mb4.8
BOJS Bojanci 81.03 332 eP **P 07 04 34.6 -0.2**
MEZF Maizieres J'vi 81.12 340 eP **P 07 04 35.5 +0.1**
MOF Molkenrain 81.22 338 eP **P 07 04 35.4 -0.5**
HAU Haudompre 81.27 339 eP **P 07 04 36.2 0.0**
HAU eR
comp=Z,127nm,19.5s
HINF Hinteralfeld 81.32 338 eP **P 07 04 35.9 -0.5**
MMB Musomiste 81.40 325 *i* P **P 07 04 37.0 +0.2**
KKB Krupnik 81.42 325 *i* P **P 07 04 37.7 +0.8**
PPT Papeete 81.74 127 eLR LR 07 29 53.5
comp=Z,101nm,20.8s,baz=321
PPT Papeete 81.74 127 LR LR 07 36 29.1
comp=Z,153nm,18.4s,MS4.4,baz=278,slow=32
LOMF Lomont 81.76 338 eP **P 07 04 38.7 -0.1**
LOMF Lomont 81.76 338 eP **P 07 04 34.1 -4.7**
FLN La Foliniere 82.07 343 eP **P 07 04 40.9 +0.5**
comp=Z,22nm,0.9s,mb4.8
FLN La Foliniere 82.07 343 eP **P 07 04 40.9 +0.5**
FLN pmax pmax
comp=Z,11nm,0.9s,mb4.8
FLN La Foliniere 82.07 343 eP **P 07 04 40.9 +0.5**
comp=Z,11nm,0.9s,mb4.8
LDF La Druitiere 82.16 343 eP **P 07 04 41.2 +0.3**
comp=Z,44nm,1.3s,mb4.9
LDF La Druitiere 82.16 343 eP **P 07 04 41.2 +0.3**
LDF pmax pmax
comp=Z,22nm,1.3s,mb4.9
LDF La Druitiere 82.16 343 eP **P 07 04 41.2 +0.3**
comp=Z,22nm,1.3s,mb4.9
GRR Gorron 82.50 344 eP **P 07 04 42.8 +0.2**
LOR Lormes 82.56 340 eP **P 07 04 43.0 +0.1**
comp=Z,20nm,0.8s,mb4.9
LOR eR
comp=Z,117nm,17.8s
LOR Lormes 82.56 340 eP **P 07 04 43.0 +0.1**
LOR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
LOR Lormes 82.56 340 eP **P 07 04 43.0 +0.1**
comp=Z,9.8nm,0.8s,mb4.9
CABF La Chapelle 82.64 338 eP **P 07 04 43.7 +0.4**
comp=Z,13nm,0.9s,mb4.7
CABF La Chapelle 82.64 338 eP **P 07 04 43.7 +0.4**
CABF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
CABF La Chapelle 82.64 338 eP **P 07 04 43.7 +0.4**
comp=Z,6.6nm,0.9s,mb4.7
SSF Saint Saulge 82.84 340 eP **P 07 04 44.5 +0.1**
comp=Z,16nm,1.0s,mb4.7
SSF Saint Saulge 82.84 340 eP **P 07 04 44.5 +0.1**
SSF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
SSF Saint Saulge 82.84 340 eP **P 07 04 44.5 +0.1**
comp=Z,7.8nm,1.0s,mb4.7
SGMF Saint Gilles 82.95 345 eP **P 07 04 45.0 0.0**
ROSF Rostrenen 83.00 345 eP **P 07 04 45.4 +0.2**
comp=Z,55nm,1.1s,mb5.2
ROSF Rostrenen 83.00 345 eP **P 07 04 45.4 +0.2**
ROSF pmax pmax
comp=Z,27nm,1.1s,mb5.2
ROSF Rostrenen 83.00 345 eP **P 07 04 45.4 +0.2**
comp=Z,27nm,1.1s,mb5.2
AVF Avril sur Loir 83.13 340 eP **P 07 04 45.7 -0.2**
comp=Z,25nm,1.0s,mb4.9
AVF Avril sur Loir 83.13 340 eP **P 07 04 45.7 -0.2**
AVF pmax pmax
comp=Z,13nm,1.0s,mb4.9
AVF Avril sur Loir 83.13 340 eP **P 07 04 45.7 -0.2**
comp=Z,12nm,1.0s,mb4.9
SMF Signal de Mont 83.15 340 eP **P 07 04 45.9 -0.1**
comp=Z,56nm,1.1s,mb5.2
SMF Signal de Mont 83.15 340 eP **P 07 04 45.9 -0.1**
SMF pmax pmax
comp=Z,28nm,1.1s,mb5.2
SMF Signal de Mont 83.15 340 eP **P 07 04 45.9 -0.1**
comp=Z,28nm,1.1s,mb5.2
QUIF Quistinic 83.39 345 eP **P 07 04 47.7 +0.5**
BGF Bois d'Agland 83.46 341 eP **P 07 04 48.0 +0.4**
LPL La Plagne 83.49 338 eP **P 07 04 48.1 +0.4**
comp=Z,18nm,0.8s,mb4.9
LPL La Plagne 83.49 338 eP **P 07 04 48.1 +0.4**
LPL pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LPL La Plagne 83.49 338 eP **P 07 04 48.1 +0.4**
comp=Z,9.1nm,0.8s,mb4.9
LPG La Plagne 83.50 338 eP **P 07 04 48.3 +0.5**
comp=Z,28nm,0.9s,mb5.1
LPG La Plagne 83.50 338 eP **P 07 04 48.3 +0.5**
LPG pmax pmax
comp=Z,14nm,0.9s,mb5.1
LPG La Plagne 83.50 338 eP **P 07 04 48.3 +0.5**
comp=Z,14nm,0.9s,mb5.1
PLDF La Plantade 83.84 340 eP **P 07 04 50.7 +1.2**
TCF Toulx Ste Croi 83.86 341 eP **P 07 04 49.7 +0.1**
comp=Z,26nm,1.1s,mb5.0
TCF Toulx Ste Croi 83.86 341 eP **P 07 04 49.7 +0.1**
TCF pmax pmax
comp=Z,13nm,1.1s,mb5.0
TCF Toulx Ste Croi 83.86 341 eP **P 07 04 49.7 +0.1**
comp=Z,13nm,1.1s,mb5.0
AGO Saint Agoulin 83.88 340 eP **P 07 04 51.2 +1.5**
AGO Saint Agoulin 83.88 340 eP **P 07 04 50.7 +1.0**
BNI Bardonecchia 83.94 337 eP **P 07 04 51.2 +1.2**
BNI e*PP pP 07 05 05.0 +2.3
BNI pmax pmax
comp=Z,14nm,1.1s,mb5.0
BNI Bardonecchia 83.94 337 eP **P 07 04 50.6 +0.6**
comp=Z,14nm,1.1s,mb5.0
MFF Saint Martin d 84.07 343 eP **P 07 04 50.9 +0.2**
MBDF Montbardon 84.21 337 eP **P 07 04 51.5 +0.1**
comp=Z,15nm,0.7s,mb4.9
MBDF Montbardon 84.21 337 eP **P 07 04 51.5 +0.1**
MBDF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
MBDF Montbardon 84.21 337 eP **P 07 04 51.5 +0.1**
comp=Z,7.6nm,0.7s,mb4.9
ORIF Oris-en-Rattie 84.27 338 eP **P 07 04 51.8 +0.1**
comp=Z,24nm,0.8s,mb5.1
ORIF eR
comp=Z,115nm,17.5s
ORIF Oris-en-Rattie 84.27 338 eP **P 07 04 51.8 +0.1**
ORIF pmax pmax
comp=Z,12nm,0.8s,mb5.1
ORIF Oris-en-Rattie 84.27 338 eP **P 07 04 51.8 +0.1**
comp=Z,12nm,0.8s,mb5.1
VIVF Saint-Julien-l 84.63 339 eP **P 07 04 53.7 +0.2**
comp=Z,14nm,1.0s,mb4.8
VIVF Saint-Julien-l 84.63 339 eP **P 07 04 53.7 +0.2**
VIVF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
VIVF Saint-Julien-l 84.63 339 eP **P 07 04 53.7 +0.2**
comp=Z,7.3nm,1.0s,mb4.8
OG25 Le Caire 84.73 338 eP **P 07 04 51.0 -3.0**
SBF Sospel 84.84 337 eP **P 07 04 54.7 +0.1**
CAF Calviac 85.19 341 eP **P 07 04 56.6 +0.3**
SMRF Simiane la Rot 85.22 338 eP **P 07 04 56.8 +0.3**
FRF La Foret Royal 85.33 337 eP **P 07 04 56.7 -0.4**
comp=Z,18nm,1.1s,mb4.8
FRF La Foret Royal 85.33 337 eP **P 07 04 56.7 -0.4**
FRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
FRF La Foret Royal 85.33 337 eP **P 07 04 56.7 -0.4**
comp=Z,8.9nm,1.1s,mb4.8
LFF La Frestale 85.47 341 eP **P 07 04 57.6 -0.1**
LMR La Mourre 85.58 337 eP **P 07 04 58.3 0.0**
comp=Z,39nm,1.1s,mb5.3
LMR La Mourre 85.58 337 eP **P 07 04 58.3 0.0**
LMR pmax pmax
comp=Z,20nm,1.1s,mb5.3
LMR La Mourre 85.58 337 eP **P 07 04 58.3 0.0**
comp=Z,20nm,1.1s,mb5.2
PGF Pioggiola 85.61 335 eP **P 07 04 58.3 -0.1**
comp=Z,14nm,0.9s,mb4.9
PGF Pioggiola 85.61 335 eP **P 07 04 58.3 -0.1**
PGF pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
PGF Pioggiola 85.61 335 eP **P 07 04 58.3 -0.1**
comp=Z,7.0nm,0.9s,mb4.9
TBI Tubuai 86.52 130 eLR LR 07 32 08.4
comp=Z,98nm,32.0s
MTLF Montolieu 86.65 340 eP **P 07 05 03.7 +0.1**
comp=Z,6.4nm,0.8s,mb4.6
MTLF Montolieu 86.65 340 eP **P 07 05 03.7 +0.1**
MTLF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
MTLF Montolieu 86.65 340 eP **P 07 05 03.7 +0.1**
comp=Z,3.2nm,0.8s,mb4.6
ETSF Etsaut 87.70 342 eP **P 07 05 08.6 0.0**
comp=Z,4.7nm,0.8s,mb4.5
ETSF Etsaut 87.70 342 eP **P 07 05 08.6 0.0**
ETSF pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
ETSF Etsaut 87.70 342 eP **P 07 05 08.6 0.0**
comp=Z,2.3nm,0.8s,mb4.5
BDFB Brasilia 143.68 38 PKhKP 07 11 51.6
comp=Z,2.8nm,0.7s,baz=326,slow=1.7,SNR=4.5
BDFB Brasilia 143.68 38 *i* PKHKP 07 11 51.6
BDFB pmax pmax
comp=Z,3.0nm,0.7s
CFAA Coronel Fontan 144.23 80 PKP PKPdf 07 11 55.9 +0.2
comp=Z,0.6nm,0.8s,baz=273,slow=4.9,SNR=5.7
CPUP Villa Florida 147.70 61 PKPbc PKPbc 07 12 03.6 -0.9
comp=Z,1.7nm,0.7s,baz=292,slow=2.6,SNR=6.0
CPUP Villa Florida 147.70 61 PKIKP PKPdf 07 12 03.6 +2.0
CPUP pmax pmax
comp=Z,2.0nm,0.7s

ISCJB ***14*** *06:53:43.8±0.5, 24.27S±0.04×66.89W±0.06, h173km±5km, mb4.3/23, Error ellipse: s-maj=8.4km s-min=5.9km az=164.1*
NEIC ***14*** *06:53:44.6±0.5, 24.25S×66.89W, h163km±5km, mb4.5/15, Error ellipse: s-maj=8.1km s-min=6.2km az=85.0*
BJI ***14*** *06:53:44.4, 24.20S×66.90W, h163km, mB5.2*
IDC ***14*** *06:53:45.5±0.9, 24.20S×66.83W, h175km±8km, mb4.0/10, mb1 4.1/17, mb1mx4.1/19, mbtmp4.5/17, Error ellipse: s-maj=13.5km s-min=11.1km az=55.0*
GUC ***14*** *06:53:50.0±2.2, 24.51S×67.47W, h200km, ML4.8*

ISC 14 06:53:45.0±0.5, 2426S±003×6689W±005, h167km±4km, n68, σ1$07/75, mb4.3/23, 2C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.48**	**311**	P	**Pn**	**06 54 29.4**	**+2.8**
	96nm,0.3s,baz=132,slow=7.3,SNR=1077						
LVC				S	**Sn**	**06 55 01.2**	**+2.4**
	242nm,0.3s,baz=19,slow=22,SNR=31						
LVC	**Limon Verde**	**2.48**	**311**	e Pn	**Pn**	**06 54 29.0**	**+2.4**
LVC				e Sn	**Sn**	**06 55 00.9**	**+2.0**
CEN1	**Los Morros**	**3.15**	**285**	*i* P	**Pn**	**06 54 37.4**	**+2.5**
CEN1				*i* S	**Sn**	**06 55 13.9**	**+0.3**
CEN1				AML	AML	06 55 17.7	
	comp=E,1μm,0.7s						
CPN1	**Cerro Paranal**	**3.22**	**263**⇑	*i* P	**Pn**	**06 54 36.9**	**+1.2**
CPN1				*i* S	**Sn**	**06 55 14.0**	**-1.2**
CPN1				AML	AML	06 55 21.9	
	comp=E,2μm,0.5s						
ANCH	**Antofagasta**	**3.27**	**279**	*i* P	**Pn**	**06 54 34.0**	**-2.3**
ANCH				*i* S	**Sn**	**06 55 11.6**	**-4.7**
ANCH				AML	AML	06 55 15.1	
	comp=N,2μm,0.5s						
ANCH	**Antofagasta**	**3.27**	**279**	*i* P	**Pn**	**06 54 34.0**	**-2.3**
ANCH				*i* S	**Sn**	**06 55 11.6**	**-4.7**
CDCH	**Caldera**	**4.53**	**231**	*i* P	**Pn**	**06 54 51.3**	**-1.1**
CDCH				*i* S	**Sn**	**06 55 39.7**	**-5.4**
LCO	**Las Campanas**	**5.83**	**215**⇓	*i* P	**Pn**	**06 55 09.2**	**-0.3**
LCO				*i* S	**Sn**	**06 56 12.4**	**-3.5**
CFAA	**Coronel Fontan**	**7.41**	**189**	P	**Pn**	**06 55 30.4**	**0.0**
	comp=N,1.3nm,0.3s,baz=357,slow=12,SNR=131						
CFAA				S	**Sn**	**06 56 49.4**	**-4.3**
	comp=N,1.4nm,0.3s,baz=262,slow=19,SNR=12						
CFAA	**Coronel Fontan**	**7.41**	**189**	P	**Pn**	**06 55 30.4**	**0.0**
CFAA				S	**Sn**	**06 56 49.4**	**-4.3**
LPAZ	**La Paz**	**8.02**	**351**	P	**Pn**	**06 55 39.9**	**+1.5**
	comp=N,6.1nm,0.3s,baz=157,slow=9.8,SNR=237						
LPAZ				S	**Sn**	**06 57 07.4**	**-0.6**
	comp=N,0.5nm,0.3s,baz=102,slow=12,SNR=3.3						
ARE	**Arequipa**	**8.88**	**330**	eP	**Pn**	**06 55 48.0**	**-1.8**
ARE				eS	**Sn**	**06 57 23.0**	**-5.6**
CPUP	**Villa Florida**	**8.90**	**105**	P	**Pn**	**06 55 50.4**	**+0.3**
	comp=N,0.9nm,0.3s,baz=281,slow=12,SNR=20						
SIV	**San Ignacio**	**9.87**	**35**	P	**Pn**	**06 56 02.8**	**-0.1**
	comp=N,7.0nm,0.3s,baz=218,slow=13,SNR=138						
SIV				S	**Sn**	**06 57 39.8**	**-13**
	baz=228,slow=9.0,SNR=2.9						
TRQA	**Tornquist**	**14.38**	**164**	e Pn	**Pn**	**06 57 00.5**	**-0.3**
TRQA				e Sn	**Sn**	**06 59 42.6**	**+1.9**
SAML	**Samuel**	**15.63**	**14**	eP	**Pn**	**06 57 15.5**	**-0.7**
	comp=N,7.9nm,0.7s						
PLCA	**Paso Flores**	**16.71**	**190**	P	**Pn**	**06 57 29.9**	**+0.5**
	comp=N,0.6nm,0.3s,baz=6.1,slow=13,SNR=15						
PLCA	**Paso Flores**	**16.71**	**190**	eP	**Pn**	**06 57 29.4**	**0.0**
	comp=N,13nm,0.8s						
BDFB	**Brasilia**	**19.69**	**68**	P	**P**	**06 58 01.3**	**+0.1**
	comp=N,7.4nm,0.3s,baz=249,slow=9.5,SNR=60						
SNAA	**Sanae**	**59.07**	**161**	eP	**P**	**07 03 27.4**	**-0.1**
SNAA				e		07 03 37.7	
LRAL	**Lakeview Retre**	**60.11**	**341**	eP	**P**	**07 03 33.3**	**-1.2**
	comp=N,4.9nm,0.8s,mb4.4						
CPCT	**Cooper Cave**	**61.69**	**344**	eP	**P**	**07 03 44.5**	**-0.6**
OXF	**Oxford**	**62.24**	**339**	eP	**P**	**07 03 48.0**	**-0.8**
PLAL	**Pickwick Lake**	**62.25**	**340**	eP	**P**	**07 03 47.4**	**-1.5**
	comp=N,5.7nm,0.8s,mb4.5						
JCT	**Junction City**	**62.91**	**328**	eP	**P**	**07 03 53.2**	**-0.1**
	comp=N,11nm,0.8s,mb4.8						
MIAR	**Mount Ida**	**63.73**	**336**	eP	**P**	**07 03 58.1**	**-0.6**
	comp=N,6.3nm,0.9s,mb4.5						
BLO	**Bloomington**	**65.72**	**343**	eP	**P**	**07 04 10.0**	**-1.6**
FVM	**French Village**	**65.74**	**340**	eP	**P**	**07 04 10.7**	**-1.0**
	comp=N,8.5nm,0.6s,mb4.8						
QSPA	**South Pole Qui**	**65.95**	**180**	eP	**P**	**07 04 13.4**	**+0.4**
	comp=N,13nm,0.8s,mb4.8						
WMOK	**Wichita Mounta**	**66.02**	**332**	eP	**P**	**07 04 12.3**	**-1.1**
	comp=N,5.4nm,1.2s,mb4.2						
CCM	**Cathedral Cave**	**66.07**	**339**	eP	**P**	**07 04 12.8**	**-1.0**
GDL2	**Guadalupe Moun**	**66.58**	**326**	eP	**P**	**07 04 17.9**	**+0.9**
DBIC	**Dimbokro**	**67.79**	**71**	P	**P**	**07 04 24.1**	**-0.5**
	comp=N,2.0nm,0.3s,mb4.3,baz=218,slow=7.9,SNR=11						
LPM	**Los Pinos Moun**	**69.41**	**326**	eP	**P**	**07 04 35.7**	**+1.0**
TUC	**Tucson**	**70.14**	**321**	eP	**P**	**07 04 40.2**	**+1.0**
WUAZ	**Wupatki**	**72.84**	**323**	eP	**P**	**07 04 56.3**	**+1.0**
	comp=N,6.8nm,0.8s,mb4.4						
SYO	**Syowa Base**	**73.27**	**159**⇑	eP	**P**	**07 04 57.4**	**-0.5**
VNDA	**Vanda**	**74.46**	**190**	P	**P**	**07 05 05.4**	**+0.6**
	comp=N,1.6nm,0.8s,mb3.8,baz=124,slow=2.7,SNR=9.7						
MSU	**Marysvale**	**75.50**	**325**	eP	**P**	**07 05 11.9**	**+1.2**
TMUT	**Trail Mountain**	**75.58**	**326**	eP	**P**	**07 05 11.3**	**+0.2**
GSC	**Goldstone**	**75.78**	**320**	eP	**P**	**07 05 13.6**	**+1.4**
TORD	**Torodi Ar. Bea**	**76.57**	**69**	P	**P**	**07 05 16.5**	**-0.2**
	comp=N,3.7nm,0.4s,mb4.4,baz=258,slow=5.4,SNR=87						
TPNV	**Topopah Spring**	**76.60**	**321**	eP	**P**	**07 05 18.3**	**+1.4**
	comp=N,7.9nm,1.0s,mb4.3						
DAC	**Darwin (Calif)**	**76.91**	**320**	eP	**P**	**07 05 19.7**	**+1.0**
	comp=N,14nm,1.2s,mb4.5						
DAC				epP	pP	07 06 00.1	+0.6
ISA	**Isabella**	**77.01**	**319**	eP	**P**	**07 05 20.2**	**+0.9**
	comp=N,4.6nm,0.8s,mb4.2						
DUG	**Dugway**	**77.07**	**326**	eP	**P**	**07 05 20.5**	**+0.9**
PDAR	**Pinedale Array**	**77.42**	**329**	P	**P**	**07 05 21.4**	**-0.1**
	comp=N,1.1nm,0.5s,mb3.7,baz=133,slow=8.1,SNR=14						
SPUT	**South Promonto**	**77.71**	**327**	eP	**P**	**07 05 23.6**	**+0.5**
ULM	**Lac du Bonnet**	**78.50**	**341**	P	**P**	**07 05 26.4**	**-1.1**
	comp=N,5.2nm,0.6s,mb4.3,baz=146,slow=6.2,SNR=15						
MOOW	**Moose Ponds**	**78.73**	**329**	eP	**P**	**07 05 29.3**	**+0.6**
ELK	**Elko**	**78.74**	**325**	eP	**P**	**07 05 29.5**	**+0.7**
SCHQ	**Schefferville**	**78.76**	**0**	P	**P**	**07 05 26.8**	**-2.1**
	comp=N,1.7nm,0.6s,mb3.9,baz=200,slow=6.0,SNR=4.6						
NVAR	**Mina Array Bea**	**78.80**	**321**	P	**P**	**07 05 29.7**	**+0.6**
	comp=N,1.0nm,0.6s,mb3.7,baz=144,slow=6.0,SNR=12						
LAO	**LASA Array**	**79.07**	**334**	eP	**P**	**07 05 30.6**	**+0.1**
PAHR	**Pah Rah Range**	**80.28**	**322**	eP	**P**	**07 05 38.0**	**+0.9**
	comp=N,12nm,1.0s,mb4.5						
HLID	**Hailey**	**80.36**	**327**	eP	**P**	**07 05 38.3**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,7.1nm,0.8s,mb4.3						
LRM	Limekiln Ridge	81.09	330	eP	P	07 05 42.1	+0.7
MAW	Mawson	81.16	163	P	P	07 05 40.5	-1.2
	comp=N,6.5nm,0.7s,mb4.4,baz=209,slow=8.4,SNR=11						
BSMT	Bassoo Peak	83.67	330	eP	P	07 05 55.0	+0.3
ESDC	Sonseca Array	86.51	44	P	P	07 06 08.7	-0.2
	comp=N,0.7nm,0.5s,mb3.7,baz=246,slow=5.8,SNR=4.7						
YKA	Yellowknife Ar	94.40	340	P	P	07 06 44.3	-1.4
	comp=N,2.3nm,0.5s,mb4.5,baz=132,slow=4.6,SNR=50						
ASAR	Alice Springs	128.26	204	PKP	PKPdf	07 12 31.1	-0.3
	comp=N,1.7nm,0.5s,baz=134,slow=1.8,SNR=25						
WRA	Warramunga Arr	131.44	207	PKP	PKPdf	07 12 37.3	-0.1
	comp=N,1.6nm,0.5s,baz=160,slow=1.6,SNR=22						
MKAR	Makanchi Array	146.66	40	PKP	PKPdf	07 13 05.0	0.0
	comp=N,11nm,0.6s,baz=338,slow=1.2,SNR=87						
MKAR				PKPbc	PKPbc	07 13 06.6	-0.2
	comp=N,11nm,0.6s,baz=3.8,slow=2.5,SNR=90						
MJAR	Matsushiro Arr	155.21	305	PKPab	PKPab	07 13 43.9	+0.1
	comp=N,0.9nm,0.3s,baz=57,slow=1.3,SNR=5.7						
HHC	Hu-ho-hao-te	163.41	4	ePKP	PKPdf	07 13 24.4	-3.1
HHC				PP	PP		
	comp=Z,304nm,6.4s						
HHC				LR	LR		
	comp=N,272nm,5.9s						
HHC				LR	LR		
	comp=E,229nm,5.9s						
HHC				LR	LR		
	comp=Z,189nm,5.2s						
CD2	Chengdu	169.39	49	ePKP	PKPdf	07 13 29.3	-2.8
NJ2	Nanjing	170.73	328	ePKP	PKPdf	07 13 32.4	-0.5
NJ2				LR	LR		
	comp=N,2μm,12.3s						
NJ2				LR	LR		
	comp=E,1μm,14.2s						
NJ2				LR	LR		
	comp=Z,750nm,15.1s						

*IDC **14** 07:13:04.5±1.5, 2.62S×128.09E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.8/15, mbtmp3.8/4, ML4.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/29, Error ellipse: s-maj=126.5km s-min=23.0km az=70.0*

*ISCJB **14** 07:13:07.4±1.4, 2.1S±0.2×130.1E±0.2, h33km, mb3.8/3, Error ellipse: s-maj=36.7km s-min=15.4km az=124.6*

*NEIC **14** 07:13:20.6±5.5, 2.94S×127.90E, h148km±64km, mb4.5/1, Error ellipse: s-maj=205.8km s-min=21.3km az=73.0*

ISC 14 07:13:09.9±1.4**, 2.1S**±0.1×**130.1E**±0.2**, h35km, n10, σ0.67**/9**, mb3.8**/3**, 1D, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	10.77	168	eP	Pn	07 15 49.6	+8.0
	6.6nm,0.6s						
FITZ	Fitzroy Crossi	16.49	195	LR	LR	07 22 37.0	
	comp=Z,73nm,20.8s,baz=37,slow=37						
WRA	Warramunga Arr	18.19	167	P	Pn	07 17 19.5	-0.1
	0.6nm,0.3s,baz=341,slow=11,SNR=21						
WB2	Warramunga Arr	18.19	167	eP	Pn	07 17 20.3	+0.8
BJII	Banjamegara	21.00	255	⇓eP	P	07 17 50.2	0.0
AS31	Alice Springs	21.73	171	eP	P	07 17 58.4	+0.3
ASAR	Alice Springs	21.73	171	P	P	07 17 56.5	-1.6
	4.8nm,0.8s,mb4.0,baz=344,slow=11,SNR=32						
ASPA	Alice Springs	21.73	171	eP	P	07 17 58.4	+0.3
SONM	Songino Array	53.90	340	P	P	07 22 29.7	0.0
	0.9nm,0.8s,mb3.8,baz=166,slow=6.9,SNR=5.6						
MKAR	Makanchi Array	64.27	326	P	P	07 23 35.8	-5.7
	0.5nm,0.8s,mb3.6,baz=134,slow=6.9,SNR=4.0						

CASC 14 07:18:16.3±3.0**, 13.16N**×**89.37W, h31km**±14km**, MD3.6, 5C-10D, El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNET	Serv Nac Est T	0.54	14	⇑eP	x	07 18 11.0	
SNET				eS	x	07 18 17.1	
LFRS	El Faro	0.55	33	⇓iP	x	07 18 47.2	
LFRS				eS	x	07 18 55.9	
BOQS	Boqueron	0.58	8	⇑iP	x	07 18 47.7	
BOQS				eS	x	07 18 57.0	
LCBS	La Ceiba	0.62	37	⇓iP	x	07 18 47.9	
LCBS				eS	x	07 18 58.0	
LFU	La Fuente	0.64	23	⇓eP	x	07 18 48.5	
LFU				eS	x	07 18 59.5	
LBRS	Las Brisas	0.66	29	⇓eP	x	07 18 48.8	
LBRS				eS	x	07 18 59.0	
SNVI	San Vicente	0.69	49	⇓eP	x	07 18 48.5	
SNVI				eS	x	07 18 59.2	
SBLS	San Blas	0.72	340	⇓eP	x	07 18 49.3	
SBLS				eS	x	07 19 01.4	
SNJE	San Jose	0.74	342	⇓eP	x	07 18 49.5	
SNJE				eS	x	07 19 00.3	
RTR	El Retiro	0.79	340	⇓eP	x	07 18 50.2	
RTR				eS	x	07 19 02.1	
RBDL	Robledal	1.00	342	eP	x	07 18 53.2	
RBDL				eS	x	07 19 08.4	
VSM	San Miguel	1.10	76	⇑eP	x	07 18 54.9	
VSM				eS	x	07 19 10.2	
BLLM	Bellamira	1.14	75	⇓eP	x	07 18 55.0	
BLLM				eS	x	07 19 10.8	
MTO2	Montecristo 2	1.24	0	⇑eP	x	07 18 56.5	
MTO2				eS	x	07 19 12.8	
IXG	Ixpaco	1.46	314	⇑eP	Pn	07 18 40.2	-0.3
IXG				eS	Sn	07 18 58.9	+0.3
CNCH	Conchagua	1.50	85	⇓iP	x	07 19 00.3	
CNCH				eS	x	07 19 19.5	
FUG	Fuego 3	1.92	312	eP	Pn	07 18 45.7	-1.1
TP2	Tecpan 2	2.28	315	eP	Pn	07 18 53.8	+2.1
TP2				eS	Sn	07 19 22.2	+3.5
JAT	Jato	2.49	298	eP	Pn	07 18 55.6	+1.0

*SZGRF **14** 07:22:47.7, 46.96N×156.19E, h33km, mb4.5, East of Kuril Islands, Russia*

*NEIC **14** 07:22:50.0±0.6, 47.04N×153.99E, mb4.5/9, Error ellipse: s-maj=14.8km s-min=9.4km az=153.0*

*BJI **14** 07:22:50.5, 47.71N×154.17E, h49km, mB5.0, mb4.4, Ms4.2, Msz4.1*

*ISCJB **14** 07:22:53.5±0.6, 47.82N±0.07×153.65E±0.10, h43km, mb4.4/35, MS3.7/8, Error ellipse: s-maj=12.8km s-min=5.5km az=93.6*

*IDC **14** 07:22:53.3±4.4, 47.10N×153.97E, h69km±40km, mb3.8/14, mb1 4.0/15, mb1mx3.9/22, mbtmp4.1/15, ML3.9/1, MS3.6/5, Ms1 3.6/5, ms1mx3.1/35, Error ellipse: s-maj=23.6km s-min=18.6km az=162.0*

*MOS **14** 07:22:53.1±1.2, 47.88N×153.56E, h36km, mb4.7/13, Error ellipse: s-maj=12.8km s-min=8.2km az=102.0*

ISC 14 07:22:54.1±0.6**, 47.70N**±0.08×**153.9E**±0.1**, h45km, h45km**±2.1km**:pP-P, n83, σ1.14**/85**, mb4.4**/35**, MS3.7**/8**, 8C-11D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.33	25	ePN	Pn	07 23 41.0	-2.6
SKR				eS	Sn	07 24 23.0	+1.2
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,140nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
SKR				smax			
	comp=Z,90nm,0.5s						
KUR	Kuril'sk	4.84	242	⇓iPN	Pn	07 23 57.3	-7.0
KUR				eS	Sn	07 24 58.0	-1.0
KUR				pmax	pmax		
	comp=Z,160nm,0.8s						
KUR				smax			
	comp=N,380nm,1.0s						
KUR				smax			
	comp=E,230nm,1.0s						
PET	Petropavlovsk	6.14	28	ePN	Pn	07 24 24.9	+2.7
PET				pmax	pmax		
	comp=Z,21nm,0.6s						
YSS	Yuzh-Sakhalins	7.61	269	PN	Pn	07 24 46.0	+3.7
YSS				MLR	MLR		
	comp=Z,1μm,18.0s						
YSS				MLR	MLR		
	comp=N,500nm,14.0s						
YSS				MLR	MLR		
	comp=E,1μm,16.0s						
ASAJ	Asahikawa	8.65	250	P	Pn	07 24 54.2	-2.4
	comp=E,1.5nm,0.3s,baz=65,slow=32,SNR=7.3						
ASAJ	Asahikawa	8.65	250	PN	Pn	07 24 54.2	-2.4
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
HABR	Khabarovsk	12.62	281	ePN	Pn	07 25 50.6	-0.4
HABR				e		07 28 16.7	
KLR	Kul'dur	14.76	284	eP	Pn	07 26 22.3	+2.4
MJAR	Matsushiro Arr	16.08	232	P	Pn	07 26 27.7	-9.3
	comp=Z,0.2nm,0.3s,baz=23,slow=11,SNR=7.8						
MJAR	Matsushiro Arr	16.08	232	P	Pn	07 26 27.7	-9.3
CN2	Changchun	20.17	269	eP	P	07 27 25.3	+0.6
SNY	Shenyang	22.22	266	⇑P	P	07 27 47.8	+1.1
SNY				AP		07 28 00.4	
SNY				XP	sP	07 28 08.0	+4.8
SNY				PP		07 28 17.8	
SNY				S	S	07 31 53.3	+4.4
SNY				XS	sS	07 32 08.3	+1.8
SNY				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
SNY				AMB	AMB		
	comp=Z,350nm,5.3s						
SNY				LR	LR		
	comp=E,486nm,14.1s						
SNY				LR	LR		
	comp=Z,481nm,15.1s,MS4.0						
BOD	Bodaibo	25.81	308	⇑iP	P	07 28 20.5	-0.5
BOD				pmax	pmax		
	comp=Z,3.0nm,1.9s,mb3.5						
TIXI	Tiksi	26.71	343	⇑eP	P	07 28 28.1	-1.1
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb3.9						
TIXI				MLR	MLR		
	comp=Z,200nm,17.0s,MS3.7						
SSE	Sheshan	29.94	248	P	P	07 28 57.6	-0.3
SSE				AMB	AMB		
	comp=Z,31nm,0.9s,mb5.0						
SSE				AMB	AMB		
	comp=Z,1μm,5.5s						
NJ2	Nanjing	30.79	252	eP	P	07 29 08.9	+3.5
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.9						
ULN	Ulaanbaatar	31.10	288	⇓eP	P	07 29 07.7	-0.4
SONM	Songino Array	31.53	288	P	P	07 29 10.4	-1.5
	comp=Z,1.2nm,0.7s,mb3.9,baz=52,slow=9.2,SNR=7.9						
SONM				LR	LR	07 43 14.5	
	comp=Z,119nm,18.2s,MS3.6,baz=9.6,slow=38						
ZAK	Zakamensk	32.77	294	eP	P	07 29 22.5	-0.3
ZAK				e		07 32 15.6	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
COLA	College	35.07	39	eP	P	07 29 41.6	-1.1
COLA				e*PP	pP	07 29 53.8	-0.9
COLA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
COLA	College	35.07	39	eP	P	07 29 41.6	-1.1
	comp=Z,4.9nm,0.7s,mb4.5						
COLA				epP	pP	07 29 53.8	-0.9
LZH	Lanzhou	38.39	271	eP	P	07 30 11.1	+0.1
LZH				AMB	AMB		
	comp=Z,24nm,1.0s,mb4.9						
GTA	Gaotai	39.35	278	eP	P	07 30 19.4	+0.4
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.2						
INK	Inuvik	40.57	33	P	P	07 30 29.0	-0.2
	comp=Z,2.7nm,0.7s,mb4.0,baz=264,slow=8.2,SNR=9.6						
ZAL	Zalesovo	42.51	305	LR	LR	07 49 49.2	
	comp=Z,62nm,19.9s,MS3.5,baz=78,slow=38						
MKAR	Makanchi Array	46.98	297	P	P	07 31 19.3	-1.3
	comp=Z,1.9nm,0.7s,mb4.1,baz=37,slow=32,SNR=3.5						
KURK	Kurchatov	47.28	303	eP	P	07 31 22.8	-0.2
KURK				e*PP	pP	07 31 34.4	-1.0
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
KURK	Kurchatov	47.28	303	eP	P	07 31 22.8	-0.3
	comp=Z,7.7nm,0.8s,mb4.7						
KURK				epP	pP	07 31 34.4	-1.0
YKA	Yellowknife Ar	49.85	37	P	P	07 31 42.0	-0.7
	comp=Z,0.4nm,0.6s,mb3.6,baz=294,slow=7.0,SNR=4.8						
YKA				LR	LR	07 55 56.9	
	comp=Z,35nm,18.7s,MS3.4,baz=270,slow=39						
YKA	Yellowknife Ar	49.85	37	iP	P	07 31 44.5	+1.8
YKA	Yellowknife Ar	49.85	37	P	P	07 31 42.0	-0.7
YKA				LR	LR	07 55 56.9	
BVAR	Borovoye Array	50.67	309	P	P	07 31 48.5	-0.4
	comp=Z,1.7nm,0.5s,mb4.2,baz=60,slow=8.9,SNR=9.5						
BVAR				LR	LR	07 53 08.7	
	comp=Z,49nm,18.2s,MS3.6,baz=142,slow=36						
BRVK	Borovoye	50.71	309	eP	P	07 31 48.2	-1.0
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BRVK	Borovoye	50.71	309	eP	P	07 31 48.2	-1.0
	comp=Z,3.9nm,0.8s,mb4.4						
ZRNK	Zerenda	51.43	310	eP	P	07 31 54.6	0.0
ZRNK				e*PP	pP	07 32 05.7	-1.4
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
ZRNK	Zerenda	51.43	310	eP	P	07 31 54.6	0.0
	comp=Z,3.1nm,0.7s,mb4.3						
ZRNK				epP	pP	07 32 05.7	-1.4
AAK	Ala-Archa	53.89	296	⇑eP	P	07 32 11.4	-1.4
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
AAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.0						
ARU	Arti	54.67	317	⇓iP	P	07 32 18.0	-0.5
ARU				e		07 33 19.3	
ARU				e		07 34 19.4	
ARU				ePPP		07 35 26.3	
ARU				eS	S	07 39 54.8	-0.6
ARU				eSS	SS	07 43 37.3	-1.3
ARU				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
ARU	Arti	54.67	317	eP	P	07 32 18.3	-0.2
	comp=Z,4.3nm,0.5s,mb4.7						
ARU				epP	pP	07 32 29.7	-1.4
JIRN	Jiri	55.40	274	eP	P	07 32 24.3	+0.5
	comp=Z,71nm,1.0s,mb5.6						
GUN	Gumba	55.45	275	eP	P	07 32 24.7	+0.6
KKN	Kakani	55.93	275	eP	P	07 32 28.0	+0.5
PKI	Pulchoki	55.98	275	eP	P	07 32 28.1	+0.2
DMN	Daman	56.16	275	eP	P	07 32 29.8	+0.6
	comp=Z,66nm,1.1s,mb5.6						
GKN	Gorkha	56.22	276	eP	P	07 32 29.8	+0.1
	comp=Z,76nm,1.0s,mb5.7						
KOLN	Koldanda	57.07	276	eP	P	07 32 36.0	+0.3
	comp=Z,33nm,0.9s,mb5.4						
ARCES	ARCESS Array B	57.13	341	P	P	07 32 36.0	-0.1
	comp=Z,2.7nm,0.9s,mb4.3,baz=31,slow=7.2,SNR=3.7						
ARCES	ARCESS Array B	57.13	341	P	P	07 32 36.0	-0.1
PMG	Port Moresby	57.16	188	deP	P	07 32 40.4	+4.1
JOF	Joensuu	60.72	334	ep	P	07 32 59.7	-1.3
NVAR	Mina Array Bea	61.53	63	P	P	07 33 05.0	-1.4
	comp=Z,0.3nm,0.6s,mb3.6,baz=308,slow=5.7,SNR=4.1						
KAF	Kangasniemi	62.81	335	ep	P	07 33 13.8	-1.2
	baz=35,slow=6.1						
FINES	FINESS Array B	63.41	335	P	P	07 33 18.4	-0.6
	comp=Z,8.6nm,0.9s,mb4.9,baz=45,slow=8.4,SNR=18						
FINES	FINESS Array B	63.41	335	iP	P	07 33 19.2	+0.2
FINES				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PDAR	Pinedale Array	63.76	55	P	P	07 33 19.9	-1.5
	comp=Z,0.4nm,0.8s,mb3.5,baz=329,slow=5.5,SNR=3.6						
OBN	Obninsk	64.83	326	⇑eP	P	07 33 29.0	+0.7
OBN				e		07 35 46.9	
OBN				pmax	pmax		
	comp=Z,32nm,1.7s,mb5.1						
VSU	Vasula	65.62	333	⇓eP	P	07 33 33.7	+0.3
NB2	NORSAR Subarra	67.50	341	P	P	07 33 46.2	+0.7
	comp=Z,8.7nm,0.8s,mb4.8,baz=26,slow=6.5						
NOA	NORSAR Array B	67.50	341	P	P	07 33 46.3	+0.8
	comp=Z,6.9nm,0.8s,mb4.8,baz=26,slow=6.4,SNR=14						
WRAB	Tennant Creek	69.57	200	⇑eP	P	07 34 01.2	+2.8
WRA	Warramunga Arr	69.58	200	iP	P	07 34 02.0	+3.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	71.05	326	P	P	07 34 06.8	-0.7
	comp=Z,3.4nm,0.5s,mb4.5,baz=33,slow=6.0,SNR=9.6						
AKBB	Malin Array Si	71.05	326	eP	P	07 34 07.0	-0.4
GNI	Garni	72.32	311	LR	LR	08 12 46.0	
	comp=Z,55nm,19.6s,MS3.8,baz=151,slow=41						
GNI	Garni	72.32	311	deP	P	07 34 17.5	+2.5
GNI				pmax	pmax		
	comp=Z,14nm,1.3s						
GNI				MLR	MLR		
	comp=Z,100nm,15.0s						
ASAR	Alice Springs	73.28	199	P	P	07 34 13.8	-7.0
	comp=Z,1.2nm,0.7s,mb3.9,baz=11,slow=5.2,SNR=10						
BURAR	Bucovina Array	75.09	327	⇑iP	P	07 34 31.2	-0.1
CLL	Collm	75.82	336	P	P	07 34 35.4	-0.1
	comp=Z,logA/T=1.0,mb4.7						
CLL				i *PP	pP	07 34 47.4	-1.2
CLL	Collm	75.82	336	i P	P	07 34 35.4	-0.1
	comp=Z,11nm,1.1s,mb4.7						
CLL				i pP	pP	07 34 47.4	-1.2
	comp=Z,12nm,0.9s						
CLL	Collm	75.82	336	i P	P	07 34 35.4	-0.1
CLL				i	pP	07 34 47.4	-1.2
CLL				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
MORC	Moravsky Berou	75.85	333	⇓iP	P	07 34 36.7	+1.1
MLR	Muntele Rosu	76.59	325	⇓iP	P	07 34 41.8	+1.9
VOIR		76.98	326	⇓iP	P	07 34 43.2	+1.2
KHC	Kasperske Hory	77.61	335	⇓eP	P	07 34 46.7	+1.1
KHC				i *PP	pP	07 35 01.7	+3.0
GRA1	Grafenberg Arr	77.77	336	eP	P	07 34 47.2	+0.7
	comp=Z,5.0nm,1.0s,mb4.4						
GRF	Grafenberg Arr	77.77	336	eP	P	07 34 47.2	+0.7
	comp=Z,5.0nm,1.0s,mb4.4						
GRF	Grafenberg Arr	77.77	336	eP	P	07 34 47.2	+0.7
GRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
GRF	Grafenberg Arr	77.77	336	eP	P	07 34 47.2	+0.7
GRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
GERES	GERESS Array B	77.83	334	P	P	07 34 44.6	-2.2
	comp=Z,0.5nm,0.4s,mb3.8,baz=46,slow=5.8,SNR=7.0						
GZR	Gura Zlata	77.87	327	⇓iP	P	07 34 48.5	+1.5
BR131	Keskin Array S	78.06	317	eP	P	07 34 48.8	+0.7
	comp=Z,2.8nm,0.9s,mb4.2						
BR131				epP	pP	07 35 01.1	-0.2
BRTR	Keskin Array B	78.06	317	P	P	07 34 48.4	+0.3
	comp=Z,2.1nm,0.8s,mb4.1,baz=56,slow=3.8,SNR=9.1						
BRTR	Keskin Array B	78.06	317	⇑eP	P	07 34 49.0	+0.9

CASC 14 07:25:28.3±2.4**, 10.51N**×**86.62W, h0km**±9km**, MD3.7, ML2.8, 5C, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SSNN	San Juan del S	1.08	45	⇑eP	Pg	07 25 49.1	0.0
MADN	Villa Maderas	1.39	50	eP	Pn	07 25 53.8	-1.1
CONN	Concepcion	1.43	43	⇑eP	Pn	07 25 54.0	-1.5
APON	Apoyo	1.50	21	eP	Pn	07 25 56.4	0.0
TICN	Ticuantepe	1.56	14	eP	Pn	07 25 57.2	0.0
XAVN	Gruta Xavier	1.65	10	eP	Pn	07 25 57.7	-0.9
TISN	Laguna Tiscapa	1.66	12	eP	Pn	07 25 58.1	-0.5
COPN	Copaltepe	1.66	1	⇑eP	Pn	07 25 58.5	-0.1
MGAN	Managua	1.67	13	eP	Pn	07 25 58.4	-0.4
MGAN				i		07 26 40.6	
	comp=N,98nm,0.5s						
APYN	Apoyeque	1.73	9	eP	Pn	07 26 01.9	+2.2
APYN				eS	Sn	07 26 25.8	+3.4
LEON	Leon	1.91	352	⇑eP	Pn	07 26 02.1	+0.1
LEON				eS	Sn	07 26 26.8	0.0
MIRN	Miramar	1.92	357	⇑eP	Pn	07 26 02.2	+0.1
LCR2	La Lucha 2	2.69	106	eP	Pn	07 26 14.4	+1.5

NNC 14 07:42:54.5±3.3**, 53.53N**×**87.04E, h0km, mb3.6, mpv3.5, 7C-4D, Error ellipse: s-maj=29.3km s-min=15.3km az=61.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	5.90	245	⇓Pn	Pn	07 44 24.9	+1.7
	3.0nm,0.7s						
KURK				⇑Lg		07 46 07.1	
	18nm,1.3s						
MK09	Makanchi Array	7.42	206	⇑Pn	Pn	07 44 44.0	0.0
	2.3nm,0.6s						
MK09				⇓Sn	Sn	07 46 08.7	-0.2
	5.4nm,0.8s						
MK09				⇑Lg		07 46 51.2	
	6.6nm,0.7s						
VOSK	Vostochnaya	9.69	272	⇓Pn	Pn	07 45 15.6	+0.5
	1.4nm,0.8s						
VOSK				⇑Sn	Sn	07 47 04.4	-0.2
	2.3nm,0.6s						
BVA0	Borovoye Array	9.99	274	⇓Pn	Pn	07 45 17.9	-1.3
	0.1nm,0.5s,baz=78,slow=12,SNR=6.9						
BVA0				⇑Sn	Sn	07 47 12.6	+0.7
	1.1nm,1.4s						
ZRNK	Zerenda	10.82	274	⇑Pn	Pn	07 45 30.3	-0.4
	1.8nm,1.3s						
ZRNK				⇑Sn	Sn	07 47 33.4	+0.8
	7.0nm,1.9s						

KRSC 14 07:47:53, 50.17N×153.17E, h290km, ML4.0, Kuril Islands

*ISCJB **14** 07:51:19.4±0.5, 0.3N±0.1×170W±0.1, h10km, mb4.2/12, MS3.7/8, Error ellipse: s-maj=22.9km s-min=10.6km az=119.2*

*IDC **14** 07:51:19.7±0.7, 0.20N×16.97W, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.0/25, mbtmp4.1/11, ML4.2/1, MS3.6/9, Ms1 3.6/9, ms1mx3.4/25, Error ellipse: s-maj=31.0km s-min=16.4km az=149.0*

*NEIC **14** 07:51:21.1±0.4, 0.21N×16.95W, h10km, mb4.7/2, Error ellipse: s-maj=17.8km s-min=8.1km az=149.0*

ISC 14 07:51:21.6±0.5**, 0.2N**±0.1×**16.9W**±0.1**, h10km, n20, σ0.70**/15**, mb4.2**/12**, MS3.7**/8**, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro	13.65	62	Pn	Pn	07 54 33.1	-2.0
	1.2nm,0.3s,baz=231,slow=14,SNR=9.1						
DBIC				LR	LR	07 58 47.5	
	comp=Z,227nm,20.8s,baz=280,slow=33						
DBIC	Dimbokro	13.65	62	ePn	Pn	07 54 34.0	-1.1
TOA0	Torodi Ar. Sit	22.49	54	eP	P	07 56 21.6	+0.5
TORD	Torodi Ar. Bea	22.49	54	P	P	07 56 20.3	-0.8
	8.7nm,0.9s,mb4.2,baz=238,slow=11,SNR=16						
TORD				LR	LR	08 04 17.7	
	comp=Z,153nm,18.5s,MS3.5,baz=190,slow=34						
BDFB	Brasilia	34.50	241	P	P	07 58 09.5	-0.3
	7.7nm,1.1s,mb4.6,baz=134,slow=7.2,SNR=5.3						
BDFB				LR	LR	08 10 05.2	
	comp=Z,136nm,18.3s,MS3.7,baz=69,slow=33						
SIV	San Ignacio	46.44	248	P	P	07 59 48.4	0.0
	2.5nm,1.0s,mb4.1,baz=82,slow=2.9,SNR=8.7						
SAML	Samuel	46.95	258	eP	P	07 59 52.3	-0.2
	5.2nm,1.1s,mb4.4						
LBTB	Lobatse	48.16	125	P	P	08 00 01.7	-0.2
	3.0nm,0.7s,mb4.4,baz=298,slow=9.2,SNR=3.7						
LPAZ	La Paz	53.08	249	P	P	08 00 38.9	-0.1
	1.4nm,0.8s,mb4.0,baz=36,slow=7.6,SNR=8.6						
LPAZ				LR	LR	08 21 44.6	
	comp=Z,94nm,18.6s,MS3.9,baz=293,slow=34						
KMBO	Kilima Mbogo	54.20	92	P	P	08 00 48.9	+1.6
	3.1nm,1.0s,mb4.2,baz=265,slow=3.6,SNR=4.6						
KMBO				LR	LR	08 20 44.4	
	comp=Z,95nm,18.6s,MS3.9,baz=270,slow=32						
GERES	GERESS Array B	55.16	24	P	P	08 00 54.1	-0.1
	0.3nm,0.3s,mb3.9,baz=226,slow=7.2,SNR=4.2						
ROSC	El Rosal	57.51	276	LR	LR	08 24 28.6	
	comp=Z,55nm,18.2s,MS3.7,baz=48,slow=35						
CFAA	Coronel Fontan	57.90	232	LR	LR	08 23 37.4	
	comp=Z,16nm,19.4s,MS3.1,baz=34,slow=34						
BRTR	Keskin Array B	60.51	43	P	P	08 01 32.4	+0.6
	0.8nm,0.7s,mb3.9,baz=222,slow=8.3,SNR=4.6						
BRTR				LR	LR	08 26 40.0	
	comp=Z,44nm,19.5s,MS3.6,baz=29,slow=35						
FINES	FINESS Array B	69.22	21	P	P	08 02 29.3	+0.7
	1.3nm,0.7s,mb4.0,baz=251,slow=12,SNR=4.3						
ULM	Lac du Bonnet	82.76	321	LR	LR	08 35 05.3	
	comp=Z,48nm,18.9s,MS3.9,baz=288,slow=32						
MAW	Mawson	86.31	158	P	P	08 04 03.8	+0.1
	2.2nm,0.9s,mb4.4,baz=279,slow=10,SNR=4.9						
QSPA	South Pole Qui	90.29	180	eP	P	08 04 22.3	-0.3
	7.0nm,1.1s,mb4.9						
ASAR	Alice Springs	143.34	132	PKhKP		08 10 52.4	
	1.2nm,0.7s,baz=225,slow=2.6,SNR=14						
WRA	Warramunga Arr	145.72	127	PKPbc	PKPbc	08 11 00.8	+0.1
	3.9nm,0.8s,baz=244,slow=2.7,SNR=22						

IDC 14 08:13:57.4±2.1**, 33.75S**×**109.60W, h0km, mb4.1**/3,

mb1 4.5/3, mb1mx3.9/17, mbtmp4.1/3, MS4.0/4, Ms1 4.0/4, ms1mx3.4/31, Error ellipse: s-maj=76.9km s-min=40.6km az=29.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	6.60	2	T		08 21 49.7	
	6.4nm,0.3s,baz=219,slow=10,SNR=3.9						
LVC	Limon Verde	37.33	83	LR	LR	08 32 06.1	
	comp=Z,128nm,21.6s,baz=188,slow=29						
RAR	Rarotonga	45.83	272	LR	LR	08 35 53.5	
	comp=Z,174nm,19.1s,baz=224,slow=29						
SIV	San Ignacio	46.99	80	P	P	08 22 30.3	+0.1
	0.9nm,0.8s,baz=189,slow=8.6,SNR=5.0						
ROSC	El Rosal	50.85	48	LR	LR	08 38 14.9	
	comp=Z,37nm,19.7s,baz=22,slow=29						
NVAR	Mina Array Bea	72.26	353	P	P	08 25 25.5	+1.0
	4.5nm,1.0s,baz=185,slow=7.7,SNR=22						
PDAR	Pinedale Array	76.14	0	P	P	08 25 46.3	-0.9
	1.9nm,1.0s,baz=152,slow=4.1,SNR=12						
PMG	Port Moresby	95.65	255	LR	LR	09 03 06.8	
	comp=Z,325nm,18.2s,baz=312,slow=31						
AKASG	Malin Array Be	145.65	48	PKPbc	PKPbc	08 33 36.6	-1.3
	0.3nm,0.3s,baz=278,slow=3.8,SNR=4.7						
SONM	Songino Array	149.63	308	PKPbc	PKPbc	08 33 48.0	-0.9
	1.3nm,0.9s,baz=88,slow=0.8,SNR=7.2						
BRTR	Keskin Array B	150.09	68	PKPbc	PKPbc	08 33 50.4	+0.3
	0.3nm,0.4s,baz=264,slow=4.3,SNR=2.7						

IDC 14 08:22:23.5±10.0, 2164S×17911W, h438km±101km, mb3.2/4, mb1 3.5/5, mb1mx3.3/13, mbtmp4.2/5, Error ellipse: s-maj=79.9km s-min=26.7km az=39.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	16.88	190	P	P	08 25 54.8	0.0
	1.1nm,0.3s,baz=289,slow=5.0,SNR=7.1						
STKA	Stephens Creek	36.37	245	P	P	08 28 47.5	-1.2
	1.3nm,0.5s,baz=84,slow=14,SNR=5.1						
ASAR	Alice Springs	43.26	258	P	P	08 29 45.2	+0.7
	3.9nm,0.8s,baz=101,slow=7.7,SNR=39						
WRA	Warramunga Arr	43.43	263	P	P	08 29 46.4	+0.5
	1.2nm,0.4s,baz=94,slow=7.9,SNR=57						
VNDA	Vanda	56.69	185	P	P	08 31 23.4	-0.3
	0.6nm,0.6s,baz=356,slow=7.0,SNR=6.5						
AKASG	Malin Array Be	143.49	330	PKP	PKPdf	08 41 05.8	-1.3
	1.2nm,0.4s,baz=43,slow=3.8,SNR=8.0						
BRTR	Keskin Array B	146.81	310	PKPbc	PKPbc	08 41 15.1	-0.3
	0.6nm,0.5s,baz=101,slow=3.9,SNR=3.7						

ISCJB 14 08:50:32.2±0.7, 3247N±003×115.13W±003, h9km±5km, Error ellipse: s-maj=6.1km s-min=3.4km az=118.7
ECX 14 08:50:33.6±0.6, 3244N×115.15W, h8km, MD3.6, ML3.6
NEIC 14 08:50:33.6, 3244N×115.15W, h14km, MD3.5(ECX), ML3.3(PAS), After ECX.
ISC 14 08:50:32.5±0.5, 3247N±003×11515W±003, h8km±4km, n30, σ1^{s}06/47, 5C-10D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COA	Coachella	0.39	4	⇓eP	Pg	08 50 41.0	+0.9
PLT	Pilot Knob	0.44	54	⇓eP	Pg	08 50 42.2	+1.1
SGL	Mount Signal	0.51	290	⇑eP	Pg	08 50 42.6	+0.2
YMD	Yuma Desert	0.52	81	⇓eP	Pg	08 50 42.2	-0.4
GLA	Glamis	0.64	25	ePg	Pg	08 50 44.4	-0.5
GLA				eSg	Sg	08 50 54.1	+0.9
GLA	Glamis	0.64	25	⇓P	Pg	08 50 44.6	-0.3
	baz=0.7						
GLA				⇑S	Sg	08 50 54.1	+0.9
	baz=0.7						
YUH	Yuha Desert	0.67	285	⇑eP	Pg	08 50 45.2	-0.3
RMX	La Rumorosa	0.79	280	eP	Pg	08 50 47.6	-0.2
RMX				eS	Sg	08 50 58.9	+0.8
RMX				⇓e		08 51 00.6	
	comp=E,2μm,0.6s						
RDX	Rancho Dowling	0.86	232	eP	Pg	08 50 48.5	-0.6
RDX				eS	Sg	08 50 59.9	-0.5
RDX				⇑e		08 51 03.4	
	comp=N,2μm,1.0s						
CBX	Cerro Bola	1.29	263	eP	Pn	08 50 56.0	-0.9
CBX				eS	Sb	08 51 13.9	+0.2
Y12C	Blythe	1.38	22	P	Pn	08 50 53.0	-5.1
	baz=1.4						
ENX	Ensenada	1.41	246	eP	Pn	08 50 57.7	-0.9
ENX				eS	Sb	08 51 18.3	+1.1
SPX	San Pedro Mart	1.45	191	eP	Pn	08 50 58.6	-0.4
SPX				eS	Sn	08 51 19.4	+1.1
ECNX	Esteban Cantu	1.47	237	eP	Pn	08 50 58.4	-0.9
ECNX				eP		08 50 58.8	
ECNX				eS	Sn	08 51 18.1	-0.7
ECNX				eS	Sn	08 51 18.3	-0.5
PBX	Punta Banda	1.52	242	ePN	Pn	08 51 00.7	+0.6
PBX				eS	Sn	08 51 19.9	-0.2
PFO	Pinyon Flat Ob	1.57	316	ePn	Pn	08 51 01.0	+0.2
PFO				ePg	Pg	08 51 04.6	+1.9
PFO				eSn	Sg	08 51 35.3	+12
PFO	Pinyon Flat Ob	1.57	316	⇓P	Pn	08 50 58.6	-2.1
	baz=1.6						
109C	Camp Elliot, M	1.70	285	P	Pn	08 50 58.7	-3.8
	baz=1.7						
Y14A	Wickenburg	2.32	50	⇓P	Pn	08 51 10.5	-0.5
	baz=2.3						
115A	Sonoran Desert	2.48	84	⇑P	Pn	08 51 11.2	-2.0
	baz=2.5						
W13A	Hualapai Mount	2.82	22	⇓P	Pn	08 51 18.1	+0.1
	baz=2.9						
W14A	Seligman	3.23	32	⇓P	Pn	08 51 23.4	-0.1
	baz=3.3						
V12A	Nelson	3.26	4	⇓P	Pn	08 51 24.0	+0.1
	baz=3.3						
TUC	Tucson	3.70	91	ePn	Pn	08 51 29.8	-0.2
TUC				ePg	Pg	08 51 42.6	-0.8
TUC				eSn	Sn	08 52 16.2	+2.4
WUAZ	Wupatki	4.37	45	ePn	Pn	08 51 39.9	+0.7
WUAZ				eSn	Sg	08 52 52.4	-0.4
CCUT	Cedar City	5.28	16	ePn	Pn	08 51 55.5	+3.8
CCUT				eSn	Sg	08 53 19.8	-2.1
ARUT	Antelope Range	5.49	14	ePn	Pn	08 51 59.0	+4.5
ARUT				eSn	Sb	08 53 12.3	-2.2
MVU	Marysvale	6.48	21	ePn	Pn	08 52 11.0	+2.8
	comp=N,8.5nm,0.6s						
MSU	Marysvale	6.50	21	ePn	Pn	08 52 12.7	+4.3
MVCO	Mesa Verde	7.23	47	ePn	Pn	08 52 19.4	+0.9

IDC 14 08:52:34.8±1.1, 11.13S×164.56E, h0km, mb4.1/7, mb1 4.4/9, mb1mx4.2/16, mbtmp4.2/9, ML4.6/2, MS3.6/7, Ms1 3.6/7, ms1mx3.2/24, Error ellipse: s-maj=31.2km s-min=22.7km az=157.0
ISCJB 14 08:52:37.7±5.1, 113S±0.1×164.48E±0.10, h28km±36km, mb4.1/8, MS3.7/4, Error ellipse: s-maj=24.0km s-min=12.3km az=62.5
NEIC 14 08:52:40.1±4.9, 11.16S×164.55E, h35km±35km, mb4.4/2, Error ellipse: s-maj=19.6km s-min=15.1km az=212.0
ISC 14 08:52:39.7±5.4, 112S±01×16453E±010, h29km±39km, n16, σ0^{s}94/12, mb4.1/8, MS3.7/4, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.83	291	Pn	Pn	08 53 50.6	+0.2
	55nm,0.3s,baz=102,slow=5.8,SNR=14						
HNR				Sn	Sn	08 54 45.4	+0.1
	53nm,0.3s,baz=266,slow=19,SNR=4.9						
HNR				LR	LR	08 55 11.2	
	comp=Z,236nm,21.0s,baz=175,slow=32						
DZM	Mont Dzumac	10.99	171	Pn	Pn	08 55 15.5	+0.5
	1.9nm,0.3s,baz=349,slow=20,SNR=22						
DZM				LR	LR	08 58 51.7	
	comp=Z,294nm,18.8s,baz=22,slow=34						
CTA	Charters Tower	19.69	241	LR	LR	09 03 54.5	
	comp=Z,95nm,18.1s,baz=225,slow=34						
CTAO	Charters Tower	19.69	241	eP	Pn	08 57 05.6	-2.5
	10.0nm,1.0s						
AFI	Afiamalu	23.29	99	LR	LR	09 04 56.7	
	comp=Z,92nm,20.8s,MS3.2,baz=153,slow=32						
WRAB	Tennant Creek	30.31	250	eP	P	08 58 50.9	+2.4
	17nm,1.2s,mb4.7						
WRA	Warramunga Arr	30.32	250	P	P	08 58 48.3	-0.3
	5.5nm,1.1s,mb4.2,baz=81,slow=9.1,SNR=11						
GUMO	Guam	31.39	321	LR	LR	09 09 45.0	
	comp=Z,195nm,19.2s,MS3.8,baz=116,slow=33						
ASAR	Alice Springs	31.67	243	P	P	08 59 00.5	0.0
	1.9nm,0.9s,mb3.9,baz=63,slow=10,SNR=8.5						
RAR	Rarotonga	35.63	111	LR	LR	09 10 22.6	
	comp=Z,143nm,20.0s,MS3.7,baz=257,slow=30						
FITZ	Fitzroy Crossi	38.20	255	P	P	08 59 56.4	-0.3
	4.5nm,0.9s,mb4.2,baz=157,slow=7.7,SNR=4.4						
VNDA	Vanda	66.35	181	LR	LR	09 28 17.4	
	comp=Z,85nm,19.9s,MS4.0,baz=328,slow=32						
SONM	Songino Array	78.06	324	P	P	09 04 35.9	+0.3
	0.9nm,0.8s,mb3.7,baz=149,slow=5.5,SNR=6.5						
NVAR	Mina Array Bea	87.02	50	P	P	09 05 22.4	+0.2
	0.8nm,0.9s,mb4.0,baz=224,slow=5.1,SNR=6.3						
MKAR	Makanchi Array	92.80	317	P	P	09 05 49.6	+0.2
	0.6nm,0.7s,mb4.1,baz=110,slow=5.9,SNR=5.0						
PDAR	Pinedale Array	94.52	47	P	P	09 05 56.3	-1.0
	0.6nm,0.9s,mb4.0,baz=354,slow=1.5,SNR=3.8						

NAO 14 09:00:10.5±1.0, 6466N×3095E, ML2.0
BER 14 09:00:12.4±3.8, 6473N×3059E, h0km, ML2.0(NAO), Suspected explosion
HEL 14 09:00:14.0±0.8, 6485N×3060E, h0km, ML2.0(NAO), Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	Apatity Array	2.93	18	eP	Pn	09 01 01.2	-0.6
APA0				eSG	Sg	09 01 45.3	-2.9
APA0	Apatity Array	2.93	18	Pn	Pn	09 01 01.2	-0.6
	baz=197,slow=14						
APA0				Lg		09 01 45.3	
	baz=194,slow=37						
FIA0	FINESS Array S	3.99	213	eP	Pn	09 01 18.0	+1.6
FIA0				ePB	Pb	09 01 20.7	-4.5
FIA0				e		09 01 31.6	
FIA0				eSG	Sg	09 02 17.2	-5.0
FIA0				e		09 02 20.6	
FIA0				eRG		09 02 27.6	
FIA0	FINESS Array S	3.99	213	Pn	Pn	09 01 12.1	-4.3
	baz=45,slow=12						
FIA0				Lg		09 02 10.7	
	baz=41,slow=28						
ARA0	ARCESS Array S	5.10	339	Pn	Pn	09 01 30.0	-1.7
	baz=152,slow=14						
ARA0				Sn	Sn	09 02 30.1	-1.3
	baz=150,slow=28						
ARA0				Lg		09 02 50.8	
	baz=156,slow=28						
ARA0	ARCESS Array S	5.10	339	eP	Pn	09 01 30.0	-1.7
ARA0				eS	Sn	09 02 30.1	-1.3
ARA0				eSG	Sg	09 02 50.8	-7.2

ISCJB 14 09:17:51.3±1.6, 6.1N±0.1×1268E±03, h51km±14km, mb4.0/10, MS3.9/3, Error ellipse: s-maj=45.4km s-min=9.8km az=134.3
MAN 14 09:17:51.1, 6.13N×126.89E, h29km, mb3.6, ML4.7, MS1.8
NEIC 14 09:17:54.1±1.5, 585N×126.14E, h53km±17km, mb4.1/2, Error ellipse: s-maj=54.0km s-min=10.6km az=70.0
IDC 14 09:17:57.0±8.3, 585N×126.26E, h83km±76km, mb3.7/9, mb1 3.8/9, mb1mx3.7/19, mbtmp4.0/9, MS3.8/3, Ms1 3.8/3, ms1mx3.1/34, Error ellipse: s-maj=72.3km s-min=17.2km az=73.0
ISC 14 09:17:52.6±1.7, 61N±01×1268E±03, h47km±15km, n24, σ1^{s}22/22, mb4.0/10, MS3.9/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.98	329	eP	Pn	09 18 09.4	-0.6
MATI				eS	Sn	09 18 19.8	-3.0
DAV	Davao City (W)	1.52	309	eP	Pn	09 18 16.5	-0.9
DAV	Davao City (W)	1.52	309	ePn	Pn	09 18 16.3	-1.1
BUKP	Musuan	2.45	316	eP	Pn	09 18 30.6	+0.5
CGP	Cagayan de Oro	3.11	319	eP	Pn	09 18 40.2	+1.0
CGP				eS	Sn	09 19 17.7	+2.6
KAKA	Kakadu	19.52	163	eP	Pn	09 22 17.2	-0.4
	6.3nm,0.6s						
FITZ	Fitzroy Crossi	24.07	183	eP	P	09 23 02.7	-0.8
	9.1nm,1.1s,mb4.1						
FITZ	Fitzroy Crossi	24.07	183	P	P	09 23 03.1	-0.4
	2.0nm,0.6s,mb3.7,baz=50,slow=10,SNR=7.5						
WRA	Warramunga Arr	26.93	164	P	P	09 23 30.9	+1.5
	1.0nm,0.5s,mb3.6,baz=343,slow=10.0,SNR=6.9						
WB2	Warramunga Arr	26.93	164	eP	P	09 23 29.9	+0.5
AS31	Alice Springs	30.39	167	eP	P	09 24 01.5	+1.3
ASPA	Alice Springs	30.39	167	eP	P	09 24 01.5	+1.3
ASAR	Alice Springs	30.39	167	P	P	09 23 59.9	-0.4
	0.6nm,0.5s,mb3.6,baz=346,slow=6.8,SNR=11						
ASAR				PcP	PcP	09 26 59.4	+0.3
	0.4nm,0.4s,baz=328,slow=2.0,SNR=4.9						
NWAO	Narrogin (SRO)	39.85	193	P	P	09 25 19.1	-2.5
	12nm,1.0s,mb4.6,baz=63,slow=4.5,SNR=4.6						
STKA	Stephens Creek	40.33	160	P	P	09 25 24.8	-0.6
	0.9nm,0.4s,mb3.9,baz=336,slow=15,SNR=3.1						
SONM	Songino Array	45.08	341	P	P	09 26 05.7	+1.7
	0.2nm,0.3s,mb3.4,baz=163,slow=15,SNR=2.8						
MKAR	Makanchi Array	55.65	324	P	P	09 27 23.9	0.0
	0.7nm,0.5s,mb4.0,baz=124,slow=8.4,SNR=9.0						
KDAK	Kodiak Island	79.89	32	LR	LR	10 05 51.2	
	comp=Z,45nm,18.5s,MS3.9,baz=107,slow=36						
JOF	Joensuu	87.10	333	ep	P	09 30 31.5	-1.9
	4.4nm,0.9s,mb4.7						
ARCES	ARCESS Array B	88.25	340	P	P	09 30 38.6	-0.3
	3.2nm,0.9s,mb4.6,baz=89,slow=6.2,SNR=3.7						
FINES	FINESS Array B	89.78	332	P	P	09 30 45.6	-0.4
	1.0nm,0.9s,mb4.2,baz=64,slow=6.6,SNR=5.2						
HFS	Hagfors	95.95	332	LR	LR	10 19 30.8	
	comp=Z,71nm,19.6s,MS4.2,baz=135,slow=38						
NOA	NORSAR Array B	96.69	334	LR	LR	10 16 05.2	
	comp=Z,26nm,19.2s,MS3.7,baz=70,slow=36						
TORD	Torodi Ar. Bea	122.19	290	PKP	PKPdf	09 36 42.8	+0.6
	0.6nm,0.6s,baz=45,slow=1.9,SNR=6.1						

ISCJB 14 09:34:45.9±0.3, 4686N±002×6871W±002, h10km, Error ellipse: s-maj=3.1km s-min=2.4km az=16.8
OTT 14 09:34:47.7±0.1, 4685N×6865W, h5km, MN4.0/23
OTT Maine, felt 64km southwest from Edmundston, Nb Eastern Background Seismic Zone.
NEIC 14 09:34:49.3, 4693N×6868W, h24km, MN4.0(OTT), MW3.6(WES), MW3.5(SLM), After WES.
NEIC Felt [III] at Fort Kent and Saint Francis. Also felt at Bridgewater, Caribou, Dickey, Madawaska, Mapleton, Portage, Sinclair, Wallagrass and Washburn.
ISC 14 09:34:47.2±0.2, 4689N±002×6868W±002, h10km, n59, σ1^{s}19/101, 11C-17D, Maine

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQI	Presque Isle	0.51	115	⇓iP	Pg	09 34 59.4	+2.3
A21	Saint Andre	1.07	320	⇓PG	Pg	09 35 08.0	+0.3
A21				Trac		09 35 25.3	
	comp=Z,674nm,0.2s						
A16	Riviere Ouelle	1.07	303	⇓PG	Pg	09 35 08.2	+0.3
A16				SG	Sg	09 35 22.6	+0.7
A16				Trac		09 35 23.9	
	comp=Z,2μm,0.3s						
A16	Riviere Ouelle	1.07	303	⇓P	Pg	09 35 08.2	+0.3
A16				Sg	Sg	09 35 22.6	+0.7
A11	Saint Roch-des	1.09	290	⇓PG	Pg	09 35 08.8	+0.6
A11				SG	Sg	09 35 23.1	+0.7
A11				SG	Sg	09 35 23.6	+1.1
A11				Trac		09 35 27.2	
	comp=Z,914nm,0.2s						
A11	Saint Roch-des	1.09	290	⇓P	Pg	09 35 08.8	+0.6
A11				Sg	Sg	09 35 23.1	+0.7
A64	Saint Simeon	1.25	319	⇓PG	Pg	09 35 10.6	-0.5
A64				SG	Sg	09 35 28.9	+1.5
A64				Trac		09 35 29.5	
	comp=Z,523nm,0.2s						
A61	Sainte Mathild	1.25	311	⇓PG	Pg	09 35 10.8	-0.4
A61				SG	Sg	09 35 26.8	-0.6
LMQ	La Malbaie	1.30	301	⇓PG	Pn	09 35 11.7	+0.3
LMQ				SG	Sg	09 35 28.4	-0.7
LMQ				Trac		09 35 31.1	
	comp=Z,982nm,0.1s						
LMQ	La Malbaie	1.30	301	⇓P	Pn	09 35 11.7	+0.3
LMQ				Sg	Sg	09 35 28.4	-0.7
PKME	Peaks-Kenny Pk	1.68	195	ePn	Pn	09 35 18.2	+1.7
PKME				eSn	Sn	09 35 41.1	+3.0
QCQ	Quebec	1.78	267	⇑PN	Pn	09 35 19.2	+1.2
QCQ				SN	Sn	09 35 43.0	+2.2
BATG	Bathurst New B	1.83	77	⇓PN	Pn	09 35 19.1	+0.4
BATG				SN	Sn	09 35 41.2	-0.8
BATG				Trac		09 35 50.0	
	comp=Z,319nm,0.1s						
DAQ	Lac Daran	2.04	303	⇑PN	Pn	09 35 22.3	+0.7
DAQ				SN	Sn	09 35 48.7	+1.5
DAQ				Trac		09 35 51.3	
	comp=Z,889nm,0.3s						
DAQ	Lac Daran	2.04	303	⇑P	Pn	09 35 22.3	+0.7
DAQ				Sn	Sn	09 35 48.7	+1.5
GGN	Saint George	2.19	143	⇓PN	Pn	09 35 24.4	+0.8
GGN				SN	Sn	09 35 50.4	-0.3
GGN				Trac		09 36 04.0	
	comp=Z,365nm,0.2s						
GGN	Saint George	2.19	143	⇓Pn	Pn	09 35 24.4	+0.8
GGN				Sn	Sn	09 35 50.4	-0.3
GSQ	Grosses Roches	2.29	27	⇑PN	Pn	09 35 26.9	+2.0
GSQ				SN	Sn	09 35 54.7	+1.6
GSQ				Trac		09 36 05.2	
	comp=Z,368nm,0.3s						
GSQ	Grosses Roches	2.29	27	⇑Pn	Pn	09 35 26.9	+2.0
GSQ				Sn	Sn	09 35 54.7	+1.6
CNQ	Baie Comeau	2.45	9	⇑PN	Pn	09 35 27.8	+0.6
CNQ				SN	Sn	09 35 55.9	-1.3
CNQ				Trac		09 36 04.4	
	comp=Z,269nm,0.2s						
CNQ	Baie Comeau	2.45	9	⇑Pn	Pn	09 35 27.8	+0.6
CNQ				Sn	Sn	09 35 55.9	-1.3
GASG	Gaspe, Quebec	2.69	39	PN	Pn	09 35 31.5	+1.0
ICQ	Pointe Anglais	2.80	19	PN	Pn	09 35 33.0	+1.0
ICQ				SN	Sn	09 36 05.2	-0.6
ICQ				Trac		09 36 16.8	
	comp=Z,124nm,0.1s						
ICQ	Pointe Anglais	2.80	19	Pn	Pn	09 35 33.0	+1.0
ICQ				Sn	Sn	09 36 05.2	-0.6
DPQ	Saint Jean	2.82	267	⇑PN	Pn	09 35 32.7	+0.4
DPQ				SN	Sn	09 36 08.9	+2.6
DPQ				Trac		09 36 14.9	
	comp=Z,289nm,0.2s						
DPQ	Saint Jean	2.82	267	⇑Pn	Pn	09 35 32.7	+0.4
DPQ				Sn	Sn	09 36 08.9	+2.6
LMN	Caledonia Moun	2.88	110	⇓PN	Pn	09 35 33.4	+0.3
LMN				SN	Sn	09 36 06.2	-1.5
LMN				Trac		09 36 28.8	
	comp=Z,135nm,0.3s						
LMN	Caledonia Moun	2.88	110	⇓Pn	Pn	09 35 33.4	+0.3
LMN				Sn	Sn	09 36 06.2	-1.5
MOQ	Mont Orford	2.94	239	PN	Pn	09 35 34.8	+0.9
MOQ				SN	Sn	09 36 12.8	+3.5
MOQ				Trac		09 36 24.2	
	comp=Z,182nm,0.3s						
MOQ	Mont Orford	2.94	239	Pn	Pn	09 35 34.8	+0.9
MOQ				Sn	Sn	09 36 12.8	+3.5
LBNH	Lisbon	3.49	222	⇑PN	Pn	09 35 41.6	+0.1
LBNH				SN	Sn	09 36 19.9	-2.9
LBNH	Lisbon	3.49	222	ePn	Pn	09 35 41.4	-0.1
SMQ	Clarke City	3.59	21	⇑PN	Pn	09 35 43.5	+0.6
SMQ				SN	Sn	09 36 22.6	-2.6
SMQ				Trac		09 36 42.8	
	comp=Z,179nm,0.3s						
MNQ	Manicouagan	3.65	359	PN	Pn	09 35 43.7	0.0
MNQ				SN	Sn	09 36 24.8	-2.0
MNQ				Trac		09 36 40.8	
	comp=Z,124nm,0.2s						
MNT	Montreal	3.70	250	PN	Pn	09 35 44.5	+0.1
MNT				SN	Sn	09 36 25.7	-2.3
MNT				Trac		09 36 43.3	
	comp=E,77nm,0.2s						
MALG	Malagash, Nova	3.87	105	⇓PN	Pn	09 35 47.2	+0.5
MALG				SN	Sn	09 36 31.9	-0.3
TIGG	Tignish, PEI	3.89	86	PN	Pn	09 35 38.0	-8.9
TIGG				SN	Sn	09 36 13.5	-19
MRHQ	Morin Heights	3.96	257	PN	Pn	09 35 47.7	-0.2
MRHQ				SN	Sn	09 36 33.9	-0.4
FRNY	Flat Rock	3.99	241	ePn	Pn	09 35 48.6	+0.2
HNH	Hanover	4.07	220	ePn	Pn	09 35 49.4	-0.1
TRQ	Mont Tremblant	4.11	263	PN	Pn	09 35 49.8	-0.2
TRQ				SN	Sn	09 36 36.2	-1.9
TRQ				Trac		09 36 57.6	
	comp=Z,153nm,0.3s						
HAL	Halifax	4.21	120	⇓PN	Pn	09 35 52.5	+1.1
MIV	Mineville/With	4.42	232	PN	Pn	09 35 54.6	+0.3
MIV	Mineville/With	4.42	232	ePn	Pn	09 35 55.4	+1.1
ALFO	Alfred	4.48	256	PN	Pn	09 35 54.6	-0.5
LONY	Lake Ozonia	4.71	243	ePn	Pn	09 35 58.2	-0.1
MADG	Magdalen Islan	4.79	83	PN	Pn	09 36 00.3	+0.9
GAC	Glen Almond	4.86	258	PN	Pn	09 35 59.8	-0.5
GAC				SN	Sn	09 36 54.8	-1.7
GAC				Trac		09 37 21.2	
	comp=Z,100nm,0.3s						
NCB	Newcomb	4.87	235	ePn	Pn	09 36 00.1	-0.3
GRQ	Grand Remous	4.94	269	PN	Pn	09 36 00.4	-1.1
GRQ				Trac		09 37 21.4	
	comp=Z,153nm,0.3s						
ACCN	Adirondack Com	4.97	227	Pn	Pn	09 36 01.4	-0.4
WBO	Williamsburg	4.97	250	PN	Pn	09 36 02.0	+0.2
WBO				SN	Sn	09 36 57.9	-1.4
WBO				Trac		09 37 21.9	
	comp=Z,66nm,0.3s						
WBO	Williamsburg	4.97	250	Pn	Pn	09 36 02.0	+0.2
WBO				Sn	Sn	09 36 57.9	-1.4
OTT	Ottawa	5.11	256	Trac		09 37 22.8	
	comp=Z,69nm,0.2s						
GBN	Guysborough	5.20	104	PN	Pn	09 36 05.1	+0.1
GBN				SN	Sn	09 37 02.2	-2.8
CHEG	Cheticamp, Nov	5.50	88	PN	Pn	09 36 09.0	0.0
CHEG				SN	Sn	09 37 09.4	-2.9
CRLO	Chalk River	6.07	265	PN	Pn	09 36 15.1	-1.8
CRLO				SN	Sn	09 37 23.7	-2.7
CRLO				Trac		09 37 54.5	
	comp=Z,100nm,0.3s						
CRLO	Chalk River	6.07	265	Pn	Pn	09 36 15.1	-1.8
CRLO				Sn	Sn	09 37 23.7	-2.7
SCHQ	Schefferville	8.04	8	ePn	Pn	09 36 42.5	-1.5
	6.8nm,0.3s						

ISCJB 14 09:53:31.1±1.3, 1324N±0.10×1452E±03, h79km±9km, mb3.9/10, Error ellipse: s-maj=43.4km s-min=16.1km az=5.7
IDC 14 09:53:31.6±1.4, 1329N×145.17E, h66km±9km, mb3.6/9, mb1 3.8/9, mb1mx3.6/20, mbtmp3.9/9, Error ellipse: s-maj=36.7km s-min=15.4km az=91.0
NEIC 14 09:53:32.2±1.1, 1326N×145.16E, h76km±8km, mb4.5/1, Error ellipse: s-maj=29.5km s-min=10.8km az=93.0
NEIC Felt at Agat.
ISC 14 09:53:32.1±1.5, 1328N±010×1452E±03, h73km±11km, n14, σ0^{s}56/14, mb3.9/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.46	313	P	Pn	09 53 44.8	0.0
	4μm,0.3s,baz=138,slow=4.0,SNR=1700						
GUMO				S	Sn	09 53 54.1	0.0
	baz=180,slow=20						
GUMO	Guam	0.46	313	P	Pn	09 53 44.8	0.0
GUMO				S	Sn	09 53 54.1	0.0
WRAB	Tennant Creek	34.69	198	eP	P	10 00 14.2	-0.5
	6.6nm,1.1s,mb4.4						
WRA	Warramunga Arr	34.70	198	P	P	10 00 15.0	+0.1
	0.9nm,0.7s,mb3.7,baz=21,slow=9.4,SNR=12						
WRA				PcP	PcP	10 02 48.7	+1.4
	0.2nm,0.7s,baz=21,slow=4.2,SNR=4.7						
ASAR	Alice Springs	38.35	197	P	P	10 00 46.2	+0.4
	0.5nm,0.6s,mb3.5,baz=20,slow=10,SNR=12						
STKA	Stephens Creek	45.03	184	P	P	10 01 40.6	+0.2
	0.9nm,0.6s,mb3.7,baz=5.7,slow=10,SNR=3.2						
SONM	Songino Array	47.18	325	P	P	10 01 58.3	+1.1
	0.2nm,0.4s,mb3.2,baz=133,slow=9.6,SNR=2.3						
SONM				PcP	PcP	10 03 28.6	+0.8
	0.8nm,0.8s,baz=144,slow=3.5,SNR=4.5						
MKAR	Makanchi Array	61.94	316	P	P	10 03 44.3	+0.1
	0.4nm,0.5s,mb3.7,baz=89,slow=8.3,SNR=5.0						
KDAK	Kodiak Island	64.16	32	P	P	10 03 59.1	+0.3
	3.3nm,0.7s,mb4.3,baz=297,slow=16,SNR=4.3						
YKA	Yellowknife Ar	82.98	27	P	P	10 05 49.3	+0.2
	0.9nm,0.6s,mb3.8,baz=286,slow=5.2,SNR=13						
ARCES	ARCESS Array B	87.48	342	P	P	10 06 11.3	-0.3
	2.4nm,0.8s,mb4.2,baz=82,slow=9.9,SNR=4.2						
FINES	FINESS Array B	91.58	335	P	P	10 06 29.4	-1.4
	0.6nm,0.3s,mb4.3,baz=72,slow=7.4,SNR=5.9						

TORD	**Torodi Ar. Bea**	**135.31**	**305**	PKP	PKPdf	10 12 43.9	+0.5
	0.3nm,0.5s,baz=28,slow=2.8,SNR=5.4						
DBIC	**Dimbokro**	**144.27**	**302**	PKP	PKPdf	10 12 59.2	-0.4
	5.8nm,0.5s,baz=137,slow=7.2,SNR=12						

*IDC **14** 09:57:13.7±0.7, 3720N×2235E, h60km±7km, mb3.6/12, mb1 3.8/17, mb1mx3.7/26, mbtmp3.9/17, MS2.7/2, Ms1 2.7/2, ms1mx2.2/32, Error ellipse: s-maj=15.2km s-min=9.1km az=43.0*
*NEIC **14** 09:57:14.6, 3727N×2230E, h42km, MG3.9(ATH), After ATH.*
*PDG **14** 09:57:15.8±0.3, 37.11N×1970E, h20km±1km*
*CSEM **14** 09:57:15.1±0.2, 3720N×2238E, h30km, ML3.9, Error ellipse: s-maj=4.5km s-min=1.8km az=1.0*
*MOS **14** 09:57:16.7±1.9, 3738N×2247E, h69km, mb4.1/8, Error ellipse: s-maj=7.6km s-min=4.2km az=102.2*
*THE **14** 09:57:16.0, 3726N×2245E, h22km, ML4.1*
*HLW **14** 09:57:25.6, 3637N×2332E, h33km, Mb4.1*
ATH 14 09:57:14.6, 3727N×2230E, h42km±1km**, MD4.1**/21**, ML3.9, 20C-14D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.31**	**253**	⇑*i*P	Pn	09 57 23.3	+0.2
ITM				*e*S	Sn	09 57 30.3	+1.2
VLI	**Veliai**	**0.75**	**137**	*e*P	Pn	09 57 30.5	+1.7
VLI				*e*S	Sn	09 57 41.5	+2.5
RLS	**Riolos of Patr**	**1.03**	**320**	*e*P	Pn	09 57 34.4	+1.9
MGER	**Gerania Oros**	**1.04**	**47**	*e*P	Pn	09 57 34.0	+1.2
NAIG	**Nisos Aigina**	**1.06**	**62**	*e*P	Pn	09 57 34.0	+1.0
KYTH	**Kithira**	**1.15**	**149**	*e*P	Pn	09 57 35.5	+1.3
KVR	**Kavouri**	**1.29**	**64**	*e*P	Pn	09 57 37.0	+0.8
ATH	**Athens Observa**	**1.32**	**58**	⇑*i*P	Pn	09 57 38.3	+1.7
ATH				*e*S	Sn	09 57 55.1	+2.1
PTL	**Penteli**	**1.47**	**57**	*e*P	Pn	09 57 39.0	+0.5
LKR	**Lokris**	**1.48**	**22**	*e*P	Pn	09 57 40.3	+1.5
VLS	**Valsamata**	**1.63**	**304**	*e*P	Pn	09 57 42.8	+2.0
EVR	**Evrytania**	**1.69**	**347**	*e*P	Pn	09 57 43.5	+1.9
AGG	**Agios Georgios**	**1.75**	**1**	*e*Pb	Pn	09 57 44.5	+2.0
AGG				*e*Sb	Sn	09 58 07.0	+3.6
LKD	**Levkas**	**1.94**	**318**	*e*Pn	Pn	09 57 46.9	+1.8
LKD				*e*Sn	Sn	09 58 14.5	+6.4
LKD	**Levkas**	**1.94**	**318**	*e*Pn	Pn	09 57 46.8	+1.8
LKD				*e*Sn	Sn	09 58 14.5	+6.4
NEO	**Neokhori**	**2.16**	**19**	*e*P	Pn	09 57 49.6	+1.5
XOR	**Xorichti**	**2.21**	**18**	*e*Pn	Pn	09 57 50.9	+2.2
XOR				*e*Sn	Sn	09 58 17.1	+2.3
VAM	**Vamos**	**2.41**	**140**	*e*P	Pn	09 57 53.0	+1.5
APE	**Apeiranthos**	**2.59**	**93**	*e*Pn	Pn	09 57 55.0	+1.1
APE				*e*Sn	Sn	09 58 23.9	-0.3
APE	**Apeiranthos**	**2.59**	**93**	*e*P	Pn	09 57 55.0	+1.0
JAN	**Janina**	**2.64**	**335**	*e*P	Pn	09 57 56.6	+1.9
MEV	**Metsovon**	**2.65**	**342**	*e*Pn	Pn	09 57 58.0	+3.2
MEV				*e*Sn	Sn	09 58 29.6	+4.0
MEV	**Metsovon**	**2.65**	**342**	*e*Pn	Pn	09 57 58.0	+3.2
MEV				*e*Sn	Sn	09 58 29.6	+4.0
SANT	**Santorini**	**2.69**	**109**	*e*Pn	Pn	09 57 57.1	+1.8
SANT				*e*Sn	Sn	09 58 27.5	+0.8
IGT	**Igoumenitsa**	**2.74**	**326**	*e*Pn	Pn	09 58 00.2	+4.3
IGT				*e*Sn	Sn	09 58 33.6	+5.8
IGT	**Igoumenitsa**	**2.74**	**326**	*e*Pn	Pn	09 58 00.2	+4.2
IGT				*e*Sn	Sn	09 58 33.6	+5.8
GVD	**Gavdhos**	**2.83**	**149**	*e*P	Pn	09 57 59.0	+1.8
LIT	**Litokhoron**	**2.83**	**3**	*e*Pn	Pn	09 57 59.3	+2.1
LIT				*e*Sn	Sn	09 58 34.0	+3.9
PAIG	**Paliouri**	**2.87**	**22**	*e*Pn	Pn	09 57 59.2	+1.5
PAIG				*e*Sn	Sn	09 58 33.4	+2.5
PAIG	**Paliouri**	**2.87**	**22**	*e*Pn	Pn	09 57 59.2	+1.4
PAIG				*e*Sn	Sn	09 58 33.4	+2.4
IDI	**Anoyia**	**2.88**	**133**	P	Pn	09 57 56.9	-1.0
	8.5nm,0.3s,baz=314,slow=16,SNR=26						
IDI				S	Sn	09 58 29.5	-1.8
	27nm,0.3s,baz=315,slow=20,SNR=6.5						
KZN	**Kozani**	**3.06**	**352**	*e*P	Pn	09 58 02.9	+2.5
KEK	**Kerkira**	**3.13**	**322**	*e*P	Pn	09 58 02.6	+1.2
LSK	**Leskovik**	**3.17**	**336**	*i* Pn	Pn	09 58 03.3	+1.4
LSK	**Leskovik**	**3.17**	**336**	*e*Pn	Pn	09 58 03.3	+1.4
CHOS	**Chios island**	**3.17**	**68**	*e*Pn	Pn	09 58 03.8	+1.8
CHOS				*e*Sn	Sn	09 58 39.8	+1.2
PLG	**Polygyros**	**3.23**	**16**	*e*P	Pn	09 58 04.7	+2.0
OUR	**Ouranopolis**	**3.33**	**23**	*e*Pn	Pn	09 58 05.5	+1.4
OUR				*e*Sn	Sn	09 58 45.6	+3.1
NPS	**Neapolis**	**3.34**	**126**	*e*P	Pn	09 58 05.3	+1.0
HORT	**Hortiatis**	**3.38**	**10**	*e*Pn	Pn	09 58 06.7	+1.9
HORT				*e*Sn	Sn	09 58 46.5	+2.8
THE	**Thessaloniki**	**3.40**	**9**	*e*Pn	Pn	09 58 08.8	+3.7
THE				*e*Sn	Sn	09 58 47.4	+3.3
LIA	**Limnos Island**	**3.46**	**40**	*e*P	Pn	09 58 07.5	+1.5
URLA	**Izmir**	**3.57**	**71**	*i* P	Pn	09 58 09.1	+1.6
FNA	**Florina**	**3.58**	**349**	*e*Pn	Pn	09 58 09.1	+1.5
FNA				*e*Sn	Sn	09 58 52.6	+4.0
SOH	**Sokhos**	**3.64**	**13**	*e*Pn	Pn	09 58 10.9	+2.5
SOH				*e*Sn	Sn	09 58 54.0	+4.0
PRK	**Paraskevi**	**3.70**	**57**	*e*P	Pn	09 58 11.1	+1.9
ZKR	**Zakros**	**3.83**	**123**	*e*Pn	Pn	09 58 11.7	+0.7
ZKR				*e*Sn	Sn	09 58 55.6	+0.8
SRS	**Serrai**	**3.97**	**14**	*e*Pn	Pn	09 58 15.3	+2.4
SRS				*e*Sn	Sn	09 59 01.8	+3.6
AYVA	**Ayvalik**	**4.01**	**58**	*i* P	Pn	09 58 16.3	+2.8
OHR	**Ohrid**	**4.01**	**344**	*e*Pn	Pn	09 58 29.7	+16
VAY	**Valandovo**	**4.05**	**3**	*e*Pn	Pn	09 58 17.7	+3.6
VAY				*e*Sn	Sn	09 59 04.3	+4.1
VAY	**Valandovo**	**4.05**	**3**	*e*Pn	Pn	09 58 16.6	+2.6
KDAG	**Bornova**	**4.09**	**72**	*i* P	Pn	09 58 17.0	+2.4
BDRM	**Kayabasi**	**4.11**	**91**	*i* P	Pn	09 58 17.5	+2.6
RDO	**Rodhopi**	**4.62**	**32**	*e*P	Pn	09 58 23.3	+1.5
QSH	**Qafa e Shtames**	**4.63**	**337**	*e*Pn	Pn	09 58 14.0	-8.0
QSH				*i* Sn	Sn	09 59 17.0	+2.4
ALN	**Alexandroupoli**	**4.65**	**38**	*e*Pn	Pn	09 58 23.2	+0.9
ULC	**Ulcinj**	**5.25**	**334**	⇑*i*Pn	Pn	09 58 29.4	-1.0
ULC				*e*Sn	Sn	09 59 24.8	-4.9
DNZL	**Cakiroluk**	**5.38**	**83**	*i* P	Pn	09 58 35.9	+3.6
PVY	**Plav**	**5.61**	**342**	*e*Pn	Pn	09 58 38.1	+2.6
PVY				*e*Sn	Sn	09 59 39.5	+0.9
TTG	**Podgorica**	**5.66**	**337**	⇑*i*Pn	Pn	09 58 36.5	+0.4
TTG				*e*Sn	Sn	09 59 36.2	-3.6
BUM	**Brajici-Budva**	**5.67**	**334**	⇑*i*Pn	Pn	09 58 34.4	-1.8
BUM				*e*Sn	Sn	09 59 33.4	-6.6
IVA	**Berane**	**5.89**	**343**	⇑*i*Pn	Pn	09 58 41.4	+2.1
IVA				*e*Sn	Sn	09 59 45.9	+0.4
HCY	**Herceg Novi**	**5.94**	**332**	*e*Pn	Pn	09 58 36.8	-3.1
HCY				*e*Sn	Sn	09 59 38.4	-8.3
ULDT	**Uludag**	**6.07**	**60**	*i* P	Pn	09 58 44.8	+3.1
NKY	**Niksic**	**6.09**	**336**	⇑*i*Pn	Pn	09 58 42.1	+0.1
NKY				*e*Sn	Sn	09 59 44.9	-5.5
SLUM		**6.25**	**156**	⇓P	Pn	09 58 40.0	-4.2
SLUM				S	Sn	09 59 34.3	-20
VAE	**Valguarnera**	**6.29**	**274**	P	Pn	09 58 45.3	+0.6
	5.4nm,0.3s,baz=228,slow=2.2,SNR=11						
VAE				S	Sn	09 59 49.5	-5.7
	12nm,0.3s,baz=117,slow=19,SNR=5.0						
VAE	**Valguarnera**	**6.29**	**274**	P	Pn	09 58 45.3	+0.6
VAE				S	Sn	09 59 49.5	-5.8
BRY	**Bratogost**	**6.32**	**334**	*e*Pn	Pn	09 58 42.9	-2.3
BRY				*e*Sn	Sn	09 59 48.2	-7.8
TKTP	**Tekketepe**	**6.41**	**81**	*i* P	Pn	09 58 52.2	+5.7
PLE	**Pljevlja**	**6.45**	**341**	⇑*i*Pn	Pn	09 58 48.4	+1.5
PLE				*e*Sn	Sn	09 59 56.9	-2.3
UPM	**Unac-Piva**	**6.47**	**337**	⇑*i*Pn	Pn	09 58 47.5	+0.3
UPM				*e*Sn	Sn	09 59 55.4	-4.3
ISP	**Isparta**	**6.55**	**83**	*e*P	Pn	09 58 52.0	+3.7
ISP				pmax	pmax		
	comp=Z,9.0nm,0.4s						
ISP	**Isparta**	**6.55**	**83**	*e*Pn	Pn	09 58 52.0	+3.7
	comp=Z,8.6nm,0.4s						
STON	**Ston**	**6.61**	**329**	*i* Pn	Pn	09 58 45.8	-3.5
STON				*i* Sn	Sn	09 59 55.5	-7.8
ESKT	**Eskisehir**	**7.08**	**69**	*i* P	Pn	09 58 59.0	+3.4
HMAT	**Matruh**	**7.33**	**146**	⇓P	Pn	09 58 54.8	-4.3
HMAT				S	Sn	09 59 59.0	-22
DABA	**Dabaa**	**7.97**	**140**	⇑P	Pn	09 59 03.2	-4.6
SGKT	**Sivrigoynuk**	**8.29**	**64**	*i* P	Pn	09 59 15.3	+3.1
VOIR		**8.42**	**13**	⇑*i*P	Pn	09 59 16.7	+2.7
SWA2		**8.43**	**161**	⇓P	Pn	09 59 10.4	-3.7
SWA1		**8.48**	**159**	⇓P	Pn	09 59 11.5	-3.3
SWA1				S	Sn	10 00 28.5	-21
TIRR	**Tirgusor**	**8.54**	**31**	⇑*i*P	Pn	09 59 27.7	+12
MLR	**Muntele Rosu**	**8.66**	**17**	P	Pn	09 59 23.9	+6.7
	comp=Z,0.5nm,0.3s,baz=162,slow=11,SNR=6.1						
MLR				LR	LR	10 03 07.6	
	comp=Z,65nm,20.8s,baz=341,slow=41						
MLR	**Muntele Rosu**	**8.66**	**17**	⇓*i*P	Pn	09 59 20.4	+3.2
HBRG	**Burj al 'Arab**	**9.15**	**135**	⇓P	Pn	09 59 19.7	-4.3
HBRG				S	Sn	10 00 42.8	-23
PLOR	**Plostina**	**9.17**	**19**	⇑*i*P	Pn	09 59 37.3	+13
VRI	**Vrincioaia**	**9.21**	**20**	⇑*i*P	Pn	09 59 35.4	+11
BR131	**Keskin Array S**	**9.22**	**71**	*e*Pn	Pn	09 59 29.4	+4.4
	comp=Z,2.6nm,0.6s						
BRTR	**Keskin Array B**	**9.22**	**71**	P	Pn	09 59 29.1	+4.2
	comp=Z,0.4nm,0.3s,baz=256,slow=13,SNR=13						
BRTR	**Keskin Array B**	**9.22**	**71**	P	Pn	09 59 29.1	+4.1
BOJS	**Bojanci**	**9.78**	**329**	*i* Pn	Pn	09 59 31.0	-1.6
BOJS				*e*Sn	Sn	10 01 13.2	-7.9
CRES	**Cresnjev**	**9.96**	**331**	*e*Pn	Pn	09 59 32.5	-2.6
CRES				*e*Sn	Sn	10 01 17.5	-8.1
VISS	**Visnje**	**10.19**	**329**	*e*Sn	Sn	10 01 21.7	-9.5
HNAT	**Natroun**	**10.30**	**135**	⇓P	Pn	09 59 35.6	-4.2
VSL	**Villasalto**	**10.39**	**286**	*e*Pn	Pn	09 59 37.6	-3.3
	comp=Z,4.7nm,0.4s						
VSL	**Villasalto**	**10.39**	**286**	*e*Pn	Pn	09 59 37.6	-3.3
	comp=Z,4.7nm,0.4s						
FYM	**Al Fayyum**	**10.50**	**133**	⇓P	Pn	09 59 38.6	-3.9
AWBH		**10.51**	**146**	⇑P	Pn	09 59 38.6	-4.0
VOJS	**Vojsko**	**10.78**	**327**	*e*Sn	Sn	10 01 35.6	-10
KOT	**Kottamia**	**10.80**	**130**	⇓P	Pn	09 59 42.5	-4.1
KOT				S	Sn	10 01 22.7	-23
HSAF	**As Saff**	**10.86**	**132**	⇑P	Pn	09 59 43.2	-4.1
HHAG	**Hagoal**	**10.95**	**129**	P	Pn	09 59 44.7	-3.9
GLL	**Jalalah**	**10.98**	**132**	⇓P	Pn	09 59 45.2	-3.8
GLL	**Jalalah**	**10.98**	**132**	P	Pn	09 59 45.2	-3.8
HBNS	**Bani Suwayf**	**11.16**	**135**	⇓P	Pn	09 59 47.5	-4.0
AMAG	**Maghara**	**11.21**	**123**	⇑P	Pn	09 59 48.2	-3.9
SUZ		**11.49**	**127**	⇓P	Pn	09 59 52.1	-3.9
PGF	**Pioggiola**	**11.49**	**301**	*e*P	Pn	10 00 03.6	+7.6
	comp=Z,16nm,1.1s						
PGF	**Pioggiola**	**11.49**	**301**	*e*P	Pn	10 00 03.6	+7.6
PGF				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PGF	**Pioggiola**	**11.49**	**301**	*e*P	Pn	10 00 03.6	+7.6
	comp=Z,8.1nm,1.1s						
MMAI	**Mount Meron Ar**	**11.53**	**108**	P	Pn	09 59 53.5	-3.1
	comp=Z,1.8nm,0.3s,baz=320,slow=13,SNR=3.6						
MMAI				S	Sn	10 01 53.2	-11
	comp=Z,3.7nm,0.3s,baz=295,slow=26,SNR=4.4						
ZAF		**11.70**	**130**	⇓P	Pn	09 59 54.6	-4.3
ZNM		**11.83**	**129**	⇑P	Pn	09 59 56.5	-4.2
ZNM				S	Sn	10 01 47.3	-24
ZNM		**11.83**	**129**	P	Pn	09 59 56.5	-4.2
HNKL	**Nakhl**	**12.18**	**124**	⇑P	Pn	10 00 01.9	-3.5
ASF	**Jabal al Asfar**	**13.04**	**109**	P	Pn	10 00 14.0	-3.2
	comp=Z,0.2nm,0.3s,baz=315,slow=7.1,SNR=3.0						
ASF				S	Sn	10 02 34.3	-6.4
	comp=Z,0.4nm,0.3s,baz=332,slow=20,SNR=2.9						
GERES	**GERESS Array B**	**13.15**	**334**	P	Pn	10 00 17.9	-0.9
	comp=Z,0.2nm,0.3s,baz=156,slow=15,SNR=2.2						
DAVOX	**Davos**	**13.23**	**320**	S	Sn	10 02 36.5	-9.1
	comp=Z,0.3nm,0.3s,baz=315,slow=20,SNR=2.7						
DAVOX				LR	LR	10 06 02.7	
	comp=Z,32nm,21.4s,baz=92,slow=40						
KHC	**Kasperske Hory**	**13.44**	**335**	*e*P	Pn	10 00 30.5	+7.8
FRF	**La Foret Royal**	**13.47**	**303**	*e*P	Pn	10 00 28.8	+5.7
	comp=Z,8.2nm,0.9s						
FRF	**La Foret Royal**	**13.47**	**303**	*e*P	Pn	10 00 28.8	+5.7
FRF				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FRF	**La Foret Royal**	**13.47**	**303**	*e*P	Pn	10 00 28.8	+5.7
	comp=Z,4.1nm,0.9s						
MBDF	**Montbardon**	**13.88**	**307**	*e*P	Pn	10 00 34.4	+5.8
	comp=Z,4.7nm,0.7s						
MBDF	**Montbardon**	**13.88**	**307**	*e*P	Pn	10 00 34.4	+5.8
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MBDF	**Montbardon**	**13.88**	**307**	*e*P	Pn	10 00 34.4	+5.8
	comp=Z,2.3nm,0.7s						
GRA1	**Grafenberg Arr**	**14.77**	**331**	*e*P	Pn	10 00 46.0	+5.3
GRF	**Grafenberg Arr**	**14.77**	**331**	*e*P	Pn	10 00 46.0	+5.3
CABF	**La Chapelle**	**15.23**	**313**	*e*P	Pn	10 00 51.4	+4.8
	comp=Z,3.5nm,0.7s						
CABF	**La Chapelle**	**15.23**	**313**	*e*P	Pn	10 00 51.4	+4.8
CABF				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CABF	**La Chapelle**	**15.23**	**313**	*e*P	Pn	10 00 51.4	+4.8
	comp=Z,1.8nm,0.7s						
CLL	**Collm**	**15.51**	**338**	*e**PP	Pn	10 00 54.0	+3.7
CLL	**Collm**	**15.51**	**338**	*e*(pP)	Pn	10 00 54.0	+3.7
LASF	**Ste Croix**	**15.54**	**302**	*e*P	Pn	10 00 55.7	+5.0
HAU	**Haudompre**	**15.87**	**318**	*e*P	Pn	10 00 59.3	+4.4
SMF	**Signal de Mont**	**16.59**	**310**	*e*P	Pn	10 01 09.0	+5.0
	comp=Z,8.8nm,1.1s						
SMF	**Signal de Mont**	**16.59**	**310**	*e*P	Pn	10 01 09.0	+5.0
SMF				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SMF	**Signal de Mont**	**16.59**	**310**	*e*P	Pn	10 01 09.0	+5.0
	comp=Z,4.4nm,1.1s						
LOR	**Lormes**	**16.88**	**312**	*e*P	Pn	10 01 11.7	+4.1
BGF	**Bois d'Agland**	**17.16**	**309**	*e*P	Pn	10 01 16.2	+5.0
GNI	**Garni**	**17.74**	**74**	⇑*e*P	Pn	10 01 21.2	+2.8
GNI				pmax	pmax		
	comp=Z,9.0nm,1.4s						
LDF	**La Druitiere**	**19.86**	**312**	*e*P	Pn	10 01 47.3	+3.4
	comp=Z,93nm,1.6s						
LDF	**La Druitiere**	**19.86**	**312**	*e*P	Pn	10 01 47.3	+3.4
	comp=Z,46nm,1.6s						
FLN	**La Foliniere**	**20.15**	**312**	*e*P	P	10 01 50.2	+5.0
GRR	**Gorron**	**20.21**	**311**	*e*P	P	10 01 51.2	+5.3
OBN	**Obninsk**	**20.33**	**24**	⇓*e*P	P	10 01 54.8	+7.7
OBN				*e*		10 02 12.2	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
ESDC	**Sonseca Array**	**20.68**	**285**	P	P	10 01 47.9	-3.1
	comp=Z,1.9nm,0.6s,baz=82,slow=12,SNR=6.9						
SGMF	**Saint Gilles**	**21.20**	**309**	*e*P	P	10 02 01.6	+5.0
VSU	**Vasula**	**21.40**	**6**	*e*P	P	10 02 04.7	+6.0
QUIF	**Quistinic**	**21.46**	**308**	*e*P	P	10 02 04.4	+5.1
ROSF	**Rostrenen**	**21.68**	**309**	*e*P	P	10 02 06.3	+4.6
MDT	**Midelt**	**22.45**	**267**	P	P	10 02 07.9	-1.9
	comp=Z,2.4nm,0.8s,baz=86,slow=8.7,SNR=6.7						
HFS	**Hagfors**	**23.54**	**349**	P	P	10 02 18.3	-2.8
	comp=Z,3.8nm,0.5s,baz=155,slow=11,SNR=20						
HFS	**Hagfors**	**23.54**	**349**	P	P	10 02 18.3	-2.7
HFS				pmax	pmax		
	comp=Z,4.0nm,0.5s						
FINES	**FINESS Array B**	**24.31**	**4**	P	P	10 02 25.8	-2.3
	comp=Z,2.1nm,1.0s,baz=177,slow=7.0,SNR=3.0						
FINES	**FINESS Array B**	**24.31**	**4**	P	P	10 02 25.8	-2.3
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NB2	**NORSAR Subarra**	**24.80**	**347**	P	P	10 02 30.2	-2.4
	comp=Z,1.2nm,0.5s,baz=154,slow=9.3						
NOA	**NORSAR Array B**	**24.80**	**347**	P	P	10 02 30.4	-2.2
	comp=Z,1.5nm,0.6s,baz=158,slow=9.0,SNR=7.3						
NOA				pP	pP	10 02 45.4	+1.6
	comp=Z,1.9nm,0.7s,baz=147,slow=9.6,SNR=4.0						
NOA	**NORSAR Array B**	**24.80**	**347**	P	P	10 02 30.4	-2.2
NOA				*PP	pP	10 02 45.4	+1.6
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**24.98**	**324**	P	P	10 02 33.2	-1.0
	comp=Z,3.7nm,0.8s,baz=122,slow=9.5,SNR=12						
EKA	**Eskdalemuir Ar**	**24.98**	**324**	P	P	10 02 33.3	-0.9
EKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**30.27**	**223**	P	P	10 03 18.7	-2.8
	comp=Z,0.8nm,0.6s,baz=32,slow=8.7,SNR=12						
ARCES	**ARCESS Array B**	**32.37**	**2**	P	P	10 03 37.5	-2.5
	comp=Z,3.4nm,1.0s,baz=196,slow=9.3,SNR=8.5						
ARCES	**ARCESS Array B**	**32.37**	**2**	P	P	10 03 37.6	-2.5
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MKAR	**Makanchi Array**	**44.58**	**58**	P	P	10 05 18.5	-4.0
	comp=Z,0.3nm,0.3s,baz=272,slow=8.0,SNR=5.7						
MKAR				pP	pP	10 05 34.5	+0.2
	comp=Z,0.6nm,0.3s,baz=275,slow=7.4,SNR=5.2						
MKAR	**Makanchi Array**	**44.58**	**58**	P	P	10 05 18.5	-4.0
MKAR				*PP	pP	10 05 34.5	+0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**45.24**	**48**	P	P	10 05 24.9	-2.9
	comp=Z,1.5nm,0.3s,baz=214,slow=5.2,SNR=3.3						
ZAL				pP	pP	10 05 41.3	+1.8
	comp=Z,2.6nm,0.8s,baz=217,slow=8.7,SNR=4.9						
ZAL	**Zalesovo**	**45.24**	**48**	P	P	10 05 24.9	-2.8
ZAL				*PP	pP	10 05 41.3	+1.8
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**59.94**	**51**	P	P	10 07 14.2	-2.3
	comp=Z,0.5nm,0.9s,baz=295,slow=7.8,SNR=3.3						
SONM	**Songino Array**	**59.94**	**51**	P	P	10 07 14.2	-2.3
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**74.72**	**341**	P	P	10 08 47.6	-2.3
	comp=Z,0.3nm,0.7s,baz=25,slow=6.3,SNR=3.7						
YKA				pP	pP	10 09 03.4	+1.0
	comp=Z,0.4nm,0.6s,baz=48,slow=5.5,SNR=4.1						
YKA	**Yellowknife Ar**	**74.72**	**341**	P	P	10 08 47.6	-2.3
YKA				*PP	pP	10 09 03.4	+1.0
PDAR	**Pinedale Array**	**89.09**	**327**	pP	pP	10 10 18.9	+0.8
	comp=Z,0.7nm,1.0s,baz=46,slow=4.3,SNR=3.7						

*NEIC **14** 10:08:28.7, 3738S×177.18E, h166km, mb4.0/1, After WEL.*
WEL 14 10:08:28.9±0.4**, 3732S×17719E, h161**km±3km**, ML4.3**/13**, 2C-2D, Error ellipse: s-maj=2.1km s-min=1.9km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.21**	**180**	PN	Pn	10 08 50.8	+0.2
WIZ	**White Island**	**0.21**	**180**	P	Pn	10 08 50.8	+0.3
MARZ	**Manawahe**	**0.78**	**211**	PN	Pn	10 08 53.2	+0.1
MARZ	**Manawahe**	**0.78**	**211**	P	Pn	10 08 53.2	+0.1
TGRZ	**Tauranga**	**0.84**	**241**	PN	Pn	10 08 53.6	+0.1
TGRZ	**Tauranga**	**0.84**	**241**	P	Pn	10 08 53.6	0.0
EDRZ	**Edgecumbe**	**0.86**	**204**	PN	Pn	10 08 53.9	+0.2
EDRZ	**Edgecumbe**	**0.86**	**204**	P	Pn	10 08 54.0	+0.3
MXZ	**Matakaoa Point**	**0.92**	**106**	⇑PN	Pn	10 08 54.2	+0.1
MXZ				SN	Sn	10 09 13.8	+0.4
MXZ	**Matakaoa Point**	**0.92**	**106**	P	Pn	10 08 54.2	+0.1
MXZ				S	Sn	10 09 14.9	+1.5
URZ	**Urewera**	**0.94**	**184**	PN	Pn	10 08 53.9	-0.4
URZ				SN	Sn	10 09 12.8	-0.9
URZ	**Urewera**	**0.94**	**184**	P	Pn	10 08 53.9	-0.4
KARZ	**Kaharoa**	**1.03**	**227**	PN	Pn	10 08 55.0	+0.1
KARZ				SN	Sn	10 09 15.5	+0.6
MWZ	**Matawai**	**1.05**	**165**	PN	Pn	10 08 54.9	-0.2
MWZ				SN	Sn	10 09 15.1	-0.1
MWZ	**Matawai**	**1.05**	**165**	P	Pn	10 08 54.9	-0.2
MWZ				S	Sn	10 09 15.1	-0.1
TAZ	**Tarawera**	**1.06**	**210**	⇓PN	Pn	10 08 55.8	+0.6
TAZ	**Tarawera**	**1.06**	**210**	P	Pn	10 08 55.8	+0.6
PUZ	**Puketiti**	**1.13**	**132**	⇑PN	Pn	10 08 56.0	+0.2
PUZ				SN	Sn	10 09 16.5	0.0
PATZ	**Paeroa**	**1.29**	**215**	PN	Pn	10 08 57.8	+0.5
PATZ	**Paeroa**	**1.29**	**215**	P	Pn	10 08 57.9	+0.6
KUZ	**Kuaotunu**	**1.31**	**296**	PN	Pn	10 08 57.1	-0.4
KUZ				SN	Sn	10 09 18.7	-0.6
KUZ	**Kuaotunu**	**1.31**	**296**	*e*P	Pn	10 08 57.1	-0.3
KNZ	**Kokohu**	**1.74**	**167**	PN	Pn	10 09 01.5	-0.3
KNZ	**Kokohu**	**1.74**	**167**	P	Pn	10 09 01.5	-0.3
OTAZ	**Otara**	**1.85**	**281**	PN	Pn	10 09 03.6	+0.6
OTAZ	**Otara**	**1.85**	**281**	P	Pn	10 09 03.6	+0.6
BKZ	**Black Stump Fm**	**1.92**	**196**	PN	Pn	10 09 02.8	-1.1
BKZ				SN	Sn	10 09 29.1	-1.7
BKZ	**Black Stump Fm**	**1.92**	**196**	*e*P	Pn	10 09 02.9	-0.9
WTAZ	**Waiatarua**	**2.13**	**280**	PN	Pn	10 09 06.6	+0.4
WTAZ	**Waiatarua**	**2.13**	**280**	P	Pn	10 09 06.6	+0.5
HIZ	**Hauiti**	**2.20**	**236**	⇓PN	Pn	10 09 07.4	+0.4
OTVZ	**Oturere**	**2.20**	**213**	PN	Pn	10 09 07.0	0.0
TUVZ	**Tukino**	**2.29**	**211**	PN	Pn	10 09 08.1	+0.1
TUVZ	**Tukino**	**2.29**	**211**	P	Pn	10 09 08.1	+0.1
FWVZ	**Far West T-bar**	**2.32**	**213**	PN	Pn	10 09 08.0	-0.5
FWVZ	**Far West T-bar**	**2.32**	**213**	*e*P	Pn	10 09 08.0	-0.4
WNVZ	**Wahianoa**	**2.36**	**212**	PN	Pn	10 09 08.2	-0.8
WNVZ	**Wahianoa**	**2.36**	**212**	P	Pn	10 09 08.3	-0.6
MOVZ	**Moawhango**	**2.37**	**208**	PN	Pn	10 09 07.7	-1.3
MOVZ				SN	Sn	10 09 37.7	-2.3
MOVZ	**Moawhango**	**2.37**	**208**	P	Pn	10 09 07.9	-1.1
MTVZ	**Mangateitei**	**2.47**	**213**	PN	Pn	10 09 09.7	-0.5
VRZ	**Vera Road**	**2.63**	**226**	*e*P	Pn	10 09 12.1	0.0
PXZ	**Pawanui**	**2.72**	**185**	PN	Pn	10 09 11.7	-1.5
TSZ	**Takapari Road**	**2.90**	**199**	*e*P	Pn	10 09 13.6	-1.8
WAZ	**Wanganui**	**2.98**	**215**	*e*P	Pn	10 09 15.6	-0.9
BFZ	**Birch Farm**	**3.44**	**192**	*e*P	Pn	10 09 19.8	-2.4
MRZ	**Mangatainoka R**	**3.56**	**200**	*e*P	Pn	10 09 21.1	-2.7
KIW	**Kapiti Island**	**3.96**	**206**	P	Pn	10 09 25.7	-3.1
MTW	**Mount Morrison**	**4.05**	**198**	P	Pn	10 09 26.4	-3.7
CAW	**Cannon Point**	**4.13**	**203**	P	Pn	10 09 27.5	-3.5
MRW	**Makara Radio**	**4.36**	**206**	P	Pn	10 09 30.3	-3.7
MSWZ	**Moikau Station**	**4.36**	**200**	P	Pn	10 09 30.1	-3.9
SNZO	**South Karori**	**4.43**	**205**	*e*P	Pn	10 09 31.0	-3.9
TCW	**Tory Channel**	**4.50**	**209**	P	Pn	10 09 31.9	-4.0
NNZ	**Nelson**	**4.89**	**216**	*e*P	Pn	10 09 37.2	-3.8
BSWZ	**Blackbirch Sta**	**5.08**	**209**	P	Pn	10 09 40.0	-3.5
THZ	**Tophouse**	**5.54**	**215**	*e*P	Pn	10 09 45.0	-4.5
KHZ	**Kahutara**	**5.81**	**208**	*e*P	Pn	10 09 48.7	-4.5
MQZ	**McQueen's Vall**	**7.25**	**207**	*e*P	Pn	10 10 06.1	-6.2
ODZ	**Otahua Downs**	**9.16**	**211**	*e*P	Pn	10 10 32.4	-5.1
QSPA	**South Pole Qui**	**52.80**	**180**	*e*P	P	10 17 27.6	+0.1
	1.8nm,0.6s						

*ISCJB **14** 10:09:13.2±3.2, 16N±0.1×1273E±03, h92km±29km, mb3.9/10, Error ellipse: s-maj=48.1km s-min=10.2km az=144.7*
*NEIC **14** 10:09:17.5±5.5, 157N×12745E, h119km±55km, mb3.9/3, Error ellipse: s-maj=30.3km s-min=12.9km az=81.0*
*IDC **14** 10:09:20.5±3.2, 156N×12749E, h147km±30km, mb3.5/8, mb1 3.6/9, mb1mx3.5/18, mbtmp3.9/9, Error ellipse: s-maj=46.1km s-min=10.6km az=73.0*
ISC 14 10:09:20.0±2.8**, 16N**±01×**1275E**±03**, h144**km±26km**, n16,** σ**0.56**/18**, mb3.8**/10**, 1C, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.61**	**185**	*e*P	**P**	**10 13 36.8**	**-0.3**
	2.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.61**	**185**	P	**P**	**10 13 36.9**	**-0.2**
	0.2nm,0.3s,baz=32,slow=11,SNR=7.5						
WRAB	**Tennant Creek**	**22.39**	**163**	*e*P	**P**	**10 14 06.3**	**-0.4**
	2.7nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**22.40**	**163**	P	**P**	**10 14 06.7**	**0.0**
	1.1nm,0.4s,mb3.6,baz=337,slow=11,SNR=35						
WRA				S	**S**	**10 18 03.1**	**+1.2**
	1.1nm,1.0s,baz=333,slow=21,SNR=4.9						
WB2	**Warramunga Arr**	**22.40**	**163**	⇑*i*P	**P**	**10 14 06.6**	**-0.2**
WB2				*e*S	**S**	**10 18 00.6**	**-1.4**
AS31	**Alice Springs**	**25.84**	**166**	*e*P	**P**	**10 14 37.5**	**-0.5**
ASAR	**Alice Springs**	**25.84**	**166**	P	**P**	**10 14 38.4**	**+0.4**
	0.3nm,0.5s,mb3.1,baz=342,slow=8.0,SNR=10						
STKA	**Stephens Creek**	**35.84**	**159**	P	**P**	**10 16 07.1**	**+1.3**
	1.6nm,0.4s,mb4.0,baz=318,slow=6.1,SNR=6.3						
STKA	**Stephens Creek**	**35.84**	**159**	*e*P	**P**	**10 16 06.7**	**+0.9**
MJAR	**Matsushiro Arr**	**36.21**	**15**	P	**P**	**10 16 08.5**	**-0.4**
	1.4nm,0.7s,mb3.7,baz=184,slow=8.0,SNR=4.8						
SONM	**Songino Array**	**49.58**	**341**	P	**P**	**10 17 56.8**	**+0.4**
	0.7nm,0.6s,mb3.5,baz=154,slow=7.7,SNR=6.9						
MKAR	**Makanchi Array**	**59.75**	**326**	P	**P**	**10 19 10.4**	**+0.8**
	2.6nm,0.6s,mb4.2,baz=122,slow=8.5,SNR=24						
BVAR	**Borovoye Array**	**69.53**	**327**	P	**P**	**10 20 13.0**	**-0.1**
	0.8nm,0.5s,mb3.7,baz=142,slow=13,SNR=3.5						
ZRNK	**Zerenda**	**70.25**	**327**	P	**P**	**10 20 17.1**	**-0.4**
	5.7nm,1.2s,mb4.2						
AKTK	**Aktyubinsk**	**75.81**	**322**	P	**P**	**10 20 50.0**	**-0.2**
AKTO	**Aktyubinsk**	**75.81**	**322**	P	**P**	**10 20 50.0**	**-0.2**
	0.9nm,0.5s,mb3.7,baz=68,slow=4.9,SNR=5.2						

*ISCJB **14** 10:42:10.8±1.2, 219S±0.1×17955W±008, h546km±16km, mb4.4/17, Error ellipse: s-maj=17.9km s-min=8.1km az=111.2*
*NEIC **14** 10:42:11.8±1.2, 2194S×17949W, h548km±16km, mb4.7/5, Error ellipse: s-maj=15.7km s-min=8.5km az=146.0*
*IDC **14** 10:42:12.8±1.6, 2197S×17945W, h563km±16km, mb3.7/8, mb1 3.9/10, mb1mx3.7/15, mbtmp4.6/10, Error ellipse: s-maj=27.7km s-min=14.0km az=152.0*
ISC 14 10:42:12.3±1.4**, 220S**±01×**17947W**±009**, h550**km±18km**,**

n40, σ0^{s}76/43, mb4.4/17, 12D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	10.86	44	P	P	10 44 38.7	-0.2
	1.4nm,0.3s,baz=252,slow=20,SNR=2.5						
AFI				S	S	10 46 35.3	-4.2
	1.8nm,0.3s,baz=300,slow=20,SNR=3.5						
DZM	Mont Dzumac	13.06	267	P	P	10 45 07.6	+5.9
	2.0nm,0.3s,baz=81,slow=21,SNR=20						
URZ	Urewera	16.50	190	P	P	10 45 34.2	-2.1
	1.5nm,0.3s,baz=228,slow=3.5,SNR=8.8						
URZ				S	S	10 48 13.8	-9.0
	0.6nm,0.3s,baz=32,slow=23,SNR=7.7						
ARMA	Armidale	27.20	246	⇓iP	P	10 47 14.3	+2.0
CNB	Canberra Magne	30.27	237	⇓iP	P	10 47 40.4	+1.5
	13nm,0.4s,mb4.8						
CTA	Charters Tower	32.01	267	⇓iP	P	10 47 54.7	+0.9
	19nm,0.4s,mb5.0						
CTAO	Charters Tower	32.01	267	eP	P	10 47 54.4	+0.6
TOO	Toolangi	33.92	235	⇓iP	P	10 48 10.7	+0.7
	12nm,0.6s,mb4.6						
STKA	Stephens Creek	35.92	246	⇓iP	P	10 48 27.4	+0.8
	10nm,0.5s,mb4.6						
STKA	Stephens Creek	35.92	246	P	P	10 48 27.5	+0.9
	14nm,0.5s,mb4.7,baz=90,slow=9.8,SNR=55						
STKA				ScP	ScP	10 53 29.8	-2.5
	2.6nm,0.9s,baz=352,slow=15,SNR=3.0						
AS31	Alice Springs	42.86	258	⇓iP	P	10 49 22.4	+0.1
AS31				eS	S	10 55 02.0	-5.2
ASAR	Alice Springs	42.86	258	P	P	10 49 22.5	+0.2
	29nm,0.8s,mb4.8,baz=99,slow=8.0,SNR=349						
ASAR				PcP	PcP	10 51 00.1	-0.6
	1.6nm,0.5s,baz=111,slow=4.3,SNR=4.8						
ASAR				ScP	ScP	10 53 58.0	-1.5
	1.3nm,1.0s,baz=97,slow=4.0,SNR=4.2						
ASAR				S	S	10 55 03.0	-4.3
	1.1nm,0.9s,baz=97,slow=15,SNR=4.7						
ASPA	Alice Springs	42.86	258	⇓iP	P	10 49 22.4	+0.1
ASPA				eS	S	10 55 02.0	-5.2
WB2	Warramunga Arr	43.05	264	⇓iP	P	10 49 23.3	-0.5
WB2				eS	S	10 55 04.4	-5.4
WRAB	Tennant Creek	43.05	264	eP	P	10 49 23.0	-0.7
	32nm,0.8s,mb4.9						
WRA	Warramunga Arr	43.06	264	P	P	10 49 23.5	-0.4
	9.4nm,0.3s,mb4.8,baz=95,slow=7.8,SNR=468						
WRA				ScP	ScP	10 53 58.6	-1.7
	2.7nm,1.0s,baz=97,slow=4.0,SNR=9.0						
WRA				S	S	10 55 04.3	-5.7
	0.5nm,1.0s,baz=123,slow=18,SNR=2.6						
KAKA	Kakadu	46.66	273	⇓iP	P	10 49 51.1	-0.3
	16nm,0.3s,mb5.0						
FORT	Forrest	47.46	248	⇓iP	P	10 49 56.6	-0.9
	36nm,0.6s,mb5.1						
POHA	Pohakuloa	47.62	31	P	P	10 49 58.1	-0.6
FITZ	Fitzroy Crossi	51.49	264	⇓iP	P	10 50 27.2	+0.1
	13nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	51.49	264	P	P	10 50 27.2	+0.1
	4.9nm,0.3s,mb4.2,baz=69,slow=6.5,SNR=68						
KLBR	Kellerberrin	56.20	246	⇓iP	P	10 50 59.6	-0.7
	14nm,0.8s,mb4.2						
MBWA	Marble Bar	56.20	259	eP	P	10 50 59.5	-0.8
VNDA	Vanda	56.33	185	eP	P	10 51 01.7	+0.4
	1.0nm,1.0s,mb3.0						
NWAO	Narrogin (SRO)	56.49	244	eP	P	10 51 01.6	-0.7
MUN	Mundaring	57.46	245	eP	P	10 51 08.8	-0.1
QSPA	South Pole Qui	68.10	180	eP	P	10 52 17.5	0.0
MJAR	Matsushiro Arr	70.60	325	P	P	10 52 31.7	-0.6
	2.7nm,0.6s,mb3.9,baz=162,slow=5.9,SNR=7.9						
KSM	Kuching	72.27	279	eP	P	10 52 42.1	0.0
NVAR	Mina Array Bea	83.03	44	P	P	10 53 41.0	+0.8
	2.1nm,0.8s,mb3.7,baz=210,slow=6.9,SNR=18						
MNV	Mina	83.13	44	eP	P	10 53 40.9	+0.2
TPNV	Topopah Spring	83.55	46	eP	P	10 53 42.9	+0.1
TUC	Tucson	84.96	52	eP	P	10 53 50.8	+1.1
ELK	Elko	86.29	43	eP	P	10 53 56.0	-0.1
	2.6nm,1.1s,mb3.8						
PLCA	Paso Flores	89.25	134	P	P	10 54 09.7	-0.2
	1.1nm,0.8s,mb3.8,baz=315,slow=17,SNR=3.8						
PDAR	Pinedale Array	90.97	44	P	P	10 54 17.8	0.0
	0.9nm,0.8s,mb3.7,baz=201,slow=2.5,SNR=7.9						
AKASG	Malin Array Be	143.60	329	PKP	PKPdf	11 00 41.4	-3.3
	2.7nm,0.4s,baz=43,slow=4.4,SNR=20						
ASF	Jabal al Asfar	146.20	295	PKPbc	PKPbc	11 00 49.4	-1.8
	2.0nm,0.7s,baz=62,slow=6.6,SNR=4.6						
BRTR	Keskin Array B	146.76	310	PKPbc	PKPbc	11 00 51.3	-1.5
	1.6nm,0.7s,baz=128,slow=5.1,SNR=6.8						
MMAI	Mount Meron Ar	147.30	297	PKPbc	PKPbc	11 00 54.3	+0.1
	3.1nm,0.6s,baz=79,slow=4.3,SNR=4.2						

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*CSEM **14** 10:44:45.8, 3703N×2124E, h29^{km}, MD3.5/7, After ATH*
*NEIC **14** 10:44:45.8, 3703N×2124E, h29^{km}, MD3.5(ATH), After ATH.*
ATH 14 10:44:45.8, 3703N×2124E, h29^{km}±2^{km}, MD3.5/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	Ithomi	0.57	75	ePN	Pn	10 44 58.0	+0.1
ITM				eSN	Sn	10 45 06.2	-0.1
RLS	Riolos of Patr	1.04	10	ePN	Pn	10 45 05.7	+1.3
VLS	Valsamata	1.26	336	ePN	Pn	10 45 09.4	+2.0
VLS				eSN	Sn	10 45 26.8	+3.5
VLI	Veliai	1.40	102	ePN	Pn	10 45 11.1	+1.8
KYTH	Kithira	1.63	117	ePN	Pn	10 45 14.5	+2.0
EVR	Evrytania	1.94	13	ePB	Pb	10 45 19.2	-1.2
LKR	Lokris	2.13	40	ePN	Pn	10 45 22.0	+2.5

ISC 14 10:50:31.0±0.9, 3967N±005×2948E±007, h10^{km}, n6, σ0^{s}91/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULDT	Uludag	0.54	331	i P	Pg	10 50 41.0	-0.6
ULDT				i S	Sg	10 50 49.4	+0.8
GDZ	Gediz	0.58	180	i P	Pg	10 50 41.8	-0.5
ORLT	Orhaneli	0.59	310	PG	Pg	10 50 41.6	-0.7
DST	Dursunbey	0.66	265	PG	Pg	10 50 42.7	-1.2
DST				SG	Sg	10 50 54.1	+1.6
GEMT	Gemlik	0.80	344	PG	Pg	10 50 46.0	-0.3
ESKT	Eskisehir	1.07	98	i P	Pg	10 50 52.6	+1.0
ESKT				i S	Sg	10 51 11.9	+6.5

IDC 14 11:08:25.7±33.0, 1622S×17950W, h0^{km}, mb4.3/4, mb1 4.5/4, mb1mx3.9/14, mbtmp4.3/4, Error ellipse: s-maj=618.4km s-min=131.8km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.56	239	P	P	11 15 49.6	-0.4
	1.7nm,0.4s,baz=84,slow=9.2,SNR=7.3						
WB2	Warramunga Arr	43.92	258	eP	P	11 16 35.4	+1.3
WRA	Warramunga Arr	43.93	258	P	P	11 16 35.5	+1.3
	1.5nm,0.5s,baz=90,slow=7.9,SNR=70						
ASAR	Alice Springs	44.27	253	P	P	11 16 37.5	+0.5
	11nm,0.6s,baz=88,slow=8.5,SNR=224						
ASPA	Alice Springs	44.27	253	eP	P	11 16 37.4	+0.5
KAKA	Kakadu	46.58	268	eP	P	11 16 58.6	+3.3
	3.5nm,0.4s						
FITZ	Fitzroy Crossi	52.29	259	eP	P	11 17 38.5	-0.4
	3.5nm,0.9s						
FITZ	Fitzroy Crossi	52.29	259	P	P	11 17 38.6	-0.2
	1.7nm,0.7s,baz=115,slow=17,SNR=6.5						

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*ISCJB **14** 11:18:34.8±2.5, 96S±0.1×1162E±0.1, h9^{km}±15^{km}, mb4.0/6, Error ellipse: s-maj=26.9km s-min=8.7km az=97.8*
*IDC **14** 11:18:35.9±1.1, 932S×11642E, h0^{km}, mb4.0/7, mb1 4.1/8, mb1mx3.9/18, mbtmp4.0/8, ML3.8/1, Error ellipse: s-maj=69.2km s-min=18.5km az=46.0*
*NEIC **14** 11:18:40.5±0.5, 959S×11624E, h35^{km}, mb4.0/1, Error ellipse: s-maj=25.9km s-min=7.0km az=51.0*
NEIC Felt [III] at Mataram. Also felt [III] at Denpasar, Bali.
ISC 14 11:18:41.5±1.5, 958S±009×1163E±01, h42^{km}±14^{km}, n21, σ1^{s}03/30, mb4.0/6, 1C, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBWA	Marble Bar	11.97	164	eP	Pn	11 21 28.4	-1.1
	19nm,0.3s						
MBWA				eS	Sn	11 23 28.7	-13
FITZ	Fitzroy Crossi	12.39	134	eP	Pn	11 21 34.9	-0.3
	3.6nm,0.3s						
FITZ				eS	Sn	11 23 41.3	-11
FITZ	Fitzroy Crossi	12.39	134	Pn	Pn	11 21 34.4	-0.8
	0.5nm,0.3s,baz=334,slow=12,SNR=35						
FITZ				Sn	Sn	11 23 40.5	-11
	0.6nm,0.3s,baz=180,slow=20,SNR=4.6						
KAKA	Kakadu	16.12	103	eP	Pn	11 22 23.8	-1.2
	5.0nm,0.4s						
WRA	Warramunga Arr	20.22	123	P	P	11 23 13.5	+0.7
	4.8nm,0.4s,baz=301,slow=12,SNR=161						
WRA				S	S	11 26 44.9	-12
	0.6nm,0.7s,baz=303,slow=22,SNR=4.9						
WRAB	Tennant Creek	20.23	123	eP	P	11 23 13.3	+0.5
	6.1nm,0.8s						
WRAB				eS	S	11 26 46.7	-11
WB2	Warramunga Arr	20.23	123	⇑iP	P	11 23 14.0	+1.1
WB2				eS	S	11 26 44.4	-13
ASPA	Alice Springs	21.88	132	eP	P	11 23 31.7	+1.1
ASPA				eS	S	11 27 27.6	-2.2
AS31	Alice Springs	21.88	132	eP	P	11 23 31.7	+1.1
AS31				eS	S	11 27 27.6	-2.3
ASAR	Alice Springs	21.88	132	P	P	11 23 31.8	+1.1
	1.7nm,0.4s,mb3.9,baz=306,slow=9.3,SNR=60						
ASAR				S	S	11 27 30.6	+0.7
	0.7nm,0.6s,baz=304,slow=22,SNR=6.0						
KLBR	Kellerberrin	21.95	177	eP	pP	11 23 44.0	+2.2
	6.7nm,0.6s						
KLBR				eS	S	11 27 24.0	-7.2
MUN	Mundaring	22.29	180	eP	pP	11 23 48.8	+3.3
MUN				eS	S	11 27 37.5	-0.4
STKA	Stephens Creek	32.26	137	eP	P	11 25 06.2	+0.3
SONM	Songino Array	57.83	352	P	P	11 28 27.9	-0.7
	0.7nm,0.6s,mb3.9,baz=169,slow=8.7,SNR=6.6						
MKAR	Makanchi Array	63.80	335	P	P	11 29 08.3	-0.9
	1.3nm,0.6s,mb4.2,baz=147,slow=7.4,SNR=15						
WSAR	Wadi Sarin	65.16	301	P	P	11 29 19.2	+1.1
	3.3nm,0.8s,mb4.4,baz=95,slow=11,SNR=3.5						
KURK	Kurchatov	68.38	335	P	P	11 29 39.8	+1.3
BVAR	Borovoye Array	73.58	333	P	P	11 30 09.1	-1.0
	0.7nm,0.5s,mb3.8,baz=150,slow=8.0,SNR=4.3						
ZRNK	Zerenda	74.16	332	P	P	11 30 12.1	-1.4
AKTK	Aktyubinsk	78.21	326	P	P	11 30 36.8	+0.2
AKTO	Aktyubinsk	78.21	326	P	P	11 30 36.8	+0.2
	0.9nm,0.5s,mb4.0,baz=103,slow=2.1,SNR=4.8						

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*MOS **14** 11:43:06.7±1.3, 5607N×16417E, h12^{km}, mb3.9/5, Error ellipse: s-maj=20.3km s-min=10.4km az=55.8*
*IDC **14** 11:43:07.0±1.3, 5615N×16391E, h0^{km}, mb3.8/5, mb1 4.1/6, mb1mx3.7/20, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=49.2km s-min=26.6km az=138.0*
*ISCJB **14** 11:43:08.2±1.6, 5606N±006×1641E±0.1, h18^{km}±11^{km}, mb3.7/5, Error ellipse: s-maj=10.3km s-min=8.9km az=91.7*
*KRSC **14** 11:43:08, 5608N×16399E, h10^{km}, ML4.2*
ISC 14 11:43:08.0±1.5, 5607N±006×16412E±010, h7^{km}±8^{km}, n22, σ1^{s}10/30, mb3.7/5, 1D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.74	282	P	Pg	11 43 21.9	-0.4
KBTR				S	Sg	11 43 31.5	-0.5
KLY	Klyuchi	1.95	279	P	Pn	11 43 39.8	-1.7
KLY				S	Sn	11 44 02.4	-3.9
MKZ	Mys Kozlova	2.04	223	P	Pn	11 43 42.9	+0.2
MKZ				S	Sn	11 44 08.0	-0.4
KOZR	Kozyr	2.37	272	PN	Pn	11 43 48.7	+1.5
KOZR				S	Sn	11 44 17.2	+0.7
KOZ	Kozyrevsk	2.38	272	P	Pn	11 43 48.7	+1.3
KOZ				S	Sn	11 44 17.2	+0.4
SPN	Mys Shipunski	3.81	220	P	Pn	11 44 07.3	+0.2
SPN				S	Sn	11 44 50.2	-1.9
NLC	Nalytchevo	4.01	226	P	Pn	11 44 10.4	+0.5
NLC				S	Sn	11 44 56.1	-1.0
PET	Petropavlovsk	4.41	228	P	Pn	11 44 17.1	+1.8
PET	Petropavlovsk	4.41	228	⇓iPN	Pn	11 44 17.0	+1.7
PET				eS	Sn	11 45 08.3	+1.5
PET				pmax	pmax		
	comp=Z,53nm,0.4s						
PET				smax			
	comp=N,39nm,0.5s						
PET				smax			
	comp=E,14nm,0.5s						
RUS	Russkaya	4.90	224	P	Pn	11 44 23.8	+1.7
SKR	Severo-Kuril's	7.21	225	ePN	Pn	11 44 51.8	-1.9
ASAJ	Asahikawa	18.17	238	P	Pn	11 47 20.9	+0.1
	comp=E,0.3nm,0.3s,baz=297,slow=1.4,SNR=6.9						
MJAR	Matsushiro Arr	26.23	233	P	P	11 48 43.3	-0.2
	comp=E,3.0nm,0.8s,mb3.9,baz=26,slow=8.8,SNR=8.8						
MJAR	Matsushiro Arr	26.23	233	P	P	11 48 43.3	-0.1
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK	Inuvik	30.08	41	P	P	11 49 17.9	0.0
	comp=Z,0.7nm,0.6s,mb3.5,baz=343,slow=6.9,SNR=3.9						
INK	Inuvik	30.08	41	P	P	11 49 17.9	0.0
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	35.55	282	P	P	11 50 04.0	-1.7
	comp=Z,0.5nm,0.8s,mb3.5,baz=54,slow=7.7,SNR=4.4						
SONM	Songino Array	35.55	282	P	P	11 50 04.0	-1.7
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	Warramunga Arr	79.79	208	P	P	11 55 16.5	-0.3
	comp=Z,0.7nm,0.8s,mb3.6,baz=22,slow=5.8,SNR=9.2						
WRA	Warramunga Arr	79.79	208	P	P	11 55 16.5	-0.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	83.46	208	P	P	11 55 36.3	+0.1
	comp=Z,0.8nm,0.9s,mb3.8,baz=14,slow=5.0,SNR=9.8						
ASAR	Alice Springs	83.46	208	P	P	11 55 36.3	+0.1
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

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*NEIC **14** 12:22:57.8, 4134N×2261E, h10^{km}, MD2.9(SOF), MD3.0(ATH), After SOF.*
*SOF **14** 12:22:57.8, 4134N×2261E, h10^{km}, MD2.9*
*ISCJB **14** 12:22:58.8±0.4, 4133N±002×2262E±003, h7^{km}±4^{km}, Error ellipse: s-maj=4.0km s-min=3.5km az=88.4*
*THE **14** 12:22:59.5, 4132N×2261E, h5^{km}, ML2.8*
*CSEM **14** 12:22:59.1±0.1, 4136N×2264E, h15^{km}, ML2.8, Error ellipse: s-maj=2.1km s-min=1.6km az=16.0*
*ATH **14** 12:22:59.4, 4142N×2265E, h59^{km}, MD3.0/3*
*SKO **14** 12:22:59.2, 4130N×2261E, h9^{km}, M2.0, ML2.8*
ISC 14 12:22:59.4±0.4, 4133N±002×2262E±003, h10^{km}±4^{km}, n26, σ0^{s}63/47, 2C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VAY	Valandovo	0.04	253	ePg	Pg	12 23 00.5	-0.8
VAY				eSg	Sg	12 23 01.9	-0.7
VAY	Valandovo	0.04	253	⇓iPg	Pg	12 23 00.7	-0.5
VAY				eLg		12 23 01.9	
	comp=E,9μm,0.2s						
VAY				i Sg	Sg	12 23 02.0	-0.6
VAY				eLg		12 23 02.1	
	comp=N,8μm,0.2s						
KNT	Kendrikon	0.27	129	ePg	Pg	12 23 05.0	+0.2
KNT				eSg	Sg	12 23 09.2	+0.7
STIP	Stip	0.49	318	⇑iPg	Pg	12 23 10.0	+1.1
STIP				i Sg	Sg	12 23 17.3	+2.0
STIP	Stip	0.49	318	⇑iPg	Pg	12 23 09.9	+1.0
STIP				i Sg	Sg	12 23 17.3	+2.0
KKB	Krupnik	0.64	33	i Pg	Pg	12 23 11.0	-0.7
THE	Thessaloniki	0.75	159	ePg	Pg	12 23 13.7	-0.1
THE				eSg	Sg	12 23 24.6	+1.1
THE	Thessaloniki	0.75	159	ePg	Pg	12 23 13.7	-0.1
THE				eSg	Sg	12 23 24.6	+1.1
SOH	Sokhos	0.75	132	ePg	Pg	12 23 13.5	-0.4
SOH				eSg	Sg	12 23 24.0	+0.2
SRS	Serrai	0.77	106	ePg	Pg	12 23 13.6	-0.5
SRS				eSg	Sg	12 23 24.6	+0.5
SRS	Serrai	0.77	106	ePg	Pg	12 23 13.6	-0.6
SRS				eSg	Sg	12 23 24.6	+0.5
HORT	Hortiatis	0.82	153	ePg	Pg	12 23 15.0	-0.2
HORT				eSg	Sg	12 23 26.2	+0.3
MMB	Musomiste	0.87	73	i Pg	Pg	12 23 15.7	-0.5
NVR	Nevrokopi	0.94	88	eP	Pg	12 23 17.1	-0.3
NVR				eS	Sg	12 23 30.0	+0.4
BIA	Bitola	1.03	253	ePg	Pg	12 23 18.6	-0.5
BIA				eSg	Sg	12 23 32.5	0.0
BIA	Bitola	1.03	253	i Pg	Pg	12 23 18.6	-0.6
BIA				i Sg	Sg	12 23 32.0	-0.4
BIA	Bitola	1.03	253	ePg	Pg	12 23 18.6	-0.5
BIA				i Sg	Sg	12 23 32.0	-0.5
FNA	Florina	1.09	240	ePg	Pg	12 23 19.8	-0.5
FNA				eSg	Sg	12 23 34.3	-0.1
PLG	Polygyros	1.14	146	eP	Pb	12 23 20.8	-0.5
PLG				eS	Sb	12 23 36.3	+0.1
KZN	Kozani	1.21	212	eP	Pn	12 23 22.6	+0.2
LIT	Litokhoron	1.23	185	ePg	Pg	12 23 22.5	-0.6
LIT				eSg	Sg	12 23 40.3	+1.2
VTS	Vitosha	1.33	19	ePg	Pg	12 23 25.5	+0.5
VTS				eSg	Sg	12 23 42.4	+0.1
VTS	Vitosha	1.33	19	i Pg	Pg	12 23 24.5	-0.5
VTS				eSg	Sg	12 23 42.4	+0.1
OUR	Ouranopolis	1.44	133	ePg	Pn	12 23 24.9	-0.6
OUR				eSg	Sg	12 23 45.1	-0.5
RZN	Rozhen	1.61	77	i P	Pn	12 23 28.4	+0.5
PGB	Panagyurishte	1.68	43	i Pg	Pn	12 23 28.4	-0.4

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*ATH **14** 12:23:47.5, 4146N×2260E, h58^{km}±6^{km}, MD3.2/3*
*ISCJB **14** 12:23:47.9±0.4, 4131N±002×2260E±003, h7^{km}±4^{km}, Error ellipse: s-maj=4.0km s-min=3.4km az=96.4*
*THE **14** 12:23:48.5, 4129N×2258E, h5^{km}, ML2.7*
*SOF **14** 12:23:48.5, 4140N×2268E, h5^{km}, MD2.7*
*NEIC **14** 12:23:48.5, 4140N×2268E, h5^{km}, MD2.7(SOF), MD3.2(ATH), After SOF.*
*SKO **14** 12:23:48.5, 4131N×2263E, h6^{km}, M2.1, ML2.8*
*CSEM **14** 12:23:48.2±0.1, 4133N×2259E, h10^{km}, ML2.7, Error ellipse: s-maj=1.7km s-min=1.5km az=82.0*
ISC 14 12:23:48.5±0.4, 4131N±002×2261E±003, h7^{km}±5^{km}, n23, σ0^{s}73/40, 2C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VAY	Valandovo	0.03	290	⇓iPg	Pg	12 23 49.6	-0.2
VAY				i Sg	Sg	12 23 50.9	+0.2
	comp=E,10μm,0.2s						
VAY				eLg		12 23 50.9	
VAY				eLg		12 23 50.9	
	comp=N,7μm,0.2s						
VAY	Valandovo	0.03	290	ePg	Pg	12 23 49.5	-0.3
VAY				eSg	Sg	12 23 50.9	+0.2
KNT	Kendrikon	0.27	124	ePg	Pg	12 23 53.9	+0.2
KNT				eSg	Sg	12 23 58.0	+0.7
STIP	Stip	0.49	321	⇑iPg	Pg	12 23 58.9	+0.8
STIP				i Sg	Sg	12 24 06.5	+1.9
STIP	Stip	0.49	321	⇑iPg	Pg	12 23 58.8	+0.7
STIP				i Sg	Sg	12 24 06.4	+1.9
KKB	Krupnik	0.66	33	i Pg	Pg	12 24 00.2	-1.0
THE	Thessaloniki	0.73	158	ePg	Pg	12 24 02.6	0.0
THE				eSg	Sg	12 24 12.5	+0.4
SOH	Sokhos	0.75	131	ePg	Pg	12 24 02.5	-0.4
SOH				eSg	Sg	12 24 13.0	+0.4
SRS	Serrai	0.77	104	ePg	Pg	12 24 02.6	-0.7
SRS				eSg	Sg	12 24 14.1	+0.8
HORT	Hortiatis	0.81	152	ePg	Pg	12 24 03.8	-0.2
HORT				eSg	Sg	12 24 15.2	+0.8
MMB	Musomiste	0.89	71	i P	Pg	12 24 04.4	-1.2
NVR	Nevrokopi	0.95	87	eP	Pg	12 24 05.8	-0.9
NVR				eS	Sg	12 24 19.0	0.0
BIA	Bitola	1.01	254	ePg	Pg	12 24 06.6	-1.3
BIA				eSg	Sg	12 24 20.7	-0.3
BIA	Bitola	1.01	254	i Pg	Pg	12 24 09.0	+1.1
FNA	Florina	1.07	241	ePg	Pg	12 24 08.2	-0.8
FNA				eSg	Sg	12 24 22.8	-0.1
PLG	Polygyros	1.13	145	eP	Pg	12 24 09.5	-0.8
PLG				eS	Sg	12 24 25.7	+0.7
KZN	Kozani	1.19	213	eP	Pg	12 24 10.9	-0.4
LIT	Litokhoron	1.21	184	ePg	Pg	12 24 11.3	-0.5
LIT				eSg	Sg	12 24 28.1	+0.6
VTS	Vitosha	1.36	19	ePg	Pg	12 24 14.6	+0.1
VTS				eSg	Sg	12 24 32.4	+0.3
VTS	Vitosha	1.36	19	i P	Pn	12 24 13.5	-0.4
VTS	Vitosha	1.36	19	ePg	Pg	12 24 14.6	+0.1
VTS				eSg	Sg	12 24 32.4	+0.3
OUR	Ouranopolis	1.43	133	ePg	Pg	12 24 14.9	-1.1
OUR				eSg	Sg	12 24 34.6	+0.1
RZN	Rozhen	1.63	76	i P	Pn	12 24 19.2	+1.5

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*ISCJB **14** 12:29:58.1±0.2, 4956N±001×664E±002, h6^{km}±2^{km}, Error ellipse: s-maj=2.2km s-min=1.8km az=1.3*
*CSEM **14** 12:30:00.5±0.1, 4961N×671E, h10^{km}, ML3.2/23, Error ellipse: s-maj=1.2km s-min=0.9km az=120.0*
*NEIC **14** 12:30:00.1, 4961N×674E, h7^{km}, ML2.5(LEDBW), ML2.7(STR), ML3.2(LDG), After LDG.*
*LEDBW **14** 12:30:00.4±1.0, 4964N±004×664E±006, h10^{km}, ML2.5, Error ellipse: s-maj=24.0km s-min=10.0km az=119.0*
*LDG **14** 12:30:00.1±0.1, 4961N×674E, h7^{km}, Md3.2/3, Ml3.2/22, Error ellipse: s-maj=2.0km s-min=1.6km az=177.0*
*BGR **14** 12:30:00.4±0.4, 4962N×677E, h5^{km}, ML2.4/4, Error ellipse: s-maj=8.9km s-min=4.4km az=137.0*
*UCC **14** 12:30:01.0±0.6, 4963N×671E, h15^{km}±1^{km}, ML2.3*
*BNS **14** 12:30:01.4±0.5, 4965N×675E, h5^{km}, ML2.3*
*STR **14** 12:30:01.2±0.4, 4954N×680E, h1^{km}±1^{km}, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 14 12:29:59.4±0.2, 4959N±001×667E±002, h13^{km}±2^{km}, n117, σ1^{s}12/248, 7C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUP	Ruppelstein	0.28	66	ePg	Pg	12 30 06.1	+0.9
	SNR=128						
RUP				⇑iP*	Pg	12 30 06.2	+1.0
RUP	Ruppelstein	0.28	66	⇑iP	Pg	12 30 06.2	+1.1
RUP	Ruppelstein	0.28	66	Pg	Pg	12 30 06.0	+0.9
RUP				Sg	Sg	12 30 08.8	-0.2
RUP	Ruppelstein	0.28	66	⇑iPg	Pg	12 30 06.2	+1.0
WLF	Walferdange	0.34	283	ePg	Pg	12 30 08.1	+1.8
	SNR=7.1						
WLF				eSg	Sg	12 30 12.5	+1.6
WLF	Walferdange	0.34	283	⇓P	Pg	12 30 08.1	+1.8
WLF				S	Sg	12 30 12.6	+1.6
	comp=E,180nm,0.2s						
WLF	Walferdange	0.34	283	eP	Pg	12 30 07.4	+1.1
ABH	Alteburg	0.64	63	⇑iP*	Pb	12 30 12.3	-0.2
ABH	Alteburg	0.64	63	Pg	Pg	12 30 12.2	+0.3
ABH	Alteburg	0.64	63	⇑iPg	Pb	12 30 12.3	-0.2
HILG	Hillesheim	0.70	1	ePg	Pg	12 30 14.2	+1.2
HILG				eSg	Sg	12 30 22.7	+0.5
BGG	Burgeitz	0.75	35	⇑ePg	Pg	12 30 13.7	-0.3
BGG				eSg	Sg	12 30 23.5	-0.4
	comp=E,142nm,0.1s						
KTD	Kalmit	0.96	106	Pg	Pg	12 30 19.0	+1.1
KTD				Sg	Sg	12 30 32.5	+1.9
KTD	Kalmit	0.96	106	Pg	Pg	12 30 19.0	+1.0
KTD				Sg	Sg	12 30 32.5	+2.0
KTD	Kalmit	0.96	106	Pg	Pg	12 30 18.8	+0.8
KTD				Sg	Sg	12 30 32.5	+2.0
STB	Steinbach	1.01	6	ePg	Pg	12 30 18.9	+0.1
STB				eSg	Sg	12 30 31.4	-0.7
	comp=E,80nm,0.5s						
KLL	Kalltalsperre	1.08	348	ePg	Pg	12 30 20.5	+0.2
KLL				eSg	Sg	12 30 33.9	-0.5
	comp=E,24nm,0.2s						
MEM	Membach	1.11	338	⇓P	Pb	12 30 21.7	+1.3
MEM				S	Sb	12 30 35.3	+0.6
	comp=Z,30nm,0.4s						
MEM	Membach	1.11	338	P	Pb	12 30 21.6	+1.2
MEM				S	Sb	12 30 35.3	+0.6
	comp=Z,30nm,0.4s						
BCLA	Clavier	1.21	314	⇑P	Pn	12 30 22.9	+0.9
BCLA				S	Sb	12 30 38.2	+0.5
BCLA	Clavier	1.21	314	P	Pn	12 30 22.9	+0.9
BCLA				S	Sb	12 30 38.2	+0.5
RFYF	Reffroy	1.24	220	ePg	Pg	12 30 24.9	+1.7
RFYF				eSn	Sn	12 30 40.0	+0.9
RFYF				eSg	Sg	12 30 42.6	+3.2
	comp=Z,104nm,0.2s						
RFYF	Reffroy	1.24	220	ePg	Pg	12 30 24.9	+1.7
RFYF				eSn	Sn	12 30 40.0	+0.9
RFYF				eSg	Sg	12 30 42.6	+3.2
	comp=Z,52nm,0.2s						
CDF	Champ du Feu	1.25	161	ePg	Pg	12 30 23.3	0.0
CDF				eSn	Sn	12 30 38.7	-0.5
CDF				eSg	Sg	12 30 40.2	+0.7
	comp=Z,67nm,0.2s						

CDF	**Champ du Feu**	**1.25**	**161**	*e*Pg	**Pg**	**12 30 23.3**	**0.0**
CDF				*e*Sn	**Sn**	**12 30 38.7**	**-0.5**
CDF				*e*Sg	**Sg**	**12 30 40.2**	**+0.7**
	comp=Z,33nm,0.2s						
WLS	**Welschbruch**	**1.26**	**159**	Pg	**Pg**	**12 30 24.2**	**+0.6**
WLS				Sg	**Sg**	**12 30 39.9**	**-0.1**
WLS	**Welschbruch**	**1.26**	**159**	Pg	**Pg**	**12 30 24.4**	**+0.8**
WLS				Sg	**Sg**	**12 30 39.9**	**-0.1**
WLS	**Welschbruch**	**1.26**	**159**	P	**Pn**	**12 30 24.4**	**+1.6**
HGN	**Heimansgroeve**	**1.27**	**338**	*e*Pn	**Pn**	**12 30 23.4**	**+0.6**
	comp=Z,2.0nm,0.1s						
HGN				⇑*i*Pg	**Pg**	**12 30 24.4**	**+0.7**
	comp=Z,5.9nm,0.3s						
HGN				*e*Sg	**Sg**	**12 30 39.5**	**-0.7**
GIVF	**Givet**	**1.30**	**294**	*e*Pg	**Pg**	**12 30 24.4**	**+0.1**
GIVF				*e*Sg	**Sg**	**12 30 41.5**	**+0.3**
	comp=Z,73nm,0.2s						
GIVF	**Givet**	**1.30**	**294**	*e*Pg	**Pg**	**12 30 24.4**	**+0.1**
GIVF				*e*Sg	**Sg**	**12 30 41.5**	**+0.3**
	comp=Z,37nm,0.2s						
TNS	**Taunus Mts**	**1.31**	**60**	Pn	**Pn**	**12 30 23.0**	**-0.5**
TNS				Pg	**Pg**	**12 30 24.9**	**+0.3**
TNS				*e*Sg	**Sg**	**12 30 39.3**	**-2.4**
	SNR=5.1						
TNS	**Taunus Mts**	**1.31**	**60**	*e*Pn	**Pn**	**12 30 23.1**	**-0.4**
TNS				*e*Sg	**Sg**	**12 30 41.5**	**-0.2**
TNS	**Taunus Mts**	**1.31**	**60**	Pg	**Pg**	**12 30 25.0**	**+0.4**
TNS				*e*Sg	**Sg**	**12 30 41.5**	**-0.2**
TNS	**Taunus Mts**	**1.31**	**60**	P	**Pg**	**12 30 24.9**	**+0.3**
TOD	**Tromm**	**1.39**	**89**	Sg	**Sg**	**12 30 43.9**	**-0.3**
TOD	**Tromm**	**1.39**	**89**	Pg	**Pg**	**12 30 25.0**	**-1.1**
ECH	**Echery**	**1.41**	**167**	Pg	**Pg**	**12 30 27.1**	**+0.6**
ECH				Sg	**Sg**	**12 30 45.1**	**+0.2**
ECH	**Echery**	**1.41**	**167**	P	**Pn**	**12 30 27.4**	**+2.6**
BNS	**Bensberg**	**1.41**	**13**	⇓*e*Pg	**Pg**	**12 30 26.4**	**-0.1**
BNS				*e*Sg	**Sg**	**12 30 43.8**	**-1.2**
	comp=Z,105nm,0.6s						
DOU	**Dourbes**	**1.43**	**292**	⇑P	**Pn**	**12 30 26.2**	**+1.1**
DOU				S	**Sn**	**12 30 44.1**	**+0.2**
	comp=E,29nm,0.2s						
DOU	**Dourbes**	**1.43**	**292**	P	**Pn**	**12 30 26.2**	**+1.1**
DOU				S	**Sn**	**12 30 44.0**	**+0.2**
	comp=E,29nm,0.2s						
THEF	**They Montfort**	**1.44**	**198**	Pg	**Pg**	**12 30 27.1**	**+0.2**
THEF	**They Montfort**	**1.44**	**198**	Pg	**Pg**	**12 30 27.0**	**0.0**
MEZF	**Maizieres J'vi**	**1.52**	**225**	*e*Pg	**Pg**	**12 30 29.8**	**+1.2**
MEZF				*e*Sg	**Sg**	**12 30 50.3**	**+2.0**
	comp=E,37nm,0.2s						
MEZF	**Maizieres J'vi**	**1.52**	**225**	*e*Pn	**Pn**	**12 30 26.7**	**+0.4**
MEZF				*e*Pg	**Pg**	**12 30 29.8**	**+1.2**
MEZF				*e*Sg	**Sg**	**12 30 50.3**	**+2.0**
MEZF	**Maizieres J'vi**	**1.52**	**225**	*e*Pg	**Pg**	**12 30 29.8**	**+1.2**
MEZF				*e*Sg	**Sg**	**12 30 50.3**	**+2.0**
	comp=E,18nm,0.2s						
HAU	**Haudompre**	**1.60**	**188**	*e*Pg	**Pg**	**12 30 30.2**	**+0.1**
HAU				*e*Sn	**Sn**	**12 30 48.7**	**+0.8**
HAU				*e*Sg	**Sg**	**12 30 50.9**	**+0.1**
	comp=E,182nm,0.4s						
HAU	**Haudompre**	**1.60**	**188**	*e*Pg	**Pg**	**12 30 30.2**	**+0.1**
HAU				*e*Sn	**Sn**	**12 30 48.7**	**+0.8**
HAU				*e*Sg	**Sg**	**12 30 50.9**	**+0.1**
	comp=E,91nm,0.4s						
BAIF	**Baives**	**1.66**	**287**	*e*Pg	**Pg**	**12 30 31.0**	**-0.2**
BAIF				*e*Sn	**Sn**	**12 30 49.6**	**+0.2**
BAIF				*e*Sg	**Sg**	**12 30 52.1**	**-0.7**
	comp=E,24nm,0.2s						
BAIF	**Baives**	**1.66**	**287**	*e*Pn	**Pn**	**12 30 29.6**	**+1.4**
BAIF				*e*Pg	**Pg**	**12 30 31.0**	**-0.2**
BAIF				*e*Sn	**Sn**	**12 30 49.6**	**+0.2**
BAIF				*e*Sg	**Sg**	**12 30 52.1**	**-0.7**
BAIF	**Baives**	**1.66**	**287**	*e*Pg	**Pg**	**12 30 31.0**	**-0.2**
BAIF				*e*Sn	**Sn**	**12 30 49.6**	**+0.2**
BAIF				*e*Sg	**Sg**	**12 30 52.1**	**-0.7**
	comp=E,12nm,0.2s						
BFO	**Black Forest**	**1.67**	**138**	⇓*i*Pn	**Pn**	**12 30 29.1**	**+0.7**
BFO				*e*Sg	**Sn**	**12 30 48.3**	**-1.4**
BFO	**Black Forest**	**1.67**	**138**	*e*Pg	**Pn**	**12 30 29.1**	**+0.7**
BFO				*e*Sg	**Sn**	**12 30 48.3**	**-1.4**
LBG	**Lerchenberg**	**1.68**	**123**	Sn	**Sn**	**12 30 48.4**	**-1.5**
SFTF	**Sexfontaines**	**1.75**	**218**	*e*Pg	**Pg**	**12 30 30.4**	**-2.6**
SFTF				*e*Sg	**Sg**	**12 30 56.9**	**+1.1**
	comp=E,19nm,0.2s						
SFTF	**Sexfontaines**	**1.75**	**218**	*e*Pg	**Pg**	**12 30 30.4**	**-2.6**
SFTF				*e*Sg	**Sg**	**12 30 56.9**	**+1.1**
	comp=E,9.5nm,0.2s						
MOF	**Molkenrain**	**1.77**	**170**	Pg	**Pg**	**12 30 33.7**	**+0.4**
LAUG	**Laupendahl**	**1.77**	**6**	*e*Sg	**Sn**	**12 30 51.5**	**-0.7**
HINF	**Hinteralfeld**	**1.78**	**176**	*e*Pg	**Pg**	**12 30 33.5**	**0.0**
HINF				*e*Sg	**Sg**	**12 30 56.1**	**-0.5**
	comp=E,26nm,0.2s						
HINF	**Hinteralfeld**	**1.78**	**176**	*e*Pn	**Pn**	**12 30 30.0**	**+0.1**
HINF				*e*Pg	**Pg**	**12 30 33.5**	**0.0**
HINF				*e*Sg	**Sg**	**12 30 56.1**	**-0.5**
HINF	**Hinteralfeld**	**1.78**	**176**	*e*Pg	**Pg**	**12 30 33.5**	**0.0**
HINF				*e*Sg	**Sg**	**12 30 56.1**	**-0.5**
	comp=E,13nm,0.2s						
KIZ	**Kirchzarten**	**1.83**	**153**	Pn	**Pn**	**12 30 31.0**	**+0.4**
KIZ				Pg	**Pg**	**12 30 37.2**	**+2.7**
KIZ				Sn	**Sn**	**12 30 52.0**	**-1.7**
KIZ				Sg	**Sg**	**12 30 58.3**	**0.0**
KIZ	**Kirchzarten**	**1.83**	**153**	Pg	**Pg**	**12 30 37.2**	**+2.7**
KIZ				Sn	**Sn**	**12 30 52.0**	**-1.7**
KIZ	**Kirchzarten**	**1.83**	**153**	Px	**Pn**	**12 30 31.0**	**+0.4**
KIZ				Sn	**Sn**	**12 30 52.0**	**-1.7**
KIZ	**Kirchzarten**	**1.83**	**153**	P	**Pg**	**12 30 37.2**	**+2.7**
KIZ				S	**Sg**	**12 30 58.3**	**0.0**
FELD	**Feldberg im Sc**	**1.93**	**152**	Pn	**Pn**	**12 30 32.6**	**+0.7**
FELD				Sg	**Sg**	**12 31 01.0**	**-0.4**
FELD	**Feldberg im Sc**	**1.93**	**152**	Px	**Pn**	**12 30 32.9**	**+1.0**
SIND	**Sindeldorf**	**1.93**	**96**	P	**Pn**	**12 30 32.0**	**0.0**
SIND	**Sindeldorf**	**1.93**	**96**	Px	**Pn**	**12 30 32.0**	**0.0**
BUCH	**Bad Urach**	**2.10**	**122**	P	**Pn**	**12 30 35.3**	**+1.0**
BUCH				Sg	**Sg**	**12 31 06.6**	**-0.4**
GUT	**Gutenstein**	**2.22**	**132**	P	**Pn**	**12 30 37.1**	**+1.1**
GUT				Sg	**Sg**	**12 31 10.6**	**-0.1**
LOMF	**Lomont**	**2.24**	**177**	Pg	**Pg**	**12 30 42.7**	**+0.3**
LOMF				Sg	**Sg**	**12 31 11.8**	**+0.3**
LOMF	**Lomont**	**2.24**	**177**	Pg	**Pg**	**12 30 42.9**	**+0.5**
LOMF	**Lomont**	**2.24**	**177**	Px	**Pg**	**12 30 42.7**	**+0.3**
LOMF				S	**Sg**	**12 31 11.8**	**+0.3**
UBBA	**Unterbreizbach**	**2.47**	**59**	*e*Pg	**Pg**	**12 30 45.9**	**-0.8**
	SNR=2.4						
UBBA				*e*Sg	**Sg**	**12 31 15.9**	**-2.9**
	SNR=4.1						
GRF	**Grafenberg Arr**	**2.96**	**86**	*e*Sg	**Sg**	**12 31 30.8**	**-3.8**
	SNR=2.2						
LOR	**Lormes**	**2.98**	**220**	*e*Pn	**Pn**	**12 30 46.7**	**+0.3**
LOR				*e*Sn	**Sn**	**12 31 21.1**	**-0.9**
LOR				*e*Sg	**Sg**	**12 31 34.8**	**-0.4**
	comp=E,9.9nm,0.2s						
LOR	**Lormes**	**2.98**	**220**	*e*Pn	**Pn**	**12 30 46.7**	**+0.3**
LOR				*e*Sn	**Sn**	**12 31 21.1**	**-0.9**
LOR				*e*Sg	**Sg**	**12 31 34.8**	**-0.4**
	comp=E,4.9nm,0.2s						
CABF	**La Chapelle**	**3.01**	**188**	*e*Pg	**Pg**	**12 30 57.2**	**+0.2**
CABF				*e*Sg	**Sg**	**12 31 35.3**	**-0.6**
	comp=E,37nm,0.6s						
CABF	**La Chapelle**	**3.01**	**188**	*e*Pn	**Pn**	**12 30 48.3**	**+1.6**
CABF				*e*Pg	**Pg**	**12 30 57.2**	**+0.2**
CABF				*e*Sg	**Sg**	**12 31 35.3**	**-0.6**
CABF	**La Chapelle**	**3.01**	**188**	*e*Pg	**Pg**	**12 30 57.2**	**+0.2**
CABF				*e*Sg	**Sg**	**12 31 35.3**	**-0.6**
	comp=E,18nm,0.6s						
CLZ	**Clausthal**	**3.26**	**45**	*e*Pg	**Pg**	**12 30 59.7**	**-2.1**
	SNR=3.6						
CLZ				*e*Sg	**Sg**	**12 31 41.0**	**-3.1**
	SNR=2.6						
SSF	**Saint Saulge**	**3.29**	**221**	*e*Pg	**Pg**	**12 31 03.0**	**+0.5**
SSF				*e*Sn	**Sn**	**12 31 29.1**	**-0.6**
SSF				*e*Sg	**Sg**	**12 31 45.6**	**+0.4**
	comp=E,9.8nm,0.3s						
SSF	**Saint Saulge**	**3.29**	**221**	*e*Pn	**Pn**	**12 30 50.8**	**+0.1**
SSF				*e*Pg	**Pg**	**12 31 03.0**	**+0.5**
SSF				*e*Sn	**Sn**	**12 31 29.1**	**-0.6**
SSF				*e*Sg	**Sg**	**12 31 45.6**	**+0.4**
SSF	**Saint Saulge**	**3.29**	**221**	*e*Pg	**Pg**	**12 31 03.0**	**+0.5**
SSF				*e*Sn	**Sn**	**12 31 29.1**	**-0.6**
SSF				*e*Sg	**Sg**	**12 31 45.6**	**+0.4**
	comp=E,4.9nm,0.3s						
MOX	**Moxa**	**3.36**	**70**	*e*Pg	**Pg**	**12 31 01.9**	**-1.8**
	SNR=2.5						
SMF	**Signal de Mont**	**3.50**	**214**	*e*Pg	**Pg**	**12 31 05.9**	**-0.6**
SMF				*e*Sn	**Sn**	**12 31 33.3**	**-1.6**
SMF				*e*Sg	**Sg**	**12 31 51.7**	**-0.1**
	comp=E,11nm,0.2s						
SMF	**Signal de Mont**	**3.50**	**214**	*e*Pn	**Pn**	**12 30 53.5**	**0.0**
SMF				*e*Pg	**Pg**	**12 31 05.9**	**-0.6**
SMF				*e*Sn	**Sn**	**12 31 33.3**	**-1.6**
SMF				*e*Sg	**Sg**	**12 31 51.7**	**-0.1**
SMF	**Signal de Mont**	**3.50**	**214**	*e*Pg	**Pg**	**12 31 05.9**	**-0.6**
SMF				*e*Sn	**Sn**	**12 31 33.3**	**-1.6**
SMF				*e*Sg	**Sg**	**12 31 51.7**	**-0.1**
	comp=E,5.7nm,0.2s						
HYF	**Humbligny**	**3.55**	**231**	*e*Pn	**Pn**	**12 30 55.9**	**+1.7**
HYF				*e*Pg	**Pg**	**12 31 06.2**	**-1.1**
AVF	**Avril sur Loir**	**3.57**	**220**	*e*Pg	**Pg**	**12 31 08.6**	**+0.8**
AVF				*e*Sg	**Sg**	**12 31 53.5**	**-0.6**
	comp=E,3.3nm,0.2s						
AVF	**Avril sur Loir**	**3.57**	**220**	*e*Pn	**Pn**	**12 30 54.3**	**-0.2**
AVF				*e*Pg	**Pg**	**12 31 08.6**	**+0.8**
AVF				*e*Sg	**Sg**	**12 31 53.5**	**-0.6**
AVF	**Avril sur Loir**	**3.57**	**220**	*e*Pg	**Pg**	**12 31 08.6**	**+0.8**
AVF				*e*Sg	**Sg**	**12 31 53.5**	**-0.6**
	comp=E,1.6nm,0.2s						
TANN	**Tannenbergstha**	**3.83**	**75**	*e*Sg	**Sg**	**12 31 59.0**	**-3.3**
	SNR=3.4						
BGF	**Bois d'Agland**	**3.97**	**222**	*e*Pg	**Pg**	**12 31 14.5**	**-0.9**
BGF				*e*Sn	**Sn**	**12 31 42.7**	**-3.7**
BGF				*e*Sg	**Sg**	**12 32 06.3**	**-0.6**
	comp=E,22nm,0.4s						
BGF	**Bois d'Agland**	**3.97**	**222**	*e*Pn	**Pn**	**12 31 00.2**	**+0.2**
BGF				*e*Pg	**Pg**	**12 31 14.5**	**-0.9**
BGF				*e*Sn	**Sn**	**12 31 42.7**	**-3.7**
BGF				*e*Sg	**Sg**	**12 32 06.3**	**-0.6**
BGF	**Bois d'Agland**	**3.97**	**222**	*e*Pg	**Pg**	**12 31 14.5**	**-0.9**
BGF				*e*Sn	**Sn**	**12 31 42.7**	**-3.7**
BGF				*e*Sg	**Sg**	**12 32 06.3**	**-0.6**
	comp=E,11nm,0.4s						
WET	**Wettzell**	**4.08**	**94**	*e*Pn	**Pn**	**12 31 03.2**	**+1.6**
	SNR=2.5						
TCF	**Toulx Ste Croi**	**4.46**	**224**	*e*Pg	**Pg**	**12 31 22.8**	**-2.0**
TCF				*e*Sn	**Sn**	**12 31 56.1**	**-2.4**
TCF				*e*Sg	**Sg**	**12 32 20.5**	**-2.0**
	comp=E,6.5nm,0.6s						
TCF	**Toulx Ste Croi**	**4.46**	**224**	*e*Pn	**Pn**	**12 31 06.3**	**-0.4**
TCF				*e*Pg	**Pg**	**12 31 22.8**	**-2.0**
TCF				*e*Sn	**Sn**	**12 31 56.1**	**-2.4**
TCF				*e*Sg	**Sg**	**12 32 20.5**	**-2.0**
TCF	**Toulx Ste Croi**	**4.46**	**224**	*e*Pg	**Pg**	**12 31 22.8**	**-2.0**
TCF				*e*Sn	**Sn**	**12 31 56.1**	**-2.4**
TCF				*e*Sg	**Sg**	**12 32 20.5**	**-2.0**
	comp=E,3.2nm,0.6s						
LDF	**La Druitiere**	**4.57**	**260**	*e*Pn	**Pn**	**12 31 09.4**	**+1.2**
LDF				*e*Sn	**Sn**	**12 31 59.0**	**-2.2**
LDF				*e*Sg	**Sg**	**12 32 24.1**	**-2.0**
	comp=E,6.4nm,0.3s						
LDF	**La Druitiere**	**4.57**	**260**	*e*Pn	**Pn**	**12 31 09.4**	**+1.2**
LDF				*e*Sn	**Sn**	**12 31 59.0**	**-2.2**
LDF				*e*Sg	**Sg**	**12 32 24.1**	**-2.0**
	comp=E,3.2nm,0.3s						
GEC2	**GERESS Array S**	**4.67**	**97**	*e*Pn	**Pn**	**12 31 11.2**	**+1.6**
	SNR=4.0						
ORIF	**Oris-en-Rattie**	**4.70**	**187**	*e*Sg	**Sg**	**12 32 28.4**	**-2.0**
FLN	**La Foliniere**	**4.76**	**263**	*e*Pn	**Pn**	**12 31 12.2**	**+1.3**
FLN				*e*Sn	**Sn**	**12 32 03.6**	**-2.3**
FLN				*e*Sg	**Sg**	**12 32 30.4**	**-1.9**
	comp=E,4.9nm,0.3s						
FLN	**La Foliniere**	**4.76**	**263**	*e*Pn	**Pn**	**12 31 12.2**	**+1.3**
FLN				*e*Sn	**Sn**	**12 32 03.6**	**-2.3**
FLN				*e*Sg	**Sg**	**12 32 30.4**	**-1.9**
	comp=E,2.5nm,0.3s						
VIVF	**Saint-Julien-l**	**4.93**	**197**	*e*Sg	**Sg**	**12 32 35.6**	**-1.9**
GRR	**Gorron**	**5.10**	**259**	*e*Pn	**Pn**	**12 31 17.0**	**+1.5**
GRR				*e*Sn	**Sn**	**12 32 09.9**	**-4.3**
	comp=E,3.4nm,0.2s						
GRR	**Gorron**	**5.10**	**259**	*e*Pn	**Pn**	**12 31 17.0**	**+1.5**
GRR				*e*Sn	**Sn**	**12 32 09.9**	**-4.3**
	comp=E,1.7nm,0.2s						
MFF	**Saint Martin d**	**5.46**	**239**	*e*Pn	**Pn**	**12 31 20.5**	**+0.1**
MFF				*e*Sn	**Sn**	**12 32 19.1**	**-3.9**
	comp=E,2.8nm,0.3s						
MFF	**Saint Martin d**	**5.46**	**239**	*e*Pn	**Pn**	**12 31 20.5**	**+0.1**
MFF				*e*Sn	**Sn**	**12 32 19.1**	**-3.9**
	comp=E,1.4nm,0.3s						
SGMF	**Saint Gilles**	**6.22**	**261**	*e*Pg	**Pg**	**12 31 55.6**	**-3.0**
SGMF				*e*Sn	**Sn**	**12 32 38.4**	**-3.6**
	comp=E,2.1nm,0.3s						
SGMF	**Saint Gilles**	**6.22**	**261**	*e*Pn	**Pn**	**12 31 31.5**	**+0.5**
SGMF				*e*Pg	**Pg**	**12 31 55.6**	**-3.0**
SGMF				*e*Sn	**Sn**	**12 32 38.4**	**-3.6**
SGMF	**Saint Gilles**	**6.22**	**261**	*e*Pg	**Pg**	**12 31 55.6**	**-3.0**
SGMF				*e*Sn	**Sn**	**12 32 38.4**	**-3.6**
	comp=E,1.0nm,0.3s						
QUIF	**Quistinic**	**6.71**	**259**	*e*Pn	**Pn**	**12 31 37.5**	**-0.2**
QUIF				*e*Sn	**Sn**	**12 32 48.7**	**-5.3**

ISCJB ***14*** *12:34:31.6±1.1, 4.69N±0.07×127.7E±0.1, h96^{km}±9^{km}, mb4.6/18, Error ellipse: s-maj=21.4km s-min=7.3km az=131.2*

MAN ***14*** *12:34:31.3, 4.81N×127.57E, h5^{km}, mb4.0, ML5.0, MS7.0*

IDC ***14*** *12:34:34.3±8.9, 4.54N×127.40E, h99^{km}±84^{km}, mb4.0/7, mb1 4.2/7, mb1mx3.9/18, mbtmp4.3/7, Error ellipse: s-maj=68.6km s-min=16.8km az=73.0*

NEIC ***14*** *12:34:34.4±1.1, 4.64N×127.71E, h105^{km}±11^{km}, mb4.6/7, Error ellipse: s-maj=15.9km s-min=6.0km az=71.0*

ISC 14 12:34:33.0±1.0**, 4.67N**±0.07×**127.7E**±0.1**, h90**^{km}±9^{km}**, n36, σ0^{s}71**/40**, mb4.6**/18**, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.18**	**319**	P	**Pn**	**12 35 23.2**	**+2.2**
DAV				*e*S	**Sn**	**12 35 56.7**	**-1.3**
KCP	**Kidapawan**	**3.48**	**312**	⇑*e*P	**Pn**	**12 35 24.9**	**-0.2**
KCP				*i* S	**Sn**	**12 36 04.8**	**-0.4**
BUKP	**Musuan**	**4.13**	**321**	*e*P	**Pn**	**12 35 34.5**	**+0.8**
BUTP	**Butuan**	**4.74**	**334**	*e*P	**Pn**	**12 35 42.2**	**+0.1**
BUTP				*e*S	**Sn**	**12 36 35.8**	**0.0**
CGP	**Cagayan de Oro**	**4.80**	**322**	*e*P	**Pn**	**12 35 43.0**	**+0.1**
CGP				*e*S	**Sn**	**12 36 34.3**	**-3.0**
PAGZ	**Pagadian**	**5.33**	**307**	*e*P	**Pn**	**12 35 49.5**	**-0.6**
IPIL	**Ipil**	**5.96**	**302**	*e*P	**Pn**	**12 36 00.2**	**+1.5**
KSM	**Kuching**	**17.65**	**260**	*e*P	**Pn**	**12 38 33.5**	**+0.5**
KAKA	**Kakadu**	**17.90**	**165**	*e*P	**Pn**	**12 38 35.1**	**-0.9**
	8.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**22.72**	**185**	*e*P	**P**	**12 39 26.9**	**-0.4**
	14nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**22.72**	**185**	P	**P**	**12 39 26.9**	**-0.4**
	7.1nm,0.5s,mb4.3,baz=8.4,slow=8.1,SNR=65						
WRAB	**Tennant Creek**	**25.31**	**165**	*e*P	**P**	**12 39 50.6**	**-0.5**
	16nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**25.32**	**165**	P	**P**	**12 39 50.4**	**-0.8**
	8.1nm,0.3s,mb4.6,baz=337,slow=10,SNR=120						
WB2	**Warramunga Arr**	**25.32**	**165**	*e*P	**P**	**12 39 50.8**	**-0.4**
MBWA	**Marble Bar**	**26.83**	**197**	P	**P**	**12 40 04.8**	**-0.1**
AS31	**Alice Springs**	**28.81**	**168**	*e*P	**P**	**12 40 22.8**	**+0.4**
ASPA	**Alice Springs**	**28.81**	**168**	*e*P	**P**	**12 40 22.8**	**+0.3**
ASAR	**Alice Springs**	**28.81**	**168**	P	**P**	**12 40 22.8**	**+0.3**
	3.4nm,0.5s,mb4.2,baz=352,slow=7.6,SNR=121						
ASAR				PcP	PcP	12 43 30.1	0.0
	0.8nm,0.4s,baz=346,slow=2.5,SNR=4.2						
FORT	**Forrest**	**35.25**	**179**	*e*P	**P**	**12 41 18.7**	**-0.1**
	22nm,0.7s,mb5.1						
KLBR	**Kellerberrin**	**37.28**	**194**	*e*P	**P**	**12 41 36.3**	**+0.2**
	4.4nm,0.5s,mb4.6						
MUN	**Mundaring**	**38.05**	**196**	*e*P	**P**	**12 41 43.1**	**+0.5**
NWAO	**Narrogin (SRO)**	**38.69**	**194**	P	**P**	**12 41 48.2**	**+0.3**
	4.2nm,0.4s,mb4.6,baz=27,slow=8.0,SNR=8.0						
NWAO	**Narrogin (SRO)**	**38.69**	**194**	*e*P	**P**	**12 41 47.2**	**-0.7**
ARMA	**Armidale**	**41.73**	**148**	*e*P	**P**	**12 42 13.6**	**+0.5**
JIRN	**Jiri**	**45.62**	**305**	*e*P	**P**	**12 42 44.7**	**+0.5**
	32nm,0.6s,mb5.2						
GUN	**Gumba**	**45.97**	**305**	*e*P	**P**	**12 42 47.4**	**+0.4**
	39nm,0.7s,mb5.2						
PKI	**Pulchoki**	**46.23**	**304**	*e*P	**P**	**12 42 49.0**	**0.0**
	6.1nm,0.5s,mb4.6						
KKN	**Kakani**	**46.42**	**304**	*e*P	**P**	**12 42 50.4**	**-0.1**
	8.7nm,0.5s,mb4.7						
DMN	**Daman**	**46.49**	**304**	*e*P	**P**	**12 42 51.0**	**-0.1**
	26nm,1.0s,mb4.9						
SONM	**Songino Array**	**46.73**	**340**	P	**P**	**12 42 53.8**	**+0.9**
	0.8nm,0.6s,mb3.6,baz=161,slow=8.4,SNR=7.4						
KOLN	**Koldanda**	**47.80**	**304**	*e*P	**P**	**12 43 01.6**	**+0.4**
	36nm,0.6s,mb5.3						
MKAR	**Makanchi Array**	**57.35**	**324**	P	**P**	**12 44 11.7**	**0.0**
	1.4nm,0.5s,mb4.3,baz=117,slow=8.4,SNR=11						
KURK	**Kurchatov**	**61.48**	**327**	*e*P	**P**	**12 44 39.6**	**-0.5**
	2.9nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**67.80**	**326**	*e*P	**P**	**12 45 20.9**	**-0.4**
	3.0nm,0.5s,mb4.4						
VNDA	**Vanda**	**84.23**	**173**	P	**P**	**12 46 53.8**	**-0.7**
	0.7nm,0.9s,mb3.5,baz=319,slow=6.5,SNR=5.5						
VNDA	**Vanda**	**84.23**	**173**	*e*P	**P**	**12 46 53.7**	**-0.8**
	1.1nm,0.8s,mb3.7						

IDC ***14*** *12:41:28.2±2.2, 1.92S×99.65E, h0^{km}, mb4.0/6, mb1 4.1/7, mb1mx3.9/17, mbtmp4.0/7, ML3.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/27, Error ellipse: s-maj=96.3km s-min=18.6km az=56.0*

ISCJB ***14*** *12:41:32.2±1.6, 1.7S±0.3×99.9E±0.4, h33^{km}, mb4.1/8, Error ellipse: s-maj=71.4km s-min=10.6km az=113.4*

NEIC ***14*** *12:41:35.0±3.0, 1.75S×99.92E, h43^{km}±19^{km}, mb4.3/2, Error ellipse: s-maj=67.1km s-min=8.5km az=54.0*

ISC 14 12:41:34.3±1.6**, 1.7S**±0.3×**99.9E**±0.4**, h35**^{km}**, n13, σ0^{s}39**/13**, mb4.1**/8**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.60**	**348**	Pn	**Pn**	**12 42 41.1**	**-0.2**
	1.0nm,0.3s,baz=167,slow=14,SNR=3.0						
PSI				LR	LR	12 44 05.6	
	comp=Z,118nm,18.2s,baz=336,slow=34						
WRA	**Warramunga Arr**	**38.25**	**121**	P	**P**	**12 48 50.8**	**-0.1**
	0.9nm,0.4s,mb3.9,baz=303,slow=9.1,SNR=17						
WRAB	**Tennant Creek**	**38.25**	**121**	*e*P	**P**	**12 48 50.6**	**-0.3**
	2.3nm,0.7s,mb4.0						
WB2	**Warramunga Arr**	**38.26**	**121**	*e*P	**P**	**12 48 50.2**	**-0.8**
ASPA	**Alice Springs**	**39.52**	**126**	*e*P	**P**	**12 49 02.0**	**+0.4**
ASAR	**Alice Springs**	**39.52**	**126**	P	**P**	**12 49 01.9**	**+0.3**
	0.4nm,0.4s,mb3.5,baz=297,slow=8.2,SNR=18						
AS31	**Alice Springs**	**39.52**	**126**	*e*P	**P**	**12 49 02.0**	**+0.4**
SONM	**Songino Array**	**49.69**	**6**	P	**P**	**12 50 23.1**	**+0.4**
	1.2nm,0.7s,mb4.0,baz=191,slow=9.0,SNR=5.9						
MKAR	**Makanchi Array**	**50.73**	**344**	P	**P**	**12 50 30.9**	**+0.3**
	1.6nm,0.5s,mb4.2,baz=148,slow=8.6,SNR=12						
KURK	**Kurchatov**	**55.31**	**344**	*e*P	**P**	**12 51 04.5**	**+0.1**
	3.7nm,1.0s,mb4.4						
ZAL	**Zalesovo**	**56.87**	**349**	P	**P**	**12 51 15.1**	**-0.4**
	2.2nm,0.3s,mb4.6,baz=307,slow=5.6,SNR=6.7						
ZAL	**Zalesovo**	**56.87**	**349**	P	**P**	**12 51 15.1**	**-0.4**
FINES	**FINESS Array B**	**83.81**	**332**	P	**P**	**12 53 59.7**	**-0.3**
	1.2nm,0.8s,mb4.1,baz=123,slow=7.0,SNR=5.5						

IDC ***14*** *13:04:24.4±6.4, 5.63S×151.01E, h75^{km}±48^{km}, mb3.6/4, mb1 3.9/6, mb1mx3.6/14, mbtmp4.0/6, ML3.3/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/17, Error ellipse: s-maj=68.5km s-min=32.1km az=106.0*

ISCJB ***14*** *13:04:25.2±4.1, 5.4S±0.2×150.3E±0.3, h66^{km}±29^{km}, mb3.8/5, Error ellipse: s-maj=55.0km s-min=30.1km az=7.0*

NEIC ***14*** *13:04:26.5±3.4, 5.53S×150.54E, h78^{km}±24^{km}, mb4.3/3, Error ellipse: s-maj=38.3km s-min=24.1km az=98.0*

ISC 14 13:04:27.7±3.9**, 5.5S**±0.2×**150.3E**±0.3**, h69**^{km}±27^{km}**, n14, σ0^{s}59**/13**, mb3.8**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.97**	**219**	P	**Pn**	**13 05 40.3**	**+0.6**
	4.7nm,0.3s,baz=25,slow=8.2,SNR=19						
PMG				S	**Sn**	**13 06 44.3**	**+8.5**
	2.1nm,0.3s,baz=106,slow=20,SNR=3.7						
CTA	**Charters Tower**	**15.02**	**195**	P	**Pn**	**13 07 55.4**	**-0.6**
	0.1nm,0.3s,baz=14,slow=12,SNR=2.9						
KAKA	**Kakadu**	**19.02**	**247**	*e*P	**Pn**	**13 08 44.8**	**-0.6**
	4.6nm,0.6s						
WRAB	**Tennant Creek**	**21.12**	**226**	*e*P	**P**	**13 09 05.3**	**-1.4**
	16nm,1.0s,mb4.3						
WB2	**Warramunga Arr**	**21.13**	**226**	*e*P	**P**	**13 09 07.4**	**+0.6**
WRA	**Warramunga Arr**	**21.14**	**226**	P	**P**	**13 09 06.9**	**0.0**
	2.5nm,0.8s,mb3.6,baz=53,slow=11,SNR=15						
AS31	**Alice Springs**	**23.98**	**220**	*e*P	**P**	**13 09 36.1**	**+0.4**
ASAR	**Alice Springs**	**23.98**	**220**	P	**P**	**13 09 35.9**	**+0.2**
	2.4nm,0.7s,mb3.6,baz=55,slow=8.2,SNR=33						
ASPA	**Alice Springs**	**23.98**	**220**	*e*P	**P**	**13 09 36.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**27.14**	**240**	*e*P	**P**	**13 10 05.1**	**+0.8**
	12nm,1.0s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.14**	**240**	P	**P**	**13 10 04.5**	**+0.1**
	3.9nm,0.8s,mb4.0,baz=74,slow=11,SNR=7.1						
AFI	**Afiamalu**	**38.26**	**105**	LR	LR	13 23 31.3	
	comp=Z,60nm,20.0s,baz=161,slow=31						
SONM	**Songino Array**	**65.62**	**329**	P	**P**	**13 15 04.3**	**-0.1**
	0.2nm,0.5s,mb3.2,baz=116,slow=3.4,SNR=2.2						
TORD	**Torodi Ar. Bea**	**148.13**	**286**	PKPbc	PKPbc	13 24 03.9	-1.7
	0.7nm,0.7s,baz=44,slow=3.8,SNR=4.1						

IDC ***14*** *13:11:55.9±1.7, 5.71S×150.58E, h0^{km}, mb4.0/5, mb1 4.2/5, mb1mx4.0/12, mbtmp4.0/5, MS3.6/5, Ms1 3.6/5, ms1mx3.4/14, Error ellipse: s-maj=49.8km s-min=27.8km az=102.0*

ISCJB ***14*** *13:12:04.3±4.3, 5.7S±0.2×150.4E±0.2, h74^{km}±31^{km}, mb3.9/6, Error ellipse: s-maj=41.3km s-min=30.6km az=178.5*

NEIC ***14*** *13:12:05.8±4.2, 5.79S×150.52E, h80^{km}±30^{km}, mb4.3/3, Error ellipse: s-maj=38.3km s-min=28.1km az=88.0*

ISC 14 13:12:06.8±4.1**, 5.8S**±0.2×**150.4E**±0.3**, h74**^{km}±29^{km}**, n17, σ0^{s}77**/14**, mb3.8**/4**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.80**	**221**	Pn	**Pn**	**13 13 16.7**	**+0.2**
	5.8nm,0.3s,baz=44,slow=13,SNR=16						
PMG				Sn	**Sn**	**13 14 21.9**	**+11**
	3.9nm,0.3s,baz=135,slow=21,SNR=3.7						
PMG				LR	LR	13 14 48.5	
	comp=Z,191nm,20.1s,baz=159,slow=34						
CTA	**Charters Tower**	**14.77**	**195**	LR	LR	13 20 52.2	
	comp=Z,216nm,19.2s,baz=20,slow=36						
KAKA	**Kakadu**	**18.97**	**247**	*e*P	**Pn**	**13 16 23.0**	**-0.6**
	7.9nm,0.8s						
WRAB	**Tennant Creek**	**20.98**	**226**	*e*P	**P**	**13 16 43.2**	**-0.7**
	15nm,0.8s						
WB2	**Warramunga Arr**	**20.98**	**226**	*e*P	**P**	**13 16 43.9**	**-0.1**
WRA	**Warramunga Arr**	**20.99**	**226**	P	**P**	**13 16 44.1**	**0.0**
	5.7nm,0.9s,baz=54,slow=11,SNR=22						
AS31	**Alice Springs**	**23.81**	**220**	*e*P	**P**	**13 17 13.9**	**+1.1**
ASAR	**Alice Springs**	**23.81**	**220**	P	**P**	**13 17 12.8**	**0.0**
	1.3nm,0.6s,mb3.5,baz=54,slow=8.5,SNR=33						
ASPA	**Alice Springs**	**23.82**	**220**	*e*P	**P**	**13 17 13.9**	**+1.1**
FITZ	**Fitzroy Crossi**	**27.06**	**241**	*e*P	**P**	**13 17 42.1**	**-0.1**
	13nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**27.06**	**241**	P	**P**	**13 17 41.7**	**-0.5**
	4.1nm,0.6s,mb4.1,baz=80,slow=7.6,SNR=11						
FITZ				LR	LR	13 30 18.9	
	comp=Z,180nm,18.1s,baz=175,slow=40						
SONM	**Songino Array**	**65.89**	**329**	P	**P**	**13 22 45.0**	**+0.3**
	1.3nm,0.9s,mb3.8,baz=133,slow=4.8,SNR=7.0						
VNDA	**Vanda**	**71.95**	**177**	P	**P**	**13 23 22.1**	**-0.1**
	0.8nm,0.9s,mb3.5,baz=299,slow=4.8,SNR=4.4						
QSPA	**South Pole Qui**	**84.18**	**180**	*e*P	**P**	**13 24 26.2**	**-3.7**
BVAR	**Borovoye Array**	**88.58**	**323**	LR	LR	14 05 43.4	
	comp=Z,41nm,18.5s,baz=233,slow=36						
AKTO	**Aktyubinsk**	**95.92**	**320**	LR	LR	14 08 04.2	
	comp=Z,41nm,18.0s,baz=259,slow=35						
TORD	**Torodi Ar. Bea**	**148.27**	**286**	PKPbc	PKPbc	13 31 42.6	-1.7
	1.0nm,0.7s,baz=63,slow=2.5,SNR=4.7						

SOF ***14*** *13:29:12.6, 40.19N×25.64E, h4^{km}, MD3.0*

ATH ***14*** *13:29:19.3, 40.30N×25.26E, h25^{km}±1^{km}, MD3.2/4*

NEIC ***14*** *13:29:19.3, 40.30N×25.26E, h25^{km}, MD3.0(SOF), MD3.2(ATH), After ATH.*

CSEM ***14*** *13:29:20.8±0.2, 40.31N×25.25E, h20^{km}, MD3.2, Error ellipse: s-maj=5.1km s-min=3.6km az=39.0*

ISCJB ***14*** *13:29:20.7±0.6, 40.29N±0.03×25.27E±0.04, h23^{km}±6^{km}, Error ellipse: s-maj=6.2km s-min=4.6km az=92.6*

THE ***14*** *13:29:22.4, 40.30N×25.28E, h20^{km}, ML3.1*

ISC 14 13:29:20.3±0.6**, 40.30N**±0.03×**25.26E**±0.04**, h15**^{km}±4^{km}**, n16, σ0^{s}90**/27**, 1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.41**	**189**	⇑*i*PB	**Pg**	**13 29 28.4**	**-0.1**
LIA				*e*SB	**Sg**	**13 29 34.1**	**+0.1**
ALN	**Alexandroupoli**	**0.84**	**45**	*e*Pg	**Pg**	**13 29 36.1**	**-0.5**
ALN				*e*Sg	**Sg**	**13 29 49.0**	**+1.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALN	**Alexandroupoli**	**0.84**	**45**	*e*Pg	**Pg**	**13 29 36.1**	**-0.6**
ALN				*e*Sg	**Sg**	**13 29 49.0**	**+1.2**
RDO	**Rodhopi**	**0.87**	**14**	*e*PN	**Pn**	**13 29 36.2**	**-1.8**
OUR	**Ouranopolis**	**0.98**	**272**	*e*Pg	**Pg**	**13 29 39.4**	**+0.1**
OUR				*e*Sg	**Sg**	**13 29 52.9**	**+0.8**
PAIG	**Paliouri**	**1.27**	**254**	*e*Pg	**Pg**	**13 29 43.0**	**-1.8**
PRK	**Paraskevi**	**1.31**	**143**	*e*PN	**Pn**	**13 29 44.0**	**+0.1**
PRK				*e*SN	**Sn**	**13 30 01.8**	**+0.7**
RZN	**Rozhen**	**1.45**	**344**	*i* P	**Pn**	**13 29 44.0**	**-1.9**
NVR	**Nevrokopi**	**1.50**	**315**	*e*PN	**Pn**	**13 29 46.6**	**+0.1**
NVR				*e*SN	**Sn**	**13 30 06.5**	**+0.8**
SRS	**Serrai**	**1.51**	**303**	*e*Pg	**Pn**	**13 29 46.6**	**-0.1**
SRS				*e*Sg	**Sn**	**13 30 05.9**	**-0.3**
SOH	**Sokhos**	**1.55**	**290**	*e*Pg	**Pn**	**13 29 47.4**	**+0.2**
SOH				*e*Sg	**Sn**	**13 30 07.6**	**+0.6**
HORT	**Hortiatis**	**1.68**	**281**	*e*Pb	**Pn**	**13 29 49.8**	**+0.7**
HORT				*e*Sb	**Sn**	**13 30 09.7**	**-0.6**
MMB	**Musomiste**	**1.74**	**318**	*i* P	**Pn**	**13 29 52.0**	**+2.1**
KNT	**Kendrikon**	**1.99**	**296**	*e*Pn	**Pn**	**13 29 54.1**	**+0.8**
KNT				*e*Sn	**Sn**	**13 30 18.0**	**-0.1**
CHOS	**Chios island**	**2.01**	**162**	*e*Pn	**Pn**	**13 29 53.5**	**-0.1**
CHOS				*e*Sn	**Sn**	**13 30 18.2**	**-0.1**
KKB	**Krupnik**	**2.27**	**314**	*i* P	**Pn**	**13 29 56.0**	**-1.2**

KRSC 14 13:39:29, 5395N×16139E, h11^{km}, ML3.8, Off east coast of Kamchatka Peninsula

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*SOF **14** 13:51:39.9, 41.18N×2337E, h12^{km}, MD2.9*
*NEIC **14** 13:51:39.9, 41.18N×2337E, h12^{km}, MD2.9(SOF), MD3.2(ATH), After SOF.*
*CSEM **14** 13:51:40.7±0.1, 4124N×2337E, h10^{km}, ML2.6, Error ellipse: s-maj=2.9km s-min=1.9km az=129.0*
*ISCJB **14** 13:51:40.3±0.5, 4121N±003×2340E±005, h10^{km}±8^{km}, Error ellipse: s-maj=6.1km s-min=4.2km az=150.5*
*THE **14** 13:51:41.7, 41.18N×2336E, h7^{km}, ML2.6*
*ATH **14** 13:51:42.3, 41.10N×2361E, h14^{km}, MD3.2/3*
ISC 14 13:51:40.8±0.4**, 4120N**±002×**2340E**±004**, h15**^{km}±6^{km}**, n17, σ0^{s}63**/28**, 1D, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.38**	**264**	*e*Pg	**Pg**	**13 51 48.6**	**+0.1**
KNT				*e*Sg	**Sg**	**13 51 53.8**	**+0.1**
NVR	**Nevrokopi**	**0.38**	**67**	⇓*i*PB	**Pg**	**13 51 48.7**	**+0.2**
NVR				*e*SB	**Sg**	**13 51 53.7**	**0.0**
SOH	**Sokhos**	**0.38**	**185**	*e*Pg	**Pg**	**13 51 48.5**	**-0.1**
SOH				*e*Sg	**Sg**	**13 51 53.8**	**0.0**
MMB	**Musomiste**	**0.46**	**33**	*i* Pg	**Pg**	**13 51 49.7**	**-0.2**
VAY	**Valandovo**	**0.64**	**281**	*e*Pg	**Pg**	**13 51 53.5**	**+0.3**
VAY				*e*Sg	**Sg**	**13 52 01.8**	**+0.2**
VAY	**Valandovo**	**0.64**	**281**	*i* Pg	**Pg**	**13 51 52.9**	**-0.3**
VAY				*e*Sg	**Sg**	**13 52 01.6**	**-0.1**
HORT	**Hortiatis**	**0.65**	**201**	*e*Pg	**Pg**	**13 51 53.4**	**0.0**
HORT				*e*Sg	**Sg**	**13 52 02.0**	**+0.1**
THE	**Thessaloniki**	**0.66**	**210**	*e*Pg	**Pg**	**13 51 53.5**	**-0.1**
KKB	**Krupnik**	**0.70**	**341**	*i* P	**Pg**	**13 51 53.5**	**-1.0**
PLG	**Polygyros**	**0.83**	**177**	*e*PB	**Pb**	**13 51 56.1**	**-0.7**
OUR	**Ouranopolis**	**0.97**	**153**	*e*Pg	**Pg**	**13 51 59.9**	**+0.3**
OUR				*e*Sg	**Sg**	**13 52 13.6**	**+1.2**
RZN	**Rozhen**	**1.10**	**63**	*i* P	**Pb**	**13 52 01.6**	**+0.1**
LIT	**Litokhoron**	**1.30**	**212**	*e*Pg	**Pg**	**13 52 04.5**	**-1.3**
LIT				*e*Sg	**Sg**	**13 52 23.1**	**+0.3**
LIT	**Litokhoron**	**1.30**	**212**	*e*Pg	**Pg**	**13 52 04.5**	**-1.3**
LIT				*e*Sg	**Sg**	**13 52 23.0**	**+0.3**
VTS	**Vitosha**	**1.40**	**354**	*e*Pg	**Pg**	**13 52 07.9**	**+0.3**
VTS				*e*Sg	**Sg**	**13 52 25.9**	**+0.2**
VTS	**Vitosha**	**1.40**	**354**	*i* P	**Pn**	**13 52 07.8**	**+2.2**
RDO	**Rodhopi**	**1.62**	**91**	*e*PB	**Pb**	**13 52 09.6**	**-0.7**
RDO				*e*SB	**Sb**	**13 52 29.9**	**-0.5**

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*ISCJB **14** 14:11:04.9±0.6, 4721N±002×003W±006, h10^{km}, Error ellipse: s-maj=5.9km s-min=3.2km az=176.9*
*CSEM **14** 14:11:06.9±0.1, 47.19N×0.15W, h2^{km}, ML2.4/3, Error ellipse: s-maj=4.5km s-min=1.7km az=91.0*
*LDG **14** 14:11:06.9±0.2, 4720N×0.19W, h2^{km}, Md2.8/1, Ml2.2/5, Error ellipse: s-maj=4.3km s-min=2.5km az=82.0*
*STR **14** 14:11:07.9±0.8, 47.14N×0.17W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 14 14:11:06.3±0.6**, 4720N**±002×**007W**±006**, h10**^{km}**, n13, σ0^{s}75**/25**, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MFF	**Saint Martin d**	**0.59**	**185**	*e*Pg	**Pg**	**14 11 17.8**	**0.0**
MFF				*e*Sg	**Sg**	**14 11 25.2**	**-0.4**
	8.9nm,0.2s						
MFF	**Saint Martin d**	**0.59**	**185**	*e*Pg	**Pg**	**14 11 17.8**	**0.0**
MFF				*e*Sg	**Sg**	**14 11 25.2**	**-0.4**
	4.4nm,0.2s						
LCHF	**La Chataignera**	**0.70**	**221**	Pg	**Pg**	**14 11 19.3**	**-0.4**
LCHF				Sg	**Sg**	**14 11 28.3**	**-0.6**
CHIF	**Chize**	**1.09**	**192**	Pg	**Pg**	**14 11 27.4**	**+0.2**
CHIF				Sg	**Sg**	**14 11 41.2**	**-0.1**
GRR	**Gorron**	**1.31**	**336**	*e*Pg	**Pg**	**14 11 30.6**	**-0.8**
GRR				*e*Sg	**Sg**	**14 11 47.6**	**-0.7**
	5.1nm,0.2s						
GRR	**Gorron**	**1.31**	**336**	*e*Pg	**Pg**	**14 11 30.6**	**-0.8**
GRR				*e*Sg	**Sg**	**14 11 47.6**	**-0.7**
	2.5nm,0.2s						
LDF	**La Druitiere**	**1.40**	**359**	*e*Pg	**Pg**	**14 11 33.5**	**+0.3**
LDF				*e*Sg	**Sg**	**14 11 51.9**	**+0.6**
	10.0nm,0.3s						
LDF	**La Druitiere**	**1.40**	**359**	*e*Pg	**Pg**	**14 11 33.5**	**+0.3**
LDF				*e*Sg	**Sg**	**14 11 51.9**	**+0.6**
	5.0nm,0.3s						
FLN	**La Foliniere**	**1.59**	**350**	*e*Pg	**Pg**	**14 11 36.1**	**-0.7**
FLN				*e*Sg	**Sg**	**14 11 56.8**	**-0.7**
	3.9nm,0.2s						
FLN	**La Foliniere**	**1.59**	**350**	*e*Pg	**Pg**	**14 11 36.1**	**-0.7**
FLN				*e*Sg	**Sg**	**14 11 56.8**	**-0.7**
	2.0nm,0.2s						
BGF	**Bois d'Agland**	**2.10**	**107**	*e*Sg	**Sg**	**14 12 14.2**	**+0.4**
QUIF	**Quistinic**	**2.21**	**290**	*e*Pg	**Pn**	**14 11 45.1**	**+2.0**
QUIF				*e*Sg	**Sn**	**14 12 11.7**	**+1.2**
	2.2nm,0.2s						
QUIF	**Quistinic**	**2.21**	**290**	*e*Pg	**Pn**	**14 11 45.1**	**+2.0**
QUIF				*e*Sg	**Sn**	**14 12 11.7**	**+1.2**
	1.1nm,0.2s						

IDC 14 14:20:49.6±2.3**, 576S**×**13035E, h0**^{km}**, mb3.5**/1**, mb1 3.5**/4**, mb1mx3.4**/12**, mbtmp3.3**/4**, ML3.3**/3**, Error ellipse: s-maj=94.2km s-min=28.5km az=77.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.10**	**200**	Pn	Pn	14 23 58.0	+1.1
	0.1nm,0.3s,baz=129,slow=20,SNR=22						
FITZ				Sn	Sn	14 26 10.2	-13
	0.3nm,0.3s,baz=102,slow=18,SNR=6.3						
WRA	**Warramunga Arr**	**14.62**	**165**	Pn	Pn	14 24 17.5	-0.2
	0.2nm,0.3s,baz=347,slow=13,SNR=19						
WRA				Sn	Sn	14 26 45.8	-15
	0.1nm,0.3s,baz=358,slow=24,SNR=5.4						
ASAR	**Alice Springs**	**18.13**	**169**	P	Pn	14 25 02.6	-0.1
	0.1nm,0.3s,baz=344,slow=9.5,SNR=9.0						
ASAR				S	Sn	14 28 20.3	-5.4
	0.0nm,0.3s,baz=230,slow=4.2,SNR=4.0						
MKAR	**Makanchi Array**	**67.38**	**326**	P	P	14 31 46.9	+0.2
	0.2nm,0.4s,baz=125,slow=7.6,SNR=5.6						

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*NIED **14** 14:25:00, 3450N×13870E, h175^{km}, Mw3.9 Best double couple: M$_0$7.01000×10^{14} NP1:ϕ_s42.00000°, δ77.00000°, λ-79.00000°. NP2:ϕ_s182.00000°, δ17.00000°, λ-128.00000°.*
*MOS **14** 14:25:05.6±0.8, 3448N×13900E, h204^{km}, mb4.0/6, Error ellipse: s-maj=23.6km s-min=8.8km az=106.7*
*NEIC **14** 14:25:07.0±0.7, 3449N×13895E, h198^{km}±6^{km}, mb4.2/6, Error ellipse: s-maj=22.4km s-min=8.4km az=77.0*
*ISCJB **14** 14:25:06.3±0.3, 3444N±004×13873E±005, h203^{km}±2^{km}, mb3.8/16, Error ellipse: s-maj=7.3km s-min=6.4km az=60.2*
*JMA **14** 14:25:07.2±0.1, 3448N×13875E, h199^{km}±1^{km}, M3.6*
*IDC **14** 14:25:08.3±0.8, 3442N×13879E, h203^{km}±9^{km}, mb3.5/10, mb1 3.6/11, mb1mx3.5/19, mbtmp4.0/11, Error ellipse: s-maj=46.1km s-min=9.9km az=72.0*
ISC 14 14:25:07.4±0.3**, 3446N**±004×**13873E**±005**, h198**^{km}±2^{km}**, n62, σ0^{s}71**/76**, mb3.8**/16**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIZS	**Izushimoda**	**0.29**	**25**	P	**Pn**	**14 25 33.5**	**-0.2**
JIZS				S	**Sn**	**14 25 53.9**	**-0.1**
JKO	**Kozu shima**	**0.43**	**129**	P	**Pn**	**14 25 34.4**	**+0.3**
OMA	**Omae zaki**	**0.45**	**289**	P	**Pn**	**14 25 34.4**	**+0.3**
OMA				S	**Sn**	**14 25 55.3**	**+0.5**
NJJJ	**Nii jima 2**	**0.46**	**97**	P	**Pn**	**14 25 34.3**	**+0.1**
JSG	**Sagara**	**0.50**	**296**	P	**Pn**	**14 25 34.6**	**+0.3**
JSG				S	**Sn**	**14 25 55.7**	**+0.6**
KTJJ	**Kamata 2**	**0.54**	**30**	P	**Pn**	**14 25 34.3**	**-0.2**
KTJJ				S	**Sn**	**14 25 55.6**	**+0.2**
JIM2	**Oshima 3**	**0.63**	**66**	P	**Pn**	**14 25 34.8**	**-0.1**
JMY	**Miyakejima3**	**0.75**	**120**	P	**Pn**	**14 25 35.6**	**+0.1**
JOD2	**Odawara 2**	**0.86**	**20**	P	**Pn**	**14 25 36.1**	**0.0**
JOD2				S	**Sn**	**14 25 57.8**	**-0.4**
JYN	**Shimob**	**1.05**	**352**	P	**Pn**	**14 25 37.4**	**+0.1**
TK01	**Tokai 1**	**1.17**	**234**	S	**Sn**	**14 26 02.0**	**-0.1**
JRY	**Ryogami san**	**1.56**	**5**	P	**Pn**	**14 25 42.1**	**+0.6**
JRY				S	**Sn**	**14 26 08.4**	**+0.4**
JHJ	**Hachijo jima 2**	**1.60**	**146**	P	**Pn**	**14 25 42.3**	**+0.5**
	130nm,0.3s,baz=178,slow=21,SNR=24						
JHJ				S	**Sn**	**14 26 12.9**	**+4.4**
	106nm,0.3s,baz=47,slow=23,SNR=10						
JHJ2	**Mitsune**	**1.62**	**146**	P	**Pn**	**14 25 42.2**	**+0.2**
JIE	**Ise**	**1.68**	**268**	P	**Pn**	**14 25 42.4**	**-0.2**
JIE				S	**Sn**	**14 26 08.9**	**-0.9**
BSO1	**Boso 1**	**1.86**	**83**	P	**Pn**	**14 25 43.5**	**-0.9**
JAG	**Ashikaga**	**2.05**	**17**	P	**Pn**	**14 25 45.7**	**-0.6**
JGM	**Miyama**	**2.06**	**307**	P	**Pn**	**14 25 46.6**	**+0.2**
MJAR	**Matsushiro Arr**	**2.12**	**349**	P	**Pn**	**14 25 46.8**	**-0.3**
	9.3nm,0.3s,baz=172,slow=13,SNR=68						
MJAR				S	**Sn**	**14 26 21.0**	**+3.1**
	2.3nm,0.3s,baz=175,slow=16,SNR=5.6						
MAJO	**Matsushiro**	**2.12**	**349**	*e*P	**Pn**	**14 25 46.8**	**-0.3**
MAT	**Matsushiro**	**2.12**	**349**	P	**Pn**	**14 25 47.0**	**-0.1**
MAT				S	**Sn**	**14 26 18.1**	**+0.1**
MAT	**Matsushiro**	**2.12**	**349**	P	**Pn**	**14 25 47.0**	**-0.1**
MAT				S	**Sn**	**14 26 18.2**	**+0.2**
MAT	**Matsushiro**	**2.12**	**349**	*e*P	**Pn**	**14 25 47.0**	**-0.1**
MAT				*e*S	**Sn**	**14 26 18.0**	**0.0**
JWY	**Kouya**	**2.61**	**266**	P	**Pn**	**14 25 52.6**	**+0.2**
JWY				S	**Sn**	**14 26 27.1**	**-0.4**
JWZ	**Kozaga**	**2.67**	**251**	P	**Pn**	**14 25 52.8**	**-0.3**
JWZ				S	**Sn**	**14 26 27.7**	**-1.1**
JKG	**Kaga**	**2.67**	**313**	P	**Pn**	**14 25 53.5**	**+0.4**
JWT	**Wachi**	**2.86**	**288**	P	**Pn**	**14 25 55.4**	**+0.1**
ASAJ	**Asahikawa**	**10.10**	**16**	P	**Pn**	**14 27 25.0**	**-2.9**
	1.6nm,0.3s,baz=50,slow=21,SNR=26						
ASAJ	**Asahikawa**	**10.10**	**16**	P	**Pn**	**14 27 25.0**	**-2.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**12.85**	**12**	*e*P	**Pn**	**14 28 00.5**	**-2.5**
YSS				pmax	pmax		
	comp=Z,9.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**12.85**	**12**	*e*Pn	**Pn**	**14 28 00.5**	**-2.5**
	comp=Z,8.7nm,0.3s						
ULN	**Ulaanbaatar**	**27.14**	**309**	*e*P	**P**	**14 30 32.9**	**+0.7**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
ULN	**Ulaanbaatar**	**27.14**	**309**	*e*P	**P**	**14 30 32.9**	**+0.7**
	comp=Z,1.1nm,0.7s,mb3.6						
SONM	**Songino Array**	**27.55**	**309**	P	**P**	**14 30 37.3**	**+1.4**
	comp=Z,0.5nm,0.5s,mb3.4,baz=114,slow=8.6,SNR=5.4						
SONM	**Songino Array**	**27.55**	**309**	P	**P**	**14 30 37.3**	**+1.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**42.11**	**315**	P	**P**	**14 32 39.9**	**-0.1**
	comp=Z,1.0nm,0.3s,mb3.8,baz=279,slow=2.3,SNR=3.0						
ZAL	**Zalesovo**	**42.11**	**315**	P	**P**	**14 32 39.9**	**-0.1**
NVS	**Novosibirsk**	**43.10**	**316**	*i* P	**P**	**14 32 47.8**	**-0.2**
MKAR	**Makanchi Array**	**43.69**	**304**	P	**P**	**14 32 53.2**	**+0.5**
	comp=Z,1.6nm,0.4s,mb3.7,baz=84,slow=9.9,SNR=27						
MKAR	**Makanchi Array**	**43.69**	**304**	P	**P**	**14 32 53.2**	**+0.5**
KURK	**Kurchatov**	**45.85**	**310**	*e*P	**P**	**14 33 09.1**	**-0.6**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0						
KURK	**Kurchatov**	**45.85**	**310**	*e*P	**P**	**14 33 09.1**	**-0.7**
	comp=Z,7.0nm,0.8s,mb4.0						
ZRNK	**Zerenda**	**51.56**	**314**	*e*P	**P**	**14 33 53.1**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7						
ZRNK	**Zerenda**	**51.56**	**314**	*e*P	**P**	**14 33 53.1**	**-0.1**
	comp=Z,1.3nm,0.3s,mb3.8						
WRAB	**Tennant Creek**	**54.25**	**185**	*e*P	**P**	**14 34 12.0**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.4						
WRAB	**Tennant Creek**	**54.25**	**185**	*e*P	**P**	**14 34 12.0**	**-0.7**
	comp=Z,17nm,1.4s,mb4.4						
WB2	**Warramunga Arr**	**54.26**	**185**	*e*P	**P**	**14 34 12.3**	**-0.6**
WRA	**Warramunga Arr**	**54.26**	**185**	P	**P**	**14 34 12.2**	**-0.7**
	comp=Z,1.0nm,0.4s,mb3.7,baz=360,slow=7.6,SNR=54						
ARU	**Arti**	**56.86**	**319**	P	**P**	**14 34 31.4**	**0.0**
ARU	**Arti**	**56.86**	**319**	P	**P**	**14 34 31.4**	**0.0**
AS31	**Alice Springs**	**57.98**	**185**	P	**P**	**14 34 40.1**	**+0.9**
ASAR	**Alice Springs**	**57.98**	**185**	P	**P**	**14 34 40.7**	**+1.5**
	comp=Z,0.4nm,0.4s,mb3.4,baz=17,slow=10,SNR=20						
ARCES	**ARCESS Array B**	**65.63**	**339**	P	**P**	**14 35 30.9**	**+0.7**
	comp=Z,2.8nm,0.8s,mb3.9,baz=49,slow=5.6,SNR=4.5						
ARCES	**ARCESS Array B**	**65.63**	**339**	P	**P**	**14 35 30.9**	**+0.7**
JOF	**Joensuu**	**67.20**	**332**	*e*p	**P**	**14 35 39.8**	**-0.4**
	comp=Z,1.9nm,0.3s,mb4.2						
KAF	**Kangasniemi**	**69.58**	**332**	*e*p	**P**	**14 35 53.9**	**-1.0**
	comp=Z,2.0nm,0.4s,mb4.1,baz=52,slow=5.8						
KAF	**Kangasniemi**	**69.58**	**332**	*e*P	**P**	**14 35 53.9**	**-1.0**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
FINES	**FINESS Array B**	**70.06**	**332**	P	**P**	**14 35 58.0**	**+0.1**
	comp=Z,1.2nm,0.3s,mb4.0,baz=68,slow=6.0,SNR=24						
AKASG	**Malin Array Be**	**74.98**	**322**	P	**P**	**14 36 26.9**	**+0.1**
	comp=Z,0.8nm,0.3s,mb3.8,baz=51,slow=5.5,SNR=5.1						
NB2	**NORSAR Subarra**	**75.70**	**337**	P	**P**	**14 36 31.0**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.5,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**75.70**	**337**	P	**P**	**14 36 31.3**	**+0.3**
	comp=Z,0.6nm,0.8s,mb3.3,baz=43,slow=6.5,SNR=5.0						
BRTR	**Keskin Array B**	**78.90**	**311**	P	**P**	**14 36 49.8**	**+1.0**
	comp=Z,0.6nm,0.7s,mb3.4,baz=54,slow=6.3,SNR=3.8						

IDC 14 14:49:56.3±9.1**, 2904N**×**14116E, h0**^{km}**, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.5**/17**, mbtmp3.4**/4**, Error ellipse: s-maj=348.8km s-min=24.4km az=69.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**32.70**	**315**	P	P	14 56 32.4	+2.0
	0.2nm,0.4s,baz=124,slow=8.2,SNR=4.8						
MKAR	**Makanchi Array**	**48.55**	**308**	P	P	14 58 39.6	-1.6
	0.3nm,0.5s,baz=95,slow=9.2,SNR=2.6						
WRA	**Warramunga Arr**	**49.14**	**188**	P	P	14 58 46.1	+0.4
	0.4nm,0.4s,baz=7.6,slow=7.6,SNR=19						
ASAR	**Alice Springs**	**52.87**	**188**	P	P	14 59 13.7	-0.1
	0.3nm,0.5s,baz=1.0,slow=5.7,SNR=11						

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*ISCJB **14** 15:09:32.8±2.0, 59S±02×1074E±03, h264^{km}±24^{km}, mb3.4/6, Error ellipse: s-maj=52.6km s-min=15.1km az=100.8*
*NEIC **14** 15:09:33.9±1.9, 596S×10730E, h256^{km}±24^{km}, mb4.1/1, Error ellipse: s-maj=37.6km s-min=11.1km az=50.0*
*IDC **14** 15:09:36.0±2.4, 586S×10748E, h275^{km}±23^{km}, mb3.2/5, mb1 3.4/5, mb1mx3.2/15, mbtmp3.9/5, Error ellipse: s-maj=36.0km s-min=12.6km az=51.0*
ISC 14 15:09:35.2±1.9**, 60S**±02×**1072E**±03**, h274**^{km}±24^{km}**, n12, σ0^{s}70**/15**, mb3.4**/6**, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**12.03**	**316**	P	**Pn**	**15 12 16.4**	**-2.2**
	1.8nm,0.3s,baz=134,slow=10,SNR=6.2						
KULM	**Kulim**	**12.97**	**329**	*e*P	**Pn**	**15 12 31.0**	**+0.9**
WRA	**Warramunga Arr**	**29.78**	**120**	P	**P**	**15 15 16.6**	**-0.2**
	0.5nm,0.4s,mb3.4,baz=310,slow=9.1,SNR=14						
WRA				S	**S**	**15 19 51.9**	**-0.6**
	0.3nm,1.0s,baz=280,slow=13,SNR=4.1						
WRAB	**Tennant Creek**	**29.79**	**120**	*e*P	**P**	**15 15 16.8**	**0.0**
	3.8nm,0.8s,mb4.0						
WB2	**Warramunga Arr**	**29.79**	**120**	*e*P	**P**	**15 15 16.7**	**-0.2**
ASPA	**Alice Springs**	**31.11**	**127**	*e*P	**P**	**15 15 28.9**	**+0.5**
ASPA				*e*S	**S**	**15 20 12.7**	**-0.6**
ASAR	**Alice Springs**	**31.11**	**127**	P	**P**	**15 15 28.9**	**+0.4**
	0.8nm,0.4s,mb3.6,baz=302,slow=7.9,SNR=63						
ASAR				S	**S**	**15 20 12.5**	**-0.8**
	0.5nm,0.7s,baz=296,slow=15,SNR=5.5						
ASAR				ScP	ScP	15 21 35.2	+2.4
	0.5nm,0.9s,baz=296,slow=2.6,SNR=4.7						
AS31	**Alice Springs**	**31.11**	**127**	*e*P	**P**	**15 15 28.5**	**+0.1**
SONM	**Songino Array**	**53.59**	**359**	P	**P**	**15 18 28.7**	**+0.4**
	0.1nm,0.4s,mb2.5,baz=174,slow=8.7,SNR=4.1						
MKAR	**Makanchi Array**	**57.01**	**340**	P	**P**	**15 18 52.8**	**+0.1**
	0.9nm,0.5s,mb3.5,baz=150,slow=8.4,SNR=14						
VNDA	**Vanda**	**76.92**	**170**	P	**P**	**15 20 58.2**	**+0.7**
	0.7nm,0.5s,mb3.7,baz=324,slow=7.1,SNR=11						
VNDA	**Vanda**	**76.92**	**170**	P	**P**	**15 20 58.2**	**+0.7**

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*IDC **14** 15:19:49.5±3.2, 507S×15307E, h0^{km}, mb3.8/3, mb1 4.0/3, mb1mx3.6/13, mbtmp3.8/3, MS3.1/1, Ms1 3.1/1, ms1mx2.1/25, Error ellipse: s-maj=118.5km s-min=38.8km az=120.0*
*ISCJB **14** 15:19:56.4±5.5, 54S±05×1531E±04, h52^{km}±40^{km}, mb3.9/4, Error ellipse: s-maj=91.7km s-min=38.0km az=108.2*
ISC 14 15:19:58.0±5.2**, 54S**±05×**1532E**±04**, h58**^{km}±35^{km}**, n9, σ0^{s}42**/9**, mb3.9**/4**, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.18**	**236**	Pn	**Pn**	**15 21 40.3**	**-0.1**
	2.8nm,0.3s,baz=38,slow=12,SNR=14						
PMG				Sn	**Sn**	**15 23 00.5**	**0.0**
	5.4nm,0.3s,baz=169,slow=10.0,SNR=8.1						
PMG				LR	LR	15 24 26.7	
	comp=Z,133nm,19.6s,baz=100,slow=38						
KAKA	**Kakadu**	**21.73**	**249**	*e*P	**P**	**15 24 44.9**	**+0.6**
	10nm,0.4s,mb4.6						
WB2	**Warramunga Arr**	**23.34**	**230**	*e*P	**P**	**15 25 00.8**	**-0.4**
WRA	**Warramunga Arr**	**23.35**	**230**	P	**P**	**15 25 00.8**	**-0.5**
	0.7nm,0.4s,mb3.5,baz=56,slow=9.9,SNR=11						
ASAR	**Alice Springs**	**25.98**	**224**	P	**P**	**15 25 25.8**	**+0.5**
	0.5nm,0.5s,mb3.3,baz=56,slow=9.3,SNR=21						
ASPA	**Alice Springs**	**25.98**	**224**	*e*P	**P**	**15 25 25.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**29.72**	**243**	*e*P	**P**	**15 25 58.2**	**-0.4**
	3.8nm,0.7s,mb4.2						
FITZ	**Fitzroy Crossi**	**29.72**	**243**	P	**P**	**15 25 58.1**	**-0.5**
	1.8nm,0.6s,mb4.0,baz=71,slow=10,SNR=7.9						
TORD	**Torodi Ar. Bea**	**150.85**	**287**	PKPbc	PKPbc	15 39 45.4	+1.5
	1.7nm,0.7s,baz=66,slow=2.0,SNR=7.7						
TORD				PKPab	PKPab	15 39 49.6	-1.6
	0.7nm,0.4s,baz=76,slow=2.5,SNR=12						

ISC 14 15:19:58.7±0.9**, 4160N**±005×**3490E**±005**, h10**^{km}**, n6, σ1^{s}19**/12**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BYBT	**Boyabat**	**0.17**	**217**	PG	**Pg**	**15 20 01.0**	**-1.3**
BYBT				SG	**Sg**	**15 20 04.7**	**-0.1**
BOYT	**Boyabat**	**0.18**	**179**	*i* P	**Pg**	**15 20 02.0**	**-0.6**
BOYT				*i* S	**Sg**	**15 20 06.8**	**+1.6**
DIKM	**Dikmen**	**0.27**	**79**	PG	**Pg**	**15 20 03.2**	**-1.1**
DIKM				SG	**Sg**	**15 20 09.2**	**+1.2**
CTKT	**Corum**	**0.98**	**185**	*i* P	**Pg**	**15 20 16.3**	**-1.3**
CTKT				*i* S	**Sg**	**15 20 30.3**	**0.0**
BALT	**Daday**	**1.14**	**267**	*i* P	**Pb**	**15 20 19.1**	**-1.4**
BALT				*i* S	**Sb**	**15 20 36.8**	**+1.5**
ELDT	**Eldivan**	**1.57**	**226**	*i* P	**Pn**	**15 20 28.3**	**+1.6**
ELDT				*i* S	**Sn**	**15 20 52.8**	**+5.7**

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*ISCJB **14** 15:21:22.9±2.1, 26.14S±005×709W±03, h45^{km}±23^{km}, mb4.2/1, Error ellipse: s-maj=39.5km s-min=7.9km az=5.4*
*IDC **14** 15:21:24.4±3.4, 26.12S×7097W, h41^{km}±24^{km}, mb4.1/1, mb1 3.7/5, mb1mx3.5/17, mbtmp3.6/5, ML3.5/4, MS2.9/1, Ms1 3.0/1, ms1mx2.4/19, Error ellipse: s-maj=50.0km s-min=12.1km az=95.0*
*NEIC **14** 15:21:25.1±2.0, 2609S×7060W, h48^{km}±16^{km}, Error ellipse: s-maj=44.8km s-min=10.8km az=95.0*
ISC 14 15:21:24.6±1.7**, 2613S**±005×**710W**±02**, h40**^{km}±20^{km}**, n15, σ0^{s}75**/14**, mb4.2**/1**, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.97**	**29**	P	**Pn**	**15 22 24.0**	**+1.0**
	1.8nm,0.3s,baz=224,slow=9.4,SNR=9.9						
LVC				S	**Sn**	**15 23 08.5**	**+0.3**
	7.8nm,0.3s,baz=198,slow=17,SNR=3.6						
LVC	**Limon Verde**	**3.97**	**29**	*e*Pn	**Pn**	**15 22 22.4**	**-0.6**
LVC				P		15 22 24.0	
LVC				S	**Sn**	**15 23 08.6**	**+0.3**
CFAA	**Coronel Fontan**	**5.95**	**157**	P	**Pn**	**15 22 50.9**	**+0.8**
	0.2nm,0.3s,baz=332,slow=14,SNR=16						
CFAA				S	**Sn**	**15 23 57.4**	**+0.3**
	0.6nm,0.3s,baz=163,slow=9.4,SNR=8.3						
CFAA	**Coronel Fontan**	**5.95**	**157**	P	**Pn**	**15 22 50.9**	**+0.7**
CFAA				S	**Sn**	**15 23 57.4**	**+0.3**
LPAZ	**La Paz**	**10.14**	**16**	P	**Pn**	**15 23 47.1**	**-0.5**
	0.2nm,0.3s,baz=218,slow=8.2,SNR=4.6						
LPAZ				LR	LR	15 27 56.1	
	comp=Z,63nm,21.0s,baz=0.0,slow=39						
SIV	**San Ignacio**	**13.67**	**44**	P	**Pn**	**15 24 30.5**	**-5.2**
	0.1nm,0.3s,baz=238,slow=14,SNR=3.1						
TRQA	**Tornquist**	**14.11**	**150**	*e*P	**Pn**	**15 24 40.1**	**-1.7**
	2.6nm,0.7s						
TRQA				*e*		15 24 48.3	
PLCA	**Paso Flores**	**14.57**	**179**	P	**Pn**	**15 24 48.4**	**+0.4**
	0.1nm,0.3s,baz=291,slow=2.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**80.68**	**70**	P	**P**	**15 33 33.5**	**+0.1**
	2.2nm,0.7s,mb4.2,baz=263,slow=5.0,SNR=16						
TORD				PP	PP	15 36 35.4	-2.0
	1.1nm,1.1s,baz=227,slow=10.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**80.68**	**70**	P	**P**	**15 33 33.5**	**+0.1**
TORD				PP	PP	15 36 35.4	-2.0
WRA	**Warramunga Arr**	**128.03**	**211**	PKP	PKPdf	15 40 25.1	-1.1
	0.5nm,0.8s,baz=155,slow=1.8,SNR=5.1						
ZAL	**Zalesovo**	**146.92**	**26**	PKPbc	PKPbc	15 41 01.7	-1.0
	1.9nm,0.5s,baz=193,slow=4.5,SNR=8.4						
ZAL	**Zalesovo**	**146.92**	**26**	PKPbc	PKPbc	15 41 01.7	-1.0
MKAR	**Makanchi Array**	**150.44**	**39**	PKPbc	PKPbc	15 41 11.3	-0.4
	0.9nm,0.5s,baz=304,slow=2.5,SNR=12						
MKAR				PKPab	PKPab	15 41 18.3	0.0
	0.6nm,0.8s,baz=287,slow=4.7,SNR=3.7						
MKAR	**Makanchi Array**	**150.44**	**39**	PKPbc	PKPbc	15 41 11.3	-0.4
MKAR				PKPab	PKPab	15 41 18.3	0.0

IDC 14 15:27:06.9±1.3**, 2924S**×**17791W, h0**^{km}**, mb3.6**/2**, mb1 3.8**/2**, mb1mx3.6**/10**, mbtmp3.6**/2**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx3.0**/19**, Error ellipse: s-maj=39.2km s-min=10.8km az=103.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.01**	**203**	Pn	Pg	15 27 14.6	+7.5
	7μm,0.3s,baz=258,slow=6.1,SNR=178						
RAO				Sn	Sg	15 27 19.4	+12
ASAR	**Alice Springs**	**43.26**	**266**	P	P	15 35 11.3	+1.3
	0.7nm,0.7s,baz=100,slow=7.4,SNR=8.6						
WRA	**Warramunga Arr**	**44.14**	**271**	P	P	15 35 16.6	-0.5
	0.8nm,0.7s,baz=110,slow=7.8,SNR=9.4						
FITZ	**Fitzroy Crossi**	**52.45**	**269**	LR	LR	15 59 10.7	
	comp=Z,84nm,20.6s,baz=282,slow=37						
FINES	**FINESS Array B**	**144.08**	**341**	PKP	PKPdf	15 46 41.2	-3.2
	1.2nm,0.6s,baz=72,slow=2.3,SNR=11						

IDC 14 15:32:34.9±1.2**, 2924S**×**17796W, h0**^{km}**, mb3.9**/2**, mb1 4.2**/2**, mb1mx3.8**/10**, mbtmp3.9**/2**, Error ellipse: s-maj=102.4km s-min=8.3km az=16.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.04**	**110**	Pn	Pg	15 32 43.1	+7.4
	1μm,0.3s,baz=170,slow=3.0,SNR=72						
RAO				Sn	Sg	15 32 47.4	+11
	2μm,0.3s,baz=70,slow=23,SNR=44						
TBI	**Tubuai**	**26.18**	**84**	*e*LR	LR	15 39 18.6	
	115nm,28.2s						
ASAR	**Alice Springs**	**43.22**	**266**	P	P	15 40 38.3	+0.7

	1.2nm,0.7s,baz=101,slow=6.9,SNR=14						
WB2	**Warramunga Arr**	**44.09**	**271**	*e*P	P	15 40 45.5	+0.8
WRA	**Warramunga Arr**	**44.10**	**271**	P	P	15 40 45.3	+0.6
	1.4nm,0.6s,baz=109,slow=7.8,SNR=11						
FINES	**FINESS Array B**	**144.06**	**341**	PKP	PKPdf	15 52 10.2	-2.2
	1.0nm,0.6s,baz=45,slow=0.8,SNR=5.5						

IDC 14 15:44:53.4±3.5**,496S×15050E,h0^{km},mb3.8**/3**,mb1 4.1**/4**, mb1mx3.8**/13**,mbtmp4.0**/4**,ML3.1**/1**,MS3.4**/2**,Ms1 3.4**/2**, ms1mx3.0**/18**,Error ellipse: s-maj=116.9km s-min=38.9km az=117.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.52**	**217**	Pn	Pn	15 46 18.9	+2.0
	3.6nm,0.3s,baz=26,slow=11,SNR=15						
PMG				Sn	Sn	15 47 21.9	+0.8
	1.8nm,0.3s,baz=2.9,slow=14,SNR=5.7						
HNR	**Honiara**	**10.37**	**116**	LR	LR	15 50 34.6	
	comp=Z,142nm,20.5s,baz=180,slow=33						
WB2	**Warramunga Arr**	**21.65**	**225**	*e*P	P	15 49 45.1	-0.3
WRA	**Warramunga Arr**	**21.66**	**225**	P	P	15 49 45.1	-0.4
	1.6nm,0.6s,baz=48,slow=9.8,SNR=13						
ASAR	**Alice Springs**	**24.53**	**219**	P	P	15 50 14.1	-0.5
	1.3nm,0.7s,baz=55,slow=8.0,SNR=20						
ASPA	**Alice Springs**	**24.54**	**219**	*e*P	P	15 50 13.7	-0.9
FITZ	**Fitzroy Crossi**	**27.59**	**240**	*e*P	P	15 50 43.1	+0.9
	5.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**27.59**	**240**	P	P	15 50 43.4	+1.2
	4.1nm,1.0s,baz=124,slow=5.7,SNR=5.4						
SONM	**Songino Array**	**65.25**	**329**	LR	LR	16 20 26.4	
	comp=Z,33nm,19.3s,baz=231,slow=33						
TORD	**Torodi Ar. Bea**	**148.17**	**287**	PKPbc	PKPbc	16 04 42.0	+0.8
	0.8nm,0.6s,baz=82,slow=2.4,SNR=3.8						

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*ISCJB **14** 15:56:14.9±0.2,5145N±001×1609E±002,h0^{km},mb4.2/20, MS4.1/1,Error ellipse: s-maj=1.9km s-min=1.6km az=0.7*
*LDG **14** 15:56:15.9±0.2,5150N×1643E,h1^{km},Ml4.5/13,Error ellipse: s-maj=5.3km s-min=3.0km az=1.0,Suspected Mining induced.*
*BJI **14** 15:56:15.4,5171N×1561E,h15^{km},mB4.9,mb4.4,Ms4.8, Msz4.3*
*IPEC **14** 15:56:15.1±0.2,5159N×1622E,h0^{km},ML3.6/3,Error ellipse: s-maj=1.5km s-min=1.3km az=12.0*
*NEIC **14** 15:56:16.7±0.2,5153N×1611E,h5^{km},mb4.4/8, ML3.9(SZGRF),Error ellipse: s-maj=3.3km s-min=2.8km az=154.0*
*CSEM **14** 15:56:16.4±0.1,5154N×1630E,h1^{km},mb4.4/9,ML4.3/19, Error ellipse: s-maj=1.8km s-min=1.4km az=172.0*
*IDC **14** 15:56:17.2±0.5,5146N×1604E,h0^{km},mb4.0/9, mb1 4.1/18,mb1mx4.0/25,mbtmp3.9/18,ML3.6/9,Error ellipse: s-maj=9.0km s-min=5.7km az=101.0*
*MOS **14** 15:56:17.4±1.0,5148N×1605E,h22^{km},mb4.7/8,Error ellipse: s-maj=5.8km s-min=3.7km az=72.7*
*PRU **14** 15:56:17.5,5147N×16.10E,h0^{km},M4.4,Felt In Harrachov*
*WAR **14** 15:56:18,5147N×16.10E,ML3.7,Mining Induced*
*BGR **14** 15:56:19.0±0.5,5145N×1598E,h1^{km},ML3.9,Error ellipse: s-maj=4.4km s-min=4.4km az=115.0*
*VIE **14** 15:56:20.0±1.1,5121N×16.17E,h0^{km},Error ellipse: s-maj=6.5km s-min=4.7km az=173.0,Suspected Mining induced. 59 km WNW of Breslau*
*STR **14** 15:56:24.0±0.8,5121N×1544E,h10^{km}±1^{km},Ml4.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 14 15:56:16.1±0.2**,5151N**±001×**1611E**±002**,h0^{km},n227,** σ**1§21**/356**,mb4.2**/20**,MS4.1**/1**,18C-16D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**170**	*i* Pg	Pg	15 56 29.8	+0.7
KSP				*e*Sg	Sg	15 56 38.7	+0.8
KSP				*e*L		15 56 41.7	
UPC	**Upice**	**1.01**	**184**	*e*PG	Pg	15 56 35.8	+0.4
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*PG	Pg	15 56 38.5	0.0
DPC				*e*SG	Sg	15 56 53.0	-0.7
	1μm,1.2s						
PVCC	**Panska Ves**	**1.38**	**225**	*e*PG	Pg	15 56 42.7	+0.1
PVCC				*e*SG	Sg	15 57 02.1	+1.5
	741nm,0.8s						
BRG	**Berggiesshubel**	**1.51**	**246**	*e*Pn	Pn	15 56 45.0	+0.7
BRG				*e*Sg	Sg	15 57 05.5	+1.0
BRG	**Berggiesshubel**	**1.51**	**246**	PN	Pn	15 56 43.9	-0.4
BRG				PG	Pg	15 56 45.5	+0.5
BRG				SG	Sg	15 57 05.3	+0.8
	323nm,0.5s						
BRG							
	comp=N,510nm,4.4s						
BRG							
	comp=E,599nm,4.7s						
BRG							
	comp=Z,914nm,4.3s						
RUE	**Ruedersdorf**	**1.74**	**305**	*e*Pn	Pn	15 56 47.6	+0.1
RUE				*e*Sg	Sg	15 57 15.1	+3.1
RUE	**Ruedersdorf**	**1.74**	**305**	*e*Pn	Pn	15 56 47.6	+0.1
RUE				*e*Sg	Sg	15 57 15.1	+3.2
PRU	**Pruhonice**	**1.82**	**214**	*e*PG	Pg	15 56 50.4	-0.6
PRU				*e*SG	Sg	15 57 12.9	-1.7
	comp=Z,202nm,0.5s						
FBE	**Freiberg**	**1.83**	**252**	*e*Pn	Pn	15 56 48.6	-0.2
FBE				*e*Sg	Sg	15 57 15.4	+0.4
FBE	**Freiberg**	**1.83**	**252**	Pn	Pn	15 56 48.6	-0.2
FBE				Sg	Sg	15 57 15.4	+0.5
GKP	**Gorka Klasztor**	**1.89**	**21**	*e*Pn	Pn	15 56 51.8	+2.2
GKP				*e*Sg	Sg	15 57 20.7	+3.8
RAC	**Raciborz**	**1.95**	**136**	*e*P	Pn	15 56 49.7	-0.7
RAC				*e*		15 57 13.0	
RAC	**Raciborz**	**1.95**	**136**	*e*Pn	Pn	15 56 49.7	-0.7
RAC				*e*Pg	Pg	15 56 53.3	-0.1
RAC				*e*Sn	Sn	15 57 13.0	-2.5
RAC				*e*Sg	Sg	15 57 17.5	-1.2
RAC	**Raciborz**	**1.95**	**136**	*e*Pg	Pg	15 56 53.3	-0.1
RAC				*e*Sn	Sn	15 57 13.0	-2.5
RAC				*e*Sg	Sg	15 57 17.5	-1.2
CLL	**Collm**	**1.96**	**265**	*e*Pn	Pn	15 56 50.4	-0.2
CLL				*i* Pg	Pg	15 56 54.1	+0.5
CLL				*e*Sg	Sg	15 57 19.0	0.0
CLL	**Collm**	**1.96**	**265**	*i* Pn	Pn	15 56 50.3	-0.2
CLL				*i* Pg	Pg	15 56 54.1	+0.5
CLL				*i* x	x	15 56 57.8	
CLL				*i* Sg	Sg	15 57 19.1	+0.1
	comp=Z,370nm,0.8s						
CLL	**Collm**	**1.96**	**265**	*i* Pn	Pn	15 56 50.3	-0.2
CLL				*i* Pg	Pg	15 56 54.1	+0.5
CLL				*i* Sg	Sg	15 57 19.1	+0.1
MORC	**Moravsky Berou**	**1.96**	**152**	⇑*i*P	Pn	15 56 50.3	-0.3
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pn	Pn	15 56 50.2	-0.4
MORC				⇑P		15 56 50.3	
MORC				*e*Sn	Sn	15 57 06.8	-9.1
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pn	Pn	15 56 50.2	-0.4
MORC				*e*Sg	Sg	15 57 17.1	-2.0
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PN	Pn	15 56 51.9	-0.8
OKC				*e*PG	Pg	15 56 56.3	-0.4
OKC				*e*SG	Sg	15 57 22.6	-1.5
VRAC	**Vranov**	**2.23**	**172**	Pn	Pn	15 56 54.4	+0.1
	comp=Z,9.3nm,0.3s,baz=350,slow=14,SNR=38						
VRAC				Lg		15 57 26.9	
	comp=Z,33nm,0.3s,baz=256,slow=21,SNR=13						
VRAC	**Vranov**	**2.23**	**172**	⇓*i*P	Pn	15 56 54.3	+0.1
VRAC	**Vranov**	**2.23**	**172**	⇓P	Pn	15 56 54.2	0.0
VRAC	**Vranov**	**2.23**	**172**	*e*Pn	Pn	15 56 54.2	0.0
VRAC				*e*Sg	Sg	15 57 26.8	-0.8
TREC	**Trest**	**2.25**	**190**	*e*PG	Pg	15 56 58.8	-0.5
KRUC	**Moravsky**	**2.46**	**176**	*e*Pn	Pn	15 56 57.6	+0.2
KRUC				*e*Sg	Sg	15 57 34.9	-0.2
	comp=Z,326nm,0.8s						
TANN	**Tannenbergstha**	**2.56**	**246**	*e*Pn	Pn	15 56 59.5	+0.8
TANN				*e*Sg	Sg	15 57 36.7	-1.5
WERD	**Werda**	**2.63**	**248**	*e*Pn	Pn	15 57 00.4	+0.6
WERD				*e*Sg	Sg	15 57 40.2	-0.4
NKC	**Novy Kostel**	**2.65**	**243**	*e*PN	Pn	15 57 00.5	+0.4
NKC				*e*PG	Pg	15 57 07.0	+0.1
NKC				*e*SG	Sg	15 57 41.4	+0.2
	comp=Z,320nm,0.5s						
OJC	**Ojcow**	**2.67**	**118**	*e*Pn	Pn	15 56 59.0	-1.3
OJC				*i* Pg	Pg	15 57 07.7	+0.4
OJC				*e*Sg	Sg	15 57 42.7	+0.8
KHC	**Kasperske Hory**	**2.88**	**215**	*e*PN	Pn	15 57 03.0	-0.3
KHC				*e*PG	Pg	15 57 09.6	-1.8
KHC				*e*SG	Sg	15 57 48.9	+0.2
	comp=Z,463nm,1.4s						
MGBB	**Grossbuechelbe**	**2.92**	**240**	⇓*i*Pn	Pn	15 57 04.3	+0.6
MANZ	**Manzenberg**	**2.96**	**241**	*e*Pn	Pn	15 57 05.2	+0.8
MOX	**Moxa**	**2.96**	**255**	*e*Pn	Pn	15 57 04.5	+0.1
MOX				*e*Pg	Pg	15 57 13.4	+0.5
MOX				*e*Sg	Sg	15 57 49.7	-1.7
MOX	**Moxa**	**2.96**	**255**	*e*PN	Pn	15 57 04.6	+0.2
MOX				*e*PG	Pg	15 57 13.4	+0.5
MOX				*e*SG	Sg	15 57 52.8	+1.4
MOX	**Moxa**	**2.96**	**255**	*e*Pn	Pn	15 57 04.6	+0.2
MOX				*e*Pg	Pg	15 57 13.4	+0.5
MOX				*e*Sg	Sg	15 57 52.8	+1.4
MOX	**Moxa**	**2.96**	**255**	Pg	Pg	15 57 13.4	+0.5
MOX				Sg	Sg	15 57 49.7	-1.7
ROTZ	**Rotzenmuhle**	**3.04**	**236**	*e*Pn	Pn	15 57 05.9	+0.6
ROTZ				*e*Sg	Sg	15 57 53.1	-0.6
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn	Pn	15 57 06.7	+0.7
GEC2				*e*Sg	Sg	15 57 54.2	-1.1
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn	Pn	15 57 06.7	+0.7
GEC2				*e*Sg	Sg	15 57 54.2	-1.0
GERES	**GERESS Array B**	**3.08**	**211**	Pn	Pn	15 57 06.3	+0.3
	comp=Z,6.0nm,0.3s,baz=29,slow=12,SNR=112						
GERES				Pg	Pg	15 57 13.2	-2.0
	comp=Z,25nm,0.3s,baz=37,slow=15,SNR=78						
GERES				Sn	Sn	15 57 46.1	+2.4
	comp=Z,12nm,0.3s,baz=25,slow=26,SNR=5.8						
GERES				Lg		15 57 53.1	
	comp=Z,15nm,0.3s,baz=45,slow=26,SNR=5.8						
GERES	**GERESS Array B**	**3.08**	**211**	P	Pn	15 57 06.3	+0.3
GERES						15 57 46.1	
GERES	**GERESS Array B**	**3.08**	**211**	Pg	Pg	15 57 13.2	-2.0
GERES				S	Sn	15 57 46.1	+2.5
SMOL	**Smolenice**	**3.12**	**164**	*e*PG	Pg	15 57 15.5	-0.4
SMOL				*e*SG	Sg	15 57 57.0	+0.7
LIKS	**Likavka**	**3.12**	**141**	*e*SG	Sg	15 57 59.6	+3.1
WET	**Wettzell**	**3.15**	**222**	*e*Pn	Pn	15 57 07.0	+0.2
WET	**Wettzell**	**3.15**	**222**	*e*Pn	Pn	15 57 07.0	+0.1
WET	**Wettzell**	**3.15**	**222**	Pn	Pn	15 57 07.0	+0.1
VKA	**Vienna**	**3.25**	**178**	*i* Pn	Pn	15 57 08.7	+0.4
VKA				*i* Pg	Pg	15 57 17.9	-0.5
VKA				*i* Sg	Sg	15 58 01.6	+1.0
ZST	**Bratislava**	**3.38**	**169**	*e*PN	Pn	15 57 10.8	+0.7
ZST				*e*PG	Pg	15 57 21.3	+0.4
ZST				*e*SG	Sg	15 58 03.0	-1.7
NIE	**Niedzica**	**3.41**	**126**	*e*P	Pg	15 57 19.8	-1.6
NIE				*e*S	Sg	15 58 05.3	-0.2
RGN	**Rugen**	**3.48**	**332**	Pn	Pn	15 57 15.9	+4.5
VYHS	**Vyhne**	**3.49**	**149**	*e*PN	Pn	15 57 11.3	-0.4
VYHS				*e*PG	Pg	15 57 22.5	-0.6
VYHS				*e*SG	Sg	15 58 10.7	+2.3
CLZ	**Clausthal**	**3.59**	**278**	*e*Pn	Pn	15 57 14.1	+1.1
CONA	**Conrad Observa**	**3.59**	**183**	⇓*i*Pn	Pn	15 57 13.2	+0.2
CONA				⇑*i*Sg	Sg	15 58 08.7	-2.7
	comp=Z,190nm,0.7s						
GRA1	**Grafenberg Arr**	**3.61**	**242**	*e*Pn	Pn	15 57 14.1	+0.9
GRA1	**Grafenberg Arr**	**3.61**	**242**	Pn	Pn	15 57 14.1	+0.9
GRF	**Grafenberg Arr**	**3.61**	**242**	*e*Pn	Pn	15 57 14.1	+0.8
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P	Pn	15 57 14.3	+0.1
BSD				*e*S	Sn	15 57 54.6	-3.7
BSD				*i* LG		15 57 56.3	
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P	Pn	15 57 14.3	+0.1
BSD				*e*S	Sn	15 57 54.6	-3.7
NRDL	**Niedersach Rie**	**3.84**	**287**	*e*Pn	Pn	15 57 18.0	+1.6
MOA	**Molln**	**3.86**	**199**	⇓*i*Pn	Pn	15 57 16.6	0.0
	SNR=31						
MOA				⇓*i*Sg	Sg	15 58 19.6	-0.4
	comp=Z,169nm,0.7s						
HROE	**Hohe Rhon--Fla**	**3.88**	**258**	⇓*i*Pn	Pn	15 57 17.5	+0.5
UBBA	**Unterbreizbach**	**3.91**	**262**	*e*Pn	Pn	15 57 18.6	+1.2
ARSA	**Arzberg**	**4.28**	**185**	⇑*i*Pn	Pn	15 57 23.6	+1.1
	SNR=11						
ARSA				⇑*i*Sg	Sg	15 58 30.1	-3.6
	comp=Z,209nm,0.8s						
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*PN	Pn	15 57 23.4	+0.4
CRVS				*e*PG	Pg	15 57 37.8	-1.0
PSZ	**Piszkesteto**	**4.35**	**144**	⇑*e*Pn	Pn	15 57 24.3	+0.8
PSZ	**Piszkesteto**	**4.35**	**144**	*e*Pn	Pn	15 57 23.5	0.0
KWP	**Kalwaria**	**4.61**	**112**	*e*Pn	Pn	15 57 28.3	+1.4
KWP				*e*Pg	Pg	15 57 41.4	-3.0
KOLS	**Kolonicke sedl**	**4.72**	**121**	*e*PN	Pn	15 57 28.4	-0.2
KOLS				*e*		15 57 47.6	
KOLS	**Kolonicke sedl**	**4.72**	**121**	*e*SG	Sg	15 58 51.0	+3.2
KOLS	**Kolonicke sedl**	**4.72**	**121**	*e*Pn	Pn	15 57 28.4	-0.2
KOLS				*e*		15 57 47.6	
KOLS				*e*Sg	Sg	15 58 51.0	+3.2
KBA	**Koelnbreinsper**	**4.79**	**203**	⇓*i*Pn	Pn	15 57 30.5	+1.0
	SNR=14						
KBA				⇓*i*Sg	Sg	15 58 50.3	+0.3
	comp=Z,86nm,0.7s						
PERS	**Pernice**	**4.92**	**188**	*i* Pn	Pn	15 57 33.3	+2.0
SUW	**Suwalki**	**4.97**	**57**	Pn	Pn	15 57 31.1	-0.9
TOD	**Tromm**	**5.03**	**251**	P	Pn	15 57 32.5	-0.3
TOD				S	Sn	15 58 29.5	-2.2
OBKA	**Obir**	**5.11**	**192**	⇑*i*Pn	Pn	15 57 34.9	+1.0
	SNR=5.8						
OBKA				⇓*i*Sg	Sg	15 58 57.4	-2.9
	comp=Z,52nm,0.7s						
WATA	**Walderalm**	**5.12**	**217**	⇑*i*Pn	Pn	15 57 35.4	+1.4
	SNR=13						
WATA				⇓*i*Sg	Sg	15 59 02.1	+1.6
	comp=Z,63nm,0.8s						
WTTA	**Wattenberg**	**5.16**	**216**	⇑*i*Pn	Pn	15 57 36.2	+1.7
	SNR=12						
WTTA				⇑*i*Sg	Sg	15 59 02.8	+1.0
	comp=Z,88nm,0.9s						
STU	**Stuttgart**	**5.22**	**241**	*e*P	Pn	15 57 34.7	-0.7
STU				pmax	pmax		
	comp=Z,20nm,0.6s						
STU	**Stuttgart**	**5.22**	**241**	*e*Pn	Pn	15 57 34.7	-0.8
	comp=Z,20nm,0.6s						
STU	**Stuttgart**	**5.22**	**241**	*e*Pn	Pn	15 57 34.7	-0.7
	comp=Z,20nm,0.6s						
MOTA	**Moosalm**	**5.30**	**220**	⇑*i*Pn	Pn	15 57 37.1	+0.7
	SNR=12						
MOTA				⇑*i*Sg	Sg	15 59 07.1	+0.8
	comp=Z,83nm,0.8s						
LVV	**L'vov**	**5.31**	**105**	*e*P	Pn	15 57 39.2	+2.5
LVV				*e*S	Sn	15 58 38.6	0.0
LVV				MLR	MLR		
	comp=Z,120nm,2.0s						
LVV	**L'vov**	**5.31**	**105**	*e*P	Pn	15 57 39.2	+2.5
	comp=Z,120nm,2.0s						
LVV				*e*S	Sn	15 58 38.6	0.0
SQTA	**Sankt Quirin**	**5.36**	**219**	⇑*i*Pn	Pn	15 57 38.1	+0.8
	SNR=13						
SQTA				⇓*i*Sg	Sg	15 59 11.1	+2.9
	comp=Z,97nm,0.9s						
DOBS	**Dobrina**	**5.38**	**185**	*e*Pn	Pn	15 57 38.9	+1.2
DOBS	**Dobrina**	**5.38**	**185**	*e*Pn	Pn	15 57 38.8	+1.2
PDKS	**Podkum**	**5.50**	**188**	*e*Pn	Pn	15 57 40.7	+1.4
PKSM	**Moragy**	**5.56**	**162**	*e*P	Pn	15 57 40.9	+0.8
VOY	**Vojsko**	**5.68**	**196**	*e*Pn	Pn	15 57 42.8	+1.2
VOY				*e*		15 58 00.3	
VOY				*e*Sn	Sg	15 59 20.8	+2.4
ABH	**Alteburg**	**5.68**	**257**	P	Pn	15 57 41.7	0.0
BFO	**Black Forest**	**5.95**	**241**	*e*P	Pn	15 57 44.0	-1.4
BOJS	**Bojanci**	**6.04**	**186**	*e*Pn	Pn	15 57 47.6	+1.0
RUP	**Ruppelstein**	**6.04**	**256**	P	Pn	15 57 46.8	+0.1
DAVOX	**Davos**	**6.25**	**223**	Pn	Pn	15 57 49.5	-0.1
	comp=Z,1.3nm,0.3s,baz=44,slow=11,SNR=10						
DAVOX				Lg		15 59 31.0	
FELD	**Feldberg im Sc**	**6.39**	**238**	P	Pn	15 57 50.8	-0.7
DRGR		**6.41**	**135**	⇓*i*P	Pn	15 57 52.3	+0.6
DRGR		**6.41**	**135**	⇓P	Pn	15 57 52.4	+0.7
DRGR		**6.41**	**135**	P	Pn	15 57 52.4	+0.7
MUD	**Monsted U'grnd**	**6.42**	**323**	*i* P	Pn	15 57 49.9	-2.0
MUD				*i* S	Pg	15 58 27.6	+8.4
MEM	**Membach**	**6.43**	**266**	P	Pn	15 57 53.0	+0.9
MEM				E		15 58 17.1	
HGN	**Heimansgroeve**	**6.45**	**267**	*e*Pn	Pn	15 57 54.4	+2.1
	comp=Z,9.3nm,2.4s						
HGN				*e*Sn	Sg	15 59 43.9	+0.6
CDF	**Champ du Feu**	**6.49**	**245**	*e*Pg	Pg	15 58 20.0	-0.4
CDF				*e*Sn	Sn	15 59 03.3	-4.2
CDF				*e*Sg	Sg	15 59 44.5	0.0
	comp=Z,145nm,0.9s						
CDF	**Champ du Feu**	**6.49**	**245**	*e*P	Pn	15 57 51.4	-1.4
CDF				*e*		15 59 03.3	
CDF	**Champ du Feu**	**6.49**	**245**	*e*Pn	Pn	15 57 51.4	-1.4
CDF				*e*Pg	Pg	15 58 20.0	-0.4
CDF				*e*Sn	Sn	15 59 03.3	-4.2
CDF				*e*Sg	Sg	15 59 44.5	0.0
CDF	**Champ du Feu**	**6.49**	**245**	*e*Pg	Pg	15 58 20.0	-0.4
CDF				*e*Sn	Sn	15 59 03.3	-4.2
CDF				*e*Sg	Sg	15 59 44.5	0.0
	comp=Z,73nm,0.9s						
WLF	**Walferdange**	**6.61**	**258**	P	Pn	15 57 56.0	+1.5
WLF	**Walferdange**	**6.61**	**258**	*e*Pn	Pn	15 57 54.0	-0.4
WLF				*e*Sg	Sg	15 59 43.5	-4.7
WLF	**Walferdange**	**6.61**	**258**	*e*P	Pn	15 57 54.0	-0.4
ECH	**Echery**	**6.66**	**244**	P	Pn	15 57 55.7	+0.5
BCLA	**Clavier**	**6.92**	**265**	P	Pn	15 57 59.6	+0.9
BCLA				E		15 58 07.7	
BZS	**Buzias**	**6.94**	**146**	⇑*i*P	Pn	15 58 00.0	+1.0
BZS	**Buzias**	**6.94**	**146**	⇑P	Pn	15 58 00.0	+1.1
HINF	**Hinteralfeld**	**7.05**	**242**	*e*Pg	Pg	15 58 30.1	-1.1
HINF				*e*Sg	Sg	16 00 00.3	-2.3
	comp=Z,102nm,1.0s						
HINF	**Hinteralfeld**	**7.05**	**242**	*e*Pn	Pn	15 58 00.4	-0.2
HINF				*e*Pg	Pg	15 58 30.1	-1.1
HINF				*e*Sg	Sg	16 00 00.3	-2.3
HINF	**Hinteralfeld**	**7.05**	**242**	*e*Pg	Pg	15 58 30.1	-1.1
HINF				*e*Sg	Sg	16 00 00.3	-2.3
	comp=Z,51nm,1.0s						
BURAR	**Bucovina Array**	**7.09**	**120**	⇑*i*P	Pn	15 58 01.1	0.0
BURAR	**Bucovina Array**	**7.09**	**120**	⇑P	Pn	15 58 01.1	+0.1
HAU	**Haudompre**	**7.23**	**245**	*e*Pg	Pg	15 58 33.3	-1.3
HAU				*e*Sg	Sg	16 00 08.2	-0.1
	comp=Z,74nm,0.8s						
HAU	**Haudompre**	**7.23**	**245**	*e*Pn	Pn	15 58 03.0	0.0
HAU				*e*Pg	Pg	15 58 33.3	-1.3
HAU				*e*Sg	Sg	16 00 08.2	-0.1
HAU	**Haudompre**	**7.23**	**245**	*e*Pg	Pg	15 58 33.3	-1.3
HAU				*e*Sg	Sg	16 00 08.2	-0.1
	comp=Z,37nm,0.8s						
GIVF	**Givet**	**7.29**	**263**	*e*Pn	Pn	15 58 02.8	-1.0
GIVF				*e*Sn	Sn	15 59 25.9	-1.4
GIVF				*e*Sg	Sg	16 00 09.4	-0.9
	comp=Z,221nm,1.3s						
GIVF	**Givet**	**7.29**	**263**	*e*P	Pn	15 58 02.8	-1.0
GIVF				*e*		15 59 25.9	
GIVF	**Givet**	**7.29**	**263**	*e*Pn	Pn	15 58 02.8	-1.0
GIVF				*e*Sn	Sn	15 59 25.9	-1.4
GIVF				*e*Sg	Sg	16 00 09.4	-0.9
	comp=Z,110nm,1.3s						
THEF	**They Montfort**	**7.32**	**247**	P	Pn	15 58 03.1	-1.1
BAIF	**Baives**	**7.69**	**264**	*e*Pn	Pn	15 58 10.8	+1.6
BAIF				*e*Sn	Sn	15 59 33.2	-3.8
BAIF				*e*Sg	Sg	16 00 23.3	+0.4
	comp=Z,179nm,1.4s						
BAIF	**Baives**	**7.69**	**264**	*e*P	Pn	15 58 10.8	+1.6
BAIF				*e*		15 59 33.2	
BAIF	**Baives**	**7.69**	**264**	*e*Pn	Pn	15 58 10.8	+1.6
BAIF				*e*Sn	Sn	15 59 33.2	-3.8
BAIF				*e*Sg	Sg	16 00 23.3	+0.4
	comp=Z,90nm,1.4s						
MEZF	**Maizieres J'vi**	**7.74**	**251**	*e*Pg	Pg	15 58 40.4	-3.9
MEZF				*e*Sg	Sg	16 00 24.4	-0.1
	comp=Z,160nm,1.1s						
MEZF	**Maizieres J'vi**	**7.74**	**251**	*e*Pn	Pn	15 58 09.7	-0.2
MEZF				*e*Pg	Pg	15 58 40.4	-3.9
MEZF				*e*Sg	Sg	16 00 24.4	-0.1
MEZF	**Maizieres J'vi**	**7.74**	**251**	*e*Pg	Pg	15 58 40.4	-3.9
MEZF				*e*Sg	Sg	16 00 24.4	-0.1
	comp=Z,80nm,1.1s						
SFTF	**Sexfontaines**	**7.88**	**250**	*e*Pg	Pg	15 58 44.7	-2.4
SFTF				*e*Sg	Sg	16 00 28.0	-1.2
	comp=Z,153nm,1.2s						
SFTF	**Sexfontaines**	**7.88**	**250**	*e*Pn	Pn	15 58 12.7	+0.7
SFTF				*e*Pg	Pg	15 58 44.7	-2.4
SFTF				*e*Sg	Sg	16 00 28.0	-1.2
SFTF	**Sexfontaines**	**7.88**	**250**	*e*Pg	Pg	15 58 44.7	-2.4
SFTF				*e*Sg	Sg	16 00 28.0	-1.2
	comp=Z,76nm,1.2s						
CABF	**La Chapelle**	**8.21**	**237**	*e*Sg	Sg	16 00 37.6	-2.0
	comp=Z,107nm,1.1s						
CABF	**La Chapelle**	**8.21**	**237**	*e*Sg	Sg	16 00 37.6	-2.0
	comp=Z,54nm,1.1s						
AKASG	**Malin Array Be**	**8.30**	**90**	Pn	Pn	15 58 16.1	-1.5
	comp=Z,2.8nm,0.3s,baz=280,slow=12,SNR=26						
AKASG				Sn	Sn	15 59 47.0	-5.0
	comp=Z,1.9nm,0.3s,baz=249,slow=12,SNR=5.3						
AKASG				Lg		16 00 42.5	
	baz=279,slow=30,SNR=2.8						
AKASG	**Malin Array Be**	**8.30**	**90**	P	Pn	15 58 16.2	-1.4
AKASG						15 59 47.0	
AKBB	**Malin Array Si**	**8.30**	**90**	*e*Pn	Pn	15 58 15.2	-2.4
AKBB				*e*Pg	Pg	15 58 51.1	-3.9
AKBB				*e*Sn	Sn	15 59 45.4	-6.6
LPL	**La Plagne**	**8.64**	**230**	*e*Pn	Pn	15 58 24.1	+1.8
LPL				*e*Pg	Pg	15 58 59.3	-2.3
LPG	**La Plagne**	**8.64**	**230**	*e*Pn	Pn	15 58 23.6	+1.2
LPG				*e*Pg	Pg	15 58 59.2	-2.5
HFS	**Hagfors**	**8.75**	**352**	Pn	Pn	15 58 23.2	-0.6
	comp=Z,0.6nm,0.3s,baz=168,slow=15,SNR=17						
HFS				Sn	Sn	15 59 59.3	-3.9
	comp=Z,0.9nm,0.3s,baz=170,slow=27,SNR=5.2						
HFS				Lg		16 00 58.7	
	baz=173,slow=25,SNR=2.9						
HFS	**Hagfors**	**8.75**	**352**	P	Pn	15 58 23.2	-0.6
HFS						15 59 59.3	
BNI	**Bardonecchia**	**9.01**	**228**	*e*P	Pn	15 58 27.7	+0.3
LOR	**Lormes**	**9.05**	**247**	*e*Pg	Pg	15 59 07.1	-2.2
LOR				*e*Sn	Sn	16 00 03.6	-6.9
LOR				*e*Sg	Sg	16 01 04.2	-2.3
	comp=Z,112nm,1.2s						
LOR	**Lormes**	**9.05**	**247**	*e*P	Pn	15 58 27.4	-0.5
LOR				*e*		16 00 03.6	
LOR	**Lormes**	**9.05**	**247**	*e*Pn	Pn	15 58 27.4	-0.5
LOR				*e*Pg	Pg	15 59 07.1	-2.2
LOR				*e*Sn	Sn	16 00 03.6	-6.9
LOR				*e*Sg	Sg	16 01 04.2	-2.3
LOR	**Lormes**	**9.05**	**247**	*e*Pg	Pg	15 59 07.1	-2.2
LOR				*e*Sn	Sn	16 00 03.6	-6.9
LOR				*e*Sg	Sg	16 01 04.2	-2.3
	comp=Z,56nm,1.2s						
MBDF	**Montbardon**	**9.22**	**226**	*e*Pn	Pn	15 58 30.8	+0.5
VSU	**Vasula**	**9.25**	**37**	*e*P	Pn	15 58 30.3	-0.5
SSF	**Saint Saulge**	**9.36**	**247**	*e*Pn	Pn	15 58 31.7	-0.5
SSF				*e*Sn	Sn	16 00 12.2	-6.0
SSF				*e*Sg	Sn	16 01 16.5	+58
	comp=Z,74nm,1.2s						
SSF	**Saint Saulge**	**9.36**	**247**	*e*P	Pn	15 58 31.7	-0.5
SSF				*e*		16 00 12.2	
SSF	**Saint Saulge**	**9.36**	**247**	*e*Pn	Pn	15 58 31.7	-0.5
SSF				*e*Sn	Sn	16 00 12.2	-6.0
SSF				*e*Sg	Sn	16 01 16.5	+58
	comp=Z,37nm,1.2s						
SMF	**Signal de Mont**	**9.41**	**244**	*e*Sg	Sx	16 01 17.5	
	comp=Z,76nm,1.1s						
SMF	**Signal de Mont**	**9.41**	**244**	*e*Sg	Sx	16 01 17.5	
	comp=Z,38nm,1.1s						
ORIF	**Oris-en-Rattie**	**9.49**	**230**	*e*Pn	Pn	15 58 33.8	-0.2
SBF	**Sospel**	**9.62**	**221**	*e*Pn	Pn	15 58 36.2	+0.3
NAO01	**NORSAR Array S**	**9.79**	**345**	*e*Pn	Pn	15 58 33.6	-4.6
NOA	**NORSAR Array B**	**9.93**	**346**	Pn	Pn	15 58 38.5	-1.5
	comp=Z,0.6nm,0.3s,baz=164,slow=12,SNR=5.0						
NOA				Sn	Sn	16 00 27.5	-4.7
	comp=Z,0.4nm,0.3s,baz=94,slow=1.0,SNR=3.1						
FRF	**La Foret Royal**	**10.20**	**222**	*e*Pn	Pn	15 58 44.7	+1.0
TCF	**Toulx Ste Croi**	**10.53**	**246**	*e*Sn	Sn	16 00 40.4	-6.6
TCF				*e*Sg	Sn	16 01 49.7	+63
	comp=Z,67nm,1.4s						
TCF	**Toulx Ste Croi**	**10.53**	**246**	*e*Sn	Sn	16 00 40.4	-6.6
TCF				*e*Sg	Sn	16 01 49.7	+63
	comp=Z,33nm,1.4s						
FINES	**FINESS Array B**	**11.36**	**25**	Pn	Pn	15 58 58.1	-1.5
	comp=Z,0.5nm,0.3s,baz=202,slow=11,SNR=20						
FINES				Sn	Sn	16 00 59.6	-7.7
	comp=Z,0.8nm,0.3s,baz=214,slow=19,SNR=7.8						
FIA1	**FINESS Array S**	**11.36**	**25**	*e*Pn	Pn	15 58 56.5	-3.1
KAF	**Kangasniemi**	**11.99**	**24**	*e*p	Pn	15 59 04.4	-3.8
	comp=Z,3.2nm,0.5s						
KAF	**Kangasniemi**	**11.99**	**24**	*e*P	Pn	15 59 04.4	-3.8
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s						
EKA	**Eskdalemuir Ar**	**12.11**	**296**	Pn	Pn	15 59 06.7	-3.2
	comp=Z,0.4nm,0.3s,baz=104,slow=14,SNR=8.8						
ESK	**Eskdalemuir**	**12.13**	**296**	*e*P	Pn	15 59 06.7	-3.4
OBN	**Obninsk**	**12.74**	**66**	⇓*e*P	Pn	15 59 15.5	-3.0
OBN				*e*S	Sn	16 01 38.1	-3.0
OBN				pmax	pmax		
	comp=Z,24nm,1.3s						

JOF	Joensuu	14.04	30	ep	Pn	15 59 31.2	-5.0
	comp=Z,2.5nm,0.5s						
BRTR	Keskin Array B	16.95	127	Pn	Pn	16 00 13.9	-0.7
	comp=Z,0.1nm,0.3s,baz=335,slow=9.9,SNR=2.9						
SOC	Sochi	17.74	107	eP	Pn	16 00 24.5	0.0
SOC				e		16 03 38.7	
SOC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SOC				MLR	MLR		
	comp=Z,86nm,13.0s						
SOC	Sochi	17.74	107	eP	Pn	16 00 24.5	0.0
	comp=Z,9.0nm,0.7s						
SOC				eS	Sn	16 03 38.7	-4.1
	comp=Z,86nm,13.0s						
ARCES	ARCESS Array B	18.62	10	Pn	Pn	16 00 32.0	-3.2
	comp=Z,1.3nm,0.3s,baz=194,slow=12,SNR=22						
ARE0	ARCESS Array S	18.62	10	ePn	Pn	16 00 31.0	-4.3
KEV	Kevo	19.01	12	ep	Pn	16 00 36.3	-3.7
	comp=Z,6.0nm,0.6s						
KEV	Kevo	19.01	12	eP	Pn	16 00 36.3	-3.7
KEV				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CSS	Prodhromos	20.67	136	P	P	16 00 54.6	-2.9
ARU	Arti	25.14	62⇓	iP	P	16 01 42.6	-0.2
ARU				ePPP		16 02 22.6	
ARU				eS	S	16 06 08.2	-0.4
ARU				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
ARU	Arti	25.14	62	eP	P	16 01 41.9	-0.9
	comp=Z,16nm,1.0s,mb4.7						
ARU	Arti	25.14	62	i P	P	16 01 42.6	-0.2
	comp=Z,12nm,1.0s,mb4.6						
AKTK	Aktyubinsk	26.15	76	P	P	16 01 51.7	-0.3
AKTK	Aktyubinsk	26.15	76	P	P	16 01 51.7	-0.3
AKTO	Aktyubinsk	26.15	76	P	P	16 01 51.7	-0.3
	comp=Z,2.5nm,0.6s,mb4.0,baz=280,slow=13,SNR=9.2						
SVE	Sverdlovsk	26.23	61	eP	P	16 01 53.8	+1.2
ZRNK	Zerenda	31.82	66	eP	P	16 02 43.1	+0.6
ZRNK				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
ZRNK	Zerenda	31.82	66	eP	P	16 02 43.1	+0.6
	comp=Z,9.4nm,1.3s,mb4.6						
ZRNK	Zerenda	31.82	66	eP	P	16 02 43.1	+0.6
	comp=Z,9.0nm,1.3s,mb4.5						
KURK	Kurchatov	38.19	66	P	P	16 03 37.5	+0.2
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
KURK	Kurchatov	38.19	66	P	P	16 03 37.5	+0.2
	comp=Z,5.5nm,1.0s,mb4.2						
KURK	Kurchatov	38.19	66	P	P	16 03 37.5	+0.2
	comp=Z,5.0nm,1.0s,mb4.2						
NVS	Novosibirsk	38.98	58	i P	P	16 03 45.6	+1.6
NVS				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.3						
NVS				pmax	pmax		
	comp=E,10.0nm,1.4s						
NVS	Novosibirsk	38.98	58	i P	P	16 03 45.6	+1.6
	comp=E,11nm,1.3s,mb4.3						
AAK	Ala-Archa	39.77	79	eP	P	16 03 51.7	+1.1
AAK				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.4						
AAK	Ala-Archa	39.77	79	eP	P	16 03 51.7	+1.1
	comp=Z,16nm,1.5s,mb4.4						
AAK	Ala-Archa	39.77	79	eP	P	16 03 51.7	+1.1
	comp=Z,16nm,1.5s,mb4.4						
TORD	Torodi Ar. Bea	40.00	202	P	P	16 03 53.1	+0.6
	comp=Z,3.8nm,1.0s,mb4.0,baz=7.9,slow=8.6,SNR=11						
ZAL	Zalesovo	40.19	59	P	P	16 03 55.2	+1.2
	comp=Z,1.2nm,0.4s,mb3.9,baz=187,slow=4.1,SNR=9.0						
MKAR	Makanchi Array	42.21	69	P	P	16 04 11.8	+1.1
	comp=Z,0.4nm,0.5s,mb3.4,baz=306,slow=8.2,SNR=7.6						
MKAR				PP	PP	16 05 48.3	0.0
	comp=Z,0.4nm,0.7s,baz=312,slow=8.0,SNR=4.2						
WMQ	Urumqi	47.03	70	P	P	16 04 50.8	+1.6
WMQ				AP		16 04 55.3	
WMQ				XP		16 04 57.8	
WMQ				PP	PP	16 06 41.1	+1.4
WMQ				S	S	16 11 41.1	-0.9
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,55nm,4.3s						
WMQ				LR	LR		
	comp=N,164nm,16.0s,MS4.2						
WMQ				LR	LR		
	comp=E,123nm,14.9s,MS4.2						
WMQ				LR	LR		
	comp=Z,168nm,16.5s,MS4.1						
BOD	Bodaibo	52.15	42	eP	P	16 05 27.9	-0.4
BOD				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.0						
BOD	Bodaibo	52.15	42	eP	P	16 05 27.9	-0.4
	comp=Z,3.0nm,1.7s,mb4.0						
SONM	Songino Array	54.91	55	P	P	16 05 49.9	+1.3
	comp=Z,2.2nm,1.1s,mb4.1,baz=286,slow=8.3,SNR=13						
YAK	Yakutsk	55.20	32⇑	eP	P	16 05 50.2	-0.4
YAK				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
YAK	Yakutsk	55.20	32	P	P	16 05 50.3	-0.4
YAK	Yakutsk	55.20	32	eP	P	16 05 50.2	-0.4
	comp=Z,12nm,1.3s,mb4.8						
ULN	Ulaanbaatar	55.23	55	P	P	16 05 51.1	+0.2
	comp=Z,1.9nm,1.1s,mb4.0						
ULN	Ulaanbaatar	55.23	55	eP	P	16 05 51.5	+0.6
BILL	Bilibino	58.71	13	P	P	16 06 16.0	+0.5
BILL	Bilibino	58.71	13	P	P	16 06 16.0	+0.5
YKA	Yellowknife Ar	59.86	336	P	P	16 06 23.7	+0.2
	comp=Z,2.0nm,0.7s,mb4.3,baz=30,slow=6.7,SNR=20						
YKA	Yellowknife Ar	59.86	336	i P	P	16 06 24.2	+0.7
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	59.86	336	P	P	16 06 23.7	+0.2
YKA	Yellowknife Ar	59.86	336	i P	P	16 06 24.2	+0.7
	comp=Z,2.0nm,0.7s,mb4.3						
HHC	Hu-ho-hao-te	62.38	58	eP	P	16 06 40.9	+0.3
HHC				PP	PP	16 08 58.9	+1.2
HHC				SCP	ScP	16 11 24.9	+1.5
HHC				S	S	16 15 05.8	-2.5
HHC				PS		16 15 25.5	
HHC				SKS		16 16 30.3	
HHC				SS	SS	16 19 09.6	-2.1
HHC				AMB	AMB		
	comp=Z,12nm,0.4s						
HHC				AMB	AMB		
	comp=Z,110nm,4.5s						
HHC				LR	LR		
	comp=N,177nm,6.0s						
HHC				LR	LR		
	comp=E,187nm,4.2s						
HHC				LR	LR		
	comp=Z,120nm,5.9s						
PDAR	Pinedale Array	74.94	322	P	P	16 07 59.5	+0.5
	comp=Z,0.8nm,0.7s,mb3.9,baz=48,slow=6.6,SNR=6.7						
BMO	Blue Mountains	75.92	328	eP	P	16 08 05.5	+0.8
	comp=Z,12nm,1.2s,mb4.9						
SRU	San Rafael	78.44	320	eP	P	16 08 20.6	+1.8
SRU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
SRU	San Rafael	78.44	320	eP	P	16 08 20.6	+1.8
	comp=Z,3.6nm,0.9s,mb4.5						
SRU	San Rafael	78.44	320	eP	P	16 08 20.6	+1.8
	comp=Z,4.0nm,0.9s,mb4.5						
MJAR	Matsushiro Arr	78.73	44	P	P	16 08 21.5	+1.1
	comp=Z,0.3nm,0.4s,mb3.7,baz=333,slow=4.5,SNR=4.1						
ANMO	Albuquerque	80.28	315	eP	P	16 08 31.4	+2.6
NVAR	Mina Array Bea	81.97	325	P	P	16 08 40.1	+2.3
	comp=Z,1.1nm,1.0s,mb4.0,baz=26,slow=3.1,SNR=5.6						
ASAR	Alice Springs	125.36	84	PKP	PKPdf	16 15 18.8	-0.1
	comp=Z,0.6nm,0.9s,baz=347,slow=3.0,SNR=5.0						

*NEIC **14** 16:13:18.2, 3694N×2151E, h40km, MD3.5(ATH), After ATH.*
*CSEM **14** 16:13:18.2, 3694N×2151E, h40km, MD3.5/7, After ATH*
ATH 14 16:13:18.2, 3694N×2151E, h40km±2km, MD3.5/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.41	54	eP	Pn	16 13 28.1	+0.3
ITM				eS	Sn	16 13 35.7	+1.3
RLS	Riolos of Patr	1.12	358	eP	Pn	16 13 39.1	+1.8
VLI	Veliai	1.17	101	eP	Pn	16 13 39.9	+1.9
VLI				eS	Sn	16 13 54.7	+2.0
KYTH	Kithira	1.39	118	eP	Pn	16 13 43.0	+1.9
VLS	Valsamata	1.44	330	eP	Pn	16 13 43.0	+1.3
EVR	Evrytania	1.99	7	eP	Pn	16 13 51.0	+1.7
LKR	Lokris	2.08	34	eP	Pn	16 13 52.5	+2.0

*ISCJB **14** 16:35:40.5±0.4, 4796N±008×1476E±01, h458km±7km, mb3.5/11, Error ellipse: s-maj=16.9km s-min=7.9km az=75.8*
*MOS **14** 16:35:40.8±1.0, 48.17N×147.47E, h449km, mb4.1/2, Error ellipse: s-maj=21.3km s-min=10.0km az=76.9*
*JMA **14** 16:35:41.9±0.5, 4749N×14782E, h489km, M3.8*
*NEIC **14** 16:35:42.8±0.5, 48.19N×147.33E, h448km±7km, mb4.0/5, Error ellipse: s-maj=12.2km s-min=6.9km az=122.0*
*IDC **14** 16:35:43.1±2.0, 4824N×14733E, h447km±24km, mb3.2/9, mb1 3.3/11, mb1mx3.1/23, mbtmp4.0/11, Error ellipse: s-maj=21.3km s-min=16.5km az=113.0*
ISC 14 16:35:41.4±0.4, 4808N±007×1475E±01, h442km±8km, n54, σ1.23/67, mb3.5/11, 1D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	3.41	252	ePN	P	16 36 52.7	+1.8
YUK	Yuzh-Kuril'sk	4.20	196⇓	iPN	P	16 36 57.7	-0.1
YUK				S	S	16 38 00.5	+0.6
YUK				smax			
	comp=N,2μm,2.0s						
YUK				smax			
	comp=E,2μm,1.0s						
YUK				smax			
	comp=N,420nm,0.6s						
YUK				smax			
	comp=E,420nm,0.6s						
JRA	Rausu	4.46	203	P	P	16 37 00.5	+0.4
JRA				eS	S	16 38 03.5	-0.8
JSE	Soyaes	4.61	229	P	P	16 37 03.7	+2.2
JWK2	Keihoku	4.75	236	P	P	16 37 05.9	+3.1
JTKR	Abashiri--Toko	4.81	213	P	P	16 37 04.4	+1.0
JTKR				eS	S	16 38 09.3	-1.0
NEM2	Nemuro 2	4.87	195	P	P	16 37 02.0	-2.0
NEM2				eS	S	16 38 06.0	-5.4
ASAJ	Asahikawa	5.23	223	P	P	16 37 09.7	+2.2
	comp=E,2.2nm,0.3s,baz=42,slow=4.4,SNR=25						
ASAJ	Asahikawa	5.23	223	PN	P	16 37 09.7	+2.2
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JKK2	Kamakawa 2	5.36	220	P	P	16 37 10.0	+1.2
JAR	Ashorobuto	5.45	210	P	P	16 37 10.0	+0.3
JAR				eS	S	16 38 19.7	-2.1
JAK	Akkeshi	5.45	202	P	P	16 37 08.3	-1.4
JAK				eS	S	16 38 16.7	-5.2
JFR	Furan	6.00	217	P	P	16 37 16.5	+1.2
JFR				eS	S	16 38 30.1	-2.0
JCH	Churui	6.20	210	P	P	16 37 15.8	-1.5
JCH				eS	S	16 38 29.8	-6.0
SKR	Severo-Kuril's	6.20	62	ePN	P	16 37 15.9	-1.5
SKR				pmax	pmax		
	comp=Z,170nm,0.7s						
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,50nm,0.5s						
JNBK	Urakawa-nobuka	6.70	212	P	P	16 37 21.3	-1.3
JNBK				eS	S	16 38 38.0	-7.5
JEW	Eniwo	6.75	221	P	P	16 37 23.9	+0.8
JEW				eS	S	16 38 42.2	-4.2
JSK	Shakotan	6.82	229	P	P	16 37 25.1	+1.2
JKB	Kayabe	7.70	219	P	P	16 37 32.4	-1.0
JKB				eS	S	16 38 57.8	-7.4
JOT	Ohata	8.12	217	P	P	16 37 36.5	-1.4
JOT				eS	S	16 39 06.2	-7.3
JOSM	Okushiri--Mats	8.26	226	P	P	16 37 39.4	0.0
PET	Petropavlovsk	8.65	51	PN	P	16 37 45.5	+1.8
JANG	Nango	8.82	211	eS	S	16 39 20.5	-7.0
JOM	Ohasama	9.70	210	P	P	16 37 55.9	+0.8
JOM				eS	S	16 39 40.4	-4.9
MA2	Magadan	11.68	8	ePN	P	16 38 16.5	-0.2
MA2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MA2	Magadan	11.68	8	eP	P	16 38 16.5	-0.2
	comp=Z,9.9nm,1.0s						
MDJ	Mudanjiang	12.85	261	eP	P	16 38 29.5	+0.1
MAJO	Matsushiro	13.41	214	ePN	P	16 38 36.3	+0.8
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MAJO	Matsushiro	13.41	214	eP	P	16 38 36.3	+0.8
	comp=Z,5.1nm,0.6s						
MAT	Matsushiro	13.41	214	P	P	16 38 36.8	+1.3
MAT	Matsushiro	13.41	214	eP	P	16 38 37.0	+1.5
MJAR	Matsushiro Arr	13.41	214	P	P	16 38 37.5	+2.0
	comp=Z,1.2nm,0.3s,baz=15,slow=12,SNR=16						
YAK	Yakutsk	17.22	331	eP	P	16 39 15.0	-1.1
YAK				pmax	pmax		
	comp=Z,45nm,0.6s						
YAK	Yakutsk	17.22	331	eP	P	16 39 15.0	-1.1
	comp=Z,46nm,0.6s						
INK	Inuvik	42.58	33	P	P	16 42 57.0	+0.3
	comp=Z,2.5nm,0.4s,mb3.9,baz=268,slow=4.3,SNR=15						
INK	Inuvik	42.58	33	eP	P	16 42 57.1	+0.3
INK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
INK	Inuvik	42.58	33	eP	P	16 42 57.1	+0.4
	comp=Z,2.7nm,0.4s,mb3.9						
MKAR	Makanchi Array	42.93	294	P	P	16 42 59.8	+0.2
	comp=Z,0.4nm,0.5s,mb3.0,baz=59,slow=6.5,SNR=7.3						
BVAR	Borovoye Array	47.04	306	P	P	16 43 31.6	+0.3
	comp=Z,0.5nm,0.6s,mb3.0,baz=52,slow=9.6,SNR=4.3						
CM31	Chiang Mai Arr	49.10	250	eP	P	16 43 37.8	-9.0
	comp=Z,0.7nm,0.6s,mb3.2						
SPB4	Spitsbergen Ar	50.59	348	eP	P	16 43 58.5	+0.7
RES	Resolute Bay	50.76	18	eP	P	16 43 58.0	-1.1
ARU	Arti	51.41	315	eP	P	16 44 03.1	-0.8
ARU				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb3.8						
ARU	Arti	51.41	315	eP	P	16 44 03.0	-0.8
	comp=Z,3.0nm,0.5s,mb3.8						
YKA	Yellowknife Ar	52.10	36	P	P	16 44 09.0	+0.1
	comp=Z,0.7nm,0.6s,mb3.1,baz=302,slow=6.2,SNR=5.0						
YKA	Yellowknife Ar	52.10	36	P	P	16 44 09.0	+0.1
FINES	FINESS Array B	61.15	332	P	P	16 45 10.8	-0.7
	comp=Z,2.3nm,0.6s,mb3.8,baz=29,slow=8.7,SNR=15						
FINES	FINESS Array B	61.15	332	P	P	16 45 10.8	-0.7
NB2	NORSAR Subarra	65.66	338	P	P	16 45 39.8	-0.8
	comp=Z,1.0nm,0.5s,mb3.7,baz=28,slow=6.5						
NOA	NORSAR Array B	65.66	338	P	P	16 45 40.2	-0.4
	comp=Z,2.0nm,0.6s,mb3.9,baz=30,slow=6.3,SNR=5.0						
NOA	NORSAR Array B	65.66	338	P	P	16 45 40.2	-0.4
HFS	Hagfors	65.80	337	P	P	16 45 40.6	-0.8
	comp=Z,2.7nm,0.7s,mb4.0,baz=29,slow=3.7,SNR=7.8						
AKASG	Malin Array Be	68.25	323	P	P	16 45 55.2	-1.4
	comp=Z,0.7nm,0.4s,mb3.7,baz=36,slow=6.2,SNR=7.0						
ASAR	Alice Springs	72.45	193	P	P	16 46 23.8	+2.1
	comp=Z,0.7nm,0.6s,mb3.4,baz=2.5,slow=5.2,SNR=11						

*ISCJB **14** 16:39:07.3±0.6, 5148N±003×1612E±003, h0km, Error ellipse: s-maj=4.9km s-min=2.7km az=32.6*
*IPEC **14** 16:39:08.2±0.3, 5157N×16.19E, h0km, ML2.1/3, Error ellipse: s-maj=2.0km s-min=1.3km az=22.0*
*PRU **14** 16:39:10.5, 5145N×16.10E, h0km*
*WAR **14** 16:39:10.7, 5147N×16.11E, ML2.6, Mining Induced*
*CSEM **14** 16:39:10.7±0.2, 5144N×1607E, h0km, ML3.2/7, Error ellipse: s-maj=3.3km s-min=1.5km az=19.0*
*NEIC **14** 16:39:11.3±1.6, 5141N×1598E, h5km, ML2.8(SZGRF), Error ellipse: s-maj=18.0km s-min=5.8km az=203.0*
*IDC **14** 16:39:11.0±1.2, 5143N×1600E, h0km, mb1 3.6/4, mb1mx3.3/19, mbtmp3.4/4, ML2.7/4, Error ellipse: s-maj=19.3km s-min=10.0km az=110.0*
ISC 14 16:39:08.6±0.6, 5150N±003×1612E±003, h0km, n29, σ0.98/54, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.67	171	i Pg	Pg	16 39 22.4	+1.0
KSP				i Sg	Sg	16 39 30.9	+0.9
KSP	Ksiaz	0.67	171	ePg	Pg	16 39 22.3	+0.9
KSP				i Sg	Sg	16 39 30.9	+0.9
UPC	Upice	1.00	184	ePG	Pg	16 39 28.3	+0.6
DPC	Dobruska-Polom	1.16	174	ePG	Pg	16 39 31.2	+0.4
DPC				eSG	Sg	16 39 45.7	-0.1
	32nm,0.3s						
PVCC	Panska Ves	1.38	226	ePG	Pg	16 39 35.7	+0.6
PVCC				eSG	Sg	16 39 53.0	0.0
BRG	Berggiesshubel	1.51	246	Pg	Pg	16 39 38.0	+0.4
BRG				Sg	Sg	16 39 58.2	+1.1
BRG	Berggiesshubel	1.51	246	Pg	Pg	16 39 38.0	+0.5
BRG				Sg	Sg	16 39 58.2	+1.1
PRU	Pruhonice	1.82	214	ePN	Pn	16 39 40.8	-0.3
PRU				ePG	Pg	16 39 42.8	-0.6
PRU				eSG	Sg	16 40 06.6	-0.4
	28nm,0.6s						
MORC	Moravsky Berou	1.95	152	eP	Pn	16 39 43.0	+0.1
MORC				eS	Sn	16 40 03.7	-4.4
MORC	Moravsky Berou	1.95	152	ePn	Pn	16 39 43.2	+0.3
MORC				eSg	Sg	16 40 10.9	-0.3
	11nm,0.3s						
CLL	Collm	1.96	266	i Pg	Pg	16 39 46.0	-0.2
CLL				i Sg	Sg	16 40 11.7	0.0
	comp=Z,17nm,0.5s						
OKC	Ostrava-Krasne	2.10	142	ePG	Pg	16 39 48.3	-0.6
OKC				eSG	Sg	16 40 15.1	-1.1
	comp=Z,25nm,0.7s						
VRAC	Vranov	2.22	172	Pn	Pn	16 39 48.5	+1.9
	comp=Z,1.9nm,0.3s,baz=354,slow=14,SNR=7.4						
VRAC				Lg		16 40 18.8	
	comp=Z,4.0nm,0.3s,baz=86,slow=24,SNR=8.4						
VRAC	Vranov	2.22	172	ePn	Pn	16 39 47.5	+0.9
VRAC				eSg	Sg	16 40 19.5	-0.3
	comp=Z,9.3nm,0.2s						
TREC	Trest	2.25	191	ePN	Pn	16 39 47.8	+0.8
TREC				ePG	Pg	16 39 51.2	-0.4
KRUC	Moravsky	2.45	176	eSg	Sg	16 40 27.7	+0.5
	comp=Z,9.5nm,0.3s						
NKC	Novy Kostel	2.65	243	ePN	Pn	16 39 53.5	+0.9
NKC				ePG	Pg	16 39 59.0	-0.4
NKC				eSG	Sg	16 40 34.0	+0.2
	comp=Z,30nm,0.3s						
OJC	Ojcow	2.66	117	ePg	Pg	16 40 01.0	+1.5
OJC				eSg	Sg	16 40 35.4	+1.4
KHC	Kasperske Hory	2.88	216	ePN	Pn	16 39 56.6	+0.9
KHC				ePG	Pg	16 40 02.3	-1.5
KHC				eSG	Sg	16 40 39.8	-1.3
	comp=Z,12nm,0.6s						
MOX	Moxa	2.97	255	ePg	Pg	16 40 05.8	+0.3
MOX				eSg	Sg	16 40 45.7	+1.7
MOX				eSG	Sg	16 40 45.7	+1.7
MOX	Moxa	2.97	255	ePG	Pg	16 40 05.8	+0.3
GEC2	GERESS Array S	3.08	211	ePn	Pn	16 39 59.8	+1.3
GERES	GERESS Array B	3.08	211	Pn	Pn	16 39 59.6	+1.1
	comp=Z,0.6nm,0.3s,baz=26,slow=12,SNR=15						
GERES				Pg	Pg	16 40 05.7	-1.9
	comp=Z,2.2nm,0.3s,baz=27,slow=17,SNR=28						
GERES				Sn	Sn	16 40 34.2	-1.8
	comp=Z,1.5nm,0.3s,baz=39,slow=28,SNR=5.8						
GERES				Lg		16 40 44.9	
	comp=Z,3.7nm,0.3s,baz=33,slow=28,SNR=11						
GERES	GERESS Array B	3.08	211	Pg	Pg	16 40 05.7	-1.9
WET	Wettzell	3.15	223	ePn	Pn	16 39 59.8	+0.5
WET				eSg	Sg	16 40 48.2	-1.4
NIE	Niedzica	3.39	126	eP	Pg	16 40 12.5	-1.1
NIE				eS	Sg	16 40 57.1	-0.5
VYHS	Vyhne	3.48	149	eSG	Sg	16 41 04.1	+3.7
FINES	FINESS Array B	11.37	25	Pn	Pn	16 41 50.3	-1.9
	comp=Z,0.1nm,0.3s,baz=199,slow=10,SNR=3.4						
ARCES	ARCESS Array B	18.63	10	Pn	Pn	16 43 26.8	-1.1
	comp=Z,0.1nm,0.3s,baz=200,slow=10,SNR=5.4						

WEL 14 16:40:25.0±0.4, 3838S×17579E, h144km±5km, ML3.6/13, 3C, Error ellipse: s-maj=5.0km s-min=4.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUVZ	Tukino	0.90	187	⇑PN	Pn	16 40 48.6	+0.4
FWVZ	Far West T-bar	0.90	192	PN	Pn	16 40 48.4	+0.2
BKZ	Black Stump Fm	0.96	145	⇑PN	Pn	16 40 48.8	0.0
BKZ				SN	Sn	16 41 07.1	+0.2
WNVZ	Wahianoa	0.96	189	PN	Pn	16 40 49.0	+0.2
PKVZ	Pokaka	0.97	201	PN	Pn	16 40 48.9	0.0
MOVZ	Moawhango	1.03	182	⇑PN	Pn	16 40 49.0	-0.3
MOVZ				SN	Sn	16 41 07.9	-0.1
MTVZ	Mangateitei	1.04	194	PN	Pn	16 40 49.4	0.0
URZ	Urewera	1.04	84	PN	Pn	16 40 49.4	-0.1
MWZ	Matawai	1.36	89	PN	Pn	16 40 52.9	+0.3
MWZ				SN	Sn	16 41 13.7	0.0
WAZ	Wanganui	1.51	204	PN	Pn	16 40 53.1	-1.0
KNZ	Kokohu	1.61	114	PN	Pn	16 40 55.3	+0.1
MRZ	Mangatainoka R	2.29	184	PN	Pn	16 41 00.2	-2.9
MRZ				SN	Sn	16 41 27.8	-4.6
TIWZ	Tintock	2.40	178	PN	Pn	16 41 01.6	-2.9
KIW	Kapiti Island	2.57	195	PN	Pn	16 41 03.1	-3.5
CAW	Cannon Point	2.78	191	PN	Pn	16 41 05.5	-3.8
MTW	Mount Morrison	2.79	185	PN	Pn	16 41 05.3	-4.1
MRW	Makara Radio	2.97	196	PN	Pn	16 41 07.6	-4.1
TRWZ	Traveller	3.02	181	PN	Pn	16 41 08.2	-4.1
SNZO	South Karori	3.04	196	PN	Pn	16 41 08.1	-4.5
MSWZ	Moikau Station	3.06	188	PN	Pn	16 41 08.4	-4.5
TCW	Tory Channel	3.06	202	ePN	Pn	16 41 08.7	-4.1
TUWZ	Tuamarina	3.36	204	PN	Pn	16 41 12.0	-4.7
NNZ	Nelson	3.39	212	PN	Pn	16 41 12.3	-4.8
NNZ				SN	Sn	16 41 52.0	-5.4
QRZ	Quartz Range	3.51	225	PN	Pn	16 41 13.2	-5.4
KHZ	Kahutara	4.38	202	PN	Pn	16 41 24.9	-5.1
LTZ	Lake Taylor	5.15	210	PN	Pn	16 41 33.7	-6.5
MQZ	McQueen's Vall	5.83	203	PN	Pn	16 41 41.5	-7.7
ODZ	Otahua Downs	7.69	208	PN	Pn	16 42 06.9	-7.3

*ISCJB **14** 16:45:34.5±2.5, 11.1S±0.1×1643E±0.1, h58km±18km, mb4.0/8, MS3.8/2, Error ellipse: s-maj=29.7km s-min=13.2km az=92.9*
*NEIC **14** 16:45:34.9±2.2, 1094S×16430E, h48km±17km, mb4.2/6, Error ellipse: s-maj=25.9km s-min=14.6km az=48.0*
*IDC **14** 16:45:36.3±3.8, 1104S×16431E, h63km±28km, mb3.6/6, mb1 4.0/9, mb1mx3.8/16, mbtmp4.1/9, ML4.9/2, MS3.7/3, Ms1 3.7/3, ms1mx3.2/21, Error ellipse: s-maj=35.3km s-min=19.3km az=53.0*
ISC 14 16:45:36.1±2.1, 111S±01×1643E±01, h58km±15km, n21, σ0.87/21, mb4.0/8, MS3.8/2, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.59	290	P	Pn	16 46 42.1	-0.8
	169nm,0.3s,baz=103,slow=4.7,SNR=50						
HNR				S	Sn	16 47 36.5	+1.6
	24nm,0.3s,baz=269,slow=21,SNR=6.5						
HNR				LR	LR	16 48 25.9	
	comp=Z,375nm,20.8s,baz=358,slow=37						
HNR	Honiara	4.59	290	ePn	Pn	16 46 41.6	-1.3
HNR				S	Sn	16 47 36.5	+1.6
HNR				LR	LR	16 48 25.9	
DZM	Mont Dzumac	11.15	170	P	Pn	16 48 12.4	-0.3
	2.7nm,0.3s,baz=294,slow=23,SNR=19						
CTA	Charters Tower	19.56	240	eP	Pn	16 50 01.5	+0.7
	6.3nm,0.6s						
CTA	Charters Tower	19.56	240	P	Pn	16 50 01.3	+0.4
	0.4nm,0.3s,baz=74,slow=9.2,SNR=6.1						
CTAO	Charters Tower	19.56	240	eP	Pn	16 50 00.8	0.0
	10nm,0.8s						
URZ	Urewera	29.42	159	LR	LR	17 01 19.7	
	comp=Z,239nm,18.0s,MS3.9,baz=354,slow=32						
WRAB	Tennant Creek	30.15	249	P	P	16 51 40.2	-0.2
WRA	Warramunga Arr	30.16	249	P	P	16 51 39.9	-0.6
	1.4nm,0.9s,mb3.7,baz=81,slow=9.1,SNR=7.5						
GUMO	Guam	31.16	321	LR	LR	17 02 19.9	
	comp=Z,140nm,18.5s,MS3.7,baz=214,slow=32						
AS31	Alice Springs	31.54	243	eP	P	16 51 52.1	-0.6
ASAR	Alice Springs	31.54	243	P	P	16 51 52.1	-0.6
	0.4nm,0.4s,mb3.6,baz=63,slow=10,SNR=18						
ASPA	Alice Springs	31.54	243	eP	P	16 51 52.1	-0.6
FITZ	Fitzroy Crossi	38.02	255	eP	P	16 52 48.0	-0.6
	8.0nm,0.9s,mb4.5						
FITZ	Fitzroy Crossi	38.02	255	P	P	16 52 48.2	-0.3
	4.1nm,0.8s,mb4.2,baz=72,slow=8.6,SNR=11						
VNDA	Vanda	66.47	181	P	P	16 56 20.2	+0.8
	1.2nm,1.1s,mb3.8,baz=295,slow=5.9,SNR=3.8						
VNDA	Vanda	66.47	181	P	P	16 56 20.2	+0.8
	1.3nm,1.5s,mb3.7						
SBA	Scott Base	66.81	179	P	P	16 56 23.5	+2.0
	3.7nm,1.1s,mb4.3						
SONM	Songino Array	77.84	324	P	P	16 57 27.7	+0.4
	0.4nm,0.7s,mb3.5,baz=151,slow=6.5,SNR=4.7						
QSPA	South Pole Qui	78.95	180	eP	P	16 57 34.1	+0.7
	3.8nm,1.0s,mb4.3						
MKAR	Makanchi Array	92.56	317	P	P	16 58 40.0	-1.1

	0.7nm,0.8s,mb4.2,baz=98,slow=5.5,SNR=6.9						

MAN 14 16:54:26.9, 948N×12263E, h22km, mb3.1, ML4.4, MS2.4, 2C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.62**	**103**	⇑iP	Pb	16 54 39.0	0.0
SNPH				iS	Sb	16 54 49.0	+1.8
GUIM	**Jordan**	**1.14**	**358**	eP	Pn	16 54 46.6	-0.9
GUIM				eS	Sb	16 55 01.1	-1.2
DCPH	**Dipolog City**	**1.14**	**141**	⇓eP	Pn	16 54 46.2	-1.4
TBP	**Tagbilaran**	**1.24**	**80**	eP	Pn	16 54 48.9	+0.1
TBP				eS	Sn	16 55 04.6	-0.2
LLP	**Lapu-Lapu**	**1.56**	**58**	⇓eP	Pn	16 54 53.5	+0.2
LLP				iS	Sn	16 55 13.3	+0.5
IPIL	**Ipil**	**1.68**	**182**	⇑iP	Pn	16 54 55.3	+0.3
IPIL				iS	Sn	16 55 14.8	-1.0
IPIL	**Ipil**	**1.68**	**182**	eP	Pn	16 54 55.2	+0.2
IPIL				eS	Sn	16 55 14.8	-1.1
PAGZ	**Pagadian**	**1.79**	**155**	eP	Pn	16 54 56.9	+0.5
CUYO	**Cuyo Island**	**2.09**	**311**	eP	Pn	16 55 01.2	+0.6
MSLP	**Maasin**	**2.29**	**73**	eP	Pn	16 55 04.9	+1.5
OCLP	**Ormoc**	**2.50**	**51**	eP	Pn	16 55 07.1	+0.9
BUSP	**Coron**	**3.46**	**317**	eP	Pn	16 55 20.1	+0.6

IDC 14 17:04:52.2±2.1**, 224S×12782E, h0km, mb3.3**/2**, mb1 3.5**/3**, mb1mx3.4**/14**, mbtmp3.3**/3**, ML3.4**/1**, Error ellipse: s-maj=150.8km s-min=26.5km az=67.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.71**	**161**	P	Pn	17 09 12.8	+0.3
	0.1nm,0.3s,baz=339,slow=11,SNR=12						
WB2	**Warramunga Arr**	**18.72**	**161**	eP	Pn	17 09 13.3	+0.8
ASPA	**Alice Springs**	**22.10**	**165**	eP	P	17 09 48.7	-0.2
ASAR	**Alice Springs**	**22.10**	**165**	P	P	17 09 48.7	-0.2
	0.5nm,0.6s,baz=345,slow=12,SNR=19						
MKAR	**Makanchi Array**	**63.08**	**327**	P	P	17 15 21.6	+0.3
	0.4nm,0.7s,baz=129,slow=8.1,SNR=4.6						

*ISCJB **14** 17:05:46.8±0.3, 3676S±006×504E±0.1, h10km, mb4.4/22, MS3.6/2, Error ellipse: s-maj=13.0km s-min=7.3km az=144.1*
*IDC **14** 17:05:46.3±0.6, 3678S×5044E, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.2/19, mbtmp4.2/11, ML4.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/28, Error ellipse: s-maj=29.8km s-min=18.1km az=38.0*
*NEIC **14** 17:05:48.2±0.3, 3668S×5044E, h10km, mb4.5/14, Error ellipse: s-maj=12.2km s-min=8.0km az=62.0*
*BJI **14** 17:05:48.0, 3670S×5040E, h10km, mB4.7, mb4.3, Ms5.0, Msz4.5*
ISC 14 17:05:48.3±0.3**, 3670S**±005×**504E**±01**, h10km, n46, σ0.89**/36**, mb4.4**/22**, MS3.6**/2**, 2D, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**18.28**	**350**	P	**Pn**	**17 10 04.5**	**+2.4**
	2.8nm,0.3s,baz=172,slow=9.4,SNR=22						
OPO				S	**Sn**	**17 13 26.1**	**-0.2**
	0.3nm,0.3s,baz=132,slow=23,SNR=3.0						
LBTB	**Lobatse**	**24.22**	**292**	P	**P**	**17 11 04.7**	**-0.5**
	5.1nm,0.9s,mb4.0,baz=157,slow=7.8,SNR=8.3						
LBTB	**Lobatse**	**24.22**	**292**	eP	**P**	**17 11 04.6**	**-0.5**
	6.2nm,0.9s,mb4.0						
MAW	**Mawson**	**31.75**	**171**	eP	**P**	**17 12 13.5**	**+1.0**
	1.8nm,0.6s,mb4.1						
SYO	**Syowa Base**	**32.92**	**187**	⇓eP	**P**	**17 12 23.0**	**+0.3**
SYO	**Syowa Base**	**32.92**	**187**	⇓epP	pP	17 12 26.8	+1.0
TSUM	**Tsumeb**	**33.63**	**292**	eP	**P**	**17 12 29.5**	**+0.5**
KMBO	**Kilima Mbogo**	**37.44**	**338**	LR	LR	17 27 57.6	
	comp=Z,35nm,20.1s,MS3.2,baz=92,slow=36						
SNAA	**Sanae**	**44.23**	**201**	eP	**P**	**17 13 57.8**	**+0.1**
	1.6nm,0.5s,mb4.0						
CASY	**Casey**	**45.07**	**150**	P	**P**	**17 14 03.4**	**-1.0**
	11nm,0.9s,mb4.7						
QSPA	**South Pole Qui**	**53.49**	**180**	eP	**P**	**17 15 09.0**	**+0.2**
	12nm,1.1s,mb4.8						
VNDA	**Vanda**	**58.87**	**166**	P	**P**	**17 15 46.6**	**-0.6**
	1.1nm,0.9s,mb3.9,baz=263,slow=6.7,SNR=5.8						
VNDA	**Vanda**	**58.87**	**166**	eP	**P**	**17 15 46.6**	**-0.6**
	1.5nm,0.8s,mb4.1						
SBA	**Scott Base**	**59.60**	**167**	eP	**P**	**17 15 53.3**	**+1.0**
	4.9nm,1.2s,mb4.4						
DBIC	**Dimbokro**	**67.30**	**298**	P	**P**	**17 16 43.8**	**+0.5**
	8.2nm,0.9s,mb4.8,baz=169,slow=8.6,SNR=5.6						
DBIC	**Dimbokro**	**67.30**	**298**	eP	**P**	**17 16 41.7**	**-1.5**
	48nm,1.4s,mb5.3						
TOA0	**Torodi Ar. Sit**	**67.55**	**308**	eP	**P**	**17 16 45.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**67.55**	**308**	P	**P**	**17 16 45.7**	**+0.8**
	3.5nm,0.7s,mb4.5,baz=128,slow=4.9,SNR=19						
TORD	**Torodi Ar. Bea**	**67.55**	**308**	P	**P**	**17 16 45.7**	**+0.8**
ASPA	**Alice Springs**	**71.25**	**106**	eP	**P**	**17 17 08.2**	**+0.5**
ASAR	**Alice Springs**	**71.26**	**106**	P	**P**	**17 17 07.4**	**-0.4**
	2.0nm,0.5s,mb4.3,baz=230,slow=5.9,SNR=90						
AS31	**Alice Springs**	**71.26**	**106**	eP	**P**	**17 17 08.2**	**+0.4**
WRA	**Warramunga Arr**	**73.62**	**103**	P	**P**	**17 17 22.0**	**+0.2**
	3.4nm,0.9s,mb4.3,baz=233,slow=4.9,SNR=35						
WB2	**Warramunga Arr**	**73.63**	**103**	eP	**P**	**17 17 22.3**	**+0.4**
WRAB	**Tennant Creek**	**73.63**	**103**	eP	**P**	**17 17 22.2**	**+0.3**
	3.7nm,0.7s,mb4.4						
GNI	**Garni**	**76.65**	**356**	P	**P**	**17 17 37.4**	**-1.9**
	16nm,1.1s,mb4.9						
BRTR	**Keskin Array B**	**77.61**	**347**	P	**P**	**17 17 44.5**	**-0.2**
	1.0nm,0.8s,mb3.8,baz=204,slow=5.1,SNR=4.9						
AAK	**Ala-Archa**	**81.95**	**18**	eP	**P**	**17 18 07.6**	**-0.6**
	2.3nm,0.7s,mb4.2						
CTAO	**Charters Tower**	**82.73**	**109**	P	**P**	**17 18 11.4**	**-1.0**
	21nm,1.3s,mb5.0						
PLCA	**Paso Flores**	**85.86**	**221**	P	**P**	**17 18 27.2**	**-1.0**
	2.6nm,0.8s,mb4.5,baz=162,slow=5.5,SNR=6.4						
PLCA	**Paso Flores**	**85.86**	**221**	P	**P**	**17 18 27.2**	**-1.0**
WMQ	**Urumqi**	**86.99**	**26**	P	**P**	**17 18 35.3**	**+1.5**
WMQ				AP	pP	17 18 40.1	+3.0
WMQ				XP	sP	17 18 42.3	+4.0
WMQ				AMB	AMB		
	comp=Z,5.0nm,2.0s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,33nm,5.2s						
WMQ				LR	LR		
	comp=N,71nm,19.0s,MS4.2						
WMQ				LR	LR		
	comp=E,53nm,17.9s,MS4.2						
WMQ				LR	LR		
	comp=Z,65nm,19.5s,MS4.0						
MKAR	**Makanchi Array**	**87.89**	**21**	P	**P**	**17 18 36.6**	**-1.5**
	comp=Z,0.6nm,0.8s,mb3.9,baz=214,slow=5.9,SNR=4.1						
AKASG	**Malin Array Be**	**89.01**	**347**	P	**P**	**17 18 43.1**	**-0.3**
	comp=Z,0.2nm,0.3s,mb3.9,baz=165,slow=4.1,SNR=4.4						
KURK	**Kurchatov**	**90.51**	**17**	eP	**P**	**17 18 50.2**	**-0.2**
	comp=Z,2.5nm,1.1s,mb4.5						
ZRNK	**Zerenda**	**90.73**	**11**	P	**P**	**17 18 50.5**	**-1.0**
	comp=Z,2.2nm,1.1s,mb4.4						
HHC	**Hu-ho-hao-te**	**95.35**	**42**	eP	**P**	**17 19 14.0**	**+1.2**
HHC				AP	pP	17 19 18.6	+2.5
HHC				XP	sP	17 19 21.3	+4.0
HHC				PP	PP	17 23 07.9	+4.9
HHC				SKS		17 29 49.9	
HHC				S	S	17 30 26.4	-2.4
HHC				XS	sS	17 30 36.5	+2.2
HHC				LR	LR		
	comp=N,215nm,6.4s						
HHC				LR	LR		
	comp=E,180nm,4.2s						
HHC				LR	LR		
	comp=Z,154nm,6.4s						
IMA2	**Indian Mountai**	**147.40**	**18**	ePKPbc	PKPbc	17 25 32.2	-0.2
INK	**Inuvik**	**148.26**	**3**	PKPbc	PKPbc	17 25 33.7	-0.9
	comp=Z,4.8nm,0.8s,baz=31,slow=2.2,SNR=12						
INK	**Inuvik**	**148.26**	**3**	ePKPbc	PKPbc	17 25 33.7	-0.9
MCK	**McKinley**	**150.49**	**17**	ePKPbc	PKPbc	17 25 39.2	-1.0
MCK				ePKPab	PKPab	17 25 46.6	-0.2
DAWY	**Dawson**	**151.96**	**9**	ePKPbc	PKPbc	17 25 42.9	-0.7
ULM	**Lac du Bonnet**	**152.32**	**310**	PKPbc	PKPbc	17 25 43.2	-1.2
	comp=Z,2.9nm,0.8s,baz=77,slow=1.6,SNR=4.2						
ULM	**Lac du Bonnet**	**152.32**	**310**	PKPbc	PKPbc	17 25 43.2	-1.2
YKA	**Yellowknife Ar**	**152.56**	**345**	PKPbc	PKPbc	17 25 42.5	-2.4
	comp=Z,1.4nm,0.8s,baz=21,slow=2.0,SNR=8.2						
YKA	**Yellowknife Ar**	**152.56**	**345**	PKPbc	PKPbc	17 25 42.5	-2.4

*BJI **14** 17:05:57.0, 4240N×11150W, h7km, mB5.2, mb4.8, Ms4.8, Msz4.5*
*IDC **14** 17:05:59.2±0.9, 4249N×11137W, h0km, mb2.9/1, mb1 3.8/4, mb1mx3.5/22, mbtmp3.5/4, ML3.7/3, MS2.9/4, Ms1 2.9/4, ms1mx2.6/10, Error ellipse: s-maj=15.3km s-min=9.4km az=160.0*
*ISCJB **14** 17:06:01.3±0.2, 4243N±001×11154W±003, h10km, mb5.6/2, MS2.6/1, Error ellipse: s-maj=3.1km s-min=1.7km az=49.4*
*NEIC **14** 17:06:01.0, 4242N×11151W, h7km, ML4.0(SLC), MW3.9(SLM), After SLC.*
NEIC Felt [V] at Grace, [IV] at Bancroft, [III] at Montpelier and [II] at Pocatello and Soda Springs. Felt at American Falls, Arimo, Dayton, Downey, Inkom, Lava Hot Springs, McCammon and Preston. Also felt at Pinedale, Wyoming.
ISC 14 17:06:02.5±0.2**, 4244N**±001×**11151W**±003**, h10km, n99, σ1.19**/140**, mb5.6**/2**, MS2.6**/1**, 10C-14D, Eastern Idaho**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHID	**Auburn Hatcher**	**0.45**	**43**	⇑ePg	**Pg**	**17 06 10.1**	**-1.2**
AHID				eSg	**Sg**	**17 06 17.0**	**-0.2**
RRI2	**Red Ridge**	**0.92**	**9**	ePg	**Pg**	**17 06 19.0**	**-1.3**
RRI2				eSg	**Sg**	**17 06 32.0**	**-0.2**
TPAW	**Teton Pass**	**1.13**	**21**	ePg	**Pg**	**17 06 22.9**	**-1.4**
TPAW				eSg	**Sg**	**17 06 38.0**	**-0.9**
HVU	**Hansel Valley**	**1.15**	**235**	ePg	**Pg**	**17 06 22.3**	**-2.2**
HVU				eSg	**Sg**	**17 06 36.8**	**-2.6**
DCID1	**Drake Creek**	**1.18**	**12**	eP	**Pn**	**17 06 23.4**	**-1.7**
DCID1				eS	**Sn**	**17 06 37.9**	**-3.3**
TCUT	**Toone Canyon**	**1.32**	**177**	eP	**Pn**	**17 06 27.1**	**+0.1**
SPUT	**South Promonto**	**1.33**	**212**	eP	**Pn**	**17 06 25.2**	**-1.9**
SPUT				eS	**Sn**	**17 06 42.6**	**-2.2**
MOOW	**Moose Ponds**	**1.43**	**23**	ePn	**Pn**	**17 06 27.4**	**-1.1**
MOOW				eS	**Sn**	**17 06 45.8**	**-1.5**
BW06	**Boulder Array**	**1.48**	**77**	ePn	**Pn**	**17 06 28.6**	**-0.6**
BW06				eS	**Sn**	**17 06 49.5**	**+0.9**
PDAR	**Pinedale Array**	**1.48**	**77**	Pn	**Pn**	**17 06 27.6**	**-1.6**
	209nm,0.3s,baz=253,slow=14,SNR=3817						
PDAR				Lg		17 06 49.2	
	30nm,0.3s,baz=240,slow=24,SNR=24						
PDAR	**Pinedale Array**	**1.48**	**77**	Pn	**Pn**	**17 06 27.6**	**-1.6**
PDAR				Lg		17 06 49.2	
IMW	**Indian Meadow**	**1.52**	**16**	ePn	**Pn**	**17 06 29.1**	**-0.7**
IMW				eS	**Sn**	**17 06 49.1**	**-0.4**
FLWY	**Flagg Ranch**	**1.75**	**20**	⇓ePn	**Pn**	**17 06 33.0**	**+0.1**
FLWY				eSn	**Sn**	**17 06 56.0**	**+0.8**
CTU	**Camp Tracy**	**1.75**	**186**	ePn	**Pn**	**17 06 33.0**	**0.0**
CTU				eSg	**Sg**	**17 06 57.6**	**-1.3**
NOQ	**North Oquirrh**	**1.84**	**195**	ePn	**Pn**	**17 06 33.7**	**-0.5**
NOQ				eS	**Sn**	**17 06 58.6**	**+1.1**
BGU	**Big Grassy Mou**	**1.89**	**217**	⇓ePn	**Pn**	**17 06 33.6**	**-1.2**
BGU				eS	**Sn**	**17 06 59.1**	**+0.4**
DAU	**Daniels Canyon**	**2.03**	**174**	ePn	**Pn**	**17 06 37.6**	**+0.8**
DAU				eSg	**Sg**	**17 07 07.4**	**-0.4**
YFT	**Old Faithful**	**2.07**	**14**	ePn	**Pn**	**17 06 37.7**	**+0.4**
YFT				eSg	**Sg**	**17 07 08.9**	**-0.2**
M13A	**Montello**	**2.25**	**242**	⇓P	**Pn**	**17 06 38.8**	**-1.1**
	baz=2.2						
YMR	**Madison River**	**2.27**	**10**	ePn	**Pn**	**17 06 40.5**	**+0.6**
YMR				eSg	**Sn**	**17 07 10.9**	**+2.9**
LKWY	**Lake**	**2.28**	**20**	ePn	**Pn**	**17 06 41.3**	**+1.2**
QLMT	**Earthquake Lak**	**2.39**	**1**	ePn	**Pn**	**17 06 42.4**	**+0.6**
QLMT				eSg	**Sn**	**17 07 15.3**	**+4.1**
HLID	**Hailey**	**2.41**	**299**	ePn	**Pn**	**17 06 41.8**	**-0.2**
HLID				eSg	**Sn**	**17 07 16.0**	**+4.5**
MPU	**Maple Canyon**	**2.42**	**182**	ePn	**Pn**	**17 06 42.3**	**+0.1**
MPU				eSg	**Sg**	**17 07 19.1**	**-1.2**
DUG	**Dugway**	**2.44**	**204**	ePn	**Pn**	**17 06 41.7**	**-0.8**
NLU	**North Lily Min**	**2.52**	**190**	ePn	**Pn**	**17 06 43.4**	**-0.1**
N13A	**Wendover, West**	**2.56**	**233**	⇑P	**Pn**	**17 06 43.1**	**-0.9**
	baz=2.5						
MCMT	**McKenzie Canyo**	**2.58**	**338**	ePn	**Pn**	**17 06 44.8**	**+0.5**
M12A	**Wells**	**2.74**	**249**	⇓P	**Pn**	**17 06 45.7**	**-0.7**
	baz=2.7						
DLMT	**Dillon**	**3.03**	**345**	ePn	**Pn**	**17 06 51.6**	**+1.1**
DLMT				eSg	**Sg**	**17 07 36.2**	**-3.6**
N12A	**Clover Valley,**	**3.08**	**240**	⇓P	**Pn**	**17 06 50.7**	**-0.5**
	baz=3.1						
TMUT	**Trail Mountain**	**3.15**	**176**	ePn	**Pn**	**17 06 53.1**	**+1.0**
BOZ	**Bozeman (W)**	**3.21**	**359**	ePn	**Pn**	**17 06 54.4**	**+1.4**
ELK	**Elko**	**3.27**	**240**	ePn	**Pn**	**17 06 52.9**	**-0.8**
RWWY	**Rawlins**	**3.29**	**102**	ePn	**Pn**	**17 06 54.7**	**+0.6**
RWWY				ePg	**Pg**	**17 07 05.3**	**-0.2**
M11A	**Holland Ranch,**	**3.35**	**254**	⇑P	**Pn**	**17 06 54.6**	**-0.3**
	baz=3.3						
SRU	**San Rafael**	**3.41**	**167**	ePn	**Pn**	**17 06 56.9**	**+1.2**
SRU				eSn	**Sn**	**17 07 34.0**	**-2.2**
N11A	**Elko Archery C**	**3.56**	**244**	⇑P	**Pn**	**17 06 57.4**	**-0.3**
	baz=3.5						
GCMT	**Greycliff**	**3.61**	**21**	ePn	**Pn**	**17 07 01.6**	**+3.2**
O11A	**Cowboy Ranch,**	**3.88**	**235**	⇑P	**Pn**	**17 07 02.1**	**-0.1**
	baz=3.9						
P12A	**McGill**	**3.92**	**222**	⇑P	**Pn**	**17 07 02.7**	**-0.1**
	baz=3.9						
MSU	**Marysvale**	**3.95**	**188**	ePn	**Pn**	**17 07 03.8**	**+0.6**
MVU	**Marysvale**	**3.97**	**188**	ePn	**Pn**	**17 06 58.0**	**-5.4**
Q12A	**Willow Creek R**	**4.23**	**218**	⇓P	**Pn**	**17 07 07.3**	**+0.4**
	baz=4.2						
HRY	**Holter Researc**	**4.28**	**357**	ePn	**Pn**	**17 07 11.5**	**+3.9**
HRY				eSg	**Sg**	**17 08 13.2**	**-6.8**
P11A	**Circle Ranch,**	**4.31**	**229**	⇓P	**Pn**	**17 07 08.6**	**+0.4**
	baz=4.3						
PV10	**Paradox Valley**	**4.47**	**154**	ePn	**Pn**	**17 07 11.9**	**+1.6**
CHMT	**Chamberlain Mo**	**4.64**	**345**	ePn	**Pn**	**17 07 13.6**	**+0.9**
CHMT				eSg	**Sg**	**17 08 27.4**	**-4.2**
PHWY	**Pilot Hill**	**4.66**	**102**	ePn	**Pn**	**17 07 13.1**	**+0.2**
P10A	**Eureka**	**4.68**	**235**	⇑P	**Pn**	**17 07 13.8**	**+0.6**
	baz=4.7						
MSO	**Missoula**	**4.72**	**339**	ePn	**Pn**	**17 07 15.5**	**+1.7**
MSO				ePg	**Pg**	**17 07 25.6**	**-7.3**
MSO				eSg	**Sg**	**17 08 27.2**	**-6.8**
BMN	**Battle Mountai**	**4.74**	**247**	ePn	**Pn**	**17 07 12.2**	**-1.7**
SMCO	**Snowmass**	**4.74**	**132**	ePn	**Pn**	**17 07 14.5**	**+0.5**
SMCO				ePg	**Pg**	**17 07 28.5**	**-4.8**
SMCO				eS	**Sg**	**17 08 26.2**	**-8.5**
Q11A	**Duckwater**	**4.77**	**223**	⇓P	**Pn**	**17 07 15.2**	**+0.8**
	baz=4.8						
Q11A				⇓S	**Sn**	**17 08 10.5**	**+0.8**
	baz=4.8						
O09A	**Fish Creek Ran**	**4.84**	**244**	⇓P	**Pn**	**17 07 14.7**	**-0.7**
	baz=4.8						
BMO	**Blue Mountains**	**4.85**	**302**	ePn	**Pn**	**17 07 15.6**	**+0.1**
BMO				eSg	**Sg**	**17 08 32.5**	**-5.7**
PV01	**Paradox Valley**	**4.85**	**151**	ePn	**Pn**	**17 07 15.5**	**0.0**
PV01				eSg	**Sg**	**17 08 28.7**	**-10**
ARUT	**Antelope Range**	**4.87**	**198**	ePn	**Pn**	**17 07 17.7**	**+1.8**
CCUT	**Cedar City**	**5.08**	**197**	ePn	**Pn**	**17 07 19.8**	**+1.1**
P09A	**Austin**	**5.14**	**238**	⇓P	**Pn**	**17 07 19.2**	**-0.3**
	baz=5.1						
ISCO	**Idaho Springs**	**5.18**	**119**	ePn	**Pn**	**17 07 20.6**	**+0.6**
	118nm,0.8s						
ISCO				ePg	**Pg**	**17 07 34.5**	**-7.1**
ISCO				eSg	**Sg**	**17 08 41.8**	**-7.0**
N08A	**GE Springer Mi**	**5.23**	**254**	⇓P	**Pn**	**17 07 20.5**	**-0.3**
	baz=5.2						
WVOR	**Wild Horse Val**	**5.27**	**272**	Pn	**Pn**	**17 07 20.1**	**-1.3**
	162nm,0.9s						
WVOR				eP		17 07 30.6	
WVOR				eSg	**Sg**	**17 08 42.2**	**-10**
LAO	**LASA Array**	**5.69**	**40**	Pn	**Pn**	**17 07 20.3**	**-6.7**
	13nm,0.4s						
LAO				ePg	**Pg**	**17 07 41.9**	**-10**
RSSD	**Black Hills**	**5.71**	**70**	ePn	**Pn**	**17 07 27.0**	**-0.4**
	39nm,0.8s						
MVCO	**Mesa Verde**	**5.71**	**155**	ePn	**Pn**	**17 07 28.2**	**+0.8**
MVCO				eSg	**Sg**	**17 08 57.5**	**-8.5**
EGMT	**Eagleton**	**5.72**	**12**	ePn	**Pn**	**17 07 30.2**	**+2.7**
	33nm,0.9s						
M07A	**Soldier Meadow**	**5.81**	**262**	⇓P	**Pn**	**17 07 28.9**	**+0.3**
	baz=5.8						
O07A	**Toulon**	**6.00**	**250**	⇑P	**Pn**	**17 07 30.1**	**-1.2**
	baz=6.0						
TPH	**Tonopah**	**6.17**	**227**	Pn	**Pn**	**17 07 33.9**	**+0.3**
	17nm,0.8s						
TPH				ePg	**Pg**	**17 07 57.3**	**-3.4**
TPH				Sg	**Sg**	**17 09 16.9**	**-3.6**
S09A	**Goldfield**	**6.43**	**225**	⇑P	**Pn**	**17 07 38.5**	**+1.3**
	baz=6.4						
MNV	**Mina**	**6.45**	**234**	ePn	**Pn**	**17 07 38.0**	**+0.5**
	21nm,0.6s						
MNV				ePg	**Pg**	**17 08 04.2**	**-1.9**
MNV				eSg	**Sg**	**17 09 25.6**	**-4.1**
K06A	**Valley Falls**	**6.46**	**276**	⇑P	**Pn**	**17 07 37.7**	**+0.1**
	baz=6.4						
PAHR	**Pah Rah Range**	**6.54**	**248**	ePn	**Pn**	**17 07 39.9**	**+1.1**
	19nm,0.7s						
PAHR				eSg	**Sg**	**17 09 23.5**	**-9.0**
NVAR	**Mina Array Bea**	**6.55**	**235**	Pn	**Pn**	**17 07 40.0**	**+1.2**
	0.6nm,0.3s,baz=49,slow=13,SNR=20						
NVAR				Sn	**Sn**	**17 08 54.7**	**+1.1**
	3.2nm,0.3s,baz=92,slow=9.3,SNR=4.2						
NVAR				Lg		17 09 23.4	
	0.7nm,0.3s,baz=49,slow=16,SNR=2.2						
NVAR	**Mina Array Bea**	**6.55**	**235**	Pn	**Pn**	**17 07 40.0**	**+1.2**
NVAR				Sn	**Sn**	**17 08 54.7**	**+1.1**
NVAR				Lg		17 09 23.4	
TPNV	**Topopah Spring**	**6.59**	**215**	ePn	**Pn**	**17 07 41.0**	**+1.6**
	73nm,0.6s						
WALA	**Waterton Lakes**	**6.83**	**347**	ePn	**Pn**	**17 07 44.6**	**+1.8**
	13nm,0.6s						
WALA				eSg	**Sg**	**17 09 35.2**	**-6.6**
WUAZ	**Wupatki**	**6.91**	**179**	ePn	**Pn**	**17 07 45.0**	**+1.1**
	25nm,0.7s						
HAWA	**Hanford**	**6.97**	**307**	eP	**Pn**	**17 07 47.8**	**+3.1**
	0.8nm,0.7s						
NEW	**Newport**	**7.04**	**328**	Pn	**Pn**	**17 07 45.9**	**+0.3**
	0.7nm,0.3s,baz=143,slow=11,SNR=3.9						
NEW				Lg		17 09 38.8	
	3.4nm,0.3s,baz=63,slow=21,SNR=6.9						
U10A	**Ash Meadows, A**	**7.07**	**213**	⇓P	**Pn**	**17 07 48.7**	**+2.7**
	baz=7.1						
MTUM	**Tungsten Hills**	**7.43**	**229**	eP	**Pn**	**17 07 53.4**	**+2.5**
CMB	**Columbia Colle**	**8.09**	**240**	ePn	**Pn**	**17 08 01.2**	**+1.3**
	3.6nm,0.8s						
CMB				eSg	Sn	17 10 16.9	+45
YBH	**Yreka Blue Hor**	**8.36**	**269**	Pn	**Pn**	**17 08 04.8**	**+1.1**
	0.1nm,0.3s,baz=52,slow=11,SNR=3.1						
YBH				LR	LR	17 11 23.9	
	comp=Z,150nm,20.9s,baz=87,slow=38						
YBH	**Yreka Blue Hor**	**8.36**	**269**	ePn	**Pn**	**17 08 05.2**	**+1.5**
	4.2nm,0.9s						
ANMO	**Albuquerque**	**8.45**	**151**	Lg		17 10 20.2	
	0.3nm,0.3s,baz=65,slow=23,SNR=4.9						
WDC	**Whiskeytown Da**	**8.48**	**261**	ePn	**Pn**	**17 08 08.3**	**+2.9**
	11nm,0.9s						
LAZ	**Ladron**	**8.72**	**155**	eP	**Pn**	**17 08 21.8**	**+13**
ECSD	**EROS,Sioux Fal**	**10.98**	**78**	ePn	**Pn**	**17 08 37.3**	**-2.3**
ULM	**Lac du Bonnet**	**13.31**	**49**	Pn	**Pn**	**17 09 07.7**	**-3.8**
	0.6nm,0.3s,baz=228,slow=9.5,SNR=4.7						
ULM				LR	LR	17 14 23.8	
	comp=Z,56nm,19.2s,baz=189,slow=38						
ULM	**Lac du Bonnet**	**13.31**	**49**	Pn	**Pn**	**17 09 07.7**	**-3.8**
ULM				LR	LR	17 14 23.8	
BBB	**Bella Bella**	**14.86**	**317**	LR	LR	17 15 04.1	
	comp=Z,38nm,19.4s,baz=258,slow=37						
YKA	**Yellowknife Ar**	**20.17**	**356**	P	**P**	**17 10 35.0**	**-2.1**
	0.4nm,0.6s,baz=171,slow=9.4,SNR=5.2						
YKA	**Yellowknife Ar**	**20.17**	**356**	P	**P**	**17 10 35.0**	**-2.1**
SADO	**Sadowa**	**23.48**	**73**	LR	LR	17 21 14.0	
	comp=Z,24nm,21.9s,MS2.6,baz=189,slow=39						
HHC	**Hu-ho-hao-te**	**88.40**	**329**	eP	**P**	**17 18 53.9**	**-0.9**
HHC				AP	pP	17 18 58.5	+0.4
HHC				XP	sP	17 19 01.0	+1.7
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,263nm,4.9s						
HHC				LR	LR		
	comp=N,178nm,8.2s						
HHC				LR	LR		
	comp=E,181nm,5.7s						
HHC				LR	LR		
	comp=Z,141nm,6.3s						
WMQ	**Urumqi**	**92.42**	**346**	P	**P**	**17 19 14.8**	**+1.3**
NJ2	**Nanjing**	**92.63**	**319**	eP	**P**	**17 19 13.8**	**-0.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.6						

IDC 14 17:29:26.5±7.5**, 727S×11999E, h582km**±131km**, mb2.6**/2**, mb1 2.9**/4**, mb1mx2.7**/15**, mbtmp3.6**/4**, Error ellipse: s-maj=222.1km s-min=36.3km az=48.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.09**	**153**	eP	P	17 32 06.6	+0.6
	5.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**12.09**	**153**	P	P	17 32 06.2	+0.1
	0.4nm,0.3s,baz=326,slow=7.8,SNR=9.9						
KAKA	**Kakadu**	**13.40**	**115**	eP	P	17 32 20.3	+1.0
	6.0nm,0.6s						
WRA	**Warramunga Arr**	**18.77**	**134**	P	P	17 33 09.9	+0.1
	0.5nm,0.3s,baz=310,slow=11,SNR=27						
WB2	**Warramunga Arr**	**18.78**	**134**	eP	P	17 33 10.6	+0.7
ASPA	**Alice Springs**	**21.08**	**142**	eP	P	17 33 30.7	0.0
ASAR	**Alice Springs**	**21.08**	**142**	P	P	17 33 30.9	+0.2
	1.6nm,0.5s,baz=318,slow=8.3,SNR=89						
MKAR	**Makanchi Array**	**63.38**	**332**	P	P	17 38 59.8	0.0
	0.1nm,0.5s,baz=181,slow=7.1,SNR=4.1						

*ISCJB **14** 18:06:02.0±0.5, 4373N±003×10523W±006, h0km, mb4.3/1, Error ellipse: s-maj=6.3km s-min=4.8km az=13.5*
*IDC **14** 18:06:02.3±1.8, 4364N×10538W, h0km, mb4.2/1, mb1 3.9/4, mb1mx3.6/22, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=43.9km s-min=8.5km az=151.0*
*NEIC **14** 18:06:03.2±0.5, 4368N×105.17W, h0km, ML3.4, Error ellipse: s-maj=7.6km s-min=5.5km az=132.0, Suspected Mining explosion.*
NEIC 75 km [45 miles] SSE of Gillette.
ISC 14 18:06:03.3±0.5**, 4373N**±003×**10523W**±006**, h0km, n34, σ1.15**/38**, mb4.3**/1**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.95**	**65**	eP	**Pg**	**18 06 22.1**	**+0.6**
PHWY	**Pilot Hill**	**2.43**	**184**	ePn	**Pn**	**18 06 43.7**	**-0.5**
PHWY				eSn	**Sn**	**18 07 15.9**	**+1.3**
RWWY	**Rawlins**	**2.50**	**216**	ePn	**Pn**	**18 06 46.1**	**+0.8**
RWWY				eSn	**Sn**	**18 07 16.9**	**+0.4**
LAO	**LASA Array**	**3.04**	**347**	ePn	**Pn**	**18 06 53.1**	**+0.5**
BW06	**Boulder Array**	**3.30**	**255**	ePn	**Pn**	**18 06 56.3**	**+0.1**
BW06				eS	**Sb**	**18 07 41.1**	**-2.3**
PDAR	**Pinedale Array**	**3.30**	**255**	Pn	**Pn**	**18 06 56.5**	**+0.2**
	4.3nm,0.3s,baz=77,slow=17,SNR=67						
PDAR				Lg		18 07 42.0	
	19nm,0.3s,baz=72,slow=33,SNR=15						
GCMT	**Greycliff**	**3.77**	**305**	ePn	**Pn**	**18 07 03.3**	**+0.6**
ISCO	**Idaho Springs**	**3.93**	**184**	ePn	**Pn**	**18 07 05.2**	**+0.2**
ISCO				eSn	**Sb**	**18 07 59.0**	**-2.7**
FLWY	**Flagg Ranch**	**3.97**	**277**	ePn	**Pn**	**18 07 06.4**	**+1.1**
MOOW	**Moose Ponds**	**3.99**	**272**	ePn	**Pn**	**18 07 06.3**	**+0.6**
YFT	**Old Faithful**	**4.10**	**282**	ePn	**Pn**	**18 07 10.8**	**+3.5**
IMW	**Indian Meadow**	**4.13**	**274**	ePn	**Pn**	**18 07 08.2**	**+0.6**
TPAW	**Teton Pass**	**4.16**	**269**	ePn	**Pn**	**18 07 09.0**	**+1.0**
YMR	**Madison River**	**4.23**	**285**	Pg	**Pg**	**18 07 21.9**	**-2.4**
DCID1	**Drake Creek**	**4.32**	**270**	ePg	**Pg**	**18 07 22.2**	**-3.9**
AHID	**Auburn Hatcher**	**4.39**	**259**	ePn	**Pn**	**18 07 12.1**	**+0.9**
RRI2	**Red Ridge**	**4.44**	**267**	ePn	**Pn**	**18 07 13.4**	**+1.5**
SMCO	**Snowmass**	**4.73**	**197**	ePg	**Pb**	**18 07 27.6**	**+0.5**
BOZ	**Bozeman (W)**	**4.95**	**295**	ePn	**Pn**	**18 07 18.1**	**-0.7**
	8.4nm,0.5s						
TCUT	**Toone Canyon**	**5.26**	**242**	ePn	**Pn**	**18 07 22.3**	**-0.9**
DLMT	**Dillon**	**5.51**	**290**	ePg	**Pg**	**18 07 45.4**	**-3.5**
	29nm,1.3s						
HRY	**Holter Researc**	**5.53**	**305**	ePn	**Pn**	**18 07 27.5**	**+0.6**
DAU	**Daniels Canyon**	**5.57**	**236**	ePn	**Pn**	**18 07 27.4**	**0.0**
MCMT	**McKenzie Canyo**	**5.58**	**284**	Pn	**Pn**	**18 07 29.9**	**+2.4**
SPUT	**South Promonto**	**5.85**	**248**	ePn	**Pn**	**18 07 31.7**	**+0.4**
SRU	**San Rafael**	**6.09**	**223**	ePn	**Pn**	**18 07 32.8**	**-1.8**
	14nm,0.5s						
TMUT	**Trail Mountain**	**6.30**	**227**	ePn	**Pn**	**18 07 38.3**	**+0.9**
BGU	**Big Grassy Mou**	**6.42**	**247**	eP	**Pn**	**18 07 37.9**	**-1.2**
MSU	**Marysvale**	**7.39**	**228**	ePn	**Pn**	**18 07 52.5**	**+0.1**
ULM	**Lac du Bonnet**	**9.13**	**41**	Pn	**Pn**	**18 08 15.2**	**-1.1**
	1.5nm,0.3s,baz=230,slow=13,SNR=16						
ULM				Lg		18 10 46.8	
	0.5nm,0.3s,baz=320,slow=20,SNR=2.4						
YKA	**Yellowknife Ar**	**19.58**	**347**	P	**Pn**	**18 10 33.9**	**-0.2**
	baz=80,slow=4.2,SNR=6.1						
FALS	**False Pass**	**38.47**	**308**	P	**P**	**18 13 25.6**	**-1.2**
ARCES	**ARCESS Array B**	**61.42**	**18**	P	**P**	**18 16 19.5**	**-1.8**
ARCES	**ARCESS Array B**	**61.42**	**18**	P	**P**	**18 16 19.5**	**-1.8**
	2.0nm,0.8s,mb4.3,baz=334,slow=8.1,SNR=5.0						

ISCJB **14** *18:46:26.4±0.9, 4176N±007×14297E±008, h54km±7km, mb3.4/4, Error ellipse: s-maj=13.2km s-min=9.1km az=114.3*
JMA **14** *18:46:28.7±0.1, 4190N×14295E, h44km±1km, M3.3 Broadband fault plane solution: P waves. NP1: φs217.00000°, δ18.00000°, λ107.00000°. NP2: φs19.00000°, δ72.00000°, λ84.00000°. Principal axes: T Plg62.0000°, Azm280.0000°; N Plg5.0000°, Azm20.0000°; P Plg27.0000°, Azm113.0000°;*
JMA Felt I J1.
IDC **14** *18:46:31.1±3.2, 4195N×14300E, h83km±33km, mb3.3/4, mb1 3.4/5, mb1mx3.2/19, mbtmp3.6/5 Error ellipse: s-maj=59.6km s-min=25.8km az=72.0*
ISC 14 18:46:27.5±0.9**, 4178N**±007×**14295E**±008**, h47**km±7km**, n13, σ0.85**/19**, mb3.4**/4**, 2C-4D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.28**	**32**	⇑P	**Pn**	**18 46 36.3**	**+0.1**
JEM				eS	**Sn**	**18 46 42.0**	**-0.4**
JNBK	**Urakawa-nobuka**	**0.53**	**344**	⇓P	**Pn**	**18 46 38.3**	**-0.6**
JCH	**Churui**	**0.89**	**20**	⇑P	**Pn**	**18 46 43.3**	**-0.4**
JCH				eS	**Sn**	**18 46 53.6**	**-1.9**
JBT2	**Biratori 2**	**1.09**	**337**	⇓P	**Pn**	**18 46 46.2**	**-0.2**
JBT2				eS	**Sn**	**18 47 00.7**	**+0.3**
JOB	**Onbets**	**1.30**	**30**	⇓P	**Pn**	**18 46 50.2**	**+0.9**
JOB				eS	**Sn**	**18 47 06.6**	**+1.1**
JFR	**Furan**	**1.41**	**349**	P	**Pn**	**18 46 50.3**	**-0.5**
JKB	**Kayabe**	**1.44**	**275**	⇓P	**Pn**	**18 46 51.6**	**+0.5**
JKB				eS	**Sn**	**18 47 08.8**	**0.0**
JEW	**Eniwo**	**1.54**	**314**	P	**Pn**	**18 46 52.6**	**+0.1**
ASAJ	**Asahikawa**	**2.35**	**354**	P	**Pn**	**18 47 04.7**	**+1.0**
	6.1nm,0.3s,baz=206,slow=11,SNR=66						
ASAJ				S	**Sn**	**18 47 32.5**	**+1.2**
	5.0nm,0.3s,baz=14,slow=32,SNR=9.7						
SONM	**Songino Array**	**26.46**	**296**	P	**P**	**18 51 59.8**	**-0.2**
	0.3nm,0.8s,mb2.9,baz=83,slow=7.4,SNR=3.7						
MKAR	**Makanchi Array**	**42.77**	**298**	P	**P**	**18 54 19.9**	**-0.4**
	0.3nm,0.6s,mb3.2,baz=86,slow=9.2,SNR=5.2						
WRA	**Warramunga Arr**	**61.92**	**189**	P	**P**	**18 56 43.3**	**+1.1**
	0.2nm,0.8s,mb3.3,baz=6.7,slow=6.8,SNR=7.2						
FINES	**FINESS Array B**	**65.19**	**332**	P	**P**	**18 57 01.8**	**-2.0**
	2.0nm,0.8s,mb4.2,baz=64,slow=8.7,SNR=7.9						

NIED **14** *19:00:00, 3830N×14470E, h8km, Mw3.7 Best double couple: M0 4.62000×10^14 NP1: φs203.00000°, δ46.00000°, λ-96.00000°. NP2: φs32.00000°, δ45.00000°, λ-83.00000°.*
IDC **14** *19:00:08.2±1.3, 38.17N×14502E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.7/20, mbtmp3.8/5, ML3.9/2, Error ellipse: s-maj=35.5km s-min=26.0km az=118.0*
NEIC **14** *19:00:10.0±1.0, 38.10N×145.10E, h10km, MG4.4(JMA), Error ellipse: s-maj=28.0km s-min=13.0km az=170.0*
ISCJB **14** *19:00:12.6±1.2, 3841N±004×14480E±009, h62km±16km, mb3.8/3, Error ellipse: s-maj=11.9km s-min=5.7km az=44.6*
JMA **14** *19:00:13.7±0.2, 3826N×14469E, h57km, M4.4*
MOS **14** *19:00:18.6±1.6, 3839N×14421E, h105km, mb4.4/1, Error ellipse: s-maj=28.8km s-min=18.1km az=61.1*
ISC 14 19:00:14.1±1.1**, 3838N**±004×**14481E**±008**, h46**km±15km**, n24, σ1.03**/39**, mb3.8**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.56**	**287**	P	**Pn**	**19 00 53.2**	**+0.2**
OFUJ				eS	**Sn**	**19 01 22.7**	**-0.2**
MIYJ	**Miyakonagasawa**	**2.62**	**298**	P	**Pn**	**19 00 54.1**	**+0.2**
MIYJ				eS	**Sn**	**19 01 24.3**	**-0.1**
JIO	**Ouri**	**2.72**	**273**	P	**Pn**	**19 00 54.9**	**-0.4**
JIO				eS	**Sn**	**19 01 25.5**	**-1.5**
JMK	**Ichinoseki**	**2.87**	**283**	P	**Pn**	**19 00 57.6**	**+0.3**
JOT	**Ohata**	**4.17**	**317**	P	**Pn**	**19 01 16.0**	**+0.9**
JOT				eS	**Sn**	**19 02 02.3**	**-0.2**
JCH	**Churui**	**4.37**	**346**	eS	**Sn**	**19 02 06.1**	**-1.4**
JKB	**Kayabe**	**4.54**	**322**	P	**Pn**	**19 01 21.5**	**+1.2**
JKB				eS	**Sn**	**19 02 11.7**	**-0.1**
NEM2	**Nemuro 2**	**5.03**	**8**	P	**Pn**	**19 01 25.1**	**-1.8**
NEM2				eS	**Sn**	**19 02 19.3**	**-4.4**
JRY	**Ryogami san**	**5.28**	**245**	P	**Pn**	**19 01 29.1**	**-1.3**
JRY				eS	**Sn**	**19 02 24.5**	**-5.4**
JOSM	**Okushiri--Mats**	**5.51**	**314**	P	**Pn**	**19 01 34.8**	**+1.3**
JOD2	**Odawara 2**	**5.55**	**238**	P	**Pn**	**19 01 32.9**	**-1.2**
JOD2				eS	**Sn**	**19 02 30.7**	**-5.9**
MJAR	**Matsushiro Arr**	**5.57**	**253**	Pn	**Pn**	**19 01 34.6**	**+0.2**
	2.1nm,0.3s,baz=79,slow=15,SNR=26						
MJAR				Sn	**Sn**	**19 02 37.8**	**+0.8**
	1.1nm,0.3s,baz=307,slow=22,SNR=4.8						
MAJO	**Matsushiro**	**5.57**	**253**	eP	**Pn**	**19 01 34.9**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,20nm,0.6s						
MAJO	**Matsushiro**	**5.57**	**253**	eP	**Pn**	**19 01 34.9**	**+0.6**
	comp=Z,20nm,0.6s						
MAT	**Matsushiro**	**5.57**	**253**	P	**Pn**	**19 01 34.7**	**+0.3**
MAT				S	**Sn**	**19 02 34.4**	**-2.6**
MAT	**Matsushiro**	**5.57**	**253**	eP	**Pn**	**19 01 35.0**	**+0.6**
MAT				eS	**Sn**	**19 02 38.0**	**+1.0**
MAT				pmax	pmax		
	comp=Z,15nm,0.8s						
MAT	**Matsushiro**	**5.57**	**253**	eP	**Pn**	**19 01 35.0**	**+0.6**
	comp=Z,15nm,0.8s						
MAT				eS	**Sn**	**19 02 38.0**	**+1.0**
JTKR	**Abashiri--Toko**	**5.62**	**353**	P	**Pn**	**19 01 35.4**	**+0.3**
JTKR				eS	**Sn**	**19 02 37.0**	**-1.4**
JHR	**Hokuryu**	**5.84**	**337**	P	**Pn**	**19 01 40.9**	**+2.8**
JHR				eS	**Sn**	**19 02 45.3**	**+1.6**
ASAJ	**Asahikawa**	**5.97**	**344**	Pn	**Pn**	**19 01 40.6**	**+0.8**
	comp=Z,3.2nm,0.3s,baz=201,slow=12,SNR=26						
ASAJ				Sn	**Sn**	**19 02 45.9**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=135,slow=7.7,SNR=3.8						
ASAJ	**Asahikawa**	**5.97**	**344**	P	**Pn**	**19 01 40.7**	**+0.9**
ASAJ						19 02 45.9	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
WRA	**Warramunga Arr**	**58.84**	**192**	P	**P**	**19 10 07.0**	**-1.0**
	comp=N,1.2nm,0.6s,mb4.1,baz=9.2,slow=7.0,SNR=6.0						
ASAR	**Alice Springs**	**62.56**	**191**	P	**P**	**19 10 32.9**	**-0.4**
	comp=N,0.6nm,0.8s,mb3.8,baz=14,slow=7.7,SNR=8.5						
PDAR	**Pinedale Array**	**74.79**	**47**	P	**P**	**19 11 50.8**	**+1.4**
	comp=N,0.4nm,0.7s,mb3.5,baz=260,slow=5.2,SNR=3.6						

IDC 14 19:02:01.0±2.0**, 2449N**×**9447E, h0**km**, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.5**/19**, mbtmp3.6**/4**, MS3.8**/1**, Ms1 3.8**/1**, ms1mx2.4**/23**, Error ellipse: s-maj=86.5km s-min=22.5km az=69.0, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**24.30**	**339**	P	P	19 07 20.1	0.0
	0.5nm,0.6s,baz=154,slow=9.5,SNR=12						
SONM	**Songino Array**	**25.15**	**19**	P	P	19 07 28.0	+0.3
	0.8nm,0.7s,baz=204,slow=11,SNR=6.7						
JOW	**Kunigami**	**30.51**	**78**	LR	LR	19 19 45.2	
	comp=Z,179nm,20.8s,baz=92,slow=35						
WRA	**Warramunga Arr**	**58.79**	**135**	P	P	19 12 01.3	+0.3
	0.6nm,0.5s,baz=324,slow=7.4,SNR=11						
ASAR	**Alice Springs**	**61.27**	**138**	P	P	19 12 18.3	+0.3
	0.5nm,0.5s,baz=321,slow=6.7,SNR=16						

ISCJB **14** *19:07:41.9±3.5, 1267N±009×143.1E±06, h151km±49km, mb3.8/8, Error ellipse: s-maj=89.2km s-min=14.6km az=176.4*
IDC **14** *19:07:44.0±3.3, 1266N×14332E, h160km±50km, mb3.5/7, mb1 3.7/7, mb1mx3.5/19, mbtmp4.0/7, Error ellipse: s-maj=79.2km s-min=14.6km az=88.0*
NEIC **14** *19:07:44.1±1.8, 1268N×14342E, h164km±29km, mb4.2/1, Error ellipse: s-maj=60.7km s-min=8.9km az=87.0*
ISC 14 19:07:44.5±2.8**, 1269N**±009×**1434E**±06**, h166**km±44km**, n13, σ0.30**/14**, mb3.8**/8**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.70**	**58**	P	**Pn**	**19 08 16.6**	**-0.7**
	9.2nm,0.3s,baz=228,slow=17,SNR=13						
GUMO				S	**Sn**	**19 08 43.0**	**+0.5**
	75nm,0.3s,baz=28,slow=23,SNR=20						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**33.63**	**195**	eP	**P**	**19 14 09.3**	**+0.1**
WRA	**Warramunga Arr**	**33.63**	**195**	P	**P**	**19 14 09.0**	**-0.2**
	1.3nm,0.7s,mb3.8,baz=16,slow=9.3,SNR=15						
AS31	**Alice Springs**	**37.30**	**194**	eP	**P**	**19 14 40.7**	**+0.2**
ASAR	**Alice Springs**	**37.31**	**194**	P	**P**	**19 14 40.5**	**0.0**
	0.4nm,0.4s,mb3.4,baz=20,slow=11,SNR=20						
ASPA	**Alice Springs**	**37.31**	**194**	eP	**P**	**19 14 40.7**	**+0.1**
SONM	**Songino Array**	**46.65**	**326**	P	**P**	**19 15 56.5**	**+0.3**
	0.5nm,0.5s,mb3.4,baz=144,slow=7.9,SNR=8.9						
MKAR	**Makanchi Array**	**61.14**	**317**	P	**P**	**19 17 41.2**	**0.0**
	0.9nm,0.8s,mb3.6,baz=93,slow=9.4,SNR=8.7						
MKAR	**Makanchi Array**	**61.14**	**317**	P	**P**	**19 17 41.2**	**0.0**
ZAL	**Zalesovo**	**61.52**	**325**	P	**P**	**19 17 43.9**	**0.0**
	1.0nm,0.4s,mb4.0,baz=69,slow=1.0,SNR=3.1						
KURK	**Kurchatov**	**64.34**	**320**	eP	**P**	**19 18 02.3**	**-0.1**
	2.3nm,0.7s,mb4.1						
BVAR	**Borovoye Array**	**69.74**	**322**	P	**P**	**19 18 36.7**	**+0.2**
	1.8nm,0.3s,mb4.2,baz=106,slow=7.9,SNR=18						
ARCES	**ARCESS Array B**	**87.49**	**342**	P	**P**	**19 20 12.9**	**-0.4**
	2.6nm,0.8s,mb4.1,baz=32,slow=4.8,SNR=3.7						

NEIC **14** *19:16:09.5±2.1, 543S×14978E, h62km±22km, mb4.1/2, Error ellipse: s-maj=27.9km s-min=12.1km az=150.0*
ISCJB **14** *19:16:10.2±3.4, 54S±02×1499E±02, h93km±36km, mb3.7/3, Error ellipse: s-maj=39.3km s-min=18.9km az=122.0*
IDC **14** *19:16:13.0±3.7, 558S×15000E, h107km±42km, mb3.4/4, mb1 3.7/6, mb1mx3.5/14, mbtmp4.0/6, MS3.4/5, Ms1 3.4/5, ms1mx3.0/14, Error ellipse: s-maj=44.8km s-min=25.2km az=138.0*
ISC 14 19:16:12.5±2.8**, 55S**±02×**1499E**±02**, h96**km±30km**, n16, σ0.42**/15**, mb3.7**/3**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.74**	**215**	P	**Pn**	**19 17 21.9**	**+0.4**
	3.6nm,0.3s,baz=31,slow=9.9,SNR=14						
PMG				S	**Sn**	**19 18 26.5**	**+11**
	2.9nm,0.3s,baz=284,slow=23,SNR=3.8						
PMG				LR	LR	19 18 50.6	
	comp=Z,102nm,21.4s,baz=221,slow=33						
PMG	**Port Moresby**	**4.74**	**215**	eP	**Pn**	**19 17 18.1**	**-3.5**
PMG				S	**Sn**	**19 18 26.5**	**+11**
PMG				LR	LR	19 18 50.6	
HNR	**Honiara**	**10.66**	**112**	P	**Pn**	**19 18 42.1**	**0.0**
	6.5nm,0.3s,baz=258,slow=4.0,SNR=7.1						
HNR	**Honiara**	**10.66**	**112**	P	**Pn**	**19 18 42.1**	**0.0**
CTA	**Charters Tower**	**14.91**	**194**	LR	LR	19 24 59.8	
	comp=Z,148nm,21.2s,baz=5.5,slow=35						
GUMO	**Guam**	**19.65**	**345**	LR	LR	19 26 46.9	
	comp=Z,75nm,19.2s,baz=253,slow=32						
WRAB	**Tennant Creek**	**20.85**	**225**	eP	**P**	**19 20 46.5**	**0.0**
	4.4nm,0.7s						
WB2	**Warramunga Arr**	**20.86**	**225**	eP	**P**	**19 20 46.2**	**-0.4**
WRA	**Warramunga Arr**	**20.87**	**225**	P	**P**	**19 20 46.5**	**-0.2**
	1.2nm,0.7s,baz=51,slow=9.5,SNR=16						
AS31	**Alice Springs**	**23.74**	**219**	eP	**P**	**19 21 16.0**	**+0.3**
ASAR	**Alice Springs**	**23.74**	**219**	P	**P**	**19 21 15.3**	**-0.5**
	0.9nm,0.5s,mb3.3,baz=54,slow=8.1,SNR=16						
ASPA	**Alice Springs**	**23.74**	**219**	eP	**P**	**19 21 16.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**26.82**	**240**	eP	**P**	**19 21 44.0**	**+0.4**
	9.1nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**26.82**	**240**	P	**P**	**19 21 44.5**	**+0.9**
	3.5nm,0.7s,mb4.0,baz=95,slow=7.3,SNR=11						
RAO	**Raoul Island**	**38.46**	**132**	LR	LR	19 34 55.8	
	comp=Z,164nm,20.8s,baz=277,slow=29						
SONM	**Songino Array**	**65.45**	**329**	P	**P**	**19 26 44.9**	**-0.1**
	0.8nm,1.0s,mb3.5,baz=163,slow=5.4,SNR=5.5						
SONM				LR	LR	19 54 17.0	
	comp=Z,34nm,18.5s,baz=153,slow=35						

KRSC 14 19:20:10, 5405N×16358E, h43km, ML3.5, Off east coast of Kamchatka Peninsula

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IDC **14** *20:01:54.5±1.6, 581N×12605E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.5/5, Error ellipse: s-maj=113.7km s-min=21.8km az=70.0*
ISCJB **14** *20:02:01.6±2.4, 58N±03×1263E±07, h76km±20km, mb3.6/6, Error ellipse: s-maj=128.0km s-min=17.5km az=138.1*
NEIC **14** *20:02:03.0±1.7, 576N×126.15E, h71km±17km, mb4.2/1, Error ellipse: s-maj=106.6km s-min=14.2km az=70.0*
ISC 14 20:02:03.3±1.8**, 58N**±03×**1261E**±08**, h72**km±18km**, n8, σ0.72**/9**, mb3.6**/6**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.40**	**336**	eP	**Pn**	**20 02 26.9**	**0.0**
DAV				eS	**Sn**	**20 02 44.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**23.74**	**181**	P	**P**	**20 07 08.4**	**-0.4**
	2.0nm,1.0s,mb3.4,baz=310,slow=17,SNR=3.5						
WRAB	**Tennant Creek**	**26.80**	**163**	P	**P**	**20 07 35.7**	**-0.9**
	11nm,1.3s,mb4.2						
WRA	**Warramunga Arr**	**26.80**	**163**	P	**P**	**20 07 37.7**	**+1.2**
	0.2nm,0.3s,mb3.1,baz=342,slow=10,SNR=10						
ASAR	**Alice Springs**	**30.23**	**166**	P	**P**	**20 08 07.2**	**+0.2**
	0.3nm,0.5s,mb3.1,baz=340,slow=7.0,SNR=7.6						
MKAR	**Makanchi Array**	**55.55**	**325**	P	**P**	**20 11 32.1**	**+1.0**
	0.4nm,0.6s,mb3.6,baz=114,slow=7.1,SNR=6.8						
FINES	**FINESS Array B**	**89.76**	**332**	P	**P**	**20 14 52.7**	**-1.0**
	1.8nm,0.8s,mb4.2,baz=101,slow=7.4,SNR=3.4						
FINES	**FINESS Array B**	**89.76**	**332**	P	**P**	**20 14 52.7**	**-1.0**

IDC **14** *20:04:04.2±3.9, 522S×15026E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.9/13, mbtmp3.8/7, ML3.2/1, MS3.5/2, Ms1 3.5/2, ms1mx2.6/26, Error ellipse: s-maj=116.1km s-min=19.6km az=108.0*
ISCJB **14** *20:04:06.7±4.8, 54S±02×1506E±05, h46km±32km, mb3.7/7, MS3.5/1, Error ellipse: s-maj=84.3km s-min=19.4km az=40.0*
NEIC **14** *20:04:08.2±5.5, 548S×15074E, h51km±28km, mb4.3/2, Error ellipse: s-maj=118.1km s-min=17.6km az=107.0*
ISC 14 20:04:07.4±4.6**, 55S**±02×**1508E**±04**, h44**km±31km**, n14, σ0.81**/14**, mb3.8**/7**, MS3.5**/1**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.34**	**223**	Pn	**Pn**	**20 05 24.9**	**+0.4**
	5.8nm,0.3s,baz=23,slow=9.6,SNR=15						
PMG				Sn	**Sn**	**20 06 24.9**	**+0.2**
	0.8nm,0.3s,baz=83,slow=17,SNR=1.8						
CTA	**Charters Tower**	**15.19**	**197**	LR	LR	20 13 18.9	
	comp=Z,144nm,19.6s,baz=39,slow=36						
WRAB	**Tennant Creek**	**21.53**	**227**	eP	**P**	**20 08 51.0**	**-1.7**
	13nm,1.2s,mb4.2						
WB2	**Warramunga Arr**	**21.54**	**227**	eP	**P**	**20 08 52.3**	**-0.4**
WRA	**Warramunga Arr**	**21.54**	**227**	P	**P**	**20 08 52.3**	**-0.5**
	2.2nm,0.8s,mb3.6,baz=49,slow=10,SNR=14						
AS31	**Alice Springs**	**24.35**	**220**	eP	**P**	**20 09 21.6**	**+0.6**
ASAR	**Alice Springs**	**24.35**	**220**	P	**P**	**20 09 21.1**	**+0.1**
	1.5nm,0.8s,mb3.5,baz=54,slow=9.0,SNR=14						
ASPA	**Alice Springs**	**24.35**	**220**	eP	**P**	**20 09 21.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**27.62**	**241**	eP	**P**	**20 09 50.9**	**+0.3**
	5.9nm,0.7s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.62**	**241**	P	**P**	**20 09 51.2**	**+0.6**
	3.3nm,0.6s,mb4.1,baz=126,slow=14,SNR=10						
MJAR	**Matsushiro Arr**	**43.43**	**345**	P	**P**	**20 12 04.8**	**-1.0**
	1.3nm,0.8s,mb3.7,baz=161,slow=12,SNR=4.1						
MJAR				LR	LR	20 27 59.3	
	comp=Z,61nm,18.6s,MS3.5,baz=150,slow=33						
SONM	**Songino Array**	**65.86**	**329**	P	**P**	**20 14 50.0**	**+1.7**
	0.5nm,0.6s,mb3.7,baz=128,slow=5.2,SNR=6.3						
MKAR	**Makanchi Array**	**79.55**	**319**	P	**P**	**20 16 09.3**	**-0.3**
	0.5nm,0.9s,mb3.5,baz=90,slow=4.9,SNR=4.3						
MKAR	**Makanchi Array**	**79.55**	**319**	P	**P**	**20 16 09.3**	**-0.3**

IDC 14 20:19:33.7±11.0**, 760S**×**11468E, h211**km±119km**, mb3.0**/3**, mb1 3.2**/4**, mb1mx3.0**/14**, mbtmp3.5**/4**, Error ellipse: s-maj=170.8km s-min=27.6km az=49.0, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.92**	**135**	P	Pn	20 22 55.6	+1.1
	0.1nm,0.3s,baz=270,slow=20,SNR=4.4						
WRA	**Warramunga Arr**	**22.66**	**125**	P	P	20 24 17.4	+0.5
	0.5nm,0.4s,baz=307,slow=9.1,SNR=18						
WB2	**Warramunga Arr**	**22.67**	**125**	eP	P	20 24 17.4	+0.5
ASPA	**Alice Springs**	**24.39**	**133**	eP	P	20 24 33.2	+0.6
ASAR	**Alice Springs**	**24.39**	**133**	P	P	20 24 32.5	-0.1
	0.3nm,0.3s,baz=306,slow=8.7,SNR=13						
MKAR	**Makanchi Array**	**61.34**	**335**	P	P	20 29 27.2	+0.1
	0.3nm,0.4s,baz=149,slow=6.9,SNR=13						

MAN 14 20:27:56.5, 1129N×12587E, h74km, mb2.3, ML3.9, MS2.9, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.53**	**306**	eP	Pn	20 28 11.7	+1.8
BESP				eS	Sn	20 28 23.3	+3.5
PLP	**Palo**	**0.89**	**262**	eP	Pn	20 28 16.5	+2.7
PLP				eS	Sn	20 28 28.7	+2.0
MSLP	**Maasin**	**1.52**	**221**	eP	Pn	20 28 23.0	+1.1
SCPH	**Surigao**	**1.54**	**194**	eP	Pn	20 28 23.0	+0.8
SCPH				eS	Sn	20 28 43.5	+1.9

IDC **14** *20:35:05.5±2.9, 5160N×17944W, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/22, mbtmp3.8/7, ML4.3/1, Error ellipse: s-maj=83.0km s-min=22.2km az=179.0*
NEIC **14** *20:35:07.8, 5109N×17941W, h16km, ML3.4(AEIC), After AEIC.*
ISCJB **14** *20:35:09.1±1.3, 514N±04×1795W±01, h44km±16km, mb3.8/6, Error ellipse: s-maj=72.8km s-min=9.6km az=165.1*
ISC 14 20:35:10.2±1.6**, 514N**±04×**1795W**±01**, h42**km±13km**, n12, σ0.70**/13**, mb3.8**/6**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.72**	**271**	P	**Pn**	**20 35 23.3**	**-0.7**
AMKA				S	**Sn**	**20 35 34.1**	**+0.2**
ATKA	**Atka Island**	**3.42**	**74**	P	**Pn**	**20 36 01.0**	**-0.1**
NIKO	**Nikolski**	**6.77**	**72**	eP	**Pn**	**20 36 47.3**	**+0.3**
KDAK	**Kodiak Island**	**16.82**	**57**	Pn	**Pn**	**20 38 58.4**	**-4.1**
	1.2nm,0.3s,baz=218,slow=6.0,SNR=8.7						
SLKM	**Skilak Lake**	**18.65**	**49**	P	**Pn**	**20 39 25.7**	**+0.7**
YKA	**Yellowknife Ar**	**35.58**	**46**	P	**P**	**20 42 02.4**	**-1.0**
	1.1nm,0.7s,mb3.9,baz=286,slow=8.2,SNR=4.2						
YKA	**Yellowknife Ar**	**35.58**	**46**	P	**P**	**20 42 02.4**	**-1.0**
SONM	**Songino Array**	**46.23**	**296**	P	**P**	**20 43 32.5**	**+1.4**
	0.3nm,0.7s,mb3.3,baz=52,slow=12,SNR=3.2						
PDAR	**Pinedale Array**	**46.76**	**72**	P	**P**	**20 43 35.4**	**+0.2**
	1.2nm,0.5s,mb4.1,baz=309,slow=3.3,SNR=13						
MKAR	**Makanchi Array**	**59.67**	**308**	P	**P**	**20 45 09.9**	**-0.3**
	0.3nm,0.3s,mb3.8,baz=46,slow=6.4,SNR=12						
NOA	**NORSAR Array B**	**67.61**	**354**	P	**P**	**20 46 02.8**	**+0.3**
	1.1nm,0.8s,mb3.9,baz=7.4,slow=6.2,SNR=3.0						
HFS	**Hagfors**	**68.34**	**353**	P	**P**	**20 46 06.2**	**-0.9**
	0.7nm,0.4s,mb4.0,baz=8.7,slow=10,SNR=5.6						

LDG **14** *20:36:36.6±0.1, 47.18N×046W, h2km, Ml2.2/8, Error ellipse: s-maj=3.3km s-min=2.1km az=46.0*
STR **14** *20:36:38.8±0.6, 4708N×050W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
CSEM 14 20:36:36.6±0.1**, 4718N**×**046W, h2**km**, ML2.4**/7**, Error ellipse: s-maj=3.4km s-min=2.2km az=49.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCHF	**La Chataignera**	**0.54**	**201**	Pg	Pg	20 36 47.2	+0.2
LCHF				Sg	Sg	20 36 53.8	-0.2
CHIF	**Chize**	**1.04**	**178**	Pg	Pg	20 36 56.9	+0.3
CHIF				Sg	Sg	20 37 09.8	-0.3
GRR	**Gorron**	**1.24**	**348**	ePg	Pg	20 37 00.0	-0.4
GRR				eSg	Sg	20 37 16.9	+0.3
	7.2nm,0.2s						
GRR	**Gorron**	**1.24**	**348**	ePg	Pg	20 37 00.0	-0.4
GRR				eSg	Sg	20 37 16.9	+0.3
	3.6nm,0.2s						
LDF	**La Druitiere**	**1.44**	**9**	ePg	Pg	20 37 03.2	-0.9
LDF				eSg	Sg	20 37 23.6	+0.8
	3.2nm,0.2s						
LDF	**La Druitiere**	**1.44**	**9**	ePg	Pg	20 37 03.2	-0.9
LDF				eSg	Sg	20 37 23.6	+0.8
	1.6nm,0.2s						
FLN	**La Foliniere**	**1.59**	**359**	ePg	Pg	20 37 06.7	-0.3
FLN				eSg	Sg	20 37 27.9	+0.3
SGMF	**Saint Gilles**	**1.78**	**308**	ePg	Pg	20 37 09.6	-1.2
SGMF				eSg	Sg	20 37 32.5	-1.4
QUIF	**Quistinic**	**1.98**	**293**	ePg	Pg	20 37 12.7	-1.8
QUIF				eSg	Sg	20 37 37.6	-2.6
	20nm,0.9s						
QUIF	**Quistinic**	**1.98**	**293**	ePg	Pg	20 37 12.7	-1.8
QUIF				eSg	Sg	20 37 37.6	-2.6
	9.9nm,0.9s						
TCF	**Toulx Ste Croi**	**2.04**	**115**	ePg	Pg	20 37 14.5	-1.2
TCF				eSg	Sg	20 37 39.4	-2.7
ROSF	**Rostrenen**	**2.23**	**302**	ePg	Pg	20 37 17.3	-2.0
ROSF				eSg	Sg	20 37 44.9	-3.3
	8.0nm,0.7s						
ROSF	**Rostrenen**	**2.23**	**302**	ePg	Pg	20 37 17.3	-2.0
ROSF				eSg	Sg	20 37 44.9	-3.3
	4.0nm,0.7s						
RJF	**Les Rejaudoux**	**2.32**	**143**	ePg	Pg	20 37 20.0	-1.0
RJF				eSg	Sg	20 37 48.8	-2.3
	2.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.32**	**143**	ePg	Pg	20 37 20.0	-1.0
RJF				eSg	Sg	20 37 48.8	-2.3
	1.1nm,0.2s						
BGF	**Bois d'Agland**	**2.35**	**104**	ePg	Pg	20 37 21.0	-0.6
BGF				eSg	Sg	20 37 49.9	-2.2
	6.1nm,0.3s						
BGF	**Bois d'Agland**	**2.35**	**104**	ePg	Pg	20 37 21.0	-0.6
BGF				eSg	Sg	20 37 49.9	-2.2
	3.0nm,0.3s						
LFF	**La Frestale**	**2.39**	**159**	eSg	Sg	20 37 51.7	-1.6
	1.8nm,0.2s						
LFF	**La Frestale**	**2.39**	**159**	eSg	Sg	20 37 51.7	-1.6
	0.9nm,0.2s						
AVF	**Avril sur Loir**	**2.64**	**97**	eSg	Sg	20 37 57.8	-3.5
SSF	**Saint Saulge**	**2.71**	**91**	eSg	Sg	20 37 59.8	-3.8
CAF	**Calviac**	**2.85**	**141**	eSn	Sn	20 37 54.3	-3.8
LOR	**Lormes**	**2.94**	**87**	eSg	Sg	20 38 08.4	-2.8
SMF	**Signal de Mont**	**2.99**	**99**	eSg	Sg	20 38 08.7	-4.1

NEIC **14** *20:45:29.3, 1909N×6794W, h15km, MD3.6(RSPR), After RSPR.*
RSPR 14 20:45:29.3, 1909N×6795W, h15km±31km**, MD3.6**/13**, MD3.6**/13**, 12C-3D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.00**	**128**	⇑eP	Pb	20 45 44.9	-3.4
AGPR				eS	Sb	20 45 58.0	-3.3
MPR	**Mayaguez**	**1.16**	**139**	eS	Sb	20 46 02.1	-3.7
LSP	**Las Mesas**	**1.22**	**138**	⇑eP	Pn	20 45 48.0	-3.8
LRS	**Lares**	**1.31**	**127**	⇑eP	Pn	20 45 49.2	-3.8
CRPR	**Cabo Rojo, PR**	**1.34**	**144**	⇓eP	Pn	20 45 50.3	-3.0
CRPR				eS	Sn	20 46 07.8	-3.1
MGP	**Maguayo**	**1.35**	**143**	⇑eP	Pn	20 45 50.5	-3.1
MGP				eS	Sn	20 46 07.7	-3.4
AOPR	**Arecibo Observ**	**1.35**	**123**	⇓iP	Pn	20 45 49.9	-3.6
AOPR				eS	Sn	20 46 06.3	-5.0
AOPR				eS	Sn	20 46 07.4	-3.8
CELP	**Cerrillos**	**1.64**	**128**	⇓eP	Pn	20 45 54.8	-2.8
CELP				eS	Sn	20 46 14.8	-3.6
OBIP	**Obispado Ponce**	**1.64**	**129**	⇑eP	Pn	20 45 55.1	-2.4
OBIP				eS	Sn	20 46 14.7	-3.7
ICM	**Isla Caja Muer**	**1.80**	**131**	⇑eP	Pn	20 45 58.0	-1.8
ICM				eS	Sn	20 46 19.3	-3.0
SJG	**San Juan**	**1.96**	**119**	⇑eP	Pn	20 45 59.6	-2.3
SJG				eS	Sn	20 46 23.2	-3.0
CBYP	**Canovanas**	**2.14**	**112**	⇑eP	Pn	20 46 02.6	-1.9
CBYP				eS	Sn	20 46 26.8	-3.9
CPD	**Cerro la Pandu**	**2.19**	**118**	⇑eP	Pn	20 46 03.0	-2.1
CPD				eS	Sn	20 46 28.2	-3.7
HUMP	**Col San Antoni**	**2.20**	**115**	⇑eP	Pn	20 46 03.4	-1.9
HUMP				eS	Sn	20 46 29.2	-3.0
MTP	**Monte Pirata**	**2.47**	**113**	ePn	Pn	20 46 07.4	-1.6
CULB	**Culebra**	**2.60**	**107**	eS	Sn	20 46 39.7	-2.3
CULB	**Culebra**	**2.60**	**107**	⇑eP	Pn	20 46 09.6	-1.1
STVI	**Saint Thomas**	**2.92**	**104**	⇑eP	Pn	20 46 13.7	-1.4
STVI				eS	Sn	20 46 46.7	-3.3
TBVI	**Tortola**	**3.23**	**102**	eS	Sn	20 46 53.8	-3.8

*ISCJB **14** 20:47:18.6±0.7, 2387N±005×12529E±004, h33^{km}, mb3.2/3, Error ellipse: s-maj=7.5km s-min=5.1km az=152.9*
*JMA **14** 20:47:18.9±0.2, 2387N×12526E, h36^{km}, M3.3*
*IDC **14** 20:47:18.5±5.2, 2336N×124.12E, h0^{km}, mb3.3/3, mb1 3.4/3, mb1mx3.3/17, mbtmp3.3/3, Error ellipse: s-maj=331.9km s-min=26.0km az=61.0*
ISC 14 20:47:20.3±0.7**, 2393N**±005×**12526E**±004**, h35**^{km}**, n15, σ0^{s}71**/22**, mb3.2**/3**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.84**	**9**	P	**Pn**	**20 47 35.4**	**-0.2**
JOGS				S	**Sn**	**20 47 47.3**	**+0.6**
JTJ	**Tarama**	**0.87**	**325**	P	**Pn**	**20 47 35.6**	**-0.4**
JTJ				S	**Sn**	**20 47 48.0**	**+0.5**
JMJ	**Miyako jima 2**	**0.88**	**2**	P	**Pn**	**20 47 35.8**	**-0.4**
JMJ				*e*S	**Sn**	**20 47 48.9**	**+1.2**
JIJ	**Ishigaki jima**	**1.11**	**293**	P	**Pn**	**20 47 39.0**	**-0.2**
JIJ				S	**Sn**	**20 47 53.3**	**0.0**
JKRS	**Kuro-shima**	**1.18**	**285**	P	**Pn**	**20 47 40.3**	**0.0**
JKRS				S	**Sn**	**20 47 55.7**	**+0.6**
HATJ	**Hateruma jima**	**1.33**	**276**	S	**Sn**	**20 47 58.3**	**-0.6**
IRIF	**Iriomote-Funau**	**1.45**	**286**	P	**Pn**	**20 47 43.9**	**-0.1**
IRIF				S	**Sn**	**20 48 02.2**	**+0.4**
YOJ	**Yonaguni jima**	**2.12**	**285**	P	**Pn**	**20 47 53.0**	**-0.2**
YOJ				*e*S	**Sn**	**20 48 17.1**	**-1.2**
JKE	**Kume jima 2**	**2.76**	**30**	P	**Pn**	**20 48 01.3**	**-0.7**
JAGN	**Aguni-jima**	**3.20**	**34**	P	**Pn**	**20 48 08.5**	**+0.5**
JIH	**Iheya**	**3.94**	**38**	P	**Pn**	**20 48 17.0**	**-1.3**
JOW	**Kunigami**	**3.98**	**43**	P	**Pn**	**20 48 17.6**	**-1.1**
MKAR	**Makanchi Array**	**41.14**	**315**	P	**P**	**20 55 01.5**	**+0.5**
	0.3nm,0.4s,mb3.2,baz=99,slow=8.8,SNR=12						
WRA	**Warramunga Arr**	**44.49**	**168**	P	**P**	**20 55 28.4**	**+0.3**
	0.2nm,0.6s,mb3.1,baz=348,slow=8.9,SNR=7.4						
ASAR	**Alice Springs**	**48.05**	**169**	P	**P**	**20 55 57.9**	**+1.7**
	0.2nm,0.5s,mb3.4,baz=355,slow=14,SNR=5.2						

*IDC **14** 21:30:37.9±7.0, 336S×10380E, h260^{km}±69^{km}, mb3.7/8, mb1 3.9/8, mb1mx3.6/16, mbtmp4.3/8, Error ellipse: s-maj=30.2km s-min=11.3km az=61.0*
*NEIC **14** 21:30:45.9±1.4, 345S×10385E, h353^{km}±14^{km}, mb3.9/6, Error ellipse: s-maj=24.9km s-min=6.6km az=50.0*
*ISCJB **14** 21:30:47.9±2.0, 30S±02×1045E±03, h370^{km}±21^{km}, mb4.1/19, Error ellipse: s-maj=51.6km s-min=8.7km az=103.2*
ISC 14 21:30:48.0±2.0**, 32S**±02×**1041E**±02**, h360**^{km}±21^{km}**, n26, σ0^{s}83**/26**, mb4.1**/19**, 1C-2D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**9.13**	**338**	*e*P	**Pn**	**21 32 55.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**25.76**	**127**	*e*P	**P**	**21 35 46.7**	**-0.5**
	4.4nm,0.8s,mb3.7						
FITZ	**Fitzroy Crossi**	**25.76**	**127**	P	**P**	**21 35 46.7**	**-0.4**
	2.2nm,0.7s,mb3.5,baz=296,slow=18,SNR=12						
WRA	**Warramunga Arr**	**33.85**	**122**	P	**P**	**21 36 57.3**	**-0.5**
	1.7nm,0.3s,mb3.8,baz=310,slow=9.0,SNR=71						
WRA				PcP	PcP	21 39 27.8	+0.7
	0.5nm,0.4s,baz=313,slow=2.0,SNR=4.8						
WRAB	**Tennant Creek**	**33.86**	**122**	*e*P	**P**	**21 36 57.2**	**-0.6**
	6.0nm,0.7s,mb3.9						
WB2	**Warramunga Arr**	**33.86**	**122**	⇑*i*P	**P**	**21 36 57.2**	**-0.7**
JIRN	**Jiri**	**35.22**	**332**	*e*P	**P**	**21 37 10.4**	**+1.0**
	12nm,0.3s,mb4.5						
ASPA	**Alice Springs**	**35.24**	**128**	⇓*i*P	**P**	**21 37 09.8**	**+0.2**
ASAR	**Alice Springs**	**35.24**	**128**	P	**P**	**21 37 09.5**	**-0.1**
	3.0nm,0.4s,mb3.9,baz=301,slow=7.6,SNR=90						
ASAR				PcP	PcP	21 39 32.3	+1.1
	0.5nm,0.5s,baz=312,slow=2.8,SNR=4.6						
AS31	**Alice Springs**	**35.24**	**128**	⇓*i*P	**P**	**21 37 09.8**	**+0.2**
PKI	**Pulchoki**	**35.52**	**331**	*e*P	**P**	**21 37 12.1**	**+0.1**
	3.4nm,0.3s,mb4.1						
FORT	**Forrest**	**35.54**	**143**	*e*P	**P**	**21 37 14.0**	**+1.9**
	17nm,0.6s,mb4.4						
GUN	**Gumba**	**35.58**	**332**	*e*P	**P**	**21 37 13.3**	**+0.9**
	26nm,0.4s,mb4.8						
DMN	**Daman**	**35.70**	**330**	*e*P	**P**	**21 37 14.1**	**+0.6**
KKN	**Kakani**	**35.77**	**331**	*e*P	**P**	**21 37 14.5**	**+0.5**
GKN	**Gorkha**	**36.26**	**330**	*e*P	**P**	**21 37 18.6**	**+0.4**
	19nm,0.2s,mb4.9						
KOLN	**Koldanda**	**36.60**	**329**	*e*P	**P**	**21 37 21.6**	**+0.6**
	14nm,0.3s,mb4.7						
SONM	**Songino Array**	**50.87**	**2**	P	**P**	**21 39 14.6**	**+1.2**
	2.3nm,0.6s,mb3.6,baz=182,slow=9.2,SNR=26						
MKAR	**Makanchi Array**	**53.39**	**341**	P	**P**	**21 39 31.6**	**-0.1**
	2.5nm,0.5s,mb3.8,baz=154,slow=8.7,SNR=42						
KURK	**Kurchatov**	**58.00**	**341**	*e*P	**P**	**21 40 03.6**	**-0.5**
	2.0nm,0.7s,mb3.6						
ZAL	**Zalesovo**	**59.19**	**347**	P	**P**	**21 40 11.2**	**-0.9**
	4.6nm,0.4s,mb4.3,baz=321,slow=2.7,SNR=18						
BRVK	**Borovoye**	**62.85**	**338**	*e*P	**P**	**21 40 35.8**	**-0.8**
	1.3nm,0.4s,mb3.8						
CHKZ	**Chkalovo**	**63.22**	**338**	*e*P	**P**	**21 40 38.2**	**-0.7**
	3.9nm,0.4s,mb4.3						
ZRNK	**Zerenda**	**63.26**	**337**	*e*P	**P**	**21 40 38.2**	**-1.0**
	1.1nm,0.5s,mb3.6						
KMBO	**Kilima Mbogo**	**66.84**	**270**	P	**P**	**21 41 00.1**	**-1.9**
	1.0nm,1.0s,mb3.5,baz=166,slow=14,SNR=7.2						
VNDA	**Vanda**	**80.20**	**169**	P	**P**	**21 42 20.4**	**+1.3**
	2.1nm,0.5s,mb4.1,baz=319,slow=6.3,SNR=24						

IDC 14 21:56:37.4±2.1**, 224N**×**12795E, h0**^{km}**, mb3.4**/3**, mb1 3.7**/3**, mb1mx3.5**/14**, mbtmp3.5**/3**, Error ellipse: s-maj=141.8km s-min=25.9km az=67.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.91**	**164**	P	P	22 01 43.6	+0.8
	1.3nm,0.5s,baz=344,slow=11,SNR=26						
ASAR	**Alice Springs**	**26.39**	**168**	P	P	22 02 15.1	-0.4
	0.3nm,0.5s,baz=347,slow=7.4,SNR=5.8						
MKAR	**Makanchi Array**	**59.47**	**325**	P	P	22 06 42.5	+0.4
	0.2nm,0.3s,baz=112,slow=8.0,SNR=5.3						

*NEIC **14** 22:22:46.0±7.1, 589S×15120E, h84^{km}±37^{km}, mb3.8/2, Error ellipse: s-maj=127.3km s-min=30.6km az=108.0*
*ISCJB **14** 22:22:46.2±5.1, 58S±03×1509E±05, h85^{km}±34^{km}, mb3.6/5, Error ellipse: s-maj=89.6km s-min=29.4km az=53.6*
*IDC **14** 22:22:49.9±7.0, 568S×15068E, h95^{km}±48^{km}, mb3.5/4, mb1 3.7/5, mb1mx3.4/13, mbtmp3.9/5, MS3.2/2, Ms1 3.2/2, ms1mx3.0/15, Error ellipse: s-maj=86.4km s-min=34.4km az=107.0*
ISC 14 22:22:46.9±5.0**, 59S**±03×**1511E**±05**, h79**^{km}±33^{km}**, n10, σ0^{s}70**/9**, mb3.6**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.26**	**228**	P	**Pn**	**22 24 02.7**	**-0.2**
	3.3nm,0.3s,baz=34,slow=10,SNR=6.7						
PMG				S	**Sn**	**22 25 02.6**	**+0.5**
	2.7nm,0.3s,baz=131,slow=13,SNR=3.1						
PMG				LR	LR	22 25 26.2	
	comp=Z,153nm,19.1s,baz=221,slow=31						
HNR	**Honiara**	**9.46**	**113**	LR	LR	22 28 27.3	
	comp=Z,190nm,18.3s,baz=180,slow=34						
WRAB	**Tennant Creek**	**21.46**	**228**	*e*P	**P**	**22 27 28.5**	**-0.2**
	1.0nm,0.5s,mb3.4						
WB2	**Warramunga Arr**	**21.47**	**228**	*e*P	**P**	**22 27 28.2**	**-0.6**
WRA	**Warramunga Arr**	**21.48**	**228**	P	**P**	**22 27 28.1**	**-0.8**
	2.5nm,0.9s,mb3.5,baz=51,slow=10,SNR=15						
ASAR	**Alice Springs**	**24.23**	**221**	P	**P**	**22 27 57.7**	**+1.5**
	1.6nm,0.7s,mb3.5,baz=57,slow=8.5,SNR=16						
FITZ	**Fitzroy Crossi**	**27.67**	**242**	*e*P	**P**	**22 28 26.4**	**-0.8**
	9.0nm,1.2s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.67**	**242**	P	**P**	**22 28 26.9**	**-0.3**
	3.1nm,0.7s,mb4.0,baz=11,slow=4.6,SNR=8.9						
SONM	**Songino Array**	**66.33**	**329**	P	**P**	**22 33 27.4**	**+0.4**
	0.6nm,0.8s,mb3.5,baz=138,slow=5.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**148.99**	**286**	PKPbc	PKPbc	22 42 24.3	-1.4
	0.7nm,0.8s,baz=69,slow=2.1,SNR=4.4						

*ISCJB **14** 22:26:23.7±1.4, 3423N±005×354E±0.1, h21^{km}±14^{km}, Error ellipse: s-maj=20.4km s-min=7.5km az=32.2*
*GRAL **14** 22:26:23.7±0.5, 3425N×3538E, h14^{km}±20^{km}, MD3.2*
*CSEM **14** 22:26:24.9±0.1, 3420N×3552E, h30^{km}, Mc1.8, Error ellipse: s-maj=4.2km s-min=1.3km az=97.0*
*NSSC **14** 22:26:24.6, 3422N×3550E, h19^{km}±5^{km}*
ISC 14 22:26:23.6±1.2**, 3423N**±004×**354E**±01**, h17**^{km}±7^{km}**, n15, σ0^{s}39**/26**, 4D, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.38**	**147**	*i* Pg	**Pg**	**22 26 31.4**	**0.0**
BHL				*i* Sg	**Sg**	**22 26 37.2**	**+0.5**
HWQ	**Hawqa**	**0.45**	**83**	*i* Pg	**Pg**	**22 26 32.4**	**-0.3**
MATL	**Matirih**	**0.74**	**185**	*e*Pg	**Pg**	**22 26 37.4**	**-0.6**
RCY	**Rachaya**	**0.82**	**155**	*i* Pg	**Pg**	**22 26 39.2**	**-0.3**
BRBR	**Barbar**	**0.93**	**151**	⇑P	**Pb**	**22 26 41.4**	**+0.1**
BRBR				⇑S	**Sb**	**22 26 53.2**	**-0.1**
BRBR	**Barbar**	**0.93**	**151**	⇑*i*P	**Pb**	**22 26 41.4**	**+0.2**
BRBR				⇑*i*S	**Sb**	**22 26 53.2**	**-0.1**
BIDA	**Albida**	**1.09**	**44**	⇑P	**Pb**	**22 26 43.8**	**-0.1**
BIDA				⇑S	**Sb**	**22 26 57.8**	**-0.1**
BIDA	**Albida**	**1.09**	**44**	⇑*i*P	**Pb**	**22 26 43.8**	**-0.2**
BIDA				⇑*i*S	**Sb**	**22 26 57.8**	**-0.1**
SLNF	**Slenfeh**	**1.52**	**26**	⇑P	**Pn**	**22 26 50.3**	**+0.3**
SLNF				⇑S	**Sn**	**22 27 09.0**	**-0.4**
SLNF	**Slenfeh**	**1.52**	**26**	⇑*i*P	**Pn**	**22 26 50.3**	**+0.3**
SLNF				⇑*i*S	**Sn**	**22 27 09.0**	**-0.4**
WRDH	**Warideh**	**1.52**	**33**	⇑P	**Pn**	**22 26 50.7**	**+0.7**
WRDH	**Warideh**	**1.52**	**33**	⇑*i*P	**Pn**	**22 26 50.7**	**+0.7**
WRDH				⇑*i*S	**Sn**	**22 27 09.2**	**-0.2**
ARNB	**Al Arnab**	**1.70**	**16**	⇑P	**Pn**	**22 26 52.5**	**+0.1**
ARNB				⇑S	**Sn**	**22 27 13.3**	**-0.4**
BTCH	**Batrach**	**2.00**	**25**	⇓P	**Pn**	**22 26 57.5**	**+0.9**
BTCH				⇓S	**Sn**	**22 27 21.2**	**-0.1**
BTCH	**Batrach**	**2.00**	**25**	⇓*i*P	**Pn**	**22 26 57.5**	**+0.9**
BTCH				⇓*i*S	**Sn**	**22 27 21.2**	**-0.1**

WEL 14 23:09:21.5±0.2**, 3994S**×**17438E, h129**^{km}±2^{km}**, ML3.7**/15**, 9C-6D, Error ellipse: s-maj=1.5km s-min=0.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.50**	**69**	⇓PN	Pn	23 09 41.0	+0.6
WAZ				SN	Sn	23 09 55.0	+0.2
WAZ				SN	Sn	23 09 55.2	+0.4
RAEZ	**Rainy Point**	**0.65**	**1**	PN	Pn	23 09 41.2	-0.2
NRZ	**Ngariki Road**	**0.69**	**330**	PN	Pn	23 09 41.5	-0.2
NRZ				SN	Sn	23 09 56.0	-1.0
NEZ	**North Egmont**	**0.70**	**342**	PN	Pn	23 09 41.8	0.0
NWEZ	**Newall Road**	**0.77**	**329**	PN	Pn	23 09 42.4	+0.1
VRZ	**Vera Road**	**0.86**	**20**	⇓PN	Pn	23 09 42.7	-0.3
VRZ				SN	Sn	23 09 59.1	-0.4
DUWZ	**D'Urville Isla**	**0.93**	**202**	⇑PN	Pn	23 09 43.6	-0.1
DUWZ				SN	Sn	23 09 59.3	-1.1
PKVZ	**Pokaka**	**0.99**	**49**	⇓PN	Pn	23 09 44.1	-0.1
PKVZ				SN	Sn	23 10 00.1	-1.3
KIW	**Kapiti Island**	**1.01**	**156**	PN	Pn	23 09 44.4	0.0
KIW				SN	Sn	23 09 59.7	-2.0
MTVZ	**Mangateitei**	**1.01**	**57**	PN	Pn	23 09 44.3	-0.1
TRVZ	**Turoa**	**1.11**	**55**	PN	Pn	23 09 45.2	-0.1
WNVZ	**Wahianoa**	**1.12**	**57**	⇓PN	Pn	23 09 45.4	-0.1
WNVZ				SN	Sn	23 10 02.4	-1.3
FWVZ	**Far West T-bar**	**1.14**	**53**	PN	Pn	23 09 45.4	-0.2
WPVZ	**Whakapapa**	**1.16**	**51**	PN	Pn	23 09 45.7	-0.2
MRZ	**Mangatainoka R**	**1.17**	**129**	PN	Pn	23 09 46.1	+0.2
MRZ				SN	Sn	23 10 02.9	-1.7
MOVZ	**Moawhango**	**1.19**	**64**	⇓PN	Pn	23 09 45.6	-0.5
MOVZ				SN	Sn	23 10 02.8	-2.0
TUVZ	**Tukino**	**1.19**	**56**	PN	Pn	23 09 46.3	+0.1
TWVZ	**Taurewa**	**1.19**	**44**	PN	Pn	23 09 45.8	-0.4
TSZ	**Takapari Road**	**1.22**	**96**	PN	Pn	23 09 46.4	0.0
TSZ				SN	Sn	23 10 03.7	-1.8
WTVZ	**West Tongariro**	**1.25**	**49**	PN	Pn	23 09 46.6	-0.2
OTVZ	**Oturere**	**1.26**	**53**	PN	Pn	23 09 46.9	0.0
OTVZ				SN	Sn	23 10 05.4	-0.8
TCW	**Tory Channel**	**1.27**	**183**	PN	Pn	23 09 47.2	+0.2
CAW	**Cannon Point**	**1.28**	**156**	⇑PN	Pn	23 09 47.3	+0.2
CAW				SN	Sn	23 10 05.0	-1.6
MRW	**Makara Radio**	**1.31**	**169**	⇑PN	Pn	23 09 47.6	+0.2
MRW				SN	Sn	23 10 05.2	-2.0
WEL	**Wellington**	**1.38**	**168**	PN	Pn	23 09 48.2	0.0
SNZO	**South Karori**	**1.39**	**170**	⇑PN	Pn	23 09 48.2	0.0
SNZO				SN	Sn	23 10 06.4	-2.3
KATZ	**Kakaramea**	**1.40**	**47**	PN	Pn	23 09 48.2	-0.2
TIWZ	**Tintock**	**1.42**	**126**	PN	Pn	23 09 48.8	+0.2
TIWZ				SN	Sn	23 10 07.6	-1.8
HIZ	**Hauiti**	**1.47**	**15**	PN	Pn	23 09 48.5	-0.7
HIZ				SN	Sn	23 10 08.9	-1.4
NNZ	**Nelson**	**1.49**	**210**	⇑PN	Pn	23 09 48.9	-0.4
NNZ				SN	Sn	23 10 09.2	-1.4
MTW	**Mount Morrison**	**1.49**	**145**	⇑PN	Pn	23 09 49.3	-0.1
MTW				SN	Sn	23 10 08.7	-2.0
TUWZ	**Tuamarina**	**1.53**	**192**	PN	Pn	23 09 49.2	-0.5
MSWZ	**Moikau Station**	**1.62**	**156**	⇑PN	Pn	23 09 50.7	-0.1
MSWZ				SN	Sn	23 10 10.8	-2.4
WATZ	**Wairara**	**1.62**	**41**	PN	Pn	23 09 50.8	-0.1
PAWZ	**Paruwai Farm**	**1.65**	**151**	⇑PN	Pn	23 09 51.1	0.0
PAWZ				SN	Sn	23 10 11.7	-2.1
QRZ	**Quartz Range**	**1.67**	**237**	⇑PN	Pn	23 09 50.3	-1.1
QRZ				SN	Sn	23 10 12.0	-2.3
TRWZ	**Traveller**	**1.77**	**146**	PN	Pn	23 09 52.2	-0.3
BKZ	**Black Stump Fm**	**1.81**	**65**	⇓PN	Pn	23 09 52.3	-0.7
BSWZ	**Blackbirch Sta**	**1.81**	**192**	PN	Pn	23 09 53.0	-0.1
PXZ	**Pawanui**	**1.91**	**94**	PN	Pn	23 09 54.0	-0.3
THZ	**Tophouse**	**2.14**	**211**	PN	Pn	23 09 56.3	-0.7
KHZ	**Kahutara**	**2.56**	**194**	PN	Pn	23 10 01.8	-0.5

IDC 14 23:14:52.3±5.1**, 344S**×**10010E, h0**^{km}**, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.5**/16**, mbtmp3.5**/4**, Error ellipse: s-maj=205.8km s-min=26.3km az=56.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.20**	**119**	P	P	23 22 06.7	+1.6
	0.2nm,0.6s,baz=286,slow=8.7,SNR=2.7						
ASAR	**Alice Springs**	**38.34**	**125**	P	P	23 22 14.3	-0.5
	0.7nm,0.6s,baz=291,slow=7.7,SNR=6.8						
SONM	**Songino Array**	**51.36**	**5**	P	P	23 23 58.2	-0.4
	0.5nm,0.7s,baz=190,slow=8.2,SNR=3.8						
MKAR	**Makanchi Array**	**52.44**	**345**	P	P	23 24 07.0	+0.4
	0.4nm,0.3s,baz=153,slow=8.5,SNR=3.9						

IDC 14 23:20:04.6±1.3**, 051N**×**12636E, h0**^{km}**, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.7**/14**, mbtmp3.7**/4**, Error ellipse: s-maj=136.2km s-min=21.1km az=68.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.78**	**159**	P	P	23 24 57.8	-0.1
	3.1nm,0.8s,baz=339,slow=12,SNR=18						
WB2	**Warramunga Arr**	**21.79**	**159**	*e*P	P	23 24 57.8	-0.2
ASAR	**Alice Springs**	**25.13**	**164**	P	P	23 25 31.9	+0.7
	0.9nm,0.8s,baz=341,slow=7.9,SNR=9.2						
SONM	**Songino Array**	**50.22**	**343**	P	P	23 29 03.1	+0.8
	0.2nm,0.4s,baz=155,slow=9.4,SNR=4.3						
MKAR	**Makanchi Array**	**59.99**	**327**	P	P	23 30 12.6	-0.3
	0.7nm,0.4s,baz=120,slow=8.5,SNR=11						

*ISCJB **15** 00:02:58.1±0.8, 4356N±005×10489W±007, h0^{km}, mb4.5/1, Error ellipse: s-maj=8.5km s-min=6.1km az=79.3*
*NEIC **15** 00:03:00.2±1.2, 4353N×10498W, h0^{km}, ML3.4, Error ellipse: s-maj=15.2km s-min=8.3km az=86.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] WSW of Newcastle.
*IDC **15** 00:03:01.2±1.6, 4363N×10544W, h0^{km}, mb4.2/1, mb1 4.0/4, mb1mx3.6/22, mbtmp3.8/4, ML3.4/3, Error ellipse: s-maj=44.5km s-min=7.8km az=150.0*
ISC 15 00:02:59.8±0.8**, 4353N**±004×**10486W**±007**, h0**^{km}**, n27, σ1^{s}22**/39**, mb4.5**/1**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RWWY	**Rawlins**	**2.53**	**224**	*e*Pn	**Pn**	**00 03 41.5**	**-0.6**
RWWY				*e*Sn	**Sn**	**00 04 14.8**	**+1.3**
BW06	**Boulder Array**	**3.52**	**259**	*e*Pn	**Pn**	**00 03 56.4**	**+0.6**
BW06				*e*Sn	**Sn**	**00 04 38.3**	**+0.2**
PDAR	**Pinedale Array**	**3.52**	**259**	Pn	**Pn**	**00 03 54.5**	**-1.2**
	2.3nm,0.3s,baz=77,slow=17,SNR=35						
PDAR				Pg	**Pg**	**00 04 00.8**	**-6.6**
	11nm,0.3s,baz=71,slow=20,SNR=60						
PDAR				Lg		00 04 39.9	
	15nm,0.3s,baz=76,slow=34,SNR=11						
ISCO	**Idaho Springs**	**3.77**	**189**	*e*Sg	**Sg**	**00 04 59.4**	**-1.4**
GCMT	**Greycliff**	**4.11**	**305**	*e*Pn	**Pn**	**00 03 59.0**	**-4.8**
GCMT				Sn	**Sn**	**00 04 47.1**	**-5.5**
FLWY	**Flagg Ranch**	**4.26**	**280**	*e*Pn	**Pn**	**00 04 04.1**	**-1.8**
FLWY				*e*Sn	**Sn**	**00 04 56.9**	**+0.5**
MOOW	**Moose Ponds**	**4.28**	**275**	*e*Pn	**Pn**	**00 04 06.1**	**-0.1**
YFT	**Old Faithful**	**4.41**	**284**	*e*Pn	**Pn**	**00 04 07.5**	**-0.4**
IMW	**Indian Meadow**	**4.42**	**277**	*e*Pn	**Pn**	**00 04 09.2**	**+1.0**
IMW				Sn	**Sn**	**00 05 01.1**	**+0.7**
TPAW	**Teton Pass**	**4.43**	**272**	*e*Pn	**Pn**	**00 04 08.5**	**+0.2**
TPAW				*e*Sn	**Sn**	**00 04 54.4**	**-6.2**
RRI2	**Red Ridge**	**4.71**	**270**	*e*Pn	**Pn**	**00 04 09.4**	**-2.7**
TCUT	**Toone Canyon**	**5.42**	**246**	*e*Pn	**Pn**	**00 04 22.2**	**+0.4**
TCUT				*e*Sn	**Sn**	**00 05 28.2**	**+3.3**
DAU	**Daniels Canyon**	**5.69**	**239**	*e*Pn	**Pn**	**00 04 26.1**	**+0.5**
DAU				*e*Sn	**Sn**	**00 05 31.1**	**-0.6**
HRY	**Holter Researc**	**5.87**	**305**	*e*Pn	**Pn**	**00 04 26.8**	**-1.3**
MCMT	**McKenzie Canyo**	**5.89**	**286**	*e*Pn	**Pn**	**00 04 29.5**	**+1.1**
SPUT	**South Promonto**	**6.04**	**251**	*e*Pn	**Pn**	**00 04 30.6**	**+0.3**
SPUT				*e*Sn	**Sn**	**00 05 39.8**	**-0.4**
PV01	**Paradox Valley**	**6.08**	**209**	*e*Pn	**Pn**	**00 04 29.4**	**-1.5**
SRU	**San Rafael**	**6.13**	**226**	*e*Pn	**Pn**	**00 04 31.8**	**+0.2**
	12nm,0.5s						
SRU				*e*Sn	**Sn**	**00 05 44.6**	**+2.0**
TMUT	**Trail Mountain**	**6.37**	**231**	*e*Pn	**Pn**	**00 04 36.7**	**+1.7**
TMUT				*e*Sn	**Sn**	**00 05 54.8**	**+6.4**
CHMT	**Chamberlain Mo**	**6.83**	**303**	*e*Pn	**Pn**	**00 04 40.2**	**-1.0**
HLID	**Hailey**	**6.95**	**274**	*e*Pn	**Pn**	**00 04 40.5**	**-2.3**
	1.2nm,0.7s						
MSU	**Marysvale**	**7.46**	**230**	*e*Pn	**Pn**	**00 04 51.2**	**+1.3**
MVU	**Marysvale**	**7.49**	**230**	*e*Pn	**Pn**	**00 04 47.3**	**-2.9**
	4.2nm,0.7s						
ULM	**Lac du Bonnet**	**9.11**	**39**	Pn	**Pn**	**00 05 14.6**	**+2.1**
ULM				Lg		00 07 47.4	
ULM	**Lac du Bonnet**	**9.11**	**39**	Pn	**Pn**	**00 05 14.6**	**+2.1**
	2.3nm,0.3s,baz=234,slow=13,SNR=21						
ULM				Lg		00 07 47.4	
	0.3nm,0.3s,baz=141,slow=9.4,SNR=6.4						
NVAR	**Mina Array Bea**	**11.36**	**248**	Pn	**Pn**	**00 05 43.3**	**0.0**
	0.1nm,0.3s,baz=53,slow=10,SNR=1.9						
ARCES	**ARCESS Array B**	**61.53**	**18**	P	**P**	**00 13 19.2**	**+0.6**
	2.8nm,0.9s,mb4.5,baz=342,slow=5.7,SNR=5.1						

*NEIC **15** 00:06:58.2±1.1, 567S×15138E, h35^{km}, mb4.3/3, Error ellipse: s-maj=22.9km s-min=16.4km az=107.0*
*ISCJB **15** 00:07:00.1±3.9, 58S±02×1512E±02, h60^{km}±32^{km}, mb4.0/6, Error ellipse: s-maj=29.2km s-min=26.0km az=158.9*
*IDC **15** 00:07:00.2±5.3, 584S×15132E, h47^{km}±46^{km}, mb3.8/5, mb1 4.0/7, mb1mx3.8/15, mbtmp4.1/7, ML3.6/2, MS3.8/9, Ms1 3.8/9, ms1mx3.5/28, Error ellipse: s-maj=36.1km s-min=27.6km az=40.0*
ISC 15 00:07:01.9±3.7**, 59S**±02×**1513E**±02**, h60**^{km}±30^{km}**, n17, σ0^{s}74**/12**, mb4.0**/6**, MS3.7**/7**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.40**	**229**	P	**Pn**	**00 08 19.7**	**-0.1**
	14nm,0.3s,baz=57,slow=9.5,SNR=26						
PMG				S	**Sn**	**00 09 20.1**	**-0.6**
	14nm,0.3s,baz=38,slow=22,SNR=8.5						
PMG				LR	LR	00 10 02.8	
	comp=Z,589nm,18.5s,baz=46,slow=34						
HNR	**Honiara**	**9.28**	**113**	LR	LR	00 12 19.5	
	comp=Z,302nm,19.1s,baz=358,slow=34						
CTA	**Charters Tower**	**14.97**	**199**	P	**Pn**	**00 10 30.3**	**+0.5**
	0.1nm,0.3s,baz=21,slow=8.6,SNR=1.9						
CTAO	**Charters Tower**	**14.97**	**199**	Pn	**Pn**	**00 10 31.8**	**+2.0**
	34nm,1.5s						
GUMO	**Guam**	**20.35**	**342**	LR	LR	00 17 49.6	
	comp=Z,94nm,20.8s,MS3.1,baz=89,slow=32						
WRAB	**Tennant Creek**	**21.61**	**228**	*e*P	**P**	**00 11 47.3**	**+0.5**
	4.4nm,0.5s,mb4.1						
WB2	**Warramunga Arr**	**21.61**	**228**	*e*P	**P**	**00 11 47.1**	**+0.2**
WRA	**Warramunga Arr**	**21.62**	**228**	P	**P**	**00 11 45.9**	**-1.1**
	4.9nm,0.9s,mb3.9,baz=51,slow=9.7,SNR=16						
ASAR	**Alice Springs**	**24.36**	**222**	P	**P**	**00 12 14.9**	**+0.7**
	2.1nm,1.0s,mb3.5,baz=52,slow=8.5,SNR=12						
ASAR				LR	LR	00 20 54.5	
	comp=Z,318nm,19.2s,MS3.8,baz=304,slow=34						
FITZ	**Fitzroy Crossi**	**27.84**	**242**	*e*P	**P**	**00 12 45.1**	**-0.5**
	9.2nm,1.2s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.84**	**242**	P	**P**	**00 12 46.3**	**+0.7**
	2.2nm,0.4s,mb4.1,baz=61,slow=18,SNR=9.7						
FITZ				LR	LR	00 25 58.2	
	comp=Z,176nm,18.4s,MS3.7,baz=250,slow=41						
CBIJ	**Chichi jima**	**33.93**	**345**	LR	LR	00 25 51.3	
	comp=Z,219nm,18.2s,MS3.9,baz=350,slow=33						
AFI	**Afiamalu**	**37.21**	**105**	LR	LR	00 25 45.5	
	comp=Z,99nm,19.8s,MS3.6,baz=230,slow=30						
URZ	**Urewera**	**39.86**	**148**	P	**P**	**00 14 28.7**	**-1.0**
	10nm,0.9s,mb4.5,baz=348,slow=9.3,SNR=2.2						
NWAO	**Narrogin (SRO)**	**41.58**	**225**	LR	LR	00 31 14.6	
	comp=Z,203nm,21.0s,MS4.0,baz=221,slow=35						
SONM	**Songino Array**	**66.43**	**329**	P	**P**	**00 17 44.8**	**0.0**
	0.5nm,0.5s,mb3.8,baz=145,slow=5.1,SNR=5.5						
SONM				LR	LR	00 46 00.7	
	comp=Z,87nm,19.5s,MS4.0,baz=126,slow=35						
TORD	**Torodi Ar. Bea**	**149.18**	**286**	PKPbc	PKPbc	00 26 44.1	+0.5
	0.5nm,0.6s,baz=64,slow=2.4,SNR=7.5						

IDC 15 00:26:38.7±2.3**, 180N**×**12643E, h0**^{km}**, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.6**/14**, mbtmp3.7**/3**, MS3.8**/3**, Ms1 3.8**/3**, ms1mx3.0**/33**, Error ellipse: s-maj=211.6km s-min=25.5km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.96**	**161**	P	P	00 31 44.7	+0.1
	1.0nm,0.4s,baz=339,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**26.33**	**164**	P	P	00 32 16.9	+0.6
	1.1nm,0.8s,baz=348,slow=8.5,SNR=7.2						
PSI	**Prapat**	**27.50**	**273**	LR	LR	00 42 39.9	
	comp=Z,176nm,19.3s,baz=29,slow=35						
CBIJ	**Chichi jima**	**29.35**	**30**	LR	LR	00 45 12.5	
	comp=Z,132nm,18.2s,baz=157,slow=38						
MKAR	**Makanchi Array**	**58.97**	**326**	P	P	00 36 40.0	+0.1
	0.5nm,0.6s,baz=118,slow=7.7,SNR=6.9						
INK	**Inuvik**	**92.06**	**21**	LR	LR	01 17 17.0	
	comp=Z,80nm,21.6s,baz=20,slow=33						

*BJI **15** 00:27:40.0, 4236N×7942E, h6^{km}, ML2.8*
*ISCJB **15** 00:27:42.4±2.0, 422N±02×7969E±007, h10^{km}, Error ellipse: s-maj=33.4km s-min=7.2km az=2.5*
*NNC **15** 00:27:44.3±1.7, 4242N×7952E, h0^{km}, mb3.3, mpv2.9, Error ellipse: s-maj=22.2km s-min=5.5km az=155.0*
ISC 15 00:27:44.1±2.0**, 423N**±02×**7965E**±006**, h10**^{km}**, n5, σ0^{s}88**/7**, 4C-3D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDC	**Almaty**	**2.20**	**297**	⇑P	**Pn**	**00 28 20.0**	**-0.7**
	54nm,0.7s						
KNDC				⇓S	**Sn**	**00 28 48.7**	**+0.7**
	26nm,0.3s						
TKM2	**Tokmak 2**	**3.07**	**284**	⇑Pn	**Pn**	**00 28 32.1**	**-0.5**
	0.4nm,0.4s						
TKM2				⇓Lg		00 29 13.5	
	0.6nm,0.3s						
MK09	**Makanchi Array**	**4.89**	**22**	⇓Pn	**Pn**	**00 28 57.6**	**-0.1**
	0.5nm,0.3s,baz=215,slow=16						
MK09				⇑Lg		00 30 15.7	
	1.9nm,0.5s,baz=206,slow=28						
WMQ	**Urumqi**	**6.10**	**72**	P	**Pn**	**00 29 14.9**	**+0.6**
WMQ				S	**Sn**	**00 30 25.5**	**+1.4**
WMQ				SG	**Sg**	**00 30 58.5**	**-1.4**
WMQ				Smax			
	comp=N,9.0nm,0.5s						
WMQ				Smax			
	comp=E,14nm,0.5s						
KURK	**Kurchatov**	**8.50**	**356**	⇑Lg		00 32 09.2	
	comp=E,2.1nm,0.7s						

*ISCJB **15** 00:36:37.3±0.6, 3982N±003×2007E±004, h2^{km}, Error ellipse: s-maj=5.0km s-min=4.1km az=56.9*

*NEIC **15** 00:36:37.0, 39.95N×20.09E, h12km, MD2.9(ATH), After ATH.*
*ATH **15** 00:36:37.0, 39.95N×20.09E, h12km±2km, MD2.9/3*
*CSEM **15** 00:36:38.5±0.1, 39.85N×20.13E, h2km, ML2.3, Error ellipse: s-maj=3.3km s-min=2.6km az=141.0*
*THE **15** 00:36:38.8, 39.80N×20.12E, h10km, ML2.3*
ISC 15 00:36:38.9±0.6**, 39.80N**±0.03×**20.12E**±0.04**, h6km**±8km**, n12, σ0.96**/22**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.26**	**250**	*e*PB	**Pg**	**00 36 43.8**	**-0.2**
KEK				*e*SB	**Sg**	**00 36 48.4**	**+1.0**
IGT	**Igoumenitsa**	**0.32**	**148**	*e*Pg	**Pg**	**00 36 43.9**	**-1.1**
IGT				*e*Sg	**Sg**	**00 36 50.0**	**+0.8**
JAN	**Janina**	**0.58**	**104**	*e*PG	**Pg**	**00 36 49.2**	**-0.9**
JAN				*e*SB	**Sg**	**00 36 58.6**	**+0.9**
MEV	**Metsovon**	**0.86**	**91**	*e*Pg	**Pg**	**00 36 54.7**	**-0.6**
MEV				*e*Sg	**Sg**	**00 37 07.1**	**+0.6**
LKD	**Levkas**	**1.17**	**159**	*e*Pg	**Pg**	**00 37 00.3**	**-1.0**
LKD				*e*Sg	**Sg**	**00 37 17.7**	**+1.2**
FNA	**Florina**	**1.37**	**44**	*e*Pg	**Pg**	**00 37 03.5**	**-1.8**
FNA				*e*Sg	**Sg**	**00 37 24.4**	**+1.3**
BIA	**Bitola**	**1.53**	**37**	*e*Pg	**Pg**	**00 37 07.0**	**-1.1**
BIA				*e*Sg	**Sg**	**00 37 28.1**	**+0.2**
BIA	**Bitola**	**1.53**	**37**	*e*Pn	**Pn**	**00 37 07.1**	**+0.4**
BIA				*e*Sg	**Sg**	**00 37 28.7**	**+0.8**
BIA	**Bitola**	**1.53**	**37**	*e*Pg	**Pg**	**00 37 07.0**	**-1.1**
BIA				*e*Sg	**Sg**	**00 37 28.6**	**+0.7**
EVR	**Evrytania**	**1.58**	**123**	*e*PB	**Pb**	**00 37 08.4**	**-0.1**
AGG	**Agios Georgios**	**1.88**	**114**	*e*Pb	**Pb**	**00 37 12.2**	**-1.4**
AGG				*e*Sb	**Sb**	**00 37 37.4**	**0.0**
VTS	**Vitosha**	**3.63**	**39**	*e*Pn	**Pn**	**00 37 36.9**	**+1.2**

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*ISCJB **15** 00:37:28.9±1.5, 19.1N±0.1×64.4W±0.1, h49km±23km, Error ellipse: s-maj=26.8km s-min=12.1km az=109.8*
*RSPR **15** 00:37:29.9, 19.06N×64.36W, h49km±2km, MD3.5/5, MD3.5/5*
*NEIC **15** 00:37:29.9, 19.06N×64.36W, h49km, MD3.5(RSPR), After RSPR.*
ISC 15 00:37:29.3±1.4**, 19.0N**±0.1×**64.4W**±0.1**, h51km**±21km**, n15, σ0.27**/24**, 13C, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.29**	**174**⇑	*e*P	**Pn**	**00 37 38.2**	**-0.3**
ABV	**Anegada**	**0.29**	**174**	*e*S	**Sn**	**00 37 45.2**	**+0.2**
TBVI	**Tortola**	**0.65**	**201**⇑	*e*P	**Pn**	**00 37 42.4**	**-0.1**
TBVI				*e*S	**Sn**	**00 37 52.3**	**+0.3**
STVI	**Saint Thomas**	**0.87**	**221**⇑	*e*P	**Pn**	**00 37 44.9**	**-0.5**
STVI				*e*S	**Sn**	**00 37 57.1**	**-0.1**
CULB	**Culebra**	**1.16**	**233**⇑	*e*P	**Pn**	**00 37 49.5**	**+0.3**
CULB	**Culebra**	**1.16**	**233**	*e*S	**Sn**	**00 38 04.2**	**+0.3**
MTP	**Monte Pirata**	**1.46**	**231**⇑	*e*P	**Pn**	**00 37 53.2**	**-0.1**
MTP				*e*S	**Sn**	**00 38 11.2**	**-0.1**
CBYP	**Canovanas**	**1.60**	**242**⇑	*e*P	**Pn**	**00 37 55.3**	**+0.1**
CBYP				*e*S	**Sn**	**00 38 14.4**	**-0.4**
HUMP	**Col San Antoni**	**1.66**	**239**⇑	*e*P	**Pn**	**00 37 55.6**	**-0.4**
HUMP				*e*S	**Sn**	**00 38 15.9**	**-0.2**
CPD	**Cerro la Pandu**	**1.77**	**237**⇑	*e*P	**Pn**	**00 37 57.6**	**+0.1**
CPD				*e*S	**Sn**	**00 38 19.4**	**+0.5**
SJG	**San Juan**	**1.92**	**242**⇑	*e*P	**Pn**	**00 37 59.5**	**-0.1**
SJG				*e*S	**Sn**	**00 38 22.3**	**-0.3**
CELP	**Cerrillos**	**2.31**	**246**⇑	*e*P	**Pn**	**00 38 05.3**	**+0.4**
AOPR	**Arecibo Observ**	**2.36**	**254**⇑	*e*P	**Pn**	**00 38 05.6**	**0.0**
AOPR				*e*S	**Sn**	**00 38 33.2**	**-0.2**
LSP	**Las Mesas**	**2.72**	**252**⇑	*e*P	**Pn**	**00 38 10.8**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.80**	**249**⇑	*e*P	**Pn**	**00 38 11.8**	**+0.2**
CRPR				*e*S	**Sn**	**00 38 44.2**	**+0.2**

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*ISCJB **15** 00:56:55.1±0.3, 81.18N±0.04×5.3W±0.3, h10km, mb4.3/46, MS3.9/19, Error ellipse: s-maj=6.3km s-min=5.3km az=84.4*
*CSEM **15** 00:56:55.3±0.1, 81.25N×5.07W, h20km, mb4.4/33, Error ellipse: s-maj=3.6km s-min=2.4km az=32.0*
*IDC **15** 00:56:55.2±0.6, 81.24N×5.19W, h0km, mb4.0/19, mb1 4.2/21, mb1mx4.1/30, mbtmp4.1/21, ML3.5/1, MS3.9/15, Ms1 3.9/15, ms1mx3.6/32, Error ellipse: s-maj=19.6km s-min=11.7km az=42.0*
*NEIC **15** 00:56:56.6±0.4, 81.24N×4.92W, h10km, mb4.5/25, Error ellipse: s-maj=9.3km s-min=6.1km az=219.0*
*BJI **15** 00:56:56.5, 81.20N×4.90W, h10km, mB4.9, mb4.5, Ms4.4, Msz4.2*
*BER **15** 00:56:56.6±4.3, 81.59N×2.15W, h15km±999km, ML2.3(NAO)*
*MOS **15** 00:56:58.5±1.4, 81.09N×4.72W, h33km, mb4.3/17, Error ellipse: s-maj=59.5km s-min=8.1km az=94.4*
*NAO **15** 00:57:00.5, 81.20N×5.20W, h33km, mb4.3*
ISC 15 00:56:55.5±2.1**, 81.21N**±0.04×**4.9W**±0.3**, h4km**±13km**, n144, σ1.26**/148**, mb4.3**/46**, MS3.9**/19**, 7C, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**3.69**	**120**	Pn	**Pn**	**00 57 50.0**	**-3.4**
KBS				Sn	**Sn**	**00 58 28.3**	**-9.0**
KBS	**Kingsbay**	**3.69**	**120**⇑	*e*P	**Pn**	**00 57 50.4**	**-3.0**
KBS	**Kingsbay**	**3.69**	**120**	*e*Pn	**Pn**	**00 57 50.6**	**-2.8**
KBS				*e*Sn	**Sn**	**00 58 29.4**	**-8.0**
KBS	**Kingsbay**	**3.69**	**120**	Pn	**Pn**	**00 57 50.0**	**-3.4**
	SNR=55						
KBS				*e*Sn	**Sn**	**00 58 29.4**	**-7.9**
SPB4	**Spitsbergen Ar**	**4.84**	**118**	*e*Pn	**Pn**	**00 58 06.9**	**-2.2**
SPB4	**Spitsbergen Ar**	**4.84**	**118**	*e*Pn	**Pn**	**00 58 06.9**	**-2.2**
SPA0	**Spitsbergen Ar**	**4.84**	**118**	Pn	**Pn**	**00 58 06.1**	**-3.1**
	baz=334,slow=11						
SPA0				Sn	**Sn**	**00 58 57.6**	**-8.2**
	baz=324,slow=28						
DAG	**Danmarks Havn**	**5.17**	**218**⇑	*i*P	**Pn**	**00 58 14.2**	**+0.6**
	5.3nm,0.6s						
DAG	**Danmarks Havn**	**5.17**	**218**⇑	*i*P	**Pn**	**00 58 14.2**	**+0.6**
DAG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
JMIC	**Jan Mayen**	**10.32**	**187**	Pn	**Pn**	**00 59 26.0**	**+1.7**
	comp=Z,6.0nm,0.3s,baz=12,slow=3.4,SNR=18						
SUMG	**Summit**	**11.25**	**239**	*e*Pn	**Pn**	**00 59 35.9**	**-1.1**
	comp=Z,22nm,0.8s						
SUMG				*e*Sn	**Sn**	**01 01 35.4**	**-7.9**
SCO	**Scoresbysund**	**11.47**	**210**	*i* P	**Pn**	**00 59 42.5**	**+2.4**
	comp=Z,8.7nm,0.8s						
SCO				*e*		01 01 54.6	
ARA0	**ARCESS Array S**	**13.68**	**131**	Pn	**Pn**	**01 00 07.2**	**-3.1**
	baz=336,slow=12						
ARA0				Sn	**Sn**	**01 02 30.1**	**-12**
	baz=6.0,slow=18						
ARA0	**ARCESS Array S**	**13.68**	**131**	Pn	**Pn**	**01 00 07.2**	**-3.1**
	SNR=55						
ARA0				Sn	**Sn**	**01 02 30.1**	**-13**
	SNR=55						
ARCES	**ARCESS Array B**	**13.68**	**131**	Pn	**Pn**	**01 00 08.6**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=344,slow=12,SNR=7.4						
ARCES				LR	LR	01 05 00.2	
	comp=Z,316nm,20.2s,baz=9.2,slow=35						
RES	**Resolute Bay**	**17.72**	**299**	*e*P	**Pn**	**01 00 56.1**	**-7.1**
	comp=Z,21nm,1.1s						
SFJD	**Kangerlussuaq**	**18.06**	**245**	LR	LR	01 08 42.1	
	comp=Z,482nm,18.1s,baz=356,slow=39						
NB2	**NORSAR Subarra**	**20.76**	**158**	P	**P**	**01 01 37.9**	**+0.6**
	comp=Z,24nm,1.2s,baz=353,slow=11						
NB2	**NORSAR Subarra**	**20.76**	**158**	P	**P**	**01 01 39.0**	**+1.7**
	baz=350,slow=9.3						
NOA	**NORSAR Array B**	**20.76**	**158**	P	**P**	**01 01 37.8**	**+0.5**
	comp=Z,9.8nm,1.0s,baz=350,slow=11,SNR=8.4						
NOA				LR	LR	01 08 28.2	
	comp=Z,108nm,18.2s,MS3.3,baz=355,slow=33						
NOA	**NORSAR Array B**	**20.76**	**158**	P	**P**	**01 01 37.8**	**+0.5**
NOA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NOA				MLR	MLR		
	comp=Z,108nm,18.2s						
NAO01	**NORSAR Array S**	**20.93**	**158**	*e*P	**P**	**01 01 40.8**	**+1.6**
	comp=Z,10nm,1.0s						
NAO01	**NORSAR Array S**	**20.93**	**158**	*e*P	**P**	**01 01 40.8**	**+1.6**
	comp=Z,10nm,1.0s						
KAF	**Kangasniemi**	**20.94**	**137**	*e*p	**P**	**01 01 38.6**	**-0.7**
	comp=Z,9.4nm,0.8s						
KAF	**Kangasniemi**	**20.94**	**137**	*e*P	**P**	**01 01 38.6**	**-0.7**
KAF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
FIA1	**FINESS Array S**	**21.57**	**138**	*e*P	**P**	**01 01 46.9**	**+0.8**
FIA0	**FINESS Array S**	**21.57**	**138**	P	**P**	**01 01 46.1**	**0.0**
	baz=339,slow=6.5						
FINES	**FINESS Array B**	**21.57**	**138**	P	**P**	**01 01 46.5**	**+0.3**
	comp=Z,9.0nm,0.9s,mb4.2,baz=346,slow=12,SNR=13						
FINES				LR	LR	01 09 25.4	
	comp=Z,231nm,21.8s,MS3.5,baz=4.1,slow=35						
FINES	**FINESS Array B**	**21.57**	**138**	P	**P**	**01 01 46.5**	**+0.4**
FINES				pmax	pmax		
	comp=Z,9.0nm,1.0s						
FINES				MLR	MLR		
	comp=Z,231nm,21.8s						
HFS	**Hagfors**	**21.81**	**155**	P	**P**	**01 01 48.3**	**-0.4**
	comp=Z,7.9nm,0.9s,mb4.2,baz=16,slow=7.7,SNR=8.5						
HFS				LR	LR	01 08 51.6	
	comp=Z,97nm,18.8s,MS3.2,baz=245,slow=33						
HFS	**Hagfors**	**21.81**	**155**	P	**P**	**01 01 49.5**	**+0.8**
	baz=19,slow=8.6						
HFS	**Hagfors**	**21.81**	**155**	P	**P**	**01 01 48.3**	**-0.4**
HFS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HFS				MLR	MLR		
	comp=Z,97nm,18.8s						
KONO	**Kongsberg**	**22.05**	**160**⇑	*e*P	**P**	**01 01 52.1**	**+0.8**
KONO	**Kongsberg**	**22.05**	**160**	P	**P**	**01 01 51.4**	**+0.1**
	comp=Z,9.7nm,0.8s,mb4.3						
KONO	**Kongsberg**	**22.05**	**160**	P	**P**	**01 01 51.4**	**+0.1**
	comp=Z,9.7nm,0.8s,mb4.3						
KLMR	**Klimovskoe**	**23.73**	**122**	*e*P	**P**	**01 02 08.8**	**0.0**
KLMR				*e*S	**S**	**01 06 22.7**	**-1.7**
KLMR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
KLMR				MLR	MLR		
	comp=Z,540nm,20.0s,MS4.0						
KLMR	**Klimovskoe**	**23.73**	**122**	*e*P	**P**	**01 02 08.8**	**0.0**
	comp=Z,10.0nm,0.9s,mb4.2						
FRB	**Frobisher Bay**	**23.75**	**262**	P	**P**	**01 02 07.2**	**-1.7**
	comp=Z,8.1nm,1.1s,mb4.1,baz=357,slow=18,SNR=2.3						
FRB				LR	LR	01 12 04.5	
	comp=Z,412nm,18.4s,MS3.9,baz=29,slow=38						
FRB	**Frobisher Bay**	**23.75**	**262**	P	**P**	**01 02 07.3**	**-1.7**
FRB				pmax	pmax		
	comp=Z,8.0nm,1.1s						
FRB				MLR	MLR		
	comp=Z,412nm,18.4s						
FRB	**Frobisher Bay**	**23.75**	**262**	P	**P**	**01 02 07.2**	**-1.8**
VSU	**Vasula**	**24.57**	**139**	*e*P	**P**	**01 02 15.7**	**-0.8**
EKA	**Eskdalemuir Ar**	**26.01**	**178**	P	**P**	**01 02 28.7**	**-0.8**
	comp=Z,0.9nm,0.8s,mb3.3,baz=349,slow=9.5,SNR=2.5						
EKA	**Eskdalemuir Ar**	**26.01**	**178**	P	**P**	**01 02 28.7**	**-0.8**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**28.17**	**322**	P	**P**	**01 02 48.0**	**-1.0**
	comp=Z,2.5nm,0.9s,mb3.8,baz=35,slow=13,SNR=4.0						
INK	**Inuvik**	**28.17**	**322**	P	**P**	**01 02 48.0**	**-1.0**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK	**Inuvik**	**28.17**	**322**	P	**P**	**01 02 48.0**	**-1.0**
OBN	**Obninsk**	**28.96**	**128**⇑	*e*P	**P**	**01 02 55.7**	**-0.3**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
OBN				MLR	MLR		
	comp=Z,200nm,20.0s,MS3.7						
OBN	**Obninsk**	**28.96**	**128**	*e*P	**P**	**01 02 55.7**	**-0.3**
	comp=Z,200nm,20.0s						
ARU	**Arti**	**30.70**	**103**	*e*P	**P**	**01 03 18.6**	**+7.2**
ARU				*e*		01 04 18.0	
ARU				*e*PPP		01 04 27.4	
ARU				*e*SS	SS	01 10 11.7	-14
ARU				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.9						
ARU				MLR	MLR		
	comp=N,200nm,17.0s,MS3.9						
ARU				MLR	MLR		
	comp=E,100nm,16.0s,MS3.9						
BILL	**Bilibino**	**30.86**	**6**⇑	*e*P	**P**	**01 03 20.8**	**+8.0**
YKA	**Yellowknife Ar**	**31.68**	**304**	LR	LR	01 16 01.0	
	comp=E,419nm,18.9s,MS4.1,baz=0.0,slow=36						
SCHQ	**Schefferville**	**32.03**	**254**	LR	LR	01 16 56.0	
	comp=E,198nm,18.9s,MS3.8,baz=23,slow=38						
MORC	**Moravsky Berou**	**32.38**	**153**	*e*P	**P**	**01 03 26.2**	**0.0**
	comp=E,17nm,1.4s,mb4.7						
MORC	**Moravsky Berou**	**32.38**	**153**	*e*P	**P**	**01 03 26.2**	**0.0**
	comp=E,17nm,1.4s,mb4.7						
AKASG	**Malin Array Be**	**32.48**	**138**	P	**P**	**01 03 26.9**	**-0.2**
	comp=E,0.3nm,0.3s,mb3.6,baz=343,slow=9.0,SNR=10						
FLN	**La Foliniere**	**32.62**	**175**	*e*P	**P**	**01 03 28.6**	**+0.3**
COLA	**College**	**32.74**	**332**	*i* P	**P**	**01 03 30.1**	**+0.7**
KHC	**Kasperske Hory**	**32.77**	**157**	*e*P	**P**	**01 03 29.0**	**-0.6**
VRAC	**Vranov**	**32.78**	**154**	P	**P**	**01 03 30.7**	**+0.9**
	comp=E,7.6nm,1.0s,mb4.6,baz=358,slow=10,SNR=3.3						
VRAC	**Vranov**	**32.78**	**154**	P	**P**	**01 03 30.7**	**+1.0**
VRAC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
DAWY	**Dawson**	**32.86**	**325**	*e*P	**P**	**01 03 29.1**	**-1.2**
DAWY	**Dawson**	**32.86**	**325**	*e*P	**P**	**01 03 29.1**	**-1.3**
GRR	**Gorron**	**32.98**	**175**	*e*P	**P**	**01 03 30.5**	**-1.0**
	comp=Z,102nm,1.5s,mb5.2						
GRR	**Gorron**	**32.98**	**175**	*e*P	**P**	**01 03 30.5**	**-1.0**
	comp=Z,51nm,1.5s,mb5.2						
ROSF	**Rostrenen**	**33.01**	**178**	*e*P	**P**	**01 03 29.4**	**-2.3**
GERES	**GERESS Array B**	**33.06**	**157**	P	**P**	**01 03 33.0**	**+0.9**
	comp=Z,2.8nm,0.9s,mb4.2,baz=4.5,slow=6.8,SNR=8.3						
GERES	**GERESS Array B**	**33.06**	**157**	P	**P**	**01 03 33.0**	**+0.9**
GERES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KOLS	**Kolonicke sedl**	**33.59**	**147**	*e*P	**P**	**01 03 38.6**	**+1.9**
VYHS	**Vyhne**	**33.75**	**151**	*e*P	**P**	**01 03 39.4**	**+1.2**
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
VYHS	**Vyhne**	**33.75**	**151**	*e*P	**P**	**01 03 39.4**	**+1.2**
	comp=Z,3.3nm,1.0s,mb4.2						
ZST	**Bratislava**	**33.92**	**153**	*e*P	**P**	**01 03 41.3**	**+1.6**
ZST				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
ZST	**Bratislava**	**33.92**	**153**	*e*P	**P**	**01 03 41.3**	**+1.6**
	comp=Z,5.5nm,1.0s,mb4.4						
LOR	**Lormes**	**34.20**	**169**	*e*P	**P**	**01 03 43.1**	**+1.0**
SSF	**Saint Saulge**	**34.40**	**170**	*e*P	**P**	**01 03 44.9**	**+1.1**
PSZ	**Piszkesteto**	**34.40**	**150**	*e*P	**P**	**01 03 45.3**	**+1.5**
	comp=Z,4.8nm,0.8s,mb4.5						
PSZ	**Piszkesteto**	**34.40**	**150**	*e*P	**P**	**01 03 45.3**	**+1.5**
	comp=Z,4.8nm,0.8s,mb4.5						
AVF	**Avril sur Loir**	**34.67**	**170**	*e*P	**P**	**01 03 46.4**	**+0.3**
	comp=Z,16nm,1.2s,mb4.5						
AVF	**Avril sur Loir**	**34.67**	**170**	*e*P	**P**	**01 03 46.4**	**+0.3**
	comp=Z,7.9nm,1.2s,mb4.5						
MFF	**Saint Martin d**	**34.78**	**174**	*e*P	**P**	**01 03 45.4**	**-1.7**
TCF	**Toulx Ste Croi**	**35.14**	**171**	*e*P	**P**	**01 03 49.9**	**-0.3**
	comp=Z,25nm,1.2s,mb4.7						
TCF	**Toulx Ste Croi**	**35.14**	**171**	*e*P	**P**	**01 03 49.9**	**-0.3**
	comp=Z,12nm,1.2s,mb4.7						
CHKZ	**Chkalovo**	**35.20**	**92**	*e*P	**P**	**01 03 51.2**	**+0.5**
	comp=Z,3.9nm,1.1s,mb4.2						
CHKZ	**Chkalovo**	**35.20**	**92**	*e*P	**P**	**01 03 51.2**	**+0.5**
	comp=Z,3.9nm,1.1s,mb4.2						
PERS	**Pernice**	**35.35**	**156**	*e*P	**P**	**01 03 53.6**	**+1.6**
BVAR	**Borovoye Array**	**35.79**	**93**	P	**P**	**01 03 56.0**	**+0.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=335,slow=6.7,SNR=4.7						
BVAR	**Borovoye Array**	**35.79**	**93**	P	**P**	**01 03 56.0**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VOJS	**Vojsko**	**35.88**	**158**	*e*P	**P**	**01 03 57.2**	**+0.7**
LPL	**La Plagne**	**36.05**	**166**	*e*P	**P**	**01 03 59.6**	**+1.6**
	comp=Z,18nm,1.1s,mb4.6						
LPL	**La Plagne**	**36.05**	**166**	*e*P	**P**	**01 03 59.6**	**+1.6**
	comp=Z,8.9nm,1.1s,mb4.6						
LPG	**La Plagne**	**36.07**	**166**	*e*P	**P**	**01 03 59.9**	**+1.7**
	comp=Z,24nm,1.1s,mb4.7						
LPG	**La Plagne**	**36.07**	**166**	*e*P	**P**	**01 03 59.9**	**+1.7**
	comp=Z,12nm,1.1s,mb4.7						
RJF	**Les Rejaudoux**	**36.11**	**172**	*e*P	**P**	**01 03 56.5**	**-2.0**
KRAR	**Krasnoyarsk**	**36.30**	**70**	*e*P	**P**	**01 04 01.4**	**+1.2**
AKTK	**Aktyubinsk**	**36.44**	**107**	P	**P**	**01 04 00.8**	**-0.5**
AKTK				LR	LR	01 20 15.8	
AKTK	**Aktyubinsk**	**36.44**	**107**	P	**P**	**01 04 00.9**	**-0.5**
	comp=Z,219nm,19.3s						
AKTO	**Aktyubinsk**	**36.44**	**107**	P	**P**	**01 04 00.8**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=27,slow=4.3,SNR=4.3						
AKTO				LR	LR	01 20 15.8	
	comp=Z,219nm,19.3s,MS4.0,baz=357,slow=38						
AKTO	**Aktyubinsk**	**36.44**	**107**	P	**P**	**01 04 00.9**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
AKTO				MLR	MLR		
	comp=Z,219nm,19.3s,MS4.0						
CAF	**Calviac**	**36.50**	**172**	*e*P	**P**	**01 03 59.8**	**-2.1**
ORIF	**Oris-en-Rattie**	**36.61**	**167**	*e*P	**P**	**01 04 03.1**	**+0.3**
	comp=Z,7.1nm,0.8s,mb4.2						
ORIF	**Oris-en-Rattie**	**36.61**	**167**	*e*P	**P**	**01 04 03.1**	**+0.3**
	comp=Z,3.5nm,0.8s,mb4.2						
VIVF	**Saint-Julien-l**	**36.64**	**169**	*e*P	**P**	**01 04 02.4**	**-0.6**
MBDF	**Montbardon**	**36.84**	**166**	*e*P	**P**	**01 04 05.4**	**+0.7**
	comp=Z,13nm,1.1s,mb4.4						
MBDF	**Montbardon**	**36.84**	**166**	*e*P	**P**	**01 04 05.4**	**+0.7**
	comp=Z,6.4nm,1.1s,mb4.4						
DLBC	**Dease Lake**	**37.46**	**315**	LR	LR	01 19 07.2	
	comp=Z,73nm,21.8s,MS3.4,baz=335,slow=36						
SMRF	**Simiane la Rot**	**37.54**	**168**	*e*P	**P**	**01 04 09.6**	**-1.1**
	comp=Z,24nm,1.4s,mb4.4						
SMRF	**Simiane la Rot**	**37.54**	**168**	*e*P	**P**	**01 04 09.6**	**-1.1**
	comp=Z,24nm,1.4s,mb4.7						
SBF	**Sospel**	**37.72**	**165**	*e*P	**P**	**01 04 11.8**	**-0.5**
FRF	**La Foret Royal**	**38.00**	**166**	*e*P	**P**	**01 04 13.2**	**-1.4**
	comp=Z,21nm,1.1s,mb4.5						
FRF	**La Foret Royal**	**38.00**	**166**	*e*P	**P**	**01 04 13.2**	**-1.4**
	comp=Z,10nm,1.1s,mb4.5						
LMR	**La Mourre**	**38.22**	**167**	*e*P	**P**	**01 04 14.6**	**-1.8**
PGF	**Pioggiola**	**39.10**	**164**	*e*P	**P**	**01 04 22.5**	**-1.3**
	comp=Z,8.8nm,0.9s,mb4.2						
PGF	**Pioggiola**	**39.10**	**164**	*e*P	**P**	**01 04 22.5**	**-1.3**
	comp=Z,4.4nm,0.9s,mb4.2						
ANN	**Anapa**	**39.21**	**131**	*e*P	**P**	**01 04 27.4**	**+2.7**
ANN				pmax	pmax		
	comp=Z,40nm,2.4s,mb4.7						
KURK	**Kurchatov**	**39.30**	**86**	*e*P	**P**	**01 04 24.8**	**-0.7**
KDAK	**Kodiak Island**	**40.12**	**334**	P	**P**	**01 04 31.3**	**-1.0**
	comp=Z,17nm,0.9s,mb4.8,baz=40,slow=6.2,SNR=7.4						
SOC	**Sochi**	**40.68**	**129**	*e*P	**P**	**01 04 35.4**	**-1.6**
SOC				*e*		01 06 09.8	
SOC				*e*S	**S**	**01 10 45.3**	**-2.3**
SOC				*e*SSS		01 14 23.6	
SOC				MLR	MLR		
	comp=Z,222nm,19.0s,MS4.0						
ULM	**Lac du Bonnet**	**40.90**	**281**	P	**P**	**01 04 37.1**	**-1.7**
	comp=Z,3.6nm,0.8s,mb4.1,baz=31,slow=8.6,SNR=5.4						
ULM				LR	LR	01 21 44.9	
	comp=Z,244nm,20.2s,MS4.1,baz=18,slow=36						
BBB	**Bella Bella**	**43.39**	**311**	LR	LR	01 24 03.0	
	comp=Z,226nm,19.6s,MS4.1,baz=355,slow=38						
MKAR	**Makanchi Array**	**43.68**	**84**	P	**P**	**01 05 02.5**	**+1.0**
	comp=Z,0.3nm,0.3s,mb3.6,baz=352,slow=7.4,SNR=7.0						
BR131	**Keskin Array S**	**43.80**	**136**	*e*P	**P**	**01 05 02.9**	**+0.5**
	comp=Z,2.2nm,0.9s,mb3.9						
BR131	**Keskin Array S**	**43.80**	**136**	*e*P	**P**	**01 05 02.9**	**+0.5**
	comp=Z,2.2nm,0.9s,mb3.9						
BRTR	**Keskin Array B**	**43.80**	**136**	P	**P**	**01 05 03.7**	**+1.3**
	comp=Z,4.3nm,1.0s,mb4.1,baz=333,slow=4.3,SNR=12						
BRTR	**Keskin Array B**	**43.80**	**136**	P	**P**	**01 05 03.7**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GNI	**Garni**	**44.68**	**124**	LR	LR	01 24 43.3	
	comp=Z,69nm,20.2s,MS3.6,baz=336,slow=37						
MALT	**Malatya**	**45.73**	**131**	*e*P	**P**	**01 05 18.7**	**+0.9**
	comp=Z,15nm,1.0s,mb4.9						
SONM	**Songino Array**	**46.16**	**61**	P	**P**	**01 05 19.9**	**-1.3**
	comp=Z,1.8nm,1.1s,mb3.9,baz=319,slow=6.5,SNR=5.3						
SONM				LR	LR	01 25 50.2	
	comp=Z,154nm,18.2s,MS4.0,baz=350,slow=38						
SONM	**Songino Array**	**46.16**	**61**	P	**P**	**01 05 19.9**	**-1.3**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM				MLR	MLR		
	comp=Z,154nm,18.2s						
ULN	**Ulaanbaatar**	**46.22**	**60**	*e*P	**P**	**01 05 21.2**	**-0.5**
AAK	**Ala-Archa**	**46.55**	**92**⇑	*e*P	**P**	**01 05 25.4**	**+1.2**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.1						
AAK				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.1						
AAK	**Ala-Archa**	**46.55**	**92**	*e*P	**P**	**01 05 25.4**	**+1.2**
	comp=Z,200nm,18.0s						
WMQ	**Urumqi**	**47.40**	**79**	P	**P**	**01 05 33.8**	**+2.8**
WMQ				AP	pP	01 05 38.3	+6.1
WMQ				XP	sP	01 05 40.8	+8.2
WMQ				PP	PP	01 07 24.5	+2.4
WMQ				S	**S**	**01 12 26.6**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,54nm,4.2s						
WMQ				LR	LR		
	comp=N,160nm,15.8s,MS4.2						
WMQ				LR	LR		
	comp=E,120nm,14.7s,MS4.2						
WMQ				LR	LR		
	comp=Z,163nm,16.3s,MS4.1						
PDAR	**Pinedale Array**	**50.23**	**292**	P	**P**	**01 05 51.6**	**-1.0**
	comp=Z,0.4nm,1.0s,mb3.4,baz=37,slow=7.6,SNR=4.4						
PDAR				LR	LR	01 27 32.1	
	comp=Z,307nm,19.2s,MS4.3,baz=14,slow=37						
SMCO	**Snowmass**	**53.37**	**289**	*e*P	**P**	**01 06 17.3**	**+1.2**
	comp=Z,12nm,1.4s,mb4.6						
HHC	**Hu-ho-hao-te**	**53.71**	**57**	*e*P	**P**	**01 06 19.3**	**+0.7**
HHC				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,77nm,4.9s						
HHC				LR	LR		
	comp=N,145nm,5.7s						
HHC				LR	LR		
	comp=E,226nm,11.4s						
HHC				LR	LR		
	comp=Z,98nm,9.2s						
NVAR	**Mina Array Bea**	**55.70**	**299**	P	**P**	**01 06 33.9**	**+0.9**
	comp=Z,1.7nm,1.0s,mb4.0,baz=4.3,slow=4.9,SNR=7.7						
NVAR	**Mina Array Bea**	**55.70**	**299**	P	**P**	**01 06 33.9**	**+0.9**
MIAR	**Mount Ida**	**55.90**	**275**	*e*P	**P**	**01 06 34.0**	**-0.6**
	comp=Z,7.6nm,1.1s,mb4.6						
MIAR	**Mount Ida**	**55.90**	**275**	*e*P	**P**	**01 06 34.0**	**-0.5**
	comp=Z,7.6nm,1.1s,mb4.6						
WMOK	**Wichita Mounta**	**56.51**	**280**	*e*P	**P**	**01 06 38.5**	**-0.3**
	comp=Z,14nm,1.6s,mb4.8						
ANMO	**Albuquerque**	**57.45**	**287**	*e*P	**P**	**01 06 47.6**	**+2.1**
JCT	**Junction City**	**60.84**	**280**	P	**P**	**01 07 09.9**	**+0.9**
	comp=Z,4.1nm,0.7s,mb4.7						
NJ2	**Nanjing**	**63.30**	**52**	*e*P	**P**	**01 07 28.4**	**+2.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
TORD	**Torodi Ar. Bea**	**68.15**	**173**	P	**P**	**01 07 56.4**	**-0.4**
	comp=Z,1.1nm,0.8s,mb3.9,baz=360,slow=5.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**68.15**	**173**	P	**P**	**01 07 56.4**	**-0.4**

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*CSEM **15** 01:00:38.2±0.2, 50.37N×18.82E, h2km, ML3.1/5, Error ellipse: s-maj=5.8km s-min=2.6km az=6.0*
*ISCJB **15** 01:00:38.4±0.5, 50.30N±0.04×18.86E±0.03, h0km, Error ellipse: s-maj=5.4km s-min=2.5km az=19.7*
*PRU **15** 01:00:39.9, 50.27N×18.78E, h0km*
*IPEC **15** 01:00:39.3±0.2, 50.26N×18.85E, h5km±1km, ML2.2/3, Error ellipse: s-maj=2.2km s-min=0.8km az=169.0*
*WAR **15** 01:00:39.5, 50.26N×18.89E, ML2.8, Mining Induced*
*NEIC **15** 01:00:40.6±0.7, 50.14N×18.89E, h5km, MG2.8(WAR), Error ellipse: s-maj=14.4km s-min=5.9km az=6.0*
*VIE **15** 01:00:42.2±0.8, 49.89N×18.84E, h0km, mb2.2/3, ML2.5/3, Error ellipse: s-maj=7.0km s-min=4.3km az=164.0 41 km SSW of Kattowitz Suspected Mining induced.*
ISC 15 01:00:39.2±0.5**, 50.28N**±0.04×**18.84E**±0.03**, h0km, n35, σ0.81**/57**, 3C-6D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.46**	**245**	*e*Pg	**Pg**	**01 00 49.4**	**+1.4**
RAC				*e*Sg	**Sg**	**01 00 56.2**	**+2.2**
OJC	**Ojcow**	**0.61**	**95**	*i* Pg	**Pg**	**01 00 50.9**	**-0.1**
OJC				*i* Sg	**Sg**	**01 00 59.2**	**+0.2**
OJC	**Ojcow**	**0.61**	**95**	*e*Pg	**Pg**	**01 00 50.8**	**-0.2**
OJC				*i* Sg	**Sg**	**01 00 59.2**	**+0.2**
OKC	**Ostrava-Krasne**	**0.63**	**226**	*e*PG	**Pg**	**01 00 51.8**	**+0.5**
OKC				*e*SG	**Sg**	**01 01 00.1**	**+0.7**
	62nm,0.8s						
OKC	**Ostrava-Krasne**	**0.63**	**226**	*e*Pg	**Pg**	**01 00 51.7**	**+0.4**
OKC				*e*Sg	**Sg**	**01 01 00.1**	**+0.7**
MORC	**Moravsky Berou**	**0.98**	**240**⇓	*i*P	**Pg**	**01 00 57.8**	**-0.1**
MORC	**Moravsky Berou**	**0.98**	**240**⇓	P	**Pg**	**01 00 57.8**	**-0.2**
MORC	**Moravsky Berou**	**0.98**	**240**	*e*Pg	**Pg**	**01 00 57.7**	**-0.2**
MORC	**Moravsky Berou**	**0.98**	**240**⇓	P	**Pg**	**01 00 57.8**	**-0.1**
MORC				*e*Sg	**Sg**	**01 01 10.8**	**+0.2**
	44nm,0.5s						
NIE	**Niedzica**	**1.28**	**132**	*e*Pg	**Pg**	**01 01 03.2**	**-0.6**
NIE				*e*Sg	**Sg**	**01 01 21.4**	**+1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DPC	Dobruska-Polom	1.62	274	ePG	Pn	01 01 08.6	-0.4
DPC				eSG	Sn	01 01 30.7	+0.2
	41nm,0.4s						
DPC	Dobruska-Polom	1.62	274	ePg	Pn	01 01 08.6	-0.4
DPC				eSg	Sn	01 01 29.9	-0.6
KSP	Ksiaz	1.72	290	ePg	Pg	01 01 12.1	-0.1
KSP				eSg	Sg	01 01 34.8	+0.2
VRAC	Vranov	1.75	237	⇓iP	Pn	01 01 10.2	-0.6
VRAC	Vranov	1.75	237	⇓P	Pn	01 01 10.2	-0.6
VRAC				eSg	Sb	01 01 33.6	-1.1
	21nm,0.3s						
VYHS	Vyhne	1.79	180	ePN	Pn	01 01 10.3	-1.0
VYHS				eSN	Sn	01 01 34.1	-0.5
UPC	Upice	1.83	278	ePG	Pn	01 01 11.9	0.0
UPC				eSG	Sb	01 01 37.4	+0.5
KRUC	Moravsky	2.00	234	ePn	Pn	01 01 14.3	0.0
KRUC				eSg	Sb	01 01 41.0	-1.0
	15nm,0.4s						
CRVS	Cervenica-Dubn	2.19	128	ePN	Pb	01 01 19.3	-0.4
CRVS				eSN	Sb	01 01 47.1	-0.2
CRVS	Cervenica-Dubn	2.19	128	ePn	Pb	01 01 19.4	-0.3
CRVS				eSn	Sb	01 01 47.1	-0.2
ZST	Bratislava	2.38	209	e	Pg	01 01 27.7	+3.0
ZST				e		01 01 54.3	
TREC	Trest	2.39	247	ePN	Pn	01 01 18.9	-0.7
TREC				ePG	Pb	01 01 21.9	-1.1
KWP	Kalwaria	2.58	103	ePn	Pn	01 01 23.2	+1.1
KWP	Kalwaria	2.58	103	ePn	Pn	01 01 23.2	+1.0
KOLS	Kolonicke sedl	2.60	120	e	Pn	01 01 22.1	-0.4
KOLS	Kolonicke sedl	2.60	120	ePG	Pg	01 01 29.9	+0.8
KOLS	Kolonicke sedl	2.60	120	ePg	Pg	01 01 29.9	+0.8
PVCC	Panska Ves	2.75	277	ePG	Pb	01 01 28.8	-0.4
PRU	Pruhonice	2.78	266	ePG	Pb	01 01 29.0	-0.8
PRU				eSG	Sb	01 02 05.5	+1.1
	8.7nm,0.6s						
KHC	Kasperske Hory	3.60	253	ePN	Pn	01 01 35.8	-0.5
KHC				ePG	Pb	01 01 44.2	+0.4
KHC				eSG	Sb	01 02 31.9	+3.8
	10nm,0.5s						
CLL	Collm	3.85	288	ePg	Pg	01 01 54.0	+1.0
CLL				i Sg	Sg	01 02 42.1	-0.7
	comp=Z,23nm,1.5s						
MOA	Molln	3.87	233	⇑iPn	Pn	01 01 39.7	-0.2
MOA				⇓iSg	Sg	01 02 42.6	-0.9
	comp=Z,4.7nm,0.4s						
MOX	Moxa	4.63	277	(SG)	Sg	01 03 13.0	+4.9
BURAR	Bucovina Array	4.97	120	⇑iP	Pn	01 01 54.9	-0.2
BURAR	Bucovina Array	4.97	120	⇑P	Pn	01 01 54.9	-0.2

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*ISCJB **15** 01:03:08.3±1.0, 45S±02×1252E±04, h450km, mb3.1/2, Error ellipse: s-maj=52.3km s-min=14.3km az=131.1*
*IDC **15** 01:03:08.8±6.8, 436S×12565E, h437km±98km, mb2.7/3, mb1 2.9/5, mb1mx2.8/15, mbtmp3.6/5, Error ellipse: s-maj=88.6km s-min=34.3km az=66.0*
*NEIC **15** 01:03:11.7±2.8, 460S×12538E, h483km±44km, Error ellipse: s-maj=49.6km s-min=26.6km az=70.0*
ISC 15 01:03:11.4±3.5, **46S**±03×**1254E**±04, **h475**km±56km, **n7**, σ0^s**84**/7, **mb3.1**/2, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
KAKA	Kakadu	10.68	140	eP	P	01 05 36.5	+0.7
	9.2nm,0.6s						
FITZ	Fitzroy Crossi	13.46	179	P	P	01 06 05.5	0.0
	0.1nm,0.3s,baz=24,slow=19,SNR=3.3						
WRA	Warramunga Arr	17.60	151	P	P	01 06 48.2	-0.9
	0.3nm,0.3s,baz=329,slow=10,SNR=26						
WB2	Warramunga Arr	17.60	151	eP	P	01 06 48.6	-0.5
ASAR	Alice Springs	20.69	157	P	P	01 07 18.3	+0.7
	0.5nm,0.5s,baz=331,slow=8.8,SNR=7.1						
SONM	Songino Array	54.78	344	P	P	01 11 54.9	-0.5
	0.4nm,0.8s,mb2.8,baz=167,slow=6.8,SNR=3.5						
MKAR	Makanchi Array	63.73	328	P	P	01 12 55.9	+0.4
	0.4nm,0.4s,mb3.3,baz=119,slow=8.1,SNR=6.6						

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*NEIC **15** 01:09:55.1, 2890S×7090W, h51km, MG3.6(GUC), After GUC.*
GUC 15 01:09:55.1±0.8, **2890S**×**7090W**, **h51**km±6km, **ML3.6, 3C, Central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
LCO	Las Campanas	0.20	122	eP	Pn	01 10 03.9	+0.3
LCO				i S	Sn	01 10 11.8	+2.1
VACH	Vallenar	0.35	21	⇑iP	Pn	01 10 05.0	+0.3
VACH				i S	Sn	01 10 12.5	+0.8
VACH				AML	AML	01 10 12.9	
	comp=N,10μm,0.1s						
TLL	Tololo Astrono	1.26	176	eP	Pn	01 10 17.6	+1.2
TLL				i S	Sn	01 10 34.7	+2.4
TLL				AML	AML	01 10 36.2	
	comp=N,516nm,0.3s						
TLL	Tololo Astrono	1.26	176	eP	Pn	01 10 17.6	+1.2
TLL				i S	Sn	01 10 34.7	+2.4
CPCH	Copiapo	1.61	18	i P	Pn	01 10 22.0	+0.9
CPCH				i S	Sn	01 10 41.5	+0.8
CPCH				AML	AML	01 10 43.1	
	comp=E,3μm,0.0s						
CPCH	Copiapo	1.61	18	i P	Pn	01 10 22.0	+0.9
CPCH				i S	Sn	01 10 41.5	+0.8
CMCH	Combarbala	2.27	182	⇑iP	Pn	01 10 30.8	+0.7
CMCH				i S	Sn	01 10 57.7	+0.9
CMCH				AML	AML	01 11 10.5	
	comp=E,380nm,0.6s						
CMCH	Combarbala	2.27	182	⇑iP	Pn	01 10 30.8	+0.7
CMCH				i S	Sn	01 10 57.7	+0.9

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*JMA **15** 01:10:32.6±0.2, 3309N×13821E, h357km, M3.2*
*NEIC **15** 01:10:32.6, 3309N×13821E, h357km, MG3.2(JMA), After JMA.*
*ISCJB **15** 01:10:33.9±0.5, 33.13N±0.06×138.15E±0.07, h344km±3km, mb3.5/9, Error ellipse: s-maj=10.3km s-min=8.9km az=101.7*
*IDC **15** 01:10:35.2±0.6, 33.12N×138.14E, h341km±7km, mb3.2/9, mb1 3.3/11, mb1mx3.2/22, mbtmp3.9/11, Error ellipse: s-maj=23.6km s-min=10.9km az=74.0*
ISC 15 01:10:35.0±0.5, **3316N**±006×**13813E**±007, **h338**km±3km, **n29**, σ0^s**85**/39, **mb3.5**/9, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
TK02	Tokai 2	0.84	338	P	Pn	01 11 19.3	+0.5
TK02				S	S	01 11 55.5	+1.7
TK04	Tokai 4	1.24	350	P	Pn	01 11 21.3	+0.9
JHJ	Hachijo jima 2	1.39	91	P	Pn	01 11 21.1	-0.2
	22nm,0.3s,baz=236,slow=19,SNR=14						
JHJ				S	S	01 11 60.0	+1.7
	19nm,0.3s,baz=90,slow=20,SNR=2.9						
JHJ2	Mitsune	1.42	92	P	Pn	01 11 21.4	0.0
JIM2	Oshima 3	1.89	35	P	Pn	01 11 24.1	-0.2
JWZ	Kozaga	2.05	281	P	Pn	01 11 24.8	-0.7
JOD2	Odawara 2	2.24	21	P	Pn	01 11 27.6	+0.7
JOD2				S	S	01 12 08.9	+0.3
JYN	Shimob	2.35	8	P	Pn	01 11 28.6	+0.8
JWY	Kouya	2.36	297	P	Pn	01 11 28.2	+0.3
JGM	Miyama	2.79	336	P	Pn	01 11 32.2	+0.8
BSO1	Boso 1	2.80	57	P	Pn	01 11 29.6	-1.9
BSO1				S	S	01 12 14.1	-2.9
JRY	Ryogami san	2.92	12	P	Pn	01 11 33.2	+0.6
JRY				S	S	01 12 18.4	-0.5
JWT	Wachi	3.09	314	P	Pn	01 11 34.5	+0.3
JAI	Aioi	3.14	283	P	Pn	01 11 34.3	-0.3
JAI				S	S	01 12 20.8	-1.8
MJAR	Matsushiro Arr	3.37	1	P	Pn	01 11 36.8	-0.1
	2.8nm,0.3s,baz=179,slow=9.5,SNR=33						
MJAR				S	S	01 12 27.2	+0.5
	1.3nm,0.3s,baz=186,slow=22,SNR=5.7						
MAJO	Matsushiro	3.37	1	ePn	Pn	01 11 36.7	-0.2
MAJO				eS	S	01 12 25.9	-0.8
MAT	Matsushiro	3.37	1	P	Pn	01 11 37.0	+0.1
MAT				S	S	01 12 26.2	-0.5
JAG	Ashikaga	3.43	18	P	Pn	01 11 36.7	-0.8
JAG				S	S	01 12 24.1	-3.6
JTO	Tosashimizu	4.49	268	P	Pn	01 11 47.7	-0.7
ASAJ	Asahikawa	11.48	16	P	Pn	01 13 11.2	+0.6
	1.1nm,0.3s,baz=212,slow=20,SNR=5.0						
SONM	Songino Array	28.00	311	P	P	01 15 56.7	+1.0
	1.3nm,0.6s,mb3.3,baz=120,slow=8.4,SNR=12						
MKAR	Makanchi Array	44.01	305	P	P	01 18 10.3	+0.3
	0.9nm,0.4s,mb3.3,baz=88,slow=10,SNR=14						
KDAK	Kodiak Island	51.78	40	P	P	01 19 08.7	-0.3
	2.3nm,0.4s,mb3.9,baz=345,slow=9.5,SNR=6.0						
WRA	Warramunga Arr	52.93	184	P	P	01 19 16.7	-0.7
	0.6nm,0.4s,mb3.3,baz=0.2,slow=7.6,SNR=13						
ASAR	Alice Springs	56.66	185	P	P	01 19 43.5	-0.3
	0.3nm,0.5s,mb2.9,baz=18,slow=11,SNR=5.7						
ARCES	ARCESS Array B	66.66	339	P	P	01 20 50.7	+0.6
	2.6nm,0.8s,mb4.0,baz=46,slow=9.1,SNR=5.7						
AKASG	Malin Array Be	75.68	322	P	P	01 21 43.2	-0.5
	0.4nm,0.3s,mb3.6,baz=54,slow=5.8,SNR=4.3						
NOA	NORSAR Array B	76.68	336	P	P	01 21 49.3	0.0
	0.8nm,0.8s,mb3.5,baz=42,slow=5.8,SNR=2.5						
BRTR	Keskin Array B	79.36	311	P	P	01 22 04.5	+0.6
	0.5nm,0.6s,mb3.4,baz=54,slow=6.3,SNR=3.9						

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*SZGRF **15** 01:29:05.6, 1950S×17800W, h33km, Fiji Islands region*
*ISCJB **15** 01:30:09.9±0.8, 180S±0.1×17859W±008, h577km±9km, mb4.2/24, Error ellipse: s-maj=23.5km s-min=6.7km az=126.9*
*IDC **15** 01:30:10.9±1.4, 1795S×17860W, h580km±16km, mb3.6/7, mb1 3.8/9, mb1mx3.6/15, mbtmp4.6/9, Error ellipse: s-maj=29.2km s-min=11.1km az=156.0*
*NEIC **15** 01:30:10.2±0.9, 1798S×17852W, h566km±10km, mb4.3/19, Error ellipse: s-maj=20.2km s-min=7.3km az=155.0*
ISC 15 01:30:10.6±0.8, **180S**±01×**17852W**±008, **h569**km±8km, **n194**, σ0^s**40**/152, **mb4.2**/24, **56C-49D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
AFI	Afiamalu	7.67	59	P	P	01 32 05.0	-0.6
	6.0nm,0.3s,baz=236,slow=19,SNR=5.2						
AFI				S	S	01 33 39.2	-0.6
	4.8nm,0.3s,baz=112,slow=22,SNR=3.2						
AFI	Afiamalu	7.67	59	eP	P	01 32 05.3	-0.2
	33nm,0.6s						
DZM	Mont Dzumac	14.69	252	P	P	01 33 17.4	+0.9
	0.6nm,0.3s,baz=76,slow=18,SNR=5.4						
CTA	Charters Tower	33.32	261	eP	P	01 36 02.9	+0.8
	5.0nm,0.4s,mb4.4						
CTAO	Charters Tower	33.32	261	eP	P	01 36 02.5	+0.4
	11nm,0.8s,mb4.4						
PMG	Port Moresby	34.37	280	P	P	01 36 11.1	+0.3
	21nm,0.8s,mb4.8,baz=54,slow=4.6,SNR=6.0						
WB2	Warramunga Arr	44.49	260	eP	P	01 37 32.1	+0.1
WRAB	Tennant Creek	44.49	260	eP	P	01 37 32.1	+0.1
	7.7nm,0.7s,mb4.3						
WRA	Warramunga Arr	44.50	260	P	P	01 37 32.0	-0.1
	3.0nm,0.5s,mb4.1,baz=96,slow=7.2,SNR=84						
WRA				S	S	01 43 22.9	-3.6
	0.5nm,0.9s,baz=99,slow=13,SNR=3.1						
AS31	Alice Springs	44.65	254	eP	P	01 37 33.2	0.0
ASAR	Alice Springs	44.66	254	P	P	01 37 33.6	+0.4
	15nm,0.6s,mb4.7,baz=87,slow=8.7,SNR=190						
ASAR				ScP	ScP	01 42 01.1	-0.5
	0.5nm,1.0s,baz=88,slow=4.1,SNR=4.7						
ASAR				S	S	01 43 26.3	-2.3
	1.8nm,1.0s,baz=86,slow=16,SNR=8.7						
ASPA	Alice Springs	44.66	254	eP	P	01 37 33.5	+0.2
KAKA	Kakadu	47.47	269	eP	P	01 37 54.8	+0.2
	7.0nm,0.5s,mb4.5						
VNDA	Vanda	60.32	185	P	P	01 39 24.1	-0.8
	0.6nm,0.7s,mb3.0,baz=336,slow=10.0,SNR=3.2						
MJAR	Matsushiro Arr	67.93	323	P	P	01 40 11.8	-1.3
	1.4nm,0.4s,mb3.8,baz=160,slow=5.8,SNR=4.5						
QSPA	South Pole Qui	72.03	180	eP	P	01 40 36.6	-0.9
	2.6nm,0.8s,mb3.7						
HAST	UC Hastings Re	76.30	44	⇑P	P	01 41 01.6	+0.1
	baz=76						
V04C	Ramage Ranch,	76.33	45	⇓P	P	01 41 01.9	+0.2
	baz=76						
U04C	Hernandez Rese	76.80	45	⇑P	P	01 41 04.5	+0.2
	baz=77						
PACP	Pacheco Peak	76.83	44	⇑P	P	01 41 04.6	+0.2
	baz=77						
S04C	Ingram Canyon,	77.08	43	⇑P	P	01 41 06.0	+0.3
	baz=77						
MNRC	McLaughlin Nat	77.16	42	⇓P	P	01 41 06.6	+0.4
	baz=77						
GASB	Alder Springs	77.44	41	⇓P	P	01 41 07.8	0.0
	baz=78						
S05C	Merced	77.65	44	⇑P	P	01 41 08.5	-0.4
	baz=78						
O02C	Red Bluff	77.71	40	⇓P	P	01 41 09.7	+0.5
	baz=78						
T06C	Millerton Lake	77.87	44	⇓P	P	01 41 09.5	-0.5
	baz=78						
ISA	Isabella	77.97	46	⇑P	P	01 41 10.5	-0.1
	baz=78,SNR=5.7						
CMB	Columbia Colle	78.00	43	eP	P	01 41 10.3	-0.4
	8.6nm,1.0s,mb4.0						
CMB	Columbia Colle	78.00	43	⇑P	P	01 41 10.3	-0.4
	baz=78,SNR=8.1						
O03C	Acorn Hollow,	78.08	41	⇑P	P	01 41 11.0	-0.2
	baz=78						
WDC	Whiskeytown Da	78.10	40	⇑P	P	01 41 11.1	-0.2
	baz=78						
ORV	Oroville	78.15	42	⇑P	P	01 41 11.1	-0.5
	baz=78,SNR=5.8						
LAVA	Lava Cap Winer	78.18	43	⇑P	P	01 41 11.4	-0.3
	baz=78						
S06C	San Francisco	78.26	44	⇑P	P	01 41 11.9	-0.2
	baz=78						
KCC	Kaiser Creek	78.30	44	⇑P	P	01 41 13.0	+0.6
	baz=78						
PFO	Pinyon Flat Ob	78.31	49	⇓P	P	01 41 12.9	+0.4
	baz=78						
M02C	Callahan	78.39	39	⇓P	P	01 41 13.5	+0.6
	baz=79						
L02A	Cave Junction	78.41	38	⇓P	P	01 41 13.0	0.0
	baz=79						
P05C	Yuba Gap, Truc	78.57	42	P	P	01 41 14.3	+0.5
	baz=79,SNR=5.2						
R05C	Kirkwood Meado	78.57	43	⇑P	P	01 41 13.9	+0.1
	baz=79						
CWC	Cottonwood Cre	78.66	46	⇓P	P	01 41 14.3	+0.1
	baz=79						
YBH	Yreka Blue Hor	78.68	39	eP	P	01 41 14.8	+0.4
	10nm,1.1s,mb4.1						
YBH	Yreka Blue Hor	78.68	39	⇓P	P	01 41 14.9	+0.5
	baz=79,SNR=7.4						
O05C	Quincy	78.75	41	⇓P	P	01 41 14.5	-0.2
	baz=79						
K02A	Glendale	78.84	38	⇑P	P	01 41 14.5	-0.7
	baz=79						
O04C	Chester	78.85	41	⇑P	P	01 41 15.1	-0.2
	baz=79						
R06C	Coleville	78.88	43	⇓P	P	01 41 15.5	+0.1
	baz=79,SNR=7.0						
R07C	Lee Vining	78.90	44	⇓P	P	01 41 15.9	+0.4
	baz=79,SNR=6.7						
HATC	Hat Creek Radi	78.91	40	⇑P	P	01 41 15.7	+0.1
	baz=79						
GSC	Goldstone	78.94	47	⇓P	P	01 41 15.6	-0.1
	baz=79						
HUMO	Hull Mountain	79.06	38	eP	P	01 41 16.6	+0.3
	8.3nm,1.0s,mb4.0						
HUMO	Hull Mountain	79.06	38	⇑P	P	01 41 16.5	+0.1
	baz=79,SNR=7.9						
WCN	Washoe City	79.11	43	⇑P	P	01 41 16.8	+0.1
	baz=79						
J02A	Umpqua	79.16	37	⇓P	P	01 41 16.7	-0.3
	baz=79						
GLA	Glamis	79.21	50	⇓P	P	01 41 17.7	+0.5
	baz=79						
M04C	Macdoel	79.23	40	⇑P	P	01 41 17.3	-0.1
	baz=79						
P06A	Stead Airport,	79.23	42	⇑P	P	01 41 17.4	+0.1
	baz=79						
I02A	Mapleton	79.40	37	⇓P	P	01 41 18.0	-0.2
	baz=80						
M05C	Lookout	79.41	40	⇓P	P	01 41 17.8	-0.4
	baz=80						
L04A	Klamath Falls	79.43	39	⇑P	P	01 41 18.2	-0.1
	baz=80						
O06A	Flanigan	79.55	42	⇓P	P	01 41 19.0	0.0
	baz=80,SNR=8.6						
NVAR	Mina Array Bea	79.58	44	P	P	01 41 19.1	0.0
	6.2nm,0.8s,mb4.0,baz=219,slow=7.6,SNR=43						
TUQ	Turquoise Mtn.	79.62	47	⇑P	P	01 41 19.3	0.0
	baz=80,SNR=6.3						
R08A	Mina	79.67	44	⇓P	P	01 41 19.6	0.0
	baz=80						
MNV	Mina	79.68	44	eP	P	01 41 19.5	-0.2
	16nm,1.4s,mb4.2						
I03A	Eugene	79.69	37	⇓P	P	01 41 19.5	-0.2
	baz=80						
M06C	Likely Place G	79.73	41	⇓P	P	01 41 20.4	+0.4
	baz=80,SNR=5.4						
Y12C	Blythe	79.78	50	⇓P	P	01 41 20.4	+0.3
	baz=80						
U10A	Ash Meadows, A	79.85	46	⇑P	P	01 41 20.7	+0.2
	baz=80						
S09A	Goldfield	79.92	45	⇑P	P	01 41 20.6	-0.4
	baz=80						
L05A	Lakeview	80.00	40	⇑P	P	01 41 21.7	+0.3
	baz=80,SNR=7.0						
Q08A	Gabbs	80.06	44	⇑P	P	01 41 21.5	-0.2
	baz=80,SNR=7.5						
H03A	Soap Creek Ran	80.12	37	⇑P	P	01 41 21.7	-0.3
	baz=80						
O07A	Toulon	80.15	42	⇑P	P	01 41 22.1	0.0
	baz=80,SNR=10.0						
V11A	Goodsprings	80.18	47	⇓P	P	01 41 22.2	0.0
	baz=80						
TPNV	Topopah Spring	80.18	46	eP	P	01 41 22.2	-0.1
	7.8nm,1.1s,mb4.0						
W12A	Cal Nev Ari	80.30	48	⇑P	P	01 41 23.1	+0.3
	baz=80						
U11A	Corn Creek	80.50	47	⇓P	P	01 41 24.3	+0.3
	baz=81						
V12A	Nelson	80.53	48	⇓P	P	01 41 23.7	-0.4
	baz=81						
Q09A	Carvers	80.54	44	⇓P	P	01 41 24.3	+0.2
	baz=81						
M07A	Soldier Meadow	80.65	41	⇓P	P	01 41 24.8	+0.1
	baz=81,SNR=6.2						
X13A	Yucca	80.69	49	⇓P	P	01 41 25.2	+0.3
	baz=81						
Z14A	Wintersburg	80.73	51	⇑P	P	01 41 25.6	+0.5
	baz=81						
H04A	Detroit Lake	80.74	37	⇓P	P	01 41 24.6	-0.6
	baz=81						
K06A	Valley Falls	80.79	39	P	P	01 41 25.4	0.0
	baz=81,SNR=12						
R10A	Warm Springs	80.84	45	⇑P	P	01 41 25.7	+0.1
	baz=81						
W13A	Hualapai Mount	80.89	49	⇓P	P	01 41 26.4	+0.5
	baz=81						
G04A	Mulino	80.90	36	⇓P	P	01 41 25.9	-0.1
	baz=81						
L07A	Adell	80.90	40	⇑P	P	01 41 26.2	+0.2
	baz=81,SNR=11						
P09A	Austin	80.95	43	⇓P	P	01 41 26.5	+0.3
	baz=81						
115A	Sonoran Desert	80.95	51	⇓P	P	01 41 26.5	+0.3
	baz=81						
I05A	Bend	80.97	38	⇑P	P	01 41 26.3	0.0
	baz=81						
N08A	GE Springer Mi	80.97	42	⇓P	P	01 41 26.3	0.0
	baz=81,SNR=6.1						
Y14A	Wickenburg	80.97	50	⇓P	P	01 41 26.5	+0.1
	baz=81						
U12A	Valley of Fire	81.09	47	⇓P	P	01 41 27.5	+0.5
	baz=81,SNR=8.4						
J06A	Christmas Vall	81.10	39	P	P	01 41 26.9	-0.1
	baz=81,SNR=7.5						
E03A	Lebam	81.11	35	⇓P	P	01 41 26.9	-0.1
	baz=81						
M08A	Happy Creek Ra	81.18	41	⇑P	P	01 41 27.5	+0.1
	baz=81,SNR=7.8						
O09A	Fish Creek Ran	81.25	43	⇑P	P	01 41 27.8	+0.1
	baz=81,SNR=6.5						
H05A	Madras	81.28	37	⇓P	P	01 41 27.8	-0.2
	baz=81						
116A	Eloy	81.28	52	⇑P	P	01 41 28.3	+0.3
	baz=81						
X14A	Yava	81.31	50	⇑P	P	01 41 28.3	+0.2
	baz=81,SNR=10						
D03A	Wishkah Elem.	81.35	34	⇑P	P	01 41 28.1	-0.2
	baz=82						
F04A	Amboy	81.36	36	⇓P	P	01 41 27.9	-0.5
	baz=82						
BMN	Battle Mountai	81.36	43	eP	P	01 41 28.4	+0.1
	14nm,1.1s,mb4.3						
P10A	Eureka	81.43	44	⇑P	P	01 41 28.6	-0.1
	baz=82						
C03A	Quillayute Air	81.44	33	⇓P	P	01 41 28.1	-0.7
	baz=82						
W14A	Seligman	81.53	49	⇑P	P	01 41 29.6	+0.4
	baz=82,SNR=13						
VIPM	Ingram Point	81.55	38	P	P	01 41 29.7	+0.3
WVOR	Wild Horse Val	81.56	40	eP	P	01 41 29.1	-0.3
	21nm,1.2s,mb4.4						
Q11A	Duckwater	81.56	45	P	P	01 41 29.6	+0.2
	baz=82,SNR=12						
G05A	Wamic	81.57	37	⇑P	P	01 41 28.8	-0.7
	baz=82						
J07A	Hines	81.68	39	⇓P	P	01 41 29.7	-0.3
	baz=82						
M09A	Marrel Ranch,	81.75	42	⇓P	P	01 41 30.5	+0.1
	baz=82						
O10A	Cortez Mining,	81.76	43	⇑P	P	01 41 30.1	-0.2
	baz=82						
X15A	Humboldt	81.79	50	P	P	01 41 31.2	+0.7
	baz=82,SNR=11						
TUC	Tucson	81.86	52	eP	P	01 41 31.5	+0.6
	8.9nm,1.0s,mb4.2						
P11A	Circle Ranch,	81.86	44	⇑P	P	01 41 31.0	+0.1
	baz=82						
F05A	White Salmon	81.87	36	⇑P	P	01 41 30.7	-0.2
	baz=82						
L09A	Wilkinson Ranc	81.94	41	⇓P	P	01 41 31.2	-0.1
	baz=82						
N10A	Dunphy	81.98	43	⇓P	P	01 41 31.6	+0.1
	baz=82						
W15A	Williams	82.10	49	⇑P	P	01 41 33.0	+0.9
	baz=82						
E05A	Randle	82.11	36	⇑P	P	01 41 31.6	-0.5
	baz=82						
J08A	Circle Bar Ran	82.18	40	⇓P	P	01 41 32.4	-0.1
	baz=82,SNR=9.9						
Q12A	Willow Creek R	82.21	45	P	P	01 41 33.0	+0.3
	baz=82,SNR=5.2						
O11A	Cowboy Ranch,	82.22	44	⇑P	P	01 41 33.0	+0.3
	baz=82						
D05A	Enumclaw	82.36	35	⇑P	P	01 41 33.6	+0.2
	baz=82						
P12A	McGill	82.38	44	⇑P	P	01 41 33.5	0.0
	baz=82						
M10A	I.L. Ranch, Tu	82.38	42	⇑P	P	01 41 33.6	0.0
	baz=82						
GSM	Grass Mountain	82.47	35	P	P	01 41 34.1	+0.1
RMW	Rattlesnake Mo	82.62	35	P	P	01 41 34.7	-0.1
ELK	Elko	82.81	43	eP	P	01 41 35.7	0.0
	6.8nm,1.0s,mb4.1						
M11A	Holland Ranch,	82.81	42	⇓P	P	01 41 36.0	+0.3
	baz=83,SNR=6.3						
C05A	Tolt Reservoir	82.82	35	⇑P	P	01 41 35.1	-0.6
	baz=83						
A04A	Legoe Bay, Lum	82.89	34	⇓P	P	01 41 36.0	-0.2
	baz=83						
WUAZ	Wupatki	82.90	49	eP	P	01 41 36.5	+0.3
	10.0nm,1.1s,mb4.3						
B05A	Bryant	82.94	34	⇑P	P	01 41 36.1	-0.2
	baz=83						
N12A	Clover Valley,	83.00	43	⇓P	P	01 41 36.7	+0.1
	baz=83,SNR=5.2						
M12A	Wells	83.37	43	⇑P	P	01 41 38.6	+0.1
	baz=84,SNR=6.0						
N13A	Wendover, West	83.55	43	⇑P	P	01 41 39.4	0.0
	baz=84						
MSU	Marysvale	83.75	46	eP	P	01 41 40.7	+0.4
M13A	Montello	83.83	43	⇑P	P	01 41 40.8	0.0
	baz=84,SNR=8.3						
PV10	Paradox Valley	85.87	48	eP	P	01 41 49.6	-1.1
LTX	Lajitas	86.15	58	eP	P	01 41 52.6	+0.6
	16nm,1.1s,mb4.6						
ANMO	Albuquerque	86.25	52	eP	P	01 41 52.1	-0.4
	5.0nm,1.0s,mb4.1						
MCMT	McKenzie Canyo	86.39	41	eP	P	01 41 53.3	+0.2
BSMT	Bassoo Peak	86.77	37	P	P	01 41 54.3	-0.6
DLMT	Dillon	86.81	40	eP	P	01 41 54.6	-0.5
	10nm,1.1s,mb4.4						
PDAR	Pinedale Array	87.51	43	P	P	01 41 57.9	-0.5
	4.0nm,0.7s,mb4.3,baz=228,slow=2.6,SNR=40						
ARCES	ARCESS Array B	126.41	350	PKP	PKPdf	01 48 07.1	-2.1
	5.2nm,1.0s,baz=1.1,slow=6.1,SNR=4.6						
BSEG	Bad Segeberg	143.51	351	ePKPbc	PKPdf	01 48 38.2	-2.7
BRTR	Keskin Array B	144.78	315	PKP	PKPdf	01 48 42.0	-1.1
	1.1nm,0.9s,baz=153,slow=4.1,SNR=4.5						
NRDL	Niedersach Rie	144.94	351	ePKPbc	PKPdf	01 48 43.1	-0.3
CLZ	Clausthal	145.53	350	ePKPbc	PKPbc	01 48 45.1	-0.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	145.54	341	ePKP	PKPdf	01 48 45.3	+0.9
CLL	Collm	145.55	347	ePKPbc	PKPdf	01 48 44.9	+0.5
CLL	Collm	145.55	347	i PKPbc	PKPdf	01 48 44.7	+0.3
	comp=Z,15nm,0.8s						
UPC	Upice	145.57	344	ePKP	PKPdf	01 48 44.8	+0.4
DPC	Dobruska-Polom	145.62	343	ePKP	PKPdf	01 48 45.5	+1.0
BRG	Berggiesshubel	145.75	346	ePKPbc	PKPdf	01 48 45.6	+0.9
BRG	Berggiesshubel	145.75	346	i P	PKPdf	01 48 45.6	+0.9
	comp=Z,3.2nm,0.8s						
PVCC	Panska Ves	145.92	345	ePKP	PKPdf	01 48 46.3	+1.3
PRU	Pruhonice	146.43	345	ePKP	PKPdf	01 48 47.5	+1.6
MOX	Moxa	146.46	348	ePKPbc	PKPdf	01 48 46.6	+0.7
VYHS	Vyhne	146.48	339	ePKP	PKPbc	01 48 47.6	-0.9
VYHS				e		01 50 07.1	
TANN	Tannenbergstha	146.51	347	ePKPbc	PKPbc	01 48 47.7	-0.9
TREC	Trest	146.81	343	ePKP	PKPbc	01 48 48.7	-0.7
MANZ	Manzenberg	146.99	347	ePKPbc	PKPbc	01 48 49.1	-0.7
ROTZ	Rotzenmuhle	147.17	347	ePKPbc	PKPbc	01 48 49.8	-0.5
TNS	Taunus Mts	147.39	352	ePKPbc	PKPbc	01 48 49.8	-1.1
GRA1	Grafenberg Arr	147.44	348	ePKPbc	PKPbc	01 48 50.2	-0.8
GRF	Grafenberg Arr	147.44	348	ePKPbc	PKPbc	01 48 50.2	-0.8
KHC	Kasperske Hory	147.46	345	ePKP	PKPbc	01 48 50.4	-0.7
GEC2	GERESS Array S	147.69	345	ePKPbc	PKPbc	01 48 50.5	-1.2
GERES	GERESS Array B	147.69	345	PKPbc	PKPbc	01 48 50.9	-0.8
	comp=Z,2.1nm,0.6s,baz=22,slow=3.1,SNR=24						
WLF	Walferdange	148.21	354	ePKPbc	PKPbc	01 48 52.5	-0.5
FUR	Furstenfeldbru	148.89	347	ePKPbc	PKPbc	01 48 54.0	-0.6
BFO	Black Forest	149.26	351	ePKPbc	PKPbc	01 48 54.3	-1.2
CDF	Champ du Feu	149.32	352	ePKP1	PKPbc	01 48 54.7	-1.0
	comp=Z,11nm,0.9s						
MEZF	Maizieres J'vi	149.46	355	ePKP1	PKPbc	01 48 55.2	-0.8
ROSF	Rostrenen	149.52	6	ePKP1	PKPbc	01 48 54.4	-1.7
HAU	Haudompre	149.83	353	ePKP1	PKPbc	01 48 55.7	-1.2
	comp=Z,6.4nm,0.7s						
HINF	Hinteralfeld	149.96	353	ePKP1	PKPbc	01 48 56.0	-1.2
	comp=Z,2.5nm,0.5s						
LOR	Lormes	150.77	357	ePKP1	PKPbc	01 48 58.0	-1.1
	comp=Z,4.3nm,0.6s						
SSF	Saint Saulge	150.99	357	ePKP1	PKPbc	01 48 58.5	-1.1
	comp=Z,12nm,1.0s						
CABF	La Chapelle	151.24	353	ePKP1	PKPbc	01 48 59.0	-1.1
MFF	Saint Martin d	151.47	2	ePKP1	PKPbc	01 48 59.1	-1.5
	comp=Z,20nm,1.0s						
BGF	Bois d'Agland	151.52	358	ePKP1	PKPbc	01 48 59.7	-1.1
TCF	Toulx Ste Croi	151.81	359	ePKP1	PKPbc	01 49 00.2	-1.2
	comp=Z,6.6nm,1.0s						
LPL	La Plagne	152.24	352	ePKP1	PKPbc	01 49 01.8	-0.5
LPG	La Plagne	152.25	352	ePKP1	PKPbc	01 49 02.0	-0.4
ORIF	Oris-en-Rattie	152.93	353	ePKP1	PKPbc	01 49 03.1	-0.8
MBDF	Montbardon	153.01	352	ePKP1	PKPbc	01 49 03.4	-0.6
	comp=Z,3.8nm,0.7s						
FRF	La Foret Royal	154.17	351	ePKP1	PKPbc	01 49 05.1	-1.4

GUC 15 01:38:37.2±0.7, 28.46S×70.75W, h92^{km}±5^{km}, ML4.0, 4C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	Vallenar	0.12	184	⇑iP	Pn	01 38 51.4	+1.2
VACH				i S	Sn	01 39 01.5	+1.8
VACH				AML	AML	01 39 03.1	
	comp=E,5μm,0.1s						
LCO	Las Campanas	0.55	176	eP	Pn	01 38 53.5	+1.0
LCO				i S	Sn	01 39 05.7	+1.7
CPCH	Copiapo	1.15	18	⇑iP	Pn	01 38 59.4	+0.6
CPCH				i S	Sn	01 39 15.5	+0.5
CPCH				AML	AML	01 39 16.8	
	comp=E,9μm,0.1s						
CDCH	Caldera	1.38	357	⇑iP	Pn	01 39 02.2	+0.6
CDCH				i S	Sn	01 39 20.1	+0.2
TLL	Tololo Astrono	1.70	182	⇑iP	Pn	01 39 06.3	+0.7
TLL				i S	Sn	01 39 28.9	+1.7

*IDC **15** 01:44:39.2±1.2, 35.98N×71.25E, h0^{km}, mb4.1/9, mb1 4.2/12, mb1mx4.0/20, mbtmp4.0/12, ML3.8/3, Error ellipse: s-maj=26.9km s-min=21.4km az=6.0*
*MOS **15** 01:44:43.7±1.4, 36.13N×71.26E, h33^{km}, mb4.5/9, Error ellipse: s-maj=19.5km s-min=9.6km az=98.0*
*NEIC **15** 01:44:45.5±1.5, 36.09N×71.15E, h35^{km}, mb4.1/5, Error ellipse: s-maj=23.5km s-min=11.9km az=159.0*
*BJI **15** 01:44:45.7, 36.27N×71.00E, h59^{km}, mB4.6, mb4.6, ML4.2, Ms3.6, Msz3.6*
*ISCJB **15** 01:44:51.8±0.6, 36.41N±0.03×71.45E±0.06, h110^{km}±8^{km}, mb4.2/19, Error ellipse: s-maj=8.0km s-min=4.6km az=174.3*
*NNC **15** 01:44:55.5±11.0, 37.38N×70.46E, h0^{km}, mb4.0, mpv3.4, Error ellipse: s-maj=115.4km s-min=56.3km az=2.0*
ISC 15 01:44:52.4±0.6, 36.35N±0.03×71.42E±0.06, h103^{km}±8^{km}, n79, $\sigma 1^s21$/92, mb4.2/19, 6C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.55	171	⇑P	Pn	01 45 36.2	+3.9
THW	Thamme Wali	3.56	176	⇑P	Pn	01 45 48.9	+3.2
SBDP	Sheikh Budin	4.07	187	P	Pn	01 45 54.3	+1.7
SARP	Sargodha	4.54	166	P	Pn	01 46 01.2	+2.3
DRP	Derazinda	4.71	193	P	Pn	01 46 04.5	+3.4
AML	Almayashu	6.04	16	P	Pn	01 46 18.9	-0.3
	SNR=104						
KZA	Kyzart	6.45	26	P	Pn	01 46 24.9	+0.2
	SNR=6.8						
EKS2	Erkin-Say	6.56	15	P	Pn	01 46 26.0	-0.3
	SNR=46						
AAK	Ala-Archa	6.71	20	P	Pn	01 46 28.6	+0.3
	SNR=10						
AAK	Ala-Archa	6.71	20	⇑iPN	Pn	01 46 27.4	-0.9
AAK	Ala-Archa	6.71	20	ePn	Pn	01 46 27.8	-0.5
	30nm,0.4s						
AAK				eSn	Sn	01 47 44.5	+1.2
KBK	Karagaybulak	6.86	22	P	Pn	01 46 31.4	+1.1
	SNR=8.6						
ULHL	Ulahol	6.97	31	P	Pn	01 46 32.5	+0.6
	SNR=12						
CHMS	Chumysh	7.12	20	P	Pn	01 46 33.8	-0.1
	SNR=15						
USP	Ospenovka	7.30	18	P	Pn	01 46 36.3	-0.1
	SNR=12						
TKM2	Tokmak 2	7.31	25	P	Pn	01 46 36.7	+0.3
	SNR=25						
TKM2	Tokmak 2	7.31	25	⇓Pn	Pn	01 46 36.7	+0.3
	1.5nm,0.6s						
TKM2				⇑Sn	Sn	01 47 57.8	-0.1
	1.9nm,0.7s						
NDI	New Delhi	9.08	146	eP	Pn	01 47 03.0	+2.5
NDI				eS	Sn	01 48 39.0	-1.8
MK09	Makanchi Array	13.20	35	⇓P	Pn	01 47 54.8	-0.9
	3.1nm,0.8s,baz=239,slow=14						
MKAR	Makanchi Array	13.22	35	Pn	Pn	01 47 54.5	-1.5
	0.1nm,0.3s,baz=212,slow=11,SNR=8.7						
MKAR	Makanchi Array	13.22	35	i P	Pn	01 47 54.7	-1.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	Makanchi Array	13.22	35	Pn	Pn	01 47 54.5	-1.5
KOLN	Koldanda	13.40	126	eP	Pn	01 47 58.1	-0.3
	comp=Z,29nm,0.4s						
KOLN				eS	Sn	01 50 20.1	-5.7
GKN	Gorkha	13.94	123	eP	Pn	01 48 04.6	-0.7
	comp=Z,105nm,0.4s						
GKN				eS	Sn	01 50 32.3	-6.5
WMQ	Urumqi	14.51	54	P	Pn	01 48 15.3	+2.6
WMQ				AP		01 48 22.8	
WMQ				S	Sn	01 51 01.0	+8.4
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,34nm,3.8s						
WMQ				LR	LR		
	comp=N,260nm,12.0s						
WMQ				LR	LR		
	comp=E,195nm,10.9s						
WMQ				LR	LR		
	comp=Z,242nm,12.5s						
DMN	Daman	14.51	123	eP	Pn	01 48 12.0	-0.7
	comp=Z,62nm,0.5s						
DMN				eS	Sn	01 50 45.8	-6.8
KKN	Kakani	14.51	122	eP	Pn	01 48 11.8	-0.9
	comp=Z,60nm,0.5s						
PKI	Pulchoki	14.74	122	eP	Pn	01 48 15.0	-0.6
	comp=Z,44nm,0.4s						
GUN	Gumba	14.85	120	eP	Pn	01 48 15.7	-1.3
	comp=Z,38nm,0.4s						
JIRN	Jiri	15.22	121	eP	Pn	01 48 21.1	-0.6
	comp=Z,135nm,0.4s						
KURK	Kurchatov	15.27	18	P	Pn	01 48 22.6	+0.4
KURK	Kurchatov	15.27	18	i P	Pn	01 48 15.9	-6.4
KURK	Kurchatov	15.27	18	ePn	Pn	01 48 22.8	+0.5
AB31	Akbulak array	15.38	331	⇑P	Pn	01 48 18.9	-4.8
	comp=Z,3.3nm,0.5s						
AB31				S	S	01 50 53.1	-30
	comp=Z,6.5nm,0.6s,baz=145,slow=23,SNR=7.5						
VOSK	Vostochnaya	16.37	359	P	Pn	01 48 32.8	-3.2
ZRNK	Zerenda	16.68	355	⇑P	Pn	01 48 38.1	-1.8
	comp=Z,2.2nm,0.6s						
ZRNK	Zerenda	16.68	355	ePn	Pn	01 48 38.9	-1.0
	comp=Z,3.4nm,0.6s						
ZRNK				eSn	Sn	01 51 39.1	-5.9
BVA0	Borovoye Array	16.69	358	P	Pn	01 48 38.6	-1.3
	comp=Z,0.8nm,1.1s,baz=166,slow=12,SNR=12						
BVAR	Borovoye Array	16.69	358	P	Pn	01 48 38.4	-1.5
	comp=Z,0.5nm,0.3s,baz=161,slow=12,SNR=8.8						
BVAR	Borovoye Array	16.69	358	P	Pn	01 48 38.4	-1.5
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	Borovoye	16.72	358	ePn	Pn	01 48 41.3	+0.9
	comp=Z,1.3nm,0.4s						
BRVK				eSn	Sn	01 51 50.3	+4.3
AKTK	Aktyubinsk	17.08	330	P	Pn	01 48 41.9	-2.9
AKTK				S	S	01 51 38.5	-17
AKTO	Aktyubinsk	17.08	330	P	Pn	01 48 41.9	-2.9
	comp=Z,1.1nm,0.3s,baz=131,slow=17,SNR=19						
AKTO				S	S	01 51 38.5	-17
	comp=Z,0.4nm,0.3s,baz=147,slow=18,SNR=5.5						
CHKZ	Chkalovo	17.33	358	⇓P	Pn	01 48 45.1	-2.7
	comp=Z,3.2nm,1.2s						
CHKZ	Chkalovo	17.33	358	ePn	Pn	01 48 44.1	-3.7
CHKZ				eSn	Sn	01 52 05.4	+4.7
NVS	Novosibirsk	20.20	20	eP	P	01 49 19.7	+0.8
MIB	Mutribah	21.18	259	eP	P	01 49 29.4	0.0
MIB				AMb	AMB	01 49 36.0	
	comp=Z,52nm,0.7s,mb5.0						
GNI	Garni	21.26	288	P	P	01 49 31.7	+1.4
	comp=Z,3.1nm,0.5s,mb3.9,baz=108,slow=9.6,SNR=3.6						
GNI	Garni	21.26	288	P	P	01 49 31.7	+1.4
GNI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GNI	Garni	21.26	288	eP	P	01 49 32.3	+2.0
	comp=Z,15nm,0.9s,mb4.3						
NAY	Al-Naaiem	21.49	258	eP	P	01 49 32.4	-0.3
NAY				AMb	AMB	01 49 36.2	
	comp=Z,5.1nm,0.4s,mb4.2						
RST	Umm Al-Ruwaisa	21.58	259	eP	P	01 49 33.2	-0.5
RST				AMb	AMB	01 49 34.2	
	comp=Z,31nm,0.4s,mb4.9						
ARU	Arti	21.88	341	⇓iP	P	01 49 38.5	+1.6
ARU				e		01 49 59.7	
ARU				ePPP		01 50 09.3	
ARU				eSS		01 54 15.3	
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.1						
ARU	Arti	21.88	341	eP	P	01 49 37.3	+0.4
	comp=Z,11nm,0.8s,mb4.2						
GTA	Gaotai	22.58	74	eP	P	01 49 48.1	+3.8
GTA				AP		01 49 54.8	
GTA				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.2						
SONM	Songino Array	28.14	55	P	P	01 50 36.8	+2.0
	comp=Z,0.6nm,0.8s,mb3.2,baz=260,slow=9.6,SNR=5.4						
SONM	Songino Array	28.14	55	P	P	01 50 36.8	+2.0
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KMI	Kunming	29.03	104	P	P	01 50 47.5	+4.8
KMI				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
HHC	Hu-ho-hao-te	31.50	69	eP	P	01 51 06.6	+2.2
HHC				AP	pP	01 51 16.8	-11
HHC				S	S	01 56 09.4	+4.4
HHC				AMB	AMB		
	comp=Z,10.0nm,0.3s,mb5.0						
HHC				AMB	AMB		
	comp=Z,91nm,5.6s						
AKASG	Malin Array Be	33.30	309	P	P	01 51 20.4	+0.2
	comp=Z,4.1nm,0.5s,mb4.5,baz=81,slow=7.1,SNR=23						
AKASG	Malin Array Be	33.30	309	P	P	01 51 20.4	+0.2
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
JOF	Joensuu	36.17	330	ep	P	01 51 44.5	-0.3
	comp=Z,4.4nm,0.4s,mb4.7						
JOF	Joensuu	36.17	330	eP	P	01 51 44.5	-0.3
JOF				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
FINES	FINESS Array B	37.80	326	P	P	01 51 59.2	+0.6
	comp=Z,2.1nm,0.6s,mb4.2,baz=113,slow=9.5,SNR=21						
FINES	FINESS Array B	37.80	326	P	P	01 51 59.3	+0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KAF	Kangasniemi	37.93	327	ep	P	01 51 59.8	0.0
KEV	Kevo	41.06	338	ep	P	01 52 26.1	+0.3
	comp=Z,2.2nm,0.5s,mb4.2						
KEV	Kevo	41.06	338	eP	P	01 52 26.1	+0.3
KEV				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
ARCES	ARCESS Array B	41.41	338	P	P	01 52 29.6	+1.1
	comp=Z,3.1nm,0.8s,mb4.2,baz=110,slow=7.9,SNR=31						
ARCES	ARCESS Array B	41.41	338	P	P	01 52 29.7	+1.1
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GERES	GERESS Array B	43.29	305	P	P	01 52 44.6	+0.8
	comp=Z,0.5nm,0.9s,mb3.2,baz=64,slow=9.1,SNR=3.5						
GERES	GERESS Array B	43.29	305	P	P	01 52 44.6	+0.8
GERES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NB2	NORSAR Subarra	44.70	323	P	P	01 52 55.1	0.0
	comp=Z,4.7nm,0.5s,mb4.5,baz=96,slow=7.9						
NOA	NORSAR Array B	44.70	323	P	P	01 52 54.9	-0.2
	comp=Z,4.6nm,0.5s,mb4.5,baz=96,slow=7.7,SNR=26						
NOA	NORSAR Array B	44.70	323	P	P	01 52 54.9	-0.2
NOA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TORD	Torodi Ar. Bea	66.05	269	P	P	01 55 26.6	-1.6
	comp=Z,1.2nm,0.5s,mb4.0,baz=49,slow=5.7,SNR=60						
YKA	Yellowknife Ar	81.38	3	P	P	01 56 57.5	-0.2
	comp=Z,0.9nm,0.4s,mb3.9,baz=351,slow=5.3,SNR=12						
YKA	Yellowknife Ar	81.38	3	P	P	01 56 57.5	-0.2
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	Warramunga Arr	81.62	122	P	P	01 56 59.6	+0.6
	comp=Z,0.3nm,0.6s,mb3.3,baz=323,slow=4.9,SNR=5.5						

IDC 15 01:45:30.5±2.0, 22.53S×69.85W, h68^{km}±16^{km}, mb3.5/2, mb1 3.8/4, mb1mx3.5/15, mbtmp3.8/4, Error ellipse: s-maj=29.3km s-min=23.2km az=108.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.88	95	P	Pn	01 45 47.7	+0.5
	813nm,0.3s,baz=282,slow=7.8,SNR=1179						
LVC				S	Sn	01 46 01.1	+1.5
	382nm,0.3s,baz=204,slow=20,SNR=38						
LPAZ	La Paz	6.42	15	P	Pn	01 47 03.1	+0.8
	0.9nm,0.3s,baz=181,slow=5.6,SNR=28						
CFAA	Coronel Fontan	9.15	171	P	Pn	01 47 38.8	-0.8
	0.0nm,0.3s,baz=8.2,slow=17,SNR=4.1						
SIV	San Ignacio	10.54	53	P	Pn	01 47 57.9	-0.7
	0.7nm,0.3s,baz=245,slow=14,SNR=16						
SIV				S	Sn	01 49 56.3	+1.3
	baz=307,slow=20,SNR=1.8						
NVAR	Mina Array Bea	75.77	323	P	P	01 57 09.4	+0.5
	0.4nm,0.8s,baz=171,slow=10,SNR=3.9						
TORD	Torodi Ar. Bea	78.53	71	P	P	01 57 25.2	+0.8
	1.0nm,0.4s,baz=253,slow=5.1,SNR=35						
TORD				pP	pP	01 57 38.3	-4.5
	0.6nm,0.5s,baz=260,slow=5.7,SNR=2.9						
WRA	Warramunga Arr	131.62	211	PKP	PKPdf	02 04 36.1	+0.6
	0.3nm,0.5s,baz=150,slow=1.8,SNR=9.4						
MKAR	Makanchi Array	146.98	36	PKPbc	PKPbc	02 05 04.5	-0.8
	0.9nm,0.6s,baz=322,slow=3.7,SNR=10						
MKAR				pPKPbc	pPKPbc	02 05 17.5	-7.2
	1.3nm,0.7s,baz=340,slow=3.2,SNR=9.1						

WEL 15 02:06:14.6±0.8, 36.69S×179.41W, h33^{km}, ML3.8/3, Error ellipse: s-maj=12.2km s-min=10.2km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	Matawai	2.94	235	PN	Pn	02 06 58.3	-0.6
MWZ				SN	Sn	02 07 31.5	-1.5
MWZ				SN	Sn	02 07 32.1	-0.9
URZ	Urewera	3.18	239	PN	Pn	02 07 01.4	-0.9
KNZ	Kokohu	3.28	224	ePN	Pn	02 07 03.4	-0.2
KNZ				SN	Sn	02 07 38.5	-3.0
KNZ				SN	Sn	02 07 38.7	-2.7
MQZ	McQueen's Vall	9.27	218	SN	Sn	02 09 59.7	-9.2
MQZ				SN	Sn	02 10 00.1	-8.9

*ISCJB **15** 02:14:32.1±3.3, 5.0S±0.1×152.1E±0.1, h96^{km}±31^{km}, mb4.0/14, Error ellipse: s-maj=24.7km s-min=19.2km az=121.2*
*IDC **15** 02:14:34.3±4.4, 5.12S×152.14E, h103^{km}±39^{km}, mb3.7/8, mb1 3.9/9, mb1mx3.8/14, mbtmp4.0/9, Error ellipse: s-maj=28.5km s-min=23.5km az=170.0*
*NEIC **15** 02:14:34.3±1.6, 5.11S×152.15E, h106^{km}±15^{km}, mb4.3/6, Error ellipse: s-maj=13.5km s-min=10.3km az=143.0*
ISC 15 02:14:34.1±2.5, 5.1S±0.1×152.2E±0.1, h103^{km}±24^{km}, n22, $\sigma 0^s63$/21, mb4.0/14, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.58	229	P	Pn	02 16 07.9	-0.3
	1.0nm,0.3s,baz=15,slow=11,SNR=4.7						
PMG				S	Sn	02 17 21.8	+0.1
	5.2nm,0.3s,baz=104,slow=21,SNR=15						
PMG	Port Moresby	6.58	229	ePn	Pn	02 16 08.1	-0.2
PMG				eSn	Sn	02 17 22.3	+0.6
DZM	Mont Dzumac	21.82	142	P	P	02 19 17.9	-0.1
	9.2nm,0.8s,mb4.2,baz=170,slow=2.5,SNR=5.7						
WRAB	Tennant Creek	22.78	228	eP	P	02 19 27.3	-0.7
	3.9nm,0.7s,mb3.9						
WB2	Warramunga Arr	22.79	228	eP	P	02 19 28.0	0.0
WRA	Warramunga Arr	22.80	228	P	P	02 19 28.0	-0.2
	2.4nm,0.5s,mb3.8,baz=51,slow=10,SNR=32						
ASAR	Alice Springs	25.53	222	P	P	02 19 53.5	+0.6
	0.6nm,0.7s,mb3.1,baz=50,slow=10.0,SNR=5.2						
FITZ	Fitzroy Crossi	28.98	241	P	P	02 20 23.4	-0.5
	2.4nm,0.6s,mb4.0,baz=71,slow=15,SNR=11						
SONM	Songino Array	66.23	328	P	P	02 25 11.4	+0.5
	0.5nm,0.5s,mb3.6,baz=151,slow=6.0,SNR=5.7						
SLKM	Skilak Lake	79.18	25	eP	P	02 26 27.4	-0.1
MKAR	Makanchi Array	80.12	319	P	P	02 26 33.1	+0.4
	0.7nm,0.5s,mb3.8,baz=101,slow=6.3,SNR=7.2						
MCK	McKinley	81.36	23	eP	P	02 26 38.5	-0.7
	6.7nm,1.0s,mb4.4						
COLA	College	82.34	22	eP	P	02 26 43.7	-0.7
	6.1nm,0.8s,mb4.5						
AAK	Ala-Archa	84.40	314	eP	P	02 26 55.7	+0.8
	1.2nm,0.5s,mb4.0						
INK	Inuvik	88.94	21	eP	P	02 27 16.5	-0.4
	5.4nm,1.1s,mb4.5						
CHKZ	Chkalovo	89.06	324	eP	P	02 27 16.6	-0.9
	1.7nm,0.9s,mb4.1						
NVAR	Mina Array Bea	92.75	52	P	P	02 27 36.3	+1.7
	0.4nm,0.7s,mb3.9,baz=282,slow=3.9,SNR=4.8						
SYO	Syowa Base	93.20	199	⇑epP	pP	02 28 06.5	+2.6
YKA	Yellowknife Ar	95.96	28	P	P	02 27 49.8	+0.4
	0.8nm,0.8s,mb4.2,baz=260,slow=5.0,SNR=4.3						
YKA	Yellowknife Ar	95.96	28	P	P	02 27 49.8	+0.4
GERES	GERESS Array B	123.96	328	PKP	PKPdf	02 33 21.2	+1.1
	0.4nm,0.5s,baz=69,slow=4.4,SNR=4.9						
TORD	Torodi Ar. Bea	149.80	287	PKPbc	PKPbc	02 34 12.7	+0.7
	1.5nm,0.7s,baz=88,slow=2.7,SNR=18						

*CSEM **15** 02:15:11.1±0.2, 36.03N×21.64E, h15^{km}, ML3.5, Error ellipse: s-maj=6.2km s-min=2.7km az=56.0*
*ISCJB **15** 02:15:11.5±0.7, 36.15N±0.04×21.80E±0.06, h10^{km}, Error ellipse: s-maj=7.9km s-min=3.8km az=111.0*
*NEIC **15** 02:15:12.9, 36.21N×21.91E, h18^{km}, ML3.5(ATH), After ATH.*
*ATH **15** 02:15:12.9, 36.21N×21.91E, h18^{km}±2^{km}, MD3.5/11, ML3.5*
*THE **15** 02:15:15.5, 36.25N×21.92E, h21^{km}, ML3.2*
*HLW **15** 02:15:29.5, 34.82N×21.83E, h33^{km}, Mb3.2*
ISC 15 02:15:12.8±0.6, 36.17N±0.03×21.83E±0.06, h10^{km}, n45, $\sigma 1^s25$/69, 2C-1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.99	83	ePN	Pg	02 15 30.7	-1.0
ITM	Ithomi	1.01	5	ePN	Pg	02 15 31.6	-0.7
ITM				eSN	Sg	02 15 45.3	-0.2
VLI	Veliai	1.05	58	ePN	Pg	02 15 31.3	-1.7
VLI				eSN	Sg	02 15 45.0	-1.7
KARN	Karanos	1.86	114	ePb	Pn	02 15 43.6	-1.1
RLS	Riolos of Patr	1.91	351	ePN	Pn	02 15 45.9	+0.6
NAIG	Nisos Aigina	2.07	39	ePN	Pn	02 15 48.5	+0.9
VAM	Vamos	2.07	111	ePN	Pn	02 15 48.5	+0.9
VAM				eSN	Sn	02 16 15.0	+1.5
VLS	Valsamata	2.24	334	ePB	Pn	02 15 51.1	+1.3
ATH	Athens Observa	2.35	39	ePN	Pn	02 15 52.1	+0.7
PTL	Penteli	2.49	40	ePN	Pn	02 15 53.0	-0.3
LKD	Levkas	2.70	340	ePn	Pn	02 15 56.3	+0.1
LKD				eSn	Sn	02 16 27.5	-1.5
LKD	Levkas	2.70	340	P	Pn	02 15 56.0	-0.3
LKD				S	Sn	02 16 29.4	+0.3
LKD	Levkas	2.70	340	ePn	Pn	02 15 56.3	0.0
LKD				eSn	Sn	02 16 27.5	-1.5
LKD				S	Sn	02 16 29.4	+0.4
EVR	Evrytania	2.75	360	ePN	Pn	02 15 58.0	+1.2
AGG	Agios Georgios	2.88	8	ePn	Pn	02 15 58.8	+0.1
AGG	Agios Georgios	2.88	8	P	Pn	02 15 59.3	+0.7
AGG	Agios Georgios	2.88	8	P	Pn	02 15 59.3	+0.6
APE	Apeiranthos	3.11	72	P	Pn	02 16 03.8	+1.9
APE				S	Sn	02 16 44.6	+5.5
APE	Apeiranthos	3.11	72	P	Pn	02 16 03.8	+1.9
APE				S	Sn	02 16 44.6	+5.4
LAST	Lasithi	3.14	108	ePn	Pn	02 16 02.6	+0.4
LAST				eSn	Sn	02 16 38.0	-1.8
LAST	Lasithi	3.14	108	P	Pn	02 16 02.6	+0.4
LAST				S	Sn	02 16 41.8	+2.0
LAST	Lasithi	3.14	108	ePn	Pn	02 16 02.6	+0.3
LAST				eSn	Sn	02 16 38.0	-1.8
LAST				S	Sn	02 16 41.8	+2.0
XOR	Xorichti	3.37	18	ePn	Pn	02 16 04.3	-1.2
XOR	Xorichti	3.37	18	P	Pn	02 16 07.5	+2.0
XOR	Xorichti	3.37	18	P	Pn	02 16 07.5	+2.0
IGT	Igoumenitsa	3.56	341	ePn	Pn	02 16 07.2	-0.8
IGT				eSn	Sn	02 16 47.8	-2.5
JAN	Janina	3.57	348	ePN	Pn	02 16 08.6	+0.4
MEV	Metsovon	3.64	353	ePn	Pn	02 16 09.9	+0.7
MEV				eSn	Sn	02 16 50.9	-1.3
MEV	Metsovon	3.64	353	P	Pn	02 16 10.2	+1.0
MEV				S	Sn	02 16 53.5	+1.3
MEV	Metsovon	3.64	353	P	Pn	02 16 10.2	+1.0
MEV				eSn	Sn	02 16 50.9	-1.3
MEV				S	Sn	02 16 53.5	+1.3
LIT	Litokhoron	3.96	7	ePn	Pn	02 16 13.1	-0.5
LIT				eSn	Sn	02 16 58.0	-2.1
LIT	Litokhoron	3.96	7	P	Pn	02 16 14.4	+0.8
LIT				S	Sn	02 17 02.9	+2.8
LIT	Litokhoron	3.96	7	P	Pn	02 16 14.4	+0.8
LIT				eSn	Sn	02 16 58.0	-2.1
LIT				S	Sn	02 17 02.9	+2.8
PAIG	Paliouri	4.03	21	ePn	Pn	02 16 13.8	-0.7
PAIG	Paliouri	4.03	21	P	Pn	02 16 16.8	+2.3
PAIG	Paliouri	4.03	21	P	Pn	02 16 16.8	+2.3
OUR	Ouranopolis	4.49	22	ePn	Pn	02 16 20.6	-0.3
OUR	Ouranopolis	4.49	22	P	Pn	02 16 22.8	+1.9
OUR	Ouranopolis	4.49	22	P	Pn	02 16 22.8	+1.9
HORT	Hortiatis	4.54	12	ePn	Pn	02 16 21.9	+0.4
FNA	Florina	4.62	356	ePn	Pn	02 16 21.7	-1.0
FNA				eSn	Sn	02 17 13.5	-2.9
SOH	Sokhos	4.80	14	ePn	Pn	02 16 25.6	+0.5
SLUM		5.45	148	⇑P	Pn	02 16 33.5	-0.5
SLUM				S	Sn	02 17 20.3	-16
SWA2		7.55	155	⇑P	Pn	02 17 01.2	-1.6
SWA1		7.62	153	⇓P	Pn	02 17 02.3	-1.6

*ISCJB **15** 02:18:34.0±1.4, 6.06S±0.05×129.43E±0.10, h162^{km}±14^{km}, mb4.2/15, Error ellipse: s-maj=16.2km s-min=7.4km az=156.5*
*NEIC **15** 02:18:34.9±1.5, 6.00S×129.53E, h155^{km}±15^{km}, mb4.4/15, Error ellipse: s-maj=14.3km s-min=9.0km az=75.0*

IDC 15 02:18:36.1±3.3, 607S×12948E, h167km±31km, mb4.0/6, mb1 4.3/10, mb1mx4.2/14, mbtmp4.8/10, MS3.8/1, Ms1 3.8/1, ms1mx2.9/24, Error ellipse: s-maj=28.4km s-min=13.2km az=69.0

ISC 15 02:18:37.8±1.1, 618S±005×1295E±01, h185km±11km, n33, $\sigma 1^{s}09$/39, mb4.2/15, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	7.10	156	eP	Pn	02 20 19.1	-0.1
	56nm,0.1s						
KAKA				eS	Sn	02 21 35.6	-3.8
FITZ	Fitzroy Crossi	12.43	197	eP	Pn	02 21 28.6	+0.1
	64nm,0.3s						
FITZ				eS	Sn	02 23 42.1	-4.6
FITZ	Fitzroy Crossi	12.43	197	P	Pn	02 21 27.8	-0.6
	12nm,0.3s,baz=33,slow=12,SNR=151						
FITZ				S	Sn	02 23 40.2	-6.5
	3.5nm,0.3s,baz=160,slow=20,SNR=3.2						
WRAB	Tennant Creek	14.46	161	ePn	Pn	02 21 53.6	-0.3
	32nm,0.3s						
WRAB				eSn	Sn	02 24 28.2	-6.9
WRA	Warramunga Arr	14.46	161	P	Pn	02 21 52.9	-1.0
	2.8nm,0.3s,baz=337,slow=13,SNR=48						
WRA				S	Sn	02 24 26.7	-8.5
	6.9nm,0.3s,baz=346,slow=22,SNR=9.0						
WB2	Warramunga Arr	14.46	161	eP	Pn	02 21 53.7	-0.3
WB2				eS	Sn	02 24 27.1	-8.2
MBWA	Marble Bar	17.64	212	eP	Pn	02 22 32.4	+0.1
	12nm,0.6s						
PMG	Port Moresby	17.78	101	P	Pn	02 22 34.4	+0.4
	1.8nm,0.3s,baz=282,slow=4.9,SNR=7.2						
PMG	Port Moresby	17.78	101	eP	Pn	02 22 36.0	+2.0
	29nm,0.7s						
PMG				epP	pP	02 22 48.0	-15
AS31	Alice Springs	17.89	167	⇑iP	Pn	02 22 35.8	+0.6
AS31				eS	S	02 25 48.3	-0.8
ASPA	Alice Springs	17.89	167	⇑iP	Pn	02 22 35.8	+0.6
ASPA				eS	S	02 25 48.3	-0.8
ASAR	Alice Springs	17.89	167	P	Pn	02 22 35.8	+0.6
	12nm,0.3s,baz=349,slow=12,SNR=450						
ASAR				S	S	02 25 47.9	-1.2
	2.1nm,0.3s,baz=342,slow=18,SNR=9.2						
CTA	Charters Tower	21.35	132	eP	P	02 23 11.9	+1.5
	19nm,0.7s,mb4.5						
CTA	Charters Tower	21.35	132	P	P	02 23 11.5	+1.1
	35nm,0.8s,mb4.7,baz=317,slow=12,SNR=31						
CTAO	Charters Tower	21.35	132	eP	P	02 23 11.5	+1.1
	24nm,0.7s,mb4.6						
FORT	Forrest	24.50	183	eP	P	02 23 41.6	+1.6
	18nm,0.5s,mb4.8						
KLBR	Kellerberrin	27.57	202	eP	P	02 24 09.3	+1.9
	35nm,1.5s,mb4.9						
TOO	Toolangi	34.47	157	eP	P	02 25 10.9	+3.0
	2.4nm,0.5s,mb4.2						
CBIJ	Chichi jima	35.29	20	LR	LR	02 37 37.5	
	comp=Z,169nm,21.6s,baz=193,slow=32						
MAJO	Matsushiro	43.28	10	eP	P	02 26 19.5	-1.5
	8.2nm,0.9s,mb4.4						
MJAR	Matsushiro Arr	43.28	10	P	P	02 26 18.5	-2.5
	2.9nm,0.8s,mb4.0,baz=190,slow=9.7,SNR=7.4						
RPZ	Rata Peaks	52.18	142	P	P	02 27 30.7	+1.3
	8.6nm,0.5s,mb4.6,baz=15,slow=10,SNR=7.8						
ULN	Ulaanbaatar	57.34	342	eP	P	02 28 06.5	+0.1
	4.9nm,0.7s,mb4.5						
SONM	Songino Array	57.52	342	P	P	02 28 07.8	+0.1
	1.5nm,0.5s,mb4.1,baz=162,slow=7.0,SNR=17						
MKAR	Makanchi Array	67.28	327	P	P	02 29 12.8	+0.5
	2.8nm,0.6s,mb4.3,baz=122,slow=8.5,SNR=29						
AAK	Ala-Archa	69.60	320	eP	P	02 29 26.9	+0.1
	1.4nm,0.6s,mb3.9						
KURK	Kurchatov	71.57	329	eP	P	02 29 38.5	-0.2
	3.6nm,0.9s,mb4.1						
VNDA	Vanda	73.31	173	P	P	02 29 49.2	+0.2
	1.1nm,0.5s,mb3.8,baz=317,slow=6.6,SNR=10						
VNDA	Vanda	73.31	173	eP	P	02 29 49.0	0.0
	1.6nm,0.8s,mb3.8						
CHKZ	Chkalovo	77.31	329	eP	P	02 30 11.3	-0.5
	2.0nm,1.0s,mb3.7						
ZRNK	Zerenda	77.82	327	eP	P	02 30 13.6	-1.0
	1.0nm,0.3s,mb3.9						
TORD	Torodi Ar. Bea	128.16	282	PKP	PKPdf	02 37 22.9	+1.0
	0.5nm,0.7s,baz=79,slow=2.1,SNR=6.5						
LPAZ	La Paz	151.66	142	PKPbc	PKPbc	02 38 12.6	+2.4
	1.4nm,0.3s,baz=42,slow=2.4,SNR=18						
LPAZ				PKPab	PKPab	02 38 21.3	+1.8
	1.7nm,0.6s,baz=151,slow=5.6,SNR=6.8						

IDC 15 02:22:27.1±5.7, 1029N×14159E, h0km, mb3.9/2, mb1 3.9/2, mb1mx3.7/16, mbtmp3.9/2, Error ellipse: s-maj=399.3km s-min=97.2km az=64.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	47.70	328	P	P	02 31 05.6	+0.1
	1.0nm,1.0s,baz=130,slow=6.6,SNR=5.6						
MKAR	Makanchi Array	61.70	318	P	P	02 32 47.2	+0.2
	0.6nm,0.3s,baz=115,slow=7.5,SNR=8.7						
TORD	Torodi Ar. Bea	133.88	299	PKP	PKPdf	02 41 46.9	+0.8
	0.5nm,0.7s,baz=55,slow=2.6,SNR=4.4						

PGC 15 02:27:35.9, 5122N×13040W, h10km, ML2.8/13, Mw3.4, 188km southwest of Bella Bella, Bc South of Moresby Island, British Columbia, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.55	111	Pn	Pn	02 28 01.9	-1.6
HOLB				Trac		02 28 33.4	
	comp=Z,48nm,0.3s						
HOLB	Holberg	1.55	111	Pn	Pn	02 28 01.9	-1.6
HOLB				Trac		02 28 33.4	
	comp=Z,48nm,0.3s						
BNB	Barry Inlet	1.59	329	Pn	Pn	02 28 01.1	-3.1
BNB				Pg	Pg	02 28 05.9	-0.6
BNB				Sn	Sn	02 28 20.5	-4.2
BNB				Sg	Sg	02 28 25.4	-1.7
BNB				Trac		02 28 29.9	
	comp=Z,1μm,0.2s						
BNB	Barry Inlet	1.59	329	Pn	Pn	02 28 01.1	-3.1
BNB				Pg	Pg	02 28 05.9	-0.6
BNB				Sn	Sn	02 28 20.5	-4.2
BNB				Sg	Sg	02 28 25.4	-1.7
BNB				Trac		02 28 29.9	
	comp=Z,1μm,0.2s						
BBB	Bella Bella	1.72	55	Pn	Pn	02 28 04.1	-1.7
BBB				Sg	Sg	02 28 27.7	-3.4
BBB				Trac		02 28 31.2	
	comp=Z,126nm,0.3s						
BBB	Bella Bella	1.72	55	Pn	Pn	02 28 04.1	-1.7
BBB				Sg	Sg	02 28 27.7	-3.4
BBB				Trac		02 28 31.2	
	comp=Z,126nm,0.3s						
PHC	Port Hardy	1.94	104	Pn	Pn	02 28 06.6	-2.3
PHC				Sg	Sg	02 28 34.2	-4.1
PHC				Trac		02 28 42.9	
	comp=Z,50nm,0.5s						
PHC	Port Hardy	1.94	104	Pn	Pn	02 28 06.6	-2.3
PHC				Sg	Sg	02 28 34.2	-4.1
PHC				Trac		02 28 42.9	
	comp=Z,50nm,0.5s						
BPBC	Brooks Peninsu	1.98	122	Pn	Pn	02 28 07.8	-1.7
BPBC				Pg	Pg	02 28 12.1	-1.8
BPBC				Sg	Sg	02 28 36.6	-3.0
BPBC				Trac		02 28 39.4	
	comp=Z,39nm,0.3s						
BPBC	Brooks Peninsu	1.98	122	Pn	Pn	02 28 07.8	-1.7
BPBC				Pg	Pg	02 28 12.1	-1.8
BPBC				Sg	Sg	02 28 36.6	-3.0
BPBC				Trac		02 28 39.4	
	comp=Z,39nm,0.3s						
MOBC	Moresby Island	2.18	336	Pn	Pn	02 28 10.1	-2.1
MOBC				Sg	Sg	02 28 41.5	-4.5
MOBC				Trac		02 28 44.1	
	comp=Z,46nm,0.3s						
MOBC	Moresby Island	2.18	336	Pn	Pn	02 28 10.1	-2.1
MOBC				Sg	Sg	02 28 41.5	-4.5
MOBC				Trac		02 28 44.1	
	comp=Z,46nm,0.3s						
MAYB	Maynard	2.20	111	Pn	Pn	02 28 11.4	-1.0
MAYB				Trac		02 28 51.5	
	comp=Z,28nm,0.4s						
MAYB	Maynard	2.20	111	Pn	Pn	02 28 11.4	-1.0
MAYB				Trac		02 28 51.5	
	comp=Z,28nm,0.4s						
VIB	Van Inlet	2.42	328	Pn	Pn	02 28 12.5	-3.1
VIB				Sg	Sg	02 28 49.7	-4.0
VIB				Trac		02 28 52.4	
	comp=Z,13nm,0.3s						
VIB	Van Inlet	2.42	328	Pn	Pn	02 28 12.5	-3.1
VIB				Sg	Sg	02 28 49.7	-4.0
VIB				Trac		02 28 52.4	
	comp=Z,13nm,0.3s						
EDB	Eliza Dome	2.49	122	Pn	Pn	02 28 18.9	+2.5
EDB	Eliza Dome	2.49	122	Pn	Pn	02 28 18.9	+2.5
WOSB	Woss	2.65	112	Pn	Pn	02 28 18.6	-0.1
WOSB				Trac		02 29 10.8	
	comp=Z,22nm,0.5s						
WOSB	Woss	2.65	112	Pn	Pn	02 28 18.6	-0.1
WOSB				Trac		02 29 10.8	
	comp=Z,22nm,0.5s						
NCRB	Newcastle Ridg	2.87	105	Pn	Pn	02 28 21.4	-0.3
NCRB				Trac		02 29 11.5	
	comp=Z,12nm,0.5s						
NCRB	Newcastle Ridg	2.87	105	Pn	Pn	02 28 21.4	-0.3
NCRB				Trac		02 29 11.5	
	comp=Z,12nm,0.5s						
RUBB	Prince Rupert	3.11	2	Pn	Pn	02 28 24.1	-0.9
RUBB				Sg	Sg	02 29 09.9	-5.9
RUBB				Trac		02 29 16.0	
	comp=Z,37nm,0.3s						
RUBB	Prince Rupert	3.11	2	Pn	Pn	02 28 24.1	-0.9
RUBB				Sg	Sg	02 29 09.9	-5.9
RUBB				Trac		02 29 16.0	
	comp=Z,37nm,0.3s						
GDR	Gold River	3.14	116	Pn	Pn	02 28 27.2	+1.9
GDR				Trac		02 29 24.6	
	comp=Z,21nm,0.8s						
GDR	Gold River	3.14	116	Pn	Pn	02 28 27.2	+1.9
GDR				Trac		02 29 24.6	
	comp=Z,21nm,0.8s						
CBB	Campbell River	3.42	108	Pn	Pn	02 28 31.3	+2.1
CBB				Trac		02 29 28.0	
	comp=Z,9.0nm,0.4s						
CBB	Campbell River	3.42	108	Pn	Pn	02 28 31.3	+2.1
CBB				Trac		02 29 28.0	
	comp=Z,9.0nm,0.4s						
BTB	Buttle Lake	3.58	117	Pn	Pn	02 28 33.5	+2.0
BTB	Buttle Lake	3.58	117	Pn	Pn	02 28 33.5	+2.0
ALB	Alberni	4.07	117	Pg	Pb	02 28 44.6	-3.0
ALB	Alberni	4.07	117	Pg	Pb	02 28 44.6	-3.0
MGB	Mount Grey	4.29	119	Pn	Pn	02 28 46.6	+5.4
MGB	Mount Grey	4.29	119	Pn	Pn	02 28 46.6	+5.4
SHB	Sechelt	4.48	109	Trac		02 30 00.5	
	comp=Z,13nm,0.6s						
SHB	Sechelt	4.48	109	Trac		02 30 00.5	
	comp=Z,13nm,0.6s						

NEIC 15 02:32:14.8, 2742S×7144W, h43km, MG3.9(GUC), After GUC.

GUC 15 02:32:14.8±0.5, 2742S×7144W, h43km±3km, MD3.9, ML3.9, 7C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CDCH	Caldera	0.64	58	⇓iP	Pn	02 32 27.7	+0.2
CDCH				iS	Sn	02 32 37.6	+1.0
CPCH	Copiapo	0.96	87	⇑iP	Pn	02 32 32.2	+0.3
CPCH				iS	Sn	02 32 46.2	+1.8
CPCH				AML	AML	02 32 48.5	
	comp=E,12μm,0.1s						
CPCH	Copiapo	0.96	87	⇑iP	Pn	02 32 32.2	+0.3
CPCH				iS	Sn	02 32 46.2	+1.8
VACH	Vallenar	1.30	153	⇑iP	Pn	02 32 37.4	+0.9
VACH				iS	Sn	02 32 54.4	+1.8
VACH				AML	AML	02 32 55.8	
	comp=E,2μm,0.2s						
VACH	Vallenar	1.30	153	⇑iP	Pn	02 32 37.4	+0.9
VACH				iS	Sn	02 32 54.4	+1.8
LCO	Las Campanas	1.71	158	⇓iP	Pn	02 32 43.7	+1.6
LCO				iS	Sn	02 33 05.6	+2.8
TLL	Tololo Astrono	2.79	169	⇑iP	Pn	02 32 58.8	+1.8
TLL				iS	Sn	02 33 31.7	+2.3
TLL				AML	AML	02 33 51.0	
	comp=N,795nm,0.5s						
TLL	Tololo Astrono	2.79	169	⇑iP	Pn	02 32 58.8	+1.8
TLL				iS	Sn	02 33 31.7	+2.3
CPN1	Cerro Paranal	2.93	19	⇑iP	Pn	02 33 00.3	+1.5
CPN1				eS	Sn	02 33 35.3	+2.5
CPN1				AML	AML	02 33 58.6	
	comp=E,190nm,0.6s						

KRSC 15 02:32:20, 5086N×15758E, h46km, ML3.6, Kuril Islands

ISCJB 15 02:53:27.6±6.9, 48S±02×1507E±04, h24km±57km, mb4.1/4, MS3.3/1, Error ellipse: s-maj=68.5km s-min=23.4km az=63.7

IDC 15 02:53:28.9±3.2, 487S×15040E, h0km, mb4.2/3, mb1 4.3/5, mb1mx4.0/14, mbtmp4.2/5, ML3.4/2, MS3.2/3, Ms1 3.2/3, ms1mx2.9/17, Error ellipse: s-maj=91.9km s-min=37.3km az=112.0

NEIC 15 02:53:36.3±4.5, 5.19S×15052E, h56km±28km, mb4.4/2, Error ellipse: s-maj=41.6km s-min=39.1km az=91.0

ISC 15 02:53:27.7±6.8, 48S±02×1508E±04, h13km±56km, n12, $\sigma 0^{s}62$/11, mb4.1/4, MS3.3/1, New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.80	218	Pn	Pn	02 54 54.1	+0.7
	5.6nm,0.3s,baz=47,slow=7.5,SNR=11						
PMG				Sn	Sn	02 55 59.9	+0.1
	2.9nm,0.3s,baz=81,slow=22,SNR=2.7						
PMG				LR	LR	02 56 38.1	
	comp=Z,186nm,21.3s,baz=72,slow=34						
PMG	Port Moresby	5.80	218	ePn	Pn	02 54 53.8	+0.4
	34nm,0.6s						
CTA	Charters Tower	15.81	196	Pn	Pn	02 57 10.1	+0.2
	0.1nm,0.3s,baz=21,slow=14,SNR=2.8						
GUMO	Guam	19.20	342	LR	LR	03 04 04.0	
	comp=Z,82nm,21.4s,baz=114,slow=33						
WRAB	Tennant Creek	21.94	225	eP	P	02 58 20.6	-0.4
	8.0nm,0.7s,mb4.3						
WB2	Warramunga Arr	21.95	225	eP	P	02 58 19.8	-1.2
WRA	Warramunga Arr	21.96	225	P	P	02 58 20.6	-0.5
	4.4nm,0.7s,mb4.0,baz=49,slow=10,SNR=18						
AS31	Alice Springs	24.81	219	eP	P	02 58 49.7	+0.2
ASAR	Alice Springs	24.82	219	P	P	02 58 49.5	0.0
	2.6nm,0.7s,mb3.9,baz=55,slow=8.4,SNR=30						
ASAR				LR	LR	03 07 16.4	
	comp=Z,94nm,19.6s,MS3.3,baz=221,slow=34						
FITZ	Fitzroy Crossi	27.89	240	eP	P	02 59 18.5	+1.2
	9.2nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	27.89	240	P	P	02 59 18.3	+1.0
	5.7nm,0.7s,mb4.3,baz=75,slow=8.3,SNR=9.8						
TORD	Torodi Ar. Bea	148.38	287	PKPbc	PKPbc	03 13 17.3	+3.5
	0.4nm,0.6s,baz=71,slow=2.2,SNR=4.1						

CSEM 15 03:08:06.0±0.4, 3845N×2840W, h3km±4km, ML0.4, Error ellipse: s-maj=1.9km s-min=1.5km az=54.0, After PDA

PDA 15 03:08:06.0±0.4, 3845N×2840W, h3km±4km, MD2.8, ML0.4, Error ellipse: s-maj=1.9km s-min=1.5km az=54.0

SVSA 15 03:08:06.0±0.4, 3845N×2840W, h3km±4km, MD2.8, ML0.4, Error ellipse: s-maj=1.9km s-min=1.5km az=54.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBOI	Pico dos Bois	0.02	119	eP	Pg	03 08 06.8	+0.1
PBOI				eS	Sg	03 08 07.5	+0.3
PBOI							
	22nm,0.1s						
PCND	Candelaria	0.05	294	eS	Sg	03 08 08.2	+0.3
PCND							
	7.5nm,0.1s						
PICO	Pico	0.06	341	eP	Pg	03 08 07.3	+0.1
PICO				eS	Sg	03 08 08.2	+0.2
PTEI	Pico do Teixo	0.06	37	eP	Pg	03 08 07.4	+0.1
PTEI				eS	Sg	03 08 08.5	+0.4
PTEI							
	24nm,0.1s						

CSEM 15 03:09:01.0±0.5, 3845N×2840W, h5km±4km, ML0.7, Error ellipse: s-maj=2.3km s-min=1.8km az=47.0, After PDA

PDA 15 03:09:01.0±0.5, 3845N×2840W, h5km±4km, MD2.6, ML0.7, Error ellipse: s-maj=2.3km s-min=1.8km az=47.0

SVSA 15 03:09:01.0±0.5, 3845N×2840W, h5km±4km, MD2.6, ML0.7, Error ellipse: s-maj=2.3km s-min=1.8km az=47.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBOI	Pico dos Bois	0.03	129	eP	Pg	03 09 02.2	+0.1
PBOI				eS	Sg	03 09 02.8	0.0
PBOI							
	32nm,0.1s						
PCND	Candelaria	0.05	288	eP	Pg	03 09 02.2	-0.1
PCND				eS	Sg	03 09 03.5	+0.3
PCND							
	11nm,0.1s						
PICO	Pico	0.05	339	eP	Pg	03 09 02.3	0.0
PICO				iS	Sg	03 09 03.4	+0.2
PTEI	Pico do Teixo	0.06	42	eP	Pg	03 09 02.5	+0.1
PTEI				eS	Sg	03 09 03.6	+0.2
PTEI							
	47nm,0.1s						

STR 15 03:15:51.5±0.6, 4846N×826E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

LDG 15 03:15:49.9±0.4, 4848N×834E, h15km, Ml1.9/4, Error ellipse: s-maj=9.5km s-min=6.1km az=171.0, Germany

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WLS	Welschbruch	0.66	265	Pg	Pg	03 16 02.7	-0.1
WLS				Sg	Sg	03 16 11.9	+0.4
CDF	Champ du Feu	0.71	265	ePg	Pg	03 16 03.7	0.0
CDF				eSg	Sg	03 16 13.0	-0.1
ECH	Echery	0.83	252	Pg	Pg	03 16 06.0	0.0
ECH				Sg	Sg	03 16 17.0	+0.1
MOF	Molkenrain	1.02	233	Pg	Pg	03 16 09.8	+0.2
HINF	Hinteralfeld	1.19	237	ePg	Pg	03 16 12.3	-0.6
HINF				eSg	Sg	03 16 27.6	-0.9
	1.7nm,0.2s						
HAU	Haudompre	1.41	251	ePn	Pn	03 16 13.6	-1.4
HAU	Haudompre	1.41	251	ePg	Pg	03 16 16.5	-0.5
HAU				eSg	Sg	03 16 35.7	+0.3
	2.3nm,0.3s						
SFTF	Sexfontaines	2.22	264	ePg	Pg	03 16 31.3	-1.1
SFTF				eSg	Sg	03 16 59.3	-1.9
	3.5nm,0.5s						
LOR	Lormes	3.25	250	ePg	Pg	03 16 51.0	-1.1
LOR				eSg	Sg	03 17 32.8	-1.4
SSF	Saint Saulge	3.55	248	ePg	Pg	03 16 55.5	-2.5

ISCJB 15 03:17:58.5±0.8, 596S±0.1×26.1W±03, h10km, mb4.2/10, MS3.7/2, Error ellipse: s-maj=30.9km s-min=10.4km az=104.2

NEIC 15 03:18:03.3±0.5, 5958S×2595W, h35km, mb4.2/6, Error ellipse: s-maj=22.3km s-min=10.7km az=49.0

IDC 15 03:18:20.7±6.9, 5963S×2692W, h181km±64km, mb3.6/7, mb1 3.8/7, mb1mx3.7/13, mbtmp4.1/7, MS3.7/2, Ms1 3.6/2, ms1mx3.3/15, Error ellipse: s-maj=28.9km s-min=14.1km az=50.0

ISC 15 03:18:02.7±6.8, 597S±02×261W±04, h28km±50km, n25, $\sigma 0^{s}72$/17, mb4.2/10, MS3.7/2, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.27	154	e	Pn	03 21 09.7	+0.5
VNA1				e		03 21 12.9	
VNA1				e		03 21 15.9	
VNA1				e		03 21 20.3	
SNAA	Sanae	15.25	152	e	Pn	03 21 35.4	-0.7
SNAA				e		03 21 38.2	
SNAA				e		03 21 40.9	
SNAA				e		03 21 44.4	
SNAA				e		03 24 11.8	
SNAA				e		03 24 16.6	
SNAA				e		03 24 21.7	
SNAA	Sanae	15.25	152	ePn	Pn	03 21 35.2	-0.8
	12nm,0.6s						
SNAA				eSn	Sn	03 24 12.2	-12
TRQA	Tornquist	31.38	297	eP	P	03 24 21.8	+0.7
	2.1nm,0.5s,mb4.2						
PLCA	Paso Flores	33.33	284	P	P	03 24 37.0	-1.2
	1.5nm,0.7s,mb4.0,baz=118,slow=8.1,SNR=6.2						
PLCA	Paso Flores	33.33	284	eP	P	03 24 38.0	-0.1
	1.9nm,0.6s,mb4.2						
MAW	Mawson	36.96	140	P	P	03 25 15.0	+5.6
	1.7nm,0.3s,mb4.4,baz=239,slow=23,SNR=15						
MAW				LR	LR	03 38 59.4	
	comp=Z,141nm,21.9s,MS3.7,baz=42,slow=33						
CFAA	Coronel Fontan	39.59	296	P	P	03 25 31.6	0.0
	0.3nm,0.4s,mb3.3,baz=153,slow=8.5,SNR=7.4						
VNDA	Vanda	43.00	183	P	P	03 26 00.1	+0.6
	2.4nm,0.6s,mb4.1,baz=192,slow=6.1,SNR=13						
VNDA	Vanda	43.00	183	eP	P	03 26 00.5	+0.9
	2.3nm,0.7s,mb4.0						
BDFB	Brasilia	46.78	330	LR	LR	03 44 35.9	
	comp=Z,69nm,18.2s,MS3.6,baz=12,slow=34						
LVC	Limon Verde	47.65	302	eP	P	03 26 36.8	+0.4
	4.2nm,0.8s,mb4.5						
LPAZ	La Paz	52.95	306	P	P	03 27 17.1	+0.5
	1.0nm,0.4s,mb4.1,baz=75,slow=6.8,SNR=9.7						
SAML	Samuel	57.76	315	eP	P	03 27 49.6	-1.5
	2.1nm,0.7s,mb4.3						
TORD	Torodi Ar. Bea	75.94	28	P	P	03 29 47.5	+0.5
	0.8nm,0.3s,mb4.1,baz=197,slow=6.2,SNR=27						
TORD	Torodi Ar. Bea	75.94	28	P	P	03 29 47.5	+0.5
ASAR	Alice Springs	95.38	162	P	P	03 31 23.9	-0.5
	0.9nm,0.6s,mb4.4,baz=186,slow=4.2,SNR=14						
FINES	FINESS Array B	127.29	29	PKP	PKPdf	03 37 01.9	-2.8
	2.4nm,1.0s,baz=108,slow=6.2,SNR=4.7						
ARCES	ARCESS Array B	134.07	23	PKP	PKPdf	03 37 14.6	-2.9
	3.4nm,0.9s,baz=259,slow=1.2,SNR=4.1						
ARCES	ARCESS Array B	134.07	23	PKP	PKPdf	03 37 14.6	-2.9
YKA	Yellowknife Ar	139.18	315	PKP	PKPdf	03 37 23.9	-3.0
	0.2nm,0.5s,baz=137,slow=2.0,SNR=4.7						
YKA	Yellowknife Ar	139.18	315	PKP	PKPdf	03 37 23.9	-3.0
INK	Inuvik	148.89	317	PKPbc	PKPbc	03 37 44.0	-3.8
	1.4nm,0.6s,baz=161,slow=3.9,SNR=3.3						
INK	Inuvik	148.89	317	PKPbc	PKPbc	03 37 44.0	-3.8
SONM	Songino Array	150.20	92	PKPbc	PKPbc	03 37 50.0	-1.0
	2.6nm,0.7s,baz=215,slow=2.9,SNR=22						

IDC 15 03:30:35.1±1.8, 1989S×17435W, h0km, mb3.9/5, mb1 4.2/6, mb1mx4.0/15, mbtmp4.0/6, ML2.8/1, MS3.7/3, Ms1 3.6/3, ms1mx3.0/27, Error ellipse: s-maj=71.5km s-min=23.1km az=145.0

NEIC 15 03:30:40.2±1.8, 1963S×17442W, h35km, mb4.1/1, Error ellipse: s-maj=69.2km s-min=15.7km az=140.0

ISCJB 15 03:30:46.4±5.4, 185S±05×1752W±04, h74km±42km, mb3.7/5, Error ellipse: s-maj=111.6km s-min=21.4km az=107.7

ISC 15 03:30:47.2±5.1, 187S±05×1750W±04, h67km±40km, n12, $\sigma 0^{s}83$/8, mb3.7/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.71	34	Pn	Pn	03 32 09.5	+0.1
	11nm,0.3s,baz=54,slow=14,SNR=3.8						
AFI				Sn	Sn	03 33 13.4	-0.2
	10nm,0.3s,baz=191,slow=20,SNR=2.9						
RAO	Raoul Island	10.82	194	LR	LR	03 35 10.8	
	comp=Z,298nm,21.9s,baz=272,slow=28						
CTA	Charters Tower	36.48	261	P	P	03 37 46.3	+0.5
	1.8nm,0.4s,mb4.3,baz=98,slow=14,SNR=6.5						
CTAO	Charters Tower	36.48	261	eP	P	03 37 47.2	+1.3
	1.3nm,0.4s,mb4.2						
WRA	Warramunga Arr	47.63	260	P	P	03 39 16.6	-0.1
	0.8nm,0.6s,mb3.8,baz=95,slow=7.7,SNR=14						
ASAR	Alice Springs	47.66	255	P	P	03 39 15.8	-1.0
	0.5nm,0.5s,mb3.6,baz=93,slow=8.1,SNR=7.6						
ASAR				PcP	PcP	03 40 44.0	-1.4
	0.6nm,0.8s,baz=114,slow=3.8,SNR=4.2						
MJAR	Matsushiro Arr	70.49	322	P	P	03 42 01.1	+6.4
	1.0nm,0.5s,mb3.9,baz=161,slow=6.5,SNR=4.1						
ASAJ	Asahikawa	73.55	330	LR	LR	04 15 54.3	
	comp=Z,34nm,18.3s,baz=97,slow=36						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**77.82**	**42**	P	**P**	**03 42 37.6**	**+0.2**
	0.3nm,0.7s,mb3.1,baz=224,slow=7.6,SNR=2.9						
ULM	**Lac du Bonnet**	**97.48**	**39**	LR	LR	04 26 11.4	
	comp=Z,47nm,18.8s,baz=203,slow=34						
AKASG	**Malin Array Be**	**142.71**	**334**	PKP	PKPdf	03 50 09.5	-3.3
	1.1nm,0.4s,baz=36,slow=4.3,SNR=7.1						
AKASG	**Malin Array Be**	**142.71**	**334**	PKP	PKPdf	03 50 09.5	-3.3

*CSEM **15** 03:36:29.3±0.1, 3829N×2301E, h100km, ML3.1, Error ellipse: s-maj=2.6km s-min=1.9km az=111.0*
*ISCJB **15** 03:36:30.1±1.0, 3828N±004×2299E±006, h104km±9km, Error ellipse: s-maj=8.2km s-min=6.1km az=7.1*
*NEIC **15** 03:36:30.6, 38.19N×2308E, h97km, After ATH.*
*ATH **15** 03:36:30.6, 38.19N×2308E, h97km±3km*
*THE **15** 03:36:32.5, 3845N×2291E, h103km, ML3.1*
ISC 15 03:36:30.5±1.0**, 3828N**±004×**2300E**±006**, h105**km±10km**, n14, σ0s93**/25**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.37**	**0**	*e*P	**Pn**	**03 36 46.6**	**+0.5**
LKR				*e*S	**Sn**	**03 36 57.9**	**+0.2**
AGG	**Agios Georgios**	**0.91**	**325**	*e*Pg	**Pn**	**03 36 51.3**	**+0.9**
AGG				*e*Sg	**Sn**	**03 37 04.4**	**-0.9**
XOR	**Xorichti**	**1.10**	**8**	*e*Pg	**Pn**	**03 36 52.9**	**+0.5**
AOS	**Alonnisos**	**1.13**	**37**	*e*Pg	**Pn**	**03 36 53.1**	**+0.4**
EVR	**Evrytania**	**1.13**	**305**	*e*P	**Pn**	**03 36 54.4**	**+1.7**
EVR				*e*S	**Sn**	**03 37 11.3**	**+1.8**
ITM	**Ithomi**	**1.38**	**218**	*e*P	**Pn**	**03 36 56.2**	**+0.5**
ITM				*e*S	**Sn**	**03 37 14.6**	**-0.1**
VLI	**Veliai**	**1.56**	**182**	*e*P	**Pn**	**03 36 57.0**	**-0.7**
VLI				*e*S	**Sn**	**03 37 16.4**	**-1.9**
PAIG	**Paliouri**	**1.73**	**18**	*e*Pg	**Pn**	**03 37 00.1**	**+0.2**
LIT	**Litokhoron**	**1.86**	**348**	*e*Pb	**Pn**	**03 37 01.6**	**0.0**
LIT				*e*Sb	**Sn**	**03 37 23.9**	**-1.3**
LKD	**Levkas**	**1.89**	**284**	*e*Pb	**Pn**	**03 37 02.8**	**+0.9**
LKD				*e*Sb	**Sn**	**03 37 26.2**	**+0.4**
MEV	**Metsovon**	**2.04**	**318**	*e*Pb	**Pn**	**03 37 04.5**	**+0.7**
MEV				*e*Sb	**Sn**	**03 37 27.7**	**-1.5**
OUR	**Ouranopolis**	**2.19**	**20**	*e*Pn	**Pn**	**03 37 06.2**	**+0.4**
OUR				*e*Sn	**Sn**	**03 37 31.9**	**-0.9**
IGT	**Igoumenitsa**	**2.43**	**302**	*e*Pn	**Pn**	**03 37 08.1**	**-0.7**
IGT				*e*Sn	**Sn**	**03 37 36.8**	**-1.4**
FNA	**Florina**	**2.80**	**334**	*e*Pn	**Pn**	**03 37 14.3**	**+0.6**
FNA				*e*Sn	**Sn**	**03 37 46.3**	**-0.6**

*ISCJB **15** 04:31:58.7±2.3, 556S±008×1507E±0.1, h63km±19km, mb4.5/20, Error ellipse: s-maj=22.6km s-min=13.0km az=14.7*
*IDC **15** 04:31:59.0±4.7, 558S×15080E, h56km±39km, mb4.0/9, mb1 4.3/11, mb1mx4.2/14, mbtmp4.3/11, ML3.6/2, MS4.0/12, Ms1 4.0/12, ms1mx3.8/17, Error ellipse: s-maj=34.8km s-min=18.0km az=89.0*
*BJI **15** 04:31:59.2, 601S×15098E, h102km, mB5.1, mb4.8*
*NEIC **15** 04:32:00.8±2.1, 558S×15069E, h73km±18km, mb4.5/13, Error ellipse: s-maj=18.6km s-min=11.8km az=93.0*
ISC 15 04:32:00.9±2.2**, 561S**±008×**1507E**±01**, h70**km±18km**, n44, σ1s12**/37**, mb4.4**/20**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.15**	**223**	P	**Pn**	**04 33 15.6**	**+0.2**
	16nm,0.3s,baz=38,slow=4.9,SNR=48						
PMG				S	**Sn**	**04 34 10.1**	**-3.4**
	0.3nm,0.3s,baz=96,slow=23,SNR=2.7						
PMG				LR	LR	04 35 34.6	
	comp=Z,650nm,20.0s,baz=45,slow=41						
PMG	**Port Moresby**	**5.15**	**223**	*e*Pn	**Pn**	**04 33 15.6**	**+0.2**
	90nm,0.6s						
PMG				*e*Sn	**Sn**	**04 34 18.5**	**+5.0**
HNR	**Honiara**	**9.92**	**113**	LR	LR	04 37 41.3	
	comp=Z,842nm,18.2s,baz=359,slow=35						
CTA	**Charters Tower**	**15.03**	**196**	*e*P	**Pn**	**04 35 29.5**	**+0.3**
	9.0nm,1.3s						
CTA	**Charters Tower**	**15.03**	**196**	P	**Pn**	**04 35 28.6**	**-0.6**
	0.2nm,0.3s,baz=17,slow=12,SNR=4.0						
CTA				LR	LR	04 40 33.0	
	comp=Z,651nm,19.8s,baz=15,slow=34						
CTAO	**Charters Tower**	**15.03**	**196**	*e*Pn	**Pn**	**04 35 30.1**	**+0.9**
	76nm,1.8s						
CTAO				*e*P		04 35 34.6	
KAKA	**Kakadu**	**19.35**	**247**	*e*P	**Pn**	**04 36 20.2**	**-2.2**
	10nm,0.6s						
GUMO	**Guam**	**19.93**	**343**	LR	LR	04 42 53.0	
	comp=Z,245nm,18.2s,baz=235,slow=33						
WRAB	**Tennant Creek**	**21.34**	**227**	*e*P	**P**	**04 36 41.5**	**-0.7**
	42nm,1.2s,mb4.6						
WB2	**Warramunga Arr**	**21.35**	**227**	*e*P	**P**	**04 36 41.9**	**-0.4**
WRA	**Warramunga Arr**	**21.36**	**227**	P	**P**	**04 36 41.9**	**-0.5**
	12nm,0.9s,mb4.2,baz=48,slow=10,SNR=28						
WRA				PcP	PcP	04 40 43.2	-0.7
	1.3nm,0.8s,baz=26,slow=1.7,SNR=5.0						
DZM	**Mont Dzumac**	**22.35**	**139**	LR	LR	04 43 15.7	
	comp=Z,845nm,18.3s,baz=18,slow=30						
AS31	**Alice Springs**	**24.16**	**220**	*e*P	**P**	**04 37 12.3**	**+1.8**
ASAR	**Alice Springs**	**24.16**	**220**	P	**P**	**04 37 11.0**	**+0.5**
	7.7nm,0.8s,mb4.1,baz=55,slow=8.9,SNR=49						
ASAR				LR	LR	04 47 50.5	
	comp=Z,215nm,18.3s,baz=52,slow=39						
ASPA	**Alice Springs**	**24.16**	**220**	*e*P	**P**	**04 37 12.3**	**+1.8**
FITZ	**Fitzroy Crossi**	**27.44**	**241**	*e*P	**P**	**04 37 39.4**	**-0.7**
	15nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**27.44**	**241**	P	**P**	**04 37 39.8**	**-0.3**
	12nm,0.9s,mb4.4,baz=59,slow=11,SNR=15						
KLBR	**Kellerberrin**	**40.24**	**226**	*e*P	**P**	**04 39 30.3**	**-0.4**
	15nm,1.0s,mb4.8						
MJAR	**Matsushiro Arr**	**43.53**	**345**	P	**P**	**04 39 55.8**	**-1.8**
	4.8nm,1.0s,mb4.2,baz=165,slow=9.6,SNR=10						
MJAR				LR	LR	04 57 25.9	
	comp=Z,99nm,19.4s,baz=170,slow=35						
INCN	**Inchon**	**48.39**	**334**	*e*P	**P**	**04 40 37.0**	**+1.2**
	44nm,0.9s,mb5.3						
BJI	**Beijing**	**55.44**	**328**	P	**P**	**04 41 29.1**	**+0.9**
BJI				S	**S**	**04 49 13.8**	**+6.0**
BJI				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.7						
BJI				AMB	AMB		
	comp=Z,108nm,4.5s						
BJI				LR	LR		
	comp=N,175nm,15.8s						
BJI				LR	LR		
	comp=E,175nm,15.1s						
BJI				LR	LR		
	comp=Z,144nm,23.8s						
XAN	**Xi'an**	**55.79**	**318**	P	**P**	**04 41 31.8**	**+1.1**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.7						
HHC	**Hu-ho-hao-te**	**58.51**	**326**	*e*P	**P**	**04 41 52.5**	**+2.6**
HHC				PP	PP	04 44 05.9	+6.0
HHC				S	**S**	**04 49 46.9**	**-1.3**
HHC				SS	SS	04 53 43.1	+1.6
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,192nm,5.0s						
HHC				LR	LR		
	comp=N,146nm,4.7s						
HHC				LR	LR		
	comp=E,219nm,4.5s						
HHC				LR	LR		
	comp=Z,153nm,17.8s						
PPT	**Papeete**	**59.48**	**107**	*e*LR	LR	04 59 33.5	
	comp=Z,58nm,23.5s						
TBI	**Tubuai**	**60.14**	**114**	*e*LR	LR	04 59 52.2	
	comp=Z,161nm,31.5s						
SONM	**Songino Array**	**65.91**	**329**	P	**P**	**04 42 41.0**	**+1.5**
	comp=Z,1.7nm,0.8s,mb3.9,baz=138,slow=3.0,SNR=13						
SONM				LR	LR	05 10 24.0	
	comp=Z,135nm,21.6s,baz=165,slow=35						
VNDA	**Vanda**	**72.11**	**177**	P	**P**	**04 43 18.3**	**+0.5**
	comp=Z,2.5nm,0.8s,mb4.1,baz=327,slow=7.9,SNR=12						
VNDA				LR	LR	05 11 46.5	
	comp=Z,98nm,18.7s,baz=336,slow=33						
VNDA	**Vanda**	**72.11**	**177**	*e*P	**P**	**04 43 17.8**	**0.0**
	comp=Z,3.4nm,1.0s,mb4.1						
WMQ	**Urumqi**	**74.93**	**318**	P	**P**	**04 43 34.1**	**-0.3**
MKAR	**Makanchi Array**	**79.57**	**319**	P	**P**	**04 44 01.4**	**+1.1**
	comp=Z,1.2nm,0.7s,mb3.8,baz=92,slow=6.1,SNR=8.8						
MKAR				PP	PP	04 46 58.5	-3.1
	comp=Z,0.2nm,0.3s,baz=128,slow=7.1,SNR=3.6						
MKAR	**Makanchi Array**	**79.57**	**319**	P	**P**	**04 44 01.4**	**+1.1**
MKAR				PP	PP	04 46 58.5	-3.1
ZAL	**Zalesovo**	**80.68**	**327**	LR	LR	05 20 53.6	
	comp=Z,91nm,18.4s,baz=2.5,slow=36						
KURK	**Kurchatov**	**83.12**	**322**	*e*P	**P**	**04 44 18.4**	**-0.8**
	comp=Z,6.1nm,1.1s,mb4.3						
MAW	**Mawson**	**84.02**	**203**	P	**P**	**04 44 23.7**	**0.0**
	comp=Z,2.9nm,0.9s,mb4.1,baz=102,slow=8.7,SNR=5.7						
MAW				LR	LR	05 18 20.6	
	comp=Z,181nm,19.6s,baz=330,slow=33						
QSPA	**South Pole Qui**	**84.36**	**180**	*e*P	**P**	**04 44 25.5**	**+0.1**
	comp=Z,10nm,0.9s,mb4.7						
CHKZ	**Chkalovo**	**88.63**	**324**	*e*P	**P**	**04 44 45.5**	**-0.8**
	comp=Z,1.0nm,0.5s,mb4.1						
ZRNK	**Zerenda**	**89.45**	**323**	*e*P	**P**	**04 44 49.5**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.9						
INK	**Inuvik**	**89.96**	**21**	*e*P	**P**	**04 44 50.5**	**-2.0**
	comp=Z,7.3nm,1.3s,mb4.7						
NVAR	**Mina Array Bea**	**94.23**	**52**	P	**P**	**04 45 11.5**	**-0.8**
	comp=Z,0.9nm,0.9s,mb4.1,baz=243,slow=4.5,SNR=6.4						
YKA	**Yellowknife Ar**	**97.11**	**28**	LR	LR	05 27 33.0	
	comp=Z,41nm,18.8s,baz=220,slow=34						
GERES	**GERESS Array B**	**123.62**	**327**	PKP	PKPdf	04 50 48.4	-2.0
	comp=Z,0.5nm,0.8s,baz=101,slow=1.0,SNR=4.3						
LPAZ	**La Paz**	**135.85**	**120**	PKP	PKPdf	04 51 16.1	+2.5
	comp=Z,3.2nm,0.8s,baz=244,slow=2.6,SNR=12						
TORD	**Torodi Ar. Bea**	**148.54**	**286**	PKPbc	PKPbc	04 51 39.5	-0.2
	comp=Z,2.9nm,0.7s,baz=58,slow=2.8,SNR=16						
BDFB	**Brasilia**	**151.91**	**139**	PKPbc	PKPbc	04 51 48.0	+0.2
	comp=Z,7.5nm,0.9s,baz=319,slow=4.2,SNR=6.7						

CASC 15 04:55:49.6±2.8**, 1329N**×**8941W, h25**km±19km**, MD4.0, ML3.4, 4C-1D, El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.43**	**23**⇓	*e*P	x	04 55 47.0	
SNET				*e*S	x	04 55 54.4	
LCBS	**La Ceiba**	**0.55**	**49**	*e*P	x	04 56 33.2	
LCBS				*e*S	x	04 56 40.4	
SNJE	**San Jose**	**0.61**	**341**	*e*P	x	04 56 32.6	
SNJE				*e*S	x	04 56 41.3	
SNVI	**San Vicente**	**0.64**	**60**	*e*P	x	04 56 34.1	
SNVI				*e*S	x	04 56 44.9	
RTR	**El Retiro**	**0.65**	**339**⇑	*e*P	x	04 56 33.1	
RTR				*e*S	x	04 56 42.4	
RBDL	**Robledal**	**0.86**	**342**⇑	*e*P	x	04 56 36.2	
RBDL				*e*S	x	04 56 48.0	
IXG	**Ixpaco**	**1.35**	**311**⇑	*e*P	Pn	04 56 11.8	-1.0
IXG				*e*S	Sn	04 56 32.4	+2.5
TER	**Terranova**	**1.60**	**309**	*e*P	Pn	04 56 16.3	0.0
TER				*e*S	Sn	04 56 36.2	+0.1
FUG	**Fuego 3**	**1.81**	**310**	*e*P	Pn	04 56 19.4	+0.2
TP2	**Tecpan 2**	**2.16**	**314**⇑	*e*P	Pn	04 56 25.0	+0.9
CRIN	**San Cristobal**	**2.37**	**104**	*e*P	Pn	04 56 28.5	+1.7
JAT	**Jato**	**2.40**	**296**	*e*P	Pn	04 56 26.8	-0.4
LEON	**Leon**	**2.60**	**109**	*e*P	Pn	04 56 29.9	-0.1
TELN	**Telica**	**2.60**	**105**	*e*P	Pn	04 56 31.2	+1.1
CNGN	**Cerro Negro**	**2.75**	**106**	*e*P	Pn	04 56 33.2	+1.0
MIRN	**Miramar**	**2.76**	**107**	*e*P	Pn	04 56 32.2	0.0
COPN	**Copaltepe**	**2.96**	**112**	*e*P	Pn	04 56 34.8	-0.2
APYN	**Apoyeque**	**3.16**	**109**	*e*P	Pn	04 56 38.3	+0.6
XAVN	**Gruta Xavier**	**3.21**	**110**	*e*P	Pn	04 56 38.5	+0.1
MGAN	**Managua**	**3.28**	**110**	*e*P	Pn	04 56 39.4	0.0
MGAN				*e*S	Sn	04 57 17.4	-0.3
MGAN				*i*		04 57 20.7	
	comp=N,187nm,0.2s						
TICN	**Ticuantepe**	**3.34**	**112**	*e*P	Pn	04 56 40.7	+0.4
APON	**Apoyo**	**3.53**	**112**	*e*P	Pn	04 56 42.4	-0.5
SSNN	**San Juan del S**	**4.00**	**119**	*e*P	Pn	04 56 48.4	-0.9
PRS1	**Puriscal**	**5.97**	**123**	*e*P	Pn	04 57 17.8	+1.4
LCR2	**La Lucha 2**	**6.36**	**123**	*e*P	Pn	04 57 22.4	+0.7
LCR2				*e*S	Sn	04 58 36.3	+2.8
BUS	**Buena Vista**	**6.66**	**123**	*e*P	Pn	04 57 27.0	+1.1

*ISCJB **15** 05:05:05.7±0.5, 4261N±003×4347E±005, h9km±4km, Error ellipse: s-maj=6.3km s-min=3.4km az=64.7*
*TIF **15** 05:05:05.1, 4259N×4349E, h12km*
*MOS **15** 05:05:07.1±1.8, 4271N×4349E, h27km, mb3.6/1, Error ellipse: s-maj=23.9km s-min=12.1km az=53.8*
*CSEM **15** 05:05:07.1, 4271N×4349E, h27km, mb3.6, After OBN*
ISC 15 05:05:05.9±0.5**, 4259N**±002×**4345E**±004**, h11**km±4km**, n18, σ0s73**/36**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.01**	**166**	P	**Pg**	**05 05 07.7**	**-0.2**
ONI				S	**Sg**	**05 05 09.2**	**+0.1**
AMRG		**0.24**	**252**	P	**Pg**	**05 05 11.0**	**+0.1**
AMRG				S	**Sg**	**05 05 15.3**	**+1.0**
DIGR	**Digorskoe uzhe**	**0.32**	**18**	*i* Pg	**Pg**	**05 05 12.5**	**+0.1**
DIGR				*i* Sg	**Sg**	**05 05 17.7**	**+0.9**
ZEI	**Tsey**	**0.38**	**62**	*e*Pg	**Pg**	**05 05 13.1**	**-0.3**
ZEI				*e*Sg	**Sg**	**05 05 18.9**	**+0.4**
KORR	**Kora**	**0.67**	**43**	*i* Pg	**Pg**	**05 05 18.5**	**-0.5**
KORR				*i* Sg	**Sg**	**05 05 28.1**	**+0.3**
GOR	**Gori**	**0.78**	**141**	P	**Pg**	**05 05 20.5**	**-0.5**
GOR				S	**Sg**	**05 05 31.7**	**+0.4**
KMSR	**Komsomolskaya**	**1.00**	**38**	*e*Pg	**Pg**	**05 05 24.6**	**-0.5**
KMSR				*e*Sg	**Sg**	**05 05 38.7**	**+0.6**
VLKR	**Vladikavkaz**	**1.01**	**63**	*e*Pg	**Pg**	**05 05 24.6**	**-0.9**
VLKR				*e*Sg	**Sg**	**05 05 38.7**	**+0.1**
SNJR	**Sundja**	**1.11**	**64**	*e*Pg	**Pg**	**05 05 26.4**	**-0.9**
SNJR				*e*Sg	**Sg**	**05 05 41.9**	**+0.1**
BTKR	**Batakoyurt**	**1.12**	**46**	*e*Pg	**Pg**	**05 05 26.7**	**-0.8**
BTKR				*e*Sg	**Sg**	**05 05 42.5**	**+0.4**
AKH	**Akhalkalaki**	**1.18**	**178**	P	**Pb**	**05 05 26.9**	**-1.5**
AKH				S	**Sb**	**05 05 43.2**	**-0.5**
TBLG	**Delisi**	**1.29**	**131**	P	**Pn**	**05 05 29.3**	**-0.6**
TBLG				S	**Sb**	**05 05 47.2**	**+0.4**
TBLG	**Delisi**	**1.29**	**131**	P	**Pn**	**05 05 31.1**	**+1.2**
TBLG				S	**Sb**	**05 05 47.4**	**+0.6**
TBLG	**Delisi**	**1.29**	**131**	Pg	**Pg**	**05 05 31.1**	**+0.4**
TBLG				Sg	**Sg**	**05 05 47.4**	**-0.1**
PRTR	**Priterechnaya**	**1.31**	**28**	*e*Pg	**Pg**	**05 05 30.0**	**-1.1**
PRTR				*e*Sg	**Sg**	**05 05 48.1**	**0.0**
MTA	**Mtatsminda**	**1.34**	**131**	P	**Pn**	**05 05 29.9**	**-0.7**
MTA				S	**Sb**	**05 05 48.2**	**-0.2**
MTA	**Mtatsminda**	**1.34**	**131**	P	**Pn**	**05 05 31.3**	**+0.6**
MTA				S	**Sb**	**05 05 49.1**	**+0.8**
DGRG	**David-gareji**	**1.83**	**128**	P	**Pn**	**05 05 39.7**	**+2.3**
DGRG				S	**Sn**	**05 06 05.0**	**+4.4**

IDC 15 05:21:23.7±16.0**, 5610S**×**2762W, h158**km±143km**, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/12**, mbtmp3.9**/3**, Error ellipse: s-maj=147.6km s-min=32.3km az=103.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**46.52**	**183**	P	P	05 29 34.2	-0.9
	1.0nm,0.6s,baz=185,slow=7.6,SNR=7.5						
TORD	**Torodi Ar. Bea**	**73.22**	**30**	P	P	05 32 37.2	-0.1
	0.5nm,0.6s,baz=198,slow=7.3,SNR=5.8						
ASAR	**Alice Springs**	**99.02**	**163**	P	P	05 34 46.4	0.0
	0.4nm,0.8s,baz=181,slow=4.7,SNR=5.1						
YKA	**Yellowknife Ar**	**136.04**	**318**	PKP	PKPdf	05 40 23.8	-2.0
	0.4nm,0.7s,baz=136,slow=2.0,SNR=5.5						
SONM	**Songino Array**	**150.97**	**87**	PKPbc	PKPbc	05 40 56.5	-1.2
	0.4nm,0.4s,baz=224,slow=3.6,SNR=5.0						

*IDC **15** 05:27:32.5±1.2, 1920N×6453W, h0km, mb3.9/3, mb1 4.2/6, mb1mx3.8/21, mbtmp4.2/6, ML3.4/3, MS3.2/3, Ms1 3.2/3, ms1mx2.9/22, Error ellipse: s-maj=34.9km s-min=18.2km az=132.0*
*ISCJB **15** 05:27:34.7±1.0, 19.15N±006×6452W±005, h26km±8km, mb3.7/3, Error ellipse: s-maj=10.7km s-min=6.0km az=120.0*
*NEIC **15** 05:27:36.4, 1908N×6441W, h41km, MD3.7(RSPR), After RSPR.*
*RSPR **15** 05:27:36.4, 1908N×6441W, h41km±2km, MD3.7/16, MD3.7/16*
ISC 15 05:27:34.0±1.0**, 1919N**±005×**6461W**±005**, h7**km±6km**, n32, σ0s86**/52**, mb3.6**/3**, 19C, Virgin Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.52**	**150**⇑	*e*P	**Pg**	**05 27 44.5**	**+0.4**
ABV	**Anegada**	**0.52**	**150**	*e*S	**Sg**	**05 27 51.0**	**+0.1**
TBVI	**Tortola**	**0.77**	**180**⇑	*e*P	**Pg**	**05 27 48.7**	**-0.1**
TBVI				*e*S	**Sg**	**05 27 58.2**	**-0.6**
STVI	**Saint Thomas**	**0.90**	**202**⇑	*e*P	**Pg**	**05 27 51.4**	**+0.2**
STVI				*e*S	**Sg**	**05 28 03.4**	**+0.6**
CULB	**Culebra**	**1.11**	**218**⇑	*e*P	**Pg**	**05 27 55.0**	**-0.3**
CULB	**Culebra**	**1.11**	**218**	*e*S	**Sg**	**05 28 09.4**	**-0.3**
MTP	**Monte Pirata**	**1.41**	**220**⇑	*e*P	**Pn**	**05 27 59.5**	**-0.6**
MTP				*e*S	**Sb**	**05 28 17.1**	**-1.8**
CBYP	**Canovanas**	**1.49**	**233**⇑	*e*P	**Pn**	**05 28 01.1**	**-0.1**
CBYP				*e*S	**Sn**	**05 28 20.1**	**-0.9**
HUMP	**Col San Antoni**	**1.57**	**229**⇑	*e*P	**Pn**	**05 28 01.9**	**-0.4**
HUMP				*e*S	**Sn**	**05 28 22.2**	**-0.7**
CPD	**Cerro la Pandu**	**1.69**	**228**⇑	*e*P	**Pn**	**05 28 03.9**	**0.0**
CPD				*e*S	**Sn**	**05 28 24.7**	**-1.1**
SJG	**San Juan**	**1.81**	**234**	*e*S	**Sn**	**05 28 28.4**	**-0.5**
SJG	**San Juan**	**1.81**	**234**⇑	*e*P	**Pn**	**05 28 05.2**	**-0.4**
SJG	**San Juan**	**1.81**	**234**	Pn	**Pn**	**05 28 05.6**	**0.0**
	54nm,0.3s,baz=67,slow=13,SNR=55						
SJG				Sn	**Sn**	**05 28 29.6**	**+0.8**
	130nm,0.3s,baz=28,slow=3.4,SNR=24						
SJG	**San Juan**	**1.81**	**234**⇑	*e*P	**Pn**	**05 28 05.2**	**-0.4**
SJG				*e*S	**Sn**	**05 28 28.4**	**-0.5**
CELP	**Cerrillos**	**2.17**	**240**⇑	*e*P	**Pn**	**05 28 10.7**	**+0.1**
CELP				*e*S	**Sn**	**05 28 37.6**	**-0.1**
AOPR	**Arecibo Observ**	**2.20**	**248**⇑	*e*P	**Pn**	**05 28 11.3**	**+0.4**
AOPR				*e*S	**Sn**	**05 28 38.8**	**+0.4**
OBIP	**Obispado Ponce**	**2.21**	**239**⇑	*e*P	**Pn**	**05 28 11.0**	**-0.1**
OBIP				*e*S	**Sn**	**05 28 38.6**	**-0.1**
ICM	**Isla Caja Muer**	**2.23**	**235**⇑	*e*P	**Pn**	**05 28 11.5**	**+0.2**
ICM				*e*S	**Sn**	**05 28 38.9**	**-0.2**
LRS	**Lares**	**2.30**	**248**⇑	*e*P	**Pn**	**05 28 12.9**	**+0.6**
LRS				*e*S	**Sn**	**05 28 41.5**	**+0.6**
AGPR	**Aguadilla, PR**	**2.48**	**254**⇑	*e*P	**Pn**	**05 28 15.3**	**+0.5**
AGPR				*e*S	**Sn**	**05 28 46.0**	**+0.8**
LSP	**Las Mesas**	**2.56**	**247**⇑	*e*P	**Pn**	**05 28 16.7**	**+0.9**
LSP				*e*S	**Sn**	**05 28 47.8**	**+0.6**
MGP	**Maguayo**	**2.63**	**244**⇑	*e*P	**Pn**	**05 28 17.6**	**+0.8**
MGP				*e*S	**Sn**	**05 28 49.0**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.65**	**244**⇑	*e*P	**Pn**	**05 28 17.4**	**+0.3**
CRPR				*e*S	**Sn**	**05 28 49.6**	**+0.1**
PCRV	**Puerto La Cruz**	**8.96**	**180**	Pn	**Pn**	**05 29 42.7**	**-1.0**
	0.4nm,0.3s,baz=341,slow=19,SNR=3.8						
PCRV				LR	LR	05 33 02.7	
	comp=Z,102nm,20.2s,baz=299,slow=37						
MASC	**Masc**	**9.12**	**278**	*e*PG	**Pn**	**05 29 44.0**	**-2.0**
MASC				*e*SG	**Sn**	**05 31 22.3**	**-6.6**
	comp=N,0.5nm,0.3s						
MASC				*e*			
	comp=E,0.5nm,0.5s						
MOAC	**Moa**	**9.85**	**280**	*e*P	**Pn**	**05 29 50.4**	**-5.6**
RCC	**Rio Carpintero**	**10.48**	**276**	*e*P	**Pn**	**05 30 02.0**	**-2.7**
RCC				*e*S	**Sn**	**05 31 53.5**	**-8.9**
	comp=N,13nm,0.8s						
RCC				*e*			
	comp=E,15nm,1.4s						
SDV	**Santo Domingo**	**11.79**	**211**	Pn	**Pn**	**05 30 24.6**	**+2.0**
	comp=E,0.7nm,0.3s,baz=49,slow=10.0,SNR=10						
SDV				Sn	**Sn**	**05 32 37.3**	**+2.9**
	comp=E,0.5nm,0.3s,baz=175,slow=15,SNR=3.7						
SDV				LR	LR	05 35 08.3	
	comp=E,114nm,18.4s,baz=327,slow=38						
ROSC	**El Rosal**	**17.11**	**215**	P	**Pn**	**05 31 35.8**	**+2.2**
	comp=E,1.2nm,0.3s,baz=78,slow=16,SNR=7.9						
ROSC				LR	LR	05 38 39.1	
	comp=E,151nm,19.7s,baz=37,slow=39						
PDAR	**Pinedale Array**	**44.47**	**312**	P	**P**	**05 35 46.4**	**+0.5**
	comp=E,1.4nm,1.0s,mb3.6,baz=107,slow=7.9,SNR=7.9						
ESDC	**Sonseca Array**	**55.58**	**55**	P	**P**	**05 37 09.8**	**-0.3**
	comp=E,0.2nm,0.4s,mb3.5,baz=277,slow=9.5,SNR=4.6						
BRTR	**Keskin Array B**	**84.06**	**50**	P	**P**	**05 40 04.7**	**-0.7**
	comp=E,0.2nm,0.3s,mb3.7,baz=249,slow=2.5,SNR=4.1						

CASC 15 05:31:27.9±4.4**, 1352N**×**9149W, h89**km±94km**, MD4.0, 4C-3D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.81**	**350**	*e*P	Pn	05 31 45.5	+0.2
TER	**Terranova**	**1.10**	**45**	*e*P	Pn	05 31 49.9	+1.2
FUG	**Fuego 3**	**1.12**	**34**⇑	*e*P	Pn	05 31 50.0	+1.1
IXG	**Ixpaco**	**1.20**	**57**⇓	*e*P	Pn	05 31 50.4	+0.6
PCG	**Pacaya**	**1.22**	**44**	*e*P	Pn	05 31 50.8	+0.7
TP2	**Tecpan 2**	**1.34**	**20**⇓	*e*P	Pn	05 31 52.5	+1.0
SBLS	**San Blas**	**1.84**	**80**	*e*P	x	05 32 28.8	
SBLS				*e*S	x	05 32 52.5	
RBDL	**Robledal**	**1.85**	**71**⇑	*e*P	x	05 32 29.9	
RBDL				*e*S	x	05 32 53.8	
SNJE	**San Jose**	**1.86**	**79**⇓	*e*P	x	05 32 29.0	
SNJE				*e*S	x	05 32 55.5	
BOQS	**Boqueron**	**2.16**	**84**	*e*P	x	05 32 33.8	
BOQS				*e*S	x	05 33 01.5	
LBRS	**Las Brisas**	**2.39**	**84**⇑	*e*P	x	05 32 37.2	
LBRS				*e*S	x	05 33 03.8	
LCBS	**La Ceiba**	**2.44**	**87**⇑	*e*P	x	05 32 38.1	
LCBS				*e*S	x	05 33 10.7	

*NEIC **15** 05:33:22.6, 1907N×6440W, h40km, MD3.5(RSPR), After RSPR.*
RSPR 15 05:33:22.6, 1907N×**6440W, h40**km±5km**, MD3.5**/11**, MD3.5**/11**, 12C-1D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.34**	**169**	*e*S	Sn	05 33 37.0	-0.4
TBVI	**Tortola**	**0.69**	**197**⇑	*e*P	Pn	05 33 34.3	-1.5
TBVI				*e*S	Sn	05 33 43.9	-1.4
STVI	**Saint Thomas**	**0.89**	**217**⇑	*e*P	Pn	05 33 37.0	-1.6
STVI				*e*S	Sn	05 33 49.0	-1.2
CULB	**Culebra**	**1.16**	**229**⇑	*e*P	Pn	05 33 40.7	-1.6
CULB	**Culebra**	**1.16**	**229**	*e*S	Sn	05 33 55.5	-1.4
CDVI	**St. Croix**	**1.35**	**195**⇑	*e*P	Pn	05 33 44.7	-0.2
CDVI				*e*S	Sn	05 34 00.9	-0.8
MTP	**Monte Pirata**	**1.46**	**229**⇑	*e*P	Pn	05 33 45.2	-1.2
MTP				*e*S	Sn	05 34 03.7	-0.7
CBYP	**Canovanas**	**1.59**	**240**⇑	*e*P	Pn	05 33 46.5	-1.7
CBYP				*e*S	Sn	05 34 06.2	-1.4
HUMP	**Col San Antoni**	**1.65**	**236**⇑	*e*P	Pn	05 33 47.5	-1.6
HUMP				*e*S	Sn	05 34 07.3	-1.7
CPD	**Cerro la Pandu**	**1.76**	**235**	*e*Pn	Pn	05 33 49.3	-1.3
CPD				*e*Sn	Sn	05 34 10.7	-1.1
SJG	**San Juan**	**1.91**	**240**⇑	*e*P	Pn	05 33 50.9	-1.7
SJG				*e*S	Sn	05 34 15.1	-0.3
CELP	**Cerrillos**	**2.29**	**245**⇑	*e*P	Pn	05 33 57.0	-0.8
CELP				*e*S	Sn	05 34 24.2	-0.6
AOPR	**Arecibo Observ**	**2.34**	**252**⇑	*e*P	Pn	05 33 58.5	0.0
AOPR				*e*S	Sn	05 34 25.4	-0.6
LRS	**Lares**	**2.44**	**252**⇓	*e*P	Pn	05 34 00.3	+0.5
LRS				*e*S	Sn	05 34 27.7	-0.8
LSP	**Las Mesas**	**2.69**	**251**⇑	*e*P	Pn	05 34 03.4	+0.1
LSP				*e*S	Sn	05 34 33.9	-0.9
CRPR	**Cabo Rojo, PR**	**2.78**	**248**⇑	*e*P	Pn	05 34 03.8	-0.7

CASC 15 05:55:53.1±1.3**, 916N**×**8382W, h14**km±4km**, MD3.8, 3C-5D, Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.39**	**9**⇓	*i*P	Pg	05 56 02.5	+1.5
LCR2	**La Lucha 2**	**0.60**	**342**⇓	*i*P	Pg	05 56 04.9	0.0
SJS	**Escuela Geolog**	**0.80**	**343**	*e*P	Pg	05 56 08.2	-0.5
SJS				*e*S	Sg	05 56 19.6	+0.4
ICR	**Volcan Irazu**	**0.81**	**359**⇑	*e*P	Pg	05 56 08.6	-0.3
ICR				*e*S	Sg	05 56 20.5	+0.9
ACR	**Cerro Adams**	**0.82**	**128**⇓	*e*P	Pg	05 56 07.7	-1.3
PRS1	**Puriscal**	**0.95**	**329**⇑	*e*P	Pb	05 56 09.2	-2.1
PRS1				*e*S	Sb	05 56 22.1	-1.6
CGA2	**Cerro Gallo 2**	**1.06**	**323**⇓	*e*P	Pb	05 56 11.8	-1.4
CGA2				*e*S	Sb	05 56 26.4	-0.5
BRU	**Baru**	**1.29**	**106**⇓	*e*P	Pn	05 56 16.3	-0.4
BRU				*e*S	Sb	05 56 34.9	+1.2
CNI	**Changuinola**	**1.31**	**79**	*e*P	Pn	05 56 16.3	-0.6
CNI				*e*S	Sb	05 56 33.9	-0.3
DVD	**David**	**1.53**	**118**	*e*P	Pn	05 56 19.3	-0.7
DVD				*e*S	Sn	05 56 39.7	0.0
FORC	**Fortuna**	**1.55**	**327**⇑	*e*P	Pn	05 56 19.8	-0.4
FORC				*e*S	Sn	05 56 41.2	+1.1
AZU	**Azuero**	**3.76**	**111**	*e*P	Pn	05 56 51.7	+1.0
AZU				*e*S	Sn	05 57 34.6	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACH	Altos	3.88	97	eP	Pn	05 56 53.9	+1.7
ACH				eS	Sn	05 57 38.5	+0.9

MOS 15 05:59:18.7±0.6, 4262N×4346E, h10km, mb3.6/1, 2C-6D, Error ellipse: s-maj=37.5km s-min=10.5km az=53.9, Western Caucasus

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONI	Oni	0.04	187	P	Pg	05 59 20.5	-0.2
ONI				S	Sg	05 59 22.1	0.0
DIGR	Digorskoe uzhe	0.29	18	⇓iPG	Pg	05 59 25.4	+0.9
DIGR				iS	Sg	05 59 31.6	+3.1
ZEI	Tsey	0.36	66	⇓ePG	Pg	05 59 26.5	+0.7
ZEI				iS	Sg	05 59 33.4	+2.9
KORR	Kora	0.65	44	⇑ePG	Pg	05 59 31.8	+0.6
KORR				iS	Sg	05 59 42.7	+3.1
KMSR	Komsomolskaya	0.97	39	⇑ePG	Pg	05 59 37.8	+0.5
KMSR				eS	Sg	05 59 53.2	+3.3
VLKR	Vladikavkaz	0.99	64	⇓ePG	Pg	05 59 38.0	+0.2
VLKR				eS	Sg	05 59 53.3	+2.6
SNJR	Sundja	1.09	65	⇓ePG	Pg	05 59 39.6	-0.1
SNJR				eS	Sg	05 59 56.2	+2.3
BTKR	Batakoyurt	1.09	46	⇓ePG	Pg	05 59 40.0	+0.3
BTKR				eS	Sg	05 59 56.8	+2.9
PRTR	Priterechnaya	1.28	28	⇓ePG	Pg	05 59 43.0	-0.3
PRTR				eS	Sb	06 00 02.1	+2.7

MAN 15 06:09:27.0, 604N×12628E, h138km, mb3.3, ML4.6, MS0.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	Mati	0.90	358	eP	Pn	06 09 50.5	+0.8
MATI				eS	Sn	06 10 08.7	+1.7
KCP	Kidapawan	1.53	309	⇑eP	Pn	06 09 56.6	+0.7
KCP				iS	Sn	06 10 19.6	+1.6
BUKP	Musuan	2.19	327	eP	Pn	06 10 04.3	+0.7
PAGZ	Pagadian	3.40	302	eP	Pn	06 10 20.0	+1.0
OCLP	Ormoc	5.25	342	eP	Pn	06 10 44.6	+1.2

*BJI **15** 06:24:10.2, 726S×12958E, h151km, mB5.0, mb4.8*
*NEIC **15** 06:24:12.9±1.5, 682S×12959E, h127km±15km, mb4.6/15, Error ellipse: s-maj=13.4km s-min=8.2km az=55.0*
*ISCJB **15** 06:24:13.4±0.8, 685S±003×12962E±005, h152km±9km, mb4.7/31, Error ellipse: s-maj=8.8km s-min=4.8km az=146.7*
*IDC **15** 06:24:14.9±3.3, 687S×12950E, h148km±32km, mb4.2/10, mb1 4.3/13, mb1mx4.2/17, mbtmp4.7/13, MS3.0/1, Ms1 3.0/1, ms1mx2.4/22, Error ellipse: s-maj=19.8km s-min=11.7km az=60.0*
ISC 15 06:24:14.3±0.8, 690S±004×12965E±006, h145km±9km, n62, σ1s16/71, mb4.7/31, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SWI	Sorong	6.21	15	P	Pn	06 25 43.6	-0.1
	118nm,0.4s						
KAKA	Kakadu	6.40	155	eP	Pn	06 25 47.1	+0.9
	111nm,0.1s						
KAKA				eS	Sn	06 26 54.6	-3.5
BAKI	Biak	8.58	49	P	Pn	06 26 15.8	+0.4
	362nm,1.1s						
PCI	Palu	11.46	301	P	Pn	06 26 59.8	+6.3
	177nm,1.0s						
FITZ	Fitzroy Crossi	11.80	199	eP	Pn	06 26 57.0	-1.1
	37nm,0.3s						
FITZ				eS	Sn	06 28 59.9	-8.5
FITZ	Fitzroy Crossi	11.80	199	P	Pn	06 26 57.3	-0.7
	5.3nm,0.3s,baz=26,slow=11,SNR=101						
FITZ				S	Sn	06 29 01.1	-7.3
	14nm,0.3s,baz=98,slow=16,SNR=14						
JAY	Jayapura	11.84	69	P	Pn	06 26 57.8	-0.8
	108nm,0.6s						
WRAB	Tennant Creek	13.74	161	ePn	Pn	06 27 21.3	-1.7
	37nm,0.4s						
WRAB				eSn	Sn	06 29 48.0	-7.0
WRA	Warramunga Arr	13.74	161	P	Pn	06 27 21.6	-1.4
	1.6nm,0.3s,baz=350,slow=13,SNR=99						
WRA				S	Sn	06 29 48.1	-6.9
	13nm,0.3s,baz=340,slow=22,SNR=13						
WRA				LR	LR	06 32 33.8	
	comp=Z,62nm,18.8s,baz=190,slow=36						
WB2	Warramunga Arr	13.74	161	eP	Pn	06 27 21.4	-1.7
WB2				eS	Sn	06 29 46.8	-8.4
WB2				eSCS	ScS	06 39 28.0	-4.6
BUKP	Musuan	15.38	343	eP	Pn	06 27 44.0	+0.5
MBWA	Marble Bar	17.12	213	eP	Pn	06 28 05.2	+0.4
	19nm,0.7s						
MBWA				eS	S	06 30 51.4	-24
AS31	Alice Springs	17.16	167	eP	Pn	06 28 07.2	+1.9
AS31				eS	S	06 31 11.4	-4.5
AS31				eScS	ScS	06 39 36.9	-4.8
ASAR	Alice Springs	17.16	167	P	Pn	06 28 07.3	+2.0
	2.7nm,0.3s,baz=348,slow=10,SNR=226						
ASAR				S	S	06 31 11.7	-4.2
	2.7nm,0.3s,baz=356,slow=33,SNR=16						
ASPA	Alice Springs	17.16	167	eP	Pn	06 28 07.2	+1.9
ASPA				eS	S	06 31 11.4	-4.5
ASPA				eSCS	ScS	06 39 36.9	-4.8
PMG	Port Moresby	17.51	99	P	Pn	06 28 11.5	+2.1
	3.2nm,0.3s,baz=291,slow=8.3,SNR=12						
PMG				S	S	06 31 16.7	-6.2
	2.3nm,0.3s,baz=188,slow=21,SNR=6.1						
KKM	Kota Kinabalu	18.58	313	eP	P	06 28 20.1	0.0
CTA	Charters Tower	20.77	131	eP	P	06 28 45.8	+2.1
	7.8nm,0.7s						
CTA	Charters Tower	20.77	131	P	P	06 28 45.9	+2.2
	9.1nm,0.7s,baz=304,slow=13,SNR=12						
CTAO	Charters Tower	20.77	131	eP	P	06 28 44.7	+1.0
	49nm,1.4s						
CTAO				eS	S	06 32 41.7	+14
KSM	Kuching	21.02	293	eP	P	06 28 46.8	+0.4
PVCP	Virac	21.08	345	eP	P	06 28 47.4	+0.3
LEM	Lembang	21.88	269	P	P	06 28 57.5	+2.0
	114nm,0.9s,mb5.3						
LUBP	Lubang	22.52	336	eP	P	06 29 01.2	-0.9
TGY	Tagaytay City	22.59	337	P	P	06 29 02.7	+0.1
	109nm,0.3s,baz=206,slow=4.6,SNR=4.7						
FORT	Forrest	23.80	183	eP	P	06 29 17.1	+3.4
	14nm,0.5s,mb4.8						
FORT				eS	S	06 33 45.0	+26
BALP	Baler	23.87	340	eP	P	06 29 14.2	-0.1
KLBR	Kellerberrin	26.96	203	eP	P	06 29 44.0	+1.8
	5.7nm,0.5s,mb4.5						
NWAO	Narrogin (SRO)	28.35	202	P	P	06 29 56.0	+1.4
	3.0nm,0.3s,mb4.5,baz=57,slow=3.6,SNR=8.7						
PSI	Prapat	32.15	286	P	P	06 30 27.1	-0.9
	13nm,0.7s,mb4.8,baz=101,slow=7.9,SNR=5.1						
DZM	Mont Dzumac	38.55	117	P	P	06 31 24.4	+1.7
	9.4nm,0.8s,mb4.5,baz=266,slow=15,SNR=6.6						
XAN	Xi'an	45.20	336	P	P	06 32 15.1	-1.6
XAN				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.5						
BJI	Beijing	48.33	346	P	P	06 32 40.4	-0.7
BJI				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.0						
LZH	Lanzhou	49.15	332	eP	P	06 32 47.0	-0.3
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.7						
HHC	Hu-ho-hao-te	50.34	342	eP	P	06 32 59.0	+2.7
HHC				PCP	PcP	06 34 15.5	+2.7
HHC				PP	PP	06 34 57.3	+4.2
HHC				PCS	PcS	06 38 12.1	+1.9
HHC				S	S	06 40 02.8	+4.8
HHC				SS	SS	06 43 33.8	+0.4
HHC				AMB	AMB		
	comp=Z,13nm,0.3s,mb5.0						
HHC				AMB	AMB		
	comp=Z,125nm,4.5s						
HHC				LR	LR		
	comp=N,150nm,5.9s						
HHC				LR	LR		
	comp=E,217nm,4.7s						
HHC				LR	LR		
	comp=Z,134nm,6.2s						
URZ	Urewera	52.98	133	P	P	06 33 16.4	+0.5
	comp=Z,19nm,1.1s,mb4.7,baz=82,slow=12,SNR=2.7						
GTA	Gaotai	53.72	331	eP	P	06 33 20.9	-0.3
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
JIRN	Jiri	54.26	311	eP	P	06 33 25.3	+0.1
	comp=Z,32nm,0.8s,mb5.1						
GUN	Gumba	54.62	311	eP	P	06 33 28.0	+0.2
	comp=Z,68nm,0.7s,mb5.5						
PKI	Pulchoki	54.80	311	eP	P	06 33 28.7	-0.4
	comp=Z,12nm,0.4s,mb4.9						
KKN	Kakani	55.01	311	eP	P	06 33 30.4	-0.2
	comp=Z,15nm,0.5s,mb5.0						
DMN	Daman	55.05	311	eP	P	06 33 30.8	0.0
	comp=Z,16nm,0.5s,mb5.0						
GKN	Gorkha	55.60	311	eP	P	06 33 34.8	0.0
	comp=Z,33nm,0.4s,mb5.5						
KOLN	Koldanda	56.27	310	eP	P	06 33 39.5	-0.1
	comp=Z,35nm,0.8s,mb5.2						
ULN	Ulaanbaatar	58.06	342	eP	P	06 33 52.3	+0.1
	comp=Z,9.7nm,0.6s,mb4.8						
SONM	Songino Array	58.24	342	P	P	06 33 53.8	+0.4
	comp=Z,3.4nm,0.5s,mb4.4,baz=160,slow=7.1,SNR=27						
MKAR	Makanchi Array	67.95	327	P	P	06 34 57.4	0.0
	comp=Z,10nm,0.5s,mb4.9,baz=116,slow=8.5,SNR=132						
AAK	Ala-Archa	70.24	320	eP	P	06 35 11.6	+0.1
	comp=Z,4.0nm,0.7s,mb4.3						
ZAL	Zalesovo	71.34	334	P	P	06 35 16.7	-1.5
	comp=Z,5.0nm,0.4s,mb4.6,baz=332,slow=4.3,SNR=14						
ZAL	Zalesovo	71.34	334	P	P	06 35 16.7	-1.5
KURK	Kurchatov	72.25	329	eP	P	06 35 23.4	-0.3
	comp=Z,16nm,0.9s,mb4.7						
VNDA	Vanda	72.59	173	P	P	06 35 25.1	-0.6
	comp=Z,0.6nm,0.5s,mb3.6,baz=317,slow=5.2,SNR=6.6						
MAW	Mawson	74.92	201	P	P	06 35 38.5	-0.7
	comp=Z,2.8nm,0.7s,mb4.0,baz=81,slow=6.6,SNR=9.5						
MAW	Mawson	74.92	201	eP	P	06 35 40.4	+1.2
	comp=Z,6.2nm,1.1s,mb4.2						
MAW				e	pP	06 36 13.1	-1.8
BRVK	Borovoye	77.87	328	eP	P	06 35 55.5	-0.3
	comp=Z,2.8nm,0.7s,mb4.0						
CHKZ	Chkalovo	78.00	329	eP	P	06 35 55.7	-0.8
	comp=Z,7.6nm,0.8s,mb4.4						
ZRNK	Zerenda	78.49	327	eP	P	06 35 58.6	-0.7
	comp=Z,9.2nm,0.6s,mb4.6						
SYO	Syowa Base	83.63	201	⇑eP	P	06 36 27.0	+0.6
ARU	Arti	85.44	328	eP	P	06 36 34.7	-0.8
	comp=Z,8.3nm,0.8s,mb4.5						
TORD	Torodi Ar. Bea	128.45	281	PKP	PKPdf	06 43 05.3	+1.5
	comp=Z,1.5nm,0.7s,baz=88,slow=1.7,SNR=7.0						
LPAZ	La Paz	151.01	143	PKPbc	PKPbc	06 43 53.0	+3.1
	comp=Z,2.5nm,0.4s,baz=34,slow=5.6,SNR=36						
LPAZ	La Paz	151.01	143	ePKPbc	PKPbc	06 43 52.7	+2.8

MEX 15 06:41:36.0±1.3, 1684N×9940W, h15km±17km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.50	273	iP	Pg	06 41 44.0	-1.9
ACX				iS	Sg	06 41 50.0	-2.6
CAIG	El Cayaco	0.86	284	iP	Pb	06 41 50.2	-2.5
CAIG				iS	Sb	06 42 01.9	-2.0
MEIG	Mezcala	1.10	349	iP	Pb	06 41 53.0	-3.8
MEIG				iS	Sb	06 42 06.4	-4.5
PLIG	Platanillo	1.55	356	iP	Pn	06 41 59.5	-3.5
PLIG				iS	Sn	06 42 17.6	-5.3
UTMO	Huajuapan	1.81	57	eP	Pn	06 42 03.4	-3.2
PPM	Popocatepetl	2.33	18	iP	Pn	06 42 10.5	-3.3
PPM				iS	Sn	06 42 37.3	-4.9
IIZ	Mezontepec	2.34	4	iP	Pn	06 42 10.7	-3.2
IIZ				iS	Sn	06 42 38.5	-3.9
UNM	Universidad Na	2.48	5	eP	Pn	06 42 10.0	-5.9
TPIG	Tehuac#an	2.50	51	iP	Pn	06 42 15.3	-0.7
TPIG				iS	Sn	06 42 43.0	-3.2
VHO	Vista Hermosa	2.56	84	iP	Pn	06 42 14.9	-2.0
VHO				iS	Sn	06 42 43.1	-4.7
OXX	Oaxaca	2.57	84	eP	Pn	06 42 15.0	-2.0

*ISCJB **15** 06:42:03.6±0.6, 5135N±003×1618E±003, h0km, Error ellipse: s-maj=4.9km s-min=2.6km az=40.9*
*CSEM **15** 06:42:04.1±0.2, 5144N×1627E, h2km, ML3.2/8, Error ellipse: s-maj=3.3km s-min=1.8km az=30.0*
*IPEC **15** 06:42:04.0±0.4, 5146N×1632E, h1km±1km, ML2.2/3, Error ellipse: s-maj=2.4km s-min=0.8km az=30.0*
*NEIC **15** 06:42:04.3±1.0, 5143N×1628E, h5km, ML2.8(SZGRF), Error ellipse: s-maj=11.2km s-min=5.1km az=19.0*
*WAR **15** 06:42:05.7, 5140N×1621E, ML2.9, Mining Induced*
*PRU **15** 06:42:05.6, 5138N×1620E, h0km*
*VIE **15** 06:42:06.4±0.6, 5126N×1616E, h0km, mb2.3/4, ML2.9/4, Error ellipse: s-maj=3.5km s-min=3.2km az=173.0 62 km WNW of Breslau Suspected Mining induced.*
ISC 15 06:42:04.3±0.7, 5141N±003×1621E±003, h0km, n30, σ0s81/62, 2C-3D, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.57	175	iPg	Pg	06 42 16.0	+0.7
KSP				eSg	Sg	06 42 23.4	+0.7
KSP	Ksiaz	0.57	175	⇓iPg	Pg	06 42 16.0	+0.7
KSP				eSg	Sg	06 42 23.2	+0.5
UPC	Upice	0.92	188	ePG	Pg	06 42 22.3	+0.5
DPC	Dobruska-Polom	1.07	176	ePG	Pg	06 42 24.7	0.0
DPC				eSG	Sg	06 42 38.7	+0.2
	86nm,0.5s						
DPC	Dobruska-Polom	1.07	176	ePg	Pg	06 42 24.7	0.0
DPC				eSg	Sg	06 42 38.4	-0.1
PVCC	Panska Ves	1.37	230	ePg	Pg	06 42 31.1	+0.6
PVCC				eSg	Sg	06 42 49.7	+1.5
BRG	Berggiesshubel	1.53	250	PN	Pn	06 42 32.0	-0.8
BRG				PG	Pg	06 42 33.2	-0.3
BRG				SG	Sg	06 42 53.6	+0.2
	31nm,0.3s						
BRG	Berggiesshubel	1.53	250	Pg	Pg	06 42 33.2	-0.4
BRG				eSg	Sg	06 42 53.5	+0.1
PRU	Pruhonice	1.78	217	ePN	Pn	06 42 35.7	-0.6
PRU				ePG	Pg	06 42 37.7	-0.7
PRU				eSG	Sg	06 43 01.4	0.0
	28nm,0.6s						
PRU	Pruhonice	1.78	217	ePg	Pg	06 42 37.7	-0.7
PRU				eSg	Sg	06 43 01.4	0.0
	28nm,0.6s						
MORC	Moravsky Berou	1.84	152	ePn	Pn	06 42 36.7	-0.5
MORC				eSn	Sn	06 43 03.4	+2.2
MORC	Moravsky Berou	1.84	152	ePn	Pn	06 42 36.7	-0.5
MORC				eSg	Sg	06 43 01.8	-1.7
	24nm,0.3s						
OKC	Ostrava-Krasne	2.00	141	ePG	Pg	06 42 41.4	-1.2
OKC				eSG	Sg	06 43 07.2	-1.4
	53nm,0.6s						
CLL	Collm	2.02	268	ePn	Pn	06 42 39.0	-0.5
CLL				iPg	Pg	06 42 42.6	-0.3
CLL				iSg	Sg	06 43 09.9	+0.8
	comp=Z,27nm,0.5s						
VRAC	Vranov	2.12	173	ePn	Pn	06 42 41.5	+0.5
VRAC				eSg	Sg	06 43 11.3	-1.1
	comp=Z,17nm,0.3s						
TREC	Trest	2.17	193	ePN	Pn	06 42 42.0	+0.3
TREC				ePG	Pg	06 42 45.0	-0.9
TREC	Trest	2.17	193	ePn	Pn	06 42 41.9	+0.2
KRUC	Moravsky	2.36	177	ePn	Pn	06 42 45.2	+1.0
KRUC				eSg	Sg	06 43 19.8	-0.2
	comp=Z,7.3nm,0.3s						
OJC	Ojcow	2.57	116	ePg	Pg	06 42 53.5	0.0
OJC				eSg	Sg	06 43 28.1	+1.3
NKC	Novy Kostel	2.66	245	ePN	Pn	06 42 48.7	+0.3
NKC				ePG	Pg	06 42 53.8	-1.6
NKC				eSG	Sg	06 43 30.1	+0.2
	comp=Z,21nm,0.3s						
KHC	Kasperske Hory	2.84	218	ePN	Pn	06 42 50.9	0.0
KHC				ePG	Pg	06 42 57.1	-1.7
KHC				eSN	Sn	06 43 25.5	-0.3
KHC				eSG	Sg	06 43 34.9	-0.7
	comp=Z,10nm,0.6s						
MOX	Moxa	3.00	257	ePg	Pg	06 43 01.3	-0.6
MOX				eSg	Sg	06 43 40.6	-0.2
GEC2	GERESS Array S	3.04	213	ePn	Pn	06 42 54.7	+1.1
WET	Wettzell	3.12	225	ePn	Pn	06 42 55.0	+0.3
VYHS	Vyhne	3.38	149	ePG	Pg	06 43 09.0	0.0
VYHS				eSG	Sg	06 43 53.8	+1.0
CONA	Conrad Observa	3.50	184	⇓iPn	Pn	06 42 60.0	+0.1
CONA				⇑iSg	Sg	06 43 56.5	-0.1
	comp=Z,8.3nm,0.3s						
GRA1	Grafenberg Arr	3.62	244	ePn	Pn	06 43 02.3	+0.7
GRA1				eSg	Sg	06 44 01.1	+0.5
GRF	Grafenberg Arr	3.62	244	ePn	Pn	06 43 02.3	+0.7
GRF				eSg	Sg	06 44 01.1	+0.5
MOA	Molln	3.78	200	⇑iPn	Pn	06 43 04.4	+0.6
MOA				⇓iSg	Sg	06 44 06.6	+0.8
	comp=Z,11nm,0.6s						
MOA	Molln	3.78	200	Pn	Pn	06 43 04.4	+0.5
MOA				Sg	Sg	06 44 06.6	+0.7
	comp=Z,11nm,0.6s						

*IDC **15** 06:44:56.3±1.6, 2765N×9121E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/20, mbtmp3.7/5, Error ellipse: s-maj=152.5km s-min=25.6km az=54.0*
*ISCJB **15** 06:44:57.4±6.9, 277N±02×912E±0.1, h23km±50km, mb3.8/4, Error ellipse: s-maj=29.5km s-min=17.8km az=149.0*
ISC 15 06:44:57.9±7.3, 276N±02×911E±01, h10km±46km, n6, σ0s69/7, mb3.8/4, Bhutan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTK	Gangtok	2.25	263	ePN	Pn	06 45 35.0	-0.1
GTK				eSN	Sn	06 46 03.0	+0.1
MKAR	Makanchi Array	20.36	342	P	P	06 49 34.9	+0.5
	0.8nm,0.4s,baz=159,slow=9.7,SNR=12						
FINES	FINESS Array B	54.24	328	P	P	06 54 23.3	-0.5
	1.4nm,0.9s,mb3.9,baz=90,slow=5.7,SNR=4.3						
HFS	Hagfors	60.26	326	P	P	06 55 05.6	-0.8
	1.2nm,0.6s,mb4.1,baz=116,slow=6.6,SNR=7.8						
NOA	NORSAR Array B	61.40	327	P	P	06 55 14.8	+0.7
	0.6nm,1.0s,mb3.7,baz=84,slow=6.6,SNR=2.9						
WRA	Warramunga Arr	63.13	134	P	P	06 55 25.9	+0.1
	0.6nm,1.1s,mb3.6,baz=326,slow=6.9,SNR=5.7						

*ISCJB **15** 06:56:05.7±0.6, 4450N±002×698E±006, h19km±8km, Error ellipse: s-maj=7.5km s-min=3.8km az=162.3*
*LDG **15** 06:56:05.6±0.3, 4450N×700E, h2km, Md2.3/3, Ml1.7/4, Error ellipse: s-maj=7.2km s-min=3.7km az=80.0*
*STR **15** 06:56:06.2±0.1, 4447N×702E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 15 06:56:05.5±0.5, 4450N±002×698E±006, h23km±5km, n11, σ0s80/22, France

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.12	259	Pg	Pb	06 56 09.6	-0.5
SURF				Sg	Sb	06 56 12.1	-1.0
MBDF	Montbardon	0.27	326	ePg	Pb	06 56 12.3	+0.4
MBDF				eSg	Sb	06 56 16.2	0.0
	5.6nm,0.2s						
OG22	Abries	0.32	355	Pg	Pb	06 56 13.2	+0.5
OG22				Sg	Sb	06 56 18.4	+0.9
LUCF	Luceram	0.67	157	Pg	Pb	06 56 18.2	-0.2
LUCF				Sg	Sb	06 56 26.7	-0.5
SBF	Sospel	0.72	153	ePg	Pb	06 56 21.2	+1.8
SBF				eSg	Sb	06 56 28.2	-0.6
	3.0nm,0.2s						
ORIF	Oris-en-Rattie	0.89	298	ePg	Pb	06 56 21.7	-0.5
ORIF				eSg	Sb	06 56 34.7	+1.0
FRF	La Foret Royal	0.97	194	ePg	Pb	06 56 24.2	+0.5
FRF				eSg	Sb	06 56 36.4	+0.3
	2.7nm,0.2s						
LPG	La Plagne	1.01	351	ePg	Pn	06 56 23.6	-0.6
LPG				eSg	Sb	06 56 37.7	+0.6
	2.7nm,0.5s						
LPL	La Plagne	1.03	350	ePg	Pn	06 56 23.1	-1.4
LPL				eSg	Sb	06 56 36.6	-1.1
	1.2nm,0.2s						
SMRF	Simiane la Rot	1.14	243	ePg	Pn	06 56 26.5	+0.4
SMRF				eSg	Sb	06 56 40.6	-0.3
LMR	La Mourre	1.22	196	ePg	Pn	06 56 28.4	+1.3
LMR				eSg	Sn	06 56 42.2	-0.7
	3.2nm,0.4s						

*STR **15** 06:56:18.3±0.1, 4302N×051W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **15** 06:56:18.5±0.1, 4300N×053W, h2km, Md2.5/2, Ml1.9/1, Error ellipse: s-maj=2.7km s-min=1.6km az=179.0*
MDD 15 06:56:18.9±0.2, 4301N×052W, h0km, mbLg1.4/8, Error ellipse: s-maj=2.3km s-min=1.5km az=9.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.11	58	Pg	Pg	06 56 20.7	-0.3
REYF				Sg	Sg	06 56 22.9	+0.5
REYF	Montagne du Re	0.11	58	P	Pg	06 56 20.7	-0.3
REYF				S	Sg	06 56 22.9	+0.5
ETSF	Etsaut	0.12	195	ePg	Pg	06 56 20.5	-0.6
ETSF				eSg	Sg	06 56 22.5	-0.1
ATE	Arette	0.15	299	P	Pg	06 56 20.9	-0.9
ATE				S	Sg	06 56 23.2	-0.6
FDAF	Les Forges d'A	0.20	190	P	Pg	06 56 22.2	-0.5
FDAF				S	Sg	06 56 25.3	+0.1
LARF	Larrau	0.34	275	Pg	Pg	06 56 24.8	-0.7
LARF				Sg	Sg	06 56 30.4	+0.4
LARF	Larrau	0.34	275	P	Pg	06 56 24.8	-0.7
LARF				S	Sg	06 56 30.2	+0.3
ORDF	Ordiarp	0.37	304	Pg	Pg	06 56 25.6	-0.3
ORDF				Sg	Sg	06 56 31.0	+0.4
ORDF	Ordiarp	0.37	304	P	Pg	06 56 25.6	-0.3
ORDF				S	Sg	06 56 31.1	+0.5
VIEF	Viey	0.42	108	Pg	Pg	06 56 26.5	-0.4
VIEF				Sg	Sg	06 56 32.7	+0.4
VIEF	Viey	0.42	108	P	Pg	06 56 26.6	-0.3
VIEF				S	Sg	06 56 32.8	+0.4
LABF	Labassere	0.44	85	Pg	Pg	06 56 26.7	-0.5
LABF	Labassere	0.44	85	P	Pg	06 56 26.7	-0.6
LABF				S	Sg	06 56 32.7	-0.2
EBIE	Bielsa	0.58	124	Pg	Pg	06 56 29.3	-0.8
	0.3nm,0.1s,SNR=9.3						
EBIE				Lg		06 56 37.5	
	4.1nm,0.1s,SNR=21						
EPF	Esparros	0.63	88	ePg	Pg	06 56 30.7	-0.3
EPF	Esparros	0.63	88	ePn	Pg	06 56 33.2	+2.2
EPF				eSg	Sg	06 56 39.6	+0.5
EPF	Esparros	0.63	88	Pg	Pg	06 56 30.7	-0.3
EPF				Pn	Pg	06 56 33.2	+2.2
EPF				Lg		06 56 39.6	
IPRE	Itoiz	0.65	252	Lg		06 56 41.4	
	2.1nm,0.2s,SNR=4.0						
EALK	Alkurruntz	0.75	286	Pg	Pg	06 56 32.7	-0.6
	2.0nm,0.4s,SNR=7.9						
EALK				Lg		06 56 42.9	
	8.3nm,0.3s,SNR=7.0						
ELIZ	Elizondo	0.76	282	Pg	Pg	06 56 33.3	0.0
	1.5nm,0.3s,SNR=7.9						
ELIZ				Lg		06 56 43.5	
	3.5nm,0.1s,SNR=7.9						
IUSE	Utxeti	0.76	265	Lg		06 56 43.8	
	2.5nm,0.2s,SNR=7.9						
IUNC	Unciti	0.76	251	Lg		06 56 43.6	
	3.2nm,0.4s,SNR=7.9						
ESAC	San Caprasio	1.29	178	Pg	Pg	06 56 44.4	+0.8
	6.5nm,0.3s,SNR=7.9						
ESAC				Lg		06 57 01.5	
	13nm,0.3s,SNR=7.9						
EMIR	Miracle	1.87	125	Lg		06 57 19.6	
	2.2nm,0.2s,SNR=4.0						
MTLF	Montolieu	2.03	80	ePn	Pn	06 56 52.4	-1.9
MTLF	Montolieu	2.03	80	ePg	Pg	06 56 56.6	-1.2
MTLF				eSg	Sg	06 57 22.3	-1.8
	1.8nm,0.3s						
MTLF	Montolieu	2.03	80	Pn	Pn	06 56 52.4	-1.9
MTLF				Pg	Pg	06 56 56.6	-1.2
MTLF				Lg		06 57 22.3	
	0.9nm,0.3s						
ERTA	Horta de San J	2.15	163	Lg		06 57 27.1	
	0.6nm,0.2s,SNR=7.9						

CASC 15 06:56:25.8±3.2, 1112N×8889W, h4km±23km, MD4.2, 5C, Off coast of central America

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSM	San Miguel	2.37	15	eP	x	06 57 06.8	
BLLM	Bellamira	2.40	15	eP	x	06 57 06.0	
BLLM				eS	x	06 57 34.8	
LCBS	La Ceiba	2.52	358	⇑eP	x	06 57 07.8	
LBRS	Las Brisas	2.61	357	⇑eP	x	06 57 08.6	
LFU	La Fuente	2.62	355	⇑eP	x	06 57 08.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BOQS	**Boqueron**	**2.63**	**352**	⇑eP	x	06 57 09.9	
RTR	**El Retiro**	**2.86**	**345**	eP	x	06 57 12.9	
RTR				eS	x	06 57 47.9	
RBDL	**Robledal**	**3.08**	**345**	⇑iP	x	06 57 14.0	
PRS1	**Puriscal**	**4.64**	**104**	eP	Pn	06 57 35.6	-1.0
LCR2	**La Lucha 2**	**5.00**	**105**	eS	Sn	06 58 41.9	+2.2
BUS	**Buena Vista**	**5.28**	**107**	eP	Pn	06 57 43.9	-1.5
BUS				eS	Sn	06 58 52.1	+5.4

*BJI **15** 07:10:41.3, 5.05S×126.69E, h367km, mB5.4, mb5.8*

*NEIC **15** 07:10:47.8±0.1, 4.45S×126.16E, h364km, mb5.9/61, MW5.8, Error ellipse: s-maj=4.1km s-min=2.5km az=59.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^17Nm; Mrr-4.44; Mθθ6.94; Mφφ-2.47; Mrθ3.07; Mθφ2.38; Mφr1.30; Best double couple: Mo6.90000×10^17 NP1: φs246.00000°, δ61.00000°, λ-104.00000°. NP2: φs92.00000°, δ32.00000°, λ-67.00000°. Principal axes: T 8.3500, Plg14.0000°, Azm346.0000°; N -2.9400, Plg12.0000°, Azm253.0000°; P -5.4100, Plg71.0000°, Azm124.0000°; Broadband fault plane solution: P waves. NP1:φs84.00000°, δ31.00000°, λ-73.00000°. NP2: φs245.00000°, δ60.00000°, λ-100.00000°. Principal axes: T Plg14.0000°, Azm342.0000°; N Plg0.0000°, Azm0.0000°; P Plg73.0000°, Azm130.0000°; Depth from broadband displacement seismograms.*

*ISCJB **15** 07:10:47.2±0.1, 4.48S±0.02×126.25E±0.03, h369km, mb5.7/135 Error ellipse: s-maj=3.8km s-min=2.1km az=131.2*

*MOS **15** 07:10:48.6±1.1, 4.49S×126.17E, h378km, mb5.8/49, MS4.9/45, Error ellipse: s-maj=6.8km s-min=4.0km az=117.4*

*HRVD **15** 07:10:48.2±0.1, 4.39S×126.31E, h385km, MW5.8/103, Centroid moment Tensor Solution. LP body waves: s103,c228; Mantle waves: s74,c88; Half duration: 1.9 Moment tensor: Scale 10^17Nm; Mrr-4.70±.06; Mθθ5.53±.09; Mφφ-0.82±.11; Mrθ3.52±.08; Mθφ-0.46±.09; Mφr1.29±.08; Best double couple: Mo6.38500×10^17 NP1:φs111.00000°, δ30.00000°, λ-62.00000°. NP2: φs259.00000°, δ64.00000°, λ-106.00000°. Principal axes: T 6.6250, Plg17.0000°, Azm0.0000°; N -0.4730, Plg14.0000°, Azm266.0000°; P -6.1460, Plg68.0000°, Azm139.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*

*IDC **15** 07:10:49.3±0.4, 4.43S×126.15E, h380km±3km, mb5.3/33, mb1 5.2/36, mb1mx5.2/36, mbtmp6.0/36 Error ellipse: s-maj=7.0km s-min=4.8km az=67.0*

ISC 15 07:10:49.0±0.1**, 4.48S**±0.02×**126.26E**±0.03**, h371**km**, h371**km±1.8km**:pP-P, n1067, σ1.09**/468**, mb5.7**/134**, 116C-134D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.09**	**68**	P	**Pn**	**07 11 42.7**	**0.0**
	16µm,0.7s						
SWI	**Sorong**	**6.15**	**54**	P	**Pn**	**07 12 23.4**	**+1.2**
	7µm,1.1s						
KAPI	**Kappang**	**6.51**	**265**	Pn	**Pn**	**07 12 27.6**	**+1.4**
	5µm,0.6s,SNR=72						
PCI	**Palu**	**7.33**	**299**	P	**Pn**	**07 12 38.5**	**+2.9**
	4µm,1.0s						
WSI	**Waingapu**	**7.84**	**229**	P	**Pn**	**07 12 43.0**	**+1.4**
	11µm,0.8s						
KAKA	**Kakadu**	**10.21**	**144**	eP	**Pn**	**07 13 09.3**	**0.0**
KAKA				eS	**S**	**07 14 57.4**	**-7.3**
BAKI	**Biak**	**10.36**	**72**	P	**Pn**	**07 13 12.2**	**+1.0**
	5µm,1.3s						
KCP	**Kidapawan**	**11.47**	**354**	⇓eP	**Pn**	**07 13 25.4**	**+1.1**
KCP				i S	**S**	**07 15 32.9**	**+1.0**
DAV	**Davao City (W)**	**11.49**	**357**	i P	**Pn**	**07 13 24.0**	**-0.5**
DAV	**Davao City (W)**	**11.49**	**357**	ePn	**Pn**	**07 13 25.4**	**+0.9**
DAV				eS	**S**	**07 15 31.8**	**-0.5**
DMPH	**Davao City--Mi**	**11.51**	**356**	⇑iP	**Pn**	**07 13 25.3**	**+0.6**
TARAI	**Tarakan**	**11.64**	**312**	P	**Pn**	**07 13 27.0**	**+0.8**
	11µm,0.9s						
CTBH	**Cotabato--PC H**	**11.80**	**350**	⇓iP	**Pn**	**07 13 30.2**	**+2.2**
TSM	**Tawau**	**12.09**	**316**	P	**P**	**07 13 31.9**	**+1.2**
BUKP	**Musuan**	**12.34**	**354**	eP	**P**	**07 13 34.9**	**+1.4**
KMMI	**Kalianget**	**12.49**	**258**	P	**P**	**07 13 38.8**	**+3.7**
	914nm,0.9s						
PAGZ	**Pagadian**	**12.58**	**347**	eP	**P**	**07 13 38.0**	**+1.9**
IPIL	**Ipil**	**12.73**	**343**	⇑eP	**P**	**07 13 39.7**	**+1.9**
IPIL	**Ipil**	**12.73**	**343**	eP	**P**	**07 13 39.5**	**+1.7**
CGP	**Cagayan de Oro**	**12.95**	**353**	eP	**P**	**07 13 41.4**	**+1.2**
DCPH	**Dipolog City**	**13.30**	**347**	eP	**P**	**07 13 47.0**	**+2.9**
BUTP	**Butuan**	**13.38**	**357**	eP	**P**	**07 13 46.2**	**+1.3**
FITZ	**Fitzroy Crossi**	**13.55**	**183**	⇑iP	**P**	**07 13 46.8**	**0.0**
	973nm,0.6s						
FITZ	**Fitzroy Crossi**	**13.55**	**183**	P	**P**	**07 13 47.0**	**+0.2**
	42nm,0.3s,baz=15,slow=9.0,SNR=1015						
FITZ				S	**S**	**07 16 09.0**	**-5.1**
	5.8nm,0.3s,baz=90,slow=23,SNR=4.9						
SNPH	**Sibulan**	**14.06**	**348**	⇑eP	**P**	**07 13 54.7**	**+2.3**
SCPH	**Surigao**	**14.19**	**357**	eP	**P**	**07 13 55.8**	**+2.0**
TBP	**Tagbilaran**	**14.28**	**350**	eP	**P**	**07 13 56.0**	**+1.2**
KKM	**Kota Kinabalu**	**14.49**	**316**	P	**P**	**07 13 59.6**	**+2.6**
KKM	**Kota Kinabalu**	**14.49**	**316**	eP	**P**	**07 13 58.5**	**+1.5**
KKM				eS	**S**	**07 16 34.6**	**+1.8**
KKM				ePcP	PcP	07 18 45.2	+0.4
KKM				eScP	ScP	07 21 41.3	-1.5
JAY	**Jayapura**	**14.55**	**83**	P	**P**	**07 13 53.6**	**-4.1**
	852nm,1.0s						
MMPI	**Merauke**	**14.58**	**106**	P	**P**	**07 13 59.3**	**+1.2**
	17µm,1.5s						
MSLP	**Maasin**	**14.59**	**355**	eP	**P**	**07 13 59.2**	**+1.1**
LLP	**Lapu-Lapu**	**14.88**	**351**	⇑eP	**P**	**07 14 02.1**	**+0.8**
GUIM	**Jordan**	**15.45**	**346**	eP	**P**	**07 14 07.3**	**-0.1**
OCLP	**Ormoc**	**15.52**	**354**	eP	**P**	**07 14 09.1**	**+0.8**
BATP	**Bataraza**	**15.65**	**327**	eP	**P**	**07 14 10.1**	**+0.3**
BATP	**Bataraza**	**15.65**	**327**	eP	**S**	**07 17 06.5**	**+10**
PPR	**Puerto Princes**	**16.03**	**332**	eP	**P**	**07 14 15.0**	**+1.3**
	15µm,1.0s						
CUYO	**Cuyo Island**	**16.10**	**341**	eP	**P**	**07 14 16.3**	**+1.7**
KALP	**Kalibo**	**16.52**	**346**	eP	**P**	**07 14 25.2**	**+6.2**
BJII	**Banjamegara**	**16.70**	**259**	P	**P**	**07 14 21.2**	**+0.2**
	409nm,1.5s						
MMPH	**Masbate**	**16.93**	**351**	eP	**P**	**07 14 21.0**	**-2.5**
KSM	**Kuching**	**17.00**	**290**	eP	**P**	**07 14 25.9**	**+1.7**
KSM				eS	**S**	**07 17 20.5**	**-2.1**
KSM				e		07 18 46.3	
ENPP	**El Nido**	**17.00**	**336**	eP	**P**	**07 14 25.4**	**+1.1**
OTRP	**Odiongan**	**17.25**	**346**	eP	**P**	**07 14 28.1**	**+1.2**
WRAB	**Tennant Creek**	**17.26**	**153**	P	**P**	**07 14 26.0**	**-1.0**
	8µm,0.9s						
WRAB	**Tennant Creek**	**17.26**	**153**	eP	**P**	**07 14 26.9**	**-0.1**
WRAB				eS	**S**	**07 17 25.5**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,2µm,1.0s						
WRAB	**Tennant Creek**	**17.26**	**153**	eP	**P**	**07 14 26.9**	**-0.1**
	comp=Z,1µm,1.0s						
WRAB				eS	**S**	**07 17 25.5**	**-2.2**
WRAB				eScP	ScP	07 21 46.8	-1.4
WRA	**Warramunga Arr**	**17.27**	**154**	P	**P**	**07 14 26.8**	**-0.3**
	comp=Z,102nm,0.3s,baz=330,slow=11,SNR=922						
WRA				S	**S**	**07 17 23.6**	**-4.2**
	comp=Z,50nm,0.3s,baz=332,slow=19,SNR=22						
WRA				PKiKP	PKiKP	07 26 39.9	-1.2
	baz=318,slow=1.3,SNR=5.4						
WRA				P3KPbc		07 48 48.8	
	comp=Z,0.0nm,0.3s,baz=155,slow=1.8,SNR=4.6						
WRA	**Warramunga Arr**	**17.27**	**154**	P	**P**	**07 14 26.8**	**-0.3**
WRA				S	**S**	**07 17 23.6**	**-4.2**
WB2	**Warramunga Arr**	**17.27**	**154**	eP	**P**	**07 14 26.6**	**-0.5**
WB2				e		07 14 57.4	
WB2				eS	**S**	**07 17 23.2**	**-4.6**
BUSP	**Coron**	**17.45**	**340**	eP	**P**	**07 14 29.7**	**+0.7**
MBWA	**Marble Bar**	**17.75**	**200**	eP	**P**	**07 14 31.5**	**-0.6**
	comp=Z,351nm,0.8s						
MBWA				eS	**S**	**07 17 33.9**	**-3.2**
MBWA				eScP	ScP	07 21 47.6	-1.6
JCJI	**Jatiwangi**	**18.02**	**263**	P	**P**	**07 14 36.2**	**+1.2**
	comp=Z,828nm,1.1s						
AUQP	**San Andres**	**18.04**	**349**	eP	**P**	**07 14 37.4**	**+2.1**
PVCP	**Virac**	**18.08**	**353**	⇓eP	**P**	**07 14 35.5**	**-0.2**
PVCP	**Virac**	**18.08**	**353**	eP	**P**	**07 14 35.0**	**-0.7**
BOAC	**Boac**	**18.35**	**346**	eP	**P**	**07 14 38.2**	**-0.4**
BOAC	**Boac**	**18.35**	**346**	eP	**S**	**07 17 48.2**	**-0.5**
PGP	**Puerto Galera**	**18.63**	**344**	⇑iP	**P**	**07 14 41.2**	**-0.2**
	comp=Z,250µm,1.0s						
PGP	**Puerto Galera**	**18.63**	**344**	eP	**S**	**07 17 52.7**	**-1.2**
GQP	**Guinayangan**	**18.65**	**348**	⇑eP	**P**	**07 14 41.8**	**0.0**
LEM	**Lembang**	**18.70**	**262**	P	**P**	**07 14 40.6**	**-1.6**
	comp=Z,492nm,0.8s						
LUBP	**Lubang**	**19.05**	**342**	eP	**P**	**07 14 45.4**	**-0.6**
LUBP	**Lubang**	**19.05**	**342**	eP	**S**	**07 17 56.7**	**-4.8**
LQP	**Lukban**	**19.06**	**346**	⇑eP	**P**	**07 14 45.9**	**-0.1**
TGY	**Tagaytay City**	**19.20**	**344**	⇑eP	**P**	**07 14 45.9**	**-1.6**
TGY	**Tagaytay City**	**19.20**	**344**	P	**P**	**07 14 47.1**	**-0.4**
	comp=Z,182nm,0.3s,baz=197,slow=2.0,SNR=60						
POLP	**Polilio Island**	**19.56**	**347**	eP	**P**	**07 14 50.3**	**-0.9**
AS31	**Alice Springs**	**20.45**	**160**	⇓iP	**P**	**07 14 59.8**	**+0.3**
AS31				eS	**S**	**07 18 22.3**	**-2.0**
ASAR	**Alice Springs**	**20.45**	**160**	P	**P**	**07 14 59.9**	**+0.3**
	comp=Z,735nm,0.8s,baz=334,slow=7.7,SNR=3276						
ASAR				S	**S**	**07 18 22.2**	**-2.1**
	comp=Z,712nm,0.9s,baz=347,slow=23,SNR=12						
ASAR				P3KPbc		07 48 42.7	
	comp=Z,1.0nm,1.0s,baz=182,slow=5.3,SNR=3.4						
ASAR	**Alice Springs**	**20.45**	**160**	P	**P**	**07 14 59.9**	**+0.3**
ASAR				S	**S**	**07 18 22.2**	**-2.1**
ASPA	**Alice Springs**	**20.45**	**160**	⇓iP	**P**	**07 14 59.8**	**+0.3**
ASPA				eS	**S**	**07 18 22.3**	**-2.0**
PCPH	**Palayan**	**20.56**	**346**	⇑eP	**P**	**07 15 00.5**	**0.0**
BALP	**Baler**	**20.62**	**347**	eP	**P**	**07 15 00.7**	**-0.3**
SCZP	**Santa Cruz**	**21.09**	**343**	eP	**P**	**07 15 03.7**	**-1.6**
PMG	**Port Moresby**	**21.31**	**104**	P	**P**	**07 15 08.0**	**+0.6**
	comp=Z,961nm,0.7s,mb6.1,baz=298,slow=6.0,SNR=237						
PMG				S	**S**	**07 18 37.3**	**-1.0**
	comp=Z,18nm,0.6s,baz=193,slow=20,SNR=4.3						
PMG	**Port Moresby**	**21.31**	**104**	P	**P**	**07 15 08.0**	**+0.6**
PMG				S	**S**	**07 18 37.3**	**-0.9**
PMG				pmax	pmax		
	comp=Z,961nm,0.7s						
PMG				smax			
	comp=N,18nm,0.6s						
PMG	**Port Moresby**	**21.31**	**104**	eP	**P**	**07 15 07.9**	**+0.5**
	comp=N,1µm,0.9s,mb6.2						
PMG				LR	LR		
	comp=Z,3µm,22.0s						
BCPH	**Baguio City Da**	**21.48**	**345**	⇑eP	**P**	**07 15 09.4**	**+0.6**
BOLP	**Bolinao**	**21.66**	**343**	eP	**P**	**07 15 09.0**	**-1.5**
CAUP	**Cauayan**	**21.73**	**348**	eP	**P**	**07 15 11.8**	**+0.5**
CVP	**Callao Caves**	**22.47**	**349**	⇑eP	**P**	**07 15 17.5**	**-0.4**
	comp=Z,103µm,1.0s						
ABRA	**Dolores**	**22.66**	**346**	eP	**P**	**07 15 20.6**	**+1.0**
SGCP	**Mt. Cagua**	**22.96**	**350**	eP	**P**	**07 15 20.8**	**-1.5**
KGM	**Kluang**	**23.81**	**285**	P	**P**	**07 15 31.3**	**+1.3**
CTA	**Charters Tower**	**24.89**	**130**	eP	**P**	**07 15 40.8**	**+1.1**
	comp=Z,363nm,0.9s,mb5.6						
CTA	**Charters Tower**	**24.89**	**130**	P	**P**	**07 15 40.9**	**+1.1**
	comp=Z,450nm,1.0s,mb5.7,baz=311,slow=11,SNR=331						
CTA	**Charters Tower**	**24.89**	**130**	eP	**P**	**07 15 40.8**	**+1.1**
CTA				pmax	pmax		
	comp=Z,363nm,0.9s						
CTAO	**Charters Tower**	**24.89**	**130**	⇓iP	**P**	**07 15 40.8**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,632nm,1.0s,mb5.8						
CTAO				MLR	MLR		
	comp=Z,2µm,20.0s						
CTAO	**Charters Tower**	**24.89**	**130**	⇓iP	**P**	**07 15 40.8**	**+1.1**
	comp=Z,632nm,1.0s,mb5.8						
CTAO				e		07 16 43.9	
CTAO				LR	LR		
	comp=Z,2µm,20.0s						
GUMO	**Guam**	**25.76**	**46**	P	**P**	**07 15 46.8**	**-0.6**
	comp=Z,439nm,1.0s,mb5.7,baz=199,slow=7.1,SNR=15						
GUMO	**Guam**	**25.76**	**46**	P	**P**	**07 15 46.8**	**-0.6**
FORT	**Forrest**	**26.21**	**176**	⇓iP	**P**	**07 15 51.2**	**-0.3**
	comp=Z,1µm,0.5s,mb6.3						
FORT				epP		07 16 55.0	
IPM	**Ipoh**	**26.73**	**289**	P	**P**	**07 15 57.3**	**+1.2**
KULM	**Kulim**	**27.36**	**291**	eP	**P**	**07 16 01.9**	**+0.3**
KULM				e		07 17 12.9	
KULM				ePcP	PcP	07 19 09.6	-0.1
SNG	**Songkhla**	**28.09**	**294**	P	**P**	**07 16 09.0**	**+1.0**
	comp=Z,382nm,1.0s,mb5.6						
KLBR	**Kellerberrin**	**28.13**	**196**	eP	**P**	**07 16 07.4**	**-1.0**
	comp=Z,216nm,0.6s,mb5.6						
KLBR				epP		07 17 17.6	
KLBR				ePCP	PcP	07 19 11.1	-0.6
KLBR				eS	**S**	**07 20 21.0**	**-4.8**
PSI	**Prapat**	**28.25**	**284**	P	**P**	**07 16 09.2**	**-0.3**
	comp=Z,94nm,1.0s,mb5.0,baz=141,slow=4.0,SNR=27						
PSI				S	**S**	**07 20 24.4**	**-3.4**
	comp=Z,19nm,0.9s,baz=130,slow=23,SNR=6.9						
PSI				ScP	ScP	07 22 15.3	-1.8
	comp=Z,86nm,1.0s,baz=192,slow=6.2,SNR=10.0						
PSI	**Prapat**	**28.25**	**284**	P	**P**	**07 16 09.3**	**-0.2**
PSI				S	**S**	**07 20 24.4**	**-3.4**
PSI	**Prapat**	**28.25**	**284**	P	**P**	**07 16 09.2**	**-0.3**
PSI				S	**S**	**07 20 24.4**	**-3.4**
PSI				ScP	ScP	07 22 15.3	-1.8
QIZ	**Qiongzhong**	**28.41**	**326**	⇑iP	**P**	**07 16 11.3**	**+0.4**
QIZ				AP		07 17 17.9	
QIZ				XP	sP	07 18 03.4	+1.2
QIZ				AMB	AMB		
	comp=Z,288nm,1.1s,mb5.4						
QIZ	**Qiongzhong**	**28.41**	**326**	eP	**P**	**07 16 10.8**	**0.0**
	comp=Z,263nm,0.9s,mb5.5						
QIZ				ePcP	PcP	07 19 12.0	-0.4
QIZ				LR	LR		
	comp=Z,3µm,21.0s						
TSI	**Tuntungan**	**28.78**	**286**	eP	**P**	**07 16 07.8**	**-6.4**
NACB	**Ninganchiao**	**28.84**	**351**	eP	**P**	**07 16 12.4**	**-2.3**
NACB				ePcP	PcP	07 19 12.7	-0.7
MUN	**Mundaring**	**28.93**	**198**	⇓iP	**P**	**07 16 14.5**	**-1.0**
MUN				epP		07 17 28.8	
MUN				eS	Sx	07 22 35.0	
YHNB	**Yeheng**	**29.36**	**351**	eP	**P**	**07 16 17.9**	**-1.3**
YHNB				epP		07 17 26.7	
YHNB				ePP	PP	07 17 34.3	-0.6
NWAO	**Narrogin (SRO)**	**29.53**	**196**	P	**P**	**07 16 20.1**	**-0.6**
	comp=Z,241nm,0.7s,mb5.5,baz=22,slow=8.3,SNR=201						
NWAO				pP		07 17 29.1	
	comp=Z,111nm,0.7s,baz=16,slow=14,SNR=3.8						
NWAO				S	**S**	**07 20 44.2**	**-3.6**
	comp=Z,62nm,0.8s,baz=263,slow=19,SNR=8.7						
NWAO	**Narrogin (SRO)**	**29.53**	**196**	eP	**P**	**07 16 20.0**	**-0.7**
NWAO				epP		07 17 29.1	
NWAO				ePcP	PcP	07 19 14.1	-1.2
NWAO				LR	LR		
	comp=Z,3µm,19.0s						
TATO	**Taipei**	**29.64**	**351**	eP	**P**	**07 16 19.0**	**-2.7**
	comp=Z,325nm,1.0s,mb5.5						
TATO				LR	LR		
	comp=Z,3µm,19.0s						
GZH	**Guangzhou**	**30.16**	**336**	P	**P**	**07 16 24.9**	**-1.4**
GZH				S	**S**	**07 20 59.9**	**+2.3**
GZH				LR	LR		
	comp=N,3µm,19.9s						
GZH				LR	LR		
	comp=E,1µm,16.8s						
GZH				LR	LR		
	comp=Z,6µm,19.3s						
QZH	**Quanzhou**	**30.18**	**346**	⇑iP	**P**	**07 16 26.3**	**-0.1**
QZH				S	**S**	**07 20 54.5**	**-3.4**
QZH				AMB	AMB		
	comp=Z,2µm,1.2s,mb6.1						
QZH				LR	LR		
	comp=N,4µm,5.1s						
QZH				LR	LR		
	comp=E,4µm,7.4s						
KKTK	**Khon Kaen**	**31.07**	**312**	⇑P	**P**	**07 16 34.5**	**+0.4**
	comp=E,247nm,0.4s,mb5.8						
JOW	**Kunigami**	**31.19**	**3**	P	**P**	**07 16 35.2**	**+0.1**
	comp=E,883nm,0.9s,mb6.0,baz=200,slow=7.1,SNR=89						
JOW				ScP	ScP	07 22 25.4	-1.2
	comp=E,24nm,0.7s,baz=117,slow=11,SNR=6.5						
NNT	**Nongplab**	**31.34**	**303**	P	**P**	**07 16 37.5**	**+1.0**
ADE	**Adelaide**	**32.45**	**161**	⇓iP	**P**	**07 16 46.5**	**+0.4**
NST	**Nakhon Sawan**	**32.71**	**308**	P	**P**	**07 16 47.0**	**-1.3**
	comp=E,283nm,0.8s,mb5.5						
HNR	**Honiara**	**33.79**	**100**	P	**P**	**07 16 58.0**	**+0.4**
	comp=E,1µm,0.9s,mb6.2,baz=242,slow=1.1,SNR=27						
HNR	**Honiara**	**33.79**	**100**	⇓iP	**P**	**07 16 57.9**	**+0.4**
HNR				e*PP	pP	07 18 05.4	-1.7
HNR				pmax	pmax		
	comp=Z,2µm,0.9s,mb6.2						
HNR				MLR	MLR		
	comp=Z,2µm,20.0s						
HNR	**Honiara**	**33.79**	**100**	⇓iP	**P**	**07 16 57.9**	**+0.4**
	comp=Z,2µm,0.9s,mb6.3						
HNR				epP	pP	07 18 05.4	-1.6
HNR				LR	LR		
	comp=Z,2µm,20.0s						
CBIJ	**Chichi jima**	**34.96**	**25**	P	**P**	**07 17 06.9**	**-0.6**
	comp=Z,942nm,0.7s,mb6.1,baz=235,slow=4.5,SNR=44						
ARMA	**Armidale**	**35.19**	**140**	eP	**P**	**07 17 10.8**	**+1.4**
CM31	**Chiang Mai Arr**	**35.27**	**311**	PFAKE		07 17 20.0	+10
CM31				LR	LR		
	comp=Z,1µm,19.0s						
CHRT	**Chiangrai**	**35.54**	**314**	⇑P	**P**	**07 17 13.0**	**+0.6**
	comp=Z,3µm,0.8s,mb6.6						
SSE	**Sheshan**	**35.71**	**353**	P	**P**	**07 17 13.8**	**0.0**
SSE				AP	pP	07 18 23.8	-0.2
SSE				PP	PP	07 18 43.5	-0.9
SSE				S	**S**	**07 22 22.6**	**0.0**
SSE				AMB	AMB		
	comp=Z,592nm,1.1s,mb5.7						
SSE				AMB	AMB		
	comp=Z,810nm,4.3s						
SSE				LR	LR		
	comp=N,300nm,22.5s						
SSE				LR	LR		
	comp=E,378nm,22.5s						
SSE				LR	LR		
	comp=Z,1µm,14.9s						
SSE	**Sheshan**	**35.71**	**353**	P	**P**	**07 17 13.8**	**0.0**
SSE				S	**S**	**07 22 20.5**	**-2.1**
SSE				ScP	ScP	07 22 41.4	-1.2
GYA	**Guiyang**	**36.14**	**329**	⇑iP	**P**	**07 17 17.3**	**-0.1**
GYA				AP	pP	07 18 30.4	+2.6
GYA				XP	sP	07 19 13.3	+2.9
GYA				PCP	PcP	07 19 35.4	+1.5
GYA				S	**S**	**07 22 27.5**	**-1.6**
GYA				SCP	ScP	07 22 43.8	-0.4
GYA				SCS	ScS	07 26 50.4	-0.7
GYA				AMB	AMB		
	comp=Z,550nm,1.3s,mb5.6						
GYA				AMB	AMB		
	comp=Z,2µm,5.6s						
GYA				LR	LR		
	comp=N,2µm,13.4s						
GYA				LR	LR		
	comp=E,2µm,12.8s						
GYA				LR	LR		
	comp=Z,2µm,14.0s						
WHN	**Wuhan**	**36.64**	**343**	⇑P	**P**	**07 17 22.6**	**+1.0**
WHN				S	**S**	**07 22 32.0**	**-4.7**
WHN				LR	LR		
	comp=Z,4µm,20.9s						
NJ2	**Nanjing**	**37.01**	**350**	eP	**P**	**07 17 24.9**	**+0.2**
NJ2				AP	pP	07 18 38.4	+3.1
NJ2				PP	PP	07 19 03.3	+4.8
NJ2				XP	sP	07 19 20.8	+2.9
NJ2				S	**S**	**07 22 42.0**	**-0.2**
NJ2				PCS	PcS	07 23 24.0	-1.3
NJ2				AMB	AMB		
	comp=Z,1µm,0.8s,mb6.1						
NJ2				AMB	AMB		
	comp=Z,1µm,3.7s						
NJ2				LR	LR		
	comp=N,3µm,22.3s						
NJ2				LR	LR		
	comp=E,2µm,16.0s						
NJ2				LR	LR		
	comp=Z,4µm,19.5s						
KMI	**Kunming**	**37.26**	**323**	⇑P	**P**	**07 17 28.8**	**+2.1**
KMI				AP	pP	07 18 41.3	+3.8
KMI				PP	PP	07 19 06.3	+5.1
KMI				XP	sP	07 19 24.8	+4.8
KMI				PCP	PcP	07 19 39.3	+2.0
KMI				PPP		07 19 44.9	
KMI				S	**S**	**07 22 46.6**	**+0.7**
KMI				SCP	ScP	07 22 49.3	+0.9
KMI				XS	sS	07 24 57.6	+3.1
KMI				SS	SS	07 25 45.3	-2.4
KMI				SSS		07 26 43.9	
KMI				SCS	ScS	07 26 57.1	-0.4
KMI				AMB	AMB		
	comp=Z,616nm,1.0s,mb5.8						
KMI				AMB	AMB		
	comp=Z,2µm,3.1s						
KMI				LR	LR		
	comp=N,1µm,18.3s						
KMI				LR	LR		
	comp=E,1µm,13.7s						
KMI				LR	LR		
	comp=Z,1µm,22.1s						
RIV	**Riverview**	**37.27**	**145**	eP	**P**	**07 17 28.8**	**+2.0**
RIV				eS	**S**	**07 22 49.8**	**+3.7**
TOO	**Toolangi**	**37.34**	**154**	⇓iP	**P**	**07 17 28.9**	**+1.5**
	comp=Z,667nm,0.9s,mb5.9						
TOO				eS	**S**	**07 22 48.8**	**+1.7**
TOO	**Toolangi**	**37.34**	**154**	⇓iP	**P**	**07 17 28.9**	**+1.5**
TOO				eS	**S**	**07 22 48.8**	**+1.7**
TOO				pmax	pmax		
	comp=Z,667nm,0.9s,mb5.9						
CNB	**Canberra Magne**	**37.38**	**148**	⇓iP	**P**	**07 17 29.1**	**+1.3**
	comp=Z,799nm,0.9s,mb6.0						
JHJ	**Hachijo jima 2**	**39.53**	**18**	P	**P**	**07 17 44.1**	**-1.3**
	comp=Z,232nm,0.7s,mb5.5,baz=77,slow=19,SNR=9.7						
CD2	**Chengdu**	**41.24**	**330**	⇑iP	**P**	**07 17 59.0**	**-0.2**
CD2				AP	pP	07 19 13.8	+2.3
CD2				PP	PP	07 19 44.4	+0.7
CD2				XP	sP	07 19 56.3	+2.7
CD2				SCP	ScP	07 23 03.3	-0.5
CD2				PCS	PcS	07 23 41.8	0.0
CD2				S	**S**	**07 23 44.9**	**+0.2**
CD2				XS	sS	07 25 56.8	+1.5
CD2				SCS	ScS	07 27 18.3	-2.8
CD2				AMB	AMB		
	comp=Z,470nm,0.9s,mb5.7						
CD2				AMB	AMB		
	comp=Z,550nm,7.5s						
CD2				LR	LR		
	comp=N,1µm,13.2s						
CD2				LR	LR		
	comp=Z,810nm,17.4s						
TIA	**Tai'an**	**41.37**	**349**	eP	**P**	**07 17 59.3**	**-1.1**
XAN	**Xi'an**	**41.67**	**338**	P	**P**	**07 18 01.9**	**-0.8**
XAN				AMB	AMB		
	comp=Z,638nm,1.0s,mb5.7						
XAN				AMB	AMB		
	comp=Z,669nm,7.6s						
XAN				LR	LR		
	comp=N,1µm,18.1s						
XAN				LR	LR		
	comp=E,625nm,18.1s						
XAN				LR	LR		
	comp=Z,2µm,18.8s						
INCN	**Inchon**	**41.75**	**0**	⇓P	**P**	**07 18 03.1**	**-0.3**
	SNR=21						
INCN	**Inchon**	**41.75**	**0**	eP	**P**	**07 18 03.2**	**-0.1**
	comp=Z,365nm,1.0s,mb5.5						
INCN				epP	pP	07 19 17.7	+1.9
INCN				LR	LR		
	comp=Z,857nm,20.0s						
MJAR	**Matsushiro Arr**	**42.31**	**14**	P	**P**	**07 18 06.8**	**-1.1**
	comp=Z,466nm,1.0s,mb5.6,baz=188,slow=8.9,SNR=555						
MJAR				PP	PP	07 19 50.2	-4.8
	comp=Z,50nm,1.2s,baz=210,slow=5.6,SNR=4.7						
MJAR				ScP	ScP	07 23 06.6	-1.5
	comp=Z,56nm,1.1s,baz=201,slow=5.4,SNR=12						
MJAR				S	**S**	**07 23 55.9**	**-4.5**
	comp=Z,7.2nm,0.9s,baz=189,slow=13,SNR=4.9						
MJAR	**Matsushiro Arr**	**42.31**	**14**	P	**P**	**07 18 06.8**	**-1.1**
MJAR						07 19 50.2	
MJAR				S	**S**	**07 23 55.9**	**-4.5**
MAJO	**Matsushiro**	**42.31**	**14**	P	**P**	**07 18 07.0**	**-0.9**
MAJO				ScP	ScP	07 23 06.5	-1.7
MAJO				S	**S**	**07 23 56.5**	**-3.9**
MAJO				ScS	ScS	07 27 25.8	-1.9
MAJO	**Matsushiro**	**42.31**	**14**	eP	**P**	**07 18 07.0**	**-0.9**
MAJO				e*PP	pP	07 19 21.1	+0.6
MAJO				e		07 19 50.8	
MAJO				eS	**S**	**07 23 55.5**	**-4.9**
MAJO				pmax	pmax		
	comp=Z,459nm,1.0s,mb5.6						
MAJO				MLR	MLR		
	comp=Z,1µm,20.0s						
MAJO	**Matsushiro**	**42.31**	**14**	eP	**P**	**07 18 07.0**	**-0.9**
	comp=Z,473nm,1.0s,mb5.6						
MAJO				epP	pP	07 19 21.1	+0.6
MAJO				ePcP	PcP	07 19 50.8	-2.9
MAJO				eScP	ScP	07 23 07.2	-0.9
MAJO				eS	**S**	**07 23 55.5**	**-4.9**

MAJO LR LR
comp=Z,2µm,20.0s
MAT Matsushiro 42.31 14 P **P** **07 18 06.9 -1.0**
MAT S **S** **07 23 56.0 -4.4**
NOUC Port Laguerre 42.54 118 *e*P **P** **07 18 10.1 +0.5**
TAU Tasmania Unive 42.59 157 P **P** **07 18 11.1 +1.0**
comp=Z,2µm,1.6s,mb6.0,SNR=18
TAU Tasmania Unive 42.59 157 *e*P **P** **07 18 10.9 +0.8**
TAU *e* 07 19 53.2
TAU pmax pmax
comp=Z,495nm,1.2s,mb5.5
TAU MLR MLR
comp=Z,4µm,21.0s
TAU Tasmania Unive 42.59 157 *e*P **P** **07 18 10.9 +0.8**
comp=Z,495nm,1.2s,mb5.5
TAU *e*PcP PcP 07 19 53.2 -1.4
TAU LR LR
comp=Z,4µm,21.0s
DZM Mont Dzumac 42.65 118 *e*P **P** **07 18 11.2 +0.6**
DZM Mont Dzumac 42.65 118 P **P** **07 18 11.5 +1.0**
comp=Z,224nm,1.0s,mb5.2,baz=289,slow=6.7,SNR=43
BKM Butte a Klehm 43.12 111 ⇓*i*P **P** **07 18 15.5 +1.2**
DL2 Dalian 43.38 355 ⇑*i*P **P** **07 18 14.3 -2.0**
DL2 AP pP 07 19 32.4 +3.0
DL2 PP PP 07 20 05.6 -0.4
DL2 XP sP 07 20 13.8 +2.5
DL2 SCP ScP 07 23 11.4 -1.1
DL2 S **S** **07 24 11.1 -4.7**
DL2 XS sS 07 26 24.9 -2.6
DL2 SCS ScS 07 27 31.8 -2.6
DL2 AMB AMB
comp=Z,370nm,0.9s,mb5.5
DL2 AMB AMB
comp=Z,520nm,5.3s
BJT Baijiatuau 45.24 349 *e*P **P** **07 18 30.1 -0.8**
BJT *e**PP pP 07 19 45.3 +0.6
BJT pmax pmax
comp=Z,667nm,1.1s
BJT MLR MLR
comp=Z,2µm,22.0s
BJT Baijiatuau 45.24 349 *e*P **P** **07 18 30.1 -0.8**
comp=Z,667nm,1.1s,mb5.7
BJT *e*pP pP 07 19 45.2 +0.6
BJT LR LR
comp=Z,2µm,22.0s
BJI Beijing 45.26 349 P **P** **07 18 30.3 -0.8**
BJI AP pP 07 19 45.3 +0.5
BJI PCP PcP 07 20 04.3 +0.6
BJI PP PP 07 20 22.6 -0.6
BJI SCP ScP 07 23 19.1 -1.1
BJI XS sS 07 26 52.6 -2.8
BJI SCS ScS 07 27 45.5 -1.0
BJI AMB AMB
comp=Z,551nm,1.1s,mb5.6
BJI AMB AMB
comp=Z,2µm,3.8s
LZH Lanzhou 45.49 334 ⇑P **P** **07 18 33.8 +1.0**
LZH AP pP 07 19 51.0 +4.3
LZH PCP PcP 07 20 05.8 +1.3
LZH PP PP 07 20 24.1 -1.2
LZH SCP ScP 07 23 21.3 +0.1
LZH S **S** **07 24 43.0 -2.9**
LZH XS sS 07 27 01.1 +2.4
LZH SCS ScS 07 27 46.5 -1.5
LZH AMB AMB
comp=Z,1µm,1.1s,mb6.0
LZH AMB AMB
comp=Z,4µm,4.5s
LZH LR LR
comp=N,3µm,14.4s
LZH LR LR
comp=Z,5µm,15.7s
PALK Pallekele 46.94 284 P **P** **07 18 42.6 -1.4**
comp=Z,5.5nm,0.6s
PALK *e*ScP ScP 07 23 25.9 -1.4
PALK LR LR
comp=Z,697nm,21.0s
HHC Hu-ho-hao-te 47.08 345 *e*P **P** **07 18 44.8 -0.2**
HHC AP pP 07 20 00.1 +0.6
HHC PCP PcP 07 20 12.8 +2.6
HHC PP PP 07 20 39.3 -0.5
HHC SCP ScP 07 23 27.3 -0.5
HHC S **S** **07 25 02.5 -5.8**
HHC XS sS 07 27 19.5 -2.4
HHC AMB AMB
comp=Z,352nm,1.2s,mb5.5
HHC LR LR
comp=N,512nm,14.7s
HHC LR LR
comp=E,529nm,17.7s
HHC LR LR
comp=Z,1µm,24.7s
BTO Baotou 47.27 343 *e*P **P** **07 18 44.4 -2.1**
VLA Vladivostok 47.65 6 *d*iP **P** **07 18 49.6 +0.2**
VLA *e**PP pP 07 20 04.6 +0.5
VLA *i*S **S** **07 25 15.3 -1.1**
VLA pmax pmax
comp=Z,811nm,1.4s,mb5.8
VLA MLR MLR
comp=Z,600nm,15.0s
VLA Vladivostok 47.65 6 *i*P **P** **07 18 49.3 -0.1**
CN2 Changchun 48.06 359 ⇑P **P** **07 18 51.0 -1.5**
CN2 *e*AP pP 07 20 08.1 +0.8
CN2 SCP ScP 07 23 28.5 -3.5
CN2 *e*S **S** **07 25 20.3 -1.8**
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,16.0s
CN2 LR LR
comp=E,500nm,16.0s
CN2 LR LR
comp=Z,800nm,17.0s
ERM Erimo 48.77 17 P **P** **07 18 58.1 +0.3**
comp=Z,1µm,1.0s,mb6.0,SNR=7.5
MDJ Mudanjiang 48.97 3 P **P** **07 18 59.3 0.0**
MDJ AP pP 07 20 14.4 -0.1
MDJ XP sP 07 20 55.1 -0.6
MDJ PP PP 07 20 58.9 +2.0
MDJ SCP ScP 07 23 34.6 -1.2
MDJ S **S** **07 25 30.3 -4.3**
MDJ XS sS 07 27 47.0 -2.2
MDJ SCS ScS 07 28 09.1 -2.0
MDJ SS SS 07 29 15.9 +5.1
MDJ AMB AMB
comp=Z,772nm,0.8s,mb6.0
MDJ AMB AMB
comp=Z,637nm,3.3s
MDJ LR LR
comp=N,564nm,18.5s
MDJ LR LR
comp=Z,820nm,20.6s
MDJ Mudanjiang 48.97 3 *e*P **P** **07 18 59.4 +0.1**
comp=Z,900nm,1.1s,mb5.9
MDJ *e* pP 07 20 13.8 -0.7
MDJ LR LR
comp=Z,882nm,21.0s
GTA Gaotai 50.02 333 P **P** **07 19 07.5 +0.3**
GTA AP pP 07 20 22.3 -0.4
GTA XP sP 07 20 59.9 -4.0
GTA PP PP 07 21 08.5 +2.0
GTA PPP 07 22 20.8
GTA SCP ScP 07 23 40.1 -0.3
GTA PCS PcS 07 24 17.9 -0.6
GTA SCS ScS 07 28 15.8 -2.5
GTA AMB AMB
comp=Z,505nm,1.4s,mb5.6
GTA AMB AMB
comp=Z,528nm,4.9s
GTA LR LR
comp=N,980nm,23.6s
GTA LR LR
comp=E,1µm,20.9s
GTA LR LR
comp=Z,2µm,20.9s
JIRN Jiri 50.14 312 ⇑*i*P **P** **07 19 08.7 +0.6**
comp=Z,569nm,0.7s,mb5.9
GUN Gumba 50.51 312 ⇑*i*P **P** **07 19 11.4 +0.6**
comp=Z,1µm,0.7s,mb6.3
ASAJ Asahikawa 50.56 15 P **P** **07 19 11.6 +0.4**
comp=Z,296nm,1.0s,mb5.5,baz=230,slow=12,SNR=177
ASAJ ScP ScP 07 23 41.3 -1.4
comp=Z,121nm,1.1s,baz=250,slow=13,SNR=11
ASAJ S **S** **07 25 54.7 -1.8**
comp=Z,19nm,1.1s,baz=121,slow=30,SNR=6.7
ASAJ Asahikawa 50.56 15 P **P** **07 19 11.6 +0.4**
ASAJ S **S** **07 25 54.7 -1.8**
ASAJ pmax pmax
comp=Z,296nm,1.0s
ASAJ pmax pmax
comp=N,121nm,1.2s
ASAJ smax
comp=N,19nm,1.1s
PKI Pulchoki 50.67 311 ⇑*i*P **P** **07 19 12.2 +0.2**
comp=N,523nm,0.9s,mb5.8
KKN Kakani 50.89 312 ⇑*i*P **P** **07 19 13.8 +0.2**
comp=N,644nm,0.8s,mb5.9
DMN Daman 50.92 311 ⇑*i*P **P** **07 19 14.2 +0.4**
comp=N,786nm,0.9s,mb5.9
YUK Yuzh-Kuril'sk 51.42 18 ⇑*i*P **P** **07 19 17.0 -0.5**
YUK pmax pmax
comp=Z,3µm,1.2s,mb6.4
YUK pmax pmax
comp=Z,430nm,0.6s,mb5.9
YUK pmax pmax
comp=N,270nm,0.5s
YUK pmax pmax
comp=E,320nm,0.7s
GKN Gorkha 51.48 311 ⇑*i*P **P** **07 19 18.2 +0.2**
comp=E,588nm,0.5s,mb6.0
HYB Hyderabad 51.87 296 *i*P **P** **07 19 21.5 +0.7**
HYB *e*S **S** **07 26 14.0 -0.2**
HYB Hyderabad 51.87 296 *e*P **P** **07 19 20.0 -0.8**
HYB *e*S **S** **07 26 08.0 -6.2**
KOLN Koldanda 52.14 310 ⇑*i*P **P** **07 19 23.3 +0.5**
comp=E,949nm,0.8s,mb6.2
FUNA Funafuti 52.72 97 *e*P **P** **07 19 27.6 +0.6**
comp=E,715nm,1.3s,mb5.8
FUNA LR LR
comp=Z,10µm,19.0s
YSS Yuzh-Sakhalins 53.25 14α *i*P **P** **07 19 30.4 -0.4**
YSS *e* 07 20 36.0
YSS *i**PP pP 07 20 51.0 +3.6
YSS *e**SP sP 07 21 27.0 -1.3
YSS *e* 07 21 33.8
YSS *e*S **S** **07 26 29.0 -3.8**
YSS *i* 07 26 38.0
YSS *e**SS sS 07 28 36.0 -14
YSS pmax pmax
comp=Z,280nm,1.1s,mb5.5
YSS pmax pmax
comp=Z,210nm,1.3s,mb5.3
YSS smax
comp=N,1µm,6.0s
YSS MLR MLR
comp=N,500nm,18.0s
YSS MLR MLR
comp=Z,500nm,18.0s
YSS Yuzh-Sakhalins 53.25 14 *e*P **P** **07 19 30.7 -0.1**
YSS *e*ScP ScP 07 23 53.3 -1.1
YSS LR LR
comp=Z,675nm,22.0s
HABR Khabarovsk 53.29 7 *i*P **P** **07 19 31.5 +0.4**
HABR *e*S **S** **07 26 32.1 -1.2**
HABR *e**SS sS 07 28 43.0 -7.3
HABR pmax pmax
comp=Z,672nm,1.1s,mb5.9
OUZ Omahuta 53.29 131 PN **P** **07 19 32.7 +1.6**
OUZ pP pP 07 20 56.2 +8.5
DGAR Diego Garcia 53.57 264 *e*P **P** **07 19 32.8 -0.3**
DGAR pmax pmax
comp=Z,507nm,1.1s,mb5.8
DGAR Diego Garcia 53.57 264 *e*P **P** **07 19 32.8 -0.3**
comp=Z,507nm,1.1s,mb5.8
KLR Kul'dur 53.70 4κ *i*P **P** **07 19 30.4 -3.7**
KLR *e* 07 21 31.5
KLR *e*S **S** **07 26 32.0 -6.8**
KLR pmax pmax
comp=E,70nm,1.8s
KLR pmax pmax
comp=Z,250nm,1.8s,mb5.2
KLR pmax pmax
comp=Z,1µm,7.0s
KLR MLR MLR
comp=E,600nm,13.0s
KLR MLR MLR
comp=Z,900nm,13.0s
HIA Hailar 53.83 355 P **P** **07 19 34.9 -0.1**
HIA ScP ScP 07 23 55.8 -1.1
HIA ScS ScS 07 28 42.0 -3.0
HIA Hailar 53.83 355 *e*P **P** **07 19 35.0 +0.1**
HIA *e* 07 20 35.4
HIA *e**PP pP 07 20 52.1 +0.3
HIA pmax pmax
comp=Z,275nm,1.0s
HIA MLR MLR
comp=Z,858nm,20.0s
HIA Hailar 53.83 355 *e*P **P** **07 19 35.0 +0.1**
comp=Z,275nm,1.0s,mb5.5
HIA *e*PcP PcP 07 20 35.4 +0.1
HIA *e*pP pP 07 20 52.1 +0.3
HIA LR LR
comp=Z,858nm,20.0s
MSZ Milford Sound 54.14 144 PN **P** **07 19 37.9 +0.7**
MSZ PcP PcP 07 20 36.8 +0.3
DCZ Deep Cove 54.17 145 PN **P** **07 19 37.5 +0.1**
DCZ PcP PcP 07 20 36.3 -0.3
JCZ Jackson Bay 54.30 143 PN **P** **07 19 39.2 +0.9**
JCZ PcP PcP 07 20 36.3 -0.8
JCZ pP pP 07 21 06.6 +11
FOZ Fox Glacier 54.58 142 PN **P** **07 19 40.7 +0.4**
MLZ Mavora Lakes 54.67 145 PN **P** **07 19 40.7 -0.3**
ULN Ulaanbaatar 54.79 344 ⇑P **P** **07 19 42.0 +0.2**
SNR=230
ULN Ulaanbaatar 54.79 344 *e*P **P** **07 19 42.0 +0.2**
ULN *e**PP pP 07 20 59.1 +0.2
ULN *e*S **S** **07 26 48.0 -5.2**
ULN pmax pmax
comp=Z,425nm,0.9s,mb5.8
ULN MLR MLR
comp=Z,627nm,19.0s
ULN Ulaanbaatar 54.79 344 *e*P **P** **07 19 42.0 +0.2**
comp=Z,425nm,0.9s,mb5.8
ULN *e*pP pP 07 20 59.1 +0.1
ULN *e*ScP ScP 07 24 00.4 -0.7
ULN *e*S **S** **07 26 48.0 -5.2**
ULN LR LR
comp=Z,627nm,19.0s
WHZ Wether Hill Ro 54.86 145 PN **P** **07 19 42.0 -0.4**
WHZ pP pP 07 21 06.8 +7.3
SONM Songino Array 54.94 344 P **P** **07 19 42.8 -0.1**
comp=Z,226nm,0.9s,mb5.5,baz=159,slow=6.4,SNR=781
SONM PcP PcP 07 20 38.7 -0.8
comp=Z,36nm,1.0s,baz=161,slow=4.7,SNR=3.8
SONM pP pP 07 20 59.9 -0.2
comp=Z,21nm,0.8s,baz=170,slow=12,SNR=2.8
SONM ScP ScP 07 24 00.5 -1.3
comp=Z,43nm,0.9s,baz=158,slow=4.9,SNR=10
SONM S **S** **07 26 51.8 -3.4**
comp=Z,0.8nm,1.0s,baz=178,slow=12,SNR=2.1
SONM PKPPKP 07 49 41.9
comp=Z,4.6nm,1.1s,baz=301,slow=1.8,SNR=6.1
SONM Songino Array 54.94 344 P **P** **07 19 42.8 -0.1**
SONM 07 20 38.7
SONM *PP pP 07 20 59.9 -0.2
SONM S **S** **07 26 51.8 -3.4**
WVZ Waitaha Valley 54.97 141 *e*PN **P** **07 19 43.1 +0.1**
WVZ PcP PcP 07 20 39.3 -0.4
WVZ pP pP 07 21 10.6 +10
WVZ Waitaha Valley 54.97 141 *e*P **P** **07 19 43.1 0.0**
DSZ Denniston Nort 54.97 139 *e*PN **P** **07 19 43.4 +0.4**
DSZ Denniston Nort 54.97 139 *e*P **P** **07 19 43.5 +0.4**
QRZ Quartz Range 55.00 138 *e*PN **P** **07 19 44.4 +1.1**
QRZ PcP PcP 07 20 39.4 -0.4
QRZ pP pP 07 21 08.1 +7.6
QRZ Quartz Range 55.00 138 *e*P **P** **07 19 44.4 +1.1**
EAZ Earnscleugh 55.27 144 PN **P** **07 19 44.8 -0.4**
comp=Z,210nm,0.7s,mb5.6
EAZ PcP PcP 07 20 41.1 +0.2
LBZ Lake Benmore 55.32 143 *e*PN **P** **07 19 45.3 -0.2**
LBZ Lake Benmore 55.32 143 *e*P **P** **07 19 45.3 -0.3**
APZ The Paps 55.44 146 ⇓PN **P** **07 19 46.6 +0.2**
APZ PcP PcP 07 20 41.6 +0.1
APZ pP pP 07 21 11.5 +7.8
RPZ Rata Peaks 55.50 142 P **P** **07 19 47.2 +0.4**
comp=Z,2µm,0.9s,mb6.5,baz=299,slow=2.2,SNR=551
RPZ Rata Peaks 55.50 142 ⇓*e*PN **P** **07 19 47.1 +0.3**
RPZ PcP PcP 07 20 42.7 +1.0
RPZ pP pP 07 21 12.4 +8.2
RPZ Rata Peaks 55.50 142 *e*P **P** **07 19 47.1 +0.3**
LGTI Lohaghat 55.53 310 *i*x x 07 19 45.0
LGTI *e*x x 07 21 05.0
HIZ Hauiti 55.57 134 *e*PN **P** **07 19 48.7 +1.3**
HIZ PcP PcP 07 20 43.5 +1.5
HIZ Hauiti 55.57 134 *e*P **P** **07 19 48.7 +1.4**
THZ Tophouse 55.70 139 *e*PN **P** **07 19 48.1 -0.1**
THZ pP pP 07 21 15.5 +10
THZ Tophouse 55.70 139 *e*P **P** **07 19 48.1 -0.1**
NNZ Nelson 55.76 138 *e*PN **P** **07 19 48.1 -0.5**
NNZ Nelson 55.76 138 *e*P **P** **07 19 48.1 -0.5**
LTZ Lake Taylor 55.78 140 *e*PN **P** **07 19 48.9 0.0**
LTZ Lake Taylor 55.78 140 *e*P **P** **07 19 48.9 +0.1**
TUZ Tuapeka 55.86 145 PN **P** **07 19 49.0 -0.4**
SYZ Scrubby Hill 55.91 145 PN **P** **07 19 49.0 -0.7**
SYZ PcP PcP 07 20 43.4 +0.1
ODZ Otahua Downs 55.95 143 PN **P** **07 19 49.5 -0.5**
KHZ Kahutara 56.43 139 *e*PN **P** **07 19 53.2 -0.1**
KHZ PcP PcP 07 20 44.7 -0.7
KHZ Kahutara 56.43 139 *e*P **P** **07 19 53.2 -0.1**
MCQ Macquarie Isla 56.47 158 ⇓*i*P **P** **07 19 54.3 +0.7**
PATZ Paeroa 56.52 134 *e*PN **P** **07 19 55.3 +1.3**
PATZ Paeroa 56.52 134 *e*P **P** **07 19 55.3 +1.3**
TAZ Tarawera 56.64 134 *e*PN **P** **07 19 55.6 +0.8**
TAZ Tarawera 56.64 134 *e*P **P** **07 19 55.6 +0.8**
SNZO South Karori 56.69 138 *e*P **P** **07 19 54.2 -0.9**
comp=Z,742nm,0.8s,mb6.1
WIZ White Island 56.86 133 PN **P** **07 19 57.4 +1.0**
WIZ White Island 56.86 133 P **P** **07 19 57.4 +1.0**
MRZ Mangatainoka R 56.99 137 ⇓*e*PN **P** **07 19 56.4 -0.8**
MRZ PcP PcP 07 20 46.9 -0.7
MRZ Mangatainoka R 56.99 137 *e*P **P** **07 19 56.4 -0.9**
URZ Urewera 57.09 133 P **P** **07 19 57.5 -0.4**
comp=Z,309nm,0.8s,mb5.7,baz=281,slow=4.2,SNR=139
URZ Urewera 57.09 133 *e*PN **P** **07 19 57.4 -0.5**
URZ PcP PcP 07 20 46.8 -1.1
URZ Urewera 57.09 133 *e*P **P** **07 19 57.4 -0.5**
NDI New Delhi 57.51 308 *e*x x 07 19 57.0
NDI *e*x x 07 21 20.5
ZAK Zakamensk 58.13 343 ⇓*i*P **P** **07 20 04.5 -0.6**
ZAK *e* 07 20 50.6
ZAK *e* pP 07 21 22.7 -0.6
ZAK pmax pmax
comp=Z,66nm,1.2s
ZAK pmax pmax
comp=Z,25nm,1.2s
ZAK pmax pmax
comp=Z,30nm,1.4s
SDNR Sundarnagar 58.99 311 *e*P **P** **07 20 10.8 -0.2**
SDNR *e*S pP 07 21 29.0 -0.5
TLY Talaya 59.18 344 P **P** **07 20 12.5 +0.2**
comp=Z,755nm,1.2s,mb6.0,SNR=63
WMQ Urumqi 59.29 328 P **P** **07 20 13.1 +0.1**
WMQ PCP PcP 07 20 57.0 +0.3
WMQ AP pP 07 21 34.5 +2.9
WMQ XP sP 07 22 15.1 +3.2
WMQ PP PP 07 22 31.3 +2.4
WMQ SCP ScP 07 24 19.4 -1.6
WMQ PCS PcS 07 24 57.8 -1.4
WMQ S **S** **07 27 49.6 -1.9**
WMQ AMB AMB
comp=Z,472nm,1.3s,mb5.8
WMQ AMB AMB
comp=Z,3µm,5.1s
WMQ Urumqi 59.29 328 P **P** **07 20 13.0 0.0**
WMQ pP pP 07 21 30.6 -1.0
WMQ S **S** **07 27 48.6 -2.8**
WMQ ScS ScS 07 29 21.4 -3.5
IRK Irkutsk 59.52 345 *e*P **P** **07 20 13.4 -1.1**
IRK *e* 07 28 03.2
IRK pmax pmax
comp=Z,363nm,1.8s,mb5.5
MOY Mondy 59.95 342 *e*P **P** **07 20 17.6 +0.2**
MOY pmax pmax
comp=Z,401nm,1.5s,mb5.6
AFI Afiamalu 61.73 103 *e*P **P** **07 20 30.2 +0.9**
AFI *e* 07 21 07.9
AFI *e**PP pP 07 21 51.4 +2.7
AFI pmax pmax
comp=Z,654nm,1.5s,mb5.9
AFI Afiamalu 61.73 103 *e*P **P** **07 20 30.2 +0.9**
comp=Z,654nm,1.5s,mb5.9
AFI *e*PcP PcP 07 21 07.9 +1.3
AFI *e*pP pP 07 21 51.4 +2.7
CASY Casey 62.66 187 ⇓*i*P **P** **07 20 34.6 -0.8**
CASY *e*S **S** **07 28 30.2 -3.5**
CASY Casey 62.66 187 ⇓*i*P **P** **07 20 34.6 -0.8**
CASY *e*S **S** **07 28 30.2 -3.5**
CASY LR LR
comp=Z,889nm,21.0s
NIL Nilore 62.77 311 P **P** **07 20 36.3 +0.2**
comp=Z,198nm,0.8s,mb5.7,SNR=5.1
DRV Dumont d'Urvil 62.81 174 P **P** **07 20 34.0 -2.4**
DRV S **S** **07 28 32.0 -3.5**
BOD Bodaibo 62.88 353 ⇓*i*P **P** **07 20 35.7 -1.2**
BOD pmax pmax
comp=Z,378nm,1.2s,mb5.8
PET Petropavlovsk 63.47 21α *i*P **P** **07 20 41.3 +0.6**
PET *e* 07 21 14.5
PET *e**PP pP 07 22 02.7 +2.2
PET *e* 07 23 05.5
PET *i*S **S** **07 28 43.3 -0.3**
PET *e* 07 29 54.0
PET *e*SS SS 07 33 01.1 +2.7
PET *e*SSS 07 35 58.8
PET pmax pmax
comp=Z,800nm,4.8s
PET pmax pmax
comp=N,144nm,1.1s
PET pmax pmax
comp=Z,328nm,1.1s,mb5.8
PET pmax pmax
comp=E,85nm,0.9s
PET pmax pmax
comp=Z,200nm,5.1s
PET pmax pmax
comp=Z,100nm,13.6s
PET pmax pmax
comp=Z,400nm,14.8s
PET pmax pmax
comp=Z,76nm,1.2s,mb5.1
PET pmax pmax
comp=Z,500nm,13.0s
PET pmax pmax
comp=Z,300nm,15.8s
PET pmax pmax
comp=Z,200nm,19.2s
PET smax
comp=E,2µm,9.7s
PET smax
comp=N,139nm,1.7s
PET smax
comp=E,1µm,13.6s
PET smax
comp=N,700nm,14.8s
PET MLR MLR
comp=Z,400nm,19.0s
PET Petropavlovsk 63.47 21 *e*P **P** **07 20 41.1 +0.5**
comp=Z,389nm,1.1s,mb5.8
PET *e*pP pP 07 21 58.7 -1.9
PET *e*sP sP 07 22 41.8 +1.3
PET LR LR
comp=Z,363nm,19.0s
MKAR Makanchi Array 64.11 328 P **P** **07 20 44.4 -0.4**
comp=Z,172nm,0.7s,mb5.8,baz=120,slow=8.5,SNR=660
MKAR PcP PcP 07 21 15.5 -0.9
comp=Z,33nm,0.8s,baz=113,slow=5.5,SNR=6.2
MKAR pP pP 07 22 03.8 -1.1
comp=Z,32nm,0.7s,baz=136,slow=7.8,SNR=3.6
MKAR S **S** **07 28 48.4 -3.1**
comp=Z,20nm,1.1s,baz=134,slow=10,SNR=12
MKAR PKPPKP 07 49 28.5
comp=Z,6.8nm,0.9s,baz=318,slow=3.3,SNR=6.4
MKAR Makanchi Array 64.11 328 P **P** **07 20 44.4 -0.4**
MKAR 07 21 15.5
MKAR *PP pP 07 22 03.8 -1.0
MKAR S **S** **07 28 48.4 -3.0**
MKAR Makanchi Array 64.11 328 P **P** **07 20 44.4 -0.4**
MKAR PcP PcP 07 21 15.5 -0.9
MKAR pP pP 07 22 03.8 -1.1
MKAR S **S** **07 28 48.4 -3.1**
MKAR P'P' 07 49 28.5

ULHL Ulahol 64.93 321 P **P** **07 20 50.4 +0.3**
SNR=29
KZA Kyzart 65.47 321 P **P** **07 20 54.6 +1.1**
SNR=42
TKM2 Tokmak 2 65.70 321 P **P** **07 20 55.3 +0.3**
SNR=125
KBK Karagaybulak 65.96 321 P **P** **07 20 57.2 +0.6**
SNR=18
MIR Mirnyy 66.12 194*d* iP **P** **07 20 58.0 +0.4**
MIR pmax pmax
comp=Z,4μm,1.0s
KRAR Krasnoyarsk 66.21 340⇓ *i* P **P** **07 20 55.3 -2.9**
KRAR pmax pmax
comp=Z,90nm,1.3s,mb5.3
AAK Ala-Archa 66.23 321 P **P** **07 20 58.9 +0.6**
SNR=61
FRU Bishkek 66.26 321 *e*P **P** **07 21 02.0 +3.5**
FRU *e* 07 29 15.0
FRU pmax pmax
comp=Z,260nm,2.0s,mb5.6
CHMS Chumysh 66.26 321 P **P** **07 20 58.3 -0.2**
SNR=22
YAK Yakutsk 66.38 2*c* *i*P **P** **07 20 59.5 +0.3**
YAK *e* 07 21 25.2
YAK *e**PP pP 07 22 25.2 +5.3
YAK *e* 07 23 29.2
YAK *e*PPP 07 25 14.1
YAK *i* S S 07 29 16.1 -2.6
YAK *i* 07 30 14.1
YAK pmax pmax
comp=Z,555nm,1.0s,mb6.2
YAK pmax pmax
comp=N,170nm,1.1s
YAK pmax pmax
comp=E,65nm,1.0s
YAK pmax pmax
comp=Z,27nm,0.8s,mb5.0
YAK pmax pmax
comp=N,22nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK smax
comp=E,255nm,1.3s
YAK smax
comp=Z,40nm,1.2s
YAK smax
comp=N,235nm,1.5s
YAK Yakutsk 66.38 2⇑ *i*P **P** **07 20 58.9 -0.3**
YAK *e*pP pP 07 22 19.1 -0.8
YAK *es*P sP 07 23 00.9 +1.2
YAK LR LR
comp=Z,559nm,19.0s
AML Almayashu 66.49 320 P **P** **07 21 00.8 +0.9**
SNR=124
USP Ospenovka 66.56 321 P **P** **07 21 00.4 +0.1**
SNR=100
EKS2 Erkin-Say 66.70 320 P **P** **07 21 01.9 +0.7**
SNR=104
MA2 Magadan 66.74 13⇑ *e*P **P** **07 21 02.0 +0.5**
MA2 pmax pmax
comp=Z,245nm,1.1s,mb5.8
MA2 Magadan 66.74 13 *e*P **P** **07 21 02.1 +0.6**
comp=Z,230nm,1.0s,mb5.9
MA2 *e*pP pP 07 22 18.8 -3.5
MA2 *e*PP PP 07 23 32.2 -1.8
MA2 LR LR
comp=Z,591nm,20.0s
ZAL Zalesovo 67.72 335 P **P** **07 21 05.8 -1.8**
comp=Z,87nm,0.9s,mb5.5,baz=345,slow=5.6,SNR=270
ZAL S S 07 29 27.9 -6.7
comp=Z,16nm,1.1s,baz=251,slow=24,SNR=48
KURK Kurchatov 68.46 330 P **P** **07 21 11.6 -0.5**
comp=Z,2μm,0.9s,mb6.9,SNR=64
KURK Kurchatov 68.46 330 *e*P **P** **07 21 11.4 -0.7**
KURK *e**PP pP 07 22 31.6 -1.7
KURK pmax pmax
comp=Z,275nm,0.8s,mb6.0
KURK MLR MLR
comp=Z,696nm,19.0s
KURK Kurchatov 68.46 330 *e*P **P** **07 21 11.4 -0.7**
comp=Z,275nm,0.8s,mb6.0
KURK *e*pP pP 07 22 31.6 -1.8
KURK LR LR
comp=Z,696nm,19.0s
NVS Novosibirsk 69.00 335⇑ *i*P **P** **07 21 14.0 -1.4**
NVS *e* 07 21 38.9
NVS *i* *PP pP 07 22 33.4 -3.4
NVS *e* 07 30 16.9
NVS pmax pmax
comp=Z,209nm,1.1s,mb5.8
NVS pmax pmax
comp=N,135nm,1.2s
NVS pmax pmax
comp=E,130nm,1.1s
NVS pmax pmax
comp=Z,62nm,1.4s,mb5.2
NVS pmax pmax
comp=N,43nm,1.3s
NVS pmax pmax
comp=E,40nm,1.3s
KK31 Karatay Array 69.01 320 *i* P **P** **07 21 14.7 -0.8**
KK31 pmax pmax
comp=Z,70nm,1.1s,mb5.3
KK31 Karatay Array 69.01 320 *i* P **P** **07 21 14.8 -0.7**
SMY Shemya 69.80 29 PFAKE 07 21 30.0 +10
SMY LR LR
comp=Z,632nm,21.0s
WBK Wadi Bani Khal 70.97 296⇑ P **P** **07 21 27.6 +0.3**
SNR=7.4
WSAR Wadi Sarin 71.42 296 P **P** **07 21 29.5 -0.4**
comp=Z,44nm,0.9s,mb5.2,baz=107,slow=6.8,SNR=25
WSAR pP pP 07 22 51.3 -0.6
comp=Z,39nm,1.1s,baz=105,slow=8.3,SNR=3.9
WSAR Wadi Sarin 71.42 296 P **P** **07 21 29.5 -0.4**
WSAR pP pP 07 22 51.3 -0.6
HOQ Hoqain 72.68 296⇑ P **P** **07 21 37.3 0.0**
SNR=20
ARQ Araqi 73.33 296⇑ P **P** **07 21 41.2 +0.1**
SNR=6.8
BVAR Borovoye Array 73.98 329 pP pP 07 23 05.1 -2.4
comp=Z,25nm,0.9s,baz=128,slow=9.6,SNR=3.8
BVAR S S 07 30 40.8 -5.2
comp=Z,10nm,1.1s,baz=133,slow=11,SNR=11
BVAR PKPPKP 07 49 07.9
comp=Z,2.2nm,0.9s,baz=289,slow=4.5,SNR=5.9
BRVK Borovoye 74.05 329 P **P** **07 21 44.8 -0.4**
comp=Z,550nm,1.0s,mb6.2,SNR=36
BRVK Borovoye 74.05 329 *e*P **P** **07 21 44.7 -0.5**
BRVK *e**SP sP 07 23 46.2 -1.0
BRVK *eS* S 07 30 40.2 -6.6
BRVK pmax pmax
comp=Z,61nm,1.0s,mb5.3
BRVK MLR MLR
comp=Z,176nm,20.0s
BRVK Borovoye 74.05 329 *e*P **P** **07 21 44.7 -0.5**
comp=Z,97nm,1.0s,mb5.5
BRVK *e*pP pP 07 23 04.2 -3.7
BRVK *es*P sP 07 23 46.2 -1.0
BRVK *eS* S 07 30 40.1 -6.7
BRVK LR LR
comp=Z,284nm,20.0s
CHKZ Chkalovo 74.19 329 *e*P **P** **07 21 45.3 -0.8**
CHKZ *e**PP pP 07 23 06.3 -2.5
CHKZ *eS* S 07 30 40.4 -8.1
CHKZ pmax pmax
comp=Z,93nm,1.0s,mb5.5
CHKZ Chkalovo 74.19 329 *e*P **P** **07 21 45.3 -0.8**
comp=Z,93nm,1.0s,mb5.5
CHKZ *e*pP pP 07 23 06.3 -2.5
CHKZ *eS* S 07 30 40.4 -8.0
ZRNK Zerenda 74.66 328 *e*P **P** **07 21 48.2 -0.5**
ZRNK *e**SP sP 07 23 48.7 -2.1
ZRNK *eS* S 07 30 47.3 -6.3
ZRNK pmax pmax
comp=Z,113nm,0.8s,mb5.7
ZRNK Zerenda 74.66 328 *e*P **P** **07 21 48.2 -0.6**
comp=Z,112nm,0.8s,mb5.7
ZRNK *e*pP pP 07 23 08.0 -3.6
ZRNK *es*P sP 07 23 48.7 -2.1
ZRNK *eS* S 07 30 47.3 -6.2
WHFO Wadi Hawf 74.82 290 P **P** **07 21 49.4 -0.2**
SNR=8.4
VNDA Vanda 75.40 172 P **P** **07 21 51.6 -1.3**
comp=Z,172nm,0.8s,mb5.8,baz=318,slow=6.1,SNR=627
VNDA S S 07 30 57.0 -4.6
comp=Z,4.9nm,1.0s,baz=114,slow=19,SNR=13
VNDA PKPPKP 07 49 09.4
comp=Z,5.0nm,1.2s,baz=91,slow=2.1,SNR=5.1
VNDA Vanda 75.40 172⇓ *i*P **P** **07 21 51.7 -1.2**
VNDA *e**SP S 07 30 53.3 -8.3
VNDA pmax pmax
comp=Z,208nm,0.9s
VNDA MLR MLR
comp=Z,1μm,19.0s
VNDA Vanda 75.40 172⇓ *i*P **P** **07 21 51.7 -1.2**
comp=Z,208nm,0.9s,mb5.9
VNDA *es*P S 07 30 53.3 -8.3
VNDA LR LR
comp=Z,1μm,19.0s
ABKT Ailbek 75.76 311 P **P** **07 21 55.9 +1.0**
comp=Z,236nm,1.1s,mb5.8,SNR=13
MAW Mawson 75.95 201⇓ *i*P **P** **07 21 55.3 -0.7**
comp=Z,348nm,1.0s,mb6.0
MAW *eS* S 07 31 03.0 -4.6
MAW Mawson 75.95 201 P **P** **07 21 55.4 -0.6**
comp=Z,351nm,1.0s,mb6.0,baz=71,slow=6.3,SNR=410
MAW S S 07 31 03.2 -4.4
comp=Z,3.7nm,1.2s,baz=232,slow=18,SNR=2.7
MAW PKPPKP 07 49 06.8
comp=Z,5.8nm,1.1s,baz=270,slow=1.8,SNR=6.0
MAW Mawson 75.95 201 P **P** **07 21 55.4 -0.6**
MAW S S 07 31 03.2 -4.4
MAW pmax pmax
comp=Z,351nm,1.0s
MAW smax
comp=N,4.0nm,1.2s
MAW pmax pmax
comp=Z,6.0nm,1.1s
TIXI Tiksi 76.00 1 *e*P **P** **07 21 52.0 -4.3**
TIXI pmax pmax
comp=Z,104nm,1.3s,mb5.4
TIXI MLR MLR
comp=Z,418nm,18.0s
TIXI Tiksi 76.00 1⇑ *e*P **P** **07 21 55.1 -1.2**
TIXI LR LR
comp=Z,1μm,19.0s
SBA Scott Base 76.32 172 *e*P **P** **07 21 57.7 -0.4**
SBA *e* 07 22 05.9
SBA pmax pmax
comp=Z,251nm,1.0s,mb5.9
SBA MLR MLR
comp=Z,936nm,21.0s
SBA Scott Base 76.32 172 *e*P **P** **07 21 57.6 -0.4**
comp=Z,251nm,1.0s,mb5.9
SBA *e*PcP PcP 07 22 05.9 -2.3
SBA *e*pP pP 07 23 18.1 -3.3
SBA LR LR
comp=Z,936nm,21.0s
OPO Ambohidratompo 78.24 252 P **P** **07 22 09.2 +0.6**
comp=Z,167nm,0.7s,mb5.9,baz=84,slow=4.4,SNR=104
HON Honolulu 78.41 67 *e*P **P** **07 22 10.4 +0.9**
KIP Kipapa 78.42 67 *e*P **P** **07 22 09.0 -0.6**
KIP Kipapa 78.42 67 *e*P **P** **07 22 08.3 -1.2**
comp=Z,155nm,1.0s,mb5.7
KIP *e*pP pP 07 23 36.2 +3.0
AKTK Aktyubinsk 79.82 323 P **P** **07 22 16.7 -0.4**
AKTK pP pP 07 23 41.3 +0.1
AKTK S S 07 31 42.7 -6.0
AKTK PKKPbc PKKPbc 07 41 00.3 +0.4
AKTO Aktyubinsk 79.82 323 P **P** **07 22 16.7 -0.4**
comp=Z,53nm,0.8s,mb5.3,baz=109,slow=7.0,SNR=125
AKTO pP pP 07 23 41.3 +0.1
comp=Z,41nm,0.8s,baz=110,slow=8.9,SNR=3.4
AKTO S S 07 31 42.7 -6.0
comp=Z,2.1nm,0.8s,baz=23,slow=22,SNR=26
AKTO PKKPbc PKKPbc 07 41 00.3 +0.4
comp=Z,8.3nm,0.9s,baz=312,slow=2.6,SNR=19
AKTO Aktyubinsk 79.82 323 *i* P **P** **07 22 16.2 -0.9**
AKTO pmax pmax
comp=Z,20nm,1.0s,mb4.8
KKH Kailua Kona 79.99 69 *e*P **P** **07 22 15.8 -2.2**
SVE Sverdlovsk 80.71 330⇑ *i*P **P** **07 22 20.8 -1.0**
SVE *e* 07 25 32.0
SVE *eS* S 07 31 50.0 -7.8
SVE pmax pmax
comp=Z,120nm,2.1s,mb5.3
SVE MLR MLR
comp=N,400nm,17.0s
SVE MLR MLR
comp=E,300nm,17.0s
SVE MLR MLR
comp=Z,400nm,17.0s
AKUT Akutan 80.95 34 *e*P **P** **07 22 23.1 +0.1**
comp=Z,216nm,0.8s,mb5.9
ARU Arti 81.62 329 P **P** **07 22 25.6 -1.0**
comp=Z,437nm,0.9s,mb6.3,SNR=18
ARU Arti 81.62 329⇑ *i*P **P** **07 22 25.5 -1.1**
ARU *e* pP 07 23 48.3 -2.7
ARU *e*SP 07 24 28.1
ARU *e* 07 25 38.3
ARU *e*PPP 07 27 28.9
ARU *eS* S 07 32 00.6 -6.5
ARU *e*SSS 07 41 01.6
ARU pmax pmax
comp=Z,86nm,1.1s,mb5.5
ARU MLR MLR
comp=Z,400nm,20.0s
ARU MLR MLR
comp=N,100nm,21.0s
ARU MLR MLR
comp=E,300nm,19.0s
ARU Arti 81.62 329 *e*P **P** **07 22 25.3 -1.2**
ARU *e*pP pP 07 23 49.7 -1.3
ARU *e*PP PP 07 25 37.7 -1.4
ARU LR LR
comp=Z,504nm,20.0s
QRN Al-Qurain 81.96 300 *e*P **P** **07 22 28.1 -0.2**
QRN AMb AMB 07 22 29.1
comp=Z,377nm,0.6s,mb6.4
KBD Kabd 82.23 300 *e*P **P** **07 22 29.5 -0.2**
KBD AMb AMB 07 22 31.8
comp=Z,586nm,1.0s,mb6.4
UMR Umm Al-Rimmam 82.27 300 *e*P **P** **07 22 29.9 0.0**
UMR AMb AMB 07 22 30.7
comp=Z,294nm,0.8s,mb6.1
RDF Al-Radifah 82.31 300 *e*P **P** **07 22 30.0 -0.1**
RDF AMb AMB 07 22 32.2
comp=Z,366nm,1.1s,mb6.1
LBOS 82.37 285⇓ *e*P **P** **07 22 32.5 +2.1**
NAY Al-Naaiem 82.63 300 *e*P **P** **07 22 31.4 -0.3**
NAY AMb AMB 07 22 33.5
comp=Z,220nm,1.3s,mb5.8
MIB Mutribah 82.64 301 *e*P **P** **07 22 31.6 -0.1**
MIB AMb AMB 07 22 33.5
comp=Z,428nm,1.1s,mb6.2
TBI Tubuai 83.00 113 *e*P **P** **07 22 35.5 +1.9**
comp=Z,382nm,1.1s,mb6.1
PAE Paea 83.10 107 *e*P **P** **07 22 36.7 +2.6**
comp=Z,349nm,1.1s,mb6.1
PPT Papeete 83.11 107 *e*P **P** **07 22 36.8 +2.6**
comp=Z,303nm,1.4s,mb5.9
PPT Papeete 83.11 107 P **P** **07 22 35.2 +1.0**
comp=Z,165nm,1.0s,mb5.8,baz=316,slow=0.1,SNR=9.6
DHBB Dhamar BB 83.27 285⇓ *e*P **P** **07 22 37.1 +2.2**
DHBB AMb AMB 07 22 38.3
comp=Z,161nm,0.6s,mb6.0
TRBA At Turbah 83.39 284⇓ *e*P **P** **07 22 37.7 +2.1**
TRBA AMb AMB 07 22 38.4
comp=Z,78nm,0.6s,mb5.7
TVO Taravao 83.41 107 *e*P **P** **07 22 38.5 +2.8**
comp=Z,754nm,1.2s,mb6.4
SDPT Sand Point 84.25 33 *e*P **P** **07 22 39.5 -0.4**
comp=Z,273nm,0.5s,mb6.3
SYO Syowa Base 84.65 201⇑ *i*P **P** **07 22 40.3 -1.6**
SYO Syowa Base 84.65 201⇓ *i*P **P** **07 22 42.2 +0.3**
PMOR Pomariorio Ree 84.85 105 *e*P **P** **07 22 45.5 +2.6**
comp=Z,384nm,1.1s,mb6.1
VAH Vaihoa 85.10 105 *e*P **P** **07 22 46.4 +2.3**
comp=Z,330nm,1.2s,mb6.0
QSPA South Pole Qui 85.48 180⇓ *i*P **P** **07 22 45.0 -0.9**
comp=Z,544nm,1.0s,mb6.3
QSPA LR LR
comp=Z,865nm,19.0s
CHGN Chignik 85.62 33 *e*P **P** **07 22 45.9 -0.7**
BHD Baghdad 85.66 304 *i* x x 07 22 44.0
BHD *i* x x 07 24 08.0
BHD *ex* x 07 32 31.5
BHD *ex* x 07 32 41.5
DGRG David-gareji 86.13 312 P **P** **07 22 50.3 +1.3**
DGRG S S 07 32 35.8 -16
GNI Garni 86.39 311 P **P** **07 22 50.7 +0.3**
comp=Z,45nm,0.9s,mb5.3,baz=7.7,slow=18,SNR=14
GNI Garni 86.39 311*d* iP **P** **07 22 51.1 +0.7**
GNI pmax pmax
comp=Z,68nm,1.3s
GNI Garni 86.39 311 *e*P **P** **07 22 51.3 +0.9**
comp=Z,47nm,0.9s,mb5.3
GNI LR LR
comp=Z,239nm,21.0s
MTA Mtatsminda 86.60 312 P **P** **07 22 51.9 +0.5**
MTA S S 07 32 39.8 -16
TBLG Delisi 86.64 312 P **P** **07 22 52.6 +1.1**
MSL Mosul 87.13 307 *i* x x 07 22 55.5
MSL *ex* x 07 24 22.0
MSL *ex* x 07 32 44.0
MSL *ex* x 07 32 59.0
GOR Gori 87.14 312 P **P** **07 22 55.4 +1.5**
ZEI Tsey 87.42 313 *e*P **P** **07 22 55.6 +0.4**
ZEI *e**PP pP 07 24 18.6 -2.4
ZEI *e* 07 26 26.4
ZEI *eS* S 07 32 44.4 -19
ZEI pmax pmax
comp=Z,63nm,0.8s,mb5.5
AKH Akhalkalaki 87.52 312 P **P** **07 22 56.7 +1.0**
AKH S S 07 33 05.3 +0.5
ONI Oni 87.72 313 P **P** **07 22 57.1 +0.4**
ONI S S 07 32 46.8 -20
SVW2 Sparrevohn 88.19 28 *e*P **P** **07 22 58.8 -0.1**
GOF Gofitskoye 88.36 315 *e*P **P** **07 22 59.1 -0.5**
GOF pmax pmax
comp=Z,73nm,0.7s,mb5.6
TTA Tatalina 88.40 27 *e*P **P** **07 22 59.2 -0.6**
TTA *e**PP pP 07 24 28.0 +2.2
TTA Tatalina 88.40 27 *e*P **P** **07 22 59.5 -0.3**
KMBO Kilima Mbogo 88.92 269 P **P** **07 23 02.5 +0.3**
comp=Z,20nm,0.9s,mb4.9,baz=71,slow=5.2,SNR=36
KMBO pP pP 07 24 28.9 +0.5
comp=Z,7.1nm,1.0s,baz=76,slow=5.8,SNR=3.1
KMBO Kilima Mbogo 88.92 269 *i* P **P** **07 23 02.5 +0.2**
KMBO pmax pmax
comp=Z,20nm,0.9s
KDAK Kodiak Island 89.05 32 P **P** **07 23 02.6 -0.3**
comp=Z,233nm,1.2s,mb5.9,SNR=8.4
KDAK Kodiak Island 89.05 32 P **P** **07 23 02.3 -0.6**
comp=Z,31nm,0.9s,mb5.1,baz=274,slow=2.3,SNR=14
KDAK pP pP 07 24 28.9 -0.1
comp=Z,14nm,0.8s,baz=294,slow=0.3,SNR=3.8
KDAK PKKPbc PKKPbc 07 40 37.9 -0.6
comp=Z,4.3nm,0.7s,baz=334,slow=2.7,SNR=3.6
KDAK Kodiak Island 89.05 32 *e*P **P** **07 23 02.5 -0.4**
comp=Z,66nm,1.2s,mb5.3
KDAK *e*pP pP 07 24 34.2 +5.2
KDAK LR LR
comp=Z,135nm,19.0s
IMA2 Indian Mountai 90.04 24 *e*P **P** **07 23 06.9 -0.6**
VRHR Novokhopersk 90.08 321 *e*P **P** **07 23 06.3 -1.4**
VRHR pmax pmax
comp=Z,80nm,0.9s,mb5.7
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.7s
SLKM Skilak Lake 90.67 29 *e*P **P** **07 23 09.2 -1.2**
MALT Malatya 91.05 308⇓ *i*P **P** **07 23 12.6 +0.5**
MALT Malatya 91.05 308 *e*P **P** **07 23 12.7 +0.6**
MALT *e*pP pP 07 24 39.8 +1.5
PMR Palmer 91.34 28 *e*P **P** **07 23 12.1 -1.4**
PMR pmax pmax
comp=Z,104nm,1.3s,mb5.6
PMR MLR MLR
comp=Z,499nm,19.0s
PMR Palmer 91.34 28 *e*P **P** **07 23 12.1 -1.4**
comp=Z,104nm,1.3s,mb5.6
PMR LR LR
comp=Z,499nm,19.0s
VRSR Storozhevoye 91.62 321 *e*P **P** **07 23 13.2 -1.6**
VRSR pmax pmax
comp=Z,120nm,1.3s,mb5.7
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=E,100nm,0.9s
VOR Voronezh 91.66 322 *e*P **P** **07 23 25.5 +11**
VOR pmax pmax
comp=E,100nm,1.3s
VOR pmax pmax
comp=Z,150nm,1.3s,mb5.8
ASF Jabal al Asfar 91.82 302 P **P** **07 23 16.3 +0.7**
comp=Z,14nm,0.9s,mb4.9,baz=311,slow=1.4,SNR=14
COLA College 92.27 25 *e*P **P** **07 23 15.7 -2.1**
COLA *e**PP pP 07 24 42.4 -1.7
COLA pmax pmax
comp=Z,18nm,0.8s,mb5.0
COLA MLR MLR
comp=Z,274nm,19.0s
COLA College 92.27 25 *e*P **P** **07 23 15.7 -2.1**
comp=Z,18nm,0.8s,mb5.0
COLA *e*pP pP 07 24 42.4 -1.7
COLA *e*PP PP 07 26 53.4 -11
COLA *e*PKPdf PKiKP 07 28 03.5 -1.4
COLA LR LR
comp=Z,274nm,19.0s
ANN Anapa 92.29 315 *e*P **P** **07 23 15.4 -2.5**
ANN *e**PP pP 07 24 39.0 -5.2
ANN *e* 07 33 40.5
ANN *e*SP SP 07 35 01.5 -0.2
ANN pmax pmax
comp=Z,147nm,1.2s,mb5.8
MOS Moscow 92.90 326 *e*P **P** **07 23 17.2 -3.5**
MOS *i* *PP pP 07 24 48.8 +1.8
MOS *i* 07 33 13.1
MOS *i* S S 07 33 49.6 -3.9
MOS *e* 07 35 06.9
MOS *e*PS PS 07 36 01.2 +4.7
MOS pmax pmax
comp=Z,45nm,0.8s,mb5.5
MOS smax
comp=E,900nm,3.3s
MOS smax
comp=N,2μm,3.0s
MOS MLR MLR
comp=Z,1μm,22.0s
MMAI Mount Meron Ar 93.13 303 P **P** **07 23 22.1 +0.4**
comp=Z,21nm,0.9s,mb5.2,baz=93,slow=6.1,SNR=19
MMAI pP pP 07 24 48.0 -0.1
comp=Z,1.1nm,0.4s,baz=348,slow=6.3,SNR=3.3
EIL Elat 93.33 299 *e*P **P** **07 23 22.5 -0.1**
comp=Z,294nm,0.9s,mb6.3
EIL *e*pP pP 07 24 49.0 0.0
OBN Obninsk 93.46 325*d* iP **P** **07 23 21.6 -1.7**
OBN *i* 07 24 53.4
OBN *i* 07 33 18.8
OBN *i* S S 07 33 56.1 -2.3
OBN *i* SS SS 07 40 26.0 +0.8
OBN pmax pmax
comp=Z,57nm,1.2s,mb5.5
OBN MLR MLR
comp=Z,700nm,24.0s
OBN Obninsk 93.46 325⇑ *i*P **P** **07 23 21.7 -1.6**
OBN LR LR
comp=Z,700nm,24.0s
NVL N'lazarevskaya 93.64 198*d* iP **P** **07 23 22.9 -1.1**
NVL *eS* S 07 33 49.3 -11
NVL *e*PS Sx 07 35 24.9
NVL *eSS* SS 07 40 25.2 -2.4
NVL *e*SSS 07 44 16.2
NVL pmax pmax
comp=N,28nm,1.4s
NVL pmax pmax
comp=E,38nm,1.4s
NVL pmax pmax
comp=Z,168nm,1.4s,mb5.9
NVL pmax pmax
comp=N,355nm,19.2s
MAIT Maitri 93.66 198 *e*P **P** **07 23 23.7 -0.5**
MAIT *e*pP PcP 07 23 30.1 +5.6
MAIT *e*PP pP 07 24 31.1 -19
MAIT *e*SKSac SKSac 07 33 01.4 -21
MENT Mentasta 93.97 27 *e*P **P** **07 23 25.1 -0.5**
SIM Simferopol' 94.65 315*de*P **P** **07 23 28.3 -0.4**
SIM *e* 07 33 26.0
SIM *eS* S 07 34 02.0 -6.7
SIM *e*PS SP 07 35 27.0 -0.6
SIM pmax pmax
comp=Z,40nm,0.7s,mb5.6

LVZ Lovozero 94.73 338 PFAKE 07 23 40.0 +11
LVZ LR LR
comp=Z,868nm,20.0s
BR131 Keskin Array S 94.85 309 *eP* **P** **07 23 28.3 -1.3**
comp=Z,11nm,0.9s,mb4.9
BR131 *ep*P pP 07 24 54.0 -2.0
BR131 LR LR
comp=Z,157nm,19.0s
BRTR Keskin Array B 94.85 309 P **P** **07 23 28.3 -1.3**
comp=Z,9.3nm,0.8s,mb4.8,baz=124,slow=6.1,SNR=36
BRTR pP pP 07 24 55.5 -0.6
comp=Z,2.2nm,0.7s,baz=131,slow=6.9,SNR=2.1
BRTR PKKPbc PKKPbc 07 40 24.7 +0.9
comp=Z,3.7nm,0.9s,baz=232,slow=1.4,SNR=8.6
BRTR PKPPKP 07 48 33.6
comp=Z,0.8nm,0.9s,baz=224,slow=3.4,SNR=3.7
BRTR Keskin Array B 94.85 309 P **P** **07 23 28.3 -1.3**
BRTR *PP pP 07 24 55.5 -0.5
CSS Prodhromos 94.94 305 *eP* **P** **07 23 28.5 -1.5**
comp=Z,19nm,0.8s,mb5.2
CSS *e* 07 23 36.4
CSS *ep*P pP 07 25 00.2 +3.8
ANTO Ankara 95.50 309 PFAKE 07 23 40.0 +7.4
ANTO LR LR
comp=Z,202nm,22.0s
DAWY Dawson 95.91 26 *eP* **P** **07 23 34.0 -0.4**
DAWY *ep*P pP 07 25 01.3 +0.4
DAWY *es*P sP 07 25 36.0 -3.2
JOF Joensuu 96.22 333 *ep* **P** **07 23 32.3 -3.5**
LSZ Lusaka 96.59 254 PKiKP PKiKP 07 28 13.6 +1.3
comp=Z,4.6nm,0.8s,baz=52,slow=2.3,SNR=3.7
LSZ Lusaka 96.59 254 *eP* **P** **07 23 37.4 -0.1**
LSZ *e* 07 27 36.1
LSZ pmax pmax
comp=Z,92nm,0.9s,mb5.9
LSZ MLR MLR
comp=Z,403nm,20.0s
LSZ Lusaka 96.59 254 *eP* **P** **07 23 37.4 0.0**
comp=Z,92nm,0.9s,mb5.9
LSZ *e*PP PP 07 27 36.1 -1.3
LSZ LR LR
comp=Z,403nm,20.0s
ISP Isparta 97.27 307 *d iP* **P** **07 23 38.6 -1.9**
ISP Isparta 97.27 307 *i* P **P** **07 23 38.7 -1.8**
KEV Kevo 97.39 340 PFAKE 07 23 50.0 +9.0
KEV LR LR
comp=Z,516nm,20.0s
LBTB Lobatse 97.74 244 *eP* **P** **07 23 41.9 -0.7**
LBTB pmax pmax
comp=Z,45nm,1.1s,mb5.6
LBTB Lobatse 97.74 244 *eP* **P** **07 23 41.9 -0.7**
comp=Z,45nm,1.1s,mb5.6
AKASG Malin Array Be 97.91 320 P **P** **07 23 41.4 -2.0**
comp=Z,11nm,0.8s,mb5.2,baz=73,slow=4.4,SNR=37
AKASG pP pP 07 25 06.2 -3.8
comp=Z,1.6nm,0.7s,baz=74,slow=4.3,SNR=2.5
AKASG PP PP 07 27 48.2 +0.9
comp=Z,4.8nm,0.8s,baz=71,slow=7.3,SNR=4.8
AKASG PKiKP PKiKP 07 28 14.3 -0.3
comp=Z,1.2nm,0.5s,baz=75,slow=2.3,SNR=5.8
AKASG S S 07 33 41.0 -56
comp=Z,0.1nm,0.3s,baz=76,slow=6.4,SNR=4.1
AKASG PKKPbc PKKPbc 07 40 13.9 -1.6
comp=Z,0.4nm,0.4s,baz=262,slow=4.0,SNR=5.9
AKASG PKPPKP 07 48 26.2
comp=Z,0.2nm,0.3s,baz=276,slow=1.8,SNR=5.0
AKASG Malin Array Be 97.91 320 P **P** **07 23 41.4 -2.0**
AKASG *PP pP 07 25 06.2 -3.8
AKASG 07 27 48.2
AKASG Malin Array Be 97.91 320 P **P** **07 23 41.4 -2.0**
AKASG pP pP 07 25 06.2 -3.8
AKASG PP PP 07 27 48.2 +0.9
AKBB Malin Array Si 97.91 320 *eP* **P** **07 23 41.5 -1.9**
AKBB *e*PP pP 07 25 13.3 +3.3
INK Inuvik 97.92 22 P **P** **07 23 41.9 -1.5**
comp=Z,25nm,1.1s,mb5.3,baz=273,slow=5.7,SNR=27
INK pP pP 07 25 10.6 +0.5
comp=Z,11nm,0.9s,baz=255,slow=3.8,SNR=5.9
INK PKiKP PKiKP 07 28 13.7 -1.0
comp=Z,9.8nm,1.0s,baz=296,slow=2.1,SNR=11
INK PKKPbc PKKPbc 07 40 14.9 -0.6
comp=Z,16nm,0.8s,baz=79,slow=3.2,SNR=10
INK PKPPKP 07 48 25.1
comp=Z,1.7nm,1.0s,baz=176,slow=2.5,SNR=3.7
INK Inuvik 97.92 22 P **P** **07 23 41.9 -1.5**
INK pP pP 07 25 10.6 +0.5
ARCES ARCESS Array B 97.94 340 P **P** **07 23 41.8 -1.7**
comp=Z,9.5nm,0.8s,mb5.1,baz=89,slow=5.2,SNR=20
ARCES pP pP 07 25 06.0 -4.1
comp=Z,9.4nm,1.0s,baz=55,slow=6.8,SNR=2.8
ARCES PKiKP PKiKP 07 28 14.0 -0.7
comp=Z,5.7nm,0.7s,baz=118,slow=1.0,SNR=24
ARCES PKKPbc PKKPbc 07 40 14.1 -1.4
comp=Z,1.7nm,0.3s,baz=260,slow=3.4,SNR=42
ARCES ARCESS Array B 97.94 340 P **P** **07 23 41.8 -1.7**
ARCES pP pP 07 25 06.0 -4.1
SIT Sitka 98.32 33 PFAKE 07 23 50.0 +4.8
SIT LR LR
comp=Z,510nm,21.0s
KAF Kangasniemi 98.60 332 *ep* PKiKP 07 28 14.7 -1.2
TIRR Tirgusor 98.72 314 ⇓ *iP* Pdif 07 23 45.8 -1.2
TIRR Tirgusor 98.72 314 ⇓P Pdif 07 23 45.8 -1.1
FINES FINESS Array B 98.79 331 P Pdif 07 23 44.0 -3.2
comp=Z,2.6nm,0.8s,baz=123,slow=7.0,SNR=6.6
FINES PKiKP PKiKP 07 28 15.5 -0.7
comp=Z,4.4nm,0.8s,baz=87,slow=1.8,SNR=15
FINES PKKPbc PKKPbc 07 40 15.4 +2.2
comp=Z,1.4nm,0.7s,baz=247,slow=2.0,SNR=5.9
FINES FINESS Array B 98.79 331 *i* P Pdif 07 23 46.0 -1.3
FINES pmax pmax
comp=Z,3.0nm,0.8s
CFR Carcaliu 98.89 315 ⇑ *iP* Pdif 07 23 46.8 -0.9
CFR Carcaliu 98.89 315 ⇑P Pdif 07 23 46.8 -1.0
KBS Kingsbay 98.95 350 PFAKE 07 24 00.0 +12
KBS LR LR
comp=Z,604nm,20.0s
VRI Vrincioaia 99.84 316 ⇓ *iP* Pdif 07 23 51.6 -0.3
VRI Vrincioaia 99.84 316 ⇓P Pdif 07 23 51.6 -0.3
MLR Muntele Rosu 100.41 315 P Pdif 07 23 52.6 -1.9
comp=Z,11nm,0.9s,baz=7.8,slow=1.3,SNR=12
MLR Muntele Rosu 100.41 315 ⇑ *iP* Pdif 07 23 53.9 -0.6
MLR Muntele Rosu 100.41 315 P Pdif 07 23 52.6 -1.9
MLR pmax pmax
comp=Z,11nm,0.9s
MLR Muntele Rosu 100.41 315 ⇑P Pdif 07 23 53.9 -0.6
SUR Sutherland 100.56 236 PKKPbc PKKPbc 07 40 09.0 +0.9
comp=Z,15nm,0.9s,baz=269,slow=5.2,SNR=4.0
BURAR Bucovina Array 100.74 317 ⇓ *iP* Pdif 07 23 55.8 -0.2
BURAR Bucovina Array 100.74 317 ⇓P Pdif 07 23 55.8 -0.2
LVV L'vov 101.30 320 *eP* Pdif 07 23 56.6 -1.8
IDI Anoyia 101.85 305 PKiKP PKiKP 07 28 22.1 +0.3
comp=Z,4.5nm,0.3s,baz=262,slow=8.0,SNR=8.0
IDI PKKPbc PKKPbc 07 40 05.4 +0.9
comp=Z,44nm,0.8s,baz=316,slow=5.2,SNR=14
KOLS Kolonicke sedl 102.55 319 PDIFF Pdif 07 24 04.1 +0.1
KOLS Kolonicke sedl 102.55 319 *ePKP* PKiKP 07 28 23.6 +0.6
KOLS *e* 07 31 20.8
KOLS Kolonicke sedl 102.55 319 *eP* Pdif 07 24 04.1 +0.1
KOLS *e* 07 28 23.6
KOLS Kolonicke sedl 102.55 319 *ePdif* Pdif 07 24 04.1 +0.1
KOLS *e* 07 28 23.6
KOLS *e* 07 31 20.8
CRVS Cervenica-Dubn 103.08 319 PDIFF Pdif 07 24 06.1 -0.3
CRVS *ePP* PP 07 28 19.8 -6.3
CRVS Cervenica-Dubn 103.08 319 *ePdif* Pdif 07 24 06.1 -0.3
CRVS *e* 07 28 19.8
VAY Valandovo 103.22 311 *eP* Pdif 07 24 04.2 -2.8
OJC Ojcow 103.94 321 *eP* Pdif 07 24 10.4 +0.2
VYHS Vyhne 104.86 319 PDIFF Pdif 07 24 13.9 -0.4
VYHS Vyhne 104.86 319 *ePKP* PKiKP 07 28 26.5 -0.8
VYHS Vyhne 104.86 319 *ePdif* Pdif 07 24 13.9 -0.4
VYHS *e* 07 28 26.5
HFS Hagfors 104.99 331 Pdiff Pdif 07 24 12.7 -2.2
comp=Z,4.2nm,0.8s,baz=116,slow=3.4,SNR=9.2
HFS PKiKP PKiKP 07 28 26.3 -1.2
comp=Z,7.2nm,0.8s,baz=66,slow=3.7,SNR=6.8
HFS PP PP 07 28 38.6 -1.6
comp=Z,12nm,0.8s,baz=86,slow=6.1,SNR=6.8
HFS PKKPbc PKKPbc 07 39 55.2 -0.1
comp=Z,5.3nm,0.8s,baz=338,slow=3.2,SNR=7.5
OKC Ostrava-Krasne 105.06 320 *ePKP* PKiKP 07 28 26.9 -0.7
DAG Danmarks Havn 105.27 352 ⇓ *iP* Pdif 07 24 14.9 -1.2
comp=Z,2.1nm,0.7s
DAG Danmarks Havn 105.27 352 ⇓ *iP* Pdif 07 24 14.9 -1.2
DAG pmax pmax
comp=Z,2.0nm,0.7s
MORC Moravsky Berou 105.45 320 *ePdif* Pdif 07 24 17.3 +0.4
MORC *ePKiKP* PKiKP 07 28 28.1 -0.3
NB2 NORSAR Subarra105.86 333 Pdif Pdif 07 24 16.6 -2.1
comp=Z,4.0nm,0.8s,baz=70,slow=4.4
NOA NORSAR Array B 105.86 333 Pdiff Pdif 07 24 16.5 -2.2
comp=Z,2.5nm,0.8s,baz=71,slow=4.5,SNR=7.9
NOA *pP*diff 07 25 46.5
comp=Z,1.5nm,0.9s,baz=70,slow=4.7,SNR=2.9
NOA PKiKP PKiKP 07 28 27.9 -1.2
comp=Z,4.7nm,0.8s,baz=270,slow=3.2,SNR=11
NOA SKiKP 07 31 25.1
comp=Z,3.5nm,0.9s,baz=261,slow=3.2,SNR=4.5
NOA PKKPbc PKKPbc 07 39 52.6 0.0
comp=Z,6.8nm,0.9s,baz=67,slow=3.2,SNR=17
NOA PKKPab PKKPab 07 40 10.8 +0.1
comp=Z,2.2nm,0.9s,baz=247,slow=4.2,SNR=3.6
NOA NORSAR Array B 105.86 333 Pdif PKiKP 07 24 16.5 -2.2
NOA PKPdf PKiKP 07 28 27.9 -1.2
NOA PKKPbc PKKPbc 07 39 52.6 0.0
NOA PKKPab PKKPab 07 40 10.8 +0.1
RES Resolute Bay 105.92 10 *ePP* PP 07 28 42.3 -4.6
KSP Ksiaz 106.01 322 *ePKPdf* PKiKP 07 28 28.8 -0.6
KSP *e*SKS SKSac 07 34 20.8 -1.8
KSP *e*SP SP 07 37 24.0 -4.1
TSUM Tsumeb 106.04 249 PFAKE 07 28 40.0 +11
TSUM LR LR
comp=Z,378nm,19.0s
DPC Dobruska-Polom 106.10 321 *ePKP* PKiKP 07 28 29.3 -0.3
DPC *ePP* PP 07 28 49.9 +1.6
DPC *ex* x 07 31 27.8
DPC *ePKP* PKKPbc 07 39 51.8 -0.1
UPC Upice 106.26 321 *ePKP* PKiKP 07 28 29.5 -0.3
UPC *ePKP* PKKPbc 07 39 52.1 +0.7
UPC *ex* x 07 40 10.0
OBC Olympics--Boni 106.42 41 P PKiKP 07 28 31.5 +1.4
D03A Wishkah Elem. 106.81 42 ⇑P PKiKP 07 28 30.8 0.0
baz=107
RGN Rugen 106.83 326 *ePKiKP* PKiKP 07 28 29.8 -1.1
TREC Trest 106.87 320 *ePKP* PKiKP 07 28 30.7 -0.3
TREC *ePP* PP 07 28 57.0 +3.1
TREC *ePKKP* PKKPbc 07 39 48.7 -0.8
TREC *ex* x 07 40 06.9
CONA Conrad Observa 106.92 319 ⇑ *iPKiKP* PKiKP 07 28 29.6 -1.5
comp=Z,12nm,0.9s
COP Copenhagen 106.98 327 *i* P PP 07 28 55.0 +0.3
COP *i* 07 37 32.2
COP *e* 07 38 41.0
COP *i* 07 56 18.5
COP
comp=Z,220nm,20.0s
E03A Lebam 107.07 43 ⇓P PKiKP 07 28 31.6 +0.2
baz=107,SNR=8.6
YKW3 Yellowknife Ar 107.07 25 *ePKiKP* PKiKP 07 28 29.3 -2.1
KONO Kongsberg 107.10 332 PFAKE 07 28 40.0 +8.6
KONO LR LR
comp=Z,566nm,22.0s
YKA Yellowknife Ar 107.11 25 Pdiff Pdif 07 24 22.7 -1.5
comp=Z,0.8nm,0.8s,baz=300,slow=4.5,SNR=5.0
YKA PKiKP PKiKP 07 28 30.0 -1.4
comp=Z,6.8nm,0.8s,baz=297,slow=1.8,SNR=34
YKA SKiKP 07 31 27.9
comp=Z,7.9nm,1.1s,baz=304,slow=1.9,SNR=7.1
YKA PKKPbc PKKPbc 07 39 46.7 -2.1
comp=Z,10nm,0.7s,baz=113,slow=3.1,SNR=31
YKA PKKPab PKKPab 07 40 02.5 -2.7
comp=Z,4.8nm,0.8s,baz=103,slow=4.5,SNR=8.5
YKA Yellowknife Ar 107.11 25 P Pdif 07 24 22.7 -1.6
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA pmax pmax
comp=Z,7.0nm,0.8s
YKA pmax pmax
comp=Z,10.0nm,0.7s
YKA pmax pmax
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 107.11 25 Pdif Pdif 07 24 22.8 -1.5
YKA PKPdf PKiKP 07 28 30.0 -1.4
YKA PKKPbc PKKPbc 07 39 46.7 -2.1
YKA PKKPab PKKPab 07 40 02.5 -2.7
RUE Ruedersdorf 107.13 324 *ePKKPab* PKKPab 07 40 06.1 +1.0
RUE Ruedersdorf 107.13 324 *ePKKPab* PKKPab 07 40 06.1 +1.0
PVCC Panska Ves 107.15 322 *ePKP* PKiKP 07 28 31.5 0.0
PVCC *ePP* PP 07 28 57.7 +1.7
HDW Hoodsport 107.18 41 P PKiKP 07 28 32.5 +1.0
F03A Seaside 107.20 43 ⇑P PKiKP 07 28 32.2 +0.6
baz=107
PRU Pruhonice 107.30 321 *ePKP* PKiKP 07 28 31.2 -0.6
PRU *ePP* PP 07 28 59.4 +2.4
PRU *e*SKS SKSac 07 34 20.3 -7.9
PRU *ePKKP* PKKPbc 07 39 48.3 +0.1
PRU *ex* x 07 40 05.3
PRU *ePKKS* 07 43 39.4
I02A Mapleton 107.38 45 ⇓P PKiKP 07 28 32.1 +0.2
baz=107
BRG Berggiesshubel 107.45 322 *ePKiKP* PKiKP 07 28 31.1 -1.0
BRG *ePP* PP 07 29 01.8 +3.7
BRG *es*PKiKP 07 31 29.8
BRG *ePKPbc* PKKPbc 07 39 47.8 +0.1
BRG *ePKPab* PKKPab 07 40 04.4 +0.8
BRG Berggiesshubel 107.45 322 *ePDIF* Pdif 07 24 25.6 -0.2
comp=Z,3.1nm,1.1s
BRG *e* 07 25 59.0
comp=Z,3.7nm,1.4s
BRG *e* 07 26 53.7
comp=Z,4.4nm,1.2s
BRG Berggiesshubel 107.45 322 *ePKP* PKiKP 07 28 31.9 -0.1
comp=Z,8.3nm,0.9s
BRG *e* 07 28 56.9
comp=Z,7.8nm,1.4s
BRG *e* 07 30 17.1
comp=Z,14nm,1.7s
BRG *e* 07 31 30.0
comp=Z,5.9nm,0.9s
BRG SKS SKSdf 07 34 26.0 -42
BRG *i* 07 37 22.0
BRG *ePKKP* PKKPbc 07 39 48.5 +0.7
comp=Z,7.9nm,1.2s
BRG *e* 07 40 04.3
comp=Z,10nm,1.2s
BRG SS SS 07 43 43.0 +4.8
BRG
comp=N,297nm,19.3s
BRG
comp=E,190nm,17.6s
BRG
comp=Z,413nm,21.9s
BRG Berggiesshubel 107.45 322 *eP* Pdif 07 24 25.6 -0.2
BRG *e* 07 28 56.9
BRG 07 34 26.0
BRG SS SS 07 43 43.0 +4.8
BRG pmax pmax
comp=Z,3.0nm,1.1s
BRG pmax pmax
comp=Z,4.0nm,1.4s
BRG pmax pmax
comp=Z,4.0nm,1.2s
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,1.4s
BRG pmax pmax
comp=Z,14nm,1.7s
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG pmax pmax
comp=Z,10.0nm,1.2s
BRG MLR MLR
comp=N,297nm,19.3s
BRG MLR MLR
comp=E,190nm,17.6s
BRG MLR MLR
comp=Z,413nm,21.9s
BRG Berggiesshubel 107.45 322 *ePdif* Pdif 07 24 25.6 -0.2
comp=Z,3.1nm,1.1s
BRG *e* 07 25 59.0
BRG *e* 07 26 53.7
BRG *ePKP* PKiKP 07 28 31.9 -0.1
BRG *e* 07 28 56.9
BRG *e* 07 30 17.1
BRG *e* 07 31 30.0
BRG SKS SKSac 07 34 26.0 -2.8
BRG *i* 07 37 22.0
BRG *e*PKKP PKKPbc 07 39 48.5 +0.7
BRG *e* 07 43 49.3
BRG *e* 07 40 04.3
BRG SS SS 07 43 43.0 +4.8
BRG LR LR
comp=Z,410nm,21.9s
D04A Dobbs Creek Ra 107.46 42 ⇑P PKiKP 07 28 32.1 0.0
baz=108
GROS Grobnik 107.48 317 *ePKiKP* PKiKP 07 28 31.4 -0.7
A05A Maple Falls 107.50 40 ⇑P PKiKP 07 28 31.5 -0.6
baz=108,SNR=6.0
CMW Cultus Mountai 107.61 41 P PKiKP 07 28 32.9 +0.5
H03A Soap Creek Ran 107.63 45 ⇓P PKiKP 07 28 31.4 -1.0
baz=108
COR Corvallis 107.64 45 PFAKE 07 28 40.0 +7.6
COR LR LR
comp=Z,465nm,20.0s
B05A Bryant 107.67 41 ⇑P PKiKP 07 28 32.6 +0.1
baz=108,SNR=16
J02A Umpqua 107.69 46 ⇓P PKiKP 07 28 32.7 +0.2
baz=108
PERS Pernice 107.70 318 *i* PKiKP PKiKP 07 28 31.8 -0.7
I03A Eugene 107.78 45 ⇓P PKiKP 07 28 33.0 +0.3
baz=108
JCW Jim Creek 107.79 41 P PKiKP 07 28 33.1 +0.4
FBE Freiberg 107.80 322 *ePKiKP* PKiKP 07 28 31.8 -0.9
FBE *ePKPPbc* PKKPbc 07 39 47.5 +0.8
FBE *ePKPPab* PKKPab 07 40 03.0 +0.9
JCC Jacoby Creek 107.80 49 ⇑P PKiKP 07 28 33.1 +0.4
baz=108
BOJS Bojanci 107.85 316 *ePKiKP* PKiKP 07 28 32.6 -0.2
BOJS *ePP* PP 07 29 04.2 +3.2
BOJS *e* 07 30 15.3
BOJS *eSKSac* SKSac 07 34 29.2 -1.4
BOJS *eSKKSac* SKKSac 07 35 22.6 -2.8
BOJS *eSP* SP 07 37 42.6 -4.2
BOJS *e* 07 38 33.8
BOJS *eSS* SS 07 43 46.3 +2.7
K02A Glendale 107.86 47 ⇑P PKiKP 07 28 33.0 +0.1
baz=108
L02A Cave Junction 107.89 47 ⇑P PKiKP 07 28 33.4 +0.5
baz=108
CLL Collm 107.91 323 *ePdiff* Pdif 07 24 27.7 -0.1
comp=Z,14nm,1.6s
CLL *es*Pdiff 07 26 35.9
CLL *ePKiKP* PKiKP 07 28 32.4 -0.5
comp=Z,17nm,0.9s
CLL *ePP* PP 07 29 00.4 -1.0
CLL *ep*PP 07 30 26.2
CLL *eSKSac* SKSac 07 34 28.4 -2.4
CLL *eSKKSac* SKKSac 07 35 21.7 -4.1
CLL *eSdiff* Sdif 07 35 57.6 -2.4
CLL *eSP* SP 07 37 40.7 -6.7
CLL *ePKPPbc* PKKPbc 07 39 44.9 -1.4
CLL *ePKPPab* PKKPab 07 40 01.7 +0.1
CLL *eSS* SS 07 43 59.7 +15
CLL *es*SS 07 46 07.4
CLL *eSSS* 07 47 53.8
CLL *eL* 08 15 25.5
comp=Z,488nm,22.0s
CLL Collm 107.91 323 *ePDIF* Pdif 07 24 28.0 +0.2
CLL *i* 07 28 32.1
CLL *i* 07 28 44.9
CLL *e* 07 30 30.0
CLL *e* 07 34 26.0
CLL *e* 07 35 18.0
CLL *e* 07 35 57.0
CLL *eSP* SP 07 37 35.0 -12
CLL *ePS* PS 07 38 31.0 -0.6
CLL *ePKKP* PKKPbc 07 39 45.0 -1.3
CLL *i* PKKP PKKPbc 07 40 01.3 +15
CLL *e* 07 40 18.0
CLL *eSS* SS 07 43 54.0 +10
CLL *e**SSS 07 46 00.0
CLL *e* 07 50 00.0
CLL *e* 07 54 40.0
CLL Collm 107.91 323 *ePdif* Pdif 07 24 28.0 +0.2
comp=Z,14nm,1.6s
CLL *i* PKiKP PKiKP 07 28 32.1 -0.8
comp=Z,17nm,0.9s
CLL *i* x x 07 28 44.9
CLL *ex* x 07 30 30.0
CLL *eSKSac* SKSac 07 34 26.0 -4.8
CLL *eSKKSac* SKKSac 07 35 18.0 -7.8
CLL *eSdif* Sdif 07 35 57.0 -3.0
CLL *e*(SP) 07 37 35.0
CLL *ePS* PS 07 38 31.0 -0.6
CLL *ePKKPbc* PKKPbc 07 39 45.0 -1.3
comp=Z,27nm,1.4s
CLL *i* PKKPab PKKPab 07 40 01.3 -0.3
comp=Z,20nm,1.1s
CLL *es*PS 07 40 18.0
CLL *eSS* SS 07 43 54.0 +10
CLL *es*SS 07 46 00.0
CLL *e*(SSS) 07 47 36.0
CLL *es*SSS 07 50 00.0
CLL *ex* x 07 54 40.0
CLL LmV 08 14 00.0
comp=Z,400nm,19.9s
CLL Collm 107.91 323 *eP* Pdif 07 24 28.0 +0.2
CLL *e* 07 34 26.0
CLL *e* 07 39 45.0
CLL pmax pmax
comp=Z,14nm,1.6s
CLL pmax pmax
comp=Z,17nm,0.9s
CLL pmax pmax
comp=Z,27nm,1.4s
CLL pmax pmax
comp=Z,20nm,1.1s
CLL Collm 107.91 323 *ePdif* Pdif 07 24 28.0 +0.2
comp=Z,14nm,1.6s
CLL *i* PKP PKiKP 07 28 32.1 -0.8
CLL *eSKS* SKSac 07 34 26.0 -4.8
CLL *eSdif* Sdif 07 35 57.0 -3.0
CLL *ePKKP* PKKPbc 07 39 45.0 -1.3
CLL *i* PKKP PKKPbc 07 40 01.3 +15
F04A Amboy 107.97 43 ⇑P PKiKP 07 28 33.1 0.0
baz=108,SNR=7.3
D05A Enumclaw 107.98 42 ⇓P PKiKP 07 28 33.5 +0.4
baz=108,SNR=6.1
MOA Molln 107.99 319 ⇓ *iP* PKiKP 07 28 31.7 -1.4
comp=Z,11nm,0.8s
KHMM Horse Mountain 108.02 49 *ePKPdf* PKiKP 07 28 33.8 +0.7
C05A Tolt Reservoir 108.06 41 ⇑P PKiKP 07 28 32.6 -0.6
baz=108,SNR=7.4
G04A Mulino 108.09 44 ⇓P PKiKP 07 28 33.2 0.0
baz=108
GSM Grass Mountain 108.11 42 P PKiKP 07 28 33.7 +0.4
GEC2 GERESS Array S 108.11 320 *ePKiKP* PKiKP 07 28 32.2 -1.1
GEC2 *ePP* PP 07 29 06.1 +3.2
GEC2 *es*PKiKP 07 31 31.1
GEC2 *eSP* SP 07 37 41.9 -7.6
GEC2 *ePKPPbc* PKKPbc 07 39 45.5 -0.2
GEC2 *ePKPPab* PKKPab 07 40 00.9 +0.2
GEC2 GERESS Array S 108.11 320 *ePKPdf* PKiKP 07 28 32.2 -1.1
GEC2 *ePP* PP 07 29 06.1 +3.2
GEC2 *eSP* SP 07 37 41.9 -7.6
GEC2 *ePKPPbc* PKKPbc 07 39 45.5 -0.2
GEC2 *ePKPPab* PKKPab 07 40 00.9 +0.2
GERES GERESS Array B 108.11 320 Pdiff Pdif 07 24 28.2 -0.6
comp=Z,1.2nm,1.0s,baz=32,slow=3.8,SNR=5.7
GERES PKiKP PKiKP 07 28 33.0 -0.3
comp=Z,16nm,0.7s,baz=48,slow=2.0,SNR=54
GERES SKiKP 07 31 30.9
comp=Z,7.7nm,0.8s,baz=48,slow=2.0,SNR=11
GERES PKKPbc PKKPbc 07 39 45.7 0.0
comp=Z,5.4nm,0.9s,baz=248,slow=3.6,SNR=10
GERES PKKPab PKKPab 07 40 01.3 +0.6
comp=Z,6.3nm,0.8s,baz=242,slow=2.9,SNR=12
GERES GERESS Array B 108.11 320 P Pdif 07 24 28.2 -0.5
GERES 07 39 45.7
GERES GERESS Array B 108.11 320 Pdif Pdif 07 24 28.2 -0.6
GERES PKPdf PKiKP 07 28 33.0 -0.3
GERES PKKPbc PKKPbc 07 39 45.7 0.0
GERES PKKPab PKKPab 07 40 01.3 +0.6
J03A Ideyld Park 108.12 46 ⇓P PKiKP 07 28 33.7 +0.4
baz=108,SNR=6.8
KHC Kasperske Hory 108.12 320 *ePKP* PKiKP 07 28 32.8 -0.5
KHC *ex* x 07 31 26.0
KHC *eSKS* SKSac 07 34 27.0 -4.7
KHC *ex* x 07 37 41.6
KHC *ePKKP* PKKPbc 07 39 44.9 -0.8
KHC *ex* x 07 40 01.2

KHC ePKKS 07 43 35.8
LON Longmire 108.20 42 ePKiKP PKiKP 07 28 33.6 +0.1
LJU Ljubljana 108.23 317 *i* PKiKP PKiKP 07 28 33.3 -0.2
LJU eSKSac SKSac 07 34 30.3 -1.9
LJU eSKKSac SKKSac 07 35 24.7 -3.3
LJU *e*Sdiff Sdif 07 36 01.5 -1.1
LJU eSP SP 07 37 46.0 -4.7
LJU *e* 07 38 15.2
HUMO Hull Mountain 108.27 47 ePKPdf PKiKP 07 28 33.1 -0.4
HUMO LR LR
comp=Z,333nm,20.0s
HUMO Hull Mountain 108.27 47 ⇑P PKiKP 07 28 34.3 +0.7
baz=108,SNR=8.0
E05A Randle 108.28 42 ⇑P PKiKP 07 28 33.4 -0.2
baz=108,SNR=9.1
N02C Big Bar 108.34 49 ⇑P PKiKP 07 28 34.3 +0.6
baz=108
H04A Detroit Lake 108.40 44 ⇑P PKiKP 07 28 33.4 -0.5
baz=108
TANN Tannenbergstha 108.48 322 ePKiKP PKiKP 07 28 33.1 -0.9
TANN ePP PP 07 29 09.4 +3.8
TANN eSP SP 07 37 45.6 -7.6
TANN ePKKPbc PKKPbc 07 39 45.1 +0.6
TANN ePKKPab PKKPab 07 40 00.2 +1.1
NKC Novy Kostel 108.54 322 ePKP PKiKP 07 28 33.4 -0.7
NKC ePKKP PKKPbc 07 39 45.3 +0.9
NKC ex x 07 39 59.9
P01C Double 8 Ranch 108.55 50 ⇓P PKiKP 07 28 34.5 +0.4
baz=109
WET Wettzell 108.56 321 ePKiKP PKiKP 07 28 33.2 -0.9
WET ePP PP 07 29 09.1 +3.0
WET eSP SP 07 37 47.5 -6.5
WET ePKKPbc PKKPbc 07 39 44.8 +0.5
WET ePKKPab PKKPab 07 39 58.9 +0.2
WERD Werda 108.57 322 ePKiKP PKiKP 07 28 33.1 -1.1
WERD esPKiKP 07 31 31.7
WERD ePKKPbc PKKPbc 07 39 44.6 +0.3
WERD ePKKPab PKKPab 07 39 59.6 +0.9
M02C Callahan 108.58 48 P PKiKP 07 28 35.1 +0.9
baz=109,SNR=10
YBH Yreka Blue Hor 108.62 47 ePKiKP PKiKP 07 28 34.6 +0.4
YBH LR LR
comp=Z,323nm,20.0s
YBH Yreka Blue Hor 108.62 47 ⇑P PKiKP 07 28 34.3 0.0
baz=109
BSEG Bad Segeberg 108.69 326 ePKiKP PKiKP 07 28 33.6 -0.8
BSEG ePP PP 07 29 05.0 -2.1
BSEG esPKiKP 07 31 32.6
BSEG eSP SP 07 37 45.6 -10
BSEG ePKKPab PKKPab 07 39 58.5 +0.4
BSEG Bad Segeberg 108.69 326 ePKPdf PKiKP 07 28 33.6 -0.8
BSEG ePP PP 07 29 05.0 -2.1
BSEG eSP SP 07 37 45.6 -10
BSEG ePKKPab PKKPab 07 39 58.5 +0.4
SGO Sicignano 108.78 311 PKP PKiKP 07 28 33.8 -0.7
KBA Koelnbreinsper 108.78 318 ⇑*i*P PKiKP 07 28 33.0 -1.5
comp=Z,14nm,0.7s,SNR=13
KBA Koelnbreinsper 108.78 318 ⇑*i*P PKiKP 07 28 33.0 -1.5
KBA *i* 07 31 29.8
ROTZ Rotzenmuhle 108.82 321 ePP PP 07 29 12.3 +4.3
ROTZ eSP SP 07 37 50.0 -6.4
ROTZ ePKKPbc PKKPbc 07 39 44.2 +0.7
ROTZ ePKKPab PKKPab 07 39 58.3 +0.7
ROTZ Rotzenmuhle 108.82 321 ePP PP 07 29 12.3 +4.3
ROTZ eSP SP 07 37 50.0 -6.4
ROTZ ePKKPbc PKKPbc 07 39 44.2 +0.7
ROTZ ePKKPab PKKPab 07 39 58.3 +0.7
MANZ Manzenberg 108.82 322 ePKiKP PKiKP 07 28 33.9 -0.7
MANZ ePP PP 07 29 11.0 +3.0
MANZ esPKiKP 07 31 32.3
MANZ eSP SP 07 37 49.4 -7.0
MANZ ePKKPbc PKKPbc 07 39 44.3 +0.8
MANZ ePKKPab PKKPab 07 39 58.3 +0.7
BKCOR Black Crater 108.83 45 P PKiKP 07 28 35.2 +0.6
HOPS Hopland 108.84 50 PFAKE 07 28 40.0 +5.3
HOPS LR LR
comp=Z,473nm,21.0s
O02C Red Bluff 108.85 49 ⇑P PKiKP 07 28 35.8 +1.1
baz=109,SNR=8.9
ROBS Robic 108.87 317 ePKiKP PKiKP 07 28 33.9 -0.8
G05A Wamic 108.88 44 ⇑P PKiKP 07 28 35.0 +0.3
baz=109
MOX Moxa 108.94 322 ePKiKP PKiKP 07 28 33.6 -1.2
MOX esPKiKP 07 31 32.0
MOX eSP SP 07 37 50.0 -7.5
MOX ePKKPbc PKKPbc 07 39 43.8 +0.7
MOX ePKKPab PKKPab 07 39 58.3 +1.3
MOX Moxa 108.94 322 ePKP PKiKP 07 28 34.2 -0.6
comp=Z,13nm,1.1s
MOX
comp=Z,400nm,22.0s
PTCC Patocco-Chiusa 108.94 318 PKP PKiKP 07 28 34.2 -0.6
WDC Whiskeytown Da 108.96 49 ePKPdf PKiKP 07 28 33.9 -1.0
WDC LR LR
comp=Z,440nm,21.0s
WDC Whiskeytown Da 108.96 49 ⇓P PKiKP 07 28 34.9 0.0
baz=109
GASB Alder Springs 108.99 50 ⇑P PKiKP 07 28 36.3 +1.4
baz=109
EBG Ellensburg 109.00 42 P PKiKP 07 28 35.3 +0.3
LHEM Herd Peak 109.00 48 P PKiKP 07 28 35.6 +0.7
GMNA Gemona 109.05 318 PKP PKiKP 07 28 34.5 -0.6
H05A Madras 109.08 44 ⇓P PKiKP 07 28 35.5 +0.4
baz=109
L04A Klamath Falls 109.13 47 P PKiKP 07 28 35.6 +0.4
baz=109,SNR=14
I05A Bend 109.16 45 ⇑P PKiKP 07 28 35.7 +0.4
baz=109,SNR=9.3
K04A Chilquin 109.16 46 ⇓P PKiKP 07 28 35.5 +0.3
baz=109,SNR=6.2
M04C Macdoel 109.25 47 P PKiKP 07 28 35.7 +0.3
baz=109,SNR=11
HOG Hogback Mounta 109.25 47 P PKiKP 07 28 36.2 +0.7
NRDL Niedersach Rie 109.27 324 ePKiKP PKiKP 07 28 34.7 -0.8
NSHM Saint Helena R 109.28 51 ePKPdf PKiKP 07 28 35.5 0.0
CLZ Clausthal 109.32 324 ePKiKP PKiKP 07 28 35.0 -0.6
CLZ esPKiKP 07 31 33.4
CLZ eSP SP 07 37 54.4 -6.7
CLZ ePKKPbc PKKPbc 07 39 43.0 +1.1
CLZ ePKKPab PKKPab 07 39 55.9 +0.6
MNRC McLaughlin Nat 109.34 50 ⇑P PKiKP 07 28 36.4 +0.8
baz=109,SNR=7.7
CVS Carmenet Viney 109.42 51 ⇓P PKiKP 07 28 36.2 +0.5
baz=110
O03C Acorn Hollow, 109.45 49 ⇑P PKiKP 07 28 35.7 -0.1
baz=110,SNR=5.7
GRA1 Grafenberg Arr 109.45 321 ePKPdf PKiKP 07 28 34.8 -1.0
GRA1 ePP PP 07 29 15.1 +2.6
GRA1 eSP SP 07 37 58.5 -3.8
GRA1 ePKKPbc PKKPbc 07 39 42.7 +1.2
GRA1 ePKKPab PKKPab 07 39 55.8 +1.1
GRF Grafenberg Arr 109.45 321 ePKiKP PKiKP 07 28 34.8 -1.0
GRF ePP PP 07 29 15.1 +2.6
GRF eSP SP 07 37 58.5 -3.8
GRF ePKKPbc PKKPbc 07 39 42.7 +1.2
GRF ePKKPab PKKPab 07 39 55.8 +1.1
LASM Arnica Sink 109.48 47 P PKiKP 07 28 36.7 +0.8
Q03C Winters 109.71 51 ⇓P PKiKP 07 28 37.4 +1.1
baz=110
HATC Hat Creek Radi 109.72 48 ⇑P PKiKP 07 28 36.8 +0.5
baz=110,SNR=8.3
JRSC Jasper Ridge 109.75 52 ⇑P PKiKP 07 28 36.5 +0.1
baz=110
SUTB Sutter Butte 109.78 50 ⇑P PKiKP 07 28 36.3 -0.1
baz=110
LBCM Butte Creek Ri 109.80 48 P PKiKP 07 28 37.1 +0.6
HAWA Hanford 109.81 42 ePKPdf PKiKP 07 28 36.8 +0.3
M05C Lookout 109.84 48 ⇓P PKiKP 07 28 36.9 +0.3
baz=110,SNR=9.6
FUR Furstenfeldbru 109.85 320 ePKiKP PKiKP 07 28 35.5 -1.1
FUR eSP SP 07 38 02.2 -3.7
FUR ePKKPab PKKPab 07 39 54.3 +1.3
WTTA Wattenberg 109.86 319 ⇓*i*P PKiKP 07 28 36.2 -0.4
comp=Z,83nm,0.8s,SNR=23
WTTA Wattenberg 109.86 319 ⇓*i*P PKiKP 07 28 36.2 -0.4
WTTA *i* 07 31 33.6
UBBA Unterbreizbach 109.86 323 eSP SP 07 37 59.7 -6.4
UBBA ePKKPbc PKKPbc 07 39 41.2 +1.0
UBBA ePKKPab PKKPab 07 39 53.6 +0.7
UBBA Unterbreizbach 109.86 323 eSP SP 07 37 59.7 -6.4
UBBA ePKKPbc PKKPbc 07 39 41.2 +1.0
UBBA ePKKPab PKKPab 07 39 53.6 +0.7
WATA Walderalm 109.88 319 ⇓*i*P PKiKP 07 28 35.8 -0.8
comp=Z,23nm,0.9s,SNR=8.3
WATA Walderalm 109.88 319 ⇓*i*P PKiKP 07 28 35.8 -0.8
WATA *i* 07 31 33.6
ARV Arcevia 109.90 315 PKP PKiKP 07 28 36.8 +0.1
L05A Lakeview 109.93 47 ⇓P PKiKP 07 28 37.6 +0.9
baz=110,SNR=7.9
ORV Oroville 109.94 50 ⇓P PKiKP 07 28 37.0 +0.3
baz=110,SNR=7.8
FIAM Fiamignano 110.05 313 PKP PKiKP 07 28 36.7 -0.2
WENL Wente Brothers 110.09 52 ⇓P PKiKP 07 28 37.4 +0.4
baz=110
O04C Chester 110.10 49 ⇓P PKiKP 07 28 37.5 +0.4
baz=110,SNR=13
J06A Christmas Vall 110.15 46 ⇓P PKiKP 07 28 37.5 +0.4
baz=110,SNR=17
SQTA Sankt Quirin 110.15 319 ⇑*i*P PKiKP 07 28 37.0 -0.2
comp=Z,25nm,1.0s
Q04C Lincoln 110.17 50 ⇑P PKiKP 07 28 37.4 +0.2
baz=110
K06A Valley Falls 110.18 46 ⇑P PKiKP 07 28 37.8 +0.6
baz=110,SNR=9.7
MOTA Moosalm 110.19 319 ⇓*i*P PKiKP 07 28 36.6 -0.6
comp=Z,34nm,1.0s
MOTA Moosalm 110.19 319 ⇓*i*P PKiKP 07 28 36.6 -0.6
MOTA *i* 07 31 34.8
O05C Quincy 110.30 49 ⇑P PKiKP 07 28 37.7 +0.3
baz=110,SNR=17
M06C Likely Place G 110.37 48 ⇓P PKiKP 07 28 38.4 +0.8
baz=110,SNR=13
S04C Ingram Canyon, 110.45 52 ⇓P PKiKP 07 28 38.5 +0.8
baz=110,SNR=6.9
HAST UC Hastings Re 110.47 53 ⇓P PKiKP 07 28 38.2 +0.5
baz=110,SNR=5.8
PACP Pacheco Peak 110.57 52 ⇓P PKiKP 07 28 38.9 +1.0
baz=111,SNR=8.3
SFI Santa Sofia 110.58 315 PKP PKiKP 07 28 38.3 +0.4
R04C Big Horse Ranc 110.61 51 ⇓P PKiKP 07 28 37.9 -0.1
baz=111
P05C Yuba Gap, Truc 110.66 50 ⇓P PKiKP 07 28 38.6 +0.5
baz=111,SNR=16
LAVA Lava Cap Winer 110.67 50 ⇑P PKiKP 07 28 38.5 +0.3
baz=111,SNR=12
IBBN Ibbenburen 110.69 325 eSP SP 07 38 06.6 -7.1
IBBN ePKKPab PKKPab 07 39 49.6 +0.4
IBBN Ibbenburen 110.69 325 eSP SP 07 38 06.6 -7.1
IBBN ePKKPab PKKPab 07 39 49.6 +0.4
J07A Hines 110.72 45 P PKiKP 07 28 39.0 +0.8
baz=111,SNR=8.2
VMG Vicchio 110.78 315 PKP PKiKP 07 28 38.3 0.0
V03C Hunter Liggett 110.78 53 ⇓P PKiKP 07 28 38.5 +0.1
baz=111
NEW Newport 110.87 40 ePKIKP PKiKP 07 28 37.8 -0.7
NEW MLR MLR
comp=Z,364nm,22.0s
LRV Little Rabbit 110.89 53 ePKPdf PKiKP 07 28 39.5 +1.0
BRMO Bormio 110.91 318 PKP PKiKP 07 28 38.3 -0.3
TOD Tromm 110.98 322 PKIKP PKiKP 07 28 37.8 -0.9
TNS Taunus Mts 110.99 323 ePKiKP PKiKP 07 28 37.9 -0.8
TNS esPKiKP 07 31 36.6
TNS eSP SP 07 38 10.3 -6.2
TNS ePKKPbc PKKPbc 07 39 37.6 +1.1
TNS ePKKPab PKKPab 07 39 48.5 +0.6
TNS Taunus Mts 110.99 323 *i* PKIKP PKiKP 07 28 37.9 -0.8
TNS eSP SP 07 38 10.3 -6.2
STU Stuttgart 111.00 321 ePKiKP PKiKP 07 28 37.8 -0.9
STU eSP SP 07 38 10.7 -5.8
STU ePKKPbc PKKPbc 07 39 37.1 +0.6
STU ePKKPab PKKPab 07 39 48.0 +0.1
STU Stuttgart 111.00 321 ePKPdf PKiKP 07 28 38.1 -0.6
DAVA Damuels 111.00 319 *i* P PKiKP 07 28 38.5 -0.2
comp=Z,72nm,0.9s,SNR=20
DAVA Damuels 111.00 319 *i* P PKiKP 07 28 38.5 -0.2
DAVA *i* 07 31 36.9
FNVD Fontana Vidola 111.02 316 PKP PKiKP 07 28 39.1 +0.3
L07A Adell 111.02 47 ⇓P PKiKP 07 28 39.7 +0.9
baz=111,SNR=8.6
ZCCA Zocca 111.07 316 PKP PKiKP 07 28 39.7 +0.8
T05C Eagle Field, D 111.07 52 ⇓P PKiKP 07 28 39.4 +0.5
baz=111
CSNT Castellina Chi 111.07 315 PKP PKiKP 07 28 37.3 -1.6
O06A Flanigan 111.07 49 ⇓P PKiKP 07 28 39.4 +0.5
baz=111,SNR=28
CMB Columbia Colle 111.08 51 ePKIKP PKiKP 07 28 38.0 -0.9
CMB MLR MLR
comp=Z,313nm,19.0s
CMB Columbia Colle 111.08 51 ⇑P PKiKP 07 28 39.1 +0.2
baz=111,SNR=5.8
U04C Hernandez Rese 111.08 53 ⇓P PKiKP 07 28 40.2 +1.3
baz=111,SNR=6.8
P06A Stead Airport, 111.12 49 ⇑P PKiKP 07 28 39.8 +0.8
baz=111
DAVOX Davos 111.15 319 SKiKP 07 31 37.0
comp=Z,6.6nm,0.8s,baz=85,slow=6.6,SNR=3.9
DAVOX PKKPbc PKKPbc 07 39 36.5 +0.5
comp=Z,9.7nm,0.8s,baz=209,slow=1.5,SNR=7.7
DAVOX PKKPab PKKPab 07 39 48.6 +1.4
comp=Z,15nm,0.8s,baz=297,slow=6.9,SNR=8.9
R05C Kirkwood Meado 111.19 50 P PKiKP 07 28 39.9 +0.8
baz=111,SNR=15
S05C Merced 111.26 52 ⇑P PKiKP 07 28 39.7 +0.5
baz=111,SNR=7.5
BUG Bochum--Univer 111.28 324 ePKiKP PKiKP 07 28 38.3 -1.0
BUG ePP PP 07 29 25.7 +0.1
BUG esPKiKP 07 31 36.7
BUG eSP SP 07 38 13.5 -5.6
BUG ePKKPbc PKKPbc 07 39 36.1 +0.5
BUG ePKKPab PKKPab 07 39 46.7 +0.1
M07A Soldier Meadow 111.29 47 ⇓P PKiKP 07 28 40.1 +0.8
baz=111,SNR=23
WCN Washoe City 111.31 50 ⇑P PKiKP 07 28 40.1 +0.8
baz=111,SNR=10
SUMG Summit 111.33 355 ePKPdf PKiKP 07 28 38.9 -0.5
SUMG ePP PP 07 29 23.8 -2.2
PKD Parkfield 111.35 53 ⇓P PKiKP 07 28 40.2 +0.8
baz=111,SNR=6.8
EDM Edmonton 111.43 34 ePKPdf PKiKP 07 28 39.0 -0.5
EDM eSKPdf SKPdf 07 31 37.1 -1.8
WVOR Wild Horse Val 111.43 46 ePdif Pdif 07 24 42.0 -1.5
WVOR ePKPdf PKiKP 07 28 39.7 +0.1
WVOR LR LR
comp=Z,276nm,21.0s
PAHR Pah Rah Range 111.51 49 ePKPdf PKiKP 07 28 40.4 +0.7
S06C San Francisco 111.53 51 ⇓P PKiKP 07 28 40.2 +0.4
baz=112,SNR=15
TUE Stuetta 111.59 318 PKP PKiKP 07 28 39.6 -0.3
U05C Westside ANR, 111.61 53 ⇑P PKiKP 07 28 41.1 +1.2
baz=112
ABH Alteburg 111.66 322 PKP PKiKP 07 28 39.3 -0.7
PTRM Twissleman Ran 111.67 53 ePKPdf PKiKP 07 28 40.9 +0.9
BFO Black Forest 111.68 321 ePKiKP PKiKP 07 28 38.6 -1.4
BFO esPKiKP 07 31 37.5
BFO eSP SP 07 38 16.3 -6.5
BFO ePKKPbc PKKPbc 07 39 34.5 +0.2
BFO ePKKPab PKKPab 07 39 44.1 -0.8
BFO Black Forest 111.68 321 *i* PKIKP PKiKP 07 28 38.6 -1.4
BFO eSP SP 07 38 16.3 -6.5
BFO *e* 07 39 34.5
R06C Coleville 111.71 50 ⇓P PKiKP 07 28 41.0 +0.9
baz=112,SNR=11
WAKR Walker 111.72 50 ePKiKP PKiKP 07 28 41.5 +1.4
BMO Blue Mountains 111.73 43 ePKIKP PKiKP 07 28 39.6 -0.5
BMO Blue Mountains 111.73 43 ePKPdf PKiKP 07 28 38.3 -1.8
BMO LR LR
comp=Z,263nm,20.0s
O07A Toulon 111.78 48 ⇓P PKiKP 07 28 41.0 +0.7
baz=112,SNR=21
T06C Millerton Lake 111.81 52 ⇓P PKiKP 07 28 40.7 +0.4
baz=112,SNR=8.6
M08A Happy Creek Ra 111.85 47 ⇑P PKiKP 07 28 41.2 +0.9
baz=112,SNR=16
V05C Boulder Hill, 111.87 53 ⇑P PKiKP 07 28 41.6 +1.2
baz=112
P07A Fallon 111.92 49 ⇓P PKiKP 07 28 41.3 +0.8
baz=112
BOB Bobbio (Coli) 112.01 317 PKIKP PKiKP 07 28 40.3 -0.4
FELD Feldberg im Sc 112.03 320 ⇑*e*P PKiKP 07 28 40.2 -0.5
KCC Kaiser Creek 112.05 52 ⇑P PKiKP 07 28 40.9 +0.2
baz=112
R07C Lee Vining 112.11 51 ⇑P PKiKP 07 28 42.0 +1.2
baz=112
Q07A Schurz 112.11 50 ⇑P PKiKP 07 28 41.9 +1.0
baz=112
VAI Varese 112.15 318 PKIKP PKiKP 07 28 40.1 -0.8
N08A GE Springer Mi 112.19 48 ⇑P PKiKP 07 28 41.9 +0.9
baz=112,SNR=7.3
L09A Wilkinson Ranc 112.23 46 P PKiKP 07 28 42.1 +1.1
baz=112,SNR=17
SBC Santa Barbara 112.28 55 ⇓P PKiKP 07 28 41.6 +0.4
baz=112
O08A Rochester Mine 112.29 48 ⇓P PKiKP 07 28 42.1 +0.9
baz=112
CDF Champ du Feu 112.32 321 ePKIKP PKiKP 07 28 40.1 -1.1
MEM Membach 112.32 323 PKP PKiKP 07 28 40.7 -0.6
ECH Echery 112.46 321 PKP PKiKP 07 28 40.4 -1.1
BBS Basel-Blauen 112.48 320 PKIKP PKiKP 07 28 40.4 -1.2
BSMT Bassoo Peak 112.49 40 ePKiKP PKiKP 07 28 41.2 -0.4
P08A Dixie Valley 112.49 49 ⇓P PKiKP 07 28 42.5 +0.9
baz=112
M09A Marrel Ranch, 112.54 47 ⇑P PKiKP 07 28 42.5 +0.8
baz=113,SNR=13
WLF Walferdange 112.58 322 ePKiKP PKiKP 07 28 41.4 -0.3
WLF ePP PP 07 29 33.9 -0.9
WLF eSP SP 07 38 25.7 -5.3
WLF ePKKPab PKKPab 07 39 41.5 +0.6
WLF Walferdange 112.58 322 PKP PKiKP 07 28 41.7 -0.1
WLF Walferdange 112.58 322 ePKIKP PKiKP 07 28 41.4 -0.3
NVAR Mina Array Bea 112.61 50 Pdiff Pdif 07 24 50.2 +1.5
comp=Z,0.8nm,0.8s,baz=286,slow=3.3,SNR=4.0
NVAR PKiKP PKiKP 07 28 42.9 +1.1
comp=Z,10nm,0.9s,baz=268,slow=0.7,SNR=30
NVAR PP PP 07 29 35.8 +0.8
comp=Z,5.4nm,1.0s,baz=294,slow=6.1,SNR=4.5
NVAR PKKPbc PKKPbc 07 39 31.2 -0.1
comp=Z,5.8nm,0.9s,baz=126,slow=4.9,SNR=15
NVAR PKKPab PKKPab 07 39 41.1 +0.4
comp=Z,11nm,0.9s,baz=115,slow=6.3,SNR=20
NVAR Mina Array Bea 112.61 50 Pdif Pdif 07 24 50.2 +1.5
NVAR PKPdf PKiKP 07 28 42.9 +1.1
NVAR PP PP 07 29 35.8 +0.8
NVAR PKKPbc PKKPbc 07 39 31.2 -0.1
NVAR PKKPab PKKPab 07 39 41.1 +0.4
MTUM Tungsten Hills 112.64 51 ePKPdf PKiKP 07 28 43.1 +1.3
MCGN Macugnaga 112.64 318 PKP PKiKP 07 28 42.1 +0.2
SNCC San Nicolas Is 112.65 56 ⇓P PKiKP 07 28 42.0 +0.2
baz=113
MNV Mina 112.72 50 Pdif Pdif 07 24 57.5 +8.2
MNV ePKiKP PKiKP 07 28 42.8 +0.8
MNV LR LR
comp=Z,365nm,21.0s
R08A Mina 112.78 50 ⇑P PKiKP 07 28 43.0 +0.9
baz=113,SNR=15
HINF Hinteralfeld 112.78 320 ePKIKP PKiKP 07 28 41.1 -1.0
comp=Z,78nm,0.8s
Q08A Gabbs 112.79 50 ⇓P PKiKP 07 28 42.9 +0.7
baz=113,SNR=21
BCLA Clavier 112.81 323 PKP PKiKP 07 28 41.6 -0.6
BCLA APKP 07 31 40.1
CORF Corte 112.90 314 PKP PKiKP 07 28 41.7 -0.6
PGF Pioggiola 112.94 314 ePKIKP PKiKP 07 28 41.8 -0.6
comp=Z,85nm,0.9s
BMN Battle Mountai 112.95 48 ePKIKP PKiKP 07 28 43.5 +1.1
BMN Battle Mountai 112.95 48 PFAKE 07 28 50.0 +7.5
BMN LR LR
comp=Z,385nm,22.0s
LOMF Lomont 112.96 320 PKP PKiKP 07 28 41.5 -1.0
TIN Tinemaha 112.96 52 ⇓P PKiKP 07 28 43.4 +0.9
baz=113
HAU Haudompre 113.04 321 ePKIKP PKiKP 07 28 41.9 -0.7
comp=Z,83nm,0.9s
HAU *e*R
comp=Z,623nm,21.2s
HAU Haudompre 113.04 321 ePKPdf PKiKP 07 28 41.9 -0.7
HAU LR LR
comp=Z,620nm,21.3s
O09A Fish Creek Ran 113.04 48 P PKiKP 07 28 43.4 +0.8
baz=113,SNR=5.8
ISA Isabella 113.05 53 ePKIKP PKiKP 07 28 42.9 +0.3
ISA MLR MLR
comp=Z,99nm,19.0s
ISA Isabella 113.05 53 ⇑P PKiKP 07 28 43.2 +0.6
baz=113,SNR=8.7
OSI Osito Adit 113.06 54 ⇓P PKiKP 07 28 43.6 +1.0
baz=113
M10A I.L. Ranch, Tu 113.17 47 ⇑P PKiKP 07 28 43.6 +0.8
baz=113
THEF They Montfort 113.19 321 PKP PKiKP 07 28 42.1 -0.8
CWC Cottonwood Cre 113.21 52 ⇑P PKiKP 07 28 43.7 +0.8
baz=113,SNR=6.5
GIVF Givet 113.22 323 ePKIKP PKiKP 07 28 42.6 -0.4
comp=Z,64nm,1.0s
P09A Austin 113.23 49 ⇓P PKiKP 07 28 43.4 +0.4
baz=113
DOU Dourbes 113.36 323 PKP PKiKP 07 28 42.9 -0.3
DOU APKP 07 31 41.4
MSO Missoula 113.37 40 PFAKE 07 28 50.0 +6.8
MSO LR LR
comp=Z,240nm,21.0s
Q09A Carvers 113.37 50 ⇑P PKiKP 07 28 44.0 +0.8
baz=113,SNR=7.0
SNF Seneffe 113.38 324 PKP PKiKP 07 28 43.0 -0.3
SNF APKP 07 31 41.5
N10A Dunphy 113.41 47 ⇓P PKiKP 07 28 44.3 +0.9
baz=113
VSL Villasalto 113.45 311 ePKiKP PKiKP 07 28 42.9 -0.5
TPH Tonopah 113.52 50 ePKIKP PKiKP 07 28 44.1 +0.6
TPH MLR MLR
comp=Z,267nm,20.0s
SAOF Saorge 113.54 316 PKP PKiKP 07 28 42.8 -0.8
DOI San Damiano 113.59 317 PKP PKiKP 07 28 41.5 -2.2
S09A Goldfield 113.59 51 P PKiKP 07 28 44.9 +1.2
baz=114,SNR=33
BAIF Baives 113.60 323 ePKIKP PKiKP 07 28 43.2 -0.5
comp=Z,49nm,0.9s
LPG La Plagne 113.61 318 ePKIKP PKiKP 07 28 43.6 -0.1
comp=Z,73nm,0.8s
LPL La Plagne 113.62 318 ePKIKP PKiKP 07 28 43.5 -0.2
comp=Z,71nm,0.8s
AUTN L'Aution 113.62 316 PKP PKiKP 07 28 43.3 -0.4
DAC Darwin (Calif) 113.63 52 ePKIKP PKiKP 07 28 45.2 +1.5
DAC Darwin (Calif) 113.63 52 PFAKE 07 28 50.0 +6.3
DAC LR LR
comp=Z,457nm,20.0s
RSL Roselend 113.63 318 PKP PKiKP 07 28 43.1 -0.7
SBF Sospel 113.66 316 ePKIKP PKiKP 07 28 43.0 -0.8
comp=Z,104nm,0.9s
MWC Mount Wilson 113.67 55 ePKIKP PKiKP 07 28 45.1 +1.3
CABF La Chapelle 113.68 319 ePKIKP PKiKP 07 28 43.6 -0.2
comp=Z,149nm,0.8s
LUCF Luceram 113.71 316 PKP PKiKP 07 28 43.0 -0.9
P10A Eureka 113.72 49 ⇑P PKiKP 07 28 44.6 +0.7
baz=114,SNR=7.3
M11A Holland Ranch, 113.74 47 ⇓P PKiKP 07 28 44.9 +1.0
baz=114,SNR=13
REVF Revere 113.74 316 PKP PKiKP 07 28 43.3 -0.7
CHMT Chamberlain Mo 113.78 40 ePKiKP PKiKP 07 28 43.5 -0.5
BNI Bardonecchia 113.80 318 ePKIKP PKiKP 07 28 43.2 -0.9
MVIF Mont Vial 113.84 316 PKP PKiKP 07 28 43.8 -0.4
MBDF Montbardon 113.84 317 ePKIKP PKiKP 07 28 43.4 -0.8
comp=Z,37nm,0.7s
SURF Saint Ours 113.89 317 PKP PKiKP 07 28 44.5 +0.2
N11A Elko Archery C 113.94 47 ⇓P PKiKP 07 28 45.2 +0.8
baz=114
HLID Hailey 114.10 44 ePKiKP PKiKP 07 28 45.7 +1.1
HLID LR LR
comp=Z,282nm,21.0s
R10A Warm Springs 114.17 50 P PKiKP 07 28 45.9 +1.1
baz=114,SNR=8.5
O11A Cowboy Ranch, 114.19 48 ⇑P PKiKP 07 28 45.3 +0.5
baz=114,SNR=20
P11A Circle Ranch, 114.27 48 ⇓P PKiKP 07 28 45.8 +0.8
baz=114,SNR=7.9
OG05 Jujurieux 114.29 319 PKP PKiKP 07 28 44.5 -0.5
FRF La Foret Royal 114.29 316 ePKIKP PKiKP 07 28 44.4 -0.6
comp=Z,94nm,1.0s
ELK Elko 114.33 47 ePKIKP PKiKP 07 28 45.9 +0.8
ELK MLR MLR
comp=Z,354nm,19.0s
GRN Grenoble 114.37 318 PKP PKiKP 07 28 45.0 -0.2
M12A Wells 114.38 46 ⇑P PKiKP 07 28 46.1 +0.9
baz=114,SNR=24
ORIF Oris-en-Rattie 114.38 318 ePKIKP PKiKP 07 28 44.7 -0.5
comp=Z,54nm,0.8s
ORIF *e*R
comp=Z,735nm,22.0s
OG25 Le Caire 114.43 317 PKP PKiKP 07 28 41.1 -4.2
N12A Clover Valley, 114.44 47 ⇑P PKiKP 07 28 46.2 +0.8
baz=114,SNR=26
LMR La Mourre 114.46 316 ePKIKP PKiKP 07 28 44.8 -0.5
comp=Z,60nm,1.1s
GSC Goldstone 114.46 53 ePKIKP PKiKP 07 28 46.5 +1.2

GSC	Goldstone	114.46	53	⇓P	PKiKP	07 28 46.5	+1.1
	baz=114,SNR=23						
Q11A	Duckwater	114.52	49	P	PKiKP	07 28 46.5	+1.0
	baz=114,SNR=34						
TPNV	Topopah Spring	114.53	51	ePdif	Pdif	07 25 00.1	+2.8
TPNV				ePKiKP	PKiKP	07 28 46.4	+0.9
TPNV				LR	LR		
	comp=Z,313nm,19.0s						
U10A	Ash Meadows, A	114.59	52	⇓P	PKiKP	07 28 47.2	+1.7
	baz=115,SNR=21						
TAVF	Tavernes	114.68	316	PKP	PKiKP	07 28 45.5	-0.3
LRM	Limekiln Ridge	114.68	41	ePKiKP	PKiKP	07 28 45.9	+0.1
109C	Camp Elliot, M	114.71	56	⇓P	PKiKP	07 28 46.6	+0.8
	baz=115						
DLMT	Dillon	114.75	42	ePKiKP	PKiKP	07 28 46.4	+0.6
MCMT	McKenzie Canyo	114.76	42	P	PKiKP	07 28 46.6	+0.7
HRY	Holter Researc	114.77	40	ePKiKP	PKiKP	07 28 44.9	-1.0
VILF	Villemus	114.84	317	PKP	PKPdf	07 28 45.9	-0.2
LOR	Lormes	114.88	321	ePKIKP	PKPdf	07 28 45.5	-0.6
	comp=Z,65nm,0.9s						
LOR				eR			
	comp=Z,486nm,21.5s						
LOR	Lormes	114.88	321	ePKPdf	PKPdf	07 28 45.5	-0.6
LOR				LR	LR		
	comp=Z,490nm,21.5s						
SMRF	Simiane la Rot	114.90	317	ePKIKP	PKPdf	07 28 46.0	-0.2
	comp=Z,92nm,0.9s						
P12A	McGill	114.92	48	⇓P	PKiKP	07 28 47.0	+0.8
	baz=115						
M13A	Montello	114.93	46	⇑P	PKiKP	07 28 46.9	+0.7
	baz=115,SNR=12						
PUYF	Puyloubier	114.96	316	PKP	PKPdf	07 28 46.2	-0.1
BERF	Bertagne	115.03	316	PKP	PKPdf	07 28 46.2	-0.2
N13A	Wendover, West	115.05	47	⇑P	PKPdf	07 28 47.0	+0.5
	baz=115,SNR=12						
LCCM	Lewis and Clar	115.05	41	P	PKPdf	07 28 46.7	+0.2
Q12A	Willow Creek R	115.09	49	⇓P	PKPdf	07 28 47.1	+0.6
	baz=115,SNR=15						
PFO	Pinyon Flat Ob	115.10	55	ePKIKP	PKPdf	07 28 46.5	-0.1
PFO				MLR	MLR		
	comp=Z,384nm,19.0s						
PFO	Pinyon Flat Ob	115.10	55	P	PKPdf	07 28 47.7	+1.1
	baz=115,SNR=21						
BAR	Barrett	115.11	56	ePKPdf	PKPdf	07 28 47.4	+0.8
SMF	Signal de Mont	115.12	320	ePKIKP	PKPdf	07 28 45.8	-0.8
	comp=Z,54nm,0.9s						
TUQ	Turquoise Mtn.	115.13	53	P	PKPdf	07 28 47.8	+1.2
	baz=115,SNR=16						
TREF	Trevaresse	115.14	316	PKP	PKPdf	07 28 46.2	-0.5
SSF	Saint Saulge	115.18	321	ePKIKP	PKPdf	07 28 46.1	-0.6
	comp=Z,140nm,0.9s						
EKA	Eskdalemuir Ar	115.18	331	PKP	PKPdf	07 28 45.5	-1.2
	comp=Z,11nm,0.8s,baz=26,slow=4.7,SNR=23						
EKA				PP	PP	07 29 52.6	-0.4
	comp=Z,9.3nm,0.9s,baz=56,slow=6.4,SNR=7.5						
EKA				SKiKP		07 31 44.0	
	comp=Z,4.1nm,0.9s,baz=38,slow=3.5,SNR=4.6						
EKA	Eskdalemuir Ar	115.18	331	PKP	PKPdf	07 28 45.5	-1.2
EKA				PP	PP	07 29 52.6	-0.4
GELF	Grande-Etoile	115.19	316	PKP	PKPdf	07 28 46.4	-0.3
ESK	Eskdalemuir	115.21	331	PFAKE		07 29 00.0	+13
ESK				LR	LR		
	comp=Z,391nm,21.0s						
VIVF	Saint-Julien-l	115.21	318	ePKIKP	PKPdf	07 28 46.3	-0.5
	comp=Z,71nm,0.9s						
PRAF	Pradon	115.23	317	PKP	PKPdf	07 28 46.4	-0.4
BOZ	Bozeman (W)	115.28	41	ePKIKP	PKPdf	07 28 47.0	+0.1
BOZ				MLR	MLR		
	comp=Z,284nm,20.0s						
U11A	Corn Creek	115.33	52	⇑P	PKPdf	07 28 48.6	+1.6
	baz=115						
AVF	Avril sur Loir	115.38	320	ePKIKP	PKPdf	07 28 46.2	-0.9
	comp=Z,66nm,0.9s						
V11A	Goodsprings	115.43	52	⇑P	PKPdf	07 28 48.3	+1.1
	baz=116,SNR=14						
SHPR	Sheep Range	115.48	52	ePKPdf	PKPdf	07 28 48.4	+1.1
PLDF	La Plantade	115.51	319	PKP	PKPdf	07 28 47.6	+0.2
EGMT	Eagleton	115.57	38	ePKPdf	PKPdf	07 28 47.4	-0.1
EGMT				LR	LR		
	comp=Z,283nm,20.0s						
COLF	Collangettes	115.62	319	PKP	PKPdf	07 28 47.3	-0.3
QLMT	Earthquake Lak	115.70	42	ePKPdf	PKPdf	07 28 48.5	+0.8
BGF	Bois d'Agland	115.79	320	ePKIKP	PKPdf	07 28 47.5	-0.4
	comp=Z,155nm,0.6s						
AGO	Saint Agoulin	115.79	320	PKP	PKPdf	07 28 47.9	0.0
HVU	Hansel Valley	115.80	45	ePKIKP	PKPdf	07 28 48.7	+0.8
BGU	Big Grassy Mou	115.88	46	ePKPdf	PKPdf	07 28 48.5	+0.4
V12A	Nelson	115.92	52	P	PKPdf	07 28 49.6	+1.5
	baz=116,SNR=56						
PYM	Petit Puy Mans	115.99	319	PKP	PKPdf	07 28 48.1	-0.2
U12A	Valley of Fire	115.99	52	⇓P	PKPdf	07 28 49.5	+1.3
	baz=116,SNR=26						
W12A	Cal Nev Ari	116.00	53	⇓P	PKPdf	07 28 49.3	+1.0
	baz=116						
LBL	Lubilhac	116.02	319	PKP	PKPdf	07 28 48.4	+0.1
LASF	Ste Croix	116.03	317	ePKIKP	PKPdf	07 28 47.9	-0.5
	comp=Z,79nm,1.0s						
YMR	Madison River	116.07	42	PFAKE		07 29 00.0	+12
YMR				LR	LR		
	comp=Z,2µm,20.0s						
SPUT	South Promonto	116.18	46	ePKPdf	PKPdf	07 28 48.8	+0.2
YFT	Old Faithful	116.24	42	ePKPdf	PKPdf	07 28 50.9	+2.2
DUG	Dugway	116.26	47	ePKIKP	PKPdf	07 28 49.5	+0.7
DUG				MLR	MLR		
	comp=Z,298nm,21.0s						
TCF	Toulx Ste Croi	116.30	320	ePKIKP	PKPdf	07 28 48.5	-0.4
	comp=Z,137nm,1.0s						
RRI2	Red Ridge	116.30	43	ePKPdf	PKPdf	07 28 49.8	+0.9
DCID1	Drake Creek	116.31	43	ePKPdf	PKPdf	07 28 49.9	+1.0
IMW	Indian Meadow	116.36	43	ePKPdf	PKPdf	07 28 49.8	+0.8
FLWY	Flagg Ranch	116.46	42	ePKPdf	PKPdf	07 28 49.3	+0.1
LKWY	Lake	116.49	42	ePKIKP	PKPdf	07 28 50.9	+1.7
LKWY				MLR	MLR		
	comp=Z,513nm,19.0s						
TPAW	Teton Pass	116.50	43	ePKPdf	PKPdf	07 28 50.0	+0.7
GCMT	Greycliff	116.51	40	ePKPdf	PKPdf	07 28 49.5	+0.3
GCMT				epPKPdf	pPKPdf	07 30 21.8	+1.4
GCMT				eSKPdf	SKPdf	07 31 45.8	-3.0
MOOW	Moose Ponds	116.55	43	ePKPdf	PKPdf	07 28 49.8	+0.4
GLA	Glamis	116.55	55	ePKIKP	PKPdf	07 28 50.0	+0.6
GLA	Glamis	116.55	55	⇑P	PKPdf	07 28 50.5	+1.2
	baz=117,SNR=14						
CCUT	Cedar City	116.61	50	ePKPdf	PKPdf	07 28 50.7	+1.2
CCUT				ePP	PP	07 30 01.5	-1.5
NOQ	North Oquirrh	116.62	46	ePKPdf	PKPdf	07 28 50.1	+0.6
Y12C	Blythe	116.64	54	⇓P	PKPdf	07 28 50.4	+0.9
	baz=117,SNR=15						
FFC	Flin Flon	116.64	29	ePKPdf	PKPdf	07 28 48.5	-1.0
FFC				eSKPdf	SKPdf	07 31 46.7	-2.3
FFC				LR	LR		
	comp=Z,309nm,19.0s						
AHID	Auburn Hatcher	116.65	44	ePKPdf	PKPdf	07 28 50.5	+0.9
AHID				LR	LR		
	comp=Z,251nm,19.0s						
HWUT	Hardware Ranch	116.71	45	ePKPdf	PKPdf	07 28 50.0	+0.3
HWUT				LR	LR		
	comp=Z,243nm,22.0s						
LDF	La Druitiere	116.78	323	ePKIKP	PKPdf	07 28 49.1	-0.7
	comp=Z,66nm,0.9s						
W13A	Hualapai Mount	116.83	53	⇑P	PKPdf	07 28 51.3	+1.4
	baz=117,SNR=44						
NLU	North Lily Min	116.87	47	ePKPdf	PKPdf	07 28 50.7	+0.7
CAF	Calviac	116.91	319	ePKIKP	PKPdf	07 28 50.0	-0.1
	comp=Z,129nm,1.0s						
FLN	La Foliniere	116.92	324	ePKIKP	PKPdf	07 28 49.4	-0.7
	comp=Z,57nm,1.0s						
FLN				eR			
	comp=Z,578nm,22.0s						
FLN	La Foliniere	116.92	324	ePKPdf	PKPdf	07 28 49.4	-0.7
FLN				LR	LR		
	comp=Z,580nm,22.0s						
TCUT	Toone Canyon	116.98	46	ePKPdf	PKPdf	07 28 50.5	+0.3
X13A	Yucca	117.00	53	P	PKPdf	07 28 51.3	+1.1
	baz=117,SNR=39						
RJF	Les Rejaudoux	117.13	319	ePKIKP	PKPdf	07 28 50.2	-0.3
RJF				eR			
	comp=Z,374nm,21.2s						
RJF	Les Rejaudoux	117.13	319	ePKPdf	PKPdf	07 28 50.2	-0.3
RJF				LR	LR		
	comp=Z,370nm,21.3s						
MPU	Maple Canyon	117.17	47	ePKPdf	PKPdf	07 28 50.7	+0.1
MPU				LR	LR		
	comp=Z,1µm,22.0s						
MVU	Marysvale	117.21	49	ePKPdf	PKPdf	07 28 46.2	-4.4
MVU				LR	LR		
	comp=Z,438nm,22.0s						
MSU	Marysvale	117.23	49	ePKPdf	PKPdf	07 28 52.1	+1.5
SJAF	Saint Jean de	117.25	316	PKP	PKPdf	07 28 50.0	-0.7
GRR	Gorron	117.31	323	ePKIKP	PKPdf	07 28 50.3	-0.5
DAU	Daniels Canyon	117.32	46	ePKPdf	PKPdf	07 28 51.7	+0.8
LRDF	Laroque-de-Fa	117.33	317	PKP	PKPdf	07 28 50.5	-0.4
MTLF	Montolieu	117.40	317	ePKIKP	PKPdf	07 28 50.5	-0.5
	comp=Z,93nm,0.9s						
W14A	Seligman	117.44	53	⇓P	PKPdf	07 28 52.6	+1.5
	baz=118,SNR=55						
FILF	Fillols	117.45	316	PKP	PKPdf	07 28 51.0	-0.1
FCC	Fort Churchill	117.53	22	ePKIKP	PKPdf	07 28 49.9	-1.4
SFJD	Kangerlussuaq	117.56	359	⇓iP	PKPdf	07 28 49.7	-1.6
	comp=Z,30nm,0.8s						
SFJD				i		07 31 47.6	
MFF	Saint Martin d	117.66	321	ePKIKP	PKPdf	07 28 50.9	-0.6
	comp=Z,159nm,0.8s						
BW06	Boulder Array	117.71	43	ePKPdf	PKPdf	07 28 51.5	0.0
BW06				LR	LR		
	comp=Z,294nm,20.0s						
PDAR	Pinedale Array	117.71	43	PKP	PKPdf	07 28 51.5	0.0
	comp=Z,16nm,0.8s,baz=222,slow=2.0,SNR=66						
PDAR				SKiKP		07 31 49.0	
	comp=Z,5.8nm,1.0s,baz=211,slow=1.7,SNR=4.4						
PDAR				PKKPbc	PKKPbc	07 39 13.2	-0.6
	comp=Z,18nm,0.8s,baz=117,slow=4.6,SNR=18						
PDAR				PKKPab	PKKPab	07 39 17.3	-0.9
	comp=Z,18nm,0.8s,baz=116,slow=6.1,SNR=42						
TMUT	Trail Mountain	117.71	48	ePKPdf	PKPdf	07 28 52.3	+0.7
LFF	La Frestale	117.78	319	ePKIKP	PKPdf	07 28 51.6	-0.1
	comp=Z,128nm,1.0s						
X14A	Yava	117.78	53	⇓P	PKPdf	07 28 53.1	+1.4
	baz=118,SNR=34						
Y14A	Wickenburg	117.83	54	⇓P	PKPdf	07 28 52.4	+0.6
	baz=118,SNR=20						
VALF	Valcebollere	117.88	316	PKP	PKPdf	07 28 51.8	-0.1
DSB	Dublin	117.90	330	ePKPdf	PKPdf	07 28 51.0	-1.0
LCHF	La Chataignera	118.00	321	PKP	PKPdf	07 28 52.5	+0.3
Z14A	Wintersburg	118.01	55	⇓P	PKPdf	07 28 53.1	+0.9
	baz=118,SNR=8.3						
W15A	Williams	118.10	52	⇓P	PKPdf	07 28 53.9	+1.5
	baz=118,SNR=16						
ETOS	Mallorca	118.23	313	PKP	PKPdf	07 28 52.8	+0.2
SRU	San Rafael	118.27	48	ePKIKP	PKPdf	07 28 53.2	+0.5
DCN	Croghan	118.29	330	eP	PKPdf	07 28 52.0	-0.7
X15A	Humboldt	118.30	53	P	PKPdf	07 28 54.1	+1.3
	baz=118,SNR=39						
MLS	Moulis	118.31	317	PKP	PKPdf	07 28 52.0	-0.7
LAO	LASA Array	118.31	38	ePKPdf	PKPdf	07 28 53.4	+0.7
LAO				LR	LR		
	comp=Z,490nm,19.0s						
SGMF	Saint Gilles	118.38	324	ePKIKP	PKPdf	07 28 52.0	-0.9
EMIR	Miracle	118.40	316	PKP	PKPdf	07 28 52.9	0.0
WUAZ	Wupatki	118.70	52	ePKPdf	PKPdf	07 28 54.6	+1.1
WUAZ				LR	LR		
	comp=Z,313nm,21.0s						
115A	Sonoran Desert	118.76	55	⇓P	PKPdf	07 28 54.6	+1.0
	baz=119,SNR=9.5						
ROSF	Rostrenen	118.77	324	ePKIKP	PKPdf	07 28 52.8	-0.8
	comp=Z,49nm,0.9s						
EPF	Esparros	118.79	317	ePKIKP	PKPdf	07 28 53.3	-0.4
	comp=Z,65nm,0.9s						
RESF	Ens	118.88	317	PKP	PKPdf	07 28 54.1	+0.3
QUIF	Quistinic	118.90	324	ePKIKP	PKPdf	07 28 53.0	-0.9
	comp=Z,91nm,1.0s						
EPOB	Poblet	118.92	315	PKP	PKPdf	07 28 53.4	-0.5
EPOB				PP		07 31 52.0	
LABF	Labassere	118.97	317	PKP	PKPdf	07 28 53.9	-0.1
EBIE	Bielsa	119.06	317	PKP	PKPdf	07 28 54.9	+0.7
EBIE				PP		07 31 53.2	
VIEF	Viey	119.06	317	PKP	PKPdf	07 28 54.6	+0.4
116A	Eloy	119.22	55	⇓P	PKPdf	07 28 55.5	+0.9
	baz=119,SNR=6.3						
REYF	Montagne du Re	119.27	318	PKP	PKPdf	07 28 54.6	0.0
ETSF	Etsaut	119.45	318	ePKIKP	PKPdf	07 28 55.3	+0.4
	comp=Z,65nm,0.8s						
EIBI	Ibiza	119.55	313	PKP	PKPdf	07 28 55.8	+0.7
ERTA	Horta de San J	119.58	315	PKP	PKPdf	07 28 55.0	-0.2
ERTA				PP		07 31 53.6	
PV10	Paradox Valley	119.61	48	ePKPdf	PKPdf	07 28 56.3	+1.0
PV10				epPKPdf	pPKPdf	07 30 29.4	+3.1
PV10				eSKPdf	SKPdf	07 31 53.2	-1.5
LARF	Larrau	119.68	318	PKP	PKPdf	07 28 55.9	+0.5
RWWY	Rawlins	119.73	44	ePKPdf	PKPdf	07 28 55.6	+0.2
ESAC	San Caprasio	119.85	316	PKP	PKPdf	07 28 55.6	-0.1
EALK	Alkurruntz	119.95	318	PKP	PKPdf	07 28 56.2	+0.3
ELIZ	Elizondo	119.99	318	PKIKP	PKPdf	07 28 56.0	0.0
TUC	Tucson	120.04	55	ePKIKP	PKPdf	07 28 57.0	+0.9
TUC				MLR	MLR		
	comp=Z,274nm,20.0s						
PV01	Paradox Valley	120.04	48	ePKPdf	PKPdf	07 28 57.1	+1.1
PV01				ePP	PP	07 30 22.0	-4.5
PV01				epPKPdf	pPKPdf	07 30 29.9	+2.7
PV01				eSKPdf	SKPdf	07 31 55.3	-0.2
EMOS	Mosqueruela	120.38	315	PKP	PKPdf	07 28 57.5	+0.8
EMOS				PP		07 31 56.1	
EBEN	Beniarda	120.81	313	PKP	PKPdf	07 28 57.8	+0.3
RSSD	Black Hills	120.83	40	ePKIKP	PKPdf	07 28 56.8	-0.8
SMCO	Snowmass	120.84	46	ePKPdf	PKPdf	07 28 58.9	+1.3
ECHE	Chera	121.02	314	PKIKP	PKPdf	07 28 58.7	+0.7
PHWY	Pilot Hill	121.09	44	ePKPdf	PKPdf	07 28 57.9	-0.2
ELAN	Lanestosa	121.22	319	PKP	PKPdf	07 28 58.4	+0.1
ISCO	Idaho Springs	121.58	45	ePKIKP	PKPdf	07 29 01.3	+2.3
ISCO				MLR	MLR		
	comp=Z,343nm,20.0s						
ETOB	Tobarra	121.79	313	PKP	PKPdf	07 29 00.0	+0.6
EMUR	La Murta	121.86	312	PKP	PKPdf	07 29 01.7	+2.2
ULM	Lac du Bonnet	122.29	31	PKP	PKPdf	07 28 59.1	-1.3
	comp=Z,40nm,0.8s,baz=308,slow=2.2,SNR=62						
ULM				SKP		07 31 57.1	
	comp=Z,12nm,0.9s,baz=284,slow=4.5,SNR=5.0						
ULM				PKKPab	PKKPab	07 38 57.5	-0.7
	comp=Z,4.3nm,0.7s,baz=58,slow=2.6,SNR=7.4						
ULM	Lac du Bonnet	122.29	31	ePKPdf	PKPdf	07 28 58.9	-1.4
ULM				LR	LR		
	comp=Z,421nm,22.0s						
EARI	Arriondas	122.35	320	PKP	PKPdf	07 29 00.6	+0.1
LAZ	Ladron	122.36	52	ePKPdf	PKPdf	07 29 01.9	+1.3
LAZ				epPKPdf	pPKPdf	07 30 35.4	+3.8
LAZ				eSKPdf	SKPdf	07 31 58.1	-1.9
SDCO	Great Sand Dun	122.45	48	PFAKE		07 29 10.0	+9.3
SDCO				LR	LR		
	comp=Z,555nm,20.0s						
EVIA	Vianos	122.49	314	PKIKP	PKPdf	07 29 01.4	+0.6
LENM	Lemitar	122.56	52	ePKPdf	PKPdf	07 29 02.0	+1.1
Y22C	IRIS PASSCAL I	122.63	52	⇓P	PKPdf	07 29 02.7	+1.6
	baz=123,SNR=22						
ANMO	Albuquerque	122.71	51	⇑iPKIKP	PKPdf	07 29 02.1	+0.9
ANMO	Albuquerque	122.71	51	PFAKE		07 29 10.0	+8.8
ANMO				LR	LR		
	comp=Z,291nm,20.0s						
LPM	Los Pinos Moun	122.78	52	ePKPdf	PKPdf	07 29 02.3	+0.9
GUD	Guadarrama	122.83	316	PKIKP	PKPdf	07 29 02.2	+0.8
BNM	Barren Site	122.84	52	ePKPdf	PKPdf	07 29 02.5	+1.1
ENIJ	Nijar	122.90	312	PKIKP	PKPdf	07 29 01.5	-0.1
ESDC	Sonseca Array	123.11	315	PKP	PKPdf	07 29 02.0	+0.1
	comp=Z,22nm,0.9s,baz=21,slow=3.2,SNR=62						
ESDC				SKiKP		07 31 60.0	
	comp=Z,2.2nm,0.8s,baz=38,slow=2.0,SNR=4.7						
ESDC				PKKPbc	PKKPbc	07 38 56.2	+2.2
	comp=Z,13nm,1.0s,baz=258,slow=3.5,SNR=24						
ESDC	Sonseca Array	123.11	315	PKP	PKPdf	07 29 02.1	+0.1
ESLA	Sonseca Array	123.11	315	ePKPdf	PKPdf	07 29 02.2	+0.2
ESLA				eSKPdf	SKPdf	07 32 00.8	-0.5
ESLA				LR	LR		
	comp=Z,1µm,20.0s						
EQES	Quesada	123.22	313	PKP	PKPdf	07 29 01.9	-0.3
EBER	Berja	123.43	312	PKP	PKPdf	07 29 02.7	+0.1
EPON	Pontenova	123.58	320	PKP	PKPdf	07 29 03.3	+0.4
EBAN	Banos Encina	123.60	314	PKIKP	PKPdf	07 29 03.2	+0.3
ECOG	Cogollos-Vega	123.79	313	PKIKP	PKPdf	07 29 02.6	-0.7
EFI	East Falkland	123.94	177	ePKIKP	PKPdf	07 29 03.4	-0.2
ECAL	Calabor	123.98	319	PKP	PKPdf	07 29 04.0	+0.4
PBRG	Braganca	124.05	319	ePKPdf	PKPdf	07 29 03.9	+0.1
ERON	Agron	124.06	312	PKP	PKPdf	07 29 03.0	-0.8
EADA	Adamuz	124.17	314	PKP	PKPdf	07 29 04.6	+0.6
ELOJ	Sierra Loja	124.27	313	PKIKP	PKPdf	07 29 03.7	-0.5
TOA0	Torodi Ar. Sit	124.65	283	ePKPdf	PKPdf	07 29 05.0	+0.1
TORD	Torodi Ar. Bea	124.65	283	PKP	PKPdf	07 29 05.0	+0.1
	comp=Z,96nm,0.8s,baz=57,slow=1.5,SNR=207						
TORD				SKPbc		07 31 40.9	
	comp=Z,7.3nm,0.8s,baz=94,slow=2.4,SNR=3.6						
TORD				PKKPbc	PKKPbc	07 38 50.0	+2.0
	comp=Z,57nm,0.9s,baz=290,slow=3.8,SNR=72						
TORD				SKKPbc		07 41 55.1	
	comp=Z,7.0nm,1.1s,baz=247,slow=4.4,SNR=4.9						
TORD	Torodi Ar. Bea	124.65	283	PKP	PKPdf	07 29 05.0	+0.1
TORD				SKPbc		07 31 40.9	
TORD				PKKPbc	PKKPbc	07 38 50.0	+2.0
TORD				SKKPbc		07 41 55.1	
STS	Santiago	124.68	321	PKIKP	PKPdf	07 29 05.6	+0.6
ELOB	Lobios	124.88	319	PKP	PKPdf	07 29 05.9	+0.6
EMAZ	Mazaricos	124.92	321	PKP	PKPdf	07 29 05.8	+0.4
PVRL	Vila Real	124.94	319	ePKPdf	PKPdf	07 29 06.3	+0.8
EMIJ	Mijas	124.96	312	PKP	PKPdf	07 29 04.6	-0.9
MTE	Manteigas	125.25	318	ePKPdf	PKPdf	07 29 06.4	+0.3
MTE	Manteigas	125.25	318	ePKPdf	PKPdf	07 29 06.2	+0.1
GDL2	Guadalupe Moun	125.27	53	ePKPdf	PKPdf	07 29 07.3	+1.2
PVIS	Viseu	125.33	318	ePKPdf	PKPdf	07 29 07.2	+1.0
PCBR	Castelo Branco	125.47	317	ePKPdf	PKPdf	07 29 07.1	+0.6
EJIF	Jimena Fronter	125.52	312	PKIKP	PKPdf	07 29 06.9	+0.3
PTO	Porto	125.59	319	ePKPdf	PKPdf	07 29 07.6	+0.9
ESPR	Espera	125.63	313	PKP	PKPdf	07 29 07.2	+0.4
EBAD	Badajoz	125.64	316	PKP	PKPdf	07 29 07.3	+0.5
EMIN	Mina Concepcio	125.84	314	PKP	PKPdf	07 29 08.1	+0.9
EYMN	Ely	125.97	31	eSKPdf	SKPdf	07 32 06.2	-0.7
EYMN				LR	LR		
	comp=Z,5µm,20.0s						
PTOM	Tomar	126.20	317	ePKPdf	PKPdf	07 29 08.6	+0.7
MDT	Midelt	126.24	308	PKP	PKPdf	07 29 08.7	+0.7
	comp=Z,33nm,1.0s,baz=74,slow=2.9,SNR=50						
AMTX	Amarillo	126.39	49	ePKPdf	PKPdf	07 29 04.0	-4.3
AMTX				LR	LR		
	comp=Z,318nm,19.0s						
EGRO	El Granado	126.52	314	PKP	PKPdf	07 29 09.1	+0.6
PBEJ	Beja	126.57	315	ePKPdf	PKPdf	07 29 09.6	+1.0
LTX	Lajitas	126.75	56	ePKIKP	PKPdf	07 29 10.0	+1.1
LTX				MLR	MLR		
	comp=Z,377nm,21.0s						
PLOU	Loures	127.06	317	ePKPdf	PKPdf	07 29 10.4	+0.9
PTEO	Sao Teotonio	127.39	315	ePKPdf	PKPdf	07 29 11.3	+1.1
WMOK	Wichita Mounta	128.62	48	ePKIKP	PKPdf	07 29 13.1	+0.6
WMOK				e		07 30 43.2	
WMOK				MLR	MLR		
	comp=Z,393nm,21.0s						
WMOK	Wichita Mounta	128.62	48	ePKPdf	PKPdf	07 29 13.1	+0.6
WMOK				epPKPdf	pPKPdf	07 30 43.1	-0.5
WMOK				eSKPdf	SKPdf	07 31 56.4	-15
WMOK				LR	LR		
	comp=Z,393nm,21.0s						
SCHQ	Schefferville	128.69	10	PKP	PKPdf	07 29 12.3	-0.3
	comp=Z,71nm,1.1s,baz=21,slow=2.8,SNR=45						
SCHQ				SKPbc		07 31 55.3	
	comp=Z,54nm,0.9s,baz=357,slow=4.5,SNR=17						
SCHQ	Schefferville	128.69	10	ePKPdf	PKPdf	07 29 12.4	-0.2
SCIA	State Center	128.76	37	ePKPdf	PKPdf	07 29 10.7	-2.1
JCT	Junction City	129.53	54	ePKIKP	PKPdf	07 29 14.9	+0.7
JCT				e		07 31 26.2	
JCT				MLR	MLR		
	comp=Z,279nm,19.0s						
JCT	Junction City	129.53	54	ePKPdf	PKPdf	07 29 14.9	+0.7
JCT				esPKPdf		07 31 26.2	
JCT				eSKPbc		07 32 00.6	
JCT				LR	LR		
	comp=Z,279nm,19.0s						
DBIC	Dimbokro	131.31	275	PKhKP		07 29 03.5	
	comp=Z,5.8nm,0.7s,baz=74,slow=12,SNR=4.9						
DBIC				PKP	PKPdf	07 29 17.6	0.0
	comp=Z,58nm,0.8s,baz=90,slow=2.9,SNR=31						
DBIC				SKPbc	SKPbc	07 32 06.3	-0.9
	comp=Z,112nm,0.9s,baz=79,slow=5.0,SNR=20						
DBIC	Dimbokro	131.31	275	ePKPdf	PKPdf	07 29 18.1	+0.5
DBIC				eSKPbc	SKPbc	07 32 06.4	-0.8
DBIC				eSKPdf	SKPdf	07 32 14.6	-2.3
DBIC				LR	LR		
	comp=Z,296nm,22.0s						
KVTX	Kingsville	132.13	57	ePKPdf	PKPdf	07 29 19.4	+0.2
KVTX				eSKPab		07 32 11.7	
KVTX				eSKPdf	SKPdf	07 32 17.3	-1.1
PLCA	Paso Flores	132.44	163	PKhKP		07 29 07.1	
	comp=Z,5.0nm,0.8s,baz=220,slow=6.2,SNR=9.1						
PLCA				PKP	PKPdf	07 29 19.9	+0.2
	comp=Z,47nm,0.8s,baz=200,slow=3.8,SNR=45						
PLCA				PP	PP	07 31 47.5	-0.5
	comp=Z,8.2nm,0.8s,baz=179,slow=5.8,SNR=3.1						
PLCA				SKPbc	SKPbc	07 32 09.7	-1.4
	comp=Z,14nm,1.1s,baz=205,slow=5.2,SNR=3.1						
PLCA	Paso Flores	132.44	163	i PKHKP		07 29 07.1	
PLCA						07 29 20.0	
PLCA						07 31 47.5	
PLCA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PLCA				pmax	pmax		
	comp=Z,47nm,0.8s						
PLCA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PLCA				pmax	pmax		
	comp=N,14nm,1.1s						
PLCA	Paso Flores	132.44	163	ePKPdf	PKPdf	07 29 19.8	+0.1
PLCA				epPKPdf	pPKPdf	07 30 50.5	-0.4
MIAR	Mount Ida	132.52	46	ePKIKP	PKPdf	07 29 20.3	+0.4
MIAR				e		07 30 52.8	
MIAR				MLR	MLR		
	comp=Z,385nm,20.0s						
MIAR	Mount Ida	132.52	46	ePKPdf	PKPdf	07 29 20.3	+0.4
MIAR				epPKPdf	pPKPdf	07 30 52.8	+1.8
MIAR				eSKPbc	SKPbc	07 32 11.1	-0.3
MIAR				LR	LR		
	comp=Z,385nm,20.0s						
FVM	French Village	132.79	40	ePKIKP	PKPdf	07 29 20.1	-0.3
HKT	Hockley	132.90	53	ePKPdf	PKPdf	07 29 19.0	-1.6
HKT				eSKPbc	SKPbc	07 32 12.9	+0.2
HKT				LR	LR		
	comp=Z,347nm,22.0s						
NATX	Nacogdoches	133.03	50	ePKPdf	PKPdf	07 29 21.6	+0.8
NATX				eSKPbc	SKPbc	07 32 13.4	+0.3
NATX				LR	LR		
	comp=Z,495nm,22.0s						
UALR	University of	133.27	45	ePKPdf	PKPdf	07 29 21.6	+0.3
UALR				eSKPbc	SKPbc	07 32 13.2	-0.8
AAM	Ann Arbor	133.88	31	ePKPdf	PKPdf	07 29 23.3	+0.9
AAM				eSKPbc	SKPbc	07 32 14.6	-1.4
AAM				LR	LR		
	comp=Z,273nm,20.0s						
BLO	Bloomington	134.46	36	ePKIKP	PKPdf	07 29 23.4	-0.1
GLAT	Glass	134.53	41	ePKPdf	PKPdf	07 29 24.4	+0.8
GLAT				eSKPbc	SKPbc	07 32 17.3	-0.7
USIN	University of	134.54	38	ePKPdf	PKPdf	07 29 23.1	-0.6
USIN				eSKPbc	SKPbc	07 32 16.5	-1.5
WCI	Wyandotte Cave	135.21	37	ePKPdf	PKPdf	07 29 21.3	-3.6
WCI				eSKPbc	SKPbc	07 32 18.6	-1.6
WCI				LR	LR		
	comp=Z,267nm,22.0s						
OXF	Oxford	135.45	43	ePKIKP	PKPdf	07 29 24.8	-0.6
OXF				MLR	MLR		
	comp=Z,264nm,19.0s						
WVT	Waverly	135.56	40	PFAKE		07 29 40.0	+14
WVT				LR	LR		
	comp=Z,255nm,19.0s						
MSNY	Massena	135.61	21	ePKPdf	PKPdf	07 29 24.0	-1.7
MSNY				eSKPbc	SKPbc	07 32 19.2	-2.2
MSNY				eSKPdf	SKPdf	07 32 24.6	-0.1
ACSO	Alum Creek Sta	135.72	32	ePKPdf	PKPdf	07 29 25.5	-0.4
ACSO				eSKPbc	SKPbc	07 32 20.0	-1.7
ACSO				LR	LR		
	comp=Z,295nm,22.0s						
ERPA	Erie	135.82	28	ePKPdf	PKPdf	07 29 25.7	-0.3
ERPA				eSKPbc	SKPbc	07 32 20.6	-1.4
ERPA				LR	LR		
	comp=Z,283nm,19.0s						
LONY	Lake Ozonia	136.03	21	ePKPdf	PKPdf	07 29 26.1	-0.4
PLAL	Pickwick Lake	136.08	42	ePKPdf	PKPdf	07 29 25.7	-0.8
PLAL				eSKPbc	SKPbc	07 32 20.9	-1.9
PLAL				LR	LR		
	comp=Z,265nm,19.0s						
FRNY	Flat Rock	136.20	20	ePKPdf	PKPdf	07 29 26.0	-0.8
NCB	Newcomb	136.72	22	ePKPdf	PKPdf	07 29 27.5	-0.2
NCB				eSKPbc	SKPbc	07 32 22.9	-1.9
NCB				LR	LR		
	comp=Z,341nm,22.0s						
MIV	Mineville/With	136.88	21	ePKPdf	PKPdf	07 29 27.6	-0.5
MIV				eSKPbc	SKPbc	07 32 23.2	-2.0
TRQA	Tornquist	136.99	170	ePKPdf	PKPdf	07 29 28.4	+0.2
TRQA				LR	LR		
	comp=Z,527nm,19.0s						
PKME	Peaks-Kenny Pk	137.16	16	ePKPdf	PKPdf	07 29 26.8	-1.8
PKME				eSKPab		07 32 32.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LBNH	Lisbon	137.29	19	ePKIKP	PKPdf	07 29 29.0	+0.2
LBNH				e		07 32 24.8	
LBNH				MLR	MLR		
	comp=Z,324nm,19.0s						
ACCN	Adirondack Com	137.43	22	eSKPbc	SKPbc	07 32 24.8	-2.0
BINY	Binghamton	137.53	25	ePKPdf	PKPdf	07 29 28.2	-1.0
BINY				eSKPbc	SKPbc	07 32 24.9	-2.3
BINY				LR	LR		
	comp=Z,291nm,22.0s						
HNH	Hanover	137.64	20	ePKPdf	PKPdf	07 29 29.1	-0.4
WVL	Waterville	137.70	17	ePKPdf	PKPdf	07 29 29.2	-0.3
WVL				eSKPbc	SKPbc	07 32 25.7	-1.9
MCWV	Mont Chateau	137.77	30	PFAKE		07 29 40.0	+10
MCWV				LR	LR		
	comp=Z,333nm,20.0s						
LRAL	Lakeview Retre	137.94	43	ePKPdf	PKPdf	07 29 29.7	-0.3
LRAL				eSKPbc	SKPbc	07 32 27.1	-1.1
LRAL				LR	LR		
	comp=Z,332nm,19.0s						
TZTN	Tazewell	137.96	37	ePKPdf	PKPdf	07 29 30.6	+0.6
SSPA	Standing Stone	137.96	28	ePKPdf	PKPdf	07 29 29.7	-0.3
SSPA				eSKPbc	SKPbc	07 32 26.6	-1.7
SSPA				LR	LR		
	comp=Z,221nm,21.0s						
EMMW	East Machias	138.16	15	ePKPdf	PKPdf	07 29 26.1	-4.2
EMMW				eSKPbc	SKPbc	07 32 27.0	-1.9
FWV	Forest Hill	138.80	33	ePKPdf	PKPdf	07 29 29.6	-2.0
QUA2	Belchertown	138.87	21	ePKPdf	PKPdf	07 29 31.9	+0.2
HRV	Harvard--Oak R	138.95	20	ePKIKP	PKPdf	07 29 31.9	+0.1
HRV				e		07 32 29.6	
HRV				MLR	MLR		
	comp=Z,210nm,19.0s						
ELN	Prospectdale	139.09	34	ePKPdf	PKPdf	07 29 31.4	-0.7
WES	Weston	139.14	20	ePKIKP	PKPdf	07 29 31.4	-0.8
WES				e		07 32 29.5	
WES				MLR	MLR		
	comp=Z,501nm,21.0s						
MVL	Millersville	139.17	27	ePKPdf	PKPdf	07 29 32.0	-0.2
FCH	Farellones	139.26	159⇑	iP	PKPdf	07 29 24.9	-7.5
BLA	Blacksburg	139.28	33	ePKPdf	PKPdf	07 29 32.2	-0.2
BLA				eSKPab		07 32 43.7	
BLA				LR	LR		
	comp=Z,283nm,20.0s						
PAL	Palisades	139.38	24	ePKHKP		07 29 24.4	
PAL				e		07 32 30.8	
PAL	Palisades	139.38	24	ePKPdf	PKPdf	07 29 32.7	+0.1
CPNY	Central Park	139.54	24	ePKPdf	PKPdf	07 29 26.8	-6.1
CPNY				eSKPbc	SKPbc	07 32 31.3	-1.4
CBN	Corbin	140.12	30	ePKPdf	PKPdf	07 29 33.2	-0.7
CBN				LR	LR		
	comp=Z,265nm,20.0s						
CMCH	Combarbala	140.91	156⇑	iP	PKPdf	07 29 29.2	-6.2
TLL	Tololo Astrono	141.87	156⇓	iP	PKPdf	07 29 33.4	-3.6
CNNC	Cliffs of the	142.12	33	ePKPdf	PKPdf	07 29 33.2	-4.3
LCO	Las Campanas	142.93	155⇓	iP	PKPdf	07 29 36.5	-2.5
TEIG	Tepich	142.93	62	PKPdf	PKPdf	07 29 36.8	-2.1
TEIG	Tepich	142.93	62	ePKPdf	PKPdf	07 29 37.0	-2.0
TEIG				eSKPbc	SKPbc	07 32 40.9	-0.5
TEIG				LR	LR		
	comp=Z,213nm,20.0s						
PAYG	Puerto Ayora	143.13	97	ePKPdf	PKPdf	07 29 39.5	+0.2
PAYG				eSKPbc	SKPbc	07 32 44.6	+2.7
RBDL	Robledal	143.31	72⇓	eP	x	07 30 07.1	
RTR	El Retiro	143.39	73	eP	x	07 30 07.8	
SBLS	San Blas	143.43	73	eP	x	07 30 07.7	
SNJE	San Jose	143.44	73⇓	eP	x	07 30 07.4	
MTO2	Montecristo 2	143.56	72	eP	x	07 30 07.9	
BOQS	Boqueron	143.77	73⇑	eP	x	07 30 08.7	
LBRS	Las Brisas	144.00	73	eP	x	07 30 09.4	
LFRS	El Faro	144.00	73	eP	x	07 30 09.2	
LCBS	La Ceiba	144.08	73	eP	x	07 30 09.1	
SNVI	San Vicente	144.22	73⇓	eP	x	07 30 09.8	
DWPF	Disney	144.71	45	PKPab	PKPdf	07 29 42.3	+0.3
DWPF				SKPbc	SKPbc	07 32 44.4	-1.1
DWPF	Disney	144.71	45	ePKPdf	PKPdf	07 29 42.2	+0.2
DWPF				LR	LR		
	comp=Z,309nm,21.0s						
VSM	San Miguel	144.79	73⇓	eP	x	07 30 11.9	
BLLM	Bellamira	144.82	73	eP	x	07 30 11.5	
CNCH	Conchagua	145.24	73⇓	eP	x	07 30 12.4	
VCR	Vista de Mar	147.89	78	eP	PKPdf	07 29 49.3	+1.9
CEN1	Los Morros	147.98	151	eP	PKPdf	07 29 48.2	+0.6
LIM1	Limonal	148.18	77	eP	PKPdf	07 29 48.4	+0.5
CGA2	Cerro Gallo 2	149.04	78	eP	PKPdf	07 29 53.6	+4.4
PRS1	Puriscal	149.20	78	eP	PKPdf	07 29 51.7	+2.2
LVC	Limon Verde	149.26	152	PKP	PKPdf	07 29 51.6	+2.0
	comp=Z,186nm,1.1s,baz=269,slow=1.7,SNR=15						
LVC				PKPbc	PKPbc	07 29 56.3	+1.9
	comp=Z,331nm,1.0s,baz=235,slow=2.6,SNR=74						
LVC	Limon Verde	149.26	152	ePKPdf	PKPdf	07 29 51.6	+2.0
LVC				ePKPbc	PKPbc	07 29 56.3	+2.0
LVC				ePKPab	PKPab	07 30 02.6	+2.3
LCR2	La Lucha 2	149.53	78	eP	PKPdf	07 29 51.3	+1.3
BUS	Buena Vista	149.80	79	eP	PKPdf	07 29 52.3	+1.9
BBSR	BB Station	150.42	19	ePKPdf	PKPdf	07 29 51.6	+0.2
BBSR				ePKPbc	PKPbc	07 29 57.7	+0.6
CAM4	Nova Friburgo	151.17	202⇓	eP	PKPdf	07 29 53.5	+0.9
CAM4				i		07 30 00.2	
CAM4				i		07 30 02.6	
CAM4				i		07 30 07.5	
CAM4				i		07 30 08.9	
CAM4				i		07 30 22.9	
CAM3	Guarapari	151.79	207⇑	eP	PKPdf	07 29 51.8	-1.7
CAM3				i		07 29 54.4	
CAM3				i		07 30 01.1	
CAM3				i		07 30 11.6	
CAM3				i		07 30 24.4	
CAM3				i		07 33 47.7	
NNA	Nana	151.80	126	ePKPdf	PKPdf	07 29 53.7	+0.2
NNA				ePKPbc	PKPbc	07 30 00.7	+0.4
NNA				ePKPab	PKPab	07 30 12.0	+1.1
ARE	Arequipa	152.78	140	eP	PKPdf	07 29 56.0	+1.0
ARE				e		07 30 04.0	
ARE				e		07 30 17.0	
ATAH	Atahualpa	152.88	115	PKP	PKPdf	07 29 57.9	+2.8
	comp=Z,50nm,0.9s,baz=285,slow=2.4,SNR=42						
ATAH				PKPbc	PKPbc	07 30 05.5	+2.9
	comp=Z,125nm,0.8s,baz=182,slow=2.0,SNR=39						
ATAH				PKPab	PKPab	07 30 18.3	+2.8
	comp=Z,229nm,1.0s,baz=261,slow=4.1,SNR=25						
LPAZ	La Paz	154.93	146	PKPdf	PKPdf	07 30 00.0	+2.1
LPAZ				PKPdf	PKPdf	07 30 08.9	+11
LPAZ				PKPab	PKPab	07 30 26.4	+2.2
LPAZ	La Paz	154.93	146	PKP	PKPdf	07 30 00.0	+2.0
	comp=Z,41nm,1.0s,baz=13,slow=0.6,SNR=80						
LPAZ				PKPab	PKPab	07 30 26.2	+2.0
	comp=Z,144nm,0.9s,baz=199,slow=4.3,SNR=22						
LPAZ	La Paz	154.93	146	PKP	PKPdf	07 30 00.0	+2.0
LPAZ				PKPab	PKPab	07 30 26.2	+2.0
OTAV	Otavalo	154.96	99	ePKPdf	PKPdf	07 29 60.0	+1.9
OTAV				LR	LR		
	comp=Z,205nm,21.0s						
SIV	San Ignacio	158.41	161	PKP	PKPdf	07 30 03.4	+1.0
	comp=Z,50nm,0.9s,baz=211,slow=1.7,SNR=111						
SIV				PKPab	PKPab	07 30 39.5	+0.3
	comp=Z,80nm,0.8s,baz=202,slow=4.1,SNR=26						
BAO	Brasilia Array	159.22	196	PKPdf	PKPdf	07 30 04.0	+0.6
BDFB	Brasilia	159.22	196	PKP	PKPdf	07 30 04.0	+0.7
	comp=Z,38nm,1.1s,baz=64,slow=1.7,SNR=26						
BDFB				PKPab	PKPab	07 30 43.0	+0.2
	comp=Z,84nm,0.8s,baz=184,slow=1.4,SNR=24						
BDFB				PP	PP	07 34 23.4	-1.7
	comp=Z,78nm,1.2s,baz=78,slow=3.3,SNR=8.0						
BDFB	Brasilia	159.22	196	PKP	PKPdf	07 30 04.0	+0.7
BDFB				PKPab	PKPab	07 30 43.0	+0.2
BDFB				PP	PP	07 34 23.4	-1.7
BDFB				LR	LR		
	comp=Z,590nm,21.0s						
RCBR	Riachuelo	159.45	240	ePKPdf	PKPdf	07 30 04.8	+1.2
RCBR				ePKPab	PKPab	07 30 45.2	+1.4
RCBR				LR	LR		
	comp=Z,280nm,20.0s						
ROSC	El Rosal	159.48	88	PKP	PKPdf	07 30 05.2	+1.5
	comp=Z,80nm,0.9s,baz=115,slow=3.9,SNR=65						
ROSC				PKPab	PKPab	07 30 45.8	+1.9
	comp=Z,43nm,0.8s,baz=208,slow=3.6,SNR=7.2						
ROSC	El Rosal	159.48	88	ePKPdf	PKPdf	07 30 05.1	+1.4
ROSC				ePKPab	PKPab	07 30 47.5	+3.6
MPR	Mayaguez	161.08	43	ePKPdf	PKPdf	07 30 05.2	-0.2
SJG	San Juan	161.81	41	ePKIKP	PKPdf	07 30 05.7	-0.5
SJG				e		07 30 54.7	
SJG				MLR	MLR		
	comp=Z,273nm,20.0s						
CBYP	Canovanas	161.88	40	ePKPdf	PKPdf	07 30 05.9	-0.3
HUMP	Col San Antoni	161.98	40	ePKPdf	PKPdf	07 30 06.7	+0.3
CPD	Cerro la Pandu	162.02	41	ePKIKP	PKPdf	07 30 06.4	0.0
CPD				e		07 30 55.7	
MTP	Monte Pirata	162.21	40	ePKPdf	PKPdf	07 30 06.5	0.0
MTP				ePKPab	PKPab	07 30 56.5	+0.7
SDV	Santo Domingo	162.67	75	PKPdf	PKPdf	07 30 07.4	+0.4
SDV				PKPab	PKPab	07 30 59.9	+2.0
SDV	Santo Domingo	162.67	75	PKP	PKPdf	07 30 07.3	+0.2
	comp=Z,138nm,0.9s,baz=56,slow=1.0,SNR=28						
SDV				PKPab	PKPab	07 30 59.7	+1.8
	comp=Z,120nm,0.8s,baz=306,slow=3.5,SNR=15						
SDV	Santo Domingo	162.67	75	ePKPdf	PKPdf	07 30 07.5	+0.5
SDV				LR	LR		
	comp=Z,141nm,20.0s						
SAML	Samuel	163.67	145	PKPdf	PKPdf	07 30 09.0	+1.0
SAML				PKPab	PKPab	07 31 02.6	+0.3
SAML				PP	PP	07 34 47.4	-1.3
SAML	Samuel	163.67	145	ePKPdf	PKPdf	07 30 08.8	+0.8
SAML				ePKPab	PKPab	07 31 02.4	+0.1
SAML				ePP	PP	07 34 47.1	-1.5
PCRV	Puerto La Cruz	167.81	62	PKP	PKPdf	07 30 09.5	-1.8
	comp=Z,36nm,1.1s,baz=180,slow=6.1,SNR=5.6						

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*CSEM **15** 07:34:33.0±0.6, 3864N×2858W, h4^{km}±4^{km}, ML1.1, Error ellipse: s-maj=2.3km s-min=1.6km az=135.0, After PDA*
*PDA **15** 07:34:33.0±0.6, 3864N×2858W, h4^{km}±4^{km}, MD2.7, ML1.1, Error ellipse: s-maj=2.3km s-min=1.6km az=135.0*
SVSA 15 07:34:33.0±0.6**, 3864N**×**2858W, h4**^{km}±4^{km}**, MD2.7, ML1.1, Error ellipse: s-maj=2.3km s-min=1.6km az=135.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	Caldeira	0.11	240	eS	Sg	07 34 37.0	+0.3
PICO	Pico	0.18	138	eP	Pg	07 34 36.3	-0.3
PICO				eS	Sg	07 34 39.1	+0.1
PCND	Candelaria	0.19	151	eP	Pg	07 34 36.3	-0.4
PCND				eS	Sg	07 34 39.4	+0.1
PCND							
	9.4nm,0.2s						
PTEI	Pico do Teixo	0.23	129	eS	Sg	07 34 40.5	+0.2
PTEI							
	11nm,0.3s						
ROSA	Rosais	0.28	73	iP	Pg	07 34 38.0	-0.4
ROSA				eS	Sg	07 34 41.7	-0.3
ROSA	Rosais	0.28	73	eS	Sg	07 34 41.7	-0.3
PMAN	Manadas	0.39	90	eP	Pg	07 34 40.0	-0.4
PMAN				eS	Sg	07 34 45.1	-0.3
PMAN							
	29nm,0.1s						
PMAN	Manadas	0.39	90	eP	Pg	07 34 40.0	-0.4
PMAN				eS	Sg	07 34 45.1	-0.3

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*ISCJB **15** 07:36:19.1±0.3, 1231N±003×6982W±003, h33^{km}, mb4.1/10, Error ellipse: s-maj=4.5km s-min=3.7km az=2.2*
*IDC **15** 07:36:21.2±1.8, 1223N×6982W, h56^{km}±18^{km}, mb3.9/8, mb1 4.1/12, mb1mx3.8/22, mbtmp4.2/12, ML3.8/2, Error ellipse: s-maj=15.3km s-min=11.5km az=104.0*
*FUNV **15** 07:36:21.5, 1233N×6992W, h26^{km}, MW3.5*
*NEIC **15** 07:36:21.5, 1233N×6992W, h26^{km}, mb4.4/4, After CAR.*
ISC 15 07:36:21.1±0.4**, 1231N**±003×**6988W**±003**, h35**^{km}**, n43, σ1**^{s}**42**/59**, mb4.1**/10**, 2D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOV	Isla Los Monje	1.00	273	eP	Pn	07 36 39.6	+1.0
IMOV				eS	Sn	07 36 52.2	+0.7
DABV	Dabajuro	1.57	208	eP	Pn	07 36 46.9	+0.5
DABV				eS	Sn	07 37 06.0	+0.5
JACV	Jacura	1.59	140	eP	Pn	07 36 49.1	+2.4
JACV				eS	Sn	07 37 08.1	+2.1
SIQV	Siquisique	1.66	178⇓	iP	Pn	07 36 48.8	+1.2
QARV	Quebrada Arrib	2.19	197⇓	iP	Pn	07 36 56.1	+1.1
CURV	Curarigua	2.29	182	eP	Pn	07 36 56.8	+0.6
TEPV	Terepaima	2.43	164	eP	Pn	07 36 59.1	+0.9
TURV	Turiamo	2.72	133	eP	Pn	07 37 02.6	+0.4
VIRV	Villa del Rosa	3.06	234	eP	Pn	07 37 06.5	-0.4
SDV	Santo Domingo	3.49	192	P	Pn	07 37 13.3	+0.5
	9.9nm,0.3s,baz=340,slow=12,SNR=25						
SDV				S	Sn	07 37 50.8	-2.0
	52nm,0.3s,baz=322,slow=22,SNR=4.6						
SDV	Santo Domingo	3.49	192	ePn	Pn	07 37 13.4	+0.6
SDV				eSn	Sn	07 37 50.2	-2.6
VIGV	El Vigia	3.75	203	eP	Pn	07 37 17.5	+1.1
VIGV				eS	Sn	07 37 57.3	-2.0
BAUV	El Baul	3.80	152	eP	Pn	07 37 17.9	+0.8
BAUV				eS	Sn	07 37 59.7	-0.9
BIRV	Birongo	3.98	117	eP	Pn	07 37 19.6	+0.1
SOCV	Socops	4.12	194	eS	Sn	07 38 06.2	-2.2
CUPV	Cœpira	4.59	119	eP	Pn	07 37 28.9	+0.9
MERV	Las Mercedes	4.65	131	eP	Pn	07 37 29.6	+0.9
PCRV	Puerto La Cruz	5.56	112	P	Pn	07 37 42.5	+1.2
	2.5nm,0.3s,baz=323,slow=7.5,SNR=21						
PCRV				S	Sn	07 38 42.3	-1.6
	6.1nm,0.3s,baz=125,slow=22,SNR=14						
CAOV	Caicara del Or	6.07	144	eP	Pn	07 37 47.4	-0.9
CAOV				eS	Sn	07 38 52.0	-4.4
SJG	San Juan	6.79	31	P	Pn	07 37 58.7	+0.5
	6.6nm,0.3s,baz=206,slow=15,SNR=14						
SJG				S	Sn	07 39 08.5	-5.8
	94nm,0.3s,baz=293,slow=22,SNR=20						
SJG	San Juan	6.79	31	ePn	Pn	07 37 58.6	+0.4
SJG				eSn	Sn	07 39 03.8	-10
CPD	Cerro la Pandu	6.86	33	ePn	Pn	07 37 59.2	+0.1
CPD				eS	Sn	07 39 10.5	-5.3
MTP	Monte Pirata	7.10	35	ePn	Pn	07 38 02.4	0.0
MTP				eSn	Sn	07 39 14.0	-7.8
ROSC	El Rosal	8.62	211	P	Pn	07 38 24.8	+1.5
	2.0nm,0.3s,baz=98,slow=18,SNR=12						
ROSC				S	Sn	07 40 02.0	+2.8
	3.1nm,0.3s,baz=104,slow=19,SNR=3.4						
MASC	Masc	8.87	332	eP	Pn	07 38 30.2	+3.6
MASC				eS	Sn	07 40 01.0	-4.2
	comp=N,0.7nm,0.4s						
MASC				e			
	comp=E,0.9nm,0.6s						
RCC	Rio Carpintero	9.46	325	eP	Pn	07 38 35.3	+0.5
	baz=72						
RCC				eS	Sn	07 40 14.7	-5.3
	comp=N,21nm,0.7s						
RCC				e			
	comp=E,28nm,0.5s						
MOAC	Moa	9.62	330	eP	Pn	07 38 39.7	+2.7
LMGC	Las Mercedes	10.31	319	eP	Pn	07 38 48.0	+1.6
	baz=90						
LMGC				eS	Sn	07 40 32.1	-8.5
	comp=N,18nm,0.3s						
LMGC				e			
	comp=E,23nm,0.6s						
HLGC	Holguin	10.38	326	eP	Pn	07 38 51.0	+3.6
OTAV	Otavalo	14.71	216	ePn	Pn	07 39 44.8	-1.8
	comp=E,17nm,0.7s						
SAML	Samuel	22.14	162	eP	P	07 41 11.2	-2.5
	comp=E,6.0nm,0.5s,mb4.3						
NNA	Nana	25.11	196	eP	P	07 41 38.3	-4.2
	comp=E,8.3nm,0.7s,mb4.4						
LPAZ	La Paz	28.47	176	P	P	07 42 12.3	-0.4
	comp=E,2.0nm,0.5s,mb4.0,baz=53,slow=4.9,SNR=13						
SIV	San Ignacio	29.44	163	P	P	07 42 18.5	-2.8
	comp=E,1.5nm,0.5s,mb4.0,baz=331,slow=8.2,SNR=8.9						
BDFB	Brasilia	35.21	142	P	P	07 43 10.8	-1.0
	comp=E,1.2nm,0.4s,mb4.2,baz=220,slow=20,SNR=4.9						
SCHQ	Schefferville	42.48	3	P	P	07 44 12.7	-0.1
	comp=E,3.6nm,1.0s,mb4.0,baz=201,slow=8.6,SNR=4.7						
SCHQ	Schefferville	42.48	3	eP	P	07 44 12.3	-0.4
	comp=E,5.0nm,1.0s,mb4.1						
ULM	Lac du Bonnet	43.42	336	P	P	07 44 18.1	-2.3
	comp=E,2.9nm,0.7s,mb4.1,baz=146,slow=4.8,SNR=4.6						
PDAR	Pinedale Array	45.80	319	P	P	07 44 38.0	-1.3
	comp=E,0.5nm,0.7s,mb3.6,baz=128,slow=10,SNR=3.2						
PLCA	Paso Flores	52.78	181	P	P	07 45 30.0	-2.6
	comp=E,3.6nm,0.4s,mb4.6,baz=353,slow=9.1,SNR=21						
PLCA	Paso Flores	52.78	181	eP	P	07 45 29.9	-2.8
	comp=E,3.2nm,0.4s,mb4.6						
YKA	Yellowknife Ar	59.33	338	P	P	07 46 17.6	-1.8
	comp=E,1.4nm,0.6s,mb4.2,baz=121,slow=7.1,SNR=7.6						
WRA	Warramunga Arr	155.56	249	PKPab	PKPab	07 56 33.9	-3.1
	comp=E,0.2nm,0.3s,baz=106,slow=2.8,SNR=7.9						

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*KRSC **15** 07:39:17, 5620N×16253E, h5^{km}, ML5.0*
*ISCJB **15** 07:39:18.3±0.8, 5626N±003×16253E±006, h23^{km}±5^{km}, mb4.4/49, MS4.6/3, Error ellipse: s-maj=6.5km s-min=4.1km az=64.4*
*BJI **15** 07:39:20.8, 5666N×16199E, h26^{km}, mB5.0, mb4.8, Ms4.8, Msz4.7*
*MOS **15** 07:39:21.3±1.0, 56.12N×16252E, h50^{km}, mb4.6/14, Error ellipse: s-maj=10.8km s-min=6.2km az=82.4*
*NEIC **15** 07:39:22.4±1.3, 56.16N×16240E, h45^{km}±12^{km}, mb4.5/14, Error ellipse: s-maj=8.8km s-min=6.8km az=160.0*
*IDC **15** 07:39:25.7±5.2, 56.15N×16226E, h75^{km}±48^{km}, mb3.8/22, mb1 4.0/23, mb1mx3.9/27, mbtmp4.2/23, ML4.1/1, MS3.9/1, Ms1 3.9/1, ms1mx2.5/34, Error ellipse: s-maj=15.1km s-min=12.8km az=140.0*
ISC 15 07:39:18.4±0.9**, 5627N**±003×**16255E**±006**, h14**^{km}±6^{km}**, h29**^{km}±4.0^{km}**:pP-P, n127, σ1**^{s}**10**/139**, mb4.4**/49**, MS4.6**/3**, 5C, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.16	111	P	Pg	07 39 22.0	-0.4
KLY	Klyuchi	1.06	273	P	Pb	07 39 37.4	-1.1
KLY				S	Sb	07 39 51.0	-1.2
KOZR	Kozyr	1.50	263	PN	Pn	07 39 46.8	+1.9
KOZR				S	Sn	07 40 07.6	+3.4
KOZ	Kozyrevsk	1.51	263	P	Pn	07 39 46.8	+1.7
KOZ				S	Sn	07 40 07.6	+3.0
MKZ	Mys Kozlova	1.78	196	P	Pn	07 39 48.3	-0.5
MKZ				S	Sn	07 40 10.4	-0.8
KII	Karymskiy	2.86	220	P	Pn	07 40 05.3	+1.7
KII				S	Sn	07 40 39.6	+1.8
SPN	Mys Shipunski	3.50	206	P	Pn	07 40 11.8	-0.6
SPN				S	Sn	07 40 52.6	-1.0
NLC	Nalytchevo	3.62	212	P	Pn	07 40 14.5	+0.5
NLC				S	Sn	07 40 55.6	-0.9
PET	Petropavlovsk	3.96	216	P	Pn	07 40 20.5	+1.7
PET				S	Sn	07 41 05.7	+0.7
PET	Petropavlovsk	3.96	216	ePN	Pn	07 40 19.8	+1.0
PET				eS	Sn	07 41 05.7	+0.7
PET				pmax	pmax		
	comp=Z,191nm,0.5s						
PET				smax			
	comp=E,384nm,0.8s						
PET				smax			
	comp=N,772nm,0.6s						
PET				MLR	MLR		
	comp=Z,2µm,10.0s						
PET				MLR	MLR		
	comp=Z,2µm,12.0s						
PET	Petropavlovsk	3.96	216	ePn	Pn	07 40 19.3	+0.6
PET				eSn	Sn	07 41 09.0	+4.0
RUS	Russkaya	4.51	213	P	Pn	07 40 27.6	+1.3
RUS				S	Sn	07 41 19.9	+1.4
SKR	Severo-Kuril's	6.78	217	ePN	Pn	07 40 56.5	-1.0
SKR				e		07 42 15.7	
SKR				pmax	pmax		
	comp=N,180nm,1.0s						
SKR				pmax	pmax		
	comp=E,180nm,1.0s						
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
MA2	Magadan	7.09	303	ePN	Pn	07 41 07.7	+5.9
YSS	Yuzh-Sakhalins	15.38	241	eP	Pn	07 42 56.1	+1.1
ASAJ	Asahikawa	17.55	235	P	Pn	07 43 23.0	+0.3
	comp=Z,1.2nm,0.3s,baz=47,slow=6.6,SNR=30						
ASAJ				LR	LR	07 50 14.5	
	comp=Z,354nm,19.0s,baz=353,slow=37						
ASAJ	Asahikawa	17.55	235	P	Pn	07 43 23.0	+0.3
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,354nm,19.0s						
YAK	Yakutsk	17.67	303⇑	eP	Pn	07 43 27.0	+2.9
YAK				pmax	pmax		
	comp=Z,28nm,0.7s						
YAK	Yakutsk	17.67	303	ePn	Pn	07 43 24.2	+0.1
	comp=Z,36nm,0.9s						
HABR	Khabarovsk	18.41	257	eP	Pn	07 43 36.1	+2.8
HABR				eS	Sn	07 47 01.4	+2.6
HABR				pmax	pmax		
	comp=Z,21nm,1.1s						
KLR	Kul'dur	19.80	262	eP	Pn	07 43 45.1	-4.9
TIXI	Tiksi	20.90	330	eP	P	07 44 02.3	+2.0
TIXI				pmax	pmax		
	comp=Z,16nm,1.0s						
IMA2	Indian Mountai	22.77	47	eP	P	07 44 20.7	+0.3
COLA	College	25.20	50	eP	P	07 44 47.3	+3.7
COLA	College	25.20	50	P	P	07 44 43.1	-0.5
	comp=Z,13nm,1.3s,mb4.3						
MAJO	Matsushiro	25.66	230	eP	P	07 44 46.9	-0.9
MAJO				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.6						
MAJO	Matsushiro	25.66	230	eP	P	07 44 46.9	-0.9
	comp=Z,17nm,0.8s,mb4.6						
MAT	Matsushiro	25.66	230	P	P	07 44 47.5	-0.3
MJAR	Matsushiro Arr	25.66	230	P	P	07 44 46.6	-1.2
	comp=Z,9.6nm,0.8s,mb4.4,baz=27,slow=8.4,SNR=32						
BOD	Bodaibo	26.01	294	eP	P	07 44 49.8	-1.1
BOD				e		07 45 03.1	
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
BOD				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.1						
HIA	Hailar	26.47	273	eP	P	07 44 55.3	+0.2
INK	Inuvik	30.51	41	P	P	07 45 33.4	+2.2
	comp=Z,3.0nm,0.8s,mb4.2,baz=283,slow=6.9,SNR=7.5						
ULN	Ulaanbaatar	34.27	280	eP	P	07 46 03.5	-0.6
SONM	Songino Array	34.65	280	P	P	07 46 06.9	-0.4
	comp=Z,2.4nm,0.7s,mb4.2,baz=57,slow=7.8,SNR=23						
SONM				PcP	PcP	07 48 40.4	-1.0
	comp=Z,0.7nm,0.6s,baz=50,slow=1.9,SNR=4.0						
ZAK	Zakamensk	34.91	286	eP	P	07 46 09.5	-0.1
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.5						
NJ2	Nanjing	38.66	250	eP	P	07 46 41.4	-0.2
NJ2				S	S	07 52 30.0	-7.8
NJ2				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.2						
NJ2				LR	LR		
	comp=N,2µm,22.3s						
NJ2				LR	LR		
	comp=E,1µm,16.0s						
NJ2				LR	LR		
	comp=Z,2µm,19.5s,MS5.0						
YKA	Yellowknife Ar	39.89	46	P	P	07 46 51.6	-0.2
	comp=Z,1.6nm,0.6s,mb4.0,baz=305,slow=9.1,SNR=4.7						
NVS	Novosibirsk	42.54	303	eP	P	07 47 13.0	-0.6
GTA	Gaotai	43.72	275	P	P	07 47 23.0	-0.1
GTA				AP	pP	07 47 30.0	+2.6
GTA				XP	sP	07 47 33.8	+4.7
GTA				PP	PP	07 49 10.0	+5.2
GTA				PPP		07 49 48.8	
GTA				S	S	07 53 52.9	+0.1
GTA				AMB	AMB		
	comp=Z,28nm,0.9s,mb5.0						
GTA				AMB	AMB		
	comp=Z,219nm,12.9s						
GTA				LR	LR		
	comp=N,208nm,14.8s,MS4.4						
GTA				LR	LR		
	comp=E,284nm,16.0s,MS4.4						
GTA				LR	LR		
	comp=Z,444nm,16.7s,MS4.5						
LZH	Lanzhou	43.83	268	eP	P	07 47 25.5	+1.5
LZH				AP	pP	07 47 32.4	+4.1
LZH				XP	sP	07 47 35.8	+5.8
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.7						
EDM	Edmonton	45.77	57	eP	P	07 47 39.3	-0.2
WMQ	Urumqi	47.30	288	P	P	07 47 51.3	-0.2
KURK	Kurchatov	47.30	301c	iP	P	07 47 50.9	-0.6
KURK	Kurchatov	47.30	301	eP	P	07 47 50.2	-1.3
	comp=Z,16nm,0.9s,mb5.0						
MKAR	Makanchi Array	48.10	295	P	P	07 47 55.5	-2.2
	comp=Z,3.0nm,0.8s,mb4.4,baz=58,slow=7.0,SNR=22						
BVAR	Borovoye Array	49.56	308	P	P	07 48 08.2	-0.7
	comp=Z,2.3nm,0.6s,mb4.4,baz=56,slow=9.1,SNR=14						
ARCES	ARCESS Array B	50.71	342	P	P	07 48 18.9	+1.3
	comp=Z,3.0nm,0.9s,mb4.2,baz=26,slow=8.3,SNR=3.5						
ARU	Arti	52.04	317⇑	iP	P	07 48 27.0	-0.6
ARU				e		07 50 30.4	
ARU				ePPP		07 51 27.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARU				eS	S	07 55 46.0	-4.8
ARU				eSS	SS	07 59 24.5	-3.3
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
ARU	Arti	52.04	317	eP	P	07 48 26.8	-0.8
	comp=Z,11nm,0.9s,mb4.8						
NVAR	Mina Array Bea	53.40	74	P	P	07 48 40.4	+2.7
	comp=Z,1.2nm,0.8s,mb3.9,baz=301,slow=4.9,SNR=6.7						
NVAR	Mina Array Bea	53.40	74	P	P	07 48 40.4	+2.7
TKM2	Tokmak 2	54.20	295	P	P	07 48 43.0	-0.5
	SNR=8.7						
ULHL	Ulahol	54.37	294	P	P	07 48 43.7	-1.1
	SNR=5.1						
USP	Ospenovka	54.50	296	P	P	07 48 45.0	-0.8
	SNR=14						
PDAR	Pinedale Array	54.79	64	P	P	07 48 48.6	+0.8
	comp=Z,0.9nm,0.6s,mb4.0,baz=336,slow=2.9,SNR=5.4						
AAK	Ala-Archa	54.97	296	P	P	07 48 48.8	-0.3
	SNR=9.7						
EKS2	Erkin-Say	55.31	296	P	P	07 48 51.6	0.0
	SNR=17						
AKTK	Aktyubinsk	56.74	312	P	P	07 49 00.7	-1.0
AKTO	Aktyubinsk	56.74	312	P	P	07 49 00.7	-1.0
	comp=Z,3.3nm,0.8s,mb4.4,baz=11,slow=4.0,SNR=12						
SRU	San Rafael	57.00	68	eP	P	07 49 04.3	+0.7
SRU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
SRU	San Rafael	57.00	68	eP	P	07 49 04.3	+0.7
	comp=Z,3.4nm,0.8s,mb4.4						
FINES	FINESS Array B	57.76	337	P	P	07 49 08.7	-0.3
	comp=Z,3.3nm,0.6s,mb4.5,baz=39,slow=8.6,SNR=13						
EYMN	Ely	59.26	49	eP	P	07 49 19.2	-0.2
	comp=Z,2.0nm,0.5s,mb4.4						
GUN	Gumba	59.98	276	eP	P	07 49 22.7	-1.7
	comp=Z,15nm,0.4s,mb5.3						
JIRN	Jiri	60.00	276	eP	P	07 49 21.6	-3.0
KKN	Kakani	60.41	276	eP	P	07 49 26.5	-0.9
	comp=Z,13nm,0.5s,mb5.2						
PKI	Pulchoki	60.51	276	eP	P	07 49 24.3	-3.7
GKN	Gorkha	60.60	277	eP	P	07 49 28.9	+0.2
	comp=Z,40nm,1.2s,mb5.4						
OBN	Obninsk	60.60	328	eP	P	07 49 28.2	-0.5
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.3						
DMN	Daman	60.64	276	eP	P	07 49 26.9	-2.1
NB2	NORSAR Subarra	60.88	344	P	P	07 49 29.2	-1.3
	comp=Z,3.6nm,1.0s,mb4.5,baz=19,slow=6.9						
NOA	NORSAR Array B	60.88	344	P	P	07 49 29.9	-0.6
	comp=Z,1.6nm,0.8s,mb4.2,baz=19,slow=6.9,SNR=4.5						
NOA	NORSAR Array B	60.88	344	P	P	07 49 29.9	-0.6
HFS	Hagfors	61.35	343	P	P	07 49 33.1	-0.7
	comp=Z,2.9nm,0.8s,mb4.4,baz=49,slow=6.7,SNR=6.5						
KOLN	Koldanda	61.35	278	eP	P	07 49 32.3	-1.5
	comp=Z,49nm,1.2s,mb5.5						
ANMO	Albuquerque	62.27	68	P	P	07 49 40.4	+0.4
	comp=Z,0.5nm,0.5s,mb3.9,baz=293,slow=13,SNR=3.0						
ANMO	Albuquerque	62.27	68	eP	P	07 49 41.4	+1.4
WMOK	Wichita Mounta	66.33	63	eP	P	07 50 05.7	-0.9
WMOK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
WMOK	Wichita Mounta	66.33	63	eP	P	07 50 05.7	-0.9
	comp=Z,6.3nm,1.2s,mb4.5						
AKASG	Malin Array Be	66.61	330	P	P	07 50 07.9	-0.4
	comp=Z,2.0nm,0.4s,mb4.5,baz=27,slow=6.2,SNR=16						
AKASG	Malin Array Be	66.61	330	i P	P	07 50 07.9	-0.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKBB	Malin Array Si	66.61	330	eP	P	07 50 07.6	-0.7
LTX	Lajitas	68.14	70	eP	P	07 50 18.7	+0.6
CLL	Collm	69.87	340	P	P	07 50 28.0	-0.8
	comp=Z,logA/T=0.9,mb4.6						
CLL	Collm	69.87	340	eP	P	07 50 28.0	-0.8
	comp=Z,7.0nm,0.9s,mb4.6						
GNI	Garni	70.52	314	eP	P	07 50 33.3	+0.5
GNI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
PLAL	Pickwick Lake	71.24	55	eP	P	07 50 36.7	-0.5
	comp=Z,5.3nm,0.8s,mb4.5						
PLAL				epP	pP	07 50 48.0	+6.3
VYHS	Vyhne	71.31	335	eP	P	07 50 37.5	-0.1
VYHS	Vyhne	71.31	335	eP	P	07 50 37.6	0.0
VYHS				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
VYHS	Vyhne	71.31	335	eP	P	07 50 37.6	0.0
	comp=Z,2.2nm,1.0s,mb4.0						
KHC	Kasperske Hory	71.84	339	⇑eP	P	07 50 41.9	+1.1
GERES	GERESS Array B	72.08	339	P	P	07 50 41.8	-0.4
	comp=Z,1.0nm,0.7s,mb3.9,baz=57,slow=9.7,SNR=5.1						
LDF	La Druitiere	74.51	348	eP	P	07 50 57.2	+0.6
GRR	Gorron	74.80	349	eP	P	07 50 59.4	+1.2
	comp=Z,150nm,1.6s,mb5.4						
GRR	Gorron	74.80	349	eP	P	07 50 59.4	+1.2
GRR				pmax	pmax		
	comp=Z,75nm,1.6s,mb5.4						
GRR	Gorron	74.80	349	eP	P	07 50 59.4	+1.2
	comp=Z,75nm,1.6s,mb5.4						
BRTR	Keskin Array B	75.05	322	P	P	07 50 58.8	-0.9
	comp=Z,1.2nm,0.7s,mb3.9,baz=77,slow=4.6,SNR=5.7						
BRTR	Keskin Array B	75.05	322	⇑eP	P	07 50 59.7	0.0
LOR	Lormes	75.30	345	eP	P	07 51 01.9	+0.8
	comp=Z,6.9nm,0.9s,mb4.3						
CABF	La Chapelle	75.61	343	eP	P	07 51 04.0	+1.1
	comp=Z,4.4nm,0.7s,mb4.2						
BGF	Bois d'Agland	76.14	346	eP	P	07 51 06.7	+0.8
MFF	Saint Martin d	76.48	348	eP	P	07 51 08.6	+0.8
LPL	La Plagne	76.57	343	eP	P	07 51 09.2	+0.8
LPG	La Plagne	76.58	343	eP	P	07 51 09.5	+1.1
ORIF	Oris-en-Rattie	77.29	343	eP	P	07 51 13.0	+0.6
CTA	Charters Tower	77.29	196	P	P	07 51 10.7	-1.7
	comp=Z,2.2nm,0.7s,mb4.2,baz=323,slow=5.1,SNR=2.7						
MBDF	Montbardon	77.33	343	eP	P	07 51 13.7	+1.1
	comp=Z,7.2nm,0.8s,mb4.4						
VIVF	Saint-Julien-l	77.54	344	eP	P	07 51 14.6	+0.8
	comp=Z,5.9nm,0.8s,mb4.2						
VIVF	Saint-Julien-l	77.54	344	eP	P	07 51 14.6	+0.8
VIVF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
VIVF	Saint-Julien-l	77.54	344	eP	P	07 51 14.6	+0.8
	comp=Z,3.0nm,0.8s,mb4.3						
SMRF	Simiane la Rot	78.26	343	eP	P	07 51 18.5	+0.7
LASF	Ste Croix	78.42	344	eP	P	07 51 19.3	+0.6
LMR	La Mourre	78.73	342	eP	P	07 51 21.3	+0.9
	comp=Z,9.7nm,0.9s,mb4.5						
LMR	La Mourre	78.73	342	eP	P	07 51 21.3	+0.9
LMR				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
LMR	La Mourre	78.73	342	eP	P	07 51 21.3	+0.9
	comp=Z,4.8nm,0.9s,mb4.4						
WRAB	Tennant Creek	79.55	207	eP	P	07 51 24.3	-0.6
WRA	Warramunga Arr	79.56	207	P	P	07 51 23.7	-1.3
	comp=Z,2.0nm,0.9s,mb4.0,baz=18,slow=6.0,SNR=9.7						
WRA	Warramunga Arr	79.56	207	i P	P	07 51 25.2	+0.2
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ETSF	Etsaut	80.18	347	eP	P	07 51 28.8	+0.5
	comp=Z,14nm,1.3s,mb4.4						
ETSF	Etsaut	80.18	347	eP	P	07 51 28.8	+0.5
ETSF				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
ETSF	Etsaut	80.18	347	eP	P	07 51 28.8	+0.5
	comp=Z,6.9nm,1.3s,mb4.4						
ASAR	Alice Springs	83.24	206	P	P	07 51 41.5	-2.9
	comp=Z,1.1nm,1.0s,mb3.9,baz=17,slow=5.9,SNR=5.6						
ESDC	Sonseca Array	83.74	350	P	P	07 51 45.2	-1.8
	comp=Z,0.2nm,0.4s,mb3.6,baz=15,slow=7.7,SNR=4.4						
MDT	Midelt	90.60	349	P	P	07 52 19.2	-1.1
	comp=Z,1.6nm,0.9s,mb4.4,baz=1.0,slow=4.0,SNR=3.9						
LPAZ	La Paz	124.81	65	PKP	PKPdf	07 58 18.6	+0.8
	comp=Z,0.5nm,0.8s,baz=260,slow=24,SNR=3.8						
SIV	San Ignacio	128.00	57	PKP	PKPdf	07 58 23.8	-0.2
	comp=Z,0.8nm,0.8s,baz=174,slow=23,SNR=3.9						
QSPA	South Pole Qui	146.02	180	eP	PKPdf	07 58 54.2	-2.8

ISCJB ***15*** *07:57:03.9±3.0,26.10N±008×1432E±0.1,h9km±19km, mb4.0/8,Error ellipse: s-maj=24.0km s-min=8.7km az=120.4*

JMA ***15*** *07:57:03.6±0.9,2597N×14306E,h0km,M4.0*

IDC ***15*** *07:57:05.3±1.4,26.11N×14289E,h0km,mb4.0/8, mb1 4.1/9,mb1mx3.9/20,mbtmp3.9/9,ML3.0/1,MS3.7/1, Ms1 3.7/1,ms1mx2.7/28,Error ellipse: s-maj=63.3km s-min=14.8km az=77.0*

NEIC ***15*** *07:57:10.3±6.1,2608N×14261E,h30km±41km, MG4.0(JMA),Error ellipse: s-maj=72.2km s-min=12.7km az=84.0*

ISC 15 07:57:06.3±2.4**,2607N**±008×**1430E**±02**,h8**km±13km**,n17, σ0ˢ91**/18**,mb4.0**/8**,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	0.93	307	P	Pg	07 57 23.7	-0.4
CBIJ	Chichi jima	1.26	324	Pn	Pn	07 57 29.6	-0.6
	96nm,0.3s,baz=92,slow=22,SNR=6.4						
CBIJ				Sn	Sn	07 57 47.1	-0.1
	369nm,0.3s,baz=264,slow=23,SNR=18						
CBIJ	Chichi jima	1.26	324	P	Pn	07 57 30.2	+0.1
CBIJ				eS	Sb	07 57 47.7	+1.1
JHO	Hitachi	10.71	349	P	Pn	07 59 41.0	+1.1
MJAR	Matsushiro Arr	11.21	340	Pn	Pn	07 59 46.9	0.0
	0.1nm,0.3s,baz=157,slow=12,SNR=3.5						
JOW	Kunigami	13.22	277	LR	LR	08 04 05.9	
	comp=Z,317nm,18.3s,baz=130,slow=32						
WB2	Warramunga Arr	46.50	191	eP	P	08 05 33.5	-0.5
WRA	Warramunga Arr	46.50	191	P	P	08 05 34.1	+0.1
	2.8nm,0.5s,mb4.4,baz=11,slow=8.5,SNR=14						
FITZ	Fitzroy Crossi	47.04	203	P	P	08 05 39.4	+1.2
	3.8nm,0.9s,mb4.3,baz=12,slow=14,SNR=2.5						
ASAR	Alice Springs	50.22	191	P	P	08 06 03.8	+1.1
	0.2nm,0.6s,mb3.4,baz=13,slow=14,SNR=3.4						
MKAR	Makanchi Array	51.70	310	P	P	08 06 11.8	-1.9
	0.1nm,0.4s,mb3.1,baz=84,slow=11,SNR=4.5						
MKAR	Makanchi Array	51.70	310	P	P	08 06 11.8	-1.9
BVAR	Borovoye Array	59.30	318	P	P	08 07 08.0	-0.4
	1.5nm,0.5s,mb4.3,baz=99,slow=6.5,SNR=9.0						
ARCES	ARCESS Array B	74.75	341	P	P	08 08 47.7	+1.0
	1.4nm,0.7s,mb4.0,baz=32,slow=8.6,SNR=3.3						
FINES	FINESS Array B	79.19	334	P	P	08 09 10.5	-1.2
	1.2nm,0.5s,mb4.1,baz=59,slow=5.5,SNR=15						
NB2	NORSAR Subarra	84.83	339	P	P	08 09 40.4	-0.9
	comp=Z,1.4nm,0.8s,mb4.1,baz=44,slow=5.1						
NOA	NORSAR Array B	84.83	339	P	P	08 09 40.5	-0.8
	comp=Z,0.8nm,0.7s,mb4.0,baz=48,slow=4.7,SNR=3.9						

IDC 15 08:06:28.4±5.2**,2987S**×**17833W,h0**km**,mb3.7**/2**, mb1 4.0**/2**,mb1mx3.7**/10**,mbtmp3.7**/2**,Error ellipse: s-maj=288.7km s-min=74.4km az=166.0,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.85	267	P	P	08 14 28.4	+0.1
	0.3nm,0.3s,baz=104,slow=7.4,SNR=7.5						
WRA	Warramunga Arr	43.79	272	P	P	08 14 36.2	+0.3
	0.7nm,0.3s,baz=110,slow=8.1,SNR=33						
FINES	FINESS Array B	144.55	340	PKP	PKPdf	08 26 05.7	-1.2
	1.2nm,0.7s,baz=45,slow=2.8,SNR=5.7						

NNC ***15*** *08:36:40.6±6.4,4333N×8244E,h0km,mb3.3,mpv3.0, Error ellipse: s-maj=67.0km s-min=26.9km az=114.0*

ISCJB ***15*** *08:36:44.1±1.2,4374N±009×8238E±009,h10km,Error ellipse: s-maj=14.1km s-min=8.2km az=47.9*

BJI ***15*** *08:36:45.1,4358N×8247E,h10km,ML2.9*

ISC 15 08:36:45.7±1.2**,4367N**±010×**8244E**±009**,h10**km**,n5, σ1ˢ36**/8**,5C-4D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MK09	Makanchi Array	3.10	358	⇑Pn	Pn	08 37 35.7	+1.0
	0.7nm,0.5s,baz=172,slow=12						
MK09				⇓Pg	Pg	08 37 42.2	-3.0
	4.0nm,0.6s,baz=171,slow=16						
MK09				⇓Lg		08 38 32.8	
	24nm,0.6s,baz=183,slow=26						
WMQ	Urumqi	3.81	86	P	Pn	08 37 44.3	-0.1
WMQ				S	Sn	08 38 30.9	+1.6
WMQ				SG	Sg	08 38 44.0	-4.1
WMQ				Smax			
	comp=N,16nm,0.6s						
WMQ				Smax			
	comp=E,24nm,0.6s						
TKM2	Tokmak 2	5.05	264	⇓Pn	Pn	08 38 01.1	-0.4
TKM2				⇑Lg		08 39 18.6	
	comp=E,1.0nm,0.6s						
KURK	Kurchatov	7.51	341	⇑Pn	Pn	08 38 35.4	+0.1
	comp=E,3.4nm,2.0s						
KURK				⇑Sn	Sn	08 40 00.9	+0.5
	comp=E,2.3nm,0.9s						
KURK				⇑Lg		08 40 46.8	
	comp=E,6.7nm,1.2s						
KK31	Karatay Array	8.71	270	⇓Lg		08 41 13.8	
	comp=E,0.9nm,0.5s						

SZGRF ***15*** *08:57:00.3,3335S×17761W,h33km,South of Kermadec Islands*

ISCJB ***15*** *08:57:39.7±0.5,3104S±003×17950W±004,h262km±5km, mb4.8/54,Error ellipse: s-maj=7.4km s-min=3.7km az=80.8*

MOS ***15*** *08:57:40.8±1.9,3048S×17952W,h259km,mb5.1/21, Error ellipse: s-maj=12.2km s-min=9.8km az=52.2*

BJI ***15*** *08:57:41.2,3061S×17947W,h271km,mB5.1,mb4.9*

HRVD ***15*** *08:57:42.7±0.5,3054S×179.16W,h258km±3km,MW5.2/48, Centroid moment Tensor Solution. LP body waves: s21,c24;Mantle waves: s48,c64; Half duration: 1ˢ0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.59±.05; $M_{\theta\theta}$-0.12±.04; $M_{\phi\phi}$0.71±.04; $M_{r\theta}$-0.32±.05; $M_{\theta\phi}$0.43±.03; $M_{\phi r}$-0.05±.04; Best double couple: $M_0$0.84600×10^{17} NP1:ϕ_s175.00000°,δ46.00000°,λ-134.00000°. NP2: ϕ_s49.00000°,δ58.00000°,λ-54.00000°. Principal axes: T 0.9170, Plg7.0000°, Azm115.0000°; N -0.1430, Plg30.0000°, Azm209.0000°; P -0.7760, Plg59.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***15*** *08:57:42.7±0.2,3103S×17941W,mb4.8/36 Error ellipse: s-maj=10.5km s-min=5.9km az=158.0*

IDC ***15*** *08:57:42.7±1.0,3051S×17947W,h272km±7km,mb4.1/10, mb1 4.3/12,mb1mx4.2/14,mbtmp4.7/12,Error ellipse: s-maj=16.5km s-min=9.9km az=169.0*

ISC 15 08:57:41.5±0.5**,3129S**±004×**17941W**±004**,h275**km±5km**, h280**km±4.5km**:pP-P,n544,σ0ˢ88**/348**,mb4.8**/53**,76C-61D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.41	33	P	Pn	08 58 24.6	-5.2
	311nm,0.3s,baz=331,slow=23,SNR=9.0						
RAO				S	S	08 58 47.9	-20
	498nm,0.3s,baz=222,slow=22,SNR=7.3						
RAO	Raoul Island	2.41	33	ePn	Pn	08 58 23.7	-6.0
MXZ	Matakaoa Point	6.54	196	PN	Pn	08 59 24.0	+7.2
MXZ				SN	S	09 00 38.6	+5.2
MTAZ	Motutapu	7.23	219	PN	Pn	08 59 33.7	+8.4
MKAZ	Moumakai	7.34	216	PN	Pn	08 59 34.6	+8.0
OTAZ	Otara	7.34	218	PN	Pn	08 59 35.0	+8.3
KAAZ	Kauri Point	7.37	220	PN	Pn	08 59 36.3	+9.2
MWZ	Matawai	7.47	199	PN	Pn	08 59 29.9	+1.7
URZ	Urewera	7.52	201	P	Pn	08 59 31.1	+2.2
	8.8nm,0.3s,baz=357,slow=2.5,SNR=40						
URZ				S	S	09 01 01.0	+5.5
	136nm,0.3s,baz=236,slow=22,SNR=13						
URZ	Urewera	7.52	201	PN	Pn	08 59 30.7	+1.8
URZ				SN	S	09 01 00.1	+4.5
WTAZ	Waiatarua	7.52	220	PN	Pn	08 59 37.5	+8.6
KNZ	Kokohu	8.07	196	ePN	Pn	08 59 37.4	+1.6
BKZ	Black Stump Fm	8.54	202	PN	Pn	08 59 42.5	+0.8
BKZ				SN	S	09 01 23.8	+4.9
HIZ	Hauiti	8.61	212	PN	Pn	08 59 47.6	+5.2
WTVZ	West Tongariro	8.81	206	PN	Pn	08 59 51.4	+6.3
OTVZ	Oturere	8.83	206	PN	Pn	08 59 50.0	+4.9
OTVZ				SN	S	09 01 31.5	+6.0
TUVZ	Tukino	8.92	206	PN	Pn	08 59 51.7	+5.3
WNVZ	Wahianoa	9.00	206	ePN	Pn	08 59 49.2	+2.0
MOVZ	Moawhango	9.01	205	ePN	Pn	08 59 48.4	+0.9
PKVZ	Pokaka	9.06	207	ePN	Pn	08 59 52.3	+4.3
PKVZ				SN	S	09 01 35.6	+4.8
MTVZ	Mangateitei	9.09	206	ePN	Pn	08 59 52.0	+3.5
MTVZ				SN	S	09 01 37.3	+5.7
VRZ	Vera Road	9.16	210	ePN	Pn	08 59 53.0	+3.7
PXZ	Pawanui	9.23	198	ePN	Pn	08 59 50.1	-0.1
RAEZ	Rainy Point	9.45	211	ePN	Pn	08 59 59.6	+6.6
TSZ	Takapari Road	9.53	202	ePN	Pn	08 59 55.2	+1.3
NEZ	North Egmont	9.57	212	ePN	Pn	09 00 02.5	+8.1
WAZ	Wanganui	9.60	207	ePN	Pn	08 59 56.7	+1.9
BFZ	Birch Farm	10.01	199	PN	Pn	08 59 59.1	-0.8
MRZ	Mangatainoka R	10.19	202	PN	Pn	09 00 01.0	-1.2
MRZ				SN	S	09 01 54.2	-2.6
TIWZ	Tintock	10.20	201	ePN	Pn	09 00 05.8	+3.5
KIW	Kapiti Island	10.60	204	ePN	Pn	09 00 06.7	-0.5
KIW				SN	S	09 02 05.1	-0.9
MTW	Mount Morrison	10.67	201	ePN	Pn	09 00 07.3	-0.8
CAW	Cannon Point	10.76	203	ePN	Pn	09 00 08.0	-1.2
CAW				SN	S	09 02 08.9	-1.0
TRWZ	Traveller	10.83	200	ePN	Pn	09 00 10.1	0.0
TRWZ				SN	S	09 02 10.2	-1.3
PAWZ	Paruwai Farm	10.90	201	ePN	Pn	09 00 09.6	-1.3
DUWZ	D'Urville Isla	10.92	208	ePN	Pn	09 00 11.6	+0.5
DUWZ				SN	S	09 02 15.5	+2.1
MSWZ	Moikau Station	10.98	202	ePN	Pn	09 00 12.1	+0.2
MSWZ				SN	S	09 02 13.1	-1.7
MRW	Makara Radio	11.00	204	ePN	Pn	09 00 11.5	-0.6
MRW				SN	S	09 02 12.4	-2.8
WEL	Wellington	11.02	204	ePN	Pn	09 00 11.8	-0.7
SNZO	South Karori	11.06	204	ePN	Pn	09 00 11.6	-1.4
TCW	Tory Channel	11.13	205	ePN	Pn	09 00 13.9	+0.1
TUWZ	Tuamarina	11.45	206	ePN	Pn	09 00 16.3	-1.4
TUWZ				SN	S	09 02 24.6	-0.9
NNZ	Nelson	11.48	208	PN	Pn	09 00 17.1	-1.1
QRZ	Quartz Range	11.53	212	ePN	Pn	09 00 18.5	-0.2
BSWZ	Blackbirch Sta	11.72	206	ePN	Pn	09 00 21.5	+0.4
BSWZ				SN	S	09 02 32.0	+0.4
THZ	Tophouse	12.14	208	ePN	Pn	09 00 25.4	-0.8
KHZ	Kahutara	12.45	205	ePN	Pn	09 00 29.6	-0.4
DSZ	Denniston Nort	12.60	212	ePN	Pn	09 00 31.5	-0.3
LTZ	Lake Taylor	13.25	208	ePN	Pn	09 00 38.9	-0.8
LTZ				SN	S	09 03 03.6	-2.8
MQZ	McQueen's Vall	13.89	205	ePN	Pn	09 00 46.6	-1.0
MQZ				SN	S	09 03 16.9	-4.1
WVZ	Waitaha Valley	14.13	211	ePN	Pn	09 00 50.2	-0.2
WVZ				SN	S	09 03 23.8	-2.6
RPZ	Rata Peaks	14.52	209	P	Pn	09 00 55.4	+0.4
	3.0nm,0.3s,baz=146,slow=0.7,SNR=25						
RPZ				S	S	09 03 34.0	-0.7
	28nm,0.3s,baz=335,slow=21,SNR=26						
RPZ	Rata Peaks	14.52	209	ePN	Pn	09 00 55.2	+0.2
RPZ				SN	S	09 03 31.4	-3.3
FOZ	Fox Glacier	14.99	212	ePN	Pn	09 01 00.8	+0.3
FOZ				SN	S	09 03 39.7	-4.5
LBZ	Lake Benmore	15.43	209	ePN	Pn	09 01 06.0	+0.2
LBZ				SN	S	09 03 52.5	-0.6
DZM	Mont Dzumac	15.61	303	eP	Pn	09 01 07.6	-0.4
DZM	Mont Dzumac	15.61	303	P	Pn	09 01 08.2	+0.3
	4.8nm,0.3s,baz=108,slow=14,SNR=34						
NOUC	Port Laguerre	15.70	302	eP	Pn	09 01 08.0	-1.0
ODZ	Otahua Downs	15.79	207	ePN	Pn	09 01 11.3	+1.3
ODZ				SN	S	09 04 00.1	-0.2
JCZ	Jackson Bay	15.81	213	ePN	Pn	09 01 10.1	-0.2
JCZ				SN	S	09 04 00.6	-0.1
WKZ	Wanaka	16.28	211	ePN	Pn	09 01 15.1	-0.6
WKZ				SN	S	09 04 11.7	+1.5
EAZ	Earnscleugh	16.48	209	SN	S	09 04 15.4	+1.3
TUZ	Tuapeka	16.94	207	ePN	Pn	09 01 26.4	+3.0
WHZ	Wether Hill Ro	17.58	210	ePN	P	09 01 33.2	+5.2
WHZ				SN	S	09 04 39.3	+3.2
AFI	Afiamalu	18.67	24	P	P	09 01 32.9	-6.7
	15nm,0.3s,baz=292,slow=3.9,SNR=18						
AFI				S	S	09 04 43.1	-14
	10.0nm,0.3s,baz=85,slow=21,SNR=6.7						
AFI	Afiamalu	18.67	24	eP	P	09 01 32.9	-6.8
AFI				pmax	pmax		
	comp=Z,151nm,1.0s						
AFI	Afiamalu	18.67	24	eP	P	09 01 32.9	-6.8
	comp=Z,151nm,1.0s						
RAR	Rarotonga	20.24	65	P	P	09 01 54.4	-1.9
	comp=Z,0.5nm,0.3s,baz=198,slow=4.7,SNR=4.5						
EIDS	Eidsvold	26.59	275	eP	P	09 02 57.2	+2.5
	comp=Z,8.6nm,0.9s,mb4.2						
TBI	Tubuai	27.70	81	eLR	LR	09 09 12.4	
	comp=Z,255nm,33.2s						
TBI	Tubuai	27.70	81	eT		09 31 43.1	
	comp=Z,23nm,0.4s						
TOO	Toolangi	29.50	248	eP	P	09 03 26.7	+6.2
	comp=Z,6.1nm,0.7s,mb4.2						
TOO	Toolangi	29.50	248	eP	P	09 03 26.7	+6.2
TOO				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.2						
PAE	Paea	30.24	70	eT		09 34 48.2	
	comp=Z,34nm,0.3s						
PPT	Papeete	30.29	70	eLQ		09 10 00.5	
	comp=Z,964nm,26.5s						
PPT	Papeete	30.29	70	eT		09 34 52.3	
	comp=Z,8.6nm,0.4s						
CTA	Charters Tower	32.77	282	eP	P	09 03 51.2	+2.2
	comp=Z,24nm,0.7s,mb4.8						
CTA				ePCP	PcP	09 06 29.1	+2.0
CTA				eSCP	ScP	09 09 45.5	+1.0
CTA	Charters Tower	32.77	282	P	P	09 03 50.8	+1.8
	comp=Z,28nm,0.7s,mb4.9,baz=106,slow=10,SNR=50						
CTA				ScP	ScP	09 09 45.7	+1.2
	comp=Z,7.9nm,0.8s,baz=311,slow=0.5,SNR=8.8						
CTA	Charters Tower	32.77	282	eP	P	09 03 51.2	+2.2
CTA				e		09 06 29.1	
CTA				pmax	pmax		
	comp=Z,24nm,0.7s						
CTAO	Charters Tower	32.77	282	eP	P	09 03 49.9	+0.9
CTAO				pmax	pmax		
	comp=Z,33nm,0.8s,mb4.9						
CTAO	Charters Tower	32.77	282	eP	P	09 03 49.9	+0.9
	comp=Z,33nm,0.8s,mb4.9						
VAH	Vaihoa	33.13	68	eT		09 38 22.5	
	comp=Z,27nm,0.3s						
PMG	Port Moresby	37.92	298	eP	P	09 04 26.6	-6.1
AS31	Alice Springs	41.86	269	eP	P	09 05 06.4	+1.4
AS31				eS	S	09 11 01.4	-0.3
ASAR	Alice Springs	41.86	269	P	P	09 05 06.8	+1.8
	comp=Z,2.5nm,0.3s,mb3.9,baz=105,slow=7.1,SNR=55						
ASAR				pP	pP	09 06 03.9	+2.5
	comp=Z,8.2nm,0.9s,baz=110,slow=8.0,SNR=6.2						
ASAR				ScP	ScP	09 10 20.5	+1.8
	comp=Z,2.6nm,0.8s,baz=111,slow=3.5,SNR=6.3						
ASAR				S	S	09 11 01.4	-0.3
	comp=Z,0.9nm,1.0s,baz=102,slow=17,SNR=3.4						
ASAR	Alice Springs	41.86	269	P	P	09 05 06.8	+1.8
ASAR				*PP	pP	09 06 03.9	+2.5
ASAR				S	S	09 11 01.4	-0.3
ASAR	Alice Springs	41.86	269	P	P	09 05 06.8	+1.8
ASAR				pP	pP	09 06 03.9	+2.5
ASAR				ScP	ScP	09 10 20.5	+1.8
ASAR				S	S	09 11 01.4	-0.3
ASPA	Alice Springs	41.87	269	eP	P	09 05 06.4	+1.4
ASPA				eS	S	09 11 01.4	-0.3
WB2	Warramunga Arr	42.92	274	eP	P	09 05 14.6	+1.1
WB2				eSCP	ScP	09 10 25.8	+2.8
WB2				eS	S	09 11 16.1	-1.0
WRAB	Tennant Creek	42.93	274	eP	P	09 05 14.4	+0.9
WRAB				e		09 06 59.6	
WRAB				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.4						
WRAB	Tennant Creek	42.93	274	eP	P	09 05 14.4	+0.9
	comp=Z,15nm,0.6s,mb4.4						
WRAB				ePcP	PcP	09 06 59.5	+0.9
WRAB				eScP	ScP	09 10 26.2	+3.3
WRA	Warramunga Arr	42.93	274	P	P	09 05 14.8	+1.3
	comp=Z,13nm,0.7s,mb4.3,baz=111,slow=8.1,SNR=215						
WRA				ScP	ScP	09 10 24.5	+1.5
	comp=Z,4.0nm,1.0s,baz=115,slow=3.9,SNR=7.8						
WRA				S	S	09 11 16.3	-0.9
	comp=Z,1.9nm,0.9s,baz=109,slow=15,SNR=6.5						
WRA				PKiKP	PKiKP	09 14 01.7	+0.2
	comp=Z,0.3nm,0.6s,baz=71,slow=0.3,SNR=7.0						
WRA	Warramunga Arr	42.93	274	P	P	09 05 14.8	+1.3
WRA				ScP	ScP	09 10 24.5	+1.5
WRA				S	S	09 11 16.3	-0.9
FORT	Forrest	44.65	256	eP	P	09 05 29.8	+2.6
	comp=Z,12nm,0.5s,mb4.4						
SBA	Scott Base	47.06	184	eP	P	09 05 54.3	+8.4
SBA				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.1						
SBA	Scott Base	47.06	184	eP	P	09 05 54.3	+8.3
	comp=Z,11nm,1.0s,mb4.2						
VNDA	Vanda	47.09	185	P	P	09 05 53.4	+7.2
	comp=Z,1.1nm,0.8s,baz=358,slow=8.2,SNR=4.0						
VNDA				ScP	ScP	09 10 44.2	+4.0
	comp=Z,4.8nm,0.7s,baz=350,slow=4.3,SNR=16						
KAKA	Kakadu	47.91	282	eP	P	09 05 52.2	-0.2

comp=Z,4.0nm,0.5s,mb4.0
FITZ Fitzroy Crossi 51.16 271 *e*P P 09 06 18.2 +1.4
comp=Z,14nm,0.9s,mb4.3
FITZ *e*PCP PcP 09 07 28.4 +0.4
FITZ Fitzroy Crossi 51.16 271 P P 09 06 18.3 +1.5
comp=Z,8.1nm,0.9s,mb4.1,baz=178,slow=9.7,SNR=13
QSPA South Pole Qui 58.82 180 *e*P P 09 07 18.2 +6.8
comp=Z,41nm,0.7s,mb5.0
SYO Syowa Base 75.97 194⇑ *e*P P 09 09 01.2 +2.9
SYO Syowa Base 75.97 194⇑ *e*PcP PcP 09 09 11.2 +1.8
SNAA Sanae 77.30 179 *e*P P 09 09 09.0 +3.3
SNAA *e**PP pP 09 10 10.9 +1.1
SNAA pmax pmax
comp=Z,7.0nm,1.0s
SNAA Sanae 77.30 179 *e*P P 09 09 09.0 +3.3
comp=Z,6.9nm,1.0s,mb4.3
SNAA *e*pP pP 09 10 10.9 +1.1
MJAR Matsushiro Arr 78.29 326 P P 09 09 08.8 -2.4
comp=Z,14nm,1.0s,mb4.6,baz=164,slow=5.6,SNR=24
MAJO Matsushiro 78.30 326 *e*P P 09 09 08.8 -2.4
MAJO pmax pmax
comp=Z,30nm,1.2s,mb4.9
MAJO Matsushiro 78.30 326 *e*P P 09 09 08.8 -2.4
comp=Z,30nm,1.2s,mb4.9
MAT Matsushiro 78.30 326 P P 09 09 08.8 -2.4
PLCA Paso Flores 82.78 134 P P 09 09 39.1 +4.2
comp=Z,3.2nm,0.7s,mb4.2,baz=203,slow=4.1,SNR=6.8
SSE Sheshan 83.79 312 P P 09 09 40.3 +0.3
SSE AMB AMB
comp=Z,31nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,501nm,4.9s
YSS Yuzh-Sakhalins 85.03 335⇑ *e*P P 09 09 46.0 -0.2
YSS pmax pmax
comp=Z,124nm,0.9s,mb5.7
NJ2 Nanjing 85.91 311 *e*P P 09 09 50.8 +0.2
NJ2 PP PP 09 13 10.8 -3.7
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
NJ2 AMB AMB
comp=Z,440nm,4.5s
NJ2 LR LR
comp=N,2μm,22.8s
NJ2 LR LR
comp=E,2μm,21.6s
NJ2 LR LR
comp=Z,2μm,22.6s
PET Petropavlovsk 86.11 347⇑ *e*P P 09 09 49.6 -1.9
PET pmax pmax
comp=Z,25nm,0.9s,mb5.0
PET Petropavlovsk 86.11 347 *e*P P 09 09 49.4 -2.1
HAST UC Hastings Re 86.43 43 ⇓P P 09 09 53.2 +0.1
baz=86,SNR=7.0
VLA Vladivostok 86.46 327 *e*P P 09 09 52.5 -0.7
VLA pmax pmax
comp=Z,38nm,1.3s,mb5.1
FARB Farallon Islan 86.50 41 ⇑P P 09 09 53.2 -0.3
baz=87
BNLO Ben Lomond (Sa 86.58 42 ⇑P P 09 09 53.9 0.0
baz=87
PKD Parkfield 86.72 44 ⇑P P 09 09 54.6 +0.1
baz=87
PTRM Twissleman Ran 86.73 44 *e*P P 09 09 54.7 +0.2
JRSC Jasper Ridge 86.73 42 ⇑P P 09 09 54.4 -0.2
baz=87
109C Camp Elliot, M 86.82 48 ⇓P P 09 09 56.2 +1.2
baz=87
U04C Hernandez Rese 86.87 44 ⇓P P 09 09 55.5 +0.4
baz=87
MCCM Marconi Confer 86.88 41 ⇓P P 09 09 54.7 -0.6
baz=87
OSI Osito Adit 86.94 46 ⇓P P 09 09 55.9 +0.4
baz=87
BAR Barrett 86.96 49 *e*P P 09 09 55.5 -0.1
PACP Pacheco Peak 87.01 43 P P 09 09 56.4 +0.5
baz=87,SNR=6.6
V05C Boulder Hill, 87.05 44 ⇓P P 09 09 57.0 +0.9
baz=87
MWC Mount Wilson 87.09 47 *e*P P 09 09 56.4 +0.1
WENL Wente Brothers 87.16 42 ⇓P P 09 09 56.7 +0.1
baz=87
CVS Carmenet Viney 87.26 41 ⇑P P 09 09 57.1 0.0
baz=87
T05C Eagle Field, D 87.29 43 ⇓P P 09 09 57.9 +0.6
baz=87
BDM Black Diamond 87.33 42 ⇑P P 09 09 57.3 -0.1
baz=87
S04C Ingram Canyon, 87.33 43 ⇑P P 09 09 57.4 +0.1
baz=87,SNR=5.9
HOPS Hopland 87.37 40 ⇓P P 09 09 57.8 +0.2
baz=87
MNRC McLaughlin Nat 87.64 41 ⇑P P 09 09 59.2 +0.4
baz=88
PFO Pinyon Flat Ob 87.70 48 *e*P P 09 09 59.3 +0.2
PFO pmax pmax
comp=Z,20nm,1.1s,mb4.9
PFO Pinyon Flat Ob 87.70 48 *e*P P 09 09 59.3 +0.1
comp=Z,20nm,1.1s,mb4.8
PFO Pinyon Flat Ob 87.70 48 ⇑P P 09 09 59.5 +0.3
baz=88,SNR=5.3
Q03C Winters 87.71 41 ⇑P P 09 09 59.6 +0.4
baz=88
O01C Eel River Cons 87.76 39 ⇓P P 09 09 59.5 +0.1
baz=88
ISA Isabella 87.78 45 *e*P P 09 09 59.8 +0.3
ISA pmax pmax
comp=Z,26nm,0.9s,mb5.1
ISA Isabella 87.78 45 *e*P P 09 09 59.8 +0.3
comp=Z,26nm,0.9s,mb5.1
ISA Isabella 87.78 45 ⇑P P 09 09 59.9 +0.3
baz=88,SNR=22
S05C Merced 87.80 43 ⇑P P 09 09 59.2 -0.4
baz=88,SNR=9.3
SDPT Sand Point 87.81 11 *e*P P 09 09 57.8 -1.8
comp=Z,95nm,1.2s,mb5.5
T06C Milleton Lake 87.94 44 ⇑P P 09 09 60.0 -0.3
baz=88,SNR=9.8
GASB Alder Springs 88.02 40 ⇑P P 09 10 01.3 +0.7
baz=88,SNR=7.0
JCC Jacoby Creek 88.13 39 ⇑P P 09 10 00.9 -0.3
baz=88
Q04C Lincoln 88.21 42 ⇓P P 09 10 01.1 -0.4
baz=88
CMB Columbia Colle 88.23 43 *e*P P 09 10 01.3 -0.3
CMB pmax pmax
comp=Z,13nm,0.9s,mb4.8
CMB Columbia Colle 88.23 43 *e*P P 09 10 01.3 -0.3
comp=Z,13nm,0.9s,mb4.8
CMB Columbia Colle 88.23 43 ⇑P P 09 10 01.0 -0.6
baz=88,SNR=15
SUTB Sutter Butte 88.25 41 ⇑P P 09 10 01.0 -0.7
baz=88
O02C Red Bluff 88.35 40 ⇑P P 09 10 02.6 +0.4
baz=88,SNR=14
KCC Kaiser Creek 88.38 44 ⇑P P 09 10 02.5 +0.2
baz=88,SNR=5.3
GLA Glamis 88.39 49 *e*P P 09 10 03.6 +1.2
GLA Glamis 88.39 49 P P 09 10 03.7 +1.3
baz=88,SNR=17
S06C San Francisco 88.44 43 P P 09 10 02.4 -0.3
baz=88,SNR=8.6
OHCM Honcut 88.49 41 *e*P P 09 10 02.1 -0.7
LAVA Lava Cap Winer 88.52 42 ⇓P P 09 10 02.5 -0.5
baz=89,SNR=5.4
N02C Big Bar 88.52 39 ⇓P P 09 10 02.9 0.0
baz=89,SNR=6.3
CWC Cottonwood Cre 88.53 45 ⇑P P 09 10 03.0 0.0
baz=89
GSC Goldstone 88.57 47 *e*P P 09 10 03.7 +0.5
GSC Goldstone 88.57 47 ⇓P P 09 10 03.4 +0.2
baz=89,SNR=14
ORV Oroville 88.63 41 ⇓P P 09 10 03.0 -0.5
baz=89,SNR=6.7
O03C Acorn Hollow, 88.64 40 ⇑P P 09 10 03.1 -0.4
baz=89
MDJ Mudanjiang 88.68 326 P P 09 10 03.4 -0.3
MDJ AP pP 09 11 06.6 -3.1
MDJ XP sP 09 11 38.9 +0.5
MDJ S S 09 20 24.4 -2.1
MDJ SS SS 09 26 22.5 -2.2
MDJ AMB AMB
comp=Z,35nm,1.0s,mb5.1
MDJ AMB AMB
comp=Z,33nm,3.2s
MDJ Mudanjiang 88.68 326 *e*P P 09 10 03.6 -0.2
comp=Z,34nm,1.0s,mb5.1
DAC Darwin (Calif) 88.72 45 *e*P P 09 10 00.1 -3.8
WDC Whiskeytown Da 88.77 40 *e*P P 09 10 03.7 -0.4
WDC pmax pmax
comp=Z,18nm,1.1s,mb4.8
WDC Whiskeytown Da 88.77 40 *e*P P 09 10 03.7 -0.5
comp=Z,18nm,1.1s,mb4.8
WDC Whiskeytown Da 88.77 40 ⇓P P 09 10 03.8 -0.3
baz=89,SNR=12
M01C Crescent City 88.81 38 ⇓P P 09 10 04.5 +0.1
baz=89
MTUM Tungsten Hills 88.85 44 *e*P P 09 10 04.9 +0.3
MTUM *e*pP pP 09 11 12.9 +2.5
TIN Tinemaha 88.85 45 ⇑P P 09 10 04.5 -0.1
baz=89
R05C Kirkwood Meado 88.86 42 ⇓P P 09 10 04.4 -0.2
baz=89,SNR=15
MLAC Mammoth Lakes 88.87 44 ⇑P P 09 10 05.1 +0.5
baz=89
P05C Yuba Gap, Truc 88.97 42 ⇓P P 09 10 05.0 -0.1
baz=89,SNR=6.9
Y12C Blythe 89.03 49 ⇑P P 09 10 06.2 +0.9
baz=89,SNR=11
R07C Lee Vining 89.05 43 ⇓P P 09 10 05.5 0.0
baz=89,SNR=7.4
CHGN Chignik 89.06 12 *e*P P 09 10 04.0 -1.5
WAKR Walker 89.10 43 *e*P P 09 10 06.0 +0.3
R06C Coleville 89.11 43 ⇑P P 09 10 05.8 +0.1
baz=89,SNR=9.2
M02C Callahan 89.17 39 P P 09 10 06.5 +0.5
baz=89,SNR=8.3
TUQ Turquoise Mtn. 89.21 47 ⇓P P 09 10 06.7 +0.5
baz=89
HABR Khabarovsk 89.24 332 *i* P P 09 10 06.5 +0.2
HABR pmax pmax
comp=Z,152nm,1.5s,mb5.6
O05C Quincy 89.24 41 ⇑P P 09 10 06.0 -0.4
baz=89,SNR=5.1
L02A Cave Junction 89.30 38 ⇓P P 09 10 06.9 +0.2
baz=89
O04C Chester 89.39 41 ⇑P P 09 10 06.7 -0.4
baz=89,SNR=7.5
WCN Washoe City 89.45 42 P P 09 10 07.4 0.0
baz=90,SNR=14
YBH Yreka Blue Hor 89.48 39 ⇑P P 09 10 07.8 +0.3
baz=90,SNR=9.3
HATC Hat Creek Radi 89.52 40 ⇓P P 09 10 07.6 -0.1
baz=90,SNR=5.6
U10A Ash Meadows, A 89.59 46 ⇓P P 09 10 08.6 +0.6
baz=90,SNR=7.0
P06A Stead Airport, 89.62 42 ⇓P P 09 10 07.9 -0.3
baz=90
NVAR Mina Array Bea 89.71 43 P P 09 10 08.2 -0.4
comp=Z,12nm,1.0s,mb4.7,baz=207,slow=6.6,SNR=61
Q07A Schurz 89.76 43 ⇑P P 09 10 08.9 +0.1
baz=90
V11A Goodsprings 89.78 47 ⇑P P 09 10 09.4 +0.6
baz=90
R08A Mina 89.78 44 ⇑P P 09 10 08.8 -0.1
baz=90
W12A Cal Nev Ari 89.79 48 ⇓P P 09 10 09.4 +0.5
baz=90,SNR=14
K02A Glendale 89.79 38 P P 09 10 09.1 +0.1
baz=90,SNR=6.3
ELFS Eagle Lake Fie 89.79 41 ⇓P P 09 10 08.8 -0.1
baz=90
MNV Mina 89.80 44 *e*P P 09 10 08.7 -0.3
MNV pmax pmax
comp=Z,18nm,1.2s,mb4.8
MNV Mina 89.80 44 *e*P P 09 10 08.7 -0.2
comp=Z,18nm,1.2s,mb4.8
Z14A Wintersburg 89.81 50 ⇑P P 09 10 10.1 +1.1
baz=90,SNR=7.6
115A Sonoran Desert 89.88 51 ⇓P P 09 10 10.3 +1.0
baz=90,SNR=7.6
S09A Goldfield 89.89 45 ⇓P P 09 10 09.2 -0.2
baz=90,SNR=8.5
PAHR Pah Rah Range 89.94 42 *e*P P 09 10 09.2 -0.4
comp=Z,16nm,1.2s,mb4.7
HUMO Hull Mountain 89.96 38 *e*P P 09 10 09.8 +0.1
comp=Z,28nm,1.2s,mb5.0
HUMO Hull Mountain 89.96 38 ⇓P P 09 10 09.8 +0.1
baz=90,SNR=9.9
TPNV Topopah Spring 89.98 46 *e*P P 09 10 09.8 0.0
TPNV pmax pmax
comp=Z,13nm,0.9s,mb4.8
TPNV Topopah Spring 89.98 46 *e*P P 09 10 09.8 0.0
comp=Z,13nm,0.9s,mb4.8
M04C Macdoel 89.98 39 ⇓P P 09 10 09.7 -0.1
baz=90,SNR=9.4
O06A Flanigan 89.99 41 ⇑P P 09 10 09.4 -0.4
baz=90,SNR=11
X13A Yucca 90.00 49 ⇑P P 09 10 10.6 +0.7
baz=90,SNR=17
V12A Nelson 90.07 47 P P 09 10 10.9 +0.7
baz=90,SNR=8.1
M05C Lookout 90.07 40 ⇑P P 09 10 09.8 -0.4
baz=90,SNR=5.0
BUOR Burton Butte 90.11 39 P P 09 10 10.6 +0.2
TPH Tonopah 90.12 44 *e*P P 09 10 10.5 0.0
TPH pmax pmax
comp=Z,21nm,0.9s,mb5.0
TPH Tonopah 90.12 44 *e*P P 09 10 10.5 +0.1
comp=Z,21nm,0.9s,mb5.0
CN2 Changchun 90.12 324 *e*P P 09 10 09.6 -0.9
CN2 *e*S S 09 20 34.3 -5.5
CN2 AMB AMB
comp=Z,50nm,1.0s,mb5.3
CN2 AMB AMB
comp=Z,200nm,3.0s
Y14A Wickenburg 90.13 50 P P 09 10 11.4 +0.9
baz=90,SNR=16
116A Eloy 90.15 51 ⇑P P 09 10 11.8 +1.2
baz=90,SNR=13
J02A Umpqua 90.17 37 ⇑P P 09 10 10.6 -0.1
baz=90,SNR=6.6
U11A Corn Creek 90.18 46 ⇓P P 09 10 11.2 +0.4
baz=90
Q08A Gabbs 90.22 43 P P 09 10 10.7 -0.2
baz=90,SNR=10.0
L04A Klamath Falls 90.23 39 ⇑P P 09 10 10.4 -0.5
baz=90,SNR=5.7
W13A Hualapai Mount 90.29 48 P P 09 10 12.3 +1.1
baz=90,SNR=7.9
M06C Likely Place G 90.33 40 ⇑P P 09 10 11.2 -0.2
baz=90,SNR=7.5
SHPR Sheep Range 90.37 47 *e*P P 09 10 12.1 +0.5
I02A Mapleton 90.49 37 ⇓P P 09 10 11.7 -0.5
baz=90
J03A Ideyld Park 90.49 37 ⇓P P 09 10 12.5 +0.3
baz=90,SNR=5.3
O07A Toulon 90.53 42 ⇑P P 09 10 11.9 -0.5
baz=91,SNR=9.6
X14A Yava 90.53 49 P P 09 10 13.4 +1.1
baz=91,SNR=19
TUC Tucson 90.61 52 *e*P P 09 10 14.0 +1.3
TUC pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
TUC Tucson 90.61 52 *e*P P 09 10 14.0 +1.3
comp=Z,9.7nm,0.8s,mb4.7
K04A Chilquin 90.61 39 ⇓P P 09 10 12.5 -0.2
baz=91
Q09A Carvers 90.64 44 ⇑P P 09 10 12.9 +0.1
baz=91
P08A Dixie Valley 90.68 43 ⇓P P 09 10 13.4 +0.4
baz=91
L05A Lakeview 90.71 39 P P 09 10 13.3 +0.1
baz=91,SNR=12
U12A Valley of Fire 90.71 47 ⇑P P 09 10 13.8 +0.7
baz=91,SNR=12
I03A Eugene 90.75 37 ⇑P P 09 10 13.2 -0.1
baz=91
R10A Warm Springs 90.81 45 ⇑P P 09 10 14.0 +0.3
baz=91,SNR=10
W14A Seligman 90.87 49 ⇑P P 09 10 15.1 +1.1
baz=91,SNR=12
X15A Humboldt 90.97 50 P P 09 10 15.6 +1.2
baz=91,SNR=14
MPOR Mary's Peak 90.99 36 P P 09 10 14.9 +0.5
P09A Austin 91.13 43 ⇑P P 09 10 15.0 -0.2
baz=91
HBO Huckleberry Mo 91.16 37 P P 09 10 15.3 0.0
M07A Soldier Meadow 91.18 41 ⇓P P 09 10 15.2 -0.2
baz=91,SNR=5.3
KLR Kul'dur 91.20 330 *e*P P 09 10 12.1 -3.3
KLR pmax pmax
comp=E,20nm,1.0s
KLR pmax pmax
comp=Z,40nm,1.0s,mb5.2
H03A Soap Creek Ran 91.24 36 ⇓P P 09 10 15.4 -0.2
baz=91,SNR=8.0
IRO Indian Ridge 91.30 37 P P 09 10 15.6 -0.3
N08A GE Springer Mi 91.36 42 ⇑P P 09 10 16.0 -0.2
baz=91,SNR=6.3
O09A Fish Creek Ran 91.51 43 P P 09 10 16.7 -0.2
baz=92,SNR=5.4
L07A Adell 91.51 40 P P 09 10 17.0 +0.1
baz=92,SNR=13
K06A Valley Falls 91.54 39 P P 09 10 17.0 0.0
baz=92,SNR=22
Q11A Duckwater 91.56 44 ⇑P P 09 10 17.0 -0.1
baz=92,SNR=7.7
P10A Eureka 91.58 43 ⇑P P 09 10 17.1 -0.1
baz=92
BMN Battle Mountai 91.66 42 *e*P P 09 10 17.3 -0.3
BMN pmax pmax
comp=Z,14nm,1.0s,mb4.8
BMN Battle Mountai 91.66 42 *e*P P 09 10 17.3 -0.3
comp=Z,14nm,1.0s,mb4.8
M08A Happy Creek Ra 91.67 41 ⇑P P 09 10 17.7 0.0
baz=92,SNR=7.6
BKCOR Black Crater 91.80 37 P P 09 10 18.3 +0.1
H04A Detroit Lake 91.81 37 ⇓P P 09 10 17.3 -1.0
baz=92,SNR=9.5
J06A Christmas Vall 91.90 39 P P 09 10 18.2 -0.5
baz=92,SNR=18
I05A Bend 91.93 38 ⇓P P 09 10 18.5 -0.3
baz=92,SNR=12
P11A Circle Ranch, 91.95 44 ⇓P P 09 10 18.7 -0.2
baz=92
F03A Seaside 91.99 35 ⇑P P 09 10 18.5 -0.5
baz=92
G04A Mulino 92.02 36 ⇑P P 09 10 18.7 -0.6
baz=92
WUAZ Wupatki 92.16 49 *e*P P 09 10 20.5 +0.6
comp=Z,12nm,0.9s,mb4.8
M09A Marrel Ranch, 92.18 42 ⇑P P 09 10 19.9 -0.1
baz=92,SNR=8.6
Q12A Willow Creek R 92.18 45 ⇓P P 09 10 20.0 +0.1
baz=92,SNR=9.9
ARUT Antelope Range 92.24 46 *e*P P 09 10 20.7 +0.4
N10A Dunphy 92.26 43 ⇑P P 09 10 20.4 0.0
baz=92
H05A Madras 92.28 37 ⇑P P 09 10 19.7 -0.8
baz=92
O11A Cowboy Ranch, 92.38 43 ⇑P P 09 10 21.0 +0.1
baz=92,SNR=11
P12A McGill 92.41 44 ⇓P P 09 10 21.4 +0.3
baz=92
E03A Lebam 92.42 35 ⇑P P 09 10 20.7 -0.4
baz=92
J07A Hines 92.43 39 P P 09 10 21.0 -0.1
baz=92,SNR=11
L09A Wilkinson Ranc 92.44 41 ⇑P P 09 10 21.0 -0.2
baz=92,SNR=8.9
F04A Amboy 92.56 36 ⇓P P 09 10 20.9 -0.8
baz=93
BJI Beijing 92.71 316 P P 09 10 21.4 -1.0
BJI AMB AMB
comp=Z,16nm,1.2s,mb4.8
D03A Wishkah Elem. 92.72 34 ⇑P P 09 10 22.2 -0.3
baz=93
M10A I.L. Ranch, Tu 92.76 42 ⇑P P 09 10 22.4 -0.2
baz=93,SNR=7.3
N11A Elko Archery C 92.77 43 ⇓P P 09 10 22.4 -0.3
baz=93
ELK Elko 93.02 43 *e*P P 09 10 23.6 -0.2
ELK pmax pmax
comp=Z,9.0nm,1.0s
ELK Elko 93.02 43 *e*P P 09 10 23.6 -0.2
comp=Z,9.3nm,1.0s,mb4.7
M11A Holland Ranch, 93.13 42 ⇑P P 09 10 24.2 -0.2
baz=93,SNR=7.7
KMI Kunming 93.15 297 P P 09 10 24.4 0.0
KMI AMB AMB
comp=Z,6.0nm,0.8s,mb4.6
N12A Clover Valley, 93.20 43 ⇓P P 09 10 24.6 -0.1
baz=93,SNR=10.0
E05A Randle 93.32 36 ⇓P P 09 10 25.1 -0.1
baz=93
MVU Marysvale 93.45 46 *e*P P 09 10 21.3 -4.5
comp=Z,34nm,2.0s,mb4.9
MSU Marysvale 93.47 46 *e*P P 09 10 27.1 +1.2
M12A Wells 93.63 43 ⇓P P 09 10 26.6 0.0
baz=94,SNR=5.9
D05A Enumclaw 93.64 35 ⇓P P 09 10 26.4 -0.3
baz=94
N13A Wendover, West 93.69 44 ⇑P P 09 10 26.7 -0.3
baz=94
MA2 Magadan 93.83 345⇑ *e*P P 09 10 25.1 -2.5
MA2 pmax pmax
comp=Z,16nm,1.1s,mb5.0
MA2 Magadan 93.83 345 *e*P P 09 10 25.4 -2.2
comp=Z,12nm,0.8s,mb5.0
M13A Montello 94.03 43 ⇑P P 09 10 28.1 -0.4
baz=94
DUG Dugway 94.11 45 *e*P P 09 10 28.5 -0.4
C05A Tolt Reservoir 94.14 35 ⇓P P 09 10 28.7 -0.3
baz=94
B05A Bryant 94.33 34 ⇑P P 09 10 30.0 +0.2
baz=94
SRU San Rafael 94.86 47 *e*P P 09 10 32.1 -0.2
SRU pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
SRU San Rafael 94.86 47 *e*P P 09 10 32.1 -0.1
comp=Z,3.3nm,0.6s,mb4.6
GDL2 Guadalupe Moun 94.98 55 *e*PP PP 09 14 21.7 -4.2
SPUT South Promonto 95.02 44 *e*P P 09 10 32.5 -0.4
ANMO Albuquerque 95.08 52⇑ *e*P P 09 10 34.0 +0.7
ANMO Albuquerque 95.08 52 *e*P P 09 10 31.7 -1.6
comp=Z,13nm,1.9s,mb4.8
HVU Hansel Valley 95.11 44 *e*P P 09 10 33.1 -0.3
HVU pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
HVU Hansel Valley 95.11 44 *e*P P 09 10 33.1 -0.3
comp=Z,6.9nm,0.8s,mb4.8
HLID Hailey 95.27 41 *e*P P 09 10 34.1 0.0
comp=Z,5.5nm,0.9s,mb4.7
CD2 Chengdu 95.54 303 *e*P P 09 10 34.4 -1.0
CD2 AP pP 09 11 43.4 +1.8
CD2 XP sP 09 12 12.9 +2.6
CD2 PP PP 09 14 30.4 +0.2
CD2 SKS 09 20 40.9
CD2 S S 09 21 21.0 -6.5
CD2 XS sS 09 23 23.4 -1.8
CD2 SS SS 09 27 58.6 -4.1
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
HHC Hu-ho-hao-te 95.98 315 *e*P P 09 10 36.0 -1.4
HHC AP pP 09 11 43.8 +0.2
HHC XP sP 09 12 14.4 +2.1
HHC PP PP 09 14 31.8 -1.9
HHC SKS 09 20 40.9
HHC S S 09 21 24.6 -6.7
HHC XS sS 09 23 28.5 -0.6
HHC AMB AMB
comp=Z,11nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,123nm,3.6s
HHC LR LR
comp=N,145nm,5.5s
HHC LR LR
comp=E,133nm,5.3s
HHC LR LR
comp=Z,94nm,6.3s
MCMT McKenzie Canyo 96.94 41 *e*P P 09 10 41.7 0.0
IMW Indian Meadow 97.47 43 *e*P P 09 10 44.4 +0.3
PDAR Pinedale Array 97.61 44 P P 09 10 44.0 -0.7
comp=Z,1.1nm,0.8s,mb4.2,baz=243,slow=2.3,SNR=12
FLWY Flagg Ranch 97.72 43 *e*P P 09 10 45.2 0.0
comp=Z,5.4nm,1.0s,mb4.8
BOZ Bozeman (W) 98.12 41 *e*P P 09 10 46.2 -0.8
BOZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
BOZ Bozeman (W) 98.12 41 *e*P P 09 10 46.2 -0.8
comp=Z,3.0nm,0.8s,mb4.7
LZH Lanzhou 98.28 307 *e*P P 09 10 48.4 +0.7
LZH AP pP 09 11 57.1 +3.0
LZH XP sP 09 12 26.9 +4.2
LZH PP PP 09 14 53.1 +1.9
LZH AMB AMB
comp=Z,22nm,1.4s,mb5.3
LPAZ La Paz 98.88 115 P Pdif 09 10 55.1 +4.7
comp=Z,0.9nm,0.9s,baz=171,slow=7.7,SNR=3.9
COLA College 98.97 13 *e*P Pdif 09 10 51.2 +0.4

RSSD	Black Hills	101.70	45	eP	Pdif	09 11 03.0	+0.1
SONM	Songino Array	102.99	318	P	Pdif	09 11 07.8	-0.9
	comp=Z,0.5nm,0.7s,baz=131,slow=6.3,SNR=2.9						
YKA	Yellowknife Ar	106.77	26	PKiKP	PKiKP	09 15 33.0	-1.1
	comp=Z,0.5nm,0.6s,baz=244,slow=1.6,SNR=5.2						
YKA	Yellowknife Ar	106.77	26	PKPdf	PKiKP	09 15 33.0	-1.1
WMQ	Urumqi	112.82	308	PKP	PKiKP	09 15 45.8	+0.3
MKAR	Makanchi Array	117.41	310	PKP	PKPdf	09 15 53.2	-1.1
	comp=Z,5.8nm,0.8s,baz=68,slow=3.3,SNR=35						
MKAR				PKKPbc	PKKPbc	09 26 21.6	+3.7
	comp=Z,0.2nm,0.3s,baz=270,slow=3.6,SNR=3.9						
ZAL	Zalesovo	117.90	318	PKP	PKPdf	09 15 53.7	-1.5
	comp=Z,1.6nm,0.4s,baz=5.7,slow=4.0,SNR=7.6						
ZAL	Zalesovo	117.90	318	PKP	PKPdf	09 15 53.7	-1.5
NVS	Novosibirsk	119.01	319	i PKIKP	PKPdf	09 15 55.6	-1.8
ULHL	Ulahol	120.25	304	P	PKPdf	09 16 00.6	+0.8
	SNR=9.8						
KURK	Kurchatov	120.78	314	ePKIKP	PKPdf	09 16 00.2	-0.6
TKM2	Tokmak 2	120.89	304	P	PKPdf	09 16 00.9	-0.1
	SNR=14						
KZA	Kyzart	120.91	303	P	PKPdf	09 16 02.7	+1.6
	SNR=7.2						
KBK	Karagaybulak	121.28	304	P	PKPdf	09 16 02.3	+0.5
	SNR=9.3						
CHMS	Chumysh	121.51	304	P	PKPdf	09 16 02.3	+0.1
	SNR=8.2						
AAK	Ala-Archa	121.59	304	P	PKPdf	09 16 02.4	+0.1
	SNR=5.3						
AAK	Ala-Archa	121.59	304⇑	iPKIKP	PKPdf	09 16 01.7	-0.7
AAK	Ala-Archa	121.59	304	ePKPdf	PKPdf	09 16 01.4	-1.0
USP	Ospenovka	121.75	304	P	PKPdf	09 16 03.1	+0.4
	SNR=8.4						
AML	Almayashu	122.04	303	P	PKPdf	09 16 04.3	+1.1
	SNR=31						
EKS2	Erkin-Say	122.11	304	P	PKPdf	09 16 04.1	+0.7
	SNR=9.2						
BVAR	Borovoye Array	126.19	315	PKP	PKPdf	09 16 10.9	-0.2
	comp=Z,14nm,0.8s,baz=101,slow=3.0,SNR=61						
BVAR				pP		09 17 20.9	
	comp=Z,2.4nm,0.8s,baz=116,slow=3.4,SNR=5.4						
LSZ	Lusaka	126.65	214	ePKIKP	PKPdf	09 16 15.4	+3.4
SCHQ	Schefferville	127.71	42	PKP	PKPdf	09 16 12.8	-1.2
	comp=Z,5.7nm,1.0s,baz=231,slow=1.5,SNR=4.2						
SCHQ	Schefferville	127.71	42	PKP	PKPdf	09 16 12.8	-1.3
KMBO	Kilima Mbogo	132.57	234	PKP	PKPdf	09 16 25.1	+1.8
	comp=Z,0.3nm,0.2s,baz=114,slow=20,SNR=3.6						
KMBO				SKPbc	SKPbc	09 19 27.8	+3.7
	comp=Z,3.7nm,1.0s,baz=77,slow=8.6,SNR=5.3						
KMBO	Kilima Mbogo	132.57	234	PKP	PKPdf	09 16 25.1	+1.8
KMBO				SKPbc	SKPbc	09 19 27.8	+3.7
ARU	Arti	133.00	320	i PKIKP	PKPdf	09 16 23.6	-0.5
ARU				eSS	SS	09 36 34.1	+21
ARU	Arti	133.00	320	ePKPdf	PKPdf	09 16 23.7	-0.4
AKTK	Aktyubinsk	133.79	312	PKP	PKPdf	09 16 25.8	+0.2
AKTK				SKPbc	SKPbc	09 19 27.5	-0.7
AKTO	Aktyubinsk	133.79	312	PKhKP		09 16 12.4	
	comp=Z,0.9nm,0.5s,baz=120,slow=3.4,SNR=6.6						
AKTO				PKP	PKPdf	09 16 25.8	+0.2
	comp=Z,9.6nm,0.8s,baz=112,slow=1.5,SNR=29						
AKTO				SKPbc	SKPbc	09 19 27.5	-0.7
	comp=Z,2.8nm,0.7s,baz=101,slow=5.9,SNR=6.1						
AKTO	Aktyubinsk	133.79	312	PKIKP	PKPdf	09 16 25.8	+0.2
ARCES	ARCESS Array B	139.19	347	PKhKP		09 16 27.2	
	comp=Z,3.2nm,0.6s,baz=46,slow=1.9,SNR=47						
ARCES				PKP	PKPdf	09 16 36.8	+1.3
	comp=Z,5.3nm,0.9s,baz=87,slow=2.7,SNR=4.2						
ARCES				SKPbc	SKPbc	09 19 43.3	-1.0
	comp=Z,8.4nm,0.7s,baz=44,slow=3.7,SNR=13						
ARCES	ARCESS Array B	139.19	347	PKP	PKPdf	09 16 36.8	+1.3
ARCES				SKPbc	SKPbc	09 19 43.3	-1.0
ARE0	ARCESS Array S	139.19	347	ePKPdf	PKPdf	09 16 27.8	-7.7
KLMR	Klimovskoe	140.96	331	i PKIKP	PKPdf	09 16 34.4	-4.4
KLMR				pmax	pmax		
	comp=Z,30nm,1.7s						
JOF	Joensuu	142.78	337	epkp	PKPdf	09 16 36.6	-5.4
GNI	Garni	143.39	296	i PKIKP	PKPdf	09 16 43.5	+0.4
GNI	Garni	143.39	296	ePKPdf	PKPdf	09 16 41.8	-1.3
ZEI	Tsey	143.94	301	ePKIKP	PKPdf	09 16 44.0	-0.1
HAKT	HAKKARI	144.13	292	i P	PKPdf	09 16 44.3	-0.1
GOF	Gofitskoye	144.33	305	ePKIKP	PKPdf	09 16 43.8	-0.9
GOF				pmax	pmax		
	comp=Z,104nm,0.8s						
MOS	Moscow	144.36	324	ePKIKP	PKPdf	09 16 41.8	-3.0
MOS				pmax	pmax		
	comp=Z,200nm,0.8s						
MOS				pmax	pmax		
	comp=Z,157nm,0.7s						
MSL	Mosul	144.54	290	ex	x	09 17 47.5	
KAF	Kangasniemi	144.96	339	epkp	PKPdf	09 16 42.9	-2.9
OBN	Obninsk	145.19	324	d iPKIKP	PKPdf	09 16 45.6	-0.6
OBN				pmax	pmax		
	comp=Z,315nm,0.6s						
OBN	Obninsk	145.19	324	ePKPdf	PKPdf	09 16 45.8	-0.4
VRSR	Storozhevoye	145.35	316	ePKIKP	PKPdf	09 16 46.3	-0.2
VRSR				pmax	pmax		
	comp=Z,90nm,0.3s						
VRSR				pmax	pmax		
	comp=N,50nm,0.5s						
VRSR				pmax	pmax		
	comp=E,40nm,0.6s						
FIA1	FINESS Array S	145.54	339	ePKPdf	PKPdf	09 16 46.0	-0.8
FINES	FINESS Array B	145.54	339	PKP	PKPdf	09 16 46.0	-0.9
	comp=E,143nm,0.8s,baz=59,slow=4.2,SNR=418						
FINES				SKPbc	SKPbc	09 19 59.1	-0.9
	comp=E,3.7nm,0.7s,baz=80,slow=1.6,SNR=4.8						
NSS	Namsos	145.99	351	eP	PKPdf	09 16 45.8	-1.8
ERZM	Erzurum	145.99	296	i P	PKPbc	09 16 50.9	+2.1
BEST	Besiri	146.07	292	i P	PKPbc	09 16 50.9	+1.7
BNGL	BINGOL	146.17	294	i P	PKPbc	09 16 51.7	+2.3
MARD	Mardin	146.45	291	i P	PKPbc	09 16 51.0	+0.8
VSU	Vasula	147.52	334	d iPKP2	PKPbc	09 16 52.1	-1.1
ELZG	Elazig	147.87	294	i P	PKPbc	09 16 56.1	+2.0
GRSN	GIRESUNGRSN	148.28	298	i P	PKPbc	09 16 55.5	+0.3
ANN	Anapa	148.29	306	i PKP2	PKPbc	09 16 55.2	+0.1
ANN				pmax	pmax		
	comp=Z,122nm,1.0s						
MALT	Malatya	148.31	293⇓	iP	PKPbc	09 16 56.7	+1.5
MALT	Malatya	148.31	293	ePKPdf	PKPdf	09 16 53.0	+1.6
MALT				ePKPbc	PKPbc	09 16 56.5	+1.3
MALT				ePKPab	PKPab	09 16 59.9	+0.7
GZT	Gaziantep	149.01	291	i P	PKPbc	09 16 58.5	+1.6
SVST	Sivas	149.39	296	i P	PKPbc	09 17 00.1	+2.2
NB2	NORSAR Subarra	149.43	350	PKP	PKPdf	09 16 56.4	+3.2
	comp=Z,25nm,0.7s,baz=17,slow=2.6						
NOA	NORSAR Array B	149.43	350	PKP	PKPdf	09 16 52.5	-0.8
	comp=Z,18nm,0.8s,baz=15,slow=4.1,SNR=14						
NOA				PKPbc	PKPbc	09 16 56.6	-1.4
	comp=Z,19nm,0.7s,baz=15,slow=4.2,SNR=82						
NOA				PKPab	PKPab	09 17 01.1	-2.7
	comp=Z,20nm,0.8s,baz=20,slow=2.4,SNR=24						
NAO01	NORSAR Array S	149.66	350	ePKPbc	PKPbc	09 16 57.6	-0.9
NAO01				ePKPab	PKPab	09 17 02.4	-2.3
MNK	Minsk	149.74	328	ePKHKP	PKPbc	09 16 56.0	-2.7
MNK				pmax	pmax		
	comp=Z,280nm,1.8s						
HFS	Hagfors	149.85	347	PKPbc	PKPbc	09 16 57.3	-1.7
	comp=Z,28nm,0.6s,baz=80,slow=3.0,SNR=62						
EIL	Elat	150.41	276	ePKPbc	PKPbc	09 17 02.1	+1.8
BHL	Bhannes	150.43	284	eP	PKPbc	09 17 02.2	+1.9
SIM	Simferopol'	150.54	307	d iPKHKP	PKPbc	09 17 01.2	+0.6
SIM				e		09 17 08.8	
SIM				pmax	pmax		
	comp=Z,54nm,0.8s						
ASK	Askoy	150.64	355	eP	PKPbc	09 17 00.0	-0.8
BER	Bergen	150.73	355	eP	PKPbc	09 17 00.4	-0.7
BOYT	Boyabat	150.74	300	i P	PKPbc	09 17 01.9	+0.8
CTKT	Corum	150.94	298	i P	PKPbc	09 17 03.0	+1.5
KONO	Kongsberg	151.00	351	eP	PKPbc	09 17 00.5	-1.2
KONO				AMb	AMB	09 17 01.9	
	comp=Z,48nm,0.8s						
KONO	Kongsberg	151.00	351	ePKPbc	PKPbc	09 17 00.8	-0.9
KONO				ePKPab	PKPab	09 17 08.5	-1.8
ODD1	Odda	151.09	354	eP	PKPbc	09 17 00.1	-1.8
ODD1				AMb	AMB	09 17 01.6	
	comp=Z,63nm,0.7s						
AKASG	Malin Array Be	151.25	321	PKP	PKPdf	09 16 55.4	-0.6
	comp=Z,44nm,0.8s,baz=50,slow=2.6,SNR=15						
AKASG				PKPbc	PKPbc	09 17 01.6	-0.6
	comp=Z,42nm,0.8s,baz=51,slow=2.7,SNR=112						
AKASG				PKPab	PKPab	09 17 10.4	-0.9
	comp=Z,29nm,0.7s,baz=49,slow=4.6,SNR=25						
AKBB	Malin Array Si	151.25	321	ePKIKP	PKPbc	09 17 01.6	-0.7
AKBB				e		09 17 10.2	
CDAG	Cicekdag	151.38	296	i P	PKPbc	09 17 03.3	+0.7
BLS5	Blasjo	151.59	354	eP	PKPbc	09 17 03.6	+0.5
BLS5				AMb	AMB	09 17 06.0	
	comp=Z,14nm,0.6s						
MEST	Erdemli	151.75	290	i P	PKPbc	09 17 04.4	+1.0
BALT	Daday	151.84	300	i P	PKPbc	09 17 04.1	+0.5
KMY	Karmoy	151.90	355	eP	PKPbc	09 17 03.4	-0.3
BR131	Keskin Array S	151.93	297	ePKPbc	PKPbc	09 17 04.5	+0.7
BRTR	Keskin Array B	151.93	297	PKP	PKPdf	09 16 57.6	+0.6
	comp=Z,1.4nm,1.0s,baz=152,slow=6.5,SNR=5.7						
BRTR				PKPbc	PKPbc	09 17 04.3	+0.5
	comp=Z,26nm,0.8s,baz=134,slow=4.5,SNR=70						
ELDT	Eldivan	151.99	298	i P	PKPbc	09 17 04.9	+0.9
SUW	Suwalki	152.09	331	ePKP	PKPbc	09 17 04.0	-0.2
SUW				e		09 17 13.4	
CSS	Prodhromos	152.41	286	ePKPbc	PKPbc	09 17 05.1	+0.2
ANTO	Ankara	152.56	297⇓	iP	PKPbc	09 17 06.0	+0.8
ERMK	Ermenek	152.74	290	i P	PKPbc	09 17 07.0	+1.4
SGKT	Sivrigoynuk	153.01	299	i P	PKPbc	09 17 06.9	+0.7
KDHN	Kadinhani	153.25	294	i P	PKPbc	09 17 07.1	+0.4
ESKT	Eskisehir	154.09	297	i P	PKPbc	09 17 09.1	+0.5
LVV	L'vov	154.49	323	ePKP2	PKPab	09 17 23.9	-1.2
GKP	Gorka Klasztor	154.94	336	ePKP	PKPab	09 17 25.7	-1.3
DBIC	Dimbokro	154.98	167	PKP	PKPdf	09 17 05.1	+3.7
	comp=Z,9.4nm,0.9s,baz=253,slow=4.9,SNR=4.3						
VRI	Vrincioaia	155.06	313⇓	iP	PKPab	09 17 28.0	+0.5
BURAR	Bucovina Array	155.11	318⇓	iP	PKPab	09 17 27.5	-0.2
PLOR	Plostina	155.11	313⇓	iP	PKPab	09 17 28.3	+0.6
KWP	Kalwaria	155.28	324	ePKP	PKPab	09 17 28.2	-0.2
ULDT	Uludag	155.28	299	i P	PKPdf	09 17 11.7	+10
MLR	Muntele Rosu	155.72	313⇓	iP	PKPab	09 17 30.6	+0.3
KOLS	Kolonicke sedl	155.94	323	ePKP	PKPab	09 17 31.0	-0.3
KOLS	Kolonicke sedl	155.94	323	ePKIKP	PKPdf	09 17 12.9	+10
KOLS				e		09 17 31.0	
OJC	Ojcow	156.26	328	ePKP	PKPab	09 17 31.5	-1.2
BSEG	Bad Segeberg	156.31	346	ePKPab	PKPab	09 17 31.2	-1.7
CRVS	Cervenica-Dubn	156.37	324	i PKP	PKPab	09 17 32.8	-0.3
NIE	Niedzica	156.59	326	ePKP	PKPab	09 17 33.7	-0.4
RUE	Ruedersdorf	156.73	339	ePKPab	PKPab	09 17 33.4	-1.3
DRGR		156.99	319⇑	iP	PKPab	09 17 36.0	+0.2
KSP	Ksiaz	157.25	334	ePKP	PKPab	09 17 36.3	-0.6
KSP	Ksiaz	157.25	334⇑	ePKP2	PKPab	09 17 36.1	-0.8
OKC	Ostrava-Krasne	157.27	330	ePKPab	PKPab	09 17 35.8	-1.2
MORC	Moravsky Berou	157.58	330⇑	iP	PKPab	09 17 37.3	-1.0
UPC	Upice	157.62	334	ePKPab	PKPab	09 17 37.6	-0.9
DPC	Dobruska-Polom	157.63	333	ePKPab	PKPab	09 17 38.0	-0.6
NRDL	Niedersach Rie	157.70	345	ePKPab	PKPab	09 17 37.1	-1.8
VYHS	Vyhne	157.93	326	i PKP	PKPab	09 17 39.5	-0.4
CLL	Collm	157.99	339	ePKPab	PKPab	09 17 38.5	-1.6
CLL	Collm	157.99	339	i PKPdif		09 17 19.6	
CLL			⇑	iPKPab	PKPab	09 17 38.5	-1.6
	comp=Z,44nm,0.8s						
BRG	Berggiesshubel	158.06	337	ePKPab	PKPab	09 17 39.2	-1.3
BRG	Berggiesshubel	158.06	337	ePKP	PKPdf	09 17 17.0	+12
	comp=Z,2.9nm,0.8s						
BRG	Berggiesshubel	158.06	337	i PKP	PKPab	09 17 39.4	-1.0
	comp=Z,22nm,0.9s						
BRG				epPKP	pPKPdf	09 18 06.8	-8.5
	comp=Z,2.9nm,0.9s						
BRG				e		09 18 41.9	
	comp=Z,1.9nm,0.8s						
BRG				ePP	PP	09 21 16.6	-4.5
	comp=Z,1.8nm,1.1s						
BRG	Berggiesshubel	158.06	337	ePKIKP	PKPdf	09 17 17.0	+12
BRG				e		09 21 16.6	
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRG				pmax	pmax		
	comp=Z,22nm,0.9s						
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRG				pmax	pmax		
	comp=Z,2.0nm,1.1s						
PVCC	Panska Ves	158.14	336	ePKPab	PKPab	09 17 40.1	-0.7
FBE	Freiberg	158.22	338	ePKPab	PKPab	09 17 40.1	-1.0
CLZ	Clausthal	158.24	343	ePKPab	PKPab	09 17 39.3	-1.9
BZS	Buzias	158.28	317⇓	iP	PKPab	09 17 41.4	0.0
VRAC	Vranov	158.33	331⇑	iP	PKPab	09 17 40.8	-0.8
IBBN	Ibbenburen	158.35	348	ePKPab	PKPab	09 17 40.0	-1.7
PRU	Pruhonice	158.59	335	ePKPab	PKPab	09 17 41.9	-0.9
TREC	Trest	158.80	332	ePKPab	PKPab	09 17 42.7	-0.9
TANN	Tannenbergstha	158.94	339	ePKPab	PKPab	09 17 43.2	-1.1
ZST	Bratislava	158.95	328	ePKP	PKPab	09 17 44.3	0.0
WERD	Werda	158.96	339	ePKPab	PKPab	09 17 43.2	-1.1
MOX	Moxa	158.99	340	ePKP	PKPab	09 17 43.1	-1.4
	comp=Z,44nm,1.3s						
MOX	Moxa	158.99	340	ePKP2	PKPab	09 17 43.1	-1.4
MOX				pmax	pmax		
	comp=Z,44nm,1.3s						
BUG	Bochum--Univer	159.27	348	ePKPab	PKPab	09 17 43.5	-2.2
MANZ	Manzenberg	159.42	338	ePKPab	PKPab	09 17 45.5	-0.9
PKSM	Moragy	159.57	322⇓	iP	PKPab	09 17 46.0	-1.0
ROTZ	Rotzenmuhle	159.59	338	ePKPab	PKPab	09 17 46.5	-0.6
KHC	Kasperske Hory	159.66	335	ePKPab	PKPab	09 17 46.4	-1.0
GEC2	GERESS Array S	159.85	334	ePKPab	PKPab	09 17 47.1	-1.1
GERES	GERESS Array B	159.85	334	PKP	PKPdf	09 17 07.4	0.0
	comp=Z,0.3nm,0.4s,baz=282,slow=1.9,SNR=3.5						
GERES				PKPab	PKPab	09 17 46.9	-1.3
	comp=Z,9.2nm,0.9s,baz=35,slow=4.9,SNR=26						
WET	Wettzell	159.90	336	ePKPab	PKPab	09 17 47.8	-0.6
GRF	Grafenberg Arr	159.96	340	ePKPab	PKPab	09 17 47.9	-0.8
HGN	Heimansgroeve	160.14	350	eP	PKPab	09 17 47.6	-1.9
	comp=Z,30nm,1.5s						
TNS	Taunus Mts	160.19	345	ePKPab	PKPab	09 17 48.0	-1.7
SKO	Skopje	160.21	308	ePKP	PKPab	09 17 51.0	+1.2
UCC	Uccle	160.31	353	PKPab	PKPab	09 17 48.7	-1.5
BCLA	Clavier	160.57	351	PKPab	PKPab	09 17 49.2	-2.2
SNF	Seneffe	160.60	353	PKPab	PKPab	09 17 49.5	-2.1
DOU	Dourbes	160.97	352	PKPab	PKPab	09 17 50.9	-2.3
PERS	Pernice	161.01	328	eP	PKPab	09 17 52.3	-1.0
BAIF	Baives	161.06	353	ePKP2	PKPab	09 17 51.3	-2.2
WLF	Walferdange	161.17	349	ePKPab	PKPab	09 17 53.1	-0.9
WLF	Walferdange	161.17	349	PKPab	PKPab	09 17 51.9	-2.1
FUR	Furstenfeldbru	161.28	337	ePKPab	PKPab	09 17 53.7	-0.8
STU	Stuttgart	161.36	342	ePKPab	PKPab	09 17 53.4	-1.4
LEGS	Legarje	161.43	326	eP	PKPab	09 17 53.9	-1.3
LJU	Ljubljana	161.73	328	eP	PKPab	09 17 55.0	-1.4
TORD	Torodi Ar. Bea	161.91	183	PKP	PKPdf	09 17 12.2	+2.5
	comp=Z,4.0nm,0.9s,baz=284,slow=1.3,SNR=14						
TORD				PKPab	PKPab	09 18 01.7	+4.4
	comp=Z,5.2nm,0.8s,baz=180,slow=3.7,SNR=12						
BFO	Black Forest	161.99	343	ePKPab	PKPab	09 17 56.0	-1.6
JAVS	Javornik	162.05	328	eP	PKPab	09 17 56.2	-1.7
CDF	Champ du Feu	162.16	345	ePKP2	PKPab	09 17 56.5	-1.8
	comp=Z,22nm,0.9s						
ECH	Echery	162.37	345	PKP	PKPab	09 17 57.0	-2.3
MEZF	Maizieres J'vi	162.48	350	ePKP2	PKPab	09 17 57.6	-2.1
FLN	La Foliniere	162.53	2	ePKP2	PKPab	09 17 57.9	-2.1
THEF	They Montfort	162.59	348	PKP	PKPab	09 17 57.9	-2.3
LDF	La Druitiere	162.71	2	ePKP2	PKPab	09 17 58.7	-2.1
MOF	Molkenrain	162.72	345	PKP	PKPab	09 17 58.6	-2.2
ROSF	Rostrenen	162.72	9	ePKP2	PKPab	09 17 58.8	-2.0
	comp=Z,14nm,0.6s						
HAU	Haudompre	162.74	347	ePKP2	PKPab	09 17 58.8	-2.1
	comp=Z,27nm,0.8s						
HINF	Hinteralfeld	162.81	346	ePKP2	PKPab	09 17 59.2	-2.0
GRR	Gorron	162.89	3	ePKP2	PKPab	09 17 59.0	-2.5
SGMF	Saint Gilles	162.89	7	ePKP2	PKPab	09 17 59.4	-2.1
	comp=Z,54nm,1.0s						
DAVOX	Davos	162.95	338	PKPab	PKPab	09 18 00.8	-1.1
	comp=Z,24nm,0.8s,baz=18,slow=3.2,SNR=9.6						
QUIF	Quistinic	163.15	9	ePKP2	PKPab	09 18 00.5	-2.2
	comp=Z,39nm,1.0s						
LOMF	Lomont	163.26	345	PKP	PKPab	09 18 01.6	-1.6
LOR	Lormes	163.85	352	ePKP2	PKPab	09 18 03.8	-2.0
	comp=Z,26nm,1.2s						
SSF	Saint Saulge	164.09	353	ePKP2	PKPab	09 18 04.9	-1.9
	comp=Z,24nm,0.8s						
CABF	La Chapelle	164.12	346	ePKP2	PKPab	09 18 05.5	-1.5
	comp=Z,29nm,1.1s						
AVF	Avril sur Loir	164.38	353	ePKP2	PKPab	09 18 06.0	-2.1
	comp=Z,24nm,1.0s						
SMF	Signal de Mont	164.46	352	ePKP2	PKPab	09 18 06.6	-1.9
	comp=Z,77nm,1.0s						
BGF	Bois d'Agland	164.65	354	ePKP2	PKPab	09 18 07.4	-1.9
	comp=Z,15nm,0.7s						
MFF	Saint Martin d	164.70	2	ePKP2	PKPab	09 18 07.7	-1.8
	comp=Z,24nm,1.0s						
TCF	Toulx Ste Croi	164.97	356	ePKP2	PKPab	09 18 08.8	-1.9
	comp=Z,19nm,1.1s						
LPL	La Plagne	165.01	343	ePKP2	PKPab	09 18 09.6	-1.3
	comp=Z,65nm,1.1s						
LPG	La Plagne	165.02	343	ePKP2	PKPab	09 18 09.9	-1.0
	comp=Z,89nm,1.1s						
PLDF	La Plantade	165.15	352	PKP	PKPab	09 18 09.9	-1.6
BNI	Bardonecchia	165.46	343	ePKP2	PKPab	09 18 12.2	-0.7
MBDF	Montbardon	165.74	342	ePKP2	PKPab	09 18 12.5	-1.6
	comp=Z,28nm,1.0s						
ORIF	Oris-en-Rattie	165.78	345	ePKP2	PKPab	09 18 12.5	-1.8
	comp=Z,53nm,1.3s						
LBL	Lubilhac	165.93	352	PKP	PKPab	09 18 13.0	-1.9
VIVF	Saint-Julien-l	166.08	348	ePKP2	PKPab	09 18 13.8	-1.8
	comp=Z,40nm,1.2s						
SAOF	Saorge	166.19	338	PKP	PKPab	09 18 14.4	-1.7
AUTN	L'Aution	166.22	339	PKP	PKPab	09 18 14.9	-1.3
TOUF	Mont Tournerai	166.25	339	PKP	PKPab	09 18 15.1	-1.3
SBF	Sospel	166.33	339	ePKP2	PKPab	09 18 14.7	-2.0
	comp=Z,93nm,0.9s						
LUCF	Luceram	166.34	339	PKP	PKPab	09 18 15.1	-1.6
LFF	La Frestale	166.37	360	ePKP2	PKPab	09 18 14.7	-2.2
MVIF	Mont Vial	166.39	339	PKP	PKPab	09 18 15.6	-1.4
REVF	Revere	166.47	339	PKP	PKPab	09 18 15.7	-1.6
SMRF	Simiane la Rot	166.74	344	ePKP2	PKPab	09 18 16.8	-1.7
	comp=Z,51nm,1.2s						
VILF	Villemus	166.82	344	PKP	PKPab	09 18 18.0	-0.9
FRF	La Foret Royal	166.85	340	ePKP2	PKPab	09 18 17.0	-2.0
	comp=Z,53nm,0.9s						
PGF	Pioggiola	166.91	331	ePKP2	PKPab	09 18 17.4	-1.9
	comp=Z,28nm,0.9s						
TAVF	Tavernes	166.96	342	PKP	PKPab	09 18 18.5	-1.0
LASF	Ste Croix	166.98	349	ePKP2	PKPab	09 18 17.7	-1.9
PRAF	Pradon	166.99	345	PKP	PKPab	09 18 18.5	-1.1
LMR	La Mourre	167.09	340	ePKP2	PKPab	09 18 18.4	-1.7
	comp=Z,94nm,1.0s						
TREF	Trevaresse	167.12	344	PKP	PKPab	09 18 19.5	-0.7
PUYF	Puyloubier	167.13	343	PKP	PKPab	09 18 19.1	-1.1
GELF	Grande-Etoile	167.33	344	PKP	PKPab	09 18 20.2	-1.0
BERF	Bertagne	167.34	343	PKP	PKPab	09 18 20.2	-1.0
MTLF	Montolieu	167.90	354	ePKP2	PKPab	09 18 21.5	-2.2
ETSF	Etsaut	168.38	4	ePKP2	PKPab	09 18 23.9	-1.9
	comp=Z,15nm,1.1s						
VSL	Villasalto	169.12	321	ePKPab	PKPab	09 18 28.3	-0.7
ESDC	Sonseca Array	170.85	23	PKP	PKPdf	09 17 18.0	+1.4
	comp=Z,0.3nm,0.3s,baz=346,slow=2.5,SNR=8.7						
ESDC				PKPab	PKPab	09 18 34.4	-2.3
	comp=Z,1.2nm,0.6s,baz=327,slow=4.1,SNR=8.9						
MDT	Midelt	175.33	70	PKP	PKPdf	09 17 21.0	+2.6
	comp=Z,3.3nm,1.0s,baz=298,slow=4.0,SNR=4.9						

IDC 15 09:42:25.0±9.4, 476S×14990E, h62km±65km, mb3.4/4, mb1 3.6/5, mb1mx3.4/12, mbtmp3.7/5, ML2.3/1, MS4.0/1, Ms1 4.0/1, ms1mx2.7/18, Error ellipse: s-maj=72.5km s-min=61.5km az=145.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.36	210	P	Pn	09 43 42.5	+0.1
	0.7nm,0.3s,baz=61,slow=19,SNR=3.1						
PMG				S	Sn	09 44 43.4	+0.7
	1.6nm,0.3s,baz=18,slow=12,SNR=5.0						
WRA	Warramunga Arr	21.39	224	P	P	09 47 08.3	+0.9
	0.4nm,0.5s,baz=49,slow=10,SNR=7.9						
ASAR	Alice Springs	24.32	218	P	P	09 47 37.1	+0.4
	0.4nm,0.6s,baz=55,slow=9.2,SNR=7.2						
JHJ	Hachijo jima 2	38.87	346	LR	LR	10 01 28.2	
	comp=Z,226nm,21.6s,baz=179,slow=29						
VNDA	Vanda	72.99	177	P	P	09 53 47.7	-0.3
	1.5nm,0.4s,baz=345,slow=5.2,SNR=8.3						
MAW	Mawson	84.50	203	P	P	09 54 50.4	-0.7
	1.2nm,0.8s,baz=117,slow=9.0,SNR=3.9						

ISCJB 15 09:44:29.0±3.1, 54S±0.1×150.1E±03, h76km±26km, mb4.1/8, Error ellipse: s-maj=49.5km s-min=20.0km az=29.5

IDC 15 09:44:30.0±5.1, 552S×15041E, h84km±40km, mb3.7/6, mb1 3.9/8, mb1mx3.8/14, mbtmp4.1/8, MS3.7/7, Ms1 3.7/7, ms1mx3.4/23, Error ellipse: s-maj=67.4km s-min=24.5km az=104.0

NEIC 15 09:44:30.2±2.5, 548S×15036E, h87km±20km, mb4.5/4, Error ellipse: s-maj=28.7km s-min=15.8km az=104.0

ISC 15 09:44:30.7±2.9, 54S±01×1502E±03, h75km±24km, n19, σ0ˢ50/16, mb4.1/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.95	217	P	**Pn**	**09 45 41.9**	**-0.6**
	11nm,0.3s,baz=44,slow=13,SNR=26						
PMG				S	**Sn**	**09 46 46.1**	**+7.8**
	2.8nm,0.3s,baz=283,slow=12,SNR=4.4						
PMG				LR	LR	09 47 52.5	
	comp=Z,417nm,18.8s,baz=44,slow=40						
HNR	Honiara	10.50	113	LR	LR	09 50 07.5	
	comp=Z,365nm,18.2s,baz=176,slow=33						
CTA	Charters Tower	15.06	194	P	**Pn**	**09 47 59.9**	**+0.7**
	0.2nm,0.3s,baz=23,slow=13,SNR=7.7						
CTA				LR	LR	09 53 20.4	
	comp=Z,377nm,20.8s,baz=16,slow=35						
KAKA	Kakadu	18.92	246	eP	**Pn**	**09 48 47.3**	**+0.5**
	8.3nm,0.6s						
GUMO	Guam	19.60	345	LR	LR	09 54 51.0	
	comp=Z,138nm,19.5s,baz=240,slow=31						
WRAB	Tennant Creek	21.08	225	eP	**P**	**09 49 08.8**	**+0.1**
	24nm,0.9s,mb4.5						
WB2	Warramunga Arr	21.09	225	eP	**P**	**09 49 08.7**	**-0.1**
WRA	Warramunga Arr	21.09	225	P	**P**	**09 49 08.9**	**0.0**
	14nm,1.0s,mb4.2,baz=51,slow=10.0,SNR=30						
ASAR	Alice Springs	23.96	219	P	**P**	**09 49 38.1**	**+0.2**
	6.2nm,1.1s,mb3.9,baz=56,slow=8.9,SNR=17						
ASAR				LR	LR	09 59 58.0	
	comp=Z,179nm,21.0s,baz=225,slow=39						
FITZ	Fitzroy Crossi	27.06	240	eP	**P**	**09 50 05.9**	**0.0**
	9.3nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	27.06	240	P	**P**	**09 50 06.5**	**+0.6**
	5.8nm,0.6s,mb4.3,baz=106,slow=10,SNR=9.6						
FITZ				LR	LR	10 02 47.6	
	comp=Z,86nm,19.5s,baz=249,slow=40						
KLBR	Kellerberrin	39.98	225	eP	**P**	**09 51 56.9**	**-0.9**
	12nm,0.8s,mb4.8						
MUN	Mundaring	41.29	226	eP	**P**	**09 52 08.4**	**-0.2**
MJAR	Matsushiro Arr	43.22	346	P	**P**	**09 52 24.0**	**-0.2**
	1.1nm,0.8s,mb3.6,baz=146,slow=8.8,SNR=4.3						
SONM	Songino Array	65.47	329	P	**P**	**09 55 06.5**	**+0.8**
	1.3nm,0.9s,mb3.7,baz=133,slow=4.2,SNR=5.3						
SONM				LR	LR	10 23 11.1	
	comp=Z,106nm,19.2s,baz=212,slow=35						
MKAR	Makanchi Array	79.07	320	P	**P**	**09 56 26.2**	**-0.5**
	0.2nm,0.2s,mb3.5,baz=95,slow=8.6,SNR=3.8						
MKAR	Makanchi Array	79.07	320	P	**P**	**09 56 26.2**	**-0.6**
LPAZ	La Paz	136.42	120	PKP	PKPdf	10 03 43.1	-0.6
	1.2nm,0.9s,baz=171,slow=4.4,SNR=3.9						
TORD	Torodi Ar. Bea	147.97	286	PKPbc	PKPbc	10 04 05.5	-1.9
	0.9nm,0.7s,baz=84,slow=2.0,SNR=5.1						

IDC 15 10:02:47.4±4.2, 5.19S×14988E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/13, mbtmp3.9/5, ML2.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/24, Error ellipse: s-maj=85.1km s-min=46.8km az=174.0

NEIC 15 10:03:07.7±1.2, 643S×14960E, h100km, mb4.4/2, Error ellipse: s-maj=37.2km s-min=16.6km az=112.0

ISCJB 15 10:03:08.7±4.1, 65S±02×1495E±03, h119km±29km, mb3.9/5, Error ellipse: s-maj=56.9km s-min=35.5km az=15.2

ISC 15 10:03:08.7±4.0, 65S±02×1496E±03, h110km±28km, n8, σ0ˢ47/9, mb3.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.80	220	Pn	**Pn**	**10 04 05.4**	**0.0**
	2.4nm,0.3s,baz=28,slow=12,SNR=6.6						
PMG				LR	LR	10 06 12.6	
	comp=Z,317nm,18.9s,baz=218,slow=41						
PMG	Port Moresby	3.80	220	ePn	**Pn**	**10 04 05.1**	**-0.3**
PMG				Pn	**Pn**	**10 04 05.5**	**+0.1**
PMG				LR	LR	10 06 12.6	
WRA	Warramunga Arr	19.99	227	P	**P**	**10 07 32.8**	**+0.3**
	2.8nm,0.9s,baz=51,slow=10,SNR=14						
ASAR	Alice Springs	22.82	220	P	**P**	**10 08 02.6**	**+0.3**
	1.1nm,0.9s,mb3.2,baz=47,slow=8.9,SNR=9.7						
FITZ	Fitzroy Crossi	26.09	242	P	**P**	**10 08 31.5**	**-0.6**
	3.7nm,0.8s,mb3.9,baz=56,slow=13,SNR=6.2						
VNDA	Vanda	71.30	177	P	**P**	**10 14 16.1**	**-0.2**
	0.8nm,0.5s,mb3.8,baz=342,slow=3.2,SNR=7.4						
CHKZ	Chkalovo	88.70	324	eP	**P**	**10 15 50.5**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	3.5nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**89.50**	**323**	*e*P	**P**	**10 15 52.9**	**-0.6**
	2.1nm,0.9s,mb4.2						

ISCJB ***15*** *10:04:28.3±0.3, 9.75S±0.04×25.47E±0.08, h10km, mb4.6/40, MS4.1/10, Error ellipse: s-maj=11.8km s-min=5.9km az=159.4*

NEIC ***15*** *10:04:31.0±0.2, 9.69S×25.39E, h10km, mb4.7/19, MS4.1/1, Error ellipse: s-maj=9.7km s-min=4.6km az=84.0*

MOS ***15*** *10:04:32.3±0.8, 9.68S×25.39E, h33km, mb4.8/23, MS4.1/4, Error ellipse: s-maj=19.6km s-min=6.2km az=96.8*

IDC ***15*** *10:04:33.6±0.7, 9.78S×25.43E, h32km±4km, mb4.1/10, mb1 4.3/13, mb1mx4.1/21, mbtmp4.3/13, ML3.5/3, MS4.0/10, Ms1 4.0/10, ms1mx3.7/24, Error ellipse: s-maj=25.4km s-min=14.5km az=83.0*

SZGRF ***15*** *10:04:52.5, 7.45S×23.52E, h49km, mb4.7, Zaire*

ISC 15 10:04:30.7±0.3**, 9.74S**±0.04×**25.52E**±0.08**, h10**km**, (h40**km±2.9km**:pP-P), n118,** σ**0.68**/111**, mb4.6**/40**, MS4.1**/10**, 5C, Zaire**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**6.09**	**155**	Pn	**Pn**	**10 06 03.5**	**+2.8**
	7.2nm,0.3s,baz=345,slow=12,SNR=40						
LSZ				Sn	**Sn**	**10 07 10.2**	**-0.3**
	50nm,0.3s,baz=170,slow=18,SNR=10						
LSZ				Lg		10 07 44.4	
	38nm,0.3s,baz=232,slow=16,SNR=5.3						
LSZ				LR	LR	10 08 42.6	
	comp=Z,1μm,18.0s,baz=340,slow=41						
LSZ	**Lusaka**	**6.09**	**155**	*e*Pn	**Pn**	**10 06 04.2**	**+3.4**
LSZ				*e*Sn	**Sn**	**10 07 11.1**	**+0.5**
MBAR	**Mbarara**	**10.45**	**30**	*e*P	**Pn**	**10 07 01.7**	**+1.1**
TSUM	**Tsumeb**	**12.15**	**218**	Pn	**Pn**	**10 07 23.8**	**0.0**
	2.8nm,0.3s,baz=24,slow=12,SNR=39						
TSUM				Sn	**Sn**	**10 09 29.5**	**-10**
	5.1nm,0.3s,baz=140,slow=19,SNR=5.0						
TSUM				Lg		10 10 55.0	
	2.0nm,0.3s,baz=288,slow=19,SNR=2.9						
TSUM				LR	LR	10 12 17.4	
	comp=Z,685nm,18.8s,baz=322,slow=38						
TSUM	**Tsumeb**	**12.15**	**218**	Pn	**Pn**	**10 07 23.8**	**0.0**
TSUM				Sn	**Sn**	**10 09 29.5**	**-10**
TSUM				Lg		10 10 55.0	
TSUM				LR	LR	10 12 17.4	
KMBO	**Kilima Mbogo**	**14.46**	**54**	Pn	**Pn**	**10 07 53.2**	**-2.2**
	0.9nm,0.3s,baz=228,slow=16,SNR=18						
KMBO				Sn	**Sn**	**10 10 23.1**	**-13**
	1.3nm,0.3s,baz=135,slow=19,SNR=3.9						
KMBO				Lg		10 12 00.6	
	1.4nm,0.3s,baz=307,slow=23,SNR=13						
KMBO				LR	LR	10 13 48.9	
	comp=Z,325nm,18.1s,baz=99,slow=38						
KMBO	**Kilima Mbogo**	**14.46**	**54**	*e*P	**Pn**	**10 07 53.2**	**-2.2**
KMBO				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LBTB	**Lobatse**	**15.20**	**180**	Pn	**Pn**	**10 08 05.2**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=11,slow=14,SNR=16						
LBTB				Sn	**Sn**	**10 10 48.0**	**-5.7**
	comp=Z,1.1nm,0.3s,baz=39,slow=14,SNR=3.5						
LBTB				Lg		10 12 35.0	
	comp=Z,0.7nm,0.3s,baz=276,slow=21,SNR=4.1						
LBTB				LR	LR	10 14 11.6	
	comp=Z,549nm,18.6s,baz=15,slow=38						
LBTB	**Lobatse**	**15.20**	**180**	*e*P	**Pn**	**10 08 05.4**	**+0.1**
LBTB				*e*		10 10 52.2	
LBTB				pmax	pmax		
	comp=Z,5.0nm,0.3s						
LBTB	**Lobatse**	**15.20**	**180**	*e*Pn	**Pn**	**10 08 05.4**	**0.0**
	comp=Z,5.1nm,0.3s						
LBTB				*e*Sn	**Sn**	**10 10 52.2**	**-1.5**
SUR	**Sutherland**	**22.95**	**190**	P	**P**	**10 09 39.0**	**+3.9**
	comp=Z,12nm,1.0s,mb4.3,baz=194,slow=11,SNR=3.1						
SUR				LR	LR	10 18 43.1	
	comp=Z,631nm,18.2s,MS4.1,baz=15,slow=37						
SUR	**Sutherland**	**22.95**	**190**	P	**P**	**10 09 39.0**	**+3.9**
SUR				LR	LR	10 18 43.1	
TOA0	**Torodi Ar. Sit**	**32.81**	**313**	*e*P	**P**	**10 11 04.2**	**0.0**
TORD	**Torodi Ar. Bea**	**32.81**	**313**	P	**P**	**10 11 03.9**	**-0.3**
	comp=Z,14nm,0.9s,mb4.9,baz=125,slow=7.8,SNR=50						
TORD				LR	LR	10 24 23.8	
	comp=Z,167nm,18.1s,MS3.8,baz=100,slow=36						
DBIC	**Dimbokro**	**34.37**	**297**	LR	LR	10 24 37.4	
	comp=Z,152nm,20.3s,MS3.7,baz=137,slow=35						
BRTR	**Keskin Array B**	**49.78**	**8**	P	**P**	**10 13 23.6**	**+0.2**
	comp=Z,2.8nm,0.7s,mb4.4,baz=182,slow=9.5,SNR=14						
BRTR				pP	pP	10 13 35.1	+8.5
	comp=Z,5.4nm,0.9s,baz=181,slow=7.2,SNR=11						
GNI	**Garni**	**52.73**	**18**⇑	*e*P	**P**	**10 13 47.2**	**+1.6**
GNI				pmax	pmax		
	comp=Z,15nm,1.3s						
GNI				MLR	MLR		
	comp=Z,200nm,16.0s						
PGF	**Pioggiola**	**54.18**	**345**	*e*P	**P**	**10 13 56.2**	**-0.1**
	comp=Z,36nm,1.2s,mb4.9						
PGF	**Pioggiola**	**54.18**	**345**	*e*P	**P**	**10 13 56.2**	**-0.1**
PGF				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9						
PGF	**Pioggiola**	**54.18**	**345**	*e*P	**P**	**10 13 56.2**	**-0.1**
	comp=Z,18nm,1.2s,mb4.9						
LMR	**La Mourre**	**55.58**	**343**	*e*P	**P**	**10 14 06.0**	**-0.4**
ESDC	**Sonseca Array**	**56.26**	**333**	P	**P**	**10 14 10.5**	**-0.8**
	comp=Z,0.2nm,0.3s,mb3.7,baz=145,slow=8.0,SNR=5.1						
ESDC				LR	LR	10 38 20.7	
	comp=Z,38nm,19.9s,MS3.5,baz=135,slow=36						
MBDF	**Montbardon**	**56.80**	**344**	*e*P	**P**	**10 14 15.3**	**+0.2**
	comp=Z,9.8nm,0.9s,mb4.5						
MBDF	**Montbardon**	**56.80**	**344**	*e*P	**P**	**10 14 15.3**	**+0.2**
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
MBDF	**Montbardon**	**56.80**	**344**	*e*P	**P**	**10 14 15.3**	**+0.2**
	comp=Z,4.9nm,0.9s,mb4.5						
LASF	**Ste Croix**	**57.05**	**342**	*e*P	**P**	**10 14 16.9**	**0.0**
	comp=Z,14nm,1.1s,mb4.6						
BNI	**Bardonecchia**	**57.12**	**344**	*e*P	**P**	**10 14 16.9**	**-0.5**
BNI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BNI	**Bardonecchia**	**57.12**	**344**	*e*P	**P**	**10 14 16.9**	**-0.4**
	comp=Z,4.5nm,0.9s,mb4.5						
ORIF	**Oris-en-Rattie**	**57.22**	**343**	*e*P	**P**	**10 14 18.2**	**+0.1**
	comp=Z,8.2nm,1.0s,mb4.4						
ORIF				*e*R			
	comp=Z,168nm,21.2s						
ORIF	**Oris-en-Rattie**	**57.22**	**343**	*e*P	**P**	**10 14 18.2**	**+0.1**
ORIF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
ORIF	**Oris-en-Rattie**	**57.22**	**343**	*e*P	**P**	**10 14 18.2**	**+0.1**
	comp=Z,4.1nm,1.0s,mb4.4						
EPF	**Esparros**	**57.32**	**338**	*e*P	**P**	**10 14 18.8**	**0.0**
VIVF	**Saint-Julien-l**	**57.51**	**343**	*e*P	**P**	**10 14 19.9**	**-0.2**
	comp=Z,4.5nm,0.7s,mb4.3						
VIVF	**Saint-Julien-l**	**57.51**	**343**	*e*P	**P**	**10 14 19.9**	**-0.2**
VIVF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
VIVF	**Saint-Julien-l**	**57.51**	**343**	*e*P	**P**	**10 14 19.9**	**-0.2**
	comp=Z,2.3nm,0.6s,mb4.4						
LPG	**La Plagne**	**57.52**	**344**	*e*P	**P**	**10 14 20.6**	**+0.4**
LPL	**La Plagne**	**57.54**	**344**	*e*P	**P**	**10 14 20.6**	**+0.3**
	comp=Z,10nm,1.0s,mb4.5						
LPL	**La Plagne**	**57.54**	**344**	*e*P	**P**	**10 14 20.6**	**+0.3**
LPL				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
LPL	**La Plagne**	**57.54**	**344**	*e*P	**P**	**10 14 20.6**	**+0.3**
	comp=Z,5.1nm,1.0s,mb4.5						
CAF	**Calviac**	**58.39**	**341**	*e*P	**P**	**10 14 26.4**	**+0.1**
CABF	**La Chapelle**	**58.72**	**344**	*e*P	**P**	**10 14 29.1**	**+0.5**
	comp=Z,35nm,1.3s,mb4.9						
CABF	**La Chapelle**	**58.72**	**344**	*e*P	**P**	**10 14 29.1**	**+0.5**
CABF				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.9						
CABF	**La Chapelle**	**58.72**	**344**	*e*P	**P**	**10 14 29.1**	**+0.5**
	comp=Z,18nm,1.3s,mb4.9						
LFF	**La Frestale**	**58.84**	**340**	*e*P	**P**	**10 14 29.5**	**+0.1**
RJF	**Les Rejaudoux**	**58.90**	**340**	*e*P	**P**	**10 14 30.1**	**+0.2**
	comp=Z,10nm,0.8s,mb4.6						
RJF				*e*R			
	comp=Z,161nm,18.8s						
RJF	**Les Rejaudoux**	**58.90**	**340**	*e*P	**P**	**10 14 30.1**	**+0.2**
RJF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
RJF				MLR	MLR		
	comp=Z,160nm,18.8s,MS4.2						
RJF	**Les Rejaudoux**	**58.90**	**340**	*e*P	**P**	**10 14 30.1**	**+0.2**
	comp=Z,5.2nm,0.8s,mb4.6						
RJF				LR	LR		
	comp=Z,160nm,18.8s,MS4.2						
GEC2	**GERESS Array S**	**59.25**	**351**	*e*P	**P**	**10 14 32.6**	**+0.3**
	comp=Z,5.0nm,1.1s,mb4.5						
GEC2	**GERESS Array S**	**59.25**	**351**	*e*P	**P**	**10 14 32.6**	**+0.3**
GEC2				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
GERES	**GERESS Array B**	**59.25**	**351**	P	**P**	**10 14 32.1**	**-0.2**
	comp=Z,1.5nm,0.8s,mb4.1,baz=178,slow=6.7,SNR=12						
SMF	**Signal de Mont**	**59.38**	**343**	*e*P	**P**	**10 14 33.4**	**+0.2**
KHC	**Kasperske Hory**	**59.55**	**351**⇑	*e*P	**P**	**10 14 34.7**	**+0.4**
KHC				*e**PP	pP	10 14 47.0	+9.5
TCF	**Toulx Ste Croi**	**59.55**	**341**	*e*P	**P**	**10 14 34.8**	**+0.4**
	comp=Z,4.7nm,0.7s,mb4.4						
TCF	**Toulx Ste Croi**	**59.55**	**341**	*e*P	**P**	**10 14 34.8**	**+0.4**
TCF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
TCF	**Toulx Ste Croi**	**59.55**	**341**	*e*P	**P**	**10 14 34.8**	**+0.4**
	comp=Z,2.3nm,0.6s,mb4.4						
HINF	**Hinteralfeld**	**59.65**	**346**	*e*P	**P**	**10 14 35.1**	**+0.1**
AVF	**Avril sur Loir**	**59.65**	**343**	*e*P	**P**	**10 14 34.8**	**-0.3**
BFO	**Black Forest**	**59.78**	**347**	*e*PP	PP	10 16 39.9	-7.9
BFO	**Black Forest**	**59.78**	**347**	*e*PP	PP	10 16 39.9	-7.9
SSF	**Saint Saulge**	**59.85**	**343**	*e*P	**P**	**10 14 36.6**	**+0.2**
	comp=Z,9.9nm,1.0s,mb4.5						
SSF	**Saint Saulge**	**59.85**	**343**	*e*P	**P**	**10 14 36.6**	**+0.2**
SSF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
SSF	**Saint Saulge**	**59.85**	**343**	*e*P	**P**	**10 14 36.6**	**+0.2**
	comp=Z,4.9nm,1.0s,mb4.5						
LOR	**Lormes**	**59.94**	**343**	*e*P	**P**	**10 14 36.5**	**-0.5**
LOR				*e*R			
	comp=Z,160nm,20.8s						
LOR	**Lormes**	**59.94**	**343**	*e*P	**P**	**10 14 36.5**	**-0.5**
LOR				LR	LR		
	comp=Z,160nm,20.8s,MS4.1						
CDF	**Champ du Feu**	**60.10**	**346**	*e*P	**P**	**10 14 38.0**	**-0.1**
	comp=Z,6.9nm,0.7s,mb4.5						
CDF	**Champ du Feu**	**60.10**	**346**	*e*P	**P**	**10 14 38.0**	**-0.1**
CDF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
CDF	**Champ du Feu**	**60.10**	**346**	*e*P	**P**	**10 14 38.0**	**-0.1**
	comp=Z,3.5nm,0.7s,mb4.5						
AKASG	**Malin Array Be**	**60.27**	**3**	P	**P**	**10 14 37.7**	**-1.6**
	comp=Z,0.6nm,0.5s,mb3.9,baz=190,slow=6.7,SNR=5.6						
AKASG	**Malin Array Be**	**60.27**	**3**	P	**P**	**10 14 37.7**	**-1.6**
ROTZ	**Rotzenmuhle**	**60.39**	**350**	*e*P	**P**	**10 14 40.4**	**+0.3**
	comp=Z,7.0nm,1.2s,mb4.6						
GRA1	**Grafenberg Arr**	**60.49**	**349**	*e*P	**P**	**10 14 41.1**	**+0.3**
	comp=Z,18nm,1.2s,mb5.0						
GRA1				*e*pP	pP	10 14 54.2	+10
GRF	**Grafenberg Arr**	**60.49**	**349**	*e*P	**P**	**10 14 41.1**	**+0.3**
	comp=Z,18nm,1.2s,mb5.0						
GRF				*e*pP	pP	10 14 54.2	+10
GRF	**Grafenberg Arr**	**60.49**	**349**	*e*P	**P**	**10 14 41.1**	**+0.3**
GRF				*e**PP	pP	10 14 54.2	+10
GRF				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
GRF	**Grafenberg Arr**	**60.49**	**349**	*e*P	**P**	**10 14 41.1**	**+0.3**
GRF				*e**PP	pP	10 14 54.2	+10
GRF				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
MFF	**Saint Martin d**	**60.60**	**340**	*e*P	**P**	**10 14 41.4**	**-0.1**
	comp=Z,14nm,0.8s,mb4.8						
MFF	**Saint Martin d**	**60.60**	**340**	*e*P	**P**	**10 14 41.4**	**-0.1**
MFF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
MFF	**Saint Martin d**	**60.60**	**340**	*e*P	**P**	**10 14 41.4**	**-0.1**
	comp=Z,6.8nm,0.8s,mb4.8						
MANZ	**Manzenberg**	**60.61**	**350**	*e*P	**P**	**10 14 41.9**	**+0.3**
	comp=Z,12nm,1.1s,mb4.9						
TANN	**Tannenbergstha**	**60.97**	**350**	*e*P	**P**	**10 14 44.7**	**+0.6**
	comp=Z,4.0nm,1.1s,mb4.5						
WERD	**Werda**	**61.03**	**350**	*e*P	**P**	**10 14 45.1**	**+0.6**
	comp=Z,8.0nm,0.9s,mb4.8						
WERD				*e*pP	pP	10 14 58.1	+10
WERD				*e*PP	PP	10 16 56.2	-2.6
FBE	**Freiberg**	**61.32**	**351**	*e*PP	PP	10 16 56.7	-4.7
FBE	**Freiberg**	**61.32**	**351**	*e*PP	PP	10 16 56.7	-4.7
MOX	**Moxa**	**61.33**	**350**	*e*P	**P**	**10 14 45.7**	**-0.8**
	comp=Z,4.0nm,1.1s,mb4.5						
MOX				*e*pP	pP	10 15 01.5	+12
TNS	**Taunus Mts**	**61.54**	**348**	*e*P	**P**	**10 14 47.4**	**-0.5**
	comp=Z,16nm,1.1s,mb5.1						
TNS				*e*pP	pP	10 15 00.6	+9.5
TNS	**Taunus Mts**	**61.54**	**348**	*e*P	**P**	**10 14 47.4**	**-0.5**
TNS				*e**PP	pP	10 15 00.6	+9.5
TNS				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.1						
BAIF	**Baives**	**62.39**	**345**	*e*P	**P**	**10 14 53.4**	**-0.2**
	comp=Z,17nm,0.8s,mb4.9						
BAIF	**Baives**	**62.39**	**345**	*e*P	**P**	**10 14 53.4**	**-0.2**
BAIF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
BAIF	**Baives**	**62.39**	**345**	*e*P	**P**	**10 14 53.4**	**-0.2**
	comp=Z,8.6nm,0.8s,mb4.9						
QUIF	**Quistinic**	**62.78**	**339**	*e*P	**P**	**10 14 56.1**	**-0.1**
SGMF	**Saint Gilles**	**62.85**	**339**	*e*P	**P**	**10 14 56.7**	**0.0**
BUG	**Bochum--Univer**	**62.94**	**347**	*e*P	**P**	**10 14 57.8**	**+0.5**
	comp=Z,11nm,0.9s,mb5.0						
NRDL	**Niedersach Rie**	**63.38**	**350**	*e*P	**P**	**10 15 01.3**	**+1.1**
	comp=Z,7.0nm,0.9s,mb4.8						
BSEG	**Bad Segeberg**	**64.72**	**350**	*e*PP	PP	10 17 25.7	-5.6
BSEG	**Bad Segeberg**	**64.72**	**350**	*e*PP	PP	10 17 25.7	-5.6
OBN	**Obninsk**	**65.27**	**7**	*e*P	**P**	**10 15 10.6**	**-2.0**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.0						
AAK	**Ala-Archa**	**68.64**	**37**⇑	*e*P	**P**	**10 15 35.0**	**+0.9**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
FINES	**FINESS Array B**	**70.95**	**0**	P	**P**	**10 15 47.7**	**-0.6**
	comp=Z,2.2nm,0.8s,mb4.2,baz=188,slow=9.6,SNR=4.8						
FINES	**FINESS Array B**	**70.95**	**0**	P	**P**	**10 15 47.7**	**-0.6**
KLMR	**Klimovskoe**	**71.23**	**7**	*e*P	**P**	**10 15 49.2**	**-0.8**
KLMR				pmax	pmax		
	comp=Z,20nm,1.9s,mb4.7						
ARU	**Arti**	**71.37**	**19**⇑	*i*P	**P**	**10 15 50.5**	**-0.3**
ARU				*e*		10 16 09.4	
ARU				*e*		10 18 23.7	
ARU				*e*S	S	10 25 03.4	-5.5
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
NB2	**NORSAR Subarra**	**71.45**	**353**	P	**P**	**10 15 51.4**	**+0.1**
	comp=Z,12nm,1.0s,mb4.8,baz=165,slow=6.2						
NOA	**NORSAR Array B**	**71.45**	**353**	P	**P**	**10 15 51.1**	**-0.2**
	comp=Z,7.4nm,0.9s,mb4.6,baz=170,slow=5.8,SNR=9.9						
MKAR	**Makanchi Array**	**75.57**	**36**	P	**P**	**10 16 16.1**	**+0.6**
	comp=Z,4.8nm,0.8s,mb4.5,baz=242,slow=5.2,SNR=31						
MKAR				pP	pP	10 16 25.5	+6.6
	comp=Z,4.1nm,1.0s,baz=235,slow=4.3,SNR=8.1						
MKAR				sP	sP	10 16 30.0	+10
	comp=Z,2.6nm,0.8s,baz=249,slow=5.1,SNR=5.9						
MKAR	**Makanchi Array**	**75.57**	**36**	P	**P**	**10 16 16.1**	**+0.6**
MKAR				pP	pP	10 16 25.5	+6.6
MKAR				sP	sP	10 16 30.0	+10
KURK	**Kurchatov**	**75.72**	**32**	*e*P	**P**	**10 16 16.9**	**+0.5**
KURK				*e**PP	pP	10 16 26.7	+7.0
KURK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
KURK	**Kurchatov**	**75.72**	**32**	*e*P	**P**	**10 16 16.9**	**+0.5**
	comp=Z,8.1nm,1.1s,mb4.6						
KURK				*e*pP	pP	10 16 26.7	+7.0
ARCES	**ARCESS Array B**	**79.08**	**360**	P	**P**	**10 16 35.1**	**-0.1**
	comp=Z,3.5nm,0.7s,mb4.4,baz=163,slow=4.7,SNR=10						
ARCES				pP	pP	10 16 44.1	+5.6
	comp=Z,3.8nm,1.0s,baz=177,slow=5.5,SNR=2.5						
ARCES				sP	sP	10 16 48.5	+8.8
	comp=Z,1.7nm,0.7s,baz=180,slow=4.9,SNR=2.0						
ZAL	**Zalesovo**	**80.66**	**31**	P	**P**	**10 16 43.2**	**-0.6**
	comp=Z,1.0nm,0.8s,mb3.8,baz=208,slow=7.5,SNR=4.9						
ZAL	**Zalesovo**	**80.66**	**31**	P	**P**	**10 16 43.2**	**-0.6**
KRAR	**Krasnoyarsk**	**85.74**	**31**	*e*P	**P**	**10 17 10.0**	**0.0**
KRAR				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.4						
KRAR				MLR	MLR		
	comp=Z,500nm,25.0s,MS4.8						
PLCA	**Paso Flores**	**88.29**	**229**	LR	LR	10 53 05.0	
	comp=Z,134nm,18.7s,MS4.4,baz=257,slow=33						
VNDA	**Vanda**	**89.49**	**171**	LR	LR	10 55 02.1	
	comp=Z,136nm,20.6s,MS4.4,baz=164,slow=34						
ULN	**Ulaanbaatar**	**91.51**	**42**	*e*P	**P**	**10 17 37.2**	**-0.3**
PMG	**Port Moresby**	**118.88**	**106**	*i* PKIKP	PKPdf	10 23 11.8	-7.6
PDAR	**Pinedale Array**	**128.88**	**318**	PKP	PKPdf	10 23 39.0	+0.4
	comp=Z,1.4nm,0.8s,baz=64,slow=3.4,SNR=13						
ANMO	**Albuquerque**	**129.60**	**308**⇑	*i*PKIKP	PKPdf	10 23 42.6	+2.7
NVAR	**Mina Array Bea**	**136.80**	**317**	PKP	PKPdf	10 23 54.1	+0.6
	comp=Z,1.0nm,0.8s,baz=80,slow=4.9,SNR=3.9						
CMB	**Columbia Colle**	**138.39**	**318**	*e*PKIKP	PKPdf	10 23 56.5	+0.1
CMB				*e*		10 24 06.9	

IDC ***15*** *10:12:24.0±1.1, 5.41S×150.87E, h0km, mb4.1/6, mb1 4.4/7, mb1mx4.2/13, mbtmp4.2/7, ML3.1/1, MS3.8/13, Ms1 3.8/13, ms1mx3.6/23, Error ellipse: s-maj=37.5km s-min=21.2km az=108.0*

ISCJB ***15*** *10:12:30.6±3.7, 5.4S±0.1×150.6E±0.3, h56km±28km, mb4.2/8, MS3.7/9, Error ellipse: s-maj=45.3km s-min=20.0km az=24.4*

NEIC ***15*** *10:12:32.4±2.7, 5.44S×150.63E, h61km±21km, mb4.5/4, Error ellipse: s-maj=25.6km s-min=15.0km az=103.0*

ISC 15 10:12:32.5±3.5**, 5.4S**±0.1×**150.6E**±0.3**, h56**km±26km**, n27,** σ**0.76**/16**, mb4.2**/8**, MS3.7**/9**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.22**	**220**	Pn	**Pn**	**10 13 48.2**	**+0.2**
	4.0nm,0.3s,baz=30,slow=7.6,SNR=15						
PMG				Sn	**Sn**	**10 14 53.8**	**+7.0**
	2.1nm,0.3s,baz=135,slow=6.5,SNR=4.2						
PMG				LR	LR	10 16 07.0	
	comp=Z,942nm,19.8s,baz=57,slow=41						
HNR	**Honiara**	**10.10**	**114**	LR	LR	10 17 49.0	
	comp=Z,386nm,18.5s,baz=351,slow=33						
CTA	**Charters Tower**	**15.18**	**196**	LR	LR	10 21 05.0	
	comp=Z,450nm,20.1s,baz=16,slow=34						
KAKA	**Kakadu**	**19.32**	**247**	*e*P	**Pn**	**10 16 54.3**	**-0.2**
	11nm,1.0s						
GUMO	**Guam**	**19.72**	**343**	LR	LR	10 22 32.4	
	comp=Z,226nm,18.6s,baz=141,slow=31						
WRAB	**Tennant Creek**	**21.39**	**226**	*e*P	**P**	**10 17 15.2**	**-0.2**
	16nm,0.9s,mb4.3						
WB2	**Warramunga Arr**	**21.40**	**226**	*e*P	**P**	**10 17 15.0**	**-0.4**
WRA	**Warramunga Arr**	**21.41**	**226**	P	**P**	**10 17 15.1**	**-0.4**
	7.9nm,1.0s,mb4.0,baz=53,slow=11,SNR=31						
DZM	**Mont Dzumac**	**22.57**	**139**	LR	LR	10 22 56.6	
	comp=Z,337nm,20.3s,MS3.8,baz=27,slow=28						
AS31	**Alice Springs**	**24.23**	**220**	*e*P	**P**	**10 17 44.6**	**+0.6**
AS31				*e*P		10 17 45.2	
ASAR	**Alice Springs**	**24.24**	**220**	P	**P**	**10 17 44.5**	**+0.5**
	3.7nm,0.7s,mb3.9,baz=56,slow=7.9,SNR=36						
ASAR				LR	LR	10 27 39.3	
	comp=Z,125nm,20.8s,MS3.4,baz=50,slow=38						
ASPA	**Alice Springs**	**24.24**	**220**	*e*P	**P**	**10 17 45.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**27.43**	**241**	*e*P	**P**	**10 18 13.1**	**+0.2**
	16nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**27.43**	**241**	P	**P**	**10 18 13.5**	**+0.6**
	8.0nm,0.8s,mb4.3,baz=111,slow=8.6,SNR=9.2						
FITZ				LR	LR	10 30 22.5	
	comp=Z,135nm,18.3s,MS3.6,baz=252,slow=39						
CBIJ	**Chichi jima**	**33.33**	**346**	LR	LR	10 31 07.8	
	comp=Z,276nm,18.7s,MS4.0,baz=189,slow=34						
AFI	**Afiamalu**	**38.00**	**106**	LR	LR	10 33 04.5	
	comp=Z,106nm,18.5s,MS3.7,baz=30,slow=33						
JOW	**Kunigami**	**38.66**	**327**	LR	LR	10 32 42.6	
	comp=Z,90nm,21.0s,MS3.6,baz=287,slow=31						
KLBR	**Kellerberrin**	**40.29**	**226**	*e*P	**P**	**10 20 03.3**	**-0.8**
	14nm,1.1s,mb4.6						
NWAO	**Narrogin (SRO)**	**41.40**	**224**	LR	LR	10 37 37.4	
	comp=Z,258nm,21.8s,MS4.1,baz=48,slow=36						
MUN	**Mundaring**	**41.60**	**226**	*e*P	**P**	**10 20 13.7**	**-1.2**
RPZ	**Rata Peaks**	**42.19**	**158**	LR	LR	10 35 36.0	
	comp=Z,207nm,20.7s,MS4.0,baz=181,slow=33						
MJAR	**Matsushiro Arr**	**43.32**	**345**	P	**P**	**10 20 27.7**	**-1.1**
	2.4nm,0.9s,mb3.9,baz=171,slow=7.8,SNR=5.8						
MJAR				LR	LR	10 38 07.5	
	comp=Z,71nm,19.1s,MS3.6,baz=110,slow=36						
SONM	**Songino Array**	**65.69**	**329**	P	**P**	**10 23 12.5**	**+1.5**
	1.3nm,1.0s,mb3.9,baz=150,slow=2.9,SNR=5.2						
VNDA	**Vanda**	**72.31**	**177**	P	**P**	**10 23 51.9**	**-0.2**
	0.6nm,0.2s,mb4.1,baz=340,slow=5.6,SNR=4.3						
LPAZ	**La Paz**	**136.04**	**120**	PKP	PKPdf	10 31 48.8	+1.6
	1.6nm,0.5s,baz=191,slow=5.2,SNR=7.3						
TORD	**Torodi Ar. Bea**	**148.38**	**286**	PKPbc	PKPbc	10 32 13.0	+0.5
	1.2nm,0.7s,baz=57,slow=2.9,SNR=6.2						
BDFB	**Brasilia**	**152.12**	**139**	PKPbc	PKPbc	10 32 21.4	-0.1
	5.3nm,0.9s,baz=270,slow=3.0,SNR=6.8						

IDC 15 10:19:33.2±9.2**, 4.75S**×**149.96E, h0**km**, mb3.3**/4**, mb1 3.4**/4**, mb1mx3.4**/11**, mbtmp3.4**/4**, Error ellipse: s-maj=295.1km s-min=29.4km az=104.0, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.43**	**224**	P	P	10 24 21.7	-1.2
	0.2nm,0.5s,baz=61,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**24.36**	**218**	P	P	10 24 54.8	+2.0
	0.2nm,0.3s,baz=58,slow=9.7,SNR=5.5						
SONM	**Songino Array**	**64.80**	**329**	P	P	10 30 15.8	+2.1
	0.1nm,0.4s,baz=140,slow=8.2,SNR=3.5						
MKAR	**Makanchi Array**	**78.44**	**320**	P	P	10 31 34.9	-1.0
	1.7nm,0.7s,baz=101,slow=6.3,SNR=16						

IDC 15 11:04:33.9±3.4**, 4.92S**×**150.43E, h0**km**, mb3.9**/3**, mb1 4.2**/4**, mb1mx3.8**/12**, mbtmp4.0**/4**, ML3.2**/1**, MS3.6**/2**, Ms1 3.6**/2**, ms1mx3.1**/18**, Error ellipse: s-maj=114.0km s-min=37.4km az=116.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.51**	**216**	Pn	Pn	11 05 59.3	+2.2
	4.5nm,0.3s,baz=42,slow=8.4,SNR=17						
PMG				Sn	Sn	11 07 02.8	+1.6
	1.4nm,0.3s,baz=27,slow=21,SNR=3.4						
HNR	**Honiara**	**10.46**	**116**	LR	LR	11 10 43.3	
	comp=Z,174nm,19.1s,baz=178,slow=35						
KAKA	**Kakadu**	**19.37**	**245**	*e*P	Pn	11 09 03.1	+1.0
	36nm,1.9s						
WRA	**Warramunga Arr**	**21.64**	**225**	P	P	11 09 25.1	-0.6
	2.1nm,0.8s,baz=49,slow=9.9,SNR=16						
ASAR	**Alice Springs**	**24.52**	**219**	P	P	11 09 54.5	-0.3
	1.4nm,0.8s,baz=55,slow=8.1,SNR=21						
FITZ	**Fitzroy Crossi**	**27.54**	**240**	*e*P	P	11 10 23.0	+0.7
	12nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.54**	**240**	P	P	11 10 22.9	+0.7
	4.9nm,0.9s,baz=72,slow=9.7,SNR=7.2						
URZ	**Urewera**	**41.12**	**147**	LR	LR	11 26 34.7	
	comp=Z,146nm,20.4s,baz=171,slow=32						
TORD	**Torodi Ar. Bea**	**148.09**	**287**	PKPbc	PKPbc	11 24 22.3	+0.9
	0.6nm,0.8s,baz=95,slow=3.7,SNR=5.9						

MEX 15 11:09:24.3±0.7**, 15.68N**×**93.15W, h121**km±38km**, MD4.3, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.14**	**58**	*i* P	Pn	11 09 46.5	-1.3
CCIG				*i* S	Sn	11 10 04.5	-1.2
SCX	**San Cristobal**	**1.16**	**25**	*e*P	Pn	11 09 47.0	-1.0
SCX				*i* S	Sn	11 10 05.0	-1.0
CMIG	**Matias Romero**	**2.18**	**310**	*i* P	Pn	11 09 59.2	-0.9
CMIG				*i* S	Sn	11 10 23.8	-3.6
TUIG	**Tuzandepetl**	**2.64**	**333**	*i* S	Sn	11 10 35.7	-2.2
OXX	**Oaxaca**	**3.71**	**293**	*e*P	Pn	11 10 20.0	+0.1
VHO	**Vista Hermosa**	**3.71**	**292**	*i* P	Pn	11 10 19.8	-0.2
VHO				*i* S	Sn	11 10 59.8	-3.3
UTMO	**Huajuapan**	**4.95**	**296**	*i* S	Sn	11 11 33.1	+0.4

LDG ***15*** *11:15:24.3±2.0, 42.82N×0.55W, h2km, Md2.1/2, Error ellipse: s-maj=53.1km s-min=15.1km az=26.0*

MDD 15 11:15:22.2±0.5**, 43.08N**×**0.56W, h8**km±5km**, mbLg1.2**/3**, Error ellipse: s-maj=3.5km s-min=1.7km az=19.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.10**	**274**	P	Pg	11 15 24.2	-0.4
ATE				S	Sg	11 15 26.4	+0.1
REYF	**Montagne du Re**	**0.13**	**94**	P	Pg	11 15 24.8	-0.2
REYF				S	Sg	11 15 27.2	+0.3
ETSF	**Etsaut**	**0.18**	**179**	*e*Pg	Pg	11 15 25.9	0.0
ETSF				*e*Sg	Sg	11 15 28.2	-0.2
FDAF	**Les Forges d'A**	**0.26**	**180**	P	Pg	11 15 27.3	-0.1
FDAF				S	Sg	11 15 31.4	+0.6
ORDF	**Ordiarp**	**0.30**	**297**	P	Pg	11 15 27.2	-1.0

ORDF				S	Sg	11 15 31.9	-0.4
LARF	**Larrau**	**0.31**	**263**	P	Pg	11 15 27.9	-0.5
LARF				S	Sg	11 15 32.7	+0.1
VIEF	**Viey**	**0.47**	**114**	P	Pg	11 15 30.6	-0.8
VIEF				S	Sg	11 15 37.0	-0.6
EBIE	**Bielsa**	**0.65**	**127**	Pg	Pg	11 15 34.1	-0.7
	0.7nm,0.1s,SNR=7.3						
EBIE				Lg		11 15 42.7	
	3.8nm,0.1s,SNR=19						
EPF	**Esparros**	**0.66**	**94**	*e*Pg	Pg	11 15 37.5	+2.5
EPF				*e*Sg	Sg	11 15 45.1	+1.4
EALK	**Alkurruntz**	**0.70**	**282**	Pg	Pg	11 15 35.4	-0.4
	0.2nm,0.1s,SNR=7.9						
EALK				Lg		11 15 44.8	
	0.8nm,0.2s,SNR=5.5						
ELIZ	**Elizondo**	**0.71**	**277**	Pg	Pg	11 15 36.1	+0.2
	0.7nm,0.1s,SNR=7.9						
ELIZ				Lg		11 15 45.3	
	1.2nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.73**	**260**	Pg	Pg	11 15 37.3	+0.9
	0.4nm,0.1s,SNR=4.0						
IUSE				Lg		11 15 45.8	
	1.1nm,0.1s,SNR=7.9						

SZGRF ***15*** *11:54:22.4, 3.59N×95.16E, h33km, mb5.0, Off west coast of northern Sumatera, Indonesia*

IDC ***15*** *11:54:23.0±0.5, 3.78N×93.57E, h0km, mb4.6/19, mb1 4.7/20, mb1mx4.7/21, mbtmp4.6/20, ML4.8/1, MS4.6/17, Ms1 4.6/17, ms1mx4.5/25, Error ellipse: s-maj=21.1km s-min=11.7km az=46.0*

BJI ***15*** *11:54:25.9, 3.67N×93.57E, h34km, mB5.4, mb5.0, Ms5.2, Msz4.9*

ISCJB ***15*** *11:54:26.2±0.2, 3.73N±0.03×93.59E±0.03, h31km, mb5.0/116, MS4.8/45, Error ellipse: s-maj=5.1km s-min=3.7km az=48.6*

MOS ***15*** *11:54:26.5±0.9, 3.83N×93.69E, h33km, mb5.2/52, MS4.7/16, Error ellipse: s-maj=10.4km s-min=5.1km az=120.1*

NEIC ***15*** *11:54:28.1±0.2, 3.72N×93.60E, mb5.0/51, Error ellipse: s-maj=8.8km s-min=4.7km az=214.0*

HRVD ***15*** *11:54:28.1±0.2, 3.75N×93.41E, h12km, MW5.2/84, Centroid moment Tensor Solution. LP body waves: s48,c75;Mantle waves: s84,c154; Half duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr6.98±.12; Mθθ-1.57±.11; Mφφ-5.41±.13; Mrθ-1.90±.35; Mθφ3.41±.10; Mφr-1.20±.33; Best double couple: M0 7.54000×10^16 NP1:φs313.00000°,δ47.00000°,λ66.00000°. NP2: φs166.00000°,δ48.00000°,λ114.00000°. Principal axes: T 7.6760, Plg73.0000°, Azm149.0000°; N -0.2720, Plg17.0000°, Azm330.0000°; P -7.4040, Plg0.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 15 11:54:28.5±0.2**, 3.74N**±0.03×**93.56E**±0.03**, h34**km**, h34**km±1.0km**:pP-P, n312, σ1s00**/297**, mb5.0**/116**, MS4.8**/45**, 31C-30D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**5.00**	**93**⇑	*e*P	**Pn**	**11 55 42.3**	**+1.1**
TSI				*i* S		11 56 04.0	
TSI	**Tuntungan**	**5.00**	**93**	*e*P	**Pn**	**11 55 47.7**	**+6.5**
PSI	**Prapat**	**5.44**	**100**	Pn	**Pn**	**11 55 46.9**	**-0.3**
	30nm,0.3s,baz=301,slow=8.9,SNR=72						
PSI				Sn	**Sn**	**11 56 50.3**	**+1.8**
	12nm,0.3s,baz=251,slow=15,SNR=4.0						
KULM	**Kulim**	**7.24**	**77**	*e*Pn	**Pn**	**11 56 10.8**	**-1.1**
IPM	**Ipoh**	**7.49**	**84**	P	**Pn**	**11 56 14.6**	**-0.7**
SNG	**Songkhla**	**7.81**	**64**	P	**Pn**	**11 56 20.0**	**+0.2**
	130nm,1.0s						
PBA	**Port Blair**	**7.91**	**354**	*e*x	x	11 56 00.0	
PBA				*e*x	x	11 58 10.5	
KGM	**Kluang**	**9.90**	**100**	P	**Pn**	**11 56 48.2**	**-0.2**
NST	**Nakhon Sawan**	**13.51**	**28**	P	**Pn**	**11 57 38.0**	**+0.2**
UBT	**Ubonrachathani**	**16.07**	**44**	⇑P	**Pn**	**11 58 13.5**	**+1.7**
	451nm,0.7s						
KSM	**Kuching**	**16.88**	**97**	*e*P	**Pn**	**11 58 24.1**	**+2.0**
VIS	**Vishakhapatnam**	**17.14**	**325**	*e*P	**Pn**	**11 58 21.1**	**-4.2**
VIS				AMb	AMB	11 59 04.0	
	comp=Z,153nm,1.6s						
VIS				*e*S	**Sn**	**12 01 25.8**	**-9.1**
CHRT	**Chiangrai**	**17.15**	**20**	⇑P	**Pn**	**11 58 26.0**	**+0.5**
TRD	**Trivandrum**	**17.17**	**287**	*e*P	**Pn**	**11 58 20.1**	**-5.6**
TRD				AMb	AMB	11 58 46.8	
	comp=Z,60nm,2.2s						
CAL	**Calcutta**	**19.36**	**345**⇓	*e*x	**Pn**	**11 58 55.6**	**+3.1**
CAL				*e*x	**Sn**	**12 02 42.5**	**+14**
HYB	**Hyderabad**	**20.03**	**314**	*i* P	**P**	**11 59 03.0**	**+4.5**
HYB				*e*S	**S**	**12 02 44.0**	**+2.1**
HYB	**Hyderabad**	**20.03**	**314**	*e*P	**P**	**11 59 01.5**	**+3.0**
HYB				*e*S	**S**	**12 02 44.0**	**+2.1**
MNGI	**Mangalore**	**20.65**	**297**	*e*P	**P**	**11 59 02.3**	**-2.9**
MNGI				AMb	AMB	11 59 31.6	
	comp=Z,132nm,1.0s						
BOK	**Bokaro**	**21.27**	**340**	*e*P	**P**	**11 59 11.4**	**-0.5**
BOK				AMb	AMB	11 59 18.0	
	comp=Z,121nm,0.8s,mb5.3						
BOK				*e*S	**S**	**12 03 03.7**	**-2.7**
SHL	**Shillong**	**21.76**	**356**	*e*x	**P**	**11 59 07.8**	**-9.4**
QIZ	**Qiongzhong**	**22.01**	**45**	P	**P**	**11 59 21.9**	**+2.1**
QIZ				AP		11 59 30.0	
QIZ				XS	sS	12 03 35.5	+0.4
QIZ				AMB	AMB		
	comp=Z,36nm,1.0s,mb4.8						
QIZ				AMB	AMB		
	comp=Z,372nm,3.7s						
QIZ				LR	LR		
	comp=N,8μm,15.6s						
QIZ				LR	LR		
	comp=Z,8μm,17.0s,MS5.2						
QIZ	**Qiongzhong**	**22.01**	**45**	*e*P	**P**	**11 59 20.4**	**+0.6**
	comp=Z,14nm,0.6s,mb4.6						
NGP	**Nagpur**	**22.33**	**322**	*e*P	**P**	**11 59 20.9**	**-2.4**
NGP				AMb	AMB	11 59 38.2	
	comp=Z,46nm,0.5s,mb5.1						
NGP				*e*x	x	12 03 36.0	
KKM	**Kota Kinabalu**	**22.69**	**83**	P	**P**	**11 59 28.9**	**+1.8**
KKM	**Kota Kinabalu**	**22.69**	**83**	*e*P	**P**	**11 59 28.0**	**+1.0**
KMI	**Kunming**	**23.02**	**22**	P	**P**	**11 59 30.8**	**+0.2**
KMI				AP		11 59 42.9	
KMI				XP	sP	11 59 47.3	+3.4
KMI				PP		12 00 03.3	
KMI				PPP		12 00 13.3	
KMI				PCP	PcP	12 03 22.4	+3.1
KMI				S	**S**	**12 03 37.6**	**-1.3**
KMI				SS		12 04 24.4	
KMI				SSS		12 04 39.5	
KMI				SCP	ScP	12 06 55.9	+1.3
KMI				PCS	PcS	12 07 00.1	+1.7
KMI				AMB	AMB		
	comp=Z,26nm,1.1s,mb4.6						
KMI				AMB	AMB		
	comp=Z,693nm,5.0s						
KMI				LR	LR		
	comp=N,6μm,11.6s						
KMI				LR	LR		
	comp=E,5μm,16.9s						
KMI				LR	LR		
	comp=Z,5μm,10.5s,MS5.2						
KAD	**Karad**	**23.30**	**307**	*e*P	**P**	**11 59 31.4**	**-2.1**
KAD				AMb	AMB	11 59 35.6	
	comp=Z,53nm,1.2s,mb4.8						
KAD				*e*S	**S**	**12 03 41.2**	**-2.2**
AKL	**Akola**	**23.32**	**318**	*e*x	pP	11 59 43.4	+0.6
AKL				AMb	AMB	11 59 57.6	
	comp=Z,56nm,1.1s,mb4.9						
TSM	**Tawau**	**24.26**	**88**	P	**P**	**11 59 43.6**	**+1.2**
JIRN	**Jiri**	**24.81**	**344**	*e*P	**P**	**11 59 47.9**	**+0.5**
	comp=Z,132nm,1.0s,mb5.4						
BHPL	**Bhopal**	**24.89**	**323**	*e*P	**P**	**11 59 46.2**	**-1.9**
BHPL				AMb	AMB	11 59 51.4	
	comp=Z,27nm,0.8s,mb4.8						
PKI	**Pulchoki**	**24.95**	**343**	*e*P	**P**	**11 59 48.9**	**+0.2**
	comp=Z,178nm,1.0s,mb5.5						
DMN	**Daman**	**25.07**	**342**	*e*P	**P**	**11 59 50.1**	**+0.3**
	comp=Z,141nm,0.9s,mb5.5						
GUN	**Gumba**	**25.13**	**344**	*e*P	**P**	**11 59 50.7**	**+0.4**
	comp=Z,257nm,1.0s,mb5.7						
KKN	**Kakani**	**25.19**	**343**	*e*P	**P**	**11 59 51.1**	**+0.2**
	comp=Z,159nm,1.0s,mb5.5						
GKN	**Gorkha**	**25.59**	**341**	*e*P	**P**	**11 59 54.6**	**+0.1**
	comp=Z,283nm,1.0s,mb5.8						
KOLN	**Koldanda**	**25.72**	**339**	*e*P	**P**	**11 59 55.1**	**-0.6**
	comp=Z,128nm,1.0s,mb5.4						
GYA	**Guiyang**	**25.85**	**28**⇑	*i*P	**P**	**11 59 56.6**	**-0.2**
GYA				AP	pP	12 00 04.0	-2.5
GYA				XP	sP	12 00 10.3	-0.3
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
GYA				AMB	AMB		
	comp=Z,130nm,5.4s						
GYA				LR	LR		
	comp=N,1μm,13.0s,MS5.0						
GYA				LR	LR		
	comp=E,3μm,11.4s,MS5.0						
GYA				LR	LR		
	comp=Z,2μm,10.8s,MS4.9						
CD2	**Chengdu**	**28.69**	**18**	P	**P**	**12 00 21.5**	**-0.8**
CD2				AP	pP	12 00 31.0	-1.0
CD2				XP	sP	12 00 35.3	-0.8
CD2				PP	PP	12 01 14.9	-12
CD2				PCP	PcP	12 03 31.1	-1.2
CD2				S	**S**	**12 05 07.5**	**-1.6**
CD2				XS	sS	12 05 23.5	-1.6
CD2				SS	SS	12 06 35.9	-35
CD2				SCP	ScP	12 07 08.6	-2.4
CD2				PCS	PcS	12 07 12.5	-2.3
CD2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
CD2				AMB	AMB		
	comp=Z,120nm,6.2s						
CD2				LR	LR		
	comp=E,2μm,13.2s						
CD2				LR	LR		
	comp=Z,2μm,10.8s,MS5.0						
TGY	**Tagaytay City**	**28.90**	**67**	LR	LR	12 11 02.1	
	comp=Z,6.7nm,18.4s,baz=101,slow=35						
AJM	**Ajmer**	**28.98**	**323**	*e*P	**P**	**12 00 24.9**	**+0.1**
NDI	**New Delhi**	**29.27**	**330**	*e*P	**P**	**12 00 27.5**	**0.0**
NDI				AMb	AMB	12 00 29.0	
	comp=Z,38nm,2.2s,mb4.7						
SMLA	**Simla**	**31.32**	**332**	*e*P	**P**	**12 00 45.3**	**-0.3**
SMLA				AMb	AMB	12 00 51.5	
	comp=Z,47nm,1.7s,mb5.0						
XAN	**Xi'an**	**33.37**	**24**	P	**P**	**12 01 01.9**	**-1.7**
XAN				AP	pP	12 01 10.8	-2.5
XAN				AMB	AMB		
	comp=Z,43nm,0.9s,mb5.4						
LZH	**Lanzhou**	**33.56**	**15**	*e*P	**P**	**12 01 04.9**	**-0.3**
LZH				AP	pP	12 01 13.8	-1.2
LZH				XP	sP	12 01 17.8	-1.2
LZH				PP	PP	12 02 19.0	-2.5
LZH				*e*S	**S**	**12 06 27.3**	**+2.1**
LZH				XS	sS	12 06 43.0	+1.7
LZH				AMB	AMB		
	comp=Z,140nm,1.2s,mb5.8						
LZH				AMB	AMB		
	comp=Z,480nm,4.9s						
LZH				LR	LR		
	comp=E,4μm,14.3s						
LZH				LR	LR		
	comp=Z,4μm,15.2s,MS5.3						
MBWA	**Marble Bar**	**35.64**	**135**	*e*P	**P**	**12 01 23.4**	**+0.3**
GTA	**Gaotai**	**35.96**	**8**	*e*P	**P**	**12 01 25.3**	**-0.7**
GTA				AP	pP	12 01 35.0	-0.7
GTA				XP	sP	12 01 38.8	-1.0
GTA				PP	PP	12 02 46.3	-1.7
GTA				PPP		12 03 03.8	
GTA				PCP	PcP	12 03 54.4	+2.2
GTA				S	**S**	**12 07 01.0**	**-1.2**
GTA				XS	sS	12 07 15.8	-2.5
GTA				SCP	ScP	12 07 38.8	+3.0
GTA				PCS	PcS	12 07 41.6	+1.9
GTA				SS	SS	12 09 20.9	-19
GTA				SCS	ScS	12 11 41.1	-0.2
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,342nm,5.3s						
GTA				LR	LR		
	comp=N,889nm,16.3s,MS4.7						
GTA				LR	LR		
	comp=E,875nm,18.3s,MS4.7						
GTA				LR	LR		
	comp=Z,854nm,16.4s,MS4.6						
NJ2	**Nanjing**	**36.84**	**37**	*e*P	**P**	**12 01 32.1**	**-1.3**
NJ2				AP	pP	12 01 41.1	-2.1
NJ2				XP	sP	12 01 43.9	-3.4
NJ2				PP	PP	12 02 58.1	+0.4
NJ2				S	**S**	**12 07 14.0**	**-1.6**
NJ2				XS	sS	12 07 29.0	-2.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,540nm,3.8s						
NJ2				LR	LR		
	comp=N,9μm,11.0s,MS5.9						
NJ2				LR	LR		
	comp=E,8μm,11.3s,MS5.9						
NJ2				LR	LR		
	comp=Z,9μm,19.2s						
SSE	**Sheshan**	**37.66**	**41**	P	**P**	**12 01 41.8**	**+1.4**
SSE				AP	pP	12 01 52.9	+2.7
SSE				XP	sP	12 01 58.0	+3.8
SSE				S	**S**	**12 07 29.6**	**+1.6**
SSE				XS	sS	12 07 48.8	+4.6
SSE				SCS	ScS	12 11 51.0	+0.2
SSE				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.8						
SSE				AMB	AMB		
	comp=Z,666nm,5.3s						
SSE				LR	LR		
	comp=N,3μm,15.3s,MS5.2						
SSE				LR	LR		
	comp=E,1μm,15.3s,MS5.2						
SSE				LR	LR		
	comp=Z,4μm,12.8s,MS5.4						
FITZ	**Fitzroy Crossi**	**38.35**	**126**	*e*P	**P**	**12 01 44.0**	**-2.3**
	comp=Z,19nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**38.35**	**126**	P	**P**	**12 01 45.4**	**-0.9**
	comp=Z,9.6nm,0.7s,mb4.6,baz=286,slow=2.3,SNR=16						
FITZ				LR	LR	12 18 19.1	
	comp=Z,485nm,18.6s,MS4.3,baz=318,slow=37						
WMQ	**Urumqi**	**40.25**	**353**	P	**P**	**12 02 03.8**	**+1.7**
WMQ				AP	pP	12 02 13.5	+1.5
WMQ				XP	sP	12 02 17.5	+1.5
WMQ				PP	PP	12 03 40.8	+5.8
WMQ				PCP	PcP	12 04 08.1	+2.6
WMQ				SCP	ScP	12 07 53.4	+1.3
WMQ				S	**S**	**12 08 08.3**	**+1.2**
WMQ				XS	sS	12 08 24.4	+1.0
WMQ				SS	SS	12 11 01.3	-4.7
WMQ				SCS	ScS	12 12 05.5	-0.4
WMQ				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,382nm,6.5s						
WMQ				LR	LR		
	comp=N,1μm,14.6s,MS5.0						
WMQ				LR	LR		
	comp=E,971nm,14.2s,MS5.0						
WMQ				LR	LR		
	comp=Z,538nm,13.4s,MS4.6						
HHC	**Hu-ho-hao-te**	**40.35**	**21**	*e*P	**P**	**12 02 03.9**	**+1.0**
HHC				AP	pP	12 02 13.6	+0.8
HHC				XP	sP	12 02 18.9	+2.1
HHC				PP	PP	12 03 42.1	+6.0
HHC				PCS	PcS	12 07 55.1	-1.2
HHC				S	**S**	**12 08 14.6**	**+6.1**
HHC				XS	sS	12 08 25.3	+0.5
HHC				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.3						
HHC				AMB	AMB		
	comp=Z,360nm,6.9s						
HHC				LR	LR		
	comp=N,1μm,17.4s,MS5.3						
HHC				LR	LR		
	comp=E,4μm,15.7s,MS5.3						
HHC				LR	LR		
	comp=Z,2μm,13.3s,MS5.0						
ULHL	**Ulahol**	**41.34**	**340**	P	**P**	**12 02 11.7**	**+0.5**
	SNR=10						
BJT	**Baijiatuau**	**41.50**	**26**	*e*P	**P**	**12 02 13.5**	**+1.1**
BJT				pmax	pmax		
	comp=Z,45nm,0.9s						
BJT	**Baijiatuau**	**41.50**	**26**	*e*P	**P**	**12 02 13.5**	**+1.1**
	comp=Z,45nm,0.9s,mb5.1						
BJI	**Beijing**	**41.52**	**26**	P	**P**	**12 02 13.0**	**+0.4**
BJI				AP	pP	12 02 24.0	+1.5
BJI				PP	PP	12 03 50.1	+1.3
BJI				S	**S**	**12 08 24.9**	**-1.1**
BJI				AMB	AMB		
	comp=Z,49nm,1.0s,mb5.1						
BJI				AMB	AMB		
	comp=Z,319nm,5.5s						
BJI				LR	LR		
	comp=N,1μm,20.4s,MS4.9						
BJI				LR	LR		
	comp=E,1μm,19.9s,MS4.9						
BJI				LR	LR		
	comp=Z,1μm,24.1s,MS4.7						
MUN	**Mundaring**	**41.54**	**150**	*e*P	**P**	**12 02 09.7**	**-3.0**
KAKA	**Kakadu**	**41.94**	**114**	*e*P	**P**	**12 02 15.2**	**-0.8**
	comp=Z,7.9nm,0.6s,mb4.5						
KLBR	**Kellerberrin**	**42.01**	**148**	*e*P	**P**	**12 02 17.1**	**+0.5**
	comp=Z,19nm,1.1s,mb4.6						
AML	**Almayashu**	**42.15**	**338**	P	**P**	**12 02 18.8**	**+1.1**
	SNR=8.3						
KBK	**Karagaybulak**	**42.15**	**339**	P	**P**	**12 02 18.6**	**+0.9**
	SNR=10						
TKM2	**Tokmak 2**	**42.16**	**340**	P	**P**	**12 02 18.1**	**+0.3**
	SNR=11						
AAK	**Ala-Archa**	**42.29**	**339**	*e*P	**P**	**12 02 19.1**	**+0.2**
AAK				*e**PP	pP	12 02 31.5	+2.7
AAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**42.29**	**339**	*e*P	**P**	**12 02 19.1**	**+0.2**
	comp=Z,9.8nm,0.9s,mb4.4						
AAK				*e*pP	pP	12 02 31.4	+2.7
FRU	**Bishkek**	**42.42**	**339**	*e*P	**P**	**12 02 21.0**	**+1.1**
FRU				MLR	MLR		
	comp=E,1μm,14.0s						
EKS2	**Erkin-Say**	**42.58**	**338**	P	**P**	**12 02 22.1**	**+0.9**
	SNR=8.3						
NWAO	**Narrogin (SRO)**	**42.81**	**150**	P	**P**	**12 02 22.4**	**-0.6**
	comp=E,8.6nm,0.7s,mb4.6,baz=317,slow=9.0,SNR=6.9						
NWAO	**Narrogin (SRO)**	**42.81**	**150**	*e*P	**P**	**12 02 22.6**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**42.81**	**150**	*e*P	**P**	**12 02 22.6**	**-0.4**
	comp=Z,6.5nm,0.7s,mb4.5						
MKAR	**Makanchi Array**	**43.99**	**349**	P	**P**	**12 02 31.6**	**-0.9**
	comp=Z,29nm,0.9s,mb5.0,baz=160,slow=7.6,SNR=102						
MKAR				PcP	PcP	12 04 17.6	-0.3
	comp=Z,2.6nm,0.8s,baz=152,slow=6.5,SNR=2.3						
MKAR	**Makanchi Array**	**43.99**	**349**	*i* P	**P**	**12 02 31.7**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,29nm,0.9s						
SONM	**Songino Array**	**45.30**	**12**	P	**P**	**12 02 42.4**	**-0.7**
	comp=Z,18nm,0.8s,mb4.9,baz=194,slow=6.7,SNR=88						
SONM				PcP	PcP	12 04 22.7	+0.4
	comp=Z,6.1nm,0.8s,baz=193,slow=3.4,SNR=5.1						
SONM				LR	LR	12 23 16.4	
	comp=Z,1μm,19.8s,MS4.8,baz=187,slow=38						
SONM	**Songino Array**	**45.30**	**12**	P	**P**	**12 02 42.4**	**-0.6**
SONM						12 04 22.7	
ULN	**Ulaanbaatar**	**45.47**	**13**⇑	*e*P	**P**	**12 02 44.2**	**-0.2**
ULN	**Ulaanbaatar**	**45.47**	**13**	*e*P	**P**	**12 02 44.4**	**0.0**
	comp=Z,10nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**46.45**	**122**	P	**P**	**12 02 51.0**	**-1.1**
	comp=Z,31nm,0.8s,mb5.3,baz=301,slow=8.9,SNR=127						
WRA	**Warramunga Arr**	**46.45**	**122**	*i* P	**P**	**12 02 51.0**	**-1.1**
WRA				pmax	pmax		
	comp=Z,31nm,0.8s						
WRAB	**Tennant Creek**	**46.46**	**122**	P	**P**	**12 02 52.0**	**-0.2**
	SNR=18						
WRAB	**Tennant Creek**	**46.46**	**122**	*e*P	**P**	**12 02 51.4**	**-0.8**
WRAB				*e**PP	pP	12 03 03.1	+0.9
WRAB				pmax	pmax		
	comp=Z,51nm,0.8s,mb5.5						
WRAB	**Tennant Creek**	**46.46**	**122**	*e*P	**P**	**12 02 51.4**	**-0.8**
	comp=Z,51nm,0.8s,mb5.5						
WRAB				*e*pP	pP	12 03 03.1	+0.9
SNY	**Shenyang**	**46.47**	**31**	⇓P	**P**	**12 02 52.4**	**+0.2**
SNY				AP	pP	12 03 00.8	-1.4
SNY				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
SNY				AMB	AMB		
	comp=Z,251nm,3.9s						
SNY				LR	LR		
	comp=N,2μm,12.9s						
SNY				LR	LR		
	comp=Z,2μm,16.9s,MS5.1						
WB2	**Warramunga Arr**	**46.47**	**122**	*e*P	**P**	**12 02 49.8**	**-2.4**
WB2				*e*S	PcS	12 08 26.2	+5.1
ZAK	**Zakamensk**	**47.20**	**8**	*e*P	**P**	**12 02 57.0**	**-1.0**
ZAK				*e*		12 04 30.1	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ASPA	**Alice Springs**	**47.81**	**127**	*e*P	**P**	**12 03 02.4**	**-0.3**
AS31	**Alice Springs**	**47.82**	**127**	*e*P	**P**	**12 03 02.4**	**-0.4**
ASAR	**Alice Springs**	**47.82**	**127**	P	**P**	**12 03 02.2**	**-0.6**
	comp=Z,11nm,0.8s,mb4.9,baz=304,slow=7.7,SNR=71						
ASAR				PcP	PcP	12 04 31.4	+0.2
	comp=Z,3.2nm,0.8s,baz=297,slow=4.0,SNR=4.7						
ASAR				LR	LR	12 26 40.6	
	comp=Z,655nm,18.9s,MS4.6,baz=320,slow=40						
ASAR	**Alice Springs**	**47.82**	**127**	P	**P**	**12 03 02.2**	**-0.6**
ASAR						12 04 31.4	
KURK	**Kurchatov**	**48.48**	**347**	P	**P**	**12 03 07.0**	**-0.8**
	comp=Z,167nm,0.9s,SNR=18						
KURK	**Kurchatov**	**48.48**	**347**	*e*P	**P**	**12 03 07.2**	**-0.6**
KURK				*e**PP	pP	12 03 14.2	-3.7
KURK				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.3						
KURK	**Kurchatov**	**48.48**	**347**	*e*P	**P**	**12 03 07.2**	**-0.6**
	comp=Z,28nm,0.9s,mb5.3						
KURK				*e*pP	pP	12 03 14.2	-3.7
CN2	**Changchun**	**48.84**	**31**	*e*P	**P**	**12 03 10.4**	**-0.2**
CN2				*e*AP	pP	12 03 20.3	-0.4
CN2				*e*S	**S**	**12 10 11.4**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,2μm,14.0s,MS5.3						
CN2				LR	LR		
	comp=E,2μm,14.0s,MS5.3						
CN2				LR	LR		
	comp=Z,2μm,15.0s,MS5.2						
RDF	**Al-Radifah**	**50.30**	**305**	*e*P	**P**	**12 03 22.0**	**+0.2**
RDF				AMb	AMB	12 03 24.4	
	comp=Z,93nm,0.9s,mb5.8						
HIA	**Hailar**	**50.54**	**22**	*e*P	**P**	**12 03 23.0**	**-0.6**
HIA				pmax	pmax		
	comp=Z,27nm,0.8s						
HIA	**Hailar**	**50.54**	**22**	*e*P	**P**	**12 03 23.0**	**-0.5**
	comp=Z,27nm,0.8s,mb5.2						
NAY	**Al-Naaiem**	**50.67**	**305**	*e*P	**P**	**12 03 24.4**	**-0.2**
NAY				AMb	AMB	12 03 27.0	
	comp=Z,39nm,0.8s,mb5.4						
MIB	**Mutribah**	**50.79**	**306**	*e*P	**P**	**12 03 25.2**	**-0.3**
MIB				AMb	AMB	12 03 28.2	
	comp=Z,141nm,0.8s,mb6.0						
MDJ	**Mudanjiang**	**51.56**	**32**	P	**P**	**12 03 32.3**	**+1.0**
MDJ				AP	pP	12 03 41.0	-0.4
MDJ				XP	sP	12 03 44.9	-0.5
MDJ				PP	PP	12 05 33.6	+4.8
MDJ				SCP	ScP	12 08 39.0	0.0
MDJ				S	**S**	**12 10 45.4**	**-4.2**
MDJ				XS	sS	12 11 08.0	+1.7
MDJ				SCS	ScS	12 13 20.1	+1.1
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,258nm,4.8s						
MDJ				LR	LR		
	comp=N,765nm,22.3s,MS4.8						
MDJ				LR	LR		
	comp=E,748nm,20.3s,MS4.8						
MDJ				LR	LR		
	comp=Z,1μm,18.2s,MS4.9						
NVS	**Novosibirsk**	**51.63**	**352**	*i* P	**P**	**12 03 31.4**	**-0.4**
NVS				pmax	pmax		
	comp=N,33nm,1.0s						
NVS				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.2						
KRAR	**Krasnoyarsk**	**52.12**	**360**	*e*P	**P**	**12 03 34.7**	**-0.7**

KRAR pmax pmax
comp=Z,37nm,0.9s,mb5.3
MAJO Matsushiro 52.40 46 *e*P **P 12 03 36.8 -0.7**
MAJO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MAJO Matsushiro 52.40 46 *e*P **P 12 03 36.8 -0.7**
comp=Z,5.2nm,0.8s,mb4.5
MAT Matsushiro 52.40 46 P **P 12 03 37.1 -0.4**
MAT S **S 12 11 09.0 +7.9**
MJAR Matsushiro Arr 52.40 46 P **P 12 03 38.0 +0.5**
comp=Z,1.6nm,0.8s,mb4.0,baz=243,slow=9.2,SNR=7.3
MJAR PcP PcP 12 04 49.2 +1.2
comp=Z,7.4nm,0.9s,baz=246,slow=3.9,SNR=18
MJAR LR LR 12 28 47.9
comp=Z,1µm,18.1s,MS5.1,baz=260,slow=39
MJAR Matsushiro Arr 52.40 46 P **P 12 03 38.0 +0.5**
MJAR 12 04 49.2
BRVK Borovoye 52.78 343 P **P 12 03 39.9 -0.4**
comp=Z,117nm,0.8s,mb5.9,SNR=6.8
BRVK Borovoye 52.78 343 *e*P **P 12 03 39.6 -0.7**
BRVK pmax pmax
comp=Z,12nm,0.9s,mb4.8
BRVK Borovoye 52.78 343 *e*P **P 12 03 39.6 -0.7**
comp=Z,12nm,0.9s,mb4.8
ZRNK Zerenda 53.08 342 *e*P **P 12 03 41.8 -0.7**
ZRNK pmax pmax
comp=Z,14nm,0.9s,mb4.9
ZRNK Zerenda 53.08 342 *e*P **P 12 03 41.8 -0.7**
comp=Z,14nm,0.9s,mb4.9
CHKZ Chkalovo 53.22 343 *e*P **P 12 03 42.2 -1.3**
CHKZ pmax pmax
comp=Z,36nm,0.9s,mb5.3
CHKZ Chkalovo 53.22 343 *e*P **P 12 03 42.2 -1.3**
comp=Z,36nm,0.9s,mb5.3
KLR Kul'dur 55.73 29 *e*P **P 12 03 59.0 -2.8**
KLR *e*S **S 12 11 46.0 -0.1**
KLR MLR MLR
comp=N,1µm,13.0s
KLR MLR MLR
comp=Z,3µm,13.0s,MS5.6
BOD Bodaibo 56.28 13 *e*P **P 12 04 04.2 -1.5**
BOD pmax pmax
comp=Z,12nm,1.0s,mb4.9
KMBO Kilima Mbogo 56.48 266 P **P 12 04 08.6 +1.5**
comp=Z,2.9nm,0.9s,mb4.3,baz=60,slow=13,SNR=5.4
KMBO LR LR 12 26 17.2
comp=Z,898nm,18.1s,MS4.9,baz=88,slow=34
KMBO Kilima Mbogo 56.48 266 *i* P **P 12 04 08.8 +1.7**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
CTA Charters Tower 56.88 117 *e*P **P 12 04 07.5 -2.5**
comp=Z,5.2nm,1.1s,mb4.5
CTA Charters Tower 56.88 117 P **P 12 04 10.6 +0.6**
comp=Z,5.9nm,0.9s,mb4.6,baz=294,slow=7.0,SNR=6.3
CTA Charters Tower 56.88 117 *e*P **P 12 04 07.5 -2.5**
CTA P 12 04 10.6
CTAO Charters Tower 56.88 117 *e*P **P 12 04 09.8 -0.2**
CTAO pmax pmax
comp=Z,130nm,0.8s,mb6.0
CTAO Charters Tower 56.88 117 *e*P **P 12 04 09.8 -0.2**
comp=Z,130nm,0.8s,mb6.0
HABR Khabarovsk 56.92 32 *e*P **P 12 04 10.3 0.0**
HABR *e*S **S 12 12 02.5 +0.6**
HABR pmax pmax
comp=Z,24nm,0.8s,mb5.3
GNI Garni 56.96 317⇑ *e*P **P 12 04 11.9 +1.4**
GNI pmax pmax
comp=Z,17nm,1.0s
GNI Garni 56.96 317 *e*P **P 12 04 10.7 +0.1**
ZEI Tsey 58.70 319 *e*P **P 12 04 23.1 +0.3**
ZEI *e**PP pP 12 04 31.8 -1.2
ZEI pmax pmax
comp=Z,14nm,0.5s,mb5.2
SVE Sverdlovsk 59.03 340 *e*P **P 12 04 25.0 0.0**
SVE *e* 12 05 19.0
SVE *e* 12 12 34.0
SVE *e*S ScS 12 14 06.0 -6.5
ARU Arti 59.47 338 P **P 12 04 27.1 -1.0**
comp=Z,117nm,0.8s,mb6.0,SNR=5.5
ARU Arti 59.47 338⇓ *i*P **P 12 04 26.9 -1.2**
ARU *e* 12 05 10.8
ARU *e* 12 06 34.1
ARU *e*S **S 12 12 35.2 +0.1**
ARU *e*SS SS 12 16 22.8 -7.7
ARU pmax pmax
comp=Z,18nm,0.9s,mb5.1
ARU MLR MLR
comp=Z,500nm,19.0s,MS4.7
ARU MLR MLR
comp=N,300nm,18.0s,MS4.7
ARU MLR MLR
comp=E,400nm,18.5s,MS4.7
ARU Arti 59.47 338 *e*P **P 12 04 27.1 -1.0**
comp=E,17nm,0.9s,mb5.1
YSS Yuzh-Sakhalins 60.40 37 *e*P **P 12 04 34.0 -0.5**
YSS S **S 12 12 38.0 -9.1**
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.4
YSS MLR MLR
comp=Z,800nm,16.0s,MS5.0
YSS MLR MLR
comp=N,900nm,18.0s
YSS Yuzh-Sakhalins 60.40 37 *e*P **P 12 04 35.2 +0.7**
comp=N,40nm,1.0s,mb5.4
MALT Malatya 60.74 312 *e*P **P 12 04 36.8 0.0**
MALT pmax pmax
comp=Z,21nm,1.0s,mb5.2
MALT Malatya 60.74 312 *e*P **P 12 04 36.8 0.0**
comp=Z,21nm,1.0s,mb5.2
EIL Elat 61.03 302 *e*P **P 12 04 40.1 +1.3**
comp=Z,298nm,0.9s
EIL *e*pP pP 12 04 48.8 -0.3
ANN Anapa 63.80 319 *e*P **P 12 04 55.3 -2.0**
ANN *e*S **S 12 13 30.7 +0.7**
ANN pmax pmax
comp=Z,19nm,1.0s,mb5.1
ANN MLR MLR
comp=N,287nm,16.0s,MS4.6
ANN MLR MLR
comp=E,147nm,16.0s,MS4.6
ANN MLR MLR
comp=Z,256nm,16.0s,MS4.5
YAK Yakutsk 64.08 18 *e*P **P 12 04 58.5 -0.6**
YAK *e**PP pP 12 05 08.8 -0.7
YAK *e* 12 05 34.3
YAK *e* 12 07 21.2
YAK *e*PPP 12 08 51.5
YAK *e*S **S 12 13 35.3 +1.9**
YAK *e*SS SS 12 17 47.4 +4.8
YAK pmax pmax
comp=Z,19nm,1.0s,mb5.1
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax
comp=E,44nm,7.3s
YAK smax
comp=N,30nm,8.4s
YAK MLR MLR
comp=Z,628nm,14.0s,MS5.0
YAK MLR MLR
comp=N,442nm,13.0s,MS4.9
YAK MLR MLR
comp=E,426nm,15.0s,MS4.9
YAK Yakutsk 64.08 18 *e*P **P 12 04 58.8 -0.3**
comp=E,26nm,0.8s,mb5.3
YAK *e*pP pP 12 05 09.2 -0.3
BRTR Keskin Array B 64.72 312 P **P 12 05 02.9 -0.4**
comp=E,6.9nm,0.9s,mb4.7,baz=124,slow=6.6,SNR=26
BRTR LR LR 12 36 25.9
comp=E,227nm,18.1s,MS4.4,baz=102,slow=39
BRTR Keskin Array B 64.72 312 *i* P **P 12 05 03.5 +0.2**
BRTR pmax pmax
comp=Z,7.0nm,0.9s
BR131 Keskin Array S 64.73 312 *e*P **P 12 05 03.3 -0.1**
comp=Z,11nm,1.0s,mb4.8
VRSR Storozhevoye 65.42 326 *e*P **P 12 05 06.1 -1.7**
VRSR pmax pmax
comp=N,4.0nm,0.8s
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRSR pmax pmax
comp=E,10.0nm,0.7s
SIM Simferopol' **66.06 318** *e*P **P 12 05 12.5 +0.6**
SIM *e*S S 12 14 06.0 +8.3
SIM *e*SS SS 12 18 15.0 +1.6
SIM pmax pmax
comp=Z,27nm,0.7s,mb5.4
OBN Obninsk 68.57 329⇑ *e*P **P 12 05 26.7 -1.2**
OBN *i* pP 12 05 38.6 +0.3
OBN *e*S S 12 14 32.0 +4.0
OBN *e*SS SS 12 18 56.2 +3.8
OBN pmax pmax
comp=Z,15nm,1.2s,mb4.8
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.5
TIRR Tirgusor 69.78 316⇓ *i*P **P 12 05 33.8 -1.6**
TIRR Tirgusor 69.78 316 ⇓P **P 12 05 33.8 -1.6**
CFR Carcaliu 70.16 317⇓ *i*P **P 12 05 37.6 -0.1**
CFR Carcaliu 70.16 317 ⇓P **P 12 05 37.6 -0.1**
MA2 Magadan 70.68 27⇑ *e*P **P 12 05 40.5 -0.4**
MA2 pmax pmax
comp=Z,13nm,1.2s,mb4.7
MA2 Magadan 70.68 27 *e*P **P 12 05 39.8 -1.1**
comp=Z,8.6nm,0.9s,mb4.7
AKASG Malin Array Be 71.05 323 P **P 12 05 41.5 -1.6**
comp=Z,7.1nm,0.9s,mb4.6,baz=92,slow=4.7,SNR=26
AKASG LR LR 12 41 10.8
comp=Z,172nm,18.7s,MS4.3,baz=100,slow=40
AKASG Malin Array Be 71.05 323 *i* P **P 12 05 41.5 -1.6**
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 71.05 323 *e*P **P 12 05 40.3 -2.8**
VRI Vrincioaia 71.30 317⇑ *i*P **P 12 05 45.1 +0.5**
VRI Vrincioaia 71.30 317 ⇑P **P 12 05 45.1 +0.5**
PLOR Plostina 71.35 317⇓ *i*P **P 12 05 46.3 +1.4**
TIXI Tiksi 71.38 11 *e*P **P 12 05 41.0 -4.1**
TIXI *e*S S 12 14 56.6 -4.2
TIXI pmax pmax
comp=Z,28nm,0.9s,mb5.2
TIXI MLR MLR
comp=Z,735nm,15.0s,MS5.1
MLR Muntele Rosu 71.74 317⇓ *i*P **P 12 05 47.7 +0.4**
MLR Muntele Rosu 71.74 317 ⇓P **P 12 05 47.7 +0.5**
PET Petropavlovsk 72.22 35 *e*P **P 12 05 59.0 +8.9**
PET pmax pmax
comp=Z,300nm,8.7s
PET pmax pmax
comp=Z,100nm,13.5s
PET MLR MLR
comp=Z,600nm,16.0s,MS5.0
BURAR Bucovina Array 72.73 319⇑ *i*P **P 12 05 54.2 +1.0**
BURAR Bucovina Array 72.73 319 ⇑P **P 12 05 54.2 +1.0**
VTS Vitosha 73.06 313⇓ *i*P **P 12 05 55.1 0.0**
VTS Vitosha 73.06 313 ⇓P **P 12 05 55.1 -0.1**
JOF Joensuu 74.32 335 *e*p **P 12 05 59.5 -3.0**
JOF pmax pmax
comp=Z,12nm,0.8s,mb4.9
MAW Mawson 74.39 192 P **P 12 06 03.1 +0.2**
comp=Z,1.7nm,0.7s,mb4.1,baz=350,slow=6.9,SNR=6.0
MAW LR LR 12 32 49.0
comp=Z,401nm,20.4s,MS4.7,baz=166,slow=31
KOLS Kolonicke sedl 74.94 320 *e*P **P 12 06 06.1 0.0**
CRVS Cervenica-Dubn 75.46 320 *e*P **P 12 06 10.3 +1.2**
APA Apatity 75.50 340⇑ *i*P **P 12 06 09.0 -0.4**
APA *i* pP 12 06 20.5 +0.6
APA *e*S sS 12 16 06.0 +1.2
APA pmax pmax
comp=Z,16nm,0.8s,mb5.0
APA MLR MLR
comp=Z,1µm,20.0s,MS5.1
SUW Suwalki 75.52 325 *e*P **P 12 06 09.0 -0.5**
FINES FINESS Array B 76.09 333 P **P 12 06 11.4 -1.3**
comp=Z,7.2nm,0.7s,mb4.7,baz=103,slow=6.2,SNR=25
FINES LR LR 12 45 01.5
comp=Z,221nm,18.2s,MS4.5,baz=124,slow=40
FINES FINESS Array B 76.09 333 *i* P **P 12 06 11.5 -1.2**
FINES pmax pmax
comp=Z,7.0nm,0.7s
KAF Kangasniemi 76.20 333 *e*p **P 12 06 11.8 -1.5**
comp=Z,8.7nm,0.6s,mb4.9,baz=106,slow=5.3
KAF Kangasniemi 76.20 333 *e*P **P 12 06 11.8 -1.5**
KAF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
OJC Ojcow 76.77 321 *e*P **P 12 06 16.9 +0.3**
PKSM Moragy 76.89 316⇓ *i*P **P 12 06 17.0 -0.2**
PKSM Moragy 76.89 316 ⇓P **P 12 06 16.9 -0.3**
VYHS Vyhne 77.10 319 *e*P **P 12 06 18.2 -0.2**
VYHS *e* pP 12 06 26.5 -2.5
VYHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
VYHS Vyhne 77.10 319 *e*P **P 12 06 18.2 -0.2**
comp=Z,4.6nm,1.1s,mb4.3
VYHS *e* pP 12 06 26.5 -2.5
OKC Ostrava-Krasne 77.75 320 *e*P **P 12 06 22.5 +0.4**
MORC Moravsky Berou 78.13 320 *e*P **P 12 06 24.6 +0.4**
MORC pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MORC Moravsky Berou 78.13 320 *e*P **P 12 06 24.6 +0.4**
comp=Z,5.1nm,0.8s,mb4.5
ZST Bratislava 78.20 318 *e*P **P 12 06 24.6 0.0**
ZST *e*pP pP 12 06 33.4 -1.7
ZST Bratislava 78.20 318 *e*P **P 12 06 24.7 +0.1**
ZST *e* pP 12 06 33.4 -1.7
ZST pmax pmax
comp=Z,25nm,0.9s,mb5.1
ZST Bratislava 78.20 318 *e*P **P 12 06 24.7 +0.1**
comp=Z,24nm,0.9s,mb5.1
ZST *e* pP 12 06 33.4 -1.7
ARCES ARCESS Array B 78.94 341 P **P 12 06 28.3 -0.4**
comp=Z,7.3nm,0.8s,mb4.7,baz=109,slow=7.1,SNR=13
ARCES LR LR 12 45 49.0
comp=Z,570nm,19.2s,MS4.9,baz=102,slow=39
DPC Dobruska-Polom 78.99 320 *e*P **P 12 06 29.0 +0.1**
DPC *e*pP pP 12 06 38.8 -0.7
DPC *e*S S 12 16 26.5 +1.1
DPC AMS AMS 12 55 50.0
comp=Z,200nm,17.3s
GROS Grobnik 79.07 316 *i* P **P 12 06 29.8 +0.4**
KSP Ksiaz 79.08 321 *e*P **P 12 06 30.7 +1.3**
KSP Ksiaz 79.08 321 *e*P **P 12 06 30.4 +1.0**
KSP *e*S S 12 16 26.0 -0.3
ARSA Arzberg 79.14 317⇑ *i*P **P 12 06 29.7 -0.1**
comp=Z,114nm,2.9s,mb5.3
ARSA Arzberg 79.14 317⇑ *i*P **P 12 06 29.7 -0.1**
comp=Z,114nm,2.8s,mb5.3
LEGS Legarje 79.15 316 *e*P **P 12 06 30.3 +0.5**
BOJS Bojanci 79.15 315 *e*P **P 12 06 30.1 +0.4**
UPC Upice 79.21 321 *e*P **P 12 06 29.8 -0.3**
UPC *e*pP pP 12 06 39.7 -1.0
TREC Trest 79.40 319 *e*P **P 12 06 30.7 -0.5**
LJU Ljubljana 79.70 316 *e*P **P 12 06 33.6 +0.8**
LJU *e* pP 12 06 42.4 -1.0
PRU Pruhonice 80.09 320 *e*P **P 12 06 35.5 +0.6**
PRU *e*pP pP 12 06 44.3 -1.2
PRU *e*S S 12 16 38.1 +1.1
PRU AMS AMS 12 56 30.0
comp=Z,300nm,13.7s
PVCC Panska Ves 80.13 321 *e*P **P 12 06 35.5 +0.4**
VOJS Vojsko 80.15 316 *e*P **P 12 06 35.4 +0.1**
BSD Bornholm Skovb 80.45 325 *i* P **P 12 06 38.3 +1.4**
BSD *e* 12 16 41.9
BSD
comp=Z,260nm,18.0s
BSD Bornholm Skovb 80.45 325 *e*P **P 12 06 38.3 +1.4**
BSD *e* 12 16 41.9
BSD MLR MLR
comp=Z,270nm,18.0s,MS4.6
BSD Bornholm Skovb 80.45 325 *e*P **P 12 06 38.3 +1.4**
BSD *e* 12 16 41.9
GEC2 GERESS Array S 80.52 319 *e*P **P 12 06 37.4 +0.2**
comp=Z,21nm,1.0s,mb5.0
GEC2 GERESS Array S 80.52 319 *e*P **P 12 06 37.4 +0.2**
GEC2 pmax pmax
comp=Z,21nm,1.0s,mb5.0
GERES GERESS Array B 80.52 319 P **P 12 06 37.6 +0.4**
comp=Z,11nm,0.8s,mb4.8,baz=94,slow=5.4,SNR=56
GERES LR LR 12 47 37.9
comp=Z,122nm,19.3s,MS4.3,baz=288,slow=40
PTCC Patocco-Chiusa 80.55 316 P **P 12 06 37.6 +0.2**
comp=Z,16nm,0.9s,mb4.9
BRG Berggiesshubel 80.56 321 *e*P **P 12 06 38.0 +0.5**
comp=Z,6.3nm,1.1s,mb4.5
BRG *e* pP 12 06 49.1 +1.0
comp=Z,5.2nm,1.5s
BRG S S 12 16 45.0 +3.1
BRG
comp=N,123nm,19.7s
BRG
comp=E,92nm,12.9s
BRG
comp=Z,169nm,17.8s
BRG Berggiesshubel 80.56 321 *e*P **P 12 06 37.9 +0.5**
BRG *e* pP 12 06 49.0 +1.0
BRG S S 12 16 45.0 +3.1
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BRG pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
BRG MLR MLR
comp=N,123nm,19.6s
BRG MLR MLR
comp=E,92nm,12.8s
BRG MLR MLR
comp=Z,169nm,17.8s,MS4.4
BRG Berggiesshubel 80.56 321 *e*P **P 12 06 38.0 +0.5**
comp=Z,6.3nm,1.1s,mb4.5
BRG *e* pP 12 06 49.1 +1.0
BRG S S 12 16 45.0 +3.1
BRG LR LR
comp=Z,170nm,17.8s,MS4.4
KHC Kasperske Hory 80.63 319 *e*P **P 12 06 37.7 -0.1**
KHC *e*pP pP 12 06 47.9 -0.5
KHC *e*S S 12 16 43.1 +0.5
KHC AMS AMS 12 59 20.0
comp=Z,200nm,13.5s
ARV Arcevia 80.63 313 P **P 12 06 38.2 +0.4**
ARV pmax pmax
comp=Z,35nm,1.0s,mb5.2
ARV Arcevia 80.63 313 P **P 12 06 38.2 +0.4**
comp=Z,35nm,1.0s,mb5.2
RUE Ruedersdorf 80.82 322 *e*P **P 12 06 38.8 0.0**
comp=Z,22nm,0.9s,mb5.1
FBE Freiberg 80.93 321 *e*P **P 12 06 39.6 +0.2**
comp=Z,15nm,0.9s,mb4.9
WET Wettzell 81.09 319 *e*P **P 12 06 40.7 +0.5**
comp=Z,9.0nm,1.0s,mb4.7
WET Wettzell 81.09 319 *e*P **P 12 06 40.7 +0.5**
WET pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CLL Collm 81.19 321 *e*P **P 12 06 40.7 -0.1**
comp=Z,7.0nm,1.0s,mb4.5
CLL *e*S S 12 16 48.5 0.0
CLL *e*PPS 12 17 59.4
CLL *e*L 12 52 25.7
comp=Z,263nm,18.0s
CLL Collm 81.19 321 P **P 12 06 40.8 0.0**
comp=Z,logA/T=0.8,mb4.5
CLL *i* *PP pP 12 06 49.6 -1.8
CLL *e*S S 12 16 48.0 -0.5
CLL *e*PPS 12 18 00.0
CLL Collm 81.19 321 *i* P **P 12 06 40.8 0.0**
comp=Z,7.0nm,1.0s,mb4.5
CLL *i* pP pP 12 06 49.6 -1.8
CLL *e*S S 12 16 48.0 -0.5
CLL *e*PPS 12 18 00.0
CLL Collm 81.19 321 *i* P **P 12 06 40.8 0.0**
CLL *i* pP 12 06 49.6 -1.8
CLL *e*S S 12 16 48.0 -0.5
CLL pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CLL MLR MLR
comp=Z,300nm,16.6s,MS4.7
CLL Collm 81.19 321 *i* P **P 12 06 40.8 0.0**
comp=Z,7.0nm,1.0s,mb4.5
CLL *i* pP 12 06 49.6 -1.8
CLL *e*S S 12 16 48.0 -0.5
CLL LR LR
comp=Z,300nm,16.6s,MS4.7
SYO Syowa Base 81.31 197⇑ *e*P **P 12 06 41.6 +0.2**
SYO Syowa Base 81.31 197⇑ *e*pP pP 12 06 52.5 +0.5
SFI Santa Sofia 81.45 314 P **P 12 06 44.0 +1.8**
SFI pmax pmax
comp=Z,48nm,1.0s,mb5.4
SFI Santa Sofia 81.45 314 P **P 12 06 44.0 +1.8**
comp=Z,48nm,1.0s,mb5.4
NKC Novy Kostel 81.45 320 *e*P **P 12 06 42.8 +0.6**
TANN Tannenbergstha 81.46 320 *e*P **P 12 06 42.3 +0.1**
comp=Z,6.0nm,1.0s,mb4.5
WERD Werda 81.56 320 *e*P **P 12 06 42.6 -0.1**
comp=Z,8.0nm,1.0s,mb4.6
ROTZ Rotzenmuhle 81.57 320 *e*P **P 12 06 43.3 +0.5**
comp=Z,11nm,1.0s,mb4.7
MANZ Manzenberg 81.65 320 *e*P **P 12 06 44.0 +0.8**
comp=Z,16nm,0.9s,mb5.0
VMG Vicchio 81.67 314 P **P 12 06 45.4 +2.1**
comp=Z,87nm,0.8s,mb5.7
WTTA Wattenberg 81.78 317⇑ *i*P **P 12 06 43.9 0.0**
comp=Z,28nm,1.2s,mb5.1
WTTA Wattenberg 81.78 317⇑ *i*P **P 12 06 43.9 0.0**
WTTA pmax pmax
comp=Z,28nm,1.2s,mb5.1
SEI Scarperia 81.81 314 P **P 12 06 45.8 +1.7**
comp=Z,106nm,0.8s,mb5.8
COP Copenhagen 81.92 326 *i* P **P 12 06 47.8 +3.1**
COP
comp=Z,60nm,18.0s
COP Copenhagen 81.92 326 *e*P **P 12 06 47.8 +3.1**
COP LR LR
comp=Z,70nm,18.0s,MS4.1
MOX Moxa 82.01 320 *e*P **P 12 06 45.3 +0.2**
comp=Z,8.0nm,1.0s,mb4.6
MOX Moxa 82.01 320 *e*P **P 12 06 45.4 +0.3**
MOX
comp=Z,200nm,17.0s
SQTA Sankt Quirin 82.07 317⇓ *i*P **P 12 06 44.8 -0.7**
comp=Z,7.7nm,0.9s,mb4.6
SQTA Sankt Quirin 82.07 317⇓ *i*P **P 12 06 44.8 -0.7**
SQTA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MOTA Moosalm 82.15 317⇓ *i*P **P 12 06 45.3 -0.6**
comp=Z,11nm,0.9s,mb4.8
MOTA Moosalm 82.15 317⇓ *i*P **P 12 06 45.3 -0.6**
MOTA pmax pmax
comp=Z,11nm,0.9s,mb4.8
GRA1 Grafenberg Arr 82.20 319 *e*P **P 12 06 46.3 +0.2**
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 82.20 319 *e*P **P 12 06 46.3 +0.2**
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 82.20 319 *e*P **P 12 06 46.3 +0.2**
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 82.20 319 *e*P **P 12 06 46.3 +0.2**
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
GSCL Gusciola 82.37 314 P **P 12 06 48.4 +1.4**
comp=Z,18nm,1.0s,mb5.0
BRMO Bormio 82.61 316 P **P 12 06 48.7 +0.4**
comp=Z,5.0nm,0.7s,mb4.7
CLZ Clausthal 82.86 322 *e*P **P 12 06 49.4 -0.2**
comp=Z,12nm,1.0s,mb4.9
CLZ Clausthal 82.86 322 *e*P **P 12 06 49.4 -0.2**
CLZ pmax pmax
comp=Z,12nm,1.0s,mb4.9
DAVA Damuels 82.98 317⇑ *i*P **P 12 06 50.9 +0.8**
comp=Z,22nm,1.2s,mb5.1
BSEG Bad Segeberg 83.01 324 *e*P **P 12 06 49.9 -0.5**
comp=Z,8.0nm,1.0s,mb4.7
BSEG Bad Segeberg 83.01 324 *e*P **P 12 06 49.9 -0.5**
BSEG pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
NB2 NORSAR Subarra 83.03 331 P **P 12 06 48.6 -1.9**
comp=Z,1.7nm,0.8s,mb4.1,baz=97,slow=5.3
NOA NORSAR Array B 83.03 331 P **P 12 06 48.7 -1.8**
comp=Z,3.3nm,0.8s,mb4.4,baz=94,slow=5.4,SNR=8.2
NOA LR LR 12 48 52.9
comp=Z,172nm,18.3s,MS4.5,baz=50,slow=39
NRDL Niedersach Rie 83.06 322 *e*P **P 12 06 50.5 -0.1**
comp=Z,10.0nm,1.1s,mb4.8
KONO Kongsberg 83.74 329⇑ *e*P **P 12 06 53.8 -0.3**
MUD Monsted U'grnd 83.80 326 *i* P **P 12 06 56.8 +2.4**
MUD
comp=Z,200nm,19.0s
MUD Monsted U'grnd 83.80 326 *e*P **P 12 06 56.8 +2.4**
MUD MLR MLR
comp=Z,210nm,19.0s,MS4.5
TNS Taunus Mts 84.02 320 *e*P **P 12 06 55.5 0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,12nm,0.9s,mb5.0						
TNS	Taunus Mts	84.02	320	eP	P	12 06 55.5	0.0
TNS				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.0						
BFO	Black Forest	84.05	318	eP	P	12 06 55.8	+0.1
	comp=Z,5.0nm,0.9s,mb4.6						
BFO	Black Forest	84.05	318	eP	P	12 06 55.8	+0.1
BFO				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
BUG	Bochum--Univer	84.78	321	eP	P	12 06 59.4	0.0
	comp=Z,20nm,1.2s,mb5.1						
BNI	Bardonecchia	85.17	315	eP	P	12 07 00.4	-0.9
BNI				e*PP	pP	12 07 12.1	+0.1
BNI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
BNI	Bardonecchia	85.17	315	eP	P	12 07 00.4	-0.9
	comp=Z,7.0nm,0.8s,mb4.8						
BNI				epP	pP	12 07 12.1	0.0
VNDA	Vanda	89.02	168	P	P	12 07 20.5	+0.5
	comp=Z,1.7nm,0.8s,mb4.4,baz=284,slow=4.7,SNR=5.2						
VNDA				LR	LR	12 41 05.1	
	comp=Z,251nm,18.2s,MS4.7,baz=294,slow=32						
VNDA	Vanda	89.02	168	eP	P	12 07 20.1	+0.1
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
VNDA	Vanda	89.02	168	eP	P	12 07 20.1	+0.1
	comp=Z,5.2nm,1.1s,mb4.8						
SBA	Scott Base	90.12	168	eP	P	12 07 26.5	+1.4
SBA				pmax	pmax		
	comp=Z,35nm,1.8s,mb5.4						
SBA	Scott Base	90.12	168	eP	P	12 07 26.5	+1.3
	comp=Z,35nm,1.8s,mb5.4						
RAO	Raoul Island	90.52	119	LR	LR	12 49 07.5	
	comp=Z,289nm,18.8s,MS4.7,baz=275,slow=36						
TORD	Torodi Ar. Bea	90.97	283	P	P	12 07 30.4	+1.3
	comp=Z,2.6nm,1.0s,mb4.5,baz=85,slow=2.1,SNR=7.9						
TORD				LR	LR	12 46 09.9	
	comp=Z,345nm,20.3s,MS4.8,baz=135,slow=34						
ESDC	Sonseca Array	93.42	310	P	P	12 07 41.4	+1.0
	comp=Z,1.0nm,0.6s,mb4.4,baz=40,slow=5.9,SNR=7.3						
ESDC				LR	LR	12 55 11.0	
	comp=Z,90nm,18.2s,MS4.3,baz=60,slow=39						
IMA2	Indian Mountai	95.64	22	eP	P	12 07 50.9	+0.3
IMA2				epP	pP	12 08 02.5	+1.2
VNA1	Neumayer--Stat	97.42	199	eP	P	12 07 57.3	-1.4
VNA1				e	pP	12 08 08.3	-1.1
VNA1				e		12 08 13.5	
DBIC	Dimbokro	97.91	277	LR	LR	12 49 27.5	
	comp=Z,445nm,19.3s,MS5.0,baz=72,slow=34						
TBI	Tubuai	116.21	114	eLR	LR	12 48 15.6	
	comp=Z,220nm,23.0s						
PPT	Papeete	116.72	108	eLR	LR	12 48 29.6	
	comp=Z,250nm,24.5s						
H05A	Madras	122.66	29	⇓P	PKPdf	12 13 21.9	+1.3
	baz=122						
MSO	Missoula	124.11	23	ePKPdf	PKPdf	12 13 23.5	+0.1
M02C	Callahan	124.17	33	⇓P	PKPdf	12 13 24.4	+0.9
	baz=124						
J06A	Christmas Vall	124.22	29	⇓P	PKPdf	12 13 24.5	+0.9
	baz=124						
K06A	Valley Falls	124.50	30	⇑P	PKPdf	12 13 25.8	+1.6
	baz=124						
GASB	Alder Springs	125.45	34	⇓P	PKPdf	12 13 28.3	+2.3
	baz=125						
L07A	Adell	125.53	30	⇓P	PKPdf	12 13 28.8	+2.7
	baz=125						
ULM	Lac du Bonnet	125.62	7	PKP	PKPdf	12 13 26.3	0.0
	comp=Z,1.9nm,0.8s,baz=354,slow=4.5,SNR=4.0						
ULM	Lac du Bonnet	125.62	7	PKP	PKPdf	12 13 26.3	-0.1
M07A	Soldier Meadow	126.09	30	⇓P	PKPdf	12 13 29.2	+1.9
	baz=126						
N06A	Buffalo Meadow	126.22	31	⇑P	PKPdf	12 13 29.1	+1.6
	baz=126						
L09A	Wilkinson Ranc	126.35	29	⇓P	PKPdf	12 13 29.6	+1.9
	baz=126						
O06A	Flanigan	126.65	32	⇓P	PKPdf	12 13 30.4	+2.1
	baz=126						
LAO	LASA Array	126.83	17	ePKPdf	PKPdf	12 13 30.2	+1.6
N08A	GE Springer Mi	127.06	30	⇑P	PKPdf	12 13 31.0	+1.9
	baz=127						
O07A	Toulon	127.15	31	⇑P	PKPdf	12 13 31.0	+1.7
	baz=127						
WCN	Washoe City	127.31	32	⇑P	PKPdf	12 13 31.5	+1.9
	baz=127						
M12A	Wells	128.10	27	⇓P	PKPdf	12 13 33.5	+2.4
	baz=128						
S06C	San Francisco	128.29	34	⇓P	PKPdf	12 13 33.3	+1.9
	baz=128						
M13A	Montello	128.49	27	⇑P	PKPdf	12 13 33.9	+2.1
	baz=128						
NVAR	Mina Array Bea	128.73	32	PKP	PKPdf	12 13 33.6	+1.3
	comp=Z,1.6nm,0.8s,baz=350,slow=0.4,SNR=12						
PDAR	Pinedale Array	129.20	22	PKP	PKPdf	12 13 34.9	+1.7
	comp=Z,1.5nm,0.9s,baz=28,slow=1.0,SNR=11						
RKT	Rikitea	129.32	117	eLR	LR	12 54 20.2	
	comp=Z,220nm,26.5s						
Q11A	Duckwater	129.77	30	⇑P	PKPdf	12 13 36.8	+2.6
	baz=130						
ISA	Isabella	130.64	35	⇑P	PKPdf	12 13 38.2	+2.3
	baz=130						
U10A	Ash Meadows, A	131.27	32	⇑P	PKPdf	12 13 40.2	+3.1
	baz=131						
MSU	Marysvale	131.69	27	ePKIKP	PKPdf	12 13 40.4	+2.5
W14A	Seligman	133.89	31	⇓P	PKPdf	12 13 44.3	+2.3
	baz=134						
X14A	Yava	134.56	31	⇓P	PKPdf	12 13 44.4	+1.1
	baz=134						
ANMO	Albuquerque	137.16	24	⇑iPKIKP	PKPdf	12 13 48.6	+0.5
MIAR	Mount Ida	141.34	9	ePKIKP	PKPdf	12 13 50.5	-5.2
JCT	Junction City	143.66	20	ePKIKP	PKPdf	12 13 58.1	-1.8

*IDC **15** 13:08:31.6±1.5, 876S×11895E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/15, mbtmp3.8/4, ML3.8/1, MS3.5/1, Ms1 3.5/1, ms1mx2.4/23, Error ellipse: s-maj=56.8km s-min=25.3km az=70.0*

ISC 15 13:08:44.5±3.3**, 92S**±01×**1187E**±01**, h125**km±34km**, n10,** σ**0.83**/14**, mb4.0**/3**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.18	143	eP	Pn	13 11 11.7	-8.8
	11nm,0.9s						
FITZ				eS	Sn	13 13 09.9	-14
FITZ	Fitzroy Crossi	11.18	143	Pn	Pn	13 11 11.8	-8.7
	0.7nm,0.3s,baz=24,slow=22,SNR=35						
FITZ				Sn	Sn	13 13 08.2	-15
	0.9nm,0.3s,baz=190,slow=20,SNR=8.0						
KAKA	Kakadu	13.99	106	eP	Pn	13 11 57.9	+0.7
	3.0nm,0.4s						
KAKA				eS	Sn	13 14 31.2	-0.4
WRA	Warramunga Arr	18.57	127	P	P	13 12 50.9	-0.6
	0.3nm,0.3s,baz=298,slow=13,SNR=21						
WRA				S	Sx	13 16 07.4	
	0.1nm,0.3s,baz=287,slow=23,SNR=3.6						
WB2	Warramunga Arr	18.57	127	eP	P	13 12 52.7	+1.0
ASAR	Alice Springs	20.51	136	P	P	13 13 12.2	-0.4
	1.4nm,0.7s,baz=318,slow=12,SNR=21						
ASAR				S	S	13 16 55.1	0.0
	0.5nm,0.8s,baz=302,slow=22,SNR=4.9						
ASAR				LR	LR	13 22 24.2	
	comp=Z,137nm,21.6s,baz=265,slow=40						
KLBR	Kellerberrin	22.33	182	eP	P	13 13 30.6	-1.3
	4.2nm,0.3s,mb4.2						
KLBR				eS	Sx	13 17 06.5	
MUN	Mundaring	22.81	185	eP	P	13 13 37.9	+1.3
MUN				eS	Sx	13 17 18.9	
NWAO	Narrogin (SRO)	23.68	183	P	P	13 13 49.2	+4.7
	3.8nm,0.3s,mb4.2,baz=0.3,slow=12,SNR=16						
SONM	Songino Array	57.78	350	P	P	13 18 22.1	-0.3
	0.4nm,0.6s,mb3.7,baz=170,slow=8.8,SNR=6.3						

*CSEM **15** 13:11:22.2±0.7, 3739N×2481W, h0km, ML2.2, Error ellipse: s-maj=5.5km s-min=1.6km az=79.0, After PDA*
*PDA **15** 13:11:22.2±0.7, 3739N×2481W, h0km, MD2.5, ML2.2, Error ellipse: s-maj=5.5km s-min=1.6km az=79.0*

SVSA 15 13:11:22.2±0.7**, 3739N**×**2481W, h0**km**, MD2.5, ML2.2, Error ellipse: s-maj=5.5km s-min=1.6km az=79.0, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.43	208	eP	Pg	13 11 30.4	-0.1
PSMN				eS	Sg	13 11 36.2	0.0
MIRA	Miradouro	0.55	317	eP	Pg	13 11 32.0	-0.7
MIRA				eS	Sg	13 11 39.3	-0.4
PCNG	Congro	0.60	309	eS	Sg	13 11 40.9	-0.6
PCNG							
	9.8nm,0.2s						
PFAD	Fenais da Ajud	0.61	318	eP	Pg	13 11 33.2	-0.7
VIF	Vila Franca	0.62	306	eS	Sg	13 11 41.0	-1.0
VIF							
	68nm,0.2s						
PRCH	Ribeira Ch	0.63	303	eS	Sg	13 11 41.9	-0.7
PRCH							
	58nm,0.1s						
MESC	Monte Escuro	0.65	309	eP	Pg	13 11 33.8	-0.8
MESC				eS	Sg	13 11 42.3	-0.7
LFA	Lagoa do Fogo	0.66	306	eP	Pg	13 11 34.0	-0.9
PMAT	Coroa da Mata	0.68	309	eS	Sg	13 11 43.5	-0.5
PMAT							
	26nm,0.1s						
CML	Cha da Macela	0.70	303	eS	Sg	13 11 43.5	-1.2
FAC	Faja de Cima	0.77	300	eP	Pg	13 11 35.5	-1.5
FAC				eS	Sg	13 11 45.3	-1.7
PSET	Sete Cidades	0.85	301	eP	Pg	13 11 37.3	-1.1
PSET				eS	Sg	13 11 48.2	-1.2
PSET							
	117nm,0.3s						
PSET	Sete Cidades	0.85	301	eP	Pg	13 11 37.3	-1.1
PSET				eS	Sg	13 11 48.2	-1.2
PSAN	Santo Antonio	0.86	303	eS	Sg	13 11 47.4	-2.6
PFET	Feteiras	0.89	299	eS	Sg	13 11 48.3	-2.5

*IDC **15** 13:23:15.9±1.9, 2030S×17761W, h488km±23km, mb3.9/3, mb1 3.9/6, mb1mx3.5/15, mbtmp4.7/6, Error ellipse: s-maj=36.5km s-min=16.4km az=145.0*
*ISCJB **15** 13:23:16.6±1.3, 20.1S±0.1×1777W±0.1, h515km±27km, mb4.2/9, Error ellipse: s-maj=21.6km s-min=19.6km az=54.7*
*NEIC **15** 13:23:16.8±1.0, 20.17S×17775W, h489km±13km, mb4.3/6, Error ellipse: s-maj=15.5km s-min=12.5km az=149.0*

ISC 15 13:23:17.1±1.2**, 202S**±01×**1777W**±01**, h501**km±24km**, n25,** σ**0.61**/22**, mb4.1**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.37	43	P	P	13 25 17.5	+0.2
	8.5nm,0.3s,baz=160,slow=1.6,SNR=15						
AFI				S	S	13 26 55.5	-0.5
	12nm,0.3s,baz=43,slow=22,SNR=12						
AFI	Afiamalu	8.37	43	P	P	13 25 17.5	+0.2
AFI				eS	S	13 26 49.6	-6.3
DZM	Mont Dzumac	14.96	260	P	P	13 26 27.4	+0.7
	0.9nm,0.3s,baz=67,slow=18,SNR=5.0						
URZ	Urewera	18.61	193	P	P	13 27 01.2	-1.7
	1.3nm,0.3s,baz=316,slow=8.7,SNR=5.9						
SNZO	South Karori	22.07	195	P	P	13 27 34.8	+0.4
	227nm,1.3s						
CTA	Charters Tower	33.84	264	eP	P	13 29 17.5	+0.4
	7.7nm,0.3s,mb4.6						
CTA	Charters Tower	33.84	264	P	P	13 29 17.6	+0.5
	11nm,0.4s,mb4.7,baz=95,slow=11,SNR=35						
CTAO	Charters Tower	33.84	264	eP	P	13 29 17.4	+0.3
	12nm,0.4s,mb4.7						
AS31	Alice Springs	44.91	256	eP	P	13 30 46.2	-0.2
ASAR	Alice Springs	44.91	256	P	P	13 30 46.5	+0.1
	11nm,0.8s,mb4.4,baz=91,slow=7.8,SNR=178						
ASPA	Alice Springs	44.91	256	eP	P	13 30 46.3	-0.1
WB2	Warramunga Arr	44.95	262	eP	P	13 30 46.7	0.0
WRAB	Tennant Creek	44.96	262	eP	P	13 30 46.1	-0.6
	9.4nm,1.1s,mb4.1						
WRA	Warramunga Arr	44.97	262	P	P	13 30 46.3	-0.5
	3.6nm,0.6s,mb4.0,baz=97,slow=7.3,SNR=156						
KAKA	Kakadu	48.29	271	eP	P	13 31 12.2	+0.2
	1.5nm,0.2s,mb4.0						
FITZ	Fitzroy Crossi	53.39	262	eP	P	13 31 49.7	+0.5
	10nm,2.0s,mb3.8						
SBA	Scott Base	58.24	184	eP	P	13 32 24.1	+1.2
	3.6nm,0.9s,mb3.7						
KLBR	Kellerberrin	58.49	245	eP	P	13 32 24.1	-0.5
	57nm,2.0s,mb4.5						
MUN	Mundaring	59.77	244	eP	P	13 32 32.9	-0.3
QSPA	South Pole Qui	69.92	180	eP	P	13 33 37.7	+0.4
	2.1nm,0.4s,mb4.0						
FINES	FINESS Array B	135.52	344	PKP	PKPdf	13 41 41.0	+1.2
	1.7nm,0.9s,baz=119,slow=12,SNR=3.7						
FINES	FINESS Array B	135.52	344	PKP	PKPdf	13 41 41.0	+1.2
AKASG	Malin Array Be	142.86	332	PKP	PKPdf	13 41 50.5	-2.6
	2.7nm,0.5s,baz=41,slow=4.4,SNR=19						
BRTR	Keskin Array B	146.84	313	PKPbc	PKPbc	13 42 03.7	+1.0
	1.0nm,0.6s,baz=144,slow=4.8,SNR=5.1						
GERES	GERESS Array B	149.94	345	PKPbc	PKPbc	13 42 11.7	+1.3
	0.2nm,0.4s,baz=63,slow=9.5,SNR=4.0						

*IDC **15** 14:10:25.0±2.7, 5378N×16034E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/20, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=63.5km s-min=43.1km az=65.0*
*MOS **15** 14:10:40.9±0.7, 5325N×15963E, h109km, mb4.0/1, Error ellipse: s-maj=34.5km s-min=10.3km az=71.3*
*ISCJB **15** 14:10:41.1±0.5, 5333N±004×1597E±0.1, h114km±4km, mb3.6/4, Error ellipse: s-maj=13.7km s-min=5.0km az=50.2*
*KRSC **15** 14:10:42, 5337N×15960E, h108km, ML4.1*

ISC 15 14:10:41.7±0.5**, 5331N**±005×**1596E**±01**, h112**km±4km**, n19,** σ**0.85**/31**, mb3.6**/4**, 1C, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	Nalytchevo	0.23	231	P	Pn	14 10 57.7	+0.3
NLC				S	Sn	14 11 09.2	+0.1
SPN	Mys Shipunski	0.32	133	P	Pn	14 10 57.9	+0.2
SPN				S	Sn	14 11 09.7	0.0
PET	Petropavlovsk	0.66	244	P	Pn	14 11 00.1	+0.2
PET				S	Sn	14 11 13.5	-0.1
PET	Petropavlovsk	0.66	244	⇑iPN	Pn	14 11 00.0	+0.1
PET				iS	Sn	14 11 13.7	+0.1
PET				pmax	pmax		
	comp=Z,83nm,0.4s						
PET				smax			
	comp=E,500nm,0.6s						
PET				smax			
	comp=N,600nm,0.6s						
PET				smax			
	comp=N,677nm,0.4s						
PET				smax			
	comp=E,629nm,0.8s						
KII	Karymskiy	0.73	351	P	Pn	14 11 00.7	+0.2
KII				S	Sn	14 11 14.3	-0.4
RUS	Russkaya	1.11	218	P	Pn	14 11 04.4	+0.2
RUS				S	Sn	14 11 21.0	-0.2
MKZ	Mys Kozlova	1.76	44	P	Pn	14 11 12.0	+0.3
MKZ				S	Sn	14 11 33.7	-0.9
KOZ	Kozyrevsk	2.75	3	P	Pn	14 11 25.3	+0.8
KOZ				S	Sn	14 11 57.3	-0.1
KOZR	Kozyr	2.76	3	PN	Pn	14 11 25.3	+0.7
KOZR				S	Sn	14 11 57.3	-0.3
KLY	Klyuchi	3.06	11	P	Pn	14 11 30.0	+1.4
KLY				S	Sn	14 12 05.2	+0.5
SKR	Severo-Kuril's	3.42	221	ePN	Pn	14 11 30.4	-2.8
SKR				eS	Sn	14 12 08.4	-4.7
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=N,310nm,0.3s						
SKR				smax			
	comp=E,180nm,0.5s						
SKR				smax			
	comp=Z,80nm,0.5s						
KBTR	Krutoberegovo	3.44	31	P	Pn	14 11 34.2	+0.7
KBTR				S	Sn	14 12 11.5	-2.1
ASAJ	Asahikawa	14.50	237	Pn	Pn	14 14 01.6	+0.2
	comp=Z,0.4nm,0.3s,baz=88,slow=21,SNR=5.5						
MAT	Matsushiro	22.47	230	P	P	14 15 31.5	-0.2
MJAR	Matsushiro Arr	22.47	230	P	P	14 15 31.7	-0.1
	comp=Z,3.0nm,0.6s,mb3.8,baz=15,slow=12,SNR=17						
MJAR	Matsushiro Arr	22.47	230	P	P	14 15 31.7	0.0
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	Makanchi Array	47.81	295	P	P	14 19 05.2	-2.7
	comp=Z,0.5nm,0.5s,mb3.6,baz=60,slow=6.6,SNR=5.2						
WRA	Warramunga Arr	76.16	204	P	P	14 22 17.7	+0.2
	comp=Z,0.7nm,0.8s,mb3.4,baz=19,slow=6.1,SNR=8.6						
ASAR	Alice Springs	79.84	204	P	P	14 22 38.9	+1.1
	comp=Z,0.4nm,0.6s,mb3.4,baz=16,slow=4.9,SNR=8.9						

*ISCJB **15** 14:34:26.9±0.5, 3088S±002×7171W±008, h77km±4km, mb4.3/9, Error ellipse: s-maj=11.4km s-min=3.5km az=8.4*
*GUC **15** 14:34:27.4±1.1, 3086S×7164W, h71km±7km, MD4.4, ML4.7*
*NEIC **15** 14:34:27.4±0.4, 3083S×7169W, mb4.5/5, Error ellipse: s-maj=11.8km s-min=4.4km az=90.0*
*IDC **15** 14:34:28.1±1.0, 3086S×7143W, h66km±5km, mb4.2/5, mb1 4.4/8, mb1mx4.1/16, mbtmp4.6/8, MS3.2/2, Ms1 3.2/2, ms1mx2.8/23, Error ellipse: s-maj=32.9km s-min=21.0km az=107.0*

ISC 15 14:34:27.9±0.5**, 3087S**±002×**7171W**±008**, h70**km±5km**, h67**km±1.5km**:pP-P, n59,** σ**0.88**/79**, mb4.3**/9**, 12C-14D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	0.51	60	⇓iP	Pn	14 34 40.5	-0.3
OVCH				iS	Sn	14 34 49.6	-0.5
OVCH				AML	AML	14 34 51.6	
	comp=E,48µm,0.6s						
OVCH	Ovalle	0.51	60	⇓iP	Pn	14 34 40.5	-0.3
OVCH				iS	Sn	14 34 49.6	-0.5
CMCH	Combarbala	0.68	117	⇑iP	Pn	14 34 42.2	-0.3
CMCH				iS	Sn	14 34 52.9	-0.4
CMCH				AML	AML	14 34 54.2	
	comp=E,109µm,0.6s						
CMCH	Combarbala	0.68	117	⇑iP	Pn	14 34 42.2	-0.3
CMCH				iS	Sn	14 34 52.9	-0.4
CHNG	Los Chungos	1.03	170	⇑iP	Pn	14 34 46.4	-0.3
CHNG				iS	Sn	14 34 59.9	-0.7
CHNG				AML	AML	14 35 00.9	
	comp=E,21µm,0.5s						
TLL	Tololo Astrono	1.05	48	⇓iP	Pn	14 34 47.0	+0.1
TLL				iS	Sn	14 35 01.2	0.0
TLL				AML	AML	14 35 02.3	
	comp=N,26µm,0.4s						
TLL	Tololo Astrono	1.05	48	⇓iP	Pn	14 34 47.0	+0.1
TLL				iS	Sn	14 35 01.2	0.0
JACH	Jahuel	2.04	153	⇑iP	Pn	14 35 00.5	+0.3
LCO	Las Campanas	2.05	26	⇑iP	Pn	14 35 00.0	-0.1
LCO				iS	Sn	14 35 25.0	+0.3
IHA	Instituto Hidr	2.15	178	⇑iP	Pn	14 35 01.0	-0.6
ROCH	El Roble	2.18	164	⇑iP	Pn	14 35 02.2	+0.2
PEL	Peldehue	2.43	159	⇑iP	Pn	14 35 05.7	+0.4
PEL				iS	Sn	14 35 34.2	+0.2
PEL				AML	AML	14 35 37.0	
	comp=E,6µm,0.2s						
PEL	Peldehue	2.43	159	⇑iP	Pn	14 35 05.7	+0.4
PEL				iS	Sn	14 35 34.2	+0.2
VACH	Vallenar	2.43	20	⇓iP	Pn	14 35 06.2	+0.9
VACH				iS	Sn	14 35 34.1	+0.1
VACH				AML	AML	14 35 37.7	
	comp=E,10µm,0.2s						
VACH	Vallenar	2.43	20	⇓iP	Pn	14 35 06.2	+0.9
VACH				iS	Sn	14 35 34.1	+0.1
LCCH	Las Cruces	2.60	177	⇓iP	Pn	14 35 07.4	-0.3
DSCH	Colegio Aleman	2.70	159	iP	Pn	14 35 08.9	-0.1
DSCH				AML	AML	14 35 53.8	
	comp=E,466nm,0.5s						
CLCH	Cerro Calan	2.71	159	⇓iP	Pn	14 35 09.6	+0.4
CLCH				iS	Sn	14 35 40.3	-0.5
CLCH				AML	AML	14 35 54.3	
	comp=E,4µm,0.7s						
CLCH				AML	AML	14 35 54.9	
	comp=E,5µm,0.7s						
STL	Santa Lucia	2.72	161	eP	Pn	14 35 09.1	-0.1
STL				AML	AML	14 35 53.2	
	comp=E,1µm,0.5s						
FCH	Farellones	2.73	154	⇓iP	Pn	14 35 10.3	+0.8
FCH				iS	Sn	14 35 42.6	+1.2
FCH				AML	AML	14 35 45.4	
	comp=N,3µm,0.2s						
ANTU	Antumapu	2.84	162	eP	Pn	14 35 11.3	+0.4
ANTU				iS	Sn	14 35 42.9	-1.2
ANTU				AML	AML	14 35 58.0	
	comp=E,2µm,0.3s						
ANTU	Antumapu	2.84	162	eP	Pn	14 35 11.3	+0.4
ANTU				S	Sn	14 35 42.9	-1.2
TACH	Talagante	2.85	167	⇓iP	Pn	14 35 11.3	+0.2
PCH	Pirque	2.93	160	⇓iP	Pn	14 35 12.4	+0.4
SJCH	San Jose de Ma	2.99	158	⇓iP	Pn	14 35 13.0	0.0
SJCH				iS	Sn	14 35 46.5	-1.2
SJCH				AML	AML	14 36 06.7	
	comp=N,1µm,0.6s						
SJCH	San Jose de Ma	2.99	158	⇓iP	Pn	14 35 13.0	0.0
SJCH				S	Sn	14 35 46.5	-1.2
CFAA	Coronel Fontan	3.06	105	P	Pn	14 35 15.3	+1.4
	comp=N,5.0nm,0.3s,baz=299,slow=12,SNR=184						
CFAA				S	Sn	14 35 51.9	+2.4
	comp=N,37nm,0.3s,baz=82,slow=20,SNR=18						
MDZ	Mendoza	3.16	130	eP	Pn	14 35 13.5	-1.7
MDZ				i		14 35 15.9	
MDZ				iS	Sn	14 35 45.4	-6.3
CHCH	Chadas Angostu	3.19	164	⇓iP	Pn	14 35 16.1	+0.5
CHCH				iS	Sn	14 35 52.0	-0.4
CACH	El Canelo	3.37	164	⇑iP	Pn	14 35 19.1	+1.0
CACH				iS	Sn	14 35 58.4	+1.4
CICH	Cipreses	3.61	163	eP	Pn	14 35 22.1	+0.7
SFDO	San Fernando	3.78	171	⇑iP	Pn	14 35 23.8	0.0
NICH	Los Niches	4.14	175	⇑iP	Pn	14 35 28.9	+0.2
LVC	Limon Verde	8.59	18	P	Pn	14 36 26.0	-3.4
	comp=N,1.9nm,0.3s,baz=166,slow=12,SNR=4.5						
LVC				S	Sn	14 38 16.0	+11
	comp=N,1.7nm,0.3s,baz=148,slow=21,SNR=3.3						
LVC	Limon Verde	8.59	18	ePn	Pn	14 36 25.9	-3.6
LVC				P		14 36 26.1	
LVC				S	Sn	14 38 16.1	+11
PLCA	Paso Flores	9.89	175	P	Pn	14 36 47.0	-0.2
	comp=N,1.2nm,0.3s,baz=341,slow=11,SNR=29						
PLCA				S	Sn	14 38 43.8	+7.3
	baz=351,slow=16,SNR=2.1						
PLCA	Paso Flores	9.89	175	ePn	Pn	14 36 46.7	-0.5
PLCA				P		14 36 47.0	
PLCA				S	Sn	14 38 43.8	+7.3
TRQA	Tornquist	10.76	134	ePn	Pn	14 36 57.4	-1.7
	comp=N,19nm,0.6s						
LPAZ	La Paz	14.88	14	P	Pn	14 37 55.8	+1.5
	comp=N,1.8nm,0.3s,baz=188,slow=8.3,SNR=122						
LPAZ	La Paz	14.88	14	ePn	Pn	14 37 55.4	+1.1
SIV	San Ignacio	17.72	36	P	Pn	14 38 27.9	-2.0
	comp=N,2.0nm,0.3s,baz=221,slow=10,SNR=60						
SAML	Samuel	23.21	22	eP	P	14 39 28.6	-0.2
	comp=N,12nm,0.7s,mb4.3						
ATAH	Atahualpa	24.56	344	LR	LR	14 47 55.4	
	comp=N,25nm,18.9s,baz=150,slow=33						
BDFB	Brasilia	26.45	60	P	P	14 39 57.5	-0.7
	comp=N,30nm,0.8s,mb4.7,baz=239,slow=8.1,SNR=30						
BDFB				pP	pP	14 40 12.9	-1.7
	comp=N,8.2nm,0.6s,baz=203,slow=8.4,SNR=3.0						
BDFB				LR	LR	14 51 34.7	
	comp=N,110nm,18.9s,baz=193,slow=39						
BDFB	Brasilia	26.45	60	eP	P	14 39 57.3	-0.9
	comp=N,45nm,0.8s,mb5.0						
BDFB				pP	pP	14 40 12.9	-1.7
BDFB				LR	LR	14 51 34.7	
SJG	San Juan	48.99	7	P	P	14 43 06.6	-0.8
TEIG	Tepich	53.24	340	eP	P	14 43 40.3	+1.1
	comp=N,4.3nm,0.7s,mb4.6						
SNAA	Sanae	54.38	159	eP	P	14 43 46.7	-0.9
	comp=N,4.3nm,0.9s,mb4.5						
SNAA				epP	pP	14 44 03.1	-2.3
QSPA	South Pole Qui	59.36	180	eP	P	14 44 23.1	+0.3
QSPA				eP		14 44 23.5	
QSPA				epP	pP	14 44 41.4	+0.5
WVT	Waverly	68.34	346	P	P	14 45 19.4	-2.4
	comp=N,1.9nm,0.8s,mb4.0						
DBIC	Dimbokro	73.93	72	P	P	14 45 55.1	-0.4
	comp=N,5.6nm,0.9s,mb4.3,baz=219,slow=5.9,SNR=3.3						
MAW	Mawson	76.10	164	P	P	14 46 08.1	+0.1
	comp=N,3.2nm,0.6s,mb4.2,baz=228,slow=7.9,SNR=13						
NVAR	Mina Array Bea	81.48	325	P	P	14 46 39.6	+2.1
	comp=N,0.3nm,0.5s,mb3.4,baz=132,slow=10,SNR=4.7						
TORD	Torodi Ar. Bea	82.89	70	P	P	14 46 45.2	+0.3
	comp=N,3.2nm,0.7s,mb4.2,baz=282,slow=6.7,SNR=16						
TORD				pP	pP	14 47 03.1	-0.8
	comp=N,2.3nm,0.6s,baz=277,slow=5.8,SNR=6.0						
TORD				sP	sP	14 47 10.7	-0.8
	comp=N,3.4nm,0.8s,baz=277,slow=4.5,SNR=7.0						
WRA	Warramunga Arr	123.62	210	pPKP	pPKPdf	14 53 38.5	+1.1
	comp=N,0.4nm,0.8s,baz=154,slow=1.7,SNR=2.4						
CHKZ	Chkalovo	144.61	39	ePKPdf	PKPdf	14 53 54.3	-2.2
ZAL	Zalesovo	151.40	29	PKPbc	PKPbc	14 54 12.8	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,1.4nm,0.5s,baz=185,slow=4.6,SNR=5.7						
ZAL				PKPab	PKPab	14 54 19.1	-3.0
	comp=N,0.9nm,0.5s,baz=136,slow=4.8,SNR=3.8						
ZAL				pPKPbc	pPKPbc	14 54 32.3	-1.3
	comp=N,1.7nm,0.4s,baz=144,slow=8.2,SNR=3.1						
MKAR	Makanchi Array	154.41	44	PKPbc	PKPbc	14 54 20.8	+0.5
	comp=N,0.1nm,0.3s,baz=220,slow=3.8,SNR=2.1						
MKAR				PKPab	PKPab	14 54 34.9	+0.1
	comp=N,0.2nm,0.3s,baz=322,slow=3.7,SNR=5.6						
MKAR				pPKPab	pPKPab	14 54 53.2	-1.0
	comp=N,0.5nm,0.6s,baz=290,slow=3.5,SNR=2.5						
MKAR	Makanchi Array	154.41	44	PKPbc	PKPbc	14 54 20.8	+0.5
MKAR				PKPab	PKPab	14 54 34.9	+0.1
MKAR				pPKPab	pPKPab	14 54 53.2	-1.0

*NEIC **15** 14:34:51.5±2.5,561S×15034E,h57km±19km,mb4.3/7, Error ellipse: s-maj=26.0km s-min=11.3km az=96.0*

*ISCJB **15** 14:34:54.8±3.0,552S±009×1501E±02,h96km±24km, mb4.0/7,Error ellipse: s-maj=30.7km s-min=15.1km az=10.1*

*IDC **15** 14:34:56.7±4.7,548S×14994E,h88km±35km,mb3.7/4, mb1 4.0/7,mb1mx3.8/15,mbtmp4.3/7,MS3.5/6,Ms1 3.5/6, ms1mx3.1/26,Error ellipse: s-maj=76.5km s-min=21.9km az=105.0*

ISC 15 14:34:52.5±2.8**,554S**±009×**1503E**±02**,h68**km±22km**,n21, σ0s80**/21**,mb4.1**/9**,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.96	219	P	Pn	14 36 05.1	+0.6
	5.7nm,0.3s,baz=35,slow=7.7,SNR=27						
PMG				S	Sn	14 37 01.8	+1.3
	1.4nm,0.3s,baz=144,slow=13,SNR=3.7						
PMG				LR	LR	14 38 15.8	
	comp=Z,212nm,18.2s,baz=20,slow=42						
PMG	Port Moresby	4.96	219	ePn	Pn	14 36 02.0	-2.5
PMG				eSn	Sn	14 36 59.5	-1.0
HNR	Honiara	10.29	113	LR	LR	14 40 31.1	
	comp=Z,278nm,19.2s,baz=181,slow=31						
CTA	Charters Tower	15.00	195	eP	Pn	14 38 24.1	+3.6
	6.1nm,0.9s						
CTA	Charters Tower	15.00	195	P	Pn	14 38 24.3	+3.9
	0.3nm,0.3s,baz=22,slow=13,SNR=7.4						
CTA				LR	LR	14 42 49.2	
	comp=Z,196nm,19.6s,baz=137,slow=32						
CTAO	Charters Tower	15.00	195	ePn	Pn	14 38 24.1	+3.6
	21nm,1.3s						
KAKA	Kakadu	19.04	247	eP	Pn	14 39 09.6	-0.8
	7.5nm,1.0s						
GUMO	Guam	19.76	344	P	Pn	14 39 19.0	0.0
	3.1nm,0.3s,baz=121,slow=12,SNR=4.0						
GUMO				LR	LR	14 45 43.2	
	comp=Z,76nm,18.2s,baz=204,slow=33						
WRAB	Tennant Creek	21.12	226	eP	P	14 39 30.9	-0.7
	23nm,1.0s,mb4.5						
WB2	Warramunga Arr	21.13	226	eP	P	14 39 32.5	+0.8
WRA	Warramunga Arr	21.14	226	P	P	14 39 32.4	+0.6
	5.3nm,0.9s,mb3.9,baz=50,slow=10,SNR=23						
ASAR	Alice Springs	23.98	220	P	P	14 40 01.2	+0.6
	3.0nm,0.9s,mb3.6,baz=54,slow=8.5,SNR=19						
FITZ	Fitzroy Crossi	27.15	241	eP	P	14 40 29.5	+0.2
	9.9nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	27.15	241	P	P	14 40 29.5	+0.2
	4.2nm,0.8s,mb4.0,baz=58,slow=10,SNR=8.5						
CBIJ	Chichi jima	33.38	347	LR	LR	14 53 10.9	
	comp=Z,105nm,20.8s,baz=199,slow=33						
MBWA	Marble Bar	33.47	239	eP	P	14 41 24.7	-0.4
	14nm,1.0s,mb4.8						
QIZ	Qiongzhong	46.75	303	eP	P	14 43 14.6	-0.3
ULN	Ulaanbaatar	65.35	329	eP	P	14 45 28.0	+0.5
	1.4nm,0.9s,mb3.8						
SONM	Songino Array	65.66	329	P	P	14 45 29.9	+0.3
	1.3nm,1.0s,mb3.7,baz=137,slow=6.1,SNR=5.7						
SONM				LR	LR	15 13 44.0	
	comp=Z,59nm,19.9s,baz=212,slow=36						
SBA	Scott Base	72.79	176	P	P	14 46 13.1	-0.5
	2.9nm,1.1s,mb4.0						
QSPA	South Pole Qui	84.43	180	P	P	14 47 16.9	-0.6
	3.9nm,1.2s,mb4.1						

*MOS **15** 14:53:11.4±1.5,2129S×17009E,h33km,mb5.0/9,Error ellipse: s-maj=14.0km s-min=10.9km az=165.4*

*ISCJB **15** 14:53:17.7±1.3,2123S±006×16978E±007,h85km±10km, mb4.8/29,Error ellipse: s-maj=11.4km s-min=9.8km az=173.0*

*BJI **15** 14:53:18.1,21.10S×16990E,h78km,mB5.1,mb4.9,Ms5.2, Msz4.9*

*IDC **15** 14:53:18.6±0.7,21.15S×16976E,h76km±4km,mb4.3/12, mb1 4.5/16,mb1mx4.4/19,mbtmp4.7/16,MS3.7/14, Ms1 3.7/14,ms1mx3.5/26,Error ellipse: s-maj=15.8km s-min=10.3km az=159.0*

*NEIC **15** 14:53:18.2±0.4,21.11S×16987E,mb5.0/21,Error ellipse: s-maj=10.3km s-min=9.4km az=218.0*

*LDG **15** 14:53:19.4±0.5,2030S×16940E,h33km,Mb4.2/1,Ms3.9/4, Error ellipse: s-maj=98.3km s-min=2.5km az=142.0*

ISC 15 14:53:19.0±1.2**,2120S**±006×**16982E**±007**,h82**km±9km**, h78**km±2.7km**:pP-P,n109,σ1s07**/74**,mb4.8**/29**,2C-6D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.26	254	eP	Pn	14 54 06.9	-1.0
DZM				eS	Sn	14 54 43.4	-2.2
DZM	Mont Dzumac	3.26	254	P	Pn	14 54 07.5	-0.3
	32nm,0.3s,baz=100,slow=11,SNR=1739						
DZM				S	Sn	14 54 44.0	-1.6
	347nm,0.3s,baz=156,slow=22,SNR=31						
DZM				LR	LR	14 54 50.3	
	comp=Z,511nm,21.4s,baz=31,slow=29						
BKM	Butte a Klehm	3.81	337	⇑iP	Pn	14 54 14.9	-0.5
HNR	Honiara	15.07	319	P	Pn	14 56 47.7	+0.3
	7.7nm,0.3s,baz=234,slow=1.2,SNR=6.7						
HNR				LR	LR	15 01 48.1	
	comp=Z,113nm,18.6s,baz=179,slow=34						
HNR	Honiara	15.07	319	eP	Pn	14 56 49.0	+1.6
HNR				pmax	pmax		
	comp=Z,283nm,1.1s						
HNR	Honiara	15.07	319	ePn	Pn	14 56 49.0	+1.5
	comp=Z,283nm,1.1s						
URZ	Urewera	18.13	161	P	Pn	14 57 26.4	+1.1
	comp=Z,1.0nm,0.3s,baz=304,slow=6.6,SNR=6.2						
URZ				LR	LR	15 03 02.2	
	comp=Z,235nm,18.7s,baz=328,slow=32						
URZ	Urewera	18.13	161	P	Pn	14 57 26.4	+1.1
URZ				LR	LR	15 03 02.2	
ARMA	Armidale	18.75	237	eP	Pn	14 57 35.0	+2.2
AFI	Afiamalu	18.97	71	P	Pn	14 57 35.1	-0.3
	comp=Z,0.8nm,0.3s,baz=179,slow=3.0,SNR=3.6						
AFI	Afiamalu	18.97	71	P	Pn	14 57 28.3	-7.1
AFI				pmax	pmax		
	comp=Z,22nm,0.8s						
AFI	Afiamalu	18.97	71	P	Pn	14 57 28.3	-7.1
	comp=Z,22nm,0.8s						
AFI				P		14 57 35.1	
SNZO	South Karori	20.47	169	eP	P	14 57 50.1	0.0
	comp=Z,80nm,1.0s						
CTA	Charters Tower	22.08	269	eP	P	14 58 09.5	+2.2
	comp=Z,2.6nm,0.5s,mb3.8						
CTA	Charters Tower	22.08	269	P	P	14 58 08.6	+1.3
	comp=Z,4.8nm,0.7s,mb3.9,baz=100,slow=12,SNR=9.1						
CTA				pP		14 58 23.1	
	comp=Z,5.7nm,0.8s,baz=106,slow=9.4,SNR=4.1						
CTA				LR	LR	15 05 10.9	
	comp=Z,139nm,21.4s,baz=86,slow=32						
CTA	Charters Tower	22.08	269	eP	P	14 58 09.5	+2.2
CTA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CTAO	Charters Tower	22.08	269	eP	P	14 58 08.7	+1.4
CTAO				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.2						
CTAO	Charters Tower	22.08	269	eP	P	14 58 08.7	+1.4
	comp=Z,12nm,1.0s,mb4.2						
RPZ	Rata Peaks	22.48	178	P	P	14 58 13.9	+2.4
	comp=Z,8.4nm,0.7s,mb4.2,baz=118,slow=8.2,SNR=6.1						
RPZ				LR	LR	15 05 56.6	
	comp=Z,185nm,20.7s,baz=37,slow=34						
CNB	Canberra Magne	22.80	228	eP	P	14 58 16.6	+1.8
	comp=Z,46nm,0.7s,mb4.9						
PMG	Port Moresby	24.76	295	P	P	14 58 33.9	+0.9
	comp=Z,32nm,0.8s,mb4.8,baz=113,slow=5.5,SNR=8.8						
PMG				LR	LR	15 07 02.6	
	comp=Z,267nm,20.4s,baz=94,slow=33						
PMG	Port Moresby	24.76	295	eP	P	14 58 33.6	+0.6
PMG				pmax	pmax		
	comp=Z,16nm,0.8s						
PMG	Port Moresby	24.76	295	eP	P	14 58 33.5	+0.6
	comp=Z,16nm,0.8s,mb4.5						
TOO	Toolangi	26.64	227	eP	P	14 58 51.0	+1.1
	comp=Z,12nm,0.7s,mb4.5						
TOO	Toolangi	26.64	227	eP	P	14 58 51.0	+1.1
TOO				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.5						
RAR	Rarotonga	28.33	96	LR	LR	15 07 35.9	
	comp=Z,179nm,20.4s,baz=304,slow=30						
TAU	Tasmania Unive	28.68	216	eP	P	14 59 08.4	+0.2
TAU				pmax	pmax		
	comp=Z,133nm,1.6s,mb5.3						
TAU	Tasmania Unive	28.68	216	eP	P	14 59 08.4	+0.2
	comp=Z,133nm,1.6s,mb5.3						
WB2	Warramunga Arr	33.19	266	⇓iP	P	14 59 47.3	-0.6
WRAB	Tennant Creek	33.19	266	P	P	14 59 47.6	-0.3
	comp=Z,88nm,0.5s,mb5.8,SNR=15						
WRAB	Tennant Creek	33.19	266	eP	P	14 59 47.1	-0.8
WRAB				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.9						
WRAB	Tennant Creek	33.19	266	eP	P	14 59 47.1	-0.8
	comp=Z,12nm,0.6s,mb4.9						
WRA	Warramunga Arr	33.20	266	P	P	14 59 47.5	-0.5
	comp=Z,8.1nm,0.5s,mb4.8,baz=95,slow=7.9,SNR=46						
WRA				pP	pP	15 00 04.9	-2.1
	comp=Z,1.5nm,0.6s,baz=98,slow=8.0,SNR=1.6						
WRA				LR	LR	15 13 36.5	
	comp=Z,56nm,20.5s,baz=350,slow=37						
WRA	Warramunga Arr	33.20	266	P	P	14 59 47.5	-0.5
WRA				*PP	pP	15 00 04.9	-2.1
AS31	Alice Springs	33.23	259	⇓iP	P	14 59 48.3	0.0
ASAR	Alice Springs	33.24	259	P	P	14 59 48.4	+0.1
	comp=Z,22nm,0.8s,mb5.0,baz=84,slow=8.9,SNR=149						
ASAR				PcP	PcP	15 02 29.1	+0.2
	comp=Z,1.6nm,0.7s,baz=90,slow=3.7,SNR=6.5						
ASAR				LR	LR	15 12 13.5	
	comp=Z,155nm,19.1s,baz=335,slow=34						
ASAR	Alice Springs	33.24	259	P	P	14 59 48.4	+0.1
ASAR						15 02 29.2	
ASPA	Alice Springs	33.24	259	⇓iP	P	14 59 48.3	0.0
TBI	Tubuai	37.66	101	eLR	LR	15 10 37.9	
	comp=Z,146nm,30.5s						
PPT	Papeete	38.40	92	eLR	LR	15 10 58.2	
	comp=Z,245nm,30.5s						
PPT	Papeete	38.40	92	LR	LR	15 12 14.8	
	comp=Z,89nm,19.3s,baz=127,slow=30						
FORT	Forrest	38.55	247	eP	P	15 00 33.5	-0.1
	comp=Z,17nm,0.5s,mb5.1						
FITZ	Fitzroy Crossi	41.62	266	P	P	15 00 59.6	+0.5
	comp=Z,17nm,0.6s,mb4.9,baz=122,slow=8.7,SNR=48						
FITZ				pP	pP	15 01 16.3	-2.4
	comp=Z,6.4nm,0.6s,baz=130,slow=9.4,SNR=4.5						
FITZ				LR	LR	15 16 44.4	
	comp=Z,65nm,20.6s,baz=280,slow=34						
FITZ	Fitzroy Crossi	41.62	266	eP	P	15 00 55.8	-3.3
	comp=Z,27nm,0.6s,mb5.2						
FITZ				pP	pP	15 01 16.3	-2.4
MBWA	Marble Bar	46.54	261	eP	P	15 01 38.5	+0.1
	comp=Z,37nm,0.9s,mb5.1						
MBWA				e	pP	15 01 58.9	+0.7
KLBR	Kellerberrin	47.39	246	eP	P	15 01 44.5	-0.5
	comp=Z,33nm,0.8s,mb5.1						
NWAO	Narrogin (SRO)	47.83	244	P	P	15 01 48.5	+0.1
	comp=Z,26nm,0.8s,mb5.1,baz=88,slow=7.5,SNR=28						
NWAO				LR	LR	15 20 38.8	
	comp=Z,200nm,19.7s,baz=46,slow=34						
NWAO	Narrogin (SRO)	47.83	244	eP	P	15 01 48.1	-0.3
NWAO				pmax	pmax		
	comp=Z,28nm,0.9s						
NWAO	Narrogin (SRO)	47.83	244	eP	P	15 01 48.1	-0.3
	comp=Z,28nm,0.9s,mb5.1						
MUN	Mundaring	48.71	246	eP	P	15 01 54.9	-0.2
TAOE	Nuku Hiva Isla	49.66	84	eLR	LR	15 16 09.5	
	comp=Z,369nm,33.7s						
VNDA	Vanda	56.50	182	P	P	15 02 51.6	-1.0
	comp=Z,3.2nm,0.8s,mb4.4,baz=360,slow=7.1,SNR=7.7						
VNDA				LR	LR	15 21 21.2	
	comp=Z,105nm,21.5s,baz=4.9,slow=30						
VNDA	Vanda	56.50	182	eP	P	15 02 51.1	-1.6
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNDA	Vanda	56.50	182	eP	P	15 02 51.1	-1.5
	comp=Z,3.4nm,0.8s,mb4.4						
SBA	Scott Base	56.72	181	eP	P	15 02 54.0	-0.2
SBA				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.2						
SBA	Scott Base	56.72	181	eP	P	15 02 54.0	-0.2
	comp=Z,28nm,1.1s,mb5.2						
CASY	Casey	58.56	204	eP	P	15 03 05.0	-2.1
	comp=Z,53nm,1.3s,mb5.4						
KSM	Kuching	62.35	283	P	P	15 03 32.9	0.0
MJAR	Matsushiro Arr	64.73	332	P	P	15 03 47.9	-0.7
	comp=Z,4.5nm,1.0s,mb4.3,baz=166,slow=6.8,SNR=11						
MIR	Mirnyy	65.50	205	iP	P	15 03 55.0	+1.4
MIR				pmax	pmax		
	comp=Z,200nm,1.2s,mb5.8						
QSPA	South Pole Qui	68.87	180	eP	P	15 04 14.1	-0.8
	comp=Z,20nm,0.8s,mb5.0						
KULM	Kulim	72.69	283	eP	P	15 04 38.4	+0.4
MAW	Mawson	76.83	202	eP	P	15 05 01.8	-0.2
	comp=Z,10nm,0.7s,mb4.7						
MAW	Mawson	76.83	202	P	P	15 05 01.9	0.0
	comp=Z,12nm,0.7s,mb4.8,baz=119,slow=7.2,SNR=36						
MAW	Mawson	76.83	202	eP	P	15 05 01.8	-0.2
MAW				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CD2	Chengdu	81.86	307	eP	P	15 05 30.0	+0.7
CD2				AP	pP	15 05 50.4	-0.6
CD2				XP	sP	15 05 58.8	-1.0
CD2				PP	PP	15 08 41.3	+3.8
CD2				S	S	15 15 37.6	+1.5
CD2				XS	sS	15 16 12.8	-0.4
CD2				SS	SS	15 21 01.8	+5.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
HHC	Hu-ho-hao-te	82.06	319	eP	P	15 05 32.8	+2.5
HHC				AP	pP	15 05 53.8	+1.8
HHC				XP	sP	15 06 01.0	+0.1
HHC				PP	PP	15 08 42.8	+3.7
HHC				SKS		15 15 38.8	
HHC				S	S	15 15 41.3	+3.1
HHC				XS	sS	15 16 17.4	+2.1
HHC				PS		15 16 41.9	
HHC				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,116nm,5.6s						
HHC				LR	LR		
	comp=N,145nm,6.0s						
HHC				LR	LR		
	comp=E,138nm,5.4s						
HHC				LR	LR		
	comp=Z,148nm,5.9s						
SYO	Syowa Base	83.21	196	⇑eP	P	15 05 34.6	-1.7
SNAA	Sanae	87.24	182	eP	P	15 05 53.9	-2.5
SNAA				pmax	pmax		
	comp=Z,17nm,1.3s						
SNAA	Sanae	87.24	182	eP	P	15 05 53.9	-2.5
	comp=Z,17nm,1.3s,mb4.8						
CMB	Columbia Colle	88.05	48	eP	P	15 05 59.6	-0.7
CMB				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
CMB	Columbia Colle	88.05	48	eP	P	15 05 59.6	-0.7
	comp=Z,2.0nm,0.9s,mb4.2						
SONM	Songino Array	89.11	323	P	P	15 06 05.3	0.0
	comp=Z,0.3nm,0.4s,mb3.7,baz=140,slow=5.3,SNR=3.8						
SONM				LR	LR	15 42 20.4	
	comp=Z,37nm,19.8s,baz=309,slow=33						
NVAR	Mina Array Bea	89.69	48	P	P	15 06 08.1	+0.1
	comp=Z,1.5nm,0.8s,mb4.2,baz=220,slow=6.7,SNR=13						
NVAR	Mina Array Bea	89.69	48	P	P	15 06 08.1	+0.1
ZAK	Zakamensk	92.19	324	eP	P	15 06 18.7	-0.9
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.9						
WMQ	Urumqi	98.94	313	P	P	15 06 50.8	+0.5
WMQ				AP	pP	15 07 11.5	-0.9
WMQ				XP	sP	15 07 19.8	-1.4
WMQ				PP	PP	15 10 55.8	+2.8
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.9s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,31nm,5.4s						
WMQ				LR	LR		
	comp=N,379nm,20.0s						
WMQ				LR	LR		
	comp=E,284nm,18.9s						
WMQ				LR	LR		
	comp=Z,342nm,20.5s						
TKM2	Tokmak 2	107.12	310	⇓Lg		15 08 01.2	
ARCES	ARCESS Array B	127.09	345	PKP	PKPdf	15 12 11.7	-2.0
	comp=Z,3.1nm,0.6s,baz=68,slow=3.2,SNR=20						
ARCES				pPKP	pPKPdf	15 12 33.9	-2.7
	comp=Z,1.6nm,0.6s,baz=42,slow=2.0,SNR=1.6						
FINES	FINESS Array B	132.60	337	PKP	PKPdf	15 12 23.7	-0.5
	comp=Z,1.1nm,0.8s,baz=90,slow=2.5,SNR=7.2						
FINES				pPKP	pPKPdf	15 12 44.7	-2.4
	comp=Z,1.5nm,0.8s,baz=214,slow=0.7,SNR=1.9						
FINES				SKPbc	SKPbc	15 15 43.2	-0.8
	comp=Z,5.2nm,0.8s,baz=122,slow=2.5,SNR=12						
FINES	FINESS Array B	132.60	337	PKP	PKPdf	15 12 23.7	-0.5
FINES				pPKP	pPKPdf	15 12 44.7	-2.4
FINES				SKPbc	SKPbc	15 15 43.2	-0.8
AKASG	Malin Array Be	137.39	323	PKP	PKPdf	15 12 32.3	-0.8
	comp=Z,0.4nm,0.4s,baz=66,slow=1.9,SNR=5.0						
AKASG				SKPbc	SKPbc	15 15 58.9	-0.3
	comp=Z,2.6nm,0.7s,baz=44,slow=3.4,SNR=14						
AKASG	Malin Array Be	137.39	323	PKP	PKPdf	15 12 32.3	-0.8
AKASG				SKPbc	SKPbc	15 15 58.9	-0.3
BRG	Berggiesshubel	144.86	333	eP	pPKPdf	15 13 05.5	-3.9
	comp=Z,3.8nm,0.7s						
CLL	Collm	144.91	335	⇓P	pPKPdf	15 13 06.8	-2.7
	comp=Z,logA/T=1.2						
CLL	Collm	144.91	335	⇓i(P)	pPKPdf	15 13 06.8	-2.7
	comp=Z,8.0nm,0.5s						
VAY	Valandovo	145.85	313	i PKP		15 13 29.4	
KHC	Kasperske Hory	146.31	332	ePKP	PKPdf	15 12 50.0	+1.0
KHC				epPKP	pPKPdf	15 13 08.5	-3.4
GEC2	GERESS Array S	146.47	331	ePKPdf	PKPdf	15 12 49.7	+0.4
GEC2				e		15 13 07.9	
GERES	GERESS Array B	146.47	331	PKPbc	PKPbc	15 12 50.2	-0.6
	comp=Z,2.3nm,0.6s,baz=35,slow=3.3,SNR=17						
GERES				pPKPbc	pPKPbc	15 13 12.0	-1.4
	comp=Z,4.2nm,0.6s,baz=36,slow=2.9,SNR=12						
GERES				SKPbc	SKPbc	15 16 22.4	+0.2
	comp=Z,0.7nm,0.7s,baz=96,slow=1.3,SNR=5.0						
BAIF	Baives	149.03	342	ePKIKP	PKPbc	15 12 58.3	+0.6
HINF	Hinteralfeld	150.10	337	ePKIKP	PKPbc	15 12 59.7	-0.6
	comp=Z,6.6nm,0.8s						
HAU	Haudompre	150.13	337	ePKIKP	PKPbc	15 12 59.7	-0.6
HAU				eR			
	comp=Z,31nm,18.5s						
CABF	La Chapelle	151.40	336	ePKIKP	PKPbc	15 13 02.3	-1.0
	comp=Z,13nm,0.7s						
FLN	La Foliniere	151.42	347	ePKIKP	PKPbc	15 13 02.2	-1.2
	comp=Z,17nm,0.7s						
LDF	La Druitiere	151.50	346	ePKIKP	PKPbc	15 13 02.0	-1.6
	comp=Z,10nm,0.7s						
LOR	Lormes	151.61	340	ePKIKP	PKPbc	15 13 02.9	-0.9
	comp=Z,8.7nm,0.8s						
LOR				eR			
	comp=Z,62nm,21.5s						
GRR	Gorron	151.86	347	ePKIKP	PKPbc	15 13 02.7	-1.7
	comp=Z,9.2nm,0.6s						
SSF	Saint Saulge	151.91	340	ePKIKP	PKPbc	15 13 03.5	-1.0
	comp=Z,16nm,1.0s						
LPL	La Plagne	152.05	334	ePKIKP	PKPbc	15 13 03.7	-1.1
	comp=Z,8.3nm,0.8s						
LPG	La Plagne	152.06	334	ePKIKP	PKPbc	15 13 03.9	-0.9
	comp=Z,13nm,0.9s						
SMF	Signal de Mont	152.17	339	ePKIKP	PKPbc	15 13 03.3	-1.8
BGF	Bois d'Agland	152.57	340	ePKIKP	PKPbc	15 13 03.8	-2.2
MBDF	Montbardon	152.67	333	ePKIKP	PKPbc	15 13 04.2	-2.0
	comp=Z,2.5nm,0.6s						
ORIF	Oris-en-Rattie	152.88	334	ePKIKP	PKPbc	15 13 04.5	-2.2
	comp=Z,10nm,0.7s						
TCF	Toulx Ste Croi	153.00	341	ePKIKP	PKPbc	15 13 04.5	-2.4
	comp=Z,8.9nm,0.9s						
PGF	Pioggiola	153.32	327	ePKIKP	PKPbc	15 13 05.1	-2.5
VIVF	Saint-Julien-l	153.41	336	ePKIKP	PKPbc	15 13 05.1	-2.7
FRF	La Foret Royal	153.66	332	ePKIKP	PKPbc	15 13 05.4	-3.0
	comp=Z,14nm,0.9s						

MEX 15 14:57:00.9±0.4**,1805N**×**10070W,h50**km±140km**,MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	Mezcala	1.04	96	i P	Pn	14 57 17.6	-1.5
MEIG				i S	Sn	14 57 30.9	-1.6
CAIG	El Cayaco	1.08	157	i P	Pn	14 57 18.1	-1.6
CAIG				i S	Sn	14 57 31.4	-2.1
PLIG	Platanillo	1.19	73	i P	Pn	14 57 19.9	-1.3
PLIG				i S	Sn	14 57 34.1	-2.1
ACX	Acapulco	1.39	147	i P	Pn	14 57 22.0	-1.9
ACX				i S	Sn	14 57 36.5	-4.6

IDC 15 15:04:00.9±7.4**,567S**×**15008E,h62**km±55km**,mb3.3**/4**, mb1 3.6**/5**,mb1mx3.4**/13**,mbtmp3.6**/5**,ML2.1**/1**,Error ellipse: s-maj=129.9km s-min=36.0km az=106.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.71	218	P	Pn	15 05 09.0	-0.3
	0.6nm,0.3s,baz=346,slow=19,SNR=2.4						
WRA	Warramunga Arr	20.87	226	P	P	15 08 38.3	+0.6
	1.8nm,0.9s,baz=51,slow=10,SNR=7.6						
ASAR	Alice Springs	23.72	219	P	P	15 09 07.4	+0.2
	0.7nm,0.6s,baz=56,slow=8.2,SNR=7.2						
FITZ	Fitzroy Crossi	26.88	241	P	P	15 09 36.2	+0.5
	2.0nm,0.7s,baz=80,slow=11,SNR=4.9						
SONM	Songino Array	65.65	329	P	P	15 14 38.7	+0.2
	0.5nm,0.9s,baz=134,slow=8.3,SNR=2.4						

KRSC 15 15:15:06,5339N×**15961E,h104**km**,ML3.7,Near east coast of Kamchatka Peninsula**

CASC 15 15:31:47.3±2.2**,1340N**×**9006W,h32**km±96km**,MD3.7, 4C-11D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.61	44	⇓eP	x	15 32 31.9	
SBLS				eS	x	15 32 41.9	
RTR	El Retiro	0.64	39	⇓eP	x	15 32 32.3	
RTR				eS	x	15 32 42.8	
SNJE	San Jose	0.64	44	⇓eP	x	15 32 32.3	
SNJE				eS	x	15 32 43.1	
RBDL	Robledal	0.80	27	⇓eP	x	15 32 34.0	
RBDL				eS	x	15 32 47.0	
BOQS	Boqueron	0.83	66	⇓eP	x	15 32 34.8	
BOQS				eS	x	15 32 47.2	
IXG	Ixpaco	0.86	334	⇓eP	Pn	15 32 02.8	-0.4
IXG				eS	Sn	15 32 14.7	+0.1
LFU	La Fuente	0.98	69	⇓eP	x	15 32 36.6	
LFU				eS	x	15 32 51.8	
LFRS	El Faro	1.00	77	eP	x	15 32 37.0	
LFRS				eS	x	15 32 50.2	
LBRS	Las Brisas	1.04	71	⇑eP	x	15 32 37.3	
LBRS				eS	x	15 32 51.3	
TER	Terranova	1.08	326	⇓eP	Pn	15 32 06.4	+0.2
LCBS	La Ceiba	1.08	76	eP	x	15 32 38.1	
LCBS				eS	x	15 32 51.6	
PCG	Pacaya	1.12	332	eP	Pn	15 32 07.4	+0.7
PCG				eS	Sn	15 32 22.5	+1.4
MTO2	Montecristo 2	1.20	34	⇓eP	x	15 32 39.4	
MTO2				eS	x	15 32 55.0	
FUG	Fuego 3	1.29	324	⇑iP	Pn	15 32 09.9	+0.9
TP2	Tecpan 2	1.66	326	⇑eP	Pn	15 32 15.0	+0.8
TP2				eS	Sn	15 32 37.0	+2.6
VSM	San Miguel	1.74	89	⇓eP	x	15 32 47.5	
VSM				eS	x	15 33 09.7	
BLLM	Bellamira	1.77	88	⇑eP	x	15 32 47.4	
BLLM				eS	x	15 33 08.8	
JAT	Jato	1.78	301	eP	Pn	15 32 16.6	+0.7
JAT				eS	Sn	15 32 38.0	+0.6
CNCH	Conchagua	2.17	93	⇓eP	x	15 32 52.7	
CNCH				eS	x	15 33 19.8	

*NEIC **15** 16:02:15.8,19.15N×6865W,h163km,MD3.7(RSPR), After RSPR.*

RSPR 15 16:02:15.8, 1915N×6865W, h163km±3km, MD3.7/8, MD3.7/8, 8C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	1.61	115	⇑eP	Pn	16 02 47.3	-0.1
AGPR				eS	Sn	16 03 12.5	+0.7
LSP	Las Mesas	1.77	123	⇑eP	Pn	16 02 49.4	+0.2
LSP				eS	Sn	16 03 15.1	+0.2
CRPR	Cabo Rojo, PR	1.85	128	⇑eP	Pn	16 02 50.5	+0.4
CRPR				eS	Sn	16 03 17.0	+0.5
LRS	Lares	1.91	116	⇑eP	Pn	16 02 50.6	-0.2
LRS				eS	Sn	16 03 18.0	+0.4
AOPR	Arecibo Observ	1.97	114	⇑eP	Pn	16 02 51.8	+0.4
AOPR				eS	Sn	16 03 19.1	+0.4
CELP	Cerrillos	2.23	118	⇑eP	Pn	16 02 54.6	+0.1
CELP				eS	Sn	16 03 25.1	+0.8
SJG	San Juan	2.58	113	⇑eP	Pn	16 02 58.5	-0.1
SJG				eS	Sn	16 03 32.5	+0.8
HUMP	Col San Antoni	2.84	110	⇑eP	Pn	16 03 02.1	+0.5
HUMP				eS	Sn	16 03 38.0	+0.9
MTP	Monte Pirata	3.11	109	eS	Sn	16 03 44.8	+1.4
STVI	Saint Thomas	3.58	102	eS	Sn	16 03 55.3	+1.4
TBVI	Tortola	3.90	100	eS	Sn	16 04 02.7	+1.6

ISCJB ***15*** *16:17:33.0±1.0, 2405N±003×101.16E±003, h8km±6km, mb4.6/69, MS3.9/24, Error ellipse: s-maj=5.1km s-min=4.4km az=96.9*
IDC ***15*** *16:17:33.5±0.6, 2404N×101.13E, h0km, mb4.4/21, mb1 4.5/21, mb1mx4.5/23, mbtmp4.4/21, MS3.9/14, Ms1 3.9/14, ms1mx3.6/39, Error ellipse: s-maj=18.8km s-min=13.5km az=49.0*
BJI ***15*** *16:17:33.9, 2391N×101.12E, h17km, mB4.8, mb4.5, ML5.0, Ms4.5, Msz4.3*
MOS ***15*** *16:17:36.8±1.0, 24.11N×101.20E, h33km, mb4.9/44, MS4.0/8, Error ellipse: s-maj=9.6km s-min=5.5km az=119.3*
PLV ***15*** *16:17:37.2±2.5, 2429N×101.74E, h0km±11km, MD4.5*
NEIC ***15*** *16:17:38.8±1.1, 2405N×101.16E, h36km±10km, mb4.7/41, MS4.2/3, Error ellipse: s-maj=6.7km s-min=5.5km az=57.0*
SZGRF ***15*** *16:17:45.3, 2535N×101.26E, h33km, mb4.5, Yunnan, China*

ISC 15 16:17:34.6±0.9, 2407N±003×10117E±003, h7km±6km, n207, σ1§01/219, mb4.6/69, MS3.9/24, 4C-2D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	1.78	53	PG	Pg	16 18 09.1	+0.4
KMI				SG	Sg	16 18 33.8	+2.0
KMI				Smax			
	comp=N,3µm,1.1s						
KMI				Smax			
	comp=E,2µm,0.9s						
CHRT	Chiangrai	4.37	197	PG	Pn	16 18 41.0	-0.5
CHRT				SG	Pg	16 18 55.0	-3.4
BVV	Ba Vi	4.88	126	ePN	Pn	16 18 48.7	+0.2
BVV				ePG	Pg	16 19 06.0	-2.1
BVV				eSG	Sg	16 20 06.4	-4.9
TDV	Tam Dao	4.88	121	ePN	Pn	16 18 48.4	-0.1
TDV				ePG	Pg	16 19 04.6	-3.6
TDV				eSG	Sg	16 20 03.9	-7.5
KSVV	Ky Son	5.01	129	ePN	Pn	16 18 51.9	+1.6
KSVV				ePG	Pg	16 19 08.9	-1.8
KSVV				eSG	Sg	16 20 11.4	-4.3
HBVN	Hoa-Binh	5.04	129	ePN	Pn	16 18 50.9	+0.2
HBVN				ePG	Pg	16 19 08.5	-2.7
HBVN				eSG	Sg	16 20 11.2	-5.3
HNV	Hanoi	5.23	124	ePN	Pn	16 18 52.8	-0.5
HNV				ePG	Pg	16 19 11.4	-3.4
HNV				eSG	Sg	16 20 16.1	-6.5
MTZV	Met	5.39	117	ePN	Pn	16 18 55.2	-0.4
MTZV				ePG	Pg	16 19 14.4	-3.6
MTZV				eSG	Sg	16 20 20.1	-7.8
DSV	Doi Son	5.64	127	ePN	Pn	16 18 59.0	0.0
DSV				eSG	Sg	16 20 29.5	-6.3
YTV	Yen Tu	5.89	118	ePN	Pn	16 19 02.2	-0.2
YTV				ePg	Pg	16 19 23.8	-3.7
YTV				eSG	Sg	16 20 36.3	-7.5
CM31	Chiang Mai Arr	5.96	201	ePn	Pn	16 19 03.0	-0.3
CM31				ePg	Pg	16 19 24.5	-4.2
PLV	Phu-Lien	6.01	122	ePn	Pn	16 19 04.0	0.0
PLV				ePG	Pg	16 19 26.4	-3.3
PLV				eSG	Sg	16 20 40.5	-7.0
QIZ	Qiongzhong	9.50	120	P	Pn	16 19 54.0	+2.0
QIZ				eS	Sn	16 21 38.1	-1.0
QIZ				LR	LR		
	comp=E,700nm,10.1s						
QIZ				LR	LR		
	comp=Z,881nm,12.4s						
QIZ	Qiongzhong	9.50	120	ePn	Pn	16 19 54.7	+2.7
XAN	Xi'an	12.03	33	P	Pn	16 20 26.3	-0.2
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s						
XAN				AMB	AMB		
	comp=Z,81nm,7.0s						
XAN				LR	LR		
	comp=N,1µm,9.2s						
XAN				LR	LR		
	comp=E,1µm,8.7s						
XAN				LR	LR		
	comp=Z,1µm,7.6s						
LZH	Lanzhou	12.20	10	eP	Pn	16 20 37.4	+8.5
LZH				AMB	AMB		
	comp=Z,40nm,1.1s						
LZH				AMB	AMB		
	comp=Z,213nm,4.6s						
LZH				LR	LR		
	comp=N,850nm,7.3s						
LZH				LR	LR		
	comp=Z,1µm,10.2s						
JIRN	Jiri	13.95	288	eP	Pn	16 20 53.5	+0.8
GUN	Gumba	14.27	289	eP	Pn	16 20 57.7	+0.6
PKI	Pulchoki	14.61	287	eP	Pn	16 21 01.4	-0.4
KKN	Kakani	14.76	288	eP	Pn	16 21 03.6	-0.3
	comp=Z,118nm,1.0s						
DMN	Daman	14.88	287	eP	Pn	16 21 04.8	-0.7
	comp=Z,108nm,1.0s						
GTA	Gaotai	15.34	356	eP	Pn	16 21 17.0	+5.4
GTA				AP	pP	16 21 21.6	+3.4
GTA				S	Sn	16 23 55.1	-6.7
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s						
GTA				AMB	AMB		
	comp=Z,155nm,4.6s						
GTA				LR	LR		
	comp=N,686nm,9.1s						
GTA				LR	LR		
	comp=E,791nm,11.8s						
GTA				LR	LR		
	comp=Z,843nm,10.6s						
GKN	Gorkha	15.36	288	eP	Pn	16 21 11.3	-0.6
	comp=Z,292nm,1.6s						
KOLN	Koldanda	16.23	287	eP	Pn	16 21 20.2	-2.9
	comp=Z,205nm,1.7s						
NJ2	Nanjing	17.51	59	eP	Pn	16 21 38.3	-1.0
NJ2				AP	pP	16 21 46.5	+4.2
NJ2				PP		16 21 53.1	
NJ2				S	Sn	16 24 47.0	-7.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,540nm,3.8s						
NJ2				LR	LR		
	comp=N,2µm,14.8s						
NJ2				LR	LR		
	comp=E,2µm,18.6s						
NJ2				LR	LR		
	comp=Z,2µm,17.6s						
BTO	Baotou	18.09	22	eP	Pn	16 21 44.5	-2.0
KULM	Kulim	18.68	182	eP	Pn	16 21 53.4	-0.3
HHC	Hu-ho-hao-te	18.87	25	eP	Pn	16 21 57.8	+1.8
HHC				AP	pP	16 22 08.1	+11
HHC				PP		16 22 14.6	
HHC				S	Sn	16 25 24.9	-2.4
HHC				XS	sS	16 25 39.8	+6.7
HHC				SS		16 25 51.1	
HHC				AMB	AMB		
	comp=Z,21nm,1.3s						
HHC				AMB	AMB		
	comp=Z,123nm,5.2s						
HHC				LR	LR		
	comp=N,637nm,13.1s						
HHC				LR	LR		
	comp=E,687nm,11.3s						
HHC				LR	LR		
	comp=Z,781nm,13.1s						
SSE	Sheshan	19.06	64	P	Pn	16 21 58.8	+0.5
SSE				AP	pP	16 22 07.0	+7.6
SSE				S	Sn	16 25 33.8	+1.8
SSE				AMB	AMB		
	comp=Z,26nm,0.7s						
SSE				AMB	AMB		
	comp=Z,434nm,5.3s						
SSE				LR	LR		
	comp=N,1µm,14.0s						
SSE				LR	LR		
	comp=E,486nm,14.0s						
SSE				LR	LR		
	comp=Z,496nm,9.2s						
BJT	Baijiatuau	20.32	35	eP	P	16 22 12.9	+1.6
BJT				pmax	pmax		
	comp=Z,34nm,1.1s						
BJT	Baijiatuau	20.32	35	eP	P	16 22 12.9	+1.6
	comp=Z,34nm,1.1s						
BJI	Beijing	20.34	35	P	P	16 22 11.6	+0.1
BJI				AMB	AMB		
	comp=Z,10.0nm,1.0s						
BJI				AMB	AMB		
	comp=Z,160nm,4.8s						
BJI				LR	LR		
	comp=N,790nm,15.5s,MS4.3						
BJI				LR	LR		
	comp=E,681nm,13.9s,MS4.3						
BJI				LR	LR		
	comp=Z,314nm,18.0s,MS3.7						
TSI	Tuntungan	20.60	187	eP	P	16 22 23.5	+9.1
PSI	Prapat	21.25	186	P	P	16 22 23.4	+2.0
	comp=Z,2.7nm,0.4s,mb4.0,baz=352,slow=18,SNR=3.7						
PSI				LR	LR	16 32 20.2	
	comp=Z,356nm,19.8s,MS3.8,baz=185,slow=42						
PSI	Prapat	21.25	186	P	P	16 22 23.4	+2.0
PSI				LR	LR	16 32 20.2	
WMQ	Urumqi	22.59	334	P	P	16 22 37.1	+1.3
WMQ				AP		16 22 48.5	
WMQ				PP		16 23 06.5	
WMQ				PCP	PcP	16 26 30.5	+1.5
WMQ				S	S	16 26 37.0	-7.0
WMQ				XS	sS	16 26 55.8	+8.8
WMQ				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,173nm,3.8s						
WMQ				LR	LR		
	comp=N,706nm,13.0s,MS4.4						
WMQ				LR	LR		
	comp=E,530nm,11.9s,MS4.4						
WMQ				LR	LR		
	comp=Z,720nm,13.5s,MS4.3						
KKM	Kota Kinabalu	23.03	139	eP	P	16 22 37.4	-2.9
KKM				e		16 22 45.4	
SONM	Songino Array	24.08	9	P	P	16 22 50.9	+0.2
	comp=Z,7.9nm,0.9s,mb4.2,baz=191,slow=8.8,SNR=22						
SONM				LR	LR	16 33 23.3	
	comp=Z,281nm,18.1s,MS3.8,baz=238,slow=39						
KSM	Kuching	24.14	157	eP	P	16 22 50.7	-0.6
ULN	Ulaanbaatar	24.21	10	eP	P	16 22 50.5	-1.3
ULN	Ulaanbaatar	24.21	10	eP	P	16 22 52.4	+0.6
	comp=Z,13nm,1.0s,mb4.3						
ZAK	Zakamensk	26.32	3	eP	P	16 23 12.4	+1.4
ZAK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.3						
MKAR	Makanchi Array	27.26	331	P	P	16 23 20.4	+0.9
	comp=Z,4.3nm,0.8s,mb4.0,baz=140,slow=9.6,SNR=37						
MKAR	Makanchi Array	27.26	331	iP	P	16 23 20.5	+1.0
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CN2	Changchun	27.99	39	eP	P	16 23 25.4	-0.7
IRK	Irkutsk	28.23	4	eP	P	16 23 29.0	+0.8
IRK				pmax	pmax		
	comp=Z,38nm,2.2s,mb4.6						
AAK	Ala-Archa	28.78	317	eP	P	16 23 34.3	+1.2
AAK				pmax	pmax		
	comp=Z,15nm,1.6s,mb4.5						
AAK	Ala-Archa	28.78	317	eP	P	16 23 34.3	+1.2
	comp=Z,15nm,1.6s,mb4.5						
HIA	Hailar	29.07	25	eP	P	16 23 35.4	-0.3
HIA				pmax	pmax		
	comp=Z,13nm,0.9s						
HIA	Hailar	29.07	25	eP	P	16 23 35.4	-0.3
	comp=Z,13nm,0.9s,mb4.7						
VLA	Vladivostok	31.62	46	P	P	16 23 56.0	-2.2
VLA				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.7						
VLA				MLR	MLR		
	comp=Z,300nm,14.0s,MS4.1						
KURK	Kurchatov	31.82	332	eP	P	16 24 01.2	+1.2
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
KURK	Kurchatov	31.82	332	eP	P	16 24 01.2	+1.2
	comp=Z,4.7nm,0.6s,mb4.5						
ZAL	Zalesovo	32.26	342	P	P	16 24 04.2	+0.3
	comp=Z,3.5nm,0.8s,mb4.3,baz=315,slow=10.0,SNR=27						
KRAR	Krasnoyarsk	32.48	351	eP	P	16 24 04.4	-1.4
KRAR				pmax	pmax		
	comp=Z,14nm,0.5s,mb5.0						
KRAR				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.6						
NVS	Novosibirsk	33.50	341	iP	P	16 24 14.6	-0.1
NVS				ePPP		16 25 29.8	
NVS				eS	S	16 29 31.0	-5.8
NVS				pmax	pmax		
	comp=Z,22nm,1.8s,mb4.8						
NVS				pmax	pmax		
	comp=N,27nm,1.7s						
NVS				pmax	pmax		
	comp=E,15nm,1.6s						
NVS				smax			
	comp=N,17nm,2.2s						
NVS				smax			
	comp=E,9.0nm,1.8s						
MAJO	Matsushiro	34.11	60	P	P	16 24 18.6	-1.4
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
MAJO	Matsushiro	34.11	60	P	P	16 24 18.6	-1.4
	comp=Z,5.1nm,0.9s,mb4.5						
MJAR	Matsushiro Arr	34.11	60	P	P	16 24 20.0	0.0
	comp=Z,2.5nm,0.9s,mb4.1,baz=267,slow=10,SNR=7.3						
MJAR				LR	LR	16 38 24.3	
	comp=Z,142nm,20.0s,MS3.7,baz=180,slow=37						
KLR	Kul'dur	34.70	36	eP	P	16 24 36.0	+11
HABR	Khabarovsk	36.13	39	eP	P	16 24 34.1	-3.3
BVAR	Borovoye Array	37.10	329	LR	LR	16 41 38.5	
	comp=Z,231nm,18.6s,MS4.0,baz=230,slow=39						
CHKZ	Chkalovo	37.41	330	eP	P	16 24 45.3	-3.0
CHKZ				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.7						
CHKZ	Chkalovo	37.41	330	eP	P	16 24 45.3	-3.1
	comp=Z,18nm,1.4s,mb4.7						
ZRNK	Zerenda	37.71	328	eP	P	16 24 45.1	-5.8
ZRNK				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.4						
ZRNK	Zerenda	37.71	328	eP	P	16 24 45.1	-5.7
	comp=Z,11nm,1.4s,mb4.4						
ASAJ	Asahikawa	39.20	49	P	P	16 25 04.0	+0.7
	comp=Z,16nm,0.9s,mb4.7,baz=253,slow=14,SNR=15						
YSS	Yuzh-Sakhalins	40.20	45	P	P	16 25 12.6	+0.9
YSS				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.6						
YSS	Yuzh-Sakhalins	40.20	45	P	P	16 25 12.6	+0.9
	comp=Z,14nm,1.1s,mb4.6						
AKTK	Aktyubinsk	42.42	320	P	P	16 25 30.9	+0.9
AKTK				PcP	PcP	16 27 23.3	+0.2
AKTK				LR	LR	16 46 08.1	
AKTO	Aktyubinsk	42.42	320	P	P	16 25 30.9	+0.9
	comp=Z,3.7nm,0.9s,mb4.0,baz=115,slow=7.8,SNR=11						
AKTO				PcP	PcP	16 27 23.3	+0.2
	comp=Z,2.6nm,0.8s,baz=125,slow=2.7,SNR=4.3						
AKTO				LR	LR	16 46 08.1	
	comp=Z,96nm,18.5s,MS3.7,baz=116,slow=40						
AKTO	Aktyubinsk	42.42	320	P	P	16 25 30.9	+1.0
AKTO						16 27 23.3	
YAK	Yakutsk	42.58	19	eP	P	16 25 29.4	-1.9
YAK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
YAK				MLR	MLR		
	comp=Z,100nm,13.0s,MS3.9						
YAK	Yakutsk	42.58	19	P	P	16 25 28.2	-3.1
ARU	Arti	44.69	328	⇑iP	P	16 25 48.1	-0.1
ARU				e		16 27 36.8	
ARU				ePPP		16 28 15.6	
ARU				eS	S	16 32 15.7	-9.3
ARU				eSS	SS	16 35 39.5	-5.6
ARU				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.0						
ARU				MLR	MLR		
	comp=N,40nm,17.0s,MS3.9						
ARU				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.1						
ARU				MLR	MLR		
	comp=E,100nm,16.0s,MS3.9						
ARU	Arti	44.69	328	eP	P	16 25 47.9	-0.3
	comp=E,29nm,1.2s,mb5.0						
FITZ	Fitzroy Crossi	48.24	148	LR	LR	16 49 12.7	
	comp=E,72nm,20.3s,MS3.6,baz=281,slow=39						
MBWA	Marble Bar	48.45	157	eP	P	16 26 18.7	+0.9
MBWA				e		16 26 29.4	
MA2	Magadan	49.41	31	eP	P	16 26 25.5	+0.3
MA2				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
MA2	Magadan	49.41	31	eP	P	16 26 25.4	+0.3
	comp=Z,5.0nm,0.8s,mb4.6						
TIXI	Tiksi	50.13	11	eP	P	16 26 28.2	-2.4
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
KIV	Kislovodsk	51.27	308	eP	P	16 26 39.5	+0.3
KIV				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
KIV	Kislovodsk	51.27	308	eP	P	16 26 39.5	+0.3
	comp=Z,21nm,0.9s,mb5.1						
WRAB	Tennant Creek	54.39	141	eP	P	16 27 05.0	+2.8
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
WRAB	Tennant Creek	54.39	141	eP	P	16 27 05.0	+2.7
	comp=Z,7.6nm,0.6s,mb4.8						
WRA	Warramunga Arr	54.39	141	P	P	16 27 02.6	+0.4
	comp=Z,7.3nm,0.6s,mb4.8,baz=330,slow=8.0,SNR=65						
WRA				LR	LR	16 48 53.0	
	comp=Z,91nm,19.9s,MS3.8,baz=200,slow=35						
WB2	Warramunga Arr	54.40	141	eP	P	16 27 03.4	+1.1
MALT	Malatya	54.57	301	P	P	16 27 04.7	+1.1
KLMR	Klimovskoe	55.52	328	eP	P	16 27 10.4	0.0
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.7						
MOS	Moscow	55.61	322	eP	P	16 27 10.1	-1.0
MOS				e		16 29 23.5	
PMG	Port Moresby	55.89	121	LR	LR	16 52 46.4	
	comp=Z,84nm,21.6s,MS3.8,baz=268,slow=38						
OBN	Obninsk	56.14	321	eP	P	16 27 13.3	-1.6
OBN				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
OBN	Obninsk	56.14	321	P	P	16 27 13.6	-1.3
	comp=Z,14nm,0.8s,mb5.0						
ASF	Jabal al Asfar	56.53	294	P	P	16 27 18.8	+1.1
	comp=Z,8.3nm,1.0s,mb4.7,baz=352,slow=3.1,SNR=9.0						
ASPA	Alice Springs	57.10	144	eP	P	16 27 20.8	-0.9
AS31	Alice Springs	57.10	144	eP	P	16 27 20.8	-0.9
ASAR	Alice Springs	57.10	144	P	P	16 27 21.9	+0.1
	comp=Z,3.3nm,0.8s,mb4.4,baz=322,slow=6.6,SNR=22						
ASAR				PcP	PcP	16 28 16.8	+0.3
	comp=Z,1.6nm,0.8s,baz=332,slow=3.3,SNR=6.0						
MMAI	Mount Meron Ar	57.64	295	P	P	16 27 25.1	-0.5
	comp=Z,6.4nm,1.0s,mb4.6,baz=106,slow=5.2,SNR=5.6						
BR131	Keskin Array S	58.16	303	eP	P	16 27 28.7	-0.5
	comp=Z,5.9nm,1.1s,mb4.5						
BRTR	Keskin Array B	58.16	303	P	P	16 27 28.8	-0.4
	comp=Z,2.2nm,1.0s,mb4.2,baz=111,slow=8.6,SNR=11						
BRTR				PcP	PcP	16 28 20.8	+0.1
	comp=Z,1.6nm,0.9s,baz=57,slow=4.6,SNR=4.9						
BRTR				PP	PP	16 29 40.8	+3.0
	comp=Z,1.0nm,0.8s,baz=70,slow=8.0,SNR=3.8						
EIL	Elat	58.63	291	eP	P	16 27 32.2	-0.2
	comp=Z,406nm,1.1s						
NWAO	Narrogin (SRO)	58.71	164	eP	P	16 27 35.1	+2.1
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NWAO	Narrogin (SRO)	58.71	164	eP	P	16 27 35.1	+2.0
	comp=Z,4.8nm,0.6s,mb4.7						
CSS	Prodhromos	59.03	297	P	P	16 27 32.6	-2.7
	comp=Z,26nm,1.3s,mb5.1						
AKASG	Malin Array Be	60.45	316	P	P	16 27 44.3	-0.7
	comp=Z,9.1nm,0.8s,mb4.8,baz=77,slow=6.6,SNR=35						
AKBB	Malin Array Si	60.45	316	eP	P	16 27 44.0	-1.0
FINES	FINESS Array B	62.05	328	P	P	16 27 55.5	-0.4
	comp=Z,2.6nm,0.8s,mb4.4,baz=131,slow=5.5,SNR=5.2						
FINES	FINESS Array B	62.05	328	iP	P	16 27 55.0	-0.9
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CTA	Charters Tower	62.09	131	eP	P	16 27 56.6	+0.5
	comp=Z,3.4nm,0.8s,mb4.5						
CTA	Charters Tower	62.09	131	eP	P	16 27 56.6	+0.5
CTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CTAO	Charters Tower	62.09	131	eP	P	16 27 56.2	+0.1
CTAO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
CTAO	Charters Tower	62.09	131	eP	P	16 27 56.1	0.0
	comp=Z,8.2nm,1.0s,mb4.8						
VRI	Vrincioaia	62.52	311	⇑iP	P	16 27 59.5	+0.5
VRI	Vrincioaia	62.52	311	⇑P	P	16 27 59.5	+0.5
PLOR	Plostina	62.57	311	⇑iP	P	16 28 00.4	+1.0
ARCES	ARCESS Array B	62.66	337	P	P	16 27 59.1	-0.8
	comp=Z,5.4nm,0.9s,mb4.7,baz=68,slow=5.3,SNR=6.7						
ARCES				LR	LR	16 58 03.7	
	comp=Z,141nm,19.2s,MS4.2,baz=83,slow=39						
MLR	Muntele Rosu	63.11	310	P	P	16 28 04.0	+1.0
	comp=Z,12nm,0.9s,mb5.0,baz=181,slow=0.2,SNR=16						
MLR	Muntele Rosu	63.11	310	⇓iP	P	16 28 03.1	+0.2
MLR	Muntele Rosu	63.11	310	⇓P	P	16 28 03.1	+0.2
SUW	Suwalki	63.92	320	P	P	16 28 07.0	-1.3
SUW				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.3						
SUW	Suwalki	63.92	320	P	P	16 28 07.0	-1.3
	comp=Z,33nm,1.0s,mb5.3						
KWP	Kalwaria	64.72	315	eP	P	16 28 13.8	+0.3
KWP				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.1						
KWP	Kalwaria	64.72	315	eP	P	16 28 13.8	+0.2
	comp=Z,26nm,1.2s,mb5.1						
IDI	Anoyia	65.75	299	LR	LR	17 00 38.2	
	comp=Z,36nm,18.0s,MS3.6,baz=278,slow=39						
KMBO	Kilima Mbogo	66.80	258	P	P	16 28 26.5	-0.5
	comp=Z,3.8nm,0.8s,mb4.5,baz=50,slow=12,SNR=9.2						
KMBO	Kilima Mbogo	66.80	258	iP	P	16 28 27.0	0.0
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MORC	Moravsky Berou	68.00	316	eP	P	16 28 34.7	+0.1
MORC				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
MORC	Moravsky Berou	68.00	316	eP	P	16 28 34.7	+0.2
	comp=Z,4.2nm,1.0s,mb4.4						
HFS	Hagfors	68.21	327	LR	LR	16 59 19.1	
	comp=Z,81nm,18.8s,MS4.0,baz=71,slow=37						
NB2	NORSAR Subarra	69.23	329	P	P	16 28 40.9	-1.3
	comp=Z,5.4nm,0.8s,mb4.5,baz=78,slow=6.2						
NOA	NORSAR Array B	69.23	329	P	P	16 28 41.1	-1.1
	comp=Z,4.0nm,0.8s,mb4.4,baz=78,slow=6.1,SNR=10.0						
NOA				LR	LR	17 02 17.2	
	comp=Z,55nm,18.1s,MS3.8,baz=80,slow=39						
GERES	GERESS Array B	70.66	316	P	P	16 28 51.2	+0.2
	comp=Z,1.0nm,0.8s,mb3.8,baz=66,slow=4.5,SNR=7.4						
GRA1	Grafenberg Arr	72.00	317	eP	P	16 29 00.0	+0.8
	comp=Z,5.0nm,1.2s,mb4.3						
GRF	Grafenberg Arr	72.00	317	eP	P	16 29 00.0	+0.8
	comp=Z,5.0nm,1.2s,mb4.3						
GRF	Grafenberg Arr	72.00	317	eP	P	16 29 00.0	+0.8
GRF				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
GRF	Grafenberg Arr	72.00	317	eP	P	16 29 00.0	+0.8
GRF				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
STU	Stuttgart	73.54	316	P	P	16 29 07.3	-1.0
JMIC	Jan Mayen	73.61	341	LR	LR	17 03 58.8	
	comp=Z,72nm,19.9s,MS4.0,baz=246,slow=38						
IMA2	Indian Mountai	74.17	24	eP	P	16 29 11.1	-0.8
CDF	Champ du Feu	74.86	316	eP	P	16 29 16.5	+0.5
	comp=Z,6.0nm,0.8s,mb4.3						
CDF	Champ du Feu	74.86	316	eP	P	16 29 16.5	+0.5
CDF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CDF	Champ du Feu	74.86	316	eP	P	16 29 16.5	+0.5
	comp=Z,3.0nm,0.8s,mb4.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HINF	**Hinteralfeld**	**75.33**	**316**	*e*P	**P**	**16 29 19.1**	**+0.4**
HAU	**Haudompre**	**75.58**	**316**	*e*P	**P**	**16 29 20.5**	**+0.3**
HAU				*e*R			
	comp=Z,114nm,21.0s						
HAU	**Haudompre**	**75.58**	**316**	*e*P	**P**	**16 29 20.5**	**+0.3**
HAU				LR	LR		
	comp=Z,110nm,21.0s,MS4.1						
PGF	**Pioggiola**	**75.66**	**310**	*e*P	**P**	**16 29 21.0**	**+0.4**
	comp=Z,15nm,0.9s,mb4.6						
PGF	**Pioggiola**	**75.66**	**310**	*e*P	**P**	**16 29 21.0**	**+0.4**
PGF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
PGF	**Pioggiola**	**75.66**	**310**	*e*P	**P**	**16 29 21.0**	**+0.4**
	comp=Z,7.4nm,0.9s,mb4.6						
LPG	**La Plagne**	**76.18**	**314**	*e*P	**P**	**16 29 24.4**	**+0.8**
	comp=Z,19nm,0.9s,mb4.7						
LPG	**La Plagne**	**76.18**	**314**	*e*P	**P**	**16 29 24.4**	**+0.8**
LPG				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
LPG	**La Plagne**	**76.18**	**314**	*e*P	**P**	**16 29 24.4**	**+0.8**
	comp=Z,9.4nm,0.9s,mb4.7						
BAIF	**Baives**	**76.19**	**319**	*e*P	**P**	**16 29 24.2**	**+0.6**
	comp=Z,18nm,1.2s,mb4.6						
BAIF	**Baives**	**76.19**	**319**	*e*P	**P**	**16 29 24.2**	**+0.6**
BAIF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
BAIF	**Baives**	**76.19**	**319**	*e*P	**P**	**16 29 24.2**	**+0.6**
	comp=Z,9.1nm,1.2s,mb4.6						
LPL	**La Plagne**	**76.19**	**314**	*e*P	**P**	**16 29 24.2**	**+0.6**
	comp=Z,11nm,0.8s,mb4.6						
LPL	**La Plagne**	**76.19**	**314**	*e*P	**P**	**16 29 24.2**	**+0.6**
LPL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LPL	**La Plagne**	**76.19**	**314**	*e*P	**P**	**16 29 24.2**	**+0.6**
	comp=Z,5.5nm,0.8s,mb4.5						
CABF	**La Chapelle**	**76.23**	**315**	*e*P	**P**	**16 29 24.3**	**+0.4**
	comp=Z,20nm,1.1s,mb4.7						
CABF	**La Chapelle**	**76.23**	**315**	*e*P	**P**	**16 29 24.3**	**+0.4**
CABF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
CABF	**La Chapelle**	**76.23**	**315**	*e*P	**P**	**16 29 24.3**	**+0.4**
	comp=Z,9.8nm,1.1s,mb4.7						
FRF	**La Foret Royal**	**76.93**	**312**	*e*P	**P**	**16 29 27.8**	**0.0**
	comp=Z,40nm,1.2s,mb4.9						
FRF	**La Foret Royal**	**76.93**	**312**	*e*P	**P**	**16 29 27.8**	**0.0**
FRF				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
FRF	**La Foret Royal**	**76.93**	**312**	*e*P	**P**	**16 29 27.8**	**0.0**
	comp=Z,20nm,1.2s,mb4.9						
ORIF	**Oris-en-Rattie**	**76.96**	**313**	*e*P	**P**	**16 29 28.5**	**+0.5**
	comp=Z,2.6nm,0.3s,mb4.3						
ORIF				*e*R			
	comp=Z,153nm,23.0s						
LMR	**La Mourre**	**77.11**	**312**	*e*P	**P**	**16 29 28.9**	**+0.1**
LOR	**Lormes**	**77.42**	**316**	*e*P	**P**	**16 29 30.8**	**+0.2**
	comp=Z,6.9nm,0.7s,mb4.4						
LOR				*e*R			
	comp=Z,77nm,21.5s						
LOR	**Lormes**	**77.42**	**316**	*e*P	**P**	**16 29 30.8**	**+0.2**
LOR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
LOR				MLR	MLR		
	comp=Z,80nm,21.5s,MS4.0						
LOR	**Lormes**	**77.42**	**316**	*e*P	**P**	**16 29 30.8**	**+0.2**
	comp=Z,3.5nm,0.7s,mb4.4						
LOR				LR	LR		
	comp=Z,80nm,21.5s,MS4.0						
SMRF	**Simiane la Rot**	**77.51**	**313**	*e*P	**P**	**16 29 31.4**	**+0.4**
SMF	**Signal de Mont**	**77.66**	**316**	*e*P	**P**	**16 29 31.8**	**-0.1**
SSF	**Saint Saulge**	**77.72**	**316**	*e*P	**P**	**16 29 32.6**	**+0.4**
	comp=Z,19nm,1.2s,mb4.6						
SSF	**Saint Saulge**	**77.72**	**316**	*e*P	**P**	**16 29 32.6**	**+0.4**
SSF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
SSF	**Saint Saulge**	**77.72**	**316**	*e*P	**P**	**16 29 32.6**	**+0.4**
	comp=Z,9.7nm,1.2s,mb4.6						
VIVF	**Saint-Julien-l**	**77.79**	**314**	*e*P	**P**	**16 29 33.4**	**+0.8**
AVF	**Avril sur Loir**	**77.92**	**316**	*e*P	**P**	**16 29 33.2**	**-0.1**
	comp=Z,21nm,1.1s,mb4.7						
AVF	**Avril sur Loir**	**77.92**	**316**	*e*P	**P**	**16 29 33.2**	**-0.1**
AVF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
AVF	**Avril sur Loir**	**77.92**	**316**	*e*P	**P**	**16 29 33.2**	**-0.1**
	comp=Z,11nm,1.1s,mb4.7						
PMR	**Palmer**	**77.95**	**27**	P	**P**	**16 29 33.1**	**-0.4**
LASF	**Ste Croix**	**78.62**	**313**	*e*P	**P**	**16 29 37.5**	**+0.3**
	comp=Z,27nm,1.3s,mb4.7						
TCF	**Toulx Ste Croi**	**78.84**	**316**	*e*P	**P**	**16 29 38.9**	**+0.5**
LDF	**La Druitiere**	**79.37**	**319**	*e*P	**P**	**16 29 41.5**	**+0.2**
CAF	**Calviac**	**79.47**	**314**	*e*P	**P**	**16 29 42.2**	**+0.3**
FLN	**La Foliniere**	**79.52**	**319**	*e*P	**P**	**16 29 42.4**	**+0.3**
	comp=Z,77nm,1.5s,mb5.1						
FLN	**La Foliniere**	**79.52**	**319**	*e*P	**P**	**16 29 42.4**	**+0.3**
FLN				pmax	pmax		
	comp=Z,38nm,1.5s,mb5.1						
FLN	**La Foliniere**	**79.52**	**319**	*e*P	**P**	**16 29 42.4**	**+0.3**
	comp=Z,38nm,1.5s,mb5.1						
INK	**Inuvik**	**79.63**	**18**	*e*P	**P**	**16 29 41.9**	**-0.8**
INK				pmax	pmax		
	comp=Z,14nm,1.5s						
INK	**Inuvik**	**79.63**	**18**	*e*P	**P**	**16 29 41.9**	**-0.9**
	comp=Z,14nm,1.5s,mb4.7						
RJF	**Les Rejaudoux**	**79.68**	**315**	*e*P	**P**	**16 29 43.3**	**+0.3**
RJF				*e*R			
	comp=Z,176nm,18.5s						
RJF	**Les Rejaudoux**	**79.68**	**315**	*e*P	**P**	**16 29 43.3**	**+0.3**
RJF				LR	LR		
	comp=Z,180nm,18.5s,MS4.4						
SUMG	**Summit**	**79.81**	**349**	*e*P	**P**	**16 29 42.4**	**-1.4**
	comp=Z,11nm,1.0s,mb4.7						
MTLF	**Montolieu**	**80.00**	**313**	*e*P	**P**	**16 29 45.1**	**+0.3**
	comp=Z,28nm,1.4s,mb4.7						
MTLF	**Montolieu**	**80.00**	**313**	*e*P	**P**	**16 29 45.1**	**+0.3**
MTLF				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.7						
MTLF	**Montolieu**	**80.00**	**313**	*e*P	**P**	**16 29 45.1**	**+0.3**
	comp=Z,14nm,1.4s,mb4.7						
MFF	**Saint Martin d**	**80.21**	**317**	*e*P	**P**	**16 29 46.1**	**+0.2**
DAWY	**Dawson**	**80.41**	**23**	*e*P	**P**	**16 29 46.6**	**-0.3**
QUIF	**Quistinic**	**81.50**	**319**	*e*P	**P**	**16 29 52.5**	**-0.3**
	comp=Z,82nm,1.4s,mb5.2						
QUIF	**Quistinic**	**81.50**	**319**	*e*P	**P**	**16 29 52.5**	**-0.3**
QUIF				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.2						
QUIF	**Quistinic**	**81.50**	**319**	*e*P	**P**	**16 29 52.5**	**-0.3**
	comp=Z,41nm,1.4s,mb5.2						
ETSF	**Etsaut**	**82.04**	**313**	*e*P	**P**	**16 29 55.8**	**+0.2**
	comp=Z,16nm,1.4s,mb4.5						
ETSF	**Etsaut**	**82.04**	**313**	*e*P	**P**	**16 29 55.8**	**+0.2**
ETSF				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.5						
ETSF	**Etsaut**	**82.04**	**313**	*e*P	**P**	**16 29 55.8**	**+0.2**
	comp=Z,8.1nm,1.4s,mb4.5						
ESDC	**Sonseca Array**	**85.77**	**312**	P	**P**	**16 30 15.7**	**+1.0**
	comp=Z,2.3nm,0.9s,mb4.4,baz=49,slow=4.2,SNR=9.5						
ESLA	**Sonseca Array**	**85.77**	**312**	P	**P**	**16 30 14.7**	**0.0**
	comp=Z,2.3nm,1.2s,mb4.3						
YKA	**Yellowknife Ar**	**89.15**	**16**	P	**P**	**16 30 30.1**	**-0.8**
	comp=Z,0.5nm,0.7s,mb4.0,baz=338,slow=5.3,SNR=3.6						
TOA0	**Torodi Ar. Sit**	**93.14**	**286**	P	**P**	**16 30 48.4**	**-1.2**
MAW	**Mawson**	**95.72**	**194**	LR	LR	17 12 55.0	
	comp=Z,76nm,19.2s,MS4.2,baz=82,slow=35						
SDV	**Santo Domingo**	**146.28**	**345**	*e*PKPdf	PKPdf	16 37 13.7	-1.2
SDV				*e*PKPbc	PKPbc	16 37 15.7	-0.4

*ISCJB **15** 16:53:54.0±0.4, 3381N±007×3820W±006, h10km, mb4.3/44, MS3.7/21, Error ellipse: s-maj=10.8km s-min=7.3km az=164.6*
*IDC **15** 16:53:54.4±0.6, 3377N×38.12W, h0km, mb4.1/21, mb1 4.3/21, mb1mx4.2/28, mbtmp4.1/21, MS3.7/21, Ms1 3.7/21, ms1mx3.6/28, Error ellipse: s-maj=19.1km s-min=12.5km az=163.0*
*CSEM **15** 16:53:55.7, 3382N×38.18W, h10km, mb4.6/23, After NEIC*
*NEIC **15** 16:53:55.7±0.4, 3382N×38.18W, h10km, mb4.6/26, Error ellipse: s-maj=10.7km s-min=7.4km az=174.0*
*HRVD **15** 16:53:55.7±0.7, 3388N×38.18W, h19km±1km, MW4.7/38, Centroid moment Tensor Solution. LP body waves: s10,c12; Mantle waves: s38,c46; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.49±.16; $M_{\theta\theta}$0.44±.12; $M_{\phi\phi}$1.06±.10; $M_{r\theta}$0.12±.36; $M_{\theta\phi}$0.45±.08; $M_{\phi r}$-0.29±.22; Best double couple: $M_0$1.42500×10^{16} NP1:ϕ_s215.00000°, δ42.00000°, λ-78.00000°. NP2: ϕ_s20.00000°, δ50.00000°, λ-100.00000°. Principal axes: T 1.3120, Plg4.0000°, Azm117.0000°; N 0.2320, Plg8.0000°, Azm26.0000°; P -1.5370, Plg81.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **15** 16:54:04.6, 3379N×3742W, h33km, mb4.0, Northern Mid-Atlantic Ridge*
ISC 15 16:53:56.0±0.4**, 3385N**±008×**3817W**±006**, h10**km**, n95, σ0ˢ98**/85**, mb4.3**/44**, MS3.7**/21**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**27.90**	**68**	P	**P**	**16 59 44.6**	**-1.5**
	0.6nm,0.6s,mb3.4,baz=265,slow=12,SNR=5.4						
ESDC				LR	LR	17 08 31.0	
	comp=Z,94nm,18.9s,MS3.4,baz=270,slow=31						
ESLA	**Sonseca Array**	**27.90**	**68**	P	**P**	**16 59 46.5**	**+0.5**
	1.5nm,1.1s,mb3.5						
ESLA	**Sonseca Array**	**27.90**	**68**	P	**P**	**16 59 46.5**	**+0.4**
	1.5nm,1.1s,mb3.5						
MDT	**Midelt**	**27.99**	**83**	P	**P**	**16 59 47.0**	**+0.2**
	1.0nm,0.8s,mb3.5,baz=345,slow=7.9,SNR=2.6						
MDT				LR	LR	17 08 35.9	
	comp=Z,266nm,19.4s,MS3.8,baz=330,slow=32						
SCHQ	**Schefferville**	**29.00**	**325**	LR	LR	17 10 50.5	
	comp=Z,131nm,18.9s,MS3.6,baz=152,slow=35						
SCHQ	**Schefferville**	**29.00**	**325**	*e*P	**P**	**16 59 53.6**	**-2.2**
	11nm,1.1s,mb4.5						
SCHQ	**Schefferville**	**29.00**	**325**	*e*P	**P**	**16 59 53.6**	**-2.2**
	11nm,1.1s,mb4.5						
SJG	**San Juan**	**29.51**	**245**	LR	LR	17 08 57.2	
	comp=Z,143nm,20.8s,MS3.6,baz=87,slow=31						
EKA	**Eskdalemuir Ar**	**32.38**	**38**	P	**P**	**17 00 26.9**	**+1.2**
	1.6nm,0.8s,mb3.9,baz=229,slow=7.4,SNR=5.1						
SADO	**Sadowa**	**33.21**	**301**	P	**P**	**17 00 33.2**	**+0.3**
	6.4nm,0.8s,mb4.6,baz=63,slow=8.8,SNR=4.2						
SADO	**Sadowa**	**33.21**	**301**	P	**P**	**17 00 33.2**	**+0.3**
DAVOX	**Davos**	**38.27**	**56**	P	**P**	**17 01 14.7**	**-1.7**
	2.4nm,0.9s,mb3.9,baz=342,slow=19,SNR=2.9						
DAVOX				LR	LR	17 14 11.9	
	comp=Z,95nm,18.9s,MS3.6,baz=264,slow=32						
SUMG	**Summit**	**38.80**	**360**	P	**P**	**17 01 20.8**	**-0.1**
	5.5nm,0.8s,mb4.3						
SUMG	**Summit**	**38.80**	**360**	P	**P**	**17 01 20.8**	**0.0**
	5.5nm,0.8s,mb4.3						
SDV	**Santo Domingo**	**38.84**	**238**	P	**P**	**17 01 21.6**	**+0.5**
	6.9nm,0.2s,mb5.0,baz=59,slow=4.0,SNR=6.9						
SDV	**Santo Domingo**	**38.84**	**238**	*e*P	**P**	**17 01 21.5**	**+0.4**
	4.6nm,0.3s,mb4.7						
GRA1	**Grafenberg Arr**	**39.34**	**51**	*e*P	**P**	**17 01 26.5**	**+1.1**
	5.0nm,1.1s,mb4.2						
GRF	**Grafenberg Arr**	**39.34**	**51**	*e*P	**P**	**17 01 26.5**	**+1.1**
	comp=Z,5.0nm,1.1s,mb4.2						
CLL	**Collm**	**40.61**	**49**	*e*P	**P**	**17 01 36.0**	**+0.1**
GERES	**GERESS Array B**	**40.92**	**53**	P	**P**	**17 01 39.8**	**+1.3**
	comp=Z,0.9nm,0.8s,mb3.5,baz=260,slow=6.6,SNR=6.2						
GERES				LR	LR	17 15 39.3	
	comp=Z,49nm,20.5s,MS3.4,baz=270,slow=32						
AQU	**L'Aquila**	**40.92**	**62**	P	**P**	**17 01 33.1**	**-5.4**
AQU	**L'Aquila**	**40.92**	**62**	P	**P**	**17 01 33.1**	**-5.4**
DBIC	**Dimbokro**	**40.99**	**124**	LR	LR	17 16 30.9	
	comp=Z,135nm,19.2s,MS3.8,baz=6.5,slow=33						
NOA	**NORSAR Array B**	**41.58**	**34**	P	**P**	**17 01 44.3**	**+0.4**
	comp=Z,1.6nm,0.9s,mb3.7,baz=254,slow=8.5,SNR=3.3						
NOA				LR	LR	17 15 34.5	
	comp=Z,32nm,21.7s,MS3.2,baz=270,slow=31						
TOA0	**Torodi Ar. Sit**	**41.62**	**110**	*e*P	**P**	**17 01 42.6**	**-1.6**
TOA0	**Torodi Ar. Sit**	**41.62**	**110**	*e*P	**P**	**17 01 42.6**	**-1.6**
TORD	**Torodi Ar. Bea**	**41.62**	**110**	P	**P**	**17 01 42.9**	**-1.3**
	comp=Z,2.8nm,1.0s,mb3.9,baz=313,slow=6.4,SNR=8.2						
TORD				LR	LR	17 17 11.4	
	comp=Z,221nm,20.0s,MS4.0,baz=290,slow=34						
TORD	**Torodi Ar. Bea**	**41.62**	**110**	P	**P**	**17 01 42.9**	**-1.3**
TORD				LR	LR	17 17 11.4	
VAE	**Valguarnera**	**42.42**	**69**	LR	LR	17 15 21.4	
	comp=Z,126nm,20.0s,MS3.8,baz=113,slow=30						
HFS	**Hagfors**	**42.51**	**36**	LR	LR	17 17 16.3	
	comp=Z,67nm,18.9s,MS3.5,baz=196,slow=33						
VRAC	**Vranov**	**42.82**	**52**	LR	LR	17 16 02.3	
	comp=Z,56nm,21.3s,MS3.4,baz=151,slow=31						
ROSC	**El Rosal**	**44.26**	**237**	LR	LR	17 18 37.6	
	comp=Z,128nm,19.8s,MS3.8,baz=16,slow=34						
ULM	**Lac du Bonnet**	**44.73**	**310**	P	**P**	**17 02 08.5**	**-0.8**
	comp=Z,3.9nm,0.7s,mb4.3,baz=68,slow=5.8,SNR=7.0						
ULM				LR	LR	17 19 49.5	
	comp=Z,162nm,19.8s,MS4.0,baz=87,slow=35						
ULM	**Lac du Bonnet**	**44.73**	**310**	*e*P	**P**	**17 02 06.2**	**-3.1**
	comp=Z,5.0nm,0.7s,mb4.5						
ULM	**Lac du Bonnet**	**44.73**	**310**	*e*P	**P**	**17 02 06.2**	**-3.1**
	comp=Z,5.0nm,0.7s,mb4.5						
MIAR	**Mount Ida**	**45.33**	**287**	P	**P**	**17 02 14.8**	**+0.7**
	comp=Z,2.7nm,0.7s,mb4.2						
MIAR	**Mount Ida**	**45.33**	**287**	P	**P**	**17 02 14.8**	**+0.6**
	comp=Z,2.7nm,0.7s,mb4.2						
TEIG	**Tepich**	**46.23**	**266**	*e*P	**P**	**17 02 17.9**	**-3.4**
	comp=Z,6.6nm,1.0s,mb4.5						
TEIG	**Tepich**	**46.23**	**266**	*e*P	**P**	**17 02 17.9**	**-3.3**
	comp=Z,6.6nm,1.0s,mb4.5						
SAML	**Samuel**	**48.74**	**214**	*e*P	**P**	**17 02 40.8**	**0.0**
	comp=Z,7.0nm,1.3s,mb4.5						
SAML	**Samuel**	**48.74**	**214**	*e*P	**P**	**17 02 40.8**	**0.0**
	comp=Z,7.0nm,1.3s,mb4.5						
WMOK	**Wichita Mounta**	**49.40**	**289**	*e*P	**P**	**17 02 45.1**	**-0.7**
	comp=Z,4.2nm,1.0s,mb4.4						
WMOK	**Wichita Mounta**	**49.40**	**289**	*e*P	**P**	**17 02 45.1**	**-0.7**
	comp=Z,4.2nm,1.0s,mb4.4						
ARCES	**ARCESS Array B**	**49.55**	**24**	LR	LR	17 20 54.0	
	comp=Z,38nm,18.4s,MS3.4,baz=208,slow=33						
KBS	**Kingsbay**	**49.68**	**11**	P	**P**	**17 02 44.5**	**-3.5**
	comp=Z,26nm,1.1s,mb5.2						
KBS	**Kingsbay**	**49.68**	**11**	P	**P**	**17 02 44.5**	**-3.4**
	comp=Z,26nm,1.1s,mb5.2						
BDFB	**Brasilia**	**50.10**	**192**	P	**P**	**17 02 50.2**	**-0.9**
	comp=Z,4.9nm,0.8s,mb4.6,baz=35,slow=7.5,SNR=5.9						
BDFB	**Brasilia**	**50.10**	**192**	*e*P	**P**	**17 02 49.6**	**-1.6**
	comp=Z,8.1nm,0.7s,mb4.9						
BDFB	**Brasilia**	**50.10**	**192**	*e*P	**P**	**17 02 49.6**	**-1.5**
	comp=Z,8.1nm,0.7s,mb4.9						
AKASG	**Malin Array Be**	**50.85**	**49**	P	**P**	**17 02 56.7**	**-0.2**
	comp=Z,3.1nm,0.8s,mb4.3,baz=276,slow=6.8,SNR=15						
AKASG				LR	LR	17 22 53.7	
	comp=Z,63nm,18.4s,MS3.7,baz=300,slow=34						
AKASG	**Malin Array Be**	**50.85**	**49**	P	**P**	**17 02 56.7**	**-0.2**
AKASG				LR	LR	17 22 53.7	
AKBB	**Malin Array Si**	**50.85**	**49**	*e*P	**P**	**17 02 56.4**	**-0.4**
AKBB	**Malin Array Si**	**50.85**	**49**	*e*P	**P**	**17 02 56.4**	**-0.5**
YKA	**Yellowknife Ar**	**54.44**	**326**	P	**P**	**17 03 23.7**	**+0.3**
	comp=Z,1.3nm,0.8s,mb3.9,baz=87,slow=7.0,SNR=6.8						
YKA				PcP	PcP	17 04 27.1	+0.1
	comp=Z,0.8nm,0.7s,baz=89,slow=4.7,SNR=4.8						
YKA				LR	LR	17 26 21.5	
	comp=Z,92nm,18.4s,MS3.9,baz=95,slow=36						
YKA	**Yellowknife Ar**	**54.44**	**326**	P	**P**	**17 03 23.7**	**+0.3**
YKA				PcP	PcP	17 04 27.1	+0.1
YKA				LR	LR	17 26 21.5	
YKA	**Yellowknife Ar**	**54.44**	**326**	PcP	PcP	17 04 27.1	+0.1
OBN	**Obninsk**	**54.58**	**43**	*e*P	**P**	**17 03 24.6**	**+0.2**
OBN				*e*		17 03 32.8	
OBN	**Obninsk**	**54.58**	**43**	*e*P	**P**	**17 03 24.5**	**+0.1**
PDAR	**Pinedale Array**	**55.21**	**302**	P	**P**	**17 03 29.1**	**+0.1**
	comp=Z,3.0nm,0.9s,mb4.3,baz=74,slow=8.9,SNR=19						
PDAR				LR	LR	17 25 07.6	
	comp=Z,96nm,19.1s,MS3.9,baz=110,slow=34						
IMW	**Indian Meadow**	**55.86**	**303**	*e*P	**P**	**17 03 33.8**	**+0.1**
	comp=Z,8.6nm,1.0s,mb4.7						
IMW	**Indian Meadow**	**55.86**	**303**	*e*P	**P**	**17 03 33.8**	**+0.1**
	comp=Z,8.6nm,1.0s,mb4.7						
BRTR	**Keskin Array B**	**56.41**	**62**	P	**P**	**17 03 38.0**	**+0.5**
	comp=Z,2.0nm,0.9s,mb4.1,baz=297,slow=5.4,SNR=7.2						
BRTR				LR	LR	17 23 35.5	
	comp=Z,35nm,20.6s,MS3.4,baz=108,slow=32						
BRTR	**Keskin Array B**	**56.41**	**62**	P	**P**	**17 03 38.0**	**+0.4**
BRTR				LR	LR	17 23 35.5	
WALA	**Waterton Lakes**	**56.47**	**310**	*e*P	**P**	**17 03 34.5**	**-3.5**
	comp=Z,8.0nm,1.2s,mb4.6						
WALA	**Waterton Lakes**	**56.47**	**310**	*e*P	**P**	**17 03 34.5**	**-3.5**
	comp=Z,8.0nm,1.2s,mb4.6						
DLMT	**Dillon**	**56.59**	**306**	*e*P	**P**	**17 03 39.3**	**+0.5**
	comp=Z,15nm,1.3s,mb4.9						
DLMT	**Dillon**	**56.59**	**306**	*e*P	**P**	**17 03 39.3**	**+0.4**
	comp=Z,15nm,1.3s,mb4.9						
HWUT	**Hardware Ranch**	**56.97**	**301**	*e*P	**P**	**17 03 43.1**	**+1.5**
	comp=Z,5.6nm,1.1s,mb4.5						
HWUT	**Hardware Ranch**	**56.97**	**301**	*e*P	**P**	**17 03 43.1**	**+1.5**
	comp=Z,5.6nm,1.1s,mb4.5						
LPAZ	**La Paz**	**57.46**	**215**	P	**P**	**17 03 46.7**	**+1.7**
	comp=Z,3.6nm,1.1s,mb4.3,baz=28,slow=8.3,SNR=6.9						
LPAZ				LR	LR	17 26 50.6	
	comp=Z,80nm,18.1s,MS3.9,baz=255,slow=34						
LPAZ	**La Paz**	**57.46**	**215**	P	**P**	**17 03 46.7**	**+1.7**
LPAZ				LR	LR	17 26 50.6	
NEW	**Newport**	**58.74**	**310**	*e*P	**P**	**17 03 53.5**	**-0.5**
	comp=Z,12nm,0.9s,mb4.9						
NEW	**Newport**	**58.74**	**310**	*e*P	**P**	**17 03 53.5**	**-0.5**
	comp=Z,12nm,0.9s,mb4.9						
MALT	**Malatya**	**60.39**	**62**	*e*P	**P**	**17 04 04.7**	**-0.7**
	comp=Z,4.7nm,0.8s,mb4.6						
MALT	**Malatya**	**60.39**	**62**	*e*P	**P**	**17 04 04.7**	**-0.7**
	comp=Z,4.7nm,0.8s,mb4.6						
INK	**Inuvik**	**60.94**	**335**	*e*P	**P**	**17 04 08.0**	**-1.2**
	comp=Z,8.7nm,1.3s,mb4.7						
INK	**Inuvik**	**60.94**	**335**	*e*P	**P**	**17 04 07.9**	**-1.2**
	comp=Z,8.7nm,1.3s,mb4.7						
NVAR	**Mina Array Bea**	**62.93**	**300**	P	**P**	**17 04 23.2**	**+0.8**
	comp=Z,1.5nm,0.8s,mb4.2,baz=78,slow=6.4,SNR=12						
NVAR	**Mina Array Bea**	**62.93**	**300**	P	**P**	**17 04 23.2**	**+0.7**
ARU	**Arti**	**66.00**	**37**	*e*P	**P**	**17 04 42.0**	**-0.6**
	comp=Z,17nm,1.4s,mb4.9						
AKTK	**Aktyubinsk**	**68.36**	**43**	P	**P**	**17 04 58.1**	**+0.6**
AKTK	**Aktyubinsk**	**68.36**	**43**	P	**P**	**17 04 58.1**	**+0.6**
AKTO	**Aktyubinsk**	**68.36**	**43**	P	**P**	**17 04 58.1**	**+0.6**
	comp=Z,5.4nm,0.7s,mb4.7,baz=298,slow=5.6,SNR=23						
ZRNK	**Zerenda**	**72.98**	**37**	*e*P	**P**	**17 05 26.1**	**+0.3**
	comp=Z,6.0nm,1.3s,mb4.4						
ZRNK	**Zerenda**	**72.98**	**37**	*e*P	**P**	**17 05 26.1**	**+0.4**
	comp=Z,6.0nm,1.3s,mb4.4						
CHKZ	**Chkalovo**	**73.37**	**36**	*e*P	**P**	**17 05 28.4**	**+0.3**
	comp=Z,4.8nm,1.1s,mb4.3						
CHKZ	**Chkalovo**	**73.37**	**36**	*e*P	**P**	**17 05 28.4**	**+0.3**
	comp=Z,4.8nm,1.1s,mb4.3						
BVAR	**Borovoye Array**	**73.63**	**37**	P	**P**	**17 05 30.5**	**+0.9**
	comp=Z,2.6nm,0.8s,mb4.2,baz=297,slow=4.8,SNR=12						
TSUM	**Tsumeb**	**74.84**	**126**	*e*P	**P**	**17 05 38.6**	**+2.0**
	comp=Z,4.7nm,0.8s,mb4.5						
KMBO	**Kilima Mbogo**	**78.54**	**99**	LR	LR	17 41 48.7	
	comp=Z,72nm,18.5s,MS4.0,baz=95,slow=37						
KURK	**Kurchatov**	**79.08**	**35**	*e*P	**P**	**17 06 00.4**	**-0.1**
	comp=Z,5.1nm,1.1s,mb4.4						
ZAL	**Zalesovo**	**79.67**	**30**	P	**P**	**17 06 03.4**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.8,baz=169,slow=8.4,SNR=2.7						
LSZ	**Lusaka**	**79.81**	**116**	*e*P	**P**	**17 06 04.3**	**-0.1**
	comp=Z,11nm,1.5s,mb4.5						
MKAR	**Makanchi Array**	**83.52**	**37**	P	**P**	**17 06 24.3**	**+0.3**
	comp=Z,2.2nm,1.1s,mb4.2,baz=320,slow=5.4,SNR=12						
SONM	**Songino Array**	**92.71**	**23**	P	**P**	**17 07 08.8**	**+0.6**
	comp=Z,0.4nm,0.8s,mb3.9,baz=1.9,slow=4.3,SNR=2.7						

IDC 15 17:01:04.3±1.5**, 596S**×**10530E, h0**km**, mb3.6**/5**, mb1 3.8**/5**, mb1mx3.6**/15**, mbtmp3.6**/5**, Error ellipse: s-maj=76.2km s-min=21.8km az=47.0, Sunda Strait**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.45**	**119**	P	P	17 07 27.1	-0.3
	0.8nm,0.5s,baz=294,slow=10,SNR=11						
ASAR	**Alice Springs**	**32.66**	**126**	P	P	17 07 39.0	+0.9
	0.5nm,0.4s,baz=299,slow=8.0,SNR=14						
SONM	**Songino Array**	**53.57**	**1**	P	P	17 10 28.2	+1.2
	0.5nm,0.8s,baz=173,slow=9.3,SNR=4.4						
MKAR	**Makanchi Array**	**56.35**	**341**	P	P	17 10 46.5	-0.5
	0.6nm,0.9s,baz=152,slow=7.9,SNR=4.2						
BRTR	**Keskin Array B**	**79.88**	**312**	P	P	17 13 15.1	+0.3
	0.7nm,0.8s,baz=90,slow=2.9,SNR=3.4						

IDC 15 17:19:02.7±5.9**, 1698S**×**17584E, h0**km**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.8**/11**, mbtmp3.8**/3**, MS3.7**/5**, Ms1 3.7**/5**, ms1mx3.2**/28**, Error ellipse: s-maj=214.2km s-min=41.1km az=139.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.21**	**239**	LR	LR	17 23 51.8	
	comp=Z,279nm,18.2s,baz=13,slow=28						
RAR	**Rarotonga**	**23.41**	**104**	LR	LR	17 30 41.0	
	comp=Z,148nm,18.7s,baz=317,slow=30						
CTA	**Charters Tower**	**28.21**	**259**	LR	LR	17 34 40.3	
	comp=Z,145nm,19.5s,baz=50,slow=33						
PPT	**Papeete**	**33.00**	**96**	*e*LR	LR	17 34 27.3	
	120nm,24.5s						
PPT	**Papeete**	**33.00**	**96**	LR	LR	17 35 30.1	
	comp=Z,146nm,19.7s,baz=132,slow=30						
TBI	**Tubuai**	**33.12**	**107**	*e*LR	LR	17 34 29.4	
	91nm,27.0s						
WRA	**Warramunga Arr**	**39.41**	**259**	P	P	17 26 34.4	+0.2
	0.9nm,0.7s,baz=92,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**39.78**	**253**	P	P	17 26 37.8	+0.4
	1.4nm,0.8s,baz=82,slow=8.4,SNR=12						
ASAR				LR	LR	17 41 35.0	
	comp=Z,120nm,20.9s,baz=258,slow=34						
SONM	**Songino Array**	**89.32**	**321**	P	P	17 31 59.4	-1.6
	0.4nm,0.8s,baz=116,slow=6.6,SNR=3.2						
GERES	**GERESS Array B**	**145.05**	**339**	PKPbc	PKPbc	17 38 42.8	+1.4
	1.3nm,0.8s,baz=42,slow=2.2,SNR=9.3						

*NEIC **15** 17:41:07.5±3.2, 434S×14775E, h120km±26km, mb4.5/3, Error ellipse: s-maj=40.3km s-min=27.6km az=127.0*
*ISCJB **15** 17:41:09.1±2.6, 45S±0.1×1476E±02, h136km±22km, mb3.9/4, Error ellipse: s-maj=35.3km s-min=23.2km az=34.2*
*IDC **15** 17:41:09.6±4.9, 449S×14766E, h117km±69km, mb3.6/4, mb1 3.8/5, mb1mx3.6/13, mbtmp4.1/5, Error ellipse: s-maj=121.8km s-min=31.7km az=109.0*
ISC 15 17:41:09.3±2.8**, 45S**±02×**1477E**±02**, h127**km±24km**, n18, σ0ˢ98**/21**, mb3.9**/4**, 1C, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.93**	**187**	P	**Pn**	**17 42 21.6**	**+0.2**
	30nm,0.3s,baz=9.0,slow=2.4,SNR=151						
PMG				S	**Sn**	**17 43 04.5**	**-13**
	5.6nm,0.3s,baz=18,slow=20,SNR=3.0						
PMG	**Port Moresby**	**4.93**	**187**	P	**Pn**	**17 42 21.6**	**+0.2**
PMG				*e*Sn	**Sn**	**17 43 00.3**	**-17**
CTA	**Charters Tower**	**15.58**	**185**	*e*P	**Pn**	**17 44 48.2**	**+6.3**
	3.4nm,1.5s						
CTA	**Charters Tower**	**15.58**	**185**	P	**Pn**	**17 44 48.2**	**+6.3**
	0.4nm,0.3s,baz=324,slow=18,SNR=4.3						
CTA	**Charters Tower**	**15.58**	**185**	P	**Pn**	**17 44 48.2**	**+6.3**
CTAO	**Charters Tower**	**15.58**	**185**	*e*Pn	**Pn**	**17 44 47.8**	**+5.9**
KAKA	**Kakadu**	**17.18**	**241**	*e*P	**Pn**	**17 45 00.6**	**-0.9**
	5.3nm,0.3s						
WRAB	**Tennant Creek**	**20.15**	**219**	*e*P	**P**	**17 45 32.7**	**-0.7**
	7.5nm,0.6s						
WB2	**Warramunga Arr**	**20.15**	**219**	⇑*i*P	**P**	**17 45 33.3**	**-0.2**
WB2	**Warramunga Arr**	**20.15**	**219**	*e*P	**P**	**17 45 32.9**	**-0.6**
WRA	**Warramunga Arr**	**20.16**	**219**	P	**P**	**17 45 33.4**	**-0.2**
	3.2nm,0.4s,baz=38,slow=11,SNR=73						
AS31	**Alice Springs**	**23.28**	**214**	*e*P	**P**	**17 46 05.7**	**+0.1**
ASAR	**Alice Springs**	**23.28**	**214**	P	**P**	**17 46 06.5**	**+1.0**
	0.8nm,0.4s,mb3.4,baz=46,slow=8.3,SNR=15						
ASAR				S	**S**	**17 49 59.1**	**-9.2**
	1.1nm,0.8s,baz=32,slow=24,SNR=5.0						
FITZ	**Fitzroy Crossi**	**25.50**	**236**	*e*P	**P**	**17 46 27.9**	**+2.2**
	7.0nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**25.50**	**236**	P	**P**	**17 46 27.1**	**+1.4**
	4.1nm,0.4s,mb4.2,baz=53,slow=10,SNR=33						
SONM	**Songino Array**	**63.44**	**330**	P	**P**	**17 51 26.8**	**+1.2**
	0.3nm,0.4s,mb3.6,baz=116,slow=6.7,SNR=4.2						
QSPA	**South Pole Qui**	**85.48**	**180**	*e*P	**P**	**17 53 32.4**	**-0.5**
ARU	**Arti**	**93.23**	**326**	P	**P**	**17 54 07.5**	**-1.9**
	1.5nm,0.6s,mb4.5						

*IDC **15** 17:42:12.3±1.6, 2029S×17345W, h0km, mb4.0/5, mb1 4.2/7, mb1mx4.0/17, mbtmp4.1/7, Error ellipse: s-maj=47.6km s-min=26.6km az=148.0*
*NEIC **15** 17:42:13.3±6.4, 2022S×17345W, h8km±42km, mb4.6/6, Error ellipse: s-maj=15.9km s-min=13.7km az=202.0*
*ISCJB **15** 17:42:14.7±0.7, 202S±0.1×17337W±0.10, h33km, mb4.3/10, Error ellipse: s-maj=17.9km s-min=12.8km az=143.3*
ISC 15 17:42:17.3±0.7**, 202S**±01×**17338W**±010**, h35**km**, n16, σ0ˢ69**/15**, mb4.3**/10**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.43**	**14**	Pn	**Pn**	**17 43 48.8**	**-0.6**
	4.0nm,0.3s,baz=140,slow=6.7,SNR=6.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI				Sn	Sn	17 44 51.9	-10
	2.9nm,0.3s,baz=343,slow=11,SNR=2.3						
RAR	Rarotonga	12.78	97	Pn	Pn	17 45 16.2	-0.2
	2.4nm,0.3s,baz=101,slow=20,SNR=7.0						
CTA	Charters Tower	37.83	263	P	P	17 49 30.0	-0.5
	1.7nm,0.4s,mb4.2,baz=89,slow=12,SNR=4.2						
CTAO	Charters Tower	37.83	263	eP	P	17 49 30.3	-0.2
	2.2nm,0.4s,mb4.2						
PMG	Port Moresby	39.53	280	P	P	17 49 44.0	-0.7
	17nm,0.9s,mb4.8						
ASAR	Alice Springs	48.80	256	P	P	17 50 58.7	-0.2
	0.8nm,0.7s,mb3.9,baz=87,slow=9.1,SNR=12						
WB2	Warramunga Arr	48.92	261	eP	P	17 50 59.2	-0.7
WRAB	Tennant Creek	48.92	261	eP	P	17 51 00.2	+0.3
	5.4nm,0.6s,mb4.8						
WRA	Warramunga Arr	48.93	261	P	P	17 50 59.4	-0.6
	0.5nm,0.3s,mb4.0,baz=97,slow=7.5,SNR=26						
FITZ	Fitzroy Crossi	57.36	261	P	P	17 52 02.6	+0.6
	3.0nm,1.0s,mb4.3,baz=132,slow=16,SNR=3.2						
CASY	Casey	66.10	205	eP	P	17 52 51.5	-9.3
	14nm,1.0s,mb5.0						
QSPA	South Pole Qui	69.89	180	eP	P	17 53 24.9	+0.3
	2.2nm,0.8s,mb4.1						
MJAR	Matsushiro Arr	72.61	321	P	P	17 53 43.0	+1.9
	1.1nm,0.6s,mb4.0,baz=153,slow=5.6,SNR=6.8						
MAJO	Matsushiro	72.62	321	P	P	17 53 41.5	+0.4
	4.9nm,0.9s,mb4.4						
AKASG	Malin Array Be	144.70	335	PKP	PKPdf	18 01 49.0	-1.3
	0.1nm,0.3s,baz=21,slow=2.9,SNR=3.9						
AKASG	Malin Array Be	144.70	335	PKP	PKPdf	18 01 49.0	-1.3

IDC 15 17:43:18.0±1.4, 2855S×17795W, h0^{km}, mb4.3/2, mb1 4.5/2, mb1mx4.0/10, mbtmp4.3/2, Error ellipse: s-maj=40.7km s-min=16.2km az=76.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	0.69	178	Pn	Pg	17 43 35.2	+3.9
	515nm,0.3s,baz=89,slow=22,SNR=11						
RAO				Sn	Sg	17 43 47.7	+7.3
	938nm,0.3s,baz=74,slow=20,SNR=30						
CTA	Charters Tower	33.59	276	P	P	17 50 03.6	+3.8
	2.9nm,0.5s,baz=104,slow=12,SNR=5.0						
ASAR	Alice Springs	43.28	265	P	P	17 51 21.3	0.0
	0.8nm,0.3s,baz=105,slow=7.4,SNR=19						
WRA	Warramunga Arr	44.10	270	P	P	17 51 28.1	+0.2
	2.6nm,0.3s,baz=110,slow=8.1,SNR=58						
FINES	FINESS Array B	143.43	341	PKP	PKPdf	18 02 51.7	-2.7
	3.8nm,0.6s,baz=46,slow=3.9,SNR=34						
NOA	NORSAR Array B	146.94	352	PKPbc	PKPbc	18 03 00.0	-2.4
	1.4nm,0.8s,baz=14,slow=4.4,SNR=3.7						
AKASG	Malin Array Be	149.84	325	PKPbc	PKPbc	18 03 09.4	-0.6
	0.3nm,0.3s,baz=46,slow=2.6,SNR=4.5						
AKASG				PKPab	PKPab	18 03 16.1	+0.6
	1.5nm,0.6s,baz=45,slow=2.9,SNR=9.0						

IDC 15 17:47:00.8±3.2, 3004S×17732W, h0^{km}, mb3.6/2, mb1 3.8/2, mb1mx3.6/10, mbtmp3.6/2, Error ellipse: s-maj=63.5km s-min=37.1km az=92.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	0.94	326	Pn	Pn	17 47 21.2	0.0
	120nm,0.3s,baz=105,slow=16,SNR=4.2						
RAO				Sn	Sn	17 47 33.3	-2.0
	267nm,0.3s,baz=132,slow=23,SNR=8.8						
ASAR	Alice Springs	43.72	266	P	P	17 55 07.3	-0.3
	0.3nm,0.7s,baz=107,slow=7.4,SNR=5.1						
WRA	Warramunga Arr	44.67	271	P	P	17 55 16.0	+0.7
	0.4nm,0.3s,baz=110,slow=8.1,SNR=13						
FINES	FINESS Array B	145.00	341	PKPbc	PKPbc	18 06 37.8	-1.5
	2.8nm,1.0s,baz=56,slow=5.2,SNR=4.6						

IDC 15 18:04:40.9±1.2, 2422N×122.18E, h0^{km}, mb3.5/4, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, ML3.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/21, Error ellipse: s-maj=32.8km s-min=22.0km az=65.0
ISCJB 15 18:04:46.9±1.1, 2431N±009×12229E±007, h64^{km}±10^{km}, mb3.4/4, Error ellipse: s-maj=15.2km s-min=10.7km az=146.9
JMA 15 18:04:47.7±0.2, 2449N×12235E, h66^{km}±2^{km}, M3.1
ISC 15 18:04:47.4±1.4, 2427N±009×12225E±009, h48^{km}±15^{km}, n14, σ0^{s}81/22, mb3.4/4, MS2.7/1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.72	74	P	Pn	18 05 01.3	0.0
YOJ				S	Sn	18 05 11.3	-0.1
IRIF	Iriomote-Funau	1.35	87	P	Pn	18 05 09.5	-0.4
IRIF				S	Sn	18 05 26.0	-0.6
HATJ	Hateruma jima	1.43	98	P	Pn	18 05 11.6	+0.6
HATJ				S	Sn	18 05 29.2	+0.5
JKRS	Kuro-shima	1.60	91	P	Pn	18 05 13.7	+0.4
JKRS				S	Sn	18 05 32.9	+0.1
JIJ	Ishigaki jima	1.73	86	P	Pn	18 05 14.5	-0.5
JIJ				S	Sn	18 05 34.3	-1.6
JTJ	Tarama	2.26	80	P	Pn	18 05 22.7	+0.3
JTJ				S	Sn	18 05 48.3	-0.7
JMJ	Miyako jima 2	2.82	78	S	Sn	18 06 02.4	-0.4
JOGS	Gusukube	2.92	80	P	Pn	18 05 32.9	+1.6
JOGS				S	Sn	18 06 06.4	+1.3
JKE	Kume jima 2	4.59	62	S	Sn	18 06 45.4	-0.8
JOW	Kunigami	6.01	64	Pn	Pn	18 06 12.8	-0.9
	1.9nm,0.3s,baz=325,slow=27,SNR=7.8						
JOW				Sn	Sn	18 07 23.4	+2.2
	0.9nm,0.3s,baz=288,slow=3.2,SNR=3.3						
SONM	Songino Array	26.68	336	P	P	18 10 21.6	-0.3
	1.1nm,1.0s,mb3.3,baz=141,slow=9.3,SNR=5.3						
SONM				LR	LR	18 21 19.8	
	comp=Z,21nm,21.2s,MS2.7,baz=48,slow=37						
MKAR	Makanchi Array	38.96	315	P	P	18 12 08.7	0.0
	0.3nm,0.6s,mb3.2,baz=95,slow=8.7,SNR=3.0						
WRA	Warramunga Arr	45.49	164	P	P	18 13 01.7	-0.2
	0.7nm,0.7s,mb3.6,baz=346,slow=8.6,SNR=5.7						
ASAR	Alice Springs	48.97	166	P	P	18 13 29.1	+0.1
	0.5nm,0.9s,mb3.5,baz=347,slow=7.0,SNR=6.2						

IDC 15 18:48:16.3±1.9, 069N×12657E, h0^{km}, mb3.7/3, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, Error ellipse: s-maj=171.8km s-min=23.9km az=66.0
ISCJB 15 18:48:19.4±1.5, 06N±02×1264E±05, h33^{km}, mb3.7/3, Error ellipse: s-maj=78.2km s-min=20.2km az=139.1
ISC 15 18:48:21.9±1.5, 06N±02×1264E±05, h35^{km}, n6, σ0^{s}63/6, mb3.7/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.60	182	eP	Pn	18 52 36.4	-0.1
	4.6nm,0.9s						
WRA	Warramunga Arr	21.84	160	P	P	18 53 10.7	-0.5
	1.5nm,0.5s,mb3.7,baz=339,slow=11,SNR=34						
WB2	Warramunga Arr	21.84	160	eP	P	18 53 10.9	-0.4
ASPA	Alice Springs	25.19	164	eP	P	18 53 44.9	+0.8
ASAR	Alice Springs	25.19	164	P	P	18 53 44.4	+0.3
	1.6nm,0.4s,mb3.9,baz=344,slow=11,SNR=38						
MKAR	Makanchi Array	59.95	326	P	P	18 58 24.5	-0.1
	0.2nm,0.4s,mb3.5,baz=117,slow=8.2,SNR=10						

IDC 15 19:02:30.3±7.7, 732S×11965E, h441^{km}±110^{km}, mb2.6/3, mb1 2.8/5, mb1mx2.7/15, mbtmp3.5/5, Error ellipse: s-maj=124.0km s-min=33.1km az=54.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.20	152	P	P	19 05 11.5	+0.1
	0.2nm,0.3s,baz=318,slow=16,SNR=8.8						
WRA	Warramunga Arr	18.99	133	P	P	19 06 22.4	-0.4
	0.1nm,0.3s,baz=306,slow=12,SNR=11						
ASAR	Alice Springs	21.25	141	P	P	19 06 44.0	+0.6
	0.3nm,0.7s,baz=320,slow=7.7,SNR=6.9						
SONM	Songino Array	56.15	349	P	P	19 11 26.8	+0.2
	0.6nm,0.6s,baz=172,slow=7.3,SNR=4.6						
MKAR	Makanchi Array	63.27	332	P	P	19 12 14.2	-0.1
	0.5nm,0.7s,baz=139,slow=6.3,SNR=7.6						

ISCJB 15 19:20:00.1±0.8, 24.18S±005×667W±02, h191^{km}±25^{km}, mb3.2/1, Error ellipse: s-maj=31.5km s-min=8.4km az=3.4
IDC 15 19:20:01.2±1.3, 24.14S×6663W, h175^{km}±20^{km}, mb3.2/1, mb1 3.4/5, mb1mx3.2/16, mbtmp3.8/5, Error ellipse: s-maj=26.5km s-min=14.1km az=88.0
NEIC 15 19:20:01.2±1.0, 2420S×6655W, h179^{km}±20^{km}, Error ellipse: s-maj=28.0km s-min=13.5km az=95.0
ISC 15 19:20:01.1±0.8, 2422S±006×666W±02, h172^{km}±25^{km}, n10, σ1^{s}20/13, mb3.2/1, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.67	306	P	Pn	19 20 46.4	+1.0
	36nm,0.3s,baz=129,slow=7.0,SNR=147						
LVC				S	Sn	19 21 19.3	-0.5
	14nm,0.3s,baz=70,slow=24,SNR=23						
LVC	Limon Verde	2.67	306	ePn	Pn	19 20 46.1	+0.7
LVC				P		19 20 46.4	
LVC				S	Sn	19 21 19.3	-0.5
CFAA	Coronel Fontan	7.50	191	P	Pn	19 21 50.0	+2.3
	0.0nm,0.3s,baz=25,slow=16,SNR=5.3						
CFAA				S	Sn	19 23 11.4	-0.5
	0.2nm,0.3s,baz=274,slow=20,SNR=11						
LPAZ	La Paz	8.03	349	P	Pn	19 21 54.6	-0.1
	0.3nm,0.3s,baz=182,slow=8.3,SNR=9.0						
LPAZ				S	Sn	19 23 20.4	-4.1
	0.1nm,0.3s,baz=58,slow=21,SNR=4.2						
SIV	San Ignacio	9.69	33	P	Pn	19 22 15.9	-0.7
	0.5nm,0.3s,baz=260,slow=8.8,SNR=6.1						
TRQA	Tornquist	14.34	165	Pn	Pn	19 23 13.9	-2.3
BDFB	Brasilia	19.41	67	P	P	19 24 15.3	+1.3
	0.5nm,0.3s,baz=256,slow=12,SNR=6.9						
TORD	Torodi Ar. Bea	76.29	69	P	P	19 31 30.5	-0.3
	0.5nm,0.8s,mb3.2,baz=260,slow=6.2,SNR=6.0						
TORD	Torodi Ar. Bea	76.29	69	P	P	19 31 30.5	-0.3
MKAR	Makanchi Array	146.45	40	PKPbc	PKPbc	19 39 21.3	-0.5
	0.7nm,0.7s,baz=294,slow=3.3,SNR=8.7						

IDC 15 19:45:38.9±1.7, 3578N×14131E, h0^{km}, mb3.5/3, mb1 3.6/6, mb1mx3.5/21, mbtmp3.6/6, ML3.3/3, MS2.8/2, Ms1 2.8/2, ms1mx2.3/35, Error ellipse: s-maj=44.7km s-min=22.4km az=74.0
ISCJB 15 19:45:43.3±1.3, 3570N±006×141.1E±0.1, h39^{km}±9^{km}, mb3.6/3, Error ellipse: s-maj=19.9km s-min=8.9km az=152.7
JMA 15 19:45:44.7±0.1, 3575N×14098E, h34^{km}±1^{km}, M3.2
ISC 15 19:45:43.5±1.2, 3574N±005×1411E±01, h31^{km}±6^{km}, n13, σ0^{s}66/16, mb3.6/3, 1C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.23	260	⇑P	Pb	19 45 50.5	+0.4
CHOJ				S	Sb	19 45 54.5	-0.1
JCN	Nagara	0.83	247	⇓P	Pn	19 45 58.9	0.0
JYT	Yasato	0.90	303	⇓P	Pn	19 45 59.3	-0.7
JHO	Hitachi	0.98	332	⇓P	Pn	19 46 01.3	+0.3
BSO3	Boso 3	1.07	209	P	Pn	19 46 01.6	-0.7
JAG	Ashikaga	1.52	297	P	Pn	19 46 08.0	-0.5
MJAR	Matsushiro Arr	2.50	289	Pn	Pn	19 46 22.6	+0.7
	7.2nm,0.3s,baz=91,slow=8.6,SNR=81						
MJAR				LR	LR	19 47 26.5	
	comp=Z,222nm,20.7s,baz=105,slow=42						
MAT	Matsushiro	2.50	289	P	Pn	19 46 23.0	+1.0
MAT				S	Sn	19 46 51.1	-0.3
JHJ	Hachijo jima 2	2.85	203	Pn	Pn	19 46 27.1	+0.4
	6.8nm,0.3s,baz=78,slow=18,SNR=3.8						
JHJ				Sn	Sn	19 46 59.1	-0.8
	28nm,0.3s,baz=256,slow=23,SNR=6.8						
JHJ				LR	LR	19 47 45.5	
	comp=Z,164nm,19.2s,baz=128,slow=43						
ASAJ	Asahikawa	8.44	7	Pn	Pn	19 47 42.2	-1.3
	0.4nm,0.3s,baz=15,slow=1.3,SNR=6.2						
MKAR	Makanchi Array	44.62	303	P	P	19 53 53.4	+0.4
	0.6nm,0.7s,mb3.6,baz=87,slow=9.3,SNR=8.0						
WRA	Warramunga Arr	55.75	188	P	P	19 55 17.2	0.0
	0.4nm,0.5s,mb3.8,baz=4.4,slow=7.0,SNR=12						
ASAR	Alice Springs	59.48	188	P	P	19 55 44.6	+1.2
	0.4nm,0.9s,mb3.5,baz=10,slow=11,SNR=3.7						

IDC 15 20:23:20.7±2.3, 380S×14479E, h0^{km}, mb3.9/3, mb1 4.2/5, mb1mx3.9/13, mbtmp4.0/5, ML2.9/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/20, Error ellipse: s-maj=49.5km s-min=26.7km az=78.0
ISCJB 15 20:23:22.9±6.5, 39S±0.1×1449E±02, h25^{km}±47^{km}, mb3.9/3, MS3.2/2, Error ellipse: s-maj=33.0km s-min=15.0km az=99.5
NEIC 15 20:23:25.9±1.2, 384S×14485E, h35^{km}, mb4.4/2, Error ellipse: s-maj=22.4km s-min=15.0km az=70.0
ISC 15 20:23:25.3±6.8, 39S±01×1448E±02, h28^{km}±49^{km}, n11, σ0^{s}47/12, mb3.9/3, MS3.2/2, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.99	157	Pn	Pn	20 24 52.0	-0.1
	1.8nm,0.3s,baz=25,slow=8.2,SNR=7.4						
PMG				Sn	Sn	20 25 59.7	-0.1
	1.8nm,0.3s,baz=328,slow=24,SNR=8.2						
WRAB	Tennant Creek	18.96	212	eP	Pn	20 27 44.8	-0.2
	22nm,1.0s						
WB2	Warramunga Arr	18.96	212	eP	Pn	20 27 45.0	-0.1
WRA	Warramunga Arr	18.97	212	P	Pn	20 27 45.0	-0.2
	0.9nm,0.3s,baz=37,slow=11,SNR=94						
AS31	Alice Springs	22.33	207	eP	P	20 28 21.2	+0.4
ASAR	Alice Springs	22.33	207	P	P	20 28 21.5	+0.7
	2.3nm,0.5s,mb3.9,baz=28,slow=12,SNR=33						
ASAR				LR	LR	20 38 11.4	
	comp=Z,95nm,19.7s,MS3.2,baz=10,slow=40						
ASPA	Alice Springs	22.34	207	eP	P	20 28 21.2	+0.4
FITZ	Fitzroy Crossi	23.50	232	eP	P	20 28 32.7	-0.3
	9.4nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	23.50	232	P	P	20 28 31.5	-1.5
	6.1nm,0.7s,mb4.2,baz=42,slow=9.4,SNR=32						
FITZ				LR	LR	20 37 29.5	
	comp=Z,84nm,19.1s,MS3.2,baz=76,slow=36						
MKAR	Makanchi Array	74.46	321	P	P	20 35 01.0	+0.1
	0.5nm,0.9s,mb3.5,baz=101,slow=6.5,SNR=4.3						
MKAR	Makanchi Array	74.46	321	P	P	20 35 01.0	+0.1

HLW 15 20:27:30.4, 35.15N×2308E, h33^{km}, Mb3.7
ISCJB 15 20:27:32.0±0.7, 3490N±004×2324E±0.10, h33^{km}, Error ellipse: s-maj=11.7km s-min=5.0km az=141.6
CSEM 15 20:27:32.2±0.1, 3490N×2334E, h30^{km}, MD3.3, Error ellipse: s-maj=6.3km s-min=2.8km az=64.0
NEIC 15 20:27:40.7, 3593N×2395E, h29^{km}, MD3.3(ATH), After ATH.
ATH 15 20:27:40.7, 3593N×2395E, h29^{km}±2^{km}, MD3.3/4
ISC 15 20:27:33.3±1.8, 3495N±004×232E±01, h29^{km}±18^{km}, n9, σ1^{s}05/14, 4C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VAM	Vamos	0.93	60	ePN	Pn	20 27 52.7	+2.4
VAM				eSN	Sn	20 28 01.0	-1.6
KYTH	Kithira	1.34	354	ePN	Pn	20 27 57.0	+1.0
VLI	Veliai	1.78	353	ePN	Pn	20 28 01.6	-0.5
VLI				eSN	Sn	20 28 17.4	-6.4
ITM	Ithomi	2.46	335	ePB	Pb	20 28 15.6	-1.3
ITM				eSN	Sn	20 28 40.7	+0.1
SLUM		3.83	154	⇑P	Pn	20 28 31.1	+0.9
SLUM				S	Sn	20 29 14.4	+0.2
SWA2		5.99	161	⇑P	Pn	20 28 59.7	-0.3
SWA1		6.05	159	⇑P	Pn	20 29 01.1	+0.4
SWA1				S	Sn	20 30 07.2	-1.8
AWBH		8.19	142	⇓P	Pn	20 29 30.5	+0.4
AMAG	Maghara	9.44	114	⇑P	Pn	20 29 47.6	+0.4

NIED 15 20:58:00, 3700N×14180E, h35^{km}, Mw3.9 Best double couple: $M_0$9.18000×10^{14} NP1:ϕ_s29.00000°, δ71.00000°, λ93.00000°. NP2:ϕ_s201.00000°, δ20.00000°, λ82.00000°.
ISCJB 15 20:58:03.6±0.8, 3704N±004×14178E±008, h50^{km}, mb3.8/7, Error ellipse: s-maj=9.4km s-min=5.1km az=44.6
JMA 15 20:58:03.3±0.2, 3701N×14176E, h50^{km}±4^{km}, M3.9
JMA Felt I J1.
IDC 15 20:58:04.9±2.4, 3704N×14192E, h45^{km}±20^{km}, mb3.7/7, mb1 3.8/10, mb1mx3.6/21, mbtmp4.0/10, ML3.6/3, MS2.9/2, Ms1 2.9/2, ms1mx2.5/35, Error ellipse: s-maj=35.6km s-min=16.2km az=97.0
ISC 15 20:58:05.6±0.8, 3705N±004×14166E±008, h50^{km}, n24, σ0^{s}96/33, mb3.8/7, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.69	274	⇓P	Pn	20 58 18.0	-1.2
ONAJ				eS	Sn	20 58 28.2	-0.8
JFK	Kawauchi	0.70	297	⇓P	Pn	20 58 18.1	-1.2
JHO	Hitachi	0.98	244	⇓P	Pn	20 58 21.3	-1.7
JHO				eS	Sn	20 58 34.7	-1.1
JMM	Marumori	1.06	320	⇓P	Pn	20 58 23.4	-0.8
JFT	Otama	1.15	294	⇓P	Pn	20 58 25.6	+0.3
JIO	Ouri	1.42	350	⇓P	Pn	20 58 27.6	-1.4
JIO				eS	Sn	20 58 45.7	-0.9
JOU	Okura	1.53	329	P	Pn	20 58 30.5	0.0
JOU				eS	Sn	20 58 50.6	+1.4
JFY	Yanaizu	1.60	283	P	Pn	20 58 31.9	+0.5
JYS	Shirataka	1.72	313	P	Pn	20 58 33.9	+0.8
JAG	Ashikaga	1.88	251	⇓P	Pn	20 58 34.8	-0.4
JMK	Ichinoseki	1.93	350	⇓P	Pn	20 58 35.3	-0.6
JMK				eS	Sn	20 58 59.0	0.0
JKT	Katashina	1.95	262	P	Pn	20 58 37.2	+1.0
MJAR	Matsushiro Arr	2.81	261	P	Pn	20 58 49.3	+1.2
	14nm,0.3s,baz=89,slow=15,SNR=150						
MJAR				S	Sn	20 59 27.7	+6.9
	8.7nm,0.3s,baz=88,slow=13,SNR=7.9						
MJAR				LR	LR	21 00 13.4	
	comp=Z,286nm,19.6s,baz=40,slow=43						
MAT	Matsushiro	2.81	261	P	Pn	20 58 49.5	+1.4
MAT				eS	Sn	20 59 26.6	+5.8
JHJ	Hachijo jima 2	4.21	202	P	Pn	20 59 07.7	+0.4
	22nm,0.3s,baz=300,slow=21,SNR=12						
JHJ				S	Sn	20 59 51.3	-3.9
	57nm,0.3s,baz=268,slow=23,SNR=9.7						
ASAJ	Asahikawa	7.09	5	P	Pn	20 59 45.8	-1.0
	0.5nm,0.3s,baz=242,slow=12,SNR=5.0						
ASAJ				S	Sn	21 01 06.2	+0.1
	0.3nm,0.3s,baz=127,slow=20,SNR=4.0						
ASAJ				LR	LR	21 03 06.9	
	comp=Z,58nm,20.2s,baz=26,slow=43						
SONM	Songino Array	27.94	304	P	P	21 03 52.8	+1.7
	2.6nm,0.9s,mb3.9,baz=103,slow=8.9,SNR=11						
ZAL	Zalesovo	42.06	312	P	P	21 05 53.0	+0.7
	1.1nm,0.5s,mb3.7,baz=18,slow=6.2,SNR=5.4						
MKAR	Makanchi Array	44.27	302	P	P	21 06 11.6	+1.4
	2.4nm,0.9s,mb4.0,baz=82,slow=10,SNR=20						
WRA	Warramunga Arr	57.10	188	P	P	21 07 46.8	0.0
	0.4nm,0.7s,mb3.6,baz=6.2,slow=7.6,SNR=3.8						
FINES	FINESS Array B	68.89	332	P	P	21 09 04.4	-0.7
	1.0nm,0.7s,mb3.9,baz=64,slow=17,SNR=4.9						
NB2	NORSAR Subarra	74.25	337	P	P	21 09 38.0	+0.7
	comp=Z,0.8nm,0.7s,mb3.8,baz=38,slow=6.2						
NOA	NORSAR Array B	74.25	337	P	P	21 09 37.8	+0.5
	comp=Z,1.5nm,0.8s,mb4.0,baz=38,slow=6.1,SNR=5.2						
AKASG	Malin Array Be	74.40	322	P	P	21 09 38.8	+0.6
	comp=Z,0.8nm,0.4s,mb4.0,baz=47,slow=6.6,SNR=8.4						

BJI 15 21:20:28.0, 2077S×17789W, h524^{km}, mB4.7, mb4.7
MOS 15 21:20:28.2±1.1, 2073S×17861W, h498^{km}, mb4.9/18, Error ellipse: s-maj=10.9km s-min=8.3km az=141.2
HRVD 15 21:20:29.7±0.9, 2085S×17865W, h554^{km}±3^{km}, MW5.2/41, Centroid moment Tensor Solution. LP body waves: s41,c57; Half duration: 0 Moment tensor: Scale 10^{16} Nm; M_{rr}-5.53±.34; $M_{\theta\theta}$2.44±.57; $M_{\phi\phi}$3.09±.60; $M_{r\theta}$-2.09±.59; $M_{\theta\phi}$3.06±.51; $M_{\phi r}$-2.22±.53; Best double couple: $M_0$6.45200×10^{16} NP1:ϕ_s221.00000°, δ31.00000°, λ-91.00000°. NP2:ϕ_s43.00000°, δ59.00000°, λ-89.00000°. Principal axes: T 6.6080, Plg14.0000°, Azm132.0000°; N -0.3110, Plg1.0000°, Azm222.0000°; P -6.2960, Plg76.0000°, Azm315.0000°; nsta1 refers to body waves, cutoff=40s.
NEIC 15 21:20:29.7±0.9, 2082S×17854W, h506^{km}±10^{km}, mb4.8/28 Error ellipse: s-maj=9.6km s-min=5.2km az=149.0
IDC 15 21:20:30.3±1.3, 2086S×17844W, h522^{km}±13^{km}, mb4.4/19, mb1 4.5/23, mb1mx4.5/24, mbtmp5.3/23, Error ellipse: s-maj=11.5km s-min=9.7km az=166.0
ISCJB 15 21:20:32.0±0.1, 2101S±004×17860W±004, h548^{km}, mb4.8/66, Error ellipse: s-maj=6.0km s-min=3.3km az=107.7
SZGRF 15 21:20:32.8, 2089S×17751W, h554^{km}, Fiji Islands region
BGS 15 21:20:34.8±5.8, 2072S×17870W, h545^{km}, mb4.7(NEIC)
ISC 15 21:20:33.3±0.1, 2101S±004×17856W±004, h550^{km}, h550^{km}±1.8^{km}:pP-P, n700, σ0^{s}72/325, mb4.8/66, 98C-185D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	9.57	44	P	P	21 22 40.0	-6.7
	48nm,0.3s,baz=41,slow=2.5,SNR=51						
AFI				S	S	21 24 24.7	-12
	16nm,0.3s,baz=91,slow=15,SNR=5.8						
DZM	Mont Dzumac	14.00	263	eP	P	21 23 32.2	-0.2
DZM	Mont Dzumac	14.00	263	P	P	21 23 32.3	-0.1
	3.2nm,0.3s,baz=191,slow=19,SNR=18						
NOUC	Port Laguerre	14.13	263	eP	P	21 23 34.0	+0.2
OUZ	Omahuta	15.75	204	PN	P	21 23 51.1	+0.8
RAR	Rarotonga	17.53	94	P	P	21 24 05.0	-1.8
	7.2nm,0.3s,baz=267,slow=8.3,SNR=10						
URZ	Urewera	17.60	191	P	P	21 24 06.1	-1.3
	3.4nm,0.3s,baz=305,slow=4.2,SNR=13						
URZ				S	S	21 26 57.5	-4.4
	1.4nm,0.3s,baz=225,slow=20,SNR=6.3						
QRZ	Quartz Range	21.16	199	PN	P	21 24 39.5	-0.3
NNZ	Nelson	21.28	197	PN	P	21 24 39.9	-1.0
THZ	Tophouse	21.92	197	PN	P	21 24 45.5	-1.1
LTZ	Lake Taylor	23.04	197	PN	P	21 24 54.3	-2.3
WVZ	Waitaha Valley	23.76	200	PN	P	21 25 01.5	-1.5
RPZ	Rata Peaks	24.25	199	P	P	21 25 07.4	+0.1
	12nm,0.4s,mb4.9,baz=346,slow=2.0,SNR=5.9						
JCZ	Jackson Bay	25.31	202	PN	P	21 25 16.3	-0.3
TBI	Tubuai	27.02	100	eP	P	21 25 31.3	-0.5
	77nm,0.8s,mb5.4						
PAE	Paea	27.53	88	eP	P	21 25 34.8	-1.4
	107nm,1.0s,mb5.4						
PPT	Papeete	27.55	88	eP	P	21 25 35.2	-1.2
	38nm,0.9s,mb5.0						
PPT	Papeete	27.55	88	P	P	21 25 34.2	-2.2
	28nm,0.5s,mb5.1,baz=235,slow=16,SNR=3.6						
TVO	Taravao	27.81	88	eP	P	21 25 37.3	-1.3
	84nm,0.9s,mb5.4						
ARMA	Armidale	28.38	245	⇓iP	P	21 25 45.0	+1.4
PMOR	Pomariorio Ree	29.73	84	eP	P	21 25 53.8	-1.5
	145nm,1.2s,mb5.4						
VAH	Vaihoa	29.92	84	eP	P	21 25 55.1	-1.8
	66nm,1.0s,mb5.1						
CNB	Canberra Magne	31.51	236	eP	P	21 26 11.4	+0.8
	120nm,0.5s,mb5.7						
CTA	Charters Tower	32.93	265	⇓iP	P	21 26 22.9	+0.3
	70nm,0.4s,mb5.5						
CTA				ePCP	PcP	21 28 51.1	+0.7
CTA	Charters Tower	32.93	265	P	P	21 26 23.1	+0.4
	92nm,0.5s,mb5.6,baz=94,slow=10,SNR=198						
CTAO	Charters Tower	32.93	265	eP	P	21 26 22.8	+0.2
PMG	Port Moresby	34.95	284	P	P	21 26 39.3	-0.3
	81nm,0.7s,mb5.4,baz=95,slow=5.8,SNR=27						
PMG	Port Moresby	34.95	284	⇑eP	P	21 26 39.3	-0.3
PMG	Port Moresby	34.95	284	eP	P	21 26 39.5	-0.2
TOO	Toolangi	35.18	234	⇓iP	P	21 26 42.2	+0.7
	89nm,0.7s,mb5.4						
TOO	Toolangi	35.18	234	⇓iP	P	21 26 42.2	+0.7
TOO				pmax	pmax		
	comp=Z,89nm,0.7s,mb5.4						
MCQ	Macquarie Isla	37.53	201	eP	P	21 27 01.7	+0.8
AS31	Alice Springs	43.90	257	eP	P	21 27 51.6	+0.2
AS31				ePcP	PcP	21 29 25.5	+0.2
ASAR	Alice Springs	43.90	257	P	P	21 27 51.7	+0.2
	comp=Z,97nm,0.6s,mb5.5,baz=92,slow=8.4,SNR=1507						
ASAR				PcP	PcP	21 29 26.1	+0.7
	comp=Z,18nm,0.7s,baz=108,slow=3.7,SNR=11						
ASAR				S	S	21 33 43.1	+0.1
	comp=Z,1.8nm,0.7s,baz=94,slow=16,SNR=6.2						
ASAR				PKiKP	PKiKP	21 36 23.2	-1.2
	comp=Z,0.6nm,0.6s,baz=107,slow=1.9,SNR=4.2						
ASAR	Alice Springs	43.90	257	P	P	21 27 51.7	+0.2
ASAR				PcP	PcP	21 29 26.1	+0.7
ASAR				S	S	21 33 43.1	+0.1
ASPA	Alice Springs	43.90	257	eP	P	21 27 51.6	+0.1
ASPA				ePCP	PcP	21 29 25.5	+0.2

WB2 Warramunga Arr 44.01 263 *e*P **P** 21 27 51.9 -0.4
WRAB Tennant Creek 44.01 263 *e*P **P** 21 27 51.3 -1.0
WRA Warramunga Arr 44.02 263 P **P** 21 27 52.3 -0.1
comp=Z,45nm,0.3s,mb5.5,baz=96,slow=7.3,SNR=1174
WRA PcP PcP 21 29 25.6 -0.1
comp=Z,5.9nm,0.5s,baz=95,slow=3.5,SNR=7.2
WRA S **S** 21 33 43.3 -1.4
comp=Z,6.2nm,1.0s,baz=95,slow=13,SNR=7.9
KAKA Kakadu 47.47 272 *e*P **P** 21 28 18.1 -0.5
comp=Z,96nm,0.3s,mb5.8
FORT Forrest 48.62 247⇓*i*P **P** 21 28 26.8 -0.4
comp=Z,143nm,0.5s,mb5.8
FORT *e*PCP PcP 21 29 42.7 +0.5
GUMO Guam 49.73 311 P **P** 21 28 34.7 -0.7
comp=Z,42nm,0.5s,mb5.1,baz=300,slow=8.0,SNR=4.5
FITZ Fitzroy Crossi 52.45 263 *e*P **P** 21 28 55.3 +0.2
comp=Z,31nm,0.3s,mb5.1
FITZ Fitzroy Crossi 52.45 263 P **P** 21 28 55.5 +0.5
comp=Z,19nm,0.4s,mb4.8,baz=133,slow=4.5,SNR=155
MBWA Marble Bar 57.24 258 *e*P **P** 21 29 28.6 +0.1
SBA Scott Base 57.34 184 *e*P **P** 21 29 31.7 +2.5
VNDA Vanda 57.36 185 P **P** 21 29 30.8 +1.4
comp=Z,5.3nm,0.8s,mb3.8,baz=356,slow=7.6,SNR=12
VNDA PcP PcP 21 30 14.2 -1.4
comp=Z,2.5nm,0.7s,baz=343,slow=6.0,SNR=3.9
KLBR Kellerberrin 57.37 245⇓*i*P **P** 21 29 29.2 -0.2
comp=Z,62nm,0.8s,mb4.9
NWAO Narrogin (SRO) 57.68 244 P **P** 21 29 31.8 +0.2
comp=Z,18nm,0.6s,mb4.5,baz=112,slow=6.7,SNR=24
NWAO Narrogin (SRO) 57.68 244 *e*P **P** 21 29 31.3 -0.2
NWAO pmax pmax
comp=Z,32nm,1.0s
NWAO Narrogin (SRO) 57.68 244 *e*P **P** 21 29 31.3 -0.2
comp=Z,32nm,1.0s,mb4.5
MUN Mundaring 58.64 245 *e*P **P** 21 29 38.3 +0.3
CASY Casey 63.29 205 *e*P **P** 21 30 08.8 +0.3
TSM Tawau 67.16 284 P **P** 21 30 33.2 +0.4
TGY Tagaytay City 68.90 295 P **P** 21 30 44.2 +0.9
comp=Z,76nm,0.4s,baz=327,slow=12,SNR=5.0
QSPA South Pole Qui 69.07 180 *e*P **P** 21 30 45.5 +1.2
comp=Z,26nm,0.9s,mb4.7
KKM Kota Kinabalu 69.39 285 P **P** 21 30 47.0 +0.8
KKM Kota Kinabalu 69.39 285 *e*P **P** 21 30 46.8 +0.6
JOW Kunigami 70.09 310 P **P** 21 30 51.0 +0.5
comp=Z,39nm,0.7s,mb5.1,baz=146,slow=8.2
MJAR Matsushiro Arr 70.31 324 P **P** 21 30 50.5 -1.2
comp=Z,17nm,0.6s,mb4.7,baz=157,slow=5.8,SNR=96
MAJO Matsushiro 70.31 324 *e*P **P** 21 30 50.7 -1.1
MAJO pmax pmax
comp=Z,20nm,0.6s,mb4.8
MAJO Matsushiro 70.31 324 *e*P **P** 21 30 50.7 -1.0
comp=Z,20nm,0.6s,mb4.8
MAT Matsushiro 70.31 324 P **P** 21 30 50.6 -1.1
MIR Mirnyy 70.32 205*d i*P **P** 21 30 53.5 +1.7
MIR pmax pmax
comp=Z,320nm,1.0s,mb5.8
KSM Kuching 72.97 278 *e*P **P** 21 31 08.0 +0.8
YSS Yuzh-Sakhalins 76.11 334⇑*e*P **P** 21 31 24.5 -0.4
YSS pmax pmax
comp=Z,56nm,1.7s,mb4.7
YSS Yuzh-Sakhalins 76.11 334 *e*P **P** 21 31 23.9 -0.9
comp=Z,33nm,1.0s,mb4.7
PET Petropavlovsk 76.33 346 *e*P **P** 21 31 23.1 -3.0
PET pmax pmax
comp=Z,15nm,1.3s,mb4.3
SDPT Sand Point 77.59 10 *e*P **P** 21 31 30.8 -2.1
SSE Sheshan 77.61 310 P **P** 21 31 33.5 +0.4
SSE AMB AMB
comp=Z,26nm,0.9s,mb4.6
SSE AMB AMB
comp=Z,278nm,4.7s
FARB Farallon Islan 78.33 42⇑P **P** 21 31 36.9 -0.1
baz=78
VLA Vladivostok 78.39 325 *e*P **P** 21 31 36.7 -0.6
VLA pmax pmax
comp=Z,22nm,1.3s,mb4.3
V03C Hunter Liggett 78.44 44⇓P **P** 21 31 37.7 +0.2
baz=78
HAST UC Hastings Re 78.46 44⇑P **P** 21 31 37.9 +0.3
baz=78,SNR=8.3
BNLO Ben Lomond (Sa 78.51 43⇑P **P** 21 31 37.8 -0.1
baz=79
JRSC Jasper Ridge 78.63 43⇑P **P** 21 31 38.5 -0.1
baz=79
MCCM Marconi Confer 78.68 42⇑P **P** 21 31 38.5 -0.3
baz=79
SAO San Andreas Ge 78.75 43 *e*P **P** 21 31 39.9 +0.8
PKD Parkfield 78.85 45⇓P **P** 21 31 39.7 0.0
baz=79
CHGN Chignik 78.86 11 *e*P **P** 21 31 37.4 -2.4
U04C Hernandez Rese 78.94 44⇑P **P** 21 31 40.7 +0.6
baz=79
PACP Pacheco Peak 79.00 43⇓P **P** 21 31 41.1 +0.6
baz=79,SNR=7.4
CVS Carmenet Viney 79.07 42⇑P **P** 21 31 40.7 -0.1
baz=79
HOPS Hopland 79.09 41⇑P **P** 21 31 41.1 +0.1
baz=79
P01C Double 8 Ranch 79.22 40⇓P **P** 21 31 41.6 -0.1
baz=79
S04C Ingram Canyon, 79.27 43⇓P **P** 21 31 42.3 +0.4
baz=79,SNR=6.1
O01C Eel River Cons 79.35 40⇑P **P** 21 31 43.1 +0.8
baz=79,SNR=7.7
MNRC McLaughlin Nat 79.40 41 P **P** 21 31 43.3 +0.7
baz=80,SNR=7.1
Q03C Winters 79.52 42⇓P **P** 21 31 44.2 +1.0
baz=80
KGM Kluang 79.65 276 P **P** 21 31 45.0 +1.1
JCC Jacoby Creek 79.66 39⇓P **P** 21 31 44.3 +0.3
baz=80
GASB Alder Springs 79.71 40⇓P **P** 21 31 45.3 +1.1
baz=80,SNR=9.3
NJ2 Nanjing 79.80 310 *e*P **P** 21 31 44.6 -0.1
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb4.6
KHMM Horse Mountain 79.87 39 *e*P **P** 21 31 46.1 +1.0
O02C Red Bluff 79.99 40 P **P** 21 31 46.6 +0.9
baz=80,SNR=15
T06C Millerton Lake 80.02 44⇑P **P** 21 31 45.6 -0.3
baz=80
SUTB Sutter Butte 80.02 41⇓P **P** 21 31 45.3 -0.5
baz=80
ISA Isabella 80.06 46 *e*P **P** 21 31 46.5 +0.5
ISA Isabella 80.06 46⇑P **P** 21 31 46.2 +0.2
baz=80,SNR=5.6
N02C Big Bar 80.09 39 P **P** 21 31 46.5 +0.3
baz=80,SNR=6.7
CMB Columbia Colle 80.18 43 *e*P **P** 21 31 46.5 -0.2
CMB Columbia Colle 80.18 43 P **P** 21 31 46.6 -0.1
baz=80,SNR=14
M01C Crescent City 80.26 38⇓P **P** 21 31 46.7 -0.4
baz=80
OHCM Honcut 80.27 41 *e*P **P** 21 31 47.3 +0.1
PFO Pinyon Flat Ob 80.30 48⇑P **P** 21 31 47.3 0.0
baz=80
O03C Acorn Hollow, 80.34 41⇑P **P** 21 31 47.4 -0.1
baz=80
LAVA Lava Cap Winer 80.39 42⇓P **P** 21 31 47.6 -0.2
baz=80
WDC Whiskeytown Da 80.39 40⇑P **P** 21 31 47.9 +0.1
baz=80,SNR=7.7
ORV Oroville 80.40 41⇓P **P** 21 31 47.6 -0.3
baz=80,SNR=9.5
S06C San Francisco 80.44 43⇑P **P** 21 31 47.7 -0.3
baz=80,SNR=6.7
KCC Kaiser Creek 80.45 44⇓P **P** 21 31 47.6 -0.5
baz=80
HABR Khabarovsk 80.63 331 *e*P **P** 21 31 49.2 +0.2
HABR *e*S S 21 41 08.9 -2.3
MDJ Mudanjiang 80.63 325 P **P** 21 31 49.1 +0.1
MDJ AP pP 21 33 40.4 -5.9
MDJ S S 21 41 11.8 +0.5
MDJ SS SS 21 46 40.8 +1.0
MDJ AMB AMB
comp=Z,25nm,1.1s,mb4.6
MDJ AMB AMB
comp=Z,49nm,3.7s
MDJ Mudanjiang 80.63 325 *e*P **P** 21 31 49.6 +0.5
comp=Z,34nm,1.2s,mb4.7
M02C Callahan 80.71 39⇑P **P** 21 31 50.1 +0.7
baz=81,SNR=14
L02A Cave Junction 80.75 38⇑P **P** 21 31 49.8 +0.1
baz=81
CWC Cottonwood Cre 80.76 45⇑P **P** 21 31 49.6 -0.1
baz=81

R05C Kirkwood Meado 80.78 43⇑P **P** 21 31 49.9 +0.1
baz=81,SNR=8.2
P05C Yuba Gap, Truc 80.80 42 P **P** 21 31 50.0 +0.2
baz=81,SNR=12
MAW Mawson 80.92 200 *e*P **P** 21 31 49.8 -0.7
comp=Z,9.5nm,0.7s,mb4.3
MAW Mawson 80.92 200 P **P** 21 31 49.8 -0.7
comp=Z,10nm,0.5s,mb4.5,baz=135,slow=8.3,SNR=33
MTUM Tungsten Hills 80.96 44 *e*P **P** 21 31 51.2 +0.4
GSC Goldstone 80.98 47 *e*P **P** 21 31 51.2 +0.4
GSC Goldstone 80.98 47⇑P **P** 21 31 51.0 +0.1
baz=81,SNR=6.1
DAC Darwin (Calif) 80.99 46 *e*P **P** 21 31 51.4 +0.5
DAC *e* 21 35 00.1
O05C Quincy 81.00 41⇓P **P** 21 31 50.9 -0.1
baz=81,SNR=9.1
YBH Yreka Blue Hor 81.01 39 *e*P **P** 21 31 51.4 +0.4
YBH pmax pmax
comp=Z,27nm,0.8s
YBH Yreka Blue Hor 81.01 39 *e*P **P** 21 31 51.4 +0.5
comp=Z,28nm,0.8s,mb4.7
YBH Yreka Blue Hor 81.01 39 P **P** 21 31 51.6 +0.6
baz=81,SNR=18
WAKR Walker 81.06 43 *e*P **P** 21 31 51.7 +0.5
R06C Coleville 81.06 43⇑P **P** 21 31 51.6 +0.3
baz=81,SNR=12
R07C Lee Vining 81.07 43⇓P **P** 21 31 51.6 +0.3
baz=81,SNR=9.9
O04C Chester 81.11 41⇑P **P** 21 31 51.7 +0.1
baz=81
GLA Glamis 81.15 50 *e*P **P** 21 31 52.4 +0.7
GLA Glamis 81.15 50⇓P **P** 21 31 52.4 +0.7
baz=81,SNR=15
HATC Hat Creek Radi 81.19 40⇑P **P** 21 31 52.1 +0.3
baz=81,SNR=10
K02A Glendale 81.20 38⇑P **P** 21 31 52.1 +0.1
baz=81
LBCM Butte Creek Ri 81.27 40 P **P** 21 31 52.4 +0.1
WCN Washoe City 81.33 42⇓P **P** 21 31 52.9 +0.2
baz=81,SNR=7.5
LTIM Timbered Crate 81.39 40 P **P** 21 31 53.2 +0.2
HUMO Hull Mountain 81.41 38 *e*P **P** 21 31 53.2 +0.1
comp=Z,36nm,1.1s,mb4.7
HUMO Hull Mountain 81.41 38⇑P **P** 21 31 53.3 +0.3
baz=82,SNR=16
P06A Stead Airport, 81.46 42⇓P **P** 21 31 53.7 +0.4
baz=82
J02A Umpqua 81.53 37⇑P **P** 21 31 53.8 +0.1
baz=82
M04C Macdoel 81.55 39⇑P **P** 21 31 54.0 +0.3
baz=82,SNR=12
BUOR Burton Butte 81.62 39 P **P** 21 31 54.5 +0.4
TUQ Turquoise Mtn. 81.66 47⇓P **P** 21 31 54.5 +0.2
baz=82
M05C Lookout 81.70 40 P **P** 21 31 54.8 +0.3
baz=82,SNR=20
Q07A Schurz 81.72 43⇑P **P** 21 31 54.9 +0.3
baz=82
Y12C Blythe 81.73 49⇓P **P** 21 31 55.0 +0.3
baz=82,SNR=5.3
NVAR Mina Array Bea 81.75 44 P **P** 21 31 54.9 +0.1
comp=Z,13nm,0.8s,mb4.4,baz=212,slow=7.0,SNR=83
NVAR PKKPbc PKKPbc 21 50 24.0 +2.7
comp=Z,0.9nm,0.8s,baz=116,slow=1.3,SNR=6.3
NVAR PKPPKP 21 58 32.9
comp=Z,1.3nm,0.9s,baz=90,slow=2.7,SNR=7.4
NVAR Mina Array Bea 81.75 44 P **P** 21 31 54.9 +0.1
NVAR PKKPbc PKKPbc 21 50 24.0 +2.7
NVAR P'P' 21 58 32.9
L04A Klamath Falls 81.76 39⇓P **P** 21 31 55.0 +0.2
baz=82,SNR=12
O06A Flanigan 81.79 41⇑P **P** 21 31 55.1 +0.1
baz=82,SNR=14
I02A Mapleton 81.80 37⇑P **P** 21 31 55.3 +0.3
baz=82
PAHR Pah Rah Range 81.80 42 *e*P **P** 21 31 55.2 +0.2
comp=Z,25nm,1.0s,mb4.6
R08A Mina 81.83 44⇑P **P** 21 31 55.4 +0.2
baz=82
MNV Mina 81.84 44 *e*P **P** 21 31 55.2 -0.1
MNV pmax pmax
comp=Z,22nm,1.0s,mb4.5
MNV Mina 81.84 44 *e*P **P** 21 31 55.2 0.0
comp=Z,22nm,1.0s,mb4.5
MNV *e*pP pP 21 33 54.4 +1.5
J03A Ideyld Park 81.88 37⇓P **P** 21 31 56.5 +1.1
baz=82
HOG Hogback Mounta 81.91 39 P **P** 21 31 56.1 +0.5
U10A Ash Meadows, A 81.92 46⇑P **P** 21 31 55.8 +0.2
baz=82,SNR=5.9
M06C Likely Place G 82.01 40⇑P **P** 21 31 56.2 0.0
baz=82,SNR=7.1
P07A Fallon 82.01 42⇓P **P** 21 31 56.1 0.0
baz=82
S09A Goldfield 82.05 45⇑P **P** 21 31 56.1 -0.2
baz=82,SNR=9.5
I03A Eugene 82.08 37⇓P **P** 21 31 56.5 +0.1
baz=82
K04A Chiluqin 82.12 39⇓P **P** 21 31 56.7 0.0
baz=82
H02A Toledo 82.13 36⇑P **P** 21 31 56.9 +0.2
baz=82
V11A Goodsprings 82.21 47⇓P **P** 21 31 57.2 0.0
baz=82
Q08A Gabbs 82.23 43 P **P** 21 31 57.2 0.0
baz=82,SNR=15
TPH Tonopah 82.25 44 *e*P **P** 21 31 57.8 +0.5
TPH pmax pmax
comp=Z,24nm,0.9s,mb4.6
TPH Tonopah 82.25 44 *e*P **P** 21 31 57.8 +0.5
comp=Z,24nm,0.9s,mb4.6
L05A Lakeview 82.31 39 P **P** 21 31 58.3 +0.7
baz=82,SNR=17
W12A Cal Nev Ari 82.31 48⇑P **P** 21 31 58.1 +0.5
baz=82
O07A Toulon 82.38 42⇑P **P** 21 31 57.9 0.0
baz=82,SNR=37
CN2 Changchun 82.38 323 *e*P **P** 21 31 57.5 -0.5
CN2 AMB AMB
comp=Z,20nm,0.7s,mb4.7
H03A Soap Creek Ran 82.52 36⇓P **P** 21 31 58.9 +0.2
baz=83,SNR=6.3
HBO Huckleberry Mo 82.54 37 P **P** 21 31 58.8 0.0
V12A Nelson 82.55 47⇓P **P** 21 31 59.0 +0.2
baz=83,SNR=6.2
U11A Corn Creek 82.56 47⇑P **P** 21 31 59.1 +0.2
baz=83
P08A Dixie Valley 82.61 43⇓P **P** 21 31 59.3 +0.2
baz=83
Z14A Wintersburg 82.65 50⇓P **P** 21 31 60.0 +0.6
baz=83,SNR=11
IPM Ipoh 82.68 278 P **P** 21 32 00.7 +1.2
IRO Indian Ridge 82.68 37 P **P** 21 31 59.4 -0.1
Q09A Carvers 82.70 44⇓P **P** 21 31 59.6 0.0
baz=83
SHPR Sheep Range 82.76 47 *e*P **P** 21 32 00.2 +0.3
SHPR *e*pP pP 21 33 59.5 +1.6
115A Sonoran Desert 82.84 51⇑P **P** 21 32 00.8 +0.5
baz=83,SNR=5.5
W13A Hualapai Mount 82.89 48⇓P **P** 21 32 01.1 +0.6
baz=83,SNR=7.5
Y14A Wickenburg 82.91 50⇓P **P** 21 32 00.9 +0.3
baz=83
M07A Soldier Meadow 82.92 41 P **P** 21 32 01.0 +0.3
baz=83,SNR=15
R10A Warm Springs 82.97 45⇑P **P** 21 32 01.5 +0.5
baz=83
K06A Valley Falls 83.10 39⇑P **P** 21 32 02.0 +0.4
baz=83,SNR=35
P09A Austin 83.13 43⇑P **P** 21 32 01.8 +0.1
baz=83
H04A Detroit Lake 83.14 37 P **P** 21 32 01.4 -0.3
baz=83,SNR=7.3
U12A Valley of Fire 83.14 47⇓P **P** 21 32 02.1 +0.4
baz=83,SNR=11
116A Eloy 83.15 51⇑P **P** 21 32 02.6 +0.8
baz=83
L07A Adell 83.18 40⇓P **P** 21 32 02.5 +0.5
baz=83,SNR=11
N08A GE Springer Mi 83.20 42⇓P **P** 21 32 02.2 +0.1
baz=83,SNR=25
X14A Yava 83.26 49⇑P **P** 21 32 03.1 +0.7
baz=83,SNR=13
G04A Mulino 83.30 36⇑P **P** 21 32 03.2 +0.6
baz=83
I05A Bend 83.34 38⇑P **P** 21 32 02.9 +0.2
baz=83

J06A Christmas Vall 83.43 39⇓P **P** 21 32 03.1 -0.1
baz=84,SNR=28
M08A Happy Creek Ra 83.43 41 P **P** 21 32 03.5 +0.3
baz=84,SNR=12
O09A Fish Creek Ran 83.44 43 P **P** 21 32 03.3 0.0
baz=84,SNR=15
W14A Seligman 83.51 49 P **P** 21 32 04.5 +0.9
baz=84,SNR=15
E03A Lebam 83.56 35⇓P **P** 21 32 03.8 -0.1
baz=84,SNR=5.5
BMN Battle Mountai 83.57 42 *e*P **P** 21 32 04.1 +0.2
BMN pmax pmax
comp=Z,19nm,0.9s,mb4.6
BMN Battle Mountai 83.57 42 *e*P **P** 21 32 04.1 +0.1
comp=Z,19nm,0.9s,mb4.6
P10A Eureka 83.60 43⇑P **P** 21 32 04.1 0.0
baz=84
H05A Madras 83.66 37 P **P** 21 32 04.4 +0.1
baz=84,SNR=6.5
Q11A Duckwater 83.70 44⇓P **P** 21 32 04.4 -0.1
baz=84,SNR=5.3
TUC Tucson 83.70 52 *e*P **P** 21 32 05.5 +0.9
X15A Humboldt 83.73 50⇑P **P** 21 32 05.3 +0.6
baz=84,SNR=14
F04A Amboy 83.79 36⇑P **P** 21 32 04.6 -0.4
baz=84,SNR=5.8
D03A Wishkah Elem. 83.82 34⇑P **P** 21 32 04.7 -0.4
baz=84
HOOD Mount Hood Mea 83.83 36 *e*P **P** 21 32 05.4 +0.2
WVOR Wild Horse Val 83.85 40 P **P** 21 32 05.3 0.0
SVW2 Sparrevohn 83.89 11 *e*P **P** 21 32 03.5 -2.0
VIPM Ingram Point 83.92 38 P **P** 21 32 05.7 +0.1
C03A Quillayute Air 83.94 33⇓P **P** 21 32 06.3 +0.6
baz=84
O10A Cortez Mining, 83.95 43⇓P **P** 21 32 05.7 -0.1
baz=84
G05A Wamic 83.97 37⇓P **P** 21 32 05.7 -0.2
baz=84
M09A Marrel Ranch, 83.99 41⇓P **P** 21 32 06.3 +0.3
baz=84,SNR=7.2
J07A Hines 84.00 39⇑P **P** 21 32 05.7 -0.3
baz=84,SNR=13
OOW Octopus West 84.00 33 P **P** 21 32 06.5 +0.5
P11A Circle Ranch, 84.02 44⇓P **P** 21 32 06.0 -0.1
baz=84
PSI Prapat 84.02 275 P **P** 21 32 06.0 -0.2
comp=Z,24nm,0.9s,mb4.7,baz=174,slow=2.9,SNR=13
PSI Prapat 84.02 275 P **P** 21 32 06.0 -0.2
E04A Onalaska 84.04 35⇑P **P** 21 32 06.5 +0.2
baz=84
W15A Williams 84.06 49⇓P **P** 21 32 06.9 +0.5
baz=84
MA2 Magadan 84.13 345*d i*P **P** 21 32 04.9 -1.8
MA2 pmax pmax
comp=Z,42nm,1.7s,mb4.7
MA2 Magadan 84.13 345 *e*P **P** 21 32 04.0 -2.7
comp=Z,39nm,1.4s,mb4.8
N10A Dunphy 84.18 42⇓P **P** 21 32 07.0 +0.1
baz=84
L09A Wilkinson Ranc 84.20 41⇑P **P** 21 32 07.0 0.0
baz=84
F05A White Salmon 84.29 36⇑P **P** 21 32 07.1 -0.3
baz=84
D04A Dobbs Creek Ra 84.32 35⇓P **P** 21 32 07.6 0.0
baz=84
Q12A Willow Creek R 84.34 45⇑P **P** 21 32 07.7 -0.1
baz=84,SNR=7.6
O11A Cowboy Ranch, 84.40 43⇑P **P** 21 32 08.0 0.0
baz=84
P12A McGill 84.53 44⇓P **P** 21 32 08.6 0.0
baz=85
E05A Randle 84.54 35⇓P **P** 21 32 08.1 -0.6
baz=85,SNR=9.4
B04A Port Angeles 84.56 34⇓P **P** 21 32 08.8 0.0
baz=85
GNW Green Mountain 84.60 34 *e*P **P** 21 32 09.0 0.0
TSI Tuntungan 84.61 276 *e*P **P** 21 32 04.6 -4.4
M10A I.L. Ranch, Tu 84.61 42⇑P **P** 21 32 09.2 +0.1
baz=85
N11A Elko Archery C 84.73 43⇓P **P** 21 32 09.4 -0.2
baz=85
D05A Enumclaw 84.81 35⇑P **P** 21 32 10.2 +0.2
baz=85,SNR=6.6
WUAZ Wupatki 84.86 49 *e*P **P** 21 32 10.8 +0.5
comp=Z,15nm,1.1s,mb4.5
ELK Elko 85.00 43 *e*P **P** 21 32 10.8 -0.2
M11A Holland Ranch, 85.03 42⇑P **P** 21 32 11.3 +0.2
baz=85
N12A Clover Valley, 85.19 43⇓P **P** 21 32 11.6 -0.2
baz=85
C05A Tolt Reservoir 85.28 35⇑P **P** 21 32 11.8 -0.5
baz=85,SNR=7.1
A04A Legoe Bay, Lum 85.39 33⇑P **P** 21 32 12.7 -0.1
baz=86
B05A Bryant 85.42 34⇓P **P** 21 32 12.6 -0.4
baz=86,SNR=7.7
M12A Wells 85.57 43⇓P **P** 21 32 13.4 -0.3
baz=86,SNR=7.3
PMR Palmer 85.63 14 *e*P **P** 21 32 12.0 -2.0
N13A Wendover, West 85.72 43⇓P **P** 21 32 14.2 -0.2
baz=86
MVU Marysvale 85.80 46 *e*P **P** 21 32 09.9 -4.9
MVU *e*pP pP 21 34 08.8 -5.2
MSU Marysvale 85.83 46 *e*P **P** 21 32 15.5 +0.6
MSU *e*pP pP 21 34 16.4 +2.3
RPW Rockport 85.84 34 P **P** 21 32 14.2 -0.8
BJT Baijiatuau 85.88 316 *e*P **P** 21 32 15.1 -0.1
BJT pmax pmax
comp=Z,20nm,1.0s
BJT Baijiatuau 85.88 316 *e*P **P** 21 32 15.1 0.0
comp=Z,20nm,1.0s,mb4.7
A05A Maple Falls 85.89 33⇓P **P** 21 32 14.3 -0.9
baz=86
BJI Beijing 85.89 316 P **P** 21 32 15.0 -0.2
BJI AMB AMB
comp=Z,20nm,1.5s,mb4.5
BJI AMB AMB
comp=Z,119nm,5.7s
M13A Montello 86.02 43 P **P** 21 32 15.8 0.0
baz=86,SNR=13
BMO Blue Mountains 86.03 39 *e*P **P** 21 32 15.4 -0.5
BMO pmax pmax
comp=Z,13nm,0.8s,mb4.6
BMO Blue Mountains 86.03 39 *e*P **P** 21 32 15.4 -0.4
comp=Z,13nm,0.8s,mb4.6
SYO Syowa Base 86.12 193⇑*e*P **P** 21 32 15.2 -1.1
SYO Syowa Base 86.12 193⇓*e*PcP PcP 21 32 18.8 +0.7
DUG Dugway 86.28 44 *e*P **P** 21 32 17.0 0.0
GYA Guiyang 86.45 300⇓*i*P **P** 21 32 18.5 +0.7
GYA PP PP 21 35 48.8 -0.6
GYA SKS 21 41 52.3
GYA S S 21 42 04.8 -3.4
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.4
GYA AMB AMB
comp=Z,120nm,6.2s
OD2 Odessa Site #2 86.71 36 P **P** 21 32 18.7 -0.4
TMUT Trail Mountain 86.88 46 *e*P **P** 21 32 20.9 +1.1
HLID Hailey 87.05 41 *e*P **P** 21 32 22.2 +1.5
comp=Z,14nm,1.0s,mb4.5
SPUT South Promonto 87.09 44 *e*P **P** 21 32 20.9 0.0
SRU San Rafael 87.25 46 *e*P **P** 21 32 22.0 +0.4
SRU *e*PP pP 21 34 14.9 -6.4
PNT Penticton 87.36 34 P **P** 21 32 21.8 -0.3
SKAG Skagway 87.63 20 *e*P **P** 21 32 23.2 -0.2
comp=Z,67nm,1.8s,mb5.1
BNM Barren Site 87.64 52 *e*P **P** 21 32 24.2 +0.8
BNM *e*pP pP 21 34 24.8 +1.5
LPM Los Pinos Moun 87.71 52 *e*P **P** 21 32 24.5 +0.8
LTX Lajitas 87.76 58 *e*P **P** 21 32 24.8 +0.8
LTX pmax pmax
comp=Z,19nm,1.1s,mb4.7
LTX Lajitas 87.76 58 *e*P **P** 21 32 24.8 +0.8
comp=Z,19nm,1.1s,mb4.7
LTX *e*pP pP 21 34 25.2 +1.3
XAN Xi'an 88.03 308 P **P** 21 32 25.8 +0.6
XAN AMB AMB
comp=Z,27nm,1.4s,mb4.8
NEW Newport 88.08 36 *e*P **P** 21 32 24.9 -0.6
NEW pmax pmax
comp=Z,11nm,0.9s
NEW Newport 88.08 36 *e*P **P** 21 32 24.9 -0.6
comp=Z,11nm,0.9s,mb4.6
ANMO Albuquerque 88.12 51 *e*P **P** 21 32 25.8 +0.1
ANMO pmax pmax
comp=Z,13nm,1.1s

ANMO	Albuquerque	88.12	51	eP	P	21 32 25.8	+0.1
	comp=Z,13nm,1.1s,mb4.6						
ANMO				epP	pP	21 34 26.9	+1.2
VNA1	Neumayer--Stat	88.34	177	eP	P	21 32 26.5	-0.2
VNA1				e		21 32 29.2	
VNA1				e		21 32 30.0	
VNA1				e		21 32 33.4	
VNA1				e	pP	21 34 27.4	+0.6
VNA1				e		21 36 05.1	
GDL2	Guadalupe Moun	88.46	55	epP	pP	21 34 27.0	-0.3
GDL2				ePP	PP	21 36 08.6	+3.3
AHID	Auburn Hatcher	88.70	43	eP	P	21 32 29.4	+1.0
	comp=Z,18nm,1.0s,mb4.8						
DLBC	Dease Lake	88.72	23	eP	P	21 32 28.0	-0.5
COLA	College	88.81	13	d iP	P	21 32 26.5	-2.4
IMA2	Indian Mountai	88.83	10	eP	P	21 32 27.4	-1.6
RRI2	Red Ridge	88.85	42	eP	P	21 32 29.5	+0.4
KMI	Kunming	89.11	297	P	P	21 32 31.8	+1.5
KMI				PP	PP	21 36 11.4	+1.0
KMI				SKS		21 42 07.5	
KMI				S	S	21 42 31.8	-1.1
KMI				SS	SS	21 48 44.4	+1.4
KMI				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.7						
KMI				AMB	AMB		
	comp=Z,206nm,3.9s						
BSMT	Bassoo Peak	89.15	37	eP	P	21 32 29.9	-0.6
TPAW	Teton Pass	89.16	42	eP	P	21 32 30.8	+0.3
HHC	Hu-ho-hao-te	89.33	315	eP	P	21 32 32.0	+0.7
HHC				PP	PP	21 36 14.0	+1.9
HHC				SKS		21 42 09.1	
HHC				S	S	21 42 33.4	-1.4
HHC				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,106nm,8.0s						
IMW	Indian Meadow	89.37	42	eP	P	21 32 31.9	+0.4
MOOW	Moose Ponds	89.42	42	eP	P	21 32 30.7	-1.0
	comp=Z,8.0nm,0.9s,mb4.5						
LRM	Limekiln Ridge	89.43	40	eP	P	21 32 31.9	+0.1
CHMT	Chamberlain Mo	89.53	39	eP	P	21 32 31.6	-0.7
QLMT	Earthquake Lak	89.54	41	eP	P	21 32 32.9	+0.6
FLWY	Flagg Ranch	89.61	42	eP	P	21 32 33.5	+0.9
BW06	Boulder Array	89.68	43	eP	P	21 32 32.5	-0.5
PDAR	Pinedale Array	89.68	43	P	P	21 32 32.4	-0.6
	comp=Z,14nm,0.9s,mb4.8,baz=214,slow=2.8,SNR=89						
BOZ	Bozeman (W)	89.83	40	eP	P	21 32 33.5	-0.1
BOZ				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
BOZ	Bozeman (W)	89.83	40	eP	P	21 32 33.5	-0.1
	comp=Z,14nm,1.0s,mb4.8						
DAWY	Dawson	90.08	16	eP	P	21 32 33.6	-1.2
HRY	Holter Researc	90.26	39	eP	P	21 32 35.6	0.0
WALA	Waterton Lakes	90.30	36	eP	P	21 32 35.2	-0.6
	comp=Z,12nm,0.9s,mb4.7						
CD2	Chengdu	90.62	303	P	P	21 32 36.0	-1.3
CD2				AP	pP	21 34 35.5	-2.3
CD2				PP	PP	21 36 18.8	-3.4
CD2				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.5						
ISCO	Idaho Springs	90.92	47	eP	P	21 32 38.7	0.0
PHWY	Pilot Hill	91.70	46	eP	P	21 32 42.2	-0.1
YAK	Yakutsk	92.39	338	⇑eP	P	21 32 42.2	-3.2
YAK				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
LZH	Lanzhou	92.66	308	eP	P	21 32 48.1	+1.4
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb5.0						
EDM	Edmonton	92.81	33	eP	P	21 32 46.3	-1.1
INK	Inuvik	94.89	15	eP	P	21 32 54.6	-2.2
ULN	Ulaanbaatar	95.40	319	eP	P	21 32 57.9	-1.2
SONM	Songino Array	95.79	319	P	P	21 32 59.7	-1.2
	comp=Z,0.8nm,0.8s,mb4.0,baz=141,slow=5.5,SNR=3.3						
SONM				PP	PP	21 36 56.6	-5.4
	comp=Z,0.3nm,0.4s,baz=112,slow=11,SNR=3.1						
GTA	Gaotai	96.89	309	eP	P	21 33 06.1	+0.3
GTA				AMB	AMB		
	comp=Z,5.0nm,1.6s,mb4.5						
YKA	Yellowknife Ar	97.19	25	P	P	21 33 04.4	-2.7
	comp=Z,1.1nm,0.7s,mb4.2,baz=241,slow=3.7,SNR=4.5						
YKA	Yellowknife Ar	97.19	25	P	P	21 33 04.4	-2.7
LPAZ	La Paz	102.35	113	PKKPbc	PKKPbc	21 49 29.2	+0.2
	comp=Z,0.8nm,0.6s,baz=75,slow=3.4,SNR=4.6						
ZAL	Zalesovo	110.57	321	PKiKP	PKiKP	21 38 01.2	-2.4
	comp=Z,3.3nm,0.5s,baz=357,slow=3.3,SNR=19						
ZAL	Zalesovo	110.57	321	PKPdf	PKiKP	21 38 01.2	-2.4
MKAR	Makanchi Array	111.17	313	Pdiff	Pdif	21 34 08.6	-0.7
	comp=Z,0.2nm,0.5s,baz=89,slow=5.0,SNR=3.3						
MKAR				PKiKP	PKiKP	21 38 03.1	-1.6
	comp=Z,3.5nm,0.4s,baz=27,slow=0.6,SNR=103						
MKAR				PKKPbc	PKKPbc	21 49 02.4	+0.2
	comp=Z,0.6nm,0.5s,baz=266,slow=3.3,SNR=9.8						
MKAR				PKKPab	PKKPab	21 49 14.5	+0.3
	comp=Z,0.3nm,0.6s,baz=272,slow=4.4,SNR=3.9						
MKAR	Makanchi Array	111.17	313	P	Pdif	21 34 08.6	-0.7
MKAR						21 38 03.1	
NVS	Novosibirsk	111.58	322	⇓iPKIKP	PKiKP	21 38 03.2	-2.3
NVS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NVS				pmax	pmax		
	comp=N,4.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.7s						
BVAR	Borovoye Array	119.13	320	PKP	PKPdf	21 38 18.4	-1.5
	comp=E,21nm,0.4s,baz=122,slow=2.4,SNR=174						
BDFB	Brasilia	119.32	123	PKP	PKPdf	21 38 20.5	+0.2
	comp=E,1.4nm,0.3s,baz=212,slow=5.6,SNR=3.7						
SCHQ	Schefferville	119.39	38	PKP	PKPdf	21 38 18.5	-1.9
	comp=E,1.8nm,0.7s,baz=0.0,slow=20,SNR=3.2						
SCHQ	Schefferville	119.39	38	PKP	PKPdf	21 38 18.5	-1.9
OPO	Ambohidratompo	120.38	232	PKP	PKPdf	21 38 23.9	+1.5
	comp=E,2.8nm,0.6s,baz=249,slow=4.4,SNR=7.0						
SUMG	Summit	123.76	13	ePKPdf	PKPdf	21 38 26.7	-2.2
SUR	Sutherland	123.78	200	PKP	PKPdf	21 38 29.7	+0.8
	comp=E,12nm,0.6s,baz=150,slow=21,SNR=20						
ARU	Arti	125.32	325	i PKIKP	PKPdf	21 38 30.3	-1.5
ARU				e		21 40 23.7	
ARU	Arti	125.32	325	ePKPdf	PKPdf	21 38 30.3	-1.5
ARU				ePP	PP	21 40 25.8	-5.2
KEV	Kevo	128.86	349	epkp		21 38 26.0	
ARCES	ARCESS Array B	129.32	349	PKhKP		21 38 24.1	
	comp=E,3.9nm,1.0s,baz=297,slow=1.3,SNR=12						
ARCES				PKP	PKPdf	21 38 37.6	-1.8
	comp=E,12nm,0.6s,baz=23,slow=0.7,SNR=22						
KLMR	Klimovskoe	132.13	336	i PKIKP	PKPdf	21 38 43.9	-0.9
KLMR				pmax	pmax		
	comp=Z,20nm,1.3s						
JOF	Joensuu	133.45	342	epkp		21 38 36.9	
LSZ	Lusaka	135.40	218	PKP	PKPdf	21 38 51.0	+0.1
	comp=Z,10nm,0.7s,baz=112,slow=2.1						
LSZ	Lusaka	135.40	218	ePKPdf	PKPdf	21 38 53.3	+2.4
KAF	Kangasniemi	135.49	344	epkp		21 38 36.4	
FINES	FINESS Array B	136.11	343	PKhKP		21 38 37.2	
	comp=Z,0.8nm,0.4s,baz=54,slow=3.1,SNR=20						
FINES				PKP	PKPdf	21 38 49.7	-2.5
	comp=Z,4.4nm,0.3s,baz=82,slow=3.1,SNR=14						
FINES				SKPbc	SKPbc	21 41 34.2	+1.5
	comp=Z,4.8nm,0.7s,baz=85,slow=4.6,SNR=11						
OBN	Obninsk	136.95	331	⇓iPKIKP	PKPdf	21 38 52.1	-1.7
OBN				e		21 41 37.3	
OBN				pmax	pmax		
	comp=Z,18nm,0.6s						
VRSR	Storozhevoye	137.88	325	ePKIKP	PKPdf	21 38 54.1	-1.4
VRSR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
VRSR				pmax	pmax		
	comp=N,10.0nm,1.1s						
VRSR				pmax	pmax		
	comp=E,6.0nm,1.1s						
KMBO	Kilima Mbogo	138.65	242	PKhKP		21 38 48.7	
	comp=E,1.2nm,0.5s,baz=90,slow=6.1,SNR=6.7						
KMBO				PKP	PKPdf	21 38 59.5	+2.6
	comp=E,5.9nm,0.8s,baz=57,slow=3.9,SNR=7.8						
KIV	Kislovodsk	138.93	314	i PKIKP	PKPdf	21 38 57.1	-0.3
NB2	NORSAR Subarra	139.42	353	PKP		21 38 48.4	
	comp=Z,5.4nm,0.6s,baz=10,slow=3.2						
NOA	NORSAR Array B	139.42	353	PKhKP		21 38 48.7	
	comp=Z,4.8nm,0.6s,baz=12,slow=2.3,SNR=19						
NOA				PKP	PKPdf	21 38 57.7	-0.6
	comp=Z,0.6nm,0.5s,baz=15,slow=3.9,SNR=3.3						
CUKT	Cukurca	140.12	303	eP	PKPdf	21 38 52.9	-6.6
ERZM	Erzurum	141.16	308	i P	PKPdf	21 38 57.3	-4.1
BEST	Besiri	141.78	305	i P	PKPdf	21 38 58.8	-3.7
ANN	Anapa	142.04	317	⇓iPKHKP	PKPdf	21 38 58.5	-4.5

ANN				pmax	pmax		
	comp=Z,33nm,1.6s						
MARD	Mardin	142.31	304	i P	PKPdf	21 38 59.8	-3.7
EZC	Erzincan	142.35	308	eP	PKPdf	21 39 01.9	-1.6
MLA1	Latheron	142.58	4	⇓eP	PKPdf	21 38 59.1	-4.9
MLA1	Latheron	142.58	4	⇓eP	PKPdf	21 38 59.1	-4.9
KSK	Scoval	143.10	7	⇓eP	PKPdf	21 39 01.4	-3.4
KSK	Scoval	143.10	7	⇓eP	PKPdf	21 39 01.4	-3.4
SUW	Suwalki	143.12	339	ePKPdf	PKPdf	21 39 01.5	-3.4
SUW	Suwalki	143.12	339	ePKPdf	PKPdf	21 39 01.7	-3.2
AKASG	Malin Array Be	143.20	330	PKP	PKPdf	21 39 01.8	-3.3
	comp=Z,38nm,0.4s,baz=43,slow=4.3,SNR=281						
KAC	Achnashellach	143.22	6	⇓eP	PKPdf	21 39 01.6	-3.4
KAC	Achnashellach	143.22	6	⇓eP	PKPdf	21 39 01.6	-3.4
MCD	Coleburn Disti	143.31	4	⇓eP	PKPdf	21 39 01.4	-3.8
MCD	Coleburn Disti	143.31	4	⇓eP	PKPdf	21 39 01.4	-3.8
KPL	Plockton	143.34	6	⇓eP	PKPdf	21 39 01.6	-3.7
KPL	Plockton	143.34	6	⇓eP	PKPdf	21 39 01.6	-3.7
ELZG	Elazig	143.34	307	i P	PKPdf	21 39 04.6	-0.6
MME1	Meikle Cairn	143.59	4	⇓eP	PKPdf	21 39 02.1	-3.6
MME1	Meikle Cairn	143.59	4	⇓eP	PKPdf	21 39 02.1	-3.6
KAR1	Arisaig	143.73	7	⇓eP	PKPdf	21 39 03.1	-2.9
KAR1	Arisaig	143.73	7	⇓eP	PKPdf	21 39 03.1	-2.9
MALT	Malatya	143.82	307	⇓iP	PKPdf	21 39 05.8	-0.3
MALT	Malatya	143.82	307	ePKPdf	PKPdf	21 39 05.8	-0.3
SIM	Simferopol’	144.04	319	ePKIKP	PKPdf	21 39 06.0	-0.5
SIM				pmax	pmax		
	comp=Z,83nm,0.8s						
MUD	Monsted U’grnd	144.14	353	⇓iP	PKPdf	21 39 04.8	-1.8
	comp=Z,116nm,1.1s						
MUD				i		21 39 39.8	
MUD	Monsted U’grnd	144.14	353	⇓iPKIKP	PKPdf	21 39 04.8	-1.8
MUD				pmax	pmax		
	comp=Z,120nm,1.1s						
SVSK	Karacayir	144.33	310	eP	PKPdf	21 39 06.7	-0.3
COP	Copenhagen	144.40	349	⇓iP	PKPdf	21 39 05.6	-1.5
	comp=Z,44nm,1.0s						
COP	Copenhagen	144.40	349	⇓iPKIKP	PKPdf	21 39 05.6	-1.5
COP				pmax	pmax		
	comp=Z,44nm,1.0s						
SVST	Sivas	144.41	310	i P	PKPdf	21 39 08.2	+1.0
BSD	Bornholm Skovb	144.46	347	i P	PKPdf	21 39 05.5	-1.7
	comp=Z,118nm,1.0s						
BSD	Bornholm Skovb	144.46	347	i PKIKP	PKPdf	21 39 05.5	-1.7
BSD				pmax	pmax		
	comp=Z,120nm,1.0s						
EAB	Aberfoyle	144.60	6	⇓eP	PKPdf	21 39 06.0	-1.5
EAB	Aberfoyle	144.60	6	⇓eP	PKPdf	21 39 06.0	-1.5
GZT	Gaziantep	144.76	306	i P	PKPdf	21 39 08.2	+0.5
EDI	Edinburgh	144.96	5	⇓eP	PKPdf	21 39 08.0	-0.1
EDI	Edinburgh	144.96	5	⇓eP	PKPdf	21 39 08.0	-0.1
PGBU	Glenifferbraes	144.96	6	⇓eP	PKPdf	21 39 07.0	-1.1
PGBU	Glenifferbraes	144.96	6	⇓eP	PKPdf	21 39 07.0	-1.1
ESY	Stoneypath	145.01	4	⇓eP	PKPdf	21 39 07.0	-1.1
ESY	Stoneypath	145.01	4	⇓eP	PKPdf	21 39 07.0	-1.1
EAU	Auchinoon	145.02	5	⇓eP	PKPdf	21 39 07.5	-0.6
EAU	Auchinoon	145.02	5	⇓eP	PKPdf	21 39 07.5	-0.6
EBL	Broad Law	145.12	4	⇓eP	PKPdf	21 39 07.5	-0.8
EBL	Broad Law	145.12	4	⇓eP	PKPdf	21 39 07.5	-0.8
BOYT	Boyabat	145.20	313	i P	PKPdf	21 39 09.8	+1.4
WAR	Warsaw	145.32	339	ePKP	PKPdf	21 39 09.4	+0.7
ESK	Eskdalemuir	145.56	5	ePKIKP	PKPdf	21 39 08.7	-0.4
GKP	Gorka Klasztor	145.58	343	i PKPdf	PKPdf	21 39 09.8	+0.7
BHH	Howats Hill	145.78	5	⇓eP	PKPdf	21 39 09.4	0.0
BHH	Howats Hill	145.78	5	⇓eP	PKPdf	21 39 09.4	0.0
CORM	Corum	145.91	312	eP	PKPdf	21 39 11.7	+2.0
COBT	Iskenderun	146.01	305	i P	PKPdf	21 39 12.1	+2.3
KOZT	Kozan	146.03	306	eP	PKPdf	21 39 11.4	+1.5
LVV	L’vov	146.13	333	⇓iPKIKP	PKPdf	21 39 11.0	+1.0
BBO1	Bothel	146.13	5	⇓eP	PKPdf	21 39 10.7	+0.7
BBO1	Bothel	146.13	5	⇓eP	PKPdf	21 39 10.7	+0.7
BALT	Daday	146.17	314	i P	PKPdf	21 39 11.8	+1.7
HTY	Hatay	146.22	304	eP	PKPdf	21 39 12.1	+1.9
CKE	Keswick	146.29	5	⇓eP	PKPdf	21 39 11.2	+0.9
CKE	Keswick	146.29	5	⇓eP	PKPdf	21 39 11.2	+0.9
CDAG	Cicekdag	146.31	311	i P	PKPdf	21 39 12.1	+1.7
XDE	Dent Fell	146.34	5	⇓eP	PKPdf	21 39 11.5	+1.1
XDE	Dent Fell	146.34	5	⇓eP	PKPdf	21 39 11.5	+1.1
IAS	Iasi	146.38	327	PKP2	PKPab	21 39 12.7	-2.6
BSEG	Bad Segeberg	146.43	351	ePKPdf	PKPdf	21 39 09.7	-0.9
BSEG				ePKPbc	PKPbc	21 39 12.2	-0.8
BSEG	Bad Segeberg	146.43	351	ePKP2	PKPbc	21 39 12.2	-0.8
GIM	North Isle of	146.46	6	⇓eP	PKPdf	21 39 11.8	+1.1
GIM	North Isle of	146.46	6	⇓eP	PKPdf	21 39 11.8	+1.1
FKH	Fakeheh	146.51	301	eP	PKPbc	21 39 13.8	+0.6
CDU1	Dunnerdale	146.54	5	⇓eP	PKPdf	21 39 11.9	+1.2
CDU1	Dunnerdale	146.54	5	⇓eP	PKPdf	21 39 11.9	+1.2
DMUB	Kingscourt	146.54	9	eP	PKPdf	21 39 09.2	-1.5
DMUB	Kingscourt	146.54	9	⇓iP	PKPdf	21 39 12.1	+1.4
WIM	Isle of Man	146.59	7	⇓eP	PKPdf	21 39 12.2	+1.4
WIM	Isle of Man	146.59	7	⇓eP	PKPdf	21 39 12.2	+1.4
ELDT	Eldivan	146.61	313	i P	PKPbc	21 39 13.5	+0.1
KARA	Karaisali	146.69	306	eP	PKPbc	21 39 13.3	-0.3
BRTR	Keskin Array B	146.79	311	PKP	PKPdf	21 39 10.4	-0.7
	comp=Z,18nm,0.6s,baz=134,slow=3.3,SNR=95						
BRTR				PKPbc	PKPbc	21 39 13.8	-0.1
	comp=Z,20nm,0.6s,baz=131,slow=4.0,SNR=105						
KWP	Kalwaria	146.82	334	i PKPdf	PKPbc	21 39 13.4	-0.6
KAMT	Kaman	146.88	311	i P	PKPbc	21 39 13.6	-0.6
DCN	Croghan	147.03	10	eP	PKPdf	21 39 10.2	-1.3
DCN	Croghan	147.03	10	⇓iP	PKPbc	21 39 13.4	-1.2
RUE	Ruedersdorf	147.16	346	ePKPdf	PKPdf	21 39 11.2	-0.6
RUE				ePKPbc	PKPbc	21 39 14.0	-0.9
RUE				e		21 39 49.3	
RUE	Ruedersdorf	147.16	346	ePKPdf	PKPbc	21 39 13.9	-1.1
DLF	Lyons Farm	147.19	9	eP	PKPdf	21 39 10.5	-1.3
DLF	Lyons Farm	147.19	9	⇓iP	PKPdf	21 39 13.6	+1.8
BHL	Bhannes	147.19	300	eP	PKPbc	21 39 15.3	+0.3
MERS	Mersin	147.22	306	eP	PKPbc	21 39 14.6	-0.5
BURAR	Bucovina Array	147.24	330	⇓iP	PKPbc	21 39 14.9	-0.2
BURAR	Bucovina Array	147.24	330	⇓PKP2	PKPbc	21 39 15.0	-0.1
DSB	Dublin	147.26	9	ePKPdf	PKPbc	21 39 13.9	-1.2
ANTO	Ankara	147.31	312	⇑iP	PKPbc	21 39 15.1	-0.2
LOD	Lodumlu	147.33	312	eP	PKPbc	21 39 15.2	-0.2
WCB1	Church Bay	147.36	7	⇓eP	PKPdf	21 39 13.9	+1.8
WCB1	Church Bay	147.36	7	⇓eP	PKPdf	21 39 13.9	+1.8
WME	Myndd Eilian	147.36	6	eP	PKPdf	21 39 13.9	+1.8
WME	Myndd Eilian	147.36	6	eP	PKPdf	21 39 13.9	+1.8
CFR	Carcaliu	147.39	324	⇓iP	PKPbc	21 39 14.8	-0.7
CFR	Carcaliu	147.39	324	⇓P	PKPbc	21 39 14.8	-0.7
OJC	Ojcow	147.44	338	ePKP	PKPbc	21 39 14.8	-0.8
WLF1	Llynfaes	147.46	7	⇓eP	PKPdf	21 39 14.2	+1.9
WLF1	Llynfaes	147.46	7	⇓eP	PKPdf	21 39 14.2	+1.9
YRC	Rhoscolyn	147.48	7	⇓eP	PKPdf	21 39 14.0	+1.8
YRC	Rhoscolyn	147.48	7	⇓eP	PKPdf	21 39 14.0	+1.8
SGKT	Sivrigoynuk	147.50	314	i P	PKPbc	21 39 15.2	-0.6
KOLS	Kolonicke sedl	147.54	334	ePKP	PKPbc	21 39 15.1	-0.8
WPM1	Penmaenmawr	147.54	6	⇓eP	PKPbc	21 39 14.4	-1.5
WPM1	Penmaenmawr	147.54	6	⇓eP	PKPbc	21 39 14.4	-1.5
MEST	Erdemli	147.60	306	i P	PKPbc	21 39 15.8	-0.2
YLL	Llanberis	147.63	6	⇓eP	PKPdf	21 39 14.2	+1.7
YLL	Llanberis	147.63	6	⇓eP	PKPdf	21 39 14.2	+1.7
TIRR	Tirgusor	147.68	323	⇓iP	PKPbc	21 39 15.6	-0.7
TIRR	Tirgusor	147.68	323	⇓P	PKPbc	21 39 15.6	-0.6
VRI	Vrincioaia	147.70	326	⇑iP	PKPbc	21 39 15.5	-0.8
VRI	Vrincioaia	147.70	326	P	PKPbc	21 39 16.4	+0.1
KBI1	Birley Grange	147.73	3	⇓eP	PKPbc	21 39 14.9	-1.4
KBI1	Birley Grange	147.73	3	⇓eP	PKPbc	21 39 14.9	-1.4
PLOR	Plostina	147.75	326	⇑iP	PKPbc	21 39 15.6	-0.8
YRE	Yr Eifl	147.76	7	⇓eP	PKPdf	21 39 14.7	+1.9
YRE	Yr Eifl	147.76	7	⇓eP	PKPdf	21 39 14.7	+1.9
HARR	Harsova	147.81	323	⇑iP	PKPbc	21 39 16.3	-0.3
HARR	Harsova	147.81	323	⇑P	PKPbc	21 39 16.3	-0.3
NRDL	Niedersach Rie	147.86	350	ePKPbc	PKPbc	21 39 15.9	-0.8
CRVS	Cervenica-Dubn	147.89	335	ePKP	PKPbc	21 39 16.2	-0.6
NIE	Niedzica	147.91	337	ePKP	PKPbc	21 39 16.8	-0.1
KWE	Weaver Farm	147.94	4	⇓eP	PKPbc	21 39 15.8	-1.1
KWE	Weaver Farm	147.94	4	⇓eP	PKPbc	21 39 15.8	-1.1
SBD1	Bryn Du	147.95	5	⇓eP	PKPbc	21 39 15.8	-1.2
SBD1	Bryn Du	147.95	5	⇓eP	PKPbc	21 39 15.8	-1.2
WIT	Witteveen	147.99	354	ePKPpre	PKPbc	21 39 16.9	-0.2
KSP	Ksiaz	148.01	342	ePKPdf	PKPbc	21 39 16.8	-0.3
KSP	Ksiaz	148.01	342	ePKP2	PKPbc	21 39 16.7	-0.4
IKL	Isikli	148.06	305	i P	PKPbc	21 39 16.4	-0.9
MDU	Mudurnu	148.12	314	eP	PKPbc	21 39 16.6	-0.7
HENT	Hendek	148.16	315	i P	PKPbc	21 39 16.7	-0.7
PSN	Preselentsi	148.28	322	P	PKPbc	21 39 17.5	-0.3
OKC	Ostrava-Krasne	148.32	339	ePKPDF	PKPdf	21 39 10.8	-2.9
OKC				⇑ePKP	PKPdf	21 39 17.2	+3.5
OKC				ePKPAB	PKPab	21 39 22.3	-0.9

MLR	Muntele Rosu	148.36	326	⇓iP	PKPbc	21 39 17.1	-0.9
MLR	Muntele Rosu	148.36	326	P	PKPbc	21 39 17.4	-0.5
KDHN	Kadinhani	148.37	310	i P	PKPbc	21 39 17.5	-0.5
HLM1	Long Mynd	148.37	5	⇓eP	PKPbc	21 39 16.5	-1.4
HLM1	Long Mynd	148.37	5	⇓eP	PKPbc	21 39 16.5	-1.4
IBBN	Ibbenburen	148.37	353	ePKPdf	PKPdf	21 39 13.3	-0.4
IBBN				ePKPbc	PKPbc	21 39 17.2	-0.8
IBBN				ePKPab	PKPab	21 39 22.1	-1.3
KIZT	Kizilcal	148.38	311	i P	PKPbc	21 39 17.6	-0.5
UPC	Upice	148.39	342	⇑ePKP	PKPdf	21 39 17.3	+3.5
UPC				ePKPAB	PKPab	21 39 22.8	-0.7
CLL	Collm	148.43	346	ePKPdf	PKPdf	21 39 13.2	-0.6
CLL				⇓iPKPbc	PKPbc	21 39 17.4	-0.7
	comp=Z,79nm,0.7s						
CLL				ePKPab	PKPab	21 39 22.2	-1.4
CLL				e		21 39 52.7	
CLL				epPKPdf	pPKPdf	21 41 21.3	-1.4
CLL				epPKPbc	pPKPbc	21 41 25.5	+0.3
CLL				eSKPdf	SKPdf	21 41 53.9	-1.8
CLL	Collm	148.43	346	i PKIKP	PKPdf	21 39 13.0	-0.8
	comp=Z,logA/T=0.9						
CLL				i PKP1	PKPbc	21 39 17.4	-0.7
CLL				i		21 39 19.8	
CLL				ePKP2	PKPab	21 39 22.0	-1.6
CLL				i		21 41 19.7	
CLL				e		21 41 26.0	
CLL				i		21 41 53.9	
CLL	Collm	148.43	346	i PKPdf	PKPdf	21 39 13.0	-0.8
	comp=Z,8.0nm,1.1s						
CLL				⇓iPKPbc	PKPbc	21 39 17.4	-0.7
	comp=Z,78nm,0.8s						
CLL				i PKiKP	PKiKP	21 39 19.8	+0.5
CLL				ePKPab	PKPab	21 39 22.0	-1.6
	comp=Z,37nm,0.9s						
CLL				i pPKiKP		21 41 19.7	
CLL				ex	x	21 41 26.0	
CLL				i SKPdf	SKPdf	21 41 53.9	-1.8
	comp=Z,11nm,1.5s						
CLL	Collm	148.43	346	⇓iPKIKP	PKPdf	21 39 13.0	-0.8
CLL				e		21 39 22.0	
CLL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CLL				pmax	pmax		
	comp=Z,78nm,0.8s						
CLL				pmax	pmax		
	comp=Z,37nm,0.9s						
CLZ	Clausthal	148.44	349	ePKPdf	PKPdf	21 39 13.2	-0.7
CLZ				ePKPbc	PKPbc	21 39 17.5	-0.7
CLZ				ePKPab	PKPab	21 39 22.6	-1.1
CLZ	Clausthal	148.44	349	ePKP2	PKPab	21 39 22.6	-1.1
DPC	Dobruska-Polom	148.44	342	ePKPDF	PKPdf	21 39 13.6	-0.3
DPC				⇑ePKP	PKPdf	21 39 18.0	+4.1
DPC				ePKPAB	PKPab	21 39 22.9	-0.8
DPC				epPKP	pPKPdf	21 41 25.8	+3.1
DPC	Dobruska-Polom	148.44	342	ePKHKP	PKPdf	21 39 13.6	-0.3
DPC				e		21 39 22.9	
ERMK	Ermenek	148.51	307	i P	PKPbc	21 39 18.3	-0.1
MORC	Moravsky Berou	148.57	340	⇓iP	PKPbc	21 39 17.7	-0.8
MORC	Moravsky Berou	148.57	340	PKP2	PKPab	21 39 18.4	-5.8
MORC	Moravsky Berou	148.57	340	ePKPdf	PKPdf	21 39 13.6	-0.5
BRG	Berggiesshubel	148.61	345	ePKPdf	PKPdf	21 39 13.6	-0.5
BRG				ePKPbc	PKPbc	21 39 17.9	-0.7
BRG				ePKPab	PKPab	21 39 23.3	-1.1
BRG	Berggiesshubel	148.61	345	ePKP	PKPdf	21 39 13.7	-0.4
	comp=Z,8.5nm,1.4s						
BRG				i		21 39 18.1	
	comp=Z,27nm,1.0s						
BRG				i		21 39 23.3	
	comp=Z,12nm,0.8s						
BRG				i		21 39 53.3	
	comp=Z,5.7nm,0.9s						
BRG	Berggiesshubel	148.61	345	ePKHKP	PKPdf	21 39 13.7	-0.4
BRG				i		21 39 23.3	
BRG				pmax	pmax		
	comp=Z,9.0nm,1.4s						
BRG				pmax	pmax		
	comp=Z,27nm,1.0s						
BRG				pmax	pmax		
	comp=Z,12nm,0.8s						
BRG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
FBE	Freiberg	148.71	345	ePKPdf	PKPdf	21 39 13.9	-0.4
FBE				ePKPbc	PKPbc	21 39 18.5	-0.3
FBE				ePKPab	PKPab	21 39 23.6	-1.2
FBE				e		21 39 53.4	
CSS	Prodhromos	148.75	303	ePKPdf	PKPbc	21 39 18.7	-0.3
HTR	Trewern Hill	148.77	6	⇓eP	PKPbc	21 39 17.5	-1.5
HTR	Trewern Hill	148.77	6	⇓eP	PKPbc	21 39 17.5	-1.5
PVCC	Panska Ves	148.77	344	⇑ePKP	PKPbc	21 39 18.5	-0.5
PVCC				epPKP	pPKPdf	21 41 26.2	+3.0
ESKT	Eskisehir	148.81	313	i P	PKPbc	21 39 18.4	-0.7
WTSB	Winterswijk	148.82	354	ePKiKP	PKiKP	21 39 13.7	-6.4
	comp=Z,20nm,1.1s						
WTSB				i PKPpre		21 39 18.2	
	comp=Z,102nm,1.1s						
WTSB				ePKPab	PKPab	21 39 22.8	-2.4
	comp=Z,28nm,1.1s						
VOIR		148.86	327	⇓iP	PKPbc	21 39 18.3	-0.9
VOIR		148.86	327	⇓P	PKPbc	21 39 18.3	-0.9
HAE	Alders End	148.87	5	⇓eP	PKPbc	21 39 17.7	-1.5
HAE	Alders End	148.87	5	⇓eP	PKPbc	21 39 17.7	-1.5
MCH1	Michaelchurch	148.87	5	⇓eP	PKPbc	21 39 17.8	-1.5
MCH1	Michaelchurch	148.87	5	⇓eP	PKPbc	21 39 17.8	-1.5
BORA	Eskisehir	148.91	314	i P	PKPbc	21 39 18.9	-0.4
PICO	Pico	148.94	49	ePKP	PKPbc	21 39 19.8	+0.4
SRBC	Serra Branca	148.98	48	ePKP	PKPbc	21 39 19.7	+0.2
ROSA	Rosais	148.98	49	ePKP	PKPbc	21 39 19.6	+0.1
DRGR		149.00	331	⇓iP	PKPbc	21 39 18.8	-0.7
PMAN	Manadas	149.12	49	ePKP	PKPbc	21 39 19.9	+0.1
PID	Ribeirinha	149.19	49	ePKP	PKPbc	21 39 19.6	-0.4
VYHS	Vyhne	149.23	337	ePKP	PKPbc	21 39 19.3	-0.8
VYHS				e		21 39 26.2	
VYHS	Vyhne	149.23	337	ePKHKP	PKPbc	21 39 19.3	-0.8
VYHS				e		21 39 26.3	
HGH	Gray Hill	149.25	5	⇓eP	PKPbc	21 39 18.6	-1.5
HGH	Gray Hill	149.25	5	⇓eP	PKPbc	21 39 18.6	-1.5
PRU	Pruhonice	149.27	343	ePKPDF	PKPdf	21 39 14.2	-1.0
PRU				⇑ePKP	PKPdf	21 39 19.2	+4.0
PRU				ePKPAB	PKPab	21 39 26.4	-0.7
PRU				epPKP	pPKPdf	21 41 27.0	+3.0
PRU	Pruhonice	149.27	343	ePKIKP	PKPdf	21 39 14.2	-1.0
PRU				e		21 39 26.4	
BUG	Bochum--Univer	149.28	353	ePKPdf	PKPdf	21 39 14.4	-0.8
BUG				ePKPbc	PKPbc	21 39 19.2	-1.0
VRAC	Vranov	149.28	340	⇓iP	PKPbc	21 39 19.3	-0.9
PSZ	Piszkesteto	149.30	335	⇓iP	PKPbc	21 39 19.8	-0.5
PSZ	Piszkesteto	149.30	335	ePKPdf	PKPbc	21 39 19.2	-1.0
MOX	Moxa	149.35	347	ePKPdf	PKPdf	21 39 14.6	-0.7
MOX				ePKPbc	PKPbc	21 39 19.7	-0.7
MOX				ePKPab	PKPab	21 39 25.9	-1.5
MOX	Moxa	149.35	347	ePKP	PKPdf	21 39 13.9	-1.4
MOX				e		21 39 19.6	
	comp=Z,60nm,1.4s						
TANN	Tannenbergstha	149.39	346	ePKPdf	PKPdf	21 39 14.6	-0.8
TANN				ePKPbc	PKPbc	21 39 20.0	-0.5
TANN				ePKPab	PKPab	21 39 26.4	-1.2
TANN				e		21 39 55.2	
WERD	Werda	149.39	346	ePKPdf	PKPdf	21 39 14.8	-0.6
WERD				ePKPbc	PKPbc	21 39 20.0	-0.5
WERD				ePKPab	PKPab	21 39 26.5	-1.1
UBBA	Unterbreizbach	149.49	349	ePKPdf	PKPdf	21 39 14.8	-0.7
UBBA				ePKPbc	PKPbc	21 39 19.8	-0.9
NKC	Novy Kostel	149.56	346	⇑ePKP	PKPdf	21 39 20.4	+4.8
NKC				ePKPAB	PKPab	21 39 27.1	-1.2
NKC				epPKP	pPKPdf	21 41 24.0	-0.5
NKC	Novy Kostel	149.56	346	ePKHKP	PKPbc	21 39 20.4	-0.5
NKC				e		21 39 27.1	
TREC	Trest	149.63	342	ePKPDF	PKPdf	21 39 14.9	-0.8
TREC				⇑ePKP	PKPdf	21 39 20.2	+4.5
ULDT	Uludag	149.66	315	i P	PKPbc	21 39 20.6	-0.5
SMOL	Smolenice	149.70	339	ePKP	PKPbc	21 39 21.2	0.0
SMOL				e		21 39 28.8	
ISP	Isparta	149.80	310	ePKHKP	PKPbc	21 39 20.6	-0.8
TSA1	Sevenoaks	149.81	2	⇓eP	PKPbc	21 39 20.4	-1.1
TSA1	Sevenoaks	149.81	2	⇓eP	PKPbc	21 39 20.4	-1.1
SZH	Strazhica	149.82	323	eP	PKPbc	21 39 21.6	+0.1
TKTP	Tekketepe	149.85	311	i P	PKPbc	21 39 20.6	-0.9
MANZ	Manzenberg	149.87	346	ePKPdf	PKPdf	21 39 15.6	-0.5
MANZ				ePKPbc	PKPbc	21 39 21.1	-0.5
JMB	Yambol	149.95	321	P	PKPbc	21 39 21.0	-0.8
GDZ	Gediz	149.95	313	i P	PKPbc	21 39 20.7	-1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GZR	Gura Zlata	150.01	329	⇓iP	PKPbc	21 39 21.2	-0.7
ROTZ	Rotzenmuhle	150.05	346	ePKPbc	PKPbc	21 39 21.3	-0.7
ROTZ				ePKPab	PKPab	21 39 29.7	-0.6
ROTZ				e		21 39 56.6	
BEBN	Eben Emael	150.08	355	PKPbc	PKPbc	21 39 21.3	-0.9
BEBN				PKPab	PKPab	21 39 29.0	-1.4
ZST	Bratislava	150.09	339	ePKP	PKPbc	21 39 21.7	-0.4
HGN	Heimansgroeve	150.09	354	ePKiKP	PKiKP	21 39 15.7	-7.0
	comp=Z,7.7nm,1.2s						
HGN				i PKPpre		21 39 21.3	
	comp=Z,31nm,1.1s						
HGN				ePKPab	PKPab	21 39 28.4	-2.1
	comp=Z,32nm,1.6s						
UCC	Uccle	150.18	356	PKPbc	PKPbc	21 39 21.5	-0.8
UCC				PKPab	PKPab	21 39 29.1	-1.8
PVL	Pavlikeni	150.19	323	eP	PKPbc	21 39 22.5	+0.1
MEM	Membach	150.24	354	PKP	PKPdf	21 39 16.1	-0.6
MEM				PKPbc	PKPbc	21 39 21.7	-0.8
MEM				PKPab	PKPab	21 39 29.5	-1.6
CRAR	CRAIOVA	150.27	327	⇓iP	PKPbc	21 39 22.4	-0.1
KHC	Kasperske Hory	150.31	344	ePKPDF	PKPdf	21 39 16.0	-0.8
KHC				⇑ePKP	PKPdf	21 39 22.2	+5.4
KHC				ePKPAB	PKPab	21 39 30.8	-0.6
KHC				epPKP	pPKPdf	21 41 31.1	+5.4
KHC	Kasperske Hory	150.31	344	ePKIKP	PKPdf	21 39 16.0	-0.8
KHC				e		21 39 30.8	
TNS	Taunus Mts	150.32	351	ePKPbc	PKPbc	21 39 21.9	-0.8
TNS				ePKPab	PKPab	21 39 30.2	-1.3
DYA	Yadsworthy	150.32	7	⇓eP	PKPbc	21 39 21.2	-1.5
DYA	Yadsworthy	150.32	7	⇓eP	PKPbc	21 39 21.2	-1.5
GRF	Grafenberg Arr	150.34	347	ePKPbc	PKPbc	21 39 22.0	-0.7
GRF				ePKPab	PKPab	21 39 30.9	-0.6
GRF				e		21 39 57.4	
GRF				epPKPbc	pPKPbc	21 41 29.9	-0.3
BZS	Buzias	150.39	331	⇓iP	PKPbc	21 39 22.0	-0.8
SNF	Seneffe	150.47	356	PKP	PKPdf	21 39 16.6	-0.5
SNF				PKPbc	PKPbc	21 39 21.9	-1.1
SNF				PKPab	PKPab	21 39 30.6	-1.5
WET	Wettzell	150.47	345	ePKPdf	PKPdf	21 39 16.3	-0.7
WET				ePKPbc	PKPbc	21 39 22.1	-0.9
WET				ePKPab	PKPab	21 39 31.4	-0.7
BCLA	Clavier	150.49	355	PKPbc	PKPbc	21 39 22.1	-1.0
BCLA				PKPab	PKPab	21 39 30.6	-1.6
MENF	Mencas	150.50	359	PKP	PKPdf	21 39 22.0	+4.9
GEC2	GERESS Array S	150.54	343	ePKPdf	PKPdf	21 39 16.5	-0.6
GEC2				ePKPbc	PKPbc	21 39 22.5	-0.7
GERES	GERESS Array B	150.54	343	PKP	PKPdf	21 39 16.1	-1.1
	comp=Z,1.1nm,0.8s,baz=124,slow=0.5,SNR=9.7						
GERES				PKPbc	PKPbc	21 39 22.9	-0.2
	comp=Z,14nm,0.6s,baz=29,slow=2.3,SNR=101						
CONA	Conrad Observa	150.73	340	⇓iPKPdf	PKPdf	21 39 16.6	-0.9
	comp=Z,2.4nm,0.9s,SNR=29						
CONA				⇓iPKPbc	PKPbc	21 39 22.4	-1.2
	comp=Z,30nm,0.6s						
CONA				⇑iPKPab	PKPab	21 39 32.2	-1.0
	comp=Z,19nm,1.1s						
DIM	Dimitrovgrad	150.82	321	P	PKPdf	21 39 23.2	+5.6
DOU	Dourbes	150.86	356	PKP	PKPdf	21 39 17.4	-0.3
DOU				PKPbc	PKPbc	21 39 23.2	-0.7
DOU				PKPab	PKPab	21 39 32.2	-1.5
BAIF	Baives	150.92	356	ePKIKP	PKPdf	21 39 17.3	-0.4
KDZ	Kurdzhali	151.14	321	P	PKPbc	21 39 24.0	-0.5
WLF	Walferdange	151.16	354	ePKPdf	PKPdf	21 39 17.9	-0.2
WLF				ePKPbc	PKPbc	21 39 24.2	-0.4
WLF				ePKPab	PKPab	21 39 33.7	-1.3
WLF	Walferdange	151.16	354	PKP	PKPdf	21 39 17.8	-0.3
WLF				PKPbc	PKPbc	21 39 24.4	-0.2
WLF				PKPab	PKPab	21 39 33.9	-1.1
WLF	Walferdange	151.16	354	ePKPdf	PKPbc	21 39 24.4	-0.1
PKSM	Moragy	151.19	335	⇑iP	PKPbc	21 39 23.0	-1.7
ALN	Alexandroupoli	151.21	319	eP	PKPbc	21 39 23.5	-1.2
MOA	Molln	151.29	342	⇓i	PKPbc	21 39 24.2	-0.7
	comp=Z,11nm,0.5s						
MOA	Molln	151.29	342	⇑i	PKPab	21 39 35.3	-0.3
	comp=Z,12nm,1.1s						
MOA	Molln	151.29	342	⇑iPKPdf	PKPdf	21 39 17.4	-0.9
	comp=Z,2.6nm,0.9s,SNR=14						
MOA				⇓iPKPbc	PKPbc	21 39 24.2	-0.7
	comp=Z,11nm,0.5s						
MOA				⇑iPKPab	PKPab	21 39 35.3	-0.3
	comp=Z,12nm,1.1s						
RZN	Rozhen	151.52	322	eP	PKPbc	21 39 24.7	-0.7
BEO	Belgrade	151.53	331	i P	PKPbc	21 39 25.3	-0.1
SVIS	Svilajnac	151.57	329	i P	PKPbc	21 39 24.5	-1.0
STU	Stuttgart	151.61	349	ePKPbc	PKPbc	21 39 25.0	-0.6
STU	Stuttgart	151.61	349	ePKPdf	PKPbc	21 39 25.1	-0.5
AYDN	Tasoluk	151.74	312	i P	PKPbc	21 39 26.0	+0.1
FUR	Furstenfeldbru	151.77	346	ePKPdf	PKPdf	21 39 18.3	-0.7
FUR				ePKPbc	PKPbc	21 39 25.1	-0.8
FUR				ePKPab	PKPab	21 39 37.0	-0.6
VTS	Vitosha	151.77	325	i P	PKPbc	21 39 25.3	-0.7
KDAG	Bornova	151.79	314	i P	PKPbc	21 39 25.2	-0.8
PERS	Pernice	152.11	340	i PKPbc	PKPbc	21 39 25.4	-1.3
GRUS	Gruza	152.11	329	i P	PKPbc	21 39 26.4	-0.3
MMB	Musomiste	152.15	322	i P	PKPbc	21 39 26.0	-0.8
BFO	Black Forest	152.18	350	ePKPbc	PKPbc	21 39 25.7	-1.2
BFO				ePKPab	PKPab	21 39 37.9	-1.4
KBA	Koelnbreinsper	152.25	342	⇑i	PKPbc	21 39 25.9	-1.1
	comp=Z,16nm,0.6s						
KBA	Koelnbreinsper	152.25	342	⇑iPKPdf	PKPdf	21 39 18.9	-0.8
	comp=Z,3.8nm,0.7s						
KBA				⇑iPKPbc	PKPbc	21 39 25.9	-1.1
	comp=Z,16nm,0.6s						
FLN	La Foliniere	152.26	3	ePKIKP	PKPdf	21 39 18.5	-1.2
	comp=Z,33nm,1.0s						
DIVS	Divcibare	152.29	330	i P	PKPbc	21 39 26.6	-0.5
DIVS	Divcibare	152.29	330	eP	PKPbc	21 39 26.6	-0.5
LDF	La Druitiere	152.44	2	ePKIKP	PKPdf	21 39 19.1	-0.9
ROSF	Rostrenen	152.47	7	ePKIKP	PKPdf	21 39 19.4	-0.6
WATA	Walderalm	152.48	345	⇓i	PKPbc	21 39 26.5	-1.0
	comp=Z,14nm,1.1s						
WATA	Walderalm	152.48	345	⇑i	PKPab	21 39 40.0	-0.5
	comp=Z,15nm,1.0s						
WATA	Walderalm	152.48	345	⇑iPKPdf	PKPdf	21 39 19.1	-1.0
	comp=Z,5.3nm,1.4s,SNR=12						
WATA				⇓iPKPbc	PKPbc	21 39 26.5	-1.0
	comp=Z,14nm,1.1s						
WATA				⇑iPKPab	PKPab	21 39 40.0	-0.5
	comp=Z,15nm,1.0s						
WTTA	Wattenberg	152.53	345	i	PKPbc	21 39 26.9	-0.7
	comp=Z,21nm,0.4s,SNR=22						
WTTA	Wattenberg	152.53	345	⇓i	PKPab	21 39 40.0	-0.8
	comp=Z,15nm,0.5s						
WTTA	Wattenberg	152.53	345	⇑iPKPdf	PKPdf	21 39 19.5	-0.6
	comp=Z,9.0nm,1.5s						
WTTA				i PKPbc	PKPbc	21 39 26.9	-0.7
	comp=Z,21nm,0.4s,SNR=22						
WTTA				⇓iPKPab	PKPab	21 39 40.0	-0.8
	comp=Z,15nm,0.5s						
SRS	Serrai	152.54	322	eP	PKPbc	21 39 26.0	-1.6
MOTA	Moosalm	152.58	346	⇓i	PKPbc	21 39 26.7	-1.0
	comp=Z,16nm,1.0s						
MOTA	Moosalm	152.58	346	⇑i	PKPab	21 39 40.1	-0.9
	comp=Z,18nm,1.2s						
MOTA	Moosalm	152.58	346	⇑iPKPdf	PKPdf	21 39 19.2	-1.0
	comp=Z,8.2nm,1.1s						
MOTA				⇓iPKPbc	PKPbc	21 39 26.7	-1.0
	comp=Z,16nm,1.0s						
MOTA				⇑iPKPab	PKPab	21 39 40.1	-0.9
	comp=Z,18nm,1.2s						
THEF	They Montfort	152.60	353	PKP	PKPbc	21 39 26.9	-0.9
CHOS	Chios island	152.62	315	eP	PKPbc	21 39 26.9	-0.9
SQTA	Sankt Quirin	152.67	345	⇓i	PKPbc	21 39 27.2	-0.8
	comp=Z,12nm,0.9s						
SQTA	Sankt Quirin	152.67	345	⇓i	PKPab	21 39 40.4	-1.0
	comp=Z,12nm,1.1s						
SQTA	Sankt Quirin	152.67	345	⇓iPKPdf	PKPdf	21 39 19.6	-0.7
	comp=Z,7.1nm,1.1s						
SQTA				⇓iPKPbc	PKPbc	21 39 27.2	-0.8
	comp=Z,12nm,0.9s						
SQTA				⇓iPKPab	PKPab	21 39 40.4	-1.0
	comp=Z,12nm,1.1s						
CRES	Cresnjev	152.70	338	i PKPbc	PKPbc	21 39 27.1	-0.9
BBLS	Bajina Basta -	152.74	331	i P	PKPbc	21 39 28.3	+0.2
HAU	Haudompre	152.77	353	ePKIKP	PKPdf	21 39 19.9	-0.6
OUR	Ouranopolis	152.80	320	eP	PKPbc	21 39 26.9	-1.3
LJU	Ljubljana	152.82	340	i PKPbc	PKPbc	21 39 27.3	-1.0
MOF	Molkenrain	152.82	352	PKP	PKPbc	21 39 28.2	-0.1
HINF	Hinteralfeld	152.90	352	ePKIKP	PKPdf	21 39 20.0	-0.6
DAVA	Damuels	152.90	347	⇑i	PKPbc	21 39 27.2	-1.2
	comp=Z,18nm,1.1s						
DAVA	Damuels	152.90	347	⇑i	PKPab	21 39 41.6	-0.7
	comp=Z,18nm,1.0s						
DAVA	Damuels	152.90	347	⇑iPKPdf	PKPdf	21 39 20.0	-0.7
	comp=Z,9.0nm,1.4s						
DAVA				⇑iPKPbc	PKPbc	21 39 27.2	-1.2
	comp=Z,18nm,1.1s						
DAVA				⇑iPKPab	PKPab	21 39 41.6	-0.7
	comp=Z,18nm,1.0s						
VAY	Valandovo	152.98	323	i 1	PKPdf	21 39 18.6	-2.2
VAY				i 2	PKPbc	21 39 26.9	-1.7
VOY	Vojsko	153.03	341	ePKPbc	PKPbc	21 39 24.0	-4.7
VOY				i		21 39 27.4	
BOJS	Bojanci	153.06	338	i PKPbc	PKPbc	21 39 28.3	-0.5
JAVS	Javornik	153.10	340	ePKPbc	PKPbc	21 39 27.8	-1.1
JAVS				e		21 39 41.7	
SKO	Skopje	153.15	326	i 1	PKPdf	21 39 24.3	+3.3
SKO				i 2		21 39 28.2	
HORT	Hortiatis	153.16	322	eP	PKPbc	21 39 27.2	-1.8
PAIG	Paliouri	153.24	320	eP	PKPbc	21 39 27.3	-1.9
AOS	Alonnisos	153.57	318	eP	PKPbc	21 39 28.4	-1.4
LOR	Lormes	153.73	356	ePKIKP	PKPdf	21 39 21.5	-0.3
LIT	Litokhoron	153.83	321	eP	PKPbc	21 39 28.8	-1.6
XOR	Xorichti	153.88	319	eP	PKPbc	21 39 29.1	-1.5
SSF	Saint Saulge	153.95	357	ePKIKP	PKPdf	21 39 21.6	-0.5
	comp=Z,6.5nm,0.7s						
FNA	Florina	154.01	324	eP	PKPbc	21 39 29.7	-1.1
ZKR	Zakros	154.10	308	eP	PKPbc	21 39 27.3	-3.7
CABF	La Chapelle	154.18	353	ePKIKP	PKPdf	21 39 21.8	-0.6
	comp=Z,19nm,1.0s						
MFF	Saint Martin d	154.43	3	ePKIKP	PKPdf	21 39 21.6	-1.2
BGF	Bois d'Agland	154.49	358	ePKIKP	PKPdf	21 39 22.1	-0.8
AGG	Agios Georgios	154.62	320	eP	PKPbc	21 39 30.8	-1.3
LAST	Lasithi	154.62	309	eP	PKPbc	21 39 31.8	-0.3
MEV	Metsovon	154.77	322	eP	PKPdf	21 39 33.4	+10
TCF	Toulx Ste Croi	154.77	359	ePKIKP	PKPdf	21 39 22.3	-1.0
	comp=Z,19nm,1.2s						
LPL	La Plagne	155.17	351	ePKIKP	PKPdf	21 39 23.5	-0.3
SIVA	Sivas	155.17	309	eP	PKPdf	21 39 32.5	+8.7
LPG	La Plagne	155.18	351	ePKIKP	PKPdf	21 39 23.6	-0.2
KARN	Karanos	155.62	311	eP	PKPdf	21 39 33.5	+9.1
BNI	Bardonecchia	155.63	351	ePKIKP	PKPdf	21 39 24.7	+0.3
BNI				e		21 39 53.6	
RJF	Les Rejaudoux	155.76	360	ePKIKP	PKPdf	21 39 24.0	-0.6
	comp=Z,4.4nm,0.8s						
LKD	Levkas	155.82	321	eP	PKPdf	21 39 34.2	+10
ORIF	Oris-en-Rattie	155.87	352	ePKIKP	PKPdf	21 39 24.1	-0.6
MBDF	Montbardon	155.94	351	ePKIKP	PKPdf	21 39 24.7	-0.1
VIVF	Saint-Julien-l	156.06	354	ePKIKP	PKPdf	21 39 24.1	-0.9
CAF	Calviac	156.14	359	ePKIKP	PKPdf	21 39 24.5	-0.6
	comp=Z,21nm,1.4s						
SBF	Sospel	156.67	349	ePKIKP	PKPdf	21 39 25.1	-0.6
SMRF	Simiane la Rot	156.84	352	ePKIKP	PKPdf	21 39 25.4	-0.6
LASF	Ste Croix	156.91	356	ePKIKP	PKPdf	21 39 25.3	-0.7
	comp=Z,12nm,1.1s						
FRF	La Foret Royal	157.09	350	ePKIKP	PKPdf	21 39 25.7	-0.6
LMR	La Mourre	157.34	350	ePKIKP	PKPdf	21 39 26.1	-0.5
	comp=Z,16nm,1.1s						
PGF	Pioggiola	157.60	345	ePKIKP	PKPdf	21 39 26.3	-0.6
	comp=Z,10nm,0.8s						
MTLF	Montolieu	157.72	359	ePKIKP	PKPdf	21 39 26.4	-0.6
	comp=Z,11nm,1.2s						
EPF	Esparros	158.02	2	ePKIKP	PKPdf	21 39 27.0	-0.4
ETSF	Etsaut	158.10	4	ePKIKP	PKPdf	21 39 27.2	-0.3
	comp=Z,7.1nm,0.9s						
PBRG	Braganca	158.14	17	ePKPab	PKPab	21 40 04.1	-0.9
PVRL	Vila Real	158.35	19	ePKPab	PKPab	21 40 05.2	-0.7
PVIS	Viseu	158.81	20	ePKPab	PKPab	21 40 06.8	-1.1
MTE	Manteigas	159.20	20	ePKPdf	PKPdf	21 39 28.9	+0.1
PTOM	Tomar	159.62	22	ePKPab	PKPab	21 40 10.4	-1.0
PCBR	Castelo Branco	159.73	20	ePKPdf	PKPdf	21 39 29.3	-0.1
PCBR	Castelo Branco	159.73	20	ePKPab	PKPab	21 40 10.3	-1.6
VSL	Villasalto	160.35	341	ePKPdf	PKPdf	21 39 29.0	-1.0
VSL				ePKPab	PKPab	21 40 13.2	-1.4
MOE	Montemor	160.60	24	ePKPab	PKPab	21 40 14.9	-0.9
ESDC	Sonseca Array	160.82	13	PKP	PKPdf	21 39 30.5	-0.1
	comp=Z,0.6nm,0.7s,baz=26,slow=1.3,SNR=5.9						
ESDC				PKPab	PKPab	21 40 15.9	-0.9
	comp=Z,6.1nm,0.9s,baz=344,slow=4.1,SNR=23						
PBEJ	Beja	161.22	23	ePKPdf	PKPdf	21 39 30.4	-0.6
PBEJ	Beja	161.22	23	ePKPab	PKPab	21 40 17.0	-1.5
PTEO	Sao Teotonio	161.31	26	ePKPdf	PKPdf	21 39 32.2	+1.1
PTEO	Sao Teotonio	161.31	26	ePKPab	PKPab	21 40 18.1	-0.7
DBIC	Dimbokro	164.50	156	PKP	PKPdf	21 39 34.4	+0.3
	comp=Z,7.1nm,0.7s,baz=156,slow=5.3,SNR=8.7						
TORD	Torodi Ar. Bea	172.18	182	PKP	PKPdf	21 39 38.6	-0.5
	comp=Z,6.0nm,0.9s,baz=359,slow=0.6,SNR=24						
TORD				PKPab	PKPab	21 41 07.4	+0.4
	comp=Z,5.1nm,0.9s,baz=120,slow=2.1,SNR=5.0						
TORD				PP	PP	21 44 58.5	-0.5
	comp=Z,1.5nm,0.8s,baz=179,slow=4.3,SNR=5.0						

NEIC 15 21:41:54.3±0.6, 5.29N×94.30E, h30km, mb4.5/3, Error ellipse: s-maj=18.2km s-min=8.3km az=45.0

IDC 15 21:41:58.0±4.6, 5.47N×94.63E, h58km±41km, mb3.8/10, mb1 3.9/11, mb1mx3.7/20, mbtmp4.1/11, ML3.7/1, Error ellipse: s-maj=51.9km s-min=16.7km az=55.0

ISCJB 15 21:41:59.2±2.3, 5.5N±0.1×94.7E±0.1, h86km±21km, mb4.1/16, Error ellipse: s-maj=25.5km s-min=10.3km az=107.1

ISC 15 21:42:00.1±2.2, 5.5N±0.1×94.6E±0.1, h76km±20km, n23, σ0.48/26, mb4.1/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PSI	Prapat	5.03	122	P	Pn	21 43 13.1	+0.1
	2.5nm,0.3s,baz=291,slow=8.8,SNR=22						
PSI				S	Sn	21 44 09.6	-0.1
	2.3nm,0.3s,baz=327,slow=17,SNR=3.1						
PSI	Prapat	5.03	122	P	Pn	21 43 13.1	+0.1
PSI				S	Sn	21 44 09.6	-0.1
KULM	Kulim	5.99	91	ePn	Pn	21 43 25.3	-0.7
KULM				eSn	Sn	21 44 33.3	+0.2
CM31	Chiang Mai Arr	13.57	18	Pn	Pn	21 45 09.6	+0.4
	5.8nm,1.1s						
JIRN	Jiri	23.48	341	eP	P	21 47 03.6	+0.7
	14nm,0.5s,mb4.6						
DMN	Daman	23.81	339	eP	P	21 47 06.5	+0.6
GUN	Gumba	23.82	340	eP	P	21 47 06.2	+0.3
GKN	Gorkha	24.34	338	eP	P	21 47 10.6	-0.1
	8.9nm,0.5s,mb4.3						
KOLN	Koldanda	24.54	336	eP	P	21 47 12.6	+0.1
	13nm,0.5s,mb4.6						
MKAR	Makanchi Array	42.52	347	P	P	21 49 48.0	0.0
	2.9nm,0.6s,mb4.2,baz=166,slow=8.0,SNR=34						
SONM	Songino Array	43.39	12	P	P	21 49 55.0	0.0
	1.5nm,0.8s,mb3.8,baz=187,slow=7.6,SNR=7.5						
WRA	Warramunga Arr	46.49	124	P	P	21 50 19.9	+0.3
	2.1nm,0.6s,mb4.1,baz=302,slow=9.5,SNR=28						
WRAB	Tennant Creek	46.49	124	eP	P	21 50 19.6	0.0
	3.6nm,0.6s,mb4.3						
KURK	Kurchatov	47.05	346	eP	P	21 50 23.7	-0.2
	2.5nm,0.5s,mb4.2						
ASAR	Alice Springs	48.02	129	P	P	21 50 31.9	+0.4
	0.6nm,0.6s,mb3.6,baz=302,slow=8.0,SNR=12						
ZAL	Zalesovo	48.98	352	P	P	21 50 38.0	-0.8
	2.4nm,0.2s,mb4.7,baz=304,slow=5.2,SNR=8.0						
BVAR	Borovoye Array	51.41	341	P	P	21 50 56.8	-0.3
	0.8nm,0.3s,mb4.2,baz=149,slow=6.6,SNR=7.9						
CHKZ	Chkalovo	51.90	342	eP	P	21 51 00.4	-0.4
	3.8nm,0.7s,mb4.5						
CHKZ				epP	pP	21 51 15.1	-4.8
BRTR	Keskin Array B	64.37	312	P	P	21 52 27.6	-0.4
	0.3nm,0.5s,mb3.4,baz=90,slow=6.2,SNR=4.3						
FINES	FINESS Array B	75.06	332	P	P	21 53 32.4	-1.1
	0.6nm,0.5s,mb3.5,baz=107,slow=2.0,SNR=5.4						
FINES	FINESS Array B	75.06	332	P	P	21 53 32.4	-1.1
ARCES	ARCESS Array B	77.68	340	P	P	21 53 48.2	-0.2
	4.4nm,1.1s,mb4.1,baz=97,slow=5.0,SNR=6.3						
GERES	GERESS Array B	79.94	319	P	P	21 54 01.7	+1.0
	0.7nm,0.6s,mb3.7,baz=103,slow=5.9,SNR=8.6						

ISCJB 15 21:42:44.1±1.4, 34.77N±0.06×22.6E±0.1, h10km, Error ellipse: s-maj=16.4km s-min=8.6km az=148.6

CSEM 15 21:42:46.6±1.2, 34.82N×22.58E, h30km, MD3.3, Error ellipse: s-maj=39.5km s-min=16.6km az=74.0

HLW 15 21:42:47.6, 35.13N×22.95E, h33km, Mb3.3

NEIC 15 21:42:54.2, 35.44N×23.23E, h23km, MD3.3(ATH), After ATH.

ATH 15 21:42:54.2, 35.44N×23.23E, h23km±1km, MD3.3/5

ISC 15 21:42:45.5±1.4, 34.84N±0.07×22.6E±0.1, h10km, n8, σ1.32/13, 3C, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GVD	Gavdhos	1.20	89	ePN	Pn	21 43 12.0	+3.7
GVD				eSN	Sn	21 43 25.0	+0.4
VAM	Vamos	1.40	66	ePN	Pn	21 43 09.9	-1.3
VAM				eSN	Sn	21 43 21.1	-8.6
KYTH	Kithira	1.48	13	ePN	Pn	21 43 10.5	-1.7
VLI	Veliai	1.89	7	ePN	Pn	21 43 19.0	+1.1
VLI				eSN	Sn	21 43 36.4	-5.4
NPS	Neapolis	2.48	79	ePN	Pn	21 43 27.4	+1.4
SLUM		3.98	146	⇑P	Pn	21 43 48.0	+1.4
SLUM				S	Sn	21 44 31.8	-1.4
HMAT	Matruh	5.29	134	⇑P	Pn	21 44 05.4	+0.8
HMAT				S	Sn	21 45 01.8	-3.8
HNKL	Nakhl	10.77	114	⇑P	Pn	21 45 18.7	-1.1

NEIC 15 21:55:39.7, 41.02S×177.08E, h30km, ML4.1(WEL), After WEL.

WEL 15 21:55:40.6±0.2, 40.98S×177.01E, h33km, ML4.1/31, 1C-5D, Error ellipse: s-maj=2.1km s-min=1.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BFZ	Birch Farm	0.65	297	⇑P*	Pb	21 55 54.0	+0.4
BFZ				S*	Sb	21 56 03.1	+0.6
BFZ	Birch Farm	0.65	297	P	Pn	21 55 54.1	+0.6
BFZ				S	Sb	21 56 03.2	+0.7
TIWZ	Tintock	0.88	283	P*	Pb	21 55 56.8	-0.6
PXZ	Pawanui	0.96	353	P*	Pb	21 55 57.3	-1.4
PXZ				S*	Sb	21 56 09.6	-1.4
TRWZ	Traveller	1.08	247	P*	Pb	21 55 59.1	-1.7
TRWZ				S*	Sb	21 56 12.9	-1.7
MRZ	Mangatainoka R	1.13	286	⇓P*	Pb	21 56 00.1	-1.6
MRZ				S*	Sb	21 56 13.2	-2.8
MRZ	Mangatainoka R	1.13	286	P	Pn	21 56 00.1	0.0
MRZ				S	Sn	21 56 13.3	-1.2
MTW	Mount Morrison	1.15	261	P*	Pb	21 56 00.2	-1.8
MTW				S*	Sb	21 56 14.2	-2.4
TSZ	Takapari Road	1.22	319	P*	Pb	21 56 01.2	-1.9
TSZ				S*	Sb	21 56 14.9	-3.6
TSZ	Takapari Road	1.22	319	P	Pn	21 56 01.3	0.0
PAWZ	Paruwai Farm	1.26	251	P*	Pb	21 56 01.3	-2.5
PAWZ				S*	Sb	21 56 17.2	-2.5
MSWZ	Moikau Station	1.40	251	PN	Pn	21 56 02.9	-0.9
MSWZ				S*	Sb	21 56 19.8	-3.8
MSWZ	Moikau Station	1.40	251	P	Pn	21 56 03.0	-0.8
KIW	Kapiti Island	1.59	274	⇓PN	Pn	21 56 06.6	+0.1
KIW				S*	Sb	21 56 24.4	-4.8
KIW	Kapiti Island	1.59	274	P	Pn	21 56 06.6	+0.1
BHW	Baring Head	1.67	255	PN	Pn	21 56 06.7	-0.8
BHW	Baring Head	1.67	255	P	Pn	21 56 06.8	-0.7
WEL	Wellington	1.72	259	PN	Pn	21 56 07.8	-0.4
WEL	Wellington	1.72	259	P	Pn	21 56 07.9	-0.3
MRW	Makara Radio	1.76	261	⇓PN	Pn	21 56 08.5	-0.3
MRW				S*	Sb	21 56 28.2	-5.8
MRW	Makara Radio	1.76	261	P	Pn	21 56 08.5	-0.3
SNZO	South Karori	1.77	259	PN	Pn	21 56 08.4	-0.5
SNZO	South Karori	1.77	259	ePn	Pn	21 56 08.1	-0.8
SNZO				eSn	Sn	21 56 28.8	-1.5
MOVZ	Moawhango	1.84	328	PN	Pn	21 56 10.2	+0.3
MOVZ				SN	Sn	21 56 30.2	-1.9
MOVZ	Moawhango	1.84	328	P	Pn	21 56 10.3	+0.4
BKZ	Black Stump Fm	1.86	348	ePN	Pn	21 56 09.6	-0.5
BKZ				SN	Sn	21 56 29.4	-2.9
BKZ	Black Stump Fm	1.86	348	eP	Pn	21 56 09.6	-0.5
WAZ	Wanganui	1.97	308	PN	Pn	21 56 12.9	+1.2
WAZ	Wanganui	1.97	308	P	Pn	21 56 12.9	+1.2
TUVZ	Tukino	2.00	328	PN	Pn	21 56 12.9	+0.8
TUVZ				SN	Sn	21 56 33.6	-2.4
TUVZ	Tukino	2.00	328	P	Pn	21 56 13.0	+0.9
KNZ	Kokohu	2.02	15	PN	Pn	21 56 10.8	-1.6
FWVZ	Far West T-bar	2.06	327	PN	Pn	21 56 13.5	+0.7
FWVZ	Far West T-bar	2.06	327	P	Pn	21 56 13.6	+0.8
TCW	Tory Channel	2.08	263	⇓PN	Pn	21 56 12.7	-0.4
TCW				S*	Sb	21 56 35.8	-7.3
OTVZ	Oturere	2.09	330	PN	Pn	21 56 13.8	+0.6
PKVZ	Pokaka	2.12	322	⇓PN	Pn	21 56 14.4	+0.7
CMWZ	Cape Campbell	2.24	249	S*	Sb	21 56 41.3	-6.4
KATZ	Kakaramea	2.24	333	PN	Pn	21 56 15.5	+0.1
KATZ	Kakaramea	2.24	333	P	Pn	21 56 15.7	+0.3
TWVZ	Taurewa	2.26	327	PN	Pn	21 56 15.7	+0.1
TWVZ	Taurewa	2.26	327	P	Pn	21 56 15.8	+0.2
DUWZ	D'Urville Isla	2.35	273	PN	Pn	21 56 16.9	+0.1
DUWZ				S*	Sb	21 56 43.0	-7.8
TUWZ	Tuamarina	2.36	258	PN	Pn	21 56 15.8	-1.2
BSWZ	Blackbirch Sta	2.47	252	PN	Pn	21 56 17.8	-0.7
BSWZ				S*	Sb	21 56 46.4	-7.9
BSWZ	Blackbirch Sta	2.47	252	P	Pn	21 56 17.8	-0.7
VRZ	Vera Road	2.53	316	PN	Pn	21 56 19.8	+0.4
VRZ	Vera Road	2.53	316	P	Pn	21 56 19.9	+0.5
RAEZ	Rainy Point	2.62	309	PN	Pn	21 56 21.9	+1.3
RAEZ	Rainy Point	2.62	309	P	Pn	21 56 21.9	+1.3
NNZ	Nelson	2.75	264	PN	Pn	21 56 21.7	-0.7
NNZ	Nelson	2.75	264	P	Pn	21 56 21.8	-0.6
PKE	Pukeiti	2.92	307	PN	Pn	21 56 26.1	+1.3
PKE	Pukeiti	2.92	307	P	Pn	21 56 26.1	+1.3
NWEZ	Newall Road	2.95	304	ePN	Pn	21 56 26.3	+1.2
KHZ	Kahutara	2.97	240	PN	Pn	21 56 23.9	-1.5
KHZ				S*	Sb	21 56 57.1	-11
KHZ	Kahutara	2.97	240	eP	Pn	21 56 24.1	-1.3
HIZ	Hauiti	2.97	325	PN	Pn	21 56 25.1	-0.3
HIZ	Hauiti	2.97	325	eP	Pn	21 56 25.2	-0.2
THZ	Tophouse	3.19	254	PN	Pn	21 56 27.1	-1.3
THZ	Tophouse	3.19	254	eP	Pn	21 56 27.3	-1.1
QRZ	Quartz Range	3.40	271	PN	Pn	21 56 30.6	-0.7
QRZ	Quartz Range	3.40	271	P	Pn	21 56 30.7	-0.6
LTZ	Lake Taylor	3.97	241	PN	Pn	21 56 37.9	-1.3
LTZ				SN	Sn	21 57 20.6	-3.9
DSZ	Denniston Nort	3.99	257	PN	Pn	21 56 38.1	-1.3
DSZ	Denniston Nort	3.99	257	P	Pn	21 56 38.2	-1.2
MQZ	McQueen's Vall	4.22	228	ePN	Pn	21 56 40.6	-2.0
MQZ	McQueen's Vall	4.22	228	eP	Pn	21 56 40.9	-1.7
RPZ	Rata Peaks	5.19	236	ePN	Pn	21 56 54.0	-1.9
RPZ	Rata Peaks	5.19	236	eP	Pn	21 56 54.3	-1.6
FOZ	Fox Glacier	6.01	242	PN	Pn	21 57 03.8	-3.4
FOZ	Fox Glacier	6.01	242	eP	Pn	21 57 04.0	-3.2
LBZ	Lake Benmore	6.07	234	PN	Pn	21 57 07.0	-1.1
LBZ	Lake Benmore	6.07	234	eP	Pn	21 57 07.3	-0.7
ODZ	Otahua Downs	6.18	227	ePN	Pn	21 57 08.0	-1.6
ODZ	Otahua Downs	6.18	227	eP	Pn	21 57 09.1	-0.5
JCZ	Jackson Bay	6.83	240	ePN	Pn	21 57 15.9	-2.5
JCZ	Jackson Bay	6.83	240	eP	Pn	21 57 16.7	-1.8
EAZ	Earnscleugh	7.05	230	ePN	Pn	21 57 20.1	-1.5
EAZ	Earnscleugh	7.05	230	eP	Pn	21 57 20.8	-0.7
TUZ	Tuapeka	7.31	225	ePN	Pn	21 57 24.3	-0.7

WEL 15 21:57:57.6±0.6, 37.65S×175.84E, h278km±11km, ML3.7/7, Error ellipse: s-maj=24.1km s-min=11.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BKZ	Black Stump Fm	1.60	161	PN	Pn	21 58 39.6	+0.3
BKZ				SN	S	21 59 11.4	-0.9
TSZ	Takapari Road	2.41	178	PN	Pn	21 58 46.6	+0.6
MRZ	Mangatainoka R	3.02	184	PN	Pn	21 58 51.6	-0.4
MRZ				SN	S	21 59 34.3	-1.0
KIW	Kapiti Island	3.29	192	PN	Pn	21 58 54.8	-0.1
TCW	Tory Channel	3.76	198	PN	Pn	21 58 60.0	0.0
TCW				SN	S	21 59 49.2	-0.5
NNZ	Nelson	4.04	207	PN	Pn	21 59 02.7	-0.4
NNZ				SN	S	21 59 54.9	-0.5
TUWZ	Tuamarina	4.05	201	PN	Pn	21 59 03.1	-0.1
TUWZ				SN	S	21 59 54.7	-1.0
THZ	Tophouse	4.69	208	PN	Pn	21 59 09.7	-0.9
THZ				SN	S	22 00 08.5	-0.6
KHZ	Kahutara	5.08	200	PN	Pn	21 59 14.7	-0.5
MQZ	McQueen's Vall	6.52	201	SN	S	22 00 45.1	-4.0

ISCJB 15 22:04:40.2±0.4, 48.55N±0.02×7.85E±0.03, h4km±6km, Error ellipse: s-maj=4.1km s-min=3.3km az=169.4

LDG 15 22:04:41.0±0.3, 48.54N×7.92E, h2km, Md2.7/2, Ml2.7/4, Error ellipse: s-maj=4.6km s-min=2.3km az=36.0

CSEM 15 22:04:41.1±0.1, 48.53N×7.90E, h12km, ML2.8/3, Error ellipse: s-maj=2.1km s-min=1.2km az=176.0

LEDBW ***15*** *22:04:41.2±0.7, 4852N±004×788E±004, h13km±4km, ML1.8, Error ellipse: s-maj=18.0km s-min=6.0km az=128.0*
STR ***15*** *22:04:41.7±0.6, 4849N×788E, h10km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
BGR ***15*** *22:04:41.0±0.7, 4852N×788E, h5km, ML1.7/2, Error ellipse: s-maj=10.0km s-min=4.4km az=44.0*
NEIC ***15*** *22:04:41.0, 4854N×792E, h2km, ML2.7(LDG), After LDG.*
ISC 15 22:04:41.0±0.3**, 4853N**±003×**787E**±002**, h11**km±4km**, n35, σ0s79**/52**, 1C-1D, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BFO	Black Forest	0.36	123	ePg	Pg	22 04 48.1	-0.2
	SNR=2.1						
BFO				eSg	Sg	22 04 52.3	-0.8
	SNR=28						
BFO	Black Forest	0.36	123	Pg	Pg	22 04 48.5	+0.3
BFO				eSg	Sg	22 04 52.4	-0.7
BFO	Black Forest	0.36	123	Pg	Pg	22 04 48.1	-0.1
	SNR=2.1						
BFO				eSg	Sg	22 04 52.4	-0.7
WLS	Welschbruch	0.36	252	Pg	Pg	22 04 49.0	+0.8
CDF	Champ du Feu	0.41	254	ePg	Pg	22 04 49.5	+0.4
CDF				eSg	Sg	22 04 55.2	+0.6
ECH	Echery	0.57	237	Pg	Pg	22 04 52.5	+0.4
ECH				Sg	Sg	22 05 00.1	+0.5
ECH	Echery	0.57	237	Sx	Sx	22 05 00.7	
KIZ	Kirchzarten	0.57	177	⇓iPg	Pg	22 04 52.0	-0.1
KIZ				Sg	Sg	22 04 59.6	-0.1
KIZ	Kirchzarten	0.57	177	PmP		22 04 53.1	
KIZ				Sx	Sx	22 05 02.1	
LBG	Lerchenberg	0.63	77	⇑iPg	Pg	22 04 53.1	-0.1
LBG				Sg	Sg	22 05 02.5	+1.1
LBG	Lerchenberg	0.63	77	PmP		22 04 53.8	
LBG				SmS		22 05 03.9	
FELD	Feldberg im Sc	0.66	172	Pg	Pg	22 04 53.7	-0.1
FELD				Sg	Sg	22 05 01.9	-0.5
FELD	Feldberg im Sc	0.66	172	Pg	Pg	22 04 54.1	+0.3
BHBD	Braunhartsberg	0.81	110	⇑ePn	Pn	22 04 56.9	-1.5
BHBD				eSn	Sn	22 05 06.9	-3.4
MOF	Molkenrain	0.84	216	Pg	Pg	22 04 57.7	+0.5
STU	Stuttgart	0.91	74	ePg	Pg	22 04 58.6	+0.1
	SNR=3.1						
GUT	Gutenstein	0.95	118	Pn	Pn	22 04 59.1	-1.2
GUT				S	Sg	22 05 11.8	+0.2
GUT	Gutenstein	0.95	118	P	Pg	22 04 59.6	+0.3
GUT				SmS		22 05 12.3	
HINF	Hinteralfeld	0.98	224	ePg	Pg	22 05 00.0	0.0
HINF				eSg	Sg	22 05 13.0	+0.2
	34nm,0.2s						
HINF	Hinteralfeld	0.98	224	ePg	Pg	22 05 00.0	0.0
HINF				eSg	Sg	22 05 13.0	+0.2
	17nm,0.2s						
BUCH	Bad Urach	0.99	94	Pn	Pn	22 04 59.2	-1.6
BUCH				S	Sg	22 05 13.5	+0.6
BUCH	Bad Urach	0.99	94	P	Pg	22 05 00.3	+0.2
SISB	Singen-Schiene	1.11	139	P	Pb	22 05 02.4	+0.1
SISB				Sx	Sx	22 05 15.9	
SISB				S	Sb	22 05 17.2	+0.3
HAU	Haudompre	1.14	243	ePg	Pg	22 05 03.2	+0.2
HAU				eSg	Sg	22 05 18.7	+0.8
	12nm,0.2s						
HAU	Haudompre	1.14	243	ePg	Pg	22 05 03.2	+0.2
HAU				eSg	Sg	22 05 18.7	+0.8
	5.8nm,0.2s						
THEF	They Montfort	1.29	257	Pg	Pg	22 05 05.4	-0.5
SIND	Sindeldorf	1.41	54	P	Pn	22 05 07.2	+0.5
SIND				S	Sn	22 05 26.8	+1.6
HDH	Heidenheim-Cha	1.55	87	P	Pn	22 05 10.5	+1.8
HDH				S	Sn	22 05 29.8	+1.1
WLF	Walferdange	1.60	316	eSg	Sg	22 05 32.2	-0.5
	SNR=2.2						
UBR	Ueberruh	1.72	119	Sx	Sx	22 05 35.7	
TNS	Taunus Mts	1.74	12	eSg	Sg	22 05 36.3	-0.6
	SNR=2.4						
MEZF	Maizieres J'vi	1.88	270	ePg	Pg	22 05 16.0	-1.0
MEZF				eSg	Sg	22 05 40.4	-0.9
SFTF	Sexfontaines	1.92	261	ePg	Pg	22 05 17.3	-0.5
SFTF				eSg	Sg	22 05 42.5	-0.2
	74nm,1.6s						
SFTF	Sexfontaines	1.92	261	ePg	Pg	22 05 17.3	-0.5
SFTF				eSg	Sg	22 05 42.5	-0.2
	37nm,1.6s						
FUR	Furstenfeldbru	2.30	98	eSg	Sg	22 05 53.6	-1.3
	SNR=1.8						

ISCJB ***15*** *22:05:50.3±0.6, 2303N±005×12145E±003, h10km, mb3.8/9, Error ellipse: s-maj=6.6km s-min=4.4km az=173.2*
IDC ***15*** *22:05:50.4±0.9, 23.17N×12154E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/20, mbtmp3.8/9, ML3.7/2, Error ellipse: s-maj=27.2km s-min=20.6km az=62.0*
NEIC ***15*** *22:05:55.9±0.7, 23.18N×12159E, h35km, mb3.9/1, Error ellipse: s-maj=16.0km s-min=11.1km az=80.0*
BJI ***15*** *22:05:55.1, 2286N×12123E, h30km, mb4.4, ML3.8*
JMA ***15*** *22:05:55.4±0.3, 23.14N×12152E, h88km, M3.6*
ISC 15 22:05:52.0±0.6**, 2306N**±004×**12146E**±003**, h10**km**, n26, σ1s15**/39**, mb3.8**/9**, 1C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NACB	Ninganchiao	1.11	6	eP	Pb	22 06 12.0	-1.3
NACB				eS	Sg	22 06 28.3	+0.5
YHNB	Yeheng	1.60	357	ePn	Pn	22 06 20.6	+0.2
YHNB				eSn	Sn	22 06 41.3	+0.3
TATO	Taipei	1.90	1	ePn	Pn	22 06 24.6	+0.1
YOJ	Yonaguni jima	1.99	45	P	Pn	22 06 26.7	+1.0
YOJ				eS	Sn	22 06 50.3	-0.3
HATJ	Hateruma jima	2.36	65	P	Pn	22 06 32.0	+1.1
HATJ				eS	Sn	22 06 59.0	-0.9
IRIF	Iriomote-Funau	2.43	58	P	Pn	22 06 32.8	+1.0
IRIF				eS	Sn	22 07 02.3	+0.7
JKRS	Kuro-shima	2.61	63	P	Pn	22 06 35.5	+1.2
JKRS				eS	Sn	22 07 05.6	-0.4
JIJ	Ishigaki jima	2.77	62	P	Pn	22 06 37.3	+0.8
JIJ				eS	Sn	22 07 08.3	-1.8
QZH	Quanzhou	3.22	306	⇑iP	Pn	22 06 42.6	-0.1
QZH				S	Sn	22 07 18.3	-2.9
QZH				Smax			
	comp=N,520nm,0.8s						
QZH				Smax			
	comp=E,370nm,0.6s						
JTJ	Tarama	3.35	61	P	Pn	22 06 45.2	+0.7
JTJ				eS	Sn	22 07 24.1	-0.3
JMJ	Miyako jima 2	3.91	63	P	Pn	22 06 53.7	+1.5
JMJ				eS	Sn	22 07 38.2	+0.1
JOGS	Gusukube	3.98	64	P	Pn	22 06 54.7	+1.6
JOGS				eS	Sn	22 07 38.3	-1.6
JKE	Kume jima 2	5.83	55	P	Pn	22 07 18.2	-0.3
JOW	Kunigami	7.23	57	Pn	Pn	22 07 36.6	-1.1
	comp=E,3.8nm,0.3s,baz=192,slow=14,SNR=14						
JOW				Sn	Sn	22 08 56.2	-3.7
	comp=E,1.4nm,0.3s,baz=166,slow=27,SNR=2.2						
NJ2	Nanjing	9.25	346	eP	Pn	22 08 07.3	+1.9
NJ2				S	Sn	22 09 51.3	+1.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
MJAR	Matsushiro Arr	19.75	43	P	Pn	22 10 21.9	-1.6
	comp=Z,0.2nm,0.3s,baz=225,slow=8.9,SNR=7.4						
MKAR	Makanchi Array	39.32	317	P	P	22 13 21.9	+0.6
	comp=Z,0.8nm,0.6s,mb3.7,baz=108,slow=9.2,SNR=11						
WRA	Warramunga Arr	44.55	163	P	P	22 14 03.5	-0.5
	comp=Z,0.7nm,0.5s,mb3.8,baz=345,slow=8.6,SNR=5.6						
ASAR	Alice Springs	48.00	165	P	P	22 14 33.5	+2.3
	comp=Z,0.2nm,0.5s,mb3.4,baz=355,slow=13,SNR=4.5						
BVAR	Borovoye Array	48.70	321	P	P	22 14 37.1	+0.5
	comp=Z,0.3nm,0.3s,mb3.8,baz=99,slow=9.2,SNR=5.9						
CHKZ	Chkalovo	48.77	322	eP	P	22 14 36.8	-0.3
	comp=Z,0.8nm,0.7s,mb3.9						
JOF	Joensuu	69.81	331	ep	P	22 17 00.6	-2.0
	comp=Z,0.9nm,0.4s,mb4.0						
FINES	FINESS Array B	72.54	330	P	P	22 17 17.7	-1.5
	comp=Z,1.9nm,0.9s,mb4.0,baz=108,slow=6.2,SNR=7.2						
NB2	NORSAR Subarra	79.33	332	P	P	22 17 56.5	-1.4
	comp=Z,0.6nm,0.6s,mb3.7,baz=61,slow=5.6						
NOA	NORSAR Array B	79.33	332	P	P	22 17 56.5	-1.4
	comp=Z,0.5nm,0.6s,mb3.6,baz=76,slow=7.7,SNR=3.0						
GERES	GERESS Array B	83.87	321	P	P	22 18 21.4	-0.5
	comp=Z,0.6nm,0.7s,mb3.8,baz=70,slow=4.4,SNR=8.2						

NEIC ***15*** *22:12:53.8, 42.14N×2076E, h9km, MD2.6(PDG), After PDG.*
CSEM ***15*** *22:12:53.3±0.3, 42.11N×2080E, h5km, MD2.6, Error ellipse: s-maj=10.2km s-min=5.0km az=19.0*
PDG ***15*** *22:12:53.8±0.2, 42.14N×2076E, h9km*
ISCJB ***15*** *22:12:53.3±0.7, 42.14N±004×2080E±003, h0km±5km, Error ellipse: s-maj=6.6km s-min=3.7km az=44.8*
BEO ***15*** *22:12:54.5±0.4, 4243N×2171E, h10km±3km*
TIR ***15*** *22:12:59.3, 4222N×2022E, h8km*
ISC 15 22:12:53.9±0.6**, 4212N**±004×**2082E**±004**, h2**km±5km**, n19, σ1s29**/35**, 7C-3D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKO	Skopje	0.49	108	⇑iPg	Pg	22 13 03.3	0.0
SKO				eSg	Sg	22 13 11.6	+2.0
SKO	Skopje	0.49	108	⇑iPg	Pg	22 13 03.2	-0.1
SKO				eSg	Sg	22 13 11.6	+2.0
BCI	Bajram Curri	0.61	294	i Pg	Pg	22 13 03.3	-2.2
BCI				i Sg	Sg	22 13 15.3	+1.9
PVY	Plav	0.78	307	⇑iPg	Pg	22 13 07.7	-1.2
PVY				eSg	Sg	22 13 19.6	+0.6
IVA	Berane	1.01	318	⇑iPg	Pg	22 13 11.5	-1.7
IVA				eSg	Sg	22 13 26.9	+0.5
BIA	Bitola	1.17	161	⇑iPn	Pg	22 13 14.8	-1.5
ULC	Ulcinj	1.18	263	⇑iPg	Pg	22 13 14.9	-1.6
ULC				eSg	Sg	22 13 32.7	+1.0
TTG	Podgorica	1.19	285	⇓iPg	Pg	22 13 14.3	-2.5
TTG				eSg	Sg	22 13 33.5	+1.2
BUM	Brajici-Budva	1.44	278	⇓iPg	Pn	22 13 19.1	-1.8
BUM				eSg	Sg	22 13 41.7	+1.7
NKY	Niksic	1.51	298	⇓iPg	Pn	22 13 21.2	-0.7
NKY				eSg	Sg	22 13 43.6	+1.2
PLE	Pljevlja	1.60	320	ePg	Pn	22 13 22.8	-0.3
PLE				eSg	Sg	22 13 45.6	+0.4
HCY	Herceg Novi	1.75	281	ePn	Pn	22 13 24.6	-0.6
HCY				eSn	Sg	22 13 49.8	-0.3
GRUS	Gruza	1.77	358	i Pn	Pn	22 13 25.0	-0.4
GRUS				Sn	Sn	22 13 46.9	-1.6
UPM	Unac-Piva	1.77	308	⇑iPn	Pn	22 13 25.1	-0.4
UPM				eSn	Sn	22 13 50.2	+1.5
VTS	Vitosha	1.83	74	eP	Pn	22 13 29.0	+2.6
BRY	Bratogost	1.85	296	ePn	Pn	22 13 26.6	0.0
BRY				eSn	Sn	22 13 51.8	+1.2
DIVS	Divcibare	2.06	343	i Pn	Pn	22 13 31.1	+1.5
DIVS				Sn	Sg	22 13 59.4	-0.8
MMB	Musomiste	2.24	103	eP	Pn	22 13 33.0	+1.0
STON	Ston	2.42	289	i Pn	Pn	22 13 34.8	+0.4
STON				i Sn	Sb	22 14 06.9	-1.5

ISCJB ***15*** *22:32:19.8±4.5, 552S±006×15085E±0.10, h8km±28km, mb4.5/22, MS4.0/3, Error ellipse: s-maj=17.0km s-min=8.8km az=36.6*
IDC ***15*** *22:32:19.9±0.7, 549S×15088E, h0km, mb4.4/11, mb1 4.6/13, mb1mx4.5/15, mbtmp4.4/13, ML3.4/2, MS3.9/1, Ms1 3.9/1, ms1mx3.4/6, Error ellipse: s-maj=23.7km s-min=15.9km az=100.0*
BJI ***15*** *22:32:25.1, 550S×15090E, h35km, mB5.1, mb5.0, Ms4.5, Msz4.0*
NEIC ***15*** *22:32:25.2±0.4, 557S×15089E, h35km, mb4.7/14, Error ellipse: s-maj=12.7km s-min=7.3km az=101.0*
ISC 15 22:32:28.3±2.0**, 563S**±007×**1508E**±01**, h58**km±18km**, n49, σ1s05**/48**, mb4.5**/22**, MS4.0**/3**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.21	224	Pn	Pn	22 33 41.6	-2.0
	8.3nm,0.3s,baz=41,slow=8.0,SNR=14						
PMG				Sn	Sn	22 34 47.1	+4.7
	18nm,0.3s,baz=145,slow=20,SNR=12						
PMG	Port Moresby	5.21	224	ePn	Pn	22 33 44.0	+0.3
PMG				eSn	Sn	22 34 44.8	+2.3
CTA	Charters Tower	15.04	197	eP	Pn	22 35 57.8	+0.6
	25nm,1.5s						
CTA	Charters Tower	15.04	197	Pn	Pn	22 35 57.0	-0.2
	0.1nm,0.3s,baz=23,slow=16,SNR=3.8						
CTAO	Charters Tower	15.04	197	Pn	Pn	22 35 56.7	-0.5
	64nm,1.3s						
KAKA	Kakadu	19.44	248	eP	Pn	22 36 49.7	-1.9
	14nm,1.0s						
WRAB	Tennant Creek	21.41	227	eP	P	22 37 10.8	-0.4
	60nm,1.3s,mb4.8						
WB2	Warramunga Arr	21.42	227	eP	P	22 37 11.3	0.0
WB2	Warramunga Arr	21.42	227	eP	P	22 37 09.7	-1.6
WRA	Warramunga Arr	21.42	227	P	P	22 37 11.2	-0.1
	19nm,1.0s,mb4.4,baz=51,slow=10,SNR=34						
WRA				PcP	PcP	22 41 13.8	+1.0
	0.9nm,0.7s,baz=47,slow=1.9,SNR=6.2						
DZM	Mont Dzumac	22.27	139	P	P	22 37 19.8	-0.5
	19nm,0.9s,mb4.5,baz=314,slow=22,SNR=7.1						
AS31	Alice Springs	24.22	221	eP	P	22 37 40.2	+0.8
ASAR	Alice Springs	24.22	221	P	P	22 37 40.2	+0.8
	5.8nm,0.8s,mb4.1,baz=52,slow=8.5,SNR=28						
ASPA	Alice Springs	24.22	221	eP	P	22 37 40.9	+1.4
FITZ	Fitzroy Crossi	27.53	241	eP	P	22 38 09.2	-0.1
	33nm,0.9s,mb5.0						
FITZ	Fitzroy Crossi	27.53	241	P	P	22 38 09.1	-0.3
	13nm,0.8s,mb4.6,baz=81,slow=8.3,SNR=14						
FORT	Forrest	32.91	218	eP	P	22 38 56.4	-0.5
	21nm,0.8s,mb5.1						
MBWA	Marble Bar	33.84	240	eP	P	22 39 04.8	-0.2
	12nm,0.8s,mb4.9						
KLBR	Kellerberrin	40.30	226	eP	P	22 39 59.4	-0.4
	13nm,0.9s,mb4.7						
YHNB	Yeheng	41.57	318	eP	P	22 40 11.5	+1.3
MUN	Mundaring	41.62	227	eP	P	22 40 10.7	+0.1
MJAR	Matsushiro Arr	43.58	345	P	P	22 40 24.5	-2.0
	3.5nm,0.8s,mb4.1,baz=165,slow=8.3,SNR=14						
MJAR				LR	LR	22 58 05.7	
	comp=Z,124nm,18.9s,MS3.8,baz=155,slow=36						
MJAR	Matsushiro Arr	43.58	345	P	P	22 40 24.5	-2.0
MJAR				LR	LR	22 58 05.7	
INCN	Inchon	48.45	334	eP	P	22 41 06.3	+1.5
	151nm,1.4s						
ENH	Enshi	53.29	315	P	P	22 41 40.6	-0.6
	0.4nm,0.8s						
BJT	Baijiatuau	55.50	328	eP	P	22 41 57.9	+0.7
	4.8nm,0.6s,mb4.7						
BJI	Beijing	55.51	328	P	P	22 41 56.4	-0.9
BJI				AMB	AMB		
	comp=Z,13nm,1.5s,mb4.7						
BJI				AMB	AMB		
	comp=Z,120nm,4.7s						
BJI				LR	LR		
	comp=Z,134nm,22.4s,MS4.0						
BJI	Beijing	55.51	328	P	P	22 41 56.4	-0.9
	comp=Z,13nm,1.5s,mb4.7						
BJI				S	S	22 49 52.4	+14
BJI				LR	LR		
	comp=Z,130nm,22.4s,MS4.0						
HHC	Hu-ho-hao-te	58.59	326	eP	P	22 42 20.3	+1.3
HHC				AP	pP	22 42 36.5	+1.9
HHC				PP	PP	22 44 31.8	+2.7
HHC				S	S	22 50 16.5	-2.2
HHC				PS		22 50 39.1	
HHC				XS	sS	22 50 43.9	-1.1
HHC				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,72nm,6.5s						
HHC				LR	LR		
	comp=N,198nm,18.4s,MS4.3						
HHC				LR	LR		
	comp=E,130nm,20.2s,MS4.3						
HHC				LR	LR		
	comp=Z,153nm,20.2s,MS4.1						
LZH	Lanzhou	60.46	317	eP	P	22 42 33.5	+1.6
LZH				AP	pP	22 42 42.5	-5.1
LZH				XP	sP	22 42 46.5	-7.7
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,159nm,4.6s						
LZH	Lanzhou	60.46	317	eP	P	22 42 33.5	+1.6
	comp=Z,30nm,1.5s,mb5.1						
LZH				pP	pP	22 42 42.5	-5.1
LZH				sP	sP	22 42 46.5	-7.7
GTA	Gaotai	64.94	318	eP	P	22 43 03.1	+1.4
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb4.1						
ULN	Ulaanbaatar	65.67	329	eP	P	22 43 06.9	+0.5
	comp=Z,6.2nm,1.1s,mb4.5						
SONM	Songino Array	65.99	329	P	P	22 43 09.5	+1.0
	comp=Z,4.3nm,1.0s,mb4.5,baz=136,slow=5.7,SNR=18						
VNDA	Vanda	72.09	177	P	P	22 43 47.0	+0.7
	comp=Z,1.8nm,0.9s,mb4.0,baz=318,slow=9.6,SNR=3.6						
VNDA	Vanda	72.09	177	P	P	22 43 46.1	-0.2
	comp=Z,2.8nm,1.1s,mb4.1						
WMQ	Urumqi	75.02	318	P	P	22 44 03.1	-0.4
MKAR	Makanchi Array	79.65	319	P	P	22 44 28.7	-0.8
	comp=Z,1.6nm,0.9s,mb3.9,baz=100,slow=5.0,SNR=12						
MKAR	Makanchi Array	79.65	319	P	P	22 44 28.7	-0.8
ZAL	Zalesovo	80.75	327	P	P	22 44 34.0	-1.4
	comp=Z,0.8nm,0.4s,mb4.0,baz=357,slow=3.2,SNR=3.7						
ZAL	Zalesovo	80.75	327	P	P	22 44 34.0	-1.4
KURK	Kurchatov	83.21	322	eP	P	22 44 46.3	-1.9
	comp=Z,7.2nm,1.1s,mb4.6						
MAW	Mawson	84.05	203	P	P	22 44 52.8	+0.3
	comp=Z,3.3nm,0.9s,mb4.5,baz=54,slow=5.7,SNR=4.7						
NVAR	Mina Array Bea	94.15	52	P	P	22 45 40.9	+0.3
	comp=Z,0.8nm,0.8s,mb4.2,baz=234,slow=3.9,SNR=6.6						
GERES	GERESS Array B	123.70	327	PKP	PKPdf	22 51 18.6	-0.7
	comp=Z,0.5nm,0.8s,baz=85,slow=2.8,SNR=5.3						
LPAZ	La Paz	135.75	120	PKP	PKPdf	22 51 45.0	+2.9
	comp=Z,2.0nm,0.9s,baz=295,slow=3.0,SNR=5.5						
SIV	San Ignacio	141.82	125	PKP	PKPdf	22 51 52.6	-0.7
	comp=Z,2.2nm,0.9s,baz=268,slow=6.0,SNR=4.8						
TORD	Torodi Ar. Bea	148.66	286	PKPbc	PKPbc	22 52 08.5	-0.3
	comp=Z,2.4nm,0.6s,baz=81,slow=3.3,SNR=23						
BDFB	Brasilia	151.82	139	PKPbc	PKPbc	22 52 17.3	+0.9
	comp=Z,6.2nm,0.8s,baz=176,slow=2.4,SNR=7.5						

IDC ***15*** *22:44:59.3±0.8, 24.19S×17608W, h0km, mb4.3/10, mb1 4.6/12, mb1mx4.5/18, mbtmp4.4/12, ML3.9/2, MS4.1/8, Ms1 4.1/8, ms1mx3.8/19, Error ellipse: s-maj=24.6km s-min=18.1km az=132.0*
ISCJB ***15*** *22:45:03.3±0.4, 2436S±007×176.17W±009, h33km, mb4.6/25, MS4.2/7, Error ellipse: s-maj=12.5km s-min=9.8km az=59.2*
NEIC ***15*** *22:45:04.6±0.4, 2423S×176.11W, h35km, mb4.6/15, Error ellipse: s-maj=13.6km s-min=9.1km az=125.0*
BJI ***15*** *22:45:05.3, 2422S×17603W, h39km, mB5.1, mb5.1, Ms4.9, Msz4.5*
ISC 15 22:45:05.1±0.4**, 2438S**±007×**17609W**±009**, h35**km**, n54, σ1s13**/41**, mb4.6**/25**, MS4.2**/7**, 1C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	11.18	22	Pn	Pn	22 47 37.6	-4.7
	8.6nm,0.3s,baz=185,slow=0.7,SNR=7.2						
AFI				Sn	Sn	22 49 34.1	-12
	6.3nm,0.3s,baz=45,slow=20,SNR=4.7						
URZ	Urewera	15.00	201	Pn	Pn	22 48 36.2	+1.7
	3.0nm,0.3s,baz=269,slow=4.7,SNR=11						
URZ				Sn	Sn	22 51 05.5	-14
	1.0nm,0.3s,baz=20,slow=22,SNR=6.1						
RAR	Rarotonga	15.37	81	Pn	Pn	22 48 27.8	-11
	8.8nm,0.3s,baz=247,slow=8.2,SNR=12						
RAR				LR	LR	22 53 52.0	
	comp=Z,344nm,18.4s,baz=329,slow=35						
DZM	Mont Dzumac	16.22	275	LR	LR	22 52 60.0	
	comp=Z,362nm,18.8s,baz=33,slow=30						
RPZ	Rata Peaks	21.99	206	P	P	22 49 56.7	+0.7
	3.3nm,0.5s,mb4.0,baz=86,slow=7.4,SNR=3.1						
TBI	Tubuai	24.36	93	eLQ		22 54 49.8	
	485nm,26.8s						
TBI				eLR	LR	22 55 55.8	
	421nm,30.2s,baz=254						
PPT	Papeete	25.64	80	eLQ		22 55 20.0	
	689nm,23.8s						
PPT				eLR	LR	22 56 30.4	
	398nm,25.5s,baz=246						
PPT	Papeete	25.64	80	LR	LR	22 58 26.7	
	comp=Z,227nm,18.9s,MS3.7,baz=259,slow=32						
HNR	Honiara	27.26	299	LR	LR	23 00 15.9	
	comp=Z,322nm,19.5s,MS3.9,baz=178,slow=34						
CTA	Charters Tower	35.05	269	eP	P	22 51 55.2	+0.7
	18nm,1.9s,mb4.7						
CTA	Charters Tower	35.05	269	P	P	22 51 55.2	+0.6
	3.7nm,0.3s,mb4.7,baz=86,slow=11,SNR=10						
CTAO	Charters Tower	35.05	269	eP	P	22 51 55.0	+0.5
	4.3nm,0.4s,mb4.7						
RKT	Rikitea	37.56	97	eLR	LR	23 01 59.6	
	283nm,29.5s						
PMG	Port Moresby	38.04	287	P	P	22 52 19.6	-0.4
	14nm,0.9s,mb4.7,baz=22,slow=9.3,SNR=4.2						
PMG	Port Moresby	38.04	287	eP	P	22 52 20.0	0.0
	9.0nm,0.6s,mb4.7						
AS31	Alice Springs	45.48	260	eP	P	22 53 20.8	0.0
ASAR	Alice Springs	45.48	260	P	P	22 53 20.4	-0.4
	2.7nm,0.7s,mb4.2,baz=95,slow=7.2,SNR=41						
ASAR				PcP	PcP	22 54 59.5	+0.1
	0.5nm,0.8s,baz=115,slow=3.6,SNR=4.1						
ASAR				LR	LR	23 11 46.3	
	comp=Z,408nm,18.6s,MS4.4,baz=120,slow=35						
ASPA	Alice Springs	45.48	260	eP	P	22 53 20.8	-0.1
WB2	Warramunga Arr	45.93	265	eP	P	22 53 22.1	-2.3
WRAB	Tennant Creek	45.93	265	eP	P	22 53 23.6	-0.8
	6.8nm,0.7s,mb4.7						
WRA	Warramunga Arr	45.94	265	P	P	22 53 23.5	-0.9
	2.0nm,0.3s,mb4.5,baz=99,slow=7.1,SNR=88						
WRA				LR	LR	23 11 26.8	
	comp=Z,309nm,19.9s,MS4.2,baz=115,slow=34						
SBA	Scott Base	54.15	184	eP	P	22 54 28.1	+1.4
	7.2nm,1.0s,mb4.6						
VNDA	Vanda	54.24	186	P	P	22 54 27.8	+0.4
	1.8nm,0.7s,mb4.1,baz=2.5,slow=4.4,SNR=5.6						
VNDA	Vanda	54.24	186	eP	P	22 54 27.9	+0.5
	2.9nm,0.9s,mb4.2						
FITZ	Fitzroy Crossi	54.35	265	P	P	22 54 27.9	-0.3
	3.5nm,0.8s,mb4.3,baz=225,slow=7.5,SNR=8.5						
CASY	Casey	61.26	206	eP	P	22 55 16.1	-0.5
	5.5nm,0.8s,mb4.7						
QSPA	South Pole Qui	65.71	180	eP	P	22 55 45.6	-0.5
	9.5nm,1.0s,mb4.8						
MJAR	Matsushiro Arr	74.36	323	P	P	22 56 38.4	-0.8
	2.8nm,0.8s,mb4.2,baz=160,slow=6.0,SNR=11						
MAJO	Matsushiro	74.36	323	eP	P	22 56 39.5	+0.3
	3.3nm,0.7s,mb4.4						
MAT	Matsushiro	74.36	323	P	P	22 56 39.2	0.0
MAW	Mawson	78.53	200	eP	P	22 57 02.7	-0.1
	1.2nm,0.5s,mb4.1						
ISA	Isabella	80.82	44	eP	P	22 57 13.2	-2.0
	1.8nm,0.3s,mb4.5						
CMB	Columbia Colle	81.14	41	eP	P	22 57 17.1	+0.2
	2.8nm,0.8s,mb4.2						
NVAR	Mina Array Bea	82.66	42	P	P	22 57 24.9	0.0
	3.0nm,0.9s,mb4.3,baz=209,slow=7.2,SNR=18						
SYO	Syowa Base	83.34	192	⇑eP	P	22 57 26.8	-1.6
SNAA	Sanae	84.10	178	eP	P	22 57 30.1	-2.2
	6.1nm,1.0s,mb4.7						
MDJ	Mudanjiang	84.69	324	P	P	22 57 36.9	+1.6
MDJ				AMB	AMB		
	comp=Z,13nm,1.1s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,49nm,3.7s						
CN2	Changchun	86.43	322	eP	P	22 57 45.5	+1.5
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.3						
MSU	Marysvale	86.55	45	eP	P	22 57 46.1	+1.5
PSI	Prapat	86.58	275	LR	LR	23 39 51.2	
	comp=Z,214nm,19.1s,MS4.6,baz=341,slow=38						
MA2	Magadan	87.98	344	eP	P	22 57 51.2	-0.3
	comp=Z,26nm,1.4s,mb5.3						
ANMO	Albuquerque	88.47	50	eP	P	22 57 54.3	+0.5
	comp=Z,2.5nm,1.1s,mb4.4						
PV01	Paradox Valley	88.70	47	eP	P	22 57 54.8	-0.1
PDAR	Pinedale Array	90.58	42	P	P	22 58 02.4	-1.3
	comp=Z,0.5nm,0.8s,mb3.9,baz=215,slow=4.9,SNR=4.6						
XAN	Xi'an	91.87	307	P	P	22 58 12.0	+2.4
XAN				AMB	AMB		
	comp=Z,11nm,1.0s,mb5.1						
HHC	Hu-ho-hao-te	93.31	314	eP	P	22 58 18.8	+2.5
HHC				AP	pP	22 58 29.3	+1.9
HHC				XP	sP	22 58 33.3	+1.9
HHC				PP	PP	23 02 06.3	+6.1
HHC				SKS		23 08 49.0	
HHC				S		23 09 22.8	
HHC				PS	PS	23 10 44.5	+6.3
HHC				SS	SS	23 15 42.0	+4.6
HHC				AMB	AMB		
	comp=Z,22nm,0.5s,mb5.8						
HHC				AMB	AMB		
	comp=Z,104nm,7.0s						
HHC				LR	LR		
	comp=N,176nm,17.8s,MS4.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HHC				LR	LR		
	comp=E,161nm,17.8s,MS4.7						
HHC				LR	LR		
	comp=Z,149nm,15.5s,MS4.5						
SONM	Songino Array	99.82	318	LR	LR	23 43 32.7	
	comp=Z,70nm,18.5s,MS4.2,baz=79,slow=35						
WMQ	Urumqi	110.78	310	PKP	PKiKP	23 03 34.6	+0.4
AKASG	Malin Array Be	147.24	330	PKPbc	PKPbc	23 04 43.9	-0.8
	comp=Z,2.7nm,0.5s,baz=41,slow=3.9,SNR=18						
BRTR	Keskin Array B	150.69	309	PKPbc	PKPbc	23 04 53.5	0.0
	comp=Z,1.2nm,0.8s,baz=125,slow=4.5,SNR=7.8						
CLL	Collm	152.22	348	ePKPbc	PKPbc	23 04 56.0	-1.0
	comp=Z,44nm,2.4s						
CLL				ePKPab	PKPab	23 05 05.0	-1.8
CLL				i sPKPab		23 05 19.3	
BRG	Berggiesshubel	152.43	346	e(P)	PKPdf	23 04 57.1	+6.6
	comp=Z,2.3nm,1.1s						
GERES	GERESS Array B	154.39	345	PKPab	PKPab	23 05 12.6	-3.4
	comp=Z,0.2nm,0.3s,baz=40,slow=2.3,SNR=4.6						
TORD	Torodi Ar. Bea	168.63	169	PKPab	PKPab	23 06 18.4	+0.3
	comp=Z,0.8nm,0.8s,baz=201,slow=6.3,SNR=3.7						

MAN 15 23:20:39.5, 1502N×12180E, h85^{km}, mb1.7, ML3.5, MS3.6, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
POLP	Polilio Island	0.32	155	eP	Pn	23 20 53.8	+1.5
POLP				eS	Sn	23 21 04.7	+2.8
BALP	Baler	0.75	343	eP	Pn	23 20 57.6	+1.6
CAUP	Cauayan	1.92	1	eP	Pn	23 21 10.3	-0.1

*SOF **15** 23:29:06.3, 4124N×2529E, h2^{km}, MD3.0*
*NEIC **15** 23:29:07.7, 4121N×2528E, h16^{km}, MD3.0(SOF), MD3.4(ATH), After ATH.*
*CSEM **15** 23:29:07.7±0.1, 4132N×2527E, h12^{km}, MD3.4, Error ellipse: s-maj=1.6km s-min=1.2km az=179.0*
*ATH **15** 23:29:07.7, 4121N×2528E, h16^{km}±1^{km}, MD3.4/5*
*ISCJB **15** 23:29:07.2±0.4, 4125N±002×2525E±002, h5^{km}±3^{km}, Error ellipse: s-maj=3.5km s-min=2.7km az=173.6*
*THE **15** 23:29:09.6, 4106N×2526E, h10^{km}, ML3.3*
ISC 15 23:29:08.1±0.4, **4124N**±002×**2524E**±002, **h5**^{km}±3^{km}, **n59**, σ**1^{s}05**/80, **8C-6D, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RDO	Rodhopi	0.24	113	⇓iPB	Pg	23 29 12.8	0.0
RDO				eSB	Sg	23 29 15.9	-0.1
KDZ	Kurdzhali	0.43	18	i Pg	Pg	23 29 14.3	-2.1
RZN	Rozhen	0.60	319	i Pg	Pg	23 29 18.8	-0.7
ALN	Alexandroupoli	0.70	119	ePg	Pg	23 29 21.4	-0.1
ALN				eSg	Sg	23 29 30.7	+0.2
DIM	Dimitrovgrad	0.84	15	Pg	Pg	23 29 22.7	-1.5
ENEZ	Enez	0.85	126	PG	Pg	23 29 26.0	+1.6
ENEZ				SG	Sg	23 29 38.2	+2.7
PLD	Plovdiv	0.95	335	Pg	Pg	23 29 25.5	-0.9
NVR	Nevrokopi	1.04	277	ePN	Pn	23 29 27.8	-1.5
NVR				eSN	Sn	23 29 43.1	-1.1
GADA	Gvkgeada	1.16	154	PN	Pn	23 29 31.9	+1.0
GADA				SN	Sn	23 29 47.6	+0.5
MMB	Musomiste	1.19	288	Pg	Pg	23 29 29.0	-1.9
SRS	Serrai	1.25	265	ePg	Pg	23 29 32.8	+0.8
SRS				eSg	Sg	23 29 50.6	+2.3
EDRB	Edirne	1.28	61	PN	Pn	23 29 31.0	-1.5
EDRB				SN	Sn	23 29 45.3	-4.7
OUR	Ouranopolis	1.32	227	ePg	Pg	23 29 32.5	-0.7
OUR				eSg	Sg	23 29 50.6	+0.2
OUR	Ouranopolis	1.32	227	ePg	Pg	23 29 32.5	-0.8
OUR				eSg	Sg	23 29 50.6	+0.2
LIA	Limnos Island	1.34	182	ePN	Pn	23 29 32.8	-0.6
LIA				eSN	Sn	23 29 50.6	-0.9
SOH	Sokhos	1.49	254	ePg	Pg	23 29 36.1	-0.5
SOH				eSg	Sg	23 29 57.2	+1.3
PGB	Panagyurishte	1.54	329	P	Pn	23 29 36.3	+0.3
RKY	Sarkoy-Tekirda	1.57	110	PN	Pn	23 29 36.7	+0.2
JMB	Yambol	1.58	39	Pg	Pg	23 29 37.0	-1.4
MFT	Murefte	1.61	106	PN	Pn	23 29 37.3	+0.3
PLG	Polygyros	1.61	238	ePN	Pn	23 29 38.1	+1.0
PLG				eSN	Sn	23 29 58.4	+0.1
EZN	Ezine	1.64	149	PN	Pn	23 29 37.9	+0.5
KKB	Krupnik	1.74	292	P	Pn	23 29 39.5	+0.7
HORT	Hortiatis	1.75	249	ePb	Pb	23 29 41.3	+0.8
HORT				eSb	Sb	23 30 04.6	+1.9
PAIG	Paliouri	1.77	223	ePb	Pb	23 29 38.8	-2.1
PAIG				eSb	Sb	23 30 01.7	-1.8
THE	Thessaloniki	1.83	251	ePb	Pb	23 29 41.2	-0.7
THE				eSb	Sb	23 30 05.3	+0.2
CANB	Canakkale	1.85	131	PN	Pn	23 29 41.1	+0.8
MRMT	Marmara Adasi	1.89	109	PN	Pn	23 29 40.2	-0.8
PVL	Pavlikeni	1.98	2	P	Pn	23 29 43.0	+0.9
VAY	Valandovo	2.02	273	ePn	Pn	23 29 43.3	+0.6
VAY				eSn	Sn	23 30 12.0	+3.8
VAY	Valandovo	2.02	273	ePn	Pn	23 29 43.0	+0.3
VTS	Vitosha	2.03	312	P	Pn	23 29 45.4	+2.5
PRK	Paraskevi	2.14	158	ePN	Pn	23 29 44.6	+0.2
PRK				eSN	Sn	23 30 11.3	0.0
BNT	Bandirma	2.22	113	ePN	Pn	23 29 46.1	+0.7
AOS	Alonnisos	2.31	207	ePn	Pn	23 29 46.2	-0.5
AOS				eSn	Sn	23 30 14.4	-1.1
AOS	Alonnisos	2.31	207	ePn	Pn	23 29 46.2	-0.6
AOS				eSn	Sn	23 30 14.4	-1.2
LIT	Litokhoron	2.38	242	ePn	Pn	23 29 48.2	+0.5
CTT	Catalca	2.41	91	ePN	Pn	23 29 48.0	0.0
XOR	Xorichti	2.44	221	ePn	Pn	23 29 47.7	-0.8
XOR				eSn	Sn	23 30 17.4	-1.3
KCT	Karacabey	2.56	111	ePN	Pn	23 29 49.8	-0.3
KLYT	Kilyos	2.87	88	ePN	Pn	23 29 53.9	-0.4
ISK	Istanbul-Kandi	2.89	92	ePN	Pn	23 29 54.9	+0.3
CHOS	Chios island	2.92	167	ePn	Pn	23 29 54.8	-0.2
CHOS				eSn	Sn	23 30 28.8	-1.6
FNA	Florina	2.96	262	ePn	Pn	23 29 57.3	+1.7
DST	Dursunbey	3.06	121	ePN	Pn	23 29 57.6	+0.6
AGG	Agios Georgios	3.14	226	ePn	Pn	23 29 58.2	+0.1
TIRR	Tirgusor	3.97	35	⇑iP	Pn	23 30 09.0	-0.6
TIRR	Tirgusor	3.97	35	⇑P	Pn	23 30 09.0	-0.5
MLR	Muntele Rosu	4.28	7	⇑iP	Pn	23 30 14.9	+1.1
MLR	Muntele Rosu	4.28	7	⇑P	Pn	23 30 14.9	+1.1
CFR	Carcaliu	4.47	27	⇓iP	Pn	23 30 15.8	-0.6
CFR	Carcaliu	4.47	27	⇓P	Pn	23 30 15.8	-0.6
PLOR	Plostina	4.72	12	⇓iP	Pn	23 30 21.1	+1.2
VRI	Vrincioaia	4.75	13	⇓iP	Pn	23 30 21.5	+1.3
VRI	Vrincioaia	4.75	13	⇓P	Pn	23 30 21.5	+1.3
BZS	Buzias	5.11	330	⇑iP	Pn	23 30 24.6	-0.6
BZS	Buzias	5.11	330	⇑P	Pn	23 30 24.6	-0.6
BURAR	Bucovina Array	6.37	360	⇑iP	Pn	23 30 43.9	+1.3
BURAR	Bucovina Array	6.37	360	⇑P	Pn	23 30 43.9	+1.3

*IDC **15** 23:30:15.8±0.6, 639S×130.15E, h0^{km}, mb4.5/9, mb1 4.7/11, mb1mx4.6/14, mbtmp4.6/11, ML5.3/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/16, Error ellipse: s-maj=36.8km s-min=15.7km az=70.0*
*BJI **15** 23:30:21.7, 630S×130.10E, h35^{km}, mB4.9, mb4.6, Ms4.4, Msz4.1*
*NEIC **15** 23:30:21.8±0.4, 632S×130.12E, h35^{km}, mb4.5/12, Error ellipse: s-maj=13.4km s-min=7.3km az=68.0*
*ISCJB **15** 23:30:24.5±1.4, 664S±004×12997E±007, h81^{km}±13^{km}, mb4.6/26, Error ellipse: s-maj=11.4km s-min=6.1km az=143.5*
ISC 15 23:30:23.7±1.4, **647S**±007×**13010E**±008, **h52**^{km}±14^{km}, **n52**, σ**1^{s}31**/59, **mb4.7**/26, **MS4.1**/2, **1C-1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.62	160	eP	Pn	23 32 01.9	+3.6
	806nm,0.6s						
KAKA				eS	Sn	23 33 12.5	+0.1
FITZ	Fitzroy Crossi	12.36	200	eP	Pn	23 33 18.2	+1.4
	105nm,0.4s						
FITZ				eS	Sn	23 35 27.1	-5.8
FITZ	Fitzroy Crossi	12.36	200	Pn	Pn	23 33 18.4	+1.6
	15nm,0.3s,baz=36,slow=13,SNR=110						
FITZ				Sn	Sn	23 35 27.8	-5.2
	10.0nm,0.3s,baz=124,slow=21,SNR=4.0						
FITZ				LR	LR	23 38 34.6	
	comp=Z,62nm,20.4s,baz=74,slow=40						
WRAB	Tennant Creek	14.01	163	ePn	Pn	23 33 38.0	-1.3
	86nm,0.6s						
WRAB				eSn	Sn	23 36 06.0	-7.2
WRA	Warramunga Arr	14.01	163	Pn	Pn	23 33 38.0	-1.4
	15nm,0.3s,baz=347,slow=13,SNR=101						
WRA				Sn	Sn	23 36 06.3	-6.9
	15nm,0.3s,baz=335,slow=20,SNR=14						
WB2	Warramunga Arr	14.02	163	⇓iP	Pn	23 33 37.6	-1.8
WB2				eS	Sn	23 36 05.5	-7.9
PMG	Port Moresby	17.14	101	P	Pn	23 34 20.6	+1.1
	1.7nm,0.3s,baz=81,slow=4.3,SNR=5.0						
AS31	Alice Springs	17.48	168	eP	Pn	23 34 23.9	+0.2
AS31				eS	S	23 37 29.7	-14
ASAR	Alice Springs	17.49	168	P	Pn	23 34 23.9	+0.1
	7.2nm,0.3s,baz=343,slow=13,SNR=200						
ASAR				S	S	23 37 29.6	-14
	3.0nm,0.3s,baz=346,slow=25,SNR=9.9						
ASPA	Alice Springs	17.49	168	eP	Pn	23 34 23.9	+0.1
ASPA				eS	S	23 37 29.7	-14
MBWA	Marble Bar	17.72	214	ePn	Pn	23 34 30.1	+3.4
	20nm,0.5s						
MBWA				eSn	Sn	23 37 33.8	-10
KKM	Kota Kinabalu	18.62	312	ePn	Pn	23 34 36.4	-1.1
CTA	Charters Tower	20.71	132	eP	P	23 35 01.5	+1.9
	11nm,0.8s						
CTA				eS	S	23 38 42.4	-5.7
CTA	Charters Tower	20.71	132	P	P	23 35 00.8	+1.2
	14nm,0.8s,baz=313,slow=11,SNR=12						
CTA				S	S	23 38 44.8	-3.2
	2.1nm,0.4s,baz=26,slow=24,SNR=2.8						
CTAO	Charters Tower	20.71	132	eP	P	23 35 01.5	+1.9
	8.2nm,0.6s						
KSM	Kuching	21.28	291	P	P	23 35 04.2	-1.5
FORT	Forrest	24.26	184	eP	P	23 35 37.3	+1.5
	29nm,0.5s,mb5.0						
KLBR	Kellerberrin	27.54	203	eP	P	23 36 07.0	+1.6
	7.6nm,0.5s,mb4.6						
MUN	Mundaring	28.51	205	eP	P	23 36 15.6	+1.5
NWAO	Narrogin (SRO)	28.92	203	eP	P	23 36 19.3	+1.5
	2.6nm,0.4s,mb4.3						
DZM	Mont Dzumac	38.34	118	P	P	23 37 39.4	-0.1
	5.6nm,0.5s,mb4.6,baz=300,slow=18,SNR=9.1						
MJAR	Matsushiro Arr	43.45	10	P	P	23 38 19.5	-2.0
	1.7nm,0.8s,mb3.9,baz=189,slow=9.1,SNR=6.3						
HHC	Hu-ho-hao-te	50.07	342	eP	P	23 39 16.8	+3.5
HHC				AP	pP	23 39 28.9	+1.7
HHC				XP	sP	23 39 34.3	+1.1
HHC				PP	PP	23 41 14.8	+6.2
HHC				PCS	PcS	23 44 30.4	+1.0
HHC				S	S	23 46 24.6	+3.9
HHC				SCS	ScS	23 49 00.9	+1.0
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,106nm,6.2s						
HHC				LR	LR		
	comp=N,112nm,15.5s,MS4.1						
HHC				LR	LR		
	comp=E,115nm,16.1s,MS4.1						
HHC				LR	LR		
	comp=Z,84nm,15.5s,MS3.9						
GTA	Gaotai	53.56	331	eP	P	23 39 40.1	+0.9
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
JIRN	Jiri	54.32	311	eP	P	23 39 45.5	+0.7
	comp=Z,19nm,0.5s,mb5.2						
GUN	Gumba	54.68	311	eP	P	23 39 47.8	+0.4
	comp=Z,55nm,0.7s,mb5.7						
PKI	Pulchoki	54.86	310	eP	P	23 39 49.3	+0.6
	comp=Z,15nm,0.7s,mb5.1						
KKN	Kakani	55.07	310	eP	P	23 39 50.7	+0.5
DMN	Daman	55.11	310	eP	P	23 39 50.6	+0.1
	comp=Z,36nm,0.9s,mb5.4						
GKN	Gorkha	55.67	310	eP	P	23 39 55.1	+0.6
	comp=Z,30nm,0.5s,mb5.6						
KOLN	Koldanda	56.34	309	eP	P	23 39 59.8	+0.5
ULN	Ulaanbaatar	57.79	342	eP	P	23 40 10.1	+0.6
	comp=Z,2.9nm,0.6s,mb4.5						
SONM	Songino Array	57.97	341	P	P	23 40 11.4	+0.6
	comp=Z,1.1nm,0.5s,mb4.2,baz=156,slow=6.6,SNR=6.9						
WMQ	Urumqi	63.01	327	P	P	23 40 47.4	+2.2
WMQ				AMB	AMB		
	comp=Z,8.0nm,2.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,54nm,5.3s						
WMQ				LR	LR		
	comp=N,116nm,18.3s,MS4.2						
WMQ				LR	LR		
	comp=E,87nm,17.2s,MS4.2						
WMQ				LR	LR		
	comp=Z,115nm,18.8s,MS4.1						
MKAR	Makanchi Array	67.84	327	P	P	23 41 16.7	+0.3
	comp=Z,13nm,0.4s,mb5.3,baz=114,slow=8.0,SNR=202						
AAK	Ala-Archa	70.20	320	eP	P	23 41 30.6	-0.4
	comp=Z,4.5nm,0.8s,mb4.5						
ZAL	Zalesovo	71.16	334	P	P	23 41 35.2	-1.6
	comp=Z,2.4nm,0.5s,mb4.4,baz=352,slow=5.6,SNR=9.3						
ZAL	Zalesovo	71.16	334	P	P	23 41 35.2	-1.6
VNDA	Vanda	72.96	173	P	P	23 41 46.6	-1.0
	comp=Z,3.0nm,0.5s,mb4.4,baz=326,slow=5.9,SNR=11						
MAW	Mawson	75.48	201	P	P	23 42 02.7	+0.4
	comp=Z,3.1nm,0.6s,mb4.4,baz=62,slow=9.4,SNR=11						
BVAR	Borovoye Array	77.67	328	P	P	23 42 14.0	-0.7
	comp=Z,1.7nm,0.5s,mb4.2,baz=105,slow=7.1,SNR=18						
CHKZ	Chkalovo	77.86	328	eP	P	23 42 14.7	-1.1
	comp=Z,1.9nm,0.4s,mb4.4						
ZRNK	Zerenda	78.38	327	eP	P	23 42 17.4	-1.2
	comp=Z,4.7nm,0.9s,mb4.4						
QSPA	South Pole Qui	83.50	180	eP	P	23 42 45.0	-0.9
	comp=Z,8.8nm,0.6s,mb5.1						
AKTO	Aktyubinsk	83.72	322	P	P	23 42 46.0	-0.9
	comp=Z,1.2nm,0.4s,mb4.4,baz=86,slow=6.5,SNR=5.5						
SYO	Syowa Base	84.19	201	⇑ePcP	PcP	23 42 52.8	-0.3
ARU	Arti	85.31	328	eP	P	23 42 53.1	-2.0
	comp=Z,3.4nm,0.8s,mb4.5						
ARCES	ARCESS Array B	101.12	340	P	Pdif	23 44 04.4	-3.7
	comp=Z,1.5nm,0.8s,baz=34,slow=8.8,SNR=5.3						
TORD	Torodi Ar. Bea	128.81	282	PKP	PKPdf	23 49 24.8	-0.5
	comp=Z,0.9nm,0.6s,baz=67,slow=2.1,SNR=15						
DBIC	Dimbokro	135.27	273	PKP	PKPdf	23 49 38.5	+1.0
	comp=Z,7.6nm,1.1s,baz=63,slow=16,SNR=4.5						
LVC	Limon Verde	145.62	148	ePKPdf	PKPdf	23 49 57.8	+1.7
LPAZ	La Paz	151.07	142	PKPbc	PKPbc	23 50 11.9	+1.1
	comp=Z,2.8nm,0.4s,baz=72,slow=1.2,SNR=24						

IDC 15 23:46:00.3±4.5, **555S**×**15044E**, **h0**^{km}, **mb3.5**/2, **mb1 3.9**/2, **mb1mx3.5**/11, **mbtmp3.6**/2, **MS2.8**/1, **Ms1 2.8**/1, **ms1mx2.4**/14, **Error ellipse: s-maj=206.8km s-min=47.1km az=117.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	10.18	113	LR	LR	23 51 45.2	
	comp=Z,52nm,21.5s,baz=180,slow=34						
WRA	Warramunga Arr	21.21	226	P	P	23 50 48.3	+0.8
	1.2nm,0.8s,baz=51,slow=11,SNR=6.4						
ASAR	Alice Springs	24.04	220	P	P	23 51 16.9	0.0
	1.6nm,0.7s,baz=56,slow=9.1,SNR=20						
TORD	Torodi Ar. Bea	148.28	286	PKPbc	PKPbc	00 05 49.0	+0.6
	0.6nm,0.6s,baz=63,slow=3.0,SNR=9.5						

*NEIC **15** 23:49:09.8, 3169N×594W, h0^{km}, MG4.0(MDD), After MDD.*
*ISCJB **15** 23:49:11.6±0.7, 3197N±004×563W±004, h10^{km}, Error ellipse: s-maj=6.8km s-min=5.0km az=124.9*
*CNRM **15** 23:49:11.0, 3165N×548W, h0^{km}, MD3.9*
*CSEM **15** 23:49:12.3±0.1, 3208N×581W, h10^{km}, MD3.9, Error ellipse: s-maj=3.4km s-min=1.5km az=130.0*
ISC 15 23:49:12.8±0.9, **3179N**±005×**556W**±004, **h20**^{km}±9^{km}, **n44**, σ**1^{s}36**/69, **Morocco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TZC	Tazercounte	0.86	294	i P	Pb	23 49 28.0	-1.1
TZC				i S	Sb	23 49 42.0	+1.7
KIB	El Ksiba	0.88	333	i P	Pb	23 49 30.0	+0.7
KIB				i S	Sb	23 49 45.0	+4.4
ZFT	Errachidia	1.05	77	i P	Pn	23 49 30.0	-2.4
ZFT				i S	Sb	23 49 45.0	-0.7
CZD	Col de Zad	1.31	19	i P	Pn	23 49 36.0	+0.1
CZD				i S	Sn	23 49 56.0	+3.2
MIF	Mishlifen	1.63	10	i P	Pn	23 49 41.0	+0.6
MIF				i S	Sn	23 50 03.0	+2.2
IFR	Ifrane	1.76	12	P	Pn	23 49 42.0	0.0
IFR				S	Sn	23 50 07.0	+3.2
OUK	Oukaimeden	2.06	254	i P	Pn	23 49 46.5	+0.3
OUK				i S	Sn	23 50 12.0	+0.8
AVE	Averroes	2.17	314	P	Pn	23 49 48.0	+0.3
TGT	Taghat	2.31	10	eP	Pn	23 49 50.0	+0.4
TGT				i S	Sn	23 50 21.0	+3.6
TZK	Tazeka	2.56	26	eP	Pn	23 49 53.0	-0.2
TZK				i S	Sn	23 50 26.0	+2.3
EJIF	Jimena Fronter	4.65	1	P	Pn	23 50 22.3	+0.5
EJIF				S	Sn	23 51 15.0	-0.1
EJIF	Jimena Fronter	4.65	1	P	Pn	23 50 22.3	+0.5
EJIF				S	Sn	23 51 15.0	-0.1
EMIJ	Mijas	4.80	8	P	Pn	23 50 21.9	-2.0
EMIJ				S	Sn	23 51 13.0	-5.9
EMIJ	Mijas	4.80	8	P	Pn	23 50 21.9	-2.0
EMIJ				S	Sn	23 51 13.0	-6.0
ESPR	Espera	5.07	357	P	Pn	23 50 26.9	-0.7
ESPR				S	Sn	23 51 24.7	-0.8
ESPR	Espera	5.07	357	P	Pn	23 50 26.9	-0.7
ESPR				S	Sn	23 51 24.7	-0.8
ERON	Agron	5.41	15	P	Pn	23 50 33.9	+1.7
ERON	Agron	5.41	15	P	Pn	23 50 33.9	+1.6
ELOJ	Sierra Loja	5.46	12	P	Pn	23 50 34.9	+1.8
ELOJ	Sierra Loja	5.46	12	P	Pn	23 50 34.9	+1.9
EBER	Berja	5.55	23	P	Pn	23 50 36.0	+1.8
EBER				S	Sn	23 51 38.0	+0.6
EBER	Berja	5.55	23	P	Pn	23 50 36.0	+1.8
EBER				S	Sn	23 51 38.0	+0.6
ECOG	Cogollos-Vega	5.71	16	P	Pn	23 50 38.4	+2.0
EGRO	El Granado	5.94	345	P	Pn	23 50 38.6	-1.0
EGRO				S	Sn	23 51 43.9	-3.1
EGRO	El Granado	5.94	345	P	Pn	23 50 38.6	-1.0
EGRO				S	Sn	23 51 43.9	-3.1
EMIN	Mina Concepcio	6.03	352	P	Pn	23 50 39.3	-1.5
EMIN				S	Sn	23 51 46.2	-3.0
EMIN	Mina Concepcio	6.03	352	P	Pn	23 50 39.3	-1.5
EMIN				S	Sn	23 51 46.2	-3.0
EADA	Adamuz	6.41	7	P	Pn	23 50 44.9	-1.1
EADA				S	Sn	23 51 56.7	-1.8
EADA	Adamuz	6.41	7	P	Pn	23 50 44.9	-1.1
EADA				S	Sn	23 51 56.7	-1.8
EMUR	La Murta	7.00	29	P	Pn	23 50 55.7	+1.6
EMUR	La Murta	7.00	29	P	Pn	23 50 55.7	+1.6
EBAD	Badajoz	7.05	351	P	Pn	23 50 53.8	-0.9
EBAD				S	Sn	23 52 09.4	-4.8
EBAD	Badajoz	7.05	351	P	Pn	23 50 53.8	-0.9
ETOB	Tobarra	7.58	25	P	Pn	23 51 03.6	+1.5
ETOB	Tobarra	7.58	25	P	Pn	23 51 03.6	+1.5
ESDC	Sonseca Array	7.97	9	P	Pn	23 51 06.1	-1.3
ESDC	Sonseca Array	7.97	9	P	Pn	23 51 06.1	-1.3
ESLA	Sonseca Array	7.97	9	ePn	Pn	23 51 06.5	-1.0
	2.0nm,1.3s						
ESLA				Sn	Sn	23 52 21.0	-16
ESLA	Sonseca Array	7.97	9	ePn	Pn	23 51 06.5	-0.9
	2.0nm,1.3s						
MTE	Manteigas	8.74	350	ePn	Pn	23 51 17.1	-0.8
	3.1nm,0.5s						
ECAL	Calabor	10.17	355	P	Pn	23 51 37.0	-0.6
	2.6nm,0.4s						
ECAL	Calabor	10.17	355	P	Pn	23 51 37.0	-0.6
	2.6nm,0.4s						
ELOB	Lobios	10.25	349	P	Pn	23 51 37.6	-1.0
	0.2nm,0.2s						
ELOB	Lobios	10.25	349	P	Pn	23 51 37.7	-1.0
	0.2nm,0.2s						

JMA 16 00:20:27.6±0.3, **4392N**×**14785E**, **h0**^{km}, **M3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.63	251	P	Pn	00 20 57.8	+0.3
NEM2				eS	Sn	00 21 19.2	+0.1
JRA	Rausu	1.97	271	P	Pn	00 21 02.8	+0.6
JRA				eS	Sn	00 21 28.1	+0.5
JNK	Nakash	2.29	263	P	Pn	00 21 07.0	+0.3
JNK				eS	Sn	00 21 36.0	+0.4
JAK	Akkeshi	2.48	249	P	Pn	00 21 10.0	+0.8
JAK				eS	Sn	00 21 40.9	+0.8
JAR	Ashorobuto	3.03	260	P	Pn	00 21 18.6	+1.8
JAR				eS	Sn	00 21 56.2	+2.5
JOB	Onbets	3.10	252	P	Pn	00 21 19.3	+1.6
JMP	Maruseppu	3.24	273	P	Pn	00 21 20.5	+0.8
JCH	Churui	3.53	250	P	Pn	00 21 25.0	+1.4
JCH				eS	Sn	00 22 07.7	+1.6
JKK2	Kamakawa 2	3.69	271	P	Pn	00 21 27.5	+1.7

JMA 16 01:10:40.3±0.7, **4378N**×**14804E**, **h0**^{km}, **M3.5, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.72	257	P	Pn	01 11 11.7	+0.2
JRA	Rausu	2.12	275	P	Pn	01 11 18.2	+1.3
JAK	Akkeshi	2.56	253	P	Pn	01 11 24.2	+1.2
JAR	Ashorobuto	3.14	263	P	Pn	01 11 33.2	+2.2
JNBK	Urakawa-nobuka	4.16	251	P	Pn	01 11 46.5	+1.5
JKB	Kayabe	5.49	252	P	Pn	01 12 05.6	+2.3
JKB				eS	Sn	01 13 08.3	+1.2
JANG	Nango	5.93	237	P	Pn	01 12 10.1	+0.8
JANG				eS	Sn	01 13 17.1	-0.9

*IDC **16** 01:15:30.3±3.8, 477S×14985E, h0^{km}, mb3.8/3, mb1 4.1/4, mb1mx3.7/12, mbtmp3.9/4, ML3.0/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/19, Error ellipse: s-maj=120.8km s-min=37.8km az=111.0*
*ISCJB **16** 01:15:32.9±5.5, 47S±03×1500E±04, h42^{km}±45^{km}, mb3.6/3, Error ellipse: s-maj=69.2km s-min=38.6km az=71.1*
*NEIC **16** 01:15:32.2±5.9, 464S×150.13E, h35^{km}, mb3.8/1, Error ellipse: s-maj=89.5km s-min=36.9km az=65.0*
ISC 16 01:15:34.1±5.3, **47S**±03×**1501E**±04, **h43**^{km}±42^{km}, **n7**, σ**0^{s}88**/7, **mb3.7**/3, **New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.48	212	Pn	Pn	01 16 53.1	-0.1
	3.1nm,0.3s,baz=44,slow=4.4,SNR=9.5						
PMG				Sn	Sn	01 17 54.9	+0.1
	2.7nm,0.3s,baz=16,slow=19,SNR=3.7						
PMG				LR	LR	01 18 37.2	
	comp=Z,119nm,21.9s,baz=27,slow=35						
CTAO	Charters Tower	15.71	193	Pn	Pn	01 19 12.6	+0.2
	8.4nm,1.1s						
WB2	Warramunga Arr	21.53	224	eP	P	01 20 20.3	+0.8
WRA	Warramunga Arr	21.54	224	P	P	01 20 18.3	-1.3
	2.4nm,0.9s,mb3.6,baz=49,slow=10.0,SNR=6.9						
ASAR	Alice Springs	24.45	218	P	P	01 20 48.7	-0.2
	0.9nm,0.6s,mb3.4,baz=53,slow=8.3,SNR=16						
FITZ	Fitzroy Crossi	27.35	239	P	P	01 21 15.6	+0.5
	4.4nm,0.8s,mb4.0,baz=84,slow=10,SNR=6.6						
TORD	Torodi Ar. Bea	147.72	287	PKPbc	PKPbc	01 35 17.2	+3.1
	0.2nm,0.6s,baz=104,slow=1.7,SNR=4.5						

*NEIC **16** 01:47:07.5±0.9, 1736S×17169W, h35^{km}, mb4.4/1, Error ellipse: s-maj=32.7km s-min=20.6km az=157.0*
IDC 16 01:47:32.9±1.2, **2150S**×**17504W**, **h0**^{km}, **mb4.1**/4, **mb1 4.3**/4, **mb1mx4.0**/14, **mbtmp4.1**/4, **Error ellipse: s-maj=39.4km s-min=35.1km az=140.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.16	265	P	P	01 54 38.0	+1.1
	4.0nm,0.9s,baz=90,slow=11,SNR=2.9						
ASAR	Alice Springs	46.99	257	P	P	01 56 06.9	+1.1
	2.5nm,0.8s,baz=94,slow=7.7,SNR=17						
ASAR				PcP	PcP	01 57 38.1	0.0
	0.5nm,0.7s,baz=110,slow=3.9,SNR=4.4						
WRAB	Tennant Creek	47.20	262	eP	P	01 56 06.3	-1.1
	4.0nm,0.9s						
WRA	Warramunga Arr	47.21	262	P	P	01 56 06.6	-0.8
	0.5nm,0.4s,baz=98,slow=7.9,SNR=7.8						
VNDA	Vanda	57.18	186	P	P	01 57 21.1	-0.5
	1.0nm,0.4s,baz=30,slow=6.6,SNR=9.3						
BVAR	Borovoye Array	121.62	320	PKP	PKPdf	02 06 28.3	-0.3
	0.4nm,0.4s,baz=90,slow=1.4,SNR=3.8						
AKASG	Malin Array Be	145.20	333	PKPbc	PKPbc	02 07 10.3	-1.8
	1.1nm,0.5s,baz=41,slow=3.9,SNR=12						
BRTR	Keskin Array B	149.55	313	PKPbc	PKPbc	02 07 23.5	-0.7
	0.6nm,0.5s,baz=151,slow=5.7,SNR=5.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GERES	GERESS Array B	151.84	348	PKPbc	PKPbc	02 07 30.9	+1.3
	0.7nm,0.8s,baz=36,slow=2.5,SNR=6.6						

MAN 16 01:50:06.7, 1357N×12067E, h89km, mb1.7, ML3.6, MS3.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.28	103	eP	Pn	01 50 21.7	+1.8
LUBP	Lubang	0.45	292	eP	Pn	01 50 22.3	+1.4
LUBP				eS	Sn	01 50 34.0	+2.6
TGY	Tagaytay City	0.59	26	eP	Pn	01 50 26.4	+4.3
BOAC	Boac	1.15	95	eP	Pn	01 50 24.1	-3.9
BUSP	Coron	1.62	197	eP	Pn	01 50 34.7	+0.8
BALP	Baler	2.33	22	eP	Pn	01 50 44.2	+1.0
ENPP	El Nido	2.64	208	eP	Pn	01 50 48.4	+1.1

IDC 16 02:05:00.8±10.0, 3149S×17902W, h132km±106km, mb3.7/2, mb1 3.9/3, mb1mx3.5/11, mbtmp4.1/3, ML3.1/1, Error ellipse: s-maj=91.1km s-min=50.5km az=178.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.47	204	P	Pn	02 06 47.5	+0.5
	0.3nm,0.3s,baz=204,slow=18,SNR=2.6						
URZ				S	Sn	02 08 09.9	-0.3
	1.8nm,0.3s,baz=153,slow=18,SNR=8.3						
ASAR	Alice Springs	42.19	269	P	P	02 12 40.7	+0.4
	0.7nm,0.6s,baz=106,slow=8.1,SNR=9.7						
WRA	Warramunga Arr	43.28	274	P	P	02 12 49.2	+0.1
	2.0nm,0.4s,baz=111,slow=8.2,SNR=12						
KAF	Kangasniemi	145.26	339	ep	PKPdf	02 24 20.0	-2.6
FINES	FINESS Array B	145.85	339	PKPbc	PKPbc	02 24 22.8	-1.7
	0.7nm,0.4s,baz=66,slow=4.6,SNR=13						

*CSEM **16** 02:45:11.2±1.1, 3861N×2854W, h4km±12km, ML1.0, Error ellipse: s-maj=4.5km s-min=3.2km az=52.0, After PDA*
*PDA **16** 02:45:11.2±1.1, 3861N×2854W, h4km±12km, MD2.7, ML1.0, Error ellipse: s-maj=4.5km s-min=3.2km az=52.0*
SVSA 16 02:45:11.2±1.1, 3861N×2854W, h4km±12km, MD2.7, ML1.0, Error ellipse: s-maj=4.5km s-min=3.2km az=52.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	Horta	0.11	220	eP	Pg	02 45 12.8	-0.6
HOR				eS	Sg	02 45 14.8	0.0
PCED	Cedros	0.13	279	i P	Pg	02 45 13.3	-0.4
PCED				eS	Sg	02 45 15.8	+0.4
PCED							
	18nm,0.2s						
PCED	Cedros	0.13	279	eS	Sg	02 45 15.8	+0.4
CALA	Caldeira	0.13	258	eS	Sg	02 45 16.0	+0.5
PICO	Pico	0.14	139	eP	Pg	02 45 13.7	-0.3
PICO				eS	Sg	02 45 16.1	+0.2
PCND	Candelaria	0.15	155	eS	Sg	02 45 16.5	+0.3
PCND							
	12nm,0.1s						
ROSA	Rosais	0.26	65	eP	Pg	02 45 16.0	-0.3
ROSA				eS	Sg	02 45 19.5	-0.2
PMAN	Manadas	0.36	86	eP	Pg	02 45 17.5	-0.6
PMAN				eS	Sg	02 45 22.5	-0.2
PMAN							
	13nm,0.1s						
PMAN	Manadas	0.36	86	eP	Pg	02 45 17.5	-0.6
PMAN				eS	Sg	02 45 22.5	-0.2
PID	Ribeirinha	0.37	116	eP	Pg	02 45 18.3	-0.1
PID				eS	Sg	02 45 23.0	-0.2

IDC 16 02:45:19.5±3.3, 495S×15031E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.7/12, mbtmp3.7/4, ML2.7/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/19, Error ellipse: s-maj=112.0km s-min=36.5km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.42	215	Pn	Pn	02 46 42.7	+1.1
	1.5nm,0.3s,baz=61,slow=8.9,SNR=5.8						
PMG				Sn	Sn	02 47 45.6	+0.9
	0.5nm,0.3s,baz=108,slow=20,SNR=2.2						
WRA	Warramunga Arr	21.54	225	P	P	02 50 09.7	-0.6
	0.7nm,0.5s,baz=50,slow=10,SNR=7.5						
ASAR	Alice Springs	24.43	219	P	P	02 50 39.5	-0.2
	0.6nm,0.7s,baz=54,slow=8.3,SNR=12						
FITZ	Fitzroy Crossi	27.43	240	P	P	02 51 08.2	+1.3
	1.9nm,0.8s,baz=67,slow=15,SNR=4.0						
CBIJ	Chichi jima	32.81	347	LR	LR	03 02 16.6	
	comp=Z,122nm,20.0s,baz=113,slow=31						
TORD	Torodi Ar. Bea	147.98	287	PKPbc	PKPbc	03 05 07.3	+0.5
	0.7nm,1.1s,baz=65,slow=3.6,SNR=3.9						

*ISCJB **16** 03:01:08.8±1.2, 369S±0.1×1777E±02, h201km±12km, mb3.2/2, Error ellipse: s-maj=33.5km s-min=15.6km az=44.1*
*WEL **16** 03:01:10.7±0.6, 3682S×17770E, h184km±5km, ML4.0/5, Error ellipse: s-maj=6.9km s-min=5.0km az=90.0*
*IDC **16** 03:01:10.8±4.7, 3694S×17749E, h195km±23km, mb3.2/2, mb1 3.4/2, mb1mx3.2/9, mbtmp3.7/2, Error ellipse: s-maj=89.6km s-min=32.2km az=41.0*
ISC 16 03:01:09.7±1.1, 369S±01×1777E±02, h199km±12km, n14, σ0^{s}50/20, mb3.2/2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.79	145	PN	Pn	03 01 37.9	-0.1
MXZ				SN	Sn	03 01 59.3	-0.7
MWZ	Matawai	1.43	186	PN	Pn	03 01 43.2	+0.5
MWZ				SN	Sn	03 02 08.3	+0.2
URZ	Urewera	1.43	200	P	Pn	03 01 42.8	+0.2
	9.1nm,0.3s,baz=234,slow=20,SNR=87						
URZ				S	Sn	03 02 07.8	-0.5
	30nm,0.3s,baz=96,slow=19,SNR=31						
URZ	Urewera	1.43	200	PN	Pn	03 01 42.7	0.0
URZ				SN	Sn	03 02 07.6	-0.6
PATZ	Paeroa	1.87	218	PN	Pn	03 01 47.9	+1.1
KNZ	Kokohu	2.10	181	PN	Pn	03 01 50.1	+0.9
KNZ				SN	Sn	03 02 20.4	+0.5
BKZ	Black Stump Fm	2.45	203	PN	Pn	03 01 53.0	+0.1
BKZ				SN	Sn	03 02 26.7	+0.1
PXZ	Pawanui	3.19	192	PN	Pn	03 02 01.4	0.0
PXZ				SN	Sn	03 02 41.6	-0.3
TSZ	Takapari Road	3.43	203	PN	Pn	03 02 03.8	-0.7
WAZ	Wanganui	3.56	216	PN	Pn	03 02 05.7	-0.3
BFZ	Birch Farm	3.94	197	PN	Pn	03 02 10.0	-0.6
ASAR	Alice Springs	39.75	277	P	P	03 08 23.2	+0.2
	0.6nm,0.6s,mb3.2,baz=108,slow=6.6,SNR=12						
WRA	Warramunga Arr	41.35	282	P	P	03 08 35.7	-0.4
	0.5nm,0.5s,mb3.2,baz=121,slow=7.9,SNR=3.6						
TORD	Torodi Ar. Bea	156.07	190	PKPab	PKPab	03 21 09.8	+1.1
	0.3nm,0.4s,baz=174,slow=4.2,SNR=12						

*SKO **16** 04:11:28.7, 4122N×2044E, h18km, M1.2, ML3.0*
*TIR **16** 04:11:29.0, 4130N×2044E, h5km, Ml2.5*
*THE **16** 04:11:29.9, 4131N×2049E, h10km, ML3.2*
*ATH **16** 04:11:30.5, 4128N×2062E, h12km, MD3.4/6*
*PDG **16** 04:11:30.0±0.5, 4126N×2051E, h10km±1km*
*NEIC **16** 04:11:30.5, 4128N×2062E, h12km, MD3.3(PDG), MD3.4(ATH), After ATH.*
*ISCJB **16** 04:11:30.9±0.2, 4130N±002×2057E±003, h10km, Error ellipse: s-maj=3.2km s-min=1.7km az=103.3*
*CSEM **16** 04:11:31.3±0.1, 4126N×2059E, h2km, ML3.0, Error ellipse: s-maj=2.2km s-min=1.2km az=47.0*
ISC 16 04:11:31.6±0.2, 4128N±002×2058E±003, h10km, n57, σ1^{s}21/97, 12C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	Ohrid	0.24	136	⇑iPg	Pg	04 11 35.5	-1.0
OHR				i Sg	Sg	04 11 41.0	+1.2
OHR				eLg		04 11 41.6	
	comp=N,985nm,0.4s						
OHR				eLg		04 11 41.8	
	comp=E,3μm,0.5s						
OHR	Ohrid	0.24	136	ePg	Pg	04 11 35.5	-1.0
OHR				eSg	Sg	04 11 40.6	+0.8
TIR	Tirane	0.54	277	ePg	Pg	04 11 38.3	-3.8
TIR				eSg	Sg	04 11 45.2	-4.0
QSH	Qafa e Shtames	0.56	295	i Pg	Pg	04 11 40.0	-2.4
QSH				i Sg	Sg	04 11 51.0	+1.3
BIA	Bitola	0.62	115	ePg	Pg	04 11 42.1	-1.5
BIA				eSg	Sg	04 11 52.5	+0.7
BIA	Bitola	0.62	115	⇑iPg	Pg	04 11 42.2	-1.4
BIA				i Sg	Sg	04 11 53.0	+1.2
BIA	Bitola	0.62	115	⇑iPg	Pg	04 11 42.2	-1.4
BIA				i Sg	Sg	04 11 53.0	+1.2
KBN	Korca	0.68	166	i Pg	Pg	04 11 43.2	-1.5
KBN				i Sg	Sg	04 11 53.4	-0.2
LACI	Lac	0.74	299	i Pg	Pg	04 11 42.2	-3.7
LACI				i Sg	Sg	04 11 52.1	-3.4
FNA	Florina	0.79	129	ePg	Pg	04 11 45.6	-1.1
FNA				eSg	Sg	04 11 58.7	+1.8
KKS	Kukesi	0.80	351	i Pg	Pg	04 11 45.2	-1.8
KKS				i Sg	Sg	04 11 57.1	-0.3
KKS	Kukesi	0.80	351	i Pg	Pg	04 11 45.1	-1.9
KKS				i Sg	Sg	04 11 57.1	-0.3
SKO	Skopje	0.94	43	ePg	Pg	04 11 48.6	-1.2
SKO				eSg	Sg	04 12 03.8	+1.8
SKO	Skopje	0.94	43	i Pg	Pg	04 11 49.4	-0.3
SKO				i Sg	Sg	04 12 04.0	+2.0
SDA	Shkodra	1.11	314	i pn?	Sg	04 12 06.5	-0.9
ULC	Ulcinj	1.20	305	⇑iPg	Pg	04 11 50.6	-4.0
ULC				eSg	Sg	04 12 10.9	+0.6
ULC	Ulcinj	1.20	305	⇑iPg	Pg	04 11 50.7	-4.0
ULC				eSg	Sg	04 12 10.9	+0.6
KZN	Kozani	1.33	137	ePB	Pb	04 11 55.4	-1.2
KZN				eSB	Sb	04 12 13.4	-0.3
PVY	Plav	1.39	341	⇑iPg	Pn	04 11 56.0	-1.0
PVY				eSg	Sg	04 12 18.0	+1.9
SRN	Sarande	1.47	198	i Pn	Pn	04 11 58.7	+0.6
SRN				i Sn	Sn	04 12 19.1	+1.7
VAY	Valandovo	1.50	88	ePg	Pn	04 11 58.4	-0.2
VAY				eSg	Sg	04 12 19.6	-0.3
VAY	Valandovo	1.50	88	i Pn	Pn	04 11 58.0	-0.5
VAY	Valandovo	1.50	88	i Pn	Pn	04 11 58.0	-0.5
VAY	Valandovo	1.50	88	ePg	Pg	04 11 58.4	-2.0
VAY				eSg	Sg	04 12 19.6	-0.3
TTG	Podgorica	1.51	320	⇓iPg	Pn	04 11 56.7	-1.9
TTG				eSg	Sg	04 12 21.1	+1.0
MEV	Metsovon	1.58	161	ePb	Pb	04 11 59.5	-1.4
BUM	Brajici-Budva	1.61	310	⇑iPn	Pn	04 11 58.4	-1.7
BUM				eSn	Sn	04 12 23.2	+2.2
JAN	Janina	1.64	173	ePB	Pb	04 12 00.9	-0.9
JAN				eSB	Sb	04 12 23.1	+0.5
IVA	Berane	1.67	343	⇓iPn	Pn	04 12 00.4	-0.4
IVA				eSn	Sn	04 12 25.9	+3.7
KEK	Kerkira	1.68	201	ePG	Pg	04 12 01.8	-1.9
KEK				eSB	Sb	04 12 24.9	+1.2
LIT	Litokhoron	1.88	128	ePb	Pn	04 12 03.6	0.0
LIT				eSb	Sb	04 12 29.9	+0.5
THE	Thessaloniki	1.92	109	ePn	Pn	04 12 04.4	+0.1
NKY	Niksic	1.93	323	⇓iPn	Pn	04 12 04.0	-0.4
NKY				eSn	Sn	04 12 31.4	+2.7
HCY	Herceg Novi	1.94	308	⇑iPn	Pn	04 12 03.6	-0.9
HCY				eSn	Sn	04 12 31.7	+2.8
HORT	Hortiatis	2.03	109	ePn	Pn	04 12 06.0	+0.2
SOH	Sokhos	2.15	101	ePn	Pn	04 12 07.7	+0.2
SOH				eSn	Sn	04 12 35.8	+1.6
BRY	Bratogost	2.21	318	⇓iPn	Pn	04 12 07.8	-0.5
BRY				eSn	Sn	04 12 37.4	+1.7
PLE	Pljevlja	2.23	337	⇑iPn	Pn	04 12 08.2	-0.3
PLE				eSn	Sb	04 12 39.1	-0.3
PLE	Pljevlja	2.23	337	⇑iPn	Pn	04 12 08.1	-0.4
PLE				eSn	Sb	04 12 39.2	-0.2
SRS	Serrai	2.28	93	ePn	Pn	04 12 09.4	+0.1
UPM	Unac-Piva	2.28	328	⇓iPn	Pn	04 12 08.8	-0.5
UPM				eSn	Sb	04 12 40.5	-0.6
PLG	Polygyros	2.36	112	ePN	Pn	04 12 10.6	+0.3
NVR	Nevrokopi	2.48	87	ePN	Pn	04 12 12.5	+0.6
EVR	Evrytania	2.55	158	ePN	Pn	04 12 13.6	+0.7
LKD	Levkas	2.57	179	ePn	Pn	04 12 13.0	-0.3
LKD				eSn	Sn	04 12 45.8	+1.1
GRUS	Gruza	2.60	2	i Pn	Pn	04 12 15.4	+1.7
AGG	Agios Georgios	2.63	149	ePn	Pn	04 12 14.0	0.0
AGG				eSn	Sn	04 12 47.3	+1.3
STON	Ston	2.67	307	i Pn	Pn	04 12 15.8	+1.2
STON				i Sn	Sb	04 12 54.5	+2.4
STON	Ston	2.67	307	i Pn	Pn	04 12 15.7	+1.2
PAIG	Paliouri	2.72	119	ePn	Pn	04 12 14.9	-0.4
OUR	Ouranopolis	2.75	109	ePn	Pn	04 12 16.3	+0.5
XOR	Xorichti	2.77	133	ePn	Pn	04 12 15.5	-0.5
DIVS	Divcibare	2.85	351	i Pn	Pn	04 12 17.2	+0.2
DIVS				Sn	Sn	04 12 50.5	-0.9
DIVS	Divcibare	2.85	351	ePn	Pn	04 12 15.9	-1.1
DIVS				eSn	Sn	04 12 51.6	+0.3
DIVS	Divcibare	2.85	351	ePn	Pn	04 12 15.9	-1.1
DIVS				Sn	Sn	04 12 50.5	-0.8
BZS	Buzias	4.40	10	⇑iP	Pn	04 12 37.7	-0.6
PKSM	Moragy	5.12	345	⇑iP	Pn	04 12 48.9	+0.6

*ISCJB **16** 04:20:54.1±0.8, 3133S±007×1791W±0.1, h33km, mb4.6/6, Error ellipse: s-maj=18.5km s-min=6.8km az=53.0*
*IDC **16** 04:20:55.7±1.8, 3141S×17863W, h61km±15km, mb4.3/4, mb1 4.5/6, mb1mx4.0/14, mbtmp4.5/6, Error ellipse: s-maj=29.4km s-min=11.6km az=116.0*
*NEIC **16** 04:20:55.3±1.1, 3151S×17831W, h80km±9km, mb4.7/3, Error ellipse: s-maj=20.9km s-min=11.4km az=122.0*
ISC 16 04:20:56.1±4.7, 3128S±008×1791W±02, h34km±38km, n21, σ0^{s}57/14, mb4.6/6, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.26	27	P	Pn	04 21 30.9	-0.1
	115nm,0.3s,baz=258,slow=24,SNR=8.9						
RAO				S	Sn	04 21 57.4	-0.2
	417nm,0.3s,baz=112,slow=23,SNR=8.6						
URZ	Urewera	7.63	203	P	Pn	04 22 44.9	+0.1
	1.3nm,0.3s,baz=345,slow=16,SNR=7.2						
URZ				S	Sn	04 24 09.7	-0.4
	4.7nm,0.3s,baz=157,slow=24,SNR=9.7						
CTA	Charters Tower	33.04	281	P	P	04 27 30.2	+2.0
	2.1nm,0.3s,mb4.5,baz=100,slow=10,SNR=6.4						
CTAO	Charters Tower	33.04	281	eP	P	04 27 29.8	+1.5
	8.6nm,1.0s,mb4.6						
AS31	Alice Springs	42.15	268	eP	P	04 28 45.1	-0.1
ASAR	Alice Springs	42.15	268	P	P	04 28 45.1	0.0
	3.3nm,0.4s,mb4.4,baz=108,slow=7.5,SNR=82						
ASPA	Alice Springs	42.15	268	eP	P	04 28 45.1	-0.1
WB2	Warramunga Arr	43.21	274	⇓iP	P	04 28 53.6	-0.2
WRAB	Tennant Creek	43.21	274	eP	P	04 28 53.1	-0.7
	8.2nm,0.3s,mb4.9						
WRA	Warramunga Arr	43.22	274	P	P	04 28 53.8	-0.1
	8.8nm,0.4s,mb4.8,baz=112,slow=7.9,SNR=126						
FITZ	Fitzroy Crossi	51.44	271	P	P	04 29 57.5	-0.4
	3.2nm,0.7s,mb4.4,baz=120,slow=8.2,SNR=15						
QSPA	South Pole Qui	58.83	180	eP	P	04 30 51.9	+0.7
	2.9nm,0.5s,mb4.6						
ARCES	ARCESS Array B	139.25	347	PKhKP		04 40 09.0	
	3.6nm,1.1s,baz=31,slow=2.7,SNR=5.7						
JOF	Joensuu	142.88	337	epkp	PKPdf	04 40 18.5	-7.5
KAF	Kangasniemi	145.06	339	epkp	PKPdf	04 40 22.6	-7.2
FINES	FINESS Array B	145.64	339	PKPbc	PKPbc	04 40 25.4	-5.7
	2.5nm,0.3s,baz=63,slow=3.3,SNR=42						
NB2	NORSAR Subarra	149.47	350	PKP	PKPdf	04 40 38.9	+1.8
	comp=Z,0.6nm,0.5s,baz=10,slow=3.4						
NOA	NORSAR Array B	149.47	350	PKPbc	PKPbc	04 40 38.5	-3.1
	comp=Z,0.3nm,0.3s,baz=14,slow=4.1,SNR=3.3						
AKASG	Malin Array Be	151.42	321	PKPbc	PKPbc	04 40 41.1	-5.1
	comp=Z,0.3nm,0.4s,baz=49,slow=2.9,SNR=4.5						
BRTR	Keskin Array B	152.19	297	PKPbc	PKPbc	04 40 45.2	-2.8
	comp=Z,0.6nm,0.5s,baz=150,slow=4.8,SNR=4.7						
TORD	Torodi Ar. Bea	161.94	182	PKPab	PKPab	04 41 36.5	-3.3
	comp=Z,0.9nm,0.4s,baz=160,slow=4.3,SNR=18						

*ISCJB **16** 04:42:07.4±4.7, 16S±1×1744W±07, h263km±24km, mb4.0/5, Error ellipse: s-maj=231.4km s-min=19.3km az=120.5*
*NEIC **16** 04:42:09.7±1.3, 1571S×17479W, h258km±15km, mb4.0/1, Error ellipse: s-maj=150.5km s-min=11.5km az=151.0*
*IDC **16** 04:42:10.2±1.5, 1569S×17483W, h259km±14km, mb3.8/4, mb1 4.1/5, mb1mx3.7/13, mbtmp4.4/5, Error ellipse: s-maj=52.1km s-min=16.1km az=154.0*
ISC 16 04:42:08.5±4.7, 17S±1×1744W±07, h257km±26km, n12, σ0^{s}32/10, mb4.0/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.58	44	P	Pn	04 43 07.4	-0.4
	15nm,0.3s,baz=48,slow=1.5,SNR=28						
AFI				S	S	04 43 55.0	+0.3
	15nm,0.3s,baz=71,slow=22,SNR=5.3						
WB2	Warramunga Arr	48.70	258	eP	P	04 50 26.9	-0.1
WRAB	Tennant Creek	48.70	258	eP	P	04 50 26.7	-0.3
	3.1nm,0.4s,mb4.0						
WRA	Warramunga Arr	48.71	258	P	P	04 50 26.7	-0.4
	3.3nm,0.6s,mb3.9,baz=92,slow=7.3,SNR=47						
AS31	Alice Springs	48.91	253	eP	P	04 50 28.9	+0.3
ASAR	Alice Springs	48.91	253	P	P	04 50 29.1	+0.4
	26nm,0.5s,mb4.8,baz=88,slow=7.9,SNR=445						
ASPA	Alice Springs	48.91	253	eP	P	04 50 28.9	+0.3
NVAR	Mina Array Bea	75.75	42	P	P	04 53 26.2	+0.3
	0.6nm,0.7s,mb3.3,baz=214,slow=6.3,SNR=4.5						
PDAR	Pinedale Array	83.69	42	P	P	04 54 08.1	-0.3
	0.9nm,0.6s,mb3.8,baz=223,slow=2.6,SNR=11						
BRTR	Keskin Array B	146.41	319	PKPbc	PKPbc	05 01 18.3	-0.8
	1.2nm,0.6s,baz=118,slow=3.3,SNR=6.3						
GERES	GERESS Array B	147.08	350	PKPbc	PKPbc	05 01 19.8	-1.2
	0.3nm,0.7s,baz=50,slow=2.1,SNR=4.0						
TORD	Torodi Ar. Bea	174.92	131	PKPab	PKPab	05 03 30.0	+6.2
	0.3nm,0.7s,baz=268,slow=4.7,SNR=4.9						

*MOS **16** 05:43:33.2±1.9, 5633N×118.18E, h13km, mb4.3/3, Error ellipse: s-maj=12.8km s-min=10.2km az=68.4*
*IDC **16** 05:43:33.9±1.2, 56.14N×118.17E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/19, mbtmp3.7/6, ML3.2/1, MS3.0/3, Ms1 3.1/3, ms1mx2.6/32, Error ellipse: s-maj=30.5km s-min=25.9km az=88.0*
*BYKL **16** 05:43:34.5±0.3, 5635N×118.11E, h12km±15km*
ISC 16 05:43:34.4±0.4, 5634N±003×11799E±004, h12km, n44, σ1^{s}68/86, mb3.8/5, MS3.1/2, 7C-8D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	Chara	0.58	15	⇑iPg	Pg	05 43 44.9	-0.9
	168nm,0.7s						
CRS				⇑iPg	Pg	05 43 44.9	-0.9
	46nm,0.7s						
CRS				⇑iPg	Pg	05 43 44.9	-0.9
	671nm,0.7s						
CRS				Pmax		05 43 47.1	
	1μm,0.9s						
CRS				eSg	Sg	05 43 51.1	-2.4
CRS				eSb	Sb	05 43 52.9	-1.9
CRS				max		05 43 53.1	
	1μm,0.3s						
CRS	Chara	0.58	15	ePG	Pg	05 43 44.9	-0.9
CRS				e		05 43 52.0	
CRS				pmax	pmax		
	comp=Z,942nm,0.7s						
CRS				smax			
	comp=E,3μm,0.9s						
NLYR	Nelyaty	1.28	278	⇑iPg	Pg	05 43 57.9	-1.2
NLYR				⇓iPb	Pb	05 43 59.8	+1.3
NLYR				max		05 44 03.2	
	comp=E,651nm,0.4s						
NLYR				eSg	Sg	05 44 17.4	+1.7
NLYR				eSb	Sb	05 44 18.8	+3.9
NLYR				max		05 44 19.9	
	comp=E,7μm,0.7s						
NLYR	Nelyaty	1.28	278	⇑iPG	Pg	05 43 57.9	-1.2
NLYR				e		05 44 16.1	
NLYR				pmax	pmax		
	comp=Z,189nm,0.3s						
NLYR				smax			
	comp=N,7μm,1.1s						
TUP	Tupik	2.22	149	ePn	Pn	05 44 11.1	0.0
TUP				⇓iPg	Pg	05 44 13.3	-3.8
TUP				Pmax		05 44 14.1	
	comp=N,419nm,0.8s						
TUP				eSn	Sn	05 44 37.9	-0.6
TUP				i Sg	Sg	05 44 41.9	-4.0
TUP				Smax		05 44 47.1	
	comp=N,1μm,0.9s						
TUP	Tupik	2.22	149	ePN	Pn	05 44 10.9	-0.2
TUP				e		05 44 13.3	
TUP				eS	Sn	05 44 38.2	-0.3
TUP				e		05 44 41.8	
TUP				pmax	pmax		
	comp=Z,422nm,0.7s						
TUP				smax			
	comp=N,1μm,0.9s						
SVKR	Severomuysk	2.48	267	ePn	Pn	05 44 16.2	+1.5
SVKR				⇓iPg	Pg	05 44 20.0	-2.1
SVKR				Pmax		05 44 21.1	
	comp=N,605nm,0.6s						
SVKR				eSn	Sn	05 44 47.2	+2.2
SVKR				i Sg	Sg	05 44 53.6	-0.7
SVKR				Smax		05 44 59.4	
	comp=N,3μm,0.6s						
SVKR	Severomuysk	2.48	267	ePN	Pg	05 44 20.0	-2.1
BOD	Bodaibo	2.63	306	⇓iPn	Pn	05 44 17.9	+1.2
BOD				⇑iPg	Pg	05 44 22.2	-2.7
	comp=N,244nm,0.5s						
BOD				⇓iPg	Pg	05 44 22.2	-2.7
	comp=N,361nm,0.5s						
BOD				⇑iPg	Pg	05 44 22.2	-2.7
	comp=N,332nm,0.5s						
BOD				Pmax		05 44 22.4	
	comp=N,552nm,0.3s						
BOD				eSn	Sn	05 44 49.5	+0.9
BOD				eSg	Sg	05 44 57.5	-1.6
BOD				Smax		05 44 58.4	
	comp=N,877nm,0.9s						
YOA	Uoyan	3.50	269	ePN	Pn	05 44 40.4	+12
YOA				i		05 45 26.2	
YOA				pmax	pmax		
	comp=Z,270nm,0.5s						
YOA				smax			
	comp=E,2μm,1.2s						
KMO	Kumora	3.83	266	⇓iPn	Pn	05 44 35.4	+2.2
KMO				⇓iPg	Pg	05 44 43.0	-4.8
KMO				Pmax		05 44 43.2	
	comp=E,105nm,0.3s						
KMO				eSn	Sn	05 45 19.6	+1.5
KMO				eSg	Sg	05 45 34.6	-2.8
KMO				Smax		05 45 37.9	
	comp=E,761nm,1.2s						
KMO	Kumora	3.83	266	ePN	Pn	05 44 33.0	-0.2
KMO				e		05 44 42.2	
KMO				eS	Sn	05 45 17.3	-0.8
TNDR	Tynda	3.99	105	ePg	Pg	05 44 45.9	-4.9
TNDR				eSg	Sg	05 45 36.3	-6.2
YLYR	Ulyunkhan	4.14	252	⇓iPn	Pn	05 44 39.3	+1.8
YLYR				ePg	Pg	05 44 49.6	-4.2
YLYR				Pmax		05 44 53.3	
	comp=E,51nm,1.2s						
YLYR				eSn	Sn	05 45 27.4	+1.6
YLYR				eSg	Sg	05 45 44.9	-2.5
YLYR				Smax		05 45 47.5	
	comp=E,583nm,1.2s						
YLYR	Ulyunkhan	4.14	252	ePN	Pn	05 44 39.3	+1.8
YLYR				e		05 44 48.8	
ALDR	Aldan	4.61	57	ePg	Pg	05 44 57.1	-5.6
ALDR				eSg	Sg	05 45 55.5	-6.8
NIZ	Nizh Angarsk	4.77	267	ePn	Pn	05 44 48.3	+2.2
NIZ				ePg	Pg	05 45 02.0	-3.8
NIZ				Pmax		05 45 02.5	
	comp=E,37nm,0.7s						
NIZ				eSn	Sn	05 45 41.3	0.0
NIZ				eSg	Sg	05 46 04.3	-3.3
NIZ				Smax		05 46 09.8	
	comp=E,201nm,0.5s						
NIZ	Nizh Angarsk	4.77	267	ePN	Pn	05 44 48.7	+2.6
NIZ				e		05 45 02.4	
NIZ				e		05 46 05.1	
NIZ				pmax	pmax		
	comp=Z,30nm,0.7s						
NIZ				smax			
	comp=N,184nm,0.7s						
SYVR	Suvo	5.33	243	ePn	Pn	05 44 55.1	+1.3
SYVR				ePg	Pg	05 45 10.5	-6.0
SYVR				Pmax		05 45 13.6	
	comp=N,36nm,1.0s						
SYVR				eSn	Sn	05 45 53.6	-1.5
SYVR				eSg	Sg	05 46 21.6	-3.9
SYVR				Smax		05 46 27.2	
	comp=N,603nm,1.8s						
SYVR	Suvo	5.33	243	ePN	Pn	05 44 55.5	+1.7

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SYVR				e		05 45 10.6	
SYVR				e		05 46 20.8	
SYVR				pmax	pmax		
	comp=Z,24nm,0.9s						
SYVR				smax			
	comp=E,249nm,0.9s						
MXMB	**Maximikha**	**6.17**	**244**	ePn	**Pn**	**05 45 07.5**	**+2.1**
MXMB				ePg	**Pg**	**05 45 26.4**	**-6.2**
MXMB				Pmax		05 45 27.9	
	comp=E,22nm,0.1s						
MXMB				eSn	**Sn**	**05 46 15.1**	**-0.8**
MXMB				eSg	**Sg**	**05 46 48.3**	**-4.2**
MXMB				Smax		05 47 02.1	
	comp=E,516nm,1.4s						
OGRR	**Ongureny**	**6.56**	**250**	ePn	**Pn**	**05 45 12.3**	**+1.5**
OGRR				e		05 45 16.4	
OGRR				ePg	**Pg**	**05 45 33.6**	**-6.5**
OGRR				Pmax		05 45 37.5	
	comp=E,17nm,1.2s						
OGRR				eSn	**Sn**	**05 46 23.1**	**-2.4**
OGRR				eSg	**Sg**	**05 47 00.9**	**-4.2**
OGRR				Smax		05 47 08.0	
	comp=E,127nm,1.6s						
OGRR	**Ongureny**	**6.56**	**250**	ePN	**Pn**	**05 45 12.9**	**+2.1**
OGRR				e		05 45 34.7	
OGRR				eS	**Sn**	**05 46 23.3**	**-2.2**
OGRR				e		05 47 00.9	
OGRR				pmax	pmax		
	comp=Z,17nm,1.2s						
OGRR				smax			
	comp=N,127nm,1.9s						
TRTB	**Turuntaevo**	**7.33**	**240**	ePg	**Pg**	**05 45 46.3**	**-8.4**
TRTB				Pmax		05 46 19.7	
	comp=N,9.0nm,1.0s						
TRTB				e		05 46 56.2	
TRTB				eSg	**Sg**	**05 47 23.0**	**-6.6**
TRTB				Smax		05 47 41.0	
	comp=N,178nm,1.4s						
KPC	**Khapcheranga**	**7.46**	**209**	ePn	**Pn**	**05 45 22.7**	**-0.3**
KPC				ePg	Pn	05 45 50.7	+28
KPC				Pmax		05 45 58.4	
	comp=N,6.0nm,0.8s						
KPC				eSn	**Sn**	**05 46 46.8**	**-0.7**
KPC				eSg	Sn	05 47 27.0	+39
KPC				Smax		05 47 41.2	
	comp=N,156nm,1.1s						
KPC	**Khapcheranga**	**7.46**	**209**	ePG	**Pb**	**05 45 48.4**	**+4.7**
KPC				e		05 47 28.2	
KPC				pmax	pmax		
	comp=Z,6.0nm,1.8s						
KPC				smax			
	comp=E,156nm,1.2s						
TRG	**Tyrgan**	**7.66**	**247**	ePn	**Pn**	**05 45 28.6**	**+2.8**
TRG				max		05 45 29.6	
	comp=E,4.0nm,0.2s						
TRG				ePg	Pn	05 45 53.0	+27
TRG				e		05 46 38.3	
TRG				eSn	**Sn**	**05 46 53.2**	**+0.7**
TRG				eSg	Sn	05 47 34.4	+42
TRG				Smax		05 47 40.1	
	comp=E,73nm,1.7s						
KAB	**Kabansk**	**7.91**	**242**	ePG	**Pb**	**05 46 00.1**	**+8.6**
HRMR	**Khuramsha**	**8.03**	**239**	ePg	Pn	05 45 59.2	+28
HRMR				Pmax		05 46 06.3	
	comp=E,11nm,0.8s						
HRMR				eSn	**Sn**	**05 46 59.7**	**-2.0**
HRMR				eSg	Sn	05 47 46.3	+45
HRMR				e		05 47 52.4	
HRMR				max		05 48 00.2	
	comp=E,654nm,1.0s						
YAK	**Yakutsk**	**8.27**	**42**	ePN	**Pn**	**05 45 34.3**	**+0.1**
YAK				e		05 46 01.1	
YAK				e		05 47 03.3	
YAK				pmax	pmax		
	comp=N,2.0nm,0.6s						
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
YAK				pmax	pmax		
	comp=E,1.0nm,0.5s						
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,1.0nm,0.7s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.8s						
YAK				smax			
	comp=N,11nm,0.8s						
YAK				smax			
	comp=Z,3.0nm,0.5s						
YAK				smax			
	comp=E,5.0nm,0.6s						
YAK				smax			
	comp=N,59nm,0.7s						
YAK				smax			
	comp=Z,30nm,0.9s						
YAK				smax			
	comp=E,49nm,0.7s						
YAK				MLR	MLR		
	comp=Z,52nm,10.0s						
ULN	**Ulaanbaatar**	**10.82**	**223**	eP	**Pn**	**05 46 14.7**	**+5.6**
KLR	**Kul'dur**	**10.95**	**125**	eP	**Pn**	**05 46 10.2**	**-0.7**
KLR				e		05 48 16.9	
KLR				MLR	MLR		
	comp=Z,500nm,7.0s						
SONM	**Songino Array**	**11.10**	**225**	Pn	**Pn**	**05 46 13.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=32,slow=14,SNR=6.3						
SONM				Sn	**Sn**	**05 48 10.0**	**-6.9**
	comp=Z,0.1nm,0.3s,baz=39,slow=17,SNR=3.1						
SONM				Lg		05 49 21.9	
	comp=Z,1.0nm,0.3s,baz=41,slow=26,SNR=7.1						
ASAJ	**Asahikawa**	**19.80**	**118**	LR	LR	05 56 02.2	
	comp=Z,31nm,19.4s,baz=179,slow=38						
MJAR	**Matsushiro Arr**	**24.05**	**137**	LR	LR	05 57 48.8	
	comp=Z,38nm,19.8s,MS2.9,baz=70,slow=36						
FINES	**FINESS Array B**	**43.99**	**316**	P	**P**	**05 51 44.0**	**+2.5**
	comp=Z,2.3nm,1.1s,mb3.8,baz=83,slow=6.0,SNR=5.7						
FINES	**FINESS Array B**	**43.99**	**316**	P	**P**	**05 51 44.1**	**+2.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.1s						
AKASG	**Malin Array Be**	**49.56**	**303**	P	**P**	**05 52 27.2**	**+2.0**
	comp=Z,1.6nm,0.6s,mb4.2,baz=40,slow=8.5,SNR=9.1						
AKASG	**Malin Array Be**	**49.56**	**303**	P	**P**	**05 52 27.3**	**+2.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**49.66**	**322**	LR	LR	06 15 16.0	
	comp=Z,26nm,19.2s,MS3.2,baz=295,slow=38						
GERES	**GERESS Array B**	**57.81**	**311**	P	**P**	**05 53 28.4**	**+2.7**
	comp=Z,0.4nm,0.7s,mb3.5,baz=39,slow=8.6,SNR=4.3						
PDAR	**Pinedale Array**	**73.43**	**35**	P	**P**	**05 55 08.2**	**+1.6**
	comp=Z,0.3nm,0.8s,mb3.3,baz=37,slow=3.7,SNR=3.7						
WRA	**Warramunga Arr**	**77.23**	**164**	P	**P**	**05 55 28.4**	**0.0**
	comp=Z,1.2nm,0.7s,mb3.9,baz=351,slow=6.6,SNR=8.2						
WRA	**Warramunga Arr**	**77.23**	**164**	P	**P**	**05 55 28.4**	**0.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

IDC 16 06:01:30.5±3.3, 618S×15138E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/12, mbtmp3.6/3, ML2.3/1, MS2.8/1, Ms1 2.8/1, ms1mx1.9/16, Error ellipse: s-maj=137.1km s-min=44.0km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.27**	**232**	Pn	Pn	06 02 51.1	+0.6
	0.7nm,0.3s,baz=198,slow=23,SNR=2.3						
PMG				Sn	Sn	06 03 47.3	-4.6
	1.7nm,0.3s,baz=84,slow=10,SNR=4.0						
PMG				LR	LR	06 04 59.0	
	comp=Z,90nm,20.2s,baz=70,slow=40						
WRA	**Warramunga Arr**	**21.48**	**229**	P	P	06 06 20.4	-0.2
	1.0nm,0.7s,baz=55,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**24.18**	**222**	P	P	06 06 49.3	+0.8
	1.2nm,0.6s,baz=52,slow=9.1,SNR=16						
TORD	**Torodi Ar. Bea**	**149.34**	**285**	PKPbc	PKPbc	06 21 21.8	+0.5
	0.5nm,0.7s,baz=92,slow=2.1,SNR=6.5						

*ATH **16** 06:22:21.6, 3708N×2829E, h45km, MD3.1/3*
*ISCJB **16** 06:22:23.0±0.6, 3700N±003×2800E±004, h10km±5km, Error ellipse: s-maj=6.1km s-min=5.1km az=89.4*
*CSEM **16** 06:22:22.3±0.1, 3698N×2797E, h15km, MD3.0, Error ellipse: s-maj=2.5km s-min=2.0km az=175.0*
*ISK **16** 06:22:22.4, 3698N×2796E, h21km, MD3.0*
ISC 16 06:22:23.4±0.5, 3700N±003×2799E±004, h15km±5km, n14, $\sigma 0^{s}71$/19, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.27**	**60**	*i* PG	**Pg**	**06 22 29.5**	**+0.4**
MLSB	**Milas**	**0.34**	**330**	PG	**Pg**	**06 22 30.6**	**+0.1**
MLSB				SG	**Sg**	**06 22 36.0**	**+0.8**
DAT	**Datca**	**0.43**	**231**	PG	**Pg**	**06 22 30.8**	**-1.2**
DAT				SG	**Sg**	**06 22 37.6**	**-0.2**
BODT	**Bodrum**	**0.55**	**277**	PG	**Pg**	**06 22 33.8**	**-0.5**
BODT				SG	**Sg**	**06 22 41.4**	**-0.2**
DALT	**Dalyan (Mudla)**	**0.56**	**114**	PG	**Pg**	**06 22 34.8**	**+0.3**
ARG	**Arkhangelos**	**0.79**	**172**	eP	**Pg**	**06 22 38.0**	**-0.7**
ARG				eS	**Sg**	**06 22 50.8**	**+1.7**
FETY	**Fethiye**	**0.95**	**112**	PG	**Pg**	**06 22 41.0**	**-0.7**
DENT	**Denizli**	**1.12**	**47**	PN	**Pn**	**06 22 44.1**	**-0.3**
SMG	**Samos**	**1.16**	**308**	eP	**Pn**	**06 22 45.2**	**+0.1**
SMG				eS	**Sb**	**06 23 01.3**	**+1.3**
IZM	**Izmir**	**1.51**	**338**	ePN	**Pn**	**06 22 49.1**	**-0.8**
ELL	**Elmali**	**1.56**	**99**	ePN	**Pn**	**06 22 50.7**	**+0.2**
BLCB	**Balcova**	**1.58**	**332**	ePN	**Pn**	**06 22 50.3**	**-0.4**
KARP	**Karpathos**	**1.60**	**205**	eP	**Pn**	**06 22 51.8**	**+0.8**
AKS	**Akhisar**	**1.88**	**356**	ePN	**Pn**	**06 22 54.5**	**-0.4**

IDC 16 07:07:44.8±4.4, 1607S×7210W, h159km±40km, mb3.2/2, mb1 3.2/5, mb1mx3.1/18, mbtmp3.6/5, Error ellipse: s-maj=51.7km s-min=29.0km az=103.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.82**	**94**	P	Pn	07 08 45.0	+2.1
	1.6nm,0.3s,baz=273,slow=9.2,SNR=46						
LVC	**Limon Verde**	**7.17**	**156**	P	Pn	07 09 27.4	+0.3
	0.7nm,0.3s,baz=352,slow=10,SNR=30						
LVC				S	Sn	07 10 48.0	+0.5
	2.6nm,0.3s,baz=207,slow=22,SNR=16						
SIV	**San Ignacio**	**10.60**	**91**	P	Pn	07 10 10.8	-1.7
	0.2nm,0.3s,baz=274,slow=14,SNR=5.6						
TORD	**Torodi Ar. Bea**	**78.51**	**73**	P	P	07 19 28.8	+0.6
	0.5nm,0.8s,baz=247,slow=5.9,SNR=3.0						
YKA	**Yellowknife Ar**	**85.09**	**342**	P	P	07 20 00.8	-1.8
	0.4nm,0.7s,baz=135,slow=5.3,SNR=5.1						
SONM	**Songino Array**	**148.30**	**2**	PKPbc	PKPbc	07 27 13.7	+1.7
	0.4nm,0.6s,baz=0.0,slow=1.5,SNR=4.2						

CASC 16 07:14:35.6±1.5, 1348N×9031W, h52km±33km, MD3.8, 4C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.71**	**348**	⇑eP	Pn	07 14 49.2	-0.3
IXG				eS	Sn	07 15 00.6	+1.0
TER	**Terranova**	**0.90**	**336**	⇑eP	Pn	07 14 52.1	+0.1
PCG	**Pacaya**	**0.96**	**342**	eP	Pn	07 14 54.3	+1.6
FUG	**Fuego 3**	**1.09**	**332**	⇓iP	Pn	07 14 55.0	+0.4
TP2	**Tecpan 2**	**1.47**	**332**	⇓eP	Pn	07 15 00.5	+0.7
TP2				eS	Sn	07 15 19.8	+2.0
JAT	**Jato**	**1.54**	**303**	⇑eP	Pn	07 15 00.5	-0.2
JAT				eS	Sn	07 15 20.3	+0.9
CRIN	**San Cristobal**	**3.27**	**103**	eP	Pn	07 15 25.6	+1.3
LEON	**Leon**	**3.49**	**107**	eP	Pn	07 15 28.1	+0.7
LEON				eS	Sn	07 16 06.5	-1.0
MIRN	**Miramar**	**3.65**	**106**	⇑eP	Pn	07 15 29.9	+0.3
COPN	**Copaltepe**	**3.85**	**109**	eP	Pn	07 15 33.0	+0.8

*NEIC **16** 07:14:43.6±3.7, 501S×14738E, h169km±24km, mb4.2/7, Error ellipse: s-maj=37.6km s-min=22.4km az=195.0*
*ISCJB **16** 07:14:45.9±2.2, 55S±02×1474E±02, h180km±15km, mb4.0/4, Error ellipse: s-maj=27.4km s-min=23.6km az=83.6*
*IDC **16** 07:14:50.2±2.2, 573S×14740E, h198km±16km, mb3.7/3, mb1 3.8/6, mb1mx3.5/14, mbtmp4.2/6, Error ellipse: s-maj=33.1km s-min=18.5km az=119.0*
ISC 16 07:14:50.1±2.0, 57S±02×1474E±02, h195km±12km, n17, $\sigma 0^{s}77$/19, mb4.0/4, 1C-1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.70**	**183**	P	**Pn**	**07 15 48.1**	**+0.2**
	5.9nm,0.3s,baz=352,slow=4.4,SNR=16						
PMG				S	**Sn**	**07 16 32.9**	**-0.3**
	12nm,0.3s,baz=181,slow=20,SNR=15						
CTA	**Charters Tower**	**14.35**	**184**	eP	**Pn**	**07 18 09.2**	**+4.6**
	6.3nm,0.7s						
CTA	**Charters Tower**	**14.35**	**184**	P	**Pn**	**07 18 06.2**	**+1.6**
	0.5nm,0.3s,baz=10,slow=10,SNR=7.7						
CTAO	**Charters Tower**	**14.35**	**184**	ePn	**Pn**	**07 18 08.9**	**+4.3**
	12nm,0.8s						
KAKA	**Kakadu**	**16.31**	**244**	eP	**Pn**	**07 18 27.4**	**-1.0**
	12nm,0.6s						
WRAB	**Tennant Creek**	**19.00**	**221**	eP	**P**	**07 18 57.4**	**+0.4**
	6.8nm,0.5s						
WB2	**Warramunga Arr**	**19.01**	**221**	⇓iP	**P**	**07 18 57.4**	**+0.3**
WRA	**Warramunga Arr**	**19.02**	**221**	P	**P**	**07 18 57.7**	**+0.5**
	0.9nm,0.3s,baz=49,slow=12,SNR=54						
WRA				S	**S**	**07 22 21.3**	**-1.2**
	0.1nm,0.3s,baz=46,slow=20,SNR=6.5						
AS31	**Alice Springs**	**22.09**	**215**	eP	**P**	**07 19 29.8**	**+0.3**
ASAR	**Alice Springs**	**22.09**	**215**	P	**P**	**07 19 29.9**	**+0.5**
	5.3nm,0.6s,mb4.2,baz=49,slow=8.7,SNR=73						
ASAR				S	**S**	**07 23 20.6**	**+1.9**
	2.7nm,1.1s,baz=31,slow=18,SNR=5.1						
ASPA	**Alice Springs**	**22.09**	**215**	⇑iP	**P**	**07 19 30.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**24.55**	**238**	eP	**P**	**07 19 52.3**	**+0.4**
	5.4nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**24.55**	**238**	P	**P**	**07 19 52.4**	**+0.4**
	4.0nm,0.8s,mb4.1,baz=42,slow=11,SNR=17						
VNDA	**Vanda**	**72.20**	**177**	P	**P**	**07 25 53.0**	**-0.7**
	1.4nm,0.6s,mb3.8,baz=343,slow=7.1,SNR=5.8						
VNDA	**Vanda**	**72.20**	**177**	eP	**P**	**07 25 53.0**	**-0.7**
	1.3nm,0.6s,mb3.7						
QSPA	**South Pole Qui**	**84.28**	**180**	eP	**P**	**07 26 58.8**	**-1.1**
	1.6nm,0.5s,mb4.0						
TORD	**Torodi Ar. Bea**	**145.38**	**285**	PKPbc	PKPbc	07 34 03.0	-2.0
	0.9nm,1.1s,baz=75,slow=4.3,SNR=4.7						

WEL 16 07:17:09.8±0.3, 3768S×17794E, h85km±2km, ML3.6/10, Error ellipse: s-maj=2.9km s-min=2.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.31**	**69**	PN	Pn	07 17 22.6	-0.2
MXZ				SN	Sn	07 17 32.3	0.0
MWZ	**Matawai**	**0.74**	**206**	PN	Pn	07 17 26.3	0.0
MWZ				SN	Sn	07 17 38.9	+0.4
URZ	**Urewera**	**0.88**	**228**	PN	Pn	07 17 27.3	-0.6
URZ				SN	Sn	07 17 40.4	-0.8
EDRZ	**Edgecumbe**	**1.05**	**245**	PN	Pn	07 17 29.3	-0.4
EDRZ				SN	Sn	07 17 44.0	-0.7
TAZ	**Tarawera**	**1.26**	**243**	PN	Pn	07 17 32.6	+0.3
KNZ	**Kokohu**	**1.36**	**189**	PN	Pn	07 17 33.2	-0.4
PATZ	**Paeroa**	**1.50**	**242**	PN	Pn	07 17 35.9	+0.5
BKZ	**Black Stump Fm**	**1.88**	**217**	PN	Pn	07 17 39.7	-0.5
KUZ	**Kuaotunu**	**2.00**	**297**	PN	Pn	07 17 40.8	-1.1
KRVZ	**Karewarewa**	**2.30**	**231**	PN	Pn	07 17 45.7	-0.1
TUVZ	**Tukino**	**2.40**	**228**	PN	Pn	07 17 46.7	-0.5
WPVZ	**Whakapapa**	**2.42**	**230**	PN	Pn	07 17 47.3	-0.2
PXZ	**Pawanui**	**2.50**	**199**	PN	Pn	07 17 46.4	-2.1
WAZ	**Wanganui**	**3.11**	**227**	PN	Pn	07 17 56.3	-0.4
BFZ	**Birch Farm**	**3.28**	**203**	PN	Pn	07 17 56.3	-2.7

*ISCJB **16** 07:22:54.0±1.1, 3843N±003×2634E±006, h7km±6km, Error ellipse: s-maj=8.0km s-min=4.8km az=146.6*
*CSEM **16** 07:22:54.0±0.2, 3845N×2638E, h15km, MD3.1, Error ellipse: s-maj=4.4km s-min=3.1km az=64.0*
*ATH **16** 07:22:54.2, 3845N×2643E, h62km±11km*
*ISK **16** 07:22:55.2, 3854N×2649E, h21km, MD3.1*
ISC 16 07:22:54.9±0.8, 3844N±003×2636E±005, h14km±4km, n15, $\sigma 0^{s}88$/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.20**	**114**	*i* P	**Pg**	**07 22 59.4**	**-0.1**
URLA				*i* S	**Sg**	**07 23 02.9**	**+0.2**
BLCB	**Balcova**	**0.54**	**96**	*i* PG	**Pg**	**07 23 04.9**	**-0.6**
BLCB				*i* SG	**Sg**	**07 23 12.2**	**-0.4**
IZM	**Izmir**	**0.71**	**93**	PG	**Pg**	**07 23 08.1**	**-0.6**
IZM				SG	**Sg**	**07 23 18.0**	**-0.1**
KDAG	**Bornova**	**0.71**	**93**	*i* P	**Pg**	**07 23 08.3**	**-0.5**
KDAG				*i* S	**Sg**	**07 23 18.5**	**+0.3**
PRK	**Paraskevi**	**0.81**	**355**	eP	**Pg**	**07 23 10.4**	**-0.2**
PRK				eS	**Sg**	**07 23 22.8**	**+1.5**
SMG	**Samos**	**0.82**	**153**	eP	**Pg**	**07 23 10.8**	**-0.1**
SMG				eS	**Sg**	**07 23 22.4**	**+0.8**
AYVA	**Ayvalik**	**0.90**	**16**	*i* P	**Pb**	**07 23 12.0**	**-0.3**
AYVA				*i* S	**Sb**	**07 23 26.1**	**+1.9**
AKS	**Akhisar**	**1.22**	**68**	PN	**Pn**	**07 23 15.5**	**-2.0**
AKHS	**Akhisar**	**1.22**	**68**	*i* P	**Pn**	**07 23 18.0**	**+0.5**
AKHS				*i* S	**Sb**	**07 23 33.8**	**+0.5**
EZN	**Ezine**	**1.38**	**359**	PN	**Pn**	**07 23 18.7**	**-1.1**
AYDN	**Tasoluk**	**1.43**	**123**	*i* P	**Pn**	**07 23 20.4**	**0.0**
AYDN				*i* S	**Sn**	**07 23 38.2**	**-0.7**
APE	**Apeiranthos**	**1.52**	**206**	eP	**Pn**	**07 23 20.9**	**-0.7**
BODT	**Bodrum**	**1.57**	**151**	PN	**Pn**	**07 23 23.0**	**+0.7**
BODT				SN	**Sn**	**07 23 44.1**	**+1.8**
CANB	**Canakkale**	**1.67**	**19**	PN	**Pn**	**07 23 22.3**	**-1.3**
YER	**Yerkesik**	**2.00**	**130**	ePN	**Pn**	**07 23 28.8**	**+0.5**

*ISCJB **16** 07:32:34.7±0.8, 2736N±006×5268E±009, h10km, mb3.6/6, Error ellipse: s-maj=11.2km s-min=8.7km az=27.7*
*IDC **16** 07:32:35.0±1.6, 2743N×5283E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/23, mbtmp3.6/8, ML3.2/1, Error ellipse: s-maj=33.5km s-min=30.3km az=31.0*
*CSEM **16** 07:32:35.0±0.5, 2804N×5197E, h45km, ML3.5, Error ellipse: s-maj=15.8km s-min=11.2km az=14.0*
*THR **16** 07:32:36.3±0.6, 2805N×5205E, h46km±5km, ML3.5*
ISC 16 07:32:37.3±2.6, 274N±01×528E±01, h15km±15km, n14, $\sigma 0^{s}91$/19, mb3.6/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.90**	**13**	ePG	**Pg**	**07 32 54.0**	**-0.7**
GHIR				eSG	**Sg**	**07 33 06.7**	**+0.2**
GHIR				AML	AML	07 33 16.0	
	comp=N,863nm,0.4s						
GHIR				AML	AML	07 33 21.0	
	comp=E,1μm,0.5s						
GHIR	**Ghir-Karzin**	**0.90**	**13**	ePg	**Pg**	**07 32 54.0**	**-0.7**
	SNR=116						
GHIR				eSg	**Sg**	**07 33 06.7**	**+0.3**
	SNR=116						
BNDS	**Bandar-Abbas**	**3.03**	**89**	ePN	**Pb**	**07 33 32.0**	**+1.0**
BNDS				eSG	**Sg**	**07 34 29.2**	**+15**
BNDS				AML	AML	07 34 39.3	
	comp=N,101nm,0.7s						
BNDS				AML	AML	07 34 43.6	
	comp=E,79nm,0.6s						
BNDS	**Bandar-Abbas**	**3.03**	**89**	ePn	**Pb**	**07 33 32.0**	**+1.1**
	SNR=54						
BNDS				eSg	**Sg**	**07 34 29.2**	**+15**
	SNR=95						
KRBR	**Kerman**	**4.35**	**53**	ePN	**Pn**	**07 33 43.5**	**+0.6**
KRBR				AML	AML	07 35 10.7	
	comp=N,40nm,0.8s						
KRBR				AML	AML	07 35 21.1	
	comp=E,41nm,0.5s						
WSAR	**Wadi Sarin**	**6.74**	**127**	Pn	**Pn**	**07 34 14.6**	**-1.1**
	comp=E,0.5nm,0.3s,baz=301,slow=10.0,SNR=6.3						
WSAR				Sn	**Sn**	**07 35 25.5**	**-6.6**
	comp=E,0.5nm,0.3s,baz=347,slow=23,SNR=2.7						
BRTR	**Keskin Array B**	**20.07**	**313**	P	**P**	**07 37 11.2**	**+1.1**
	comp=E,1.0nm,0.6s,baz=134,slow=13,SNR=4.3						
AKTO	**Aktyubinsk**	**23.34**	**8**	P	**P**	**07 37 45.7**	**+0.6**
	comp=E,1.1nm,0.8s,mb3.3,baz=198,slow=8.6,SNR=4.2						
BVAR	**Borovoye Array**	**28.75**	**22**	P	**P**	**07 38 33.2**	**-1.0**
	comp=E,0.6nm,0.5s,mb3.6,baz=212,slow=9.9,SNR=5.8						
FINES	**FINESS Array B**	**38.44**	**340**	P	**P**	**07 39 57.4**	**-1.0**
	comp=E,1.2nm,0.6s,mb3.8,baz=134,slow=11,SNR=6.8						
NB2	**NORSAR Subarra**	**43.63**	**332**	P	**P**	**07 40 39.5**	**-1.6**
	comp=Z,0.6nm,0.5s,mb3.6,baz=119,slow=7.9						
NOA	**NORSAR Array B**	**43.63**	**332**	P	**P**	**07 40 40.0**	**-1.1**
	comp=Z,0.5nm,0.7s,mb3.4,baz=122,slow=7.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**49.63**	**264**	P	**P**	**07 41 29.2**	**+1.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=64,slow=9.1,SNR=3.3						
YKA	**Yellowknife Ar**	**89.84**	**354**	P	**P**	**07 45 36.0**	**+0.5**
	comp=Z,0.2nm,0.7s,mb3.6,baz=13,slow=5.8,SNR=3.0						

IDC 16 07:32:44.7±2.3, 2741N×5280E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.6/22, mbtmp3.9/7, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/27, Error ellipse: s-maj=52.8km s-min=27.9km az=31.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**6.71**	**127**	Pn	Pn	07 34 25.0	+0.5
	2.2nm,0.3s,baz=279,slow=9.2,SNR=16						
WSAR				Sn	Sn	07 35 36.2	-5.5
	1.2nm,0.3s,baz=30,slow=21,SNR=4.4						
BRTR	**Keskin Array B**	**20.10**	**313**	P	P	07 37 21.2	+1.3
	1.1nm,0.7s,baz=131,slow=13,SNR=4.6						
BVAR	**Borovoye Array**	**28.74**	**22**	P	P	07 38 44.1	+0.3
	1.5nm,0.5s,baz=203,slow=8.2,SNR=12						
MKAR	**Makanchi Array**	**30.19**	**42**	P	P	07 38 56.7	0.0
	0.4nm,0.3s,baz=229,slow=7.3,SNR=4.1						
ZAL	**Zalesovo**	**35.41**	**33**	LR	LR	07 55 13.3	
	comp=Z,28nm,19.9s,baz=334,slow=38						
FINES	**FINESS Array B**	**38.45**	**340**	P	P	07 40 07.9	-0.4
	1.4nm,0.6s,baz=140,slow=9.9,SNR=6.4						
NOA	**NORSAR Array B**	**43.65**	**332**	P	P	07 40 50.3	-0.7
	0.6nm,0.6s,baz=122,slow=8.3,SNR=4.0						
YKA	**Yellowknife Ar**	**89.85**	**354**	P	P	07 45 44.5	-0.9
	0.5nm,0.7s,baz=6.7,slow=5.3,SNR=6.5						

*NIED **16** 07:39:00, 3490N×137.10E, h41km, Mw3.7 Best double couple: $M_0$3.77000×10^{14} NP1:ϕ_s208.00000°, δ85.00000°, λ-16.00000°. NP2:ϕ_s300.00000°, δ74.00000°, λ-174.00000°.*
*ISCJB **16** 07:39:49.8±0.7, 3487N±005×137.10E±006, h37km±16km, Error ellipse: s-maj=9.9km s-min=6.4km az=88.4*
*JMA **16** 07:39:49.6, 3492N×137.13E, h35km, M4.0 Broadband fault plane solution: P waves. NP1:ϕ_s210.00000°, δ79.00000°, λ-3.00000°. NP2:ϕ_s301.00000°, δ87.00000°, λ-169.00000°. Principal axes: T Plg6.0000°, Azm75.0000°; N Plg78.0000°, Azm314.0000°; P Plg10.0000°, Azm166.0000°;*
JMA Felt II J1.
ISC 16 07:39:50.0±0.7, 3487N±005×13709E±007, h37km±15km, n9, $\sigma 0^{s}57$/15, 4C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JAA	**Atsumi**	**0.24**	**170**	⇓P	**Pn**	**07 39 57.1**	**-0.2**
JAA				S	**Sn**	**07 40 02.6**	**+0.2**
JIE	**Ise**	**0.57**	**214**	⇓P	**Pn**	**07 40 01.8**	**+0.2**
JIE				S	**Sn**	**07 40 10.3**	**+0.5**
TSUJ	**Tsu 2**	**0.58**	**255**	⇑P	**Pn**	**07 40 01.4**	**-0.3**
TSUJ				S	**Sn**	**07 40 10.2**	**+0.2**
TK04	**Tokai 4**	**0.80**	**126**	⇓P	**Pn**	**07 40 04.6**	**-0.2**
JGM	**Miyama**	**0.89**	**340**	⇓P	**Pn**	**07 40 05.5**	**-0.5**
JGM				S	**Sn**	**07 40 17.1**	**-0.5**
JKN2	**Miekihoku**	**0.92**	**228**	⇑P	**Pn**	**07 40 06.4**	**-0.1**
JKN2				S	**Sn**	**07 40 18.7**	**+0.2**
SHZ3	**Shizuoka 3**	**0.94**	**77**	⇑P	**Pn**	**07 40 05.6**	**-1.1**
JHE	**Heguri**	**1.18**	**260**	⇑P	**Pn**	**07 40 09.8**	**-0.2**
MAT	**Matsushiro**	**1.90**	**28**	P	**Pn**	**07 40 20.2**	**+0.2**
MAT				S	**Sn**	**07 40 44.3**	**+1.6**

*NEIC **16** 08:03:26.3, 1945N×6608W, h15km, MD3.5(RSPR), After RSPR.*
RSPR 16 08:03:26.3, 1945N×6608W, h15km±31km, MD3.5/16, MD3.5/16, 23C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.19**	**170**	⇑eP	Pn	08 03 44.9	-3.5
CBYP				eS	Sb	08 03 59.7	-4.0
AOPR	**Arecibo Observ**	**1.26**	**210**	eS	Sb	08 04 02.7	-3.1
AOPR	**Arecibo Observ**	**1.26**	**210**	⇑eP	Pn	08 03 46.0	-3.4
AOPR				eS	Sb	08 04 06.7	+0.8
HUMP	**Col San Antoni**	**1.31**	**170**	⇑eP	Pn	08 03 46.8	-3.3
HUMP	**Col San Antoni**	**1.31**	**170**	eS	Sb	08 04 03.4	-4.0
HUMP	**Col San Antoni**	**1.31**	**170**	⇑eP	Pn	08 03 51.4	+1.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUMP				eS	Sb	08 04 03.4	-4.0
SJG	San Juan	1.33	183⇑	eP	Pn	08 03 47.2	-3.1
SJG				eS	Sn	08 04 04.4	-3.3
CULB	Culebra	1.33	148⇑	eP	Pn	08 03 47.5	-3.0
CULB	Culebra	1.33	148	eS	Sn	08 04 04.9	-3.0
LRS	Lares	1.35	212⇑	eP	Pn	08 03 47.2	-3.4
LRS	Lares	1.35	212⇑	eP	Pn	08 03 47.2	-3.4
AGPR	Aguadilla, PR	1.38	225⇓	eP	Pn	08 03 47.9	-3.1
AGPR				eS	Sn	08 04 05.1	-3.8
CPD	Cerro la Pandu	1.41	174⇑	eP	Pn	08 03 48.2	-3.2
CPD	Cerro la Pandu	1.41	174	eS	Sn	08 04 06.3	-3.4
CPD	Cerro la Pandu	1.41	174⇑	eP	Pn	08 03 52.9	+1.5
CPD				eS	Sn	08 04 06.3	-3.4
MTP	Monte Pirata	1.43	160⇓	eP	Pn	08 03 48.8	-3.0
MTP	Monte Pirata	1.43	160	eS	Sn	08 04 06.0	-4.3
MTP	Monte Pirata	1.43	160⇑	eP	Pn	08 03 53.4	+1.6
MTP				eS	Sn	08 04 06.0	-4.3
CELP	Cerrillos	1.44	199⇑	eP	Pn	08 03 48.8	-3.1
CELP				eS	Sn	08 04 07.3	-3.2
CELP	Cerrillos	1.44	199⇑	eP	Pn	08 03 48.8	-3.1
CELP				eS	Sn	08 04 07.3	-3.2
OBIP	Obispado Ponce	1.48	200⇑	eP	Pn	08 03 49.4	-3.1
OBIP				eS	Sn	08 04 07.4	-4.1
STVI	Saint Thomas	1.52	136	eS	Sn	08 04 09.3	-3.1
STVI	Saint Thomas	1.52	136⇑	eP	Pn	08 03 50.7	-2.2
STVI				eS	Sn	08 04 14.2	+1.8
LSP	Las Mesas	1.58	217⇑	eP	Pn	08 03 50.8	-3.0
LSP				eS	Sn	08 04 10.7	-3.3
MPR	Mayaguez	1.58	219⇑	eP	Pn	08 03 51.5	-2.3
ICM	Isla Caja Muer	1.60	195⇑	eP	Pn	08 03 51.6	-2.5
ICM				eS	Sn	08 04 10.1	-4.3
MGP	Maguayo	1.72	214⇑	eP	Pn	08 03 53.1	-2.6
MGP				eS	Sn	08 04 14.1	-3.3
MGP	Maguayo	1.72	214⇑	eP	Pn	08 03 53.1	-2.6
MGP				eS	Sn	08 04 14.1	-3.3
CRPR	Cabo Rojo, PR	1.73	214⇑	eP	Pn	08 03 53.0	-2.8
CRPR				eS	Sn	08 04 13.9	-3.8
TBVI	Tortola	1.73	126	eS	Sn	08 04 14.3	-3.4
TBVI	Tortola	1.73	126⇑	eP	Pn	08 03 53.6	-2.2
TBVI				eS	Sn	08 04 19.0	+1.3
CDVI	St. Croix	2.10	143	eS	Sn	08 04 22.9	-3.8
CDVI	St. Croix	2.10	143⇑	eP	Pn	08 03 59.5	-1.4
CDVI				eS	Sn	08 04 28.6	+1.9

IDC 16 08:17:28.3±2.3**, 1089S**×**16235E, h100**^{km}±18^{km}**, mb3.5**/6**, mb1 3.7**/9**, mb1mx3.7**/15**, mbtmp4.0**/9**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.6**/16**, Error ellipse: s-maj=26.6km s-min=15.8km az=60.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	2.77	301	P	Pn	08 18 10.9	0.0
	110nm,0.3s,baz=258,slow=2.0,SNR=19						
HNR				S	Sn	08 18 44.5	+0.7
	241nm,0.3s,baz=235,slow=2.5,SNR=22						
DZM	Mont Dzumac	11.79	161	P	Pn	08 20 14.6	+1.5
	0.5nm,0.3s,baz=89,slow=18,SNR=32						
DZM				S	Sn	08 22 20.0	-2.6
	0.7nm,0.3s,baz=228,slow=20,SNR=5.3						
DZM				LR	LR	08 24 03.9	
	comp=Z,101nm,21.1s,baz=204,slow=34						
CTA	Charters Tower	17.99	238	P	Pn	08 21 32.2	+0.4
	0.3nm,0.3s,baz=72,slow=16,SNR=3.8						
WRA	Warramunga Arr	28.42	248	P	P	08 23 13.2	-0.2
	0.3nm,0.3s,baz=79,slow=8.9,SNR=11						
ASAR	Alice Springs	29.91	241	P	P	08 23 26.6	+0.1
	0.3nm,0.4s,baz=64,slow=10,SNR=6.9						
VNDA	Vanda	66.61	180	P	P	08 28 07.8	-0.2
	1.2nm,0.7s,baz=1.4,slow=5.7,SNR=5.3						
SONM	Songino Array	76.60	325	P	P	08 29 08.2	+0.4
	0.8nm,0.7s,baz=146,slow=8.8,SNR=6.8						
MAW	Mawson	83.60	202	P	P	08 29 45.9	+0.4
	1.3nm,0.6s,baz=102,slow=7.9,SNR=4.5						
NVAR	Mina Array Bea	88.49	51	P	P	08 30 09.6	+0.1
	0.5nm,0.7s,baz=217,slow=5.6,SNR=5.5						

MEX 16 08:18:14.6±0.5**, 1600N**×**9819W, h11**^{km}±11^{km}**, MD4.2, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VHO	Vista Hermosa	1.76	52	i P	Pn	08 18 42.0	-3.0
VHO				i S	Sn	08 19 03.2	-4.2
OXX	Oaxaca	1.77	52	i P	Pn	08 18 41.5	-3.7
OXX				i S	Sn	08 19 06.5	-1.2
UTMO	Huajuapan	1.86	11	eP	Pn	08 18 43.7	-2.7
UTMO				i S	Sn	08 19 04.8	-5.1
HUIG	Huatulco	2.02	96	eP	Pn	08 18 45.1	-3.4
HUIG				i S	Sn	08 19 09.0	-4.7
CAIG	El Cayaco	2.25	298	i P	Pn	08 18 47.8	-4.0
CAIG				i S	Sn	08 19 15.2	-4.3
MEIG	Mezcala	2.35	325	eP	Pn	08 18 51.0	-2.3
MEIG				i S	Sn	08 19 19.1	-3.0
PLIG	Platanillo	2.69	332	eP	Pn	08 18 55.8	-2.1
PLIG				i S	Sn	08 19 26.4	-3.9
YAIG	Yautepec	2.97	344	i P	Pn	08 19 00.9	-0.8
YAIG				i S	Sn	08 19 34.4	-2.8
PPM	Popocatepetl	3.08	352	i P	Pn	08 19 00.4	-2.7
PPM				i S	Sn	08 19 36.0	-3.9
IIZ	Mezontepec	3.32	343	eP	Pn	08 19 02.0	-4.5
IIZ				i S	Sn	08 19 41.6	-4.5
CMIG	Matias Romero	3.35	71	i P	Pn	08 19 04.1	-2.8
CMIG				i S	Sn	08 19 43.4	-3.3
UNM	Universidad Na	3.44	344	eP	Pn	08 19 04.5	-3.7
UNM				i P		08 19 05.6	
UNM				i S	Sn	08 19 45.5	-3.5
MOIG	Morelia	4.64	322	i S	Sn	08 20 17.6	-0.9

RSPR 16 08:30:30.7, 1948N×**6610W, h28**^{km}±28^{km}**, MD3.5**/16**, MD3.5**/16**, 17C-1D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBYP	Canovanas	1.23	169⇑	eP	Pn	08 30 49.5	-2.5
CBYP	Canovanas	1.23	169	eS	Sn	08 31 04.8	-2.8
AOPR	Arecibo Observ	1.28	209⇑	eP	Pn	08 30 50.5	-2.3
AOPR	Arecibo Observ	1.28	209	eS	Sn	08 31 06.7	-2.4
HUMP	Col San Antoni	1.35	170⇑	eP	Pn	08 30 51.4	-2.3
HUMP	Col San Antoni	1.35	170	eS	Sn	08 31 07.7	-3.1
SJG	San Juan	1.36	182⇑	eP	Pn	08 30 51.7	-2.2
SJG	San Juan	1.36	182	eS	Sn	08 31 08.5	-2.5
LRS	Lares	1.38	211⇑	eP	Pn	08 30 51.9	-2.2
CULB	Culebra	1.38	148⇑	eP	Pn	08 30 52.0	-2.0
CULB	Culebra	1.38	148	eS	Sn	08 31 09.7	-1.6
AGPR	Aguadilla, PR	1.39	224⇑	eP	Pn	08 30 52.3	-1.9
AGPR	Aguadilla, PR	1.39	224	eS	Sn	08 31 10.1	-1.5
CPD	Cerro la Pandu	1.45	173⇑	eP	Pn	08 30 52.9	-2.2
CPD	Cerro la Pandu	1.45	173	eS	Sn	08 31 11.1	-2.0
CELP	Cerrillos	1.47	198⇑	eP	Pn	08 30 53.4	-2.0
CELP				eS	Sn	08 31 10.9	-2.7
MTP	Monte Pirata	1.48	159⇑	eP	Pn	08 30 53.4	-2.0
MTP	Monte Pirata	1.48	159	eS	Sn	08 31 11.1	-2.6
OBIP	Obispado Ponce	1.51	199⇑	eP	Pn	08 30 53.9	-1.9
OBIP	Obispado Ponce	1.51	199	eS	Sn	08 31 12.7	-1.9
STVI	Saint Thomas	1.56	136⇑	eP	Pn	08 30 55.3	-1.3
STVI	Saint Thomas	1.56	136	eS	Sn	08 31 14.2	-1.6
LSP	Las Mesas	1.60	216⇑	eP	Pn	08 30 55.4	-1.6
LSP	Las Mesas	1.60	216	eS	Sn	08 31 14.5	-2.3
ICM	Isla Caja Muer	1.63	194⇑	eP	Pn	08 30 56.2	-1.3
ICM	Isla Caja Muer	1.63	194	eS	Sn	08 31 15.8	-1.8
MGP	Maguayo	1.74	213⇓	eP	Pn	08 30 57.6	-1.4
MGP				eS	Sn	08 31 18.2	-2.0
CRPR	Cabo Rojo, PR	1.75	213⇑	eP	Pn	08 30 57.3	-1.9
CRPR	Cabo Rojo, PR	1.75	213	eS	Sn	08 31 18.5	-2.1
TBVI	Tortola	1.77	127⇑	eP	Pn	08 30 58.0	-1.4
TBVI	Tortola	1.77	127	eS	Sn	08 31 19.0	-2.0
CDVI	St. Croix	2.14	143	eS	Sn	08 31 28.6	-1.6
CDVI	St. Croix	2.14	143⇑	eP	Pn	08 31 03.5	-1.0

*ISCJB **16** 08:36:59.2±1.9, 7639N±007×84E±05, h10^{km}, Error ellipse: s-maj=16.7km s-min=9.6km az=148.3*
*BER **16** 08:37:01.2±3.9, 7647N×767E, h10^{km}, MD2.3, ML2.2, ML2.5(NAO)*
*CSEM **16** 08:37:01.2, 7647N×767E, h10^{km}, ML2.2, After BER*
*NAO **16** 08:37:02.3±3.3, 7648N×864E, ML2.5*
ISC 16 08:36:59.9±2.0**, 7637N**±007×**83E**±05**, h10**^{km}**, n10,** σ1^{s}71/17**, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	2.54	41	Pn	Pn	08 37 42.4	+1.3
	baz=214,slow=16						
SPA0				Sn	Sn	08 38 10.9	-1.2
	baz=236,slow=18						
SPA0	Spitsbergen Ar	2.54	41	Pn	Pn	08 37 42.4	+1.3
	baz=214,slow=15,SNR=50						
SPA0				Sn	Sn	08 38 10.9	-1.2
	baz=236,slow=18,SNR=50						
KBS	Kingsbay	2.68	15	Pn	Pn	08 37 41.5	-1.6
KBS	Kingsbay	2.68	15	eP	Pn	08 37 41.4	-1.7
KBS				eS	Sn	08 38 09.3	-6.3
KBS				AML	AML	08 38 13.3	
	comp=Z,12nm,0.3s						
KBS	Kingsbay	2.68	15	eP	Pn	08 37 41.4	-1.7
	SNR=50						
KBS				eS	Sn	08 38 09.3	-6.3
	comp=Z,12nm,0.3s,SNR=50						
BJO	Bjornoya	3.32	119	eS	Sn	08 38 30.4	-0.9
BJO				AML	AML	08 38 33.9	
	comp=E,10nm,0.4s						
BJO	Bjornoya	3.32	119	eS	Sn	08 38 30.5	-0.8
	comp=E,10nm,0.4s,SNR=50						
HOPEN	Hopen	3.92	80	eP	Pn	08 38 03.1	+3.0
HOPEN				eS	Sn	08 38 47.5	+1.2
HOPEN				AML	AML	08 38 48.9	
	comp=N,30nm,0.4s						
ARA0	ARCESS Array S	8.47	135	Pn	Pn	08 39 05.1	+2.5
	baz=335,slow=12						
ARA0				Sn	Sn	08 40 35.9	-2.3
	baz=335,slow=18						
ARA0	ARCESS Array S	8.47	135	Pn	Pn	08 39 05.1	+2.5
	baz=335,slow=12,SNR=50						
ARA0				Sn	Sn	08 40 35.9	-2.4
	baz=335,slow=17,SNR=50						

*ATH **16** 08:47:31.4, 3698N×28.19E, h34^{km}±5^{km}, MD3.0/3*
*ISCJB **16** 08:47:32.7±0.6, 3693N±003×2795E±004, h10^{km}±5^{km}, Error ellipse: s-maj=6.1km s-min=4.6km az=144.6*
*CSEM **16** 08:47:32.8±0.1, 3698N×2799E, h15^{km}, MD3.1, Error ellipse: s-maj=2.6km s-min=2.0km az=46.0*
*ISK **16** 08:47:32.4, 3697N×2797E, h20^{km}, MD3.1*
ISC 16 08:47:33.0±0.5**, 3693N**±003×**2797E**±005**, h15**^{km}±4^{km}**, n16,** σ0^{s}66/23**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	Yerkesik	0.32	51	i PG	Pg	08 47 39.7	0.0
YER				i SG	Sg	08 47 44.4	+0.2
DAT	Datca	0.38	238	PG	Pg	08 47 40.3	-0.4
MLSB	Milas	0.40	337	PG	Pg	08 47 40.4	-0.7
MLSB				SG	Sg	08 47 46.9	+0.5
BODT	Bodrum	0.55	284	PG	Pg	08 47 43.9	+0.1
DALT	Dalyan (Mudla)	0.56	107	PG	Pg	08 47 44.6	+0.6
ARG	Arkhangelos	0.72	170	ePN	Pg	08 47 46.7	-0.5
ARG				eSN	Sg	08 47 57.8	+1.1
AYDN	Tasoluk	0.73	354	i P	Pg	08 47 47.0	-0.3
AYDN				i S	Sg	08 47 57.0	0.0
FETY	Fethiye	0.94	108	PG	Pg	08 47 51.2	-0.1
DENT	Denizli	1.18	46	ePN	Pn	08 47 54.1	-0.9
SMG	Samos	1.19	311	ePN	Pn	08 47 55.2	0.0
SMG				eSN	Sn	08 48 12.2	+1.1
KAP	Karpathos	1.52	205	ePB	Pb	08 48 00.1	-0.8
ELL	Elmali	1.56	96	ePN	Pn	08 48 00.4	+0.1
IZM	Izmir	1.57	339	ePN	Pn	08 47 59.0	-1.3
KDAG	Bornova	1.57	339	i P	Pn	08 48 01.6	+1.3
KDAG				i S	Sn	08 48 20.5	+0.1
KDAG	Bornova	1.57	339	i P	Pn	08 48 01.6	+1.2
KDAG				i S	Sn	08 48 20.5	0.0
SEYT	Eskypehyr	3.44	40	i S	Sn	08 49 11.1	+4.6

IDC 16 08:48:46.5±6.8**, 1457S**×**7159W, h132**^{km}±61^{km}**, mb3.5**/1**, mb1 3.1**/3**, mb1mx3.0**/17**, mbtmp3.5**/3**, Error ellipse: s-maj=131.9km s-min=59.6km az=18.0, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	3.75	118	P	Pn	08 49 43.3	+0.3
	0.7nm,0.3s,baz=287,slow=8.7,SNR=30						
LPAZ				S	Sn	08 50 28.9	+2.1
	baz=190,slow=18,SNR=2.5						
SIV	San Ignacio	10.25	99	P	Pn	08 51 08.6	-1.4
	0.2nm,0.3s,baz=286,slow=11,SNR=6.6						
TORD	Torodi Ar. Bea	77.60	73	P	P	09 00 28.4	+0.4
	0.8nm,0.7s,baz=260,slow=4.5,SNR=5.7						
SONM	Songino Array	146.79	2	PKPbc	PKPbc	09 08 13.3	+0.4
	0.4nm,0.6s,baz=5.0,slow=2.4,SNR=3.9						

*ISCJB **16** 08:54:29.2±3.8, 53S±02×1503E±02, h57^{km}±30^{km}, mb4.1/5, MS3.9/7, Error ellipse: s-maj=43.4km s-min=25.4km az=42.8*
*IDC **16** 08:54:32.9±6.0, 538S×15030E, h74^{km}±45^{km}, mb3.9/4, mb1 4.1/6, mb1mx3.8/14, mbtmp4.3/6, ML3.3/1, MS3.8/11, Ms1 3.8/11, ms1mx3.4/26, Error ellipse: s-maj=73.0km s-min=32.8km az=107.0*
*NEIC **16** 08:54:32.2±3.3, 534S×15035E, h68^{km}±25^{km}, mb4.3/4, Error ellipse: s-maj=33.8km s-min=24.4km az=91.0*
ISC 16 08:54:31.4±3.6**, 53S**±02×**1504E**±02**, h64**^{km}±27^{km}**, n23,** σ0^{s}77/16**, mb4.1**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.20	218	P	Pn	08 55 45.5	-1.0
	8.2nm,0.3s,baz=48,slow=7.6,SNR=24						
PMG				S	Sn	08 56 45.8	+0.7
	3.0nm,0.3s,baz=309,slow=13,SNR=3.7						
PMG				LR	LR	08 57 21.4	
	comp=Z,288nm,19.6s,baz=40,slow=33						
PMG	Port Moresby	5.20	218	P	Pn	08 55 45.5	-1.0
PMG				S	Sn	08 56 45.8	+0.7
HNR	Honiara	10.30	114	LR	LR	09 00 04.4	
	comp=Z,381nm,18.6s,baz=358,slow=32						
CTA	Charters Tower	15.24	195	P	Pn	08 58 03.8	+1.1
	0.2nm,0.3s,baz=7.0,slow=12,SNR=4.5						
CTA				LR	LR	09 03 13.1	
	comp=Z,332nm,18.4s,baz=20,slow=34						
CTAO	Charters Tower	15.24	195	eP	Pn	08 58 03.3	+0.6
	12nm,1.0s						
KAKA	Kakadu	19.21	246	eP	Pn	08 58 52.2	+0.6
	12nm,0.8s						
GUMO	Guam	19.57	344	LR	LR	09 05 35.5	
	comp=Z,93nm,20.9s,baz=146,slow=34						
WRAB	Tennant Creek	21.35	226	eP	P	08 59 13.8	+0.6
	17nm,0.9s,mb4.4						
WB2	Warramunga Arr	21.35	226	eP	P	08 59 12.3	-1.0
WRA	Warramunga Arr	21.36	226	P	P	08 59 12.3	-1.0
	12nm,1.1s,mb4.2,baz=50,slow=9.8,SNR=24						
DZM	Mont Dzumac	22.77	139	LR	LR	09 06 37.3	
	comp=Z,378nm,21.9s,baz=20,slow=32						
AS31	Alice Springs	24.21	219	eP	P	08 59 42.4	+0.4
ASAR	Alice Springs	24.21	219	P	P	08 59 41.0	-1.0
	3.5nm,0.7s,mb3.9,baz=51,slow=8.5,SNR=26						
ASPA	Alice Springs	24.21	219	eP	P	08 59 42.4	+0.4
FITZ	Fitzroy Crossi	27.34	240	eP	P	09 00 10.3	0.0
	20nm,1.0s,mb4.6						
FITZ	Fitzroy Crossi	27.34	240	P	P	09 00 09.6	-0.6
	5.6nm,0.6s,mb4.3,baz=57,slow=10,SNR=17						
FITZ				LR	LR	09 11 37.7	
	comp=Z,108nm,19.3s,baz=246,slow=38						
CBIJ	Chichi jima	33.18	347	LR	LR	09 12 39.9	
	comp=Z,227nm,18.3s,baz=13,slow=33						
RPZ	Rata Peaks	42.35	158	LR	LR	09 16 26.2	
	comp=Z,355nm,19.4s,baz=114,slow=31						
SONM	Songino Array	65.51	329	P	P	09 05 08.6	+0.6
	1.0nm,0.9s,mb3.8,baz=135,slow=4.3,SNR=6.2						
ZAL	Zalesovo	80.27	327	LR	LR	09 40 51.9	
	comp=Z,38nm,18.4s,baz=250,slow=35						
MAW	Mawson	84.19	203	LR	LR	09 41 32.0	
	comp=Z,136nm,18.6s,baz=241,slow=34						
BVAR	Borovoye Array	88.23	323	LR	LR	09 44 26.9	
	comp=Z,48nm,21.8s,baz=139,slow=34						
TORD	Torodi Ar. Bea	148.19	286	PKPbc	PKPbc	09 14 11.3	+1.3
	0.5nm,0.7s,baz=86,slow=3.3,SNR=3.5						

IDC 16 09:21:57.2±0.7**, 678N**×**7298W, h164**^{km}±10^{km}**, mb3.2**/3**, mb1 3.4**/6**, mb1mx3.2**/21**, mbtmp3.7**/6**, Error ellipse: s-maj=33.8km s-min=7.7km az=132.0, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	2.33	215	P	Pn	09 22 38.8	+1.8
	30nm,0.3s,baz=57,slow=2.9,SNR=75						
ROSC				S	Sn	09 23 08.7	+1.0
	15nm,0.3s,baz=103,slow=18,SNR=8.2						
SDV	Santo Domingo	3.13	48	P	Pn	09 22 48.5	+1.7
	14nm,0.3s,baz=247,slow=2.8,SNR=50						
SDV				S	Sn	09 23 25.5	+0.2
	14nm,0.3s,baz=75,slow=18,SNR=31						
PCRV	Puerto La Cruz	8.92	67	P	Pn	09 24 04.3	+1.7
	0.3nm,0.3s,baz=243,slow=4.5,SNR=2.5						
ULM	Lac du Bonnet	47.37	340	P	P	09 30 13.6	-1.0
	0.8nm,0.4s,baz=153,slow=4.5,SNR=3.5						
PDAR	Pinedale Array	48.19	324	P	P	09 30 22.0	+1.1
	0.2nm,0.5s,baz=134,slow=7.8,SNR=2.9						
YKA	Yellowknife Ar	63.35	340	P	P	09 32 08.5	-0.3
	0.5nm,0.5s,baz=132,slow=6.6,SNR=11						
ASAR	Alice Springs	149.19	234	PKPbc	PKPbc	09 41 26.9	+0.7
	0.6nm,0.7s,baz=118,slow=3.3,SNR=4.3						
WRA	Warramunga Arr	150.43	241	PKPbc	PKPbc	09 41 29.5	+0.4
	0.3nm,0.4s,baz=109,slow=2.4,SNR=10						

IDC 16 09:32:27.9±7.1**, 563S**×**15053E, h86**^{km}±48^{km}**, mb3.7**/4**, mb1 3.9**/5**, mb1mx3.6**/13**, mbtmp4.1**/5**, ML3.2**/1**, Error ellipse: s-maj=100.9km s-min=36.8km az=105.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.02	221	P	Pn	09 33 40.1	-0.6
	6.5nm,0.3s,baz=34,slow=5.7,SNR=22						
CTA	Charters Tower	14.96	196	P	Pn	09 36 00.1	+5.4
	0.2nm,0.3s,baz=17,slow=12,SNR=5.6						
WB2	Warramunga Arr	21.21	226	eP	P	09 37 08.4	+1.9
WRA	Warramunga Arr	21.22	226	P	P	09 37 07.1	+0.5
	4.2nm,0.8s,baz=50,slow=10.0,SNR=23						
ASAR	Alice Springs	24.04	220	P	P	09 37 35.9	+1.1
	3.8nm,0.7s,baz=55,slow=7.9,SNR=43						
FITZ	Fitzroy Crossi	27.28	241	eP	P	09 38 03.9	-0.2
	7.8nm,0.6s						
FITZ	Fitzroy Crossi	27.28	241	P	P	09 38 04.3	+0.2
	5.5nm,0.8s,baz=79,slow=7.8,SNR=12						
SONM	Songino Array	65.84	329	P	P	09 43 05.3	+1.2
	0.4nm,0.7s,baz=145,slow=5.3,SNR=3.2						
TORD	Torodi Ar. Bea	148.38	286	PKPbc	PKPbc	09 52 03.4	-0.9
	1.3nm,0.9s,baz=60,slow=4.2,SNR=5.1						

IDC 16 09:33:15.9±6.6**, 571S**×**15112E, h74**^{km}±50^{km}**, mb3.6**/4**, mb1 3.9**/6**, mb1mx3.7**/14**, mbtmp4.1**/6**, ML3.2**/2**, MS3.3**/4**, Ms1 3.3**/4**, ms1mx2.9**/20**, Error ellipse: s-maj=66.8km s-min=35.9km az=108.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.37	227	P	Pn	09 34 32.8	-0.7
	8.7nm,0.3s,baz=39,slow=10,SNR=11						
PMG				S	Sn	09 35 36.7	+2.7
	2.8nm,0.3s,baz=325,slow=16,SNR=3.8						
PMG				LR	LR	09 36 35.4	
	comp=Z,163nm,21.0s,baz=30,slow=37						
HNR	Honiara	9.50	113	LR	LR	09 38 56.5	
	comp=Z,288nm,19.1s,baz=358,slow=36						
CTA	Charters Tower	15.05	198	P	Pn	09 36 43.8	-0.6
	0.0nm,0.3s,baz=38,slow=19,SNR=1.9						
CTA				LR	LR	09 42 12.0	
	comp=Z,160nm,18.8s,baz=15,slow=36						
GUMO	Guam	20.16	342	LR	LR	09 44 07.3	
	comp=Z,42nm,18.5s,baz=160,slow=32						
WRA	Warramunga Arr	21.59	228	P	P	09 37 58.5	-1.0
	2.0nm,0.5s,baz=52,slow=10,SNR=5.3						
ASAR	Alice Springs	24.36	221	P	P	09 38 27.4	+0.5
	2.7nm,0.9s,baz=54,slow=8.8,SNR=6.6						
FITZ	Fitzroy Crossi	27.75	241	eP	P	09 38 56.7	-0.9
	12nm,1.0s						
FITZ	Fitzroy Crossi	27.75	241	P	P	09 38 56.9	-0.6
	4.2nm,0.8s,baz=109,slow=14,SNR=6.8						
SONM	Songino Array	66.22	329	P	P	09 43 56.7	+0.8
	0.6nm,0.9s,baz=122,slow=5.4,SNR=3.8						
TORD	Torodi Ar. Bea	148.97	286	PKPbc	PKPbc	09 52 56.5	+1.2
	0.6nm,0.8s,baz=64,slow=2.9,SNR=2.8						

OTT 16 09:53:31.3±0.5**, 6037N**×**5833W, h18**^{km}**, ML3.2**/4**, LAlbertaRADOR Sea Seismic Zone. 360km east from Killiniq, Qc, Davis Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUQ	Kuujjuuaa	5.65	251	PN	Pn	09 54 54.1	-0.3
KUQ				SN	Sn	09 55 54.2	-4.6
KUQ				Trac		09 55 55.8	
	comp=Z,1.5nm,0.3s						
FRB	Frobisher Bay	5.88	310	PN	Pn	09 54 57.3	-0.1
FRB				SN	Sn	09 55 60.0	-4.4
FRB				Trac		09 56 09.4	
	comp=Z,3.7nm,0.5s						
SCHQ	Schefferville	7.19	223	PN	Pn	09 55 15.2	-0.2
SCHQ				SN	Sn	09 56 31.3	-5.3
SCHQ				Trac		09 56 36.3	
	comp=Z,2.8nm,0.3s						
SFJD	Kangerlussuaq	7.47	24	PN	Pn	09 55 18.1	-1.2
SFJD				SN	Sn	09 56 38.1	-5.5
YOSQ	Ashton Mining	10.70	232	PN	Pn	09 56 00.8	-2.9
YOSQ				SN	Sn	09 57 49.9	-13
YOSQ				Trac		09 57 58.6	
	comp=Z,1.4nm,0.2s						

*ISCJB **16** 10:22:47.8±0.4, 5144N±002×16.11E±002, h0^{km}, Error ellipse: s-maj=3.4km s-min=2.0km az=29.4*
*MOS **16** 10:22:47.6±0.8, 5162N×16.13E, h10^{km}, mb3.8/1, Error ellipse: s-maj=11.4km s-min=4.9km az=79.2*
*NEIC **16** 10:22:48.7±0.3, 5156N×16.17E, h5^{km}, ML3.3(SZGRF), ML3.5(LDG), Error ellipse: s-maj=4.1km s-min=3.5km az=87.0*
*CSEM **16** 10:22:49.9±0.2, 5149N×16.14E, h0^{km}, ML3.6/12, Error ellipse: s-maj=3.3km s-min=1.9km az=20.0*
*IPEC **16** 10:22:49.4±0.3, 5150N×1641E, h0^{km}, ML2.5/3, Error ellipse: s-maj=3.5km s-min=1.9km az=91.0*
*IDC **16** 10:22:50.2±0.6, 5148N×1598E, h0^{km}, mb1 3.3/8, mb1mx3.2/22, mbtmp3.2/8, ML3.0/8, Error ellipse: s-maj=10.0km s-min=6.0km az=107.0*
*BGR **16** 10:22:50.7±0.7, 5143N×16.11E, h1^{km}, ML3.3, Error ellipse: s-maj=15.6km s-min=6.7km az=172.0*
*WAR **16** 10:22:50.6, 5147N×16.11E, ML3.0, Mining Induced*
*LDG **16** 10:22:51.2±0.5, 5147N×16.10E, h1^{km}, Ml3.5/4, Error ellipse: s-maj=12.1km s-min=7.2km az=14.0, Suspected Mining induced.*
*PRU **16** 10:22:51.3, 5139N×16.11E, h0^{km}*
*VIE **16** 10:22:52.1±0.6, 5124N×1621E, h0^{km}, mb2.5/7, ML2.9/7, Error ellipse: s-maj=3.6km s-min=3.2km az=147.0 58 km WNW of Breslau Suspected Mining induced.*
ISC 16 10:22:48.5±0.3**, 5151N**±002×**1615E**±002**, h0**^{km}**, n74,** σ0^{s}95/141**, 4C-6D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	172	i Pg	Pg	10 23 02.2	+0.7
KSP				i Sg	Sg	10 23 10.9	+0.7
UPC	Upice	1.01	185	ePG	Pg	10 23 08.2	+0.3
DPC	Dobruska-Polom	1.17	175	ePG	Pg	10 23 11.0	+0.1
DPC				eSG	Sg	10 23 25.7	-0.4
	96nm,0.6s						
DPC	Dobruska-Polom	1.17	175	eP	Pg	10 23 11.0	+0.1
DPC				e		10 23 25.7	
DPC				smax			
	comp=N,96nm,0.6s						
PVCC	Panska Ves	1.40	226	ePG	Pg	10 23 15.2	-0.2
BRG	Berggiesshubel	1.53	246	ePn	Pn	10 23 16.3	-0.7
BRG				eSg	Sg	10 23 38.1	+0.4
BRG	Berggiesshubel	1.53	246	PN	Pn	10 23 16.3	-0.8
BRG				PG	Pg	10 23 17.9	0.0
BRG				SG	Sg	10 23 38.0	+0.4
	comp=N,84nm,0.5s						
BRG	Berggiesshubel	1.53	246	P	Pn	10 23 16.3	-0.8
BRG						10 23 38.0	
RUE	Ruedersdorf	1.76	304	ePn	Pn	10 23 20.2	0.0
RUE				eSn	Sn	10 23 42.8	-0.5

RUE	**Ruedersdorf**	**1.76**	**304**	*e*Pn	**Pn**	**10 23 20.2**	**0.0**
RUE				*e*Sn	**Sn**	**10 23 42.8**	**-0.5**
PRU	**Pruhonice**	**1.84**	**214**	*e*PN	**Pn**	**10 23 21.5**	**+0.2**
PRU				*e*PG	**Pg**	**10 23 22.7**	**-1.0**
PRU				*e*SG	**Sg**	**10 23 47.8**	**+0.3**
	comp=N,99nm,0.6s						
PRU	**Pruhonice**	**1.84**	**214**	*e*P	**Pn**	**10 23 21.5**	**+0.2**
PRU				*e*		10 23 47.8	
PRU				smax			
	comp=N,99nm,0.6s						
FBE	**Freiberg**	**1.86**	**253**	*e*Pn	**Pn**	**10 23 23.5**	**+1.9**
FBE				*e*Sg	**Sg**	**10 23 48.0**	**-0.2**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**10 23 23.1**	**+0.2**
MORC				*e*Sn	**Sn**	**10 23 48.2**	**+0.2**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**10 23 22.8**	**-0.1**
MORC				*e*Sg	**Sg**	**10 23 47.7**	**-3.5**
MORC				*e*Sn	**Sn**	**10 23 48.2**	**+0.2**
CLL	**Collm**	**1.98**	**265**	*e*Pn	**Pn**	**10 23 22.8**	**-0.5**
CLL				*e*Pg	**Pg**	**10 23 26.0**	**-0.5**
CLL				*e*Sg	**Sg**	**10 23 52.0**	**-0.3**
CLL	**Collm**	**1.98**	**265**	*e*Pn	**Pn**	**10 23 23.0**	**-0.3**
CLL				*e*Pg	**Pg**	**10 23 26.0**	**-0.5**
CLL				*e*x	x	10 23 30.0	
CLL				*i* Sg	**Sg**	**10 23 51.9**	**-0.3**
	comp=Z,62nm,0.8s						
CLL	**Collm**	**1.98**	**265**	*e*Pn	**Pn**	**10 23 23.0**	**-0.3**
CLL				*e*Pg	**Pg**	**10 23 26.0**	**-0.5**
CLL				*i* Sg	**Sg**	**10 23 51.9**	**-0.3**
CLL	**Collm**	**1.98**	**265**	Pg	**Pg**	**10 23 26.0**	**-0.5**
CLL				Sg	**Sg**	**10 23 52.0**	**-0.2**
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*PG	**Pg**	**10 23 29.2**	**+0.4**
OKC				*e*SG	**Sg**	**10 23 55.0**	**-1.1**
	comp=Z,71nm,0.5s						
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*P	**Pg**	**10 23 29.2**	**+0.4**
OKC				*e*		10 23 55.0	
OKC				smax			
	comp=N,71nm,0.5s						
VRAC	**Vranov**	**2.22**	**173**	Pn	**Pn**	**10 23 27.6**	**+0.9**
	comp=N,3.0nm,0.3s,baz=329,slow=12,SNR=16						
VRAC				Pg	**Pg**	**10 23 31.4**	**+0.2**
	comp=N,4.6nm,0.3s,baz=349,slow=16,SNR=18						
VRAC				Lg		10 23 59.1	
	comp=N,8.4nm,0.3s,baz=84,slow=21,SNR=6.8						
VRAC	**Vranov**	**2.22**	**173**	Pg	**Pg**	**10 23 31.4**	**+0.2**
VRAC				*e*Sg	**Sg**	**10 23 59.1**	**-0.9**
	comp=N,23nm,0.2s						
TREC	**Trest**	**2.26**	**191**	*e*PN	**Pn**	**10 23 28.6**	**+1.5**
TREC				*e*PG	**Pg**	**10 23 31.0**	**-0.8**
TREC	**Trest**	**2.26**	**191**	*e*P	**Pn**	**10 23 28.6**	**+1.5**
TREC				MLR	MLR		
	comp=Z,4μm,20.8s						
KRUC	**Moravsky**	**2.46**	**176**	*e*Pn	**Pn**	**10 23 30.6**	**+0.8**
KRUC				*e*Sg	**Sg**	**10 24 06.2**	**-1.3**
	comp=Z,18nm,0.2s						
TANN	**Tannenbergstha**	**2.58**	**246**	*e*Pn	**Pn**	**10 23 31.9**	**+0.4**
TANN				*e*Sg	**Sg**	**10 24 10.9**	**-0.4**
TANN	**Tannenbergstha**	**2.58**	**246**	Pn	**Pn**	**10 23 31.9**	**+0.4**
TANN				Sg	**Sg**	**10 24 10.9**	**-0.5**
OJC	**Ojcow**	**2.65**	**118**	*e*Pg	**Pg**	**10 23 40.2**	**+0.9**
OJC				*e*Sg	**Sg**	**10 24 15.0**	**+1.4**
WERD	**Werda**	**2.65**	**248**	*e*Pn	**Pn**	**10 23 32.9**	**+0.4**
WERD				*e*Sg	**Sg**	**10 24 12.4**	**-1.4**
NKC	**Novy Kostel**	**2.67**	**243**	*e*PN	**Pn**	**10 23 33.4**	**+0.6**
NKC				*e*PG	**Pg**	**10 23 39.4**	**-0.3**
NKC				*e*SG	**Sg**	**10 24 14.4**	**0.0**
	comp=Z,76nm,0.4s						
NKC	**Novy Kostel**	**2.67**	**243**	*e*P	**Pn**	**10 23 33.4**	**+0.6**
NKC				*e*		10 24 14.4	
NKC				smax			
	comp=N,76nm,0.4s						
NEUB	**Neuenburg**	**2.76**	**265**	*e*Sg	**Sg**	**10 24 18.7**	**+1.5**
KHC	**Kasperske Hory**	**2.90**	**216**	*e*PN	**Pn**	**10 23 36.5**	**+0.6**
KHC				*e*PG	**Pg**	**10 23 42.1**	**-2.0**
KHC				*e*SN	**Sn**	**10 24 11.0**	**-0.4**
KHC				*e*SG	**Sg**	**10 24 20.7**	**-0.9**
	comp=N,18nm,0.4s						
MANZ	**Manzenberg**	**2.99**	**241**	*e*Pn	**Pn**	**10 23 38.0**	**+0.9**
MANZ				*e*Sg	**Sg**	**10 24 25.4**	**+0.9**
MOX	**Moxa**	**2.99**	**255**	*e*Pn	**Pn**	**10 23 37.4**	**+0.2**
MOX				*e*Pg	**Pg**	**10 23 45.7**	**-0.1**
MOX				*e*Sg	**Sg**	**10 24 25.4**	**+0.8**
MOX	**Moxa**	**2.99**	**255**	*e*PN	**Pn**	**10 23 37.4**	**+0.3**
MOX				*e*PG	**Pg**	**10 23 45.7**	**-0.1**
MOX				*e*SG	**Sg**	**10 24 25.4**	**+0.8**
MOX	**Moxa**	**2.99**	**255**	*e*Pn	**Pn**	**10 23 37.4**	**+0.3**
MOX				*e*Pg	**Pg**	**10 23 45.7**	**-0.1**
MOX				*e*Sg	**Sg**	**10 24 25.4**	**+0.8**
ROTZ	**Rotzenmuhle**	**3.06**	**237**	*e*Pn	**Pn**	**10 23 38.4**	**+0.3**
ROTZ				*e*Sg	**Sg**	**10 24 26.0**	**-0.8**
GEC2	**GERESS Array S**	**3.10**	**211**	*e*Pn	**Pn**	**10 23 39.2**	**+0.5**
GEC2	**GERESS Array S**	**3.10**	**211**	*e*Pn	**Pn**	**10 23 39.2**	**+0.5**
GERES	**GERESS Array B**	**3.10**	**211**	Pn	**Pn**	**10 23 39.4**	**+0.7**
	comp=N,1.2nm,0.3s,baz=28,slow=12,SNR=39						
GERES				Pg	**Pg**	**10 23 45.2**	**-2.7**
	comp=N,4.9nm,0.3s,baz=29,slow=16,SNR=50						
GERES				Sn	**Sn**	**10 24 17.8**	**+1.4**
	comp=N,4.1nm,0.3s,baz=24,slow=27,SNR=6.4						
GERES				Lg		10 24 26.3	
	comp=N,3.3nm,0.3s,baz=28,slow=30,SNR=7.8						
GERES	**GERESS Array B**	**3.10**	**211**	P	**Pn**	**10 23 39.4**	**+0.7**
GERES						10 24 17.8	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES				pmax	pmax		
	comp=Z,5.0nm,0.3s						
GERES				smax			
	comp=E,4.0nm,0.3s						
GERES	**GERESS Array B**	**3.10**	**211**	Pg	**Pg**	**10 23 45.2**	**-2.7**
WET	**Wettzell**	**3.17**	**223**	*e*Pn	**Pn**	**10 23 39.4**	**-0.1**
ZST	**Bratislava**	**3.38**	**169**	*e*SG	**Sg**	**10 24 33.9**	**-3.1**
NIE	**Niedzica**	**3.38**	**127**	*e*P	**Pg**	**10 23 53.8**	**+0.4**
NIE				*e*S	**Sg**	**10 24 37.6**	**+0.3**
VYHS	**Vyhne**	**3.48**	**149**	*e*PN	**Pn**	**10 23 44.4**	**+0.5**
VYHS				*e*PG	**Pg**	**10 23 54.9**	**-0.4**
VYHS				*e*SG	**Sg**	**10 24 39.6**	**-0.8**
VYHS	**Vyhne**	**3.48**	**149**	*e*Pn	**Pn**	**10 23 44.4**	**+0.5**
VYHS				*e*Pg	**Pg**	**10 23 54.9**	**-0.4**
VYHS				*e*Sg	**Sg**	**10 24 39.7**	**-0.7**
CONA	**Conrad Observa**	**3.59**	**183**	⇓*i*Pn	**Pn**	**10 23 45.1**	**-0.3**
CONA				⇓*i*Sg	**Sg**	**10 24 41.4**	**-2.5**
	comp=E,22nm,0.4s						
GRF	**Grafenberg Arr**	**3.63**	**242**	*e*Sg	**Sg**	**10 24 44.2**	**-0.9**
BSD	**Bornholm Skovb**	**3.69**	**349**	*i* P	**Pn**	**10 23 46.6**	**-0.1**
BSD				*e*S	**Sn**	**10 24 27.5**	**-3.3**
BSD				*i* S	**Sn**	**10 24 29.2**	**-1.6**
MOA	**Molln**	**3.87**	**199**	⇑*i*Pn	**Pn**	**10 23 49.6**	**+0.4**
MOA				⇑*i*Sg	**Sg**	**10 24 53.1**	**+0.4**
	comp=E,19nm,0.4s						
ARSA	**Arzberg**	**4.29**	**186**	⇓*i*Pn	**Pn**	**10 23 54.9**	**-0.1**
ARSA				⇑*i*Sg	**Sg**	**10 25 04.2**	**-2.0**
	comp=E,21nm,0.6s						
KOLS	**Kolonicke sedl**	**4.70**	**121**	*e*SN	**Sn**	**10 24 55.3**	**-0.6**
KOLS				*e*SG	**Sg**	**10 25 24.3**	**+4.7**
KBA	**Koelnbreinsper**	**4.80**	**204**	⇑*i*Pn	**Pn**	**10 24 03.2**	**+1.1**
KBA				⇓*i*Sg	**Sg**	**10 25 23.6**	**+0.9**
	comp=E,12nm,0.5s						
KBA	**Koelnbreinsper**	**4.80**	**204**	Pn	**Pn**	**10 24 03.2**	**+1.1**
KBA				Sg	**Sg**	**10 25 23.6**	**+0.8**
	comp=E,12nm,0.5s						
WTTA	**Wattenberg**	**5.17**	**216**	⇓*i*Pn	**Pn**	**10 24 08.2**	**+1.1**
WTTA				⇓*i*Sg	**Sg**	**10 25 36.8**	**+2.1**
	comp=E,6.4nm,0.6s						
VISS	**Visnje**	**5.78**	**189**	*e*Pn	**Pn**	**10 24 16.5**	**+1.0**
BOJS	**Bojanci**	**6.04**	**186**	*e*Pn	**Pn**	**10 24 20.6**	**+1.5**
DAVOX	**Davos**	**6.27**	**223**	Pn	**Pn**	**10 24 23.2**	**+0.9**
	comp=E,0.2nm,0.3s,baz=331,slow=22,SNR=3.2						
DAVOX				Sn	**Sn**	**10 25 34.6**	**0.0**
	comp=E,0.5nm,0.3s,baz=352,slow=23,SNR=2.4						
CDF	**Champ du Feu**	**6.51**	**245**	*e*Pn	**Pn**	**10 24 25.7**	**+0.1**
CDF				*e*Sg	**Sg**	**10 26 11.6**	**-6.1**
	comp=E,25nm,1.0s						
CDF	**Champ du Feu**	**6.51**	**245**	*e*Pn	**Pn**	**10 24 25.7**	**+0.1**
CDF				*e*Sg	**Sg**	**10 26 11.6**	**-6.1**
	comp=E,13nm,1.0s						
HINF	**Hinteralfeld**	**7.08**	**242**	*e*Pn	**Pn**	**10 24 33.4**	**+0.1**
HINF				*e*Sg	**Sg**	**10 26 31.6**	**-4.2**
	comp=E,9.2nm,0.7s						
HINF	**Hinteralfeld**	**7.08**	**242**	*e*Pn	**Pn**	**10 24 33.4**	**+0.1**
HINF				*e*Sg	**Sg**	**10 26 31.6**	**-4.2**
	comp=E,4.6nm,0.7s						
HAU	**Haudompre**	**7.25**	**245**	*e*Pn	**Pn**	**10 24 36.0**	**+0.3**
HAU				*e*Sg	**Sg**	**10 26 38.1**	**-3.4**
	comp=E,14nm,0.8s						
HAU	**Haudompre**	**7.25**	**245**	*e*Pn	**Pn**	**10 24 36.0**	**+0.3**
HAU				*e*Sg	**Sg**	**10 26 38.1**	**-3.4**
	comp=E,6.8nm,0.8s						
AKASG	**Malin Array Be**	**8.27**	**91**	Pn	**Pn**	**10 24 50.0**	**+0.3**
	comp=E,0.8nm,0.3s,baz=281,slow=12,SNR=4.5						
AKASG				Sn	**Sn**	**10 26 19.4**	**-4.4**
	comp=E,0.8nm,0.3s,baz=274,slow=23,SNR=4.0						
AKASG				Lg		10 27 20.3	
	comp=E,0.1nm,0.3s,baz=280,slow=30,SNR=4.4						
AKASG	**Malin Array Be**	**8.27**	**91**	P	**Pn**	**10 24 50.0**	**+0.3**
AKASG						10 26 19.4	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG				smax			
	comp=E,1.0nm,0.3s						
HFS	**Hagfors**	**8.75**	**352**	Pn	**Pn**	**10 24 55.4**	**-0.9**
	comp=E,0.1nm,0.3s,baz=166,slow=15,SNR=9.1						
NOA	**NORSAR Array B**	**9.94**	**346**	Pn	**Pn**	**10 25 11.1**	**-1.5**
	comp=E,0.1nm,0.3s,baz=162,slow=14,SNR=2.3						
FINES	**FINESS Array B**	**11.35**	**25**	Pn	**Pn**	**10 25 30.7**	**-1.2**
	comp=E,0.1nm,0.3s,baz=214,slow=11,SNR=7.9						
FINES				Sn	**Sn**	**10 27 32.9**	**-6.5**
	comp=E,0.2nm,0.3s,baz=200,slow=21,SNR=5.5						
ARCES	**ARCESS Array B**	**18.62**	**10**	Pn	**Pn**	**10 27 03.7**	**-3.9**
	comp=E,0.3nm,0.3s,baz=192,slow=13,SNR=11						
ARCES	**ARCESS Array B**	**18.62**	**10**	Pn	**Pn**	**10 27 03.7**	**-3.9**

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*BJI **16** 10:23:22.5, 589S×15089E, h91km, mB5.0, mb4.7*
*IDC **16** 10:23:25.1±5.8, 557S×15044E, h91km±45km, mb3.7/5, mb1 3.9/6, mb1mx3.7/12, mbtmp4.1/6, MS3.4/3, Ms1 3.4/3, ms1mx2.8/17, Error ellipse: s-maj=44.7km s-min=30.1km az=87.0*
*ISCJB **16** 10:23:26.7±3.8, 57S±0.1×1504E±03, h104km±28km, mb4.3/11, Error ellipse: s-maj=43.4km s-min=19.2km az=11.2*
*NEIC **16** 10:23:27.8±2.9, 552S×15002E, h91km±22km, mb4.2/5, Error ellipse: s-maj=32.5km s-min=20.5km az=93.0*
ISC 16 10:23:26.4±3.0**, 58S**±01×**1504E**±02**, h84**km±22km**, n23, σ1^{s}07**/22**, mb4.3**/11**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.83**	**222**	P	**Pn**	**10 24 36.8**	**+0.2**
	7.8nm,0.3s,baz=48,slow=8.1,SNR=20						
PMG				S	**Sn**	**10 25 36.3**	**+5.0**
	5.2nm,0.3s,baz=61,slow=10.0,SNR=3.8						
PMG				LR	LR	10 26 45.5	
	comp=Z,256nm,21.0s,baz=44,slow=40						
PMG	**Port Moresby**	**4.83**	**222**	*e*Pn	**Pn**	**10 24 36.6**	**0.0**
PMG				*e*Sn	**Sn**	**10 25 36.3**	**+5.0**
CTA	**Charters Tower**	**14.77**	**196**	P	**Pn**	**10 26 56.2**	**+5.4**
	0.1nm,0.3s,baz=31,slow=12,SNR=3.6						
WRAB	**Tennant Creek**	**21.02**	**227**	*e*P	**P**	**10 28 03.0**	**-0.1**
	8.8nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**21.02**	**227**	*e*P	**P**	**10 28 03.0**	**-0.3**
WRA	**Warramunga Arr**	**21.03**	**227**	P	**P**	**10 28 03.1**	**-0.2**
	6.0nm,0.8s,mb4.0,baz=48,slow=10,SNR=21						
AS31	**Alice Springs**	**23.84**	**220**	*e*P	**P**	**10 28 33.0**	**+1.2**
ASAR	**Alice Springs**	**23.84**	**220**	P	**P**	**10 28 32.3**	**+0.5**
	2.0nm,0.6s,mb3.6,baz=54,slow=8.0,SNR=42						
ASAR				LR	LR	10 36 57.3	
	comp=Z,123nm,21.9s,baz=244,slow=34						
FITZ	**Fitzroy Crossi**	**27.11**	**241**	*e*P	**P**	**10 29 00.7**	**-0.7**
	14nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**27.11**	**241**	P	**P**	**10 29 00.1**	**-1.3**
	7.2nm,0.8s,mb4.3,baz=100,slow=8.7,SNR=12						
MBWA	**Marble Bar**	**33.43**	**240**	*e*P	**P**	**10 29 56.3**	**-0.8**
	18nm,1.0s,mb4.9						
JOW	**Kunigami**	**38.90**	**328**	LR	LR	10 46 04.7	
	comp=Z,76nm,18.0s,baz=11,slow=35						
KMI	**Kunming**	**55.62**	**306**	P	**P**	**10 32 55.3**	**+1.7**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.7						
HHC	**Hu-ho-hao-te**	**58.52**	**326**	*e*P	**P**	**10 33 16.3**	**+2.3**
HHC				AP	pP	10 33 35.6	+0.5
HHC				XP	sP	10 33 44.1	-0.3
HHC				PP	PP	10 35 28.3	+4.1
HHC				S	**S**	**10 41 11.6**	**+0.4**
HHC				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,168nm,4.5s						
HHC				LR	LR		
	comp=N,130nm,11.9s						
HHC				LR	LR		
	comp=E,118nm,15.5s						
HHC				LR	LR		
	comp=Z,75nm,14.3s						
LZH	**Lanzhou**	**60.33**	**317**	*e*P	**P**	**10 33 26.1**	**-0.4**
LZH				AP	pP	10 33 50.1	+2.4
LZH				XP	sP	10 34 01.3	+4.4
LZH				PP	PP	10 35 41.8	+1.5
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb5.0						
SONM	**Songino Array**	**65.94**	**329**	P	**P**	**10 34 01.5**	**-2.0**
	comp=Z,0.4nm,0.5s,mb3.5,baz=137,slow=6.2,SNR=5.0						
VNDA	**Vanda**	**71.93**	**177**	P	**P**	**10 34 41.0**	**+0.3**
	comp=Z,1.0nm,0.8s,mb3.7,baz=304,slow=6.4,SNR=4.0						
VNDA	**Vanda**	**71.93**	**177**	*e*P	**P**	**10 34 40.9**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.7						
WMQ	**Urumqi**	**74.90**	**318**	P	**P**	**10 34 58.6**	**+0.5**
KURK	**Kurchatov**	**83.11**	**323**	*e*P	**P**	**10 35 41.7**	**-1.3**
	comp=Z,1.8nm,0.9s,mb3.9						
LPAZ	**La Paz**	**135.98**	**121**	PKP	PKPdf	10 42 36.6	-1.1
	comp=Z,1.6nm,1.0s,baz=149,slow=1.9,SNR=5.6						
TORD	**Torodi Ar. Bea**	**148.34**	**286**	PKPbc	PKPbc	10 43 00.8	-2.3
	comp=Z,0.7nm,0.8s,baz=83,slow=4.4,SNR=4.0						
BDFB	**Brasilia**	**151.93**	**140**	PKPbc	PKPbc	10 43 10.1	-1.6
	comp=Z,1.7nm,0.5s,baz=198,slow=6.1,SNR=3.9						

IDC 16 10:23:56.2±13.0**, 475S**×**15225E, h86**km±111km**, mb3.8**/7**, mb1 4.0**/7**, mb1mx3.8**/14**, mbtmp4.0**/7**, MS2.5**/1**, Ms1 2.5**/1**, ms1mx1.8**/19**, Error ellipse: s-maj=50.2km s-min=38.4km az=110.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.85**	**227**	S	Sn	10 26 49.5	-0.9
	0.8nm,0.3s,baz=300,slow=20,SNR=1.4						
GUMO	**Guam**	**19.63**	**338**	LR	LR	10 35 11.4	
	comp=Z,14nm,19.8s,baz=179,slow=34						
WB2	**Warramunga Arr**	**23.06**	**228**	*e*P	P	10 28 55.0	+0.7
WRA	**Warramunga Arr**	**23.07**	**228**	P	P	10 28 54.7	+0.4
	4.2nm,0.6s,baz=52,slow=9.8,SNR=23						
ASAR	**Alice Springs**	**25.82**	**221**	P	P	10 29 19.8	+0.4
	1.0nm,0.5s,baz=56,slow=8.7,SNR=6.2						
FITZ	**Fitzroy Crossi**	**29.20**	**241**	*e*P	P	10 29 49.7	+0.1
	7.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**29.20**	**241**	P	P	10 29 49.9	+0.3
	3.6nm,0.4s,baz=71,slow=6.5,SNR=35						
VNDA	**Vanda**	**72.90**	**178**	P	P	10 35 15.7	-0.3
	0.5nm,0.6s,baz=355,slow=5.9,SNR=2.4						
MAW	**Mawson**	**85.41**	**203**	P	P	10 36 23.8	-0.3
	0.9nm,0.6s,baz=111,slow=8.1,SNR=4.9						
NVAR	**Mina Array Bea**	**92.48**	**52**	P	P	10 36 58.3	+0.7
	0.2nm,0.5s,baz=249,slow=7.5,SNR=2.4						
YKA	**Yellowknife Ar**	**95.64**	**28**	P	P	10 37 11.7	-0.3
	0.3nm,0.4s,baz=270,slow=5.1,SNR=7.4						
GERES	**GERESS Array B**	**123.72**	**328**	PKP	PKPdf	10 42 43.9	0.0
	0.4nm,0.5s,baz=64,slow=3.4,SNR=5.4						
TORD	**Torodi Ar. Bea**	**149.77**	**288**	PKPbc	PKPbc	10 43 37.0	+0.9
	2.1nm,0.5s,baz=87,slow=2.4,SNR=43						
BDFB	**Brasilia**	**151.49**	**136**	PKPbc	PKPbc	10 43 41.3	+1.1
	1.2nm,0.5s,baz=212,slow=2.0,SNR=3.9						

IDC 16 10:27:09.2±4.9**, 094N**×**9688E, h0**km**, mb3.5**/3**, mb1 3.5**/3**, mb1mx3.4**/16**, mbtmp3.5**/3**, Error ellipse: s-maj=198.5km s-min=32.5km az=60.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.50**	**127**	P	P	10 35 14.7	+0.4
	0.2nm,0.6s,baz=298,slow=7.9,SNR=4.1						
MKAR	**Makanchi Array**	**47.41**	**346**	P	P	10 35 45.4	0.0
	0.3nm,0.3s,baz=174,slow=8.5,SNR=4.2						
SONM	**Songino Array**	**47.43**	**9**	P	P	10 35 45.6	+0.1
	0.2nm,0.3s,baz=181,slow=7.2,SNR=3.6						

IDC 16 10:30:28.5±1.8**, 058S**×**12853E, h0**km**, mb3.5**/3**, mb1 3.9**/4**, mb1mx3.7**/14**, mbtmp3.7**/4**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.3**/17**, Error ellipse: s-maj=121.8km s-min=26.2km az=77.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.64**	**189**	P	Pn	10 34 37.7	+2.0
	0.1nm,0.3s,baz=352,slow=19,SNR=2.4						
FITZ				LR	LR	10 40 33.0	
	comp=Z,52nm,21.6s,baz=255,slow=34						
WRA	**Warramunga Arr**	**20.07**	**164**	P	P	10 35 03.2	-0.1
	1.2nm,0.5s,baz=344,slow=12,SNR=14						
WB2	**Warramunga Arr**	**20.07**	**164**	*e*P	P	10 35 05.8	+2.4
ASAR	**Alice Springs**	**23.54**	**168**	P	P	10 35 40.4	-0.1
	2.3nm,0.6s,baz=351,slow=11,SNR=15						
SONM	**Songino Array**	**51.93**	**341**	P	P	10 39 39.2	+0.1
	0.4nm,0.6s,baz=146,slow=5.7,SNR=3.5						

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*GRAL **16** 10:38:29.6±1.1, 3315N×3510E, h1km±555km, MD3.1*
*ISCJB **16** 10:38:30.3±1.3, 3326N±005×3514E±009, h10km, Error ellipse: s-maj=10.4km s-min=6.3km az=25.9*
*GII **16** 10:38:31.2±0.6, 3323N×3528E, h0km±2km*
ISC 16 10:38:30.7±1.4**, 3325N**±005×**3514E**±009**, h10**km**, n8, σ0^{s}71**/13**, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	**Hanita**	**0.16**	**170**	Pg	**Pg**	**10 38 35.4**	**+1.1**
MATL	**Matirih**	**0.29**	**33**	*e*Pg	**Pg**	**10 38 35.8**	**-0.7**
MMA0	**Mount Meron ar**	**0.32**	**136**	Pg	**Pg**	**10 38 36.8**	**-0.2**
HRI	**Mount Hermon**	**0.50**	**87**	Pg	**Pg**	**10 38 40.0**	**-0.5**
HRI				Sg	**Sg**	**10 38 47.1**	**+0.1**
HRI	**Mount Hermon**	**0.50**	**87**	Pg	**Pg**	**10 38 39.9**	**-0.5**
HRI				Sg	**Sg**	**10 38 47.1**	**+0.1**
RCY	**Rachaya**	**0.62**	**67**	*e*Pg	**Pg**	**10 38 42.0**	**-0.7**
RCY				*e*Sg	**Sg**	**10 38 50.9**	**+0.2**
BHL	**Bhannes**	**0.78**	**33**	*e*Pg	**Pg**	**10 38 46.1**	**+0.3**
BHL				*e*Sg	**Sg**	**10 38 57.3**	**+1.2**
HWQ	**Hawqa**	**1.23**	**33**	*e*Pg	**Pg**	**10 38 53.1**	**-1.2**
HWQ				*e*Sg	**Sg**	**10 39 10.7**	**+0.4**

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*THE **16** 10:47:57.5, 3748N×2083E, h10km, ML3.7*
*ISCJB **16** 10:47:59.2±1.0, 3761N±004×2101E±006, h2km±6km, Error ellipse: s-maj=8.6km s-min=4.6km az=109.8*
*NEIC **16** 10:47:59.3, 3763N×2101E, h12km, MD3.6(ATH), After ATH.*
*ATH **16** 10:47:59.3, 3763N×2101E, h12km±3km, MD3.6/6*
*CSEM **16** 10:48:00.1±0.2, 3763N×2099E, h2km, MD3.6, Error ellipse: s-maj=5.0km s-min=2.0km az=52.0*
ISC 16 10:47:59.7±1.0**, 3762N**±004×**2099E**±006**, h3**km±6km**, n19, σ0^{s}89**/28**, 1C, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.58**	**41**	⇑*i*PB	**Pg**	**10 48 10.1**	**-0.8**
RLS				*e*SB	**Sg**	**10 48 18.0**	**-0.5**
VLS	**Valsamata**	**0.64**	**331**	*e*PG	**Pg**	**10 48 11.2**	**-0.9**
VLS				*e*SB	**Sg**	**10 48 21.8**	**+1.4**
ITM	**Ithomi**	**0.86**	**120**	*e*PG	**Pg**	**10 48 15.0**	**-1.3**
ITM				*e*SG	**Sg**	**10 48 28.4**	**+0.9**
LKD	**Levkas**	**1.12**	**346**	*e*Pg	**Pg**	**10 48 19.8**	**-1.4**
LKD				*e*Sg	**Sg**	**10 48 38.9**	**+3.1**
EVR	**Evrytania**	**1.45**	**26**	*e*PB	**Pn**	**10 48 26.3**	**-0.5**
EVR				*e*SB	**Sb**	**10 48 45.3**	**-0.9**
AGG	**Agios Georgios**	**1.76**	**37**	*e*Pb	**Pn**	**10 48 31.7**	**+0.6**
AGG				*e*Sb	**Sg**	**10 48 57.3**	**+1.1**
VLI	**Veliai**	**1.80**	**119**	*e*PN	**Pn**	**10 48 32.4**	**+0.8**
LKR	**Lokris**	**1.89**	**56**	*e*PG	**Pn**	**10 48 33.7**	**+0.8**
IGT	**Igoumenitsa**	**1.98**	**345**	*e*Pn	**Pn**	**10 48 33.6**	**-0.5**
IGT				*e*Sn	**Sb**	**10 49 01.4**	**-0.1**
KYTH	**Kithira**	**2.11**	**128**	*e*PB	**Pn**	**10 48 35.8**	**-0.2**
MEV	**Metsovon**	**2.17**	**5**	*e*Pn	**Pn**	**10 48 36.8**	**0.0**
MEV				*e*Sn	**Sb**	**10 49 06.6**	**-0.5**
KEK	**Kerkira**	**2.29**	**336**	*e*PN	**Pn**	**10 48 39.5**	**+1.1**
PTL	**Penteli**	**2.32**	**78**	*e*PN	**Pn**	**10 48 39.0**	**+0.2**
XOR	**Xorichti**	**2.46**	**44**	*e*Pn	**Pn**	**10 48 41.6**	**+0.9**
LIT	**Litokhoron**	**2.75**	**25**	*e*Pn	**Pn**	**10 48 44.5**	**-0.2**
PAIG	**Paliouri**	**3.12**	**42**	*e*Pn	**Pn**	**10 48 49.5**	**-0.3**
FNA	**Florina**	**3.18**	**5**	*e*Pn	**Pn**	**10 48 50.9**	**+0.3**
HORT	**Hortiatis**	**3.40**	**28**	*e*Pn	**Pn**	**10 48 53.8**	**+0.1**
DIVS	**Divcibare**	**6.52**	**354**	*i* Pn	**Pn**	**10 49 34.9**	**-1.6**
DIVS				Sn	**Sn**	**10 50 46.4**	**-5.0**

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*ISCJB **16** 10:52:02.1±0.3, 4319N±002×037W±002, h3km±3km, Error ellipse: s-maj=2.8km s-min=2.1km az=170.7*
*CSEM **16** 10:52:03.8±0.1, 4309N×038W, h2km, ML3.2/8, Error ellipse: s-maj=1.3km s-min=0.8km az=171.0*
*NEIC **16** 10:52:03.7, 4309N×039W, h2km, ML2.8(STR), ML3.2(LDG), After LDG.*
*STR **16** 10:52:03.5±0.1, 4309N×037W, h5km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **16** 10:52:03.7±0.1, 4309N×039W, h2km, Md3.3/2, Ml3.2/7, Error ellipse: s-maj=2.1km s-min=1.5km az=177.0*
*MDD **16** 10:52:04.1±0.2, 4309N×038W, h6km±2km, mbLg2.4/18, Error ellipse: s-maj=2.5km s-min=1.4km az=8.0, PRXIMO*
ISC 16 10:52:03.1±0.2**, 4314N**±002×**038W**±002**, h8**km±2km**, n85, σ0^{s}97**/167**, 1D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.07**	**189**	P	**Pg**	**10 52 05.3**	**+0.3**
REYF				S	**Sg**	**10 52 06.4**	**+0.1**
ATE	**Arette**	**0.24**	**258**	Pg	**Pg**	**10 52 08.2**	**+0.2**
ATE				Sg	**Sg**	**10 52 11.8**	**+0.6**
ATE	**Arette**	**0.24**	**258**	P	**Pg**	**10 52 08.2**	**+0.2**
ATE				S	**Sg**	**10 52 11.8**	**+0.5**
ETSF	**Etsaut**	**0.27**	**209**	*e*Pg	**Pg**	**10 52 08.1**	**-0.4**
ETSF				*e*Sg	**Sg**	**10 52 11.5**	**-0.7**
LABF	**Labassere**	**0.34**	**105**	P	**Pg**	**10 52 09.8**	**-0.1**
LABF				S	**Sg**	**10 52 15.5**	**+1.1**
FDAF	**Les Forges d'A**	**0.35**	**204**	P	**Pg**	**10 52 09.6**	**-0.3**
FDAF				S	**Sg**	**10 52 14.3**	**-0.2**
VIEF	**Viey**	**0.39**	**131**	Pg	**Pg**	**10 52 10.3**	**-0.4**
VIEF				Sg	**Sg**	**10 52 15.2**	**-0.6**
VIEF	**Viey**	**0.39**	**131**	P	**Pg**	**10 52 10.4**	**-0.3**
VIEF				S	**Sg**	**10 52 15.1**	**-0.7**
ORDF	**Ordiarp**	**0.42**	**281**	Pg	**Pg**	**10 52 12.1**	**+0.9**
ORDF				Sg	**Sg**	**10 52 18.5**	**+1.8**
ORDF	**Ordiarp**	**0.42**	**281**	P	**Pg**	**10 52 12.0**	**+0.8**
ORDF				S	**Sg**	**10 52 18.6**	**+1.9**
LARF	**Larrau**	**0.46**	**258**	Pg	**Pg**	**10 52 12.4**	**+0.4**
LARF				Sg	**Sg**	**10 52 19.0**	**+1.0**
LARF	**Larrau**	**0.46**	**258**	P	**Pg**	**10 52 12.2**	**+0.2**
LARF				S	**Sg**	**10 52 19.3**	**+1.3**
EPF	**Esparros**	**0.54**	**101**	*e*Pg	**Pg**	**10 52 13.7**	**+0.2**
EPF				*e*Sg	**Sg**	**10 52 22.2**	**+1.7**
EBIE	**Bielsa**	**0.59**	**140**	⇓Pg	**Pg**	**10 52 14.0**	**-0.5**
	3.1nm,0.1s,SNR=18						
EBIE				Lg		10 52 21.2	
	51nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.59**	**140**	Pg	**Pg**	**10 52 14.0**	**-0.5**
EBIE				Lg		10 52 21.2	
EBIE	**Bielsa**	**0.59**	**140**	Pg	**Pg**	**10 52 14.0**	**-0.5**
	3.1nm,0.1s,SNR=107						
RESF	**Ens**	**0.62**	**122**	P	**Pg**	**10 52 14.8**	**-0.3**
RESF				S	**Sg**	**10 52 22.9**	**-0.2**
OSSF	**Osses**	**0.66**	**281**	Pg	**Pg**	**10 52 15.6**	**-0.2**
OSSF	**Osses**	**0.66**	**281**	P	**Pg**	**10 52 15.4**	**-0.4**
OSSF				S	**Sg**	**10 52 25.1**	**+0.8**
EALK	**Alkurruntz**	**0.83**	**276**	Pg	**Pg**	**10 52 19.4**	**+0.3**
	0.6nm,0.0s,SNR=24						
EALK				Lg		10 52 31.2	
	8.9nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.84**	**272**	Pg	**Pg**	**10 52 19.4**	**+0.1**
	3.2nm,0.1s,SNR=29						
ELIZ				Lg		10 52 31.6	
	11nm,0.1s,SNR=7.9						
MELF	**Melles**	**0.88**	**107**	Pg	**Pg**	**10 52 20.3**	**+0.4**
MELF				Sg	**Sg**	**10 52 31.8**	**+0.5**
MELF	**Melles**	**0.88**	**107**	P	**Pg**	**10 52 19.6**	**-0.4**
MELF				S	**Sg**	**10 52 31.6**	**+0.3**
IUSE	**Utxeti**	**0.88**	**258**	Pg	**Pg**	**10 52 20.2**	**+0.2**
	2.9nm,0.1s,SNR=7.9						
IUSE				Lg		10 52 31.7	
	14nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.88**	**258**	Pg	**Pg**	**10 52 20.2**	**+0.2**
	2.9nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.95**	**248**	Pg	**Pg**	**10 52 21.4**	**0.0**
	2.1nm,0.2s,SNR=9.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EARA				Lg		10 52 34.7	
	9.4nm,0.2s,SNR=7.9						
MLS	**Moulis**	**1.09**	**99**	Pg	**Pg**	**10 52 24.6**	**+0.5**
MLS				Sg	**Sg**	**10 52 39.4**	**+1.1**
MLS	**Moulis**	**1.09**	**99**	P	**Pg**	**10 52 24.6**	**+0.4**
MLS				S	**Sg**	**10 52 39.8**	**+1.5**
SALF	**Salau**	**1.21**	**108**	Pg	**Pg**	**10 52 26.7**	**+0.3**
SALF				Sg	**Sg**	**10 52 42.0**	**-0.1**
SALF	**Salau**	**1.21**	**108**	P	**Pb**	**10 52 26.3**	**0.0**
SALF				S	**Sg**	**10 52 42.3**	**+0.2**
ESAC	**San Caprasio**	**1.42**	**183**	Pg	**Pg**	**10 52 30.3**	**0.0**
	38nm,0.3s,SNR=36						
ESAC				Lg		10 52 48.6	
	120nm,0.3s,SNR=17						
ESAC	**San Caprasio**	**1.42**	**183**	Pg	**Pg**	**10 52 30.3**	**0.0**
	38nm,0.3s,SNR=36						
GRBF	**Gourbit**	**1.44**	**101**	P	**Pn**	**10 52 30.7**	**+1.2**
PAND	**Andorre**	**1.54**	**113**	S	**Sn**	**10 52 53.3**	**+2.1**
CARF	**Carcanieres**	**1.87**	**102**	P	**Pn**	**10 52 39.2**	**+3.8**
CARF				S	**Sn**	**10 53 03.9**	**+4.6**
MTLF	**Montolieu**	**1.91**	**83**	*e*Pg	**Pg**	**10 52 39.5**	**-0.2**
MTLF				*e*Sg	**Sg**	**10 53 03.7**	**-0.7**
	26nm,0.2s						
MTLF	**Montolieu**	**1.91**	**83**	*e*Pg	**Pg**	**10 52 39.5**	**-0.2**
MTLF				*e*Sg	**Sg**	**10 53 03.7**	**-0.7**
	13nm,0.2s						
VALF	**Valcebollere**	**1.91**	**112**	Pg	**Pg**	**10 52 40.5**	**+0.8**
VALF				Sg	**Sg**	**10 53 05.2**	**+0.7**
VALF	**Valcebollere**	**1.91**	**112**	P	**Pn**	**10 52 40.4**	**+4.4**
VALF				S	**Sn**	**10 53 05.3**	**+5.1**
LFF	**La Frestale**	**1.97**	**24**	*e*Pg	**Pg**	**10 52 41.4**	**+0.4**
LFF				*e*Sg	**Sg**	**10 53 07.4**	**+0.8**
	39nm,0.3s						
LFF	**La Frestale**	**1.97**	**24**	Pn	**Pn**	**10 52 37.5**	**+0.6**
LFF				Pg	**Pg**	**10 52 41.4**	**+0.4**
LFF				Lg		10 53 07.4	
	20nm,0.3s						
LFF	**La Frestale**	**1.97**	**24**	*e*Pn	**Pn**	**10 52 37.5**	**+0.6**
LFF				*e*Pg	**Pg**	**10 52 41.4**	**+0.4**
LFF				*e*Sg	**Sg**	**10 53 07.4**	**+0.8**
LFF	**La Frestale**	**1.97**	**24**	*e*Pg	**Pg**	**10 52 41.4**	**+0.4**
LFF				*e*Sg	**Sg**	**10 53 07.4**	**+0.8**
	20nm,0.3s						
EPOB	**Poblet**	**2.08**	**148**	Pg	**Pg**	**10 52 40.8**	**-2.3**
	1.9nm,0.1s,SNR=18						
EPOB				Lg		10 53 08.1	
	28nm,0.2s,SNR=6.8						
EPOB	**Poblet**	**2.08**	**148**	Pg	**Pg**	**10 52 41.4**	**-1.7**
EPOB				Lg		10 53 08.1	
EPOB	**Poblet**	**2.08**	**148**	Pg	**Pg**	**10 52 41.4**	**-1.7**
	1.9nm,0.1s,SNR=18						
LRDF	**Laroque-de-Fa**	**2.15**	**94**	P	**Pn**	**10 52 43.9**	**+4.6**
LRDF				S	**Sn**	**10 53 11.2**	**+5.2**
FILF	**Fillols**	**2.24**	**104**	S	**Sn**	**10 53 11.4**	**+3.2**
ELAN	**Lanestosa**	**2.24**	**273**	Pg	**Pg**	**10 52 43.9**	**-2.2**
	0.1nm,0.1s,SNR=7.9						
ELAN				Sn	**Sn**	**10 53 08.1**	**-0.2**
	3.8nm,0.2s,SNR=7.9						
ELAN				Lg		10 53 15.8	
	7.0nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**2.24**	**273**	Pg	**Pg**	**10 52 43.9**	**-2.1**
	0.1nm,0.1s,SNR=7.9						
ELAN				Sn	**Sn**	**10 53 08.1**	**-0.2**
	3.8nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.24**	**166**	Pg	**Pg**	**10 52 44.7**	**-1.4**
	1.5nm,0.1s,SNR=7.9						
ERTA				Lg		10 53 12.2	
	34nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**2.24**	**166**	Pg	**Pg**	**10 52 44.7**	**-1.4**
	1.5nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**2.49**	**104**	S	**Sn**	**10 53 19.7**	**+5.3**
EJON	**La Jonquera**	**2.50**	**105**	Pg	**Pg**	**10 52 50.6**	**-0.4**
	2.3nm,0.3s,SNR=6.9						
EJON				Lg		10 53 22.9	
	8.2nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.50**	**105**	Pg	**Pg**	**10 52 50.6**	**-0.4**
	2.3nm,0.3s,SNR=6.9						
CAF	**Calviac**	**2.51**	**44**	*e*Pg	**Pg**	**10 52 51.1**	**-0.1**
CAF				*e*Sn	**Sn**	**10 53 15.6**	**+0.6**
CAF				*e*Sg	**Sg**	**10 53 25.7**	**+1.9**
	19nm,0.2s						
CAF	**Calviac**	**2.51**	**44**	Pn	**Pn**	**10 52 43.4**	**-0.8**
CAF				Pg	**Pg**	**10 52 51.1**	**-0.1**
CAF				Sn	**Sn**	**10 53 15.6**	**+0.6**
CAF				Lg		10 53 25.7	
	9.3nm,0.2s						
CAF	**Calviac**	**2.51**	**44**	*e*Pn	**Pn**	**10 52 43.4**	**-0.8**
CAF				*e*Pg	**Pg**	**10 52 51.1**	**-0.1**
CAF				*e*Sn	**Sn**	**10 53 15.6**	**+0.6**
CAF				*e*Sg	**Sg**	**10 53 25.7**	**+1.9**
CAF	**Calviac**	**2.51**	**44**	*e*Pg	**Pg**	**10 52 51.1**	**-0.1**
CAF				*e*Sn	**Sn**	**10 53 15.6**	**+0.6**
CAF				*e*Sg	**Sg**	**10 53 25.7**	**+1.9**
	9.3nm,0.2s						
RJF	**Les Rejaudoux**	**2.56**	**31**	*e*Pg	**Pg**	**10 52 51.6**	**-0.6**
RJF				*e*Sn	**Sn**	**10 53 16.7**	**+0.5**
RJF				*e*Sg	**Sg**	**10 53 25.6**	**+0.3**
	24nm,0.2s						
RJF	**Les Rejaudoux**	**2.56**	**31**	Pn	**Pn**	**10 52 44.5**	**-0.4**
RJF				Pg	**Pg**	**10 52 51.6**	**-0.6**
RJF				Sn	**Sn**	**10 53 16.7**	**+0.5**
RJF				Lg		10 53 25.6	
	12nm,0.2s						
RJF	**Les Rejaudoux**	**2.56**	**31**	*e*Pn	**Pn**	**10 52 44.5**	**-0.4**
RJF				*e*Pg	**Pg**	**10 52 51.6**	**-0.6**
RJF				*e*Sn	**Sn**	**10 53 16.7**	**+0.5**
RJF				*e*Sg	**Sg**	**10 53 25.6**	**+0.3**
RJF	**Les Rejaudoux**	**2.56**	**31**	*e*Pg	**Pg**	**10 52 51.6**	**-0.6**
RJF				*e*Sn	**Sn**	**10 53 16.7**	**+0.5**
RJF				*e*Sg	**Sg**	**10 53 25.6**	**+0.3**
	12nm,0.2s						
EMOS	**Mosqueruela**	**2.77**	**181**	Pn	**Pn**	**10 52 48.3**	**+0.5**
	0.6nm,0.1s,SNR=7.2						
EMOS				Pg	**Pg**	**10 52 52.7**	**-3.6**
	0.5nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**10 53 20.9**	**-0.6**
	1.4nm,0.2s,SNR=7.9						
EMOS				Lg		10 53 29.5	
	2.5nm,0.2s,SNR=6.5						
EMOS	**Mosqueruela**	**2.77**	**181**	Pn	**Pn**	**10 52 48.4**	**+0.5**
EMOS				Pg	**Pg**	**10 52 52.7**	**-3.6**
EMOS				Lg		10 53 28.9	
EMOS	**Mosqueruela**	**2.77**	**181**	Pn	**Pn**	**10 52 48.3**	**+0.5**
	0.6nm,0.1s,SNR=7.2						
EMOS	**Mosqueruela**	**2.77**	**181**	Pg	**Pg**	**10 52 52.7**	**-3.5**
	0.5nm,0.1s,SNR=7.9						
LASF	**Ste Croix**	**3.22**	**72**	*e*Pg	**Pg**	**10 53 02.7**	**-2.0**
LASF				*e*Sn	**Sn**	**10 53 32.4**	**0.0**
LASF				*e*Sg	**Sg**	**10 53 45.2**	**-1.2**
	9.9nm,0.2s						
LASF	**Ste Croix**	**3.22**	**72**	Pn	**Pn**	**10 52 53.6**	**-0.3**
LASF				Pg	**Pg**	**10 53 02.7**	**-2.0**
LASF				Sn	**Sn**	**10 53 32.4**	**0.0**
LASF				Lg		10 53 45.2	
	4.9nm,0.2s						
LASF	**Ste Croix**	**3.22**	**72**	*e*Pn	**Pn**	**10 52 53.6**	**-0.3**
LASF				*e*Pg	**Pg**	**10 53 02.7**	**-2.0**
LASF				*e*Sn	**Sn**	**10 53 32.4**	**0.0**
LASF				*e*Sg	**Sg**	**10 53 45.2**	**-1.2**
LASF	**Ste Croix**	**3.22**	**72**	*e*Pg	**Pg**	**10 53 02.7**	**-2.0**
LASF				*e*Sn	**Sn**	**10 53 32.4**	**0.0**
LASF				*e*Sg	**Sg**	**10 53 45.2**	**-1.2**
	4.9nm,0.2s						
MFF	**Saint Martin d**	**3.47**	**3**	*e*Pg	**Pg**	**10 53 08.5**	**-1.1**
MFF				*e*Sn	**Sn**	**10 53 36.4**	**-2.3**
MFF				*e*Sg	**Sg**	**10 53 54.5**	**0.0**
	9.3nm,0.3s						
MFF	**Saint Martin d**	**3.47**	**3**	Pn	**Pn**	**10 52 56.6**	**-0.8**
MFF				Pg	**Pg**	**10 53 08.5**	**-1.1**
MFF				Sn	**Sn**	**10 53 36.4**	**-2.3**
MFF				Lg		10 53 54.5	
	4.7nm,0.3s						
MFF	**Saint Martin d**	**3.47**	**3**	*e*Pn	**Pn**	**10 52 56.6**	**-0.8**
MFF				*e*Pg	**Pg**	**10 53 08.5**	**-1.1**
MFF				*e*Sn	**Sn**	**10 53 36.4**	**-2.3**
MFF				*e*Sg	**Sg**	**10 53 54.5**	**0.0**
MFF	**Saint Martin d**	**3.47**	**3**	*e*Pg	**Pg**	**10 53 08.5**	**-1.1**
MFF				*e*Sn	**Sn**	**10 53 36.4**	**-2.3**
MFF				*e*Sg	**Sg**	**10 53 54.5**	**0.0**
	4.7nm,0.3s						
EARI	**Arriondas**	**3.54**	**274**	Pn	**Pn**	**10 52 59.5**	**+1.1**
	0.2nm,0.1s,SNR=4.0						
EARI				Sn	**Sn**	**10 53 41.2**	**+0.9**
	0.5nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**3.54**	**274**	Pn	**Pn**	**10 53 00.8**	**+2.4**
EARI				Sn	**Sn**	**10 53 37.0**	**-3.4**
EARI	**Arriondas**	**3.54**	**274**	Pn	**Pn**	**10 53 00.8**	**+2.5**
	SNR=7.9						
EARI				Sn	**Sn**	**10 53 37.0**	**-3.3**
	0.5nm,0.2s,SNR=7.9						
AGO	**Saint Agoulin**	**3.84**	**39**	Pg	**Pg**	**10 53 15.9**	**-0.9**
VIVF	**Saint-Julien-l**	**4.03**	**63**	*e*Pg	**Pg**	**10 53 19.2**	**-1.1**
VIVF				*e*Sg	**Sg**	**10 54 09.9**	**-2.6**
	7.4nm,0.3s						
VIVF	**Saint-Julien-l**	**4.03**	**63**	*e*Pg	**Pg**	**10 53 19.2**	**-1.1**
VIVF				*e*Sg	**Sg**	**10 54 09.9**	**-2.6**
	3.7nm,0.3s						
ESDC	**Sonseca Array**	**4.39**	**219**	Pn	**Pn**	**10 53 09.8**	**-0.3**
	2.0nm,0.2s,baz=40,slow=14,SNR=7.9						
ESDC				Sn	**Sn**	**10 53 56.4**	**-4.9**
	1.4nm,0.2s,baz=40,slow=24,SNR=7.9						
ESDC	**Sonseca Array**	**4.39**	**219**	Pn	**Pn**	**10 53 09.8**	**-0.2**
ESDC				Sn	**Sn**	**10 53 56.4**	**-4.9**
ECAL	**Calabor**	**4.85**	**258**	Pn	**Pn**	**10 53 17.0**	**+0.6**
	0.1nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**10 54 11.4**	**-1.4**
	1.7nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**4.85**	**258**	Pn	**Pn**	**10 53 17.0**	**+0.6**
ECAL				Sn	**Sn**	**10 54 11.4**	**-1.3**

*ISCJB **16** 10:58:18.8±2.8, 38.6N±0.2×71.2E±0.1, h33km, Error ellipse: s-maj=27.9km s-min=12.2km az=48.4*
*NNC **16** 10:58:20.7±11.0, 38.98N×71.03E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=95.8km s-min=58.1km az=4.0*
ISC 16 10:58:20.9±2.9**, 38.6N**±0.2×**71.3E**±0.1**, h35km, n8, σ0.89**/11**, 6C, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.96**	**27**	P	**Pn**	**10 59 18.1**	**-1.0**
	SNR=11						
EKS2	**Erkin-Say**	**4.46**	**24**	P	**Pn**	**10 59 26.7**	**+0.7**
	SNR=9.4						
KK31	**Karatay Array**	**4.53**	**353**	⇑Pn	**Pn**	**10 59 27.3**	**+0.4**
	8.6nm,0.5s,baz=175,slow=14,SNR=106						
KK31				⇑Sn	**Sn**	**11 00 19.3**	**+1.0**
	3.9nm,0.3s,baz=162,slow=22						
AAK	**Ala-Archa**	**4.69**	**30**	P	**Pn**	**10 59 28.9**	**-0.2**
	SNR=8.8						
KBK	**Karagaybulak**	**4.90**	**33**	P	**Pn**	**10 59 32.6**	**+0.6**
	SNR=7.9						
CHMS	**Chumysh**	**5.10**	**30**	P	**Pn**	**10 59 34.5**	**-0.3**
	SNR=12						
TKM2	**Tokmak 2**	**5.40**	**36**	⇑Pn	**Pn**	**10 59 38.0**	**-0.9**
	0.2nm,0.5s						
TKM2				⇑Sn	**Sn**	**11 00 48.1**	**+8.4**
	3.8nm,1.2s						
AB31	**Akbulak array**	**13.41**	**326**	⇑Pn	**Pn**	**11 01 29.8**	**+1.2**
	1.0nm,0.7s,baz=128,slow=13,SNR=11						
AB31				⇑Sn	**Sn**	**11 03 54.7**	**-1.6**
	1.6nm,0.8s,baz=133,slow=25,SNR=3.4						

*HLW **16** 11:19:07.6, 29.88N×36.72E, h12km, Mb3.1*
*ISCJB **16** 11:19:10.6±1.2, 29.84N±0.07×36.34E±0.08, h10km, Error ellipse: s-maj=11.5km s-min=8.3km az=107.9*
*GII **16** 11:19:10.1±1.1, 29.86N×36.28E, h0km±11km, ML2.0/3*
ISC 16 11:19:10.1±1.2**, 29.83N**±0.08×**36.40E**±0.08**, h10km, n17, σ0.92**/20**, 6C, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.20**	**280**	Pg	**Pb**	**11 19 31.0**	**-1.9**
HRFI				Sg	**Sg**	**11 19 48.6**	**-0.1**
EIL	**Elat**	**1.27**	**263**	Pg	**Pn**	**11 19 33.3**	**-0.6**
EIL				Sg	**Sg**	**11 19 51.0**	**+0.1**
ZFRI	**Zfri**	**1.28**	**305**	Pg	**Pn**	**11 19 32.6**	**-1.5**
MBH	**Mount Berech**	**1.29**	**269**	Pg	**Pn**	**11 19 33.7**	**-0.5**
PRNI	**Paran**	**1.31**	**294**	Pg	**Pn**	**11 19 33.3**	**-1.2**
KMTI	**Karmit**	**1.48**	**281**	Pn	**Pn**	**11 19 36.1**	**-0.7**
HBST	**Basata**	**1.57**	**248**	⇑P	**Pn**	**11 19 38.4**	**+0.3**
RMNI	**Mount Ramon**	**1.61**	**299**	Pn	**Pn**	**11 19 37.9**	**-0.7**
MZDA	**Masada**	**1.73**	**329**	Pn	**Pn**	**11 19 41.0**	**+0.8**
YTIR	**Yattir**	**1.89**	**325**	Pn	**Pn**	**11 19 43.3**	**+0.9**
HDHB	**Dhahab**	**1.90**	**235**	⇑P	**Pn**	**11 19 42.7**	**+0.1**
DSI	**Dead Sea**	**1.94**	**334**	Pn	**Pn**	**11 19 44.3**	**+1.1**
HNKL	**Nakhl**	**2.10**	**273**	⇑P	**Pn**	**11 19 46.0**	**+0.6**
HNKL				S	**Sn**	**11 20 13.7**	**+2.1**
HKAT	**Jabal Katrina**	**2.47**	**239**	⇑P	**Pn**	**11 19 51.0**	**+0.6**
HKAT	**Jabal Katrina**	**2.47**	**239**	P	**Pn**	**11 19 51.0**	**+0.6**
AMAG	**Maghara**	**2.88**	**287**	⇑P	**Pn**	**11 19 56.2**	**+0.2**
SUZ		**3.10**	**271**	⇑P	**Pn**	**11 19 59.5**	**+0.5**

*GUC **16** 11:42:38.3±0.9, 28.58S×72.69W, h30km, ML6.0, MS5.7(NEIC), MW6.2(NEIC)*
*ISCJB **16** 11:42:40.1±0.1, 28.65S±0.02×72.46W±0.02, h10km, mb5.8/163, MS5.8/116, Error ellipse: s-maj=3.5km s-min=2.7km az=83.9*
*BJI **16** 11:42:40.4, 28.19S×72.99W, h10km, mB6.2, Ms6.1, Msz6.0*
*NEIC **16** 11:42:41.4±0.1, 28.72S×72.54W, h10km, mb5.9/147, ME6.0, MS5.7/79, MW6.2, ML6.0(GUC), Error ellipse: s-maj=4.6km s-min=3.2km az=55.0, Moment Tensor Solution. s71 Moment tensor: Scale 10^18Nm; Mrr-2.34; Mθθ-0.67; Mϕϕ3.02; Mrθ0.56; Mθϕ-0.20; Mϕr0.01; Best double couple: M0 2.80000×10^18 NP1:ϕs341.00000°, δ48.00000°, λ-113.00000°. NP2:ϕs193.00000°, δ47.00000°, λ-67.00000°. Principal axes: T 3.0300, Plg0.0000°, Azm87.0000°; N -0.5100, Plg17.0000°, Azm357.0000°; P -2.5100, Plg73.0000°, Azm177.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [III] at Copiapo and Vallenar and [II] at Tierra Amarilla.
*HRVD **16** 11:42:41.4±0.1, 28.71S×72.84W, h12km, MW6.2/105, Centroid moment Tensor Solution. LP body waves: s105,c223;Mantle waves: s94,c373; Half duration: 3.0s Moment tensor: Scale 10^18Nm; Mrr-2.00±.01; Mθθ-0.60±.01; Mϕϕ2.60±.01; Mrθ0.36±.03; Mθϕ0.64±.01; Mϕr-0.01±.04; Best double couple: M0 2.40900×10^18 NP1:ϕs357.00000°, δ46.00000°, λ-111.00000°. NP2: ϕs205.00000°, δ48.00000°, λ-70.00000°. Principal axes: T 2.7230, Plg1.0000°, Azm281.0000°; N -0.6330, Plg15.0000°, Azm11.0000°; P -2.0940, Plg75.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **16** 11:42:45.0±1.0, 28.31S×72.55W, h33km, mb6.1/73, MS5.7/53 Error ellipse: s-maj=9.6km s-min=5.5km az=85.5*
*IGIL **16** 11:42:45.7, 28.66S×72.39W, h35km, MS6.0*
*IDC **16** 11:42:45.8±1.2, 28.61S×72.37W, h38km±8km, mb5.4/17, mb1 5.5/19, mb1mx5.5/19, mbtmp5.6/19, ML6.2/1, MS5.7/13, Ms1 5.7/13, ms1mx5.5/17, Error ellipse: s-maj=11.2km s-min=8.1km az=87.0*
*LDG **16** 11:42:45.8±0.5, 27.94S×72.40W, h33km, Mb5.8/26, Ms5.9/8, Error ellipse: s-maj=72.8km s-min=29.5km az=134.0*
*SZGRF **16** 11:42:46.1, 28.89S×72.31W, h33km, mb6.0, Off coast of central Chile*
ISC 16 11:42:41.6±0.1**, 28.68S**±0.02×**72.46W**±0.02**, h10km, (h7km**±2.0km**:pP-P), n1070, σ0.92**/611**, mb5.8**/163**, MS5.8**/116**, 194C-303D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**1.50**	**86**	⇑*e*P	**Pn**	**11 43 07.6**	**-0.9**
VACH				*i* S	**Sn**	**11 43 29.1**	**+0.9**
VACH				AML	AML	11 43 30.9	
	comp=N,136μm,0.4s						
VACH				AML	AML	11 43 32.5	
	comp=E,139μm,0.3s						
VACH	**Vallenar**	**1.50**	**86**	⇑*e*P	**Pn**	**11 43 07.6**	**-0.9**
VACH				*i* S	**Sn**	**11 43 29.1**	**+0.9**
LCO	**Las Campanas**	**1.58**	**102**	Pn	**Pn**	**11 43 09.9**	**+0.3**
LCO	**Las Campanas**	**1.58**	**102**	⇑*i*P	**Pn**	**11 43 09.3**	**-0.3**
LCO				*i* S	**Sn**	**11 43 31.9**	**+1.8**
TLL	**Tololo Astrono**	**2.07**	**136**	*e*P	**Pn**	**11 43 15.9**	**-0.4**
TLL				*i* S	**Sn**	**11 43 41.4**	**-0.8**
TLL				AML	AML	11 43 49.4	
	comp=E,192μm,0.5s						
TLL	**Tololo Astrono**	**2.07**	**136**	*e*P	**Pn**	**11 43 15.9**	**-0.4**
TLL				S	**Sn**	**11 43 41.4**	**-0.8**
CDCH	**Caldera**	**2.16**	**42**	*e*P	**Pn**	**11 43 14.7**	**-2.9**
CDCH				*i* S	**Sn**	**11 43 41.4**	**-2.9**
OVCH	**Ovalle**	**2.21**	**151**	*e*P	**Pn**	**11 43 16.5**	**-1.8**
OVCH				AML	AML	11 43 48.5	
	comp=N,73μm,0.7s						
CPCH	**Copiapo**	**2.28**	**55**	*e*P	**Pn**	**11 43 17.2**	**-2.1**
CPCH				*i* S	**Sn**	**11 43 45.8**	**-1.7**
CPCH				AML	AML	11 43 51.3	
	comp=N,153μm,0.6s						
CPCH				AML	AML	11 43 52.9	
	comp=E,154μm,0.7s						
CPCH	**Copiapo**	**2.28**	**55**	*e*P	**Pn**	**11 43 17.2**	**-2.1**
CPCH				*i* S	**Sn**	**11 43 45.8**	**-1.7**
CHNG	**Los Chungos**	**3.30**	**166**	*e*P	**Pn**	**11 43 31.0**	**-2.3**
IHA	**Instituto Hidr**	**4.39**	**171**	*e*P	**Pn**	**11 43 45.7**	**-2.6**
CPN1	**Cerro Paranal**	**4.44**	**25**	*e*P	**Pn**	**11 43 45.7**	**-3.2**
CFAA	**Coronel Fontan**	**4.67**	**130**	Pn	**Pn**	**11 43 55.0**	**+2.7**
	comp=E,48nm,0.3s,baz=310,slow=11,SNR=482						
CFAA				Sn	**Sn**	**11 44 46.9**	**+0.4**
	comp=E,17nm,0.3s,baz=301,slow=18,SNR=2.7						
CLCH	**Cerro Calan**	**4.98**	**161**	*e*P	**Pn**	**11 43 56.3**	**-0.1**
STL	**Santa Lucia**	**4.99**	**162**	*e*P	**Pn**	**11 43 54.9**	**-1.6**
FCH	**Farellones**	**4.99**	**159**	*e*P	**Pn**	**11 43 56.6**	**+0.1**
SJCH	**San Jose de Ma**	**5.26**	**160**	*e*P	**Pn**	**11 43 59.9**	**-0.4**
ANCH	**Antofagasta**	**5.31**	**21**	*e*P	**Pn**	**11 43 53.1**	**-7.8**
ANCH				*i* S	**Sn**	**11 44 51.8**	**-10**
CEN1	**Los Morros**	**5.65**	**22**	*e*P	**Pn**	**11 43 58.3**	**-7.2**
CEN1				*i* S	**Sn**	**11 44 58.6**	**-12**
LVC	**Limon Verde**	**6.84**	**29**	Pn	**Pn**	**11 44 20.7**	**-1.3**
	comp=E,45nm,0.3s,baz=216,slow=10,SNR=343						
LVC				Sn	**Sn**	**11 45 37.7**	**-2.1**
	comp=E,204nm,0.3s,baz=32,slow=18,SNR=16						
LVC	**Limon Verde**	**6.84**	**29**	*e*Pn	**Pn**	**11 44 21.1**	**-0.9**
LVC				*e*Sn	**Sn**	**11 45 38.4**	**-1.4**
PLCA	**Paso Flores**	**12.12**	**173**	Pn	**Pn**	**11 45 33.5**	**-0.9**
	comp=E,4.8nm,0.3s,baz=338,slow=13,SNR=64						
PLCA				Sn	**Sn**	**11 47 47.5**	**-2.1**
	comp=E,0.3nm,0.3s,baz=189,slow=20,SNR=1.8						
PLCA				LR	LR	11 50 58.3	
	comp=E,12μm,19.0s,baz=348,slow=40						
PLCA	**Paso Flores**	**12.12**	**173**	*e*Pn	**Pn**	**11 45 33.3**	**-1.1**
	comp=E,1.0nm,0.3s						
ARE	**Arequipa**	**12.20**	**4**	*e*P	**Pn**	**11 45 33.0**	**-2.3**
ARE				*e*S	**Sn**	**11 47 43.0**	**-8.3**
TRQA	**Tornquist**	**12.80**	**140**	*e*Pn	**Pn**	**11 45 43.2**	**-0.4**
LPAZ	**La Paz**	**12.97**	**19**	Pn	**Pn**	**11 45 44.3**	**-1.5**
LPAZ	**La Paz**	**12.97**	**19**	Pn	**Pn**	**11 45 44.4**	**-1.5**
	comp=E,9.6nm,0.3s,baz=206,slow=6.7,SNR=127						
LPAZ				Sn	**Sn**	**11 48 11.7**	**+1.5**
	comp=E,1.1nm,0.3s,baz=91,slow=22,SNR=1.7						
LPAZ				LR	LR	11 50 39.9	
	comp=E,14μm,19.0s,baz=51,slow=37						
LPAZ	**La Paz**	**12.97**	**19**	P	**Pn**	**11 45 44.4**	**-1.5**
LPAZ						11 48 11.7	
LPAZ				pmax	pmax		
	comp=Z,10.0nm,0.3s						
LPAZ				smax			
	comp=E,1.0nm,0.3s						
LPAZ				MLR	MLR		
	comp=Z,14μm,19.0s						
LPA	**La Plata**	**13.82**	**120**	*ce*P	**Pn**	**11 45 57.0**	**-0.5**
LPA				*e*PP		11 46 06.0	
LPA				*e*sP		11 46 09.0	
LPA				*e*PP		11 46 45.0	
SIV	**San Ignacio**	**16.43**	**42**	Pn	**Pn**	**11 46 26.6**	**-5.6**
	comp=Z,7.3nm,0.3s,baz=234,slow=12,SNR=71						
SIV				Sn	**Sn**	**11 49 40.4**	**+5.9**
	comp=Z,1.4nm,0.3s,baz=142,slow=23,SNR=2.3						
NNA	**Nana**	**17.11**	**345**	Pn	**Pn**	**11 46 40.9**	**+0.1**
	comp=Z,2μm,1.0s,SNR=22						
NNA	**Nana**	**17.11**	**345**	*e*Pn	**Pn**	**11 46 40.1**	**-0.7**
	comp=Z,1μm,1.5s						
SAML	**Samuel**	**21.48**	**26**	*e*P	**P**	**11 47 30.9**	**+0.6**
	comp=Z,702nm,1.2s,mb5.9						
SAML				LR	LR		
	comp=Z,19μm,20.0s,MS5.5						
ATAH	**Atahualpa**	**22.28**	**344**	P	**P**	**11 47 38.5**	**-0.4**
	comp=Z,91nm,1.0s,mb5.2,baz=172,slow=7.2,SNR=57						
ATAH				PcP	PcP	11 51 35.7	+1.0
	comp=Z,15nm,0.8s,baz=158,slow=4.4,SNR=4.3						
ATAH				S	**S**	**11 51 43.6**	**-0.4**
	comp=Z,12nm,0.9s,baz=30,slow=12,SNR=2.6						
ATAH				LR	LR	11 54 39.5	
	comp=Z,27μm,18.5s,MS5.7,baz=347,slow=32						
EFI	**East Falkland**	**25.37**	**159**	P	**P**	**11 48 08.1**	**-0.8**
	comp=Z,2μm,1.4s,mb6.5,SNR=11						
EFI	**East Falkland**	**25.37**	**159**	*e*P	**P**	**11 48 07.9**	**-1.0**
EFI	**East Falkland**	**25.37**	**159**	*e*P	**P**	**11 48 08.2**	**-0.7**
EFI				*e*PcP	PcP	11 51 40.7	-0.6
EFI				LR	LR		
	comp=Z,32μm,19.0s,MS5.8						
BDFB	**Brasilia**	**26.03**	**65**	P	**P**	**11 48 15.9**	**+1.1**
	comp=Z,380nm,0.9s,mb5.9,baz=245,slow=7.7,SNR=219						
BDFB				S	**S**	**11 52 41.8**	**-3.9**
	comp=Z,22nm,0.9s,baz=236,slow=18,SNR=1.4						
BDFB				LR	LR	11 58 36.3	
	comp=Z,59μm,21.2s,MS6.1,baz=244,slow=37						
BDFB	**Brasilia**	**26.03**	**65**	P	**P**	**11 48 16.0**	**+1.1**
BDFB				S	**S**	**11 52 41.8**	**-3.9**
BDFB				pmax	pmax		
	comp=Z,380nm,0.9s						
BDFB				smax			
	comp=E,22nm,0.9s						
BDFB				MLR	MLR		
	comp=Z,59μm,21.2s						
BAO	**Brasilia Array**	**26.05**	**65**	P	**P**	**11 48 15.0**	**0.0**
CAM4	**Nova Friburgo**	**27.66**	**84**	*e*P	**P**	**11 48 29.8**	**+0.3**
CAM4				*i*	pP	11 48 30.9	-1.7
CAM4				*i*		11 48 37.4	
CAM4				*i*		11 48 53.8	
CAM4				*i*		11 49 02.5	
CAM4				*i*		11 49 21.8	
CAM4	**Nova Friburgo**	**27.66**	**84**	*e*P	**P**	**11 48 29.9**	**+0.4**
CAM4				*i*	pP	11 48 31.0	-1.5
CAM4				*i*		11 48 34.8	
CAM4				*i*		11 48 38.9	
CAM4				*i*		11 48 53.1	
CAM4				*i*		11 49 02.4	
CAM4				*i*		11 49 22.0	
OTAV	**Otavalo**	**29.32**	**348**	*e*P	**P**	**11 48 45.7**	**+1.4**
	comp=Z,487nm,1.5s,mb6.0						
OTAV				*e*PcP	PcP	11 51 51.8	+1.1
OTAV				LR	LR		
	comp=Z,17μm,20.0s,MS5.7						
CAM3	**Guarapari**	**30.01**	**82**	*e*P	**P**	**11 48 51.4**	**+1.0**
CAM3				*i*		11 49 09.8	
CAM3	**Guarapari**	**30.01**	**82**	*e*P	**P**	**11 48 49.7**	**-0.7**
CAM3				*i*	pP	11 48 51.8	-1.7
CAM3				*i*		11 48 54.6	
CAM3				*i*		11 48 58.5	
CAM3				*i*		11 49 09.5	
PAYG	**Puerto Ayora**	**32.65**	**325**	*e*P	**P**	**11 49 14.9**	**+1.2**
	comp=Z,400nm,1.5s,mb6.1						
PAYG				*e*PcP	PcP	11 52 00.1	+0.5
PAYG				LR	LR		
	comp=Z,21μm,19.0s,MS5.8						
ROSC	**El Rosal**	**33.39**	**357**	P	**P**	**11 49 20.4**	**+0.2**
	comp=Z,60nm,1.1s,mb5.5,baz=102,slow=3.7,SNR=13						
ROSC				PcP	PcP	11 52 02.6	+1.0
	comp=Z,21nm,0.7s,baz=117,slow=18,SNR=3.9						
ROSC				LR	LR	12 03 09.4	
	comp=Z,10μm,18.4s,MS5.6,baz=191,slow=37						
ROSC	**El Rosal**	**33.39**	**357**	*e*P	**P**	**11 49 22.8**	**+2.6**
ROSC				*e*PcP	PcP	11 52 01.6	0.0
PMSA	**Palmer Station**	**36.50**	**174**	*e*P	**P**	**11 49 47.2**	**+0.2**
	comp=Z,410nm,1.2s,mb6.2						
PMSA				LR	LR		
	comp=Z,7μm,21.0s,MS5.4						
HOPE	**Hope Point**	**36.51**	**145**	P	**P**	**11 49 48.2**	**+1.1**
	comp=Z,1μm,1.1s,mb6.6,SNR=6.4						
HOPE	**Hope Point**	**36.51**	**145**	*e*P	**P**	**11 49 48.3**	**+1.3**
	comp=Z,292nm,1.1s,mb6.0						
HOPE				LR	LR		
	comp=Z,18μm,19.0s,MS5.9						
SDV	**Santo Domingo**	**37.39**	**3**	P	**P**	**11 49 54.8**	**+0.3**
	comp=Z,98nm,0.9s,mb5.6,baz=211,slow=7.3,SNR=26						
SDV				S	**S**	**11 55 41.5**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=292,slow=14,SNR=1.7						
SDV				LR	LR	12 04 29.4	
	comp=Z,8μm,20.7s,MS5.5,baz=225,slow=35						
SDV	**Santo Domingo**	**37.39**	**3**	*e*P	**P**	**11 49 54.1**	**-0.4**
SDV				*e*PcP	PcP	11 52 14.6	+1.3
SDV				LR	LR		

comp=Z,7µm,19.0s,MS5.5
PCRV Puerto La Cruz 39.36 12 P **P 11 50 11.1 -0.1**
comp=Z,79nm,1.1s,mb5.3,baz=161,slow=3.4,SNR=12
PCRV S **S 11 56 08.8 -3.6**
comp=Z,5.5nm,0.8s,baz=81,slow=23,SNR=4.2
TPP Pointe-a-Pierr 40.20 17 *e*P **P 11 50 19.1 +0.9**
TBH Brigand Hill 40.46 17 *e*P **P 11 50 17.0 -3.3**
TRN Trinidad (W) 40.53 17 *e*P **P 11 50 21.9 +1.0**
TPR Prospect 41.21 18 *e*P **P 11 50 27.7 +1.2**
RCBR Riachuelo 41.38 64 *e*P **P 11 50 30.0 +2.2**
RCBR *e*PP PP 11 52 08.6 +5.2
RCBR LR LR
comp=Z,32µm,21.0s,MS6.2
SVB Belmont 43.09 16 *e*P **P 11 50 41.3 -0.5**
SSV Crater Summit 43.16 16 *e*P **P 11 50 43.4 +1.0**
CPD Cerro la Pandu 46.88 9 *e*P **P 11 51 11.3 -0.6**
MPR Mayaguez 46.90 7 *e*P **P 11 51 12.0 -0.1**
SJG San Juan 46.92 8 P **P 11 51 11.7 -0.5**
comp=Z,218nm,1.0s,mb6.0,baz=158,slow=2.6,SNR=20
SJG San Juan 46.92 8 *e*P **P 11 51 11.7 -0.6**
SJG *e*PP PP 11 53 04.8 +2.3
SJG LR LR
comp=Z,8µm,21.0s,MS5.7
MTP Monte Pirata 46.98 9 *e*P **P 11 51 11.5 -1.2**
MTP *e*PP PP 11 53 05.3 +2.1
HUMP Col San Antoni 46.98 9 *e*P **P 11 51 12.4 -0.4**
CBYP Canovanas 47.11 9 *e*P **P 11 51 13.2 -0.6**
TEIG Tepich 50.97 341 *e*P **P 11 51 42.4 -0.9**
TEIG LR LR
comp=Z,2µm,19.0s,MS5.2
VNA1 Neumayer--Stat 54.72 158⇑ *i*P **P 11 52 11.4 +0.4**
VNA1 *e* pP 11 52 14.4 +0.2
VNA1 *e* 11 52 16.4
VNA1 *e* 11 52 21.9
VNA1 *e* 11 52 27.2
VNA1 *e* 11 52 35.4
VNA1 *e* 11 53 00.5
VNA1 *e* 11 53 06.5
VNA1 *e* 11 53 12.8
VNA1 *e* 11 53 17.8
VNA1 *e* 11 53 23.6
VNA1 *e* 11 54 24.3
VNA1 *e* 11 57 12.6
RKT Rikitea 55.96 260 *e*S **S 12 00 06.4 -1.6**
comp=Z,25µm,27.8s
RKT *e*SS SS 12 03 53.1 -0.7
comp=Z,5µm,30.0s
RKT *e*LQ 12 06 18.2
comp=Z,9µm,36.5s
RKT *e*LR LR 12 08 38.8
comp=Z,11µm,26.2s,baz=117
SNAA Sanae 56.65 159 *e*P **P 11 52 23.4 -1.5**
SNAA pmax pmax
comp=Z,308nm,1.4s
SNAA Sanae 56.65 159 *e*P **P 11 52 23.4 -1.5**
comp=Z,308nm,1.4s,mb6.1
DWPF Disney 57.12 351 *e*P **P 11 52 27.0 -1.3**
comp=Z,143nm,1.3s,mb5.8
DWPF LR LR
comp=Z,4µm,19.0s,MS5.5
ASCN Ascension 58.31 81 PFAKE 11 52 50.0 +13
ASCN LR LR
comp=Z,9µm,20.0s,MS5.9
KVTX Kingsville 60.99 334 *e*P **P 11 52 57.0 +1.9**
BBSR BB Station 61.16 7 *e*P **P 11 52 57.2 +0.9**
BBSR LR LR
comp=Z,3µm,19.0s,MS5.5
MAIT Maitri 61.32 158 *e*P **P 11 52 56.9 -0.4**
MAIT *e*PcP PcP 11 53 42.1 +2.4
MAIT *e*PP PP 11 55 13.7 +1.4
MAIT *e*S **S 12 01 07.4 -10**
NVL N'lazarevskaya 61.35 158*d i*P **P 11 52 55.8 -1.7**
NVL *e* 11 53 38.3
NVL *i* S **S 12 01 15.1 -3.0**
NVL *e* 12 02 44.7
NVL pmax pmax
comp=Z,145nm,1.3s,mb6.0
QSPA South Pole Qui 61.54 180 *e*P **P 11 52 58.6 -0.2**
comp=Z,217nm,0.9s,mb6.3
HKT Hockley 62.43 337⇓ *i*P **P 11 53 04.5 -0.3**
HKT pmax pmax
comp=Z,77nm,1.0s,mb5.8
HKT MLR MLR
comp=Z,3µm,20.0s,MS5.4
HKT Hockley 62.43 337⇓ *i*P **P 11 53 04.5 -0.3**
comp=Z,77nm,1.0s,mb5.8
HKT LR LR
comp=Z,3µm,20.0s,MS5.4
LRAL Lakeview Retre 62.91 346⇓ *i*P **P 11 53 06.4 -1.6**
comp=Z,166nm,1.4s,mb6.0
LRAL LR LR
comp=Z,3µm,19.0s,MS5.4
NATX Nacogdoches 63.71 339 *e*P **P 11 53 13.3 0.0**
NATX LR LR
comp=Z,3µm,19.0s,MS5.4
CNNC Cliffs of the 63.78 355 *e*P **P 11 53 13.1 -0.7**
JCT Junction City 64.35 334 *e*P **P 11 53 17.4 -0.1**
MYNC Murphy 64.36 349 *e*P **P 11 53 16.4 -1.2**
MYNC MLR MLR
comp=Z,5µm,22.0s,MS5.7
CPCT Cooper Cave 64.79 349⇓ *i*P **P 11 53 19.3 -1.1**
OXF Oxford 64.86 345⇓ *e*P **P 11 53 19.1 -1.8**
OXF pmax pmax
comp=Z,836nm,1.3s,mb6.6
OXF Oxford 64.86 345⇓ *e*P **P 11 53 19.1 -1.7**
comp=Z,836nm,1.3s,mb6.6
PLAL Pickwick Lake 65.02 346⇓ *e*P **P 11 53 20.0 -1.8**
comp=Z,109nm,0.9s,mb5.9
MET Memphis--Engin 65.57 344 *e*P **P 11 53 25.9 +0.4**
TZTN Tazewell 65.71 350⇓ *i*P **P 11 53 24.7 -1.6**
UALR University of 65.85 342⇓ *i*P **P 11 53 26.4 -0.9**
comp=Z,79nm,1.1s,mb5.7
BLA Blacksburg 65.97 353⇓ *i*P **P 11 53 27.2 -0.8**
BLA pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
BLA Blacksburg 65.97 353⇓ *i*P **P 11 53 27.1 -0.9**
comp=Z,9.7nm,1.2s,mb4.7
MIAR Mount Ida 65.98 341 *e*P **P 11 53 27.8 -0.3**
MIAR pmax pmax
comp=Z,140nm,1.1s,mb5.9
MIAR Mount Ida 65.98 341⇓ *i*P **P 11 53 27.1 -1.0**
comp=Z,135nm,1.1s,mb5.9
ELN Prospectdale 66.02 353 *e*P **P 11 53 27.7 -0.6**
WVT Waverly 66.07 346⇓ *i*P **P 11 53 26.8 -1.9**
WVT pmax pmax
comp=Z,170nm,1.0s,mb6.0
WVT MLR MLR
comp=Z,3µm,22.0s,MS5.5
WVT Waverly 66.07 346⇓ *i*P **P 11 53 26.8 -1.8**
comp=Z,170nm,1.0s,mb6.0
WVT LR LR
comp=Z,3µm,22.0s,MS5.5
HBAR Harrisburg 66.16 344 *e*P **P 11 53 29.2 0.0**
HALT Halls 66.19 345 *e*P **P 11 53 29.5 +0.1**
TAOE Nuku Hiva Isla 66.25 273 *e*P **P 11 53 31.3 +1.4**
comp=Z,1µm,1.5s,mb6.8
TAOE Nuku Hiva Isla 66.25 273 *e*S S 12 02 17.5 -1.6
comp=Z,72µm,28.6s
TAOE *e*LR LR 12 13 11.2
comp=Z,45µm,29.9s,baz=123
FWV Forest Hill 66.38 353 *e*P **P 11 53 30.0 -0.7**
UTMT University of 66.50 346 *e*P **P 11 53 31.6 +0.2**
GLAT Glass 66.52 345 *e*P **P 11 53 31.9 +0.4**
CBN Corbin 66.70 356 *e*P **P 11 53 32.4 -0.2**
CBN LR LR
comp=Z,4µm,19.0s,MS5.6
PVMO Portageville 66.75 345 *e*P **P 11 53 33.5 +0.5**
GDL2 Guadalupe Moun 67.72 331 *e*P **P 11 53 39.9 +0.8**
WMOK Wichita Mounta 67.80 337⇓ *i*P **P 11 53 38.5 -1.2**
WMOK pmax pmax
comp=Z,173nm,1.3s,mb5.9
WMOK Wichita Mounta 67.80 337⇓ *i*P **P 11 53 38.5 -1.2**
comp=Z,173nm,1.3s,mb5.9
WCI Wyandotte Cave 67.81 348⇓ *e*P **P 11 53 37.6 -2.1**
WCI MLR MLR
comp=Z,3µm,22.0s,MS5.5
USIN University of 67.81 347 *e*P **P 11 53 38.3 -1.5**
SBA Scott Base 68.20 191⇓ *i*P **P 11 53 42.0 -0.2**
SBA pmax pmax
comp=Z,114nm,1.2s,mb5.8
SBA MLR MLR
comp=Z,2µm,21.0s,MS5.3
SBA Scott Base 68.20 191⇓ *i*P **P 11 53 42.0 -0.2**
comp=Z,114nm,1.2s,mb5.8
SBA LR LR
comp=Z,2µm,21.0s,MS5.3
TBI Tubuai 68.30 255 *e*LQ 12 11 27.8
comp=Z,12µm,31.8s
TBI Tubuai 68.30 255 *e*P **P 11 53 44.0 +1.2**
comp=Z,738nm,1.3s,mb6.6
TBI Tubuai 68.30 255 *e*S S 12 02 41.7 -1.9
comp=Z,20µm,30.2s
TBI *e*LR LR 12 14 20.8
comp=Z,12µm,32.5s,baz=106
MCWV Mont Chateau 68.34 354⇓ *i*P **P 11 53 42.3 -0.7**
comp=Z,234nm,1.4s,mb6.0
MCWV LR LR
comp=Z,4µm,20.0s,MS5.6
FVM French Village 68.42 345⇓ *i*P **P 11 53 42.4 -1.2**
MVL Millersville 68.42 357⇓ *e*P **P 11 53 43.7 +0.1**
CCM Cathedral Cave 68.68 344⇓ *i*P **P 11 53 43.9 -1.3**
CCM MLR MLR
comp=Z,2µm,21.0s,MS5.4
BLO Bloomington 68.77 348 *e*P **P 11 53 44.7 -1.0**
BLO pmax pmax
comp=Z,100nm,0.8s,mb5.8
BLO Bloomington 68.77 348⇓ *i*P **P 11 53 43.6 -2.1**
comp=Z,105nm,0.8s,mb5.8
AMTX Amarillo 68.98 335⇓ *i*P **P 11 53 46.8 -0.3**
comp=Z,194nm,1.0s,mb6.0
AMTX LR LR
comp=Z,3µm,20.0s,MS5.5
SLM Saint Louis 69.00 345⇓ *i*P **P 11 53 45.8 -1.4**
SLM pmax pmax
comp=Z,597nm,1.1s,mb6.4
SLM Saint Louis 69.00 345⇓ *i*P **P 11 53 45.8 -1.4**
comp=Z,597nm,1.1s,mb6.4
BRNJ Basking Ridge 69.04 358 *e*P **P 11 53 46.8 -0.7**
CPNY Central Park 69.13 359 *e*P **P 11 53 47.6 -0.4**
SSPA Standing Stone 69.15 356⇓ *i*P **P 11 53 47.2 -0.9**
SSPA LR LR
comp=Z,3µm,19.0s,MS5.5
VNDA Vanda 69.24 191 P **P 11 53 48.3 -0.3**
VNDA pS 12 02 59.6
VNDA Vanda 69.24 191 P **P 11 53 48.5 -0.1**
comp=Z,28nm,1.0s,mb5.1,baz=126,slow=5.2,SNR=57
VNDA S S 12 02 56.8 +2.0
comp=Z,0.4nm,0.6s,baz=36,slow=17,SNR=1.9
VNDA PKPPKP 12 21 51.4
comp=Z,4.0nm,1.0s,baz=320,slow=8.8,SNR=5.3
VNDA Vanda 69.24 191⇓ *i*P **P 11 53 48.4 -0.3**
comp=Z,63nm,1.1s,mb5.5
ACSO Alum Creek Sta 69.26 351 *e*P **P 11 53 46.8 -1.9**
comp=Z,144nm,0.9s,mb5.9
PAL Palisades 69.35 359⇓ *i*P **P 11 53 48.7 -0.6**
PAL pmax pmax
comp=Z,41nm,1.0s,mb5.3
PAL Palisades 69.35 359⇓ *i*P **P 11 53 48.7 -0.6**
comp=Z,41nm,1.0s,mb5.3
VAH Vaihoa 70.01 263 *e*P **P 11 53 54.7 +1.3**
comp=Z,367nm,1.2s,mb6.2
PMOR Pomariorio Ree 70.34 263 *e*P **P 11 53 56.9 +1.4**
comp=Z,114nm,1.1s,mb5.7
TVO Taravao 70.35 260 *e*P **P 11 53 56.9 +1.4**
comp=Z,793nm,1.3s,mb6.5
BNM Barren Site 70.36 330 *e*P **P 11 53 56.1 +0.6**
Y22C IRIS PASSCAL I 70.42 330⇑ P **P 11 53 57.0 +1.0**
baz=71,SNR=11
Y22C ⇓S S 12 03 12.1 +3.4
baz=71
LPM Los Pinos Moun 70.50 330 *e*P **P 11 53 57.0 +0.6**
LENM Lemitar 70.52 330 *e*P **P 11 53 57.4 +0.9**
BINY Binghamton 70.60 357 *e*P **P 11 53 56.0 -1.0**
comp=Z,285nm,1.4s,mb6.0
BINY LR LR
comp=Z,3µm,21.0s,MS5.6
QUA2 Belchertown 70.61 0 *e*P **P 11 53 56.7 -0.4**
comp=Z,318nm,1.2s,mb6.1
PAE Paea 70.69 260 *e*P **P 11 53 58.8 +1.2**
comp=Z,678nm,1.4s,mb6.4
WES Weston 70.72 1 *e*P **P 11 53 57.8 0.0**
WES pmax pmax
comp=Z,239nm,1.3s,mb6.0
WES Weston 70.72 1 *e*P **P 11 53 57.8 +0.1**
comp=Z,239nm,1.3s,mb6.0
PPT Papeete 70.72 260 *e*P **P 11 53 59.3 +1.5**
comp=Z,338nm,1.4s,mb6.1
PPT Papeete 70.72 260 *e*LQ 12 12 19.8
comp=Z,10µm,28.0s
PPT Papeete 70.72 260 *e*PP PP 11 56 35.1 +0.7
comp=Z,610nm,25.8s
PPT Papeete 70.72 260 *e*S S 12 03 10.2 -2.0
comp=Z,9µm,24.2s
PPT *e*LR LR 12 15 24.0
comp=Z,17µm,24.8s,baz=113
PPT Papeete 70.72 260 P **P 11 53 58.8 +1.0**
comp=Z,131nm,0.9s,mb5.8,baz=120,slow=8.5,SNR=8.0
PPT LR LR 12 16 47.2
comp=Z,5µm,21.6s,MS5.7,baz=109,slow=29
TUC Tucson 70.75 326⇓ *i*P **P 11 53 57.9 0.0**
TUC pmax pmax
comp=Z,89nm,1.4s,mb5.5
TUC MLR MLR
comp=Z,5µm,19.0s,MS5.8
TUC Tucson 70.75 326⇓ *i*P **P 11 53 57.9 0.0**
comp=Z,89nm,1.4s,mb5.5
TUC LR LR
comp=Z,5µm,19.0s,MS5.8
ERPA Erie 70.79 354 *e*P **P 11 53 57.1 -1.1**
comp=Z,283nm,1.3s,mb6.0
ERPA LR LR
comp=Z,3µm,20.0s,MS5.6
LAZ Ladron 70.80 330 *e*P **P 11 53 59.2 +1.0**
HRV Harvard--Oak R 70.84 1 *e*P **P 11 53 58.8 +0.3**
HRV pmax pmax
comp=Z,187nm,1.0s,mb6.0
HRV MLR MLR
comp=Z,4µm,19.0s,MS5.6
HRV Harvard--Oak R 70.84 1 *e*P **P 11 53 58.8 +0.3**
comp=Z,186nm,1.0s,mb6.0
HRV LR LR
comp=Z,4µm,19.0s,MS5.6
SYO Syowa Base 70.94 159⇑ *e*P **P 11 53 56.3 -2.8**
SYO Syowa Base 70.94 159⇑ *i*pP pP 11 54 02.5 +0.1
SYO Syowa Base 70.94 159 *i*PcP PcP 11 54 21.4 +1.8
ANMO Albuquerque 70.97 331⇓ *i*P **P 11 53 59.6 +0.3**
ANMO pmax pmax
comp=Z,134nm,1.2s
ANMO MLR MLR
comp=Z,6µm,19.0s
ANMO Albuquerque 70.97 331⇓ *i*P **P 11 53 59.6 +0.3**
comp=Z,134nm,1.2s,mb5.8
ANMO LR LR
comp=Z,6µm,19.0s,MS5.9
AAM Ann Arbor 71.38 351 *e*P **P 11 54 00.3 -1.5**
AAM pmax pmax
comp=Z,137nm,1.0s,mb5.8
AAM MLR MLR
comp=Z,5µm,21.0s,MS5.8
AAM Ann Arbor 71.38 351 *e*P **P 11 54 00.2 -1.5**
comp=Z,137nm,1.0s,mb5.8
AAM LR LR
comp=Z,5µm,21.0s,MS5.8
116A Eloy 71.40 326⇓ P **P 11 54 02.4 +0.5**
baz=72,SNR=30
116A ⇓S S 12 03 23.2 +3.1
baz=72
ACCN Adirondack Com 71.72 359⇓ *i*P **P 11 54 03.9 0.0**
115A Sonoran Desert 71.78 325⇓ P **P 11 54 05.1 +0.9**
baz=72,SNR=30
115A ⇑S S 12 03 28.6 +4.2
baz=72
HNH Hanover 72.03 0⇓ *i*P **P 11 54 05.9 +0.2**
comp=Z,9.0nm,1.0s,mb4.7
NCB Newcomb 72.32 359⇓ *i*P **P 11 54 07.2 -0.2**
comp=Z,62nm,1.1s,mb5.5
NCB LR LR
comp=Z,4µm,20.0s,MS5.7
MIV Mineville/With 72.41 359 *e*P **P 11 54 08.0 +0.1**
LBNH Lisbon 72.57 0⇓ *i*P **P 11 54 09.0 +0.1**
LBNH pmax pmax
comp=Z,171nm,1.2s,mb5.8
LBNH MLR MLR
comp=Z,6µm,20.0s,MS5.8
LBNH Lisbon 72.57 0⇓ *i*P **P 11 54 09.0 +0.1**
comp=Z,171nm,1.2s,mb5.8
LBNH LR LR
comp=Z,6µm,20.0s,MS5.8
Z14A Wintersburg 72.67 325⇓ P **P 11 54 09.6 +0.2**
baz=73,SNR=14
Z14A ⇓S S 12 03 36.8 +2.2
baz=73
SCIA State Center 72.81 344⇓ *i*P **P 11 54 09.0 -1.3**
WVL Waterville 72.94 2 *e*P **P 11 54 12.1 +1.0**
LONY Lake Ozonia 72.97 358⇓ *i*P **P 11 54 10.5 -0.8**
Y14A Wickenburg 73.16 326⇑ P **P 11 54 12.9 +0.6**
baz=73,SNR=34
Y14A ⇑S S 12 03 43.3 +3.1
baz=73
FRNY Flat Rock 73.17 359 *e*P **P 11 54 12.8 +0.3**
EMMW East Machias 73.18 4 *e*P **P 11 54 13.4 +0.9**
comp=Z,159nm,1.1s,mb5.9
X15A Humboldt 73.22 326⇓ P **P 11 54 13.6 +0.8**
baz=74,SNR=126
X15A ⇓S S 12 03 42.9 +1.9
baz=74
MSNY Massena 73.36 358 *e*P **P 11 54 13.7 +0.1**
GLA Glamis 73.38 324⇓ *i*P **P 11 54 13.9 +0.2**
GLA Glamis 73.38 324⇑ P **P 11 54 13.9 +0.2**
baz=74,SNR=20
GLA ⇓S S 12 03 46.3 +3.5
baz=74
X14A Yava 73.53 326⇑ P **P 11 54 15.1 +0.6**
baz=74,SNR=68
X14A ⇑S S 12 03 47.2 +2.8
baz=74
WUAZ Wupatki 73.64 328⇓ *i*P **P 11 54 15.8 +0.5**
comp=Z,234nm,1.0s,mb6.1
PKME Peaks-Kenny Pk 73.65 2⇓ *i*P **P 11 54 15.2 0.0**
MVCO Mesa Verde 73.75 331⇓ *i*P **P 11 54 16.2 +0.2**
Y12C Blythe 73.77 324⇑ P **P 11 54 16.6 +0.6**
baz=74,SNR=25
Y12C ⇓S S 12 03 50.7 +3.5
baz=74
W15A Williams 73.80 327⇓ P **P 11 54 17.0 +0.9**
baz=74,SNR=71
W15A ⇓S S 12 03 52.3 +4.9
baz=74
DBIC Dimbokro 73.89 73 P **P 11 54 17.4 +0.7**
comp=Z,59nm,0.9s,mb5.5,baz=215,slow=6.0,SNR=43
DBIC S S 12 03 44.1 -4.4
comp=Z,3.6nm,0.9s,baz=315,slow=6.2,SNR=1.9
DBIC LR LR 12 23 16.0
comp=Z,6µm,21.9s,MS5.8,baz=219,slow=33
DBIC Dimbokro 73.89 73 P **P 11 54 17.4 +0.7**
DBIC S S 12 03 44.1 -4.4
DBIC pmax pmax
comp=Z,59nm,0.9s
DBIC smax
comp=E,4.0nm,0.9s
DBIC Dimbokro 73.89 73 *e*P **P 11 54 17.6 +0.9**
comp=E,86nm,0.8s,mb5.7
BAR Barrett 74.06 322 *e*P **P 11 54 17.9 +0.1**
X13A Yucca 74.09 325⇓ P **P 11 54 18.2 +0.4**
baz=74,SNR=76
X13A ⇑S S 12 03 53.8 +3.1
baz=74
W14A Seligman 74.21 326⇓ P **P 11 54 19.3 +0.7**
baz=74,SNR=83
W14A ⇑S S 12 03 56.5 +4.3
baz=74
109C Camp Elliot, M 74.46 322⇑ P **P 11 54 20.4 +0.4**
baz=75,SNR=7.4
109C ⇑S S 12 03 57.1 +2.2
baz=75
W13A Hualapai Mount 74.52 326⇑ P **P 11 54 21.2 +0.8**
baz=75,SNR=83
W13A ⇓S S 12 03 58.8 +3.2
baz=75
PV01 Paradox Valley 74.56 331 *e*P **P 11 54 21.4 +0.7**
PFO Pinyon Flat Ob 74.66 323 P **P 11 54 22.7 +1.5**
comp=E,446nm,1.1s,mb6.3,SNR=10
PFO Pinyon Flat Ob 74.66 323⇓ *i*P **P 11 54 21.8 +0.6**
PFO pmax pmax
comp=Z,136nm,1.3s,mb5.7
PFO Pinyon Flat Ob 74.66 323⇓ *i*P **P 11 54 21.8 +0.6**
comp=Z,136nm,1.3s,mb5.7
PFO Pinyon Flat Ob 74.66 323⇓ P **P 11 54 22.0 +0.7**
baz=75,SNR=43
PFO ⇑S S 12 04 00.9 +3.7
baz=75
SMCO Snowmass 74.79 333⇓ *i*P **P 11 54 22.8 +0.8**
comp=Z,367nm,1.0s,mb6.3
ISCO Idaho Springs 74.79 334⇓ *i*P **P 11 54 22.3 +0.3**
ISCO pmax pmax
comp=Z,111nm,1.0s,mb5.8
ISCO Idaho Springs 74.79 334⇓ *i*P **P 11 54 22.3 +0.3**
comp=Z,110nm,1.0s,mb5.7
PV10 Paradox Valley 74.97 331 *e*P **P 11 54 22.9 0.0**
W12A Cal Nev Ari 75.17 325⇑ P **P 11 54 24.4 +0.3**
baz=75,SNR=37
W12A ⇑S S 12 04 04.9 +2.1
baz=75
V12A Nelson 75.50 325⇓ P **P 11 54 26.3 +0.3**
baz=76,SNR=71
V12A ⇑S S 12 04 08.0 +1.5
baz=76
FMP Fort Macarthur 75.72 322⇑ P **P 11 54 27.4 +0.1**
baz=76
FMP ⇓S S 12 04 11.2 +2.2
baz=76
TUQ Turquoise Mtn. 75.81 325⇑ P **P 11 54 28.3 +0.5**
baz=76,SNR=22
TUQ ⇓S S 12 04 14.2 +4.3
baz=76
V11A Goodsprings 75.87 325⇑ P **P 11 54 28.3 +0.1**
baz=76,SNR=60
V11A ⇑S S 12 04 13.5 +2.9
baz=76
U12A Valley of Fire 75.90 326⇑ P **P 11 54 28.5 +0.2**
baz=76,SNR=88
U12A ⇓S S 12 04 13.3 +2.4
baz=76
MWC Mount Wilson 75.99 322 *e*P **P 11 54 29.8 +1.0**
PHWY Pilot Hill 76.04 335⇓ *i*P **P 11 54 28.9 -0.2**
GSC Goldstone 76.16 324 *e*P **P 11 54 30.2 +0.4**
GSC Goldstone 76.16 324⇑ P **P 11 54 30.7 +0.9**
baz=76,SNR=58
GSC ⇓S S 12 04 16.1 +2.4
baz=76
SRU San Rafael 76.22 330⇓ *i*P **P 11 54 30.0 -0.1**
SRU pmax pmax
comp=Z,130nm,0.9s,mb5.9
SRU San Rafael 76.22 330⇓ *i*P **P 11 54 30.0 -0.1**
comp=Z,130nm,0.9s,mb5.9
CCUT Cedar City 76.23 328⇓ *i*P **P 11 54 31.3 +1.1**
SHPR Sheep Range 76.26 326 *e*P **P 11 54 30.8 +0.4**
U11A Corn Creek 76.30 326⇓ P **P 11 54 31.3 +0.7**
baz=77,SNR=27
U11A ⇓S S 12 04 17.5 +2.1
baz=77
ARUT Antelope Range 76.45 328 *e*P **P 11 54 32.5 +1.0**
MSU Marysvale 76.46 329 *e*P **P 11 54 32.6 +1.1**
MVU Marysvale 76.47 329 PFAKE 11 54 40.0 +8.4
MVU LR LR
comp=Z,9µm,19.0s,MS6.1
CHIE El Hierro 76.62 48 P **P 11 54 34.9 +2.5**
comp=Z,82nm,1.1s,mb5.6
OSI Osito Adit 76.64 322⇓ P **P 11 54 33.0 +0.4**
baz=77
OSI ⇓S S 12 04 21.4 +2.3
baz=77
TMUT Trail Mountain 76.67 330⇓ *i*P **P 11 54 33.0 +0.3**
U10A Ash Meadows, A 76.78 325⇓ P **P 11 54 34.2 +0.9**
baz=77,SNR=43
U10A ⇓S S 12 04 24.3 +3.7
baz=77
RWWY Rawlins 77.03 334⇓ *i*P **P 11 54 34.9 +0.2**
comp=Z,371nm,1.1s,mb6.2
SBC Santa Barbara 77.05 321⇓ P **P 11 54 34.3 -0.6**
baz=77
SBC ⇓S S 12 04 24.9 +1.4
baz=77
TPNV Topopah Spring 77.15 325⇓ *i*P **P 11 54 35.7 +0.3**
TPNV pmax pmax
comp=Z,222nm,1.1s,mb6.0
TPNV Topopah Spring 77.15 325⇓ *i*P **P 11 54 35.7 +0.3**
comp=Z,222nm,1.1s,mb6.0
EHIG Higuera 77.28 47 P **P 11 54 35.8 -0.3**
ISA Isabella 77.30 323⇓ *i*P **P 11 54 36.9 +0.6**
ISA pmax pmax
comp=Z,118nm,1.0s,mb5.8
ISA MLR MLR
comp=Z,734nm,20.0s,MS5.0
ISA Isabella 77.30 323⇓ *i*P **P 11 54 36.9 +0.6**
comp=Z,118nm,1.0s,mb5.8
ISA LR LR
comp=Z,734nm,20.0s,MS5.0
ISA Isabella 77.30 323⇑ P **P 11 54 36.9 +0.6**

baz=78,SNR=89
ISA ⇑S S 12 04 28.9 +2.6
baz=78
DAC Darwin (Calif) 77.31 324 ⇓*i*P **P 11 54 36.7 +0.4**
DAC pmax pmax
comp=Z,347nm,1.6s,mb6.0
DAC MLR MLR
comp=Z,3µm,20.0s,MS5.7
DAC Darwin (Calif) 77.31 324 ⇓*i*P **P 11 54 36.7 +0.4**
comp=Z,347nm,1.6s,mb6.0
DAC LR LR
comp=Z,3µm,20.0s,MS5.7
EGOM La Gomera 77.41 48 P **P 11 54 39.2 +2.4**
comp=Z,150nm,1.2s,mb5.8
MPU Maple Canyon 77.45 330 ⇓*i*P **P 11 54 37.3 +0.3**
comp=Z,174nm,1.0s,mb5.9
MPU LR LR
comp=Z,16µm,19.0s,MS6.3
NLU North Lily Min 77.59 330 ⇓*i*P **P 11 54 38.4 +0.5**
DAU Daniels Canyon 77.61 331 *e*P **P 11 54 38.7 +0.7**
CWC Cottonwood Cre 77.69 324 ⇓P **P 11 54 39.1 +0.6**
baz=78,SNR=44
CWC ⇓S S 12 04 31.7 +1.2
baz=78
SUR Sutherland 77.76 120 P **P 11 54 41.6 +2.8**
comp=Z,187nm,0.8s,mb6.1,SNR=10.0
SUR Sutherland 77.76 120 *e*P **P 11 54 40.6 +1.8**
comp=Z,122nm,1.4s,mb5.6
SUR LR LR
comp=Z,7µm,20.0s,MS6.0
CCAN Las Canadas 77.84 48 P **P 11 54 41.9 +2.6**
comp=Z,40nm,1.0s,mb5.3
RSSD Black Hills 78.00 337 ⇓*i*P **P 11 54 39.8 -0.4**
RSSD pmax pmax
comp=Z,80nm,0.8s,mb5.7
RSSD MLR MLR
comp=Z,667nm,19.0s,MS5.0
RSSD Black Hills 78.00 337 ⇓*i*P **P 11 54 39.8 -0.3**
comp=Z,80nm,0.8s,mb5.7
RSSD LR LR
comp=Z,667nm,19.0s,MS5.0
CTU Camp Tracy 78.05 331 ⇓*i*P **P 11 54 40.3 -0.2**
comp=Z,77nm,0.8s,mb5.7
Q12A Willow Creek R 78.11 328 ⇓P **P 11 54 41.1 +0.3**
baz=78,SNR=35
Q12A ⇑S S 12 04 36.6 +1.6
baz=78
DUG Dugway 78.11 330 ⇓*i*P **P 11 54 40.9 +0.1**
DUG pmax pmax
comp=Z,158nm,0.9s,mb5.9
DUG Dugway 78.11 330 ⇓*i*P **P 11 54 40.9 +0.1**
comp=Z,158nm,0.9s,mb5.9
EYMN Ely 78.17 347 ⇓*i*P **P 11 54 39.5 -1.6**
comp=Z,169nm,1.3s,mb5.8
EYMN LR LR
comp=Z,5µm,20.0s,MS5.8
NOQ North Oquirrh 78.18 330 *e*P **P 11 54 40.4 -0.8**
V05C Boulder Hill, 78.22 322 ⇑P **P 11 54 42.3 +0.9**
baz=78,SNR=19
V05C ⇑S S 12 04 38.7 +2.5
baz=78
R10A Warm Springs 78.22 326 ⇑P **P 11 54 42.0 +0.5**
baz=78,SNR=62
R10A ⇓S S 12 04 39.4 +3.2
baz=78
S09A Goldfield 78.24 325 ⇓P **P 11 54 41.8 +0.3**
baz=78,SNR=90
S09A ⇓S S 12 04 38.6 +2.2
baz=78
TIN Tinemaha 78.24 324 ⇓P **P 11 54 42.3 +0.9**
baz=78,SNR=11
TIN ⇑S S 12 04 37.6 +1.2
baz=78
TCUT Toone Canyon 78.26 331 ⇓*i*P **P 11 54 41.6 0.0**
Q11A Duckwater 78.35 327 ⇑P **P 11 54 42.6 +0.5**
baz=79,SNR=113
Q11A ⇑S S 12 04 39.2 +1.6
baz=79
MAW Mawson 78.37 164 ⇓*i*P **P 11 54 41.0 -1.2**
comp=Z,72nm,0.9s,mb5.6
MAW *i* S S 12 04 35.0 -2.8
MAW Mawson 78.37 164 P **P 11 54 41.5 -0.7**
comp=Z,78nm,0.9s,mb5.6,baz=216,slow=6.8,SNR=95
MAW S S 12 04 33.4 -4.4
comp=Z,1.0nm,0.9s,baz=209,slow=19,SNR=1.7
MAW LR LR 12 29 36.6
comp=Z,9µm,18.7s,MS6.1,baz=230,slow=36
MAW Mawson 78.37 164 P **P 11 54 41.5 -0.7**
MAW S S 12 04 33.4 -4.4
MAW pmax pmax
comp=Z,78nm,0.9s
MAW smax
comp=E,1.0nm,0.9s
MAW MLR MLR
comp=Z,9µm,18.7s
MAW Mawson 78.37 164 ⇓*i*P **P 11 54 41.0 -1.2**
comp=Z,72nm,0.9s,mb5.6
MAW *i* S S 12 04 35.0 -2.8
MAW LR LR
comp=Z,12µm,19.0s,MS6.3
HOR Horta 78.41 34 *e*P **P 11 54 45.2 +2.8**
CALA Caldeira 78.41 34 *e*P **P 11 54 44.0 +1.6**
EOSO Osorio 78.44 49 P **P 11 54 46.5 +3.9**
comp=Z,2µm,3.4s
PCED Cedros 78.45 34 *e*P **P 11 54 44.1 +1.4**
comp=Z,209nm,1.3s,mb5.9
PICO Pico 78.48 34 *e*P **P 11 54 40.6 -2.2**
P12A McGill 78.49 328 ⇑P **P 11 54 43.4 +0.6**
baz=79,SNR=38
P12A ⇓S S 12 04 40.9 +1.9
baz=79
TPH Tonopah 78.51 325 ⇑*i*P **P 11 54 43.2 +0.2**
TPH pmax pmax
comp=Z,127nm,1.0s,mb5.8
TPH Tonopah 78.51 325 ⇑*i*P **P 11 54 43.2 +0.2**
comp=Z,127nm,1.0s,mb5.8
V04C Ramage Ranch, 78.57 322 ⇓P **P 11 54 44.1 +0.8**
baz=79,SNR=12
V04C ⇓S S 12 04 42.5 +2.6
baz=79
PID Ribeirinha 78.59 34 *e*P **P 11 54 41.0 -2.4**
PKD Parkfield 78.62 322 ⇑P **P 11 54 43.8 +0.2**
baz=79,SNR=23
PKD ⇑S S 12 04 42.5 +2.0
baz=79
MTUM Tungsten Hills 78.64 324 *e*P **P 11 54 44.3 +0.6**
U05C Westside ANR, 78.69 323 ⇑P **P 11 54 44.2 +0.2**
baz=79,SNR=6.2
U05C ⇓S S 12 04 42.6 +1.3
baz=79
HWUT Hardware Ranch 78.73 331 ⇓*i*P **P 11 54 43.7 -0.5**
comp=Z,266nm,0.9s,mb6.2
HWUT LR LR
comp=Z,8µm,19.0s,MS6.1
ROSA Rosais 78.75 34 *e*P **P 11 54 43.0 -1.3**
PMAN Manadas 78.75 34 *e*P **P 11 54 48.5 +4.2**
comp=Z,270nm,1.2s,mb6.0
BGU Big Grassy Mou 78.80 330 ⇓*i*P **P 11 54 44.2 -0.4**
SPUT South Promonto 78.86 330 ⇓*i*P **P 11 54 44.3 -0.6**
PDAR Pinedale Array 78.87 333 P **P 11 54 45.0 +0.1**
comp=Z,28nm,0.7s,mb5.3,baz=127,slow=5.8,SNR=115
PDAR S S 12 04 43.7 +0.6
comp=Z,0.4nm,0.9s,baz=67,slow=35,SNR=3.1
PDAR PKPPbc PKKPbc 12 13 38.0 -0.3
comp=Z,1.5nm,0.8s,baz=48,slow=2.2,SNR=9.3
PDAR PKPPKP 12 21 26.5
comp=Z,0.4nm,0.8s,baz=9.5,slow=1.8,SNR=3.8
PDAR LR LR 12 26 57.6
comp=Z,4µm,18.3s,MS5.8,baz=27,slow=34
BW06 Boulder Array 78.87 333 ⇓*i*P **P 11 54 44.5 -0.4**
comp=Z,189nm,1.3s,mb5.9
BW06 LR LR
comp=Z,5µm,19.0s,MS5.8
P11A Circle Ranch, 78.95 327 ⇑P **P 11 54 45.7 +0.3**
baz=79,SNR=10.0
P11A ⇓S S 12 04 44.7 +0.7
baz=79
T06C Millerton Lake 78.97 323 ⇓P **P 11 54 44.5 -1.1**
baz=79,SNR=15
T06C ⇑S S 12 04 43.8 -0.5
baz=79
MLAC Mammoth Lakes 78.99 324 ⇓P **P 11 54 45.6 0.0**
baz=79,SNR=49
MLAC ⇓S S 12 04 45.8 +1.4
baz=79
KCC Kaiser Creek 79.01 324 ⇑P **P 11 54 45.3 -0.5**
baz=79,SNR=34
KCC ⇑S S 12 04 44.0 -0.6
baz=79
V03C Hunter Liggett 79.06 322 ⇑P **P 11 54 46.2 +0.2**
baz=79,SNR=11
V03C ⇓S S 12 04 46.5 +1.3
baz=79
U04C Hernandez Rese 79.06 322 ⇑P **P 11 54 46.8 +0.8**
baz=79,SNR=46
U04C ⇓S S 12 04 47.2 +2.0
baz=79
Q09A Carvers 79.08 326 ⇓P **P 11 54 46.4 +0.3**
baz=79,SNR=36
Q09A ⇑S S 12 04 46.7 +1.3
baz=79
SRBC Serra Branca 79.09 34 *e*P **P 11 54 44.9 -1.3**
PGRA Graciosa 79.11 34 *e*P **P 11 54 48.2 +1.9**
comp=Z,160nm,0.8s,mb6.0
R08A Mina 79.17 325 ⇑P **P 11 54 47.1 +0.5**
baz=79,SNR=34
R08A ⇓S S 12 04 47.8 +1.4
baz=79
PSBA Serra de Santa 79.23 34 *e*P PcP 11 54 54.3 -0.9
comp=Z,282nm,1.1s
LRV Little Rabbit 79.23 322 *e*P **P 11 54 47.5 +0.5**
MNV Mina 79.25 325 ⇓*i*P **P 11 54 47.3 +0.2**
MNV pmax pmax
comp=Z,162nm,1.6s,mb5.7
MNV MLR MLR
comp=Z,3µm,21.0s,MS5.6
MNV Mina 79.25 325 ⇓*i*P **P 11 54 47.3 +0.2**
comp=Z,162nm,1.6s,mb5.7
MNV LR LR
comp=Z,3µm,21.0s,MS5.6
N13A Wendover, West 79.27 329 ⇓P **P 11 54 47.1 0.0**
baz=80,SNR=10
N13A ⇑S S 12 04 47.8 +0.3
baz=80
PDA Ponta Delgada 79.29 36 *e*P PcP 11 54 58.0 +2.5
NVAR Mina Array Bea 79.33 325 P **P 11 54 48.4 +0.9**
comp=Z,48nm,0.8s,mb5.5,baz=142,slow=6.7,SNR=207
NVAR S S 12 04 43.7 -4.3
comp=Z,0.4nm,0.8s,baz=239,slow=21,SNR=2.5
NVAR PKKPbc PKKPbc 12 13 37.9 +0.7
comp=Z,0.8nm,0.5s,baz=346,slow=1.5,SNR=8.1
NVAR PKPPKP 12 21 42.7
comp=Z,2.0nm,1.2s,baz=349,slow=1.1,SNR=6.3
NVAR Mina Array Bea 79.33 325 P **P 11 54 48.4 +0.9**
NVAR S S 12 04 43.7 -4.3
NVAR PKKPbc PKKPbc 12 13 37.9 +0.7
NVAR P'P' 12 21 42.7
P10A Eureka 79.34 327 ⇓P **P 11 54 47.9 +0.3**
baz=80,SNR=44
P10A ⇑S S 12 04 48.8 +0.6
baz=80
O11A Cowboy Ranch, 79.36 328 ⇑P **P 11 54 47.8 +0.2**
baz=80,SNR=141
O11A ⇑S S 12 04 49.5 +1.1
baz=80
HVU Hansel Valley 79.39 331 ⇓*i*P **P 11 54 47.3 -0.5**
HVU pmax pmax
comp=Z,139nm,0.8s,mb5.9
HVU Hansel Valley 79.39 331 ⇓*i*P **P 11 54 47.3 -0.5**
comp=Z,139nm,0.8s,mb5.9
T05C Eagle Field, D 79.40 323 ⇓P **P 11 54 48.3 +0.4**
baz=80,SNR=15
T05C ⇓S S 12 04 52.2 +3.4
baz=80
R07C Lee Vining 79.45 324 ⇑P **P 11 54 48.8 +0.7**
baz=80,SNR=70
R07C ⇓S S 12 04 50.5 +1.2
baz=80
Q08A Gabbs 79.47 326 ⇓P **P 11 54 48.4 +0.2**
baz=80,SNR=69
Q08A ⇑S S 12 04 49.8 +0.2
baz=80
AHID Auburn Hatcher 79.49 332 ⇓*i*P **P 11 54 47.8 -0.5**
comp=Z,246nm,1.0s,mb6.1
AHID LR LR
comp=Z,3µm,20.0s,MS5.7
HAST UC Hastings Re 79.50 322 ⇑P **P 11 54 48.9 +0.5**
baz=80,SNR=29
HAST ⇓S S 12 04 52.4 +2.5
baz=80
S05C Merced 79.56 323 ⇑P **P 11 54 49.2 +0.4**
baz=80,SNR=60
S05C ⇑S S 12 04 52.7 +2.2
baz=80
P09A Austin 79.62 326 ⇑P **P 11 54 49.0 -0.1**
baz=80
P09A ⇓S S 12 04 51.5 +0.4
baz=80
CFTV Fuerteventura 79.64 50 P **P 11 54 50.6 +1.4**
comp=Z,94nm,1.6s,mb5.5
N12A Clover Valley, 79.65 329 ⇑P **P 11 54 48.9 -0.3**
baz=80,SNR=43
N12A ⇑S S 12 04 52.0 +0.6
baz=80
ELK Elko 79.66 328 ⇓*i*P **P 11 54 49.0 -0.3**
ELK pmax pmax
comp=Z,70nm,0.9s
ELK MLR MLR
comp=Z,5µm,20.0s
ELK Elko 79.66 328 ⇓*i*P **P 11 54 49.0 -0.2**
comp=Z,70nm,0.9s,mb5.6
ELK LR LR
comp=Z,5µm,20.0s,MS5.8
M13A Montello 79.66 329 ⇑P **P 11 54 48.6 -0.6**
baz=80,SNR=98
M13A ⇓S S 12 04 51.5 -0.1
baz=80
S06C San Francisco 79.70 324 ⇑P **P 11 54 49.5 0.0**
baz=80,SNR=57
S06C ⇑S S 12 04 54.5 +2.5
baz=80
SAO San Andreas Ge 79.72 322 ⇓*i*P **P 11 54 49.0 -0.6**
SAO pmax pmax
comp=Z,46nm,0.8s,mb5.5
SAO MLR MLR
comp=Z,2µm,19.0s,MS5.5
SAO San Andreas Ge 79.72 322 ⇓*i*P **P 11 54 49.0 -0.6**
comp=Z,46nm,0.8s,mb5.5
SAO LR LR
comp=Z,2µm,19.0s,MS5.5
PACP Pacheco Peak 79.81 322 ⇑P **P 11 54 50.5 +0.4**
baz=80,SNR=26
PACP ⇓S S 12 04 55.0 +1.9
baz=80
N11A Elko Archery C 79.95 328 ⇑P **P 11 54 50.7 -0.1**
baz=80,SNR=32
N11A ⇓S S 12 04 56.1 +1.6
baz=80
WAKR Walker 79.96 324 *e*P **P 11 54 52.2 +1.3**
Q07A Schurz 79.97 325 ⇓P **P 11 54 51.6 +0.6**
baz=80,SNR=23
Q07A ⇓S S 12 04 57.5 +2.7
baz=80
R06C Coleville 79.98 324 ⇓P **P 11 54 52.0 +0.9**
baz=80,SNR=48
R06C ⇓S S 12 04 56.9 +2.0
baz=80
TPAW Teton Pass 80.03 333 ⇓*i*P **P 11 54 51.0 -0.3**
comp=Z,272nm,1.2s,mb6.1
M12A Wells 80.04 329 ⇓P **P 11 54 51.4 +0.1**
baz=80,SNR=62
M12A ⇓S S 12 04 57.6 +2.1
baz=80
RRI2 Red Ridge 80.06 332 ⇓*i*P **P 11 54 51.0 -0.4**
comp=Z,188nm,0.9s,mb6.0
CMB Columbia Colle 80.10 323 ⇓*i*P **P 11 54 51.5 -0.2**
CMB pmax pmax
comp=Z,78nm,1.2s,mb5.5
CMB MLR MLR
comp=Z,2µm,20.0s,MS5.4
CMB Columbia Colle 80.10 323 ⇓*i*P **P 11 54 51.5 -0.2**
comp=Z,78nm,1.2s,mb5.5
CMB LR LR
comp=Z,2µm,20.0s,MS5.4
CMB Columbia Colle 80.10 323 ⇑P **P 11 54 51.5 -0.1**
baz=80,SNR=54
CMB ⇑S S 12 04 57.9 +1.7
baz=80
O09A Fish Creek Ran 80.12 327 ⇓P **P 11 54 51.5 -0.3**
baz=80,SNR=83
O09A ⇑S S 12 04 56.8 +0.3
baz=80
MOOW Moose Ponds 80.16 333 ⇓*i*P **P 11 54 51.5 -0.6**
comp=Z,52nm,0.8s,mb5.5
P08A Dixie Valley 80.18 326 ⇓P **P 11 54 52.6 +0.5**
baz=80,SNR=14
P08A ⇑S S 12 04 58.7 +1.6
baz=80
S04C Ingram Canyon, 80.20 323 ⇑P **P 11 54 52.5 +0.3**
baz=80,SNR=16
S04C ⇑S S 12 05 01.3 +4.0
baz=80
DCID1 Drake Creek 80.21 333 ⇓*i*P **P 11 54 52.5 +0.2**
N10A Dunphy 80.23 328 ⇑P **P 11 54 52.0 -0.3**
baz=80,SNR=7.3
N10A ⇓S S 12 04 58.0 +0.4
baz=80
BMN Battle Mountai 80.34 327 ⇓*i*P **P 11 54 52.0 -1.0**
BMN pmax pmax
comp=Z,23nm,0.9s,mb5.1
BMN MLR MLR
comp=Z,3µm,20.0s,MS5.6
BMN Battle Mountai 80.34 327 ⇓*i*P **P 11 54 52.0 -1.0**
comp=Z,22nm,0.9s,mb5.1
BMN LR LR
comp=Z,3µm,20.0s,MS5.6
IMW Indian Meadow 80.37 333 ⇓*i*P **P 11 54 52.9 -0.2**
comp=Z,156nm,1.1s,mb5.8
BNLO Ben Lomond (Sa 80.38 322 ⇓P **P 11 54 53.2 +0.1**
baz=81,SNR=13
BNLO ⇑S S 12 05 01.3 +2.1
baz=81
FLWY Flagg Ranch 80.42 333 ⇓*i*P **P 11 54 53.3 -0.1**
comp=Z,256nm,0.8s,mb6.2
R05C Kirkwood Meado 80.44 324 ⇑P **P 11 54 54.0 +0.6**
baz=81,SNR=52
R05C ⇑S S 12 05 01.6 +1.9
baz=81
M11A Holland Ranch, 80.45 328 ⇑P **P 11 54 53.8 +0.3**
baz=81,SNR=89
M11A ⇓S S 12 05 01.8 +1.9
baz=81
P07A Fallon 80.47 325 ⇓P **P 11 54 54.5 +0.8**
baz=81
P07A ⇑S S 12 05 02.8 +2.7
baz=81
EFAM Famara 80.47 49 P **P 11 54 57.1 +3.5**
comp=Z,1µm,2.4s,mb6.3
WENL Wente Brothers 80.52 322 ⇑P **P 11 54 54.7 +0.8**
baz=81,SNR=12
WENL ⇓S S 12 05 03.0 +2.4
baz=81
R04C Big Horse Ranc 80.56 323 ⇑P **P 11 54 54.4 +0.3**
baz=81,SNR=30
R04C ⇓S S 12 05 02.2 +1.2
baz=81
JRSC Jasper Ridge 80.62 322 ⇓P **P 11 54 54.7 +0.3**
baz=81
JRSC ⇑S S 12 05 03.2 +1.5
baz=81
PMAR Madeira 80.67 45 *e*P **P 11 54 57.5 +2.8**
comp=Z,126nm,1.4s,mb5.7
O08A Rochester Mine 80.69 326 ⇑P **P 11 54 54.4 -0.4**
baz=81
O08A ⇑S S 12 05 03.3 +0.9
baz=81
LKWY Lake 80.71 334 ⇓*i*P **P 11 54 55.8 +0.9**
LKWY pmax pmax
comp=Z,65nm,0.7s,mb5.7
LKWY MLR MLR
comp=Z,5µm,21.0s,MS5.8
LKWY Lake 80.71 334 ⇓*i*P **P 11 54 55.8 +0.9**
comp=Z,65nm,0.7s,mb5.7
LKWY LR LR
comp=Z,5µm,21.0s,MS5.8
WCN Washoe City 80.72 325 ⇓P **P 11 54 55.5 +0.4**
baz=81,SNR=28
WCN ⇑S S 12 05 03.8 +1.0
baz=81
YFT Old Faithful 80.79 333 ⇓*i*P **P 11 54 56.2 +0.9**
N09A Rock Creek Ran 80.81 327 ⇑P **P 11 54 55.1 -0.3**
baz=81
N09A ⇑S S 12 05 04.3 +0.7
baz=81
BDM Black Diamond 80.82 323 ⇓P **P 11 54 56.2 +0.6**
baz=81,SNR=11
BDM ⇑S S 12 05 05.5 +1.8
baz=81
LAVA Lava Cap Winer 80.82 324 ⇑P **P 11 54 54.8 -0.8**
baz=81,SNR=43
LAVA ⇑S S 12 05 04.3 +0.5
baz=81
SAC San Andreas 80.84 322 *e*P **P 11 54 56.5 +0.8**
PAHR Pah Rah Range 80.84 325 ⇓*i*P **P 11 54 56.0 +0.3**
comp=Z,254nm,1.2s,mb6.0
M10A I.L. Ranch, Tu 80.87 328 ⇑P **P 11 54 55.7 -0.1**
baz=81,SNR=34
M10A ⇑S S 12 05 05.6 +1.3
baz=81
O07A Toulon 80.94 326 ⇓P **P 11 54 56.4 +0.2**
baz=81,SNR=70
O07A ⇑S S 12 05 06.8 +1.9
baz=81
LAO LASA Array 80.99 337 ⇓*i*P **P 11 54 55.5 -0.9**
comp=Z,265nm,1.0s,mb6.1
LAO LR LR
comp=Z,3µm,19.0s,MS5.6
YMR Madison River 81.02 333 ⇓*i*P **P 11 54 57.0 +0.4**
comp=Z,330nm,0.9s,mb6.3
N08A GE Springer Mi 81.05 327 ⇑P **P 11 54 56.4 -0.4**
baz=81,SNR=46
N08A ⇑S S 12 05 07.1 +1.0
baz=81
TSUM Tsumeb 81.06 107 ⇓*i*P **P 11 54 57.9 +1.1**
comp=Z,48nm,0.9s,mb5.4
P06A Stead Airport, 81.08 325 ⇑P **P 11 54 57.1 +0.2**
baz=81,SNR=20
P06A ⇓S S 12 05 08.2 +1.7
baz=81
P05C Yuba Gap, Truc 81.16 324 ⇓P **P 11 54 57.3 -0.1**
baz=81,SNR=81
P05C ⇑S S 12 05 09.3 +2.0
baz=81
Q04C Lincoln 81.22 323 ⇑P **P 11 54 57.9 +0.3**
baz=82,SNR=43
Q04C ⇑S S 12 05 09.9 +2.0
baz=82
M09A Marrel Ranch, 81.22 327 ⇓P **P 11 54 57.3 -0.3**
baz=82,SNR=21
M09A ⇓S S 12 05 08.7 +0.8
baz=82
FARB Farallon Islan 81.25 322 ⇑P **P 11 54 57.6 -0.2**
baz=82
FARB ⇑S S 12 05 09.0 +0.9
baz=82
PMPS Porto Santo 81.25 45 *e*P **P 11 55 00.0 +2.2**
comp=Z,88nm,1.3s,mb5.5
ULM Lac du Bonnet 81.28 345 P **P 11 54 57.2 -0.8**
comp=Z,123nm,0.8s,mb5.9,baz=159,slow=5.6,SNR=96
ULM S S 12 05 03.6 -5.0
comp=Z,1.3nm,0.7s,baz=90,slow=4.0,SNR=2.2
ULM PKKPbc PKKPbc 12 13 30.8 -2.0
comp=Z,3.9nm,0.8s,baz=326,slow=4.4,SNR=6.0
ULM Lac du Bonnet 81.28 345 P **P 11 54 57.2 -0.8**
ULM S S 12 05 03.6 -5.0
ULM PKKPbc PKKPbc 12 13 30.8 -2.0
QLMT Earthquake Lak 81.34 333 *e*P **P 11 54 59.1 +0.8**
Q03C Winters 81.39 323 ⇑P **P 11 54 59.6 +1.0**
baz=82
Q03C ⇑S S 12 05 12.1 +2.4
baz=82
O06A Flanigan 81.41 325 ⇑P **P 11 54 58.6 0.0**
baz=82,SNR=73
O06A ⇑S S 12 05 10.3 +0.4
baz=82
CVS Carmenet Viney 81.42 322 ⇓P **P 11 54 58.8 0.0**
baz=82,SNR=23
CVS ⇑S S 12 05 11.9 +1.9
baz=82
GCMT Greycliff 81.46 335 *e*P **P 11 54 58.9 0.0**
MCCM Marconi Confer 81.50 322 *e*P **P 11 54 59.7 +0.5**
MCCM Marconi Confer 81.50 322 ⇓P **P 11 54 58.7 -0.5**
baz=82
MCCM ⇓S S 12 05 11.0 +0.2
baz=82
HLID Hailey 81.54 331 ⇓*i*P **P 11 54 59.5 +0.2**
comp=Z,146nm,0.9s,mb5.9
NSHM Saint Helena R 81.63 323 *e*P **P 11 55 00.6 +0.8**
OHCM Honcut 81.64 324 *e*P **P 11 54 59.7 -0.2**
M08A Happy Creek Ra 81.68 327 ⇓P **P 11 54 60.0 -0.2**
baz=82,SNR=58
M08A ⇓S S 12 05 12.7 0.0
baz=82

SUTB Sutter Butte 81.72 323 ⇑P P 11 55 00.2 -0.1
baz=82,SNR=31
SUTB ⇓S S 12 05 13.8 +0.7
baz=82
L09A Wilkinson Ranc 81.79 328 ⇓P P 11 55 00.3 -0.4
baz=82,SNR=52
L09A ⇑S S 12 05 13.2 -0.6
baz=82
DRV Dumont d'Urvil 81.80 192 P P 11 54 57.0 -3.7
DRV Dumont d'Urvil 81.80 192 PP PP 11 58 06.0 -1.8
DRV S S 12 05 13.0 -0.9
DRV SS SS 12 10 33.0 +1.2
DRV L 12 17 00.0
MNRC McLaughlin Nat 81.81 323 ⇓P P 11 55 01.3 +0.5
baz=82,SNR=13
MNRC ⇓S S 12 05 15.8 +1.8
baz=82
ORV Oroville 81.81 324 P P 11 55 00.8 0.0
baz=82,SNR=192
ORV ⇓S S 12 05 14.9 +0.9
baz=82
O05C Quincy 81.81 324 ⇑P P 11 55 01.1 +0.3
baz=82,SNR=55
O05C ⇑S S 12 05 13.3 -0.7
baz=82
MCMT McKenzie Canyo 81.91 332 P P 11 55 01.7 +0.4
M07A Soldier Meadow 82.02 326 ⇑P P 11 55 01.8 -0.1
baz=82,SNR=63
M07A ⇑S S 12 05 17.3 +1.1
baz=82
BOZ Bozeman (W) 82.09 333 ⇓iP P 11 55 01.7 -0.6
BOZ pmax pmax
comp=Z,31nm,0.8s,mb5.3
BOZ MLR MLR
comp=Z,3μm,20.0s,MS5.6
BOZ Bozeman (W) 82.09 333 ⇓iP P 11 55 01.7 -0.6
comp=Z,31nm,0.8s,mb5.3
BOZ LR LR
comp=Z,3μm,20.0s,MS5.6
O04C Chester 82.17 325 ⇓P P 11 55 02.5 -0.2
baz=82,SNR=38
O04C ⇓S S 12 05 17.7 0.0
baz=82
ELFS Eagle Lake Fie 82.21 325 ⇓P P 11 55 03.0 +0.1
baz=82,SNR=33
ELFS ⇓S S 12 05 18.6 +0.4
baz=82
HOPS Hopland 82.22 323 eP P 11 55 02.6 -0.4
comp=Z,307nm,1.6s,mb6.0
HOPS LR LR
comp=Z,2μm,19.0s,MS5.5
HOPS Hopland 82.22 323 ⇓P P 11 55 02.8 -0.1
baz=82,SNR=8.4
HOPS ⇑S S 12 05 19.6 +1.3
baz=82
DLMT Dillon 82.24 333 ⇓iP P 11 55 02.8 -0.2
comp=Z,156nm,1.2s,mb5.8
O03C Acorn Hollow, 82.41 324 ⇑P P 11 55 02.7 -1.3
baz=83
O03C ⇑S S 12 05 20.3 0.0
baz=83
GASB Alder Springs 82.52 323 ⇑P P 11 55 04.8 +0.4
baz=83,SNR=49
GASB ⇓S S 12 05 21.4 +0.2
baz=83
M06C Likely Place G 82.52 326 ⇑P P 11 55 04.4 -0.1
baz=83,SNR=84
M06C ⇑S S 12 05 21.2 -0.1
baz=83
LRM Limekiln Ridge 82.56 333 eP P 11 55 04.4 -0.3
WVOR Wild Horse Val 82.56 327 ⇓iP P 11 55 04.6 -0.1
WVOR pmax pmax
comp=Z,75nm,1.1s,mb5.6
WVOR Wild Horse Val 82.56 327 ⇓iP P 11 55 04.6 -0.1
comp=Z,75nm,1.1s,mb5.6
L07A Adell 82.58 327 ⇑P P 11 55 04.9 0.0
baz=83,SNR=60
L07A ⇑S S 12 05 24.0 +2.1
baz=83
P01C Double 8 Ranch 82.71 323 ⇓P P 11 55 05.5 0.0
baz=83,SNR=12
P01C ⇑S S 12 05 23.1 -0.2
baz=83
HATC Hat Creek Radi 82.73 325 ⇓P P 11 55 04.8 -0.8
baz=83,SNR=44
HATC ⇓S S 12 05 23.2 -0.3
baz=83
TOA0 Torodi Ar. Sit 82.77 71 eP P 11 55 06.2 +0.3
TORD Torodi Ar. Bea 82.77 71 P P 11 55 06.1 +0.3
comp=Z,149nm,0.8s,mb6.1,baz=249,slow=4.1,SNR=353
TORD PKiKP PKiKP 12 00 27.0 +1.3
comp=Z,2.4nm,0.7s,baz=232,slow=1.6,SNR=3.7
TORD S S 12 05 22.1 -1.8
comp=Z,1.5nm,1.1s,baz=264,slow=6.0,SNR=4.2
TORD PKKPbc PKKPbc 12 13 28.4 -1.1
comp=Z,1.6nm,0.8s,baz=328,slow=0.5,SNR=4.4
TORD PKPPKP 12 21 29.5
comp=Z,1.9nm,1.1s,baz=163,slow=6.2,SNR=2.8
TORD LR LR 12 28 27.4
comp=Z,8μm,20.6s,MS6.0,baz=230,slow=33
O02C Red Bluff 82.94 324 ⇑P P 11 55 05.1 -1.6
baz=83,SNR=17
O02C ⇑S S 12 05 23.0 -2.6
baz=83
M05C Lookout 82.97 325 ⇓P P 11 55 06.6 -0.2
baz=83,SNR=70
M05C ⇑S S 12 05 27.0 +1.0
baz=83
KIPM Iron Peak 83.03 323 eP P 11 55 08.4 +1.2
HRY Holter Researc 83.05 334 eP P 11 55 07.7 +0.4
WDC Whiskeytown Da 83.10 324 ⇓iP P 11 55 06.3 -1.2
WDC pmax pmax
comp=Z,80nm,1.0s,mb5.7
WDC MLR MLR
comp=Z,1μm,19.0s,MS5.3
WDC Whiskeytown Da 83.10 324 ⇓iP P 11 55 06.2 -1.3
comp=Z,80nm,1.0s,mb5.7
WDC LR LR
comp=Z,1μm,19.0s,MS5.3
WDC Whiskeytown Da 83.10 324 ⇑P P 11 55 06.4 -1.2
baz=83,SNR=26
WDC ⇓S S 12 05 25.4 -1.8
baz=83
SCHQ Schefferville 83.31 3 P P 11 55 07.6 -1.0
comp=Z,32nm,1.0s,mb5.3,baz=192,slow=3.2,SNR=25
SCHQ S S 12 05 22.8 -6.6
comp=Z,1.9nm,0.8s,baz=298,slow=15,SNR=2.4
SCHQ LR LR 12 31 42.1
comp=Z,3μm,20.9s,MS5.7,baz=191,slow=35
SCHQ Schefferville 83.31 3 P P 11 55 07.6 -1.0
SCHQ S S 12 05 22.8 -6.6
SCHQ LR LR 12 31 42.1
L05A Lakeview 83.33 326 ⇑P P 11 55 08.6 -0.1
baz=84,SNR=79
L05A ⇑S S 12 05 29.5 -0.1
baz=84
EGMT Eagleton 83.38 336 ⇓iP P 11 55 07.8 -1.1
comp=Z,55nm,1.0s,mb5.5
O01C Eel River Cons 83.45 323 ⇑P P 11 55 09.9 +0.5
baz=84,SNR=13
O01C ⇓S S 12 05 29.1 -1.7
baz=84
J07A Hines 83.60 328 ⇑P P 11 55 09.9 -0.2
baz=84,SNR=34
J07A ⇑S S 12 05 33.1 +0.8
baz=84
K06A Valley Falls 83.61 327 ⇓P P 11 55 10.4 +0.2
baz=84,SNR=45
K06A ⇑S S 12 05 34.1 +1.7
baz=84
M04C Macdoel 83.63 325 ⇓P P 11 55 10.0 -0.2
baz=84,SNR=74
M04C ⇓S S 12 05 32.3 -0.3
baz=84
N02C Big Bar 83.68 324 ⇑P P 11 55 10.8 +0.3
baz=84,SNR=30
N02C ⇓S S 12 05 33.1 0.0
baz=84
CHMT Chamberlain Mo 83.78 333 eP P 11 55 11.3 +0.3
BMO Blue Mountains 83.83 330 ⇓iP P 11 55 10.7 -0.6
BMO pmax pmax
comp=Z,44nm,0.9s,mb5.6
BMO MLR MLR
comp=Z,7μm,19.0s,MS6.1
BMO Blue Mountains 83.83 330 ⇓iP P 11 55 10.7 -0.6
comp=Z,44nm,0.9s,mb5.6
BMO LR LR
comp=Z,7μm,19.0s,MS6.1
M02C Callahan 83.86 324 ⇓P P 11 55 10.7 -0.7
baz=84,SNR=20
M02C ⇓S S 12 05 34.4 -0.5
baz=84
J06A Christmas Vall 83.90 327 ⇓P P 11 55 11.5 -0.1
baz=84,SNR=87
J06A ⇓S S 12 05 36.9 +1.5
baz=84
KHMM Horse Mountain 83.94 323 eP P 11 55 13.3 +1.5
L04A Klamath Falls 83.94 325 ⇓P P 11 55 11.6 -0.2
baz=84,SNR=22
L04A ⇑S S 12 05 36.4 +0.7
baz=84
MSO Missoula 83.98 333 ⇓iP P 11 55 11.8 -0.3
comp=Z,24nm,1.1s,mb5.2
MSO LR LR
comp=Z,3μm,19.0s,MS5.7
YBH Yreka Blue Hor 84.04 325 ⇓iP P 11 55 11.3 -1.0
YBH pmax pmax
comp=Z,42nm,0.9s
YBH MLR MLR
comp=Z,2μm,22.0s
YBH Yreka Blue Hor 84.04 325 ⇓iP P 11 55 11.2 -1.1
comp=Z,42nm,0.9s,mb5.6
YBH LR LR
comp=Z,2μm,22.0s,MS5.5
YBH Yreka Blue Hor 84.04 325 P P 11 55 11.9 -0.4
baz=84,SNR=20
YBH ⇓S 12 05 37.2
baz=84
JCC Jacoby Creek 84.05 323 ⇑P P 11 55 12.2 -0.2
baz=84,SNR=5.9
JCC ⇓S 12 05 37.2
baz=84
K04A Chilquin 84.19 326 ⇓P P 11 55 13.2 +0.1
baz=84,SNR=6.7
K04A ⇑S 12 05 39.9
baz=84
MIR Mirnyy 84.42 174 diP P 11 55 13.0 -1.3
MIR pmax pmax
comp=Z,500nm,1.9s,mb6.3
MIR pmax pmax
comp=Z,3μm,8.0s
KRMB Red Mountain 84.50 324 eP P 11 55 14.9 +0.2
KTRM Thompson Ridge 84.50 324 P P 11 55 15.7 +1.0
HUMO Hull Mountain 84.80 325 ⇓iP P 11 55 15.4 -0.8
comp=Z,113nm,1.5s,mb5.8
HUMO LR LR
comp=Z,2μm,19.0s,MS5.5
HUMO Hull Mountain 84.80 325 ⇓P P 11 55 15.5 -0.7
baz=85,SNR=16
HUMO ⇑S 12 05 43.3
baz=85
L02A Cave Junction 84.80 324 ⇓P P 11 55 16.0 -0.2
baz=85,SNR=12
L02A ⇑S 12 05 43.2
baz=85
M01C Crescent City 84.84 324 ⇑P P 11 55 16.1 -0.3
baz=85
M01C ⇑S 12 05 44.7
baz=85
LBTB Lobatse 84.89 116 eP P 11 55 16.8 +0.1
LBTB pmax pmax
comp=Z,196nm,1.3s,mb6.1
LBTB Lobatse 84.89 116 eP P 11 55 16.8 +0.2
comp=Z,196nm,1.3s,mb6.1
I05A Bend 85.12 327 ⇓P P 11 55 18.0 +0.2
baz=85,SNR=55
I05A ⇑S 12 05 45.9
baz=85
BSMT Bassoo Peak 85.15 333 eP P 11 55 17.6 -0.3
KBO Bosley Butte 85.16 324 eP P 11 55 19.5 +1.5
K02A Glendale 85.19 325 P P 11 55 18.9 +0.7
baz=85,SNR=28
K02A ⇑S 12 05 46.9
baz=85
CASY Casey 85.32 181 eP P 11 55 18.3 -0.5
J03A Ideyld Park 85.36 326 ⇑P P 11 55 18.4 -0.6
baz=86
J03A ⇓S 12 05 47.6
baz=86
HBO Huckleberry Mo 85.40 326 P P 11 55 19.3 +0.1
H05A Madras 85.47 327 ⇓P P 11 55 19.5 -0.1
baz=86,SNR=18
H05A ⇓S 12 05 47.6
baz=86
J02A Umpqua 85.67 325 ⇓P P 11 55 20.1 -0.5
baz=86,SNR=20
J02A ⇓S 12 05 50.7
baz=86
KEBM Edson Butte 85.69 325 eP P 11 55 20.3 -0.4
K01A Sixes 85.72 324 ⇑P P 11 55 20.5 -0.2
baz=86,SNR=7.3
K01A ⇓S 12 05 51.9
baz=86
BROR Big Rock Looko 85.77 327 P P 11 55 20.8 -0.2
WALA Waterton Lakes 85.78 334 ⇓iP P 11 55 19.9 -1.2
comp=Z,172nm,1.1s,mb6.2
H04A Detroit Lake 85.95 327 ⇑P P 11 55 21.0 -0.9
baz=86,SNR=47
H04A ⇓S 12 05 52.8
baz=86
G05A Wamic 85.95 328 ⇓P P 11 55 22.4 +0.4
baz=86,SNR=27
G05A ⇑S 12 05 57.6
baz=86
I03A Eugene 85.96 326 ⇑P P 11 55 21.3 -0.7
baz=86,SNR=20
I03A ⇑S 12 05 53.1
baz=86
HAWA Hanford 86.01 329 ⇓iP P 11 55 21.4 -0.9
comp=Z,7.6nm,0.9s,mb4.9
HOOD Mount Hood Mea 86.17 328 eP P 11 55 23.4 +0.4
I02A Mapleton 86.25 326 ⇓P P 11 55 22.7 -0.7
baz=86,SNR=6.5
I02A ⇓S 12 05 58.4
baz=86
OD2 Odessa Site #2 86.42 331 P P 11 55 24.1 -0.1
COR Corvallis 86.42 326 ⇓iP P 11 55 24.3 0.0
COR pmax pmax
comp=Z,178nm,0.9s,mb6.3
COR MLR MLR
comp=Z,523nm,20.0s,MS4.9
COR Corvallis 86.42 326 ⇓iP P 11 55 24.3 0.0
comp=Z,178nm,0.9s,mb6.3
COR LR LR
comp=Z,523nm,20.0s,MS4.9
NEW Newport 86.42 332 eP P 11 55 22.2 -2.1
NEW pmax pmax
comp=Z,23nm,0.7s
NEW Newport 86.42 332 eP P 11 55 22.2 -2.1
comp=Z,23nm,0.7s,mb5.5
G04A Mulino 86.48 327 ⇓P P 11 55 24.1 -0.5
baz=87,SNR=47
G04A ⇑S 12 05 59.2
baz=87
H03A Soap Creek Ran 86.48 326 ⇑P P 11 55 24.6 0.0
baz=87
H03A ⇓S 12 06 01.1
baz=87
F05A White Salmon 86.50 328 ⇑P P 11 55 24.6 -0.1
baz=87,SNR=21
F05A ⇓S 12 06 02.5
baz=87
SNZO South Karori 86.73 224 PFAKE 11 55 40.0 +14
SNZO LR LR
comp=Z,2μm,19.0s,MS5.6
H02A Toledo 86.83 326 ⇑P P 11 55 26.5 +0.2
baz=87
H02A ⇓S 12 06 04.1
baz=87
EBG Ellensburg 86.87 329 P P 11 55 27.0 +0.5
FFC Flin Flon 86.87 343 P P 11 55 25.2 -1.3
comp=Z,232nm,1.0s,mb6.4,SNR=13
FFC Flin Flon 86.87 343 eP P 11 55 24.6 -1.9
FFC pmax pmax
comp=Z,109nm,1.4s,mb5.9
FFC MLR MLR
comp=Z,4μm,19.0s,MS5.8
FFC Flin Flon 86.87 343 eP P 11 55 24.6 -1.8
comp=Z,109nm,1.4s,mb5.9
FFC LR LR
comp=Z,4μm,19.0s,MS5.8
F04A Amboy 86.98 328 ⇑P P 11 55 26.3 -0.7
baz=87,SNR=62
F04A ⇑S 12 06 06.1
baz=87
TBM Table Mountain 87.08 329 P P 11 55 27.6 +0.1
E05A Randle 87.15 328 P P 11 55 26.7 -1.1
baz=87,SNR=54
E05A ⇑S 12 06 07.8
baz=87
WTV Waterville 87.19 330 P P 11 55 27.6 -0.4
F03A Seaside 87.53 327 ⇑P P 11 55 29.8 +0.2
baz=88,SNR=14
F03A ⇓S 12 06 10.9
baz=88
E04A Onalaska 87.61 328 ⇓P P 11 55 29.5 -0.5
baz=88,SNR=5.0
E04A ⇓S 12 06 12.0
baz=88
D05A Enumclaw 87.72 329 ⇑P P 11 55 29.7 -0.9
baz=88,SNR=66
D05A ⇓S 12 06 12.1
baz=88
C05A Tolt Reservoir 87.96 329 ⇑P P 11 55 29.9 -1.8
baz=88,SNR=20
C05A ⇑S 12 06 13.3
baz=88
E03A Lebam 87.98 327 ⇓P P 11 55 30.8 -1.0
baz=88,SNR=35
E03A ⇑S 12 06 15.6
baz=88
D04A Dobbs Creek Ra 88.03 328 ⇓P P 11 55 31.9 -0.2
baz=88,SNR=8.8
D04A ⇑S 12 06 17.8
baz=88
GNW Green Mountain 88.38 329 eP P 11 55 33.3 -0.4
RPW Rockport 88.44 330 P P 11 55 32.9 -1.1
D03A Wishkah Elem. 88.49 328 ⇓P P 11 55 34.5 +0.2
baz=89,SNR=11
D03A ⇓S 12 06 20.9
baz=89
C04A Brinnon 88.56 329 ⇑P P 11 55 34.2 -0.3
baz=89
C04A ⇓S 12 06 20.9
baz=89
B05A Bryant 88.56 329 ⇓P P 11 55 33.2 -1.4
baz=89,SNR=41
B05A ⇑S 12 06 18.4
baz=89
MORF Marmelete 88.79 46 eP P 11 55 35.4 -0.2
MORF eS 12 06 01.6
MORF eS 12 06 01.6
MORF AMS AMS 12 33 56.7
comp=Z,5μm,20.9s,MS5.9
MORF Marmelete 88.79 46 eP P 11 55 35.4 -0.3
MORF eS 12 06 01.6
MORF pmax pmax
comp=Z,200nm,1.0s,mb6.4
MORF smax
comp=N,100nm,1.0s
MORF MLR MLR
comp=Z,5μm,20.9s,MS5.9
PTEO Sao Teotonio 88.89 45 eP P 11 55 37.6 +1.5
comp=Z,56nm,1.1s,mb5.8
FCC Fort Churchill 88.96 349 ⇓iP P 11 55 35.3 -1.1
FCC pmax pmax
comp=Z,141nm,1.0s,mb6.2
FCC Fort Churchill 88.96 349 ⇓iP P 11 55 35.3 -1.2
comp=Z,141nm,1.0s,mb6.2
EDM Edmonton 88.97 337 eP P 11 55 34.8 -1.7
EDM Edmonton 88.97 337 ⇓iP P 11 55 33.6 -2.9
B04A Port Angeles 89.05 329 ⇑P P 11 55 36.4 -0.5
baz=89,SNR=12
B04A ⇑S 12 06 23.8
baz=89
A05A Maple Falls 89.11 330 P P 11 55 36.5 -0.7
baz=89,SNR=37
A05A ⇓S 12 06 24.1
baz=89
A04A Legoe Bay, Lum 89.18 329 ⇑P P 11 55 37.0 -0.5
baz=90
A04A ⇑S 12 06 24.7
baz=90
LIS Lisbon 89.35 44 eP P 11 55 38.1 -0.2
LIS eS 12 06 04.8
LIS eS 12 06 05.0
LIS AMS AMS 12 32 14.6
comp=Z,8μm,25.5s,MS6.0
LIS Lisbon 89.35 44 eP P 11 55 38.1 -0.2
LIS eS 12 06 04.8
LIS smax
comp=N,100nm,1.0s
PLOU Loures 89.45 44 eP P 11 55 40.7 +1.9
comp=N,60nm,1.1s,mb5.8
PGC Sidney 89.46 329 ⇓iP P 11 55 37.3 -1.5
comp=N,176nm,1.0s,mb6.3
C03A Quillayute Air 89.47 328 ⇓P P 11 55 38.1 -0.7
baz=90
C03A ⇓S 12 06 28.3
baz=90
EGRO El Granado 89.67 46 P P 11 55 40.1 +0.3
comp=N,374nm,3.0s
MOE Montemor 89.72 45 eP P 11 55 41.7 +1.7
PBEJ Beja 89.72 46 eP P 11 55 41.9 +1.9
comp=N,47nm,1.3s,mb5.7
ESPR Espera 90.31 47 P P 11 55 44.4 +1.6
comp=N,243nm,2.2s,mb6.1
EMIN Mina Concepcio 90.32 46 P P 11 55 41.8 -1.0
comp=N,899nm,5.7s
PTOM Tomar 90.36 44 eP P 11 55 44.6 +1.6
comp=N,69nm,1.3s,mb5.8
EBAD Badajoz 90.70 45 P P 11 55 44.2 -0.4
comp=N,160nm,2.1s,mb6.0
EMIJ Mijas 90.84 48 P P 11 55 45.5 +0.3
comp=N,481nm,4.7s
PCBR Castelo Branco 91.06 44 eP P 11 55 47.6 +1.3
comp=N,33nm,1.5s,mb5.4
PVIS Viseu 91.34 43 eP P 11 55 48.7 +1.1
comp=N,24nm,1.4s,mb5.3
MTE Manteigas 91.36 44 eP P 11 55 47.8 +0.1
comp=N,22nm,1.9s,mb5.2
MTE Manteigas 91.36 44 eS 12 06 20.3
MTE Manteigas 91.36 44 eLQ 12 19 47.2
MTE eLR LR 12 28 11.3
comp=N,12μm,22.0s
MTE Manteigas 91.36 44 ⇓iP P 11 55 47.1 -0.5
comp=N,12nm,0.9s,mb5.2
ELOJ Sierra Loja 91.58 48 P P 11 55 49.6 +0.9
ELOJ pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
ELOJ Sierra Loja 91.58 48 P P 11 55 49.6 +0.9
comp=Z,2.6nm,0.6s,mb4.7
PVRL Vila Real 91.79 43 eP P 11 55 51.2 +1.6
comp=Z,32nm,1.9s,mb5.3
LSZ Lusaka 91.82 108 eP P 11 55 51.5 +1.7
LSZ pmax pmax
comp=Z,100nm,1.4s,mb6.0
LSZ MLR MLR
comp=Z,9μm,22.0s,MS6.2
LSZ Lusaka 91.82 108 eP P 11 55 51.5 +1.7
comp=Z,100nm,1.4s,mb6.0
LSZ LR LR
comp=Z,9μm,22.0s,MS6.2
EADA Adamuz 91.89 47 P P 11 55 50.3 +0.2
comp=Z,300nm,3.0s
ELOB Lobios 91.94 42 P P 11 55 49.5 -0.9
comp=Z,265nm,3.2s
ECOG Cogollos-Vega 92.04 48 P P 11 55 51.0 +0.2
EMAZ Mazaricos 92.07 41 P P 11 55 50.1 -0.9
comp=Z,216nm,2.7s,mb6.0
EBER Berja 92.27 49 P P 11 55 53.4 +1.6
comp=Z,110nm,1.6s,mb5.9
EBAN Banos Encina 92.40 47 P P 11 55 53.1 +0.6
EBAN pmax pmax
comp=Z,35nm,1.0s,mb5.6
EBAN Banos Encina 92.40 47 P P 11 55 53.1 +0.6
comp=Z,35nm,1.0s,mb5.6
EQES Quesada 92.66 48 P P 11 55 53.2 -0.5
comp=Z,147nm,3.0s
PBRG Braganca 92.69 43 eP P 11 55 55.0 +1.2
comp=Z,23nm,1.3s,mb5.4
ECAL Calabor 92.78 43 P P 11 55 53.7 -0.4
comp=Z,262nm,3.9s
ESDC Sonseca Array 93.16 46 P P 11 55 56.0 +0.1
comp=Z,4.8nm,0.9s,mb4.9,baz=226,slow=4.8,SNR=28
ESDC PKiKP PKiKP 12 00 44.8 +1.9
comp=Z,0.6nm,0.8s,baz=223,slow=4.9,SNR=3.2
ESDC S 12 06 29.9
comp=Z,0.1nm,0.3s,baz=353,slow=5.2,SNR=2.5
ESDC PKPPKP 12 21 16.1
comp=Z,0.1nm,0.4s,baz=55,slow=3.1,SNR=5.4

ESDC LR LR 12 35 51.2
comp=Z,5µm,19.2s,MS6.0,baz=250,slow=34
ESDC Sonseca Array 93.16 46 P P 11 55 56.5 +0.6
comp=Z,4.7nm,0.9s,mb4.9
ESDC Sonseca Array 93.16 46 PKPdf PKiKP 12 00 44.8 +1.9
ESLA Sonseca Array 93.16 46 *i*P **P 11 55 55.7 -0.2**
comp=Z,9.5nm,1.3s,mb5.1
ESLA LR LR
comp=Z,31µm,20.0s,MS6.8
EVIA Vianos 93.50 47 P P 11 55 58.1 +0.6
GUD Guadarrama 93.59 45 P **P 11 55 58.5 +0.6**
GUD pmax pmax
comp=Z,31nm,2.0s,mb5.4
GUD Guadarrama 93.59 45 P P 11 55 58.5 +0.5
comp=Z,31nm,2.0s,mb5.4
EMUR La Murta 93.88 49 P P 11 55 58.9 -0.4
comp=Z,132nm,2.7s,mb5.9
ETOB Tobarra 94.13 48 P P 11 56 00.7 +0.3
comp=Z,184nm,2.1s,mb6.1
ECHE Chera 95.02 47 P P 11 56 04.9 +0.4
ECHE pmax pmax
comp=Z,12nm,0.9s,mb5.3
ECHE Chera 95.02 47 P P 11 56 04.9 +0.3
comp=Z,12nm,0.9s,mb5.3
EBEN Beniarda 95.02 48 P P 11 56 06.0 +1.5
comp=Z,83nm,2.9s,mb5.7
ELAN Lanestosa 95.51 43 P P 11 56 07.0 +0.3
comp=Z,111nm,2.2s,mb5.9
EMOS Mosqueruela 95.76 47 P P 11 56 08.0 +0.1
comp=Z,122nm,2.4s,mb5.9
EMHD Djebel Mahouad 95.84 52 P P 11 56 12.0 +3.7
EIBI Ibiza 96.23 49 P P 11 56 12.4 +2.4
comp=Z,126nm,1.6s,mb6.1
KIP Kipapa 96.31 291 *e*P **P 11 56 10.6 +0.2**
KIP pmax pmax
comp=Z,255nm,1.5s,mb6.4
KIP MLR MLR
comp=Z,3µm,21.0s,MS5.8
KIP Kipapa 96.31 291 *e*P **P 11 56 10.6 +0.2**
comp=Z,255nm,1.5s,mb6.4
KIP LR LR
comp=Z,3µm,21.0s,MS5.8
ESAC San Caprasio 96.50 46 P P 11 56 12.0 +0.8
ERTA Horta de San J 96.60 47 P P 11 56 12.5 +0.8
comp=Z,154nm,1.5s,mb6.2
ELIZ Elizondo 96.63 44 P P 11 56 13.1 +1.3
EALK Alkurruntz 96.67 44 P P 11 56 12.7 +0.7
comp=Z,141nm,2.2s,mb6.0
SFJD Kangerlussuaq 96.81 8 ⇓ *i*P **P 11 56 10.5 -2.1**
SFJD pmax pmax
comp=Z,30nm,1.4s,mb5.5
SFJD MLR MLR
comp=Z,2µm,19.0s,MS5.6
SFJD Kangerlussuaq 96.81 8 ⇓ *i*P **P 11 56 10.5 -2.1**
comp=Z,30nm,1.4s,mb5.5
SFJD *e*S 12 06 27.9
SFJD LR LR
comp=Z,2µm,19.0s,MS5.6
YKA Yellowknife Ar 96.92 342 P **P 11 56 11.5 -1.6**
comp=Z,14nm,0.8s,mb5.5,baz=144,slow=4.9,SNR=58
YKA PP PP 12 00 04.2 -4.2
comp=Z,1.5nm,0.9s,baz=150,slow=8.7,SNR=3.8
YKA PKiKP PKiKP 12 00 49.4 0.0
comp=Z,0.8nm,0.7s,baz=143,slow=1.8,SNR=5.8
YKA PKKPbc PKKPbc 12 12 52.8 -1.4
comp=Z,0.4nm,0.4s,baz=327,slow=3.3,SNR=8.0
YKA Yellowknife Ar 96.92 342 P **P 11 56 11.5 -1.6**
YKA 12 00 04.2
YKA pmax pmax
comp=Z,14nm,0.8s
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 96.92 342 P **P 11 56 11.6 -1.6**
YKA PP PP 12 00 04.2 -4.2
YKW3 Yellowknife Ar 96.97 342 *e*P **P 11 56 11.9 -1.5**
ETSF Etsaut 97.08 45 *e*P **P 11 56 13.1 -0.8**
comp=Z,84nm,1.1s,mb5.8
ETSF Etsaut 97.08 45 *e*P **P 11 56 13.1 -0.8**
ETSF pmax pmax
comp=Z,42nm,1.1s,mb5.8
ETSF Etsaut 97.08 45 *e*P **P 11 56 13.1 -0.8**
comp=Z,42nm,1.1s,mb5.8
ATE Arette 97.09 45 *e*P **P 11 56 15.2 +1.3**
EPOB Poblet 97.28 47 P **P 11 56 14.9 +0.1**
EBIE Bielsa 97.40 45 P **P 11 56 16.4 +1.0**
comp=Z,15nm,0.9s,mb5.4
VIEF Viey 97.43 45 *e*P **P 11 56 16.9 +1.4**
EPF Esparros 97.71 45 *e*P **P 11 56 15.6 -1.1**
comp=Z,28nm,1.0s,mb5.5
EPF Esparros 97.71 45 *e*P **P 11 56 15.6 -1.1**
EPF pmax pmax
comp=Z,14nm,1.0s,mb5.5
EPF Esparros 97.71 45 *e*P **P 11 56 15.6 -1.1**
comp=Z,14nm,1.0s,mb5.5
MELF Melles 97.89 45 *e*P **P 11 56 19.4 +1.9**
SALF Salau 98.09 46 *e*P **P 11 56 19.9 +1.4**
MLS Moulis 98.14 45 *e*P **P 11 56 20.0 +1.3**
QUIF Quistinic 98.30 39 *e*P **P 11 56 18.6 -0.8**
ROSF Rostrenen 98.47 39 *e*P **P 11 56 19.4 -0.7**
CRAG Craig 98.47 330 *e*P **P 11 56 18.6 -1.6**
FILF Fillols 98.86 46 *e*P **P 11 56 23.1 +1.2**
LFF La Frestale 98.96 43 *e*P **P 11 56 21.9 -0.4**
EJON La Jonquera 99.01 46 P **P 11 56 23.2 +0.7**
LRDF Laroque-de-Fa 99.04 46 *e*P **P 11 56 23.7 +1.0**
MTLF Montolieu 99.04 45 *e*P **P 11 56 22.2 -0.5**
comp=Z,57nm,1.2s,mb5.7
MTLF Montolieu 99.04 45 *e*P **P 11 56 22.2 -0.5**
MTLF pmax pmax
comp=Z,28nm,1.2s,mb5.7
MTLF Montolieu 99.04 45 *e*P **P 11 56 22.2 -0.5**
comp=Z,28nm,1.2s,mb5.7
DLBC Dease Lake 99.10 333 P **P 11 56 22.2 -0.7**
comp=Z,17nm,0.9s,mb5.6,baz=156,slow=4.0,SNR=27
DLBC Dease Lake 99.10 333 *e*Pdif **P 11 56 22.0 -1.0**
MFF Saint Martin d 99.31 42 *e*P **P 11 56 23.4 -0.5**
comp=Z,64nm,1.0s,mb5.8
MFF Saint Martin d 99.31 42 *e*P **P 11 56 23.4 -0.5**
MFF pmax pmax
comp=Z,32nm,1.0s,mb5.8
MFF Saint Martin d 99.31 42 *e*P **P 11 56 23.4 -0.5**
comp=Z,32nm,1.0s,mb5.8
RJF Les Rejaudoux 99.62 43 *e*P 11 56 24.8
comp=Z,63nm,1.3s
RJF *e*R
comp=Z,11µm,20.2s
RJF Les Rejaudoux 99.62 43 *e*P 11 56 24.8
RJF pmax pmax
comp=Z,32nm,1.3s,mb5.6
RJF MLR MLR
comp=Z,11µm,20.3s,MS6.3
RJF Les Rejaudoux 99.62 43 *e*P 11 56 24.8
comp=Z,32nm,1.3s
RJF LR LR
comp=Z,11µm,20.3s,MS6.3
CAF Calviac 99.76 44 *e*P Pdif 11 56 25.6 -0.3
GRR Gorron 99.85 40 *e*P Pdif 11 56 25.1 -1.2
FLN La Foliniere 100.26 40 *e*P Pdif 11 56 27.2 -0.9
comp=Z,67nm,1.2s
FLN *e*R
comp=Z,6µm,22.8s
FLN La Foliniere 100.26 40 *e*P Pdif 11 56 27.2 -0.9
FLN pmax pmax
comp=Z,34nm,1.2s
FLN MLR MLR
comp=Z,6µm,22.8s,MS6.0
FLN La Foliniere 100.26 40 *e*P Pdif 11 56 27.2 -0.9
comp=Z,34nm,1.2s
FLN LR LR
comp=Z,6µm,22.8s,MS6.0
LDF La Druitiere 100.37 40 *e*P Pdif 11 56 27.4 -1.2
comp=Z,49nm,1.1s
LDF La Druitiere 100.37 40 *e*P Pdif 11 56 27.4 -1.2
LDF pmax pmax
comp=Z,24nm,1.1s
LDF La Druitiere 100.37 40 *e*P Pdif 11 56 27.4 -1.2
comp=Z,24nm,1.1s
LASF Ste Croix 100.44 45 *e*P Pdif 11 56 28.9 0.0
comp=Z,34nm,1.2s
TCF Toulx Ste Croi 100.54 43 *e*P Pdif 11 56 28.7 -0.7
comp=Z,25nm,1.1s
TCF Toulx Ste Croi 100.54 43 *e*P Pdif 11 56 28.7 -0.7
TCF pmax pmax
comp=Z,13nm,1.1s
TCF Toulx Ste Croi 100.54 43 *e*P Pdif 11 56 28.7 -0.7
comp=Z,13nm,1.1s
HTR Trewern Hill 100.55 36 *e*P Pdif 11 56 30.3 +0.9
HTR AMb AMB 11 56 30.9
comp=Z,28nm,1.3s
HTR Trewern Hill 100.55 36 *e*P Pdif 11 56 30.3 +0.9
HTR AMb AMB 11 56 30.9
comp=Z,28nm,1.3s
LBL Lubilhac 100.64 44 *e*P Pdif 11 56 31.5 +1.7
MCH1 Michaelchurch 100.64 36 *e*P Pdif 11 56 29.4 -0.4
MCH1 Michaelchurch 100.64 36 *e*P Pdif 11 56 29.4 -0.4
PYM Petit Puy Mans 100.75 44 *e*P Pdif 11 56 32.3 +2.0
HAE Alders End 100.90 36 *e*P Pdif 11 56 31.0 0.0
HAE AMb AMB 11 56 35.2
comp=Z,39nm,1.4s
HAE Alders End 100.90 36 *e*P Pdif 11 56 31.0 0.0
HAE AMb AMB 11 56 35.2
comp=Z,39nm,1.4s
AGO Saint Agoulin 100.97 43 *e*P Pdif 11 56 32.5 +1.2
SBD1 Bryn Du 101.01 35 *e*P Pdif 11 56 31.9 +0.5
SBD1 Bryn Du 101.01 35 *e*P Pdif 11 56 31.9 +0.5
COLF Collangettes 101.05 44 *e*P Pdif 11 56 32.8 +1.2
BGF Bois d'Agland 101.06 43 *e*P Pdif 11 56 31.3 -0.4
comp=Z,72nm,1.2s
BGF Bois d'Agland 101.06 43 *e*P Pdif 11 56 31.3 -0.4
BGF pmax pmax
comp=Z,36nm,1.2s
BGF Bois d'Agland 101.06 43 *e*P Pdif 11 56 31.3 -0.4
comp=Z,36nm,1.2s
PRAF Pradon 101.13 46 *e*P Pdif 11 56 34.2 +2.2
BERF Bertagne 101.23 47 *e*P Pdif 11 56 34.5 +2.1
VIVF Saint-Julien-l 101.33 45 *e*P Pdif 11 56 33.1 +0.2
comp=Z,43nm,1.2s
VIVF Saint-Julien-l 101.33 45 *e*P Pdif 11 56 33.1 +0.2
VIVF pmax pmax
comp=Z,22nm,1.2s
VIVF Saint-Julien-l 101.33 45 *e*P Pdif 11 56 33.1 +0.2
comp=Z,22nm,1.2s
SMRF Simiane la Rot 101.47 46 *e*P Pdif 11 56 33.5 0.0
comp=Z,67nm,1.3s
SMRF Simiane la Rot 101.47 46 *e*P Pdif 11 56 33.5 0.0
comp=Z,67nm,1.3s
AVF Avril sur Loir 101.47 43 *e*P Pdif 11 56 32.8 -0.7
comp=Z,32nm,1.1s
AVF Avril sur Loir 101.47 43 *e*P Pdif 11 56 32.8 -0.7
AVF pmax pmax
comp=Z,16nm,1.1s
AVF Avril sur Loir 101.47 43 *e*P Pdif 11 56 32.8 -0.7
comp=Z,16nm,1.1s
VILF Villemus 101.50 46 *e*P Pdif 11 56 35.7 +2.1
STOF St-Etienne Org 101.69 46 *e*P Pdif 11 56 36.6 +2.1
SMF Signal de Mont 101.70 43 *e*P Pdif 11 56 34.0 -0.5
comp=Z,82nm,1.2s
SMF Signal de Mont 101.70 43 *e*P Pdif 11 56 34.0 -0.5
SMF pmax pmax
comp=Z,41nm,1.2s
SMF Signal de Mont 101.70 43 *e*P Pdif 11 56 34.0 -0.5
comp=Z,41nm,1.2s
SSF Saint Saulge 101.70 43 *e*P Pdif 11 56 33.6 -0.9
comp=Z,33nm,1.1s
SSF Saint Saulge 101.70 43 *e*P Pdif 11 56 33.6 -0.9
SSF pmax pmax
comp=Z,16nm,1.1s
SSF Saint Saulge 101.70 43 *e*P Pdif 11 56 33.6 -0.9
comp=Z,16nm,1.1s
LMR La Mourre 101.76 47 *e*P Pdif 11 56 33.9 -0.9
comp=Z,93nm,1.1s
LMR La Mourre 101.76 47 *e*P Pdif 11 56 33.9 -0.9
LMR pmax pmax
comp=Z,46nm,1.1s
LMR La Mourre 101.76 47 *e*P Pdif 11 56 33.9 -0.9
comp=Z,46nm,1.1s
FRF La Foret Royal 101.96 47 *e*P Pdif 11 56 35.0 -0.7
comp=Z,92nm,1.2s
FRF La Foret Royal 101.96 47 *e*P Pdif 11 56 35.0 -0.7
FRF pmax pmax
comp=Z,46nm,1.2s
FRF La Foret Royal 101.96 47 *e*P Pdif 11 56 35.0 -0.7
comp=Z,46nm,1.2s
LOR Lormes 102.01 43 *e*P Pdif 11 56 35.1 -0.8
comp=Z,30nm,1.0s
LOR *e*R
comp=Z,7µm,23.0s
LOR Lormes 102.01 43 *e*P Pdif 11 56 35.1 -0.8
LOR pmax pmax
comp=Z,15nm,1.0s
LOR MLR MLR
comp=Z,7µm,23.0s,MS6.1
LOR Lormes 102.01 43 *e*P Pdif 11 56 35.1 -0.8
comp=Z,15nm,1.0s
LOR LR LR
comp=Z,7µm,23.0s,MS6.1
LHO Holmfirth 102.06 35 *e*P Pdif 11 56 36.4 +0.3
LHO Holmfirth 102.06 35 *e*P Pdif 11 56 36.4 +0.3
ORIF Oris-en-Rattie 102.11 45 *e*P Pdif 11 56 36.4 +0.1
ORIF *e*R
comp=Z,9µm,20.0s
TOUF Mont Tournerai 102.55 47 *e*P Pdif 11 56 40.6 +2.3
MBDF Montbardon 102.58 46 *e*P Pdif 11 56 37.9 -0.5
comp=Z,73nm,1.3s
MBDF Montbardon 102.58 46 *e*P Pdif 11 56 37.9 -0.5
MBDF pmax pmax
comp=Z,36nm,1.3s
MBDF Montbardon 102.58 46 *e*P Pdif 11 56 37.9 -0.5
comp=Z,36nm,1.3s
BNI Bardonecchia 102.67 46 *e*P Pdif 11 56 41.0 +2.1
SAOF Saorge 102.74 47 *e*P Pdif 11 56 40.9 +1.8
LPL La Plagne 102.92 45 *e*P Pdif 11 56 39.8 -0.2
comp=Z,62nm,1.1s
LPL La Plagne 102.92 45 *e*P Pdif 11 56 39.8 -0.2
LPL pmax pmax
comp=Z,31nm,1.1s
LPL La Plagne 102.92 45 *e*P Pdif 11 56 39.8 -0.2
comp=Z,31nm,1.1s
LPG La Plagne 102.93 45 *e*P Pdif 11 56 40.2 +0.2
comp=Z,65nm,1.1s
LPG La Plagne 102.93 45 *e*P Pdif 11 56 40.2 +0.2
LPG pmax pmax
comp=Z,33nm,1.1s
LPG La Plagne 102.93 45 *e*P Pdif 11 56 40.2 +0.2
comp=Z,33nm,1.1s
PGF Pioggiola 103.02 49 *e*P Pdif 11 56 39.6 -0.8
comp=Z,32nm,1.1s
PGF Pioggiola 103.02 49 *e*P Pdif 11 56 39.6 -0.8
PGF pmax pmax
comp=Z,16nm,1.1s
PGF Pioggiola 103.02 49 *e*P Pdif 11 56 39.6 -0.8
comp=Z,16nm,1.1s
CABF La Chapelle 103.04 44 *e*P Pdif 11 56 39.9 -0.6
comp=Z,18nm,1.0s
CABF La Chapelle 103.04 44 *e*P Pdif 11 56 39.9 -0.6
CABF pmax pmax
comp=Z,9.0nm,1.0s
CABF La Chapelle 103.04 44 *e*P Pdif 11 56 39.9 -0.6
comp=Z,9.1nm,1.0s
MEZF Maizieres J'vi 103.31 42 *e*P Pdif 11 56 41.2 -0.5
BAIF Baives 103.56 40 *e*P Pdif 11 56 42.1 -0.7
comp=Z,35nm,1.2s
BAIF Baives 103.56 40 *e*P Pdif 11 56 42.1 -0.7
BAIF pmax pmax
comp=Z,17nm,1.2s
BAIF Baives 103.56 40 *e*P Pdif 11 56 42.1 -0.7
comp=Z,17nm,1.2s
SUMG Summit 103.64 10 *e*Pdif Pdif 11 56 43.9 +0.8
DOU Dourbes 103.80 40 P Pdif 11 56 44.4 +0.6
DOU E 11 56 53.8
SNF Seneffe 103.82 40 P Pdif 11 56 44.8 +0.8
LOMF Lomont 103.83 43 *e*P Pdif 11 56 45.2 +1.2
HAU Haudompre 103.84 43 *e*P Pdif 11 56 43.4 -0.6
HAU *e*R
comp=Z,7µm,22.5s
HAU Haudompre 103.84 43 *e*P Pdif 11 56 43.4 -0.6
HAU LR LR
comp=Z,7µm,22.5s,MS6.1
GIVF Givet 103.93 40 *e*P Pdif 11 56 43.7 -0.7
UCC Uccle 104.00 40 P Pdif 11 56 45.4 +0.6
HINF Hinteralfeld 104.06 43 *e*P Pdif 11 56 44.2 -0.8
BCLA Clavier 104.35 40 P Pdif 11 56 47.3 +1.0
ECH Echery 104.42 43 *e*P Pdif 11 56 47.5 +0.9
WLF Walferdange 104.49 41 *e*Pdiff Pdif 11 56 48.1 +1.2
WLF *e*SP SP 12 10 21.7 +4.6
WLF Walferdange 104.49 41 P Pdif 11 56 47.3 +0.4
WLF Walferdange 104.49 41 *e*Pdif Pdif 11 56 48.3 +1.4
CDF Champ du Feu 104.58 43 *e*P Pdif 11 56 46.8 -0.5
BEBN Eben Emael 104.74 40 P Pdif 11 56 49.1 +1.1
MEM Membach 104.84 40 P Pdif 11 56 49.2 +0.7
BFO Black Forest 105.17 43 *e*SP SP 12 10 26.1 +1.8
BFO Black Forest 105.17 43 *e*SP SP 12 10 26.1 +1.8
BFO Black Forest 105.17 43 *e*P Pdif 11 56 50.5 +0.5
SCO Scoresbysund 105.18 16 *i* P Pdif 11 56 47.1 -2.9
DAVA Damuels 105.66 44 ⇓ *i*P Pdif 11 56 53.9 +1.8
comp=Z,15nm,1.0s
STU Stuttgart 105.88 43 *e*Pdiff Pdif 11 56 53.9 +0.8
STU *e*SP SP 12 10 31.8 +0.1
BUG Bochum--Univer 105.92 40 *e*Pdiff Pdif 11 56 53.7 +0.4
BUG *e*SP SP 12 10 32.2 +0.1
TNS Taunus Mts 106.07 41 *e*Pdiff Pdif 11 56 55.6 +1.7
TNS *e*SP SP 12 10 34.6 +1.1
DAWY Dawson 106.11 335 *e*Pdif Pdif 11 56 53.1 -1.0
MOTA Moosalm 106.44 45 ⇓ *i*P Pdif 11 56 56.3 +0.7
MOTA pmax pmax
comp=Z,18nm,1.2s
MOTA Moosalm 106.44 45 ⇓ *i*P Pdif 11 56 56.3 +0.7
comp=Z,18nm,1.2s
SQTA Sankt Quirin 106.46 45 ⇑ *i*P Pdif 11 56 57.1 +1.4
SQTA pmax pmax
comp=Z,17nm,1.1s
SQTA Sankt Quirin 106.46 45 ⇑ *i*P Pdif 11 56 57.1 +1.4
comp=Z,17nm,1.1s
INK Inuvik 106.57 340 Pdiff Pdif 11 56 54.1 -2.0
comp=Z,9.6nm,1.0s,baz=74,slow=7.0,SNR=9.4
INK PKiKP PKiKP 12 01 06.6 -0.3
comp=Z,5.3nm,1.1s,baz=157,slow=9.5,SNR=4.5
INK PP PP 12 01 22.0 +0.9
comp=Z,4.4nm,0.9s,baz=133,slow=8.7,SNR=5.5
INK SKSac SKSac 12 07 28.3 -8.1
comp=Z,0.9nm,1.0s,baz=147,slow=5.8,SNR=1.9
INK Inuvik 106.57 340 P Pdif 11 56 54.2 -2.0
INK 12 01 22.0
INK 12 07 28.3
INK pmax pmax
comp=Z,10.0nm,1.0s
INK pmax pmax
comp=Z,5.0nm,1.1s
INK pmax pmax
comp=Z,4.0nm,0.9s
INK pmax pmax
comp=E,1.0nm,1.0s
INK Inuvik 106.57 340 *e*Pdif Pdif 11 56 56.6 +0.5
INK PKPdf PKiKP 12 01 06.6 -0.3
INK PP PP 12 01 22.0 +0.9
INK SKSac SKSac 12 07 28.3 -8.1
IBBN Ibbenburen 106.57 39 *e*Pdiff Pdif 11 56 57.7 +1.5
IBBN *e*SP SP 12 10 37.9 -0.9
WATA Walderalm 106.73 45 ⇑ *i*P Pdif 11 56 57.3 +0.4
WATA pmax pmax
comp=Z,17nm,1.2s
WATA Walderalm 106.73 45 ⇑ *i*P Pdif 11 56 57.3 +0.4
comp=Z,16nm,1.2s
WTTA Wattenberg 106.74 45 ⇓ *i*P Pdif 11 56 58.7 +1.8
WTTA pmax pmax
comp=Z,22nm,1.1s
WTTA Wattenberg 106.74 45 ⇓ *i*P Pdif 11 56 58.7 +1.8
comp=Z,22nm,1.1s
FUR Furstenfeldbru 106.89 44 *e*SP SP 12 10 41.2 -0.8
FUR Furstenfeldbru 106.89 44 *e*SP SP 12 10 41.2 -0.8
UBBA Unterbreizbach 107.22 41 *e*SP SP 12 10 45.9 +0.5
UBBA Unterbreizbach 107.22 41 *e*SP SP 12 10 45.9 +0.5
HLG Helgoland 107.44 37 *e*SP SP 12 10 49.3 +1.6
HLG Helgoland 107.44 37 *e*SP SP 12 10 49.3 +1.6
GRA1 Grafenberg Arr 107.47 43 *e*Pdif Pdif 11 57 01.2 +1.0
GRF Grafenberg Arr 107.47 43 *e*Pdiff Pdif 11 57 01.2 +1.0
GRF *e*PP PP 12 01 21.9 -5.9
GRF *e*SKSac SKSac 12 07 42.8 +2.5
GRF *e*SKKSac SKKSac 12 08 31.7 -0.3
GRF *e*Sdiff Sdif 12 09 09.4 +5.4
GRF *e*SP SP 12 10 47.8 -0.3
GRF *e*PKKPdf PKKPdf 12 12 23.4 -13
GRF *e*PKKPab PKKPab 12 12 38.9 +1.1
GRF *e*SS SS 12 16 38.9 +1.7
GRF *e*L 12 42 40.1
comp=Z,4µm,21.9s
KBA Koelnbreinsper 107.73 46 ⇓ *i*Pdiff Pdif 11 57 01.1 -0.3
comp=Z,7.4nm,0.7s
KBA Koelnbreinsper 107.73 46 ⇑ *i*P Pdif 11 56 57.6 -3.7
KBA pmax pmax
comp=Z,7.0nm,0.7s
KBA Koelnbreinsper 107.73 46 ⇑ *i*P Pdif 11 56 57.6 -3.8
comp=Z,7.4nm,0.7s
CLZ Clausthal 107.84 40 *e*Pdiff Pdif 11 57 03.8 +2.0
CLZ *e*SP SP 12 10 52.0 +0.1
MOX Moxa 108.09 42 *e*Pdiff Pdif 11 57 04.3 +1.4
MOX *e*SP SP 12 10 54.9 +0.6
MOX Moxa 108.09 42 *e*P Pdif 11 57 05.1 +2.2
MOX pmax pmax
comp=Z,21nm,1.6s
MOX MLR MLR
comp=Z,2µm,21.0s,MS5.7
MOX Moxa 108.09 42 *e*Pdif Pdif 11 57 05.1 +2.2
comp=Z,21nm,1.6s
MOX LR LR
comp=Z,2µm,21.0s,MS5.7
MOX
comp=Z,2µm,21.0s
MOX Moxa 108.09 42 *e*PDIFF Pdif 11 57 05.1 +2.2
ROTZ Rotzenmuhle 108.09 43 *e*SP SP 12 10 54.4 0.0
ROTZ Rotzenmuhle 108.09 43 *e*SP SP 12 10 54.4 0.0
MANZ Manzenberg 108.12 43 *e*Pdiff Pdif 11 57 04.8 +1.8
MANZ *e*SP SP 12 10 55.3 +0.7
WET Wettzell 108.25 44 *e*Pdiff Pdif 11 57 05.4 +1.8
WET *e*SP SP 12 10 54.9 -1.1
WERD Werda 108.42 42 *e* PKiKP 12 01 10.3 0.0
WERD Werda 108.42 42 *e* PKiKP 12 01 10.3 0.0
NKC Novy Kostel 108.42 42 *e*PKP PKiKP 12 01 11.1 +0.8
NKC *e*SKS SKSac 12 07 45.1 +0.7
NKC AMS AMS 12 43 00.0
comp=Z,5µm,21.2s
NKC Novy Kostel 108.42 42 *e*PKP PKiKP 12 01 11.1 +0.8
NKC *e* 12 07 45.1
TANN Tannenbergstha 108.49 42 *e* PKiKP 12 01 11.6 +1.2
TANN *e*SP SP 12 10 58.2 -0.3
TANN Tannenbergstha 108.49 42 *e* PKiKP 12 01 11.6 +1.2
TANN *e*SP SP 12 10 58.2 -0.3
GEC2 GERESS Array S 108.64 44 *e* PKiKP 12 01 10.3 -0.4
GEC2 *e*SP SP 12 10 59.1 -0.8
GEC2 GERESS Array S 108.64 44 *e* PKiKP 12 01 10.3 -0.4
GEC2 *e*SP SP 12 10 59.1 -0.8
GERES GERESS Array B 108.64 44 Pdiff Pdif 11 57 02.4 -2.9
comp=Z,1.3nm,0.9s,baz=224,slow=3.7,SNR=8.3
GERES PKiKP PKiKP 12 01 09.6 -1.1
comp=Z,6.5nm,0.9s,baz=243,slow=0.9,SNR=19
GERES PKKPbc PKKPbc 12 12 18.6 -1.0
comp=Z,1.1nm,0.7s,baz=64,slow=3.1,SNR=7.1
GERES GERESS Array B 108.64 44 P Pdif 11 57 02.4 -3.0
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES pmax pmax
comp=Z,7.0nm,0.9s
GERES pmax pmax
comp=Z,1.0nm,0.7s
BSEG Bad Segeberg 108.65 38 *e*Pdiff Pdif 11 57 06.3 +0.9
BSEG *e*SP SP 12 10 58.2 -1.8
KHC Kasperske Hory 108.67 44 *e*PDIF Pdif 11 57 04.5 -1.0
KHC *e*PKP PKiKP 12 01 11.9 +1.1
KHC *e*SKS SKSac 12 07 42.1 -3.4
KHC *e*SP SP 12 10 58.7 -1.6
KHC *e*PKKP PKKPbc 12 12 20.0 +0.5
KHC *ex* x 12 12 34.5
KHC AMS AMS 12 48 10.0
comp=Z,3µm,18.7s
KHC Kasperske Hory 108.67 44 *i* P Pdif 11 57 04.5 -1.0
KHC *e* 12 07 42.1
KHC *e* 12 10 58.7
KHC MLR MLR
comp=Z,3µm,18.7s,MS5.9
KHC Kasperske Hory 108.67 44 *e*Pdif Pdif 11 57 04.5 -1.0
KHC *e*PKP PKiKP 12 01 11.9 +1.1
KHC *e* 12 07 42.1
KHC *e* 12 10 58.7
KHC LR LR
comp=Z,3µm,18.7s,MS5.9
BER Bergen 108.79 31 *e* Pdif 11 57 08.8 +2.7
BER *e*PP PP 12 01 34.3 -3.1
BER *e*SKS SKSac 12 07 43.9 -2.1
BER AMS AMS 12 48 03.4
comp=Z,3µm,20.6s,MS5.8
BER Bergen 108.79 31 *e*P Pdif 11 57 08.8 +2.7
BER *e* 12 01 34.5
JMIC Jan Mayen 108.94 18 *e* Pdif 11 57 13.0 +6.3

JMIC ePP PP 12 01 36.2 -2.3
JMIC eSKS SKSac 12 07 44.0 -2.7
MUD Monsted U'grnd 109.03 36 *i* P Pdif 11 57 09.7 +2.6
MUD MLR MLR
comp=Z,4µm,18.0s,MS6.0
MUD Monsted U'grnd 109.03 36 *i* P Pdif 11 57 09.7 +2.6
MUD *i* 12 11 07.9
CLL Collm 109.15 41 *e*Pdiff Pdif 11 57 09.2 +1.6
comp=Z,9.0nm,1.4s
CLL ePKiKP PKiKP 12 01 12.1 +0.4
CLL ePP PP 12 01 39.6 -0.4
CLL eSKSac SKSac 12 07 48.6 +1.1
CLL eSKKSac SKKSac 12 08 45.2 +1.5
CLL eSdif Sdif 12 09 21.4 +3.4
CLL eSP SP 12 11 06.7 +1.5
CLL ePS PS 12 11 06.8 +0.4
CLL ePPS 12 12 00.4
CLL ePKKPbc PKKPbc 12 12 18.7 +0.7
CLL ePKKPab PKKPab 12 12 30.5 +0.1
CLL eSS SS 12 16 57.4 -2.5
CLL ePKPPKPdf 12 20 45.2
CLL eSSS 12 21 02.0
CLL eSSSS 12 24 37.3
CLL eL 12 42 35.3
comp=Z,6µm,22.0s
CLL Collm 109.15 41 *e*Pdif Pdif 11 57 09.0 +1.4
comp=Z,4.0nm,0.9s
CLL *i* PKiKP PKiKP 12 01 12.3 +0.6
comp=Z,14nm,1.2s
CLL *i* x x 12 01 22.4
CLL *i* PP PP 12 01 38.8 -1.2
CLL eSKSac SKSac 12 07 48.0 +0.5
CLL eSKKSac SKKSac 12 08 44.0 +0.3
CLL eSdif Sdif 12 09 19.0 +1.0
CLL *ex* x 12 09 33.0
CLL ePS PS 12 11 07.0 +0.6
CLL ePPS 12 12 17.0
CLL ePKKPbc PKKPbc 12 12 19.0 +1.0
CLL ePPS 12 12 23.0
CLL ePKKPab PKKPab 12 12 30.0 -0.4
CLL *ex* x 12 15 13.0
CLL eSS SS 12 16 56.0 -3.9
CLL ePKPPKPdf 12 20 43.0
CLL eSSS 12 21 02.0
CLL eSSSS 12 24 18.0
CLL Collm 109.15 41 *e*Pdif Pdif 11 57 09.0 +1.4
CLL *i* PKP PKiKP 12 01 12.3 +0.6
CLL *i* 12 01 22.4
CLL eSKS SKSac 12 07 48.0 +0.5
CLL eSdif Sdif 12 09 19.0 +1.0
CLL ePKKP PKKPbc 12 12 19.0 +1.0
CLL ePKKP PKKPbc 12 12 30.0 +12
CLL eP'P' 12 20 43.0
CLL LR LR
comp=Z,6µm,21.6s,MS6.1
BRG Berggiesshubel 109.54 42 *e* PKiKP 12 01 13.4 +1.0
BRG eSP SP 12 11 08.1 -1.0
BRG Berggiesshubel 109.54 42 *e* PKiKP 12 01 13.4 +1.0
BRG eSP SP 12 11 08.1 -1.0
BRG Berggiesshubel 109.54 42 PDIF Pdif 11 57 10.0 +0.6
BRG *e* 11 57 20.6
comp=Z,4.1nm,1.2s
BRG Berggiesshubel 109.54 42 *e*PKP PKiKP 12 01 12.8 +0.4
comp=Z,8.0nm,1.1s
BRG PP PP 12 01 42.0 -0.8
BRG SKS SKSac 12 07 52.0 +2.9
BRG SDIF SKKSac 12 08 49.0 +2.6
BRG ePKKP PKKPbc 12 12 29.5 +13
comp=Z,6.5nm,1.2s
BRG SS SS 12 16 55.0 -10
BRG ePKPPKP 12 29 45.2
comp=Z,8.5nm,1.8s
BRG comp=N,2µm,19.9s
BRG comp=E,2µm,20.2s
BRG comp=Z,3µm,20.8s
BRG Berggiesshubel 109.54 42 Pdif Pdif 11 57 10.0 +0.6
BRG *e* 11 57 20.6
BRG ePKP PKiKP 12 01 12.8 +0.4
BRG PP PP 12 01 42.0 -0.8
BRG SKS SKSac 12 07 52.0 +2.9
BRG Sdif SKKSac 12 08 49.0 +2.6
BRG ePKKP PKKPbc 12 12 29.5 +13
BRG SS SS 12 16 55.0 -10
BRG eP'P' 12 29 45.2
BRG LR LR
comp=Z,3µm,20.8s,MS5.8
PRU Pruhonice 109.57 43 *e*PDIF Pdif 11 57 11.1 +1.6
PRU eSKS SKSdf 12 07 51.2 -33
PRU *ex* x 12 09 28.4
PRU ePKKP PKKPbc 12 12 11.3 -5.4
PRU AMS AMS 12 49 00.0
comp=Z,4µm,19.2s
PRU Pruhonice 109.57 43 *i* P Pdif 11 57 11.1 +1.6
PRU *e* 12 07 51.2
PRU MLR MLR
comp=Z,4µm,19.2s,MS6.0
PRU Pruhonice 109.57 43 *e*Pdif Pdif 11 57 11.1 +1.6
PRU *e* 12 07 51.2
PRU *e* 12 09 28.4
PRU LR LR
comp=Z,4µm,19.2s,MS6.0
MCK McKinley 109.64 333 *e*PKP PKiKP 12 01 12.2 -0.4
COLA College 109.70 334 *e*P Pdif 11 57 08.5 -1.6
PVCC Panska Ves 109.79 43 *e*PKP PKiKP 12 01 13.5 +0.6
PVCC eSP SP 12 11 10.4 -1.2
PVCC AMS AMS 12 44 20.0
comp=Z,4µm,20.6s
TREC Trest 109.90 44 eSP SP 12 11 08.4 -4.3
TREC AMS AMS 12 43 40.0
comp=Z,4µm,20.8s
RUE Ruedersdorf 110.03 41 eSP SP 12 11 14.5 +0.5
RUE Ruedersdorf 110.03 41 eSP SP 12 11 14.5 +0.5
COP Copenhagen 110.44 37 *i* P Pdif 11 57 20.3 +6.9
COP *e* 12 01 29.4
COP *i* 12 11 18.5
COP *i* 12 17 22.3
COP comp=Z,1µm,21.0s
KONO Kongsberg 110.47 32 *e* Pdif 11 57 19.1 +5.7
KONO ePP PP 12 01 43.2 -6.3
KONO *i* 12 11 18.5
KONO eSS SS 12 17 19.1 +1.6
ZST Bratislava 110.51 46 *e*PKP PKiKP 12 01 14.3 +0.1
ZST Bratislava 110.51 46 *i* PKiKP PKiKP 12 01 14.3 +0.1
RGN Rugen 110.51 38 eSP SP 12 11 17.6 -0.9
RGN Rugen 110.51 38 eSP SP 12 11 17.6 -0.9
UPC Upice 110.64 43 *e*PDIF Pdif 11 57 16.3 +2.0
UPC ePKP PKiKP 12 01 12.1 -2.4
UPC Upice 110.64 43 *i* P Pdif 11 57 16.3 +2.0
UPC *e* 12 01 12.1
MOL Molde 110.64 29 *e* PS 12 11 24.7 +3.7
MOL AMS AMS 12 44 35.0
comp=Z,3µm,18.0s,MS6.0
DPC Dobruska-Polom 110.77 43 *e*PDIF Pdif 11 57 16.6 +1.8
DPC ePKP PKiKP 12 01 14.9 +0.2
DPC *ex* x 12 09 37.9
DPC eSP SP 12 11 16.2 -4.7
DPC AMS AMS 12 49 50.0
comp=Z,3µm,18.5s
DPC Dobruska-Polom 110.77 43 *e*P Pdif 11 57 16.6 +1.8
DPC *e* 12 01 14.9
DPC *e* 12 11 16.2
DPC MLR MLR
comp=Z,3µm,18.5s,MS5.8
PKSM Moragy 110.81 48 ||*i*P PKiKP 12 01 15.6 +0.8
PKSM Moragy 110.81 48 ||P PKiKP 12 01 15.6 +0.8
KSP Ksiaz 110.92 43 *e*P Pdif 11 57 18.3 +2.8
KSP *e* 12 01 49.5
KSP *e* 12 07 53.5
KSP eSP SP 12 11 20.0 -2.3
KSP eSS SS 12 17 22.0 -1.7
KSP MLR MLR
comp=Z,9µm,21.7s,MS6.3
KSP Ksiaz 110.92 43 *e*Pdif Pdif 11 57 18.3 +2.8
KSP ePP PP 12 01 49.5 -3.3
KSP eSKS SKSac 12 07 53.5 -1.4
KSP eSdif Sdif 12 09 38.0 +5.2
KSP eSP SP 12 11 20.0 -2.3
KSP eSS SS 12 17 22.0 -1.7
KSP *e*SSS 12 21 13.0
KSP LR LR
comp=Z,9µm,21.7s,MS6.3
MORC Moravsky Berou 111.32 44 ||*i*P PKiKP 12 01 15.9 +0.1
MORC Moravsky Berou 111.32 44 ||P PKiKP 12 01 16.7 +0.9
BSD Bornholm Skovb 111.57 38 *i* P Pdif 11 57 19.8 +1.4
BSD *i* 12 01 57.3
BSD *i* 12 11 23.8
BSD *i* 12 17 31.3
BSD comp=Z,4µm,20.0s
BSD Bornholm Skovb 111.57 38 *i* P Pdif 11 57 19.8 +1.4
BSD *i* 12 01 57.3
BSD *i* 12 11 23.8
BSD *i* 12 17 31.3
VYHS Vyhne 111.70 46 *i* PKP PKiKP 12 01 16.8 +0.3
VYHS *e* 12 11 17.9
VYHS Vyhne 111.70 46 *e* PKKPbc 12 12 09.0 -0.7
VYHS *e* 12 12 19.7
VYHS Vyhne 111.70 46 *i* PKPdf PKiKP 12 01 16.8 +0.3
VYHS *e* 12 11 18.0
VYHS LR LR
comp=Z,2µm,22.3s,MS5.7
OKC Ostrava-Krasne 111.71 44 *e*PKP PKiKP 12 01 16.8 +0.3
OKC eSP SP 12 11 21.7 -7.9
OKC eSS SS 12 17 28.4 -5.8
OKC AMS AMS 12 43 10.0
comp=Z,3µm,21.8s
OKC Ostrava-Krasne 111.71 44 *e*PKP PKiKP 12 01 16.8 +0.3
OKC *e* 12 11 21.7
OKC *e* 12 17 28.4
NB2 NORSAR Subarra111.72 31 PKKP PKKPbc 12 12 08.0 -1.7
comp=Z,2.6nm,1.0s,baz=70,slow=3.4
NOA NORSAR Array B111.72 31 PKKPbc PKKPbc 12 12 08.9 -0.8
comp=Z,1.0nm,0.9s,baz=77,slow=4.3,SNR=3.2
PSZ Piszkesteto 112.18 47 *e*PKIKP PKiKP 12 01 17.3 -0.1
SANT Santorini 112.31 60 *e*P PKiKP 12 01 14.5 -3.1
BZS Buzias 112.58 49 ↑*i*P PKiKP 12 01 18.5 +0.3
BZS Buzias 112.58 49 ↑PKIKP PKiKP 12 01 18.6 +0.4
BZS Buzias 112.58 49 ↑P PKiKP 12 01 18.9 +0.7
APE Apeiranthos 112.60 59 ||*i*P PKiKP 12 01 15.8 -2.4
APE Apeiranthos 112.60 59 ||P PKiKP 12 01 15.8 -2.4
OJC Ojcow 112.84 44 *e*Pdiff Pdif 11 57 27.2 +3.2
OJC *e*PKP PKiKP 12 01 18.7 0.0
OJC *e*PP PP 12 02 07.5 +0.9
OJC *e*SKSac SKSac 12 07 56.9 -5.7
OJC *e*SP SP 12 11 43.4 +3.4
OJC *e*SS SS 12 17 48.1 -1.1
OJC L 12 47 50.1
comp=Z,16nm,21.1s
OJC Ojcow 112.84 44 *e*PKIKP PKiKP 12 01 18.7 0.0
OJC *e* 12 02 07.5
OJC *e* 12 07 56.9
OJC *e*SP SP 12 11 43.4 +3.4
OJC *e*SS SS 12 17 48.1 -1.1
OJC MLR MLR
comp=Z,16µm,21.1s,MS6.6
NIE Niedzica 112.91 45 *e*PKP PKiKP 12 01 19.8 +1.0
NSS Namsos 113.18 28 *e*PP PP 12 02 05.6 -3.4
NSS *e* 12 11 48.9
NSS *e*SS SS 12 17 55.0 +1.3
NSS AMS AMS 12 46 13.7
comp=Z,2µm,20.3s,MS5.7
CRVS Cervenica-Dubn 113.48 46 *e*PKP PKiKP 12 01 19.9 0.0
CRVS *e* 12 12 07.0
CRVS Cervenica-Dubn 113.48 46 *i* PKIKP PKiKP 12 01 19.9 0.0
DRGR 113.66 48 ||*i*P PKiKP 12 01 20.9 +0.7
DRGR 113.66 48 ||P PKiKP 12 01 20.9 +0.7
KOLS Kolonicke sedl 114.00 46 *e*PKP PKiKP 12 01 20.6 -0.3
KOLS *e* 12 12 05.5
KOLS *e* 12 12 10.8
KOLS Kolonicke sedl 114.00 46 *i* PKIKP PKiKP 12 01 20.7 -0.2
KOLS Kolonicke sedl 114.00 46 *e*PKPdf PKiKP 12 01 20.7 -0.2
KOLS *e* 12 12 05.5
KOLS *e* 12 12 10.8
KWP Kalwaria 114.47 45 *e*PKiKP PKiKP 12 01 22.1 +0.3
KWP *e*PP PP 12 02 17.8 -0.3
KWP *e*SP SP 12 11 56.3 +1.4
KWP L 12 47 32.1
comp=Z,6.4nm,22.3s
KWP Kalwaria 114.47 45 *i* PKIKP PKiKP 12 01 22.1 +0.3
KWP *e* 12 02 17.8
KWP *e*SP SP 12 11 56.3 +1.4
KWP MLR MLR
comp=Z,6µm,22.3s,MS6.2
KWP Kalwaria 114.47 45 *e*PKPdf PKiKP 12 01 22.1 +0.3
KWP *e*PP PP 12 02 17.8 -0.3
KWP *e*SP SP 12 11 56.3 +1.4
AKHS Akhisar 114.88 58 *i* P PP 12 02 21.0 -0.1
LVV L'vov 115.35 45 *e*PKIKP PKPdf 12 01 22.6 -0.9
LVV *e* 12 02 25.8
LVV *e* 12 08 12.8
LVV *e* 12 11 58.8
MLR Muntele Rosu 115.45 50 ↑*i*P PKPdf 12 01 24.0 +0.3
MLR Muntele Rosu 115.45 50 P PKPdf 12 01 24.3 +0.7
BURAR Bucovina Array 115.53 48 ||*i*P PKPdf 12 01 24.2 +0.4
BURAR Bucovina Array 115.53 48 ||P PKPdf 12 01 24.2 +0.4
SUW Suwalki 115.88 41 *e*PKIKP PKiKP 12 01 24.1 -0.4
SUW eSP SP 12 12 08.9 +1.1
SUW L 12 42 10.2
comp=Z,3.5nm,28.0s
SUW *e* 12 45 09.2
SUW Suwalki 115.88 41 *i* PKIKP PKPdf 12 01 24.1 -0.4
SUW eSP SP 12 12 08.9 +1.1
SUW Suwalki 115.88 41 *e*PKPdf PKPdf 12 01 24.1 -0.4
SUW eSP SP 12 12 08.9 +1.1
VRI Vrincioaia 116.08 50 ||*i*P PKPdf 12 01 24.4 -0.5
VRI Vrincioaia 116.08 50 P PKPdf 12 01 25.5 +0.6
ULDT Uludag 116.23 57 *i* P PKPdf 12 01 24.8 -0.3
TKTP Tekketepe 116.52 59 *i* P PKPdf 12 01 26.7 +1.0
HARR Harsova 116.59 52 ||*i*P PKPdf 12 01 26.1 +0.2
HARR Harsova 116.59 52 ||P PKPdf 12 01 26.1 +0.2
ISP Isparta 116.60 60 ↑*i*P PKPdf 12 01 27.1 +1.2
ISP Isparta 116.60 60 *e*PKPdf PKPdf 12 01 26.5 +0.6
ISP P 12 01 27.1
CFR Carcaliu 116.86 51 ↑*i*P PKPdf 12 01 26.3 -0.1
KBS Kingsbay 116.86 12 *e* Pdif 11 57 48.4 +6.5
KBS *e*PP PP 12 02 34.6 -0.4
TRO Tromso 117.05 23 *e*PP PP 12 02 36.0 -0.2
ESKT Eskisehir 117.33 58 *i* P PKPdf 12 01 28.1 +0.8
EIL Elat 117.64 70 *e*PKPdf PKPdf 12 01 28.9 +1.0
BJO Bjornoya 117.82 18 *e* tx 12 03 11.1
BJO AMS AMS 12 50 12.9
comp=Z,2µm,19.5s,MS5.7
CSS Prodhromos 117.95 63 *e*PKPdf PKPdf 12 01 28.4 -0.1
KDHN Kadinhani 118.01 59 *i* P PKPdf 12 01 28.1 -0.5
SGKT Sivrigoynuk 118.50 57 *i* P PKPdf 12 01 29.8 +0.3
MNK Minsk 118.65 41 *e*PKIKP PKPdf 12 01 27.0 -2.8
CTA Charters Tower 118.72 222 *e*PKP PKPdf 12 01 28.5 -1.6
comp=Z,10nm,1.5s
CTA Charters Tower 118.78 222 PKP PKPdf 12 01 29.7 -0.3
comp=Z,5.2nm,0.8s,baz=255,slow=3.5,SNR=5.8
CTA PKKPab PKKPab 12 11 46.5 -1.4
comp=Z,13nm,1.1s,baz=316,slow=5.1,SNR=6.8
CTA Charters Tower 118.78 222 PKIKP PKPdf 12 01 29.7 -0.4
CTA pmax pmax
comp=Z,5.0nm,0.8s
CTA pmax pmax
comp=Z,13nm,1.1s
CTAO Charters Tower 118.78 222 *e*PKIKP PKPdf 12 01 28.6 -1.5
FINES FINESS Array B 118.78 33 PKP PKPdf 12 01 29.4 -0.7
comp=Z,7.1nm,0.9s,baz=259,slow=3.9,SNR=11
FINES PKKPbc PKKPbc 12 11 44.8 -0.5
comp=Z,3.7nm,0.9s,baz=67,slow=2.8,SNR=12
FINES FINESS Array B 118.78 33 PKIKP PKPdf 12 01 29.4 -0.7
FINES pmax pmax
comp=Z,7.0nm,0.9s
FINES pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 118.79 45 PKP PKPdf 12 01 29.1 -1.0
comp=Z,20nm,0.7s,baz=264,slow=3.0,SNR=52
AKASG PP PP 12 02 45.6 -2.7
comp=Z,1.4nm,0.7s,baz=264,slow=5.1,SNR=2.9
AKASG PKKPbc PKKPbc 12 11 44.8 -0.4
comp=Z,1.0nm,0.5s,baz=64,slow=3.5,SNR=11
AKASG Malin Array Be 118.79 45 PKIKP PKPdf 12 01 29.1 -1.0
AKASG 12 02 45.6
AKASG pmax pmax
comp=Z,20nm,0.7s
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 118.79 45 *e*PKIKP PKPdf 12 01 28.7 -1.4
ANTO Ankara 118.87 58 ↑*i*P PKPdf 12 01 30.6 +0.4
ANTO Ankara 118.87 58 P PKPdf 12 01 31.3 +1.1
SNR=13
ANTO Ankara 118.87 58 ↑PKIKP PKPdf 12 01 30.7 +0.5
ANTO Ankara 118.87 58 P PKPdf 12 01 31.6 +1.3
KAF Kangasniemi 118.97 32 *e*pkp PKPdf 12 01 28.5 -1.9
MEST Erdemli 119.04 62 *i* P PKPdf 12 01 30.5 -0.1
KLBR Kellerberrin 119.28 190 *e*P PKPdf 12 01 29.7 -1.3
comp=Z,58nm,1.6s
ARE0 ARCESS Array S 119.33 24 *e*PKPdf PKPdf 12 01 30.8 -0.3
ARCES ARCESS Array B 119.33 24 PKP PKPdf 12 01 30.6 -0.5
comp=Z,5.8nm,0.7s,baz=242,slow=2.6,SNR=10.0
ARCES PKKPbc PKKPbc 12 11 40.7 -2.5
comp=Z,6.1nm,0.8s,baz=87,slow=3.4,SNR=15
ARCES ARCESS Array B 119.33 24 PKIKP PKPdf 12 01 30.6 -0.5
ARCES pmax pmax
comp=Z,6.0nm,0.7s
ARCES pmax pmax
comp=Z,6.0nm,0.8s
BR131 Keskin Array S 119.46 58 *e*PKPdf PKPdf 12 01 31.0 -0.3
BR131 LR LR
comp=Z,2µm,20.0s,MS5.8
BRTR Keskin Array B 119.46 58 PKP PKPdf 12 01 31.7 +0.3
comp=Z,11nm,0.7s,baz=189,slow=2.9,SNR=48
BRTR PP PP 12 02 51.0 -1.9
comp=Z,4.3nm,1.1s,baz=232,slow=7.1,SNR=2.3
BRTR PKKPbc PKKPbc 12 11 42.7 0.0
comp=Z,1.7nm,0.9s,baz=130,slow=4.0,SNR=4.1
BRTR Keskin Array B 119.46 58 PKIKP PKPdf 12 01 31.7 +0.3
BRTR 12 02 51.1
BRTR pmax pmax
comp=Z,11nm,0.7s
BRTR pmax pmax
comp=Z,4.0nm,1.1s
BRTR pmax pmax
comp=Z,2.0nm,0.9s
ELDT Eldivan 119.49 57 *i* P PKPdf 12 01 31.9 +0.4
CDAG Cicekdag 119.99 59 *i* P PKPdf 12 01 32.8 +0.4
CTKT Corum 120.53 58 *i* P PKPdf 12 01 33.3 -0.1
COBT Iskenderun 120.67 62 *i* P PKPdf 12 01 34.7 +1.0
BOYT Boyabat 120.79 57 *i* P PKPdf 12 01 34.5 +0.6
SIM Simferopol' 120.94 53*d* PKIKP PKPdf 12 01 34.7 +0.5
SIM *e* 12 03 04.0
SIM *e* 12 08 23.0
SIM ePPS 12 14 26.0
SIM pmax pmax
comp=Z,550nm,14.6s
SIM MLR MLR
comp=Z,3µm,19.3s,MS6.0
JOF Joensuu 121.35 31 *e*pkp PKPdf 12 01 33.5 -1.5
GZT Gaziantep 121.89 62 *i* P PKPdf 12 01 36.6 +0.6
ASAR Alice Springs 122.09 209 PKP PKPdf 12 01 35.2 -1.2
comp=Z,20nm,0.7s,baz=145,slow=2.1,SNR=104
ASAR PP PP 12 03 07.4 -3.5
comp=Z,12nm,1.2s,baz=151,slow=5.5,SNR=5.9
ASAR PKKPbc PKKPbc 12 11 34.0 +1.1
comp=Z,7.9nm,0.9s,baz=335,slow=3.0,SNR=43
ASAR SKKPbc 12 15 16.3
comp=Z,4.2nm,1.1s,baz=348,slow=3.2,SNR=5.1
ASAR Alice Springs 122.09 209 PKP PKPdf 12 01 35.2 -1.2
ASAR PP PP 12 03 07.4 -3.5
ASAR PKKPbc PKKPbc 12 11 34.0 +1.1
ASAR SKKPbc 12 15 16.3
AS31 Alice Springs 122.09 209 *e*PKPdf PKPdf 12 01 34.8 -1.6
APA Apatity 122.21 26 ↑*i*PKIKP PKPdf 12 01 36.0 -0.7
APA *i* 12 03 12.0
APA *i* 12 08 38.0
APA *i* 12 13 06.0
APA *i* PPS 12 14 24.0
APA pmax pmax
comp=Z,20nm,0.8s
APA MLR MLR
comp=Z,2µm,20.0s,MS5.9
MALT Malatya 122.77 61 ↑*i*P PKPdf 12 01 38.6 +0.9
MALT Malatya 122.77 61 *e*PKPdf PKPdf 12 01 38.0 +0.3
ELZG Elazig 123.23 61 *i* P PKPdf 12 01 39.9 +1.3
ANN Anapa 123.24 53 *i* PKIKP PKPdf 12 01 39.0 +0.4
ANN *e* 12 03 18.8
ANN ePS PS 12 13 19.7 +4.6
ANN pmax pmax
comp=Z,165nm,1.3s
OBN Obninsk 123.74 41 ↑*i*PKIKP PKPdf 12 01 39.0 -0.6
OBN *i* 12 03 26.7
OBN *e* 12 08 45.9
OBN *i* PS PS 12 13 22.6 +3.1
OBN *i* SS SS 12 20 14.5 +4.1
OBN pmax pmax
comp=Z,167nm,1.2s
OBN MLR MLR
comp=Z,3µm,20.0s,MS5.9
OBN Obninsk 123.74 41 *e*PKPdf PKPdf 12 01 39.3 -0.3
MOS Moscow 124.36 40 ↑*i*PKIKP PKPdf 12 01 39.0 -1.8
MOS *e* 12 01 50.3
MOS pmax pmax
comp=Z,200nm,1.3s
MOS pmax pmax
comp=Z,138nm,1.2s
MOS MLR MLR
comp=Z,4µm,20.0s,MS6.1
MOS MLR MLR
comp=E,2µm,22.0s
MARD Mardin 124.38 63 *i* P PKPdf 12 01 41.6 +0.8
SOC Sochi 124.68 55 *i* PKIKP PKPdf 12 01 41.4 0.0
SOC *e* 12 03 30.1
SOC *e*PPP 12 06 10.5
SOC *e*PS PS 12 13 23.0 -4.8
SOC *e*SS SS 12 20 35.3 +13
SOC *e*SSS 12 25 05.7
SOC pmax pmax
comp=Z,109nm,1.1s
BEST Besiri 124.87 62 *i* P PKPdf 12 01 43.0 +1.3
VRSR Storozhevoye 125.11 46 *e*PKIKP PKPdf 12 01 41.2 -1.0
VRSR *e*SPP 12 14 56.1
VRSR pmax pmax
comp=Z,100nm,1.0s
VRSR pmax pmax
comp=N,10.0nm,1.5s
VRSR pmax pmax
comp=E,30nm,0.9s
VOR Voronezh 125.14 45 PKIKP PKPdf 12 01 38.0 -4.3
VOR pmax pmax
comp=E,120nm,1.3s
VOR pmax pmax
comp=Z,120nm,1.3s
WB2 Warramunga Arr 125.16 211 *i* PKP PKPdf 12 01 41.5 -0.8
WRA Warramunga Arr 125.17 211 PKP PKPdf 12 01 41.2 -1.1
comp=Z,52nm,0.7s,baz=154,slow=1.7,SNR=223
WRA PKKPbc 12 11 22.0
comp=Z,2.9nm,0.8s,baz=341,slow=3.9,SNR=12
WRA SKKPbc 12 14 59.9
comp=Z,3.7nm,0.9s,baz=348,slow=5.5,SNR=6.3
WRAB Tennant Creek 125.17 211 *i* PKIKP PKPdf 12 01 39.9 -2.4
WRAB Tennant Creek 125.17 211 *e*PKPdf PKPdf 12 01 41.3 -1.0
KLMR Klimovskoe 125.26 34*c* PKIKP PKPdf 12 01 42.2 -0.3
KLMR *e* 12 03 30.7
KLMR *e* 12 08 46.4
KLMR *e* 12 13 29.3
KLMR eSS SS 12 20 27.8 -1.8
KLMR pmax pmax
comp=Z,230nm,1.3s
KLMR MLR MLR
comp=Z,5µm,21.0s,MS6.2
ERZM Erzurum 125.32 60 *i* P PKPdf 12 01 44.4 +1.8
MSL Mosul 125.98 64 *ex* x 12 01 47.5
MSL *ex* x 12 03 43.0
MSL *ex* x 12 08 40.0
PMG Port Moresby 126.18 231 PKP PKPdf 12 01 44.7 +0.4
comp=Z,40nm,0.9s,baz=68,slow=6.7,SNR=9.4
PMG Port Moresby 126.18 231 *i* PKIKP PKPdf 12 01 42.2 -2.1
PMG Port Moresby 126.18 231 *e*PKPdf PKPdf 12 01 45.0 +0.7
SMY Shemya 126.27 316 *e*PKIKP PKPdf 12 01 43.5 -0.9
BHD Baghdad 126.37 68 *ex* x 12 01 37.0
BHD *ex* x 12 03 38.0
BHD *ex* x 12 05 02.0
VRHR Novokhopersk 126.63 46 *e*PKIKP PKPdf 12 01 45.5 +0.4
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.6s
HAKT HAKKARI 126.71 63 *i* P PKPdf 12 01 44.2 -1.1

KIV **Kislovodsk** **126.86** **55** *i* PKIKP PKPdf 12 01 44.9 -0.7
KIV *e* 12 03 44.4
KIV *e*SP SP 12 13 46.8 +1.1
KIV *e*SS SS 12 20 54.1 +4.4
KIV pmax pmax
comp=Z,113nm,1.2s
KIV **Kislovodsk** **126.86** **55** *e*PKPdf PKPdf 12 01 45.7 +0.1
DIGO **Kars** **126.92** **59** *i* P PKPdf 12 01 47.9 +2.2
AMRG **127.02** **57** P PKPdf 12 01 46.1 +0.2
AKH **Akhalkalaki** **127.15** **58** P PKPdf 12 01 47.8 +1.7
GOF **Gofitskoye** **127.22** **53** *e*PKIKP PKPdf 12 01 47.5 +1.3
GOF pmax pmax
comp=Z,140nm,1.3s
ZEI **Tsey** **127.61** **56** *e*PKIKP PKPdf 12 01 47.8 +0.8
RST **Umm Al-Ruwaisa** **127.63** **73** *e*P PKPdf 12 01 47.6 +0.5
RST AMb AMB 12 01 50.5
comp=Z,206nm,0.9s
GOR **Gori** **127.68** **57** P PKPdf 12 01 49.1 +1.9
NAY **Al-Naaiem** **127.78** **74** *e*P PKPdf 12 01 47.9 +0.6
NAY AMb AMB 12 01 50.7
comp=Z,68nm,1.1s
GNI **Garni** **127.92** **60** *i* PKIKP PKPdf 12 01 47.6 0.0
GNI MLR MLR
comp=Z,3μm,24.0s
GNI **Garni** **127.92** **60** *e*PKPdf PKPdf 12 01 49.5 +1.9
RDF **Al-Radifah** **127.95** **74** *e*P PKPdf 12 01 48.6 +1.0
RDF AMb AMB 12 01 51.1
comp=Z,116nm,1.1s
MIB **Mutribah** **128.00** **73** *e*P PKPdf 12 01 48.6 +0.9
MIB AMb AMB 12 01 54.1
comp=Z,135nm,1.1s
TBLG **Delisi** **128.11** **58** P PKPdf 12 01 49.4 +1.4
MTA **Mtatsminda** **128.15** **58** P PKPdf 12 01 49.5 +1.5
MTA **Mtatsminda** **128.15** **58** P PKPdf 12 01 46.9 -1.2
QRN **Al-Qurain** **128.22** **75** *e*P PKPdf 12 01 48.9 +0.8
QRN AMb AMB 12 01 51.7
comp=Z,125nm,0.9s
UMR **Umm Al-Rimmam** **128.25** **74** *e*P PKPdf 12 01 49.2 +1.0
UMR AMb AMB 12 01 51.8
comp=Z,191nm,0.9s
DGRG **David-gareji** **128.56** **58** P PKPdf 12 01 50.6 +1.8
MBWA **Marble Bar** **129.07** **195** *e*PKPdf PKPdf 12 01 50.0 +0.2
MAK **Makhachkala** **130.27** **56** *i* PKIKP PKPdf 12 01 50.6 -1.5
MAK MLR MLR
comp=Z,3μm,23.0s,MS6.0
FITZ **Fitzroy Crossi** **130.31** **203** *e*PKP PKPdf 12 01 52.4 +0.3
comp=Z,74nm,0.9s
FITZ *e*PKS 12 05 13.3
FITZ **Fitzroy Crossi** **130.31** **203** PKP PKPdf 12 01 52.4 +0.3
comp=Z,37nm,0.8s,baz=221,slow=2.5,SNR=39
KAKA **Kakadu** **132.32** **214** *e*PKP PKPdf 12 01 46.2 -10
comp=Z,6.2nm,0.5s
KAKA **Kakadu** **132.32** **214** *i* PKP PKPdf 12 01 57.0 +1.1
SMDO **Samad** **135.37** **85** P PKPdf 12 02 02.6 +1.0
SNR=7.0
TIXI **Tiksi** **135.41** **351** *e*PKIKP PKPdf 12 02 00.4 -1.3
TIXI *e*PS PS 12 14 53.9 -6.8
TIXI pmax pmax
comp=Z,25nm,1.0s
TIXI pmax pmax
comp=Z,34nm,0.9s
TIXI **Tiksi** **135.41** **351** *e*PKP PKPdf 12 02 01.5 -0.2
PET **Petropavlovsk** **135.54** **318** *e*PKHKP 12 01 53.9
PET *i* 12 02 01.6
PET *e* 12 04 38.6
PET *e*PPP 12 07 41.1
PET *e*SS SS 12 22 34.2 -1.6
PET pmax pmax
comp=Z,9.0nm,1.4s
PET pmax pmax
comp=Z,41nm,1.0s
PET pmax pmax
comp=Z,600nm,8.0s
PET pmax pmax
comp=Z,700nm,16.0s
PET MLR MLR
comp=Z,2μm,24.0s,MS5.6
PET **Petropavlovsk** **135.54** **318** *e*PKPdf PKPdf 12 02 01.7 -0.3
PET LR LR
comp=Z,1μm,19.0s,MS5.6
ARU **Arti** **135.84** **37** *i* PKIKP PKPdf 12 02 00.4 -2.1
ARU MLR MLR
comp=Z,4μm,21.0s,MS6.1
ARU MLR MLR
comp=N,1μm,22.5s,MS6.0
ARU MLR MLR
comp=E,3μm,21.0s,MS6.0
ARU **Arti** **135.84** **37** *e*PKP PKPdf 12 02 02.6 +0.1
ARU *e*PKPdf PKPdf 12 02 02.7 +0.2
SVE **Sverdlovsk** **136.79** **36** *i* PKIKP PKPdf 12 02 02.0 -2.3
SVE *e* 12 02 09.0
SVE *e* 12 02 09.2
SVE *e* 12 04 45.8
SVE *e*SS SS 12 22 54.0 +3.3
SVE pmax pmax
comp=Z,124nm,1.8s
SVE MLR MLR
comp=N,500nm,21.0s,MS5.5
SVE MLR MLR
comp=E,700nm,21.0s,MS5.5
SVE MLR MLR
comp=Z,2μm,21.0s,MS5.9
MA2 **Magadan** **137.46** **329** *i* PKIKP PKPdf 12 02 04.8 -0.7
MA2 **Magadan** **137.46** **329** *e*PKPdf PKPdf 12 02 02.6 -2.9
SKR **Severo-Kuril's** **137.58** **315** *e*PKHKP 12 01 52.6
SKR *e* 12 16 53.0
SKR pmax pmax
comp=Z,130nm,0.9s
SKR pmax pmax
comp=Z,2μm,5.0s
GUMO **Guam** **142.26** **254** PKhKP PKPdf 12 02 13.3 -0.9
comp=Z,119nm,1.0s,baz=247,slow=4.1,SNR=6.8
GUMO **Guam** **142.26** **254** PKIKP PKPdf 12 02 13.3 -1.0
GUMO pmax pmax
comp=Z,119nm,1.0s
ZRNK **Zerenda** **142.75** **39** *e*PKIKP PKPdf 12 02 12.4 -2.7
CHKZ **Chkalovo** **143.29** **37** *e*PKIKP PKPdf 12 02 12.5 -3.6
YAK **Yakutsk** **143.59** **343** *i* PKIKP PKPdf 12 02 12.1 -4.5
YAK *e* 12 05 25.2
YAK *e*PPP 12 08 41.4
YAK pmax pmax
comp=Z,78nm,0.8s
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK pmax pmax
comp=Z,183nm,5.7s
YAK pmax pmax
comp=N,92nm,8.3s
YAK pmax pmax
comp=E,123nm,14.9s
YAK MLR MLR
comp=Z,2μm,25.0s,MS5.7
YAK MLR MLR
comp=N,1μm,22.0s,MS5.7
YAK MLR MLR
comp=E,686nm,20.0s,MS5.7
YAK **Yakutsk** **143.59** **343** *e*PKPpre PKPdf 12 02 12.4 -4.2
YOGI **Yogyakarta** **143.62** **185** ⇓*i*P PKPdf 12 02 18.0 +1.3
OKH **Okha** **144.15** **324** *i* PKHKP 12 02 11.4
OKH *e*S PP 12 05 28.0 -4.0
OKH pmax pmax
comp=Z,4μm,8.0s
TRD **Trivandrum** **144.93** **119** *e*P PKPdf 12 02 18.8 -0.2
TRD AMS AMS 13 01 45.5
comp=E,2μm,18.8s
MNGI **Mangalore** **145.79** **110** *e*P PKPdf 12 02 19.6 -0.9
YUK **Yuzh-Kuril'sk** **145.88** **307** ⇓*i*PKIKP PKPdf 12 02 19.0 -1.6
YUK pmax pmax
comp=E,4μm,5.0s
YUK pmax pmax
comp=Z,13μm,5.0s
YUK pmax pmax
comp=Z,540nm,0.7s
YUK pmax pmax
comp=N,170nm,0.5s
GOA **Goa** **146.24** **106** *e*P PKPdf 12 02 22.0 +0.8
PALK **Pallekele** **146.91** **125** *e*PKPbc PKPbc 12 02 25.4 +1.1
PALK LR LR
comp=Z,3μm,20.0s,MS6.0
YSS **Yuzh-Sakhalins** **147.10** **313** ⇓*i*PKIKP PKPdf 12 02 22.0 -0.6
YSS *e*PPS 12 18 28.0
YSS *e*SS SS 12 24 48.0 -2.4
YSS pmax pmax
comp=Z,260nm,1.0s
YSS pmax pmax
comp=Z,6μm,8.0s
YSS pmax pmax
comp=N,800nm,7.0s
YSS pmax pmax
comp=E,800nm,7.0s
YSS MLR MLR
comp=N,700nm,20.0s,MS5.7
YSS MLR MLR
comp=E,1μm,20.0s,MS5.7
YSS MLR MLR
comp=Z,1μm,20.0s,MS5.6
YSS **Yuzh-Sakhalins** **147.10** **313** *e*PKPdf PKPdf 12 02 22.8 +0.2
KAD **Karad** **147.38** **103** *e*P PKPdf 12 02 23.3 +0.2
POO **Poona** **147.62** **101** ⇑*i*P PKPdf 12 02 22.0 -1.5
comp=Z,320nm,1.0s
POO AMS AMS 13 03 22.4
comp=E,2μm,18.8s
ASAJ **Asahikawa** **148.13** **308** PKPbc PKPbc 12 02 25.0 -2.6
comp=E,133nm,0.8s,baz=222,slow=4.7,SNR=43
ASAJ **Asahikawa** **148.13** **308** PKIKP PKPdf 12 02 25.0 +0.7
ASAJ pmax pmax
comp=Z,133nm,0.8s
NVS **Novosibirsk** **148.50** **27** *e*PKIKP PKPdf 12 02 24.5 -0.5
NVS pmax pmax
comp=Z,515nm,1.5s
NVS pmax pmax
comp=N,78nm,1.2s
NVS pmax pmax
comp=E,184nm,1.5s
KURK **Kurchatov** **149.04** **37** *e*PKIKP PKPdf 12 02 26.0 +0.2
KURK *e* 12 02 29.8
KURK MLR MLR
comp=Z,3μm,22.0s,MS6.0
CBIJ **Chichi jima** **149.40** **275** PKPbc PKPbc 12 02 29.2 -1.6
comp=Z,670nm,1.3s,baz=241,slow=3.3,SNR=16
EKS2 **Erkin-Say** **149.45** **54** P PKPdf 12 02 28.2 +1.7
SNR=51
AML **Almayashu** **149.53** **55** P PKPdf 12 02 28.5 +1.9
SNR=18
USP **Ospenovka** **149.78** **52** P PKPdf 12 02 28.0 +1.0
SNR=24
ZAL **Zalesovo** **149.79** **27** PKP PKPdf 12 02 26.6 -0.4
comp=Z,38nm,0.9s,baz=198,slow=2.0,SNR=133
ZAL PKPbc PKPbc 12 02 31.4 -0.4
comp=Z,219nm,0.9s,baz=163,slow=2.9,SNR=68
ZAL **Zalesovo** **149.79** **27** PKHKP PKPdf 12 02 26.6 -0.4
ZAL pmax pmax
comp=Z,38nm,0.9s
ZAL pmax pmax
comp=Z,219nm,0.9s
LATR **Latur** **149.90** **103** *e*P PKPdf 12 02 28.0 +0.8
AAK **Ala-Archa** **149.97** **54** P PKPdf 12 02 29.0 +1.7
SNR=21
AAK **Ala-Archa** **149.97** **54** *e*PKPdf PKPdf 12 02 27.7 +0.4
AAK *e*PKPbc PKPbc 12 02 32.7 +0.5
AAK LR LR
comp=Z,4μm,22.0s,MS6.2
FRU **Bishkek** **150.00** **53** ⇓*e*PKHKP PKPdf 12 02 28.0 +0.7
FRU *i* 12 02 34.0
FRU *e* 12 06 09.0
FRU pmax pmax
comp=Z,4μm,5.0s
FRU pmax pmax
comp=Z,900nm,1.7s
FRU MLR MLR
comp=Z,2μm,22.0s,MS6.0
CHMS **Chumysh** **150.04** **53** P PKPdf 12 02 30.3 +2.9
SNR=29
MDRS **Chennai** **150.24** **116** *e*P PKPdf 12 02 27.1 -0.6
MDRS *ex* x 12 06 15.9
KBK **Karagaybulak** **150.28** **53** P PKPdf 12 02 29.4 +1.7
SNR=8.3
BOD **Bodaibo** **150.53** **353** *e*PKIKP PKPdf 12 02 26.5 -1.7
BOD pmax pmax
comp=Z,161nm,1.1s
TKM2 **Tokmak 2** **150.65** **52** P PKPdf 12 02 29.6 +1.2
SNR=15
KZA **Kyzart** **150.66** **54** P PKPdf 12 02 30.2 +1.8
SNR=15
KRAR **Krasnoyarsk** **150.74** **17** *i* PKIKP PKPdf 12 02 25.8 -2.7
AJM **Ajmer** **150.81** **86** *e*P PKPdf 12 02 28.2 -0.4
AJM AMS AMS 13 09 37.4
comp=Z,3μm,18.8s,MS6.0
AJM AMS AMS 13 10 08.7
comp=N,2μm,31.3s
HABR **Khabarovsk** **151.04** **321** ⇑*i* PKIKP PKPdf 12 02 30.8 +1.8
HABR *i* 12 02 36.1
HABR *e* 12 02 41.8
HABR *e* 12 09 36.0
HYB **Hyderabad** **151.14** **107** *i* PKP PKPdf 12 02 29.5 +0.4
HYB *e* 12 02 45.0
HYB **Hyderabad** **151.14** **107** ⇑*e*P PKPdf 12 02 29.0 -0.1
AKL **Akola** **151.21** **99** *ex* PKPdf 12 02 37.6 +8.4
AKL AMb AMB 12 02 49.8
comp=Z,432nm,2.2s
ULHL **Ulahol** **151.32** **53** P PKPdf 12 02 31.2 +1.8
SNR=11
KSH **Kashi** **151.85** **59** PKP PKPdf 12 02 31.3 +1.1
KSH *e*PKS 12 06 03.8
KSH *e*SKS SKSdf 12 09 33.9 -3.8
KSH *e*PPP 12 09 36.0
KSH PP PP
comp=Z,3μm,9.4s
KSH LR LR
comp=N,2μm,8.8s
KSH LR LR
comp=E,2μm,8.4s
KSH LR LR
comp=Z,1μm,21.2s,MS5.6
KLR **Kul'dur** **152.36** **325** *e*PKIKP PKPdf 12 02 27.8 -3.2
KLR pmax pmax
comp=Z,100nm,1.6s
KLR pmax pmax
comp=Z,2μm,6.5s
BHPL **Bhopal** **152.43** **94** *e*P PKPdf 12 02 29.6 -1.4
BHPL AMS AMS 13 04 46.8
comp=Z,3μm,12.5s,MS6.2
PONG **Pong** **152.59** **75** *ex* x 12 02 15.0
DLH **Dalhousie** **152.61** **74** *ex* x 12 02 41.0
KSM **Kuching** **152.81** **186** *e*PKPdf PKPdf 12 02 31.8 +0.2
KSM *e*PKPbc PKPbc 12 02 38.7 -0.1
KSM *e*PKPab PKPab 12 02 49.8 0.0
MJAR **Matsushiro Arr** **153.09** **295** PKP PKPdf 12 02 30.6 -1.4
comp=Z,15nm,1.2s,baz=148,slow=0.8,SNR=27
MJAR PKPbc PKPbc 12 02 39.2 -0.2
comp=Z,43nm,1.2s,baz=158,slow=4.1,SNR=24
MJAR PKPab PKPab 12 02 50.8 -0.1
comp=Z,45nm,0.7s,baz=76,slow=3.7,SNR=60
MJAR **Matsushiro Arr** **153.09** **295** PKIKP PKPdf 12 02 30.6 -1.4
MJAR 12 02 39.2
MJAR 12 02 50.8
MJAR pmax pmax
comp=Z,15nm,1.2s
MJAR pmax pmax
comp=Z,43nm,1.2s
MJAR pmax pmax
comp=Z,45nm,0.7s
MJAR **Matsushiro Arr** **153.09** **295** PKP PKPdf 12 02 30.6 -1.4
MJAR PKPbc PKPbc 12 02 39.2 -0.2
MJAR PKPab PKPab 12 02 50.8 -0.1
MAJO **Matsushiro** **153.09** **295** *e*PKIKP PKPdf 12 02 33.1 +1.1
MAJO *e* 12 02 39.5
MAJO *e* 12 02 51.2
MAT **Matsushiro** **153.09** **295** PKP PKPdf 12 02 29.3 -2.7
MAT **Matsushiro** **153.09** **295** *e*PKP PKPdf 12 02 29.0 -3.0
MAT LR LR
comp=Z,19μm,20.0s
NGP **Nagpur** **153.14** **100** *e*P PKPdf 12 02 32.2 +0.1
NGP AMb AMB 12 02 35.8
comp=Z,133nm,1.3s
NGP *ex* x 12 06 05.2
KGM **Kluang** **153.18** **171** P PKPdf 12 02 33.5 +1.4
MKAR **Makanchi Array** **153.25** **41** PKP PKPdf 12 02 31.4 -0.8
comp=Z,8.7nm,0.7s,baz=359,slow=1.1,SNR=35
MKAR PKPbc PKPbc 12 02 39.5 -0.2
comp=Z,89nm,1.0s,baz=325,slow=1.6,SNR=46
MKAR PKPab PKPab 12 02 50.9 -0.7
comp=Z,66nm,0.9s,baz=280,slow=2.2,SNR=8.7
MKAR **Makanchi Array** **153.25** **41** PKIKP PKPdf 12 02 31.4 -0.9
MKAR 12 02 39.6
MKAR 12 02 50.9
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR pmax pmax
comp=Z,89nm,1.0s
MKAR pmax pmax
comp=Z,66nm,0.9s
MKAR **Makanchi Array** **153.25** **41** PKP PKPdf 12 02 31.4 -0.8
MKAR PKPbc PKPbc 12 02 39.5 -0.2
MKAR PKPab PKPab 12 02 50.9 -0.7
NDI **New Delhi** **153.43** **83** *e*P PKPdf 12 02 31.5 -1.0
NDI AMb AMB 12 02 45.8
comp=Z,236nm,1.4s
SMLA **Simla** **153.60** **77** *e*P PKPdf 12 02 33.6 +0.8
SMLA AMb AMB 12 02 46.4
comp=Z,281nm,1.5s
TSM **Tawau** **153.83** **204** P PKPdf 12 02 34.9 +1.8
IPM **Ipoh** **155.15** **164** P PKPdf 12 02 35.7 +0.8
VIS **Vishakhapatnam** **155.27** **111** *e*P PKPdf 12 02 33.5 -1.6
VIS AMS AMS 13 08 34.9
comp=E,3μm,31.3s
VIS AMS AMS 13 08 41.2
comp=Z,4μm,37.5s
VLA **Vladivostok** **155.69** **313** *c* *i*PKIKP PKPdf 12 02 33.0 -2.7
VLA *e* 12 03 01.4
VLA *e* 12 06 35.7
VLA pmax pmax
comp=Z,54nm,1.4s
KULM **Kulim** **155.84** **163** *e*PKPdf PKPdf 12 02 36.4 +0.5
KULM *e*PKPab PKPab 12 03 02.8 +0.3
KKM **Kota Kinabalu** **156.03** **202** P PKPdf 12 02 36.5 +0.4
KKM **Kota Kinabalu** **156.03** **202** *e*PKPdf PKPdf 12 02 36.3 +0.2
LGTI **Lohaghat** **156.15** **82** *i* P PKPdf 12 02 36.3 0.0
MDJ **Mudanjiang** **156.32** **318** PKP PKPdf 12 02 35.6 -0.9
MDJ PP PP 12 06 40.8 -1.4
MDJ SKS SKSdf 12 09 40.3 -2.5
MDJ LR LR
comp=N,2μm,27.5s,MS5.8
MDJ LR LR
comp=E,965nm,27.5s,MS5.8
MDJ LR LR
comp=Z,3μm,21.5s
MDJ **Mudanjiang** **156.32** **318** *e*PKPdf PKPdf 12 02 35.4 -1.1
MDJ *e*PKPab PKPab 12 03 04.4 -0.3
IRK **Irkutsk** **156.34** **5** *e*PKIKP PKPdf 12 02 36.1 -0.4
IRK pmax pmax
comp=Z,178nm,1.5s
MOY **Mondy** **156.52** **10** *e*PKIKP PKPdf 12 02 37.3 +0.5
MOY pmax pmax
comp=Z,239nm,2.8s
HIA **Hailar** **157.42** **339** *e*PKIKP PKPdf 12 02 36.9 -1.0
SNG **Songkhla** **157.63** **162** P PKPdf 12 02 40.0 +1.8
comp=Z,260nm,1.0s
WMQ **Urumqi** **158.07** **41** PKP PKPdf 12 02 38.5 -0.2
WMQ PKS 12 06 10.8
WMQ PP PP 12 06 55.4 +3.6
WMQ SKS SKSdf 12 09 38.9 -5.6
WMQ PP PP
comp=Z,762nm,5.4s
WMQ LR LR
comp=N,917nm,26.0s
WMQ LR LR
comp=E,912nm,17.4s
WMQ LR LR
comp=Z,551nm,15.8s
WMQ **Urumqi** **158.07** **41** PKPdf PKPdf 12 02 38.8 +0.1
WMQ PKPab PKPab 12 03 14.7 +2.5
ZAK **Zakamensk** **158.09** **7** ⇓*i*PKIKP PKPdf 12 02 38.6 -0.1
ZAK pmax pmax
comp=Z,27nm,1.6s
ZAK pmax pmax
comp=Z,32nm,1.1s
KOLN **Koldanda** **158.89** **87** *e*P PKPdf 12 02 40.1 +0.4
comp=Z,242nm,1.4s
CN2 **Changchun** **159.18** **321** *e*PKP PKPdf 12 02 39.5 -0.5
CN2 PKP2 PKPab 12 03 19.0 +2.0
CN2 PP PP 12 07 01.0 +3.1
CN2 PP PP
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,700nm,21.0s,MS5.7
CN2 LR LR
comp=E,1μm,21.0s,MS5.7
CN2 LR LR
comp=Z,1μm,21.0s,MS5.7
GKN **Gorkha** **159.83** **86** *e*P PKPdf 12 02 41.6 +0.8
comp=Z,274nm,1.3s
BOK **Bokaro** **159.98** **99** *e*P PKPdf 12 02 40.1 -0.8
BOK AMS AMS 13 09 46.8
comp=Z,3μm,0.0s
DMN **Daman** **160.19** **88** *e*P PKPdf 12 02 41.8 +0.6
comp=Z,223nm,1.3s
KKN **Kakani** **160.37** **87** *e*P PKPdf 12 02 41.4 0.0
comp=Z,208nm,1.3s
PKI **Pulchoki** **160.45** **88** *e*P PKPdf 12 02 42.2 +0.7
comp=Z,212nm,1.4s
ULN **Ulaanbaatar** **160.84** **1** P PKPdf 12 02 42.4 +0.5
SNR=29
ULN **Ulaanbaatar** **160.84** **1** *e*PKPdf PKPdf 12 02 41.5 -0.4
ULN *e*PKPab PKPab 12 03 24.1 -0.1
SONM **Songino Array** **160.86** **2** PKP PKPdf 12 02 41.8 -0.1
comp=Z,16nm,1.1s,baz=208,slow=0.4,SNR=43
SONM PKPab PKPab 12 03 24.6 +0.3
comp=Z,29nm,0.9s,baz=334,slow=4.1,SNR=14
SONM PP PP 12 07 01.7 -5.3
comp=Z,3.7nm,1.1s,baz=4.1,slow=2.0,SNR=3.0
SONM SKKPbc 12 12 52.3
comp=Z,4.4nm,1.1s,baz=194,slow=3.3,SNR=3.9
SONM **Songino Array** **160.86** **2** PKIKP PKPdf 12 02 41.8 -0.1
SONM 12 07 01.7
SONM pmax pmax
comp=Z,16nm,1.1s
SONM pmax pmax
comp=Z,29nm,0.9s
SONM pmax pmax
comp=Z,4.0nm,1.1s
GUN **Gumba** **160.91** **87** *e*P PKPdf 12 02 43.3 +1.3
comp=Z,324nm,1.5s
JIRN **Jiri** **161.15** **88** *e*P PKPdf 12 02 42.2 0.0
comp=Z,227nm,1.4s
SNY **Shenyang** **161.50** **319** PKPR 12 02 43.0
SNY PP PP 12 07 09.5 -0.9
SNY PP PP
comp=Z,1μm,12.0s
SNY LR LR
comp=E,1μm,30.3s
SNY LR LR
comp=Z,3μm,35.4s
JOW **Kunigami** **161.56** **269** PKPab PKPab 12 03 27.9 +0.5
comp=Z,58nm,1.1s,baz=144,slow=3.3,SNR=8.1
CAL **Calcutta** **161.64** **105** *e*P PKPdf 12 02 43.2 +0.4
CAL *ex* x 12 03 41.2
CAL *e*PP PP 12 07 13.1 +1.9
CAL *ex* x 12 07 13.1
DL2 **Dalian** **164.49** **315** *i* PKPR 12 02 44.6
DL2 PKP2 PKPab 12 03 41.1 +0.9
DL2 PP PP 12 07 25.6 -0.6
DL2 SS SS 12 27 55.5 -2.6
DL2 PP PP
comp=Z,630nm,6.2s
DL2 LR LR
comp=N,690nm,17.4s
DL2 LR LR
comp=E,790nm,18.9s
DL2 LR LR
comp=Z,1μm,19.7s
NST **Nakhon Sawan** **165.36** **151** P PKPdf 12 02 47.0 +0.8
BJI **Beijing** **166.62** **330** PKP PKPdf 12 02 45.6 -1.6
BJI PKP2 PKPab 12 03 49.4 -0.2
BJI PP PP 12 07 33.8 -3.5
BJI SKKS SKKSac 12 14 18.1 -6.9
BJI PP PP
comp=Z,2μm,9.7s
BJI LR LR
comp=N,2μm,20.8s
BJI LR LR
comp=E,2μm,20.0s
BJI LR LR
comp=Z,3μm,25.1s
BJT **Baijiatuao** **166.64** **330** *e*PKPdf PKPdf 12 02 45.9 -1.3
BJT *e*PKPab PKPab 12 03 50.0 +0.2
CM31 **Chiang Mai Arr** **167.13** **140** *e*PKPdf PKPdf 12 02 48.1 +0.5
CM31 *e*PKPab PKPab 12 03 51.5 -0.4
CM31 LR LR
comp=Z,2μm,21.0s
CHG **Chiang Mai** **167.42** **139** ⇑P PKPdf 12 02 48.6 +0.8
comp=Z,31nm,1.1s
CHTO **Chiang Mai** **167.42** **139** *e*PKIKP PKPdf 12 02 48.4 +0.6

HHC	**Hu-ho-hao-te**	**167.42**	**346**	*e*PKP	PKPdf	12 02 47.4	-0.4
HHC				PKP2	PKPab	12 03 56.4	+3.2
HHC				PKS		12 06 17.9	
HHC				PP	PP	12 07 35.3	-6.1
HHC				SKS	SKSdf	12 09 46.0	-5.8
HHC				SKKS	SKKSac	12 14 24.3	-4.6
HHC				SS	SS	12 28 23.6	-4.4
HHC				PP	PP		
	comp=Z,2μm,11.9s						
HHC				LR	LR		
	comp=N,2μm,19.0s						
HHC				LR	LR		
	comp=E,2μm,19.0s						
HHC				LR	LR		
	comp=Z,4μm,19.0s						
GTA	**Gaotai**	**167.54**	**29**	PKP	PKPdf	12 02 47.9	0.0
GTA				PKP2	PKPab	12 03 53.5	-0.2
GTA				PKS		12 06 20.1	
GTA				PP	PP	12 07 40.3	-1.7
GTA				PPP		12 11 45.5	
GTA				SKKS	SKKSac	12 14 23.0	-6.5
GTA				PP	PP		
	comp=Z,2μm,6.5s						
GTA				LR	LR		
	comp=N,2μm,20.2s						
GTA				LR	LR		
	comp=E,3μm,22.4s						
GTA				LR	LR		
	comp=Z,4μm,24.7s						
SSE	**Sheshan**	**167.91**	**285**	PKP	PKPdf	12 02 48.3	+0.1
SSE				PP	PP	12 07 47.3	+3.4
SSE				SS	SS	12 28 28.3	-4.6
SSE				PP	PP		
	comp=Z,2μm,7.7s						
SSE				LR	LR		
	comp=N,2μm,20.1s						
SSE				LR	LR		
	comp=E,591nm,20.0s						
SSE				LR	LR		
	comp=Z,2μm,24.2s						
NANT	**Nan**	**168.34**	**146**	⇑P	PKPdf	12 02 46.5	-2.0
	comp=Z,306nm,1.0s						
CHRT	**Chiangrai**	**168.74**	**139**	P	PKPdf	12 02 50.0	+1.3
	comp=Z,158nm,1.1s						
TIA	**Tai'an**	**168.97**	**315**	PKP	PKPdf	12 02 49.0	+0.1
QZH	**Quanzhou**	**169.45**	**252**	*i* PKPR		12 02 50.4	
QZH				PKP2	PKPab	12 04 04.3	+2.2
QZH				PP	PP	12 07 51.9	+0.2
QZH				LR	LR		
	comp=Z,4μm,19.6s						
NJ2	**Nanjing**	**169.67**	**292**	*e*PKP	PKPdf	12 02 48.9	-0.4
NJ2				PKP2	PKPab	12 04 05.6	+2.5
NJ2				PKS		12 06 21.0	
NJ2				PP	PP	12 07 55.0	+2.2
NJ2				PP	PP		
	comp=Z,1μm,6.0s						
QIZ	**Qiongzhong**	**170.16**	**193**	PKP	PKPdf	12 02 49.8	+0.2
QIZ				PP	PP	12 07 53.9	-1.4
QIZ				LR	LR		
	comp=E,1μm,22.1s						
QIZ				LR	LR		
	comp=Z,2μm,32.5s						
LZH	**Lanzhou**	**171.98**	**22**	PKP	PKPdf	12 02 52.0	+1.5
LZH				PP	PP	12 08 02.3	-2.1
LZH				SKS	SKSdf	12 09 50.0	-3.9
LZH				SKKS	SKKSac	12 14 49.0	-2.3
LZH				PP	PP		
	comp=Z,2μm,6.4s						
LZH				LR	LR		
	comp=N,5μm,20.0s						
LZH				LR	LR		
	comp=Z,8μm,21.0s						
GZH	**Guangzhou**	**172.36**	**224**	PKP	PKPdf	12 02 45.0	-5.7
GZH				PP	PP	12 08 05.3	-0.9
GZH				LR	LR		
	comp=N,1μm,18.6s						
GZH				LR	LR		
	comp=E,2μm,19.6s						
GZH				LR	LR		
	comp=Z,3μm,19.0s						
WHN	**Wuhan**	**173.79**	**289**	⇓PKP	PKPdf	12 02 52.3	+1.0
WHN				PKP2	PKPab	12 04 22.3	+0.9
WHN				PP	PP	12 08 12.0	-1.2
WHN				LR	LR		
	comp=Z,6μm,19.2s						
KMI	**Kunming**	**174.44**	**128**	PKP	PKPdf	12 02 51.0	-0.5
KMI				PKP2	PKPab	12 04 24.1	-0.2
KMI				PKS		12 06 22.8	
KMI				SKS	SKSdf	12 09 49.3	-5.3
KMI				PPP		12 12 34.8	
KMI				SKKS	SKKSac	12 15 02.8	-0.2
KMI				PP	PP		
	comp=Z,2μm,7.4s						
KMI				LR	LR		
	comp=N,2μm,26.5s						
KMI				LR	LR		
	comp=E,2μm,25.0s						
KMI				LR	LR		
	comp=Z,5μm,31.6s						
XAN	**Xi'an**	**174.53**	**348**	PKP	PKPdf	12 02 50.0	-1.5
XAN				PKP2	PKPab	12 04 22.6	-2.1
XAN				PP	PP	12 08 13.0	-3.9
XAN				SKKS	SKKSac	12 15 02.8	-0.6
XAN				LR	LR		
	comp=N,819nm,19.0s						
XAN				LR	LR		
	comp=E,1μm,23.4s						
XAN				LR	LR		
	comp=Z,3μm,20.1s						
CD2	**Chengdu**	**176.03**	**55**	PKP	PKPdf	12 02 49.4	-2.5
CD2				PKP2	PKPab	12 04 30.8	-0.6
CD2				PKS		12 06 20.1	
CD2				PP	PP	12 08 25.0	+0.9
CD2				SKS	SKSdf	12 09 47.1	-7.9
CD2				SKKS	SKKSac	12 15 05.9	-4.6
CD2				SS	SS	12 29 46.0	-6.4
CD2				PP	PP		
	comp=Z,920nm,9.6s						
CD2				LR	LR		
	comp=N,1μm,21.6s						
CD2				LR	LR		
	comp=Z,1μm,22.8s						
GYA	**Guiyang**	**177.65**	**160**	⇓*i*PKP	PKPdf	12 02 52.5	+0.3
GYA				PKP2	PKPab	12 04 39.9	+1.3
GYA				PKS		12 06 23.3	
GYA				SKKS	SKKSac	12 15 14.4	-3.7
GYA				PP	PP		
	comp=Z,2μm,8.9s						
GYA				LR	LR		
	comp=N,1μm,18.9s						
GYA				LR	LR		
	comp=E,1μm,19.5s						
GYA				LR	LR		
	comp=Z,1μm,19.2s						

*NIED **16** 11:48:00, 3230N×14220E, h53km, Mw4.1 Best double couple: M₀1.44000×10¹⁵ NP1:φₛ310.00000°, δ86.00000°, λ-97.00000°. NP2:φₛ187.00000°, δ8.00000°, λ-33.00000°.*

*IDC **16** 11:48:24.4±0.9, 3209N×14224E, h0km, mb3.9/8, mb1 4.1/11, mb1mx4.0/21, mbtmp4.0/11, ML3.9/3, Error ellipse: s-maj=31.8km s-min=16.1km az=71.0*

*ISCJB **16** 11:48:25.9±1.9, 32.17N±005×14223E±009, h23km±14km, mb4.1/10, Error ellipse: s-maj=13.2km s-min=6.5km az=127.2*

*MOS **16** 11:48:27.5±0.7, 3205N×14196E, h33km, mb4.2/5, Error ellipse: s-maj=54.8km s-min=13.8km az=118.5*

*JMA **16** 11:48:29.1±0.7, 3233N×14224E, h78km, M3.5*

*NEIC **16** 11:48:29.6±5.4, 3263N×14281E, h82km±33km, mb4.6/1, MW4.0(NIED), Error ellipse: s-maj=102.9km s-min=19.7km az=80.0*

ISC 16 11:48:28.6±1.9, **3221N**±005×**14222E**±008, **h28**km±14km, **n42**, σ**1§00**/56, **mb4.1**/10, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.21**	**295**	P	**Pn**	**11 49 04.2**	**+0.7**
JHJ2				*e*S	**Sn**	**11 49 30.7**	**+0.8**
JHJ	**Hachijo jima 2**	**2.24**	**294**	Pn	**Pn**	**11 49 04.2**	**+0.3**
	36nm,0.3s,baz=37,slow=6.9,SNR=25						
JHJ				Sn	**Sn**	**11 49 29.2**	**-1.4**
	86nm,0.3s,baz=268,slow=23,SNR=7.4						
BSO1	**Boso 1**	**2.65**	**337**	P	**Pn**	**11 49 09.0**	**-0.4**
BSO1				*e*S	**Sn**	**11 49 39.7**	**-0.9**
BSO2	**Boso 2**	**2.81**	**335**	*e*S	**Sn**	**11 49 46.2**	**+1.5**
BSO3	**Boso 3**	**2.95**	**332**	P	**Pn**	**11 49 13.3**	**-0.3**
BSO3				S	**Sn**	**11 49 48.9**	**+0.8**
BSO4	**Boso 4**	**3.18**	**331**	P	**Pn**	**11 49 18.1**	**+1.3**
BSO4				S	**Sn**	**11 49 55.1**	**+1.3**
JOD2	**Odawara 2**	**4.01**	**320**	P	**Pn**	**11 49 28.4**	**+0.3**
JYN	**Shimob**	**4.48**	**318**	P	**Pn**	**11 49 35.3**	**+0.7**
JRY	**Ryogami san**	**4.69**	**325**	P	**Pn**	**11 49 37.8**	**+0.3**
JRY				S	**Sn**	**11 50 30.7**	**-0.2**
JAG	**Ashikaga**	**4.78**	**332**	P	**Pn**	**11 49 38.7**	**-0.1**
JAG				S	**Sn**	**11 50 31.7**	**-1.6**
CBIJ	**Chichi jima**	**5.10**	**180**	Pn	**Pn**	**11 49 39.4**	**-3.8**
	14nm,0.3s,baz=92,slow=23,SNR=4.7						
CBIJ				Sn	**Sn**	**11 50 34.6**	**-6.5**
	15nm,0.3s,baz=288,slow=20,SNR=3.1						
MJAR	**Matsushiro Arr**	**5.44**	**324**	Pn	**Pn**	**11 49 47.7**	**-0.2**
	4.9nm,0.3s,baz=149,slow=12,SNR=107						
MJAR				Sn	**Sn**	**11 50 48.3**	**-1.2**
	0.7nm,0.3s,baz=239,slow=34,SNR=6.4						
MJAR	**Matsushiro Arr**	**5.44**	**324**	P	**Pn**	**11 49 47.7**	**-0.2**
MJAR						11 50 48.3	
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MJAR				smax			
	comp=E,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**5.44**	**324**	Pn	**Pn**	**11 49 47.7**	**-0.2**
MJAR				Sn	**Sn**	**11 50 48.3**	**-1.2**
MAJO	**Matsushiro**	**5.45**	**324**	*e*P	**Pn**	**11 49 48.8**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,15nm,0.5s						
MAT	**Matsushiro**	**5.45**	**324**	P	**Pn**	**11 49 48.2**	**+0.3**
MAT				S	**Sn**	**11 50 48.4**	**-1.2**
MAT	**Matsushiro**	**5.45**	**324**	*e*P	**Pn**	**11 49 48.0**	**+0.1**
MAT				*e*S	**Sn**	**11 50 48.0**	**-1.6**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MAT	**Matsushiro**	**5.45**	**324**	*e*P	**Pn**	**11 49 48.0**	**+0.1**
	comp=Z,8.0nm,0.6s						
MAT				*e*S	**Sn**	**11 50 48.0**	**-1.6**
JMK	**Ichinoseki**	**6.77**	**353**	P	**Pn**	**11 50 04.6**	**-1.5**
JMK				*e*S	**Sn**	**11 51 16.4**	**-5.9**
ASAJ	**Asahikawa**	**11.89**	**1**	Pn	**Pn**	**11 51 12.9**	**-3.3**
	comp=Z,1.2nm,0.3s,baz=213,slow=12,SNR=14						
ASAJ				Sn	**Sn**	**11 53 16.9**	**-11**
	comp=Z,0.1nm,0.3s,baz=151,slow=25,SNR=3.0						
YSS	**Yuzh-Sakhalins**	**14.73**	**1**	P	**Pn**	**11 52 02.7**	**+7.7**
SONM	**Songino Array**	**31.23**	**310**	P	**P**	**11 54 46.6**	**+1.0**
	comp=Z,1.1nm,0.8s,mb3.7,baz=112,slow=8.0,SNR=4.2						
SONM	**Songino Array**	**31.23**	**310**	P	**P**	**11 54 46.6**	**+0.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAL	**Zalesovo**	**45.76**	**316**	P	**P**	**11 56 47.6**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.1,baz=5.1,slow=5.9,SNR=4.8						
ZAL	**Zalesovo**	**45.76**	**316**	P	**P**	**11 56 47.6**	**+0.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**47.37**	**306**	P	**P**	**11 57 00.8**	**+0.6**
	comp=Z,0.7nm,0.3s,mb4.0,baz=89,slow=9.1,SNR=13						
MKAR	**Makanchi Array**	**47.37**	**306**	P	**P**	**11 57 00.8**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**49.52**	**312**	*e*P	**P**	**11 57 12.2**	**-4.6**
WRA	**Warramunga Arr**	**52.41**	**189**	P	**P**	**11 57 36.7**	**-1.8**
	comp=Z,0.7nm,0.3s,mb4.0,baz=5.6,slow=7.6,SNR=41						
WRA	**Warramunga Arr**	**52.41**	**189**	P	**P**	**11 57 36.7**	**-1.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.49**	**200**	P	**P**	**11 57 39.2**	**+0.1**
	comp=Z,2.4nm,1.0s,mb4.1,baz=192,slow=17,SNR=6.2						
ASAR	**Alice Springs**	**56.13**	**189**	P	**P**	**11 58 05.3**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.7,baz=1.2,slow=6.1,SNR=17						
ASAR	**Alice Springs**	**56.13**	**189**	P	**P**	**11 58 05.3**	**-0.2**
FINES	**FINESS Array B**	**73.39**	**333**	P	**P**	**11 59 58.0**	**-0.1**
	comp=Z,1.6nm,0.9s,mb4.0,baz=96,slow=7.7,SNR=5.5						
FINES	**FINESS Array B**	**73.39**	**333**	P	**P**	**11 59 58.0**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NAO01	**NORSAR Array S**	**79.14**	**338**	*e*P	**P**	**12 00 24.1**	**-6.5**
	comp=Z,4.4nm,0.6s,mb4.6						
PDAR	**Pinedale Array**	**80.58**	**45**	P	**P**	**12 00 39.5**	**+1.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=339,slow=2.1,SNR=3.8						
MOX	**Moxa**	**86.69**	**331**	*e*	**P**	**12 01 11.3**	**+1.5**
MOX	**Moxa**	**86.69**	**331**	*e*	**P**	**12 01 11.3**	**+1.5**
	comp=Z,21nm,1.6s,mb5.1						
MOX	**Moxa**	**86.69**	**331**	*e*	**P**	**12 01 10.3**	**+0.5**
MANZ	**Manzenberg**	**86.98**	**330**	*e*	**P**	**12 01 11.1**	**-0.1**
LPAZ	**La Paz**	**148.25**	**67**	PKPbc	PKPbc	12 08 14.4	+2.4
	comp=Z,1.1nm,0.8s,baz=307,slow=5.1,SNR=4.9						

*ISCJB **16** 11:56:20.8±0.3, 4148N±001×2092E±002, h5km±2km, Error ellipse: s-maj=2.6km s-min=1.8km az=74.3*

*TIR **16** 11:56:20.9, 4148N×2088E, h4km, Ml3.1*

*SKO **16** 11:56:20.8, 4142N×2092E, h15km, M1.5, ML3.4*

*CSEM **16** 11:56:21.8±0.0, 4148N×2094E, h5km, ML3.4, Error ellipse: s-maj=1.4km s-min=0.8km az=15.0*

*PDG **16** 11:56:22.0±0.5, 4144N×2095E, h11km±1km*

*ATH **16** 11:56:21.6, 4152N×2102E, h18km±2km, MD3.8/7*

*LDG **16** 11:56:21.8±0.1, 4142N×2102E, h2km, Ml4.2/4, Error ellipse: s-maj=3.4km s-min=1.8km az=32.0*

*THE **16** 11:56:21.6, 4146N×2093E, h2km, ML3.6*

*NEIC **16** 11:56:22.7±0.3, 4142N×2090E, h10km, MD3.8(ATH), ML3.7(PDG), Error ellipse: s-maj=6.2km s-min=4.1km az=34.0*

*SOF **16** 11:56:23.1, 4149N×21.17E, h8km, MD3.7*

*ROM **16** 11:56:25.4±0.9, 4136N×2058E, h10km, Ml3.4/11, Error ellipse: s-maj=13.8km s-min=5.1km az=103.0*

ISC 16 11:56:21.6±0.3, **4144N**±001×**2095E**±002, **h0**km±2km, **n139**, σ**1§11**/197, **13C-11D**, **Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.35**	**199**	*i* Pg	**Pg**	**11 56 27.8**	**-0.4**
OHR				*i* Sg	**Sg**	**11 56 33.5**	**+0.8**
OHR				*e*Lg		11 56 33.9	
	comp=E,8μm,0.9s						
OHR				*e*Lg		11 56 33.9	
	comp=N,5μm,0.5s						
OHR	**Ohrid**	**0.35**	**199**	*e*Pg	**Pg**	**11 56 28.5**	**+0.2**
OHR				*e*Sg	**Sg**	**11 56 33.9**	**+1.1**
BIA	**Bitola**	**0.50**	**146**	*e*Pg	**Pg**	**11 56 31.4**	**+0.1**
BIA				*e*Sg	**Sg**	**11 56 40.1**	**+2.2**
BIA	**Bitola**	**0.50**	**146**	*i* Pg	**Pg**	**11 56 31.1**	**-0.2**
BIA				*i* Sg	**Sg**	**11 56 39.6**	**+1.8**
SKO	**Skopje**	**0.65**	**34**	*e*Pg	**Pg**	**11 56 35.3**	**+1.2**
SKO				*e*Sg	**Sg**	**11 56 43.5**	**+1.0**
SKO	**Skopje**	**0.65**	**34**	*i* Pg	**Pg**	**11 56 35.2**	**+1.2**
SKO				*i* Sg	**Sg**	**11 56 43.6**	**+1.2**
SKO	**Skopje**	**0.65**	**34**	*i* Pg	**Pg**	**11 56 35.2**	**+1.1**
SKO				*i* Sg	**Sg**	**11 56 43.6**	**+1.2**
FNA	**Florina**	**0.73**	**154**	*e*Pg	**Pg**	**11 56 35.3**	**-0.3**
FNA				*e*Sg	**Sg**	**11 56 46.7**	**+1.7**
KKS	**Kukesi**	**0.75**	**328**	*i* Pg	**Pg**	**11 56 35.1**	**-1.0**
KKS				*i* Sg	**Sg**	**11 56 47.6**	**+1.7**
QSH	**Qafa e Shtames**	**0.79**	**276**	*i* Pg	**Pg**	**11 56 36.0**	**-0.8**
QSH				*i* Sg	**Sg**	**11 56 52.0**	**+5.0**
TIR	**Tirane**	**0.82**	**264**	*e*Pg	**Pg**	**11 56 36.7**	**-0.7**
TIR				*e*Sg	**Sg**	**11 56 47.9**	**-0.1**
TIR	**Tirane**	**0.82**	**264**	Pn	**Pn**	**11 56 35.8**	**-4.7**
TIR	**Tirane**	**0.82**	**264**	*e*Pg	**Pg**	**11 56 36.7**	**-0.7**
TIR				*e*Sg	**Sg**	**11 56 47.9**	**-0.2**
KBN	**Korca**	**0.82**	**189**	*i* Pg	**Pg**	**11 56 37.9**	**+0.5**
KBN				*i* Sg	**Sg**	**11 56 50.7**	**+2.6**
LACI	**Lac**	**0.95**	**282**	*i* Pg	**Pg**	**11 56 39.1**	**-0.8**
LACI				*i* Sg	**Sg**	**11 56 54.2**	**+1.9**
VAY	**Valandovo**	**1.22**	**95**	*e*Pg	**Pg**	**11 56 44.4**	**-0.7**
VAY				*e*Sg	**Sg**	**11 57 01.8**	**+0.8**
VAY	**Valandovo**	**1.22**	**95**	⇑*i*Pg	**Pg**	**11 56 44.2**	**-0.9**
KZN	**Kozani**	**1.29**	**151**	*e*PN	**Pn**	**11 56 46.7**	**-0.2**
KZN				*e*SN	**Sn**	**11 57 05.8**	**+0.9**
LSK	**Leskovik**	**1.31**	**192**	*i* Pn	**Pn**	**11 56 47.6**	**+0.4**
LSK				*i* Sn	**Sn**	**11 57 06.8**	**+1.4**
PVY	**Plav**	**1.37**	**328**	⇑*i*Pg	**Pg**	**11 56 46.7**	**-1.1**
PVY				*e*Sg	**Sg**	**11 57 08.3**	**+2.7**
ULC	**Ulcinj**	**1.38**	**293**	⇑*i*Pg	**Pg**	**11 56 46.1**	**-1.9**
ULC				*e*Sg	**Sg**	**11 57 08.6**	**+2.7**
KNT	**Kendrikon**	**1.49**	**100**	*e*Pg	**Pg**	**11 56 49.8**	**-0.5**
KNT				*e*Sg	**Sg**	**11 57 09.9**	**+0.3**
TTG	**Podgorica**	**1.60**	**309**	⇑*i*Pn	**Pn**	**11 56 51.2**	**0.0**
TTG				*e*Sn	**Sn**	**11 57 14.4**	**+1.8**
IVA	**Berane**	**1.63**	**332**	⇓*i*Pn	**Pn**	**11 56 51.2**	**-0.4**
IVA				*e*Sn	**Sn**	**11 57 14.5**	**+1.2**
KKB	**Krupnik**	**1.65**	**74**	*i* P	**Pn**	**11 56 52.0**	**+0.1**
MEV	**Metsovon**	**1.67**	**173**	*e*Pb	**Pb**	**11 56 52.8**	**-0.3**
MEV				*e*Sb	**Sb**	**11 57 14.4**	**-0.2**
SRN	**Sarande**	**1.72**	**205**	*i* Pn	**Pn**	**11 56 54.0**	**+1.2**
SRN				*i* Sn	**Sn**	**11 57 17.4**	**+2.0**
THE	**Thessaloniki**	**1.72**	**117**	*e*Pb	**Pb**	**11 56 52.0**	**-2.1**
THE				*e*Sb	**Sb**	**11 57 15.8**	**-0.5**
BUM	**Brajici-Budva**	**1.76**	**300**	⇓*i*Pn	**Pn**	**11 56 52.8**	**-0.6**
BUM				*e*Sn	**Sn**	**11 57 18.9**	**+2.5**
LIT	**Litokhoron**	**1.77**	**138**	*e*Pb	**Pb**	**11 56 53.3**	**-1.7**
LIT				*e*Sb	**Sb**	**11 57 17.5**	**-0.3**
JAN	**Janina**	**1.78**	**182**	*e*PN	**Pn**	**11 56 55.1**	**+1.4**
JAN				*e*SN	**Sn**	**11 57 19.0**	**+2.0**
HORT	**Hortiatis**	**1.83**	**117**	*e*Pb	**Pb**	**11 56 53.8**	**-2.2**
HORT				*e*Sb	**Sb**	**11 57 18.9**	**-0.6**
SOH	**Sokhos**	**1.92**	**108**	*e*Pb	**Pb**	**11 56 56.0**	**-1.4**
SOH				*e*Sb	**Sb**	**11 57 20.6**	**-1.4**
SOH	**Sokhos**	**1.92**	**108**	*e*Pb	**Pb**	**11 56 56.0**	**-1.5**
SOH				*e*Sb	**Sb**	**11 57 20.5**	**-1.4**
KEK	**Kerkira**	**1.93**	**207**	*e*PB	**Pb**	**11 56 56.4**	**-1.3**
IGT	**Igoumenitsa**	**1.96**	**194**	*e*Pn	**Pn**	**11 56 56.2**	**0.0**
IGT				*e*Sn	**Sn**	**11 57 21.5**	**+0.1**
NKY	**Niksic**	**2.00**	**314**	⇓*i*Pn	**Pn**	**11 56 57.7**	**+1.0**
NKY				*e*Sn	**Sn**	**11 57 24.0**	**+1.6**
VTS	**Vitosha**	**2.04**	**55**	*i* P	**Pn**	**11 56 57.7**	**+0.5**
HCY	**Herceg Novi**	**2.09**	**300**	⇑*i*Pn	**Pn**	**11 56 57.9**	**0.0**
HCY				*e*Sn	**Sn**	**11 57 27.0**	**+2.4**
MMB	**Musomiste**	**2.09**	**85**	*i* P	**Pn**	**11 56 58.1**	**+0.2**
PLG	**Polygyros**	**2.17**	**119**	*e*PN	**Pn**	**11 56 59.3**	**+0.3**
NVR	**Nevrokopi**	**2.19**	**91**	*e*PN	**Pn**	**11 56 59.2**	**-0.1**
NVR				*e*SN	**Sn**	**11 57 25.8**	**-1.3**
PLE	**Pljevlja**	**2.21**	**329**	⇓*i*Pn	**Pn**	**11 56 59.5**	**-0.1**
PLE				*e*Sn	**Sn**	**11 57 28.9**	**+1.2**
BRY	**Bratogost**	**2.31**	**310**	⇑*i*Pn	**Pn**	**11 57 01.6**	**+0.6**
BRY				*e*Sn	**Sn**	**11 57 32.0**	**+1.9**
TREB	**Trebinje**	**2.32**	**304**	P	**Pn**	**11 57 02.2**	**+1.1**
TREB				S	**Sn**	**11 57 32.8**	**+2.5**
UPM	**Unac-Piva**	**2.32**	**320**	⇓*i*Pn	**Pn**	**11 57 02.1**	**+1.0**
UPM				*e*Sn	**Sn**	**11 57 32.6**	**+2.2**
SCTE	**Santa Cesarea**	**2.33**	**235**	Pn	**Pn**	**11 56 59.6**	**-1.6**
LCI	**Lecce**	**2.42**	**244**	Pn	**Pn**	**11 57 02.2**	**-0.2**
OUR	**Ouranopolis**	**2.55**	**115**	*e*Pn	**Pn**	**11 57 04.7**	**+0.5**
EVR	**Evrytania**	**2.60**	**165**	*e*PB	**Pb**	**11 57 06.7**	**-2.5**
EVR				*e*SN	**Sn**	**11 57 38.7**	**+1.4**
AGG	**Agios Georgios**	**2.63**	**156**	*e*Pn	**Pn**	**11 57 05.3**	**0.0**
AGG				*e*Sn	**Sn**	**11 57 36.0**	**-2.0**
PGB	**Panagyurishte**	**2.64**	**64**	*i* P	**Pn**	**11 57 05.8**	**+0.3**
XOR	**Xorichti**	**2.69**	**140**	*e*Pn	**Pn**	**11 57 05.5**	**-0.6**
LKD	**Levkas**	**2.74**	**185**	*e*Pn	**Pn**	**11 57 06.8**	**0.0**
LKD				*e*Sn	**Sn**	**11 57 42.0**	**+1.4**
PE1	**Pezze di Greco**	**2.74**	**258**	*e*Pn	**Pn**	**11 57 05.9**	**-0.9**
DIVS	**Divcibare**	**2.75**	**345**	*e*Pn	**Pn**	**11 57 06.3**	**-0.7**
DIVS				*e*Sn	**Sn**	**11 57 39.5**	**-1.4**
STON	**Ston**	**2.81**	**302**	*i* Pn	**Pn**	**11 57 08.2**	**+0.4**
STON				*i* Sn	**Sg**	**11 57 52.2**	**+0.3**
STON	**Ston**	**2.81**	**302**	*i* Pn	**Pn**	**11 57 08.1**	**+0.3**
RZN	**Rozhen**	**2.84**	**84**	P	**Pn**	**11 57 08.9**	**+0.7**
PLD	**Plovdiv**	**2.88**	**75**	P	**Pn**	**11 57 08.5**	**-0.3**
NOCI	**Noci**	**3.01**	**259**	Pn	**Pn**	**11 57 09.4**	**-1.1**
	comp=N,71nm,0.7s						
BAI	**Bari**	**3.09**	**265**	*e*Pn	**Pn**	**11 57 10.9**	**-0.7**
AOS	**Alonnisos**	**3.19**	**134**	*e*Pn	**Pn**	**11 57 12.6**	**-0.4**
LKR	**Lokris**	**3.20**	**150**	*e*PN	**Pn**	**11 57 14.0**	**+0.9**
VLS	**Valsamata**	**3.27**	**185**	*e*PN	**Pn**	**11 57 15.9**	**+1.8**
SG1	**Sgolgore (BA)**	**3.28**	**261**	*e*Pn	**Pn**	**11 57 13.4**	**-0.9**
AMUR	**Altamura**	**3.32**	**262**	Pn	**Pn**	**11 57 13.9**	**-1.0**
RLS	**Riolos of Patr**	**3.40**	**173**	*e*PN	**Pn**	**11 57 18.0**	**+2.1**
RDO	**Rodhopi**	**3.47**	**93**	*e*PN	**Pn**	**11 57 16.5**	**-0.4**
CDT	**Castel del Mon**	**3.54**	**266**	*e*Pn	**Pn**	**11 57 17.3**	**-0.6**
ORI	**Oriolo Calabro**	**3.69**	**250**	Pn	**Pn**	**11 57 20.0**	**+0.2**
MSAG	**Monte S. Angel**	**3.79**	**276**	Pn	**Pn**	**11 57 20.7**	**-0.6**
ALN	**Alexandroupoli**	**3.88**	**96**	*e*Pn	**Pn**	**11 57 22.7**	**+0.2**
ALN				*e*Sn	**Sn**	**11 58 09.8**	**+0.9**
SCHR	**S. Chirico Rap**	**3.90**	**253**	Pn	**Pn**	**11 57 22.1**	**-0.7**
	comp=N,17nm,0.6s						
RGNG	**Rignano Grg**	**4.03**	**275**	Pn	**Pn**	**11 57 23.5**	**-1.1**
SERS	**Sersale**	**4.05**	**235**	Pn	**Pn**	**11 57 23.9**	**-0.9**
FG4	**Candela**	**4.11**	**268**	Pn	**Pn**	**11 57 24.7**	**-0.9**
	comp=N,53nm,0.4s						
CUC	**Castrocucco**	**4.16**	**251**	Pn	**Pn**	**11 57 25.6**	**-0.8**
SLCN	**Sala Consilina**	**4.16**	**257**	Pn	**Pn**	**11 57 26.7**	**+0.3**
	comp=N,54nm,0.6s						
MRLC	**Muro Lucano**	**4.18**	**262**	Pn	**Pn**	**11 57 26.9**	**+0.2**
BZS	**Buzias**	**4.21**	**6**	⇓*i*P	**Pn**	**11 57 27.7**	**+0.7**
SGTA	**Sant Agata di**	**4.22**	**268**	Pn	**Pn**	**11 57 26.7**	**-0.5**
	comp=N,57nm,0.8s						
CAFE	**Carife**	**4.33**	**266**	Pn	**Pn**	**11 57 28.6**	**-0.1**
	comp=N,203nm,1.9s						
SGO	**Sicignano**	**4.36**	**260**	Pn	**Pn**	**11 57 28.8**	**-0.3**
	comp=N,20nm,0.2s						
CDRU	**Civita di Ruta**	**4.38**	**259**	Pn	**Pn**	**11 57 28.9**	**-0.5**
	comp=N,14nm,0.3s						
MCRV	**Calabrutti - M**	**4.42**	**263**	Pn	**Pn**	**11 57 29.2**	**-0.7**
	comp=N,39nm,0.3s						
CMPR	**Campora**	**4.42**	**257**	Pn	**Pn**	**11 57 29.7**	**-0.3**
	comp=N,33nm,1.0s						
CSSN	**Cassano Irpino**	**4.51**	**265**	Pn	**Pn**	**11 57 31.6**	**+0.4**
	comp=N,20nm,0.3s						
CIGN	**Sant'Elia a Pi**	**4.54**	**275**	Pn	**Pn**	**11 57 31.5**	**-0.1**
BSSO	**Busso**	**4.78**	**273**	Pn	**Pn**	**11 57 35.1**	**+0.3**
	comp=N,148nm,1.3s						
CHOS	**Chios island**	**4.97**	**126**	*e*Pn	**Pn**	**11 57 38.4**	**+0.9**
CEL	**Celeste**	**5.02**	**232**	Pn	**Pn**	**11 57 37.2**	**-1.0**
MIDA	**Miranda**	**5.03**	**275**	Pn	**Pn**	**11 57 38.0**	**-0.3**
	comp=N,116nm,1.2s						
VAGA	**Valle Agricola**	**5.05**	**272**	Pn	**Pn**	**11 57 38.5**	**-0.1**
	comp=N,181nm,1.0s						
SOI	**Samo**	**5.05**	**230**	Pn	**Pn**	**11 57 38.1**	**-0.5**
PKSM	**Moragy**	**5.06**	**341**	⇓*i*P	**Pn**	**11 57 38.0**	**-0.7**
SDI	**San Donato**	**5.36**	**275**	Pn	**Pn**	**11 57 43.0**	**+0.1**
	comp=N,77nm,1.2s						
TERO	**Teramo**	**5.60**	**285**	Pn	**Pn**	**11 57 45.7**	**-0.4**
APE	**Apeiranthos**	**5.63**	**139**	*e*Pn	**Pn**	**11 57 47.0**	**+0.5**
AQU	**L'Aquila**	**5.71**	**282**	*e*Pn	**Pn**	**11 57 46.7**	**-0.9**
	comp=N,47nm,1.0s						
BOJS	**Bojanci**	**5.80**	**316**	*e*Pn	**Pn**	**11 57 49.7**	**+0.7**
BOJS				*e*Sn	**Sn**	**11 58 55.0**	**-1.3**
FIAM	**Fiamignano**	**5.91**	**281**	Pn	**Pn**	**11 57 49.6**	**-0.8**
NRCA	**Norcia**	**5.99**	**286**	Pn	**Pn**	**11 57 51.5**	**0.0**
SNTG	**Esanatoglia**	**6.21**	**290**	Pn	**Pn**	**11 57 53.8**	**-0.7**
ARV	**Arcevia**	**6.27**	**292**	Pn	**Pn**	**11 57 54.9**	**-0.5**
FSSB	**Fossombrone**	**6.44**	**293**	Pn	**Pn**	**11 57 57.3**	**-0.4**
MURB	**Monte Urbino**	**6.50**	**289**	Pn	**Pn**	**11 57 59.2**	**+0.6**
PSZ	**Piszkesteto**	**6.52**	**354**	*e*Pn	**Pn**	**11 58 00.6**	**+1.8**
	comp=N,5.8nm,0.6s						
PSZ				*e*Sn	**Sn**	**11 59 08.1**	**-5.9**
PSZ	**Piszkesteto**	**6.52**	**354**	*e*Pn	**Pn**	**11 58 00.6**	**+1.8**
	comp=N,5.8nm,0.6s						
PERS	**Pernice**	**6.68**	**323**	*e*Pn	**Pn**	**11 58 01.4**	**+0.4**
VOY	**Vojsko**	**6.87**	**314**	*e*Pn	**Pn**	**11 58 04.4**	**+0.8**
VOY				*e*		11 58 07.2	
VOY				*e*Sn	**Sn**	**11 59 19.0**	**-3.5**
VOY				*e*		11 59 20.3	
ROBS	**Robic**	**7.21**	**314**	*i* Pn	**Pn**	**11 58 08.5**	**+0.2**
ROBS				*e*Sn	**Sn**	**11 59 29.5**	**-1.4**
VYHS	**Vyhne**	**7.21**	**349**	*e*PN	**Pn**	**11 58 09.1**	**+0.8**
VYHS				*e*SN	**Sn**	**11 59 24.8**	**-6.1**
VYHS	**Vyhne**	**7.21**	**349**	*e*Pn	**Pn**	**11 58 09.1**	**+0.8**
VYHS				*e*Sn	**Sn**	**11 59 24.8**	**-6.1**
KBA	**Koelnbreinsper**	**7.85**	**318**	⇑*i*	**Pn**	**11 58 19.0**	**+2.0**
	comp=N,8.8nm,0.7s						
KBA	**Koelnbreinsper**	**7.85**	**318**	⇑*e*Pn	**Pn**	**11 58 19.0**	**+2.0**
	comp=N,8.8nm,0.7s						
KBA	**Koelnbreinsper**	**7.85**	**318**	*i*	**Pn**	**11 58 19.0**	**+2.0**
WTTA	**Wattenberg**	**8.85**	**314**	⇑*i*	**Pn**	**11 58 31.7**	**+0.9**
	comp=N,12nm,0.8s						
WTTA	**Wattenberg**	**8.85**	**314**	*i*	**Pn**	**11 58 31.7**	**+0.9**
WATA	**Walderalm**	**8.93**	**314**	⇓*i*	**Pn**	**11 58 33.3**	**+1.5**
	comp=N,8.1nm,1.1s						
WATA	**Walderalm**	**8.93**	**314**	*i*	**Pn**	**11 58 33.3**	**+1.5**
SQTA	**Sankt Quirin**	**9.06**	**313**	⇓*i*Pn	**Pn**	**11 58 34.9**	**+1.2**
	comp=N,5.5nm,1.0s						
SQTA				⇑*i*Sn	**Sn**	**12 00 14.8**	**-1.6**
	comp=N,3.4nm,0.4s						
SQTA	**Sankt Quirin**	**9.06**	**313**	*i*	**Pn**	**11 58 34.9**	**+1.2**
MOTA	**Moosalm**	**9.19**	**313**	⇑*i*Pn	**Pn**	**11 58 36.7**	**+1.2**
	comp=N,7.0nm,1.1s						
MOTA				⇓*i*Sn	**Sn**	**12 00 18.0**	**-1.5**
	comp=N,6.3nm,0.6s						
MOTA	**Moosalm**	**9.19**	**313**	*i*	**Pn**	**11 58 36.7**	**+1.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DAVA	**Damuels**	**9.85**	**310**	⇑*i*	**Pn**	**11 58 39.3**	**-5.1**
	comp=N,7.3nm,1.1s						
DAVA	**Damuels**	**9.85**	**310**	⇓Pn	**Pn**	**11 58 42.8**	**-1.6**
	comp=N,7.3nm,1.1s						
DAVA				⇑*i*Sn	**Sn**	**12 00 34.9**	**-0.8**
	comp=N,6.0nm,0.7s						
DAVA	**Damuels**	**9.85**	**310**	*i*	**Pn**	**11 58 39.3**	**-5.1**
FRF	**La Foret Royal**	**10.78**	**286**	*e*Pn	**Pn**	**11 58 57.3**	**+0.2**
LMR	**La Mourre**	**10.85**	**285**	*e*Pn	**Pn**	**11 58 56.2**	**-2.0**
LMR				*e*Sn	**Sn**	**12 00 52.9**	**-7.4**
	comp=N,53nm,1.3s						
MBDF	**Montbardon**	**10.88**	**292**	*e*Pn	**Pn**	**11 58 56.9**	**-1.7**
MBDF				*e*Sn	**Sn**	**12 00 52.0**	**-9.0**
LPG	**La Plagne**	**11.09**	**296**	*e*Pn	**Pn**	**11 58 59.3**	**-2.1**
LPG	**La Plagne**	**11.09**	**296**	*e*Sn	**Sn**	**12 00 56.6**	**-10**
	comp=N,11nm,0.7s						
LPL	**La Plagne**	**11.11**	**296**	*e*Pn	**Pn**	**11 59 00.4**	**-1.3**
LPL				*e*Sn	**Sn**	**12 00 58.1**	**-8.4**
	comp=N,21nm,1.1s						
ORIF	**Oris-en-Rattie**	**11.54**	**293**	*e*Pn	**Pn**	**11 59 06.3**	**-1.3**
ORIF				*e*Sn	**Sn**	**12 01 08.4**	**-8.8**
	comp=N,17nm,1.0s						
CABF	**La Chapelle**	**11.88**	**301**	*e*Pn	**Pn**	**11 59 10.6**	**-1.7**
VIVF	**Saint-Julien-l**	**12.37**	**291**	*e*Pn	**Pn**	**11 59 17.6**	**-1.4**
HYF	**Humbligny**	**14.33**	**300**	*e*Pn	**Pn**	**11 59 41.4**	**-4.3**
GRR	**Gorron**	**16.91**	**302**	*e*Pn	**Pn**	**12 00 18.8**	**-0.8**

MEX 16 12:25:13.3±0.7**, 1570N×9366W, h61**^{km}±79^{km}**, MD4.0, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.43**	**44**	*i* P	Pn	12 25 36.0	-1.0
SCX				*i* S	Sn	12 25 53.0	-1.8
CMIG	**Matias Romero**	**1.81**	**320**	*i* P	Pn	12 25 41.0	-1.2
CMIG				*i* S	Sn	12 26 02.5	-1.7
HUIG	**Huatulco**	**2.36**	**272**	*i* P	Pn	12 25 49.0	-0.7
HUIG				*i* S	Sn	12 26 15.5	-2.0
OXX	**Oaxaca**	**3.25**	**295**	*e*P	Pn	12 25 58.0	-3.7

*ISCJB **16** 12:52:22.5±0.2, 226N±003×12850E±004, h35^{km}, mb5.0/74, MS5.0/11, Error ellipse: s-maj=6.4km s-min=3.8km az=139.9*
*MOS **16** 12:52:22.3±1.0, 235N×12836E, h33^{km}, mb5.1/35, Error ellipse: s-maj=12.2km s-min=6.6km az=107.1*
*BJI **16** 12:52:22.8, 240N×12853E, h30^{km}, mB5.2, mb4.8, Ms5.2, Msz5.0*
*IDC **16** 12:52:23.6±0.6, 230N×12836E, h31^{km}±4^{km}, mb4.4/19, mb1 4.5/20, mb1mx4.4/23, mbtmp4.6/20, ML5.0/1, Error ellipse: s-maj=20.2km s-min=9.7km az=78.0*
*NEIC **16** 12:52:23.9±0.2, 228N×12839E, mb5.1/30, MS4.8/1, Error ellipse: s-maj=8.4km s-min=4.8km az=73.0*
ISC 16 12:52:24.6±0.2**, 227N**±003×**12856E**±004**, h37**^{km}**, h37**^{km}±1.2^{km}**:pP-P, n195,** σ1^{s}**28**/185**, mb5.0**/74**, MS5.0**/11**, 6C-2D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**4.12**	**139**	P	**Pn**	**12 53 26.6**	**+1.6**
	914nm,0.8s						
MATI	**Mati**	**5.18**	**334**	*e*P	**Pn**	**12 53 44.9**	**+5.3**
AAI	**Ambon**	**5.93**	**184**	P	**Pn**	**12 54 00.2**	**+10**
	185nm,0.9s						
CTBH	**Cotabato--PC H**	**6.53**	**319**	⇑*e*P	**Pn**	**12 54 01.0**	**+2.8**
CTBH				*i* S		12 54 32.7	
BUKP	**Musuan**	**6.57**	**328**	*e*P	**Pn**	**12 54 02.6**	**+4.0**
CGP	**Cagayan de Oro**	**7.25**	**328**	*e*P	**Pn**	**12 54 13.4**	**+5.4**
PAGZ	**Pagadian**	**7.57**	**317**	*e*P	**Pn**	**12 54 14.8**	**+2.4**
IPIL	**Ipil**	**8.10**	**313**	*e*P	**Pn**	**12 54 20.1**	**+0.4**
BAKI	**Biak**	**8.29**	**114**	P	**Pn**	**12 54 28.3**	**+6.0**
	621nm,0.6s						
PCI	**Palu**	**9.27**	**250**	P	**Pn**	**12 54 39.3**	**+3.6**
	109nm,1.2s						
GUIM	**Jordan**	**10.20**	**325**	*e*P	**Pn**	**12 54 53.3**	**+4.8**
CUYO	**Cuyo Island**	**11.34**	**319**	*e*P	**Pn**	**12 55 07.6**	**+3.5**
KKM	**Kota Kinabalu**	**12.87**	**287**	*e*P	**Pn**	**12 55 27.4**	**+2.5**
TGY	**Tagaytay City**	**13.96**	**328**	Pn	**Pn**	**12 55 41.1**	**+1.2**
	14nm,0.3s,baz=232,slow=18,SNR=2.0						
TGY	**Tagaytay City**	**13.96**	**328**	P	**Pn**	**12 55 41.1**	**+1.2**
TGY				pmax	pmax		
	comp=Z,14nm,0.3s						
LUBP	**Lubang**	**14.05**	**325**	*e*P	**Pn**	**12 55 44.9**	**+3.9**
KAKA	**Kakadu**	**15.37**	**166**	*e*P	**Pn**	**12 55 57.0**	**-1.8**
	comp=Z,28nm,0.6s						
CAUP	**Cauayan**	**16.02**	**336**	*e*P	**Pn**	**12 56 10.6**	**+3.6**
APYP	**Conner**	**17.08**	**336**	*e*P	**Pn**	**12 56 21.5**	**+1.0**
KMMI	**Kalianget**	**17.25**	**237**	P	**Pn**	**12 56 22.8**	**+0.1**
	comp=Z,252nm,2.0s						
KSM	**Kuching**	**18.26**	**268**	*e*P	**Pn**	**12 56 31.5**	**-3.5**
KRKI	**Karangkates**	**19.11**	**237**	P	**Pn**	**12 56 50.2**	**+4.9**
	comp=Z,377nm,1.0s						
GUMO	**Guam**	**19.66**	**54**	P	**Pn**	**12 56 51.7**	**-0.3**
	comp=Z,4.7nm,0.3s,baz=174,slow=18,SNR=4.0						
GUMO	**Guam**	**19.66**	**54**	P	**Pn**	**12 56 51.7**	**-0.2**
GUMO				pmax	pmax		
	comp=Z,5.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**20.45**	**188**	*e*P	**P**	**12 56 59.3**	**+0.5**
	comp=Z,13nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.45**	**188**	P	**P**	**12 56 59.4**	**+0.6**
	comp=Z,6.5nm,0.8s,baz=44,slow=11,SNR=14						
BJII	**Banjamegara**	**21.09**	**243**	P	**P**	**12 57 06.9**	**+1.1**
	comp=Z,337nm,1.6s,mb5.4						
PMG	**Port Moresby**	**21.86**	**122**	P	**P**	**12 57 16.8**	**+2.7**
	comp=Z,9.6nm,0.7s,mb4.3,baz=299,slow=13,SNR=2.9						
PMG	**Port Moresby**	**21.86**	**122**	*e*P	**P**	**12 57 17.7**	**+3.6**
LEM	**Lembang**	**22.77**	**246**	P	**P**	**12 57 26.2**	**+2.5**
	comp=Z,79nm,1.1s,mb5.0						
WRAB	**Tennant Creek**	**22.78**	**166**	P	**P**	**12 57 24.0**	**+0.1**
	SNR=31						
WRAB	**Tennant Creek**	**22.78**	**166**	*e*P	**P**	**12 57 24.5**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,78nm,0.8s,mb5.2						
WRAB	**Tennant Creek**	**22.78**	**166**	*e*P	**P**	**12 57 24.5**	**+0.7**
	comp=Z,78nm,0.8s,mb5.2						
WRA	**Warramunga Arr**	**22.79**	**166**	P	**P**	**12 57 24.3**	**+0.4**
	comp=Z,28nm,0.8s,mb4.8,baz=342,slow=11,SNR=127						
WRA				S	**S**	**13 01 34.8**	**+4.2**
	comp=Z,5.3nm,1.2s,baz=338,slow=16,SNR=3.6						
WRA	**Warramunga Arr**	**22.79**	**166**	P	**P**	**12 57 24.3**	**+0.4**
WRA				S	**S**	**13 01 34.8**	**+4.2**
WRA				pmax	pmax		
	comp=Z,28nm,0.8s						
WRA				smax			
	comp=E,5.0nm,1.2s						
WB2	**Warramunga Arr**	**22.79**	**166**	*e*P	**P**	**12 57 24.0**	**0.0**
JOW	**Kunigami**	**24.43**	**359**	P	**P**	**12 57 40.5**	**+0.8**
	comp=E,21nm,0.4s,mb4.9,baz=170,slow=11,SNR=21						
QZH	**Quanzhou**	**24.51**	**338**	*e*P	**P**	**12 57 38.1**	**-2.3**
QIZ	**Qiongzhong**	**24.76**	**314**	P	**P**	**12 57 42.0**	**-0.7**
QIZ				AP		12 57 50.4	
QIZ				XP	sP	12 57 55.8	-1.6
QIZ				S	**S**	**13 01 58.5**	**-4.0**
QIZ				LR	LR		
	comp=N,946nm,25.6s,MS4.4						
QIZ				LR	LR		
	comp=E,1µm,21.1s,MS4.4						
QIZ				LR	LR		
	comp=Z,2µm,32.9s						
QIZ	**Qiongzhong**	**24.76**	**314**	P	**P**	**12 57 41.7**	**-1.1**
MBWA	**Marble Bar**	**24.84**	**200**	*e*P	**P**	**12 57 41.9**	**-1.5**
AS31	**Alice Springs**	**26.30**	**169**	*e*P	**P**	**12 57 57.9**	**+1.2**
ASPA	**Alice Springs**	**26.30**	**169**	*e*P	**P**	**12 57 57.9**	**+1.2**
ASAR	**Alice Springs**	**26.30**	**169**	P	**P**	**12 57 57.1**	**+0.5**
	comp=Z,7.9nm,0.8s,mb4.3,baz=341,slow=6.3,SNR=46						
ASAR				PcP	PcP	13 01 21.9	-0.4
	comp=Z,3.2nm,0.6s,baz=350,slow=2.3,SNR=8.4						
ASAR				pPcP		13 01 33.8	
	comp=Z,4.1nm,0.7s,baz=347,slow=2.5,SNR=5.4						
ASAR	**Alice Springs**	**26.30**	**169**	P	**P**	**12 57 57.2**	**+0.5**
ASAR						13 01 21.9	
ASAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CBIJ	**Chichi jima**	**27.93**	**27**	P	**P**	**12 58 12.1**	**+0.7**
	comp=Z,30nm,0.4s,mb5.2,baz=291,slow=18,SNR=2.8						
CTA	**Charters Tower**	**28.20**	**143**	P	**P**	**12 58 15.7**	**+2.0**
	comp=Z,3.1nm,0.6s,mb4.1,baz=351,slow=9.3,SNR=4.1						
CTA	**Charters Tower**	**28.20**	**143**	P	**P**	**12 58 15.7**	**+2.0**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CTAO	**Charters Tower**	**28.20**	**143**	*e*P	**P**	**12 58 15.4**	**+1.7**
SSE	**Sheshan**	**29.51**	**347**	*e*P	**P**	**12 58 26.1**	**+0.8**
SSE				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.8						
SSE				AMB	AMB		
	comp=Z,169nm,8.4s						
PSI	**Prapat**	**29.61**	**272**	P	**P**	**12 58 26.6**	**+0.3**
	comp=Z,3.8nm,0.7s,mb4.2,baz=132,slow=10,SNR=4.0						
PSI	**Prapat**	**29.61**	**272**	P	**P**	**12 58 26.6**	**+0.4**
PSI				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
NJ2	**Nanjing**	**31.00**	**344**	*e*P	**P**	**12 58 37.8**	**-0.8**
NJ2				AP	pP	12 58 48.0	-0.9
NJ2				XP	sP	12 58 51.8	-1.5
NJ2				PP	PP	12 59 38.3	-11
NJ2				S	**S**	**13 03 38.0**	**-2.9**
NJ2				XS	sS	13 03 54.0	-4.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,150nm,5.6s						
NJ2				LR	LR		
	comp=N,1µm,14.2s,MS4.9						
NJ2				LR	LR		
	comp=E,2µm,13.9s,MS4.9						
NJ2				LR	LR		
	comp=Z,1µm,14.2s,MS4.7						
WHN	**Wuhan**	**31.18**	**336**	P	**P**	**12 58 41.6**	**+1.5**
FORT	**Forrest**	**32.87**	**181**	*e*P	**P**	**12 58 54.0**	**-0.9**
	comp=Z,71nm,0.8s,mb5.7						
CHRT	**Chiangrai**	**33.11**	**304**	P	**P**	**12 58 59.0**	**+1.9**
	comp=Z,184nm,0.8s,mb6.1						
CHG	**Chiang Mai**	**33.34**	**302**	⇓P	sP	12 59 15.6	+1.8
	comp=Z,27nm,0.8s						
CHTO	**Chiang Mai**	**33.34**	**302**	P	**P**	**12 58 57.1**	**-1.9**
CHTO				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
CHTO	**Chiang Mai**	**33.34**	**302**	P	**P**	**12 58 57.1**	**-1.9**
	comp=Z,21nm,0.9s,mb5.1						
KMI	**Kunming**	**33.70**	**315**	P	**P**	**12 59 02.4**	**+0.2**
KMI				AP	pP	12 59 12.8	+0.2
KMI				XP	sP	12 59 16.8	-0.2
KMI				PP	PP	13 00 16.8	-2.0
KMI				PPP		13 00 34.0	
KMI				S	**S**	**13 04 22.1**	**-0.7**
KMI				XS	sS	13 04 38.8	-1.3
KMI				SS	SS	13 06 26.5	-23
KMI				SSS		13 06 52.0	
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5						
KMI				AMB	AMB		
	comp=Z,227nm,4.5s						
KMI				LR	LR		
	comp=N,1µm,29.5s,MS4.5						
KMI				LR	LR		
	comp=E,727nm,29.5s,MS4.5						
KMI				LR	LR		
	comp=Z,2µm,28.0s,MS4.7						
INCN	**Inchon**	**35.09**	**357**	PFAKE		12 59 30.0	+16
INCN				LR	LR		
	comp=Z,2µm,20.0s,MS4.8						
KLBR	**Kellerberrin**	**35.20**	**196**	*e*P	**P**	**12 59 14.1**	**-1.1**
	comp=Z,18nm,0.9s,mb5.0						
MJAR	**Matsushiro Arr**	**35.25**	**14**	P	**P**	**12 59 15.0**	**-0.6**
	comp=Z,24nm,0.9s,mb5.1,baz=186,slow=9.1,SNR=77						
MJAR	**Matsushiro Arr**	**35.25**	**14**	P	**P**	**12 59 15.0**	**-0.6**
MJAR				pmax	pmax		
	comp=Z,24nm,0.9s						
MAJO	**Matsushiro**	**35.25**	**14**	*e*P	**P**	**12 59 14.4**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.3						
MAJO	**Matsushiro**	**35.25**	**14**	*e*P	**P**	**12 59 14.4**	**-1.2**
	comp=Z,37nm,0.9s,mb5.3						
MAT	**Matsushiro**	**35.25**	**14**	P	**P**	**12 59 14.8**	**-0.8**
MAT	**Matsushiro**	**35.25**	**14**	*e*P	**P**	**12 59 15.0**	**-0.6**
MAT				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
MAT	**Matsushiro**	**35.25**	**14**	*e*P	**P**	**12 59 15.0**	**-0.6**
	comp=Z,19nm,0.9s,mb5.0						
XAN	**Xi'an**	**36.54**	**332**	P	**P**	**12 59 26.5**	**-0.2**
XAN				AMB	AMB		
	comp=Z,22nm,0.8s,mb5.0						
NWAO	**Narrogin (SRO)**	**36.61**	**196**	P	**P**	**12 59 26.2**	**-1.0**
	comp=Z,5.9nm,0.7s,mb4.5,baz=49,slow=10.0,SNR=3.6						
NWAO	**Narrogin (SRO)**	**36.61**	**196**	P	**P**	**12 59 26.3**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PBA	**Port Blair**	**36.71**	**286**	*e*x	x	13 00 44.5	
CD2	**Chengdu**	**36.90**	**323**	*e*P	**P**	**12 59 26.5**	**-3.2**
CD2				AP	pP	12 59 36.3	-3.9
CD2				XP	sP	12 59 40.3	-4.2
CD2				S	**S**	**13 05 07.9**	**-4.1**
CD2				SS	SS	13 07 36.6	-18
CD2				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
ADE	**Adelaide**	**38.24**	**166**	*e*P	**P**	**12 59 43.0**	**+1.9**
BJI	**Beijing**	**39.24**	**345**	P	**P**	**12 59 49.9**	**+0.5**
BJI				AMB	AMB		
	comp=Z,12nm,1.5s,mb4.4						
ARMA	**Armidale**	**39.26**	**148**	*e*P	**P**	**12 59 51.3**	**+1.7**
LZH	**Lanzhou**	**40.68**	**329**	*e*P	**P**	**13 00 02.5**	**+1.1**
LZH				AP	pP	13 00 12.5	+0.5
LZH				XP	sP	13 00 16.3	-0.1
LZH				PP	PP	13 01 40.3	+4.8
LZH				*e*S	**S**	**13 06 09.9**	**+0.9**
LZH				XS	sS	13 06 26.0	-0.5
LZH				*e*SS	SS	13 09 05.5	-4.8
LZH				AMB	AMB		
	comp=Z,43nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,198nm,4.6s						
LZH				LR	LR		
	comp=N,1µm,14.6s						
LZH				LR	LR		
	comp=Z,2µm,15.3s,MS5.2						
HHC	**Hu-ho-hao-te**	**41.36**	**340**	*e*P	**P**	**13 00 08.5**	**+1.5**
HHC				PP	PP	13 01 50.0	+7.1
HHC				PCS	PcS	13 05 54.9	-1.1
HHC				S	**S**	**13 06 14.6**	**-4.5**
HHC				SS	SS	13 09 16.6	-7.1
HHC				AMB	AMB		
	comp=Z,16nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,135nm,4.0s						
HHC				LR	LR		
	comp=N,2µm,19.0s,MS5.2						
HHC				LR	LR		
	comp=E,2µm,20.2s,MS5.2						
HHC				LR	LR		
	comp=Z,4µm,21.4s,MS5.3						
CN2	**Changchun**	**41.45**	**357**	*e*P	**P**	**13 00 10.4**	**+2.7**
CN2				*e*S	**S**	**13 06 24.3**	**+3.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,1µm,21.0s,MS4.8						
CN2				LR	LR		
	comp=E,800nm,21.0s,MS4.8						
CN2				LR	LR		
	comp=Z,1µm,21.0s,MS4.7						
MDJ	**Mudanjiang**	**42.18**	**1**	P	**P**	**13 00 13.9**	**+0.2**
MDJ				AP	pP	13 00 22.9	-1.4
MDJ				XP	sP	13 00 26.3	-2.3
MDJ				PP	PP	13 01 55.0	+3.3
MDJ				PCP	PcP	13 02 06.4	-1.1
MDJ				SCP	ScP	13 05 52.3	-2.8
MDJ				PCS	PcS	13 05 57.4	-1.9
MDJ				S	**S**	**13 06 33.0**	**+1.8**
MDJ				SCS	ScS	13 10 07.4	-5.5
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
MDJ				LR	LR		
	comp=N,2µm,28.3s,MS4.8						
MDJ				LR	LR		
	comp=E,961nm,29.2s,MS4.8						
MDJ				LR	LR		
	comp=Z,2µm,25.6s,MS5.0						
MDJ	**Mudanjiang**	**42.18**	**1**	*e*P	**P**	**13 00 12.4**	**-1.2**
	comp=Z,43nm,1.4s,mb4.9						
TOO	**Toolangi**	**42.64**	**160**	*e*P	**P**	**13 00 19.3**	**+1.9**
	comp=Z,8.7nm,0.8s,mb4.5						
TOO	**Toolangi**	**42.64**	**160**	*e*P	**P**	**13 00 19.3**	**+1.9**
TOO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
GTA	**Gaotai**	**45.28**	**328**	*e*P	**P**	**13 00 39.5**	**+0.9**
GTA				AP	pP	13 00 52.5	+3.2
GTA				XP	sP	13 00 56.9	+3.2
GTA				PCP	PcP	13 02 19.0	+1.0
GTA				PP	PP	13 02 26.4	+1.5
GTA				PPP		13 03 06.8	
GTA				SCP	ScP	13 06 06.5	-1.3
GTA				S	**S**	**13 07 17.6**	**+1.1**
GTA				XS	sS	13 07 33.3	-0.8
GTA				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.5						
GTA				AMB	AMB		
	comp=Z,151nm,5.7s						
GTA				LR	LR		
	comp=N,2µm,20.5s,MS5.2						
GTA				LR	LR		
	comp=E,2µm,16.4s,MS5.2						
GTA				LR	LR		
	comp=Z,2µm,21.7s						
YSS	**Yuzh-Sakhalins**	**46.19**	**13**	⇑*i*P	**P**	**13 00 46.0**	**+0.2**
YSS				*e*	pP	13 00 57.2	+0.7
YSS				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
YSS	**Yuzh-Sakhalins**	**46.19**	**13**	*e*P	**P**	**13 00 45.6**	**-0.2**
	comp=Z,17nm,0.4s,mb5.3						
HABR	**Khabarovsk**	**46.37**	**6**	*e*P	**P**	**13 00 47.9**	**+0.7**
HABR				*e*S	**S**	**13 07 33.5**	**+1.4**
BOK	**Bokaro**	**46.47**	**301**	*e*P	**P**	**13 00 47.2**	**-0.8**
BOK				AMb	AMB	13 00 50.2	
	comp=Z,26nm,1.1s,mb5.1						
KLR	**Kul'dur**	**46.87**	**3**	*e*P	**P**	**13 00 47.7**	**-3.4**
VIS	**Vishakhapatnam**	**46.95**	**292**	*e*P	**P**	**13 00 49.2**	**-2.5**
VIS				AMb	AMB	13 00 56.2	
	comp=Z,38nm,2.1s,mb5.0						
JIRN	**Jiri**	**47.70**	**306**	*e*P	**P**	**13 00 58.9**	**+1.3**
	comp=Z,144nm,0.9s,mb6.0						
GUN	**Gumba**	**48.05**	**306**	*e*P	**P**	**13 01 01.2**	**+0.9**
	comp=Z,81nm,0.4s,mb6.1						
PKI	**Pulchoki**	**48.30**	**306**	*e*P	**P**	**13 01 03.2**	**+1.0**
KKN	**Kakani**	**48.49**	**306**	*e*P	**P**	**13 01 04.5**	**+0.8**
	comp=Z,60nm,0.7s,mb5.7						
KKN	**Kakani**	**48.49**	**306**	*e*P	**P**	**13 01 04.5**	**+0.8**
KKN				pmax	pmax		
	comp=Z,61nm,0.7s,mb5.7						
DMN	**Daman**	**48.56**	**305**	*e*P	**P**	**13 01 05.2**	**+1.0**
	comp=Z,131nm,1.0s,mb5.9						
ULN	**Ulaanbaatar**	**49.08**	**341**	*e*P	**P**	**13 01 08.1**	**-0.1**
ULN	**Ulaanbaatar**	**49.08**	**341**	*e*P	**P**	**13 01 07.0**	**-1.2**
	comp=Z,9.2nm,0.8s,mb4.9						
GKN	**Gorkha**	**49.10**	**306**	*e*P	**P**	**13 01 08.9**	**+0.6**
SONM	**Songino Array**	**49.27**	**340**	P	**P**	**13 01 09.3**	**-0.3**
	comp=Z,3.7nm,0.7s,mb4.5,baz=154,slow=8.4,SNR=10						
SONM	**Songino Array**	**49.27**	**340**	P	**P**	**13 01 09.3**	**-0.3**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KOLN	**Koldanda**	**49.85**	**305**	*e*P	**P**	**13 01 15.0**	**+0.9**
	comp=Z,195nm,0.8s						
HYB	**Hyderabad**	**51.33**	**290**	*i* P	**P**	**13 01 25.5**	**+0.3**
HYB	**Hyderabad**	**51.33**	**290**	*e*P	**P**	**13 01 24.0**	**-1.2**
NGP	**Nagpur**	**51.70**	**295**	*e*P	**P**	**13 01 27.9**	**-0.1**
NGP				AMb	AMB	13 01 29.3	
	comp=Z,41nm,1.1s,mb5.3						
TRD	**Trivandrum**	**51.70**	**279**	*e*P	**P**	**13 01 26.1**	**-1.9**
ZAK	**Zakamensk**	**52.51**	**340**	*e*P	**P**	**13 01 34.2**	**+0.2**
ZAK				*e*		13 02 43.4	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
AKL	**Akola**	**53.44**	**294**	*e*x	pP	13 01 51.3	-0.5
AKL				AMb	AMB	13 02 10.8	
	comp=Z,170nm,2.2s,mb5.6						
BHPL	**Bhopal**	**53.69**	**297**	*e*P	**P**	**13 01 42.3**	**-0.4**
BHPL				AMb	AMB	13 01 45.0	
	comp=Z,69nm,1.3s,mb5.4						
MNGI	**Mangalore**	**54.20**	**284**	*e*x	**P**	**13 02 02.1**	**+16**
MOY	**Mondy**	**54.38**	**339**	*e*P	pP	13 02 02.1	+3.5
WMQ	**Urumqi**	**54.96**	**325**	P	**P**	**13 01 52.8**	**+0.8**
WMQ				AP	pP	13 02 02.9	0.0
WMQ				XP	sP	13 02 06.8	-0.4
WMQ				PCP	PcP	13 02 54.8	+1.3
WMQ				PP	PP	13 03 57.1	+1.9
WMQ				SCP	ScP	13 06 49.3	+0.1
WMQ				AMB	AMB		
	comp=Z,41nm,1.5s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,206nm,4.8s						
WMQ				LR	LR		
	comp=N,1µm,17.6s,MS5.1						
WMQ				LR	LR		
	comp=E,838nm,16.5s,MS5.1						
WMQ				LR	LR		
	comp=Z,1µm,18.1s,MS5.0						
NDI	**New Delhi**	**55.44**	**304**	*e*P	**P**	**13 01 54.2**	**-1.2**
NDI				AMb	AMB	13 02 13.9	
	comp=Z,52nm,1.3s,mb5.4						
SMLA	**Simla**	**56.29**	**306**	*e*P	**P**	**13 02 00.4**	**-1.1**
PET	**Petropavlovsk**	**56.39**	**21**	*e*P	**P**	**13 02 02.7**	**+0.5**
PET				pmax	pmax		
	comp=Z,24nm,1.5s,mb5.0						
PET	**Petropavlovsk**	**56.39**	**21**	*e*P	**P**	**13 02 02.6**	**+0.4**
	comp=Z,19nm,0.9s,mb5.1						
BOD	**Bodaibo**	**56.58**	**351**	*e*P	**P**	**13 02 02.3**	**-1.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
RPZ	**Rata Peaks**	**59.53**	**145**	P	**P**	**13 02 24.9**	**+0.7**
	comp=Z,3.3nm,0.7s,mb4.5,baz=0.2,slow=18,SNR=4.4						
RPZ				pP	pP	13 02 33.9	-1.3
	comp=Z,18nm,0.9s,baz=214,slow=2.7,SNR=7.6						
YAK	**Yakutsk**	**59.62**	**1**	*e*P	**P**	**13 02 24.2**	**-0.7**
YAK				*e*	pP	13 02 35.3	-0.6
YAK				pmax	pmax		
	comp=Z,24nm,0.7s,mb5.3						
YAK				pmax	pmax		
	comp=N,9.0nm,1.6s						
YAK				pmax	pmax		
	comp=N,36nm,1.1s						
YAK				pmax	pmax		
	comp=N,13nm,1.3s						
YAK	**Yakutsk**	**59.62**	**1**	*e*P	**P**	**13 02 24.0**	**-0.8**
	comp=N,57nm,0.7s,mb5.7						
MA2	**Magadan**	**59.69**	**13***c*	*i*P	**P**	**13 02 26.0**	**+0.7**
MA2				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.3						
MKAR	**Makanchi Array**	**59.79**	**325**	P	**P**	**13 02 25.7**	**-0.3**
	comp=Z,8.4nm,0.5s,mb5.0,baz=116,slow=8.1,SNR=53						
MKAR	**Makanchi Array**	**59.79**	**325**	P	**P**	**13 02 25.7**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MKAR	**Makanchi Array**	**59.79**	**325**	P	**P**	**13 02 25.7**	**-0.3**
KSH	**Kashi**	**60.36**	**315**	*e*P	**P**	**13 02 34.0**	**+4.1**
KSH				*e*AP	pP	13 02 43.5	+2.6
KSH				*e*XP	sP	13 02 47.6	+2.4
KSH				*e*PCP	PcP	13 03 17.0	+2.3
KSH				*e*PP	PP	13 04 49.4	+6.2
KSH				*e*PPP		13 06 17.5	
KSH				*e*SCP	ScP	13 07 14.8	+1.8
KSH				*e*S	**S**	**13 10 46.5**	**+4.5**
KSH				*e*PS		13 10 55.8	
KSH				*e*XS	sS	13 11 04.3	+4.1
KSH				*e*SCS	ScS	13 12 19.6	+1.9
KSH				AMB	AMB		
	comp=Z,394nm,3.6s						
KSH				LR	LR		
	comp=N,2µm,14.3s,MS5.6						
KSH				LR	LR		
	comp=E,3µm,15.8s,MS5.6						
KSH				LR	LR		
	comp=Z,5µm,17.4s,MS5.7						
AAK	**Ala-Archa**	**62.66**	**318**	*e*P	**P**	**13 02 42.5**	**-2.9**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb5.0						
AAK	**Ala-Archa**	**62.66**	**318**	*e*P	**P**	**13 02 42.5**	**-2.9**
	comp=Z,4.6nm,0.4s,mb5.0						
ZAL	**Zalesovo**	**62.71**	**333**	P	**P**	**13 02 43.7**	**-2.1**
	comp=Z,1.4nm,0.4s,mb4.5,baz=312,slow=5.2,SNR=5.2						
ZAL	**Zalesovo**	**62.71**	**333**	P	**P**	**13 02 43.7**	**-2.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**62.71**	**333**	P	**P**	**13 02 43.7**	**-2.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KURK	**Kurchatov**	**63.95**	**327**	P	**P**	**13 02 53.0**	**-1.0**
	comp=Z,161nm,0.6s,mb6.2,SNR=9.5						
KURK	**Kurchatov**	**63.95**	**327**	*e*P	**P**	**13 02 52.8**	**-1.2**
KURK				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.3						
KURK	**Kurchatov**	**63.95**	**327**	*e*P	**P**	**13 02 52.8**	**-1.2**
	comp=Z,27nm,0.8s,mb5.3						
NVS	**Novosibirsk**	**63.99**	**333**	*e*P	pP	13 03 01.6	-3.7
TIXI	**Tiksi**	**69.28**	**0**	*e*P	**P**	**13 03 28.6**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
BRVK	**Borovoye**	**69.60**	**327**	P	**P**	**13 03 29.6**	**-0.4**
	comp=Z,84nm,1.0s,mb5.6,SNR=5.1						
CASY	**Casey**	**69.61**	**188**	*e*P	**P**	**13 03 28.7**	**-1.3**
CHKZ	**Chkalovo**	**69.69**	**327**	*e*P	**P**	**13 03 29.0**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
CHKZ	**Chkalovo**	**69.69**	**327**	*e*P	**P**	**13 03 29.0**	**-1.5**
	comp=Z,10nm,1.0s,mb4.7						
ZRNK	**Zerenda**	**70.26**	**326**	*e*P	**P**	**13 03 32.6**	**-1.4**
ZRNK				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
ZRNK	**Zerenda**	**70.26**	**326**	*e*P	**P**	**13 03 32.6**	**-1.4**
	comp=Z,16nm,0.8s,mb5.0						
ARU	**Arti**	**77.14**	**328**	⇓*i*P	**P**	**13 04 12.9**	**-1.5**
ARU				*e*		13 07 06.5	
ARU				*e*PPP		13 08 52.8	
ARU				*e*S	S	13 14 00.1	-0.8
ARU				*e*SS	SS	13 18 51.2	-7.5
ARU				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
SDPT	**Sand Point**	**77.38**	**34**	*e*P	**P**	**13 04 15.8**	**+0.1**
	comp=Z,98nm,1.0s,mb5.7						
SVW2	**Sparrevohn**	**81.20**	**28**	*e*P	**P**	**13 04 37.2**	**+0.6**
VNDA	**Vanda**	**81.76**	**173**	P	**P**	**13 04 38.1**	**-1.4**
	comp=Z,2.2nm,0.5s,mb4.3,baz=319,slow=6.0,SNR=13						
VNDA				pP	pP	13 04 48.8	-2.1
	comp=Z,5.4nm,0.8s,baz=306,slow=6.8,SNR=11						
VNDA	**Vanda**	**81.76**	**173**	P	**P**	**13 04 38.2**	**-1.3**
VNDA				*PP	pP	13 04 48.8	-2.1
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VNDA	**Vanda**	**81.76**	**173**	*e*P	**P**	**13 04 37.9**	**-1.6**
	comp=Z,4.3nm,0.7s,mb4.5						
VNDA				*e*	pP	13 04 49.2	-1.7
KDAK	**Kodiak Island**	**82.15**	**32**	P	**P**	**13 04 42.0**	**+0.5**
	comp=Z,219nm,0.9s,mb6.1,SNR=14						
KDAK	**Kodiak Island**	**82.15**	**32**	*e*P	**P**	**13 04 42.4**	**+0.8**
	comp=Z,39nm,1.0s,mb5.3						
KDAK				*e*	pP	13 04 53.4	+0.4
SBA	**Scott Base**	**82.65**	**172**	*e*P	**P**	**13 04 43.9**	**-0.3**
SBA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
SBA	**Scott Base**	**82.65**	**172**	*e*P	**P**	**13 04 43.9**	**-0.3**
	comp=Z,3.2nm,0.7s,mb4.5						
IMA2	**Indian Mountai**	**82.97**	**24**	*e*P	**P**	**13 04 46.3**	**+0.5**
MAW	**Mawson**	**83.03**	**201**	*e*P	**P**	**13 04 44.7**	**-1.4**
	comp=Z,3.6nm,0.7s,mb4.5						
MAW				*e*	pP	13 04 55.2	-2.4
MAW	**Mawson**	**83.03**	**201**	P	**P**	**13 04 44.8**	**-1.3**
	comp=Z,4.3nm,0.7s,mb4.6,baz=84,slow=6.3,SNR=15						
MAW				pP	pP	13 04 55.3	-2.2
	comp=Z,5.5nm,0.7s,baz=64,slow=5.6,SNR=7.5						
MAW	**Mawson**	**83.03**	**201**	P	**P**	**13 04 44.8**	**-1.3**
MAW				*PP	pP	13 04 55.3	-2.3
MAW				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MAW				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GNI	**Garni**	**83.81**	**310**	*e*P	**P**	**13 04 50.5**	**+0.3**
GNI				pmax	pmax		
	comp=Z,18nm,1.9s						
PMR	**Palmer**	**84.35**	**28**	*e*P	**P**	**13 04 52.3**	**-0.6**
PMR				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.5						
PMR	**Palmer**	**84.35**	**28**	*e*P	**P**	**13 04 52.3**	**-0.6**
	comp=Z,32nm,0.9s,mb5.5						
MCK	**McKinley**	**84.65**	**26**	*e*P	**P**	**13 04 54.5**	**+0.1**
MCK				*e*	pP	13 05 05.3	-0.6
MCK				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.2						
MCK	**McKinley**	**84.65**	**26**	*e*P	**P**	**13 04 54.5**	**0.0**
	comp=Z,26nm,1.3s,mb5.2						
MCK				*e*	pP	13 05 05.3	-0.6
COLA	**College**	**85.23**	**25**	*e*P	**P**	**13 04 57.0**	**-0.3**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
COLA	**College**	**85.23**	**25**	*e*P	**P**	**13 04 57.0**	**-0.3**
	comp=Z,2.1nm,0.8s,mb4.3						
KLMR	**Klimovskoe**	**87.56**	**331**	*e*P	**P**	**13 05 06.9**	**-1.9**
KLMR				pmax	pmax		
	comp=Z,20nm,1.5s,mb5.1						
DAWY	**Dawson**	**88.88**	**26**	P	**P**	**13 05 14.5**	**-0.5**
OBN	**Obninsk**	**89.30**	**325**	*e*P	**P**	**13 05 17.0**	**0.0**
OBN				*i*		13 05 33.0	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.2						
APA	**Apatity**	**89.89**	**338**	⇑*i*P	**P**	**13 05 19.3**	**-0.5**
APA				*e*S		13 16 04.0	
JOF	**Joensuu**	**91.30**	**333**	*e*p	**P**	**13 05 24.1**	**-2.2**
	comp=Z,1.8nm,0.4s,mb4.8						
JOF	**Joensuu**	**91.30**	**333**	*e*P	**P**	**13 05 24.1**	**-2.2**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.8						
KMBO	**Kilima Mbogo**	**91.35**	**269**	⇑*e*P	pP	13 05 37.5	-0.5
SYO	**Syowa Base**	**91.73**	**201**	⇑*e*pP	pP	13 05 37.6	-2.2
KEV	**Kevo**	**91.88**	**340**	*e*p	**P**	**13 05 26.0**	**-3.0**
QSPA	**South Pole Qui**	**92.18**	**180**	*e*P	**P**	**13 05 28.7**	**-1.7**
	comp=Z,3.6nm,0.8s,mb4.8						
BRTR	**Keskin Array B**	**92.35**	**310**	P	**P**	**13 05 29.2**	**-2.0**
	comp=Z,0.3nm,0.4s,mb4.0,baz=131,slow=5.6,SNR=4.0						
BRTR				PP	PP	13 09 12.7	+0.6
	comp=Z,0.5nm,0.5s,baz=95,slow=6.2,SNR=4.5						
BRTR	**Keskin Array B**	**92.35**	**310**	P	**P**	**13 05 29.2**	**-2.0**
BRTR						13 09 12.7	
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**92.44**	**340**	P	**P**	**13 05 30.4**	**-1.2**
	comp=Z,2.3nm,0.3s,mb4.9,baz=83,slow=5.5,SNR=59						
ARCES	**ARCESS Array B**	**92.44**	**340**	P	**P**	**13 05 30.4**	**-1.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**93.97**	**332**	P	**P**	**13 05 37.0**	**-1.7**
	comp=Z,1.0nm,0.6s,mb4.4,baz=76,slow=3.5,SNR=12						
FINES	**FINESS Array B**	**93.97**	**332**	*i* P	**P**	**13 05 37.7**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**93.97**	**332**	P	**P**	**13 05 37.0**	**-1.7**
YKA	**Yellowknife Ar**	**100.06**	**25**	P	Pdif	13 06 05.6	-0.5
	comp=Z,0.4nm,0.4s,baz=298,slow=4.4,SNR=5.3						
YKA				PKiKP	PKiKP	13 10 33.6	-0.2
	comp=Z,0.2nm,0.5s,baz=305,slow=1.8,SNR=5.1						
YKA	**Yellowknife Ar**	**100.06**	**25**	P	Pdif	13 06 05.6	-0.6
NOA	**NORSAR Array B**	**100.90**	**334**	P	Pdif	13 06 08.3	-1.6
	comp=Z,1.3nm,0.9s,baz=66,slow=4.5,SNR=2.9						
NOA	**NORSAR Array B**	**100.90**	**334**	P	Pdif	13 06 08.3	-1.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CLL	**Collm**	**103.88**	**324**	*e*PP	PP	13 10 45.0	+4.6
CLL				*e*		13 11 07.0	
CLL	**Collm**	**103.88**	**324**	*e*(PP)		13 10 45.0	
CLL				*e*x	x	13 11 07.0	
ANMO	**Albuquerque**	**116.63**	**49**	*i* PKIKP	PKPdf	13 11 05.6	+0.9
SCHQ	**Schefferville**	**121.69**	**10**	PKP	PKPdf	13 11 13.9	-0.6
	comp=Z,0.6nm,0.3s,baz=45,slow=7.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**125.10**	**288**	PKP	PKPdf	13 11 20.7	-0.3
	comp=Z,2.0nm,0.8s,baz=79,slow=1.5,SNR=19						
TORD				pPKP	pPKPdf	13 11 31.8	-1.1
	comp=Z,2.4nm,0.8s,baz=52,slow=2.0,SNR=8.9						
PLCA	**Paso Flores**	**137.99**	**158**	PKP	PKPdf	13 11 45.5	+0.2
	comp=Z,2.4nm,0.9s,baz=67,slow=2.9,SNR=3.8						
PLCA	**Paso Flores**	**137.99**	**158**	PKIKP	PKPdf	13 11 45.5	+0.2
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LPAZ	**La Paz**	**158.46**	**131**	PKP	PKPdf	13 12 18.3	+0.3
	comp=Z,1.2nm,0.8s,baz=62,slow=3.3,SNR=5.1						
LPAZ				pPKP	pPKPdf	13 12 30.6	+0.7
	comp=Z,1.0nm,0.8s,baz=169,slow=2.1,SNR=5.0						
LPAZ	**La Paz**	**158.46**	**131**	PKIKP	PKPdf	13 12 18.3	+0.3
LPAZ						13 12 30.6	
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ	**La Paz**	**158.46**	**131**	PKP	PKPdf	13 12 18.3	+0.3
LPAZ				pPKP	pPKPdf	13 12 30.6	+0.7
SIV	**San Ignacio**	**163.39**	**146**	PKP	PKPdf	13 12 23.8	+0.5
	comp=Z,0.6nm,0.3s,baz=250,slow=5.1,SNR=4.8						
SIV				pPKP	pPKPdf	13 12 35.8	+0.7
	comp=Z,0.4nm,0.3s,baz=297,slow=1.1,SNR=3.6						

BJI 16 12:53:54.4, 4018N×10662E, h31^{km}, ML3.6, Ms3.5, Msz3.6, 1D, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	**Baotou**	**2.63**	**80**	*e*P	Pn	12 54 35.6	+0.9
BTO				*e*PG	Pn	12 54 40.3	+5.6
BTO				SG	Sn	12 55 14.0	+8.4
HHC	**Hu-ho-hao-te**	**3.83**	**78**	*e*PG	Pn	12 55 01.8	+11
HHC				SG	Sn	12 55 50.8	+16
HHC				Smax			
	comp=N,284nm,0.4s						
HHC				Smax			
	comp=E,402nm,0.4s						
LZH	**Lanzhou**	**4.63**	**209**	*e*PG	Pn	12 55 16.8	+15
LZH				SG	Sn	12 56 15.8	+21
LZH				Smax			
	comp=N,170nm,0.8s						
LZH				Smax			
	comp=E,100nm,0.6s						
LZH				LR	LR		
	comp=N,352nm,5.2s						
LZH				LR	LR		
	comp=Z,453nm,6.4s						
GTA	**Gaotai**	**5.30**	**264**	P	Pn	12 55 12.3	+0.9
GTA				PG	Pn	12 55 29.9	+19
GTA				Smax			
	comp=N,54nm,0.7s						
GTA				Smax			
	comp=E,31nm,0.7s						
NANT	**Nan**	**21.91**	**195**	⇓P	P	12 58 44.0	-1.0
	comp=E,131nm,1.0s						

*IDC **16** 12:54:06.3±1.9, 2886S×7290W, h0^{km}, mb4.0/1, mb1 3.7/4, mb1mx3.6/16, mbtmp3.7/4, ML3.3/3, Error ellipse: s-maj=44.2km s-min=35.2km az=67.0*
*ISCJB **16** 12:54:08.6±2.5, 2855S±004×725W±0.1, h18^{km}±24^{km}, mb3.9/1, Error ellipse: s-maj=15.4km s-min=7.2km az=8.9*
*GUC **16** 12:54:08.7±0.7, 2856S×7245W, h33^{km}, MD3.9, ML4.0*
*NEIC **16** 12:54:08.7, 2856S×7245W, h33^{km}, ML4.0(GUC), After GUC.*
ISC 16 12:54:08.9±2.6**, 2852S**±005×**725W**±01**, h14**^{km}±22^{km}**, n16,** σ**0**^{s}**93**/27**, mb3.9**/1**, 6C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**1.50**	**92**	*i* P	**Pn**	**12 54 35.4**	**0.0**
VACH				*i* S	**Sn**	**12 54 54.9**	**+0.2**
VACH				AML	AML	12 54 56.8	
	comp=E,3µm,0.1s						
VACH	**Vallenar**	**1.50**	**92**	*i* P	**Pn**	**12 54 35.4**	**0.0**
VACH				*i* S	**Sn**	**12 54 54.9**	**+0.2**
LCO	**Las Campanas**	**1.62**	**108**	⇑*i*P	**Pn**	**12 54 37.2**	**+0.2**
LCO				*i* S	**Sn**	**12 54 57.7**	**0.0**
CDCH	**Caldera**	**2.04**	**45**	⇑*i*P	**Pn**	**12 54 42.3**	**-0.6**
CDCH				*i* S	**Sn**	**12 55 07.7**	**-0.4**
TLL	**Tololo Astrono**	**2.18**	**139**	⇑*i*P	**Pn**	**12 54 44.5**	**-0.2**
TLL				*i* S	**Sn**	**12 55 11.3**	**-0.3**
TLL				AML	AML	12 55 15.2	
	comp=N,622nm,0.6s						
TLL	**Tololo Astrono**	**2.18**	**139**	⇑*i*P	**Pn**	**12 54 44.5**	**-0.2**
TLL				*i* S	**Sn**	**12 55 11.3**	**-0.3**
CPCH	**Copiapo**	**2.20**	**59**	⇑*i*P	**Pn**	**12 54 44.6**	**-0.3**
CPCH				*i* S	**Sn**	**12 55 11.5**	**-0.4**
CPCH				AML	AML	12 55 15.7	
	comp=E,3µm,0.1s						
CPCH	**Copiapo**	**2.20**	**59**	⇑*i*P	**Pn**	**12 54 44.6**	**-0.3**
CPCH				*i* S	**Sn**	**12 55 11.5**	**-0.4**
CMCH	**Combarbala**	**2.93**	**155**	⇓*i*P	**Pn**	**12 54 53.6**	**-1.4**
CMCH				*i* S	**Sn**	**12 55 28.7**	**-1.3**
CMCH				AML	AML	12 55 35.1	
	comp=E,653nm,0.7s						
CMCH	**Combarbala**	**2.93**	**155**	⇓*i*P	**Pn**	**12 54 53.6**	**-1.4**
CMCH				*i* S	**Sn**	**12 55 28.7**	**-1.3**
CFAA	**Coronel Fontan**	**4.78**	**131**	Pn	**Pn**	**12 55 22.6**	**+2.2**
	comp=E,0.4nm,0.3s,baz=306,slow=12,SNR=57						
CFAA				Sn	**Sn**	**12 56 16.7**	**+1.1**
	comp=E,0.3nm,0.3s,baz=209,slow=19,SNR=3.4						
CFAA	**Coronel Fontan**	**4.78**	**131**	Pn	**Pn**	**12 55 22.6**	**+2.2**
CFAA				Sn	**Sn**	**12 56 16.7**	**+1.1**
LPAZ	**La Paz**	**12.82**	**19**	Pn	**Pn**	**12 57 16.4**	**+5.8**
	comp=E,0.1nm,0.3s,baz=191,slow=4.2,SNR=3.9						
SIV	**San Ignacio**	**16.31**	**43**	Pn	**Pn**	**12 58 05.2**	**+7.6**
	comp=E,0.2nm,0.3s,baz=234,slow=12,SNR=11						
TORD	**Torodi Ar. Bea**	**82.72**	**71**	P	**P**	**13 06 34.0**	**+1.8**
	comp=E,1.1nm,0.8s,mb3.9,baz=258,slow=4.9,SNR=8.1						
WRA	**Warramunga Arr**	**125.30**	**211**	PKP	PKPdf	13 13 08.8	-0.4
	comp=E,0.4nm,0.8s,baz=157,slow=1.8,SNR=7.1						

IDC 16 13:10:36.8±2.2**, 2206S**×**11441W, h0**^{km}**, mb3.8**/4**, mb1 4.2**/4**, mb1mx4.0**/13**, mbtmp3.8**/4**, Error ellipse: s-maj=78.2km s-min=37.6km az=37.0, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**43.96**	**91**	P	P	13 18 46.4	+0.8
	2.1nm,1.0s,baz=256,slow=5.6,SNR=5.8						
NVAR	**Mina Array Bea**	**60.28**	**356**	P	P	13 20 46.6	-0.4
	1.0nm,0.8s,baz=168,slow=8.8,SNR=6.8						
PDAR	**Pinedale Array**	**64.66**	**4**	P	P	13 21 16.8	+0.4
	0.4nm,0.7s,baz=152,slow=6.7,SNR=4.6						
YKA	**Yellowknife Ar**	**84.27**	**360**	P	P	13 23 08.1	-2.2
	1.4nm,1.1s,baz=183,slow=4.7,SNR=6.5						
ZAL	**Zalesovo**	**145.00**	**340**	PKPbc	PKPbc	13 30 15.4	+0.2
	1.2nm,0.9s,baz=101,slow=5.4,SNR=7.7						
BRTR	**Keskin Array B**	**147.65**	**50**	PKPbc	PKPbc	13 30 23.9	+0.7
	1.2nm,0.9s,baz=323,slow=7.4,SNR=5.7						
MKAR	**Makanchi Array**	**151.87**	**335**	PKPbc	PKPbc	13 30 33.9	+0.3
	0.3nm,0.3s,baz=11,slow=2.5,SNR=8.0						

*IDC **16** 13:11:10.6±0.7, 545S×15083E, h0^{km}, mb4.4/12, mb1 4.5/14, mb1mx4.5/16, mbtmp4.4/14, ML3.5/2, MS4.1/5, Ms1 4.1/5, ms1mx3.7/24, Error ellipse: s-maj=22.8km s-min=15.1km az=92.0*
*ISCJB **16** 13:11:11.7±2.5, 550S±006×15084E±0.10, h14^{km}±16^{km}, mb4.5/22, MS4.6/4, Error ellipse: s-maj=16.9km s-min=8.8km az=37.6*
*BJI **16** 13:11:18.4, 577S×15131E, h88^{km}, mB5.2, mb4.7, Ms5.0, Msz4.9*
*NEIC **16** 13:11:19.0±1.8, 556S×15072E, h62^{km}±16^{km}, mb4.6/8, Error ellipse: s-maj=13.7km s-min=9.8km az=88.0*
ISC 16 13:11:18.4±1.8**, 561S**±007×**1508E**±01**, h51**^{km}±16^{km}**, n44,** σ**1**^{s}**25**/42**, mb4.5**/22**, MS4.6**/4**, 3C-1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.21**	**223**	Pn	**Pn**	**13 12 34.1**	**+0.4**
	9.3nm,0.3s,baz=46,slow=8.3,SNR=33						
PMG				Sn	**Sn**	**13 13 37.6**	**+5.3**
	10nm,0.3s,baz=323,slow=22,SNR=9.1						
PMG				LR	LR	13 14 41.8	
	comp=Z,1µm,20.0s,baz=304,slow=39						
PMG	**Port Moresby**	**5.21**	**223**	*e*Pn	**Pn**	**13 12 34.7**	**+1.1**
	59nm,0.6s						
PMG				*e*Sn	**Sn**	**13 13 36.9**	**+4.5**
HNR	**Honiara**	**9.84**	**113**	LR	LR	13 16 05.7	
	comp=Z,529nm,18.6s,baz=358,slow=30						
CTA	**Charters Tower**	**15.05**	**197**	*e*P	**Pn**	**13 14 49.1**	**+1.4**
	32nm,2.0s						
CTA	**Charters Tower**	**15.05**	**197**	Pn	**Pn**	**13 14 48.7**	**+1.0**
	0.2nm,0.3s,baz=30,slow=14,SNR=4.6						
CTA				LR	LR	13 20 13.4	
	comp=Z,814nm,19.1s,baz=206,slow=36						
CTAO	**Charters Tower**	**15.05**	**197**	*e*P	**Pn**	**13 14 48.7**	**+1.0**
	104nm,1.5s						
KAKA	**Kakadu**	**19.42**	**247**	*e*P	**Pn**	**13 15 39.2**	**-2.7**
	15nm,0.8s						
WRAB	**Tennant Creek**	**21.40**	**227**	*e*P	**P**	**13 16 01.5**	**-0.2**
	68nm,1.3s,mb4.8						
WB2	**Warramunga Arr**	**21.41**	**227**	*e*P	**P**	**13 16 01.1**	**-0.7**
WRA	**Warramunga Arr**	**21.41**	**227**	P	**P**	**13 16 01.4**	**-0.5**
	18nm,1.1s,mb4.3,baz=52,slow=10,SNR=41						
WRA				PcP	PcP	13 20 04.4	+0.7
	0.6nm,0.6s,baz=47,slow=1.7,SNR=4.9						
DZM	**Mont Dzumac**	**22.30**	**139**	P	**P**	**13 16 11.5**	**+0.2**
	21nm,1.0s,mb4.5,baz=303,slow=8.8,SNR=4.7						
AS31	**Alice Springs**	**24.21**	**220**	⇑*i*P	**P**	**13 16 31.0**	**+0.9**
ASAR	**Alice Springs**	**24.21**	**220**	P	**P**	**13 16 30.6**	**+0.4**
	4.4nm,0.6s,mb4.0,baz=54,slow=8.4,SNR=52						
ASPA	**Alice Springs**	**24.22**	**220**	⇑*i*P	**P**	**13 16 31.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**27.51**	**241**	⇓*i*P	**P**	**13 16 59.3**	**-0.7**
	25nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**27.51**	**241**	P	**P**	**13 16 59.5**	**-0.4**
	14nm,0.7s,mb4.7,baz=78,slow=8.4,SNR=23						
MBWA	**Marble Bar**	**33.83**	**240**	*e*P	**P**	**13 17 55.7**	**0.0**
AFI	**Afiamalu**	**37.76**	**105**	LR	LR	13 29 49.0	
	comp=Z,577nm,21.3s,MS4.3,baz=166,slow=30						
JOW	**Kunigami**	**38.93**	**327**	P	**P**	**13 18 38.4**	**-0.8**
	41nm,1.1s,mb5.1,baz=164,slow=8.9,SNR=8.1						
KLBR	**Kellerberrin**	**40.29**	**226**	*e*P	**P**	**13 18 49.9**	**-0.6**
	17nm,1.0s,mb4.7						
RPZ	**Rata Peaks**	**41.94**	**158**	LR	LR	13 34 00.1	
	comp=Z,519nm,21.5s,MS4.4,baz=346,slow=33						
MJAR	**Matsushiro Arr**	**43.56**	**345**	P	**P**	**13 19 14.4**	**-2.8**
	2.9nm,1.0s,mb4.0,baz=162,slow=9.2,SNR=8.4						
MAT	**Matsushiro**	**43.56**	**345**	P	**P**	**13 19 15.0**	**-2.1**
MAT	**Matsushiro**	**43.56**	**345**	*e*P	**P**	**13 19 15.0**	**-2.1**
NJ2	**Nanjing**	**48.24**	**323**	*e*P	**P**	**13 19 56.9**	**+2.9**
NJ2				AP	pP	13 20 15.1	+7.3
NJ2				XP	sP	13 20 24.8	+11
NJ2				PP	PP	13 21 50.6	+3.9
NJ2				S	**S**	**13 26 50.0**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,350nm,5.6s						
NJ2				LR	LR		
	comp=N,720nm,13.2s,MS5.0						
NJ2				LR	LR		
	comp=E,660nm,13.7s,MS5.0						
INCN	**Inchon**	**48.43**	**334**	*e*P	**P**	**13 19 56.8**	**+1.4**
	comp=E,125nm,1.4s,mb5.8						
BJI	**Beijing**	**55.48**	**328**	P	**P**	**13 20 48.9**	**+0.9**
BJI				AMB	AMB		
	comp=Z,11nm,1.6s,mb4.6						
KMI	**Kunming**	**55.80**	**305**	P	**P**	**13 20 53.3**	**+3.1**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.3						
HHC	**Hu-ho-hao-te**	**58.56**	**326**	*e*P	**P**	**13 21 12.3**	**+2.6**
HHC				PP	PP	13 23 23.5	+3.9
HHC				PCS	PcS	13 26 00.5	-0.7
HHC				S	**S**	**13 29 11.9**	**+2.1**
HHC				SCS	ScS	13 30 53.0	-2.0
HHC				SS	SS	13 33 02.8	-0.1
HHC				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.2						
HHC				LR	LR		
	comp=N,304nm,14.3s,MS4.8						
HHC				LR	LR		
	comp=E,410nm,16.7s,MS4.8						
HHC				LR	LR		
	comp=Z,552nm,11.9s,MS4.9						
LZH	**Lanzhou**	**60.43**	**317**	*e*P	**P**	**13 21 25.8**	**+3.2**
LZH				AP	pP	13 21 45.3	+8.6
LZH				XP	sP	13 21 54.0	+11
LZH				PP	PP	13 23 41.8	+5.6
LZH				AMB	AMB		
	comp=Z,25nm,1.4s,mb5.0						
ULN	**Ulaanbaatar**	**65.64**	**329**	*e*P	**P**	**13 21 58.7**	**+1.6**
	comp=Z,5.4nm,1.4s,mb4.4						
SONM	**Songino Array**	**65.96**	**329**	P	**P**	**13 21 58.9**	**-0.3**
	comp=Z,3.3nm,0.9s,mb4.4,baz=135,slow=5.3,SNR=16						
VNDA	**Vanda**	**72.10**	**177**	P	**P**	**13 22 37.3**	**0.0**
	comp=Z,1.9nm,0.8s,mb4.0,baz=318,slow=6.2,SNR=8.0						
VNDA	**Vanda**	**72.10**	**177**	*e*P	**P**	**13 22 37.5**	**+0.2**
WMQ	**Urumqi**	**74.99**	**318**	P	**P**	**13 22 54.8**	**+0.6**
MKAR	**Makanchi Array**	**79.62**	**319**	P	**P**	**13 23 19.3**	**-0.9**
	comp=Z,1.1nm,0.7s,mb3.9,baz=94,slow=6.3,SNR=8.8						
ZAL	**Zalesovo**	**80.73**	**327**	P	**P**	**13 23 24.1**	**-2.0**
	comp=Z,1.0nm,0.3s,mb4.2,baz=129,slow=8.7,SNR=4.2						
KURK	**Kurchatov**	**83.18**	**322**	*e*P	**P**	**13 23 37.8**	**-1.2**
	comp=Z,6.4nm,1.3s,mb4.5						
MAW	**Mawson**	**84.05**	**203**	P	**P**	**13 23 42.7**	**-0.7**
	comp=Z,1.0nm,0.6s,mb4.1,baz=20,slow=2.7,SNR=4.7						
SYO	**Syowa Base**	**92.23**	**200**	⇑*e*P	**P**	**13 24 22.0**	**-0.7**
NVAR	**Mina Array Bea**	**94.16**	**52**	P	**P**	**13 24 31.9**	**+0.3**
	comp=Z,0.6nm,0.7s,mb4.1,baz=250,slow=3.3,SNR=4.8						
GERES	**GERESS Array B**	**123.67**	**327**	PKP	PKPdf	13 30 09.9	-0.4
	comp=Z,0.4nm,0.7s,baz=96,slow=1.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**148.62**	**286**	PKPbc	PKPbc	13 30 59.8	+0.1
	comp=Z,2.0nm,0.7s,baz=66,slow=2.8,SNR=12						
BDFB	**Brasilia**	**151.85**	**139**	PKPbc	PKPbc	13 31 07.9	+0.5
	comp=Z,5.2nm,0.9s,baz=78,slow=3.0,SNR=5.9						
BDFB				PKPab	PKPab	13 31 18.4	+1.8
	comp=Z,6.4nm,1.0s,baz=153,slow=8.1,SNR=4.3						

*SKO **16** 13:19:10.6, 4142N×2092E, h21^{km}, M0.6, ML2.6*
*CSEM **16** 13:19:11.8±0.1, 4150N×2091E, h5^{km}, ML2.6, Error ellipse: s-maj=3.9km s-min=2.3km az=45.0*
*NEIC **16** 13:19:11.6±0.4, 4149N×2089E, h10^{km}, MD2.8(PDG), Error ellipse: s-maj=6.4km s-min=3.7km az=46.0*
*ISCJB **16** 13:19:11.6±0.3, 4146N±002×2094E±003, h5^{km}, Error ellipse: s-maj=3.2km s-min=1.8km az=108.6*
*TIR **16** 13:19:11.3, 4145N×2076E, h5^{km}*
*THE **16** 13:19:11.7, 4149N×2096E, h10^{km}, ML2.9*
*PDG **16** 13:19:14.4±0.2, 4146N×2067E, h10^{km}± 1^{km}*
ISC 16 13:19:12.0±0.4**, 4146N**±002×**2095E**±003**, h3**^{km}±4^{km}**, n38,** σ**0**^{s}**94**/71**, 10C-3D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.36**	**199**	*e*Pg	**Pg**	**13 19 18.1**	**-0.9**
OHR				*e*Sg	**Sg**	**13 19 23.6**	**-0.1**
OHR	**Ohrid**	**0.36**	**199**	*i* Pg	**Pg**	**13 19 18.0**	**-1.0**
OHR				*i* Sg	**Sg**	**13 19 23.6**	**-0.1**
OHR				*e*Lg		13 19 23.8	
	comp=N,475nm,0.4s						
OHR				*e*Lg		13 19 23.8	
	comp=E,558nm,0.5s						
BIA	**Bitola**	**0.52**	**147**	*e*Pg	**Pg**	**13 19 21.4**	**-0.5**
BIA				*e*Sg	**Sg**	**13 19 30.1**	**+1.5**
BIA	**Bitola**	**0.52**	**147**	*i* Pg	**Pg**	**13 19 21.1**	**-0.9**
BIA				*i* Sg	**Sg**	**13 19 29.8**	**+1.2**
BIA	**Bitola**	**0.52**	**147**	*i* Pg	**Pg**	**13 19 21.0**	**-1.0**
BIA				*i* Sg	**Sg**	**13 19 29.8**	**+1.1**
SKO	**Skopje**	**0.63**	**35**	*e*Pg	**Pg**	**13 19 23.9**	**-0.2**
SKO				*e*Sg	**Sg**	**13 19 32.6**	**+0.3**
SKO	**Skopje**	**0.63**	**35**	*i* Pg	**Pg**	**13 19 24.1**	**0.0**
SKO				*i* Sg	**Sg**	**13 19 32.6**	**+0.3**
FNA	**Florina**	**0.74**	**154**	*e*Pg	**Pg**	**13 19 26.1**	**-0.2**
FNA				*e*Sg	**Sg**	**13 19 36.9**	**+0.9**
FNA	**Florina**	**0.74**	**154**	*e*Pg	**Pg**	**13 19 26.1**	**-0.2**
FNA				*e*Sg	**Sg**	**13 19 36.8**	**+0.9**
QSH	**Qafa e Shtames**	**0.79**	**275**	*i* pg?	**Pg**	**13 19 27.8**	**+0.7**
QSH				*i* Sg	**Sg**	**13 19 43.0**	**+5.6**
TIR	**Tirane**	**0.83**	**263**	*e*Pg	**Pg**	**13 19 26.6**	**-1.2**
TIR				*e*Sg	**Sg**	**13 19 38.8**	**+0.2**
KBN	**Korca**	**0.84**	**189**	*i* Pg	**Pg**	**13 19 27.7**	**-0.4**
KBN				*i* Sg	**Sg**	**13 19 40.8**	**+1.7**
VAY	**Valandovo**	**1.22**	**96**	*e*Pg	**Pg**	**13 19 34.5**	**-1.0**
VAY				*e*Sg	**Sg**	**13 19 52.3**	**+1.0**
VAY	**Valandovo**	**1.22**	**96**	⇑*i*Pg	**Pg**	**13 19 34.3**	**-1.1**
VAY	**Valandovo**	**1.22**	**96**	⇑*i*Pg	**Pg**	**13 19 34.3**	**-1.2**
VAY				*e*Sg	**Sg**	**13 19 52.3**	**+1.0**
PVY	**Plav**	**1.35**	**328**	⇓*i*Pg	**Pg**	**13 19 36.9**	**-1.0**
PVY				*e*Sg	**Sg**	**13 19 57.5**	**+2.1**
ULC	**Ulcinj**	**1.37**	**292**	⇓*i*Pg	**Pn**	**13 19 36.1**	**-1.8**
ULC				*e*Sg	**Sg**	**13 19 55.2**	**-0.9**
TTG	**Podgorica**	**1.59**	**308**	⇑*i*Pg	**Pn**	**13 19 40.9**	**-0.2**
TTG				*e*Sg	**Sg**	**13 20 04.0**	**+0.8**
TTG	**Podgorica**	**1.59**	**308**	⇑*i*Pg	**Pn**	**13 19 40.8**	**-0.2**
TTG				*e*Sg	**Sg**	**13 20 04.0**	**+0.8**
IVA	**Berane**	**1.62**	**331**	⇑*i*Pg	**Pn**	**13 19 42.8**	**+1.4**
IVA				*e*Sg	**Sg**	**13 20 06.0**	**+2.1**
MEV	**Metsovon**	**1.68**	**173**	*e*Pb	**Pb**	**13 19 43.2**	**-0.4**
MEV				*e*Sb	**Sb**	**13 20 04.7**	**-0.5**
THE	**Thessaloniki**	**1.73**	**118**	*e*Pb	**Pn**	**13 19 42.3**	**-0.6**
BUM	**Brajici-Budva**	**1.75**	**299**	⇑*i*Pg	**Pn**	**13 19 43.0**	**-0.2**
BUM				*e*Sg	**Sg**	**13 20 08.6**	**+0.3**
LIT	**Litokhoron**	**1.79**	**139**	*e*Pb	**Pb**	**13 19 44.0**	**-1.3**
LIT				*e*Sb	**Sb**	**13 20 07.6**	**-0.6**
LIT	**Litokhoron**	**1.79**	**139**	*e*Pb	**Pb**	**13 19 44.0**	**-1.4**

LIT				*e*Sb	**Sb**	**13 20 07.6**	**-0.6**
HORT	**Hortiatis**	**1.84**	**117**	*e*Pb	**Pn**	**13 19 44.0**	**-0.4**
HORT				*e*Sb	**Sb**	**13 20 09.6**	**0.0**
SOH	**Sokhos**	**1.92**	**109**	*e*Pb	**Pn**	**13 19 44.7**	**-0.8**
IGT	**Igoumenitsa**	**1.98**	**194**	*e*Pn	**Pb**	**13 19 48.4**	**-0.2**
IGT				*e*Sn	**Sg**	**13 20 15.9**	**+0.3**
NKY	**Niksic**	**1.99**	**314**	⇑*i*Pn	**Pb**	**13 19 48.2**	**-0.6**
NKY				*e*Sn	**Sb**	**13 20 15.5**	**+1.6**
HCY	**Herceg Novi**	**2.08**	**299**	⇑*i*Pn	**Pb**	**13 19 49.1**	**-1.2**
HCY				*e*Sn	**Sb**	**13 20 16.7**	**+0.1**
PLE	**Pljevlja**	**2.20**	**329**	⇑*i*Pn	**Pb**	**13 19 51.7**	**-0.6**
PLE				*e*Sn	**Sb**	**13 20 20.7**	**+0.7**
BRY	**Bratogost**	**2.30**	**310**	⇓*i*Pn	**Pb**	**13 19 52.5**	**-1.6**
BRY				*e*Sn	**Sb**	**13 20 22.2**	**-0.6**
UPM	**Unac-Piva**	**2.31**	**320**	⇑*i*Pn	**Pb**	**13 19 53.5**	**-0.8**
UPM				*e*Sn	**Sb**	**13 20 22.8**	**-0.4**
PAIG	**Paliouri**	**2.58**	**126**	*e*Pn	**Pn**	**13 19 54.5**	**-0.1**
AGG	**Agios Georgios**	**2.65**	**156**	*e*Pn	**Pn**	**13 19 55.4**	**-0.1**
AGG				*e*Sn	**Sn**	**13 20 30.3**	**+2.1**
XOR	**Xorichti**	**2.70**	**140**	*e*Pn	**Pn**	**13 19 56.3**	**+0.1**
DIVS	**Divcibare**	**2.73**	**345**	*e*Pn	**Pn**	**13 19 57.1**	**+0.4**
DIVS				*e*Sn	**Sn**	**13 20 30.6**	**+0.4**
LKD	**Levkas**	**2.76**	**185**	*e*Pn	**Pn**	**13 19 57.6**	**+0.6**
LKD				*e*Sn	**Sn**	**13 20 32.7**	**+1.9**

*IDC **16** 13:28:29.8±0.6, 534S×15071E, h0km, mb4.5/13, mb1 4.7/15, mb1mx4.7/16, mbtmp4.5/15, ML3.9/2, MS4.4/5, Ms1 4.4/5, ms1mx4.1/16, Error ellipse: s-maj=20.6km s-min=14.5km az=94.0*

*ISCJB **16** 13:28:35.1±1.6, 553S±006×15068E±008, h43km±14km, mb4.7/34, MS4.8/7, Error ellipse: s-maj=13.6km s-min=9.9km az=173.6*

*BJI **16** 13:28:37.0, 557S×15131E, h86km, mB5.4, mb4.8, Ms4.9, Msz4.7*

*NEIC **16** 13:28:38.2±2.1, 549S×15063E, h63km±18km, mb4.8/16, Error ellipse: s-maj=14.0km s-min=10.5km az=81.0*

ISC 16 13:28:38.6±1.6**, 560S**±006×**15066E**±008**, h57**km±13km**, h62**km±.6km**:pP-P, n62, σ1s29**/58**, mb4.7**/34**, MS4.8**/7**, 1C-2D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.13**	**222**	Pn	**Pn**	**13 29 53.0**	**+0.2**
	20nm,0.3s,baz=40,slow=9.6,SNR=60						
PMG				Sn	**Sn**	**13 30 55.4**	**+4.7**
	4.3nm,0.3s,baz=276,slow=6.2,SNR=3.6						
PMG				LR	LR	13 32 11.5	
	comp=Z,2µm,19.8s,baz=49,slow=41						
PMG	**Port Moresby**	**5.13**	**222**	*e*Pn	**Pn**	**13 29 53.6**	**+0.8**
PMG				*e*Sn	**Sn**	**13 30 48.4**	**-2.3**
HNR	**Honiara**	**9.96**	**113**	LR	LR	13 34 18.9	
	comp=Z,2µm,18.5s,baz=359,slow=35						
CTA	**Charters Tower**	**15.02**	**196**	*e*P	**Pn**	**13 32 05.0**	**-2.4**
	13nm,1.1s						
CTA				*i*		13 32 14.0	
CTA	**Charters Tower**	**15.02**	**196**	Pn	**Pn**	**13 32 08.2**	**+0.8**
	0.3nm,0.3s,baz=24,slow=12,SNR=6.6						
CTA				LR	LR	13 37 10.2	
	comp=Z,2µm,20.2s,baz=5.1,slow=34						
CTA	**Charters Tower**	**15.02**	**196**	Pn	**Pn**	**13 32 08.2**	**+0.8**
	13nm,1.1s						
CTA				*i*		13 32 14.0	
CTA				LR	LR	13 37 10.2	
CTAO	**Charters Tower**	**15.02**	**196**	Pn	**Pn**	**13 32 07.5**	**+0.1**
KAKA	**Kakadu**	**19.31**	**247**	*e*P	**Pn**	**13 32 58.6**	**-1.9**
	16nm,0.6s						
GUMO	**Guam**	**19.91**	**343**	LR	LR	13 38 59.9	
	comp=Z,1µm,19.2s,baz=214,slow=32						
WRAB	**Tennant Creek**	**21.32**	**227**	*e*P	**P**	**13 33 20.4**	**-0.2**
	93nm,1.1s,mb5.0						
WB2	**Warramunga Arr**	**21.32**	**227**	⇑*i*P	**P**	**13 33 20.7**	**0.0**
WRA	**Warramunga Arr**	**21.33**	**227**	P	**P**	**13 33 20.7**	**0.0**
	39nm,1.0s,mb4.7,baz=52,slow=9.7,SNR=84						
WRA				PcP	PcP	13 37 24.0	+0.9
	1.0nm,0.5s,baz=42,slow=1.4,SNR=7.5						
DZM	**Mont Dzumac**	**22.39**	**139**	P	**P**	**13 33 33.3**	**+1.3**
	10nm,0.6s,mb4.4,baz=329,slow=16,SNR=4.9						
DZM				LR	LR	13 41 04.7	
	comp=Z,2µm,20.0s,MS4.5,baz=21,slow=34						
AS31	**Alice Springs**	**24.14**	**220**	*e*P	**P**	**13 33 50.0**	**+0.8**
ASAR	**Alice Springs**	**24.14**	**220**	P	**P**	**13 33 49.9**	**+0.7**
	12nm,0.9s,mb4.4,baz=53,slow=8.7,SNR=108						
ASPA	**Alice Springs**	**24.14**	**220**	*e*P	**P**	**13 33 50.0**	**+0.8**
ARMA	**Armidale**	**24.70**	**178**	*e*P	**P**	**13 33 57.0**	**+2.7**
FITZ	**Fitzroy Crossi**	**27.41**	**241**	*e*P	**P**	**13 34 17.0**	**-1.7**
	56nm,0.9s,mb5.1						
FITZ	**Fitzroy Crossi**	**27.41**	**241**	P	**P**	**13 34 17.9**	**-0.8**
	16nm,0.7s,mb4.7,baz=95,slow=6.9,SNR=27						
FORT	**Forrest**	**32.84**	**218**	*e*P	**P**	**13 35 07.0**	**+0.3**
	26nm,1.0s,mb5.1						
MBWA	**Marble Bar**	**33.73**	**240**	*e*P	**P**	**13 35 14.0**	**-0.4**
	23nm,0.8s,mb5.2						
KLBR	**Kellerberrin**	**40.21**	**226**	*e*P	**P**	**13 36 08.6**	**-0.9**
	34nm,1.1s,mb5.0						
RPZ	**Rata Peaks**	**41.99**	**158**	P	**P**	**13 36 25.2**	**+1.1**
	4.8nm,0.6s,mb4.3,baz=48,slow=2.1,SNR=5.8						
MJAR	**Matsushiro Arr**	**43.51**	**345**	P	**P**	**13 36 32.7**	**-3.7**
	7.4nm,1.2s,mb4.3,baz=163,slow=7.6,SNR=10						
MJAR	**Matsushiro Arr**	**43.51**	**345**	P	**P**	**13 36 32.7**	**-3.7**
MAT	**Matsushiro**	**43.52**	**345**	P	**P**	**13 36 34.0**	**-2.4**
MAT	**Matsushiro**	**43.52**	**345**	*e*P	**P**	**13 36 34.0**	**-2.4**
	30nm,1.6s,mb4.8						
NJ2	**Nanjing**	**48.16**	**323**	*e*P	**P**	**13 37 14.5**	**+1.5**
NJ2				AP	pP	13 37 30.3	+2.3
NJ2				PP	PP	13 39 07.9	+2.3
NJ2				S	**S**	**13 44 09.0**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,340nm,7.7s						
NJ2				LR	LR		
	comp=N,530nm,10.0s,MS5.0						
NJ2				LR	LR		
	comp=E,520nm,10.3s,MS5.0						
NJ2				LR	LR		
	comp=Z,2µm,12.0s,MS5.3						
INCN	**Inchon**	**48.36**	**334**	*e*P	**P**	**13 37 15.9**	**+1.3**
	comp=Z,282nm,1.5s,mb6.1						
CN2	**Changchun**	**54.19**	**338**	*e*P	**P**	**13 37 57.8**	**-0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
KMI	**Kunming**	**55.69**	**305**	P	**P**	**13 38 11.8**	**+2.8**
KMI				AP	pP	13 38 27.8	+3.5
KMI				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.5						
KMI				LR	LR		
	comp=Z,273nm,19.0s,MS4.4						
XAN	**Xi'an**	**55.76**	**318**	P	**P**	**13 38 10.1**	**+0.6**
XAN				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.9						
CD2	**Chengdu**	**57.66**	**312**	*e*P	**P**	**13 38 24.4**	**+1.4**
CD2				PP	PP	13 40 34.4	+3.1
CD2				S	**S**	**13 46 18.4**	**+1.2**
CD2				SS	SS	13 50 11.4	+3.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				LR	LR		
	comp=N,320nm,19.2s						
CD2				LR	LR		
	comp=Z,510nm,16.8s,MS4.7						
HHC	**Hu-ho-hao-te**	**58.48**	**326**	*e*P	**P**	**13 38 30.3**	**+1.6**
HHC				AP	pP	13 38 46.1	+2.0
HHC				PCP	PcP	13 39 20.4	+1.6
HHC				PP	PP	13 40 41.3	+2.8
HHC				S	**S**	**13 46 27.4**	**-0.5**
HHC				SS	SS	13 50 20.5	-0.4
HHC				AMB	AMB		
	comp=Z,19nm,1.2s,mb5.0						
HHC				AMB	AMB		
	comp=Z,861nm,6.7s						
HHC				LR	LR		
	comp=N,286nm,16.6s,MS4.7						
HHC				LR	LR		
	comp=E,362nm,15.5s,MS4.7						
HHC				LR	LR		
	comp=Z,341nm,15.5s,MS4.6						
LZH	**Lanzhou**	**60.34**	**317**	*e*P	**P**	**13 38 42.5**	**+1.0**
LZH				PP	PP	13 40 58.5	+3.5
LZH				*e*S	**S**	**13 46 51.5**	**-0.3**
LZH				*e*SS	SS	13 50 51.5	+1.4
LZH				AMB	AMB		
	comp=Z,43nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,251nm,5.6s						
LZH				LR	LR		
	comp=N,1µm,15.6s						
LZH				LR	LR		
	comp=Z,2µm,16.3s,MS5.4						
GTA	**Gaotai**	**64.81**	**318**	*e*P	**P**	**13 39 11.6**	**+0.2**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.5s,mb4.4						
ULN	**Ulaanbaatar**	**65.57**	**329**	*e*P	**P**	**13 39 17.4**	**+1.1**
	comp=Z,11nm,1.3s,mb4.7						
SONM	**Songino Array**	**65.89**	**329**	P	**P**	**13 39 18.1**	**-0.2**
	comp=Z,7.6nm,1.2s,mb4.6,baz=150,slow=5.3,SNR=18						
VNDA	**Vanda**	**72.12**	**177**	P	**P**	**13 39 57.1**	**+0.1**
	comp=Z,3.8nm,0.9s,mb4.3,baz=315,slow=6.4,SNR=10						
VNDA	**Vanda**	**72.12**	**177**	*e*P	**P**	**13 39 55.2**	**-1.8**
	comp=Z,6.3nm,1.1s,mb4.5						
SBA	**Scott Base**	**72.70**	**176**	*e*P	**P**	**13 40 01.1**	**+0.7**
	comp=Z,24nm,1.7s,mb4.8						
WMQ	**Urumqi**	**74.90**	**318**	P	**P**	**13 40 15.1**	**+1.8**
WMQ				PP	PP	13 43 01.5	+0.2
WMQ				AMB	AMB		
	comp=Z,37nm,1.8s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,175nm,5.4s						
WMQ				LR	LR		
	comp=N,592nm,19.1s,MS5.0						
WMQ				LR	LR		
	comp=E,444nm,18.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,571nm,19.6s,MS4.9						
MKAR	**Makanchi Array**	**79.53**	**319**	P	**P**	**13 40 37.5**	**-1.7**
	comp=Z,1.4nm,0.7s,mb4.0,baz=101,slow=6.3,SNR=16						
ZAL	**Zalesovo**	**80.65**	**327**	P	**P**	**13 40 43.8**	**-1.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=356,slow=17,SNR=6.6						
KURK	**Kurchatov**	**83.09**	**322**	*e*P	**P**	**13 40 57.1**	**-1.0**
	comp=Z,22nm,1.3s,mb5.0						
COLA	**College**	**83.39**	**22**	*e*P	**P**	**13 40 56.1**	**-3.5**
	comp=Z,5.2nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**83.67**	**314**	*e*P	**P**	**13 41 00.3**	**-0.7**
	comp=Z,13nm,1.4s,mb4.9						
MAW	**Mawson**	**84.01**	**203**	*e*P	**P**	**13 41 02.8**	**0.0**
	comp=Z,9.1nm,1.6s,mb4.7						
MAW	**Mawson**	**84.01**	**203**	P	**P**	**13 41 03.2**	**+0.4**
	comp=Z,3.8nm,0.7s,mb4.6,baz=90,slow=4.5,SNR=12						
QSPA	**South Pole Qui**	**84.36**	**180**	*e*P	**P**	**13 41 01.7**	**-2.9**
	comp=Z,26nm,1.4s,mb5.2						
SYO	**Syowa Base**	**92.20**	**200**	⇓*e*P	**P**	**13 41 40.4**	**-1.7**
SYO	**Syowa Base**	**92.20**	**200**	⇓*e*PcP	PcP	13 41 42.6	-0.2
NVAR	**Mina Array Bea**	**94.25**	**52**	P	**P**	**13 41 50.5**	**-1.0**
	comp=Z,1.1nm,0.7s,mb4.4,baz=235,slow=4.3,SNR=9.5						
NVAR	**Mina Array Bea**	**94.25**	**52**	P	**P**	**13 41 50.5**	**-1.0**
YKA	**Yellowknife Ar**	**97.13**	**28**	P	**P**	**13 42 02.8**	**-1.8**
	comp=Z,0.7nm,0.9s,mb4.1,baz=272,slow=5.1,SNR=4.3						
PDAR	**Pinedale Array**	**100.96**	**48**	P	Pdif	13 42 19.2	-2.5
	comp=Z,0.4nm,0.7s,baz=238,slow=2.8,SNR=4.8						
GERES	**GERESS Array B**	**123.59**	**327**	PKP	PKPdf	13 47 29.4	-0.2
	comp=Z,0.4nm,0.6s,baz=64,slow=4.5,SNR=3.5						
LPAZ	**La Paz**	**135.89**	**120**	PKP	PKPdf	13 47 54.3	+1.4
	comp=Z,4.5nm,0.8s,baz=180,slow=1.7,SNR=17						
SDV	**Santo Domingo**	**138.93**	**83**	*e*PKPdf	PKPdf	13 47 58.9	+0.4
SAML	**Samuel**	**143.30**	**113**	*e*PKPpre		13 48 01.0	
TORD	**Torodi Ar. Bea**	**148.50**	**286**	PKPbc	PKPbc	13 48 17.6	-1.2
	comp=Z,2.8nm,0.6s,baz=76,slow=2.1,SNR=13						
BDFB	**Brasilia**	**151.94**	**139**	PKP	PKPdf	13 48 21.1	+0.5
	comp=Z,4.3nm,0.7s,baz=129,slow=3.2,SNR=6.1						
BDFB				PKPbc	PKPbc	13 48 26.6	-0.5
	comp=Z,10nm,0.8s,baz=334,slow=1.0,SNR=9.3						
BDFB				PKPab	PKPab	13 48 37.4	+0.9
	comp=Z,6.1nm,0.8s,baz=315,slow=3.8,SNR=4.2						

*MOS **16** 13:46:26.0±1.6, 37.16N×73.14E, h33km, mb4.1/1, Error ellipse: s-maj=39.8km s-min=13.1km az=90.2*

*NEIC **16** 13:46:38.3±4.5, 3789N×7322E, h83km±32km, mb3.8/2, Error ellipse: s-maj=45.7km s-min=28.0km az=174.0*

*IDC **16** 13:46:39.4±7.1, 38.10N×73.12E, h78km±68km, mb3.4/4, mb1 3.5/7, mb1mx3.2/21, mbtmp3.7/7, ML3.7/2, Error ellipse: s-maj=61.1km s-min=48.7km az=132.0*

*ISCJB **16** 13:46:44.6±2.3, 385N±02×730E±0.1, h124km±17km, mb3.9/5, Error ellipse: s-maj=26.9km s-min=17.4km az=7.2*

ISC 16 13:46:46.3±2.0**, 386N**±02×**730E**±01**, h121**km±16km**, n29, σ0s82**/31**, mb3.9**/5**, 1D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.60**	**9**	P	**Pn**	**13 47 40.9**	**+0.4**
	SNR=163						
KZA	**Kyzart**	**3.92**	**26**	P	**Pn**	**13 47 44.4**	**-0.3**
	SNR=17						
EKS2	**Erkin-Say**	**4.14**	**8**	P	**Pn**	**13 47 48.5**	**+0.8**
	SNR=22						
AAK	**Ala-Archa**	**4.22**	**15**	P	**Pn**	**13 47 49.7**	**+0.9**
	SNR=24						
AAK	**Ala-Archa**	**4.22**	**15**	*e*Pn	**Pn**	**13 47 48.3**	**-0.5**
AAK				*e*Sn	**Sn**	**13 48 37.9**	**+0.6**
KBK	**Karagaybulak**	**4.35**	**20**	P	**Pn**	**13 47 51.3**	**+0.7**
	SNR=12						
ULHL	**Ulahol**	**4.44**	**33**	P	**Pn**	**13 47 51.2**	**-0.6**
	SNR=63						
CHMS	**Chumysh**	**4.63**	**16**	P	**Pn**	**13 47 54.7**	**+0.5**
	SNR=9.5						
TKM2	**Tokmak 2**	**4.79**	**24**	P	**Pn**	**13 47 56.5**	**+0.1**
	SNR=11						
TKM2	**Tokmak 2**	**4.79**	**24**	⇓P	**Pn**	**13 47 55.9**	**-0.4**
USP	**Ospenovka**	**4.84**	**13**	P	**Pn**	**13 47 57.4**	**+0.4**
	SNR=15						
KK31	**Karatay Array**	**4.90**	**338**	P	**Pn**	**13 47 58.1**	**+0.2**
	1.3nm,0.3s,baz=198,slow=15,SNR=68						
KK31				S	**Sn**	**13 48 52.2**	**-1.4**
	14nm,0.5s,baz=232,slow=43,SNR=22						
MKAR	**Makanchi Array**	**10.70**	**37**	P	**Pn**	**13 49 14.7**	**-1.4**
	0.1nm,0.3s,baz=209,slow=17,SNR=2.2						
BVAR	**Borovoye Array**	**14.57**	**354**	P	**Pn**	**13 50 10.5**	**+3.9**
	0.2nm,0.3s,baz=163,slow=10,SNR=7.5						
ZRNK	**Zerenda**	**14.65**	**350**	*e*P	**Pn**	**13 50 12.1**	**+4.6**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZRNK	**Zerenda**	**14.65**	**350**	*e*P	**Pn**	**13 50 12.1**	**+4.6**
	comp=Z,0.9nm,0.6s						
AKTK	**Aktyubinsk**	**15.92**	**323**	P	**Pn**	**13 50 23.0**	**-0.4**
AKTO	**Aktyubinsk**	**15.92**	**323**	P	**Pn**	**13 50 23.0**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=116,slow=14,SNR=5.0						
AKTO	**Aktyubinsk**	**15.92**	**323**	P	**Pn**	**13 50 23.0**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**17.38**	**24**	P	**Pn**	**13 50 39.8**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=268,slow=7.8,SNR=9.1						
ZAL	**Zalesovo**	**17.38**	**24**	P	**Pn**	**13 50 39.8**	**-1.4**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**32.94**	**306**	P	**P**	**13 53 09.8**	**+0.7**
	comp=Z,0.4nm,0.3s,mb3.7,baz=80,slow=8.4,SNR=4.4						
AKASG	**Malin Array Be**	**32.94**	**306**	P	**P**	**13 53 09.8**	**+0.7**
FINES	**FINESS Array B**	**36.69**	**324**	P	**P**	**13 53 42.0**	**+0.6**
	comp=Z,0.4nm,0.3s,mb3.8,baz=113,slow=9.6,SNR=9.8						
ARCES	**ARCESS Array B**	**39.86**	**336**	P	**P**	**13 54 09.0**	**+1.0**
	comp=Z,1.1nm,0.7s,mb3.8,baz=98,slow=7.6,SNR=6.0						
ARCES	**ARCESS Array B**	**39.86**	**336**	P	**P**	**13 54 09.0**	**+1.0**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**39.86**	**336**	P	**P**	**13 54 09.0**	**+1.0**
SUMG	**Summit**	**59.62**	**341**	*e*P	**P**	**13 56 38.1**	**+0.7**
	comp=Z,4.9nm,1.1s,mb4.5						
TORD	**Torodi Ar. Bea**	**67.33**	**269**	P	**P**	**13 57 26.9**	**-1.3**
	comp=Z,0.6nm,0.5s,mb3.7,baz=39,slow=5.7,SNR=6.9						

IDC 16 14:11:12.3±3.3**, 2298N**×**1201W, h0**km**, mb3.7**/3**, mb1 3.8**/4**, mb1mx3.5**/20**, mbtmp3.7**/4**, ML3.5**/1**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.9**/35**, Error ellipse: s-maj=87.6km s-min=37.0km az=70.0, Mauritania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.28**	**125**	Pn	Pn	14 15 02.3	0.0
	0.2nm,0.3s,baz=311,slow=12,SNR=8.9						
TORD				Sn	Sn	14 18 06.3	+2.7
	0.1nm,0.3s,baz=308,slow=24,SNR=4.2						
TORD				LR	LR	14 22 10.9	
	comp=Z,113nm,18.1s,baz=340,slow=40						
GERES	**GERESS Array B**	**32.86**	**32**	P	P	14 17 47.3	-0.5
	0.6nm,0.7s,baz=230,slow=10,SNR=4.4						
FINES	**FINESS Array B**	**46.45**	**24**	P	P	14 19 41.2	+0.3
	1.4nm,0.9s,baz=225,slow=7.5,SNR=5.2						
MKAR	**Makanchi Array**	**76.43**	**45**	P	P	14 23 04.0	+0.2
	0.1nm,0.2s,baz=305,slow=5.3,SNR=4.5						
ASAR	**Alice Springs**	**148.74**	**98**	PKPbc	PKPbc	14 31 01.7	+0.1
	0.4nm,0.6s,baz=289,slow=2.3,SNR=6.8						

*CSEM **16** 14:23:02.0, 1943S×17802W, h33km, mb5.7*

*MOS **16** 14:23:58.2±2.2, 1972S×17838W, h566km, mb4.9/25, Error ellipse: s-maj=9.7km s-min=8.7km az=75.6*

*IDC **16** 14:23:60.0±0.5, 1997S×17838W, h591km±4km, mb4.3/25, mb1 4.3/28, mb1mx4.3/28, mbtmp5.2/28, Error ellipse: s-maj=8.3km s-min=7.1km az=150.0*

*ISCJB **16** 14:23:59.6±0.2, 2000S±003×17839W±004, h603km, mb4.8/98, Error ellipse: s-maj=4.9km s-min=3.7km az=68.1*

*BJI **16** 14:23:59.5, 1968S×17791W, h606km, mB4.9, mb5.0*

*NEIC **16** 14:24:00.4±0.1, 1994S×17840W, mb4.8/53, Error ellipse: s-maj=6.5km s-min=4.1km az=117.0*

*HRVD **16** 14:24:00.4±0.6, 1995S×17836W, h601km±4km, MW5.7/52, Centroid moment Tensor Solution. LP body waves: s52,c64; Half duration: 1s7 Moment tensor: Scale 10^{17} Nm; M_{rr}1.35±.14; $M_{\theta\theta}$-2.25±.21; $M_{\phi\phi}$0.90±.22; $M_{r\theta}$-2.81±.24; $M_{\theta\phi}$-0.77±.20; $M_{\phi r}$-2.60±.22; Best double couple: $M_0$4.36000×10^{17} NP1:ϕ_s112.00000°, δ22.00000°, λ151.00000°. NP2:ϕ_s229.00000°, δ80.00000°, λ70.00000°. Principal axes: T 4.1830, Plg52.0000°, Azm116.0000°; N 0.3540, Plg19.0000°, Azm232.0000°; P -4.5360, Plg32.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s.*

*SZGRF **16** 14:24:01.5, 1984S×17731W, h608km, Fiji Islands region*

ISC 16 14:24:01.1±0.2**, 1998S**±003×**17834W**±004**, h604**km**, h604**km±3.6km**:pP-P, n449, σ1s20**/246**, mb4.8**/98**, 34C-23D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.71**	**47**	P	**P**	**14 26 02.6**	**-4.6**
	9.1nm,0.3s,baz=47,slow=4.2,SNR=17						
AFI				S	**S**	**14 27 41.0**	**-10**
	12nm,0.3s,baz=16,slow=22,SNR=8.5						
RAO	**Raoul Island**	**9.23**	**178**	P	**P**	**14 26 09.5**	**-2.8**
	428nm,0.3s,baz=86,slow=6.7,SNR=17						
RAO				S	**S**	**14 27 56.6**	**-3.4**
	230nm,0.3s,baz=76,slow=23,SNR=5.2						
RAO	**Raoul Island**	**9.23**	**178**	P	**P**	**14 26 09.5**	**-2.8**
RAO				S	**S**	**14 27 56.6**	**-3.4**
FUNA	**Funafuti**	**11.64**	**348**	*e*P	**P**	**14 26 33.5**	**-2.6**
DZM	**Mont Dzumac**	**14.36**	**259**	*e*P	**P**	**14 26 59.1**	**-3.9**
DZM	**Mont Dzumac**	**14.36**	**259**	P	**P**	**14 27 00.7**	**-2.4**
	0.2nm,0.3s,baz=67,slow=18,SNR=3.9						
DZM				S	**S**	**14 29 36.3**	**+4.6**
	0.1nm,0.3s,baz=354,slow=18,SNR=3.6						
RAR	**Rarotonga**	**17.42**	**97**	P	**P**	**14 27 29.9**	**-1.2**
	3.2nm,0.3s,baz=260,slow=6.3,SNR=10						
MTAZ	**Motutapu**	**17.75**	**198**	PN	**P**	**14 27 36.9**	**+2.7**
MTAZ	**Motutapu**	**17.75**	**198**	P	**P**	**14 27 36.4**	**+2.2**
OTAZ	**Otara**	**17.90**	**198**	PN	**P**	**14 27 38.1**	**+2.6**
OTAZ	**Otara**	**17.90**	**198**	P	**P**	**14 27 38.3**	**+2.8**
MKAZ	**Moumakai**	**17.98**	**197**	PN	**P**	**14 27 38.4**	**+2.1**
MKAZ	**Moumakai**	**17.98**	**197**	P	**P**	**14 27 37.9**	**+1.7**
WTAZ	**Waiatarua**	**17.99**	**199**	PN	**P**	**14 27 38.5**	**+2.2**
WTAZ	**Waiatarua**	**17.99**	**199**	P	**P**	**14 27 38.5**	**+2.2**
URZ	**Urewera**	**18.64**	**191**	P	**P**	**14 27 40.3**	**-1.9**
	27nm,0.3s,baz=317,slow=1.9,SNR=82						
URZ				S	**S**	**14 30 36.2**	**-5.2**
	2.1nm,0.3s,baz=37,slow=20,SNR=2.9						
BKZ	**Black Stump Fm**	**19.63**	**192**	PN	**P**	**14 27 49.5**	**-1.7**
BKZ	**Black Stump Fm**	**19.63**	**192**	*e*P	**P**	**14 27 49.5**	**-1.7**
MRZ	**Mangatainoka R**	**21.26**	**193**	PN	**P**	**14 28 03.8**	**-2.0**
MRZ	**Mangatainoka R**	**21.26**	**193**	*e*P	**P**	**14 28 03.8**	**-2.0**
CAW	**Cannon Point**	**21.80**	**194**	PN	**P**	**14 28 09.2**	**-1.4**
CAW	**Cannon Point**	**21.80**	**194**	P	**P**	**14 28 09.2**	**-1.4**
SNZO	**South Karori**	**22.07**	**194**	*e*P	**P**	**14 28 12.2**	**-0.8**
	66nm,0.6s,mb5.4						
QRZ	**Quartz Range**	**22.19**	**199**	PN	**P**	**14 28 14.7**	**+0.6**
QRZ	**Quartz Range**	**22.19**	**199**	P	**P**	**14 28 14.7**	**+0.6**
NNZ	**Nelson**	**22.31**	**197**	PN	**P**	**14 28 14.4**	**-0.8**
NNZ	**Nelson**	**22.31**	**197**	P	**P**	**14 28 14.3**	**-0.9**
THZ	**Tophouse**	**22.95**	**197**	PN	**P**	**14 28 20.3**	**-0.5**
THZ	**Tophouse**	**22.95**	**197**	*e*P	**P**	**14 28 19.9**	**-0.9**
DSZ	**Denniston Nort**	**23.25**	**199**	PN	**P**	**14 28 23.7**	**+0.2**
DSZ	**Denniston Nort**	**23.25**	**199**	*e*P	**P**	**14 28 23.6**	**+0.1**
KHZ	**Kahutara**	**23.39**	**195**	PN	**P**	**14 28 23.7**	**-1.0**
KHZ	**Kahutara**	**23.39**	**195**	*e*P	**P**	**14 28 23.6**	**-1.2**
LTZ	**Lake Taylor**	**24.07**	**197**	PN	**P**	**14 28 29.5**	**-1.3**
LTZ	**Lake Taylor**	**24.07**	**197**	P	**P**	**14 28 29.5**	**-1.2**
RPZ	**Rata Peaks**	**25.28**	**198**	P	**P**	**14 28 40.2**	**-1.2**
	20nm,0.5s,mb5.0,baz=300,slow=2.1,SNR=28						
RPZ				S	**S**	**14 32 23.7**	**-2.3**
	6.2nm,0.8s,baz=347,slow=18,SNR=1.7						
FOZ	**Fox Glacier**	**25.57**	**200**	PN	**P**	**14 28 44.0**	**+0.1**
FOZ	**Fox Glacier**	**25.57**	**200**	*e*P	**P**	**14 28 42.7**	**-1.2**
JCZ	**Jackson Bay**	**26.33**	**201**	PN	**P**	**14 28 50.8**	**+0.2**
JCZ	**Jackson Bay**	**26.33**	**201**	P	**P**	**14 28 50.5**	**-0.1**
TBI	**Tubuai**	**27.02**	**102**	*e*P	**P**	**14 28 57.2**	**+0.5**
	180nm,0.9s,mb5.7						
EAZ	**Earnscleugh**	**27.18**	**199**	PN	**P**	**14 28 58.0**	**-0.1**
EAZ	**Earnscleugh**	**27.18**	**199**	*e*P	**P**	**14 28 57.9**	**-0.2**
PAE	**Paea**	**27.30**	**90**	*e*P	**P**	**14 28 58.1**	**-1.0**
	210nm,1.1s,mb5.7						
PPT	**Papeete**	**27.32**	**90**	*e*P	**P**	**14 28 58.5**	**-0.8**
	145nm,1.2s,mb5.5						
PPT	**Papeete**	**27.32**	**90**	P	**P**	**14 28 58.7**	**-0.6**
	88nm,0.7s,mb5.5,baz=231,slow=18,SNR=8.9						
TVO	**Taravao**	**27.59**	**90**	*e*P	**P**	**14 29 00.7**	**-1.0**
	110nm,0.7s,mb5.6						
WHZ	**Wether Hill Ro**	**28.20**	**201**	PN	**P**	**14 29 07.0**	**0.0**
WHZ	**Wether Hill Ro**	**28.20**	**201**	*e*P	**P**	**14 29 07.2**	**+0.2**
ARMA	**Armidale**	**29.01**	**243**	*e*P	**P**	**14 29 17.0**	**+3.0**
PMOR	**Pomariorio Ree**	**29.43**	**85**	*e*P	**P**	**14 29 16.0**	**-1.5**
	226nm,1.1s,mb5.7						
VAH	**Vaihoa**	**29.62**	**86**	*e*P	**P**	**14 29 17.8**	**-1.4**
	136nm,0.8s,mb5.6						
CTA	**Charters Tower**	**33.23**	**264**	⇓*i*P	**P**	**14 29 50.5**	**+0.7**
	69nm,0.5s,mb5.5						
CTA				*i*		14 30 00.1	
CTA				*e*S	**S**	**14 34 28.4**	**0.0**
CTA	**Charters Tower**	**33.23**	**264**	P	**P**	**14 29 50.7**	**+0.9**
	92nm,0.5s,mb5.7,baz=87,slow=10,SNR=139						
CTA				S	**S**	**14 34 28.8**	**+0.3**
	3.7nm,0.7s,baz=181,slow=17,SNR=1.8						
CTA	**Charters Tower**	**33.23**	**264**	⇓*i*P	**P**	**14 29 50.5**	**+0.7**
CTA				*e*S	**S**	**14 34 28.4**	**0.0**
CTA				pmax	pmax		
	comp=Z,69nm,0.5s						
CTAO	**Charters Tower**	**33.23**	**264**	*e*P	**P**	**14 29 50.7**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,98nm,0.6s,mb5.6						
CTAO	**Charters Tower**	**33.23**	**264**	*e*P	**P**	**14 29 50.7**	**+0.9**
	comp=Z,98nm,0.6s,mb5.6						
CTAO				*e*		14 30 00.1	
PMG	**Port Moresby**	**34.92**	**282**	*d i*P	**P**	**14 30 04.6**	**+0.7**
PMG	**Port Moresby**	**34.92**	**282**	*e*P	**P**	**14 30 04.3**	**+0.4**
	comp=Z,263nm,1.0s,mb5.8						
TOO	**Toolangi**	**35.95**	**233**	*e*P	**P**	**14 30 13.6**	**+1.2**
	comp=Z,20nm,0.8s,mb4.7						
TOO	**Toolangi**	**35.95**	**233**	*e*P	**P**	**14 30 13.6**	**+1.2**
TOO				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.7						
AS31	**Alice Springs**	**44.33**	**256**	⇓*i*P	**P**	**14 31 19.5**	**+0.6**
AS31				*e*S	**S**	**14 37 10.2**	**-0.1**
AS31				*e*ScS	ScS	14 40 13.2	+3.2
ASAR	**Alice Springs**	**44.33**	**256**	P	**P**	**14 31 19.4**	**+0.5**
	comp=Z,50nm,0.8s,mb5.1,baz=88,slow=7.5,SNR=312						
ASAR				ScP	ScP	14 35 47.6	+3.1
	comp=Z,4.6nm,0.9s,baz=110,slow=5.0,SNR=5.4						
ASAR				S	**S**	**14 37 10.2**	**-0.1**
	comp=Z,15nm,0.8s,baz=92,slow=16,SNR=40						
ASPA	**Alice Springs**	**44.33**	**256**	⇓*i*P	**P**	**14 31 19.5**	**+0.6**
ASPA				*e*S	**S**	**14 37 10.2**	**-0.1**
ASPA				*e*SCS	ScS	14 40 13.2	+3.1
WB2	**Warramunga Arr**	**44.35**	**262**	*e*P	**P**	**14 31 18.4**	**-0.7**
WB2				*e*S	**S**	**14 37 08.8**	**-1.8**
WB2				*e*SCS	ScS	14 40 13.0	+2.8
WRAB	**Tennant Creek**	**44.35**	**262**	*e*P	**P**	**14 31 19.0**	**-0.1**
WRAB				*e*S	**S**	**14 37 08.0**	**-2.6**
WRAB				pmax	pmax		
	comp=Z,161nm,1.2s,mb5.4						
WRAB	**Tennant Creek**	**44.35**	**262**	*e*P	**P**	**14 31 19.0**	**-0.1**
	comp=Z,161nm,1.2s,mb5.4						
WRAB				*e*S	**S**	**14 37 08.0**	**-2.6**

WRA Warramunga Arr 44.36 262 P **P** 14 31 19.1 -0.1
comp=Z,48nm,0.9s,mb5.0,baz=97,slow=8.0,SNR=192
WRA ScP ScP 14 35 48.2 +3.6
comp=Z,5.3nm,0.9s,baz=70,slow=7.4,SNR=6.2
WRA S **S** **14 37 09.6 -1.1**
comp=Z,4.9nm,0.8s,baz=91,slow=14,SNR=9.2
KIP Kipapa 45.70 27 *e*P **P** **14 31 28.2 -1.1**
KIP pmax pmax
comp=Z,67nm,0.8s,mb5.2
KIP Kipapa 45.70 27 *e*P **P** **14 31 28.2 -1.1**
comp=Z,68nm,0.8s,mb5.2
KAKA Kakadu 47.65 271 *e*P **P** **14 31 43.5 -0.5**
comp=Z,60nm,0.7s,mb5.2
FORT Forrest 49.21 246 *e*P **P** **14 31 56.4 +0.9**
comp=Z,14nm,0.6s,mb4.6
GUMO Guam 49.23 310 P **P** **14 31 55.7 0.0**
comp=Z,128nm,0.7s,mb5.5,baz=149,slow=5.2,SNR=11
FITZ Fitzroy Crossi 52.78 262 *e*P **P** **14 32 21.8 +0.5**
comp=Z,13nm,0.4s,mb4.6
FITZ Fitzroy Crossi 52.78 262 P **P** **14 32 21.9 +0.7**
comp=Z,6.3nm,0.5s,mb4.2,baz=96,slow=7.1,SNR=26
FITZ S **S** **14 39 06.6 +1.2**
comp=Z,2.5nm,1.1s,baz=286,slow=22,SNR=1.3
KLBR Kellerberrin 57.99 245 *e*P **P** **14 32 57.6 +0.4**
comp=Z,12nm,0.9s,mb4.0
SBA Scott Base 58.36 184 *e*P **P** **14 33 01.8 +2.1**
SBA pmax pmax
comp=Z,167nm,1.3s,mb5.0
SBA Scott Base 58.36 184 *e*P **P** **14 33 01.8 +2.0**
comp=Z,167nm,1.3s,mb5.0
VNDA Vanda 58.39 185 P **P** **14 33 01.3 +1.4**
comp=Z,16nm,0.6s,mb4.3,baz=3.7,slow=7.4,SNR=75
VNDA Vanda 58.39 185 *e*P **P** **14 33 01.2 +1.2**
VNDA pmax pmax
comp=Z,27nm,0.8s
VNDA Vanda 58.39 185 *e*P **P** **14 33 01.2 +1.2**
comp=Z,27nm,0.8s,mb4.4
CBIJ Chichi jima 60.45 319 P **P** **14 33 13.3 -0.3**
comp=Z,74nm,0.5s,mb5.2,baz=326,slow=6.4,SNR=6.3
CASY Casey 64.29 205 *e*P **P** **14 33 38.5 +0.2**
JHJ Hachijo jima 2 66.24 322 P **P** **14 33 49.8 -0.7**
comp=Z,163nm,0.5s,mb5.7,baz=228,slow=17,SNR=5.2
KKM Kota Kinabalu 69.32 285 *e*P **P** **14 34 09.8 +0.6**
JOW Kunigami 69.59 310 P **P** **14 34 11.3 +0.5**
comp=Z,35nm,0.7s,mb4.9,baz=151,slow=7.0,SNR=13
MJAR Matsushiro Arr 69.61 324 P **P** **14 34 10.0 -0.8**
comp=Z,40nm,0.6s,mb5.0,baz=155,slow=6.0,SNR=189
MJAR PKPPKP 15 02 10.9
comp=Z,2.4nm,1.1s,baz=318,slow=5.0,SNR=4.3
MAJO Matsushiro 69.61 324 *e*P **P** **14 34 09.9 -1.0**
MAJO pmax pmax
comp=Z,50nm,0.6s,mb5.1
MAJO Matsushiro 69.61 324 *e*P **P** **14 34 09.9 -1.0**
comp=Z,50nm,0.6s,mb5.1
MAT Matsushiro 69.61 324 P **P** **14 34 10.1 -0.8**
MAT *e*S S 14 42 29.0 -3.2
MAT Matsushiro 69.61 324 *e*P **P** **14 34 10.0 -0.9**
MAT S S 14 42 29.0 -3.2
MAT pmax pmax
comp=Z,36nm,0.7s,mb4.9
MAT Matsushiro 69.61 324 *e*P **P** **14 34 10.0 -0.9**
comp=Z,36nm,0.7s,mb4.9
MAT S S 14 42 29.0 -3.2
YOGI Yogyakarta 69.90 269⇑ *i*P PcP 14 34 31.1 +0.9
QSPA South Pole Qui 70.08 180⇑ *i*P **P** **14 34 14.7 +1.0**
comp=Z,182nm,1.0s,mb5.5
AMKA Amchitka 71.08 358 *e*P **P** **14 34 17.8 -1.7**
MIR Mirnyy 71.32 205 *d i*P **P** **14 34 22.5 +1.6**
MIR pmax pmax
comp=Z,400nm,1.2s,mb5.8
SMY Shemya 72.70 355 *e*P **P** **14 34 27.3 -1.6**
SMY pmax pmax
comp=Z,145nm,0.8s,mb5.6
SMY Shemya 72.70 355 *e*P **P** **14 34 27.3 -1.6**
comp=Z,145nm,0.8s,mb5.6
KSM Kuching 73.03 278 *e*P **P** **14 34 32.0 +1.3**
NIKO Nikolski 73.11 6 *e*P **P** **14 34 30.1 -1.2**
ASAJ Asahikawa 73.12 332 P **P** **14 34 32.1 +0.8**
comp=Z,98nm,0.8s,mb5.4,baz=208,slow=5.3,SNR=118
YHNB Yeheng 73.55 305 *e*P **P** **14 34 33.0 -0.7**
SKR Severo-Kuril's 73.88 343 *e*P **P** **14 34 28.2 -7.4**
SKR pmax pmax
comp=N,40nm,0.7s
SKR pmax pmax
comp=E,30nm,0.7s
SKR pmax pmax
comp=Z,80nm,0.7s,mb5.4
AKUT Akutan 74.60 8 *e*P **P** **14 34 37.2 -2.5**
YSS Yuzh-Sakhalins 75.29 334ĸ *i*P **P** **14 34 43.0 -0.5**
YSS *e*S S 14 43 36.0 +1.0
YSS pmax pmax
comp=N,30nm,0.9s
YSS pmax pmax
comp=E,30nm,0.9s
YSS pmax pmax
comp=Z,100nm,0.9s,mb5.3
YSS pmax pmax
comp=Z,200nm,3.0s
YSS smax
comp=E,200nm,6.0s
YSS Yuzh-Sakhalins 75.29 334 *e*P **P** **14 34 43.5 +0.1**
comp=E,86nm,0.8s,mb5.3
PET Petropavlovsk 75.39 346⇓ *i*P **P** **14 34 42.4 -1.6**
PET *e*S S 14 43 33.7 -2.3
PET pmax pmax
comp=Z,42nm,0.6s,mb5.2
PET smax
comp=N,300nm,9.7s
PET smax
comp=N,200nm,20.2s
PET Petropavlovsk 75.39 346 *e*P **P** **14 34 42.1 -1.9**
comp=N,26nm,0.6s,mb4.9
SDPT Sand Point 76.56 10 *e*P **P** **14 34 48.6 -1.8**
comp=N,133nm,0.8s,mb5.4
SSE Sheshan 77.11 310 *e*P **P** **14 34 53.6 +0.2**
SSE AMB AMB
comp=Z,32nm,0.8s,mb4.8
SSE AMB AMB
comp=Z,82nm,3.5s
INCN Inchon 77.12 318 *e*P **P** **14 34 54.3 +0.8**
comp=Z,27nm,0.9s,mb4.7
VLA Vladivostok 77.68 325 *c i*P **P** **14 34 56.6 +0.1**
VLA *e*S S 14 44 04.5 +4.3
VLA pmax pmax
comp=Z,54nm,1.1s,mb4.9
CHGN Chignik 77.83 11 *e*P **P** **14 34 55.5 -1.8**
CMB Columbia Colle 79.30 43 *e*P **P** **14 35 06.1 +1.0**
CMB *e* 14 35 14.9
CMB pmax pmax
comp=Z,9.0nm,0.9s,mb4.1
CMB Columbia Colle 79.30 43 *e*P **P** **14 35 06.1 +1.0**
comp=Z,8.6nm,0.9s,mb4.1
CMB *e* 14 35 14.9
NJ2 Nanjing 79.31 310 *e*P **P** **14 35 05.8 +0.7**
NJ2 AP pP 14 37 13.1 +1.9
NJ2 XP sP 14 38 12.9 +0.4
NJ2 PP PP 14 38 17.9 +1.5
NJ2 S S 14 44 16.0 -1.1
NJ2 SKS 14 44 20.0
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb4.6
NJ2 AMB AMB
comp=Z,250nm,4.0s
OHCM Honcut 79.38 41 *e*P **P** **14 35 06.3 +0.8**
WDC Whiskeytown Da 79.48 40 *e*P **P** **14 35 07.1 +1.1**
WDC pmax pmax
comp=Z,5.0nm,0.8s,mb3.9
WDC Whiskeytown Da 79.48 40 *e*P **P** **14 35 07.1 +1.1**
comp=Z,4.6nm,0.8s,mb3.9
HABR Khabarovsk 79.84 331 *i*P **P** **14 35 08.5 +0.6**
HABR *e* 14 35 13.7
HABR *e*S S 14 44 30.1 +7.6
MDJ Mudanjiang 79.92 325 P **P** **14 35 09.3 +1.0**
MDJ AP pP 14 37 17.5 +2.8
MDJ XP sP 14 38 14.3 -1.5
MDJ S S 14 44 21.9 -1.4
MDJ XS sS 14 48 06.9 -1.5
MDJ SS SS 14 49 57.4 +6.5
MDJ AMB AMB
comp=Z,66nm,0.9s,mb5.0
MDJ AMB AMB
comp=Z,184nm,5.2s
MDJ Mudanjiang 79.92 325 *e*P **P** **14 35 08.9 +0.6**
comp=Z,51nm,0.8s,mb4.9
YBH Yreka Blue Hor 80.09 39 P **P** **14 35 10.1 +0.9**
comp=Z,16nm,0.9s,mb4.4,baz=109,slow=1.1,SNR=25
YBH Yreka Blue Hor 80.09 39 *e*P pmax pmax
comp=Z,13nm,0.8s
YBH Yreka Blue Hor 80.09 39 *e*P **P** **14 35 10.1 +0.9**
comp=Z,13nm,0.8s,mb4.3
MTUM Tungsten Hills 80.09 44 *e*P **P** **14 35 10.7 +1.5**
MTUM *e* 14 35 20.1
KDAK Kodiak Island 80.39 14 *e*P **P** **14 35 09.9 -0.9**
comp=Z,98nm,1.3s,mb5.0
HUMO Hull Mountain 80.48 38 *e*P **P** **14 35 12.1 +0.8**
comp=Z,11nm,1.0s,mb4.2
LASM Arnica Sink 80.68 39 P **P** **14 35 13.6 +1.3**
NVAR Mina Array Bea 80.87 44 P **P** **14 35 14.1 +0.8**
comp=Z,5.1nm,0.8s,mb4.0,baz=215,slow=7.1,SNR=35
NVAR Mina Array Bea 80.87 44 P **P** **14 35 14.1 +0.8**
MNV Mina 80.97 44 *e*P **P** **14 35 15.0 +1.2**
MNV pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
MNV Mina 80.97 44 *e*P **P** **14 35 15.0 +1.3**
comp=Z,5.7nm,0.9s,mb4.0
MNV *e* 14 35 23.8
HOG Hogback Mounta 80.99 39 P **P** **14 35 15.5 +1.6**
TPNV Topopah Spring 81.41 46 *e*P **P** **14 35 17.1 +1.1**
TPNV pmax pmax
comp=Z,4.0nm,0.8s,mb3.9
TPNV Topopah Spring 81.41 46 *e*P **P** **14 35 17.1 +1.0**
comp=Z,4.4nm,0.8s,mb3.9
TPNV *e* 14 35 26.2
HBO Huckleberry Mo 81.61 37 P **P** **14 35 18.2 +1.2**
CN2 Changchun 81.70 323 *e*P **P** **14 35 18.0 +0.5**
CN2 *e*S S 14 44 41.1 -0.2
CN2 AMB AMB
comp=Z,40nm,1.2s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
WHN Wuhan 81.88 306⇑ P **P** **14 35 19.8 +1.4**
KLR Kul'dur 81.92 330 *e*P **P** **14 35 15.2 -3.4**
KLR pmax pmax
comp=E,30nm,1.6s
KLR pmax pmax
comp=Z,68nm,1.6s,mb4.9
MAW Mawson 81.94 200 *e*P **P** **14 35 18.7 0.0**
comp=Z,12nm,0.7s,mb4.5
MAW Mawson 81.94 200 P **P** **14 35 19.0 +0.3**
comp=Z,13nm,0.7s,mb4.6,baz=131,slow=6.7,SNR=50
MAW Mawson 81.94 200 *e*P **P** **14 35 18.7 0.0**
MAW pmax pmax
comp=Z,12nm,0.7s
BMN Battle Mountai 82.68 42 *e*P **P** **14 35 23.7 +1.3**
BMN pmax pmax
comp=Z,11nm,1.0s,mb4.3
BMN Battle Mountai 82.68 42 *e*P **P** **14 35 23.7 +1.2**
comp=Z,11nm,1.0s,mb4.3
BMN *e* 14 35 32.5
TDH Tom, Dick, Har 82.80 36 P **P** **14 35 23.9 +0.9**
SVW2 Sparrevohn 82.85 11 *e*P **P** **14 35 21.1 -2.2**
TUC Tucson 82.91 52 *e*P **P** **14 35 24.7 +1.1**
TUC pmax pmax
comp=Z,4.0nm,0.8s,mb4.0
TUC Tucson 82.91 52 *e*P **P** **14 35 24.7 +1.1**
comp=Z,4.2nm,0.8s,mb4.0
TUC *e* 14 35 34.0
WVOR Wild Horse Val 82.94 40 *e*P **P** **14 35 24.2 +0.5**
WVOR pmax pmax
comp=Z,13nm,1.0s,mb4.4
WVOR Wild Horse Val 82.94 40 *e*P **P** **14 35 24.2 +0.5**
comp=Z,13nm,1.0s,mb4.4
WVOR *e* 14 35 34.3
OOW Octopus West 83.04 33 P **P** **14 35 25.1 +0.9**
MA2 Magadan 83.20 345 *e*P **P** **14 35 23.9 -1.1**
MA2 pmax pmax
comp=Z,116nm,2.3s,mb5.0
SLKM Skilak Lake 83.38 14 *e*P **P** **14 35 24.4 -1.5**
SLKM *e* 14 35 34.8
HDW Hoodsport 83.58 34 P **P** **14 35 27.5 +0.6**
PGC Sidney 84.00 33 *e*P **P** **14 35 28.7 -0.3**
comp=Z,44nm,1.2s,mb4.9
WUAZ Wupatki 84.04 49 *e*P **P** **14 35 29.7 +0.5**
comp=Z,4.6nm,0.9s,mb4.0
SNG Songkhla 84.08 280 P **P** **14 35 31.5 +2.1**
BBB Bella Bella 84.10 28 P **P** **14 35 28.8 -0.7**
comp=Z,6.2nm,0.7s,mb4.3,baz=257,slow=4.3,SNR=8.1
BBB Bella Bella 84.10 28 P **P** **14 35 28.8 -0.7**
PSI Prapat 84.13 275 P **P** **14 35 29.2 -0.4**
comp=Z,17nm,0.8s,mb4.6,baz=214,slow=2.0,SNR=12
EYAK Cordova Ski Ar 84.47 16 *e*P **P** **14 35 29.9 -1.4**
PMR Palmer 84.59 14 *e*P **P** **14 35 30.2 -1.7**
PMR pmax pmax
comp=Z,62nm,1.3s,mb5.1
PMR Palmer 84.59 14 *e*P **P** **14 35 30.2 -1.7**
comp=Z,62nm,1.3s,mb5.1
BMO Blue Mountains 85.11 39 *e*P **P** **14 35 35.0 +0.6**
BMO pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
BMO Blue Mountains 85.11 39 *e*P **P** **14 35 35.0 +0.6**
comp=Z,4.6nm,0.9s,mb4.1
BJT Baijiatuau 85.30 315 *e*P **P** **14 35 35.6 +0.3**
BJT pmax pmax
comp=Z,21nm,0.6s
BJT Baijiatuau 85.30 315 *e*P **P** **14 35 35.6 +0.3**
comp=Z,21nm,0.6s,mb5.0
BJI Beijing 85.30 316 P **P** **14 35 35.3 0.0**
BJI AMB AMB
comp=Z,44nm,0.6s,mb5.3
BJI AMB AMB
comp=Z,333nm,4.2s
TMUT Trail Mountain 86.02 46 *e*P **P** **14 35 40.6 +1.9**
GYA Guiyang 86.12 300⇓ *i*P **P** **14 35 40.3 +1.1**
GYA AP pP 14 37 49.8 +1.7
GYA XP sP 14 38 48.8 +0.2
GYA PP PP 14 39 13.9 +2.8
GYA SKS 14 45 09.3
GYA S S 14 45 25.5 +1.4
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,70nm,4.0s
HLID Hailey 86.14 41 *e*P **P** **14 35 40.7 +1.4**
comp=Z,7.3nm,0.8s,mb4.4
MCK McKinley 86.54 13 *e*P **P** **14 35 39.5 -1.6**
MCK pmax pmax
comp=Z,18nm,0.8s,mb4.8
MCK McKinley 86.54 13 *e*P **P** **14 35 39.5 -1.7**
comp=Z,18nm,0.8s,mb4.8
LAZ Ladron 86.58 52 *e*P **P** **14 35 42.5 +1.2**
LENM Lemitar 86.60 52 *e*P **P** **14 35 42.1 +0.7**
SKAG Skagway 86.61 20 *e*P **P** **14 35 41.6 +0.1**
comp=Z,34nm,1.2s,mb5.0
BNM Barren Site 86.85 52 *e*P **P** **14 35 43.7 +1.1**
NEW Newport 87.14 36 P **P** **14 35 43.1 -0.9**
comp=Z,3.2nm,0.8s,mb4.1,baz=248,slow=6.0,SNR=7.5
NEW Newport 87.14 36 *e*P **P** **14 35 42.7 -1.3**
NEW pmax pmax
comp=Z,2.0nm,0.8s
NEW Newport 87.14 36 *e*P **P** **14 35 42.7 -1.3**
comp=Z,2.5nm,0.8s,mb4.0
SYO Syowa Base 87.16 193⇓ *i*P **P** **14 35 42.9 -1.1**
SYO Syowa Base 87.16 193⇓ *e*PcP PcP 14 35 44.4 -1.0
ANMO Albuquerque 87.33 51 *e*P **P** **14 35 42.9 -1.9**
XAN Xi'an 87.57 307 P **P** **14 35 46.8 +0.8**
XAN AMB AMB
comp=Z,64nm,1.1s,mb5.3
DLBC Dease Lake 87.70 23 P **P** **14 35 46.4 -0.2**
comp=Z,7.2nm,0.8s,mb4.5,baz=217,slow=5.7,SNR=27
DLBC Dease Lake 87.70 23 *e*P **P** **14 35 46.0 -0.6**
MCMT McKenzie Canyo 87.77 40 *e*P **P** **14 35 48.4 +1.5**
MCMT *e* 14 35 57.2
COLA College 87.77 13 *e*P **P** **14 35 44.9 -2.0**
COLA pmax pmax
comp=Z,64nm,0.8s,mb5.4
COLA College 87.77 13 *e*P **P** **14 35 44.9 -2.1**
comp=Z,64nm,0.8s,mb5.4
COLA pP pP 14 37 54.5 -2.1
IMA2 Indian Mountai 87.79 10 *e*P **P** **14 35 46.2 -0.8**
RRI2 Red Ridge 87.96 42 *e*P **P** **14 35 49.3 +1.5**
comp=Z,6.5nm,0.8s,mb4.4
HIA Hailar 88.09 325 *e*P **P** **14 35 48.5 +0.1**
HIA pmax pmax
comp=Z,5.0nm,0.8s
HIA Hailar 88.09 325 *e*P **P** **14 35 48.5 +0.1**
comp=Z,5.2nm,0.8s,mb4.3
DLMT Dillon 88.19 40 *e*P **P** **14 35 50.3 +1.4**
comp=Z,14nm,1.3s,mb4.5
NANT Nan 88.22 291⇑ P **P** **14 35 48.0 -1.0**
comp=Z,75nm,1.0s,mb5.4
IMW Indian Meadow 88.48 42 *e*P **P** **14 35 51.5 +1.3**
comp=Z,6.0nm,0.8s,mb4.4
QLMT Earthquake Lak 88.64 41 *e*P **P** **14 35 52.9 +2.0**
HHC Hu-ho-hao-te 88.77 314 *e*P **P** **14 35 52.3 +0.8**
HHC AP pP 14 38 00.8 -0.7
HHC XP sP 14 39 00.3 -1.4
HHC PP PP 14 39 33.6 +1.7
HHC SKS 14 45 22.1
HHC S S 14 45 48.3 -0.4
HHC XS sS 14 49 35.4 -4.9
HHC SS SS 14 52 01.6 +2.3
HHC AMB AMB
comp=Z,31nm,1.0s,mb5.1
HHC AMB AMB
comp=Z,113nm,4.3s
PDAR Pinedale Array 88.80 43 P **P** **14 35 52.0 +0.3**
comp=Z,3.1nm,0.7s,mb4.3,baz=212,slow=2.8,SNR=14
PDAR PKKPbc PKKPbc 14 53 28.1 +0.9
comp=Z,0.5nm,0.8s,baz=70,slow=4.9,SNR=4.3
KMI Kunming 88.83 297⇑ P **P** **14 35 54.4 +2.5**
KMI AP pP 14 38 00.4 -1.4
KMI XP sP 14 39 00.9 -1.1
KMI PP PP 14 39 35.3 +2.8
KMI PPP 14 41 38.8
KMI SKS 14 45 25.5
KMI S S 14 45 47.8 -1.5
KMI XS sS 14 49 37.1 -3.9
KMI SS SS 14 52 02.0 +1.7
KMI SSS 14 55 44.3
KMI AMB AMB
comp=Z,33nm,1.2s,mb5.0
KMI AMB AMB
comp=Z,131nm,3.1s
BOZ Bozeman (W) 88.92 40 *e*P **P** **14 35 53.3 +1.0**
BOZ pmax pmax
comp=Z,16nm,1.5s,mb4.6
BOZ Bozeman (W) 88.92 40 *e*P **P** **14 35 53.3 +1.0**
comp=Z,16nm,1.5s,mb4.6
DAWY Dawson 89.05 16 *e*P **P** **14 35 51.8 -1.1**
DAWY *e*pP pP 14 38 00.2 -2.7
MAIT Maitri 89.21 183 *e*P **P** **14 35 53.2 -0.4**
MAIT *e*pP PcP 14 36 02.5 +8.0
MAIT *e*PP pP 14 38 06.6 +2.9
MAIT *e*S SKSac 14 45 22.9 -3.5
NVL N'lazarevskaya 89.21 183 *c i*P **P** **14 35 52.9 -0.7**
NVL pmax pmax
comp=Z,77nm,0.9s,mb5.5
NVL pmax pmax
comp=N,33nm,1.4s
NVL pmax pmax
comp=E,4.0nm,0.9s
WALA Waterton Lakes 89.36 36 *e*P **P** **14 35 55.3 +1.0**
comp=E,3.6nm,0.8s,mb4.2
CHG Chiang Mai 89.77 290⇑ P **P** **14 35 51.8 -4.4**
comp=E,34nm,0.9s,mb5.2
CHTO Chiang Mai 89.77 290 *e*P **P** **14 35 57.1 +0.9**
CHTO pmax pmax
comp=Z,18nm,0.7s,mb5.0
CHTO Chiang Mai 89.77 290 *e*P **P** **14 35 57.1 +0.9**
comp=Z,18nm,0.7s,mb5.0
PLCA Paso Flores 89.86 134 P **P** **14 35 58.0 +1.4**
comp=Z,15nm,0.9s,mb4.8,baz=234,slow=5.5,SNR=18
CD2 Chengdu 90.25 303 *e*P **P** **14 35 56.3 -2.1**
CD2 AP pP 14 38 06.8 -1.9
CD2 XP sP 14 39 05.6 -3.1
CD2 PP PP 14 39 43.6 +0.1
CD2 SKS 14 45 29.9
CD2 S S 14 45 57.4 -4.5
CD2 XS sS 14 49 49.4 -5.3
CD2 SS SS 14 52 20.8 +0.4
CD2 AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
CD2 AMB AMB
comp=Z,60nm,8.4s
JCT Junction City 90.58 58 *e*P **P** **14 35 59.9 0.0**
JCT pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
JCT Junction City 90.58 58 *e*P **P** **14 35 59.9 0.0**
comp=Z,3.2nm,0.5s,mb4.5
YAK Yakutsk 91.52 338 *e*P **P** **14 36 02.2 -2.0**
YAK *e*S SKSac 14 45 35.3 -4.2
YAK pmax pmax
comp=Z,25nm,1.0s,mb5.2
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK smax
comp=N,9.0nm,1.4s
YAK smax
comp=E,7.0nm,1.7s
YAK Yakutsk 91.52 338 *e*P **P** **14 36 02.5 -1.7**
comp=E,44nm,0.8s,mb5.5
LZH Lanzhou 92.20 308 *e*P **P** **14 36 09.5 +2.1**
LZH AP pP 14 38 23.5 +5.6
LZH PP PP 14 40 01.8 +3.2
LZH *e*SS SS 14 52 56.5 +8.3
LZH AMB AMB
comp=Z,17nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,79nm,6.1s
INK Inuvik 93.86 15 P **P** **14 36 12.7 -2.3**
comp=Z,8.5nm,1.0s,mb4.8,baz=219,slow=5.8,SNR=11
INK Inuvik 93.86 15 *e*P **P** **14 36 13.1 -1.9**
INK pmax pmax
comp=Z,15nm,1.2s
INK Inuvik 93.86 15 *e*P **P** **14 36 13.1 -1.9**
comp=Z,15nm,1.2s,mb5.0
ULN Ulaanbaatar 94.77 319 *e*P **P** **14 36 18.8 -0.3**
ULN Ulaanbaatar 94.77 319 *e*P **P** **14 36 18.2 -0.8**
comp=Z,4.6nm,0.8s,mb4.7
SONM Songino Array 95.16 319 P **P** **14 36 20.6 -0.3**
comp=Z,1.5nm,0.5s,mb4.4,baz=133,slow=5.0,SNR=18
SONM PP PP 14 40 15.1 -6.2
comp=Z,3.3nm,1.1s,baz=132,slow=5.6,SNR=5.6
SONM S SKSac 14 45 57.9 -1.1
comp=Z,0.5nm,0.9s,baz=157,slow=4.2,SNR=6.0
SONM PKKPbc PKKPbc 14 53 11.1 -0.1
comp=Z,0.5nm,0.6s,baz=267,slow=3.8,SNR=7.8
SONM Songino Array 95.16 319 P **P** **14 36 20.6 -0.2**
SONM S SKSac 14 45 57.9 -1.1
BOD Bodaibo 95.49 330 *e*P **P** **14 36 20.6 -1.7**
BOD pmax pmax
comp=Z,4.0nm,1.6s,mb4.3
CFAA Coronel Fontan 95.66 126 P **P** **14 36 23.6 +0.6**
comp=Z,0.6nm,0.5s,mb4.0,baz=224,slow=4.7,SNR=12
CFAA PP PP 14 40 25.0 0.0
comp=Z,0.5nm,1.0s,baz=224,slow=9.0,SNR=4.4
CFAA Coronel Fontan 95.66 126 P **P** **14 36 23.6 +0.6**
CFAA PP PP 14 40 25.0 0.0
YKA Yellowknife Ar 96.18 25 P **P** **14 36 24.0 -1.4**
comp=Z,1.7nm,0.8s,mb4.3,baz=244,slow=4.3,SNR=13
YKA PP PP 14 40 27.9 -1.1
comp=Z,0.7nm,0.9s,baz=238,slow=7.3,SNR=3.8
YKA PKKPbc PKKPbc 14 53 07.6 -1.0
comp=Z,0.4nm,0.6s,baz=36,slow=2.1,SNR=4.4
YKA Yellowknife Ar 96.18 25 P **P** **14 36 24.1 -1.3**
YKA 14 40 27.9
YKA Yellowknife Ar 96.18 25 P **P** **14 36 24.1 -1.4**
YKA PP PP 14 40 27.9 -1.1
YKA PKKPbc PKKPbc 14 53 07.6 -1.0
GTA Gaotai 96.40 309 *e*P **P** **14 36 26.9 +0.5**
GTA AP pP 14 38 37.3 0.0
GTA XP sP 14 39 35.3 -1.9
GTA SKS 14 46 04.6
GTA S S 14 46 52.5 -2.7
GTA PS 14 49 38.6
GTA XS sS 14 50 47.8 -3.4
GTA SS SS 14 53 44.6 -2.4
GTA AMB AMB
comp=Z,8.0nm,1.2s,mb4.8
GTA AMB AMB
comp=Z,96nm,4.9s
ZAK Zakamensk 98.03 321 *e*P Pdif 14 36 32.2 -1.5
ZAK pmax pmax
comp=Z,2.0nm,1.8s,mb4.2
TIXI Tiksi 98.17 345 *e*P Pdif 14 36 33.0 -1.3
TIXI pmax pmax
comp=Z,7.0nm,1.6s,mb4.7
LPAZ La Paz 102.55 113 P Pdif 14 36 58.8 +5.0
comp=Z,2.4nm,0.8s,baz=250,slow=4.9,SNR=10
LPAZ PP PP 14 41 17.6 +1.1
comp=Z,0.6nm,0.9s,baz=278,slow=4.3,SNR=3.7
ZAL Zalesovo 109.91 321 PKiKP PKiKP 14 41 22.4 -2.2
comp=Z,1.2nm,0.6s,baz=144,slow=2.3,SNR=4.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MKAR	Makanchi Array	110.61	314	Pdiff	Pdif	14 37 30.2	+0.6
	comp=Z,0.8nm,0.7s,baz=92,slow=6.8,SNR=7.3						
MKAR				PKiKP	PKiKP	14 41 24.8	-1.2
	comp=Z,1.1nm,0.6s,baz=236,slow=0.4,SNR=10						
MKAR				PP	PP	14 42 14.1	-0.4
	comp=Z,0.2nm,0.3s,baz=92,slow=6.2,SNR=5.6						
MKAR				PKKPbc	PKKPbc	14 52 26.6	+0.2
	comp=Z,1.6nm,0.7s,baz=272,slow=3.9,SNR=13						
MKAR				PKKPab	PKKPab	14 52 37.0	-2.3
	comp=Z,1.1nm,0.7s,baz=261,slow=4.8,SNR=5.6						
MKAR	Makanchi Array	110.61	314	P	Pdif	14 37 30.3	+0.7
MKAR						14 41 24.8	
MKAR						14 42 14.1	
MKAR	Makanchi Array	110.61	314	Pdif	Pdif	14 37 30.2	+0.6
MKAR				PKPdf	PKiKP	14 41 24.8	-1.2
MKAR				PP	PP	14 42 14.1	-0.4
MKAR				PKKPbc	PKKPbc	14 52 26.6	+0.2
MKAR				PKKPab	PKKPab	14 52 37.0	-2.3
BVAR	Borovoye Array	118.48	320	PKP	PKPdf	14 41 39.9	-1.1
	comp=Z,4.5nm,0.7s,baz=77,slow=1.7,SNR=18						
BVAR				SKP		14 44 21.3	
	comp=Z,1.3nm,0.7s,baz=113,slow=2.3,SNR=5.3						
BVAR				PKKPbc	PKKPbc	14 52 05.1	+5.0
	comp=Z,1.4nm,0.7s,baz=276,slow=3.8,SNR=9.8						
BDFB	Brasilia	119.69	122	PKP	PKPdf	14 41 43.4	0.0
	comp=Z,1.6nm,0.6s,baz=298,slow=2.9,SNR=4.0						
ARU	Arti	124.60	326	i PKIKP	PKPdf	14 41 52.1	-0.7
AKTK	Aktyubinsk	126.47	319	PKP	PKPdf	14 41 56.3	0.0
AKTO	Aktyubinsk	126.47	319	PKP	PKPdf	14 41 56.3	0.0
	comp=Z,3.5nm,0.8s,baz=102,slow=2.4,SNR=8.3						
ARCES	ARCESS Array B	128.36	350	PKP	PKPdf	14 41 58.8	-1.1
	comp=Z,3.9nm,0.7s,baz=38,slow=1.1,SNR=23						
ARCES				SKPbc		14 44 24.2	
	comp=Z,13nm,0.9s,baz=23,slow=4.3,SNR=8.8						
JOF	Joensuu	132.54	342	epkp	PKPdf	14 42 05.8	-2.1
KAF	Kangasniemi	134.57	344	epkp	PKPdf	14 42 08.1	-3.6
FINES	FINESS Array B	135.19	344	PKhKP		14 41 59.2	
	comp=Z,2.0nm,0.9s,baz=48,slow=2.8,SNR=3.7						
FINES				PKP	PKPdf	14 42 12.0	-0.9
	comp=Z,3.2nm,0.6s,baz=122,slow=3.4,SNR=16						
FINES				SKPbc	SKPbc	14 44 48.4	+0.6
	comp=Z,5.3nm,1.0s,baz=357,slow=9.5,SNR=6.3						
FINES	FINESS Array B	135.19	344	PKHKP		14 41 59.2	
FINES						14 42 12.0	
FINES	FINESS Array B	135.19	344	PKP		14 41 59.2	
FINES				PKP	PKPdf	14 42 12.0	-0.8
FINES				SKPbc	SKPbc	14 44 48.4	+0.6
NOA	NORSAR Array B	138.43	353	PKhKP		14 42 09.4	
	comp=Z,2.3nm,0.6s,baz=18,slow=2.4,SNR=8.7						
NOA				PKP	PKPdf	14 42 19.7	+0.9
	comp=Z,1.5nm,0.7s,baz=18,slow=4.2,SNR=5.9						
NOA				SKPbc	SKPbc	14 44 58.3	+1.1
	comp=Z,5.0nm,1.0s,baz=14,slow=4.2,SNR=4.8						
NOA	NORSAR Array B	138.43	353	PKHKP		14 42 09.5	
NOA						14 42 19.8	
HFS	Hagfors	138.98	351	PKhKP		14 42 09.6	
	comp=Z,3.4nm,0.4s,baz=54,slow=2.6,SNR=16						
HFS				PKP	PKPdf	14 42 19.8	0.0
	comp=Z,2.3nm,0.6s,baz=53,slow=3.1,SNR=7.1						
HFS				SKPbc	SKPbc	14 44 59.1	+0.3
	comp=Z,1.6nm,0.8s,baz=96,slow=1.5,SNR=5.4						
HFS	Hagfors	138.98	351	PKHKP		14 42 09.6	
HFS						14 42 19.8	
AKASG	Malin Array Be	142.41	331	PKhKP		14 42 21.4	
	comp=Z,9.3nm,0.4s,baz=43,slow=4.5,SNR=111						
AKASG				SKPbc	SKPbc	14 45 08.9	+1.4
	comp=Z,7.2nm,0.9s,baz=38,slow=2.7,SNR=27						
ELZG	Elazig	142.89	308	i P	PKPdf	14 42 25.8	-1.0
MUD	Monsted U'grnd	143.15	353	⇑ iP	PKPdf	14 42 25.2	-2.1
	comp=Z,57nm,1.0s						
MUD	Monsted U'grnd	143.15	353	⇑ iPKHKP		14 42 25.2	
MUD				pmax	pmax		
	comp=Z,57nm,1.0s						
MALT	Malatya	143.37	308	⇑ iP	PKPdf	14 42 27.6	0.0
MALT	Malatya	143.37	308	ePKPpre	PKPdf	14 42 27.1	-0.5
COP	Copenhagen	143.44	350	i P	PKPdf	14 42 25.8	-2.0
	comp=Z,26nm,0.7s						
COP	Copenhagen	143.44	350	i PKIKP	PKPdf	14 42 25.8	-2.0
COP				pmax	pmax		
	comp=Z,26nm,0.7s						
BSD	Bornholm Skovb	143.52	347	i P	PKPdf	14 42 25.3	-2.6
	comp=Z,67nm,0.9s						
BSD	Bornholm Skovb	143.52	347	i PKHKP	PKPdf	14 42 25.3	-2.6
BSD				pmax	pmax		
	comp=Z,67nm,0.9s						
GZT	Gaziantep	144.33	307	i P	PKPdf	14 42 29.8	+0.5
WAR	Warsaw	144.44	339	ePKP	PKPdf	14 42 29.8	+0.3
EKA	Eskdalemuir Ar	144.52	5	PKP	PKPdf	14 42 28.7	-0.9
	comp=Z,11nm,0.7s,baz=342,slow=3.1,SNR=45						
EKA				SKPbc	SKPbc	14 45 14.3	+1.9
	comp=Z,2.3nm,0.9s,baz=282,slow=1.4,SNR=5.9						
BOYT	Boyabat	144.64	315	i P	PKPdf	14 42 31.0	+1.2
GKP	Gorka Klasztor	144.67	344	ePKP	PKPdf	14 42 29.8	-0.1
GKP				e		14 45 15.4	
CTKT	Corum	145.07	313	i P	PKPdf	14 42 32.4	+1.8
LVV	L'vov	145.31	334	i PKIKP	PKPdf	14 42 31.4	+0.4
BSEG	Bad Segeberg	145.46	351	ePKP	PKPdf	14 42 33.0	+1.8
COBT	Iskenderun	145.59	306	i P	PKPdf	14 42 33.6	+2.1
CDAG	Cicekdag	145.79	312	i P	PKPdf	14 42 33.1	+1.4
KWP	Kalwaria	145.98	335	ePKP	PKPdf	14 42 33.8	+1.7
DCN	Croghan	145.99	10	eP	PKPdf	14 42 32.4	+0.3
ELDT	Eldivan	146.06	314	i P	PKPdf	14 42 34.7	+2.5
DLF	Lyons Farm	146.15	9	eP	PKPdf	14 42 32.8	+0.4
RUE	Ruedersdorf	146.22	347	ePKPbc	PKPbc	14 42 34.7	-0.1
RUE				ePKPab	PKPab	14 42 37.1	-0.2
RUE	Ruedersdorf	146.22	347	ePKPbc	PKPbc	14 42 34.4	-0.4
BR131	Keskin Array S	146.26	313	ePKPbc	PKPbc	14 42 34.6	-0.3
BRTR	Keskin Array B	146.26	313	PKPbc	PKPbc	14 42 34.6	-0.3
	comp=Z,8.7nm,0.6s,baz=134,slow=4.0,SNR=45						
BRTR				pPKPbc		14 44 47.6	
	comp=Z,1.4nm,0.8s,baz=128,slow=2.0,SNR=4.5						
BRTR				SKPbc	SKPbc	14 45 18.5	+2.1
	comp=Z,2.1nm,0.8s,baz=127,slow=3.3,SNR=4.0						
BRTR	Keskin Array B	146.26	313	PKIKP	PKPdf	14 42 34.7	+2.1
BRTR						14 44 47.6	
BURAR	Bucovina Array	146.46	331	⇓ iP	PKPdf	14 42 36.1	+3.2
BURAR	Bucovina Array	146.46	331	⇓ P	PKPdf	14 42 36.1	+3.2
OJC	Ojcow	146.57	339	ePKP	PKPdf	14 42 35.3	+2.2
CFR	Carcaliu	146.68	325	⇑ iP	PKPdf	14 42 36.4	+3.1
CFR	Carcaliu	146.68	325	⇑ P	PKPdf	14 42 36.4	+3.2
KOLS	Kolonicke sedl	146.71	335	ePKP	PKPdf	14 42 36.4	+3.1
KOLS				e		14 44 52.4	
ANTO	Ankara	146.78	313	⇑ iP	PKPdf	14 42 36.6	+3.2
ANTO	Ankara	146.78	313	ePKPdf	PKPdf	14 42 34.6	+1.1
ANTO				ePKPbc	PKPbc	14 42 36.7	+0.3
NRDL	Niedersach Rie	146.89	351	ePKPbc	PKPbc	14 42 36.6	0.0
NRDL				ePKPab	PKPab	14 42 39.1	-0.9
SGKT	Sivrigoynuk	146.94	315	i P	PKPdf	14 42 36.7	+3.0
VRI	Vrincioaia	146.97	327	⇓ iP	PKPdf	14 42 36.5	+2.8
VRI	Vrincioaia	146.97	327	⇑ iP	PKPdf	14 42 37.3	+3.6
VRI	Vrincioaia	146.97	327	P	PKPdf	14 42 37.3	+3.5
WIT	Witteveen	147.00	354	ePKPpre	PKPdf	14 42 38.0	+4.1
	comp=Z,222nm,1.3s						
CRVS	Cervenica-Dubn	147.06	336	ePKP	PKPdf	14 42 37.7	+3.8
CRVS				e		14 44 54.2	
NIE	Niedzica	147.06	337	ePKP	PKPdf	14 42 37.0	+3.1
KSP	Ksiaz	147.11	343	ePKP	PKPdf	14 42 37.2	+3.2
KSP				e		14 44 54.7	
KSP	Ksiaz	147.11	343	ePKIKP	PKPdf	14 42 37.1	+3.1
KSP				e		14 42 41.2	
KSP	Ksiaz	147.11	343	ePKP	PKPdf	14 42 37.1	+3.1
KSP				e		14 42 41.2	
KSP				epPKP	pPKPdf	14 44 54.2	+0.5
MEST	Erdemli	147.16	307	i P	PKPdf	14 42 37.3	+3.3
IBBN	Ibbenburen	147.39	353	ePKPbc	PKPbc	14 42 38.2	+0.3
IBBN				ePKPab	PKPab	14 42 41.7	-0.4
IBBN				epPKPab	pPKPab	14 44 55.2	-0.4
OKC	Ostrava-Krasne	147.44	340	⇑ ePKP	PKPdf	14 42 37.2	+2.7
OKC				ePKPAB	PKPab	14 42 42.2	-0.1
OKC				epPKP	pPKPdf	14 44 54.7	+0.5
OKC	Ostrava-Krasne	147.44	340	ePKIKP	PKPdf	14 42 37.2	+2.7
OKC				e		14 42 42.2	
CLZ	Clausthal	147.48	350	ePKPbc	PKPbc	14 42 37.8	-0.4
CLZ				ePKPab	PKPab	14 42 42.3	-0.1
CLZ				epPKPab	pPKPab	14 44 55.5	-0.4
CLZ	Clausthal	147.48	350	ePKP2	PKPab	14 42 42.3	-0.1
UPC	Upice	147.49	343	⇑ ePKP	PKPbc	14 42 38.0	-0.2
UPC				epPKP	pPKPdf	14 44 55.2	+0.9
CLL	Collm	147.49	347	ePKPbc	PKPbc	14 42 37.5	-0.7
	comp=Z,60nm,0.9s						
CLL				ePKPab	PKPab	14 42 42.1	-0.4
	comp=Z,50nm,0.9s						
CLL				epPKPbc	pPKPbc	14 44 54.7	-0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CLL				eSKPbc	SKPbc	14 45 20.8	+1.7
CLL				ePP	PP	14 46 14.9	+4.0
CLL	Collm	147.49	347	⇓ iPKPbc	PKPbc	14 42 37.8	-0.4
	comp=Z,58nm,0.9s						
CLL				i PKPab	PKPab	14 42 41.8	-0.7
	comp=Z,50nm,0.9s						
CLL				i x	x	14 42 47.8	
CLL				epPKPbc	pPKPbc	14 44 55.0	-0.5
CLL				i SKPbc	SKPbc	14 45 21.0	+1.9
CLL				ePP	PP	14 46 15.0	+4.1
CLL	Collm	147.49	347	⇓ iPKIKP	PKPbc	14 42 37.8	-0.4
CLL				i		14 42 41.8	
CLL				pmax	pmax		
	comp=Z,58nm,0.9s						
CLL				pmax	pmax		
	comp=Z,50nm,0.9s						
CLL	Collm	147.49	347	⇓ iPKP	PKPbc	14 42 37.8	-0.4
CLL				i PKP	PKPdf	14 42 41.8	+7.2
CLL				epPKP	pPKPdf	14 44 55.0	+0.7
CLL				i SKP		14 45 21.0	
DPC	Dobruska-Polom	147.54	342	⇑ ePKP	PKPbc	14 42 38.3	0.0
DPC				ePKPAB	PKPab	14 42 42.8	+0.1
DPC				epPKP	pPKPdf	14 44 55.6	+1.2
DPC	Dobruska-Polom	147.54	342	ePKIKP	PKPbc	14 42 38.3	0.0
DPC				e		14 42 42.8	
HENT	Hendek	147.57	316	i P	PKPbc	14 42 37.9	-0.5
MLR	Muntele Rosu	147.62	327	PKPbc	PKPbc	14 42 38.1	-0.4
	baz=270,slow=5.1						
MLR				pPKPbc	pPKPbc	14 44 53.7	-2.2
	comp=Z,2.9nm,0.9s,baz=223,slow=22,SNR=1.5						
MLR	Muntele Rosu	147.62	327	⇑ iP	PKPdf	14 42 37.7	+2.9
MLR	Muntele Rosu	147.62	327	P	PKPbc	14 42 38.9	+0.4
BRG	Berggiesshubel	147.68	345	ePKPbc	PKPbc	14 42 38.2	-0.5
BRG				ePKPab	PKPab	14 42 43.1	-0.1
BRG	Berggiesshubel	147.68	345	i PKP	PKPbc	14 42 38.5	-0.2
	comp=Z,20nm,1.1s						
BRG				i		14 42 42.6	
	comp=Z,19nm,0.8s						
BRG	Berggiesshubel	147.68	345	i PKIKP	PKPbc	14 42 38.5	-0.2
BRG				i		14 42 42.6	
BRG				pmax	pmax		
	comp=Z,20nm,1.0s						
BRG				pmax	pmax		
	comp=Z,19nm,0.8s						
MORC	Moravsky Berou	147.69	341	⇑ iP	PKPbc	14 42 39.1	+0.4
MORC	Moravsky Berou	147.69	341	ePKPbc	PKPbc	14 42 38.6	-0.1
MORC				epPKP	pPKPdf	14 44 54.9	+0.2
FBE	Freiberg	147.78	346	ePKPbc	PKPbc	14 42 38.8	-0.1
FBE				ePKPab	PKPab	14 42 43.7	+0.1
FBE				epPKPab	pPKPab	14 44 56.8	-0.2
WTSB	Winterswijk	147.83	354	i PKPpre		14 42 39.3	
	comp=Z,47nm,0.8s						
WTSB				ePKPab	PKPab	14 42 43.1	-0.7
	comp=Z,43nm,1.3s						
PVCC	Panska Ves	147.85	344	⇑ ePKP	PKPbc	14 42 38.9	-0.2
PVCC				epPKP	pPKPdf	14 44 57.5	+2.6
KDHN	Kadinhani	147.85	312	i P	PKPbc	14 42 38.4	-0.7
ERMK	Ermenek	148.06	308	i P	PKPbc	14 42 39.7	+0.1
VOIR		148.11	328	⇑ iP	PKPbc	14 42 40.0	+0.2
VOIR		148.11	328	⇑ P	PKPbc	14 42 40.0	+0.3
DRGR		148.21	332	⇑ iP	PKPbc	14 42 40.1	+0.1
DRGR		148.21	332	P	PKPbc	14 42 40.6	+0.6
ESKT	Eskisehir	148.26	314	i P	PKPbc	14 42 40.0	-0.1
BUG	Bochum--Univer	148.30	353	ePKPbc	PKPbc	14 42 40.2	0.0
BUG				ePKPab	PKPab	14 42 45.5	-0.3
CSS	Prodhromos	148.35	305	ePKPbc	PKPbc	14 42 40.4	0.0
PRU	Pruhonice	148.35	344	⇑ ePKP	PKPbc	14 42 40.0	-0.4
PRU				ePKPAB	PKPab	14 42 45.4	-0.6
PRU				epPKP	pPKPdf	14 44 58.1	+2.3
PRU	Pruhonice	148.35	344	ePKHKP	PKPbc	14 42 40.0	-0.4
PRU				e		14 42 45.4	
VYHS	Vyhne	148.37	338	ePKP	PKPbc	14 42 40.3	-0.1
VYHS				e		14 42 46.1	
VYHS				e		14 44 58.1	
VYHS	Vyhne	148.37	338	ePKHKP	PKPbc	14 42 40.3	-0.1
VYHS				e		14 42 46.1	
EIL	Elat	148.38	294	ePKPbc	PKPbc	14 42 40.4	-0.1
VRAC	Vranov	148.39	341	PKPbc	PKPbc	14 42 40.3	-0.2
	comp=Z,7.9nm,0.7s,baz=25,slow=3.1,SNR=16						
VRAC				pPKPbc	pPKPbc	14 44 56.1	-2.1
	comp=Z,4.1nm,0.9s,baz=204,slow=0.7,SNR=2.0						
VRAC	Vranov	148.39	341	⇓ iP	PKPbc	14 42 40.9	+0.4
VRAC	Vranov	148.39	341	P	PKPbc	14 42 41.1	+0.6
MOX	Moxa	148.41	348	ePKPbc	PKPbc	14 42 40.1	-0.4
MOX				ePKPab	PKPab	14 42 45.8	-0.4
MOX	Moxa	148.41	348	ePKP	PKPbc	14 42 40.0	-0.5
	comp=Z,32nm,1.2s						
MOX				e		14 42 45.4	
MOX				e		14 44 59.3	
MOX	Moxa	148.41	348	ePKHKP	PKPbc	14 42 40.0	-0.5
MOX				e		14 42 45.4	
MOX				pmax	pmax		
	comp=Z,32nm,1.2s						
TANN	Tannenbergstha	148.45	347	ePKPbc	PKPbc	14 42 40.4	-0.2
TANN				ePKPab	PKPab	14 42 46.3	-0.1
WERD	Werda	148.45	347	ePKPbc	PKPbc	14 42 40.3	-0.3
WERD				ePKPab	PKPab	14 42 46.3	-0.1
PSZ	Piszkesteto	148.46	336	⇑ iP	PKPbc	14 42 40.9	+0.3
PSZ	Piszkesteto	148.46	336	ePKPbc	PKPbc	14 42 40.4	-0.2
PSZ				ePKPab	PKPab	14 42 47.2	+0.7
UBBA	Unterbreizbach	148.53	350	ePKPbc	PKPbc	14 42 40.6	-0.2
UBBA				ePKPab	PKPab	14 42 46.9	+0.2
NKC	Novy Kostel	148.62	347	⇑ ePKP	PKPbc	14 42 40.6	-0.4
NKC				ePKPAB	PKPab	14 42 45.9	-1.2
NKC				epPKP	pPKPdf	14 45 00.8	+4.6
NKC	Novy Kostel	148.62	347	ePKHKP	PKPbc	14 42 40.6	-0.4
NKC				e		14 42 45.9	
TREC	Trest	148.73	342	⇑ ePKP	PKPbc	14 42 40.8	-0.5
MANZ	Manzenberg	148.93	347	ePKPbc	PKPbc	14 42 41.8	0.0
ULDT	Uludag	149.07	317	i P	PKPbc	14 42 42.1	-0.1
BEBN	Eben Emael	149.09	355	PKPbc	PKPbc	14 42 42.4	+0.2
BEBN				PKPab	PKPab	14 42 48.0	-1.1
HGN	Heimansgroeve	149.10	355	i PKPpre	PKPbc	14 42 42.5	+0.3
	comp=Z,18nm,0.8s						
HGN				ePKPab	PKPab	14 42 48.6	-0.5
	comp=Z,26nm,0.8s						
ROTZ	Rotzenmuhle	149.12	347	ePKPbc	PKPbc	14 42 42.1	-0.1
ROTZ				ePKPab	PKPab	14 42 49.2	0.0
ROTZ				epPKPab	pPKPab	14 45 02.7	+0.5
SZH	Strazhica	149.13	324	P	PKPbc	14 42 43.6	+1.4
UCC	Uccle	149.18	357	PKPbc	PKPbc	14 42 42.6	+0.3
UCC				PKPab	PKPab	14 42 48.6	-0.8
ZST	Bratislava	149.21	340	ePKP	PKPbc	14 42 43.1	+0.7
ZST				e		14 42 50.0	
ZST				e		14 44 59.3	
ZST	Bratislava	149.21	340	ePKHKP	PKPbc	14 42 43.1	+0.7
ZST				e		14 42 50.1	
ZST	Bratislava	149.21	340	ePKP	PKPbc	14 42 43.1	+0.7
ZST				e		14 42 50.1	
ZST				e		14 44 59.3	
MEM				PKPab	PKPab	14 42 49.1	-0.6
MEM				APKPab		14 45 06.7	
MEM	Membach	149.25	355	PKPbc	PKPbc	14 42 42.0	-0.5
JMB	Yambol	149.28	322	i P	PKPbc	14 42 43.1	+0.5
ISP	Isparta	149.29	312	ePKHKP	PKPbc	14 42 41.9	-0.7
TNS	Taunus Mts	149.35	351	ePKPbc	PKPbc	14 42 42.8	0.0
TNS				ePKPab	PKPab	14 42 49.9	-0.2
TNS				epPKPab	pPKPab	14 45 03.6	+0.5
TNS	Taunus Mts	149.35	351	ePKP2	PKPab	14 42 49.9	-0.2
KHC	Kasperske Hory	149.39	345	⇑ ePKP	PKPbc	14 42 42.7	-0.2
KHC				ePKPAB	PKPab	14 42 50.2	-0.1
KHC				epPKP	pPKPdf	14 45 01.0	+3.5
KHC	Kasperske Hory	149.39	345	ePKHKP	PKPbc	14 42 42.7	-0.2
KHC				e		14 42 50.2	
GRA1	Grafenberg Arr	149.39	348	ePKPbc	PKPbc	14 42 43.2	+0.3
GRA1				ePKPab	PKPab	14 42 50.5	+0.2
GRF	Grafenberg Arr	149.39	348	ePKPbc	PKPbc	14 42 43.2	+0.3
GRF				ePKPab	PKPab	14 42 50.5	+0.2
GRF	Grafenberg Arr	149.39	348	ePKP2	PKPab	14 42 50.5	+0.2
GDZ	Gediz	149.40	314	i P	PKPbc	14 42 42.9	0.0
SNF	Seneffe	149.47	357	PKPbc	PKPbc	14 42 42.6	-0.4
SNF				PKPab	PKPab	14 42 49.4	-1.2
SNF				E		14 42 59.2	
SNF				APKPab		14 45 06.7	
BCLA	Clavier	149.49	355	PKPbc	PKPbc	14 42 43.0	-0.1
BCLA				PKPab	PKPab	14 42 49.5	-1.2
WET	Wettzell	149.55	345	ePKPbc	PKPbc	14 42 43.0	-0.2
WET				ePKPab	PKPab	14 42 51.2	+0.2
WET	Wettzell	149.55	345	ePKP2	PKPab	14 42 51.2	+0.2
BZS	Buzias	149.60	332	⇓ iP	PKPbc	14 42 42.9	-0.5
BZS	Buzias	149.60	332	P	PKPbc	14 42 43.3	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GEC2	GERESS Array S	149.62	344	ePKPbc	PKPbc	14 42 43.0	-0.4
GEC2				ePKPab	PKPab	14 42 51.4	+0.1
GEC2	GERESS Array S	149.62	344	ePKP2	PKPab	14 42 51.4	+0.1
GERES	GERESS Array B	149.62	344	PKPbc	PKPbc	14 42 43.1	-0.3
	comp=Z,11nm,0.7s,baz=27,slow=2.6,SNR=81						
GERES				PKPab	PKPab	14 42 50.7	-0.6
	comp=Z,4.7nm,0.7s,baz=27,slow=3.3,SNR=11						
GERES				pPKPbc	pPKPbc	14 44 59.4	-2.1
	comp=Z,0.3nm,0.7s,baz=349,slow=36,SNR=3.7						
GERES	GERESS Array B	149.62	344	PKHKP	PKPbc	14 42 43.1	-0.3
GERES						14 42 50.7	
CONA	Conrad Observa	149.84	341	⇑ iPKPbc	PKPbc	14 42 42.1	-1.8
	comp=Z,23nm,1.1s						
GIVF	Givet	149.84	356	ePKP1	PKPbc	14 42 43.7	-0.2
	comp=Z,78nm,0.8s						
DOU	Dourbes	149.86	356	PKPbc	PKPbc	14 42 43.6	-0.4
DOU				E		14 42 47.6	
DOU				PKPab	PKPab	14 42 51.1	-1.2
DOU				APKPab		14 45 04.6	
BAIF	Baives	149.92	357	ePKP1	PKPbc	14 42 43.8	-0.3
	comp=Z,47nm,0.8s						
DIM	Dimitrovgrad	150.14	323	P	PKPbc	14 42 44.6	0.0
WLF	Walferdange	150.17	354	ePKPbc	PKPbc	14 42 45.3	+0.6
WLF				ePKPab	PKPab	14 42 53.5	-0.1
WLF	Walferdange	150.17	354	PKPbc	PKPbc	14 42 44.5	-0.2
WLF				PKPab	PKPab	14 42 53.3	-0.3
WLF				APKPab		14 45 05.6	
WLF	Walferdange	150.17	354	ePKPbc	PKPbc	14 42 44.9	+0.2
WLF				ePKPab	PKPab	14 42 53.4	-0.2
PKSM	Moragy	150.36	336	⇓ iP	PKPbc	14 42 44.7	-0.4
PKSM	Moragy	150.36	336	P	PKPbc	14 42 44.5	-0.6
MOA	Molln	150.38	343	⇑ iP	PKPbc	14 42 44.9	-0.3
	comp=Z,36nm,1.5s						
STU	Stuttgart	150.65	350	ePKPbc	PKPbc	14 42 45.8	0.0
STU				ePKPab	PKPab	14 42 55.4	-0.2
STU	Stuttgart	150.65	350	ePKPbc	PKPbc	14 42 46.6	+0.9
FUR	Furstenfeldbru	150.83	347	ePKPbc	PKPbc	14 42 45.4	-0.8
FUR				ePKPab	PKPab	14 42 56.6	+0.3
BFO	Black Forest	151.21	351	ePKPbc	PKPbc	14 42 46.5	-0.6
BFO				ePKPab	PKPab	14 42 57.6	-0.4
BFO				epPKPab	pPKPab	14 45 09.6	-1.0
BFO	Black Forest	151.21	351	ePKIKP	PKPbc	14 42 46.5	-0.6
BFO				e		14 42 57.6	
PERS	Pernice	151.22	341	i PKPdf	PKPbc	14 42 46.0	-1.1
PERS				i PKPbc	PKPab	14 42 57.6	-0.4
FLN	La Foliniere	151.24	3	ePKP1	PKPbc	14 42 46.7	-0.4
	comp=Z,12nm,0.5s						
CDF	Champ du Feu	151.28	352	ePKP1	PKPbc	14 42 47.2	0.0
	comp=Z,27nm,1.0s						
MEZF	Maizieres J'vi	151.42	355	ePKP1	PKPbc	14 42 47.6	+0.1
LDF	La Druitiere	151.42	2	ePKP1	PKPbc	14 42 47.4	-0.1
	comp=Z,6.5nm,0.4s						
ROSF	Rostrenen	151.44	7	ePKP1	PKPbc	14 42 47.4	-0.2
	comp=Z,12nm,0.7s						
MMB	Musomiste	151.46	324	i P	PKPbc	14 42 47.2	-0.4
ECH	Echery	151.49	352	PKP	PKPbc	14 42 47.6	-0.1
WATA	Walderalm	151.55	346	⇑ iP	PKPbc	14 42 47.2	-0.6
	comp=Z,17nm,1.1s						
GRR	Gorron	151.59	4	ePKP1	PKPbc	14 42 48.0	+0.1
SGMF	Saint Gilles	151.59	6	ePKP1	PKPbc	14 42 47.5	-0.4
	comp=Z,23nm,0.7s						
WTTA	Wattenberg	151.60	346	⇓ iP	PKPbc	14 42 47.7	-0.2
	comp=Z,22nm,0.7s						
THEF	They Montfort	151.61	354	PKP	PKPbc	14 42 48.7	+0.7
MOTA	Moosalm	151.65	346	⇑ iP	PKPbc	14 42 48.1	+0.1
	comp=Z,23nm,1.1s						
SQTA	Sankt Quirin	151.74	346	⇓ iP	PKPbc	14 42 48.0	-0.3
	comp=Z,18nm,1.3s						
HAU	Haudompre	151.79	353	ePKP1	PKPbc	14 42 48.2	-0.2
MOF	Molkenrain	151.85	352	PKP	PKPbc	14 42 48.8	+0.3
QUIF	Quistinic	151.86	7	ePKP1	PKPbc	14 42 48.7	+0.2
HINF	Hinteralfeld	151.92	353	ePKP1	PKPbc	14 42 48.4	-0.2
DAVA	Damuels	151.95	348	⇑ iP	PKPbc	14 42 49.3	+0.5
	comp=Z,18nm,1.6s						
ROBS	Robic	152.06	342	ePKPbc	PKPab	14 42 59.6	-1.9
VOY	Vojsko	152.14	342	ePKPdf	PKPbc	14 42 48.2	-0.9
VOY				ePKPbc	PKPab	14 43 00.8	-1.1
BOJS	Bojanci	152.18	339	i PKPbc	PKPab	14 42 54.6	-7.5
DAVOX	Davos	152.44	348	PKPbc	PKPbc	14 42 49.5	-0.3
	comp=Z,7.6nm,0.6s,baz=200,slow=4.2,SNR=21						
DAVOX				PKPab	PKPab	14 43 03.0	-0.2
	comp=Z,6.4nm,0.6s,baz=292,slow=4.1,SNR=9.6						
LOR	Lormes	152.73	357	ePKP1	PKPbc	14 42 50.2	-0.2
	comp=Z,4.7nm,0.5s						
SSF	Saint Saulge	152.95	357	ePKP1	PKPbc	14 42 51.4	+0.5
CABF	La Chapelle	153.20	353	ePKP1	PKPbc	14 42 51.8	+0.4
AVF	Avril sur Loir	153.23	357	ePKP1	PKPbc	14 42 51.4	-0.1
MFF	Saint Martin d	153.41	3	ePKP1	PKPbc	14 42 52.2	+0.3
TCF	Toulx Ste Croi	153.76	359	ePKP1	PKPbc	14 42 52.7	+0.1
LPL	La Plagne	154.19	352	ePKP1	PKPbc	14 42 54.2	+0.7
LPG	La Plagne	154.21	352	ePKP1	PKPbc	14 42 54.2	+0.6
BNI	Bardonecchia	154.66	352	ePKP2	PKPab	14 43 12.6	-0.1
ORIF	Oris-en-Rattie	154.89	353	ePKP1	PKPdf	14 42 55.6	+10
MBDF	Montbardon	154.96	351	ePKP1	PKPdf	14 42 55.6	+10
	comp=Z,4.3nm,0.6s						
EALK	Alkurruntz	156.68	6	P	PKPab	14 43 20.8	-0.6
ELIZ	Elizondo	156.73	6	PKP2	PKPab	14 43 21.2	-0.4
EBIE	Bielsa	157.33	3	P	PKPab	14 43 23.7	-0.6
ESAC	San Caprasio	158.25	4	P	PKPab	14 43 28.4	+0.2
ESDC	Sonseca Array	159.79	13	PKPab	PKPab	14 43 34.6	-0.3
	comp=Z,3.7nm,0.8s,baz=346,slow=4.4,SNR=26						
ESDC				PP	PP	14 47 21.8	+2.9
	comp=Z,0.3nm,0.7s,baz=351,slow=3.9,SNR=4.6						
EMIN	Mina Concepcio	160.85	21	P	PKPab	14 43 39.7	0.0
EADA	Adamuz	161.09	15	P	PKPab	14 43 41.2	+0.5
ELOJ	Sierra Loja	162.16	15	PKP2	PKPab	14 43 46.5	+1.1
EJIF	Jimena Fronter	162.44	19	PKP2	PKPab	14 43 48.5	+1.9
EMIJ	Mijas	162.54	18	P	PKPab	14 43 47.5	+0.4
DBIC	Dimbokro	165.33	154	PKP	PKPdf	14 42 57.2	+0.1
	comp=Z,4.9nm,0.9s,baz=146,slow=4.4,SNR=3.2						
DBIC				PKPab	PKPab	14 44 00.8	+1.4
	comp=Z,18nm,0.7s,baz=177,slow=5.3,SNR=19						
DBIC	Dimbokro	165.33	154	PKP	PKPdf	14 42 57.2	+0.1
DBIC				PKPab	PKPab	14 44 00.8	+1.4
TORD	Torodi Ar. Bea	173.20	180	PKP	PKPdf	14 43 01.2	-0.5
	comp=Z,3.6nm,1.0s,baz=351,slow=2.4,SNR=13						
TORD				PKPab	PKPab	14 44 35.1	+0.9
	comp=Z,3.7nm,0.6s,baz=175,slow=3.4,SNR=16						
TORD				PP	PP	14 48 25.9	-0.9
	comp=Z,6.1nm,1.2s,baz=170,slow=3.4,SNR=9.7						

ISCJB ***16*** *14:37:36.4±0.5, 32.49N±0.04×115.14W±0.03, h10km, Error ellipse: s-maj=5.8km s-min=3.3km az=116.8*
ECX ***16*** *14:37:38.4±0.5, 32.45N×115.14W, h8km, MD3.4, ML3.5*
NEIC ***16*** *14:37:38.4, 32.45N×115.13W, h8km, ML3.3(PAS), ML3.5(ECX), After ECX.*
ISC 16 14:37:36.9±0.6, **32.46N**±0.03×**115.15W**±0.03, **h10**km±4km, **n30**, σ0.99/43, **8C-10D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLT	Pilot Knob	0.45	53	⇓ iP	Pg	14 37 46.8	+1.1
YMD	Yuma Desert	0.52	79	⇓ iP	Pg	14 37 46.8	-0.3
GLA	Glamis	0.65	25	P	Pg	14 37 49.1	-0.4
	baz=0.7,SNR=509						
GLA				⇑ S	Sg	14 37 58.9	+0.9
	baz=0.7						
RMX	La Rumorosa	0.80	280	⇓ eP	Pg	14 37 52.4	+0.1
RMX				eS	Sg	14 38 03.6	+1.0
RMX				⇑ e		14 38 05.1	
	comp=E,2μm,0.6s						
RMX	La Rumorosa	0.80	280	⇓ eP	Pg	14 37 52.4	+0.1
RMX				eS	Sg	14 38 03.6	+1.0
RDX	Rancho Dowling	0.86	232	⇓ eP	Pg	14 37 53.3	-0.1
RDX				eS	Sg	14 38 05.1	+0.5
RDX				⇑ e		14 38 08.2	
	comp=N,1μm,0.7s						
RDX	Rancho Dowling	0.86	232	⇓ eP	Pg	14 37 53.3	-0.1
RDX				eS	Sg	14 38 05.1	+0.5
CBX	Cerro Bola	1.29	264	eP	Pn	14 38 01.1	+0.2
CBX				eS	Sb	14 38 18.4	+0.6
ENX	Ensenada	1.41	246	⇓ eP	Pn	14 38 02.8	+0.2
ENX				eS	Sn	14 38 21.2	0.0
SPX	San Pedro Mart	1.44	191	eP	Pn	14 38 02.1	-0.9
PFO	Pinyon Flat Ob	1.58	317	ePn	Pn	14 38 02.9	-2.1
PFO	Pinyon Flat Ob	1.58	317	⇑ P	Pn	14 38 02.9	-2.2
	baz=1.6,SNR=54						
PFO				⇓ S	Sn	14 38 24.6	-1.0
	baz=1.6						
109C	Camp Elliot, M	1.71	285	⇑ P	Pn	14 38 05.6	-1.1
	baz=1.7,SNR=6.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
X13A	Yucca	2.39	27	⇓P	Pn	14 38 15.1	-1.0
	baz=2.4,SNR=31						
W13A	Hualapai Mount	2.83	21	⇓P	Pn	14 38 22.6	+0.4
	baz=2.9,SNR=8.5						
GSC	Goldstone	3.15	335	Pn	Pn	14 38 27.9	+1.3
GSC				ePg	Pg	14 38 37.8	+0.5
W14A	Seligman	3.24	32	⇑P	Pn	14 38 27.9	+0.2
	baz=3.3,SNR=11						
V12A	Nelson	3.27	4	⇑P	Pn	14 38 28.3	+0.1
	baz=3.3						
TUC	Tucson	3.70	91	ePn	Pn	14 38 33.3	-0.8
TUC				eSg	Sg	14 39 31.8	-3.9
U12A	Valley of Fire	3.99	7	⇑P	Pn	14 38 38.6	+0.5
	baz=4.0						
ISA	Isabella	4.22	320	ePg	Pg	14 38 57.2	-0.6
DAC	Darwin (Calif)	4.31	333	ePg	Pg	14 38 59.2	-0.3
WUAZ	Wupatki	4.37	45	eP	Pn	14 38 44.2	+0.8
TPNV	Topopah Spring	4.57	349	ePn	Pn	14 38 49.7	+3.6
TPNV				ePg	Pg	14 39 03.0	-1.4
TPNV				eSg	Sg	14 40 02.4	-1.2
CCUT	Cedar City	5.29	16	ePn	Pn	14 38 56.7	+0.8
MVCO	Mesa Verde	7.23	47	ePn	Pn	14 39 23.5	+0.8
MVCO				ePg	Pg	14 39 50.4	-5.0
TMUT	Trail Mountain	7.53	24	Pg	Pg	14 39 56.5	-4.6
SRU	San Rafael	7.62	28	ePg	Pg	14 39 56.8	-6.2
	comp=N,6.5nm,0.5s						
PV10	Paradox Valley	7.73	38	ePg	Pg	14 39 58.7	-6.1
PV01	Paradox Valley	7.81	42	ePn	Pn	14 39 32.9	+2.4
PV01				ePg		14 40 01.2	

*ISCJB **16** 14:58:31.1±2.3, 2859S±006×7260W±008, h9km±17km, mb3.8/5, Error ellipse: s-maj=11.6km s-min=9.6km az=169.2*
*IDC **16** 14:58:31.8±1.2, 2869S×7250W, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.8/15, mbtmp3.8/6, ML3.7/2, Error ellipse: s-maj=41.7km s-min=31.0km az=150.0*
*GUC **16** 14:58:32.8±0.3, 2865S×7257W, h33km, MD4.0, ML4.2*
*NEIC **16** 14:58:36.8±0.8, 2863S×7238W, h35km, mb4.1/1, ML4.2(GUC), Error ellipse: s-maj=14.9km s-min=10.3km az=70.0*
ISC 16 14:58:32.7±2.5**, 2865S**±004×**7250W**±008**, h7**km±17km**, n24, σ0.99**/23**, mb3.8**/5**, 2C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VACH	Vallenar	1.54	88	iP	Pn	14 59 01.6	+1.2
VACH				iS	Sn	14 59 22.3	+1.6
LCO	Las Campanas	1.62	103	⇑iP	Pn	14 59 02.0	+0.3
TLL	Tololo Astrono	2.12	136	⇑iP	Pn	14 59 08.4	-0.1
TLL				AML	AML	14 59 37.7	
	comp=N,1μm,0.6s						
CDCH	Caldera	2.16	44	iP	Pn	14 59 08.4	-0.6
CDCH				iS	Sn	14 59 35.2	-0.8
CDCH				AML	AML	14 59 35.6	
	comp=E,836nm,0.2s						
OVCH	Ovalle	2.26	150	AML	AML	14 59 36.9	
	comp=N,627nm,0.7s						
CPCH	Copiapo	2.29	56	iS	Sn	14 59 39.2	-0.2
CPCH				AML	AML	14 59 41.6	
	comp=E,4μm,0.1s						
CMCH	Combarbala	2.84	153	AML	AML	14 59 50.4	
	comp=E,1μm,0.6s						
FCH	Farellones	5.04	158	iP	Pn	14 59 48.4	-0.2
FCH				iS	Sn	15 00 45.9	-1.2
FCH				AML	AML	15 00 47.9	
	comp=E,65nm,0.3s						
CEN1	Los Morros	5.63	22	iS	Sn	15 00 53.8	-7.9
LVC	Limon Verde	6.83	29	Pn	Pn	15 00 14.3	+1.1
	baz=156,slow=20						
LVC				Sn	Sn	15 01 29.8	-1.3
	comp=E,3.5nm,0.3s,baz=65,slow=18,SNR=8.0						
LVC	Limon Verde	6.83	29	ePn	Pn	15 00 14.4	+1.2
LVC				Sn	Sn	15 01 29.9	-1.3
TRQA	Tornquist	12.85	140	P	Pn	15 01 34.3	-1.4
LPAZ	La Paz	12.95	19	Pn	Pn	15 01 36.5	-0.5
	comp=E,0.1nm,0.3s,baz=206,slow=9.0,SNR=4.8						
SIV	San Ignacio	16.43	42	Pn	Pn	15 02 22.8	-0.9
	comp=E,0.2nm,0.3s,baz=243,slow=10,SNR=5.6						
BDFB	Brasilia	26.05	65	P	P	15 04 07.7	+1.2
	comp=E,1.8nm,0.5s,mb3.9,baz=225,slow=8.6,SNR=3.8						
SDV	Santo Domingo	37.35	3	P	P	15 05 44.6	-1.2
	comp=E,1.5nm,0.5s,mb4.1						
PDAR	Pinedale Array	78.82	333	P	P	15 10 37.1	+0.9
	comp=E,0.2nm,0.5s,mb3.3,baz=144,slow=6.7,SNR=2.3						
NVAR	Mina Array Bea	79.28	325	P	P	15 10 39.9	+1.2
	comp=E,0.4nm,0.5s,mb3.6,baz=137,slow=5.8,SNR=4.3						
NVAR	Mina Array Bea	79.28	325	P	P	15 10 39.9	+1.2
TORD	Torodi Ar. Bea	82.80	71	P	P	15 10 58.6	+1.1
	comp=E,1.0nm,0.6s,mb4.0,baz=256,slow=4.4,SNR=9.6						
WRA	Warramunga Arr	125.18	211	PKP	PKPdf	15 17 33.8	-0.1
	comp=E,1.0nm,0.9s,baz=158,slow=1.6,SNR=7.1						
ZAL	Zalesovo	149.78	27	PKPbc	PKPbc	15 18 23.2	-0.1
	comp=E,2.1nm,0.8s,baz=200,slow=3.7,SNR=10						
MKAR	Makanchi Array	153.24	41	PKPbc	PKPbc	15 18 31.4	+0.1
	comp=E,0.5nm,0.7s,baz=301,slow=1.3,SNR=5.2						
MKAR	Makanchi Array	153.24	41	PKPbc	PKPbc	15 18 31.4	+0.1

LDG 16 15:13:58.6±0.3**, 4551N×906E, h25**km**, Ml2.4**/6**, Error ellipse: s-maj=5.0km s-min=3.1km az=47.0, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPG	La Plagne	1.62	271	ePn	Pn	15 14 24.2	-1.4
LPG	La Plagne	1.62	271	ePg	Pn	15 14 29.4	+3.8
LPG				eSg	Sn	15 14 50.1	+4.5
LPL	La Plagne	1.63	271	ePn	Pn	15 14 24.9	-0.8
MBDF	Montbardon	1.79	245	ePn	Pn	15 14 26.8	-1.2
SBF	Sospel	2.01	216	eSn	Sn	15 14 51.8	-3.4
SBF				eSg	Sn	15 15 03.2	+8.0
	13nm,0.5s						
SMRF	Simiane la Rot	2.91	240	ePn	Pn	15 14 40.2	-3.1
SMRF				eSn	Sn	15 15 13.9	-3.6
	1.3nm,0.2s						
PGF	Pioggiola	2.96	181	ePn	Pn	15 14 41.7	-2.2
PGF	Pioggiola	2.96	181	ePg	Pn	15 14 53.6	+10
PGF				eSn	Sn	15 15 14.8	-3.8

ROM 16 15:14:04.7±0.2**, 4463N×1021E, h10**km**, Md2.5**/12**, Ml2.0**/6**, 1C, Error ellipse: s-maj=4.5km s-min=2.4km az=127.0, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERBM	Eremo	0.26	146	Pg	Pg	15 14 10.5	+0.6
	117nm,0.4s						
GSCL	Gusciola	0.39	136	⇑iPg	Pg	15 14 12.6	+0.2
	23nm,0.2s						
VLC	Villacollemand	0.49	165	Pg	Pg	15 14 14.0	-0.3
VLC				Sg	Sg	15 14 21.7	+1.0
	244nm,1.0s						
BOB	Bobbio (Coli)	0.56	284	Pg	Pg	15 14 16.2	+0.6
BOB				Sg	Sg	15 14 24.1	+1.1
	47nm,0.2s						
ZCCA	Zocca	0.62	117	Pg	Pg	15 14 17.6	+1.0
	47nm,0.4s						
BDI	Bagni Di Lucca	0.64	154	Pg	Pg	15 14 16.5	-0.5
	81nm,0.4s						
PZZT	Monte Pizzetto	0.69	137	Pg	Pg	15 14 17.3	-0.7
PZZT				Sg	Sg	15 14 28.9	+2.0
	79nm,0.4s						
FNVD	Fontana Vidola	0.80	125	Pg	Pg	15 14 19.7	-0.5
	51nm,0.3s						
PII	Pisa	0.94	166	Pg	Pg	15 14 22.9	+0.1
	23nm,0.2s						
SAL	Salo	1.00	13	Pg	Pg	15 14 23.7	-0.2
MDI	Monti di Nese	1.20	343	Pg	Pn	15 14 26.8	-0.7
SFI	Santa Sofia	1.38	121	Pg	Pn	15 14 31.3	+1.3
	6.0nm,0.5s						
CSNT	Castellina Chi	1.40	146	Pg	Pn	15 14 30.9	+0.7
	9.0nm,0.4s						
MABI	Malga Bissina	1.44	8	Pg	Pn	15 14 30.2	-0.6
CTI	Castel Tesino	1.74	35	Pg	Pn	15 14 33.5	-1.5
FRF	La Foret Royal	2.78	249	ePg	Pn	15 14 49.2	-0.1
FRF				eSg	Sn	15 15 20.4	-2.5
	4.1nm,0.3s						
LMR	La Mourre	2.97	245	ePg	Pn	15 14 51.1	-0.8
LMR				eSg	Sn	15 15 27.2	-0.4
	6.0nm,0.2s						

*ISCJB **16** 15:18:12.3±0.6, 1329N±003×14396E±003, h138km±4km, mb4.8/104, Error ellipse: s-maj=5.6km s-min=5.3km az=29.9*
*MOS **16** 15:18:12.2±0.9, 1332N×14393E, h142km, mb5.0/37, Error ellipse: s-maj=11.5km s-min=6.4km az=97.5*
*BJI **16** 15:18:12.8, 1320N×14444E, h169km, mB4.8, mb4.9*
*NEIC **16** 15:18:13.7±0.7, 1332N×14404E, h141km±6km, mb5.1/61, Error ellipse: s-maj=5.6km s-min=4.2km az=108.0*
NEIC Felt at Agat. Also felt on Tinian, Northern Mariana Islands.
*IDC **16** 15:18:13.4±0.5, 1329N×14406E, h138km±4km, mb4.4/23, mb1 4.5/24, mb1mx4.4/28, mbtmp4.8/24, MS3.6/5, Ms1 3.6/5, ms1mx3.1/39, Error ellipse: s-maj=14.5km s-min=7.9km az=91.0*
ISC 16 15:18:13.9±0.6**, 1329N**±003×**14405E**±003**, h137**km±4km**, h142**km±.6km**: pP-P, n355, σ0.73**/359**, mb4.8**/104**, 81C-71D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.85	70	P	Pn	15 18 36.5	+0.4
	1μm,0.3s,baz=195,slow=2.9,SNR=867						
GUMO				S	Sn	15 18 53.0	+0.1
	6μm,0.3s,baz=343,slow=19,SNR=146						
GUMO	Guam	0.85	70	P	Pn	15 18 36.5	+0.4
GUMO				S	Sn	15 18 53.0	+0.1
CBIJ	Chichi jima	13.84	353	P	Pn	15 21 24.2	0.0
	7.2nm,0.3s,baz=279,slow=19,SNR=3.1						
JHJ	Hachijo jima 2	20.11	350	P	P	15 22 37.1	+0.2
	49nm,0.4s,baz=72,slow=20,SNR=4.2						
TGY	Tagaytay City	22.47	275	P	P	15 23 03.3	+1.5
	38nm,0.3s,baz=188,slow=7.4,SNR=3.2						
PMG	Port Moresby	22.76	172	P	P	15 23 03.3	-1.2
	50nm,0.9s,mb4.9,baz=1.4,slow=6.7,SNR=13						
PMG	Port Moresby	22.76	172	eP	P	15 23 03.1	-1.4
PMG	Port Moresby	22.76	172	eP	P	15 23 02.3	-2.3
	138nm,1.5s,mb5.2						
MJAR	Matsushiro Arr	23.73	348	P	P	15 23 12.0	-1.4
	6.5nm,0.4s,mb4.5,baz=159,slow=5.5,SNR=85						
MJAR				PcP	PcP	15 26 53.2	-0.2
	2.5nm,0.6s,baz=166,slow=3.9,SNR=7.8						
MJAR				ScP	ScP	15 30 17.6	-1.4
	0.6nm,0.4s,baz=168,slow=3.0,SNR=6.3						
MJAR	Matsushiro Arr	23.73	348	P	P	15 23 12.0	-1.4
MJAR						15 26 53.3	
MAJO	Matsushiro	23.74	348	eP	P	15 23 12.0	-1.4
MAJO				pmax	pmax		
	comp=Z,50nm,0.7s,mb5.2						
MAJO	Matsushiro	23.74	348	eP	P	15 23 11.9	-1.5
	comp=Z,50nm,0.7s,mb5.2						
MAT	Matsushiro	23.74	348	P	P	15 23 12.0	-1.4
MAT				eS	S	15 27 23.0	+4.4
MAT	Matsushiro	23.74	348	eP	P	15 23 12.0	-1.4
MAT				S	S	15 27 23.0	+4.4
MAT				pmax	pmax		
	comp=Z,34nm,0.9s,mb4.9						
MAT	Matsushiro	23.74	348	eP	P	15 23 12.0	-1.4
	comp=Z,34nm,0.9s,mb4.9						
MAT				S	S	15 27 23.0	+4.4
SSE	Sheshan	27.51	314	eP	P	15 23 47.8	+0.4
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,106nm,3.6s						
KAKA	Kakadu	28.28	204	eP	P	15 23 53.1	-1.2
	comp=Z,21nm,0.6s,mb5.0						
NJ2	Nanjing	29.69	313	eP	P	15 24 07.8	+1.0
NJ2				PP	PP	15 25 08.0	-8.4
NJ2				S	S	15 28 55.0	+2.5
NJ2				AMB	AMB		
	comp=Z,170nm,1.2s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,320nm,3.6s						
NJ2				LR	LR		
	comp=N,980nm,14.0s						
NJ2				LR	LR		
	comp=E,780nm,14.4s						
NJ2				LR	LR		
	comp=Z,110nm,14.3s						
ASAJ	Asahikawa	30.74	358	P	P	15 24 16.1	+0.1
	comp=Z,10nm,0.5s,mb4.8,baz=216,slow=12,SNR=30						
ASAJ				PcP	PcP	15 27 10.6	+0.3
	comp=Z,7.8nm,0.8s,baz=251,slow=5.2,SNR=7.1						
ASAJ				ScP	ScP	15 30 38.9	-1.3
	comp=Z,2.3nm,0.8s,baz=241,slow=10,SNR=3.8						
VLA	Vladivostok	31.52	343	eP	P	15 24 23.2	+0.3
VLA				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.9						
WHN	Wuhan	32.31	307	⇓P	P	15 24 31.4	+1.6
DL2	Dalian	32.32	326	P	P	15 24 30.8	+0.9
DL2				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.4						
CTA	Charters Tower	33.24	176	eP	P	15 24 38.1	+0.2
	comp=Z,18nm,0.7s,mb4.9						
CTA	Charters Tower	33.24	176	P	P	15 24 38.1	+0.2
	comp=Z,20nm,0.7s,mb5.0,baz=356,slow=8.5,SNR=22						
CTA				LR	LR	15 36 38.8	
	comp=Z,104nm,22.0s,baz=46,slow=33						
CTA	Charters Tower	33.24	176	eP	P	15 24 38.1	+0.2
CTA				pmax	pmax		
	comp=Z,18nm,0.7s						
CTAO	Charters Tower	33.24	176	eP	P	15 24 37.6	-0.3
CTAO				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.8						
CTAO	Charters Tower	33.24	176	eP	P	15 24 37.6	-0.3
	comp=Z,13nm,0.6s,mb4.8						
MDJ	Mudanjiang	33.57	341	P	P	15 24 40.9	+0.1
MDJ				PP	PP	15 25 58.0	-1.4
MDJ				PCS	PcS	15 31 05.0	+1.0
MDJ				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,86nm,5.6s						
YSS	Yuzh-Sakhalins	33.57	358	⇑iP	P	15 24 39.6	-1.2
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.0						
YSS	Yuzh-Sakhalins	33.57	358	eP	P	15 24 39.7	-1.0
	comp=Z,18nm,0.8s,mb4.9						
CN2	Changchun	34.34	336	eP	P	15 24 47.0	-0.4
CN2				eS	S	15 30 09.8	+5.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
WRAB	Tennant Creek	34.37	196	P	P	15 24 47.0	-0.7
	SNR=27						
WRAB	Tennant Creek	34.37	196	d iP	P	15 24 47.3	-0.3
WRAB	Tennant Creek	34.37	196	eP	P	15 24 47.5	-0.1
	comp=Z,105nm,0.8s,mb5.6						
WB2	Warramunga Arr	34.38	196	⇓iP	P	15 24 47.3	-0.4
WRA	Warramunga Arr	34.38	196	P	P	15 24 47.4	-0.4
	comp=Z,56nm,0.8s,mb5.4,baz=21,slow=9.8,SNR=182						
WRA				S	S	15 30 03.9	-1.4
	comp=Z,1.7nm,0.9s,baz=17,slow=16,SNR=3.3						
WRA				ScP	ScP	15 30 51.0	-1.7
	comp=Z,5.4nm,1.0s,baz=14,slow=3.8,SNR=14						
WRA	Warramunga Arr	34.38	196	iP	P	15 24 47.4	-0.4
WRA				pmax	pmax		
	comp=Z,56nm,0.8s						
HABR	Khabarovsk	35.86	350	⇑iP	P	15 24 59.4	-1.0
HABR				eS	S	15 30 25.2	-2.8
HABR				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.6						
FITZ	Fitzroy Crossi	36.10	211	eP	P	15 25 02.2	-0.2
	comp=Z,30nm,0.8s,mb5.0						
FITZ	Fitzroy Crossi	36.10	211	P	P	15 25 02.5	+0.1
	comp=Z,16nm,0.8s,mb4.7,baz=35,slow=10.0,SNR=28						
FITZ				S	S	15 30 30.5	-1.1
	comp=Z,1.6nm,0.9s,baz=204,slow=20,SNR=3.0						
BJT	Baijiatuau	36.18	323	eP	P	15 25 02.9	-0.2
BJT				pmax	pmax		
	comp=Z,68nm,0.7s						
BJT	Baijiatuau	36.18	323	eP	P	15 25 02.9	-0.2
	comp=Z,68nm,0.7s,mb5.4						
BJI	Beijing	36.19	323	P	P	15 25 03.6	+0.4
BJI				AMB	AMB		
	comp=Z,105nm,0.7s,mb5.6						
BJI				AMB	AMB		
	comp=Z,187nm,3.3s						
KLR	Kul'dur	37.24	347	eP	P	15 25 08.8	-3.3
KLR				pmax	pmax		
	comp=E,20nm,0.9s						
KLR				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.0						
GYA	Guiyang	37.37	296	⇑iP	P	15 25 15.4	+2.2
GYA				PP	PP	15 26 45.4	+4.2
GYA				PCP	PcP	15 27 30.1	+0.8
GYA				SS	SS	15 33 36.8	-3.7
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
GYA				AMB	AMB		
	comp=Z,360nm,5.1s						
GYA				LR	LR		
	comp=N,640nm,17.0s						
GYA				LR	LR		
	comp=E,570nm,17.2s						
GYA				LR	LR		
	comp=Z,580nm,17.4s						
XAN	Xi'an	37.95	309	P	P	15 25 18.8	+0.7
XAN				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.6						
AS31	Alice Springs	38.05	195	⇓iP	P	15 25 18.4	-0.5
ASAR	Alice Springs	38.05	195	P	P	15 25 18.7	-0.2
	comp=Z,7.6nm,0.7s,mb4.4,baz=14,slow=12,SNR=61						
ASAR				PP	PP	15 26 48.0	-0.6
	comp=Z,2.8nm,0.7s,baz=13,slow=8.4,SNR=5.2						
ASAR				ScP	ScP	15 31 04.5	-1.8
	comp=Z,2.0nm,0.8s,baz=16,slow=3.4,SNR=9.5						
ASAR				LR	LR	15 40 37.1	
	comp=Z,99nm,21.1s,baz=88,slow=35						
ASAR	Alice Springs	38.05	195	P	P	15 25 18.7	-0.2
ASAR						15 26 48.1	
ASAR						15 31 04.5	
ASPA	Alice Springs	38.05	195	⇓iP	P	15 25 18.4	-0.5
HHC	Hu-ho-hao-te	39.48	320	eP	P	15 25 31.4	+0.6
HHC				AP	pP	15 26 02.8	+1.7
HHC				XP	sP	15 26 24.3	+7.7
HHC				PP	PP	15 27 10.5	+6.3
HHC				PCP	PcP	15 27 39.1	+3.2
HHC				S	S	15 31 17.9	-4.8
HHC				SCS	ScS	15 35 21.8	-2.5
HHC				AMB	AMB		
	comp=Z,21nm,0.7s,mb4.9						
HHC				AMB	AMB		
	comp=Z,108nm,5.7s						
HHC				LR	LR		
	comp=N,199nm,17.8s						
HHC				LR	LR		
	comp=E,184nm,15.5s						
HHC				LR	LR		
	comp=Z,232nm,13.1s						
BTO	Baotou	40.32	319	eP	P	15 25 38.1	+0.3
KMI	Kunming	40.59	293	P	P	15 25 41.6	+1.6
KMI				PP	PP	15 27 19.3	+3.1
KMI				PCP	PcP	15 27 42.6	+3.1
KMI				PPP		15 27 48.3	
KMI				S	S	15 31 46.6	+7.4
KMI				SS	SS	15 34 42.8	-1.9
KMI				SSS		15 35 23.3	
KMI				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.2						
KMI				AMB	AMB		
	comp=Z,141nm,3.3s						
KMI				LR	LR		
	comp=N,228nm,13.1s						
KMI				LR	LR		
	comp=E,194nm,13.1s						
KMI				LR	LR		
	comp=Z,130nm,15.6s						
CD2	Chengdu	40.97	302	⇑iP	P	15 25 42.3	-0.8
CD2				PP	PP	15 27 21.3	+1.0
CD2				PCP	PcP	15 27 41.5	+0.8
CD2				PCS	PcS	15 31 31.5	-0.3
CD2				S	S	15 31 47.8	+2.9
CD2				SS	SS	15 34 48.3	-3.9
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,80nm,5.6s						
HIA	Hailar	41.08	336	eP	P	15 25 44.1	+0.1
HIA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HIA	Hailar	41.08	336	eP	P	15 25 44.1	+0.1
	comp=Z,8.3nm,0.5s,mb4.6						
DZM	Mont Dzumac	41.45	148	P	P	15 25 47.9	+0.9
	comp=Z,15nm,0.6s,mb4.8,baz=315,slow=7.0,SNR=18						
LZH	Lanzhou	42.59	309	eP	P	15 25 57.5	+1.2
LZH				PP	PP	15 27 40.4	+2.7
LZH				eS	S	15 32 15.1	+6.5
LZH				eSS	SS	15 35 20.6	-3.2
LZH				AMB	AMB		
	comp=Z,58nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,296nm,4.6s						
LZH				LR	LR		
	comp=N,752nm,14.6s						
LZH				LR	LR		
	comp=Z,1μm,15.4s						
ARMA	Armidale	44.07	171	eP	P	15 26 08.2	+0.1
ULN	Ulaanbaatar	46.17	326	c iP	P	15 26 25.4	+0.7
ULN	Ulaanbaatar	46.17	326	eP	P	15 26 25.4	+0.6
	comp=Z,21nm,0.8s,mb4.8						
FORT	Forrest	46.44	199	eP	P	15 26 26.6	-0.2
	comp=Z,53nm,1.0s,mb5.1						
SONM	Songino Array	46.52	325	P	P	15 26 28.2	+0.8
	comp=Z,14nm,0.7s,mb4.7,baz=145,slow=8.6,SNR=136						
SONM				ScP	ScP	15 31 37.7	-2.5
	comp=Z,1.9nm,0.7s,baz=148,slow=3.5,SNR=14						
SONM				LR	LR	15 48 19.1	
	comp=Z,47nm,18.2s,baz=96,slow=39						
GTA	Gaotai	46.77	312	⇑iP	P	15 26 30.4	+1.0
GTA				PCP	PcP	15 28 00.8	+0.3
GTA				PP	PP	15 28 21.9	+0.9
GTA				PPP		15 29 09.8	
GTA				SCP	ScP	15 31 39.8	-1.5
GTA				AMB	AMB		
	comp=Z,31nm,1.0s,mb4.9						
GTA				AMB	AMB		
	comp=Z,71nm,6.1s						
GTA				LR	LR		
	comp=N,92nm,16.0s						
GTA				LR	LR		
	comp=E,117nm,15.2s						
GTA				LR	LR		
	comp=Z,88nm,15.2s						
ZAK	Zakamensk	49.64	327	⇓eP	P	15 26 50.8	-0.6
ZAK				e	pP	15 27 22.7	-0.1
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb3.9						
YAK	Yakutsk	49.75	351	c iP	P	15 26 50.7	-1.6
YAK				pmax	pmax		
	comp=Z,27nm,0.6s,mb5.0						
YAK	Yakutsk	49.75	351	eP	P	15 26 50.6	-1.7
	comp=Z,30nm,0.6s,mb5.1						
BOD	Bodaibo	49.91	339	⇑iP	P	15 26 52.6	-0.8
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb3.9						
TOO	Toolangi	50.61	179	eP	P	15 26 59.6	+0.9
	comp=Z,47nm,0.8s,mb5.2						
TOO	Toolangi	50.61	179	eP	P	15 26 59.6	+0.9
TOO				pmax	pmax		
	comp=Z,47nm,0.8s,mb5.2						
KLBR	Kellerberrin	51.26	209	eP	P	15 27 02.2	-1.4
	comp=Z,10nm,0.6s,mb4.6						
MOY	Mondy	51.55	327	eP	P	15 27 06.4	+0.6
NWAO	Narrogin (SRO)	52.62	209	P	P	15 27 13.2	-0.4
	comp=Z,4.4nm,0.6s,mb4.4,baz=53,slow=10,SNR=4.7						
JIRN	Jiri	55.60	294	eP	P	15 27 36.3	+1.0
GUN	Gumba	55.89	295	eP	P	15 27 38.3	+1.0
	comp=Z,20nm,0.5s,mb5.2						
PKI	Pulchoki	56.29	294	eP	P	15 27 40.6	+0.4
KKN	Kakani	56.41	295	eP	P	15 27 41.7	+0.7
	comp=Z,16nm,0.9s,mb4.8						
KKN	Kakani	56.41	295	eP	P	15 27 41.7	+0.7
KKN				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
WMQ	Urumqi	56.76	314	P	P	15 27 44.9	+1.4
WMQ				AP	pP	15 28 17.9	+2.2
WMQ				PP	PP	15 29 54.3	+3.2
WMQ				S	S	15 35 24.5	-1.3
WMQ				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,215nm,5.4s						
WMQ				LR	LR		
	comp=N,800nm,16.8s						
WMQ				LR	LR		
	comp=E,600nm,15.7s						

WMQ LR LR
comp=Z,795nm,17.3s
GKN Gorkha 56.99 295 *eP* **P 15 27 45.2 +0.1**
comp=Z,25nm,0.8s,mb5.1
KRAR Krasnoyarsk 57.87 329 *eP* **P 15 27 49.0 -2.3**
KRAR pmax pmax
comp=Z,23nm,1.1s,mb4.9
KOLN Koldanda 57.90 295 *eP* **P 15 27 51.8 +0.3**
comp=Z,13nm,0.7s,mb4.9
TIXI Tiksi 59.05 354 *eP* **P 15 27 58.0 -1.4**
TIXI pmax pmax
comp=Z,5.0nm,1.2s,mb4.2
MKAR Makanchi Array 61.15 316 P **P 15 28 14.1 +0.4**
comp=Z,8.0nm,0.8s,mb4.6,baz=92,slow=8.8,SNR=73
ZAL Zalesovo 61.41 325 P **P 15 28 14.3 -1.2**
comp=Z,2.5nm,0.6s,mb4.2,baz=7.3,slow=8.3,SNR=13
ZAL Zalesovo 61.41 325 P **P 15 28 14.3 -1.2**
NVS Novosibirsk 62.55 325 *eP* **P 15 28 22.2 -0.9**
NVS pmax pmax
comp=N,5.0nm,1.1s
NVS pmax pmax
comp=E,11nm,1.1s
NVS pmax pmax
comp=Z,15nm,1.1s,mb4.7
KURK Kurchatov 64.30 320 P **P 15 28 34.2 -0.4**
comp=Z,191nm,1.0s,mb5.9,SNR=21
KURK Kurchatov 64.30 320 *eP* **P 15 28 34.1 -0.5**
SVW2 Sparrevohn 64.31 28 *eP* **P 15 28 33.1 -1.6**
KDAK Kodiak Island 64.74 32 P **P 15 28 36.8 -0.7**
comp=Z,5.6nm,0.6s,mb4.6,baz=306,slow=5.6,SNR=7.0
KSH Kashi 64.79 308 *eP* **P 15 28 37.9 +0.1**
KSH *ePCP* PcP 15 29 10.9 +0.8
KSH *ePP* PP 15 31 01.8 -0.1
KSH *ePPP* 15 32 36.8
KSH *ePCS* 15 33 11.5
KSH *eS* **S 15 37 09.4 +1.8**
KSH *ePS* 15 37 30.1
KSH *eSS* SS 15 41 25.5 +4.2
KSH LR LR
comp=N,304nm,4.9s
KSH LR LR
comp=E,285nm,5.3s
KSH LR LR
comp=Z,282nm,20.6s
SLKM Skilak Lake 66.64 29 *eP* **P 15 28 47.8 -1.8**
PMR Palmer 67.42 28 *eP* **P 15 28 51.8 -2.8**
PMR pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
PMR Palmer 67.42 28 *eP* **P 15 28 51.8 -2.8**
comp=Z,6.9nm,0.7s,mb4.6
COLA College 68.80 25 *eP* **P 15 29 01.0 -2.2**
KK31 Karatay Array 69.05 311 *i P* **P 15 29 04.9 +0.2**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
DAWY Dawson 72.26 27 *eP* **P 15 29 22.5 -1.7**
INK Inuvik 74.94 22 *eP* **P 15 29 38.0 -1.9**
INK *e* 15 29 49.4
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 74.94 22 *eP* **P 15 29 38.0 -1.8**
comp=Z,6.9nm,1.0s,mb4.2
INK *e* 15 29 49.4
SVE Sverdlovsk 75.39 326 *eP* **P 15 29 42.0 -0.4**
ARU Arti 76.55 325 *i P* **P 15 29 48.1 -0.9**
ARU *e* 15 30 28.1
ARU *e* 15 32 43.1
ARU *eS* S 15 39 22.2 -1.6
ARU *eSS* SS 15 44 21.4 -0.3
ARU pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
ARU Arti 76.55 325 *eP* **P 15 29 48.2 -0.8**
comp=Z,2.4nm,0.5s,mb4.1
DLBC Dease Lake 76.66 33 *eP* **P 15 29 48.8 -0.8**
ABKT Ailbek 78.78 306 P **P 15 30 01.4 0.0**
comp=Z,96nm,0.7s,mb5.5,SNR=5.9
D03A Wishkah Elem. 81.86 44 ⇓P **P 15 30 18.0 +0.2**
baz=82
B04A Port Angeles 81.86 43 ⇑P **P 15 30 17.8 0.0**
baz=82
E03A Lebam 82.11 44 ⇓P **P 15 30 19.1 0.0**
baz=82
F03A Seaside 82.23 45 ⇑P **P 15 30 19.8 +0.1**
baz=82
HDW Hoodsport 82.24 43 P **P 15 30 20.1 +0.3**
A04A Legoe Bay, Lum 82.26 42 ⇓P **P 15 30 19.7 -0.2**
baz=82
C04A Brinnon 82.28 43 ⇑P **P 15 30 20.0 0.0**
baz=82
I02A Mapleton 82.41 47 ⇑P **P 15 30 20.6 0.0**
baz=82
A05A Maple Falls 82.60 41 ⇓P **P 15 30 21.2 -0.5**
baz=82
M01C Crescent City 82.61 49 ⇓P **P 15 30 21.8 +0.1**
baz=82
H03A Soap Creek Ran 82.65 46 ⇑P **P 15 30 22.3 +0.4**
baz=82
E04A Onalaska 82.67 44 ⇓P **P 15 30 22.2 +0.2**
baz=83
CMW Cultus Mountai 82.70 42 P **P 15 30 22.3 +0.1**
J02A Umpqua 82.71 47 ⇓P **P 15 30 22.1 -0.2**
baz=83
B05A Bryant 82.75 42 ⇑P **P 15 30 22.1 -0.3**
baz=83,SNR=7.7
I03A Eugene 82.80 47 ⇓P **P 15 30 22.8 +0.1**
baz=83
K02A Glendale 82.89 48 ⇓P **P 15 30 22.8 -0.4**
baz=83
L02A Cave Junction 82.93 48 ⇑P **P 15 30 23.3 -0.1**
baz=83
F04A Amboy 83.01 45 ⇓P **P 15 30 23.3 -0.5**
baz=83
D05A Enumclaw 83.04 43 ⇓P **P 15 30 24.0 0.0**
baz=83
G04A Mulino 83.11 45 ⇑P **P 15 30 24.2 -0.1**
baz=83
C05A Tolt Reservoir 83.13 43 ⇑P **P 15 30 23.9 -0.6**
baz=83
J03A Ideyld Park 83.15 47 ⇓P **P 15 30 24.6 +0.1**
baz=83
O01C Eel River Cons 83.17 50 ⇓P **P 15 30 25.0 +0.4**
baz=83
HUMO Hull Mountain 83.31 48 *eP* **P 15 30 25.8 +0.4**
comp=Z,8.4nm,0.7s,mb4.6
HUMO Hull Mountain 83.31 48 ⇓P **P 15 30 25.5 +0.2**
baz=83,SNR=6.1
E05A Randle 83.32 44 ⇓P **P 15 30 24.8 -0.6**
baz=83
N02C Big Bar 83.41 50 ⇑P **P 15 30 26.2 +0.4**
baz=83,SNR=6.3
H04A Detroit Lake 83.42 46 ⇑P **P 15 30 25.5 -0.4**
baz=83,SNR=6.6
YKA Yellowknife Ar 83.49 27 P **P 15 30 25.0 -1.2**
comp=Z,4.2nm,0.6s,mb4.4,baz=286,slow=4.9,SNR=39
KIPM Iron Peak 83.49 51 *eP* **P 15 30 26.6 +0.3**
M02C Callahan 83.64 49 ⇓P **P 15 30 27.4 +0.5**
baz=84,SNR=7.7
P01C Double 8 Ranch 83.67 51 ⇑P **P 15 30 26.5 -0.6**
baz=84
YBH Yreka Blue Hor 83.67 49 LR LR 16 03 55.2
comp=Z,55nm,19.7s,baz=242,slow=33
YBH Yreka Blue Hor 83.67 49 *eP* **P 15 30 27.3 +0.1**
YBH pmax pmax
comp=Z,15nm,0.8s
YBH Yreka Blue Hor 83.67 49 *eP* **P 15 30 27.3 +0.2**
comp=Z,15nm,0.8s,mb4.8
YBH Yreka Blue Hor 83.67 49 ⇓P **P 15 30 27.4 +0.3**
baz=84,SNR=10
F05A White Salmon 83.67 44 ⇓P **P 15 30 27.0 -0.2**
baz=84
BUOR Burton Butte 83.89 48 P **P 15 30 28.5 +0.2**
G05A Wamic 83.91 45 ⇑P **P 15 30 28.1 -0.3**
baz=84
O02C Red Bluff 83.93 50 ⇑P **P 15 30 29.0 +0.5**
baz=84,SNR=6.8
HOPS Hopland 83.97 52 ⇑P **P 15 30 28.9 +0.2**
baz=84
WDC Whiskeytown Da 84.03 50 *eP* **P 15 30 28.9 -0.1**
WDC pmax pmax
comp=Z,33nm,1.6s,mb4.8
WDC Whiskeytown Da 84.03 50 *eP* **P 15 30 28.9 -0.1**
comp=Z,33nm,1.6s,mb4.8
WDC Whiskeytown Da 84.03 50 P **P 15 30 29.2 +0.2**
baz=84,SNR=6.6
GASB Alder Springs 84.10 51 ⇓P **P 15 30 29.9 +0.6**
baz=84
H05A Madras 84.10 46 ⇑P **P 15 30 29.0 -0.4**
baz=84
L04A Klamath Falls 84.17 48 ⇓P **P 15 30 29.8 +0.1**
baz=84,SNR=5.1
I05A Bend 84.18 46 ⇑P **P 15 30 29.7 0.0**
baz=84
K04A Chilquin 84.19 48 ⇑P **P 15 30 29.8 0.0**
baz=84
WTV Waterville 84.28 42 P **P 15 30 29.5 -0.8**
M04C Macdoel 84.29 49 ⇑P **P 15 30 30.4 +0.1**
baz=84,SNR=10
MNRC McLaughlin Nat 84.47 52 ⇓P **P 15 30 31.9 +0.6**
baz=84,SNR=5.6
O03C Acorn Hollow, 84.54 50 ⇑P **P 15 30 31.3 -0.3**
baz=84
CVS Carmenet Viney 84.58 52 ⇑P **P 15 30 31.5 -0.2**
baz=84
HATC Hat Creek Radi 84.78 49 ⇑P **P 15 30 32.8 +0.1**
baz=85,SNR=6.3
Q03C Winters 84.86 52 ⇓P **P 15 30 33.0 -0.1**
baz=85
HAWA Hanford 84.86 44 *eP* **P 15 30 32.3 -0.9**
comp=Z,0.8nm,1.1s
LBCM Butte Creek Ri 84.86 49 P **P 15 30 33.5 +0.3**
M05C Lookout 84.89 49 ⇓P **P 15 30 33.3 -0.1**
baz=85,SNR=7.7
L05A Lakeview 84.97 48 ⇑P **P 15 30 34.0 +0.3**
baz=85
ORV Oroville 85.04 51 P **P 15 30 33.7 -0.4**
baz=85,SNR=8.7
OHCM Honcut 85.10 51 *eP* **P 15 30 32.5 -1.8**
BDM Black Diamond 85.12 52 ⇑P **P 15 30 34.3 -0.2**
baz=85
O04C Chester 85.17 50 ⇑P **P 15 30 34.8 +0.1**
baz=85,SNR=10
J06A Christmas Vall 85.18 47 ⇓P **P 15 30 34.3 -0.4**
baz=85,SNR=9.6
K06A Val Falls 85.21 47 ⇓P **P 15 30 34.8 -0.1**
baz=85,SNR=9.4
WENL Wente Brothers 85.28 53 ⇑P **P 15 30 35.5 +0.3**
baz=85
Q04C Lincoln 85.29 51 ⇑P **P 15 30 35.4 0.0**
baz=85
ELFS Eagle Lake Fie 85.37 50 ⇑P **P 15 30 36.0 +0.3**
baz=85,SNR=5.6
O05C Quincy 85.38 50 ⇑P **P 15 30 35.4 -0.4**
baz=85,SNR=5.9
M06C Likely Place G 85.42 49 ⇑P **P 15 30 36.1 +0.2**
baz=85,SNR=6.1
S04C Ingram Canyon, 85.64 53 ⇓P **P 15 30 37.2 +0.2**
baz=86,SNR=6.5
HAST UC Hastings Re 85.72 54 ⇓P **P 15 30 37.7 +0.3**
baz=86,SNR=6.4
J07A Hines 85.74 47 ⇓P **P 15 30 37.6 0.0**
baz=86,SNR=6.3
P05C Yuba Gap, Truc 85.77 51 ⇓P **P 15 30 37.7 0.0**
baz=86,SNR=5.4
PACP Pacheco Peak 85.78 53 ⇑P **P 15 30 38.0 +0.2**
baz=86
LAVA Lava Cap Winer 85.80 51 ⇓P **P 15 30 37.6 -0.2**
baz=86,SNR=12
NEW Newport 85.98 41 *eP* **P 15 30 38.0 -0.7**
NEW pmax pmax
comp=Z,25nm,1.0s
NEW Newport 85.98 41 *eP* **P 15 30 38.0 -0.8**
comp=Z,25nm,1.0s,mb4.9
V03C Hunter Liggett 86.05 54 ⇓P **P 15 30 39.7 +0.6**
baz=86
L07A Adell 86.05 48 ⇓P **P 15 30 39.2 +0.1**
baz=86,SNR=7.2
O06A Flanigan 86.15 50 ⇑P **P 15 30 39.5 -0.1**
baz=86,SNR=6.4
P06A Stead Airport, 86.21 50 ⇑P **P 15 30 40.0 +0.1**
baz=86
CMB Columbia Colle 86.24 52 *eP* **P 15 30 39.8 -0.2**
CMB pmax pmax
comp=Z,15nm,1.1s,mb4.6
CMB Columbia Colle 86.24 52 *eP* **P 15 30 39.8 -0.1**
comp=Z,15nm,1.1s,mb4.6
CMB Columbia Colle 86.24 52 ⇑P **P 15 30 39.9 0.0**
baz=86,SNR=11
R05C Kirkwood Meado 86.31 51 ⇑P **P 15 30 40.5 +0.2**
baz=86
U04C Hernandez Rese 86.33 54 ⇑P **P 15 30 41.2 +0.7**
baz=86,SNR=6.8
M07A Soldier Meadow 86.33 48 ⇓P **P 15 30 40.5 +0.1**
baz=86,SNR=8.9
WCN Washoe City 86.41 51 ⇑P **P 15 30 41.1 +0.3**
baz=86,SNR=5.5
V04C Ramage Ranch, 86.43 54 ⇓P **P 15 30 41.5 +0.6**
baz=86
WVOR Wild Horse Val 86.45 47 *eP* **P 15 30 40.8 -0.3**
WVOR pmax pmax
comp=Z,27nm,1.4s,mb4.8
WVOR Wild Horse Val 86.45 47 *eP* **P 15 30 40.8 -0.3**
comp=Z,27nm,1.4s,mb4.8
KEV Kevo 86.55 342 *ep* **P 15 30 38.0 -3.5**
comp=Z,3.0nm,0.6s,mb4.3
KEV Kevo 86.55 342 *eP* **P 15 30 38.0 -3.5**
KEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
PAHR Pah Rah Range 86.59 50 *eP* **P 15 30 41.6 -0.2**
comp=Z,22nm,1.2s,mb4.9
PKD Parkfld 86.61 54 ⇓P **P 15 30 42.1 +0.3**
baz=86,SNR=6.3
S06C San Francisco 86.69 52 ⇑P **P 15 30 41.9 -0.3**
baz=87
BMO Blue Mountains 86.76 45 *eP* **P 15 30 41.9 -0.6**
BMO pmax pmax
comp=Z,28nm,1.0s,mb5.0
BMO Blue Mountains 86.76 45 *eP* **P 15 30 41.9 -0.6**
comp=Z,28nm,1.0s,mb5.0
R06C Coleville 86.83 51 ⇑P **P 15 30 43.3 +0.4**
baz=87
U05C Westside ANR, 86.85 54 ⇑P **P 15 30 43.6 +0.6**
baz=87
O07A Toulon 86.85 50 ⇑P **P 15 30 42.9 0.0**
baz=87,SNR=13
EDM Edmonton 86.86 36 *eP* **P 15 30 41.3 -1.7**
M08A Happy Creek Ra 86.89 48 ⇓P **P 15 30 43.4 +0.3**
baz=87,SNR=8.9
PTRM Twissleman Ran 86.94 54 P **P 15 30 42.9 -0.6**
P07A Fallon 87.00 50 ⇓P **P 15 30 44.2 +0.5**
baz=87
T06C Millerton Lake 87.01 53 ⇑P **P 15 30 43.6 -0.1**
baz=87,SNR=7.8
ARCES ARCESS Array B 87.12 342 P **P 15 30 43.4 -0.9**
comp=Z,1.6nm,0.5s,mb4.1,baz=72,slow=7.9,SNR=19
KCC Kaiser Creek 87.23 52 ⇓P **P 15 30 44.3 -0.5**
baz=87,SNR=5.4
N08A GE Springer Mi 87.25 49 ⇑P **P 15 30 45.0 +0.1**
baz=87
R07C Lee Vining 87.25 52 ⇓P **P 15 30 45.4 +0.5**
baz=87,SNR=13
L09A Wilkinson Ranc 87.25 48 ⇑P **P 15 30 45.1 +0.2**
baz=87
O08A Rochester Mine 87.35 49 ⇓P **P 15 30 45.7 +0.3**
baz=87
MLAC Mammoth Lakes 87.53 52 ⇑P **P 15 30 46.7 +0.5**
baz=87
P08A Dixie Valley 87.57 50 ⇑P **P 15 30 46.9 +0.4**
baz=88
M09A Marrel Ranch, 87.57 48 ⇑P **P 15 30 46.5 +0.1**
baz=88,SNR=7.3
BSMT Bassoo Peak 87.60 41 P **P 15 30 46.9 +0.3**
SBC Santa Barbara 87.64 55 ⇑P **P 15 30 47.4 +0.6**
baz=88
N09A Rock Creek Ran 87.67 49 ⇓P **P 15 30 47.3 +0.3**
baz=88
NVAR Mina Array Bea 87.73 51 P **P 15 30 47.7 +0.5**
comp=Z,17nm,0.8s,mb4.9,baz=270,slow=3.8,SNR=108
NVAR PP PP 15 34 11.4 -3.1
comp=Z,1.0nm,0.9s,baz=288,slow=7.4,SNR=4.2
NVAR Mina Array Bea 87.73 51 P **P 15 30 47.7 +0.5**
NVAR PP PP 15 34 11.4 -3.1
WALA Waterton Lakes 87.79 40 *eP* **P 15 30 47.3 -0.2**
comp=Z,16nm,1.3s,mb4.7
MTUM Tungsten Hills 87.81 52 *eP* **P 15 30 47.8 +0.2**
MNV Mina 87.84 51 *eP* **P 15 30 47.8 +0.1**
MNV pmax pmax
comp=Z,29nm,1.1s,mb5.0
MNV Mina 87.84 51 *eP* **P 15 30 47.8 +0.1**
comp=Z,30nm,1.1s,mb5.0
R08A Mina 87.89 51 ⇑P **P 15 30 48.4 +0.4**
baz=88,SNR=9.9
Q08A Gabbs 87.90 51 P **P 15 30 48.3 +0.3**
baz=88,SNR=10
BMN Battle Mountai 88.00 49 *eP* **P 15 30 48.4 -0.1**
BMN pmax pmax
comp=Z,24nm,1.2s,mb4.9
BMN Battle Mountai 88.00 49 *eP* **P 15 30 48.4 -0.1**
comp=Z,24nm,1.2s,mb4.9
O09A Fish Creek Ran 88.10 49 ⇓P **P 15 30 49.3 +0.4**
baz=88,SNR=15
TIN Tinemaha 88.14 52 ⇑P **P 15 30 49.6 +0.5**
baz=88
M10A I.L. Ranch, Tu 88.20 48 ⇓P **P 15 30 49.6 +0.2**
baz=88
JOF Joensuu 88.23 335 *ep* **P 15 30 45.9 -3.6**
comp=Z,3.8nm,0.7s,mb4.3
JOF Joensuu 88.23 335 *eP* **P 15 30 45.9 -3.6**
JOF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
P09A Austin 88.30 50 ⇑P **P 15 30 50.1 +0.2**
baz=88
ISA Isabella 88.31 54 ⇑P **P 15 30 49.6 -0.3**
baz=88,SNR=7.5
OSI Osito Adit 88.39 55 ⇓P **P 15 30 50.6 +0.3**
baz=88
CWC Cottonwood Cre 88.42 53 ⇓P **P 15 30 50.4 0.0**
baz=88,SNR=8.6
N10A Dunphy 88.45 49 ⇑P **P 15 30 51.0 +0.4**
baz=88
O10A Cortez Mining, 88.57 49 ⇓P **P 15 30 51.7 +0.5**
baz=88
TPH Tonopah 88.64 51 *eP* **P 15 30 51.6 +0.1**
TPH pmax pmax
comp=Z,30nm,0.9s,mb5.2
TPH Tonopah 88.64 51 *eP* **P 15 30 51.6 +0.1**
comp=Z,30nm,0.9s,mb5.2
S09A Goldfield 88.74 52 ⇓P **P 15 30 52.4 +0.4**
baz=89,SNR=36
M11A Holland Ranch, 88.77 48 ⇓P **P 15 30 52.6 +0.5**
baz=89,SNR=16
P10A Eureka 88.79 50 ⇑P **P 15 30 52.5 +0.3**
baz=89
VRSR Storozhevoye 88.82 323 *eP* **P 15 30 46.6 -5.7**
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
VRSR pmax pmax
comp=N,8.0nm,0.5s
VRSR pmax pmax
comp=E,10.0nm,0.6s
CHMT Chamberlain Mo 88.88 42 *eP* **P 15 30 51.2 -1.4**
FMP Fort Macarthur 88.97 56 ⇑P **P 15 30 53.1 0.0**
baz=89
N11A Elko Archery C 88.98 48 ⇑P **P 15 30 53.5 +0.4**
baz=89,SNR=5.2
HLID Hailey 89.12 45 *eP* **P 15 30 53.7 0.0**
comp=E,24nm,1.0s,mb5.1
O11A Cowboy Ranch, 89.24 49 ⇓P **P 15 30 54.5 +0.2**
baz=89,SNR=10
R10A Warm Springs 89.28 51 ⇓P **P 15 30 55.0 +0.5**
baz=89,SNR=10
P11A Circle Ranch, 89.34 50 ⇓P **P 15 30 54.9 +0.2**
baz=89
ELK Elko 89.37 48 *eP* **P 15 30 55.1 +0.2**
ELK pmax pmax
comp=Z,34nm,1.0s
ELK Elko 89.37 48 *eP* **P 15 30 55.1 +0.2**
comp=Z,34nm,1.0s,mb5.2
M12A Wells 89.40 48 P **P 15 30 55.4 +0.3**
baz=89,SNR=16
N12A Clover Valley, 89.48 48 ⇓P **P 15 30 55.7 +0.3**
baz=89,SNR=14
Q11A Duckwater 89.61 50 ⇑P **P 15 30 56.2 +0.2**
baz=90,SNR=11
TPNV Topopah Spring 89.70 52 *eP* **P 15 30 56.5 +0.1**
TPNV pmax pmax
comp=Z,26nm,0.8s,mb5.2
TPNV Topopah Spring 89.70 52 *eP* **P 15 30 56.5 0.0**
comp=Z,26nm,0.8s,mb5.2
GSC Goldstone 89.72 54 ⇓P **P 15 30 56.8 +0.3**
baz=90,SNR=17
U10A Ash Meadows, A 89.78 53 ⇑P **P 15 30 57.6 +0.7**
baz=90,SNR=20
DLMT Dillon 89.80 43 *eP* **P 15 30 56.4 -0.5**
comp=Z,12nm,1.2s,mb4.7
MCMT McKenzie Canyo 89.80 44 *eP* **P 15 30 57.0 0.0**
HRY Holter Researc 89.86 42 *eP* **P 15 30 57.0 -0.2**
M13A Montello 89.96 47 ⇓P **P 15 30 58.0 +0.3**
baz=90,SNR=9.8
P12A McGill 89.98 49 ⇑P **P 15 30 58.0 +0.3**
baz=90,SNR=7.2
N13A Wendover, West 90.08 48 ⇓P **P 15 30 58.4 +0.2**
baz=90
109C Camp Elliot, M 90.14 56 ⇑P **P 15 30 58.8 +0.3**
baz=90,SNR=6.4
Q12A Willow Creek R 90.17 50 ⇑P **P 15 30 59.0 +0.4**
baz=90,SNR=11
BOZ Bozeman (W) 90.35 43 *eP* **P 15 30 58.6 -0.9**
BOZ pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
BOZ Bozeman (W) 90.35 43 *eP* **P 15 30 58.6 -0.8**
comp=Z,8.9nm,1.2s,mb4.6
TUQ Turquoise Mtn. 90.38 54 ⇑P **P 15 31 00.0 +0.4**
baz=90,SNR=9.5
PFO Pinyon Flat Ob 90.47 55 P **P 15 31 00.0 0.0**
comp=Z,125nm,1.1s,mb5.8,SNR=9.3
PFO Pinyon Flat Ob 90.47 55 *eP* **P 15 30 59.9 -0.1**
PFO pmax pmax
comp=Z,34nm,1.2s,mb5.2
PFO Pinyon Flat Ob 90.47 55 *eP* **P 15 30 59.9 -0.1**
comp=Z,34nm,1.2s,mb5.2
PFO Pinyon Flat Ob 90.47 55 ⇑P **P 15 31 00.2 +0.2**
baz=90,SNR=12
U11A Corn Creek 90.52 52 ⇑P **P 15 31 01.1 +0.9**
baz=90
V11A Goodsprings 90.64 53 ⇑P **P 15 31 01.3 +0.5**
baz=90,SNR=16
KAF Kangasniemi 90.66 335 *ep* **P 15 30 57.9 -3.0**
comp=Z,1.9nm,0.5s,mb4.4,baz=55,slow=4.4
KAF Kangasniemi 90.66 335 *eP* **P 15 30 57.9 -3.0**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
QLMT Earthquake Lak 90.75 44 *eP* **P 15 31 01.8 +0.5**
HVU Hansel Valley 90.82 47 *eP* **P 15 31 01.5 -0.2**
HVU pmax pmax
comp=Z,22nm,1.1s,mb5.1
HVU Hansel Valley 90.82 47 *eP* **P 15 31 01.5 -0.1**
comp=Z,22nm,1.1s,mb5.1
BGU Big Grassy Mou 90.91 48 *eP* **P 15 31 01.9 -0.2**
FINES FINESS Array B 91.09 335 P **P 15 31 00.2 -2.7**
comp=Z,9.9nm,0.5s,mb4.4,baz=72,slow=4.6,SNR=32
FINES FINESS Array B 91.09 335 *i P* **P 15 31 00.7 -2.2**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 91.09 335 P **P 15 31 00.2 -2.7**
YMR Madison River 91.12 44 *eP* **P 15 31 04.4 +1.3**
comp=Z,16nm,0.8s,mb5.1
V12A Nelson 91.13 53 ⇓P **P 15 31 03.7 +0.6**
baz=91,SNR=19
U12A Valley of Fire 91.16 52 ⇓P **P 15 31 03.8 +0.5**
baz=91,SNR=6.9
VNDA Vanda 91.22 176 P **P 15 31 03.0 -0.5**
comp=Z,1.0nm,0.7s,mb3.9,baz=345,slow=4.1,SNR=5.4
W12A Cal Nev Ari 91.24 53 ⇑P **P 15 31 04.0 +0.4**
baz=91,SNR=5.1
YFT Old Faithful 91.28 44 *eP* **P 15 31 05.8 +2.0**
DUG Dugway 91.30 48 *eP* **P 15 31 03.8 -0.1**
DUG pmax pmax
comp=Z,24nm,1.3s,mb5.1
DUG Dugway 91.30 48 *eP* **P 15 31 03.8 0.0**
comp=Z,24nm,1.3s,mb5.1
RRI2 Red Ridge 91.33 45 *eP* **P 15 31 04.1 +0.1**
comp=Z,26nm,1.0s,mb5.2
IMW Indian Meadow 91.40 44 *eP* **P 15 31 04.8 +0.5**
comp=Z,19nm,0.8s,mb5.2
FLWY Flagg Ranch 91.50 44 *eP* **P 15 31 05.5 +0.7**
comp=Z,45nm,1.0s,mb5.5
TPAW Teton Pass 91.53 45 *eP* **P 15 31 05.0 +0.1**
comp=Z,6.0nm,0.7s,mb4.7
LKWY Lake 91.53 44 *eP* **P 15 31 05.1 +0.1**
LKWY pmax pmax
comp=Z,17nm,1.0s,mb5.0
LKWY Lake 91.53 44 *eP* **P 15 31 05.1 +0.1**
comp=Z,17nm,1.0s,mb5.0
MOOW Moose Ponds 91.58 44 *eP* **P 15 31 05.2 +0.1**
comp=Z,14nm,1.0s,mb4.9
ARUT Antelope Range 91.59 51 *eP* **P 15 31 05.9 +0.7**
AHID Auburn Hatcher 91.67 45 *eP* **P 15 31 05.9 +0.3**
comp=Z,20nm,1.0s,mb5.1
HWUT Hardware Ranch 91.73 47 *eP* **P 15 31 05.5 -0.4**
comp=Z,20nm,1.0s,mb5.1
CTU Camp Tracy 91.90 48 *eP* **P 15 31 06.2 -0.5**
comp=Z,18nm,1.2s,mb5.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NLU	**North Lily Min**	**91.91**	**48**	*e*P	**P**	**15 31 05.5**	**-1.2**
GLA	**Glamis**	**91.93**	**56**	⇑P	**P**	**15 31 07.4**	**+0.6**
	baz=92,SNR=14						
Y12C	**Blythe**	**91.97**	**55**	⇑P	**P**	**15 31 07.4**	**+0.4**
	baz=92,SNR=8.9						
TCUT	**Toone Canyon**	**92.01**	**47**	*e*P	**P**	**15 31 07.0**	**-0.2**
W13A	**Hualapai Mount**	**92.06**	**53**	⇓P	**P**	**15 31 07.9**	**+0.5**
	baz=92,SNR=7.4						
X13A	**Yucca**	**92.27**	**54**	⇑P	**P**	**15 31 08.7**	**+0.4**
	baz=92,SNR=13						
MSU	**Marysvale**	**92.30**	**50**	*e*P	**P**	**15 31 08.9**	**+0.4**
W14A	**Seligman**	**92.66**	**53**	⇓P	**P**	**15 31 10.9**	**+0.8**
	baz=92,SNR=7.9						
PDAR	**Pinedale Array**	**92.74**	**45**	P	**P**	**15 31 09.8**	**-0.7**
	comp=Z,2.6nm,0.7s,mb4.5,baz=258,slow=2.7,SNR=30						
TMUT	**Trail Mountain**	**92.76**	**49**	*e*P	**P**	**15 31 11.0**	**+0.4**
X14A	**Yava**	**93.04**	**54**	⇓P	**P**	**15 31 12.9**	**+0.9**
	baz=93,SNR=12						
Y14A	**Wickenburg**	**93.12**	**54**	⇓P	**P**	**15 31 12.6**	**+0.4**
	baz=93,SNR=16						
W15A	**Williams**	**93.30**	**53**	⇓P	**P**	**15 31 14.4**	**+1.3**
	baz=93						
SRU	**San Rafael**	**93.32**	**49**	*e*P	**P**	**15 31 13.0**	**-0.2**
SRU				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
SRU	**San Rafael**	**93.32**	**49**	*e*P	**P**	**15 31 13.0**	**-0.2**
	comp=Z,9.9nm,1.0s,mb4.9						
Z14A	**Wintersburg**	**93.34**	**55**	⇓P	**P**	**15 31 14.0**	**+0.7**
	baz=93						
X15A	**Humboldt**	**93.54**	**54**	⇑P	**P**	**15 31 15.4**	**+1.1**
	baz=93,SNR=13						
WUAZ	**Wupatki**	**93.89**	**52**	*e*P	**P**	**15 31 16.8**	**+1.0**
	comp=Z,17nm,1.0s,mb5.1						
115A	**Sonoran Desert**	**94.12**	**55**	⇑P	**P**	**15 31 17.7**	**+0.8**
	baz=94						
116A	**Eloy**	**94.59**	**55**	⇓P	**P**	**15 31 19.4**	**+0.4**
	baz=94						
PV01	**Paradox Valley**	**95.10**	**49**	*e*P	**P**	**15 31 20.7**	**-0.6**
TUC	**Tucson**	**95.40**	**55**	*e*P	**P**	**15 31 23.3**	**+0.6**
TUC				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.8						
TUC	**Tucson**	**95.40**	**55**	*e*P	**P**	**15 31 23.3**	**+0.6**
	comp=Z,7.8nm,1.2s,mb4.8						
MVCO	**Mesa Verde**	**95.48**	**50**	*e*P	**P**	**15 31 23.3**	**+0.2**
SMCO	**Snowmass**	**95.87**	**48**	*e*P	**P**	**15 31 24.9**	**0.0**
	comp=Z,6.3nm,0.9s,mb5.0						
BRTR	**Keskin Array B**	**96.68**	**313**	P	**P**	**15 31 27.1**	**-1.5**
	comp=Z,0.7nm,0.5s,mb4.2,baz=58,slow=3.9,SNR=4.6						
BRTR	**Keskin Array B**	**96.68**	**313**	⇑*e*P	**P**	**15 31 27.1**	**-1.5**
NOA	**NORSAR Array B**	**97.04**	**339**	P	**P**	**15 31 28.2**	**-2.0**
	comp=Z,0.4nm,0.5s,mb4.0,baz=46,slow=4.8,SNR=2.6						
NOA				LR	LR	16 13 47.2	
	comp=Z,21nm,20.4s,baz=230,slow=34						
ANMO	**Albuquerque**	**97.85**	**51**	*e*P	**P**	**15 31 34.1**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ANMO	**Albuquerque**	**97.85**	**51**	*e*P	**P**	**15 31 34.1**	**+0.3**
	comp=Z,1.8nm,0.8s,mb4.5						
WMOK	**Wichita Mounta**	**103.68**	**49**	*e*P	Pdif	15 32 00.1	+0.3
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WMOK	**Wichita Mounta**	**103.68**	**49**	*e*Pdif	Pdif	15 32 00.1	+0.4
	comp=Z,1.9nm,0.8s						
TEIG	**Tepich**	**118.70**	**58**	PKPdf	PKPdf	15 36 45.6	-0.1
ESDC	**Sonseca Array**	**119.47**	**332**	PKP	PKPdf	15 36 46.6	-0.5
	comp=Z,0.2nm,0.4s,baz=23,slow=1.7,SNR=6.1						
TORD	**Torodi Ar. Bea**	**134.37**	**304**	PKP	PKPdf	15 37 16.1	+0.5
	comp=Z,2.0nm,0.6s,baz=34,slow=2.8,SNR=15						
TORD				SKPbc	SKPbc	15 40 30.8	-1.8
	comp=Z,1.6nm,0.8s,baz=44,slow=3.3,SNR=6.7						
SDV	**Santo Domingo**	**139.12**	**59**	*e*PKPdf	PKPdf	15 37 25.4	+1.1
PLCA	**Paso Flores**	**139.24**	**139**	PKP	PKPdf	15 37 25.7	+1.1
	comp=Z,4.2nm,1.1s,baz=233,slow=8.5,SNR=3.5						
PLCA				SKPbc	SKPbc	15 40 47.8	+0.7
	comp=Z,4.4nm,0.7s,baz=221,slow=6.0,SNR=10.0						
PLCA	**Paso Flores**	**139.24**	**139**	PKP	PKPdf	15 37 25.7	+1.1
PLCA				SKPbc	SKPbc	15 40 47.8	+0.7
DBIC	**Dimbokro**	**143.30**	**301**	PKhKP		15 37 29.2	
	comp=Z,3.7nm,0.5s,baz=131,slow=16,SNR=12						
LPAZ	**La Paz**	**148.76**	**100**	PKPbc	PKPbc	15 37 47.0	+1.9
	comp=Z,4.1nm,0.7s,baz=292,slow=2.9,SNR=20						
SAML	**Samuel**	**152.94**	**84**	*e*PKPbc	PKPbc	15 37 55.3	+0.4
SAML				*e*		15 38 06.2	

ISCJB ***16*** *15:19:46.0±0.9, 4337N±004×064W±006, h2km±6km, Error ellipse: s-maj=8.6km s-min=4.8km az=62.9*
LDG ***16*** *15:19:47.9±0.2, 4328N×069W, h2km, Md1.6/2, Ml1.8/2, Error ellipse: s-maj=4.5km s-min=2.6km az=122.0*
STR ***16*** *15:19:51.1±0.0, 4314N×085W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 16 15:19:46.8±0.8**, 4331N**±004×**069W**±006**, h10**km±6km**, n8, σ0§91**/18**, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.22**	**181**	Pg	**Pg**	**15 19 53.7**	**+2.3**
ATE				Sg	**Sg**	**15 19 55.6**	**+1.1**
LARF	**Larrau**	**0.34**	**219**	Pg	**Pg**	**15 19 54.1**	**+0.5**
LARF				Sg	**Sg**	**15 19 56.3**	**-2.0**
ETSF	**Etsaut**	**0.42**	**166**	*e*Pg	**Pg**	**15 19 55.3**	**+0.2**
ETSF				*e*Sg	**Sg**	**15 19 58.4**	**-2.2**
	5.2nm,0.3s						
EPF	**Esparros**	**0.81**	**110**	*e*Pg	**Pg**	**15 20 02.3**	**0.0**
EPF				*e*Sg	**Sg**	**15 20 12.8**	**0.0**
EPF				*e*Sn	**Sn**	**15 20 16.3**	**0.0**
MTLF	**Montolieu**	**2.12**	**88**	*e*Pg	**Pg**	**15 20 28.1**	**+0.6**
MTLF				*e*Sg	**Sg**	**15 20 55.1**	**0.0**
	5.4nm,1.1s						
RJF	**Les Rejaudoux**	**2.55**	**38**	*e*Pn	**Pn**	**15 20 28.8**	**+0.6**
RJF				*e*Sn	**Sn**	**15 20 59.5**	**+0.1**
RJF				*e*Sg	**Sg**	**15 21 08.5**	**-0.2**
	2.2nm,0.5s						
CAF	**Calviac**	**2.56**	**50**	*e*Pn	**Pn**	**15 20 28.8**	**+0.4**
CAF	**Calviac**	**2.56**	**50**	*e*Pg	**Pg**	**15 20 35.4**	**-0.5**
CAF				*e*Sn	**Sn**	**15 20 59.2**	**-0.4**
CAF				*e*Sg	**Sg**	**15 21 08.5**	**-0.6**

JMA ***16*** *15:50:48.7±0.4, 3225N×14199E, h62km, M3.5*
IDC ***16*** *15:50:48.3±1.6, 3238N×14189E, h0km, mb3.7/4, mb1 3.7/6, mb1mx3.6/19, mbtmp3.6/6, ML3.3/2, Error ellipse: s-maj=45.0km s-min=17.8km az=63.0*
ISCJB ***16*** *15:50:50.2±0.9, 3237N±005×14198E±008, h33km, mb3.7/4, Error ellipse: s-maj=10.5km s-min=6.4km az=141.9*
ISC 16 15:50:52.3±0.8**, 3237N**±005×**14195E**±008**, h35**km**, n18, σ1§28**/28**, mb3.7**/4**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.95**	**293**	P	**Pn**	**15 51 21.4**	**-1.5**
JHJ2				*e*S	**Sn**	**15 51 45.6**	**-0.5**
JHJ	**Hachijo jima 2**	**1.98**	**293**	Pn	**Pn**	**15 51 21.5**	**-1.7**
	27nm,0.3s,baz=220,slow=19,SNR=10						
JHJ				Sn	**Sn**	**15 51 46.4**	**-0.4**
	63nm,0.3s,baz=60,slow=20,SNR=6.0						
BSO1	**Boso 1**	**2.42**	**341**	P	**Pn**	**15 51 28.3**	**-1.1**
BSO1				*e*S	**Sn**	**15 51 58.1**	**+0.3**
BSO2	**Boso 2**	**2.58**	**338**	*e*S	**Sn**	**15 52 03.6**	**+1.9**
BSO3	**Boso 3**	**2.71**	**334**	P	**Pn**	**15 51 33.3**	**-0.1**
BSO3				*e*S	**Sn**	**15 52 06.4**	**+1.5**
BSO4	**Boso 4**	**2.94**	**333**	*e*S	**Sn**	**15 52 12.1**	**+1.5**
JOD2	**Odawara 2**	**3.75**	**321**	P	**Pn**	**15 51 45.6**	**-2.0**
JOD2				*e*S	**Sn**	**15 52 31.2**	**+0.8**
JYT	**Yasato**	**4.12**	**340**	P	**Pn**	**15 51 52.9**	**+0.2**
JYT				*e*S	**Sn**	**15 52 39.8**	**+0.2**
JHU	**Hanno**	**4.12**	**328**	P	**Pn**	**15 51 53.6**	**+0.8**
JYN	**Shimob**	**4.22**	**319**	P	**Pn**	**15 51 58.4**	**+4.3**
JHO	**Hitachi**	**4.38**	**345**	P	**Pn**	**15 51 54.8**	**-1.6**
JHO				*e*S	**Sn**	**15 52 43.7**	**-2.5**
MJAR	**Matsushiro Arr**	**5.19**	**324**	Pn	**Pn**	**15 52 06.0**	**-1.4**
	0.9nm,0.3s,baz=142,slow=12,SNR=11						
MJAR				Sn	**Sn**	**15 53 07.5**	**+1.5**
	0.5nm,0.3s,baz=127,slow=24,SNR=3.1						
MAT	**Matsushiro**	**5.19**	**324**	P	**Pn**	**15 52 08.2**	**+0.8**
MAT				*e*S	**Sn**	**15 53 05.3**	**-0.7**
ASAJ	**Asahikawa**	**11.74**	**2**	Pn	**Pn**	**15 53 35.4**	**-1.9**
	0.3nm,0.3s,baz=257,slow=16,SNR=4.6						
ASAJ				Sn	**Sn**	**15 55 37.0**	**-10**
	0.2nm,0.3s,baz=14,slow=17,SNR=3.5						
SONM	**Songino Array**	**30.96**	**310**	P	**P**	**15 57 07.9**	**+1.9**
	1.0nm,0.9s,mb3.6,baz=111,slow=9.4,SNR=7.4						
MKAR	**Makanchi Array**	**47.09**	**306**	P	**P**	**15 59 21.3**	**+0.5**
	0.6nm,0.6s,mb3.7,baz=85,slow=9.7,SNR=10						
WRA	**Warramunga Arr**	**52.52**	**189**	P	**P**	**16 00 03.0**	**+1.1**
	1.4nm,0.7s,mb4.0,baz=6.2,slow=7.6,SNR=16						
ASAR	**Alice Springs**	**56.24**	**189**	P	**P**	**16 00 30.6**	**+1.5**
	0.3nm,0.8s,mb3.4,baz=5.0,slow=7.1,SNR=5.5						

ISCJB ***16*** *15:53:01.4±0.4, 4437N±003×966E±002, h10km, Error ellipse: s-maj=4.6km s-min=2.4km az=20.8*
ROM ***16*** *15:53:03.3±0.1, 4451N×986E, h10km, Md2.3/8, Ml1.7/4, Error ellipse: s-maj=4.6km s-min=1.6km az=30.0*
LDG ***16*** *15:53:09.2, 4418N×988E, h30km*
ISC 16 15:53:01.9±0.4**, 4435N**±003×**966E**±002**, h10**km**, n17, σ1§13**/31**, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	**0.44**	**340**	Pg	**Pg**	**15 53 11.1**	**+0.5**
BOB				Sg	**Sg**	**15 53 17.5**	**+1.0**
ERBM	**Eremo**	**0.54**	**83**	Pg	**Pg**	**15 53 12.0**	**-0.5**
ERBM				Sg	**Sg**	**15 53 17.8**	**-1.8**
	177nm,0.2s						
VLC	**Villacollemand**	**0.56**	**110**	Pg	**Pg**	**15 53 13.3**	**+0.6**
VLC				Sg	**Sg**	**15 53 20.3**	**+0.3**
	21nm,0.4s						
GSCL	**Gusciola**	**0.66**	**90**	Pg	**Pg**	**15 53 14.5**	**-0.3**
GSCL				Sg	**Sg**	**15 53 22.9**	**-0.6**
	12nm,0.5s						
BDI	**Bagni Di Lucca**	**0.73**	**113**	Pg	**Pg**	**15 53 16.9**	**+0.8**
BDI				Sg	**Sg**	**15 53 25.7**	**+0.1**
	25nm,0.4s						
PII	**Pisa**	**0.89**	**135**	Pg	**Pg**	**15 53 21.0**	**+2.0**
	18nm,0.2s						
PZZT	**Monte Pizzetto**	**0.89**	**104**	Pg	**Pg**	**15 53 18.7**	**-0.4**
	18nm,0.5s						
FIN	**Finale Ligure**	**1.05**	**263**	Pg	**Pg**	**15 53 26.1**	**+3.9**
	5.0nm,0.2s						
SBF	**Sospel**	**1.68**	**254**	*e*Pg	**Pg**	**15 53 36.8**	**+2.7**
SBF				*e*Sg	**Sg**	**15 53 56.6**	**+0.7**
	7.7nm,0.3s						
PGF	**Pioggiola**	**1.87**	**195**	*e*Pg	**Pb**	**15 53 36.6**	**+0.5**
PGF				*e*Sg	**Sn**	**15 53 56.9**	**-0.7**
	6.9nm,0.5s						
MBDF	**Montbardon**	**2.10**	**281**	*e*Pg	**Pg**	**15 53 44.4**	**+2.2**
MBDF				*e*Sg	**Sg**	**15 54 10.9**	**+1.4**
	5.9nm,0.6s						
FRF	**La Foret Royal**	**2.32**	**251**	*e*Pg	**Pb**	**15 53 43.7**	**-0.1**
FRF				*e*Sg	**Sb**	**15 54 12.3**	**-0.2**
	4.6nm,0.4s						
LPG	**La Plagne**	**2.36**	**300**	*e*Pg	**Pg**	**15 53 48.2**	**+0.9**
LPG				*e*Sg	**Sg**	**15 54 17.7**	**-0.2**
	2.3nm,0.4s						
LMR	**La Mourre**	**2.50**	**247**	*e*Pg	**Pb**	**15 53 45.8**	**-1.1**
LMR				*e*Sg	**Sb**	**15 54 15.8**	**-1.9**
	3.0nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.76**	**283**	*e*Pg	**Pb**	**15 53 51.8**	**+0.5**
ORIF				*e*Sg	**Sb**	**15 54 23.9**	**-1.3**
	2.8nm,0.4s						
SMRF	**Simiane la Rot**	**2.96**	**264**	*e*Pg	**Pb**	**15 53 54.5**	**-0.4**
SMRF				*e*Sg	**Sb**	**15 54 29.3**	**-1.8**
	2.9nm,0.4s						
CABF	**La Chapelle**	**3.38**	**313**	*e*Pg	**Pb**	**15 54 01.6**	**-0.3**
CABF				*e*Sg	**Sb**	**15 54 40.6**	**-2.5**
	5.0nm,0.4s						

IDC ***16*** *16:19:08.4±4.3, 547S×15072E, h33km±33km, mb4.1/11, mb1 4.4/13, mb1mx4.3/15, mbtmp4.4/13, ML3.6/2, MS4.2/15, Ms1 4.2/15, ms1mx4.0/23, Error ellipse: s-maj=18.7km s-min=13.2km az=116.0*
ISCJB ***16*** *16:19:10.3±2.3, 554S±006×15056E±009, h63km±20km, mb4.6/24, Error ellipse: s-maj=15.7km s-min=10.6km az=170.1*
BJI ***16*** *16:19:11.5, 531S×15104E, h80km, mB5.1, mb4.6, Ms4.6, Msz4.3*
HRVD ***16*** *16:19:13.0±0.3, 548S×15084E, h12km, MW4.8/60, Centroid moment Tensor Solution. LP body waves: s22,c29; Mantle waves: s60,c97; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.44±.10; $M_{\theta\theta}$2.29±.08; $M_{\phi\phi}$-0.84±.09; $M_{r\theta}$0.48±.25; $M_{\theta\phi}$1.44±.08; $M_{\phi r}$0.10±.32; Best double couple: $M_0$2.22200×10^{16} NP1:ϕ_s39.00000°, δ47.00000°, λ-134.00000°. NP2: ϕ_s274.00000°, δ58.00000°, λ-54.00000°. Principal axes: T 2.9050, Plg6.0000°, Azm339.0000°; N -1.3640, Plg30.0000°, Azm73.0000°; P -1.5390, Plg59.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***16*** *16:19:13.0±1.8, 555S×15060E, h76km±16km, mb4.8/14 Error ellipse: s-maj=12.9km s-min=10.0km az=78.0*
ISC 16 16:19:12.6±2.0**, 559S**±007×**15060E**±009**, h68**km±17km**, n52, σ0§93**/47**, mb4.5**/24**, 1C, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.10**	**222**	Pn	**Pn**	**16 20 26.1**	**-0.3**
	22nm,0.3s,baz=47,slow=7.0,SNR=71						
PMG				Sn	**Sn**	**16 21 24.5**	**+0.5**
	5.4nm,0.3s,baz=18,slow=8.4,SNR=3.3						
PMG				LR	LR	16 22 36.2	
	comp=Z,1μm,20.3s,baz=44,slow=39						
PMG	**Port Moresby**	**5.10**	**222**	*e*Pn	**Pn**	**16 20 26.7**	**+0.3**
PMG				*e*Sn	**Sn**	**16 21 22.6**	**-1.3**
PMG				LR	LR	16 22 36.2	
HNR	**Honiara**	**10.02**	**113**	LR	LR	16 24 52.5	
	comp=Z,2μm,18.6s,baz=355,slow=34						
CTA	**Charters Tower**	**15.02**	**196**	*e*P	**Pn**	**16 22 42.7**	**+1.9**
	22nm,1.2s						
CTA	**Charters Tower**	**15.02**	**196**	Pn	**Pn**	**16 22 42.1**	**+1.2**
	0.1nm,0.3s,baz=27,slow=14,SNR=4.0						
CTA				LR	LR	16 27 44.7	
	comp=Z,1μm,21.0s,baz=17,slow=34						
CTAO	**Charters Tower**	**15.02**	**196**	*e*P	**Pn**	**16 22 42.7**	**+1.9**
	73nm,1.4s						
KAKA	**Kakadu**	**19.26**	**247**	*e*P	**Pn**	**16 23 32.3**	**-0.9**
	28nm,1.2s						
GUMO	**Guam**	**19.89**	**343**	LR	LR	16 29 34.9	
	comp=Z,534nm,20.6s,baz=140,slow=32						
WRAB	**Tennant Creek**	**21.28**	**226**	*e*P	**P**	**16 23 53.3**	**-0.1**
	69nm,1.1s,mb4.9						
WB2	**Warramunga Arr**	**21.29**	**226**	*e*P	**P**	**16 23 52.9**	**-0.6**
WRA	**Warramunga Arr**	**21.30**	**226**	P	**P**	**16 23 53.4**	**-0.1**
	32nm,1.1s,mb4.6,baz=52,slow=10,SNR=48						
WRA				S	**S**	**16 27 52.3**	**+6.0**
	2.0nm,1.2s,baz=50,slow=22,SNR=4.5						
DZM	**Mont Dzumac**	**22.43**	**138**	P	**P**	**16 24 05.3**	**-0.4**
	15nm,0.9s,mb4.3,baz=340,slow=13,SNR=6.7						
DZM				LR	LR	16 31 27.6	
	comp=Z,2μm,21.4s,baz=20,slow=33						
AS31	**Alice Springs**	**24.11**	**220**	*e*P	**P**	**16 24 22.5**	**+0.6**
ASAR	**Alice Springs**	**24.11**	**220**	P	**P**	**16 24 22.4**	**+0.5**
	16nm,0.9s,mb4.3,baz=52,slow=8.3,SNR=71						
ASAR				LR	LR	16 33 11.9	
	comp=Z,416nm,20.7s,baz=48,slow=35						
ASPA	**Alice Springs**	**24.11**	**220**	*e*P	**P**	**16 24 22.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**27.36**	**241**	*e*P	**P**	**16 24 51.4**	**+0.1**
	51nm,1.1s,mb5.0						
FITZ	**Fitzroy Crossi**	**27.36**	**241**	P	**P**	**16 24 51.4**	**+0.1**
	17nm,0.8s,mb4.7,baz=88,slow=7.5,SNR=31						
FITZ				LR	LR	16 36 48.6	
	comp=Z,171nm,20.2s,baz=248,slow=38						
FORT	**Forrest**	**32.81**	**218**	*e*P	**P**	**16 25 39.5**	**+0.1**
	38nm,1.0s,mb5.2						
MBWA	**Marble Bar**	**33.68**	**240**	*e*P	**P**	**16 25 46.6**	**-0.4**
	41nm,1.1s,mb5.2						
RAO	**Raoul Island**	**37.93**	**132**	P	**P**	**16 26 23.9**	**+0.5**
	303nm,0.3s,baz=334,slow=14,SNR=4.8						
JOW	**Kunigami**	**38.81**	**327**	LR	LR	16 39 20.8	
	comp=Z,401nm,19.0s,baz=140,slow=31						
KLBR	**Kellerberrin**	**40.18**	**226**	*e*P	**P**	**16 26 41.3**	**-0.8**
	28nm,1.0s,mb5.0						
MJAR	**Matsushiro Arr**	**43.49**	**345**	P	**P**	**16 27 07.0**	**-2.1**
	1.9nm,0.8s,mb3.9,baz=168,slow=9.5,SNR=8.1						
MAT	**Matsushiro**	**43.49**	**345**	P	**P**	**16 27 07.5**	**-1.6**
MAT				*e*S	**S**	**16 33 37.0**	**+4.2**
MAT	**Matsushiro**	**43.49**	**345**	*e*P	**P**	**16 27 08.0**	**-1.1**
	6.0nm,1.0s,mb4.3						
MAT				S	**S**	**16 33 38.0**	**+5.2**
INCN	**Inchon**	**48.33**	**334**	*e*P	**P**	**16 27 48.9**	**+1.7**
	157nm,1.6s,mb5.6						
CN2	**Changchun**	**54.15**	**338**	*e*P	**P**	**16 28 31.4**	**+0.6**
BJI	**Beijing**	**55.37**	**328**	P	**P**	**16 28 41.0**	**+1.4**
BJI				AMB	AMB		
	comp=Z,18nm,1.6s,mb4.8						
BJI				AMB	AMB		
	comp=Z,143nm,3.6s						
BJI				LR	LR		
	comp=N,161nm,17.5s						
BJI				LR	LR		
	comp=E,187nm,18.1s						
BJI				LR	LR		
	comp=Z,258nm,24.1s						
XAN	**Xi'an**	**55.71**	**318**	P	**P**	**16 28 40.3**	**-1.7**
XAN				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.7						
PPT	**Papeete**	**59.58**	**107**	*e*LR	LR	16 46 39.5	
	comp=Z,128nm,24.0s						
PPT	**Papeete**	**59.58**	**107**	LR	LR	16 47 40.0	
	comp=Z,129nm,20.5s,baz=235,slow=29						
TBI	**Tubuai**	**60.24**	**114**	*e*LR	LR	16 46 59.4	
	comp=Z,282nm,34.5s						
LZH	**Lanzhou**	**60.29**	**317**	*e*P	**P**	**16 29 17.5**	**+3.5**
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,163nm,5.1s						
GTA	**Gaotai**	**64.77**	**318**	*e*P	**P**	**16 29 44.0**	**+0.1**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb4.0						
ULN	**Ulaanbaatar**	**65.53**	**329**	*e*P	**P**	**16 29 49.3**	**+0.5**
SONM	**Songino Array**	**65.84**	**329**	P	**P**	**16 29 51.7**	**+0.8**
	comp=Z,2.1nm,1.0s,mb3.9,baz=129,slow=6.1,SNR=11						
SONM				LR	LR	16 57 45.9	
	comp=Z,262nm,21.0s,baz=127,slow=35						
VNDA	**Vanda**	**72.13**	**177**	P	**P**	**16 30 29.4**	**-0.4**
	comp=Z,1.9nm,0.9s,mb3.9,baz=299,slow=4.9,SNR=7.2						
VNDA				LR	LR	16 58 56.2	
	comp=Z,127nm,18.2s,baz=326,slow=33						
VNDA	**Vanda**	**72.13**	**177**	*e*P	**P**	**16 30 29.2**	**-0.6**
	comp=Z,6.8nm,1.4s,mb4.3						
VNDA				LR	LR	16 58 56.2	
SBA	**Scott Base**	**72.72**	**176**	P	**P**	**16 30 33.8**	**+0.5**
	comp=Z,66nm,2.4s,mb5.0						
WMQ	**Urumqi**	**74.85**	**318**	P	**P**	**16 30 46.5**	**+0.7**
MKAR	**Makanchi Array**	**79.49**	**320**	P	**P**	**16 31 11.9**	**+0.2**
	comp=Z,0.9nm,0.9s,mb3.6,baz=114,slow=5.4,SNR=5.7						
MKAR				PP	PP	16 34 10.4	-2.4
	comp=Z,1.0nm,1.1s,baz=124,slow=6.0,SNR=5.0						
ZAL	**Zalesovo**	**80.61**	**327**	P	**P**	**16 31 18.1**	**+0.3**
	comp=Z,0.7nm,0.5s,mb3.8,baz=132,slow=3.3,SNR=3.4						
ZAL				LR	LR	17 05 33.4	
	comp=Z,150nm,21.5s,baz=2.8,slow=35						
KURK	**Kurchatov**	**83.05**	**322**	*e*P	**P**	**16 31 27.2**	**-3.4**
	comp=Z,5.3nm,1.4s,mb4.2						
MAW	**Mawson**	**84.00**	**203**	P	**P**	**16 31 35.9**	**+0.4**
	comp=Z,2.5nm,0.8s,mb4.1,baz=89,slow=8.7,SNR=7.6						
MAW				LR	LR	17 04 58.4	
	comp=Z,310nm,22.0s,baz=72,slow=33						
QSPA	**South Pole Qui**	**84.38**	**180**	*e*P	**P**	**16 31 36.3**	**-1.1**
	comp=Z,6.6nm,0.9s,mb4.5						
INK	**Inuvik**	**89.97**	**21**	LR	LR	17 12 10.9	
	comp=Z,106nm,18.3s,baz=116,slow=35						
SYO	**Syowa Base**	**92.19**	**200**	⇑*e*P	**P**	**16 32 14.5**	**-0.3**
NVAR	**Mina Array Bea**	**94.29**	**52**	P	**P**	**16 32 23.3**	**-1.1**
	comp=Z,0.7nm,0.8s,mb4.1,baz=254,slow=6.7,SNR=5.3						
NVAR	**Mina Array Bea**	**94.29**	**52**	P	**P**	**16 32 23.3**	**-1.1**
YKA	**Yellowknife Ar**	**97.14**	**28**	LR	LR	17 14 44.9	
	comp=Z,70nm,19.8s,baz=245,slow=34						
TORD	**Torodi Ar. Bea**	**148.44**	**286**	PKPbc	PKPbc	16 38 52.0	+0.6
	comp=Z,2.0nm,0.8s,baz=35,slow=1.8,SNR=11						
BDFB	**Brasilia**	**151.99**	**139**	PKPbc	PKPbc	16 39 00.3	+0.4
	comp=Z,2.9nm,0.6s,baz=284,slow=6.4,SNR=4.5						

MEX 16 16:19:27.2±0.6**, 1885N**×**10259W, h68**km±29km**, MD4.0, Michoacan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MOIG	**Morelia**	**1.56**	**58**	*i* P	Pn	16 19 51.9	-1.1
MOIG				*i* S	Sn	16 20 10.9	-1.4
ZIIG	**Zihuatanejo**	**1.63**	**139**	*i* P	Pn	16 19 52.4	-1.4
ZIIG				*i* S	Sn	16 20 12.1	-1.9
SFJM	**Santa Fe**	**1.69**	**346**	*i* P	Pn	16 19 53.0	-1.6
SFJM				*i* S	Sn	16 20 15.5	+0.2
CJM	**Chamela**	**2.41**	**286**	*i* P	Pn	16 20 04.2	0.0
CJM				*i* S	Sn	16 20 32.4	-0.2
MEIG	**Mezcala**	**2.97**	**107**	*i* P	Pn	16 20 11.6	-0.3
MEIG				*i* S	Sn	16 20 45.5	-0.9
ACX	**Acapulco**	**3.22**	**127**	*e*P	Pn	16 20 15.0	-0.3
UTMO	**Huajuapan**	**4.66**	**102**	*i* P	Pn	16 20 35.4	+0.4

NEIC ***16*** *16:28:06.1, 2873S×7126W, h34km, ML3.6(GUC), After GUC.*
GUC 16 16:28:06.1±0.5**, 2873S**×**7126W, h34**km±2km**, MD3.8, ML3.6, 4C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.47**	**71**	⇑*i*P	Pb	16 28 15.9	-0.4
VACH				*i* S	Sb	16 28 23.7	+0.5
VACH				AML	AML	16 28 24.1	
	comp=E,5μm,0.2s						
VACH	**Vallenar**	**0.47**	**71**	⇑*i*P	Pb	16 28 15.9	-0.4
VACH				*i* S	Sb	16 28 23.7	+0.5
LCO	**Las Campanas**	**0.56**	**120**	⇓*i*P	Pn	16 28 18.0	+0.3
LCO				*i* S	Sb	16 28 27.1	+1.3
TLL	**Tololo Astrono**	**1.49**	**165**	*i* P	Pn	16 28 32.3	+1.9
TLL				*i* S	Sn	16 28 52.0	+3.4
CPCH	**Copiapo**	**1.58**	**31**	⇑*i*P	Pn	16 28 33.1	+1.4
CPCH				*i* S	Sn	16 28 53.8	+2.8
CPCH				AML	AML	16 28 56.9	
	comp=E,2μm,0.1s						
CPCH	**Copiapo**	**1.58**	**31**	⇑*i*P	Pn	16 28 33.1	+1.4
CPCH				*i* S	Sn	16 28 53.8	+2.8
CMCH	**Combarbala**	**2.45**	**175**	*i* P	Pn	16 28 45.5	+1.9
CMCH				*i* S	Sn	16 29 14.8	+2.5
CMCH				AML	AML	16 29 26.8	
	comp=E,345nm,0.8s						
CMCH	**Combarbala**	**2.45**	**175**	*i* P	Pn	16 28 45.5	+1.9
CMCH				*i* S	Sn	16 29 14.8	+2.5

IDC ***16*** *16:55:47.2±3.8, 4255N×14250E, h0km, mb3.6/3, mb1 3.5/4, mb1mx3.3/20, mbtmp3.5/4, ML2.9/1, Error ellipse: s-maj=82.9km s-min=41.0km az=103.0*
MOS ***16*** *16:55:51.0±2.3, 4258N×14177E, h26km, mb4.4/1, Error ellipse: s-maj=28.9km s-min=24.6km az=83.8*
ISCJB ***16*** *16:55:52.9±0.5, 4207N±004×14244E±004, h68km±5km, mb3.4/3, Error ellipse: s-maj=7.6km s-min=4.5km az=122.2*
JMA ***16*** *16:55:53.1±0.1, 4207N×14248E, h66km±2km, M3.3 Broadband fault plane solution: P waves. NP1: ϕ_s152.00000°, δ7.00000°, λ49.00000°. NP2:ϕ_s13.00000°, δ85.00000°, λ94.00000°. Principal axes: T Plg50.0000°, Azm288.0000°; N Plg4.0000°, Azm193.0000°; P Plg40.0000°, Azm99.0000°;*
ISC 16 16:55:53.5±0.6**, 4206N**±004×**14244E**±004**, h64**km±5km**, n20, σ0§62**/33**, mb3.4**/3**, 4C-7D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.32**	**46**	⇑P	**Pn**	**16 56 03.6**	**-0.6**
JNBK				*e*S	**Sn**	**16 56 11.7**	**-0.2**
JEM	**Erimo**	**0.54**	**94**	⇑P	**Pn**	**16 56 06.0**	**-0.2**
JEM				S	**Sn**	**16 56 15.6**	**+0.2**
JBT2	**Biratori 2**	**0.72**	**355**	⇓P	**Pn**	**16 56 07.8**	**-0.4**
JBT2				*e*S	**Sn**	**16 56 18.9**	**-0.1**
JCH	**Churui**	**0.88**	**51**	⇑P	**Pn**	**16 56 09.7**	**-0.5**
JCH				*e*S	**Sn**	**16 56 22.2**	**-0.3**
JKB	**Kayabe**	**1.06**	**261**	⇓P	**Pn**	**16 56 12.5**	**0.0**
JKB				*e*S	**Sn**	**16 56 26.9**	**+0.2**
JEW	**Eniwo**	**1.07**	**317**	⇓P	**Pn**	**16 56 12.7**	**+0.1**
JEW				*e*S	**Sn**	**16 56 27.1**	**+0.3**
JFR	**Furan**	**1.11**	**6**	⇓P	**Pn**	**16 56 12.5**	**-0.6**
JFR				*e*S	**Sn**	**16 56 27.3**	**-0.4**
JNB	**Noboribetsu**	**1.12**	**292**	⇓P	**Pn**	**16 56 12.6**	**-0.6**
JNB				*e*S	**Sn**	**16 56 27.6**	**-0.3**
JOT	**Ohata**	**1.24**	**237**	⇓P	**Pn**	**16 56 14.8**	**-0.1**
JOT				*e*S	**Sn**	**16 56 31.0**	**+0.2**
JOB	**Onbets**	**1.33**	**50**	⇑P	**Pn**	**16 56 16.4**	**+0.4**
JOB				*e*S	**Sn**	**16 56 33.8**	**+0.9**
JAB	**Ashibetsu**	**1.45**	**354**	P	**Pn**	**16 56 17.7**	**+0.1**
JAB				S	**Sn**	**16 56 37.7**	**+1.9**
JYM2	**Yakumo 2**	**1.54**	**273**	⇓P	**Pn**	**16 56 18.7**	**-0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JAR	**Ashorobuto**	**1.58**	**38**	P	**Pn**	**16 56 18.8**	**-0.5**
JAR				eS	**Sn**	**16 56 38.2**	**-0.6**
JSR	**Shiriuchi**	**1.60**	**251**	P	**Pn**	**16 56 20.0**	**+0.3**
JSR				eS	**Sn**	**16 56 39.6**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**3.19**	**51**	ePN	**Pn**	**16 56 42.9**	**+1.7**
MJAR	**Matsushiro Arr**	**6.41**	**212**	Pn	**Pn**	**16 57 29.0**	**+3.7**
	0.2nm,0.3s,baz=26,slow=12,SNR=4.3						
SONM	**Songino Array**	**25.99**	**295**	P	**P**	**17 01 20.1**	**-0.2**
	0.4nm,0.7s,mb3.0,baz=69,slow=9.2,SNR=4.3						
MKAR	**Makanchi Array**	**42.30**	**298**	P	**P**	**17 03 40.9**	**+0.1**
	0.4nm,0.6s,mb3.2,baz=80,slow=9.2,SNR=4.3						
HFS	**Hagfors**	**69.85**	**335**	P	**P**	**17 06 56.6**	**-0.7**
	1.0nm,0.5s,mb4.0,baz=23,slow=8.0,SNR=5.9						
HFS	**Hagfors**	**69.85**	**335**	P	**P**	**17 06 56.6**	**-0.8**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*ISCJB **16** 17:25:33.2±1.3, 4795N±004×746E±0.10, h5km, Error ellipse: s-maj=9.8km s-min=4.7km az=39.0*
*STR **16** 17:25:33.3±0.1, 4795N×748E, h5km±1km, Ml1.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **16** 17:25:35.7±0.5, 4804N×732E, h10km, Md2.5/3, Ml1.9/3, Error ellipse: s-maj=10.2km s-min=6.1km az=111.0*
ISC 16 17:25:34.4±1.2, **4798N**±004×**74E**±01, **h16**km±7km, **n8**, σ**0§87**/15, **Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOF	**Molkenrain**	**0.20**	**229**	Pg	**Pg**	**17 25 38.6**	**-0.5**
MOF				Sg	**Sg**	**17 25 42.4**	**0.0**
ECH	**Echery**	**0.27**	**330**	Pg	**Pg**	**17 25 40.2**	**0.0**
ECH				Sg	**Sg**	**17 25 44.9**	**+0.7**
HINF	**Hinteralfeld**	**0.38**	**244**	ePg	**Pg**	**17 25 41.7**	**-0.5**
HINF				eSg	**Sg**	**17 25 46.4**	**-1.0**
	1.8nm,0.3s						
WLS	**Welschbruch**	**0.43**	**360**	Pg	**Pg**	**17 25 42.7**	**-0.4**
CDF	**Champ du Feu**	**0.43**	**353**	ePg	**Pg**	**17 25 42.9**	**-0.2**
CDF				eSg	**Sg**	**17 25 48.8**	**-0.2**
	2.5nm,0.3s						
HAU	**Haudompre**	**0.68**	**272**	ePg	**Pg**	**17 25 48.4**	**+0.7**
HAU				eSg	**Sg**	**17 25 58.3**	**+1.6**
	3.0nm,0.2s						
SFTF	**Sexfontaines**	**1.57**	**279**	ePg	**Pg**	**17 26 04.7**	**+0.1**
SFTF				eSg	**Sg**	**17 26 22.3**	**-2.8**
	4.3nm,0.4s						
CABF	**La Chapelle**	**1.62**	**213**	ePg	**Pg**	**17 26 07.1**	**+1.5**
CABF				eSn	**Sn**	**17 26 22.6**	**-0.3**
	2.0nm,0.5s						

*GRAL **16** 17:31:55.5±0.3, 33.17N×3507E, h14km±12km, MD2.9*
*GII **16** 17:31:56.4±2.1, 3336N×3529E, h0km±7km, ML2.0/4*
*ISCJB **16** 17:31:58.3±0.8, 3331N±003×3524E±006, h14km, Error ellipse: s-maj=7.8km s-min=3.3km az=43.3*
ISC 16 17:31:59.0±1.1, **3331N**±003×**3524E**±007, **h14**km±14km, **n11**, σ**1§36**/18, **Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATL	**Matirih**	**0.20**	**22**	ePg	**Pg**	**17 32 02.8**	**-0.7**
HNTI	**Hanita**	**0.23**	**194**	Pg	**Pg**	**17 32 02.8**	**-1.2**
HNTI				Sg	**Sg**	**17 32 08.2**	**+0.7**
MMA0	**Mount Meron ar**	**0.32**	**155**	Pg	**Pg**	**17 32 03.9**	**-1.7**
MMA0				Sg	**Sg**	**17 32 10.4**	**+0.3**
KSDI	**Kefar Szold**	**0.37**	**108**	Pg	**Pg**	**17 32 04.6**	**-1.9**
KSDI				Sg	**Sg**	**17 32 10.9**	**-0.6**
RCY	**Rachaya**	**0.51**	**70**	ePg	**Pg**	**17 32 08.3**	**-0.9**
RCY				eSg	**Sg**	**17 32 17.8**	**+1.8**
BHL	**Bhannes**	**0.69**	**30**	eSg	**Sg**	**17 32 23.4**	**+1.9**
OFRI	**'Ofer**	**0.72**	**198**	Pg	**Pg**	**17 32 12.3**	**-0.6**
OFRI				Sg	**Sg**	**17 32 25.3**	**+2.9**
SLTI	**Sal'it**	**1.08**	**189**	Sg	**Sg**	**17 32 35.1**	**+1.3**
SLTI	**Sal'it**	**1.08**	**189**	Sg	**Sg**	**17 32 35.1**	**+1.3**
HMDT	**Nahal Hemdat**	**1.08**	**167**	Pg	**Pg**	**17 32 18.5**	**-1.3**
HMDT				Sg	**Sg**	**17 32 35.5**	**+1.6**
HWQ	**Hawqa**	**1.13**	**31**	ePg	**Pg**	**17 32 19.4**	**-1.5**
HWQ				eSg	**Sg**	**17 32 37.0**	**+1.4**

*IDC **16** 17:42:10.7±1.3, 5322N×10801E, h0km, mb3.7/4, mb1 3.8/7, mb1mx3.5/22, mbtmp3.7/7, ML3.2/3, MS3.3/5, Ms1 3.3/5, ms1mx2.7/32, Error ellipse: s-maj=27.5km s-min=16.8km az=57.0*
*ISCJB **16** 17:42:10.9±0.2, 5321N±002×10780E±003, h10km, mb4.0/8, MS3.3/5, Error ellipse: s-maj=3.2km s-min=1.8km az=82.7*
*MOS **16** 17:42:11.4±1.2, 53.19N×10769E, h13km, mb4.6/1, Error ellipse: s-maj=10.3km s-min=6.7km az=66.4*
MOS Felt (II) at Elantsy.
*NEIC **16** 17:42:11.9±0.9, 5326N×10779E, h10km, mb3.9/3, Error ellipse: s-maj=18.8km s-min=8.6km az=50.0*
NEIC Felt [II] at Yelantsy.
*BYKL **16** 17:42:13.1±0.2, 53.18N×10771E, h14km±19km, FELT I=II MSK at Yelantsy*
*BJI **16** 17:42:17.8, 5258N×10768E, h19km, mB4.2, mb4.3, Ms3.6, Msz3.7*
ISC 16 17:42:12.3±0.2, **5319N**±002×**10779E**±003, **h10**km, **n70**, σ**1§43**/137, **mb4.0**/8, **MS3.3**/5, **6C-8D**, **Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELR	**Kotokel**	**0.47**	**158**	⇑iPg	**Pg**	**17 42 21.3**	**-0.1**
KELR				Pmax		17 42 22.4	
	2µm,0.2s						
KELR				eSg	**Sg**	**17 42 27.4**	**-0.2**
KELR				Smax		17 42 27.8	
	15µm,0.4s						
OGRR	**Ongureny**	**0.47**	**346**	⇑iPg	**Pg**	**17 42 22.1**	**+0.7**
OGRR				Pmax		17 42 22.4	
	638nm,0.1s						
OGRR				eSg	**Sg**	**17 42 27.9**	**+0.3**
OGRR				e		17 42 28.6	
OGRR				max		17 42 28.9	
	4µm,0.1s						
OGRR	**Ongureny**	**0.47**	**346**	ePG	**Pg**	**17 42 22.1**	**+0.7**
OGRR				e		17 42 28.6	
OGRR				pmax	pmax		
	comp=Z,648nm,0.1s						
OGRR				smax			
	comp=E,5µm,0.4s						
MXMB	**Maximikha**	**0.58**	**83**	⇑iPg	**Pg**	**17 42 23.9**	**+0.4**
MXMB				e		17 42 25.8	
MXMB				max		17 42 25.9	
	comp=E,272nm,0.2s						
MXMB				eSg	**Sg**	**17 42 32.3**	**+1.2**
MXMB				e		17 42 34.9	
MXMB				max		17 42 35.1	
	comp=E,3µm,0.4s						
TRTB	**Turuntaevo**	**0.97**	**186**	⇑iPg	**Pg**	**17 42 30.1**	**-0.8**
TRTB				ePb	**Pb**	**17 42 31.8**	**+0.7**
TRTB				max		17 42 32.1	
	comp=E,324nm,0.3s						
TRTB				e		17 42 33.8	
TRTB				eSg	**Sg**	**17 42 42.5**	**-1.0**
TRTB				eSb	**Sb**	**17 42 44.3**	**+0.3**
TRTB				max		17 42 46.7	
	comp=E,3µm,0.4s						
TRG	**Tyrgan**	**0.97**	**244**	⇑iPg	**Pg**	**17 42 29.5**	**-1.5**
TRG				ePb	**Pb**	**17 42 32.1**	**+0.9**
TRG				max		17 42 33.9	
	comp=E,341nm,0.2s						
TRG				e		17 42 36.4	
TRG				eSg	**Sg**	**17 42 41.6**	**-2.1**
TRG				eSb	**Sb**	**17 42 46.6**	**+2.5**
TRG				max		17 42 47.4	
	comp=E,8µm,0.5s						
TRG	**Tyrgan**	**0.97**	**244**	ePG	**Pg**	**17 42 29.5**	**-1.5**
TRG				e		17 42 41.8	
TRG				pmax	pmax		
	comp=Z,337nm,0.1s						
TRG				smax			
	comp=N,8µm,0.5s						
FFNB	**Fofonovo**	**1.31**	**209**	ePg	**Pg**	**17 42 36.4**	**-1.0**
FFNB				ePb	**Pb**	**17 42 37.3**	**+0.4**
FFNB				e		17 42 38.3	
FFNB				max		17 42 40.0	
	comp=N,1µm,0.1s						
FFNB				i Sg	**Sg**	**17 42 53.5**	**-0.8**
FFNB				eSb	**Sb**	**17 42 55.4**	**+1.7**
FFNB				max		17 42 55.7	
	comp=N,8µm,0.2s						
KAB	**Kabansk**	**1.34**	**212**	⇓iPg	**Pg**	**17 42 37.4**	**-0.6**
KAB				max		17 42 44.5	
	comp=N,782nm,0.5s						
KAB				e		17 42 44.9	
KAB				eSg	**Sg**	**17 42 55.7**	**+0.4**
KAB				eSb	**Sb**	**17 42 57.7**	**+3.1**
KAB				max		17 43 07.0	
	comp=N,9µm,0.6s						
KAB	**Kabansk**	**1.34**	**212**	ePG	**Pg**	**17 42 37.5**	**-0.5**
SYVR	**Suvo**	**1.40**	**70**	⇓iPg	**Pn**	**17 42 38.7**	**+0.8**
SYVR				ePb	**Pb**	**17 42 39.9**	**+1.4**
SYVR				max		17 42 41.0	
	comp=N,112nm,0.2s						
SYVR				e		17 42 46.1	
SYVR				eSg	**Sg**	**17 42 58.5**	**+1.1**
SYVR				eSb	**Sb**	**17 42 59.5**	**+3.0**
SYVR				max		17 43 01.4	
	comp=N,1µm,0.3s						
SYVR	**Suvo**	**1.40**	**70**	ePG	**Pn**	**17 42 38.7**	**+0.8**
SYVR				e		17 42 57.3	
SYVR				pmax	pmax		
	comp=Z,239nm,0.6s						
SYVR				smax			
	comp=E,1µm,0.3s						
HRMR	**Khuramsha**	**1.65**	**198**	ePg	**Pn**	**17 42 41.6**	**+0.3**
HRMR				ePb	**Pb**	**17 42 42.2**	**-0.5**
HRMR				max		17 42 45.1	
	comp=E,990nm,0.5s						
HRMR				i Sg	**Sg**	**17 43 03.9**	**-1.4**
HRMR				eSb	**Sb**	**17 43 05.4**	**+1.8**
HRMR				max		17 43 06.3	
	comp=E,14µm,0.2s						
LSTR	**Listvyanka**	**2.24**	**235**	⇓iPn	**Pn**	**17 42 49.5**	**+0.1**
LSTR				⇓iPg	**Pg**	**17 42 51.6**	**-3.6**
LSTR				Pmax		17 42 53.0	
	comp=E,2µm,0.2s						
LSTR				eSn	**Sn**	**17 43 17.0**	**-0.1**
LSTR				eSg	**Sg**	**17 43 21.0**	**-3.3**
LSTR				Smax		17 43 23.6	
	comp=E,13µm,0.2s						
LSTR	**Listvyanka**	**2.24**	**235**	⇑iPN	**Pn**	**17 42 49.5**	**+0.1**
LSTR				e		17 42 51.4	
LSTR				eS	**Sn**	**17 43 16.9**	**-0.2**
LSTR				e		17 43 20.0	
LSTR				pmax	pmax		
	comp=Z,151nm,0.6s						
LSTR				smax			
	comp=N,868nm,1.2s						
IRK	**Irkutsk**	**2.34**	**247**	⇓iPn	**Pn**	**17 42 51.4**	**+0.6**
IRK				⇓iPg	**Pg**	**17 42 53.4**	**-3.8**
IRK				e		17 42 55.2	
IRK				max		17 42 55.9	
	comp=N,199nm,0.3s						
IRK				eSn	**Sn**	**17 43 19.9**	**+0.3**
IRK				eSg	**Sg**	**17 43 23.4**	**-4.1**
IRK				Smax		17 43 28.5	
	comp=N,4µm,0.4s						
IRK	**Irkutsk**	**2.34**	**247**	ePN	**Pg**	**17 42 53.2**	**-4.0**
IRK				e		17 43 22.9	
IRK				pmax	pmax		
	comp=Z,198nm,0.3s						
IRK				smax			
	comp=N,4µm,0.8s						
YLYR	**Ulyunkhan**	**2.61**	**48**	⇓iPn	**Pn**	**17 42 55.7**	**+1.2**
YLYR				ePg	**Pg**	**17 43 00.0**	**-2.3**
YLYR				Pmax		17 43 06.9	
	comp=N,44nm,0.7s						
YLYR				eSn	**Sn**	**17 43 28.3**	**+2.1**
YLYR				eSg	**Sg**	**17 43 35.3**	**-0.8**
YLYR				Smax		17 43 48.5	
	comp=N,390nm,0.9s						
YLYR	**Ulyunkhan**	**2.61**	**48**	ePN	**Pn**	**17 42 55.7**	**+1.2**
YLYR				e		17 43 00.0	
YLYR				e		17 43 33.8	
YLYR				pmax	pmax		
	comp=Z,56nm,0.2s						
YLYR				smax			
	comp=N,406nm,1.1s						
NIZ	**Nizh Angarsk**	**2.78**	**21**	ePn	**Pn**	**17 42 59.4**	**+2.5**
NIZ				ePg	**Pg**	**17 43 03.5**	**-2.1**
NIZ				Pmax		17 43 08.5	
	comp=N,41nm,0.2s						
NIZ				eSn	**Sn**	**17 43 30.7**	**+0.2**
NIZ				eSg	**Sg**	**17 43 39.4**	**-2.3**
NIZ				Smax		17 43 44.0	
	comp=N,317nm,0.2s						
NIZ	**Nizh Angarsk**	**2.78**	**21**	ePN	**Pn**	**17 42 59.4**	**+2.5**
NIZ				e		17 43 03.7	
NIZ				eS	**Sn**	**17 43 32.9**	**+2.4**
NIZ				e		17 43 39.4	
NIZ				pmax	pmax		
	comp=Z,57nm,0.2s						
NIZ				smax			
	comp=N,430nm,0.8s						
TLY	**Talaya**	**2.95**	**241**	ePN	**Pn**	**17 42 59.2**	**0.0**
TLY				e		17 43 03.5	
TLY				e		17 43 41.5	
TLY				pmax	pmax		
	comp=Z,66nm,0.3s						
TLY				smax			
	comp=E,247nm,0.3s						
KMO	**Kumora**	**3.35**	**35**	ePn	**Pn**	**17 43 06.2**	**+1.5**
KMO				ePg	**Pg**	**17 43 14.4**	**-2.1**
KMO				Pmax		17 43 24.0	
	comp=E,78nm,0.4s						
KMO				eSn	**Sn**	**17 43 47.3**	**+2.7**
KMO				eSg	**Sg**	**17 43 58.7**	**-1.3**
KMO				Smax		17 44 10.2	
	comp=E,368nm,1.2s						
KMO	**Kumora**	**3.35**	**35**	ePN	**Pn**	**17 43 06.3**	**+1.6**
KMO				e		17 43 12.2	
KMO				eS	**Sn**	**17 43 44.3**	**-0.3**
KMO				e		17 43 55.1	
KMO				pmax	pmax		
	comp=Z,77nm,0.4s						
KMO				smax			
	comp=E,370nm,1.0s						
ARS	**Arshan**	**3.51**	**251**	ePn	**Pn**	**17 43 08.1**	**+1.2**
ARS				⇓iPg	**Pg**	**17 43 15.5**	**-4.1**
ARS				Pmax		17 43 21.7	
	comp=E,219nm,0.4s						
ARS				eSn	**Sn**	**17 43 47.8**	**-0.7**
ARS				e		17 43 57.9	
ARS				eSg	**Sg**	**17 44 00.4**	**-4.7**
ARS				Smax		17 44 05.2	
	comp=E,2µm,0.8s						
ARS	**Arshan**	**3.51**	**251**	ePN	**Pn**	**17 43 08.1**	**+1.2**
ARS				e		17 43 15.5	
ARS				e		17 43 57.7	
ARS				pmax	pmax		
	comp=Z,220nm,0.4s						
ARS				smax			
	comp=E,2µm,0.6s						
YOA	**Uoyan**	**3.73**	**36**	ePN	**Pg**	**17 43 20.9**	**-2.8**
YOA				e		17 44 09.8	
YOA				pmax	pmax		
	comp=Z,129nm,0.7s						
YOA				smax			
	comp=N,1µm,1.6s						
ZAK	**Zakamensk**	**3.97**	**227**	ePn	**Pn**	**17 43 14.0**	**+0.8**
ZAK				ePg	**Pg**	**17 43 24.4**	**-3.9**
ZAK				Pmax		17 43 29.1	
	comp=N,18nm,0.3s						
ZAK				eSn	**Sn**	**17 43 59.4**	**-0.4**
ZAK				eSg	**Sg**	**17 44 15.2**	**-4.5**
ZAK				Smax		17 44 25.8	
	comp=N,215nm,0.7s						
ZAK	**Zakamensk**	**3.97**	**227**	ePN	**Pn**	**17 43 13.9**	**+0.7**
ZAK				e		17 43 22.7	
ZAK				e		17 44 13.6	
ZAK				pmax	pmax		
	comp=Z,26nm,0.5s						
ZAK				smax			
	comp=E,217nm,0.7s						
UKT	**Uakit**	**4.12**	**54**	ePn	**Pn**	**17 43 16.9**	**+1.6**
UKT				ePg	**Pg**	**17 43 27.2**	**-4.0**
UKT				Pmax		17 43 47.0	
	comp=E,48nm,1.1s						
UKT				eSn	**Sn**	**17 44 03.5**	**0.0**
UKT				eSg	**Sg**	**17 44 21.9**	**-2.7**
UKT				Smax		17 44 39.7	
	comp=E,164nm,1.1s						
UKT	**Uakit**	**4.12**	**54**	ePN	**Pn**	**17 43 16.8**	**+1.5**
UKT				e		17 43 27.4	
UKT				e		17 44 20.5	
UKT				pmax	pmax		
	comp=Z,37nm,0.9s						
UKT				smax			
	comp=N,139nm,0.9s						
MOY	**Mondy**	**4.43**	**253**	ePn	**Pn**	**17 43 22.0**	**+2.5**
MOY				ePg	**Pg**	**17 43 31.5**	**-5.7**
MOY				Pmax		17 43 37.7	
	comp=N,90nm,0.8s						
MOY				eSn	**Sn**	**17 44 12.7**	**+1.5**
MOY				e		17 44 25.3	
MOY				eSg	**Sg**	**17 44 28.1**	**-6.5**
MOY				e		17 44 40.5	
MOY				max		17 44 42.5	
	comp=N,579nm,1.0s						
MOY	**Mondy**	**4.43**	**253**	ePN	**Pg**	**17 43 33.2**	**-4.0**
MOY				e		17 44 28.2	
MOY				pmax	pmax		
	comp=Z,91nm,0.8s						
MOY				smax			
	comp=E,574nm,0.9s						
SVKR	**Severomuysk**	**4.45**	**47**	ePg	**Pg**	**17 43 34.3**	**-3.2**
SVKR				Pmax		17 43 49.1	
	comp=E,62nm,0.6s						
SVKR				eSn	**Sn**	**17 44 13.7**	**+2.0**
SVKR				eSg	**Sg**	**17 44 34.0**	**-1.2**
SVKR				Smax		17 45 01.2	
	comp=E,477nm,1.0s						
KPC	**Khapcheranga**	**4.52**	**139**	ePn	**Pn**	**17 43 19.8**	**-1.0**
KPC				ePg	**Pg**	**17 43 35.1**	**-3.8**
KPC				Pmax		17 43 42.2	
	comp=E,85nm,0.6s						
KPC				eSn	**Sn**	**17 44 11.6**	**-1.8**
KPC				eSg	**Sg**	**17 44 33.4**	**-4.0**
KPC				Smax		17 44 37.7	
	comp=E,524nm,0.8s						
KPC	**Khapcheranga**	**4.52**	**139**	ePN	**Pn**	**17 43 19.8**	**-1.0**
KPC				e		17 43 32.6	
KPC				e		17 44 33.3	
KPC				pmax	pmax		
	comp=Z,85nm,0.7s						
KPC				smax			
	comp=N,521nm,1.0s						
ULN	**Ulaanbaatar**	**5.35**	**185**	ePn	**Pn**	**17 43 33.1**	**+0.9**
ULN				ePg	**Pg**	**17 43 48.7**	**-6.1**
ULN				eSn	**Sn**	**17 44 32.6**	**-1.3**
ULN				eSg	**Sg**	**17 44 57.6**	**-6.6**
ULN	**Ulaanbaatar**	**5.35**	**185**	ePN	**Pn**	**17 43 32.8**	**+0.6**
ULN				e		17 44 57.6	
ULN				pmax	pmax		
	comp=Z,17nm,0.4s						
ULN	**Ulaanbaatar**	**5.35**	**185**	eP	**Pn**	**17 43 32.8**	**+0.6**
	comp=Z,17nm,0.4s						
ULN				eSg	**Sg**	**17 44 57.6**	**-6.6**
SONM	**Songino Array**	**5.44**	**190**	Pn	**Pn**	**17 43 33.8**	**+0.5**
	comp=Z,1.6nm,0.3s,baz=4.8,slow=14,SNR=56						
SONM				Pg	**Pg**	**17 43 52.8**	**-3.7**
	comp=Z,6.5nm,0.3s,baz=4.4,slow=16,SNR=34						
SONM				Sn	**Sn**	**17 44 40.6**	**+4.6**
	comp=Z,6.3nm,0.3s,baz=6.7,slow=15,SNR=4.4						
SONM				Lg		17 45 00.7	
	comp=Z,30nm,0.3s,baz=8.8,slow=30,SNR=22						
SONM	**Songino Array**	**5.44**	**190**	PN	**Pn**	**17 43 33.8**	**+0.4**
SONM						17 43 52.8	
SONM						17 44 40.6	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SONM				pmax	pmax		
	comp=Z,7.0nm,0.3s						
SONM				smax			
	comp=E,6.0nm,0.3s						
NLYR	**Nelyaty**	**5.64**	**51**	ePn	**Pn**	**17 43 37.7**	**+1.5**
NLYR				ePg	**Pg**	**17 43 56.5**	**-3.8**
NLYR				Pmax		17 44 12.0	
	comp=E,22nm,0.9s						
NLYR				eSn	**Sn**	**17 44 39.8**	**-1.2**
NLYR				eSg	**Sg**	**17 45 10.5**	**-2.9**
NLYR				Smax		17 45 42.1	
	comp=E,177nm,1.0s						
NLYR	**Nelyaty**	**5.64**	**51**	ePN	**Pn**	**17 43 37.5**	**+1.3**
NLYR				e		17 43 56.0	
NLYR				e		17 45 09.2	
NLYR				pmax	pmax		
	comp=Z,13nm,0.7s						
NLYR				smax			
	comp=N,177nm,1.0s						
BOD	**Bodaibo**	**5.83**	**35**	ePn	**Pn**	**17 43 40.3**	**+1.6**
BOD				e		17 44 03.7	
BOD				max		17 44 18.9	
	comp=N,11nm,0.7s						
BOD				eSn	**Sn**	**17 44 45.8**	**+0.2**
BOD				eSg	**Sg**	**17 45 13.7**	**-5.6**
BOD				Smax		17 45 29.1	
	comp=N,72nm,1.8s						
CRS	**Chara**	**7.07**	**54**	ePn	**Pn**	**17 43 58.1**	**+2.3**
CRS				ePg	**Pg**	**17 44 22.1**	**-5.6**
CRS				Pmax		17 44 45.4	
	comp=N,19nm,1.6s						
CRS				eSn	**Sn**	**17 45 16.9**	**+0.6**
CRS				eSg	**Sg**	**17 45 53.8**	**-5.5**
CRS				e		17 45 59.8	
CRS				max		17 46 15.2	
	comp=N,200nm,1.7s						
CRS	**Chara**	**7.07**	**54**	ePG	Px	17 44 23.1	
CRS				e		17 45 54.7	
CRS				pmax	pmax		
	comp=Z,32nm,2.3s						
CRS				smax			
	comp=E,200nm,1.7s						
TUP	**Tupik**	**7.31**	**75**	ePn	**Pn**	**17 43 58.9**	**-0.2**
TUP				e		17 44 32.2	
TUP				max		17 44 32.4	
	comp=E,10.0nm,1.0s						
TUP				eSg	**Sg**	**17 45 59.6**	**-7.3**
TUP				Smax		17 46 09.1	
	comp=E,269nm,0.9s						
TUP	**Tupik**	**7.31**	**75**	ePN	**Pn**	**17 43 59.5**	**+0.4**
TUP				e		17 44 23.2	
TUP				eS	**Sn**	**17 45 20.7**	**-1.4**
TUP				e		17 45 57.4	
TUP				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TUP				smax			
	comp=N,270nm,0.9s						
HIA	**Hailar**	**8.47**	**113**	ePn	**Pn**	**17 44 17.4**	**+2.4**
HIA				ePg	Pn	17 44 45.9	+31
HIA				eSn	**Sn**	**17 45 47.7**	**-2.9**
HIA				eSg	Sn	17 46 36.8	+46
ZAL	**Zalesovo**	**13.68**	**282**	Pn	**Pn**	**17 45 26.4**	**+0.2**
	comp=N,0.2nm,0.3s,baz=98,slow=8.7,SNR=5.4						
ZAL				Lg		17 49 14.6	
	comp=N,0.1nm,0.3s,baz=292,slow=21,SNR=3.2						
ZAL	**Zalesovo**	**13.68**	**282**	i P	**Pn**	**17 45 28.2**	**+2.0**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YAK	**Yakutsk**	**14.62**	**44**	i P	**Pn**	**17 45 43.9**	**+4.7**
WMQ	**Urumqi**	**16.23**	**243**	P	**Pn**	**17 46 02.4**	**+2.0**
WMQ				AP	pP	17 46 05.4	-0.9
WMQ				XP	sP	17 46 08.9	+1.3
WMQ				PP		17 46 16.0	
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.5s						
WMQ				AMB	AMB		
	comp=Z,30nm,3.9s						
WMQ				LR	LR		
	comp=N,13nm,5.0s						
WMQ				LR	LR		
	comp=E,71nm,5.0s						
WMQ				LR	LR		
	comp=Z,96nm,5.1s						
MKAR	**Makanchi Array**	**17.54**	**259**	P	**Pn**	**17 46 17.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=62,slow=9.8,SNR=13						
KURK	**Kurchatov**	**18.09**	**274**	eP	**Pn**	**17 46 22.0**	**-1.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KURK	**Kurchatov**	**18.09**	**274**	eP	**Pn**	**17 46 22.0**	**-1.7**
	comp=Z,3.5nm,1.0s						
VLA	**Vladivostok**	**18.89**	**113**	i P	**Pn**	**17 46 35.2**	**+1.8**
CHKZ	**Chkalovo**	**21.99**	**286**	eP	**P**	**17 47 05.5**	**-1.0**
	comp=Z,3.4nm,0.5s,mb4.0						
BVAR	**Borovoye Array**	**22.29**	**285**	P	**P**	**17 47 09.1**	**-0.5**
	comp=Z,1.2nm,0.4s,mb3.7,baz=69,slow=15,SNR=14						
BVAR				LR	LR	17 56 11.3	
	comp=Z,60nm,19.4s,MS3.0,baz=142,slow=38						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NJ2	**Nanjing**	**22.59**	**155**	*e*P	**P**	**17 47 13.1**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**23.12**	**285**	*e*P	**P**	**17 47 16.7**	**-1.7**
	comp=Z,2.2nm,0.5s,mb3.8						
SSE	**Sheshan**	**24.13**	**151**	*e*P	**P**	**17 47 29.6**	**+1.3**
SSE				AMB	AMB		
	comp=Z,33nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,35nm,3.5s						
ARCES	**ARCESS Array B**	**39.10**	**326**	LR	LR	18 11 13.2	
	comp=Z,35nm,18.2s,MS3.2,baz=256,slow=44						
FINES	**FINESS Array B**	**42.09**	**315**	P	**P**	**17 50 03.0**	**-1.4**
	comp=Z,1.8nm,1.0s,mb3.6,baz=20,slow=6.1,SNR=6.0						
FINES	**FINESS Array B**	**42.09**	**315**	P	**P**	**17 50 03.0**	**-1.4**
NOA	**NORSAR Array B**	**48.38**	**320**	LR	LR	18 13 01.7	
	comp=Z,35nm,18.1s,MS3.4,baz=255,slow=38						
GERES	**GERESS Array B**	**55.16**	**307**	LR	LR	18 17 07.0	
	comp=Z,22nm,20.6s,MS3.2,baz=90,slow=38						
YKA	**Yellowknife Ar**	**59.93**	**21**	LR	LR	18 18 24.2	
	comp=Z,31nm,19.2s,MS3.5,baz=90,slow=36						
WRA	**Warramunga Arr**	**76.37**	**154**	P	**P**	**17 54 01.4**	**-0.3**
	comp=Z,0.9nm,0.8s,mb3.8,baz=346,slow=6.2,SNR=8.2						
ASAR	**Alice Springs**	**79.83**	**156**	P	**P**	**17 54 21.1**	**+0.2**
	comp=Z,0.5nm,0.7s,mb3.5,baz=352,slow=5.2,SNR=7.7						

JMA 16 17:53:11.3±0.7**, 4611N×15229E, h30km, M4.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**5.41**	**242**	P	Pn	17 54 29.0	-0.9
NEM2				*e*S	Sn	17 55 26.2	-5.0
JRA	**Rausu**	**5.53**	**249**	P	Pn	17 54 33.5	+2.0
JNK	**Nakash**	**5.95**	**248**	P	Pn	17 54 38.2	+1.0
JAK	**Akkeshi**	**6.25**	**243**	P	Pn	17 54 40.7	-0.8
JAK				*e*S	Sn	17 55 46.7	-5.2
JTKR	**Abashiri--Toko**	**6.31**	**253**	P	Pn	17 54 44.7	+2.4
JMP	**Maruseppu**	**6.67**	**255**	P	Pn	17 54 49.9	+2.8
JAR	**Ashorobuto**	**6.69**	**248**	P	Pn	17 54 48.9	+1.4
JAR				*e*S	Sn	17 56 01.3	-1.4
JOB	**Onbets**	**6.84**	**245**	P	Pn	17 54 49.6	0.0
JOB				*e*S	Sn	17 56 02.2	-4.2
JKK2	**Kamakawa 2**	**7.13**	**255**	P	Pn	17 54 56.3	+2.8
ASAJ	**Asahikawa**	**7.14**	**257**	P	Pn	17 54 57.1	+3.4
JCH	**Churui**	**7.29**	**245**	P	Pn	17 54 55.0	-0.7
JCH				*e*S	Sn	17 56 11.8	-5.6
JNBK	**Urakawa-nobuka**	**7.85**	**244**	P	Pn	17 55 02.4	-1.0
JNB	**Noboribetsu**	**8.85**	**250**	P	Pn	17 55 17.3	+0.2
JKB	**Kayabe**	**9.14**	**247**	P	Pn	17 55 20.1	-1.0
JANG	**Nango**	**9.73**	**238**	P	Pn	17 55 25.7	-3.4
JANG				*e*S	Sn	17 57 05.2	-12
JTH	**Tanohata**	**9.81**	**235**	P	Pn	17 55 26.7	-3.6
JTH				*e*S	Sn	17 57 06.7	-13

IDC 16 17:58:35.6±13.0**, 653S×14772E, h72km**±74km**, mb3.4**/3**, mb1 3.5**/5**, mb1mx3.2**/12**, mbtmp3.5**/5**, ML2.8**/2**, Error ellipse: s-maj=145.5km s-min=48.8km az=12.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.91**	**191**	P	Pn	17 59 19.4	-0.1
	1.9nm,0.3s,baz=66,slow=4.8,SNR=3.9						
PMG				S	Sn	17 59 56.7	+3.2
	1.7nm,0.3s,baz=6.7,slow=18,SNR=3.9						
WRA	**Warramunga Arr**	**18.62**	**223**	P	Pn	18 02 47.3	-1.0
	0.1nm,0.3s,baz=47,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**21.60**	**216**	P	P	18 03 20.2	+0.7
	0.6nm,0.4s,baz=52,slow=9.1,SNR=28						
FITZ	**Fitzroy Crossi**	**24.41**	**240**	P	P	18 03 47.5	+0.3
	1.9nm,0.7s,baz=210,slow=14,SNR=3.6						
VNDA	**Vanda**	**71.35**	**177**	P	P	18 09 47.2	-0.4
	1.0nm,0.8s,baz=321,slow=6.5,SNR=4.5						

*ISCJB **16** 18:26:42.1±0.8, 193S±0.1×1752W±0.1, h33km, mb4.4/10, MS3.9/3, Error ellipse: s-maj=21.7km s-min=13.3km az=95.5*
*IDC **16** 18:26:44.1±1.0, 1987S×17577W, h0km, mb4.4/7, mb1 4.6/7, mb1mx4.3/14, mbtmp4.4/7, MS3.8/4, Ms1 3.8/4, ms1mx3.4/19, Error ellipse: s-maj=37.2km s-min=22.8km az=140.0*
*SZGRF **16** 18:26:49.1, 1996S×17500W, h33km, Tonga Islands*
*NEIC **16** 18:26:49.4±0.4, 1989S×17580W, h35km, mb5.0/5, Error ellipse: s-maj=14.7km s-min=9.7km az=145.0*
ISC 16 18:26:47.9±1.6**, 198S**±02×**1755W**±02**, h35km, n65, σ0s96**/17**, mb4.4**/10**, MS3.8**/2**, 9C-1D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.84**	**32**	Pn	**Pn**	**18 28 14.0**	**-12**
	1.1nm,0.3s,baz=16,slow=19,SNR=4.2						
AFI				Sn	Sn	18 28 56.2	-46
	3.3nm,0.3s,baz=209,slow=24,SNR=8.6						
AFI				LR	LR	18 30 34.8	
	comp=Z,339nm,18.6s,baz=283,slow=33						
DZM	**Mont Dzumac**	**17.00**	**259**	Pn	**Pn**	**18 30 46.9**	**+4.0**
	0.2nm,0.3s,baz=86,slow=19,SNR=3.5						
URZ	**Urewera**	**19.50**	**198**	LR	LR	18 37 24.5	
	comp=Z,480nm,19.0s,baz=34,slow=33						
RPZ	**Rata Peaks**	**26.39**	**202**	P	**P**	**18 32 21.4**	**+0.5**
	3.2nm,0.7s,mb4.0,baz=68,slow=15,SNR=3.8						
CTA	**Charters Tower**	**35.88**	**263**	*e*P	**P**	**18 33 45.0**	**+0.5**
	21nm,0.8s,mb5.1						
CTA	**Charters Tower**	**35.88**	**263**	P	**P**	**18 33 45.5**	**+1.0**
	31nm,0.9s,mb5.2,baz=92,slow=10,SNR=19						
CTAO	**Charters Tower**	**35.88**	**263**	*e*P	**P**	**18 33 45.3**	**+0.8**
	46nm,1.0s,mb5.4						
PMG	**Port Moresby**	**37.47**	**281**	*e*P	**P**	**18 33 58.6**	**+0.6**
	23nm,1.0s,mb5.0						
AS31	**Alice Springs**	**46.95**	**256**	*e*P	**P**	**18 35 14.4**	**-0.8**
ASAR	**Alice Springs**	**46.95**	**256**	P	**P**	**18 35 14.7**	**-0.5**
	9.5nm,0.7s,mb4.8,baz=88,slow=8.3,SNR=108						
ASPA	**Alice Springs**	**46.95**	**256**	*e*P	**P**	**18 35 14.4**	**-0.8**
WB2	**Warramunga Arr**	**47.00**	**261**	*e*P	**P**	**18 35 14.5**	**-1.0**
WRAB	**Tennant Creek**	**47.00**	**261**	*e*P	**P**	**18 35 15.1**	**-0.5**
	7.6nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**47.01**	**261**	P	**P**	**18 35 15.4**	**-0.3**
	7.3nm,0.9s,mb4.6,baz=94,slow=8.0,SNR=32						
VNDA	**Vanda**	**58.85**	**186**	LR	LR	18 57 47.8	
	comp=Z,54nm,19.5s,MS3.7,baz=326,slow=32						
QSPA	**South Pole Qui**	**70.30**	**180**	*e*P	**P**	**18 37 58.3**	**+0.6**
	3.0nm,1.1s,mb4.1						
MJAR	**Matsushiro Arr**	**71.04**	**322**	P	**P**	**18 38 02.8**	**+0.6**
	0.9nm,1.0s,mb3.7,baz=159,slow=5.3,SNR=4.1						
NVAR	**Mina Array Bea**	**78.91**	**42**	P	**P**	**18 38 51.9**	**+4.2**
	1.9nm,0.9s,mb4.0,baz=213,slow=7.3,SNR=11						
MAW	**Mawson**	**83.03**	**199**	P	**P**	**18 39 09.1**	**-0.4**
	1.6nm,0.7s,mb4.1,baz=120,slow=9.1,SNR=4.7						
ULM	**Lac du Bonnet**	**98.58**	**40**	LR	LR	19 17 51.0	
	comp=Z,55nm,22.0s,MS4.0,baz=219,slow=31						
MKAR	**Makanchi Array**	**112.39**	**313**	PKiKP	PKiKP	18 45 20.4	+0.3
	0.6nm,0.8s,baz=50,slow=3.2,SNR=5.0						
ZRNK	**Zerenda**	**120.85**	**320**	*e*PKPdf	PKPdf	18 45 36.5	+0.2
AKASG	**Malin Array Be**	**143.46**	**333**	PKhKP		18 46 16.4	
	0.7nm,0.6s,baz=41,slow=3.9,SNR=9.7						
BSEG	**Bad Segeberg**	**145.60**	**354**	*e*PKPbc	PKPbc	18 46 24.6	+2.0
RUE	**Ruedersdorf**	**146.56**	**350**	*e*PKPbc	PKPbc	18 46 27.6	+2.1
NRDL	**Niedersach Rie**	**147.05**	**354**	*e*PKPbc	PKPbc	18 46 29.0	+2.1
IBBN	**Ibbenburen**	**147.43**	**356**	*e*PKPbc	PKPbc	18 46 30.1	+2.1
KOLS	**Kolonicke sedl**	**147.58**	**338**	*e*PKP	PKPbc	18 46 30.5	+2.1
CLZ	**Clausthal**	**147.66**	**353**	*e*PKPbc	PKPbc	18 46 30.6	+2.0
CLL	**Collm**	**147.82**	**350**	*e*PKPbc	PKPbc	18 46 30.9	+1.9
CLL	**Collm**	**147.82**	**350⇑**	*i*PKPbc	PKPbc	18 46 31.1	+2.1
	comp=Z,9.0nm,0.9s						
CLL				*i* PKPab	PKPab	18 46 34.7	+3.2
	comp=Z,7.0nm,1.0s						
CLL	**Collm**	**147.82**	**350⇑**	*i*P	PKPbc	18 46 31.1	+2.1
CLL				*i*		18 46 35.3	
CRVS	**Cervenica-Dubn**	**147.89**	**339**	*e*PKP	PKPab	18 46 32.5	+0.7
UPC	**Upice**	**147.99**	**346**	*e*PKPAB	PKPab	18 46 35.1	+2.9
BRTR	**Keskin Array B**	**148.03**	**315**	PKPbc	PKPbc	18 46 31.1	+1.5
	comp=Z,2.8nm,1.0s,baz=90,slow=1.2,SNR=11						
DPC	**Dobruska-Polom**	**148.07**	**346⇑**	*e*PKP	PKPbc	18 46 32.6	+2.9
DPC				*e*PKPAB	PKPab	18 46 35.3	+2.8
BRG	**Berggiesshubel**	**148.07**	**349**	*e*PKPbc	PKPbc	18 46 31.3	+1.6
BRG	**Berggiesshubel**	**148.07**	**349**	*e*P	PKPbc	18 46 31.6	+1.9
	comp=Z,3.9nm,1.2s						
BRG				*e*		18 46 33.7	
	comp=Z,11nm,1.8s						
BRG				*e*		22 26 17.0	
BRG							
	comp=N,34nm,18.2s						
BRG							
	comp=E,73nm,22.6s						
BRG							
	comp=Z,159nm,20.0s						
BRG	**Berggiesshubel**	**148.07**	**349**	*e*P	PKPbc	18 46 31.6	+1.9
BRG				*e*		18 46 33.7	
OKC	**Ostrava-Krasne**	**148.08**	**343**	*e*PKPAB	PKPab	18 46 35.7	+3.1
FBE	**Freiberg**	**148.13**	**349**	*e*PKPbc	PKPbc	18 46 31.8	+1.9
PVCC	**Panska Ves**	**148.28**	**348⇑**	*e*PKP	PKPbc	18 46 32.9	+2.6
BUG	**Bochum--Univer**	**148.32**	**357**	*e*PKPbc	PKPbc	18 46 31.9	+1.5
MOX	**Moxa**	**148.68**	**351**	*e*PKPbc	PKPbc	18 46 33.2	+1.9
WERD	**Werda**	**148.76**	**350**	*e*PKPbc	PKPbc	18 46 33.6	+2.1
TANN	**Tannenbergstha**	**148.77**	**350**	*e*PKPbc	PKPbc	18 46 33.6	+2.1
PRU	**Pruhonice**	**148.80**	**347⇑**	*e*PKP	PKPbc	18 46 33.9	+2.3
PRU				*e*PKPAB	PKPab	18 46 38.6	+3.1
VYHS	**Vyhne**	**149.09**	**341**	*e*PKP	PKPbc	18 46 33.5	+1.2
VYHS				*e*		18 46 38.8	
MANZ	**Manzenberg**	**149.24**	**350**	*e*PKPbc	PKPbc	18 46 34.8	+2.1
ROTZ	**Rotzenmuhle**	**149.44**	**350**	*e*PKPbc	PKPbc	18 46 35.2	+2.0
TNS	**Taunus Mts**	**149.45**	**355**	*e*PKPbc	PKPbc	18 46 35.5	+2.3
GRA1	**Grafenberg Arr**	**149.66**	**351**	*e*PKPbc	PKPbc	18 46 35.7	+2.0
GRF	**Grafenberg Arr**	**149.66**	**351**	*e*PKPbc	PKPbc	18 46 35.7	+2.0
KHC	**Kasperske Hory**	**149.81**	**348⇑**	*e*PKP	PKPbc	18 46 36.6	+2.5
KHC				*e*PKPAB	PKPab	18 46 42.1	+2.5
WET	**Wettzell**	**149.93**	**349**	*e*PKPbc	PKPbc	18 46 36.9	+2.5
GEC2	**GERESS Array S**	**150.06**	**348**	*e*PKPbc	PKPbc	18 46 36.3	+1.6
GERES	**GERESS Array B**	**150.06**	**348**	PKPbc	PKPbc	18 46 36.4	+1.7
	comp=Z,2.7nm,0.8s,baz=48,slow=2.0,SNR=19						
WLF	**Walferdange**	**150.15**	**358**	*e*PKPbc	PKPbc	18 46 37.3	+2.4
CONA	**Conrad Observa**	**150.43**	**344⇓**	*i*PKPbc	PKPbc	18 46 37.0	+1.4
	comp=Z,4.4nm,0.8s						
STU	**Stuttgart**	**150.82**	**354**	*e*PKPbc	PKPbc	18 46 38.8	+2.3
FUR	**Furstenfeldbru**	**151.15**	**351**	*e*PKPbc	PKPbc	18 46 39.1	+1.8
BFO	**Black Forest**	**151.34**	**355**	*e*PKPbc	PKPbc	18 46 39.4	+1.7
WTTA	**Wattenberg**	**151.96**	**350⇑**	*i*P	PKPbc	18 46 41.3	+2.1
	comp=Z,7.4nm,0.7s						
SQTA	**Sankt Quirin**	**152.07**	**350⇑**	*i*P	PKPbc	18 46 41.3	+1.9
	comp=Z,2.8nm,0.9s						
DAVA	**Damuels**	**152.20**	**352⇑**	*i*P	PKPbc	18 46 42.7	+3.0
	comp=Z,8.2nm,1.0s						

*ISCJB **16** 19:07:08.6±0.8, 7392N±004×140E±02, h10km, Error ellipse: s-maj=8.8km s-min=4.9km az=18.1*
*CSEM **16** 19:07:11.3±0.5, 7393N×1486E, h10km, ML2.7, Error ellipse: s-maj=18.4km s-min=8.0km az=78.0*
*NAO **16** 19:07:12.5±2.6, 7423N×1597E, ML2.6*
*BER **16** 19:07:13.1±3.2, 7409N×1389E, h10km, MD2.1, ML2.7, ML2.6(NAO)*
*HEL **16** 19:07:13.3±0.4, 7395N×1430E, h10km, ML3.1, MD2.1(BER), ML2.7(BER)*
ISC 16 19:07:11.2±0.8**, 7398N**±003×**144E**±02**, h10km, n24, σ1s38**/42**, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**1.36**	**65**	*e*P	**Pn**	**19 07 40.7**	**+4.4**
BJO1				*e*S	**Sb**	**19 07 55.5**	**+1.1**
BJO	**Bjornoya**	**1.41**	**66**	*e*P	**Pn**	**19 07 40.7**	**+3.7**
BJO				*e*S	**Sn**	**19 07 55.5**	**-0.2**
HOPEN	**Hopen**	**3.72**	**42**	*e*P	**Pn**	**19 08 10.8**	**+2.2**
HOPEN				*e*S	**Sn**	**19 08 50.2**	**-2.3**
HOPEN				AML	AML	19 08 53.2	
	comp=N,41nm,0.3s						
SPA0	**Spitsbergen Ar**	**4.25**	**6**	Pn	**Pn**	**19 08 15.2**	**-0.7**
	baz=186,slow=16						
SPA0				Sn	**Sn**	**19 08 58.2**	**-7.4**
SPA0	**Spitsbergen Ar**	**4.25**	**6**	*e*P	**Pn**	**19 08 15.2**	**-0.7**
SPA0				*e*		19 08 58.2	
SPA0	**Spitsbergen Ar**	**4.25**	**6**	Pn	**Pn**	**19 08 15.2**	**-0.8**
	SNR=50						
SPA0				Sn	**Sn**	**19 08 58.2**	**-7.4**
	SNR=50						
TRO	**Tromso**	**4.60**	**160**	*e*P	**Pn**	**19 08 21.9**	**+1.1**
TRO				*e*S	**Sn**	**19 09 13.1**	**-1.1**
KBS	**Kingsbay**	**5.00**	**355**	Pn	**Pn**	**19 08 24.3**	**-2.1**
KBS				Sn	**Sn**	**19 09 16.9**	**-7.4**
KBS	**Kingsbay**	**5.00**	**355**	*e*	**Pn**	**19 08 24.3**	**-2.1**
KBS				*e*		19 09 16.9	
KIF	**Kilpisjarvi**	**5.40**	**155**	*e*P	**Pn**	**19 08 33.5**	**+1.7**
KIF				*e*S	**Sn**	**19 09 32.9**	**-1.1**
ARA0	**ARCESS Array S**	**5.66**	**137**	Pn	**Pn**	**19 08 36.8**	**+1.4**
	baz=331,slow=14						
ARA0				Sn	**Sn**	**19 09 40.1**	**-0.4**
	baz=324,slow=22						
ARA0	**ARCESS Array S**	**5.66**	**137**	*e*P	**Pn**	**19 08 36.8**	**+1.4**
ARA0				*e*S	**Sn**	**19 09 40.1**	**-0.4**
KEV	**Kevo**	**5.78**	**131**	*e*P	**Pn**	**19 08 38.8**	**+1.7**
KEV				*e*S	**Sn**	**19 09 43.0**	**-0.4**
KEV	**Kevo**	**5.78**	**131**	P	**Pn**	**19 08 38.7**	**+1.6**
KEV				S	**Sn**	**19 09 43.0**	**-0.4**
LOF	**Lofoten**	**5.89**	**183**	*e*P	**Pn**	**19 08 40.8**	**+2.2**
LOF				*e*S	**Sn**	**19 09 44.0**	**-2.0**
APA0	**Apatity Array**	**8.82**	**127**	Pn	**Pn**	**19 09 18.9**	**+0.2**
	baz=314,slow=7.9						
APA0				Sn	**Sn**	**19 10 55.0**	**-3.1**
	baz=315,slow=28						
APA0	**Apatity Array**	**8.82**	**127**	*e*P	**Pn**	**19 09 18.9**	**+0.2**
APA0				*e*S	**Sn**	**19 10 55.0**	**-3.1**
KU4	**Liikasenvaara**	**9.19**	**139**	*e*P	**Pn**	**19 09 23.1**	**-0.7**
KU4				MPN		19 09 27.4	
	comp=Z,0.6nm,0.2s						
KU4				*e*S	**Sn**	**19 11 02.7**	**-4.6**
KU4	**Liikasenvaara**	**9.19**	**139**	P	**Pn**	**19 09 23.1**	**-0.7**
	comp=Z,0.6nm,0.2s						
MSF	**Maaselka**	**9.50**	**141**	*e*P	**Pn**	**19 09 28.1**	**0.0**
MSF				MPN		19 09 31.7	
	comp=Z,0.5nm,0.2s						
MSF				*e*S	**Sn**	**19 11 10.8**	**-4.2**
MSF	**Maaselka**	**9.50**	**141**	P	**Pn**	**19 09 28.1**	**0.0**
	comp=Z,0.5nm,0.2s						
OUL	**Oulu**	**9.78**	**150**	*e*P	**Pn**	**19 09 32.4**	**+0.6**
OUL				MPN		19 09 37.6	
	comp=Z,0.8nm,0.3s						
OUL				*e*S	**Sn**	**19 11 16.0**	**-5.7**
OUL	**Oulu**	**9.78**	**150**	P	**Pn**	**19 09 32.4**	**+0.5**
	comp=Z,0.8nm,0.3s						
KJN	**Kajaani**	**10.98**	**148**	*e*P	**Pn**	**19 09 48.9**	**+0.5**
KJN				MPN		19 09 50.3	
	comp=Z,0.9nm,0.3s						

*HLW **16** 19:08:52.1, 3484N×3269E, h33km, Mb3.1*
*ISCJB **16** 19:08:53.1±0.5, 3443N±002×3309E±005, h1km, Error ellipse: s-maj=5.6km s-min=3.4km az=160.5*
*CSEM **16** 19:08:53.0±0.1, 3446N×3303E, h5km, Mw3.0, Error ellipse: s-maj=4.3km s-min=1.9km az=93.0*
*NEIC **16** 19:08:54.0, 3454N×33.14E, h2km, ML3.1(NIC), After NIC.*
*NIC **16** 19:08:54.0±0.1, 3454N×33.14E, h2km, ML3.1, MW3.0*
ISC 16 19:08:54.4±0.8**, 3447N**±003×**3308E**±005**, h1km**±7km**, n15, σ0s92**/23**, 5C, Cyprus region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.33**	**330**	P	**Pg**	**19 09 00.3**	**-0.5**
	36nm,0.1s						
SZAC				S	**Sg**	**19 09 05.2**	**+0.1**
CSS	**Prodhromos**	**0.54**	**22**	P	**Pg**	**19 09 03.1**	**-1.5**
	7.6nm,0.2s						
CSS				S	**Sg**	**19 09 10.7**	**-0.9**
MAMC	**Mammari**	**0.71**	**9**	P	**Pg**	**19 09 07.0**	**-1.0**
PPCY	**Paphos**	**0.74**	**305**	P	**Pg**	**19 09 08.6**	**+0.1**
PPCY				S	**Sg**	**19 09 19.4**	**+1.3**
ALFC	**Alevga**	**0.80**	**330**	P	**Pg**	**19 09 09.0**	**-0.6**
	8.0nm,0.3s						
ALFC				S	**Sg**	**19 09 20.4**	**+0.4**
PHNC	**Paralimni**	**0.95**	**55**	P	**Pg**	**19 09 13.6**	**+1.0**
PHNC				S	**Sg**	**19 09 27.3**	**+2.5**
ERMK	**Ermenek**	**2.17**	**356**	*i* P	**Pn**	**19 09 31.6**	**-0.1**
ERMK				*i* S	**Sn**	**19 10 02.1**	**+2.8**
MEST	**Erdemli**	**2.29**	**22**	*i* P	**Pn**	**19 09 32.5**	**-0.8**
MEST				*i* S	**Sn**	**19 10 01.4**	**-0.7**
AMAG	**Maghara**	**3.81**	**178**	P	**Pn**	**19 09 53.7**	**-0.6**
HNKL	**Nakhl**	**4.59**	**170**	⇑P	**Pn**	**19 10 05.5**	**+0.5**
HNKL				S	**Sn**	**19 10 58.7**	**-0.2**
SUZ		**4.62**	**183**	P	**Pn**	**19 10 05.0**	**-0.3**
ZNM		**5.08**	**182**	⇑P	**Pn**	**19 10 11.4**	**-0.2**
HDHB	**Dhahab**	**5.87**	**167**	⇑P	**Pn**	**19 10 23.3**	**+0.7**
HKAT	**Jabal Katrina**	**5.98**	**172**	⇑P	**Pn**	**19 10 24.0**	**0.0**
HMAT	**Matruh**	**6.06**	**238**	⇑P	**Pn**	**19 10 18.9**	**-6.2**

MEX 16 19:18:27.0±0.3**, 1729N×10130W, h17km**±666km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.36**	**333**	*i* P	Pg	19 18 33.4	-1.0
ZIIG				*i* S	Sg	19 18 38.3	-1.1
CAIG	**El Cayaco**	**1.01**	**103**	*i* P	Pb	19 18 42.8	-3.3
CAIG				*i* S	Sb	19 18 55.0	-4.2
MEIG	**Mezcala**	**1.72**	**68**	*i* P	Pn	19 18 53.4	-2.8
MEIG				*i* S	Sn	19 19 13.8	-4.0
MOIG	**Morelia**	**2.38**	**2**	*i* P	Pn	19 19 02.2	-3.1
MOIG				*i* S	Sn	19 19 30.0	-4.0
IIZ	**Mezontepec**	**2.72**	**46**	*i* P	Pn	19 19 07.6	-2.3
IIZ				*i* S	Sn	19 19 39.5	-2.9

*STR **16** 19:18:39.9±0.7, 4304N×038W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **16** 19:18:40.4±0.2, 4304N×042W, h2km, Md2.1/2, Ml1.7/1, Error ellipse: s-maj=8.0km s-min=3.2km az=177.0*
MDD 16 19:18:41.3±0.7**, 4297N×039W, h9km**±9km**, mbLg1.0**/2**, Error ellipse: s-maj=6.0km s-min=2.5km az=16.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ETSF	**Etsaut**	**0.14**	**241**	*e*Pg	Pg	19 18 43.8	-0.6
ETSF				*e*Sg	Sg	19 18 46.8	+0.2
ATE	**Arette**	**0.26**	**297**	Pg	Pg	19 18 43.9	-2.5
ATE				Sg	Sg	19 18 47.3	-2.6
VIEF	**Viey**	**0.31**	**106**	Pg	Pg	19 18 46.1	-1.4
VIEF				Sg	Sg	19 18 51.0	-0.7
LARF	**Larrau**	**0.45**	**279**	Pg	Pg	19 18 48.8	-1.1
LARF				Sg	Sg	19 18 54.4	-1.4
EBIE	**Bielsa**	**0.48**	**126**	Pg	Pg	19 18 49.7	-1.0
	0.1nm,0.1s,SNR=7.9						
EBIE				Lg		19 18 57.2	
	1.1nm,0.1s,SNR=17						
EPF	**Esparros**	**0.54**	**83**	*e*Pg	Pg	19 18 51.6	-0.1
EPF				*e*Sg	Sg	19 18 58.2	-0.5
EALK	**Alkurruntz**	**0.86**	**287**	Pg	Pg	19 18 58.3	+0.5
	0.1nm,0.0s,SNR=7.9						
EALK				Lg		19 19 07.3	
	0.2nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.94**	**78**	*e*Pn	Pn	19 19 13.1	-1.3
MTLF	**Montolieu**	**1.94**	**78**	*e*Pg	Pg	19 19 17.8	-0.7
MTLF				*e*Sg	Sg	19 19 40.2	-3.5
	2.9nm,0.9s						
MTLF	**Montolieu**	**1.94**	**78**	Pn	Pn	19 19 13.1	-1.3
MTLF				Pg	Pg	19 19 17.8	-0.7
MTLF				Lg		19 19 40.2	
	1.4nm,0.9s						

*SZGRF **16** 19:21:38.8, 4603N×15281E, h33km, mb4.6, Kuril Islands, Russia*
*SKHL **16** 19:21:48.5±1.5, 4670N×153.10E, h125km±24km, mb4.5/3, msha5.5/3*
*MOS **16** 19:21:49.2±1.4, 4727N×15268E, h99km, mb4.4/19, Error ellipse: s-maj=9.7km s-min=6.9km az=104.3*
*BJI **16** 19:21:49.8, 4727N×15250E, h103km, mB4.4, mb4.6*
*ISCJB **16** 19:21:51.3±0.8, 4701N±006×15256E±010, h120km±5km, mb4.4/49, Error ellipse: s-maj=13.9km s-min=5.6km az=82.1*
*NEIC **16** 19:21:51.4±2.1, 4721N×15253E, h103km±17km, mb4.4/21, Error ellipse: s-maj=17.7km s-min=12.2km az=105.0*
*IDC **16** 19:21:53.3±4.1, 4727N×15249E, h121km±37km, mb3.8/11, mb1 4.0/13, mb1mx3.8/20, mbtmp4.2/13, MS2.6/1, Ms1 2.6/1, ms1mx1.9/35, Error ellipse: s-maj=24.9km s-min=23.3km az=37.0*
ISC 16 19:21:52.6±0.7**, 4703N**±006×**15254E**±010**, h120km**±4km**, n164, σ1s25**/183**, mb4.4**/49**, 11C-10D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.71**	**243**	*e*P	**Pn**	**19 22 47.8**	**-0.5**
KUR				AMB	AMB	19 22 48.2	
	100nm,0.5s						
KUR				*e*S	**Sn**	**19 23 33.0**	**+1.6**
KUR				A		19 23 34.3	
	380nm,0.6s						
KUR				A		19 23 34.3	
	290nm,0.6s						
KUR	**Kuril'sk**	**3.71**	**243**	*e*PN	**Pn**	**19 22 47.8**	**-0.5**
KUR				*e*S	**Sn**	**19 23 33.0**	**+1.6**
KUR				pmax	pmax		
	comp=Z,100nm,0.5s						
KUR				smax			
	comp=N,450nm,0.6s						
KUR				smax			
	comp=E,320nm,0.6s						
SKR	**Severo-Kuril's**	**4.35**	**31**	*e*PN	**Pn**	**19 22 49.1**	**-7.7**
SKR				*e*S	**Sn**	**19 23 34.5**	**-12**
SKR				pmax	pmax		
	comp=Z,70nm,0.4s						
SKR				pmax	pmax		
	comp=N,60nm,0.3s						
SKR				smax			
	comp=N,200nm,0.3s						
SKR				smax			
	comp=E,310nm,0.3s						
PAU	**Pauzhetka**	**5.25**	**31**	*e*P	**Pn**	**19 23 08.1**	**-0.8**
PAU				*i* S	**Sn**	**19 24 09.0**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**5.57**	**240⇓**	*i*P	**Pn**	**19 23 14.3**	**+1.2**
YUK				AMB	AMB	19 23 14.8	
	comp=E,160nm,0.3s						
YUK				*e*S	**Sn**	**19 24 17.0**	**+1.1**
YUK				A		19 24 21.5	
	comp=E,250nm,0.5s						
YUK				A		19 24 21.5	
	comp=E,440nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.57**	**240⇓**	*i*PN	**Pn**	**19 23 14.3**	**+1.2**
YUK				*e*S	**Sn**	**19 24 17.0**	**+1.1**
YUK				pmax	pmax		
	comp=Z,900nm,0.3s						
YUK				pmax	pmax		
	comp=N,110nm,0.3s						
YUK				pmax	pmax		
	comp=E,160nm,0.3s						
YUK				smax			
	comp=N,250nm,0.5s						
YUK				smax			
	comp=E,440nm,0.5s						
NEM2	**Nemuro 2**	**6.04**	**235**	P	**Pn**	**19 23 18.2**	**-1.3**
NEM2				*e*S	**Sn**	**19 24 22.9**	**-4.4**
JRA	**Rausu**	**6.06**	**242**	P	**Pn**	**19 23 21.3**	**+1.5**
JNK	**Nakash**	**6.50**	**241**	P	**Pn**	**19 23 26.4**	**+0.6**
YSS	**Yuzh-Sakhalins**	**6.70**	**273⇑**	*e*P	**Pn**	**19 23 31.7**	**+3.3**
YSS				AMB	AMB	19 23 33.0	
	comp=E,20nm,1.0s						
YSS				*e*S	**Sn**	**19 24 48.8**	**+5.6**
YSS				A		19 24 53.3	
	comp=E,50nm,1.3s						
YSS	**Yuzh-Sakhalins**	**6.70**	**273⇑**	*e*PN	**Pn**	**19 23 31.7**	**+3.3**
YSS				*e*S	**Sn**	**19 24 48.8**	**+5.6**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				smax			
	comp=N,50nm,1.3s						
YSS	**Yuzh-Sakhalins**	**6.70**	**273**	*e*P	**Pn**	**19 23 29.6**	**+1.2**
	comp=N,16nm,0.8s						
JTKR	**Abashiri--Toko**	**6.79**	**246**	P	**Pn**	**19 23 31.3**	**+1.6**
JAK	**Akkeshi**	**6.87**	**237**	P	**Pn**	**19 23 29.5**	**-1.2**
JAK				*e*S	**Sn**	**19 24 43.1**	**-4.2**
JMP	**Maruseppu**	**7.12**	**248**	P	**Pn**	**19 23 35.9**	**+1.7**
JAR	**Ashorobuto**	**7.24**	**242**	P	**Pn**	**19 23 36.5**	**+0.8**
JOB	**Onbets**	**7.42**	**239**	P	**Pn**	**19 23 38.1**	**-0.1**
JOB				*e*S	**Sn**	**19 24 57.9**	**-2.9**
TYV	**Tymovskoe**	**7.56**	**304**	*e*P	**Pn**	**19 23 42.0**	**+2.0**
TYV				AMB	AMB	19 23 47.0	
	comp=N,22nm,1.0s						
TYV				AMB	AMB	19 23 47.0	
	comp=N,28nm,1.0s						
ASAJ	**Asahikawa**	**7.56**	**251**	P	**Pn**	**19 23 42.3**	**+2.2**
	comp=N,3.1nm,0.3s,baz=78,slow=14,SNR=60						
ASAJ				LR	LR	19 27 06.6	
	comp=N,46nm,21.4s,baz=174,slow=41						
ASAJ	**Asahikawa**	**7.56**	**251**	P	**Pn**	**19 23 42.8**	**+2.7**

ASAJ	**Asahikawa**	**7.56**	**251**	PN	**Pn**	**19 23 42.3**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,46nm,21.4s						
JKK2	**Kamakawa 2**	**7.58**	**249**	P	**Pn**	**19 23 42.4**	**+2.1**
JCH	**Churui**	**7.88**	**239**	P	**Pn**	**19 23 43.4**	**-1.0**
JCH				*e*S	**Sn**	**19 25 07.2**	**-4.6**
JFR	**Furan**	**8.03**	**245**	P	**Pn**	**19 23 48.2**	**+1.8**
JAB	**Ashibetsu**	**8.09**	**248**	P	**Pn**	**19 23 49.4**	**+2.2**
JEM	**Erimo**	**8.37**	**237**	P	**Pn**	**19 23 50.7**	**-0.3**
JBT2	**Biratori 2**	**8.38**	**243**	P	**Pn**	**19 23 50.9**	**-0.3**
JNBK	**Urakawa-nobuka**	**8.44**	**239**	P	**Pn**	**19 23 50.0**	**-2.0**
JNB	**Noboribetsu**	**9.37**	**245**	P	**Pn**	**19 24 03.8**	**-0.7**
JNB				*e*S	**Sn**	**19 25 45.0**	**-2.9**
JKB	**Kayabe**	**9.70**	**242**	P	**Pn**	**19 24 07.0**	**-2.0**
JKB				*e*S	**Sn**	**19 25 48.4**	**-7.6**
JSH	**Shimam**	**9.90**	**248**	P	**Pn**	**19 24 11.9**	**+0.2**
JYM2	**Yakumo 2**	**9.97**	**245**	P	**Pn**	**19 24 11.6**	**-1.1**
JSR	**Shiriuchi**	**10.28**	**242**	P	**Pn**	**19 24 14.7**	**-2.1**
JSR				*e*S	**Sn**	**19 26 01.8**	**-8.3**
JTM	**Tenmabayashi**	**10.36**	**237**	P	**Pn**	**19 24 14.4**	**-3.5**
JTM				*e*S	**Sn**	**19 26 01.9**	**-10**
JANG	**Nango**	**10.38**	**234**	P	**Pn**	**19 24 14.3**	**-3.9**
JANG				*e*S	**Sn**	**19 26 02.3**	**-10**
JTH	**Tanohata**	**10.50**	**231**	P	**Pn**	**19 24 15.4**	**-4.3**
JTH				*e*S	**Sn**	**19 26 05.0**	**-10**
JOSM	**Okushiri--Mats**	**10.55**	**247**	P	**Pn**	**19 24 19.6**	**-0.8**
JRG	**Rokugo**	**11.55**	**233**	P	**Pn**	**19 24 30.8**	**-2.9**
JRG				*e*S	**Sn**	**19 26 32.9**	**-8.0**
HABR	**Khabarovsk**	**11.87**	**283**	*e*PN	**Pn**	**19 24 40.8**	**+2.9**
HABR				*e*		19 26 56.2	
JFK	**Kawauchi**	**12.95**	**226**	*e*S	**Sn**	**19 27 04.5**	**-10**
EKMR	**Ekimchan**	**13.95**	**303**	*e*P	**Pn**	**19 25 05.2**	**+0.3**
EKMR				AMB	AMB	19 25 08.7	
	comp=Z,8.0nm,0.5s						
KLR	**Kul'dur**	**14.06**	**287**	*e*P	**Pn**	**19 25 07.0**	**+0.6**
MJAR	**Matsushiro Arr**	**14.94**	**231**	P	**Pn**	**19 25 17.8**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=30,slow=13,SNR=20						
MAJO	**Matsushiro**	**14.95**	**231**	*e*P	**Pn**	**19 25 17.2**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MAJO	**Matsushiro**	**14.95**	**231**	*e*P	**Pn**	**19 25 17.2**	**-0.3**
	comp=Z,4.6nm,0.5s						
MAT	**Matsushiro**	**14.95**	**231**	P	**Pn**	**19 25 17.2**	**-0.4**
MAT	**Matsushiro**	**14.95**	**231**	*e*P	**Pn**	**19 25 17.0**	**-0.6**
VLA	**Vladivostok**	**15.10**	**263**	*c i*P	**Pn**	**19 25 20.4**	**+0.9**
MDJ	**Mudanjiang**	**16.17**	**270**	*e*P	**Pn**	**19 25 32.1**	**-0.7**
	comp=Z,7.3nm,0.8s						
YAK	**Yakutsk**	**19.88**	**327**	⇑*i*P	**P**	**19 26 13.6**	**-0.7**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
YAK	**Yakutsk**	**19.88**	**327**	*e*P	**P**	**19 26 13.0**	**-1.3**
	comp=Z,13nm,0.8s						
BOD	**Bodaibo**	**25.51**	**309**	*e*P	**P**	**19 27 07.8**	**-1.9**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.5						
TIXI	**Tiksi**	**27.09**	**344**	*e*P	**P**	**19 27 21.6**	**-2.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
NJ2	**Nanjing**	**29.71**	**252**	*e*P	**P**	**19 27 46.8**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
ULN	**Ulaanbaatar**	**30.44**	**289**	*i* P	**P**	**19 27 53.5**	**-0.1**
ULN	**Ulaanbaatar**	**30.44**	**289**	*e*P	**P**	**19 27 52.8**	**-0.8**
	comp=Z,0.8nm,0.5s,mb3.6						
SONM	**Songino Array**	**30.87**	**289**	P	**P**	**19 27 57.1**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.6,baz=78,slow=6.2,SNR=8.3						
SONM	**Songino Array**	**30.87**	**289**	P	**P**	**19 27 57.1**	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAK	**Zakamensk**	**32.21**	**294**	*e*P	**P**	**19 28 08.0**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.6						
XAN	**Xi'an**	**35.15**	**264**	P	**P**	**19 28 35.8**	**+1.2**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
LZH	**Lanzhou**	**37.49**	**271**	*e*P	**P**	**19 28 55.5**	**+1.0**
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.9						
GTA	**Gaotai**	**38.54**	**278**	*e*P	**P**	**19 29 04.8**	**+1.5**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
WMQ	**Urumqi**	**44.46**	**291**	P	**P**	**19 29 52.3**	**+0.7**
KMI	**Kunming**	**44.91**	**259**	P	**P**	**19 29 56.8**	**+1.6**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.2						
MKAR	**Makanchi Array**	**46.47**	**297**	P	**P**	**19 30 06.5**	**-1.0**
	comp=Z,3.5nm,0.7s,mb4.2,baz=67,slow=8.1,SNR=38						
MKAR				PcP	PcP	19 31 39.5	-0.6
	comp=Z,0.7nm,0.5s,baz=69,slow=2.7,SNR=6.2						
MKAR	**Makanchi Array**	**46.47**	**297**	P	**P**	**19 30 06.5**	**-0.9**
MKAR						19 31 39.5	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**46.47**	**297**	P	**P**	**19 30 06.5**	**-1.0**
MKAR				PcP	PcP	19 31 39.5	-0.6
KURK	**Kurchatov**	**46.89**	**303**	*c i*P	**P**	**19 30 09.0**	**-1.7**
KURK	**Kurchatov**	**46.89**	**303**	*e*P	**P**	**19 30 09.0**	**-1.6**
	comp=Z,5.8nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**49.95**	**310**	*e*P	**P**	**19 30 31.4**	**-2.8**
CHKZ				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**49.95**	**310**	*e*P	**P**	**19 30 31.4**	**-2.8**
	comp=Z,12nm,0.8s,mb4.9						
BVAR	**Borovoye Array**	**50.38**	**309**	P	**P**	**19 30 36.2**	**-1.2**
	comp=Z,2.9nm,0.3s,mb4.6,baz=60,slow=7.6,SNR=50						
BVAR				PcP	PcP	19 31 53.8	-0.4
	comp=Z,0.9nm,0.4s,baz=84,slow=2.5,SNR=5.7						
BVAR	**Borovoye Array**	**50.38**	**309**	P	**P**	**19 30 36.2**	**-1.2**
BVAR						19 31 53.8	
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZRNK	**Zerenda**	**51.15**	**309**	P	**P**	**19 30 40.3**	**-2.9**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
ZRNK	**Zerenda**	**51.15**	**309**	P	**P**	**19 30 40.3**	**-2.8**
	comp=Z,3.5nm,0.4s,mb4.7						
JIRN	**Jiri**	**54.54**	**274**	*e*P	**P**	**19 31 10.2**	**+2.2**
ARU	**Arti**	**54.54**	**317**	⇑*i*P	**P**	**19 31 06.2**	**-1.9**
ARU				*e*		19 32 10.6	
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ARU	**Arti**	**54.54**	**317**	*e*P	**P**	**19 31 06.1**	**-2.0**
	comp=Z,5.0nm,0.5s,mb4.8						
KKN	**Kakani**	**55.07**	**275**	*e*P	**P**	**19 31 13.7**	**+1.8**
	comp=Z,25nm,0.7s,mb5.3						
KKN	**Kakani**	**55.07**	**275**	*e*P	**P**	**19 31 13.7**	**+1.8**
KKN				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.3						
PKI	**Pulchoki**	**55.13**	**274**	*e*P	**P**	**19 31 13.9**	**+1.6**
	comp=Z,17nm,0.7s,mb5.2						
PKI	**Pulchoki**	**55.13**	**274**	*e*P	**P**	**19 31 13.9**	**+1.6**
PKI				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.2						
DMN	**Daman**	**55.31**	**275**	*e*P	**P**	**19 31 15.5**	**+1.9**
	comp=Z,50nm,0.9s,mb5.5						
GKN	**Gorkha**	**55.38**	**275**	*e*P	**P**	**19 31 15.7**	**+1.6**
	comp=Z,52nm,0.7s						
KOLN	**Koldanda**	**56.23**	**276**	*e*P	**P**	**19 31 21.8**	**+1.6**
	comp=Z,37nm,0.8s,mb5.4						
KEV	**Kevo**	**56.95**	**340**	*e*p	**P**	**19 31 21.8**	**-3.5**
ARCES	**ARCESS Array B**	**57.46**	**341**	P	**P**	**19 31 27.5**	**-1.3**
	comp=Z,1.1nm,0.6s,mb4.1,baz=33,slow=7.3,SNR=12						
ARCES	**ARCESS Array B**	**57.46**	**341**	P	**P**	**19 31 27.5**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**57.46**	**341**	P	**P**	**19 31 27.5**	**-1.4**
JOF	**Joensuu**	**60.91**	**333**	*e*p	**P**	**19 31 48.8**	**-3.8**
	comp=Z,3.0nm,0.6s,mb4.5						
JOF	**Joensuu**	**60.91**	**333**	*e*P	**P**	**19 31 48.8**	**-3.8**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
NVAR	**Mina Array Bea**	**62.65**	**62**	P	**P**	**19 32 04.3**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=292,slow=8.6,SNR=7.5						
NVAR				pP	pP	19 32 33.6	+0.2
	comp=Z,0.7nm,0.7s,baz=289,slow=7.9,SNR=4.4						
KAF	**Kangasniemi**	**63.03**	**335**	*e*p	**P**	**19 32 04.3**	**-2.5**
	comp=Z,1.5nm,0.4s,mb4.3,baz=38,slow=6.2						
KAF	**Kangasniemi**	**63.03**	**335**	*e*P	**P**	**19 32 04.3**	**-2.5**
KAF				pmax	pmax		

	comp=Z,2.0nm,0.4s,mb4.4						
FINES	**FINESS Array B**	**63.62**	**334**	P	**P**	**19 32 09.1**	**-1.6**
	comp=Z,2.5nm,0.4s,mb4.4,baz=38,slow=7.4,SNR=68						
FINES	**FINESS Array B**	**63.62**	**334**	P	**P**	**19 32 09.1**	**-1.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
FINES	**FINESS Array B**	**63.62**	**334**	P	**P**	**19 32 09.1**	**-1.6**
NB2	**NORSAR Subarra**	**67.84**	**341**	P	**P**	**19 32 36.5**	**-1.2**
	comp=Z,6.8nm,0.6s,mb4.7,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**67.84**	**341**	P	**P**	**19 32 36.7**	**-1.1**
	comp=Z,7.4nm,0.6s,mb4.7,baz=28,slow=6.4,SNR=30						
NOA	**NORSAR Array B**	**67.84**	**341**	P	**P**	**19 32 36.7**	**-1.0**
NOA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NOA	**NORSAR Array B**	**67.84**	**341**	P	**P**	**19 32 36.7**	**-1.1**
AKASG	**Malin Array Be**	**71.10**	**326**	P	**P**	**19 32 56.0**	**-1.7**
	comp=Z,1.5nm,0.3s,mb4.3,baz=34,slow=6.2,SNR=7.1						
AKASG	**Malin Array Be**	**71.10**	**326**	P	**P**	**19 32 56.0**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAR	**Alice Springs**	**72.35**	**198**	P	**P**	**19 33 07.4**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=15,slow=6.2,SNR=4.1						
OJC	**Ojcow**	**74.89**	**331**	*e*P	**P**	**19 33 19.8**	**-0.3**
KOLS	**Kolonicke sedl**	**75.13**	**329**	*e*P	**P**	**19 33 20.7**	**-0.8**
BURAR	**Bucovina Array**	**75.14**	**326**	⇓*i*P	**P**	**19 33 21.0**	**-0.5**
BURAR	**Bucovina Array**	**75.14**	**326**	⇓P	**P**	**19 33 21.0**	**-0.6**
NIE	**Niedzica**	**75.40**	**330**	*e*P	**P**	**19 33 23.0**	**0.0**
CRVS	**Cervenica-Dubn**	**75.44**	**329**	*e*P	**P**	**19 33 23.0**	**-0.2**
UPC	**Upice**	**75.86**	**333**	*e*P	**P**	**19 33 25.4**	**-0.2**
DPC	**Dobruska-Polom**	**75.90**	**333**	*e*P	**P**	**19 33 26.0**	**+0.1**
MORC	**Moravsky Berou**	**76.01**	**332**	⇑*i*P	**P**	**19 33 26.2**	**-0.3**
CLL	**Collm**	**76.05**	**335**	⇓P	**P**	**19 33 26.2**	**-0.5**
	comp=Z,logA/T=1.3,mb4.8						
CLL	**Collm**	**76.05**	**335**	⇓*i*P	**P**	**19 33 26.2**	**-0.5**
CLL				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.8						
CLL	**Collm**	**76.05**	**335**	⇓*i*P	**P**	**19 33 26.2**	**-0.5**
	comp=Z,13nm,0.6s,mb4.8						
CLL				*i*		19 33 27.9	
MLR	**Muntele Rosu**	**76.61**	**325**	⇑*i*P	**P**	**19 33 30.8**	**+0.9**
MLR	**Muntele Rosu**	**76.61**	**325**	⇑P	**P**	**19 33 30.8**	**+0.9**
VYHS	**Vyhne**	**76.69**	**330**	*e*P	**P**	**19 33 29.9**	**-0.5**
VYHS				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
VYHS	**Vyhne**	**76.69**	**330**	*e*P	**P**	**19 33 29.9**	**-0.5**
	comp=Z,1.7nm,0.6s,mb4.0						
PRU	**Pruhonice**	**76.77**	**334**	*e*P	**P**	**19 33 30.9**	**+0.1**
VOIR		**77.01**	**325**	⇓*i*P	**P**	**19 33 32.5**	**+0.4**
VOIR		**77.01**	**325**	⇓P	**P**	**19 33 32.5**	**+0.4**
KHC	**Kasperske Hory**	**77.82**	**334**	*e*P	**P**	**19 33 37.0**	**+0.4**
BR131	**Keskin Array S**	**77.92**	**316**	*e*P	**P**	**19 33 37.8**	**+0.6**
	comp=Z,3.7nm,0.9s,mb4.1						
BRTR	**Keskin Array B**	**77.92**	**316**	P	**P**	**19 33 37.2**	**+0.1**
	comp=Z,2.5nm,0.8s,mb4.0,baz=83,slow=4.1,SNR=16						
BRTR	**Keskin Array B**	**77.92**	**316**	P	**P**	**19 33 37.3**	**+0.1**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GRA1	**Grafenberg Arr**	**78.01**	**335**	*e*P	**P**	**19 33 37.9**	**+0.2**
	comp=Z,4.0nm,0.7s,mb4.3						
GRF	**Grafenberg Arr**	**78.01**	**335**	*e*P	**P**	**19 33 37.9**	**+0.2**
	comp=Z,4.0nm,0.7s,mb4.3						
GRF	**Grafenberg Arr**	**78.01**	**335**	*e*P	**P**	**19 33 37.9**	**+0.2**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
GERES	**GERESS Array B**	**78.04**	**334**	P	**P**	**19 33 37.1**	**-0.7**
	comp=Z,1.2nm,0.5s,mb3.9,baz=35,slow=5.8,SNR=16						
GERES	**GERESS Array B**	**78.04**	**334**	P	**P**	**19 33 37.1**	**-0.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
UMR	**Umm Al-Rimmam**	**78.15**	**301**	*e*P	**P**	**19 33 39.1**	**+0.6**
UMR				AMb	AMB	19 33 39.9	
	comp=Z,36nm,0.4s,mb5.4						
BZS	**Buzias**	**78.17**	**327**	⇑*i*P	**P**	**19 33 38.1**	**-0.5**
MIB	**Mutribah**	**78.19**	**301**	*e*P	**P**	**19 33 39.2**	**+0.6**
MIB				AMb	AMB	19 33 40.1	
	comp=Z,46nm,0.4s,mb5.5						
RST	**Umm Al-Ruwaisa**	**78.61**	**301**	*e*P	**P**	**19 33 41.2**	**+0.2**
RST				AMb	AMB	19 33 42.2	
	comp=Z,48nm,0.6s,mb5.5						
QRN	**Al-Qurain**	**78.62**	**300**	*e*P	**P**	**19 33 42.0**	**+0.9**
NAY	**Al-Naaiem**	**78.65**	**301**	*e*P	**P**	**19 33 41.5**	**+0.3**
NAY				AMb	AMB	19 33 43.7	
	comp=Z,14nm,1.1s,mb4.7						
BAIF	**Baives**	**79.49**	**340**	*e*P	**P**	**19 33 45.8**	**0.0**
	comp=Z,7.3nm,0.9s,mb4.2						
WATA	**Walderalm**	**80.03**	**334**	⇑*i*P	**P**	**19 33 49.3**	**+0.6**
	comp=Z,1.3nm,0.7s,mb3.8						
WTTA	**Wattenberg**	**80.07**	**334**	⇓*i*P	**P**	**19 33 50.1**	**+1.2**
	comp=Z,5.0nm,0.4s,mb4.7						
CDF	**Champ du Feu**	**80.25**	**337**	*e*P	**P**	**19 33 50.0**	**+0.1**
	comp=Z,2.7nm,0.5s,mb4.0						
LOR	**Lormes**	**82.18**	**339**	*e*P	**P**	**19 33 59.9**	**-0.2**
	comp=Z,3.7nm,0.6s,mb4.1						
GRR	**Gorron**	**82.19**	**342**	*e*P	**P**	**19 34 00.5**	**+0.4**
	comp=Z,7.6nm,0.7s,mb4.3						
SGMF	**Saint Gilles**	**82.66**	**344**	*e*P	**P**	**19 34 02.9**	**+0.4**
	comp=Z,6.9nm,0.7s,mb4.3						
AVF	**Avril sur Loir**	**82.75**	**339**	*e*P	**P**	**19 34 03.2**	**+0.2**
	comp=Z,5.3nm,0.9s,mb4.1						
AVF	**Avril sur Loir**	**82.75**	**339**	*e*P	**P**	**19 34 03.2**	**+0.2**
AVF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
AVF	**Avril sur Loir**	**82.75**	**339**	*e*P	**P**	**19 34 03.2**	**+0.2**
	comp=Z,2.7nm,0.9s,mb4.1						
SMF	**Signal de Mont**	**82.77**	**339**	*e*P	**P**	**19 34 03.4**	**+0.3**
	comp=Z,7.5nm,0.8s,mb4.3						
SMF	**Signal de Mont**	**82.77**	**339**	*e*P	**P**	**19 34 03.4**	**+0.3**
SMF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
SMF	**Signal de Mont**	**82.77**	**339**	*e*P	**P**	**19 34 03.4**	**+0.3**
	comp=Z,3.8nm,0.8s,mb4.3						
LPL	**La Plagne**	**83.06**	**337**	*e*P	**P**	**19 34 05.2**	**+0.5**
LPG	**La Plagne**	**83.08**	**337**	*e*P	**P**	**19 34 05.3**	**+0.6**
	comp=Z,3.3nm,0.7s,mb4.0						
LPG	**La Plagne**	**83.08**	**337**	*e*P	**P**	**19 34 05.3**	**+0.6**
LPG				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
LPG	**La Plagne**	**83.08**	**337**	*e*P	**P**	**19 34 05.3**	**+0.6**
	comp=Z,1.6nm,0.7s,mb4.0						
MFF	**Saint Martin d**	**83.73**	**341**	*e*P	**P**	**19 34 08.1**	**0.0**
	comp=Z,5.3nm,0.7s,mb4.2						
MBDF	**Montbardon**	**83.78**	**336**	*e*P	**P**	**19 34 08.8**	**+0.5**
	comp=Z,1.5nm,0.3s,mb3.9						
MBDF	**Montbardon**	**83.78**	**336**	*e*P	**P**	**19 34 08.8**	**+0.5**
MBDF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
MBDF	**Montbardon**	**83.78**	**336**	*e*P	**P**	**19 34 08.8**	**+0.5**
	comp=Z,0.8nm,0.3s,mb4.0						
ORIF	**Oris-en-Rattie**	**83.85**	**337**	*e*P	**P**	**19 34 08.8**	**+0.1**
SMRF	**Simiane la Rot**	**84.80**	**337**	*e*P	**P**	**19 34 13.7**	**+0.2**
CAF	**Calviac**	**84.81**	**339**	*e*P	**P**	**19 34 15.0**	**+1.5**
FRF	**La Foret Royal**	**84.89**	**336**	*e*P	**P**	**19 34 14.2**	**+0.3**
LMR	**La Mourre**	**85.14**	**336**	*e*P	**P**	**19 34 15.7**	**+0.5**
	comp=Z,16nm,1.1s,mb4.6						

MAN 16 19:32:40.6, 802N×12338E, h32km, mb2.2, ML3.9, MS7.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.17**	**179**	*e*P	Pb	19 32 48.4	+1.6
PAGZ				*e*S	Sb	19 32 52.9	+1.9
DCPH	**Dipolog City**	**0.56**	**357**	*e*P	Pb	19 32 52.5	+0.5
IPIL	**Ipil**	**0.83**	**254**	⇓*i*P	Pn	19 32 56.3	+0.2
IPIL				*i* S	Sn	19 33 06.9	-0.4
IPIL	**Ipil**	**0.83**	**254**	*e*P	Pn	19 32 56.3	+0.2
IPIL				*e*S	Sn	19 33 06.6	-0.7

NIED ***16*** *20:01:00, 4270N×14350E, h98km, Mw4.0 Best double couple: Mo1.31000×10^15 NP1:φs152.00000°, δ68.00000°, λ85.00000°. NP2:φs344.00000°, δ23.00000°, λ101.00000°.*
ISCJB ***16*** *20:01:32.0±0.3, 4266N±003×14355E±004, h97km±2km, mb4.1/29, Error ellipse: s-maj=5.8km s-min=3.8km az=115.1*
BJI ***16*** *20:01:32.1, 4270N×14358E, h98km, mB4.8, mb4.5*
MOS ***16*** *20:01:32.3±1.1, 4265N×14352E, h104km, mb4.2/18, Error ellipse: s-maj=11.4km s-min=7.4km az=85.4*
NEIC ***16*** *20:01:33.1±0.3, 4268N×14349E, mb4.3/13, Error ellipse: s-maj=8.5km s-min=5.8km az=132.0*
NEIC Recorded [3 JMA] in the Kushiro area and [1 JMA] in eastern and south-central Hokkaido. Also recorded [1 JMA] in Aomori Prefecture, Honshu.
JMA ***16*** *20:01:33.6±0.1, 4267N×14350E, h86km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φs302.00000°, δ40.00000°, λ72.00000°. NP2: φs145.00000°, δ52.00000°, λ105.00000°. Principal axes: T Plg77.0000°, Azm108.0000°; N Plg11.0000°, Azm316.0000°; P Plg6.0000°, Azm225.0000°;*
JMA Felt III J1.
IDC ***16*** *20:01:34.2±2.0, 4277N×14344E, h94km±13km, mb3.8/15, mb1 4.0/16, mb1mx3.9/23, mbtmp4.2/16, MS3.2/3, Ms1 3.2/3, ms1mx2.7/30 Error ellipse: s-maj=20.6km s-min=15.6km az=169.0*

ISC 16 20:01:33.1±0.3, 4268N±003×14355E±004, h92km±2km, n96, σ0.84/115, mb4.1/29, 10C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCH	**Churui**	**0.15**	**245**	⇑P	**Pn**	**20 01 45.8**	**-0.4**
JCH				S	**Sn**	**20 01 54.6**	**-1.3**
JOB	**Onbets**	**0.31**	**43**	⇑P	**Pn**	**20 01 47.1**	**+0.3**
JOB				*e*S	**Sn**	**20 01 57.0**	**0.0**
JAR	**Ashorobuto**	**0.64**	**15**	P	**Pn**	**20 01 49.4**	**+0.2**
JAR				*e*S	**Sn**	**20 02 00.9**	**-0.4**
JNBK	**Urakawa-nobuka**	**0.71**	**236**	⇑P	**Pn**	**20 01 49.9**	**0.0**
JEM	**Erimo**	**0.72**	**204**	⇑P	**Pn**	**20 01 49.9**	**-0.1**
JFR	**Furan**	**0.85**	**305**	⇑P	**Pn**	**20 01 50.8**	**-0.5**
JFR				*e*S	**Sn**	**20 02 03.8**	**-1.1**
JBT2	**Biratori 2**	**0.88**	**277**	⇑P	**Pn**	**20 01 51.5**	**-0.1**
JBT2				*e*S	**Sn**	**20 02 05.3**	**-0.1**
JAK	**Akkeshi**	**0.91**	**69**	⇓P	**Pn**	**20 01 51.9**	**0.0**
JAK				*e*S	**Sn**	**20 02 05.2**	**-0.8**
JNK	**Nakash**	**1.25**	**43**	⇓P	**Pn**	**20 01 55.8**	**0.0**
JNK				*e*S	**Sn**	**20 02 12.3**	**-0.7**
JAB	**Ashibetsu**	**1.27**	**311**	⇑P	**Pn**	**20 01 56.7**	**+0.6**
JAB				S	**Sn**	**20 02 14.0**	**+0.5**
JTKR	**Abashiri--Toko**	**1.32**	**11**	⇓P	**Pn**	**20 01 57.0**	**+0.3**
JTKR				*e*S	**Sn**	**20 02 14.3**	**-0.2**
JKK2	**Kamakawa 2**	**1.33**	**334**	⇑P	**Pn**	**20 01 57.2**	**+0.4**
JMP	**Maruseppu**	**1.34**	**354**	⇓P	**Pn**	**20 01 57.1**	**+0.2**
JMP				*e*S	**Sn**	**20 02 14.8**	**-0.1**
JEW	**Eniwo**	**1.55**	**277**	P	**Pn**	**20 02 00.5**	**+0.9**
JEW				*e*S	**Sn**	**20 02 20.4**	**+0.7**
ASAJ	**Asahikawa**	**1.60**	**335**	P	**Pn**	**20 02 01.1**	**+0.9**
	38nm,0.3s,baz=195,slow=13,SNR=220						
ASAJ				S	**Sn**	**20 02 19.1**	**-1.5**
	37nm,0.3s,baz=141,slow=24,SNR=12						
ASAJ	**Asahikawa**	**1.60**	**335**	PN	**Pn**	**20 02 01.1**	**+1.0**
ASAJ				S	**Sn**	**20 02 19.1**	**-1.5**
ASAJ				pmax	pmax		
	comp=Z,38nm,0.3s						
ASAJ				smax			
	comp=E,37nm,0.3s						
JHR	**Hokuryu**	**1.70**	**309**	P	**Pn**	**20 02 02.6**	**+1.1**
JHR				*e*S	**Sn**	**20 02 24.2**	**+1.1**
JRA	**Rausu**	**1.71**	**42**	⇓P	**Pn**	**20 02 02.3**	**+0.8**
JRA				*e*S	**Sn**	**20 02 24.4**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**2.17**	**50**	⇓*i*PN	**Pn**	**20 02 08.2**	**+0.7**
YUK				*i* S	**Sn**	**20 02 34.0**	**+0.1**
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				pmax	pmax		
	comp=N,420nm,0.4s						
YUK				pmax	pmax		
	comp=E,610nm,0.3s						
YUK				smax			
	comp=N,10μm,0.8s						
YUK				smax			
	comp=N,7μm,0.5s						
YUK				smax			
	comp=E,6μm,0.6s						
KUR	**Kuril'sk**	**4.03**	**49**	*e*PN	**Pn**	**20 02 31.0**	**-1.6**
KUR				*e*S	**Sn**	**20 03 18.0**	**-0.7**
KUR				pmax	pmax		
	comp=Z,100nm,0.5s						
KUR				smax			
	comp=N,310nm,0.5s						
KUR				smax			
	comp=E,300nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.31**	**353**	⇑*i*PN	**Pn**	**20 02 38.8**	**+2.4**
YSS				*e*S	**Sn**	**20 03 25.8**	**+0.3**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				smax			
	comp=E,60nm,1.1s						
YSS	**Yuzh-Sakhalins**	**4.31**	**353**	*e*Pn	**Pn**	**20 02 38.2**	**+1.8**
MAJO	**Matsushiro**	**7.38**	**216**	*e*PN	**Pn**	**20 03 18.5**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,15nm,0.7s						
MAJO	**Matsushiro**	**7.38**	**216**	*e*Pn	**Pn**	**20 03 18.5**	**+0.4**
	comp=Z,15nm,0.7s						
MAT	**Matsushiro**	**7.38**	**216**	P	**Pn**	**20 03 17.8**	**-0.3**
MAT				*e*S	**Sn**	**20 04 40.6**	**+0.3**
MAT	**Matsushiro**	**7.38**	**216**	*e*PN	**Pn**	**20 03 18.0**	**-0.1**
MAT				S	**Sn**	**20 04 41.0**	**+0.7**
MAT				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MAT	**Matsushiro**	**7.38**	**216**	*e*P	**Pn**	**20 03 18.0**	**-0.1**
	comp=Z,6.2nm,0.7s						
MAT				S	**Sn**	**20 04 41.0**	**+0.7**
MJAR	**Matsushiro Arr**	**7.38**	**216**	P	**Pn**	**20 03 18.5**	**+0.4**
	comp=Z,1.7nm,0.3s,baz=30,slow=11,SNR=36						
MJAR	**Matsushiro Arr**	**7.38**	**216**	PN	**Pn**	**20 03 18.5**	**+0.4**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**7.38**	**216**	P	**Pn**	**20 03 18.5**	**+0.4**
VLA	**Vladivostok**	**8.57**	**277**	*e*PN	**Pn**	**20 03 35.4**	**+1.2**
MDJ	**Mudanjiang**	**10.30**	**286**	*e*P	**Pn**	**20 03 57.0**	**-0.9**
MA2	**Magadan**	**17.50**	**12**	*e*P	**Pn**	**20 05 31.8**	**+0.7**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MA2	**Magadan**	**17.50**	**12**	*e*P	**Pn**	**20 05 31.8**	**+0.7**
	comp=Z,3.7nm,0.4s						
HIA	**Hailar**	**17.77**	**300**	*e*P	**Pn**	**20 05 33.3**	**-1.0**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HIA	**Hailar**	**17.77**	**300**	*e*P	**Pn**	**20 05 33.3**	**-1.1**
	comp=Z,2.1nm,0.4s						
JOW	**Kunigami**	**20.13**	**223**	LR	LR	20 13 01.8	
	comp=Z,8.3nm,21.0s,baz=172,slow=34						
BJT	**Baijiatuau**	**20.69**	**272**	*e*P	**P**	**20 06 05.4**	**-0.3**
BJT				pmax	pmax		
	comp=Z,4.0nm,0.4s						
BJT	**Baijiatuau**	**20.69**	**272**	*e*P	**P**	**20 06 05.4**	**-0.3**
	comp=Z,4.2nm,0.4s						
YAK	**Yakutsk**	**21.06**	**342**	*e*P	**P**	**20 06 08.0**	**-1.7**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb4.4						
YAK	**Yakutsk**	**21.06**	**342**	*e*P	**P**	**20 06 08.0**	**-1.7**
	comp=Z,5.5nm,0.3s,mb4.4						
SSE	**Sheshan**	**21.23**	**244**	*e*P	**P**	**20 06 11.0**	**-0.4**
SSE				AMB	AMB		
	comp=Z,17nm,0.7s,mb4.5						
SSE				AMB	AMB		
	comp=Z,180nm,5.2s						
NJ2	**Nanjing**	**22.23**	**250**	*e*P	**P**	**20 06 21.5**	**-0.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.4						
ULN	**Ulaanbaatar**	**26.03**	**294**	*e*P	**P**	**20 06 58.2**	**+0.7**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
ULN	**Ulaanbaatar**	**26.03**	**294**	*e*P	**P**	**20 06 58.2**	**+0.7**
	comp=Z,1.0nm,0.4s,mb3.6						
SONM	**Songino Array**	**26.48**	**294**	P	**P**	**20 07 02.3**	**+0.7**
	comp=Z,2.5nm,0.7s,mb3.7,baz=86,slow=8.3,SNR=21						
SONM	**Songino Array**	**26.48**	**294**	P	**P**	**20 07 02.3**	**+0.7**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BILL	**Bilibino**	**28.16**	**18**	*e*P	**P**	**20 07 15.5**	**-1.1**
BILL	**Bilibino**	**28.16**	**18**	*e*P	**P**	**20 07 15.5**	**-1.1**
	comp=Z,0.2nm,0.5s						
ZAK	**Zakamensk**	**28.47**	**300**	*e*P	**P**	**20 07 18.2**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.3						
KDAK	**Kodiak Island**	**41.90**	**46**	P	**P**	**20 09 14.3**	**-0.1**
	comp=Z,2.9nm,0.5s,mb4.2,baz=146,slow=6.7,SNR=4.4						
KDAK	**Kodiak Island**	**41.90**	**46**	P	**P**	**20 09 14.3**	**-0.1**
MKAR	**Makanchi Array**	**42.74**	**297**	P	**P**	**20 09 21.4**	**+0.3**
	comp=Z,0.2nm,0.3s,mb3.3,baz=82,slow=9.4,SNR=8.1						
COLA	**College**	**43.48**	**35**	*e*P	**P**	**20 09 27.3**	**+0.2**
COLA	**College**	**43.48**	**35**	*e*P	**P**	**20 09 27.1**	**0.0**
	comp=Z,6.8nm,0.8s,mb4.4						
KURK	**Kurchatov**	**43.94**	**304**	*e*P	**P**	**20 09 31.7**	**+0.9**
KURK				pmax	pmax		

	comp=Z,1.0nm,0.4s,mb3.9						
KURK	Kurchatov	43.94	304	eP	P	20 09 31.7	+0.9
	comp=Z,0.9nm,0.4s,mb3.9						
INK	Inuvik	48.65	29	P	P	20 10 07.8	+0.2
	comp=Z,3.9nm,0.4s,mb4.7,baz=332,slow=4.2,SNR=13						
INK	Inuvik	48.65	29	P	P	20 10 07.9	+0.3
INK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
INK	Inuvik	48.65	29	eP	P	20 10 07.9	+0.3
	comp=Z,4.7nm,0.4s,mb4.8						
DLBC	Dease Lake	53.23	41	P	P	20 10 43.8	+1.8
	comp=Z,1.0nm,0.4s,mb4.2,baz=295,slow=14,SNR=3.4						
ARU	Arti	53.31	316	⇑iP	P	20 10 42.3	-0.3
ARU				e		20 12 38.8	
ARU				ePPP		20 13 52.9	
ARU				eS	S	20 18 06.9	-0.3
ARU				eSS	SS	20 21 44.3	-3.8
ARU				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ARU	Arti	53.31	316	eP	P	20 10 42.3	-0.3
	comp=Z,3.0nm,0.4s,mb4.7						
YKA	Yellowknife Ar	58.14	32	P	P	20 11 17.3	+0.2
	comp=Z,0.4nm,0.4s,mb3.9,baz=65,slow=8.5,SNR=8.1						
YKA				LR	LR	20 38 34.8	
	comp=Z,27nm,18.3s,baz=270,slow=38						
YKA	Yellowknife Ar	58.14	32	i P	P	20 11 17.7	+0.6
YKA	Yellowknife Ar	58.14	32	P	P	20 11 17.3	+0.2
YKA				LR	LR	20 38 34.8	
KEV	Kevo	58.77	339	ep	P	20 11 20.3	-1.2
	comp=Z,3.0nm,0.8s,mb4.4						
KEV	Kevo	58.77	339	eP	P	20 11 20.3	-1.2
KEV				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
ARCES	ARCESS Array B	59.31	339	P	P	20 11 24.9	-0.3
	comp=Z,2.6nm,0.8s,mb4.3,baz=41,slow=8.1,SNR=14						
ARCES	ARCESS Array B	59.31	339	P	P	20 11 24.9	-0.3
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
JOF	Joensuu	61.78	331	ep	P	20 11 41.2	-0.8
	comp=Z,1.7nm,0.3s,mb4.5						
JOF	Joensuu	61.78	331	eP	P	20 11 41.2	-0.8
JOF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
CTA	Charters Tower	62.50	177	LR	LR	20 34 22.6	
	comp=Z,142nm,21.1s,baz=222,slow=31						
WRAB	Tennant Creek	62.87	190	eP	P	20 11 48.0	-1.3
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
WRAB	Tennant Creek	62.87	190	eP	P	20 11 48.0	-1.3
	comp=Z,2.0nm,0.7s,mb4.2						
KAF	Kangasniemi	64.06	332	ep	P	20 11 55.6	-1.5
	comp=Z,1.4nm,0.4s,mb4.1,baz=46,slow=6.3						
KAF	Kangasniemi	64.06	332	eP	P	20 11 55.6	-1.5
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
FINES	FINESS Array B	64.60	332	P	P	20 12 00.2	-0.5
	comp=Z,3.4nm,0.4s,mb4.5,baz=47,slow=7.8,SNR=57						
FINES				pP	pP	20 12 21.6	-2.3
	comp=Z,0.9nm,0.5s,baz=57,slow=8.4,SNR=1.7						
FINES	FINESS Array B	64.60	332	P	P	20 12 00.2	-0.5
FINES				*PP	pP	20 12 21.6	-2.3
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NEW	Newport	65.00	47	P	P	20 12 03.7	+0.4
	comp=Z,1.0nm,0.6s,mb3.8,baz=294,slow=12,SNR=4.8						
NEW	Newport	65.00	47	P	P	20 12 03.7	+0.5
NEW				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NEW	Newport	65.00	47	P	P	20 12 03.7	+0.4
NB2	NORSAR Subarra	69.62	337	P	P	20 12 32.1	-0.3
	comp=Z,2.5nm,0.5s,mb4.3,baz=34,slow=6.5						
NOA	NORSAR Array B	69.62	337	P	P	20 12 31.9	-0.4
	comp=Z,2.8nm,0.6s,mb4.2,baz=36,slow=6.1,SNR=14						
NOA	NORSAR Array B	69.62	337	P	P	20 12 32.0	-0.4
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NVAR	Mina Array Bea	70.37	56	P	P	20 12 38.5	+1.6
	comp=Z,1.4nm,0.8s,mb3.9,baz=302,slow=4.6,SNR=11						
ANN	Anapa	70.82	314	eP	P	20 12 36.8	-2.9
ANN				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.2						
AKASG	Malin Array Be	70.85	322	P	P	20 12 39.1	-0.7
	comp=Z,0.5nm,0.4s,mb3.7,baz=40,slow=5.8,SNR=5.1						
AKASG	Malin Array Be	70.85	322	i P	P	20 12 39.7	-0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TPNV	Topopah Spring	72.57	56	eP	P	20 12 51.8	+1.6
TPNV				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.4						
TPNV	Topopah Spring	72.57	56	eP	P	20 12 51.8	+1.6
	comp=Z,11nm,1.6s,mb4.4						
PDAR	Pinedale Array	72.60	48	P	P	20 12 51.4	+1.0
	comp=Z,1.0nm,0.5s,mb3.9,baz=271,slow=1.9,SNR=13						
PDAR				pP	pP	20 13 16.2	+2.2
	comp=Z,0.6nm,0.6s,baz=271,slow=1.1,SNR=3.9						
ULM	Lac du Bonnet	73.92	35	P	P	20 12 57.9	-0.2
	comp=Z,0.8nm,0.5s,mb3.7,baz=16,slow=3.2,SNR=3.6						
ULM	Lac du Bonnet	73.92	35	P	P	20 12 57.9	-0.2
GERES	GERESS Array B	78.76	329	P	P	20 13 25.7	+0.2
	comp=Z,0.2nm,0.4s,mb3.3,baz=31,slow=6.2,SNR=4.8						
LVC	Limon Verde	146.43	64	ePKP	PKPdf	20 21 01.4	-0.5

MEX 16 20:02:41.6±0.8, 1618N×9827W, h20km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UTMO	Huajuapan	1.70	15	i P	Pn	20 03 07.3	-2.8
UTMO				i S	Sn	20 03 26.2	-5.0
ACX	Acapulco	1.72	294	eP	Pn	20 03 08.0	-2.3
ACX				i S	Sn	20 03 26.0	-5.7
VHO	Vista Hermosa	1.72	59	i P	Pn	20 03 07.5	-2.8
VHO				i S	Sn	20 03 28.7	-3.0
OXX	Oaxaca	1.73	59	eP	Pn	20 03 07.5	-3.1
OXX				i S	Sn	20 03 30.0	-2.1
CAIG	El Cayaco	2.10	294	eP	Pn	20 03 13.5	-2.0
CAIG				i S	Sn	20 03 37.4	-3.6
HUIG	Huatulco	2.12	101	eP	Pn	20 03 14.1	-1.8
HUIG				i S	Sn	20 03 37.4	-4.3
MEIG	Mezcala	2.16	324	i P	Pn	20 03 15.0	-1.4
MEIG				i S	Sn	20 03 37.6	-5.0
PLIG	Platanillo	2.49	332	i P	Pn	20 03 17.0	-4.0
PLIG				i S	Sn	20 03 46.0	-4.8
PPM	Popocatepetl	2.89	353	eP	Pn	20 03 34.0	+7.6
IIZ	Mezontepec	3.13	343	i P	Pn	20 03 31.3	+1.5
IIZ				i S	Sn	20 03 58.9	-7.6
CMIG	Matias Romero	3.37	74	i P	Pn	20 03 30.6	-2.5
CMIG				i S	Sn	20 04 09.7	-2.9

*NEIC **16** 20:03:01.4±0.8, 388S×14184E, h35km, mb4.4/2, Error ellipse: s-maj=14.6km s-min=11.1km az=71.0*
*ISCJB **16** 20:03:03.1±5.0, 40S±02×1420E±02, h75km±53km, mb3.7/4, Error ellipse: s-maj=43.2km s-min=21.5km az=83.1*
*IDC **16** 20:03:03.7±8.1, 397S×14195E, h62km±103km, mb3.2/3, mb1 3.7/5, mb1mx3.5/12, mbtmp3.8/5, ML3.9/2, MS3.2/1, Ms1 3.2/1, ms1mx2.3/21, Error ellipse: s-maj=94.7km s-min=23.9km az=115.0*
ISC 16 20:03:03.6±3.8, 40S±02×1420E±02, h60km±44km, n14, σ0ˢ45/15, mb3.7/4, MS3.1/1, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.49	137	P	Pn	20 04 50.4	+0.3
	1.3nm,0.3s,baz=325,slow=3.6,SNR=7.1						
PMG				S	Sn	20 06 05.7	-8.0
	0.2nm,0.3s,baz=126,slow=19,SNR=1.9						
CTAO	Charters Tower	16.58	166	P	Pn	20 06 52.1	0.0
WRAB	Tennant Creek	17.53	204	eP	Pn	20 07 04.0	+0.2
	11nm,0.6s						
WB2	Warramunga Arr	17.54	204	eP	Pn	20 07 03.5	-0.4
WB2	Warramunga Arr	17.54	204	ePn	Pn	20 07 04.3	+0.4
WRA	Warramunga Arr	17.54	204	P	Pn	20 07 03.6	-0.3
	1.9nm,0.3s,baz=23,slow=12,SNR=79						
AS31	Alice Springs	21.08	201	eP	P	20 07 43.2	+0.2
ASAR	Alice Springs	21.09	201	P	P	20 07 42.6	-0.3
	2.5nm,0.7s,mb3.6,baz=28,slow=13,SNR=24						
ASPA	Alice Springs	21.09	201	eP	P	20 07 42.5	-0.4
FITZ	Fitzroy Crossi	21.28	227	P	P	20 07 45.5	+0.5
	1.5nm,0.7s,mb3.5,baz=98,slow=15,SNR=4.9						
FITZ				S	S	20 11 38.9	+0.9
	1.5nm,0.8s,baz=170,slow=14,SNR=1.9						
MBWA	Marble Bar	27.55	230	eP	P	20 08 43.7	-1.0
	11nm,0.9s,mb4.5						
CBIJ	Chichi jima	30.86	0	LR	LR	20 20 28.7	
	comp=Z,43nm,21.0s,MS3.1,baz=31,slow=34						
MKAR	Makanchi Array	72.75	322	P	P	20 14 25.6	+0.2
	0.3nm,0.7s,mb3.3,baz=89,slow=6.2,SNR=2.9						
KURK	Kurchatov	76.59	324	P	P	20 14 47.7	+0.1

*NEIC **16** 20:13:37.0, 3973N×2602E, h12km, MD3.0(ISK), MD3.2(ATH), After ISK.*
*ATH **16** 20:13:38.9, 3977N×26.12E, h14km±1km, MD3.2/3*
*ISCJB **16** 20:13:39.3±0.5, 3976N±003×2609E±004, h10km±3km, Error ellipse: s-maj=5.7km s-min=3.8km az=91.2*
*CSEM **16** 20:13:39.0±0.1, 3978N×26.13E, h10km, MD3.1, Error ellipse: s-maj=2.2km s-min=1.7km az=44.0*
*ISK **16** 20:13:39.2, 3978N×26.10E, h15km, MD3.1*
ISC 16 20:13:39.6±0.4, 3976N±003×2610E±004, h9km±3km, n26, σ0ˢ63/35, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.09	336	i P	Pg	20 13 42.1	+0.1
BOZC				i S	Sg	20 13 43.8	+0.2
EZN	Ezine	0.19	70	PG	Pg	20 13 43.8	+0.2
EZN				SG	Sg	20 13 46.9	+0.7
GADA	Gvkgeada	0.46	340	PG	Pg	20 13 48.3	-0.2
GADA				SG	Sg	20 13 55.1	+0.6
PRK	Paraskevi	0.53	165	ePB	Pg	20 13 49.4	-0.6
PRK				eSB	Sg	20 13 56.8	-0.1
AYVA	Ayvalik	0.64	134	i P	Pg	20 13 51.5	-0.5
AYVA				i S	Sg	20 14 00.3	-0.2
LIA	Limnos Island	0.72	281	ePB	Pg	20 13 53.2	-0.3
LIA				eSB	Sg	20 14 03.2	+0.3
CANB	Canakkale	0.78	71	PG	Pg	20 13 54.9	+0.2
ENEZ	Enez	0.97	2	PG	Pg	20 13 58.5	+0.1
RKY	Sarkoy-Tekirda	1.24	41	ePN	Pn	20 14 01.9	-1.2
MFT	Murefte	1.37	41	ePN	Pn	20 14 04.7	-0.1
MRMT	Marmara Adasi	1.42	53	ePN	Pn	20 14 05.1	-0.5
RDO	Rodhopi	1.45	343	⇓iPB	Pb	20 14 06.1	-0.6
BTOK	Tokmak	1.49	89	i P	Pn	20 14 06.0	-0.5
BTOK				i S	Sn	20 14 26.8	+0.7
AKHS	Akhisar	1.60	123	i P	Pn	20 14 07.7	-0.2
AKHS				i S	Sn	20 14 31.1	+2.4
KDAG	Bornova	1.63	146	i P	Pn	20 14 08.1	-0.4
KDAG				i S	Sn	20 14 29.9	+0.3
IZM	Izmir	1.64	146	ePN	Pn	20 14 08.0	-0.5
KCT	Karacabey	1.81	73	ePN	Pn	20 14 09.7	-1.2
DST	Dursunbey	1.96	94	ePN	Pn	20 14 12.9	-0.1
PLG	Polygyros	2.13	288	ePN	Pn	20 14 16.0	+0.7
SMG	Samos	2.13	164	ePN	Pn	20 14 16.3	+1.0
EDRB	Edirne	2.14	13	ePN	Pn	20 14 15.2	-0.3
ORLT	Orhaneli	2.17	82	ePN	Pn	20 14 15.7	-0.2
CTT	Catalca	2.25	51	ePN	Pn	20 14 16.6	-0.4
NVR	Nevrokopi	2.33	314	ePB	Pn	20 14 18.7	+0.7
NVR	Nevrokopi	2.33	314	ePb	Pn	20 14 18.4	+0.4
YLV	Yalova	2.63	71	ePN	Pn	20 14 23.0	+0.7

*ISCJB **16** 20:15:41.6±1.1, 3556N±008×273E±0.1, h10km, Error ellipse: s-maj=15.5km s-min=7.4km az=87.0*
*ATH **16** 20:15:41.3, 3569N×2720E, h10km, MD3.1/3*
*CSEM **16** 20:15:41.3, 3569N×2720E, h10km, MD3.1/3, After ATH*
ISC 16 20:15:41.5±1.1, 3555N±009×273E±01, h10km, n8, σ0ˢ71/10, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.97	46	ePB	Pb	20 15 58.7	-1.7
DAT	Datca	1.21	12	PN	Pn	20 16 04.0	-0.4
DAT				SN	Sn	20 16 20.9	0.0
NPS	Neapolis	1.38	259	ePB	Pb	20 16 06.7	-0.7
XRY	Khrisi	1.45	243	ePB	Pb	20 16 09.0	+0.4
BODT	Bodrum	1.52	1	ePN	Pn	20 16 08.9	+0.2
BODT				eSN	Sn	20 16 28.4	0.0
DALT	Dalyan (Mudla)	1.65	42	ePN	Pn	20 16 11.1	+0.6
YER	Yerkesik	1.79	27	ePN	Pn	20 16 13.5	+1.1
FETY	Fethiye	1.83	53	ePN	Pn	20 16 13.3	+0.3

*GII **16** 20:19:40.7±0.0, 3394N×3574E, h0km±1km, ML2.3/3, Mw2.7/5*
*CSEM **16** 20:19:41.5±0.1, 3379N×3586E, h2km, Mw2.7, Error ellipse: s-maj=1.7km s-min=1.0km az=110.0*
*ISCJB **16** 20:19:42.1±0.4, 3382N±002×3584E±003, h0km±4km, Error ellipse: s-maj=4.2km s-min=2.6km az=37.5*
*NSSC **16** 20:19:42.5, 3379N×3586E, h4km±2km*
*GRAL **16** 20:19:42.8±1.6, 3382N×3584E, h8km±18km, MD2.9*
ISC 16 20:19:42.5±0.4, 3382N±002×3584E±003, h1km±4km, n37, σ0ˢ81/62, 7D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BHL	Bhannes	0.18	299	i Pg	Pg	20 19 45.5	-0.4
BHL				i Sg	Sg	20 19 48.8	+0.5
RCY	Rachaya	0.33	183	i Pg	Pg	20 19 48.0	-0.9
RCY				i Sg	Sg	20 19 53.8	+0.5
BRBR	Barbar	0.42	167	⇓P	Pg	20 19 49.8	-0.7
BRBR				⇓S	Sg	20 19 56.6	+0.7
BRBR	Barbar	0.42	167	⇓iP	Pg	20 19 49.8	-0.7
QASN	Qassioun	0.46	128	⇑P	Pg	20 19 51.6	+0.3
QASN				⇑S	Sg	20 19 57.4	+0.1
QASN	Qassioun	0.46	128	⇑iP	Pg	20 19 51.6	+0.2
HWQ	Hawqa	0.47	11	i Pg	Pg	20 19 51.1	-0.3
HWQ				i Sg	Sg	20 19 57.8	+0.3
MATL	Matirih	0.54	232	i Pg	Pg	20 19 53.3	+0.5
MARH	Ras Al Marh	0.57	69	⇓P	Pg	20 19 54.2	+0.7
MARH				⇓S	Sg	20 20 01.7	+0.9
MARH	Ras Al Marh	0.57	69	⇓iP	Pg	20 19 54.2	+0.7
MARH				⇓iS	Sg	20 20 01.7	+0.8
FKH	Fakeheh	0.62	48	i Pg	Pg	20 19 53.4	-1.1
FKH				i Sg	Sg	20 20 03.4	+0.8
FKH	Fakeheh	0.62	48	i Pg	Pg	20 19 53.3	-1.2
FKH				i Sg	Sg	20 20 03.4	+0.8
KSDI	Kefar Szold	0.64	194	Pg	Pg	20 19 54.7	-0.1
TOTH	TOTAH	0.67	133	⇑P	Pg	20 19 55.2	-0.1
TOTH	TOTAH	0.67	133	⇑iP	Pg	20 19 55.2	-0.2
MMA1	Mount Meron ar	0.88	205	Pg	Pg	20 19 58.7	-0.6
MMA0	Mount Meron ar	0.88	205	Pg	Pg	20 19 58.8	-0.6
MMA0B	Mount Meron ar	0.88	205	Pg	Pg	20 19 58.9	-0.5
MMA0B				Sg	Sg	20 20 13.2	+2.4
HNTI	Hanita	0.92	217	Pg	Pg	20 19 59.8	-0.4
HNTI				Sg	Sg	20 20 13.3	+1.1
TCHB	Talchebab	1.15	175	⇑P	Pg	20 20 04.0	-0.6
TCHB				⇑S	Sg	20 20 18.7	-0.8
TCHB	Talchebab	1.15	175	⇑iP	Pg	20 20 04.0	-0.6
TCHB				⇑iS	Sg	20 20 18.7	-0.8
ROOS	tl_alroos	1.25	73	⇑P	Pg	20 20 05.9	-0.6
ROOS				⇑S	Sg	20 20 23.6	+0.8
ROOS	tl_alroos	1.25	73	⇑iP	Pg	20 20 05.9	-0.6
ROOS				⇑iS	Sg	20 20 23.6	+0.8
BIDA	Albida	1.26	18	⇑P	Pg	20 20 06.5	-0.1
BIDA				⇑S	Sg	20 20 24.1	+1.3
BIDA	Albida	1.26	18	⇑iP	Pg	20 20 06.5	-0.1
BIDA				⇑iS	Sg	20 20 24.1	+1.2
SALA	Sala	1.33	146	⇑P	Pg	20 20 07.2	-0.9
SALA				⇑S	Sg	20 20 24.8	-0.6
SALA	Sala	1.33	146	⇑iP	Pg	20 20 07.2	-0.9
SALA				⇑iS	Sg	20 20 24.8	-0.6
OFRI	‘Ofer	1.39	211	Pn	Pn	20 20 07.9	-1.2
MMLI	Mount Malkishu	1.42	194	Pn	Pn	20 20 08.4	-1.1
HMDT	Nahal Hemdat	1.58	190	Pn	Pn	20 20 11.0	-0.8
SLTI	Sal’it	1.71	203	Pn	Pn	20 20 13.5	0.0
SLTI				Sn	Sn	20 20 37.1	+1.1
WRDH	Warideh	1.75	15	⇑P	Pn	20 20 13.7	-0.3
WRDH				⇑S	Sn	20 20 36.3	-0.7
WRDH	Warideh	1.75	15	⇑iP	Pn	20 20 13.7	-0.3
WRDH				⇑iS	Sn	20 20 36.3	-0.6
SLNF	Slenfeh	1.80	10	⇑P	Pn	20 20 14.7	0.0
SLNF				⇑S	Sn	20 20 37.7	-0.5
SLNF	Slenfeh	1.80	10	⇑iP	Pn	20 20 14.7	0.0
SLNF				⇑iS	Sn	20 20 37.7	-0.5
MKRJ	Makawir	2.27	184	Pn	Pn	20 20 21.9	+0.8
MKRJ				Sn	Sn	20 20 52.0	+2.3
MKRJ	Makawir	2.27	184	Pn	Pn	20 20 22.1	+0.9

*NEIC **16** 20:36:02.3, 33.13S×7024W, h115km, MG3.5(GUC), After GUC.*
GUC 16 20:36:02.3±0.7, 3313S×7024W, h115km±2km, MD3.3, ML3.5, 10C-13D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	Farellones	0.20	192	⇑iP	Pn	20 36 18.7	+0.4
FCH				AML	AML	20 36 31.7	
	comp=N,2µm,0.2s						
FCH				i S	Sn	20 36 31.8	+1.5
FCH	Farellones	0.20	192	⇑iP	Pn	20 36 18.7	+0.4
FCH				i S	Sn	20 36 31.8	+1.5
CLCH	Cerro Calan	0.36	223	⇑iP	Pn	20 36 19.1	+0.2
CLCH				i S	Sn	20 36 31.7	+0.3
CLCH				AML	AML	20 36 33.0	
	comp=E,5µm,0.6s						
CLCH				AML	AML	20 36 33.6	
	comp=E,6µm,0.5s						
PEL	Peldehue	0.38	268	⇓iP	Pn	20 36 19.1	+0.1
PEL				i S	Sn	20 36 31.6	+0.1
PEL				AML	AML	20 36 32.3	
	comp=N,5µm,0.3s						
PEL	Peldehue	0.38	268	⇓iP	Pn	20 36 19.1	+0.1
PEL				i S	Sn	20 36 31.6	+0.1
DSCH	Colegio Aleman	0.39	226	i P	Pn	20 36 18.6	-0.4
DSCH				i S	Sn	20 36 31.2	-0.5
DSCH				AML	AML	20 36 31.8	
	comp=E,312nm,0.2s						
STL	Santa Lucia	0.46	228	⇓iP	Pn	20 36 18.7	-0.7
STL				i S	Sn	20 36 31.7	-0.6
SAN	Santiago	0.48	228	⇑iP	Pn	20 36 19.8	+0.2
SAN				i S	Sn	20 36 32.5	0.0
SAN				AML	AML	20 36 33.5	
	comp=E,3µm,0.2s						
SAN	Santiago	0.48	228	⇑iP	Pn	20 36 19.8	+0.2
SAN				i S	Sn	20 36 32.5	0.0
SJCH	San Jose de Ma	0.52	191	⇑iP	Pn	20 36 19.3	-0.5
SJCH				i S	Sn	20 36 32.5	-0.5
SJCH				AML	AML	20 36 33.7	
	comp=E,2µm,0.4s						
SJCH	San Jose de Ma	0.52	191	⇑iP	Pn	20 36 19.3	-0.5
SJCH				i S	Sn	20 36 32.5	-0.5
JACH	Jahuel	0.54	326	⇓iP	Pn	20 36 20.2	+0.3
JACH				i S	Sn	20 36 33.7	+0.5
PCH	Pirque	0.54	205	⇓iP	Pn	20 36 20.3	+0.3
PCH				i S	Sn	20 36 33.6	+0.4
ANTU	Antumapu	0.55	217	⇑iP	Pn	20 36 20.1	0.0
ANTU				i S	Sn	20 36 33.6	+0.3
ANTU				AML	AML	20 36 34.9	
	comp=E,1µm,0.2s						
ANTU	Antumapu	0.55	217	⇑iP	Pn	20 36 20.1	0.0
ANTU				i S	Sn	20 36 33.6	+0.3
ROCH	El Roble	0.67	283	⇓iP	Pn	20 36 21.2	+0.3
ROCH				i S	Sn	20 36 35.7	+0.8
TACH	Talagante	0.78	228	i P	Pn	20 36 21.6	-0.3
TACH				i S	Sn	20 36 36.4	-0.2
CHCH	Chadas Angostu	0.87	203	⇓iP	Pn	20 36 22.6	-0.1
CHCH				i S	Sn	20 36 38.2	+0.2
CACH	El Canelo	1.03	197	⇓iP	Pn	20 36 24.8	+0.6
CACH				i S	Sn	20 36 42.1	+1.4
LCCH	Las Cruces	1.17	252	⇓iP	Pn	20 36 25.7	0.0
LCCH				i S	Sn	20 36 43.7	+0.4
CICH	Cipreses	1.20	187	⇓iP	Pn	20 36 26.5	+0.6
CICH				i S	Sn	20 36 44.8	+0.9
SFDO	San Fernando	1.61	203	⇑iP	Pn	20 36 30.9	+0.2
SFDO				i S	Sn	20 36 52.8	+0.3
CHNG	Los Chungos	1.64	319	i P	Pn	20 36 31.6	+0.6
CHNG				i S	Sn	20 36 53.0	0.0
CMCH	Combarbala	2.06	341	⇓iP	Pn	20 36 36.4	+0.2
CMCH				i S	Sn	20 37 03.0	+0.9
CMCH				AML	AML	20 37 03.6	
	comp=E,988nm,0.8s						
TLL	Tololo Astrono	2.99	351	⇓iP	Pn	20 36 49.4	+1.1
TLL				i S	Sn	20 37 25.0	+1.2
TLL				AML	AML	20 37 27.3	
	comp=N,116nm,0.3s						
TLL	Tololo Astrono	2.99	351	⇓iP	Pn	20 36 49.4	+1.1
TLL				i S	Sn	20 37 25.0	+1.2

MEX 16 20:44:44.9±0.5, 1620N×9799W, h20km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VHO	Vista Hermosa	1.48	54	i P	Pn	20 45 07.6	-2.8
VHO				i S	Sn	20 45 25.2	-3.9
VHO				i S	Sn	20 45 25.4	-3.8
OXX	Oaxaca	1.50	54	i P	Pn	20 45 07.0	-3.6
OXX				i S	Sn	20 45 25.0	-4.5
UTMO	Huajuapan	1.63	6	eP	Pn	20 45 10.1	-2.3
UTMO				i S	Sn	20 45 29.2	-3.6
ACX	Acapulco	1.96	290	i P	Pn	20 45 15.5	-1.5
ACX				i S	Sn	20 45 41.5	+0.4
MEIG	Mezcala	2.32	318	i P	Pn	20 45 19.6	-2.3
MEIG				i S	Sn	20 45 45.7	-4.1
PLIG	Platanillo	2.62	327	i P	Pn	20 45 21.7	-4.3
PLIG				i S	Sn	20 45 53.4	-3.8

MEX 16 20:56:53.5±0.3, 1777N×9684W, h76km±5km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OXX	Oaxaca	0.69	171	i P	Pn	20 57 07.0	-1.7
OXX				i S	Sn	20 57 18.0	-2.0
VHO	Vista Hermosa	0.70	172	i P	Pn	20 57 07.8	-1.0
VHO				i S	Sn	20 57 18.9	-1.2
TPIG	Tehuac#an	0.82	323	i P	Pn	20 57 09.1	-1.0
TPIG				i S	Sn	20 57 21.2	-1.3
UTMO	Huajuapan	0.92	274	eP	Pn	20 57 10.2	-1.1
UTMO				i S	Sn	20 57 23.2	-1.4
CMIG	Matias Romero	1.98	110	i P	Pn	20 57 23.9	-1.1
CMIG				i S	Sn	20 57 47.0	-2.0

*IDC **16** 21:07:53.4±1.5, 1102N×12683E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, MS2.7/1, Ms1 2.7/1, ms1mx2.0/22, Error ellipse: s-maj=118.1km s-min=18.7km az=73.0*
*NEIC **16** 21:07:58.9±0.5, 1093N×12665E, h35km, mb4.2/3, Error ellipse: s-maj=37.1km s-min=8.4km az=72.0*
*MAN **16** 21:07:58.2, 11.14N×12669E, h33km, mb3.4, ML4.6, MS5.9*
*ISCJB **16** 21:07:59.9±2.1, 1093N±008×1267E±01, h64km±20km, mb3.9/8, Error ellipse: s-maj=23.6km s-min=11.3km az=137.5*
ISC 16 21:07:59.2±1.9, 1103N±007×1268E±01, h38km±19km, n22, σ0ˢ94/24, mb3.9/8, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	1.78	226	⇓eP	Pn	21 08 26.8	-0.6
SCPH				eS	Sn	21 08 48.6	-0.3
MSLP	Maasin	2.10	245	eP	Pn	21 08 31.8	+0.1
OCLP	Ormoc	2.14	271	eP	Pn	21 08 31.7	-0.7
LLP	Lapu-Lapu	2.86	256	eP	Pn	21 08 48.4	+6.0
LLP				eS	Sn	21 09 10.6	-5.0
TBP	Tagbilaran	3.17	245	eP	Pn	21 08 46.9	+0.3
TBP				eS	Sn	21 09 23.0	-0.2
BUKP	Musuan	3.56	209	eP	Pn	21 08 53.9	+1.9
PVCP	Virac	3.62	315	eP	Pn	21 08 50.6	-2.3
GUIM	Jordan	4.15	265	eP	Pn	21 09 02.4	+2.4
PAGZ	Pagadian	4.61	227	eP	Pn	21 09 06.0	-0.4
GUMO	Guam	17.85	80	LR	LR	21 18 00.6	
	comp=Z,27nm,19.9s,baz=4.6,slow=34						
FITZ	Fitzroy Crossi	28.97	182	P	P	21 13 54.2	-0.8
	3.7nm,1.1s,mb4.0,baz=8.1,slow=14,SNR=3.6						
WRAB	Tennant Creek	31.65	166	eP	P	21 14 19.0	+0.2
	3.1nm,0.7s,mb4.2						
WRA	Warramunga Arr	31.66	166	P	P	21 14 18.4	-0.4
	1.2nm,0.9s,mb3.7,baz=351,slow=9.4,SNR=8.4						
WB2	Warramunga Arr	31.66	166	eP	P	21 14 18.6	-0.3
ASAR	Alice Springs	35.18	169	P	P	21 14 49.6	+0.2
	0.8nm,0.4s,mb4.0,baz=354,slow=7.1,SNR=18						
CTAO	Charters Tower	36.38	148	P	P	21 14 59.1	-0.5
ULN	Ulaanbaatar	40.29	339	eP	P	21 15 34.3	+1.7
	0.5nm,0.5s,mb3.5						
SONM	Songino Array	40.50	339	P	P	21 15 35.0	+0.7
	0.7nm,0.8s,mb3.5,baz=151,slow=6.8,SNR=5.5						
SONM				PcP	PcP	21 17 37.3	+1.0
	0.1nm,0.3s,baz=180,slow=2.9,SNR=3.5						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**51.74**	**322**	P	**P**	**21 17 01.9**	**-0.8**
	1.3nm,0.7s,mb4.0,baz=120,slow=8.3,SNR=10						
MKAR	**Makanchi Array**	**51.74**	**322**	P	**P**	**21 17 01.9**	**-0.8**
KURK	**Kurchatov**	**55.74**	**325**	*e*P	**P**	**21 17 31.6**	**-0.3**
	3.3nm,0.8s,mb4.4						
INK	**Inuvik**	**83.40**	**22**	P	**P**	**21 20 22.8**	**+0.3**

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*CSEM **16** 21:29:51.5, 3341N×6003E, h18km, ML3.7, After TEH*

TEH 16 21:31:22.2, 3341N×6003E, h18km, Mn3.7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMOG	**Moghan**	**2.75**	**348**	*e*Pn	Pn	21 32 05.3	-0.1
IMOG				*e*Sn	Sn	21 32 36.8	-1.3
IMYA	**Miamay**	**2.92**	**1**	*e*Pn	Pn	21 32 07.0	-0.7
IMYA				*e*Sn	Sn	21 32 41.1	-1.3
ISFR	**Esferayen**	**3.99**	**336**	*e*Pn	Pn	21 32 22.3	-0.1
IBAF	**Bafgh**	**4.19**	**245**	*e*Pn	Pn	21 32 25.3	+0.2
IMEH	**Mehriz**	**5.01**	**248**	*e*Pn	Pg	21 32 53.7	-4.4

IDC 16 22:04:18.9±5.6**, 2124S×16806E, h0km, mb3.5**/2**, mb1 3.8**/2**, mb1mx3.5**/10**, mbtmp3.5**/2**, MS3.2**/3**, Ms1 3.2**/3**, ms1mx2.7**/22**, Error ellipse: s-maj=179.0km s-min=43.4km az=139.0, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**1.72**	**241**	*e*P	Pn	22 04 50.2	+0.2
DZM				*e*S	Sn	22 05 23.2	+10
DZM	**Mont Dzumac**	**1.72**	**241**	Pn	Pn	22 04 50.2	+0.2
	5.9nm,0.3s,baz=126,slow=22,SNR=86						
DZM				Sn	Sn	22 05 24.1	+11
	26nm,0.3s,baz=125,slow=17,SNR=7.6						
HNR	**Honiara**	**14.10**	**325**	LR	LR	22 11 26.9	
	comp=Z,146nm,18.6s,baz=182,slow=30						
CTA	**Charters Tower**	**20.44**	**269**	LR	LR	22 16 15.1	
	comp=Z,72nm,19.7s,baz=49,slow=35						
WRA	**Warramunga Arr**	**31.56**	**266**	P	P	22 10 43.3	+0.4
	0.3nm,0.5s,baz=97,slow=8.4,SNR=7.3						
ASAR	**Alice Springs**	**31.62**	**259**	P	P	22 10 43.6	+0.2
	0.5nm,0.7s,baz=81,slow=9.2,SNR=5.7						
RPN	**Rapa Nui**	**74.32**	**113**	LR	LR	22 41 50.1	
	comp=Z,6.1nm,18.2s,baz=138,slow=30						
GERES	**GERESS Array B**	**145.68**	**330**	PKPbc	PKPbc	22 23 58.9	-0.6
	0.2nm,0.6s,baz=9.9,slow=2.3,SNR=2.4						

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*ISCJB **16** 22:09:14.0±0.7, 2084S±006×692W±0.1, h111km±10km, mb4.2/1, Error ellipse: s-maj=18.7km s-min=9.0km az=148.7*

*NEIC **16** 22:09:14.7±0.7, 2083S×6921W, h110km±9km, mb3.5/2, Error ellipse: s-maj=14.1km s-min=7.9km az=72.0*

*IDC **16** 22:09:14.3±2.1, 2083S×6924W, h102km±17km, mb3.9/2, mb1 3.6/4, mb1mx3.3/15, mbtmp4.0/4, Error ellipse: s-maj=42.9km s-min=17.4km az=96.0*

ISC 16 22:09:15.1±0.7**, 2083S**±006×**692W**±01**, h101**km±10km**, n17, σ0?83**/18**, mb4.2**/1**, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.79**	**172**	P	**Pn**	**22 09 44.6**	**-0.4**
	17nm,0.3s,baz=8.2,slow=8.1,SNR=170						
LVC				S	**Sn**	**22 10 08.0**	**+0.2**
	92nm,0.3s,baz=75,slow=22,SNR=38						
LPAZ	**La Paz**	**4.62**	**13**	P	**Pn**	**22 10 23.6**	**+1.0**
	1.0nm,0.3s,baz=220,slow=6.6,SNR=32						
LPAZ				S	**Sn**	**22 11 04.8**	**-10**
	0.7nm,0.3s,baz=204,slow=17,SNR=3.7						
ARE	**Arequipa**	**4.86**	**333**	*e*P	**Pn**	**22 10 27.0**	**+1.1**
ARE				*e*S	**Sn**	**22 11 15.0**	**-6.0**
SIV	**San Ignacio**	**9.07**	**59**	P	**Pn**	**22 11 17.8**	**-5.2**
	2.3nm,0.3s,baz=255,slow=9.9,SNR=45						
CFAA	**Coronel Fontan**	**10.77**	**176**	P	**Pn**	**22 11 40.2**	**-5.9**
	0.1nm,0.3s,baz=348,slow=14,SNR=4.2						
CFAA				S	**Sn**	**22 13 34.8**	**-10**
	0.0nm,0.3s,baz=209,slow=19,SNR=2.8						
NNA	**Nana**	**11.46**	**319**	*e*Pn	**Pn**	**22 11 53.7**	**-1.7**
CPUP	**Villa Florida**	**12.16**	**119**	*e*Pn	**Pn**	**22 12 04.8**	**0.0**
SAML	**Samuel**	**13.15**	**27**	*e*Pn	**Pn**	**22 12 17.1**	**-0.7**
TRQA	**Tornquist**	**18.27**	**162**	*e*P	**P**	**22 13 20.8**	**+0.1**
	1.2nm,0.7s						
PLCA	**Paso Flores**	**19.88**	**183**	P	**P**	**22 13 39.2**	**+1.0**
	0.1nm,0.3s,baz=1.5,slow=13,SNR=4.3						
PLCA	**Paso Flores**	**19.88**	**183**	*e*P	**P**	**22 13 37.8**	**-0.5**
	3.0nm,0.9s						
BDFB	**Brasilia**	**20.74**	**79**	P	**P**	**22 13 46.6**	**-1.0**
	2.0nm,0.3s,baz=248,slow=6.8,SNR=6.0						
OTAV	**Otavalo**	**22.82**	**335**	P	**P**	**22 14 09.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**77.36**	**71**	P	**P**	**22 20 59.9**	**+1.1**
	2.0nm,0.4s,mb4.2,baz=257,slow=4.7,SNR=28						
TORD				pP	pP	22 21 24.6	-0.1
	1.7nm,0.7s,baz=256,slow=5.6,SNR=2.7						
MKAR	**Makanchi Array**	**145.23**	**35**	PKPbc	PKPbc	22 28 38.4	-2.3
	1.3nm,0.7s,baz=319,slow=3.7,SNR=8.9						
MKAR	**Makanchi Array**	**145.23**	**35**	PKPbc	PKPbc	22 28 38.4	-2.3
SONM	**Songino Array**	**152.82**	**7**	PKPbc	PKPbc	22 28 57.8	-2.4
	0.3nm,0.4s,baz=328,slow=1.5,SNR=2.7						

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*CSEM **16** 22:12:42.8±0.1, 35.18N×3654W, h10km, mb4.5/45, Ms3.6, Error ellipse: s-maj=4.9km s-min=1.5km az=170.0*

*IDC **16** 22:12:42.4±0.5, 3531N×3641W, h0km, mb4.3/22, mb1 4.4/22, mb1mx4.3/27, mbtmp4.3/22, MS3.7/21, Ms1 3.7/21, ms1mx3.6/32, Error ellipse: s-maj=15.1km s-min=12.6km az=165.0*

*ISCJB **16** 22:12:43.2±0.3, 3524N±007×3653W±003, h10km, mb4.5/89, MS3.7/25, Error ellipse: s-maj=9.5km s-min=3.0km az=171.9*

*NEIC **16** 22:12:44.8±0.3, 35.19N×3651W, h10km, mb4.6/62, Error ellipse: s-maj=8.9km s-min=3.7km az=174.0*

*SZGRF **16** 22:12:56.9, 3538N×3522W, h33km, mb4.5, MS3.6, Northern Mid-Atlantic Ridge*

ISC 16 22:12:45.3±0.3**, 3526N**±007×**3649W**±003**, h10**km**, (h30**km±1.0km**:pP-P), n290, σ0?92**/280**, mb4.5**/89**, MS3.7**/25**, 43C-38D, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCED	**Cedros**	**7.09**	**59**	*e*P	**Pn**	**22 14 19.4**	**-10**
	114nm,1.1s						
HOR	**Horta**	**7.09**	**60**	*e*P	**Pn**	**22 14 18.7**	**-10**
PICO	**Pico**	**7.23**	**61**	*e*P	**Pn**	**22 14 20.4**	**-11**
PBOI	**Pico dos Bois**	**7.24**	**62**	*e*P	**Pn**	**22 14 19.3**	**-12**
	49nm,0.8s						
PTEI	**Pico do Teixo**	**7.28**	**61**	*e*P	**Pn**	**22 14 19.8**	**-12**
	32nm,0.8s						
PID	**Ribeirinha**	**7.43**	**62**	*e*P	**Pn**	**22 14 23.1**	**-11**
ROSA	**Rosais**	**7.45**	**60**	*e*P	**Pn**	**22 14 22.2**	**-12**
PMAN	**Manadas**	**7.53**	**61**	*e*P	**Pn**	**22 14 21.7**	**-13**
	90nm,1.3s						
PTEO	**Sao Teotonio**	**22.44**	**76**	*e*P	**P**	**22 17 45.4**	**+1.2**
	44nm,1.5s,mb4.7						
PTOM	**Tomar**	**22.68**	**71**	*e*P	**P**	**22 17 47.1**	**+0.3**
	17nm,0.9s,mb4.5						
ELOB	**Lobios**	**23.13**	**65**	P	**P**	**22 17 45.9**	**-5.6**
	21nm,1.3s,mb4.4						
PVIS	**Viseu**	**23.14**	**68**	*e*P	**P**	**22 17 52.0**	**+0.4**
	19nm,1.4s,mb4.3						
PVRL	**Vila Real**	**23.32**	**66**	*e*P	**P**	**22 17 53.5**	**0.0**
	24nm,1.3s,mb4.5						
MTE	**Manteigas**	**23.38**	**69**	*e*S	**S**	**22 22 10.1**	**+3.2**
PCBR	**Castelo Branco**	**23.41**	**70**	*e*P	**P**	**22 17 53.7**	**-0.7**
	16nm,1.2s,mb4.3						
EBAD	**Badajoz**	**23.75**	**73**	P	**P**	**22 17 49.5**	**-8.3**
	23nm,1.2s,mb4.5						
ESPR	**Espera**	**24.77**	**77**	P	**P**	**22 18 01.2**	**-5.9**
	20nm,1.2s,mb4.5						
EJIF	**Jimena Fronter**	**25.12**	**78**	P	**P**	**22 18 07.9**	**-2.4**
	18nm,1.2s,mb4.5						
EJIF	**Jimena Fronter**	**25.12**	**78**	P	**P**	**22 18 07.9**	**-2.4**
	18nm,1.2s,mb4.5						
EMIJ	**Mijas**	**25.67**	**78**	P	**P**	**22 18 14.8**	**-0.5**
	15nm,1.3s,mb4.4						
EMIJ	**Mijas**	**25.67**	**78**	P	**P**	**22 18 14.8**	**-0.5**
	15nm,1.3s,mb4.4						
EADA	**Adamuz**	**25.68**	**74**	P	**P**	**22 18 09.7**	**-5.7**
	11nm,1.1s,mb4.3						
ELOJ	**Sierra Loja**	**26.10**	**76**	P	**P**	**22 18 19.0**	**-0.1**
	3.4nm,1.0s,mb3.8						
ELOJ	**Sierra Loja**	**26.10**	**76**	P	**P**	**22 18 19.0**	**-0.2**
	3.4nm,1.0s,mb3.8						
ESDC	**Sonseca Array**	**26.11**	**71**	P	**P**	**22 18 18.3**	**-1.0**
	3.6nm,0.9s,mb3.9,baz=272,slow=8.8,SNR=17						
ESDC				LR	LR	22 25 57.1	
	comp=Z,117nm,20.6s,MS3.4,baz=200,slow=30						
ESDC	**Sonseca Array**	**26.11**	**71**	P	**P**	**22 18 17.0**	**-2.2**
	7.4nm,1.2s,mb4.1						
ESDC	**Sonseca Array**	**26.11**	**71**	P	**P**	**22 18 17.0**	**-2.3**
	7.4nm,1.2s,mb4.1						
ESLA	**Sonseca Array**	**26.11**	**71**	*e*P	**P**	**22 18 19.0**	**-0.3**
	2.8nm,1.1s,mb3.7						
ESLA	**Sonseca Array**	**26.11**	**71**	*e*P	**P**	**22 18 19.0**	**-0.3**
	2.8nm,1.1s,mb3.7						
EBAN	**Banos Encina**	**26.31**	**74**	P	**P**	**22 18 20.2**	**-0.8**
	19nm,1.6s,mb4.4						
EBAN	**Banos Encina**	**26.31**	**74**	P	**P**	**22 18 20.2**	**-0.8**
	19nm,1.6s,mb4.4						
MDT	**Midelt**	**26.47**	**86**	P	**P**	**22 18 21.3**	**-1.2**
	2.6nm,0.9s,mb3.7,baz=300,slow=7.7,SNR=5.3						
MDT				LR	LR	22 27 48.3	
	comp=Z,126nm,18.1s,MS3.5,baz=302,slow=34						
EVIA	**Vianos**	**27.28**	**73**	P	**P**	**22 18 28.9**	**-1.0**
	5.9nm,0.8s,mb4.2						
EVIA	**Vianos**	**27.28**	**73**	P	**P**	**22 18 28.9**	**-0.9**
	5.9nm,0.8s,mb4.2						
QUIF	**Quistinic**	**27.73**	**53**	*e*P	**P**	**22 18 33.9**	**+0.1**
ROSF	**Rostrenen**	**27.77**	**52**	*e*P	**P**	**22 18 34.3**	**+0.1**
	25nm,1.2s,mb4.4						
ROSF	**Rostrenen**	**27.77**	**52**	*e*P	**P**	**22 18 34.3**	**+0.1**
	12nm,1.2s,mb4.4						
SGMF	**Saint Gilles**	**28.21**	**52**	*e*P	**P**	**22 18 38.6**	**+0.5**
	15nm,1.0s,mb4.3						
SGMF	**Saint Gilles**	**28.21**	**52**	*e*P	**P**	**22 18 38.6**	**+0.5**
	7.3nm,1.0s,mb4.3						
SCHQ	**Schefferville**	**28.68**	**322**	P	**P**	**22 18 38.2**	**-4.0**
	2.3nm,0.8s,mb3.9,baz=131,slow=11,SNR=3.2						
SCHQ				LR	LR	22 30 03.4	
	comp=Z,182nm,18.3s,MS3.7,baz=314,slow=36						
ETSF	**Etsaut**	**28.75**	**64**	*e*P	**P**	**22 18 43.8**	**+0.8**
EBIE	**Bielsa**	**29.26**	**64**	P	**P**	**22 18 42.7**	**-4.8**
	12nm,1.5s,mb4.4						
GRR	**Gorron**	**29.34**	**52**	*e*P	**P**	**22 18 48.2**	**0.0**
EPF	**Esparros**	**29.42**	**63**	*e*P	**P**	**22 18 49.5**	**+0.6**
MFF	**Saint Martin d**	**29.46**	**56**	*e*P	**P**	**22 18 49.3**	**+0.1**
FLN	**La Foliniere**	**29.67**	**52**	*e*P	**P**	**22 18 51.6**	**+0.5**
LFF	**La Frestale**	**29.85**	**60**	*e*P	**P**	**22 18 53.2**	**+0.5**
LDF	**La Druitiere**	**29.86**	**52**	*e*P	**P**	**22 18 53.4**	**+0.6**
	7.0nm,0.9s,mb4.1						
LDF	**La Druitiere**	**29.86**	**52**	*e*P	**P**	**22 18 53.4**	**+0.6**
	3.5nm,0.9s,mb4.1						
EPOB	**Poblet**	**29.94**	**67**	P	**P**	**22 18 48.9**	**-4.6**
	10nm,1.3s,mb4.4						
RJF	**Les Rejaudoux**	**30.44**	**59**	*e*P	**P**	**22 18 58.2**	**+0.3**
RJF				*e*R			
	230nm,20.0s						
RJF	**Les Rejaudoux**	**30.44**	**59**	*e*P	**P**	**22 18 58.2**	**+0.3**
RJF				LR	LR		
	comp=Z,230nm,20.0s,MS3.8						
CAF	**Calviac**	**30.79**	**60**	*e*P	**P**	**22 19 01.4**	**+0.4**
MTLF	**Montolieu**	**30.80**	**63**	*e*P	**P**	**22 19 01.6**	**+0.5**
	comp=Z,19nm,1.3s,mb4.5						
MTLF	**Montolieu**	**30.80**	**63**	*e*P	**P**	**22 19 01.6**	**+0.5**
	comp=Z,9.5nm,1.3s,mb4.5						
TCF	**Toulx Ste Croi**	**31.03**	**57**	*e*P	**P**	**22 19 03.6**	**+0.5**
	comp=Z,8.6nm,0.8s,mb4.3						
TCF	**Toulx Ste Croi**	**31.03**	**57**	*e*P	**P**	**22 19 03.6**	**+0.5**
	comp=Z,4.3nm,0.8s,mb4.3						
BGF	**Bois d'Agland**	**31.50**	**57**	*e*P	**P**	**22 19 07.9**	**+0.7**
	comp=Z,5.4nm,0.7s,mb4.2						
BGF	**Bois d'Agland**	**31.50**	**57**	*e*P	**P**	**22 19 07.9**	**+0.7**
	comp=Z,2.7nm,0.7s,mb4.2						
AVF	**Avril sur Loir**	**31.87**	**56**	*e*P	**P**	**22 19 11.1**	**+0.6**
SSF	**Saint Saulge**	**32.01**	**56**	*e*P	**P**	**22 19 12.5**	**+0.8**
LASF	**Ste Croix**	**32.02**	**62**	*e*P	**P**	**22 19 12.5**	**+0.7**
	comp=Z,11nm,1.1s,mb4.3						
LASF	**Ste Croix**	**32.02**	**62**	*e*P	**P**	**22 19 12.5**	**+0.7**
	comp=Z,5.4nm,1.1s,mb4.3						
SMF	**Signal de Mont**	**32.19**	**57**	*e*P	**P**	**22 19 13.6**	**+0.3**
LOR	**Lormes**	**32.27**	**56**	*e*P	**P**	**22 19 14.7**	**+0.7**
LOR				*e*R			
	comp=Z,150nm,21.2s						
LOR	**Lormes**	**32.27**	**56**	*e*P	**P**	**22 19 14.7**	**+0.7**
LOR				LR	LR		
	comp=Z,150nm,21.3s,MS3.6						
VIVF	**Saint-Julien-l**	**32.63**	**60**	*e*P	**P**	**22 19 17.7**	**+0.5**
SFJD	**Kangerlussuaq**	**32.83**	**350**	P	**P**	**22 19 18.1**	**-0.8**
	comp=Z,5.8nm,0.8s,mb4.6,baz=121,slow=5.9,SNR=2.7						
SFJD	**Kangerlussuaq**	**32.83**	**350**	P	**P**	**22 19 18.1**	**-0.8**
BAIF	**Baives**	**32.94**	**51**	*e*P	**P**	**22 19 20.3**	**+0.4**
	comp=Z,22nm,1.2s,mb4.7						
BAIF	**Baives**	**32.94**	**51**	*e*P	**P**	**22 19 20.3**	**+0.4**
	comp=Z,11nm,1.2s,mb4.7						
MEZF	**Maizieres J'vi**	**33.23**	**54**	*e*P	**P**	**22 19 22.8**	**+0.4**
SMRF	**Simiane la Rot**	**33.26**	**62**	*e*P	**P**	**22 19 23.2**	**+0.5**
CABF	**La Chapelle**	**33.73**	**57**	*e*P	**P**	**22 19 27.0**	**+0.2**
	comp=Z,19nm,1.0s,mb4.7						
CABF	**La Chapelle**	**33.73**	**57**	*e*P	**P**	**22 19 27.0**	**+0.2**
	comp=Z,9.5nm,1.0s,mb4.7						
LMR	**La Mourre**	**33.94**	**63**	*e*P	**P**	**22 19 28.7**	**+0.1**
	comp=Z,20nm,1.4s,mb4.6						
LMR	**La Mourre**	**33.94**	**63**	*e*P	**P**	**22 19 28.7**	**+0.1**
	comp=Z,10nm,1.4s,mb4.6						
HAU	**Haudompre**	**34.03**	**55**	*e*P	**P**	**22 19 29.9**	**+0.5**
HAU				*e*R			
	comp=Z,146nm,22.8s						
HAU	**Haudompre**	**34.03**	**55**	*e*P	**P**	**22 19 29.9**	**+0.5**
HAU				LR	LR		
	comp=Z,150nm,22.8s,MS3.7						
FRF	**La Foret Royal**	**34.03**	**63**	*e*P	**P**	**22 19 29.9**	**+0.5**
	comp=Z,12nm,1.1s,mb4.4						
FRF	**La Foret Royal**	**34.03**	**63**	*e*P	**P**	**22 19 29.9**	**+0.5**
	comp=Z,5.9nm,1.1s,mb4.4						
LPL	**La Plagne**	**34.12**	**59**	*e*P	**P**	**22 19 30.8**	**+0.7**
MBDF	**Montbardon**	**34.12**	**61**	*e*P	**P**	**22 19 30.6**	**+0.4**
LPG	**La Plagne**	**34.13**	**59**	*e*P	**P**	**22 19 31.0**	**+0.7**
FRB	**Frobisher Bay**	**34.60**	**335**	P	**P**	**22 19 32.1**	**-2.2**
	comp=Z,26nm,0.8s,mb5.2,baz=140,slow=6.9,SNR=6.8						
CDF	**Champ du Feu**	**34.69**	**54**	*e*P	**P**	**22 19 35.4**	**+0.3**
PGF	**Pioggiola**	**35.80**	**64**	*e*P	**P**	**22 19 44.7**	**+0.1**
	comp=Z,23nm,1.1s,mb4.7						
PGF	**Pioggiola**	**35.80**	**64**	*e*P	**P**	**22 19 44.7**	**+0.1**
	comp=Z,11nm,1.1s,mb4.7						
GRA1	**Grafenberg Arr**	**37.38**	**52**	*e*P	**P**	**22 19 58.5**	**+0.3**
	comp=Z,11nm,1.5s,mb4.5						
GRA1				LR	LR		
	comp=Z,100nm,29.7s,MS3.4						
GRF	**Grafenberg Arr**	**37.38**	**52**	*e*P	**P**	**22 19 58.5**	**+0.3**
	comp=Z,11nm,1.5s,mb4.5						
GRF				*e*L		22 31 07.6	
	comp=Z,138nm,29.7s						
SUMG	**Summit**	**37.41**	**359**	*e*P	**P**	**22 19 57.0**	**-1.4**
	comp=Z,29nm,1.1s,mb5.0						
SUMG	**Summit**	**37.41**	**359**	*e*P	**P**	**22 19 57.0**	**-1.4**
	comp=Z,29nm,1.1s,mb5.0						
MOX	**Moxa**	**37.72**	**51**	*e*P	**P**	**22 20 01.9**	**+0.9**
	comp=Z,10.0nm,1.6s,mb4.3						
MOX							
	comp=Z,200nm,19.0s						
NKC	**Novy Kostel**	**38.21**	**52**	*e*P	**P**	**22 20 06.3**	**+1.1**
NKC				AMS	AMS	22 33 00.0	
	comp=Z,200nm,16.9s						
CLL	**Collm**	**38.65**	**50**	*e*P	**P**	**22 20 09.0**	**+0.1**
KHC	**Kasperske Hory**	**38.89**	**53**	*e*P	**P**	**22 20 11.6**	**+0.7**
KHC				AMS	AMS	22 33 00.0	
	comp=Z,100nm,18.5s						
GERES	**GERESS Array B**	**38.97**	**54**	P	**P**	**22 20 10.1**	**-1.4**
	comp=Z,0.5nm,0.7s,mb3.4,baz=265,slow=6.8,SNR=4.5						
GERES				LR	LR	22 33 02.4	
	comp=Z,69nm,22.0s,MS3.4,baz=99,slow=31						
PRU	**Pruhonice**	**39.55**	**52**	*e*P	**P**	**22 20 17.7**	**+1.3**
PRU				AMS	AMS	22 35 30.0	
	comp=Z,200nm,15.9s						
PVCC	**Panska Ves**	**39.59**	**51**	*e*P	**P**	**22 20 17.5**	**+0.8**
PVCC				AMS	AMS	22 34 40.0	
	comp=Z,300nm,16.5s						
NB2	**NORSAR Subarra**	**39.65**	**34**	P	**P**	**22 20 15.2**	**-2.0**
	comp=Z,7.5nm,1.0s,mb4.4,baz=252,slow=8.6						
NOA	**NORSAR Array B**	**39.65**	**34**	P	**P**	**22 20 14.4**	**-2.8**
	comp=Z,3.5nm,0.9s,mb4.1,baz=252,slow=8.6,SNR=7.0						
NOA				LR	LR	22 33 09.7	
	comp=Z,42nm,21.2s,MS3.2,baz=270,slow=31						
TREC	**Trest**	**40.15**	**53**	*e*P	**P**	**22 20 21.9**	**+0.5**
TREC				AMS	AMS	22 33 10.0	
UPC	**Upice**	**40.51**	**51**	*e*P	**P**	**22 20 25.4**	**+1.0**
DBIC	**Dimbokro**	**40.67**	**127**	P	**P**	**22 20 24.1**	**-1.6**
	comp=Z,3.9nm,0.9s,mb4.0,baz=314,slow=18,SNR=4.8						
DBIC				LR	LR	22 35 35.0	
	comp=Z,134nm,18.7s,MS3.8,baz=297,slow=34						
DPC	**Dobruska-Polom**	**40.70**	**52**	*e*P	**P**	**22 20 27.1**	**+1.1**
DPC				AMS	AMS	22 35 50.0	
	comp=Z,200nm,12.7s						
SDV	**Santo Domingo**	**40.75**	**238**	P	**P**	**22 20 24.8**	**-1.6**
	comp=Z,4.2nm,0.7s,mb4.2,baz=42,slow=4.7,SNR=5.8						
TOA0	**Torodi Ar. Sit**	**40.84**	**113**	*e*P	**P**	**22 20 25.6**	**-1.5**
TOA0	**Torodi Ar. Sit**	**40.84**	**113**	*e*P	**P**	**22 20 25.6**	**-1.5**
TORD	**Torodi Ar. Bea**	**40.84**	**113**	P	**P**	**22 20 25.0**	**-2.1**
	comp=Z,3.7nm,0.9s,mb4.0,baz=310,slow=5.6,SNR=20						
TORD				LR	LR	22 35 47.5	
	comp=Z,151nm,19.7s,MS3.9,baz=315,slow=34						
WVT	**Waverly**	**41.30**	**287**	*e*P	**P**	**22 20 30.6**	**-0.3**
	comp=Z,5.7nm,1.0s,mb4.2						
WVT	**Waverly**	**41.30**	**287**	*e*P	**P**	**22 20 30.6**	**-0.3**
	comp=Z,5.7nm,1.0s,mb4.2						
OKC	**Ostrava-Krasne**	**41.88**	**52**	AMS	AMS	22 36 40.0	
	comp=Z,100nm,6.7s						
SRO	**Srobarova**	**42.06**	**55**	*e*P	**P**	**22 20 37.6**	**+0.5**
	comp=Z,22nm,1.6s,mb4.5						
VYHS	**Vyhne**	**42.38**	**54**	*e*P	**P**	**22 20 38.7**	**-1.0**
	comp=Z,6.0nm,1.8s,mb3.9						
PKSM	**Moragy**	**42.41**	**58**	⇓*i*P	**P**	**22 20 40.3**	**+0.4**
PKSM	**Moragy**	**42.41**	**58**	⇓P	**P**	**22 20 40.2**	**+0.3**
PKSM	**Moragy**	**42.41**	**58**	⇓P	**P**	**22 20 40.2**	**+0.3**
CRVS	**Cervenica-Dubn**	**44.09**	**54**	*e*P	**P**	**22 20 55.1**	**+1.6**
BZS	**Buzias**	**44.54**	**58**	⇑*i*P	**P**	**22 20 58.4**	**+1.3**
BZS	**Buzias**	**44.54**	**58**	⇑P	**P**	**22 20 58.4**	**+1.3**
KOLS	**Kolonicke sedl**	**44.62**	**53**	*e*P	**P**	**22 20 58.2**	**+0.4**
KWP	**Kalwaria**	**44.84**	**52**	*e*P	**P**	**22 20 58.6**	**-0.9**
	comp=Z,9.4nm,0.9s,mb4.6						
KWP	**Kalwaria**	**44.84**	**52**	*e*P	**P**	**22 20 58.6**	**-1.0**
	comp=Z,9.4nm,0.9s,mb4.6						
ULM	**Lac du Bonnet**	**44.91**	**309**	P	**P**	**22 20 58.1**	**-2.0**
	comp=Z,7.6nm,0.8s,mb4.6,baz=78,slow=7.0,SNR=14						
ULM				LR	LR	22 38 20.5	
	comp=Z,111nm,21.1s,MS3.8,baz=205,slow=34						
ROSC	**El Rosal**	**46.18**	**238**	LR	LR	22 38 31.8	
	comp=Z,50nm,21.9s,MS3.4,baz=62,slow=34						
MIAR	**Mount Ida**	**46.25**	**286**	*e*P	**P**	**22 21 11.0**	**+0.2**
	comp=Z,15nm,1.0s,mb4.9						
MIAR				*e*		22 21 19.4	
MIAR	**Mount Ida**	**46.25**	**286**	*e*P	**P**	**22 21 11.0**	**+0.3**
FINES	**FINESS Array B**	**46.76**	**36**	P	**P**	**22 21 11.9**	**-2.8**
	comp=Z,2.3nm,0.8s,mb4.2,baz=197,slow=6.0,SNR=5.1						
FINES				LR	LR	22 37 42.6	
	comp=Z,86nm,20.7s,MS3.7,baz=313,slow=32						
KAF	**Kangasniemi**	**46.92**	**35**	*e*p	**P**	**22 21 11.6**	**-4.3**
	comp=Z,5.0nm,0.8s,mb4.5,baz=264,slow=8.0						
MLR	**Muntele Rosu**	**47.56**	**58**	⇑*i*P	**P**	**22 21 22.0**	**+1.0**
MLR	**Muntele Rosu**	**47.56**	**58**	⇑P	**P**	**22 21 21.9**	**+1.0**
ARCES	**ARCESS Array B**	**47.70**	**25**	P	**P**	**22 21 18.1**	**-3.9**
	comp=Z,4.0nm,0.9s,mb4.5,baz=260,slow=6.8,SNR=7.8						
AKASG	**Malin Array Be**	**48.89**	**50**	P	**P**	**22 21 28.3**	**-2.9**
	comp=Z,5.7nm,0.8s,mb4.7,baz=274,slow=7.4,SNR=23						
AKBB	**Malin Array Si**	**48.89**	**50**	*e*P	**P**	**22 21 28.9**	**-2.4**
AKBB	**Malin Array Si**	**48.89**	**50**	*e*P	**P**	**22 21 28.9**	**-2.3**
JOF	**Joensuu**	**49.28**	**34**	*e*p	**P**	**22 21 30.8**	**-3.4**
	comp=Z,5.4nm,0.8s,mb4.6						
WMOK	**Wichita Mounta**	**50.26**	**289**	*e*P	**P**	**22 21 41.5**	**-0.1**
	comp=Z,8.1nm,1.0s,mb4.7						
WMOK	**Wichita Mounta**	**50.26**	**289**	*e*P	**P**	**22 21 41.5**	**-0.1**
	comp=Z,8.1nm,1.0s,mb4.7						
BDFB	**Brasilia**	**51.78**	**194**	P	**P**	**22 21 51.6**	**-1.5**
	comp=Z,5.3nm,1.0s,mb4.4,baz=23,slow=6.8,SNR=4.5						
BDFB				LR	LR	22 39 50.9	
	comp=Z,127nm,18.7s,MS4.0,baz=16,slow=31						
OTAV	**Otavalo**	**52.34**	**238**	*e*P	**P**	**22 21 59.2**	**+1.9**
	comp=Z,6.8nm,1.1s,mb4.5						
OTAV	**Otavalo**	**52.34**	**238**	*e*P	**P**	**22 21 59.2**	**+1.9**
	comp=Z,6.8nm,1.1s,mb4.5						
AMTX	**Amarillo**	**52.45**	**290**	*e*P	**P**	**22 21 58.2**	**+0.1**
	comp=Z,12nm,0.9s,mb4.8						
AMTX	**Amarillo**	**52.45**	**290**	*e*P	**P**	**22 21 58.2**	**+0.1**
	comp=Z,12nm,0.9s,mb4.8						
JCT	**Junction City**	**52.60**	**284**	*e*P	**P**	**22 21 59.5**	**+0.3**
	comp=Z,7.4nm,0.9s,mb4.6						
JCT				*e*		22 22 07.6	
JCT	**Junction City**	**52.60**	**284**	*e*P	**P**	**22 21 59.5**	**+0.3**
OBN	**Obninsk**	**52.60**	**44**	*e*P	**P**	**22 21 56.7**	**-2.6**
	comp=Z,18nm,0.6s,mb5.2						
ISCO	**Idaho Springs**	**53.77**	**297**	*e*P	**P**	**22 22 08.1**	**+0.3**
	comp=Z,3.0nm,0.7s,mb4.3						
ISCO	**Idaho Springs**	**53.77**	**297**	*e*P	**P**	**22 22 08.1**	**+0.3**
	comp=Z,3.0nm,0.7s,mb4.3						
YKA	**Yellowknife Ar**	**54.04**	**326**	P	**P**	**22 22 08.4**	**-1.4**
	comp=Z,2.8nm,0.8s,mb4.2,baz=79,slow=7.2,SNR=15						
YKA				PcP	PcP	22 23 12.7	-2.0
	comp=Z,1.1nm,0.9s,baz=65,slow=4.4,SNR=3.5						
YKA				LR	LR	22 44 46.4	
	comp=Z,69nm,18.6s,MS3.7,baz=90,slow=36						
YKA	**Yellowknife Ar**	**54.04**	**326**	P	**P**	**22 22 08.4**	**-1.4**
YKA				PcP	PcP	22 23 12.7	-2.0
YKA				LR	LR	22 44 46.4	
YKA	**Yellowknife Ar**	**54.04**	**326**	PcP	PcP	22 23 12.7	-2.0
EGMT	**Eagleton**	**54.26**	**308**	*e*P	**P**	**22 22 10.8**	**-0.6**
	comp=Z,7.4nm,1.0s,mb4.6						
EGMT	**Eagleton**	**54.26**	**308**	*e*P	**P**	**22 22 10.8**	**-0.6**
	comp=Z,7.4nm,1.0s,mb4.6						
BR131	**Keskin Array S**	**54.53**	**63**	*e*P	**P**	**22 22 13.9**	**+0.5**
	comp=Z,1.6nm,0.9s,mb4.0						
BR131				*e*		22 22 19.9	
BR131	**Keskin Array S**	**54.53**	**63**	*e*P	**P**	**22 22 13.9**	**+0.6**
BRTR	**Keskin Array B**	**54.53**	**63**	P	**P**	**22 22 12.8**	**-0.6**
	comp=Z,2.1nm,0.8s,mb4.2,baz=284,slow=5.0,SNR=12						
BRTR				LR	LR	22 43 33.8	
	comp=Z,37nm,20.5s,MS3.4,baz=118,slow=34						
SMCO	**Snowmass**	**54.97**	**297**	*e*P	**P**	**22 22 16.9**	**+0.4**
	comp=Z,8.2nm,1.0s,mb4.7						
SMCO				*e*		22 22 29.3	
SMCO	**Snowmass**	**54.97**	**297**	*e*P	**P**	**22 22 16.9**	**+0.4**
EDM	**Edmonton**	**55.18**	**314**	*e*P	**P**	**22 22 17.6**	**-0.5**
EDM	**Edmonton**	**55.18**	**314**	*e*P	**P**	**22 22 17.6**	**-0.4**
PDAR	**Pinedale Array**	**55.65**	**301**	P	**P**	**22 22 20.9**	**-0.6**
	comp=Z,6.8nm,1.0s,mb4.6,baz=69,slow=8.1,SNR=35						
PDAR				LR	LR	22 46 15.1	
	comp=Z,121nm,19.5s,MS4.0,baz=79,slow=36						
SIV	**San Ignacio**	**56.05**	**209**	P	**P**	**22 22 24.0**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.9,baz=24,slow=9.5,SNR=1.5						
ANMO	**Albuquerque**	**56.08**	**292**	*e*P	**P**	**22 22 24.9**	**+0.4**
	comp=Z,4.0nm,1.0s,mb4.4						
ANMO				*e*		22 22 34.0	
ANMO	**Albuquerque**	**56.08**	**292**	*e*P	**P**	**22 22 25.0**	**+0.4**
LTX	**Lajitas**	**56.13**	**284**	*e*P	**P**	**22 22 25.5**	**+0.6**
	comp=Z,4.2nm,1.0s,mb4.4						
LTX				*e*		22 22 33.8	
LTX	**Lajitas**	**56.13**	**284**	*e*P	**P**	**22 22 25.5**	**+0.6**
BOZ	**Bozeman (W)**	**56.17**	**305**	*e*P	**P**	**22 22 25.1**	**-0.1**
	comp=Z,11nm,1.0s,mb4.8						
BOZ	**Bozeman (W)**	**56.17**	**305**	*e*P	**P**	**22 22 25.0**	**-0.1**
	comp=Z,11nm,1.0s,mb4.8						
IMW	**Indian Meadow**	**56.24**	**303**	*e*P	**P**	**22 22 26.2**	**+0.5**
	comp=Z,18nm,1.0s,mb5.0						
IMW	**Indian Meadow**	**56.24**	**303**	*e*P	**P**	**22 22 26.2**	**+0.5**
	comp=Z,18nm,1.0s,mb5.0						
WALA	**Waterton Lakes**	**56.63**	**310**	*e*P	**P**	**22 22 27.4**	**-1.0**
	comp=Z,11nm,0.9s,mb4.9						
WALA	**Waterton Lakes**	**56.63**	**310**	*e*P	**P**	**22 22 27.4**	**-1.0**
	comp=Z,11nm,0.9s,mb4.9						
RRI2	**Red Ridge**	**56.68**	**303**	*e*P	**P**	**22 22 29.1**	**+0.2**
	comp=Z,7.8nm,0.6s,mb4.9						
RRI2	**Red Ridge**	**56.68**	**303**	*e*P	**P**	**22 22 29.1**	**+0.3**
	comp=Z,7.8nm,0.6s,mb4.9						
MVCO	**Mesa Verde**	**56.78**	**295**	*e*P	**P**	**22 22 30.3**	**+0.8**
MVCO				*e*		22 22 40.3	
MVCO	**Mesa Verde**	**56.78**	**295**	*e*P	**P**	**22 22 30.3**	**+0.8**
CHMT	**Chamberlain Mo**	**56.85**	**307**	*e*P	**P**	**22 22 30.6**	**+0.6**
CHMT	**Chamberlain Mo**	**56.85**	**307**	*e*P	**P**	**22 22 30.6**	**+0.6**
MSO	**Missoula**	**57.32**	**307**	*e*P	**P**	**22 22 33.0**	**-0.4**
	comp=Z,2.3nm,0.7s,mb4.3						
MSO	**Missoula**	**57.32**	**307**	*e*P	**P**	**22 22 33.0**	**-0.4**
	comp=Z,2.3nm,0.7s,mb4.3						
HWUT	**Hardware Ranch**	**57.44**	**301**	*e*P	**P**	**22 22 33.8**	**-0.4**
	comp=Z,5.9nm,0.8s,mb4.7						
HWUT	**Hardware Ranch**	**57.44**	**301**	*e*P	**P**	**22 22 33.8**	**-0.4**
	comp=Z,5.9nm,0.8s,mb4.7						
MALT	**Malatya**	**58.52**	**63**	*e*P	**P**	**22 22 42.9**	**+1.2**
	comp=Z,13nm,1.3s,mb4.8						
MALT	**Malatya**	**58.52**	**63**	*e*P	**P**	**22 22 42.9**	**+1.2**
	comp=Z,13nm,1.3s,mb4.8						
BGU	**Big Grassy Mou**	**58.71**	**300**	*e*P	**P**	**22 22 42.5**	**-0.6**
BGU				*e*		22 22 51.3	
BGU	**Big Grassy Mou**	**58.71**	**300**	*e*P	**P**	**22 22 42.5**	**-0.6**
HLID	**Hailey**	**58.73**	**304**	*e*P	**P**	**22 22 43.3**	**+0.1**
	comp=Z,13nm,1.6s,mb4.7						
HLID				*e*		22 22 52.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HLID	Hailey	58.73	304	eP	P	22 22 43.3	+0.1
DUG	Dugway	58.83	300	eP	P	22 22 44.0	+0.2
	comp=Z,12nm,1.1s,mb4.8						
DUG				e		22 22 52.3	
DUG	Dugway	58.83	300	eP	P	22 22 44.0	+0.1
NEW	Newport	58.90	310	eP	P	22 22 43.5	-0.9
	comp=Z,19nm,0.9s,mb5.1						
NEW				e		22 22 52.0	
NEW	Newport	58.90	310	eP	P	22 22 43.5	-0.9
MSU	Marysvale	59.00	298	eP	P	22 22 46.0	+0.9
M13A	Montello	59.35	301	P	P	22 22 47.5	0.0
	baz=59,SNR=5.4						
LPAZ	La Paz	59.40	216	P	P	22 22 49.1	+1.2
	comp=Z,3.5nm,0.8s,mb4.4,baz=8.5,slow=6.4,SNR=20						
LPAZ				LR	LR	22 45 16.4	
	comp=Z,97nm,20.2s,MS3.9,baz=72,slow=33						
N13A	Wendover, West	59.56	301	⇓P	P	22 22 49.4	+0.4
	baz=59						
WUAZ	Wupatki	59.57	294	eP	P	22 22 50.2	+1.1
	comp=Z,4.7nm,0.8s,mb4.6						
WUAZ				epP	pP	22 22 58.8	+6.5
WUAZ				esP	sP	22 23 04.1	+11
M12A	Wells	59.85	302	⇑P	P	22 22 51.7	+0.7
	baz=60,SNR=13						
N12A	Clover Valley,	60.15	301	⇑P	P	22 22 53.3	+0.2
	baz=60						
ARUT	Antelope Range	60.19	297	eP	P	22 22 53.5	+0.1
BMO	Blue Mountains	60.21	306	eP	P	22 22 52.3	-1.1
	comp=Z,2.9nm,0.6s,mb4.5						
INK	Inuvik	60.25	335	LR	LR	22 49 48.9	
	comp=Z,60nm,18.4s,MS3.8,baz=98,slow=37						
INK	Inuvik	60.25	335	eP	P	22 22 52.6	-1.1
	comp=Z,36nm,1.6s,mb5.2						
M11A	Holland Ranch,	60.46	302	⇓P	P	22 22 55.8	+0.7
	baz=60,SNR=8.2						
P12A	McGill	60.59	299	⇑P	P	22 22 56.6	+0.5
	baz=60						
X15A	Humboldt	60.64	293	⇑P	P	22 22 57.9	+1.6
	baz=60						
Q12A	Willow Creek R	60.70	299	⇓P	P	22 22 57.9	+1.0
	baz=61						
O11A	Cowboy Ranch,	60.87	300	⇑P	P	22 22 58.0	+0.1
	baz=61						
W14A	Seligman	60.97	294	⇑P	P	22 23 00.3	+1.7
	baz=61						
116A	Eloy	61.04	291	⇓P	P	22 23 00.5	+1.4
	baz=61						
HAWA	Hanford	61.09	308	eP	P	22 22 59.4	-0.1
	comp=Z,0.5nm,0.9s,mb3.6						
X14A	Yava	61.13	294	⇑P	P	22 23 00.7	+1.0
	baz=61						
P11A	Circle Ranch,	61.16	300	⇑P	P	22 23 00.3	+0.4
	baz=61						
N10A	Dunphy	61.23	301	⇑P	P	22 22 59.9	-0.5
	baz=61						
Q11A	Duckwater	61.37	299	⇓P	P	22 23 01.0	-0.3
	baz=61						
Y14A	Wickenburg	61.44	293	⇓P	P	22 23 02.8	+1.0
	baz=61						
L09A	Wilkinson Ranc	61.53	303	⇑P	P	22 23 02.5	+0.1
	baz=61,SNR=13						
U12A	Valley of Fire	61.55	296	⇓P	P	22 23 02.7	+0.2
	baz=61						
M09A	Marrel Ranch,	61.61	302	⇑P	P	22 23 02.4	-0.5
	baz=62						
W13A	Hualapai Mount	61.62	295	⇑P	P	22 23 02.8	-0.2
	baz=62						
P10A	Eureka	61.63	300	⇑P	P	22 23 03.2	0.0
	baz=62						
X13A	Yucca	61.79	294	⇓P	P	22 23 05.7	+1.5
	baz=62						
N09A	Rock Creek Ran	61.89	302	⇓P	P	22 23 04.8	0.0
	baz=62						
O09A	Fish Creek Ran	61.93	301	⇓P	P	22 23 05.4	+0.3
	baz=62,SNR=5.8						
B05A	Bryant	62.01	311	⇑P	P	22 23 02.8	-2.9
	baz=62						
WVOR	Wild Horse Val	62.02	304	eP	P	22 23 06.6	+0.8
	comp=Z,21nm,1.4s,mb5.1						
R10A	Warm Springs	62.06	299	⇓P	P	22 23 06.6	+0.6
	baz=62						
V12A	Nelson	62.07	296	⇓P	P	22 23 06.9	+0.9
	baz=62						
P09A	Austin	62.14	300	⇑P	P	22 23 06.7	+0.1
	baz=62						
U11A	Corn Creek	62.17	296	⇓P	P	22 23 06.7	-0.1
	baz=62						
M08A	Happy Creek Ra	62.24	303	⇑P	P	22 23 05.9	-1.3
	baz=62						
N08A	GE Springer Mi	62.34	302	⇓P	P	22 23 08.0	+0.1
	baz=62						
V11A	Goodsprings	62.45	296	⇓P	P	22 23 09.5	+0.9
	baz=62						
F05A	White Salmon	62.53	308	⇓P	P	22 23 08.3	-0.8
	baz=62						
Y12C	Blythe	62.66	293	⇑P	P	22 23 11.5	+1.4
	baz=62						
L07A	Adell	62.67	304	⇑P	P	22 23 09.9	-0.2
	baz=62,SNR=7.7						
J06A	Christmas Vall	62.72	305	⇓P	P	22 23 11.1	+0.7
	baz=63						
M07A	Soldier Meadow	62.81	303	⇓P	P	22 23 11.6	+0.6
	baz=63						
U10A	Ash Meadows, A	62.86	297	⇑P	P	22 23 12.1	+0.8
	baz=63						
B04A	Port Angeles	62.95	311	⇓P	P	22 23 11.6	-0.3
	baz=63						
S09A	Goldfield	62.96	299	⇑P	P	22 23 12.1	+0.1
	baz=63						
K06A	Valley Falls	62.97	305	⇑P	P	22 23 12.0	-0.1
	baz=63						
TUQ	Turquoise Mtn.	62.98	296	⇑P	P	22 23 13.2	+1.1
	baz=63						
Q08A	Gabbs	62.99	300	⇑P	P	22 23 11.7	-0.5
	baz=63						
I05A	Bend	63.09	307	⇓P	P	22 23 12.6	-0.3
	baz=63						
O07A	Toulon	63.11	302	⇑P	P	22 23 11.9	-1.2
	baz=63						
GLA	Glamis	63.20	293	⇓P	P	22 23 15.1	+1.5
	baz=63						
MNV	Mina	63.33	300	eP	P	22 23 14.3	-0.2
	comp=Z,5.2nm,0.9s,mb4.7						
MNV				epP	pP	22 23 22.7	+5.0
MNV				esP	sP	22 23 27.7	+8.8
R08A	Mina	63.33	299	⇑P	P	22 23 14.4	-0.1
	baz=63						
NVAR	Mina Array Bea	63.43	300	P	P	22 23 14.9	-0.3
	comp=Z,2.8nm,0.8s,mb4.5,baz=76,slow=7.2,SNR=22						
G04A	Mulino	63.45	308	⇓P	P	22 23 14.6	-0.7
	baz=63						
D03A	Wishkah Elem.	63.49	310	⇑P	P	22 23 15.4	-0.2
	baz=63						
N06A	Buffalo Meadow	63.53	303	⇑P	P	22 23 16.0	+0.2
	baz=63						
E03A	Lebam	63.59	310	⇓P	P	22 23 15.7	-0.6
	baz=63						
C03A	Quillayute Air	63.65	311	⇓P	P	22 23 15.7	-0.9
	baz=64						
L05A	Lakeview	63.67	304	⇑P	P	22 23 17.2	+0.5
	baz=64,SNR=11						
GSC	Goldstone	63.69	296	⇓P	P	22 23 17.9	+1.0
	baz=64						
O06A	Flanigan	63.77	302	⇑P	P	22 23 16.7	-0.7
	baz=64						
M06C	Likely Place G	63.78	303	⇓P	P	22 23 17.1	-0.4
	baz=64,SNR=7.2						
WCN	Washoe City	64.09	301	⇑P	P	22 23 18.5	-1.0
	baz=64						
R07C	Lee Vining	64.11	300	⇓P	P	22 23 19.8	+0.2
	baz=64						
CWC	Cottonwood Cre	64.13	298	⇑P	P	22 23 20.8	+1.1
	baz=64						
DAWY	Dawson	64.17	332	eP	P	22 23 19.5	-0.5
DAWY				epP	pP	22 23 29.0	+5.8
M05C	Lookout	64.17	304	⇑P	P	22 23 20.3	+0.2
	baz=64						
PFO	Pinyon Flat Ob	64.17	294	⇓P	P	22 23 21.0	+1.0
	baz=64						
H03A	Soap Creek Ran	64.20	308	⇓P	P	22 23 19.4	-0.7
	baz=64						
R06C	Coleville	64.21	300	⇑P	P	22 23 20.2	0.0
	baz=64						
L04A	Klamath Falls	64.33	305	⇑P	P	22 23 20.3	-0.8
	baz=64						
M04C	Macdoel	64.46	304	⇑P	P	22 23 22.1	+0.2
	baz=64						
HATC	Hat Creek Radi	64.62	303	⇓P	P	22 23 23.1	+0.1
	baz=64						
S06C	San Francisco	64.77	300	⇓P	P	22 23 23.5	-0.5
	baz=65						
HUMO	Hull Mountain	64.86	306	⇓P	P	22 23 21.8	-2.7
	baz=65						
LAVA	Lava Cap Winer	65.01	301	⇑P	P	22 23 25.5	0.0
	baz=65						
YBH	Yreka Blue Hor	65.07	305	⇑P	P	22 23 24.9	-1.0
	baz=65						
CMB	Columbia Colle	65.08	300	⇓P	P	22 23 26.2	+0.2
	baz=65						
K02A	Glendale	65.14	306	⇑P	P	22 23 25.9	-0.5
	baz=65						
ORV	Oroville	65.19	302	⇓P	P	22 23 26.0	-0.7
	baz=65						
LVC	Limon Verde	65.25	213	LR	LR	22 52 04.5	
	comp=Z,35nm,19.8s,MS3.6,baz=2.1,slow=36						
OHCM	Honcut	65.28	302	eP	P	22 23 27.0	-0.2
L02A	Cave Junction	65.48	305	⇑P	P	22 23 27.7	-0.9
	baz=65						
U04C	Hernandez Rese	66.11	299	⇓P	P	22 23 34.1	+1.4
	baz=66						
KDAK	Kodiak Island	73.00	330	LR	LR	22 57 08.1	
	comp=Z,112nm,20.0s,MS4.1,baz=98,slow=36						
ATD	Arta Tunnel	74.78	87	LR	LR	22 58 11.9	
	comp=Z,32nm,19.0s,MS3.6,baz=311,slow=36						
KURK	Kurchatov	77.13	36	eP	P	22 24 36.8	-2.2
	comp=Z,9.4nm,1.3s,mb4.6						
KURK				e		22 24 44.9	
KMBO	Kilima Mbogo	77.42	100	LR	LR	22 57 46.4	
	comp=Z,58nm,19.2s,MS3.9,baz=94,slow=35						
MKAR	Makanchi Array	81.56	38	P	P	22 25 00.8	-2.3
	comp=Z,2.3nm,0.9s,mb4.1,baz=300,slow=4.5,SNR=10						
MKAR	Makanchi Array	81.56	38	P	P	22 25 00.8	-2.3
PLCA	Paso Flores	81.85	205	LR	LR	23 02 31.0	
	comp=Z,80nm,21.3s,MS4.0,baz=192,slow=36						
SONM	Songino Array	90.86	24	P	P	22 25 47.4	-1.6
	comp=Z,0.5nm,0.7s,mb3.9,baz=335,slow=6.4,SNR=3.2						
ASAR	Alice Springs	165.75	38	PKPab	PKPab	22 33 47.1	-2.3
	comp=Z,1.4nm,0.9s,baz=330,slow=4.5,SNR=5.6						

*ISCJB **16** 22:38:03.9±0.5, 2094N±007×14379E±007, h22km, mb4.3/34, MS3.6/4, Error ellipse: s-maj=11.0km s-min=9.2km az=43.1*

*BJI **16** 22:38:03.2, 2086N×14408E, h28km, mB4.8, mb4.4, Ms4.5, Msz3.8*

*MOS **16** 22:38:04.7±0.9, 2087N×14362E, h33km, mb4.8/8, Error ellipse: s-maj=21.0km s-min=8.9km az=110.1*

*NEIC **16** 22:38:05.1±0.5, 2094N×14386E, mb4.7/11, Error ellipse: s-maj=12.8km s-min=10.4km az=209.0*

*IDC **16** 22:38:08.1±3.5, 2090N×14367E, h45km±31km, mb3.8/13, mb1 4.0/15, mb1mx3.9/20, mbtmp4.1/15, ML3.8/2, MS3.3/6, Ms1 3.3/6, ms1mx3.0/31, Error ellipse: s-maj=25.7km s-min=17.0km az=84.0*

ISC 16 22:38:06.8±0.6**, 2112N**±009×**14389E**±007**, h23**km±.8km**:pP-P, n72,** σ1^{s}**31**/64**, mb4.3**/34**, MS3.6**/4**, 1C, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	6.15	346	P	Pn	22 39 37.5	+1.3
	9.9nm,0.3s,baz=273,slow=22,SNR=3.6						
CBIJ				LR	LR	22 41 40.9	
	comp=Z,152nm,19.0s,baz=9.2,slow=34						
GUMO	Guam	7.55	173	LR	LR	22 42 22.9	
	comp=Z,83nm,19.0s,baz=72,slow=35						
JOW	Kunigami	15.36	295	LR	LR	22 46 41.0	
	comp=Z,70nm,20.5s,baz=133,slow=34						
MJAR	Matsushiro Arr	16.15	343	P	Pn	22 41 54.1	+2.0
	0.1nm,0.3s,baz=166,slow=10,SNR=7.4						
MAJO	Matsushiro	16.15	343	eP	Pn	22 41 53.9	+1.7
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAJO	Matsushiro	16.15	343	ePn	Pn	22 41 53.9	+1.7
	comp=Z,2.6nm,0.6s						
NACB	Ninganchiao	20.80	283	eP	P	22 42 48.7	+2.3
TATO	Taipei	20.96	285	P	P	22 42 49.2	+1.1
YHNB	Yeheng	21.04	284	P	P	22 42 50.6	+1.7
ASAJ	Asahikawa	22.96	358	P	P	22 43 11.6	+2.2
	comp=Z,4.8nm,0.7s,mb4.1,baz=218,slow=16,SNR=5.5						
ASAJ				LR	LR	22 51 23.3	
	comp=Z,75nm,21.1s,MS3.1,baz=177,slow=34						
NJ2	Nanjing	24.84	301	eP	P	22 43 27.8	+0.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
YSS	Yuzh-Sakhalins	25.79	358	P	P	22 43 34.5	-1.4
MDJ	Mudanjiang	26.25	336	P	P	22 43 39.6	-0.5
MDJ				S	S	22 48 05.1	-6.0
MDJ				PCS	PcS	22 50 46.1	-1.1
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb3.8						
MDJ				AMB	AMB		
	comp=Z,77nm,5.8s						
MDJ	Mudanjiang	26.25	336	P	P	22 43 39.6	-0.5
BJT	Baijiatuau	30.22	315	P	P	22 44 14.9	-0.6
QIZ	Qiongzhong	32.01	272	P	P	22 44 31.8	+0.5
HHC	Hu-ho-hao-te	33.71	313	eP	P	22 44 47.6	+1.5
HHC				PCP	PcP	22 47 25.8	+0.3
HHC				AMB	AMB		
	comp=Z,14nm,0.7s,mb5.0						
HHC				AMB	AMB		
	comp=Z,104nm,5.8s						
HHC				LR	LR		
	comp=N,440nm,13.1s,MS4.3						
HHC				LR	LR		
	comp=E,201nm,16.7s,MS4.3						
HHC				LR	LR		
	comp=Z,137nm,15.5s,MS3.8						
HIA	Hailar	34.03	331	P	P	22 44 47.9	-1.1
LZH	Lanzhou	37.91	302	eP	P	22 45 22.8	+0.6
LZH				PP	PP	22 46 54.0	+5.1
LZH				AMB	AMB		
	comp=Z,23nm,1.4s,mb4.7						
KMI	Kunming	37.95	284	P	P	22 45 21.8	-0.7
KMI				AMB	AMB		
	comp=Z,7.0nm,2.0s,mb4.0						
ULN	Ulaanbaatar	39.83	321	eP	P	22 45 38.2	0.0
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
ULN	Ulaanbaatar	39.83	321	eP	P	22 45 38.2	0.0
	comp=Z,2.0nm,0.9s,mb3.9						
SONM	Songino Array	40.20	321	P	P	22 45 41.0	-0.3
	comp=Z,0.9nm,0.8s,mb3.6,baz=124,slow=7.7,SNR=5.4						
WRAB	Tennant Creek	41.85	194	P	P	22 45 58.4	+3.5
WRA	Warramunga Arr	41.87	194	P	P	22 45 51.1	-3.9
	comp=Z,0.7nm,0.8s,mb3.4,baz=14,slow=8.8,SNR=3.8						
FITZ	Fitzroy Crossi	42.89	206	LR	LR	23 02 56.2	
	comp=Z,29nm,21.1s,MS3.1,baz=259,slow=35						
ZAK	Zakamensk	43.20	323	eP	P	22 46 05.1	-0.8
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
ASAR	Alice Springs	45.56	193	P	P	22 46 21.9	-3.0
	comp=Z,0.5nm,0.6s,mb3.6,baz=18,slow=7.3,SNR=4.9						
WMQ	Urumqi	51.45	310	P	P	22 47 11.8	+1.7
ZAL	Zalesovo	55.08	322	P	P	22 47 35.5	-1.4
	comp=Z,2.0nm,0.8s,mb4.2,baz=22,slow=8.0,SNR=11						
MKAR	Makanchi Array	55.57	313	P	P	22 47 39.5	-0.9
	comp=Z,0.4nm,0.6s,mb3.6,baz=92,slow=8.5,SNR=5.7						
MKAR				PcP	PcP	22 48 38.6	-1.4
	comp=Z,0.8nm,0.8s,baz=81,slow=3.9,SNR=4.2						
NVS	Novosibirsk	56.16	323	eP	P	22 47 43.1	-1.5
NVS				pmax	pmax		
	comp=N,2.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
KURK	Kurchatov	58.34	317	eP	P	22 47 58.0	-2.0
BVAR	Borovoye Array	63.54	320	P	P	22 48 34.2	-1.0
	comp=Z,2.5nm,0.7s,mb4.3,baz=92,slow=7.2,SNR=3.4						
ARU	Arti	70.12	324	eP	P	22 49 21.9	+4.7
PPT	Papeete	75.69	115	LR	LR	23 22 01.8	
	comp=Z,119nm,18.7s,MS4.2,baz=52,slow=35						
YKA	Yellowknife Ar	76.66	28	P	P	22 49 54.4	-1.3
	comp=Z,1.5nm,0.6s,mb4.1,baz=291,slow=5.5,SNR=9.1						
KEV	Kevo	79.11	342	ep	P	22 50 07.7	-1.7
ARCES	ARCESS Array B	79.68	342	P	P	22 50 11.3	-1.1
	comp=Z,1.6nm,0.6s,mb4.1,baz=74,slow=9.3,SNR=11						
ARCES	ARCESS Array B	79.68	342	P	P	22 50 11.3	-1.1
JOF	Joensuu	81.12	335	ep	P	22 50 17.9	-2.3
	comp=Z,6.5nm,0.7s,mb4.7						
JOF	Joensuu	81.12	335	eP	P	22 50 17.9	-2.3
JOF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
CMB	Columbia Colle	81.59	53	eP	P	22 50 22.9	+0.2
CMB				e	pP	22 50 30.4	+0.1
CMB				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
CMB	Columbia Colle	81.59	53	eP	P	22 50 22.9	+0.2
	comp=Z,3.8nm,0.7s,mb4.4						
CMB				ePcP	PcP	22 50 30.4	+1.8
OBN	Obninsk	82.33	326	⇑iP	P	22 50 25.5	-1.1
OBN				i	pP	22 50 32.9	-1.3
OBN				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
NVAR	Mina Array Bea	82.98	52	P	P	22 50 31.1	+1.1
	comp=Z,3.0nm,0.7s,mb4.4,baz=277,slow=4.0,SNR=20						
KAF	Kangasniemi	83.52	335	ep	P	22 50 29.4	-3.4
	comp=Z,6.0nm,0.8s,mb4.8,baz=54,slow=4.8						
KAF	Kangasniemi	83.52	335	eP	P	22 50 29.4	-3.4
KAF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
HLID	Hailey	83.78	46	eP	P	22 50 34.5	+0.5
	comp=Z,37nm,1.2s,mb5.4						
FINES	FINESS Array B	83.98	335	P	P	22 50 33.0	-2.1
	comp=Z,2.8nm,0.6s,mb4.6,baz=66,slow=6.3,SNR=22						
ELK	Elko	84.31	49	eP	P	22 50 37.2	+0.4
ELK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ELK	Elko	84.31	49	eP	P	22 50 37.2	+0.4
	comp=Z,4.4nm,1.2s,mb4.5						
TPNV	Topopah Spring	85.05	52	eP	P	22 50 40.9	+0.4
TPNV				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.2						
TPNV	Topopah Spring	85.05	52	eP	P	22 50 40.9	+0.4
	comp=Z,1.8nm,1.0s,mb4.2						
QLMT	Earthquake Lak	85.22	44	eP	P	22 50 42.6	+1.2
IMW	Indian Meadow	85.94	44	eP	P	22 50 45.7	+0.7
	comp=Z,3.4nm,0.6s,mb4.8						
IMW				epP	pP	22 50 53.4	+0.8
DUG	Dugway	86.23	48	eP	P	22 50 47.0	+0.6
DUG				e*PP	pP	22 50 53.8	-0.3
DUG				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.8						
DUG	Dugway	86.23	48	eP	P	22 50 47.0	+0.6
	comp=Z,6.1nm,1.0s,mb4.8						
DUG				epP	pP	22 50 53.8	-0.2
HWUT	Hardware Ranch	86.50	47	eP	P	22 50 48.2	+0.5
	comp=Z,6.5nm,1.0s,mb4.8						
HWUT				epP	pP	22 50 55.4	+0.1
PDAR	Pinedale Array	87.34	45	P	P	22 50 52.2	+0.4
	comp=Z,0.6nm,0.8s,mb3.9,baz=282,slow=1.4,SNR=5.6						
SRU	San Rafael	88.29	49	eP	P	22 50 56.4	+0.1
SRU				e*PP	pP	22 51 03.6	-0.4
SRU				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.8						
SRU	San Rafael	88.29	49	eP	P	22 50 56.4	+0.1
	comp=Z,2.9nm,0.5s,mb4.8						
SRU				epP	pP	22 51 03.5	-0.5
AKASG	Malin Array Be	88.36	325	P	P	22 50 53.5	-3.1
	comp=Z,0.2nm,0.3s,mb3.8,baz=44,slow=4.9,SNR=5.0						
PV10	Paradox Valley	89.65	49	eP	P	22 51 03.7	+0.9
PV10				epP	pP	22 51 09.5	-1.0
NB2	NORSAR Subarra	89.72	339	P	P	22 50 59.2	-3.9
	comp=Z,2.6nm,0.9s,mb4.6,baz=43,slow=5.1						
NOA	NORSAR Array B	89.72	339	P	P	22 50 58.6	-4.4
	comp=Z,1.4nm,0.8s,mb4.3,baz=52,slow=4.4,SNR=4.0						
SMCO	Snowmass	90.72	47	eP	P	22 51 01.2	-6.5
	comp=Z,21nm,1.7s,mb5.2						
TORD	Torodi Ar. Bea	129.62	309	PKP	PKPdf	22 57 12.6	-1.2
	comp=Z,0.8nm,1.0s,baz=18,slow=3.1,SNR=5.4						
TORD	Torodi Ar. Bea	129.62	309	PKP	PKPdf	22 57 12.6	-1.2
LPAZ	La Paz	149.32	86	PKPbc	PKPbc	22 57 53.7	+0.1
	comp=Z,2.1nm,0.7s,baz=323,slow=3.5,SNR=12						
LPAZ	La Paz	149.32	86	PKPbc	PKPbc	22 57 53.7	+0.1
LVC	Limon Verde	149.55	99	PKPbc	PKPbc	22 57 54.2	0.0
	comp=Z,2.1nm,0.8s,baz=216,slow=8.7,SNR=3.2						

*ISCJB **16** 22:47:17.6±0.8, 2422S±005×674W±02, h137km±17km, mb3.8/2, Error ellipse: s-maj=22.7km s-min=7.8km az=1.7*

*NEIC **16** 22:47:18.9±0.7, 2419S×6743W, h138km±11km, mb4.1/1, Error ellipse: s-maj=14.0km s-min=7.0km az=92.0*

*IDC **16** 22:47:18.2±1.3, 2420S×6748W, h131km±19km, mb3.6/2, mb1 3.3/6, mb1mx3.2/17, mbtmp3.7/6, Error ellipse: s-maj=29.0km s-min=14.0km az=83.0*

ISC 16 22:47:18.8±0.7**, 2421S**±005×**674W**±01**, h130**km±16km**, n14,** σ0^{s}**70**/16**, mb3.8**/2**, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.09	319	P	Pn	22 47 54.8	+1.0
	7.1nm,0.3s,baz=150,slow=8.9,SNR=90						
LVC				S	Sn	22 48 20.1	-0.6
	72nm,0.3s,baz=353,slow=19,SNR=211						
CFAA	Coronel Fontan	7.40	185	P	Pn	22 49 04.5	+0.4
	0.1nm,0.3s,baz=353,slow=13,SNR=9.1						
CFAA				S	Sn	22 50 26.0	-0.5
	0.1nm,0.3s,baz=234,slow=17,SNR=9.6						
CFAA	Coronel Fontan	7.40	185	P	Pn	22 49 04.5	+0.4
CFAA				S	Sn	22 50 26.0	-0.5
LPAZ	La Paz	7.91	355	P	Pn	22 49 11.5	+0.5
	0.4nm,0.3s,baz=168,slow=7.1,SNR=12						
LPAZ	La Paz	7.91	355	P	Pn	22 49 11.5	+0.5
SIV	San Ignacio	10.13	37	P	Pn	22 49 40.9	+0.2
	0.6nm,0.3s,baz=248,slow=9.6,SNR=13						
TRQA	Tornquist	14.56	163	ePn	Pn	22 50 38.4	-0.1
NNA	Nana	15.08	322	ePn	Pn	22 50 44.9	-0.1
SAML	Samuel	15.71	16	ePn	Pn	22 50 51.4	-1.4
	0.1nm,0.3s						
PLCA	Paso Flores	16.68	188	ePn	Pn	22 51 04.7	0.0
BDFB	Brasilia	20.13	69	P	P	22 51 41.7	-0.8
	3.0nm,0.5s,baz=253,slow=9.5,SNR=6.1						
RCBR	Riachuelo	35.37	64	eP	P	22 54 03.1	+1.3
	1.9nm,0.5s,mb4.0						
TORD	Torodi Ar. Bea	77.01	69	P	P	22 58 57.2	0.0
	1.5nm,0.7s,mb3.7,baz=256,slow=5.7,SNR=24						
MKAR	Makanchi Array	146.94	39	PKPbc	PKPbc	23 06 45.0	-0.9
	0.3nm,0.6s,baz=255,slow=3.2,SNR=3.1						

*IDC **16** 22:48:33.7±0.8, 3318N×9176E, h0km, mb4.0/13, mb1 4.1/15, mb1mx4.0/22, mbtmp4.0/15, ML3.2/2, MS3.3/6, Ms1 3.3/6, ms1mx2.9/31, Error ellipse: s-maj=32.6km s-min=15.8km az=49.0*

*MOS **16** 22:48:37.7±1.6, 3336N×9176E, h33km, mb4.2/12, Error ellipse: s-maj=13.2km s-min=8.9km az=98.3*

*ISCJB **16** 22:48:38.8±1.0, 3330N±006×9176E±007, h45km±12km, mb4.0/15, MS3.3/6, Error ellipse: s-maj=11.4km s-min=8.0km az=93.5*

*BJI **16** 22:48:38.7, 3342N×9180E, h35km, mb4.4, ML3.7, Ms4.1, Msz3.8*

*NEIC **16** 22:48:39.5±0.5, 3332N×9188E, h35km, mb3.7/4, Error ellipse: s-maj=10.5km s-min=5.7km az=116.0*

ISC 16 22:48:41.0±0.8**, 3333N**±006×**9178E**±007**, h49**km±10km**, n55,** σ1^{s}**04**/52**, mb4.0**/15**, MS3.3**/6**, 1C, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	Gumba	7.42	225	eP	Pn	22 50 27.1	+0.5
	52nm,0.5s						
JIRN	Jiri	7.43	222	eP	Pn	22 50 27.7	+0.9
	71nm,0.7s						
KKN	Kakani	7.87	227	eP	Pn	22 50 32.4	-0.4
	45nm,0.5s						
KKN	Kakani	7.87	227	eP	Pn	22 50 32.4	-0.4
KKN				pmax	pmax		
	comp=Z,45nm,0.5s						
PKI	Pulchoki	7.95	225	eP	Pn	22 50 34.1	+0.2
	comp=Z,49nm,0.5s						
PKI	Pulchoki	7.95	225	eP	Pn	22 50 34.1	+0.2
PKI				pmax	pmax		
	comp=Z,49nm,0.5s						
DMN	Daman	8.10	227	eP	Pn	22 50 35.7	-0.3
	comp=Z,49nm,0.6s						
GKN	Gorkha	8.12	231	eP	Pn	22 50 35.7	-0.6
	comp=Z,59nm,0.4s						
GTA	Gaotai	8.88	45	eP	Pn	22 50 49.0	+2.4
GTA				XP		22 51 04.0	
GTA				AMB	AMB		
	comp=Z,11nm,0.9s						
KOLN	Koldanda	8.97	234	eP	Pn	22 50 47.4	-0.4
	comp=Z,15nm,0.3s						
GYA	Guiyang	14.61	114	⇑iP	Pn	22 52 04.4	-0.3
MKAR	Makanchi Array	15.27	335	Pn	Pn	22 52 10.5	-2.8
	comp=Z,0.1nm,0.3s,baz=140,slow=14,SNR=14						

AAK	Ala-Archa	16.46	309	eP	Pn	22 52 30.0	+1.4
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AAK	Ala-Archa	16.46	309	ePn	Pn	22 52 30.0	+1.4
	comp=Z,7.5nm,1.0s						
SONM	Songino Array	18.21	33	P	Pn	22 52 49.3	-0.8
	comp=Z,0.1nm,0.3s,baz=224,slow=12,SNR=8.3						
ULN	Ulaanbaatar	18.53	34	eP	Pn	22 52 54.1	+0.1
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ULN	Ulaanbaatar	18.53	34	eP	Pn	22 52 54.1	0.0
	comp=Z,3.4nm,1.0s						
ZAK	Zakamensk	19.03	23	eP	Pn	22 52 59.2	-0.8
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s						
KURK	Kurchatov	19.88	335	eP	Pn	22 53 07.4	-2.7
KURK				pmax	pmax		
	comp=Z,880nm,1.9s						
KURK	Kurchatov	19.88	335	eP	Pn	22 53 07.4	-2.7
	comp=Z,880nm,1.9s						
ZAL	Zalesovo	21.19	349	P	P	22 53 23.6	+1.3
	comp=Z,2.6nm,0.9s,mb3.6,baz=159,slow=17						
ZAL				LR	LR	23 03 04.0	
	comp=Z,61nm,21.9s,MS2.9,baz=96,slow=41						
ZAL	Zalesovo	21.19	349	P	P	22 53 23.7	+1.4
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAL				MLR	MLR		
	comp=Z,61nm,21.9s						
BVAR	Borovoye Array	24.94	329	P	P	22 53 59.8	+0.1
	comp=Z,2.7nm,0.7s,mb3.9,baz=129,slow=10,SNR=13						
BVAR	Borovoye Array	24.94	329	P	P	22 53 59.8	+0.1
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BOD	Bodaibo	28.75	25	eP	P	22 54 34.3	+0.4
BOD				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
AKTK	Aktyubinsk	30.05	315	P	P	22 54 45.7	+0.2
AKTK				LR	LR	23 07 57.0	
AKTO	Aktyubinsk	30.05	315	P	P	22 54 45.7	+0.2
	comp=Z,2.3nm,0.8s,mb4.0,baz=95,slow=9.8,SNR=8.2						
AKTO				LR	LR	23 07 57.0	
	comp=Z,28nm,19.8s,MS2.9,baz=125,slow=39						
AKTO	Aktyubinsk	30.05	315	P	P	22 54 45.7	+0.2
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
AKTO				MLR	MLR		
	comp=Z,28nm,19.8s,MS2.9						
JOW	Kunigami	32.12	92	LR	LR	23 08 43.8	
	comp=Z,83nm,20.4s,MS3.4,baz=74,slow=38						
YAK	Yakutsk	37.46	28	eP	P	22 55 52.6	+2.9
MJAR	Matsushiro Arr	37.92	72	LR	LR	23 12 13.8	
	comp=Z,91nm,20.5s,MS3.6,baz=245,slow=37						
GNI	Garni	37.95	294	P	P	22 55 53.9	+0.1
	comp=Z,0.7nm,0.3s,mb3.9,baz=158,slow=19,SNR=2.4						
GNI	Garni	37.95	294	P	P	22 55 53.9	+0.1
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MALT	Malatya	43.05	292	eP	P	22 56 36.9	+1.0
CBIJ	Chichi jima	43.66	84	LR	LR	23 16 26.1	
	comp=Z,50nm,20.6s,MS3.4,baz=280,slow=38						
BR131	Keskin Array S	46.45	295	eP	P	22 57 05.1	+2.1
	comp=Z,0.2nm,0.3s,mb3.5						
BRTR	Keskin Array B	46.45	295	P	P	22 57 02.9	-0.1
	comp=Z,0.4nm,0.8s,mb3.4,baz=73,slow=12,SNR=3.5						
AKASG	Malin Array Be	48.13	311	P	P	22 57 15.8	-0.3
	comp=Z,1.3nm,0.6s,mb4.1,baz=80,slow=6.6,SNR=5.6						
AKASG	Malin Array Be	48.13	311	P	P	22 57 15.8	-0.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	49.82	325	P	P	22 57 28.2	-0.8
	comp=Z,1.2nm,0.8s,mb4.0,baz=108,slow=12,SNR=3.9						
FINES	FINESS Array B	49.82	325	P	P	22 57 28.2	-0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	ARCESS Array B	50.92	335	P	P	22 57 36.9	-0.4
	comp=Z,3.5nm,0.9s,mb4.3,baz=96,slow=7.6,SNR=2.9						
ARCES				LR	LR	23 20 53.3	
	comp=Z,40nm,21.2s,MS3.4,baz=99,slow=38						
ARCES	ARCESS Array B	50.92	335	P	P	22 57 36.9	-0.4
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,41nm,21.3s						
ARCES	ARCESS Array B	50.92	335	P	P	22 57 36.9	-0.4
ARCES				LR	LR	23 20 53.3	
NB2	NORSAR Subarra	57.01	325	P	P	22 58 17.4	-4.3
	comp=Z,1.9nm,0.8s,mb4.2,baz=78,slow=7.4						
NOA	NORSAR Array B	57.01	325	P	P	22 58 20.3	-1.4
	comp=Z,1.9nm,0.9s,mb4.1,baz=79,slow=6.8,SNR=2.6						
NOA	NORSAR Array B	57.01	325	P	P	22 58 20.3	-1.4
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GERES	GERESS Array B	58.34	311	P	P	22 58 31.2	+0.1
	comp=Z,0.3nm,0.5s,mb3.6,baz=54,slow=7.3,SNR=4.0						
WRAB	Tennant Creek	66.75	136	eP	P	22 59 31.3	+4.1
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
WRAB	Tennant Creek	66.75	136	eP	P	22 59 31.3	+4.1
	comp=Z,3.8nm,0.9s,mb4.4						
WRA	Warramunga Arr	66.75	136	P	P	22 59 25.9	-1.3
	comp=Z,1.3nm,1.1s,mb3.9,baz=318,slow=6.9,SNR=4.5						
WRA	Warramunga Arr	66.75	136	P	P	22 59 25.9	-1.3
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ASAR	Alice Springs	69.45	139	P	P	22 59 44.0	-0.2
	comp=Z,1.7nm,0.8s,mb4.0,baz=325,slow=6.4,SNR=15						
ASAR	Alice Springs	69.45	139	P	P	22 59 44.0	-0.1
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TORD	Torodi Ar. Bea	82.97	281	P	P	23 01 01.4	+0.6
	comp=Z,3.6nm,0.8s,mb4.5,baz=52,slow=4.3,SNR=20						

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*NEIC **16** 23:02:56.5, 3146S×6936W, h159km, mb3.8/3, After GUC.*
GUC 16 23:02:56.5±0.5**, 3146S×6936W, h159**km±5km**, MD3.6, ML3.6, 12C-4D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	1.44	281	⇓iP	Pn	23 03 26.7	+0.6
CMCH				i S	Sn	23 03 49.5	+0.6
CMCH				AML	AML	23 03 51.0	
	comp=E,2µm,0.6s						
CMCH	Combarbala	1.44	281	⇓iP	Pn	23 03 26.7	+0.6
CMCH				i S	Sn	23 03 49.5	+0.6
JACH	Jahuel	1.61	220	⇓iP	Pn	23 03 28.6	+0.8
JACH				i S	Sn	23 03 52.6	+0.7
TLL	Tololo Astrono	1.79	316	⇑iP	Pn	23 03 31.1	+1.2
TLL				i S	Sn	23 03 56.8	+1.3
TLL				AML	AML	23 04 00.8	
	comp=E,334nm,0.3s						
TLL	Tololo Astrono	1.79	316	⇑iP	Pn	23 03 31.1	+1.2
TLL				i S	Sn	23 03 56.8	+1.3
OVCH	Ovalle	1.80	298	eP	Pn	23 03 30.4	+0.5
OVCH				i S	Sn	23 03 56.0	+0.4
OVCH				AML	AML	23 03 56.8	
	comp=N,682nm,0.3s						
OVCH	Ovalle	1.80	298	eP	Pn	23 03 30.4	+0.5
OVCH				i S	Sn	23 03 56.0	+0.4
CHNG	Los Chungos	1.88	256	eP	Pn	23 03 31.4	+0.6
CHNG				i S	Sn	23 03 57.4	+0.2
PEL	Peldehue	2.02	214	⇑iP	Pn	23 03 32.8	+0.4
PEL				i S	Sn	23 04 00.4	+0.4
PEL				AML	AML	23 04 01.8	
	comp=N,341nm,0.4s						
PEL	Peldehue	2.02	214	⇑iP	Pn	23 03 32.8	+0.4
PEL				i S	Sn	23 04 00.4	+0.4
FCH	Farellones	2.02	203	⇑iP	Pn	23 03 33.6	+1.2
FCH				i S	Sn	23 04 01.9	+1.8
FCH				AML	AML	23 04 07.9	
	comp=E,164nm,0.2s						
ROCH	El Roble	2.06	223	⇑iP	Pn	23 03 33.4	+0.6
ROCH				i S	Sn	23 04 01.8	+1.0
CLCH	Cerro Calan	2.17	207	⇑iP	Pn	23 03 35.1	+1.0
CLCH				i S	Sn	23 04 04.0	+0.8
CLCH				AML	AML	23 04 05.8	
	comp=E,165nm,0.6s						
ANTU	Antumapu	2.36	207	⇑iP	Pn	23 03 37.2	+0.8
ANTU				i S	Sn	23 04 07.9	+0.7
ANTU				AML	AML	23 04 12.0	
	comp=E,180nm,0.6s						
ANTU	Antumapu	2.36	207	⇑iP	Pn	23 03 37.2	+0.8
ANTU				i S	Sn	23 04 07.9	+0.7
PCH	Pirque	2.37	204	i P	Pn	23 03 37.1	+0.7
PCH				i S	Sn	23 04 08.0	+0.8
TACH	Talagante	2.56	211	⇑iP	Pn	23 03 39.3	+0.5
TACH				i S	Sn	23 04 12.0	+0.5
CHCH	Chadas Angostu	2.70	204	⇑iP	Pn	23 03 41.1	+0.7
CHCH				i S	Sn	23 04 15.2	+0.8
LCO	Las Campanas	2.71	334	⇑iP	Pn	23 03 41.6	+1.1
LCO				i S	Sn	23 04 16.1	+1.5
LCCH	Las Cruces	2.75	222	⇓iP	Pn	23 03 41.6	+0.6
LCCH				i S	Sn	23 04 15.8	+0.4
CACH	El Canelo	2.85	201	i P	Pn	23 03 43.5	+1.3
CACH				i S	Sn	23 04 19.2	+1.4
CICH	Cipreses	2.99	197	i P	Pn	23 03 44.9	+0.8
CICH				i S	Sn	23 04 22.0	+1.1
SFDO	San Fernando	3.44	203	i P	Pn	23 03 50.2	+0.4
SFDO				i S	Sn	23 04 31.8	+0.7
LVC	Limon Verde	8.82	3	ePn	Pn	23 05 00.4	-0.3
TRQA	Tornquist	8.95	139	ePn	Pn	23 05 00.4	-2.0
NNA	Nana	20.57	339	eP	P	23 07 22.4	-0.5
	comp=E,6.5nm,0.6s						
SAML	Samuel	23.12	16	eP	P	23 07 49.7	+1.3
	comp=E,0.5nm,0.6s						
OTAV	Otavalo	32.68	343	eP	P	23 09 13.6	+0.1
	comp=E,0.8nm,0.4s						

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*IDC **16** 23:03:08.2±7.0, 0.03N×123.19E, h174km±67km, mb3.4/7, mb1 3.5/7, mb1mx3.3/16, mbtmp3.8/7, Error ellipse: s-maj=107.9km s-min=16.7km az=66.0*
*ISCJB **16** 23:03:14.5±2.2, 0.1S±0.1×123.2E±0.2, h252km±23km, mb3.6/8, Error ellipse: s-maj=38.1km s-min=11.2km az=118.6*
*NEIC **16** 23:03:14.9±2.1, 0.14S×123.10E, h240km±22km, mb4.1/1, Error ellipse: s-maj=32.2km s-min=10.0km az=60.0*
ISC 16 23:03:15.4±2.3**, 0.2S**±0.1×**123.1E**±0.2**, h244**km±24km**, n16,** σ**0.93**/14**, mb3.6**/8**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	9.20	312	ePn	Pn	23 05 24.5	+0.6
MBWA	Marble Bar	21.14	189	eP	P	23 07 40.8	-0.9
WRAB	Tennant Creek	22.55	151	eP	P	23 07 53.9	-0.9
	2.4nm,0.4s,mb4.1						
WRA	Warramunga Arr	22.56	151	P	P	23 07 53.9	-0.9
	0.9nm,0.4s,mb3.6,baz=334,slow=10,SNR=18						
WB2	Warramunga Arr	22.56	151	eP	P	23 07 54.9	0.0
ASAR	Alice Springs	25.63	157	P	P	23 08 24.1	+1.4
	0.3nm,0.4s,mb3.3,baz=330,slow=8.6,SNR=4.8						
ASAR				PcP	PcP	23 11 48.5	+2.2
	0.2nm,0.4s,baz=354,slow=2.3,SNR=4.4						
HNR	Honiara	37.84	105	eP	P	23 10 08.7	0.0
TAU	Tasmania Unive	47.81	156	P	P	23 11 29.9	+1.5
SONM	Songino Array	49.95	345	P	P	23 11 42.9	-1.6
	1.3nm,0.7s,mb3.4,baz=159,slow=8.9,SNR=9.7						
SONM				PcP	PcP	23 13 00.5	-0.4
	0.1nm,0.3s,baz=90,slow=0.1,SNR=3.8						
MKAR	Makanchi Array	58.78	328	P	P	23 12 47.5	-0.5
	1.2nm,0.3s,mb3.9,baz=123,slow=8.4,SNR=36						
MKAR				PcP	PcP	23 13 34.6	-0.2
	0.5nm,0.5s,baz=167,slow=3.0,SNR=7.7						
BVAR	Borovoye Array	68.65	329	P	P	23 13 52.3	0.0
	0.2nm,0.4s,mb3.1,baz=140,slow=9.4,SNR=3.3						
AKTK	Aktyubinsk	74.47	323	P	P	23 14 26.9	0.0
AKTO	Aktyubinsk	74.47	323	P	P	23 14 26.9	0.0
	0.6nm,0.4s,mb3.6,baz=76,slow=4.2,SNR=2.9						
ARCES	ARCESS Array B	92.79	340	P	P	23 16 01.6	+1.5
	1.4nm,0.8s,mb4.0,baz=64,slow=5.5,SNR=4.1						
TORD	Torodi Ar. Bea	120.52	285	PKP	PKPdf	23 21 39.0	+1.2
	0.6nm,1.1s,baz=83,slow=1.5,SNR=8.5						
TORD	Torodi Ar. Bea	120.52	285	PKP	PKPdf	23 21 39.0	+1.2

JMA 16 23:06:41.5±0.4**, 4402N×14808E, h0**km**, M3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.82	250	P	Pn	23 07 14.3	+0.3
NEM2				eS	Sn	23 07 38.4	+0.7
JRA	Rausu	2.14	269	P	Pn	23 07 19.2	+0.8
JNK	Nakash	2.47	261	P	Pn	23 07 23.9	+0.9
JNK				eS	Sn	23 07 54.7	+0.8
JAK	Akkeshi	2.67	249	P	Pn	23 07 26.5	+0.8
JAK				eS	Sn	23 07 59.4	+0.7
JAR	Ashorobuto	3.21	258	P	Pn	23 07 35.0	+1.8
JAR				eS	Sn	23 08 14.8	+2.7
JCH	Churui	3.72	249	P	Pn	23 07 41.4	+1.2
JCH				eS	Sn	23 08 26.1	+1.4
JNBK	Urakawa-nobuka	4.27	248	P	Pn	23 07 49.1	+1.4
JKB	Kayabe	5.59	250	P	Pn	23 08 07.5	+1.6
JKB				eS	Sn	23 09 12.0	+1.1
JOT	Ohata	5.81	245	P	Pn	23 08 10.0	+1.1
JOT				eS	Sn	23 09 16.1	-0.2

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*ISCJB **16** 23:20:35.9±0.2, 20.05S±0.03×68.91W±0.04, h98km, mb4.8/97, Error ellipse: s-maj=4.9km s-min=4.0km az=124.9*
*HRVD **16** 23:20:36.9±0.3, 20.20S×69.32W, h110km±3km, MW4.9/59, Centroid moment Tensor Solution. LP body waves: s29,c31;Mantle waves: s59,c80; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.44±.09; $M_{\theta\theta}$0.09±.09; $M_{\phi\phi}$2.35±.12; $M_{r\theta}$0.34±.07; $M_{\theta\phi}$-0.66±.13; $M_{\phi r}$-1.16±.11; Best double couple: $M_0$2.76100×10^{16} NP1:ϕ_s166.00000°, δ32.00000°, λ-89.00000°. NP2: ϕ_s344.00000°, δ58.00000°, λ-91.00000°. Principal axes: T 2.8040, Plg13.0000°, Azm75.0000°; N -0.0890, Plg1.0000°, Azm345.0000°; P -2.7180, Plg77.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **16** 23:20:36.2±0.4, 20.30S×69.00W, h98km±3km, mb4.7/14, mb1 4.8/16, mb1mx4.8/17, mbtmp5.1/16, MS3.7/5, Ms1 3.7/5, ms1mx3.3/20 Error ellipse: s-maj=13.0km s-min=7.6km az=91.0*
*MOS **16** 23:20:36.2±0.9, 19.93S×68.95W, h100km, mb4.8/34, Error ellipse: s-maj=13.2km s-min=7.4km az=109.0*
*NEIC **16** 23:20:36.9±0.1, 20.14S×68.91W, mb4.9/81, Error ellipse: s-maj=5.7km s-min=3.8km az=60.0*
NEIC Felt [IV] at Pozo Almonte; [III] at Camina, Huara and Iquique; [II] at Pisagua.
*BJI **16** 23:20:38.4, 20.10S×68.90W, h98km, mB5.1*
*LDG **16** 23:20:40.3±0.1, 19.80S×68.80W, h130km, Mb4.6/12, Ms3.1/1, Error ellipse: s-maj=7.4km s-min=4.1km az=28.0*
ISC 16 23:20:37.3±0.2**, 20.21S**±0.03×**68.91W**±0.04**, h100**km±1.1km**: pP-P, n421,** σ**0.78**/384**, mb4.8**/97**, 60C-56D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.40	180	P	Pn	23 21 14.7	-0.4
	408nm,0.3s,baz=342,slow=9.9,SNR=1126						
LVC				S	Sn	23 21 39.5	-4.5
	347nm,0.3s,baz=332,slow=8.4,SNR=7.4						
LVC	Limon Verde	2.40	180	⇓iPn	Pn	23 21 14.4	-0.6
LVC				eSn	Sn	23 21 41.8	-2.1
CEN1	Los Morros	3.39	200	eP	Pn	23 21 26.3	-1.9
CEN1				i S	Sn	23 22 12.4	+4.9
ANCH	Antofagasta	3.73	202	eP	Pn	23 21 24.6	-8.2
ANCH				i S	Sn	23 22 11.8	-4.0
LPAZ	La Paz	3.96	11	P	Pn	23 21 39.8	+3.8
	54nm,0.3s,baz=194,slow=8.3,SNR=519						
LPAZ				S	Sn	23 22 23.6	+2.1
	28nm,0.3s,baz=223,slow=9.9,SNR=6.1						
LPAZ				LR	LR	23 23 12.0	
	comp=Z,607nm,18.9s,baz=207,slow=38						
LPAZ	La Paz	3.96	11	P	Pn	23 21 39.8	+3.8
LPAZ				S	Sn	23 22 23.6	+2.1
LPAZ				pmax	pmax		
	comp=Z,54nm,0.3s						
LPAZ				smax			
	comp=E,28nm,0.3s						
LPAZ				MLR	MLR		
	comp=Z,607nm,18.9s						
ARE	Arequipa	4.46	326	⇑iP	Pn	23 21 39.2	-3.4
ARE				eS	Sn	23 22 29.0	-4.3
CPN1	Cerro Paranal	4.61	197	⇓iP	Pn	23 21 41.0	-3.7
CPN1				eS	Sn	23 22 42.0	+4.9
SIV	San Ignacio	8.55	62	P	Pn	23 22 38.8	+0.6
	comp=Z,29nm,0.3s,baz=252,slow=13,SNR=1093						
SIV				S	Sn	23 24 14.0	+1.0
	baz=267,slow=18,SNR=2.9						
NNA	Nana	11.17	316	ePn	Pn	23 23 09.7	-4.1
	comp=Z,72nm,0.6s						
NNA				eSn	Sn	23 25 09.9	-6.7
CFAA	Coronel Fontan	11.37	177	P	Pn	23 23 11.4	-5.1
	comp=Z,0.2nm,0.3s,baz=352,slow=12,SNR=13						
SAML	Samuel	12.48	27	ePn	Pn	23 23 30.4	-1.0
	comp=Z,36nm,0.6s						
SAML				eSn	Sn	23 25 38.1	-10
ATAH	Atahualpa	16.03	324	P	Pn	23 24 17.9	+1.1
	comp=Z,0.9nm,0.3s,baz=158,slow=9.8,SNR=9.7						
TRQA	Tornquist	18.78	163	eP	P	23 24 48.3	-0.3
	comp=Z,109nm,1.3s						
BDFB	Brasilia	20.39	81	P	P	23 25 07.6	+1.5
	comp=Z,40nm,0.6s,baz=254,slow=12,SNR=90						
BDFB				LR	LR	23 34 22.1	
	comp=Z,429nm,18.3s,baz=90,slow=40						
BDFB	Brasilia	20.39	81	P	P	23 25 07.6	+1.5
BDFB				pmax	pmax		
	comp=Z,40nm,0.6s						
BDFB				MLR	MLR		
	comp=Z,429nm,18.3s						
BDFB	Brasilia	20.39	81	eP	P	23 25 12.9	+6.9
	comp=Z,22nm,0.8s						
BAO	Brasilia Array	20.41	81	P	P	23 25 07.5	+1.2
PLCA	Paso Flores	20.51	184	P	P	23 25 06.5	-0.9
	comp=Z,91nm,0.8s,baz=4.0,slow=12,SNR=133						
PLCA				PcP	PcP	23 29 13.8	-1.1
	comp=Z,2.0nm,0.8s,baz=192,slow=2.2,SNR=3.0						
PLCA	Paso Flores	20.51	184	P	P	23 25 06.5	-0.9
PLCA						23 29 13.8	
PLCA				pmax	pmax		
	comp=Z,91nm,0.8s						
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
OTAV	Otavalo	22.36	334	eP	P	23 25 28.2	+1.2
	comp=Z,19nm,0.8s,mb4.5						
CAM4	Nova Friburgo	24.63	100	⇑iP	P	23 25 49.5	+1.1
CAM4				i		23 25 51.0	
CAM4				i		23 25 55.7	
CAM4				i		23 26 02.4	
CAM4				i		23 26 24.0	
ROSC	El Rosal	25.47	347	P	P	23 25 56.9	+1.0
	comp=Z,12nm,0.5s,mb4.6,baz=84,slow=13,SNR=12						
PAYG	Puerto Ayora	28.53	310	eP	P	23 26 23.7	+0.3
SDV	Santo Domingo	28.96	356	P	P	23 26 25.5	-1.6
	comp=Z,10nm,0.4s,mb4.8,baz=225,slow=5.0,SNR=10						
SDV				pP	pP	23 26 48.4	-1.1
	comp=Z,23nm,0.7s,baz=18,slow=5.0,SNR=6.6						
SDV				LR	LR	23 39 25.5	
	comp=Z,174nm,19.1s,baz=194,slow=39						
SDV	Santo Domingo	28.96	356	eP	P	23 26 24.9	-2.2
	comp=Z,27nm,0.8s,mb4.9						
EFI	East Falkland	32.54	167	eP	P	23 26 58.4	-0.3
RCBR	Riachuelo	35.09	71	eP	P	23 27 22.3	+1.5
	comp=Z,60nm,1.3s,mb5.3						
CPD	Cerro la Pandu	38.12	5	eP	P	23 27 44.5	-2.0
SJG	San Juan	38.17	4	eP	P	23 27 45.1	-1.9
SJG				pmax	pmax		
	comp=Z,72nm,0.8s						
SJG	San Juan	38.17	4	eP	P	23 27 45.1	-1.9
	comp=Z,72nm,0.8s,mb5.5						
MTP	Monte Pirata	38.20	5	eP	P	23 27 45.2	-2.0
TEIG	Tepich	44.43	334	eP	P	23 28 37.2	-0.9
	comp=Z,9.7nm,0.5s,mb4.8						
PMSA	Palmer Station	44.66	177	eP	P	23 28 40.4	+0.5
	comp=Z,12nm,0.6s,mb4.8						
DWPF	Disney	49.53	345	eP	P	23 29 16.9	-0.9
	comp=Z,28nm,0.6s,mb5.4						
BBSR	BB Station	52.43	5	eP	P	23 29 38.6	-0.9
HKT	Hockley	56.20	332	eP	P	23 30 06.2	-0.6
HKT				e*PP	pP	23 30 31.6	+0.4
HKT				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7						
HKT	Hockley	56.20	332	eP	P	23 30 06.2	-0.7
	comp=Z,11nm,1.3s,mb4.7						
HKT				epP	pP	23 30 31.6	+0.3
NATX	Nacogdoches	57.26	334	eP	P	23 30 14.0	-0.3
	comp=Z,57nm,1.2s,mb5.5						
CPCT	Cooper Cave	57.29	345	eP	P	23 30 13.5	-1.1
CPCT				epP	pP	23 30 38.0	-1.1
CPCT				esP	sP	23 30 47.9	-2.2
OXF	Oxford	57.80	340	eP	P	23 30 16.0	-2.1
OXF				pmax	pmax		
	comp=Z,81nm,0.8s,mb5.8						
OXF	Oxford	57.80	340	eP	P	23 30 16.0	-2.1
	comp=Z,81nm,0.8s,mb5.8						
BLA	Blacksburg	58.13	349	eP	P	23 30 20.2	-0.2
BLA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BLA	Blacksburg	58.13	349	eP	P	23 30 20.2	-0.2
	comp=Z,1.7nm,0.6s,mb4.2						
ELN	Prospectdale	58.20	349	eP	P	23 30 20.9	0.0
JCT	Junction City	58.50	329	eP	P	23 30 21.9	-1.1
JCT				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
JCT	Junction City	58.50	329	eP	P	23 30 21.9	-1.1
	comp=Z,14nm,0.8s,mb5.0						
FWV	Forest Hill	58.56	349	eP	P	23 30 22.8	-0.6
WVT	Waverly	58.82	342	eP	P	23 30 23.2	-2.0
WVT				pmax	pmax		
	comp=Z,42nm,0.6s,mb5.7						
WVT	Waverly	58.82	342	eP	P	23 30 23.1	-2.0
	comp=Z,42nm,0.6s,mb5.7						
MIAR	Mount Ida	59.28	336	eP	P	23 30 27.3	-1.1
MIAR				pmax	pmax		
	comp=Z,28nm,0.6s,mb5.5						
MIAR	Mount Ida	59.28	336	eP	P	23 30 27.3	-1.1
	comp=Z,28nm,0.6s,mb5.5						
LTX	Lajitas	59.57	325	eP	P	23 30 28.7	-1.7
LTX				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
LTX	Lajitas	59.57	325	eP	P	23 30 28.7	-1.7
	comp=Z,7.8nm,1.2s,mb4.6						
WCI	Wyandotte Cave	60.37	344	eP	P	23 30 33.8	-2.1
WCI				e*PP	pP	23 30 58.3	-2.3
WCI				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.4						
WCI	Wyandotte Cave	60.37	344	eP	P	23 30 33.8	-2.0
	comp=Z,34nm,0.8s,mb5.4						
WCI				epP	pP	23 30 58.3	-2.2
MCWV	Mont Chateau	60.42	350	eP	P	23 30 36.0	-0.2
	comp=Z,64nm,0.7s,mb5.8						
FVM	French Village	61.31	341	eP	P	23 30 40.6	-1.6
FVM				pmax	pmax		
	comp=Z,31nm,0.3s,mb5.8						
FVM	French Village	61.31	341	eP	P	23 30 40.6	-1.6
	comp=Z,31nm,0.3s,mb5.8						
BLO	Bloomington	61.32	344	eP	P	23 30 40.7	-1.6
BLO				pmax	pmax		
	comp=Z,51nm,0.5s,mb5.8						
BLO	Bloomington	61.32	344	eP	P	23 30 40.7	-1.6
	comp=Z,51nm,0.5s,mb5.8						
VNA1	Neumayer--Stat	61.50	161	eP	P	23 30 44.0	+0.5
VNA1				e		23 30 45.2	
VNA1				e		23 31 01.4	
VNA1				e		23 31 25.5	
VNA1				e		23 31 49.2	
ACSO	Alum Creek Sta	61.54	348	eP	P	23 30 42.5	-1.3
	comp=Z,38nm,1.0s,mb5.4						
WMOK	Wichita Mounta	61.58	332	eP	P	23 30 41.9	-2.1
WMOK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
WMOK	Wichita Mounta	61.58	332	eP	P	23 30 41.9	-2.1
	comp=Z,4.6nm,0.7s,mb4.6						
CCM	Cathedral Cave	61.64	340	eP	P	23 30 42.8	-1.6
CCM				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.4						
CCM	Cathedral Cave	61.64	340	eP	P	23 30 42.8	-1.6
	comp=Z,34nm,0.9s,mb5.4						
BINY	Binghamton	62.43	354	eP	P	23 30 49.6	-0.1
	comp=Z,40nm,1.0s,mb5.4						
BINY				epP	pP	23 31 12.5	-2.1
ERPA	Erie	62.85	351	eP	P	23 30 52.2	-0.3
	comp=Z,127nm,0.6s						
ERPA				epP	pP	23 31 17.2	-0.2
AMTX	Amarillo	63.01	330	eP	P	23 30 51.6	-2.0
	comp=Z,4.9nm,0.7s,mb4.5						
SNAA	Sanae	63.50	161	eP	P	23 30 56.4	-0.4
SNAA				e*PP	pP	23 31 22.9	+1.2
SNAA				pmax	pmax		
	comp=Z,25nm,0.8s						
SNAA	Sanae	63.50	161	eP	P	23 30 56.4	-0.3
	comp=Z,25nm,0.8s,mb5.2						
SNAA				epP	pP	23 31 22.9	+1.2
NCB	Newcomb	64.04	356	eP	P	23 31 00.0	-0.3

comp=Z,22nm,1.1s,mb4.9
NCB ePP pP 23 31 24.9 -0.4
NCB ePcP PcP 23 31 33.0 -1.8
LONY Lake Ozonia 64.71 356 eP P 23 31 04.2 -0.6
LONY epP pP 23 31 29.7 0.0
FRNY Flat Rock 64.86 356 eP P 23 31 05.4 -0.3
FRNY epP pP 23 31 29.2 -1.5
MSNY Massena 65.11 355 eP P 23 31 06.8 -0.5
MSNY epP pP 23 31 31.8 -0.5
PKME Peaks-Kenny Pk 65.15 360 eP P 23 31 07.0 -0.5
PKME epP pP 23 31 31.4 -1.2
PKME ePcP PcP 23 31 38.9 -0.5
PKME esP sP 23 31 42.3 -1.2
ANMO Albuquerque 65.42 327 eP P 23 31 08.8 -0.5
ANMO e*PP pP 23 31 32.8 -1.6
ANMO pmax pmax
comp=Z,6.0nm,0.9s
ANMO Albuquerque 65.42 327 eP P 23 31 08.8 -0.5
comp=Z,6.4nm,0.9s,mb4.5
ANMO epP pP 23 31 32.8 -1.5
SCIA State Center 65.76 340 eP P 23 31 10.2 -1.3
SCIA epP pP 23 31 35.7 -0.9
TUC Tucson 65.82 322 eP P 23 31 11.5 -0.4
TUC e 23 31 42.4
TUC pmax pmax
comp=Z,18nm,1.4s,mb4.7
TUC Tucson 65.82 322 eP P 23 31 11.5 -0.3
comp=Z,18nm,1.4s,mb4.7
TUC ePcP PcP 23 31 42.4 +0.2
116A Eloy 66.54 321 P P 23 31 16.9 +0.4
baz=67,SNR=11
115A Sonoran Desert 66.95 321 ⇑P P 23 31 19.5 +0.4
baz=67,SNR=9.4
Z14A Wintersburg 67.84 321 ⇑P P 23 31 24.8 +0.1
baz=68
MAIT Maitri 68.01 159 eP P 23 31 26.3 +0.6
MAIT ePcP PcP 23 31 54.1 +2.8
MAIT ePP PP 23 33 33.8 -23
MAIT eS S 23 40 35.4 +18
MAIT eSKSac SKSac 23 41 27.6 +13
MAIT eSS SS 23 44 33.2 -7.7
NVL N'lazarevskaya 68.04 159⇑iP P 23 31 26.3 +0.4
NVL pmax pmax
comp=Z,42nm,1.0s,mb5.2
MVCO Mesa Verde 68.21 327 eP P 23 31 27.0 0.0
MVCO epP pP 23 31 53.5 +1.2
X15A Humboldt 68.23 322 ⇓P P 23 31 27.7 +0.5
baz=68,SNR=22
Y14A Wickenburg 68.28 321 ⇓P P 23 31 27.6 +0.1
baz=68,SNR=14
DBIC Dimbokro 68.37 74 P P 23 31 28.6 +0.6
comp=Z,17nm,0.5s,mb5.1,baz=214,slow=7.1,SNR=31
DBIC pP pP 23 31 54.3 +1.1
comp=Z,78nm,0.9s,baz=214,slow=5.9,SNR=17
DBIC Dimbokro 68.37 74 P P 23 31 28.6 +0.6
DBIC *PP pP 23 31 54.3 +1.1
DBIC pmax pmax
comp=Z,17nm,0.5s
DBIC pmax pmax
comp=Z,78nm,0.9s
WUAZ Wupatki 68.49 324 eP P 23 31 29.2 +0.5
comp=Z,34nm,0.9s,mb5.2
WUAZ epP pP 23 31 54.4 +0.5
X14A Yava 68.59 322 ⇑P P 23 31 29.6 +0.2
baz=69,SNR=10
W15A Williams 68.75 323 ⇑P P 23 31 31.2 +0.8
baz=69,SNR=6.7
GLA Glamis 68.75 320 ⇑P P 23 31 30.6 +0.2
baz=69,SNR=6.0
ISCO Idaho Springs 68.82 330 eP P 23 31 30.9 +0.1
ISCO e pP 23 31 54.7 -1.4
ISCO pmax pmax
comp=Z,12nm,1.1s,mb4.6
ISCO Idaho Springs 68.82 330 eP P 23 31 30.9 +0.1
comp=Z,12nm,1.1s,mb4.6
ISCO ePcP PcP 23 31 54.7 0.0
PV01 Paradox Valley 68.96 327 eP P 23 31 32.1 +0.5
SMCO Snowmass 68.97 329 eP P 23 31 32.1 +0.4
comp=Z,21nm,1.1s,mb4.9
SMCO ePcP PcP 23 31 58.0 +2.7
Y12C Blythe 69.05 320 ⇓P P 23 31 32.6 +0.4
baz=69,SNR=6.8
X13A Yucca 69.23 321 ⇑P P 23 31 33.6 +0.3
baz=69
W14A Seligman 69.23 322 ⇑P P 23 31 34.1 +0.8
baz=69,SNR=15
PV10 Paradox Valley 69.38 327 eP P 23 31 33.6 -0.6
W13A Hualapai Mount 69.62 322 P P 23 31 36.6 +0.8
baz=70,SNR=16
109C Camp Elliot, M 70.05 318 ⇓P P 23 31 38.6 +0.2
baz=70
PFO Pinyon Flat Ob 70.13 319 P P 23 31 39.9 +1.1
comp=Z,100nm,0.9s,mb5.6,SNR=5.6
PFO Pinyon Flat Ob 70.13 319 ⇓P P 23 31 39.4 +0.6
baz=70,SNR=8.2
W12A Cal Nev Ari 70.33 321 ⇓P P 23 31 40.5 +0.4
baz=70
V12A Nelson 70.62 322 P P 23 31 42.3 +0.5
baz=71,SNR=15
SRU San Rafael 70.69 327 eP P 23 31 42.4 +0.1
SRU e 23 32 02.0
SRU pmax pmax
comp=Z,23nm,0.8s,mb5.1
SRU San Rafael 70.69 327 eP P 23 31 42.4 +0.1
comp=Z,23nm,0.8s,mb5.1
SRU ePcP PcP 23 32 02.0 -0.6
EYMN Ely 70.80 344 eP P 23 31 41.0 -1.9
comp=Z,18nm,0.8s,mb5.0
U12A Valley of Fire 70.93 322 ⇓P P 23 31 44.3 +0.6
baz=71,SNR=19
V11A Goodsprings 71.03 321 ⇓P P 23 31 44.7 +0.4
baz=71
TUQ Turquoise Mtn. 71.05 321 ⇑P P 23 31 44.9 +0.5
baz=71,SNR=10
RWWY Rawlins 71.06 331 eP P 23 31 44.6 +0.1
comp=Z,4.3nm,0.7s,mb4.4
RWWY ePcP PcP 23 32 04.2 0.0
CCUT Cedar City 71.06 324 eP P 23 31 45.5 +1.0
CCUT epP pP 23 32 10.3 +0.4
MSU Marysvale 71.12 325 eP P 23 31 45.5 +0.7
MSU e 23 32 05.0
MVU Marysvale 71.13 325 eP P 23 31 40.3 -4.6
comp=Z,26nm,0.9s,mb5.1
TMUT Trail Mountain 71.19 327 eP P 23 31 45.2 0.0
TMUT ePcP PcP 23 32 05.0 +0.4
ARUT Antelope Range 71.28 324 eP P 23 31 46.5 +0.7
ARUT e*PP pP 23 32 11.5 +0.3
U11A Corn Creek 71.41 322 ⇑P P 23 31 47.3 +0.8
baz=72
GSC Goldstone 71.48 320 ⇓P P 23 31 47.5 +0.5
baz=72,SNR=11
RSSD Black Hills 71.63 334 eP P 23 31 48.0 +0.1
RSSD pmax pmax
comp=Z,11nm,0.9s,mb4.7
RSSD Black Hills 71.63 334 eP P 23 31 48.0 +0.1
comp=Z,11nm,0.9s,mb4.7
MPU Maple Canyon 71.94 327 eP P 23 31 50.0 +0.2
comp=Z,20nm,1.0s,mb4.9
MPU ePcP PcP 23 32 07.8 -0.1
MPU epP pP 23 32 16.4 +1.1
U10A Ash Meadows, A 71.96 321 ⇓P P 23 31 50.6 +0.7
baz=72,SNR=6.7
DAU Daniels Canyon 72.04 327 eP P 23 31 50.9 +0.5
DAU e 23 32 08.9
NLU North Lily Min 72.12 326 eP P 23 31 51.5 +0.6
TPNV Topopah Spring 72.28 322 eP P 23 31 52.7 +0.9
TPNV pmax pmax
comp=Z,36nm,0.9s,mb5.2
TPNV Topopah Spring 72.28 322 eP P 23 31 52.7 +0.9
comp=Z,36nm,0.9s,mb5.2
DAC Darwin (Calif) 72.61 321 eP P 23 31 54.2 +0.4
DAC e 23 32 10.8
DAC pmax pmax
comp=Z,37nm,1.3s,mb5.0
DAC Darwin (Calif) 72.61 321 eP P 23 31 54.2 +0.5
comp=Z,37nm,1.3s,mb5.0
DAC ePcP PcP 23 32 10.8 0.0
TCUT Toone Canyon 72.64 328 eP P 23 31 54.2 +0.3
TCUT ePcP PcP 23 32 10.6 -0.3
DUG Dugway 72.68 326 eP P 23 31 54.2 0.0
DUG e 23 32 10.9
DUG pmax pmax
comp=Z,22nm,1.0s,mb4.9
DUG Dugway 72.68 326 eP P 23 31 54.2 0.0
comp=Z,22nm,1.0s,mb4.9
DUG ePcP PcP 23 32 10.9 -0.2
ISA Isabella 72.73 320 P P 23 31 55.3 +0.8
baz=73,SNR=11
Q12A Willow Creek R 72.93 324 ⇑P P 23 31 56.4 +0.7
baz=73,SNR=5.1
PDAR Pinedale Array 72.99 330 P P 23 31 55.2 -0.8
comp=Z,1.5nm,0.5s,mb4.1,baz=141,slow=7.3,SNR=16
CWC Cottonwood Cre 73.01 320 ⇓P P 23 31 56.8 +0.6
baz=73,SNR=6.7
HWUT Hardware Ranch 73.09 328 eP P 23 31 56.4 -0.2
comp=Z,17nm,0.8s,mb4.9
R10A Warm Springs 73.23 323 ⇑P P 23 31 58.5 +1.1
baz=73,SNR=26
Q11A Duckwater 73.25 324 ⇑P P 23 31 58.3 +0.7
baz=73,SNR=29
P12A McGill 73.28 324 ⇑P P 23 31 58.4 +0.7
baz=74
SPUT South Promonto 73.31 327 eP P 23 31 57.6 -0.3
BGU Big Grassy Mou 73.33 327 eP P 23 31 57.9 -0.1
S09A Goldfield 73.37 322 ⇑P P 23 31 58.6 +0.3
baz=74,SNR=12
TIN Tinemaha 73.51 321 ⇑P P 23 31 59.7 +0.7
baz=74
AHID Auburn Hatcher 73.73 329 eP P 23 32 00.3 0.0
comp=Z,4.2nm,0.4s,mb4.5
V05C Boulder Hill, 73.75 319 ⇓P P 23 32 00.9 +0.4
baz=74
P11A Circle Ranch, 73.80 324 ⇓P P 23 32 01.4 +0.6
baz=74
HVU Hansel Valley 73.82 327 eP P 23 32 01.0 +0.1
HVU pmax pmax
comp=Z,19nm,1.1s,mb4.7
HVU Hansel Valley 73.82 327 eP P 23 32 00.9 0.0
comp=Z,19nm,1.1s,mb4.7
N13A Wendover, West 73.89 326 ⇓P P 23 32 01.0 -0.3
baz=74
ULM Lac du Bonnet 74.09 342 P P 23 32 00.8 -1.7
comp=Z,19nm,0.6s,mb5.0,baz=148,slow=6.3,SNR=47
ULM Lac du Bonnet 74.09 342 P P 23 32 00.8 -1.7
O11A Cowboy Ranch, 74.16 325 ⇑P P 23 32 03.3 +0.5
baz=74
PKD Parkfield 74.19 319 P P 23 32 03.3 +0.3
baz=74,SNR=5.2
V04C Ramage Ranch, 74.20 318 ⇓P P 23 32 03.7 +0.6
baz=74
TPAW Teton Pass 74.20 330 eP P 23 32 03.4 +0.2
comp=Z,24nm,1.3s,mb4.8
M13A Montello 74.23 326 P P 23 32 03.0 -0.3
baz=74,SNR=11
P10A Eureka 74.24 324 ⇑P P 23 32 04.2 +0.9
baz=74
MLAC Mammoth Lakes 74.26 321 ⇓P P 23 32 04.1 +0.7
baz=74
RRI2 Red Ridge 74.27 329 eP P 23 32 03.9 +0.4
comp=Z,56nm,1.3s,mb5.1
R08A Mina 74.31 322 ⇑P P 23 32 04.1 +0.3
baz=74,SNR=6.0
N12A Clover Valley, 74.33 325 ⇓P P 23 32 03.6 -0.2
baz=74
KCC Kaiser Creek 74.34 320 ⇓P P 23 32 03.6 -0.3
baz=74
ELK Elko 74.36 325 eP P 23 32 04.1 +0.1
ELK pmax pmax
comp=Z,6.0nm,1.0s
ELK Elko 74.36 325 eP P 23 32 04.1 +0.1
comp=Z,5.6nm,1.0s,mb4.2
MNV Mina 74.39 322 eP P 23 32 04.3 +0.1
MNV e 23 32 18.9
MNV pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
MNV Mina 74.39 322 eP P 23 32 04.3 +0.1
comp=Z,7.1nm,1.0s,mb4.3
MNV ePcP PcP 23 32 18.9 +0.5
DCID1 Drake Creek 74.39 330 eP P 23 32 04.7 +0.5
NVAR Mina Array Bea 74.48 322 P P 23 32 05.2 +0.4
comp=Z,10.0nm,0.8s,mb4.6,baz=140,slow=7.6,SNR=44
NVAR pP pP 23 32 29.8 -0.5
comp=Z,2.4nm,0.8s,baz=144,slow=7.7,SNR=2.3
NVAR Mina Array Bea 74.48 322 P P 23 32 05.2 +0.4
NVAR pP pP 23 32 29.8 -0.5
IMW Indian Meadow 74.50 330 eP P 23 32 04.9 +0.1
comp=Z,29nm,1.3s,mb4.8
IMW ePcP PcP 23 32 18.4 -0.5
FLWY Flagg Ranch 74.53 330 eP P 23 32 05.5 +0.5
comp=Z,32nm,1.0s,mb5.0
Q08A Gabbs 74.55 322 P P 23 32 05.3 +0.2
baz=75,SNR=19
P09A Austin 74.57 323 ⇓P P 23 32 05.7 +0.5
baz=75
U04C Hernandez Rese 74.60 319 ⇓P P 23 32 06.2 +0.7
baz=75,SNR=10
M12A Wells 74.67 326 P P 23 32 05.8 +0.1
baz=75,SNR=10
V03C Hunter Liggett 74.67 318 ⇓P P 23 32 06.5 +0.7
baz=75
R07C Lee Vining 74.69 321 ⇑P P 23 32 06.9 +1.0
baz=75
SCHQ Schefferville 74.75 1 P P 23 32 05.0 -1.3
comp=Z,20nm,0.7s,mb4.9,baz=191,slow=5.1,SNR=34
SCHQ Schefferville 74.75 1 P P 23 32 05.0 -1.3
LRV Little Rabbit 74.79 319 P P 23 32 08.3 +1.8
T05C Eagle Field, D 74.88 319 ⇓P P 23 32 08.0 +0.9
baz=75
S05C Merced 74.97 320 ⇓P P 23 32 08.2 +0.7
baz=75,SNR=6.2
S06C San Francisco 75.02 321 ⇑P P 23 32 08.2 +0.3
baz=75,SNR=17
O09A Fish Creek Ran 75.03 324 ⇑P P 23 32 08.2 +0.3
baz=75,SNR=5.5
N10A Dunphy 75.03 324 ⇓P P 23 32 08.0 +0.1
baz=75
HAST UC Hastings Re 75.10 318 ⇓P P 23 32 08.7 +0.4
baz=75
YMR Madison River 75.10 330 eP P 23 32 09.2 +0.9
comp=Z,12nm,0.4s,mb5.0
Q07A Schurz 75.11 322 ⇑P P 23 32 09.1 +0.8
baz=75
M11A Holland Ranch, 75.14 325 P P 23 32 09.1 +0.6
baz=75,SNR=10
P08A Dixie Valley 75.20 323 ⇑P P 23 32 09.3 +0.4
baz=75
R06C Coleville 75.21 321 ⇑P P 23 32 10.1 +1.2
baz=75,SNR=5.3
PACP Pacheco Peak 75.33 319 ⇓P P 23 32 10.3 +0.7
baz=76
GCMT Greycliff 75.37 332 eP P 23 32 09.5 -0.4
GCMT ePcP PcP 23 32 21.9 -0.7
QLMT Earthquake Lak 75.44 330 eP P 23 32 10.5 +0.3
CMB Columbia Colle 75.45 320 eP P 23 32 10.4 +0.1
CMB pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
CMB Columbia Colle 75.45 320 eP P 23 32 10.4 +0.2
comp=Z,4.5nm,0.9s,mb4.2
CMB Columbia Colle 75.45 320 ⇓P P 23 32 10.3 +0.1
baz=76
M10A I.L. Ranch, Tu 75.61 325 ⇓P P 23 32 11.6 +0.4
baz=76
PPT Papeete 75.62 256 LR LR 23 55 13.2
comp=Z,21nm,19.4s,baz=261,slow=28
S04C Ingram Canyon, 75.67 319 ⇓P P 23 32 11.9 +0.4
baz=76
N09A Rock Creek Ran 75.68 324 ⇓P P 23 32 11.3 -0.3
baz=76
R05C Kirkwood Meado 75.70 321 ⇑P P 23 32 12.5 +0.8
baz=76,SNR=5.8
WCN Washoe City 75.90 322 ⇓P P 23 32 12.6 -0.2
baz=76
HLID Hailey 75.95 328 eP P 23 32 13.6 +0.5
comp=Z,26nm,1.1s,mb4.9
BNLO Ben Lomond (Sa 75.95 319 ⇓P P 23 32 13.1 0.0
baz=76
PAHR Pah Rah Range 75.95 322 eP P 23 32 13.8 +0.6
comp=Z,43nm,0.9s,mb5.2
N08A GE Springer Mi 75.97 324 P P 23 32 12.7 -0.6
baz=76,SNR=7.5
O07A Toulon 75.97 323 P P 23 32 13.4 +0.1
baz=76,SNR=9.8
M09A Marrel Ranch, 76.03 324 ⇑P P 23 32 13.8 +0.2
baz=76,SNR=8.7
LAVA Lava Cap Winer 76.13 321 ⇑P P 23 32 14.1 0.0
baz=76
BOZ Bozeman (W) 76.15 331 eP P 23 32 13.6 -0.7
BOZ e 23 32 25.9
BOZ pmax pmax
comp=Z,15nm,1.4s,mb4.5
BOZ Bozeman (W) 76.15 331 eP P 23 32 13.6 -0.7
comp=Z,15nm,1.4s,mb4.5
BOZ ePcP PcP 23 32 25.9 0.0
P06A Stead Airport, 76.24 322 ⇑P P 23 32 15.2 +0.5
baz=76
BDM Black Diamond 76.29 320 ⇑P P 23 32 15.5 +0.5
baz=76
DLMT Dillon 76.39 330 eP P 23 32 15.9 +0.3
comp=Z,25nm,1.3s,mb4.8
DLMT ePcP PcP 23 32 26.5 -0.5
P05C Yuba Gap, Truc 76.40 321 ⇑P P 23 32 16.2 +0.5
baz=77,SNR=7.8
N07B Gerlach 76.44 323 ⇑P P 23 32 16.0 +0.1
baz=77,SNR=10
O06A Flanigan 76.51 322 ⇓P P 23 32 16.3 0.0
baz=77
M08A Happy Creek Ra 76.56 324 ⇑P P 23 32 16.8 +0.2
baz=77
L09A Wilkinson Ranc 76.56 325 ⇓P P 23 32 16.6 0.0
baz=77
Q04C Lincoln 76.56 320 ⇑P P 23 32 17.1 +0.5
baz=77,SNR=5.2
Q03C Winters 76.81 320 ⇓P P 23 32 18.9 +0.9
baz=77
FARB Farallon Islan 76.83 319 ⇑P P 23 32 19.3 +1.2
baz=77
CVS Carmenet Viney 76.90 320 ⇓P P 23 32 18.7 +0.2
baz=77
N06A Buffalo Meadow 76.90 323 ⇑P P 23 32 18.7 +0.2
baz=77
TOA0 Torodi Ar. Sit 76.93 71 eP P 23 32 18.8 +0.1
TOA0 epP pP 23 32 45.4 +1.0
TORD Torodi Ar. Bea 76.93 71 P P 23 32 18.8 +0.1
comp=Z,31nm,0.5s,mb5.3,baz=254,slow=5.4,SNR=222
TORD pP pP 23 32 45.4 +1.0
comp=Z,44nm,0.8s,baz=253,slow=5.6,SNR=14
TORD S S 23 41 58.1 -0.4
comp=Z,2.6nm,0.9s,baz=248,slow=11,SNR=9.4
TORD PKKPbc PKKPbc 23 51 26.4 +0.2
comp=Z,0.2nm,0.3s,baz=44,slow=1.7,SNR=6.7
TORD Torodi Ar. Bea 76.93 71 P P 23 32 18.8 +0.1
TORD pP pP 23 32 45.4 +1.0
TORD S S 23 41 58.1 -0.4
TORD PKKPbc PKKPbc 23 51 26.4 +0.2
OHCM Honcut 76.94 321 eP P 23 32 18.6 -0.1
OHCM ePcP PcP 23 32 30.0 +0.6
M07A Soldier Meadow 76.96 324 P P 23 32 19.1 +0.3
baz=77,SNR=6.3
O05C Quincy 77.01 322 P P 23 32 19.7 +0.5
baz=77,SNR=8.9
SUTB Sutter Butte 77.06 321 ⇓P P 23 32 19.4 0.0
baz=77
ORV Oroville 77.09 321 P P 23 32 19.9 +0.4
baz=77,SNR=13
SBA Scott Base 77.10 190 eP P 23 32 20.2 +0.6
SBA pmax pmax
comp=Z,16nm,1.1s,mb4.7
SBA Scott Base 77.10 190 eP P 23 32 20.2 +0.6
comp=Z,16nm,1.1s,mb4.7
NSHM Saint Helena R 77.10 320 eP P 23 32 19.1 -0.5
EGMT Eagleton 77.14 333 eP P 23 32 19.2 -0.6
comp=Z,35nm,1.4s,mb4.9
ELFS Eagle Lake Fie 77.33 322 ⇑P P 23 32 21.5 +0.6
baz=78
O04C Chester 77.34 322 ⇑P P 23 32 21.3 +0.3
baz=78
L07A Adell 77.47 324 P P 23 32 22.1 +0.4
baz=78,SNR=6.4
M06C Likely Place G 77.57 323 ⇑P P 23 32 22.5 +0.3
baz=78
SYO Syowa Base 77.71 160⇑eP P 23 32 22.6 -0.4
SYO Syowa Base 77.71 160⇑ePcP PcP 23 32 28.2 -4.5
SYO Syowa Base 77.71 160⇓epP pP 23 32 43.3 -5.5
CHMT Chamberlain Mo 77.84 331 eP P 23 32 24.0 +0.2
CHMT ePcP PcP 23 32 31.4 -2.0
GASB Alder Springs 77.88 320 ⇓P P 23 32 24.4 +0.4
baz=78
HATC Hat Creek Radi 77.88 322 P P 23 32 24.0 +0.1
baz=78,SNR=6.5
M05C Lookout 78.06 323 ⇓P P 23 32 25.0 0.0
baz=78,SNR=9.1
MSO Missoula 78.10 330 eP P 23 32 25.2 0.0
comp=Z,7.2nm,1.1s,mb4.3
VNDA Vanda 78.12 190 P P 23 32 25.4 +0.1
comp=Z,5.0nm,0.7s,mb4.3,baz=126,slow=4.9,SNR=31
VNDA Vanda 78.12 190 P P 23 32 25.4 +0.1
VNDA pmax pmax
comp=Z,5.0nm,0.7s
P01C Double 8 Ranch 78.14 320 ⇓P P 23 32 25.8 +0.4
baz=78
O02C Red Bluff 78.25 321 ⇑P P 23 32 25.8 -0.2
baz=78
L05A Lakeview 78.33 323 P P 23 32 27.2 +0.8
baz=78,SNR=11
BMO Blue Mountains 78.33 327 eP P 23 32 26.4 -0.1
comp=Z,23nm,1.2s,mb4.8
WDC Whiskeytown Da 78.36 321 eP P 23 32 25.1 -1.5
WDC e 23 32 33.8
WDC pmax pmax
comp=Z,4.0nm,0.3s,mb4.6
WDC Whiskeytown Da 78.36 321 eP P 23 32 25.1 -1.6
comp=Z,3.9nm,0.3s,mb4.6
WDC ePcP PcP 23 32 33.8 -1.7
WDC Whiskeytown Da 78.36 321 P P 23 32 25.2 -1.5
baz=78,SNR=7.7
J07A Hines 78.36 325 ⇑P P 23 32 26.9 +0.2
baz=78,SNR=8.2
K06A Valley Falls 78.50 324 ⇑P P 23 32 27.8 +0.4
baz=79,SNR=10
M04C Macdoel 78.72 323 ⇓P P 23 32 28.6 0.0
baz=79,SNR=11
J06A Christmas Vall 78.74 324 ⇑P P 23 32 28.7 0.0
baz=79,SNR=13
HOG Hogback Mounta 78.94 323 P P 23 32 30.3 +0.4
N02C Big Bar 78.97 321 ⇑P P 23 32 30.1 +0.2
baz=79,SNR=12
L04A Klamath Falls 79.00 323 ⇑P P 23 32 30.0 -0.1
baz=79
M02C Callahan 79.06 322 ⇓P P 23 32 29.8 -0.6
baz=79
YBH Yreka Blue Hor 79.19 322 ⇑P P 23 32 30.1 -1.1
baz=79,SNR=6.1
SUR Sutherland 79.23 121 eP P 23 32 33.7 +2.3
BSMT Bassoo Peak 79.24 331 P P 23 32 31.6 +0.2
KTRM Thompson Ridge 79.69 322 P P 23 32 34.3 +0.4
WALA Waterton Lakes 79.73 332 eP P 23 32 33.6 -0.5
comp=Z,21nm,1.1s,mb4.9
VIPM Ingram Point 79.83 325 P P 23 32 35.3 +0.7
HUMO Hull Mountain 79.89 323 eP P 23 32 34.1 -0.8
comp=Z,3.9nm,0.7s,mb4.3
HUMO Hull Mountain 79.89 323 ⇑P P 23 32 33.9 -1.0
baz=80
I05A Bend 79.95 325 ⇓P P 23 32 35.5 +0.2
baz=80,SNR=9.0
L02A Cave Junction 79.98 322 ⇑P P 23 32 35.4 -0.1
baz=80,SNR=5.1
K02A Glendale 80.30 322 ⇓P P 23 32 37.1 0.0
baz=80,SNR=8.2
IRO Indian Ridge 80.39 324 P P 23 32 37.4 -0.2
TSUM Tsumeb 80.42 107 eP P 23 32 39.6 +1.8
comp=Z,27nm,1.3s,mb4.9
TSUM ePcP PcP 23 32 45.6 +1.0
PRW Prosser 80.48 327 P P 23 32 39.0 +0.8
HAWA Hanford 80.52 327 eP P 23 32 38.4 0.0
comp=Z,4.3nm,1.6s,mb4.0
PTEO Sao Teotonio 80.63 44 eP P 23 32 40.6 +1.7
comp=Z,31nm,1.0s,mb5.1
PTEO epP pP 23 33 06.6 +1.7
NEW Newport 80.63 330 eP P 23 32 38.2 -0.7
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 80.63 330 eP P 23 32 38.2 -0.7
comp=Z,3.1nm,0.8s,mb4.2
BROR Big Rock Looko 80.67 324 P P 23 32 38.6 -0.5
G05A Wamic 80.69 325 ⇓P P 23 32 39.6 +0.4
baz=81,SNR=6.5
J02A Umpqua 80.72 323 ⇓P P 23 32 39.6 +0.1
baz=81,SNR=5.2
H04A Detroit Lake 80.79 325 ⇓P P 23 32 39.3 -0.4
baz=81
OD2 Odessa Site #2 80.79 328 P P 23 32 39.9 +0.1
VFP Flag Point 80.81 325 P P 23 32 40.4 +0.5
K01A Sixes 80.88 322 ⇓P P 23 32 40.1 -0.2
baz=81
I03A Eugene 80.94 324 ⇑P P 23 32 40.5 0.0
baz=81
RNO Roman Nose 81.16 323 P P 23 32 42.3 +0.5
F05A White Salmon 81.18 326 ⇓P P 23 32 42.0 +0.1

	baz=81						
I02A	Mapleton	81.26	323	⇑P	P	23 32 42.4	+0.1
	baz=81						
G04A	Mulino	81.29	325	⇓P	P	23 32 42.1	-0.3
	baz=82						
H03A	Soap Creek Ran	81.39	324	P	P	23 32 43.3	+0.3
	baz=82,SNR=5.4						
PBEJ	Beja	81.46	44	*e*P	P	23 32 44.2	+0.9
	comp=Z,16nm,1.7s,mb4.6						
PBEJ				*e*pP	pP	23 33 10.1	+0.8
TBM	Table Mountain	81.59	327	P	P	23 32 44.3	+0.3
TWW	Teanaway	81.70	327	P	P	23 32 45.3	+0.6
F04A	Amboy	81.72	325	⇑P	P	23 32 44.4	-0.3
	baz=82						
E05A	Randle	81.78	326	⇓P	P	23 32 44.4	-0.6
	baz=82						
SLFW	Sugar Loaf	81.95	328	P	P	23 32 46.1	+0.2
PTOM	Tomar	82.00	43	*e*P	P	23 32 46.5	+0.3
	comp=Z,16nm,2.2s,mb4.5						
PTOM				*e*pP	pP	23 33 12.6	+0.4
NLW	Nelson Butte	82.07	328	P	P	23 32 46.4	-0.2
GSM	Grass Mountain	82.22	327	P	P	23 32 46.6	-0.7
D05A	Enumclaw	82.31	327	⇑P	P	23 32 47.4	-0.4
	baz=82,SNR=5.8						
C05A	Tolt Reservoir	82.49	327	⇑P	P	23 32 47.5	-1.2
	baz=83						
EDM	Edmonton	82.59	335	*e*P	P	23 32 47.7	-1.6
E03A	Lebam	82.73	325	⇑P	P	23 32 49.7	-0.3
	baz=83						
PVIS	Viseu	82.94	42	*e*pP	pP	23 33 17.4	+0.3
MTE	Manteigas	82.99	42	*e*P	P	23 32 51.1	-0.2
	comp=Z,17nm,0.9s,mb4.9						
MTE				*e*pP	pP	23 33 18.2	+0.8
B05A	Bryant	83.07	327	⇑P	P	23 32 50.6	-1.1
	baz=83,SNR=11						
CMW	Cultus Mountai	83.19	328	P	P	23 32 51.6	-0.7
PVRL	Vila Real	83.37	42	*e*P	P	23 32 53.7	+0.4
	comp=Z,18nm,1.7s,mb4.6						
A05A	Maple Falls	83.55	328	⇓P	P	23 32 53.4	-0.8
	baz=84						
B04A	Port Angeles	83.66	327	⇓P	P	23 32 54.5	-0.2
	baz=84						
A04A	Legoe Bay, Lum	83.68	327	⇑P	P	23 32 54.0	-0.8
	baz=84						
SNB	Saturna Island	83.95	327	P	P	23 32 56.2	0.0
PBRG	Braganca	84.27	42	*e*P	P	23 32 58.4	+0.5
	comp=Z,10nm,0.9s,mb4.7						
PBRG				*e*pP	pP	23 33 24.5	+0.5
ESDC	Sonseca Array	84.92	45	P	P	23 33 01.5	+0.4
	comp=Z,2.2nm,0.9s,mb4.1,baz=242,slow=4.7,SNR=15						
ESDC				pP	pP	23 33 27.5	+0.2
	comp=Z,7.0nm,1.0s,baz=240,slow=5.5,SNR=8.6						
ESLA	Sonseca Array	84.92	45	*e*P	P	23 33 01.6	+0.6
	comp=Z,3.6nm,1.2s,mb4.2						
ESLA				*e*pP	pP	23 33 26.9	-0.4
LBTB	Lobatse	85.56	115	*e*P	P	23 33 05.5	+1.2
LBTB				*e**PP	pP	23 33 32.8	+2.3
LBTB				pmax	pmax		
	comp=Z,35nm,1.4s,mb5.1						
LBTB	Lobatse	85.56	115	*e*P	P	23 33 05.5	+1.2
	comp=Z,35nm,1.4s,mb5.1						
LBTB				*e*pP	pP	23 33 32.8	+2.3
MAW	Mawson	85.57	163	*e*P	P	23 33 03.5	-0.8
	comp=Z,6.9nm,0.6s,mb4.8						
MAW	Mawson	85.57	163	P	P	23 33 04.4	+0.1
	comp=Z,8.0nm,0.5s,mb4.9,baz=213,slow=6.0,SNR=53						
MAW				pP	pP	23 33 27.0	-3.5
	comp=Z,3.5nm,0.6s,baz=250,slow=10,SNR=2.8						
MAW	Mawson	85.57	163	P	P	23 33 04.4	+0.1
MAW				*PP	pP	23 33 27.0	-3.5
MAW				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MAW				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ETSF	Etsaut	88.75	43	*e*P	P	23 33 19.6	-0.1
	comp=Z,3.0nm,0.7s,mb4.1						
ETSF	Etsaut	88.75	43	*e*P	P	23 33 19.6	-0.1
ETSF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
ETSF	Etsaut	88.75	43	*e*P	P	23 33 19.6	-0.1
	comp=Z,1.5nm,0.7s,mb4.1						
EPF	Esparros	89.40	43	*e*P	P	23 33 22.5	-0.2
	comp=Z,3.5nm,0.7s,mb4.2						
EPF	Esparros	89.40	43	*e*P	P	23 33 22.5	-0.2
EPF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
EPF	Esparros	89.40	43	*e*P	P	23 33 22.5	-0.2
	comp=Z,1.8nm,0.7s,mb4.2						
QUIF	Quistinic	89.69	38	*e*P	P	23 33 23.1	-1.0
	comp=Z,17nm,1.1s,mb4.8						
QUIF	Quistinic	89.69	38	*e*P	P	23 33 23.1	-1.0
QUIF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
QUIF	Quistinic	89.69	38	*e*P	P	23 33 23.1	-1.0
	comp=Z,8.4nm,1.1s,mb4.8						
YKA	Yellowknife Ar	89.97	341	P	P	23 33 24.3	-1.1
	comp=Z,21nm,0.6s,mb5.4,baz=131,slow=4.7,SNR=140						
YKA				pP	pP	23 33 49.1	-2.7
	comp=Z,7.5nm,0.6s,baz=133,slow=4.9,SNR=5.2						
YKA	Yellowknife Ar	89.97	341	P	P	23 33 24.3	-1.1
YKA				*PP	pP	23 33 49.1	-2.7
YKA				pmax	pmax		
	comp=Z,21nm,0.6s						
YKA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SGMF	Saint Gilles	90.21	38	*e*P	P	23 33 25.5	-1.0
LFF	La Frestale	90.56	42	*e*P	P	23 33 27.2	-0.9
	comp=Z,14nm,0.6s,mb5.0						
LFF	La Frestale	90.56	42	*e*P	P	23 33 27.2	-0.9
LFF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.0						
LFF	La Frestale	90.56	42	*e*P	P	23 33 27.2	-0.9
	comp=Z,7.0nm,0.6s,mb5.0						
MTLF	Montolieu	90.75	44	*e*P	P	23 33 27.9	-1.1
	comp=Z,2.1nm,0.7s,mb4.1						
MTLF	Montolieu	90.75	44	*e*P	P	23 33 27.9	-1.1
MTLF				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
MTLF	Montolieu	90.75	44	*e*P	P	23 33 27.9	-1.1
	comp=Z,1.0nm,0.7s,mb4.0						
MFF	Saint Martin d	90.81	40	*e*P	P	23 33 28.3	-1.0
	comp=Z,11nm,1.1s,mb4.6						
MFF	Saint Martin d	90.81	40	*e*P	P	23 33 28.3	-1.0
MFF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.6						
MFF	Saint Martin d	90.81	40	*e*P	P	23 33 28.3	-1.0
	comp=Z,5.7nm,1.1s,mb4.6						
RJF	Les Rejaudoux	91.22	42	*e*P	P	23 33 30.1	-1.1
	comp=Z,5.1nm,0.8s,mb4.4						
RJF	Les Rejaudoux	91.22	42	*e*P	P	23 33 30.1	-1.1
RJF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
RJF	Les Rejaudoux	91.22	42	*e*P	P	23 33 30.1	-1.1
	comp=Z,2.5nm,0.8s,mb4.4						
GRR	Gorron	91.26	38	*e*P	P	23 33 30.2	-1.2
	comp=Z,6.1nm,0.7s,mb4.5						
GRR	Gorron	91.26	38	*e*P	P	23 33 30.2	-1.2
GRR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
GRR	Gorron	91.26	38	*e*P	P	23 33 30.2	-1.2
	comp=Z,3.0nm,0.7s,mb4.5						
LSZ	Lusaka	91.27	107	*e*P	P	23 33 34.6	+3.2
CAF	Calviac	91.38	42	*e*P	P	23 33 30.8	-1.2
	comp=Z,3.2nm,0.7s,mb4.3						
CAF	Calviac	91.38	42	*e*P	P	23 33 30.8	-1.2
CAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
CAF	Calviac	91.38	42	*e*P	P	23 33 30.8	-1.2
	comp=Z,1.6nm,0.7s,mb4.3						
AVF	Avril sur Loir	93.03	41	*e*P	P	23 33 38.5	-1.1
	comp=Z,3.7nm,0.9s,mb4.4						
AVF	Avril sur Loir	93.03	41	*e*P	P	23 33 38.5	-1.1
AVF				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.5						
AVF	Avril sur Loir	93.03	41	*e*P	P	23 33 38.5	-1.1
	comp=Z,1.9nm,0.9s,mb4.4						
DLBC	Dease Lake	93.06	333	*e*P	P	23 33 39.2	-0.5
DLBC				*e*pP	pP	23 34 03.7	-2.4
SMF	Signal de Mont	93.27	41	*e*P	P	23 33 39.8	-0.9
	comp=Z,4.8nm,0.8s,mb4.6						
SMF	Signal de Mont	93.27	41	*e*P	P	23 33 39.8	-0.9
SMF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.5						
SMF	Signal de Mont	93.27	41	*e*P	P	23 33 39.8	-0.9
	comp=Z,2.4nm,0.8s,mb4.6						
LOR	Lormes	93.55	41	*e*P	P	23 33 41.0	-1.0
FRF	La Foret Royal	93.75	45	*e*P	P	23 33 41.3	-1.6
CASY	Casey	93.78	180	*e*P	P	23 33 43.1	+0.1
ORIF	Oris-en-Rattie	93.82	43	*e*P	P	23 33 42.4	-0.8
LPL	La Plagne	94.61	43	*e*P	P	23 33 46.1	-0.7
LPG	La Plagne	94.62	43	*e*P	P	23 33 46.4	-0.4
DAVOX	Davos	97.12	43	LR	LR	00 11 50.8	
	comp=Z,41nm,20.8s,baz=264,slow=32						
FINES	FINESS Array B	109.90	31	PKKPbc	PKKPbc	23 49 58.8	-0.7
	comp=Z,0.8nm,0.6s,baz=116,slow=6.6,SNR=7.3						
ARCES	ARCESS Array B	110.29	22	PKKPbc	PKKPbc	23 49 57.5	-0.8
	comp=Z,0.6nm,0.5s,baz=96,slow=3.7,SNR=9.4						
AKASG	Malin Array Be	110.46	42	PKKPbc	PKKPbc	23 49 56.8	-0.9
	comp=Z,0.9nm,0.5s,baz=67,slow=3.8,SNR=7.3						
BRTR	Keskin Array B	112.08	54	PKiKP	PKiKP	23 39 00.8	-0.1
	comp=Z,0.7nm,0.8s,baz=256,slow=3.0,SNR=4.8						
BRTR				PKKPbc	PKKPbc	23 50 00.3	+8.0
	comp=Z,0.4nm,0.7s,baz=88,slow=4.2,SNR=3.9						
BRTR	Keskin Array B	112.08	54	*i* PKIKP	PKiKP	23 39 00.9	0.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MALT	Malatya	115.61	56	*e*PKIKP	PKPdf	23 39 08.3	+0.7
AS31	Alice Springs	131.05	208	*e*PKPdf	PKPdf	23 39 36.9	-0.3
ASAR	Alice Springs	131.05	208	PKP	PKPdf	23 39 36.8	-0.5
	comp=Z,3.4nm,0.5s,baz=144,slow=2.2,SNR=28						
ASAR	Alice Springs	131.05	208	PKIKP	PKPdf	23 39 36.8	-0.4
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WB2	Warramunga Arr	134.06	211	*e*P	PKPdf	23 39 43.2	+0.3
WRA	Warramunga Arr	134.06	211	PKP	PKPdf	23 39 42.8	-0.1
	comp=Z,6.0nm,0.6s,baz=160,slow=1.7,SNR=22						
WRA	Warramunga Arr	134.06	211	PKIKP	PKPdf	23 39 42.8	-0.1
WRA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NVS	Novosibirsk	139.50	25	*e*PKIKP	PKPdf	23 39 52.6	-0.4
NVS				pmax	pmax		
	comp=N,2.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KURK	Kurchatov	140.24	32	*e*PKIKP	PKPdf	23 39 53.2	-1.1
ZAL	Zalesovo	140.78	24	PKhKP		23 39 49.8	
	comp=Z,4.6nm,0.6s,baz=35,slow=1.2,SNR=6.6						
ZAL				PKP	PKPdf	23 39 55.1	-0.2
	comp=Z,4.6nm,0.6s,baz=199,slow=1.9,SNR=17						
ZAL	Zalesovo	140.78	24	PKIKP		23 39 49.8	
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BOD	Bodaibo	142.37	357	*e*PKHKP		23 39 51.8	
BOD				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KSH	Kashi	144.28	50	*e*PKP	PKPdf	23 40 01.8	+0.3
KSH				*e*XPKP		23 40 39.5	
KSH				*e*PKS		23 43 37.3	
KSH				*e*PPP		23 46 01.3	
KSH				*e*SKS	SKSdf	23 47 00.3	-1.4
KSH				PP	PP		
	comp=Z,145nm,7.6s						
KSH				LR	LR		
	comp=N,201nm,6.6s						
KSH				LR	LR		
	comp=E,152nm,9.6s						
KSH				LR	LR		
	comp=Z,534nm,27.0s						
MKAR	Makanchi Array	144.58	35	PKP	PKPdf	23 40 01.1	-0.9
	comp=Z,8.8nm,0.5s,baz=323,slow=2.8,SNR=178						
MKAR				pPKP	pPKPdf	23 40 27.9	-1.7
	comp=Z,4.9nm,0.9s,baz=289,slow=3.7,SNR=2.9						
MKAR	Makanchi Array	144.58	35	PKIKP	PKPdf	23 40 01.1	-0.9
MKAR						23 40 27.9	
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KLR	Kul'dur	146.65	335	*e*PKIKP	PKPdf	23 40 02.8	-2.7
KLR				pmax	pmax		
	comp=Z,28nm,1.0s						
GUMO	Guam	147.06	264	PKPbc	PKPbc	23 40 06.0	-2.4
	comp=Z,110nm,0.6s,baz=155,slow=4.8,SNR=7.9						
GUMO	Guam	147.06	264	PKIKP	PKPdf	23 40 06.0	-0.2
GUMO				pmax	pmax		
	comp=Z,110nm,0.6s						
ZAK	Zakamensk	149.26	10	*e*PKIKP	PKPdf	23 40 10.4	+0.6
ZAK				*e*		23 40 38.8	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
WMQ	Urumqi	149.41	34	PKP	PKPdf	23 40 12.1	+2.0
WMQ				PP	PP	23 43 52.1	+4.6
WMQ				PP	PP		
	comp=Z,191nm,10.2s						
WMQ				LR	LR		
	comp=N,209nm,21.8s						
WMQ				LR	LR		
	comp=E,157nm,20.7s						
WMQ				LR	LR		
	comp=Z,209nm,22.3s						
HIA	Hailar	150.19	349	*e*PKP	PKPbc	23 40 16.0	-0.4
HIA				*e*PKPab	PKPab	23 40 22.9	+0.1
MDJ	Mudanjiang	151.21	332	PKP	PKPdf	23 40 11.0	-1.9
MDJ				PKS		23 43 48.1	
MJAR	Matsushiro Arr	151.25	310	PKPbc	PKPbc	23 40 18.4	-0.6
	comp=Z,16nm,0.8s,baz=81,slow=1.8,SNR=44						
MJAR				pPKPbc	pPKPbc	23 40 44.4	-2.0
	comp=Z,5.4nm,0.9s,baz=88,slow=2.1,SNR=4.3						
MJAR	Matsushiro Arr	151.25	310	PKIKP	PKPbc	23 40 18.4	-0.6
MJAR						23 40 44.4	
MJAR				pmax	pmax		
	comp=Z,16nm,0.8s						
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MAJO	Matsushiro	151.25	310	*e*PKIKP	PKPbc	23 40 18.6	-0.4
MAT	Matsushiro	151.25	310	PKP	PKPbc	23 40 18.6	-0.4
MAT	Matsushiro	151.25	310	*e*PKP	PKPbc	23 40 19.0	0.0
SONM	Songino Array	152.18	7	PKP	PKPdf	23 40 14.7	+0.4
	comp=Z,2.9nm,0.8s,baz=331,slow=0.8,SNR=18						
SONM				PKPbc	PKPbc	23 40 21.3	+0.3
	comp=Z,16nm,0.5s,baz=302,slow=1.2,SNR=92						
SONM				PKPab	PKPab	23 40 30.9	-0.2
	comp=Z,4.1nm,0.7s,baz=294,slow=1.5,SNR=4.2						
SONM				pPKPbc	pPKPbc	23 40 47.8	-0.7
	comp=Z,5.6nm,0.6s,baz=321,slow=1.5,SNR=4.5						
SONM	Songino Array	152.18	7	PKIKP	PKPdf	23 40 14.7	+0.4
SONM						23 40 47.8	
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,16nm,0.5s						
SONM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SONM				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ULN	Ulaanbaatar	152.21	6	*e*PKPdf	PKPdf	23 40 15.0	+0.6
ULN				*e*PKPbc	PKPbc	23 40 21.4	+0.2
ULN				*e*PKPab	PKPab	23 40 31.7	+0.4
CN2	Changchun	153.59	336	*e*PKP	PKPdf	23 40 13.9	-2.5
GTA	Gaotai	158.54	24	*e*PKP	PKPdf	23 40 23.6	+0.7
HHC	Hu-ho-hao-te	159.42	359	*e*PKP	PKPdf	23 40 21.6	-2.3
HHC				PKP2	PKPab	23 41 00.3	-1.9
HHC				PKS		23 43 54.8	
HHC				PP	PP	23 44 42.3	-1.3
HHC				SKKS	SKKSac	23 51 21.9	-1.2
HHC				PP	PP		
	comp=Z,96nm,5.3s						
HHC				LR	LR		
	comp=N,116nm,16.6s						
HHC				LR	LR		
	comp=Z,97nm,15.5s						
HHC				AMB	AMB		
	comp=Z,26nm,0.6s						
HHC				AMB	AMB		
	comp=Z,96nm,3.0s						
LZH	Lanzhou	162.95	20	*e*PKP	PKPdf	23 40 25.1	-2.6
LZH				APKP		23 40 52.1	
LZH				XPKP		23 41 02.8	
LZH				LR	LR		
	comp=N,243nm,19.6s						
LZH				LR	LR		
	comp=Z,362nm,20.4s						
NJ2	Nanjing	166.30	331	*e*PKP	PKPdf	23 40 28.3	-2.3
NJ2				PKP2	PKPab	23 41 33.9	+1.5
NJ2				PP	PP	23 45 23.0	+3.0
NJ2				PP	PP		
	comp=Z,280nm,8.1s						
NJ2				LR	LR		
	comp=N,620nm,22.9s						
NJ2				LR	LR		
	comp=E,390nm,24.0s						
NJ2				LR	LR		
	comp=Z,320nm,24.4s						
CD2	Chengdu	167.46	30	*e*PKP	PKPdf	23 40 27.1	-4.4
CD2				SKS	SKSdf	23 47 19.5	-6.7
CD2				SKKS	SKKSac	23 51 59.9	-4.0
CD2				PP	PP		
	comp=Z,90nm,9.0s						
KMI	Kunming	170.87	56	PKP	PKPdf	23 40 36.3	+2.7
KMI				PP	PP	23 45 46.4	+3.3
KMI				PP	PP		
	comp=Z,114nm,5.5s						
KMI				LR	LR		
	comp=Z,36nm,37.8s						
GYA	Guiyang	172.57	32	*e*PKP	PKPdf	23 40 30.9	-3.5
GYA				XPKP		23 41 08.4	
GYA				PKS		23 44 02.0	
GYA				SKKS	SKKSac	23 52 26.9	-1.9
GYA				PP	PP		
	comp=Z,120nm,8.2s						
GYA				LR	LR		
	comp=N,140nm,20.9s						
GYA				LR	LR		
	comp=E,130nm,21.0s						
GYA				LR	LR		
	comp=Z,100nm,21.4s						

NIED ***16*** *23:25:00, 3730N×14190E, h41km, Mw4.1 Best double couple: $M_0$1.88000×10^{15} NP1:ϕ_s60.00000°, δ86.00000°, λ114.00000°. NP2:ϕ_s158.00000°, δ24.00000°, λ9.00000°.*

JMA ***16*** *23:25:04.5±0.1, 3733N×14175E, h42km±3km, M4.3 Broadband fault plane solution: P waves. NP1: ϕ_s204.00000°, δ28.00000°, λ53.00000°. NP2:ϕ_s64.00000°, δ68.00000°, λ108.00000°. Principal axes: T Plg63.0000°, Azm3.0000°; N Plg16.0000°, Azm238.0000°; P Plg21.0000°, Azm141.0000°;*

JMA Felt II J1.

IDC ***16*** *23:25:05.4±0.9, 3731N×14175E, h38km±5km, mb3.8/11, mb1 3.9/14, mb1mx3.8/21, mbtmp4.0/14, ML3.8/3, MS3.2/5, Ms1 3.2/5, ms1mx2.9/27 Error ellipse: s-maj=24.3km s-min=15.5km az=91.0*

MOS ***16*** *23:25:05.5±1.0, 3751N×14149E, h33km, mb4.4/13, Error ellipse: s-maj=11.2km s-min=7.5km az=92.3*

ISCJB ***16*** *23:25:05.9±0.6, 3735N±003×14161E±005, h47km±4km, mb4.1/23, MS3.6/5, Error ellipse: s-maj=7.3km s-min=4.7km az=42.6*

BJI ***16*** *23:25:06.3, 3762N×14136E, h38km, mB4.8, mb4.5, Ms4.2, Msz4.0*

NEIC ***16*** *23:25:07.7±0.4, 3746N×14133E, mb4.4/5, Error ellipse: s-maj=9.7km s-min=7.4km az=136.0*

NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Miyagi and Tochigi Prefectures.

ISC 16 23:25:06.9±0.6**, 3735N**±003×**14157E**±006**, h40**km±5km**, h40**km±.8km**:pP-P, n93,** σ1§**17**/111**, mb4.1**/23**, MS3.6**/5**, 7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.56	272	⇓P	Pn	23 25 18.1	-0.3
JFK				S	Sn	23 25 27.4	+0.8
ONAJ	Iwakimizuishiy	0.67	248	⇓P	Pn	23 25 19.3	-0.6
ONAJ				S	Sn	23 25 29.3	+0.1
JMM	Marumori	0.81	310	⇓P	Pn	23 25 21.3	-0.5
JMM				S	Sn	23 25 32.9	+0.3
JFT	Otama	1.00	280	⇓P	Pn	23 25 25.2	+0.7
JFT				S	Sn	23 25 39.6	+2.3
JHO	Hitachi	1.09	228	P	Pn	23 25 24.3	-1.4
JHO				S	Sn	23 25 38.3	-1.3
JIO	Ouri	1.11	351	⇓P	Pn	23 25 24.6	-1.4
JIO				S	Sn	23 25 38.5	-1.7
JOU	Okura	1.24	325	⇓P	Pn	23 25 27.8	0.0
JOU				*e*S	Sn	23 25 44.6	+1.3
JYS	Shirataka	1.48	306	P	Pn	23 25 32.0	+1.0
JYS				S	Sn	23 25 52.0	+2.9
JFY	Yanaizu	1.49	273	P	Pn	23 25 32.3	+1.1
JMK	Ichinoseki	1.62	350	⇓P	Pn	23 25 32.3	-0.7
MJAR	Matsushiro Arr	2.81	254	Pn	Pn	23 25 50.6	+1.3
	4.7nm,0.3s,baz=79,slow=15,SNR=25						
MJAR				Sn	Sn	23 26 26.3	+4.2
	9.7nm,0.3s,baz=92,slow=28,SNR=7.0						
MJAR				LR	LR	23 27 15.2	
	comp=Z,234nm,19.3s,baz=35,slow=45						
MJAR	Matsushiro Arr	2.81	254	P	Pn	23 25 50.6	+1.2
MJAR						23 26 26.3	
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MJAR				smax			
	comp=E,10.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,234nm,19.3s						
MJAR	Matsushiro Arr	2.81	254	Pn	Pn	23 25 50.6	+1.3
MJAR				Sn	Sn	23 26 26.3	+4.2
MJAR				LR	LR	23 27 15.2	
MAJO	Matsushiro	2.82	254	*e*Pn	Pn	23 25 50.2	+0.8
MAJO				*e*Sn	Sn	23 26 10.3	-12
MAT	Matsushiro	2.82	254	P	Pn	23 25 50.9	+1.5
MAT				*e*S	Sn	23 26 27.0	+4.9
MAT	Matsushiro	2.82	254	*e*P	Pn	23 25 51.0	+1.6
MAT				S	Sn	23 26 32.0	+10
JHJ	Hachijo jima 2	4.47	200	Pn	Pn	23 26 11.0	-1.1
	comp=Z,20nm,0.3s,baz=75,slow=20,SNR=18						
JHJ				Sn	Sn	23 27 01.4	-1.5
	comp=Z,58nm,0.3s,baz=89,slow=22,SNR=6.9						
ASAJ	Asahikawa	6.80	6	Pn	Pn	23 26 43.3	-0.9
	comp=Z,2.1nm,0.3s,baz=201,slow=14,SNR=5.3						
ASAJ				Sn	Sn	23 27 59.8	-0.6
	comp=Z,1.2nm,0.3s,baz=217,slow=29,SNR=6.1						
ASAJ				LR	LR	23 30 15.0	
	comp=Z,68nm,20.8s,baz=176,slow=45						
ASAJ	Asahikawa	6.80	6	P	Pn	23 26 43.3	-0.9
ASAJ						23 27 59.8	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=E,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,69nm,20.8s						
YSS	Yuzh-Sakhalins	9.64	5	*e*P	Pn	23 27 23.1	+0.1
MDJ	Mudanjiang	11.60	312	P	Pn	23 27 47.3	-2.5
MDJ				S	Sn	23 29 52.4	-5.6
MDJ				PCP	PcP	23 33 41.9	+3.3
MDJ				SCP	ScP	23 37 10.5	+2.4
MDJ				PCS	PcS	23 37 15.3	+2.7
MDJ				AMB	AMB		
	comp=Z,1.0nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,27nm,3.9s						
MDJ	Mudanjiang	11.60	312	*e*Pn	Pn	23 27 45.6	-4.2
INCN	Inchon	11.88	275	*e*Pn	Pn	23 27 48.7	-5.0
NJ2	Nanjing	19.40	261	*e*P	Pn	23 29 32.0	+1.1
NJ2				AP	pP	23 29 41.4	+2.0
NJ2				XP	sP	23 29 45.1	+0.6
NJ2				PP		23 29 50.0	
NJ2				S	S	23 33 02.0	-4.7
NJ2				XS	sS	23 33 15.0	-7.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,150nm,5.2s						
NJ2				LR	LR		
	comp=N,450nm,14.6s						
NJ2				LR	LR		
	comp=E,240nm,14.9s						
NJ2				LR	LR		
	comp=Z,360nm,14.3s						
PET	Petropavlovsk	19.68	32	*e*P	Pn	23 29 35.1	+0.9
BJT	Baijiatuau	19.99	285	*e*P	Pn	23 29 32.9	-5.0
BJT				pmax	pmax		
	comp=Z,5.0nm,0.3s						
BJT	Baijiatuau	19.99	285	*e*P	Pn	23 29 32.9	-5.0
	comp=Z,5.0nm,0.3s						
TATO	Taipei	21.11	240	*e*P	P	23 29 46.4	-1.6
YHNB	Yeheng	21.38	239	*e*P	P	23 29 49.4	-1.6
MA2	Magadan	23.02	12	*e*P	P	23 30 08.1	-0.3
HHC	Hu-ho-hao-te	23.50	288	*e*P	P	23 30 11.8	-1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HHC				AP		23 30 20.0	
HHC				XP	sP	23 30 24.9	-3.7
HHC				PP		23 30 41.4	
HHC				PCP	PcP	23 34 02.4	+4.5
HHC				S	S	23 34 14.3	-10
HHC				XS	sS	23 34 31.0	-11
HHC				SS		23 35 03.8	
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.5						
HHC				AMB	AMB		
	comp=Z,57nm,3.5s						
HHC				LR	LR		
	comp=N,146nm,13.1s,MS3.8						
HHC				LR	LR		
	comp=E,182nm,14.3s,MS3.8						
HHC				LR	LR		
	comp=Z,90nm,14.3s,MS3.4						
YAK	Yakutsk	25.79	347	eP	P	23 30 34.7	+0.6
BOD	Bodaibo	27.33	327	eP	P	23 30 48.1	+0.1
BOD				e	pP	23 30 57.6	-1.3
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.8						
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
ENH	Enshi	27.49	265	P	P	23 30 48.4	-1.0
SONM	Songino Array	27.72	303	P	P	23 30 51.5	+0.1
	comp=Z,1.8nm,0.5s,mb3.9,baz=104,slow=9.1,SNR=13						
SONM				pP	pP	23 31 02.4	0.0
	comp=Z,2.1nm,0.8s,baz=99,slow=9.9,SNR=6.0						
SONM				LR	LR	23 41 58.3	
	comp=Z,55nm,18.5s,MS3.2,baz=242,slow=36						
SONM	Songino Array	27.72	303	P	P	23 30 51.5	+0.1
SONM				*PP	pP	23 31 02.4	0.0
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,55nm,18.5s						
LZH	Lanzhou	30.14	279	eP	P	23 31 13.9	+1.0
LZH				AP	pP	23 31 23.6	-0.4
LZH				XP	sP	23 31 27.5	-1.3
LZH				PP	PP	23 32 11.5	-10
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.7						
ZAK	Zakamensk	30.18	308	eP	P	23 31 12.7	-0.5
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.7						
KMI	Kunming	35.14	261	P	P	23 31 57.8	+1.2
KMI				AMB	AMB		
	comp=Z,8.0nm,2.0s,mb4.3						
WMQ	Urumqi	40.81	297	P	P	23 32 45.0	+0.6
WMQ				AP	pP	23 32 54.8	-0.9
WMQ				XP	sP	23 32 58.8	-1.7
WMQ				PP	PP	23 34 22.5	+3.5
WMQ				S	S	23 38 51.4	-1.2
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,98nm,4.6s						
WMQ				LR	LR		
	comp=N,308nm,14.8s,MS4.4						
WMQ				LR	LR		
	comp=E,231nm,13.7s,MS4.4						
WMQ				LR	LR		
	comp=Z,319nm,15.3s,MS4.3						
ZAL	Zalesovo	41.81	312	P	P	23 32 51.9	-0.8
	comp=Z,1.4nm,0.3s,mb4.0,baz=27,slow=5.5,SNR=6.6						
ZAL				pP	pP	23 33 02.3	-1.6
	comp=Z,2.0nm,0.4s,baz=29,slow=7.5,SNR=5.7						
ZAL				LR	LR	23 51 40.6	
	comp=Z,57nm,18.4s,MS3.5,baz=303,slow=38						
ZAL	Zalesovo	41.81	312	P	P	23 32 51.9	-0.7
ZAL				*PP	pP	23 33 02.3	-1.6
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL				MLR	MLR		
	comp=Z,57nm,18.4s						
NVS	Novosibirsk	42.72	313	eP	P	23 32 59.1	-0.9
NVS				pmax	pmax		
	comp=N,3.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
MKAR	Makanchi Array	44.06	302	P	P	23 33 10.5	-0.4
	comp=Z,3.0nm,0.7s,mb4.2,baz=88,slow=10.0,SNR=37						
MKAR				pP	pP	23 33 21.4	-0.8
	comp=Z,3.9nm,0.8s,baz=92,slow=9.8,SNR=12						
MKAR	Makanchi Array	44.06	302	P	P	23 33 10.5	-0.3
MKAR				*PP	pP	23 33 21.4	-0.8
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	Makanchi Array	44.06	302	P	P	23 33 10.5	-0.4
MKAR				pP	pP	23 33 21.4	-0.8
KURK	Kurchatov	45.84	308	eP	P	23 33 24.4	-0.6
KURK				e	pP	23 33 35.6	-0.8
KURK				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
KURK	Kurchatov	45.84	308	eP	P	23 33 24.4	-0.6
	comp=Z,23nm,1.0s,mb5.1						
KURK				e	pP	23 33 35.6	-0.8
PMG	Port Moresby	46.80	172	P	P	23 33 34.6	+2.0
MCK	McKinley	48.30	34	eP	P	23 33 43.2	-1.0
COLA	College	48.74	32	P	P	23 33 47.7	+0.1
HNR	Honiara	49.62	156	eP	P	23 33 56.6	+2.3
HNR				e*PP	pP	23 34 07.6	+1.8
HNR				e*SP	sP	23 34 12.7	+2.2
HNR				pmax	pmax		
	comp=Z,41nm,0.8s						
HNR	Honiara	49.62	156	eP	P	23 33 56.6	+2.3
	comp=Z,41nm,0.8s						
HNR				epP	pP	23 34 07.6	+1.8
HNR				esP	sP	23 34 12.7	+2.2
AAK	Ala-Archa	50.45	298	eP	P	23 33 59.8	-0.8
AAK				e*PP	pP	23 34 10.8	-1.3
INK	Inuvik	54.05	27	P	P	23 34 27.6	+0.3
ARU	Arti	56.21	318	eP	P	23 34 42.3	-0.6
ARU				e*PP	pP	23 34 53.4	-1.1
ARU				e*SP	sP	23 34 57.8	-1.4
ARU				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
ARU	Arti	56.21	318	eP	P	23 34 42.3	-0.5
	comp=Z,5.4nm,1.1s,mb4.5						
ARU				epP	pP	23 34 53.4	-1.1
ARU				esP	sP	23 34 57.8	-1.4
CTAO	Charters Tower	57.30	175	P	P	23 34 52.3	+1.7
WRAB	Tennant Creek	57.38	188	P	P	23 34 54.5	+3.3
WRA	Warramunga Arr	57.39	188	P	P	23 34 49.4	-1.9
	comp=Z,1.5nm,0.6s,mb4.2,baz=5.2,slow=7.4,SNR=8.6						
WRA	Warramunga Arr	57.39	188	P	P	23 34 49.4	-1.9
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	Alice Springs	61.12	188	P	P	23 35 15.7	-1.3
	comp=Z,0.4nm,0.7s,mb3.7,baz=27,slow=6.3,SNR=3.6						
MBWA	Marble Bar	61.73	203	eP	P	23 35 20.5	-0.6
ARCES	ARCESS Array B	63.75	339	P	P	23 35 33.4	-1.2
	comp=Z,2.2nm,0.9s,mb4.2,baz=56,slow=9.4,SNR=4.7						
ARCES	ARCESS Array B	63.75	339	P	P	23 35 33.4	-1.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARE0	ARCESS Array S	63.75	339	P	P	23 35 34.2	-0.4
KAF	Kangasniemi	68.08	333	ep	P	23 36 01.2	-1.3
	baz=49,slow=6.0						
FINES	FINESS Array B	68.59	332	P	P	23 36 04.5	-1.2
	comp=Z,2.5nm,1.0s,mb4.1,baz=101,slow=6.0,SNR=4.9						
FINES				pP	pP	23 36 16.4	-1.2
	comp=Z,3.5nm,0.8s,baz=69,slow=10,SNR=7.8						
FINES	FINESS Array B	68.59	332	P	P	23 36 04.5	-1.2
FINES				*PP	pP	23 36 16.4	-1.2
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SUMG	Summit	70.37	0	P	P	23 36 17.2	+0.6
KIV	Kislovodsk	70.80	311	eP	P	23 36 19.6	+0.4
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
WALA	Waterton Lakes	71.12	42	P	P	23 36 22.9	+1.8
NWAO	Narrogin (SRO)	73.51	201	eP	P	23 36 37.0	+1.6
NWAO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NWAO	Narrogin (SRO)	73.51	201	eP	P	23 36 37.0	+1.6
	comp=Z,3.8nm,0.8s,mb4.4						
NB2	NORSAR Subarra	73.94	337	P	P	23 36 37.7	-0.3
	comp=Z,4.3nm,1.2s,mb4.2,baz=39,slow=5.9						
NOA	NORSAR Array B	73.94	337	P	P	23 36 36.9	-1.1
	comp=Z,0.8nm,0.8s,mb3.7,baz=50,slow=5.4,SNR=3.2						
NOA				pP	pP	23 36 49.0	-1.1
	comp=Z,1.7nm,0.7s,baz=39,slow=6.0,SNR=6.1						
NOA				LR	LR	00 11 29.1	
	comp=Z,28nm,21.9s,MS3.5,baz=230,slow=38						
NOA	NORSAR Array B	73.94	337	P	P	23 36 36.9	-1.1
NOA				*PP	pP	23 36 49.0	-1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,28nm,21.9s						
HLID	Hailey	74.06	47	P	P	23 36 41.9	+3.3
AKASG	Malin Array Be	74.13	322	P	P	23 36 37.9	-1.1
	comp=Z,0.5nm,0.4s,mb3.8,baz=45,slow=6.0,SNR=5.8						
AKASG				pP	pP	23 36 49.4	-1.7
	comp=Z,1.6nm,0.5s,baz=46,slow=6.1,SNR=9.1						
AKASG	Malin Array Be	74.13	322	P	P	23 36 37.9	-1.1
AKASG				*PP	pP	23 36 49.4	-1.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	Malin Array Be	74.13	322	P	P	23 36 37.9	-1.1
AKASG				pP	pP	23 36 49.4	-1.7
NVAR	Mina Array Bea	74.70	53	P	P	23 36 41.8	-0.6
	comp=Z,0.6nm,0.8s,mb3.6,baz=290,slow=6.4,SNR=3.6						
TPNV	Topopah Spring	76.89	54	P	P	23 36 58.1	+3.2
HWUT	Hardware Ranch	76.92	47	eP	P	23 36 57.3	+2.2
HWUT				ePcP	PcP	23 37 07.8	+1.8
MORC	Moravsky Berou	80.16	327	eP	P	23 37 12.9	0.0
MORC				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
MORC	Moravsky Berou	80.16	327	eP	P	23 37 12.9	-0.1
	comp=Z,2.0nm,0.9s,mb4.0						
PSZ	Piszkesteto	80.47	325	P	P	23 37 14.6	0.0
CLL	Collm	80.89	330	eP	P	23 37 17.0	+0.2
GERES	GERESS Array B	82.51	328	P	P	23 37 24.5	-0.9
	comp=Z,0.2nm,0.5s,mb3.4,baz=23,slow=4.5,SNR=3.8						
GERES				pP	pP	23 37 35.6	-1.9
	comp=Z,0.7nm,0.6s,baz=29,slow=6.1,SNR=5.1						
GERES	GERESS Array B	82.51	328	P	P	23 37 24.5	-0.9
GERES				*PP	pP	23 37 35.6	-2.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ANMO	Albuquerque	84.28	50	P	P	23 37 36.1	+1.6
WMOK	Wichita Mounta	88.97	46	P	P	23 37 59.1	+1.8
WMOK				e*PP	pP	23 38 11.4	+1.8
NNA	Nana	137.36	64	PKPdf	PKPdf	23 44 27.9	+1.9

*NEIC **16** 23:29:36.6±3.8, 17.45S×179.81W, h78km±38km, mb4.4/2, Error ellipse: s-maj=33.3km s-min=15.5km az=165.0*
*ISCJB **16** 23:30:10.6±0.7, 17.0S±0.2×179.3E±0.2, h400km, mb3.8/6, Error ellipse: s-maj=29.1km s-min=14.0km az=110.3*
*IDC **16** 23:30:20.8±5.9, 20.70S×179.16W, h599km±62km, mb3.3/4, mb1 3.6/4, mb1mx3.3/11, mbtmp4.2/4, Error ellipse: s-maj=155.1km s-min=27.8km az=155.0*
ISC 16 23:30:11.4±0.8, **17.1S**±0.2×**179.4E**±0.2, **h400**km, **n20**, σ1§**41**/15, **mb3.8**/6, **Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	32.22	280	P	P	23 36 05.0	+0.8
WRAB	Tennant Creek	42.68	259	eP	P	23 37 33.0	+2.2
	3.7nm,0.3s,mb4.2						
WRA	Warramunga Arr	42.69	259	P	P	23 37 32.4	+1.5
	1.8nm,0.3s,mb3.9,baz=96,slow=7.5,SNR=22						
AS31	Alice Springs	42.97	253	eP	P	23 37 32.1	-1.0
ASAR	Alice Springs	42.98	253	P	P	23 37 32.5	-0.6
	5.2nm,0.6s,mb4.1,baz=94,slow=8.0,SNR=58						
ASAR				PcP	PcP	23 39 06.8	-8.3
	0.7nm,0.5s,baz=107,slow=3.5,SNR=6.2						
ASPA	Alice Springs	42.98	253	eP	P	23 37 32.1	-1.0
MBWA	Marble Bar	56.21	256	eP	P	23 39 09.4	-2.2
CASY	Casey	66.01	204	P	P	23 40 18.6	+2.0
MA2	Magadan	79.84	346	P	P	23 41 34.8	-1.9
NVAR	Mina Array Bea	80.32	45	P	P	23 41 39.2	0.0
	0.9nm,0.7s,mb3.5,baz=229,slow=9.8,SNR=6.2						
PMR	Palmer	82.31	15	P	P	23 41 49.9	+0.4
MAW	Mawson	83.92	200	P	P	23 41 57.5	-0.1
NEW	Newport	86.10	37	eP	P	23 42 11.7	+3.4
	1.0nm,0.5s,mb3.8						
PDAR	Pinedale Array	88.22	44	P	P	23 42 16.9	-1.4
	0.5nm,0.7s,mb3.4,baz=227,slow=2.8,SNR=5.9						
INK	Inuvik	91.65	16	eP	P	23 42 35.4	+1.1
ARCES	ARCESS Array B	125.10	349	PKP	PKPdf	23 48 20.3	-4.6
	0.9nm,0.6s,baz=58,slow=1.5,SNR=10						
FINES	FINESS Array B	131.78	343	PKhKP		23 48 30.7	
	1.0nm,0.9s,baz=54,slow=7.1,SNR=2.6						
AKASG	Malin Array Be	138.81	331	PKP	PKPdf	23 48 44.2	-6.5
	3.5nm,0.4s,baz=42,slow=4.1,SNR=44						
BRTR	Keskin Array B	142.67	314	PKPbc	PKPdf	23 48 55.0	-2.7
	1.1nm,0.6s,baz=143,slow=5.1,SNR=9.2						
GERES	GERESS Array B	146.22	343	PKPbc	PKPbc	23 49 04.7	-0.9
	0.8nm,0.5s,baz=24,slow=2.5,SNR=10						

*IDC **16** 23:32:03.9±1.0, 31.97S×177.06W, h0km, mb3.9/5, mb1 4.2/8, mb1mx4.1/13, mbtmp4.0/8, ML4.6/1, Error ellipse: s-maj=33.5km s-min=23.4km az=112.0*
*ISCJB **16** 23:32:06.5±0.7, 31.95S±0.05×177.5W±0.1, h33km, mb4.0/7, Error ellipse: s-maj=18.8km s-min=5.7km az=31.4*
*NEIC **16** 23:32:09.0±0.7, 32.12S×177.08W, h35km, mb4.2/2, Error ellipse: s-maj=18.7km s-min=11.6km az=114.0*
ISC 16 23:32:08.7±0.8, **32.17S**±0.08×**177.0W**±0.1, **h35**km, **n25**, σ1§**25**/28, **mb4.0**/7, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.01	345	Pn	Pn	23 32 48.5	-5.4
	87nm,0.3s,baz=103,slow=19,SNR=2.7						
RAO				Sn	Sn	23 33 19.8	-8.9
	333nm,0.3s,baz=98,slow=21,SNR=7.8						
RAO	Raoul Island	3.01	345	Pn	Pn	23 32 48.5	-5.4
RAO				Sn	Sn	23 33 19.8	-8.9
MWZ	Matawai	7.60	214	PN	Pn	23 33 56.7	-0.2
MWZ				SN	Sn	23 35 23.2	+1.5
URZ	Urewera	7.74	217	Pn	Pn	23 33 57.8	-1.1
	0.9nm,0.3s,baz=2.9,slow=20,SNR=8.7						
URZ				Sn	Sn	23 35 25.7	+0.4
	13nm,0.3s,baz=199,slow=20,SNR=10						
URZ	Urewera	7.74	217	PN	Pn	23 33 56.9	-2.0
URZ				SN	Sn	23 35 25.1	-0.2
KNZ	Kokohu	8.09	211	PN	Pn	23 34 05.6	+2.0
BKZ	Black Stump Fm	8.75	215	PN	Pn	23 34 11.2	-1.5
MRZ	Mangatainoka R	10.36	213	PN	Pn	23 34 31.3	-3.4
MRZ				SN	Sn	23 36 24.0	-5.5
KIW	Kapiti Island	10.83	215	PN	Pn	23 34 39.1	-2.1
SNZO	South Karori	11.28	214	Pn	Pn	23 34 49.6	+2.3
RPZ	Rata Peaks	14.86	216	Pn	Pn	23 35 35.4	-0.8
	1.5nm,0.3s,baz=68,slow=5.3,SNR=8.1						
RPZ				Sn	Sn	23 38 08.7	-11
	1.2nm,0.3s,baz=22,slow=22,SNR=6.5						
TAU	Tasmania Unive	30.04	239	eP	P	23 38 13.9	-0.4
	4.5nm,0.6s,mb4.4						
CTAO	Charters Tower	34.93	281	P	P	23 38 56.9	-0.2
PMG	Port Moresby	40.13	296	P	P	23 39 41.5	+0.3
ASAR	Alice Springs	43.87	268	P	P	23 40 11.7	0.0
	0.8nm,0.5s,mb3.7,baz=106,slow=7.4,SNR=4.2						
WRA	Warramunga Arr	45.02	273	P	P	23 40 22.3	+1.5
	1.6nm,0.4s,mb4.2,baz=114,slow=7.8,SNR=2.7						
SBA	Scott Base	46.34	185	P	P	23 40 31.4	+0.2
VNDA	Vanda	46.43	186	P	P	23 40 34.0	+2.1
	0.8nm,1.0s,mb3.6,baz=2.5,slow=4.9,SNR=2.2						
CASY	Casey	53.98	208	eP	P	23 41 28.4	-0.7
	1.2nm,0.6s,mb4.0						
NVAR	Mina Array Bea	88.97	42	P	P	23 44 59.8	0.0
	0.4nm,0.5s,mb4.0,baz=212,slow=4.4,SNR=3.6						
PDAR	Pinedale Array	96.84	43	P	P	23 45 35.8	-0.2
	0.2nm,0.5s,mb3.8,baz=253,slow=2.7,SNR=2.5						
FINES	FINESS Array B	147.09	340	PKPbc	PKPbc	23 51 47.6	-0.2
	3.1nm,0.8s,baz=50,slow=3.0,SNR=8.6						
NB2	NORSAR Subarra	150.62	352	PKP	PKPbc	23 51 57.0	+0.1
	comp=Z,1.2nm,0.6s,baz=15,slow=2.6						
NOA	NORSAR Array B	150.62	352	PKPbc	PKPbc	23 51 56.1	-0.8
	comp=Z,2.2nm,0.7s,baz=14,slow=4.2,SNR=7.6						
TORD	Torodi Ar. Bea	161.03	176	PKPab	PKPab	23 52 49.7	+1.4
	comp=Z,0.6nm,0.8s,baz=182,slow=3.1,SNR=6.9						

*ISCJB **16** 23:57:35.1±0.5, 26.1N±0.1×44.98W±0.09, h10km, mb4.1/12, MS3.7/19, Error ellipse: s-maj=15.3km s-min=10.4km az=137.4*
*IDC **16** 23:57:35.4±1.0, 26.11N×45.02W, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.8/21, mbtmp3.9/9, MS3.7/19, Ms1 3.7/19, ms1mx3.4/35, Error ellipse: s-maj=30.3km s-min=23.1km az=157.0*
*NEIC **16** 23:57:36.8±0.5, 26.01N×44.92W, h10km, mb4.3/3, Error ellipse: s-maj=14.8km s-min=10.0km az=159.0*
ISC 16 23:57:37.2±0.5, **26.1N**±0.1×**44.98W**±0.09, **h10**km, **n34**, σ1§**15**/19, **mb4.1**/12, **MS3.7**/19, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBSR	BB Station	18.31	295	Pn	Pn	00 01 53.1	+1.9
CPD	Cerro la Pandu	20.97	252	eP	P	00 02 21.6	+1.2
SJG	San Juan	21.14	252	LR	LR	00 08 42.3	
	comp=Z,158nm,20.6s,MS3.4,baz=90,slow=32						
SCHQ	Schefferville	32.91	337	LR	LR	00 15 40.1	
	comp=Z,58nm,21.3s,MS3.2,baz=0.5,slow=33						
MTE	Manteigas	34.15	56	eP	P	00 04 24.5	+2.1
	4.8nm,0.9s,mb4.4						
ROSC	El Rosal	35.12	238	LR	LR	00 15 55.2	
	comp=Z,56nm,21.1s,MS3.3,baz=211,slow=31						
ESDC	Sonseca Array	36.70	58	LR	LR	00 15 44.4	
	comp=Z,49nm,21.2s,MS3.3,baz=265,slow=30						
SAML	Samuel	39.05	209	eP	P	00 05 03.9	-0.3
	1.1nm,0.8s,mb3.6						
OTAV	Otavalo	41.23	237	P	P	00 05 21.6	-0.6
BDFB	Brasilia	41.57	184	LR	LR	00 19 01.6	
	comp=Z,78nm,21.9s,MS3.5,baz=196,slow=31						
DBIC	Dimbokro	42.81	110	LR	LR	00 19 46.8	
	comp=Z,135nm,21.6s,MS3.8,baz=306,slow=31						
TOA0	Torodi Ar. Sit	45.58	97	eP	P	00 05 57.2	-0.1
TORD	Torodi Ar. Bea	45.58	97	P	P	00 05 57.1	-0.2
	1.6nm,1.0s,mb3.9,baz=309,slow=7.0,SNR=5.3						
TORD				LR	LR	00 22 52.9	
	comp=Z,118nm,20.1s,MS3.8,baz=265,slow=33						
ULM	Lac du Bonnet	45.63	316	P	P	00 05 55.2	-2.5
	3.1nm,0.8s,mb4.3,baz=101,slow=18,SNR=2.9						
ULM				LR	LR	00 22 56.9	
	comp=Z,77nm,18.6s,MS3.7,baz=312,slow=33						
WMOK	Wichita Mounta	46.73	294	eP	P	00 06 04.5	-1.9
	12nm,1.6s,mb4.6						
LPAZ	La Paz	47.75	211	P	P	00 06 15.2	+0.8
	0.6nm,0.5s,mb3.9,baz=34,slow=3.6,SNR=3.2						
LPAZ				LR	LR	00 27 24.3	
	comp=Z,29nm,18.5s,MS3.3,baz=23,slow=38						
GERES	GERESS Array B	50.43	47	P	P	00 06 34.6	-0.3
	0.8nm,0.9s,mb3.7,baz=235,slow=4.7,SNR=5.0						
NOA	NORSAR Array B	51.29	31	LR	LR	00 24 30.9	
	comp=Z,37nm,20.4s,MS3.4,baz=265,slow=32						
ANMO	Albuquerque	52.99	295	LR	LR	00 29 08.8	
	comp=Z,108nm,18.3s,MS3.9,baz=274,slow=36						
PDAR	Pinedale Array	54.55	305	P	P	00 07 06.3	+0.9
	0.7nm,0.9s,mb3.7,baz=76,slow=6.3,SNR=5.3						
PDAR				LR	LR	00 28 19.8	
	comp=Z,93nm,20.2s,MS3.9,baz=78,slow=34						
YKA	Yellowknife Ar	57.82	329	LR	LR	00 30 15.5	
	comp=Z,71nm,20.5s,MS3.8,baz=180,slow=34						
FINES	FINESS Array B	58.42	32	LR	LR	00 29 38.2	
	comp=Z,40nm,21.1s,MS3.5,baz=48,slow=33						
LPIG	La Paz	58.63	283	LR	LR	00 32 56.6	
	comp=Z,64nm,18.9s,MS3.8,baz=96,slow=36						
ARCES	ARCESS Array B	59.01	23	P	P	00 07 36.6	-0.5
	1.7nm,0.8s,mb4.1,baz=280,slow=7.1,SNR=6.9						
NEW	Newport	59.37	312	LR	LR	00 31 38.7	
	comp=Z,129nm,18.7s,MS4.1,baz=31,slow=34						
AKASG	Malin Array Be	60.46	45	P	P	00 07 46.7	-0.4
	1.7nm,0.7s,mb4.2,baz=272,slow=6.2,SNR=7.9						
AKASG	Malin Array Be	60.46	45	P	P	00 07 46.7	-0.4
BRTR	Keskin Array B	65.47	56	P	P	00 08 21.8	+1.4
	0.7nm,0.8s,mb3.8,baz=306,slow=5.4,SNR=5.2						
DLBC	Dease Lake	65.63	325	LR	LR	00 37 11.2	
	comp=Z,61nm,19.2s,MS3.8,baz=288,slow=36						
BBB	Bella Bella	65.75	318	LR	LR	00 37 07.9	
	comp=Z,72nm,19.3s,MS3.9,baz=311,slow=36						
TRQA	Tornquist	65.76	195	P	P	00 08 21.5	-0.7
KMBO	Kilima Mbogo	83.51	94	LR	LR	00 47 14.3	
	comp=Z,113nm,18.6s,MS4.3,baz=89,slow=36						
ZAL	Zalesovo	89.30	27	P	P	00 10 32.7	-1.0
	0.7nm,0.2s,mb4.5,baz=152,slow=15,SNR=4.9						
ZAL	Zalesovo	89.30	27	P	P	00 10 32.7	-1.0

MEX 17 00:00:11.5±1.1, **16.98N**×**93.94W**, **h178**km±12km, **MD4.0**, **Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.91	277	i P	Pn	00 00 37.3	-1.1
CMIG				i S	Sn	00 00 56.5	-2.6
SCX	San Cristobal	1.27	101	eP	Pn	00 00 41.5	+0.3
SCX				i S	Sn	00 01 03.0	-1.1
HUIG	Huatulco	2.40	240	i P	Pn	00 00 50.8	-2.1
HUIG				i S	Sn	00 01 24.0	-1.0
OXX	Oaxaca	2.66	273	eP	Pn	00 00 55.0	-1.0
OXX				i S	Sn	00 01 28.0	-2.5
VHO	Vista Hermosa	2.67	272	i P	Pn	00 00 55.4	-0.7
VHO				i S	Sn	00 01 29.3	-1.4
UTMO	Huajuapan	3.78	283	i P	Pn	00 01 09.2	-0.6
UTMO				i S	Sn	00 01 52.6	-2.6
PPM	Popocatepetl	4.92	296	i P	Pn	00 01 25.4	+1.1

*NEIC **17** 00:02:45.0, 28.60S×72.41W, h35km, ML3.5(GUC), After GUC.*
GUC 17 00:02:45.0±0.7, **28.60S**×**72.41W**, **h35**km, **ML3.7**, **2C**, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	1.56	106	eP	Pn	00 03 12.3	+2.2
LCO				i S	Sn	00 03 33.0	+4.0
CDCH	Caldera	2.07	43	⇑i P	Pn	00 03 18.5	+1.3
CDCH				i S	Sn	00 03 43.7	+2.0
CDCH				AML	AML	00 03 44.3	
	comp=N,134nm,0.3s						
CDCH	Caldera	2.07	43	⇑i P	Pn	00 03 18.5	+1.3
CDCH				i S	Sn	00 03 43.7	+2.0
TLL	Tololo Astrono	2.10	139	i P	Pn	00 03 20.0	+2.3
TLL				eS	Sn	00 03 45.4	+2.9
TLL				AML	AML	00 03 47.3	
	comp=E,596nm,0.6s						
TLL	Tololo Astrono	2.10	139	i P	Pn	00 03 20.0	+2.3
TLL				eS	Sn	00 03 45.4	+2.9
CPCH	Copiapo	2.20	56	eP	Pn	00 03 20.2	+1.2
CPCH				i S	Sn	00 03 47.7	+2.7
CPCH				AML	AML	00 03 50.4	
	comp=N,4µm,0.1s						
CPCH	Copiapo	2.20	56	eP	Pn	00 03 20.2	+1.2
CPCH				i S	Sn	00 03 47.7	+2.7

*NEIC **17** 00:04:23.9, 31.55S×71.31W, h51km, MG2.8(GUC), After GUC.*
GUC 17 00:04:23.9±0.6, **31.55S**×**71.31W**, **h51**km±4km, **MD3.7**, **ML2.8**, **5C**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.37	205	⇑i P	Pn	00 04 34.0	+0.1
CHNG				i S	Sn	00 04 41.5	+0.5
CHNG				AML	AML	00 04 42.9	
	comp=E,571nm,0.4s						
CMCH	Combarbala	0.46	36	eP	Pn	00 04 35.1	+0.4
CMCH				i S	Sn	00 04 43.9	+1.4
CMCH				AML	AML	00 04 44.7	
	comp=N,2µm,0.1s						
CMCH	Combarbala	0.46	36	eP	Pn	00 04 35.1	+0.4
CMCH				i S	Sn	00 04 43.9	+1.4
OVCH	Ovalle	0.94	6	⇑i P	Pn	00 04 41.6	+0.7
OVCH				i S	Sn	00 04 54.7	+1.5
OVCH				AML	AML	00 04 55.4	
	comp=N,727nm,0.3s						
OVCH	Ovalle	0.94	6	⇑i P	Pn	00 04 41.6	+0.7
OVCH				i S	Sn	00 04 54.7	+1.5
JACH	Jahuel	1.29	152	eP	Pn	00 04 46.0	+0.5
JACH				eS	Sn	00 05 03.0	+1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	1.44	18	⇑iP	Pn	00 04 48.6	+1.0
TLL				iS	Sn	00 05 07.2	+1.8
TLL				AML	AML	00 05 08.3	
	comp=E,277nm,0.3s						
TLL	Tololo Astrono	1.44	18	⇑iP	Pn	00 04 48.6	+1.0
TLL				iS	Sn	00 05 07.2	+1.8
ROCH	El Roble	1.44	170	eP	Pn	00 04 48.7	+1.0
ROCH				iS	Sn	00 05 07.5	+2.0
CLCH	Cerro Calan	1.96	161	eP	Pn	00 04 55.7	+1.0
CLCH				eS	Sn	00 05 19.7	+1.6
CLCH				AML	AML	00 05 27.1	
	comp=N,105nm,0.5s						
FCH	Farellones	1.98	154	eP	Pn	00 04 56.7	+1.8
FCH				iS	Sn	00 05 20.7	+2.2
FCH				AML	AML	00 05 28.8	
	comp=E,97nm,0.2s						

MEX 17 00:24:26.0±0.7**, 1733N**×**9446W, h165**^{km}±7^{km}**, MD4.0, Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.47	240	iP	Pn	00 24 47.9	-1.0
CMIG				iS	Sn	00 25 04.0	-2.4
OXX	Oaxaca	2.18	264	iP	Pn	00 25 02.5	-1.5
OXX				iS	Sn	00 25 32.0	-1.4
VHO	Vista Hermosa	2.19	264	iP	Pn	00 25 03.1	-1.1
VHO				iS	Sn	00 25 32.4	-1.3
HUIG	Huatulco	2.21	226	iP	Pn	00 25 02.3	-2.2
HUIG				iS	Sn	00 25 32.7	-1.5
UTMO	Huajuapan	3.23	279	eP	Pn	00 25 15.7	-1.1
UTMO				iS	Sn	00 25 52.9	-3.3

JMA 17 00:26:32.4±0.2**, 4394N**×**14800E, h7**^{km}**, M3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.74	251	P	Pn	00 27 03.5	+0.5
NEM2				eS	Sn	00 27 25.9	+0.6
JRA	Rausu	2.08	271	P	Pn	00 27 08.5	+0.8
JRA				eS	Sn	00 27 34.7	+0.9
JNK	Nakash	2.40	263	eS	Sn	00 27 42.3	+0.5
JAK	Akkeshi	2.58	250	P	Pn	00 27 15.7	+1.1
JAK				eS	Sn	00 27 47.5	+1.2
JAR	Ashorobuto	3.14	260	P	Pn	00 27 24.0	+1.8
JAR				eS	Sn	00 28 01.8	+1.8
JCH	Churui	3.64	250	eS	Sn	00 28 14.4	+2.2
JNBK	Urakawa-nobuka	4.18	248	P	Pn	00 27 39.0	+2.4
JKB	Kayabe	5.51	251	P	Pn	00 27 56.7	+1.8
JKB				eS	Sn	00 29 00.2	+1.7

*CNRM **17** 00:59:49.9, 3494N×478W, h4^{km}, MD2.9*
*ISCJB **17** 00:59:50.6±0.7, 3502N±003×444W±004, h79^{km}±9^{km}, Error ellipse: s-maj=5.9km s-min=5.2km az=19.4*
*MDD **17** 00:59:51.5±1.0, 3491N×436W, h83^{km}±13^{km}, mb2.8/3, Error ellipse: s-maj=9.1km s-min=6.1km az=97.0, PRXIMO*
*INMG **17** 00:59:52.2±1.1, 3495N×439W, h31^{km}±19^{km}, ML2.2, Error ellipse: s-maj=8.0km s-min=4.3km az=22.0*
*CSEM **17** 00:59:53.6±0.3, 3510N×426W, h40^{km}, ML3.2/3, Error ellipse: s-maj=5.8km s-min=3.4km az=22.0*
ISC 17 00:59:51.8±0.7**, 3502N**±003×**441W**±004**, h71**^{km}±10^{km}**, n44,** σ**1**^{s}**27**/73**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPAL	Palemas	0.43	61	iP	Pn	01 00 04.0	-0.1
MPAL				iS	Sn	01 00 14.0	+0.9
TOU	Touzarine	0.54	96	iP	Pn	01 00 05.0	-0.1
TOU				iS	Sn	01 00 16.5	+1.7
TZK	Tazeka	0.94	169	P	Pn	01 00 09.0	-0.7
TZK				S	Sn	01 00 20.5	-2.4
TZK	Tazeka	0.94	169	iP	Pn	01 00 09.0	-0.7
EMEL	Melilla	1.22	76	P	Pn	01 00 12.5	-0.6
	14nm,0.1s,SNR=4.0						
EMEL				S	Sn	01 00 27.1	-2.1
	71nm,0.2s,SNR=7.9						
EMLI	Melilla	1.23	76	P	Pn	01 00 12.5	-0.7
	14nm,0.1s,SNR=4.0						
EMLI				S	Sn	01 00 27.1	-2.1
	71nm,0.2s,SNR=7.9						
EALB	Alboran	1.45	50	S	Sn	01 00 34.2	-0.2
	5.3nm,0.2s,SNR=4.0						
EMIJ	Mijas	1.57	349	P	Pn	01 00 17.6	-0.2
	1.2nm,0.1s,SNR=9.5						
EMIJ				S	Sn	01 00 36.6	-0.8
	14nm,0.2s,SNR=14						
EJIF	Jimena Fronter	1.67	329	P	Pn	01 00 20.9	+1.8
	0.8nm,0.2s,SNR=4.0						
EJIF				S	Sn	01 00 40.4	+0.7
	1.7nm,0.3s,SNR=4.0						
MIF	Mishlifen	1.74	203	eP	Pn	01 00 22.0	+2.0
MIF				iS	Sn	01 00 46.5	+5.1
EGUA	Guajares	1.94	20	P	Pn	01 00 23.1	+0.5
	0.2nm,0.1s,SNR=7.9						
EGUA				S	Sn	01 00 45.8	-0.3
	1.2nm,0.2s,SNR=7.9						
CZD	Col de Zad	2.05	195	P	Pn	01 00 22.0	-2.1
CZD				S	Sn	01 00 36.5	-12
ELOJ	Sierra Loja	2.14	5	S	Sn	01 00 51.7	+0.9
	2.0nm,0.4s,SNR=5.3						
ESPR	Espera	2.19	328	P	Pn	01 00 29.2	+3.2
	0.5nm,0.2s,SNR=7.9						
ESPR				S	Sn	01 00 53.8	+1.6
	5.4nm,0.3s,SNR=7.9						
ESPR	Espera	2.19	328	P	Pn	01 00 29.2	+3.2
	0.5nm,0.2s,SNR=7.9						
ESPR				S	Sn	01 00 53.8	+1.6
	5.4nm,0.3s,SNR=7.9						
EBER	Berja	2.24	33	P	Pn	01 00 28.1	+1.4
	0.4nm,0.2s,SNR=5.2						
EBER				S	Sn	01 00 53.6	+0.1
	3.6nm,0.3s						
EBER	Berja	2.24	33	P	Pn	01 00 28.1	+1.3
	0.4nm,0.2s,SNR=5.2						
EBER				S	Sn	01 00 53.6	+0.1
	3.6nm,0.3s						
EQUE	Quentar	2.32	19	P	Pn	01 00 28.0	+0.3
	0.3nm,0.1s,SNR=4.0						
EQUE				S	Sn	01 00 55.4	+0.2
	1.3nm,0.3s,SNR=5.0						
EQES	Quesada	2.98	21	P	Pn	01 00 40.8	+4.0
	0.5nm,0.1s,SNR=9.6						
EQES				S	Sn	01 01 16.7	+5.3
	1.1nm,0.2s,SNR=7.9						
EQES	Quesada	2.98	21	P	Pn	01 00 40.8	+4.0
	0.5nm,0.1s,SNR=9.6						
EADA	Adamuz	3.15	358	P	Pn	01 00 40.3	+1.3
	0.4nm,0.1s,SNR=6.7						
EADA				S	Sn	01 01 16.4	+1.0
	0.9nm,0.0s,SNR=5.7						
EADA	Adamuz	3.15	358	P	Pn	01 00 40.3	+1.3
	0.4nm,0.1s,SNR=6.7						
EADA				S	Sn	01 01 16.4	+1.0
	0.9nm,0.0s,SNR=5.7						
EBAN	Banos Encina	3.18	9	P	Pn	01 00 41.2	+1.7
	0.4nm,0.2s,SNR=4.0						
EBAN				S	Sn	01 01 16.2	0.0
	0.4nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	3.30	327	P	Pn	01 00 41.9	+0.9
	0.9nm,0.1s,SNR=10						
EMIN				S	Sn	01 01 18.0	-1.1
	0.6nm,0.1s,SNR=7.5						
EMIN	Mina Concepcio	3.30	327	P	Pn	01 00 41.9	+0.8
	0.9nm,0.1s,SNR=10						
EGRO	El Granado	3.53	316	P	Pn	01 00 45.2	+0.9
	3.3nm,0.1s,SNR=34						
EGRO				S	Sn	01 01 23.4	-1.5
	4.5nm,0.1s,SNR=9.2						
EVIA	Vianos	3.92	22	S	Sn	01 01 33.3	-1.1
	1.4nm,0.2s,SNR=4.0						
PBEJ	Beja	4.10	318	ePn	Pn	01 00 52.9	+0.9
PBEJ				eSn	Sn	01 01 36.6	-2.0
PBEJ							
	2.5nm,0.1s						
PBEJ	Beja	4.10	318	ePn	Pn	01 00 52.9	+0.9
PBEJ				eSn	Sn	01 01 36.6	-2.0
	2.5nm,0.1s						
EBAD	Badajoz	4.28	332	P	Pn	01 00 55.6	+1.2
	0.6nm,0.1s,SNR=6.8						
EBAD				S	Sn	01 01 41.6	-1.4
	6.9nm,0.2s						
ETOB	Tobarra	4.29	32	P	Pn	01 00 59.3	+4.8
	0.3nm,0.2s,SNR=7.9						
PTEO	Sao Teotonio	4.30	307	ePn	Pn	01 00 55.7	+0.9
PTEO				eSn	Sn	01 01 41.8	-1.9
PTEO							
	2.8nm,0.2s						
PTEO	Sao Teotonio	4.30	307	ePn	Pn	01 00 55.7	+0.9
PTEO				eSn	Sn	01 01 41.8	-1.9
	2.8nm,0.2s						
MOE	Montemor	4.72	319	ePn	Pn	01 01 01.6	+1.2
MOE				eSn	Sn	01 01 52.5	-1.3
PCBR	Castelo Branco	5.40	334	ePn	Pn	01 01 11.2	+1.5
PCBR				eSn	Sn	01 02 07.7	-2.8
PCBR							
	1.1nm,0.2s						
PCBR	Castelo Branco	5.40	334	ePn	Pn	01 01 11.2	+1.5
PCBR				eSn	Sn	01 02 07.7	-2.8
	1.1nm,0.2s						
PLOU	Loures	5.42	317	ePn	Pn	01 01 11.5	+1.5
PTOM	Tomar	5.59	326	eSn	Sn	01 02 14.5	-0.7
PTOM							
	2.2nm,0.5s						
PTOM	Tomar	5.59	326	Sn	Sn	01 02 14.5	-0.7
	1.1nm,0.5s						
MTE	Manteigas	5.92	336	eSn	Sn	01 02 23.3	0.0
MTE							
	1.3nm,0.4s						
MTE	Manteigas	5.92	336	Sn	Sn	01 02 23.3	0.0
	0.6nm,0.4s						
PVIS	Viseu	6.32	335	eSn	Sn	01 02 32.5	-0.6
PVRL	Vila Real	6.77	338	eSn	Sn	01 02 42.0	-2.1
PVRL							
	3.6nm,0.2s						
PVRL	Vila Real	6.77	338	Sn	Sn	01 02 42.0	-2.1
	1.8nm,0.2s						

*ISCJB **17** 01:29:21.2±1.4, 2851S±004×726W±0.1, h50^{km}±20^{km}, mb3.5/1, Error ellipse: s-maj=16.0km s-min=6.8km az=21.9*
*NEIC **17** 01:29:22.0, 2855S×7246W, h30^{km}, mb3.5/1, ML4.1(GUC), After GUC.*
*GUC **17** 01:29:22.0±0.9, 2855S×7246W, h30^{km}, MD4.0, ML4.1*
ISC 17 01:29:22.2±2.8**, 2852S**±004×**7258W**±009**, h28**^{km}±28^{km}**, n15,** σ**0**^{s}**41**/25**, mb3.5**/1**, 7C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VACH	Vallenar	1.61	92	⇑iP	Pn	01 29 49.1	+0.4
VACH				iS	Sn	01 30 08.4	-0.1
VACH				AML	AML	01 30 10.0	
	comp=E,4μm,0.1s						
VACH	Vallenar	1.61	92	⇑iP	Pn	01 29 49.1	+0.4
VACH				iS	Sn	01 30 08.4	-0.1
LCO	Las Campanas	1.72	107	eP	Pn	01 29 50.5	+0.2
LCO				iS	Sn	01 30 11.4	+0.1
CDCH	Caldera	2.12	48	⇑iP	Pn	01 29 55.9	+0.1
CDCH				iS	Sn	01 30 20.9	-0.3
TLL	Tololo Astrono	2.26	137	⇑iP	Pn	01 29 58.4	+0.7
TLL				iS	Sn	01 30 24.2	-0.3
TLL				AML	AML	01 30 27.0	
	comp=N,935nm,0.8s						
TLL	Tololo Astrono	2.26	137	⇑iP	Pn	01 29 58.4	+0.7
TLL				S	Sn	01 30 24.2	-0.3
CPCH	Copiapo	2.29	60	⇑iP	Pn	01 29 58.2	+0.1
CPCH				iS	Sn	01 30 25.4	+0.1
CPCH				AML	AML	01 30 28.2	
	comp=E,5μm,0.1s						
CPCH	Copiapo	2.29	60	⇑iP	Pn	01 29 58.2	+0.1
CPCH				iS	Sn	01 30 25.4	+0.1
OVCH	Ovalle	2.40	150	⇓iP	Pn	01 29 59.2	-0.4
OVCH				AML	AML	01 30 27.7	
	comp=E,692nm,0.2s						
CMCH	Combarbala	2.98	153	⇓iP	Pn	01 30 07.3	-0.3
CMCH				AML	AML	01 30 45.5	
	comp=E,837nm,0.4s						
LVC	Limon Verde	6.75	30	ePn	Pn	01 30 58.5	-0.9
LVC				eSn	Sn	01 32 15.7	+0.3
PLCA	Paso Flores	12.29	173	Pn	Pn	01 32 15.1	-0.2
TRQA	Tornquist	12.99	140	ePn	Pn	01 32 25.2	+0.3
TRQA				eSn	Sn	01 34 40.5	-8.0
SAML	Samuel	21.39	26	P	P	01 34 06.9	-0.6
OTAV	Otavalo	29.14	348	eP	P	01 35 21.4	+0.7
	comp=E,0.3nm,0.3s,mb3.5						

*IDC **17** 02:00:29.2±1.2, 576N×12681E, h0^{km}, mb3.9/7, mb1 4.0/7, mb1mx3.7/18, mbtmp3.9/7, Error ellipse: s-maj=115.6km s-min=19.4km az=71.0*
*ISCJB **17** 02:00:32.8±1.0, 58N±02×127.1E±04, h33^{km}, mb3.9/8, Error ellipse: s-maj=61.0km s-min=13.2km az=133.0*
*NEIC **17** 02:00:34.3±1.1, 581N×127.18E, h35^{km}, mb4.2/2, Error ellipse: s-maj=63.4km s-min=14.1km az=66.0*
ISC 17 02:00:34.4±1.0**, 59N**±02×**1272E**±04**, h35**^{km}**, n11,** σ**1**^{s}**24**/11**, mb3.9**/8**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QIZ	Qiongzhong	21.41	309	P	P	02 05 20.2	+1.1
	6.7nm,0.7s,mb4.1						
FITZ	Fitzroy Crossi	23.87	184	eP	P	02 05 43.1	-1.4
	8.8nm,1.2s,mb4.1						
FITZ	Fitzroy Crossi	23.87	184	P	P	02 05 43.1	-1.4
	2.7nm,0.9s,mb3.7,baz=11,slow=16,SNR=7.0						
WRA	Warramunga Arr	26.58	165	P	P	02 06 11.2	+2.0
	1.3nm,0.5s,mb3.7,baz=343,slow=10,SNR=5.8						
WB2	Warramunga Arr	26.58	165	eP	P	02 06 12.7	+3.5
ASAR	Alice Springs	30.07	168	P	P	02 06 38.7	-1.5
	0.1nm,0.3s,mb3.0,baz=343,slow=7.3,SNR=3.6						
ASAR				PcP	PcP	02 09 42.1	+0.7
	0.4nm,0.5s,baz=347,slow=2.3,SNR=6.2						
STKA	Stephens Creek	39.95	161	P	P	02 08 05.7	+0.4
	3.9nm,1.0s,mb4.1,baz=236,slow=6.5,SNR=3.4						
STKA	Stephens Creek	39.95	161	eP	P	02 08 05.9	+0.6
MKAR	Makanchi Array	56.11	324	P	P	02 10 09.8	-0.4
	0.5nm,0.5s,mb3.8,baz=111,slow=7.4,SNR=7.1						
ARCES	ARCESS Array B	88.63	340	P	P	02 13 23.6	-0.2
	1.5nm,0.9s,mb4.3,baz=79,slow=6.3,SNR=5.9						
FINES	FINESS Array B	90.20	332	P	P	02 13 30.5	-0.7
	0.9nm,0.8s,mb4.1,baz=23,slow=6.8,SNR=5.2						

*IDC **17** 02:36:17.0±0.7, 552S×15077E, h0^{km}, mb4.5/13, mb1 4.6/15, mb1mx4.6/17, mbtmp4.5/15, ML3.7/2, MS4.1/16, Ms1 4.1/16, ms1mx3.8/27, Error ellipse: s-maj=23.1km s-min=15.1km az=86.0*
*ISCJB **17** 02:36:21.6±2.7, 556S±007×1507E±0.1, h41^{km}±23^{km}, mb4.5/25, MS4.1/13, Error ellipse: s-maj=17.5km s-min=11.7km az=157.4*
*BJI **17** 02:36:22.8, 527S×15077E, h38^{km}, mB5.0, mb4.7, Ms4.6, Msz4.2*
*HRVD **17** 02:36:23.5±0.3, 545S×15088E, h12^{km}, MW4.8/64, Centroid moment Tensor Solution. LP body waves: s20,c24;Mantle waves: s64,c99; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.13±.08; $M_{\theta\theta}$1.60±.06; $M_{\phi\phi}$-1.46±.07; $M_{r\theta}$0.31±.21; $M_{\theta\phi}$1.34±.06; $M_{\phi r}$0.49±.21; Best double couple: $M_0$2.11400×10^{16} NP1:ϕ_s115.00000°,δ74.00000°,λ0.00000°. NP2: ϕ_s24.00000°,δ90.00000°,λ164.00000°. Principal axes: T 2.1960, Plg11.0000°, Azm338.0000°; N -0.1560, Plg74.0000°, Azm203.0000°; P -2.0310, Plg11.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **17** 02:36:23.5±2.0, 552S×15070E, h48^{km}±17^{km}, mb4.7/14 Error ellipse: s-maj=13.3km s-min=10.9km az=71.0*
ISC 17 02:36:23.4±2.3**, 560S**±007×**15067E**±010**, h39**^{km}±20^{km}**, n45,** σ**1**^{s}**03**/38**, mb4.5**/25**, MS4.1**/13**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.14	222	Pn	Pn	02 37 38.8	+1.0
	16nm,0.3s,baz=38,slow=6.8,SNR=40						
PMG				Sn	Sn	02 38 33.2	-2.6
	baz=234,slow=19,SNR=2.9						
PMG				LR	LR	02 39 18.0	
	comp=Z,685nm,21.4s,baz=43,slow=34						
HNR	Honiara	9.95	113	LR	LR	02 42 05.7	
	comp=Z,1μm,18.0s,baz=356,slow=35						
CTA	Charters Tower	15.03	196	eP	Pn	02 39 55.0	+2.1
	20nm,0.9s						
CTA	Charters Tower	15.03	196	Pn	Pn	02 39 53.9	+0.9
	0.3nm,0.3s,baz=30,slow=15,SNR=4.7						
CTA				LR	LR	02 45 18.8	
	comp=Z,781nm,18.2s,baz=17,slow=36						
CTAO	Charters Tower	15.03	196	ePn	Pn	02 39 54.8	+1.9
	96nm,1.4s						
KAKA	Kakadu	19.32	247	eP	Pn	02 40 45.4	-1.2
	22nm,0.6s						
GUMO	Guam	19.92	343	LR	LR	02 46 48.8	
	comp=Z,295nm,19.6s,baz=179,slow=32						
WRAB	Tennant Creek	21.33	227	eP	P	02 41 07.3	+0.3
	53nm,0.9s,mb4.9						
WB2	Warramunga Arr	21.33	227	eP	P	02 41 07.3	+0.3
WRA	Warramunga Arr	21.34	227	P	P	02 41 06.6	-0.5
	40nm,1.0s,mb4.7,baz=51,slow=10,SNR=9.6						
DZM	Mont Dzumac	22.38	139	P	P	02 41 17.6	-0.6
	22nm,0.9s,mb4.6,baz=56,slow=12,SNR=9.5						
DZM				LR	LR	02 48 29.2	
	comp=Z,1μm,21.1s,MS4.3,baz=25,slow=33						
AS31	Alice Springs	24.15	220	eP	P	02 41 36.8	+1.0
ASAR	Alice Springs	24.15	220	P	P	02 41 35.5	-0.3
	14nm,0.9s,mb4.4,baz=55,slow=8.2,SNR=28						
ASPA	Alice Springs	24.15	220	eP	P	02 41 36.7	+0.9
ARMA	Armidale	24.70	178	eP	P	02 41 41.6	+0.8
FITZ	Fitzroy Crossi	27.42	241	eP	P	02 42 05.4	+0.1
	40nm,0.8s,mb5.0						
FITZ	Fitzroy Crossi	27.42	241	P	P	02 42 05.1	-0.2
	19nm,0.7s,mb4.7,baz=88,slow=7.3,SNR=27						
FITZ				LR	LR	02 54 49.7	
	comp=Z,217nm,19.8s,MS3.7,baz=250,slow=40						
STKA	Stephens Creek	27.48	197	P	P	02 42 04.9	-1.0
	8.5nm,0.9s,mb4.3,baz=29,slow=11,SNR=7.4						
STKA				LR	LR	02 53 11.2	
	comp=Z,727nm,19.3s,MS4.3,baz=16,slow=37						
STKA	Stephens Creek	27.48	197	eP	P	02 42 05.5	-0.4
	6.7nm,0.9s,mb4.2						
STKA				eP		02 42 06.5	
FORT	Forrest	32.84	218	eP	P	02 42 52.9	-0.4
	58nm,1.1s,mb5.4						
MBWA	Marble Bar	33.74	240	eP	P	02 43 00.6	-0.5
	37nm,1.1s,mb5.2						
AFI	Afiamalu	37.87	105	LR	LR	02 57 44.9	
	comp=Z,180nm,19.4s,MS3.9,baz=359,slow=34						
JOW	Kunigami	38.86	327	LR	LR	02 57 42.3	
	comp=Z,160nm,21.2s,MS3.8,baz=134,slow=33						
KLBR	Kellerberrin	40.22	226	eP	P	02 43 55.1	-1.1
	33nm,0.8s,mb5.1						
NWAO	Narrogin (SRO)	41.32	225	LR	LR	03 01 16.3	
	comp=Z,226nm,20.2s,MS4.0,baz=139,slow=36						
NWAO	Narrogin (SRO)	41.32	225	P	P	02 44 05.8	+0.5
	11nm,1.0s,mb4.4						
RPZ	Rata Peaks	41.99	158	P	P	02 44 09.9	-0.8
	7.8nm,0.8s,mb4.4,baz=82,slow=4.7,SNR=6.3						
RPZ				LR	LR	02 58 18.9	
	comp=Z,621nm,18.6s,MS4.5,baz=290,slow=32						
MJAR	Matsushiro Arr	43.52	345	P	P	02 44 20.6	-2.5
	2.7nm,1.0s,mb4.0,baz=162,slow=8.4,SNR=5.0						
MJAR				LR	LR	03 01 51.2	
	comp=Z,109nm,19.4s,MS3.8,baz=180,slow=35						
BJI	Beijing	55.42	328	eP	P	02 45 53.8	0.0
BJI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.8						
BJI				LR	LR		
	comp=N,163nm,24.9s,MS4.1						
BJI				LR	LR		
	comp=E,120nm,24.1s,MS4.1						
BJI				LR	LR		
	comp=Z,177nm,24.1s,MS4.1						
XAN	Xi'an	55.77	318	P	P	02 45 57.8	+1.5
XAN				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.7						
LZH	Lanzhou	60.35	317	eP	P	02 46 29.3	+0.9
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.1						
GTA	Gaotai	64.82	318	eP	P	02 46 59.9	+1.6
GTA				AP	pP	02 47 12.8	+3.0
GTA				XP	sP	02 47 17.8	+3.5
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.5						
ULN	Ulaanbaatar	65.58	329	eP	P	02 47 02.8	-0.3
	comp=Z,2.4nm,0.8s,mb4.3						
ULN				epP	pP	02 47 16.6	+1.9
SONM	Songino Array	65.89	329	P	P	02 47 06.1	+0.9
	comp=Z,4.3nm,1.1s,mb4.4,baz=136,slow=5.1,SNR=15						
SONM				LR	LR	03 14 59.7	
	comp=Z,164nm,21.4s,MS4.2,baz=135,slow=35						
CASY	Casey	66.64	197	P	P	02 47 10.4	+0.4
	comp=Z,1.6nm,0.8s,mb4.1						
VNDA	Vanda	72.12	177	P	P	02 47 44.8	+1.0
	comp=Z,1.8nm,0.8s,mb4.0,baz=310,slow=6.9,SNR=10						
VNDA				LR	LR	03 15 32.3	
	comp=Z,98nm,19.3s,MS4.1,baz=337,slow=33						
MKAR	Makanchi Array	79.55	319	P	P	02 48 26.7	+0.5
	comp=Z,1.9nm,1.0s,mb4.0,baz=95,slow=6.1,SNR=10.0						
MKAR				PP	PP	02 51 24.1	-2.9
	comp=Z,0.2nm,0.5s,baz=124,slow=10,SNR=2.8						
ZAL	Zalesovo	80.66	327	P	P	02 48 32.1	-0.1
	comp=Z,1.1nm,0.3s,mb4.2,baz=85,slow=6.2,SNR=5.6						
ZAL				LR	LR	03 25 19.3	
	comp=Z,97nm,19.4s,MS4.2,baz=174,slow=36						
KURK	Kurchatov	83.10	322	eP	P	02 48 43.1	-1.9
	comp=Z,9.0nm,1.1s,mb4.7						
MAW	Mawson	84.02	203	P	P	02 48 50.5	+0.7
	comp=Z,3.3nm,1.0s,mb4.4,baz=83,slow=6.5,SNR=4.6						
MAW				LR	LR	03 23 49.8	
	comp=Z,156nm,21.7s,MS4.3,baz=65,slow=34						
MAW	Mawson	84.02	203	eP	P	02 48 49.2	-0.5
	comp=Z,5.9nm,1.1s,mb4.6						
MAW				LR	LR	03 23 49.8	
NVAR	Mina Array Bea	94.25	52	P	P	02 49 36.6	-1.9
	comp=Z,1.2nm,0.9s,mb4.3,baz=281,slow=4.2,SNR=3.6						
SDV	Santo Domingo	138.91	83	ePKPdf	PKPdf	02 55 44.6	-1.0
TORD	Torodi Ar. Bea	148.51	286	PKPbc	PKPbc	02 56 04.9	-1.0
	comp=Z,3.0nm,0.9s,baz=102,slow=1.6,SNR=18						
BDFB	Brasilia	151.93	139	PKP	PKPdf	02 56 09.3	+1.7
	comp=Z,1.1nm,0.5s,baz=149,slow=5.9,SNR=2.8						
BDFB				PKPbc	PKPbc	02 56 14.1	-0.1
	comp=Z,8.5nm,1.2s,baz=144,slow=4.0,SNR=6.9						

*ISCJB **17** 02:53:32.4±0.9, 2392S±007×17973W±009, h529^{km}±14^{km}, mb4.4/17, Error ellipse: s-maj=13.1km s-min=9.7km az=44.4*
*NEIC **17** 02:53:33.5±0.8, 2392S×17970W, h526^{km}±10^{km}, mb4.5/14, Error ellipse: s-maj=12.0km s-min=10.9km az=220.0*
*IDC **17** 02:53:34.4±2.1, 2406S×17990W, h524^{km}±20^{km}, mb3.8/8, mb1 3.9/9, mb1mx3.7/15, mbtmp4.7/9, Error ellipse: s-maj=24.0km s-min=14.7km az=36.0*
ISC 17 02:53:33.7±0.9**, 2397S**±010×**1796W**±01**, h532**^{km}±12^{km}**, n38,** σ**0**^{s}**89**/37**, mb4.4**/17**, 1C-3D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.48	164	P	P	02 55 06.6	0.0
	214nm,0.3s,baz=261,slow=23,SNR=4.6						
RAO				S	S	02 56 14.4	-8.2
	593nm,0.3s,baz=204,slow=24,SNR=16						
AFI	Afiamalu	12.47	38	P	P	02 56 16.8	-0.2
	6.0nm,0.3s,baz=140,slow=20,SNR=4.3						
AFI				S	S	02 58 27.5	-4.0
	7.3nm,0.3s,baz=202,slow=22,SNR=5.7						
DZM	Mont Dzumac	12.95	276	P	P	02 56 23.5	+1.5
	0.2nm,0.3s,baz=76,slow=20,SNR=4.8						
URZ	Urewera	14.51	190	P	P	02 56 37.0	-1.2
	3.0nm,0.3s,baz=6.4,slow=2.0,SNR=13						
URZ				S	S	02 59 06.0	-4.2
	1.1nm,0.3s,baz=182,slow=20,SNR=9.6						
RPZ	Rata Peaks	21.13	199	P	P	02 57 39.3	-1.4
	20nm,0.6s,mb4.9,baz=340,slow=2.0,SNR=32						
ARMA	Armidale	26.30	250	eP	P	02 58 27.7	+1.0
CNB	Canberra Magne	29.10	240	eP	P	02 58 52.0	+0.8
	15nm,0.6s,mb4.8						
CTA	Charters Tower	31.80	270	⇓iP	P	02 59 14.9	+0.5
	17nm,0.4s,mb4.9						
CTA	Charters Tower	31.80	270	P	P	02 59 14.5	+0.1
	22nm,0.5s,mb4.9,baz=95,slow=11,SNR=40						
CTAO	Charters Tower	31.80	270	eP	P	02 59 14.7	+0.2
	19nm,0.4s,mb5.0						
TOO	Toolangi	32.68	237	eP	P	02 59 22.4	+0.5
	8.9nm,0.6s,mb4.5						
TAU	Tasmania Unive	33.12	227	eP	P	02 59 25.5	-0.1
	8.5nm,0.5s,mb4.5						
STKA	Stephens Creek	35.00	248	eP	P	02 59 41.5	+0.1
	8.9nm,0.4s,mb4.7						
STKA	Stephens Creek	35.00	248	P	P	02 59 40.2	-1.2
	3.9nm,0.5s,mb4.2,baz=74,slow=11,SNR=14						

AS31	Alice Springs	42.34	261	eP	P	03 00 40.7	-0.2
ASAR	Alice Springs	42.34	261	P	P	03 00 40.8	-0.1
	5.8nm,0.5s,mb4.4,baz=97,slow=7.0,SNR=62						
ASPA	Alice Springs	42.35	261	eP	P	03 00 40.8	-0.1
WB2	Warramunga Arr	42.72	266	⇓iP	P	03 00 43.2	-0.6
WB2	Warramunga Arr	42.72	266	⇓eP	P	03 00 43.3	-0.5
WRAB	Tennant Creek	42.72	266	eP	P	03 00 43.3	-0.5
	18nm,0.7s,mb4.7						
WRA	Warramunga Arr	42.73	266	P	P	03 00 43.4	-0.5
	12nm,0.4s,mb4.8,baz=97,slow=8.3,SNR=66						
WRA				S	S	03 06 27.4	-1.5
	1.5nm,1.1s,baz=30,slow=31,SNR=3.3						
KAKA	Kakadu	46.64	275	eP	P	03 01 13.4	-0.6
	7.8nm,0.4s,mb4.6						
FITZ	Fitzroy Crossi	51.15	266	eP	P	03 01 47.8	+0.5
	6.3nm,0.4s,mb4.3						
FITZ	Fitzroy Crossi	51.15	266	P	P	03 01 47.3	0.0
	4.3nm,0.6s,mb4.0,baz=142,slow=7.8,SNR=19						
SBA	Scott Base	54.33	184	eP	P	03 02 12.6	+2.6
	11nm,1.0s,mb4.2						
VNDA	Vanda	54.33	185	P	P	03 02 10.7	+0.6
	1.8nm,0.6s,mb3.6,baz=360,slow=5.3,SNR=9.7						
CASY	Casey	60.19	206	eP	P	03 02 49.5	-0.5
CASY	Casey	60.19	206	eP	P	03 02 49.4	-0.7
	4.9nm,0.6s,mb4.0						
QSPA	South Pole Qui	66.11	180	eP	P	03 03 29.6	+1.5
	9.9nm,0.8s,mb4.4						
MAW	Mawson	77.80	200	eP	P	03 04 36.6	+0.7
	4.5nm,0.6s,mb4.0						
MAW	Mawson	77.80	200	P	P	03 04 37.0	+1.1
	5.4nm,0.6s,mb4.0,baz=139,slow=6.5,SNR=18						
SYO	Syowa Base	83.02	193	⇑eP	P	03 05 02.4	-0.7
SNAA	Sanae	84.59	179	eP	P	03 05 10.5	-0.3
	1.5nm,0.7s,mb3.6						
ARCES	ARCESS Array B	132.02	348	PKP	PKPdf	03 11 46.4	-0.3
	2.9nm,1.0s,baz=42,slow=2.0,SNR=7.1						
AKASG	Malin Array Be	145.21	327	PKPbc	PKPbc	03 12 11.0	-0.5
	0.7nm,0.4s,baz=46,slow=4.0,SNR=6.9						
BRTR	Keskin Array B	147.88	307	PKPbc	PKPbc	03 12 19.6	+0.7
	0.8nm,0.6s,baz=148,slow=5.3,SNR=6.6						
BRTR				PKPab	PKPab	03 12 24.9	+1.6
	0.9nm,0.5s,baz=82,slow=2.9,SNR=6.3						
CLL	Collm	151.02	344	i PKPbc	PKPbc	03 12 27.4	+1.1
	comp=Z,5.0nm,0.9s						
TORD	Torodi Ar. Bea	169.16	187	PKPab	PKPab	03 13 55.8	+0.3
	comp=Z,1.6nm,0.7s,baz=176,slow=4.1,SNR=18						

ISCJB ***17*** *03:06:32.7±0.3, 4658N±001×756E±003, h3^{km}, Error ellipse: s-maj=2.8km s-min=2.1km az=161.8*
LDG ***17*** *03:06:33.5±0.1, 4654N×773E, h10^{km}, Ml2.3/14, Error ellipse: s-maj=2.4km s-min=1.8km az=118.0*
ZUR ***17*** *03:06:34.2, 4657N×772E, h3^{km}±1^{km}, ML1.7/19*
CSEM ***17*** *03:06:34.0±0.1, 4656N×776E, h20^{km}, ML2.4/12, Error ellipse: s-maj=1.5km s-min=1.2km az=116.0*
STR ***17*** *03:06:35.9±0.7, 4665N×769E, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ROM ***17*** *03:06:35.3±0.3, 4649N×771E, h10^{km}, Md2.1/4, Ml1.6/1, Error ellipse: s-maj=3.4km s-min=1.8km az=138.0*
ISC 17 03:06:33.4±0.3**, 4657N**±002×**765E**±003**, h20**^{km}±3^{km}**, n53, σ0^{s}92**/87**, 5C-7D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WIMIS	Wimmis	0.10	349	⇓iPg	Pg	03 06 37.0	-0.3
	495nm,0.2s						
WIMIS				i Sg	Sg	03 06 38.9	-1.1
	495nm,0.2s						
LKBD	Leukerbad	0.18	186	⇑iPg	Pg	03 06 38.3	0.0
	370nm,0.2s						
LKBD				i Sg	Sg	03 06 41.1	-0.5
	370nm,0.2s						
SENIN	Lac Senin	0.32	230	⇑iPg	Pg	03 06 41.4	+1.0
	58nm,0.2s						
HASLI	Hasliberg	0.39	61	⇑iPg	Pg	03 06 41.0	-0.7
	71nm,0.6s						
GRYON	Gryon	0.49	230	i Pg	Pg	03 06 46.7	+3.3
	13nm,0.6s						
DIX	Grande Dixence	0.52	199	⇑iPg	Pg	03 06 44.2	+0.3
	40nm,0.3s						
DIX	Grande Dixence	0.52	199	⇑iPg	Pg	03 06 44.6	+0.7
DIX				Sg	Sg	03 06 51.6	+0.7
TORNY	Torny	0.52	294	eS	Pb	03 06 45.5	+1.6
TORNY	Torny	0.52	294	i P	Pb	03 06 53.0	+9.1
	187nm,0.2s						
MMK	Mattmark	0.56	157	⇓iPg	Pg	03 06 45.1	+0.4
MMK				Sg	Sg	03 06 52.1	-0.1
MMK	Mattmark	0.56	157	i Sg	Pb	03 06 44.6	0.0
	62nm,0.3s						
MMK	Mattmark	0.56	157	⇓iPg	Pg	03 06 45.9	+1.2
	62nm,0.3s						
MMK	Mattmark	0.56	157	⇓iPg	Pg	03 06 45.9	+1.2
	62nm,0.3s						
MMK				Sg	Sg	03 06 52.1	-0.1
MCGN	Macugnaga	0.65	159	⇓iPg	Pg	03 06 46.8	+0.4
MCGN				Sg	Sg	03 06 54.9	-0.3
	13nm,0.4s						
OG01	Vacheresse	0.71	251	Pg	Pg	03 06 48.9	+1.4
OG01				Sg	Sg	03 07 02.0	+5.0
BBS	Basel-Blauen	0.90	354	Pg	Pg	03 06 51.4	+0.3
LOMF	Lomont	0.97	325	Pg	Pg	03 06 54.0	+1.7
CABF	La Chapelle	1.08	273	ePg	Pg	03 06 56.1	+1.7
CABF				eSg	Sg	03 07 10.8	+2.2
	5.5nm,0.2s						
CABF	La Chapelle	1.08	273	ePg	Pg	03 06 56.1	+1.7
CABF				eSg	Sg	03 07 10.8	+2.2
	2.8nm,0.2s						
TUE	Stuetta	1.17	94	Pg	Pg	03 06 55.9	-0.3
TUE				Sg	Sg	03 07 10.8	-0.8
	9.0nm,0.3s						
LPL	La Plagne	1.23	212	ePg	Pg	03 06 57.7	+0.4
LPG	La Plagne	1.24	211	ePg	Pg	03 06 57.9	+0.5
FELD	Feldberg im Sc	1.33	10	Pg	Pg	03 06 59.7	+0.5
FELD				Sg	Sg	03 07 17.1	+0.5
MOF	Molkenrain	1.33	345	Pg	Pg	03 07 00.2	+1.0
MOF				Sg	Sg	03 07 16.8	+0.2
HINF	Hinteralfeld	1.36	337	ePg	Pg	03 06 59.2	-0.6
HINF				eSg	Sg	03 07 17.7	+0.1
	6.2nm,0.2s						
HINF	Hinteralfeld	1.36	337	ePg	Pg	03 06 59.2	-0.6
HINF				eSg	Sg	03 07 17.7	+0.1
	3.1nm,0.2s						
DAVOX	Davos	1.55	81	Pg	Pg	03 07 03.4	+0.1
ECH	Echery	1.68	349	Pg	Pg	03 07 06.2	+0.4
ECH				Sg	Sg	03 07 28.0	+0.2
DAVA	Damuels	1.69	64	⇓iPg	Pg	03 07 05.4	-0.6
DAVA				⇓iSg	Sg	03 07 26.2	-1.8
	comp=Z,2.6nm,0.2s						
HAU	Haudompre	1.69	329	ePg	Pg	03 07 06.4	+0.4
HAU				eSg	Sg	03 07 28.3	+0.3
	7.3nm,0.3s						
HAU	Haudompre	1.69	329	ePg	Pg	03 07 06.4	+0.4
HAU				eSg	Sg	03 07 28.3	+0.3
	3.7nm,0.3s						
WLS	Welschbruch	1.86	354	Pg	Pg	03 07 09.4	+0.2
CDF	Champ du Feu	1.86	352	ePn	Pn	03 07 05.0	+0.8
CDF				eSg	Sg	03 07 32.8	-0.7
	5.8nm,0.3s						
CDF	Champ du Feu	1.86	352	ePn	Pn	03 07 05.0	+0.8
CDF				eSg	Sg	03 07 32.8	-0.7
	2.9nm,0.3s						
MBDF	Montbardon	1.94	199	ePg	Pg	03 07 09.8	-1.0
ORIF	Oris-en-Rattie	2.06	218	ePg	Pg	03 07 13.6	+0.5
ORIF				eSg	Sg	03 07 39.8	-0.1
	2.6nm,0.4s						
ORIF	Oris-en-Rattie	2.06	218	ePg	Pg	03 07 13.6	+0.5
ORIF				eSg	Sg	03 07 39.8	-0.1
	1.3nm,0.4s						
SFTF	Sexfontaines	2.42	314	ePg	Pg	03 07 19.6	-0.2
SMF	Signal de Mont	2.63	273	ePg	Pg	03 07 22.8	-1.1
SMF				eSg	Sg	03 07 57.2	-0.8
	3.9nm,0.2s						
SMF	Signal de Mont	2.63	273	ePg	Pg	03 07 22.8	-1.1
SMF				eSg	Sg	03 07 57.2	-0.8
	2.0nm,0.2s						
LOR	Lormes	2.69	286	ePg	Pg	03 07 25.8	+0.7
LOR				eSg	Sg	03 07 58.4	-1.6
	2.3nm,0.2s						
LOR	Lormes	2.69	286	ePg	Pg	03 07 25.8	+0.7
LOR				eSg	Sg	03 07 58.4	-1.6
	1.1nm,0.2s						
VIVF	Saint-Julien-l	2.70	232	ePg	Pg	03 07 24.9	-0.3
VIVF				eSg	Sg	03 07 58.4	-1.8
	1.5nm,0.2s						
VIVF	Saint-Julien-l	2.70	232	ePg	Pg	03 07 24.9	-0.3
VIVF				eSg	Sg	03 07 58.4	-1.8
	0.8nm,0.2s						
SSF	Saint Saulge	2.89	281	ePg	Pg	03 07 28.9	+0.1
SSF				eSg	Sg	03 08 04.4	-1.9
	1.5nm,0.2s						
SSF	Saint Saulge	2.89	281	ePg	Pg	03 07 28.9	+0.1
SSF				eSg	Sg	03 08 04.4	-1.9
	0.8nm,0.2s						
AVF	Avril sur Loir	2.97	276	eSg	Sg	03 08 07.7	-1.1
	1.1nm,0.2s						
AVF	Avril sur Loir	2.97	276	eSg	Sg	03 08 07.7	-1.1
	0.6nm,0.2s						
BGF	Bois d'Agland	3.32	272	eSn	Sn	03 08 03.1	+0.1
BGF				eSg	Sg	03 08 19.1	-0.9
	4.7nm,0.5s						
BGF	Bois d'Agland	3.32	272	eSn	Sn	03 08 03.1	+0.1
BGF				eSg	Sg	03 08 19.1	-0.9
	2.3nm,0.5s						
HYF	Humbligny	3.51	283	ePn	Pn	03 07 27.0	+0.2
TCF	Toulx Ste Croi	3.77	268	eSn	Sn	03 08 12.3	-2.0
TCF				eSg	Sg	03 08 34.2	-0.4
	1.1nm,0.3s						
TCF	Toulx Ste Croi	3.77	268	eSn	Sn	03 08 12.3	-2.0
TCF				eSg	Sg	03 08 34.2	-0.4
	0.6nm,0.3s						

ISCJB ***17*** *03:37:30.3±0.8, 52.1N±0.1×1772E±0.1, h6^{km}, mb3.6/4, Error ellipse: s-maj=20.2km s-min=6.3km az=40.4*
NEIC ***17*** *03:37:30.7, 5186N×17702E, h6^{km}, ML3.6(AEIC), After AEIC.*
IDC ***17*** *03:37:43.6±16.0, 5220N×17751E, h105^{km}±151^{km}, mb3.3/4, mb1 3.6/5, mb1mx3.3/23, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=116.2km s-min=25.4km az=0.0*
ISC 17 03:37:30.5±0.9**, 520N**±02×**1771E**±01**, h6**^{km}**, n9, σ1^{s}03**/11**, mb3.6**/4**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	Amchitka	1.48	112	P	Pn	03 37 57.2	-0.4
AMKA				S	Sn	03 38 17.4	+0.2
SMY	Shemya	2.01	294	P	Pn	03 38 04.5	-0.5
SMY				S	Sn	03 38 31.3	+0.9
ATKA	Atka Island	5.36	84	P	Pn	03 38 53.6	+2.6
KDAK	Kodiak Island	18.28	60	P	Pn	03 41 44.3	-0.4
	0.3nm,0.3s,baz=298,slow=9.7,SNR=3.8						
DAWY	Dawson	25.45	45	eP	P	03 42 59.4	+0.3
YKA	Yellowknife Ar	36.67	46	P	P	03 44 37.8	-0.1
	2.1nm,0.8s,mb4.0,baz=282,slow=8.2,SNR=4.7						
SONM	Songino Array	44.10	294	P	P	03 45 43.2	+3.6
	0.2nm,0.4s,mb3.2,baz=69,slow=8.0,SNR=3.0						
PDAR	Pinedale Array	48.53	70	P	P	03 46 13.2	-1.1
	0.5nm,0.8s,mb3.6,baz=293,slow=4.5,SNR=4.9						
BVAR	Borovoye Array	58.77	317	P	P	03 47 28.2	-1.2
	0.3nm,0.3s,mb3.8,baz=46,slow=8.5,SNR=4.1						

IDC ***17*** *03:56:11.9±14.0, 3639N×7084E, h190^{km}±130^{km}, mb3.1/3, mb1 3.3/5, mb1mx3.0/21, mbtmp3.8/5, Error ellipse: s-maj=98.3km s-min=30.2km az=172.0*
ISCJB ***17*** *03:56:12.3±0.6, 3661N±004×7078E±009, h188^{km}±10^{km}, mb3.3/2, Error ellipse: s-maj=12.6km s-min=5.9km az=142.6*
NEIC ***17*** *03:56:14.1±2.2, 3663N×7077E, h199^{km}±26^{km}, mb4.8/4, Error ellipse: s-maj=24.1km s-min=10.2km az=62.0*
NNC ***17*** *03:56:19.7±1.5, 3709N×7048E, h173^{km}±32^{km}, mb2.5, mpv3.2, Error ellipse: s-maj=31.8km s-min=9.4km az=65.0*
ISC 17 03:56:13.0±0.6**, 3663N**±004×**7077E**±010**, h179**^{km}±9^{km}**, n21, σ1^{s}15**/28**, mb3.3**/2**, 6C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.95	161	⇑P	Pn	03 57 02.4	+1.4
CEP				S	Sn	03 57 37.0	-1.3
THW	Thamme Wali	3.91	168	⇑P	Pn	03 57 13.7	+0.8
SARP	Sargodha	4.95	161	P	Pn	03 57 25.8	-0.5
KK31	Karatay Array	6.47	358	⇑Pn	Pn	03 57 47.6	+1.5
	1.1nm,0.5s,baz=182,slow=13,SNR=46						
KK31				⇑Sn	Sn	03 58 57.6	-1.9
	10.0nm,0.6s,baz=246,slow=78,SNR=18						
AAK	Ala-Archa	6.65	24	ePn	Pn	03 57 48.8	+0.3
	2.9nm,0.9s						
AAK				eSn	Sn	03 59 03.7	-0.1
SDNR	Sundarnagar	7.25	133	eP	Pn	03 57 54.0	-2.5
SDNR				eS	Sn	03 59 08.0	-10
MKAR	Makanchi Array	13.30	37	P	Pn	03 59 15.2	+0.2
	0.1nm,0.3s,baz=236,slow=12,SNR=12						
KOLN	Koldanda	13.99	125	eP	Pn	03 59 23.7	+0.1
GKN	Gorkha	14.53	122	eP	Pn	03 59 29.9	-0.4
	21nm,0.5s						
GKN				eS	Sn	04 01 56.3	-16
AB31	Akbulak array	14.88	331	⇑Pn	Pn	03 59 34.8	+0.1
	2.4nm,0.7s,baz=142,slow=12,SNR=14						
AB31				⇓Sn	Sn	04 02 15.4	-5.1
	0.9nm,0.6s,baz=155,slow=22,SNR=4.1						
DMN	Daman	15.10	122	eP	Pn	03 59 37.0	-0.3
	25nm,0.6s						
DMN				eS	S	04 02 10.5	-15
PKI	Pulchoki	15.33	122	eP	Pn	03 59 42.3	+2.2
	19nm,0.6s						
GUN	Gumba	15.44	120	eP	Pn	03 59 43.5	+2.0
JIRN	Jiri	15.81	120	eP	Pn	03 59 46.3	+0.3
	27nm,0.4s						
AKTK	Aktyubinsk	16.58	330	P	Pn	03 59 56.1	+0.9
AKTO	Aktyubinsk	16.58	330	⇑Pn	Pn	03 59 55.9	+0.7
	0.2nm,0.9s						
AKTO	Aktyubinsk	16.58	330	P	Pn	03 59 56.1	+0.9
	0.4nm,0.3s,baz=143,slow=9.3,SNR=18						
ZAL	Zalesovo	19.86	25	P	P	04 00 29.6	-0.7
	2.8nm,0.4s,baz=245,slow=17,SNR=6.9						
SONM	Songino Array	28.42	56	P	P	04 01 49.9	-1.0
	0.5nm,0.8s,mb3.3,baz=257,slow=8.0,SNR=4.3						
TORD	Torodi Ar. Bea	65.53	268	P	P	04 06 35.4	-1.8
	0.3nm,0.7s,mb3.2,baz=55,slow=6.2,SNR=4.6						
TORD	Torodi Ar. Bea	65.53	268	P	P	04 06 35.4	-1.8

BJI ***17*** *03:59:33.0, 1099S×12103E, h7^{km}, mB5.1, mb4.9, Ms4.4, Msz4.1*
IDC ***17*** *03:59:40.6±0.5, 10.18S×12049E, h0^{km}, mb4.8/14, mb1 4.9/17, mb1mx4.8/19, mbtmp4.8/17, ML4.6/3, MS3.9/13, Ms1 3.9/13, ms1mx3.7/29, Error ellipse: s-maj=25.7km s-min=11.8km az=67.0*
NEIC ***17*** *03:59:41.7±3.7, 1025S×12039E, h7^{km}±23^{km}, mb5.0/24, Error ellipse: s-maj=11.5km s-min=5.4km az=68.0*
NEIC Felt [II] at Waingapu.
ISCJB ***17*** *03:59:43.8±1.0, 1026S±004×12069E±006, h38^{km}±9^{km}, mb5.0/60, MS4.0/16, Error ellipse: s-maj=11.6km s-min=5.2km az=120.5*
MOS ***17*** *03:59:43.3±1.0, 1023S×12058E, h33^{km}, mb5.3/29, Error ellipse: s-maj=16.7km s-min=6.9km az=112.0*
ISC 17 03:59:44.9±1.3**, 1025S**±004×**12063E**±007**, h29**^{km}±9^{km}**, h31**^{km}±1.9^{km}**:pP-P, n156, σ1^{s}10**/147**, mb5.0**/60**, MS4.0**/16**, 11C-4D, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSI	Waingapu	0.66	331	P	Pb	03 59 58.5	+0.5
	0.0nm,0.0s						
FITZ	Fitzroy Crossi	9.19	149	eP	Pn	04 01 55.1	-0.3
	96nm,0.4s						
FITZ				eS	Sn	04 03 33.0	-4.8
FITZ	Fitzroy Crossi	9.19	149	Pn	Pn	04 01 55.5	+0.1
	7.5nm,0.3s,baz=341,slow=8.8,SNR=137						
FITZ				Sn	Sn	04 03 33.1	-4.8
	9.4nm,0.3s,baz=164,slow=21,SNR=5.2						
FITZ				LR	LR	04 06 06.5	
	comp=Z,637nm,21.3s,baz=303,slow=41						
MBWA	Marble Bar	10.88	184	ePn	Pn	04 02 16.6	-1.9
	17nm,0.4s						
BJII	Banjamegara	11.17	284	P	Pn	04 02 29.4	+6.9
	0.0nm,0.0s						
KAKA	Kakadu	11.84	103	eP	Pn	04 02 35.4	+3.8
	30nm,0.5s						
KSM	Kuching	15.53	318	ePn	Pn	04 03 26.7	+5.1
WRA	Warramunga Arr	16.36	128	Pn	Pn	04 03 31.7	-0.7
	1.4nm,0.3s,baz=296,slow=13,SNR=40						
WRA				Sn	Sn	04 06 24.7	-8.2
	1.8nm,0.3s,baz=304,slow=24,SNR=6.1						
WRA				LR	LR	04 10 50.7	
	comp=Z,624nm,20.3s,baz=305,slow=41						
WRAB	Tennant Creek	16.37	128	eP	Pn	04 03 29.3	-3.1
WRAB				e		04 06 26.6	
WRAB				pmax	pmax		
	comp=Z,25nm,0.6s						
WRAB	Tennant Creek	16.37	128	ePn	Pn	04 03 29.3	-3.1
	comp=Z,25nm,0.6s						
WRAB				eSn	Sn	04 06 26.6	-6.5
WB2	Warramunga Arr	16.37	128	eP	Pn	04 03 32.2	-0.3
WB2				eS	Sn	04 06 23.6	-10
KKM	Kota Kinabalu	16.77	345	ePn	Pn	04 03 39.0	+1.4
ASPA	Alice Springs	18.40	138	eP	Pn	04 03 59.3	+1.7
ASPA				eS	Sn	04 07 12.6	-10
ASAR	Alice Springs	18.40	138	P	Pn	04 03 59.0	+1.4
	comp=Z,2.0nm,0.3s,baz=320,slow=12,SNR=118						
ASAR				S	Sn	04 07 16.1	-6.2
	comp=Z,0.9nm,0.3s,baz=318,slow=25,SNR=5.7						
ASAR				LR	LR	04 12 14.2	
	comp=Z,522nm,18.1s,baz=317,slow=41						
ASAR	Alice Springs	18.40	138	P	Pn	04 03 59.1	+1.5
ASAR				S	Sn	04 07 16.1	-6.2
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAR				smax			
	comp=E,1.0nm,0.3s						
ASAR				MLR	MLR		
	comp=Z,522nm,18.2s						
KSI	Kapahiang	19.05	289	P	Pn	04 04 07.0	+1.4
	comp=Z,142nm,0.9s						
KLBR	Kellerberrin	21.40	187	eP	P	04 04 29.4	-0.7
	comp=Z,63nm,0.8s,mb5.0						
KLBR				eS	S	04 08 12.5	-14
FORT	Forrest	21.56	162	eP	P	04 04 32.4	+0.5
	comp=Z,38nm,0.8s,mb4.9						
FORT				eS	S	04 08 28.7	-0.5
NWAO	Narrogin (SRO)	22.78	187	P	P	04 04 43.7	-1.2
	comp=Z,23nm,0.6s,mb4.8,baz=12,slow=11,SNR=20						
NWAO				S	S	04 08 43.9	-8.3
	comp=Z,23nm,0.7s,baz=284,slow=9.1,SNR=6.3						
NWAO				LR	LR	04 14 36.9	
	comp=Z,328nm,18.4s,MS3.8,baz=355,slow=39						
NWAO	Narrogin (SRO)	22.78	187	eP	P	04 04 43.8	-1.1
NWAO				S	S	04 08 43.9	-8.3
NWAO				eS	S	04 08 47.1	-5.1
NWAO				pmax	pmax		
	comp=Z,17nm,0.6s						
NWAO	Narrogin (SRO)	22.78	187	eP	P	04 04 43.8	-1.1
	comp=Z,17nm,0.6s,mb4.6						
NWAO				S	S	04 08 43.9	-8.3
NWAO				eS	S	04 08 47.1	-5.1
NWAO				LR	LR	04 14 36.9	
TGY	Tagaytay City	24.20	1	P	P	04 04 58.9	+0.2
	comp=Z,154nm,0.4s,baz=236,slow=5.0,SNR=8.0						
TGY	Tagaytay City	24.20	1	P	P	04 04 58.9	+0.2
TGY				pmax	pmax		
	comp=Z,154nm,0.4s						
KULM	Kulim	25.18	307	eP	P	04 05 06.7	-1.0
PSI	Prapat	25.20	300	P	P	04 05 06.8	-1.0
	comp=Z,17nm,1.1s,mb4.5,baz=198,slow=9.7,SNR=5.9						
PSI	Prapat	25.20	300	P	P	04 05 06.9	-0.9
PSI				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.5						
CTA	Charters Tower	26.56	115	LR	LR	04 16 57.8	
	comp=Z,368nm,19.8s,MS3.9,baz=279,slow=39						
STKA	Stephens Creek	28.97	141	P	P	04 05 43.7	+1.9
	comp=Z,9.1nm,0.8s,mb4.6,baz=314,slow=10,SNR=12						
STKA				LR	LR	04 18 24.2	
	comp=Z,287nm,19.3s,MS3.9,baz=4.8,slow=39						
STKA	Stephens Creek	28.97	141	P	P	04 05 43.7	+1.9
STKA				LR	LR	04 18 24.2	
GUMO	Guam	33.76	46	LR	LR	04 19 39.8	
	comp=Z,58nm,18.1s,MS3.3,baz=295,slow=36						
CHTO	Chiang Mai	35.94	323	eP	P	04 06 43.3	+0.7
CHTO				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
CHTO	Chiang Mai	35.94	323	eP	P	04 06 43.3	+0.7
	comp=Z,12nm,1.3s,mb4.7						
KMI	Kunming	39.25	334	P	P	04 07 12.3	+1.7
KMI				AP	pP	04 07 22.0	+2.6
KMI				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.8						
KMI				AMB	AMB		
	comp=Z,151nm,4.6s						
KMI				LR	LR		
	comp=N,201nm,22.8s						
KMI				LR	LR		
	comp=E,251nm,14.9s						
KMI				LR	LR		
	comp=Z,201nm,15.8s						
SSE	Sheshan	41.11	1	eP	P	04 07 24.8	-1.3
SSE				PP	PP	04 09 00.5	-0.7
SSE				PCP	PcP	04 09 26.3	+1.1
SSE				AMB	AMB		
	comp=Z,44nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,79nm,6.5s						
SSE				LR	LR		
	comp=N,66nm,25.7s,MS3.4						
SSE				LR	LR		
	comp=E,14nm,25.6s,MS3.4						
SSE				LR	LR		
	comp=Z,92nm,24.9s,MS3.5						
NJ2	Nanjing	42.10	358	eP	P	04 07 31.5	-2.7
NJ2				PP	PP	04 09 11.5	-0.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
NJ2				LR	LR		
	comp=Z,1μm,20.8s,MS4.7						
LZH	Lanzhou	48.73	342	eP	P	04 08 27.1	+0.4
LZH				AP	pP	04 08 35.6	0.0
LZH				AMB	AMB		
	comp=Z,32nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,164nm,5.1s						
LZH				LR	LR		
	comp=N,156nm,14.6s						
LZH				LR	LR		
	comp=Z,193nm,15.3s,MS4.2						
MAT	Matsushiro	49.40	19	P	P	04 08 32.8	+1.0
MAT	Matsushiro	49.40	19	eP	P	04 08 33.0	+1.2
MJAR	Matsushiro Arr	49.40	19	P	P	04 08 30.2	-1.7
	comp=Z,6.7nm,0.7s,mb4.8,baz=191,slow=7.2,SNR=14						
MJAR	Matsushiro Arr	49.40	19	P	P	04 08 30.2	-1.6
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BJT	Baijiatuau	50.18	356	eP	P	04 08 38.5	+0.7
BJT				pmax	pmax		
	comp=Z,16nm,0.8s						
BJT	Baijiatuau	50.18	356	eP	P	04 08 38.5	+0.8
	comp=Z,16nm,0.8s,mb5.1						
BJI	Beijing	50.21	356	eP	P	04 08 37.8	-0.2
BJI				PP	PP	04 10 36.0	+2.7
BJI				AMB	AMB		
	comp=Z,23nm,1.2s,mb5.1						
BJI				LR	LR		
	comp=N,148nm,20.5s,MS4.1						
BJI				LR	LR		
	comp=E,104nm,19.9s,MS4.1						
BJI				LR	LR		
	comp=Z,107nm,23.2s,MS3.8						
JIRN	Jiri	50.33	319	eP	P	04 08 38.7	-0.2
	comp=Z,70nm,1.0s,mb5.7						
GUN	Gumba	50.70	319	eP	P	04 08 41.3	-0.4
	comp=Z,79nm,0.9s,mb5.6						
PKI	Pulchoki	50.77	319	eP	P	04 08 41.4	-0.8
	comp=Z,29nm,0.9s,mb5.2						
PKI	Pulchoki	50.77	319	eP	P	04 08 41.4	-0.8
PKI				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.2						
DMN	Daman	50.99	318	eP	P	04 08 43.4	-0.5
	comp=Z,71nm,1.1s,mb5.5						
KKN	Kakani	51.00	319	eP	P	04 08 43.4	-0.6
	comp=Z,51nm,1.0s,mb5.4						
KKN	Kakani	51.00	319	eP	P	04 08 43.4	-0.6
KKN				pmax	pmax		
	comp=Z,51nm,1.0s,mb5.4						
GKN	Gorkha	51.57	318	eP	P	04 08 47.2	-1.0
	comp=Z,76nm,1.1s,mb5.5						
SNY	Shenyang	51.89	3	⇓P	P	04 08 50.8	+0.2
SNY				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
KOLN	Koldanda	52.10	317	eP	P	04 08 51.3	-0.8
	comp=Z,42nm,1.0s,mb5.3						
GTA	Gaotai	53.06	340	eP	P	04 08 59.8	+0.5
GTA				AP	pP	04 09 06.5	-1.8
GTA				XP	sP	04 09 10.8	-1.0
GTA				PCP	PcP	04 10 09.8	+2.3

GTA PP PP 04 10 59.3 +0.1
GTA PPP 04 12 11.5
GTA XS sS 04 16 48.4 +6.2
GTA SS SS 04 20 08.4 +1.6
GTA AMB AMB
comp=Z,12nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,62nm,5.3s
GTA LR LR
comp=N,187nm,19.4s,MS4.4
GTA LR LR
comp=E,286nm,20.2s,MS4.4
GTA LR LR
comp=Z,59nm,15.2s,MS3.8
RPZ Rata Peaks 54.80 137 P **P 04 09 14.1 +2.1**
comp=Z,22nm,0.9s,mb5.2,baz=41,slow=4.7,SNR=13
CASY Casey 56.38 185 *eP* **P 04 09 22.6 -0.7**
comp=Z,8.5nm,1.2s,mb4.7
ULN Ulaanbaatar 59.10 349⇑ *iP* **P 04 09 42.8 +0.3**
ULN *e* 04 10 06.3
SONM Songino Array 59.20 349 P **P 04 09 43.5 +0.4**
comp=Z,18nm,0.7s,mb5.2,baz=166,slow=8.6,SNR=160
SONM Songino Array 59.20 349 P **P 04 09 43.5 +0.4**
SONM pmax pmax
comp=Z,18nm,0.7s
HIA Hailar 59.27 359 *eP* **P 04 09 42.9 -0.7**
HIA pmax pmax
comp=Z,3.0nm,0.4s
HIA Hailar 59.27 359 *eP* **P 04 09 42.9 -0.7**
comp=Z,3.2nm,0.4s,mb4.7
HABR Khabarovsk 59.84 11 *eP* **P 04 09 46.4 -1.2**
YSS Yuzh-Sakhalins 60.28 17⇑ *eP* **P 04 09 51.8 +1.2**
YSS pmax pmax
comp=Z,27nm,1.4s,mb5.1
ZAK Zakamensk 62.25 348⇓ *iP* **P 04 10 03.7 -0.2**
ZAK *e* 04 10 44.6
ZAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.6
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.5
MOY Mondy 63.96 347 *eP* **P 04 10 16.3 +1.1**
KSH Kashi 64.56 323 *eP* **P 04 10 20.1 +0.9**
KSH *eAP* pP 04 10 30.6 +2.2
KSH LR LR
comp=Z,753nm,15.8s,MS5.0
MK31 Makanchi Array 66.30 332 P **P 04 10 28.1 -2.3**
MK31 pmax pmax
comp=Z,27nm,1.0s,mb5.2
MKAR Makanchi Array 66.30 332 P **P 04 10 30.0 -0.4**
comp=Z,13nm,0.8s,mb5.0,baz=132,slow=7.2,SNR=82
MKAR Makanchi Array 66.30 332 P **P 04 10 30.0 -0.4**
MKAR pmax pmax
comp=Z,13nm,0.8s
MKAR Makanchi Array 66.30 332 P **P 04 10 30.0 -0.4**
KZA Kyzart 66.63 325 P **P 04 10 33.2 +0.7**
SNR=12
TKM2 Tokmak 2 66.98 326 P **P 04 10 34.6 -0.2**
SNR=7.0
AAK Ala-Archa 67.42 325 P **P 04 10 38.2 +0.6**
SNR=6.7
AAK Ala-Archa 67.42 325⇑ *eP* **P 04 10 36.4 -1.1**
AAK pmax pmax
comp=Z,16nm,1.1s,mb5.0
AAK Ala-Archa 67.42 325⇑ *eP* **P 04 10 36.4 -1.1**
comp=Z,16nm,1.1s,mb5.0
AML Almayashu 67.56 324 P **P 04 10 39.0 +0.5**
SNR=26
USP Ospenovka 67.82 325 P **P 04 10 40.0 -0.1**
SNR=9.3
EKS2 Erkin-Say 67.84 324 P **P 04 10 40.2 0.0**
SNR=11
BOD Bodaibo 68.05 356 *eP* **P 04 10 40.9 -0.6**
BOD pmax pmax
comp=Z,17nm,1.1s,mb5.0
MAW Mawson 68.62 200 P **P 04 10 45.0 -0.1**
comp=Z,3.4nm,0.9s,mb4.3,baz=64,slow=6.2,SNR=6.1
MAW Mawson 68.62 200 *eP* **P 04 10 44.3 -0.8**
MAW pmax pmax
comp=Z,4.0nm,0.9s
MAW Mawson 68.62 200 *eP* **P 04 10 44.2 -0.8**
comp=Z,3.9nm,0.9s,mb4.3
WSAR Wadi Sarin 69.16 300 P **P 04 10 47.8 -0.6**
comp=Z,9.4nm,0.8s,mb4.8,baz=50,slow=6.9,SNR=6.4
WSAR LR LR 04 42 54.1
comp=Z,93nm,18.5s,MS4.0,baz=148,slow=38
VNDA Vanda 70.51 171 P **P 04 10 57.1 +0.3**
comp=Z,3.5nm,1.0s,mb4.2,baz=301,slow=6.2,SNR=14
VNDA LR LR 04 36 58.1
comp=Z,80nm,21.3s,MS3.9,baz=38,slow=32
VNDA Vanda 70.51 171 P **P 04 10 57.1 +0.3**
VNDA LR LR 04 36 58.1
ZAL Zalesovo 70.78 338 P **P 04 10 57.0 -1.4**
comp=Z,7.7nm,0.7s,mb4.8,baz=330,slow=4.0,SNR=43
ZAL Zalesovo 70.78 338 *iP* **P 04 10 57.2 -1.2**
ZAL pmax pmax
comp=Z,8.0nm,0.7s
ZAL Zalesovo 70.78 338 P **P 04 10 57.0 -1.4**
KURK Kurchatov 70.83 333⇑ *eP* **P 04 10 58.0 -0.7**
KURK *e* 04 11 19.4
KURK pmax pmax
comp=Z,27nm,1.1s,mb5.1
KURK Kurchatov 70.83 333⇑ *eP* **P 04 10 58.0 -0.7**
comp=Z,27nm,1.1s,mb5.1
KURK *e*PcP PcP 04 11 19.4 +0.1
NVS Novosibirsk 72.06 338⇑ *iP* **P 04 11 04.7 -1.4**
NVS pmax pmax
comp=Z,24nm,1.0s,mb5.1
NVS pmax pmax
comp=N,15nm,1.1s
NVS pmax pmax
comp=E,17nm,1.2s
YAK Yakutsk 72.40 4⇑ *eP* **P 04 11 07.9 -0.3**
YAK pmax pmax
comp=Z,49nm,1.2s,mb5.3
MA2 Magadan 73.68 15⇑ *eP* **P 04 11 17.5 +1.8**
MA2 pmax pmax
comp=Z,30nm,1.1s,mb5.1
VOSK Vostochnaya 75.68 331 P **P 04 11 26.3 -1.0**
BVA2 Borovoye Array 76.15 331 P **P 04 11 29.2 -0.8**
BVA2 pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BVAR Borovoye Array 76.15 331 LR LR 04 47 57.0
comp=Z,96nm,21.3s,MS4.1,baz=138,slow=38
BRVK Borovoye 76.22 331 *eP* **P 04 11 28.7 -1.7**
BRVK *e* 04 11 41.9
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BRVK Borovoye 76.22 331 *eP* **P 04 11 28.6 -1.8**
comp=Z,5.0nm,0.8s,mb4.5
BRVK *e*PcP PcP 04 11 41.9 -0.4
CHKZ Chkalovo 76.46 332 *iP* **P 04 11 30.8 -0.9**
CHKZ pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
CHKZ Chkalovo 76.46 332 *eP* **P 04 11 31.1 -0.7**
comp=Z,14nm,0.9s,mb4.9
ZRNK Zerenda 76.76 331 *eP* **P 04 11 32.8 -0.7**
ZRNK *e* 04 11 45.4
ZRNK pmax pmax
comp=Z,99nm,0.8s,mb5.8
ZRNK Zerenda 76.76 331 *eP* **P 04 11 32.8 -0.7**
comp=Z,99nm,0.8s,mb5.8
ZRNK *e*PcP PcP 04 11 45.4 +0.7
QSPA South Pole Qui 79.75 180 *eP* **P 04 11 52.5 +2.5**
comp=Z,2.6nm,0.7s,mb4.3
NAY Al-Naaiem 80.79 302 *eP* **P 04 11 56.1 +0.5**
NAY AMb AMB 04 11 57.4
comp=Z,17nm,0.7s,mb5.1
MIB Mutribah 80.88 303 *eP* **P 04 11 56.6 +0.6**
MIB AMb AMB 04 11 57.9
comp=Z,30nm,0.8s,mb5.2
RST Umm Al-Ruwaisa 81.07 302 *eP* **P 04 11 57.6 +0.6**
AKTK Aktyubinsk 81.16 325 P **P 04 11 57.9 +0.3**
AKTO Aktyubinsk 81.16 325 P **P 04 11 57.9 +0.3**
comp=Z,8.4nm,0.7s,mb4.8,baz=106,slow=5.8,SNR=30
AKTO Aktyubinsk 81.16 325 P **P 04 11 57.9 +0.3**
AKTO pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
TIXI Tiksi 81.91 3⇑ *eP* **P 04 12 01.0 -0.5**
TIXI pmax pmax
comp=Z,33nm,1.0s,mb5.2
SVE Sverdlovsk 82.94 331 *eP* **P 04 12 06.0 -0.9**
SVE pmax pmax
comp=Z,20nm,1.2s,mb5.0
KMBO Kilima Mbogo 83.28 270 LR LR 04 44 51.9
comp=Z,89nm,18.5s,MS4.2,baz=275,slow=33
ARU Arti 83.73 330⇓ *iP* **P 04 12 09.4 -1.6**
ARU *e* 04 15 21.4
ARU *e*PPP 04 17 13.4
ARU pmax pmax
comp=Z,13nm,1.1s,mb5.0
ARU Arti 83.73 330 *eP* **P 04 12 09.8 -1.2**
comp=Z,13nm,0.9s,mb5.1
BHD Baghdad 84.29 305 *ex* x 04 12 13.5
DGRG David-gareji 85.89 313 P **P 04 12 24.3 +2.4**
GNI Garni 85.96 312 LR LR 04 55 29.2
comp=Z,42nm,18.6s,MS3.9,baz=239,slow=39
GNI Garni 85.96 312 *iP* **P 04 12 21.7 -0.5**
MSL Mosul 86.13 308 *ex* x 04 12 27.5
MTA Mtatsminda 86.37 313 P **P 04 12 25.6 +1.4**
TBLG Delisi 86.42 313 P **P 04 12 26.5 +2.0**
GOR Gori 86.95 313 P **P 04 12 28.9 +1.9**
AKH Akhalkalaki 87.23 313 P **P 04 12 30.6 +2.2**
ZEI Tsey 87.32 314 *eP* **P 04 12 30.7 +1.8**
ZEI pmax pmax
comp=Z,12nm,0.5s,mb5.4
ONI Oni 87.58 314 P **P 04 12 31.7 +1.6**
KIV Kislovodsk 88.50 315 *iP* **P 04 12 34.1 -0.4**
GOF Gofitskoye 88.56 316 *eP* **P 04 12 35.6 +0.8**
GOF pmax pmax
comp=Z,50nm,1.0s,mb5.8
SNAA Sanae 90.23 195 *eP* **P 04 12 44.1 +1.5**
SNAA *e* 04 12 45.4
SNAA *e* pP 04 12 52.8 +0.7
SNAA *e* 04 13 13.3
SNAA *e* 04 13 27.1
SOC Sochi 90.48 314 *diP* **P 04 12 42.7 -1.1**
SOC *e*PPP 04 18 12.3
SOC *e* 04 23 25.7
SOC *e*SSS 04 33 18.6
SOC pmax pmax
comp=Z,22nm,0.9s,mb5.5
ANN Anapa 92.36 315 *eP* **P 04 12 52.6 +0.2**
ANN *e* 04 16 32.4
ANN pmax pmax
comp=Z,37nm,1.1s,mb5.6
VRSR Storozhevoye 92.59 321 *eP* **P 04 12 53.4 -0.2**
VRSR pmax pmax
comp=Z,10.0nm,0.6s,mb5.4
VRSR pmax pmax
comp=N,9.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,0.7s
BR131 Keskin Array S 94.17 309 *eP* **P 04 13 01.3 +0.5**
comp=E,2.5nm,0.8s,mb4.7
BRTR Keskin Array B 94.17 309 P **P 04 13 00.8 0.0**
comp=E,2.7nm,0.9s,mb4.7,baz=127,slow=5.5,SNR=16
BRTR LR LR 05 04 53.2
comp=E,24nm,18.1s,MS3.7,baz=283,slow=42
BRTR Keskin Array B 94.17 309⇑ *eP* **P 04 13 01.7 +0.9**
KLMR Klimovskoe 94.57 331 *eP* **P 04 13 02.0 -0.6**
KLMR pmax pmax
comp=Z,30nm,1.3s,mb5.6
OBN Obninsk 94.94 325 *eP* **P 04 13 04.2 -0.1**
OBN *e* pP 04 13 14.9 +1.0
OBN *e* 04 16 58.2
OBN pmax pmax
comp=Z,17nm,1.0s,mb5.4
AKASG Malin Array Be 98.73 320 P **P 04 13 20.9 -0.6**
comp=Z,1.7nm,0.7s,mb4.7,baz=78,slow=5.1,SNR=5.9
AKASG Malin Array Be 98.73 320 P **P 04 13 20.9 -0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 98.73 320 P **P 04 13 20.9 -0.6**
FINES FINESS Array B 101.10 331 P Pdif 04 13 31.4 -0.6
comp=Z,2.4nm,0.9s,baz=123,slow=7.0,SNR=6.0
FINES FINESS Array B 101.10 331 *iP* Pdif 04 13 31.3 -0.7
FINES pmax pmax
comp=Z,2.0nm,0.9s
TORD Torodi Ar. Bea 120.25 279 PKP PKPdf 04 18 34.9 +1.9
comp=Z,0.6nm,0.8s,baz=49,slow=1.8,SNR=6.3
HLID Hailey 122.10 45 *e*PKPdf PKPdf 04 18 39.6 +3.1
ESDC Sonseca Array 122.93 311 PKP PKPdf 04 18 39.1 +0.9
comp=Z,0.1nm,0.3s,baz=57,slow=2.6,SNR=5.8
PDAR Pinedale Array 125.72 44 PKP PKPdf 04 18 45.0 +1.5
comp=Z,0.3nm,0.6s,baz=261,slow=3.9,SNR=5.0
LAO LASA Array 126.28 39 *e*PKPdf PKPdf 04 18 48.0 +3.4
BINY Binghamton 145.00 22 *e*PKPdf PKPdf 04 19 19.8 +0.7
MCWV Mont Chateau 145.51 28 *e*PKPdf PKPdf 04 19 22.5 +2.4
SSPA Standing Stone 145.59 25 *e*PKPdf PKPdf 04 19 21.9 +1.7
TZTN Tazewell 145.89 36 *e*PKPdf PKPdf 04 19 23.4 +2.7
LRAL Lakeview Retre 145.94 44 *e*PKPbc PKPbc 04 19 23.9 +2.4
QUA2 Belchertown 146.13 17 *e*PKPab PKPab 04 19 23.6 +0.9
PAL Palisades 146.79 20 *e*PKP2 PKPab 04 19 25.6 +0.3
BLA Blacksburg 147.12 32 *e*PKP2 PKPab 04 19 26.6 0.0
BDFB Brasilia 151.92 204 PKPbc PKPbc 04 19 39.9 +3.0
comp=Z,2.7nm,0.8s,baz=145,slow=2.2,SNR=5.2
LPAZ La Paz 152.24 162 PKPbc PKPbc 04 19 41.5 +3.9
comp=Z,4.2nm,1.1s,baz=61,slow=4.7,SNR=8.6

IDC 17 04:06:46.3±5.1, 1925S×17730W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, Error ellipse: s-maj=178.5km s-min=82.6km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.93**	**243**	P	P	04 14 14.1	+0.2
	2.9nm,0.9s,baz=63,slow=6.8,SNR=4.1						
WRA	**Warramunga Arr**	**45.44**	**261**	P	P	04 15 07.4	+0.4
	0.3nm,0.3s,baz=97,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**45.46**	**255**	P	P	04 15 07.3	+0.3
	0.6nm,0.5s,baz=100,slow=7.6,SNR=10						
NOA	**NORSAR Array B**	**137.82**	**354**	PKP	PKPdf	04 26 11.8	-0.8
	0.8nm,0.7s,baz=2.2,slow=2.6,SNR=3.4						

IDC ***17*** *04:11:30.1±0.6, 1981S×17453W, h0km, mb4.5/12, mb1 4.8/14, mb1mx4.6/19, mbtmp4.6/14, ML4.0/2, MS3.9/15, Ms1 3.9/15, ms1mx3.7/26, Error ellipse: s-maj=23.8km s-min=14.9km az=130.0*
ISCJB ***17*** *04:11:34.0±0.2, 1979S×007×174.71W±007, h33km, mb4.7/52, MS3.9/14, Error ellipse: s-maj=12.3km s-min=5.0km az=96.1*
NEIC ***17*** *04:11:34.3±0.2, 1976S×17467W, h25km, mb4.9/44, Error ellipse: s-maj=9.6km s-min=4.3km az=136.0*
MOS ***17*** *04:11:36.7±0.7, 1927S×17446W, h33km, mb5.1/22, Error ellipse: s-maj=22.2km s-min=10.4km az=56.2*
SZGRF ***17*** *04:11:37.0, 1924S×17273W, h50km, Tonga Islands region*

ISC 17 04:11:36.0±0.2, 1985S±007×17463W±007, h35km, n299, σ0552/229, mb4.7/52, MS3.9/14, 47C-48D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.51**	**25**	Pn	Pn	04 13 05.5	-3.7
	28nm,0.3s,baz=95,slow=0.9,SNR=27						
AFI				Sn	Sn	04 14 11.9	-10
	14nm,0.3s,baz=225,slow=20,SNR=3.2						
RAR	**Rarotonga**	**13.99**	**98**	Pn	Pn	04 14 43.2	-8.4
	8.8nm,0.3s,baz=257,slow=10,SNR=25						
RAR				Sn	Sn	04 16 59.9	-26
	2.1nm,0.3s,baz=45,slow=17,SNR=4.3						
RAR				LR	LR	04 18 30.3	
	comp=Z,581nm,21.4s,baz=310,slow=30						
RAR				T		04 28 49.3	
	15nm,0.3s,baz=245,slow=18,SNR=7.0						
RAR	**Rarotonga**	**13.99**	**98**	Pn	Pn	04 14 43.2	-8.4
RAR				Sn	Sn	04 16 59.9	-26
RAR				LR	LR	04 18 30.3	
DZM	**Mont Dzumac**	**17.81**	**260**	*e*P	Pn	04 15 44.9	+3.9
DZM	**Mont Dzumac**	**17.81**	**260**	P	Pn	04 15 47.0	+6.0
	1.8nm,0.3s,baz=84,slow=16,SNR=20						
NOUC	**Port Laguerre**	**17.94**	**259**	*e*P	Pn	04 15 48.3	+5.7
URZ	**Urewera**	**19.70**	**200**	P	Pn	04 16 02.2	-1.7
	2.5nm,0.3s,baz=19,slow=5.1,SNR=10						
SNZO	**South Karori**	**23.24**	**201**	*e*P	P	04 16 39.1	-1.0
	58nm,1.0s,mb5.0						
PAE	**Paea**	**23.82**	**89**	*e*T		04 40 43.7	
	86nm,0.3s						
PPT	**Papeete**	**23.84**	**89**	*e*LQ		04 21 12.7	
	890nm,28.0s						
PPT				*e*LR	LR	04 22 07.9	
	926nm,27.0s,baz=265						
PPT	**Papeete**	**23.84**	**89**	*e*T		04 40 45.4	
	11nm,0.4s						
PPT	**Papeete**	**23.84**	**89**	LR	LR	04 25 12.3	
	comp=Z,226nm,18.2s,MS3.7,baz=138,slow=35						
TVO	**Taravao**	**24.11**	**89**	*e*T		04 41 05.7	
	21nm,0.4s						
PMOR	**Pomariorio Ree**	**25.95**	**84**	*e*T		04 43 24.8	
	5.2nm,0.4s						
VAH	**Vaihoa**	**26.14**	**84**	*e*T		04 43 39.0	
	6.7nm,0.2s						
HNR	**Honiara**	**26.64**	**289**	LR	LR	04 25 06.0	
	comp=Z,236nm,19.2s,MS3.8,baz=180,slow=30						
RPZ	**Rata Peaks**	**26.65**	**204**	P	P	**04 17 10.4**	**-1.0**
	30nm,0.6s,mb5.0,baz=263,slow=1.5,SNR=18						
TAOE	**Nuku Hiva Isla**	**35.08**	**77**	*e*T		04 54 40.4	
	175nm,0.3s						
CTA	**Charters Tower**	**36.70**	**263**	*e*P	P	**04 18 40.2**	**+0.6**
	9.9nm,0.4s,mb5.0						
CTA	**Charters Tower**	**36.70**	**263**	P	P	**04 18 40.6**	**+1.1**
	11nm,0.4s,mb5.0,baz=96,slow=9.7,SNR=19						
CTA				LR	LR	04 31 36.9	
	comp=Z,253nm,21.0s,MS4.0,baz=70,slow=33						
CTA	**Charters Tower**	**36.70**	**263**	*e*P	P	**04 18 40.2**	**+0.6**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PMG	**Port Moresby**	**38.31**	**280**	LR	LR	04 30 35.9	
	comp=Z,67nm,20.1s,MS3.5,baz=232,slow=30						
PMG	**Port Moresby**	**38.31**	**280**	*e*P	P	**04 18 52.2**	**-1.0**
PMG				pmax	pmax		
	comp=Z,11nm,0.8s						
PMG	**Port Moresby**	**38.31**	**280**	*e*P	P	**04 18 52.2**	**-1.0**
	comp=Z,11nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**40.92**	**244**	*e*P	P	**04 19 14.7**	**-0.1**
	comp=Z,4.6nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**40.92**	**244**	P	P	**04 19 14.9**	**+0.1**
	comp=Z,5.9nm,0.8s,mb4.3,baz=100,slow=9.9,SNR=8.5						
STKA				LR	LR	04 34 10.7	
	comp=Z,199nm,21.6s,MS3.9,baz=25,slow=33						
AS31	**Alice Springs**	**47.74**	**256**	*e*P	P	**04 20 10.1**	**+0.7**
ASAR	**Alice Springs**	**47.74**	**256**	P	P	**04 20 09.4**	**0.0**
	comp=Z,3.8nm,0.6s,mb4.6,baz=93,slow=7.9,SNR=41						
ASAR				PcP	PcP	04 21 39.4	+1.1
	comp=Z,1.0nm,0.7s,baz=103,slow=3.7,SNR=4.1						
ASAR				S	S	**04 26 59.2**	**-4.2**
	comp=Z,0.7nm,0.8s,baz=91,slow=16,SNR=4.4						
ASAR				LR	LR	04 37 47.6	
	comp=Z,165nm,21.2s,MS4.0,baz=288,slow=33						
ASAR	**Alice Springs**	**47.74**	**256**	P	P	**04 20 09.5**	**+0.1**
ASAR						04 21 39.4	
ASPA	**Alice Springs**	**47.75**	**256**	*e*P	P	**04 20 10.1**	**+0.6**
WB2	**Warramunga Arr**	**47.81**	**261**	*e*P	P	**04 20 09.4**	**-0.6**
WRAB	**Tennant Creek**	**47.81**	**261**	*e*P	P	**04 20 09.9**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
WRAB	**Tennant Creek**	**47.81**	**261**	*e*P	P	**04 20 09.9**	**-0.1**
	comp=Z,10nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**47.82**	**261**	P	P	**04 20 10.1**	**+0.1**
	comp=Z,2.2nm,0.3s,mb4.7,baz=96,slow=7.5,SNR=28						
GUMO	**Guam**	**51.88**	**307**	LR	LR	04 42 01.5	
	comp=Z,36nm,18.5s,MS3.4,baz=85,slow=35						
FORT	**Forrest**	**52.45**	**246**	*e*P	P	**04 20 45.0**	**-0.1**
	comp=Z,13nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**56.25**	**261**	*e*P	P	**04 21 13.7**	**+1.0**
	comp=Z,4.1nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**56.25**	**261**	P	P	**04 21 13.5**	**+0.7**
	comp=Z,2.2nm,0.6s,mb4.3,baz=50,slow=7.9,SNR=6.1						
FITZ				LR	LR	04 44 08.9	
	comp=Z,93nm,21.9s,MS3.8,baz=276,slow=35						
SBA	**Scott Base**	**58.75**	**185**	*e*P	P	**04 21 32.7**	**+2.4**
SBA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
SBA	**Scott Base**	**58.75**	**185**	*e*P	P	**04 21 32.7**	**+2.3**
	comp=Z,6.7nm,0.9s,mb4.7						
VNDA	**Vanda**	**58.86**	**186**	P	P	**04 21 31.2**	**+0.1**
	comp=Z,1.5nm,0.7s,mb4.1,baz=6.0,slow=6.0,SNR=8.6						
VNDA	**Vanda**	**58.86**	**186**	*e*P	P	**04 21 30.9**	**-0.2**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VNDA	**Vanda**	**58.86**	**186**	*e*P	P	**04 21 30.9**	**-0.2**
	comp=Z,2.3nm,0.9s,mb4.2						
MBWA	**Marble Bar**	**61.08**	**256**	*e*P	P	**04 21 46.6**	**+0.3**
	comp=Z,1.9nm,0.3s,mb4.7						
KLBR	**Kellerberrin**	**61.19**	**244**	*e*P	P	**04 21 46.4**	**-0.7**
	comp=Z,10nm,0.8s,mb5.0						
NWAO	**Narrogin (SRO)**	**61.48**	**243**	LR	LR	04 46 02.8	
	comp=Z,189nm,21.1s,MS4.2,baz=135,slow=34						
CASY	**Casey**	**65.90**	**205**	*e*P	P	**04 22 20.3**	**+2.1**
	comp=Z,4.5nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	**70.22**	**180**	*e*P	P	**04 22 45.8**	**+0.5**
	comp=Z,12nm,0.9s,mb4.8						
MJAR	**Matsushiro Arr**	**71.61**	**322**	P	P	**04 22 54.2**	**+0.5**
	comp=Z,2.6nm,0.6s,mb4.4,baz=68,slow=0.5,SNR=10.0						
MJAR	**Matsushiro Arr**	**71.61**	**322**	P	P	**04 22 54.2**	**+0.5**
ASAJ	**Asahikawa**	**74.71**	**330**	LR	LR	04 49 21.2	
	comp=Z,35nm,20.5s,MS3.6,baz=27,slow=30						
HAST	**UC Hastings Re**	**75.11**	**42**	⇓P	P	**04 23 14.2**	**-0.2**
	baz=75						
JRSC	**Jasper Ridge**	**75.33**	**41**	⇓P	P	**04 23 14.8**	**-0.8**
	baz=76						
PKD	**Parkfield**	**75.48**	**43**	⇑P	P	**04 23 16.2**	**-0.3**
	baz=76						
U04C	**Hernandez Rese**	**75.58**	**42**	⇑P	P	**04 23 17.4**	**+0.3**
	baz=76,SNR=5.5						
PACP	**Pacheco Peak**	**75.67**	**42**	⇓P	P	**04 23 17.5**	**0.0**
	baz=76,SNR=6.2						
S04C	**Ingram Canyon,**	**75.95**	**41**	⇓P	P	**04 23 19.2**	**0.0**
	baz=76						
MNRC	**McLaughlin Nat**	**76.14**	**39**	⇑P	P	**04 23 20.3**	**0.0**
	baz=76						
O01C	**Eel River Cons**	**76.16**	**38**	⇑P	P	**04 23 20.4**	**0.0**
	baz=76						
S05C	**Merced**	**76.48**	**42**	⇓P	P	**04 23 21.5**	**-0.7**
	baz=77						
GASB	**Alder Springs**	**76.48**	**39**	⇑P	P	**04 23 21.9**	**-0.2**
	baz=77						
ISA	**Isabella**	**76.64**	**44**	P	P	**04 23 23.2**	**+0.1**
	baz=77,SNR=6.7						
T06C	**Millerton Lake**	**76.66**	**42**	⇑P	P	**04 23 22.7**	**-0.5**
	baz=77						
Q04C	**Lincoln**	**76.76**	**40**	⇑P	P	**04 23 23.4**	**-0.3**
	baz=77						
YSS	**Yuzh-Sakhalins**	**76.78**	**332**	*e*P	P	**04 23 25.0**	**+1.1**
O02C	**Red Bluff**	**76.78**	**38**	⇑P	P	**04 23 23.6**	**-0.3**
	baz=77						
PFO	**Pinyon Flat Ob**	**76.80**	**47**	⇑P	P	**04 23 23.8**	**-0.2**
	baz=77						
CMB	**Columbia Colle**	**76.86**	**41**	*e*P	P	**04 23 23.8**	**-0.6**
CMB				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
CMB	**Columbia Colle**	**76.86**	**41**	*e*P	P	**04 23 23.8**	**-0.6**
	comp=Z,8.6nm,0.9s,mb4.7						
CMB	**Columbia Colle**	**76.86**	**41**	P	P	**04 23 24.2**	**-0.1**
	baz=77,SNR=7.0						
N02C	**Big Bar**	**76.90**	**37**	⇑P	P	**04 23 24.6**	**+0.1**
	baz=77						
KCC	**Kaiser Creek**	**77.10**	**42**	P	P	**04 23 25.8**	**+0.1**
	baz=77,SNR=6.7						
LAVA	**Lava Cap Winer**	**77.10**	**40**	⇑P	P	**04 23 25.1**	**-0.6**
	baz=77						
S06C	**San Francisco**	**77.10**	**42**	⇓P	P	**04 23 25.2**	**-0.5**
	baz=77						
ORV	**Oroville**	**77.14**	**39**	⇓P	P	**04 23 25.4**	**-0.5**
	baz=77,SNR=5.8						
WDC	**Whiskeytown Da**	**77.18**	**38**	⇓P	P	**04 23 25.8**	**-0.3**
	baz=77						
CWC	**Cottonwood Cre**	**77.36**	**44**	⇑P	P	**04 23 27.3**	**+0.2**
	baz=78						
R05C	**Kirkwood Meado**	**77.47**	**41**	⇑P	P	**04 23 27.7**	**-0.1**
	baz=78,SNR=7.1						
P05C	**Yuba Gap, Truc**	**77.52**	**40**	⇑P	P	**04 23 27.9**	**-0.1**
	baz=78						
M02C	**Callahan**	**77.53**	**37**	⇓P	P	**04 23 28.5**	**+0.3**
	baz=78						
GSC	**Goldstone**	**77.54**	**45**	P	P	**04 23 27.9**	**-0.2**
	baz=78,SNR=6.4						
MLAC	**Mammoth Lakes**	**77.59**	**42**	⇓P	P	**04 23 28.8**	**+0.3**
	baz=78						
MTUM	**Tungsten Hills**	**77.59**	**43**	*e*P	P	**04 23 26.7**	**-1.8**
GLA	**Glamis**	**77.62**	**48**	⇑P	P	**04 23 28.8**	**+0.2**
	baz=78						
TIN	**Tinemaha**	**77.63**	**43**	⇑P	P	**04 23 28.8**	**+0.1**
	baz=78						
R07C	**Lee Vining**	**77.73**	**42**	⇑P	P	**04 23 29.5**	**+0.2**
	baz=78,SNR=10						
O05C	**Quincy**	**77.74**	**39**	⇓P	P	**04 23 29.1**	**-0.2**
	baz=78						
R06C	**Coleville**	**77.74**	**41**	⇑P	P	**04 23 29.6**	**+0.3**
	baz=78,SNR=6.7						
YBH	**Yreka Blue Hor**	**77.83**	**37**	*e*P	P	**04 23 30.3**	**+0.5**
YBH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
YBH	**Yreka Blue Hor**	**77.83**	**37**	*e*P	P	**04 23 30.3**	**+0.5**
	comp=Z,7.7nm,0.9s,mb4.6						

YBH Yreka Blue Hor 77.83 37 ⇓P P 04 23 29.8 0.0
baz=78
O04C Chester 77.87 39 ⇓P P 04 23 30.0 0.0
baz=78
WCN Washoe City 78.03 40 ⇓P P 04 23 31.1 +0.2
baz=78,SNR=5.9
P06A Stead Airport, 78.18 40 ⇓P P 04 23 31.8 +0.1
baz=78
TUQ Turquoise Mtn. 78.20 45 ⇓P P 04 23 31.8 -0.1
baz=78
Y12C Blythe 78.22 48 ⇓P P 04 23 32.0 +0.1
baz=78
HUMO Hull Mountain 78.27 36 ⇓P P 04 23 32.4 +0.2
baz=78
ELFS Eagle Lake Fie 78.27 39 ⇑P P 04 23 32.3 +0.1
baz=78
NVAR Mina Array Bea 78.41 42 P P 04 23 33.1 +0.2
comp=Z,15nm,0.8s,mb5.0,baz=211,slow=7.3,SNR=71
R08A Mina 78.48 42 ⇓P P 04 23 33.4 +0.1
baz=79,SNR=7.6
M05C Lookout 78.49 38 ⇑P P 04 23 33.4 -0.1
baz=79
U10A Ash Meadows, A 78.50 44 ⇑P P 04 23 33.6 +0.2
baz=79,SNR=5.6
MNV Mina 78.50 42 eP P 04 23 33.1 -0.4
MNV pmax pmax
comp=Z,20nm,0.9s,mb5.0
MNV Mina 78.50 42 eP P 04 23 33.1 -0.4
comp=Z,20nm,0.9s,mb5.0
PAHR Pah Rah Range 78.51 40 eP P 04 23 33.5 0.0
comp=Z,21nm,1.4s,mb4.9
O06A Flanigan 78.52 40 P P 04 23 33.6 0.0
baz=79,SNR=10
L04A Klamath Falls 78.58 37 ⇓P P 04 23 33.9 0.0
baz=79
S09A Goldfield 78.67 43 ⇑P P 04 23 34.2 -0.2
baz=79,SNR=17
NEE Needles 78.76 47 ⇓P P 04 23 35.4 +0.5
baz=79
V11A Goodsprings 78.76 45 ⇓P P 04 23 35.0 +0.1
baz=79,SNR=5.4
M06C Likely Place G 78.78 39 ⇑P P 04 23 35.2 +0.2
baz=79
W12A Cal Nev Ari 78.84 46 ⇑P P 04 23 35.5 +0.2
baz=79
TPNV Topopah Spring 78.85 44 eP P 04 23 35.4 0.0
TPNV pmax pmax
comp=Z,17nm,0.8s,mb5.0
TPNV Topopah Spring 78.85 44 eP P 04 23 35.4 0.0
comp=Z,17nm,0.8s,mb5.0
TPH Tonopah 78.88 43 eP P 04 23 35.8 +0.2
TPH pmax pmax
comp=Z,18nm,0.8s,mb5.0
TPH Tonopah 78.88 43 eP P 04 23 35.8 +0.2
comp=Z,18nm,0.8s,mb5.0
N06A Buffalo Meadow 78.89 39 ⇑P P 04 23 35.4 -0.2
baz=79
Q08A Gabbs 78.90 42 ⇑P P 04 23 35.4 -0.2
baz=79,SNR=11
V12A Nelson 79.09 46 P P 04 23 37.1 +0.4
baz=79,SNR=5.5
O07A Toulon 79.09 40 ⇓P P 04 23 36.7 0.0
baz=79,SNR=16
Z14A Wintersburg 79.11 49 ⇓P P 04 23 37.2 +0.4
baz=79,SNR=5.0
L05A Lakeview 79.11 38 ⇑P P 04 23 37.2 +0.3
baz=79
U11A Corn Creek 79.12 45 ⇓P P 04 23 37.2 +0.3
baz=79
X13A Yucca 79.16 47 ⇓P P 04 23 37.2 +0.1
baz=79,SNR=14
P08A Dixie Valley 79.30 41 ⇓P P 04 23 38.1 +0.2
baz=80
Y14A Wickenburg 79.38 48 ⇑P P 04 23 38.4 0.0
baz=80,SNR=16
W13A Hualapai Mount 79.39 47 ⇑P P 04 23 38.8 +0.4
baz=80,SNR=7.5
N07B Gerlach 79.42 40 ⇓P P 04 23 38.3 -0.2
baz=80,SNR=9.6
116A Eloy 79.58 50 ⇓P P 04 23 39.7 +0.3
baz=80
R10A Warm Springs 79.59 43 ⇓P P 04 23 39.8 +0.3
baz=80,SNR=17
M07A Soldier Meadow 79.67 39 ⇓P P 04 23 39.9 0.0
baz=80,SNR=10
U12A Valley of Fire 79.69 45 ⇓P P 04 23 40.4 +0.4
baz=80,SNR=17
X14A Yava 79.74 48 ⇓P P 04 23 40.6 +0.3
baz=80,SNR=8.7
P09A Austin 79.80 41 ⇓P P 04 23 40.5 -0.1
baz=80
K06A Valley Falls 79.92 37 ⇓P P 04 23 41.2 0.0
baz=80,SNR=7.2
N08A GE Springer Mi 79.92 40 ⇑P P 04 23 41.2 -0.1
baz=80
L07A Adell 79.96 38 ⇑P P 04 23 41.5 0.0
baz=80,SNR=5.4
W14A Seligman 80.01 47 P P 04 23 42.5 +0.8
baz=80,SNR=18
H04A Detroit Lake 80.05 35 ⇑P P 04 23 41.3 -0.6
baz=80
TUC Tucson 80.11 50 eP P 04 23 42.6 +0.4
TUC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TUC Tucson 80.11 50 eP P 04 23 42.6 +0.3
comp=Z,9.6nm,0.9s,mb4.7
O09A Fish Creek Ran 80.14 41 ⇑P P 04 23 42.3 -0.1
baz=80,SNR=11
M08A Happy Creek Ra 80.18 39 P P 04 23 42.7 +0.1
baz=80,SNR=6.7
X15A Humboldt 80.21 48 P P 04 23 43.4 +0.6
baz=80,SNR=17
I05A Bend 80.21 36 ⇑P P 04 23 42.9 +0.1
baz=80
G04A Mulino 80.24 35 ⇑P P 04 23 43.8 +0.9
baz=80
J06A Christmas Vall 80.26 37 ⇑P P 04 23 42.5 -0.6
baz=80,SNR=9.2
P10A Eureka 80.27 42 ⇑P P 04 23 42.9 -0.2
baz=80
BMN Battle Mountai 80.27 41 eP P 04 23 42.9 -0.2
BMN pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BMN Battle Mountai 80.27 41 eP P 04 23 42.9 -0.2
comp=Z,3.3nm,0.7s,mb4.4
Q11A Duckwater 80.33 43 P P 04 23 43.6 +0.2
baz=80,SNR=19
N09A Rock Creek Ran 80.34 40 P P 04 23 43.6 +0.2
baz=80,SNR=8.0
W15A Williams 80.55 47 ⇑P P 04 23 45.4 +0.8
baz=81
E03A Lebam 80.56 33 ⇑P P 04 23 44.3 -0.4
baz=81
WVOR Wild Horse Val 80.63 38 eP P 04 23 44.9 -0.1
WVOR pmax pmax
comp=Z,12nm,1.0s,mb4.8
WVOR Wild Horse Val 80.63 38 eP P 04 23 44.9 -0.1
comp=Z,12nm,1.0s,mb4.8
P11A Circle Ranch, 80.67 42 ⇓P P 04 23 45.3 0.0
baz=81
M09A Marrel Ranch, 80.72 40 ⇓P P 04 23 45.7 +0.2
baz=81
F04A Amboy 80.74 34 ⇑P P 04 23 46.0 +0.4
baz=81
J07A Hines 80.81 37 ⇓P P 04 23 46.0 -0.1
baz=81
N10A Dunphy 80.88 41 ⇓P P 04 23 46.4 0.0
baz=81
G05A Wamic 80.88 35 ⇓P P 04 23 46.7 +0.3
baz=81
L09A Wilkinson Ranc 80.95 39 ⇓P P 04 23 46.6 -0.1
baz=81,SNR=7.1
Q12A Willow Creek R 80.97 43 ⇓P P 04 23 46.9 0.0
baz=81,SNR=9.6
O11A Cowboy Ranch, 81.06 42 ⇓P P 04 23 47.4 +0.1
baz=81,SNR=8.3
CCUT Cedar City 81.09 45 eP P 04 23 47.8 +0.2
P12A McGill 81.16 43 ⇓P P 04 23 48.0 +0.1
baz=81
F05A White Salmon 81.22 34 ⇑P P 04 23 47.8 -0.4
baz=81
M10A I.L. Ranch, Tu 81.33 40 ⇓P P 04 23 48.9 +0.2
baz=82
N11A Elko Archery C 81.41 41 ⇑P P 04 23 49.2 0.0
baz=82
E05A Randle 81.50 34 ⇑P P 04 23 49.3 -0.4
baz=82,SNR=6.6
ELK Elko 81.68 41 eP P 04 23 50.3 -0.3
ELK pmax pmax
comp=Z,5.0nm,0.9s
ELK Elko 81.68 41 eP P 04 23 50.3 -0.3
comp=Z,5.0nm,0.9s,mb4.4
M11A Holland Ranch, 81.73 41 ⇓P P 04 23 51.1 +0.2
baz=82
D05A Enumclaw 81.79 33 ⇑P P 04 23 51.3 +0.1
baz=82
N12A Clover Valley, 81.86 41 ⇑P P 04 23 51.5 -0.1
baz=82
RMW Rattlesnake Mo 82.06 33 P P 04 23 52.8 +0.1
C05A Tolt Reservoir 82.27 33 ⇓P P 04 23 53.3 -0.5
baz=82
MVU Marysvale 82.37 45 eP P 04 23 49.7 -4.6
comp=Z,7.6nm,0.9s,mb4.6
N13A Wendover, West 82.39 42 ⇓P P 04 23 54.3 -0.1
baz=82
MSU Marysvale 82.40 45 eP P 04 23 55.6 +1.2
HAWA Hanford 82.58 35 eP P 04 23 55.0 -0.4
comp=Z,0.6nm,0.9s,mb3.6
MDW Midway 82.59 35 P P 04 23 55.6 +0.2
GBB Gable Butte 82.66 35 P P 04 23 55.9 +0.1
M13A Montello 82.70 41 P P 04 23 56.0 0.0
baz=83,SNR=8.6
GBL Gable Mountain 82.75 35 P P 04 23 56.4 +0.2
BMO Blue Mountains 82.86 37 eP P 04 23 56.0 -0.9
comp=Z,4.8nm,0.9s,mb4.5
DUG Dugway 82.90 43 eP P 04 23 56.8 -0.2
DUG pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
DUG Dugway 82.90 43 eP P 04 23 56.8 -0.3
comp=Z,1.4nm,0.7s,mb4.1
EPH Ephrata 83.15 34 P P 04 23 58.1 -0.2
WTV Waterville 83.18 34 P P 04 23 58.2 -0.2
MAW Mawson 83.23 199 P P 04 23 59.2 +0.5
comp=Z,2.0nm,0.8s,mb4.2,baz=141,slow=3.7,SNR=3.9
MAW Mawson 83.23 199 eP P 04 23 58.7 0.0
MAW pmax pmax
comp=Z,7.0nm,0.8s
MAW Mawson 83.23 199 eP P 04 23 58.7 0.0
comp=Z,7.1nm,0.8s,mb4.8
TMUT Trail Mountain 83.46 44 eP P 04 24 00.8 +0.9
SPUT South Promonto 83.74 42 eP P 04 24 01.1 -0.2
Y22C IRIS PASSCAL I 83.79 51 ⇑P P 04 24 02.9 +1.3
baz=84
HLID Hailey 83.79 39 eP P 04 24 01.8 +0.1
comp=Z,13nm,0.9s,mb5.1
HVU Hansel Valley 83.80 42 eP P 04 24 01.4 -0.2
HVU pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
HVU Hansel Valley 83.80 42 eP P 04 24 01.4 -0.2
comp=Z,6.9nm,0.7s,mb4.9
SRU San Rafael 83.81 45 eP P 04 24 02.0 +0.3
SRU pmax pmax
comp=Z,11nm,0.7s,mb5.1
SRU San Rafael 83.81 45 eP P 04 24 01.9 +0.2
comp=Z,11nm,0.7s,mb5.1
DAU Daniels Canyon 84.02 43 eP P 04 24 02.8 0.0
BNM Barren Site 84.04 51 eP P 04 24 03.4 +0.5
LPM Los Pinos Moun 84.12 50 eP P 04 24 03.6 +0.3
TCUT Toone Canyon 84.30 43 eP P 04 24 04.5 +0.3
PV10 Paradox Valley 84.43 46 eP P 04 24 05.0 +0.1
HWUT Hardware Ranch 84.46 42 eP P 04 24 04.4 -0.6
comp=Z,6.1nm,0.7s,mb4.8
ANMO Albuquerque 84.55 50 eP P 04 24 05.6 +0.2
ANMO pmax pmax
comp=Z,22nm,1.1s
ANMO Albuquerque 84.55 50 eP P 04 24 05.5 +0.1
comp=Z,22nm,1.1s,mb5.2
PV01 Paradox Valley 84.63 46 eP P 04 24 06.1 +0.2
MCMT McKenzie Canyo 85.44 39 eP P 04 24 10.2 +0.3
MCK McKinley 85.69 11 eP P 04 24 10.3 -0.8
MCK pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
MCK McKinley 85.69 11 eP P 04 24 10.3 -0.9
comp=Z,7.8nm,0.9s,mb4.9
TPAW Teton Pass 85.85 41 eP P 04 24 12.2 +0.2
comp=Z,9.5nm,1.2s,mb4.9
DLMT Dillon 85.88 39 eP P 04 24 11.7 -0.4
comp=Z,12nm,1.0s,mb5.1
IMW Indian Meadow 86.08 41 eP P 04 24 13.2 +0.1
comp=Z,5.7nm,1.0s,mb4.8
SMCO Snowmass 86.23 46 eP P 04 24 13.9 +0.1
comp=Z,7.3nm,0.8s,mb5.0
FLWY Flagg Ranch 86.32 40 eP P 04 24 14.7 +0.4
comp=Z,16nm,1.4s,mb5.1
PDAR Pinedale Array 86.34 42 P P 04 24 13.9 -0.5
comp=Z,1.9nm,0.8s,mb4.4,baz=204,slow=3.3,SNR=17
PDAR LR LR 04 54 59.6
comp=Z,46nm,18.9s,MS3.9,baz=38,slow=30
CHMT Chamberlain Mo 86.36 37 eP P 04 24 13.8 -0.7
BOZ Bozeman (W) 86.60 39 eP P 04 24 15.4 -0.3
BOZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
BOZ Bozeman (W) 86.60 39 eP P 04 24 15.4 -0.2
comp=Z,3.7nm,0.9s,mb4.6
COLA College 86.92 11 eP P 04 24 16.2 -1.0
COLA pmax pmax
comp=Z,16nm,0.8s,mb5.3
COLA College 86.92 11 eP P 04 24 16.2 -1.0
comp=Z,16nm,0.8s,mb5.3
HRY Holter Researc 87.07 38 eP P 04 24 17.6 -0.3
PLCA Paso Flores 87.41 132 LR LR 04 53 19.1
comp=Z,95nm,19.2s,MS4.2,baz=81,slow=29
ISCO Idaho Springs 87.45 46 eP P 04 24 19.6 -0.2
ISCO pmax pmax
comp=Z,2.0nm,0.9s,mb4.3
ISCO Idaho Springs 87.45 46 eP P 04 24 19.6 -0.2
comp=Z,2.0nm,0.9s,mb4.3
DAWY Dawson 88.00 15 eP P 04 24 22.3 -0.1
SYO Syowa Base 88.03 192⇑eP P 04 24 21.5 -1.1
PHWY Pilot Hill 88.27 45 eP P 04 24 23.0 -0.7
SNAA Sanae 88.55 177 e P 04 24 24.0 -1.0
SNAA e 04 24 26.8
SNAA e 04 24 29.0
SNAA e 04 24 39.6
SNAA Sanae 88.55 177 eP P 04 24 24.2 -0.8
SNAA pmax pmax
comp=Z,7.0nm,0.9s
SNAA Sanae 88.55 177 eP P 04 24 24.2 -0.8
comp=Z,7.1nm,0.9s,mb5.0
VNA1 Neumayer--Stat 89.24 175 e P 04 24 29.4 +1.1
VNA1 e 04 24 32.5
VNA1 e 04 24 34.5
VNA1 e 04 24 45.2
LAO LASA Array 90.36 40 eP P 04 24 34.1 +0.6
comp=Z,5.0nm,0.8s,mb4.9
RSSD Black Hills 90.51 43 eP P 04 24 33.4 -0.8
RSSD pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
RSSD Black Hills 90.51 43 eP P 04 24 33.4 -0.8
comp=Z,5.3nm,0.9s,mb4.9
YKA Yellowknife Ar 94.62 24 P P 04 24 51.9 -1.2
comp=Z,1.9nm,0.7s,mb4.6,baz=234,slow=4.2,SNR=6.3
YKA Yellowknife Ar 94.62 24 P P 04 24 51.9 -1.2
ULM Lac du Bonnet 98.10 39 LR LR 05 02 24.0
comp=Z,80nm,19.6s,MS4.2,baz=270,slow=31
LPAZ La Paz 99.37 111 LR LR 05 00 39.1
comp=Z,50nm,18.8s,MS4.0,baz=43,slow=30
BVAR Borovoye Array 120.60 320 PKP PKPdf 04 30 23.4 -0.6
comp=Z,1.2nm,0.5s,baz=48,slow=2.2,SNR=8.1
ARCES ARCESS Array B 128.81 351 PKP PKPdf 04 30 38.6 -1.0
comp=Z,1.1nm,0.5s,baz=347,slow=1.1,SNR=14
HFS Hagfors 139.32 354 PKhKP 04 30 48.9
comp=Z,2.1nm,1.0s,baz=126,slow=2.5,SNR=3.5
AKASG Malin Array Be 143.89 334 PKP PKPdf 04 31 04.5 -3.1
comp=Z,0.9nm,0.4s,baz=37,slow=4.0,SNR=6.1
EKA Eskdalemuir Ar 143.99 8 PKP PKPdf 04 31 04.2 -3.4
comp=Z,0.8nm,0.5s,baz=327,slow=2.7,SNR=8.6
MALT Malatya 145.99 310 ePKP2 PKPab 04 31 13.4 +0.9
LVV L'vov 146.59 338 ePKP2 PKPab 04 31 18.9 +4.1
CLZ Clausthal 147.83 354 ePKPbc PKPbc 04 31 16.7 -0.5
CLZ epPKPbc pPKPbc 04 31 32.3 +3.8
CLL Collm 148.03 351 ePKPbc PKPbc 04 31 17.4 -0.3
CLL Collm 148.03 351 i PKPbc PKPbc 04 31 17.7 0.0
comp=Z,7.0nm,0.7s
CLL i sPKPab 04 31 32.4
comp=Z,11nm,0.8s
CLL i x x 04 31 41.3
CLL Collm 148.03 351 i PKP2 PKPbc 04 31 17.7 0.0
CLL pmax pmax
comp=Z,7.0nm,0.7s
CLL Collm 148.03 351 i P PKPbc 04 31 17.7 0.0
CLL i 04 31 32.4
BRG Berggiesshubel 148.30 350 ePKP PKPbc 04 31 19.2 +0.8
comp=Z,2.0nm,0.8s
BRG e 04 31 33.0
comp=Z,1.4nm,0.3s
BRG Berggiesshubel 148.30 350 ePKP2 PKPbc 04 31 19.2 +0.8
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG pmax pmax
comp=Z,1.0nm,0.3s
DPC Dobruska-Polom 148.34 347 ePKPab PKPab 04 31 21.9 +0.2
DPC ex x 04 31 34.0
FBE Freiberg 148.35 350 ePKPbc PKPbc 04 31 18.8 +0.3
BUG Bochum--Univer 148.44 358 ePKPbc PKPbc 04 31 18.6 -0.2
BR131 Keskin Array S 148.67 315 ePKPbc PKPbc 04 31 19.6 +0.2
BRTR Keskin Array B 148.67 315 PKPbc PKPbc 04 31 19.8 +0.4
comp=Z,2.0nm,0.8s,baz=124,slow=3.9,SNR=13
MOX Moxa 148.87 352 ePKPbc PKPbc 04 31 20.0 +0.1
MOX epPKPbc pPKPbc 04 31 35.0 +3.7
MOX Moxa 148.87 352 ePKP PKPbc 04 31 20.5 +0.6
WERD Werda 148.97 351 ePKPbc PKPbc 04 31 20.1 0.0
TANN Tannenbergstha 148.98 351 ePKPbc PKPbc 04 31 20.0 -0.2
PRU Pruhonice 149.05 348 ePKPbc PKPbc 04 31 20.8 +0.5
PRU epPKP pPKPdf 04 31 35.2 +7.5
NKC Novy Kostel 149.16 351 ePKPbc PKPbc 04 31 22.6 +2.0
NKC epPKP pPKPdf 04 31 35.8 +8.0
VYHS Vyhne 149.42 342 ePKP PKPbc 04 31 20.9 -0.4
MANZ Manzenberg 149.45 351 ePKPbc PKPbc 04 31 22.0 +0.7
TREC Trest 149.52 347 ePKPdf PKPdf 04 31 15.6 -1.4
TREC epPKP pPKPdf 04 31 30.7 +2.3
TNS Taunus Mts 149.59 356 ePKPbc PKPbc 04 31 21.0 -0.7
ROTZ Rotzenmuhle 149.65 351 ePKPbc PKPbc 04 31 22.3 +0.5
ROTZ epPKPbc pPKPbc 04 31 37.1 +3.9
GRA1 Grafenberg Arr 149.86 352 ePKPbc PKPbc 04 31 22.7 +0.4
GRF Grafenberg Arr 149.86 352 ePKPbc PKPbc 04 31 22.7 +0.4
KHC Kasperske Hory 150.05 349 ePKPbc PKPbc 04 31 23.3 +0.5
KHC epPKP pPKPdf 04 31 38.0 +8.7
WET Wettzell 150.15 350 ePKPbc PKPbc 04 31 23.6 +0.6
WLF Walferdange 150.24 359 ePKPbc PKPbc 04 31 23.4 +0.1
WLF epPKPbc pPKPbc 04 31 38.5 +3.8
GEC2 GERESS Array S 150.30 349 ePKPbc PKPbc 04 31 23.7 +0.3
GEC2 epPKPbc pPKPbc 04 31 38.2 +3.4
GERES GERESS Array B 150.30 349 PKPbc PKPbc 04 31 23.2 -0.2
comp=Z,1.5nm,0.8s,baz=48,slow=2.0,SNR=14
ROSF Rostrenen 150.73 12 ePKP1 PKPbc 04 31 23.6 -0.8
comp=Z,11nm,0.7s
FLN La Foliniere 150.77 8 ePKP1 PKPbc 04 31 23.9 -0.6
comp=Z,53nm,1.0s
SGMF Saint Gilles 150.94 11 ePKP1 PKPbc 04 31 24.0 -0.9
comp=Z,21nm,0.8s
LDF La Druitiere 150.98 8 ePKP1 PKPbc 04 31 24.4 -0.6
comp=Z,22nm,0.9s
GRR Gorron 151.09 9 ePKP1 PKPbc 04 31 24.9 -0.3
comp=Z,36nm,0.7s
CDF Champ du Feu 151.46 357 ePKP1 PKPbc 04 31 25.7 -0.4
BFO Black Forest 151.48 356 ePKPbc PKPbc 04 31 26.2 0.0
BFO Black Forest 151.48 356 ePKPbc PKPbc 04 31 30.2 +4.0
HAU Haudompre 151.90 359 ePKP1 PKPbc 04 31 26.7 -0.4
LOR Lormes 152.62 2 ePKP1 PKPbc 04 31 28.6 -0.1
comp=Z,14nm,1.0s
SSF Saint Saulge 152.81 3 ePKP1 PKPbc 04 31 29.0 -0.2
comp=Z,14nm,0.9s
MFF Saint Martin d 152.93 8 ePKP1 PKPbc 04 31 28.8 -0.6
comp=Z,5.1nm,0.6s
AVF Avril sur Loir 153.07 3 ePKP1 PKPbc 04 31 29.3 -0.4
comp=Z,12nm,1.1s
BGF Bois d'Agland 153.28 4 ePKP1 PKPbc 04 31 29.9 -0.3
TCF Toulx Ste Croi 153.50 5 ePKP1 PKPbc 04 31 30.1 -0.6
comp=Z,8.4nm,0.9s
ORIF Oris-en-Rattie 154.99 359 ePKP1 PKPdf 04 31 33.3 +8.2
MBDF Montbardon 155.16 358 ePKP1 PKPdf 04 31 33.4 +8.1
TORD Torodi Ar. Bea 172.47 152 PKP PKPdf 04 31 39.9 -1.2
comp=Z,0.7nm,0.8s,baz=300,slow=1.1,SNR=4.5
TORD PKPab PKPab 04 33 05.7 -0.3
comp=Z,1.1nm,1.0s,baz=178,slow=4.1,SNR=4.6
TORD Torodi Ar. Bea 172.47 152 PKP PKPdf 04 31 39.9 -1.2
TORD PKPab PKPab 04 33 05.7 -0.3

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*ISCJB **17** 04:14:46.8±0.2, 4657N±001×766E±002, h8km±2km, Error ellipse: s-maj=2.2km s-min=1.8km az=35.9*
*CSEM **17** 04:14:47.6±0.1, 4653N×774E, h8km, ML2.7/19, Error ellipse: s-maj=1.0km s-min=0.8km az=120.0*
*NEIC **17** 04:14:47.8, 4657N×772E, h6km, ML2.2(ZUR), ML2.4(LEDBW), ML2.5(STR), ML2.7(LDG), After ZUR.*
*ZUR **17** 04:14:47.8, 4657N×772E, h6km±1km, ML2.2/24*
*LDG **17** 04:14:47.3±0.1, 4654N×777E, h2km, Md2.9/3, Ml2.7/20, Error ellipse: s-maj=2.2km s-min=1.6km az=122.0*
*ROM **17** 04:14:48.7±0.1, 4652N×770E, h12km±8km, Md2.4/7, Ml1.9/2, Error ellipse: s-maj=1.8km s-min=1.3km az=11.0*
*STR **17** 04:14:48.2±0.6, 4658N×775E, h10km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 17 04:14:47.6±0.2**, 4656N**±001×**767E**±002**, h14**km±2km**, n125,** σ**0.90**/208**, 16C-23D, Switzerland**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WIMIS Wimmis 0.11 344 i Sg Pg 04 14 50.6 -0.1
2µm,0.1s
WIMIS Wimmis 0.11 344⇓iPg Sg 04 14 52.5 -0.5
2µm,0.1s
WIMIS Wimmis 0.11 344⇓iPg Sg 04 14 52.5 -0.5
2µm,0.1s
LKBD Leukerbad 0.17 189⇓iPg Pg 04 14 51.9 +0.3
1µm,0.2s
LKBD i Sg Sg 04 14 54.8 +0.3
1µm,0.2s
SENIN Lac Senin 0.32 233⇑iPg Pg 04 14 54.6 +0.5
223nm,0.2s
SENIN eSg Sg 04 14 59.7 +1.1
223nm,0.2s
HASLI Hasliberg 0.39 59 i Sg Pg 04 14 55.8 +0.5
357nm,0.3s
HASLI Hasliberg 0.39 59⇑iPg Sg 04 15 00.3 -0.3
357nm,0.3s
HASLI Hasliberg 0.39 59⇑iP Pg 04 14 55.0 -0.3
GRYON Gryon 0.49 232⇓iPg Pg 04 14 57.8 +0.5
40nm,0.2s
DIX Grande Dixence 0.51 201 Pg Pg 04 14 58.2 +0.6
DIX Sg Sg 04 15 05.2 +0.8
TORNY Torny 0.53 294⇓iPg Pg 04 14 58.8 +0.8
750nm,0.2s
TORNY i Sg Sg 04 14 59.1 -6.0
750nm,0.2s
TORNY Torny 0.53 294⇓iP Pg 04 14 59.2 +1.2
AIGLE Aigle 0.54 246⇓iPg Sg 04 15 06.9 +1.6
205nm,0.4s
AIGLE Aigle 0.54 246⇓iP Pg 04 14 58.8 +0.6
MMK Mattmark 0.55 158 i Sg Pg 04 14 58.7 +0.4
170nm,0.4s
MMK Mattmark 0.55 158⇓iPg Sg 04 15 05.7 +0.1
170nm,0.4s
MMK Mattmark 0.55 158⇓iPg Pg 04 14 58.7 +0.4
MMK Sg Sg 04 15 05.8 +0.2
BNALP Bannalp 0.61 59 i Sg Pg 04 14 59.2 -0.2
71nm,0.2s
BNALP Bannalp 0.61 59⇑ePg Sg 04 15 07.0 -0.5
71nm,0.2s
BNALP Bannalp 0.61 59⇑eP Pg 04 14 59.1 -0.3
SALAN Lac Salanfe 0.64 229⇑iPg Sg 04 15 09.7 +1.3
31nm,0.2s
SALAN Lac Salanfe 0.64 229⇑iP Pg 04 15 00.5 +0.5
MCGN Macugnaga 0.64 160⇓iPg Pg 04 15 00.4 +0.3
MCGN Sg Sg 04 15 08.5 0.0
25nm,0.2s
FUSIO Fusio 0.69 98 i Sg Pg 04 15 00.5 -0.6
241nm,0.1s
FUSIO Fusio 0.69 98⇑iPg Pg 04 15 01.7 +0.6
241nm,0.1s
FUSIO Fusio 0.69 98⇑iP Pg 04 15 01.1 0.0
FUSIO Fusio 0.69 98⇑iPg Pg 04 15 01.7 +0.6
241nm,0.1s
OG01 Vacheresse 0.72 252 Pg Pg 04 15 05.1 +3.6
EMV Vieux Emosson 0.73 227⇓iPn Pn 04 15 02.9 -0.6
98nm,0.1s
EMV Vieux Emosson 0.73 227⇓iP Pg 04 15 02.2 +0.5
BALST Balsthal 0.78 1⇓iPn Pn 04 15 03.5 -0.6
428nm,0.3s
BALST Balsthal 0.78 1⇓iP Pg 04 15 02.9 +0.3
MUO Muotathal 0.78 58 eP Pg 04 15 02.7 0.0
178nm,0.4s
BOURR Bourrignon 0.89 340⇓iPn Pn 04 15 05.7 0.0
143nm,0.7s
BOURR Bourrignon 0.89 340⇓iP Pg 04 15 05.2 +0.5
MRGE Morge 0.90 208 Pg Pg 04 15 05.0 +0.1
22nm,0.3s

BRANT	Les Verrieres	0.91	295⇑	iP	Pg	04 15 06.3	+1.2
	201nm,0.3s						
BRANT	Les Verrieres	0.91	295⇑	iP	Pg	04 15 06.0	+0.9
BBS	Basel-Blauen	0.91	353	P	Pb	04 15 05.6	+0.4
BBS				Sg	Sg	04 15 20.2	+3.1
BBS	Basel-Blauen	0.91	353	Pg	Pg	04 15 06.2	+1.0
BBS				Sg	Sg	04 15 18.1	+1.0
ORO	Oropa	0.96	167	Pg	Pg	04 15 06.1	+0.1
ORO				Sg	Sg	04 15 18.2	-0.4
	52nm,0.2s						
LLS	Linth-Limmern	0.97	72⇑	iP	Pb	04 15 09.4	+3.3
	98nm,0.4s						
LLS	Linth-Limmern	0.97	72⇑	iP	Pb	04 15 05.7	-0.4
LOMF	Lomont	0.98	324	Pg	Pg	04 15 07.4	+0.9
LOMF				Sg	Sg	04 15 22.0	+2.7
CABF	La Chapelle	1.09	273	ePg	Pg	04 15 09.3	+0.7
CABF				eSg	Sg	04 15 24.5	+1.7
	21nm,0.2s						
CABF	La Chapelle	1.09	273	ePg	Pg	04 15 09.3	+0.7
CABF				eSg	Sg	04 15 24.5	+1.7
	10nm,0.2s						
RSL	Roselend	1.13	220	Pg	Pg	04 15 09.7	+0.3
MUGIO	Muggio	1.15	123	eP	Pb	04 15 10.8	+1.6
	71nm,0.4s						
MUGIO	Muggio	1.15	123	eP	Pb	04 15 09.4	+0.2
MUGIO	Muggio	1.15	123	Pg	Pg	04 15 09.3	-0.3
MUGIO				Sg	Sg	04 15 23.7	-0.9
TUE	Stuetta	1.16	94	Pg	Pg	04 15 09.5	-0.5
TUE				Sg	Sg	04 15 24.4	-0.7
	31nm,0.3s						
LPL	La Plagne	1.23	212	ePg	Pg	04 15 11.3	+0.1
LPL				eSg	Sg	04 15 27.7	+0.5
	5.6nm,0.3s						
LPL	La Plagne	1.23	212	ePg	Pg	04 15 11.3	+0.1
LPL				eSg	Sg	04 15 27.7	+0.5
	2.8nm,0.3s						
LPG	La Plagne	1.24	211	ePg	Pg	04 15 11.5	+0.1
LPG				eSg	Sg	04 15 27.4	-0.1
	9.0nm,0.2s						
LPG	La Plagne	1.24	211	ePg	Pg	04 15 11.5	+0.1
LPG				eSg	Sg	04 15 27.4	-0.1
	4.5nm,0.2s						
VDL	Val di Lei	1.25	93	eP	Pn	04 15 11.5	+0.9
	54nm,0.4s						
VDL	Val di Lei	1.25	93	eP	Pn	04 15 10.8	+0.2
PLONS	Plons	1.27	67⇓	iP	Pn	04 15 11.7	+0.7
	67nm,0.3s						
PLONS	Plons	1.27	67⇓	iP	Pn	04 15 11.5	+0.5
SLE	Schleitheim	1.33	25	i Pn	Pn	04 15 12.1	+0.3
	219nm,0.4s						
SLE	Schleitheim	1.33	25	i P	Pn	04 15 11.7	-0.1
FELD	Feldberg im Sc	1.34	10	P	Pn	04 15 11.6	-0.2
FELD				Sg	Sg	04 15 30.7	0.0
FELD	Feldberg im Sc	1.34	10	Pg	Pg	04 15 13.4	+0.1
FELD				Sg	Sg	04 15 30.7	0.0
MOF	Molkenrain	1.34	344	Pg	Pg	04 15 13.9	+0.5
MOF				Sg	Sg	04 15 31.1	+0.2
HINF	Hinteralfeld	1.38	336	ePg	Pg	04 15 14.1	+0.1
HINF				eSg	Sg	04 15 32.2	+0.3
	18nm,0.2s						
HINF	Hinteralfeld	1.38	336	ePn	Pn	04 15 12.8	+0.4
HINF				ePg	Pg	04 15 14.1	+0.1
HINF				eSg	Sg	04 15 32.2	+0.3
HINF	Hinteralfeld	1.38	336	ePg	Pg	04 15 14.1	+0.1
HINF				eSg	Sg	04 15 32.2	+0.3
	9.0nm,0.2s						
KIZ	Kirchzarten	1.41	7⇓	iP	Pn	04 15 12.4	-0.4
KIZ				Pg	Pg	04 15 14.5	-0.1
KIZ				S	Sn	04 15 30.1	-1.1
KIZ				Sg	Sg	04 15 32.6	-0.3
KIZ	Kirchzarten	1.41	7	Pg	Pg	04 15 14.5	-0.1
DAVOX	Davos	1.54	81	Pg	Pg	04 15 16.2	-0.9
OG05	Jujurieux	1.62	252	Pg	Pg	04 15 19.3	+0.7
DAVA	Damuels	1.68	64⇓	iPg	Pg	04 15 19.3	-0.5
DAVA			⇑	iSg	Sg	04 15 40.4	-1.3
	comp=Z,12nm,0.3s						
DAVA	Damuels	1.68	64⇓	iPg	Pg	04 15 19.3	-0.5
DAVA			⇑	iSg	Sg	04 15 42.3	+0.6
	22nm,0.3s						
DAVA	Damuels	1.68	64⇓	iPg	Pg	04 15 19.3	-0.5
DAVA				i Sg	Sg	04 15 40.4	-1.3
DAVA	Damuels	1.68	64	Pg	Pg	04 15 19.3	-0.5
DAVA				i Sg	Sg	04 15 40.3	-1.4
ECH	Echery	1.69	348	Pg	Pg	04 15 19.9	-0.2
ECH	Echery	1.69	348	Pn	Pn	04 15 16.9	+0.2
ECH				Pg	Pg	04 15 19.9	-0.2
ECH	Echery	1.69	348	Pg	Pg	04 15 19.9	-0.2
HAU	Haudompre	1.70	329	ePg	Pg	04 15 20.0	-0.3
HAU				eSg	Sg	04 15 42.2	-0.2
	14nm,0.2s						
HAU	Haudompre	1.70	329	ePn	Pn	04 15 17.5	+0.6
HAU				ePg	Pg	04 15 20.0	-0.3
HAU				eSg	Sg	04 15 42.2	-0.2
HAU	Haudompre	1.70	329	ePg	Pg	04 15 20.0	-0.3
HAU				eSg	Sg	04 15 42.2	-0.2
	6.8nm,0.2s						
FUORN	Ofenpass	1.79	87	eP	Pn	04 15 20.8	+2.7
	27nm,0.6s						
GUT	Gutenstein	1.81	33	Pg	Pg	04 15 21.6	-0.6
GUT				S	Sn	04 15 40.3	-0.7
BFO	Black Forest	1.83	14	ePn	Pn	04 15 17.9	-0.7
BFO				eSn	Sn	04 15 39.9	-1.7
BFO	Black Forest	1.83	14	ePn	Pn	04 15 17.9	-0.7
BFO				eSn	Sn	04 15 39.9	-1.7
WLS	Welschbruch	1.87	354	Pn	Pn	04 15 19.4	+0.3
WLS				Sg	Sg	04 15 47.3	-0.3
CDF	Champ du Feu	1.87	352	ePg	Pg	04 15 23.2	-0.3
CDF				eSn	Sn	04 15 42.8	+0.1
CDF				eSg	Sg	04 15 47.2	-0.6
	18nm,0.3s						
CDF	Champ du Feu	1.87	352	ePn	Pn	04 15 19.4	+0.2
CDF				ePg	Pg	04 15 23.2	-0.3
CDF				eSn	Sn	04 15 42.8	+0.1
CDF				eSg	Sg	04 15 47.2	-0.6
CDF	Champ du Feu	1.87	352	ePg	Pg	04 15 23.2	-0.3
CDF				eSn	Sn	04 15 42.8	+0.1
CDF				eSg	Sg	04 15 47.2	-0.6
	8.8nm,0.3s						
MBDF	Montbardon	1.94	199	ePg	Pg	04 15 23.7	-1.0
MBDF				eSg	Sg	04 15 49.7	-0.2
	11nm,0.5s						
MBDF	Montbardon	1.94	199	ePg	Pg	04 15 23.7	-1.0
MBDF				eSg	Sg	04 15 49.7	-0.2
	5.5nm,0.5s						
UBR	Ueberruh	2.01	55	Pg	Pg	04 15 25.7	-0.4
UBR				S	Sn	04 15 47.4	+1.4
ORIF	Oris-en-Rattie	2.06	218	ePg	Pg	04 15 26.4	-0.8
ORIF				eSg	Sg	04 15 53.6	-0.3
	8.5nm,0.4s						
ORIF	Oris-en-Rattie	2.06	218	ePg	Pg	04 15 26.4	-0.8
ORIF				eSg	Sg	04 15 53.6	-0.3
	4.2nm,0.4s						
SFTF	Sexfontaines	2.43	314	eSg	Sg	04 16 05.9	+0.2
	7.5nm,0.4s						
SFTF	Sexfontaines	2.43	314	eSg	Sg	04 16 05.9	+0.2
	3.8nm,0.4s						
SMF	Signal de Mont	2.64	273	ePg	Pg	04 15 38.4	+0.2
SMF				eSg	Sg	04 16 10.8	-1.6
	14nm,0.2s						
SMF	Signal de Mont	2.64	273	ePn	Pn	04 15 30.7	+0.9
SMF				ePg	Pg	04 15 38.4	+0.2
SMF				eSg	Sg	04 16 10.8	-1.6
SMF	Signal de Mont	2.64	273	ePg	Pg	04 15 38.4	+0.2
SMF				eSg	Sg	04 16 10.8	-1.6
	7.2nm,0.2s						
VIVF	Saint-Julien-l	2.70	232	ePg	Pg	04 15 38.5	-0.9
VIVF				eSg	Sg	04 16 12.1	-2.3
	3.8nm,0.2s						
VIVF	Saint-Julien-l	2.70	232	ePn	Pn	04 15 30.9	+0.3
VIVF				ePg	Pg	04 15 38.5	-0.9
VIVF				eSg	Sg	04 16 12.1	-2.3
VIVF	Saint-Julien-l	2.70	232	ePg	Pg	04 15 38.5	-0.9
VIVF				eSg	Sg	04 16 12.1	-2.3
	1.9nm,0.2s						
LOR	Lormes	2.71	287	ePg	Pg	04 15 39.5	+0.1
LOR				eSg	Sg	04 16 14.9	+0.4
	11nm,0.2s						
LOR	Lormes	2.71	287	ePn	Pn	04 15 32.6	+1.9
LOR				ePg	Pg	04 15 39.5	+0.1
LOR				eSg	Sg	04 16 14.9	+0.4
LOR	Lormes	2.71	287	ePg	Pg	04 15 39.5	+0.1
LOR				eSg	Sg	04 16 14.9	+0.4
	5.7nm,0.2s						
SSF	Saint Saulge	2.90	281	ePg	Pg	04 15 42.9	-0.3
SSF				eSg	Sg	04 16 19.6	-1.2
	6.8nm,0.2s						
SSF	Saint Saulge	2.90	281	ePn	Pn	04 15 36.3	+2.9
SSF				ePg	Pg	04 15 42.9	-0.3
SSF				eSg	Sg	04 16 19.6	-1.2
SSF	Saint Saulge	2.90	281	ePg	Pg	04 15 42.9	-0.3
SSF				eSg	Sg	04 16 19.6	-1.2
	3.4nm,0.2s						
COLF	Collangettes	2.96	251	Pg	Pg	04 15 43.9	-0.3
SMRF	Simiane la Rot	2.98	211	eSg	Sg	04 16 20.2	-3.0
	3.9nm,0.5s						
SMRF	Simiane la Rot	2.98	211	eSg	Sg	04 16 20.2	-3.0
	2.0nm,0.5s						
AVF	Avril sur Loir	2.98	276	ePg	Pg	04 15 44.2	-0.5
AVF				eSg	Sg	04 16 21.0	-2.3
	3.0nm,0.2s						
AVF	Avril sur Loir	2.98	276	ePn	Pn	04 15 35.0	+0.6
AVF				ePg	Pg	04 15 44.2	-0.5
AVF				eSg	Sg	04 16 21.0	-2.3
AVF	Avril sur Loir	2.98	276	ePg	Pg	04 15 44.2	-0.5
AVF				eSg	Sg	04 16 21.0	-2.3
	1.5nm,0.2s						
BGF	Bois d'Agland	3.33	272	eSg	Sg	04 16 32.6	-1.8
	9.4nm,0.3s						
BGF	Bois d'Agland	3.33	272	eSg	Sg	04 16 32.6	-1.8
	4.7nm,0.3s						
HYF	Humbligny	3.52	283	eSg	Sg	04 16 39.4	-1.2
LASF	Ste Croix	3.66	229	ePg	Pg	04 15 56.7	-1.0
LASF				eSg	Sg	04 16 40.7	-4.4
	3.2nm,0.5s						
LASF	Ste Croix	3.66	229	ePn	Pn	04 15 45.2	+1.4
LASF				ePg	Pg	04 15 56.7	-1.0
LASF				eSg	Sg	04 16 40.7	-4.4
LASF	Ste Croix	3.66	229	ePg	Pg	04 15 56.7	-1.0
LASF				eSg	Sg	04 16 40.7	-4.4
	1.6nm,0.5s						
TCF	Toulx Ste Croi	3.79	268	eSn	Sn	04 16 28.3	-1.5
TCF				eSg	Sg	04 16 47.9	-1.2
	3.0nm,0.3s						
TCF	Toulx Ste Croi	3.79	268	eSn	Sn	04 16 28.3	-1.5
TCF				eSg	Sg	04 16 47.9	-1.2
	1.5nm,0.3s						
CAF	Calviac	4.25	249	ePg	Pg	04 16 07.0	-1.9
CAF				eSg	Sg	04 17 01.9	-2.1
	1.8nm,0.4s						
CAF	Calviac	4.25	249	ePn	Pn	04 15 52.1	+0.2
CAF				ePg	Pg	04 16 07.0	-1.9
CAF				eSg	Sg	04 17 01.9	-2.1
CAF	Calviac	4.25	249	ePg	Pg	04 16 07.0	-1.9
CAF				eSg	Sg	04 17 01.9	-2.1
	0.9nm,0.4s						

IDC 17 04:19:52.6±7.2**, 1900S**×**17503W, h0**^{km}**, mb3.6**/2**, mb1 3.9**/3**, mb1mx3.7**/14**, mbtmp3.8**/3**, ML2.3**/1**, Error ellipse: s-maj=298.1km s-min=32.3km az=140.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	5.95	32	Pn	Pn	04 21 22.1	+0.2
	4.6nm,0.3s,baz=107,slow=16,SNR=2.7						
AFI				Sn	Sn	04 22 25.7	-5.0
	2.7nm,0.3s,baz=320,slow=21,SNR=2.0						
ASAR	Alice Springs	47.59	255	P	P	04 28 31.2	+1.1
	0.6nm,0.6s,baz=94,slow=7.2,SNR=9.5						
WRA	Warramunga Arr	47.59	260	P	P	04 28 29.8	-0.2
	0.3nm,0.5s,baz=99,slow=9.3,SNR=6.9						
BRTR	Keskin Array B	147.81	316	PKPbc	PKPbc	04 39 39.0	-0.4
	0.3nm,0.6s,baz=156,slow=4.2,SNR=2.6						

ISCJB 17 04:36:07.0±1.9, 198S±02×1776W±02, h497^{km}±37^{km}, mb4.0/10, Error ellipse: s-maj=29.2km s-min=25.3km az=35.7

IDC 17 04:36:07.6±2.4, 1989S×17776W, h463^{km}±31^{km}, mb3.5/5, mb1 3.6/6, mb1mx3.3/15, mbtmp4.4/6, Error ellipse: s-maj=34.6km s-min=20.0km az=142.0

NEIC 17 04:36:07.9±1.1, 1993S×17768W, h479^{km}±17^{km}, mb4.3/6, Error ellipse: s-maj=17.2km s-min=13.8km az=164.0

ISC 17 04:36:08.2±1.7**, 198S**±02×**1775W**±02**, h502**^{km}±37^{km}**, n20,** σ**0**^{s}**69**/18**, mb4.0**/10**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	8.01	44	P	P	04 38 06.3	+1.5
	6.5nm,0.3s,baz=242,slow=23,SNR=5.8						
AFI				S	S	04 39 39.1	-1.2
	5.1nm,0.3s,baz=227,slow=21,SNR=4.3						
RPZ	Rata Peaks	25.70	199	P	P	04 40 57.7	0.0
	2.2nm,0.4s,mb4.0,baz=46,slow=11,SNR=6.0						
CTA	Charters Tower	34.06	263	P	P	04 42 10.4	+0.4
	2.8nm,0.4s,mb4.1,baz=99,slow=14,SNR=5.9						
CTAO	Charters Tower	34.06	263	eP	P	04 42 10.4	+0.5
	2.5nm,0.4s,mb4.0						
STKA	Stephens Creek	38.53	243	P	P	04 42 46.5	-0.5
	0.7nm,0.3s,mb3.5,baz=90,slow=12,SNR=3.5						
AS31	Alice Springs	45.16	256	eP	P	04 43 39.0	-0.4
ASAR	Alice Springs	45.16	256	P	P	04 43 39.6	+0.2
	2.8nm,0.6s,mb3.9,baz=92,slow=7.7,SNR=40						
ASPA	Alice Springs	45.16	256	eP	P	04 43 39.0	-0.4
WB2	Warramunga Arr	45.18	261	eP	P	04 43 39.6	0.0
WRAB	Tennant Creek	45.18	261	eP	P	04 43 39.5	-0.1
	3.7nm,0.3s,mb4.3						
WRA	Warramunga Arr	45.19	261	P	P	04 43 39.8	+0.1
	1.9nm,0.3s,mb4.0,baz=98,slow=7.8,SNR=42						
FORT	Forrest	50.02	246	eP	P	04 44 15.1	-0.8
	11nm,0.6s,mb4.3						
MBWA	Marble Bar	58.49	257	eP	P	04 45 15.6	-0.1
	10nm,0.8s,mb4.2						
SBA	Scott Base	58.58	184	eP	P	04 45 17.0	+0.7
KLBR	Kellerberrin	58.80	244	eP	P	04 45 17.5	-0.2
	35nm,1.3s,mb4.5						
KSM	Kuching	73.81	278	eP	P	04 46 52.4	+1.4
MAW	Mawson	82.37	200	eP	P	04 47 36.5	-0.6
	1.9nm,1.0s,mb3.6						
ARCES	ARCESS Array B	128.34	350	PKP	PKPdf	04 54 19.7	+2.4
	2.2nm,0.8s,baz=349,slow=2.8,SNR=4.1						
AKASG	Malin Array Be	142.65	332	PKhKP		04 54 42.6	
	0.6nm,0.4s,baz=39,slow=4.2,SNR=8.5						
GERES	GERESS Array B	149.68	345	PKPbc	PKPbc	04 55 04.0	+3.1
	0.5nm,0.6s,baz=45,slow=1.8,SNR=6.9						

MEX 17 04:57:14.5±0.7**, 1620N**×**9794W, h23**^{km}±18^{km}**, MD4.1, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VHO	Vista Hermosa	1.44	53	i P	Pn	04 57 36.6	-2.6
VHO				i S	Sn	04 57 54.5	-2.9
OXX	Oaxaca	1.46	53	i P	Pn	04 57 36.0	-3.4
OXX				i S	Sn	04 57 54.0	-3.7
UTMO	Huajuapan	1.63	4	eP	Pn	04 57 39.3	-2.4
UTMO				i S	Sn	04 57 58.6	-3.3
HUIG	Huatulco	1.81	103	i P	Pn	04 57 42.1	-2.1
HUIG				i S	Sn	04 58 03.2	-3.3
ACX	Acapulco	2.01	290	i P	Pn	04 57 44.5	-2.5
ACX				i S	Sn	04 58 08.5	-2.9
TPIG	Tehuac#an	2.27	14	eP	Pn	04 57 49.5	-1.1
TPIG				i S	Sn	04 58 15.7	-2.2
MEIG	Mezcala	2.35	317	eP	Pn	04 57 50.8	-0.9
MEIG				i S	Sn	04 58 16.8	-3.0
CAIG	El Cayaco	2.39	291	i P	Pn	04 57 49.2	-3.0
CAIG				i S	Sn	04 58 18.2	-2.5
PLIG	Platanillo	2.64	326	i P	Pn	04 57 53.6	-2.1
PLIG				i S	Sn	04 58 24.7	-2.4
YAIG	Yautepec	2.86	338	eP	Pn	04 57 56.1	-2.6
YAIG				i S	Sn	04 58 29.2	-3.2
PPM	Popocatepetl	2.93	347	eP	Pn	04 57 59.6	0.0
PPM				eP		04 58 03.0	
PPM				i S	Sn	04 58 30.5	-3.5
CMIG	Matias Romero	3.06	73	i P	Pn	04 57 58.9	-2.5
IIZ	Mezontepec	3.22	337	eP	Pn	04 58 01.3	-2.4
IIZ				i S	Sn	04 58 38.5	-2.8
UNM	Universidad Na	3.33	339	i P	Pn	04 58 02.6	-2.5
UNM				eP		04 58 20.0	
UNM				i S	Sn	04 58 41.4	-2.5
ZIIG	Zihuatanejo	3.66	293	i P	Pn	04 58 08.8	-0.8
ZIIG				i S	Sn	04 58 48.3	-3.7
LVIG	Laguna Verde	3.79	22	i P	Pn	04 58 08.2	-3.3
LVIG				i S	Sn	04 58 54.2	-1.1
MOIG	Morelia	4.64	319	i S	Sn	04 59 12.4	-3.9
MRX	Morelia	4.66	319	eP	Pn	04 58 26.0	+2.5
MRX				eS	Sn	04 59 10.5	-6.4

IDC 17 05:06:11.5±4.4, 509S×14939E, h0^{km}, mb3.7/4, mb1 4.0/5, mb1mx3.8/14, mbtmp3.8/5, ML2.8/1, MS3.6/1, Ms1 3.5/1, ms1mx2.6/24, Error ellipse: s-maj=120.2km s-min=26.8km az=103.0

ISCJB 17 05:06:13.9±4.9, 54S±03×150.1E±06, h66^{km}±33^{km}, mb3.7/5, Error ellipse: s-maj=116.2km s-min=28.4km az=48.0

NEIC 17 05:06:16.5±5.0, 550S×150.18E, h74^{km}±24^{km}, mb4.3/2, Error ellipse: s-maj=125.3km s-min=24.6km az=107.0

ISC 17 05:06:14.9±4.9**, 55S**±03×**1504E**±06**, h65**^{km}±32^{km}**, n10,** σ**0**^{s}**46**/11**, mb3.7**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.01	219	Pn	Pn	05 07 26.9	-0.5
	3.1nm,0.3s,baz=36,slow=13,SNR=13						
PMG				Sn	Sn	05 08 24.6	+0.7
	1.3nm,0.3s,baz=65,slow=17,SNR=3.0						
PMG	Port Moresby	5.01	219	ePn	Pn	05 07 27.9	+0.5
PMG				eSn	Sn	05 08 23.6	-0.3
WRAB	Tennant Creek	21.17	226	eP	P	05 10 54.6	-0.1
	13nm,1.0s,mb4.2						
WB2	Warramunga Arr	21.17	226	eP	P	05 10 54.3	-0.4
WRA	Warramunga Arr	21.18	226	P	P	05 10 54.1	-0.7
	1.2nm,0.6s,mb3.4,baz=48,slow=10,SNR=9.9						
ASAR	Alice Springs	24.02	220	P	P	05 11 24.2	+0.6
	1.5nm,0.8s,mb3.4,baz=51,slow=9.0,SNR=11						
FITZ	Fitzroy Crossi	27.20	241	eP	P	05 11 52.8	+0.5
	9.2nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	27.20	241	P	P	05 11 52.3	0.0
	4.5nm,0.8s,mb4.1,baz=132,slow=7.0,SNR=7.7						
STKA	Stephens Creek	27.48	196	LR	LR	05 22 59.1	
	comp=Z,124nm,20.3s,baz=28,slow=36						
SONM	Songino Array	65.67	329	P	P	05 16 52.4	+0.1
	0.2nm,0.3s,mb3.4,baz=142,slow=5.1,SNR=3.6						

MOS 17 05:26:31.6±1.4, 5629N×16257E, h9^{km}, mb4.6/28, Error ellipse: s-maj=10.5km s-min=6.2km az=84.6

KRSC 17 05:26:32, 56.14N×16271E, h4^{km}, ML5.0

IDC 17 05:26:32.2±0.7, 5625N×16248E, h0^{km}, mb4.1/21, mb1 4.3/22, mb1mx4.3/27, mbtmp4.1/22, ML4.1/1, MS3.5/4, Ms1 3.5/4, ms1mx3.0/31, Error ellipse: s-maj=19.2km s-min=15.0km az=145.0

BJI 17 05:26:33.8, 5630N×16220E, h25^{km}, mB4.7, mb4.7, Ms4.3, Msz3.9

ISCJB 17 05:26:34.5±0.8, 5628N±003×16251E±007, h27^{km}±6^{km}, mb4.4/44, MS3.7/6, Error ellipse: s-maj=6.9km s-min=4.5km az=59.8

NEIC 17 05:26:37.9±0.4, 5626N×162.17E, h35^{km}, mb4.5/16, Error ellipse: s-maj=10.8km s-min=7.4km az=153.0

ISC 17 05:26:34.6±1.0**, 5628N**±003×**16251E**±007**, h16**^{km}±6^{km}**, n116,** σ**1**^{s}**14**/127**, mb4.4**/44**, MS3.7**/6**, 7C-3D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.19	113	P	Pg	05 26 38.3	-0.9
KLY	Klyuchi	1.03	272	P	Pb	05 26 53.5	-0.6
KLY				S	Sb	05 27 08.2	+0.8
KOZR	Kozyr	1.48	263	PN	Pn	05 27 02.8	+2.3
KOZR				S	Sn	05 27 24.7	+5.3
KOZ	Kozyrevsk	1.49	262	P	Pn	05 27 02.8	+2.1
KOZ				S	Sn	05 27 24.7	+5.0
MKZ	Mys Kozlova	1.79	195	P	Pn	05 27 03.2	-1.6
MKZ				S	Sn	05 27 26.1	-1.0
KII	Karymskiy	2.85	219	P	Pn	05 27 20.7	+1.3
SPN	Mys Shipunski	3.50	205	P	Pn	05 27 27.4	-0.9
SPN				S	Sn	05 28 08.2	-1.2
NLC	Nalytchevo	3.62	212	P	Pn	05 27 30.1	+0.2
NLC				S	Sn	05 28 12.9	+0.7
PET	Petropavlovsk	3.96	216	P	Pn	05 27 35.5	+0.9
PET				S	Sn	05 28 20.1	-0.6
PET	Petropavlovsk	3.96	216	ePN	Pn	05 27 35.4	+0.8
PET				eS	Sn	05 28 23.4	+2.7
PET				pmax	pmax		
	comp=Z,100nm,5.0s						
PET				pmax	pmax		
	comp=Z,100nm,5.4s						
PET				pmax	pmax		
	comp=Z,184nm,0.5s						
PET				smax			
	comp=E,100nm,7.4s						
PET				smax			
	comp=E,900nm,2.5s						
PET				smax			
	comp=E,394nm,0.7s						
PET				smax			
	comp=N,526nm,0.8s						
PET				MLR	MLR		
	comp=Z,800nm,12.0s						
PET				MLR	MLR		
	comp=Z,700nm,12.0s						
PET	Petropavlovsk	3.96	216	ePn	Pn	05 27 35.5	+0.8
PET				eSn	Sn	05 28 20.4	-0.3
RUS	Russkaya	4.51	213	P	Pn	05 27 43.8	+1.6
RUS				S	Sn	05 28 36.6	+2.4
SKR	Severo-Kuril's	6.78	217	ePN	Pn	05 28 11.5	-1.9
SKR				eS	Sn	05 29 36.2	+6.0
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,120nm,0.8s						
SKR				smax			
	comp=E,110nm,0.8s						
SKR				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS	Yuzh-Sakhalins	15.36	241	eP	Pn	05 30 14.0	+3.3
YSS				MLR	MLR		
	comp=Z,400nm,14.0s						
ASAJ	Asahikawa	17.55	234	P	Pn	05 30 39.0	+0.5
	comp=Z,1.3nm,0.3s,baz=58,slow=6.1,SNR=36						
ASAJ				LR	LR	05 37 21.1	
	comp=Z,162nm,19.5s,baz=330,slow=37						
ASAJ	Asahikawa	17.55	234	P	Pn	05 30 39.0	+0.6
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,162nm,19.5s						
YAK	Yakutsk	17.64	303c	iP	Pn	05 30 41.5	+1.9
YAK				pmax	pmax		
	comp=Z,43nm,1.0s						
HABR	Khabarovsk	18.40	256	eP	Pn	05 30 51.6	+2.7
HABR				eS	Sn	05 34 20.4	+6.4
KLR	Kul'dur	19.78	262	eP	Pn	05 31 02.2	-3.4
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,800nm,13.0s						
TIXI	Tiksi	20.87	330	eP	P	05 31 17.9	+2.0
TIXI				pmax	pmax		
	comp=Z,13nm,1.1s						
COLA	College	25.21	50	eP	P	05 32 03.5	+4.0
COLA				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
COLA	College	25.21	50	eP	P	05 32 03.5	+4.1
	comp=Z,5.8nm,0.9s,mb4.1						
MAJO	Matsushiro	25.66	230⇑	eP	P	05 32 02.7	-0.8
MAJO				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.5						
MAJO	Matsushiro	25.66	230⇑	eP	P	05 32 02.7	-0.8
	comp=Z,14nm,0.8s,mb4.5						
MAT	Matsushiro	25.66	230	P	P	05 32 02.3	-1.2
MAT	Matsushiro	25.66	230	eP	P	05 32 02.0	-1.5
MAT				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.4						
MAT	Matsushiro	25.66	230	eP	P	05 32 02.0	-1.5
	comp=Z,11nm,0.8s,mb4.5						
MJAR	Matsushiro Arr	25.66	230	P	P	05 32 02.4	-1.1
	comp=Z,9.7nm,0.8s,mb4.4,baz=26,slow=8.7,SNR=25						
MJAR				LR	LR	05 43 19.3	
	comp=Z,124nm,18.8s,MS3.5,baz=75,slow=39						
MJAR	Matsushiro Arr	25.66	230	P	P	05 32 02.4	-1.1
MJAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,124nm,18.8s						
BOD	Bodaibo	25.98	294	eP	P	05 31 56.8	-10

BOD pmax pmax
comp=Z,5.0nm,1.4s,mb3.9
SNY Shenyang 28.87 257 ⇑P **P 05 32 31.4 -1.0**
SNY S **S 05 37 25.5 +3.6**
SNY AMB AMB
comp=Z,8.0nm,0.5s,mb4.7
SNY AMB AMB
comp=Z,130nm,4.5s
SNY LR LR
comp=N,215nm,14.7s,MS4.1
SNY LR LR
comp=E,288nm,13.3s,MS4.1
SNY LR LR
comp=Z,261nm,14.3s,MS4.0
DAWY Dawson 28.95 50 eP **P 05 32 37.4 +4.4**
INK Inuvik 30.51 41 eP **P 05 32 48.8 +1.9**
INK pmax pmax
comp=Z,4.0nm,1.0s
INK Inuvik 30.51 41 eP **P 05 32 48.8 +1.9**
comp=Z,4.1nm,1.0s,mb4.2
ULN Ulaanbaatar 34.25 280c iP **P 05 33 18.9 -0.8**
SONM Songino Array 34.63 280 P **P 05 33 23.0 +0.1**
comp=Z,2.1nm,0.7s,mb4.2,baz=60,slow=7.9,SNR=18
SONM PcP PcP 05 35 55.6 -1.4
comp=Z,0.5nm,0.6s,baz=40,slow=1.3,SNR=4.1
SONM Songino Array 34.63 280 P **P 05 33 23.0 +0.1**
SONM 05 35 55.6
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM pmax pmax
comp=Z,1.0nm,0.6s
DLBC Dease Lake 35.08 58 P **P 05 33 26.0 -0.8**
comp=Z,0.7nm,0.5s,mb3.9,baz=219,slow=14,SNR=2.7
DLBC Dease Lake 35.08 58 eP **P 05 33 31.3 +4.5**
SSE Sheshan 38.20 246 eP **P 05 33 48.9 -4.5**
SSE PP PP 05 35 18.1 -2.7
SSE S **S 05 39 38.8 -7.4**
SSE AMB AMB
comp=Z,23nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,38nm,3.7s
SSE LR LR
comp=N,94nm,21.0s,MS3.7
SSE LR LR
comp=E,82nm,21.0s,MS3.7
SSE LR LR
comp=Z,127nm,17.4s,MS3.8
JOW Kunigami 38.31 234 LR LR 05 50 05.2
comp=Z,39nm,18.2s,MS3.3,baz=146,slow=37
YKA Yellowknife Ar 39.90 46 P **P 05 34 06.9 -0.7**
comp=Z,0.7nm,0.7s,mb3.5,baz=302,slow=7.9,SNR=3.3
NVS Novosibirsk 42.51 303 eP **P 05 34 28.6 -0.5**
GTA Gaotai 43.69 275⇓iP **P 05 34 39.4 +0.7**
GTA AP pP 05 34 49.3 +5.5
GTA XP sP 05 34 53.8 +8.0
GTA AMB AMB
comp=Z,23nm,0.8s,mb5.0
GTA AMB AMB
comp=Z,62nm,5.3s
GTA LR LR
comp=N,184nm,19.8s,MS4.4
GTA LR LR
comp=E,385nm,17.1s,MS4.4
GTA LR LR
comp=Z,215nm,27.4s
EDM Edmonton 45.78 57 eP **P 05 34 55.3 0.0**
NEW Newport 47.17 64 LR LR 05 53 32.8
comp=Z,44nm,21.2s,MS3.4,baz=60,slow=34
KURK Kurchatov 47.27 301 P **P 05 35 06.1 -1.0**
KURK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
KURK Kurchatov 47.27 301 eP **P 05 35 06.0 -1.1**
comp=Z,17nm,1.0s,mb4.9
MKAR Makanchi Array 48.07 294 P **P 05 35 12.2 -1.0**
comp=Z,2.1nm,0.7s,mb4.3,baz=57,slow=6.6,SNR=19
MKAR Makanchi Array 48.07 294 P **P 05 35 12.2 -1.0**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
WALA Waterton Lakes 48.23 61 eP **P 05 35 14.8 +0.4**
comp=Z,2.4nm,0.6s,mb4.4
CHKZ Chkalovo 48.99 308 eP **P 05 35 19.3 -1.0**
CHKZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
CHKZ Chkalovo 48.99 308 eP **P 05 35 19.3 -1.0**
comp=Z,4.7nm,0.7s,mb4.6
ZRNK Zerenda 50.19 308 eP **P 05 35 29.0 -0.5**
ZRNK pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
ZRNK Zerenda 50.19 308 eP **P 05 35 29.0 -0.5**
comp=Z,3.8nm,0.5s,mb4.7
ARCES ARCESS Array B 50.69 342 P **P 05 35 33.1 -0.1**
comp=Z,2.6nm,0.9s,mb4.2,baz=46,slow=5.2,SNR=3.6
ARCES PcP PcP 05 36 49.3 -1.1
comp=Z,2.9nm,0.9s,baz=68,slow=6.7,SNR=3.7
ARCES ARCESS Array B 50.69 342 P **P 05 35 33.1 -0.1**
ARCES 05 36 49.3
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES pmax pmax
comp=Z,3.0nm,0.9s
HRY Holter Researc 50.85 62 eP **P 05 35 36.0 +1.5**
MCMT McKenzie Canyo 51.67 65 eP **P 05 35 43.8 +3.2**
ARU Arti 52.01 317⇓iP **P 05 35 41.5 -1.7**
ARU e 05 37 41.6
ARU eS **S 05 43 03.9 -2.0**
ARU eSS SS 05 46 40.4 -2.5
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ARU Arti 52.01 317 eP **P 05 35 42.1 -1.1**
comp=Z,5.3nm,0.3s,mb5.0
IMW Indian Meadow 53.29 64 eP **P 05 35 56.0 +3.3**
comp=Z,1.4nm,0.8s,mb3.9
NVAR Mina Array Bea 53.42 74 P **P 05 35 54.6 +1.0**
comp=Z,1.0nm,0.8s,mb3.8,baz=287,slow=10,SNR=5.8
TPAW Teton Pass 53.58 65 eP **P 05 35 55.3 +0.6**
comp=Z,1.4nm,0.6s,mb4.1
TKM2 Tokmak 2 54.18 295 P **P 05 35 57.9 -1.2**
SNR=7.2
USP Ospenovka 54.48 296 P **P 05 36 00.8 -0.5**
SNR=16
KBK Karagaybulak 54.70 295 P **P 05 36 02.5 -0.4**
SNR=6.2
PDAR Pinedale Array 54.81 64 P **P 05 36 04.5 +0.8**
comp=Z,1.3nm,0.6s,mb4.1,baz=324,slow=4.7,SNR=6.7
AAK Ala-Archa 54.94 296 P **P 05 36 04.1 -0.5**
SNR=8.8
AAK Ala-Archa 54.94 296c iP **P 05 36 03.0 -1.7**
AAK pmax pmax
comp=Z,12nm,0.8s,mb5.0
AAK Ala-Archa 54.94 296 eP **P 05 36 02.9 -1.8**
comp=Z,12nm,0.8s,mb5.0
KZA Kyzart 54.97 295 P **P 05 36 05.1 +0.3**
SNR=5.5
JOF Joensuu 55.26 335 ep **P 05 36 05.4 -1.6**
comp=Z,8.3nm,0.7s,mb4.9
JOF Joensuu 55.26 335 eP **P 05 36 05.4 -1.6**
JOF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
EKS2 Erkin-Say 55.28 296 P **P 05 36 06.7 -0.4**
SNR=16
AML Almayashu 55.71 296 P **P 05 36 10.5 +0.2**
SNR=7.1
KK31 Karatay Array 56.57 299 i P **P 05 36 15.2 -1.2**
KK31 pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
KKAR Karatay Array 56.57 299 i P **P 05 36 15.2 -1.2**
KKAR pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
KAF Kangasniemi 57.09 337 ep **P 05 36 17.9 -2.2**
comp=Z,4.1nm,0.7s,mb4.6,baz=27,slow=6.6
KAF Kangasniemi 57.09 337 eP **P 05 36 17.9 -2.2**
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
FINES FINESS Array B 57.74 337 P **P 05 36 24.7 +0.1**
comp=Z,4.7nm,0.7s,mb4.6,baz=28,slow=8.6,SNR=16
FINES FINESS Array B 57.74 337 P **P 05 36 24.7 +0.1**
FINES pmax pmax
comp=Z,5.0nm,0.7s
OBN Obninsk 60.57 328 eP **P 05 36 44.3 0.0**
OBN eSS SS 05 48 52.4 -5.4
OBN pmax pmax
comp=Z,11nm,0.9s,mb5.0
NB2 NORSAR Subarra 60.85 344 P **P 05 36 46.3 +0.1**
comp=Z,2.3nm,0.8s,mb4.4,baz=18,slow=6.9
NOA NORSAR Array B 60.85 344 P **P 05 36 45.9 -0.3**
comp=Z,1.4nm,0.7s,mb4.2,baz=19,slow=6.7,SNR=4.2
NOA NORSAR Array B 60.85 344 P **P 05 36 45.9 -0.3**
NOA pmax pmax
comp=Z,1.0nm,0.7s
HFS Hagfors 61.33 343 P **P 05 36 48.2 -1.1**
comp=Z,0.8nm,0.4s,mb4.2,baz=42,slow=4.6,SNR=6.8
HFS Hagfors 61.33 343 P **P 05 36 48.2 -1.2**
HFS pmax pmax
comp=Z,1.0nm,0.4s
WMOK Wichita Mounta 66.34 63 eP **P 05 37 22.5 +0.1**
WMOK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
WMOK Wichita Mounta 66.34 63 eP **P 05 37 22.5 +0.1**
comp=Z,2.6nm,0.8s,mb4.3
AKASG Malin Array Be 66.58 330 P **P 05 37 23.5 -0.4**
comp=Z,4.3nm,0.6s,mb4.6,baz=27,slow=5.8,SNR=14
AKASG Malin Array Be 66.58 330 P **P 05 37 23.5 -0.4**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 66.58 330 P **P 05 37 23.5 -0.4**
EKA Eskdalemuir Ar 68.13 351 P **P 05 37 34.0 +0.3**
comp=Z,0.7nm,0.6s,mb3.9,baz=24,slow=6.7,SNR=4.9
EKA Eskdalemuir Ar 68.13 351 P **P 05 37 34.1 +0.3**
EKA pmax pmax
comp=Z,1.0nm,0.6s
CLL Collm 69.85 340 eP **P 05 37 45.0 +0.6**
BURAR Bucovina Array 70.49 331⇓iP **P 05 37 48.6 +0.2**
KHC Kasperske Hory 71.81 339 eP **P 05 37 56.5 +0.1**
comp=Z,1.7nm,0.3s,mb4.5
GERES GERESS Array B 72.06 339 P **P 05 37 58.2 +0.4**
comp=Z,0.5nm,0.4s,mb3.8,baz=33,slow=5.1,SNR=8.2
GERES GERESS Array B 72.06 339 P **P 05 37 58.2 +0.3**
GERES pmax pmax
comp=Z,1.0nm,0.4s
MLR Muntele Rosu 72.23 329 P **P 05 38 00.6 +1.7**
comp=Z,5.5nm,0.6s,mb4.6,baz=109,slow=12,SNR=10
MLR Muntele Rosu 72.23 329⇑iP **P 05 38 00.8 +1.9**
MLR Muntele Rosu 72.23 329 P **P 05 38 00.6 +1.7**
MLR pmax pmax
comp=Z,6.0nm,0.6s
BR131 Keskin Array S 75.02 322 eP **P 05 38 14.4 -0.9**
comp=Z,0.7nm,0.6s,mb3.8
BRTR Keskin Array B 75.02 322 P **P 05 38 15.4 +0.2**
comp=Z,1.5nm,0.7s,mb4.0,baz=74,slow=3.8,SNR=11
BRTR Keskin Array B 75.02 322 P **P 05 38 15.5 +0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 79.57 207 P **P 05 38 41.2 +0.5**
comp=Z,1.6nm,0.9s,mb4.0,baz=12,slow=5.9,SNR=7.8
WRA Warramunga Arr 79.57 207 P **P 05 38 41.2 +0.4**
WRA pmax pmax
comp=Z,2.0nm,0.9s
ASF Jabal al Asfar 80.53 316 P **P 05 38 46.5 +0.5**
comp=Z,2.1nm,0.6s,mb4.3,baz=121,slow=5.9,SNR=5.0
ASF Jabal al Asfar 80.53 316 P **P 05 38 46.5 +0.5**
ASF pmax pmax
comp=Z,2.0nm,0.6s
ASAR Alice Springs 83.25 206 P **P 05 39 00.2 0.0**
comp=Z,0.9nm,0.7s,mb3.9,baz=10,slow=4.6,SNR=6.7
ASAR Alice Springs 83.25 206 P **P 05 39 00.3 +0.1**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ESDC Sonseca Array 83.72 350 P **P 05 39 03.4 +0.7**
comp=Z,1.0nm,0.6s,mb4.1,baz=3.5,slow=4.5,SNR=6.5
MDT Midelt 90.58 349 P **P 05 39 36.2 +0.2**
comp=Z,0.8nm,0.7s,mb4.2,baz=63,slow=2.3,SNR=4.5
SIV San Ignacio 128.01 57 PKP PKPdf 05 45 39.0 -0.7
comp=Z,0.7nm,0.7s,baz=0.0,slow=6.1,SNR=3.9
QSPA South Pole Qui 146.03 180 eP PKPdf 05 46 10.4 -2.4

BJI ***17*** *05:32:27.0, 531S×10222E, h45km, mB5.1, mb5.0, Ms4.7, Msz4.4*
ISCJB ***17*** *05:32:29.0±0.8, 491S±004×102.16E±005, h37km±7km, mb5.0/95, MS4.2/28, Error ellipse: s-maj=8.8km s-min=5.3km az=98.1*
MOS ***17*** *05:32:29.3±1.0, 468S×10237E, h33km, mb5.3/33, Error ellipse: s-maj=12.1km s-min=6.2km az=108.9*
IDC ***17*** *05:32:31.0±0.6, 482S×10229E, h34km±3km, mb4.5/24, mb1 4.5/25, mb1mx4.5/27, mbtmp4.7/25, ML4.0/1, MS3.9/12, Ms1 3.9/12, ms1mx3.7/20, Error ellipse: s-maj=19.6km s-min=9.9km az=45.0*
NEIC ***17*** *05:32:30.4±0.2, 490S×102.17E, h35km, mb5.1/27, Error ellipse: s-maj=7.7km s-min=5.4km az=58.0*
ISC 17 05:32:30.8±0.7**, 494S**±004×**10214E**±004**, h36**km±5km**, h35**km±5.1km**:pP-P, n198,** σ1s**06**/182**, mb5.0**/95**, MS4.2**/28**, 20C-5D, Southern Sumatera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KSI Kapahiang 1.36 20 P **Pn 05 32 52.4 -0.9**
6μm,0.5s
PPI Padang Panjang 4.78 339 P **Pn 05 33 40.9 +0.6**
234nm,0.7s
LEM Lembang 5.76 109 P **Pn 05 33 56.3 +2.5**
445nm,1.0s
KGM Kluang 7.01 10 P **Pn 05 34 14.5 +3.5**
BJII Banjamegara 7.89 108 eP **Pn 05 34 27.0 +3.9**
PSI Prapat 8.33 337 Pn **Pn 05 34 27.6 -1.5**
1.9nm,0.3s,baz=141,slow=6.5,SNR=8.0
COCO West Island 8.91 216 ePn **Pn 05 34 35.8 -1.1**
181nm,0.7s
IPM Ipoh 9.42 353 P **Pn 05 34 49.8 +5.7**
KULM Kulim 10.27 352 ePn **Pn 05 34 55.4 -0.2**
KSM Kuching 10.36 52 ePn **Pn 05 34 58.5 +1.7**
SNG Songkhla 12.13 353 P **Pn 05 35 20.5 -0.6**
KKM Kota Kinabalu 17.79 52 P **Pn 05 36 36.9 +1.3**
KKM Kota Kinabalu 17.79 52 ePn **Pn 05 36 35.1 -0.5**
PCI Palu 18.12 78 P **Pn 05 36 40.5 +0.9**
260nm,1.1s
TSM Tawau 18.20 60 P **Pn 05 36 41.7 +1.2**
NST Nakhon Sawan 20.58 354 P **P 05 37 07.0 +0.5**
MBWA Marble Bar 23.48 135 eP **P 05 37 37.8 +0.5**
7.3nm,0.8s,mb4.2
CHG Chiang Mai 23.81 352 ⇑P **P 05 37 39.6 -0.8**
40nm,0.9s,mb4.8
CHTO Chiang Mai 23.81 352 ⇑P **P 05 37 40.8 +0.5**
SNR=5.6
CHTO Chiang Mai 23.81 352 eP **P 05 37 39.1 -1.2**
CHTO pmax pmax
comp=Z,34nm,0.9s,mb4.8
CHTO Chiang Mai 23.81 352 eP **P 05 37 39.1 -1.2**
comp=Z,34nm,0.9s,mb4.8
CHRT Chiangrai 24.77 355 ⇑P **P 05 37 49.0 0.0**
comp=Z,28nm,0.8s,mb4.8
QIZ Qiongzhong 25.00 17 P **P 05 37 52.6 +1.4**
QIZ eS **S 05 42 13.3 +0.7**
QIZ AMB AMB
comp=Z,79nm,1.0s,mb5.2
QIZ LR LR
comp=N,484nm,15.7s
QIZ LR LR
comp=Z,502nm,16.1s,MS4.1
QIZ Qiongzhong 25.00 17 eP **P 05 37 51.8 +0.7**
comp=Z,72nm,0.9s,mb5.2
FITZ Fitzroy Crossi 26.43 122⇓iP **P 05 38 04.4 +0.2**
comp=Z,28nm,0.9s,mb4.8
FITZ eS S 05 43 08.4 +33
FITZ Fitzroy Crossi 26.43 122 P **P 05 38 04.4 +0.2**
comp=Z,12nm,0.8s,mb4.5,baz=259,slow=9.0,SNR=9.6
FITZ LR LR 05 48 27.9
comp=Z,195nm,19.3s,MS3.7,baz=147,slow=36
KMI Kunming 29.89 1 P **P 05 38 35.8 +0.8**
KMI PP PP 05 39 34.5 -8.3
KMI PPP 05 39 48.8
KMI S **S 05 43 32.8 +3.1**
KMI SS SS 05 45 10.4 -27
KMI SSS 05 45 31.5
KMI AMB AMB
comp=Z,14nm,0.7s,mb4.8
KMI AMB AMB
comp=Z,143nm,4.0s
KMI LR LR
comp=N,370nm,17.1s,MS4.2
KMI LR LR
comp=E,322nm,15.7s,MS4.2
KMI LR LR
comp=Z,445nm,17.1s,MS4.2
KAKA Kakadu 30.89 106 eP **P 05 38 42.0 -1.9**
comp=Z,18nm,0.5s,mb5.2
BOK Bokaro 32.66 332 eP **P 05 38 59.8 +0.3**
BOK AMb AMB 05 39 04.8
comp=Z,38nm,0.8s,mb5.4
NACB Ninganchiao 34.60 32 P **P 05 39 15.9 -0.4**
WRA Warramunga Arr 34.70 118 P **P 05 39 17.2 +0.1**
comp=Z,2.6nm,0.4s,mb4.6,baz=321,slow=11,SNR=37
WRA Warramunga Arr 34.70 118⇑eP **P 05 39 17.2 +0.1**
WRAB Tennant Creek 34.71 118 P **P 05 39 17.0 -0.2**
SNR=5.6
WRAB Tennant Creek 34.71 118c iP **P 05 39 16.7 -0.5**
WRAB Tennant Creek 34.71 118 eP **P 05 39 16.9 -0.3**
comp=Z,18nm,0.6s,mb5.2
WB2 Warramunga Arr 34.71 118⇑iP **P 05 39 16.9 -0.3**
CD2 Chengdu 35.68 2 eP **P 05 39 24.8 -0.8**
CD2 PP PP 05 40 46.0 -1.0
CD2 PCP PcP 05 41 52.5 -0.8
CD2 S **S 05 45 00.5 +0.8**
CD2 SCP ScP 05 45 36.3 -0.2
CD2 PCS PcS 05 45 42.3 +1.7
CD2 SS SS 05 47 25.3 -11
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,440nm,18.0s
CD2 LR LR
comp=Z,340nm,19.2s,MS4.1
ASPA Alice Springs 35.82 124 eP **P 05 39 27.2 +0.4**
AS31 Alice Springs 35.82 124 eP **P 05 39 27.2 +0.4**
ASAR Alice Springs 35.82 124 P **P 05 39 27.2 +0.4**
comp=Z,10.0nm,0.7s,mb4.9,baz=294,slow=7.8,SNR=91
ASAR pP pP 05 39 36.2 -0.9
comp=Z,9.8nm,0.3s,baz=302,slow=7.7,SNR=16
ASAR S **S 05 45 01.1 -0.7**
comp=Z,1.5nm,0.9s,baz=298,slow=15,SNR=5.4
ASAR LR LR 05 55 20.7
comp=Z,194nm,18.2s,MS3.9,baz=309,slow=38
ASAR Alice Springs 35.82 124 P **P 05 39 27.2 +0.4**
ASAR *PP pP 05 39 36.2 -0.9
ASAR S **S 05 45 01.2 -0.7**
JIRN Jiri 35.88 335 eP **P 05 39 28.7 +1.4**
comp=Z,80nm,0.8s,mb5.7
PKI Pulchoki 36.13 334 eP **P 05 39 30.4 +1.0**
comp=Z,29nm,0.9s,mb5.2
GUN Gumba 36.23 335 eP **P 05 39 31.7 +1.4**
comp=Z,71nm,0.6s,mb5.8
DMN Daman 36.30 334 eP **P 05 39 31.9 +1.0**
comp=Z,8.2nm,0.4s,mb5.0
KKN Kakani 36.38 334 eP **P 05 39 32.5 +0.9**
comp=Z,30nm,0.5s,mb5.5
GKN Gorkha 36.85 334 eP **P 05 39 36.5 +1.0**
comp=Z,40nm,0.5s,mb5.5
BHPL Bhopal 36.97 320 eP **P 05 39 36.2 -0.3**
BHPL AMb AMB 05 39 55.8
comp=Z,18nm,0.2s,mb5.5
KOLN Koldanda 37.12 332 eP **P 05 39 39.1 +1.3**
comp=Z,23nm,0.5s,mb5.2
XAN Xi'an 39.30 9 P **P 05 39 54.9 -1.3**
XAN AMB AMB
comp=Z,25nm,0.7s,mb5.0
XAN LR LR
comp=N,291nm,12.7s
XAN LR LR
comp=Z,640nm,15.2s,MS4.6
AGRA Agra 39.62 325 eP **P 05 39 58.1 -0.8**
NJ2 Nanjing 40.08 22 eP **P 05 40 03.8 +1.1**
NJ2 AP pP 05 40 09.8 -3.4
NJ2 PP PP 05 41 40.3 +5.1
NJ2 S **S 05 46 09.0 +2.6**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
NJ2 AMB AMB
comp=Z,1μm,4.2s
NJ2 LR LR
comp=N,2μm,16.6s,MS5.2
NJ2 LR LR
comp=E,2μm,21.2s,MS5.2
NJ2 LR LR
comp=Z,1μm,20.8s,MS4.7
SSE Sheshan 40.19 26 eP **P 05 40 00.9 -2.7**
SSE AP pP 05 40 18.0 +4.0
SSE PCP PcP 05 42 06.1 -1.1
SSE S **S 05 45 58.3 -10**
SSE XS sS 05 46 27.0 +1.8
SSE SCS ScS 05 50 03.6 -3.6
SSE AMB AMB
comp=Z,38nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,130nm,3.7s
SSE LR LR
comp=N,94nm,21.0s,MS3.7
SSE LR LR
comp=E,82nm,21.0s,MS3.7
SSE LR LR
comp=Z,127nm,17.4s,MS3.8
JOW Kunigami 40.46 37 P **P 05 40 06.1 +0.2**
comp=Z,7.3nm,0.5s,mb4.7,baz=179,slow=10,SNR=8.5
LZH Lanzhou 40.84 2 eP **P 05 40 09.3 +0.3**
LZH PP PP 05 41 47.6 +4.1
LZH eS **S 05 46 20.3 +2.6**
LZH eSS SS 05 49 18.9 -0.8
LZH AMB AMB
comp=Z,35nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,158nm,4.3s
LZH LR LR
comp=N,1μm,13.6s
LZH LR LR
comp=Z,2μm,14.5s,MS5.0
AYAN Aya Nagar 41.04 325 eP **P 05 40 10.9 +0.3**
AYAN AMb AMB 05 40 11.5
comp=Z,17nm,0.8s,mb4.8
NDI New Delhi 41.14 326 eP **P 05 40 10.5 -1.0**
NDI eP 05 40 12.1
NDI AMb AMB 05 40 13.1
comp=Z,47nm,1.0s,mb5.1
KUDL Kundal 41.15 324 eP **P 05 40 11.4 -0.1**
KUDL AMb AMB 05 40 12.8
comp=Z,14nm,0.7s,mb4.7
KHET Khetri 41.49 324 eP **P 05 40 14.1 -0.2**
KHET AMb AMB 05 40 16.1
comp=Z,13nm,0.6s,mb4.7
SMLA Simla 43.07 328 ex **P 05 40 23.3 -3.9**
SMLA AMb AMB 05 40 30.5
comp=Z,39nm,1.0s,mb5.1
GTA Gaotai 44.18 357 eP **P 05 40 36.3 +0.2**
GTA PP PP 05 42 20.6 +1.2
GTA PPP 05 42 59.8
GTA S **S 05 47 07.8 +1.0**
GTA SS SS 05 50 17.8 -7.5
GTA AMB AMB
comp=Z,12nm,1.2s,mb4.5
GTA AMB AMB
comp=Z,62nm,5.3s
GTA LR LR
comp=N,381nm,17.5s,MS4.5
GTA LR LR
comp=E,403nm,17.1s,MS4.5
GTA LR LR
comp=Z,548nm,17.9s,MS4.5
PMG Port Moresby 44.86 98 P **P 05 40 41.0 -0.6**
comp=Z,15nm,0.4s,mb5.1,baz=263,slow=7.9,SNR=8.6
CTA Charters Tower 45.45 113 eP **P 05 40 46.6 +0.4**
comp=Z,10.0nm,0.6s,mb4.8
CTA Charters Tower 45.45 113 P **P 05 40 46.8 +0.6**
comp=Z,17nm,0.9s,mb4.9,baz=279,slow=11,SNR=14
CTA Charters Tower 45.45 113 eP **P 05 40 46.6 +0.4**
CTA pmax pmax
comp=Z,10.0nm,0.6s
CTAO Charters Tower 45.45 113 eP **P 05 40 46.7 +0.5**
CTAO pmax pmax
comp=Z,56nm,1.3s,mb5.2
CTAO Charters Tower 45.45 113 eP **P 05 40 46.7 +0.5**
comp=Z,56nm,1.3s,mb5.2
STKA Stephens Creek 45.62 131 eP **P 05 40 48.4 +0.9**
comp=Z,13nm,0.5s,mb5.1
STKA Stephens Creek 45.62 131 P **P 05 40 48.1 +0.6**
comp=Z,3.7nm,0.5s,mb4.5,baz=311,slow=9.4,SNR=13
STKA LR LR 06 01 22.3
comp=Z,178nm,20.2s,MS4.0,baz=217,slow=38
HHC PP PP 05 42 43.1 +0.4
HHC SCP ScP 05 46 19.6 +1.0
HHC S **S 05 47 40.4 +1.8**
HHC SCS ScS 05 50 44.8 -1.0
HHC SS SS 05 50 59.8 -4.6
HHC LR LR
comp=N,254nm,15.5s,MS4.4
HHC LR LR
comp=E,285nm,20.2s,MS4.4
HHC LR LR

comp=Z,277nm,16.7s,MS4.3
HHC Hu-ho-hao-te 46.38 10 PCP PcP 05 42 27.8 -0.3
BJT Baijiatuao 46.57 15 *e*P **P** **05 40 54.4 -0.6**
BJT pmax pmax
comp=Z,10.0nm,0.4s
BJT Baijiatuao 46.57 15 *e*P **P** **05 40 54.4 -0.6**
comp=Z,9.7nm,0.4s,mb5.1
BJI Beijing 46.59 15 *e*P **P** **05 40 54.8 -0.4**
BJI S **S** **05 47 35.9 -5.7**
BJI AMB AMB
comp=Z,6.0nm,0.6s,mb4.7
BJI LR LR
comp=N,104nm,19.8s,MS3.9
BJI LR LR
comp=E,66nm,19.7s,MS3.9
BJI LR LR
comp=Z,159nm,26.1s
WMQ Urumqi 50.26 346 P **P** **05 41 24.9 +1.5**
WMQ PCP PcP 05 42 44.3 +2.3
WMQ PP PP 05 43 21.3 +2.4
WMQ S **S** **05 48 34.8 +1.5**
WMQ AMB AMB
comp=Z,61nm,1.3s,mb5.5
WMQ AMB AMB
comp=Z,341nm,4.6s
WMQ LR LR
comp=N,2μm,17.5s,MS5.3
WMQ LR LR
comp=E,2μm,16.4s,MS5.3
WMQ LR LR
comp=Z,2μm,18.0s,MS5.2
KSH Kashi 50.39 334 ⇑P **P** **05 41 25.3 +0.8**
KSH *e*PCP PcP 05 42 45.5 +3.0
KSH *e*PP PP 05 43 21.0 +0.8
KSH *e*PPP 05 44 16.1
KSH *e*SCP ScP 05 46 27.8 -7.9
KSH *e*PCS PcS 05 46 36.5 -3.2
KSH *e*S **S** **05 48 34.8 -0.4**
KSH *e*PS 05 48 52.9
KSH *e*SCS ScS 05 51 11.5 -1.1
KSH *e*SS SS 05 52 05.3 -3.9
KSH AMB AMB
comp=Z,107nm,4.8s
KSH LR LR
comp=N,496nm,6.4s
KSH LR LR
comp=E,349nm,4.4s
SNY Shenyang 50.49 21 ⇓P **P** **05 41 27.5 +2.3**
SNY AP pP 05 41 34.9 -1.0
SNY XP sP 05 41 38.1 -2.0
SNY PP PP 05 43 24.9 +3.9
SNY XS sS 05 48 56.0 +1.9
SNY SS SS 05 52 13.1 +2.4
SNY AMB AMB
comp=Z,5.0nm,0.6s,mb4.7
SNY AMB AMB
comp=Z,157nm,5.7s
SNY LR LR
comp=E,340nm,12.8s
SNY LR LR
comp=Z,249nm,13.7s,MS4.4
SONM Songino Array 52.68 4 P **P** **05 41 42.1 +0.6**
comp=Z,73nm,1.0s,mb5.6,baz=183,slow=8.8,SNR=191
SONM LR LR 06 09 01.7
comp=Z,143nm,20.5s,MS4.0,baz=170,slow=42
ULN Ulaanbaatar 52.76 4 ⇑P **P** **05 41 42.6 +0.4**
SNR=20
ULN Ulaanbaatar 52.76 4 *e*P **P** **05 41 42.4 +0.2**
comp=Z,33nm,0.8s,mb5.3
KZA Kyzart 52.81 335 P **P** **05 41 44.1 +1.6**
SNR=7.2
CN2 Changchun 52.88 21 ⇑P **P** **05 41 41.8 -1.2**
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,16.0s,MS4.4
CN2 LR LR
comp=E,200nm,16.0s,MS4.4
CN2 LR LR
comp=Z,300nm,17.0s,MS4.4
MAJO Matsushiro 53.28 36 *e*P **P** **05 41 44.1 -1.9**
MAJO pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MAJO Matsushiro 53.28 36 *e*P **P** **05 41 44.1 -2.0**
comp=Z,8.7nm,0.9s,mb4.7
MAT Matsushiro 53.28 36 P **P** **05 41 44.1 -1.9**
MAT Matsushiro 53.28 36 *e*P **P** **05 41 44.0 -2.0**
MAT pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MAT Matsushiro 53.28 36 *e*P **P** **05 41 44.0 -2.0**
comp=Z,7.6nm,1.1s,mb4.5
MJAR Matsushiro Arr 53.28 36 P **P** **05 41 44.2 -1.9**
comp=Z,5.4nm,0.6s,mb4.7,baz=218,slow=7.6,SNR=12
MJAR LR LR 06 05 37.8
comp=Z,84nm,20.0s,MS3.8,baz=170,slow=37
MJAR Matsushiro Arr 53.28 36 P **P** **05 41 44.2 -1.9**
MJAR LR LR 06 05 37.8
TKM2 Tokmak 2 53.37 336 P **P** **05 41 47.1 +0.5**
SNR=28
KBK Karagaybulak 53.41 335 P **P** **05 41 48.3 +1.4**
SNR=11
AML Almayashu 53.52 334 P **P** **05 41 48.6 +0.9**
SNR=7.6
AAK Ala-Archa 53.59 335*c* *i*P **P** **05 41 47.7 -0.5**
AAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
AAK Ala-Archa 53.59 335 *e*P **P** **05 41 46.5 -1.7**
comp=Z,48nm,0.8s,mb5.5
EKS2 Erkin-Say 53.92 334 P **P** **05 41 51.5 +0.9**
SNR=21
USP Ospenovka 54.10 335 P **P** **05 41 52.1 +0.1**
SNR=9.9
MK31 Makanchi Array 54.43 343 P **P** **05 41 53.3 -1.1**
MK31 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
MKAR Makanchi Array 54.43 343 P **P** **05 41 54.1 -0.3**
comp=Z,21nm,0.8s,mb5.2,baz=149,slow=8.3,SNR=174
ZAK Zakamensk 55.11 1 ⇓*i*P **P** **05 41 59.0 -0.3**
ZAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MDJ Mudanjiang 55.14 24 P **P** **05 41 59.9 +0.4**
MDJ PCP PcP 05 43 00.4 0.0
MDJ PP PP 05 44 03.0 0.0
MDJ PCS PcS 05 47 00.3 -0.1
MDJ AMB AMB
comp=Z,8.0nm,1.2s,mb4.6
MDJ AMB AMB
comp=Z,73nm,4.8s
MDJ LR LR
comp=N,42nm,16.8s,MS3.8
MDJ LR LR
comp=E,67nm,19.8s,MS3.8
MDJ LR LR
comp=Z,88nm,20.2s,MS3.8
KK31 Karatay Array 55.73 332 *i* P **P** **05 42 03.4 -0.4**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
KKAR Karatay Array 55.73 332 *i* P **P** **05 42 03.4 -0.4**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
HIA Hailar 56.12 14*c* *i*P **P** **05 42 05.4 -1.2**
HIA Hailar 56.12 14 *e*P **P** **05 42 05.1 -1.4**
comp=Z,5.2nm,0.3s,mb5.0
MOY Mondy 56.40 359 *e*P **P** **05 42 08.8 +0.3**
MOY pmax pmax
comp=Z,19nm,1.8s,mb4.8
TLY Talaya 56.42 1 P **P** **05 42 09.4 +0.7**
comp=Z,158nm,0.8s,SNR=13
IRK Irkutsk 56.99 2 *e*P **P** **05 42 12.5 -0.3**
IRK pmax pmax
comp=Z,34nm,0.7s,mb5.5
KURK Kurchatov 59.02 343 P **P** **05 42 26.8 -0.2**
comp=Z,184nm,0.7s,SNR=24
KURK Kurchatov 59.02 343 P **P** **05 42 26.9 0.0**
SNR=13
KURK Kurchatov 59.02 343*c* *i*P **P** **05 42 25.7 -1.3**
KURK pmax pmax
comp=Z,15nm,1.0s,mb5.0
KURK Kurchatov 59.02 343 *e*P **P** **05 42 26.5 -0.4**
comp=Z,26nm,0.8s,mb5.3
ZAL Zalesovo 60.44 348 P **P** **05 42 35.6 -1.2**
comp=Z,16nm,0.8s,mb5.1,baz=290,slow=4.6,SNR=79
ZAL LR LR 06 12 47.1
comp=Z,202nm,20.6s,MS4.2,baz=312,slow=40

HABR Khabarovsk 60.48 25 *e*P **P** **05 42 35.4 -1.6**
HABR *e*S **S** **05 50 44.3 -5.6**
HABR pmax pmax
comp=Z,27nm,0.9s,mb5.3
ASAJ Asahikawa 60.88 32 P **P** **05 42 38.4 -1.4**
comp=Z,6.1nm,0.3s,mb5.2,baz=257,slow=7.9,SNR=9.6
NVS Novosibirsk 61.61 348 *e*P **P** **05 42 42.8 -1.9**
NVS pmax pmax
comp=Z,15nm,1.3s,mb5.0
NVS pmax pmax
comp=N,17nm,1.5s
NVS pmax pmax
comp=E,10.0nm,1.3s
YSS Yuzh-Sakhalins 62.89 30*c* *i*P **P** **05 42 52.2 -1.0**
YSS pmax pmax
comp=Z,52nm,1.2s,mb5.5
YSS Yuzh-Sakhalins 62.89 30 *e*P **P** **05 42 52.4 -0.8**
comp=Z,34nm,0.8s,mb5.5
BOD Bodaibo 63.29 7 ⇓*i*P **P** **05 42 54.7 -1.2**
BOD pmax pmax
comp=Z,27nm,0.9s,mb5.4
BRVK Borovoye 63.73 339 P **P** **05 42 58.0 -0.8**
comp=Z,99nm,0.5s,SNR=6.1
BRVK Borovoye 63.73 339 *e*P **P** **05 42 57.9 -0.9**
BRVK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
BRVK Borovoye 63.73 339 *e*P **P** **05 42 57.9 -0.9**
comp=Z,7.5nm,0.8s,mb4.8
ZRNK Zerenda 64.11 338 *e*P **P** **05 43 00.2 -1.1**
ZRNK pmax pmax
comp=Z,13nm,0.8s,mb5.0
ZRNK Zerenda 64.11 338 *e*P **P** **05 43 00.2 -1.0**
comp=Z,13nm,0.8s,mb5.0
CHKZ Chkalovo 64.12 340 *e*P **P** **05 43 00.7 -0.6**
CHKZ pmax pmax
comp=Z,24nm,0.7s,mb5.3
CHKZ Chkalovo 64.12 340 *e*P **P** **05 43 00.7 -0.6**
comp=Z,24nm,0.7s,mb5.3
KMBO Kilima Mbogo 64.88 271 LR LR 06 05 03.3
comp=Z,82nm,20.2s,MS3.9,baz=94,slow=30
AKTK Aktyubinsk 66.94 331 P **P** **05 43 18.8 -0.8**
AKTO Aktyubinsk 66.94 331 P **P** **05 43 18.8 -0.8**
comp=Z,3.5nm,0.8s,mb4.4,baz=129,slow=6.4,SNR=10.0
MAW Mawson 68.00 195 P **P** **05 43 26.6 +0.3**
comp=Z,1.5nm,0.7s,mb4.1,baz=0.0,slow=9.1,SNR=3.7
MAW LR LR 06 07 03.0
comp=Z,234nm,18.0s,MS4.5,baz=177,slow=30
YAK Yakutsk 70.06 13⇑*e*P **P** **05 43 37.1 -2.0**
YAK Yakutsk 70.06 13 *e*P **P** **05 43 36.8 -2.2**
comp=Z,102nm,0.8s,mb5.8
SVE Sverdlovsk 70.20 337⇑*e*P **P** **05 43 40.0 +0.1**
SVE *e* pP 05 43 49.5 -1.5
SVE *e* 05 44 03.0
SVE pmax pmax
comp=Z,44nm,1.0s,mb5.3
ARU Arti 70.74 336⇑*i*P **P** **05 43 42.8 -0.4**
ARU pmax pmax
comp=Z,21nm,1.0s,mb5.0
ARU Arti 70.74 336 *e*P **P** **05 43 42.8 -0.4**
comp=Z,23nm,0.9s,mb5.1
ZEI Tsey 70.83 318 *e*P **P** **05 43 44.8 +1.0**
ZEI pmax pmax
comp=Z,12nm,0.6s,mb5.0
ASF Jabal al Asfar 72.03 306 P **P** **05 43 53.4 +2.4**
comp=Z,2.0nm,0.7s,mb4.2,baz=355,slow=2.5,SNR=5.5
ASF sP sP 05 44 07.0 +0.7
comp=Z,5.8nm,0.8s,baz=332,slow=3.9,SNR=6.8
KIV Kislovodsk 72.15 319 *e*P **P** **05 43 52.2 +0.5**
KIV pmax pmax
comp=Z,16nm,1.1s,mb4.9
KIV MLR MLR
comp=Z,29nm,17.0s,MS3.6
MMAI Mount Meron Ar 73.49 306 P **P** **05 44 02.1 +2.5**
comp=Z,1.7nm,0.6s,mb4.2,baz=92,slow=7.5,SNR=4.1
MMAI sP sP 05 44 15.3 +0.4
comp=Z,4.0nm,0.6s,baz=96,slow=7.8,SNR=5.9
SOC Sochi 73.95 318 *e*P **P** **05 44 01.5 -0.9**
SOC *e*PPP 05 48 28.4
SOC *e*S S 05 53 29.6 -2.4
SOC *e* 05 54 12.3
SOC pmax pmax
comp=Z,14nm,0.8s,mb4.9
PET Petropavlovsk 74.70 31*c* *i*P **P** **05 44 05.4 -1.3**
PET pmax pmax
comp=Z,55nm,1.1s,mb5.4
MA2 Magadan 74.84 23*c* *i*P **P** **05 44 06.9 -0.6**
MA2 pmax pmax
comp=Z,48nm,1.0s,mb5.4
MA2 Magadan 74.84 23 *e*P **P** **05 44 06.7 -0.9**
comp=Z,35nm,0.8s,mb5.3
ANN Anapa 75.94 318 *e*P **P** **05 44 08.7 -5.1**
ANN *e* pP 05 44 20.9 -4.1
ANN *i* *PP 05 44 27.3 +2.3
ANN pmax pmax
comp=Z,28nm,0.9s,mb5.2
VRHR Novokhopersk 75.94 326 *e*P **P** **05 44 13.9 0.0**
VRHR pmax pmax
comp=Z,30nm,0.7s,mb5.3
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.5s
TIXI Tiksi 78.42 8*d* *i*P **P** **05 44 25.9 -1.9**
TIXI pmax pmax
comp=Z,12nm,1.0s,mb4.8
VNDA Vanda 78.88 169 P **P** **05 44 30.6 +0.2**
comp=Z,1.7nm,1.0s,mb3.9,baz=291,slow=6.0,SNR=6.7
VNDA LR LR 06 15 38.1
comp=Z,78nm,20.2s,MS4.0,baz=337,slow=33
OBN Obninsk 80.40 328⇑*e*P **P** **05 44 38.9 +0.3**
OBN *e* 05 44 44.8
OBN *e* pP 05 44 51.4 +1.6
OBN *e*SS SS 05 59 51.4 -2.7
OBN pmax pmax
comp=Z,16nm,0.7s,mb5.1
OBN MLR MLR
comp=Z,100nm,22.0s,MS4.1
KLMR Klimovskoe 81.39 334 *e*P **P** **05 44 42.8 -1.0**
KLMR pmax pmax
comp=Z,20nm,1.4s,mb4.8
AKASG Malin Array Be 83.10 322 P **P** **05 44 52.8 0.0**
comp=Z,3.0nm,0.7s,mb4.4,baz=88,slow=4.7,SNR=12
MLR Muntele Rosu 83.89 317 P **P** **05 44 57.3 +0.5**
comp=Z,4.4nm,0.8s,mb4.7,baz=88,slow=2.2,SNR=7.0
JOF Joensuu 85.77 334 *ep* **P** **05 45 05.6 -0.7**
comp=Z,6.3nm,0.7s,mb5.0
JOF Joensuu 85.77 334 *e*P **P** **05 45 05.6 -0.7**
JOF pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
APA Apatity 86.58 339 *e*P **P** **05 45 16.5 +6.2**
KOLS Kolonicke sedl 87.06 319 *e*P **P** **05 45 14.1 +1.5**
KOLS pmax pmax
comp=Z,16nm,1.7s,mb5.0
KOLS Kolonicke sedl 87.06 319 *e*P **P** **05 45 14.1 +1.5**
comp=Z,16nm,1.7s,mb5.0
FINES FINESS Array B 87.69 332 P **P** **05 45 15.8 +0.1**
comp=Z,4.5nm,0.8s,mb4.7,baz=112,slow=8.5,SNR=12
FINES FINESS Array B 87.69 332⇑*e*P **P** **05 45 15.8 +0.1**
FINES FINESS Array B 87.69 332 P **P** **05 45 15.8 +0.1**
KAF Kangasniemi 87.76 333 *ep* **P** **05 45 15.0 -1.0**
comp=Z,12nm,0.8s,mb5.2,baz=98,slow=4.3
KAF Kangasniemi 87.76 333 *e*P **P** **05 45 15.0 -1.0**
KAF pmax pmax
comp=Z,12nm,0.8s,mb5.2
VYHS Vyhne 89.23 319 *e*P **P** **05 45 23.7 +0.8**
VYHS pmax pmax
comp=Z,7.0nm,1.5s,mb4.8
VYHS Vyhne 89.23 319 *e*P **P** **05 45 23.7 +0.8**
comp=Z,6.6nm,1.5s,mb4.7
KEV Kevo 89.50 340 *ep* **P** **05 45 21.9 -2.3**
comp=Z,2.9nm,0.7s,mb4.7

KEV Kevo 89.50 340 *e*P **P** **05 45 21.9 -2.3**
KEV pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
ARCES ARCESS Array B 89.95 340 P **P** **05 45 25.9 -0.4**
comp=Z,11nm,1.2s,mb5.1,baz=96,slow=4.9,SNR=12
ARCES LR LR 06 30 39.1
comp=Z,87nm,20.0s,MS4.2,baz=105,slow=39
SNAA Sanae 90.02 198 *e*PKPdf **P** **05 45 28.1 +1.5**
SNAA *e* 05 45 29.8
SNAA *e* 05 45 34.7
GERES GERESS Array B 92.65 319 P **P** **05 45 39.8 +1.0**
comp=Z,0.6nm,0.2s,mb4.6,baz=98,slow=6.9,SNR=9.0
HFS Hagfors 93.47 330 P **P** **05 45 43.3 +0.7**
comp=Z,4.3nm,1.0s,mb4.8,baz=103,slow=12,SNR=4.2
NOA NORSAR Array B 94.73 331 LR LR 06 35 12.6
comp=Z,32nm,21.6s,MS3.8,baz=35,slow=40
EDM Edmonton 123.79 25 *e*PKIKP PKPdf 05 51 24.5 -0.3
SCHQ Schefferville 129.46 352 PKP PKPdf 05 51 36.0 +0.4
comp=Z,1.7nm,0.6s,baz=342,slow=3.2,SNR=4.2
DLMT Dillon 129.64 31 *e*PKPdf PKPdf 05 51 37.2 +1.3
PDAR Pinedale Array 133.01 32 PKP PKPdf 05 51 43.5 +1.2
comp=Z,0.4nm,0.5s,baz=105,slow=3.7,SNR=5.7
PDAR SKPab 05 55 10.3
comp=Z,0.6nm,0.8s,baz=333,slow=3.6,SNR=4.9
MSU Marysvale 134.32 38 *e*PKIKP PKPdf 05 51 47.2 +2.4
RSSD Black Hills 134.70 27 *e*PKIKP PKPdf 05 51 46.8 +1.3
ANMO Albuquerque 140.12 38⇑*i*PKIKP PKPdf 05 51 57.0 +1.5
BDFB Brasilia 144.06 235 PKP PKPdf 05 52 04.3 +1.8
comp=Z,1.0nm,0.5s,baz=143,slow=5.1,SNR=3.1
ACSO Alum Creek Sta 144.56 7 *e*PKPdf PKPdf 05 52 01.4 -2.0
WMOK Wichita Mounta 144.59 30 *e*PKIKP PKPdf 05 52 01.7 -1.7
CCM Cathedral Cave 144.85 19 *e*PKIKP PKPdf 05 52 02.1 -1.8
BLO Bloomington 145.03 12 *e*PKIKP PKPdf 05 52 03.7 -0.5
FVM French Village 145.17 18 *e*PKIKP PKPdf 05 52 03.4 -1.0
MCWV Mont Chateau 145.39 3 *e*PKPab PKPab 05 52 04.6 -0.4
LTX Lajitas 145.58 42 *e*PKIKP PKPbc 05 52 06.4 +1.0
WCI Wyandotte Cave 145.99 12 *e*PKP2 PKPbc 05 52 06.2 -0.4
MIAR Mount Ida 147.14 24 *e*PKP2 PKPbc 05 52 08.9 -1.1
JCT Junction City 147.25 37 *e*PKP2 PKPbc 05 52 09.3 -1.0
FWV Forest Hill 147.40 4 *e*PKPdf PKPdf 05 52 08.6 +0.4
UALR University of 147.43 22 *e*PKPdf PKPdf 05 52 09.5 +1.3
WVT Waverly 147.63 15 *e*PKP2 PKPbc 05 52 11.3 -0.1
ELN Prospectdale 147.76 4 *e*PKPdf PKPdf 05 52 09.5 +0.7
TZTN Tazewell 148.12 9 *e*PKPbc PKPbc 05 52 12.4 -0.2
PLAL Pickwick Lake 148.65 16 *e*PKPbc PKPbc 05 52 13.3 -0.7
OXF Oxford 148.69 19 *e*PKP2 PKPbc 05 52 13.7 -0.4
CPCT Cooper Cave 149.03 11 *e*PKPbc PKPbc 05 52 15.2 +0.2
LRAL Lakeview Retre 150.78 16 *e*PKPbc PKPbc 05 52 18.6 -0.6

ISCJB ***17*** *05:38:52.6±0.8, 24.09S±0.05×669W±0.1, h200km±19km, mb3.1/1, Error ellipse: s-maj=21.5km s-min=6.9km az=20.7*
NEIC ***17*** *05:38:53.5±1.0, 24.00S×66.90W, h186km±16km, mb4.0/1, Error ellipse: s-maj=25.4km s-min=12.0km az=111.0*
IDC ***17*** *05:38:54.3±1.4, 24.01S×66.78W, h188km±18km, mb3.0/1, mb1 3.3/7, mb1mx3.2/18, mbtmp3.7/7, Error ellipse: s-maj=24.2km s-min=18.3km az=112.0*
GUC ***17*** *05:38:56.0±0.4, 24.16S×67.34W, h220km, ML4.0*
ISC 17 05:38:53.6±0.8, 2407S±0.05×668W±0.1, h185km±20km, n16, σ1s50/22, mb3.1/1, 1C, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.40**	**307**	P	**Pn**	**05 39 37.5**	**+2.1**
	7.2nm,0.3s,baz=122,slow=7.1,SNR=124						
LVC				S	**Sn**	**05 40 09.7**	**+1.8**
	27nm,0.3s,baz=240,slow=23,SNR=78						
CEN1	**Los Morros**	**3.16**	**282**	*e*P	**Pn**	**05 39 46.4**	**+2.0**
CEN1				*i* S	**Sn**	**05 40 24.3**	**+0.4**
CEN1				AML	AML	05 40 26.6	
	comp=N,184nm,0.3s						
ANCH	**Antofagasta**	**3.29**	**276**⇑	*i*P	**Pn**	**05 39 43.1**	**-2.9**
ANCH				*i* S	**Sn**	**05 40 21.4**	**-5.6**
CPN1	**Cerro Paranal**	**3.30**	**260**	*e*P	**Pn**	**05 39 47.1**	**+1.0**
CPN1				*i* S	**Sn**	**05 40 26.3**	**-0.8**
CPN1				AML	AML	05 40 28.6	
	comp=E,243nm,0.3s						
CPCH	**Copiapo**	**4.56**	**223**	*i* S	**Sn**	**05 40 54.7**	**-0.8**
CDCH	**Caldera**	**4.68**	**230**	*e*P	**Pn**	**05 40 02.4**	**-1.2**
CDCH				*i* S	**Sn**	**05 40 54.7**	**-3.7**
CFAA	**Coronel Fontan**	**7.61**	**189**	P	**Pn**	**05 40 41.9**	**+0.3**
	baz=9.9,slow=4.9						
CFAA				S	**Sn**	**05 42 03.6**	**-3.6**
	comp=E,0.4nm,0.3s,baz=266,slow=19,SNR=12						
CFAA	**Coronel Fontan**	**7.61**	**189**	P	**Pn**	**05 40 41.9**	**+0.3**
CFAA				S	**Sn**	**05 42 03.6**	**-3.6**
LPAZ	**La Paz**	**7.84**	**351**	P	**Pn**	**05 40 45.4**	**+0.7**
	comp=E,0.7nm,0.3s,baz=156,slow=12,SNR=23						
LPAZ				S	**Sn**	**05 42 10.5**	**-2.2**
	comp=E,0.1nm,0.3s,baz=279,slow=19,SNR=2.2						
SIV	**San Ignacio**	**9.69**	**35**	P	**Pn**	**05 41 07.8**	**-1.1**
	comp=E,1.2nm,0.3s,baz=239,slow=9.7,SNR=30						
SAML	**Samuel**	**15.44**	**14**	*e*Pn	**Pn**	**05 42 20.4**	**-1.3**
	comp=E,5.5nm,0.9s						
PLCA	**Paso Flores**	**16.90**	**190**	P	**Pn**	**05 42 41.2**	**+1.9**
	comp=E,0.1nm,0.3s,baz=263,slow=1.9,SNR=2.7						
BDFB	**Brasilia**	**19.57**	**68**	P	**P**	**05 43 08.5**	**+1.2**
	comp=E,0.5nm,0.3s,baz=239,slow=11,SNR=16						
TORD	**Torodi Ar. Bea**	**76.45**	**69**	P	**P**	**05 50 22.8**	**0.0**
	comp=E,0.2nm,0.4s,mb3.1,baz=261,slow=6.7,SNR=5.2						
WRA	**Warramunga Arr**	**131.63**	**207**	PKP	PKPdf	05 57 45.6	+1.4
	comp=E,0.2nm,0.3s,baz=154,slow=2.0,SNR=9.4						
MKAR	**Makanchi Array**	**146.48**	**40**	PKPbc	PKPbc	05 58 11.9	-0.9
	comp=E,0.4nm,0.6s,baz=296,slow=3.9,SNR=4.6						

MEX 17 05:44:24.4±0.7, 1601N×9778W, h30km±19km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**1.46**	**43**	*i* P	Pn	05 44 46.8	-2.0
VHO				*i* S	Sn	05 45 04.5	-2.3
OXX	**Oaxaca**	**1.47**	**43**	*i* P	Pn	05 44 47.0	-1.9
OXX				*i* S	Sn	05 45 04.0	-3.2
UTMO	**Huajuapan**	**1.81**	**359**	*i* P	Pn	05 44 52.8	-0.8
ACX	**Acapulco**	**2.22**	**293**	*i* P	Pn	05 44 55.0	-4.2
ACX				*i* S	Sn	05 45 23.5	-2.1
MEIG	**Mezcala**	**2.60**	**318**	*i* P	Pn	05 45 03.2	-1.2
MEIG				*i* S	Sn	05 45 31.5	-3.4
PLIG	**Platanillo**	**2.89**	**326**	*i* P	Pn	05 45 07.2	-1.1
PLIG				*i* S	Sn	05 45 40.3	-1.8

ISCJB ***17*** *06:45:03.9±1.1, 34.04S±0.09×137.06E±0.07, h10km, Error ellipse: s-maj=13.3km s-min=7.2km az=50.9*
NEIC ***17*** *06:45:07.0, 34.18S×136.93E, h10km, ML3.4(AUST), After AUST.*
AUST ***17*** *06:45:07.8, 34.18S×136.93E, h10km, ML3.4*
IDC ***17*** *06:45:10.7±7.2, 33.66S×136.94E, h0km, mb1 3.4/3, mb1mx3.3/11, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=79.4km s-min=25.4km az=12.0*
ISC 17 06:45:06.3±1.9, 3406S±0.08×13707E±0.07, h2km±12km, n10, σ1s50/19, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBOO	**Buckleboo**	**1.51**	**326**	*e*P	**Pn**	**06 45 34.9**	**+0.5**
BBOO				*e*S	**Sn**	**06 45 55.7**	**+1.1**
	192nm,0.3s						
STKA	**Stephens Creek**	**4.38**	**61**	*e*P	**Pn**	**06 46 17.4**	**+3.5**
STKA				*e*S	**Sn**	**06 47 07.0**	**+1.5**
	4.2nm,0.3s						
STKA	**Stephens Creek**	**4.38**	**61**	Pn	**Pn**	**06 46 17.1**	**+3.2**
	0.8nm,0.3s,baz=245,slow=11,SNR=14						
STKA				Pg	**Pg**	**06 46 29.9**	**-0.4**
	1.3nm,0.3s,baz=240,slow=12,SNR=9.9						
STKA				Sn	**Sn**	**06 47 10.1**	**+4.5**
	2.8nm,0.3s,baz=241,slow=6.3,SNR=6.4						
STKA				Lg		06 47 27.6	
	3.6nm,0.3s,baz=318,slow=17,SNR=7.3						
ARPS	**Mount Arapiles**	**4.74**	**126**	*e*P	**Pn**	**06 46 20.6**	**+1.8**
ARPS				*e*S	**Sn**	**06 47 12.2**	**-2.1**
	24nm,0.2s						
CMSA	**Cobar Meteorol**	**7.68**	**73**	*e*P	**Pn**	**06 47 00.2**	**+1.0**
CMSA				*e*S	**Sn**	**06 48 26.7**	**-0.1**
	24nm,1.5s						
FORT	**Forrest**	**8.29**	**291**	*e*P	**Pn**	**06 47 07.8**	**+0.3**
FORT				*e*S	**Sn**	**06 48 34.6**	**-7.2**
	13nm,0.5s						
FORT	**Forrest**	**8.29**	**291**	*e*P	**Pn**	**06 47 07.8**	**+0.3**
	13nm,0.5s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FORT				eS	Sn	06 48 34.6	-7.2
ASAR	Alice Springs	10.72	344	Pn	Pn	06 47 40.9	0.0
	0.3nm,0.3s,baz=174,slow=8.5,SNR=14						
ASAR				Sn	Sn	06 49 37.7	-3.8
	0.2nm,0.3s,baz=166,slow=22,SNR=4.4						
WB2	Warramunga Arr	14.27	350	eP	Pn	06 48 26.3	-3.1
WRA	Warramunga Arr	14.27	350	Pn	Pn	06 48 26.9	-2.6
	0.2nm,0.3s,baz=165,slow=13,SNR=14						

KRSC 17 06:47:04,5461N×16170E,h17km,ML3.8,Near east coast of Kamchatka Peninsula

NEIC 17 06:54:38.1,2898S×6969W,h93km,MG3.6(GUC),After GUC.

GUC 17 06:54:38.1±0.9**,2898S×6969W,h93km**±56km**,ML3.6, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCO	Las Campanas	0.88	268	eP	Pn	06 54 58.1	+1.4
LCO				i S	Sn	06 55 12.4	+1.7
VACH	Vallenar	1.02	293	eP	Pn	06 54 58.9	+0.7
VACH				i S	Sn	06 55 13.9	+0.6
VACH				AML	AML	06 55 14.9	
	comp=E,4μm,0.1s						
VACH	Vallenar	1.02	293	eP	Pn	06 54 58.9	+0.7
VACH				i S	Sn	06 55 13.9	+0.6
TLL	Tololo Astrono	1.53	219	eP	Pn	06 55 06.2	+1.9
TLL				i S	Sn	06 55 25.7	+1.6
TLL				AML	AML	06 55 28.6	
	comp=E,109nm,0.3s						
TLL	Tololo Astrono	1.53	219	P	Pn	06 55 06.2	+1.9
TLL				i S	Sn	06 55 25.7	+1.6
CPCH	Copiapo	1.72	340	eP	Pn	06 55 07.1	+0.4
CPCH				i S	Sn	06 55 29.0	+0.4
CPCH				AML	AML	06 55 31.3	
	comp=E,6μm,0.1s						
CPCH	Copiapo	1.72	340	eP	Pn	06 55 07.1	+0.4
CPCH				i S	Sn	06 55 29.0	+0.4
CDCH	Caldera	2.15	332	eP	Pn	06 55 12.6	+0.3
CDCH				i S	Sn	06 55 36.2	-2.4
CMCH	Combarbala	2.46	207	eP	Pn	06 55 17.0	+0.6
CMCH				i S	Sn	06 55 45.7	-0.2
CMCH				AML	AML	06 55 48.8	
	comp=E,174nm,0.7s						
CMCH	Combarbala	2.46	207	eP	Pn	06 55 17.0	+0.6
CMCH				S	Sn	06 55 45.7	-0.2

ISCJB 17 06:54:38.3±0.7,3171S±005×179.1W±02,h92km±10km, mb4.8/9,Error ellipse: s-maj=23.2km s-min=5.1km az=34.8

NEIC 17 06:54:39.3±1.0,3194S×17839W,h131km±10km,mb4.7/7, Error ellipse: s-maj=25.0km s-min=8.7km az=106.0

IDC 17 06:54:42.5±1.2,3147S×17875W,h134km±11km,mb4.4/6, mb1 4.5/8,mb1mx4.1/16,mbtmp4.8/8,MS3.1/1,Ms1 3.1/1, ms1mx2.7/20,Error ellipse: s-maj=24.0km s-min=12.2km az=118.0

ISC 17 06:54:39.5±0.6**,3172S**±006×**1790W**±02**,h91**km±8km**,n72,** σ**1§27**/80**,mb4.8**/9**,1C-1D,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.63	21	P	Pn	06 55 22.0	+2.0
	181nm,0.3s,baz=137,slow=15,SNR=6.8						
RAO				LR	LR	06 55 46.0	
	comp=Z,418nm,19.3s,baz=160,slow=27						
RAO				S	Sn	06 55 50.5	-0.8
	323nm,0.3s,baz=128,slow=19,SNR=7.8						
RAO	Raoul Island	2.63	21	P	Pn	06 55 22.0	+2.0
RAO				S	Sn	06 55 50.5	-0.8
MWZ	Matawai	7.19	202	PN	Pn	06 56 26.8	+4.9
MWZ				eSN	Sn	06 57 50.0	+8.1
MWZ	Matawai	7.19	202	eP	Pn	06 56 26.9	+5.0
URZ	Urewera	7.26	205	P	Pn	06 56 28.3	+5.4
	4.7nm,0.3s,baz=262,slow=1.3,SNR=78						
URZ				S	Sn	06 57 53.2	+9.4
	15nm,0.3s,baz=186,slow=23,SNR=7.3						
URZ	Urewera	7.26	205	PN	Pn	06 56 27.8	+4.9
URZ				eSN	Sn	06 57 52.7	+9.0
URZ	Urewera	7.26	205	eP	Pn	06 56 27.9	+5.0
KNZ	Kokohu	7.77	200	PN	Pn	06 56 33.4	+3.6
KNZ				eSN	Sn	06 58 01.7	+5.4
KNZ	Kokohu	7.77	200	eP	Pn	06 56 33.4	+3.6
BKZ	Black Stump Fm	8.29	205	PN	Pn	06 56 38.6	+1.7
BKZ				SN	Sn	06 58 16.9	+8.0
BKZ	Black Stump Fm	8.29	205	eP	Pn	06 56 38.9	+2.0
NGZ	Ngauruhoe	8.64	209	PN	Pn	06 56 48.7	+7.0
FWVZ	Far West T-bar	8.73	209	PN	Pn	06 56 46.8	+3.9
FWVZ	Far West T-bar	8.73	209	eP	Pn	06 56 46.8	+3.9
PXZ	Pawanui	8.95	201	PN	Pn	06 56 47.2	+1.4
PXZ				SN	Sn	06 58 28.6	+3.7
TSZ	Takapari Road	9.27	205	ePN	Pn	06 56 51.5	+1.3
WAZ	Wanganui	9.39	210	ePN	Pn	06 56 54.5	+2.7
WAZ	Wanganui	9.39	210	eP	Pn	06 56 54.6	+2.8
BFZ	Birch Farm	9.73	202	PN	Pn	06 56 57.0	+0.5
BFZ				SN	Sn	06 58 44.3	+0.4
BFZ	Birch Farm	9.73	202	eP	Pn	06 56 57.0	+0.5
TIWZ	Tintock	9.94	203	PN	Pn	06 56 59.5	+0.3
TIWZ				SN	Sn	06 58 51.4	+2.5
MRZ	Mangatainoka R	9.94	205	PN	Pn	06 56 58.4	-0.9
MRZ				SN	Sn	06 58 49.6	+0.6
MRZ	Mangatainoka R	9.94	205	eP	Pn	06 56 59.5	+0.2
KIW	Kapiti Island	10.36	207	PN	Pn	06 57 04.7	-0.4
KIW				SN	Sn	06 58 58.6	-0.6
CAW	Cannon Point	10.52	205	ePN	Pn	06 57 06.0	-1.1
DUWZ	D'Urville Isla	10.71	210	ePN	Pn	06 57 09.8	-0.1
MSWZ	Moikau Station	10.72	204	ePN	Pn	06 57 09.3	-0.7
SNZO	South Karori	10.82	206	ePN	Pn	06 57 10.0	-1.4
SNZO	South Karori	10.82	206	ePn	Pn	06 57 09.8	-1.5
TUWZ	Tuamarina	11.23	208	ePN	Pn	06 57 16.1	-0.7
TUWZ				SN	Sn	06 59 19.5	-0.8
NNZ	Nelson	11.29	211	PN	Pn	06 57 15.8	-1.9
NNZ				eSN	Sn	06 59 23.3	+1.5
NNZ	Nelson	11.29	211	eP	Pn	06 57 16.6	-1.1
QRZ	Quartz Range	11.37	215	PN	Pn	06 57 19.0	+0.2
BSWZ	Blackbirch Sta	11.49	208	P	Pn	06 57 19.2	-1.3
THZ	Tophouse	11.94	211	PN	Pn	06 57 25.0	-1.5
THZ				SN	Sn	06 59 37.5	-0.1
THZ	Tophouse	11.94	211	eP	Pn	06 57 25.3	-1.2
KHZ	Kahutara	12.22	207	PN	Pn	06 57 28.4	-1.9
KHZ	Kahutara	12.22	207	eP	Pn	06 57 28.4	-1.9
DSZ	Denniston Nort	12.42	214	ePN	Pn	06 57 32.7	-0.2
DSZ	Denniston Nort	12.42	214	eP	Pn	06 57 33.4	+0.4
MQZ	McQueen's Vall	13.66	207	ePN	Pn	06 57 46.8	-2.5
MQZ				SN	Sn	07 00 10.7	-8.7
RPZ	Rata Peaks	14.32	210	P	Pn	06 57 55.6	-2.2
	1.6nm,0.3s,baz=14,slow=6.4,SNR=11						
RPZ				S	Sn	07 00 28.2	-7.2
	1.1nm,0.3s,baz=57,slow=18,SNR=8.2						
ODZ	Otahua Downs	15.57	208	PN	Pn	06 58 11.6	-2.1
ODZ				SN	Sn	07 00 59.4	-6.1
JCZ	Jackson Bay	15.65	215	PN	Pn	06 58 12.1	-2.6
CTA	Charters Tower	33.20	282	eP	P	07 01 08.8	+1.3
	8.5nm,0.6s,mb4.8						
CTA	Charters Tower	33.20	282	P	P	07 01 08.7	+1.2
	11nm,0.6s,mb4.8,baz=105,slow=10,SNR=22						
CTAO	Charters Tower	33.20	282	eP	P	07 01 08.3	+0.8
	9.9nm,0.6s,mb4.8						
STKA	Stephens Creek	33.37	259	eP	P	07 01 11.3	+2.3
	4.4nm,0.9s,mb4.3						
STKA	Stephens Creek	33.37	259	P	P	07 01 11.4	+2.5
	5.3nm,0.7s,mb4.5,baz=95,slow=8.7,SNR=13						
AS31	Alice Springs	42.21	269	eP	P	07 02 23.4	+0.1
ASAR	Alice Springs	42.21	269	P	P	07 02 23.6	+0.3
	16nm,0.4s,mb5.1,baz=105,slow=7.3,SNR=295						
ASPA	Alice Springs	42.21	269	eP	P	07 02 23.4	+0.1
WB2	Warramunga Arr	43.31	274	⇑iP	P	07 02 32.0	-0.2
WRAB	Tennant Creek	43.31	274	eP	P	07 02 31.7	-0.6
	52nm,0.6s,mb5.4						
WRA	Warramunga Arr	43.32	274	P	P	07 02 32.1	-0.2
	43nm,0.6s,mb5.4,baz=113,slow=7.9,SNR=525						
FITZ	Fitzroy Crossi	51.52	271	⇓iP	P	07 03 36.6	+0.7
	5.2nm,0.4s,mb4.9						
FITZ	Fitzroy Crossi	51.52	271	P	P	07 03 36.0	+0.2
	3.0nm,0.4s,mb4.7,baz=164,slow=12,SNR=23						
CASY	Casey	53.58	208	eP	P	07 03 51.6	+0.6
	7.8nm,1.2s,mb4.6						
MBWA	Marble Bar	55.25	265	eP	P	07 04 02.1	-1.0
	17nm,1.1s,mb5.0						
QSPA	South Pole Qui	58.39	180	eP	P	07 04 30.9	+5.5
MAW	Mawson	70.77	201	P	P	07 05 47.1	+1.1
	0.8nm,0.5s,mb3.8,baz=135,slow=8.6,SNR=3.0						
SNAA	Sanae	76.86	179	eP	P	07 06 21.4	-0.1
ARCES	ARCESS Array B	139.69	347	PKhKP		07 13 45.9	
	1.6nm,0.9s,baz=22,slow=0.8,SNR=5.0						
FINES	FINESS Array B	146.08	339	PKPbc	PKPdf	07 14 04.2	-3.7
	2.3nm,0.4s,baz=56,slow=3.7,SNR=26						
MALT	Malatya	148.81	293	ePKPdf	PKPdf	07 14 15.4	+3.0
NB2	NORSAR Subarra	149.91	350	PKP	PKPdf	07 14 14.7	+0.5
	comp=Z,1.1nm,0.6s,baz=18,slow=4.3						
NOA	NORSAR Array B	149.91	350	PKPbc	PKPdf	07 14 14.4	+0.2
	comp=Z,0.8nm,0.5s,baz=15,slow=4.1,SNR=4.0						
EIL	Elat	150.81	275	ePKPdf	PKPdf	07 14 18.4	+2.9
AKASG	Malin Array Be	151.80	320	PKPbc	PKPdf	07 14 19.5	+2.5
	comp=Z,0.5nm,0.4s,baz=45,slow=3.1,SNR=4.0						
AKASG	Malin Array Be	151.80	320	PKPbc	PKPdf	07 14 19.5	+2.5
BRTR	Keskin Array B	152.44	296	PKPbc	PKPdf	07 14 21.8	+3.7
	comp=Z,0.9nm,0.5s,baz=121,slow=4.7,SNR=5.1						
TORD	Torodi Ar. Bea	161.50	182	PKPab	PKPab	07 15 15.1	+0.6
	comp=Z,1.6nm,0.8s,baz=174,slow=3.7,SNR=8.0						

IDC 17 07:01:05.5±10.0**,2275N×14519E,h0km,mb3.7**/3**, mb1 4.0**/3**,mb1mx3.6**/18**,mbtmp3.7**/3**,Error ellipse: s-maj=297.5km s-min=47.5km az=15.0,North Pacific Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	Songino Array	39.75	319	P	P	07 08 39.8	0.0
	0.4nm,0.7s,baz=134,slow=8.2,SNR=3.8						
YKA	Yellowknife Ar	74.66	28	P	P	07 12 46.6	-0.1
	0.4nm,0.6s,baz=290,slow=5.9,SNR=5.4						
NVAR	Mina Array Bea	81.04	52	P	P	07 13 22.9	+0.7
	0.9nm,0.9s,baz=286,slow=6.5,SNR=5.4						

IDC 17 07:09:22.7±2.3**,1031S×12035E,h0km,mb3.8**/2**, mb1 3.8**/5**,mb1mx3.6**/14**,mbtmp3.6**/5**,ML3.4**/3**,Error ellipse: s-maj=147.8km s-min=23.3km az=57.0,Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.29	147	eP	Pn	07 11 37.2	-0.6
	4.3nm,0.4s						
FITZ				eS	Sn	07 13 15.3	-7.8
FITZ	Fitzroy Crossi	9.29	147	Pn	Pn	07 11 37.0	-0.9
	0.5nm,0.3s,baz=260,slow=7.1,SNR=23						
FITZ				Sn	Sn	07 13 12.4	-11
	0.2nm,0.3s,baz=223,slow=18,SNR=4.2						
WRA	Warramunga Arr	16.55	127	Pn	Pn	07 13 14.9	-1.1
	0.1nm,0.3s,baz=303,slow=13,SNR=4.4						
WRA				Sn	Sn	07 16 05.3	-15
	0.1nm,0.3s,baz=222,slow=40,SNR=3.5						
WB2	Warramunga Arr	16.55	127	eP	Pn	07 13 15.4	-0.8
ASAR	Alice Springs	18.54	137	P	Pn	07 13 42.6	+1.7
	0.1nm,0.3s,baz=318,slow=12,SNR=7.9						
SONM	Songino Array	59.20	349	P	P	07 19 25.7	+0.3
	1.1nm,0.6s,baz=165,slow=7.9,SNR=9.6						
MKAR	Makanchi Array	66.22	332	P	P	07 20 12.2	-0.2
	0.5nm,0.7s,baz=144,slow=8.7,SNR=4.1						

STR 17 08:03:28.4±0.4,4662N×396E,h5km±1km,Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

LDG 17 08:03:27.6±0.2**,4670N×390E,h2km,Md2.2**/3**,Ml2.2**/5**, Error ellipse: s-maj=4.0km s-min=2.3km az=86.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMF	Signal de Mont	0.07	216	ePg	Pg	08 03 28.7	-0.3
SMF				eSg	Sg	08 03 29.4	-0.6
AVF	Avril sur Loir	0.39	283	ePg	Pg	08 03 34.7	-0.4
AVF				eSg	Sg	08 03 39.8	-0.3
	2.0nm,0.2s						
SSF	Saint Saulge	0.45	323	ePg	Pg	08 03 36.3	+0.1
SSF				eSg	Sg	08 03 42.5	+0.4
SSF				eSn	Sg	08 03 43.5	+1.4
LOR	Lormes	0.56	357	ePg	Pg	08 03 38.7	+0.3
LOR	Lormes	0.56	357	ePn	Pg	08 03 40.9	+2.5
LOR				eSg	Sg	08 03 44.5	-1.3
	4.2nm,0.2s						
LOR				eSn	Sg	08 03 50.2	+4.4
AGO	Saint Agoulin	0.84	220	Pg	Pg	08 03 43.9	+0.1
AGO				Sg	Sg	08 03 55.0	+0.3
PYM	Petit Puy Mans	1.14	213	Pg	Pg	08 03 48.8	-0.6
TCF	Toulx Ste Croi	1.24	251	ePn	Pn	08 03 50.4	-1.6
TCF				eSn	Sn	08 04 06.5	-2.8
TCF				eSg	Sg	08 04 07.8	+0.3
	3.4nm,0.2s						
LBL	Lubilhac	1.54	198	Pg	Pg	08 03 56.2	-1.0
VIVF	Saint-Julien-l	1.93	163	ePn	Pn	08 04 00.1	-1.3
VIVF				eSg	Sg	08 04 27.8	-1.6
	2.7nm,0.2s						
HINF	Hinteralfeld	2.30	60	eSn	Sn	08 04 29.6	-5.7
	7.8nm,0.4s						
LASF	Ste Croix	2.63	181	ePg	Pg	08 04 16.7	-1.3
LASF				eSg	Sg	08 04 49.0	-3.0
	1.4nm,0.3s						

IDC 17 08:05:57.1±5.1,023S×123.12E,h75km±48km,mb3.9/9, mb1 3.9/10,mb1mx3.8/18,mbtmp4.1/10,ML3.7/1,Error ellipse: s-maj=28.8km s-min=14.0km az=76.0

ISCJB 17 08:05:58.1±1.9,024S±007×123.1E±0.1,h101km±19km, mb4.1/15,Error ellipse: s-maj=21.9km s-min=8.3km az=128.7

NEIC 17 08:06:00.2±1.7,028S×123.14E,h106km±16km,mb4.1/8, Error ellipse: s-maj=20.8km s-min=8.0km az=67.0

ISC 17 08:05:60.0±1.5**,027S**±007×**1231E**±01**,h104**km±15km**,n28,** σ**1§04**/26**,mb4.1**/15**,1C,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TSM	Tawau	6.90	311	P	Pn	08 07 39.0	+0.5
KKM	Kota Kinabalu	9.29	313	P	Pn	08 08 13.3	+2.4
KKM	Kota Kinabalu	9.29	313	ePn	Pn	08 08 12.8	+1.9
KKM				eSn	Sn	08 09 51.4	-2.2
FITZ	Fitzroy Crossi	17.90	172	eP	Pn	08 10 02.1	0.0
	9.5nm,1.4s						
FITZ	Fitzroy Crossi	17.90	172	P	Pn	08 10 02.0	-0.1
	0.2nm,0.3s,baz=9.5,slow=12,SNR=4.1						
MBWA	Marble Bar	21.02	189	eP	P	08 10 35.2	0.0
	8.1nm,0.7s,mb4.2						
WRAB	Tennant Creek	22.44	151	eP	P	08 10 49.6	-0.7
	8.0nm,0.7s,mb4.2						
WRA	Warramunga Arr	22.45	151	P	P	08 10 49.7	-0.6
	6.1nm,1.0s,mb3.9,baz=336,slow=9.4,SNR=26						
WB2	Warramunga Arr	22.45	151	eP	P	08 10 49.7	-0.7
PSI	Prapat	24.34	277	P	P	08 11 07.9	-0.1
	10.0nm,0.7s,mb4.2,baz=142,slow=6.4,SNR=6.9						
AS31	Alice Springs	25.52	156	eP	P	08 11 18.6	-0.1
ASAR	Alice Springs	25.52	156	P	P	08 11 19.8	+1.0
	1.6nm,0.6s,mb3.6,baz=343,slow=15,SNR=20						
ASAR				PcP	PcP	08 14 48.9	+1.3
	1.7nm,0.6s,baz=338,slow=2.1,SNR=14						
ASPA	Alice Springs	25.52	156	eP	P	08 11 18.6	-0.1
MJAR	Matsushiro Arr	39.23	19	P	P	08 13 16.5	-1.6
	3.0nm,0.7s,mb4.2,baz=193,slow=8.9,SNR=5.9						
ASAJ	Asahikawa	47.50	19	P	P	08 14 24.0	-0.5
	1.8nm,0.7s,mb3.9,baz=218,slow=12,SNR=3.6						
ULN	Ulaanbaatar	49.93	346	eP	P	08 14 43.9	+0.8
	4.4nm,1.0s,mb4.3						
SONM	Songino Array	50.06	345	P	P	08 14 45.7	+1.6
	3.4nm,0.8s,mb4.3,baz=162,slow=9.0,SNR=23						
MKAR	Makanchi Array	58.88	328	P	P	08 15 48.3	+0.4
	1.3nm,0.6s,mb4.2,baz=129,slow=7.8,SNR=11						
KURK	Kurchatov	63.25	330	eP	P	08 16 14.3	-3.2
	1.6nm,0.6s,mb4.1						
ZRNK	Zerenda	69.44	328	eP	P	08 16 55.7	-1.2
	0.9nm,0.3s,mb4.1						
MAW	Mawson	78.77	200	P	P	08 17 51.7	+0.5
	1.3nm,0.8s,mb3.8,baz=29,slow=7.3,SNR=4.1						
VNDA	Vanda	79.97	172	P	P	08 17 58.2	+0.5
	1.3nm,0.7s,mb3.9,baz=312,slow=6.2,SNR=9.2						
VNDA	Vanda	79.97	172	eP	P	08 17 58.1	+0.5
	0.7nm,0.6s,mb3.7						
SYO	Syowa Base	87.41	201	⇑eP	P	08 18 35.4	-0.2
COLA	College	89.84	25	eP	P	08 18 48.8	+1.7
	8.7nm,0.6s,mb5.1						
TORD	Torodi Ar. Bea	120.56	285	PKP	PKPdf	08 24 40.0	+0.6
	1.7nm,0.7s,baz=56,slow=1.9,SNR=9.6						
TORD	Torodi Ar. Bea	120.56	285	PKP	PKPdf	08 24 40.0	+0.6
CPUP	Villa Florida	153.55	179	PKPbc	PKPbc	08 25 47.6	+1.2
	1.4nm,0.6s,baz=0.0,slow=4.0,SNR=5.2						

KRSC 17 08:08:33,5524N×15926E,h4km,ML4.5

ISCJB 17 08:08:35.0±1.7,5525N±003×15938E±007,h4km±11km, mb4.0/21,Error ellipse: s-maj=7.1km s-min=4.8km az=18.6

MOS 17 08:08:35.6±0.6,5521N×15943E,h11km,mb4.4/13,Error ellipse: s-maj=17.4km s-min=7.2km az=85.9

NEIC 17 08:08:37.3±0.3,5522N×15939E,h10km,mb4.2/10,Error ellipse: s-maj=9.3km s-min=7.0km az=163.0

IDC 17 08:08:42.7±7.2,5526N×15936E,h48km±73km,mb3.7/9, mb1 3.8/10,mb1mx3.7/20,mbtmp3.9/10,ML3.0/1,MS4.0/2, Ms1 4.0/2,ms1mx3.0/47,Error ellipse: s-maj=26.3km s-min=18.7km az=170.0

ISC 17 08:08:37.4±1.0**,5520N**±003×**15938E**±008**,h11**km±6km**, n53,** σ**1§13**/61**,mb4.0**/21**,Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOZ	Kozyrevsk	0.91	18	P	Pg	08 08 54.0	-0.9
KOZ				S	Sg	08 09 08.7	+2.0
KOZR	Kozyr	0.92	18	PN	Pn	08 08 54.0	-2.1
KOZR				S	Sg	08 09 08.7	+1.6
KII	Karymskiy	1.17	178	P	Pb	08 08 57.9	-1.6
KLY	Klyuchi	1.33	32	P	Pn	08 09 01.1	-0.7
KLY				S	Sb	08 09 21.1	+1.8
MKZ	Mys Kozlova	1.50	114	P	Pn	08 09 01.7	-2.5
MKZ				S	Sn	08 09 22.5	-1.3
NLC	Nalytchevo	2.03	181	P	Pn	08 09 11.2	-0.2
NLC				S	Sn	08 09 39.4	+2.6
SPN	Mys Shipunski	2.14	170	P	Pn	08 09 11.8	-1.1
SPN				S	Sn	08 09 40.4	+1.0
KBTR	Krutoberegovo	2.20	61	P	Pn	08 09 12.8	-0.9
KBTR				S	Sn	08 09 42.3	+1.5
PET	Petropavlovsk	2.22	191	P	Pn	08 09 14.3	+0.3
PET				S	Sn	08 09 44.5	+3.1
PET	Petropavlovsk	2.22	191	ePN	Pn	08 09 14.2	+0.2
PET				eS	Sn	08 09 46.1	+4.7
PET				pmax	pmax		
	comp=Z,500nm,5.1s						
PET				pmax	pmax		
	comp=Z,200nm,8.4s						
PET				pmax	pmax		
	comp=Z,146nm,0.6s						
PET				smax			
	comp=E,2μm,4.2s						
PET				smax			
	comp=E,700nm,4.0s						
PET				smax			
	comp=N,350nm,0.9s						
PET				smax			
	comp=E,432nm,0.9s						
PET				MLR	MLR		
	comp=Z,2μm,10.0s						
PET				MLR	MLR		
	comp=Z,900nm,10.0s						
PET	Petropavlovsk	2.22	191	ePn	Pn	08 09 13.9	-0.1
RUS	Russkaya	2.82	191	P	Pn	08 09 22.5	+0.2
RUS				S	Sn	08 09 58.5	+2.3
ASAJ	Asahikawa	15.48	231	P	Pn	08 12 19.6	+4.1
	comp=Z,0.1nm,0.3s,baz=83,slow=33,SNR=4.1						
ASAJ				LR	LR	08 18 06.6	
	comp=Z,118nm,18.8s,baz=174,slow=36						
MJAR	Matsushiro Arr	23.61	227	P	P	08 13 49.0	+0.6
	comp=Z,2.7nm,0.9s,mb3.6,baz=27,slow=9.3,SNR=5.3						
MJAR	Matsushiro Arr	23.61	227	P	P	08 13 49.0	+0.6
MJAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MJAR	Matsushiro Arr	23.61	227	P	P	08 13 49.0	+0.6
BOD	Bodaibo	24.82	295	eP	P	08 13 52.1	-7.3
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb3.8						
SONM	Songino Array	33.07	280	PcP	PcP	08 17 54.9	-1.3
	comp=Z,1.0nm,0.7s,baz=76,slow=0.5,SNR=5.8						
YKA	Yellowknife Ar	41.91	44	P	P	08 16 26.6	-1.1
	comp=Z,0.5nm,0.6s,mb3.3,baz=299,slow=7.3,SNR=4.3						
KURK	Kurchatov	46.29	300	eP	P	08 17 02.4	-0.5
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
KURK	Kurchatov	46.29	300	eP	P	08 17 02.4	-0.5
	comp=Z,6.2nm,0.8s,mb4.6						
MKAR	Makanchi Array	46.90	293	P	P	08 17 08.2	+0.6
	comp=Z,3.0nm,0.6s,mb4.4,baz=61,slow=7.8,SNR=14						
MKAR	Makanchi Array	46.90	293	P	P	08 17 08.2	+0.6
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHKZ	Chkalovo	48.25	307	eP	P	08 17 18.3	+0.2
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
CHKZ	Chkalovo	48.25	307	eP	P	08 17 18.3	+0.2
	comp=Z,2.1nm,0.8s,mb4.2						
BVAR	Borovoye Array	48.77	307	P	P	08 17 20.7	-1.4
	comp=Z,1.1nm,0.4s,mb4.2,baz=58,slow=7.0,SNR=6.0						
BVAR	Borovoye Array	48.77	307	P	P	08 17 20.7	-1.5
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZRNK	Zerenda	49.45	307	eP	P	08 17 28.0	+0.6
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
ZRNK	Zerenda	49.45	307	eP	P	08 17 28.0	+0.6
	comp=Z,1.9nm,0.5s,mb4.4						
WALA	Waterton Lakes	50.30	59	eP	P	08 17 32.9	-0.9
	comp=Z,2.1nm,0.8s,mb4.2						
TGY	Tagaytay City	50.65	231	LR	LR	08 39 05.6	
	comp=Z,850nm,19.8s,baz=14,slow=36						
AAK	Ala-Archa	53.80	294	eP	P	08 17 59.3	-0.6
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
AAK	Ala-Archa	53.80	294	eP	P	08 17 59.3	-0.6
	comp=Z,3.6nm,0.7s,mb4.4						
ELK	Elko	55.41	67	eP	P	08 18 11.7	+0.1
ELK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ELK	Elko	55.41	67	eP	P	08 18 11.7	+0.2
	comp=Z,1.1nm,0.7s,mb4.0						
NVAR	Mina Array Bea	55.44	71	P	P	08 18 12.8	+1.1
	comp=Z,1.2nm,0.7s,mb4.0,baz=310,slow=5.9,SNR=12						
NVAR	Mina Array Bea	55.44	71	P	P	08 18 12.8	+1.1
HWUT	Hardware Ranch	56.70	64	eP	P	08 18 21.0	+0.2
	comp=Z,1.9nm,0.7s,mb4.2						
BW06	Boulder Array	56.88	62	eP	P	08 18 22.1	0.0
	comp=Z,0.9nm,0.6s,mb4.0						
PDAR	Pinedale Array	56.88	62	P	P	08 18 22.1	0.0
	comp=Z,0.8nm,0.6s,mb3.9,baz=336,slow=3.5,SNR=11						
DUG	Dugway	57.08	66	eP	P	08 18 23.7	+0.2
DUG				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
DUG	Dugway	57.08	66	eP	P	08 18 23.7	+0.2
	comp=Z,2.1nm,1.0s,mb4.1						
FINES	FINESS Array B	58.02	336	P	P	08 18 30.7	+0.5
	comp=Z,2.0nm,0.6s,mb4.3,baz=46,slow=7.9,SNR=12						
FINES	FINESS Array B	58.02	336	P	P	08 18 30.7	+0.6
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	58.02	336	P	P	08 18 30.7	+0.5
RSSD	Black Hills	58.60	57	eP	P	08 18 33.9	-0.3
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
RSSD	Black Hills	58.60	57	eP	P	08 18 33.9	-0.2
	comp=Z,2.0nm,0.6s,mb4.3						
ISCO	Idaho Springs	61.07	61	eP	P	08 18 51.6	+0.5
AKASG	Malin Array Be	66.60	328	P	P	08 19 26.1	-1.5
	comp=Z,0.2nm,0.4s,mb3.5,baz=27,slow=6.3,SNR=4.9						
CLL	Collm	70.24	338	eP	P	08 19 50.0	-0.4
GERES	GERESS Array B	72.41	337	P	P	08 20 03.2	-0.3
	comp=Z,0.6nm,0.5s,mb3.8,baz=46,slow=3.9,SNR=4.8						
GERES	GERESS Array B	72.41	337	P	P	08 20 03.2	-0.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	Alice Springs	81.51	203	P	P	08 20 55.0	+0.2
	comp=Z,0.4nm,0.6s,mb3.5,baz=12,slow=5.3,SNR=4.8						

IDC 17 08:19:22.6±0.4,926S×10744E,h0km,mb5.1/25, mb1 5.1/26,mb1mx5.1/29,mbtmp5.1/26,MS7.0/17, Ms1 7.0/17,ms1mx6.6/45,Error ellipse: s-maj=13.6km s-min=9.7km az=38.0

CRAAG 17 08:19:23.5,924S×10736E,MW7.7

IGIL 17 08:19:23.3,931S×10728E,h10km,MS7.0

ISCJB ***17*** *08:19:24.3±0.1, 9.31S±0.02×107.43E±0.02, h20km, mb6.0/138, MS7.1/198, Error ellipse: s-maj=3.6km s-min=3.2km az=69.5*

NEIC ***17*** *08:19:26.7±0.1, 9.28S×107.42E, h20km, mb6.1/65, ME7.1, MS7.2/150, MW7.2, Error ellipse: s-maj=5.9km s-min=4.2km az=42.0, Moment Tensor Solution. s34 Moment tensor: Scale 10^{19}Nm; M_{rr}1.30; $M_{\theta\theta}$-1.54; $M_{\phi\phi}$0.23; $M_{r\theta}$7.27; $M_{\theta\phi}$1.01; $M_{\phi r}$-3.14; Best double couple: $M_0$8.10000×10^{19} NP1:ϕ_s113.00000°,δ84.00000°, λ90.00000°. NP2:ϕ_s297.00000°,δ6.00000°,λ93.00000°. Principal axes: T 7.7400, Plg51.0000°, Azm23.0000°; N 0.6900, Plg0.0000°, Azm113.0000°; P -8.4300, Plg39.0000°, Azm204.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s295.00000°,δ5.00000°, λ90.00000°. NP2:ϕ_s115.00000°,δ85.00000°,λ90.00000°. Principal axes: T Plg50.0000°, Azm25.0000°; N Plg0.0000°, Azm0.0000°; P Plg40.0000°, Azm205.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Four-hundred and thirteen people killed, 2,741 injured and 15 missing in Ciamis; 62 people killed, 6,124 injured and 2 missing in Tasikmalaya; 15 people killed and 244 injured at Banjar; 1 person killed and 30 injured in Garut; 157 people killed, 104 injured and 15 missing in Cilacap; 10 people killed, 22 injured and 33 missing in Kebumen; 1 person killed in Banyumas; 3 people killed and 10 injured in Gunung Kidul; 3 people killed in Bantul. At least 1,540 buildings damaged or destroyed, 176 boats destroyed and many roads damaged in Jawa Barat. At least 83 buildings damaged and 698 boats damaged or destroyed in Jawa Tengah. Felt [IV] at Bandung, Jakarta, Pangandaran and Tasikmalaya; [III] at Cianjur; [II] at Karangkates, Sawahan and Yogyakarta. Felt at Banda Aceh, Sukabumi and Surabaya. Also felt at Broome, Australia; Subang Jaya, Malaysia and in Singapore. All deaths and damage were a result of a tsunami with maximum runup heights of 4.6 m at Widarapayung, 3.6 m at Cikembulan, 3.4 m at Parang Kusumo and 1.8 m at Pangandaran. Inundation was at least 457 m at Buntong, 422 m at Cikembulan and 304 m at Suwuk. Wave heights in centimeters [peak-to-trough] were recorded at the following selected tide stations: 82.7 at Christmas Island, 28.8 at Hillarys, 19.5 at Esperance, 11.9 at Cocos Island and 4.5 at Broome, Australia; 24.3 at Benoa and 11.9 at Sabang, Indonesia; 21.4 at Hanimaadhoo, Maldives; 73.8 at Rodriguez, Mauritius.

BJI ***17*** *08:19:26.7, 9.30S×107.40E, h34km, mB6.9, mb5.8, Ms7.4, Msz7.1*

MOS ***17*** *08:19:27.3±1.5, 9.14S×107.46E, h33km, mb6.1/39, MS7.0/64, Error ellipse: s-maj=7.9km s-min=4.3km az=117.4*

HRVD ***17*** *08:19:28.8±0.1, 10.28S×107.78E, h20km, MW7.7/107, Centroid moment Tensor Solution. Mantle waves: s107,c279; Half duration: 13.9s Moment tensor: Scale 10^{20}Nm; M_{rr}1.63±.01; $M_{\theta\theta}$-1.32±.01; $M_{\phi\phi}$-0.30±.01; $M_{r\theta}$4.31±.07; $M_{\theta\phi}$0.31±.01; $M_{\phi r}$-0.58±.06; Best double couple: $M_0$4.60500×10^{20} NP1:ϕ_s290.00000°,δ10.00000°, λ102.00000°. NP2:ϕ_s98.00000°,δ80.00000°,λ88.00000°. Principal axes: T 4.7270, Plg55.0000°, Azm6.0000°; N -0.2400, Plg2.0000°, Azm98.0000°; P -4.4830, Plg35.0000°, Azm190.0000°; nsta1 refers to body waves. nsta2 refers to mantle waves, cutoff=200s.*

SZGRF ***17*** *08:19:36.8, 9.23S×106.00E, h33km, mb7.2, South of Jawa, Indonesia*

ISC 17 08:19:26.3±0.1**, 9.32S**±0.02×**107.42E**±0.02**, h20**km**, (h36**km±2.6km**:pP-P), n1136,** σ1.12/660**, mb6.0**/137**, MS7.1**/198**, 151C-108D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	**2.09**	**236**	P	**Pn**	**08 19 53.8**	**-6.4**
LEM	**Lembang**	**2.48**	**4**	P	**Pn**	**08 20 06.7**	**+1.1**
	15µm,1.0s						
BJII	**Banjamegara**	**3.00**	**49**	P	**Pn**	**08 20 13.5**	**+0.8**
	3µm,1.5s						
BJII	**Banjamegara**	**3.00**	**49**	⇑*i*P	**Pn**	**08 20 16.2**	**+3.5**
BJII				*i* S	**Sn**	**08 20 39.2**	**-8.9**
KSI	**Kapahiang**	**7.40**	**319**	P	**Pn**	**08 21 11.7**	**-1.4**
	665nm,1.1s						
COCO	**West Island**	**10.79**	**254**	Pn	**Pn**	**08 21 55.0**	**-4.6**
	2µm,0.8s,SNR=7.5						
COCO	**West Island**	**10.79**	**254**	⇑P	**Pn**	**08 21 58.5**	**-1.0**
	SNR=12						
COCO	**West Island**	**10.79**	**254**	*e*Pn	**Pn**	**08 21 55.6**	**-4.0**
KSM	**Kuching**	**11.10**	**15**	*e*Pn	**Pn**	**08 22 05.1**	**+1.3**
KGM	**Kluang**	**11.98**	**340**	P	**Pn**	**08 22 15.6**	**-0.3**
PSI	**Prapat**	**14.72**	**324**	Pn	**Pn**	**08 22 47.2**	**-6.0**
	0.6nm,0.3s,baz=178,slow=14,SNR=4.2						
PSI	**Prapat**	**14.72**	**324**	P	**Pn**	**08 22 47.3**	**-6.0**
PSI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PCI	**Palu**	**14.91**	**57**	P	**Pn**	**08 22 57.2**	**+1.3**
	comp=Z,1µm,1.3s						
IPM	**Ipoh**	**15.12**	**335**	P	**Pn**	**08 22 57.5**	**-1.1**
KULM	**Kulim**	**16.00**	**335**	*e*Pn	**Pn**	**08 23 05.2**	**-5.0**
MBWA	**Marble Bar**	**16.71**	**136**	⇑P	**Pn**	**08 23 15.9**	**-3.2**
	SNR=19						
MBWA	**Marble Bar**	**16.71**	**136**	*e*P	**Pn**	**08 23 14.6**	**-4.6**
TSM	**Tawau**	**17.07**	**38**	P	**Pn**	**08 23 25.2**	**+1.5**
KKM	**Kota Kinabalu**	**17.60**	**30**	P	**Pn**	**08 23 31.5**	**+1.2**
KKM	**Kota Kinabalu**	**17.60**	**30**	*e*Pn	**Pn**	**08 23 29.9**	**-0.4**
SNG	**Songkhla**	**17.73**	**337**	P	**Pn**	**08 23 31.5**	**-0.5**
	comp=Z,662nm,1.0s						
BSI	**Banda Aceh**	**19.04**	**320**	P	**Pn**	**08 23 47.4**	**-0.5**
	comp=Z,1µm,1.6s						
FITZ	**Fitzroy Crossi**	**19.72**	**118**	*e*P	**Pn**	**08 23 55.1**	**-0.9**
	comp=Z,120nm,0.9s						
FITZ				*e*pP	pP	08 24 07.7	+7.6
FITZ				*e*S	**Sn**	**08 27 40.7**	**+3.8**
FITZ	**Fitzroy Crossi**	**19.72**	**118**	P	**Pn**	**08 23 54.0**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=287,slow=8.3,SNR=29						
FITZ				S	**Sn**	**08 27 39.2**	**+2.3**
	comp=Z,6.1nm,0.3s,baz=234,slow=20,SNR=2.4						
BATP	**Bataraza**	**20.75**	**30**	*e*P	**P**	**08 24 06.0**	**+0.3**
PPR	**Puerto Princes**	**22.05**	**31**	⇑*e*P	**P**	**08 24 21.7**	**+2.0**
NNT	**Nongplab**	**23.07**	**341**	P	**P**	**08 24 32.0**	**+1.5**
PAGZ	**Pagadian**	**23.31**	**43**	*e*P	**P**	**08 24 34.5**	**+1.4**
CTBH	**Cotabato--PC H**	**23.47**	**46**	⇓*e*P	**P**	**08 24 36.0**	**+1.2**
ENPP	**El Nido**	**23.63**	**31**	*e*P	**P**	**08 24 34.0**	**-2.2**
KCP	**Kidapawan**	**23.94**	**48**	⇓*e*P	**P**	**08 24 42.9**	**+3.9**
KLBR	**Kellerberrin**	**24.15**	**158**	*e*P	**P**	**08 24 41.1**	**+0.1**
	comp=Z,7µm,5.0s						
KLBR				*e*sP	sP	08 24 56.4	+6.9
CUYO	**Cuyo Island**	**24.17**	**34**	*e*P	**P**	**08 24 42.6**	**+1.5**
SNPH	**Sibulan**	**24.32**	**41**	⇓*e*P	**P**	**08 24 43.0**	**+0.5**
	comp=Z,10µm,0.9s,mb6.9						
DAV	**Davao City (W)**	**24.34**	**49**	⇓*e*P	**P**	**08 24 45.0**	**+2.3**
DAV	**Davao City (W)**	**24.34**	**49**	⇑P	**P**	**08 24 43.9**	**+1.2**
	SNR=99						
DAV	**Davao City (W)**	**24.34**	**49**	⇑*e*P	**P**	**08 24 42.8**	**+0.1**
DAV				LR	LR		
	comp=Z,355µm,22.0s,MS6.8						
BUKP	**Musuan**	**24.51**	**46**	*e*P	**P**	**08 24 44.4**	**+0.2**
UBT	**Ubonrachathani**	**24.52**	**354**	P	**P**	**08 24 46.0**	**+1.7**
	comp=Z,3µm,1.0s,mb6.8						
CGP	**Cagayan de Oro**	**24.65**	**45**	⇑*e*P	**P**	**08 24 45.3**	**-0.2**
BUSP	**Coron**	**24.70**	**31**	*e*P	**P**	**08 24 46.3**	**+0.3**
KAKA	**Kakadu**	**24.78**	**100**	*e*P	**P**	**08 24 46.6**	**-0.1**
	comp=Z,416nm,0.9s,mb6.0						
GUIM	**Jordan**	**24.90**	**38**	*e*P	**P**	**08 24 48.3**	**+0.4**
TBP	**Tagbilaran**	**24.99**	**41**	*i* P	**P**	**08 24 49.0**	**+0.4**
NWAO	**Narrogin (SRO)**	**25.18**	**160**	P	**P**	**08 24 50.0**	**-0.3**
	comp=Z,16nm,0.6s,baz=344,slow=9.3,SNR=12						
NWAO				S	**S**	**08 29 22.8**	**+8.4**
	comp=Z,83nm,1.1s,baz=348,slow=18,SNR=2.3						
NWAO				LR	LR	08 33 57.0	
	comp=Z,424µm,18.2s,baz=331,slow=35						
NWAO	**Narrogin (SRO)**	**25.18**	**160**	P	**P**	**08 24 50.1**	**-0.3**
NWAO				S	**S**	**08 29 22.8**	**+8.3**
NWAO				pmax	pmax		
	comp=Z,17nm,0.6s						
NWAO				smax			
	comp=E,83nm,1.1s						
NWAO				MLR	MLR		
	comp=Z,424µm,18.2s						
NWAO	**Narrogin (SRO)**	**25.18**	**160**	*e*P	**P**	**08 24 49.8**	**-0.6**
NWAO				LR	LR		
	comp=Z,453µm,20.0s,MS7.0						
PBA	**Port Blair**	**25.44**	**325**	*e*x	x	08 24 58.0	
	comp=Z,721nm,1.3s						
PBA				*e*x	x	08 29 12.5	
LLP	**Lapu-Lapu**	**25.52**	**41**	*e*P	**P**	**08 24 53.1**	**-0.3**
KALP	**Kalibo**	**25.59**	**36**	⇑*e*P	**P**	**08 25 04.0**	**+10**
	comp=Z,4788µm,16.7s						
RCP	**Roxas**	**25.73**	**37**	⇑*e*P	**P**	**08 24 55.7**	**+0.3**
	comp=Z,473µm,12.0s						
NST	**Nakhon Sawan**	**25.86**	**344**	⇑P	**P**	**08 24 58.0**	**+1.5**
OTRP	**Odiongan**	**25.97**	**34**	*e*P	**P**	**08 24 58.3**	**+0.8**
MSLP	**Maasin**	**25.97**	**42**	*e*P	**P**	**08 24 55.0**	**-2.5**
SCPH	**Surigao**	**26.14**	**44**	⇑*e*P	**P**	**08 25 07.5**	**+8.5**
LUBP	**Lubang**	**26.20**	**29**	*e*P	**P**	**08 24 58.4**	**-1.2**
PGP	**Puerto Galera**	**26.35**	**31**	⇓*e*P	**P**	**08 25 08.6**	**+7.7**
OCLP	**Ormoc**	**26.49**	**41**	*e*P	**P**	**08 25 03.1**	**+1.0**
BOAC	**Boac**	**26.78**	**33**	*e*P	**P**	**08 25 04.2**	**-0.6**
PLP	**Palo**	**26.81**	**41**	*e*P	**P**	**08 25 04.8**	**-0.3**
TGY	**Tagaytay City**	**26.85**	**30**	⇑*e*P	**P**	**08 25 01.3**	**-4.2**
TGY	**Tagaytay City**	**26.85**	**30**	P	**P**	**08 25 06.5**	**+1.0**
	comp=Z,69nm,0.3s,baz=234,slow=22,SNR=7.2						
TGY	**Tagaytay City**	**26.85**	**30**	P	**P**	**08 25 06.5**	**+1.0**
TGY				pmax	pmax		
	comp=Z,69nm,0.3s						
SCZP	**Santa Cruz**	**27.83**	**26**	*e*P	**P**	**08 25 13.5**	**-0.7**
WRA	**Warramunga Arr**	**28.06**	**115**	P	**P**	**08 25 15.7**	**-0.6**
	comp=Z,58nm,1.1s,mb5.1,baz=287,slow=10,SNR=50						
WRA				S	**S**	**08 30 03.1**	**+3.2**
	comp=Z,18nm,0.9s,baz=276,slow=16,SNR=2.3						
WRA	**Warramunga Arr**	**28.06**	**115**	P	**P**	**08 25 15.7**	**-0.6**
WRA				S	**S**	**08 30 03.1**	**+3.2**
WRA				pmax	pmax		
	comp=Z,58nm,1.1s						
WRA				smax			
	comp=E,18nm,0.9s						
WRAB	**Tennant Creek**	**28.07**	**115**	P	**P**	**08 25 17.0**	**+0.7**
	SNR=14						
WRAB	**Tennant Creek**	**28.07**	**115**	*e*P	**P**	**08 25 16.4**	**+0.1**
	comp=E,496nm,1.3s,mb6.0						
WRAB				LR	LR		
	comp=Z,803µm,21.0s,MS7.3						
WB2	**Warramunga Arr**	**28.07**	**115**	*e*P	**P**	**08 25 15.8**	**-0.6**
WB2				*e*pP	pP	08 25 28.6	+6.1
WB2				*e*S	**S**	**08 30 03.8**	**+3.8**
PVCP	**Virac**	**28.18**	**36**	⇑*e*P	**P**	**08 25 19.9**	**+2.5**
PCPH	**Palayan**	**28.19**	**29**	⇑*e*P	**P**	**08 25 15.3**	**-2.1**
QIZ	**Qiongzhong**	**28.27**	**5**	P	**P**	**08 25 19.5**	**+1.4**
QIZ				AP	pP	08 25 29.3	+5.0
QIZ				XP	sP	08 25 33.1	+6.3
QIZ				S	**S**	**08 30 02.8**	**-0.4**
QIZ				XS	sS	08 30 18.9	+5.6
QIZ				SS		08 31 23.6	
QIZ				LR	LR		
	comp=E,484µm,19.8s						
QIZ				LR	LR		
	comp=Z,649µm,26.2s						
QIZ	**Qiongzhong**	**28.27**	**5**	*e*P	**P**	**08 25 20.0**	**+1.9**
	comp=Z,393nm,1.4s,mb5.8						
QIZ				LR	LR		
	comp=Z,439µm,19.0s,MS7.1						
BOLP	**Bolinao**	**28.37**	**26**	*e*P	**P**	**08 25 21.6**	**+2.5**
BALP	**Baler**	**28.57**	**29**	*e*P	**P**	**08 25 19.8**	**-1.0**
BCPH	**Baguio City Da**	**28.66**	**27**	*e*P	**P**	**08 25 20.9**	**-0.7**
NANT	**Nan**	**28.71**	**347**	⇓P	**P**	**08 25 21.0**	**-1.1**
	comp=Z,1µm,1.0s,mb6.6						
FORT	**Forrest**	**28.73**	**141**	*e*P	**P**	**08 25 32.0**	**+10**
	comp=Z,62nm,0.8s,mb5.4						
FORT				*e*S	**S**	**08 30 12.4**	**+1.9**
ASPA	**Alice Springs**	**29.05**	**123**	*e*P	**P**	**08 25 25.0**	**-0.1**
ASPA				*e*pP	pP	08 25 39.2	+8.0
ASAR	**Alice Springs**	**29.05**	**123**	P	**P**	**08 25 25.1**	**0.0**
	comp=Z,19nm,1.0s,mb4.8,baz=291,slow=7.8,SNR=44						
ASAR				P3KP		08 58 35.7	
	comp=Z,0.9nm,0.8s,baz=114,slow=4.1,SNR=4.1						
AS31	**Alice Springs**	**29.05**	**123**	*e*P	**P**	**08 25 25.0**	**-0.1**
AS31				*e*pP	pP	08 25 39.2	+8.0
CHG	**Chiang Mai**	**29.18**	**343**	⇑P	**P**	**08 25 26.0**	**-0.2**
	comp=Z,150nm,0.9s,mb5.7						
CHTO	**Chiang Mai**	**29.18**	**343**	P	**P**	**08 25 26.4**	**+0.1**
	SNR=86						
CHTO	**Chiang Mai**	**29.18**	**343**	*e*P	**P**	**08 25 26.3**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,336nm,1.0s,mb6.0						
CHTO				MLR	MLR		
	comp=Z,340µm,20.0s,MS7.0						
CHTO	**Chiang Mai**	**29.18**	**343**	*e*P	**P**	**08 25 26.3**	**0.0**
	comp=Z,341nm,1.0s,mb6.0						
CHTO				LR	LR		
	comp=Z,346µm,20.0s,MS7.0						
BAKI	**Biak**	**29.66**	**76**	P	**P**	**08 25 35.7**	**+5.2**
	comp=Z,301nm,2.0s,mb5.7						
APYP	**Conner**	**30.26**	**27**	*e*P	**P**	**08 25 36.0**	**+0.2**
CVP	**Callao Caves**	**30.38**	**28**	*e*P	**P**	**08 25 35.0**	**-1.9**
PALK	**Pallekele**	**31.31**	**301**	*e*P	**P**	**08 25 45.8**	**+0.7**
	comp=Z,1µm,1.9s,mb6.3						
PALK				LR	LR		
	comp=Z,222µm,20.0s,MS6.8						
HKC	**Hong Kong**	**32.11**	**12**	*i* P	**P**	**08 25 52.0**	**-0.2**
GZH	**Guangzhou**	**32.72**	**10**	P	**P**	**08 26 01.9**	**+4.4**
GZH				S	**S**	**08 31 20.3**	**+7.4**
GZH				LR	LR		
	comp=N,271µm,19.9s,MS7.1						
GZH				LR	LR		
	comp=E,221µm,16.5s,MS7.1						
GZH				LR	LR		
	comp=Z,435µm,19.0s,MS7.2						
KMI	**Kunming**	**34.53**	**352**	⇑P	**P**	**08 26 15.8**	**+2.5**
KMI				PP	PP	08 27 33.3	+1.7
KMI				PPP		08 27 51.5	
KMI				PCP	PcP	08 28 49.1	+1.2
KMI				S	**S**	**08 31 45.8**	**+4.8**
KMI				SCP	ScP	08 32 33.3	+1.3
KMI				SSS		08 34 25.8	
KMI				SCS	ScS	08 36 35.4	+0.6
KMI				AMB	AMB		
	comp=Z,362nm,1.3s,mb6.1						
KMI				AMB	AMB		
	comp=Z,21µm,14.7s						
KMI				LR	LR		
	comp=N,442µm,19.9s,MS7.5						
KMI				LR	LR		
	comp=E,670µm,17.9s,MS7.5						
KMI				LR	LR		
	comp=Z,726µm,23.9s						
KMI	**Kunming**	**34.53**	**352**	⇑P	**P**	**08 26 15.8**	**+2.5**
	comp=Z,362nm,1.3s,mb6.1						
KMI				pP	pP	08 26 18.7	-0.7
KMI				sP	sP	08 26 19.9	-2.0
KMI				PP	PP	08 27 33.2	+1.6
KMI				PPP		08 27 51.5	
KMI				PcP	PcP	08 28 49.1	+1.2
KMI				S	**S**	**08 31 45.7**	**+4.7**
KMI				sS	sS	08 31 50.8	-0.4
KMI				ScP	ScP	08 32 33.2	+1.2
KMI				PcS	PcS	08 32 34.4	+0.1
KMI				SS	SS	08 33 58.8	-12
KMI				SSS		08 34 25.8	
KMI				ScS	ScS	08 36 35.4	+0.6
KMI				LR	LR		
	comp=Z,726µm,23.9s,MS7.3						
DGAR	**Diego Garcia**	**34.64**	**270**	PFAKE		08 26 30.0	+16
DGAR				LR	LR		
	comp=Z,224µm,19.0s,MS6.9						
TRD	**Trivandrum**	**35.13**	**299**	*e*P	**P**	**08 26 19.1**	**+0.7**
TRD				AMb	AMB	08 26 51.1	
	comp=Z,357nm,0.6s,mb6.5						
TRD				AMS	AMS	08 49 41.4	
	comp=N,209µm,16.7s,MS7.1						
TRD				AMS	AMS	08 49 45.6	
	comp=Z,282µm,9.7s						
TRD				AMS	AMS	08 49 46.2	
	comp=E,207µm,16.7s,MS7.1						
COEN	**Coen**	**35.29**	**101**	P	**P**	**08 26 20.1**	**+0.3**
GYA	**Guiyang**	**35.57**	**359**	⇑*i*P	**P**	**08 26 22.6**	**+0.4**
GYA				AP	pP	08 26 31.8	+3.5
GYA				XP	sP	08 26 36.3	+5.5
GYA				PP	PP	08 27 44.1	+1.1
GYA				PCP	PcP	08 28 50.4	-0.5
GYA				S	**S**	**08 31 57.3**	**+0.4**
GYA				XS	sS	08 32 13.8	+6.7
GYA				SCP	ScP	08 32 32.4	-3.3
GYA				SS	SS	08 34 18.9	-13
GYA				LR	LR		
	comp=N,461µm,16.8s,MS7.4						
GYA				LR	LR		
	comp=E,411µm,19.8s,MS7.4						
GYA				LR	LR		
	comp=Z,298µm,17.8s,MS7.1						
QZH	**Quanzhou**	**35.75**	**18**	⇑*i*P	**P**	**08 26 24.0**	**+0.3**
QZH				S	**S**	**08 32 00.0**	**+0.3**
QZH				AMB	AMB		
	comp=Z,220nm,1.2s,mb6.0						
QZH				AMB	AMB		
	comp=Z,11µm,12.8s						
QZH				LR	LR		
	comp=N,165µm,13.2s,MS7.2						
QZH				LR	LR		
	comp=E,232µm,14.1s,MS7.2						
QZH				LR	LR		
	comp=Z,433µm,17.7s,MS7.3						
VIS	**Vishakhapatnam**	**35.89**	**318**	*e*P	**P**	**08 26 26.1**	**+1.1**
VIS				AMb	AMB	08 26 52.0	
	comp=Z,827nm,1.6s,mb6.4						
VIS				*e*S	**S**	**08 32 03.1**	**+1.2**
NACB	**Ninganchiao**	**36.05**	**22**	*e*P	**P**	**08 26 25.4**	**-0.9**
YHNB	**Yeheng**	**36.42**	**22**	*e*P	**P**	**08 26 29.9**	**+0.4**
TATO	**Taipei**	**36.74**	**22**	*e*P	**P**	**08 26 31.8**	**-0.4**
	comp=Z,520nm,1.0s,mb6.3						
TATO				*e*		08 26 44.3	
TATO				LR	LR		
	comp=Z,183µm,22.0s,MS6.8						
CAL	**Calcutta**	**36.77**	**330**	*e*P	**P**	**08 26 33.2**	**+0.7**
CAL				*e*S	**S**	**08 32 17.1**	**+1.7**
SHL	**Shillong**	**37.83**	**337**	*e*x	**P**	**08 26 47.9**	**+6.4**
ADE	**Adelaide**	**38.33**	**137**	*e*P	**P**	**08 26 46.2**	**+0.6**
MNCY	**Minicoy**	**38.45**	**296**	*e*x	x	08 27 08.0	
MNCY				*e*x	x	08 31 59.0	
CTA	**Charters Tower**	**38.96**	**110**	*e*P	**P**	**08 26 51.4**	**+0.4**
	comp=Z,24nm,0.6s,mb5.1						
CTA				*e*pP	pP	08 27 04.9	+7.7
CTA				*e*S	**S**	**08 32 54.2**	**+5.7**
CTA	**Charters Tower**	**38.96**	**110**	P	**P**	**08 26 50.6**	**-0.4**
	comp=Z,38nm,1.1s,mb5.0,baz=274,slow=12,SNR=13						
CTA				S	**S**	**08 32 56.5**	**+7.9**
	comp=Z,16nm,1.0s,baz=152,slow=22,SNR=1.7						
CTA	**Charters Tower**	**38.96**	**110**	P	**P**	**08 26 50.6**	**-0.4**
CTA				S	**S**	**08 32 56.5**	**+8.0**
CTA				pmax	pmax		
	comp=Z,38nm,1.1s						
CTA				smax			
	comp=E,16nm,1.0s						
CTAO	**Charters Tower**	**38.96**	**110**	⇑*e*P	**P**	**08 26 51.7**	**+0.7**
CTAO				*e*		08 27 04.2	
CTAO				pmax	pmax		
	comp=Z,626nm,1.5s,mb6.1						
CTAO				MLR	MLR		
	comp=Z,418µm,21.0s,MS7.2						
CTAO	**Charters Tower**	**38.96**	**110**	⇑*e*P	**P**	**08 26 51.7**	**+0.7**
	comp=Z,626nm,1.5s,mb6.1						
CTAO				*e*		08 27 04.2	
CTAO				LR	LR		
	comp=Z,418µm,21.0s,MS7.2						
HYB	**Hyderabad**	**38.98**	**313**	⇑*i*P	**P**	**08 26 51.0**	**-0.1**
	comp=Z,950nm,1.4s,mb6.3						
HYB				*e*pP	pP	08 27 03.0	+5.7
HYB				*e*S	**S**	**08 32 53.0**	**+4.1**
HYB				LR	LR	08 45 10.0	
	comp=Z,150nm,20.0s						
BOK	**Bokaro**	**39.07**	**328**	*e*P	**P**	**08 26 53.1**	**+1.2**
BOK				AMb	AMB	08 27 13.0	
	comp=Z,1µm,1.6s,mb6.3						
BOK				*e*S	**S**	**08 32 51.6**	**+1.5**
BOK				AMS	AMS	08 44 30.2	
	comp=E,176µm,19.9s						
BOK				AMS	AMS	08 49 59.1	
	comp=Z,176µm,15.9s,MS7.0						
PMG	**Port Moresby**	**39.19**	**93**	P	**P**	**08 26 53.4**	**+0.5**
	comp=Z,39nm,1.0s,mb5.1,baz=274,slow=3.6,SNR=10						
PMG				S	**S**	**08 32 51.5**	**-0.5**
	comp=Z,20nm,0.9s,baz=339,slow=7.6,SNR=1.8						
PMG	**Port Moresby**	**39.19**	**93**	⇑*e*P	**P**	**08 26 52.9**	**0.0**
PMG				*e*		08 27 09.5	
PMG				LR	LR		
	comp=Z,333µm,21.0s,MS7.1						
MNGI	**Mangalore**	**39.21**	**304**	*e*P	**P**	**08 26 53.1**	**+0.1**
MNGI				AMb	AMB	08 27 29.4	
	comp=Z,473nm,1.6s,mb6.0						
ENH	**Enshi**	**39.41**	**3**	PFAKE		08 27 10.0	+15
ENH				LR	LR		
	comp=Z,7.0nm,20.0s						
CD2	**Chengdu**	**40.15**	**355**	⇑*i*P	**P**	**08 26 59.3**	**-1.6**
CD2				PP	PP	08 28 36.6	+3.3
CD2				S	**S**	**08 33 08.4**	**+2.0**
CD2				SS	SS	08 36 02.8	-1.5
CD2				AMB	AMB		
	comp=Z,390nm,1.8s,mb5.8						
CD2				AMB	AMB		
	comp=Z,14µm,10.5s						
CD2				LR	LR		
	comp=E,268µm,19.2s						
CD2				LR	LR		
	comp=Z,157µm,18.0s,MS6.9						
WHN	**Wuhan**	**40.19**	**9**	P	**P**	**08 27 02.4**	**+1.2**
WHN				LR	LR		
	comp=Z,464µm,22.5s,MS7.3						
NGP	**Nagpur**	**41.16**	**318**	*i* P	**P**	**08 27 08.7**	**-0.4**
NGP				*e*S	**S**	**08 33 21.8**	**+0.5**
JOW	**Kunigami**	**41.24**	**29**	P	**P**	**08 27 07.8**	**-2.0**
	comp=Z,87nm,1.1s,mb5.3,baz=223,slow=5.8,SNR=13						
JOW				S	**S**	**08 33 30.1**	**+7.4**
	comp=Z,5.1nm,0.7s,baz=70,slow=26,SNR=2.6						
JIRN	**Jiri**	**42.12**	**331**	*e*P	**P**	**08 27 18.2**	**+1.1**
	comp=Z,7µm,1.6s						
KAD	**Karad**	**42.18**	**309**	*e*P	**P**	**08 27 18.0**	**+0.4**
KAD				AMb	AMB	08 27 45.9	
	comp=Z,340nm,1.5s,mb5.8						
KAD				AMS	AMS	08 49 14.8	
	comp=Z,176µm,18.1s,MS7.0						
AKL	**Akola**	**42.24**	**315**	*e*P	**P**	**08 27 18.4**	**+0.4**
AKL				AMb	AMB	08 27 41.8	
	comp=Z,471nm,2.2s,mb5.7						
SSE	**Sheshan**	**42.29**	**18**	⇑P	**P**	**08 27 19.3**	**+0.8**
SSE				PP	PP	08 28 57.4	+0.9
SSE				PCP	PcP	08 29 11.6	-0.4
SSE				S	**S**	**08 33 41.3**	**+3.1**
SSE				AMB	AMB		
	comp=Z,101nm,1.1s,mb5.4						
SSE				AMB	AMB		
	comp=Z,9µm,12.0s						
SSE				LR	LR		
	comp=N,146µm,14.7s,MS7.0						
SSE				LR	LR		
	comp=E,52µm,14.7s,MS7.0						
SSE				LR	LR		
	comp=Z,145µm,12.8s,MS7.0						
SSE	**Sheshan**	**42.29**	**18**	⇑P	**P**	**08 27 19.2**	**+0.7**
	comp=Z,101nm,1.1s,mb5.4						
SSE				pP	pP	08 27 22.3	-2.4
SSE				sP	sP	08 27 23.7	-3.5
SSE				PP	PP	08 28 57.4	+0.9
SSE				PcP	PcP	08 29 11.6	-0.4
SSE				S	**S**	**08 33 41.3**	**+3.1**
SSE				sS	sS	08 33 46.6	-1.9
SSE				ScS	ScS	08 37 21.7	+2.2
SSE				LR	LR		
	comp=Z,145µm,12.8s,MS7.0						
PKI	**Pulchoki**	**42.42**	**330**	*e*P	**P**	**08 27 19.0**	**-0.5**
	comp=Z,2µm,1.4s,mb6.6						
PKI	**Pulchoki**	**42.42**	**330**	*e*P	**P**	**08 27 19.0**	**-0.5**
PKI				pmax	pmax		
	comp=Z,2µm,1.4s,mb6.6						
GUN	**Gumba**	**42.48**	**331**	*e*P	**P**	**08 27 20.9**	**+0.9**
	comp=Z,3µm,1.2s,mb6.8						
NJ2	**Nanjing**	**42.56**	**14**	*e*P	**P**	**08 27 22.0**	**+1.3**
NJ2				AP	pP	08 27 35.1	+8.2
NJ2				XP	sP	08 27 40.0	+11
NJ2				PP	PP	08 29 04.1	+4.7
NJ2				S	**S**	**08 33 39.0**	**-3.2**
NJ2				XS	sS	08 34 00.0	+7.6
NJ2				AMB	AMB		
	comp=Z,150nm,1.0s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,9µm,4.9s						
NJ2				LR	LR		
	comp=N,806µm,19.6s,MS7.6						
NJ2				LR	LR		
	comp=E,334µm,24.2s,MS7.6						
DMN	**Daman**	**42.60**	**330**	*e*P	**P**	**08 27 21.6**	**+0.6**
	comp=E,2µm,1.2s,mb6.8						

KKN **Kakani** 42.67 330 eP P 08 27 22.0 +0.5
comp=E,3μm,1.5s,mb6.9
KKN **Kakani** 42.67 330 eP P 08 27 22.0 +0.5
KKN pmax pmax
comp=Z,3μm,1.5s,mb6.9
VLK **Valmikinagar** 42.98 329 eP P 08 27 27.0 +2.9
XAN **Xi'an** 43.14 2 P P 08 27 25.3 -0.1
XAN S S 08 33 55.5 +4.9
XAN AMB AMB
comp=Z,186nm,1.2s,mb5.7
XAN LR LR
comp=N,63μm,23.2s,MS7.2
XAN LR LR
comp=E,339μm,23.2s,MS7.2
XAN LR LR
comp=Z,521μm,18.5s,MS7.5
GKN **Gorkha** 43.16 330 eP P 08 27 25.9 +0.4
comp=Z,7μm,1.8s
POO **Poona** 43.16 310 ix PP 08 29 06.0 +0.1
POO ix x 08 29 47.0
KOLN **Koldanda** 43.49 329 eP P 08 27 28.9 +0.7
comp=Z,3μm,1.3s,mb6.9
GUMO **Guam** 43.58 59 LR LR 08 45 41.2
comp=Z,77μm,20.8s,MS6.6,baz=228,slow=36
BHPL **Bhopal** 43.69 318 eP P 08 27 29.8 0.0
BHPL AMb AMB 08 27 53.4
comp=Z,354nm,2.2s,mb5.7
BHPL eS S 08 34 01.1 +2.4
BHPL AMS AMS 08 47 08.1
comp=Z,136μm,19.7s,MS6.9
BOM **Bombay** 44.17 309 iP P 08 27 43.5 +10
BOM ex x 08 27 44.5
comp=Z,251nm,1.6s
BOM eS S 08 34 20.4 +15
TOO **Toolangi** 44.35 136 eP P 08 27 37.4 +2.3
comp=Z,81nm,1.4s,mb5.3
TOO **Toolangi** 44.35 136 eP P 08 27 37.4 +2.3
TOO pmax pmax
comp=Z,81nm,1.4s,mb5.3
LZH **Lanzhou** 45.28 356 eP P 08 27 44.1 +1.6
LZH AP pP 08 27 53.4 +4.6
LZH XP sP 08 28 01.0 +10
LZH PP PP 08 29 26.0 -2.5
LZH SCP ScP 08 33 13.5 -0.2
LZH eS S 08 34 23.0 +1.1
LZH XS sS 08 34 39.0 +6.8
LZH SS SS 08 37 40.1 -5.1
LZH AMB AMB
comp=Z,11μm,5.3s
LZH LR LR
comp=E,150μm,14.6s
LZH LR LR
comp=Z,186μm,15.5s,MS7.1
LZH **Lanzhou** 45.28 356 eP P 08 27 44.1 +1.6
comp=Z,3μm,1.2s
LZH pP pP 08 27 53.4 +4.6
LZH sP sP 08 28 01.0 +10
LZH PcP PcP 08 29 13.8 -8.3
LZH PP PP 08 29 26.0 -2.5
LZH ScP ScP 08 33 13.5 -0.2
LZH PcS PcS 08 33 22.8 +6.8
LZH eS S 08 34 23.0 +1.1
LZH sS sS 08 34 39.0 +6.8
LZH SS SS 08 37 40.1 -5.1
LZH LR LR
comp=Z,186μm,15.5s,MS7.1
CNB **Canberra Magne** 46.13 131 eP P 08 27 50.4 +1.2
comp=Z,224nm,1.5s,mb5.9
ARMA **Armidale** 46.20 123 eP P 08 27 51.3 +1.6
ARMA epP pP 08 28 04.1 +8.1
ARMA eS S 08 34 39.5 +4.5
TIA **Tai'an** 46.20 11 P P 08 27 48.6 -1.1
TIA S S 08 34 42.0 +7.0
TIA AMB AMB
comp=Z,81nm,1.2s,mb5.5
TIA AMB AMB
comp=Z,1μm,3.0s
TIA LR LR
comp=N,53μm,16.0s,MS7.2
TIA LR LR
comp=E,186μm,16.0s,MS7.2
AGRA **Agra** 46.22 323 eP P 08 27 49.8 -0.2
AGRA AMb AMB 08 28 11.6
comp=Z,1μm,1.6s,mb6.5
AGRA eS S 08 34 36.2 +0.8
LGTI **Lohaghat** 46.60 327 eP P 08 27 51.8 -1.1
LGTI ex x 08 30 03.0
PTH **Pithoragarh** 46.69 327 eP P 08 27 56.2 +2.6
AYAN **Aya Nagar** 47.63 323 eP P 08 28 00.3 -0.7
AYAN AMb AMB 08 28 20.8
comp=Z,591nm,0.9s,mb6.6
NDI **New Delhi** 47.73 323 eP P 08 27 59.0 -2.7
AJM **Ajmer** 47.75 319 eP P 08 28 01.6 -0.2
AJM AMb AMB 08 28 24.3
comp=Z,427nm,1.1s,mb6.4
AJM eS S 08 34 58.0 +0.8
KUDL **Kundal** 47.77 322 eP P 08 28 01.4 -0.6
KUDL AMb AMB 08 28 23.7
comp=Z,1μm,1.8s,mb6.6
KUDL eS S 08 34 59.4 +2.0
KHET **Khetri** 48.13 322 eP P 08 28 04.4 -0.5
KHET AMb AMB 08 28 25.7
comp=Z,552nm,3.1s
TAU **Tasmania Unive** 48.28 141 eP P 08 28 07.0 +1.0
TAU pmax pmax
comp=Z,242nm,1.3s,mb6.1
TAU MLR MLR
comp=Z,311μm,19.0s,MS7.3
TAU **Tasmania Unive** 48.28 141 eP P 08 28 07.0 +1.0
comp=Z,242nm,1.3s,mb6.1
TAU LR LR
comp=Z,311μm,19.0s,MS7.3
KKR **Kurukshetra** 48.91 324 eP P 08 28 10.4 -0.4
KKR AMb AMB 08 28 25.5
comp=Z,1μm,2.2s,mb6.5
GTA **Gaotai** 48.99 352 eP P 08 28 11.9 +0.5
GTA AP pP 08 28 17.6 -0.2
GTA PCP PcP 08 29 34.8 -0.5
GTA PP PP 08 30 07.1 +2.2
GTA PPP 08 31 01.9
GTA S S 08 35 16.0 +1.3
GTA XS sS 08 35 29.3 +4.2
GTA AMB AMB
comp=Z,60nm,1.2s,mb5.5
GTA AMB AMB
comp=Z,12μm,6.1s
GTA LR LR
comp=N,187μm,20.9s,MS7.5
GTA LR LR
comp=E,571μm,24.3s,MS7.5
GTA LR LR
comp=Z,140μm,21.3s,MS6.9
BHJ **Bhuj** 49.12 312 eP P 08 28 12.2 -0.2
BHJ AMb AMB 08 28 49.2
comp=Z,634nm,2.1s,mb6.3
BHJ eS S 08 35 19.4 +2.8
BHJ ex x 08 58 59.3
comp=Z,167μm,17.5s
KLP **Kalpa** 49.30 327 eP P 08 28 13.7 -0.1
KLP AMb AMB 08 28 54.7
comp=Z,952nm,1.6s,mb6.6
KLP eS S 08 35 20.7 +1.7
SMLA **Simla** 49.58 325 eP P 08 28 16.4 +0.4
SMLA AMb AMB 08 28 53.8
comp=Z,2μm,2.3s,mb6.7
BTO **Baotou** 49.73 3 eP P 08 28 15.6 -1.5
BTO S S 08 35 28.4 +3.3
BTO AMB AMB
comp=Z,73nm,2.7s,mb5.2
BJT **Baijiatuau** 49.75 9 eP P 08 28 17.3 +0.1
BJT pmax pmax
comp=Z,510nm,1.1s
BJT MLR MLR
comp=Z,348μm,19.0s
BJT **Baijiatuau** 49.75 9 eP P 08 28 17.3 0.0
comp=Z,510nm,1.1s,mb6.5
BJT LR LR
comp=Z,348μm,19.0s,MS7.4
DL2 **Dalian** 49.77 15⇑iP P 08 28 14.8 -2.6
DL2 eS S 08 35 19.8 -5.7
DL2 AMB AMB
comp=Z,160nm,0.8s,mb6.1
DL2 AMB AMB
comp=Z,13μm,8.5s
DL2 LR LR
comp=N,94μm,15.5s,MS7.0
DL2 LR LR
comp=E,41μm,14.1s,MS7.0
DL2 LR LR
comp=Z,102μm,15.4s,MS6.9
BJI **Beijing** 49.77 9 eP P 08 28 17.1 -0.3
BJI PP PP 08 30 07.9 -4.1
BJI S S 08 35 30.3 +4.7
BJI AMB AMB
comp=Z,61nm,0.9s,mb5.6
BJI AMB AMB
comp=Z,3μm,5.7s
BJI LR LR
comp=N,122μm,26.8s
BJI LR LR
comp=E,139μm,19.2s
BJI LR LR
comp=Z,330μm,37.5s
BJI **Beijing** 49.77 9 eP P 08 28 17.1 -0.3
comp=Z,61nm,0.9s,mb5.6
BJI PP PP 08 30 07.9 -4.1
BJI S S 08 35 30.3 +4.7
BJI SS SS 08 39 08.4 +10
BJI LR LR
comp=Z,330μm,37.5s,MS7.1
INCN **Inchon** 49.91 20 eP P 08 28 19.0 +0.5
comp=Z,603nm,1.8s,mb6.3
INCN e 08 28 29.3
INCN LR LR
comp=Z,102μm,21.0s,MS6.8
SDNR **Sundarnagar** 49.97 326 eP P 08 28 18.0 -0.9
HHC **Hu-ho-hao-te** 50.06 4⇑iP P 08 28 19.8 +0.2
HHC XP sP 08 28 33.3 +4.9
HHC PCP PcP 08 29 38.4 -0.8
HHC PP PP 08 30 14.1 -0.6
HHC SCP ScP 08 33 30.3 -3.5
HHC PCS PcS 08 33 32.8 -3.4
HHC S S 08 35 29.3 -0.4
HHC XS sS 08 35 41.8 +1.7
HHC SCS ScS 08 38 07.4 -2.5
HHC SS SS 08 38 55.0 -7.8
HHC AMB AMB
comp=Z,104nm,1.2s,mb5.7
HHC AMB AMB
comp=Z,12μm,4.8s
HHC LR LR
comp=N,267μm,14.3s,MS7.5
HHC LR LR
comp=E,139μm,13.1s,MS7.5
HHC LR LR
comp=Z,248μm,29.7s
JASL **Jaisalmer** 50.53 317 eP P 08 28 22.5 -0.6
JASL AMb AMB 08 29 08.4
comp=Z,476nm,2.8s,mb5.9
PONG **Pong** 50.89 325 ex x 08 28 13.0
PONG ex x 08 35 55.0
HNR **Honiara** 51.78 95 eP P 08 28 32.4 -0.1
HNR pmax pmax
comp=Z,2μm,1.4s,mb6.7
HNR MLR MLR
comp=Z,118μm,22.0s,MS6.9
HNR **Honiara** 51.78 95 eP P 08 28 32.4 -0.1
comp=Z,2μm,1.4s,mb6.8
HNR LR LR
comp=Z,118μm,22.0s,MS6.9
JHJ **Hachijo jima 2** 52.25 35 LR LR 08 51 53.5
comp=Z,85μm,20.6s,MS6.8,baz=230,slow=37
SNY **Shenyang** 53.01 15⇑P P 08 28 39.8 -1.9
SNY PP PP 08 30 39.5 -1.9
SNY SCP ScP 08 33 46.4 -0.1
SNY S S 08 36 05.0 -5.3
SNY AMB AMB
comp=Z,202nm,2.5s,mb5.6
SNY AMB AMB
comp=Z,18μm,12.0s
SNY LR LR
comp=N,149μm,17.2s,MS7.3
SNY LR LR
comp=E,180μm,18.8s,MS7.3
SNY LR LR
comp=Z,161μm,28.8s
MAJO **Matsushiro** 54.02 31 eP P 08 28 47.4 -1.7
comp=Z,491nm,1.4s,mb6.2
MAJO e 08 28 58.9
MAJO LR LR
comp=Z,159μm,22.0s,MS7.0
MAT **Matsushiro** 54.02 31 P P 08 28 46.7 -2.4
MAT S S 08 36 24.0 0.0
MAT **Matsushiro** 54.02 31 eP P 08 28 47.0 -2.1
MAT eS S 08 36 31.0 +7.0
MAT pmax pmax
comp=Z,96nm,1.3s,mb5.6
MAT **Matsushiro** 54.02 31 eP P 08 28 47.0 -2.1
comp=Z,96nm,1.3s,mb5.6
MAT eS S 08 36 31.0 +7.0
MJAR **Matsushiro Arr** 54.02 31 P P 08 28 46.8 -2.2
comp=Z,25nm,1.1s,mb5.1,baz=205,slow=8.1,SNR=41
MJAR LR LR 08 54 39.2
comp=Z,59μm,18.7s,MS6.7,baz=210,slow=39
MJAR PKP2ab 08 59 48.6
comp=Z,0.5nm,0.3s,baz=88,slow=0.8,SNR=4.1
CN2 **Changchun** 55.34 16⇓P P 08 28 57.4 -1.3
CN2 eS S 08 36 41.0 -0.9
CN2 LR LR
comp=N,100μm,17.0s,MS7.1
CN2 LR LR
comp=E,107μm,17.0s,MS7.1
CN2 LR LR
comp=Z,102μm,19.0s,MS6.9
WMQ **Urumqi** 55.84 343 P P 08 29 04.9 +2.6
WMQ AP pP 08 29 15.0 +6.4
WMQ XP sP 08 29 18.9 +7.8
WMQ PCP PcP 08 30 03.8 +2.8
WMQ PP PP 08 31 10.9 +4.1
WMQ SCP ScP 08 33 58.5 -0.4
WMQ S S 08 36 48.0 -0.5
WMQ PS 08 37 03.9
WMQ SCS ScS 08 38 47.9 -2.5
WMQ SS SS 08 40 33.5 -0.7
WMQ AMB AMB
comp=Z,321nm,1.8s,mb6.0
WMQ AMB AMB
comp=Z,43μm,12.0s
WMQ LR LR
comp=N,214μm,20.0s,MS7.3
WMQ LR LR
comp=E,186μm,23.0s,MS7.3
WMQ LR LR
comp=Z,165μm,18.8s,MS7.1
KSH **Kashi** 56.68 331⇑P P 08 29 08.8 +0.6
KSH eAP pP 08 29 15.4 +0.8
KSH ePCP PcP 08 30 05.0 +0.7
KSH ePP PP 08 31 16.3 +2.0
KSH ePPP 08 32 33.0
KSH eSCP ScP 08 34 03.3 +0.7
KSH eS S 08 36 57.1 -2.5
KSH ePS 08 37 15.4
KSH eSCS ScS 08 38 53.8 -2.6
KSH eSS SS 08 40 44.9 -2.4
KSH AMB AMB
comp=Z,3μm,7.3s
KSH LR LR
comp=N,187μm,15.0s,MS7.3
KSH LR LR
comp=E,84μm,15.1s,MS7.3
VLA **Vladivostok** 56.76 21diP P 08 29 07.6 -1.2
VLA e*PP pP 08 29 25.5 +10
VLA i 08 29 59.4
VLA eS S 08 37 01.7 +1.1
VLA pmax pmax
comp=Z,276nm,3.1s
VLA **Vladivostok** 56.76 21 iP P 08 29 06.5 -2.3
SONM **Songino Array** 56.91 359 P P 08 29 10.3 +0.4
comp=Z,19nm,0.7s,mb5.2,baz=176,slow=8.6,SNR=107
SONM S S 08 37 03.8 +1.2
comp=Z,2.8nm,1.0s,baz=216,slow=42,SNR=1.6
SONM LR LR 08 57 35.9
comp=Z,203μm,19.1s,MS7.2,baz=175,slow=40
SONM PKPPKP 08 58 56.1
comp=Z,0.8nm,0.9s,baz=292,slow=1.6,SNR=3.6
SONM **Songino Array** 56.91 359 P P 08 29 10.3 +0.5
SONM S S 08 37 03.8 +1.2
SONM pmax pmax
comp=Z,19nm,0.7s
SONM smax
comp=E,3.0nm,1.0s
SONM MLR MLR
comp=Z,203μm,19.1s
CASY **Casey** 56.92 178 eP P 08 29 06.9 -3.0
CASY eS S 08 37 01.9 -0.9
ULN **Ulaanbaatar** 56.93 360 P P 08 29 10.2 +0.1
SNR=96
ULN **Ulaanbaatar** 56.93 360ciP P 08 29 10.2 +0.2
ULN **Ulaanbaatar** 56.93 360 eP P 08 29 10.3 +0.3
comp=Z,162nm,0.8s,mb6.1
ULN LR LR
comp=Z,208μm,20.0s,MS7.2
WBK **Wadi Bani Khal** 57.09 305⇑P P 08 29 12.5 +1.4
MDJ **Mudanjiang** 57.30 19 P P 08 29 11.4 -1.2
MDJ AP pP 08 29 20.8 +1.7
MDJ XP sP 08 29 24.8 +3.3
MDJ PCP PcP 08 30 06.3 -0.4
MDJ SCP ScP 08 34 02.5 -2.9
MDJ S S 08 37 02.0 -5.8
MDJ XS sS 08 37 19.8 +1.4
MDJ AMB AMB
comp=Z,7μm,10.3s
MDJ LR LR
comp=N,58μm,33.6s,MS6.7
MDJ LR LR
comp=E,77μm,34.4s,MS6.7
MDJ LR LR
comp=Z,133μm,35.0s,MS6.8
MDJ **Mudanjiang** 57.30 19 eP P 08 29 13.3 +0.7
comp=Z,961nm,2.0s,mb6.5
MDJ LR LR
comp=Z,121μm,19.0s,MS7.0
WSAR **Wadi Sarin** 57.66 305 P P 08 29 15.5 +0.4
comp=Z,11nm,0.8s,mb4.9,baz=140,slow=7.1,SNR=7.0
WSAR S S 08 37 09.9 -2.6
comp=Z,8.0nm,0.9s,baz=158,slow=19,SNR=2.2
WSAR **Wadi Sarin** 57.66 305 P P 08 29 15.5 +0.4
WSAR S S 08 37 09.9 -2.6
JMDO **Jabal Madar** 57.68 304⇑P P 08 29 14.2 -1.1
MIR **Mirnyy** 58.00 187diP P 08 29 19.0 +1.5
MIR pmax pmax
comp=Z,7μm,8.0s
MIR pmax pmax
comp=Z,2μm,2.0s,mb6.8
MIR MLR MLR
comp=Z,182μm,18.0s,MS7.2
MIR MLR MLR
comp=N,45μm,17.0s,MS6.7
MIR MLR MLR
comp=E,28μm,17.0s,MS6.7
SMDO **Samad** 58.05 305⇑P P 08 29 18.8 +0.9
SNR=11
BIDO **Bidbid** 58.20 305⇑P P 08 29 21.4 +2.4
ULHL **Ulahol** 58.72 333 P P 08 29 22.0 -0.6
SNR=9.6
HOQ **Hoqain** 58.89 305⇑P P 08 29 24.7 +1.0
SNR=7.6
OPO **Ambohidratompo** 58.96 254 P P 08 29 25.9 +1.7
comp=E,18nm,1.0s,mb5.1,baz=66,slow=7.5,SNR=7.7
KZA **Kyzart** 59.03 332 P P 08 29 24.6 -0.1
SNR=24
AAA **Alma-Ata** 59.24 334 eP P 08 29 26.0 -0.2
AAA eS S 08 37 38.0 +4.9
AAA pmax pmax
comp=Z,213μm,8.0s
AAA smax
comp=E,589μm,11.0s
AAA MLR MLR
comp=Z,1120μm,18.0s,MS8.0
HIA **Hailar** 59.33 9 eP P 08 29 26.1 -0.7
HIA e 08 29 42.5
HIA pmax pmax
comp=Z,189nm,1.3s
HIA MLR MLR
comp=Z,52μm,22.0s
HIA **Hailar** 59.33 9 eP P 08 29 26.1 -0.7
comp=Z,189nm,1.3s,mb6.0
HIA e 08 29 42.5
HIA LR LR
comp=Z,52μm,22.0s,MS6.6
UCH **Uchtor** 59.49 332 P pP 08 29 44.1 +10
SNR=50
TKM2 **Tokmak 2** 59.55 333 P P 08 29 28.2 -0.1
SNR=51
TKM2 **Tokmak 2** 59.55 333 iP P 08 29 27.5 -0.8
TKM2 **Tokmak 2** 59.55 333 iP P 08 29 27.6 -0.7
ZAK **Zakamensk** 59.56 357 eP P 08 29 28.7 +0.3
KBK **Karagaybulak** 59.63 333 P P 08 29 28.9 0.0
SNR=21
AML **Almayashu** 59.80 331 P P 08 29 30.0 0.0
SNR=27
AAK **Ala-Archa** 59.81 332 P P 08 29 30.2 +0.1
SNR=11
AAK **Ala-Archa** 59.81 332 P P 08 29 29.8 -0.4
comp=Z,87nm,1.2s,mb5.7,SNR=14
AAK **Ala-Archa** 59.81 332 P P 08 29 29.2 -0.9
SNR=13
AAK **Ala-Archa** 59.81 332⇑eP P 08 29 28.9 -1.3
AAK pmax pmax
comp=Z,33nm,1.3s,mb5.2
AAK **Ala-Archa** 59.81 332 eP P 08 29 29.1 -1.1
AAK LR LR
comp=Z,171μm,20.0s,MS7.2
FRU **Bishkek** 59.92 333 eP P 08 29 30.0 -0.8
FRU i 08 29 48.0
FRU i 08 31 42.0
FRU iS S 08 37 40.0 -1.8
FRU pmax pmax
comp=Z,6μm,8.0s
FRU smax
comp=E,13μm,10.0s
EKS2 **Erkin-Say** 60.17 332 P P 08 29 32.7 +0.1
SNR=23
MK31 **Makanchi Array** 60.20 340 P P 08 29 32.3 -0.5
MKAR **Makanchi Array** 60.20 340 P P 08 29 32.6 -0.2
comp=E,22nm,0.6s,mb5.3,baz=141,slow=7.8,SNR=115
MKAR PKP2bc 08 59 06.2
comp=E,1.0nm,0.9s,baz=5.7,slow=2.9,SNR=3.8
MKAR **Makanchi Array** 60.20 340⇑eP P 08 29 32.5 -0.3
MKAR **Makanchi Array** 60.20 340 P P 08 29 32.6 -0.2
MKAR ⇑e 08 59 06.2
USP **Ospenovka** 60.31 333 P P 08 29 33.0 -0.6
SNR=16
ASHO **Ashiyiah** 60.41 305⇓P P 08 29 37.7 +3.4
SNR=10
ERM **Erimo** 60.67 30 P P 08 29 35.2 -0.8
comp=E,418nm,1.0s,mb6.5,SNR=12
ERM **Erimo** 60.67 30 P P 08 29 35.8 -0.2
BANOM **Banah** 60.80 307⇓P P 08 29 36.9 0.0
TLY **Talaya** 60.84 357 P P 08 29 37.7 +0.6
comp=E,135nm,1.2s,mb6.0,SNR=45
TLY **Talaya** 60.84 357 P P 08 29 37.9 +0.7
MOY **Mondy** 60.99 355 eP P 08 29 38.8 +0.6
MOY pmax pmax
comp=Z,1μm,4.1s
IRK **Irkutsk** 61.37 358 eP P 08 29 40.8 0.0
IRK eS S 08 38 07.4 +7.0
IRK pmax pmax
comp=Z,852nm,4.3s
TAS **Tashkent** 61.38 328ceP P 08 29 40.0 -0.9
TAS eS S 08 38 05.0 +4.4
TAS pmax pmax
comp=Z,5μm,10.0s
DRV **Dumont d'Urvil** 61.39 166 P P 08 29 45.0 +4.1
DRV S S 08 37 58.0 -2.7
DRV L 08 45 00.0
ASAJ **Asahikawa** 62.00 28 P P 08 29 43.9 -1.1
comp=Z,14nm,0.8s,mb5.1,baz=250,slow=15,SNR=14
ASAJ S S 08 38 08.1 -0.3
comp=Z,1.3nm,0.6s,baz=121,slow=33,SNR=2.7
ASAJ LR LR 08 58 27.8
comp=Z,60μm,21.1s,MS6.7,baz=61,slow=38
ASAJ **Asahikawa** 62.00 28 P P 08 29 43.9 -1.1
ASAJ S S 08 38 08.1 -0.3
ASAJ pmax pmax
comp=Z,14nm,0.8s
ASAJ smax
comp=E,1.0nm,0.6s
ASAJ MLR MLR
comp=Z,60μm,21.1s
KK31 **Karatay Array** 62.06 330 iP P 08 29 44.0 -1.4
KK31 pmax pmax
comp=Z,4.0nm,0.4s,mb4.9
KKAR **Karatay Array** 62.06 330 P P 08 29 44.0 -1.4
KKAR pmax pmax
comp=Z,2.0nm,0.5s

KLR Kul'dur 62.09 18κ *i*P **P** 08 29 40.8 -4.8
KLR *e*S **S** 08 38 10.5 +1.0
KLR pmax pmax
comp=E,300nm,3.0s
KLR pmax pmax
comp=Z,1μm,3.0s
HABR Khabarovsk 62.49 20⇑ *i*P **P** 08 29 47.0 -1.3
HABR *e* 08 32 04.1
HABR *e*S **S** 08 38 12.6 -2.0
HABR pmax pmax
comp=Z,7μm,5.8s
HABR pmax pmax
comp=Z,216nm,1.1s,mb6.2
HABR MLR MLR
comp=Z,88μm,17.6s,MS7.0
JCZ Jackson Bay 63.08 135 PN **P** 08 29 52.6 +0.4
YUK Yuzh-Kuril'sk 63.50 30⇑ *i*P **P** 08 29 54.0 -1.0
YUK *e* 08 30 30.0
YUK *i*S **S** 08 38 28.0 +0.8
YUK *e*PS 08 38 51.0
YUK pmax pmax
comp=Z,2μm,4.0s
YUK pmax pmax
comp=N,2μm,3.0s
YUK pmax pmax
comp=E,2μm,2.0s
YUK smax
comp=N,10μm,4.0s
YUK smax
comp=E,11μm,4.0s
YSS Yuzh-Sakhalins 64.25 26α *i*P **P** 08 29 59.0 -1.0
YSS *e* 08 30 11.0
YSS *e* 08 30 33.5
YSS *e*PPP 08 33 52.0
YSS *e*S **S** 08 38 30.0 -6.5
YSS *e*PPS 08 39 00.0
YSS *e* 08 39 42.0
YSS pmax pmax
comp=Z,740nm,2.0s,mb6.4
YSS pmax pmax
comp=Z,6μm,15.0s
YSS pmax pmax
comp=N,3μm,12.0s
YSS pmax pmax
comp=E,2μm,12.0s
YSS smax
comp=N,9μm,14.0s
YSS MLR MLR
comp=Z,80μm,20.0s,MS6.9
YSS MLR MLR
comp=E,40μm,19.0s
YSS Yuzh-Sakhalins 64.25 26 *e*P **P** 08 29 59.3 -0.6
YSS LR LR
comp=Z,104μm,22.0s,MS7.0
KURK Kurchatov 64.81 340 P **P** 08 30 03.3 -0.3
comp=Z,708nm,1.0s,mb6.7,SNR=45
KURK Kurchatov 64.81 340 P **P** 08 30 02.9 -0.7
SNR=218
KURK Kurchatov 64.81 340*c* *i*P **P** 08 30 03.3 -0.3
KURK Kurchatov 64.81 340 *e*P **P** 08 30 03.7 +0.1
KURK LR LR
comp=Z,211μm,21.0s,MS7.3
WAKE Wake Island 64.90 64 PFAKE 08 30 20.0 +16
WAKE LR LR
comp=Z,72μm,22.0s,MS6.8
MAW Mawson 65.29 197 *e*P **P** 08 30 05.4 -1.3
comp=Z,68nm,1.4s,mb5.5
MAW *e*pP pP 08 30 21.6 +8.4
MAW *e*S S 08 38 52.9 +3.6
MAW Mawson 65.29 197 P **P** 08 30 06.0 -0.7
comp=Z,19nm,0.7s,mb5.2,baz=44,slow=7.2,SNR=15
MAW S S 08 38 50.2 +0.9
comp=Z,1.2nm,0.7s,baz=300,slow=12,SNR=1.4
MAW Mawson 65.29 197 *e*P **P** 08 30 05.4 -1.3
MAW *e**PP pP 08 30 21.6 +8.4
MAW *e*S S 08 38 52.9 +3.6
MAW pmax pmax
comp=Z,68nm,1.4s
ASH Ashkhabad 65.63 319 *e*P **P** 08 30 08.0 -0.9
ABKT Ailbek 65.77 319 P **P** 08 30 10.6 +0.8
comp=Z,360nm,1.2s,mb6.3,SNR=44
ABKT Ailbek 65.77 319 P **P** 08 30 10.0 +0.2
VAN Vannovskaya 65.78 319 *e*P **P** 08 30 09.7 -0.2
LBOS 65.85 290 *e*P **P** 08 30 18.4 +8.1
NNZ Nelson 65.86 131 PN **P** 08 30 09.7 -0.8
ZAL Zalesovo 65.86 346 P **P** 08 30 08.9 -1.5
comp=Z,11nm,0.5s,mb5.2,baz=319,slow=3.8,SNR=31
ZAL Zalesovo 65.86 346 *i*P **P** 08 30 08.8 -1.6
ZAL pmax pmax
comp=Z,11nm,0.5s
KRAR Krasnoyarsk 66.21 351 *e*P **P** 08 30 11.0 -1.6
KRAR *i**PP pP 08 30 17.2 -1.9
KRAR MLR MLR
comp=Z,180μm,19.0s,MS7.3
DHBB Dhamar BB 66.85 290 *e*P **P** 08 30 19.1 +2.4
SNZO South Karori 66.86 131 *e*P **P** 08 30 16.7 -0.1
SNZO LR LR
comp=Z,268μm,20.0s,MS7.5
NVS Novosibirsk 67.07 345⇑ *i*P **P** 08 30 16.2 -2.0
NVS *i*S S 08 39 07.4 -3.6
NVS pmax pmax
comp=N,314nm,1.7s
NVS pmax pmax
comp=E,207nm,1.7s
NVS pmax pmax
comp=Z,406nm,1.7s,mb6.2
NVS smax
comp=N,6μm,5.6s
NVS smax
comp=E,4μm,4.0s
BOD Bodaibo 67.12 4 *e*P **P** 08 30 17.6 -0.8
BOD pmax pmax
comp=Z,267nm,1.4s,mb6.1
ATD Arta Tunnel 67.46 287 P **P** 08 30 21.1 +0.5
comp=Z,9.2nm,0.9s,mb4.8,baz=115,slow=17,SNR=4.4
KBD Kabd 69.08 306 *e*P **P** 08 30 30.8 0.0
KBD AMb AMB 08 31 03.4
comp=Z,2μm,1.7s,mb6.7
RDF Al-Radifah 69.09 306 *e*P **P** 08 30 30.8 -0.1
RDF AMb AMB 08 30 46.7
comp=Z,270nm,1.0s,mb6.1
UMR Umm Al-Rimmam 69.22 306 *e*P **P** 08 30 31.3 -0.3
UMR AMb AMB 08 30 42.4
comp=Z,162nm,1.5s,mb5.7
NAY Al-Naaiem 69.47 306 *e*P **P** 08 30 32.1 -1.1
NAY AMb AMB 08 30 48.8
comp=Z,102nm,1.2s,mb5.6
MIB Mutribah 69.62 307 *e*P **P** 08 30 33.4 -0.7
MIB AMb AMB 08 30 50.7
comp=Z,175nm,1.5s,mb5.8
BVA0 Borovoye Array 69.65 337 *i*P **P** 08 30 33.6 -0.7
BVA0 pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 69.65 337 S S 08 39 49.1 +7.4
comp=Z,1.4nm,0.8s,baz=232,slow=38,SNR=2.5
BVAR LR LR 09 07 54.1
comp=Z,127μm,19.1s,MS7.2,baz=50,slow=42
BRVK Borovoye 69.72 337 P **P** 08 30 34.7 0.0
comp=Z,195nm,0.8s,mb6.1,SNR=38
BRVK Borovoye 69.72 337 *e*P **P** 08 30 34.3 -0.4
BRVK pmax pmax
comp=Z,260nm,1.1s,mb6.1
BRVK MLR MLR
comp=Z,94μm,20.0s,MS7.0
BRVK Borovoye 69.72 337 *e*P **P** 08 30 34.3 -0.4
comp=Z,413nm,1.1s,mb6.3
BRVK LR LR
comp=Z,151μm,20.0s,MS7.2
RST Umm Al-Ruwaisa 69.77 306 *e*P **P** 08 30 34.4 -0.6
RST AMb AMB 08 30 51.2
comp=Z,233nm,1.4s,mb5.9
CHKZ Chkalovo 70.07 338 *e*P **P** 08 30 36.4 -0.5
CHKZ pmax pmax
comp=Z,62nm,0.7s,mb5.7
CHKZ Chkalovo 70.07 338 *e*P **P** 08 30 36.4 -0.5
comp=Z,62nm,0.7s,mb5.7
ZRNK Zerenda 70.13 336 *e*P **P** 08 30 36.6 -0.7
ZRNK pmax pmax
comp=Z,204nm,1.2s,mb5.9
ZRNK Zerenda 70.13 336 *e*P **P** 08 30 36.6 -0.7
comp=Z,204nm,1.2s,mb5.9
KMBO Kilima Mbogo 70.25 272 P **P** 08 30 37.7 -0.3
comp=Z,12nm,1.0s,mb4.8,baz=57,slow=7.5,SNR=12
KMBO LR LR 08 57 57.8
comp=Z,132μm,20.1s,MS7.2,baz=104,slow=33
KMBO PKPPKP 08 58 46.4
comp=Z,0.7nm,0.5s,baz=255,slow=2.2,SNR=6.3
KMBO Kilima Mbogo 70.25 272 P **P** 08 30 37.7 -0.3
KMBO LR LR 08 57 57.8
KMBO P'P' 08 58 46.4
FUNA Funafuti 70.79 96 *e*P **P** 08 30 46.2 +4.9
comp=Z,475nm,1.5s,mb6.2
FUNA LR LR
comp=Z,82μm,22.0s,MS6.9
FURI Furi 70.80 283 *e*P **P** 08 30 44.8 +3.5
FURI S S 08 40 05.8 +11
RAO Raoul Island 72.16 118 PFAKE 08 31 00.0 +10
RAO LR LR
comp=Z,196μm,22.0s,MS7.3
SKR Severo-Kuril's 73.12 30 *e*P **P** 08 30 51.0 -4.3
SKR *e* 08 31 19.0
SKR pmax pmax
comp=N,6μm,18.0s
SKR pmax pmax
comp=E,9μm,18.0s
SKR pmax pmax
comp=Z,16μm,18.0s
SKR pmax pmax
comp=Z,340nm,0.8s,mb6.3
SKR pmax pmax
comp=N,270nm,1.0s
SKR pmax pmax
comp=E,220nm,1.0s
SKR MLR MLR
comp=N,37μm,20.0s,MS6.7
SKR MLR MLR
comp=Z,47μm,20.0s,MS6.8
SKR MLR MLR
comp=E,15μm,16.0s,MS6.7
YAK Yakutsk 73.21 11*c* *i*P **P** 08 30 54.5 -1.3
YAK pmax pmax
comp=Z,131nm,0.9s,mb5.9
YAK Yakutsk 73.21 11 *e*P **P** 08 30 54.9 -0.9
YAK LR LR
comp=Z,141μm,20.0s,MS7.2
AKTK Aktyubinsk 73.32 330 *i*P **P** 08 30 55.9 -0.5
AKTO Aktyubinsk 73.32 330 LR LR 09 06 43.2
comp=Z,84μm,21.6s,MS7.0,baz=138,slow=39
AKTO Aktyubinsk 73.32 330 *i*P **P** 08 30 55.9 -0.5
BHD Baghdad 73.32 309 *ex* x 08 30 53.0
BHD *i*x x 08 31 09.0
BHD *i*x x 08 33 41.0
BHD *i*x x 08 35 43.0
BHD *i*x x 08 40 28.0
BHD *i*x x 08 41 09.0
BHD *i*x x 08 45 25.0
SYO Syowa Base 73.49 200⇓ *i*P **P** 08 30 56.0 -1.4
VNDA Vanda 73.63 169 P **P** 08 30 57.7 -0.5
comp=Z,8.1nm,1.1s,baz=308,slow=6.4,SNR=13
VNDA S S 08 40 26.6 -1.0
comp=Z,1.2nm,1.0s,baz=356,slow=3.1,SNR=1.9
VNDA PKPPKP 08 58 43.5
comp=Z,2.2nm,1.2s,baz=88,slow=1.7,SNR=3.8
VNDA LR LR 09 03 06.1
comp=Z,93μm,18.3s,MS7.1,baz=324,slow=36
VNDA Vanda 73.63 169 *e*P **P** 08 30 57.5 -0.7
VNDA pmax pmax
comp=Z,303nm,1.1s
VNDA Vanda 73.63 169 *e*P **P** 08 30 57.5 -0.7
comp=Z,303nm,1.1s,mb6.1
SBA Scott Base 74.70 169 *e*P **P** 08 31 04.5 0.0
SBA LR LR
comp=Z,67μm,19.0s,MS7.0
MAK Makhachkala 75.29 319 *e*P **P** 08 31 11.2 +3.3
MAK *i* 08 31 25.1
MAK *e*PPP 08 35 40.6
MAK *i*S S 08 40 44.8 -1.4
MAK *i* 08 41 33.7
MAK *e*SSS 08 48 44.7
MAK pmax pmax
comp=Z,3μm,3.8s
MAK pmax pmax
comp=Z,601nm,3.1s
MAK pmax pmax
comp=N,139nm,1.0s
MAK pmax pmax
comp=E,389nm,1.7s
MAK smax
comp=E,19μm,9.0s
MAK smax
comp=N,15μm,11.6s
MAK Makhachkala 75.29 319 *e*P **P** 08 31 06.2 -1.7
MSL Mosul 75.49 311 *ex* x 08 31 10.5
MSL *ex* x 08 31 23.0
MSL *ex* x 08 40 47.0
CUKT Cukurca 75.49 312 *e*P **P** 08 31 07.4 -1.6
HAKT HAKKARI 75.54 313 *i*P **P** 08 31 09.2 -0.1
PET Petropavlovsk 75.81 29*c* *i*P **P** 08 31 10.1 -0.8
PET *e* 08 31 22.7
PET *i*S S 08 40 55.6 +3.7
PET pmax pmax
comp=Z,7μm,14.8s
PET pmax pmax
comp=Z,158nm,1.1s,mb5.9
PET pmax pmax
comp=Z,21μm,17.1s
PET smax
comp=N,72nm,2.4s
PET smax
comp=E,73nm,3.3s
PET smax
comp=N,20μm,19.6s
PET smax
comp=E,40μm,19.6s
PET MLR MLR
comp=Z,138μm,23.0s,MS7.2
PET MLR MLR
comp=Z,89μm,22.0s
PET Petropavlovsk 75.81 29 *e*P **P** 08 31 09.1 -1.7
comp=Z,373nm,1.1s,mb6.2
PET LR LR
comp=Z,74μm,22.0s,MS7.0
GNI Garni 75.88 315 *e*P **P** 08 31 13.0 +1.7
GNI Garni 75.88 315 P **P** 08 31 11.3 0.0
comp=Z,6.4nm,0.6s,baz=172,slow=7.1,SNR=6.5
GNI Garni 75.88 315 P **P** 08 31 12.3 +1.0
SNR=33
GNI Garni 75.88 315 *e*P **P** 08 31 11.5 +0.2
comp=Z,330nm,1.4s,mb6.1
GNI LR LR
comp=Z,49μm,20.0s,MS6.8
DGRG David-gareji 76.02 317 P **P** 08 31 12.9 +0.9
DGRG S ScS 08 41 32.6 +7.0
CLDR Caldiran 76.04 314 *e*P **P** 08 31 11.4 -0.8
TVAN Van 76.15 313 *i*P **P** 08 31 19.3 +6.5
VANB Van 76.19 313 *e*P **P** 08 31 13.1 0.0
SVE Sverdlovsk 76.28 336*c* *e*P **P** 08 31 12.0 -1.6
SVE pmax pmax
comp=N,1μm,8.0s
SVE pmax pmax
comp=E,700nm,8.0s
SVE pmax pmax
comp=Z,8μm,8.0s
MTA Mtatsminda 76.51 317 P **P** 08 31 19.9 +5.0
MTA S S 08 40 59.8 +0.1
TBLG Delisi 76.57 317 P **P** 08 31 15.8 +0.6
TBLG S ScS 08 41 30.3 +0.2
MBAR Mbarara 76.76 272*c* *i*P **P** 08 31 16.8 +0.5
ARU Arti 76.88 335 P **P** 08 31 16.5 -0.5
comp=Z,364nm,1.0s,mb6.3,SNR=25
ARU Arti 76.88 335 *e*P **P** 08 31 16.6 -0.4
ARU *e* 08 31 27.6
ARU *e* 08 34 09.8
ARU *e*PPP 08 35 53.5
ARU *e*S S 08 40 58.9 -4.8
ARU *e* 08 41 27.2
ARU *e*SS SS 08 45 56.4 -3.7
ARU MLR MLR
comp=Z,164μm,22.0s,MS7.3
ARU MLR MLR
comp=N,53μm,20.0s,MS7.2
ARU MLR MLR
comp=E,122μm,21.0s,MS7.2
ARU Arti 76.88 335 *e*P **P** 08 31 16.6 -0.3
comp=E,648nm,1.4s,mb6.4
ARU LR LR
comp=Z,171μm,22.0s,MS7.3
MA2 Magadan 76.89 21*c* *i*P **P** 08 31 16.8 -0.2
MA2 pmax pmax
comp=Z,105nm,1.4s,mb5.6
MA2 MLR MLR
comp=Z,73μm,22.0s,MS7.0
MA2 Magadan 76.89 21 *e*P **P** 08 31 17.0 0.0
MA2 LR LR
comp=Z,71μm,19.0s,MS7.0
DIGO Kars 76.94 315 *i*P **P** 08 31 17.2 -0.2
GOR Gori 77.10 317 P **P** 08 31 22.3 +4.1
GOR S ScS 08 41 36.7 +2.3
KARS Kars 77.22 315 P **P** 08 31 19.5 +0.6
AKH Akhalkalaki 77.28 316 P **P** 08 31 20.0 +0.8
AKH S S 08 41 09.1 +1.2
LSZ Lusaka 77.29 256 P **P** 08 31 20.5 +1.3
comp=Z,8.8nm,0.9s,baz=107,slow=4.0,SNR=11
LSZ S S 08 41 05.2 -2.9
comp=Z,4.6nm,1.1s,baz=88,slow=2.4,SNR=1.7
LSZ Lusaka 77.29 256 P **P** 08 31 20.6 +1.4
SNR=26
LSZ Lusaka 77.29 256 P **P** 08 31 20.5 +1.2
LSZ S S 08 41 05.2 -2.9
LSZ pmax pmax
comp=Z,9.0nm,0.9s
LSZ smax
comp=E,5.0nm,1.1s
LSZ Lusaka 77.29 256 *e*P **P** 08 31 20.1 +0.8
LSZ LR LR
comp=Z,153μm,19.0s,MS7.3
BTMT Batman 77.40 313 *e*P **P** 08 31 23.4 +3.5
BEST Besiri 77.45 312 *i*P **P** 08 31 27.9 +7.8
ZEI Tsey 77.58 318 *e*P **P** 08 31 18.5 -2.4
ZEI *e*S S 08 41 13.1 +1.9
ZEI pmax pmax
comp=Z,12nm,0.6s,mb5.0
ZEI smax
comp=N,2μm,3.6s
MARD Mardin 77.59 311 *i*P **P** 08 31 20.9 0.0
ONI Oni 77.79 317 P **P** 08 31 22.7 +0.6
ONI S S 08 41 13.0 -0.6
BNGL BINGOL 77.94 313 *i*P **P** 08 31 22.9 0.0
SLAT Slait 78.09 288 *i*P **P** 08 31 30.9 +7.1
baz=95,slow=7.4
SLAT AMb AMB 08 32 18.0
comp=Z,387nm,1.6s,mb6.1
SLAT *i*S S 08 41 24.8 +8.0
ERZM Erzurum 78.15 314 *i*P **P** 08 31 22.9 -1.2
EZM Erzurum 78.15 314 *e*P **P** 08 31 20.6 -3.5
DIY Diyarbakir 78.22 312 *e*P **P** 08 31 17.6 -6.8
BINT Bingol 78.39 313 *e*P **P** 08 31 25.8 +0.4
BCA Borcka 78.58 316 *e*P **P** 08 31 26.9 +0.5
ZALF Zalf 78.72 306 ⇑P **P** 08 31 29.2 +2.0
LBTB Lobatse 78.76 246 LR LR 09 03 35.0
comp=Z,89μm,18.6s,MS7.1,baz=106,slow=34
LBTB Lobatse 78.76 246 *e*P **P** 08 31 27.5 +0.1
LBTB pmax pmax
comp=Z,109nm,1.3s,mb5.6
LBTB Lobatse 78.76 246 *e*P **P** 08 31 27.5 +0.1
comp=Z,109nm,1.3s,mb5.6
JHLN Al Jahlan 78.77 309 ⇑P **P** 08 31 33.4 +5.9
KIV Kislovodsk 78.88 318 P **P** 08 31 28.4 +0.3
comp=Z,279nm,0.9s,mb6.2,SNR=13
KIV Kislovodsk 78.88 318 P **P** 08 31 28.2 +0.1
SNR=42
KIV Kislovodsk 78.88 318*c* *i*P **P** 08 31 28.2 +0.1
KIV pmax pmax
comp=Z,62nm,1.2s,mb5.4
KIV MLR MLR
comp=Z,58μm,21.0s,MS6.9
KIV Kislovodsk 78.88 318 *e*P **P** 08 31 28.5 +0.5
comp=Z,338nm,1.3s,mb6.1
KIV LR LR
comp=Z,61μm,21.0s,MS6.9
URFA Urfa 79.09 311 *e*P **P** 08 31 30.0 +0.8
GOF Gofitskoye 79.11 319 *e*P **P** 08 31 27.9 -1.4
GOF *i*S SKSac 08 41 42.8 -1.3
GOF *i* 08 42 11.3
GOF pmax pmax
comp=Z,290nm,1.0s,mb6.2
SALA Sala 79.13 306 ⇑P **P** 08 31 30.9 +1.4
ROOS tl_alroos 79.16 307 ⇑P **P** 08 31 29.8 +0.2
EZC Erzincan 79.20 313 *e*P **P** 08 31 24.8 -5.1
ELZG Elazig 79.34 312 *i*P **P** 08 31 31.1 +0.4
ATAB Bozova 79.49 311 *i*P **P** 08 31 31.6 +0.2
TOTH TOTAH 79.58 306 ⇑P **P** 08 31 39.3 +7.4
EIL Elat 79.66 302 *e*P **P** 08 31 32.4 0.0
MALT Malatya 79.69 312⇑ *i*P **P** 08 31 32.3 -0.2
MALT Malatya 79.69 312 *e*P **P** 08 31 33.0 +0.5
MALT pmax pmax
comp=Z,185nm,1.4s,mb5.8
MALT Malatya 79.69 312 *e*P **P** 08 31 33.0 +0.5
comp=Z,185nm,1.4s,mb5.8
MYA Malataya 79.70 312 *e*P **P** 08 31 38.4 +5.9
TCHB Talchebab 79.73 306 ⇑P **P** 08 31 39.3 +6.6
QASN Qassioun 79.75 307 ⇑P **P** 08 31 38.4 +5.5
BRBR Barbar 79.97 306 ⇑P **P** 08 31 37.9 +3.9
GZT Gaziantep 80.00 311 *i*P **P** 08 31 34.9 +0.7
BIDA Albida 80.18 308 ⇑P **P** 08 31 35.1 -0.1
GAZ Gaziantep 80.20 310 *e*P **P** 08 31 33.5 -1.8
WRDH Warideh 80.27 308 ⇑P **P** 08 31 35.0 -0.7
MMAI Mount Meron Ar 80.28 306 LR LR 09 09 56.3
comp=Z,103μm,19.2s,MS7.2,baz=95,slow=38
BHL Bhannes 80.36 307 *e*P **P** 08 31 37.5 +1.4
BTCH Batrach 80.40 309 ⇑P **P** 08 31 42.1 +5.8
DRWC Darouich 80.44 310 ⇑P **P** 08 31 37.4 +0.9
SLNF Slenfeh 80.44 309 ⇑P **P** 08 31 42.0 +5.5
HTY Hatay 80.68 309 *e*P **P** 08 31 33.2 -4.7
QSPA South Pole Qui 80.69 180 *e*P **P** 08 31 37.3 -0.6
comp=Z,186nm,1.0s,mb6.0
SOC Sochi 80.70 317 *e*P **P** 08 31 38.5 +0.5
SOC *e* 08 31 46.6
SOC *e**PP pP 08 31 56.8 +12
SOC *e* 08 34 43.8
SOC *e*PPP 08 36 26.9
SOC *i*S S 08 41 48.4 +3.9
SOC *e*SS SS 08 46 54.3 -3.2
SOC *e*SSS 08 50 24.3
SOC pmax pmax
comp=Z,67nm,1.1s,mb5.5
SOC Sochi 80.70 317 *i*P **P** 08 31 39.0 +1.0
COBT Iskenderun 80.72 309 *i*P **P** 08 31 38.0 0.0
GRSN GIRESUNGRSN 80.73 314 *i*P **P** 08 31 37.2 -0.9
CEYT Ceyhan 81.26 310 *e*P **P** 08 31 43.6 +2.7
SVST Sivas 81.27 313 *i*P **P** 08 31 40.7 -0.3
SVSK Karacayir 81.29 313 P **P** 08 31 40.9 -0.2
KOZT Kozan 81.35 310 *e*P **P** 08 31 40.5 -0.9
MIDW Midway 81.56 60 PFAKE 08 31 50.0 +7.5
MIDW LR LR
comp=Z,55μm,22.0s,MS6.9
TOKT Tokat 81.75 313 *e*P **P** 08 31 43.6 +0.1
BNN Bunyan 81.78 312 *e*P **P** 08 31 42.6 -1.1
KARA Karaisali 81.86 310 *e*P **P** 08 31 42.6 -1.5
TIXI Tiksi 82.04 7 *e*P **P** 08 31 40.3 -4.8
TIXI *e*S S 08 41 52.3 -6.1
TIXI *e*SS SS 08 47 12.9 -4.6
TIXI *e*SSS 08 50 39.3
TIXI pmax pmax
comp=N,52nm,0.9s
TIXI pmax pmax
comp=Z,166nm,0.9s,mb6.0
TIXI pmax pmax
comp=E,21nm,1.0s
TIXI pmax pmax
comp=Z,6μm,4.8s
TIXI Tiksi 82.04 7⇑ *i*P **P** 08 31 43.6 -1.5
MERS Mersin 82.15 309 *e*P **P** 08 31 42.3 -3.4
SUR Sutherland 82.24 238 LR LR 09 05 36.2
comp=Z,189μm,18.3s,MS7.5,baz=99,slow=34
SUR Sutherland 82.24 238 *e*P **P** 08 31 47.2 +1.1
comp=Z,252nm,1.4s,mb6.0
SUR LR LR
comp=Z,188μm,19.0s,MS7.5
MEST Erdemli 82.35 309 *i*P **P** 08 31 46.4 -0.3
CSS Prodhromos 82.51 307 *e*P **P** 08 31 47.9 +0.4
comp=Z,269nm,1.0s,mb6.2
VRHR Novokhopersk 82.51 325 *e*P **P** 08 31 46.9 -0.6
VRHR *e**SP sP 08 31 59.1 +2.5
VRHR *e*S S 08 42 05.6 +2.4
VRHR pmax pmax
comp=E,40nm,0.5s
VRHR pmax pmax
comp=Z,90nm,0.5s,mb6.1
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR smax
comp=N,8μm,5.4s
VRHR smax
comp=Z,3μm,6.0s

VRHR smax
comp=E,9μm,7.4s
VRHR MLR MLR
comp=Z,67μm,24.0s,MS6.9
IKL Isikli 82.60 308 P **P** **08 31 46.8 -1.2**
ANN Anapa 82.68 318*c* *i*P **P** **08 31 47.6 -0.8**
ANN *i* *PP pP 08 31 58.5 +3.5
ANN *e* 08 34 57.6
ANN *e*S S 08 42 03.8 -1.1
ANN *e*SS SS 08 47 32.2 +5.3
ANN pmax pmax
comp=Z,1μm,9.5s
ANN Anapa 82.68 318 *e*P **P** **08 31 47.2 -1.2**
CORM Corum 83.09 313 *e*P **P** **08 31 51.0 +0.5**
CDAG Cicekdag 83.11 312 *i*P **P** **08 31 49.3 -1.3**
DIKM Dikmen 83.11 314 *e*P **P** **08 31 47.8 -2.8**
CTKT Corum 83.11 313 *i*P **P** **08 31 49.8 -0.9**
MAIT Maitri 83.14 199 *e*P **P** **08 31 51.9 +1.1**
MAIT *e*PP PP 08 34 49.0 -13
MAIT *i*S S 08 42 03.6 -6.1
MAIT *e*SS SS 08 47 26.5 -7.4
BOYT Boyabat 83.28 314 *i*P **P** **08 31 51.6 0.0**
ERMK Ermenek 83.31 309 *i*P **P** **08 31 51.5 -0.2**
BYBT Boyabat 83.40 314 *e*P **P** **08 31 52.0 -0.1**
PECR Pechory 83.50 330 *e*P **P** **08 31 51.4 -1.2**
PECR *e* 08 32 07.4
PECR *e*S S 08 42 11.0 -2.3
PECR *e*PS 08 43 21.0
PECR smax
comp=N,10μm,10.0s
PECR smax
comp=E,5μm,6.0s
KAMT Kaman 83.51 312 *e*P **P** **08 31 52.0 -0.7**
BR131 Keskin Array S 83.67 312 *e*P **P** **08 31 53.1 -0.4**
comp=E,77nm,0.9s,mb5.8
BR131 LR LR
comp=Z,12μm,21.0s,MS6.2
BRTR Keskin Array B 83.67 312 P **P** **08 31 53.2 -0.3**
comp=Z,24nm,1.1s,mb5.2,baz=126,slow=6.3,SNR=69
BRTR S S 08 42 17.0 +2.0
comp=Z,1.5nm,1.0s,baz=5.7,slow=1.2,SNR=2.6
BRTR Keskin Array B 83.67 312 P **P** **08 31 53.3 -0.2**
BRTR S S 08 42 17.0 +2.0
BRTR pmax pmax
comp=Z,24nm,1.1s
BRTR smax
comp=E,2.0nm,1.0s
SMY Shemya 83.69 34 *e*P **P** **08 31 53.5 -0.1**
SMY pmax pmax
comp=Z,103nm,1.4s,mb5.8
SMY Shemya 83.69 34 *e*P **P** **08 31 53.5 -0.1**
comp=Z,103nm,1.4s,mb5.8
TOS Tosya 83.79 313 *e*P **P** **08 31 53.1 -1.1**
CANT Cankiri 83.95 313 P **P** **08 31 55.2 +0.2**
VRSR Storozhevoye 83.96 324 *e*P **P** **08 31 54.5 -0.5**
VRSR *e*PPP 08 36 58.4
VRSR *e*S S 08 42 11.3 -6.6
VRSR pmax pmax
comp=Z,110nm,0.8s,mb6.0
VRSR pmax pmax
comp=N,20nm,0.6s
VRSR pmax pmax
comp=E,90nm,1.2s
VRSR smax
comp=N,20μm,17.4s
VRSR smax
comp=Z,5μm,13.1s
VRSR smax
comp=E,9μm,12.3s
VRSR MLR MLR
comp=Z,59μm,19.0s,MS7.0
VRSR MLR MLR
comp=N,23μm,21.0s,MS7.1
VRSR MLR MLR
comp=E,77μm,23.0s,MS7.1
ELDT Eldivan 84.06 313 *i*P **P** **08 31 55.8 +0.3**
KONT Konya--Tatoy 84.11 310 P **P** **08 31 56.2 +0.5**
VOR Voronezh 84.16 325 *e*P **P** **08 31 55.5 -0.5**
VOR S 08 42 19.0
VOR pmax pmax
comp=N,180nm,2.0s
VOR pmax pmax
comp=E,200nm,2.0s
VOR pmax pmax
comp=Z,780nm,2.0s,mb6.5
VOR smax
comp=N,350nm,4.0s
VOR smax
comp=E,2μm,4.0s
VOR smax
comp=Z,350nm,4.0s
ANTO Ankara 84.34 312⇑ *i*P **P** **08 31 57.9 +1.0**
ANTO Ankara 84.34 312 ⇑P **P** **08 31 57.3 +0.4**
SNR=37
ANTO Ankara 84.34 312 *e*P **P** **08 31 57.1 +0.2**
ANTO pmax pmax
comp=Z,523nm,1.6s,mb6.4
ANTO MLR MLR
comp=Z,66μm,19.0s,MS7.0
ANTO Ankara 84.34 312 *e*P **P** **08 31 57.1 +0.1**
comp=Z,523nm,1.6s,mb6.4
ANTO LR LR
comp=Z,66μm,19.0s,MS7.0
LOD Lodumlu 84.37 312 *e*P **P** **08 32 03.6 +6.5**
BALT Daday 84.40 314 *i*P **P** **08 31 57.8 +0.5**
KDHN Kadinhani 84.46 310 *i*P **P** **08 31 53.1 -4.4**
KIZT Kizilcal 84.73 311 *e*P **P** **08 31 54.1 -4.8**
SAFT Safranbolu 84.82 313 *e*P **P** **08 31 57.3 -2.1**
SIM Simferopol' 84.95 317*ce*P **P** **08 32 00.0 0.0**
SIM *i*S 08 42 27.0
SIM pmax pmax
comp=Z,244nm,0.9s,mb6.3
SGKT Sivrigoynuk 85.08 312 *i*P **P** **08 32 01.1 +0.5**
ANTB Antalya 85.13 308 *e*P **P** **08 32 01.5 +0.6**
ISP Isparta 85.49 309 *e*P **P** **08 32 03.6 +0.9**
ELL Elmali 85.67 308 *e*P **P** **08 32 08.8 +5.2**
MDU Mudurnu 85.67 312 *e*P **P** **08 32 03.6 0.0**
ESKT Eskisehir 85.68 311 *i*P **P** **08 32 02.5 -1.1**
TKTP Tekketepe 85.69 309 *i*P **P** **08 32 03.7 +0.1**
KDZE Karadeniz Ereo 85.74 313 *e*P **P** **08 32 04.6 +0.7**
HENT Hendek 86.00 312 *i*P **P** **08 32 05.2 -0.1**
BORA Eskisehir 86.07 311 *i*P **P** **08 32 05.6 0.0**
AMKA Amchitka 86.16 37 *e*P **P** **08 32 06.3 +0.3**
FETY Fethiye 86.28 308 *e*P **P** **08 32 07.8 +1.1**
MOS Moscow 86.55 328α *i*P **P** **08 32 07.8 -0.2**
MOS *e* 08 35 26.6
MOS *i*S 08 42 41.5
MOS *e*SSS 08 51 52.9
MOS pmax pmax
comp=Z,470nm,1.8s,mb6.4
DNZL Cakiroluk 86.57 309 *i*P **P** **08 32 12.1 +4.0**
GDZ Gediz 86.59 310 *i*P **P** **08 32 07.6 -0.6**
DALT Dalyan (Mudla) 86.66 308 *e*P **P** **08 32 10.9 +2.4**
ADVT Abdulvahap 86.75 312 P **P** **08 32 08.3 -0.6**
TSUM Tsumeb 86.84 251 LR LR 09 06 52.2
comp=Z,73μm,19.4s,MS7.1,baz=88,slow=33
TSUM Tsumeb 86.84 251 *e*P **P** **08 32 10.1 +0.7**
TSUM LR LR
comp=Z,119μm,19.0s,MS7.3
OBN Obninsk 86.89 327 P **P** **08 32 09.6 0.0**
comp=Z,886nm,0.7s,SNR=16
OBN Obninsk 86.89 327α *i*P **P** **08 32 09.0 -0.6**
OBN *e**SP sP 08 32 21.0 +2.4
OBN *e* 08 35 32.3
OBN *e*S 08 42 34.1
OBN *e*SS SS 08 48 32.2 +3.2
OBN pmax pmax
comp=Z,122nm,0.9s,mb6.1
OBN pmax pmax
comp=Z,6μm,4.0s
OBN pmax pmax
comp=Z,10μm,13.8s
OBN Obninsk 86.89 327 *e*P **P** **08 32 09.5 -0.1**
comp=Z,229nm,0.8s,mb6.5
OBN LR LR
comp=Z,64μm,20.0s,MS7.0
HRT Hereke 86.90 312 *e*P **P** **08 32 08.6 -1.1**
YER Yerkesik 87.02 308 *e*P **P** **08 32 12.8 +2.6**
YLV Yalova 87.05 312 *e*P **P** **08 32 05.7 -4.7**
ULDT Uludag 87.12 311 *i*P **P** **08 32 11.5 +0.8**
GEMT Gemlik 87.15 312 *e*P **P** **08 32 09.9 -1.0**
ISK Istanbul-Kandi 87.41 312 *e*P **P** **08 32 15.1 +3.0**
SNAA Sanae 87.45 197 *e*P **P** **08 32 12.5 +0.2**
SNAA *e* pP 08 32 20.2 +1.2
SNAA *e* 08 32 26.4
SNAA *e* 08 32 32.2
SNAA *e* 08 32 36.9
SNAA *e* 08 32 40.3
SNAA *e* 08 32 46.0
SNAA *e* 08 32 51.2
SNAA *e* 08 33 04.3
SNAA *e* 08 33 12.6
SNAA *e* 08 33 18.0
SNAA *e* 08 33 28.5
SNAA *e* 08 33 43.2
SNAA *e* 08 33 49.7
SNAA Sanae 87.45 197 *e*P **P** **08 32 12.2 -0.1**
SNAA pmax pmax
comp=Z,228nm,1.3s
SNAA Sanae 87.45 197 *e*P **P** **08 32 12.2 -0.2**
comp=Z,228nm,1.3s,mb6.2
MLSB Milas 87.45 308 *e*P **P** **08 32 13.0 +0.7**
AYDN Tasoluk 87.46 309 *i*P **P** **08 32 13.6 +1.2**
KLYT Kilyos 87.47 312 *e*P **P** **08 32 15.8 +3.4**
DAT Datca 87.48 308 *e*P **P** **08 32 09.9 -2.6**
KLMR Klimovskoe 87.62 333*c* *i*P **P** **08 32 12.4 -0.8**
KLMR *e* 08 35 37.1
KLMR *e*S 08 42 40.5
KLMR *e*SSS 08 52 15.5
KLMR pmax pmax
comp=Z,990nm,1.8s,mb6.7
KLMR pmax pmax
comp=Z,8μm,10.9s
BODT Bodrum 87.76 308 *e*P **P** **08 32 12.0 -1.9**
AKHS Akhisar 87.80 310 *i*P **P** **08 32 14.2 +0.2**
CTT Catalca 87.89 312 *e*P **P** **08 32 17.2 +2.8**
KDAG Bornova 88.11 309 *i*P **P** **08 32 16.4 +1.0**
IZM Izmir 88.11 309 *e*P **P** **08 32 13.0 -2.4**
BLCB Balcova 88.27 309 *e*P **P** **08 32 17.1 +0.8**
MRMT Marmara Adasi 88.37 311 *e*P **P** **08 32 13.0 -3.7**
URLA Izmir 88.61 309 *i*P **P** **08 32 18.0 +0.2**
CANB Canakkale 88.63 311 *e*P **P** **08 32 20.4 +2.4**
MFT Murefte 88.65 312 *e*P **P** **08 32 10.9 -7.1**
PSN Preselentsi 88.68 315 *e*P **P** **08 32 21.0 +2.8**
RKY Sarkoy-Tekirda 88.70 311 *e*P **P** **08 32 15.1 -3.1**
TIRR Tirgusor 88.71 315⇓ *i*P **P** **08 32 18.3 0.0**
TIRR Tirgusor 88.71 315 *e*P **P** **08 32 18.2 -0.1**
comp=Z,122nm,1.0s,mb6.2
PRK Paraskevi 89.05 310 *e*P **P** **08 32 20.0 +0.1**
SANT Santorini 89.06 307 *e*P **P** **08 32 19.4 -0.6**
comp=Z,1μm,1.5s,mb6.9
KIS Kishinev 89.07 318 *e*P **P** **08 32 19.0 -1.0**
KIS *e* 08 35 52.0
KIS *i* PPP 08 37 44.0
KIS *i* 08 42 47.0
KIS *i*S 08 43 04.0
KIS *e*PS 08 44 10.0
KIS *i* 08 44 43.0
KIS pmax pmax
comp=Z,12μm,16.0s
KIS pmax pmax
comp=Z,13μm,20.0s
KIS smax
comp=N,34μm,21.0s
KIS smax
comp=E,19μm,12.0s
CFR Carcaliu 89.08 316⇓ *i*P **P** **08 32 20.6 +0.5**
CFR Carcaliu 89.08 316 ⇓P **P** **08 32 20.6 +0.6**
HARR Harsova 89.10 315⇓ *i*P **P** **08 32 22.2 +2.0**
HARR Harsova 89.10 315 ⇓P **P** **08 32 22.2 +2.0**
APE Apeiranthos 89.15 308⇓ *i*P **P** **08 32 20.2 -0.2**
APE Apeiranthos 89.15 308 ⇓P **P** **08 32 20.2 -0.2**
EDRB Edirne 89.28 312 *e*P **P** **08 32 21.4 +0.4**
ENEZ Enez 89.47 311 *e*P **P** **08 32 19.3 -2.6**
VNA1 Neumayer--Stat 89.48 197 *e*P **P** **08 32 22.1 +0.2**
VNA1 *e* 08 32 23.5
VNA1 *e* 08 32 30.5
VNA1 *e* 08 32 36.5
VNA1 *e* 08 32 38.5
VNA1 *e* 08 32 42.0
VNA1 *e* 08 32 46.2
VNA1 *e* 08 32 49.1
VNA1 *e* 08 32 54.3
VNA1 *e* 08 32 58.1
VNA1 *e* 08 33 09.2
VNA1 *e* 08 33 14.6
VNA1 *e* 08 33 21.2
VNA1 *e* 08 33 29.6
VNA1 *e* 08 33 39.7
VNA1 *e* 08 33 54.7
VNA1 *e* 08 34 00.2
JMB Yambol 89.54 313 *e*P **P** **08 32 23.0 +0.8**
GADA Gvkgeada 89.54 311 *e*P **P** **08 32 20.4 -1.8**
AKASG Malin Array Be 89.76 322 P **P** **08 32 21.8 -1.4**
comp=E,9.9nm,1.0s,mb5.1,baz=88,slow=4.4,SNR=34
AKASG PP PP 08 36 01.5 +6.0
comp=E,19nm,1.0s,baz=90,slow=6.1,SNR=5.8
AKASG S 08 43 06.0
comp=E,0.1nm,0.3s,baz=106,slow=6.8,SNR=2.5
AKASG LR LR 09 20 38.3
comp=E,49μm,20.7s,MS6.9,baz=100,slow=41
AKASG Malin Array Be 89.76 322 P **P** **08 32 21.8 -1.4**
AKASG 08 36 01.5
AKASG S 08 43 06.1
AKASG pmax pmax
comp=Z,10.0nm,1.0s
AKASG pmax pmax
comp=Z,19nm,1.0s
KIEV Kiev 89.77 321 P **P** **08 32 23.0 -0.3**
GVD Gavdhos 89.84 305 *e*P **P** **08 32 25.3 +1.6**
comp=Z,73nm,0.8s,mb6.1
VAM Vamos 89.86 306 *e*P **P** **08 32 15.0 -8.7**
VRI Vrincioaia 90.20 316⇑ *i*P **P** **08 32 26.0 +0.7**
VRI Vrincioaia 90.20 316 ⇑P **P** **08 32 26.0 +0.7**
PLOR Plostina 90.25 316⇑ *i*P **P** **08 32 28.8 +3.3**
PVL Pavlikeni 90.60 314 *e*P **P** **08 32 28.0 +0.8**
MLR Muntele Rosu 90.66 316⇓ *i*P **P** **08 32 27.5 +0.1**
KMPD K-Podol'skiy 90.99 319 P **P** **08 32 28.0 -1.0**
VLI Veliai 91.12 307 *e*P **P** **08 32 25.0 -4.6**
VOIR 91.26 316⇑ *i*P **P** **08 32 33.2 +3.0**
VOIR 91.26 316 ⇑P **P** **08 32 33.1 +2.9**
MMB Musomiste 91.44 312 *e*P **P** **08 32 30.0 -1.0**
MNK Minsk 91.53 325 *e*P **P** **08 32 29.0 -2.5**
MNK *e* 08 42 54.0
MNK *e*S 08 43 28.0
PUL Pulkovo 91.56 330 P **P** **08 32 32.8 +1.2**
PUL MLR MLR
comp=Z,140μm,24.0s,MS7.3
PUL MLR MLR
comp=N,73μm,20.0s,MS7.4
PUL MLR MLR
comp=E,132μm,23.0s,MS7.4
BURAR Bucovina Array 91.60 318⇓ *i*P **P** **08 32 33.0 +1.2**
BURAR Bucovina Array 91.60 318 ⇓P **P** **08 32 33.0 +1.2**
JOF Joensuu 91.98 334 *ep* **P** **08 32 32.5 -1.1**
VTS Vitosha 92.01 313 *e*P **P** **08 32 33.0 -0.7**
LVZ Lovozero 92.19 339 PFAKE 08 32 40.0 +5.5
LVZ LR LR
comp=Z,126μm,19.0s,MS7.4
VAY Valandovo 92.24 311 *i*P **P** **08 32 35.4 +0.6**
IDID Didziasalis 92.33 326 *e*P **P** **08 32 34.9 -0.2**
EVR Evrytania 92.39 309 *e*P **P** **08 32 26.0 -9.5**
APA Apatity 92.54 338⇓ *i*P **P** **08 32 36.0 -0.1**
APA *e* 08 43 00.0
APA *e*S 08 43 38.0
APA *e*PS PS 08 45 00.0 +7.4
APA pmax pmax
comp=Z,32nm,0.8s,mb5.8
ISAL Salakas 92.73 326 *e*P **P** **08 32 34.4 -2.6**
LVV L'vov 92.81 320 *e*P **P** **08 32 43.9 +6.5**
LVV *e* 08 38 27.2
LVV *e* 08 43 02.8
LVV *e* 08 43 34.2
LVV *e* 08 50 02.9
GZR Gura Zlata 92.82 315⇑ *i*P **P** **08 32 40.9 +3.4**
BIA Bitola 93.12 311 *i*P **P** **08 32 45.2 +6.4**
DRGR 93.12 317⇑ *i*P **P** **08 32 39.8 +1.0**
DRGR 93.12 317 ⇑P **P** **08 32 39.8 +1.0**
SKO Skopje 93.19 312 *i*P **P** **08 32 46.2 +7.1**
OHR Ohrid 93.52 311 *i*P **P** **08 32 43.8 +3.1**
NIKO Nikolski 93.60 37 *e*P **P** **08 32 45.2 +4.2**
KWP Kalwaria 93.62 320 *e*P **P** **08 32 39.0 -2.1**
KWP *e*pP pP 08 32 48.1 +0.3
KWP *e*PP PP 08 36 37.4 +11
KWP *e*SKS 08 43 26.3
KWP *e*S 08 43 50.2
KWP *e*SS SS 08 50 32.4 +26
KWP L 09 20 06.3
comp=Z,78nm,25.5s
KWP Kalwaria 93.62 320 *e*P **P** **08 32 39.0 -2.1**
KWP *e**PP pP 08 32 48.1 +0.3
KWP *e*S 08 43 50.2
KWP Kalwaria 93.62 320 *e*P **P** **08 32 39.0 -2.1**
KWP *e*pP pP 08 32 48.1 +0.3
KWP *e*PP PP 08 36 37.4 +11
KWP *e*SKS 08 43 26.3
KWP *e*S 08 43 50.2
KWP *e*SS SS 08 50 32.4 +26
BZS Buzias 93.67 315⇓ *i*P **P** **08 32 31.4 -10**
UZH Uzhgorod 93.71 319 *e*P **P** **08 32 43.0 +1.4**
UZH *e*S 08 43 54.0
KOLS Kolonicke sedl 93.78 319 *e*P **P** **08 32 42.0 +0.1**
KOLS *e* 08 36 36.8
KOLS *e*S 08 43 51.7
KOLS Kolonicke sedl 93.78 319 *e*P **P** **08 32 42.1 +0.2**
comp=Z,96nm,1.7s,mb6.0
KOLS *e*PP PP 08 36 36.8 +10
KOLS *e*S 08 43 51.7
KOLS LR LR
comp=Z,34μm,25.9s,MS6.7
FINES FINESS Array B 94.00 332 P **P** **08 32 42.5 -0.4**
comp=Z,11nm,1.1s,mb5.2,baz=108,slow=6.2,SNR=14
FINES LR LR 09 23 35.0
comp=Z,60μm,21.8s,MS7.0,baz=284,slow=41
KAF Kangasniemi 94.03 332 *ep* **P** **08 32 42.0 -1.0**
baz=95,slow=4.1
SUW Suwalki 94.09 324 *e*P **P** **08 32 43.3 0.0**
SUW *e*S 08 43 56.3
SUW *e*SS SS 08 50 22.2 +9.0
SUW L 09 19 19.5
comp=Z,84nm,25.1s
SUW Suwalki 94.09 324 *e*P **P** **08 32 43.3 0.0**
SUW *e*S 08 43 56.3
SUW *e*SS SS 08 50 22.2 +9.0
CRVS Cervenica-Dubn 94.30 319 *e* **P** **08 32 47.7 +3.4**
CRVS *e*PP PP 08 36 30.8 -0.5
CRVS *e*S 08 43 58.7
CRVS Cervenica-Dubn 94.30 319 *e*P **P** **08 32 47.7 +3.4**
comp=Z,87nm,2.3s,mb5.8
CRVS *e*PP PP 08 36 30.8 -0.5
CRVS *e*S 08 43 58.7
CRVS LR LR
comp=Z,32μm,24.7s,MS6.7
DIVS Divcibare 94.57 314 *i*P **P** **08 32 46.1 +0.6**
BBLS Bajina Basta - 94.95 313 *i*P **P** **08 32 47.4 +0.2**
WAR Warsaw 95.09 322 *e*P **P** **08 32 51.4 +3.5**
WAR *e*PP PP 08 36 43.3 +5.9
WAR *e*SKS 08 43 29.6
WAR *e*S 08 44 01.8
WAR *e*SS SS 08 50 31.4 +4.0
WAR L 09 20 34.4
comp=Z,91nm,25.1s
WAR Warsaw 95.09 322 *e*P **P** **08 32 51.4 +3.5**
WAR *e* 08 36 43.3
WAR *e*S 08 44 01.8
WAR *e*SS SS 08 50 31.4 +4.0
NIE Niedzica 95.12 319 *e*P **P** **08 32 55.7 +7.7**
NIE *e*PP PP 08 36 46.7 +9.0
UNV Unalaska Valle 95.14 36 PFAKE 08 33 00.0 +12
UNV LR LR
comp=Z,139μm,22.0s,MS7.4
PSZ Piszkesteto 95.19 318⇑ *e*PcP PcP 08 32 50.2 +1.6
PSZ Piszkesteto 95.19 318 *e*P **P** **08 32 47.8 -0.5**
PSZ pmax pmax
comp=Z,130nm,1.8s,mb6.1
KEV Kevo 95.37 340 *e*P **P** **08 32 47.4 -1.8**
KEV LR LR
comp=Z,109μm,21.0s,MS7.3
OJC Ojcow 95.57 320 *e*P **P** **08 32 49.6 -0.4**
OJC *e*PP PP 08 36 41.4 +0.3
OJC *e*SKSac SKSac 08 43 23.9 -1.1
OJC *e*S 08 44 07.1
OJC *e*SS SS 08 50 48.0 +14
OJC L 09 26 10.1
comp=Z,358nm,18.7s
OJC Ojcow 95.57 320 *e*P **P** **08 32 49.6 -0.4**
OJC *e* 08 36 41.4
OJC *e* 08 43 23.9
OJC *e*S 08 44 07.1
AKUT Akutan 95.61 36 *e*P **P** **08 32 49.3 -1.0**
comp=Z,578nm,1.5s,mb6.8
PKSM Moragy 95.81 316⇓ *i*P **P** **08 32 52.2 +1.1**
PKSM Moragy 95.81 316⇑ *e*P **P** **08 32 51.4 +0.3**
ARCES ARCESS Array B 95.84 340 P **P** **08 32 50.8 -0.5**
comp=Z,17nm,1.0s,mb5.4,baz=103,slow=2.6,SNR=13
ARCES LR LR 09 23 21.0
comp=Z,111μm,20.8s,MS7.3,baz=217,slow=40
VYHS Vyhne 95.97 318 *e*P **P** **08 32 52.3 +0.4**
VYHS *e* 08 36 51.8
VYHS *e*S 08 44 07.2
VYHS Vyhne 95.97 318 *e*P **P** **08 32 52.3 +0.4**
comp=Z,30nm,1.7s,mb5.5
VYHS *e*PP PP 08 36 51.8 +7.6
VYHS *e*S 08 44 07.2
VYHS LR LR
comp=Z,41μm,24.9s,MS6.8
STON Ston 96.06 312 *i*P **P** **08 32 49.4 -2.9**
TNA Tin City 96.20 25 PFAKE 08 33 00.0 +7.1
TNA LR LR
comp=Z,34μm,20.0s,MS6.8
SRO Srobarova 96.23 317 *e*pP pP 08 33 00.0 +0.2
RAC Raciborz 96.57 320 *e*P **P** **08 32 55.0 +0.4**
RAC *e* 08 43 29.9
RAC *e*S 08 44 13.0
RAC MLR MLR
comp=N,120μm,23.9s,MS7.4
RAC MLR MLR
comp=E,94μm,23.9s,MS7.4
RAC Raciborz 96.57 320 *e*P **P** **08 32 55.0 +0.4**
RAC *e*SKSac SKSac 08 43 29.9 -0.4
RAC *e*S 08 44 13.0
RAC LR LR
comp=Z,73μm,21.0s,MS7.1
OKC Ostrava-Krasne 96.58 319 *e*P **P** **08 33 01.9 +7.3**
OKC *ex* x 08 37 00.6
OKC *e*SKKS SKKSac 08 43 54.0 -2.0
OKC *ex* x 08 51 03.5
OKC AMS AMS 09 26 40.0
comp=Z,76μm,19.1s
OKC Ostrava-Krasne 96.58 319 *e*Pdif **P** **08 33 01.9 +7.3**
OKC *e*PP PP 08 37 00.6 +12
OKC *e*S 08 43 54.0
OKC *e*SS SS 08 51 03.5 +15
MORC Moravsky Berou 96.96 319⇑ *i*P **P** **08 32 56.7 +0.3**
MORC Moravsky Berou 96.96 319 *e*P **P** **08 32 56.9 +0.5**
ZST Bratislava 97.08 318 *e*pP pP 08 33 04.9 +1.3
ZST *e*PP PP 08 36 54.1 +1.3
ZST *e*S 08 44 18.9
ZST Bratislava 97.08 318 *e*P **P** **08 33 04.9 +8.0**
comp=Z,21nm,1.3s,mb5.4
ZST *e*PP PP 08 36 54.1 +1.3
ZST *e*S 08 44 18.9
ZST LR LR
comp=Z,30μm,16.4s,MS6.9
SISC Sisak 97.30 315 P pP 08 33 11.8 +7.2
GKP Gorka Klasztor 97.50 323 *e*P **P** **08 33 06.5 +7.7**
GKP *e*SKS 08 43 47.0
GKP *e*S 08 44 21.2
GKP L 09 17 03.2
comp=Z,116nm,28.7s
GKP Gorka Klasztor 97.50 323 *e*P **P** **08 33 06.5 +7.7**
GKP *e*S 08 44 21.2
KIP Kipapa 97.56 70 PFAKE 08 33 10.0 +11
KIP LR LR
comp=Z,53μm,22.0s,MS7.0
DPC Dobruska-Polom 97.80 320 *e*PDIF **P** **08 33 01.3 +1.1**
DPC *e*PP PP 08 37 02.0 +3.7
DPC *e*S 08 44 22.3
DPC *e*SS SS 08 51 09.9 +4.2
DPC AMS AMS 09 27 10.0
comp=Z,72μm,19.5s
KSP Ksiaz 97.86 320 *e*P **P** **08 33 03.5 +3.1**
KSP *e*PP PP 08 37 05.8 +7.0
KSP *e*SKS 08 43 52.8
KSP *e*S 08 44 23.7
KSP *e*SS SS 08 51 46.5 +40
KSP L 09 22 19.1
comp=Z,136nm,27.2s

KSP Ksiaz 97.86 320 eP P 08 33 00.0 -0.4
KSP e 08 37 05.0
KSP eS 08 44 22.3
KSP eSS SS 08 50 58.0 -8.6
KSP Ksiaz 97.86 320 eP P 08 33 00.0 -0.4
KSP ePP PP 08 37 05.0 +6.2
KSP eS 08 44 22.3
KSP eSS SS 08 50 58.0 -8.6
KSP LR LR
comp=Z,156µm,19.5s,MS7.5
CONA Conrad Observa 97.88 317⇓iP P 08 32 58.7 -1.9
comp=Z,2µm,9.5s
CONA Conrad Observa 97.88 317 PP PP 08 37 03.1 +4.1
comp=Z,9µm,10.6s
UPC Upice 98.01 320 eP P 08 33 02.3 +1.2
UPC ePP PP 08 37 02.7 +2.8
UPC ex x 08 43 50.3
UPC Upice 98.01 320 eP P 08 33 02.3 +1.2
UPC e 08 37 02.7
ARSA Arzberg 98.05 317⇓iP P 08 33 00.7 -0.6
comp=Z,1µm,7.0s
ARSA i 08 37 05.8
BOJS Bojanci 98.09 315 ePdiff P 08 33 01.4 0.0
BOJS e 08 34 53.6
BOJS ePP PP 08 37 04.4 +3.8
BOJS eSKSac SKSac 08 43 51.3 +13
BOJS eSdiff 08 44 25.4
BOJS e 08 46 05.7
BOJS e 08 47 12.7
BOJS eSS SS 08 51 07.5 -2.2
TRO Tromso 98.14 339 eP P 08 33 01.2 -0.5
TRO eSKS 08 43 36.3
TRO AMS AMS 09 21 45.8
comp=Z,73µm,19.7s,MS7.2
TRO Tromso 98.14 339 eP P 08 33 01.2 -0.5
TRO e 08 43 50.1
TRO LR LR
comp=Z,73µm,19.7s,MS7.2
TREC Trest 98.25 319 eP pP 08 33 10.3 +1.4
TREC ex x 08 37 11.5
TREC eS 08 44 20.0
TREC eSS SS 08 51 11.5 -0.5
TREC AMS AMS 09 27 30.0
comp=Z,89µm,22.0s
PERS Pernice 98.28 316 ePdiff P 08 33 00.8 -1.5
PERS ePP PP 08 37 05.6 +3.6
BJO Bjornoya 98.44 344 eP P 08 33 03.9 +0.9
BJO AMS AMS 09 26 46.6
comp=Z,109µm,20.8s,MS7.3
BJO1 Bjornoya 98.49 344 eP P 08 33 03.9 +0.7
BJO1 LR LR
comp=Z,109µm,20.8s,MS7.3
LJU Ljubljana 98.64 315 ePdiff P 08 33 04.0 +0.1
LJU e 08 34 55.7
LJU ePP PP 08 37 08.6 +3.9
LJU eSKSac SKSac 08 43 52.1 +11
LJU eSdiff 08 44 31.7
LJU eSS SS 08 51 19.8 +2.4
LJU e 09 04 10.4
LJU Ljubljana 98.64 315 eP P 08 33 04.1 +0.2
LJU e 08 37 08.6
LJU eS 08 44 31.7
LJU eSS SS 08 51 19.8 +2.3
OBKA Obir 98.66 316⇑iP P 08 33 04.9 +0.9
comp=Z,2µm,8.9s
OBKA i 08 37 08.4
PRU Pruhonice 98.91 319 eP P 08 33 12.6 +7.5
PRU ePP PP 08 37 13.8 +7.0
PRU ex x 08 44 22.3
PRU eSS SS 08 51 25.6 +4.3
PRU AMS AMS 09 27 40.0
comp=Z,66µm,20.9s
PVCC Panska Ves 98.93 320 eP P 08 33 07.2 +2.0
PVCC ePP PP 08 37 08.6 +1.6
PVCC ex x 08 44 19.9
PVCC eSS SS 08 51 21.4 -0.2
PVCC AMS AMS 09 30 00.0
comp=Z,74µm,19.0s
MOA Molln 98.95 317⇑iP P 08 33 05.1 -0.2
comp=Z,2µm,7.5s
MOA i 08 37 09.1
BSD Bornholm Skovb 99.00 324 iP P 08 33 05.2 -0.4
BSD e 08 37 25.2
BSD eS 08 44 08.3
BSD i 08 44 42.5
BSD
comp=Z,51µm,20.0s
BSD Bornholm Skovb 99.00 324 iP P 08 33 05.2 -0.4
BSD e 08 37 25.2
BSD eS 08 44 08.3
BSD i 08 44 42.5
CADS Cadrg 99.20 315 ePdiff P 08 33 05.8 -0.6
BRG Berggiesshubel 99.35 320 ePdiff P 08 33 05.6 -1.5
BRG ePP PP 08 37 11.1 +0.9
BRG eS 08 44 37.4
BRG Berggiesshubel 99.35 320 eP P 08 33 13.6 +6.5
comp=Z,6.3nm,1.2s,mb5.0
BRG e 08 34 02.3
comp=Z,30nm,1.8s
BRG PP PP 08 36 55.0 -15
BRG i 08 43 44.3
comp=Z,14nm,1.4s
BRG S 08 44 20.0
BRG i 08 46 19.8
comp=Z,3.1nm,1.0s
BRG e 08 50 22.3
comp=Z,1.4nm,0.6s
BRG SS SS 08 51 26.0 -1.4
BRG
comp=N,27µm,26.4s
BRG
comp=E,33µm,22.6s
BRG
comp=Z,38µm,23.0s
BRG Berggiesshubel 99.35 320 eP P 08 33 13.6 +6.5
BRG i 08 43 44.3
BRG SS SS 08 51 26.0 -1.4
BRG pmax pmax
comp=Z,6.0nm,1.2s,mb5.0
BRG MLR MLR
comp=E,33µm,22.6s
BRG MLR MLR
comp=Z,38µm,23.0s,MS6.8
BRG Berggiesshubel 99.35 320 eP P 08 33 13.6 +6.5
comp=Z,6.3nm,1.2s,mb5.0
BRG e 08 34 02.3
BRG PP PP 08 36 55.0 -15
BRG i 08 43 44.3
BRG S 08 44 20.0
BRG i 08 46 19.8
BRG e 08 50 22.3
BRG SS SS 08 51 26.0 -1.4
BRG LR LR
comp=Z,38µm,23.0s,MS6.8
GEC2 GERESS Array S 99.39 318 eP P 08 33 07.0 -0.3
GERES GERESS Array B 99.39 318 P P 08 33 07.0 -0.3
comp=Z,0.4nm,0.2s,baz=114,slow=6.0,SNR=5.0
GERES PP PP 08 37 10.6 +0.1
comp=Z,5.7nm,0.9s,baz=94,slow=8.0,SNR=4.6
GERES GERESS Array B 99.39 318 P P 08 33 07.0 -0.3
GERES 08 37 10.6
GERES pmax pmax
comp=Z,6.0nm,0.9s
PPT Papeete 99.41 110 eLQ 09 01 16.4
comp=Z,450µm,35.8s
PPT Papeete 99.41 110 ePP PP 08 37 08.0 -2.7
comp=Z,5µm,23.5s
PPT Papeete 99.41 110 eSS SS 08 51 38.7 +10
comp=Z,140µm,30.2s
PPT eLR LR 09 05 25.0
comp=Z,359µm,26.5s
KHC Kasperske Hory 99.48 318 eP P 08 33 09.6 +1.9
KHC ePP PP 08 37 06.9 -4.3
KHC ex x 08 44 24.6
KHC ex x 08 51 08.1
KHC AMS AMS 09 30 00.0
comp=Z,77µm,18.9s
KHC Kasperske Hory 99.48 318 eP P 08 33 09.6 +1.9
KHC e 08 37 06.9
KHC eS 08 44 24.6
KHC MLR MLR
comp=Z,77µm,18.9s,MS7.2
KBA Koelnbreinsper 99.52 316⇑iP P 08 33 09.5 +1.6
comp=Z,2µm,10.8s
KBA Koelnbreinsper 99.52 316⇑iP P 08 33 09.5 +1.6
KBA i 08 37 16.4
RUE Ruedersdorf 99.53 322 ePdiff P 08 33 05.6 -2.3
RUE ePP PP 08 37 11.1 -0.5
POHA Pohakuloa 99.67 71 PFAKE 08 33 20.0 +11
POHA LR LR
comp=Z,40µm,20.0s,MS6.9
RGN Rugen 99.90 324 ePdiff Pdif 08 33 07.7 -1.8
RGN ePP PP 08 37 18.0 +3.6
WET Wettzell 99.94 318 ePdiff Pdif 08 33 08.6 -1.1
WET ePP PP 08 37 16.0 +1.3
WET eS 08 44 38.2
CLL Collm 99.96 321 ePdiff Pdif 08 33 09.9 +0.1
comp=Z,33nm,2.0s
CLL epPdiff 08 33 23.8
CLL ePP PP 08 37 14.9 +0.1
CLL ePPP 08 39 44.5
CLL eSKKSac SKKSac 08 44 16.5 -4.1
CLL eSdiff 08 44 41.3
CLL ePS PS 08 46 16.0 +2.3
CLL ePPS 08 47 05.5
CLL eSS SS 08 51 37.6 +1.6
CLL eL 09 26 18.9
comp=Z,71µm,20.0s
CLL Collm 99.96 321 ePdiff Pdif 08 33 10.0 +0.2
CLL LmV 08 25 00.0
comp=Z,68µm,20.1s
CLL ix x 08 34 04.1
CLL ix x 08 34 18.2
CLL ix x 08 36 19.7
CLL iPP PP 08 37 15.3 +0.5
CLL ix x 08 37 31.7
comp=Z,2µm,3.9s
CLL ex x 08 38 20.0
CLL ex x 08 39 44.0
CLL ex x 08 43 01.0
CLL eSKKSac SKKSac 08 44 16.0 -4.6
CLL eSdif 08 44 43.0
CLL ePS PS 08 46 19.0 +5.3
CLL ePPS 08 47 03.0
CLL ex x 08 50 10.0
CLL eSS SS 08 51 39.0 +3.0
CLL ex x 08 53 20.0
CLL ex x 08 57 56.0
CLL Collm 99.96 321 eP Pdif 08 33 10.0 +0.2
CLL i 08 37 15.3
CLL eS 08 44 43.0
CLL Collm 99.96 321 eP Pdif 08 33 10.0 +0.2
CLL i 08 34 04.1
CLL i 08 34 18.2
CLL iPP PP 08 37 15.3 +0.5
CLL i 08 37 31.7
CLL e 08 38 20.0
CLL eSdif 08 44 43.0
KBS Kingsbay 100.14 349 eP Pdif 08 33 11.8 +1.1
KBS e 08 37 33.0
KBS eSS SS 08 51 37.5 -1.0
KBS AMS AMS 09 27 30.5
comp=Z,63µm,16.5s,MS7.2
KBS Kingsbay 100.14 349 eP Pdif 08 33 11.8 +1.1
KBS e 08 37 33.0
TANN Tannenbergstha 100.27 320 ePdiff Pdif 08 33 10.0 -1.2
TANN ePP PP 08 37 18.0 +0.8
TANN eSdiff Sdif 08 44 47.2 +1.4
NKC Novy Kostel 100.27 319 eP Pdif 08 33 16.1 +4.9
NKC ePP PP 08 37 13.6 -3.6
NKC ex x 08 44 29.7
NKC eSS SS 08 51 46.9 +6.6
NKC AMS AMS 09 23 10.0
comp=Z,81µm,22.7s
NKC Novy Kostel 100.27 319 eP Pdif 08 33 16.1 +4.9
NKC e 08 37 13.6
NKC eSS SS 08 51 46.9 +6.6
NKC MLR MLR
comp=Z,81µm,22.7s,MS7.2
NKC Novy Kostel 100.27 319 ePdif Pdif 08 33 16.1 +4.9
NKC ePP PP 08 37 13.6 -3.6
NKC eS Sdif 08 44 29.7 -16
NKC eSS SS 08 51 46.9 +6.6
ROTZ Rotzenmuhle 100.41 319 ePdiff Pdif 08 33 10.8 -1.0
ROTZ ePP PP 08 37 20.3 +2.1
ROTZ eSdiff Sdif 08 44 51.1 +4.1
COP Copenhagen 100.44 325 iP Pdif 08 33 13.1 +1.1
COP i 08 37 35.2
COP iS Sdif 08 44 39.8 -7.4
COP i 08 44 50.8
COP
comp=Z,20µm,18.0s
WTTA Wattenberg 100.69 316⇑iP Pdif 08 33 14.9 +1.8
comp=Z,2µm,9.6s
WTTA Wattenberg 100.69 316⇑i PKiKP 08 37 22.0 -17
comp=Z,5µm,6.7s
WTTA Wattenberg 100.69 316 PP PP 08 37 20.6 +0.2
comp=Z,5µm,6.7s
WTTA Wattenberg 100.69 316⇑iP Pdif 08 33 14.9 +1.8
WTTA i 08 37 22.0
NSS Namsos 100.70 334 eP Pdif 08 33 17.0 +3.9
NSS ePP PP 08 37 20.2 -0.2
NSS e 08 44 39.3
NSS AMS AMS 09 26 58.6
comp=Z,83µm,23.5s,MS7.2
NSS Namsos 100.70 334 eP Pdif 08 33 17.0 +3.9
NSS e 08 37 34.5
MOX Moxa 100.81 320 ePdiff Pdif 08 33 12.3 -1.3
MOX ePP PP 08 37 22.6 +1.3
MOX eSdiff Sdif 08 44 39.7 -11
MOX Moxa 100.81 320 eP Pdif 08 33 12.3 -1.3
MOX e 08 37 24.5
MOX pmax pmax
comp=Z,55nm,2.3s
MOX MLR MLR
comp=Z,40µm,19.0s,MS7.0
MOX Moxa 100.81 320 ePdif Pdif 08 33 12.3 -1.3
comp=Z,55nm,2.3s
MOX ePP PP 08 37 24.5 +3.2
MOX eS Sdif 08 44 34.0 -16
MOX eSS SS 08 51 45.0 -2.9
MOX LR LR
comp=Z,40µm,19.0s,MS7.0
MOX ePP PP 08 37 24.5 +3.2
MOX
comp=Z,40µm,19.0s
MOX Moxa 100.81 320 ePDIFF Pdif 08 33 12.3 -1.3
comp=Z,55nm,2.3s
FUR Furstenfeldbru 100.97 317 ePdiff Pdif 08 33 12.8 -1.5
FUR ePP PP 08 37 23.8 +1.3
GRA1 Grafenberg Arr 101.04 319 ePdif Pdif 08 33 15.1 +0.5
GRA1 ePP PP 08 37 24.8 +1.8
GRA1 eSdif Sdif 08 44 50.1 -2.2
GRA1 ePS PS 08 46 25.1 -0.2
GRA1 eSS SS 08 51 47.8 -3.3
GRA1 LR LR
comp=Z,75µm,19.0s,MS7.2
GRF Grafenberg Arr 101.04 319 ePdiff Pdif 08 33 15.1 +0.5
GRF ePP PP 08 37 24.8 +1.8
GRF eSdiff Sdif 08 44 50.1 -2.2
GRF ePS PS 08 46 25.1 -0.2
GRF eSS SS 08 51 47.8 -3.3
GRF eL 09 34 29.5
comp=Z,75µm,19.0s
GRF Grafenberg Arr 101.04 319 eP Pdif 08 33 15.1 +0.5
GRF e 08 37 24.8
GRF eS Sdif 08 44 50.1 -2.2
GRF ePS PS 08 46 25.1 -0.2
GRF eSS SS 08 51 47.8 -3.3
GRFO Grafenberg 101.05 319 ePdiff Pdif 08 33 13.3 -1.3
GRFO ePP PP 08 37 23.8 +0.7
GRFO eSdiff Sdif 08 44 53.8 +1.5
GRFO eSS SS 08 51 55.7 +4.6
NB2 NORSAR Subarra 101.10 330 P Pdif 08 33 16.8 +1.9
comp=Z,120nm,2.5s,baz=90,slow=4.4
NOA NORSAR Array B 101.10 330 P Pdif 08 33 14.2 -0.7
comp=Z,1.3nm,1.0s,baz=97,slow=4.3,SNR=2.7
NOA PP PP 08 37 24.1 +0.6
comp=Z,4.3nm,0.9s,baz=80,slow=10,SNR=4.1
NOA NORSAR Array B 101.10 330 P Pdif 08 33 14.2 -0.7
NOA 08 37 24.1
NOA pmax pmax
comp=Z,1.0nm,1.0s
NOA pmax pmax
comp=Z,4.0nm,0.9s
BSEG Bad Segeberg 101.65 323 ePdiff Pdif 08 33 15.6 -1.7
BSEG ePP PP 08 37 30.7 +3.1
DAVA Damuels 101.89 316⇓iP Pdif 08 33 16.8 -1.6
comp=Z,2µm,9.2s
DAVA Damuels 101.89 316⇓i PKiKP 08 37 42.6 +1.3
comp=Z,6µm,8.6s
DAVA Damuels 101.89 316 P PKiKP 08 37 41.6 +0.3
comp=Z,6µm,8.6s
DAVA Damuels 101.89 316⇓iP Pdif 08 33 16.8 -1.6
DAVA i 08 37 42.6
KONO Kongsberg 101.94 329 eP Pdif 08 33 17.3 -1.3
KONO ePP PP 08 37 29.2 -0.5
KONO Kongsberg 101.94 329 eP Pdif 08 33 18.3 -0.3
KONO Kongsberg 101.94 329 eP Pdif 08 33 18.4 -0.2
KONO LR LR
comp=Z,98µm,19.0s,MS7.3
IMA2 Indian Mountai 102.07 24 ePdif Pdif 08 33 23.2 +4.1
MUD Monsted U'grnd 102.26 326 iP Pdif 08 33 20.5 +0.4
MUD e 08 37 47.6
MUD i 08 44 26.3
MUD i 08 45 40.0
MUD
comp=Z,54µm,17.0s
MUD Monsted U'grnd 102.26 326 iP Pdif 08 33 20.5 +0.4
MUD e 08 37 47.6
MUD i 08 44 26.3
MUD i 08 45 40.0
STU Stuttgart 102.36 318 ePdiff Pdif 08 33 18.9 -1.6
STU ePP PP 08 37 34.1 +1.1
PGF Pioggiola 102.43 312 eP Pdif 08 33 22.5 +1.7
comp=Z,2.0nm,0.5s
PGF Pioggiola 102.43 312 eP Pdif 08 33 22.5 +1.7
PGF pmax pmax
comp=Z,1.0nm,0.5s
PGF Pioggiola 102.43 312 eP Pdif 08 33 22.5 +1.7
comp=Z,1.0nm,0.5s
MOL Molde 102.77 332 eP Pdif 08 33 29.3 +7.0
MOL ePP PP 08 37 39.4 +3.3
MOL AMS AMS 09 29 18.7
comp=Z,113µm,23.1s,MS7.3
MOL Molde 102.77 332 eP Pdif 08 33 29.3 +7.0
MOL e 08 37 41.0
MOL LR LR
comp=Z,113µm,23.1s,MS7.3
TNS Taunus Mts 102.84 319 ePdiff Pdif 08 33 21.5 -1.1
TNS ePP PP 08 37 38.8 +2.3
TNS eSdiff Sdif 08 45 06.2 -1.1
BFO Black Forest 102.94 317 ePdiff Pdif 08 33 21.7 -1.4
BFO ePP PP 08 37 38.8 +1.5
BFO eSdiff Sdif 08 45 03.6 -4.5
HLG Helgoland 103.08 323 ePdiff Pdif 08 33 22.1 -1.6
HLG ePP PP 08 37 42.2 +3.9
KDAK Kodiak Island 103.15 33 Pdiff Pdif 08 33 26.0 +2.0
comp=Z,6.6nm,1.0s,baz=47,slow=7.4,SNR=3.0
KDAK Kodiak Island 103.15 33 Pdif Pdif 08 33 26.0 +2.0
KDAK LR LR
comp=Z,14µm,20.0s,MS6.5
IBBN Ibbenburen 103.22 322 ePdiff Pdif 08 33 22.8 -1.5
IBBN ePP PP 08 37 46.7 +7.3
IBBN eSdiff Sdif 08 45 12.6 +2.1
BUG Bochum--Univer 103.55 321 ePdiff Pdif 08 33 24.4 -1.4
BUG ePP PP 08 37 53.8 +12
SBF Sospel 103.59 313 eP Pdif 08 33 27.6 +1.7
WTSB Winterswijk 103.83 321⇑eP Pdif 08 33 28.2 +1.2
comp=Z,33nm,17.1s
WTSB ePP PP 08 37 56.8 +13
BER Bergen 104.02 330 eP Pdif 08 33 31.5 +3.6
BER ePP PP 08 37 50.0 +4.6
BER eSKS 08 44 07.3
BER AMS AMS 09 28 58.0
comp=Z,84µm,22.7s,MS7.2
BER Bergen 104.02 330 eP Pdif 08 33 31.5 +3.6
BER e 08 38 06.1
BER i 08 45 18.8
BER LR LR
comp=Z,84µm,22.7s,MS7.2
MBDF Montbardon 104.06 314 eP Pdif 08 33 29.7 +1.7
LPG La Plagne 104.06 315 eP Pdif 08 33 29.7 +1.7
LPL La Plagne 104.07 315 eP Pdif 08 33 29.4 +1.3
LMR La Mourre 104.26 312 eP Pdif 08 33 30.5 +1.6
comp=Z,9.5nm,0.8s
LMR La Mourre 104.26 312 eP Pdif 08 33 30.5 +1.6
LMR pmax pmax
comp=Z,5.0nm,0.8s
LMR La Mourre 104.26 312 eP Pdif 08 33 30.5 +1.6
comp=Z,4.8nm,0.8s
WLF Walferdange 104.34 319 ePdiff Pdif 08 33 28.6 -0.7
WLF ePP PP 08 37 51.5 +3.8
WLF Walferdange 104.34 319 E 08 37 53.9
MCK McKinley 104.34 27 eP Pdif 08 33 30.0 +0.7
MCK pmax pmax
comp=Z,14nm,1.1s
MCK MLR MLR
comp=Z,31µm,19.0s,MS6.9
MCK McKinley 104.34 27 ePdif Pdif 08 33 30.0 +0.7
comp=Z,14nm,1.1s
MCK LR LR
comp=Z,31µm,19.0s,MS6.9
MEM Membach 104.39 320 E 08 38 16.6
HGN Heimansgroeve 104.43 320⇑eP Pdif 08 33 33.2 +3.5
comp=Z,23nm,12.8s
HGN ePP PP 08 38 00.4 +12
HGN eSdif Sdif 08 45 27.4 +6.9
PMR Palmer 104.54 29 eP Pdif 08 33 30.8 +0.6
PMR pmax pmax
comp=Z,23nm,1.2s
PMR MLR MLR
comp=Z,34µm,22.0s,MS6.8
PMR Palmer 104.54 29 ePdif Pdif 08 33 30.8 +0.6
comp=Z,23nm,1.2s
PMR LR LR
comp=Z,34µm,22.0s,MS6.8
COLA College 104.63 25 PFAKE 08 33 40.0 +9.4
COLA LR LR
comp=Z,56µm,22.0s,MS7.1
ORIF Oris-en-Rattie 104.69 314 eP Pdif 08 33 32.2 +1.4
comp=Z,3.3nm,0.5s
ORIF eR
comp=Z,112µm,22.0s
ORIF Oris-en-Rattie 104.69 314 eP Pdif 08 33 32.2 +1.4
ORIF pmax pmax
comp=Z,2.0nm,0.5s
ORIF Oris-en-Rattie 104.69 314 eP Pdif 08 33 32.2 +1.4
comp=Z,1.6nm,0.5s
BCLA Clavier 104.84 320 PKP PKiKP 08 37 49.7 +3.0
DOU Dourbes 105.32 319 E 08 37 56.5
UCC Uccle 105.42 320 PKP PKiKP 08 37 51.1 +3.4
SNF Seneffe 105.49 320 E 08 37 46.2
PMSA Palmer Station 105.84 184 PFAKE 08 38 00.0 +11
PMSA LR LR
comp=Z,78µm,20.0s,MS7.2
LOR Lormes 105.99 316 eP Pdif 08 33 38.0 +1.4
comp=Z,2.2nm,0.4s
LOR eR
comp=Z,67µm,21.0s
LOR Lormes 105.99 316 eP Pdif 08 33 38.0 +1.4
comp=Z,1.1nm,0.4s
LOR LR LR
comp=Z,67µm,21.0s,MS7.2
SSF Saint Saulge 106.24 316 eP Pdif 08 33 39.1 +1.4
comp=Z,1.7nm,0.3s
SSF Saint Saulge 106.24 316 eP Pdif 08 33 39.1 +1.4
comp=Z,0.9nm,0.3s
DAG Danmarks Havn 106.88 349c iP Pdif 08 33 40.0 -0.6
DAG Danmarks Havn 106.88 349⇑eP Pdif 08 33 40.0 -0.6
EJON La Jonquera 106.95 311 P Pdif 08 33 42.8 +1.9
JMIC Jan Mayen 107.06 342 ePP PP 08 38 07.7 -0.2
JMIC AMS AMS 09 21 01.6
comp=Z,27µm,27.2s,MS6.7
JMIC Jan Mayen 107.06 342 eP Pdif 08 33 47.5 +6.1
JMIC e 08 38 10.8
JMIC LR LR
comp=Z,27µm,27.2s,MS6.7
ETOS Mallorca 107.12 309 P Pdif 08 33 42.5 +0.9
TRIS Tristan da Cun 107.16 227 PFAKE 08 38 00.0 +9.0
TRIS LR LR
comp=Z,42µm,21.0s,MS7.0
TCF Toulx Ste Croi 107.19 316 eP Pdif 08 33 43.1 +1.2
comp=Z,1.4nm,0.4s
TCF Toulx Ste Croi 107.19 316 eP Pdif 08 33 43.1 +1.2
comp=Z,0.7nm,0.4s
TORD Torodi Ar. Bea 107.28 281 Pdiff Pdif 08 33 46.8 +4.5
comp=Z,0.4nm,0.7s,baz=135,slow=0.6,SNR=2.6
TORD PP PP 08 38 05.2 -4.3

comp=Z,2.4nm,0.8s,baz=38,slow=1.6,SNR=4.8
TORD PKKPbc PKKPbc 08 49 18.7 +12
comp=Z,0.2nm,0.3s,baz=330,slow=0.7,SNR=6.1
TORD Torodi Ar. Bea 107.28 281 Pdif Pdif 08 33 46.8 +4.5
TORD PP PP 08 38 05.2 -4.3
TORD PKKPbc PKKPbc 08 49 18.7 +12
EIBI Ibiza 108.29 308 P Pdif 08 33 48.3 +1.4
comp=Z,5µm,7.1s
EPOB Poblet 108.36 310 P Pdif 08 33 50.2 +3.1
DAWY Dawson 108.38 25 *e*Pdif Pdif 08 33 50.4 +3.2
ERTA Horta de San J 108.95 310 P Pdif 08 33 51.1 +1.3
EBIE Bielsa 108.96 312 P Pdif 08 33 53.3 +3.5
comp=Z,1µm,7.9s
INK Inuvik 109.12 20 PP PP 08 38 16.1 -6.8
comp=Z,16nm,1.1s,baz=293,slow=5.9,SNR=5.1
EDI Edinburgh 109.18 326 *e*P Pdif 08 33 52.6 +1.9
EDI Edinburgh 109.18 326 *e*P Pdif 08 33 52.6 +1.9
ESK Eskdalemuir 109.31 325 *e*P Pdif 08 33 53.3 +1.9
ESK Eskdalemuir 109.31 325 *e*P Pdif 08 33 53.3 +1.9
ESK Eskdalemuir 109.31 325 PFAKE 08 38 10.0 +15
ESK LR LR
comp=Z,34µm,20.0s,MS6.9
ESAC San Caprasio 109.49 311 P Pdif 08 33 55.0 +2.8
EBEN Beniarda 109.53 308 P Pdif 08 33 56.8 +4.5
EMOS Mosqueruela 109.60 309 P Pdif 08 33 56.1 +3.4
HOPE Hope Point 109.72 202 PFAKE 08 38 10.0 +14
HOPE LR LR
comp=Z,101µm,19.0s,MS7.4
MCH1 Michaelchurch 109.84 322 *e*P Pdif 08 33 43.6 -10
MCH1 Michaelchurch 109.84 322 *e*P Pdif 08 33 43.6 -10
EALK Alkurruntz 110.11 313 P Pdif 08 33 58.2 +3.2
TAOE Nuku Hiva Isla 110.34 103 *e*PP PP 08 38 31.2 -0.5
comp=Z,21µm,24.5s
TAOE Nuku Hiva Isla 110.34 103 *e*SS SS 08 54 01.1 +3.2
comp=Z,341µm,31.0s
TAOE *e*LR LR 09 10 35.5
comp=Z,483µm,24.9s
EMUR La Murta 110.39 307 P Pdif 08 34 00.6 +4.4
ETOB Tobarra 110.57 308 P Pdif 08 33 59.5 +2.5
RKT Rikitea 110.99 119 *e*LQ 09 05 50.9
comp=Z,149µm,37.8s
RKT Rikitea 110.99 119 *e*PP PP 08 38 37.6 +1.2
comp=Z,4µm,24.5s
RKT Rikitea 110.99 119 *e*PS PS 08 48 09.7 +2.3
comp=Z,16µm,25.2s
RKT Rikitea 110.99 119 *e*SS SS 08 54 19.4 +13
comp=Z,62µm,33.0s
RKT *e*LR LR 09 10 57.0
comp=Z,218µm,29.5s
SCO Scoresbysund 111.22 344 *i* P Pdif 08 33 57.1 -2.8
SCO Scoresbysund 111.22 344 *i* P PP 08 38 42.3 +4.2
ELAN Lanestosa 111.51 313 P Pdif 08 34 01.7 +0.5
DLF Lyons Farm 111.67 324 *e*P PP 08 38 28.0 -13
EBER Berja 111.77 306 P Pdif 08 34 06.2 +3.9
EQES Quesada 111.83 307 P Pdif 08 34 05.1 +2.5
DCN Croghan 112.09 324 *e*P PP 08 38 31.0 -13
ESDC Sonseca Array 112.34 309 PKiKP PKiKP 08 38 02.0 +1.3
comp=Z,0.3nm,0.3s,baz=79,slow=7.4,SNR=4.6
ESDC PP PP 08 38 53.2 +7.1
comp=Z,1.1nm,0.6s,baz=78,slow=7.0,SNR=4.5
ESLA Sonseca Array 112.34 309 PFAKE 08 38 10.0 +9.3
ESLA LR LR
comp=Z,251µm,20.0s,MS7.8
EBAN Banos Encina 112.36 307 P PKiKP 08 38 08.9 +8.1
SIT Sitka 112.44 32 PFAKE 08 38 10.0 +9.1
SIT LR LR
comp=Z,59µm,21.0s,MS7.2
EARI Arriondas 112.78 313 P Pdif 08 34 12.2 +5.4
DBIC Dimbokro 112.97 273 PKiKP PKiKP 08 38 07.0 +5.1
comp=Z,6.6nm,1.2s,baz=82,slow=7.1,SNR=2.9
DBIC PP PP 08 38 52.4 +1.8
comp=Z,3.2nm,0.7s,baz=75,slow=4.1,SNR=3.8
DBIC Dimbokro 112.97 273 *i* PKIKP PKiKP 08 38 07.0 +5.1
DBIC 08 38 52.4
DBIC pmax pmax
comp=Z,3.0nm,0.7s
EADA Adamuz 112.98 307 P Pdif 08 34 09.6 +1.9
EMIJ Mijas 113.30 306 P Pdif 08 34 10.7 +1.5
ECAL Calabor 114.11 312 P Pdif 08 34 12.9 +0.2
PBAG Braganca 114.14 312 *e*PP PP 08 39 05.9 +6.7
EPON Pontenova 114.17 313 P Pdif 08 34 15.2 +2.2
BORG Borgarnes 114.22 338 PFAKE 08 38 10.0 +5.7
BORG LR LR
comp=Z,44µm,20.0s,MS7.1
PTCN Pitcairn Islan 114.39 123 PFAKE 08 38 20.0 +15
PTCN LR LR
comp=Z,106µm,22.0s,MS7.4
DLBC Dease Lake 114.59 29 *e*PKPdf PKiKP 08 38 06.2 +1.2
EMIN Mina Concepcio 114.67 307 P Pdif 08 34 14.1 -1.2
EBAD Badajoz 114.81 308 P Pdif 08 34 23.0 +7.2
PVRL Vila Real 114.94 311 *e*PKPdf PKiKP 08 38 10.6 +4.9
PVRL Vila Real 114.94 311 *e*PP PP 08 39 07.4 +2.8
MTE Manteigas 114.96 310 *e*Pdif Pdif 08 34 16.4 -0.1
MTE Manteigas 114.96 310 *e*PKPdf PKiKP 08 38 09.0 +3.3
MTE Manteigas 114.96 310 *e*PP PP 08 39 05.5 +0.8
MTE Manteigas 114.96 310 *e*LQ 09 06 36.3
MTE Manteigas 114.96 310 *e*LR LR 09 17 03.3
comp=Z,53µm,20.8s
PCBR Castelo Branco 115.00 310 *e*PKPdf PKiKP 08 38 10.0 +4.2
PCBR Castelo Branco 115.00 310 *e*PP PP 08 39 15.1 +10
ELOB Lobios 115.10 312 P Pdif 08 34 20.8 +3.7
PVIS Viseu 115.17 311 *e*PKPdf PKiKP 08 38 10.6 +4.5
PVIS Viseu 115.17 311 *e*PP PP 08 39 13.0 +6.8
EMAZ Mazaricos 115.56 313 P Pdif 08 34 21.9 +2.8
PBEJ Beja 115.57 308 *e*PKPdf PKPdf 08 38 11.4 +4.5
PBEJ Beja 115.57 308 *e*PP PP 08 39 15.1 +6.1
PTOM Tomar 115.75 309 *e*PP PP 08 39 24.0 +14
MORF Marmelete 116.30 307 *e*PP PP 08 39 12.8 -1.3
MORF *e*SS SS 08 55 16.1 -0.7
MORF *e*SS SS 08 55 18.6 +1.9
MORF AML AML 09 42 19.5
comp=N,31µm,14.2s
MORF Marmelete 116.30 307 *e*PP PP 08 39 12.8 -1.3
PTEO Sao Teotonio 116.32 307 *e*PKPdf PKPdf 08 38 11.4 +3.1
PTEO Sao Teotonio 116.32 307 *e*PP PP 08 39 27.6 +13
PLOU Loures 116.44 309 *e*PP PP 08 39 25.5 +10
LIS Lisbon 116.46 309 *e*PP PP 08 39 13.2 -2.1
LIS *e*SS SS 08 55 18.1 -0.8
LIS *e*SS SS 08 55 18.7 -0.2
LIS AMS AMS 09 39 05.5
comp=N,35µm,18.5s
LIS Lisbon 116.46 309 *e*PP PP 08 39 13.2 -2.0
EFI East Falkland 117.98 190 PFAKE 08 38 20.0 +8.5
EFI LR LR
comp=Z,53µm,19.0s,MS7.2
YKA Yellowknife Ar 118.87 21 PKP PKPdf 08 38 11.9 -1.3
comp=Z,1.7nm,0.6s,baz=324,slow=0.5,SNR=7.1
YKA PP PP 08 39 31.6 -0.4
comp=Z,9.5nm,0.9s,baz=304,slow=1.8,SNR=6.0
YKA PKKPbc PKKPbc 08 48 41.1 +13
comp=Z,1.8nm,0.9s,baz=115,slow=4.1,SNR=3.9
YKA Yellowknife Ar 118.87 21 PKiKP PKPdf 08 38 11.9 -1.3
YKA 08 39 31.6
YKA pmax pmax
comp=Z,10.0nm,0.9s
ASCN Ascension 119.53 255 PFAKE 08 38 30.0 +15
ASCN LR LR
comp=Z,48µm,19.0s,MS7.2
SFJD Kangerlussuaq 120.51 350 *i* P Pdif 08 34 44.5 +3.3
SFJD *i* 08 39 47.6
SFJD *i* S Sdif 08 47 12.4 -22
SFJD *i* 08 49 45.9
SFJD *e* 08 56 52.0
SFJD
comp=Z,50µm,22.0s
SFJD Kangerlussuaq 120.51 350 *i* P Pdif 08 34 44.5 +3.3
SFJD *i* 08 39 47.6
SFJD MLR MLR
comp=Z,50µm,22.0s,MS7.1
EFAM Famara 121.47 298 P Pdif 08 34 56.6 +11
CFTV Fuerteventura 122.04 298 P PKPdf 08 38 11.1 -8.2
B04A Port Angeles 122.46 38 ⇓P PKPdf 08 38 19.8 -0.3
baz=122
A04A Legoe Bay, Lum 122.65 37 ⇓P PKPdf 08 38 17.5 -3.0
baz=123
D03A Wishkah Elem. 122.68 39 ⇓P PKPdf 08 38 20.2 -0.3
baz=123
A05A Maple Falls 122.89 37 ⇓P PKPdf 08 38 21.2 +0.2
baz=123
E03A Lebam 123.04 40 ⇓P PKPdf 08 38 23.1 +1.8
baz=123
GNW Green Mountain 123.08 38 *e*PKPdf PKPdf 08 38 23.4 +2.1
B05A Bryant 123.22 37 ⇑P PKPdf 08 38 22.3 +0.7
baz=123
PMPS Porto Santo 123.22 303 *e*PP PP 08 39 57.9 -3.8
D04A Dobbs Creek Ra 123.28 39 ⇑P PKPdf 08 38 19.8 -1.9
baz=123
F03A Seaside 123.29 40 ⇑P PKPdf 08 38 21.4 -0.3
baz=123
H02A Toledo 123.49 42 ⇑P PKPdf 08 38 23.4 +1.3
baz=123
E04A Onalaska 123.55 39 ⇓P PKPdf 08 38 19.8 -2.4
baz=124
C05A Tolt Reservoir 123.72 38 ⇑P PKPdf 08 38 18.5 -4.0
baz=124
D05A Enumclaw 123.75 39 ⇑P PKPdf 08 38 22.3 -0.3
baz=124
I02A Mapleton 123.86 43 ⇓P PKPdf 08 38 24.7 +1.8
baz=124
K01A Sixes 123.86 44 ⇑P PKPdf 08 38 22.5 -0.3
baz=124
H03A Soap Creek Ran 123.96 42 ⇓P PKPdf 08 38 23.2 +0.2
baz=124
COR Corvallis 123.98 42 PFAKE 08 38 30.0 +6.9
COR LR LR
comp=Z,43µm,22.0s,MS7.1
F04A Amboy 124.02 40 ⇓P PKPdf 08 38 26.1 +3.0
baz=124
E05A Randle 124.17 39 ⇓P PKPdf 08 38 23.6 +0.2
baz=124
I03A Eugene 124.24 43 ⇑P PKPdf 08 38 24.3 +0.8
baz=124
J02A Umpqua 124.27 43 ⇓P PKPdf 08 38 22.2 -1.4
baz=124
G04A Mulino 124.27 41 ⇓P PKPdf 08 38 21.7 -1.9
baz=124
M01C Crescent City 124.44 45 ⇓P PKPdf 08 38 22.0 -1.9
baz=124
K02A Glendale 124.55 44 ⇑P PKPdf 08 38 20.8 -3.3
baz=124
F05A White Salmon 124.64 40 ⇓P PKPdf 08 38 21.3 -3.0
baz=125
H04A Detroit Lake 124.68 41 ⇑P PKPdf 08 38 23.5 -0.8
baz=125
J03A Ideyld Park 124.68 43 ⇑P PKPdf 08 38 20.6 -3.7
baz=125
L02A Cave Junction 124.69 45 ⇓P PKPdf 08 38 21.5 -2.9
baz=125
EGOM La Gomera 124.81 298 P PKPdf 08 38 34.7 +10
JCC Jacoby Creek 124.86 46 ⇑P PKPdf 08 38 23.9 -0.8
baz=125
HUMO Hull Mountain 124.97 44 *e*PKPdf PKPdf 08 38 27.2 +2.3
HUMO LR LR
comp=Z,27µm,20.0s,MS6.9
HUMO Hull Mountain 124.97 44 ⇓P PKPdf 08 38 24.1 -0.8
baz=125
G05A Wamic 125.01 40 ⇑P PKPdf 08 38 20.8 -4.2
baz=125
KHMM Horse Mountain 125.05 46 *e*PKPdf PKPdf 08 38 27.3 +2.2
O01C Eel River Cons 125.24 47 ⇓P PKPdf 08 38 22.5 -2.9
baz=125
EDM Edmonton 125.31 29 *e*PKiKP PKPdf 08 38 26.0 +0.4
H05A Madras 125.31 41 ⇓P PKPdf 08 38 27.4 +1.8
baz=125
N02C Big Bar 125.37 46 ⇑P PKPdf 08 38 26.4 +0.7
baz=125
YBH Yreka Blue Hor 125.46 45 *e*PKiKP PKPdf 08 38 27.6 +1.7
YBH MLR MLR
comp=Z,29µm,21.0s
YBH Yreka Blue Hor 125.46 45 ⇓P PKPdf 08 38 25.3 -0.6
baz=125
I05A Bend 125.49 42 ⇓P PKPdf 08 38 29.0 +3.0
baz=125
M02C Callahan 125.49 45 ⇓P PKPdf 08 38 27.8 +1.8
baz=125
HAWA Hanford 125.62 38 *e*PKPdf PKPdf 08 38 28.1 +1.9
HAWA LR LR
comp=Z,27µm,20.0s,MS6.9
K04A Chilquin 125.81 44 ⇑P PKPdf 08 38 30.8 +4.2
baz=126
L04A Klamath Falls 125.87 44 ⇓P PKPdf 08 38 26.1 -0.6
baz=126
O02C Red Bluff 125.96 47 ⇑P PKPdf 08 38 23.9 -2.9
baz=126
WDC Whiskeytown Da 126.00 46 *e*PKiKP PKPdf 08 38 28.7 +1.8
WDC MLR MLR
comp=Z,30µm,21.0s,MS6.9
WDC Whiskeytown Da 126.00 46 ⇓P PKPdf 08 38 26.4 -0.6
baz=126
M04C Idaho Dome 126.05 45 ⇓P PKPdf 08 38 32.4 +5.4
baz=126
NEW Newport 126.13 35 PKP PKPdf 08 38 26.6 -0.5
comp=Z,3.8nm,1.0s,baz=106,slow=3.5,SNR=5.1
NEW Newport 126.13 35 PKiKP PKPdf 08 38 26.6 -0.6
NEW pmax pmax
comp=Z,4.0nm,1.0s
NEW Newport 126.13 35 *e*PKPdf PKPdf 08 38 28.3 +1.1
NEW LR LR
comp=Z,35µm,20.0s,MS7.0
HOPS Hopland 126.16 48 PFAKE 08 38 40.0 +13
HOPS LR LR
comp=Z,45µm,21.0s,MS7.1
HOPS Hopland 126.16 48 ⇓P PKPdf 08 38 30.3 +3.0
baz=126
GASB Alder Springs 126.20 47 ⇑P PKPdf 08 38 30.3 +3.0
baz=126
O03C Acorn Hollow, 126.57 47 ⇑P PKPdf 08 38 28.6 +0.6
baz=126
MCCM Marconi Confer 126.58 49 ⇑P PKPdf 08 38 32.3 +4.2
baz=126
J06A Christmas Vall 126.61 42 ⇓P PKPdf 08 38 31.1 +3.0
baz=126
FARB Farallon Islan 126.64 50 ⇓P PKPdf 08 38 34.8 +6.6
baz=127
L05A Lakeview 126.64 44 ⇓P PKPdf 08 38 26.4 -1.8
baz=127
MNRC McLaughlin Nat 126.66 48 ⇓P PKPdf 08 38 30.0 +1.8
baz=127
NSHM Saint Helena R 126.66 49 *e*PKPdf PKPdf 08 38 30.2 +2.0
HATC Hat Creek Radi 126.68 45 ⇑P PKPdf 08 38 33.6 +5.4
baz=127
M05C Lookout 126.69 45 ⇓P PKPdf 08 38 25.3 -3.0
baz=127
K06A Valley Falls 126.73 43 ⇑P PKPdf 08 38 28.9 +0.6
baz=127
CVS Carmenet Viney 126.83 49 ⇓P PKPdf 08 38 25.6 -3.0
baz=127
SUTB Sutter Butte 127.02 47 ⇑P PKPdf 08 38 30.7 +1.8
baz=127
J07A Hines 127.11 42 ⇓P PKPdf 08 38 30.8 +1.8
baz=127
ORV Oroville 127.11 47 ⇓P PKPdf 08 38 22.5 -6.6
baz=127
O04C Chester 127.13 46 ⇑P PKPdf 08 38 24.9 -4.2
baz=127
OHCM Honcut 127.20 47 *e*PKPdf PKPdf 08 38 29.8 +0.6
M06C Likely Place G 127.22 45 ⇓P PKPdf 08 38 26.3 -3.0
baz=127
ELFS Eagle Lake Fie 127.27 45 ⇑P PKPdf 08 38 28.8 -0.6
baz=127
JRSC Jasper Ridge 127.30 50 ⇑P PKPdf 08 38 30.0 +0.6
baz=127
O05C Quincy 127.38 46 ⇑P PKPdf 08 38 31.4 +1.8
baz=127
BDM Black Diamond 127.40 49 ⇑P PKPdf 08 38 26.6 -3.0
baz=127
BNLO Ben Lomond (Sa 127.44 50 ⇓P PKPdf 08 38 29.1 -0.6
baz=127
Q04C Lincoln 127.45 48 ⇓P PKPdf 08 38 26.7 -3.0
baz=127
WALA Waterton Lakes 127.49 33 *e*PKPdf PKPdf 08 38 30.7 +1.0
WENL Wente Brothers 127.59 49 ⇓P PKPdf 08 38 24.6 -5.4
baz=128
L07A Adell 127.67 43 ⇑P PKPdf 08 38 29.5 -0.6
baz=128
BSMT Bassoo Peak 127.68 35 *e*PKPdf PKPdf 08 38 31.0 +0.8
BMO Blue Mountains 127.72 39 *e*PKPdf PKPdf 08 38 32.1 +1.9
BMO LR LR
comp=Z,41µm,22.0s,MS7.1
P05C Yuba Gap, Truc 127.85 47 ⇑P PKPdf 08 38 26.3 -4.2
baz=128
LAVA Lava Cap Winer 127.95 48 ⇓P PKPdf 08 38 24.1 -6.6
baz=128
S04C Ingram Canyon, 127.95 49 ⇑P PKPdf 08 38 24.1 -6.6
baz=128
WVOR Wild Horse Val 127.96 43 *e*PKiKP PKPdf 08 38 32.5 +1.8
WVOR MLR MLR
comp=Z,41µm,22.0s,MS7.1
R04C Big Horse Ranc 127.98 48 ⇑P PKPdf 08 38 27.7 -3.0
baz=128
FCC Fort Churchill 128.01 14 *e*PKiKP PKPdf 08 38 34.1 +3.3
M07A Soldier Meadow 128.04 44 ⇑P PKPdf 08 38 31.4 +0.6
baz=128
O06A Flanigan 128.08 46 ⇓P PKPdf 08 38 26.7 -4.2
baz=128
SAO San Andreas Ge 128.11 50 PFAKE 08 38 40.0 +9.1
SAO LR LR
comp=Z,37µm,21.0s,MS7.0
PACP Pacheco Peak 128.15 50 ⇓P PKPdf 08 38 30.5 -0.6
baz=128
HAST UC Hastings Re 128.15 51 ⇑P PKPdf 08 38 31.7 +0.6
baz=128
P06A Stead Airport, 128.21 46 ⇓P PKPdf 08 38 30.5 -0.6
baz=128
N07B Gerlach 128.43 45 ⇑P PKPdf 08 38 29.7 -1.8
baz=128
R05C Kirkwood Meado 128.45 47 ⇓P PKPdf 08 38 31.0 -0.6
baz=128
WCN Washoe City 128.46 47 ⇑P PKPdf 08 38 28.6 -3.0
baz=128
CMB Columbia Colle 128.47 48 *e*PKiKP PKPdf 08 38 33.2 +1.6
CMB MLR MLR
comp=Z,40µm,20.0s,MS7.1
CMB Columbia Colle 128.47 48 ⇓P PKPdf 08 38 27.4 -4.2
baz=128
M08A Happy Creek Ra 128.56 44 ⇓P PKPdf 08 38 30.0 -1.8
baz=128
PAHR Pah Rah Range 128.57 46 *e*PKPdf PKPdf 08 38 33.7 +1.8
MSO Missoula 128.72 36 *e*PKPdf PKPdf 08 38 33.0 +0.9
MSO LR LR
comp=Z,36µm,20.0s,MS7.1
O07A Toulon 128.75 45 ⇓P PKPdf 08 38 28.8 -3.4
baz=129
U04C Hernandez Rese 128.75 51 ⇓P PKPdf 08 38 31.1 -1.1
baz=129
S05C Merced 128.75 49 ⇑P PKPdf 08 38 32.9 +0.7
baz=129
L09A Wilkinson Ranc 128.79 43 ⇑P PKPdf 08 38 29.8 -2.5
baz=129
S06C San Francisco 128.92 48 ⇑P PKPdf 08 38 31.9 -0.6
baz=129
R06C Coleville 128.98 47 ⇓P PKPdf 08 38 31.1 -1.5
baz=129
P07A Fallon 128.99 46 ⇑P PKPdf 08 38 30.6 -2.0
baz=129
N08A GE Springer Mi 129.01 44 ⇓P PKPdf 08 38 31.1 -1.6
baz=129
FFC Flin Flon 129.04 22 *e*PKiKP PKPdf 08 38 32.2 -0.5
FFC MLR MLR
comp=Z,47µm,20.0s,MS7.2
CHMT Chamberlain Mo 129.07 35 *e*PKPdf PKPdf 08 38 33.6 +0.8
PKD Parkfield 129.07 51 ⇓P PKPdf 08 38 33.1 +0.3
baz=129
RPN Rapa Nui 129.18 137 PFAKE 08 38 40.0 +7.0
RPN LR LR
comp=Z,45µm,22.0s,MS7.1
M09A Marrel Ranch, 129.20 43 ⇓P PKPdf 08 38 30.5 -2.5
baz=129
PDA Ponta Delgada 129.24 312 *e*PP PP 08 40 54.0 +12
PSET Sete Cidades 129.25 312 *e*PP PP 08 40 40.9 -0.8
U05C Westside ANR, 129.26 50 ⇓P PKPdf 08 38 34.3 +1.2
baz=129
Q07A Schurz 129.28 47 ⇓P PKPdf 08 38 33.4 +0.3
baz=129
T06C Millerton Lake 129.34 49 ⇑P PKPdf 08 38 34.5 +1.2
baz=129
N09A Rock Creek Ran 129.40 44 ⇑P PKPdf 08 38 32.7 -0.7
baz=129
PTRM Twisselman Ran 129.42 51 *e*PKPdf PKPdf 08 38 36.2 +2.7
R07C Lee Vining 129.43 48 ⇓P PKPdf 08 38 34.6 +1.2
baz=129
P08A Dixie Valley 129.50 46 ⇑P PKPdf 08 38 32.9 -0.7
baz=129
KCC Kaiser Creek 129.52 49 ⇑P PKPdf 08 38 34.3 +0.7
baz=130
V05C Boulder Hill, 129.59 51 ⇑P PKPdf 08 38 34.5 +0.7
baz=130
MLAC Mammoth Lakes 129.76 48 ⇓P PKPdf 08 38 33.4 -0.6
baz=130
M10A I.L. Ranch, Tu 129.77 43 ⇓P PKPdf 08 38 33.0 -1.1
baz=130
BMN Battle Mountai 129.79 44 PFAKE 08 38 50.0 +16
BMN LR LR
comp=Z,27µm,20.0s,MS6.9
NVAR Mina Array Bea 129.84 47 PKhKP 08 38 09.4
comp=Z,0.7nm,0.9s,baz=255,slow=6.3,SNR=2.9
NVAR PKP PKPdf 08 38 35.4 +1.1
comp=Z,1.4nm,0.8s,baz=215,slow=1.0,SNR=6.0
O09A Fish Creek Ran 129.92 45 ⇑P PKPdf 08 38 33.7 -0.7
baz=130
Q08A Gabbs 129.94 46 ⇑P PKPdf 08 38 34.7 +0.2
baz=130
MNV Mina 129.95 47 *e*PKiKP PKPdf 08 38 36.7 +2.3
MNV MLR MLR
comp=Z,43µm,22.0s,MS7.1
HRY Holter Researc 129.99 35 *e*PKPdf PKPdf 08 38 36.3 +1.8
R08A Mina 130.01 47 ⇓P PKPdf 08 38 33.5 -1.1
baz=130
MTUM Tungsten Hills 130.06 48 *e*PKPdf PKPdf 08 38 37.6 +2.9
LRM Limekiln Ridge 130.14 36 *e*PKPdf PKPdf 08 38 36.6 +1.8
N10A Dunphy 130.15 44 ⇓P PKPdf 08 38 33.7 -1.1
baz=130
HLID Hailey 130.17 39 *e*PKPdf PKPdf 08 38 37.0 +2.2
HLID LR LR
comp=Z,36µm,20.0s,MS7.1
PLCA Paso Flores 130.17 182 PKP PKPdf 08 38 38.1 +3.3
comp=Z,3.5nm,0.9s,baz=150,slow=4.0,SNR=4.6
PLCA Paso Flores 130.17 182 *e*PKPdf PKPdf 08 38 38.0 +3.1
PLCA LR LR
comp=Z,68µm,19.0s,MS7.4
SBC Santa Barbara 130.20 52 ⇑P PKPdf 08 38 32.9 -2.0
baz=130
M11A Holland Ranch, 130.31 42 ⇓P PKPdf 08 38 34.9 -0.2
baz=130
DLMT Dillon 130.31 36 *e*PKPdf PKPdf 08 38 36.9 +1.7
EGMT Eagleton 130.32 32 *e*PKPdf PKPdf 08 38 36.6 +1.5
EGMT LR LR
comp=Z,40µm,22.0s,MS7.1
TIN Tinemaha 130.43 49 ⇑P PKPdf 08 38 33.3 -2.0
baz=130
MCMT McKenzie Canyo 130.46 37 *e*PKPdf PKPdf 08 38 38.0 +2.6
N11A Elko Archery C 130.62 43 ⇓P PKPdf 08 38 35.0 -0.7
baz=130
P10A Eureka 130.66 45 ⇓P PKPdf 08 38 35.1 -0.7
baz=131
BOZ Bozeman (W) 130.71 36 *e*PKPdf PKPdf 08 38 37.6 +1.7
BOZ LR LR
comp=Z,45µm,20.0s,MS7.2
ISA Isabella 130.75 51 PFAKE 08 38 50.0 +14
ISA LR LR
comp=Z,13µm,22.0s,MS6.6
ISA Isabella 130.75 51 ⇓P PKPdf 08 38 35.3 -0.6
baz=131
CWC Cottonwood Cre 130.76 49 ⇓P PKPdf 08 38 35.8 -0.2
baz=131
TPH Tonopah 130.77 47 PFAKE 08 38 50.0 +14
TPH LR LR
comp=Z,21µm,22.0s,MS6.8
M12A Wells 130.90 42 ⇑P PKPdf 08 38 36.0 -0.3
baz=131
S09A Goldfield 130.91 48 ⇑P PKPdf 08 38 37.4 +1.1
baz=131
OSI Osito Adit 130.91 52 ⇑P PKPdf 08 38 36.1 -0.2
baz=131
O11A Cowboy Ranch, 130.99 44 ⇑P PKPdf 08 38 34.8 -1.6
baz=131
ELK Elko 131.00 43 *e*PKiKP PKPdf 08 38 38.8 +2.4
ELK MLR MLR
comp=Z,52µm,22.0s
N12A Clover Valley, 131.08 43 ⇑P PKPdf 08 38 34.5 -2.1
baz=131
DAC Darwin (Calif) 131.19 49 *e*PKiKP PKPdf 08 38 39.2 +2.4
DAC MLR MLR
comp=Z,44µm,22.0s,MS7.1
P11A Circle Ranch, 131.19 45 ⇑P PKPdf 08 38 37.0 +0.2
baz=131
QLMT Earthquake Lak 131.29 36 *e*PKPdf PKPdf 08 38 37.6 +0.6
R10A Warm Springs 131.34 46 ⇑P PKPdf 08 38 38.7 +1.6
baz=131
M13A Montello 131.42 42 ⇓P PKPdf 08 38 37.0 -0.3
baz=131
FMP Fort Macarthur 131.55 53 ⇑P PKPdf 08 38 39.1 +1.6
baz=132
MWC Mount Wilson 131.56 52 *e*PKiKP PKPdf 08 38 41.3 +3.8
Q11A Duckwater 131.56 45 ⇑P PKPdf 08 38 37.7 +0.2
baz=132
N13A Wendover, West 131.64 42 ⇓P PKPdf 08 38 37.8 +0.2
baz=132

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YMR	Madison River	131.66	36	ePKPdf	PKPdf	08 38 40.9	+3.2
YMR				LR	LR		
	comp=Z,33µm,20.0s,MS7.0						
GCMT	Greycliff	131.74	34	ePKPdf	PKPdf	08 38 39.9	+2.1
P12A	McGill	131.81	44	⇑P	PKPdf	08 38 39.1	+1.1
	baz=132						
TRQA	Tornquist	131.84	191	ePKPdf	PKPdf	08 38 37.7	-0.3
TRQA				LR	LR		
	comp=Z,56µm,19.0s,MS7.3						
YFT	Old Faithful	131.86	37	ePKPdf	PKPdf	08 38 37.9	-0.2
TPNV	Topopah Spring	131.93	48	ePKIKP	PKPdf	08 38 41.3	+3.1
TPNV				MLR	MLR		
	comp=Z,50µm,22.0s,MS7.2						
LKWY	Lake	132.05	36	ePKPdf	PKPdf	08 38 39.1	+0.7
LKWY				LR	LR		
	comp=Z,67µm,19.0s,MS7.4						
Q12A	Willow Creek R	132.05	45	⇓P	PKPdf	08 38 39.4	+1.0
	baz=132						
U10A	Ash Meadows, A	132.08	49	⇑P	PKPdf	08 38 38.9	+0.5
	baz=132						
IMW	Indian Meadow	132.11	37	PKPdf	PKPdf	08 38 40.2	+1.6
HVU	Hansel Valley	132.11	41	ePKIKP	PKPdf	08 38 41.4	+2.9
GSC	Goldstone	132.15	50	ePKIKP	PKPdf	08 38 42.5	+3.9
GSC	Goldstone	132.15	50	⇑P	PKPdf	08 38 39.2	+0.6
	baz=132						
FLWY	Flagg Ranch	132.15	37	ePKPdf	PKPdf	08 38 41.0	+2.3
RRI2	Red Ridge	132.19	38	ePKPdf	PKPdf	08 38 41.5	+2.8
MOOW	Moose Ponds	132.31	37	ePKPdf	PKPdf	08 38 41.8	+2.9
TPAW	Teton Pass	132.33	38	ePKPdf	PKPdf	08 38 41.7	+2.7
BGU	Big Grassy Mou	132.38	42	ePKPdf	PKPdf	08 38 41.8	+2.7
SPUT	South Promonto	132.56	41	ePKPdf	PKPdf	08 38 40.9	+1.5
AHID	Auburn Hatcher	132.65	39	ePKPdf	PKPdf	08 38 41.8	+2.2
AHID				LR	LR		
	comp=Z,39µm,21.0s,MS7.1						
109C	Camp Elliot, M	132.76	53	⇑P	PKPdf	08 38 40.6	+0.9
	baz=133						
TUQ	Turquoise Mtn.	132.76	50	⇓P	PKPdf	08 38 41.7	+1.9
	baz=133						
U11A	Corn Creek	132.78	48	⇑P	PKPdf	08 38 41.3	+1.5
	baz=133						
DUG	Dugway	132.88	42	ePKPdf	PKPdf	08 38 41.7	+1.7
DUG				LR	LR		
	comp=Z,46µm,20.0s,MS7.2						
SHPR	Sheep Range	132.91	48	ePKPdf	PKPdf	08 38 44.0	+4.0
V11A	Goodsprings	132.97	49	⇑P	PKPdf	08 38 41.3	+1.1
	baz=133						
HWUT	Hardware Ranch	132.98	40	ePKPdf	PKPdf	08 38 42.2	+2.0
HWUT				LR	LR		
	comp=Z,37µm,21.0s,MS7.1						
LAO	LASA Array	133.02	31	ePKPdf	PKPdf	08 38 41.6	+1.4
LAO				LR	LR		
	comp=Z,44µm,22.0s,MS7.1						
PFO	Pinyon Flat Ob	133.03	52	ePKIKP	PKPdf	08 38 44.2	+3.9
PFO				MLR	MLR		
	comp=Z,40µm,19.0s,MS7.1						
PFO	Pinyon Flat Ob	133.03	52	⇓P	PKPdf	08 38 41.5	+1.3
	baz=133						
CTU	Camp Tracy	133.34	41	ePKPdf	PKPdf	08 38 42.1	+1.2
TCUT	Toone Canyon	133.34	41	ePKPdf	PKPdf	08 38 45.0	+4.2
U12A	Valley of Fire	133.39	48	⇓P	PKPdf	08 38 42.5	+1.5
	baz=133						
V12A	Nelson	133.45	49	⇑P	PKPdf	08 38 42.0	+1.0
	baz=133						
NLU	North Lily Min	133.50	42	ePKPdf	PKPdf	08 38 44.0	+2.8
BW06	Boulder Array	133.58	38	ePKPdf	PKPdf	08 38 43.8	+2.5
BW06				LR	LR		
	comp=Z,50µm,22.0s,MS7.2						
PDAR	Pinedale Array	133.58	38	PKP	PKPdf	08 38 43.8	+2.4
	comp=Z,1.6nm,1.0s,baz=126,slow=0.9,SNR=5.4						
ARUT	Antelope Range	133.59	46	ePKIKP	PKPdf	08 38 42.3	+1.0
W12A	Cal Nev Ari	133.61	49	⇓P	PKPdf	08 38 41.9	+0.6
	baz=134						
CCUT	Cedar City	133.75	46	ePKPdf	PKPdf	08 38 43.5	+1.9
MPU	Maple Canyon	133.76	42	ePKPdf	PKPdf	08 38 44.0	+2.4
MPU				LR	LR		
	comp=Z,43µm,20.0s,MS7.2						
DAU	Daniels Canyon	133.80	41	ePKIKP	PKPdf	08 38 42.5	+0.8
MVU	Marysvale	134.11	44	ePKPdf	PKPdf	08 38 38.6	-3.7
MVU				LR	LR		
	comp=Z,37µm,21.0s,MS7.1						
MSU	Marysvale	134.13	44	ePKIKP	PKPdf	08 38 44.6	+2.3
SCHQ	Schefferville	134.38	355	PKP	PKPdf	08 38 43.0	+0.2
	comp=Z,2.6nm,0.7s,baz=21,slow=3.9,SNR=5.5						
SCHQ	Schefferville	134.38	355	PKP	PKPdf	08 38 43.0	+0.2
TMUT	Trail Mountain	134.41	43	ePKPdf	PKPdf	08 38 44.6	+1.8
W13A	Hualapai Mount	134.42	49	⇑P	PKPdf	08 38 44.9	+2.0
	baz=134						
Y12C	Blythe	134.48	51	⇓P	PKPdf	08 38 44.4	+1.4
	baz=134						
GLA	Glamis	134.50	52	⇓P	PKPdf	08 38 44.1	+1.1
	baz=134						
X13A	Yucca	134.67	50	⇓P	PKPdf	08 38 44.2	+0.8
	baz=135						
ULM	Lac du Bonnet	134.85	21	PKP	PKPdf	08 38 43.4	-0.3
	comp=Z,3.5nm,0.9s,baz=241,slow=1.3,SNR=4.1						
ULM	Lac du Bonnet	134.85	21	PKP	PKPdf	08 38 43.4	-0.3
SRU	San Rafael	134.96	43	ePKIKP	PKPdf	08 38 46.1	+2.2
W14A	Seligman	134.98	49	⇓P	PKPdf	08 38 45.5	+1.6
	baz=135						
X14A	Yava	135.43	50	⇑P	PKPdf	08 38 45.8	+1.1
	baz=135						
Y14A	Wickenburg	135.56	50	⇑P	PKPdf	08 38 46.6	+1.6
	baz=136						
W15A	Williams	135.59	48	⇑P	PKPdf	08 38 46.9	+1.9
	baz=136						
RWWY	Rawlins	135.63	37	ePKPdf	PKPdf	08 38 46.9	+1.7
Z14A	Wintersburg	135.84	51	⇓P	PKPdf	08 38 47.4	+1.9
	baz=136						
RSSD	Black Hills	135.88	33	ePKIKP	PKPdf	08 38 46.4	+0.8
RSSD				MLR	MLR		
	comp=Z,39µm,19.0s,MS7.2						
X15A	Humboldt	135.91	49	⇓P	PKPdf	08 38 46.5	+0.8
	baz=136						
PV10	Paradox Valley	136.33	43	ePKPdf	PKPdf	08 38 49.2	+2.8
115A	Sonoran Desert	136.65	52	⇑P	PKPdf	08 38 48.2	+1.2
	baz=137						
PV01	Paradox Valley	136.77	43	ePKPdf	PKPdf	08 38 49.3	+2.0
PHWY	Pilot Hill	136.91	37	ePKPdf	PKPdf	08 38 50.2	+2.7
116A	Eloy	137.12	52	⇓P	PKPdf	08 38 49.5	+1.6
	baz=137						
SMCO	Snowmass	137.24	40	ePKPdf	PKPdf	08 38 50.1	+2.0
MVCO	Mesa Verde	137.31	44	ePKPdf	PKPdf	08 38 50.8	+2.5
ISCO	Idaho Springs	137.73	39	ePKIKP	PKPdf	08 38 50.6	+1.6
ISCO				MLR	MLR		
	comp=Z,58µm,19.0s,MS7.3						
TUC	Tucson	137.93	51	ePKIKP	PKPdf	08 38 47.7	-1.7
TUC				MLR	MLR		
	comp=Z,34µm,21.0s,MS7.1						
EYMN	Ely	138.31	19	ePKPdf	PKPdf	08 38 47.5	-2.6
EYMN				LR	LR		
	comp=Z,618µm,19.0s						
SDCO	Great Sand Dun	139.01	41	PFAKE		08 39 00.0	+8.6
SDCO				LR	LR		
	comp=Z,56µm,20.0s,MS7.3						
LAZ	Ladron	139.69	46	ePKPdf	PKPdf	08 38 54.7	+2.1
ANMO	Albuquerque	139.89	45	ePKIKP	PKPdf	08 38 53.4	+0.4
ANMO				MLR	MLR		
	comp=Z,51µm,20.0s						
LENM	Lemitar	139.92	47	ePKPdf	PKPdf	08 38 54.4	+1.3
LPM	Los Pinos Moun	140.09	46	ePKPdf	PKPdf	08 38 55.6	+2.3
BNM	Barren Site	140.18	46	ePKPdf	PKPdf	08 38 53.7	+0.2
RCBR	Riachuelo	140.47	249	PFAKE		08 39 10.0	+16
RCBR				LR	LR		
	comp=Z,50µm,20.0s,MS7.3						
CPUP	Villa Florida	141.59	202	PKP	PKPdf	08 38 55.4	-0.7
	comp=Z,2.9nm,0.7s,baz=107,slow=3.2,SNR=4.7						
CPUP	Villa Florida	141.59	202	PKIKP	PKPdf	08 38 55.4	-0.7
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SCIA	State Center	142.80	26	ePKPdf	PKPdf	08 38 59.7	+1.5
AMTX	Amarillo	143.18	42	ePKPdf	PKPdf	08 39 00.8	+1.9
AMTX				LR	LR		
	comp=Z,50µm,21.0s,MS7.3						
PKME	Peaks-Kenny Pk	144.07	356	ePKPdf	PKPdf	08 38 58.6	-1.9
MSNY	Massena	144.40	3	ePKPdf	PKPdf	08 38 59.5	-1.5
EMMW	East Machias	144.46	354	ePKPdf	PKPdf	08 38 59.4	-1.7
FRNY	Flat Rock	144.60	1	ePKPdf	PKPdf	08 38 59.4	-2.0
LTX	Lajitas	144.73	51	ePKIKP	PKPdf	08 39 02.5	+0.9
LTX				MLR	MLR		
	comp=Z,66µm,20.0s,MS7.4						
LONY	Lake Ozonia	144.79	2	ePKPdf	PKPdf	08 39 00.6	-1.1
WMOK	Wichita Mounta	145.14	40	ePKIKP	PKPdf	08 39 02.7	+0.4
WMOK				MLR	MLR		
	comp=Z,51µm,20.0s,MS7.3						
LBNH	Lisbon	145.21	359	ePKPdf	PKPdf	08 39 02.5	+0.1
LBNH				LR	LR		
	comp=Z,45µm,20.0s,MS7.2						
BAO	Brasilia Array	145.25	225	PKPdf	PKPdf	08 39 10.0	+7.5
BDFB	Brasilia	145.26	225	PKPbc	PKPbc	08 39 03.6	+1.4
	comp=Z,27nm,0.9s,baz=131,slow=2.4,SNR=26						
BDFB	Brasilia	145.26	225	PKPbc	PKPbc	08 39 03.6	+1.4
BDFB				LR	LR		
	comp=Z,120µm,19.0s,MS7.7						
MIV	Mineville/With	145.37	1	ePKPdf	PKPdf	08 39 02.7	0.0
NCB	Newcomb	145.45	2	ePKPdf	PKPdf	08 39 03.0	+0.1
NCB				LR	LR		
	comp=Z,62µm,20.0s,MS7.4						
AAM	Ann Arbor	145.73	15	ePKP2	PKPab	08 39 04.0	-0.1
AAM				MLR	MLR		
	comp=Z,76µm,20.0s,MS7.5						
HNH	Hanover	145.74	360	ePKPdf	PKPdf	08 39 04.5	+1.1
ACCN	Adirondack Com	146.05	1	ePKPdf	PKPdf	08 39 04.8	+0.9
ERPA	Erie	146.69	10	ePKPbc	PKPbc	08 39 07.7	+1.1
ERPA				LR	LR		
	comp=Z,66µm,22.0s,MS7.4						
SLM	Saint Louis	146.78	26	ePKP2	PKPab	08 39 05.6	-2.5
CCM	Cathedral Cave	146.81	27	ePKP2	PKPab	08 39 06.3	-1.9
CCM				MLR	MLR		
	comp=Z,51µm,21.0s,MS7.3						
HRV	Harvard--Oak R	146.93	359	ePKPdf	PKPdf	08 39 07.2	+1.8
HRV				LR	LR		
	comp=Z,62µm,19.0s,MS7.4						
JCT	Junction City	147.02	47	ePKP2	PKPab	08 39 07.3	-1.7
JCT				MLR	MLR		
	comp=Z,63µm,21.0s,MS7.4						
WES	Weston	147.05	358	ePKPbc	PKPbc	08 39 08.2	+0.6
WES				LR	LR		
	comp=Z,36µm,20.0s,MS7.2						
BINY	Binghamton	147.11	5	ePKPdf	PKPdf	08 39 06.5	+0.9
BINY				LR	LR		
	comp=Z,49µm,20.0s,MS7.3						
QUA2	Belchertown	147.17	360	ePKPdf	PKPdf	08 39 06.5	+0.8
QUA2				ePKPbc	PKPbc	08 39 08.9	+0.9
FVM	French Village	147.24	27	ePKIKP	PKPdf	08 39 06.5	+0.6
BLO	Bloomington	147.76	21	ePKP2	PKPab	08 39 10.4	-1.5
ACSO	Alum Creek Sta	147.85	15	ePKPbc	PKPbc	08 39 09.5	-0.3
ACSO				LR	LR		
	comp=Z,53µm,22.0s,MS7.3						
LVC	Limon Verde	148.06	186	ePKPbc	PKPbc	08 39 12.9	+2.5
LVC				LR	LR		
	comp=Z,37µm,20.0s,MS7.2						
MIAR	Mount Ida	148.37	34	ePKPbc	PKPbc	08 39 11.9	+0.8
MIAR				ePKPab	PKPab	08 39 15.6	+1.2
MIAR				LR	LR		
	comp=Z,76µm,20.0s,MS7.5						
USIN	University of	148.40	23	ePKPbc	PKPbc	08 39 11.8	+0.5
USIN				ePKPab	PKPab	08 39 18.2	+3.7
PAL	Palisades	148.42	2	ePKPbc	PKPbc	08 39 12.2	+0.9
PAL				ePKPab	PKPab	08 39 16.9	+2.3
SSPA	Standing Stone	148.46	8	ePKPbc	PKPbc	08 39 11.5	+0.1
SSPA				ePKPab	PKPab	08 39 15.4	+0.6
SSPA				LR	LR		
	comp=Z,80µm,22.0s,MS7.5						
CPNY	Central Park	148.63	2	ePKPab	PKPab	08 39 15.8	+0.3
WCI	Wyandotte Cave	148.68	21	ePKP2	PKPab	08 39 11.9	-3.7
WCI				MLR	MLR		
	comp=Z,48µm,20.0s,MS7.3						
BRNJ	Basking Ridge	148.71	3	ePKPab	PKPab	08 39 16.9	+1.1
UALR	University of	148.86	33	ePKPbc	PKPbc	08 39 12.5	0.0
UALR				ePKPab	PKPab	08 39 18.6	+2.2
GNAR	Gosnell	149.08	28	ePKPab	PKPab	08 39 20.4	+3.1
MCWV	Mont Chateau	149.10	11	ePKPbc	PKPbc	08 39 14.0	+0.9
MCWV				ePKPab	PKPab	08 39 17.5	+0.2
MCWV				LR	LR		
	comp=Z,83µm,20.0s,MS7.5						
HBAR	Harrisburg	149.11	30	ePKPbc	PKPbc	08 39 14.4	+1.3
GLAT	Glass	149.17	27	ePKPab	PKPab	08 39 17.9	+0.3
MVL	Millersville	149.26	6	ePKPbc	PKPbc	08 39 13.7	+0.2
MVL				ePKPab	PKPab	08 39 19.4	+1.3
UTMT	University of	149.29	26	ePKPbc	PKPbc	08 39 13.4	-0.1
HALT	Halls	149.44	27	ePKPab	PKPab	08 39 19.9	+1.2
NATX	Nacogdoches	149.69	39	ePKPbc	PKPbc	08 39 16.3	+1.8
NATX				ePKPab	PKPab	08 39 21.7	+1.9
NATX				LR	LR		
	comp=Z,66µm,22.0s,MS7.4						
SDMD	Soldier's Deli	149.79	7	ePKPdf	PKPdf	08 39 09.0	-1.0
WVT	Waverly	149.92	25	ePKHKP		08 39 10.9	
WVT				e		08 39 16.1	
WVT				MLR	MLR		
	comp=Z,55µm,22.0s,MS7.3						
KVTX	Kingsville	150.02	49	ePKPbc	PKPbc	08 39 18.6	+3.3
HKT	Hockley	150.10	43	ePKHKP		08 39 13.2	
HKT				e		08 39 17.5	
HKT				MLR	MLR		
	comp=Z,62µm,20.0s,MS7.4						
HKT	Hockley	150.10	43	ePKPdf	PKPdf	08 39 13.2	+2.7
HKT				ePKPbc	PKPbc	08 39 17.5	+2.0
HKT				ePKPab	PKPab	08 39 22.3	+0.9
HKT				LR	LR		
	comp=Z,62µm,20.0s,MS7.4						
OXF	Oxford	150.56	29	ePKPdf	PKPdf	08 39 12.8	+1.6
OXF				ePKPbc	PKPbc	08 39 17.3	+0.7
OXF				ePKPab	PKPab	08 39 23.9	+0.6
OXF				LR	LR		
	comp=Z,59µm,21.0s,MS7.4						
PLAL	Pickwick Lake	150.78	27	ePKPdf	PKPdf	08 39 11.8	+0.3
PLAL				ePKPbc	PKPbc	08 39 17.5	+0.3
PLAL				ePKPab	PKPab	08 39 23.9	-0.4
PLAL				LR	LR		
	comp=Z,57µm,20.0s,MS7.4						
FWV	Forest Hill	150.89	14	ePKPbc	PKPbc	08 39 17.8	+0.3
CBN	Corbin	150.92	8	ePKPbc	PKPbc	08 39 19.1	+1.6
CBN				LR	LR		
	comp=Z,60µm,22.0s,MS7.3						
TZTN	Tazewell	151.12	19	ePKPdf	PKPdf	08 39 14.1	+2.0
TZTN				ePKPbc	PKPbc	08 39 18.4	+0.4
ELN	Prospectdale	151.25	14	ePKPbc	PKPbc	08 39 18.8	+0.6
ELN				ePKPab	PKPab	08 39 25.0	-1.2
BLA	Blacksburg	151.34	13	ePKIKP	PKPdf	08 39 18.3	+5.9
BLA				MLR	MLR		
	comp=Z,6µm,22.0s,MS6.3						
CPCT	Cooper Cave	151.79	21	ePKPdf	PKPdf	08 39 15.3	+2.1
CPCT				ePKPbc	PKPbc	08 39 20.0	+0.5
MYNC	Murphy	152.27	21	ePKIKP	PKPdf	08 39 15.3	+1.5
MYNC				e		08 39 21.6	
MYNC				e		08 39 30.7	
MYNC				MLR	MLR		
	comp=Z,78µm,22.0s,MS7.5						
LRAL	Lakeview Retre	152.90	27	ePKPdf	PKPdf	08 39 16.0	+1.2
LRAL				ePKPbc	PKPbc	08 39 23.3	+1.3
LRAL				ePKPab	PKPab	08 39 35.5	+2.4
LRAL				LR	LR		
	comp=Z,61µm,20.0s,MS7.4						
CNNC	Cliffs of the	153.75	10	ePKPab	PKPab	08 39 36.9	+0.2
LPAZ	La Paz	154.18	190	PKPbc	PKPbc	08 39 24.3	-0.5
	comp=Z,2.8nm,0.8s,baz=180,slow=2.9,SNR=12						
LPAZ	La Paz	154.18	190	PKIKP	PKPdf	08 39 24.3	+7.7
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARE	Arequipa	154.36	182	ePKIKP	PKPdf	08 39 23.0	+6.2
BBSR	BB Station	155.93	343	PFAKE		08 39 30.0	+11
BBSR				LR	LR		
	comp=Z,58µm,21.0s,MS7.4						
NNA	Nana	158.41	169	PFAKE		08 39 30.0	+7.9
NNA				LR	LR		
	comp=Z,61µm,20.0s,MS7.4						
DWPF	Disney	159.53	23	PFAKE		08 39 30.0	+6.6
DWPF				LR	LR		
	comp=Z,47µm,20.0s,MS7.3						
SAML	Samuel	159.59	208	ePKPdf	PKPdf	08 39 22.8	-0.7
PAYG	Puerto Ayora	159.76	118	PFAKE		08 39 40.0	+16
PAYG				LR	LR		
	comp=Z,50µm,19.0s,MS7.4						
TEIG	Tepich	161.36	53	ePKPdf	PKPdf	08 39 26.5	+1.1
TEIG				LR	LR		
	comp=Z,74µm,22.0s						
MGV	Manicaragua	165.43	28	eP	PKPdf	08 39 29.5	+0.2
BPA	Boggy Peak	167.05	307	eP	PKPdf	08 39 56.8	+26
HLGC	Holguin	168.01	16	eP	PKPdf	08 39 28.2	-3.1
LCR2	La Lucha 2	168.72	87	eP	PKPdf	08 39 36.3	+4.5
BUS	Buena Vista	168.97	88	eP	PKPdf	08 39 35.7	+3.8
RCC	Rio Carpintero	168.97	16	eP	PKPdf	08 39 39.8	+7.9
MASC	Masc	169.09	8	eP	PKPdf	08 39 55.8	+24
CPD	Cerro la Pandu	169.19	324	ePKIKP	PKPdf	08 39 33.3	+1.3
OTAV	Otavalo	169.25	147	ePKPdf	PKPdf	08 39 34.6	+2.5
OTAV				LR	LR		
	comp=Z,53µm,21.0s						
SJG	San Juan	169.26	325	PFAKE		08 39 40.0	+7.9
SJG				LR	LR		
	comp=Z,93µm,22.0s						
ROSC	El Rosal	175.24	158	PKP	PKPdf	08 39 36.0	+1.2
	comp=Z,3.3nm,0.4s,baz=291,slow=21,SNR=6.1						
SDV	Santo Domingo	178.03	258	ePKPdf	PKPdf	08 39 36.6	+1.4
SDV				LR	LR		
	comp=Z,55µm,20.0s						

IDC 17 08:26:45.6±2.4, 927S×10677E, $h0^{km}$, mb4.7/5, mb1 4.7/5, mb1mx4.4/15, mbtmp4.7/5, Error ellipse: s-maj=175.9km s-min=26.3km az=92.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	56.85	360	P	P	08 36 31.8	-0.2
	6.7nm,0.6s,baz=180,slow=8.2,SNR=6.7						
MKAR	Makanchi Array	59.93	341	P	P	08 36 53.3	-0.2
	11nm,0.7s,baz=147,slow=7.3,SNR=7.9						
MAW	Mawson	65.14	197	P	P	08 37 28.0	-0.3
	4.3nm,0.8s,baz=72,slow=9.6,SNR=5.0						
ZAL	Zalesovo	65.66	346	P	P	08 37 32.2	+0.6
	3.0nm,0.7s,baz=303,slow=4.1,SNR=3.3						
BVAR	Borovoye Array	69.36	337	P	P	08 37 54.7	-0.4
	5.9nm,0.6s,baz=140,slow=8.8,SNR=4.2						

IDC 17 08:29:15.4±2.3, 932S×10716E, $h0^{km}$, mb4.5/5, mb1 4.5/5, mb1mx4.3/16, mbtmp4.5/5, Error ellipse: s-maj=127.6km s-min=31.1km az=93.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	56.91	359	P	P	08 39 02.2	+0.1
	2.4nm,0.7s,baz=179,slow=8.9,SNR=4.9						
MKAR	Makanchi Array	60.11	341	P	P	08 39 24.8	+0.3
	7.9nm,0.8s,baz=154,slow=8.6,SNR=6.7						
MAW	Mawson	65.21	197	P	P	08 39 58.3	-0.2
	5.1nm,0.9s,baz=74,slow=9.0,SNR=3.6						
BVAR	Borovoye Array	69.56	337	P	P	08 40 25.9	-0.2
	2.6nm,0.6s,baz=127,slow=9.6,SNR=4.4						
BRTR	Keskin Array B	83.49	312	P	P	08 41 45.5	+0.4
	4.7nm,1.0s,baz=142,slow=5.2,SNR=3.5						

IDC 17 08:32:09.9±10.0, 1006S×10751E, $h0^{km}$, mb4.3/5, mb1 4.3/5, mb1mx4.0/16, mbtmp4.3/5, Error ellipse: s-maj=295.2km s-min=79.3km az=130.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	57.65	359	P	P	08 42 02.1	+0.2
	3.4nm,0.6s,baz=178,slow=7.8,SNR=10						
MKAR	Makanchi Array	60.92	340	P	P	08 42 24.8	+0.2
	2.0nm,0.6s,baz=139,slow=8.9,SNR=4.7						
BVAR	Borovoye Array	70.36	337	P	P	08 43 25.1	-0.5
	2.9nm,0.8s,baz=140,slow=9.1,SNR=3.5						
BRTR	Keskin Array B	84.23	312	P	P	08 44 44.0	+0.7
	1.4nm,0.6s,baz=140,slow=6.3,SNR=4.1						
AKASG	Malin Array Be	90.39	321	P	P	08 45 13.1	-0.1
	0.3nm,0.4s,baz=92,slow=4.2,SNR=4.0						

BJI 17 08:32:19.0, 1024S×10743E, $h17^{km}$, mB5.3, mb5.3, Ms5.5, Msz5.2

ISCJB 17 08:32:25.6±0.3, 930S±005×10734E±005, $h10^{km}$, mb5.3/64, MS4.8/2, Error ellipse: s-maj=7.9km s-min=6.9km az=137.1

IDC 17 08:32:25.9±0.5, 921S×10733E, $h0^{km}$, mb5.0/22, mb1 5.1/23, mb1mx5.1/24, mbtmp5.0/23, ML4.3/1, Error ellipse: s-maj=16.4km s-min=12.9km az=52.0

NEIC 17 08:32:28.4±2.5, 928S×10735E, $h18^{km}\pm14^{km}$, mb5.6/24, Error ellipse: s-maj=5.6km s-min=4.7km az=56.0

MOS 17 08:32:29.5±1.1, 917S×10740E, $h33^{km}$, mb5.7/15, Error ellipse: s-maj=14.1km s-min=8.3km az=113.9

ISC 17 08:32:26.3±3.2, 931S±005×10736E±005, $h2^{km}\pm20^{km}$, $h20^{km}\pm3.3^{km}$:pP-P, n153, $\sigma 0^{s}93$/114, mb5.3/64, MS4.8/2, 1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCO	West Island	10.73	254	Pn	Pn	08 35 00.0	-0.9
KKM	Kota Kinabalu	17.62	30	Pn	Pn	08 36 33.4	+0.5
FITZ	Fitzroy Crossi	19.78	118	P	Pn	08 36 58.6	-0.5
	0.7nm,0.3s,baz=311,slow=10,SNR=6.4						
SNPH	Sibulan	24.35	41	eP	P	08 37 47.0	+1.5
WRA	Warramunga Arr	28.12	115	P	P	08 38 19.5	0.0
	29nm,1.1s,mb4.8,baz=284,slow=11,SNR=5.8						
CM31	Chiang Mai Arr	28.81	343	eP	P	08 38 26.5	+0.8
	32nm,0.8s,mb5.1						
ASAR	Alice Springs	29.11	123	P	P	08 38 28.4	+0.1
	24nm,1.1s,mb4.8,baz=286,slow=7.7,SNR=7.1						
ASAR				PcP	PcP	08 41 37.5	+1.3
	8.8nm,0.9s,baz=290,slow=2.8,SNR=8.3						
CHTO	Chiang Mai	29.15	343	eP	P	08 38 28.7	0.0
KMI	Kunming	34.52	353	P	P	08 39 18.3	+2.5
KMI				AMB	AMB		
	comp=Z,81nm,1.2s,mb5.5						
GYA	Guiyang	35.56	359	P	P	08 39 26.3	+1.5
GYA				AP	pP	08 39 30.8	+5.3
GYA				XP	sP	08 39 33.8	+8.0
GYA				PP	PP	08 40 47.4	+2.0
GYA				S	S	08 45 02.5	+1.3
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,110nm,4.2s						
GYA				LR	LR		
	comp=N,610nm,15.8s,MS4.6						
GYA				LR	LR		
	comp=E,570nm,16.0s,MS4.6						
GYA				LR	LR		
	comp=Z,580nm,16.8s,MS4.4						
YHNB	Yeheng	36.43	22	eP	P	08 39 32.5	+0.2
HYB	Hyderabad	38.93	313	i P	P	08 39 56.0	+2.6
HYB	Hyderabad	38.93	313	eP	P	08 39 54.0	+0.6
PMG	Port Moresby	39.25	93	P	P	08 39 58.3	+2.2
	comp=Z,32nm,1.0s,mb5.0,baz=281,slow=7.2,SNR=7.3						
PMG	Port Moresby	39.25	93	eP	P	08 39 57.6	+1.5
PMG				pmax	pmax		
	comp=Z,91nm,1.1s						
PMG	Port Moresby	39.25	93	eP	P	08 39 57.6	+1.5
	comp=Z,92nm,1.1s,mb5.4						
CD2	Chengdu	40.13	355	eP	P	08 40 03.9	+0.4
CD2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.0						
WHN	Wuhan	40.19	9	P	P	08 40 04.8	+0.9
JOW	Kunigami	41.26	29	P	P	08 40 13.3	+0.6
	comp=Z,85nm,1.1s,mb5.3,baz=233,slow=6.7,SNR=13						
JIRN	Jiri	42.08	331	eP	P	08 40 20.3	+0.8
	comp=Z,1µm,1.5s,mb6.3						
PKI	Pulchoki	42.38	331	eP	P	08 40 22.6	+0.7
	comp=Z,309nm,1.2s,mb5.8						
PKI	Pulchoki	42.38	331	eP	P	08 40 22.6	+0.7
PKI				pmax	pmax		
	comp=Z,309nm,1.2s,mb5.8						
GUN	Gumba	42.44	331	eP	P	08 40 23.2	+0.8
	comp=Z,996nm,1.5s,mb6.2						
DMN	Daman	42.56	330	eP	P	08 40 23.6	+0.2
	comp=Z,443nm,1.1s,mb6.1						
NJ2	Nanjing	42.57	14	eP	P	08 40 23.6	+0.1
NJ2				AP	pP	08 40 28.3	+4.1
NJ2				XP	sP	08 40 31.0	+6.5
NJ2				AMB	AMB		
	comp=Z,140nm,1.1s,mb5.6						
KKN	Kakani	42.63	331	eP	P	08 40 24.2	+0.3
	comp=Z,440nm,1.2s,mb6.1						
KKN	Kakani	42.63	331	eP	P	08 40 24.2	+0.3
KKN				pmax	pmax		
	comp=Z,440nm,1.2s,mb6.1						
GKN	Gorkha	43.12	330	eP	P	08 40 28.6	+0.7
	comp=Z,506nm,1.2s,mb6.1						
XAN	Xi'an	43.13	2	P	P	08 40 27.3	-0.7
XAN				AP	pP	08 40 36.3	+7.5
XAN				AMB	AMB		
	comp=Z,106nm,1.5s,mb5.3						
KOLN	Koldanda	43.45	329	eP	P	08 40 31.2	+0.6
	comp=Z,542nm,1.3s,mb6.1						
LZH	Lanzhou	45.27	356	⇓P	P	08 40 46.3	+1.1
LZH				AP	pP	08 40 56.1	+10
LZH				XP	sP	08 41 00.3	+14
LZH				PP	PP	08 42 33.3	+2.4
LZH				AMB	AMB		
	comp=Z,81nm,1.4s,mb5.4						
LZH				AMB	AMB		

comp=Z,426nm,5.1s
AGRA Agra 46.18 323 *e*x x 08 41 02.0
AGRA AMb AMB 08 41 04.8
comp=Z,133nm,1.0s,mb5.8
LGTI Lohaghat 46.55 327 *e*P **P 08 40 54.3 -1.0**
ASOR Ausora 47.41 324 *e*P **P 08 41 02.2 +0.2**
BISR Bishrakh 47.47 323 *e*P **P 08 41 02.1 -0.4**
BISR AML AML 08 41 08.3
comp=Z,4.5nm,0.9s
AYAN Aya Nagar 47.59 323 *e*P **P 08 41 02.5 -0.9**
AYAN AMb AMB 08 41 07.3
comp=Z,58nm,0.7s,mb5.7
KUDL Kundal 47.72 322 *e*P **P 08 41 04.1 -0.3**
KUDL *e*P pP 08 41 04.3 -0.9
KUDL AMb AMB 08 41 09.0
comp=Z,159nm,1.4s,mb5.9
KHET Khetri 48.09 322 *e*P **P 08 41 06.9 -0.4**
KHET AMb AMB 08 41 11.4
comp=Z,91nm,1.3s,mb5.6
KKR Kurukshetra 48.86 324 *e*P **P 08 41 13.1 -0.2**
KKR AMb AMB 08 41 23.6
comp=Z,234nm,1.0s,mb6.2
GTA Gaotai 48.97 352 *e*P **P 08 41 14.5 +0.4**
GTA AP pP 08 41 20.1 +5.3
GTA XP sP 08 41 23.3 +8.2
GTA PP PP 08 43 10.3 +2.9
GTA PPP 08 44 01.9
GTA AMB AMB
comp=Z,61nm,1.5s,mb5.4
KLP Kalpa 49.25 327 *e*P **P 08 41 16.5 +0.2**
KLP AMb AMB 08 41 21.6
comp=Z,83nm,1.4s,mb5.6
BJT Baijiatuau 49.75 9 *e*P **P 08 41 19.2 -0.8**
BJT pmax pmax
comp=Z,139nm,1.3s
BJT Baijiatuau 49.75 9 *e*P **P 08 41 19.2 -0.8**
comp=Z,138nm,1.3s,mb5.8
BJI Beijing 49.77 9 *e*P **P 08 41 19.3 -0.9**
BJI AMB AMB
comp=Z,94nm,1.2s,mb5.7
HHC Hu-ho-hao-te 50.05 4 *e*P **P 08 41 22.3 0.0**
HHC AP pP 08 41 30.4 +7.3
HHC XP sP 08 41 34.8 +11
HHC PCP PcP 08 42 40.8 -1.3
HHC PP PP 08 43 17.6 +0.3
HHC PCS PcS 08 46 36.3 -2.8
HHC AMB AMB
comp=Z,72nm,1.4s,mb5.5
MAJO Matsushiro 54.04 31 *e*P **P 08 41 48.8 -3.2**
MJAR Matsushiro Arr 54.04 31 P **P 08 41 50.2 -1.8**
comp=Z,11nm,0.9s,mb4.8,baz=208,slow=7.5,SNR=12
WMQ Urumqi 55.81 343 P **P 08 42 06.8 +1.9**
WMQ AP pP 08 42 11.4 +5.8
WMQ XP sP 08 42 13.8 +7.9
WMQ AMB AMB
comp=Z,76nm,1.7s,mb5.5
WMQ AMB AMB
comp=Z,347nm,4.9s
WMQ LR LR
comp=E,1μm,16.6s
WMQ LR LR
comp=Z,2μm,18.2s,MS5.2
SONM Songino Array 56.90 359 P **P 08 42 12.1 -0.5**
comp=Z,44nm,1.2s,mb5.4,baz=176,slow=6.8,SNR=12
ULN Ulaanbaatar 56.92 360 *e*P **P 08 42 13.1 +0.3**
ULN pmax pmax
comp=Z,83nm,1.2s,mb5.6
ULN Ulaanbaatar 56.92 360 *e*P **P 08 42 13.1 +0.3**
comp=Z,83nm,1.2s,mb5.6
CASY Casey 56.93 178 *e*P **P 08 42 11.9 -0.9**
MDJ Mudanjiang 57.31 19 P **P 08 42 15.8 +0.3**
MDJ AP pP 08 42 18.5 +2.2
MDJ PCP PcP 08 43 09.1 -0.6
MDJ PP PP 08 44 23.8 +1.2
MDJ PCS PcS 08 47 10.3 -0.4
WSAR Wadi Sarin 57.60 305 P **P 08 42 16.7 -0.9**
comp=Z,4.8nm,0.7s,mb4.7,baz=149,slow=12,SNR=4.6
OPO Ambohidratompo 58.90 254 P **P 08 42 26.9 +0.2**
comp=Z,12nm,1.0s,mb4.9,baz=74,slow=6.1,SNR=5.5
AAK Ala-Archa 59.78 332 *e*P **P 08 42 32.1 -0.6**
AAK pmax pmax
comp=Z,23nm,1.1s,mb5.1
AAK Ala-Archa 59.78 332 *e*P **P 08 42 32.1 -0.6**
comp=Z,23nm,1.1s,mb5.1
MKAR Makanchi Array 60.16 340 P **P 08 42 34.6 -0.8**
comp=Z,24nm,0.9s,mb5.2,baz=140,slow=7.8,SNR=16
ASAJ Asahikawa 62.02 28 P **P 08 42 46.7 -1.3**
comp=Z,8.0nm,0.9s,mb4.8,baz=220,slow=22,SNR=6.0
KLR Kul'dur 62.10 18 *e*P **P 08 42 42.7 -5.8**
YSS Yuzh-Sakhalins 64.27 26 *e*P **P 08 43 02.3 -0.6**
YSS pmax pmax
comp=Z,128nm,1.4s,mb5.8
YSS Yuzh-Sakhalins 64.27 26 *e*P **P 08 43 02.3 -0.7**
comp=Z,128nm,1.4s,mb5.8
KURK Kurchatov 64.78 340 *e*P **P 08 43 05.4 -0.8**
MAW Mawson 65.28 197 *e*P **P 08 43 02.9 -6.6**
comp=Z,17nm,1.4s,mb4.9
MAW Mawson 65.28 197 P **P 08 43 09.5 0.0**
comp=Z,13nm,0.8s,mb5.0,baz=39,slow=6.6,SNR=19
ZAL Zalesovo 65.84 346 P **P 08 43 12.2 -0.9**
comp=Z,17nm,1.0s,mb5.0,baz=312,slow=4.1,SNR=13
BVAR Borovoye Array 69.62 337 P **P 08 43 36.1 -0.9**
comp=Z,20nm,0.8s,mb5.1,baz=146,slow=8.2,SNR=10
BRVK Borovoye 69.68 337 *e*P **P 08 43 36.5 -0.9**
BRVK pmax pmax
comp=Z,21nm,1.0s,mb5.0
BRVK Borovoye 69.68 337 *e*P **P 08 43 36.5 -0.9**
comp=Z,21nm,1.0s,mb5.0
CHKZ Chkalovo 70.04 338 *e*P **P 08 43 39.6 0.0**
CHKZ pmax pmax
comp=Z,152nm,1.5s,mb5.7
CHKZ Chkalovo 70.04 338 *e*P **P 08 43 39.6 +0.1**
comp=Z,152nm,1.5s,mb5.7
ZRNK Zerenda 70.10 336 *e*P **P 08 43 39.3 -0.6**
ZRNK pmax pmax
comp=Z,78nm,1.3s,mb5.5
ZRNK Zerenda 70.10 336 *e*P **P 08 43 39.3 -0.6**
comp=Z,78nm,1.3s,mb5.5
KMBO Kilima Mbogo 70.19 272 P **P 08 43 41.8 +1.3**
comp=Z,6.1nm,0.9s,mb4.5,baz=44,slow=8.8,SNR=8.3
SKR Severo-Kuril's 73.14 30 *e*P **P 08 43 52.0 -6.3**
YAK Yakutsk 73.22 11 *e*P **P 08 43 57.7 -1.0**
AKTK Aktyubinsk 73.28 330 P **P 08 43 59.1 0.0**
AKTO Aktyubinsk 73.28 330 P **P 08 43 59.1 0.0**
comp=Z,17nm,1.1s,mb4.9,baz=121,slow=10,SNR=4.1
VNDA Vanda 73.65 169 P **P 08 44 00.9 -0.3**
comp=Z,8.5nm,0.9s,mb4.7,baz=293,slow=6.2,SNR=16
VNDA Vanda 73.65 169 *e*P **P 08 44 00.4 -0.8**
VNDA pmax pmax
comp=Z,10.0nm,1.2s
VNDA Vanda 73.65 169 *e*P **P 08 44 00.3 -0.9**
comp=Z,10nm,1.2s,mb4.6
SBA Scott Base 74.72 169 *e*P **P 08 44 07.7 +0.2**
SBA *e* 08 44 19.1
SBA pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SBA Scott Base 74.72 169 *e*P **P 08 44 07.7 +0.2**
comp=Z,9.0nm,0.9s,mb4.7
SBA *e*PcP PcP 08 44 19.1 -2.6
PET Petropavlovsk 75.83 29 *i* P **P 08 44 13.3 -0.6**
PET pmax pmax
comp=Z,99nm,1.3s,mb5.6
PET Petropavlovsk 75.83 29 *e*P **P 08 44 13.0 -0.9**
ARU Arti 76.84 335 *e*P **P 08 44 19.4 -0.3**
ARU pmax pmax
comp=Z,392nm,2.1s,mb6.0
ARU Arti 76.84 335 *e*P **P 08 44 19.4 -0.2**
comp=Z,392nm,2.1s,mb6.0
MA2 Magadan 76.90 21 *e*P **P 08 44 18.6 -1.4**
MA2 *e* 08 44 28.3
MA2 pmax pmax
comp=Z,49nm,1.2s,mb5.3
MA2 Magadan 76.90 21 *e*P **P 08 44 18.6 -1.3**
comp=Z,49nm,1.2s,mb5.3
MA2 *e*PcP PcP 08 44 28.3 -2.8
LSZ Lusaka 77.23 256 *e*P **P 08 44 22.3 +0.5**
ZEI Tsey 77.53 318 *e*P **P 08 44 23.6 +0.1**
LBTB Lobatse 78.71 246 *e*P **P 08 44 30.8 +0.8**
LBTB pmax pmax
comp=Z,19nm,1.0s,mb5.0
LBTB Lobatse 78.71 246 *e*P **P 08 44 30.8 +0.8**
comp=Z,19nm,1.0s,mb5.0
ASF Jabal al Asfar 78.77 305 P **P 08 44 31.5 +1.1**
comp=Z,24nm,1.1s,mb5.1,baz=9.2,slow=2.7,SNR=14
KIV Kislovodsk 78.83 318 *e*P **P 08 44 31.1 +0.4**
KIV pmax pmax
comp=Z,43nm,1.2s,mb5.2
KIV Kislovodsk 78.83 318 *e*P **P 08 44 31.1 +0.4**
comp=Z,16nm,0.7s,mb5.1
AFI Afiamalu 79.01 102 P **P 08 44 34.0 +2.3**
comp=Z,36nm,0.8s,mb5.3,baz=153,slow=6.9,SNR=4.7
MALT Malatya 79.64 312 *e*P **P 08 44 35.4 +0.3**
MALT pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
MALT Malatya 79.64 312 *e*P **P 08 44 35.4 +0.2**
comp=Z,2.3nm,0.4s,mb4.5
SOC Sochi 80.65 317 *e*P **P 08 44 38.6 -2.0**
SOC pmax pmax
comp=Z,41nm,1.3s,mb5.2
TIXI Tiksi 82.04 7 *e*P **P 08 44 45.9 -2.1**
TIXI pmax pmax
comp=Z,28nm,0.9s,mb5.2
CSS Prodhromos 82.45 307 *e*P **P 08 44 50.8 +0.7**
BR131 Keskin Array S 83.62 312 *e*P **P 08 44 54.9 -1.3**
comp=Z,14nm,0.9s,mb5.1
BRTR Keskin Array B 83.62 312 P **P 08 44 55.9 -0.3**
comp=Z,21nm,1.1s,mb5.2,baz=126,slow=6.3,SNR=20
ANTO Ankara 84.29 312 *e*P **P 08 44 59.3 -0.3**
TSUM Tsumeb 86.78 251 *e*P **P 08 45 13.5 +1.5**
comp=Z,15nm,0.9s,mb5.2
OBN Obninsk 86.84 327 *e*P **P 08 45 12.7 +0.4**
OBN pmax pmax
comp=Z,74nm,0.9s,mb5.9
OBN Obninsk 86.84 327 *e*P **P 08 45 12.3 0.0**
SNAA Sanae 87.44 197 *e* **P 08 45 15.7 +0.5**
SNAA Sanae 87.44 197 *e*P **P 08 45 15.0 -0.2**
VNA1 Neumayer--Stat 89.47 197 *e* **P 08 45 26.5 +1.7**
VNA1 *e* 08 45 38.5
AKASG Malin Array Be 89.71 322 P **P 08 45 24.9 -1.1**
comp=Z,6.0nm,0.9s,mb4.9,baz=88,slow=4.1,SNR=7.7
AKASG PP PP 08 49 00.8 +2.9
comp=Z,4.6nm,1.0s,baz=89,slow=6.2,SNR=4.4
FINES FINESS Array B 93.96 332 P **P 08 45 45.1 -0.5**
comp=Z,8.3nm,1.1s,mb5.1,baz=102,slow=6.6,SNR=5.9
ARCES ARCESS Array B 95.81 340 P **P 08 45 53.0 -1.1**
comp=Z,8.6nm,1.1s,mb5.1,baz=82,slow=4.2,SNR=5.3
GERES GERESS Array B 99.34 318 PP PP 08 50 17.4 +4.5
comp=Z,0.5nm,0.2s,baz=93,slow=4.9,SNR=3.2
CLL Collm 99.91 321 *e*PP PP 08 50 19.0 +1.7
CLL Collm 99.91 321 *e*PP PP 08 50 19.0 +1.7
YKA Yellowknife Ar 118.89 21 PP PP 08 52 32.6 -2.3
comp=Z,1.4nm,1.0s,baz=329,slow=5.8,SNR=4.0
RSSD Black Hills 135.91 33 *e*PKIKP PKPdf 08 51 49.7 +1.0
PKME Peaks-Kenny Pk 144.06 356 *e*PKPdf PKPdf 08 52 02.2 -1.2
MSNY Massena 144.39 3 *e*PKPdf PKPdf 08 52 01.7 -2.3
LONY Lake Ozonia 144.78 2 *e*PKPdf PKPdf 08 52 04.2 -0.5
WMOK Wichita Mounta 145.17 39 *e*PKIKP PKPdf 08 52 05.6 +0.2
BDFB Brasilia 145.22 225 PKPbc PKPbc 08 52 07.0 +1.8
comp=Z,47nm,1.0s,baz=110,slow=2.2,SNR=22
MIV Mineville/With 145.36 1 *e*PKPdf PKPdf 08 52 05.8 +0.1
NCB Newcomb 145.44 2 *e*PKPdf PKPdf 08 52 04.6 -1.3
AAM Ann Arbor 145.74 15 *e*PKP2 PKPab 08 52 06.8 -0.3
ACCN Adirondack Com 146.04 1 *e*PKPdf PKPdf 08 52 07.6 +0.7
ERPA Erie 146.69 10 *e*PKPab PKPab 08 52 09.2 -1.5
CCM Cathedral Cave 146.83 27 *e*PKP2 PKPab 08 52 10.1 -1.2
HRV Harvard--Oak R 146.92 359 *e*PKP2 PKPab 08 52 10.8 -0.8
WES Weston 147.03 358 *e*PKP2 PKPab 08 52 10.0 -2.1
JCT Junction City 147.06 46 *e*PKIKP PKPdf 08 52 08.6 0.0
JCT *e* 08 52 12.0
BINY Binghamton 147.11 5 *e*PKPbc PKPbc 08 52 10.9 +0.1
QUA2 Belchertown 147.16 360 *e*PKPbc PKPbc 08 52 10.6 -0.3
FVM French Village 147.26 27 *e*PKP2 PKPab 08 52 10.9 -2.0
BLO Bloomington 147.77 20 *e*PKP2 PKPab 08 52 12.7 -2.3
ACSO Alum Creek Sta 147.86 15 *e*PKPbc PKPbc 08 52 13.0 +0.1
LVC Limon Verde 148.07 187 *e*PKPbc PKPbc 08 52 15.4 +2.0
MIAR Mount Ida 148.39 34 *e*PKP2 PKPab 08 52 14.7 -2.8
SSPA Standing Stone 148.46 8 *e*PKPbc PKPbc 08 52 14.4 0.0
WCI Wyandotte Cave 148.69 21 *e*PKIKP PKPdf 08 52 12.0 +0.7
WCI *e* 08 52 15.1
WCI *e* 08 52 18.8
MCWV Mont Chateau 149.10 11 *e*PKPbc PKPbc 08 52 16.1 +0.1
HBAR Harrisburg 149.13 29 *e*PKPbc PKPbc 08 52 16.1 0.0
MVL Millersville 149.26 6 *e*PKPbc PKPbc 08 52 16.9 +0.5
UTMT University of 149.31 26 *e*PKPbc PKPbc 08 52 16.7 +0.1
UTMT *e*PKPab PKPab 08 52 22.4 +1.2
HKT Hockley 150.13 43 *e*PKIKP PKPdf 08 52 13.8 +0.2
HKT *e* 08 52 19.7
OXF Oxford 150.58 29 *e*PKIKP PKPdf 08 52 13.7 -0.6
OXF *e* 08 52 19.6
OXF *e* 08 52 27.2
PLAL Pickwick Lake 150.80 27 *e*PKPdf PKPdf 08 52 14.2 -0.4
PLAL *e*PKPbc PKPbc 08 52 20.5 +0.3
PLAL *e*PKPab PKPab 08 52 28.1 +0.8
TZTN Tazewell 151.13 18 *e*PKPbc PKPbc 08 52 20.5 -0.5
TZTN *e*PKPab PKPab 08 52 29.4 +0.7
ELN Prospectdale 151.25 14 *e*PKPbc PKPbc 08 52 20.9 -0.3
ELN *e*PKPab PKPab 08 52 29.4 +0.3
CPCT Cooper Cave 151.81 21 *e*PKPbc PKPbc 08 52 23.3 +0.8
CPCT *e*PKPab PKPab 08 52 32.1 +0.7
LPAZ La Paz 154.18 190 PKPbc PKPbc 08 52 30.1 +2.3
comp=Z,4.6nm,0.9s,baz=172,slow=9.0,SNR=5.1

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*IDC **17** 08:38:11.3±0.4, 951S×10778E, h0km, mb4.9/25, mb1 4.9/26, mb1mx4.9/28, mbtmp4.9/26, ML4.5/1, Error ellipse: s-maj=14.7km s-min=11.6km az=55.0*
*ISCJB **17** 08:38:12.5±0.2, 954S±004×10776E±005, h18km, mb5.2/74, MS4.8/2, Error ellipse: s-maj=8.1km s-min=5.8km az=119.1*
*BJI **17** 08:38:14.5, 950S×10780E, h34km, mB5.3, mb5.3, Ms5.4, Msz5.1*
*MOS **17** 08:38:14.7±1.0, 943S×10789E, h33km, mb5.3/43, Error ellipse: s-maj=12.9km s-min=7.2km az=109.9*
*NEIC **17** 08:38:16.6±2.5, 950S×10776E, h34km±17km, mb5.3/32, Error ellipse: s-maj=7.1km s-min=4.7km az=55.0*
ISC 17 08:38:14.7±0.3, **955S**±005×**10776E**±005, **h19**km±2.7km**: pP-P, n244,** σ**1.02**/149, **mb5.2**/74, **MS4.8**/2, **22C-29D, South of Jawa**

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

PSI Prapat 15.10 324 Pn **Pn 08 41 39.7 -7.2**
0.8nm,0.3s,baz=149,slow=7.2,SNR=4.4
PSI Prapat 15.10 324 P **Pn 08 41 39.7 -7.2**
PSI pmax pmax
comp=Z,1.0nm,0.3s
PSI Prapat 15.10 324 Pn **Pn 08 41 39.7 -7.2**
KKM Kota Kinabalu 17.64 29 *e*P **Pn 08 42 19.1 -0.1**
FITZ Fitzroy Crossi 19.32 118 P **Pn 08 42 40.1 +0.5**
comp=Z,1.2nm,0.3s,baz=294,slow=8.1,SNR=3.0
SNPH Sibulan 24.28 40 *e*P **P 08 43 33.0 +2.4**
NWAO Narrogin (SRO) 24.85 161 P **P 08 43 34.5 -1.3**
comp=Z,39nm,0.9s,mb5.0,baz=313,slow=12,SNR=7.4
NWAO Narrogin (SRO) 24.85 161 P **P 08 43 34.5 -1.3**
NWAO pmax pmax
comp=Z,39nm,0.9s
TBP Tagbilaran 24.95 40 *e*P **P 08 43 37.2 +0.5**
WRA Warramunga Arr 27.66 115 P **P 08 44 01.2 +0.1**
comp=Z,21nm,0.9s,mb4.8,baz=287,slow=11,SNR=11
WRA Warramunga Arr 27.66 115 P **P 08 44 01.2 0.0**
WRA pmax pmax
comp=Z,21nm,0.9s
WB2 Warramunga Arr 27.67 115 *e*P **P 08 44 01.7 +0.4**
ASPA Alice Springs 28.64 123 *e*P **P 08 44 12.5 +2.6**
ASAR Alice Springs 28.64 123 P **P 08 44 09.9 0.0**
comp=Z,13nm,0.8s,mb4.7,baz=301,slow=9.1,SNR=20
ASAR Alice Springs 28.64 123 P **P 08 44 10.0 0.0**
ASAR pmax pmax
comp=Z,13nm,0.8s
AS31 Alice Springs 28.65 123 *e*P **P 08 44 12.5 +2.5**
CHTO Chiang Mai 29.50 343 *e*P **P 08 44 18.1 +0.6**
CHTO pmax pmax
comp=Z,54nm,1.0s,mb5.2
CHTO Chiang Mai 29.50 343 *e*P **P 08 44 18.1 +0.6**
comp=Z,54nm,1.0s,mb5.2
KMI Kunming 34.81 352 P **P 08 45 06.9 +2.8**
KMI AMB AMB
comp=Z,52nm,1.2s,mb5.3
GYA Guiyang 35.81 358 P **P 08 45 14.4 +1.7**
GYA AP pP 08 45 18.8 +0.1
GYA XP sP 08 45 21.8 +0.7
GYA PP PP 08 46 35.5 +1.4
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,120nm,4.0s
GYA LR LR
comp=N,580nm,15.9s,MS4.6
GYA LR LR
comp=E,670nm,16.0s,MS4.6
GYA LR LR
comp=Z,640nm,16.2s,MS4.5
CTA Charters Tower 38.57 110 *e*P **P 08 45 37.2 +1.1**
comp=Z,19nm,1.5s,mb4.6
CTA Charters Tower 38.57 110 P **P 08 45 36.0 -0.1**
comp=Z,13nm,0.9s,mb4.7,baz=276,slow=14,SNR=7.3
CTA Charters Tower 38.57 110 P **P 08 45 36.0 -0.1**
CTA pmax pmax
comp=Z,13nm,0.9s
PMG Port Moresby 38.85 93 P **P 08 45 38.9 +0.5**
comp=Z,19nm,0.8s,mb4.9,baz=254,slow=4.6,SNR=6.1
PMG Port Moresby 38.85 93 P **P 08 45 38.9 +0.4**
PMG pmax pmax
comp=Z,19nm,0.8s
WHN Wuhan 40.36 9 P **P 08 45 52.0 +0.9**
CD2 Chengdu 40.41 355 *e*P **P 08 45 52.3 +0.8**
CD2 AMB AMB
comp=Z,70nm,1.1s,mb5.3
JOW Kunigami 41.29 28 P **P 08 45 59.1 +0.5**
comp=Z,35nm,0.9s,mb5.0,baz=253,slow=5.5,SNR=8.8
JIRN Jiri 42.48 331 *e*P **P 08 46 09.5 +1.0**
comp=Z,185nm,0.9s,mb5.7
NJ2 Nanjing 42.71 14 *e*P **P 08 46 10.9 +0.6**
NJ2 AP pP 08 46 15.3 -1.0
NJ2 PP PP 08 47 51.4 +2.0
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb5.3
PKI Pulchoki 42.79 330 *e*P **P 08 46 11.5 +0.6**
comp=Z,56nm,0.9s,mb5.3
PKI Pulchoki 42.79 330 *e*P **P 08 46 11.5 +0.6**
PKI pmax pmax
comp=Z,56nm,0.9s,mb5.3
GUN Gumba 42.84 331 *e*P **P 08 46 12.4 +1.0**
comp=Z,156nm,0.7s,mb5.8
DMN Daman 42.97 330 *e*P **P 08 46 13.0 +0.6**
comp=Z,192nm,0.9s,mb5.8
KKN Kakani 43.03 330 *e*P **P 08 46 13.5 +0.6**
comp=Z,162nm,0.9s,mb5.8
KKN Kakani 43.03 330 *e*P **P 08 46 13.5 +0.6**
KKN pmax pmax
comp=Z,162nm,0.9s,mb5.8
XAN Xi'an 43.36 1 P **P 08 46 15.8 +0.2**
XAN AMB AMB
comp=Z,54nm,1.1s,mb5.2
GKN Gorkha 43.52 330 *e*P **P 08 46 17.4 +0.5**
comp=Z,128nm,0.9s,mb5.6
KOLN Koldanda 43.86 328 *e*P **P 08 46 20.2 +0.6**
comp=Z,194nm,0.8s,mb5.9
LZH Lanzhou 45.54 356 *e*P **P 08 46 35.1 +2.1**
LZH AP pP 08 46 45.1 +6.0
LZH XP sP 08 46 48.9 +7.4
LZH PP PP 08 48 22.5 +2.8
LZH AMB AMB
comp=Z,81nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,429nm,5.3s
LGTI Lohaghat 46.97 327 *i* P **P 08 46 43.0 -1.3**
GTA Gaotai 49.27 352 *e*P **P 08 47 03.6 +1.6**
GTA AP pP 08 47 08.4 +0.3
GTA XP sP 08 47 11.6 +1.1
GTA AMB AMB
comp=Z,28nm,0.9s,mb5.3
BJT Baijiatuau 49.93 8 *e*P **P 08 47 06.8 -0.3**
BJT pmax pmax
comp=Z,22nm,0.6s
BJT Baijiatuau 49.93 8 *e*P **P 08 47 06.8 -0.3**
comp=Z,22nm,0.6s,mb5.4
BJI Beijing 49.95 8 *e*P **P 08 47 06.8 -0.4**
BJI AMB AMB
comp=Z,46nm,0.9s,mb5.5
HHC Hu-ho-hao-te 50.27 4 *e*P **P 08 47 11.8 +2.2**
HHC AP pP 08 47 19.0 +3.2
HHC XP sP 08 47 22.8 +4.7
HHC PCP PcP 08 48 29.4 +1.0
HHC PP PP 08 49 06.3 +1.3
HHC AMB AMB
comp=Z,123nm,0.5s,mb6.2
SDNR Sundarnagar 50.35 325 *e*P **P 08 47 09.4 -0.9**
MAJO Matsushiro 54.05 30 *e*P **P 08 47 35.5 -2.3**
MAJO pmax pmax
comp=Z,18nm,1.3s,mb4.8
MAJO Matsushiro 54.05 30 *e*P **P 08 47 35.5 -2.3**
comp=Z,18nm,1.3s,mb4.8
MAT Matsushiro 54.05 30 P **P 08 47 35.3 -2.5**
MJAR Matsushiro Arr 54.05 30 P **P 08 47 35.8 -2.0**
comp=Z,20nm,1.0s,mb5.0,baz=202,slow=8.1,SNR=24
MJAR Matsushiro Arr 54.05 30 P **P 08 47 35.8 -2.0**
MJAR pmax pmax
comp=Z,20nm,1.0s
WMQ Urumqi 56.16 343 P **P 08 47 54.6 +1.6**
WMQ AP pP 08 47 59.3 +0.1
WMQ PCP PcP 08 48 52.5 +1.8
WMQ AMB AMB
comp=Z,67nm,1.9s,mb5.3
WMQ AMB AMB
comp=Z,304nm,5.4s
WMQ LR LR
comp=N,1μm,18.0s,MS5.2
WMQ LR LR
comp=E,1μm,16.9s,MS5.2
WMQ LR LR
comp=Z,1μm,18.5s,MS5.1
CASY Casey 56.68 179 *e*P **P 08 47 56.8 +0.1**
comp=Z,12nm,0.9s,mb4.9
SONM Songino Array 57.14 359 P **P 08 48 00.4 +0.4**
comp=Z,18nm,0.5s,mb5.4,baz=179,slow=7.4,SNR=57
SONM Songino Array 57.14 359 P **P 08 48 00.4 +0.4**
SONM pmax pmax
comp=Z,18nm,0.5s
ULN Ulaanbaatar 57.16 359 *e*P **P 08 48 00.2 +0.1**
ULN pmax pmax
comp=Z,24nm,0.6s,mb5.4
ULN Ulaanbaatar 57.16 359 *e*P **P 08 48 00.2 +0.1**
comp=Z,24nm,0.6s,mb5.4
MDJ Mudanjiang 57.42 18 P **P 08 48 00.4 -1.5**
MDJ AMB AMB
comp=Z,13nm,3.1s
WSAR Wadi Sarin 58.06 305 P **P 08 48 05.8 -0.6**
comp=Z,12nm,1.1s,mb4.8,baz=84,slow=14,SNR=5.4
OPO Ambohidratompo 59.21 254 P **P 08 48 16.2 +1.8**
comp=Z,7.7nm,0.9s,mb4.7,baz=91,slow=2.1,SNR=5.1
KZA Kyzart 59.39 332 P **P 08 48 16.3 +0.6**
SNR=12
TKM2 Tokmak 2 59.90 333 P **P 08 48 19.0 -0.2**
SNR=18
TKM2 Tokmak 2 59.90 333 P **P 08 48 18.6 -0.6**
TKM2 pmax pmax
comp=Z,18nm,0.7s,mb5.2
KBK Karagaybulak 59.98 333 P **P 08 48 20.2 +0.5**
SNR=12
AML Almayashu 60.16 331 P **P 08 48 25.0 +4.1**
SNR=5.9
AAK Ala-Archa 60.17 332 *e*P **P 08 48 20.2 -0.9**
AAK pmax pmax
comp=Z,26nm,1.4s,mb5.1
AAK Ala-Archa 60.17 332 *e*P **P 08 48 20.2 -0.9**
comp=Z,26nm,1.4s,mb5.1
MKAR Makanchi Array 60.52 340 P **P 08 48 23.1 -0.3**
comp=Z,34nm,0.8s,mb5.5,baz=158,slow=6.7,SNR=38
MKAR Makanchi Array 60.52 340 P **P 08 48 23.1 -0.4**
MKAR pmax pmax
comp=Z,34nm,0.8s
EKS2 Erkin-Say 60.53 332 P **P 08 48 23.8 +0.3**
SNR=9.7
USP Ospenovka 60.67 333 P **P 08 48 24.1 -0.3**
SNR=5.9
ASAJ Asahikawa 62.05 28 P **P 08 48 33.0 -0.8**
comp=Z,7.2nm,0.5s,mb5.1,baz=251,slow=7.7,SNR=12
ASAJ Asahikawa 62.05 28 P **P 08 48 33.0 -0.8**
ASAJ pmax pmax
comp=Z,7.0nm,0.5s
KLR Kul'dur 62.21 18 *e*P **P 08 48 30.4 -4.5**
KLR pmax pmax
comp=Z,40nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 64.32 26⇑*i*P **P 08 48 48.0 -0.8**
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 64.32 26 *e*P **P 08 48 48.5 -0.4**
comp=Z,30nm,0.6s,mb5.5
KURK Kurchatov 65.14 340 P **P 08 48 53.1 -1.1**
comp=Z,190nm,0.8s,mb6.2,SNR=13
KURK Kurchatov 65.14 340 *e*P **P 08 48 53.8 -0.4**
MAW Mawson 65.16 197 *e*P **P 08 48 54.3 0.0**

comp=Z,23nm,0.9s,mb5.2
MAW Mawson 65.16 197 P **P 08 48 54.0 -0.4**
comp=Z,28nm,0.8s,mb5.3,baz=40,slow=8.2,SNR=42
MAW Mawson 65.16 197 *e*P **P 08 48 54.3 0.0**
MAW pmax pmax
comp=Z,23nm,0.9s
ABKT Ailbek 66.16 319 P **P 08 49 01.9 +1.1**
comp=Z,122nm,1.1s,mb5.8,SNR=6.0
ZAL Zalesovo 66.17 345 P **P 08 48 59.0 -1.8**
comp=Z,5.6nm,0.3s,mb5.0,baz=333,slow=3.5,SNR=7.2
ZAL Zalesovo 66.17 345 P **P 08 48 59.0 -1.8**
ZAL pmax pmax
comp=Z,6.0nm,0.4s
BOD Bodaibo 67.33 4 *e*P **P 08 49 07.0 -1.2**
BOD pmax pmax
comp=Z,28nm,1.1s,mb5.2
VOSK Vostochnaya 69.53 337 P **P 08 49 21.6 -0.4**
VOSK pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
BVA0 Borovoye Array 69.99 337 *i*P **P 08 49 24.2 -0.7**
BVA0 pmax pmax
comp=Z,16nm,2.1s,mb4.6
BVAR Borovoye Array 69.99 337 P **P 08 49 24.3 -0.5**
comp=Z,7.4nm,0.8s,mb4.7,baz=143,slow=8.4,SNR=12
BVAR Borovoye Array 69.99 337 P **P 08 49 24.3 -0.6**
BVAR pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 70.06 337 *e*P **P 08 49 24.9 -0.4**
BRVK pmax pmax
comp=Z,11nm,0.8s,mb4.8
BRVK Borovoye 70.06 337 *e*P **P 08 49 24.9 -0.4**
comp=Z,10nm,0.8s,mb4.8
CHKZ Chkalovo 70.41 338 *e*P **P 08 49 26.9 -0.5**
CHKZ pmax pmax
comp=Z,30nm,0.5s,mb5.5
CHKZ Chkalovo 70.41 338 *e*P **P 08 49 26.9 -0.6**
comp=Z,30nm,0.5s,mb5.5
ZRNK Zerenda 70.48 336 *e*P **P 08 49 27.2 -0.6**
ZRNK pmax pmax
comp=Z,19nm,0.6s,mb5.2
ZRNK Zerenda 70.48 336 *e*P **P 08 49 27.2 -0.6**
comp=Z,19nm,0.6s,mb5.2
KMBO Kilima Mbogo 70.59 272 P **P 08 49 29.4 +0.9**
comp=Z,7.3nm,0.9s,mb4.6,baz=47,slow=7.9,SNR=15
KMBO Kilima Mbogo 70.59 272 P **P 08 49 29.4 +0.9**
KMBO pmax pmax
comp=Z,7.0nm,0.9s
AB31 Akbulak array 71.97 329 *i*P **P 08 49 36.3 -0.6**
AB31 pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
VNDA Vanda 73.34 169 P **P 08 49 43.9 -1.1**
comp=Z,4.0nm,0.8s,mb4.4,baz=295,slow=6.1,SNR=14
VNDA Vanda 73.34 169 P **P 08 49 43.9 -1.1**
VNDA pmax pmax
comp=Z,4.0nm,0.8s
VNDA Vanda 73.34 169 P **P 08 49 43.9 -1.1**
YAK Yakutsk 73.38 11 *e*P **P 08 49 43.9 -1.3**
SYO Syowa Base 73.38 200 ||*e*P **P 08 49 44.8 -0.5**
AKTK Aktyubinsk 73.69 329 P **P 08 49 47.0 0.0**
AKTO Aktyubinsk 73.69 329 P **P 08 49 47.0 0.0**
comp=Z,8.3nm,1.0s,mb4.6,baz=110,slow=4.1,SNR=4.8
AKTO Aktyubinsk 73.69 329 P **P 08 49 45.9 -1.1**
AKTO pmax pmax
comp=Z,9.0nm,1.7s,mb4.4
SBA Scott Base 74.41 169 *e*P **P 08 49 51.5 +0.2**
SBA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
SBA Scott Base 74.41 169 *e*P **P 08 49 51.5 +0.2**
comp=Z,7.8nm,0.9s,mb4.6
MA2 Magadan 76.99 21 *e*P **P 08 50 05.6 -0.4**
MA2 pmax pmax
comp=Z,34nm,0.9s,mb5.3
MA2 Magadan 76.99 21 *e*P **P 08 50 05.6 -0.4**
comp=Z,34nm,0.9s,mb5.3
ARU Arti 77.23 334 *e*P **P 08 50 07.0 -0.4**
ARU Arti 77.23 334 *e*P **P 08 50 07.0 -0.4**
comp=Z,29nm,1.0s,mb5.2
LSZ Lusaka 77.56 256 *e*P **P 08 50 09.5 +0.3**
LSZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LSZ Lusaka 77.56 256 *e*P **P 08 50 09.5 +0.3**
comp=Z,6.4nm,0.6s,mb4.7
LBTB Lobatse 78.97 246 P **P 08 50 17.7 +0.7**
comp=Z,3.0nm,0.6s,mb4.4,baz=119,slow=4.9
LBTB Lobatse 78.97 246 P **P 08 50 17.7 +0.7**
LBTB pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ASF Jabal al Asfar 79.23 305 P **P 08 50 19.8 +1.3**
comp=Z,10nm,1.0s,mb4.7,baz=9.2,slow=3.9,SNR=11
ASF Jabal al Asfar 79.23 305 P **P 08 50 19.8 +1.4**
ASF pmax pmax
comp=Z,11nm,1.0s
KIV Kislovodsk 79.27 318 *e*P **P 08 50 19.3 +0.6**
KIV pmax pmax
comp=Z,25nm,1.1s,mb5.1
KIV Kislovodsk 79.27 318 *e*P **P 08 50 19.1 +0.4**
comp=Z,24nm,1.0s,mb5.1
GOF Gofitskoye 79.50 319 *e*P **P 08 50 19.4 -0.5**
EIL Elat 80.06 302 *e*P **P 08 50 23.2 +0.2**
comp=Z,253nm,0.9s,mb6.2
MALT Malatya 80.09 312 *e*P **P 08 50 23.2 +0.1**
MALT pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MALT Malatya 80.09 312 *e*P **P 08 50 23.2 +0.1**
comp=Z,7.6nm,0.9s,mb4.6
MMAI Mount Meron Ar 80.69 306 P **P 08 50 27.6 +1.3**
comp=Z,14nm,0.9s,mb4.9,baz=96,slow=7.6,SNR=9.9
SOC Sochi 81.10 317 *e*P **P 08 50 29.3 +0.8**
SOC pmax pmax
comp=Z,12nm,0.8s,mb4.9
TIXI Tiksi 82.24 7 *e*P **P 08 50 32.6 -1.9**
TIXI pmax pmax
comp=Z,41nm,1.0s,mb5.3
CSS Prodhromos 82.91 307 *e*P **P 08 50 38.5 +0.5**
BR131 Keskin Array S 84.08 312 *e*P **P 08 50 43.6 -0.4**
comp=Z,15nm,0.9s,mb5.1
BRTR Keskin Array B 84.08 312 P **P 08 50 43.6 -0.4**
comp=Z,13nm,1.1s,mb5.0,baz=131,slow=5.3,SNR=19
BRTR Keskin Array B 84.08 312 P **P 08 50 43.7 -0.3**
BRTR pmax pmax
comp=Z,13nm,1.1s
TSUM Tsumeb 87.07 251 *e*P **P 08 50 58.0 -1.0**
comp=Z,8.0nm,0.8s,mb5.0
OBN Obninsk 87.26 327 *e*P **P 08 50 59.7 -0.2**
OBN pmax pmax
comp=Z,39nm,0.8s,mb5.7
OBN Obninsk 87.26 327 *e*P **P 08 50 59.7 -0.2**
comp=Z,59nm,1.0s,mb5.8
SNAA Sanae 87.33 197 *e*P **P 08 50 59.9 -0.3**
SNAA pmax pmax
comp=Z,10.0nm,1.0s
SNAA Sanae 87.33 197 *e*P **P 08 50 59.9 -0.3**
comp=Z,9.6nm,1.0s,mb5.0
AKASG Malin Array Be 90.15 321 P **P 08 51 12.6 -0.9**
comp=Z,0.6nm,0.5s,mb4.2,baz=86,slow=4.9,SNR=4.7
AKASG Malin Array Be 90.15 321 P **P 08 51 12.6 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 90.15 321 P **P 08 51 12.6 -0.9**
JOF Joensuu 92.34 334 *ep* **P 08 51 23.0 -0.7**
comp=Z,5.0nm,0.6s,mb5.0
JOF Joensuu 92.34 334 *e*P **P 08 51 23.0 -0.7**
JOF pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
FINES FINESS Array B 94.36 332 P **P 08 51 32.5 -0.5**
comp=Z,2.4nm,0.8s,mb4.7,baz=106,slow=6.9,SNR=5.8
FINES FINESS Array B 94.36 332 P **P 08 51 32.5 -0.5**
FINES pmax pmax
comp=Z,2.0nm,0.8s
KAF Kangasniemi 94.39 332 *ep* **P 08 51 31.8 -1.3**
comp=Z,10nm,1.0s,mb5.2,baz=94,slow=4.1
KAF Kangasniemi 94.39 332 *e*P **P 08 51 31.8 -1.3**
KAF pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
KEV Kevo 95.70 340 *ep* **P 08 51 37.1 -2.0**
ARCES ARCESS Array B 96.17 339 P **P 08 51 40.1 -1.2**
comp=Z,9.7nm,0.9s,mb5.2,baz=95,slow=5.0,SNR=11
ARCES ARCESS Array B 96.17 339 P **P 08 51 40.1 -1.2**
ARCES pmax pmax
comp=Z,10.0nm,0.9s
HGN Heimansgroeve 104.82 320 *e*SSS 08 56 56.8
TORD Torodi Ar. Bea 107.64 281 PKiKP PKiKP 08 56 41.0 +0.7
comp=Z,1.9nm,0.9s,baz=86,slow=1.4,SNR=4.8
DBIC Dimbokro 113.31 273 PKiKP PKiKP 08 56 51.1 +0.1
comp=Z,3.6nm,0.8s,baz=137,slow=1.5,SNR=5.5
DBIC Dimbokro 113.31 273 *i* PKIKP PKiKP 08 56 51.1 +0.1
DBIC pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 118.97 21 PKP PKPdf 08 57 01.1 -0.7
comp=Z,2.9nm,0.8s,baz=311,slow=0.9,SNR=14
YKA Yellowknife Ar 118.97 21 PKIKP PKPdf 08 57 01.1 -0.8
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 118.97 21 PKP PKPdf 08 57 01.1 -0.8
E03A Lebam 123.01 40 ||P PKPdf 08 57 11.6 +1.9
baz=123
B05A Bryant 123.20 38 ||P PKPdf 08 57 11.6 +1.5
baz=124
C05A Tolt Reservoir 123.69 38 ↑P PKPdf 08 57 11.6 +0.7
baz=124
D05A Enumclaw 123.73 39 ||P PKPdf 08 57 12.6 +1.6
baz=124
K01A Sixes 123.79 44 ↑P PKPdf 08 57 12.8 +1.7
baz=124
H03A Soap Creek Ran 123.91 42 ||P PKPdf 08 57 13.2 +1.8
baz=124
F04A Amboy 123.98 40 ↑P PKPdf 08 57 13.0 +1.4
baz=124
E05A Randle 124.14 39 ||P PKPdf 08 57 12.5 +0.7
baz=124
J03A Ideyld Park 124.62 43 ↑P PKPdf 08 57 13.8 +1.0
baz=125
H04A Detroit Lake 124.63 42 ||P PKPdf 08 57 14.2 +1.4
baz=125
HUMO Hull Mountain 124.91 44 ↑P PKPdf 08 57 15.5 +2.2
baz=125
H05A Madras 125.27 41 ↑P PKPdf 08 57 15.8 +1.8
baz=125
N02C Big Bar 125.29 46 ||P PKPdf 08 57 16.2 +2.2
baz=125
I05A Bend 125.44 42 ↑P PKPdf 08 57 16.7 +2.4
baz=125
P01C Double 8 Ranch 125.72 48 ↑P PKPdf 08 57 17.3 +2.5
baz=126
M04C Macdoel 125.98 45 ||P PKPdf 08 57 17.6 +2.3
baz=126
MCCM Marconi Confer 126.48 49 ↑P PKPdf 08 57 19.7 +3.4
baz=126
J06A Christmas Vall 126.56 42 ||P PKPdf 08 57 18.0 +1.6
baz=126
MNRC McLaughlin Nat 126.57 48 ||P PKPdf 08 57 19.2 +2.8
baz=126
M05C Lookout 126.62 45 ||P PKPdf 08 57 18.7 +2.2
baz=127
O04C Chester 127.05 46 ||P PKPdf 08 57 18.7 +1.3
baz=127
J07A Hines 127.06 42 ↑P PKPdf 08 57 19.8 +2.4
baz=127
O05C Quincy 127.30 47 ||P PKPdf 08 57 19.6 +1.7
baz=127
P05C Yuba Gap, Truc 127.77 47 ↑P PKPdf 08 57 20.6 +1.9
baz=128
N06A Buffalo Meadow 127.78 45 ↑P PKPdf 08 57 21.1 +2.3
baz=128
LAVA Lava Cap Winer 127.86 48 ||P PKPdf 08 57 20.9 +2.0
baz=128
M07A Soldier Meadow 127.98 44 ↑P PKPdf 08 57 21.4 +2.2
baz=128
O06A Flanigan 128.00 46 ↑P PKPdf 08 57 20.8 +1.6
baz=128
HAST UC Hastings Re 128.04 51 ||P PKPdf 08 57 21.6 +2.4
baz=128
N07B Gerlach 128.37 45 ↑P PKPdf 08 57 22.5 +2.6
baz=128
R05C Kirkwood Meado 128.37 48 ↑P PKPdf 08 57 22.7 +2.8
baz=128
CMB Columbia Colle 128.38 49 ||P PKPdf 08 57 20.8 +0.9
baz=128
U04C Hernandez Rese 128.64 51 ||P PKPdf 08 57 24.1 +3.7
baz=129
S05C Merced 128.66 49 ||P PKPdf 08 57 22.9 +2.5
baz=129
O07A Toulon 128.68 46 ||P PKPdf 08 57 21.6 +1.1
baz=129
L09A Wilkinson Ranc 128.74 43 ↑P PKPdf 08 57 23.8 +3.2
baz=129
S06C San Francisco 128.83 49 ||P PKPdf 08 57 22.4 +1.6
baz=129
N08A GE Springer Mi 128.95 45 ↑P PKPdf 08 57 23.4 +2.4
baz=129
N09A Rock Creek Ran 129.34 44 ↑P PKPdf 08 57 24.4 +2.7
baz=129
NVAR Mina Array Bea 129.76 47 PKP PKPdf 08 57 25.1 +2.6
comp=Z,1.2nm,0.9s,baz=283,slow=1.2,SNR=6.4
S09A Goldfield 130.82 48 ↑P PKPdf 08 57 26.6 +2.0
baz=131
N12A Clover Valley, 131.03 43 ||P PKPdf 08 57 28.5 +3.5
baz=131
M13A Montello 131.37 42 ||P PKPdf 08 57 28.6 +3.0
baz=131
Q11A Duckwater 131.49 46 ||P PKPdf 08 57 28.9 +3.0
baz=131
U10A Ash Meadows, A 131.98 49 ||P PKPdf 08 57 31.1 +4.4
baz=132
V12A Nelson 133.35 49 ↑P PKPdf 08 57 32.7 +3.3
baz=133
X13A Yucca 134.57 50 ||P PKPdf 08 57 34.9 +3.3
baz=134
SCHQ Schefferville 134.63 356 PKP PKPdf 08 57 31.6 -0.1
comp=Z,6.4nm,0.9s,baz=180,slow=0.9,SNR=9.5
W14A Seligman 134.88 49 ||P PKPdf 08 57 35.5 +3.3
baz=135
X14A Yava 135.33 50 ||P PKPdf 08 57 37.5 +4.4
baz=135
X15A Humboldt 135.81 50 ||P PKPdf 08 57 38.2 +4.2
baz=136
RSSD Black Hills 135.90 33 *e*PKIKP PKPdf 08 57 34.2 +0.1
PV10 Paradox Valley 136.28 43 *e*PKPdf PKPdf 08 57 37.5 +2.7
SADO Sadowa 144.41 8 PKP PKPdf 08 57 48.1 -1.4
comp=Z,2.9nm,0.5s,baz=311,slow=4.1,SNR=5.9
MSNY Massena 144.61 3 *e*PKPdf PKPdf 08 57 48.5 -1.4
LTX Lajitas 144.61 52 *e*PKIKP PKPdf 08 57 50.4 +0.6
LONY Lake Ozonia 145.00 3 *e*PKPdf PKPdf 08 57 49.7 -0.8
WMOK Wichita Mounta 145.11 40 *e*PKIKP PKPdf 08 57 51.3 +0.6
BDFB Brasilia 145.32 224 PKPbc PKPbc 08 57 52.1 +1.2
comp=Z,23nm,1.0s,baz=108,slow=3.1,SNR=14
BDFB Brasilia 145.32 224 PKP2 PKPab 08 57 52.1 +1.1
BDFB pmax pmax
comp=Z,23nm,1.0s
MIV Mineville/With 145.59 2 *e*PKPdf PKPdf 08 57 51.6 +0.1
NCB Newcomb 145.67 3 *e*PKPdf PKPdf 08 57 52.2 +0.5
AAM Ann Arbor 145.87 15 *e*PKP2 PKPab 08 57 52.1 -1.0
SLM Saint Louis 146.84 26 *e*PKP2 PKPab 08 57 55.3 -1.5
CCM Cathedral Cave 146.87 28 *e*PKP2 PKPab 08 57 55.6 -1.3
JCT Junction City 146.94 47 *e*PKP2 PKPab 08 57 57.3 +0.1
FVM French Village 147.30 27 *e*PKP2 PKPab 08 57 56.1 -2.5
BLO Bloomington 147.86 21 *e*PKP2 PKPab 08 57 58.8 -2.0
LVC Limon Verde 147.87 186 PKPbc PKPbc 08 57 59.8 +1.5
comp=Z,15nm,0.9s,baz=245,slow=2.1,SNR=13
LVC Limon Verde 147.87 186 *e*PKPbc PKPbc 08 57 59.7 +1.4
ACSO Alum Creek Sta 147.99 16 *e*PKPbc PKPbc 08 57 58.7 0.0
MIAR Mount Ida 148.37 35 *e*PKPbc PKPbc 08 58 00.6 +1.0
MIAR *e*PKPab PKPab 08 58 04.7 +1.8
USIN University of 148.48 24 *e*PKPbc PKPbc 08 58 00.3 +0.3
SSPA Standing Stone 148.64 8 *e*PKPbc PKPbc 08 58 00.5 +0.1
WCI Wyandotte Cave 148.78 22 *e*PKP2 PKPbc 08 58 00.7 0.0
UALR University of 148.88 33 *e*PKPbc PKPbc 08 58 01.5 +0.6
UALR *e*PKPab PKPab 08 58 05.7 +0.8
UTMT University of 149.35 27 *e*PKPbc PKPbc 08 58 02.3 +0.2
NATX Nacogdoches 149.66 40 *e*PKPbc PKPbc 08 58 04.5 +1.6
WVT Waverly 149.99 26 *e*PKP2 PKPbc 08 58 04.3 +0.6
HKT Hockley 150.04 44 *e*PKP2 PKPbc 08 58 05.5 +1.7
OXF Oxford 150.60 30 *e*PKIKP PKPbc 08 58 05.2 0.0
OXF *e* 08 58 12.3
PLAL Pickwick Lake 150.84 27 *e*PKPbc PKPbc 08 58 05.6 -0.2
FWV Forest Hill 151.04 14 *e*PKPbc PKPbc 08 58 06.3 0.0
TZTN Tazewell 151.24 19 *e*PKPbc PKPbc 08 58 07.0 +0.3
TZTN *e*PKPab PKPab 08 58 15.0 +0.4
ELN Prospectdale 151.39 14 *e*PKPbc PKPbc 08 58 06.9 -0.1
CPCT Cooper Cave 151.89 22 *e*PKPbc PKPbc 08 58 09.2 +1.0
SIV San Ignacio 152.32 204 PKPbc PKPbc 08 58 09.4 +0.2
comp=Z,10nm,1.0s,baz=140,slow=2.7,SNR=8.0
LPAZ La Paz 154.01 189 PKPbc PKPbc 08 58 15.3 +2.5
comp=Z,2.3nm,0.8s,baz=57,slow=5.9,SNR=6.1

*IDC **17** 08:40:05.9±0.6, 9.45S×10771E, h0km, mb4.7/15, mb1 4.7/15, mb1mx4.6/21, mbtmp4.6/15, Error ellipse: s-maj=21.6km s-min=18.0km az=66.0*
*ISCJB **17** 08:40:06.9±0.6, 9.51S×109×10778E±0.10, h18km, mb4.9/34, MS4.8/2, Error ellipse: s-maj=13.8km s-min=13.1km az=136.8*
*NEIC **17** 08:40:07.6±0.4, 9.46S×10771E, h10km, mb5.2/11, Error ellipse: s-maj=12.1km s-min=9.9km az=90.0*
*BJI **17** 08:40:07.5, 9.50S×10770E, h10km, mB5.6, mb5.0, Ms5.4, Msz5.1*
*MOS **17** 08:40:09.7±1.0, 9.37S×10782E, h36km, mb5.1/23, Error ellipse: s-maj=17.7km s-min=10.4km az=94.9*
ISC 17 08:40:09.2±0.6, 9.51S×009×10778E±010, h20km, h20km±3.2km:pP-P, n96, σ1s18/66, mb4.9/34, MS4.8/2, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**16.32**	**137**	P	**Pn**	**Pn**	**08 44 04.7**	**+7.5**
KKM	**Kota Kinabalu**	**17.59**	**29**	P	**Pn**	**Pn**	**08 44 13.4**	**+0.2**
WRA	**Warramunga Arr**	**27.66**	**115**	P	**P**	**P**	**08 45 56.7**	**+1.1**
	1.8nm,0.5s,mb4.0,baz=284,slow=12,SNR=4.5							
WRA	**Warramunga Arr**	**27.66**	**115**	P	**P**	**P**	**08 45 56.7**	**+1.0**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.5s							
CHTO	**Chiang Mai**	**29.46**	**343**	*e*P	**P**	**P**	**08 46 11.9**	**+0.2**
CHTO				pmax	pmax			
	comp=Z,24nm,1.0s,mb4.9							
CHTO	**Chiang Mai**	**29.46**	**343**	*e*P	**P**	**P**	**08 46 11.9**	**+0.2**
	comp=Z,24nm,1.0s,mb4.9							
KMI	**Kunming**	**34.77**	**352**	P	**P**	**P**	**08 47 01.3**	**+3.0**
KMI				AMB	AMB			
	comp=Z,36nm,1.7s,mb5.0							
GYA	**Guiyang**	**35.77**	**358**	P	**P**	**P**	**08 47 08.6**	**+1.7**
GYA				AP	pP		08 47 12.8	-0.1
GYA				XP	sP		08 47 15.9	+0.6
GYA				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.1							
GYA				AMB	AMB			
	comp=Z,120nm,4.0s							
GYA				LR	LR			
	comp=N,570nm,15.9s,MS4.6							
GYA				LR	LR			
	comp=E,590nm,16.4s,MS4.6							
GYA				LR	LR			
	comp=Z,680nm,16.7s,MS4.5							
CTA	**Charters Tower**	**38.57**	**110**	P	**P**	**P**	**08 47 32.1**	**+1.5**
	comp=Z,5.9nm,0.5s,mb4.5,baz=310,slow=16,SNR=7.5							
CTA	**Charters Tower**	**38.57**	**110**	P	**P**	**P**	**08 47 32.1**	**+1.5**
CTA				pmax	pmax			
	comp=Z,6.0nm,0.5s							
JOW	**Kunigami**	**41.24**	**28**	P	**P**	**P**	**08 47 53.7**	**+0.9**
	comp=Z,15nm,0.8s,mb4.7,baz=180,slow=4.1,SNR=3.6							
GTA	**Gaotai**	**49.23**	**352**	*e*P	**P**	**P**	**08 48 58.4**	**+2.2**
GTA				AP	pP		08 49 07.1	+4.7
GTA				XP	sP		08 49 10.4	+5.6
GTA				AMB	AMB			
	comp=Z,38nm,0.7s,mb5.5							
BJT	**Baijiatuau**	**49.89**	**8**	*e*P	**P**	**P**	**08 49 02.4**	**+1.2**
BJT				pmax	pmax			
	comp=Z,48nm,1.4s							
BJT	**Baijiatuau**	**49.89**	**8**	*e*P	**P**	**P**	**08 49 02.4**	**+1.2**
	comp=Z,48nm,1.4s,mb5.3							
BJI	**Beijing**	**49.91**	**8**	*e*P	**P**	**P**	**08 49 02.3**	**+0.9**
BJI				AMB	AMB			
	comp=Z,19nm,0.8s,mb5.2							
HHC	**Hu-ho-hao-te**	**50.23**	**4**	*e*P	**P**	**P**	**08 49 07.3**	**+3.5**
HHC				AP	pP		08 49 12.8	+2.8
HHC				XP	sP		08 49 15.8	+3.4
HHC				AMB	AMB			
	comp=Z,156nm,0.7s							
MAJO	**Matsushiro**	**54.01**	**30**	P	**P**	**P**	**08 49 31.0**	**-0.9**
MAJO				pmax	pmax			
	comp=Z,15nm,0.8s,mb5.0							
MAJO	**Matsushiro**	**54.01**	**30**	P	**P**	**P**	**08 49 31.0**	**-0.9**
	comp=Z,15nm,0.8s,mb5.0							
MAT	**Matsushiro**	**54.01**	**30**	P	**P**	**P**	**08 49 29.7**	**-2.2**
MAT	**Matsushiro**	**54.01**	**30**	*e*P	**P**	**P**	**08 49 30.0**	**-1.9**
MAT				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.7							
MAT	**Matsushiro**	**54.01**	**30**	*e*P	**P**	**P**	**08 49 30.0**	**-1.9**
	comp=Z,10.0nm,1.0s,mb4.7							
MJAR	**Matsushiro Arr**	**54.01**	**30**	P	**P**	**P**	**08 49 30.0**	**-2.0**
	comp=Z,7.3nm,0.8s,mb4.7,baz=201,slow=8.3,SNR=5.4							
MJAR	**Matsushiro Arr**	**54.01**	**30**	P	**P**	**P**	**08 49 30.0**	**-1.9**
MJAR				pmax	pmax			
	comp=Z,7.0nm,0.8s							
WMQ	**Urumqi**	**56.13**	**343**	P	**P**	**P**	**08 49 49.8**	**+2.5**
WMQ				AP	pP		08 49 54.3	+0.8
WMQ				XP	sP		08 49 56.8	+0.9
WMQ				AMB	AMB			
	comp=Z,64nm,1.8s,mb5.3							
WMQ				AMB	AMB			
	comp=Z,270nm,4.8s							
WMQ				LR	LR			
	comp=N,1μm,17.6s,MS5.2							
WMQ				LR	LR			
	comp=E,1μm,16.5s,MS5.2							
WMQ				LR	LR			
	comp=Z,1μm,18.1s,MS5.1							
SONM	**Songino Array**	**57.11**	**359**	P	**P**	**P**	**08 49 55.0**	**+0.8**
	comp=Z,6.9nm,0.7s,mb4.8,baz=180,slow=8.2,SNR=6.7							
SONM	**Songino Array**	**57.11**	**359**	P	**P**	**P**	**08 49 55.0**	**+0.8**
SONM				pmax	pmax			
	comp=Z,7.0nm,0.7s							
ULN	**Ulaanbaatar**	**57.13**	**359**	*e*P	**P**	**P**	**08 49 54.6**	**+0.3**
ULN				pmax	pmax			
	comp=Z,24nm,1.5s,mb5.0							
ULN	**Ulaanbaatar**	**57.13**	**359**	*e*P	**P**	**P**	**08 49 54.5**	**+0.2**
	comp=Z,24nm,1.5s,mb5.0							
MDJ	**Mudanjiang**	**57.38**	**18**	P	**P**	**P**	**08 49 56.0**	**-0.1**
MDJ				PCP	PcP		08 50 51.8	+1.9
MDJ				AMB	AMB			
	comp=Z,7.0nm,1.5s,mb4.5							
MKAR	**Makanchi Array**	**60.49**	**340**	P	**P**	**P**	**08 50 17.6**	**-0.2**
	comp=Z,12nm,0.6s,mb5.1,baz=151,slow=7.9,SNR=7.9							
MKAR	**Makanchi Array**	**60.49**	**340**	P	**P**	**P**	**08 50 17.6**	**-0.2**
MKAR				pmax	pmax			
	comp=Z,12nm,0.6s							
ASAJ	**Asahikawa**	**62.01**	**28**	P	**P**	**P**	**08 50 27.1**	**-0.8**
	comp=Z,7.8nm,0.7s,mb5.0,baz=255,slow=9.6,SNR=4.1							
ASAJ	**Asahikawa**	**62.01**	**28**	P	**P**	**P**	**08 50 27.2**	**-0.8**
ASAJ				pmax	pmax			
	comp=Z,8.0nm,0.7s							
KLR	**Kul'dur**	**62.17**	**18**	*e*P	**P**	**P**	**08 50 24.7**	**-4.4**
KLR				pmax	pmax			
	comp=Z,70nm,1.8s,mb5.5							
YSS	**Yuzh-Sakhalins**	**64.27**	**26**	*e*P	**P**	**P**	**08 50 42.8**	**-0.2**
YSS				*e*			08 50 53.0	
YSS	**Yuzh-Sakhalins**	**64.27**	**26**	*e*P	**P**	**P**	**08 50 42.8**	**-0.2**
KURK	**Kurchatov**	**65.11**	**340**	*e*P	**P**	**P**	**08 50 48.0**	**-0.5**
KURK				pmax	pmax			
	comp=Z,15nm,0.9s,mb5.0							
KURK	**Kurchatov**	**65.11**	**340**	*e*P	**P**	**P**	**08 50 48.0**	**-0.5**
	comp=Z,15nm,0.9s,mb5.0							
MAW	**Mawson**	**65.20**	**197**	P	**P**	**P**	**08 50 48.5**	**-0.6**
	comp=Z,5.1nm,0.8s,mb4.6,baz=49,slow=6.9,SNR=4.9							
MAW	**Mawson**	**65.20**	**197**	P	**P**	**P**	**08 50 48.5**	**-0.6**
MAW				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ZAL	**Zalesovo**	**66.14**	**345**	P	**P**	**P**	**08 50 53.9**	**-1.2**
	comp=Z,2.7nm,0.4s,mb4.6,baz=56,slow=7.3,SNR=1.9							
ZAL	**Zalesovo**	**66.14**	**345**	P	**P**	**P**	**08 50 53.9**	**-1.2**
ZAL				pmax	pmax			
	comp=Z,3.0nm,0.4s							
ZAL	**Zalesovo**	**66.14**	**345**	P	**P**	**P**	**08 50 53.9**	**-1.2**
BOD	**Bodaibo**	**67.29**	**4**	*e*P	**P**	**P**	**08 51 01.4**	**-1.1**
BOD				pmax	pmax			
	comp=Z,19nm,0.5s,mb5.4							
BVAR	**Borovoye Array**	**69.97**	**337**	P	**P**	**P**	**08 51 17.8**	**-1.4**
	comp=Z,5.7nm,0.7s,mb4.6,baz=148,slow=9.9,SNR=4.5							
BVAR	**Borovoye Array**	**69.97**	**337**	P	**P**	**P**	**08 51 17.8**	**-1.4**
BVAR				pmax	pmax			
	comp=Z,6.0nm,0.7s							
CHKZ	**Chkalovo**	**70.38**	**338**	*e*P	**P**	**P**	**08 51 21.5**	**-0.2**
CHKZ				pmax	pmax			
	comp=Z,15nm,0.6s,mb5.1							
CHKZ	**Chkalovo**	**70.38**	**338**	*e*P	**P**	**P**	**08 51 21.5**	**-0.2**
	comp=Z,15nm,0.6s,mb5.1							
ZRNK	**Zerenda**	**70.45**	**336**	*e*P	**P**	**P**	**08 51 21.6**	**-0.5**
ZRNK				pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.8							
ZRNK	**Zerenda**	**70.45**	**336**	*e*P	**P**	**P**	**08 51 21.6**	**-0.6**
	comp=Z,7.9nm,0.6s,mb4.8							
KMBO	**Kilima Mbogo**	**70.61**	**272**	P	**P**	**P**	**08 51 23.2**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=54,slow=5.1,SNR=3.3							
KMBO	**Kilima Mbogo**	**70.61**	**272**	P	**P**	**P**	**08 51 23.2**	**+0.1**
KMBO				pmax	pmax			
	comp=Z,1.0nm,0.4s							
YAK	**Yakutsk**	**73.34**	**11**	*e*P	**P**	**P**	**08 51 38.8**	**-0.7**

BJI ***17*** *08:41:14.2, 950S×10770E, h12km, mB5.4, mb5.3, Ms5.5, Msz5.2*
ISCJB ***17*** *08:41:15.7±0.3, 954S±005×10777E±006, h16km, mb5.2/60, MS5.1/2, Error ellipse: s-maj=8.7km s-min=7.4km az=130.9*
IDC ***17*** *08:41:15.1±0.4, 944S×10769E, h0km, mb4.9/22, mb1 4.9/23, mb1mx4.9/26, mbtmp4.9/23, ML4.6/1, Error ellipse: s-maj=16.2km s-min=13.1km az=47.0*
NEIC ***17*** *08:41:17.2±3.5, 946S×10774E, h12km±20km, mb5.4/28, Error ellipse: s-maj=8.1km s-min=5.6km az=46.0*
MOS ***17*** *08:41:18.9±1.4, 930S×10784E, h33km, mb5.4/30, Error ellipse: s-maj=13.0km s-min=8.3km az=104.8*

ISC 17 08:41:17.9±0.3, 954S±005×10776E±006, h17km, h17km±2.8km: pP-P, n236, σ1°09/120, mb5.2/60, MS5.1/2, 40C-29D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**17.63**	**29**	*e*P	**Pn**	**08 45 22.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**19.32**	**118**	P	**Pn**	**08 45 43.5**	**+0.2**
	1.3nm,0.3s,baz=232,slow=7.7,SNR=4.3						
FITZ				Sn	**Sn**	**08 49 00.8**	**-19**
	0.6nm,0.3s,baz=108,slow=6.4,SNR=3.1						
SNPH	**Sibulan**	**24.28**	**40**	*e*P	**P**	**08 46 36.5**	**+2.3**
TBP	**Tagbilaran**	**24.94**	**40**	*e*P	**P**	**08 46 41.0**	**+0.7**
WRA	**Warramunga Arr**	**27.66**	**115**	P	**P**	**08 47 05.0**	**+0.1**
	24nm,0.8s,mb4.9,baz=286,slow=11,SNR=8.3						
WRA				PcP	PcP	08 50 21.9	+0.1
	6.5nm,0.8s,baz=292,slow=2.2,SNR=5.5						
WRA	**Warramunga Arr**	**27.66**	**115**	P	**P**	**08 47 05.0**	**+0.2**
WRA						08 50 21.9	
WRA				pmax	pmax		
	comp=Z,24nm,0.8s						
WRA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AS31	**Alice Springs**	**28.65**	**123**	*e*P	**P**	**08 47 17.7**	**+4.1**
ASAR	**Alice Springs**	**28.65**	**123**	P	**P**	**08 47 14.6**	**+1.0**
	comp=Z,15nm,0.8s,mb4.8,baz=299,slow=9.6,SNR=9.1						
ASAR				PcP	PcP	08 50 25.4	+1.1
	comp=Z,5.9nm,0.8s,baz=307,slow=2.4,SNR=7.3						
ASAR	**Alice Springs**	**28.65**	**123**	P	**P**	**08 47 14.6**	**+1.0**
ASAR						08 50 25.4	
ASAR				pmax	pmax		
	comp=Z,15nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**29.49**	**343**	*e*P	**P**	**08 47 21.3**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,58nm,1.0s,mb5.3						
CHTO	**Chiang Mai**	**29.49**	**343**	*e*P	**P**	**08 47 21.3**	**+0.2**
	comp=Z,58nm,1.0s,mb5.3						
KMI	**Kunming**	**34.80**	**352**	P	**P**	**08 48 09.8**	**+2.1**
KMI				AMB	AMB		
	comp=Z,67nm,1.1s,mb5.5						
GYA	**Guiyang**	**35.80**	**358**	⇑*i*P	**P**	**08 48 17.4**	**+1.1**
GYA				AP	pP	08 48 21.8	+0.4
GYA				XP	sP	08 48 24.6	+1.2
GYA				PP	PP	08 49 38.5	+0.8
GYA				S	**S**	**08 53 53.8**	**+0.8**
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,140nm,4.3s						
GYA				LR	LR		
	comp=N,1μm,16.4s,MS4.9						
GYA				LR	LR		
	comp=E,1μm,17.2s,MS4.9						
GYA				LR	LR		
	comp=Z,2μm,16.8s,MS4.9						
NACB	**Ninganchiao**	**36.13**	**22**	*e*P	**P**	**08 48 19.0**	**-0.1**
YHNB	**Yeheng**	**36.51**	**21**	P	**P**	**08 48 22.3**	**0.0**
CTA	**Charters Tower**	**38.57**	**110**	*e*P	**P**	**08 48 40.5**	**+0.7**
	comp=Z,18nm,0.8s,mb4.8						
CTA	**Charters Tower**	**38.57**	**110**	P	**P**	**08 48 41.1**	**+1.3**
	comp=Z,22nm,0.8s,mb4.9,baz=275,slow=12,SNR=10						
CTA	**Charters Tower**	**38.57**	**110**	*e*P	**P**	**08 48 40.5**	**+0.7**
CTA				pmax	pmax		
	comp=Z,18nm,0.8s						
PMG	**Port Moresby**	**38.85**	**93**	P	**P**	**08 48 43.8**	**+1.7**
	comp=Z,34nm,0.9s,mb5.1,baz=270,slow=6.2,SNR=6.0						
PMG				PcP	PcP	08 50 55.6	+2.6
	comp=Z,29nm,0.9s,baz=225,slow=2.3,SNR=5.3						
PMG	**Port Moresby**	**38.85**	**93**	P	**P**	**08 48 43.8**	**+1.7**
PMG						08 50 55.6	
PMG				pmax	pmax		
	comp=Z,34nm,0.9s						
PMG				pmax	pmax		
	comp=Z,29nm,0.9s						
WHN	**Wuhan**	**40.35**	**9**	P	**P**	**08 48 56.1**	**+1.4**
CD2	**Chengdu**	**40.40**	**355**	P	**P**	**08 48 55.3**	**+0.2**
CD2				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.3						
JOW	**Kunigami**	**41.28**	**28**	P	**P**	**08 49 02.9**	**+0.6**
	comp=Z,23nm,0.8s,mb4.8,baz=208,slow=5.0,SNR=4.7						
JIRN	**Jiri**	**42.48**	**331**	*e*P	**P**	**08 49 12.9**	**+0.8**
	comp=Z,145nm,0.7s,mb5.7						
NJ2	**Nanjing**	**42.70**	**14**	*e*P	**P**	**08 49 14.9**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
PKI	**Pulchoki**	**42.78**	**330**	*e*P	**P**	**08 49 15.0**	**+0.5**
	comp=Z,41nm,0.8s,mb5.2						
PKI	**Pulchoki**	**42.78**	**330**	*e*P	**P**	**08 49 15.0**	**+0.5**
PKI				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.2						
GUN	**Gumba**	**42.84**	**331**	*e*P	**P**	**08 49 15.7**	**+0.7**
	comp=Z,161nm,0.8s,mb5.8						
DMN	**Daman**	**42.96**	**330**	*e*P	**P**	**08 49 16.3**	**+0.3**
	comp=Z,159nm,0.9s,mb5.7						
KKN	**Kakani**	**43.02**	**330**	*e*P	**P**	**08 49 16.8**	**+0.3**
	comp=Z,119nm,0.9s,mb5.6						
KKN	**Kakani**	**43.02**	**330**	*e*P	**P**	**08 49 16.8**	**+0.3**
KKN				pmax	pmax		
	comp=Z,119nm,0.9s,mb5.6						
GKN	**Gorkha**	**43.52**	**330**	*e*P	**P**	**08 49 20.9**	**+0.4**
	comp=Z,110nm,0.9s,mb5.6						
KOLN	**Koldanda**	**43.85**	**328**	*e*P	**P**	**08 49 23.4**	**+0.2**
	comp=Z,163nm,0.8s,mb5.8						
LZH	**Lanzhou**	**45.53**	**356**	⇓P	**P**	**08 49 38.8**	**+2.2**
LZH				PP	PP	08 51 26.3	+3.1
LZH				AMB	AMB		
	comp=Z,41nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,231nm,5.1s						
GTA	**Gaotai**	**49.26**	**352**	*e*P	**P**	**08 50 06.8**	**+1.2**
GTA				AP	pP	08 50 14.6	+3.8
GTA				XP	sP	08 50 18.1	+5.2
GTA				AMB	AMB		
	comp=Z,47nm,1.1s,mb5.4						
BJT	**Baijiatuan**	**49.92**	**8**	*e*P	**P**	**08 50 10.6**	**-0.1**
BJT				pmax	pmax		
	comp=Z,38nm,0.8s						
BJT	**Baijiatuan**	**49.92**	**8**	*e*P	**P**	**08 50 10.6**	**0.0**
	comp=Z,38nm,0.8s,mb5.5						
BJI	**Beijing**	**49.94**	**8**	*e*P	**P**	**08 50 11.1**	**+0.3**
BJI				AMB	AMB		
	comp=Z,43nm,0.9s,mb5.5						
HHC	**Hu-ho-hao-te**	**50.26**	**4**	*e*P	**P**	**08 50 15.0**	**+1.8**
HHC				AP	pP	08 50 19.8	+1.3
HHC				XP	sP	08 50 25.1	+4.6
HHC				PP	PP	08 52 10.9	+2.3
HHC				S	**S**	**08 57 17.9**	**-7.1**
HHC				XS	sS	08 57 32.0	-1.6
HHC				SCS	ScS	09 00 04.3	+0.5
HHC				SS	SS	09 00 55.3	-3.1
HHC				AMB	AMB		
	comp=Z,143nm,0.5s,mb6.3						
MAJO	**Matsushiro**	**54.05**	**30**	*e*P	**P**	**08 50 39.4**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.1						
MAJO	**Matsushiro**	**54.05**	**30**	*e*P	**P**	**08 50 39.4**	**-2.0**
	comp=Z,23nm,0.9s,mb5.1						
MAT	**Matsushiro**	**54.05**	**30**	P	**P**	**08 50 39.3**	**-2.1**
MAT	**Matsushiro**	**54.05**	**30**	*e*P	**P**	**08 50 39.0**	**-2.4**
MAT				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
MAT	**Matsushiro**	**54.05**	**30**	*e*P	**P**	**08 50 39.0**	**-2.4**
	comp=Z,22nm,1.0s,mb5.0						
MJAR	**Matsushiro Arr**	**54.05**	**30**	P	**P**	**08 50 39.5**	**-1.9**
	comp=Z,30nm,1.0s,mb5.2,baz=204,slow=8.2,SNR=18						
MJAR				PcP	PcP	08 51 46.6	+0.4
	comp=Z,8.9nm,0.9s,baz=203,slow=3.9,SNR=6.2						
MJAR	**Matsushiro Arr**	**54.05**	**30**	P	**P**	**08 50 39.5**	**-1.9**
MJAR						08 51 46.6	
MJAR				pmax	pmax		
	comp=Z,30nm,1.0s						
MJAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WMQ	**Urumqi**	**56.15**	**343**	P	**P**	**08 50 58.1**	**+1.5**
WMQ				AP	pP	08 51 02.8	+0.9
WMQ				XP	sP	08 51 05.1	+1.2
WMQ				PCP	PcP	08 51 56.3	+1.9
WMQ				PP	PP	08 53 04.5	+2.8
WMQ				SCP	ScP	08 55 53.4	+0.5
WMQ				S	**S**	**08 58 44.3**	**-0.8**
WMQ				AMB	AMB		
	comp=Z,80nm,1.8s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,368nm,5.2s						
WMQ				LR	LR		
	comp=N,2μm,17.9s,MS5.3						
WMQ				LR	LR		
	comp=E,1μm,16.8s,MS5.3						
WMQ				LR	LR		
	comp=Z,2μm,18.4s,MS5.2						
SONM	**Songino Array**	**57.14**	**359**	P	**P**	**08 51 02.8**	**-0.8**
	comp=Z,32nm,1.0s,mb5.3,baz=175,slow=7.9,SNR=14						
SONM	**Songino Array**	**57.14**	**359**	P	**P**	**08 51 02.8**	**-0.8**
SONM				pmax	pmax		
	comp=Z,32nm,1.0s						
ULN	**Ulaanbaatar**	**57.16**	**359**	*e*P	**P**	**08 51 03.8**	**+0.1**
ULN				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
ULN	**Ulaanbaatar**	**57.16**	**359**	*e*P	**P**	**08 51 03.8**	**+0.1**
	comp=Z,30nm,0.8s,mb5.4						
MDJ	**Mudanjiang**	**57.41**	**18**	P	**P**	**08 51 05.1**	**-0.4**
MDJ				AP	pP	08 51 07.5	-3.3
MDJ				XP	sP	08 51 09.5	-3.3
MDJ				PCP	PcP	08 51 58.8	-0.5
MDJ				PP	PP	08 53 12.4	-0.5
MDJ				SCP	ScP	08 55 58.8	+0.4
MDJ				PCS	PcS	08 56 00.0	-0.4
MDJ				S	**S**	**08 59 02.0**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,59μm,13.5s						
MDJ	**Mudanjiang**	**57.41**	**18**	P	**P**	**08 51 05.4**	**-0.1**
HIA	**Hailar**	**59.50**	**9**	*e*P	**P**	**08 51 19.2**	**-0.9**
HIA				pmax	pmax		
	comp=Z,28nm,1.1s						
HIA	**Hailar**	**59.50**	**9**	*e*P	**P**	**08 51 19.2**	**-0.9**
	comp=Z,28nm,1.1s,mb5.2						
MKAR	**Makanchi Array**	**60.52**	**340**	P	**P**	**08 51 26.6**	**-0.5**
	comp=Z,23nm,0.7s,mb5.4,baz=148,slow=3.6,SNR=8.7						
MKAR	**Makanchi Array**	**60.52**	**340**	P	**P**	**08 51 26.6**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,23nm,0.7s						
ASAJ	**Asahikawa**	**62.04**	**28**	P	**P**	**08 51 36.3**	**-1.1**
	comp=Z,15nm,0.9s,mb5.2,baz=248,slow=9.0,SNR=8.5						
ASAJ	**Asahikawa**	**62.04**	**28**	P	**P**	**08 51 36.3**	**-1.1**
ASAJ				pmax	pmax		
	comp=Z,15nm,0.9s						
KLR	**Kul'dur**	**62.20**	**18**	*e*P	**P**	**08 51 35.2**	**-3.3**
KLR				pmax	pmax		
	comp=E,40nm,1.0s						
KLR				pmax	pmax		
	comp=Z,52nm,1.0s,mb5.6						
YSS	**Yuzh-Sakhalins**	**64.31**	**26**	⇑*i*P	**P**	**08 51 51.7**	**-0.8**
YSS				*e*		08 52 02.5	
YSS				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.8						
YSS	**Yuzh-Sakhalins**	**64.31**	**26**	*e*P	**P**	**08 51 51.6**	**-0.8**
	comp=Z,71nm,0.9s,mb5.7						
KURK	**Kurchatov**	**65.13**	**340**	P	**P**	**08 51 57.1**	**-0.7**
	comp=Z,219nm,0.9s,mb6.2,SNR=6.3						
KURK	**Kurchatov**	**65.13**	**340**	*e*P	**P**	**08 51 57.1**	**-0.7**
KURK				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
KURK	**Kurchatov**	**65.13**	**340**	*e*P	**P**	**08 51 57.1**	**-0.7**
	comp=Z,30nm,0.9s,mb5.3						
MAW	**Mawson**	**65.17**	**197**	P	**P**	**08 51 56.8**	**-1.2**
	comp=Z,19nm,0.9s,mb5.1,baz=43,slow=7.1,SNR=8.9						
MAW	**Mawson**	**65.17**	**197**	*e*P	**P**	**08 51 57.6**	**-0.5**
MAW				pmax	pmax		
	comp=Z,28nm,1.0s						
MAW	**Mawson**	**65.17**	**197**	*e*P	**P**	**08 51 57.6**	**-0.5**
	comp=Z,28nm,1.0s,mb5.2						
ZAL	**Zalesovo**	**66.16**	**345**	P	**P**	**08 52 02.3**	**-2.2**
	comp=Z,4.0nm,0.8s,mb4.5,baz=25,slow=4.9,SNR=3.9						
ZAL	**Zalesovo**	**66.16**	**345**	P	**P**	**08 52 02.3**	**-2.2**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOD	**Bodaibo**	**67.32**	**4**	*e*P	**P**	**08 52 08.6**	**-3.3**
BOD				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.2						
BVAR	**Borovoye Array**	**69.99**	**337**	P	**P**	**08 52 27.8**	**-0.7**
	comp=Z,11nm,0.6s,mb5.0,baz=141,slow=7.6,SNR=5.1						
BVAR	**Borovoye Array**	**69.99**	**337**	P	**P**	**08 52 27.8**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,11nm,0.6s						
BRVK	**Borovoye**	**70.05**	**337**	*e*P	**P**	**08 52 28.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BRVK	**Borovoye**	**70.05**	**337**	*e*P	**P**	**08 52 28.6**	**-0.3**
	comp=Z,4.6nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**70.41**	**338**	*e*P	**P**	**08 52 30.4**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.3						
CHKZ	**Chkalovo**	**70.41**	**338**	*e*P	**P**	**08 52 30.4**	**-0.7**
	comp=Z,24nm,0.6s,mb5.3						
ZRNK	**Zerenda**	**70.47**	**336**	*e*P	**P**	**08 52 30.4**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1						
ZRNK	**Zerenda**	**70.47**	**336**	*e*P	**P**	**08 52 30.4**	**-1.0**
	comp=Z,22nm,0.8s,mb5.1						
KMBO	**Kilima Mbogo**	**70.59**	**272**	P	**P**	**08 52 33.5**	**+1.3**
	comp=Z,5.6nm,0.9s,mb4.5,baz=61,slow=6.9,SNR=7.2						
KMBO	**Kilima Mbogo**	**70.59**	**272**	P	**P**	**08 52 33.5**	**+1.3**
KMBO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SKR	**Severo-Kuril's**	**73.15**	**30**	*e*P	**P**	**08 52 38.0**	**-10**
VNDA	**Vanda**	**73.34**	**169**	P	**P**	**08 52 48.5**	**-0.2**
	comp=Z,2.7nm,0.9s,mb4.2,baz=312,slow=7.3,SNR=3.8						
VNDA	**Vanda**	**73.34**	**169**	P	**P**	**08 52 48.5**	**-0.2**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YAK	**Yakutsk**	**73.37**	**11**	*e*P	**P**	**08 52 47.4**	**-1.5**
YAK				pmax	pmax		
	comp=Z,114nm,0.8s,mb5.8						
YAK	**Yakutsk**	**73.37**	**11**	*e*P	**P**	**08 52 47.4**	**-1.5**
	comp=Z,114nm,0.8s,mb5.8						
SYO	**Syowa Base**	**73.39**	**200**	⇑*e*P	**P**	**08 52 47.5**	**-1.5**
AKTK	**Aktyubinsk**	**73.68**	**329**	P	**P**	**08 52 49.8**	**-0.9**
AKTO	**Aktyubinsk**	**73.68**	**329**	P	**P**	**08 52 49.8**	**-0.9**
	comp=Z,7.3nm,1.1s,mb4.5,baz=113,slow=7.7,SNR=2.4						
AKTO	**Aktyubinsk**	**73.68**	**329**	P	**P**	**08 52 49.8**	**-0.9**
AKTO				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
ARU	**Arti**	**77.23**	**334**	*e*P	**P**	**08 53 09.9**	**-1.1**
ARU	**Arti**	**77.23**	**334**	*e*P	**P**	**08 53 10.5**	**-0.5**
	comp=Z,25nm,1.0s,mb5.1						
LSZ	**Lusaka**	**77.56**	**256**	*e*P	**P**	**08 53 13.4**	**+0.5**
LSZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
LSZ	**Lusaka**	**77.56**	**256**	*e*P	**P**	**08 53 13.4**	**+0.5**
	comp=Z,4.8nm,0.7s,mb4.5						
LBTB	**Lobatse**	**78.97**	**246**	P	**P**	**08 53 21.1**	**+0.4**
	comp=Z,3.0nm,0.9s,mb4.2,baz=142,slow=4.7,SNR=3.6						
LBTB	**Lobatse**	**78.97**	**246**	P	**P**	**08 53 21.2**	**+0.5**
LBTB				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ASF	**Jabal al Asfar**	**79.23**	**305**	P	**P**	**08 53 22.6**	**+0.5**
	comp=Z,9.6nm,0.9s,mb4.7,baz=351,slow=1.5,SNR=6.7						
ASF	**Jabal al Asfar**	**79.23**	**305**	P	**P**	**08 53 22.6**	**+0.5**
ASF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KIV	**Kislovodsk**	**79.26**	**318**	*e*P	**P**	**08 53 22.8**	**+0.5**
KIV				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
KIV	**Kislovodsk**	**79.26**	**318**	*e*P	**P**	**08 53 23.1**	**+0.7**
	comp=Z,16nm,0.9s,mb5.0						
GOF	**Gofitskoye**	**79.50**	**319**	*e*P	**P**	**08 53 24.3**	**+0.7**
EIL	**Elat**	**80.06**	**302**	*e*P	**P**	**08 53 27.1**	**+0.5**
	comp=Z,270nm,1.1s,mb6.1						
MMAI	**Mount Meron Ar**	**80.69**	**306**	P	**P**	**08 53 31.3**	**+1.3**
	comp=Z,4.8nm,0.6s,mb4.6,baz=105,slow=9.6,SNR=5.3						
TIXI	**Tiksi**	**82.23**	**7**	*e*P	**P**	**08 53 35.3**	**-2.9**
TIXI				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.4						
CSS	**Prodhromos**	**82.91**	**307**	*e*P	**P**	**08 53 41.9**	**+0.2**
	comp=Z,15nm,0.8s,mb5.1						
BR131	**Keskin Array S**	**84.07**	**312**	*e*P	**P**	**08 53 47.0**	**-0.7**
	comp=Z,9.7nm,1.1s,mb4.8						
BRTR	**Keskin Array B**	**84.07**	**312**	P	**P**	**08 53 47.1**	**-0.6**
	comp=Z,7.2nm,1.0s,mb4.8,baz=132,slow=6.8,SNR=6.3						
BRTR	**Keskin Array B**	**84.07**	**312**	P	**P**	**08 53 47.1**	**-0.6**
BRTR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TSUM	**Tsumeb**	**87.08**	**251**	P	**P**	**08 54 03.2**	**+0.5**
	comp=Z,4.7nm,0.8s,mb4.8,baz=87,slow=8.2,SNR=6.2						
TSUM	**Tsumeb**	**87.08**	**251**	*e*P	**P**	**08 54 03.6**	**+1.0**
	comp=Z,4.3nm,0.8s,mb4.7						
OBN	**Obninsk**	**87.25**	**327**	*e*P	**P**	**08 54 03.6**	**+0.1**
OBN				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.7						
AKASG	**Malin Array Be**	**90.14**	**321**	P	**P**	**08 54 15.0**	**-2.2**
	comp=Z,3.7nm,0.7s,mb4.8,baz=89,slow=3.8,SNR=7.4						
AKASG				PP	PP	08 57 50.3	-0.3
	comp=Z,1.3nm,0.6s,baz=85,slow=7.1,SNR=4.5						
AKASG	**Malin Array Be**	**90.14**	**321**	P	**P**	**08 54 15.0**	**-2.2**
AKASG						08 57 50.3	
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**96.17**	**339**	P	**P**	**08 54 43.9**	**-1.0**
	comp=Z,6.6nm,0.9s,mb5.1,baz=102,slow=5.1,SNR=8.1						
ARCES	**ARCESS Array B**	**96.17**	**339**	P	**P**	**08 54 43.9**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**107.64**	**281**	PKiKP	PKiKP	08 59 43.9	-0.1
	comp=Z,1.9nm,0.9s,baz=46,slow=2.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**107.64**	**281**	PKPdf	PKiKP	08 59 43.9	-0.1
YKA	**Yellowknife Ar**	**118.96**	**21**	PKP	PKPdf	09 00 04.8	-0.7
	comp=Z,3.7nm,0.7s,baz=317,slow=2.0,SNR=12						
YKA	**Yellowknife Ar**	**118.96**	**21**	PKIKP	PKPdf	09 00 04.8	-0.8
YKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YKA	**Yellowknife Ar**	**118.96**	**21**	PKP	PKPdf	09 00 04.8	-0.7
A05A	**Maple Falls**	**122.87**	**37**	⇑P	PKPdf	09 00 14.1	+1.0
	baz=123						
E03A	**Lebam**	**123.00**	**40**	⇑P	PKPdf	09 00 15.2	+1.8
	baz=123						
B05A	**Bryant**	**123.19**	**38**	⇑P	PKPdf	09 00 15.1	+1.4
	baz=123						
C05A	**Tolt Reservoir**	**123.69**	**38**	⇑P	PKPdf	09 00 15.7	+1.0
	baz=124						
D05A	**Enumclaw**	**123.72**	**39**	⇑P	PKPdf	09 00 16.2	+1.5
	baz=124						
I02A	**Mapleton**	**123.80**	**43**	⇓P	PKPdf	09 00 16.7	+1.8
	baz=124						
H03A	**Soap Creek Ran**	**123.90**	**42**	⇑P	PKPdf	09 00 16.3	+1.3
	baz=124						
F04A	**Amboy**	**123.97**	**40**	⇓P	PKPdf	09 00 16.4	+1.2
	baz=124						
E05A	**Randle**	**124.13**	**39**	⇓P	PKPdf	09 00 16.7	+1.2
	baz=124						
G04A	**Mulino**	**124.22**	**41**	⇓P	PKPdf	09 00 17.4	+1.7
	baz=124						
K02A	**Glendale**	**124.47**	**44**	⇑P	PKPdf	09 00 17.5	+1.3
	baz=124						
H04A	**Detroit Lake**	**124.62**	**42**	⇑P	PKPdf	09 00 17.4	+1.0
	baz=124						
HUMO	**Hull Mountain**	**124.90**	**44**	⇑P	PKPdf	09 00 18.9	+1.9
	baz=125						
G05A	**Wamic**	**124.96**	**41**	⇓P	PKPdf	09 00 18.7	+1.6
	baz=125						
H05A	**Madras**	**125.26**	**41**	⇑P	PKPdf	09 00 19.4	+1.7
	baz=125						
N02C	**Big Bar**	**125.28**	**46**	⇓P	PKPdf	09 00 19.2	+1.5
	baz=125						
EDM	**Edmonton**	**125.34**	**29**	*e*PKIKP	PKPdf	09 00 17.4	-0.4
M02C	**Callahan**	**125.41**	**46**	⇑P	PKPdf	09 00 19.3	+1.3
	baz=125						
I05A	**Bend**	**125.44**	**42**	⇑P	PKPdf	09 00 20.0	+2.0
	baz=125						
HAWA	**Hanford**	**125.59**	**39**	*e*PKPdf	PKPdf	09 00 19.9	+1.6
P01C	**Double 8 Ranch**	**125.71**	**48**	⇓P	PKPdf	09 00 20.8	+2.2
	baz=126						
WDC	**Whiskeytown Da**	**125.92**	**46**	⇑P	PKPdf	09 00 20.3	+1.4
	baz=126						
NEW	**Newport**	**126.12**	**36**	*e*PKIKP	PKPdf	09 00 20.1	+0.8
J06A	**Christmas Vall**	**126.55**	**42**	⇑P	PKPdf	09 00 21.7	+1.5
	baz=126						
MNRC	**McLaughlin Nat**	**126.56**	**48**	⇓P	PKPdf	09 00 23.4	+3.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=126						
L05A	Lakeview	126.57	44	⇑P	PKPdf	09 00 22.7	+2.5
	baz=126						
HATC	Hat Creek Radi	126.60	46	⇓P	PKPdf	09 00 22.3	+2.1
	baz=126						
M05C	Lookout	126.61	45	⇓P	PKPdf	09 00 22.1	+1.9
	baz=126						
K06A	Valley Falls	126.67	43	⇓P	PKPdf	09 00 21.9	+1.5
	baz=127						
O04C	Chester	127.04	46	⇓P	PKPdf	09 00 23.0	+2.0
	baz=127						
J07A	Hines	127.06	42	⇓P	PKPdf	09 00 22.8	+1.7
	baz=127						
O05C	Quincy	127.30	47	⇑P	PKPdf	09 00 23.6	+2.0
	baz=127						
P05C	Yuba Gap, Truc	127.76	47	⇓P	PKPdf	09 00 24.5	+2.0
	baz=128						
N06A	Buffalo Meadow	127.77	45	⇑P	PKPdf	09 00 24.5	+2.1
	baz=128						
S04C	Ingram Canyon,	127.85	50	⇑P	PKPdf	09 00 25.1	+2.5
	baz=128						
LAVA	Lava Cap Winer	127.86	48	⇑P	PKPdf	09 00 24.7	+2.0
	baz=128						
M07A	Soldier Meadow	127.97	44	⇑P	PKPdf	09 00 25.2	+2.3
	baz=128						
O06A	Flanigan	128.00	46	⇑P	PKPdf	09 00 25.1	+2.3
	baz=128						
HAST	UC Hastings Re	128.04	51	⇑P	PKPdf	09 00 24.8	+1.8
	baz=128						
N07B	Gerlach	128.36	45	⇓P	PKPdf	09 00 26.1	+2.6
	baz=128						
R05C	Kirkwood Meado	128.36	48	⇑P	PKPdf	09 00 25.8	+2.3
	baz=128						
M08A	Happy Creek Ra	128.49	44	⇑P	PKPdf	09 00 26.9	+3.1
	baz=128						
S05C	Merced	128.65	49	⇓P	PKPdf	09 00 26.6	+2.5
	baz=129						
O07A	Toulon	128.67	46	⇓P	PKPdf	09 00 26.2	+2.0
	baz=129						
MSO	Missoula	128.71	36	ePKPdf	PKPdf	09 00 24.6	+0.4
S06C	San Francisco	128.82	49	⇓P	PKPdf	09 00 25.7	+1.2
	baz=129						
R06C	Coleville	128.88	48	⇑P	PKPdf	09 00 26.4	+1.8
	baz=129						
N08A	GE Springer Mi	128.94	45	⇓P	PKPdf	09 00 27.1	+2.5
	baz=129						
M09A	Marrel Ranch,	129.14	43	⇓P	PKPdf	09 00 27.9	+2.8
	baz=129						
T06C	Millerton Lake	129.23	50	⇓P	PKPdf	09 00 27.8	+2.6
	baz=129						
N09A	Rock Creek Ran	129.33	44	⇑P	PKPdf	09 00 28.2	+2.8
	baz=129						
NVAR	Mina Array Bea	129.75	47	PKP	PKPdf	09 00 28.6	+2.4
	comp=Z,1.7nm,0.9s,baz=241,slow=1.4,SNR=6.3						
HLID	Hailey	130.13	40	ePKPdf	PKPdf	09 00 29.6	+2.7
S09A	Goldfield	130.81	48	⇓P	PKPdf	09 00 31.2	+2.9
	baz=131						
R10A	Warm Springs	131.25	47	⇑P	PKPdf	09 00 32.9	+3.8
	baz=131						
M13A	Montello	131.37	42	⇑P	PKPdf	09 00 32.6	+3.4
	baz=131						
Q11A	Duckwater	131.48	46	⇓P	PKPdf	09 00 31.3	+1.8
	baz=131						
P12A	McGill	131.73	45	⇓P	PKPdf	09 00 32.4	+2.4
	baz=132						
GCMT	Greycliff	131.74	35	ePKPdf	PKPdf	09 00 31.6	+1.6
U10A	Ash Meadows, A	131.97	49	⇑P	PKPdf	09 00 34.8	+4.3
	baz=132						
Q12A	Willow Creek R	131.98	45	⇑P	PKPdf	09 00 34.1	+3.7
	baz=132						
GSC	Goldstone	132.03	51	⇑P	PKPdf	09 00 33.7	+3.2
	baz=132						
TUQ	Turquoise Mtn.	132.65	50	⇓P	PKPdf	09 00 35.4	+3.7
	baz=133						
HWUT	Hardware Ranch	132.93	40	ePKPdf	PKPdf	09 00 34.1	+1.9
V12A	Nelson	133.35	49	⇑P	PKPdf	09 00 36.2	+3.1
	baz=133						
PDAR	Pinedale Array	133.56	38	PKP	PKPdf	09 00 35.0	+1.6
	comp=Z,1.4nm,0.8s,baz=311,slow=1.0,SNR=4.8						
MSU	Marysvale	134.06	44	ePKIKP	PKPdf	09 00 36.4	+2.0
W13A	Hualapai Mount	134.31	50	⇑P	PKPdf	09 00 38.8	+3.9
	baz=134						
X13A	Yucca	134.56	50	⇓P	PKPdf	09 00 37.6	+2.3
	baz=134						
SCHQ	Schefferville	134.63	356	PKP	PKPdf	09 00 36.0	+0.6
	comp=Z,6.4nm,0.9s,baz=97,slow=1.5,SNR=6.0						
W14A	Seligman	134.88	49	⇑P	PKPdf	09 00 40.0	+4.1
	baz=135						
X14A	Yava	135.32	50	⇓P	PKPdf	09 00 40.9	+4.1
	baz=135						
Y14A	Wickenburg	135.45	51	⇑P	PKPdf	09 00 40.9	+3.9
	baz=135						
X15A	Humboldt	135.80	50	⇑P	PKPdf	09 00 41.6	+4.0
	baz=136						
RSSD	Black Hills	135.89	33	ePKIKP	PKPdf	09 00 38.1	+0.3
PV10	Paradox Valley	136.27	43	ePKPdf	PKPdf	09 00 41.3	+2.8
116A	Eloy	137.00	52	⇑P	PKPdf	09 00 44.2	+4.3
	baz=137						
ANMO	Albuquerque	139.81	46	PKP	PKPdf	09 00 47.8	+2.8
	comp=Z,2.5nm,0.8s,baz=228,slow=3.8,SNR=7.1						
ANMO	Albuquerque	139.81	46	ePKPdf	PKPdf	09 00 48.9	+3.9
CPUP	Villa Florida	141.51	202	PKhKP		09 00 43.4	
	comp=Z,1.0nm,0.6s,baz=115,slow=7.9,SNR=3.1						
CPUP	Villa Florida	141.51	202	PKHKP		09 00 43.4	
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SCIA	State Center	142.85	26	ePKPdf	PKPdf	09 00 50.4	-0.1
MSNY	Massena	144.60	3	ePKPdf	PKPdf	09 00 52.7	-0.8
LTX	Lajitas	144.61	52	ePKIKP	PKPdf	09 00 54.2	+0.7
LONY	Lake Ozonia	145.00	3	ePKPdf	PKPdf	09 00 53.7	-0.5
WMOK	Wichita Mounta	145.10	40	ePKIKP	PKPdf	09 00 54.4	0.0
BDFB	Brasilia	145.33	224	PKPbc	PKPbc	09 00 55.5	+0.9
	comp=Z,12nm,0.8s,baz=151,slow=4.6,SNR=8.9						
BDFB	Brasilia	145.33	224	PKP2	PKPab	09 00 55.5	+0.7
BDFB				pmax	pmax		
	comp=Z,12nm,0.8s						
MIV	Mineville/With	145.58	2	ePKPdf	PKPdf	09 00 55.3	0.0
NCB	Newcomb	145.66	3	ePKPdf	PKPdf	09 00 56.0	+0.6
AAM	Ann Arbor	145.86	15	ePKP2	PKPab	09 00 56.3	-0.4
SLM	Saint Louis	146.84	26	ePKP2	PKPab	09 00 58.9	-1.6
CCM	Cathedral Cave	146.86	28	ePKP2	PKPab	09 00 59.1	-1.5
JCT	Junction City	146.93	47	ePKP2	PKPab	09 01 00.8	0.0
FVM	French Village	147.29	27	ePKP2	PKPab	09 01 00.5	-1.8
BLO	Bloomington	147.85	21	ePKP2	PKPab	09 01 02.4	-2.1
LVC	Limon Verde	147.88	186	PKPbc	PKPbc	09 01 04.7	+2.7
	comp=Z,11nm,0.9s,baz=232,slow=5.3,SNR=5.0						
LVC	Limon Verde	147.88	186	ePKPbc	PKPbc	09 01 03.8	+1.8
ACSO	Alum Creek Sta	147.98	16	ePKPbc	PKPbc	09 01 02.4	0.0
MIAR	Mount Ida	148.36	35	ePKPbc	PKPbc	09 01 04.5	+1.2
MIAR				ePKPab	PKPab	09 01 07.4	+0.9
USIN	University of	148.47	24	ePKPbc	PKPbc	09 01 03.9	+0.3
SSPA	Standing Stone	148.63	8	ePKPbc	PKPbc	09 01 04.2	+0.2
WCI	Wyandotte Cave	148.77	22	ePKP2	PKPbc	09 01 04.2	-0.2
UALR	University of	148.87	33	ePKPbc	PKPbc	09 01 04.9	+0.2
UTMT	University of	149.35	27	ePKPbc	PKPbc	09 01 06.3	+0.5
KVTX	Kingsville	149.91	50	ePKPbc	PKPbc	09 01 09.4	+2.2
WVT	Waverly	149.98	26	ePKP2	PKPbc	09 01 08.0	+0.6
HKT	Hockley	150.03	44	ePKP2	PKPbc	09 01 08.6	+1.1
OXF	Oxford	150.59	30	ePKIKP	PKPbc	09 01 09.0	+0.1
OXF				e		09 01 15.7	
PLAL	Pickwick Lake	150.83	27	ePKPbc	PKPbc	09 01 09.2	-0.3
FWV	Forest Hill	151.03	14	ePKPbc	PKPbc	09 01 10.0	+0.1
ELN	Prospectdale	151.38	14	ePKPbc	PKPbc	09 01 10.6	-0.1
BLA	Blacksburg	151.48	14	ePKIKP	PKPbc	09 01 10.6	-0.3
SIV	San Ignacio	152.32	204	PKPbc	PKPbc	09 01 13.6	+0.8
	comp=Z,8.5nm,0.8s,baz=152,slow=3.2,SNR=8.7						
LPAZ	La Paz	154.01	189	PKPbc	PKPbc	09 01 18.8	+2.3
	comp=Z,2.9nm,0.8s,baz=194,slow=0.2,SNR=5.0						
LPAZ	La Paz	154.01	189	PKIKP	PKPbc	09 01 18.8	+2.2
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						

JMA 17 08:42:03.8±0.3, 2392N×12194E, h42km, M3.5, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.12	61	P	Pn	08 42 23.3	+0.4
YOJ				eS	Sn	08 42 37.4	+0.3
IRIF	Iriomote-Funau	1.69	75	P	Pn	08 42 31.4	+0.6
IRIF				S	Sn	08 42 52.4	+1.3
HATJ	Hateruma jima	1.71	85	P	Pn	08 42 31.8	+0.7
HATJ				S	Sn	08 42 52.8	+1.1
JKRS	Kuro-shima	1.92	80	P	Pn	08 42 35.4	+1.5
JKRS				S	Sn	08 42 58.3	+1.5
JIJ	Ishigaki jima	2.06	77	P	Pn	08 42 36.4	+0.5
JIJ				S	Sn	08 43 00.1	-0.2
JTJ	Tarama	2.62	74	P	Pn	08 42 44.9	+1.3
JTJ				eS	Sn	08 43 15.1	+0.9
JMJ	Miyako jima 2	3.19	73	eS	Sn	08 43 29.5	+1.4
JOGS	Gusukube	3.27	74	eS	Sn	08 43 32.5	+2.3
JKE	Kume jima 2	5.00	60	P	Pn	08 43 16.9	+0.6
JOW	Kunigami	6.42	62	P	Pn	08 43 35.1	-0.7

GUC 17 08:56:29.1±0.6, 4047S×7226W, h5km, ML4.7
NEIC 17 08:56:29.1, 4047S×7226W, h5km, ML4.7(GUC), After GUC.
NEIC Felt at San Carlos de Bariloche, Argentina.
ISCJB 17 08:56:30.7±1.1, 4040S±007×7227W±009, h10km, mb4.1/2, Error ellipse: s-maj=11.8km s-min=7.1km az=86.6
IDC 17 08:56:35.5±4.5, 4039S×7204W, h18km±23km, mb4.1/2, mb1 3.9/4, mb1mx3.7/14, mbtmp4.0/4, ML3.8/2, MS4.1/1, Ms1 4.1/1, ms1mx3.3/32, Error ellipse: s-maj=37.7km s-min=18.0km az=46.0
ISC 17 08:56:31.5±1.2, 4044S±007×7237W±009, h10km, n11, σ1s12/16, mb4.1/2, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	Valdivia	0.93	313	eP	Pg	08 56 47.3	-2.0
VLCH				iS	Sg	08 57 02.4	+1.1
VLCH				AML	AML	08 57 05.3	
	comp=N,44μm,0.6s						
VLCH	Valdivia	0.93	313	eP	Pg	08 56 47.3	-2.0
VLCH				iS	Sg	08 57 02.4	+1.1
PLCA	Paso Flores	1.41	103	Pg	Pg	08 56 57.4	-1.2
	comp=N,423nm,0.3s,baz=289,slow=15,SNR=3690						
PLCA				Lg		08 57 13.9	
	comp=N,1μm,0.3s,baz=24,slow=20,SNR=51						
TMU	Temuco	1.71	354	eP	Pn	08 56 59.8	-1.6
TMU				iS	Sn	08 57 22.8	-0.5
CCHI	Chillan	3.84	3	eP	Pn	08 57 30.3	-0.3
CCHI				iS	Sn	08 58 16.2	+0.4
LNCH	Linares	4.62	8	eP	Pn	08 57 40.9	-0.5
LNCH				iS	Sn	08 58 35.3	+0.2
CFAA	Coronel Fontan	9.43	22	Pn	Pn	08 58 48.6	+1.2
	comp=N,0.1nm,0.3s,baz=205,slow=11,SNR=19						
CFAA				Lg		09 01 28.9	
	comp=N,0.0nm,0.3s,baz=206,slow=18,SNR=2.4						
CFAA				LR	LR	09 02 49.9	
	comp=N,1μm,21.9s,baz=245,slow=40						
CFAA	Coronel Fontan	9.43	22	Pn	Pn	08 58 48.6	+1.3
CFAA				Lg		09 01 28.9	
LVC	Limon Verde	18.01	10	P	Pn	09 00 45.9	+4.0
	comp=N,0.3nm,0.3s,baz=211,slow=8.0,SNR=4.1						
DBIC	Dimbokro	77.56	70	P	P	09 08 29.0	+1.4
	comp=N,4.1nm,0.9s,mb4.4,baz=198,slow=6.4,SNR=4.4						
TORD	Torodi Ar. Bea	86.67	70	P	P	09 09 16.6	+1.2
	comp=N,0.7nm,0.8s,mb3.9,baz=235,slow=5.1,SNR=3.4						

IDC 17 08:59:59.4±3.1, 936S×10797E, h0km, mb3.9/4, mb1 3.9/4, mb1mx3.7/16, mbtmp3.9/4, Error ellipse: s-maj=125.9km s-min=28.6km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.55	115	P	P	09 05 48.4	+0.5
	0.6nm,0.7s,baz=285,slow=12,SNR=2.8						
SONM	Songino Array	56.96	359	P	P	09 09 46.1	-0.3
	0.7nm,0.5s,baz=179,slow=7.5,SNR=6.0						
MKAR	Makanchi Array	60.41	340	P	P	09 10 10.8	+0.3
	1.3nm,0.6s,baz=149,slow=7.3,SNR=6.4						
BVAR	Borovoye Array	69.90	337	P	P	09 11 12.3	+0.1
	0.9nm,0.6s,baz=146,slow=8.8,SNR=4.5						

IDC 17 09:00:13.8±0.4, 968S×10751E, h0km, mb4.7/23, mb1 4.7/25, mb1mx4.7/28, mbtmp4.7/25, ML4.4/2, Error ellipse: s-maj=15.5km s-min=12.5km az=65.0
ISCJB 17 09:00:15.6±0.2, 965S±004×10756E±005, h22km, mb5.2/62, MS5.4/3, Error ellipse: s-maj=8.6km s-min=5.2km az=114.4
BJI 17 09:00:16.7, 970S×10750E, h24km, mB5.3, mb5.1, Ms5.7, Msz5.2
MOS 17 09:00:17.4±1.3, 957S×10756E, h33km, mb5.6/22, Error ellipse: s-maj=13.0km s-min=7.4km az=113.2
NEIC 17 09:00:17.7±2.2, 968S×10752E, h25km±14km, mb5.5/32, Error ellipse: s-maj=7.4km s-min=4.5km az=50.0
ISC 17 09:00:17.6±0.2, 974S±004×10749E±005, h24km, h24km±4.1km:pP-P, n215, σ1s05/131, mb5.2/62, MS5.4/3, 20C-25D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	Banjamegara	3.25	43	⇓iP	Pn	09 01 08.7	+1.6
BJII				iS	Sn	09 01 37.4	-7.5
COCO	West Island	10.74	256	Pn	Pn	09 02 47.8	-2.1
	1μm,0.5s,SNR=5.2						
COCO	West Island	10.74	256	ePn	Pn	09 02 46.9	-3.0
	270nm,0.8s						
KSM	Kuching	11.48	14	ePn	Pn	09 03 04.8	+4.7
KGM	Kluang	12.39	340	P	Pn	09 03 12.3	-0.2
KGM	Kluang	12.39	340	P	Pn	09 03 12.3	-0.2
PSI	Prapat	15.10	325	Pn	Pn	09 03 48.3	-1.0
	1.1nm,0.3s,baz=162,slow=14,SNR=4.3						
IPM	Ipoh	15.52	335	P	Pn	09 03 57.0	+2.1
IPM	Ipoh	15.52	335	P	Pn	09 03 57.0	+2.1
MBWA	Marble Bar	16.36	135	ePn	Pn	09 04 00.5	-5.3
	32nm,0.4s						
KULM	Kulim	16.41	335	eP	Pn	09 04 02.5	-3.8
TSM	Tawau	17.36	37	P	Pn	09 04 21.7	+3.5
TSM	Tawau	17.36	37	P	Pn	09 04 21.7	+3.5
KKM	Kota Kinabalu	17.93	29	P	Pn	09 04 28.3	+3.0
KKM	Kota Kinabalu	17.93	29	P	Pn	09 04 28.3	+3.0
KKM	Kota Kinabalu	17.93	29	eP	Pn	09 04 29.3	+4.0
FITZ	Fitzroy Crossi	19.47	117	eP	Pn	09 04 43.7	-0.2
	68nm,1.5s						
FITZ				eS	Sn	09 08 00.4	-21
FITZ	Fitzroy Crossi	19.47	117	P	Pn	09 04 43.8	-0.2
	0.9nm,0.3s,baz=272,slow=6.0,SNR=8.8						
KLBR	Kellerberrin	23.74	158	eP	P	09 05 27.2	-0.9
KLBR	Kellerberrin	23.74	158	eP	S	09 09 41.0	-0.8
	54nm,1.3s						
KAKA	Kakadu	24.65	99	eP	P	09 05 35.9	-0.4
	44nm,0.6s,mb5.2						
NWAO	Narrogin (SRO)	24.77	160	P	P	09 05 37.9	+0.4
	15nm,0.8s,mb4.6,baz=330,slow=12,SNR=5.8						
NWAO	Narrogin (SRO)	24.77	160	eP	P	09 05 37.5	+0.1
NWAO				pmax	pmax		
	comp=Z,90nm,1.6s						
NWAO	Narrogin (SRO)	24.77	160	eP	P	09 05 37.5	0.0
	comp=Z,90nm,1.6s,mb5.0						
WRA	Warramunga Arr	27.83	114	P	P	09 06 05.7	+0.6
	comp=Z,7.4nm,0.8s,mb4.3,baz=286,slow=12,SNR=32						
WB2	Warramunga Arr	27.84	114	eP	P	09 06 04.9	-0.2
ASPA	Alice Springs	28.77	122	eP	P	09 06 14.1	+0.7
ASAR	Alice Springs	28.77	122	P	P	09 06 14.1	+0.7
	comp=Z,1.0nm,0.6s,baz=309,slow=9.1,SNR=7.7						
ASAR				PcP	PcP	09 09 23.9	+0.8
	comp=Z,2.1nm,0.6s,baz=320,slow=2.8,SNR=4.4						
AS31	Alice Springs	28.77	122	eP	P	09 06 14.1	+0.6
CHTO	Chiang Mai	29.59	343	eP	P	09 06 21.5	+0.7
CHTO				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.1						
CHTO	Chiang Mai	29.59	343	eP	P	09 06 21.5	+0.7
	comp=Z,44nm,1.1s,mb5.1						
KMI	Kunming	34.96	352	P	P	09 07 10.0	+2.3
KMI				AMB	AMB		
	comp=Z,46nm,1.6s,mb5.2						
GYA	Guiyang	35.99	359	⇑iP	P	09 07 17.6	+1.0
GYA				AP	pP	09 07 21.8	-2.0
GYA				XP	sP	09 07 24.9	-1.8
GYA				PP	PP	09 08 38.8	+0.3
GYA				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.5						
GYA				AMB	AMB		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=N,1μm,16.8s,MS4.9						
GYA				LR	LR		
	comp=E,1μm,17.0s,MS4.9						
GYA				LR	LR		
	comp=Z,1μm,17.2s,MS4.8						
NACB	Ninganchiao	36.41	22	P	P	09 07 19.4	-0.8
YHNB	Yeheng	36.78	21	eP	P	09 07 23.9	+0.5
CTA	Charters Tower	38.76	110	eP	P	09 07 41.4	+1.3
	comp=Z,35nm,1.5s,mb4.9						
CTA	Charters Tower	38.76	110	eP	P	09 07 41.4	+1.3
CTA				pmax	pmax		
	comp=Z,35nm,1.5s						
PMG	Port Moresby	39.11	93	eP	P	09 07 44.2	+1.2
PMG				pmax	pmax		
	comp=Z,75nm,1.5s						
PMG	Port Moresby	39.11	93	eP	P	09 07 44.2	+1.2
	comp=Z,75nm,1.5s,mb5.2						
CD2	Chengdu	40.57	355	⇑iP	P	09 07 55.3	+0.1
CD2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.6						
WHN	Wuhan	40.59	9	eP	P	09 08 00.1	+4.8
WHN				AP	pP	09 08 08.5	+6.0
JOW	Kunigami	41.58	29	P	P	09 08 03.6	+0.2
	comp=Z,7.8nm,0.6s,mb4.5,baz=268,slow=11,SNR=4.6						
JIRN	Jiri	42.52	332	eP	P	09 08 12.2	+1.1
	comp=Z,402nm,1.1s,mb6.0						
PKI	Pulchoki	42.81	331	eP	P	09 08 14.2	+0.7
	comp=Z,151nm,1.1s,mb5.7						
PKI	Pulchoki	42.81	331	eP	P	09 08 14.2	+0.7
PKI				pmax	pmax		
	comp=Z,151nm,1.1s,mb5.6						
GUN	Gumba	42.87	331	eP	P	09 08 15.1	+1.1
	comp=Z,255nm,1.0s,mb5.9						
DMN	Daman	42.99	330	eP	P	09 08 15.6	+0.6
	comp=Z,258nm,1.1s,mb5.9						
KKN	Kakani	43.06	331	eP	P	09 08 16.0	+0.5
	comp=Z,295nm,1.2s,mb5.9						
KKN	Kakani	43.06	331	eP	P	09 08 16.0	+0.5
KKN				pmax	pmax		
	comp=Z,295nm,1.2s,mb5.9						
GKN	Gorkha	43.55	330	eP	P	09 08 20.0	+0.5
	comp=Z,420nm,1.3s,mb6.0						
KOLN	Koldanda	43.88	329	eP	P	09 08 22.8	+0.7
	comp=Z,342nm,1.3s,mb5.9						
LZH	Lanzhou	45.70	356	eP	P	09 08 37.8	+1.1
LZH				AP	pP	09 08 47.6	+3.6
LZH				XP	sP	09 08 51.5	+4.6
LZH				PP	PP	09 10 25.3	+1.4
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,128nm,4.9s						
NDI	New Delhi	48.10	323	eP	P	09 08 53.5	-1.9
GTA	Gaotai	49.41	352	eP	P	09 09 06.8	+1.3
GTA				AP	pP	09 09 16.8	+4.0
GTA				XP	sP	09 09 20.4	+4.7
GTA				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.4						
BJT	Baijiatuau	50.15	9	eP	P	09 09 09.9	-1.2
BJT				pmax	pmax		
	comp=Z,25nm,0.9s						
BJT	Baijiatuau	50.15	9	eP	P	09 09 09.9	-1.2
	comp=Z,25nm,0.9s,mb5.2						
BJI	Beijing	50.17	9	eP	P	09 09 10.3	-1.0
BJI				AMB	AMB		
	comp=Z,27nm,1.6s,mb5.0						
HHC	Hu-ho-hao-te	50.47	4	eP	P	09 09 15.3	+1.8
HHC				AP	pP	09 09 19.4	-1.5
HHC				XP	sP	09 09 22.3	-1.5
HHC				PCP	PcP	09 10 33.1	+1.6
HHC				PP	PP	09 11 13.6	+4.3
HHC				AMB	AMB		
	comp=Z,81nm,0.5s,mb6.0						
HHC				LR	LR		
	comp=N,22μm,16.6s,MS6.3						
HHC				LR	LR		
	comp=E,13μm,14.3s,MS6.3						
HHC				LR	LR		
	comp=Z,14μm,15.5s,MS6.1						
MAJO	Matsushiro	54.35	30	eP	P	09 09 40.0	-2.3
MAT	Matsushiro	54.35	30	P	P	09 09 39.8	-2.5
MJAR	Matsushiro Arr	54.35	30	P	P	09 09 40.1	-2.2
	comp=Z,13nm,1.0s,mb4.8,baz=208,slow=8.2,SNR=20						
CN2	Changchun	55.73	16	eP	P	09 09 51.3	-0.9
CN2				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.1						
WMQ	Urumqi	56.26	343	P	P	09 09 57.1	+1.1
WMQ				AP	pP	09 10 01.8	-1.7
WMQ				PCP	PcP	09 10 55.0	+1.6
WMQ				PP	PP	09 12 03.8	+2.4
WMQ				AMB	AMB		
	comp=Z,85nm,1.9s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,382nm,5.4s						
WMQ				LR	LR		
	comp=N,2μm,18.0s,MS5.3						
WMQ				LR	LR		
	comp=E,1μm,16.9s,MS5.3						
WMQ				LR	LR		
	comp=Z,2μm,18.5s,MS5.2						
SONM	Songino Array	57.32	359	P	P	09 10 04.0	+0.4
	comp=Z,8.8nm,0.7s,mb4.9,baz=177,slow=8.2,SNR=44						
SONM				PcP	PcP	09 10 58.0	+0.4
	comp=Z,2.3nm,0.5s,baz=178,slow=4.3,SNR=5.7						
ULN	Ulaanbaatar	57.35	360	eP	P	09 10 03.6	-0.2
ULN				pmax	pmax		
	comp=Z,692nm,2.8s,mb6.2						
ULN	Ulaanbaatar	57.35	360	eP	P	09 10 03.6	-0.1
	comp=Z,692nm,2.8s,mb6.2						
MDJ	Mudanjiang	57.68	19	P	P	09 10 05.3	-0.8
MDJ				SCP	ScP	09 14 58.0	+0.6
MDJ				PCS	PcS	09 14 59.4	-0.8
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.6						
HIA	Hailar	59.73	9	eP	P	09 10 19.2	-1.2
HIA				pmax	pmax		
	comp=Z,17nm,0.9s						
HIA	Hailar	59.73	9	eP	P	09 10 19.2	-1.2
	comp=Z,17nm,0.9s,mb5.1						
AAK	Ala-Archa	60.21	332	eP	P	09 10 21.2	-2.5
AAK				pmax	pmax		
	comp=Z,396nm,3.0s						
AAK	Ala-Archa	60.21	332	eP	P	09 10 21.2	-2.5
	comp=Z,396nm,3.0s						
MKAR	Makanchi Array	60.61	340	P	P	09 10 26.1	-0.3
	comp=Z,11nm,0.7s,mb5.1,baz=141,slow=7.8,SNR=39						
ASAJ	Asahikawa	62.34	28	P	P	09 10 37.8	-0.3
	comp=Z,6.0nm,0.5s,mb5.0,baz=176,slow=5.5,SNR=13						
KLR	Kul'dur	62.47	18	eP	P	09 10 34.7	-4.2
KLR				pmax	pmax		
	comp=Z,85nm,1.8s,mb5.6						
YSS	Yuzh-Sakhalins	64.60	26	eP	P	09 10 52.2	-0.8
YSS				pmax	pmax		
	comp=Z,100nm,1.4s,mb5.7						
YSS	Yuzh-Sakhalins	64.60	26	eP	P	09 10 52.2	-0.8
	comp=Z,100nm,1.4s,mb5.7						
MAW	Mawson	64.91	197	eP	P	09 10 55.1	+0.1
	comp=Z,5.6nm,0.8s,mb4.7						
MAW	Mawson	64.91	197	P	P	09 10 55.3	+0.3
	comp=Z,3.2nm,0.5s,mb4.6,baz=70,slow=6.7,SNR=16						
MAW	Mawson	64.91	197	eP	P	09 10 55.1	+0.1
MAW				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KURK	Kurchatov	65.22	340	P	P	09 10 56.4	-0.7
	comp=Z,206nm,0.9s,mb6.2,SNR=5.6						
KURK	Kurchatov	65.22	340	eP	P	09 10 56.9	-0.2
KURK				pmax	pmax		
	comp=Z,49nm,1.3s,mb5.4						
KURK	Kurchatov	65.22	340	eP	P	09 10 56.9	-0.2
	comp=Z,50nm,1.3s,mb5.4						
ABKT	Ailbek	66.12	319	P	P	09 11 03.2	+0.3
	comp=Z,157nm,1.2s,mb5.9,SNR=5.5						
BOD	Bodaibo	67.53	4	eP	P	09 11 10.4	-1.4
BOD				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.9						
ATD	Arta Tunnel	67.64	287	P	P	09 11 14.4	+1.9
	comp=Z,7.6nm,0.7s,mb4.8,baz=69,slow=9.4,SNR=5.7						
BVAR	Borovoye Array	70.06	337	P	P	09 11 27.3	-0.3
	comp=Z,6.3nm,0.5s,mb4.8,baz=142,slow=7.5,SNR=41						
BRVK	Borovoye	70.13	337	eP	P	09 11 27.8	-0.2
BRVK				pmax	pmax		
	comp=Z,55nm,1.6s,mb5.2						
BRVK	Borovoye	70.13	337	eP	P	09 11 27.8	-0.2
	comp=Z,56nm,1.6s,mb5.2						
KMBO	Kilima Mbogo	70.33	272	P	P	09 11 29.9	+0.6
	comp=Z,5.0nm,0.8s,mb4.5,baz=49,slow=5.4,SNR=11						
CHKZ	Chkalovo	70.48	338	eP	P	09 11 29.9	-0.3
CHKZ				pmax	pmax		
	comp=Z,118nm,1.4s,mb5.6						
CHKZ	Chkalovo	70.48	338	eP	P	09 11 29.9	-0.3
	comp=Z,118nm,1.4s,mb5.6						
ZRNK	Zerenda	70.54	336	eP	P	09 11 30.1	-0.4
ZRNK				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.2						

ZRNK	Zerenda	70.54	336	eP	P	09 11 30.1	-0.4
	comp=Z,37nm,1.1s,mb5.2						
SYO	Syowa Base	73.12	200⇑	eP	P	09 11 45.0	-1.0
SYO	Syowa Base	73.12	200⇑	epP	pP	09 11 49.0	-4.7
VNDA	Vanda	73.20	169	P	P	09 11 45.7	-0.9
	comp=Z,2.2nm,1.0s,baz=289,slow=8.0,SNR=7.6						
VNDA	Vanda	73.20	169	P	P	09 11 45.7	-0.9
YAK	Yakutsk	73.61	11	eP	P	09 11 47.8	-1.1
YAK				pmax	pmax		
	comp=Z,60nm,1.4s,mb5.3						
YAK	Yakutsk	73.61	11	eP	P	09 11 47.8	-1.2
	comp=Z,60nm,1.4s,mb5.3						
AKTK	Aktyubinsk	73.71	330	P	P	09 11 49.1	-0.4
AKTO	Aktyubinsk	73.71	330	P	P	09 11 49.1	-0.4
	comp=Z,11nm,0.9s,mb4.8,baz=132,slow=6.7,SNR=21						
GNI	Garni	76.22	315	eP	P	09 12 03.7	-0.3
LSZ	Lusaka	77.25	256	P	P	09 12 10.9	+1.1
	comp=Z,6.7nm,0.8s,mb4.6,baz=121,slow=6.2,SNR=12						
LSZ	Lusaka	77.25	256	eP	P	09 12 10.3	+0.5
ARU	Arti	77.28	335	P	P	09 12 09.2	-0.8
	comp=Z,458nm,1.2s,mb6.3,SNR=14						
ARU	Arti	77.28	335	eP	P	09 12 08.3	-1.7
ARU	Arti	77.28	335	eP	P	09 12 09.8	-0.2
	comp=Z,202nm,1.5s,mb5.8						
LBTB	Lobatse	78.65	246	P	P	09 12 18.8	+1.2
	comp=Z,5.8nm,0.8s,mb4.6,baz=124,slow=6.2,SNR=9.4						
ASF	Jabal al Asfar	79.12	305	P	P	09 12 21.2	+1.1
	comp=Z,16nm,0.9s,mb5.0,baz=344,slow=1.8,SNR=20						
KIV	Kislovodsk	79.23	318	eP	P	09 12 21.0	+0.2
KIV				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.1						
KIV	Kislovodsk	79.23	318	eP	P	09 12 20.9	+0.2
	comp=Z,29nm,1.2s,mb5.1						
GOF	Gofitskoye	79.47	319	eP	P	09 12 21.4	-0.7
GOF				pmax	pmax		
	comp=Z,60nm,0.5s,mb5.8						
EIL	Elat	79.94	303	eP	P	09 12 24.3	-0.4
	comp=Z,575nm,1.1s						
MALT	Malatya	80.01	312	eP	P	09 12 25.6	+0.6
MALT				pmax	pmax		
	comp=Z,69nm,2.0s,mb5.2						
MALT	Malatya	80.01	312	eP	P	09 12 25.6	+0.5
	comp=Z,69nm,2.0s,mb5.2						
MMAI	Mount Meron Ar	80.58	306	P	P	09 12 29.4	+1.4
	comp=Z,7.3nm,0.5s,mb4.8,baz=111,slow=12,SNR=9.2						
TIXI	Tiksi	82.45	7	eP	P	09 12 34.3	-3.7
TIXI				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
BRTR	Keskin Array B	84.00	312	P	P	09 12 45.7	-0.3
	comp=Z,10nm,1.0s,mb4.9,baz=126,slow=6.3,SNR=49						
ANTO	Ankara	84.66	312	eP	P	09 12 49.3	0.0
ANTO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
ANTO	Ankara	84.66	312	eP	P	09 12 49.3	0.0
	comp=Z,9.8nm,0.8s,mb5.0						
TSUM	Tsumeb	86.76	251	P	P	09 13 01.3	+1.5
	comp=Z,5.9nm,1.0s,mb4.8,baz=121,slow=4.7,SNR=8.0						
TSUM	Tsumeb	86.76	251	eP	P	09 13 00.9	+1.1
	comp=Z,19nm,1.3s,mb5.2						
MOS	Moscow	86.94	328⇑	iP	P	09 12 58.9	-1.7
MOS				pmax	pmax		
	comp=Z,104nm,1.6s,mb5.8						
SNAA	Sanae	87.07	197	eP	P	09 13 01.2	-0.1
OBN	Obninsk	87.27	327	eP	P	09 13 01.6	-0.6
OBN				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.6						
OBN	Obninsk	87.27	327	eP	P	09 13 01.9	-0.3
	comp=Z,217nm,2.0s,mb6.0						
TIRR	Tirgusor	89.05	315	eP	P	09 13 10.3	-0.4
VNA1	Neumayer--Stat	89.10	197	e	P	09 13 12.0	+1.1
VNA1				e		09 13 25.0	
AKASG	Malin Array Be	90.12	321	P	P	09 13 14.9	-0.8
	comp=Z,2.9nm,0.9s,mb4.6,baz=90,slow=3.9,SNR=17						
AKASG				PP	PP	09 16 46.0	-3.2
	comp=Z,2.2nm,0.8s,baz=94,slow=6.1,SNR=9.8						
FINES	FINESS Array B	94.39	332	P	P	09 13 35.1	-0.3
	comp=Z,0.6nm,0.5s,mb4.3,baz=131,slow=8.4,SNR=4.4						
ARCES	ARCESS Array B	96.25	339	P	P	09 13 43.4	-0.5
	comp=Z,5.7nm,0.9s,mb5.0,baz=95,slow=7.9,SNR=10						
YKA	Yellowknife Ar	119.24	21	PKP	PKPdf	09 19 03.8	-0.9
	comp=Z,1.7nm,0.6s,baz=322,slow=2.7,SNR=19						
B05A	Bryant	123.51	38	⇓P	PKPdf	09 19 13.6	+0.7
	baz=123						
D05A	Enumclaw	124.04	39	⇓P	PKPdf	09 19 14.9	+1.0
	baz=124						
F04A	Amboy	124.29	40	⇑P	PKPdf	09 19 15.0	+0.6
	baz=124						
E05A	Randle	124.45	39	⇓P	PKPdf	09 19 15.1	+0.4
	baz=124						
I03A	Eugene	124.50	43	⇓P	PKPdf	09 19 14.6	-0.2
	baz=124						
H04A	Detroit Lake	124.95	42	⇑P	PKPdf	09 19 15.8	+0.1
	baz=125						
H05A	Madras	125.59	41	⇑P	PKPdf	09 19 18.3	+1.5
	baz=126						
EDM	Edmonton	125.64	29	ePKIKP	PKPdf	09 19 17.1	+0.1
M02C	Callahan	125.74	46	⇓P	PKPdf	09 19 19.2	+2.0
	baz=126						
O02C	Red Bluff	126.20	47	⇓P	PKPdf	09 19 19.4	+1.4
	baz=126						
GASB	Alder Springs	126.43	48	⇑P	PKPdf	09 19 20.6	+2.1
	baz=126						
NEW	Newport	126.44	36	ePKIKP	PKPdf	09 19 19.5	+1.0
M05C	Lookout	126.94	45	⇓P	PKPdf	09 19 21.1	+1.7
	baz=127						
O04C	Chester	127.37	46	⇑P	PKPdf	09 19 20.6	+0.3
	baz=127						
N06A	Buffalo Meadow	128.10	45	⇓P	PKPdf	09 19 23.5	+1.9
	baz=128						
LAVA	Lava Cap Winer	128.19	48	⇓P	PKPdf	09 19 23.3	+1.4
	baz=128						
M07A	Soldier Meadow	128.30	44	⇓P	PKPdf	09 19 23.9	+1.9
	baz=128						
O06A	Flanigan	128.32	46	⇓P	PKPdf	09 19 23.7	+1.6
	baz=128						
HAST	UC Hastings Re	128.37	51	⇑P	PKPdf	09 19 23.7	+1.6
	baz=128						
R05C	Kirkwood Meado	128.69	48	⇓P	PKPdf	09 19 23.8	+1.0
	baz=129						
WCN	Washoe City	128.70	47	⇓P	PKPdf	09 19 25.1	+2.2
	baz=129						
V03C	Hunter Liggett	128.72	51	⇑P	PKPdf	09 19 25.1	+2.3
	baz=129						
M08A	Happy Creek Ra	128.82	44	⇓P	PKPdf	09 19 25.6	+2.5
	baz=129						
O07A	Toulon	129.00	46	⇑P	PKPdf	09 19 25.6	+2.2
	baz=129						
L09A	Wilkinson Ranc	129.05	43	⇓P	PKPdf	09 19 25.5	+2.0
	baz=129						
S06C	San Francisco	129.15	49	⇓P	PKPdf	09 19 26.0	+2.3
	baz=129						
CHMT	Chamberlain Mo	129.37	35	ePKPdf	PKPdf	09 19 23.7	-0.4
N09A	Rock Creek Ran	129.66	44	⇑P	PKPdf	09 19 26.6	+2.0
	baz=130						
NVAR	Mina Array Bea	130.08	47	PKP	PKPdf	09 19 26.5	+1.1
	comp=Z,0.6nm,0.7s,baz=315,slow=1.9,SNR=5.7						
NVAR	Mina Array Bea	130.08	47	PKP	PKPdf	09 19 26.5	+1.1
Q08A	Gabbs	130.18	47	⇑P	PKPdf	09 19 27.8	+2.2
	baz=130						
HLID	Hailey	130.45	40	ePKPdf	PKPdf	09 19 26.8	+0.6
M11A	Holland Ranch,	130.58	43	⇑P	PKPdf	09 19 29.6	+3.2
	baz=130						
MCMT	McKenzie Canyo	130.75	37	ePKPdf	PKPdf	09 19 27.7	+1.0
S09A	Goldfield	131.14	48	⇑P	PKPdf	09 19 30.2	+2.7
	baz=131						
O11A	Cowboy Ranch,	131.25	44	⇑P	PKPdf	09 19 29.9	+2.3
	baz=131						
ELK	Elko	131.26	43	ePKIKP	PKPdf	09 19 29.6	+1.9
N12A	Clover Valley,	131.34	43	⇑P	PKPdf	09 19 31.4	+3.5
	baz=131						
Q11A	Duckwater	131.81	46	⇑P	PKPdf	09 19 31.7	+3.0
	baz=132						
GSC	Goldstone	132.36	51	⇓P	PKPdf	09 19 33.3	+3.5
	baz=132						
DUG	Dugway	133.15	43	ePKIKP	PKPdf	09 19 33.8	+2.6
V11A	Goodsprings	133.20	49	⇓P	PKPdf	09 19 34.3	+2.9
	baz=133						
U12A	Valley of Fire	133.62	48	⇓P	PKPdf	09 19 36.0	+3.8
	baz=134						
V12A	Nelson	133.68	49	⇓P	PKPdf	09 19 35.4	+3.2
	baz=134						
PDAR	Pinedale Array	133.88	38	PKP	PKPdf	09 19 33.4	+0.8
	comp=Z,0.5nm,0.6s,baz=70,slow=1.7,SNR=5.7						
X13A	Yucca	134.89	50	⇓P	PKPdf	09 19 36.4	+1.9
	baz=135						
X14A	Yava	135.65	50	⇓P	PKPdf	09 19 38.6	+2.7
	baz=136						
Y14A	Wickenburg	135.78	51	⇓P	PKPdf	09 19 38.8	+2.7
	baz=136						
X15A	Humboldt	136.13	50	⇓P	PKPdf	09 19 39.3	+2.4
	baz=136						
PV10	Paradox Valley	136.59	43	ePKPdf	PKPdf	09 19 39.4	+1.8
PV01	Paradox Valley	137.03	43	ePKPdf	PKPdf	09 19 38.5	0.0
MVCO	Mesa Verde	137.56	44	ePKPdf	PKPdf	09 19 41.5	+2.1
ISCO	Idaho Springs	138.02	39	ePKIKP	PKPdf	09 19 41.7	+1.4
ANMO	Albuquerque	140.14	46	PKP	PKPdf	09 19 42.6	-1.5
	comp=Z,1.0nm,0.9s,baz=307,slow=5.1						
CPUP	Villa Florida	141.23	202	PKP	PKPdf	09 19 46.0	-0.2
	comp=Z,1.2nm,0.7s,baz=298,slow=0.9,SNR=4.2						
SADO	Sadowa	144.63	8	PKP	PKPdf	09 19 50.5	-1.6
	comp=Z,12nm,1.0s,baz=360,slow=3.2,SNR=6.8						
BDFB	Brasilia	145.01	224	PKPbc	PKPbc	09 19 52.8	+0.6
	comp=Z,13nm,0.8s,baz=160,slow=3.0,SNR=17						
LONY	Lake Ozonia	145.20	3	ePKPbc	PKPbc	09 19 52.8	0.0
WMOK	Wichita Mounta	145.42	40	ePKIKP	PKPdf	09 19 54.2	+0.7
LBNH	Lisbon	145.62	359	ePKIKP	PKPdf	09 19 54.5	+0.6
MIV	Mineville/With	145.78	1	ePKPbc	PKPbc	09 19 54.5	-0.2
NCB	Newcomb	145.86	2	ePKPbc	PKPbc	09 19 55.3	+0.4
SLM	Saint Louis	147.13	26	ePKP2	PKPbc	09 19 58.5	-0.1
CCM	Cathedral Cave	147.15	28	ePKPdf	PKPdf	09 19 56.9	+0.4
CCM				ePKPbc	PKPbc	09 19 59.2	+0.5
JCT	Junction City	147.26	47	ePKPdf	PKPdf	09 19 58.1	+1.5
JCT				ePKPbc	PKPbc	09 20 00.7	+1.7
FVM	French Village	147.58	27	ePKP2	PKPbc	09 20 00.3	+0.4
BLO	Bloomington	148.12	21	ePKP2	PKPbc	09 20 01.6	+0.3
ACSO	Alum Creek Sta	148.24	15	ePKPbc	PKPbc	09 20 01.9	+0.3
MIAR	Mount Ida	148.67	35	ePKPbc	PKPbc	09 20 03.5	+0.7
MIAR				ePKPab	PKPab	09 20 07.3	+0.9
SSPA	Standing Stone	148.86	8	ePKPbc	PKPbc	09 20 03.3	+0.1
WCI	Wyandotte Cave	149.04	21	ePKP2	PKPbc	09 20 03.7	0.0
UALR	University of	149.18	33	ePKPbc	PKPbc	09 20 04.5	+0.5
HBAR	Harrisburg	149.44	30	ePKPbc	PKPbc	09 20 05.9	+1.2
WVT	Waverly	150.27	26	ePKIKP	PKPbc	09 20 07.0	+0.3
HKT	Hockley	150.36	44	ePKIKP	PKPdf	09 20 04.0	+2.3
HKT				e		09 20 09.1	
OXF	Oxford	150.89	30	ePKIKP	PKPbc	09 20 08.5	+0.4
PLAL	Pickwick Lake	151.13	27	ePKPdf	PKPdf	09 20 03.0	+0.1
PLAL				ePKPbc	PKPbc	09 20 08.4	-0.3
FWV	Forest Hill	151.28	14	ePKPbc	PKPbc	09 20 08.9	-0.2
ELN	Prospectdale	151.63	14	ePKPbc	PKPbc	09 20 09.9	0.0
BLA	Blacksburg	151.73	13	ePKIKP	PKPbc	09 20 10.0	-0.1
SIV	San Ignacio	152.04	204	PKPbc	PKPbc	09 20 11.9	+1.1
	comp=Z,5.8nm,0.9s,baz=148,slow=3.0,SNR=22						
LPAZ	La Paz	153.78	190	PKPbc	PKPbc	09 20 16.8	+2.2
	comp=Z,1.0nm,0.7s,baz=117,slow=5.1,SNR=6.1						
OTAV	Otavalo	168.87	148	ePKPdf	PKPdf	09 20 24.5	+1.9

*BJI **17** 09:05:15.3, 990S×10790E, h10km, mB6.2, mb5.5, Ms6.3, Msz6.1*
*IDC **17** 09:05:15.5±0.3, 986S×10794E, h0km, mb5.2/28, mb1 5.2/29, mb1mx5.2/30, mbtmp5.2/29, ML4.9/1, Error ellipse: s-maj=14.1km s-min=11.2km az=50.0*
*ISCJB **17** 09:05:16.9±0.2, 988S±003×10796E±004, h21km, mb5.6/105, MS6.2/11, Error ellipse: s-maj=5.4km s-min=4.6km az=95.5*
*NEIC **17** 09:05:17.4±0.1, 988S×10789E, h10km, mb5.7/37, Error ellipse: s-maj=6.2km s-min=4.2km az=221.0*
NEIC Felt [IV] at Pangandaran; [III] at Bandung and Jakarta.
*MOS **17** 09:05:21.5±0.9, 932S×10793E, h33km, mb5.8/49, Error ellipse: s-maj=13.9km s-min=6.8km az=111.4*
*CSEM **17** 09:05:23.2, 897S×10782E, h33km, mb5.9*
ISC 17 09:05:19.1±0.2**, 989S**±004×**10796E**±004**, h22**km**, h22**km±3.3km**:pP-P, n492,** σ**0.93**/304**, mb5.6**/105**, MS6.2**/11**, 80C-72D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	Banjamegara	3.07	34⇑	iP	Pn	09 06 07.2	+0.9
BJII				iS	Sn	09 06 45.2	+2.9
COCO	West Island	11.16	257	Pn	Pn	09 07 53.3	-4.0
	2μm,0.7s,SNR=5.8						
COCO	West Island	11.16	257	ePn	Pn	09 07 53.7	-3.6
KGM	Kluang	12.70	338	P	Pn	09 08 22.6	+4.3
PSI	Prapat	15.49	324	Pn	Pn	09 08 47.6	-8.6
	1.4nm,0.3s,baz=125,slow=9.4,SNR=5.3						
PSI	Prapat	15.49	324	P	Pn	09 08 47.6	-8.5
PSI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
IPM	Ipoh	15.86	334	P	Pn	09 09 06.3	+5.4
MBWA	Marble Bar	15.93	136	ePn	Pn	09 08 57.3	-4.5
	comp=Z,94nm,1.0s						
KULM	Kulim	16.75	334	Pn	Pn	09 09 07.0	-5.2
TSM	Tawau	17.20	35	P	Pn	09 09 23.1	+5.2
KKM	Kota Kinabalu	17.83	28	P	Pn	09 09 25.7	0.0
KKM	Kota Kinabalu	17.83	28	eP	Pn	09 09 25.1	-0.7
SNG	Songkhla	18.46	336	P	Pn	09 09 29.0	-4.5
	comp=Z,160nm,0.9s						
FITZ	Fitzroy Crossi	18.98	117	eP	Pn	09 09 40.2	+0.4
	comp=Z,130nm,0.8s						
FITZ				eS	Sn	09 12 52.3	-19
FITZ	Fitzroy Crossi	18.98	117	P	Pn	09 09 40.1	+0.3
	comp=Z,2.9nm,0.3s,baz=298,slow=9.8,SNR=13						
FITZ				Sn	Sn	09 12 51.4	-20
	comp=Z,4.6nm,0.3s,baz=112,slow=12,SNR=8.7						
PPR	Puerto Princes	22.28	29	eP	P	09 10 17.6	+2.9
KLBR	Kellerberrin	23.43	159	eS	S	09 14 32.8	-5.8
KAKA	Kakadu	24.16	99	eP	P	09 10 33.8	+0.2
	comp=Z,42nm,0.6s,mb5.0						
SNPH	Sibulan	24.41	39⇑	eP	P	09 10 32.5	-3.4
NWAO	Narrogin (SRO)	24.47	161	P	P	09 10 35.7	-0.7
	comp=Z,71nm,0.7s,mb5.2,baz=321,slow=10.0,SNR=16						
NWAO				Sn	S	09 14 59.4	+4.0
	comp=Z,15nm,0.6s,baz=250,slow=23,SNR=4.1						
NWAO	Narrogin (SRO)	24.47	161	P	P	09 10 35.7	-0.7
NWAO						09 14 59.4	
NWAO				pmax	pmax		
	comp=Z,71nm,0.7s						
NWAO				smax			
	comp=E,15nm,0.6s						
NWAO	Narrogin (SRO)	24.47	161	eP	P	09 10 36.9	+0.4
	comp=E,55nm,0.8s,mb5.0						
TBP	Tagbilaran	25.07	40	eP	P	09 10 41.0	-0.9
UBT	Ubonrachathani	25.14	353	⇑P	P	09 10 43.5	+1.0
PBA	Port Blair	26.21	324	ex	x	09 12 46.1	
PBA				ex	x	09 13 13.3	
PBA				ex	x	09 13 26.2	
	comp=Z,246nm,1.8s						
WRA	Warramunga Arr	27.34	114	P	P	09 11 02.1	-0.2
	comp=Z,27nm,0.7s,mb4.9,baz=285,slow=11,SNR=27						
WRAB	Tennant Creek	27.34	114	P	P	09 11 02.0	-0.4
	SNR=7.9						
WRAB	Tennant Creek	27.34	114	eP	P	09 11 02.4	0.0
WRAB				e		09 11 17.6	
WRAB				pmax	pmax		
	comp=Z,85nm,1.0s,mb5.2						
WRAB	Tennant Creek	27.34	114	eP	P	09 11 02.4	0.0
	comp=Z,85nm,1.0s,mb5.2						
WRAB				e		09 11 17.6	
WB2	Warramunga Arr	27.35	114	eP	P	09 11 02.6	+0.1
FORT	Forrest	27.96	141	eP	P	09 11 08.7	+0.8
	comp=Z,49nm,1.5s,mb4.9						
ASPA	Alice Springs	28.29	122	eP	P	09 11 11.8	+0.9
ASAR	Alice Springs	28.30	122	P	P	09 11 11.3	+0.4
	comp=Z,12nm,0.6s,mb4.7,baz=299,slow=9.2,SNR=42						
ASAR				PcP	PcP	09 14 24.5	+0.8
	comp=Z,5.9nm,0.9s,baz=272,slow=3.3,SNR=4.7						
ASAR	Alice Springs	28.30	122	P	P	09 11 11.3	+0.4
ASAR						09 14 24.5	
ASAR				pmax	pmax		
	comp=Z,12nm,0.6s						
ASAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AS31	Alice Springs	28.30	122	eP	P	09 11 11.8	+0.9
QIZ	Qiongzhong	28.79	4	P	P	09 11 17.1	+1.7
CHG	Chiang Mai	29.87	343	⇑P	pP	09 11 36.8	+5.2
	comp=Z,133nm,1.1s						
CHTO	Chiang Mai	29.87	343	⇓P	P	09 11 25.1	+0.1
	SNR=18						
CHTO	Chiang Mai	29.87	343	eP	P	09 11 25.5	+0.6
CHTO				e		09 11 38.0	
CHTO				pmax	pmax		
	comp=Z,161nm,1.1s,mb5.7						
CHTO	Chiang Mai	29.87	343	eP	P	09 11 25.5	+0.6
	comp=Z,161nm,1.1s,mb5.7						
CHTO				e		09 11 38.0	
PALK	Pallekele	32.06	301	P	P	09 11 46.3	+2.1
	SNR=5.5						
PALK	Pallekele	32.06	301	eP	P	09 11 45.8	+1.6
	comp=Z,47nm,0.9s,mb5.3						
KMI	Kunming	35.17	352	P	P	09 12 13.6	+2.3
KMI				XP	sP	09 12 24.5	+3.8
GYA	Guiyang	36.15	358⇑	iP	P	09 12 20.6	+0.9
GYA				AP	pP	09 12 24.8	-1.6
GYA				XP	sP	09 12 27.9	-1.3
GYA				PP	PP	09 13 45.1	+3.1
GYA				PCP	PcP	09 14 44.0	-1.1
GYA				S	S	09 18 01.8	+3.6
GYA				AMB	AMB		
	comp=Z,140nm,0.7s,mb6.0						
GYA				AMB	AMB		
	comp=Z,1μm,4.2s						
GYA				LR	LR		
	comp=N,38μm,17.9s,MS6.3						
GYA				LR	LR		
	comp=E,33μm,17.6s,MS6.3						
GYA				LR	LR		
	comp=Z,30μm,16.2s,MS6.2						
NACB	Ninganchiao	36.38	21	eP	P	09 12 21.4	-0.2
VIS	Vishakhapatnam	36.67	318	eP	P	09 12 24.3	+0.2
VIS				AMb	AMB	09 12 26.7	
	comp=Z,99nm,1.1s,mb5.5						
YHNB	Yeheng	36.76	21	eP	P	09 12 25.9	+1.0
CTA	Charters Tower	38.27	110	eP	P	09 12 38.6	+0.9
	comp=Z,13nm,0.9s,mb4.7						
CTA	Charters Tower	38.27	110	eP	P	09 12 38.6	+0.9
CTA				pmax	pmax		
	comp=Z,13nm,0.9s						
CTAO	Charters Tower	38.27	110	eP	P	09 12 39.2	+1.5
CTAO				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.0						
CTAO	Charters Tower	38.27	110	eP	P	09 12 39.2	+1.5
	comp=Z,29nm,1.0s,mb5.0						
SHL	Shillong	38.56	336	eP	P	09 12 39.9	-0.3
PMG	Port Moresby	38.63	93	P	P	09 12 42.3	+1.6
	comp=Z,44nm,1.0s,mb5.2,baz=292,slow=6.3,SNR=9.7						
PMG	Port Moresby	38.63	93	eP	P	09 12 42.8	+2.1
PMG				e		09 12 54.7	
PMG				pmax	pmax		
	comp=Z,264nm,1.5s						
PMG	Port Moresby	38.63	93	eP	P	09 12 42.8	+2.1
	comp=Z,264nm,1.5s,mb5.8						
PMG				e		09 12 54.7	
HYB	Hyderabad	39.76	313	iP	P	09 12 51.0	+0.9
HYB	Hyderabad	39.76	313	eP	P	09 12 51.0	+0.9
BOK	Bokaro	39.83	327	eP	P	09 12 51.0	+0.2
BOK				AMb	AMB	09 12 53.5	
	comp=Z,487nm,0.3s,mb6.6						
WHN	Wuhan	40.66	8	eP	P	09 12 58.9	+1.3
CD2	Chengdu	40.76	354⇓	iP	P	09 12 58.5	0.0
CD2				PP	PP	09 14 36.5	+4.0
CD2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.2						
CD2				LR	LR		
	comp=E,15μm,13.2s						
CD2				LR	LR		
	comp=Z,15μm,13.2s,MS6.0						
JOW	Kunigami	41.48	28	P	P	09 13 04.4	0.0
	comp=Z,23nm,0.8s,mb4.9,baz=230,slow=6.0,SNR=8.4						
NGP	Nagpur	41.93	318	eP	P	09 13 07.2	-0.9
NGP				AMb	AMB	09 13 14.9	
	comp=Z,108nm,0.9s,mb5.5						
SSE	Sheshan	42.68	17	eP	P	09 13 14.8	+0.7
SSE				AMB	AMB		
	comp=Z,58nm,1.3s,mb5.2						
SSE				AMB	AMB		
	comp=Z,25μm,11.8s						
JIRN	Jiri	42.87	331	eP	P	09 13 16.6	+0.9
	comp=Z,344nm,0.9s,mb6.1						
KAD	Karad	42.95	309	eP	P	09 13 16.3	0.0
KAD				AMb	AMB	09 13 30.3	
	comp=Z,75nm,1.7s,mb5.2						
NJ2	Nanjing	42.98	14	eP	P	09 13 17.1	+0.5
NJ2				AP	pP	09 13 21.9	-1.5
NJ2				XP	sP	09 13 24.9	-1.2
NJ2				PP	PP	09 14 58.3	+1.8
NJ2				S	S	09 19 39.0	-1.7
NJ2				XS	sS	09 19 48.0	-3.9
NJ2				AMB	AMB		
	comp=Z,100nm,0.8s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,11μm,8.2s						
NJ2				LR	LR		
	comp=N,33μm,16.3s,MS6.5						
NJ2				LR	LR		
	comp=E,39μm,13.1s,MS6.5						
NJ2				LR	LR		
	comp=Z,5μm,19.5s						
PKI	Pulchoki	43.18	330	eP	P	09 13 18.5	+0.3
	comp=Z,103nm,0.8s,mb5.6						
PKI	Pulchoki	43.18	330	eP	P	09 13 18.5	+0.3
PKI				pmax	pmax		
	comp=Z,103nm,0.8s,mb5.6						
GUN	Gumba	43.23	331	eP	P	09 13 19.4	+0.8
	comp=Z,306nm,0.8s,mb6.1						
DMN	Daman	43.36	330	eP	P	09 13 20.1	+0.5
	comp=Z,252nm,0.8s,mb6.0						
KKN	Kakani	43.42	330	eP	P	09 13 20.5	+0.3
	comp=Z,305nm,0.8s,mb6.1						
KKN	Kakani	43.42	330	eP	P	09 13 20.5	+0.3
KKN				pmax	pmax		
	comp=Z,305nm,0.8s,mb6.1						
XAN	Xi'an	43.69	1	P	P	09 13 22.3	0.0
XAN				AMB	AMB		
	comp=Z,102nm,1.2s,mb5.4						
GKN	Gorkha	43.91	330	eP	P	09 13 24.3	+0.2
	comp=Z,144nm,0.7s,mb5.8						
KOLN	Koldanda	44.25	328	eP	P	09 13 27.2	+0.4
	comp=Z,293nm,0.8s,mb6.1						
BHPL	Bhopal	44.47	318	eP	P	09 13 28.1	-0.5
BHPL				AMb	AMB	09 13 29.7	
	comp=Z,64nm,1.3s,mb5.2						
ARMA	Armidale	45.44	123	eP	P	09 13 38.5	+2.2
LZH	Lanzhou	45.89	355	eP	P	09 13 41.3	+1.4
LZH				AP	pP	09 13 51.1	+4.4
LZH				PP	PP	09 15 29.3	+1.8
LZH				S	S	09 20 23.3	+0.4
LZH				AMB	AMB		
	comp=Z,241nm,1.5s,mb5.9						
LZH				AMB	AMB		
	comp=Z,1μm,5.2s						
LZH				LR	LR		
	comp=N,5μm,15.6s						
LZH				LR	LR		
	comp=Z,7μm,16.5s,MS5.7						
AJM	Ajmer	48.52	319	eP	P	09 14 00.9	+0.6
GTA	Gaotai	49.63	352	eP	P	09 14 10.0	+1.2
GTA				AP	pP	09 14 18.4	+2.7
GTA				XP	sP	09 14 22.3	+3.9
GTA				PCP	PcP	09 15 32.5	+2.4
GTA				PP	PP	09 16 04.8	+1.5
GTA				PPP		09 17 01.0	
GTA				S	S	09 21 17.6	+1.7
GTA				AMB	AMB		
	comp=Z,51nm,1.5s,mb5.3						
GTA				LR	LR		
	comp=N,10μm,19.0s,MS6.2						
GTA				LR	LR		
	comp=E,23μm,20.5s,MS6.2						
GTA				LR	LR		
	comp=Z,15μm,15.6s,MS6.1						
BHJ	Bhuj	49.90	312	eP	P	09 14 11.1	+0.2
DL2	Dalian	50.18	14	P	P	09 14 13.1	+0.1
DL2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3						
BJT	Baijiatuau	50.23	8	eP	P	09 14 13.6	+0.2
BJT				pmax	pmax		
	comp=Z,87nm,1.0s						
BJT	Baijiatuau	50.23	8	eP	P	09 14 13.6	+0.2
	comp=Z,87nm,1.0s,mb5.7						
BJI	Beijing	50.25	8	eP	P	09 14 12.1	-1.5
BJI				AMB	AMB		
	comp=Z,69nm,1.5s,mb5.5						
SMLA	Simla	50.35	325	eP	P	09 14 13.3	-1.1
SMLA				AMb	AMB	09 14 19.7	
	comp=Z,88nm,0.5s,mb6.0						
HHC	Hu-ho-hao-te	50.59	4⇑	iP	P	09 14 17.0	+0.9
HHC				AP	pP	09 14 22.3	-0.8
HHC				XP	sP	09 14 29.3	+3.6
HHC				PCP	PcP	09 15 35.9	+2.3
HHC				PP	PP	09 16 14.0	+2.0
HHC				PCS	PcS	09 19 30.3	-0.6
HHC				S	S	09 21 24.4	-5.0
HHC				XS	sS	09 21 36.3	-4.5

HHC AMB AMB
comp=Z,40nm,0.8s,mb5.4
HHC LR LR
comp=N,19µm,20.2s,MS6.2
HHC LR LR
comp=E,12µm,17.8s,MS6.2
HHC LR LR
comp=Z,15µm,14.3s,MS6.1
SNY Shenyang 53.42 15 ⇓P **P 09 14 35.8 -1.4**
SNY AMB AMB
comp=Z,81nm,2.2s,mb5.3
MAT Matsushiro 54.24 30 P **P 09 14 40.3 -2.9**
MAT Matsushiro 54.24 30 *eP* **P 09 14 40.0 -3.2**
MAT pmax pmax
comp=Z,45nm,1.2s,mb5.3
MAT Matsushiro 54.24 30 *eP* **P 09 14 40.0 -3.2**
comp=Z,45nm,1.2s,mb5.3
MJAR Matsushiro Arr 54.24 30 P **P 09 14 40.7 -2.5**
comp=Z,34nm,1.1s,mb5.2,baz=207,slow=7.9,SNR=32
MJAR Matsushiro Arr 54.24 30 P **P 09 14 40.7 -2.5**
MJAR pmax pmax
comp=Z,34nm,1.1s
CN2 Changchun 55.75 15 *eP* **P 09 14 52.8 -1.3**
CN2 *e*XP sP 09 14 59.0 -4.8
CN2 AMB AMB
comp=Z,40nm,1.4s,mb5.3
CN2 LR LR
comp=N,8µm,16.0s,MS6.2
CN2 LR LR
comp=E,16µm,16.0s,MS6.2
CN2 LR LR
comp=Z,18µm,17.0s,MS6.2
CASY Casey 56.34 179 *eP* **P 09 14 57.2 -1.2**
WMQ Urumqi 56.54 343 P **P 09 15 02.5 +2.7**
WMQ AP pP 09 15 06.8 0.0
WMQ XP sP 09 15 09.1 -0.3
WMQ PCP PcP 09 15 59.0 +2.8
WMQ PP PP 09 17 09.8 +4.2
WMQ AMB AMB
comp=Z,168nm,1.5s,mb5.8
WMQ AMB AMB
comp=Z,871nm,4.9s
WMQ LR LR
comp=N,4µm,18.5s,MS5.7
WMQ LR LR
comp=E,3µm,17.4s,MS5.7
WMQ LR LR
comp=Z,4µm,19.0s,MS5.6
VLA Vladivostok 57.09 21 *i* P **P 09 15 02.1 -1.6**
VLA *i* 09 15 14.0
VLA pmax pmax
comp=Z,72nm,1.2s,mb5.6
KSH Kashi 57.43 331 *eP* **P 09 15 06.8 +0.7**
KSH *e*AP pP 09 15 12.1 -1.0
KSH *e*XP sP 09 15 14.3 -1.4
KSH *e*PCP PcP 09 16 03.3 +3.6
KSH *e*PP PP 09 17 14.3 +0.8
KSH *e*PPP 09 18 31.3
KSH *e*SCP ScP 09 19 56.8 -1.4
KSH *e*PCS PcS 09 20 01.1 +0.3
KSH AMB AMB
comp=Z,4µm,4.2s
KSH LR LR
comp=N,15µm,13.8s,MS6.7
KSH LR LR
comp=E,41µm,13.4s,MS6.7
KSH LR LR
comp=Z,23µm,15.4s,MS6.4
SONM Songino Array 57.48 359 P **P 09 15 07.0 +0.6**
comp=Z,88nm,0.8s,mb5.8,baz=173,slow=7.6,SNR=146
SONM Songino Array 57.48 359 P **P 09 15 07.0 +0.6**
SONM pmax pmax
comp=Z,88nm,0.8s
ULN Ulaanbaatar 57.50 359 ⇑P **P 09 15 07.2 +0.6**
SNR=37
ULN Ulaanbaatar 57.50 359 *d iP* **P 09 15 07.2 +0.6**
ULN Ulaanbaatar 57.50 359 *eP* **P 09 15 06.9 +0.3**
comp=Z,94nm,0.8s,mb5.9
MDJ Mudanjiang 57.67 18 P **P 09 15 05.8 -2.0**
MDJ PCP PcP 09 15 59.8 -0.9
MDJ AMB AMB
comp=Z,34nm,1.5s,mb5.2
MDJ AMB AMB
comp=Z,28µm,13.3s
MDJ LR LR
comp=N,11µm,13.4s,MS6.4
MDJ LR LR
comp=E,17µm,15.2s,MS6.4
MDJ LR LR
comp=Z,19µm,13.8s,MS6.3
MDJ Mudanjiang 57.67 18 *eP* **P 09 15 06.9 -0.9**
comp=Z,32nm,0.9s,mb5.3
WBK Wadi Bani Khal 57.84 305 ⇓P **P 09 15 09.3 +0.3**
SNR=7.2
WSAR Wadi Sarin 58.42 305 P **P 09 15 13.4 +0.4**
comp=Z,28nm,0.8s,mb5.4,baz=120,slow=4.9,SNR=23
JMDO Jabal Madar 58.44 304 ⇑P **P 09 15 13.2 +0.1**
SNR=8.6
SMDO Samad 58.80 305 ⇓P **P 09 15 16.2 +0.5**
SNR=10
BIDO Bidbid 58.96 305 P **P 09 15 17.7 +0.9**
SNR=20
BIDO P 09 15 17.8
SNR=13
OPO Ambohidratompo 59.31 254 P **P 09 15 19.5 +0.2**
comp=Z,10nm,0.9s,mb4.8,baz=87,slow=6.9,SNR=6.1
BSY Bisya 59.35 304 P **P 09 15 20.1 +0.6**
SNR=7.8
HOQ Hoqain 59.65 305 P **P 09 15 22.2 +0.7**
SNR=7.6
KZA Kyzart 59.78 332 P **P 09 15 22.7 +0.2**
SNR=21
HIA Hailar 59.80 9 *eP* **P 09 15 21.4 -1.2**
HIA pmax pmax
comp=Z,43nm,1.0s
HIA Hailar 59.80 9 *eP* **P 09 15 21.4 -1.2**
comp=Z,43nm,1.0s,mb5.4
ARQ Araqi 60.18 304 P **P 09 15 25.4 +0.2**
SNR=6.5
WHFO Wadi Hawf 60.22 297 P **P 09 15 25.4 -0.1**
SNR=8.0
UCH Uchtor 60.24 332 P pP 09 15 36.0 +3.3
SNR=40
TKM2 Tokmak 2 60.29 333 P **P 09 15 25.8 -0.2**
SNR=17
KBK Karagaybulak 60.37 332 P **P 09 15 26.6 +0.1**
SNR=12
ABTO Aybut 60.42 296 P **P 09 15 27.1 +0.3**
SNR=8.3
AML Almayashu 60.55 331 P **P 09 15 27.7 0.0**
SNR=14
AAK Ala-Archa 60.56 332 P **P 09 15 27.8 0.0**
SNR=9.4
AAK Ala-Archa 60.56 332 P **P 09 15 26.4 -1.4**
comp=Z,85nm,0.9s,mb5.9,SNR=5.5
AAK Ala-Archa 60.56 332 ⇓*iP* **P 09 15 26.5 -1.3**
AAK pmax pmax
comp=Z,54nm,2.2s,mb5.3
AAK Ala-Archa 60.56 332 *eP* **P 09 15 26.9 -1.0**
comp=Z,34nm,0.8s,mb5.5
MKAR Makanchi Array 60.91 340 P **P 09 15 29.9 -0.3**
comp=Z,30nm,0.7s,mb5.5,baz=147,slow=7.3,SNR=50
MKAR Makanchi Array 60.91 340 P **P 09 15 29.9 -0.2**
MKAR pmax pmax
comp=Z,30nm,0.7s
EKS2 Erkin-Say 60.92 332 P **P 09 15 30.3 +0.1**
SNR=13
USP Ospenovka 61.06 333 P **P 09 15 30.5 -0.7**
SNR=10
ASHO Ashiyiah 61.17 305 P **P 09 15 32.0 +0.1**
SNR=13
TLY Talaya 61.43 357 P **P 09 15 34.4 +0.7**
comp=Z,176nm,1.1s,mb6.1,SNR=13
IRK Irkutsk 61.96 357 *eP* **P 09 15 37.8 +0.5**
IRK *e* 09 17 46.9
IRK pmax pmax
comp=Z,136nm,2.2s,mb5.7
ASAJ Asahikawa 62.25 28 P **P 09 15 38.0 -1.3**
comp=Z,7.0nm,0.6s,mb5.0,baz=235,slow=10,SNR=12
ASAJ Asahikawa 62.25 28 P **P 09 15 38.0 -1.2**
ASAJ pmax pmax
comp=Z,7.0nm,0.6s
KLR Kul'dur 62.47 17 ⇑*iP* **P 09 15 36.6 -4.1**
KLR pmax pmax
comp=E,43nm,1.4s
KLR pmax pmax
comp=Z,140nm,1.4s,mb5.9

HABR Khabarovsk 62.84 20 *eP* **P 09 15 41.9 -1.2**
HABR *e*S **S 09 24 09.0 -2.3**
HABR pmax pmax
comp=Z,2µm,16.5s
YSS Yuzh-Sakhalins 64.53 26 *d iP* **P 09 15 53.5 -0.8**
YSS pmax pmax
comp=Z,99nm,1.3s,mb5.7
YSS Yuzh-Sakhalins 64.53 26 *eP* **P 09 15 53.9 -0.4**
comp=Z,137nm,1.3s,mb5.8
MAW Mawson 64.90 197 *eP* **P 09 15 56.2 -0.5**
comp=Z,8.3nm,0.8s,mb4.8
MAW Mawson 64.90 197 P **P 09 15 56.3 -0.4**
comp=Z,15nm,1.0s,mb5.0,baz=39,slow=6.8,SNR=33
MAW Mawson 64.90 197 *eP* **P 09 15 56.2 -0.5**
MAW pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 65.52 340 P **P 09 16 00.2 -0.5**
comp=Z,67nm,0.3s,mb6.2,SNR=28
KURK Kurchatov 65.52 340 P **P 09 16 00.9 +0.1**
SNR=28
KURK Kurchatov 65.52 340 *eP* **P 09 16 00.5 -0.2**
KURK pmax pmax
comp=Z,97nm,1.1s,mb5.8
KURK Kurchatov 65.52 340 *eP* **P 09 16 00.5 -0.2**
comp=Z,97nm,1.1s,mb5.8
LBOS 66.54 290 *eP* **P 09 16 08.6 +1.3**
ZAL Zalesovo 66.54 345 P **P 09 16 05.9 -1.4**
comp=Z,22nm,1.1s,mb5.1,baz=319,slow=4.3,SNR=18
ZAL Zalesovo 66.54 345 *eP* **P 09 16 05.9 -1.4**
ZAL pmax pmax
comp=Z,22nm,1.1s
ABKT Ailbek 66.55 319 P **P 09 16 07.4 +0.1**
comp=Z,621nm,0.9s,mb6.6,SNR=17
TRBA At Turbah 67.41 289 *eP* **P 09 16 14.5 +1.7**
BOD Bodaibo 67.65 3 ⇑*iP* **P 09 16 13.4 -0.9**
BOD pmax pmax
comp=Z,70nm,1.3s,mb5.5
NVS Novosibirsk 67.76 345 *eP* **P 09 16 13.6 -1.4**
ATD Arta Tunnel 68.13 287 P **P 09 16 19.4 +2.0**
comp=Z,34nm,0.8s,mb5.5,baz=100,slow=5.1,SNR=21
RDF Al-Radifah 69.86 306 *eP* **P 09 16 27.6 -0.5**
RDF AMb AMB 09 16 29.8
comp=Z,194nm,1.0s,mb6.0
UMR Umm Al-Rimmam 69.98 306 *eP* **P 09 16 28.5 -0.3**
UMR AMb AMB 09 16 29.2
comp=Z,139nm,0.6s,mb6.0
NAY Al-Naaiem 70.23 306 *eP* **P 09 16 29.6 -0.8**
NAY AMb AMB 09 16 32.0
comp=Z,55nm,0.8s,mb5.6
BVAR Borovoye Array 70.38 337 P **P 09 16 31.0 -0.3**
comp=Z,51nm,0.8s,mb5.5,baz=141,slow=8.7,SNR=64
BVAR Borovoye Array 70.38 337 P **P 09 16 31.0 -0.3**
BVAR pmax pmax
comp=Z,51nm,0.8s
MIB Mutribah 70.38 306 *eP* **P 09 16 30.8 -0.5**
MIB AMb AMB 09 16 33.0
comp=Z,132nm,1.2s,mb5.7
BRVK Borovoye 70.45 337 P **P 09 16 31.4 -0.3**
comp=Z,365nm,0.9s,mb6.3,SNR=23
BRVK Borovoye 70.45 337 *eP* **P 09 16 31.5 -0.2**
BRVK pmax pmax
comp=Z,89nm,1.4s,mb5.5
BRVK Borovoye 70.45 337 *eP* **P 09 16 31.5 -0.2**
comp=Z,89nm,1.4s,mb5.5
CHKZ Chkalovo 70.80 338 *eP* **P 09 16 33.7 -0.1**
CHKZ pmax pmax
comp=Z,84nm,0.8s,mb5.7
CHKZ Chkalovo 70.80 338 *eP* **P 09 16 33.7 -0.1**
comp=Z,84nm,0.8s,mb5.7
KMBO Kilima Mbogo 70.81 272 P **P 09 16 34.3 +0.4**
comp=Z,14nm,1.0s,mb4.9,baz=40,slow=6.6,SNR=8.7
KMBO Kilima Mbogo 70.81 272 ⇑*eP* **P 09 16 34.2 +0.3**
ZRNK Zerenda 70.86 336 *eP* **P 09 16 33.9 -0.3**
ZRNK pmax pmax
comp=Z,77nm,0.8s,mb5.7
ZRNK Zerenda 70.86 336 *eP* **P 09 16 33.9 -0.3**
comp=Z,77nm,0.8s,mb5.7
VNDA Vanda 72.97 169 P **P 09 16 45.9 -1.0**
comp=Z,4.9nm,0.9s,baz=295,slow=5.4,SNR=11
VNDA Vanda 72.97 169 P **P 09 16 45.9 -1.0**
VNDA pmax pmax
comp=Z,5.0nm,0.9s
VNDA Vanda 72.97 169 P **P 09 16 45.9 -1.0**
SYO Syowa Base 73.14 200 ⇑*iP* **P 09 16 46.6 -1.3**
SKR Severo-Kuril's 73.35 30 *eP* **P 09 16 44.4 -4.7**
SKR pmax pmax
comp=Z,80nm,0.6s,mb5.8
SKR pmax pmax
comp=N,200nm,1.0s
SKR pmax pmax
comp=E,70nm,1.0s
YAK Yakutsk 73.67 10 *d iP* **P 09 16 50.1 -0.9**
YAK pmax pmax
comp=Z,198nm,1.3s,mb5.9
YAK Yakutsk 73.67 10 *eP* **P 09 16 50.0 -1.0**
comp=Z,130nm,0.9s,mb5.9
AKTK Aktyubinsk 74.08 329 P **P 09 16 52.5 -0.9**
AKTO Aktyubinsk 74.08 329 P **P 09 16 52.5 -0.9**
comp=Z,33nm,0.8s,mb5.3,baz=127,slow=5.2,SNR=37
AKTO Aktyubinsk 74.08 329 P **P 09 16 52.5 -0.9**
AKTO pmax pmax
comp=Z,33nm,0.8s,mb5.3
PET Petropavlovsk 76.05 29 ⇑*eP* **P 09 17 04.8 +0.1**
PET pmax pmax
comp=Z,90nm,1.2s,mb5.6
GNI Garni 76.66 315 P **P 09 17 08.1 -0.1**
comp=Z,7.7nm,0.6s,mb4.8,baz=320,slow=4.8,SNR=7.7
GNI Garni 76.66 315 P **P 09 17 08.8 +0.6**
SNR=8.1
GNI Garni 76.66 315 ⇓*iP* **P 09 17 08.5 +0.3**
GNI pmax pmax
comp=Z,97nm,2.5s
MA2 Magadan 77.23 21 ⇑*eP* **P 09 17 11.2 -0.2**
MA2 pmax pmax
comp=Z,52nm,0.6s,mb5.6
MA2 Magadan 77.23 21 ⇑*eP* **P 09 17 11.3 -0.1**
ARU Arti 77.62 334 P **P 09 17 13.6 0.0**
comp=Z,893nm,1.0s,SNR=33
ARU Arti 77.62 334 ⇑*iP* **P 09 17 13.2 -0.4**
ARU *e* 09 20 08.5
ARU *e*S S 09 27 02.9 -1.1
ARU *e*SS SS 09 32 00.7 -3.0
ARU pmax pmax
comp=Z,164nm,1.0s,mb5.9
ARU Arti 77.62 334 *eP* **P 09 17 13.4 -0.2**
comp=Z,136nm,0.9s,mb5.9
LSZ Lusaka 77.67 256 P **P 09 17 14.5 +0.5**
comp=Z,22nm,0.8s,mb5.1,baz=104,slow=4.1,SNR=26
LSZ Lusaka 77.67 256 P **P 09 17 14.5 +0.6**
LSZ pmax pmax
comp=Z,22nm,0.8s,mb5.1
EZM Erzurum 78.93 314 P **P 09 17 21.7 +0.8**
LBTB Lobatse 79.02 246 P **P 09 17 21.9 +0.6**
comp=Z,13nm,0.7s,mb5.0,baz=119,slow=5.8,SNR=20
LBTB Lobatse 79.02 246 P **P 09 17 22.0 +0.6**
LBTB pmax pmax
comp=Z,13nm,0.7s,mb5.0
BCA Borcka 79.35 316 P **P 09 17 22.1 -1.1**
ASF Jabal al Asfar 79.59 305 P **P 09 17 25.7 +1.2**
comp=Z,40nm,1.0s,mb5.3,baz=350,slow=2.6,SNR=23
ASF Jabal al Asfar 79.59 305 P **P 09 17 25.7 +1.2**
ASF pmax pmax
comp=Z,40nm,1.0s
KIV Kislovodsk 79.65 318 P **P 09 17 25.3 +0.5**
comp=Z,198nm,0.9s,mb6.0,SNR=6.1
KIV Kislovodsk 79.65 318 ⇑*iP* **P 09 17 24.4 -0.4**
KIV pmax pmax
comp=Z,42nm,1.3s,mb5.2
KIV Kislovodsk 79.65 318 *eP* **P 09 17 25.2 +0.4**
comp=Z,39nm,0.8s,mb5.4
URFA Urfa 79.86 311 P **P 09 17 25.1 -0.9**
GOF Gofitskoye 79.89 319 *eP* **P 09 17 25.6 -0.5**
GOF pmax pmax
comp=Z,100nm,1.3s,mb5.6
EIL Elat 80.41 302 *eP* **P 09 17 29.4 +0.5**
comp=Z,2µm,1.4s
MALT Malatya 80.46 312 ⇓*iP* **P 09 17 29.7 +0.5**
MALT Malatya 80.46 312 *eP* **P 09 17 29.7 +0.5**
comp=Z,580nm,2.8s,mb6.0
MYA Malataya 80.47 312 P **P 09 17 28.9 -0.4**
GAZ Gaziantep 80.98 310 P **P 09 17 32.4 +0.4**
MMAI Mount Meron Ar 81.05 306 P **P 09 17 33.8 +1.5**
comp=Z,31nm,0.7s,mb5.4,baz=105,slow=7.9,SNR=43
SOC Sochi 81.48 317 *eP* **P 09 17 33.3 -1.3**
SOC pmax pmax
comp=Z,32nm,0.8s,mb5.3

SVSK Karacayir 82.06 313 P **P 09 17 38.5 +0.9**
KOZT Kozan 82.12 310 P **P 09 17 37.8 -0.2**
SUR Sutherland 82.39 238 P **P 09 17 41.6 +2.1**
SNR=5.7
TOKT Tokat 82.52 313 P **P 09 17 40.7 +0.6**
TIXI Tiksi 82.54 7 *eP* **P 09 17 37.5 -2.7**
TIXI pmax pmax
comp=Z,81nm,0.8s,mb5.8
TIXI Tiksi 82.54 7 *i* P **P 09 17 39.1 -1.1**
BNN Bunyan 82.55 311 P **P 09 17 40.6 +0.3**
KARA Karasiali 82.63 310 P **P 09 17 40.5 -0.1**
MERS Mersin 82.92 309 P **P 09 17 41.5 -0.7**
YOZ Yozgat 83.19 312 P **P 09 17 43.7 +0.1**
IKL Isikli 83.37 308 P **P 09 17 45.0 +0.5**
ANN Anapa 83.45 317 *eP* **P 09 17 44.0 -0.9**
ANN *i* *PP pP 09 17 55.9 +3.7
ANN *e*S S 09 28 02.4 -2.7
ANN pmax pmax
comp=Z,85nm,1.6s,mb5.5
SMY Shemya 83.86 34 *eP* **P 09 17 46.9 -0.1**
SMY pmax pmax
comp=Z,147nm,1.4s,mb5.9
SMY Shemya 83.86 34 *eP* **P 09 17 46.9 -0.1**
comp=Z,147nm,1.4s,mb5.9
CORM Corum 83.86 312 P **P 09 17 47.4 +0.3**
DIKM Dikmen 83.88 314 P **P 09 17 46.9 -0.2**
BYBT Boyabat 84.17 314 P **P 09 17 48.6 0.0**
KAMT Kaman 84.29 311 P **P 09 17 49.1 -0.1**
BRTR Keskin Array B 84.45 312 P **P 09 17 49.9 -0.1**
comp=Z,38nm,0.9s,mb5.5,baz=140,slow=6.5,SNR=78
BRTR Keskin Array B 84.45 312 P **P 09 17 49.9 -0.1**
BRTR pmax pmax
comp=Z,38nm,0.9s
TOS Tosya 84.57 313 P **P 09 17 51.4 +0.8**
CANT Cankiri 84.73 313 *eP* **P 09 17 51.7 +0.3**
VRSR Storozhevoye 84.73 324 *eP* **P 09 17 50.9 -0.5**
VRSR pmax pmax
comp=Z,170nm,0.9s,mb6.2
VRSR pmax pmax
comp=N,20nm,0.6s
VRSR pmax pmax
comp=E,110nm,0.9s
KONT Konya--Tatoy 84.88 310 *eP* **P 09 17 52.0 -0.1**
VOR Voronezh 84.93 324 *eP* **P 09 17 51.8 -0.6**
VOR pmax pmax
comp=Z,300nm,2.0s,mb6.1
ANTO Ankara 85.11 312 *eP* **P 09 17 51.6 -1.8**
ANTO Ankara 85.11 312 ⇓*iP* **P 09 17 53.8 +0.5**
ANTO Ankara 85.11 312 *eP* **P 09 17 53.8 +0.4**
comp=Z,48nm,0.9s,mb5.6
LOD Lodumlu 85.14 312 *eP* **P 09 17 53.9 +0.4**
KIZT Kizilcal 85.51 311 *eP* **P 09 17 54.8 -0.5**
SAFT Safranbolu 85.59 313 *eP* **P 09 17 56.1 +0.4**
SIM Simferopol' 85.72 317 *eP* **P 09 17 57.0 +0.6**
SIM pmax pmax
comp=Z,80nm,0.7s,mb6.1
ELL Elmali 86.44 308 *eP* **P 09 18 00.3 +0.4**
MDU Mudurnu 86.44 312 *eP* **P 09 17 59.9 0.0**
KDZE Karadeniz Ereo 86.51 313 *eP* **P 09 17 59.1 -1.2**
FETY Fethiye 87.05 308 *eP* **P 09 17 56.5 -6.4**
TSUM Tsumeb 87.16 251 P **P 09 18 04.4 +1.0**
comp=Z,16nm,0.9s,mb5.3,baz=85,slow=4.1,SNR=22
MOS Moscow 87.32 328 ⇑*iP* **P 09 18 03.1 -1.1**
MOS pmax pmax
comp=Z,231nm,1.5s,mb6.2
DALT Dalyan (Mudla) 87.43 308 *eP* **P 09 18 04.2 -0.5**
OBN Obninsk 87.65 327 *d iP* **P 09 18 05.7 -0.1**
OBN *e**PP pP 09 18 17.6 +4.5
OBN *e* 09 21 26.2
OBN pmax pmax
comp=Z,116nm,0.7s,mb6.2
OBN MLR MLR
comp=Z,8µm,15.0s,MS6.2
YLV Yalova 87.82 312 *eP* **P 09 18 05.7 -0.9**
DAT Datca 88.25 308 *eP* **P 09 18 06.8 -1.8**
KLMR Klimovskoe 88.37 333 *eP* **P 09 18 04.0 -5.2**
KLMR pmax pmax
comp=Z,310nm,1.5s,mb6.3
BODT Bodrum 88.53 308 *eP* **P 09 18 09.2 -0.8**
BLCB Balcova 89.04 309 *eP* **P 09 18 11.8 -0.6**
VNA1 Neumayer--Stat 89.10 197 *eP* **P 09 18 12.7 0.0**
VNA1 *e* 09 18 14.1
VNA1 *e* 09 18 16.3
VNA1 *e* 09 18 26.7
VNA1 *e* 09 18 35.4
VNA1 *e* 09 18 47.1
VNA1 *e* 09 19 00.4
MFT Murefte 89.42 311 *eP* **P 09 18 13.2 -1.0**
RKY Sarkoy-Tekirda 89.47 311 *eP* **P 09 18 12.3 -2.1**
TIRR Tirgusor 89.49 315 ⇓*iP* **P 09 18 14.9 +0.4**
TIRR Tirgusor 89.49 315 *eP* **P 09 18 14.4 -0.1**
CFR Carcaliu 89.86 316 ⇓*iP* **P 09 18 16.5 +0.3**
CFR Carcaliu 89.86 316 ⇓P **P 09 18 16.5 +0.3**
HARR Harsova 89.88 315 ⇓*iP* **P 09 18 15.7 -0.6**
HARR Harsova 89.88 315 ⇓P **P 09 18 15.7 -0.6**
IDI Anoyia 90.05 306 P **P 09 18 17.7 +0.6**
comp=Z,29nm,0.9s,mb5.6,baz=109,slow=10.0,SNR=8.8
EDRB Edirne 90.06 312 *eP* **P 09 18 15.9 -1.2**
GADA Gvkgeada 90.31 311 *eP* **P 09 18 16.7 -1.6**
AKASG Malin Array Be 90.53 321 P **P 09 18 18.0 -1.3**
comp=Z,19nm,0.8s,mb5.5,baz=89,slow=4.3,SNR=40
AKASG Malin Array Be 90.53 321 P **P 09 18 18.0 -1.3**
AKASG pmax pmax
comp=Z,19nm,0.8s
VRI Vrincioaia 90.98 316 ⇓*iP* **P 09 18 22.1 +0.7**
VRI Vrincioaia 90.98 316 ⇓P **P 09 18 22.1 +0.7**
PLOR Plostina 91.03 316 ⇓*iP* **P 09 18 22.8 +1.1**
MLR Muntele Rosu 91.43 316 ⇓*iP* **P 09 18 24.1 +0.6**
VOIR 92.04 316 ⇑*iP* **P 09 18 26.0 -0.3**
VOIR 92.04 316 ⇑P **P 09 18 26.0 -0.4**
BURAR Bucovina Array 92.38 318 ⇑*iP* **P 09 18 28.9 +1.0**
BURAR Bucovina Array 92.38 318 ⇑P **P 09 18 28.9 +1.0**
JOF Joensuu 92.72 334 *ep* **P 09 18 27.8 -1.7**
comp=Z,26nm,0.7s,mb5.8
JOF Joensuu 92.72 334 *eP* **P 09 18 27.8 -1.7**
JOF pmax pmax
comp=Z,26nm,0.7s,mb5.8
LVZ Lovozero 92.91 339 P **P 09 18 29.7 -0.7**
comp=Z,185nm,1.7s,mb6.2,SNR=5.1
APA Apatity 93.26 338 ⇑*iP* **P 09 18 31.8 -0.2**
APA pmax pmax
comp=Z,29nm,1.2s,mb5.6
GZR Gura Zlata 93.60 315 ⇓*iP* **P 09 18 34.4 +0.9**
DRGR 93.89 317 ⇓*iP* **P 09 18 35.1 +0.2**
BZS Buzias 94.44 315 ⇑*iP* **P 09 18 37.4 0.0**
BZS Buzias 94.44 315 ⇑P **P 09 18 37.4 0.0**
KOLS Kolonicke sedl 94.56 319 *eP* **P 09 18 37.0 -0.9**
KOLS Kolonicke sedl 94.56 319 *eP* **P 09 18 37.1 -0.8**
KOLS pmax pmax
comp=Z,12nm,1.2s,mb5.2
KOLS Kolonicke sedl 94.56 319 *eP* **P 09 18 37.1 -0.8**
comp=Z,12nm,1.2s,mb5.2
FINES FINESS Array B 94.75 331 P **P 09 18 38.2 -0.6**
comp=Z,8.2nm,0.8s,mb5.2,baz=105,slow=4.5,SNR=18
FINES FINESS Array B 94.75 331 P **P 09 18 38.2 -0.6**
FINES pmax pmax
comp=Z,8.0nm,0.8s
KAF Kangasniemi 94.78 332 *ep* **P 09 18 37.3 -1.7**
comp=Z,37nm,0.8s,mb5.9
KAF Kangasniemi 94.78 332 *eP* **P 09 18 37.3 -1.7**
KAF pmax pmax
comp=Z,37nm,0.8s,mb5.9
CRVS Cervenica-Dubn 95.08 319 *eP* **P 09 18 42.0 +1.7**
ARCES ARCESS Array B 96.56 339 P **P 09 18 45.9 -1.2**
comp=Z,14nm,0.9s,mb5.4,baz=60,slow=2.9,SNR=15
ARCES ARCESS Array B 96.56 339 P **P 09 18 45.9 -1.2**
ARCES pmax pmax
comp=Z,14nm,0.9s
PKSM Moragy 96.58 316 ⇑*iP* **P 09 18 47.0 -0.2**
PKSM Moragy 96.58 316 ⇑P **P 09 18 47.0 -0.2**
VYHS Vyhne 96.74 318 *eP* **P 09 18 46.6 -1.3**
VYHS *e* 09 22 19.9
BRG Berggiesshubel 100.12 320 *eP* PP 09 23 10.6 +2.0
comp=Z,6.9nm,1.3s
GERES GERESS Array B 100.16 318 P Pdif 09 19 02.4 -0.8
comp=Z,0.5nm,0.3s,baz=73,slow=4.5,SNR=6.5
GERES GERESS Array B 100.16 318 P Pdif 09 19 02.4 -0.8
GERES pmax pmax
comp=Z,1.0nm,0.3s
CLL Collm 100.74 320 *e*PDIF Pdif 09 19 07.0 +1.2
CLL *e*PP PP 09 23 17.0 +3.8
NB2 NORSAR Subarra 101.85 330 P Pdif 09 19 09.3 -1.4
comp=Z,5.5nm,1.2s,baz=90,slow=4.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NOA	NORSAR Array B	101.85	330	P	Pdif	09 19 08.6	-2.1
	comp=Z,1.6nm,0.8s,baz=90,slow=4.5,SNR=4.7						
NOA	NORSAR Array B	101.85	330	P	Pdif	09 19 08.6	-2.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PMR	Palmer	104.78	29	P	Pdif	09 19 21.9	-1.8
MID	Middleton Isla	106.43	31	*e*P	Pdif	09 19 29.8	-1.3
DBIC	Dimbokro	113.53	273	PKiKP	PKiKP	09 23 57.6	+2.2
	comp=Z,5.9nm,1.0s,baz=221,slow=3.7,SNR=4.3						
DBIC	Dimbokro	113.53	273	*i* PKIKP	PKiKP	09 23 57.7	+2.2
DBIC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
DLBC	Dease Lake	114.82	29	PKP	PKiKP	09 23 58.3	+0.3
	comp=Z,2.9nm,0.9s,baz=359,slow=5.0,SNR=4.1						
YKA	Yellowknife Ar	119.21	21	PKP	PKPdf	09 24 05.4	-0.9
	comp=Z,4.8nm,0.7s,baz=318,slow=2.0,SNR=20						
YKA	Yellowknife Ar	119.21	21	PKIKP	PKPdf	09 24 05.4	-1.0
YKA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
A05A	Maple Falls	123.03	37	⇑P	PKPdf	09 24 14.8	+1.1
	baz=123						
E03A	Lebam	123.13	40	⇓P	PKPdf	09 24 15.3	+1.4
	baz=123						
B05A	Bryant	123.34	38	⇓P	PKPdf	09 24 15.4	+1.1
	baz=123						
F03A	Seaside	123.37	41	⇓P	PKPdf	09 24 16.1	+1.7
	baz=123						
E04A	Onalaska	123.65	40	⇑P	PKPdf	09 24 16.5	+1.6
	baz=124						
C05A	Tolt Reservoir	123.83	38	⇑P	PKPdf	09 24 16.3	+1.0
	baz=124						
D05A	Enumclaw	123.86	39	⇓P	PKPdf	09 24 16.5	+1.2
	baz=124						
H03A	Soap Creek Ran	124.02	42	⇑P	PKPdf	09 24 16.6	+1.0
	baz=124						
F04A	Amboy	124.10	40	⇓P	PKPdf	09 24 16.1	+0.4
	baz=124						
E05A	Randle	124.26	40	⇑P	PKPdf	09 24 16.9	+0.8
	baz=124						
I03A	Eugene	124.29	43	⇑P	PKPdf	09 24 17.3	+1.2
	baz=124						
K02A	Glendale	124.58	44	⇑P	PKPdf	09 24 18.9	+2.2
	baz=125						
L02A	Cave Junction	124.72	45	⇑P	PKPdf	09 24 19.1	+2.1
	baz=125						
J03A	Ideyld Park	124.72	44	⇓P	PKPdf	09 24 18.8	+1.9
	baz=125						
F05A	White Salmon	124.73	40	⇑P	PKPdf	09 24 18.4	+1.4
	baz=125						
H04A	Detroit Lake	124.75	42	⇓P	PKPdf	09 24 17.7	+0.7
	baz=125						
HUMO	Hull Mountain	125.00	44	⇑P	PKPdf	09 24 19.0	+1.5
	baz=125						
H05A	Madras	125.39	42	⇓P	PKPdf	09 24 19.4	+1.2
	baz=125						
YBH	Yreka Blue Hor	125.49	45	PKP	PKPdf	09 24 20.1	+1.7
	comp=Z,3.4nm,1.0s,baz=321,slow=8.1,SNR=5.5						
YBH	Yreka Blue Hor	125.49	45	PKIKP	PKPdf	09 24 20.1	+1.7
YBH				pmax	pmax		
	comp=Z,3.0nm,1.0s						
M02C	Callahan	125.50	46	⇓P	PKPdf	09 24 20.6	+2.1
	baz=126						
EDM	Edmonton	125.54	29	*e*PKIKP	PKPdf	09 24 19.1	+0.6
HAWA	Hanford	125.73	39	*e*PKPdf	PKPdf	09 24 20.3	+1.4
L04A	Klamath Falls	125.90	45	⇓P	PKPdf	09 24 20.8	+1.6
	baz=126						
O02C	Red Bluff	125.96	47	⇓P	PKPdf	09 24 21.2	+1.9
	baz=126						
WDC	Whiskeytown Da	126.01	47	⇑P	PKPdf	09 24 20.3	+0.9
	baz=126						
M04C	Macdoel	126.08	45	⇓P	PKPdf	09 24 20.9	+1.4
	baz=126						
GASB	Alder Springs	126.19	48	⇓P	PKPdf	09 24 21.2	+1.4
	baz=126						
NEW	Newport	126.28	36	PKP	PKPdf	09 24 21.1	+1.1
	comp=Z,2.4nm,0.6s,baz=353,slow=2.8,SNR=7.9						
NEW	Newport	126.28	36	*e*PKPdf	PKPdf	09 24 20.3	+0.3
MCCM	Marconi Confer	126.55	50	⇓P	PKPdf	09 24 21.4	+0.9
	baz=127						
O03C	Acorn Hollow,	126.57	47	⇑P	PKPdf	09 24 21.8	+1.3
	baz=127						
MNRC	McLaughlin Nat	126.64	49	⇓P	PKPdf	09 24 22.8	+2.1
	baz=127						
J06A	Christmas Vall	126.66	43	⇓P	PKPdf	09 24 21.5	+0.8
	baz=127						
L05A	Lakeview	126.67	44	⇓P	PKPdf	09 24 23.1	+2.4
	baz=127						
HATC	Hat Creek Radi	126.69	46	⇑P	PKPdf	09 24 22.3	+1.6
	baz=127						
M05C	Lookout	126.72	45	⇓P	PKPdf	09 24 22.7	+1.9
	baz=127						
K06A	Valley Falls	126.78	43	⇓P	PKPdf	09 24 22.4	+1.5
	baz=127						
CVS	Carmenet Viney	126.80	49	⇓P	PKPdf	09 24 22.7	+1.8
	baz=127						
SUTB	Sutter Butte	127.01	48	⇑P	PKPdf	09 24 22.8	+1.5
	baz=127						
ORV	Oroville	127.11	47	⇑P	PKPdf	09 24 23.2	+1.7
	baz=127						
O04C	Chester	127.14	46	⇑P	PKPdf	09 24 23.1	+1.6
	baz=127						
J07A	Hines	127.17	42	⇑P	PKPdf	09 24 23.6	+1.9
	baz=127						
OHCM	Honcut	127.19	48	*e*PKPdf	PKPdf	09 24 23.0	+1.3
M06C	Likely Place G	127.24	45	⇑P	PKPdf	09 24 23.7	+1.9
	baz=127						
BDM	Black Diamond	127.37	49	⇓P	PKPdf	09 24 23.6	+1.6
	baz=127						
O05C	Quincy	127.39	47	⇑P	PKPdf	09 24 23.7	+1.6
	baz=127						
WENL	Wente Brothers	127.56	50	⇓P	PKPdf	09 24 24.5	+2.1
	baz=128						
L07A	Adell	127.71	44	⇑P	PKPdf	09 24 24.9	+2.3
	baz=128						
P05C	Yuba Gap, Truc	127.84	47	⇑P	PKPdf	09 24 25.3	+2.4
	baz=128						
N06A	Buffalo Meadow	127.86	45	⇓P	PKPdf	09 24 24.9	+1.9
	baz=128						
S04C	Ingram Canyon,	127.92	50	⇑P	PKPdf	09 24 25.7	+2.6
	baz=128						
LAVA	Lava Cap Winer	127.94	48	⇓P	PKPdf	09 24 24.9	+1.8
	baz=128						
WVOR	Wild Horse Val	128.02	43	*e*PKIKP	PKPdf	09 24 24.6	+1.3
M07A	Soldier Meadow	128.08	44	⇓P	PKPdf	09 24 25.6	+2.2
	baz=128						
O06A	Flanigan	128.09	46	⇓P	PKPdf	09 24 24.4	+1.0
	baz=128						
HAST	UC Hastings Re	128.09	51	⇓P	PKPdf	09 24 24.9	+1.5
	baz=128						
PACP	Pacheco Peak	128.10	50	⇓P	PKPdf	09 24 25.0	+1.6
	baz=128						
P06A	Stead Airport,	128.22	47	⇑P	PKPdf	09 24 26.1	+2.5
	baz=128						
R05C	Kirkwood Meado	128.44	48	⇓P	PKPdf	09 24 25.8	+1.7
	baz=128						
CMB	Columbia Colle	128.44	49	⇑P	PKPdf	09 24 26.3	+2.2
	baz=128						
N07B	Gerlach	128.46	45	⇓P	PKPdf	09 24 26.6	+2.5
	baz=128						
PAHR	Pah Rah Range	128.58	47	*e*PKPdf	PKPdf	09 24 26.0	+1.7
M08A	Happy Creek Ra	128.60	44	⇓P	PKPdf	09 24 26.4	+2.1
	baz=129						
U04C	Hernandez Rese	128.69	51	⇑P	PKPdf	09 24 27.3	+2.8
	baz=129						
S05C	Merced	128.72	50	⇑P	PKPdf	09 24 27.0	+2.4
	baz=129						
O07A	Toulon	128.76	46	⇑P	PKPdf	09 24 26.8	+2.1
	baz=129						
L09A	Wilkinson Ranc	128.84	43	⇑P	PKPdf	09 24 27.0	+2.2
	baz=129						
S06C	San Francisco	128.90	49	⇑P	PKPdf	09 24 27.0	+2.1
	baz=129						
R06C	Coleville	128.96	48	⇑P	PKPdf	09 24 27.6	+2.6
	baz=129						
PKD	Parkfield	129.01	51	⇓P	PKPdf	09 24 27.5	+2.4
	baz=129						
N08A	GE Springer Mi	129.04	45	⇓P	PKPdf	09 24 26.7	+1.5
	baz=129						
CHMT	Chamberlain Mo	129.22	36	*e*PKPdf	PKPdf	09 24 26.2	+0.7
M09A	Marrel Ranch,	129.24	44	⇓P	PKPdf	09 24 27.9	+2.3
	baz=129						
Q07A	Schurz	129.28	47	⇓P	PKPdf	09 24 28.7	+3.0
	baz=129						
T06C	Millerton Lake	129.30	50	⇑P	PKPdf	09 24 27.5	+1.8
	baz=129						
PTRM	Twissleman Ran	129.35	52	*e*PKPdf	PKPdf	09 24 28.5	+2.7
N09A	Rock Creek Ran	129.43	44	⇓P	PKPdf	09 24 28.6	+2.6
	baz=129						
KCC	Kaiser Creek	129.48	49	⇓P	PKPdf	09 24 28.9	+2.8
	baz=130						
P08A	Dixie Valley	129.51	46	⇑P	PKPdf	09 24 28.7	+2.6
	baz=130						
PLCA	Paso Flores	129.62	181	PKP	PKPdf	09 24 27.7	+1.4
	comp=Z,4.2nm,0.8s,baz=212,slow=4.3,SNR=4.0						
PLCA	Paso Flores	129.62	181	PKIKP	PKPdf	09 24 27.7	+1.4
PLCA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NVAR	Mina Array Bea	129.84	48	PKP	PKPdf	09 24 27.6	+0.9
	comp=Z,3.5nm,0.7s,baz=282,slow=0.6,SNR=20						
Q08A	Gabbs	129.94	47	⇑P	PKPdf	09 24 29.2	+2.2
	baz=130						
MNV	Mina	129.94	48	*e*PKIKP	PKPdf	09 24 29.6	+2.7
O09A	Fish Creek Ran	129.95	45	⇑P	PKPdf	09 24 28.9	+2.0
	baz=130						
R08A	Mina	130.01	48	⇑P	PKPdf	09 24 29.7	+2.6
	baz=130						
MTUM	Tungsten Hills	130.04	49	*e*PKPdf	PKPdf	09 24 29.5	+2.4
HRY	Holter Researc	130.15	35	*e*PKPdf	PKPdf	09 24 29.0	+1.6
HLID	Hailey	130.26	40	*e*PKPdf	PKPdf	09 24 29.6	+2.1
M11A	Holland Ranch,	130.36	43	⇓P	PKPdf	09 24 30.4	+2.7
	baz=130						
MCMT	McKenzie Canyo	130.58	38	*e*PKPdf	PKPdf	09 24 30.3	+2.2
N11A	Elko Archery C	130.67	44	⇑P	PKPdf	09 24 31.6	+3.2
	baz=131						
ISA	Isabella	130.69	51	⇓P	PKPdf	09 24 30.5	+2.2
	baz=131						
BOZ	Bozeman (W)	130.86	36	*e*PKIKP	PKPdf	09 24 30.0	+1.3
S09A	Goldfield	130.89	48	⇑P	PKPdf	09 24 31.0	+2.2
	baz=131						
O11A	Cowboy Ranch,	131.03	45	⇑P	PKPdf	09 24 29.8	+0.8
	baz=131						
ELK	Elko	131.04	44	*e*PKIKP	PKPdf	09 24 30.9	+1.9
N12A	Clover Valley,	131.13	43	⇑P	PKPdf	09 24 31.2	+2.0
	baz=131						
R10A	Warm Springs	131.34	47	⇑P	PKPdf	09 24 32.7	+3.2
	baz=131						
Q11A	Duckwater	131.58	46	⇓P	PKPdf	09 24 32.9	+2.9
	baz=132						
P12A	McGill	131.83	45	⇑P	PKPdf	09 24 33.0	+2.5
	baz=132						
U10A	Ash Meadows, A	132.04	49	⇑P	PKPdf	09 24 34.4	+3.5
	baz=132						
GSC	Goldstone	132.09	51	⇑P	PKPdf	09 24 34.3	+3.3
	baz=132						
TUQ	Turquoise Mtn.	132.72	50	⇓P	PKPdf	09 24 34.8	+2.6
	baz=133						
U11A	Corn Creek	132.75	49	⇑P	PKPdf	09 24 35.0	+2.8
	baz=133						
V11A	Goodsprings	132.94	50	⇓P	PKPdf	09 24 36.5	+3.9
	baz=133						
DUG	Dugway	132.94	43	*e*PKIKP	PKPdf	09 24 34.5	+1.9
PFO	Pinyon Flat Ob	132.95	53	⇓P	PKPdf	09 24 36.5	+3.9
	baz=133						
U12A	Valley of Fire	133.37	49	⇑P	PKPdf	09 24 36.5	+3.1
	baz=133						
V12A	Nelson	133.42	50	⇑P	PKPdf	09 24 36.2	+2.8
	baz=133						
PDAR	Pinedale Array	133.70	38	PKP	PKPdf	09 24 34.3	+0.3
	comp=Z,0.9nm,0.6s,baz=206,slow=0.9,SNR=7.1						
CCUT	Cedar City	133.76	47	*e*PKPdf	PKPdf	09 24 36.5	+2.4
DAU	Daniels Canyon	133.87	42	*e*PKIKP	PKPdf	09 24 37.4	+3.1
MSU	Marysvale	134.16	45	*e*PKIKP	PKPdf	09 24 37.1	+2.2
W13A	Hualapai Mount	134.39	50	⇓P	PKPdf	09 24 36.7	+1.3
	baz=134						
GLA	Glamis	134.42	53	⇑P	PKPdf	09 24 37.9	+2.5
	baz=134						
X13A	Yucca	134.62	51	⇑P	PKPdf	09 24 37.8	+2.1
	baz=135						
W14A	Seligman	134.94	49	⇑P	PKPdf	09 24 38.9	+2.5
	baz=135						
SCHQ	Schefferville	134.98	356	PKP	PKPdf	09 24 36.4	-0.1
	comp=Z,7.3nm,0.8s,baz=1.7,slow=4.8,SNR=8.0						
ULM	Lac du Bonnet	135.19	22	PKP	PKPdf	09 24 37.2	+0.4
	comp=Z,4.9nm,0.9s,baz=54,slow=2.0,SNR=4.8						
ULM	Lac du Bonnet	135.19	22	PKP	PKPdf	09 24 37.2	+0.4
X14A	Yava	135.39	50	⇓P	PKPdf	09 24 39.6	+2.4
	baz=135						
Y14A	Wickenburg	135.51	51	⇓P	PKPdf	09 24 38.5	+1.0
	baz=136						
W15A	Williams	135.57	49	⇓P	PKPdf	09 24 40.5	+3.0
	baz=136						
Z14A	Wintersburg	135.77	52	⇓P	PKPdf	09 24 40.7	+2.8
	baz=136						
X15A	Humboldt	135.88	50	⇑P	PKPdf	09 24 40.6	+2.5
	baz=136						
115A	Sonoran Desert	136.58	52	⇑P	PKPdf	09 24 42.6	+3.2
	baz=137						
PV01	Paradox Valley	136.82	43	*e*PKPdf	PKPdf	09 24 41.8	+2.0
116A	Eloy	137.04	52	⇑P	PKPdf	09 24 43.3	+3.1
	baz=137						
MVCO	Mesa Verde	137.34	44	*e*PKPdf	PKPdf	09 24 43.0	+2.2
ISCO	Idaho Springs	137.83	39	*e*PKIKP	PKPdf	09 24 43.9	+2.2
LAZ	Ladron	139.69	47	*e*PKPdf	PKPdf	09 24 46.0	+0.9
ANMO	Albuquerque	139.90	46	PKP	PKPdf	09 24 44.4	-1.1
	comp=Z,3.8nm,0.9s,baz=174,slow=0.9,SNR=8.6						
ANMO	Albuquerque	139.90	46	⇑*i*PKIKP	PKPdf	09 24 45.1	-0.4
BNM	Barren Site	140.18	47	*e*PKPdf	PKPdf	09 24 46.4	+0.3
CPUP	Villa Florida	141.26	201	PKhKP		09 24 40.7	
	comp=Z,0.5nm,0.4s,baz=173,slow=5.1,SNR=3.6						
CPUP				PKP	PKPdf	09 24 48.0	+0.1
	comp=Z,4.8nm,0.9s,baz=119,slow=2.7,SNR=7.7						
CPUP	Villa Florida	141.26	201	PKHKP		09 24 40.7	
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CPUP				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CPUP	Villa Florida	141.26	201	PKP	PKPdf	09 24 48.0	+0.1
LTX	Lajitas	144.66	52	*e*PKIKP	PKPdf	09 24 54.6	+0.6
PKME	Peaks-Kenny Pk	144.67	357	*e*PKPdf	PKPdf	09 24 53.0	-1.0
SADO	Sadowa	144.71	9	PKP	PKPdf	09 24 52.8	-1.2
	comp=Z,44nm,0.8s,baz=334,slow=4.7,SNR=23						
MSNY	Massena	144.93	3	*e*PKPdf	PKPdf	09 24 54.0	-0.4
BAO	Brasilia Array	145.21	223	P	PKPdf	09 24 52.5	-2.4
BDFB	Brasilia	145.22	223	PKPbc	PKPbc	09 24 56.0	+1.3
	comp=Z,42nm,0.9s,baz=138,slow=1.8,SNR=32						
BDFB	Brasilia	145.22	223	PKIKP	PKPdf	09 24 56.0	+1.1
BDFB				pmax	pmax		
	comp=Z,42nm,0.9s						
WMOK	Wichita Mounta	145.23	41	*e*PKIKP	PKPdf	09 24 55.6	+0.7
LONY	Lake Ozonia	145.33	3	*e*PKPbc	PKPbc	09 24 55.3	+0.3
LBNH	Lisbon	145.78	360	*e*PKIKP	PKPbc	09 24 56.9	+0.5
MIV	Mineville/With	145.92	2	*e*PKPdf	PKPdf	09 24 56.9	+0.8
NCB	Newcomb	145.99	3	*e*PKPdf	PKPdf	09 24 57.1	+0.9
AAM	Ann Arbor	146.14	16	*e*PKP2	PKPbc	09 24 57.0	-0.5
ACCN	Adirondack Com	146.60	2	*e*PKPdf	PKPdf	09 24 58.8	+1.5
JCT	Junction City	147.01	48	*e*PKIKP	PKPdf	09 24 59.4	+1.4
SLM	Saint Louis	147.05	27	*e*PKP2	PKPbc	09 25 00.4	+0.3
CCM	Cathedral Cave	147.06	29	*e*PKIKP	PKPdf	09 24 58.4	+0.3
CCM				*e*		09 25 00.6	
ERPA	Erie	147.15	11	*e*PKPbc	PKPbc	09 25 00.5	+0.2
FVM	French Village	147.50	28	*e*PKIKP	PKPdf	09 24 59.2	+0.4
QUA2	Belchertown	147.73	0	*e*PKPdf	PKPdf	09 24 59.8	+0.7
QUA2				*e*PKPbc	PKPbc	09 25 02.4	+0.4
BLO	Bloomington	148.09	22	*e*PKP2	PKPbc	09 25 03.3	+0.3
ACSO	Alum Creek Sta	148.25	16	*e*PKPbc	PKPbc	09 25 03.4	0.0
MIAR	Mount Ida	148.52	35	*e*PKIKP	PKPdf	09 25 01.8	+1.3
MIAR				*e*		09 25 04.9	
WCI	Wyandotte Cave	149.01	22	*e*PKIKP	PKPdf	09 25 02.9	+1.6
WCI				*e*		09 25 05.8	
WCI				*e*		09 25 11.3	
UALR	University of	149.04	34	*e*PKPdf	PKPdf	09 25 02.1	+0.7
UALR				*e*PKPbc	PKPbc	09 25 05.7	+0.3
UALR				*e*PKPab	PKPab	09 25 11.2	+1.5
BRNJ	Basking Ridge	149.25	4	*e*PKPdf	PKPdf	09 25 03.4	+1.8
BRNJ				*e*PKPbc	PKPbc	09 25 07.9	+2.0
HBAR	Harrisburg	149.33	31	*e*PKPdf	PKPdf	09 25 03.0	+1.2
HBAR				*e*PKPbc	PKPbc	09 25 07.4	+1.2
HBAR				*e*PKPab	PKPab	09 25 13.1	+2.3
GLAT	Glass	149.42	28	*e*PKPdf	PKPdf	09 25 03.0	+1.1
GLAT				*e*PKPbc	PKPbc	09 25 07.3	+1.0
GLAT				*e*PKPab	PKPab	09 25 12.7	+1.5
MCWV	Mont Chateau	149.55	12	*e*PKPdf	PKPdf	09 25 02.7	+0.6
MCWV				*e*PKPbc	PKPbc	09 25 07.6	+0.9
MCWV				*e*PKPab	PKPab	09 25 12.4	+0.7
UTMT	University of	149.56	27	*e*PKPdf	PKPdf	09 25 03.8	+1.7
UTMT				*e*PKPbc	PKPbc	09 25 07.7	+1.0
UTMT				*e*PKPab	PKPab	09 25 13.3	+1.6
HALT	Halls	149.69	29	*e*PKPdf	PKPdf	09 25 04.2	+1.8
HALT				*e*PKPbc	PKPbc	09 25 07.8	+0.8
HALT				*e*PKPab	PKPab	09 25 13.6	+1.3
HKT	Hockley	150.14	45	*e*PKPdf	PKPdf	09 25 05.1	+2.0
HKT				*e*PKPbc	PKPbc	09 25 10.3	+2.2
WVT	Waverly	150.20	26	*e*PKIKP	PKPdf	09 25 03.9	+0.8
WVT				*e*		09 25 09.0	
OXF	Oxford	150.78	30	*e*PKIKP	PKPdf	09 25 05.1	+1.0
OXF				*e*		09 25 10.3	
OXF				*e*		09 25 17.5	
PLAL	Pickwick Lake	151.04	28	*e*PKPdf	PKPdf	09 25 04.7	+0.2
PLAL				*e*PKPbc	PKPbc	09 25 10.4	+0.1
FWV	Forest Hill	151.31	15	*e*PKPdf	PKPdf	09 25 06.9	+2.0
FWV				*e*PKPbc	PKPbc	09 25 11.0	+0.1
FWV				*e*PKPab	PKPab	09 25 19.8	+0.8
TZTN	Tazewell	151.48	20	*e*PKPdf	PKPdf	09 25 06.2	+1.1
TZTN				*e*PKPbc	PKPbc	09 25 11.9	+0.6
TZTN				*e*PKPab	PKPab	09 25 20.4	+0.7
ELN	Prospectdale	151.66	15	*e*PKPdf	PKPdf	09 25 06.0	+0.6
ELN				*e*PKPbc	PKPbc	09 25 11.9	+0.3
ELN				*e*PKPab	PKPab	09 25 19.9	-0.5
BLA	Blacksburg	151.76	14	*e*PKIKP	PKPdf	09 25 06.3	+0.7
BLA				*e*		09 25 12.1	
BLA				*e*		09 25 21.0	
SIV	San Ignacio	152.09	203	PKP	PKPdf	09 25 06.7	+0.7
	baz=115,slow=3.4						
SIV				PKPbc	PKPbc	09 25 13.7	+1.0
	baz=123,slow=3.3						
LPAZ	La Paz	153.71	188	PKP	PKPdf	09 25 10.7	+2.3
	comp=Z,3.5nm,1.1s,baz=50,slow=1.7,SNR=5.9						
LPAZ				PKPbc	PKPbc	09 25 18.6	+2.3
	comp=Z,5.5nm,0.8s,baz=91,slow=2.2,SNR=23						
LPAZ	La Paz	153.71	188	PKIKP	PKPdf	09 25 10.7	+2.3
LPAZ						09 25 18.6	
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LPAZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						

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*IDC **17** 09:10:24.9±5.9, 10.29S×107.98E, h0^{km}, mb4.4/5, mb1 4.4/5, mb1mx4.1/15, mbtmp4.4/5, Error ellipse: s-maj=146.0km s-min=54.0km az=161.0*

*ISCJB **17** 09:10:29.8±0.9, 9.9S±0.2×108.0E±0.2, h33^{km}, mb4.7/9, Error ellipse: s-maj=40.8km s-min=11.6km az=91.3*

ISC 17 09:10:32.1±0.9, **10.0S**±0.2×**107.9E**±0.2, **h35^{km}, n17,** σ**0^{s}57**/15, **mb4.7**/9, **South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.37	114	Sn	P	09 16 14.4	+0.4
	18nm,0.8s,mb4.6,baz=287,slow=25,SNR=7.2						
WB2	Warramunga Arr	27.38	114	*e*S	P	09 16 13.3	-0.8
FORT	Forrest	27.94	141	*e*S	P	09 16 19.2	+0.2
ASPA	Alice Springs	28.31	122	*e*S	sP	09 16 35.5	-1.1
AS31	Alice Springs	28.31	122	*e*S	sP	09 16 35.5	-1.2
JIRN	Jiri	42.92	331	*e*P	P	09 18 27.5	+0.2
	48nm,0.9s,mb5.2						
PKI	Pulchoki	43.22	330	*e*P	P	09 18 29.4	-0.4
GUN	Gumba	43.27	331	*e*P	P	09 18 30.1	-0.1
DMN	Daman	43.40	330	*e*P	P	09 18 32.0	+0.8
KKN	Kakani	43.46	330	*e*P	P	09 18 31.4	-0.3
	31nm,0.9s,mb5.0						
GKN	Gorkha	43.96	330	*e*P	P	09 18 34.4	-1.3
	22nm,0.7s,mb5.0						
KOLN	Koldanda	44.29	329	*e*P	P	09 18 38.3	-0.1
MJAR	Matsushiro Arr	54.36	30	P	P	09 19 55.0	-0.2
	5.5nm,0.9s,mb4.5,baz=207,slow=8.1,SNR=6.9						
SONM	Songino Array	57.57	359	P	P	09 20 19.4	+1.2
	2.9nm,0.7s,mb4.4,baz=171,slow=7.5,SNR=5.0						
MKAR	Makanchi Array	60.97	340	P	P	09 20 41.7	0.0
	3.4nm,0.6s,mb4.7,baz=141,slow=8.3,SNR=7.8						
BVAR	Borovoye Array	70.44	337	P	P	09 21 42.8	0.0
	2.4nm,0.7s,mb4.2,baz=148,slow=8.7,SNR=3.7						
BRTR	Keskin Array B	84.45	312	P	P	09 23 01.6	+0.4
	2.0nm,0.9s,mb4.2,baz=135,slow=5.8,SNR=4.5						

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*IDC **17** 09:13:02.8±0.3, 9.04S×107.87E, h0^{km}, mb5.8/35, mb1 5.7/36, mb1mx5.7/37, mbtmp5.8/36, ML5.2/1, MS6.0/5, Ms1 6.0/5, ms1mx5.2/37, Error ellipse: s-maj=11.4km s-min=10.7km az=62.0*

*BJI **17** 09:13:03.9, 9.10S×107.80E, h10^{km}, mB6.8, mb6.0, Ms6.5, Msz6.2*

*NEIC **17** 09:13:05.0±0.1, 9.09S×107.76E, h10^{km}, mb6.1/59, Error ellipse: s-maj=5.6km s-min=4.1km az=224.0*

NEIC Felt [III] at Bandung. Also felt at Jakarta.

*HRVD **17** 09:13:05.0±0.5, 9.14S×107.82E, h21^{km}±2^{km}, MW6.0/56, Centroid moment Tensor Solution. LP body waves: s11,c12; Mantle waves: s56,c91; Half duration: 2^{s}4 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.78±.10; $M_{\theta\theta}$0.60±.06; $M_{\phi\phi}$0.18±.06; $M_{r\theta}$0.87±.13; $M_{\theta\phi}$-0.30±.02; $M_{\phi r}$-0.20±.10; Best double couple: $M_0$1.17800×10^{18} NP1: ϕ_s127.00000°, δ21.00000°, λ-71.00000°. NP2: ϕ_s287.00000°, δ70.00000°, λ-97.00000°. Principal axes: T 1.1500, Plg24.0000°, Azm22.0000°; N 0.0560, Plg7.0000°, Azm289.0000°; P -1.2060, Plg64.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **17** 09:13:08.1±0.2, 9.05S±0.03×107.87E±0.03, h47^{km}, mb6.0/143, MS6.2/20 Error ellipse: s-maj=4.2km s-min=3.8km az=38.2*

*MOS **17** 09:13:09.4±0.9, 8.40S×107.92E, h33^{km}, mb6.2/64, Error ellipse: s-maj=10.1km s-min=5.5km az=115.2*

ISC 17 09:13:10.1±0.2, **9.09S**±0.03×**107.86E**±0.03, **h49^{km}, h49^{km}**±1.7^{km}**:pP-P, n790,** σ**1^{s}07**/464, **mb6.0**/141, **MS6.2**/20, **96C-96D, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BJII	Banjamegara	2.53	47	⇑*i*P	Pn	09 13 50.4	+1.6
BJII				*i* S	Sn	09 14 20.9	+2.5
KSI	Kapahiang	7.52	316	P	Pn	09 14 53.9	-3.3
	0.0nm,0.0s						
KSM	Kuching	10.78	13	*e*Pn	Pn	09 15 43.3	+1.6
COCO	West Island	11.26	253	Pn	Pn	09 15 43.0	-5.3
	5μm,1.4s,SNR=13						
COCO	West Island	11.26	253	*e*Pn	Pn	09 15 43.4	-5.0
COCO				*e*Sn	Sn	09 17 35.1	-18
PPI	Padang Panjang	11.35	319	P	Pn	09 15 46.0	-3.5
	0.0nm,0.0s						
KGM	Kluang	11.93	338	P	Pn	09 15 57.5	+0.1
PCI	Palu	14.43	56	P	Pn	09 16 33.4	+1.9
	0.0nm,0.0s						
PSI	Prapat	14.79	323	Pn	Pn	09 16 26.9	-9.3
	2.5nm,0.3s,baz=142,slow=10,SNR=18						
PSI	Prapat	14.79	323	P	Pn	09 16 27.0	-9.2
PSI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
IPM	Ipoh	15.11	333	P	Pn	09 16 39.0	-1.3
KULM	Kulim	15.99	333	*e*Pn	Pn	09 16 46.0	-5.7
MBWA	Marble Bar	16.58	138	*e*P	Pn	09 16 54.0	-5.1
TSM	Tawau	16.63	37	P	Pn	09 17 01.3	+1.6
KKM	Kota Kinabalu	17.19	29	P	Pn	09 17 07.5	+0.8
KKM	Kota Kinabalu	17.19	29	*e*P	Pn	09 17 05.9	-0.8
SNG	Songkhla	17.70	336	P	Pn	09 17 08.0	-5.0
	comp=Z,256nm,0.9s						
BSI	Banda Aceh	19.15	319	P	Pn	09 17 25.0	-5.6
	comp=Z,2μm,1.0s						
FITZ	Fitzroy Crossi	19.45	119	*e*P	Pn	09 17 32.7	-1.4
	comp=Z,906nm,0.9s						
FITZ				*e*S	S	09 20 55.5	-14
FITZ	Fitzroy Crossi	19.45	119	P	Pn	09 17 33.2	-1.0
	comp=Z,4.9nm,0.3s,baz=288,slow=7.7,SNR=64						
FITZ				Sn	Sn	09 20 54.1	-17
	comp=Z,3.7nm,0.3s,baz=86,slow=17,SNR=3.2						
BATP	Bataraza	20.34	29	*e*P	P	09 17 42.3	0.0
PPR	Puerto Princes	21.64	30	*e*P	P	09 17 56.2	-0.1
NNT	Nongplab	23.00	339	P	P	09 18 12.8	+2.1
CTBH	Cotabato--PC H	23.01	46	⇓*e*P	P	09 18 11.3	+0.5
ENPP	El Nido	23.22	30	*e*P	P	09 18 14.6	+1.7
DAV	Davao City (W)	23.87	48	⇓*e*P	P	09 18 20.5	+1.5
DAV	Davao City (W)	23.87	48	⇓P	P	09 18 20.5	+1.5
	SNR=87						
DAV	Davao City (W)	23.87	48	*e*P	P	09 18 20.6	+1.7
BUKP	Musuan	24.04	46	*e*P	P	09 18 20.2	-0.4
KLBR	Kellerberrin	24.20	159	*e*P	P	09 18 21.5	-0.5
	comp=Z,1μm,1.4s,mb6.1						
BUSP	Coron	24.29	31	*e*P	P	09 18 23.3	+0.5
UBT	Ubonrachathani	24.34	353	⇓P	P	09 18 25.0	+1.7
	comp=Z,278nm,1.0s,mb5.6						
KAKA	Kakadu	24.40	101	*e*P	P	09 18 24.5	+0.7
	comp=Z,796nm,0.9s,mb6.2						
GUIM	Jordan	24.47	37	*e*P	P	09 18 26.1	+1.7
TBP	Tagbilaran	24.54	41	*e*P	P	09 18 24.8	-0.3

LLP Lapu-Lapu 25.08 40 *e*P **P 09 18 29.2 -0.8**
KALP Kalibo 25.16 35 *e*P **P 09 18 34.9 +4.2**
comp=Z,1425µm,25.0s
NWAO Narrogin (SRO) 25.25 161 P **P 09 18 30.3 -1.3**
comp=Z,359nm,1.1s,mb5.8,baz=326,slow=11,SNR=16
NWAO Sn **S 09 23 08.3 +15**
comp=Z,20nm,0.7s,baz=265,slow=14,SNR=2.4
NWAO Narrogin (SRO) 25.25 161 P **P 09 18 30.3 -1.3**
NWAO 09 23 08.3
NWAO pmax pmax
comp=Z,359nm,1.1s
NWAO smax
comp=E,20nm,0.7s
NWAO Narrogin (SRO) 25.25 161 *e*P **P 09 18 29.9 -1.7**
comp=E,447nm,1.2s,mb5.9
RCP Roxas 25.30 36⇑ *e*P **P 09 18 33.0 +1.0**
comp=E,137µm,12.0s
MSLP Maasin 25.52 42 *e*P **P 09 18 34.8 +0.8**
OTRP Odiongan 25.54 34 *e*P **P 09 18 35.0 +0.8**
SCPH Surigao 25.68 44⇑ *e*P **P 09 18 33.6 -1.9**
LUBP Lubang 25.80 29 *e*P **P 09 18 35.7 -0.8**
PGP Puerto Galera 25.94 30 *e*P **P 09 18 42.0 +4.2**
PLP Palo 26.36 41 *e*P **P 09 18 40.9 -0.7**
TGY Tagaytay City 26.45 30 P **P 09 18 42.4 0.0**
comp=E,133nm,0.3s,baz=198,slow=12,SNR=6.5
TGY Tagaytay City 26.45 30 P **P 09 18 42.4 0.0**
TGY pmax pmax
comp=Z,133nm,0.3s
SCZP Santa Cruz 27.44 26 *e*P **P 09 18 50.9 -0.4**
WRA Warramunga Arr 27.77 116 P **P 09 18 53.5 -0.7**
comp=Z,187nm,0.9s,mb5.7,baz=288,slow=11,SNR=46
WRA Sn S 09 24 13.1 +40
comp=Z,9.0nm,1.0s,baz=285,slow=25,SNR=2.8
WRA LR LR 09 29 38.1
comp=Z,27µm,18.1s,MS5.9,baz=275,slow=36
WRAB Tennant Creek 27.77 116 P **P 09 18 55.0 +0.7**
comp=Z,1µm,1.0s,mb6.6,SNR=8.2
WRAB Tennant Creek 27.77 116 *e*P **P 09 18 54.6 +0.3**
WRAB pmax pmax
comp=Z,320nm,0.9s,mb6.0
WRAB Tennant Creek 27.77 116 *e*P **P 09 18 54.5 +0.2**
comp=Z,323nm,0.9s,mb6.0
WB2 Warramunga Arr 27.78 116 *e*P **P 09 18 52.6 -1.7**
PCPH Palayan 27.79 28 *e*P **P 09 18 52.8 -1.6**
QIZ Qiongzhong 28.01 4 P **P 09 18 57.3 +0.9**
QIZ AP pP 09 19 01.4 -7.6
QIZ *e*S **S 09 23 39.4 +2.0**
QIZ AMB AMB
comp=Z,86nm,1.5s,mb5.2
QIZ LR LR
comp=N,37µm,13.8s
QIZ LR LR
comp=Z,42µm,14.3s,MS6.2
QIZ Qiongzhong 28.01 4 *e*P **P 09 18 56.7 +0.2**
comp=Z,201nm,1.4s,mb5.6
BALP Baler 28.17 29 *e*P **P 09 18 56.7 -1.1**
CM31 Chiang Mai Arr 28.75 342 *e*P **P 09 19 02.0 -1.0**
comp=Z,16nm,0.5s,mb5.0
ASPA Alice Springs 28.81 123 *e*P **P 09 19 03.2 -0.3**
ASAR Alice Springs 28.81 123 P **P 09 19 02.4 -1.1**
comp=Z,143nm,1.0s,mb5.7,baz=294,slow=8.4,SNR=64
ASAR PcP PcP 09 22 13.2 +0.9
comp=Z,62nm,1.1s,baz=297,slow=2.3,SNR=8.4
ASAR Sn S 09 24 37.0 +47
comp=Z,6.5nm,0.8s,baz=288,slow=22,SNR=3.2
ASAR Alice Springs 28.81 123 P **P 09 19 02.4 -1.1**
ASAR 09 22 13.2
ASAR pmax pmax
comp=Z,143nm,1.0s
ASAR pmax pmax
comp=Z,62nm,1.1s
AS31 Alice Springs 28.81 123 *e*P **P 09 19 03.2 -0.3**
CHG Chiang Mai 29.09 342 ⇑P **P 09 19 06.2 +0.2**
comp=Z,110nm,1.1s,mb5.5
CHTO Chiang Mai 29.09 342 ⇓P **P 09 19 04.5 -1.5**
SNR=16
CHTO Chiang Mai 29.09 342 *e*P **P 09 19 04.3 -1.7**
CHTO pmax pmax
comp=Z,85nm,1.0s,mb5.4
CHTO Chiang Mai 29.09 342 *e*P **P 09 19 04.3 -1.7**
comp=Z,85nm,1.0s,mb5.4
BAKI Biak 29.19 76 P **P 09 19 07.3 +0.4**
comp=Z,268nm,1.1s,mb5.9
PALK Pallekele 31.57 300 P **P 09 19 29.6 +1.7**
comp=Z,1µm,1.0s,mb6.7,SNR=11
PALK Pallekele 31.57 300 ⇑P **P 09 19 29.4 +1.5**
SNR=9.2
PALK Pallekele 31.57 300 *e*P **P 09 19 29.2 +1.3**
comp=Z,316nm,1.1s,mb6.1
KMI Kunming 34.37 352 P **P 09 19 54.3 +1.9**
KMI AP pP 09 19 57.1 -8.0
KMI PP PP 09 21 10.3 -0.6
KMI PPP 09 21 28.3
KMI S **S 09 25 22.0 +5.3**
KMI XS sS 09 25 26.8 -11
KMI SS SS 09 27 32.3 -15
KMI SSS 09 27 58.6
KMI AMB AMB
comp=Z,87nm,1.0s,mb5.6
KMI AMB AMB
comp=Z,16µm,13.0s
KMI LR LR
comp=N,88µm,15.4s,MS6.7
KMI LR LR
comp=E,64µm,17.3s,MS6.7
KMI LR LR
comp=Z,100µm,14.4s,MS6.7
DGAR Diego Garcia 35.07 270 *e*P **P 09 19 58.6 +0.2**
DGAR pmax pmax
comp=Z,959nm,1.3s,mb6.6
DGAR Diego Garcia 35.07 270 *e*P **P 09 19 58.6 +0.2**
comp=Z,959nm,1.3s,mb6.6
GYA Guiyang 35.36 358⇑ *i*P **P 09 20 03.0 +2.1**
GYA AP pP 09 20 07.8 -5.8
GYA XP sP 09 20 10.6 -8.8
GYA PP PP 09 21 22.0 +0.3
GYA PCP PcP 09 22 33.3 +3.1
GYA S **S 09 25 34.8 +3.0**
GYA SCP ScP 09 26 17.3 +5.4
GYA SS SS 09 27 54.8 -12
GYA AMB AMB
comp=Z,310nm,0.9s,mb6.2
GYA AMB AMB
comp=Z,19µm,10.6s
GYA LR LR
comp=N,44µm,16.2s,MS6.4
GYA LR LR
comp=E,30µm,15.8s,MS6.4
GYA LR LR
comp=Z,54µm,16.4s,MS6.4
NACB Ninganchiao 35.68 22 *e*P **P 09 20 03.6 -0.1**
VIS Vishakhapatnam 36.01 318 *e*P **P 09 20 06.7 +0.2**
VIS AMb AMB 09 20 22.7
comp=Z,673nm,1.2s,mb6.4
VIS *e*S **S 09 25 46.0 +4.1**
YHNB Yeheng 36.05 21 *e*P **P 09 20 07.1 +0.2**
TATO Taipei 36.38 21 *e*P **P 09 20 10.5 +1.0**
comp=Z,762nm,1.5s,mb6.4
BWNR Bhubaneshwar 36.38 324 *e*P **P 09 20 11.0 +1.4**
SHL Shillong 37.80 336 *e*P **P 09 20 20.5 -1.1**
CTA Charters Tower 38.64 111 *e*P **P 09 20 30.0 +1.3**
comp=Z,154nm,1.2s,mb5.6
CTA *e*PCP PcP 09 22 42.4 +2.3
CTA Charters Tower 38.64 111 *e*P **P 09 20 30.0 +1.3**
CTA *e* 09 22 42.4
CTA pmax pmax
comp=Z,154nm,1.2s
CTAO Charters Tower 38.64 111 *e*P **P 09 20 30.8 +2.1**
PMG Port Moresby 38.78 94 *e*P **P 09 20 31.6 +1.7**
BOK Bokaro 39.11 327 *e*P **P 09 20 33.2 +0.6**
BOK AMb AMB 09 20 35.5
comp=Z,709nm,1.2s,mb6.3
HYB Hyderabad 39.15 312 *i* P **P 09 20 35.5 +2.5**
HYB Hyderabad 39.15 312 *e*P **P 09 20 32.0 -1.0**
WHN Wuhan 39.90 9 P **P 09 20 39.3 +0.1**
CD2 Chengdu 39.97 355⇓ *i*P **P 09 20 40.1 +0.3**
CD2 AP pP 09 20 52.3 -0.4
CD2 PP PP 09 22 17.3 +5.0
CD2 S **S 09 26 43.8 +2.1**
CD2 SS SS 09 29 37.3 -2.6
CD2 AMB AMB
comp=Z,80nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,3µm,9.5s
CD2 LR LR
comp=E,20µm,16.8s
CD2 LR LR
comp=Z,19µm,16.8s,MS6.0
JOW Kunigami 40.84 28 P **P 09 20 46.6 -0.4**
comp=Z,650nm,0.9s,mb6.2,baz=239,slow=7.3,SNR=107
JOW LR LR 09 39 51.3
comp=Z,21µm,18.0s,MS6.0,baz=40,slow=39
LATR Latur 41.24 312 *e*P **P 09 20 51.0 +0.7**
GOA Goa 41.63 306 *e*P **P 09 20 53.0 -0.5**
SSE Sheshan 41.95 17 *e*P **P 09 20 56.5 +0.4**
SSE AMB AMB
comp=Z,251nm,1.5s,mb5.6
SSE AMB AMB
comp=Z,8µm,9.9s
JIRN Jiri 42.13 331 *e*P **P 09 20 57.5 -0.1**
comp=Z,2µm,1.1s,mb6.6
NJ2 Nanjing 42.24 14 *e*P **P 09 20 57.9 -0.6**
NJ2 AP pP 09 21 10.1 -1.4
NJ2 PP PP 09 22 39.5 +2.6
NJ2 S **S 09 27 12.0 -3.4**
NJ2 XS sS 09 27 33.0 -4.3
NJ2 AMB AMB
comp=Z,220nm,1.0s,mb5.7
NJ2 AMB AMB
comp=Z,2µm,6.0s
NJ2 LR LR
comp=N,5µm,12.4s,MS5.7
NJ2 LR LR
comp=E,3µm,14.6s,MS5.7
NJ2 LR LR
comp=Z,7µm,14.6s,MS5.7
KAD Karad 42.38 308 *e*P **P 09 20 57.7 -1.9**
PKI Pulchoki 42.44 330 *e*P **P 09 20 59.5 -0.6**
comp=Z,684nm,1.1s,mb6.2
PKI Pulchoki 42.44 330 *e*P **P 09 20 59.5 -0.6**
PKI pmax pmax
comp=Z,684nm,1.1s,mb6.2
GUN Gumba 42.49 331 *e*P **P 09 21 00.4 -0.1**
comp=Z,1µm,0.7s,mb6.6
DMN Daman 42.62 330 *e*P **P 09 21 01.1 -0.5**
comp=Z,1µm,0.9s,mb6.7
KKN Kakani 42.68 330 *e*P **P 09 21 01.6 -0.5**
comp=Z,1µm,0.9s,mb6.7
KKN Kakani 42.68 330 *e*P **P 09 21 01.6 -0.5**
KKN pmax pmax
comp=Z,1µm,0.9s,mb6.7
XAN Xi'an 42.91 1 P **P 09 21 02.9 -1.0**
XAN AMB AMB
comp=Z,539nm,1.0s,mb6.2
GUMO Guam 43.10 59 P **P 09 21 03.2 -2.2**
comp=Z,116nm,0.7s,mb5.7,baz=197,slow=14,SNR=6.2
GUMO Guam 43.10 59 P **P 09 21 03.2 -2.2**
GUMO pmax pmax
comp=Z,116nm,0.7s,mb5.7
GKN Gorkha 43.18 329 *e*P **P 09 21 05.5 -0.6**
comp=Z,2µm,1.1s,mb6.7
POO Poona 43.35 309⇓ *i*P **P 09 21 05.0 -2.5**
comp=Z,370nm,1.0s,mb6.1
KOLN Koldanda 43.52 328 *e*P **P 09 21 08.5 -0.4**
comp=Z,2µm,0.8s,mb6.8
BHPL Bhopal 43.81 318 *e*P **P 09 21 10.8 -0.4**
BHPL AMb AMB 09 21 26.6
comp=Z,298nm,1.3s,mb5.8
TOO Toolangi 44.21 136 *e*P **P 09 21 15.7 +1.3**
comp=Z,148nm,1.2s,mb5.6
TOO *e*PCP PcP 09 23 01.3 +2.9
TOO Toolangi 44.21 136 *e*P **P 09 21 15.7 +1.3**
TOO *e* 09 23 01.3
TOO pmax pmax
comp=Z,148nm,1.2s,mb5.6
LZH Lanzhou 45.09 355⇓P **P 09 21 22.3 +0.9**
LZH AP pP 09 21 32.3 -2.2
LZH XP sP 09 21 36.3 -3.9
LZH PP PP 09 23 08.9 +1.4
LZH *e*S **S 09 27 59.9 +2.8**
LZH XS sS 09 28 16.5 -2.6
LZH SS SS 09 31 14.6 -6.0
LZH AMB AMB
comp=Z,441nm,1.2s,mb6.2
LZH AMB AMB
comp=Z,2µm,5.1s
LZH LR LR
comp=E,7µm,15.4s
LZH LR LR
comp=Z,8µm,16.3s,MS5.8
TIA Tai'an 45.90 10 P **P 09 21 26.3 -1.5**
CNB Canberra Magne 45.96 131 *e*P **P 09 21 28.7 +0.5**
comp=Z,211nm,1.1s,mb6.0
ARMA Armidale 45.96 124 *e*P **P 09 21 30.2 +1.9**
ARMA *e*PCP PcP 09 23 06.8 +2.4
AGRA Agra 46.31 322 *e*P **P 09 21 30.1 -0.9**
AGRA AMb AMB 09 21 45.6
comp=Z,821nm,2.0s,mb6.3
BHV Bhavnagar 46.56 312 *e*P **P 09 21 32.5 -0.4**
LGTI Lohaghat 46.65 326 *i* x **P 09 21 31.5 -2.1**
PTH Pithoragarh 46.74 326 *e*P **P 09 21 35.8 +1.4**
RIV Riverview 46.74 128 *e*P **P 09 21 36.4 +2.0**
AYAN Aya Nagar 47.71 323 *e*P **P 09 21 40.1 -1.8**
AYAN AMb AMB 09 21 55.8
comp=Z,427nm,1.2s,mb6.3
NDI New Delhi 47.81 323 *e*P **P 09 21 42.0 -0.7**
NDI *e*x x 09 28 31.0
KUDL Kundal 47.86 322 *e*P **P 09 21 41.8 -1.3**
KUDL AMb AMB 09 21 59.1
comp=Z,910nm,1.0s,mb6.8
AJM Ajmer 47.86 319 *i* P **P 09 21 42.0 -1.1**
AJM *e*P 09 21 42.6
AJM AMb AMB 09 21 46.4
comp=Z,167nm,1.3s,mb5.9
TAU Tasmania Unive 48.19 141 P **P 09 21 46.7 +1.1**
comp=Z,2µm,1.1s,mb7.0,SNR=16
TAU Tasmania Unive 48.19 141 *e*P **P 09 21 46.8 +1.2**
TAU pmax pmax
comp=Z,420nm,1.1s,mb6.4
TAU Tasmania Unive 48.19 141 *e*P **P 09 21 46.8 +1.2**
comp=Z,424nm,1.1s,mb6.4
KHET Khetri 48.23 321 *e*P **P 09 21 44.7 -1.2**
KHET AMb AMB 09 22 01.3
comp=Z,456nm,2.2s,mb6.1
DDI Dehra Dun 48.53 325 *ex* **P 09 21 45.0 -3.3**
GTA Gaotai 48.83 352 *e*P **P 09 21 50.8 +0.2**
GTA AP pP 09 21 59.1 -4.7
GTA XP sP 09 22 02.4 -7.0
GTA PCP PcP 09 23 16.0 +1.4
GTA PP PP 09 23 44.9 +0.8
GTA PPP 09 24 37.3
GTA S **S 09 28 53.3 +3.0**
GTA XS sS 09 29 04.6 -7.9
GTA SCS ScS 09 31 39.6 +1.0
GTA SS SS 09 32 19.8 -1.5
GTA AMB AMB
comp=Z,488nm,1.0s,mb6.5
GTA AMB AMB
comp=Z,12µm,4.6s
GTA LR LR
comp=N,25µm,16.7s,MS6.4
GTA LR LR
comp=E,21µm,15.6s,MS6.4
GTA LR LR
comp=Z,21µm,15.6s,MS6.2
CBIJ Chichi jima 49.01 42 P **P 09 21 50.0 -2.0**
comp=Z,277nm,0.9s,mb6.3,baz=209,slow=3.2,SNR=23
BHJ Bhuj 49.30 311 *e*P **P 09 21 54.2 +0.1**
BHJ AMb AMB 09 21 59.6
comp=Z,314nm,2.0s,mb6.0
KLP Kalpa 49.34 326 *e*P **P 09 21 55.2 +0.7**
KLP AMb AMB 09 22 08.9
comp=Z,614nm,2.2s,mb6.2
DL2 Dalian 49.44 14⇓ *i*P **P 09 21 54.0 -1.2**
DL2 AMB AMB
comp=Z,190nm,0.9s,mb6.1
BJT Baijiatuan 49.46 8 *e*P **P 09 21 54.3 -1.1**
BJT pmax pmax
comp=Z,600nm,1.0s
BJT Baijiatuan 49.46 8 *e*P **P 09 21 54.3 -1.1**
comp=Z,599nm,1.0s,mb6.6
BJI Beijing 49.49 8 *e*P **P 09 21 54.8 -0.8**
BJI AMB AMB
comp=Z,651nm,1.0s,mb6.6
BTO Baotou 49.49 2 *e*P **P 09 21 54.8 -0.8**
INCN Inchon 49.56 20⇓P **P 09 21 56.4 +0.3**
SNR=8.8
INCN Inchon 49.56 20 *e*P **P 09 21 56.0 -0.1**
comp=Z,258nm,1.0s,mb6.2
HHC Hu-ho-hao-te 49.81 4 *e*P **P 09 21 57.6 -0.4**
HHC AP pP 09 22 02.9 -8.4
HHC XP sP 09 22 04.9 -12
HHC PCP PcP 09 23 18.9 +0.7
HHC PP PP 09 23 53.5 +0.5
HHC SCP ScP 09 27 11.4 +1.7
HHC S **S 09 29 07.5 +3.4**
HHC XS sS 09 29 14.6 -12
HHC SCS ScS 09 31 45.8 +0.6
HHC SS SS 09 32 37.8 +0.8
HHC AMB AMB
comp=Z,406nm,1.1s,mb6.4
HHC AMB AMB
comp=Z,27µm,3.8s
HHC LR LR
comp=N,44µm,13.1s,MS6.6
HHC LR LR
comp=E,18µm,15.5s,MS6.6
HHC LR LR
comp=Z,40µm,11.9s,MS6.6
BHK Bhakra 50.29 325 *e*P **P 09 22 03.0 +1.4**
HNR Honiara 51.37 95 *e*P **P 09 22 11.6 +1.8**
HNR pmax pmax
comp=Z,386nm,1.0s,mb6.3
HNR Honiara 51.37 95 *e*P **P 09 22 11.6 +1.8**
comp=Z,386nm,1.0s,mb6.3
DLH Dalhousie 51.38 325 *e*P **P 09 22 11.0 +1.2**
JHJ Hachijo jima 2 51.83 34 P **P 09 22 10.8 -2.4**
comp=Z,184nm,0.9s,mb6.0,baz=139,slow=4.2,SNR=4.1
JHJ LR LR 09 45 01.0
comp=Z,12µm,18.9s,MS5.9,baz=235,slow=37
SNY Shenyang 52.69 15⇓P **P 09 22 17.9 -1.7**
SNY PP PP 09 24 18.8 -0.3
SNY S **S 09 29 47.4 +3.7**
SNY AMB AMB
comp=Z,198nm,1.3s,mb5.9
SNY AMB AMB
comp=Z,17µm,9.5s
SNY LR LR
comp=N,23µm,17.7s,MS6.3
SNY LR LR
comp=E,10µm,18.0s,MS6.3
SNY LR LR
comp=Z,22µm,15.7s,MS6.3
MAJO Matsushiro 53.61 30 *e*P **P 09 22 24.8 -1.6**
MAJO *e**PP pP 09 22 36.6 -3.2
MAJO pmax pmax
comp=Z,410nm,1.3s,mb6.2
MAJO Matsushiro 53.61 30 *e*P **P 09 22 24.8 -1.6**
comp=Z,409nm,1.4s,mb6.2
MAJO *e* pP 09 22 36.7 -3.1
MAT Matsushiro 53.61 30 P **P 09 22 24.2 -2.2**
MAT Matsushiro 53.61 30 *e*P **P 09 22 24.0 -2.4**
MAT pmax pmax
comp=Z,625nm,1.5s,mb6.3
MAT Matsushiro 53.61 30 *e*P **P 09 22 24.0 -2.4**
comp=Z,625nm,1.5s,mb6.3
MJAR Matsushiro Arr 53.61 30 P **P 09 22 24.1 -2.3**
comp=Z,167nm,1.0s,mb5.9,baz=207,slow=7.0,SNR=134
MJAR PKPPKP 09 52 49.8
comp=Z,2.7nm,1.0s,baz=359,slow=1.9,SNR=6.0
CN2 Changchun 55.02 15⇑P **P 09 22 34.9 -1.7**
CN2 *e*S **S 09 30 18.5 +3.3**
CN2 AMB AMB
comp=Z,30nm,1.4s,mb5.1
CN2 LR LR
comp=N,16µm,17.0s,MS6.2
CN2 LR LR
comp=E,10µm,17.0s,MS6.2
CN2 LR LR
comp=Z,11µm,18.0s,MS6.0
WMQ Urumqi 55.76 342 P **P 09 22 43.9 +2.0**
WMQ AP pP 09 22 48.0 -7.4
WMQ XP sP 09 22 50.4 -11
WMQ PCP PcP 09 23 43.0 +2.4
WMQ PP PP 09 24 49.8 +3.2
WMQ SCP ScP 09 27 40.1 +4.6
WMQ S **S 09 30 28.1 +3.0**
WMQ AMB AMB
comp=Z,581nm,1.1s,mb6.5
WMQ AMB AMB
comp=Z,7µm,4.8s
WMQ LR LR
comp=N,28µm,17.0s,MS6.6
WMQ LR LR
comp=E,27µm,14.6s,MS6.6
WMQ LR LR
comp=Z,20µm,17.0s,MS6.3
VLA Vladivostok 56.39 21⇓ *e*P **P 09 22 44.0 -2.5**
VLA *i* *PP pP 09 22 57.9 -2.1
VLA *e* 09 24 52.9
VLA *e*S **S 09 30 41.0 +7.4**
VLA pmax pmax
comp=Z,450nm,1.4s,mb6.3
VLA MLR MLR
comp=Z,17µm,16.2s,MS6.2
VLA Vladivostok 56.39 21 *e*P **P 09 22 44.8 -1.7**
KSH Kashi 56.69 331 P **P 09 22 48.6 0.0**
KSH *e*AP pP 09 22 54.1 -8.0
KSH *e*XP sP 09 22 56.4 -11
KSH *e*PCP PcP 09 23 44.9 +0.7
KSH *e*PP PP 09 24 56.5 +1.5
KSH *e*PPP 09 26 12.9
KSH *e*SCP ScP 09 27 42.9 +3.3
KSH *e*S **S 09 30 37.1 -0.4**
KSH *e*PS 09 30 51.4
KSH *e*SCS ScS 09 32 33.8 +0.2
KSH *e*SS SS 09 34 25.1 -0.6
KSH AMB AMB
comp=Z,4µm,4.2s
KSH LR LR
comp=N,13µm,12.3s,MS6.7
KSH LR LR
comp=E,41µm,13.4s,MS6.7
KSH LR LR
comp=Z,23µm,14.5s,MS6.4
SONM Songino Array 56.69 359 P **P 09 22 48.2 -0.3**
comp=Z,271nm,0.9s,mb6.3,baz=172,slow=8.1,SNR=200
SONM PKPPKP 09 52 39.4
comp=Z,7.9nm,1.3s,baz=229,slow=2.9,SNR=9.7
ULN Ulaanbaatar 56.71 359 P **P 09 22 48.6 -0.2**
SNR=122
ULN Ulaanbaatar 56.71 359⇑ *e*P **P 09 22 48.4 -0.3**
ULN Ulaanbaatar 56.71 359 *e*P **P 09 22 48.5 -0.2**
comp=Z,341nm,0.8s,mb6.4
MDJ Mudanjiang 56.95 18 P **P 09 22 48.8 -1.7**
MDJ PCP PcP 09 23 44.5 -0.8
MDJ PP PP 09 24 55.0 -2.3
MDJ S **S 09 30 42.3 +1.3**
MDJ AMB AMB
comp=Z,113nm,1.2s,mb5.8
MDJ AMB AMB
comp=Z,42µm,11.6s
MDJ LR LR
comp=N,8µm,21.4s
MDJ LR LR
comp=E,10µm,15.1s
MDJ LR LR
comp=Z,13µm,15.6s
MDJ Mudanjiang 56.95 18 *e*P **P 09 22 51.8 +1.4**
CASY Casey 57.13 179 *e*P **P 09 22 49.9 -1.8**
WBK Wadi Bani Khal 57.31 304⇓P **P 09 22 53.0 +0.1**
SNR=12
WSAR Wadi Sarin 57.88 305 P **P 09 22 56.0 -0.9**
comp=Z,53nm,0.8s,mb5.7,baz=114,slow=6.5,SNR=27
JMDO Jabal Madar 57.91 303 P **P 09 22 57.2 0.0**
SNR=19
SMDO Samad 58.27 304⇓P **P 09 23 00.4 +0.7**
SNR=49
BIDO Bidbid 58.42 305⇓P **P 09 23 01.0 +0.2**
SNR=38
BSY Bisya 58.83 303 P **P 09 23 03.8 +0.3**
SNR=17
KZA Kyzart 59.03 332 P **P 09 23 05.1 +0.1**
SNR=80
HIA Hailar 59.04 9⇑ *i*P **P 09 23 03.3 -1.7**
HIA Hailar 59.04 9 *e*P **P 09 23 04.6 -0.4**
comp=Z,190nm,1.1s,mb6.0
HOQ Hoqain 59.11 304⇓P **P 09 23 05.4 -0.1**
SNR=32
ZAK Zakamensk 59.36 357 *e*P **P 09 23 06.5 -0.8**
ZAK *e* 09 31 10.5
ZAK pmax pmax
comp=Z,114nm,1.4s,mb5.7
OPO Ambohidratompo 59.43 254 P **P 09 23 08.3 +0.6**
comp=Z,120nm,0.9s,mb5.9,baz=80,slow=4.5,SNR=59

TKM2 Tokmak 2 59.54 333 P **P** **09 23 07.7 -0.8**
SNR=113
KBK Karagaybulak 59.62 332 P **P** **09 23 08.7 -0.4**
SNR=54
ARQ Araqi 59.65 304 ⇑P **P** **09 23 09.0 -0.2**
SNR=27
WHFO Wadi Hawf 59.77 297 ⇑P **P** **09 23 09.3 -0.8**
SNR=15
AML Almayashu 59.80 331 P **P** **09 23 10.1 -0.2**
SNR=32
AAK Ala-Archa 59.82 332 P **P** **09 23 11.6 +1.2**
SNR=29
AAK Ala-Archa 59.82 332 P **P** **09 23 09.5 -0.9**
comp=Z,283nm,1.0s,mb6.2,SNR=14
AAK Ala-Archa 59.82 332 *c i*P **P** **09 23 08.6 -1.8**
AAK pmax pmax
comp=Z,84nm,1.2s,mb5.7
AAK Ala-Archa 59.82 332 *eP* **P** **09 23 09.1 -1.3**
ABTO Aybut 59.98 296 P **P** **09 23 12.4 +0.9**
SNR=9.4
CHMS Chumysh 59.98 332 P **P** **09 23 10.5 -1.0**
SNR=15
MKAR Makanchi Array 60.13 340 P **P** **09 23 11.6 -0.9**
comp=Z,164nm,0.7s,mb6.2,baz=145,slow=7.5,SNR=200
MKAR PKPPKP 09 52 37.1
comp=Z,1.9nm,0.9s,baz=338,slow=2.9,SNR=5.5
EKS2 Erkin-Say 60.17 332 P **P** **09 23 12.2 -0.6**
SNR=55
ERM Erimo 60.27 30 P **P** **09 23 13.7 +0.2**
comp=Z,1μm,1.2s,mb6.7,SNR=7.8
USP Ospenovka 60.31 332 P **P** **09 23 12.1 -1.6**
SNR=42
ASHO Ashiyiah 60.63 305 P **P** **09 23 15.6 -0.4**
SNR=47
TLY Talaya 60.63 357 P **P** **09 23 16.0 0.0**
comp=Z,707nm,1.2s,mb6.7,SNR=18
MOY Mondy 60.80 355 *eP* **P** **09 23 18.3 +1.2**
MOY pmax pmax
comp=Z,564nm,1.8s,mb6.4
IRK Irkutsk 61.17 357 *eP* **P** **09 23 18.6 -1.0**
IRK *e* 09 23 58.6
IRK *e*S **S** **09 31 40.9 +5.4**
IRK pmax pmax
comp=Z,421nm,2.1s,mb6.2
ASAJ Asahikawa 61.60 28 P **P** **09 23 21.1 -1.5**
comp=Z,135nm,0.8s,mb6.2,baz=233,slow=8.5,SNR=90
ASAJ Asahikawa 61.60 28 P **P** **09 23 21.1 -1.4**
ASAJ pmax pmax
comp=Z,135nm,0.8s
KLR Kul'dur 61.75 18 *eP* **P** **09 23 19.2 -4.3**
KLR pmax pmax
comp=E,140nm,1.4s
KLR pmax pmax
comp=Z,540nm,1.4s,mb6.5
HABR Khabarovsk 62.13 20 *eP* **P** **09 23 25.6 -0.5**
HABR *e*S **S** **09 31 46.6 -1.2**
HABR pmax pmax
comp=Z,431nm,1.4s,mb6.4
HABR pmax pmax
comp=Z,21μm,17.1s
YSS Yuzh-Sakhalins 63.86 26 *d i*P **P** **09 23 36.7 -0.9**
YSS *i* *PP pP 09 23 50.2 -1.1
YSS pmax pmax
comp=Z,682nm,1.2s,mb6.5
YSS Yuzh-Sakhalins 63.86 26 *eP* **P** **09 23 37.0 -0.6**
YSS *e* pP 09 23 49.9 -1.4
RPZ Rata Peaks 64.47 134 LR LR 09 48 54.3
comp=Z,15μm,20.0s,MS6.2,baz=291,slow=33
KURK Kurchatov 64.74 340 P **P** **09 23 42.6 -0.8**
comp=Z,3μm,1.0s
KURK Kurchatov 64.74 340 P **P** **09 23 43.0 -0.4**
SNR=114
KURK Kurchatov 64.74 340 *c i*P **P** **09 23 42.5 -0.9**
KURK Kurchatov 64.74 340 *eP* **P** **09 23 42.6 -0.7**
KURK *e* pP 09 23 56.4 -0.7
MAW Mawson 65.63 197 *eP* **P** **09 23 47.2 -1.9**
comp=Z,188nm,0.9s,mb6.1
MAW Mawson 65.63 197 P **P** **09 23 47.8 -1.3**
comp=Z,255nm,1.0s,mb6.2,baz=48,slow=7.0,SNR=139
MAW PKP2bc 09 52 28.2
comp=Z,9.9nm,0.9s,baz=261,slow=1.6,SNR=7.5
ZAL Zalesovo 65.75 345 P **P** **09 23 48.1 -1.8**
comp=Z,40nm,0.8s,mb5.5,baz=314,slow=4.4,SNR=62
ZAL PKP2bc 09 52 29.1
comp=Z,3.9nm,0.9s,baz=175,slow=3.5,SNR=9.4
ZAL Zalesovo 65.75 345 P **P** **09 23 48.1 -1.8**
ZAL ⇑*e* 09 52 29.1
ABKT Ailbek 65.88 319 P **P** **09 23 50.9 +0.2**
comp=Z,2μm,1.1s,mb6.9,SNR=28
SNZO South Karori 66.69 131 *eP* **P** **09 23 56.1 +0.3**
BOD Bodaibo 66.87 4 *eP* **P** **09 23 55.2 -1.8**
BOD pmax pmax
comp=Z,221nm,1.6s,mb5.9
NVS Novosibirsk 66.97 345 *eP* **P** **09 23 55.5 -2.2**
NVS *e*S S 09 32 40.4 -6.9
NVS pmax pmax
comp=N,147nm,1.4s
NVS pmax pmax
comp=Z,205nm,1.4s,mb6.0
NVS pmax pmax
comp=E,110nm,1.3s
NVS smax
comp=N,240nm,2.2s
NVS smax
comp=E,160nm,2.0s
ATD Arta Tunnel 67.81 286 P **P** **09 24 04.9 +1.9**
comp=E,38nm,0.8s,mb5.5,baz=108,slow=1.7,SNR=27
URZ Urewera 68.15 128 LR LR 09 55 35.0
comp=E,10μm,18.5s,MS6.1,baz=108,slow=37
BVAR Borovoye Array 69.61 337 P **P** **09 24 13.2 -1.0**
comp=E,178nm,0.8s,mb6.1,baz=142,slow=8.0,SNR=117
BVAR Borovoye Array 69.61 337 P **P** **09 24 13.2 -1.0**
BVAR pmax pmax
comp=Z,178nm,0.8s
BRVK Borovoye 69.68 337 P **P** **09 24 13.5 -1.1**
comp=Z,2μm,1.2s,mb6.8,SNR=17
BRVK Borovoye 69.68 337 *eP* **P** **09 24 13.7 -1.0**
CHKZ Chkalovo 70.03 337 *eP* **P** **09 24 15.8 -1.0**
CHKZ pmax pmax
comp=Z,13nm,0.3s,mb5.3
CHKZ Chkalovo 70.03 337 *eP* **P** **09 24 15.8 -1.0**
comp=Z,13nm,0.3s,mb5.3
ZRNK Zerenda 70.10 336 *eP* **P** **09 24 16.0 -1.2**
ZRNK pmax pmax
comp=Z,28nm,0.4s,mb5.5
ZRNK Zerenda 70.10 336 *eP* **P** **09 24 16.0 -1.2**
comp=Z,28nm,0.4s,mb5.5
KMBO Kilima Mbogo 70.67 272 P **P** **09 24 20.3 -0.4**
comp=Z,90nm,1.1s,mb5.6,baz=52,slow=7.9,SNR=82
KMBO Kilima Mbogo 70.67 272 P **P** **09 24 20.3 -0.4**
KMBO pmax pmax
comp=Z,90nm,1.1s
SKR Severo-Kuril's 72.71 30 *eP* **P** **09 24 28.4 -4.6**
SKR *e* 09 24 36.0
SKR pmax pmax
comp=N,160nm,0.9s
SKR pmax pmax
comp=E,160nm,0.9s
SKR pmax pmax
comp=Z,340nm,0.9s,mb6.3
YAK Yakutsk 72.92 11 *eP* **P** **09 24 33.3 -0.9**
YAK *e* pP 09 24 49.4 +1.3
YAK *e*PPP 09 29 02.2
YAK *e*S S 09 33 55.5 -1.5
YAK *e* 09 34 32.3
YAK *e**SS SKSac 09 34 37.3 +1.7
YAK *e*SS SS 09 38 37.3 -0.7
YAK pmax pmax
comp=Z,268nm,0.7s,mb6.3
YAK pmax pmax
comp=N,91nm,1.1s
YAK pmax pmax
comp=E,52nm,1.4s
YAK pmax pmax
comp=Z,16nm,0.8s,mb5.0
YAK pmax pmax
comp=N,23nm,1.3s
YAK pmax pmax
comp=E,25nm,2.1s
YAK smax
comp=N,54nm,1.7s
YAK smax
comp=E,29nm,1.2s
YAK Yakutsk 72.92 11 *eP* **P** **09 24 32.4 -1.8**
AKTK Aktyubinsk 73.34 329 P **P** **09 24 35.6 -1.1**
AKTO Aktyubinsk 73.34 329 P **P** **09 24 35.6 -1.1**
comp=E,135nm,1.1s,mb5.8,baz=118,slow=9.9,SNR=36
AKTO Aktyubinsk 73.34 329 P **P** **09 24 35.6 -1.1**
AKTO pmax pmax
comp=Z,135nm,1.1s,mb5.8
VNDA Vanda 73.77 169 P **P** **09 24 38.2 -1.0**
VNDA Vanda 73.77 169 P **P** **09 24 37.7 -1.5**
comp=Z,117nm,0.9s,mb5.8,baz=293,slow=6.4,SNR=143
VNDA Vanda 73.77 169 P **P** **09 24 37.7 -1.5**
VNDA pmax pmax
comp=Z,117nm,0.9s
VNDA Vanda 73.77 169 *eP* **P** **09 24 37.7 -1.5**
comp=Z,178nm,1.1s,mb5.9
SYO Syowa Base 73.84 200 ⇓*i*P **P** **09 24 39.2 -0.4**
SBA Scott Base 74.84 169 *eP* **P** **09 24 44.7 -0.7**
SBA pmax pmax
comp=Z,169nm,1.0s,mb5.9
SBA Scott Base 74.84 169 *eP* **P** **09 24 44.7 -0.8**
comp=Z,169nm,1.0s,mb5.9
MAK Makhachkala 75.40 319 *eP* **P** **09 24 47.0 -1.6**
PET Petropavlovsk 75.41 29 *eP* **P** **09 24 48.1 -0.6**
PET *e* pP 09 25 02.3 -0.4
PET *e*S S 09 34 22.1 -2.9
PET pmax pmax
comp=Z,239nm,1.3s,mb6.0
PET pmax pmax
comp=Z,225nm,1.2s,mb6.0
PET smax
comp=E,38nm,1.1s
PET MLR MLR
comp=Z,12μm,20.0s,MS6.2
PET MLR MLR
comp=Z,13μm,15.0s
PET Petropavlovsk 75.41 29 *eP* **P** **09 24 47.8 -0.8**
comp=Z,268nm,1.1s,mb6.1
MSL Mosul 75.66 311 *ex* x 09 24 51.5
MSL *ex* x 09 25 03.0
MSL *ex* x 09 25 05.0
MSL *ex* x 09 34 24.0
GNI Garni 76.03 315 P **P** **09 24 52.9 +0.6**
comp=Z,5.6nm,0.4s,baz=108,slow=18,SNR=15
GNI Garni 76.03 315 P **P** **09 24 53.8 +1.5**
SNR=23
GNI Garni 76.03 315 *c i*P **P** **09 24 53.3 +1.1**
GNI pmax pmax
comp=Z,85nm,1.7s
GNI Garni 76.03 315 *eP* **P** **09 24 53.2 +1.0**
comp=Z,261nm,1.3s,mb6.0
DGRG David-gareji 76.14 317 P **P** **09 24 53.5 +0.6**
MA2 Magadan 76.53 21 ⇑*eP* **P** **09 24 55.2 +0.1**
MA2 Magadan 76.53 21 *eP* **P** **09 24 54.4 -0.7**
comp=Z,168nm,0.9s,mb6.0
MTA Mtatsminda 76.64 317 P **P** **09 24 56.2 +0.4**
TBLG Delisi 76.70 317 P **P** **09 24 57.1 +1.1**
ARU Arti 76.86 334 P **P** **09 24 56.1 -0.9**
comp=Z,579nm,1.4s,mb6.3,SNR=14
ARU Arti 76.86 334 ⇓*i*P **P** **09 24 55.6 -1.4**
ARU *e* 09 27 48.4
ARU *e*S S 09 34 39.3 -1.7
ARU *e*SS SS 09 39 40.6 +2.6
ARU pmax pmax
comp=Z,265nm,1.2s,mb6.0
ARU Arti 76.86 334 *eP* **P** **09 24 56.4 -0.6**
comp=Z,404nm,1.3s,mb6.2
MBAR Mbarara 77.19 271 ⇑*i*P **P** **09 24 59.0 +0.2**
GOR Gori 77.23 317 P **P** **09 24 59.8 +0.7**
MZRK Al-Mazaregh 77.32 310 ⇑P **P** **09 25 00.1 +0.6**
AKH Akhalkalaki 77.41 316 P **P** **09 25 01.3 +1.3**
BEST Besiri 77.62 312 *i* P **P** **09 25 00.5 -0.7**
ZEI Tsey 77.70 317 *eP* **P** **09 25 02.2 +0.6**
ZEI *e* 09 25 10.6
ZEI *e* 09 28 04.5
ZEI *e*S 09 35 07.4
ZEI pmax pmax
comp=Z,159nm,1.5s,mb5.7
LSZ Lusaka 77.76 256 P **P** **09 25 01.8 -0.1**
comp=Z,90nm,0.8s,mb5.7,baz=89,slow=5.7,SNR=109
LSZ Lusaka 77.76 256 *eP* **P** **09 25 02.0 0.0**
LSZ pmax pmax
comp=Z,170nm,1.0s,mb5.9
ONI Oni 77.92 317 P **P** **09 25 03.0 +0.2**
SFNV Sufian 77.94 310 ⇑P **P** **09 25 03.7 +0.7**
AMRG 78.11 317 P pP 09 25 15.7 -2.3
EZM Erzurum 78.31 314 *eP* **P** **09 25 05.6 +0.6**
DRBT Darb Altahta 78.32 311 ⇑P **P** **09 25 11.5 +6.4**
AFI Afiamalu 78.58 102 P **P** **09 25 08.1 +1.6**
comp=Z,166nm,1.1s,mb5.9,baz=144,slow=1.7,SNR=9.7
AFI Afiamalu 78.58 102 P **P** **09 25 08.1 +1.6**
AFI pmax pmax
comp=Z,166nm,1.1s,mb5.9
ZALF Zalf 78.93 306 ⇑P **P** **09 25 08.5 +0.1**
JHLN Al Jahlan 78.95 309 ⇑P **P** **09 25 09.5 +0.9**
KIV Kislovodsk 78.99 318 P **P** **09 25 08.5 -0.3**
comp=Z,419nm,0.7s,mb6.5,SNR=12
KIV Kislovodsk 78.99 318 *i* P **P** **09 25 09.6 +0.8**
KIV pmax pmax
comp=Z,44nm,0.6s,mb5.6
KIV Kislovodsk 78.99 318 *eP* **P** **09 25 09.1 +0.3**
comp=Z,197nm,1.1s,mb6.0
ASF Jabal al Asfar 79.05 305 P **P** **09 25 09.0 0.0**
comp=Z,81nm,0.8s,mb5.7,baz=346,slow=2.8,SNR=88
ASF Jabal al Asfar 79.05 305 P **P** **09 25 09.0 -0.1**
ASF pmax pmax
comp=Z,81nm,0.9s
GOF Gofitskoye 79.22 319 *eP* **P** **09 25 10.3 +0.3**
GOF *e*S S 09 35 05.5 -0.8
GOF pmax pmax
comp=Z,260nm,1.4s,mb6.0
GOF smax
comp=N,100nm,1.4s
GOF smax
comp=E,150nm,1.4s
LBTB Lobatse 79.24 246 P **P** **09 25 10.3 +0.2**
comp=E,56nm,0.8s,mb5.6,baz=118,slow=5.6,SNR=76
LBTB Lobatse 79.24 246 *eP* **P** **09 25 10.0 -0.1**
LBTB pmax pmax
comp=Z,79nm,0.9s,mb5.6
LBTB Lobatse 79.24 246 *eP* **P** **09 25 10.0 -0.2**
comp=Z,79nm,0.9s,mb5.6
SALA Sala 79.34 306 ⇑P **P** **09 25 11.9 +1.2**
EZC Erzincan 79.35 313 *eP* **P** **09 25 11.9 +1.2**
ROOS tl alroos 79.36 307 ⇑P **P** **09 25 09.2 -1.6**
TOTH TOTAH 79.79 306 ⇑P **P** **09 25 14.0 +0.9**
MALT Malatya 79.86 312 ⇑*i*P **P** **09 25 13.8 +0.3**
MALT Malatya 79.86 312 *eP* **P** **09 25 13.8 +0.3**
comp=Z,51nm,1.0s,mb5.4
EIL Elat 79.90 302 *eP* **P** **09 25 14.0 +0.3**
TCHB Talchebab 79.94 305 ⇑P **P** **09 25 15.7 +1.8**
QASN Qassioun 79.96 306 ⇑P **P** **09 25 15.9 +1.9**
BRBR Barbar 80.18 306 ⇑P **P** **09 25 16.7 +1.5**
BIDA Albida 80.38 308 ⇑P **P** **09 25 16.8 +0.5**
GAZ Gaziantep 80.39 310 *eP* **P** **09 25 16.6 +0.3**
WRDH Warideh 80.47 308 ⇑P **P** **09 25 16.9 +0.1**
MMAI Mount Meron Ar 80.50 306 P **P** **09 25 18.0 +1.1**
comp=Z,72nm,0.7s,mb5.7,baz=96,slow=8.5,SNR=89
BTCH Batrach 80.60 309 ⇑P **P** **09 25 17.3 -0.1**
DRWC Darouich 80.62 309 ⇑P **P** **09 25 18.1 +0.6**
SLNF Slenfeh 80.64 308 ⇑P **P** **09 25 17.9 +0.2**
SOC Sochi 80.83 317 *eP* **P** **09 25 17.9 -0.8**
SOC pmax pmax
comp=Z,212nm,1.0s,mb6.0
SOC Sochi 80.83 317 *i* P **P** **09 25 19.0 +0.3**
HTY Hatay 80.87 309 *eP* **P** **09 25 19.2 +0.3**
QSPA South Pole Qui 80.91 180 *eP* **P** **09 25 17.8 -1.3**
comp=Z,391nm,1.3s,mb6.2
ARNB Al Arnab 80.92 309 ⇑P **P** **09 25 19.3 +0.1**
SVST Sivas 81.43 313 *i* P **P** **09 25 22.8 +0.9**
TIXI Tiksi 81.77 7 *c i*P **P** **09 25 21.7 -2.0**
TIXI pmax pmax
comp=Z,168nm,0.8s,mb6.0
TIXI Tiksi 81.77 7 ⇑*i*P **P** **09 25 21.8 -1.9**
BNN Bunyan 81.95 311 *eP* **P** **09 25 23.9 -0.7**
MEST Erdemli 82.54 309 *i* P **P** **09 25 27.4 -0.3**
VRHR Novokhopersk 82.58 324 *eP* **P** **09 25 27.2 -0.7**
VRHR pmax pmax
comp=Z,140nm,0.7s,mb6.1
VRHR pmax pmax
comp=N,5.0nm,0.2s
VRHR pmax pmax
comp=E,10.0nm,0.7s
CSS Prodhromos 82.71 307 *eP* **P** **09 25 29.4 +0.8**
comp=E,285nm,1.0s,mb6.2
SUR Sutherland 82.72 238 P **P** **09 25 30.0 +1.4**
comp=E,919nm,1.1s,mb6.7,SNR=14
SUR Sutherland 82.72 238 ⇑P **P** **09 25 29.9 +1.3**
SNR=6.2
SUR Sutherland 82.72 238 *eP* **P** **09 25 29.7 +1.0**
comp=E,207nm,1.1s,mb6.1
IKL Isikli 82.80 308 *eP* **P** **09 25 28.3 -0.7**
ANN Anapa 82.80 317 *eP* **P** **09 25 29.4 +0.3**
ANN *i* *PP pP 09 25 43.8 +0.6
ANN *e*S S 09 35 45.6 +2.1
ANN pmax pmax
comp=Z,83nm,1.5s,mb5.5
ANN pmax pmax
comp=Z,10μm,11.4s
ANN Anapa 82.80 317 *eP* **P** **09 25 28.7 -0.4**
SMY Shemya 83.26 34 *eP* **P** **09 25 32.0 +0.5**
SMY *e**PP pP 09 25 45.2 -0.4
SMY pmax pmax
comp=Z,440nm,1.5s,mb6.3
SMY Shemya 83.26 34 *eP* **P** **09 25 31.9 +0.4**
comp=Z,292nm,1.2s,mb6.2
NVL N'lazarevskaya 83.47 199 ⇑*i*P **P** **09 25 33.4 +0.9**
NVL pmax pmax
comp=Z,255nm,1.5s,mb6.0
MAIT Maitri 83.50 199 *eP* **P** **09 25 32.4 -0.3**
MAIT *e*PP PP 09 28 41.2 -4.1
MAIT *e*SKSac SKSac 09 35 45.6 -5.5
KAMT Kaman 83.69 311 *eP* **P** **09 25 32.9 -0.7**
BRTR Keskin Array B 83.84 312 P **P** **09 25 34.0 -0.4**
comp=Z,72nm,1.0s,mb5.8,baz=137,slow=6.3,SNR=112
BRTR PKKPbc PKKPbc 09 43 52.4 +2.5
comp=Z,0.8nm,0.8s,baz=208,slow=2.8,SNR=5.0
BRTR PKPPKP 09 51 57.3
comp=Z,0.3nm,0.3s,baz=70,slow=1.4,SNR=4.8
TOS Tosya 83.95 193 *eP* **P** **09 25 34.6 -0.4**
VRSR Storozhevoye 84.03 324 *eP* **P** **09 25 34.4 -1.0**
VRSR pmax pmax
comp=Z,310nm,0.9s,mb6.4
VRSR pmax pmax
comp=N,70nm,0.8s
VRSR pmax pmax
comp=E,250nm,0.9s
CANT Cankiri 84.12 313 *eP* **P** **09 25 37.0 +1.2**
VOR Voronezh 84.23 324 *eP* **P** **09 25 36.5 +0.1**
VOR pmax pmax
comp=N,50nm,1.4s
VOR pmax pmax
comp=E,150nm,1.4s
VOR pmax pmax
comp=Z,220nm,1.4s,mb6.1
ANTO Ankara 84.51 312 ⇓*i*P **P** **09 25 38.2 +0.4**
ANTO Ankara 84.51 312 P **P** **09 25 39.2 +1.4**
SNR=44
ANTO Ankara 84.51 312 *eP* **P** **09 25 38.9 +1.0**
comp=Z,228nm,1.4s,mb6.1
LOD Lodumlu 84.54 312 *eP* **P** **09 25 39.1 +1.1**
KIZT Kizilcal 84.91 311 *eP* **P** **09 25 39.0 -0.8**
SAFT Safranbolu 84.98 313 *eP* **P** **09 25 41.1 +1.0**
SIM Simferopol' 85.08 317 *eP* **P** **09 25 41.0 +0.3**
SIM pmax pmax
comp=Z,93nm,0.8s,mb6.0
SIM Simferopol' 85.08 317 *eP* **P** **09 25 41.3 +0.6**
ISP Isparta 85.68 309 *eP* **P** **09 25 43.9 +0.2**
MDU Mudurnu 85.84 312 *eP* **P** **09 25 44.0 -0.5**
ELL Elmali 85.86 308 *eP* **P** **09 25 44.6 0.0**
ALT Altintas 86.29 310 *eP* **P** **09 25 47.6 +0.9**
MOS Moscow 86.59 328 ⇑*i*P **P** **09 25 46.7 -1.5**
MOS *e* 09 29 07.8
MOS *e* 09 36 06.2
MOS *i* S S 09 36 18.5 -2.7
MOS pmax pmax
comp=Z,224nm,1.4s,mb6.2
OBN Obninsk 86.93 327 P **P** **09 25 49.7 -0.1**
comp=Z,756nm,0.9s,mb6.9,SNR=11
OBN Obninsk 86.93 327 *c i*P **P** **09 25 49.2 -0.6**
OBN *e* 09 25 55.1
OBN *e**PP pP 09 26 03.9 -0.2
OBN *e* 09 29 10.3
OBN *e*S S 09 36 10.8 -14
OBN *e*SS SS 09 42 05.4 -2.3
OBN pmax pmax
comp=Z,215nm,1.4s,mb6.2
HRT Hereke 87.07 312 *eP* **P** **09 25 49.2 -1.2**
TSUM Tsumeb 87.31 251 P **P** **09 25 52.1 +0.4**
comp=Z,52nm,0.9s,mb5.7,baz=76,slow=4.7,SNR=62
TSUM Tsumeb 87.31 251 *eP* **P** **09 25 52.0 +0.3**
DST Dursunbey 87.54 311 *eP* **P** **09 25 53.0 +0.2**
KLMR Klimovskoe 87.62 333 *eP* **P** **09 25 52.7 -0.4**
KLMR pmax pmax
comp=Z,670nm,1.7s,mb6.6
KARP Karpathos 87.75 306 *eP* **P** **09 25 54.6 +0.8**
SNAA Sanae 87.79 197 *eP* **P** **09 25 53.6 -0.4**
SNAA *e* 09 25 55.1
SNAA *e* 09 25 57.0
SNAA *e* 09 25 58.9
SNAA *e* pP 09 26 07.2 -1.1
SNAA Sanae 87.79 197 *eP* **P** **09 25 53.6 -0.4**
SNAA pmax pmax
comp=Z,267nm,1.1s
SNAA Sanae 87.79 197 *eP* **P** **09 25 53.6 -0.4**
comp=Z,268nm,1.1s,mb6.4
AKS Akhisar 87.99 310 *eP* **P** **09 25 56.2 +1.3**
IZM Izmir 88.30 309 *eP* **P** **09 25 56.4 0.0**
PSN Preselentsi 88.83 314 *i* P **P** **09 25 59.5 +0.6**
TIRR Tirgusor 88.86 315 ⇑*i*P **P** **09 25 59.5 +0.5**
TIRR Tirgusor 88.86 315 *eP* **P** **09 25 59.0 0.0**
NPS Neapolis 88.92 306 *eP* **P** **09 26 08.5 +9.2**
CFR Carcaliu 89.22 316 ⇑*i*P **P** **09 26 01.2 +0.5**
CFR Carcaliu 89.22 316 ⇑P **P** **09 26 01.2 +0.5**
PRK Paraskevi 89.24 310 *eP* **P** **09 26 01.1 +0.3**
HARR Harsova 89.24 315 ⇓*i*P **P** **09 26 01.4 +0.6**
HARR Harsova 89.24 315 ⇓P **P** **09 26 01.4 +0.6**
SANT Santorini 89.27 307 *eP* **P** **09 26 01.8 +0.9**
EZN Ezine 89.32 310 *eP* **P** **09 26 00.6 -0.6**
APE Apeiranthos 89.36 308 ⇓*i*P **P** **09 26 01.3 0.0**
APE Apeiranthos 89.36 308 ⇓P **P** **09 26 01.3 0.0**
IDI Anoyia 89.50 306 P **P** **09 26 03.2 +1.1**
comp=Z,114nm,1.1s,mb6.1,baz=105,slow=8.7,SNR=21
BOZC Bozcaada 89.53 310 *i* P **P** **09 26 01.8 -0.4**
JMB Yambol 89.70 313 *i* P **P** **09 26 04.0 +1.0**
VNA1 Neumayer--Stat 89.82 197 *eP* **P** **09 26 03.6 +0.1**
VNA1 *e* 09 26 04.7
VNA1 *e* 09 26 06.9
VNA1 *e* 09 26 08.2
VNA1 *e* pP 09 26 17.9 0.0
AKASG Malin Array Be 89.85 321 P **P** **09 26 03.5 -0.1**
comp=Z,2.4nm,0.4s,mb4.9,baz=87,slow=4.2,SNR=26
AKASG PP PP 09 29 34.4 -2.2
comp=Z,23nm,1.0s,baz=91,slow=5.7,SNR=14
AKASG Malin Array Be 89.85 321 P **P** **09 26 03.5 -0.2**
AKASG 09 29 34.4
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG pmax pmax
comp=Z,23nm,1.0s
GVD Gavdhos 90.06 305 *eP* **P** **09 26 05.4 +0.8**
comp=Z,140nm,0.9s,mb6.3
VAM Vamos 90.08 306 *eP* **P** **09 26 06.9 +2.2**
VRI Vrincioaia 90.34 316 ⇑*i*P **P** **09 26 06.9 +1.0**
VRI Vrincioaia 90.34 316 P **P** **09 26 07.8 +1.8**
KDZ Kurdzhali 90.38 312 *i* P **P** **09 26 11.0 +4.9**
PVL Pavlikeni 90.75 314 *i* P **P** **09 26 10.0 +2.1**
MLR Muntele Rosu 90.79 316 ⇓*i*P **P** **09 26 08.7 +0.6**
MLR Muntele Rosu 90.79 316 P **P** **09 26 09.4 +1.4**
PTL Penteli 90.84 308 *eP* **P** **09 26 07.0 -1.3**
KVR Kavouri 90.88 308 *eP* **P** **09 26 07.0 -1.4**
NAIG Nisos Aigina 91.08 308 *eP* **P** **09 26 08.2 -1.2**
MGER Gerania Oros 91.30 308 *eP* **P** **09 26 08.7 -1.7**
VLI Veliai 91.33 307 *eP* **P** **09 26 10.3 -0.2**
VOIR 91.40 316 ⇑*i*P **P** **09 26 11.3 +0.4**
VOIR 91.40 316 ⇑P **P** **09 26 11.3 +0.4**
MNK Minsk 91.59 325 *eP* **P** **09 26 09.0 -2.7**
MMB Musomiste 91.61 312 *i* P **P** **09 26 12.0 +0.2**
BURAR Bucovina Array 91.72 318 ⇓*i*P **P** **09 26 13.0 +0.7**
BURAR Bucovina Array 91.72 318 ⇓P **P** **09 26 13.0 +0.6**
JOF Joensuu 91.97 334 *ep* **P** **09 26 12.7 -0.8**
comp=Z,8.2nm,0.6s,mb5.2
JOF Joensuu 91.97 334 *eP* **P** **09 26 12.7 -0.8**
JOF pmax pmax
comp=Z,8.0nm,0.6s,mb5.2
VTS Vitosha 92.17 313 *i* P **P** **09 26 14.5 +0.1**
APA Apatity 92.49 338 ⇑*i*P **P** **09 26 15.0 -0.9**
APA pmax pmax
comp=Z,40nm,1.2s,mb5.6
APA MLR MLR
comp=Z,48μm,17.0s,MS7.0

EVR	Evrytania	92.59	309	eP	P	09 26 15.5	-0.9
LVV	L'vov	92.91	320	eP	P	09 26 17.9	0.0
GZR	Gura Zlata	92.97	315	⇓iP	P	09 26 19.8	+1.7
GZR	Gura Zlata	92.97	315	⇓P	P	09 26 19.8	+1.7
VSU	Vasula	93.06	329	eP	P	09 26 17.5	-1.1
DRGR		93.25	317	⇓iP	P	09 26 20.0	+0.6
DRGR		93.25	317	⇓P	P	09 26 20.1	+0.7
DRGR		93.25	317	P	P	09 26 20.6	+1.2
JAN	Janina	93.44	309	eP	P	09 26 20.0	-0.3
BZS	Buzias	93.81	315	⇓iP	P	09 26 21.9	-0.1
BZS	Buzias	93.81	315	P	P	09 26 22.9	+0.9
KOLS	Kolonicke sedl	93.89	319	eP	P	09 26 23.8	+1.4
KOLS				e	pP	09 26 39.0	+2.3
KOLS				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.7						
KOLS	Kolonicke sedl	93.89	319	eP	P	09 26 23.8	+1.4
	comp=Z,33nm,1.1s,mb5.7						
KOLS				e	pP	09 26 39.0	+2.3
FINES	FINESS Array B	94.00	332	P	P	09 26 23.1	+0.3
	comp=Z,4.3nm,0.7s,mb5.0,baz=113,slow=6.1,SNR=11						
FINES				PKKPbc	PKKPbc	09 43 26.5	+1.6
	comp=Z,3.2nm,0.9s,baz=116,slow=4.4,SNR=5.9						
FINES	FINESS Array B	94.00	332	P	P	09 26 23.2	+0.3
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KAF	Kangasniemi	94.03	332	ep	P	09 26 21.9	-1.1
	comp=Z,19nm,0.8s,mb5.6						
KAF	Kangasniemi	94.03	332	eP	P	09 26 21.9	-1.1
KAF				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.6						
KEK	Kerkira	94.25	309	eP	P	09 26 20.0	-4.0
CRVS	Cervenica-Dubn	94.42	319	eP	P	09 26 27.8	+3.0
CRVS				e		09 30 13.3	
CRVS				ePP	PP	09 30 13.3	+0.8
CRVS	Cervenica-Dubn	94.42	319	epP	P	09 26 27.8	+3.0
PSZ	Piszkesteto	95.31	318	⇓iP	P	09 26 30.0	+1.1
PSZ	Piszkesteto	95.31	318	eP	P	09 26 28.8	-0.1
PSZ				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.4						
PSZ	Piszkesteto	95.31	318	eP	P	09 26 28.8	-0.1
	comp=Z,16nm,1.0s,mb5.4						
OJC	Ojcow	95.67	320	eP	P	09 26 30.9	+0.4
ARCES	ARCESS Array B	95.78	339	P	P	09 26 30.0	-1.0
	comp=Z,6.9nm,0.9s,mb5.1,baz=99,slow=5.1,SNR=18						
ARCES	ARCESS Array B	95.78	339	P	P	09 26 30.0	-1.0
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PKSM	Moragy	95.94	316	⇑iP	P	09 26 31.6	-0.2
PKSM	Moragy	95.94	316	P	P	09 26 32.5	+0.7
VYHS	Vyhne	96.08	318	i P	P	09 26 32.9	+0.5
VYHS				pmax	pmax		
	comp=Z,19nm,1.4s,mb5.3						
VYHS	Vyhne	96.08	318	i P	P	09 26 32.9	+0.5
	comp=Z,19nm,1.4s,mb5.3						
SRO	Srobarova	96.35	317	eP	P	09 26 34.5	+0.9
OKC	Ostrava-Krasne	96.69	319	eP	P	09 26 35.7	+0.6
OKC				ePP	PP	09 30 27.8	-2.3
MORC	Moravsky Berou	97.07	319	eP	P	09 26 37.2	+0.4
MORC				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.5						
MORC	Moravsky Berou	97.07	319	eP	P	09 26 37.2	+0.4
	comp=Z,25nm,1.3s,mb5.5						
DPC	Dobruska-Polom	97.90	320	eP	P	09 26 41.5	+0.9
DPC				ePP	PP	09 30 34.3	-5.2
KSP	Ksiaz	97.96	320	eP	P	09 26 41.7	+0.8
KSP				e		09 30 36.7	
UPC	Upice	98.11	320	eP	P	09 26 42.3	+0.7
DOBS	Dobrina	98.13	315	ePdiff	P	09 26 42.7	+1.0
ARSA	Arzberg	98.18	317	⇑iPcP	PcP	09 26 42.9	+1.0
	comp=Z,8.0nm,0.9s						
ARSA	Arzberg	98.18	317	⇑iP	P	09 26 42.9	+1.0
	comp=Z,8.0nm,0.9s,mb5.2						
ARSA				i		09 30 00.1	
ARSA				i		09 30 44.3	
TREC	Trest	98.36	319	ePP	PP	09 30 40.8	-2.2
PERS	Pernice	98.41	316	ePdiff	P	09 26 43.8	+0.9
VISS	Visnje	98.54	315	ePdiff	P	09 26 44.3	+0.8
PRU	Pruhonice	99.02	319	eP	P	09 26 46.2	+0.6
PRU				ePP	PP	09 30 47.6	-0.4
PVCC	Panska Ves	99.03	320	eP	P	09 26 46.5	+0.8
PVCC				ePP	PP	09 30 46.4	-1.7
MOA	Molln	99.07	317	⇑iP	P	09 26 46.4	+0.5
	comp=Z,15nm,1.5s,mb5.3						
MOA				i		09 29 57.1	
MOA				i		09 30 42.9	
BRG	Berggiesshubel	99.45	320	ePdiff	P	09 26 48.5	+1.0
BRG	Berggiesshubel	99.45	320	e	P	09 26 48.3	+0.8
	comp=Z,13nm,1.7s,mb5.2						
GEC2	GERESS Array S	99.50	318	ePdiff	P	09 26 48.2	+0.4
GERES	GERESS Array B	99.50	318	P	P	09 26 47.8	0.0
	comp=Z,2.2nm,0.8s,baz=97,slow=5.5,SNR=8.9						
GERES				PP	PP	09 30 46.7	-5.0
	comp=Z,5.4nm,1.0s,baz=85,slow=4.6,SNR=5.3						
GERES	GERESS Array B	99.50	318	P	P	09 26 47.8	0.0
GERES						09 30 46.7	
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KHC	Kasperske Hory	99.60	318	eP	Pdif	09 26 48.7	+0.5
KHC				ePP	PP	09 30 52.8	+0.4
KBA	Koelnbreinsper	99.66	316	⇑iP	Pdif	09 26 58.1	+10
	comp=Z,16nm,1.6s						
HFS	Hagfors	99.89	330	P	Pdif	09 26 49.4	-0.1
	comp=Z,17nm,1.0s,baz=176,slow=4.5,SNR=8.0						
HFS				PP	PP	09 30 51.5	-3.2
	comp=Z,9.3nm,0.8s,baz=96,slow=12,SNR=5.3						
HFS	Hagfors	99.89	330	P	Pdif	09 26 49.4	-0.1
HFS						09 30 51.5	
HFS				pmax	pmax		
	comp=Z,17nm,1.0s						
HFS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CLL	Collm	100.06	321	ePDIF	Pdif	09 26 57.0	+6.8
CLL				e		09 30 25.0	
CLL				ePP	PP	09 30 57.0	+1.1
CLL				e		09 31 45.0	
CLL	Collm	100.06	321	e(Pdif)		09 26 57.0	
CLL				ex	x	09 30 25.0	
CLL				ePP	PP	09 30 57.0	+1.1
CLL				ex	x	09 31 45.0	
CLL	Collm	100.06	321	eP	Pdif	09 26 57.0	+6.8
CLL				e		09 30 57.0	
WET	Wettzell	100.06	318	ePdiff	Pdif	09 26 51.0	+0.8
TANN	Tannenbergstha	100.37	320	ePdiff	Pdif	09 26 52.4	+0.8
NKC	Novy Kostel	100.38	319	eP	Pdif	09 26 56.7	+5.0
NKC				ePP	PP	09 30 44.4	-14
ROTZ	Rotzenmuhle	100.52	319	ePP	PP	09 30 58.0	-1.4
ROTZ	Rotzenmuhle	100.52	319	ePP	PP	09 30 58.0	-1.4
MANZ	Manzenberg	100.59	319	ePdiff	Pdif	09 26 53.7	+1.1
WTTA	Wattenberg	100.83	316	⇑iP	Pdif	09 26 50.9	-2.8
WTTA				i		09 31 01.6	
WTTA				pmax	pmax		
	comp=Z,13nm,1.1s						
WTTA	Wattenberg	100.83	316	⇑iP	Pdif	09 26 50.9	-2.7
	comp=Z,13nm,1.1s						
WTTA				i		09 30 12.6	
WTTA				i		09 31 01.6	
MOX	Moxa	100.92	320	ePdiff	Pdif	09 26 55.0	+0.9
MOX	Moxa	100.92	320	ePDIFF	Pdif	09 26 55.9	+1.8
MOX				ePP	PP	09 30 44.4	-18
MOX				e		09 31 09.7	
	comp=Z,75nm,1.8s						
MOX	Moxa	100.92	320	eP	Pdif	09 26 55.9	+1.8
MOX				e		09 31 09.7	
MOX				pmax	pmax		
	comp=Z,75nm,1.8s						
MOX	Moxa	100.92	320	ePdif	Pdif	09 26 55.9	+1.8
	comp=Z,75nm,1.8s						
MOX				ePP	PP	09 30 44.4	-18
MOX				e		09 31 09.7	
FUR	Furstenfeldbru	101.09	317	ePdiff	Pdif	09 26 55.1	+0.3
NB2	NORSAR Subarra	101.11	330	P	Pdif	09 26 54.9	0.0
	comp=Z,14nm,1.4s,baz=90,slow=4.4						
NOA	NORSAR Array B	101.11	330	P	Pdif	09 26 54.8	-0.1
	comp=Z,1.2nm,0.7s,baz=156,slow=20,SNR=2.9						
NOA				PP	PP	09 31 00.3	-3.6
	comp=Z,6.1nm,0.9s,baz=91,slow=6.7,SNR=5.8						
NOA				PKKPbc	PKKPbc	09 43 06.9	+1.6
	comp=Z,3.4nm,0.9s,baz=272,slow=2.3,SNR=5.7						
NOA	NORSAR Array B	101.11	330	P	Pdif	09 26 54.8	-0.1
NOA						09 31 00.3	
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA	NORSAR Array B	101.11	330	P	Pdif	09 26 54.8	-0.1
NOA				PP	PP	09 31 00.3	-3.6
NOA				PKKPbc	PKKPbc	09 43 06.9	+1.6
GRF	Grafenberg Arr	101.16	319	ePP	PP	09 30 58.9	-5.3
GRF	Grafenberg Arr	101.16	319	ePP	PP	09 30 58.9	-5.3
IMA2	Indian Mountai	101.69	24	ePdif	Pdif	09 26 59.3	+1.8
IMA2				ePKKPbc	PKKPbc	09 43 05.4	+1.8
DAVA	Damuels	102.02	316	⇑iP	Pdif	09 26 59.8	+0.8
	comp=Z,10nm,1.0s						
DAVA				i		09 30 16.1	
DAVA				i		09 30 58.6	
STU	Stuttgart	102.48	318	ePdiff	Pdif	09 27 01.7	+0.7
TNS	Taunus Mts	102.95	319	ePdiff	Pdif	09 27 03.9	+0.8
BFO	Black Forest	103.06	317	ePdiff	Pdif	09 27 03.9	+0.3
MCK	McKinley	103.95	27	eP	Pdif	09 27 08.5	+1.0
MCK				pmax	pmax		
	comp=Z,20nm,1.4s						
MCK	McKinley	103.95	27	ePdif	Pdif	09 27 08.5	+1.0
	comp=Z,20nm,1.4s						
PMR	Palmer	104.14	29	eP	Pdif	09 27 08.6	+0.2
PMR				pmax	pmax		
	comp=Z,27nm,1.4s						
PMR	Palmer	104.14	29	ePdif	Pdif	09 27 08.6	+0.2
	comp=Z,26nm,1.4s						
FRF	La Foret Royal	104.32	313	ePKIKP	PKiKP	09 31 23.5	-2.1
	comp=Z,4.4nm,0.3s						
HAU	Haudompre	104.40	317	ePKIKP	PKiKP	09 31 23.5	-2.2
	comp=Z,9.5nm,0.6s						
LMR	La Mourre	104.43	312	ePKIKP	PKiKP	09 31 23.8	-1.9
	comp=Z,36nm,0.9s						
VIVF	Saint-Julien-l	105.70	314	ePKP1	PKKPbc	09 42 54.8	+3.1
EYAK	Cordova Ski Ar	105.92	30	ePdif	Pdif	09 27 17.9	+1.6
LASF	Ste Croix	106.32	313	ePKP1	PKKPbc	09 42 52.4	+2.6
	comp=Z,22nm,1.2s						
SSF	Saint Saulge	106.38	316	ePKIKP	PKiKP	09 31 27.5	-1.8
	comp=Z,3.3nm,0.5s						
MTLF	Montolieu	107.55	313	ePKP1	PKKPbc	09 42 48.7	+2.7
	comp=Z,34nm,1.2s						
TORD	Torodi Ar. Bea	107.65	281	PKiKP	PKiKP	09 31 31.6	-0.1
	comp=Z,3.8nm,0.8s,baz=66,slow=1.8,SNR=21						
TORD				PKKPbc	PKKPbc	09 42 47.4	+1.7
	comp=Z,5.8nm,0.9s,baz=308,slow=3.8,SNR=14						
DAWY	Dawson	108.00	25	ePdif	Pdif	09 27 26.6	+1.1
DAWY				ePKKPbc	PKKPbc	09 42 43.6	-0.9
DAWY				ePKKPab	PKKPab	09 42 58.1	-0.5
INK	Inuvik	108.76	20	PKKPbc	PKKPbc	09 42 41.8	-0.4
	comp=Z,12nm,1.0s,baz=111,slow=3.4,SNR=9.1						
INK	Inuvik	108.76	20	ePKKPbc	PKKPbc	09 42 43.8	+1.6
MFF	Saint Martin d	108.92	316	ePKP1	PKKPbc	09 42 44.9	+3.2
EPF	Esparros	108.95	312	ePKP1	PKKPbc	09 42 44.6	+3.0
GRR	Gorron	109.16	318	ePKIKP	PKiKP	09 31 33.1	-1.4
ETSF	Etsaut	109.62	312	ePKP1	PKKPbc	09 42 42.6	+3.2
QUIF	Quistinic	110.76	318	ePKIKP	PKiKP	09 31 36.4	-1.1
ESDC	Sonseca Array	112.53	309	PKiKP	PKiKP	09 31 39.5	-1.4
	comp=Z,2.1nm,0.5s,baz=88,slow=9.0,SNR=12						
ESDC				PP	PP	09 32 27.7	0.0
	comp=Z,4.3nm,0.8s,baz=69,slow=7.1,SNR=5.8						
ESDC				PKKPbc	PKKPbc	09 42 32.2	+2.3
	comp=Z,0.3nm,0.3s,baz=285,slow=3.9,SNR=7.5						
ESDC				PKKPab	PKKPab	09 42 40.4	+2.0
	comp=Z,5.1nm,0.8s,baz=274,slow=4.5,SNR=19						
DBIC	Dimbokro	113.38	273	PKiKP	PKiKP	09 31 42.0	-0.6
	comp=Z,4.5nm,0.8s,baz=100,slow=3.1,SNR=7.8						
DBIC	Dimbokro	113.38	273	i PKIKP	PKiKP	09 31 42.0	-0.5
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MDT	Midelt	113.74	302	PP	PP	09 32 30.0	-6.3
	comp=Z,6.8nm,1.1s,baz=68,slow=8.6,SNR=5.5						
MDT				PKKPbc	PKKPbc	09 42 29.4	+3.5
	comp=Z,3.9nm,1.0s,baz=289,slow=3.8,SNR=8.8						
BORG	Borgarnes	114.17	339	PP	PP	09 32 35.2	-4.1
	comp=Z,13nm,0.9s,baz=39,slow=4.1,SNR=3.8						
DLBC	Dease Lake	114.19	29	PKP	PKiKP	09 31 45.0	+0.9
	comp=Z,4.4nm,0.9s,baz=289,slow=3.9,SNR=7.5						
DLBC				PKKPbc	PKKPbc	09 42 25.9	+1.6
	comp=Z,6.9nm,1.1s,baz=151,slow=3.5,SNR=10						
DLBC	Dease Lake	114.19	29	PKP	PKiKP	09 31 45.0	+0.9
DLBC				PKKPbc	PKKPbc	09 42 25.9	+1.6
YKA	Yellowknife Ar	118.51	21	PKP	PKPdf	09 31 51.8	-0.6
	comp=Z,8.3nm,0.9s,baz=300,slow=2.0,SNR=22						
YKA				PKKPbc	PKKPbc	09 42 08.0	-1.1
	comp=Z,7.7nm,1.0s,baz=119,slow=3.9,SNR=17						
YKA	Yellowknife Ar	118.51	21	PKIKP	PKPdf	09 31 51.8	-0.6
YKA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
YKA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
YKA	Yellowknife Ar	118.51	21	PKP	PKPdf	09 31 51.8	-0.6
YKA				PKKPbc	PKKPbc	09 42 08.1	-1.1
SFJD	Kangerlussuaq	120.36	350	PP	PP	09 33 16.7	-5.8
	comp=Z,11nm,0.8s,baz=5.2,slow=8.3,SNR=4.0						
SFJD	Kangerlussuaq	120.36	350	i P	PP	09 33 16.7	-5.8
	comp=Z,20nm,0.9s						
HDW	Hoodsport	122.46	38	P	PKPdf	09 32 01.8	+1.8
A05A	Maple Falls	122.46	37	⇓P	PKPdf	09 32 00.5	+0.5
	baz=122,SNR=8.2						
E03A	Lebam	122.59	40	⇓P	PKPdf	09 32 01.6	+1.4
	baz=123,SNR=7.7						
GNW	Green Mountain	122.64	38	ePKPdf	PKPdf	09 32 01.8	+1.5
CMW	Cultus Mountai	122.70	37	P	PKPdf	09 32 01.7	+1.3
B05A	Bryant	122.78	37	⇓P	PKPdf	09 32 01.6	+1.0
	baz=123						
D04A	Dobbs Creek Ra	122.84	39	⇓P	PKPdf	09 32 02.7	+2.0
	baz=123						
F03A	Seaside	122.84	40	⇓P	PKPdf	09 32 02.1	+1.4
	baz=123						
JCW	Jim Creek	122.91	37	P	PKPdf	09 32 02.4	+1.5
C05A	Tolt Reservoir	123.27	38	P	PKPdf	09 32 02.7	+1.2
	baz=123,SNR=11						
D05A	Enumclaw	123.31	39	⇑P	PKPdf	09 32 03.0	+1.4
	baz=123,SNR=8.3						
H03A	Soap Creek Ran	123.50	42	⇑P	PKPdf	09 32 03.2	+1.2
	baz=124,SNR=5.3						
F04A	Amboy	123.57	40	⇑P	PKPdf	09 32 03.0	+0.9
	baz=124						
FMW	Mount Fremont	123.62	39	P	PKPdf	09 32 03.5	+1.3
E05A	Randle	123.72	39	⇑P	PKPdf	09 32 03.2	+0.8
	baz=124,SNR=13						
I03A	Eugene	123.78	43	⇑P	PKPdf	09 32 03.8	+1.3
	baz=124,SNR=5.7						
J02A	Umpqua	123.81	43	⇓P	PKPdf	09 32 03.6	+1.0
	baz=124						
G04A	Mulino	123.83	41	⇑P	PKPdf	09 32 04.0	+1.4
	baz=124,SNR=10						
TWW	Teanaway	124.02	38	P	PKPdf	09 32 04.7	+1.8
K02A	Glendale	124.09	44	⇓P	PKPdf	09 32 04.1	+1.0
	baz=124						
F05A	White Salmon	124.20	40	⇑P	PKPdf	09 32 04.5	+1.2
	baz=124						
BROR	Big Rock Looko	124.22	42	P	PKPdf	09 32 04.4	+1.1
J03A	Ideyld Park	124.22	43	⇓P	PKPdf	09 32 05.2	+1.9
	baz=124						
H04A	Detroit Lake	124.23	41	⇓P	PKPdf	09 32 04.3	+0.9
	baz=124						
L02A	Cave Junction	124.23	45	⇑P	PKPdf	09 32 04.4	+1.0
	baz=124						
EBG	Ellensburg	124.31	38	P	PKPdf	09 32 04.8	+1.3
WTV	Waterville	124.32	37	P	PKPdf	09 32 04.2	+0.7
VFP	Flag Point	124.43	40	P	PKPdf	09 32 04.4	+0.7
HUMO	Hull Mountain	124.51	44	⇑P	PKPdf	09 32 05.4	+1.5
	baz=124,SNR=11						
G05A	Wamic	124.56	40	⇓P	PKPdf	09 32 05.5	+1.5
	baz=125						
BKCOR	Black Crater	124.70	42	P	PKPdf	09 32 06.2	+1.9
H05A	Madras	124.87	41	⇓P	PKPdf	09 32 06.2	+1.6
	baz=125,SNR=10						
EDM	Edmonton	124.91	29	ePKIKP	PKPdf	09 32 04.8	+0.1
N02C	Big Bar	124.91	46	⇑P	PKPdf	09 32 06.3	+1.6
	baz=125						
YBH	Yreka Blue Hor	125.00	45	PKP	PKPdf	09 32 05.7	+0.8
	comp=Z,6.4nm,0.9s,baz=119,slow=18,SNR=7.7						
YBH	Yreka Blue Hor	125.00	45	ePKIKP	PKPdf	09 32 06.8	+1.9
YBH	Yreka Blue Hor	125.00	45	⇓P	PKPdf	09 32 06.9	+2.1
	baz=125						
M02C	Callahan	125.03	45	⇑P	PKPdf	09 32 07.0	+2.1
	baz=125,SNR=7.9						
I05A	Bend	125.04	42	⇓P	PKPdf	09 32 06.8	+1.8
	baz=125,SNR=6.1						
HAWA	Hanford	125.18	39	ePKPdf	PKPdf	09 32 06.3	+1.1
VIPM	Ingram Point	125.32	41	P	PKPdf	09 32 07.3	+1.9
K04A	Chilquin	125.35	44	⇓P	PKPdf	09 32 07.1	+1.6
	baz=125						
LHEM	Herd Peak	125.39	45	P	PKPdf	09 32 06.8	+1.2
L04A	Klamath Falls	125.41	44	P	PKPdf	09 32 07.2	+1.6
	baz=125,SNR=9.8						
O02C	Red Bluff	125.50	47	⇓P	PKPdf	09 32 08.0	+2.2
	baz=126						
WDC	Whiskeytown Da	125.54	46	⇑P	PKPdf	09 32 07.4	+1.5
	baz=126,SNR=6.2						
M04C	Macdoel	125.59	45	⇓P	PKPdf	09 32 07.6	+1.6
	baz=126						
NEW	Newport	125.70	36	PKP	PKPdf	09 32 07.3	+1.2
	comp=Z,12nm,0.8s,baz=154,slow=0.7,SNR=24						
NEW	Newport	125.70	36	PKIKP	PKPdf	09 32 07.4	+1.2
NEW				pmax	pmax		
	comp=Z,12nm,0.8s						
NEW	Newport	125.70	36	ePKPdf	PKPdf	09 32 07.4	+1.2
GASB	Alder Springs	125.73	47	⇓P	PKPdf	09 32 09.3	+3.0
	baz=126						
J06A	Christmas Vall	126.15	42	⇓P	PKPdf	09 32 08.9	+1.8
	baz=126						
L05A	Lakeview	126.18	44	⇓P	PKPdf	09 32 09.5	+2.4
	baz=126,SNR=6.4						
NSHM	Saint Helena R	126.19	49	ePKPdf	PKPdf	09 32 09.7	+2.6
MNRC	McLaughlin Nat	126.20	48	⇑P	PKPdf	09 32 10.1	+2.9
	baz=126						
HATC	Hat Creek Radi	126.22	46	⇑P	PKPdf	09 32 09.1	+2.0
	baz=126						
M05C	Lookout	126.23	45	⇑P	PKPdf	09 32 09.4	+2.2
	baz=126						
K06A	Valley Falls	126.27	43	P	PKPdf	09 32 09.2	+2.0
	baz=126,SNR=17						
CVS	Carmenet Viney	126.36	49	⇓P	PKPdf	09 32 09.9	+2.4
	baz=126						
SUTB	Sutter Butte	126.56	47	⇑P	PKPdf	09 32 09.6	+1.8
	baz=127,SNR=5.4						
ORV	Oroville	126.65	47	⇓P	PKPdf	09 32 10.0	+2.0
	baz=127,SNR=9.6						
J07A	Hines	126.66	42	⇑P	PKPdf	09 32 11.0	+2.9
	baz=127						
O04C	Chester	126.67	46	P	PKPdf	09 32 10.0	+2.0
	baz=127,SNR=14						
OHCM	Honcut	126.74	47	ePKPdf	PKPdf	09 32 10.2	+2.1
M06C	Likely Place G	126.76	45	⇓P	PKPdf	09 32 10.3	+2.1
	baz=127,SNR=11						
O05C	Quincy	126.92	46	⇑P	PKPdf	09 32 10.5	+2.0
	baz=127,SNR=21						
Q04C	Lincoln	126.99	48	⇑P	PKPdf	09 32 11.3	+2.7
	baz=127						
WALA	Waterton Lakes	127.07	33	ePKPdf	PKPdf	09 32 10.5	+1.7
WENL	Wente Brothers	127.12	49	⇑P	PKPdf	09 32 11.6	+2.7
	baz=127						
L07A	Adell	127.21	43	⇓P	PKPdf	09 32 11.4	+2.3
	baz=127						
BSMT	Bassoo Peak	127.25	35	ePKPdf	PKPdf	09 32 10.2	+1.0
P05C	Yuba Gap, Truc	127.38	47	⇓P	PKPdf	09 32 12.0	+2.6
	baz=127,SNR=14						
S04C	Ingram Canyon,	127.48	49	⇓P	PKPdf	09 32 12.6	+3.0
	baz=128						
LAVA	Lava Cap Winer	127.49	48	P	PKPdf	09 32 12.3	+2.8
	baz=128,SNR=12						
WVOR	Wild Horse Val	127.51	43	ePKIKP	PKPdf	09 32 11.5	+1.9
M07A	Soldier Meadow	127.59	44	⇓P	PKPdf	09 32 12.5	+2.7
	baz=128						
O06A	Flanigan	127.62	46	P	PKPdf	09 32 12.2	+2.3
	baz=128,SNR=24						
HAST	UC Hastings Re	127.68	51	⇓P	PKPdf	09 32 12.6	+2.7
	baz=128						
PACP	Pacheco Peak	127.68	50	⇓P	PKPdf	09 32 12.6	+2.7
	baz=128						
P06A	Stead Airport,	127.75	46	⇓P	PKPdf	09 32 13.0	+2.9
	baz=128						
N07B	Gerlach	127.97	45	⇓P	PKPdf	09 32 13.1	+2.5
	baz=128						
R05C	Kirkwood Meado	127.99	47	⇑P	PKPdf	09 32 13.3	+2.7
	baz=128,SNR=8.4						
WCN	Washoe City	128.00	47	⇑P	PKPdf	09 32 13.3	+2.8
	baz=128,SNR=8.6						
CMB	Columbia Colle	128.00	48	ePKIKP	PKPdf	09 32 13.5	+2.9
CMB	Columbia Colle	128.00	48	⇓P	PKPdf	09 32 13.2	+2.6
	baz=128,SNR=7.9						
V03C	Hunter Liggett	128.04	51	⇑P	PKPdf	09 32 13.9	+3.3
	baz=128						
LRV	Little Rabbit	128.08	51	ePKPdf	PKPdf	09 32 13.6	+2.9
M08A	Happy Creek Ra	128.10	44	⇑P	PKPdf	09 32 14.0	+3.2
	baz=128						
PAHR	Pah Rah Range	128.11	46	ePKPdf	PKPdf	09 32 13.7	+2.9
U04C	Hernandez Rese	128.28	51	⇓P	PKPdf	09 32 14.3	+3.2
	baz=128						
S05C	Merced	128.29	49	⇑P	PKPdf	09 32 13.8	+2.6
	baz=128						
O07A	Toulon	128.29	45	⇓P	PKPdf	09 32 14.0	+2.9
	baz=128						
L09A	Wilkinson Ranc	128.34	43	⇑P	PKPdf	09 32 13.9	+2.7
	baz=128						
V04C	Ramage Ranch,	128.44	51	⇓P	PKPdf	09 32 14.5	+3.1
	baz=128						
S06C	San Francisco	128.45	48	P	PKPdf	09 32 13.8	+2.4
	baz=128,SNR=21						
R06C	Coleville	128.51	47	⇓P	PKPdf	09 32 14.6	+3.0
	baz=128,SNR=7.5						
P07A	Fallon	128.53	46	⇑P	PKPdf	09 32 13.8	+2.2
	baz=129						
WAKR	Walker	128.53	47	ePKPdf	PKPdf	09 32 13.9	+2.3
N08A	GE Springer Mi	128.55	44	⇑P	PKPdf	09 32 14.6	+2.9
	baz=129						
PKD	Parkfield	128.60	51	⇓P	PKPdf	09 32 14.5	+2.8
	baz=129						
CHMT	Chamberlain Mo	128.64	35	ePKPdf	PKPdf	09 32 12.8	+1.0
M09A	Marrel Ranch,	128.75	43	⇑P	PKPdf	09 32 15.1	+3.1
	baz=129						
U05C	Westside ANR,	128.79	50	⇓P	PKPdf	09 32 15.5	+3.4
	baz=129						
Q07A	Schurz	128.82	47	⇓P	PKPdf	09 32 15.6	+3.5
	baz=129						
T06C	Millerton Lake	128.87	49	⇓P	PKPdf	09 32 15.3	+3.1
	baz=129,SNR=8.2						
N09A	Rock Creek Ran	128.94	44	⇓P	PKPdf	09 32 15.2	+2.9
	baz=129						
PTRM	Twissleman Ran	128.95	51	ePKPdf	PKPdf	09 32 14.9	+2.5
R07C	Lee Vining	128.97	48	⇓P	PKPdf	09 32 15.6	+3.2
	baz=129,SNR=5.2						
P08A	Dixie Valley	129.04	46	⇑P	PKPdf	09 32 15.8	+3.3
	baz=129						
KCC	Kaiser Creek	129.05	49	P	PKPdf	09 32 15.8	+3.3
	baz=129,SNR=6.5						
V05C	Boulder Hill,	129.11	51	⇑P	PKPdf	09 32 15.8	+3.1
	baz=129						
MLAC	Mammoth Lakes	129.29	48	⇑P	PKPdf	09 32 15.6	+2.5
	baz=129						
M10A	I.L. Ranch, Tu	129.31	43	⇓P	PKPdf	09 32 15.8	+2.8
	baz=129						
NVAR	Mina Array Bea	129.38	47	PKhKP		09 32 04.8	
	comp=Z,1.4nm,0.9s,baz=238,slow=4.6,SNR=5.5						
NVAR				PKP	PKPdf	09 32 15.4	+2.2
	comp=Z,7.7nm,0.8s,baz=224,slow=1.2,SNR=29						
NVAR				PP	PP	09 34 26.4	+3.7
	comp=Z,5.6nm,1.0s,baz=271,slow=6.1,SNR=4.2						
NVAR	Mina Array Bea	129.38	47	PKP	PKPdf	09 32 15.4	+2.2
NVAR				PP	PP	09 34 26.4	+3.7
O09A	Fish Creek Ran	129.46	45	⇑P	PKPdf	09 32 15.9	+2.5
	baz=130						
Q08A	Gabbs	129.48	46	⇑P	PKPdf	09 32 16.1	+2.7
	baz=130						
MNV	Mina	129.49	47	ePKIKP	PKPdf	09 32 15.2	+1.8
R08A	Mina	129.55	47	⇓P	PKPdf	09 32 16.4	+2.9
	baz=130						
HRY	Holter Researc	129.56	35	ePKPdf	PKPdf	09 32 15.7	+2.1
MTUM	Tungsten Hills	129.60	49	ePKPdf	PKPdf	09 32 16.2	+2.6
N10A	Dunphy	129.69	44	⇑P	PKPdf	09 32 16.9	+3.1
	baz=130						
LRM	Limekiln Ridge	129.71	36	ePKPdf	PKPdf	09 32 15.6	+1.8
HLID	Hailey	129.72	39	ePKPdf	PKPdf	09 32 16.0	+2.2
SBC	Santa Barbara	129.72	52	⇑P	PKPdf	09 32 16.9	+3.0
	baz=130						
P09A	Austin	129.76	45	⇓P	PKPdf	09 32 16.5	+2.6
	baz=130						
M11A	Holland Ranch,	129.86	43	⇑P	PKPdf	09 32 17.0	+2.9
	baz=130						
TIN	Tinemaha	129.96	49	⇓P	PKPdf	09 32 17.2	+2.9
	baz=130						
MCMT	McKenzie Canyo	130.02	37	ePKPdf	PKPdf	09 32 16.2	+1.8
N11A	Elko Archery C	130.17	43	⇓P	PKPdf	09 32 17.5	+2.8
	baz=130						
P10A	Eureka	130.20	45	⇓P	PKPdf	09 32 17.5	+2.8
	baz=130						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISA	Isabella	130.27	51	⇑P	PKPdf	09 32 17.4	+2.5
	baz=130,SNR=5.4						
CWC	Cottonwood Cre	130.29	49	⇑P	PKPdf	09 32 17.3	+2.4
	baz=130						
PLCA	Paso Flores	130.40	182	PKP	PKPdf	09 32 17.3	+2.2
	comp=Z,25nm,1.0s,baz=206,slow=4.0,SNR=19						
PLCA				PP	PP	09 34 28.9	-0.5
	comp=Z,12nm,1.2s,baz=162,slow=6.0,SNR=3.1						
PLCA	Paso Flores	130.40	182	PKIKP	PKPdf	09 32 17.3	+2.2
PLCA				pmax	pmax		
	comp=Z,25nm,1.0s						
PLCA				pmax	pmax		
	comp=Z,12nm,1.2s						
S09A	Goldfield	130.44	48	⇑P	PKPdf	09 32 18.1	+2.9
	baz=130						
M12A	Wells	130.45	42	⇓P	PKPdf	09 32 17.8	+2.6
	baz=130						
O11A	Cowboy Ranch,	130.54	44	⇑P	PKPdf	09 32 17.8	+2.4
	baz=131						
ELK	Elko	130.54	43	ePKIKP	PKPdf	09 32 17.8	+2.4
N12A	Clover Valley,	130.63	43	⇑P	PKPdf	09 32 18.1	+2.5
	baz=131						
DAC	Darwin (Calif)	130.72	49	ePKIKP	PKPdf	09 32 18.6	+2.9
P11A	Circle Ranch,	130.72	45	⇓P	PKPdf	09 32 18.4	+2.6
	baz=131						
QLMT	Earthquake Lak	130.86	37	ePKPdf	PKPdf	09 32 18.6	+2.6
R10A	Warm Springs	130.88	46	⇑P	PKPdf	09 32 18.5	+2.5
	baz=131						
M13A	Montello	130.97	42	⇑P	PKPdf	09 32 18.6	+2.4
	baz=131						
Q11A	Duckwater	131.10	46	⇑P	PKPdf	09 32 19.1	+2.6
	baz=131						
N13A	Wendover, West	131.18	42	⇓P	PKPdf	09 32 19.1	+2.5
	baz=131						
GCMT	Greycliff	131.32	35	ePKPdf	PKPdf	09 32 18.9	+2.1
P12A	McGill	131.35	44	⇓P	PKPdf	09 32 19.3	+2.3
	baz=131						
Q12A	Willow Creek R	131.59	45	⇑P	PKPdf	09 32 19.9	+2.5
	baz=132						
U10A	Ash Meadows, A	131.61	49	⇑P	PKPdf	09 32 20.0	+2.6
	baz=132						
GSC	Goldstone	131.67	50	ePKIKP	PKPdf	09 32 20.8	+3.2
GSC	Goldstone	131.67	50	⇑P	PKPdf	09 32 19.9	+2.4
	baz=132,SNR=11						
IMW	Indian Meadow	131.68	37	ePKPdf	PKPdf	09 32 19.9	+2.4
SPUT	South Promonto	132.12	41	ePKPdf	PKPdf	09 32 20.4	+2.0
109C	Camp Elliot, M	132.28	53	⇓P	PKPdf	09 32 21.4	+2.7
	baz=132						
TUQ	Turquoise Mtn.	132.29	50	⇑P	PKPdf	09 32 21.4	+2.7
	baz=132,SNR=8.7						
U11A	Corn Creek	132.31	48	⇓P	PKPdf	09 32 21.8	+3.0
	baz=132						
DUG	Dugway	132.43	43	ePKIKP	PKPdf	09 32 21.0	+2.0
SHPR	Sheep Range	132.44	48	ePKPdf	PKPdf	09 32 21.9	+2.9
V11A	Goodsprings	132.50	49	⇑P	PKPdf	09 32 21.9	+2.8
	baz=132						
PFO	Pinyon Flat Ob	132.55	52	⇓P	PKPdf	09 32 22.1	+2.9
	baz=133,SNR=7.5						
LAO	LASA Array	132.61	32	ePKPdf	PKPdf	09 32 22.0	+2.7
NOQ	North Oquirrh	132.66	42	ePKPdf	PKPdf	09 32 21.9	+2.5
U12A	Valley of Fire	132.92	48	⇑P	PKPdf	09 32 22.8	+2.9
	baz=133						
V12A	Nelson	132.98	49	⇓P	PKPdf	09 32 23.2	+3.2
	baz=133						
W12A	Cal Nev Ari	133.14	50	⇑P	PKPdf	09 32 23.5	+3.2
	baz=133						
PDAR	Pinedale Array	133.15	38	PKhKP		09 32 13.1	
	comp=Z,0.8nm,0.8s,baz=48,slow=1.8,SNR=3.5						
PDAR				PKP	PKPdf	09 32 21.8	+1.5
	comp=Z,4.3nm,0.6s,baz=151,slow=2.4,SNR=22						
PDAR	Pinedale Array	133.15	38	PKP	PKPdf	09 32 21.8	+1.5
DAU	Daniels Canyon	133.35	41	ePKIKP	PKPdf	09 32 22.9	+2.2
MVU	Marysvale	133.66	44	ePKPdf	PKPdf	09 32 19.3	-2.0
MSU	Marysvale	133.68	44	ePKIKP	PKPdf	09 32 23.6	+2.3
MSU	Marysvale	133.68	44	ePKPdf	PKPdf	09 32 24.4	+3.1
W13A	Hualapai Mount	133.96	49	⇓P	PKPdf	09 32 25.3	+3.5
	baz=134						
Y12C	Blythe	134.00	51	⇓P	PKPdf	09 32 25.2	+3.2
	baz=134						
GLA	Glamis	134.02	52	⇓P	PKPdf	09 32 25.2	+3.2
	baz=134						
SCHQ	Schefferville	134.19	356	PKP	PKPdf	09 32 23.6	+1.3
	comp=Z,5.7nm,0.8s,baz=37,slow=7.5,SNR=6.2						
SCHQ				PP	PP	09 34 52.8	-0.9
	comp=Z,13nm,0.9s,baz=21,slow=6.9,SNR=8.0						
X13A	Yucca	134.20	50	⇑P	PKPdf	09 32 25.4	+3.1
	baz=134						
ULM	Lac du Bonnet	134.49	21	PKhKP		09 32 11.5	
	comp=Z,2.5nm,0.7s,baz=284,slow=5.3,SNR=4.3						
ULM				PKP	PKPdf	09 32 23.9	+1.0
	comp=Z,14nm,1.1s,baz=317,slow=3.6,SNR=7.4						
ULM	Lac du Bonnet	134.49	21	PKP	PKPdf	09 32 23.9	+1.0
SRU	San Rafael	134.50	43	ePKIKP	PKPdf	09 32 24.9	+2.0
W14A	Seligman	134.51	49	⇓P	PKPdf	09 32 26.5	+3.6
	baz=134						
X14A	Yava	134.96	50	⇓P	PKPdf	09 32 27.1	+3.4
	baz=135						
Y14A	Wickenburg	135.09	50	⇑P	PKPdf	09 32 27.3	+3.3
	baz=135						
W15A	Williams	135.13	48	⇑P	PKPdf	09 32 27.6	+3.5
	baz=135						
Z14A	Wintersburg	135.36	51	⇑P	PKPdf	09 32 27.9	+3.5
	baz=135						
X15A	Humboldt	135.44	49	⇓P	PKPdf	09 32 28.1	+3.5
	baz=136						
RSSD	Black Hills	135.47	33	ePKIKP	PKPdf	09 32 26.2	+1.5
PV10	Paradox Valley	135.88	43	ePKPdf	PKPdf	09 32 26.9	+1.5
115A	Sonoran Desert	136.18	52	⇓P	PKPdf	09 32 29.5	+3.5
	baz=136						
PV01	Paradox Valley	136.32	43	ePKPdf	PKPdf	09 32 28.7	+2.4
116A	Eloy	136.64	52	⇓P	PKPdf	09 32 30.0	+3.1
	baz=137						
MVCO	Mesa Verde	136.85	44	ePKPdf	PKPdf	09 32 28.6	+1.4
ISCO	Idaho Springs	137.29	39	ePKIKP	PKPdf	09 32 29.9	+1.8
MDZ	Mendoza	138.14	184	eP	PKPdf	09 32 28.2	-1.4
MDZ				LQ		09 36 29.5	
MDZ				LR	LR	09 41 31.9	
LAZ	Ladron	139.22	47	ePKPpre		09 32 26.0	
LAZ				ePKPdf	PKPdf	09 32 34.8	+3.1
ANMO	Albuquerque	139.43	45	PKhKP		09 32 25.6	
	comp=Z,2.3nm,0.8s,baz=292,slow=5.0,SNR=8.9						
ANMO	Albuquerque	139.43	45	PKHKP		09 32 25.6	
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LENM	Lemitar	139.46	47	ePKPdf	PKPdf	09 32 33.4	+1.3
Y22C	IRIS PASSCAL I	139.54	47	⇑P	PKPdf	09 32 35.6	+3.4
	baz=140						
LPM	Los Pinos Moun	139.63	46	ePKPdf	PKPdf	09 32 34.5	+2.1
BNM	Barren Site	139.72	47	ePKPpre		09 32 28.0	
BNM				ePKPdf	PKPdf	09 32 35.2	+2.7
CPUP	Villa Florida	141.96	202	PKhKP		09 32 32.4	
	comp=Z,10.0nm,0.8s,baz=152,slow=1.2,SNR=18						
CPUP				PKP	PKPdf	09 32 38.3	+1.7
	comp=Z,38nm,0.9s,baz=90,slow=2.6,SNR=31						
CPUP	Villa Florida	141.96	202	PKHKP		09 32 32.4	
CPUP						09 32 38.3	
CPUP				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CPUP				pmax	pmax		
	comp=Z,38nm,0.9s						
CPUP	Villa Florida	141.96	202	PKP	PKPdf	09 32 38.3	+1.7
SCIA	State Center	142.41	26	ePKPpre		09 32 33.5	
SCIA				ePKPdf	PKPdf	09 32 38.6	+1.2
PKME	Peaks-Kenny Pk	143.88	357	ePKPdf	PKPdf	09 32 37.6	-2.3
MSNY	Massena	144.15	3	ePKPdf	PKPdf	09 32 38.5	-2.0
LTX	Lajitas	144.25	51	ePKIKP	PKPdf	09 32 41.4	+0.8
EMMW	East Machias	144.28	354	ePKPdf	PKPdf	09 32 38.8	-1.8
LONY	Lake Ozonia	144.54	3	ePKPdf	PKPdf	09 32 39.8	-1.3
WMOK	Wichita Mounta	144.69	40	ePKIKP	PKPdf	09 32 41.1	-0.3
LBNH	Lisbon	144.99	360	ePKIKP	PKPdf	09 32 41.5	-0.4
MIV	Mineville/With	145.13	2	ePKPdf	PKPdf	09 32 41.7	-0.4
NCB	Newcomb	145.21	3	ePKPdf	PKPdf	09 32 42.4	+0.2
AAM	Ann Arbor	145.41	15	ePKIKP	PKPdf	09 32 43.8	+1.2
HNH	Hanover	145.52	0	ePKPdf	PKPdf	09 32 43.4	+0.6
BAO	Brasilia Array	145.71	224	P	PKPdf	09 32 44.0	+0.9
BDFB	Brasilia	145.72	224	PKPbc	PKPbc	09 32 45.0	+1.4
	comp=Z,162nm,1.1s,baz=165,slow=2.0,SNR=70						
BDFB	Brasilia	145.72	224	PKIKP	PKPdf	09 32 45.0	+1.9
BDFB				pmax	pmax		
	comp=Z,163nm,1.1s						
ACCN	Adirondack Com	145.81	2	ePKPdf	PKPdf	09 32 44.4	+1.1
ERPA	Erie	146.39	11	ePKPdf	PKPdf	09 32 45.7	+1.5
SLM	Saint Louis	146.39	26	ePKP2	PKPab	09 32 45.6	-0.9
CCM	Cathedral Cave	146.42	28	ePKP2	PKPab	09 32 45.8	-0.8
JCT	Junction City	146.55	47	ePKP2	PKPab	09 32 46.4	-0.8
HRV	Harvard--Oak R	146.72	359	ePKP2	PKPab	09 32 46.3	-1.5
WES	Weston	146.83	359	ePKP2	PKPab	09 32 46.8	-1.4
FVM	French Village	146.85	27	ePKP2	PKPab	09 32 46.7	-1.6
BINY	Binghamton	146.85	5	ePKPdf	PKPdf	09 32 47.0	+1.9
BLO	Bloomington	147.40	21	ePKIKP	PKPdf	09 32 47.8	+1.8
BLO				e		09 32 50.4	
BLO				e		09 32 52.7	
ACSO	Alum Creek Sta	147.52	16	ePKPbc	PKPbc	09 32 48.8	0.0
CEN1	Los Morros	147.66	183	eP	PKPdf	09 32 47.1	+0.7
MIAR	Mount Ida	147.94	35	ePKIKP	PKPdf	09 32 49.1	+2.2
MIAR				e		09 32 52.0	
MIAR	Mount Ida	147.94	35	ePKPdf	PKPdf	09 32 49.1	+2.3
MIAR				ePKPbc	PKPbc	09 32 51.4	+1.4
USIN	University of	148.03	24	ePKPbc	PKPbc	09 32 51.8	+1.6
SSPA	Standing Stone	148.18	8	ePKPdf	PKPdf	09 32 48.7	+1.4
SSPA				ePKPbc	PKPbc	09 32 51.0	+0.4
PAL	Palisades	148.18	3	ePKIKP	PKPdf	09 32 49.0	+1.8
PAL				e		09 32 51.3	
WCI	Wyandotte Cave	148.31	22	ePKIKP	PKPdf	09 32 49.0	+1.5
WCI				e		09 32 51.7	
LVC	Limon Verde	148.33	186	PKPbc	PKPbc	09 32 50.9	0.0
	comp=Z,262nm,1.0s,baz=256,slow=1.8,SNR=53						
LVC	Limon Verde	148.33	186	ePKPdf	PKPdf	09 32 50.1	+2.6
LVC				ePKPbc	PKPbc	09 32 53.0	+2.0
CPNY	Central Park	148.39	3	ePKPbc	PKPbc	09 32 51.5	+0.4
UALR	University of	148.44	33	ePKPbc	PKPbc	09 32 53.3	+2.1
BRNJ	Basking Ridge	148.47	4	ePKPbc	PKPbc	09 32 53.9	+2.6
PVMO	Portageville	148.47	28	ePKPbc	PKPbc	09 32 52.8	+1.5
HBAR	Harrisburg	148.71	30	ePKPbc	PKPbc	09 32 53.0	+1.1
GLAT	Glass	148.77	27	ePKPdr		09 32 50.3	
GLAT				ePKPbc	PKPbc	09 32 53.6	+1.5
MCWV	Mont Chateau	148.79	12	ePKPbc	PKPbc	09 32 52.6	+0.4
UTMT	University of	148.90	27	ePKPbc	PKPbc	09 32 54.4	+1.9
MVL	Millersville	149.00	6	ePKPbc	PKPbc	09 32 53.2	+0.5
HALT	Halls	149.05	28	ePKPbc	PKPbc	09 32 54.3	+1.5
NATX	Nacogdoches	149.25	40	ePKPbc	PKPbc	09 32 55.5	+2.3
MET	Memphis--Engin	149.41	29	ePKPbc	PKPbc	09 32 55.5	+1.8
KVTX	Kingsville	149.55	50	ePKPbc	PKPbc	09 32 57.4	+3.4
HKT	Hockley	149.64	44	ePKIKP	PKPdf	09 32 52.5	+2.9
HKT				e		09 32 57.3	
HKT				e		09 33 02.4	
OXF	Oxford	150.15	30	ePKP2	PKPbc	09 32 56.4	+0.9
PLAL	Pickwick Lake	150.39	27	ePKPdf	PKPdf	09 32 51.8	+1.0
PLAL				ePKPbc	PKPbc	09 32 55.9	-0.2
FWV	Forest Hill	150.57	14	ePKPdf	PKPdf	09 32 53.2	+2.2
FWV				ePKPbc	PKPbc	09 32 56.8	+0.3
CBN	Corbin	150.63	8	ePKPbc	PKPbc	09 32 58.3	+1.7
TZTN	Tazewell	150.77	19	ePKPdf	PKPdf	09 32 52.4	+1.0
TZTN				ePKPbc	PKPbc	09 32 57.5	+0.5
ELN	Prospectdale	150.93	14	ePKPdf	PKPdf	09 32 52.7	+1.1
ELN				ePKPbc	PKPbc	09 32 57.3	0.0
BLA	Blacksburg	151.02	14	ePKIKP	PKPdf	09 32 53.1	+1.3
BLA				e		09 32 57.6	
BLA				e		09 33 05.6	
CPCT	Cooper Cave	151.43	21	ePKPdf	PKPdf	09 32 55.0	+2.6
CPCT				ePKPbc	PKPbc	09 32 59.5	+1.0
CPCT				ePKPab	PKPab	09 33 08.0	+1.1
MYNC	Murphy	151.91	21	ePKIKP	PKPdf	09 32 55.1	+2.0
MYNC				e		09 33 00.7	
MYNC				e		09 33 09.0	
LRAL	Lakeview Retre	152.50	28	ePKPdf	PKPdf	09 32 56.1	+2.1
LRAL				ePKPbc	PKPbc	09 33 01.6	+0.6
LRAL				ePKPab	PKPab	09 33 09.8	-1.7
SIV	San Ignacio	152.77	204	PKP	PKPdf	09 32 56.9	+2.5
	comp=Z,37nm,1.0s,baz=132,slow=2.0,SNR=52						
SIV				PKPbc	PKPbc	09 33 02.6	+1.0
	comp=Z,163nm,0.8s,baz=141,slow=2.4,SNR=89						
CNNC	Cliffs of the	153.45	11	ePKPdf	PKPdf	09 32 56.5	+1.1
LPAZ	La Paz	154.47	189	PKPdf	PKPdf	09 32 58.7	+1.9
LPAZ				PKPbc	PKPbc	09 33 08.7	+3.5
LPAZ	La Paz	154.47	189	PKP	PKPdf	09 33 00.3	+3.5
	comp=Z,14nm,1.0s,baz=130,slow=0.8,SNR=32						
LPAZ				PKPbc	PKPbc	09 33 08.8	+3.5
	comp=Z,47nm,0.9s,baz=182,slow=3.0,SNR=55						
LPAZ	La Paz	154.47	189	PKIKP	PKPdf	09 33 00.3	+3.5
LPAZ						09 33 08.8	
LPAZ				pmax	pmax		
	comp=Z,14nm,1.0s						
LPAZ				pmax	pmax		
	comp=Z,47nm,0.9s						
LPAZ	La Paz	154.47	189	PKP	PKPdf	09 33 00.3	+3.5
LPAZ				PKPbc	PKPbc	09 33 08.8	+3.5
ARE	Arequipa	154.60	181	ePKIKP	PKPdf	09 33 01.0	+4.0
NNA	Nana	158.54	167	ePKPdf	PKPdf	09 33 03.5	+1.4
NNA				ePKPdif		09 33 14.9	
DWPF	Disney	159.16	24	ePKPab	PKPab	09 33 42.6	+2.7
SJG	San Juan	169.31	328	PKP	PKPdf	09 33 13.6	+1.7
	comp=Z,5.9nm,0.3s,baz=294,slow=5.2,SNR=4.0						
SJG	San Juan	169.31	328	PKIKP	PKPdf	09 33 13.6	+1.7
SJG				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ROSC	El Rosal	175.26	153	PKP	PKPdf	09 33 16.7	+2.1
	comp=Z,16nm,0.9s,baz=338,slow=1.6,SNR=11						
SDV	Santo Domingo	178.49	262	PKP	PKPdf	09 33 16.2	+1.0
	comp=Z,13nm,1.1s,baz=262,slow=4.2,SNR=5.4						
SDV	Santo Domingo	178.49	262	ePKPdf	PKPdf	09 33 16.1	+1.0

BJI 17 09:17:23.2, 2789N×10398E, h13km, ML3.7, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GYA	Guiyang	2.78	120	PG	Pg	09 18 13.8	-2.8
GYA				S	Sn	09 18 44.3	+3.4
GYA				SG	Sg	09 18 53.8	+1.2
GYA				Smax			
	comp=N,320nm,0.7s						
GYA				Smax			
	comp=E,270nm,0.7s						
KMI	Kunming	2.97	202	PG	Pg	09 18 17.9	-2.2
KMI				S	Sn	09 18 43.0	-2.5
KMI				Smax			
	comp=N,56nm,1.3s						
KMI				Smax			
	comp=E,76nm,0.8s						
CD2	Chengdu	3.02	356	P	Pn	09 18 12.0	+1.4
CD2				PG	Pg	09 18 17.8	-3.2
CD2				SG	Sg	09 18 54.3	-5.8
CD2				Smax			
	comp=N,280nm,0.8s						
CD2				Smax			
	comp=E,410nm,0.8s						
GZH	Guangzhou	9.72	117	P	Pn	09 19 41.5	-1.1

IDC 17 09:23:41.5±1.2, 917S×10753E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.9/15, mbtmp3.9/5, Error ellipse: s-maj=43.9km s-min=25.2km az=63.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	28.03	115	P	P	09 29 33.9	-0.3
	0.7nm,0.4s,baz=286,slow=12,SNR=3.3						
ASAR	Alice Springs	29.04	123	P	P	09 29 44.6	+1.3
	1.5nm,0.7s,baz=303,slow=9.4,SNR=3.9						
SONM	Songino Array	56.76	359	P	P	09 33 26.6	-0.6
	0.7nm,0.9s,baz=143,slow=3.6,SNR=3.7						
MKAR	Makanchi Array	60.09	340	P	P	09 33 51.1	+0.7
	0.7nm,0.5s,baz=146,slow=8.6,SNR=5.2						
MAW	Mawson	65.46	197	P	P	09 34 25.8	-0.4
	1.3nm,0.6s,baz=30,slow=8.1,SNR=5.2						

IDC 17 09:25:24.6±3.4, 635S×14838E, h0km, mb4.1/2, mb1 4.3/4, mb1mx3.9/13, mbtmp4.1/4, ML3.6/2, MS5.0/2, Ms1 5.0/2, ms1mx4.1/28, Error ellipse: s-maj=87.8km s-min=34.3km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.27	202	Pn	Pn	09 26 19.2	+2.2
	16nm,0.3s,baz=1.6,slow=5.3,SNR=24						
PMG				Sn	Sn	09 26 59.3	+2.7
	7.5nm,0.3s,baz=25,slow=13,SNR=4.3						
PMG				LR	LR	09 27 25.7	
	comp=Z,8μm,19.4s,baz=182,slow=37						
WRA	Warramunga Arr	19.20	224	P	Pn	09 29 51.1	+0.4
	0.3nm,0.3s,baz=52,slow=11,SNR=9.3						
GUMO	Guam	20.11	350	LR	LR	09 36 10.7	
	comp=Z,11μm,19.2s,baz=176,slow=32						
ASAR	Alice Springs	22.14	217	P	P	09 30 21.2	-0.5
	1.8nm,0.6s,baz=55,slow=9.1,SNR=11						
ASPA	Alice Springs	22.14	217	eP	P	09 30 21.2	-0.6
FITZ	Fitzroy Crossi	25.07	240	eP	P	09 30 49.9	-0.7
	14nm,0.9s						
FITZ	Fitzroy Crossi	25.07	240	P	P	09 30 49.8	-0.8
	8.8nm,0.8s,baz=103,slow=12,SNR=6.6						
TORD	Torodi Ar. Bea	146.50	284	PKPbc	PKPbc	09 45 08.4	+0.7
	2.1nm,0.9s,baz=59,slow=3.0,SNR=6.3						

IDC 17 09:30:13.6±2.8, 904S×10834E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/15, mbtmp4.0/5, Error ellipse: s-maj=120.0km s-min=21.8km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.36	116	P	P	09 36 00.3	-0.1
	0.9nm,0.5s,baz=288,slow=11,SNR=6.7						
ASAR	Alice Springs	28.45	124	P	P	09 36 10.8	+0.7
	0.8nm,0.6s,baz=300,slow=9.4,SNR=7.2						
SONM	Songino Array	56.64	358	P	P	09 39 59.9	+1.4
	1.1nm,0.5s,baz=181,slow=8.0,SNR=9.8						
MKAR	Makanchi Array	60.24	340	P	P	09 40 22.8	-0.7
	1.3nm,0.5s,baz=142,slow=7.6,SNR=11						
ZAL	Zalesovo	65.82	345	P	P	09 41 00.1	-0.5
	1.3nm,0.3s,baz=69,slow=7.3,SNR=3.9						

IDC 17 09:37:17.4±4.5, 916S×10881E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.8/3, Error ellipse: s-maj=214.8km s-min=29.9km az=53.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	28.00	124	P	P	09 43 10.2	+0.4
	0.7nm,0.7s,baz=301,slow=8.6,SNR=6.3						
SONM	Songino Array	56.78	358	P	P	09 47 03.5	+0.2
	0.6nm,0.5s,baz=169,slow=9.2,SNR=4.4						
MKAR	Makanchi Array	60.52	339	P	P	09 47 29.2	0.0
	1.1nm,0.6s,baz=136,slow=8.5,SNR=6.2						

IDC 17 09:44:08.2±0.7, 957S×10787E, h0km, mb4.5/9, mb1 4.6/11, mb1mx4.4/18, mbtmp4.5/11, ML4.1/2, Error ellipse: s-maj=27.0km s-min=15.7km az=64.0

ISCJB 17 09:44:09.2±0.4, 959S±006×10788E±008, h19km, mb4.8/38, MS5.4/3, Error ellipse: s-maj=12.6km s-min=6.1km az=109.1

BJI 17 09:44:11.3, 950S×10790E, h19km, mB5.4, mb4.9, Ms5.7, Msz5.5

MOS 17 09:44:11.1±0.9, 951S×10800E, h33km, mb5.0/12, Error ellipse: s-maj=16.9km s-min=8.9km az=111.6

NEIC 17 09:44:11.3±3.7, 953S×10790E, h19km±22km, mb5.0/24, Error ellipse: s-maj=11.6km s-min=5.3km az=50.0

ISC 17 09:44:11.4±0.4, 962S±006×10784E±008, h20km, h20km±4.8km:pP-P, n83, σ1.00/74, mb4.8/38, MS5.4/3, 3C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	15.21	324	Pn	**Pn**	**09 47 44.8**	**-0.1**
	0.6nm,0.3s,baz=167,slow=14,SNR=3.1						
MBWA	Marble Bar	16.20	136	eP	**Pn**	**09 47 53.5**	**-4.2**
	11nm,0.7s						
KKM	Kota Kinabalu	17.66	29	eP	**Pn**	**09 48 14.7**	**-1.3**
FITZ	Fitzroy Crossi	19.21	118	eP	**Pn**	**09 48 35.8**	**+0.8**
	13nm,0.9s						
FITZ	Fitzroy Crossi	19.21	118	P	**Pn**	**09 48 35.7**	**+0.7**
	0.5nm,0.3s,baz=263,slow=8.4,SNR=6.7						
FITZ				Sn	**Sn**	**09 51 56.6**	**-13**
	0.4nm,0.3s,baz=187,slow=19,SNR=3.2						
KAKA	Kakadu	24.32	100	eP	**P**	**09 49 28.2**	**+0.7**
	19nm,0.6s,mb4.7						
NWAO	Narrogin (SRO)	24.76	161	P	**P**	**09 49 31.1**	**-0.5**
	14nm,0.8s,mb4.5,baz=337,slow=8.9,SNR=6.5						
WRA	Warramunga Arr	27.55	115	P	**P**	**09 49 56.5**	**-0.3**
	11nm,1.0s,mb4.5,baz=286,slow=11,SNR=17						
WRA				PcP	PcP	09 53 15.2	+0.8
	1.9nm,0.8s,baz=307,slow=1.5,SNR=4.5						
WRAB	Tennant Creek	27.56	115	eP	**P**	**09 49 56.0**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.7						
WRAB	Tennant Creek	27.56	115	eP	**P**	**09 49 56.0**	**-0.8**
	comp=Z,18nm,0.9s,mb4.7						
WB2	Warramunga Arr	27.57	115	eP	**P**	**09 49 57.2**	**+0.3**
ASPA	Alice Springs	28.53	123	eP	**P**	**09 50 06.1**	**+0.6**
ASAR	Alice Springs	28.54	123	P	**P**	**09 50 06.3**	**+0.7**
	comp=Z,6.1nm,0.8s,mb4.4,baz=299,slow=8.6,SNR=14						
ASAR				PcP	PcP	09 53 18.2	+1.4
	comp=Z,2.1nm,0.8s,baz=313,slow=1.5,SNR=6.1						
ASAR	Alice Springs	28.54	123	P	**P**	**09 50 06.3**	**+0.7**
ASAR						09 53 18.2	
AS31	Alice Springs	28.54	123	eP	**P**	**09 50 06.1**	**+0.5**
CHTO	Chiang Mai	29.59	343	eP	**P**	**09 50 15.0**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
CHTO	Chiang Mai	29.59	343	eP	**P**	**09 50 15.0**	**+0.1**
	comp=Z,4.7nm,0.9s,mb4.2						
KMI	Kunming	34.89	352	P	**P**	**09 51 03.8**	**+2.4**
KMI				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.8						
GYA	Guiyang	35.88	358	⇑iP	**P**	**09 51 11.3**	**+1.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CTA	Charters Tower	38.47	110	eP	**P**	**09 51 33.3**	**+1.5**
	comp=Z,6.5nm,0.9s,mb4.4						
CTA	Charters Tower	38.47	110	eP	**P**	**09 51 33.3**	**+1.5**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CD2	Chengdu	40.49	355	eP	**P**	**09 51 48.3**	**-0.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.3						
JIRN	Jiri	42.59	331	eP	**P**	**09 52 06.7**	**+0.8**
	comp=Z,54nm,0.7s,mb5.4						
PKI	Pulchoki	42.89	330	eP	**P**	**09 52 08.5**	**+0.2**
GUN	Gumba	42.94	331	eP	**P**	**09 52 09.3**	**+0.5**
	comp=Z,59nm,0.7s,mb5.5						
DMN	Daman	43.07	330	eP	**P**	**09 52 10.1**	**+0.3**
	comp=Z,34nm,0.8s,mb5.1						
KKN	Kakani	43.13	330	eP	**P**	**09 52 10.7**	**+0.4**
	comp=Z,47nm,0.8s,mb5.3						
KKN	Kakani	43.13	330	eP	**P**	**09 52 10.7**	**+0.4**
KKN				pmax	pmax		
	comp=Z,47nm,0.8s,mb5.3						
GKN	Gorkha	43.63	330	eP	**P**	**09 52 14.5**	**+0.2**
KOLN	Koldanda	43.96	328	eP	**P**	**09 52 17.4**	**+0.4**
	comp=Z,38nm,0.7s,mb5.2						
GTA	Gaotai	49.35	352	eP	**P**	**09 53 01.5**	**+2.3**
GTA				AP	pP	09 53 10.8	+5.2
GTA				XP	sP	09 53 15.0	+6.9
GTA				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.6						
BJT	Baijiatuau	49.99	8	eP	**P**	**09 53 04.4**	**+0.3**
BJT				pmax	pmax		
	comp=Z,20nm,1.3s						
BJT	Baijiatuau	49.99	8	eP	**P**	**09 53 04.3**	**+0.3**
	comp=Z,20nm,1.3s,mb5.0						
BJI	Beijing	50.01	8	eP	**P**	**09 53 04.9**	**+0.7**
BJI				AMB	AMB		
	comp=Z,14nm,0.5s,mb5.2						
HHC	Hu-ho-hao-te	50.34	4	eP	**P**	**09 53 08.3**	**+1.6**
HHC				AP	pP	09 53 12.8	-0.3
HHC				XP	sP	09 53 15.4	-0.2
HHC				PCP	PcP	09 54 27.8	+2.6
HHC				S	**S**	**10 00 15.5**	**-3.0**
HHC				SCS	ScS	10 02 54.5	-2.2
HHC				SS	SS	10 03 48.0	-4.2
HHC				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.4						
HHC				LR	LR		
	comp=N,6μm,16.7s,MS5.7						
HHC				LR	LR		
	comp=E,3μm,17.8s,MS5.7						
HHC				LR	LR		
	comp=Z,5μm,20.2s,MS5.5						
MAJO	Matsushiro	54.07	30	eP	**P**	**09 53 32.2**	**-2.3**
MAJO				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
MAJO	Matsushiro	54.07	30	eP	**P**	**09 53 32.2**	**-2.2**
	comp=Z,19nm,1.3s,mb4.9						
MAT	Matsushiro	54.07	30	P	**P**	**09 53 32.1**	**-2.4**
MAT	Matsushiro	54.07	30	eP	**P**	**09 53 32.0**	**-2.5**
MAT				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
MAT	Matsushiro	54.07	30	eP	**P**	**09 53 32.0**	**-2.5**
	comp=Z,14nm,1.2s,mb4.8						
MJAR	Matsushiro Arr	54.07	30	P	**P**	**09 53 32.7**	**-1.8**
	comp=Z,4.9nm,0.8s,mb4.5,baz=213,slow=7.8,SNR=10						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	56.25	343	P	P	09 53 53.9	+3.7
WMQ				AP	pP	09 53 58.5	+1.8
WMQ				XP	sP	09 54 00.9	+1.7
WMQ				PP	PP	09 56 00.8	+5.3
WMQ				AMB	AMB		
	comp=Z,28nm,1.6s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,149nm,5.3s						
WMQ				LR	LR		
	comp=N,682nm,17.8s,MS4.9						
WMQ				LR	LR		
	comp=E,511nm,16.7s,MS4.9						
WMQ				LR	LR		
	comp=Z,683nm,18.3s,MS4.8						
SONM	Songino Array	57.22	359	P	P	09 53 57.5	+0.4
	comp=Z,6.4nm,0.6s,mb4.8,baz=174,slow=8.3,SNR=18						
ULN	Ulaanbaatar	57.24	359	eP	P	09 53 57.6	+0.4
ULN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
ULN	Ulaanbaatar	57.24	359	eP	P	09 53 57.6	+0.4
	comp=Z,9.0nm,0.6s,mb5.0						
MDJ	Mudanjiang	57.46	18	P	P	09 53 59.3	+0.5
MDJ				PCP	PcP	09 54 51.8	-0.5
MDJ				SCP	ScP	09 58 52.3	+1.3
MDJ				PCS	PcS	09 58 53.4	0.0
MDJ				S	S	10 01 58.3	+3.4
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
MDJ				LR	LR		
	comp=N,4µm,24.1s,MS5.5						
MDJ				LR	LR		
	comp=E,2µm,22.4s,MS5.5						
MDJ				LR	LR		
	comp=Z,6µm,18.5s,MS5.7						
MKAR	Makanchi Array	60.62	340	P	P	09 54 20.5	-0.2
	comp=Z,10nm,0.6s,mb5.1,baz=150,slow=5.1,SNR=21						
KLR	Kul'dur	62.25	17	eP	P	09 54 27.3	-4.4
YSS	Yuzh-Sakhalins	64.34	26	⇑iP	P	09 54 45.0	-0.6
YSS				e		09 54 57.0	
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
YSS	Yuzh-Sakhalins	64.34	26	eP	P	09 54 44.9	-0.7
	comp=Z,43nm,1.3s,mb5.3						
MAW	Mawson	65.12	197	P	P	09 54 50.5	-0.1
	comp=Z,5.8nm,0.8s,mb4.7,baz=45,slow=7.9,SNR=5.6						
MAW	Mawson	65.12	197	eP	P	09 54 50.4	-0.2
MAW				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MAW	Mawson	65.12	197	eP	P	09 54 50.4	-0.3
	comp=Z,10.0nm,1.0s,mb4.8						
KURK	Kurchatov	65.23	340	eP	P	09 54 50.5	-0.9
BOD	Bodaibo	67.39	4	eP	P	09 55 04.0	-1.2
BOD				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.6						
BRVK	Borovoye	70.16	337	eP	P	09 55 21.9	-0.5
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
BRVK	Borovoye	70.16	337	eP	P	09 55 21.9	-0.5
	comp=Z,4.2nm,1.2s,mb4.2						
CHKZ	Chkalovo	70.51	338	eP	P	09 55 24.1	-0.5
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
CHKZ	Chkalovo	70.51	338	eP	P	09 55 24.1	-0.5
	comp=Z,8.6nm,0.6s,mb4.9						
ZRNK	Zerenda	70.58	336	eP	P	09 55 24.1	-0.9
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
ZRNK	Zerenda	70.58	336	eP	P	09 55 24.1	-0.9
	comp=Z,6.1nm,0.7s,mb4.6						
VNDA	Vanda	73.25	169	P	P	09 55 40.9	-0.1
	comp=Z,0.6nm,0.7s,mb3.6,baz=305,slow=6.8,SNR=3.5						
SYO	Syowa Base	73.35	200	⇑eP	P	09 55 40.0	-1.6
YAK	Yakutsk	73.44	11	eP	P	09 55 41.4	-0.7
YAK				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.4						
YAK	Yakutsk	73.44	11	eP	P	09 55 41.4	-0.7
	comp=Z,38nm,0.8s,mb5.4						
ARU	Arti	77.33	334	eP	P	09 56 03.7	-0.8
ARU				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
ARU	Arti	77.33	334	eP	P	09 56 03.7	-0.8
	comp=Z,16nm,1.3s,mb4.8						
BR131	Keskin Array S	84.19	312	eP	P	09 56 41.0	-0.1
	comp=Z,2.0nm,0.9s,mb4.2						
BRTR	Keskin Array B	84.19	312	P	P	09 56 41.2	0.0
	comp=Z,1.2nm,0.7s,mb4.2,baz=141,slow=8.0,SNR=8.5						
OBN	Obninsk	87.36	327	eP	P	09 56 57.3	+0.4
OBN				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.1						
OBN	Obninsk	87.36	327	eP	P	09 56 57.0	+0.1
	comp=Z,21nm,0.8s,mb5.4						
NVAR	Mina Array Bea	129.75	47	PKP	PKPdf	10 03 21.8	+2.7
	comp=Z,0.3nm,0.6s,baz=187,slow=1.3,SNR=3.5						
WMOK	Wichita Mounta	145.11	40	ePKIKP	PKPdf	10 03 48.3	+1.0
BDFB	Brasilia	145.33	224	PKPbc	PKPbc	10 03 48.7	+1.3
	comp=Z,1.7nm,0.5s,baz=173,slow=3.0,SNR=4.9						
CCM	Cathedral Cave	146.89	28	ePKP2	PKPab	10 03 53.0	-0.5
JCT	Junction City	146.92	47	ePKP2	PKPab	10 03 54.1	+0.4
ACSO	Alum Creek Sta	148.03	16	ePKPbc	PKPbc	10 03 55.9	+0.6
MIAR	Mount Ida	148.38	35	ePKP2	PKPbc	10 03 57.7	+1.5
MVL	Millersville	149.52	6	ePKPbc	PKPbc	10 03 59.8	+0.7
HKT	Hockley	150.03	44	ePKP2	PKPbc	10 04 02.7	+2.3
PLAL	Pickwick Lake	150.86	28	ePKPbc	PKPbc	10 04 02.6	+0.3
ELN	Prospectdale	151.44	14	ePKPbc	PKPbc	10 04 04.2	+0.5
LPAZ	La Paz	153.95	189	PKPbc	PKPbc	10 04 11.7	+2.4
	comp=Z,1.0nm,0.8s,baz=65,slow=2.4,SNR=5.3						

MAN 17 09:47:15.5, 7.19N × 125.18E, h17km, mb2.4, ML4.0, MS1.9, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	0.20	207	⇑iP	Pg	09 47 21.6	+1.3
KCP				iS	Sg	09 47 24.8	+1.3
BUKP	Musuan	0.70	350	eP	Pg	09 47 29.5	+0.3
BUKP				eS	Sg	09 47 41.5	+3.0
MATI	Mati	1.10	102	eP	Pb	09 47 34.8	-1.2
CGP	Cagayan de Oro	1.35	339	⇓eP	Pn	09 47 38.9	-0.6
CGP				eS	Sn	09 47 58.0	+0.9

IDC 17 09:49:03.3±1.0, 9.23S × 107.88E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/15, mbtmp4.0/5, Error ellipse: s-maj=45.6km s-min=22.5km az=76.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.69	116	P	P	09 54 53.5	+0.5
	1.1nm,0.5s,baz=289,slow=11,SNR=5.7						
SONM	Songino Array	56.83	359	P	P	09 58 49.7	+0.3
	1.4nm,0.5s,baz=176,slow=8.5,SNR=10.0						
MKAR	Makanchi Array	60.27	340	P	P	09 59 13.4	0.0
	1.7nm,0.5s,baz=155,slow=8.5,SNR=13						
MAW	Mawson	65.50	197	P	P	09 59 47.9	-0.3
	1.0nm,0.7s,baz=49,slow=9.9,SNR=4.9						
VNDA	Vanda	73.63	169	P	P	10 00 38.0	-0.5
	0.7nm,0.7s,baz=313,slow=6.5,SNR=5.7						

IDC 17 09:51:15.4±0.8, 9.22S × 108.01E, h0km, mb4.1/6, mb1 4.2/6, mb1mx4.0/16, mbtmp4.1/6, Error ellipse: s-maj=36.4km s-min=20.2km az=64.0
NEIC 17 09:51:16.5±0.5, 9.18S × 108.00E, h10km, mb4.5/5, Error ellipse: s-maj=21.9km s-min=11.2km az=61.0
ISCJB 17 09:51:17.7±0.7, 9.2S±0.1 × 108.0E±0.2, h33km, mb4.3/11, Error ellipse: s-maj=28.7km s-min=13.1km az=117.8
ISC 17 09:51:20.0±0.7, 9.2S±0.1 × 107.9E±0.2, h35km, n15, σ0.86/12, mb4.3/11, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.66	116	P	P	09 57 04.8	+0.3
	1.5nm,0.5s,mb3.8,baz=289,slow=11,SNR=7.4						
WRAB	Tennant Creek	27.66	116	eP	P	09 57 05.1	+0.6
	2.6nm,0.4s,mb4.2						
QIZ	Qiongzhong	28.14	4	eP	P	09 57 07.1	-1.7
	30nm,0.3s,mb5.4						
ASAR	Alice Springs	28.69	123	P	P	09 57 13.4	-0.2
	1.3nm,0.7s,mb3.8,baz=296,slow=8.1,SNR=4.0						
ASAR				PcP	PcP	10 00 25.2	+1.7
	0.3nm,0.6s,baz=315,slow=2.0,SNR=4.4						
SONM	Songino Array	56.83	359	P	P	10 01 01.4	+0.5
	1.6nm,0.6s,mb4.2,baz=179,slow=8.0,SNR=9.5						
MKAR	Makanchi Array	60.28	340	P	P	10 01 25.1	+0.1
	2.3nm,0.6s,mb4.4,baz=148,slow=7.6,SNR=11						
KURK	Kurchatov	64.89	340	eP	P	10 01 55.5	-0.3
	4.0nm,1.0s,mb4.4						
MAW	Mawson	65.51	197	P	P	10 01 59.9	+0.2
	3.5nm,0.7s,mb4.5,baz=41,slow=4.5,SNR=10						
MAW	Mawson	65.51	197	eP	P	10 02 00.1	+0.3
	3.1nm,0.6s,mb4.5						
BVAR	Borovoye Array	69.76	337	P	P	10 02 28.3	+1.7
	1.2nm,0.6s,mb4.0,baz=146,slow=8.7,SNR=6.4						
CHKZ	Chkalovo	70.18	337	eP	P	10 02 28.9	-0.2
	2.0nm,0.6s,mb4.2						
VNDA	Vanda	73.62	169	eP	P	10 02 48.5	-1.3
	3.3nm,0.7s,mb4.4						
WMOK	Wichita Mounta	144.76	40	ePKPdf	PKPdf	10 10 53.3	+0.3
BDFB	Brasilia	145.66	224	PKPbc	PKPab	10 10 58.0	+2.7
	2.0nm,0.5s,baz=137,slow=2.8,SNR=3.9						
JCT	Junction City	146.60	47	ePKPab	PKPab	10 10 59.8	+0.9

IDC 17 09:53:49.1±1.0, 9.30S × 107.10E, h0km, mb4.0/6, mb1 4.0/6, mb1mx3.9/16, mbtmp4.0/6, Error ellipse: s-maj=39.6km s-min=20.9km az=62.0
NEIC 17 09:53:50.5±0.6, 9.29S × 107.07E, h10km, mb4.5/3, Error ellipse: s-maj=27.1km s-min=11.7km az=55.0
ISCJB 17 09:53:51.8±0.8, 9.3S±0.2 × 107.1E±0.2, h33km, mb4.1/9, Error ellipse: s-maj=36.9km s-min=15.9km az=110.5
ISC 17 09:53:54.2±0.8, 9.3S±0.2 × 107.0E±0.2, h35km, n10, σ0.43/10, mb4.1/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	28.41	115	P	P	09 59 45.0	-0.3
	0.9nm,1.0s,mb3.4,baz=289,slow=10,SNR=3.9						
ASAR	Alice Springs	29.37	122	P	P	09 59 54.0	+0.2
	0.6nm,0.8s,mb3.4,baz=301,slow=7.8,SNR=3.3						
SONM	Songino Array	56.90	359	P	P	10 03 36.2	+0.6
	0.9nm,0.6s,mb4.0,baz=180,slow=8.7,SNR=5.4						
MKAR	Makanchi Array	60.06	341	P	P	10 03 58.0	+0.3
	2.8nm,0.6s,mb4.5,baz=147,slow=8.1,SNR=17						
MKAR	Makanchi Array	60.06	341	P	P	10 03 58.0	+0.3
KURK	Kurchatov	64.68	340	eP	P	10 04 27.5	-1.0
	3.2nm,0.9s,mb4.3						
MAW	Mawson	65.17	197	P	P	10 04 31.9	+0.1
	0.9nm,0.5s,mb4.0,baz=69,slow=5.2,SNR=3.1						
BVAR	Borovoye Array	69.50	337	P	P	10 04 59.1	0.0
	2.2nm,0.6s,mb4.3,baz=153,slow=9.0,SNR=6.1						
CHKZ	Chkalovo	69.92	338	eP	P	10 05 01.9	+0.2
	4.6nm,0.6s,mb4.6						
ZRNK	Zerenda	69.98	337	eP	P	10 05 01.8	-0.2
	1.6nm,0.5s,mb4.2						

IDC 17 09:55:06.4±0.8, 9.41S × 107.92E, h0km, mb4.4/9, mb1 4.5/9, mb1mx4.4/16, mbtmp4.4/9, MS5.4/1, Ms1 5.4/1, ms1mx3.3/34, Error ellipse: s-maj=30.2km s-min=17.8km az=69.0
NEIC 17 09:55:08.0±0.4, 9.40S × 107.94E, h10km, mb5.1/7, Error ellipse: s-maj=18.0km s-min=8.9km az=55.0
BJI 17 09:55:07.9, 9.40S × 107.90E, h10km, mB4.9, mb4.8
ISCJB 17 09:55:17.6±7.7, 9.4S±0.1 × 107.9E±0.1, h106km±72km, mb4.7/22, Error ellipse: s-maj=26.1km s-min=14.1km az=125.4
ISC 17 09:55:19.8±7.6, 9.5S±0.1 × 107.9E±0.1, h109km±71km, h29km±4.6km:pP-P, n34, σ0.94/34, mb4.7/22, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	Pagadian	23.12	42	eP	P	10 00 21.8	+5.6
PAGZ				eS	tx	10 00 46.4	
DCPH	Dipolog City	23.65	41	eP	P	10 00 29.8	+8.8
SNPH	Sibulan	24.15	40	eP	P	10 00 31.5	+5.9
WRA	Warramunga Arr	27.59	115	P	P	10 00 54.1	-2.5
	5.5nm,1.0s,mb4.0,baz=285,slow=11,SNR=6.0						
ASAR	Alice Springs	28.59	123	P	P	10 01 06.5	+1.0
	4.2nm,1.1s,mb4.0,baz=291,slow=9.5,SNR=8.3						
KMI	Kunming	34.75	352	P	P	10 02 00.9	+1.5
KMI				AP	pP	10 02 10.3	-14
KMI				AMB	AMB		
	comp=Z,27nm,1.2s,mb5.0						
GYA	Guiyang	35.73	358	⇑iP	P	10 02 08.8	+0.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2	Chengdu	40.34	355	P	P	10 02 45.8	-0.8
JIRN	Jiri	42.47	331	eP	P	10 03 03.9	-0.1
	comp=Z,75nm,1.0s,mb5.4						
PKI	Pulchoki	42.77	330	eP	P	10 03 05.7	-0.7
GUN	Gumba	42.83	331	eP	P	10 03 06.8	-0.1
DMN	Daman	42.96	330	eP	P	10 03 07.5	-0.4
	comp=Z,54nm,1.0s,mb5.2						
KKN	Kakani	43.02	330	eP	P	10 03 08.1	-0.3
	comp=Z,56nm,1.0s,mb5.3						
XAN	Xi'an	43.28	1	P	P	10 03 10.8	+0.3
XAN				AMB	AMB		
	comp=Z,29nm,1.0s,mb5.0						
GKN	Gorkha	43.52	330	eP	P	10 03 11.8	-0.6
KOLN	Koldanda	43.85	328	eP	P	10 03 14.8	-0.3
	comp=Z,62nm,0.8s,mb5.4						
LZH	Lanzhou	45.47	355	eP	P	10 03 29.6	+1.7
LZH				AP	pP	10 03 39.8	-14
LZH				XP	sP	10 03 43.4	-22
LZH				AMB	AMB		
	comp=Z,71nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,362nm,5.0s						
LGTI	Lohaghat	46.97	326	eP	P	10 03 44.3	+4.6
NDI	New Delhi	48.12	323	eP	P	10 03 46.0	-2.5
GTA	Gaotai	49.20	352	eP	P	10 03 58.3	+1.4
GTA				AP	pP	10 04 05.5	-17
GTA				XP	sP	10 04 09.9	-25
GTA				PP	PP	10 05 53.6	+2.1
GTA				PPP		10 06 46.1	
GTA				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.6						
BJI	Beijing	49.86	8	eP	P	10 04 02.3	+0.5
BJI				AMB	AMB		
	comp=Z,19nm,0.9s,mb5.0						
MAT	Matsushiro	53.93	30	P	P	10 04 30.5	-1.5
MAT	Matsushiro	53.93	30	eP	P	10 04 31.0	-1.0
	comp=Z,7.8nm,1.2s,mb4.6						
MJAR	Matsushiro Arr	53.93	30	P	P	10 04 30.9	-1.1
	comp=Z,8.9nm,1.1s,mb4.7,baz=203,slow=8.2,SNR=12						
SONM	Songino Array	57.07	359	P	P	10 04 53.5	-1.0
	comp=Z,8.2nm,1.1s,mb4.7,baz=178,slow=7.3,SNR=14						
MKAR	Makanchi Array	60.49	340	P	P	10 05 19.2	+1.0
	comp=Z,12nm,0.7s,mb5.0,baz=141,slow=7.8,SNR=18						
MKAR	Makanchi Array	60.49	340	P	P	10 05 19.2	+1.0
MAW	Mawson	65.27	197	P	P	10 05 50.2	+0.4
	comp=Z,7.3nm,0.9s,mb4.5,baz=31,slow=4.4,SNR=12						
BVAR	Borovoye Array	69.97	337	P	P	10 06 19.4	+0.1
	comp=Z,2.7nm,0.7s,mb4.2,baz=152,slow=6.7,SNR=5.1						
CHKZ	Chkalovo	70.38	338	eP	P	10 06 21.7	-0.2
	comp=Z,4.2nm,0.9s,mb4.3						
ZRNK	Zerenda	70.45	336	eP	P	10 06 22.2	-0.1
	comp=Z,8.0nm,0.9s,mb4.5						
VNDA	Vanda	73.39	169	P	P	10 06 39.6	-0.2
	comp=Z,1.3nm,1.0s,mb3.7,baz=296,slow=6.7,SNR=3.9						
BRTR	Keskin Array B	84.11	312	P	P	10 07 38.7	+0.2
	comp=Z,1.5nm,0.8s,mb3.9,baz=133,slow=6.9,SNR=6.5						
ELDT	Eldivan	84.49	312	iP	P	10 07 41.2	+0.8

IDC 17 09:55:30.5±0.5, 9.63S × 107.63E, h0km, mb4.9/14, mb1 4.9/15, mb1mx4.7/20, mbtmp4.8/15, Error ellipse: s-maj=21.6km s-min=13.8km az=58.0
ISCJB 17 09:55:32.4±0.3, 9.51S±0.05 × 107.81E±0.07, h23km, mb5.1/43, MS5.3/4, Error ellipse: s-maj=10.4km s-min=6.2km az=132.0
NEIC 17 09:55:32.2±0.2, 9.46S × 107.76E, h10km, mb5.1/26, Error ellipse: s-maj=9.4km s-min=7.4km az=52.0
BJI 17 09:55:32.2, 9.50S × 107.80E, h10km, mB5.9, mb5.3, Ms5.5, Msz5.2
MOS 17 09:55:34.4±1.4, 9.32S × 107.86E, h33km, mb5.1/26, Error ellipse: s-maj=13.0km s-min=9.8km az=111.5
ISC 17 09:55:34.4±0.3, 9.56S±0.05 × 107.72E±0.06, h24km, h24km±4.0km:pP-P, n122, σ1.28/97, mb5.1/43, MS5.3/4, 3C-1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCO	West Island	11.01	255	ePn	Pn	09 58 08.8	-1.4
	238nm,0.9s						
MBWA	Marble Bar	16.33	136	eP	Pn	09 59 17.9	-4.2
	38nm,1.0s						
FITZ	Fitzroy Crossi	19.35	118	P	Pn	09 59 57.9	-1.3
	2.0nm,0.3s,baz=256,slow=10,SNR=13						
FITZ				Sn	Sn	10 03 18.7	-17
	0.5nm,0.3s,baz=23,slow=20,SNR=4.1						
KLBR	Kellerberrin	23.82	158	eP	P	10 00 45.8	+0.3
	63nm,1.2s,mb4.9						
KAKA	Kakadu	24.45	100	eP	P	10 00 51.8	+0.6
	47nm,0.9s,mb4.9						
NWAO	Narrogin (SRO)	24.86	161	P	P	10 00 53.1	-1.9
	24nm,0.8s,mb4.8,baz=337,slow=11,SNR=9.2						
NWAO	Narrogin (SRO)	24.86	161	P	P	10 00 53.1	-1.9
NWAO				pmax	pmax		
	comp=Z,24nm,0.8s						
NWAO	Narrogin (SRO)	24.86	161	eP	P	10 00 55.3	+0.3
	comp=Z,35nm,1.0s,mb4.8						
WRA	Warramunga Arr	27.69	115	P	P	10 01 19.7	-0.8
	comp=Z,19nm,0.9s,mb4.7,baz=285,slow=12,SNR=16						
WRA				Sn	S	10 06 41.9	+41
	comp=Z,4.0nm,1.0s,baz=282,slow=15,SNR=4.8						
WRAB	Tennant Creek	27.70	115	eP	P	10 01 20.3	-0.3
	comp=Z,33nm,0.8s,mb5.0						
WB2	Warramunga Arr	27.70	115	eP	P	10 01 19.6	-1.0
ASPA	Alice Springs	28.67	123	eP	P	10 01 29.9	+0.6
AS31	Alice Springs	28.67	123	eP	P	10 01 33.5	+4.2
ASAR	Alice Springs	28.67	123	P	P	10 01 30.6	+1.3
	comp=Z,11nm,0.8s,mb4.6,baz=298,slow=9.1,SNR=27						
ASAR				PcP	PcP	10 04 40.9	+1.4
	comp=Z,3.1nm,0.8s,baz=292,slow=1.8,SNR=4.6						
ASAR				Sn	S	10 06 59.2	+43
	comp=Z,3.4nm,1.1s,baz=302,slow=28,SNR=3.5						
ASAR	Alice Springs	28.67	123	P	P	10 01 30.6	+1.3
ASAR						10 04 40.9	
ASAR				pmax	pmax		
	comp=Z,11nm,0.9s						
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KMI	Kunming	34.81	352	P	P	10 02 24.5	+1.4
KMI				AP	pP	10 02 36.3	+5.9
KMI				AMB	AMB		
	comp=Z,48nm,0.9s,mb5.4						
GYA	Guiyang	35.81	358	⇑iP	P	10 02 33.1	+1.3
GYA				AP	pP	10 02 37.8	-1.3
GYA				XP	sP	10 02 40.6	-1.5
GYA				PP	PP	10 03 52.1	-1.2
GYA				S	S	10 08 05.3	-2.5
GYA				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.7						
GYA				AMB	AMB		
	comp=Z,1µm,4.0s						
GYA				LR	LR		
	comp=N,1µm,16.2s,MS5.0						
GYA				LR	LR		
	comp=E,2µm,16.4s,MS5.0						
GYA				LR	LR		
	comp=Z,2µm,17.0s,MS4.9						
CTA	Charters Tower	38.60	110	eP	P	10 02 56.9	+1.4
	comp=Z,18nm,1.5s,mb4.6						
CTA	Charters Tower	38.60	110	P	P	10 02 57.2	+1.7
	comp=Z,12nm,0.6s,mb4.8,baz=286,slow=11,SNR=16						
CTA	Charters Tower	38.60	110	eP	P	10 02 56.9	+1.4
CTA				pmax	pmax		
	comp=Z,18nm,1.5s						
CTAO	Charters Tower	38.60	110	eP	P	10 02 56.8	+1.3
CTAO				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.1						
CTAO	Charters Tower	38.60	110	eP	P	10 02 56.8	+1.3
	comp=Z,41nm,1.1s,mb5.1						
PMG	Port Moresby	38.88	93	P	P	10 02 58.8	+1.0
	comp=Z,39nm,1.1s,mb5.0,baz=314,slow=5.3,SNR=7.2						
PMG	Port Moresby	38.88	93	P	P	10 02 58.8	+1.0
PMG				pmax	pmax		
	comp=Z,39nm,1.1s						
PMG	Port Moresby	38.88	93	eP	P	10 02 58.8	+0.9
	comp=Z,43nm,1.0s,mb5.1						
WHN	Wuhan	40.37	9	P	P	10 03 11.0	+0.8
WHN				AP	pP	10 03 21.3	+3.7
JOW	Kunigami	41.31	28	P	P	10 03 18.8	+0.9
	comp=Z,23nm,0.6s,mb5.0,baz=222,slow=9.4,SNR=8.0						
LZH	Lanzhou	45.54	356	eP	P	10 03 53.5	+1.4
LZH				AP	pP	10 04 03.6	+4.1
LZH				XP	sP	10 04 08.4	+5.9
LZH				PP	PP	10 05 40.6	+1.8
LZH				AMB	AMB		
	comp=Z,221nm,1.5s,mb5.9						
LZH				AMB	AMB		
	comp=Z,1µm,5.1s						
BJI	Beijing	49.96	8	eP	P	10 04 28.8	+2.5
BJI				AMB	AMB		
	comp=Z,51nm,0.7s,mb5.7						
HHC	Hu-ho-hao-te	50.28	4	eP	P	10 04 31.3	+2.6
HHC				AP	pP	10 04 36.9	+0.7
HHC				XP	sP	10 04 38.3	-0.9
HHC				PCP	PcP	10 05 51.1	+3.7
HHC				PP	PP	10 06 26.8	+2.6
HHC				PCS	PcS	10 09 44.3	-0.2
HHC				S	S	10 11 39.5	-0.3
HHC				XS	sS	10 11 49.1	-3.1
HHC				SCS	ScS	10 14 17.1	-1.2
HHC				SS	SS	10 15 11.6	-1.8
HHC				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.2						
HHC				LR	LR		
	comp=N,5µm,13.1s,MS5.7						
HHC				LR	LR		
	comp=E,2µm,14.3s,MS5.7						
HHC				LR	LR		
	comp=Z,7µm,16.7s,MS5.7						
MAJO	Matsushiro	54.08	30	eP	P	10 04 54.8	-2.2
MAJO				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
MAJO	Matsushiro	54.08	30	eP	P	10 04 54.8	-2.1
	comp=Z,24nm,1.1s,mb5.0						
MAT	Matsushiro	54.08	30	P	P	10 04 54.9	-2.1
MAT	Matsushiro	54.08	30	eP	P	10 04 55.0	-2.0
MAT				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
MAT	Matsushiro	54.08	30	eP	P	10 04 55.0	-2.0
	comp=Z,7.8nm,1.2s,mb4.5						
MJAR	Matsushiro Arr	54.08	30	P	P	10 04 54.7	-2.3
	comp=Z,9.0nm,0.9s,mb4.7,baz=208,slow=7.0,SNR=13						
MJAR	Matsushiro Arr	54.08	30	P	P	10 04 54.7	-2.3
MJAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WMQ	Urumqi	56.15	343	P	P	10 05 13.3	+1.3
WMQ				AP	pP	10 05 17.8	-1.8
WMQ				XP	sP	10 05 20.3	-2.2
WMQ				PCP	PcP	10 06 11.4	+1.7
WMQ				PP	PP	10 07 19.6	+2.5
WMQ				SCP	ScP	10 10 08.5	+1.2
WMQ				S	S	10 12 59.3	-0.4
WMQ				AMB	AMB		
	comp=Z,54nm,1.9s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,241nm,5.4s						
WMQ				LR	LR		
	comp=N,1µm,18.0s,MS5.1						
WMQ				LR	LR		
	comp=E,827nm,16.9s,MS5.1						
WMQ				LR	LR		
	comp=Z,1µm,18.5s,MS5.0						
CASY	Casey	56.68	179	eP	P	10 05 15.9	+0.2
SONM	Songino Array	57.15	359	P	P	10 05 18.8	-0.2
	comp=Z,13nm,0.6s,mb5.1,baz=178,slow=8.8,SNR=19						
SONM	Songino Array	57.15	359	P	P	10 05 18.8	-0.2
SONM				pmax	pmax		
	comp=Z,13nm,0.6s						
ULN	Ulaanbaatar	57.17	359	eP	P	10 05 19.3	+0.1
ULN				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
ULN	Ulaanbaatar	57.17	359	eP	P	10 05 19.3	+0.1
	comp=Z,20nm,0.8s,mb5.2						
MDJ	Mudanjiang	57.43	18	P	P	10 05 21.5	+0.5
MDJ				AP	pP	10 05 24.8	-3.9
MDJ				PCP	PcP	10 06 14.8	+0.1
MDJ				PP	PP	10 07 28.8	+0.3
MDJ				SCP	ScP	10 10 14.8	+1.9
MDJ				PCS	PcS	10 10 15.8	0.0
MDJ				S	S	10 13 19.9	+3.3
MDJ				AMB	AMB		
	comp=Z,11nm,1.7s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,2µm,7.3s						
MDJ				LR	LR		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=N,5μm,17.0s,MS5.7						
MDJ				LR	LR		
	comp=E,2μm,20.0s,MS5.7						
MDJ				LR	LR		
	comp=Z,5μm,17.4s,MS5.7						
HIA	**Hailar**	**59.51**	**9**	*e*P	**P**	**10 05 34.6**	**-1.0**
HIA				pmax	pmax		
	comp=Z,24nm,1.5s						
HIA	**Hailar**	**59.51**	**9**	*e*P	**P**	**10 05 34.6**	**-0.9**
	comp=Z,24nm,1.5s,mb5.0						
AAK	**Ala-Archa**	**60.16**	**332**	*e*P	**P**	**10 05 39.1**	**-0.9**
AAK				pmax	pmax		
	comp=Z,32nm,0.5s,mb5.6						
AAK	**Ala-Archa**	**60.16**	**332**	*e*P	**P**	**10 05 39.1**	**-0.9**
	comp=Z,32nm,0.5s,mb5.6						
MKAR	**Makanchi Array**	**60.52**	**340**	P	**P**	**10 05 42.3**	**-0.1**
	comp=Z,22nm,0.6s,mb5.5,baz=155,slow=7.0,SNR=14						
MKAR	**Makanchi Array**	**60.52**	**340**	P	**P**	**10 05 42.3**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,22nm,0.6s						
YSS	**Yuzh-Sakhalins**	**64.33**	**26**	*e*P	**P**	**10 06 07.1**	**-0.9**
YSS				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.7						
YSS	**Yuzh-Sakhalins**	**64.33**	**26**	*e*P	**P**	**10 06 07.1**	**-0.9**
	comp=Z,123nm,1.4s,mb5.7						
KURK	**Kurchatov**	**65.13**	**340**	*e*P	**P**	**10 06 13.9**	**+0.8**
KURK				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.5						
KURK	**Kurchatov**	**65.13**	**340**	*e*P	**P**	**10 06 13.9**	**+0.7**
	comp=Z,45nm,1.0s,mb5.5						
MAW	**Mawson**	**65.15**	**197**	*e*P	**P**	**10 06 12.8**	**-0.5**
	comp=Z,12nm,0.7s,mb5.0						
MAW	**Mawson**	**65.15**	**197**	P	**P**	**10 06 12.7**	**-0.5**
	comp=Z,13nm,0.6s,mb5.1,baz=57,slow=7.2,SNR=22						
MAW	**Mawson**	**65.15**	**197**	*e*P	**P**	**10 06 12.8**	**-0.5**
MAW				pmax	pmax		
	comp=Z,12nm,0.7s						
NVS	**Novosibirsk**	**67.38**	**345**	*e*P	**P**	**10 06 31.4**	**+3.9**
BVAR	**Borovoye Array**	**69.98**	**337**	P	**P**	**10 06 43.7**	**-0.1**
	comp=Z,4.9nm,0.5s,mb4.7,baz=132,slow=8.4,SNR=5.6						
BVAR	**Borovoye Array**	**69.98**	**337**	P	**P**	**10 06 43.7**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BRVK	**Borovoye**	**70.05**	**337**	*e*P	**P**	**10 06 41.2**	**-3.0**
BRVK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
BRVK	**Borovoye**	**70.05**	**337**	*e*P	**P**	**10 06 41.1**	**-3.1**
	comp=Z,13nm,1.1s,mb4.8						
KMBO	**Kilima Mbogo**	**70.56**	**272**	P	**P**	**10 06 50.5**	**+3.2**
	comp=Z,7.0nm,1.2s,mb4.5,baz=57,slow=5.3,SNR=5.9						
KMBO	**Kilima Mbogo**	**70.56**	**272**	P	**P**	**10 06 50.6**	**+3.3**
KMBO				pmax	pmax		
	comp=Z,7.0nm,1.2s						
VNDA	**Vanda**	**73.34**	**169**	P	**P**	**10 07 02.8**	**-1.2**
	comp=Z,3.0nm,0.8s,mb4.3,baz=305,slow=6.4,SNR=7.5						
VNDA	**Vanda**	**73.34**	**169**	*e*P	**P**	**10 07 03.9**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
VNDA	**Vanda**	**73.34**	**169**	*e*P	**P**	**10 07 03.9**	**-0.1**
	comp=Z,9.3nm,1.3s,mb4.5						
SYO	**Syowa Base**	**73.37**	**200**⇓	*e*P	**P**	**10 07 02.9**	**-1.3**
SYO	**Syowa Base**	**73.37**	**200**⇑	*e*pP	pP	10 07 09.2	-2.8
YAK	**Yakutsk**	**73.39**	**11**	*e*P	**P**	**10 07 01.9**	**-2.4**
YAK				pmax	pmax		
	comp=Z,55nm,0.9s,mb5.5						
YAK	**Yakutsk**	**73.39**	**11**	*e*P	**P**	**10 07 01.9**	**-2.4**
	comp=Z,55nm,0.9s,mb5.5						
SBA	**Scott Base**	**74.42**	**169**	*e*P	**P**	**10 07 11.8**	**+1.5**
SBA				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
SBA	**Scott Base**	**74.42**	**169**	*e*P	**P**	**10 07 11.8**	**+1.4**
	comp=Z,5.7nm,1.0s,mb4.5						
PET	**Petropavlovsk**	**75.87**	**29**⇑	*e*P	**P**	**10 07 18.8**	**+0.1**
MA2	**Magadan**	**77.00**	**21**	*e*P	**P**	**10 07 24.8**	**-0.3**
MA2				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.2						
MA2	**Magadan**	**77.00**	**21**	*e*P	**P**	**10 07 24.8**	**-0.4**
	comp=Z,27nm,0.9s,mb5.2						
ARU	**Arti**	**77.22**	**334**	*e*P	**P**	**10 07 26.2**	**-0.1**
ARU				pmax	pmax		
	comp=Z,44nm,1.4s,mb5.2						
ARU	**Arti**	**77.22**	**334**	*e*P	**P**	**10 07 26.2**	**-0.1**
	comp=Z,44nm,1.4s,mb5.2						
LSZ	**Lusaka**	**77.52**	**256**	*e*P	**P**	**10 07 29.9**	**+1.9**
LSZ				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
LSZ	**Lusaka**	**77.52**	**256**	*e*P	**P**	**10 07 29.9**	**+1.9**
	comp=Z,9.9nm,1.0s,mb4.7						
GOF	**Gofitskoye**	**79.48**	**319**	*e*P	**P**	**10 07 38.5**	**-0.3**
MOS	**Moscow**	**86.91**	**328**	*e*P	**P**	**10 08 14.6**	**-2.6**
MOS				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.8						
TSUM	**Tsumeb**	**87.04**	**251**	*e*P	**P**	**10 08 21.5**	**+3.7**
	comp=Z,9.9nm,1.2s,mb4.9						
OBN	**Obninsk**	**87.24**	**327**	*e*P	**P**	**10 08 18.1**	**-0.6**
	comp=Z,82nm,1.6s,mb5.7						
SNAA	**Sanae**	**87.31**	**197**	*e*P	**P**	**10 08 19.2**	**+0.1**
SNAA				pmax	pmax		
	comp=Z,15nm,1.3s						
SNAA	**Sanae**	**87.31**	**197**	*e*P	**P**	**10 08 19.2**	**+0.1**
	comp=Z,15nm,1.3s,mb5.0						
VNA1	**Neumayer--Stat**	**89.34**	**197**	*e*	**P**	**10 08 31.4**	**+2.7**
VNA1				*e*		10 08 34.8	
VNA1				*e*	pP	10 08 40.2	+3.5
VNA1				*e*		10 08 42.7	
VNA1				*e*		10 08 56.0	
MLR	**Muntele Rosu**	**91.03**	**316**	P	**P**	**10 08 37.7**	**+1.1**
	comp=Z,3.7nm,0.6s,mb4.9,baz=143,slow=4.2,SNR=5.2						
MLR	**Muntele Rosu**	**91.03**	**316**	P	**P**	**10 08 37.7**	**+1.1**
MLR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	**FINESS Array B**	**94.34**	**332**	P	**P**	**10 08 51.5**	**-0.4**
	comp=Z,1.3nm,0.6s,mb4.6,baz=130,slow=3.0,SNR=4.8						
FINES	**FINESS Array B**	**94.34**	**332**	P	**P**	**10 08 51.5**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**96.17**	**339**	P	**P**	**10 08 59.4**	**-0.8**
	comp=Z,3.4nm,1.0s,mb4.7,baz=76,slow=7.5,SNR=8.5						
ARCES	**ARCESS Array B**	**96.17**	**339**	P	**P**	**10 08 59.4**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**107.61**	**281**	PKiKP	PKiKP	10 14 00.8	+1.6
	comp=Z,1.3nm,1.0s,baz=100,slow=2.1,SNR=3.6						
DBIC	**Dimbokro**	**113.28**	**273**	PKiKP	PKiKP	10 14 12.6	+2.7
	comp=Z,2.8nm,0.8s,baz=39,slow=8.2,SNR=3.9						
DBIC	**Dimbokro**	**113.28**	**273**	*i* PKIKP	PKiKP	10 14 12.6	+2.7
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**118.99**	**21**	PKP	PKPdf	10 14 20.1	-0.7
	comp=Z,0.4nm,0.4s,baz=321,slow=2.6,SNR=14						
EDM	**Edmonton**	**125.37**	**29**	*e*PKIKP	PKPdf	10 14 33.1	0.0
CHMT	**Chamberlain Mo**	**129.09**	**35**	*e*PKPdf	PKPdf	10 14 40.9	+0.6
NVAR	**Mina Array Bea**	**129.79**	**47**	PKP	PKPdf	10 14 44.5	+2.9
	comp=Z,0.4nm,0.6s,baz=257,slow=2.1,SNR=6.0						
HLID	**Hailey**	**130.16**	**40**	*e*PKPdf	PKPdf	10 14 44.5	+2.2
ELK	**Elko**	**130.97**	**43**	*e*PKIKP	PKPdf	10 14 46.0	+2.2
YMR	**Madison River**	**131.67**	**37**	*e*PKPdf	PKPdf	10 14 47.4	+2.3
PDAR	**Pinedale Array**	**133.59**	**38**	PKP	PKPdf	10 14 50.9	+2.1
	comp=Z,0.4nm,0.6s,baz=92,slow=2.1,SNR=4.9						
SCHQ	**Schefferville**	**134.63**	**356**	PKP	PKPdf	10 14 50.9	+0.2
	comp=Z,2.0nm,0.7s,baz=100,slow=2.2,SNR=5.5						
PV10	**Paradox Valley**	**136.31**	**43**	*e*PKPbc	PKPdf	10 14 55.2	+1.4
PV01	**Paradox Valley**	**136.75**	**43**	*e*PKPdf	PKPdf	10 14 56.0	+1.3
WMOK	**Wichita Mounta**	**145.13**	**40**	*e*PKIKP	PKPdf	10 15 10.4	+0.7
BDFB	**Brasilia**	**145.30**	**224**	PKPbc	PKPbc	10 15 10.7	+0.9
	comp=Z,14nm,0.9s,baz=99,slow=3.6,SNR=8.1						
BDFB	**Brasilia**	**145.30**	**224**	PKP2	PKPab	10 15 10.7	+0.8
BDFB				pmax	pmax		
	comp=Z,14nm,0.9s						
MIV	**Mineville/With**	**145.59**	**2**	*e*PKPdf	PKPdf	10 15 10.5	0.0
CCM	**Cathedral Cave**	**146.88**	**28**	*e*PKP2	PKPab	10 15 14.6	-1.4
JCT	**Junction City**	**146.97**	**47**	*e*PKP2	PKPab	10 15 17.0	+0.7
ACSO	**Alum Creek Sta**	**148.00**	**16**	*e*PKPbc	PKPbc	10 15 17.3	-0.4
MIAR	**Mount Ida**	**148.39**	**35**	*e*PKP2	PKPbc	10 15 19.9	+1.2
HKT	**Hockley**	**150.07**	**44**	*e*PKHKP		10 15 17.3	
HKT				*e*		10 15 24.9	
OXF	**Oxford**	**150.62**	**30**	*e*PKIKP	PKPdf	10 15 24.4	+5.7
PLAL	**Pickwick Lake**	**150.86**	**27**	*e*PKPbc	PKPbc	10 15 24.8	0.0
FWV	**Forest Hill**	**151.05**	**14**	*e*PKPbc	PKPbc	10 15 25.6	+0.4
ELN	**Prospectdale**	**151.40**	**14**	*e*PKPbc	PKPbc	10 15 25.8	-0.2
LPAZ	**La Paz**	**154.00**	**189**	PKP	PKPdf	10 15 23.3	-0.4
	comp=Z,1.2nm,0.8s,baz=128,slow=1.7,SNR=5.2						
LPAZ				PKPbc	PKPbc	10 15 32.3	+0.5
	comp=Z,1.8nm,1.0s,baz=318,slow=3.7,SNR=3.8						
LPAZ	**La Paz**	**154.00**	**189**	PKIKP	PKPdf	10 15 23.3	-0.4
LPAZ						10 15 32.3	
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						

MAN 17 09:59:50.1,717N×12515E,h20km,mb2.9,ML4.3,MS5.9, Mindanao

BJI ***17*** *10:00:17.4,1026S×10788E,h40km,mb4.7*
IDC ***17*** *10:00:18.6±1.0,949S×10772E,h0km,mb4.3/7,mb1 4.4/7, mb1mx4.2/16,mbtmp4.3/7,Error ellipse: s-maj=36.3km s-min=23.6km az=70.0*
NEIC ***17*** *10:00:19.8±0.5,961S×10773E,h10km,mb5.2/4,Error ellipse: s-maj=20.8km s-min=10.3km az=61.0*
ISCJB ***17*** *10:00:21.4±0.6,96S±0.1×1078E±02,h33km,mb4.6/14, Error ellipse: s-maj=24.5km s-min=13.0km az=130.2*
ISC 17 10:00:23.6±0.6**,97S**±01×**1077E**±02**,h35km,n25,**σ**0ˢ86**/24, **mb4.6**/14**,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.66**	**115**	P	**P**	**10 06 09.5**	**+1.4**
	5.2nm,1.2s,mb4.0,baz=286,slow=11,SNR=3.7						
KMI	**Kunming**	**34.91**	**352**	P	**P**	**10 07 13.8**	**+2.0**
KMI				AP	pP	10 07 22.8	+0.8
KMI				AMB	AMB		
	comp=Z,18nm,1.5s,mb4.8						
CD2	**Chengdu**	**40.51**	**355**	P	**P**	**10 07 58.3**	**-0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.3						
JIRN	**Jiri**	**42.55**	**331**	*e*P	**P**	**10 08 16.8**	**+0.9**
	comp=Z,46nm,0.9s,mb5.2						
PKI	**Pulchoki**	**42.86**	**330**	*e*P	**P**	**10 08 18.7**	**+0.3**
GUN	**Gumba**	**42.91**	**331**	*e*P	**P**	**10 08 19.5**	**+0.7**
DMN	**Daman**	**43.04**	**330**	*e*P	**P**	**10 08 20.1**	**+0.3**
	comp=Z,52nm,1.2s,mb5.2						
KKN	**Kakani**	**43.10**	**330**	*e*P	**P**	**10 08 20.5**	**+0.2**
GKN	**Gorkha**	**43.59**	**330**	*e*P	**P**	**10 08 24.6**	**+0.3**
KOLN	**Koldanda**	**43.93**	**329**	*e*P	**P**	**10 08 27.2**	**+0.2**
	comp=Z,32nm,0.7s,mb5.2						
GTA	**Gaotai**	**49.37**	**352**	*e*P	**P**	**10 09 10.3**	**+0.7**
GTA				AP	pP	10 09 18.5	-1.5
GTA				XP	sP	10 09 22.0	-2.2
GTA				AMB	AMB		
	comp=Z,5.0nm,1.6s,mb4.3						
BJI	**Beijing**	**50.06**	**8**	*e*P	**P**	**10 09 15.1**	**+0.2**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.8						
MJAR	**Matsushiro Arr**	**54.17**	**30**	P	**P**	**10 09 43.2**	**-2.1**
	comp=Z,3.8nm,1.0s,mb4.3,baz=213,slow=7.5,SNR=4.2						
SONM	**Songino Array**	**57.25**	**359**	P	**P**	**10 10 07.8**	**+0.3**
	comp=Z,2.1nm,0.7s,mb4.3,baz=175,slow=7.2,SNR=7.0						
MKAR	**Makanchi Array**	**60.61**	**340**	P	**P**	**10 10 30.6**	**-0.2**
	comp=Z,4.8nm,0.6s,mb4.8,baz=146,slow=7.8,SNR=15						
MAW	**Mawson**	**65.05**	**197**	P	**P**	**10 11 01.5**	**+1.1**
	comp=Z,5.0nm,1.1s,mb4.5,baz=49,slow=9.5,SNR=5.9						
MAW	**Mawson**	**65.05**	**197**	*e*P	**P**	**10 11 00.5**	**+0.1**
	comp=Z,12nm,1.3s,mb4.8						
MAW				P		10 11 01.5	
KURK	**Kurchatov**	**65.22**	**340**	*e*P	**P**	**10 11 01.0**	**-0.5**
BVAR	**Borovoye Array**	**70.07**	**337**	P	**P**	**10 11 31.6**	**-0.5**
	comp=Z,1.6nm,0.5s,mb4.2,baz=157,slow=7.8,SNR=4.4						
BRVK	**Borovoye**	**70.14**	**337**	*e*P	**P**	**10 11 32.0**	**-0.5**
CHKZ	**Chkalovo**	**70.49**	**338**	*e*P	**P**	**10 11 34.1**	**-0.6**
ZRNK	**Zerenda**	**70.56**	**336**	*e*P	**P**	**10 11 33.7**	**-1.3**
VNDA	**Vanda**	**73.24**	**169**	*e*P	**P**	**10 11 50.2**	**-0.9**
BRTR	**Keskin Array B**	**84.11**	**312**	P	**P**	**10 12 50.2**	**-0.7**
	comp=Z,1.0nm,0.8s,mb4.0,baz=153,slow=8.3,SNR=3.8						
CLL	**Collm**	**100.40**	**321**	*e*PDIF	Pdif	10 14 07.0	+0.1

ISCJB ***17*** *10:03:48.5±0.6,4184N±003×1939E±004,h13km±4km, Error ellipse: s-maj=6.9km s-min=3.0km az=86.7*
CSEM ***17*** *10:03:48.3±0.3,4182N×1937E,h8km,ML2.5,Error ellipse: s-maj=8.6km s-min=3.6km az=41.0*
PDG ***17*** *10:03:48.5±0.1,4185N×1943E,h11km*
TIR ***17*** *10:03:48.5,4193N×1939E,h12km,Ml2.2*
SKO ***17*** *10:03:49.0,4181N×1930E,h5km,M0.8,ML2.5*
ISC 17 10:03:49.1±0.6**,4183N**±003×**1936E**±005**,h14km**±4km**,n20,** σ**1ˢ15**/38**,6C-3D,Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.16**	**329**⇑	*i*Pg	**Pg**	**10 03 51.7**	**-1.3**
ULC				*e*Sg	**Sg**	**10 03 55.4**	**-0.4**
QSH	**Qafa e Shtames**	**0.51**	**127**	*i* Pg	**Pg**	**10 04 00.0**	**+0.8**
QSH				*i* Sg	**Sg**	**10 04 07.0**	**+1.0**
BUM	**Brajici-Budva**	**0.58**	**324**⇑	*i*Pg	**Pg**	**10 03 59.7**	**-0.8**
BUM				*e*Sg	**Sg**	**10 04 08.8**	**+0.5**
TTG	**Podgorica**	**0.60**	**353**⇓	*i*Pg	**Pg**	**10 03 59.1**	**-1.9**
TTG				*e*Sg	**Sg**	**10 04 09.0**	**0.0**
HCY	**Herceg Novi**	**0.89**	**314**⇑	*i*Pg	**Pg**	**10 04 05.3**	**-1.0**
HCY				*e*Sg	**Sg**	**10 04 20.1**	**+2.1**
PVY	**Plav**	**0.89**	**31**⇑	*i*Pg	**Pg**	**10 04 04.3**	**-2.1**
PVY				*e*Sg	**Sg**	**10 04 17.5**	**-0.6**
NKY	**Niksic**	**1.02**	**345**⇓	*i*Pg	**Pg**	**10 04 07.5**	**-1.4**
NKY				*e*Sg	**Sg**	**10 04 23.5**	**+1.3**
IVA	**Berane**	**1.12**	**21**⇓	*i*Pg	**Pn**	**10 04 08.5**	**-1.8**
IVA				*e*Sg	**Sg**	**10 04 25.9**	**+0.7**
BRY	**Bratogost**	**1.23**	**331**⇑	*i*Pg	**Pn**	**10 04 11.6**	**-0.3**
BRY				*e*Sg	**Sg**	**10 04 31.0**	**+2.2**
OHR	**Ohrid**	**1.30**	**123**	*i* Pg	**Pg**	**10 04 13.5**	**-0.6**
OHR				*i* Sg	**Sg**	**10 04 31.5**	**+0.5**
OHR				*e*Lg		10 04 33.1	
	comp=N,95nm,1.1s						
OHR				*e*Lg		10 04 33.4	
	comp=E,65nm,0.6s						
OHR	**Ohrid**	**1.30**	**123**	*i* Pg	**Pg**	**10 04 13.5**	**-0.6**
OHR				*i* Sg	**Sg**	**10 04 31.5**	**+0.5**
UPM	**Unac-Piva**	**1.41**	**347**⇑	*i*Pg	**Pn**	**10 04 14.8**	**+0.4**
UPM				*e*Sg	**Sg**	**10 04 36.4**	**+1.7**
SKO	**Skopje**	**1.56**	**84**	*i* Pg	**Pg**	**10 04 18.3**	**-0.8**
SKO				*i* Sg	**Sg**	**10 04 40.2**	**+0.9**
SKO				*e*Lg		10 04 40.4	
	comp=N,77nm,0.5s						
SKO				*e*Lg		10 04 40.4	
	comp=E,135nm,1.1s						
SKO	**Skopje**	**1.56**	**84**	*i* Pg	**Pg**	**10 04 18.3**	**-0.8**
SKO				*i* Sg	**Sg**	**10 04 40.2**	**+0.8**
STON	**Ston**	**1.61**	**311**	*i* Pn	**Pn**	**10 04 16.1**	**-1.1**
STON				*i* Sn	**Sn**	**10 04 38.2**	**+0.5**
STON	**Ston**	**1.61**	**311**	*i* Pn	**Pn**	**10 04 16.0**	**-1.1**
STON				*i* Sn	**Sn**	**10 04 38.2**	**+0.5**
BIA	**Bitola**	**1.68**	**118**	*i* Pg	**Pn**	**10 04 19.6**	**+1.5**
BIA				*i* Sg	**Sg**	**10 04 43.5**	**+0.1**
BIA				*e*Lg		10 04 44.1	
	comp=E,14nm,0.3s						
BIA				*e*Lg		10 04 48.1	
	comp=N,14nm,0.2s						
BIA	**Bitola**	**1.68**	**118**	*i* Pg	**Pn**	**10 04 19.6**	**+1.5**
BIA				*i* Sg	**Sg**	**10 04 43.4**	**+0.1**
VAY	**Valandovo**	**2.46**	**101**	*i* Pg	**Pn**	**10 04 33.1**	**+4.3**
VAY				*e*Lg		10 05 00.7	
	comp=N,16nm,0.8s						
VAY	**Valandovo**	**2.46**	**101**	*i* Pg	**Pn**	**10 04 33.1**	**+4.3**

IDC ***17*** *10:06:57.5±1.8,990S×10762E,h0km,mb4.0/6,mb1 4.0/6, mb1mx3.9/17,mbtmp4.0/6,Error ellipse: s-maj=85.3km s-min=28.3km az=47.0*
NEIC ***17*** *10:06:59.2±1.0,986S×10766E,h10km,mb4.4/2,Error ellipse: s-maj=48.8km s-min=16.6km az=47.0*
ISCJB ***17*** *10:07:01.0±1.3,97S±03×1078E±03,h33km,mb4.0/8, Error ellipse: s-maj=61.6km s-min=21.3km az=94.0*
ISC 17 10:07:03.1±1.3**,98S**±03×**1077E**±03**,h35km,n10,**σ**0ˢ50**/10, **mb4.0**/8**,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**28.56**	**122**	P	**P**	**10 12 55.6**	**0.0**
	1.1nm,0.9s,mb3.6,baz=300,slow=10,SNR=5.7						
SONM	**Songino Array**	**57.42**	**359**	P	**P**	**10 16 48.1**	**0.0**
	2.3nm,0.6s,mb4.4,baz=176,slow=8.7,SNR=14						
SONM				pP	pP	10 16 59.0	+0.3
	2.4nm,0.6s,baz=164,slow=8.6,SNR=8.2						
ULN	**Ulaanbaatar**	**57.44**	**359**	P	**P**	**10 16 48.1**	**-0.2**
MKAR	**Makanchi Array**	**60.76**	**340**	P	**P**	**10 17 12.6**	**+1.4**
	2.7nm,0.8s,mb4.4,baz=167,slow=7.2,SNR=7.3						
BVAR	**Borovoye Array**	**70.22**	**337**	P	**P**	**10 18 12.2**	**-0.2**
	1.3nm,0.8s,mb3.9,baz=134,slow=8.5,SNR=4.9						
CHKZ	**Chkalovo**	**70.64**	**338**	*e*P	**P**	**10 18 14.9**	**0.0**
	2.4nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**70.70**	**336**	*e*P	**P**	**10 18 15.0**	**-0.4**
	2.7nm,0.9s,mb4.2						
AKTK	**Aktyubinsk**	**73.88**	**330**	P	**P**	**10 18 34.0**	**-0.4**
AKTO	**Aktyubinsk**	**73.88**	**330**	P	**P**	**10 18 34.0**	**-0.4**
	0.6nm,0.5s,mb3.8,baz=141,slow=14,SNR=2.4						
BRTR	**Keskin Array B**	**84.20**	**312**	P	**P**	**10 19 31.1**	**+0.3**
	0.6nm,0.6s,mb3.9,baz=126,slow=5.4,SNR=3.9						
BRTR				pP	pP	10 19 42.3	+0.4
	1.2nm,0.8s,baz=139,slow=9.6,SNR=5.3						

IDC ***17*** *10:07:45.7±0.9,858S×10827E,h0km,mb4.1/6,mb1 4.1/6, mb1mx3.9/16,mbtmp4.1/6,Error ellipse: s-maj=49.8km s-min=20.4km az=74.0*
NEIC ***17*** *10:07:47.3±0.6,857S×10831E,h10km,mb4.5/1,Error ellipse: s-maj=34.2km s-min=14.3km az=69.0*
ISCJB ***17*** *10:07:48.7±0.8,86S±02×1083E±03,h33km,mb4.1/7, Error ellipse: s-maj=44.1km s-min=18.5km az=138.0*
ISC 17 10:07:51.0±0.8**,86S**±02×**1083E**±03**,h35km,n7,**σ**0ˢ43**/7, **mb4.1**/7**,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**28.75**	**124**	P	**P**	**10 13 45.0**	**-0.3**
	0.9nm,0.7s,mb3.6,baz=300,slow=9.7,SNR=5.0						
SONM	**Songino Array**	**56.21**	**358**	P	**P**	**10 17 28.0**	**+0.4**
	1.2nm,0.7s,mb4.0,baz=180,slow=9.8,SNR=2.8						
MKAR	**Makanchi Array**	**59.81**	**340**	P	**P**	**10 17 51.9**	**-0.8**
	3.6nm,0.6s,mb4.6,baz=143,slow=7.5,SNR=13						
MAW	**Mawson**	**66.21**	**197**	P	**P**	**10 18 35.0**	**-0.2**
	1.2nm,0.5s,mb4.2,baz=59,slow=5.4,SNR=7.3						
BVAR	**Borovoye Array**	**69.32**	**337**	P	**P**	**10 18 55.1**	**+0.3**
	0.8nm,0.5s,mb3.9,baz=147,slow=8.6,SNR=2.9						
CHKZ	**Chkalovo**	**69.73**	**337**	P	**P**	**10 18 57.5**	**+0.1**
	1.6nm,0.4s,mb4.3						
VNDA	**Vanda**	**74.17**	**170**	P	**P**	**10 19 24.4**	**+0.5**
	1.1nm,0.8s,mb3.8,baz=305,slow=8.0,SNR=5.1						

BJI ***17*** *10:09:04.7,900S×10770E,h10km,mB6.2,mb5.8,Ms6.0, Msz5.7*
ISCJB ***17*** *10:09:06.0±0.1,902S±003×10781E±003,h17km, mb5.8/136,MS5.8/15,Error ellipse: s-maj=4.4km s-min=3.6km az=95.2*
IDC ***17*** *10:09:05.0±0.3,906S×10772E,h0km,mb5.4/28, mb1 5.5/29,mb1mx5.5/30,mbtmp5.4/29,ML5.0/1,Error ellipse: s-maj=17.2km s-min=9.7km az=47.0*
NEIC ***17*** *10:09:06.8±0.1,903S×10773E,h10km,mb5.9/61,Error ellipse: s-maj=5.8km s-min=3.8km az=45.0*
NEIC Felt [II] at Jakarta.
MOS ***17*** *10:09:09.3±1.3,888S×10783E,h33km,mb6.1/54,Error ellipse: s-maj=9.3km s-min=5.2km az=120.7*
ISC 17 10:09:08.0±0.1**,904S**±003×**10781E**±003**,h18km, h18km**±1.6km**:pP-P,n767,**σ**1ˢ04**/469**,mb5.8**/135**,MS5.8**/15**, 115C-99D,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.54**	**48**⇑	*i*P	**Pn**	**10 09 51.7**	**+3.4**
BJII				*i* S	**Sn**	**10 10 29.7**	**+11**
KSI	**Kapahiang**	**7.45**	**316**	P	**Pn**	**10 10 55.7**	**-0.1**
	652nm,1.1s						
KSM	**Kuching**	**10.74**	**14**⇓	*e*Pn	**Pn**	**10 11 43.8**	**+2.9**
KSM				*e*Sn	**Sn**	**10 13 50.0**	**+9.4**
COCO	**West Island**	**11.23**	**253**	Pn	**Pn**	**10 11 44.2**	**-3.4**
	708nm,0.7s,SNR=6.0						
COCO	**West Island**	**11.23**	**253**	⇑P	**Pn**	**10 11 44.8**	**-2.8**
	SNR=15						
COCO	**West Island**	**11.23**	**253**	*e*Pn	**Pn**	**10 11 44.6**	**-3.0**
COCO				*e*Sn	**Sn**	**10 13 39.7**	**-13**
PPI	**Padang Panjang**	**11.28**	**319**	P	**Pn**	**10 11 48.5**	**+0.3**
	77nm,1.6s						
KGM	**Kluang**	**11.86**	**338**	P	**Pn**	**10 11 57.2**	**+1.0**
PCI	**Palu**	**14.45**	**57**	P	**Pn**	**10 12 34.3**	**+2.7**
	1μm,1.6s						
PSI	**Prapat**	**14.72**	**323**	Pn	**Pn**	**10 12 29.5**	**-5.8**
	1.3nm,0.3s,baz=175,slow=9.6,SNR=7.2						
PSI	**Prapat**	**14.72**	**323**	P	**Pn**	**10 12 29.5**	**-5.8**
PSI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
IPM	**Ipoh**	**15.04**	**333**	P	**Pn**	**10 12 48.8**	**+9.3**
KULM	**Kulim**	**15.92**	**333**	*e*Pn	**Pn**	**10 12 47.7**	**-3.4**
KULM				*e*Sn	tx	10 17 25.2	
TSM	**Tawau**	**16.62**	**38**	P	**Pn**	**10 13 04.1**	**+4.1**
MBWA	**Marble Bar**	**16.65**	**138**	⇑P	**Pn**	**10 12 56.3**	**-4.2**
	SNR=6.2						
MBWA	**Marble Bar**	**16.65**	**138**	*e*P	**Pn**	**10 12 56.5**	**-3.9**
MBWA				*e*S	**Sn**	**10 15 44.9**	**-20**
KKM	**Kota Kinabalu**	**17.17**	**30**	P	**Pn**	**10 13 09.7**	**+2.8**
KKM	**Kota Kinabalu**	**17.17**	**30**	*e*P	**Pn**	**10 13 08.3**	**+1.4**
SNG	**Songkhla**	**17.63**	**336**	P	**Pn**	**10 13 10.0**	**-2.7**
BSI	**Banda Aceh**	**19.08**	**319**	P	**Pn**	**10 13 30.8**	**+0.4**
	comp=Z,909nm,1.0s						
FITZ	**Fitzroy Crossi**	**19.52**	**119**	*e*P	**Pn**	**10 13 35.1**	**-0.6**
	comp=Z,388nm,0.8s						
FITZ				*e*S	**Sn**	**10 16 58.4**	**-16**
FITZ	**Fitzroy Crossi**	**19.52**	**119**	P	**Pn**	**10 13 35.6**	**0.0**
	comp=Z,3.2nm,0.3s,baz=293,slow=7.7,SNR=126						
FITZ				Sn	**Sn**	**10 16 55.1**	**-19**
	comp=Z,0.6nm,0.3s,baz=30,slow=20,SNR=2.6						
BATP	**Bataraza**	**20.32**	**30**	*e*P	**P**	**10 13 43.2**	**0.0**
PPR	**Puerto Princes**	**21.62**	**30**⇑	*i*P	**P**	**10 13 57.4**	**+0.3**
CTBH	**Cotabato--PC H**	**23.01**	**46**⇑	*i*P	**P**	**10 14 13.7**	**+1.8**
ENPP	**El Nido**	**23.20**	**30**	*e*P	**P**	**10 14 14.1**	**+0.3**
KCP	**Kidapawan**	**23.47**	**48**⇑	*i*P	**P**	**10 14 21.4**	**+4.7**
CUYO	**Cuyo Island**	**23.73**	**34**	*e*P	**P**	**10 14 19.8**	**+0.6**
DAV	**Davao City (W)**	**23.87**	**48**	*e*P	**P**	**10 14 22.5**	**+2.0**
DAV	**Davao City (W)**	**23.87**	**48**	⇓P	**P**	**10 14 21.5**	**+1.0**
	SNR=58						
DAV	**Davao City (W)**	**23.87**	**48**	*e*P	**P**	**10 14 20.8**	**+0.4**
	comp=Z,1μm,1.0s,mb6.3						
KLBR	**Kellerberrin**	**24.27**	**159**	*e*P	**P**	**10 14 23.1**	**-1.0**
	comp=Z,142nm,1.1s,mb5.3						
KAKA	**Kakadu**	**24.46**	**101**	*e*P	**P**	**10 14 26.1**	**+0.3**
	comp=Z,388nm,0.8s,mb5.9						
LLP	**Lapu-Lapu**	**25.07**	**40**	*e*P	**P**	**10 14 30.8**	**-0.6**
KALP	**Kalibo**	**25.15**	**35**	*e*P	**P**	**10 14 50.3**	**+18**
	comp=Z,1117μm,4.0s						
RCP	**Roxas**	**25.29**	**36**⇑	*e*P	**P**	**10 14 34.3**	**+1.0**
	comp=Z,91μm,10.0s						
NWAO	**Narrogin (SRO)**	**25.32**	**161**	P	**P**	**10 14 32.0**	**-1.7**
	comp=Z,55nm,0.9s,mb5.1,baz=326,slow=11,SNR=16						
NWAO				PcP	PcP	10 18 06.3	+0.1
	comp=Z,20nm,0.9s,baz=304,slow=4.5,SNR=3.9						
NWAO				Sn	**S**	**10 19 12.2**	**+13**
	comp=Z,5.6nm,0.4s,baz=108,slow=20,SNR=3.5						
NWAO	**Narrogin (SRO)**	**25.32**	**161**	P	**P**	**10 14 32.0**	**-1.6**
NWAO						10 18 06.3	
NWAO				pmax	pmax		
	comp=Z,55nm,1.0s						
NWAO				pmax	pmax		
	comp=Z,20nm,0.9s						
NWAO	**Narrogin (SRO)**	**25.32**	**161**	*e*P	**P**	**10 14 32.5**	**-1.1**
	comp=Z,441nm,1.9s,mb5.7						
MSLP	**Maasin**	**25.51**	**42**	*e*P	**P**	**10 14 35.4**	**0.0**
OTRP	**Odiongan**	**25.53**	**34**	*e*P	**P**	**10 14 36.3**	**+0.8**
SCPH	**Surigao**	**25.68**	**44**⇑	*e*P	**P**	**10 14 37.3**	**+0.4**
	comp=Z,158μm,80.0s						
NST	**Nakhon Sawan**	**25.70**	**343**	P	**P**	**10 14 37.0**	**-0.1**
PLP	**Palo**	**26.36**	**41**	*e*P	**P**	**10 14 42.8**	**-0.3**
WRA	**Warramunga Arr**	**27.84**	**116**	P	**P**	**10 14 56.0**	**-0.3**
	comp=Z,77nm,0.8s,mb5.3,baz=288,slow=11,SNR=114						
WRA				PcP	PcP	10 18 13.0	+0.9
	comp=Z,20nm,0.8s,baz=294,slow=2.2,SNR=9.9						
WRA	**Warramunga Arr**	**27.84**	**116**	P	**P**	**10 14 56.0**	**-0.3**
WRA						10 18 13.0	
WRA				pmax	pmax		
	comp=Z,77nm,0.9s						
WRA				pmax	pmax		
	comp=Z,20nm,0.8s						
WRAB	**Tennant Creek**	**27.84**	**116**	P	**P**	**10 14 56.0**	**-0.4**
	comp=Z,674nm,1.1s,mb6.2,SNR=48						
WRAB	**Tennant Creek**	**27.84**	**116***d*	*i*P	**P**	**10 14 56.7**	**+0.3**
WRAB	**Tennant Creek**	**27.84**	**116**	*e*P	**P**	**10 14 55.9**	**-0.5**
	comp=Z,133nm,0.9s,mb5.6						
WB2	**Warramunga Arr**	**27.85**	**116**	*e*P	**P**	**10 14 55.9**	**-0.5**
WB2				*e*PCP	PcP	10 18 13.1	+0.9
QIZ	**Qiongzhong**	**27.96**	**4**	P	**P**	**10 14 57.6**	**+0.1**
QIZ				*e*S	**S**	**10 19 38.9**	**-1.7**

QIZ AMB AMB
comp=Z,35nm,1.7s,mb4.7
QIZ LR LR
comp=N,11μm,14.0s
QIZ LR LR
comp=Z,14μm,16.2s,MS5.7
BALP Baler 28.15 29 *e*P **P** **10 14 57.9 -1.2**
FORT Forrest 28.71 142 *e*P **P** **10 15 04.4 +0.2**
comp=Z,41nm,1.0s,mb5.1
ASPA Alice Springs 28.88 123 *e*P **P** **10 15 05.1 -0.5**
ASPA *e*PCP PcP 10 18 15.8 +1.1
ASPA *e*S S 10 20 41.3 +46
ASAR Alice Springs 28.88 123 P **P** **10 15 05.2 -0.5**
comp=Z,80nm,1.0s,mb5.4,baz=296,slow=8.3,SNR=145
ASAR PcP PcP 10 18 15.5 +0.8
comp=Z,15nm,0.7s,baz=305,slow=2.1,SNR=12
ASAR Sn S 10 20 40.7 +46
comp=Z,9.4nm,1.1s,baz=306,slow=25,SNR=4.0
ASAR P3KPbc 10 47 19.4
comp=Z,1.7nm,0.7s,baz=99,slow=4.8,SNR=6.6
ASAR Alice Springs 28.88 123 P **P** **10 15 05.2 -0.5**
ASAR PcP PcP 10 18 15.5 +0.8
ASAR Sn S 10 20 40.7 +46
ASAR *e* 10 47 19.4
AS31 Alice Springs 28.88 123 *e*P **P** **10 15 05.1 -0.6**
AS31 *e*PcP PcP 10 18 15.8 +1.1
AS31 *e*S S 10 20 41.3 +46
CHG Chiang Mai 29.02 342 ⇑P **P** **10 15 05.8 -1.1**
comp=Z,61nm,1.3s,mb5.2
CHTO Chiang Mai 29.02 342 ⇓P **P** **10 15 00.2 -6.7**
SNR=14
BAKI Biak 29.22 76 P **P** **10 15 15.2 +6.5**
comp=Z,198nm,1.8s,mb5.5
PALK Pallekele 31.50 300 P **P** **10 15 31.9 +3.2**
SNR=7.4
PALK Pallekele 31.50 300 *e*P **P** **10 15 30.9 +2.1**
comp=Z,107nm,1.2s,mb5.5
PALK *e* 10 15 38.4
GZH Guangzhou 32.38 10 P **P** **10 15 42.0 +5.4**
GZH S **S** **10 20 59.0 +9.0**
GZH LR LR
comp=N,7μm,14.9s,MS5.6
GZH LR LR
comp=E,5μm,16.8s,MS5.6
GZH LR LR
comp=Z,13μm,14.9s,MS5.8
KMI Kunming 34.31 352 P **P** **10 15 54.8 +1.4**
KMI AP pP 10 15 57.8 -1.1
KMI PP PP 10 17 11.1 -0.1
KMI PPP 10 17 29.0
KMI S **S** **10 21 22.8 +2.9**
KMI XS sS 10 21 27.8 -1.1
KMI SS SS 10 23 33.6 -15
KMI SSS 10 24 00.3
KMI AMB AMB
comp=Z,56nm,1.2s,mb5.4
KMI LR LR
comp=N,18μm,14.7s,MS6.0
KMI LR LR
comp=E,11μm,17.0s,MS6.0
KMI LR LR
comp=Z,22μm,14.7s,MS6.0
GYA Guiyang 35.30 358⇑*i*P **P** **10 16 02.8 +0.9**
GYA AP pP 10 16 06.9 -0.5
GYA XP sP 10 16 10.3 +0.6
GYA PP PP 10 17 22.5 +0.4
GYA PCP PcP 10 18 32.8 +0.6
GYA S **S** **10 21 24.6 -11**
GYA SCP ScP 10 22 17.9 +0.8
GYA SS SS 10 23 51.3 -17
GYA AMB AMB
comp=Z,140nm,0.8s,mb5.9
GYA AMB AMB
comp=Z,14μm,10.4s
GYA LR LR
comp=N,8μm,14.8s,MS5.7
GYA LR LR
comp=E,7μm,16.4s,MS5.7
GYA LR LR
comp=Z,10μm,16.0s,MS5.7
TRD Trivandrum 35.33 299 *e*P **P** **10 16 02.5 +0.3**
TRD AMb AMB 10 16 07.3
comp=Z,160nm,1.0s,mb5.9
VIS Vishakhapatnam 35.94 318 *e*P **P** **10 16 07.2 -0.3**
VIS AMb AMB 10 16 12.1
comp=Z,289nm,1.5s,mb6.0
YHNB Yeheng 36.02 21 *e*P **P** **10 16 08.0 -0.1**
SHL Shillong 37.73 336 *ex* x 10 16 26.1
SHL AMb AMB 10 16 29.6
comp=Z,1μm,0.8s,mb6.6
ADE Adelaide 38.27 137 *e*P **P** **10 16 27.4 +0.2**
CTA Charters Tower 38.70 111⇑*i*P **P** **10 16 32.6 +1.7**
comp=Z,96nm,1.2s,mb5.4
CTA *e*PCP PcP 10 18 43.2 +0.7
CTA Charters Tower 38.70 111 P **P** **10 16 32.8 +1.9**
comp=Z,123nm,1.1s,mb5.5,baz=281,slow=10,SNR=41
CTA PcP PcP 10 18 43.2 +0.7
comp=Z,33nm,1.0s,baz=209,slow=4.9,SNR=3.5
CTA Charters Tower 38.70 111⇑*i*P **P** **10 16 32.6 +1.7**
CTA *e* 10 18 43.2
CTA pmax pmax
comp=Z,96nm,1.2s
CTAO Charters Tower 38.70 111 *e*P **P** **10 16 32.4 +1.5**
CTAO pmax pmax
comp=Z,240nm,1.2s,mb5.8
CTAO Charters Tower 38.70 111 *e*P **P** **10 16 32.4 +1.5**
comp=Z,243nm,1.3s,mb5.8
CTAO *e*PcP PcP 10 18 44.0 +1.4
PMG Port Moresby 38.83 94 P **P** **10 16 33.8 +1.9**
comp=Z,134nm,0.9s,mb5.7,baz=295,slow=5.5,SNR=40
PMG PcP PcP 10 18 45.2 +2.3
comp=Z,62nm,0.9s,baz=340,slow=3.4,SNR=4.2
PMG Port Moresby 38.83 94 P **P** **10 16 33.8 +1.9**
PMG 10 18 45.2
PMG pmax pmax
comp=Z,134nm,0.9s
PMG pmax pmax
comp=Z,62nm,0.9s
PMG Port Moresby 38.83 94 *e*P **P** **10 16 33.8 +1.9**
comp=Z,295nm,1.2s,mb5.9
PMG *e*PcP PcP 10 18 44.9 +2.0
BOK Bokaro 39.04 327 *e*P **P** **10 16 33.6 0.0**
BOK AMb AMB 10 16 36.4
comp=Z,462nm,1.0s,mb6.2
HYB Hyderabad 39.08 312⇑*i*P **P** **10 16 34.5 +0.5**
HYB Hyderabad 39.08 312⇑*e*P **P** **10 16 34.5 +0.5**
WHN Wuhan 39.85 9 *e*P **P** **10 16 41.8 +1.3**
CD2 Chengdu 39.91 355 P **P** **10 16 40.3 -0.6**
CD2 AP pP 10 16 46.1 -0.4
CD2 XP sP 10 16 49.1 +0.4
CD2 PP PP 10 18 16.6 +3.9
CD2 S **S** **10 22 44.8 -0.2**
CD2 XS sS 10 22 54.5 +0.3
CD2 SS SS 10 25 35.4 -6.3
CD2 AMB AMB
comp=Z,50nm,1.2s,mb5.1
CD2 AMB AMB
comp=Z,2μm,10.5s
CD2 LR LR
comp=N,5μm,15.6s
CD2 LR LR
comp=Z,5μm,18.0s,MS5.4
JOW Kunigami 40.82 29 P **P** **10 16 48.6 +0.2**
comp=Z,250nm,0.9s,mb5.8,baz=231,slow=5.7,SNR=57
NGP Nagpur 41.21 317 *e*P **P** **10 16 51.1 -0.6**
NGP AMb AMB 10 16 53.6
comp=Z,131nm,0.8s,mb5.6
GOA Goa 41.56 306 *e*P **P** **10 16 56.0 +1.4**
SSE Sheshan 41.92 17 *e*P **P** **10 16 58.4 +0.9**
SSE AMB AMB
comp=Z,136nm,1.8s,mb5.3
SSE AMB AMB
comp=Z,4μm,12.0s
JIRN Jiri 42.06 331 *e*P **P** **10 16 59.3 +0.7**
comp=Z,937nm,1.0s,mb6.4
NJ2 Nanjing 42.20 14 *e*P **P** **10 17 00.3 +0.5**
NJ2 PP PP 10 18 41.4 +3.8
NJ2 S **S** **10 23 13.0 -6.1**
NJ2 AMB AMB
comp=Z,350nm,1.5s,mb5.8
NJ2 AMB AMB
comp=Z,1μm,4.0s
NJ2 LR LR
comp=N,2μm,16.4s,MS5.3
NJ2 LR LR
comp=E,2μm,14.6s,MS5.3
NJ2 LR LR
comp=Z,5μm,14.2s,MS5.6
KAD Karad 42.30 308 *e*P **P** **10 16 59.9 -0.7**
KAD AMb AMB 10 17 02.9
comp=Z,171nm,1.3s,mb5.5
AKL Akola 42.31 315 *e*P **P** **10 17 00.9 +0.2**
AKL AMb AMB 10 17 05.3
comp=Z,152nm,1.6s,mb5.4
PKI Pulchoki 42.37 330 *e*P **P** **10 17 01.4 +0.2**
comp=Z,459nm,1.1s,mb6.0
PKI Pulchoki 42.37 330 *e*P **P** **10 17 01.4 +0.2**
PKI pmax pmax
comp=Z,459nm,1.1s,mb6.0
GUN Gumba 42.42 331 *e*P **P** **10 17 02.3 +0.7**
comp=Z,4μm,1.6s,mb6.8
DMN Daman 42.55 330 *e*P **P** **10 17 03.0 +0.4**
comp=Z,1μm,1.2s,mb6.5
KKN Kakani 42.61 330 *e*P **P** **10 17 03.2 +0.1**
comp=Z,1μm,1.2s,mb6.5
KKN Kakani 42.61 330 *e*P **P** **10 17 03.2 +0.1**
KKN pmax pmax
comp=Z,1μm,1.2s,mb6.5
XAN Xi'an 42.85 1 P **P** **10 17 04.5 -0.6**
XAN AMB AMB
comp=Z,250nm,1.0s,mb5.9
GKN Gorkha 43.11 329 *e*P **P** **10 17 07.4 +0.2**
comp=Z,834nm,0.9s,mb6.5
POO Poona 43.28 309⇑*i*P **P** **10 17 08.0 -0.5**
comp=Z,160nm,1.0s,mb5.7
KOLN Koldanda 43.45 328 *e*P **P** **10 17 10.3 +0.4**
comp=Z,969nm,0.9s,mb6.5
BHPL Bhopal 43.74 318 *e*P **P** **10 17 11.3 -0.9**
BHPL AMb AMB 10 17 13.5
comp=Z,120nm,1.0s,mb5.6
TOO Toolangi 44.28 136 *e*P **P** **10 17 17.9 +1.3**
comp=Z,42nm,0.9s,mb5.2
TOO Toolangi 44.28 136 *e*P **P** **10 17 17.9 +1.3**
TOO pmax pmax
comp=Z,42nm,0.9s,mb5.2
LZH Lanzhou 45.04 355⇑P **P** **10 17 24.1 +1.5**
LZH AP pP 10 17 34.1 +5.9
LZH PP PP 10 19 10.5 +2.5
LZH S **S** **10 24 01.3 +0.7**
LZH SS SS 10 27 17.6 -5.1
LZH AMB AMB
comp=Z,261nm,1.2s,mb5.9
LZH AMB AMB
comp=Z,1μm,5.2s
LZH LR LR
comp=N,8μm,15.3s
LZH LR LR
comp=Z,10μm,16.4s,MS5.8
TIA Tai'an 45.85 11⇑P **P** **10 17 28.6 -0.5**
TIA AMB AMB
comp=Z,115nm,0.8s,mb5.9
ARMA Armidale 46.03 124 *e*P **P** **10 17 31.9 +1.4**
ARMA *e*PCP PcP 10 19 08.9 +2.1
LGTI Lohaghat 46.58 326 *i* P **P** **10 17 33.5 -1.3**
PTH Pithoragarh 46.67 326 *e*P **P** **10 17 35.9 +0.4**
RIV Riverview 46.81 128 *e*P **P** **10 17 38.2 +1.6**
NDI New Delhi 47.73 323 *e*P **P** **10 17 42.5 -1.3**
NDI *ex* x 10 24 36.0
AJM Ajmer 47.79 319 *e*P **P** **10 17 43.9 -0.3**
AJM *i* P 10 17 44.0
TAU Tasmania Unive 48.26 141 P **P** **10 17 49.2 +1.3**
comp=Z,640nm,1.2s,mb6.5,SNR=5.9
TAU Tasmania Unive 48.26 141 *e*P **P** **10 17 48.9 +1.0**
TAU pmax pmax
comp=Z,168nm,1.3s,mb5.9
TAU Tasmania Unive 48.26 141 *e*P **P** **10 17 48.9 +1.1**
comp=Z,168nm,1.3s,mb5.9
DDI Dehra Dun 48.46 325 *e*P **P** **10 17 48.0 -1.5**
GTA Gaotai 48.77 352⇓*i*P **P** **10 17 52.1 +0.3**
GTA AP pP 10 17 59.8 +2.3
GTA XP sP 10 18 03.5 +3.9
GTA PCP PcP 10 19 17.8 +1.2
GTA PP PP 10 19 47.1 +2.1
GTA PPP 10 20 41.1
GTA SCP ScP 10 23 07.4 -3.2
GTA PCS PcS 10 23 11.6 -1.1
GTA S **S** **10 24 55.4 +1.5**
GTA XS sS 10 25 08.0 +4.8
GTA SCS ScS 10 27 40.5 -3.0
GTA SS SS 10 28 22.8 -1.5
GTA AMB AMB
comp=Z,242nm,1.1s,mb6.1
GTA AMB AMB
comp=Z,4μm,5.7s
GTA LR LR
comp=N,4μm,16.0s,MS5.9
GTA LR LR
comp=E,10μm,19.8s,MS5.9
GTA LR LR
comp=Z,4μm,17.9s,MS5.5
BHJ Bhuj 49.22 311 *e*P **P** **10 17 56.2 +0.9**
BHJ AMb AMB 10 17 59.2
comp=Z,237nm,1.3s,mb6.0
DL2 Dalian 49.40 14⇑*i*P **P** **10 17 56.3 -0.4**
DL2 AMB AMB
comp=Z,80nm,0.9s,mb5.8
BJT Baijiatuan 49.42 8 *e*P **P** **10 17 56.7 -0.1**
BJT pmax pmax
comp=Z,453nm,1.2s
BJT Baijiatuan 49.42 8 *e*P **P** **10 17 56.7 -0.1**
comp=Z,453nm,1.2s,mb6.4
BTO Baotou 49.44 2 *e*P **P** **10 17 56.0 -0.9**
BJI Beijing 49.44 8 *e*P **P** **10 17 56.6 -0.4**
BJI AMB AMB
comp=Z,329nm,1.0s,mb6.3
BJI AMB AMB
comp=Z,2μm,3.1s
INCN Inchon 49.52 20 *e*P **P** **10 17 56.7 -0.8**
comp=Z,225nm,1.3s,mb6.0
SMLA Simla 49.57 325 *e*P **P** **10 17 57.3 -0.6**
SMLA AMb AMB 10 18 01.5
comp=Z,293nm,1.7s,mb6.0
HHC Hu-ho-hao-te 49.76 4⇓P **P** **10 17 59.6 +0.2**
HHC AP pP 10 18 04.0 -1.0
HHC XP sP 10 18 06.6 -0.6
HHC PCP PcP 10 19 21.1 +0.9
HHC S **S** **10 25 07.8 +0.1**
HHC XS sS 10 25 15.5 -1.6
HHC SCS ScS 10 27 46.8 -3.3
HHC SS SS 10 28 40.1 -0.1
HHC AMB AMB
comp=Z,181nm,1.1s,mb6.0
HHC AMB AMB
comp=Z,3μm,3.9s
HHC LR LR
comp=N,8μm,13.1s,MS6.0
HHC LR LR
comp=E,7μm,15.5s,MS6.0
HHC LR LR
comp=Z,8μm,15.5s,MS5.8
PONG Pong 50.88 325 *ex* x 10 17 47.0
DLH Dalhousie 51.30 325 *e*P **P** **10 18 13.0 +2.0**
HNR Honiara 51.43 95 *e*P **P** **10 18 12.9 +0.9**
HNR pmax pmax
comp=Z,181nm,0.9s,mb6.0
HNR Honiara 51.43 95 *e*P **P** **10 18 12.9 +0.9**
comp=Z,181nm,0.9s,mb6.0
SNY Shenyang 52.65 15⇓P **P** **10 18 19.3 -1.7**
SNY AP pP 10 18 22.6 -4.1
SNY PCP PcP 10 19 31.4 +0.5
SNY PP PP 10 20 20.1 -0.1
SNY S **S** **10 25 47.3 -0.4**
SNY AMB AMB
comp=Z,140nm,1.3s,mb5.7
SNY AMB AMB
comp=Z,4μm,12.0s
SNY LR LR
comp=N,3μm,18.2s,MS5.7
SNY LR LR
comp=E,4μm,15.3s,MS5.7
SNY LR LR
comp=Z,6μm,18.8s,MS5.7
MAJO Matsushiro 53.59 30 *e*P **P** **10 18 26.0 -2.0**
MAJO pmax pmax
comp=Z,300nm,1.5s,mb6.0
MAJO Matsushiro 53.59 30 *e*P **P** **10 18 26.0 -2.0**
comp=Z,301nm,1.5s,mb6.0
MAT Matsushiro 53.59 30 P **P** **10 18 25.5 -2.5**
MAT Matsushiro 53.59 30 *e*P **P** **10 18 26.0 -2.0**
MAT pmax pmax
comp=Z,306nm,1.5s,mb6.0
MAT Matsushiro 53.59 30 *e*P **P** **10 18 26.0 -2.0**
comp=Z,306nm,1.5s,mb6.0
MJAR Matsushiro Arr 53.59 30 P **P** **10 18 24.9 -3.1**
comp=Z,100nm,1.1s,mb5.7,baz=208,slow=8.1,SNR=106
MJAR PcP PcP 10 19 36.0 +1.5
comp=Z,16nm,0.9s,baz=198,slow=4.0,SNR=5.3
MJAR Matsushiro Arr 53.59 30 P **P** **10 18 24.9 -3.1**
MJAR 10 19 36.0
MJAR pmax pmax
comp=Z,100nm,1.1s
MJAR pmax pmax
comp=Z,16nm,0.9s
CN2 Changchun 54.98 16⇓P **P** **10 18 35.9 -2.2**
CN2 *e*S **S** **10 26 16.4 -2.8**
CN2 LR LR
comp=N,14μm,17.0s,MS6.2
CN2 LR LR
comp=E,9μm,17.0s,MS6.2
CN2 LR LR
comp=Z,11μm,19.0s,MS6.0
WMQ Urumqi 55.69 342 P **P** **10 18 45.3 +2.1**
WMQ AP pP 10 18 49.3 +0.4
WMQ XP sP 10 18 51.8 +0.7
WMQ PCP PcP 10 19 44.8 +2.3
WMQ PP PP 10 20 51.0 +3.5
WMQ SCP ScP 10 23 41.8 +1.2
WMQ S **S** **10 26 28.9 +0.2**
WMQ XS sS 10 26 36.5 -1.6
WMQ PS 10 26 41.9
WMQ SCS ScS 10 28 30.5 -1.1
WMQ SS SS 10 30 13.8 -0.2
WMQ AMB AMB
comp=Z,391nm,1.3s,mb6.3
WMQ AMB AMB
comp=Z,3μm,5.3s
WMQ LR LR
comp=N,4μm,19.0s,MS5.9
WMQ LR LR
comp=E,8μm,17.5s,MS5.9
WMQ LR LR
comp=Z,5μm,24.4s
VLA Vladivostok 56.36 21*c i*P **P** **10 18 47.0 -1.0**
VLA *e* 10 18 57.6
VLA *i* S **S** **10 26 46.4 +8.7**
VLA pmax pmax
comp=Z,294nm,1.7s,mb6.0
VLA Vladivostok 56.36 21⇑*i*P **P** **10 18 46.0 -2.0**
KSH Kashi 56.62 331 ⇑P **P** **10 18 48.8 -1.1**
KSH *e*AP pP 10 18 54.0 -1.6
KSH *e*XP sP 10 18 56.8 -1.0
KSH *e*PP PP 10 20 56.6 +0.8
KSH *e*PPP 10 22 13.0
KSH *e*SCP ScP 10 23 43.8 -0.9
KSH *e*S **S** **10 26 36.3 -4.8**
KSH *e*PS 10 26 54.0
KSH *e*SCS ScS 10 28 35.3 -3.0
KSH *e*SS SS 10 30 24.9 -3.8
KSH AMB AMB
comp=Z,3μm,7.3s
KSH LR LR
comp=N,3μm,12.4s,MS6.1
KSH LR LR
comp=E,12μm,16.5s,MS6.1
KSH LR LR
comp=Z,11μm,29.2s
SONM Songino Array 56.64 359 P **P** **10 18 49.9 -0.1**
comp=Z,96nm,0.8s,mb5.9,baz=175,slow=7.6,SNR=266
SONM PcP PcP 10 19 46.9 +0.7
comp=Z,23nm,0.8s,baz=173,slow=6.7,SNR=3.9
SONM PKPPKP 10 48 40.3
comp=Z,2.2nm,1.2s,baz=339,slow=3.7,SNR=4.0
SONM Songino Array 56.64 359 P **P** **10 18 49.9 -0.1**
SONM 10 19 46.9
SONM pmax pmax
comp=Z,96nm,0.8s
SONM pmax pmax
comp=Z,23nm,0.9s
ULN Ulaanbaatar 56.66 359⇓P **P** **10 18 50.6 +0.4**
SNR=106
ULN Ulaanbaatar 56.66 359 *e*P **P** **10 18 50.1 0.0**
ULN pmax pmax
comp=Z,220nm,1.0s,mb6.1
ULN Ulaanbaatar 56.66 359 *e*P **P** **10 18 50.0 -0.1**
comp=Z,217nm,1.0s,mb6.1
MDJ Mudanjiang 56.92 18 P **P** **10 18 50.4 -1.6**
MDJ PP PP 10 20 56.5 -2.0
MDJ SCP ScP 10 23 47.1 +1.1
MDJ S **S** **10 26 42.9 -2.2**
MDJ AMB AMB
comp=Z,73nm,1.2s,mb5.6
MDJ AMB AMB
comp=Z,2μm,7.0s
MDJ LR LR
comp=N,3μm,19.5s,MS5.5
MDJ LR LR
comp=E,3μm,20.0s,MS5.5
MDJ LR LR
comp=Z,3μm,18.9s,MS5.4
MDJ Mudanjiang 56.92 18 *e*P **P** **10 18 51.1 -0.9**
comp=Z,107nm,1.2s,mb5.8
CASY Casey 57.19 179 *e*P **P** **10 18 51.9 -2.0**
WBK Wadi Bani Khal 57.24 304 P **P** **10 18 55.9 +1.6**
SNR=6.6
DZM Mont Dzumac 57.65 110 *e*P **P** **10 18 59.4 +2.3**
WSAR Wadi Sarin 57.81 305 P **P** **10 18 59.1 +0.8**
comp=Z,21nm,0.7s,mb5.3,baz=118,slow=6.9,SNR=17
JMDO Jabal Madar 57.84 303⇓P **P** **10 18 59.0 +0.4**
SNR=7.6
SMDO Samad 58.20 304⇓P **P** **10 19 02.2 +1.1**
SNR=17
MIR Mirnyy 58.32 187*d i*P **P** **10 19 02.0 +0.2**
MIR pmax pmax
comp=Z,450nm,1.5s,mb6.3
BIDO Bidbid 58.35 305 P **P** **10 19 03.3 +1.2**
SNR=16
ULHL Ulahol 58.64 333 P **P** **10 19 04.4 +0.3**
SNR=25
BSY Bisya 58.76 303⇑P **P** **10 19 05.8 +0.9**
SNR=7.7
KZA Kyzart 58.96 332 P **P** **10 19 07.1 +0.7**
SNR=130
HIA Hailar 58.99 9 *e*P **P** **10 19 05.9 -0.7**
HOQ Hoqain 59.04 304 P **P** **10 19 07.8 +0.9**
SNR=15
TKM2 Tokmak 2 59.47 333 P **P** **10 19 09.8 0.0**
SNR=139
KBK Karagaybulak 59.55 332 P **P** **10 19 10.8 +0.4**
SNR=58
ARQ Araqi 59.58 304 P **P** **10 19 10.8 +0.2**
SNR=16
WHFO Wadi Hawf 59.70 297 P **P** **10 19 11.5 +0.1**
SNR=7.3
AML Almayashu 59.73 331 P **P** **10 19 11.8 +0.1**
SNR=46
AAK Ala-Archa 59.75 332 P **P** **10 19 12.4 +0.6**
SNR=15
AAK Ala-Archa 59.75 332 P **P** **10 19 10.3 -1.5**
comp=Z,250nm,1.2s,mb6.1,SNR=16
AAK Ala-Archa 59.75 332⇑P **P** **10 19 11.3 -0.5**
SNR=19
AAK Ala-Archa 59.75 332 *e*P **P** **10 19 11.2 -0.6**
AAK *e**PP pP 10 19 17.4 -0.1
AAK Ala-Archa 59.75 332 *e*P **P** **10 19 11.2 -0.5**
comp=Z,63nm,1.2s,mb5.5
AAK *e* 10 19 30.1
FRU Bishkek 59.85 332 *e*P **P** **10 19 12.0 -0.4**
FRU *i* 10 19 28.0
FRU pmax pmax
comp=Z,200nm,1.8s,mb5.8
ABTO Aybut 59.91 296 P **P** **10 19 13.6 +0.7**
SNR=8.0
CHMS Chumysh 59.91 332 P **P** **10 19 12.7 -0.2**
SNR=14
MKAR Makanchi Array 60.06 340 P **P** **10 19 13.4 -0.5**
comp=Z,109nm,0.6s,mb6.1,baz=143,slow=8.0,SNR=211
MKAR Makanchi Array 60.06 340 P **P** **10 19 13.5 -0.4**
MKAR pmax pmax
comp=Z,109nm,0.6s
EKS2 Erkin-Say 60.10 332 P **P** **10 19 14.2 0.0**
SNR=48
USP Ospenovka 60.24 332 P **P** **10 19 14.6 -0.5**
SNR=38
ASHO Ashiyiah 60.56 305⇓P **P** **10 19 17.6 +0.2**
SNR=18
TLY Talaya 60.58 357 P **P** **10 19 18.4 +0.9**

comp=Z,361nm,1.4s,mb6.3,SNR=29
MOY Mondy 60.74 355 *e*P P **10 19 19.0 +0.4**
MOY pmax pmax
comp=Z,454nm,2.1s,mb6.2
IRK Irkutsk 61.11 358 *e*P P **10 19 20.9 -0.2**
IRK *e*S S **10 27 39.3 -0.1**
IRK pmax pmax
comp=Z,331nm,2.1s,mb6.1
KLR Kul'dur 61.71 18⇑*i*P P **10 19 20.4 -4.7**
KLR pmax pmax
comp=E,90nm,1.6s
KLR pmax pmax
comp=Z,330nm,1.6s,mb6.2
HABR Khabarovsk 62.10 20⇓*i*P P **10 19 26.6 -1.2**
HABR *e*S S **10 27 46.2 -5.8**
HABR pmax pmax
comp=Z,199nm,1.3s,mb6.1
YSS Yuzh-Sakhalins 63.84 26*d i*P P **10 19 38.0 -1.3**
YSS pmax pmax
comp=Z,493nm,1.7s,mb6.3
YSS Yuzh-Sakhalins 63.84 26 *e*P P **10 19 38.6 -0.7**
comp=Z,459nm,1.3s,mb6.3
RPZ Rata Peaks 64.54 134 P P **10 19 43.9 -0.1**
comp=Z,44nm,1.0s,mb5.4,baz=280,slow=2.2,SNR=14
KURK Kurchatov 64.68 340 P P **10 19 44.4 -0.4**
comp=Z,2µm,0.9s
KURK Kurchatov 64.68 340 P P **10 19 44.5 -0.3**
SNR=142
KURK Kurchatov 64.68 340⇑*e*P P **10 19 44.4 -0.4**
KURK Kurchatov 64.68 340 *e*P P **10 19 44.2 -0.6**
comp=Z,264nm,0.9s,mb6.3
MAW Mawson 65.66 197 *e*P P **10 19 50.1 -1.1**
comp=Z,42nm,1.2s,mb5.3
MAW Mawson 65.66 197 P P **10 19 50.4 -0.8**
comp=Z,40nm,0.9s,mb5.4,baz=56,slow=6.1,SNR=51
MAW PKPPKP 10 48 29.4
comp=Z,9.1nm,0.9s,baz=242,slow=3.5,SNR=7.0
ZAL Zalesovo 65.69 345 P P **10 19 50.0 -1.3**
comp=Z,30nm,0.7s,mb5.4,baz=326,slow=3.5,SNR=122
ZAL Zalesovo 65.69 345 *i*P P **10 19 50.0 -1.4**
ZAL pmax pmax
comp=Z,30nm,0.7s
ABKT Ailbek 65.81 319 P P **10 19 52.8 +0.7**
comp=Z,567nm,1.2s,mb6.5,SNR=21
BOD Bodaibo 66.82 4 *e*P P **10 19 57.2 -1.4**
BOD pmax pmax
comp=Z,122nm,1.7s,mb5.7
NVS Novosibirsk 66.90 345⇓*i*P P **10 19 56.7 -2.5**
NVS *e*S S 10 28 46.1 -5.1
NVS pmax pmax
comp=Z,167nm,2.0s,mb5.7
NVS pmax pmax
comp=N,160nm,1.9s
NVS pmax pmax
comp=E,113nm,2.0s
NVS smax
comp=N,166nm,2.3s
NVS smax
comp=E,65nm,2.4s
ATD Arta Tunnel 67.74 286 P P **10 20 05.2 +0.7**
comp=E,9.2nm,0.9s,mb4.8,baz=90,slow=5.3,SNR=6.8
URZ Urewera 68.22 128 P P **10 20 07.2 -0.2**
comp=E,18nm,1.1s,mb5.0,baz=327,slow=6.8,SNR=3.6
RDF Al-Radifah 69.24 306 *e*P P **10 20 13.1 -0.7**
RDF AMb AMB 10 20 15.3
comp=Z,275nm,1.1s,mb6.1
UMR Umm Al-Rimmam 69.36 306 *e*P P **10 20 14.1 -0.5**
UMR AMb AMB 10 20 15.9
comp=Z,298nm,0.7s,mb6.3
BVAR Borovoye Array 69.54 337 P P **10 20 15.3 -0.5**
comp=Z,82nm,0.7s,mb5.8,baz=145,slow=8.5,SNR=174
BVAR Borovoye Array 69.54 337 P P **10 20 15.3 -0.4**
BVAR pmax pmax
comp=Z,82nm,0.7s
BRVK Borovoye 69.61 337 P P **10 20 15.4 -0.7**
comp=Z,498nm,1.3s,mb6.3,SNR=38
BRVK Borovoye 69.61 337 *e*P P **10 20 15.7 -0.4**
BRVK pmax pmax
comp=Z,93nm,1.1s,mb5.6
BRVK Borovoye 69.61 337 *e*P P **10 20 15.7 -0.5**
comp=Z,93nm,1.1s,mb5.6
NAY Al-Naaiem 69.61 306 *e*P P **10 20 15.4 -0.8**
NAY AMb AMB 10 20 17.3
comp=Z,96nm,0.9s,mb5.7
MIB Mutribah 69.76 306 *e*P P **10 20 16.3 -0.7**
MIB AMb AMB 10 20 18.6
comp=Z,216nm,1.3s,mb5.9
CHKZ Chkalovo 69.96 337 *e*P P **10 20 17.4 -0.9**
CHKZ pmax pmax
comp=Z,130nm,0.6s,mb6.0
CHKZ Chkalovo 69.96 337 *e*P P **10 20 17.4 -0.9**
comp=Z,130nm,0.6s,mb6.0
ZRNK Zerenda 70.03 336 *e*P P **10 20 17.7 -1.0**
ZRNK pmax pmax
comp=Z,110nm,0.8s,mb5.8
ZRNK Zerenda 70.03 336 *e*P P **10 20 17.6 -1.1**
comp=Z,110nm,0.8s,mb5.8
KMBO Kilima Mbogo 70.62 272 P P **10 20 23.3 +1.0**
comp=Z,23nm,1.1s,mb5.0,baz=67,slow=7.3,SNR=26
KMBO Kilima Mbogo 70.62 272 P P **10 20 23.3 +1.0**
KMBO pmax pmax
comp=Z,23nm,1.1s
SKR Severo-Kuril's 72.69 30 *e*P P **10 20 35.0 +0.2**
SKR *e* 10 20 44.5
SKR pmax pmax
comp=N,50nm,0.8s
SKR pmax pmax
comp=E,80nm,0.8s
SKR pmax pmax
comp=Z,160nm,0.8s,mb6.0
YAK Yakutsk 72.87 11 *e*P P **10 20 35.3 -0.6**
YAK *e* 10 20 54.5
YAK *e*PPP 10 24 58.5
YAK *e**SS sS 10 30 29.2 +18
YAK *e* 10 30 30.3
YAK pmax pmax
comp=Z,134nm,0.7s,mb6.0
YAK pmax pmax
comp=N,45nm,1.1s
YAK pmax pmax
comp=E,33nm,1.8s
YAK pmax pmax
comp=Z,7.0nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK Yakutsk 72.87 11 *e*P P **10 20 34.5 -1.3**
comp=N,250nm,0.7s,mb6.2
AKTK Aktyubinsk 73.27 329 P P **10 20 37.6 -0.6**
AKTO Aktyubinsk 73.27 329 P P **10 20 37.6 -0.6**
comp=N,52nm,1.1s,mb5.4,baz=124,slow=7.4,SNR=57
AKTO Aktyubinsk 73.27 329 P P **10 20 37.7 -0.5**
AKTO pmax pmax
comp=Z,52nm,1.1s,mb5.4
BHD Baghdad 73.44 309 *ex* x 10 20 36.5
BHD *ex* x 10 30 03.0
VNDA Vanda 73.83 169 P P **10 20 40.2 -1.3**
comp=Z,33nm,1.0s,mb5.2,baz=307,slow=6.2,SNR=80
VNDA Vanda 73.83 169 *e*P P **10 20 40.3 -1.2**
VNDA pmax pmax
comp=Z,52nm,1.1s
VNDA Vanda 73.83 169 *e*P P **10 20 40.3 -1.2**
comp=Z,52nm,1.1s,mb5.4
SYO Syowa Base 73.88 200⇓*e*P P **10 20 40.2 -1.6**
SYO Syowa Base 73.88 200⇓*e*pP pP 10 20 44.8 -2.9
SBA Scott Base 74.90 169 *e*P P **10 20 47.7 0.0**
SBA Scott Base 74.90 169 *e*P P **10 20 47.4 -0.4**
comp=Z,52nm,1.1s,mb5.4
PET Petropavlovsk 75.38 29*d i*P P **10 20 49.9 -0.6**
PET pmax pmax
comp=Z,300nm,1.5s,mb6.0
PET Petropavlovsk 75.38 29 *e*P P **10 20 50.0 -0.6**
comp=Z,159nm,1.0s,mb5.9
MSL Mosul 75.59 311 *ex* x 10 20 51.0
MSL *ex* x 10 21 07.5
MSL *ex* x 10 30 18.0
GNI Garni 75.95 315 *e*P P **10 20 52.1 -1.6**
GNI Garni 75.95 315 P P **10 20 54.1 +0.3**
comp=Z,111nm,0.7s,mb4.9,baz=34,slow=21,SNR=15
GNI Garni 75.95 315 P P **10 20 54.7 +0.9**
SNR=15
GNI Garni 75.95 315⇑*i*P P **10 20 54.2 +0.4**
GNI pmax pmax
comp=Z,45nm,1.0s
GNI Garni 75.95 315 *e*P P **10 20 54.2 +0.4**
GNI *e* pP 10 21 00.5 +0.8
DGRG David-gareji 76.07 317 P P **10 20 54.2 -0.3**

CLDR Caldiran 76.12 314 *e*P P **10 20 53.5 -1.2**
SVE Sverdlovsk 76.19 335⇓*i*P P **10 20 55.1 0.0**
SVE *e* 10 21 12.0
SVE pmax pmax
comp=Z,475nm,2.6s,mb6.0
VANB Van 76.28 313 *e*P P **10 20 56.7 +1.1**
MA2 Magadan 76.50 21 *e*P P **10 20 57.0 +0.1**
comp=Z,149nm,1.0s,mb5.9
MTA Mtatsminda 76.57 317 P P **10 20 56.4 -0.9**
TBLG Delisi 76.62 317 P P **10 20 57.5 -0.1**
ARU Arti 76.79 334 P P **10 20 58.2 -0.3**
comp=Z,494nm,1.2s,mb6.3,SNR=17
ARU Arti 76.79 334⇓*i*P P **10 20 57.6 -0.9**
ARU *e* 10 21 08.5
ARU *e* 10 23 51.2
ARU *e*PPP 10 25 37.4
ARU *e*S S 10 30 40.7 -4.3
ARU *e*SS SS 10 35 42.0 +0.9
ARU pmax pmax
comp=Z,118nm,1.2s,mb5.7
ARU Arti 76.79 334 *e*P P **10 20 57.6 -0.9**
comp=Z,136nm,1.2s,mb5.8
MBAR Mbarara 77.13 271*d i*P P **10 21 00.7 +0.2**
KARS Kars 77.29 315 P P **10 21 02.5 +1.1**
AKH Akhalkalaki 77.34 316 P P **10 21 01.7 +0.1**
BTMT Batman 77.50 312 *e*P P **10 21 01.9 -0.6**
BEST Besiri 77.54 312 *i*P P **10 21 03.4 +0.7**
ZEI Tsey 77.63 317 *e*P P **10 21 04.1 +0.9**
ZEI *e**PP pP 10 21 20.3 +11
ZEI pmax pmax
comp=Z,81nm,1.1s,mb5.6
LSZ Lusaka 77.72 256 P P **10 21 05.2 +1.4**
SNR=11
LSZ Lusaka 77.72 256 *e*P P **10 21 04.5 +0.8**
LSZ pmax pmax
comp=Z,24nm,0.9s,mb5.1
LSZ Lusaka 77.72 256 *e*P P **10 21 04.5 +0.7**
comp=Z,24nm,0.9s,mb5.1
ONI Oni 77.85 317 P P **10 21 04.2 -0.3**
AMRG 78.03 317 P P **10 21 06.9 +1.4**
ERZM Erzurum 78.23 314 *i*P P **10 21 05.0 -1.6**
EZM Erzurum 78.23 314 *e*P P **10 21 03.4 -3.2**
DIY Diyarbakir 78.31 312 *e*P P **10 21 07.5 +0.4**
BCA Borcka 78.64 315 *e*P P **10 21 08.2 -0.6**
ZALF Zalf 78.86 306⇑P P **10 21 12.1 +2.0**
JHLN Al Jahlan 78.88 309⇑P P **10 21 11.5 +1.3**
KIV Kislovodsk 78.92 318 P P **10 21 11.7 +1.3**
comp=Z,8.2nm,0.2s,mb5.3,SNR=10
KIV Kislovodsk 78.92 318 P P **10 21 10.3 -0.1**
SNR=23
KIV ⇑P 10 21 10.8
SNR=8.7
KIV Kislovodsk 78.92 318*d i*P P **10 21 10.2 -0.2**
KIV *i* *PP pP 10 21 26.9 +11
KIV pmax pmax
comp=Z,82nm,1.3s,mb5.5
KIV Kislovodsk 78.92 318 *e*P P **10 21 10.6 +0.2**
comp=Z,145nm,1.3s,mb5.8
KIV *e* 10 21 41.6
ASF Jabal al Asfar 78.97 305 P P **10 21 11.5 +0.8**
comp=Z,56nm,0.9s,mb5.5,baz=354,slow=2.8,SNR=91
ASF Jabal al Asfar 78.97 305 P P **10 21 11.5 +0.8**
ASF pmax pmax
comp=Z,56nm,1.0s
GOF Gofitskoye 79.15 319 *e*P P **10 21 10.8 -0.8**
GOF *e*S S 10 31 06.9 -3.5
GOF pmax pmax
comp=Z,90nm,0.8s,mb5.8
LBTB Lobatse 79.22 246 *e*P P **10 21 12.4 +0.4**
LBTB *e* pP 10 21 19.5 +1.6
LBTB pmax pmax
comp=Z,36nm,1.3s,mb5.1
LBTB Lobatse 79.22 246 *e*P P **10 21 12.4 +0.4**
comp=Z,36nm,1.3s,mb5.1
LBTB *e*PcP PcP 10 21 19.5 -0.8
SALA Sala 79.27 306⇑P P **10 21 14.4 +2.1**
EZC Erzincan 79.28 313 P P **10 21 15.6 +3.2**
ROOS tl_alroos 79.29 307⇑P P **10 21 14.3 +1.9**
ELZG Elazig 79.44 312 *i*P P **10 21 14.6 +1.3**
TOTH TOTAH 79.72 306⇑P P **10 21 16.5 +1.8**
MALT Malatya 79.79 312⇑*i*P P **10 21 16.2 +1.1**
MALT Malatya 79.79 312 *e*P P **10 21 15.1 0.0**
comp=Z,52nm,1.1s,mb5.4
EIL Elat 79.83 302 *e*P P **10 21 15.7 +0.3**
comp=Z,799nm,0.8s,mb6.7
EIL *e* 10 21 49.1
TCHB Talchebab 79.87 306⇑P P **10 21 17.0 +1.4**
QASN Qassioun 79.89 306⇑P P **10 21 12.4 -3.3**
GZT Gaziantep 80.11 310 *i*P P **10 21 17.5 +0.7**
BRBR Barbar 80.11 306⇑P P **10 21 19.0 +2.2**
BIDA Albida 80.31 308⇑P P **10 21 19.3 +1.4**
GAZ Gaziantep 80.31 310 *e*P P **10 21 17.7 -0.2**
WRDH Warideh 80.39 308⇑P P **10 21 19.5 +1.1**
BTCH Batrach 80.52 309⇑P P **10 21 20.1 +1.1**
DRWC Darouich 80.55 309⇑P P **10 21 20.3 +1.0**
SLNF Slenfeh 80.57 308⇑P P **10 21 20.6 +1.3**
SOC Sochi 80.76 317 *i*P P **10 21 20.4 +0.1**
HTY Hatay 80.80 309 *e*P P **10 21 18.7 -1.8**
GRSN GIRESUNGRSN 80.81 314 *i*P P **10 21 20.2 -0.4**
COBT Iskenderun 80.83 309 *i*P P **10 21 21.4 +0.6**
ARNB Al Arnab 80.84 309⇑P P **10 21 21.1 +0.3**
QSPA South Pole Qui 80.96 180 *e*P P **10 21 20.3 -1.1**
comp=Z,82nm,1.2s,mb5.5
CEYT Ceyhan 81.37 310 *e*P P **10 21 23.6 0.0**
SVSK Karacayir 81.38 313 *e*P P **10 21 21.6 -2.0**
KOZT Kozan 81.46 310 *e*P P **10 21 22.6 -1.5**
TIXI Tiksi 81.72 7*d i*P P **10 21 23.9 -1.6**
TIXI pmax pmax
comp=Z,221nm,1.1s,mb6.0
TIXI Tiksi 81.72 7 *i*P P **10 21 23.0 -2.5**
TOKT Tokat 81.84 313 *e*P P **10 21 25.7 -0.4**
BNN Bunyan 81.88 311 *e*P P **10 21 25.4 -0.8**
KARA Karaisali 81.98 310 *e*P P **10 21 23.5 -3.3**
MERS Mersin 82.27 309 *e*P P **10 21 27.4 -1.0**
MEST Erdemli 82.47 309 *i*P P **10 21 30.0 +0.6**
VRHR Novokhopersk 82.51 324 *e*P P **10 21 29.6 0.0**
VRHR pmax pmax
comp=Z,60nm,0.5s,mb5.9
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.3s
YOZ Yozgat 82.51 312 *e*P P **10 21 28.4 -1.2**
CSS Prodhromos 82.64 307 *e*P P **10 21 30.9 +0.6**
comp=E,175nm,1.0s,mb6.0
SUR Sutherland 82.70 238 *e*P P **10 21 32.4 +1.8**
comp=E,52nm,1.2s,mb5.4
SUR *e* 10 21 43.0
IKL Isikli 82.72 308 *i*P P **10 21 29.8 -0.9**
ANN Anapa 82.73 317 *e*P P **10 21 28.1 -2.6**
ANN *e*S S 10 31 39.8 -7.9
ANN pmax pmax
comp=Z,80nm,1.6s,mb5.5
ANN pmax pmax
comp=Z,2µm,11.0s
CORM Corum 83.18 312 *e*P P **10 21 30.7 -2.4**
DIKM Dikmen 83.19 314 *e*P P **10 21 29.2 -3.9**
CTKT Corum 83.20 313 *i*P P **10 21 33.9 +0.7**
SMY Shemya 83.25 34 *e*P P **10 21 33.0 -0.4**
SMY pmax pmax
comp=Z,184nm,1.2s,mb6.0
SMY Shemya 83.25 34 *e*P P **10 21 33.0 -0.4**
comp=Z,184nm,1.2s,mb6.0
BOYT Boyabat 83.37 314 *i*P P **10 21 35.1 +1.0**
BYBT Boyabat 83.48 314 *e*P P **10 21 34.7 +0.1**
NVL N'lazarevskaya 83.50 199⇓*i*P P **10 21 35.2 +0.5**
NVL pmax pmax
comp=Z,59nm,1.6s,mb5.4
MAIT Maitri 83.53 199 *e*P P **10 21 35.2 +0.3**
KAMT Kaman 83.61 311 *i*P P **10 21 29.7 -5.6**
BR131 Keskin Array S 83.77 312 *e*P P **10 21 36.1 0.0**
comp=Z,54nm,1.0s,mb5.6
BRTR Keskin Array B 83.77 312 P P **10 21 35.1 -1.0**
comp=Z,53nm,1.0s,mb5.6,baz=126,slow=6.3,SNR=148
BRTR Keskin Array B 83.77 312⇓*e*P P **10 21 36.0 -0.1**
TOS Tosya 83.88 313 *i*P P **10 21 36.9 +0.2**
VRSR Storozhevoye 83.96 324 *e*P P **10 21 36.1 -1.0**
VRSR pmax pmax
comp=N,20nm,0.5s
VRSR pmax pmax
comp=Z,70nm,0.5s,mb6.0
VRSR pmax pmax
comp=E,80nm,0.7s

CANT Cankiri 84.05 313 *e*P P **10 21 37.4 -0.1**
ELDT Eldivan 84.15 312 *i*P P **10 21 38.8 +0.7**
VOR Voronezh 84.15 324 *e*P P **10 21 37.5 -0.6**
VOR pmax pmax
comp=N,80nm,1.7s
VOR pmax pmax
comp=E,120nm,1.7s
VOR pmax pmax
comp=Z,250nm,1.7s,mb6.1
KONT Konya--Tatoy 84.22 310 *e*P P **10 21 38.8 +0.4**
ANTO Ankara 84.44 312⇑*i*P P **10 21 40.6 +1.1**
ANTO Ankara 84.44 312⇑P P **10 21 40.3 +0.8**
SNR=12
ANTO Ankara 84.44 312⇑P P **10 21 40.6 +1.1**
LOD Lodumlu 84.47 312 *e*P P **10 21 39.9 +0.3**
BALT Daday 84.49 313 *i*P P **10 21 40.6 +0.9**
KIZT Kizilcal 84.84 311 *i*P P **10 21 41.0 -0.6**
SAFT Safranbolu 84.91 313 *i*P P **10 21 41.0 -0.8**
SIM Simferopol' 85.00 317 *e*P P **10 21 43.0 +0.6**
SIM pmax pmax
comp=Z,74nm,0.8s,mb5.9
SGKT Sivrigoynuk 85.18 312 *i*P P **10 21 43.5 +0.2**
AMKA Amchitka 85.71 37 *e*P P **10 21 45.7 -0.1**
MDU Mudurnu 85.77 312 *i*P P **10 21 45.2 -0.9**
ESKT Eskisehir 85.78 311 *i*P P **10 21 46.7 +0.4**
ELL Elmali 85.79 308 *e*P P **10 21 46.8 +0.5**
TKTP Tekketepe 85.80 309 *i*P P **10 21 46.4 +0.1**
HENT Hendek 86.09 312 *i*P P **10 21 48.1 +0.3**
ALT Altintas 86.22 310 *e*P P **10 21 39.3 -9.1**
FETY Fethiye 86.41 308 *e*P P **10 21 47.1 -2.2**
MOS Moscow 86.52 328⇑*i*P P **10 21 48.0 -1.9**
MOS *e* 10 25 09.0
MOS *e* 10 32 09.9
MOS *i* S 10 32 20.8
MOS pmax pmax
comp=Z,264nm,1.6s,mb6.2
MOS Moscow 86.52 328⇓*i*P P **10 21 46.4 -3.5**
DALT Dalyan (Mudla) 86.79 308 *e*P P **10 21 50.3 -0.9**
ADVT Abdulvahap 86.84 312 *e*P P **10 21 48.4 -3.1**
OBN Obninsk 86.86 327 P P **10 21 51.3 -0.2**
comp=Z,831nm,0.6s,SNR=9.8
OBN Obninsk 86.86 327*d i*P P **10 21 51.0 -0.5**
OBN *e**PP pP 10 22 02.4 +4.9
OBN *e* 10 25 12.5
OBN *e*S 10 32 12.1
OBN pmax pmax
comp=Z,280nm,1.5s,mb6.3
OBN MLR MLR
comp=Z,4µm,17.0s,MS5.9
OBN Obninsk 86.86 327 *e*P P **10 21 51.6 +0.1**
comp=Z,234nm,1.2s,mb6.3
OBN *e* pP 10 21 56.3 -1.2
TSUM Tsumeb 87.28 251 *e*P P **10 21 54.5 +0.9**
comp=Z,29nm,1.2s,mb5.4
ISK Istanbul-Kandi 87.50 312 *e*P P **10 21 53.0 -1.6**
KLMR Klimovskoe 87.55 333 *e*P P **10 21 53.1 -1.8**
KLMR pmax pmax
comp=Z,270nm,1.6s,mb6.2
AYDN Tasoluk 87.58 309 *i*P P **10 21 56.5 +1.5**
DAT Datca 87.61 308 *e*P P **10 21 54.6 -0.5**
SNAA Sanae 87.83 197⇑*i*P P **10 21 56.2 0.0**
SNAA *e* 10 21 57.5
SNAA *e* pP 10 22 00.1 -2.1
SNAA *e* pP 10 22 01.5 -0.7
SNAA *e* 10 22 06.7
SNAA *e* 10 22 15.2
SNAA Sanae 87.83 197 *e*P P **10 21 56.1 -0.1**
SNAA *e* 10 22 06.5
SNAA pmax pmax
comp=Z,61nm,1.1s
SNAA Sanae 87.83 197 *e*P P **10 21 56.0 -0.2**
comp=Z,61nm,1.1s,mb5.7
SNAA *e* 10 22 06.5
BODT Bodrum 87.89 308 *e*P P **10 21 55.9 -0.6**
CTT Catalca 87.98 312 *e*P P **10 21 54.8 -2.2**
KDAG Bornova 88.22 309 *i*P P **10 21 59.1 +1.0**
IZM Izmir 88.22 309 *e*P P **10 21 58.2 +0.1**
MFT Murefte 88.75 311 *e*P P **10 21 58.2 -2.4**
PSN Preselentsi 88.76 314 *i*P P **10 22 00.2 +1.4**
TIRR Tirgusor 88.78 315⇑*i*P P **10 22 01.4 +0.7**
TIRR Tirgusor 88.78 315⇑P P **10 22 01.4 +0.7**
RKY Sarkoy-Tekirda 88.80 311 *e*P P **10 21 59.5 -1.3**
CFR Carcaliu 89.14 316⇓*i*P P **10 22 03.3 +0.9**
HARR Harsova 89.17 315⇓*i*P P **10 22 03.5 +0.9**
HARR Harsova 89.17 315⇓P P **10 22 03.5 +0.9**
APE Apeiranthos 89.28 308⇓*i*P P **10 22 03.7 +0.6**
APE Apeiranthos 89.28 308⇑*i*P P **10 22 03.4 +0.3**
APE Apeiranthos 89.28 308⇓P P **10 22 03.6 +0.6**
EDRB Edirne 89.38 312 *e*P P **10 22 01.8 -1.7**
IDI Anoyia 89.43 306 P P **10 22 04.1 +0.3**
comp=Z,70nm,1.1s,mb5.9,baz=119,slow=8.8,SNR=5.8
JMB Yambol 89.63 313 *i*P P **10 22 05.8 +1.1**
GADA Gvkgeada 89.65 311 *e*P P **10 22 03.2 -1.6**
AKASG Malin Array Be 89.78 321 P P **10 22 04.0 -1.5**
comp=Z,10nm,0.9s,mb5.2,baz=89,slow=4.2,SNR=53
AKASG PP PP 10 25 37.2 -0.4
comp=Z,17nm,1.0s,baz=94,slow=5.8,SNR=19
AKASG Malin Array Be 89.78 321 P P **10 22 04.0 -1.4**
AKASG 10 25 37.3
AKASG pmax pmax
comp=Z,10.0nm,0.9s
AKASG pmax pmax
comp=Z,17nm,1.0s
VNA1 Neumayer--Stat 89.86 197⇑*i*P P **10 22 06.3 +0.5**
VNA1 *e* 10 22 07.7
VNA1 *e* 10 22 09.5
VNA1 *e* pP 10 22 10.7 -1.1
VNA1 *e* 10 22 16.7
VNA1 *e* 10 22 25.5
VRI Vrincioaia 90.27 316⇑*i*P P **10 22 09.1 +1.4**
VRI Vrincioaia 90.27 316⇑P P **10 22 09.1 +1.4**
PVL Pavlikeni 90.68 314 *i*P P **10 22 10.5 +0.9**
MLR Muntele Rosu 90.72 316 P P **10 22 10.1 +0.3**
comp=Z,48nm,1.1s,mb5.8,baz=94,slow=1.8,SNR=49
MLR PP PP 10 25 49.0 +3.8
comp=Z,20nm,1.1s,baz=40,slow=2.5,SNR=4.7
MLR Muntele Rosu 90.72 316⇓*i*P P **10 22 11.3 +1.5**
MLR Muntele Rosu 90.72 316 P P **10 22 10.1 +0.3**
MLR 10 25 49.0
MLR pmax pmax
comp=Z,48nm,1.1s
MLR pmax pmax
comp=Z,20nm,1.1s
MLR Muntele Rosu 90.72 316⇓P P **10 22 11.3 +1.5**
VOIR 91.33 316⇑*i*P P **10 22 11.5 -1.1**
VOIR 91.33 316⇑P P **10 22 11.5 -1.1**
MNK Minsk 91.52 325 *e*P P **10 22 10.0 -3.5**
MMB Musomiste 91.53 312 *i*P P **10 22 14.0 +0.4**
BURAR Bucovina Array 91.65 318⇑*i*P P **10 22 15.6 +1.5**
BURAR Bucovina Array 91.65 318⇑P P **10 22 15.7 +1.6**
JOF Joensuu 91.90 334 *ep* P **10 22 13.3 -2.0**
comp=Z,27nm,1.0s,mb5.5
JOF Joensuu 91.90 334 *e*P P **10 22 13.3 -2.0**
JOF pmax pmax
comp=Z,27nm,1.0s,mb5.5
VTS Vitosha 92.10 313 *i*P P **10 22 17.0 +0.8**
LVV L'vov 92.84 320 *e*P P **10 22 19.8 +0.2**
GZR Gura Zlata 92.89 315⇓*i*P P **10 22 21.6 +1.8**
GZR Gura Zlata 92.89 315⇓P P **10 22 21.6 +1.8**
DRGR 93.17 317⇑*i*P P **10 22 21.2 0.0**
DRGR 93.17 317⇑P P **10 22 21.2 0.0**
BZS Buzias 93.73 315⇑*i*P P **10 22 24.3 +0.6**
BZS Buzias 93.73 315⇑P P **10 22 24.3 +0.5**
KOLS Kolonicke sedl 93.82 319 *e*P P **10 22 24.6 +0.5**
KOLS pmax pmax
comp=Z,14nm,1.1s,mb5.3
KOLS Kolonicke sedl 93.82 319 *e*P P **10 22 24.6 +0.5**
comp=Z,14nm,1.1s,mb5.3
FINES FINESS Array B 93.93 332 P P **10 22 24.4 -0.3**
comp=Z,5.4nm,0.8s,mb5.0,baz=111,slow=6.5,SNR=13
FINES FINESS Array B 93.93 332⇓*e*P P **10 22 24.3 -0.3**
KAF Kangasniemi 93.96 332 *ep* P **10 22 23.5 -1.3**
comp=Z,29nm,1.0s,mb5.7
KAF Kangasniemi 93.96 332 *e*P P **10 22 23.5 -1.3**
KAF pmax pmax
comp=Z,29nm,1.0s,mb5.7
SUW Suwalki 94.09 324 *e*P P **10 22 25.1 -0.3**
SUW pmax pmax
comp=Z,144nm,1.1s,mb6.3
SUW Suwalki 94.09 324 *e*P P **10 22 25.1 -0.3**
comp=Z,144nm,1.1s,mb6.3
DIVS Divcibare 94.65 314 *i*P P **10 22 28.6 +0.7**
BBLS Bajina Basta - 95.04 313 *e*P P **10 22 31.0 +1.3**

PSZ	Piszkesteto	95.24	318	⇑ePcP	PcP	10 22 30.7	-0.2
OJC	Ojcow	95.60	320	eP	P	10 22 31.9	-0.4
ARCES	ARCESS Array B	95.71	339	P	P	10 22 31.4	-1.4
	comp=Z,7.0nm,0.8s,mb5.1,baz=97,slow=5.7,SNR=25						
ARCES	ARCESS Array B	95.71	339	P	P	10 22 31.4	-1.4
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARCES	ARCESS Array B	95.71	339	P	P	10 22 31.4	-1.4
PKSM	Moragy	95.87	316	⇑iP	P	10 22 34.0	+0.5
PKSM	Moragy	95.87	316	⇑eP	P	10 22 33.6	+0.1
VYHS	Vyhne	96.01	318	eP	P	10 22 33.7	-0.5
VYHS				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb5.0						
VYHS	Vyhne	96.01	318	eP	P	10 22 33.7	-0.5
	comp=Z,9.6nm,1.5s,mb5.0						
VYHS				ePP	PP	10 26 20.1	-6.5
SRO	Srobarova	96.28	317	eP	P	10 22 36.1	+0.7
OKC	Ostrava-Krasne	96.61	319	eP	P	10 22 36.5	-0.4
MORC	Moravsky Berou	97.00	319	⇑iP	P	10 22 37.6	-1.0
MORC	Moravsky Berou	97.00	319	⇑P	P	10 22 37.6	-1.0
MORC				eP		10 22 38.8	
ZST	Bratislava	97.13	318	eP	P	10 22 39.4	+0.2
ZST				e		10 26 25.0	
DPC	Dobruska-Polom	97.83	320	eP	P	10 22 42.2	-0.2
DPC				ePP	PP	10 26 41.5	+0.9
KSP	Ksiaz	97.89	320	eP	P	10 22 41.8	-0.8
KSP				e		10 26 38.8	
CONA	Conrad Observa	97.94	317	⇑iP	P	10 22 41.3	-1.6
	comp=Z,8.5nm,1.4s,mb5.1						
UPC	Upice	98.04	320	eP	P	10 22 43.5	+0.2
UPC				ePP	PP	10 26 35.6	-6.6
GROS	Grobnik	98.06	316	ePdiff	P	10 22 43.5	+0.1
GROS				e		10 23 15.8	
ARSA	Arzberg	98.11	317	⇑iP	P	10 22 44.2	+0.6
	comp=Z,11nm,1.6s,mb5.2						
ARSA	Arzberg	98.11	317	⇑iP	P	10 22 44.2	+0.6
	comp=Z,11nm,1.5s,mb5.2						
ARSA				i		10 26 40.4	
BOJS	Bojanci	98.16	315	ePdiff	P	10 22 43.7	-0.2
BOJS				e		10 23 15.5	
PDKS	Podkum	98.38	315	ePdiff	P	10 22 45.5	+0.6
VISS	Visnje	98.47	315	ePdiff	P	10 22 45.6	+0.3
PRU	Pruhonice	98.95	319	eP	P	10 22 46.9	-0.5
PRU				ePP	PP	10 26 48.7	-0.5
BRG	Berggiesshubel	99.38	320	ePdiff	P	10 22 49.1	-0.2
GEC2	GERESS Array S	99.43	318	ePdiff	P	10 22 49.5	-0.1
GERES	GERESS Array B	99.43	318	P	P	10 22 49.5	0.0
	comp=Z,0.9nm,0.6s,baz=8.5,slow=2.7,SNR=11						
GERES				PP	PP	10 26 50.6	-2.3
	comp=Z,1.1nm,0.7s,baz=88,slow=6.9,SNR=6.2						
GERES	GERESS Array B	99.43	318	P	P	10 22 49.5	-0.1
GERES						10 26 50.6	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KHC	Kasperske Hory	99.53	318	eP	P	10 22 41.6	-8.4
KHC				ePP	PP	10 26 53.2	-0.4
FBE	Freiberg	99.75	320	ePdiff	Pdif	10 22 50.9	-0.1
HFS	Hagfors	99.82	330	P	Pdif	10 22 51.0	-0.2
	comp=Z,3.7nm,0.9s,baz=52,slow=12,SNR=3.5						
HFS				PP	PP	10 26 54.4	-1.4
	comp=Z,2.4nm,0.6s,baz=132,slow=6.2,SNR=4.2						
HFS	Hagfors	99.82	330	P	Pdif	10 22 51.0	-0.3
HFS						10 26 54.4	
HFS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS	Hagfors	99.82	330	P	Pdif	10 22 51.0	-0.2
HFS				PP	PP	10 26 54.4	-1.4
CLL	Collm	99.99	321	ePDIF	Pdif	10 22 51.0	-1.0
CLL				e		10 23 03.0	
CLL				ePP	PP	10 26 55.0	-2.1
CLL				e		10 27 11.0	
CLL	Collm	99.99	321	ePdif	Pdif	10 22 51.0	-1.0
CLL				e		10 23 03.0	
CLL				ePP	PP	10 26 55.0	-2.1
WET	Wettzell	99.99	318	ePdiff	Pdif	10 22 52.0	0.0
WET				epPdiff		10 23 23.1	
TANN	Tannenbergstha	100.30	320	ePdiff	Pdif	10 22 53.5	+0.1
NKC	Novy Kostel	100.31	319	ePP	PP	10 27 00.8	+1.3
WERD	Werda	100.40	320	ePdiff	Pdif	10 22 53.5	-0.4
ROTZ	Rotzenmuhle	100.45	319	ePdiff	Pdif	10 22 54.7	+0.6
ROTZ				epPdiff		10 23 25.7	
ROTZ				ePP	PP	10 26 59.3	-1.3
MANZ	Manzenberg	100.52	319	ePdiff	Pdif	10 22 54.8	+0.4
MANZ				epPdiff		10 23 26.1	
MOX	Moxa	100.85	320	ePdiff	Pdif	10 22 55.3	-0.5
MOX	Moxa	100.85	320	eP	Pdif	10 22 56.5	+0.7
MOX				e		10 27 02.9	
MOX				pmax	pmax		
	comp=Z,39nm,1.9s						
MOX	Moxa	100.85	320	ePdif	Pdif	10 22 56.5	+0.7
	comp=Z,39nm,1.9s						
MOX				ePP	PP	10 27 02.9	-0.7
NB2	NORSAR Subarra	101.04	330	PP	PP	10 27 05.5	+0.4
	comp=Z,27nm,1.7s,baz=89,slow=7.9						
NB2	NORSAR Subarra	101.04	330	PP	PP	10 27 05.5	+0.4
	baz=89,slow=7.9						
NOA	NORSAR Array B	101.04	330	PP	PP	10 27 05.6	+0.5
	comp=Z,9.0nm,1.2s,baz=87,slow=7.2,SNR=3.3						
GRA1	Grafenberg Arr	101.08	319	ePdif	Pdif	10 22 56.8	-0.1
GRA1				ePP	PP	10 27 04.4	-1.0
GRF	Grafenberg Arr	101.08	319	ePdiff	Pdif	10 22 56.8	-0.1
GRF				ePP	PP	10 27 04.4	-1.0
DAVOX	Davos	101.95	316	P	Pdif	10 23 01.0	+0.2
	comp=Z,4.2nm,0.8s,baz=130,slow=7.9,SNR=4.6						
DAVA	Damuels	101.95	316	⇑iP	Pdif	10 23 00.6	-0.2
	comp=Z,11nm,1.2s						
DAVA				i		10 26 58.2	
TNS	Taunus Mts	102.87	319	ePdiff	Pdif	10 23 05.0	+0.1
MCK	McKinley	103.92	27	eP	Pdif	10 23 10.3	+0.8
MCK	McKinley	103.92	27	ePdif	Pdif	10 23 09.6	0.0
PMR	Palmer	104.11	29	eP	Pdif	10 23 10.3	-0.1
PMR				pmax	pmax		
	comp=Z,12nm,1.5s						
PMR	Palmer	104.11	29	ePdif	Pdif	10 23 10.3	-0.1
	comp=Z,12nm,1.5s						
LPG	La Plagne	104.13	315	ePKIKP	PKiKP	10 27 24.6	-2.9
LPL	La Plagne	104.14	315	ePKIKP	PKiKP	10 27 24.4	-3.1
	comp=Z,11nm,0.8s						
HAU	Haudompre	104.33	317	ePKIKP	PKiKP	10 27 24.7	-3.1
LMR	La Mourre	104.35	312	ePKIKP	PKiKP	10 27 24.9	-3.0
	comp=Z,15nm,1.0s						
CABF	La Chapelle	104.56	316	ePKIKP	PKiKP	10 27 25.3	-2.9
	comp=Z,17nm,1.0s						
ORIF	Oris-en-Rattie	104.77	314	ePKIKP	PKiKP	10 27 25.7	-2.9
SMRF	Simiane la Rot	105.02	313	ePKIKP	PKiKP	10 27 26.1	-3.0
VIVF	Saint-Julien-l	105.63	314	ePKIKP	PKiKP	10 27 27.2	-3.0
LOR	Lormes	106.05	317	ePKIKP	PKiKP	10 27 28.6	-2.4
LASF	Ste Croix	106.25	313	ePKIKP	PKiKP	10 27 28.7	-2.7
AVF	Avril sur Loir	106.43	316	ePKIKP	PKiKP	10 27 28.9	-2.8
TORD	Torodi Ar. Bea	107.59	281	PKiKP	PKiKP	10 27 33.8	-0.1
	comp=Z,1.3nm,0.5s,baz=46,slow=1.2,SNR=17						
TORD				PKKPbc	PKKPbc	10 38 49.9	+1.8
	comp=Z,3.9nm,0.8s,baz=314,slow=4.0,SNR=15						
SGMF	Saint Gilles	110.23	318	ePKIKP	PKiKP	10 27 36.6	-2.2
QUIF	Quistinic	110.69	318	ePKIKP	PKiKP	10 27 37.2	-2.5
ROSF	Rostrenen	110.69	318	ePKIKP	PKiKP	10 27 37.5	-2.2
	comp=Z,17nm,1.1s						
ESDC	Sonseca Array	112.46	309	PP	PP	10 28 29.9	+0.9
	comp=Z,0.3nm,0.3s,baz=68,slow=6.6,SNR=5.4						
ESDC				PKKPbc	PKKPbc	10 38 34.6	+2.3
	comp=Z,0.2nm,0.3s,baz=286,slow=6.0,SNR=5.8						
DBIC	Dimbokro	113.33	273	PKiKP	PKiKP	10 27 44.9	+0.2
	comp=Z,3.7nm,0.9s,baz=120,slow=6.7,SNR=6.3						
DBIC	Dimbokro	113.33	273	i PKIKP	PKiKP	10 27 44.9	+0.2
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YKA	Yellowknife Ar	118.48	21	PKP	PKPdf	10 27 53.6	-0.9
	comp=Z,6.7nm,0.9s,baz=303,slow=2.1,SNR=23						
YKA				PP	PP	10 29 01.2	-10
	comp=Z,1.7nm,0.9s,baz=319,slow=5.5,SNR=4.5						
YKA				PKKPbc	PKKPbc	10 38 10.7	-0.7
	comp=Z,1.2nm,0.8s,baz=118,slow=4.2,SNR=6.2						
YKA	Yellowknife Ar	118.48	21	PKIKP	PKPdf	10 27 53.6	-1.0
YKA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	Yellowknife Ar	118.48	21	PKP	PKPdf	10 27 53.6	-0.9
YKA				PP	PP	10 29 01.2	-10
YKA				PKKPbc	PKKPbc	10 38 10.7	-0.7
A05A	Maple Falls	122.45	37	⇓P	PKPdf	10 28 02.4	+0.2
	baz=122,SNR=6.0						
E03A	Lebam	122.59	40	⇑P	PKPdf	10 28 03.4	+1.0
	baz=123,SNR=5.4						
GNW	Green Mountain	122.63	38	ePKPdf	PKPdf	10 28 04.2	+1.7
B05A	Bryant	122.77	37	⇑P	PKPdf	10 28 03.9	+1.1
	baz=123						
D04A	Dobbs Creek Ra	122.83	39	⇑P	PKPdf	10 28 04.1	+1.2
	baz=123						
F03A	Seaside	122.83	40	⇓P	PKPdf	10 28 04.3	+1.4
	baz=123						
JCW	Jim Creek	122.90	37	P	PKPdf	10 28 04.2	+1.1
C05A	Tolt Reservoir	123.27	38	P	PKPdf	10 28 04.8	+1.0
	baz=123,SNR=9.2						
D05A	Enumclaw	123.30	39	⇓P	PKPdf	10 28 04.9	+1.1
	baz=123,SNR=9.3						
I02A	Mapleton	123.40	43	⇑P	PKPdf	10 28 05.2	+1.2
	baz=123						
H03A	Soap Creek Ran	123.50	42	⇑P	PKPdf	10 28 05.4	+1.2
	baz=124,SNR=5.2						
F04A	Amboy	123.56	40	⇓P	PKPdf	10 28 05.1	+0.7
	baz=124						
E05A	Randle	123.71	39	P	PKPdf	10 28 05.8	+1.1
	baz=124,SNR=10						
I03A	Eugene	123.78	43	⇓P	PKPdf	10 28 05.7	+1.0
	baz=124						
J02A	Umpqua	123.81	43	⇑P	PKPdf	10 28 05.5	+0.7
	baz=124						
G04A	Mulino	123.82	41	⇑P	PKPdf	10 28 05.9	+1.1
	baz=124,SNR=6.8						
K02A	Glendale	124.08	44	⇑P	PKPdf	10 28 06.1	+0.8
	baz=124						
F05A	White Salmon	124.19	40	⇑P	PKPdf	10 28 05.9	+0.4
	baz=124						
BROR	Big Rock Looko	124.21	42	P	PKPdf	10 28 06.8	+1.2
H04A	Detroit Lake	124.22	41	⇑P	PKPdf	10 28 06.2	+0.6
	baz=124,SNR=9.5						
J03A	Ideyld Park	124.22	43	⇓P	PKPdf	10 28 06.7	+1.1
	baz=124						
L02A	Cave Junction	124.23	45	⇓P	PKPdf	10 28 06.5	+0.9
	baz=124						
EBG	Ellensburg	124.30	38	P	PKPdf	10 28 06.7	+0.9
VFP	Flag Point	124.43	40	P	PKPdf	10 28 07.6	+1.6
IRO	Indian Ridge	124.45	42	P	PKPdf	10 28 07.3	+1.3
HUMO	Hull Mountain	124.51	44	ePKPdf	PKPdf	10 28 07.4	+1.2
HUMO	Hull Mountain	124.51	44	⇓P	PKPdf	10 28 07.3	+1.2
	baz=124,SNR=10.0						
G05A	Wamic	124.55	40	⇓P	PKPdf	10 28 07.4	+1.2
	baz=125						
KHMM	Horse Mountain	124.59	46	ePKPdf	PKPdf	10 28 08.5	+2.2
BKCOR	Black Crater	124.70	42	P	PKPdf	10 28 08.2	+1.7
H05A	Madras	124.86	41	⇑P	PKPdf	10 28 08.2	+1.4
	baz=125						
EDM	Edmonton	124.88	29	ePKIKP	PKPdf	10 28 07.1	+0.2
N02C	Big Bar	124.91	46	⇑P	PKPdf	10 28 08.6	+1.6
	baz=125						
YBH	Yreka Blue Hor	125.00	45	ePKIKP	PKPdf	10 28 08.0	+0.9
YBH	Yreka Blue Hor	125.00	45	⇓P	PKPdf	10 28 08.0	+0.9
	baz=125						
M02C	Callahan	125.03	45	⇓P	PKPdf	10 28 08.6	+1.4
	baz=125						
I05A	Bend	125.03	42	⇑P	PKPdf	10 28 08.5	+1.4
	baz=125,SNR=6.3						
GBL	Gable Mountain	125.12	38	PKIKP	PKPdf	10 28 08.9	+1.6
BUOR	Burton Butte	125.12	44	P	PKPdf	10 28 08.8	+1.5
HAWA	Hanford	125.17	39	ePKPdf	PKPdf	10 28 08.5	+1.1
OD2	Odessa Site #2	125.19	37	P	PKPdf	10 28 08.1	+0.7
H2OWA	Water	125.23	38	P	PKPdf	10 28 09.2	+1.6
REDWA	Red Mountain	125.27	39	P	PKPdf	10 28 09.4	+1.8
VIPM	Ingram Point	125.31	41	PKIKP	PKPdf	10 28 09.5	+1.8
P01C	Double 8 Ranch	125.34	48	⇑P	PKPdf	10 28 08.6	+0.9
	baz=125						
LHEM	Herd Peak	125.38	45	P	PKPdf	10 28 09.5	+1.6
L04A	Klamath Falls	125.41	44	⇑P	PKPdf	10 28 09.3	+1.4
	baz=125,SNR=6.6						
O02C	Red Bluff	125.50	47	⇑P	PKPdf	10 28 09.7	+1.6
	baz=126						
WDC	Whiskeytown Da	125.54	46	⇑P	PKPdf	10 28 09.1	+1.0
	baz=126						
M04C	Macdoel	125.59	44	⇑P	PKPdf	10 28 09.2	+1.0
	baz=126,SNR=7.6						
NEW	Newport	125.69	36	PKP	PKPdf	10 28 09.3	+0.9
	comp=Z,11nm,0.9s,baz=51,slow=0.4,SNR=24						
NEW	Newport	125.69	36	ePKPdf	PKPdf	10 28 09.1	+0.7
GASB	Alder Springs	125.73	47	⇓P	PKPdf	10 28 10.3	+1.8
	baz=126						
O03C	Acorn Hollow,	126.11	47	⇑P	PKPdf	10 28 10.1	+0.9
	baz=126						
J06A	Christmas Vall	126.15	42	P	PKPdf	10 28 10.8	+1.5
	baz=126,SNR=20						
L05A	Lakeview	126.18	44	⇓P	PKPdf	10 28 10.9	+1.6
	baz=126						
MNRC	McLaughlin Nat	126.20	48	⇓P	PKPdf	10 28 11.2	+1.8
	baz=126						
HATC	Hat Creek Radi	126.22	45	⇓P	PKPdf	10 28 10.4	+1.0
	baz=126,SNR=9.8						
M05C	Lookout	126.23	45	⇓P	PKPdf	10 28 10.7	+1.3
	baz=126						
K06A	Valley Falls	126.27	43	⇓P	PKPdf	10 28 11.0	+1.5
	baz=126,SNR=14						
CVS	Carmenet Viney	126.36	49	⇑P	PKPdf	10 28 11.2	+1.5
	baz=126						
SUTB	Sutter Butte	126.55	47	⇑P	PKPdf	10 28 11.3	+1.2
	baz=127,SNR=5.1						
ORV	Oroville	126.65	47	⇓P	PKPdf	10 28 11.5	+1.3
	baz=127,SNR=5.1						
J07A	Hines	126.65	42	P	PKPdf	10 28 12.1	+1.9
	baz=127,SNR=16						
O04C	Chester	126.66	46	⇑P	PKPdf	10 28 11.8	+1.5
	baz=127,SNR=18						
OHCM	Honcut	126.74	47	ePKPdf	PKPdf	10 28 11.4	+1.0
M06C	Likely Place G	126.75	45	⇓P	PKPdf	10 28 11.8	+1.4
	baz=127						
ELFS	Eagle Lake Fie	126.80	45	⇓P	PKPdf	10 28 12.1	+1.6
	baz=127						
O05C	Quincy	126.92	46	⇓P	PKPdf	10 28 12.1	+1.4
	baz=127						
Q04C	Lincoln	126.99	48	⇓P	PKPdf	10 28 12.4	+1.5
	baz=127						
WALA	Waterton Lakes	127.05	33	ePKPdf	PKPdf	10 28 11.9	+0.8
WENL	Wente Brothers	127.13	49	⇑P	PKPdf	10 28 13.3	+2.2
	baz=127						
L07A	Adell	127.21	43	⇓P	PKPdf	10 28 13.2	+1.9
	baz=127,SNR=10						
BSMT	Bassoo Peak	127.24	35	P	PKPdf	10 28 12.1	+0.7
P05C	Yuba Gap, Truc	127.38	47	P	PKPdf	10 28 13.3	+1.7
	baz=127,SNR=12						
LAVA	Lava Cap Winer	127.49	48	P	PKPdf	10 28 13.3	+1.5
	baz=128,SNR=10.0						
S04C	Ingram Canyon,	127.49	49	⇓P	PKPdf	10 28 13.5	+1.6
	baz=128						
WVOR	Wild Horse Val	127.50	43	ePKIKP	PKPdf	10 28 13.6	+1.7
R04C	Big Horse Ranc	127.52	48	⇓P	PKPdf	10 28 12.4	+0.5
	baz=128						
M07A	Soldier Meadow	127.58	44	⇓P	PKPdf	10 28 13.4	+1.4
	baz=128,SNR=12						
O06A	Flanigan	127.61	46	⇑P	PKPdf	10 28 13.6	+1.5
	baz=128,SNR=20						
HAST	UC Hastings Re	127.69	51	⇓P	PKPdf	10 28 13.6	+1.4
	baz=128						
PACP	Pacheco Peak	127.69	50	⇓P	PKPdf	10 28 14.2	+1.9
	baz=128						
P06A	Stead Airport,	127.75	46	⇓P	PKPdf	10 28 14.2	+1.8
	baz=128						
N07B	Gerlach	127.97	45	⇓P	PKPdf	10 28 14.3	+1.6
	baz=128,SNR=20						
R05C	Kirkwood Meado	127.99	47	⇑P	PKPdf	10 28 14.6	+1.8
	baz=128,SNR=8.4						
WCN	Washoe City	128.00	47	⇑P	PKPdf	10 28 14.2	+1.4
	baz=128,SNR=8.6						
CMB	Columbia Colle	128.00	48	P	PKPdf	10 28 14.4	+1.6
	baz=128,SNR=6.7						
LRV	Little Rabbit	128.08	50	ePKPdf	PKPdf	10 28 16.8	+3.8
M08A	Happy Creek Ra	128.10	44	⇑P	PKPdf	10 28 14.7	+1.7
	baz=128,SNR=8.0						
PAHR	Pah Rah Range	128.11	46	ePKPdf	PKPdf	10 28 14.9	+1.9
O07A	Toulon	128.28	45	⇑P	PKPdf	10 28 14.8	+1.5
	baz=128,SNR=16						
U04C	Hernandez Rese	128.28	50	⇓P	PKPdf	10 28 15.6	+2.3
	baz=128,SNR=5.6						
S05C	Merced	128.29	49	⇑P	PKPdf	10 28 15.4	+2.0
	baz=128						
L09A	Wilkinson Ranc	128.33	43	⇑P	PKPdf	10 28 14.9	+1.4
	baz=128						
V04C	Ramage Ranch,	128.45	51	⇓P	PKPdf	10 28 15.3	+1.6
	baz=128						
S06C	San Francisco	128.46	48	P	PKPdf	10 28 15.6	+1.9
	baz=128,SNR=15						
R06C	Coleville	128.51	47	⇑P	PKPdf	10 28 15.4	+1.6
	baz=128						
WAKR	Walker	128.53	47	ePKPdf	PKPdf	10 28 16.3	+2.5
N08A	GE Springer Mi	128.55	44	⇑P	PKPdf	10 28 15.6	+1.8
	baz=129,SNR=12						
PKD	Parkfield	128.60	51	⇓P	PKPdf	10 28 15.8	+1.8
	baz=129						
CHMT	Chamberlain Mo	128.63	35	ePKPdf	PKPdf	10 28 14.7	+0.7
M09A	Marrel Ranch,	128.74	43	⇑P	PKPdf	10 28 15.9	+1.6
	baz=129,SNR=7.0						
U05C	Westside ANR,	128.79	50	⇓P	PKPdf	10 28 16.4	+2.0
	baz=129						
Q07A	Schurz	128.82	47	⇑P	PKPdf	10 28 16.2	+1.8
	baz=129						
T06C	Millerton Lake	128.87	49	⇑P	PKPdf	10 28 16.0	+1.5
	baz=129,SNR=7.6						
N09A	Rock Creek Ran	128.94	44	⇑P	PKPdf	10 28 16.3	+1.6
	baz=129,SNR=12						
PTRM	Twissleman Ran	128.95	51	ePKPdf	PKPdf	10 28 16.5	+1.9
R07C	Lee Vining	128.97	48	⇓P	PKPdf	10 28 16.7	+2.0
	baz=129						
P08A	Dixie Valley	129.04	45	⇓P	PKPdf	10 28 16.8	+2.0
	baz=129						
KCC	Kaiser Creek	129.05	49	⇓P	PKPdf	10 28 17.0	+2.1
	baz=129,SNR=6.4						
MLAC	Mammoth Lakes	129.29	48	⇓P	PKPdf	10 28 16.7	+1.4
	baz=129						
M10A	I.L. Ranch, Tu	129.31	43	⇓P	PKPdf	10 28 16.8	+1.5
	baz=129						
NVAR	Mina Array Bea	129.38	47	PKhKP		10 28 06.5	
	comp=Z,0.5nm,0.8s,baz=201,slow=4.7,SNR=5.6						
NVAR				PKP	PKPdf	10 28 17.5	+2.0
	comp=Z,7.0nm,0.9s,baz=264,slow=2.0,SNR=13						
NVAR	Mina Array Bea	129.38	47	PKP	PKPdf	10 28 17.5	+2.0
O09A	Fish Creek Ran	129.46	45	⇑P	PKPdf	10 28 16.8	+1.2
	baz=130						
Q08A	Gabbs	129.48	46	⇓P	PKPdf	10 28 17.1	+1.4
	baz=130,SNR=6.0						
MNV	Mina	129.49	47	ePKIKP	PKPdf	10 28 17.6	+1.9
HRY	Holter Researc	129.54	35	ePKPdf	PKPdf	10 28 16.1	+0.3
R08A	Mina	129.55	47	⇓P	PKPdf	10 28 17.8	+2.0
	baz=130,SNR=5.5						
MTUM	Tungsten Hills	129.60	48	ePKPdf	PKPdf	10 28 18.0	+2.1
N10A	Dunphy	129.69	44	⇓P	PKPdf	10 28 17.7	+1.6
	baz=130						
LRM	Limekiln Ridge	129.70	36	ePKPdf	PKPdf	10 28 17.1	+1.0
HLID	Hailey	129.71	39	ePKPdf	PKPdf	10 28 18.2	+2.1
SBC	Santa Barbara	129.73	52	⇑P	PKPdf	10 28 17.6	+1.5
	baz=130						
P09A	Austin	129.75	45	⇑P	PKPdf	10 28 17.4	+1.2
	baz=130						
M11A	Holland Ranch,	129.85	42	⇑P	PKPdf	10 28 18.6	+2.3
	baz=130						
DLMT	Dillon	129.87	37	ePKPdf	PKPdf	10 28 16.7	+0.3
EGMT	Eagleton	129.89	32	ePKPdf	PKPdf	10 28 17.4	+1.0
TIN	Tinemaha	129.96	49	⇓P	PKPdf	10 28 18.8	+2.2
	baz=130						
MCMT	McKenzie Canyo	130.01	37	ePKPdf	PKPdf	10 28 17.8	+1.2
N11A	Elko Archery C	130.16	43	⇑P	PKPdf	10 28 19.0	+2.1
	baz=130						
P10A	Eureka	130.20	45	⇑P	PKPdf	10 28 19.1	+2.1
	baz=130						
BOZ	Bozeman (W)	130.27	36	ePKIKP	PKPdf	10 28 18.0	+0.9
ISA	Isabella	130.28	50	⇓P	PKPdf	10 28 19.0	+1.8
	baz=130,SNR=5.2						
CWC	Cottonwood Cre	130.30	49	⇓P	PKPdf	10 28 19.3	+2.1
	baz=130						
S09A	Goldfield	130.44	47	⇑P	PKPdf	10 28 19.3	+1.9
	baz=130,SNR=16						
PLCA	Paso Flores	130.46	182	PKP	PKPdf	10 28 18.7	+1.2
	comp=Z,13nm,1.1s,baz=218,slow=2.7,SNR=10						
PLCA	Paso Flores	130.46	182	PKIKP	PKPdf	10 28 18.7	+1.2
PLCA				pmax	pmax		
	comp=Z,13nm,1.1s						
PLCA	Paso Flores	130.46	182	PKP	PKPdf	10 28 18.7	+1.2
O11A	Cowboy Ranch,	130.53	44	⇓P	PKPdf	10 28 19.3	+1.6
	baz=130						
ELK	Elko	130.54	43	ePKIKP	PKPdf	10 28 19.6	+1.9
ELK	Elko	130.54	43	ePKPdf	PKPdf	10 28 19.3	+1.6
N12A	Clover Valley,	130.62	43	⇑P	PKPdf	10 28 20.0	+2.2
	baz=131						
P11A	Circle Ranch,	130.73	45	⇑P	PKPdf	10 28 19.5	+1.5
	baz=131						
QLMT	Earthquake Lak	130.85	37	ePKPdf	PKPdf	10 28 20.5	+2.2
R10A	Warm Springs	130.88	46	⇓P	PKPdf	10 28 19.8	+1.5
	baz=131						
M13A	Montello	130.96	42	⇑P	PKPdf	10 28 20.4	+1.9
	baz=131						
MWC	Mount Wilson	131.10	52	ePKIKP	PKPdf	10 28 20.4	+1.7
Q11A	Duckwater	131.10	45	⇑P	PKPdf	10 28 20.8	+2.0
	baz=131						
N13A	Wendover, West	131.18	42	⇑P	PKPdf	10 28 20.7	+1.9
	baz=131						
GCMT	Greycliff	131.30	35	ePKPdf	PKPdf	10 28 20.3	+1.2
P12A	McGill	131.34	44	⇓P	PKPdf	10 28 21.6	+2.4
	baz=131						
YFT	Old Faithful	131.41	37	ePKPdf	PKPdf	10 28 22.4	+3.1
TPNV	Topopah Spring	131.46	48	ePKIKP	PKPdf	10 28 21.5	+2.1
Q12A	Willow Creek R	131.59	45	⇓P	PKPdf	10 28 22.0	+2.4
	baz=132						
U10A	Ash Meadows, A	131.61	49	⇑P	PKPdf	10 28 22.5	+2.9
	baz=132,SNR=9.8						
GSC	Goldstone	131.68	50	⇓P	PKPdf	10 28 22.4	+2.5
	baz=132,SNR=10						
SPUT	South Promonto	132.11	41	ePKPdf	PKPdf	10 28 21.7	+1.1
109C	Camp Elliot, M	132.29	53	⇑P	PKPdf	10 28 23.7	+2.7
	baz=132						
TUQ	Turquoise Mtn.	132.29	50	⇓P	PKPdf	10 28 23.6	+2.7
	baz=132						
U11A	Corn Creek	132.31	48	⇓P	PKPdf	10 28 24.0	+3.0
	baz=132,SNR=5.8						
DUG	Dugway	132.43	42	ePKIKP	PKPdf	10 28 22.8	+1.6
SHPR	Sheep Range	132.44	48	ePKPdf	PKPdf	10 28 23.9	+2.7
V11A	Goodsprings	132.51	49	⇑P	PKPdf	10 28 24.0	+2.6
	baz=132						
PFO	Pinyon Flat Ob	132.56	52	⇓P	PKPdf	10 28 24.2	+2.8
	baz=133,SNR=6.2						
LAO	LASA Array	132.59	32	ePKPdf	PKPdf	10 28 23.2	+1.7
CTU	Camp Tracy	132.88	41	ePKPdf	PKPdf	10 28 23.6	+1.5
U12A	Valley of Fire	132.93	48	⇓P	PKPdf	10 28 24.8	+2.6
	baz=133						
V12A	Nelson	132.98	49	⇓P	PKPdf	10 28 25.1	+2.8
	baz=133						
BW06	Boulder Array	133.13	38	ePKPdf	PKPdf	10 28 23.4	+0.8
PDAR	Pinedale Array	133.13	38	PKhKP		10 28 16.0	
	comp=Z,0.5nm,0.7s,baz=101,slow=1.5,SNR=4.4						
PDAR				PKP	PKPdf	10 28 23.4	+0.8
	comp=Z,2.6nm,0.6s,baz=138,slow=0.9,SNR=21						
PDAR	Pinedale Array	133.13	38	PKP	PKPdf	10 28 23.4	+0.8
W12A	Cal Nev Ari	133.14	49	⇑P	PKPdf	10 28 25.4	+2.8
	baz=133						
DAU	Daniels Canyon	133.34	41	ePKIKP	PKPdf	10 28 25.1	+2.1
MSU	Marysvale	133.67	44	ePKIKP	PKPdf	10 28 26.4	+2.8
TMUT	Trail Mountain	133.95	43	ePKPdf	PKPdf	10 28 25.8	+1.7
W13A	Hualapai Mount	133.96	49	⇓P	PKPdf	10 28 26.8	+2.7
	baz=134						
Y12C	Blythe	134.01	51	⇓P	PKPdf	10 28 26.9	+2.7
	baz=134						
GLA	Glamis	134.03	52	⇓P	PKPdf	10 28 26.7	+2.5
	baz=134						
SCHQ	Schefferville	134.13	356	PKP	PKPdf	10 28 25.6	+1.2
	comp=Z,4.4nm,0.8s,baz=10,slow=3.0,SNR=6.5						
SCHQ				PP	PP	10 30 54.4	-0.9
	comp=Z,6.6nm,0.8s,baz=354,slow=4.5,SNR=6.0						
X13A	Yucca	134.21	50	⇑P	PKPdf	10 28 27.4	+2.8
	baz=134						
ULM	Lac du Bonnet	134.46	21	PKP	PKPdf	10 28 25.3	+0.2
	comp=Z,12nm,1.0s,baz=321,slow=5.3,SNR=8.0						
ULM	Lac du Bonnet	134.46	21	PKP	PKPdf	10 28 25.3	+0.2
SRU	San Rafael	134.50	43	ePKIKP	PKPdf	10 28 26.6	+1.5
W14A	Seligman	134.51	49	⇑P	PKPdf	10 28 28.1	+2.9
	baz=134						
X14A	Yava	134.96	50	⇑P	PKPdf	10 28 29.0	+3.0
	baz=135						
Y14A	Wickenburg	135.10	50	⇑P	PKPdf	10 28 28.9	+2.7
	baz=135						
W15A	Williams	135.13	48	⇑P	PKPdf	10 28 29.2	+2.9
	baz=135						
Z14A	Wintersburg	135.37	51	⇓P	PKPdf	10 28 29.5	+2.7
	baz=135						
X15A	Humboldt	135.44	49	⇓P	PKPdf	10 28 29.6	+2.8
	baz=136						
RSSD	Black Hills	135.45	33	ePKIKP	PKPdf	10 28 27.7	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PV10	**Paradox Valley**	**135.87**	**43**	*e*PKPdf	PKPdf	10 28 29.9	+2.2
115A	**Sonoran Desert**	**136.18**	**52**	⇓P	PKPdf	10 28 30.9	+2.6
	baz=136						
PV01	**Paradox Valley**	**136.31**	**43**	*e*PKPdf	PKPdf	10 28 30.6	+2.1
116A	**Eloy**	**136.65**	**51**	⇑P	PKPdf	10 28 31.7	+2.5
	baz=137						
SMCO	**Snowmass**	**136.78**	**40**	*e*PKPdf	PKPdf	10 28 31.0	+1.6
ISCO	**Idaho Springs**	**137.28**	**39**	*e*PKIKP	PKPdf	10 28 31.9	+1.6
CAM4	**Nova Friburgo**	**137.38**	**223**	⇓*i*P	PKPdf	10 28 32.2	+1.8
CAM4				*i*		10 28 40.1	
CAM4				*i*		10 29 40.1	
ANMO	**Albuquerque**	**139.43**	**45**	*e*PKIKP	PKPdf	10 28 30.8	-3.4
LENM	**Lemitar**	**139.46**	**47**	*e*PKPdf	PKPdf	10 28 34.1	-0.2
Y22C	**IRIS PASSCAL I**	**139.55**	**47**	⇓P	PKPdf	10 28 37.0	+2.5
	baz=140						
LPM	**Los Pinos Moun**	**139.63**	**46**	*e*PKPdf	PKPdf	10 28 29.2	-5.4
BNM	**Barren Site**	**139.72**	**46**	*e*PKPdf	PKPdf	10 28 29.3	-5.5
CPUP	**Villa Florida**	**141.99**	**202**	PKhKP		10 28 34.0	
	comp=Z,15nm,1.0s,baz=123,slow=1.9,SNR=7.5						
CPUP	**Villa Florida**	**141.99**	**202**	PKHKP		10 28 34.1	
CPUP				pmax	pmax		
	comp=Z,15nm,1.0s						
AMTX	**Amarillo**	**142.72**	**42**	*e*PKPdf	PKPdf	10 28 43.1	+2.9
MSNY	**Massena**	**144.10**	**3**	*e*PKPdf	PKPdf	10 28 41.1	-1.5
LTX	**Lajitas**	**144.26**	**51**	*e*PKIKP	PKPdf	10 28 42.6	-0.3
LONY	**Lake Ozonia**	**144.49**	**3**	*e*PKPdf	PKPdf	10 28 41.7	-1.6
WVL	**Waterville**	**144.54**	**357**	*e*PKPdf	PKPdf	10 28 41.5	-1.9
WMOK	**Wichita Mounta**	**144.69**	**40**	*e*PKIKP	PKPdf	10 28 43.4	-0.2
WMOK	**Wichita Mounta**	**144.69**	**40**	*e*PKPdf	PKPdf	10 28 42.6	-1.0
LBNH	**Lisbon**	**144.93**	**360**	*e*PKIKP	PKPdf	10 28 43.4	-0.6
MIV	**Mineville/With**	**145.08**	**2**	*e*PKPdf	PKPdf	10 28 43.6	-0.6
NCB	**Newcomb**	**145.16**	**3**	*e*PKPbc	PKPbc	10 28 44.0	+0.1
AAM	**Ann Arbor**	**145.37**	**15**	*e*PKIKP	PKPdf	10 28 45.3	+0.5
AAM	**Ann Arbor**	**145.37**	**15**	*e*PKPbc	PKPbc	10 28 45.2	+0.6
HNH	**Hanover**	**145.47**	**0**	*e*PKPbc	PKPbc	10 28 45.5	+0.5
BAO	**Brasilia Array**	**145.71**	**225**	P	PKPdf	10 28 46.5	+1.1
BDFB	**Brasilia**	**145.72**	**224**	PKPbc	PKPbc	10 28 47.1	+1.3
	comp=Z,15nm,0.5s,baz=106,slow=2.0,SNR=21						
BDFB	**Brasilia**	**145.72**	**224**	PKP2	PKPab	10 28 47.1	+1.0
BDFB				pmax	pmax		
	comp=Z,15nm,0.5s						
ACCN	**Adirondack Com**	**145.76**	**2**	*e*PKPdf	PKPdf	10 28 45.6	+0.1
SLM	**Saint Louis**	**146.37**	**26**	*e*PKP2	PKPab	10 28 48.0	-0.6
CCM	**Cathedral Cave**	**146.39**	**28**	*e*PKP2	PKPab	10 28 48.3	-0.4
JCT	**Junction City**	**146.55**	**47**	*e*PKPdf	PKPdf	10 28 48.1	+1.3
JCT				*e*PKPbc	PKPbc	10 28 50.5	+2.2
HRV	**Harvard--Oak R**	**146.66**	**359**	*e*PKPdf	PKPdf	10 28 48.2	+1.2
HRV				*e*PKPbc	PKPbc	10 28 49.5	+0.9
WES	**Weston**	**146.78**	**359**	*e*PKP2	PKPab	10 28 48.0	-2.2
BINY	**Binghamton**	**146.80**	**5**	*e*PKPdf	PKPdf	10 28 48.1	+0.9
BINY				*e*PKPbc	PKPbc	10 28 50.0	+0.9
FVM	**French Village**	**146.82**	**27**	*e*PKPdf	PKPdf	10 28 47.8	+0.6
FVM				*e*PKPbc	PKPbc	10 28 49.6	+0.6
FVM				*e*PKPab	PKPab	10 28 51.1	+0.8
QUA2	**Belchertown**	**146.89**	**0**	*e*PKPdf	PKPdf	10 28 48.5	+1.1
QUA2				*e*PKPbc	PKPbc	10 28 50.2	+0.9
BLO	**Bloomington**	**147.36**	**21**	*e*PKIKP	PKPdf	10 28 48.7	+0.5
BLO				*e*		10 28 51.7	
BLO	**Bloomington**	**147.36**	**21**	*e*PKPbc	PKPbc	10 28 51.4	+0.8
BLO				*e*PKPab	PKPab	10 28 53.3	+0.8
ACSO	**Alum Creek Sta**	**147.49**	**15**	*e*PKPdf	PKPdf	10 28 49.1	+0.8
ACSO				*e*PKPbc	PKPbc	10 28 51.8	+0.9
ACSO				*e*PKPab	PKPab	10 28 53.8	+0.8
CEN1	**Los Morros**	**147.71**	**183**	*e*P	PKPdf	10 28 48.9	+0.1
MIAR	**Mount Ida**	**147.92**	**35**	*e*PKIKP	PKPdf	10 28 50.2	+1.1
MIAR				*e*		10 28 53.6	
USIN	**University of**	**148.00**	**23**	*e*PKPbc	PKPbc	10 28 53.1	+0.8
PAL	**Palisades**	**148.13**	**2**	*e*PKPdf	PKPdf	10 28 46.0	-3.5
PAL				*e*PKPbc	PKPbc	10 28 53.4	+0.8
PAL				*e*PKPab	PKPab	10 28 56.2	+0.6
SSPA	**Standing Stone**	**148.13**	**8**	*e*PKPdf	PKPdf	10 28 50.6	+1.2
SSPA				*e*PKPbc	PKPbc	10 28 53.1	+0.5
SSPA				*e*PKPab	PKPab	10 28 56.2	+0.7
PARMO	**Parma**	**148.21**	**27**	*e*PKPdf	PKPdf	10 28 49.9	+0.4
PARMO				*e*PKPbc	PKPbc	10 28 54.0	+1.1
PARMO				*e*PKPab	PKPab	10 28 56.5	+0.6
WCI	**Wyandotte Cave**	**148.28**	**21**	*e*PKIKP	PKPdf	10 28 50.2	+0.5
WCI				*e*		10 28 54.0	
LVC	**Limon Verde**	**148.38**	**186**	*e*PKPdf	PKPdf	10 28 52.7	+2.9
UALR	**University of**	**148.43**	**33**	*e*PKPdf	PKPdf	10 28 50.6	+0.7
UALR				*e*PKPbc	PKPbc	10 28 54.6	+1.2
UALR				*e*PKPab	PKPab	10 28 57.8	+1.1
PVMO	**Portageville**	**148.44**	**28**	*e*PKPbc	PKPbc	10 28 54.6	+1.1
GNAR	**Gosnell**	**148.66**	**29**	*e*PKPdf	PKPdf	10 28 49.1	-1.2
HBAR	**Harrisburg**	**148.68**	**30**	*e*PKPbc	PKPbc	10 28 55.5	+1.4
HBAR				*e*PKPab	PKPab	10 28 58.9	+1.1
GLAT	**Glass**	**148.75**	**27**	*e*PKPbc	PKPbc	10 28 55.2	+0.9
GLAT				*e*PKPab	PKPab	10 28 59.4	+1.3
MCWV	**Mont Chateau**	**148.75**	**11**	*e*PKPbc	PKPbc	10 28 54.6	+0.3
MCWV				*e*PKPab	PKPab	10 28 59.1	+1.1
UTMT	**University of**	**148.88**	**27**	*e*PKPbc	PKPbc	10 28 55.9	+1.3
MVL	**Millersville**	**148.95**	**6**	*e*PKPdf	PKPdf	10 28 51.9	+1.1
MVL				*e*PKPbc	PKPbc	10 28 55.9	+1.1
MVL				*e*PKPab	PKPab	10 28 58.9	0.0
HALT	**Halls**	**149.02**	**28**	*e*PKPbc	PKPbc	10 28 55.8	+0.8
HALT				*e*PKPab	PKPab	10 29 00.3	+1.2
NATX	**Nacogdoches**	**149.24**	**40**	*e*PKPdf	PKPdf	10 28 52.7	+1.5
NATX				*e*PKPab	PKPab	10 28 57.7	-2.3
MET	**Memphis--Engin**	**149.38**	**29**	*e*PKPdf	PKPdf	10 28 52.8	+1.3
MET				*e*PKPbc	PKPbc	10 28 56.9	+1.0
KVTX	**Kingsville**	**149.55**	**49**	*e*PKPdf	PKPdf	10 28 55.1	+3.4
KVTX				*e*PKPbc	PKPbc	10 28 59.8	+3.5
KVTX				*e*PKPab	PKPab	10 29 04.5	+3.2
HKT	**Hockley**	**149.64**	**44**	*e*PKPdf	PKPdf	10 28 53.8	+1.9
HKT				*e*PKPbc	PKPbc	10 28 58.6	+2.1
OXF	**Oxford**	**150.13**	**29**	*e*PKPdf	PKPdf	10 28 53.5	+0.9
OXF				*e*PKPbc	PKPbc	10 28 58.8	+1.1
OXF				*e*PKPab	PKPab	10 29 04.9	+1.3
PLAL	**Pickwick Lake**	**150.37**	**27**	*e*PKPdf	PKPdf	10 28 53.3	+0.3
PLAL				*e*PKPbc	PKPbc	10 28 58.6	+0.4
PLAL				*e*PKPab	PKPab	10 29 05.3	+0.7
FWV	**Forest Hill**	**150.54**	**14**	*e*PKPdf	PKPdf	10 28 53.1	-0.2
FWV				*e*PKPbc	PKPbc	10 28 58.9	+0.3
FWV				*e*PKPab	PKPab	10 29 05.8	+0.5
CBN	**Corbin**	**150.59**	**8**	*e*PKPbc	PKPbc	10 28 59.8	+1.0
TZTN	**Tazewell**	**150.74**	**19**	*e*PKPdf	PKPdf	10 28 54.3	+0.7
TZTN				*e*PKPbc	PKPbc	10 29 00.2	+1.1
TZTN				*e*PKPab	PKPab	10 29 07.4	+1.2
ELN	**Prospectdale**	**150.89**	**14**	*e*PKPdf	PKPdf	10 28 54.1	+0.3
ELN				*e*PKPbc	PKPbc	10 29 00.0	+0.5
CPCT	**Cooper Cave**	**151.40**	**21**	*e*PKPdf	PKPdf	10 28 55.5	+0.9
CPCT				*e*PKPbc	PKPbc	10 29 02.1	+1.4
CPCT				*e*PKPab	PKPab	10 29 08.8	-0.1
MYNC	**Murphy**	**151.88**	**21**	*e*PKIKP	PKPdf	10 29 02.3	+7.0
LRAL	**Lakeview Retre**	**152.48**	**28**	*e*PKPdf	PKPdf	10 28 57.2	+0.9
LRAL				*e*PKPbc	PKPbc	10 29 04.1	+0.9
LRAL				*e*PKPab	PKPab	10 29 13.6	+0.2
LPAZ	**La Paz**	**154.52**	**189**	PKP	PKPdf	10 29 01.9	+2.8
	comp=Z,6.2nm,1.0s,baz=47,slow=1.4,SNR=16						
LPAZ				PKPbc	PKPbc	10 29 10.4	+2.8
	comp=Z,17nm,1.0s,baz=141,slow=2.9,SNR=29						
LPAZ	**La Paz**	**154.52**	**189**	PKIKP	PKPdf	10 29 01.9	+2.8
LPAZ						10 29 10.4	
LPAZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LPAZ				pmax	pmax		
	comp=Z,17nm,1.0s						
SAML	**Samuel**	**160.00**	**207**	*e*PKPdf	PKPdf	10 29 07.2	+1.1
ROSC	**El Rosal**	**175.33**	**153**	PKP	PKPdf	10 29 18.7	+1.9
	comp=Z,5.3nm,0.4s,baz=276,slow=23,SNR=9.1						

IDC ***17*** *10:26:40.6±0.6, 9.62S×108.23E, h0km, mb4.4/12, mb1 4.4/13, mb1mx4.4/18, mbtmp4.4/13, ML3.8/1, Error ellipse: s-maj=26.3km s-min=14.7km az=59.0*
ISCJB ***17*** *10:26:43.7±0.4, 9.77S±0.07×108.14E±0.07, h33km, mb4.7/31, Error ellipse: s-maj=11.9km s-min=7.8km az=106.2*
MOS ***17*** *10:26:44.0±1.0, 9.60S×108.31E, h33km, mb5.0/9, Error ellipse: s-maj=21.1km s-min=10.4km az=116.1*
BJI ***17*** *10:26:44.7, 9.70S×108.20E, h35km, mB4.8, mb4.9, Ms4.8, Msz4.5*
NEIC ***17*** *10:26:45.7±0.3, 9.75S×108.24E, h35km, mb5.2/14, Error ellipse: s-maj=16.5km s-min=7.2km az=49.0*
ISC 17 10:26:46.0±0.4**, 9.79S**±0.06×**108.13E**±0.07**, h35**km**, n65,** σ**0.76**/58**, mb4.7**/31**, 3C-1D, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.90**	**33**	⇑*i*P	**Pn**	**10 27 40.7**	**+11**
BJII				*i* S	**Sn**	**10 28 04.8**	**+1.5**
MBWA	**Marble Bar**	**15.89**	**137**	P	**Pn**	**10 30 21.2**	**-5.6**
FITZ	**Fitzroy Crossi**	**18.88**	**118**	P	**Pn**	**10 31 04.0**	**0.0**
	0.2nm,0.3s,baz=256,slow=9.3,SNR=5.4						
FITZ				Sn	**Sn**	**10 34 16.4**	**-18**
	0.9nm,0.3s,baz=180,slow=21,SNR=8.0						
KAKA	**Kakadu**	**24.02**	**99**	*e*P	**P**	**10 31 57.6**	**+0.1**
	8.7nm,0.7s,mb4.3						
NWAO	**Narrogin (SRO)**	**24.51**	**161**	Sn	**S**	**10 36 30.4**	**+10**
	5.3nm,0.8s,baz=300,slow=20,SNR=3.1						
NST	**Nakhon Sawan**	**26.51**	**343**	P	**P**	**10 32 20.5**	**+0.4**
WRA	**Warramunga Arr**	**27.23**	**115**	P	**P**	**10 32 26.4**	**-0.2**
	1.5nm,0.7s,baz=287,slow=11,SNR=9.8						
WRA				PcP	PcP	10 35 47.1	+1.2
	1.4nm,0.6s,baz=293,slow=2.1,SNR=10						
WRA				Sn	S	10 37 34.9	+32
	1.1nm,0.8s,baz=284,slow=25,SNR=4.6						
WRA	**Warramunga Arr**	**27.23**	**115**	P	**P**	**10 32 26.4**	**-0.2**
WRA						10 35 47.1	
WRAB	**Tennant Creek**	**27.24**	**115**	*e*P	**P**	**10 32 26.8**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
WRAB	**Tennant Creek**	**27.24**	**115**	*e*P	**P**	**10 32 26.8**	**+0.2**
	comp=Z,1.9nm,0.6s,mb3.8						
ASAR	**Alice Springs**	**28.21**	**122**	P	**P**	**10 32 35.5**	**+0.2**
	comp=Z,1.6nm,0.7s,mb3.8,baz=304,slow=8.9,SNR=12						
ASAR				PcP	PcP	10 35 49.7	+1.4
	comp=Z,1.1nm,0.5s,baz=307,slow=2.2,SNR=12						
ASAR				Sn	S	10 38 01.5	+43
	comp=Z,2.4nm,0.9s,baz=300,slow=24,SNR=7.3						
ASAR	**Alice Springs**	**28.21**	**122**	P	**P**	**10 32 35.5**	**+0.2**
ASAR						10 35 49.7	
CHG	**Chiang Mai**	**29.83**	**342**	⇓P	**P**	**10 32 49.8**	**+0.1**
	comp=Z,30nm,0.9s,mb5.0						
CHTO	**Chiang Mai**	**29.83**	**342**	*e*P	**P**	**10 32 49.7**	**0.0**
CHTO				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.9						
CHTO	**Chiang Mai**	**29.83**	**342**	*e*P	**P**	**10 32 49.6**	**-0.1**
	comp=Z,24nm,0.9s,mb4.9						
GYA	**Guiyang**	**36.06**	**358**	⇑*i*P	**P**	**10 33 45.1**	**+1.0**
GYA				AP	pP	10 33 49.8	-4.4
GYA				PP	PP	10 35 04.6	-1.8
GYA				S	**S**	**10 39 17.1**	**-3.8**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s						
GYA				AMB	AMB		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,670nm,15.4s						
GYA				LR	LR		
	comp=E,740nm,16.0s						
GYA				LR	LR		
	comp=Z,610nm,15.8s						
CD2	**Chengdu**	**40.69**	**354**	⇑*i*P	**P**	**10 34 22.5**	**-0.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
JIRN	**Jiri**	**42.87**	**331**	*e*P	**P**	**10 34 41.5**	**+0.7**
	comp=Z,67nm,0.8s,mb5.4						
PKI	**Pulchoki**	**43.17**	**330**	*e*P	**P**	**10 34 43.3**	**0.0**
GUN	**Gumba**	**43.23**	**331**	*e*P	**P**	**10 34 44.4**	**+0.7**
	comp=Z,70nm,0.8s,mb5.4						
DMN	**Daman**	**43.36**	**330**	*e*P	**P**	**10 34 44.9**	**+0.2**
	comp=Z,49nm,0.9s,mb5.2						
KKN	**Kakani**	**43.42**	**330**	*e*P	**P**	**10 34 45.4**	**+0.1**
	comp=Z,57nm,1.0s,mb5.3						
KKN	**Kakani**	**43.42**	**330**	*e*P	**P**	**10 34 45.4**	**+0.1**
KKN				pmax	pmax		
	comp=Z,57nm,1.0s,mb5.3						
XAN	**Xi'an**	**43.60**	**1**	P	**P**	**10 34 45.9**	**-0.8**
XAN				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.7						
GKN	**Gorkha**	**43.92**	**329**	*e*P	**P**	**10 34 49.1**	**-0.1**
	comp=Z,52nm,1.1s,mb5.2						
KOLN	**Koldanda**	**44.26**	**328**	*e*P	**P**	**10 34 52.2**	**+0.2**
	comp=Z,46nm,0.8s,mb5.2						
GTA	**Gaotai**	**49.56**	**352**	*e*P	**P**	**10 35 34.1**	**+0.7**
GTA				AP	pP	10 35 44.6	+0.8
GTA				XP	sP	10 35 49.8	+1.8
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
MJAR	**Matsushiro Arr**	**54.08**	**30**	P	**P**	**10 36 04.2**	**-2.9**
	comp=Z,7.1nm,1.0s,mb4.5,baz=209,slow=8.6,SNR=12						
SONM	**Songino Array**	**57.39**	**359**	P	**P**	**10 36 30.7**	**-0.1**
	comp=Z,8.9nm,1.0s,mb4.7,baz=176,slow=8.4,SNR=22						
SONM				PcP	PcP	10 37 24.2	-0.3
	comp=Z,1.7nm,0.5s,baz=190,slow=4.1,SNR=4.0						
ZAK	**Zakamensk**	**60.07**	**356**	*e*P	**P**	**10 36 49.3**	**-0.2**
ZAK				*e*		10 37 34.6	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
MKAR	**Makanchi Array**	**60.88**	**340**	P	**P**	**10 36 54.4**	**-0.6**
	comp=Z,5.5nm,0.6s,mb4.9,baz=140,slow=7.8,SNR=32						
KLR	**Kul'dur**	**62.33**	**17**	*e*P	**P**	**10 37 00.0**	**-4.8**
MAW	**Mawson**	**65.04**	**197**	P	**P**	**10 37 23.2**	**+0.6**
	comp=Z,4.2nm,1.2s,mb4.4,baz=38,slow=2.6,SNR=3.6						
MAW	**Mawson**	**65.04**	**197**	P	**P**	**10 37 22.5**	**-0.2**
MAW				P		10 37 23.2	
KURK	**Kurchatov**	**65.49**	**340**	*e*P	**P**	**10 37 25.2**	**-0.3**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KURK	**Kurchatov**	**65.49**	**340**	*e*P	**P**	**10 37 25.2**	**-0.4**
	comp=Z,9.1nm,0.8s,mb4.9						
ZAL	**Zalesovo**	**66.49**	**345**	P	**P**	**10 37 30.0**	**-2.0**
	comp=Z,1.2nm,0.4s,mb4.3,baz=313,slow=1.8,SNR=8.8						
BOD	**Bodaibo**	**67.55**	**3**	*e*P	**P**	**10 37 36.7**	**-2.0**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
BVAR	**Borovoye Array**	**70.36**	**337**	P	**P**	**10 37 55.8**	**-0.4**
	comp=Z,6.1nm,0.7s,mb4.7,baz=144,slow=8.4,SNR=29						
BRVK	**Borovoye**	**70.42**	**337**	*e*P	**P**	**10 37 56.2**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
BRVK	**Borovoye**	**70.42**	**337**	*e*P	**P**	**10 37 56.2**	**-0.3**
	comp=Z,7.6nm,1.1s,mb4.5						
CHKZ	**Chkalovo**	**70.77**	**337**	*e*P	**P**	**10 37 58.6**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
CHKZ	**Chkalovo**	**70.77**	**337**	*e*P	**P**	**10 37 58.6**	**-0.1**
	comp=Z,20nm,0.9s,mb5.0						
ZRNK	**Zerenda**	**70.84**	**336**	*e*P	**P**	**10 37 58.6**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
ZRNK	**Zerenda**	**70.84**	**336**	*e*P	**P**	**10 37 58.6**	**-0.5**
	comp=Z,8.9nm,0.8s,mb4.8						
VNDA	**Vanda**	**73.03**	**169**	P	**P**	**10 38 12.4**	**+0.2**
	comp=Z,0.8nm,0.8s,mb3.7,baz=272,slow=11,SNR=2.3						
AKTK	**Aktyubinsk**	**74.08**	**329**	P	**P**	**10 38 18.2**	**-0.2**
AKTO	**Aktyubinsk**	**74.08**	**329**	P	**P**	**10 38 18.2**	**-0.2**
	comp=Z,3.2nm,0.8s,mb4.3,baz=122,slow=3.0,SNR=7.8						
ARU	**Arti**	**77.61**	**334**	*e*P	**P**	**10 38 38.4**	**-0.1**
ARU				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
ARU	**Arti**	**77.61**	**334**	*e*P	**P**	**10 38 38.4**	**-0.1**
	comp=Z,22nm,1.0s,mb5.0						
LSZ	**Lusaka**	**77.85**	**256**	*e*P	**P**	**10 38 41.1**	**+1.2**
ASF	**Jabal al Asfar**	**79.66**	**305**	P	**P**	**10 38 51.0**	**+1.2**
	comp=Z,0.6nm,0.3s,mb4.0,baz=344,slow=3.8,SNR=5.3						
EIL	**Elat**	**80.50**	**302**	*e*P	**P**	**10 38 55.1**	**+0.7**
	comp=Z,189nm,1.6s,mb5.8						
BR131	**Keskin Array S**	**84.51**	**312**	*e*P	**P**	**10 39 15.7**	**+0.5**
	comp=Z,0.4nm,0.3s,mb4.0						
BRTR	**Keskin Array B**	**84.51**	**312**	P	**P**	**10 39 15.2**	**0.0**
	comp=Z,3.3nm,0.9s,mb4.5,baz=132,slow=6.8,SNR=15						
NVAR	**Mina Array Bea**	**129.65**	**48**	PKP	PKPdf	10 45 53.5	+2.3
	comp=Z,0.4nm,0.7s,baz=262,slow=2.3,SNR=3.6						
WMOK	**Wichita Mounta**	**145.05**	**41**	*e*PKIKP	PKPdf	10 46 20.0	+0.5
BDFB	**Brasilia**	**145.40**	**223**	PKPbc	PKPbc	10 46 22.1	+2.0
	comp=Z,2.9nm,0.6s,baz=133,slow=8.1,SNR=4.1						
MIV	**Mineville/With**	**145.82**	**2**	*e*PKPbc	PKPbc	10 46 22.0	+0.6
JCT	**Junction City**	**146.83**	**48**	*e*PKPdf	PKPdf	10 46 21.9	-0.6
JCT				*e*PKPbc	PKPbc	10 46 26.2	+1.8
JCT				*e*PKPab	PKPab	10 46 27.4	+1.7
CCM	**Cathedral Cave**	**146.90**	**29**	*e*PKPdf	PKPdf	10 46 22.5	-0.2
CCM				*e*PKPbc	PKPbc	10 46 25.3	+0.7
CCM				*e*PKPab	PKPab	10 46 26.6	+0.5
MIAR	**Mount Ida**	**148.35**	**36**	*e*PKPbc	PKPbc	10 46 29.9	+1.4
MIAR				*e*PKPab	PKPab	10 46 32.4	+0.6
MIAR				*e*		10 46 40.2	
PLAL	**Pickwick Lake**	**150.88**	**28**	*e*PKPdf	PKPdf	10 46 30.1	+1.0
PLAL				*e*PKPbc	PKPbc	10 46 34.7	-0.1
PLAL				*e*		10 46 45.8	
SIV	**San Ignacio**	**152.24**	**203**	PKPbc	PKPbc	10 46 39.5	+1.6
	comp=Z,3.2nm,0.9s,baz=127,slow=4.3,SNR=14						
LPAZ	**La Paz**	**153.82**	**188**	PKPbc	PKPbc	10 46 43.0	+1.7
	comp=Z,0.6nm,0.7s,baz=130,slow=11,SNR=4.8						

IDC 17 10:34:43.9±0.9**, 7.00N**×**73.13W, h141**km±74km**, mb3.0**/3**, mb1 3.5**/5**, mb1mx3.2**/21**, mbtmp3.5**/5**, MS3.9**/2**, Ms1 3.9**/2**, ms1mx3.6**/10**, Error ellipse: s-maj=163.7km s-min=8.2km az=133.0, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.44**	**209**	P	Pn	10 35 24.8	+1.0
	27nm,0.3s,baz=63,slow=5.8,SNR=37						
ROSC				LR	LR	10 35 52.6	
	comp=Z,2μm,22.0s,baz=165,slow=28						
ROSC				S	Sn	10 35 55.9	+1.3
	64nm,0.3s,baz=94,slow=23,SNR=15						
SDV	**Santo Domingo**	**3.10**	**53**	P	Pn	10 35 33.7	+1.5
	6.0nm,0.3s,baz=262,slow=6.1,SNR=28						
SDV				S	Sn	10 36 10.0	+0.4
	11nm,0.3s,baz=88,slow=18,SNR=6.8						
SDV				LR	LR	10 36 20.6	
	comp=Z,4μm,19.6s,baz=130,slow=31						
PDAR	**Pinedale Array**	**47.93**	**324**	P	P	10 43 08.0	+0.1
	0.2nm,0.5s,baz=133,slow=8.8,SNR=3.3						
NVAR	**Mina Array Bea**	**51.35**	**314**	P	P	10 43 34.6	+0.8
	0.2nm,0.5s,baz=126,slow=9.0,SNR=3.1						
YKA	**Yellowknife Ar**	**63.09**	**340**	P	P	10 44 55.9	-0.4
	0.4nm,0.5s,baz=134,slow=6.5,SNR=5.7						

CSEM ***17*** *10:34:42.1, 9.48S×107.73E, h30km, mb5.5*
BJI ***17*** *10:34:42.3, 9.30S×107.80E, h27km, mB5.9, mb5.2, Ms5.7, Msz5.2*
ISCJB ***17*** *10:34:42.1±0.3, 9.45S±0.04×107.80E±0.05, h29km, mb5.0/60, MS5.2/3, Error ellipse: s-maj=7.7km s-min=5.3km az=122.8*
MOS ***17*** *10:34:43.2±1.1, 9.27S×107.94E, h33km, mb5.2/18, Error ellipse: s-maj=12.5km s-min=7.2km az=113.0*
NEIC ***17*** *10:34:44.3±0.3, 9.30S×107.83E, mb5.1/26, Error ellipse: s-maj=11.2km s-min=6.5km az=55.0*
IDC ***17*** *10:34:44.5±0.6, 9.34S×107.79E, h28km±3km, mb4.5/18, mb1 4.5/19, mb1mx4.5/22, mbtmp4.7/19, ML4.3/1, Error ellipse: s-maj=18.8km s-min=11.3km az=60.0*
ISC 17 10:34:44.3±0.3**, 9.47S**±0.04×**107.79E**±0.05**, h31**km**, h31**km±1.9km**:pP-P, n176,** σ**1.01**/136**, mb5.0**/60**, MS5.2**/3**, 14C-19D, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.63**	**356**	P	**Pn**	**10 35 25.0**	**+0.4**
	5μm,0.8s						
BJII	**Banjamegara**	**2.85**	**42**	P	**Pn**	**10 35 27.5**	**-0.1**
	520nm,1.5s						
BJII	**Banjamegara**	**2.85**	**42**	⇑*i*P	**Pn**	**10 35 26.9**	**-0.7**
BJII				*i* S	**Sn**	**10 35 45.3**	**-16**
KSI	**Kapahiang**	**7.75**	**318**	P	**Pn**	**10 36 34.0**	**-0.9**
	305nm,0.8s						
KSM	**Kuching**	**11.16**	**13**	*e*Pn	**Pn**	**10 37 22.3**	**+0.7**
KSM				*e*Sn	**Sn**	**10 39 28.1**	**+2.9**
PCI	**Palu**	**14.70**	**55**	P	**Pn**	**10 38 11.4**	**+1.4**
	231nm,1.3s						
PSI	**Prapat**	**15.05**	**324**	Pn	**Pn**	**10 38 07.6**	**-7.1**
	0.5nm,0.3s,baz=129,slow=12,SNR=4.0						
IPM	**Ipoh**	**15.41**	**334**	P	**Pn**	**10 38 23.1**	**+3.8**
KULM	**Kulim**	**16.30**	**334**	*e*Pn	**Pn**	**10 38 26.3**	**-4.4**
TSM	**Tawau**	**16.97**	**37**	P	**Pn**	**10 38 42.5**	**+3.3**
KKM	**Kota Kinabalu**	**17.55**	**29**	*e*P	**Pn**	**10 38 41.5**	**-4.9**
FITZ	**Fitzroy Crossi**	**19.33**	**118**	*e*P	**Pn**	**10 39 07.9**	**-0.2**
	10nm,0.5s						
FITZ				*e*S	**Sn**	**10 42 24.0**	**-20**
FITZ	**Fitzroy Crossi**	**19.33**	**118**	P	**Pn**	**10 39 08.0**	**-0.2**
	0.7nm,0.3s,baz=221,slow=6.9,SNR=13						
FITZ				Sn	**Sn**	**10 42 25.1**	**-19**
	0.3nm,0.3s,baz=255,slow=19,SNR=3.2						
BSI	**Banda Aceh**	**19.39**	**320**	P	**Pn**	**10 39 09.1**	**+0.2**
	200nm,1.0s						
KAKA	**Kakadu**	**24.40**	**100**	⇑*i*P	**P**	**10 40 00.1**	**+0.3**
	37nm,0.6s,mb5.0						
NWAO	**Narrogin (SRO)**	**24.92**	**161**	P	**P**	**10 40 06.1**	**+1.6**
	23nm,1.1s,mb4.6,baz=315,slow=12,SNR=5.3						
WRA	**Warramunga Arr**	**27.67**	**115**	P	**P**	**10 40 29.4**	**+0.1**
	9.4nm,0.9s,mb4.4,baz=288,slow=11,SNR=19						
WRA				PcP	PcP	10 43 47.6	+1.6
	2.4nm,0.7s,baz=290,slow=2.1,SNR=7.6						
WRA				pPcP		10 43 57.4	
	2.0nm,0.7s,baz=294,slow=2.1,SNR=6.8						
WRA	**Warramunga Arr**	**27.67**	**115**	P	**P**	**10 40 29.4**	**+0.1**
WRA						10 43 47.6	
WRAB	**Tennant Creek**	**27.68**	**115**	P	**P**	**10 40 30.0**	**+0.6**
	64nm,0.7s,mb5.4,SNR=5.3						
WRAB	**Tennant Creek**	**27.68**	**115**	*e*P	**P**	**10 40 29.5**	**+0.1**
	16nm,0.9s,mb4.6						
WB2	**Warramunga Arr**	**27.68**	**115**	*e*P	**P**	**10 40 29.2**	**-0.2**
ASAR	**Alice Springs**	**28.66**	**123**	P	**P**	**10 40 38.6**	**+0.4**
	4.4nm,0.7s,mb4.3,baz=302,slow=8.7,SNR=16						
ASAR				PcP	PcP	10 43 50.0	+1.6
	2.7nm,0.7s,baz=309,slow=2.1,SNR=11						
ASAR				pPcP		10 44 00.1	
	3.0nm,0.7s,baz=291,slow=2.2,SNR=11						
ASAR	**Alice Springs**	**28.66**	**123**	P	**P**	**10 40 38.7**	**+0.5**
ASAR						10 43 50.0	
NANT	**Nan**	**28.95**	**346**	⇑P	**P**	**10 40 39.0**	**-1.7**
	131nm,0.8s,mb5.7						
CHG	**Chiang Mai**	**29.43**	**343**	⇓P	**P**	**10 40 45.1**	**+0.1**
	22nm,1.0s,mb4.8						
KMI	**Kunming**	**34.73**	**352**	P	**P**	**10 41 33.3**	**+1.8**
KMI				AMB	AMB		
	comp=Z,34nm,0.9s,mb5.3						
GYA	**Guiyang**	**35.73**	**358**	⇑*i*P	**P**	**10 41 40.8**	**+0.7**
GYA				AP	pP	10 41 44.8	-4.3
GYA				XP	sP	10 41 48.4	-4.5
GYA				PP	PP	10 43 01.6	+0.1
GYA				PCP	PcP	10 44 11.9	+4.2
GYA				S	**S**	**10 47 12.8**	**-2.1**
GYA				SCP	ScP	10 47 55.8	+4.4
GYA				SS	SS	10 49 29.0	-22
GYA				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.6						
GYA				AMB	AMB		
	comp=Z,1μm,5.9s						
GYA				LR	LR		
	comp=N,2μm,16.7s,MS5.1						
GYA				LR	LR		
	comp=E,2μm,15.8s,MS5.1						
GYA				LR	LR		
	comp=Z,2μm,16.0s,MS4.9						
YHNB	**Yeheng**	**36.43**	**21**	*e*P	**P**	**10 41 45.5**	**-0.6**
CTA	**Charters Tower**	**38.57**	**110**	*e*P	**P**	**10 42 06.0**	**+1.8**
	comp=Z,5.7nm,0.6s,mb4.5						
CTA	**Charters Tower**	**38.57**	**110**	P	**P**	**10 42 06.1**	**+1.9**
	comp=Z,7.8nm,0.7s,mb4.6,baz=261,slow=12,SNR=10						
CTA	**Charters Tower**	**38.57**	**110**	*e*P	**P**	**10 42 06.0**	**+1.8**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CTAO	**Charters Tower**	**38.57**	**110**	P	**P**	**10 42 06.0**	**+1.8**
PMG	**Port Moresby**	**38.82**	**93**	*e*P	**P**	**10 42 03.8**	**-2.5**
WHN	**Wuhan**	**40.28**	**9**	*e*P	**P**	**10 42 19.0**	**+0.6**
CD2	**Chengdu**	**40.33**	**355**	⇑*i*P	**P**	**10 42 19.3**	**+0.4**
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
CD2				AMB	AMB		
	comp=Z,120nm,5.2s						
JOW	**Kunigami**	**41.20**	**28**	P	**P**	**10 42 25.2**	**-0.8**
	comp=Z,23nm,0.8s,mb4.9,baz=263,slow=5.3,SNR=7.4						
SSE	**Sheshan**	**42.33**	**17**	*e*P	**P**	**10 42 35.6**	**+0.3**
SSE				AMB	AMB		
	comp=Z,58nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,2μm,8.0s						
JIRN	**Jiri**	**42.42**	**331**	*e*P	**P**	**10 42 37.3**	**+1.3**
	comp=Z,127nm,0.8s,mb5.6						
NJ2	**Nanjing**	**42.62**	**14**	*e*P	**P**	**10 42 38.1**	**+0.5**
NJ2				PP	PP	10 44 19.3	+2.6
NJ2				S	**S**	**10 48 54.0**	**-4.5**
NJ2				XS	sS	10 49 10.0	-3.7
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,1μm,4.9s						
NJ2				LR	LR		
	comp=N,5μm,12.4s,MS5.7						
NJ2				LR	LR		
	comp=E,3μm,14.6s,MS5.7						
NJ2				LR	LR		

comp=Z,2µm,14.6s,MS5.2
PKI Pulchoki 42.73 330 *e*P **P 10 42 39.1 +0.6**
GUN Gumba 42.78 331 *e*P **P 10 42 40.1 +1.1**
comp=Z,123nm,0.8s,mb5.7
DMN Daman 42.91 330 *e*P **P 10 42 40.8 +0.8**
comp=Z,79nm,0.8s,mb5.5
KKN Kakani 42.97 330 *e*P **P 10 42 41.2 +0.7**
comp=Z,83nm,0.9s,mb5.5
KKN Kakani 42.97 330 *e*P **P 10 42 41.2 +0.7**
KKN pmax pmax
comp=Z,83nm,0.9s,mb5.5
XAN Xi'an 43.28 1 P **P 10 42 42.5 -0.5**
XAN AMB AMB
comp=Z,81nm,0.8s,mb5.5
GKN Gorkha 43.47 330 *e*P **P 10 42 45.1 +0.6**
KOLN Koldanda 43.80 328 *e*P **P 10 42 48.0 +0.8**
comp=Z,65nm,0.7s,mb5.5
LZH Lanzhou 45.46 356 ⇓P **P 10 43 01.6 +1.2**
LZH AP pP 10 43 11.5 +1.8
LZH XP sP 10 43 15.4 +2.0
LZH PP PP 10 44 47.9 +0.8
LZH AMB AMB
comp=Z,71nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,369nm,5.4s
NDI New Delhi 48.06 323 *e*P **P 10 43 19.0 -1.8**
GTA Gaotai 49.19 352 *e*P **P 10 43 30.6 +1.2**
GTA AP pP 10 43 37.5 -1.2
GTA XP sP 10 43 40.8 -1.6
GTA PP PP 10 45 24.6 +1.3
GTA PPP 10 46 19.4
GTA S **S 10 50 33.8 +0.8**
GTA XS sS 10 50 46.3 -2.0
GTA AMB AMB
comp=Z,18nm,1.4s,mb4.9
GTA AMB AMB
comp=Z,2µm,6.5s
GTA LR LR
comp=N,4µm,15.6s
GTA LR LR
comp=E,3µm,21.7s
GTA LR LR
comp=Z,7µm,21.3s
BJT Baijiatuan 49.84 8 P **P 10 43 34.5 +0.1**
BJT pmax pmax
comp=Z,11nm,0.4s
BJT Baijiatuau 49.84 8 P **P 10 43 34.5 +0.1**
comp=Z,12nm,0.4s,mb5.3
BJI Beijing 49.87 8 *e*P **P 10 43 34.3 -0.3**
BJI AMB AMB
comp=Z,28nm,0.8s,mb5.3
HNR Honiara 51.41 95 *e*P **P 10 43 46.4 +0.2**
MAT Matsushiro 53.97 30 P **P 10 44 02.3 -2.8**
MAT Matsushiro 53.97 30 *e*P **P 10 44 02.0 -3.1**
MAT pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MAT Matsushiro 53.97 30 *e*P **P 10 44 02.0 -3.1**
comp=Z,7.0nm,1.0s,mb4.5
MJAR Matsushiro Arr 53.97 30 P **P 10 44 02.7 -2.4**
comp=Z,11nm,0.8s,mb4.8,baz=206,slow=7.6,SNR=24
MJAR PcP PcP 10 45 11.9 +1.8
comp=Z,3.5nm,0.8s,baz=202,slow=4.0,SNR=5.0
MJAR Matsushiro Arr 53.97 30 P **P 10 44 02.7 -2.4**
MJAR PcP PcP 10 45 11.9 +1.8
WMQ Urumqi 56.09 343 P **P 10 44 22.3 +1.8**
WMQ AP pP 10 44 26.4 -3.5
WMQ XP sP 10 44 28.8 -4.8
WMQ PCP PcP 10 45 20.5 +2.2
WMQ PP PP 10 46 28.8 +3.2
WMQ SCP ScP 10 49 17.6 +2.4
WMQ S **S 10 52 08.4 +1.2**
WMQ AMB AMB
comp=Z,39nm,1.4s,mb5.2
WMQ AMB AMB
comp=Z,255nm,5.7s
WMQ LR LR
comp=N,1µm,17.3s,MS5.1
WMQ LR LR
comp=E,794nm,16.2s,MS5.1
WMQ LR LR
comp=Z,1µm,17.8s,MS5.0
SONM Songino Array 57.06 359 P **P 10 44 27.8 +0.4**
comp=Z,18nm,0.7s,mb5.2,baz=172,slow=7.8,SNR=123
SONM PcP PcP 10 45 22.6 +0.5
comp=Z,4.0nm,0.8s,baz=183,slow=6.0,SNR=3.8
ULN Ulaanbaatar 57.08 359 *e*P **P 10 44 27.7 +0.2**
ULN pmax pmax
comp=Z,30nm,0.7s,mb5.4
ULN Ulaanbaatar 57.08 359 *e*P **P 10 44 27.7 +0.2**
comp=Z,30nm,0.7s,mb5.4
TKM2 Tokmak 2 59.84 333 P **P 10 44 44.2 -2.6**
TKM2 pmax pmax
comp=Z,22nm,0.7s,mb5.3
AAK Ala-Archa 60.11 332⇑ *i*P **P 10 44 48.0 -0.6**
AAK pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
AAK Ala-Archa 60.11 332 *e*P **P 10 44 48.1 -0.5**
comp=Z,14nm,1.3s,mb4.8
MK31 Makanchi Array 60.46 340 P **P 10 44 50.3 -0.7**
MK31 pmax pmax
comp=Z,21nm,0.6s,mb5.3
MKAR Makanchi Array 60.46 340⇑ *e*P **P 10 44 51.0 0.0**
comp=Z,27nm,0.6s,mb5.5,baz=147,slow=6.9,SNR=133
MKAR Makanchi Array 60.46 340⇑ *e*P **P 10 44 51.0 0.0**
MOY Mondy 61.17 355 *e*P **P 10 44 56.1 +0.3**
KLR Kul'dur 62.12 18 *e*P **P 10 44 57.4 -4.9**
KKAR Karatay Array 62.37 330 *i*P **P 10 45 03.2 -0.7**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
HABR Khabarovsk 62.51 20 *e*P **P 10 45 04.0 -0.8**
YSS Yuzh-Sakhalins 64.23 26 *e*P **P 10 45 15.0 -1.2**
YSS *e* pP 10 45 24.8 -1.0
YSS pmax pmax
comp=Z,50nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 64.23 26 *e*P **P 10 45 15.7 -0.5**
comp=Z,27nm,0.8s,mb5.3
KURK Kurchatov 65.07 340 P **P 10 45 21.8 +0.1**
comp=Z,70nm,0.7s,mb5.8,SNR=11
KURK Kurchatov 65.07 340 *d*/*i*P **P 10 45 21.7 0.0**
KURK Kurchatov 65.07 340 *e*P **P 10 45 21.7 -0.1**
comp=Z,26nm,1.0s,mb5.2
KURK *e* pP 10 45 31.4 +0.1
MAW Mawson 65.25 197 *e*P **P 10 45 22.8 -0.1**
comp=Z,7.2nm,0.6s,mb4.9
MAW Mawson 65.25 197 P **P 10 45 23.2 +0.4**
comp=Z,5.0nm,0.7s,mb4.7,baz=47,slow=5.6,SNR=22
MAW Mawson 65.25 197 *e*P **P 10 45 22.8 -0.1**
MAW pmax pmax
comp=Z,7.0nm,0.6s
ZAL Zalesovo 66.10 345 P **P 10 45 26.9 -1.4**
comp=Z,4.4nm,0.6s,mb4.7,baz=332,slow=2.9,SNR=17
BOD Bodaibo 67.24 4⇑ *i*P **P 10 45 34.5 -1.2**
BOD pmax pmax
comp=Z,14nm,0.9s,mb5.0
NVS Novosibirsk 67.31 345 *e*P **P 10 45 34.6 -1.5**
BVA0 Borovoye Array 69.93 337 *i*P **P 10 45 52.4 0.0**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
BVAR Borovoye Array 69.93 337 P **P 10 45 52.3 -0.1**
comp=Z,15nm,0.7s,mb5.1,baz=144,slow=8.3,SNR=46
BRVK Borovoye 70.00 337 P **P 10 45 53.9 +1.1**
comp=Z,92nm,0.5s,mb6.0,SNR=5.0
BRVK Borovoye 70.00 337 *e*P **P 10 45 53.0 +0.2**
BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BRVK Borovoye 70.00 337 *e*P **P 10 45 53.0 +0.2**
comp=Z,5.7nm,0.6s,mb4.7
CHKZ Chkalovo 70.35 338 *e*P **P 10 45 54.9 -0.1**
CHKZ *e* pP 10 46 05.3 +0.7
CHKZ pmax pmax
comp=Z,18nm,0.7s,mb5.1
CHKZ Chkalovo 70.35 338 *e*P **P 10 45 54.9 -0.1**
comp=Z,18nm,0.7s,mb5.1
CHKZ *e* pP 10 46 05.3 +0.7
ZRNK Zerenda 70.41 336 *e*P **P 10 45 55.2 -0.2**
ZRNK pmax pmax
comp=Z,15nm,0.6s,mb5.1
ZRNK Zerenda 70.41 336 *e*P **P 10 45 55.2 -0.2**
comp=Z,15nm,0.6s,mb5.1
ZRNK *e* 10 45 58.3
YAK Yakutsk 73.29 11 *d*/*i*P **P 10 46 11.7 -1.0**
YAK pmax pmax
comp=Z,84nm,0.8s,mb5.7
YAK Yakutsk 73.29 11 *e*P **P 10 46 12.0 -0.7**
comp=Z,70nm,0.7s,mb5.7
VNDA Vanda 73.41 169 P **P 10 46 12.8 -0.6**
comp=Z,2.8nm,1.0s,mb4.1,baz=319,slow=3.8,SNR=9.0
VNDA Vanda 73.41 169 *e*P **P 10 46 12.7 -0.7**
VNDA *e* pP 10 46 23.4 +0.3
VNDA pmax pmax
comp=Z,2.0nm,0.7s
VNDA Vanda 73.41 169 *e*P **P 10 46 12.7 -0.7**
comp=Z,2.5nm,0.7s,mb4.2
VNDA *e* pP 10 46 23.4 +0.3
AKTK Aktyubinsk 73.63 329 P **P 10 46 13.9 -0.7**
AKTO Aktyubinsk 73.63 329 P **P 10 46 13.9 -0.7**
comp=Z,4.5nm,0.7s,mb4.5,baz=102,slow=16,SNR=6.6
SBA Scott Base 74.49 169 *e*P **P 10 46 19.9 +0.2**
SBA *e* pP 10 46 30.4 +1.0
SBA pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
SBA Scott Base 74.49 169 *e*P **P 10 46 19.9 +0.2**
comp=Z,7.4nm,1.1s,mb4.5
SBA *e* pP 10 46 30.4 +1.0
PET Petropavlovsk 75.77 29 *d*/*i*P **P 10 46 26.5 -0.5**
PET pmax pmax
comp=Z,36nm,1.7s,mb5.0
GNI Garni 76.24 315 *e*P **P 10 46 30.2 +0.5**
GNI pmax pmax
comp=Z,7.0nm,0.9s
GNI Garni 76.24 315 *e*P **P 10 46 32.3 +2.6**
SVE Sverdlovsk 76.57 336 *e*P **P 10 46 32.3 +0.7**
MA2 Magadan 76.90 21 *e*P **P 10 46 33.4 0.0**
MA2 *e* pP 10 46 43.1 -0.1
ARU Arti 77.17 334⇓ *i*P **P 10 46 34.6 -0.4**
ARU *e* 10 49 29.0
ARU *e*PPP 10 51 17.7
ARU *e*S S 10 56 22.5 +0.3
ARU *e*SS SS 11 01 20.6 +0.5
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ARU Arti 77.17 334 *e*P **P 10 46 34.9 0.0**
comp=Z,7.0nm,0.8s,mb4.6
LSZ Lusaka 77.60 256 P **P 10 46 39.5 +2.1**
comp=Z,4.5nm,0.8s,mb4.5,baz=98,slow=3.8,SNR=9.1
LSZ Lusaka 77.60 256 *e*P **P 10 46 39.2 +1.8**
LSZ P 10 46 39.5
LSZ *e*PcP PcP 10 46 49.1 +1.6
ZEI Tsey 77.93 317 *e*P **P 10 46 39.9 +0.7**
ASF Jabal al Asfar 79.20 305 P **P 10 46 46.5 +0.3**
comp=Z,2.2nm,0.8s,mb4.2,baz=225,slow=3.9,SNR=4.6
KIV Kislovodsk 79.23 318 *e*P **P 10 46 43.9 -2.5**
GOF Gofitskoye 79.46 319 *e*P **P 10 46 38.0 -10**
TIXI Tiksi 82.15 7 *d*/*i*P **P 10 47 00.9 -1.1**
TIXI pmax pmax
comp=Z,33nm,1.0s,mb5.2
BR131 Keskin Array S 84.04 312 *e*P **P 10 47 12.2 +0.4**
comp=Z,5.7nm,0.8s,mb4.8
BR131 *e* pP 10 47 21.4 -0.3
BRTR Keskin Array B 84.04 312 P **P 10 47 12.0 +0.2**
comp=Z,4.8nm,1.0s,mb4.6,baz=126,slow=6.3,SNR=21
BRTR pP pP 10 47 21.2 -0.4
comp=Z,7.2nm,0.8s,baz=138,slow=6.5,SNR=15
OBN Obninsk 87.21 327 *c*/*i*P **P 10 47 28.0 +0.5**
OBN *e* 10 47 34.3
OBN *e* 10 50 51.8
OBN *e*S S 10 57 50.4 -15
OBN pmax pmax
comp=Z,40nm,0.8s,mb5.7
OBN Obninsk 87.21 327 *e*P **P 10 47 28.0 +0.5**
comp=Z,29nm,0.7s,mb5.6
SNAA Sanae 87.42 197 *e*P **P 10 47 27.3 -1.2**
SNAA *e* 10 47 29.6
SNAA *e* 10 47 39.9
SNAA *e* 10 47 44.8
SNAA *e* 10 47 49.9
SNAA Sanae 87.42 197 *e*P **P 10 47 29.4 +0.9**
SNAA pmax pmax
comp=Z,5.0nm,1.0s
SNAA Sanae 87.42 197 *e*P **P 10 47 29.4 +0.9**
comp=Z,5.1nm,1.0s,mb4.7
KLMR Klimovskoe 87.92 333 *e*P **P 10 47 30.2 -0.7**
KLMR pmax pmax
comp=Z,40nm,1.2s,mb5.5
AKASG Malin Array Be 90.10 321 P **P 10 47 40.5 -0.6**
comp=Z,0.3nm,0.3s,mb4.2,baz=82,slow=4.9,SNR=6.4
AKASG pP pP 10 47 48.8 -2.3
comp=Z,2.2nm,0.7s,baz=83,slow=4.6,SNR=4.5
FINES FINESS Array B 94.30 332 P **P 10 48 00.4 -0.2**
comp=Z,2.0nm,0.9s,mb4.6,baz=270,slow=1.9,SNR=4.4
ARCES ARCESS Array B 96.11 339 P **P 10 48 08.0 -0.8**
comp=Z,3.2nm,0.8s,mb4.8,baz=101,slow=1.9,SNR=5.9
ARCES ARCESS Array B 96.11 339 P **P 10 48 08.0 -0.8**
YKA Yellowknife Ar 118.88 21 PKP PKPdf 10 53 29.5 0.0
comp=Z,2.2nm,0.7s,baz=311,slow=1.6,SNR=10.0
YKA pPKP pPKPdf 10 53 39.3 -0.4
comp=Z,2.4nm,0.7s,baz=314,slow=1.9,SNR=11
H03A Soap Creek Ran 123.83 42⇑P PKPdf 10 53 39.4 +0.4
baz=124
J03A Ideyld Park 124.54 43⇓P PKPdf 10 53 41.5 +1.1
baz=124
L04A Klamath Falls 125.72 44⇑P PKPdf 10 53 44.1 +1.4
baz=126
J06A Christmas Vall 126.47 42⇑P PKPdf 10 53 46.1 +2.0
baz=126
HATC Hat Creek Radi 126.53 46⇓P PKPdf 10 53 46.0 +1.8
baz=126
O05C Quincy 127.22 46⇓P PKPdf 10 53 48.2 +2.6
baz=127
J08A Circle Bar Ran 127.54 42 P PKPdf 10 53 48.7 +2.6
baz=127
N06A Buffalo Meadow 127.69 45⇓P PKPdf 10 53 49.2 +2.7
baz=128
M07A Soldier Meadow 127.90 44⇓P PKPdf 10 53 49.7 +2.8
baz=128
O06A Flanigan 127.92 46⇓P PKPdf 10 53 49.7 +2.9
baz=128
S06C San Francisco 128.75 49⇑P PKPdf 10 53 50.7 +2.3
baz=129
N08A GE Springer Mi 128.87 44⇓P PKPdf 10 53 52.0 +3.3
baz=129
NVAR Mina Array Bea 129.68 47 PKP PKPdf 10 53 53.4 +3.2
comp=Z,0.7nm,0.7s,baz=252,slow=2.2,SNR=7.9
HLID Hailey 130.05 40 *e*P PKPdf 10 53 51.2 +0.3
HLID *e* 10 54 04.2
ELK Elko 130.86 43 *e*PKIKP PKPdf 10 53 55.6 +3.1
ELK *e* 10 54 05.5
M13A Montello 131.29 42⇓P PKPdf 10 53 56.4 +3.1
baz=131
Q11A Duckwater 131.41 46⇓P PKPdf 10 53 55.6 +2.0
baz=131
U10A Ash Meadows, A 131.90 49⇓P PKPdf 10 53 58.3 +3.9
baz=132
V12A Nelson 133.28 49⇓P PKPdf 10 54 01.0 +4.0
baz=133
PDAR Pinedale Array 133.48 38 PKP PKPdf 10 54 00.1 +2.7
comp=Z,0.6nm,0.6s,baz=358,slow=1.4,SNR=6.9
PDAR pPKP pPKPdf 10 54 09.1 +1.5
comp=Z,0.6nm,0.7s,baz=197,slow=1.5,SNR=4.4
W14A Seligman 134.80 49⇑P PKPdf 10 54 04.9 +5.0
baz=135
X15A Humboldt 135.74 50⇓P PKPdf 10 54 06.2 +4.5
baz=136
PV10 Paradox Valley 136.20 43 *e*P PKPdf 10 54 06.8 +4.3
PV10 *e* 10 54 16.5
PV01 Paradox Valley 136.64 43 *e*P PKPdf 10 54 05.9 +2.6
PV01 *e* 10 54 17.4
LONY Lake Ozonia 144.92 3 *e*PKPdf PKPdf 10 54 18.0 -0.2
LONY *e* 10 54 28.0
WMOK Wichita Mounta 145.02 40 *e*PKIKP PKPdf 10 54 19.3 +0.9
WMOK *e* 10 54 29.5
BDFB Brasilia 145.41 224 PKPbc PKPbc 10 54 21.6 +2.6
comp=Z,7.2nm,0.9s,baz=115,slow=5.5,SNR=6.2
MIV Mineville/With 145.50 2 *e*PKPbc PKPbc 10 54 20.2 +0.9
NCB Newcomb 145.58 3 *e*PKPbc PKPbc 10 54 20.2 +0.6
NCB *e* 10 54 30.5
JCT Junction City 146.86 47 *e*PKPdf PKPdf 10 54 22.5 +1.0
JCT *e*PKPbc PKPbc 10 54 25.7 +2.4
JCT *e*PKPab PKPab 10 54 27.1 +2.3
JCT *e* 10 54 35.6
FVM French Village 147.21 27 *e*PKIKP PKPdf 10 54 20.5 -1.6
FVM *e* 10 54 25.0
FVM *e* 10 54 27.0
FVM *e* 10 54 37.0
ACSO Alum Creek Sta 147.90 16 *e*PKPbc PKPbc 10 54 27.6 +1.3
ACSO *e*PKPab PKPab 10 54 29.9 +1.1
LVC Limon Verde 147.95 186 PKPbc PKPbc 10 54 29.1 +2.7
comp=Z,5.1nm,0.9s,baz=315,slow=1.4,SNR=4.6
MIAR Mount Ida 148.28 35 *e*PKPdf PKPdf 10 54 28.7 +4.8
MIAR *e*PKPab PKPab 10 54 32.3 +1.9
MIAR *e* 10 54 38.9
PARMO Parma 148.60 28 *e*PKPbc PKPbc 10 54 29.5 +1.4
PARMO *e* 10 54 39.7
WCI Wyandotte Cave 148.69 22 *e*PKPbc PKPbc 10 54 28.8 +0.5
WCI *e*PKPab PKPab 10 54 33.1 +1.1
WCI *e* 10 54 39.7
UALR University of 148.79 33 *e*PKPdf PKPdf 10 54 26.7 +1.9
UALR *e*PKPbc PKPbc 10 54 30.1 +1.5
UALR *e* 10 54 40.4
WVT Waverly 149.90 26 *e*PKHKP 10 54 27.7
WVT *e* 10 54 32.7
WVT Waverly 149.90 26 *e*PKPdf PKPdf 10 54 27.7 +1.2
WVT *e*PKPbc PKPbc 10 54 32.6 +1.3
WVT *e* 10 54 42.7
FWV Forest Hill 150.95 14 *e*PKPdf PKPdf 10 54 30.1 +1.9
FWV *e*PKPbc PKPbc 10 54 34.9 +1.0
TZTN Tazewell 151.15 19 *e*PKPbc PKPbc 10 54 35.7 +1.4
TZTN *e* 10 54 45.4
ELN Prospectdale 151.30 14 *e*PKPbc PKPbc 10 54 35.6 +0.9
SIV San Ignacio 152.41 204 PKP PKPdf 10 54 33.1 +2.8
comp=Z,1.0nm,0.8s,baz=21,slow=5.7,SNR=5.4
SIV PKPbc PKPbc 10 54 39.1 +1.9
comp=Z,5.4nm,0.9s,baz=150,slow=3.2,SNR=21
SIV pPKPbc pPKPbc 10 54 49.5 +2.1
comp=Z,4.7nm,0.7s,baz=155,slow=3.1,SNR=11
LPAZ La Paz 154.09 189 PKP PKPdf 10 54 36.6 +3.9
comp=Z,0.9nm,0.9s,baz=198,slow=3.2,SNR=3.8
LPAZ PKPab PKPab 10 54 56.5 +2.1
comp=Z,1.6nm,0.8s,baz=214,slow=8.0,SNR=8.2

IDC ***17*** *10:43:28.7±0.7,9.11S×10771E,h0km,mb4.1/9, mb1 4.1/10,mb1mx4.0/18,mbtmp4.1/10,ML3.5/1, Error ellipse: s-maj=33.7km s-min=15.8km az=62.0*
NEIC ***17*** *10:43:30.2±0.5,9.10S×10771E,h10km,mb4.7/3, Error ellipse: s-maj=23.2km s-min=9.9km az=57.0*
ISCJB ***17*** *10:43:31.6±0.6,9.1S±0.1×1078E±0.2,h33km,mb4.2/12, Error ellipse: s-maj=27.0km s-min=11.4km az=112.7*
ISC 17 10:43:33.9±0.6,91S±01×1078E±02,h35km,n20,σ0.934/13, mb4.2/12,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**		**19.52**	**119**	P		**Pn**	**10 47 59.3**	**-0.4**
	0.1nm,0.3s,baz=280,slow=11,SNR=4.1								
NWAO	**Narrogin (SRO)**		**25.26**	**161**	P		**P**	**10 48 56.0**	**-0.7**
	6.8nm,0.8s,mb4.2,baz=336,slow=10.0,SNR=3.0								
WRA	**Warramunga Arr**		**27.85**	**116**	P		**P**	**10 49 20.4**	**+0.4**
	0.9nm,0.7s,mb3.5,baz=285,slow=11,SNR=4.6								
ASAR	**Alice Springs**		**28.88**	**123**	P		**P**	**10 49 29.5**	**+0.3**
	1.5nm,0.7s,mb3.8,baz=301,slow=8.2,SNR=6.4								
SHL	**Shillong**		**37.78**	**336**	*ex*		x	10 50 51.9	
SONM	**Songino Array**		**56.72**	**359**	P		**P**	**10 53 14.4**	**+0.4**
	1.8nm,0.7s,mb4.2,baz=175,slow=8.0,SNR=11								
MKAR	**Makanchi Array**		**60.12**	**340**	P		**P**	**10 53 37.8**	**0.0**
	3.4nm,0.5s,mb4.6,baz=142,slow=7.9,SNR=22								
KURK	**Kurchatov**		**64.74**	**340**	*e*P		**P**	**10 54 08.4**	**-0.2**
	7.2nm,1.0s,mb4.7								
MAW	**Mawson**		**65.57**	**197**	P		**P**	**10 54 14.4**	**+0.4**
	0.8nm,0.6s,mb3.9,baz=18,slow=3.2,SNR=4.3								
BVAR	**Borovoye Array**		**69.60**	**337**	P		**P**	**10 54 39.3**	**-0.1**
	2.5nm,0.6s,mb4.3,baz=149,slow=9.8,SNR=11								
CHKZ	**Chkalovo**		**70.02**	**338**	*e*P		**P**	**10 54 41.7**	**-0.3**
	4.3nm,0.6s,mb4.6								
ZRNK	**Zerenda**		**70.09**	**336**	*e*P		**P**	**10 54 42.2**	**-0.2**
	2.2nm,0.6s,mb4.3								
VNDA	**Vanda**		**73.76**	**169**	P		**P**	**10 55 04.7**	**+0.2**
	1.0nm,0.9s,mb3.7,baz=338,slow=5.5,SNR=4.6								
BRTR	**Keskin Array B**		**83.79**	**312**	P		**P**	**10 55 59.7**	**+0.2**
	1.0nm,0.9s,mb4.0,baz=116,slow=8.4,SNR=5.5								
WMOK	**Wichita Mounta**		**144.78**	**40**	*e*PKPdf	PKPdf		11 03 07.0	0.0
NCB	**Newcomb**		**145.24**	**3**	*e*PKPbc	PKPbc		11 03 08.0	+0.5
CCM	**Cathedral Cave**		**146.49**	**28**	*e*PKPbc	PKPbc		11 03 10.5	-0.9
JCT	**Junction City**		**146.65**	**47**	*e*PKPdf	PKPbc		11 03 13.9	+2.1
MIAR	**Mount Ida**		**148.02**	**35**	*e*PKPdf	PKPbc		11 03 17.2	+1.7
MIAR					*e*PKPbc	PKPab		11 03 20.2	+1.8
PLAL	**Pickwick Lake**		**150.46**	**27**	*e*PKPdf	PKPbc		11 03 21.6	-0.1

BJI ***17*** *10:44:22.2, 1001S×10805E,h10km,mB5.8,mb5.4,Ms5.8, Msz5.6*
IDC ***17*** *10:44:30.4±0.4,9.11S×10772E,h0km,mb5.0/25, mb1 5.1/26,mb1mx5.1/27,mbtmp5.0/26,ML4.5/1, Error ellipse: s-maj=16.1km s-min=10.8km az=47.0*
ISCJB ***17*** *10:44:31.2±0.2,9.08S±003×10779E±004,h18km, mb5.4/116,MS5.6/13,Error ellipse: s-maj=5.8km s-min=4.1km az=118.7*
NEIC ***17*** *10:44:31.9±0.2,9.09S×10768E,h10km,mb5.5/44, Error ellipse: s-maj=7.1km s-min=4.9km az=49.0*
MOS ***17*** *10:44:34.0±1.3,8.94S×10786E,h33km,mb5.5/60, Error ellipse: s-maj=10.4km s-min=6.1km az=114.7*
ISC 17 10:44:33.4±0.2,9.11S±003×10779E±004,h19km, h19km±2.0km:pP-P,n370,σ1.907/268,mb5.4/116,MS5.6/13, 51C-32D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**		**7.49**	**316**	P		**Pn**	**10 46 20.2**	**-1.3**
	494nm,1.1s								
KSM	**Kuching**		**10.81**	**14**	*e*Pn		**Pn**	**10 47 08.3**	**+1.3**
KSM					*e*Sn		rx	10 47 09.2	
COCO	**West Island**		**11.19**	**253**	*e*Pn		**Pn**	**10 47 09.1**	**-3.2**
	208nm,0.8s								
PPI	**Padang Panjang**		**11.32**	**319**	P		**Pn**	**10 47 14.6**	**+0.6**
	64nm,1.3s								
KGM	**Kluang**		**11.91**	**338**	P		**Pn**	**10 47 23.8**	**+1.6**
PCI	**Palu**		**14.50**	**56**	P		**Pn**	**10 48 00.5**	**+3.0**
	269nm,1.4s								
PSI	**Prapat**		**14.77**	**323**	Pn		**Pn**	**10 47 54.2**	**-6.9**
	0.9nm,0.3s,baz=158,slow=9.2,SNR=9.0								
PSI	**Prapat**		**14.77**	**323**	P		**Pn**	**10 47 54.2**	**-6.9**
PSI					pmax	pmax			
	comp=Z,1.0nm,0.3s								
PSI	**Prapat**		**14.77**	**323**	Pn		**Pn**	**10 47 54.2**	**-6.9**
IPM	**Ipoh**		**15.09**	**333**	P		**Pn**	**10 48 09.3**	**+3.9**
KULM	**Kulim**		**15.98**	**333**	*e*P		**Pn**	**10 48 12.8**	**-4.2**
MBWA	**Marble Bar**		**16.61**	**138**	*e*P		**Pn**	**10 48 23.0**	**-2.1**
	comp=Z,173nm,1.2s								
MBWA					*e*			10 48 29.4	
TSM	**Tawau**		**16.68**	**37**	P		**Pn**	**10 48 29.7**	**+3.7**
KKM	**Kota Kinabalu**		**17.24**	**29**	P		**Pn**	**10 48 35.0**	**+2.0**
KKM	**Kota Kinabalu**		**17.24**	**29**	*e*P		**Pn**	**10 48 33.7**	**+0.8**
KKM					*e*			10 48 45.8	
SNG	**Songkhla**		**17.69**	**336**	P		**Pn**	**10 48 34.0**	**-4.6**
BSI	**Banda Aceh**		**19.12**	**319**	P		**Pn**	**10 48 58.1**	**+2.0**
	comp=Z,421nm,1.1s								
FITZ	**Fitzroy Crossi**		**19.50**	**119**	*e*P		**Pn**	**10 49 00.9**	**+0.3**
	comp=Z,172nm,0.9s								
FITZ					*e*S		**Sn**	**10 52 21.9**	**-17**
FITZ	**Fitzroy Crossi**		**19.50**	**119**	P		**Pn**	**10 49 00.8**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=298,slow=8.3,SNR=48								
FITZ					Sn		**Sn**	**10 52 20.4**	**-18**
	comp=Z,2.0nm,0.3s,baz=151,slow=10,SNR=2.9								
DAV	**Davao City (W)**		**23.93**	**48**	⇓P		**P**	**10 49 48.5**	**+2.4**
	SNR=9.2								
DAV	**Davao City (W)**		**23.93**	**48**	*e*P		**P**	**10 49 49.0**	**+2.9**
	comp=Z,145nm,0.4s,mb5.8								
KLBR	**Kellerberrin**		**24.21**	**159**	*e*P		**P**	**10 49 47.0**	**-1.7**
	comp=Z,168nm,1.4s,mb5.3								
KAKA	**Kakadu**		**24.46**	**101**	*e*P		**P**	**10 49 52.0**	**+1.0**
	comp=Z,71nm,0.7s,mb5.2								
NWAO	**Narrogin (SRO)**		**25.26**	**161**	P		**P**	**10 49 57.2**	**-1.0**
	comp=Z,58nm,1.1s,mb5.0,baz=330,slow=11,SNR=10								
NWAO					Sn		**S**	**10 54 33.0**	**+10**
	comp=Z,7.8nm,1.0s,baz=79,slow=16,SNR=1.7								
NST	**Nakhon Sawan**		**25.76**	**343**	P		**P**	**10 50 02.2**	**-0.6**
WRA	**Warramunga Arr**		**27.82**	**116**	P		**P**	**10 50 21.5**	**+0.1**
	comp=Z,28nm,0.9s,mb4.9,baz=287,slow=11,SNR=36								
WRA					PcP		PcP	10 53 38.4	+1.2
	comp=Z,4.4nm,0.6s,baz=297,slow=2.1,SNR=9.2								
WRA					Sn		S	10 55 42.3	+39
	comp=Z,1.8nm,1.0s,baz=283,slow=26,SNR=3.1								
WRA	**Warramunga Arr**		**27.82**	**116**	P		**P**	**10 50 21.5**	**+0.1**
WRA								10 53 38.4	
WRA					pmax	pmax			
	comp=Z,28nm,1.0s								

WRA pmax pmax
comp=Z,4.0nm,0.6s
WRAB Tennant Creek 27.83 116 P **P** **10 50 22.0 +0.6**
SNR=13
WRAB Tennant Creek 27.83 116 *d iP* **P** **10 50 21.7 +0.3**
WRAB Tennant Creek 27.83 116 *e*P **P** **10 50 22.3 +0.8**
comp=Z,93nm,1.1s,mb5.3
WB2 Warramunga Arr 27.83 116 *e*P **P** **10 50 21.7 +0.2**
QIZ Qiongzhong 28.03 4 P **P** **10 50 22.4 -0.9**
QIZ S **S** **10 55 06.3 -0.4**
QIZ AMB AMB
comp=Z,55nm,2.2s,mb4.8
QIZ LR LR
comp=N,3μm,13.6s
QIZ LR LR
comp=Z,7μm,15.4s,MS5.3
ASAR Alice Springs 28.86 123 P **P** **10 50 30.7 +0.1**
comp=Z,38nm,1.1s,mb5.0,baz=294,slow=7.9,SNR=70
ASAR PcP PcP 10 53 41.0 +1.2
comp=Z,4.5nm,0.7s,baz=297,slow=2.1,SNR=8.3
ASAR Sn S 10 56 05.4 +46
comp=Z,2.2nm,0.9s,baz=303,slow=28,SNR=3.6
ASAR Alice Springs 28.86 123 P **P** **10 50 30.7 +0.1**
ASAR 10 53 41.0
ASAR pmax pmax
comp=Z,38nm,1.1s
ASAR pmax pmax
comp=Z,5.0nm,0.7s
AS31 Alice Springs 28.86 123 *e*P **P** **10 50 30.1 -0.5**
AS31 *e* pP 10 50 36.5 0.0
CHG Chiang Mai 29.08 343 ⇓P **P** **10 50 32.9 +0.3**
comp=Z,20nm,0.9s,mb4.8
CHTO Chiang Mai 29.08 343 ⇑P **P** **10 50 31.7 -0.9**
SNR=6.3
KMI Kunming 34.38 352 P **P** **10 51 21.3 +2.2**
KMI AP pP 10 51 24.1 -1.0
KMI XP sP 10 51 25.3 -2.2
KMI PP PP 10 52 39.3 +2.2
KMI PPP 10 52 57.8
KMI S **S** **10 56 52.5 +6.6**
KMI SS SS 10 59 06.8 -8.2
KMI SSS 10 59 33.9
KMI AMB AMB
comp=Z,23nm,1.1s,mb5.0
KMI AMB AMB
comp=Z,4μm,13.8s
KMI LR LR
comp=N,10μm,14.0s,MS5.7
KMI LR LR
comp=E,4μm,14.9s,MS5.7
KMI LR LR
comp=Z,11μm,14.2s,MS5.8
GYA Guiyang 35.37 358 ⇑ *i*P **P** **10 51 29.1 +1.4**
GYA AP pP 10 51 33.5 -0.2
GYA XP sP 10 51 36.8 +0.7
GYA PP PP 10 52 48.8 +0.8
GYA PCP PcP 10 53 58.0 +0.5
GYA S **S** **10 57 03.9 +2.7**
GYA SCP ScP 10 57 42.3 0.0
GYA AMB AMB
comp=Z,40nm,0.7s,mb5.5
GYA AMB AMB
comp=Z,1μm,4.6s
GYA LR LR
comp=N,1μm,16.2s,MS4.9
GYA LR LR
comp=E,1μm,15.8s,MS4.9
GYA LR LR
comp=Z,1μm,16.0s,MS4.8
VIS Vishakhapatnam 35.98 318 *e*P **P** **10 51 32.6 -0.3**
VIS AMb AMB 10 51 37.9
comp=Z,151nm,1.4s,mb5.7
CTA Charters Tower 38.70 111 ⇑ *i*P **P** **10 51 58.0 +2.1**
comp=Z,25nm,1.2s,mb4.8
CTA Charters Tower 38.70 111 P **P** **10 51 57.9 +1.9**
comp=Z,33nm,1.1s,mb5.0,baz=285,slow=10,SNR=11
CTA Charters Tower 38.70 111 ⇑ *i*P **P** **10 51 58.0 +2.1**
CTA pmax pmax
comp=Z,25nm,1.2s
CTAO Charters Tower 38.70 111 *e*P **P** **10 51 57.7 +1.8**
CTAO *e* 10 52 08.2
CTAO pmax pmax
comp=Z,120nm,1.6s,mb5.4
CTAO Charters Tower 38.70 111 *e*P **P** **10 51 57.7 +1.8**
comp=Z,120nm,1.6s,mb5.4
CTAO *e* 10 52 08.2
PMG Port Moresby 38.84 94 P **P** **10 51 59.2 +2.0**
comp=Z,27nm,0.9s,mb5.0,baz=291,slow=5.2,SNR=8.3
PMG Port Moresby 38.84 94 ⇑ *i*P **P** **10 51 57.4 +0.2**
BOK Bokaro 39.09 327 *e*P **P** **10 51 59.7 +0.5**
BOK AMb AMB 10 52 02.4
comp=Z,207nm,0.9s,mb5.9
HYB Hyderabad 39.11 312 *i* P **P** **10 52 00.0 +0.6**
HYB Hyderabad 39.11 312 *e*P **P** **10 52 00.0 +0.6**
WHN Wuhan 39.92 9 *e*P **P** **10 52 07.5 +1.3**
CD2 Chengdu 39.98 355 ⇑ *i*P **P** **10 52 06.3 -0.3**
CD2 PP PP 10 53 43.8 +5.2
CD2 S **S** **10 58 11.1 +0.1**
CD2 XS sS 10 58 31.8 +11
CD2 AMB AMB
comp=Z,120nm,1.2s,mb5.5
CD2 LR LR
comp=N,2μm,20.4s
CD2 LR LR
comp=Z,3μm,15.6s,MS5.3
JOW Kunigami 40.88 29 P **P** **10 52 14.2 0.0**
comp=Z,58nm,1.0s,mb5.2,baz=224,slow=8.0,SNR=13
SSE Sheshan 41.99 17 *e*P **P** **10 52 23.9 +0.7**
SSE AMB AMB
comp=Z,41nm,1.9s,mb4.7
SSE AMB AMB
comp=Z,2μm,12.0s
JIRN Jiri 42.11 331 *e*P **P** **10 52 24.6 +0.4**
comp=Z,333nm,0.8s,mb6.0
NJ2 Nanjing 42.27 14 *e*P **P** **10 52 26.0 +0.5**
NJ2 PP PP 10 54 06.8 +3.3
NJ2 S **S** **10 58 47.0 +1.9**
NJ2 AMB AMB
comp=Z,100nm,1.0s,mb5.4
NJ2 AMB AMB
comp=Z,1μm,4.2s
NJ2 LR LR
comp=N,11μm,12.4s,MS6.0
NJ2 LR LR
comp=E,6μm,12.6s,MS6.0
NJ2 LR LR
comp=Z,7μm,14.2s,MS5.7
KAD Karad 42.34 308 *e*P **P** **10 52 24.8 -1.2**
AKL Akola 42.35 315 *e*P **P** **10 52 25.8 -0.4**
AKL AMb AMB 10 52 31.3
comp=Z,79nm,1.7s,mb5.1
PKI Pulchoki 42.42 330 *e*P **P** **10 52 26.7 0.0**
comp=Z,121nm,0.8s,mb5.6
PKI Pulchoki 42.42 330 *e*P **P** **10 52 26.7 0.0**
PKI pmax pmax
comp=Z,121nm,0.8s,mb5.6
GUN Gumba 42.47 331 *e*P **P** **10 52 27.4 +0.3**
comp=Z,412nm,0.7s,mb6.2
DMN Daman 42.60 330 *e*P **P** **10 52 28.3 +0.1**
comp=Z,366nm,0.9s,mb6.1
KKN Kakani 42.66 330 *e*P **P** **10 52 28.7 0.0**
comp=Z,382nm,0.9s,mb6.1
KKN Kakani 42.66 330 *e*P **P** **10 52 28.7 0.0**
KKN pmax pmax
comp=Z,382nm,0.9s,mb6.1
XAN Xi'an 42.92 1 P **P** **10 52 29.8 -1.0**
XAN AMB AMB
comp=Z,91nm,1.0s,mb5.5
GKN Gorkha 43.16 329 *e*P **P** **10 52 32.6 -0.1**
comp=Z,317nm,0.7s,mb6.2
KOLN Koldanda 43.50 328 *e*P **P** **10 52 35.8 +0.3**
comp=Z,617nm,0.8s,mb6.4
BHPL Bhopal 43.78 318 *e*P **P** **10 52 37.5 -0.2**
BHPL AMb AMB 10 52 39.6
comp=Z,44nm,0.7s,mb5.3
TOO Toolangi 44.25 136 *e*P **P** **10 52 43.9 +2.4**
comp=Z,23nm,1.2s,mb4.8
TOO Toolangi 44.25 136 *e*P **P** **10 52 43.9 +2.4**
TOO pmax pmax
comp=Z,23nm,1.2s,mb4.8
LZH Lanzhou 45.10 355 *e*P **P** **10 52 49.3 +1.0**
LZH PP PP 10 54 36.3 +2.5
LZH *e*S **S** **10 59 26.8 +0.3**
LZH XS sS 10 59 43.3 +6.8
LZH AMB AMB
comp=Z,109nm,1.2s,mb5.6
LZH AMB AMB
comp=Z,629nm,5.1s
LZH LR LR
comp=N,7μm,14.6s
LZH LR LR
comp=Z,9μm,15.4s,MS5.8
TIA Tai'an 45.92 11 *e*P **P** **10 52 53.8 -1.0**
ARMA Armidale 46.01 124 *e*P **P** **10 52 56.9 +1.4**
LGTI Lohaghat 46.62 326 *i* P **P** **10 52 59.5 -0.8**
NDI New Delhi 47.78 323 *e*P **P** **10 53 07.0 -2.3**
NDI *ex* x 11 00 01.0
AJM Ajmer 47.83 319 *e*P **P** **10 53 10.1 +0.4**
AJM AMb AMB 10 53 14.6
comp=Z,46nm,0.8s,mb5.6
TAU Tasmania Unive 48.22 141 *e*P **P** **10 53 13.4 +0.7**
TAU pmax pmax
comp=Z,84nm,1.5s,mb5.5
TAU Tasmania Unive 48.22 141 *e*P **P** **10 53 13.3 +0.7**
comp=Z,84nm,1.5s,mb5.5
GTA Gaotai 48.84 352 *e*P **P** **10 53 17.8 +0.3**
GTA AP pP 10 53 25.3 +1.7
GTA XP sP 10 53 28.8 +2.8
GTA PCP PcP 10 54 43.3 +1.4
GTA PP PP 10 55 13.3 +2.6
GTA PPP 10 56 06.1
GTA S **S** **11 00 19.3 -0.5**
GTA XS sS 11 00 32.3 +2.4
GTA SCS ScS 11 03 04.8 -4.1
GTA AMB AMB
comp=Z,71nm,1.5s,mb5.5
GTA AMB AMB
comp=Z,4μm,4.9s
GTA LR LR
comp=N,6μm,19.8s,MS5.6
GTA LR LR
comp=E,2μm,20.9s,MS5.6
GTA LR LR
comp=Z,7μm,19.0s,MS5.6
DL2 Dalian 49.47 14 P **P** **10 53 22.1 -0.2**
DL2 AMB AMB
comp=Z,30nm,0.7s,mb5.4
BJT Baijiatuan 49.49 8 *e*P **P** **10 53 22.5 0.0**
BJT *e* 10 53 35.6
BJT pmax pmax
comp=Z,89nm,1.0s
BJT Baijiatuan 49.49 8 *e*P **P** **10 53 22.5 0.0**
comp=Z,89nm,1.0s,mb5.8
BJT *e* 10 53 35.5
BTO Baotou 49.51 2 *e*P **P** **10 53 21.6 -1.0**
BJI Beijing 49.51 8 *e*P **P** **10 53 21.8 -0.8**
BJI AMB AMB
comp=Z,73nm,1.0s,mb5.7
SMLA Simla 49.62 325 *e*P **P** **10 53 22.7 -0.8**
HNR Honiara 51.44 95 *e*P **P** **10 53 38.8 +1.6**
SNY Shenyang 52.72 15 ⇑P **P** **10 53 44.9 -1.8**
SNY AP pP 10 53 48.8 -4.1
SNY XP sP 10 53 49.8 -5.4
SNY PCP PcP 10 54 54.6 -1.7
SNY PP PP 10 55 43.4 -2.6
SNY S **S** **11 01 10.1 -3.5**
SNY AMB AMB
comp=Z,34nm,1.6s,mb5.0
SNY AMB AMB
comp=Z,2μm,12.0s
SNY LR LR
comp=N,6μm,22.2s,MS5.6
SNY LR LR
comp=E,4μm,23.9s,MS5.6
SNY LR LR
comp=Z,9μm,22.2s,MS5.8
MAJO Matsushiro 53.66 30 *e*P **P** **10 53 51.7 -1.9**
MAJO *e* 10 54 05.3
MAJO pmax pmax
comp=Z,40nm,1.0s,mb5.3
MAJO Matsushiro 53.66 30 *e*P **P** **10 53 51.7 -1.9**
comp=Z,40nm,1.0s,mb5.3
MAJO *e* 10 54 05.3
MAT Matsushiro 53.66 30 P **P** **10 53 51.0 -2.6**
MAT Matsushiro 53.66 30 *e*P **P** **10 53 51.0 -2.6**
MAT pmax pmax
comp=Z,78nm,1.5s,mb5.4
MAT Matsushiro 53.66 30 *e*P **P** **10 53 51.0 -2.6**
comp=Z,78nm,1.5s,mb5.4
MJAR Matsushiro Arr 53.66 30 P **P** **10 53 51.3 -2.3**
comp=Z,11nm,0.8s,mb4.8,baz=210,slow=8.0,SNR=30
MJAR Matsushiro Arr 53.66 30 P **P** **10 53 51.3 -2.3**
MJAR pmax pmax
comp=Z,11nm,0.8s
CN2 Changchun 55.05 16 ⇓P **P** **10 54 02.0 -1.8**
CN2 *e*XP sP 10 54 09.0 -3.3
CN2 *e*S **S** **11 01 45.6 +0.5**
CN2 AMB AMB
comp=Z,40nm,1.5s,mb5.2
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,5μm,16.0s,MS5.9
CN2 LR LR
comp=E,7μm,16.0s,MS5.9
CN2 LR LR
comp=Z,8μm,17.0s,MS5.9
WMQ Urumqi 55.75 342 P **P** **10 54 11.4 +2.6**
WMQ AP pP 10 54 15.5 +0.5
WMQ XP sP 10 54 17.9 +0.5
WMQ PP PP 10 56 17.3 +4.1
WMQ SCP ScP 10 59 07.6 +1.8
WMQ S **S** **11 01 55.6 +1.1**
WMQ AMB AMB
comp=Z,99nm,1.4s,mb5.7
WMQ AMB AMB
comp=Z,428nm,4.8s
WMQ LR LR
comp=N,2μm,17.9s,MS5.4
WMQ LR LR
comp=E,2μm,16.8s,MS5.4
WMQ LR LR
comp=Z,2μm,18.4s,MS5.3
VLA Vladivostok 56.43 21 *e*P pP 10 54 21.6 +1.7
VLA pmax pmax
comp=Z,35nm,1.0s,mb5.3
KSH Kashi 56.67 331 ⇑P **P** **10 54 16.1 +0.7**
KSH *e*AP pP 10 54 21.4 -0.2
KSH *e*XP sP 10 54 24.0 +0.1
KSH *e*PCP PcP 10 55 12.6 +1.1
KSH *e*PP PP 10 56 23.3 +1.9
KSH *e*PPP 10 57 39.8
KSH *e*SCP ScP 10 59 10.3 +0.4
KSH *e*S **S** **11 02 04.8 -2.0**
KSH *e*PS 11 02 21.6
KSH *e*SCS ScS 11 04 00.4 -3.3
KSH AMB AMB
comp=Z,1μm,7.4s
KSH LR LR
comp=N,4μm,22.8s
KSH LR LR
comp=E,3μm,14.0s
KSH LR LR
comp=Z,10μm,19.3s,MS5.9
SONM Songino Array 56.70 359 P **P** **10 54 15.6 -0.1**
comp=Z,32nm,0.9s,mb5.3,baz=175,slow=6.1,SNR=89
SONM PcP PcP 10 55 12.9 +1.4
comp=Z,8.4nm,0.8s,baz=206,slow=4.4,SNR=2.5
SONM Songino Array 56.70 359 P **P** **10 54 15.6 0.0**
SONM 10 55 12.9
SONM pmax pmax
comp=Z,32nm,0.9s
SONM pmax pmax
comp=Z,8.0nm,0.8s
ULN Ulaanbaatar 56.73 359 ⇑ *i*P **P** **10 54 15.8 0.0**
ULN Ulaanbaatar 56.73 359 *e*P **P** **10 54 15.4 -0.4**
comp=Z,53nm,1.0s,mb5.5
MDJ Mudanjiang 56.99 18 P **P** **10 54 16.0 -1.7**
MDJ AP pP 10 54 19.5 -4.4
MDJ PP PP 10 56 21.9 -2.4
MDJ SCP ScP 10 59 11.3 0.0
MDJ PCS PcS 10 59 13.1 -0.5
MDJ S **S** **11 02 08.8 -2.2**
MDJ AMB AMB
comp=Z,21nm,1.5s,mb5.0
MDJ AMB AMB
comp=Z,3μm,11.0s
MDJ LR LR
comp=N,5μm,22.9s,MS5.6
MDJ LR LR
comp=E,1μm,19.8s,MS5.6
MDJ LR LR
comp=Z,6μm,19.1s,MS5.7
MDJ Mudanjiang 56.99 18 *e*P **P** **10 54 16.9 -0.7**
comp=Z,4.9nm,0.5s,mb4.8
MDJ *e* pP 10 54 22.8 -1.1
WSAR Wadi Sarin 57.84 305 P **P** **10 54 24.4 +0.8**
comp=Z,12nm,0.7s,mb5.0,baz=192,slow=8.8,SNR=12
SMDO Samad 58.23 304 ⇓P **P** **10 54 28.0 +1.7**
SNR=9.4
MIR Mirnyy 58.25 187 *c iP* **P** **10 54 27.0 +0.5**
MIR *i* 10 54 39.0
KZA Kyzart 59.02 332 P **P** **10 54 33.4 +1.6**
SNR=20
HIA Hailar 59.06 9 *e*P **P** **10 54 31.3 -0.9**
HIA pmax pmax
comp=Z,26nm,1.0s
HIA Hailar 59.06 9 *e*P **P** **10 54 31.3 -0.9**
comp=Z,26nm,1.0s,mb5.2
HOQ Hoqain 59.07 304 ⇓P **P** **10 54 33.8 +1.6**
SNR=6.1
OPO Ambohidratompo 59.36 254 P **P** **10 54 35.5 +1.2**
comp=Z,3.0nm,0.6s,mb4.5,baz=80,slow=8.5,SNR=7.6
ZAK Zakamensk 59.37 357 ⇑ *i*P **P** **10 54 34.3 0.0**
ZAK pmax pmax
comp=Z,20nm,1.6s,mb4.9
TKM2 Tokmak 2 59.52 333 P **P** **10 54 35.4 +0.1**
SNR=38
TKM2 Tokmak 2 59.52 333 P **P** **10 54 32.7 -2.7**
TKM2 pmax pmax
comp=Z,17nm,0.7s,mb5.2
KBK Karagaybulak 59.61 332 P **P** **10 54 35.8 -0.2**
SNR=15
AML Almayashu 59.79 331 P **P** **10 54 37.4 +0.2**
SNR=10
AAK Ala-Archa 59.80 332 P **P** **10 54 38.4 +1.1**
SNR=6.7
AAK Ala-Archa 59.80 332 P **P** **10 54 36.8 -0.5**
comp=Z,70nm,1.3s,mb5.5,SNR=5.4
AAK Ala-Archa 59.80 332 ⇓P **P** **10 54 36.9 -0.4**
SNR=19
AAK Ala-Archa 59.80 332 *e*P **P** **10 54 36.4 -0.9**
AAK *e* 10 54 48.9
AAK pmax pmax
comp=Z,73nm,1.5s,mb5.5
AAK Ala-Archa 59.80 332 *e*P **P** **10 54 36.4 -0.9**
comp=Z,73nm,1.5s,mb5.5
AAK *e* 10 54 48.9
FRU Bishkek 59.90 332 *e*P **P** **10 54 37.0 -0.9**
FRU *e* 10 54 48.0
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.3
MK31 Makanchi Array 60.12 340 P **P** **10 54 38.2 -1.3**
MK31 pmax pmax
comp=Z,57nm,0.6s,mb5.8
MKAR Makanchi Array 60.12 340 P **P** **10 54 39.4 -0.1**
comp=Z,60nm,0.5s,mb5.8,baz=145,slow=7.9,SNR=190
MKAR Makanchi Array 60.12 340 P **P** **10 54 39.4 -0.1**
MKAR pmax pmax
comp=Z,60nm,0.5s
MKAR Makanchi Array 60.12 340 P **P** **10 54 39.4 -0.1**
EKS2 Erkin-Say 60.16 332 P **P** **10 54 40.0 +0.3**
SNR=7.8
USP Ospenovka 60.29 333 P **P** **10 54 40.0 -0.6**
SNR=6.7
ASHO Ashiyiah 60.59 305 ⇓P **P** **10 54 43.7 +1.0**
SNR=7.6
TLY Talaya 60.65 357 P **P** **10 54 43.7 +0.6**
comp=Z,125nm,1.2s,mb5.9,SNR=6.7
MOY Mondy 60.81 355 *e*P **P** **10 54 44.6 +0.4**
MOY pmax pmax
comp=Z,130nm,2.0s,mb5.7
IRK Irkutsk 61.18 358 *e*P **P** **10 54 46.0 -0.7**
IRK *e*S **S** **11 03 06.9 +1.6**
IRK pmax pmax
comp=Z,96nm,2.2s,mb5.5
KLR Kul'dur 61.78 18 *e*P **P** **10 54 47.7 -3.0**
KLR pmax pmax
comp=E,40nm,1.6s
KLR pmax pmax
comp=Z,57nm,1.6s,mb5.5
KKAR Karatay Array 62.07 330 *i* P **P** **10 54 51.5 -1.2**
KKAR pmax pmax
comp=Z,14nm,1.0s,mb5.0
HABR Khabarovsk 62.17 20 ⇓ *i*P **P** **10 54 53.3 -0.1**
HABR *e*S **S** **11 03 16.0 -1.8**
HABR pmax pmax
comp=Z,66nm,1.5s,mb5.5
YSS Yuzh-Sakhalins 63.91 26 *e*P **P** **10 55 03.9 -1.0**
YSS *e* 10 55 16.5
YSS pmax pmax
comp=Z,153nm,1.1s,mb5.9
YSS Yuzh-Sakhalins 63.91 26 *e*P **P** **10 55 03.9 -1.0**
comp=Z,153nm,1.1s,mb5.9
YSS *e* 10 55 16.5
KURK Kurchatov 64.73 340 P **P** **10 55 09.5 -0.8**
comp=Z,662nm,0.9s,mb6.7,SNR=41
KURK Kurchatov 64.73 340 P **P** **10 55 10.2 -0.1**
SNR=32
KURK Kurchatov 64.73 340 *c iP* **P** **10 55 09.7 -0.6**
KURK Kurchatov 64.73 340 *e*P **P** **10 55 09.5 -0.8**
comp=Z,110nm,0.9s,mb5.9
MAW Mawson 65.59 197 ⇑ *i*P **P** **10 55 15.2 -0.7**
comp=Z,13nm,0.7s,mb5.1
MAW Mawson 65.59 197 P **P** **10 55 15.2 -0.7**
comp=Z,13nm,0.6s,mb5.1,baz=51,slow=7.4,SNR=48
MAW Mawson 65.59 197 P **P** **10 55 15.2 -0.7**
MAW pmax pmax
comp=Z,13nm,0.6s
ZAL Zalesovo 65.75 345 P **P** **10 55 15.5 -1.4**
comp=Z,8.4nm,0.3s,mb5.2,baz=317,slow=4.2,SNR=28
ZAL Zalesovo 65.75 345 P **P** **10 55 15.5 -1.4**
ZAL pmax pmax
comp=Z,8.0nm,0.3s
ABKT Ailbek 65.85 319 P **P** **10 55 17.5 -0.1**
comp=Z,252nm,0.7s,mb6.4,SNR=7.9
NVS Novosibirsk 66.96 345 ⇑ *i*P **P** **10 55 22.6 -2.1**
NVS *e*S S 11 04 06.5 -10
NVS pmax pmax
comp=Z,70nm,1.9s,mb5.4
NVS pmax pmax
comp=N,36nm,1.6s
NVS pmax pmax
comp=E,34nm,1.6s
NVS smax
comp=N,89nm,2.3s
NVS smax
comp=E,51nm,2.0s
RDF Al-Radifah 69.27 306 *e*P **P** **10 55 38.5 -0.6**
RDF AMb AMB 10 55 40.7
comp=Z,76nm,0.9s,mb5.6
UMR Umm Al-Rimmam 69.38 306 *e*P **P** **10 55 38.9 -0.9**
UMR AMb AMB 10 55 41.4
comp=Z,123nm,0.6s,mb6.0
BVA0 Borovoye Array 69.60 337 *i* P **P** **10 55 41.1 -0.1**
BVA0 pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BVAR Borovoye Array 69.60 337 P **P** **10 55 40.7 -0.5**
comp=Z,39nm,0.6s,mb5.5,baz=145,slow=8.7,SNR=76
BVAR Borovoye Array 69.60 337 P **P** **10 55 40.7 -0.5**
BVAR pmax pmax
comp=Z,39nm,0.6s
NAY Al-Naaiem 69.64 306 *e*P **P** **10 55 40.5 -0.9**
NAY AMb AMB 10 55 42.8
comp=Z,36nm,0.9s,mb5.3
BRVK Borovoye 69.67 337 P **P** **10 55 41.9 +0.3**
comp=Z,293nm,1.6s,mb6.0,SNR=14
BRVK Borovoye 69.67 337 *e*P **P** **10 55 40.9 -0.7**
BRVK pmax pmax
comp=Z,34nm,1.0s,mb5.2
BRVK Borovoye 69.67 337 *e*P **P** **10 55 40.9 -0.7**
comp=Z,34nm,1.0s,mb5.2
MIB Mutribah 69.78 306 *e*P **P** **10 55 41.7 -0.7**
MIB AMb AMB 10 55 44.0
comp=Z,71nm,1.1s,mb5.5
RST Umm Al-Ruwaisa 69.94 306 *e*P **P** **10 55 42.2 -1.0**
RST AMb AMB 10 55 44.4
comp=Z,99nm,0.7s,mb5.9
CHKZ Chkalovo 70.02 338 *e*P **P** **10 55 43.3 -0.5**
CHKZ pmax pmax
comp=Z,62nm,0.6s,mb5.7
CHKZ Chkalovo 70.02 338 *e*P **P** **10 55 43.3 -0.5**
comp=Z,62nm,0.6s,mb5.7
ZRNK Zerenda 70.09 336 *e*P **P** **10 55 43.1 -1.1**
ZRNK pmax pmax
comp=Z,59nm,0.9s,mb5.5

Code	Station	Δ°	AZ°	Op	ISC	Time	Res
ZRNK	**Zerenda**	**70.09**	**336**	*e*P	**P**	**10 55 43.1**	**-1.1**
	comp=Z,59nm,0.9s,mb5.5						
KMBO	**Kilima Mbogo**	**70.61**	**272**	P	**P**	**10 55 47.9**	**+0.5**
	comp=Z,5.2nm,0.8s,mb4.5,baz=45,slow=8.4,SNR=9.5						
KMBO	**Kilima Mbogo**	**70.61**	**272**	P	**P**	**10 55 47.9**	**+0.5**
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YAK	**Yakutsk**	**72.94**	**11***c*	*i*P	**P**	**10 56 00.1**	**-1.3**
YAK				*e**PP	pP	10 56 12.0	+4.2
YAK				pmax	pmax		
	comp=Z,82nm,0.7s,mb5.8						
YAK	**Yakutsk**	**72.94**	**11**⇑	*i*P	**P**	**10 56 00.2**	**-1.2**
AKTK	**Aktyubinsk**	**73.32**	**329**	P	**P**	**10 56 03.3**	**-0.4**
AKTO	**Aktyubinsk**	**73.32**	**329**	P	**P**	**10 56 03.3**	**-0.4**
	comp=Z,13nm,0.6s,mb5.1,baz=114,slow=7.6,SNR=20						
AKTO	**Aktyubinsk**	**73.32**	**329**	P	**P**	**10 56 03.3**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
BHD	**Baghdad**	**73.47**	**309**	*e*x	x	10 56 01.0	
VNDA	**Vanda**	**73.76**	**169**	P	**P**	**10 56 05.2**	**-1.0**
	comp=Z,7.7nm,0.9s,mb4.6,baz=306,slow=6.7,SNR=28						
VNDA	**Vanda**	**73.76**	**169**	P	**P**	**10 56 05.3**	**-1.0**
VNDA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
VNDA	**Vanda**	**73.76**	**169**	*e*P	**P**	**10 56 05.3**	**-1.0**
	comp=Z,18nm,1.0s,mb5.0						
SYO	**Syowa Base**	**73.81**	**200**⇓	*e*P	**P**	**10 56 05.3**	**-1.2**
SBA	**Scott Base**	**74.84**	**169**	*e*P	**P**	**10 56 12.5**	**0.0**
SBA				*e*		10 56 22.5	
SBA				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.1						
SBA	**Scott Base**	**74.84**	**169**	*e*P	**P**	**10 56 12.5**	**0.0**
	comp=Z,27nm,1.1s,mb5.1						
SBA				*e*		10 56 22.5	
PET	**Petropavlovsk**	**75.45**	**29***c*	*i*P	**P**	**10 56 16.0**	**0.0**
PET				pmax	pmax		
	comp=Z,73nm,1.7s,mb5.3						
PET	**Petropavlovsk**	**75.45**	**29**⇑	*i*P	**P**	**10 56 16.1**	**+0.1**
MSL	**Mosul**	**75.62**	**311**	*e*x	x	10 56 18.5	
GNI	**Garni**	**75.99**	**315**	P	**P**	**10 56 20.1**	**+1.0**
	comp=Z,3.6nm,0.4s,mb4.7,baz=351,slow=18,SNR=4.1						
GNI	**Garni**	**75.99**	**315**	*e*P	**P**	**10 56 20.0**	**+0.9**
GNI				pmax	pmax		
	comp=Z,34nm,1.0s						
GNI	**Garni**	**75.99**	**315**	*e*P	**P**	**10 56 20.0**	**+0.9**
	comp=Z,34nm,1.0s,mb5.2						
SVE	**Sverdlovsk**	**76.24**	**335**⇑	*e*P	**P**	**10 56 20.7**	**+0.1**
SVE				*e*		10 56 35.8	
SVE				pmax	pmax		
	comp=Z,170nm,2.5s,mb5.5						
MA2	**Magadan**	**76.56**	**21**⇑	*e*P	**P**	**10 56 22.3**	**-0.1**
MA2				*e*P		10 56 23.0	
ARU	**Arti**	**76.85**	**334**	P	**P**	**10 56 23.1**	**-0.9**
	comp=Z,149nm,0.8s,mb6.0,SNR=7.2						
ARU	**Arti**	**76.85**	**334**⇑	*i*P	**P**	**10 56 23.5**	**-0.5**
ARU				*e*		10 56 36.2	
ARU				*e*		10 59 16.7	
ARU				*e*S	S	11 06 08.4	-2.2
ARU				*e*SS	SS	11 10 59.3	-7.6
ARU				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.1						
ARU	**Arti**	**76.85**	**334**	*e*P	**P**	**10 56 23.4**	**-0.6**
MBAR	**Mbarara**	**77.12**	**271**⇑	*i*P	**P**	**10 56 26.1**	**+0.6**
BEST	**Besiri**	**77.58**	**312**	*i* P	**P**	**10 56 27.2**	**-0.9**
ZEI	**Tsey**	**77.67**	**317**	*e*P	**P**	**10 56 30.3**	**+1.7**
ZEI				*i*		10 56 47.7	
ZEI				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.2						
LSZ	**Lusaka**	**77.69**	**256**	P	**P**	**10 56 29.2**	**+0.5**
	comp=Z,10nm,0.8s,mb4.8,baz=86,slow=5.8,SNR=19						
LSZ	**Lusaka**	**77.69**	**256**	P	**P**	**10 56 29.2**	**+0.5**
LSZ				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
ERZM	**Erzurum**	**78.27**	**314**	*i* P	**P**	**10 56 34.0**	**+2.1**
KIV	**Kislovodsk**	**78.96**	**318**	P	**P**	**10 56 36.6**	**+0.8**
	SNR=8.5						
KIV	**Kislovodsk**	**78.96**	**318***c*	*i*P	**P**	**10 56 36.4**	**+0.7**
KIV				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
ASF	**Jabal al Asfar**	**79.00**	**305**	P	**P**	**10 56 37.2**	**+1.2**
	comp=Z,17nm,0.8s,mb5.0,baz=341,slow=4.7,SNR=24						
ASF	**Jabal al Asfar**	**79.00**	**305**	P	**P**	**10 56 37.2**	**+1.2**
ASF				pmax	pmax		
	comp=Z,17nm,0.8s						
LBTB	**Lobatse**	**79.17**	**246**	*e*P	**P**	**10 56 37.1**	**+0.2**
LBTB				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
LBTB	**Lobatse**	**79.17**	**246**	*e*P	**P**	**10 56 37.1**	**+0.2**
	comp=Z,7.3nm,0.8s,mb4.7						
GOF	**Gofitskoye**	**79.19**	**319**	*e*P	**P**	**10 56 36.9**	**-0.1**
GOF				*e*S	S	11 06 35.9	+0.1
GOF				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.5						
ELZG	**Elazig**	**79.47**	**312**	*i* P	**P**	**10 56 39.6**	**+1.0**
MALT	**Malatya**	**79.82**	**312**	*e*P	**P**	**10 56 41.0**	**+0.6**
MALT				*e*	pP	10 56 48.1	+1.3
MALT				pmax	pmax		
	comp=Z,26nm,1.4s,mb5.0						
MALT	**Malatya**	**79.82**	**312**	*e*P	**P**	**10 56 41.0**	**+0.6**
	comp=Z,26nm,1.4s,mb5.0						
MALT				*e*PcP	PcP	10 56 48.1	+0.1
EIL	**Elat**	**79.86**	**302**	*e*P	**P**	**10 56 40.9**	**+0.3**
	comp=Z,793nm,1.1s,mb6.6						
EIL				*e*		10 56 50.9	
GZT	**Gaziantep**	**80.14**	**310**	*i* P	**P**	**10 56 41.4**	**-0.7**
MMAI	**Mount Meron Ar**	**80.46**	**306**	P	**P**	**10 56 44.8**	**+0.9**
	comp=Z,16nm,0.6s,mb5.1,baz=95,slow=8.7,SNR=30						
SOC	**Sochi**	**80.80**	**317**	*e*P	**P**	**10 56 51.0**	**+5.3**
SOC				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.2						
GRSN	**GIRESUNGRSN**	**80.84**	**314**	*i* P	**P**	**10 56 45.3**	**-0.6**
COBT	**Iskenderun**	**80.86**	**309**	*i* P	**P**	**10 56 46.6**	**+0.6**
QSPA	**South Pole Qui**	**80.89**	**180**	*e*P	**P**	**10 56 44.6**	**-1.6**
	comp=Z,26nm,0.9s,mb5.2						
TIXI	**Tiksi**	**81.80**	**7***c*	*i*P	**P**	**10 56 49.4**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,71nm,1.3s,mb5.4						
VRHR	**Novokhopersk**	**82.55**	**324**	*e*P	**P**	**10 56 54.7**	**-0.3**
VRHR				pmax	pmax		
	comp=Z,60nm,0.7s,mb5.7						
VRHR				pmax	pmax		
	comp=N,30nm,0.6s						
VRHR				pmax	pmax		
	comp=E,50nm,0.7s						
CSS	**Prodhromos**	**82.67**	**307**	*e*P	**P**	**10 56 57.2**	**+1.7**
	comp=E,38nm,0.8s,mb5.5						
CSS				*e*	pP	10 57 04.0	+2.0
CTKT	**Corum**	**83.24**	**313**	*i* P	**P**	**10 56 59.8**	**+1.3**
BOYT	**Boyabat**	**83.40**	**314**	*i* P	**P**	**10 56 59.5**	**+0.1**
BR131	**Keskin Array S**	**83.81**	**312**	*e*P	**P**	**10 57 01.5**	**+0.1**
	comp=E,10nm,0.8s,mb5.0						
BR131				*e*		10 57 11.5	
BRTR	**Keskin Array B**	**83.81**	**312**	P	**P**	**10 57 01.4**	**-0.1**
	comp=E,12nm,0.8s,mb5.1,baz=136,slow=6.4,SNR=54						
BRTR	**Keskin Array B**	**83.81**	**312**	P	**P**	**10 57 01.4**	**0.0**
BRTR				pmax	pmax		
	comp=Z,12nm,0.8s						
ELDT	**Eldivan**	**84.19**	**312**	*i* P	**P**	**10 57 03.8**	**+0.5**
VOR	**Voronezh**	**84.20**	**324**	P	**P**	**10 57 02.5**	**-0.9**
VOR				pmax	pmax		
	comp=Z,90nm,1.5s,mb5.7						
ANTO	**Ankara**	**84.47**	**312**	P	**P**	**10 57 06.0**	**+1.1**
	SNR=12						
ANTO	**Ankara**	**84.47**	**312**	*e*P	**P**	**10 57 05.9**	**+1.1**
ANTO				pmax	pmax		
	comp=Z,64nm,1.4s,mb5.6						
ANTO	**Ankara**	**84.47**	**312**	*e*P	**P**	**10 57 05.9**	**+1.1**
	comp=Z,64nm,1.4s,mb5.6						
BALT	**Daday**	**84.52**	**313**	*i* P	**P**	**10 57 05.5**	**+0.4**
SIM	**Simferopol'**	**85.04**	**317**	*e*P	**P**	**10 57 09.0**	**+1.3**
SIM				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.4						
SGKT	**Sivrigoynuk**	**85.21**	**312**	*i* P	**P**	**10 57 08.8**	**+0.3**
ESKT	**Eskisehir**	**85.82**	**311**	*i* P	**P**	**10 57 11.5**	**0.0**
HENT	**Hendek**	**86.13**	**312**	*i* P	**P**	**10 57 13.8**	**+0.7**
MOS	**Moscow**	**86.57**	**328**	*e*P	**P**	**10 57 12.2**	**-3.1**
MOS				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.7						
OBN	**Obninsk**	**86.91**	**327***c*	*i*P	**P**	**10 57 17.0**	**+0.1**
OBN				*e**PP	pP	10 57 26.8	+3.4
OBN				*e*		11 00 39.1	
OBN				*e*S		11 07 39.5	
OBN				*e*SS	SS	11 13 35.4	-1.2
OBN				pmax	pmax		
	comp=Z,34nm,0.6s,mb5.8						
OBN				MLR	MLR		
	comp=Z,1µm,17.0s,MS5.3						
OBN	**Obninsk**	**86.91**	**327**	*e*P	**P**	**10 57 16.3**	**-0.6**
	comp=Z,23nm,0.5s,mb5.7						
TSUM	**Tsumeb**	**87.25**	**251**	*e*P	**P**	**10 57 19.0**	**+0.4**
	comp=Z,18nm,1.4s,mb5.1						
ULDT	**Uludag**	**87.25**	**311**	*i* P	**P**	**10 57 18.9**	**+0.3**
KLMR	**Klimovskoe**	**87.60**	**333**	*e*P	**P**	**10 57 19.5**	**-0.8**
KLMR				pmax	pmax		
	comp=Z,110nm,1.6s,mb5.8						
SNAA	**Sanae**	**87.76**	**197**	*e*P	**P**	**10 57 21.1**	**+0.1**
SNAA				*e*		10 57 22.8	
SNAA				*e*	pP	10 57 25.7	-1.8
SNAA				*e*	pP	10 57 27.0	-0.5
SNAA				*e*		10 57 31.8	
SNAA				*e*		10 57 44.6	
SNAA	**Sanae**	**87.76**	**197**	*e*P	**P**	**10 57 20.3**	**-0.7**
SNAA				*e*		10 57 31.9	
SNAA				pmax	pmax		
	comp=Z,39nm,1.4s						
SNAA	**Sanae**	**87.76**	**197**	*e*P	**P**	**10 57 20.3**	**-0.7**
	comp=Z,39nm,1.4s,mb5.5						
SNAA				*e*		10 57 31.9	
KDAG	**Bornova**	**88.25**	**309**	*i* P	**P**	**10 57 25.3**	**+1.9**
VNA1	**Neumayer--Stat**	**89.79**	**197**	*e*P	**P**	**10 57 31.4**	**+0.8**
VNA1				*e*		10 57 32.8	
VNA1				*e*		10 57 42.3	
VNA1				*e*		10 57 56.2	
AKASG	**Malin Array Be**	**89.82**	**321**	P	**P**	**10 57 30.1**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.4,baz=93,slow=3.5,SNR=14						
AKASG				PP	PP	11 01 02.9	-0.3
	comp=Z,4.1nm,0.7s,baz=92,slow=6.0,SNR=18						
AKASG	**Malin Array Be**	**89.82**	**321**	P	**P**	**10 57 30.2**	**-0.5**
AKASG						11 01 02.9	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MLR	**Muntele Rosu**	**90.76**	**316**	P	**P**	**10 57 35.8**	**+0.7**
	comp=Z,9.8nm,0.8s,mb5.2,baz=147,slow=1.9,SNR=11						
MLR	**Muntele Rosu**	**90.76**	**316**	P	**P**	**10 57 35.8**	**+0.7**
MLR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KOLS	**Kolonicke sedl**	**93.86**	**319**	*e*P	**P**	**10 57 50.4**	**+1.0**
KOLS				*e*		10 57 59.9	
KOLS				pmax	pmax		
	comp=Z,15nm,1.6s,mb5.2						
KOLS	**Kolonicke sedl**	**93.86**	**319**	*e*P	**P**	**10 57 50.4**	**+1.0**
	comp=Z,15nm,1.6s,mb5.2						
KOLS				*e*		10 57 59.9	
KOLS				*e*		10 58 22.9	
FINES	**FINESS Array B**	**93.99**	**332**	P	**P**	**10 57 49.7**	**-0.4**
	comp=Z,1.4nm,0.8s,mb4.4,baz=51,slow=7.6,SNR=3.8						
FINES				PP	PP	11 01 37.1	+1.1
	comp=Z,1.4nm,0.7s,baz=119,slow=11,SNR=2.7						
FINES	**FINESS Array B**	**93.99**	**332**	P	**P**	**10 57 49.7**	**-0.3**
FINES						11 01 37.1	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**93.99**	**332**	P	**P**	**10 57 49.7**	**-0.4**
FINES				PP	PP	11 01 37.1	+1.1
ARCES	**ARCESS Array B**	**95.77**	**339**	P	**P**	**10 57 57.1**	**-1.1**
	comp=Z,3.2nm,1.0s,mb4.7,baz=58,slow=12,SNR=5.6						
ARCES	**ARCESS Array B**	**95.77**	**339**	P	**P**	**10 57 57.1**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
VYHS	**Vyhne**	**96.05**	**318**	*e*P	**P**	**10 58 00.1**	**+0.6**
VYHS				*e*		10 58 09.4	
VYHS				*e*		11 01 52.5	
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.8						
VYHS	**Vyhne**	**96.05**	**318**	*e*P	**P**	**10 58 00.1**	**+0.6**
	comp=Z,3.5nm,1.1s,mb4.7						
VYHS				*e*		10 58 09.4	
VYHS				*e*		10 58 31.1	
VYHS				*e*PP	PP	11 01 52.5	+0.4
GERES	**GERESS Array B**	**99.47**	**318**	PP	PP	11 02 16.0	-2.4
	comp=Z,0.3nm,0.3s,baz=122,slow=5.0,SNR=3.7						
HFS	**Hagfors**	**99.87**	**330**	PP	PP	11 02 19.1	-2.3
	comp=Z,2.2nm,0.7s,baz=134,slow=6.4,SNR=4.5						
NOA	**NORSAR Array B**	**101.09**	**330**	PP	PP	11 02 29.3	-1.3
	comp=Z,3.3nm,1.1s,baz=127,slow=8.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**107.59**	**281**	PKiKP	PKiKP	11 02 59.0	0.0
	comp=Z,0.5nm,0.6s,baz=64,slow=1.7,SNR=7.4						
DBIC	**Dimbokro**	**113.32**	**273**	PKiKP	PKiKP	11 03 09.3	-0.5
	comp=Z,3.0nm,0.8s,baz=158,slow=5.4,SNR=3.9						
DBIC	**Dimbokro**	**113.32**	**273**	*i* PKIKP	PKiKP	11 03 09.3	-0.5
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**118.55**	**21**	PKP	PKPdf	11 03 18.9	-0.9
	comp=Z,0.9nm,0.7s,baz=342,slow=2.0,SNR=6.4						
YKA	**Yellowknife Ar**	**118.55**	**21**⇑	*i*PKIKP	PKPdf	11 03 19.0	-0.8
A05A	**Maple Falls**	**122.51**	**37**	⇑P	PKPdf	11 03 28.3	+0.9
	baz=122						
B05A	**Bryant**	**122.83**	**37**	⇓P	PKPdf	11 03 29.1	+1.0
	baz=123						
C05A	**Tolt Reservoir**	**123.33**	**38**	⇑P	PKPdf	11 03 30.7	+1.7
	baz=123						
D05A	**Enumclaw**	**123.36**	**39**	⇓P	PKPdf	11 03 31.4	+2.4
	baz=123						
F04A	**Amboy**	**123.62**	**40**	⇑P	PKPdf	11 03 30.6	+1.0
	baz=124						
H04A	**Detroit Lake**	**124.28**	**41**	⇓P	PKPdf	11 03 31.6	+0.7
	baz=124						
HUMO	**Hull Mountain**	**124.57**	**44**	⇓P	PKPdf	11 03 33.2	+1.8
	baz=125						
EDM	**Edmonton**	**124.95**	**29**	*e*PKIKP	PKPdf	11 03 32.4	+0.3
EDM				*e*		11 03 46.8	
L04A	**Klamath Falls**	**125.47**	**44**	⇑P	PKPdf	11 03 35.5	+2.4
	baz=126						
J06A	**Christmas Vall**	**126.21**	**42**	⇑P	PKPdf	11 03 36.9	+2.3
	baz=126						
MNRC	**McLaughlin Nat**	**126.25**	**48**	⇑P	PKPdf	11 03 37.5	+2.9
	baz=126						
HATC	**Hat Creek Radi**	**126.27**	**45**	⇓P	PKPdf	11 03 37.0	+2.4
	baz=126						
K06A	**Valley Falls**	**126.33**	**43**	⇑P	PKPdf	11 03 35.5	+0.7
	baz=126						
ORV	**Oroville**	**126.71**	**47**	⇓P	PKPdf	11 03 37.2	+1.7
	baz=127						
J07A	**Hines**	**126.72**	**42**	⇑P	PKPdf	11 03 38.1	+2.6
	baz=127						
O04C	**Chester**	**126.72**	**46**	⇓P	PKPdf	11 03 38.0	+2.5
	baz=127						
O05C	**Quincy**	**126.98**	**46**	⇓P	PKPdf	11 03 37.9	+1.9
	baz=127						
L07A	**Adell**	**127.27**	**43**	⇑P	PKPdf	11 03 38.5	+2.0
	baz=127						
J08A	**Circle Bar Ran**	**127.27**	**41**	P	PKPdf	11 03 38.0	+1.5
	baz=127						
P05C	**Yuba Gap, Truc**	**127.44**	**47**	⇑P	PKPdf	11 03 39.0	+2.1
	baz=128						
N06A	**Buffalo Meadow**	**127.44**	**45**	⇓P	PKPdf	11 03 39.1	+2.2
	baz=128						
LAVA	**Lava Cap Winer**	**127.54**	**48**	⇓P	PKPdf	11 03 39.4	+2.4
	baz=128						
WVOR	**Wild Horse Val**	**127.56**	**43**	*e*PKIKP	PKPdf	11 03 38.7	+1.6
M07A	**Soldier Meadow**	**127.64**	**44**	⇑P	PKPdf	11 03 39.5	+2.2
	baz=128						
O06A	**Flanigan**	**127.67**	**46**	⇑P	PKPdf	11 03 39.3	+1.9
	baz=128						
HAST	**UC Hastings Re**	**127.74**	**51**	⇓P	PKPdf	11 03 39.6	+2.1
	baz=128						
PACP	**Pacheco Peak**	**127.74**	**50**	⇓P	PKPdf	11 03 38.9	+1.4
	baz=128						
N07B	**Gerlach**	**128.03**	**45**	⇓P	PKPdf	11 03 39.6	+1.6
	baz=128						
R05C	**Kirkwood Meado**	**128.05**	**47**	⇑P	PKPdf	11 03 39.7	+1.7
	baz=128						
L09A	**Wilkinson Ranc**	**128.39**	**43**	⇑P	PKPdf	11 03 41.0	+2.3
	baz=128						
S06C	**San Francisco**	**128.51**	**48**	⇓P	PKPdf	11 03 41.4	+2.5
	baz=129						
N08A	**GE Springer Mi**	**128.61**	**44**	⇓P	PKPdf	11 03 41.1	+2.0
	baz=129						
CHMT	**Chamberlain Mo**	**128.69**	**35**	*e*PKPdf	PKPdf	11 03 40.3	+1.1
N09A	**Rock Creek Ran**	**129.00**	**44**	⇑P	PKPdf	11 03 42.3	+2.4
	baz=129						
R07C	**Lee Vining**	**129.02**	**48**	⇓P	PKPdf	11 03 43.2	+3.3
	baz=129						
NVAR	**Mina Array Bea**	**129.44**	**47**	PKP	PKPdf	11 03 42.6	+1.9
	comp=Z,1.8nm,0.8s,baz=242,slow=1.9,SNR=10						
MNV	**Mina**	**129.54**	**47**	*e*PKIKP	PKPdf	11 03 39.8	-1.1
MNV				*e*		11 03 53.7	
HLID	**Hailey**	**129.78**	**39**	*e*PKPdf	PKPdf	11 03 43.9	+2.5
HLID				*e*		11 03 57.0	
M11A	**Holland Ranch,**	**129.91**	**43**	⇓P	PKPdf	11 03 44.8	+3.2
	baz=130						
MCMT	**McKenzie Canyo**	**130.07**	**37**	*e*PKPdf	PKPdf	11 03 44.2	+2.3
PLCA	**Paso Flores**	**130.39**	**182**	PKP	PKPdf	11 03 43.8	+1.3
	comp=Z,2.7nm,0.6s,baz=103,slow=2.6,SNR=8.3						
PLCA	**Paso Flores**	**130.39**	**182**	PKIKP	PKPdf	11 03 43.8	+1.3
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
S09A	**Goldfield**	**130.50**	**48**	⇑P	PKPdf	11 03 44.9	+2.1
	baz=130						
O11A	**Cowboy Ranch,**	**130.59**	**44**	⇑P	PKPdf	11 03 45.6	+2.7
	baz=131						
ELK	**Elko**	**130.60**	**43**	*e*PKIKP	PKPdf	11 03 45.4	+2.5
M13A	**Montello**	**131.02**	**42**	⇓P	PKPdf	11 03 46.8	+3.1
	baz=131						
Q11A	**Duckwater**	**131.16**	**45**	⇓P	PKPdf	11 03 46.8	+2.8
	baz=131						
GCMT	**Greycliff**	**131.37**	**35**	*e*PKPdf	PKPdf	11 03 47.0	+2.6
P12A	**McGill**	**131.40**	**44**	⇑P	PKPdf	11 03 47.4	+2.9
	baz=131						
U10A	**Ash Meadows, A**	**131.67**	**49**	⇑P	PKPdf	11 03 49.0	+4.1
	baz=132						
GSC	**Goldstone**	**131.73**	**50**	⇓P	PKPdf	11 03 48.3	+3.2
	baz=132						
DUG	**Dugway**	**132.49**	**43**	*e*PKIKP	PKPdf	11 03 48.9	+2.4
DUG				*e*		11 04 01.8	
PFO	**Pinyon Flat Ob**	**132.61**	**52**	⇑P	PKPdf	11 03 50.1	+3.4
	baz=133						
V12A	**Nelson**	**133.04**	**49**	⇑P	PKPdf	11 03 51.1	+3.6
	baz=133						
PDAR	**Pinedale Array**	**133.20**	**38**	PKP	PKPdf	11 03 49.8	+2.0
	comp=Z,1.1nm,0.6s,baz=291,slow=0.1,SNR=12						
DAU	**Daniels Canyon**	**133.41**	**41**	*e*PKIKP	PKPdf	11 03 52.2	+4.0
MSU	**Marysvale**	**133.73**	**44**	*e*PKIKP	PKPdf	11 03 49.4	+0.6
W13A	**Hualapai Mount**	**134.01**	**49**	⇑P	PKPdf	11 03 53.6	+4.3
	baz=134						
GLA	**Glamis**	**134.08**	**52**	⇑P	PKPdf	11 03 53.0	+3.5
	baz=134						
X13A	**Yucca**	**134.26**	**50**	⇑P	PKPdf	11 03 52.5	+2.6
	baz=134						
W14A	**Seligman**	**134.57**	**49**	⇓P	PKPdf	11 03 53.4	+3.0
	baz=135						
X14A	**Yava**	**135.02**	**50**	⇑P	PKPdf	11 03 54.3	+3.0
	baz=135						
X15A	**Humboldt**	**135.50**	**49**	⇓P	PKPdf	11 03 55.6	+3.5
	baz=136						
PV10	**Paradox Valley**	**135.93**	**43**	*e*PKPdf	PKPdf	11 03 55.9	+2.9
PV10				*e*		11 04 09.8	
PV01	**Paradox Valley**	**136.37**	**43**	*e*PKPdf	PKPdf	11 03 56.7	+2.9
ANMO	**Albuquerque**	**139.49**	**45**⇑	*i*PKIKP	PKPdf	11 04 03.8	+4.3
ANMO	**Albuquerque**	**139.49**	**45**	*e*PKPdf	PKPdf	11 04 03.7	+4.2
BNM	**Barren Site**	**139.77**	**47**	*e*PKPdf	PKPdf	11 04 05.4	+5.4
BNM				*e*		11 04 15.5	
CPUP	**Villa Florida**	**141.92**	**202**	PKP	PKPdf	11 04 04.9	+1.1
	comp=Z,2.7nm,0.6s,baz=107,slow=2.1,SNR=8.6						
CPUP	**Villa Florida**	**141.92**	**202**	PKIKP	PKPdf	11 04 04.9	+1.0
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CPUP	**Villa Florida**	**141.92**	**202**	*e*PKPdf	PKPdf	11 04 06.0	+2.2
LONY	**Lake Ozonia**	**144.56**	**3**	*e*PKPdf	PKPdf	11 04 07.2	-1.3
WMOK	**Wichita Mounta**	**144.75**	**40**	*e*PKIKP	PKPdf	11 04 08.9	+0.1
LBNH	**Lisbon**	**145.00**	**360**	*e*PKIKP	PKPdf	11 04 09.2	-0.1
MIV	**Mineville/With**	**145.15**	**2**	*e*PKPbc	PKPbc	11 04 09.3	+0.2
NCB	**Newcomb**	**145.23**	**3**	*e*PKPbc	PKPbc	11 04 09.6	+0.3
AAM	**Ann Arbor**	**145.44**	**15**	*e*PKIKP	PKPdf	11 04 11.1	+1.1
BDFB	**Brasilia**	**145.66**	**224**	PKPbc	PKPbc	11 04 12.4	+1.7
	comp=Z,9.0nm,0.6s,baz=46,slow=0.4,SNR=11						
BDFB	**Brasilia**	**145.66**	**224**	PKP2	PKPab	11 04 12.5	+1.5
BDFB				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ERPA	**Erie**	**146.42**	**10**	*e*PKPdf	PKPdf	11 04 12.5	+0.8
ERPA				*e*PKPbc	PKPbc	11 04 14.1	+1.1
CCM	**Cathedral Cave**	**146.46**	**28**	*e*PKPbc	PKPbc	11 04 13.2	+0.1
CCM				*e*PKPab	PKPab	11 04 14.5	+0.4
JCT	**Junction City**	**146.61**	**47**	*e*PKPdf	PKPdf	11 04 13.4	+1.4
JCT				*e*PKPbc	PKPbc	11 04 15.3	+1.7
HRV	**Harvard--Oak R**	**146.73**	**359**	*e*PKP2	PKPbc	11 04 14.1	+0.2
WES	**Weston**	**146.85**	**359**	*e*PKP2	PKPbc	11 04 14.3	0.0
BINY	**Binghamton**	**146.87**	**5**	*e*PKPdf	PKPdf	11 04 13.0	+0.5
BINY				*e*PKPbc	PKPbc	11 04 14.8	+0.5
FVM	**French Village**	**146.89**	**27**	*e*PKPdf	PKPdf	11 04 13.0	+0.5
FVM				*e*PKPbc	PKPbc	11 04 14.8	+0.5
FVM				*e*PKPab	PKPab	11 04 17.0	+1.2
QUA2	**Belchertown**	**146.96**	**0**	*e*PKPbc	PKPbc	11 04 15.3	+0.7
ACSO	**Alum Creek Sta**	**147.56**	**15**	*e*PKPdf	PKPdf	11 04 14.7	+1.0
ACSO				*e*PKPbc	PKPbc	11 04 16.5	+0.2
ACSO				*e*PKPab	PKPab	11 04 19.3	+0.9
MIAR	**Mount Ida**	**147.99**	**35**	*e*PKP2	PKPbc	11 04 18.5	+1.1
USIN	**University of**	**148.07**	**23**	*e*PKPbc	PKPbc	11 04 19.0	+1.4
USIN				*e*PKPab	PKPab	11 04 20.7	+0.3
PAL	**Palisades**	**148.20**	**2**	*e*PKPbc	PKPbc	11 04 18.9	+0.9
PAL				*e*PKPab	PKPab	11 04 21.7	+0.8
SSPA	**Standing Stone**	**148.20**	**8**	*e*PKPbc	PKPbc	11 04 18.4	+0.4
PARMO	**Parma**	**148.28**	**27**	*e*PKPbc	PKPbc	11 04 20.1	+1.9
LVC	**Limon Verde**	**148.31**	**186**	*e*PKPdf	PKPbc	11 04 17.3	-1.0
LVC				*e*PKPbc	PKPab	11 04 20.4	-0.9
WCI	**Wyandotte Cave**	**148.35**	**21**	*e*PKPbc	PKPbc	11 04 18.9	+0.5
WCI				*e*PKPab	PKPab	11 04 23.0	+1.4
UALR	**University of**	**148.49**	**33**	*e*PKPdf	PKPdf	11 04 15.3	+0.2
UALR				*e*PKPbc	PKPbc	11 04 19.3	+0.6
UALR				*e*PKPab	PKPab	11 04 21.9	-0.3
HBAR	**Harrisburg**	**148.75**	**30**	*e*PKPbc	PKPbc	11 04 21.7	+2.3
MCWV	**Mont Chateau**	**148.82**	**11**	*e*PKPbc	PKPbc	11 04 21.6	+2.0
MCWV				*e*PKPab	PKPab	11 04 24.5	+1.1
MVL	**Millersville**	**149.02**	**6**	*e*PKPdf	PKPdf	11 04 17.6	+1.6
MVL				*e*PKPbc	PKPbc	11 04 20.8	+0.7
WVT	**Waverly**	**149.57**	**25**	*e*PKHKP		11 04 16.8	
WVT				*e*		11 04 22.2	
HKT	**Hockley**	**149.70**	**44**	*e*PKHKP		11 04 17.6	
HKT				*e*		11 04 23.8	
OXF	**Oxford**	**150.20**	**29**	*e*PKIKP	PKPdf	11 04 19.4	+1.5
OXF				*e*		11 04 23.7	
OXF				*e*		11 04 29.1	
PLAL	**Pickwick Lake**	**150.43**	**27**	*e*PKPdf	PKPdf	11 04 19.2	+0.9
PLAL				*e*PKPbc	PKPbc	11 04 23.7	+0.1
TZTN	**Tazewell**	**150.81**	**19**	*e*PKPdf	PKPdf	11 04 19.7	+0.9
TZTN				*e*PKPbc	PKPbc	11 04 25.0	+0.6
CPCT	**Cooper Cave**	**151.47**	**21**	*e*PKPbc	PKPbc	11 04 26.9	+0.9
LRAL	**Lakeview Retre**	**152.55**	**28**	*e*PKPdf	PKPdf	11 04 22.4	+0.9
LRAL				*e*PKPbc	PKPbc	11 04 28.8	+0.3
LPAZ	**La Paz**	**154.45**	**189**	PKP	PKPdf	11 04 28.1	+3.9
	comp=Z,1.1nm,0.8s,baz=28,slow=6.5,SNR=4.8						
LPAZ				PKPbc	PKPbc	11 04 34.5	+1.9
	comp=Z,5.4nm,0.7s,baz=175,slow=4.2,SNR=26						
LPAZ	**La Paz**	**154.45**	**189**	PKIKP	PKPdf	11 04 28.1	+3.9
LPAZ						11 04 34.5	
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						

IDC ***17*** *10:56:55.3±0.8, 9.47S×108.21E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, Error ellipse: s-maj=37.9km s-min=19.8km az=61.0*

NEIC ***17*** *10:56:56.5±0.7, 9.50S×108.21E, h10km, mb4.3/2, Error ellipse: s-maj=28.3km s-min=13.0km az=56.0*

ISCJB ***17*** *10:56:57.8±0.9, 9.5S±02×108.2E±02, h33km, mb3.9/7, Error ellipse: s-maj=36.6km s-min=16.7km az=110.6*

ISC 17 10:57:00.2±0.9, **9.5S**±02×**108.2E**±02, **h35km, n9,** σ**0.32**/9, **mb3.9**/7, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.29**	**115**	P	**P**	**11 02 41.3**	**-0.1**
	0.9nm,0.6s,mb3.5,baz=286,slow=11,SNR=6.9						
WRA				PcP	PcP	11 06 03.3	+3.0
	0.3nm,0.9s,baz=305,slow=1.6,SNR=3.1						
ASAR	**Alice Springs**	**28.31**	**123**	P	**P**	**11 02 50.5**	**0.0**
	0.9nm,0.7s,mb3.5,baz=304,slow=8.5,SNR=6.3						
ASAR				PcP	PcP	11 06 04.6	+1.8
	0.6nm,0.8s,baz=315,slow=1.9,SNR=5.8						
SONM	**Songino Array**	**57.12**	**359**	P	**P**	**11 06 43.5**	**+0.4**
	0.6nm,0.7s,mb3.7,baz=174,slow=11,SNR=4.5						
MKAR	**Makanchi Array**	**60.64**	**340**	P	**P**	**11 07 08.0**	**+0.4**
	2.2nm,0.7s,mb4.4,baz=142,slow=7.9,SNR=15						
MKAR	**Makanchi Array**	**60.64**	**340**	P	**P**	**11 07 08.0**	**+0.4**
KURK	**Kurchatov**	**65.25**	**340**	*e*P	**P**	**11 07 38.0**	**-0.2**
	1.2nm,0.8s,mb4.0						
MAW	**Mawson**	**65.32**	**197**	P	**P**	**11 07 39.0**	**+0.2**
	1.5nm,0.5s,mb4.2,baz=32,slow=7.0,SNR=9.7						

MAW	**Mawson**	**65.32**	**197**	P	**P**	**11 07 38.7**	**0.0**
	2.1nm,0.7s,mb4.3						
MAW				*e*	pP	11 07 48.9	-0.5
BVAR	**Borovoye Array**	**70.13**	**337**	P	**P**	**11 08 08.4**	**-0.6**
	0.5nm,0.5s,mb3.8,baz=139,slow=7.1,SNR=2.7						

IDC 17 11:02:13.5±13.0**, 1801S×17859W, h680**km±190km**, mb3.2**/7**, mb1 3.5**/7**, mb1mx3.3**/14**, mbtmp4.3**/7**, Error ellipse: s-maj=67.0km s-min=26.5km az=93.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.26**	**261**	P	P	11 07 58.5	-0.3
	4.4nm,0.6s,baz=78,slow=12,SNR=7.9						
PMG	**Port Moresby**	**34.31**	**280**	P	P	11 08 08.8	+1.4
	17nm,0.8s,baz=47,slow=7.0,SNR=5.0						
WRA	**Warramunga Arr**	**44.45**	**260**	P	P	11 09 27.9	+0.2
	5.3nm,0.7s,baz=92,slow=7.5,SNR=7.7						
ASAR	**Alice Springs**	**44.60**	**254**	P	P	11 09 29.4	+0.5
	19nm,0.7s,baz=86,slow=8.6,SNR=132						
VNDA	**Vanda**	**60.33**	**185**	P	P	11 11 19.4	-0.4
	0.5nm,0.7s,baz=37,slow=5.1,SNR=3.3						
NVAR	**Mina Array Bea**	**79.61**	**44**	P	P	11 13 13.5	+0.5
	0.9nm,0.7s,baz=219,slow=7.5,SNR=9.5						
PDAR	**Pinedale Array**	**87.54**	**43**	P	P	11 13 52.0	+0.2
	0.6nm,0.7s,baz=205,slow=1.9,SNR=6.6						

IDC 17 11:03:00.1±2.8**, 927S×10783E, h0**km**, mb3.9**/5**, mb1 4.0**/5**, mb1mx3.8**/15**, mbtmp3.9**/5**, Error ellipse: s-maj=130.1km s-min=23.1km az=48.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.72**	**115**	P	P	11 08 50.1	0.0
	1.7nm,1.0s,baz=288,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**28.74**	**123**	P	P	11 08 59.9	+0.7
	1.0nm,1.1s,baz=312,slow=9.8,SNR=3.8						
SONM	**Songino Array**	**56.87**	**359**	P	P	11 12 47.4	+0.8
	0.6nm,0.7s,baz=168,slow=7.0,SNR=4.5						
MKAR	**Makanchi Array**	**60.29**	**340**	P	P	11 13 10.2	-0.2
	1.5nm,0.6s,baz=152,slow=7.3,SNR=11						
BVAR	**Borovoye Array**	**69.76**	**337**	P	P	11 14 11.9	-0.2
	1.3nm,0.7s,baz=141,slow=7.6,SNR=6.8						

*BJI **17** 11:03:12.5, 930S×10740E, h10km, mB6.1, mb5.3, Ms5.8, Msz5.5*
*IDC **17** 11:03:13.4±0.4, 929S×10742E, h0km, mb4.8/26, mb1 4.8/27, mb1mx4.8/29, mbtmp4.8/27, ML4.1/1, Error ellipse: s-maj=18.4km s-min=11.0km az=52.0*
*CSEM **17** 11:03:13.0, 933S×10722E, h10km, mb5.5*
*NEIC **17** 11:03:14.6±0.2, 935S×10739E, h10km, mb5.2/31, Error ellipse: s-maj=7.0km s-min=4.9km az=51.0*
*ISCJB **17** 11:03:16.1±0.2, 930S±004×10744E±004, h31km, mb5.2/96, MS5.4/5, Error ellipse: s-maj=6.5km s-min=5.2km az=95.4*
*MOS **17** 11:03:17.1±1.0, 909S×10754E, h33km, mb5.5/29, Error ellipse: s-maj=11.8km s-min=6.4km az=113.3*
ISC 17 11:03:18.3±0.2**, 934S**±004×**10742E**±004**, h33**km**, h33**km±1.7km**: pP-P, n268, σ0s96**/203**, mb5.2**/95**, MS5.4**/5**, 36C-18D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**3.02**	**49**	P	**Pn**	**11 04 04.0**	**+0.3**
	607nm,1.1s						
BJII	**Banjamegara**	**3.02**	**49**	⇑*i*P	**Pn**	**11 04 04.7**	**+1.0**
BJII				*i* S	**Sn**	**11 04 29.7**	**-9.0**
KSI	**Kapahiang**	**7.41**	**319**	P	**Pn**	**11 05 02.0**	**-2.0**
	396nm,1.3s						
COCO	**West Island**	**10.78**	**254**	*e*Pn	**Pn**	**11 05 47.7**	**-2.5**
	903nm,1.4s						
COCO				*e*Sn	Sn	11 07 27.5	-22
KSM	**Kuching**	**11.12**	**15**	*e*Pn	**Pn**	**11 05 55.7**	**+0.9**
KGM	**Kluang**	**11.99**	**340**	P	**Pn**	**11 06 05.2**	**-1.6**
PSI	**Prapat**	**14.73**	**325**	Pn	**Pn**	**11 06 36.6**	**-7.6**
	0.3nm,0.3s,baz=164,slow=15,SNR=3.2						
PCI	**Palu**	**14.93**	**57**	P	**Pn**	**11 06 47.5**	**+0.7**
	235nm,1.8s						
IPM	**Ipoh**	**15.13**	**335**	P	**Pn**	**11 06 53.5**	**+4.0**
KULM	**Kulim**	**16.02**	**335**	*e*Pn	**Pn**	**11 06 56.4**	**-4.6**
MBWA	**Marble Bar**	**16.70**	**136**	*e*Pn	**Pn**	**11 07 04.1**	**-5.5**
	20nm,0.7s						
MBWA				*e*Sn	**Sn**	**11 09 56.1**	**-18**
TSM	**Tawau**	**17.09**	**38**	P	**Pn**	**11 07 16.6**	**+2.1**
KKM	**Kota Kinabalu**	**17.61**	**30**	P	**Pn**	**11 07 22.6**	**+1.5**
KKM	**Kota Kinabalu**	**17.61**	**30**	*e*P	**Pn**	**11 07 22.1**	**+1.1**
BSI	**Banda Aceh**	**19.05**	**320**	P	**Pn**	**11 07 39.6**	**+1.0**
	585nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.71**	**118**	*e*P	**Pn**	**11 07 46.3**	**-0.2**
	28nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.71**	**118**	P	**Pn**	**11 07 46.4**	**-0.1**
	0.4nm,0.3s,baz=278,slow=8.3,SNR=10						
NNT	**Nongplab**	**23.08**	**341**	P	**P**	**11 08 21.7**	**+0.7**
DAV	**Davao City (W)**	**24.35**	**49**	P	**P**	**11 08 35.1**	**+2.1**
	SNR=6.7						
DAV	**Davao City (W)**	**24.35**	**49**	P	**P**	**11 08 35.1**	**+2.1**
	SNR=6.7						
KAKA	**Kakadu**	**24.78**	**100**	*e*P	**P**	**11 08 37.8**	**+0.8**
	35nm,0.7s,mb5.0						
NWAO	**Narrogin (SRO)**	**25.17**	**160**	P	**P**	**11 08 39.8**	**-0.7**
	6.3nm,0.8s,mb4.2,baz=345,slow=5.7,SNR=5.2						
NST	**Nakhon Sawan**	**25.87**	**344**	⇑P	**P**	**11 08 47.0**	**+0.1**
	121nm,1.0s,mb5.4						
WRA	**Warramunga Arr**	**28.06**	**115**	P	**P**	**11 09 06.5**	**0.0**
	12nm,1.0s,mb4.5,baz=289,slow=10,SNR=20						
WRA				PcP	PcP	11 12 21.8	+1.3
	2.9nm,0.7s,baz=295,slow=2.2,SNR=11						
WRAB	**Tennant Creek**	**28.06**	**115**	*c i*P	**P**	**11 09 06.9**	**+0.3**
WRAB	**Tennant Creek**	**28.06**	**115**	*e*P	**P**	**11 09 06.6**	**0.0**
	27nm,1.0s,mb4.8						
WB2	**Warramunga Arr**	**28.07**	**115**	*e*P	**P**	**11 09 06.1**	**-0.5**
NANT	**Nan**	**28.73**	**347**	⇑P	**P**	**11 09 11.5**	**-1.0**
	288nm,1.0s,mb6.0						
AS31	**Alice Springs**	**29.04**	**123**	*e*P	**P**	**11 09 15.2**	**-0.1**
AS31				*e*		11 09 29.1	
ASAR	**Alice Springs**	**29.04**	**123**	P	**P**	**11 09 15.4**	**+0.1**
	3.0nm,0.9s,mb4.0,baz=305,slow=8.9,SNR=28						
ASAR				PcP	PcP	11 12 24.6	+1.5
	3.8nm,0.7s,baz=309,slow=1.8,SNR=15						
CHG	**Chiang Mai**	**29.19**	**343**	⇑P	**P**	**11 09 16.3**	**-0.3**
	94nm,0.9s,mb5.5						
CHTO	**Chiang Mai**	**29.19**	**343**	P	**P**	**11 09 17.7**	**+1.1**
	SNR=17						
CHTO	**Chiang Mai**	**29.19**	**343**	*e*P	**P**	**11 09 16.1**	**-0.5**
CHTO				*e*	pP	11 09 25.1	-1.0
CHTO				pmax	pmax		
	comp=Z,235nm,0.6s,mb6.1						
CHTO	**Chiang Mai**	**29.19**	**343**	*e*P	**P**	**11 09 16.1**	**-0.5**
	comp=Z,235nm,0.6s,mb6.1						
CHTO				*e*	pP	11 09 25.1	-1.0
KMI	**Kunming**	**34.55**	**353**	P	**P**	**11 10 05.8**	**+2.2**
KMI				AP	pP	11 10 10.3	-2.9
KMI				AMB	AMB		
	comp=Z,84nm,1.3s,mb5.5						
GYA	**Guiyang**	**35.59**	**359**	⇑*i*P	**P**	**11 10 13.6**	**+1.0**
GYA				AP	pP	11 10 17.8	-4.4
GYA				XP	sP	11 10 20.8	-5.3
GYA				PCP	PcP	11 12 42.5	+1.6
GYA				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.5						
GYA				AMB	AMB		
	comp=Z,2µm,4.6s						
GYA				LR	LR		
	comp=N,1µm,16.8s,MS4.9						
GYA				LR	LR		
	comp=E,1µm,15.9s,MS4.9						
GYA				LR	LR		
	comp=Z,2µm,16.0s,MS4.9						
NACB	**Ninganchiao**	**36.07**	**22**	*e*P	**P**	**11 10 16.5**	**-0.2**
YHNB	**Yeheng**	**36.44**	**22**	*e*P	**P**	**11 10 20.1**	**+0.3**
YHNB				*e*	pP	11 10 28.4	-1.0
SHL	**Shillong**	**37.84**	**337**	*e*P	**P**	**11 10 32.8**	**+1.0**
CTA	**Charters Tower**	**38.96**	**110**	*e*P	**P**	**11 10 42.9**	**+1.7**
	comp=Z,13nm,1.1s,mb4.6						
CTA	**Charters Tower**	**38.96**	**110**	P	**P**	**11 10 42.4**	**+1.3**
	comp=Z,14nm,1.1s,mb4.6,baz=46,slow=22,SNR=6.9						
CTA	**Charters Tower**	**38.96**	**110**	*e*P	**P**	**11 10 42.9**	**+1.7**
CTA				pmax	pmax		
	comp=Z,13nm,1.1s						
CTAO	**Charters Tower**	**38.96**	**110**	*e*P	**P**	**11 10 42.9**	**+1.7**
CTAO				*e*	pP	11 10 52.8	+2.0
CTAO				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.7						
CTAO	**Charters Tower**	**38.96**	**110**	*e*P	**P**	**11 10 42.9**	**+1.8**
	comp=Z,16nm,1.1s,mb4.7						
CTAO				*e*	pP	11 10 52.8	+2.0
HYB	**Hyderabad**	**38.99**	**313**	⇑*i*P	**P**	**11 10 44.0**	**+2.6**
HYB	**Hyderabad**	**38.99**	**313**	⇑*e*P	**P**	**11 10 42.0**	**+0.6**
BOK	**Bokaro**	**39.08**	**328**	*e*P	**P**	**11 10 42.1**	**-0.1**
BOK				AMb	AMB	11 10 47.2	
	comp=Z,71nm,1.0s,mb5.3						
CD2	**Chengdu**	**40.17**	**355**	⇑*i*P	**P**	**11 10 51.5**	**+0.3**
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
WHN	**Wuhan**	**40.20**	**9**	P	**P**	**11 10 52.5**	**+1.0**
JOW	**Kunigami**	**41.26**	**29**	P	**P**	**11 10 60.0**	**-0.3**
	comp=Z,39nm,1.0s,mb5.0,baz=209,slow=7.5,SNR=8.8						
JIRN	**Jiri**	**42.13**	**331**	*e*P	**P**	**11 11 08.1**	**+0.7**
	comp=Z,164nm,0.9s,mb5.7						
KAD	**Karad**	**42.19**	**309**	*e*P	**P**	**11 11 08.5**	**+0.7**
KAD				AMb	AMB	11 11 10.4	
	comp=Z,76nm,2.4s,mb4.9						
AKL	**Akola**	**42.24**	**315**	*e*P	**P**	**11 11 08.6**	**+0.3**
AKL				AMb	AMB	11 11 14.2	
	comp=Z,71nm,1.2s,mb5.2						
SSE	**Sheshan**	**42.31**	**18**	*e*P	**P**	**11 11 08.3**	**-0.5**
SSE				AMB	AMB		
	comp=Z,60nm,1.3s,mb5.1						
SSE				AMB	AMB		
	comp=Z,5µm,12.0s						
PKI	**Pulchoki**	**42.43**	**330**	*e*P	**P**	**11 11 09.9**	**+0.1**
GUN	**Gumba**	**42.49**	**331**	*e*P	**P**	**11 11 11.1**	**+0.8**
	comp=Z,201nm,1.0s,mb5.7						
NJ2	**Nanjing**	**42.58**	**14**	*e*P	**P**	**11 11 12.0**	**+1.0**
NJ2				PP	PP	11 12 53.9	+3.9
NJ2				AMB	AMB		
	comp=Z,130nm,1.0s,mb5.6						
NJ2				LR	LR		
	comp=N,10µm,12.4s,MS5.9						
NJ2				LR	LR		
	comp=E,1µm,14.6s,MS5.9						
NJ2				LR	LR		
	comp=Z,3µm,14.6s,MS5.4						
DMN	**Daman**	**42.61**	**330**	*e*P	**P**	**11 11 11.7**	**+0.4**
	comp=Z,116nm,0.8s,mb5.7						
KKN	**Kakani**	**42.68**	**330**	*e*P	**P**	**11 11 12.0**	**+0.2**
	comp=Z,99nm,0.8s,mb5.6						
KKN	**Kakani**	**42.68**	**330**	*e*P	**P**	**11 11 12.0**	**+0.2**
KKN				pmax	pmax		
	comp=Z,99nm,0.8s,mb5.6						
XAN	**Xi'an**	**43.16**	**2**	P	**P**	**11 11 15.3**	**-0.4**
XAN				AMB	AMB		
	comp=Z,158nm,1.1s,mb5.7						
GKN	**Gorkha**	**43.17**	**330**	*e*P	**P**	**11 11 15.9**	**+0.1**
	comp=Z,114nm,0.9s,mb5.6						
KOLN	**Koldanda**	**43.50**	**329**	*e*P	**P**	**11 11 18.8**	**+0.3**
	comp=Z,181nm,0.8s,mb5.8						
BHPL	**Bhopal**	**43.70**	**318**	*e*P	**P**	**11 11 19.7**	**-0.4**
BHPL				AMb	AMB	11 11 23.6	
	comp=Z,40nm,1.6s,mb4.9						
LZH	**Lanzhou**	**45.30**	**356**	⇑P	**P**	**11 11 34.3**	**+1.4**
LZH				AP	pP	11 11 44.3	+1.6
LZH				PP	PP	11 13 20.8	+1.7
LZH				AMB	AMB		
	comp=Z,151nm,1.2s,mb5.7						
LZH				AMB	AMB		
	comp=Z,629nm,5.2s						
NDI	**New Delhi**	**47.74**	**323**	*e*P	**P**	**11 11 50.0**	**-2.0**
AJM	**Ajmer**	**47.76**	**319**	*e*P	**P**	**11 11 51.8**	**-0.2**
AJM				AMb	AMB	11 11 53.8	
	comp=Z,39nm,1.7s,mb5.2						
GTA	**Gaotai**	**49.01**	**352**	*e*P	**P**	**11 12 02.1**	**+0.4**
GTA				AP	pP	11 12 12.9	+1.3
GTA				PCP	PcP	11 13 26.8	+1.5
GTA				PP	PP	11 13 55.9	+0.6
GTA				PPP		11 14 51.0	
GTA				AMB	AMB		
	comp=Z,46nm,1.5s,mb5.3						
GTA				AMB	AMB		
	comp=Z,2µm,5.7s						
GTA				LR	LR		
	comp=N,4µm,17.5s,MS5.5						
GTA				LR	LR		
	comp=E,2µm,17.5s,MS5.5						
GTA				LR	LR		
	comp=Z,5µm,17.1s,MS5.5						
SMLA	**Simla**	**49.59**	**325**	*e*P	**P**	**11 12 05.4**	**-0.8**
SMLA				AMb	AMB	11 12 08.6	
	comp=Z,127nm,1.2s,mb5.8						
BTO	**Baotou**	**49.75**	**3**	*e*P	**P**	**11 12 06.5**	**-0.9**
BJT	**Baijiatuau**	**49.77**	**9**	*e*P	**P**	**11 12 07.7**	**+0.2**
BJT				pmax	pmax		
	comp=Z,25nm,0.5s						
BJT	**Baijiatuau**	**49.77**	**9**	*e*P	**P**	**11 12 07.7**	**+0.2**
	comp=Z,25nm,0.5s,mb5.5						
BJI	**Beijing**	**49.79**	**9**	*e*P	**P**	**11 12 07.5**	**-0.2**
BJI				AMB	AMB		
	comp=Z,47nm,1.2s,mb5.4						
MAJO	**Matsushiro**	**54.04**	**31**	*e*P	**P**	**11 12 35.4**	**-4.0**
MAJO				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
MAJO	**Matsushiro**	**54.04**	**31**	*e*P	**P**	**11 12 35.4**	**-3.9**
	comp=Z,30nm,1.1s,mb5.1						
MAT	**Matsushiro**	**54.04**	**31**	P	**P**	**11 12 37.2**	**-2.2**
MAT	**Matsushiro**	**54.04**	**31**	P	**P**	**11 12 37.0**	**-2.4**
MAT				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.0						
MAT	**Matsushiro**	**54.04**	**31**	P	**P**	**11 12 37.0**	**-2.4**
	comp=Z,22nm,1.1s,mb5.0						
MJAR	**Matsushiro Arr**	**54.04**	**31**	P	**P**	**11 12 36.5**	**-2.8**
	comp=Z,13nm,1.0s,mb4.8,baz=206,slow=8.3,SNR=24						
CN2	**Changchun**	**55.36**	**16**	*e*P	**P**	**11 12 46.8**	**-2.2**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
KSH	**Kashi**	**56.69**	**331**	*e*P	**P**	**11 12 59.3**	**+0.9**
KSH				*e*PCP	PcP	11 13 56.3	+2.0
KSH				*e*PP	PP	11 15 05.8	+1.1
KSH				*e*PPP		11 16 23.3	
KSH				AMB	AMB		
	comp=Z,2µm,7.6s						
KSH				LR	LR		
	comp=N,6µm,16.4s,MS5.9						
KSH				LR	LR		
	comp=E,5µm,16.0s,MS5.9						
KSH				LR	LR		
	comp=Z,3µm,15.3s,MS5.5						
VLA	**Vladivostok**	**56.77**	**21**	*e*P	**P**	**11 12 57.0**	**-2.0**
VLA				pmax	pmax		
	comp=Z,59nm,1.9s,mb5.3						
SONM	**Songino Array**	**56.92**	**359**	P	**P**	**11 13 00.8**	**+0.7**
	comp=Z,12nm,0.8s,mb5.0,baz=174,slow=8.3,SNR=50						
SONM				PcP	PcP	11 13 56.3	+1.1
	comp=Z,7.4nm,0.8s,baz=173,slow=4.7,SNR=6.0						
ULN	**Ulaanbaatar**	**56.95**	**360**	P	**P**	**11 13 00.7**	**+0.4**
	SNR=16						
ULN	**Ulaanbaatar**	**56.95**	**360**	P	**P**	**11 13 00.7**	**+0.4**
	SNR=16						
ULN	**Ulaanbaatar**	**56.95**	**360**	P	**P**	**11 13 01.1**	**+0.8**
	SNR=20						
ULN	**Ulaanbaatar**	**56.95**	**360**	*d i*P	**P**	**11 13 00.4**	**+0.1**
ULN	**Ulaanbaatar**	**56.95**	**360**	*i* P	**P**	**11 13 00.5**	**+0.2**
WSAR	**Wadi Sarin**	**57.66**	**305**	P	**P**	**11 13 06.0**	**+0.7**
	comp=Z,4.2nm,0.6s,mb4.7,baz=121,slow=10.0,SNR=7.2						
SMDO	**Samad**	**58.05**	**305**	P	**P**	**11 13 09.4**	**+1.4**
	SNR=5.9						
SMDO	**Samad**	**58.05**	**305**	P	**P**	**11 13 09.4**	**+1.4**
	SNR=5.9						
ULHL	**Ulahol**	**58.73**	**333**	P	**P**	**11 13 13.3**	**+0.5**
	SNR=6.7						
KZA	**Kyzart**	**59.05**	**332**	P	**P**	**11 13 15.5**	**+0.5**
	SNR=33						
HIA	**Hailar**	**59.35**	**9**	⇑*i*P	**P**	**11 13 15.0**	**-2.1**
HIA	**Hailar**	**59.35**	**9**	*e*P	**P**	**11 13 17.1**	**+0.1**
TKM2	**Tokmak 2**	**59.56**	**333**	P	**P**	**11 13 18.8**	**+0.3**
	SNR=29						
TKM2	**Tokmak 2**	**59.56**	**333**	P	**P**	**11 13 17.5**	**-1.0**
TKM2				pmax	pmax		
	comp=Z,83nm,1.4s,mb5.6						
ZAK	**Zakamensk**	**59.58**	**357**	⇑*i*P	**P**	**11 13 18.2**	**-0.4**
ZAK				*e*		11 14 04.3	
ZAK				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.8						
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.6						
KBK	**Karagaybulak**	**59.64**	**333**	P	**P**	**11 13 19.7**	**+0.6**
	SNR=12						
AML	**Almayashu**	**59.81**	**331**	P	**P**	**11 13 20.1**	**-0.1**
	SNR=15						
AAK	**Ala-Archa**	**59.83**	**332**	P	**P**	**11 13 20.7**	**+0.4**
	SNR=7.3						
AAK	**Ala-Archa**	**59.83**	**332**	P	**P**	**11 13 20.0**	**-0.4**
	SNR=11						
AAK	**Ala-Archa**	**59.83**	**332**	P	**P**	**11 13 20.0**	**-0.4**
	SNR=11						
AAK	**Ala-Archa**	**59.83**	**332**	P	**P**	**11 13 20.0**	**-0.4**
	SNR=11						
AAK	**Ala-Archa**	**59.83**	**332**	*e*P	**P**	**11 13 19.4**	**-1.0**
AAK				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.1						
AAK	**Ala-Archa**	**59.83**	**332**	*e*P	**P**	**11 13 19.4**	**-1.0**
	comp=Z,27nm,1.4s,mb5.1						
AAK				⇑*e*P		11 13 19.6	
EKS2	**Erkin-Say**	**60.18**	**332**	P	**P**	**11 13 23.2**	**+0.4**
	SNR=6.6						
MK31	**Makanchi Array**	**60.21**	**340**	P	**P**	**11 13 21.4**	**-1.6**
MK31				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
MKAR	**Makanchi Array**	**60.21**	**340**	P	**P**	**11 13 23.2**	**+0.2**
	comp=Z,12nm,0.5s,mb5.2,baz=142,slow=7.9,SNR=61						
MKAR	**Makanchi Array**	**60.21**	**340**	P	**P**	**11 13 23.2**	**+0.2**
USP	**Ospenovka**	**60.32**	**333**	P	**P**	**11 13 23.6**	**-0.2**
	SNR=9.5						
MOY	**Mondy**	**61.01**	**355**	*e*P	**P**	**11 13 29.6**	**+1.2**
MOY				pmax	pmax		
	comp=Z,74nm,1.6s,mb5.6						
IRK	**Irkutsk**	**61.39**	**358**	*e*P	**P**	**11 13 30.5**	**-0.5**
IRK				*e*		11 13 45.3	
IRK				pmax	pmax		
	comp=Z,51nm,2.4s,mb5.2						
ASAJ	**Asahikawa**	**62.02**	**28**	P	**P**	**11 13 34.4**	**-0.9**
	comp=Z,9.0nm,0.7s,mb5.0,baz=239,slow=10,SNR=17						
KKAR	**Karatay Array**	**62.08**	**330**	*i* P	**P**	**11 13 34.6**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
KLR	**Kul'dur**	**62.11**	**18**	*e*P	**P**	**11 13 31.0**	**-4.8**
KLR				pmax	pmax		
	comp=Z,62nm,1.6s,mb5.5						
HABR	**Khabarovsk**	**62.51**	**20**	*e*P	**P**	**11 13 37.9**	**-0.6**
HABR				*e*S	**S**	**11 22 03.3**	**-0.5**
HABR				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.3						
YSS	**Yuzh-Sakhalins**	**64.27**	**26**	⇑*i*P	**P**	**11 13 49.2**	**-1.0**
YSS				*e*		11 14 03.0	
YSS				pmax	pmax		
	comp=Z,130nm,1.2s,mb5.8						
YSS	**Yuzh-Sakhalins**	**64.27**	**26**	*e*P	**P**	**11 13 49.6**	**-0.6**
RPZ	**Rata Peaks**	**64.61**	**134**	P	**P**	**11 13 52.9**	**+0.5**
	comp=Z,13nm,1.1s,mb4.9,baz=337,slow=13,SNR=3.3						
KURK	**Kurchatov**	**64.82**	**340**	P	**P**	**11 13 53.5**	**-0.3**
	SNR=34						
KURK	**Kurchatov**	**64.82**	**340**	P	**P**	**11 13 53.5**	**-0.3**
	SNR=34						
KURK	**Kurchatov**	**64.82**	**340**	P	**P**	**11 13 53.5**	**-0.3**
	SNR=34						
KURK	**Kurchatov**	**64.82**	**340**	*e*P	**P**	**11 13 53.3**	**-0.5**
KURK				⇑*e*P		11 13 53.8	
MAW	**Mawson**	**65.27**	**197**	*e*P	**P**	**11 13 55.1**	**-1.6**
	comp=Z,6.7nm,0.8s,mb4.7						
MAW	**Mawson**	**65.27**	**197**	P	**P**	**11 13 56.4**	**-0.3**
	comp=Z,8.2nm,0.8s,mb4.8,baz=39,slow=7.8,SNR=16						
MAW	**Mawson**	**65.27**	**197**	*e*P	**P**	**11 13 55.1**	**-1.6**
MAW				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ZAL	**Zalesovo**	**65.88**	**346**	P	**P**	**11 13 59.0**	**-1.6**
	comp=Z,8.7nm,0.7s,mb4.9,baz=320,slow=6.5						
NVS	**Novosibirsk**	**67.09**	**345**	⇑*i*P	**P**	**11 14 07.1**	**-1.2**
NVS				pmax	pmax		
	comp=Z,41nm,1.7s,mb5.2						
NVS				pmax	pmax		
	comp=N,56nm,1.8s						
NVS				pmax	pmax		
	comp=E,23nm,1.6s						
BOD	**Bodaibo**	**67.14**	**4**	*e*P	**P**	**11 14 07.0**	**-1.7**
BOD				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.2						
BVA0	**Borovoye Array**	**69.67**	**337**	P	**P**	**11 14 23.7**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**69.67**	**337**	P	**P**	**11 14 23.8**	**-0.7**
	comp=Z,19nm,0.7s,mb5.2,baz=138,slow=11,SNR=4.3						
BRVK	**Borovoye**	**69.73**	**337**	*e*P	**P**	**11 14 24.3**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
BRVK	**Borovoye**	**69.73**	**337**	*e*P	**P**	**11 14 24.3**	**-0.5**
	comp=Z,20nm,1.0s,mb5.0						
BRVK				⇑*i*P		11 14 24.9	
BRVK				*e*		11 14 28.2	
CHKZ	**Chkalovo**	**70.09**	**338**	*e*P	**P**	**11 14 26.4**	**-0.7**
ZRNK	**Zerenda**	**70.15**	**336**	*e*P	**P**	**11 14 26.7**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
ZRNK	**Zerenda**	**70.15**	**336**	*e*P	**P**	**11 14 26.7**	**-0.7**
	comp=Z,25nm,0.8s,mb5.2						
KMBO	**Kilima Mbogo**	**70.25**	**272**	P	**P**	**11 14 29.3**	**+1.2**
	comp=Z,1.1nm,0.5s,mb4.0,baz=66,slow=9.2,SNR=6.4						
KMBO	**Kilima Mbogo**	**70.25**	**272**	P	**P**	**11 14 29.3**	**+1.2**
YAK	**Yakutsk**	**73.23**	**11**	*d i*P	**P**	**11 14 44.4**	**-1.6**
YAK				pmax	pmax		
	comp=Z,194nm,1.7s,mb5.8						
BHD	**Baghdad**	**73.33**	**309**	*e*x	x	11 14 44.0	
AKTK	**Aktyubinsk**	**73.33**	**330**	P	**P**	**11 14 46.3**	**-0.3**
AKTO	**Aktyubinsk**	**73.33**	**330**	P	**P**	**11 14 46.3**	**-0.3**
	comp=Z,6.2nm,0.8s,mb4.6,baz=132,slow=6.2,SNR=22						
VNDA	**Vanda**	**73.61**	**169**	P	**P**	**11 14 48.1**	**-0.1**
	comp=Z,3.6nm,1.1s,mb4.2,baz=292,slow=8.1,SNR=6.2						
VNDA	**Vanda**	**73.61**	**169**	*e*P	**P**	**11 14 47.8**	**-0.4**
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
VNDA	**Vanda**	**73.61**	**169**	*e*P	**P**	**11 14 47.8**	**-0.4**
	comp=Z,6.7nm,1.2s,mb4.5						
VNDA				P		11 14 48.1	
MSL	**Mosul**	**75.49**	**311**	*e*x	x	11 15 01.0	
PET	**Petropavlovsk**	**75.83**	**29**	*d i*P	**P**	**11 15 00.4**	**-0.7**
PET				pmax	pmax		
	comp=Z,89nm,1.3s,mb5.5						
GNI	**Garni**	**75.89**	**315**	P	**P**	**11 15 01.9**	**+0.4**
	comp=Z,3.7nm,0.4s,mb4.7,baz=316,slow=20,SNR=5.6						
GNI	**Garni**	**75.89**	**315**	*e*P	**P**	**11 15 01.7**	**+0.3**
GNI				P		11 15 01.9	
SVE	**Sverdlovsk**	**76.30**	**336**	⇓*e*P	**P**	**11 15 03.0**	**-0.7**
SVE				pmax	pmax		
	comp=Z,96nm,1.8s,mb5.4						
MBAR	**Mbarara**	**76.76**	**272**	⇑*i*P	**P**	**11 15 07.1**	**+0.8**
ARU	**Arti**	**76.89**	**335**	⇓*i*P	**P**	**11 15 06.0**	**-1.1**
ARU				*e*	pP	11 15 16.1	-1.4
ARU				*e*		11 17 59.4	
ARU				*e*S	S	11 24 52.1	-0.6
ARU				*e*SS	SS	11 29 55.6	+6.2
ARU				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.2						
ARU	**Arti**	**76.89**	**335**	*e*P	**P**	**11 15 06.2**	**-0.9**
ARU				⇑*e*P		11 15 07.0	
MA2	**Magadan**	**76.91**	**21**	⇑*e*P	**P**	**11 15 07.2**	**0.0**
MA2				pmax	pmax		
	comp=Z,68nm,1.1s,mb5.5						
MA2	**Magadan**	**76.91**	**21**	*e*P	**P**	**11 15 07.0**	**-0.1**
	comp=Z,36nm,1.1s,mb5.2						
LSZ	**Lusaka**	**77.28**	**256**	*e*P	**P**	**11 15 09.1**	**-0.2**
LSZ				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
LSZ	**Lusaka**	**77.28**	**256**	*e*P	**P**	**11 15 09.1**	**-0.2**
	comp=Z,21nm,1.4s,mb4.9						
ZEI	**Tsey**	**77.58**	**318**	*e*P	**P**	**11 15 11.9**	**+0.9**
ZEI				*e**PP	pP	11 15 22.1	+0.8
ZEI				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.2						
LBTB	**Lobatse**	**78.75**	**246**	*e*P	**P**	**11 15 18.3**	**+0.9**
ASF	**Jabal al Asfar**	**78.83**	**305**	P	**P**	**11 15 19.5**	**+1.6**
	comp=Z,12nm,0.8s,mb4.9,baz=357,slow=2.9,SNR=19						
KIV	**Kislovodsk**	**78.88**	**318**	P	**P**	**11 15 19.0**	**+0.8**
	SNR=7.7						
KIV	**Kislovodsk**	**78.88**	**318**	P	**P**	**11 15 19.0**	**+0.8**
	SNR=7.7						
KIV	**Kislovodsk**	**78.88**	**318**	*e*P	**P**	**11 15 18.7**	**+0.5**
KIV				⇑*e*P		11 15 19.0	
EIL	**Elat**	**79.67**	**302**	*e*P	**P**	**11 15 23.2**	**+0.8**
	comp=Z,444nm,1.8s,mb6.1						
EIL				*e*		11 15 28.8	
MALT	**Malatya**	**79.70**	**312**	*e*P	**P**	**11 15 23.6**	**+1.0**
MALT				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						

MALT Malatya 79.70 312 *e*P **P** **11 15 23.6 +1.0**
comp=Z,7.4nm,1.0s,mb4.6
MMAI Mount Meron Ar 80.29 306 P **P** **11 15 27.3 +1.5**
comp=Z,9.5nm,0.7s,mb4.8,baz=110,slow=7.4,SNR=9.8
QSPA South Pole Qui 80.67 180 *e*P **P** **11 15 27.2 -0.6**
comp=Z,13nm,1.3s,mb4.7
TIXI Tiksi 82.06 7 *d i*P **P** **11 15 33.6 -1.6**
TIXI pmax pmax
comp=Z,34nm,1.2s,mb5.2
CSS Prodhromos 82.51 307 *e*P **P** **11 15 38.6 +1.1**
comp=Z,14nm,0.6s,mb5.2
VRHR Novokhopersk 82.52 325 *e*P **P** **11 15 37.9 +0.3**
VRHR pmax pmax
comp=Z,140nm,0.7s,mb6.1
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,8.0nm,0.5s
BR131 Keskin Array S 83.68 312 *e*P **P** **11 15 43.9 +0.2**
comp=E,9.7nm,1.0s,mb4.9
BRTR Keskin Array B 83.68 312 P **P** **11 15 43.9 +0.2**
comp=E,10nm,1.0s,mb4.9,baz=126,slow=6.3,SNR=46
VRSR Storozhevoye 83.97 324 *e*P **P** **11 15 44.2 -0.9**
VRSR pmax pmax
comp=Z,80nm,0.7s,mb6.0
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,20nm,0.9s
VOR Voronezh 84.17 325 *e*P **P** **11 15 46.0 -0.1**
VOR pmax pmax
comp=Z,200nm,1.7s,mb6.0
ANTO Ankara 84.35 312 P **P** **11 15 48.1 +1.1**
SNR=6.5
ANTO Ankara 84.35 312 P **P** **11 15 48.1 +1.1**
SNR=6.5
SIM Simferopol' 84.96 317 *e*P **P** **11 15 51.0 +0.9**
SIM pmax pmax
comp=Z,29nm,0.6s,mb5.6
MOS Moscow 86.57 328⇑ *i*P **P** **11 15 57.1 -1.0**
MOS pmax pmax
comp=Z,162nm,1.4s,mb6.1
TSUM Tsumeb 86.82 251 *e*P **P** **11 16 00.7 +1.4**
OBN Obninsk 86.90 327 *d i*P **P** **11 15 59.6 -0.1**
OBN *e**PP pP 11 16 07.7 -2.5
OBN *e* 11 19 21.4
OBN *e*S 11 26 22.1
OBN pmax pmax
comp=Z,172nm,1.3s,mb6.1
OBN MLR MLR
comp=Z,1µm,17.0s,MS5.4
OBN Obninsk 86.90 327 *i*P **P** **11 15 59.7 0.0**
OBN *e*P 11 15 59.9
SNAA Sanae 87.43 197 *e*P **P** **11 16 02.7 +0.4**
SNAA *e* 11 16 05.4
SNAA *e* 11 16 09.5
SNAA *e* pP 11 16 14.5 +1.7
SNAA *e* 11 16 18.9
SNAA Sanae 87.43 197 *e*P **P** **11 16 02.6 +0.3**
SNAA pmax pmax
comp=Z,7.0nm,1.1s
SNAA Sanae 87.43 197 *e*P **P** **11 16 02.6 +0.3**
comp=Z,7.1nm,1.1s,mb4.8
KLMR Klimovskoe 87.64 333 *e*P **P** **11 16 03.3 0.0**
KLMR pmax pmax
comp=Z,190nm,1.5s,mb6.1
TIRR Tirgusor 88.72 315 *e*P **P** **11 16 08.7 +0.3**
TIRR *e* pP 11 16 18.9 0.0
IDI Anoyia 89.29 306 P **P** **11 16 12.1 +1.0**
comp=Z,5.8nm,0.9s,mb4.9,baz=74,slow=23,SNR=3.2
VNA1 Neumayer--Stat 89.46 197 *e*P **P** **11 16 11.2 -0.7**
VNA1 *e* 11 16 13.2
VNA1 *e* 11 16 17.4
VNA1 *e* pP 11 16 22.5 +0.1
VNA1 *e* 11 16 27.5
AKASG Malin Array Be 89.77 322 P **P** **11 16 12.7 -0.6**
comp=Z,2.5nm,0.7s,mb4.7,baz=90,slow=3.9,SNR=4.3
AKASG PP PP 11 19 44.0 -1.7
comp=Z,1.2nm,0.6s,baz=95,slow=6.1,SNR=5.6
MLR Muntele Rosu 90.67 316 P **P** **11 16 18.6 +1.1**
comp=Z,8.0nm,0.8s,mb5.1,baz=94,slow=1.4,SNR=17
MLR PP PP 11 19 54.5 +1.6
comp=Z,13nm,1.2s,baz=110,slow=6.7,SNR=5.4
JOF Joensuu 92.00 334 *e*p **P** **11 16 23.0 -0.7**
comp=Z,14nm,0.7s,mb5.4
JOF Joensuu 92.00 334 *e*P **P** **11 16 23.0 -0.7**
JOF pmax pmax
comp=Z,14nm,0.7s,mb5.4
KOLS Kolonicke sedl 93.79 319 *e*P **P** **11 16 32.3 +0.4**
FINES FINESS Array B 94.01 332 P **P** **11 16 32.7 -0.2**
comp=Z,4.5nm,0.9s,mb4.9,baz=116,slow=4.4,SNR=9.8
FINES FINESS Array B 94.01 332 P **P** **11 16 32.7 -0.2**
KAF Kangasniemi 94.04 332 *e*p **P** **11 16 31.8 -1.3**
comp=Z,20nm,1.0s,mb5.5
KAF Kangasniemi 94.04 332 *e*P **P** **11 16 31.8 -1.3**
KAF pmax pmax
comp=Z,20nm,1.0s,mb5.5
ARCES ARCESS Array B 95.86 340 P **P** **11 16 40.7 -0.7**
comp=Z,8.9nm,1.0s,mb5.1,baz=115,slow=5.5,SNR=9.3
VYHS Vyhne 95.97 318 *e*P **P** **11 16 42.0 +0.1**
VYHS pmax pmax
comp=Z,8.0nm,1.7s,mb4.9
VYHS Vyhne 95.97 318 *e*P **P** **11 16 42.0 +0.1**
comp=Z,7.7nm,1.7s,mb4.9
HFS Hagfors 99.88 330 P Pdif 11 16 59.5 0.0
comp=Z,5.1nm,1.0s,baz=115,slow=9.7,SNR=3.3
GRF Grafenberg Arr 101.05 319 *e*PP PP 11 21 12.2 -1.1
GRF Grafenberg Arr 101.05 319 *e*PP PP 11 21 12.2 -1.1
TORD Torodi Ar. Bea 107.27 281 PKiKP PKiKP 11 21 41.8 +0.6
comp=Z,0.4nm,0.7s,baz=83,slow=1.6,SNR=4.5
YKA Yellowknife Ar 118.89 21 PKP PKPdf 11 22 02.8 -0.4
comp=Z,1.3nm,0.7s,baz=326,slow=1.8,SNR=8.3
B05A Bryant 123.23 37 ⇓P PKPdf 11 22 12.8 +1.2
baz=123
F04A Amboy 124.03 40 ⇑P PKPdf 11 22 14.0 +0.8
baz=124
H04A Detroit Lake 124.69 41 ⇓P PKPdf 11 22 15.5 +1.1
baz=125
EDM Edmonton 125.33 29 *e*PKIKP PKPdf 11 22 16.2 +0.6
M02C Callahan 125.51 45 ⇓P PKPdf 11 22 18.0 +2.1
baz=126
M04C Macdoel 126.07 45 ⇓P PKPdf 11 22 19.3 +2.3
baz=126
J06A Christmas Vall 126.63 42 ⇓P PKPdf 11 22 19.6 +1.5
baz=127
HATC Hat Creek Radi 126.69 45 ⇓P PKPdf 11 22 19.6 +1.4
baz=127
CVS Carmenet Viney 126.85 49 ⇓P PKPdf 11 22 20.5 +2.0
baz=127
J07A Hines 127.13 42 ⇑P PKPdf 11 22 20.4 +1.4
baz=127
ORV Oroville 127.13 47 ⇑P PKPdf 11 22 20.2 +1.2
baz=127
O04C Chester 127.14 46 ⇑P PKPdf 11 22 20.6 +1.5
baz=127
O05C Quincy 127.40 46 ⇑P PKPdf 11 22 21.2 +1.7
baz=127
J08A Circle Bar Ran 127.68 41 ⇓P PKPdf 11 22 21.8 +1.8
baz=128
N06A Buffalo Meadow 127.86 45 ⇓P PKPdf 11 22 21.8 +1.4
baz=128
P05C Yuba Gap, Truc 127.86 47 ⇑P PKPdf 11 22 22.0 +1.5
baz=128
N07B Gerlach 128.45 45 ⇓P PKPdf 11 22 24.3 +2.7
baz=128
R05C Kirkwood Meado 128.47 47 ⇑P PKPdf 11 22 23.2 +1.7
baz=128
O07A Toulon 128.76 45 ⇑P PKPdf 11 22 24.4 +2.2
baz=129
S06C San Francisco 128.94 48 ⇑P PKPdf 11 22 24.9 +2.4
baz=129
N08A GE Springer Mi 129.03 44 ⇑P PKPdf 11 22 24.8 +2.1
baz=129
CHMT Chamberlain Mo 129.09 35 *e*P PKPdf 11 22 23.5 +0.8
NVAR Mina Array Bea 129.86 47 PKP PKPdf 11 22 27.0 +2.7
comp=Z,0.5nm,0.8s,baz=242,slow=2.5,SNR=8.5
NVAR PP PP 11 24 25.7 -10
comp=Z,0.6nm,0.7s,baz=267,slow=5.8,SNR=3.9
ISA Isabella 130.76 51 ⇑P PKPdf 11 22 29.5 +3.6
baz=131
S09A Goldfield 130.93 48 ⇑P PKPdf 11 22 28.6 +2.3
baz=131
GCMT Greycliff 131.76 34 *e*P PKPdf 11 22 30.5 +2.7
V12A Nelson 133.47 49 ⇑P PKPdf 11 22 34.6 +3.5
baz=134
PDAR Pinedale Array 133.60 38 PKP PKPdf 11 22 33.6 +2.3
comp=Z,0.6nm,0.6s,baz=231,slow=0.4,SNR=7.4
X13A Yucca 134.69 50 ⇓P PKPdf 11 22 36.1 +2.8
baz=135
PV10 Paradox Valley 136.35 43 *e*PKPdf PKPdf 11 22 37.5 +1.1
PV01 Paradox Valley 136.79 43 *e*PKPdf PKPdf 11 22 39.1 +1.8
ANMO Albuquerque 139.91 45 ⇑ *i*PKIKP PKPdf 11 22 41.1 -1.9
BNM Barren Site 140.20 46 *e*PKPdf PKPdf 11 22 46.7 +3.2
LONY Lake Ozonia 144.81 2 *e*PKPdf PKPdf 11 22 50.9 -0.8
WMOK Wichita Mounta 145.16 40 *e*PKIKP PKPdf 11 22 53.0 +0.7
LBNH Lisbon 145.22 359 *e*PKPbc PKPbc 11 22 52.2 +0.1
LBNH *e*PKPab PKPab 11 22 54.7 +2.5
BDFB Brasilia 145.24 225 PKPbc PKPbc 11 22 54.1 +2.0
comp=Z,10nm,0.7s,baz=124,slow=2.6,SNR=16
MIV Mineville/With 145.38 1 *e*PKPbc PKPbc 11 22 53.2 +0.6
NCB Newcomb 145.47 2 *e*PKPdf PKPdf 11 22 49.2 -3.6
NCB *e*PKPbc PKPbc 11 22 52.8 -0.1
ACCN Adirondack Com 146.07 1 *e*PKPbc PKPbc 11 22 55.3 +0.5
CCM Cathedral Cave 146.83 27 *e*PKPdf PKPdf 11 22 55.3 +0.2
CCM *e*PKPbc PKPbc 11 22 57.6 +0.6
HRV Harvard--Oak R 146.95 359 *e*PKP2 PKPab 11 22 57.8 -1.0
JCT Junction City 147.03 47 *e*PKIKP PKPdf 11 22 55.6 +0.1
JCT *e* 11 22 59.5
BINY Binghamton 147.13 5 *e*PKPdf PKPdf 11 22 55.2 -0.5
BINY *e*PKPbc PKPbc 11 22 58.4 +0.6
BINY *e*PKPab PKPab 11 23 00.4 +1.0
FVM French Village 147.26 27 *e*PKP2 PKPab 11 22 58.7 -1.3
ACSO Alum Creek Sta 147.87 15 *e*PKPdf PKPdf 11 22 58.3 +1.5
ACSO *e*PKPbc PKPbc 11 23 00.6 +0.7
ACSO *e*PKPab PKPab 11 23 02.7 +0.3
LVC Limon Verde 148.05 186 *e*PKPdf PKPdf 11 22 58.8 +1.7
LVC *e*PKPbc PKPbc 11 23 00.7 +0.4
MIAR Mount Ida 148.38 34 *e*PKIKP PKPdf 11 22 57.6 -0.1
MIAR *e* 11 23 02.6
MIAR *e* 11 23 06.1
SSPA Standing Stone 148.47 8 *e*PKPdf PKPdf 11 22 58.5 +0.6
SSPA *e*PKPbc PKPbc 11 23 01.7 +0.2
SSPA *e*PKPab PKPab 11 23 04.0 -0.9
PARMO Parma 148.65 27 *e*PKPdf PKPdf 11 22 58.8 +0.6
PARMO *e*PKPbc PKPbc 11 23 03.4 +1.5
PARMO *e*PKPab PKPab 11 23 07.2 +1.7
WCI Wyandotte Cave 148.70 21 *e*PKIKP PKPdf 11 22 59.2 +1.0
WCI *e* 11 23 02.9
WCI *e* 11 23 06.1
UALR University of 148.88 33 *e*PKPdf PKPdf 11 22 59.0 +0.5
UALR *e*PKPbc PKPbc 11 23 03.6 +1.1
UALR *e*PKPab PKPab 11 23 06.3 -0.2
MVL Millersville 149.28 6 *e*PKPdf PKPdf 11 22 59.5 +0.4
MVL *e*PKPbc PKPbc 11 23 04.5 +1.0
MVL *e*PKPab PKPab 11 23 08.5 +0.4
WVT Waverly 149.94 25 *e*PKPdf PKPdf 11 23 02.2 +2.0
WVT *e*PKPbc PKPbc 11 23 05.9 +0.8
WVT *e*PKPab PKPab 11 23 10.7 -0.1
HKT Hockley 150.12 43 *e*PKPdf PKPdf 11 23 01.1 +0.6
HKT *e*PKPbc PKPbc 11 23 07.6 +2.0
HKT *e*PKPab PKPab 11 23 12.7 +1.1
OXF Oxford 150.57 29 *e*PKIKP PKPdf 11 23 01.6 +0.4
OXF *e* 11 23 07.6
OXF *e* 11 23 14.6
PLAL Pickwick Lake 150.80 27 *e*PKPdf PKPdf 11 23 02.1 +0.5
PLAL *e*PKPbc PKPbc 11 23 07.5 +0.3
PLAL *e*PKPab PKPab 11 23 15.1 +0.8
ELN Prospectdale 151.26 14 *e*PKPbc PKPbc 11 23 08.8 +0.5
ELN *e*PKPab PKPab 11 23 16.3 0.0
CPCT Cooper Cave 151.81 21 *e*PKPdf PKPdf 11 23 04.4 +1.3
CPCT *e*PKPbc PKPbc 11 23 10.9 +1.4
CPCT *e*PKPab PKPab 11 23 19.9 +1.3
LPAZ La Paz 154.16 190 PKP PKPdf 11 23 08.3 +1.8
comp=Z,0.4nm,0.5s,baz=230,slow=7.9,SNR=3.3
LPAZ PKPbc PKPbc 11 23 16.9 +2.2
comp=Z,1.2nm,0.6s,baz=180,slow=3.1,SNR=3.7
LPAZ La Paz 154.16 190 PKP PKPdf 11 23 08.3 +1.8
LPAZ PKPbc PKPbc 11 23 16.9 +2.2

ISCJB ***17*** *11:07:34.9±0.2, 953S×003×10770E±003, h38km, mb5.6/139, MS5.6/31, Error ellipse: s-maj=4.0km s-min=3.8km az=73.9*
MOS ***17*** *11:07:35.2±1.2, 933S×10774E, h33km, mb5.8/59, MS5.3/7, Error ellipse: s-maj=9.3km s-min=5.5km az=116.4*
HRVD ***17*** *11:07:36.5±0.3, 973S×10749E, h16km±1km, MW5.9/98, Centroid moment Tensor Solution. LP body waves: s40,c47;Mantle waves: s98,c180; Half duration: 2s1 Moment tensor: Scale 1018Nm; Mrr-0.79±.04; Mθθ0.60±.03; Mϕϕ0.19±.03; Mrθ0.06±.08; Mrϕ-0.17±.01; Mθϕ0.32±.09; Best double couple: M0.78200×1018 NP1:ϕs274.00000°, δ45.00000°, λ-115.00000°. NP2: ϕs128.00000°, δ50.00000°, λ-67.00000°. Principal axes: T 0.6660, Plg3.0000°, Azm202.0000°; N 0.2320, Plg17.0000°, Azm293.0000°; P -0.8980, Plg72.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***17*** *11:07:36.4±0.5, 951S×10767E, h34km±3km, mb5.1/34, mb1 5.1/15, mb1mx5.1/36, mbtmp5.3/35, ML5.2/1, MS5.5/15, Ms1 5.5/15, ms1mx5.2/38 Error ellipse: s-maj=12.9km s-min=8.7km az=42.0*
BJI ***17*** *11:07:36.4, 950S×10760E, h35km, mB6.1, mb5.8, Ms5.9, Msz5.7*
NEIC ***17*** *11:07:36.5±0.1, 951S×10765E, mb5.6/47, Error ellipse: s-maj=6.8km s-min=4.8km az=48.0*
ISC 17 11:07:37.1±0.2, 955S±003×10769E±003, h40km, h40km±1.0km:pP-P, n758, σ1§03/507, mb5.6/138, MS5.6/31, 99C-74D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.97**	**42**	⇑ *i*P		**Pn**		**11 08 22.5**	**+0.8**
BJII				*i* S		**Sn**		**11 08 41.0**	**-15**
KSI	**Kapahiang** 2µm,0.7s	**7.74**	**319**	P		**Pn**		**11 09 22.1**	**-5.1**
COCO	**West Island** 4µm,0.8s,SNR=8.7	**10.98**	**255**	Pn		**Pn**		**11 10 07.7**	**-3.9**
COCO	**West Island** SNR=6.6	**10.98**	**255**	P		**Pn**		**11 10 10.8**	**-0.8**
COCO	**West Island** SNR=6.6	**10.98**	**255**	P		**Pn**		**11 10 10.8**	**-0.8**
COCO	**West Island** SNR=6.6	**10.98**	**255**	P		**Pn**		**11 10 10.8**	**-0.8**
COCO	**West Island** 585nm,0.8s	**10.98**	**255**	*e*Pn		**Pn**		**11 10 06.7**	**-4.9**
COCO				*e*Sn		Sn		11 11 52.1	-21
KSM	**Kuching**	**11.25**	**14**	*e*Pn		**Pn**		**11 10 16.4**	**+1.1**
KGM	**Kluang**	**12.28**	**339**	P		**Pn**		**11 10 27.6**	**-1.8**
PCI	**Palu** 625nm,1.0s	**14.82**	**55**	P		**Pn**		**11 11 04.5**	**+0.6**
PSI	**Prapat** 1.0nm,0.3s,baz=150,slow=10,SNR=9.2	**15.06**	**324**	Pn		**Pn**		**11 10 58.9**	**-8.1**
PSI				LR		LR		11 18 30.3	
	comp=Z,16µm,19.9s,baz=144,slow=44								
PSI	**Prapat**	**15.06**	**324**	P		**Pn**		**11 10 58.9**	**-8.1**
PSI				pmax		pmax			
	comp=Z,1.0nm,0.3s								
PSI				MLR		MLR			
	comp=Z,16µm,19.9s								
IPM	**Ipoh**	**15.43**	**334**	P		**Pn**		**11 11 10.0**	**-1.9**
KULM	**Kulim**	**16.32**	**334**	*e*P		**Pn**		**11 11 18.7**	**-4.6**
KULM	**Kulim**	**16.32**	**334**	*e*Sn		**Pn**		**11 11 17.0**	**-6.3**
MBWA	**Marble Bar** comp=Z,113nm,0.7s	**16.36**	**136**	*e*P		**Pn**		**11 11 19.5**	**-4.3**
MBWA				*e*S		S		11 14 01.2	-34
TSM	**Tawau**	**17.09**	**37**	P		**Pn**		**11 11 35.2**	**+2.3**
KKM	**Kota Kinabalu**	**17.66**	**29**	P		**Pn**		**11 11 41.1**	**+1.1**
KKM	**Kota Kinabalu**	**17.66**	**29**	*e*P		**Pn**		**11 11 38.0**	**-2.0**
SNG	**Songkhla** comp=Z,330nm,1.0s	**18.05**	**337**	P		**Pn**		**11 11 40.0**	**-4.7**
FITZ	**Fitzroy Crossi** comp=Z,68nm,0.6s	**19.38**	**118**	*e*P		**Pn**		**11 12 00.0**	**-0.8**
FITZ				*e*S		**S**		**11 15 20.4**	**-16**
FITZ	**Fitzroy Crossi** comp=Z,5.6nm,0.3s,baz=286,slow=6.5,SNR=28	**19.38**	**118**	P		**Pn**		**11 12 00.1**	**-0.8**
FITZ				Sn		**Sn**		**11 15 20.5**	**-17**
	comp=Z,1.2nm,0.3s,baz=232,slow=19,SNR=3.0								
BSI	**Banda Aceh** comp=Z,1µm,1.2s	**19.39**	**320**	P		**Pn**		**11 12 00.0**	**-0.9**
BATP	**Bataraza**	**20.82**	**29**	*e*P		**P**		**11 12 14.7**	**-0.3**
PPR	**Puerto Princes**	**22.12**	**30**	⇑ *e*P		**P**		**11 12 29.9**	**+0.9**
PAGZ	**Pagadian**	**23.30**	**43**	*e*P		**P**		**11 12 42.1**	**+0.6**
NNT	**Nongplab**	**23.37**	**340**	P		**P**		**11 12 42.8**	**+0.6**
KLBR	**Kellerberrin**	**23.84**	**158**	*e*P		**P**		**11 12 45.1**	**-1.5**
KLBR				*e*S		**S**		**11 17 05.0**	**+5.3**
CUYO	**Cuyo Island**	**24.21**	**34**	*e*P		**P**		**11 12 51.1**	**+1.2**
DAV	**Davao City (W)** SNR=23	**24.29**	**48**	P		**P**		**11 12 54.3**	**+3.7**
DAV	**Davao City (W)** SNR=23	**24.29**	**48**	P		**P**		**11 12 54.3**	**+3.7**
DAV	**Davao City (W)** SNR=23	**24.29**	**48**	P		**P**		**11 12 54.3**	**+3.7**
DAV	**Davao City (W)** comp=Z,642nm,0.8s,mb6.1	**24.29**	**48**	*e*P		**P**		**11 12 51.6**	**+0.9**
SNPH	**Sibulan**	**24.32**	**40**	⇓ *e*P		**P**		**11 12 53.0**	**+2.1**
BUKP	**Musuan**	**24.48**	**46**	*e*P		**P**		**11 12 53.1**	**+0.8**
KAKA	**Kakadu** comp=Z,140nm,0.7s,mb5.5	**24.48**	**100**	*e*P		**P**		**11 12 52.2**	**-0.2**
CGP	**Cagayan de Oro**	**24.63**	**44**	⇓ *e*P		**P**		**11 12 52.9**	**-0.8**
BUSP	**Coron**	**24.75**	**30**	*e*P		**P**		**11 12 55.2**	**+0.3**
UBT	**Ubonrachathani**	**24.77**	**354**	⇓P		**P**		**11 12 56.0**	**+1.0**
NWAO	**Narrogin (SRO)** comp=Z,37nm,0.8s,mb4.9,baz=334,slow=10,SNR=14	**24.88**	**161**	P		**P**		**11 12 54.6**	**-1.4**
NWAO				Sn		**S**		**11 17 29.7**	**+13**
	comp=Z,6.9nm,0.7s,baz=288,slow=19,SNR=2.9								
NWAO				LR		LR		11 23 59.0	
	comp=Z,17µm,18.2s,MS5.6,baz=27,slow=39								
NWAO	**Narrogin (SRO)**	**24.88**	**161**	*e*P		**P**		**11 12 51.9**	**-4.1**
NWAO				pmax		pmax			
	comp=Z,126nm,1.1s								
NWAO	**Narrogin (SRO)** comp=Z,126nm,1.1s,mb5.4	**24.88**	**161**	*e*P		**P**		**11 12 51.9**	**-4.2**
NWAO				*e*P				11 12 51.9	
NWAO				P				11 12 54.6	
NWAO				Sn		**S**		**11 17 29.7**	**+13**
NWAO				LR		LR		11 23 59.0	
GUIM	**Jordan**	**24.92**	**37**	*e*P		**P**		**11 12 56.6**	**+0.2**
KALP	**Kalibo** comp=Z,920µm,3.0s	**25.62**	**35**	*e*P		**P**		**11 13 06.7**	**+4.0**
RCP	**Roxas** comp=Z,101µm,8.0s	**25.76**	**36**	⇑ *e*P		**P**		**11 13 05.6**	**+1.6**
PBA	**Port Blair**	**25.78**	**324**	*ex*		x		11 12 39.1	
PBA				AMb		AMB		11 12 50.6	
	comp=Z,341nm,1.8s,mb5.6								
MSLP	**Maasin**	**25.96**	**42**	*e*P		**P**		**11 13 05.6**	**-0.2**
OTRP	**Odiongan**	**26.01**	**33**	*e*P		**P**		**11 13 07.9**	**+1.6**
NST	**Nakhon Sawan** comp=Z,250nm,1.0s,mb5.7	**26.15**	**343**	⇑P		**P**		**11 13 07.4**	**-0.1**
LUBP	**Lubang**	**26.27**	**29**	*e*P		**P**		**11 13 07.0**	**-1.6**
BOAC	**Boac**	**26.83**	**32**	*e*P		**P**		**11 13 13.3**	**-0.3**
TGY	**Tagaytay City** comp=Z,167nm,0.5s,baz=218,slow=6.7,SNR=5.1	**26.92**	**29**	P		**P**		**11 13 14.5**	**+0.1**
TGY	**Tagaytay City**	**26.92**	**29**	P		**P**		**11 13 14.5**	**0.0**
TGY				pmax		pmax			
	comp=Z,167nm,0.5s								
WRA	**Warramunga Arr** comp=Z,53nm,1.0s,mb5.1,baz=286,slow=11,SNR=35	**27.72**	**115**	P		**P**		**11 13 21.1**	**-0.6**
WRA				PcP		PcP		11 16 38.8	+1.1
	comp=Z,8.5nm,0.9s,baz=298,slow=1.9,SNR=5.2								
WRA				Sn		S		11 18 44.4	+43
	comp=Z,2.4nm,0.5s,baz=260,slow=22,SNR=4.5								
WRA	**Warramunga Arr**	**27.72**	**115**	P		**P**		**11 13 21.1**	**-0.6**
WRA								11 16 38.8	
WRA	comp=Z,53nm,1.0s			pmax		pmax			
WRA	comp=Z,9.0nm,0.9s			pmax		pmax			
WRAB	**Tennant Creek** SNR=14	**27.73**	**115**	P		**P**		**11 13 21.0**	**-0.7**
WRAB	**Tennant Creek**	**27.73**	**115**	*e*P		**P**		**11 13 21.6**	**-0.1**
WRAB	comp=Z,30nm,1.2s,mb4.8			pmax		pmax			
WRAB	**Tennant Creek** comp=Z,30nm,1.2s,mb4.8	**27.73**	**115**	*e*P		**P**		**11 13 21.6**	**-0.2**
WB2	**Warramunga Arr**	**27.73**	**115**	*e*P		**P**		**11 13 20.4**	**-1.4**
WB2	**Warramunga Arr**	**27.73**	**115**	*e*P		**P**		**11 13 20.3**	**-1.4**
SCZP	**Santa Cruz**	**27.92**	**26**	*e*P		**P**		**11 13 22.1**	**-1.3**
POLP	**Polillo Island**	**27.95**	**31**	*e*P		**P**		**11 13 23.0**	**-0.7**
PVCP	**Virac**	**28.21**	**36**	*e*P		**P**		**11 13 25.3**	**-0.7**
PCPH	**Palayan**	**28.26**	**28**	*e*P		**P**		**11 13 25.0**	**-1.5**
FORT	**Forrest** comp=Z,20nm,0.8s,mb4.8	**28.39**	**141**	*e*P		**P**		**11 13 29.6**	**+2.0**
FORT				*e*S		S		11 18 48.8	+37
BOLP	**Bolinao**	**28.46**	**25**	*e*P		**P**		**11 13 28.8**	**+0.6**
QIZ	**Qiongzhong**	**28.47**	**4**	P		**P**		**11 13 29.1**	**+0.8**
QIZ				S		**S**		**11 18 13.8**	**+0.7**
QIZ				SS		SS		11 19 38.3	-36
QIZ	comp=Z,44nm,1.7s,mb4.8			AMB		AMB			
QIZ	comp=N,5µm,18.6s,MS5.6			LR		LR			
QIZ	comp=E,14µm,18.9s,MS5.6			LR		LR			
QIZ	comp=Z,11µm,21.4s,MS5.4			LR		LR			
QIZ	**Qiongzhong**	**28.47**	**4**	*e*P		**P**		**11 13 28.6**	**+0.3**
ASPA	**Alice Springs**	**28.70**	**123**	*e*P		**P**		**11 13 30.4**	**0.0**
ASAR	**Alice Springs** comp=Z,24nm,0.8s,mb5.0,baz=303,slow=8.6,SNR=18	**28.70**	**123**	P		**P**		**11 13 29.9**	**-0.5**
ASAR				PcP		PcP		11 16 41.2	+1.1
	comp=Z,14nm,1.0s,baz=286,slow=1.7,SNR=8.5								
ASAR				Sn		S		11 19 01.2	+44
	comp=Z,9.2nm,0.9s,baz=304,slow=24,SNR=5.9								
ASAR	**Alice Springs**	**28.70**	**123**	P		**P**		**11 13 29.9**	**-0.5**
ASAR								11 16 41.2	
ASAR	comp=Z,24nm,0.8s			pmax		pmax			
ASAR	comp=Z,15nm,1.0s			pmax		pmax			
AS31	**Alice Springs**	**28.70**	**123**	*e*P		**P**		**11 13 30.4**	**0.0**
BCPH	**Baguio City Da**	**28.75**	**26**	*e*P		**P**		**11 13 30.1**	**-0.7**
NANT	**Nan** comp=Z,1µm,1.0s,mb6.5	**29.00**	**346**	⇑P		**P**		**11 13 31.0**	**-2.0**
CHTO	**Chiang Mai** SNR=61	**29.47**	**343**	P		**P**		**11 13 37.6**	**+0.4**
CHTO	**Chiang Mai** SNR=61	**29.47**	**343**	P		**P**		**11 13 37.6**	**+0.4**
CHTO	**Chiang Mai** SNR=61	**29.47**	**343**	P		**P**		**11 13 37.6**	**+0.4**
CHTO	**Chiang Mai** SNR=61	**29.47**	**343**	P		**P**		**11 13 37.6**	**+0.4**
CHTO	**Chiang Mai**	**29.47**	**343**	*e*P		**P**		**11 13 37.0**	**-0.2**
CHTO				*e*		pP		11 13 48.6	+0.5
CHTO	comp=Z,284nm,1.1s,mb5.9			pmax		pmax			
CHTO	**Chiang Mai** comp=Z,284nm,1.1s,mb5.9	**29.47**	**343**	*e*P		**P**		**11 13 37.0**	**-0.2**
CHTO				*e*		pP		11 13 48.6	+0.5
CAUP	**Cauayan**	**29.80**	**28**	*e*P		**P**		**11 13 39.5**	**-0.7**
APYP	**Conner**	**30.34**	**26**	*e*P		**P**		**11 13 44.5**	**-0.4**
PALK	**Pallekele** comp=Z,63nm,1.4s,mb5.2	**31.66**	**301**	*e*P		**P**		**11 13 57.8**	**+1.3**
GZH	**Guangzhou**	**32.90**	**10**	P		**P**		**11 14 13.5**	**+6.1**
GZH				LR		LR			
	comp=N,6µm,13.1s,MS5.5								
GZH				LR		LR			
	comp=E,5µm,15.2s,MS5.5								
GZH				LR		LR			
	comp=Z,14µm,17.4s,MS5.7								
KMI	**Kunming**	**34.79**	**352**	P		**P**		**11 14 25.8**	**+2.0**
KMI				PP		PP		11 15 43.9	+0.7
KMI				PPP				11 16 02.3	
KMI				S		**S**		**11 19 56.9**	**+5.2**
KMI				SS		SS		11 22 11.3	-12
KMI				SSS				11 22 38.5	
KMI	comp=Z,186nm,1.2s,mb5.9			AMB		AMB			
KMI	comp=N,10µm,20.4s,MS5.9			LR		LR			
KMI	comp=E,16µm,16.8s,MS5.9			LR		LR			
KMI	comp=Z,14µm,21.5s,MS5.7			LR		LR			
GYA	**Guiyang**	**35.80**	**358**	⇑ *i*P		**P**		**11 14 33.3**	**+0.8**
GYA				PP		PP		11 15 56.0	+1.7
GYA				PCP		PcP		11 16 57.8	-1.7
GYA				S		**S**		**11 20 11.8**	**+4.6**
GYA				SCP		ScP		11 20 42.8	+0.4
GYA	comp=Z,190nm,1.0s,mb6.0			AMB		AMB			
GYA	comp=Z,3µm,11.1s			AMB		AMB			
GYA	comp=N,7µm,15.3s,MS5.8			LR		LR			
GYA	comp=E,10µm,14.8s,MS5.8			LR		LR			
GYA	comp=Z,10µm,16.7s,MS5.7			LR		LR			

QZH	**Quanzhou**	**35.89**	**17**	P	**P**	**11 14 33.5**	**+0.2**
QZH				AMB	AMB		
	comp=Z,150nm,1.3s,mb5.8						
NACB	**Ninganchiao**	**36.16**	**22**	eP	**P**	**11 14 35.0**	**-0.6**
VIS	**Vishakhapatnam**	**36.24**	**318**	eP	**P**	**11 14 36.6**	**+0.4**
VIS				AMb	AMB	11 14 43.1	
	comp=Z,217nm,1.5s,mb5.8						
YHNB	**Yeheng**	**36.53**	**21**	eP	**P**	**11 14 37.8**	**-1.0**
TATO	**Taipei**	**36.85**	**21**	P	**P**	**11 14 41.0**	**-0.4**
	SNR=11						
TATO	**Taipei**	**36.85**	**21**	P	**P**	**11 14 41.0**	**-0.4**
	SNR=11						
TATO	**Taipei**	**36.85**	**21**	P	**P**	**11 14 41.0**	**-0.4**
	SNR=11						
TATO	**Taipei**	**36.85**	**21**	P	**P**	**11 14 41.0**	**-0.4**
	SNR=11						
TATO	**Taipei**	**36.85**	**21**	eP	**P**	**11 14 40.8**	**-0.7**
	comp=Z,229nm,0.9s,mb6.0						
TATO				e	pP	11 14 53.0	+0.4
SHL	**Shillong**	**38.14**	**337**	eP	**P**	**11 14 52.8**	**+0.3**
CTA	**Charters Tower**	**38.63**	**110**	eP	**P**	**11 14 57.7**	**+1.2**
	comp=Z,29nm,0.6s,mb5.2						
CTA	**Charters Tower**	**38.63**	**110**	P	**P**	**11 14 57.9**	**+1.3**
	comp=Z,40nm,0.8s,mb5.2,baz=277,slow=11,SNR=24						
CTA	**Charters Tower**	**38.63**	**110**	eP	**P**	**11 14 57.7**	**+1.2**
CTA				pmax	pmax		
	comp=Z,29nm,0.6s						
CTAO	**Charters Tower**	**38.63**	**110**	eP	**P**	**11 14 58.0**	**+1.5**
CTAO				e*PP	pP	11 15 10.3	+2.6
CTAO				pmax	pmax		
	comp=Z,44nm,0.8s,mb5.2						
CTAO	**Charters Tower**	**38.63**	**110**	eP	**P**	**11 14 58.0**	**+1.5**
	comp=Z,44nm,0.8s,mb5.2						
PMG	**Port Moresby**	**38.92**	**93**	P	**P**	**11 15 00.8**	**+1.9**
	comp=Z,36nm,0.7s,mb5.2,baz=318,slow=5.6,SNR=12						
PMG	**Port Moresby**	**38.92**	**93**	c iP	**P**	**11 15 00.7**	**+1.8**
PMG	**Port Moresby**	**38.92**	**93**	eP	**P**	**11 15 00.4**	**+1.5**
PMG				e	pP	11 15 11.8	+1.8
HYB	**Hyderabad**	**39.33**	**313**	⇑iP	**P**	**11 15 02.0**	**-0.4**
HYB	**Hyderabad**	**39.33**	**313**	⇑eP	**P**	**11 15 02.0**	**-0.4**
BOK	**Bokaro**	**39.40**	**328**	eP	**P**	**11 15 03.2**	**+0.3**
BOK				AMb	AMB	11 15 05.4	
	comp=Z,315nm,1.3s,mb5.9						
WHN	**Wuhan**	**40.37**	**9**	P	**P**	**11 15 11.8**	**+0.8**
WHN				AP	pP	11 15 23.5	+1.3
CD2	**Chengdu**	**40.40**	**355**	⇓iP	**P**	**11 15 10.8**	**-0.4**
CD2				AP	pP	11 15 23.0	+0.6
CD2				XP	sP	11 15 28.4	+1.3
CD2				PP	PP	11 16 48.5	+3.8
CD2				S	**S**	**11 21 16.9**	**+0.2**
CD2				XS	sS	11 21 37.5	+2.2
CD2				AMB	AMB		
	comp=Z,180nm,1.2s,mb5.7						
CD2				LR	LR		
	comp=N,7µm,14.4s						
CD2				LR	LR		
	comp=Z,10µm,14.4s,MS5.8						
JOW	**Kunigami**	**41.31**	**28**	P	**P**	**11 15 19.6**	**+0.9**
	comp=Z,68nm,0.8s,mb5.3,baz=244,slow=7.6,SNR=26						
JOW				LR	LR	11 33 07.6	
	comp=Z,7µm,21.8s,MS5.5,baz=277,slow=37						
GOA	**Goa**	**41.76**	**306**	eP	**P**	**11 15 23.0**	**+0.5**
SSE	**Sheshan**	**42.43**	**17**	eP	**P**	**11 15 29.3**	**+1.4**
SSE				AMB	AMB		
	comp=Z,86nm,1.2s,mb5.3						
SSE				AMB	AMB		
	comp=Z,6µm,12.0s						
JIRN	**Jiri**	**42.45**	**331**	eP	**P**	**11 15 28.6**	**+0.6**
	comp=Z,902nm,0.9s,mb6.4						
KAD	**Karad**	**42.53**	**309**	eP	**P**	**11 15 28.6**	**-0.1**
KAD				AMb	AMB	11 15 48.8	
	comp=Z,85nm,1.8s,mb5.2						
AKL	**Akola**	**42.58**	**315**	eP	**P**	**11 15 29.5**	**+0.3**
AKL				i P		11 15 29.6	
AKL				AMb	AMB	11 15 33.1	
	comp=Z,168nm,0.9s,mb5.8						
NJ2	**Nanjing**	**42.72**	**14**	eP	**P**	**11 15 31.0**	**+0.8**
NJ2				AP	pP	11 15 42.6	+1.1
NJ2				XP	sP	11 15 48.8	+2.6
NJ2				S	**S**	**11 21 51.0**	**0.0**
NJ2				XS	sS	11 22 12.0	+2.3
NJ2				AMB	AMB		
	comp=Z,250nm,1.2s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,2µm,4.4s						
NJ2				LR	LR		
	comp=N,8µm,12.4s,MS5.8						
NJ2				LR	LR		
	comp=E,2µm,13.6s,MS5.8						
NJ2				LR	LR		
	comp=Z,8µm,14.3s,MS5.8						
PKI	**Pulchoki**	**42.75**	**330**	eP	**P**	**11 15 30.5**	**0.0**
	comp=Z,427nm,1.1s,mb6.1						
PKI	**Pulchoki**	**42.75**	**330**	eP	**P**	**11 15 30.5**	**0.0**
PKI				pmax	pmax		
	comp=Z,427nm,1.1s,mb6.1						
GUN	**Gumba**	**42.80**	**331**	eP	**P**	**11 15 31.5**	**+0.6**
	comp=Z,589nm,0.7s,mb6.4						
DMN	**Daman**	**42.93**	**330**	eP	**P**	**11 15 32.0**	**+0.1**
	comp=Z,603nm,0.9s,mb6.3						
KKN	**Kakani**	**42.99**	**330**	eP	**P**	**11 15 32.5**	**+0.1**
	comp=Z,562nm,0.9s,mb6.3						
KKN	**Kakani**	**42.99**	**330**	eP	**P**	**11 15 32.5**	**+0.1**
KKN				pmax	pmax		
	comp=Z,562nm,0.9s,mb6.3						
XAN	**Xi'an**	**43.36**	**1**	P	**P**	**11 15 35.0**	**-0.4**
XAN				AMB	AMB		
	comp=Z,207nm,1.0s,mb5.8						
GKN	**Gorkha**	**43.48**	**330**	eP	**P**	**11 15 36.3**	**-0.1**
POO	**Poona**	**43.51**	**310**	⇓iP	**P**	**11 15 35.0**	**-1.6**
	comp=Z,160nm,1.0s,mb5.7						
KOLN	**Koldanda**	**43.82**	**329**	eP	**P**	**11 15 39.2**	**+0.1**
	comp=Z,685nm,0.9s,mb6.4						
BHPL	**Bhopal**	**44.03**	**318**	eP	**P**	**11 15 40.1**	**-0.7**
BHPL				AMb	AMB	11 15 42.0	
	comp=Z,128nm,1.8s,mb5.4						
LZH	**Lanzhou**	**45.53**	**356**	⇑P	**P**	**11 15 53.8**	**+1.1**
LZH				AP	pP	11 16 03.6	-0.5
LZH				XP	sP	11 16 07.5	-1.2
LZH				PP	PP	11 17 40.3	+0.6
LZH				eS	**S**	**11 22 33.8**	**+1.8**
LZH				XS	sS	11 22 50.3	-0.4
LZH				AMB	AMB		
	comp=Z,112nm,1.2s,mb5.7						
LZH				AMB	AMB		
	comp=Z,617nm,5.1s						
LZH				LR	LR		
	comp=N,7µm,14.9s						
LZH				LR	LR		
	comp=Z,9µm,15.6s,MS5.8						
ARMA	**Armidale**	**45.85**	**123**	eP	**P**	**11 15 56.9**	**+1.6**
TIA	**Tai'an**	**46.37**	**11**	P	**P**	**11 15 58.8**	**-0.6**
LGTI	**Lohaghat**	**46.93**	**327**	i P	**P**	**11 16 03.7**	**-0.1**
NDI	**New Delhi**	**48.07**	**323**	ex	x	11 16 10.0	
NDI				eS	**S**	**11 23 11.0**	**+2.8**
AJM	**Ajmer**	**48.09**	**319**	eP	**P**	**11 16 11.2**	**-1.5**
AJM				AMb	AMB	11 16 26.1	
	comp=Z,142nm,1.5s,mb5.8						
DDI	**Dehra Dun**	**48.81**	**325**	ex	x	11 16 05.0	
GTA	**Gaotai**	**49.25**	**352**	eP	**P**	**11 16 22.3**	**+0.6**
GTA				AP	pP	11 16 30.5	-2.6
GTA				XP	sP	11 16 34.0	-3.8
GTA				PCP	PcP	11 17 44.5	+0.3
GTA				PP	PP	11 18 18.1	+2.4
GTA				PPP		11 19 12.5	
GTA				S	**S**	**11 23 28.4**	**+3.5**
GTA				XS	sS	11 23 41.0	-2.8
GTA				AMB	AMB		
	comp=Z,71nm,1.1s,mb5.6						
GTA				AMB	AMB		
	comp=Z,3µm,6.9s						
GTA				LR	LR		
	comp=N,5µm,21.7s,MS5.9						
GTA				LR	LR		
	comp=E,11µm,19.8s,MS5.9						
GTA				LR	LR		
	comp=Z,4µm,26.2s						
CBIJ	**Chichi jima**	**49.45**	**42**	P	**P**	**11 16 22.4**	**-0.8**
	comp=Z,138nm,0.9s,mb6.0,baz=129,slow=17,SNR=8.5						
DL2	**Dalian**	**49.92**	**14**	P	**P**	**11 16 28.5**	**+1.7**
DL2				eS	**S**	**11 23 41.3**	**+7.1**
DL2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.4						
DL2				LR	LR		
	comp=N,2µm,17.8s,MS5.3						
DL2				LR	LR		
	comp=E,2µm,18.0s,MS5.3						
DL2				LR	LR		
	comp=Z,3µm,17.9s,MS5.4						
SMLA	**Simla**	**49.92**	**325**	eP	**P**	**11 16 25.5**	**-1.2**
SMLA				AMb	AMB	11 16 34.4	
	comp=Z,347nm,0.9s,mb6.4						
BJT	**Baijiatuau**	**49.93**	**9**	eP	**P**	**11 16 26.6**	**-0.3**
BJT				pmax	pmax		
	comp=Z,109nm,0.7s						
BJT	**Baijiatuau**	**49.93**	**9**	eP	**P**	**11 16 26.6**	**-0.3**
	comp=Z,109nm,0.7s,mb6.0						
BTO	**Baotou**	**49.94**	**2**	eP	**P**	**11 16 26.4**	**-0.5**
BJI	**Beijing**	**49.96**	**9**	eP	**P**	**11 16 26.8**	**-0.2**
BJI				AMB	AMB		
	comp=Z,97nm,0.9s,mb5.8						
BJI				AMB	AMB		
	comp=Z,2µm,3.8s						
HHC	**Hu-ho-hao-te**	**50.27**	**4**	eP	**P**	**11 16 31.5**	**+2.1**
HHC				AP	pP	11 16 38.8	-2.0
HHC				PCP	PcP	11 17 49.5	+1.6
HHC				PP	PP	11 18 28.6	+3.6
HHC				PCS	PcS	11 21 43.1	-2.0
HHC				S	**S**	**11 23 41.4**	**+2.3**
HHC				SCS	ScS	11 26 18.6	+1.3
HHC				SS	SS	11 27 10.8	-2.1
HHC				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
HHC				LR	LR		
	comp=N,7µm,11.9s,MS5.9						
HHC				LR	LR		
	comp=E,3µm,13.1s,MS5.9						
HHC				LR	LR		
	comp=Z,7µm,14.3s,MS5.8						
HNR	**Honiara**	**51.50**	**94**	P	**P**	**11 16 38.9**	**+0.2**
	comp=Z,169nm,0.8s,mb6.0,baz=256,slow=1.7,SNR=8.9						
HNR	**Honiara**	**51.50**	**94**	P	**P**	**11 16 38.9**	**+0.2**
HNR				pmax	pmax		
	comp=Z,169nm,0.8s,mb6.0						
HNR	**Honiara**	**51.50**	**94**	P	**P**	**11 16 38.9**	**+0.2**
HNR				eP		11 16 39.2	
DLH	**Dalhousie**	**51.65**	**326**	eP	**P**	**11 16 41.0**	**+1.2**
SNY	**Shenyang**	**53.16**	**15**	⇓P	**P**	**11 16 50.1**	**-0.9**
SNY				PCP	PcP	11 17 57.3	-1.4
SNY				PP	PP	11 18 51.3	+0.1
SNY				S	**S**	**11 24 22.0**	**+3.1**
SNY				SS	SS	11 28 02.9	+4.3
SNY				AMB	AMB		
	comp=Z,44nm,2.2s,mb5.0						
SNY				AMB	AMB		
	comp=Z,5µm,12.0s						
SNY				LR	LR		
	comp=N,3µm,15.9s,MS5.6						
SNY				LR	LR		
	comp=E,4µm,18.4s,MS5.6						
SNY				LR	LR		
	comp=Z,4µm,18.1s,MS5.5						
MAJO	**Matsushiro**	**54.08**	**30**	eP	**P**	**11 16 55.8**	**-1.9**
MAJO				e*PP	pP	11 17 07.6	-1.7
MAJO				pmax	pmax		
	comp=Z,73nm,0.9s,mb5.6						
MAJO	**Matsushiro**	**54.08**	**30**	eP	**P**	**11 16 55.8**	**-2.0**
	comp=Z,73nm,0.9s,mb5.6						
MAJO				e	pP	11 17 07.7	-1.5
MAT	**Matsushiro**	**54.08**	**30**	P	**P**	**11 16 55.0**	**-2.7**
MAT	**Matsushiro**	**54.08**	**30**	eP	**P**	**11 16 55.0**	**-2.7**
MAT				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.5						
MAT	**Matsushiro**	**54.08**	**30**	eP	**P**	**11 16 55.0**	**-2.7**
	comp=Z,50nm,0.8s,mb5.5						
MJAR	**Matsushiro Arr**	**54.08**	**30**	P	**P**	**11 16 55.3**	**-2.4**
	comp=Z,49nm,0.8s,mb5.5,baz=208,slow=7.9,SNR=60						
MJAR				LR	LR	11 40 47.7	
	comp=Z,2µm,18.4s,MS5.3,baz=220,slow=37						
MJAR	**Matsushiro Arr**	**54.08**	**30**	P	**P**	**11 16 55.3**	**-2.4**
MJAR				pmax	pmax		
	comp=Z,49nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,2µm,18.5s						
CN2	**Changchun**	**55.49**	**16**	eP	**P**	**11 17 06.8**	**-1.1**
CN2				eS	**S**	**11 24 50.4**	**+0.1**
CN2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.4						
CN2				AMB	AMB		
	comp=Z,200nm,8.0s						
CN2				LR	LR		
	comp=N,6µm,17.0s,MS6.0						
CN2				LR	LR		
	comp=E,8µm,17.0s,MS6.0						
CN2				LR	LR		
	comp=Z,10µm,19.0s,MS5.9						
WMQ	**Urumqi**	**56.13**	**343**	P	**P**	**11 17 14.8**	**+2.3**
WMQ				PCP	PcP	11 18 12.6	+2.5
WMQ				PP	PP	11 19 21.4	+3.6
WMQ				SCP	ScP	11 22 09.8	+3.7
WMQ				S	**S**	**11 25 01.5**	**+2.7**
WMQ				PS		11 25 14.8	
WMQ				SCS	ScS	11 27 00.0	+1.5
WMQ				SS	SS	11 28 47.8	+2.3
WMQ				AMB	AMB		
	comp=Z,323nm,1.0s,mb6.3						
WMQ				AMB	AMB		
	comp=Z,1µm,4.0s						
WMQ				LR	LR		
	comp=N,5µm,14.1s,MS5.8						
WMQ				LR	LR		
	comp=E,3µm,15.5s,MS5.8						
WMQ				LR	LR		
	comp=Z,4µm,14.1s,MS5.6						
CASY	**Casey**	**56.69**	**179**	eP	**P**	**11 17 15.4**	**-1.1**
CASY	**Casey**	**56.69**	**179**	eP	**P**	**11 17 14.8**	**-1.7**
	comp=Z,27nm,1.0s,mb5.2						
CASY				eP		11 17 15.4	
VLA	**Vladivostok**	**56.87**	**21**	i P	**P**	**11 17 16.2**	**-1.6**
VLA				e	pP	11 17 27.8	-1.6
VLA				i		11 17 35.1	
VLA				pmax	pmax		
	comp=Z,29nm,0.6s,mb5.5						
VLA	**Vladivostok**	**56.87**	**21**	⇑iP	**P**	**11 17 16.8**	**-1.0**
KSH	**Kashi**	**57.00**	**331**	P	**P**	**11 17 18.8**	**+0.1**
KSH				ePCP	PcP	11 18 14.8	+1.3
KSH				ePP	PP	11 19 25.3	-0.3
KSH				ePPP		11 20 41.8	
KSH				eSCP	ScP	11 22 13.5	+3.6
KSH				eS	**S**	**11 25 09.5**	**-0.8**
KSH				ePS		11 25 26.5	
KSH				eSCS	ScS	11 27 04.1	-0.7
KSH				eSS	SS	11 28 54.8	-4.3
KSH				AMB	AMB		
	comp=Z,1µm,3.9s						
KSH				LR	LR		
	comp=N,3µm,11.8s,MS6.1						
KSH				LR	LR		
	comp=E,9µm,14.5s,MS6.1						
KSH				LR	LR		
	comp=Z,6µm,22.8s						
SONM	**Songino Array**	**57.14**	**359**	P	**P**	**11 17 19.6**	**0.0**
	comp=Z,71nm,0.9s,mb5.7,baz=178,slow=9.3,SNR=72						
SONM	**Songino Array**	**57.14**	**359**	P	**P**	**11 17 19.6**	**-0.1**
SONM				pmax	pmax		
	comp=Z,71nm,0.9s						
ULN	**Ulaanbaatar**	**57.16**	**359**	P	**P**	**11 17 20.1**	**+0.3**
	SNR=36						
ULN	**Ulaanbaatar**	**57.16**	**359**	P	**P**	**11 17 20.1**	**+0.3**
	SNR=36						
ULN	**Ulaanbaatar**	**57.16**	**359**	P	**P**	**11 17 20.1**	**+0.3**
	SNR=36						
ULN	**Ulaanbaatar**	**57.16**	**359**	P	**P**	**11 17 20.1**	**+0.3**
	SNR=36						
ULN	**Ulaanbaatar**	**57.16**	**359**	d iP	**P**	**11 17 19.6**	**-0.2**
ULN	**Ulaanbaatar**	**57.16**	**359**	eP	**P**	**11 17 19.8**	**-0.1**
	comp=Z,59nm,0.8s,mb5.7						
MDJ	**Mudanjiang**	**57.43**	**18**	P	**P**	**11 17 21.5**	**-0.3**
MDJ				PCP	PcP	11 18 14.5	-0.7
MDJ				SCP	ScP	11 22 15.3	+3.4
MDJ				S	**S**	**11 25 19.0**	**+3.0**
MDJ				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,1µm,12.1s						
MDJ				LR	LR		
	comp=N,2µm,19.6s,MS5.4						
MDJ				LR	LR		
	comp=E,3µm,19.9s,MS5.4						
MDJ				LR	LR		
	comp=Z,3µm,19.6s,MS5.4						
MDJ	**Mudanjiang**	**57.43**	**18**	eP	**P**	**11 17 20.9**	**-0.8**
	comp=Z,22nm,0.6s,mb5.4						
DZM	**Mont Dzumac**	**57.58**	**110**	P	**P**	**11 17 24.9**	**+2.1**
	comp=Z,14nm,0.9s,mb5.0,baz=146,slow=6.1,SNR=7.0						
MIR	**Mirnyy**	**57.80**	**187**	c iP	**P**	**11 17 25.5**	**+1.1**
MIR				i		11 18 17.5	
MIR				pmax	pmax		
	comp=Z,400nm,1.2s,mb6.3						
WSAR	**Wadi Sarin**	**58.00**	**305**	P	**P**	**11 17 26.5**	**+0.7**
	comp=Z,13nm,0.6s,mb5.1,baz=98,slow=8.5,SNR=19						
WSAR				LR	LR	11 41 29.6	
	comp=Z,5µm,19.6s,MS5.6,baz=104,slow=35						
JMDO	**Jabal Madar**	**58.02**	**304**	P	**P**	**11 17 26.1**	**+0.2**
	SNR=7.7						
JMDO	**Jabal Madar**	**58.02**	**304**	P	**P**	**11 17 26.1**	**+0.2**
	SNR=7.7						
JMDO	**Jabal Madar**	**58.02**	**304**	P	**P**	**11 17 26.1**	**+0.2**
	SNR=7.7						
JMDO	**Jabal Madar**	**58.02**	**304**	P	**P**	**11 17 26.1**	**+0.2**
	SNR=7.7						
JMDO	**Jabal Madar**	**58.02**	**304**	P	**P**	**11 17 26.1**	**+0.2**
	SNR=7.7						
JMDO	**Jabal Madar**	**58.02**	**304**	P	**P**	**11 17 26.1**	**+0.2**
	SNR=7.7						
JMDO	**Jabal Madar**	**58.02**	**304**	P	**P**	**11 17 26.1**	**+0.2**
	SNR=7.7						
SMDO	**Samad**	**58.39**	**305**	P	**P**	**11 17 29.1**	**+0.6**
	SNR=9.9						
SMDO	**Samad**	**58.39**	**305**	P	**P**	**11 17 29.1**	**+0.6**
	SNR=9.9						
SMDO	**Samad**	**58.39**	**305**	P	**P**	**11 17 29.1**	**+0.6**
	SNR=9.9						
SMDO	**Samad**	**58.39**	**305**	P	**P**	**11 17 29.1**	**+0.6**
	SNR=9.9						
SMDO	**Samad**	**58.39**	**305**	P	**P**	**11 17 29.1**	**+0.6**
	SNR=9.9						
SMDO	**Samad**	**58.39**	**305**	P	**P**	**11 17 29.1**	**+0.6**
	SNR=9.9						
SMDO	**Samad**	**58.39**	**305**	P	**P**	**11 17 29.1**	**+0.6**
	SNR=9.9						
BIDO	**Bidbid**	**58.55**	**305**	P	**P**	**11 17 30.3**	**+0.8**
	SNR=9.6						
BIDO	**Bidbid**	**58.55**	**305**	P	**P**	**11 17 30.3**	**+0.8**
	SNR=9.6						
BIDO	**Bidbid**	**58.55**	**305**	P	**P**	**11 17 30.3**	**+0.8**
	SNR=9.6						
BIDO	**Bidbid**	**58.55**	**305**	P	**P**	**11 17 30.3**	**+0.8**
	SNR=9.6						
BIDO	**Bidbid**	**58.55**	**305**	P	**P**	**11 17 30.3**	**+0.8**
	SNR=9.6						
BIDO	**Bidbid**	**58.55**	**305**	P	**P**	**11 17 30.3**	**+0.8**
	SNR=9.6						
BIDO	**Bidbid**	**58.55**	**305**	P	**P**	**11 17 29.9**	**+0.4**
	SNR=12						
BSY	**Bisya**	**58.94**	**304**	P	**P**	**11 17 32.7**	**+0.4**
	SNR=7.5						
BSY	**Bisya**	**58.94**	**304**	P	**P**	**11 17 32.7**	**+0.4**
	SNR=7.5						
BSY	**Bisya**	**58.94**	**304**	P	**P**	**11 17 32.7**	**+0.4**
	SNR=7.5						
BSY	**Bisya**	**58.94**	**304**	P	**P**	**11 17 32.7**	**+0.4**
	SNR=7.5						
BSY	**Bisya**	**58.94**	**304**	P	**P**	**11 17 32.7**	**+0.4**
	SNR=7.5						
BSY	**Bisya**	**58.94**	**304**	P	**P**	**11 17 32.7**	**+0.4**
	SNR=7.5						
ULHL	**Ulahol**	**59.04**	**333**	P	**P**	**11 17 32.1**	**-0.9**
	SNR=18						
OPO	**Ambohidratompo**	**59.15**	**254**	P	**P**	**11 17 34.4**	**+0.7**
	comp=Z,4.8nm,0.8s,mb4.6,baz=343,slow=1.3,SNR=5.6						
HOQ	**Hoqain**	**59.23**	**305**	P	**P**	**11 17 34.5**	**+0.2**
	SNR=7.6						
HOQ	**Hoqain**	**59.23**	**305**	P	**P**	**11 17 34.5**	**+0.2**
	SNR=7.6						
HOQ	**Hoqain**	**59.23**	**305**	P	**P**	**11 17 34.5**	**+0.2**
	SNR=7.6						
HOQ	**Hoqain**	**59.23**	**305**	P	**P**	**11 17 34.5**	**+0.2**
	SNR=7.6						
HOQ	**Hoqain**	**59.23**	**305**	P	**P**	**11 17 35.2**	**+0.9**
	SNR=14						
HOQ	**Hoqain**	**59.23**	**305**	P	**P**	**11 17 35.2**	**+0.9**
	SNR=14						
HOQ	**Hoqain**	**59.23**	**305**	P	**P**	**11 17 34.5**	**+0.2**
	SNR=7.6						
KZA	**Kyzart**	**59.35**	**332**	P	**P**	**11 17 35.3**	**+0.2**
	SNR=49						
HIA	**Hailar**	**59.51**	**9**	eP	**P**	**11 17 35.8**	**-0.4**
HIA				pmax	pmax		
	comp=Z,69nm,1.1s						
HIA	**Hailar**	**59.51**	**9**	eP	**P**	**11 17 35.8**	**-0.5**
	comp=Z,69nm,1.1s,mb5.6						
ARQ	**Araqi**	**59.76**	**304**	P	**P**	**11 17 38.0**	**0.0**
	SNR=5.8						
ARQ	**Araqi**	**59.76**	**304**	P	**P**	**11 17 38.0**	**0.0**
	SNR=5.8						
ARQ	**Araqi**	**59.76**	**304**	P	**P**	**11 17 38.0**	**0.0**
	SNR=5.8						
ARQ	**Araqi**	**59.76**	**304**	P	**P**	**11 17 38.0**	**0.0**
	SNR=5.8						
ARQ	**Araqi**	**59.76**	**304**	P	**P**	**11 17 38.0**	**0.0**
	SNR=5.8						
ARQ	**Araqi**	**59.76**	**304**	P	**P**	**11 17 37.7**	**-0.2**
	SNR=6.7						
ARQ	**Araqi**	**59.76**	**304**	P	**P**	**11 17 37.7**	**-0.2**
	SNR=6.7						
ZAK	**Zakamensk**	**59.80**	**357**	⇑iP	**P**	**11 17 37.8**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.2						
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.6						
WHFO	**Wadi Hawf**	**59.82**	**297**	P	**P**	**11 17 38.1**	**-0.3**
	SNR=6.4						
WHFO	**Wadi Hawf**	**59.82**	**297**	P	**P**	**11 17 38.1**	**-0.3**
	SNR=6.4						
WHFO	**Wadi Hawf**	**59.82**	**297**	P	**P**	**11 17 38.1**	**-0.3**
	SNR=6.4						
WHFO	**Wadi Hawf**	**59.82**	**297**	P	**P**	**11 17 38.1**	**-0.3**
	SNR=6.4						
WHFO	**Wadi Hawf**	**59.82**	**297**	P	**P**	**11 17 38.1**	**-0.3**
	SNR=6.4						
WHFO	**Wadi Hawf**	**59.82**	**297**	P	**P**	**11 17 38.1**	**-0.3**
	SNR=6.4						
WHFO	**Wadi Hawf**	**59.82**	**297**	P	**P**	**11 17 38.1**	**-0.3**
	SNR=6.4						
TKM2	**Tokmak 2**	**59.87**	**333**	P	**P**	**11 17 38.0**	**-0.7**
	SNR=73						
KBK	**Karagaybulak**	**59.95**	**333**	P	**P**	**11 17 39.4**	**+0.2**
	SNR=26						
AML	**Almayashu**	**60.12**	**331**	P	**P**	**11 17 40.4**	**0.0**
	SNR=26						
AAK	**Ala-Archa**	**60.14**	**332**	P	**P**	**11 17 40.5**	**-0.1**
	SNR=14						
AAK	**Ala-Archa**	**60.14**	**332**	P	**P**	**11 17 39.3**	**-1.2**
	comp=Z,177nm,1.1s,mb6.0,SNR=10						
AAK	**Ala-Archa**	**60.14**	**332**	P	**P**	**11 17 39.7**	**-0.8**
	SNR=18						
AAK	**Ala-Archa**	**60.14**	**332**	P	**P**	**11 17 39.7**	**-0.8**
	SNR=18						
AAK	**Ala-Archa**	**60.14**	**332**	P	**P**	**11 17 39.7**	**-0.8**
	SNR=18						
AAK	**Ala-Archa**	**60.14**	**332**	P	**P**	**11 17 39.7**	**-0.8**
	SNR=18						
AAK	**Ala-Archa**	**60.14**	**332**	P	**P**	**11 17 39.7**	**-0.8**
	SNR=18						
AAK	**Ala-Archa**	**60.14**	**332**	d iP	**P**	**11 17 39.1**	**-1.4**
AAK				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.3						
AAK	**Ala-Archa**	**60.14**	**332**	eP	**P**	**11 17 39.4**	**-1.1**
FRU	**Bishkek**	**60.24**	**332**	eP	**P**	**11 17 40.0**	**-1.2**
FRU				e	pP	11 17 52.0	-0.9
FRU				pmax	pmax		
	comp=Z,120nm,2.0s,mb5.6						
CHMS	**Chumysh**	**60.31**	**333**	P	**P**	**11 17 40.0**	**-1.7**
	SNR=12						
EKS2	**Erkin-Say**	**60.49**	**332**	P	**P**	**11 17 42.4**	**-0.5**
	SNR=22						
MKAR	**Makanchi Array**	**60.50**	**340**	P	**P**	**11 17 42.4**	**-0.6**
	comp=Z,111nm,0.6s,mb6.1,baz=147,slow=8.2,SNR=147						
MKAR	**Makanchi Array**	**60.50**	**340**	P	**P**	**11 17 42.4**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,111nm,0.6s						
USP	**Ospenovka**	**60.63**	**333**	P	**P**	**11 17 42.9**	**-1.0**
	SNR=28						
ASHO	**Ashiyiah**	**60.76**	**305**	P	**P**	**11 17 45.1**	**+0.3**
	SNR=8.8						
ASHO	**Ashiyiah**	**60.76**	**305**	P	**P**	**11 17 45.1**	**+0.3**
	SNR=8.8						

ASHO Ashiyiah 60.76 305 P P 11 17 45.1 +0.3
SNR=8.8
ASHO Ashiyiah 60.76 305 P P 11 17 45.1 +0.3
SNR=8.8
ASHO Ashiyiah 60.76 305 P P 11 17 45.1 +0.3
SNR=8.8
ASHO Ashiyiah 60.76 305 P P 11 17 45.1 +0.3
SNR=8.8
TLY Talaya 61.08 357 P P 11 17 47.3 +0.4
comp=Z,194nm,1.3s,mb6.1,SNR=20
MOY Mondy 61.24 355 eP P 11 17 48.2 +0.2
MOY pmax pmax
comp=Z,136nm,1.4s,mb5.9
IRK Irkutsk 61.61 358 eP P 11 17 49.8 -0.7
IRK pmax pmax
comp=Z,116nm,2.1s,mb5.6
ASAJ Asahikawa 62.07 28 P P 11 17 52.5 -1.2
comp=Z,31nm,0.7s,mb5.5,baz=242,slow=11,SNR=37
ASAJ Asahikawa 62.07 28 P P 11 17 52.5 -1.2
ASAJ pmax pmax
comp=Z,31nm,0.7s
KLR Kul'dur 62.23 18 eP P 11 17 50.6 -4.1
KLR pmax pmax
comp=E,62nm,1.4s
KLR pmax pmax
comp=Z,170nm,1.4s,mb6.0
HABR Khabarovsk 62.61 20 *i* P P 11 17 56.8 -0.5
HABR *i* S S 11 26 23.5 +1.0
HABR pmax pmax
comp=Z,154nm,1.1s,mb6.0
HABR MLR MLR
comp=Z,2μm,17.3s,MS5.3
JCZ Jackson Bay 62.73 135 PN P 11 17 59.1 +1.0
RPZ Rata Peaks 64.27 134 P P 11 18 08.3 0.0
comp=Z,35nm,1.0s,mb5.3,baz=334,slow=4.1,SNR=11
YSS Yuzh-Sakhalins 64.34 26 *d* iP P 11 18 07.7 -1.0
YSS *i* *PP pP 11 18 19.3 -1.1
YSS pmax pmax
comp=Z,222nm,1.2s,mb6.1
YSS Yuzh-Sakhalins 64.34 26 eP P 11 18 08.0 -0.7
YSS e pP 11 18 19.9 -0.5
QRZ Quartz Range 64.82 131 PN P 11 18 12.2 +0.4
KURK Kurchatov 65.11 340 P P 11 18 13.3 -0.4
comp=Z,812nm,0.9s,mb6.8,SNR=53
KURK Kurchatov 65.11 340 P P 11 18 13.5 -0.2
SNR=37
KURK Kurchatov 65.11 340 P P 11 18 13.5 -0.2
SNR=37
KURK Kurchatov 65.11 340 P P 11 18 13.5 -0.2
SNR=37
KURK Kurchatov 65.11 340 P P 11 18 13.5 -0.2
SNR=37
KURK Kurchatov 65.11 340 eP P 11 18 13.0 -0.7
KURK pmax pmax
comp=Z,135nm,0.9s,mb6.0
KURK Kurchatov 65.11 340 eP P 11 18 13.0 -0.7
comp=Z,134nm,0.9s,mb6.0
MAW Mawson 65.15 197 P P 11 18 13.5 -0.4
comp=Z,35nm,0.7s,mb5.5,baz=40,slow=7.0,SNR=46
MAW LR LR 11 42 28.1
comp=Z,2μm,19.5s,MS5.3,baz=316,slow=32
MAW PKPPKP 11 46 54.1
comp=Z,16nm,1.2s,baz=245,slow=3.4,SNR=5.0
MAW Mawson 65.15 197 eP P 11 18 12.6 -1.3
MAW e pP 11 18 25.6 -0.1
MAW pmax pmax
comp=Z,31nm,0.7s
MAW Mawson 65.15 197 eP P 11 18 12.6 -1.3
comp=Z,31nm,0.7s,mb5.5
MAW eP 11 18 13.2
MAW e pP 11 18 25.6 -0.2
THZ Tophouse 65.25 132 PN P 11 18 14.4 -0.2
ABKT Ailbek 66.11 319 P P 11 18 20.4 +0.2
comp=Z,490nm,0.9s,mb6.5,SNR=17
ZAL Zalesovo 66.15 345 P P 11 18 18.7 -1.7
comp=Z,17nm,0.3s,mb5.5,baz=343,slow=2.1,SNR=19
ZAL LR LR 11 50 20.7
comp=Z,4μm,20.1s,MS5.6,baz=320,slow=39
ZAL Zalesovo 66.15 345 P P 11 18 18.7 -1.7
ZAL pmax pmax
comp=Z,17nm,0.3s
ZAL MLR MLR
comp=Z,4μm,20.1s
SNZO South Karori 66.52 131 eP P 11 18 22.1 -0.7
comp=Z,33nm,0.7s,mb5.5
BOD Bodaibo 67.33 4 eP P 11 18 26.5 -1.4
BOD pmax pmax
comp=Z,104nm,1.2s,mb5.7
NVS Novosibirsk 67.36 345 eP P 11 18 26.5 -1.6
NVS pmax pmax
comp=N,90nm,2.6s
NVS pmax pmax
comp=E,30nm,2.6s
NVS pmax pmax
comp=Z,115nm,2.6s,mb5.5
ATD Arta Tunnel 67.78 287 P P 11 18 31.9 +1.1
comp=Z,13nm,0.8s,mb5.0,baz=244,slow=21,SNR=6.4
URZ Urewera 68.00 127 P P 11 18 32.5 +0.3
comp=Z,16nm,0.8s,mb5.1,baz=317,slow=12,SNR=7.1
RDF Al-Radifah 69.44 306 eP P 11 18 41.0 -0.1
RDF AMb AMB 11 18 42.3
comp=Z,180nm,1.2s,mb5.9
UMR Umm Al-Rimmam 69.56 306 eP P 11 18 41.0 -0.9
UMR AMb AMB 11 18 43.2
comp=Z,156nm,1.0s,mb5.9
NAY Al-Naaiem 69.82 306 eP P 11 18 42.1 -1.4
NAY AMb AMB 11 18 45.0
comp=Z,68nm,1.0s,mb5.5
BVAR Borovoye Array 69.96 337 P P 11 18 43.2 -1.2
comp=Z,34nm,0.7s,mb5.4,baz=149,slow=7.2,SNR=72
BVAR LR LR 11 53 38.5
comp=Z,3μm,20.1s,MS5.5,baz=319,slow=40
BVAR Borovoye Array 69.96 337 P P 11 18 43.2 -1.1
BVAR pmax pmax
comp=Z,34nm,0.7s
BVAR MLR MLR
comp=Z,3μm,20.1s
MIB Mutribah 69.96 306 eP P 11 18 43.1 -1.2
MIB AMb AMB 11 18 45.6
comp=Z,134nm,1.1s,mb5.8
BRVK Borovoye 70.03 337 P P 11 18 44.4 -0.3
comp=Z,372nm,0.9s,mb6.3,SNR=19
BRVK Borovoye 70.03 337 eP P 11 18 44.0 -0.8
RST Umm Al-Ruwaisa 70.11 306 eP P 11 18 44.1 -1.1
RST AMb AMB 11 18 47.2
comp=Z,156nm,1.1s,mb5.8
CHKZ Chkalovo 70.38 338 eP P 11 18 46.2 -0.7
KMBO Kilima Mbogo 70.53 272 P P 11 18 48.2 +0.4
comp=Z,20nm,1.1s,mb5.0,baz=55,slow=7.4,SNR=26
KMBO LR LR 11 45 33.2
comp=Z,2μm,18.4s,MS5.5,baz=95,slow=32
KMBO Kilima Mbogo 70.53 272 P P 11 18 48.2 +0.4
KMBO LR LR 11 45 33.2
RAO Raoul Island 71.82 118 eP P 11 18 56.0 +0.4
SKR Severo-Kuril's 73.19 30 eP P 11 19 00.0 -3.7
SKR e pP 11 19 11.5 -4.2
SKR pmax pmax
comp=E,200nm,1.0s
SKR pmax pmax
comp=Z,250nm,1.0s,mb6.1
SKR pmax pmax
comp=N,100nm,0.8s
VNDA Vanda 73.36 169 P P 11 19 03.8 -1.0
comp=N,6.9nm,0.8s,mb4.6,baz=297,slow=6.3,SNR=21
VNDA PKPPKP 11 46 40.1
comp=N,1.5nm,1.1s,baz=172,slow=6.4,SNR=3.1
VNDA LR LR 11 50 06.9
comp=N,3μm,18.8s,MS5.6,baz=27,slow=35
SYO Syowa Base 73.37 200 ⇓ *i* iP P 11 19 03.4 -1.4
SYO Syowa Base 73.37 200 ⇑ *i* pP P 11 19 06.3 +1.5
YAK Yakutsk 73.39 11 eP P 11 19 04.4 -0.5
YAK e pP 11 19 15.1 -1.8
YAK pmax pmax
comp=N,83nm,1.2s
YAK pmax pmax
comp=E,42nm,1.2s
YAK pmax pmax
comp=Z,207nm,1.2s,mb5.9
YAK pmax pmax
comp=Z,274nm,1.1s,mb6.1
YAK pmax pmax
comp=N,99nm,1.2s
YAK pmax pmax
comp=E,53nm,1.2s
YAK Yakutsk 73.39 11 eP P 11 19 03.5 -1.5
YAK e pP 11 19 15.3 -1.6

AKTK Aktyubinsk 73.65 329 P P 11 19 06.1 -0.3
AKTO Aktyubinsk 73.65 329 P P 11 19 06.1 -0.3
comp=E,31nm,1.1s,mb5.2,baz=134,slow=5.1,SNR=22
AKTO Aktyubinsk 73.65 329 P P 11 19 06.1 -0.4
AKTO pmax pmax
comp=Z,31nm,1.1s,mb5.2
BHD Baghdad 73.67 309 ex x 11 19 06.5
SBA Scott Base 74.43 169 eP P 11 19 11.0 0.0
SBA e pP 11 19 25.0 +2.0
SBA pmax pmax
comp=Z,28nm,1.1s,mb5.1
SBA Scott Base 74.43 169 eP P 11 19 11.0 0.0
comp=Z,28nm,1.1s,mb5.1
SBA e pP 11 19 25.0 +2.1
MSL Mosul 75.83 311 ex x 11 19 20.5
CUKT Cukurca 75.83 312 eP P 11 19 21.7 +2.6
PET Petropavlovsk 75.88 29 *c* iP P 11 19 19.0 -0.4
PET e*PP pP 11 19 30.3 -1.1
PET pmax pmax
comp=Z,131nm,1.2s,mb5.7
PET Petropavlovsk 75.88 29 eP P 11 19 19.1 -0.2
comp=Z,383nm,1.5s,mb6.1
PET e pP 11 19 30.7 -0.7
GNI Garni 76.23 315 P P 11 19 21.6 +0.2
comp=Z,3.6nm,0.3s,mb4.8,baz=327,slow=4.0,SNR=9.3
GNI Garni 76.23 315 P P 11 19 22.9 +1.6
SNR=8.9
GNI Garni 76.23 315 P P 11 19 22.9 +1.6
SNR=8.9
GNI Garni 76.23 315 P P 11 19 22.9 +1.6
SNR=8.9
GNI Garni 76.23 315 P P 11 19 22.9 +1.6
SNR=8.9
GNI Garni 76.23 315 *d* iP P 11 19 22.0 +0.6
GNI pmax pmax
comp=Z,60nm,1.4s
GNI Garni 76.23 315 eP P 11 19 22.4 +1.0
GNI e pP 11 19 31.2 -2.1
DGRG David-gareji 76.36 317 P P 11 19 23.2 +1.1
CLDR Caldiran 76.39 314 eP P 11 19 25.0 +2.8
SVE Sverdlovsk 76.60 336 ⇓ eP P 11 19 23.7 +0.3
SVE pmax pmax
comp=Z,240nm,1.7s,mb5.8
MTA Mtatsminda 76.86 317 P P 11 19 25.5 +0.6
TBLG Delisi 76.91 317 P P 11 19 25.6 +0.4
MA2 Magadan 77.01 21 *c* iP P 11 19 25.9 +0.2
MA2 e*PP pP 11 19 36.9 -0.9
MA2 pmax pmax
comp=Z,205nm,1.2s,mb5.9
MA2 Magadan 77.01 21 eP P 11 19 25.8 +0.1
comp=Z,179nm,0.9s,mb6.0
MA2 e pP 11 19 37.2 -0.6
MBAR Mbarara 77.03 272 *d* iP P 11 19 26.2 +0.3
ARU Arti 77.20 334 P P 11 19 26.5 -0.3
comp=Z,502nm,1.2s,mb6.3,SNR=13
ARU Arti 77.20 334 ⇓ iP P 11 19 26.1 -0.7
ARU e pP 11 19 37.0 -1.8
ARU e 11 22 20.0
ARU eS S 11 29 13.2 -0.2
ARU eSS SS 11 34 17.2 +5.6
ARU pmax pmax
comp=Z,123nm,1.2s,mb5.7
ARU Arti 77.20 334 eP P 11 19 27.1 +0.3
comp=Z,144nm,1.2s,mb5.8
LSZ Lusaka 77.49 256 P P 11 19 29.1 +0.7
SNR=9.1
LSZ Lusaka 77.49 256 P P 11 19 29.1 +0.7
SNR=9.1
LSZ Lusaka 77.49 256 eP P 11 19 29.1 +0.6
LSZ pmax pmax
comp=Z,25nm,0.8s,mb5.2
LSZ Lusaka 77.49 256 eP P 11 19 29.1 +0.6
comp=Z,25nm,0.8s,mb5.2
KARS Kars 77.57 315 eP P 11 19 38.0 +9.1
AKH Akhalkalaki 77.62 316 P P 11 19 30.0 +0.9
BTMT Batman 77.75 312 eP P 11 19 35.9 +6.0
BEST Besiri 77.80 312 *i* P P 11 19 29.8 -0.4
ZEI Tsey 77.92 317 eP P 11 19 32.0 +1.2
ZEI e*PP pP 11 19 40.7 -2.2
ZEI e 11 22 27.5
ZEI pmax pmax
comp=Z,51nm,0.8s,mb5.5
ONI Oni 78.14 317 P P 11 19 31.3 -0.8
ERZM Erzurum 78.50 314 *i* P P 11 19 34.6 +0.6
EZM Erzurum 78.50 314 eP P 11 19 36.1 +2.1
LBTB Lobatse 78.91 246 eP P 11 19 36.9 +0.6
LBTB e pP 11 19 49.0 +0.6
LBTB pmax pmax
comp=Z,14nm,0.8s,mb4.9
LBTB Lobatse 78.91 246 eP P 11 19 36.9 +0.6
comp=Z,14nm,0.8s,mb4.9
LBTB e pP 11 19 49.0 +0.7
BCA Borcka 78.92 316 eP P 11 19 38.9 +2.5
ASF Jabal al Asfar 79.17 305 P P 11 19 38.5 +0.8
comp=Z,36nm,1.0s,mb5.2,baz=3.6,slow=3.0,SNR=34
ASF pP pP 11 19 50.5 +0.7
comp=Z,42nm,0.9s,baz=335,slow=5.4,SNR=14
ASF Jabal al Asfar 79.17 305 P P 11 19 38.5 +0.8
ASF *PP pP 11 19 50.5 +0.7
ASF pmax pmax
comp=Z,36nm,1.0s
ASF pmax pmax
comp=Z,42nm,0.9s
KIV Kislovodsk 79.22 318 P P 11 19 38.4 +0.4
comp=Z,344nm,1.2s,mb6.2,SNR=7.1
KIV Kislovodsk 79.22 318 P P 11 19 38.6 +0.6
SNR=22
KIV Kislovodsk 79.22 318 P P 11 19 38.6 +0.6
SNR=22
KIV Kislovodsk 79.22 318 P P 11 19 38.6 +0.6
SNR=22
KIV Kislovodsk 79.22 318 P P 11 19 38.6 +0.6
SNR=22
KIV Kislovodsk 79.22 318 *d* iP P 11 19 38.6 +0.6
KIV pmax pmax
comp=Z,87nm,1.3s,mb5.5
KIV Kislovodsk 79.22 318 eP P 11 19 38.2 +0.2
comp=Z,143nm,1.1s,mb5.8
URFA Urfa 79.44 311 eP P 11 19 41.2 +2.0
GOF Gofitskoye 79.45 319 eP P 11 19 38.6 -0.7
GOF eS S 11 29 33.1 -4.5
GOF pmax pmax
comp=Z,250nm,1.2s,mb6.0
EZC Erzincan 79.54 313 eP P 11 19 42.6 +2.9
ELZG Elazig 79.69 312 *i* P P 11 19 41.0 +0.5
EIL Elat 80.00 302 eP P 11 19 42.7 +0.5
EIL e pP 11 19 54.6 +0.3
MALT Malatya 80.04 312 eP P 11 19 43.5 +1.1
MYA Malatya 80.04 312 eP P 11 19 46.0 +3.5
GZT Gaziantep 80.35 311 *i* P P 11 19 44.7 +0.6
QSPA South Pole Qui 80.46 180 eP P 11 19 43.2 -1.5
comp=Z,25nm,1.0s,mb5.1
GAZ Gaziantep 80.55 310 eP pP 11 19 55.6 -1.7
MMAI Mount Meron Ar 80.63 306 P P 11 19 46.6 +1.0
comp=Z,11nm,0.5s,mb5.0,baz=96,slow=8.6,SNR=22
HTY Hatay 81.03 309 eP P 11 19 46.4 -1.4
SOC Sochi 81.05 317 eP P 11 19 47.1 -0.8
SOC pmax pmax
comp=Z,44nm,1.1s,mb5.3
SOC Sochi 81.05 317 ⇑ iP P 11 19 49.0 +1.1
COBT Iskenderun 81.06 309 *i* P P 11 19 48.5 +0.5
GRSN GIRESUNGRSN 81.07 314 *i* P pP 11 19 56.2 -3.9
CEYT Ceyhan 81.61 310 eP P 11 19 48.7 -2.1
SVSK Karacayir 81.63 313 eP P 11 19 49.3 -1.6
KOZT Kozan 81.70 310 eP P 11 19 50.3 -1.0
BNN Bunyan 82.12 311 eP P 11 19 55.2 +1.6
KARA Karaisali 82.21 310 eP P 11 19 52.9 -1.1
TIXI Tiksi 82.24 7 *d* iP P 11 19 52.7 -1.4
TIXI *i* *PP pP 11 20 04.4 -1.8
TIXI pmax pmax
comp=Z,132nm,1.2s,mb5.7
SUR Sutherland 82.34 238 eP P 11 19 56.4 +1.7
comp=Z,107nm,1.4s,mb5.6
SUR eP 11 19 57.6
MERS Mersin 82.49 309 eP P 11 19 55.2 -0.2
MEST Erdemli 82.70 309 *i* P P 11 19 56.4 -0.1
KVT Kavak 82.70 314 eP P 11 19 58.9 +2.3
VRHR Novokhopersk 82.85 324 eP P 11 19 56.6 -0.7
VRHR pmax pmax
comp=Z,280nm,1.1s,mb6.2
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=E,110nm,0.7s

CSS Prodhromos 82.85 307 eP P 11 19 57.8 +0.4
comp=E,158nm,1.0s,mb6.0
CSS e pP 11 20 10.1 +0.6
IKL Isikli 82.95 308 eP P 11 19 58.0 +0.1
MAIT Maitri 83.02 199 eP P 11 19 58.8 +0.6
ANN Anapa 83.02 318 eP P 11 19 56.1 -2.1
ANN *i* *PP pP 11 20 10.2 -0.1
ANN eS S 11 30 12.5 -2.1
ANN pmax pmax
comp=Z,71nm,1.6s,mb5.5
ANN pmax pmax
comp=Z,983nm,9.1s
CORM Corum 83.44 312 eP P 11 20 01.8 +1.4
CDAG Cicekdag 83.45 312 *i* P P 11 20 01.0 +0.6
BOYT Boyabat 83.63 314 *i* P P 11 20 01.8 +0.5
SMY Shemya 83.73 34 eP P 11 20 01.9 +0.1
SMY e*PP pP 11 20 13.8 -0.2
SMY pmax pmax
comp=Z,130nm,1.2s,mb5.9
SMY Shemya 83.73 34 eP P 11 20 02.0 +0.2
comp=Z,101nm,1.2s,mb5.8
BYBT Boyabat 83.74 314 eP P 11 20 01.2 -0.7
KAMT Kaman 83.86 311 eP P 11 20 00.3 -2.2
BR131 Keskin Array S 84.02 312 eP P 11 20 03.0 -0.3
BR131 e pP 11 20 14.3 -1.2
BRTR Keskin Array B 84.02 312 P P 11 20 02.9 -0.5
comp=Z,23nm,1.0s,mb5.3,baz=126,slow=6.3,SNR=39
BRTR pP pP 11 20 14.1 -1.4
comp=Z,46nm,0.8s,baz=132,slow=6.9,SNR=31
BRTR LR LR 12 03 15.6
comp=Z,2μm,18.9s,MS5.5,baz=284,slow=40
BRTR Keskin Array B 84.02 312 P P 11 20 02.9 -0.5
BRTR *PP pP 11 20 14.1 -1.4
BRTR pmax pmax
comp=Z,23nm,1.0s
BRTR pmax pmax
comp=Z,46nm,0.8s
TOS Tosya 84.14 313 eP P 11 20 04.5 +0.5
CANT Cankiri 84.30 313 eP P 11 20 00.8 -4.0
VRSR Storozhevoye 84.30 324 eP P 11 20 03.9 -0.9
VRSR e*PP pP 11 20 15.8 -1.1
VRSR pmax pmax
comp=Z,230nm,1.2s,mb6.2
VRSR pmax pmax
comp=N,50nm,0.7s
VRSR pmax pmax
comp=E,250nm,1.1s
ELDT Eldivan 84.41 312 *i* P P 11 20 05.4 +0.1
KONT Konya--Tatoy 84.46 310 eP P 11 20 09.6 +4.0
VOR Voronezh 84.50 324 eP P 11 20 05.5 -0.3
VOR pmax pmax
comp=Z,250nm,1.4s,mb6.2
ANTO Ankara 84.69 312 P P 11 20 07.4 +0.7
SNR=15
ANTO Ankara 84.69 312 P P 11 20 07.4 +0.7
SNR=15
ANTO Ankara 84.69 312 P P 11 20 07.4 +0.7
SNR=15
ANTO Ankara 84.69 312 eP P 11 20 07.1 +0.4
ANTO e pP 11 20 18.0 -0.9
ANTO pmax pmax
comp=Z,66nm,1.0s,mb5.7
ANTO Ankara 84.69 312 eP P 11 20 07.1 +0.3
comp=Z,66nm,1.0s,mb5.7
ANTO e pP 11 20 18.0 -0.9
BALT Daday 84.75 313 *i* P P 11 20 07.6 +0.6
KIZT Kizilcal 85.08 311 eP P 11 20 07.7 -1.0
SAFT Safranbolu 85.17 313 eP P 11 20 09.1 0.0
SIM Simferopol' 85.29 317 eP P 11 20 10.0 +0.2
SIM Simferopol' 85.29 317 *i* P P 11 20 10.7 +0.9
SGKT Sivrigoynuk 85.43 312 *i* P P 11 20 10.4 0.0
ISP Isparta 85.84 309 eP P 11 20 19.8 +7.3
ELL Elmali 86.01 308 eP P 11 20 15.1 +1.8
MDU Mudurnu 86.02 312 eP P 11 20 12.8 -0.6
ESKT Eskisehir 86.03 311 *i* P P 11 20 13.2 -0.2
TKTP Tekketepe 86.03 309 *i* P P 11 20 13.2 -0.3
KDZE Karadeniz Ereo 86.08 313 eP P 11 20 09.6 -4.1
AMKA Amchitka 86.18 37 eP P 11 20 14.1 -0.1
HENT Hendek 86.34 312 *i* P P 11 20 14.8 -0.1
FETY Fethiye 86.63 308 eP P 11 20 15.1 -1.2
MOS Moscow 86.89 328 eP P 11 20 16.7 -0.9
MOS *i* pP 11 20 29.1 -0.7
MOS e 11 23 48.0
MOS eS 11 30 48.7
MOS pmax pmax
comp=Z,174nm,1.0s,mb6.2
MOS Moscow 86.89 328 ⇑ iP P 11 20 16.7 -0.9
GDZ Gediz 86.94 310 *i* P P 11 20 18.4 +0.6
TSUM Tsumeb 87.01 251 eP P 11 20 19.1 +0.9
TSUM e pP 11 20 30.6 +0.1
OBN Obninsk 87.22 327 P P 11 20 19.0 -0.2
comp=Z,1μm,1.0s,SNR=8.6
OBN Obninsk 87.22 327 *d* iP P 11 20 18.4 -0.8
OBN e*PP pP 11 20 30.4 -1.0
OBN e*SP sP 11 20 36.6 +0.7
OBN e 11 23 42.5
OBN eS 11 30 41.6
OBN eSS SS 11 36 40.2 -0.3
OBN pmax pmax
comp=Z,279nm,1.3s,mb6.3
OBN MLR MLR
comp=Z,2μm,27.0s,MS5.5
OBN Obninsk 87.22 327 eP P 11 20 19.0 -0.2
OBN e pP 11 20 30.5 -0.9
SNAA Sanae 87.31 197 LR LR 11 54 14.4
comp=Z,2μm,20.3s,MS5.5,baz=107,slow=32
SNAA Sanae 87.31 197 eP P 11 20 19.8 +0.1
SNAA e 11 20 21.8
SNAA e 11 20 23.3
SNAA e 11 20 24.7
SNAA e 11 20 25.8
SNAA e pP 11 20 32.0 +0.1
SNAA e 11 20 38.8
SNAA Sanae 87.31 197 eP P 11 20 19.3 -0.4
SNAA pmax pmax
comp=Z,45nm,1.3s
SNAA Sanae 87.31 197 eP P 11 20 19.3 -0.4
comp=Z,45nm,1.3s,mb5.5
YLV Yalova 87.40 312 eP P 11 20 18.5 -1.6
ULDT Uludag 87.46 311 *i* P P 11 20 21.0 +0.6
GEMT Gemlik 87.50 312 e P P 11 20 21.5 +0.9
DAT Datca 87.82 308 eP P 11 20 20.1 -2.1
KLMR Klimovskoe 87.94 333 eP P 11 20 21.0 -1.7
KLMR pmax pmax
comp=Z,630nm,1.5s,mb6.6
KDAG Bornova 88.45 309 *i* P P 11 20 25.8 +0.7
PSN Preselentsi 89.03 314 *i* P P 11 20 30.0 +2.2
TIRR Tirgusor 89.06 315 ⇑ iP P 11 20 28.4 +0.4
TIRR Tirgusor 89.06 315 eP P 11 20 28.0 0.0
TIRR e pP 11 20 38.0 -2.2
VNA1 Neumayer--Stat 89.34 197 eP P 11 20 29.4 +0.1
VNA1 e 11 20 30.8
VNA1 e 11 20 32.6
VNA1 e 11 20 33.9
VNA1 e 11 20 35.0
VNA1 e pP 11 20 41.8 +0.3
VNA1 e 11 20 47.6
CFR Carcaliu 89.43 316 ⇑ iP P 11 20 29.8 +0.1
HARR Harsova 89.45 315 ⇑ iP P 11 20 30.3 +0.5
HARR Harsova 89.45 315 ⇑ P P 11 20 30.3 +0.5
IDI Anoyia 89.63 306 P P 11 20 31.8 +1.1
comp=Z,55nm,1.1s,mb5.8,baz=91,slow=7.6,SNR=10
JMB Yambol 89.89 313 *i* P P 11 20 33.0 +1.2
AKASG Malin Array Be 90.10 321 P P 11 20 31.8 -1.0
comp=Z,8.9nm,0.9s,mb5.1,baz=89,slow=4.1,SNR=14
AKASG pP pP 11 20 41.7 -3.4
comp=Z,14nm,0.7s,baz=88,slow=4.5,SNR=13
AKASG PP PP 11 24 03.5 -2.9
comp=Z,17nm,1.0s,baz=87,slow=6.7,SNR=9.5
AKASG LR LR 12 02 26.3
comp=Z,1μm,21.4s,MS5.2,baz=100,slow=36
AKASG Malin Array Be 90.10 321 P P 11 20 31.8 -1.0
AKASG *PP pP 11 20 41.7 -3.4
AKASG 11 24 03.5
AKASG pmax pmax
comp=Z,9.0nm,0.9s
AKASG pmax pmax
comp=Z,14nm,0.7s
AKASG pmax pmax
comp=Z,17nm,1.0s
AKASG MLR MLR
comp=Z,1μm,21.4s
VRI Vrincioaia 90.55 316 ⇑ iP P 11 20 35.8 +0.9

VRI Vrincioaia 90.55 316 ⇑P P **11 20 35.8 +0.8**
PLOR Plostina 90.60 316 ⇓*i*P P **11 20 36.2 +1.0**
PVL Pavlikeni 90.95 314 *i* P P **11 20 38.0 +1.2**
MLR Muntele Rosu 91.00 316 P P **11 20 37.3 +0.3**
comp=Z,33nm,1.1s,mb5.6,baz=105,slow=2.9,SNR=12
MLR Muntele Rosu 91.00 316 ⇑*i*P P **11 20 37.5 +0.5**
MLR Muntele Rosu 91.00 316 P P **11 20 37.3 +0.3**
MLR pmax pmax
comp=Z,33nm,1.1s
MLR Muntele Rosu 91.00 316 ⇑P P **11 20 37.5 +0.4**
MMB Musomiste 91.78 312 *i* P P **11 20 40.0 -0.7**
MNK Minsk 91.86 325 *e*P P **11 20 38.0 -3.0**
BURAR Bucovina Array 91.94 318 ⇑*i*P P **11 20 42.0 +0.6**
BURAR Bucovina Array 91.94 318 ⇑P P **11 20 42.0 +0.6**
JOF Joensuu 92.30 334 *e*p P **11 20 42.5 -0.6**
comp=Z,30nm,0.7s,mb5.7
JOF Joensuu 92.30 334 *e*P P **11 20 42.5 -0.6**
JOF pmax pmax
comp=Z,30nm,0.7s,mb5.7
VTS Vitosha 92.35 313 *i* P P **11 20 44.0 +0.7**
LVZ Lovozero 92.50 339 P P **11 20 42.2 -1.8**
comp=Z,306nm,0.9s,mb6.6,SNR=6.5
APA Apatity 92.84 338 ⇓*i*P P **11 20 45.6 0.0**
APA *i* pP 11 20 56.5 -1.3
APA pmax pmax
comp=Z,47nm,1.2s,mb5.8
LVV L'vov 93.15 320 *e*P sP 11 20 58.4 -5.3
GZR Gura Zlata 93.17 315 ⇑*i*P P **11 20 47.8 +0.7**
GZR Gura Zlata 93.17 315 ⇑P P **11 20 47.8 +0.8**
DRGR 93.46 317 ⇑*i*P P **11 20 48.4 0.0**
DRGR 93.46 317 ⇑P P **11 20 48.4 0.0**
BZS Buzias 94.01 315 ⇓*i*P P **11 20 50.8 -0.1**
BZS Buzias 94.01 315 ⇓P P **11 20 50.8 -0.1**
KOLS Kolonicke sedl 94.12 319 *e*P P **11 20 51.9 +0.5**
KOLS pmax pmax
comp=Z,19nm,1.4s,mb5.3
KOLS Kolonicke sedl 94.12 319 *e*P P **11 20 51.9 +0.5**
comp=Z,19nm,1.4s,mb5.3
FINES FINESS Array B 94.32 332 P P **11 20 51.9 -0.5**
comp=Z,10.0nm,0.9s,mb5.2,baz=93,slow=7.6,SNR=16
FINES pP pP 11 21 02.8 -1.8
comp=Z,27nm,1.1s,baz=103,slow=6.1,SNR=11
FINES LR LR 12 09 33.5
comp=Z,2µm,19.5s,MS5.6,baz=96,slow=39
FINES FINESS Array B 94.32 332 P P **11 20 51.9 -0.5**
FINES *PP pP 11 21 02.8 -1.8
FINES pmax pmax
comp=Z,10.0nm,0.9s
FINES pmax pmax
comp=Z,27nm,1.1s
KAF Kangasniemi 94.35 332 *e*p P **11 20 51.5 -1.0**
comp=Z,27nm,0.8s,mb5.7,baz=94,slow=4.1
KAF Kangasniemi 94.35 332 *e*P P **11 20 51.5 -1.0**
KAF pmax pmax
comp=Z,27nm,0.8s,mb5.7
CRVS Cervenica-Dubn 94.64 319 *e*PP PP 11 24 42.4 +0.2
KEV Kevo 95.67 340 *e*p P **11 20 56.4 -2.1**
comp=Z,5.3nm,0.7s,mb5.1
KEV Kevo 95.67 340 *e*P P **11 20 56.4 -2.1**
KEV pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
OJC Ojcow 95.91 320 *e*P P **11 21 03.7 +4.1**
ARCES ARCESS Array B 96.14 339 P P **11 21 00.4 -0.3**
comp=Z,22nm,1.0s,mb5.5,baz=94,slow=5.8,SNR=36
ARCES pP pP 11 21 11.5 -1.4
comp=Z,28nm,0.9s,baz=106,slow=4.3,SNR=12
ARCES PP PP 11 24 52.5 -1.4
comp=Z,22nm,1.2s,baz=124,slow=10,SNR=5.2
ARCES LR LR 12 10 26.8
comp=Z,3µm,18.5s,MS5.8,baz=107,slow=39
ARCES ARCESS Array B 96.14 339 P P **11 21 00.4 -0.3**
ARCES *PP pP 11 21 11.5 -1.4
ARCES 11 24 52.5
ARCES pmax pmax
comp=Z,22nm,1.0s
ARCES pmax pmax
comp=Z,28nm,0.9s
ARCES pmax pmax
comp=Z,22nm,1.2s
ARCES ARCESS Array B 96.14 339 P P **11 21 00.4 -0.3**
ARCES pP pP 11 21 11.5 -1.4
ARCES PP PP 11 24 52.5 -1.4
ARCES LR LR 12 10 26.8
ARE0 ARCESS Array S 96.14 339 *e*P P **11 21 00.2 -0.5**
ARE0 *e* pP 11 21 11.0 -2.0
PKSM Moragy 96.15 316 ⇑*i*P P **11 21 00.4 -0.3**
PKSM Moragy 96.15 316 ⇓*e*P P **11 21 00.2 -0.5**
PKS8 Sarbogard 96.21 316 ⇓*e*P P **11 21 01.3 +0.3**
VYHS Vyhne 96.31 318 *e*P P **11 21 01.9 +0.5**
VYHS pmax pmax
comp=Z,10.0nm,1.7s,mb5.0
VYHS Vyhne 96.31 318 *e*P P **11 21 01.9 +0.5**
comp=Z,9.8nm,1.7s,mb5.0
VYHS *e*PP PP 11 24 48.1 -7.0
TIP Timpagrande 96.67 309 *e*P P **11 21 01.0 -2.0**
ZST Bratislava 97.42 318 *e*P P **11 21 06.6 +0.1**
VRAC Vranov 97.87 319 PP PP 11 25 04.4 -2.8
comp=Z,2.9nm,0.5s,baz=171,slow=8.7,SNR=3.5
SPB4 Spitsbergen Ar 99.55 348 *e*P Pdif 11 21 14.1 -1.9
BRG Berggiesshubel 99.69 320 *e*P Pdif 11 21 14.1 -2.5
comp=Z,1.6nm,0.7s
BRG Berggiesshubel 99.69 320 *e*P Pdif 11 21 14.1 -2.5
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb4.7
GERES GERESS Array B 99.73 318 P Pdif 11 21 16.3 -0.5
comp=Z,0.5nm,0.4s,baz=111,slow=5.9,SNR=4.9
GERES PP PP 11 25 22.3 +1.0
comp=Z,2.0nm,0.8s,baz=92,slow=6.9,SNR=3.1
GERES GERESS Array B 99.73 318 P Pdif 11 21 16.3 -0.5
GERES 11 25 22.3
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES pmax pmax
comp=Z,2.0nm,0.8s
HFS Hagfors 100.20 330 P Pdif 11 21 17.4 -1.5
comp=Z,12nm,1.1s,baz=116,slow=16,SNR=5.4
HFS PP PP 11 25 23.3 -1.6
comp=Z,8.9nm,0.9s,baz=83,slow=6.4,SNR=4.7
HFS Hagfors 100.20 330 P Pdif 11 21 17.4 -1.5
HFS 11 25 23.3
HFS pmax pmax
comp=Z,12nm,1.1s
HFS pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 100.30 321 *e*PP PP 11 25 23.0 -2.7
CLL *e* 11 25 38.0
CLL Collm 100.30 321 *e*PP PP 11 25 23.0 -2.7
CLL *ex* x 11 25 38.0
GRA1 Grafenberg Arr 101.39 319 *e*Pdif Pdif 11 21 25.0 +0.8
GRA1 *e*PP PP 11 25 33.6 -0.3
GRF Grafenberg Arr 101.39 319 *e*Pdiff Pdif 11 21 25.0 +0.8
GRF *e*PP PP 11 25 33.6 -0.3
NB2 NORSAR Subarra101.42 330 PP PP 11 25 30.7 -3.4
comp=Z,6.9nm,1.0s,baz=89,slow=7.9
NB2 NORSAR Subarra101.42 330 PP PP 11 25 30.7 -3.4
baz=89,slow=7.9
NOA NORSAR Array B101.42 330 P Pdif 11 21 23.3 -1.0
comp=Z,1.6nm,0.9s,baz=91,slow=4.8,SNR=3.7
NOA PP PP 11 25 32.9 -1.2
comp=Z,4.0nm,1.0s,baz=78,slow=8.3,SNR=3.7
NOA NORSAR Array B101.42 330 P Pdif 11 21 23.3 -1.0
NOA 11 25 32.9
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA pmax pmax
comp=Z,4.0nm,1.0s
IMA2 Indian Mountai 102.17 24 *e*P Pdif 11 21 28.7 +1.0
IMA2 *e* 11 21 40.0
KDAK Kodiak Island 103.20 33 Pdiff Pdif 11 21 31.1 -1.1
comp=Z,8.9nm,0.9s,baz=285,slow=1.2,SNR=4.5
HINF Hinteralfeld 104.28 317 *e*PKIKP PKiKP 11 25 50.8 -2.8
MBDF Montbardon 104.40 314 *e*PKIKP PKiKP 11 25 51.1 -2.7
LPG La Plagne 104.40 315 *e*PKIKP PKiKP 11 25 51.6 -2.2
LPL La Plagne 104.42 315 *e*PKIKP PKiKP 11 25 51.4 -2.4
HAU Haudompre 104.62 317 *e*PKIKP PKiKP 11 25 51.4 -2.8
CABF La Chapelle 104.84 316 *e*PKIKP PKiKP 11 25 52.2 -2.4
comp=Z,12nm,0.9s
ORIF Oris-en-Rattie 105.03 314 *e*PKIKP PKiKP 11 25 52.6 -2.3
comp=Z,2.8nm,0.5s
SMRF Simiane la Rot 105.28 313 *e*PKIKP PKiKP 11 25 52.9 -2.5
comp=Z,5.6nm,0.8s
VIVF Saint-Julien-l 105.89 314 *e*PKIKP PKiKP 11 25 53.9 -2.6
LOR Lormes 106.33 316 *e*PKIKP PKiKP 11 25 55.0 -2.3
comp=Z,3.9nm,0.6s

SMF Signal de Mont 106.38 316 *e*PKIKP PKiKP 11 25 55.2 -2.2
comp=Z,8.4nm,0.7s
SSF Saint Saulge 106.59 316 *e*PKIKP PKiKP 11 25 55.2 -2.6
DAG Danmarks Havn 107.15 349 *i* P PKiKP 11 25 51.0 -7.9
DAG Danmarks Havn 107.15 349 *e*P PKiKP 11 25 51.0 -7.9
TORD Torodi Ar. Bea 107.58 281 PKiKP PKiKP 11 26 00.4 +0.7
comp=Z,3.0nm,0.9s,baz=126,slow=1.0,SNR=9.4
TORD PKKPbc PKKPbc 11 37 14.2 +0.3
comp=Z,1.4nm,1.0s,baz=298,slow=1.6,SNR=5.0
TORD PKKP PKKPbc 11 37 27.4 +14
comp=Z,1.4nm,0.9s,baz=314,slow=3.7,SNR=4.7
MTLF Montolieu 107.74 312 *e*PKIKP PKiKP 11 25 57.9 -2.0
comp=Z,2.0nm,0.5s
LDF La Druitiere 108.88 318 *e*PKIKP PKiKP 11 25 59.8 -2.3
FLN La Foliniere 109.09 318 *e*PKIKP PKiKP 11 26 00.5 -2.0
EKA Eskdalemuir Ar 109.62 325 PP PP 11 26 34.3 -0.4
comp=Z,3.5nm,1.0s,baz=103,slow=6.9,SNR=4.1
QUIF Quistinic 110.98 318 *e*PKIKP PKiKP 11 26 04.3 -1.7
comp=Z,22nm,1.1s
ROSF Rosnes 110.99 318 *e*PKIKP PKiKP 11 26 04.3 -1.8
ESDC Sonseca Array 112.69 309 PP PP 11 26 57.0 +0.3
comp=Z,0.3nm,0.4s,baz=64,slow=7.7,SNR=4.9
DBIC Dimbokro 113.25 273 PKiKP PKiKP 11 26 09.8 -0.6
comp=Z,5.4nm,1.0s,baz=146,slow=3.6,SNR=4.8
DBIC Dimbokro 113.25 273 *i* PKIKP PKiKP 11 26 09.8 -0.5
DBIC pmax pmax
comp=Z,5.0nm,1.0s
DBIC Dimbokro 113.25 273 PKPdf PKiKP 11 26 09.8 -0.6
YKA Yellowknife Ar 118.99 21 PKP PKPdf 11 26 20.8 -0.6
comp=Z,6.9nm,0.8s,baz=307,slow=1.9,SNR=34
YKA pPKP pPKPdf 11 26 32.7 -1.3
comp=Z,7.6nm,0.8s,baz=307,slow=2.1,SNR=12
YKA PP PP 11 27 37.3 -3.6
comp=Z,2.0nm,0.9s,baz=311,slow=6.5,SNR=4.1
YKA Yellowknife Ar 118.99 21 PKIKP PKPdf 11 26 20.8 -0.6
YKA 11 26 32.7
YKA 11 27 37.3
YKA pmax pmax
comp=Z,7.0nm,0.8s
YKA pmax pmax
comp=Z,8.0nm,0.8s
YKA pmax pmax
comp=Z,2.0nm,1.0s
SFJD Kangerlussuaq 120.78 350 PKP PKPdf 11 26 23.3 -1.5
comp=Z,11nm,1.0s,baz=16,slow=5.4,SNR=3.3
SFJD Kangerlussuaq 120.78 350 PKIKP PKPdf 11 26 23.3 -1.5
SFJD pmax pmax
comp=Z,11nm,1.0s
HDW Hoodsport 122.92 39 P PKPdf 11 26 30.6 +1.7
A05A Maple Falls 122.92 37 ⇑P PKPdf 11 26 28.4 -0.5
baz=123
E03A Leam 123.05 40 ⇑P PKPdf 11 26 29.2 0.0
baz=123
B05A Bryant 123.23 38 ⇑P PKPdf 11 26 29.8 +0.3
baz=123,SNR=11
F03A Seaside 123.29 41 ⇑P PKPdf 11 26 30.3 +0.7
baz=123
JCW Jim Creek 123.37 38 P PKPdf 11 26 31.1 +1.3
C05A Tolt Reservoir 123.73 38 P PKPdf 11 26 31.5 +1.1
baz=124,SNR=7.2
D05A Emmclaw 123.76 39 ⇑P PKPdf 11 26 31.0 +0.5
baz=124
K01A Sixes 123.84 44 ⇑P PKPdf 11 26 31.1 +0.4
baz=124
I02A Mapleton 123.85 43 ⇑P PKPdf 11 26 31.6 +0.9
baz=124
H03A Soap Creek Ran 123.95 42 ⇓P PKPdf 11 26 31.4 +0.5
baz=124
F04A Amboy 124.02 40 ⇑P PKPdf 11 26 31.5 +0.5
baz=124,SNR=7.0
E05A Randle 124.17 39 ⇓P PKPdf 11 26 31.7 +0.4
baz=124,SNR=8.6
I03A Eugene 124.23 43 ⇓P PKPdf 11 26 32.2 +0.7
baz=124
J02A Umpqua 124.25 43 ⇑P PKPdf 11 26 33.0 +1.5
baz=124
G04A Mulino 124.27 41 ⇑P PKPdf 11 26 32.3 +0.7
baz=124
K02A Glendale 124.53 44 ⇓P PKPdf 11 26 33.0 +1.0
baz=124
F05A White Salmon 124.65 40 ⇑P PKPdf 11 26 32.9 +0.6
baz=125
BROR Big Rock Looko 124.66 42 P PKPdf 11 26 33.3 +1.1
J03A Ideyld Park 124.67 43 ⇑P PKPdf 11 26 33.8 +1.5
baz=125
L02A Cave Junction 124.67 45 ⇑P PKPdf 11 26 33.3 +1.0
baz=125
H04A Detroit Lake 124.67 42 P PKPdf 11 26 33.3 +1.0
baz=125,SNR=6.5
JCC Jacoby Creek 124.82 47 ⇓P PKPdf 11 26 33.3 +0.7
baz=125
HUMO Hull Mountain 124.95 44 ⇑P PKPdf 11 26 33.6 +0.7
baz=125,SNR=9.2
G05A Wamic 125.01 41 ⇓P PKPdf 11 26 34.1 +1.2
baz=125
H05A Madras 125.31 41 ⇓P PKPdf 11 26 34.5 +1.0
baz=125
N02C Big Bar 125.34 46 ⇑P PKPdf 11 26 34.3 +0.7
baz=125
EDM Edmonton 125.38 29 *e*PKIKP PKPdf 11 26 34.2 +0.6
YBH Yreka Blue Hor 125.44 45 ⇓P PKPdf 11 26 34.5 +0.7
baz=125
M02C Callahan 125.46 46 ⇓P PKPdf 11 26 35.3 +1.5
baz=125
I05A Bend 125.48 42 ⇑P PKPdf 11 26 34.8 +0.9
baz=126,SNR=8.7
OD2 Odessa Site #2 125.66 37 P PKPdf 11 26 35.0 +0.8
VIPM Ingram Point 125.77 41 PKIKP PKPdf 11 26 36.2 +1.8
L04A Klamath Falls 125.85 44 ⇓P PKPdf 11 26 35.5 +1.0
baz=126
O02C Red Bluff 125.93 47 ⇑P PKPdf 11 26 36.2 +1.5
baz=126
WDC Whiskeytown Da 125.97 46 ⇓P PKPdf 11 26 36.3 +1.5
baz=126
M04C Macdoel 126.03 45 ⇓P PKPdf 11 26 36.5 +1.6
baz=126
O03C Acorn Hollow, 126.54 47 ⇑P PKPdf 11 26 37.4 +1.5
baz=126
J06A Christmas Vall 126.60 42 ⇑P PKPdf 11 26 37.4 +1.5
baz=127,SNR=12
MNRC McLaughlin Nat 126.62 48 ⇓P PKPdf 11 26 37.6 +1.6
baz=127
L05A Lakeview 126.62 44 ⇓P PKPdf 11 26 36.7 +0.7
baz=127,SNR=6.5
HATC Hat Creek Radi 126.65 46 ⇓P PKPdf 11 26 37.7 +1.7
baz=127
M05C Lookout 126.66 45 ⇑P PKPdf 11 26 37.7 +1.6
baz=127,SNR=7.0
K06A Valley Falls 126.72 43 ⇑P PKPdf 11 26 37.7 +1.5
baz=127,SNR=8.4
SUTB Sutter Butte 126.98 48 ⇓P PKPdf 11 26 38.5 +1.8
baz=127
ORV Oroville 127.08 47 ⇑P PKPdf 11 26 38.3 +1.4
baz=127
O04C Chester 127.09 46 ⇓P PKPdf 11 26 38.5 +1.6
baz=127,SNR=12
J07A Hines 127.11 42 ⇑P PKPdf 11 26 37.6 +0.7
baz=127,SNR=9.6
OHCM Honcut 127.16 47 *e*PKPdf PKPdf 11 26 37.3 +0.2
M06C Likely Place G 127.19 45 ⇓P PKPdf 11 26 38.8 +1.6
baz=127,SNR=7.9
ELFS Eagle Lake Fie 127.24 46 ⇑P PKPdf 11 26 38.9 +1.7
baz=127,SNR=6.3
O05C Quincy 127.35 46 ⇓P PKPdf 11 26 38.3 +0.9
baz=127,SNR=12
WALA Waterton Lakes 127.53 33 *e*PKPdf PKPdf 11 26 39.5 +1.7
WENL Wente Brothers 127.54 50 ⇓P PKPdf 11 26 38.7 +0.9
baz=128
L07A Adell 127.65 44 ⇓P PKPdf 11 26 38.9 +0.9
baz=128,SNR=9.2
J08A Circle Bar Ran 127.66 42 ⇑P PKPdf 11 26 38.9 +0.9
baz=128
BSMT Bassoo Peak 127.72 35 P PKPdf 11 26 39.0 +0.9
P05C Yuba Gap, Truc 127.81 47 ⇑P PKPdf 11 26 39.0 +0.7
baz=128,SNR=6.0
N06A Buffalo Meadow 127.82 45 ⇑P PKPdf 11 26 40.2 +1.9
baz=128
S04C Ingram Canyon, 127.90 50 ⇑P PKPdf 11 26 39.0 +0.5
baz=128
LAVA Lava Cap Winer 127.91 48 ⇓P PKPdf 11 26 40.3 +1.8
baz=128,SNR=5.2
WVOR Wild Horse Val 127.95 43 *e*PKIKP PKPdf 11 26 40.8 +2.2
M07A Soldier Meadow 128.02 44 ⇑P PKPdf 11 26 39.8 +1.1
baz=128,SNR=9.0
O06A Flanigan 128.05 46 ⇑P PKPdf 11 26 40.5 +1.7
baz=128
HAST UC Hastings Re 128.09 51 ⇑P PKPdf 11 26 40.8 +1.9
baz=128
PACP Pacheco Peak 128.09 50 ⇓P PKPdf 11 26 40.9 +2.0
baz=128
P06A Stead Airport, 128.18 46 ⇓P PKPdf 11 26 39.7 +0.7
baz=128
N07B Gerlach 128.41 45 ⇑P PKPdf 11 26 40.7 +1.3
baz=128,SNR=12
R05C Kirkwood Meado 128.41 48 ⇓P PKPdf 11 26 41.5 +2.1
baz=128,SNR=6.4
CMB Columbia Colle 128.42 49 ⇓P PKPdf 11 26 41.5 +2.0
baz=128
WCN Washoe City 128.43 47 ⇓P PKPdf 11 26 41.8 +2.3
baz=128
M08A Happy Creek Ra 128.54 44 ⇓P PKPdf 11 26 41.8 +2.1
baz=128
U04C Hernandez Rese 128.69 51 ⇓P PKPdf 11 26 42.2 +2.2
baz=129
S05C Merced 128.70 49 ⇑P PKPdf 11 26 41.8 +1.8
baz=129,SNR=8.2
O07A Toulon 128.72 46 ⇑P PKPdf 11 26 41.8 +1.8
baz=129,SNR=7.6
MSO Missoula 128.75 36 *e*PKPdf PKPdf 11 26 41.1 +1.0
L09A Wilkinson Ranc 128.78 43 ⇑P PKPdf 11 26 42.1 +2.0
baz=129
S06C San Francisco 128.87 49 ⇑P PKPdf 11 26 42.3 +2.0
baz=129,SNR=10.0
R06C Coleville 128.94 48 ⇓P PKPdf 11 26 42.2 +1.8
baz=129
N08A GE Springer Mi 128.99 44 ⇓P PKPdf 11 26 42.8 +2.3
baz=129
PKD Parkfield 129.01 51 ⇑P PKPdf 11 26 42.2 +1.6
baz=129
CHMT Chamberlain Mo 129.10 35 *e*PKPdf PKPdf 11 26 41.9 +1.2
M09A Marrel Ranch, 129.19 43 ⇑P PKPdf 11 26 42.8 +1.9
baz=129
U05C Westside ANR, 129.20 51 ⇑P PKPdf 11 26 43.0 +2.1
baz=129
T06C Millerton Lake 129.28 50 ⇓P PKPdf 11 26 42.8 +1.7
baz=129
PTRM Twissleman Ran 129.35 51 *e*PKPdf PKPdf 11 26 44.7 +3.4
N09A Rock Creek Ran 129.38 44 ⇑P PKPdf 11 26 42.9 +1.6
baz=129
R07C Lee Vining 129.39 48 ⇓P PKPdf 11 26 43.4 +2.1
baz=129
KCC Kaiser Creek 129.47 49 ⇑P PKPdf 11 26 43.3 +1.9
baz=129
P08A Dixie Valley 129.47 46 ⇑P PKPdf 11 26 43.6 +2.2
baz=129
MLAC Mammoth Lakes 129.71 49 ⇓P PKPdf 11 26 43.2 +1.3
baz=130
M10A I.L. Ranch, Tu 129.76 43 ⇑P PKPdf 11 26 43.2 +1.2
baz=130
NVAR Mina Array Bea 129.80 47 PKP PKPdf 11 26 44.3 +2.2
comp=Z,4.8nm,0.8s,baz=266,slow=2.1,SNR=16
NVAR PP PP 11 28 53.3 -0.2
comp=Z,1.5nm,0.8s,baz=249,slow=2.5,SNR=3.9
O09A Fish Creek Ran 129.90 45 ⇓P PKPdf 11 26 44.2 +2.0
baz=130
Q08A Gabbs 129.91 47 ⇑P PKPdf 11 26 44.4 +2.1
baz=130
PLCA Paso Flores 129.95 182 PKP PKPdf 11 26 44.3 +1.9
comp=Z,1.6nm,0.7s,baz=261,slow=4.1,SNR=4.8
PLCA Paso Flores 129.95 182 PKIKP PKPdf 11 26 44.3 +1.9
PLCA pmax pmax
comp=Z,2.0nm,0.7s
R08A Mina 129.97 47 ⇓P PKPdf 11 26 44.9 +2.5
baz=130
HRY Holter Researc 130.02 35 *e*PKPdf PKPdf 11 26 44.4 +1.9
P09A Austin 130.19 46 ⇑P PKPdf 11 26 44.8 +2.0
baz=130
M11A Holland Ranch, 130.30 43 ⇑P PKPdf 11 26 44.7 +1.7
baz=130
EGMT Eagleton 130.38 32 *e*PKPdf PKPdf 11 26 42.5 -0.7
MCMT McKenzie Canyo 130.48 37 *e*PKPdf PKPdf 11 26 45.1 +1.8
LCCM Lewis and Clar 130.49 36 P PKPdf 11 26 45.4 +2.0
N11A Elko Archery C 130.61 43 ⇑P PKPdf 11 26 45.7 +2.1
baz=131
P10A Eureka 130.64 45 ⇓P PKPdf 11 26 46.0 +2.3
baz=131
ISA Isabella 130.69 51 ⇓P PKPdf 11 26 45.6 +1.9
baz=131
CWC Cottonwood Cre 130.71 50 ⇑P PKPdf 11 26 45.7 +1.9
baz=131
BOZ Bozeman (W) 130.74 36 *e*PKIKP PKPdf 11 26 45.8 +1.9
S09A Goldfield 130.87 48 ⇓P PKPdf 11 26 45.9 +1.8
baz=131
M12A Wells 130.89 42 ⇑P PKPdf 11 26 46.1 +1.9
baz=131
O11A Cowboy Ranch, 130.97 44 ⇓P PKPdf 11 26 45.7 +1.4
baz=131
N12A Clover Valley, 131.07 43 ⇓P PKPdf 11 26 46.2 +1.8
baz=131
P11A Circle Ranch, 131.16 45 ⇑P PKPdf 11 26 46.5 +1.9
baz=131
R10A Warm Springs 131.31 47 ⇓P PKPdf 11 26 46.4 +1.4
baz=131
M13A Montello 131.41 42 ⇑P PKPdf 11 26 45.9 +0.8
baz=131
Q11A Duckwater 131.53 46 ⇑P PKPdf 11 26 47.4 +2.0
baz=132
N13A Wendover, West 131.63 43 ⇑P PKPdf 11 26 47.4 +1.8
baz=132
GCMT Greycliff 131.78 35 *e*PKPdf PKPdf 11 26 47.7 +1.8
P12A McGill 131.78 45 ⇓P PKPdf 11 26 47.8 +1.9
baz=132
U10A Ash Meadows, A 132.03 49 ⇓P PKPdf 11 26 48.7 +2.4
baz=132
Q12A Willow Creek R 132.03 45 ⇓P PKPdf 11 26 48.6 +2.3
baz=132
LKWY Lake 132.08 36 P Pdif 11 23 46.8 +6.2
GSC Goldstone 132.09 51 ⇑P PKPdf 11 26 48.3 +1.9
baz=132
109C Camp Elliot, M 132.68 54 ⇓P PKPdf 11 26 49.2 +1.7
baz=133
TUQ Turquoise Mtn. 132.71 50 ⇑P PKPdf 11 26 49.2 +1.7
baz=133
U11A Corn Creek 132.73 49 ⇑P PKPdf 11 26 49.0 +1.4
baz=133
DUG Dugway 132.87 43 *e*PKIKP PKPdf 11 26 48.1 +0.2
PFO Pinyon Flat Ob 132.96 53 ⇑P PKPdf 11 26 49.9 +1.9
baz=133
HWUT Hardware Ranch 132.98 40 *e*PKPdf PKPdf 11 26 50.0 +1.9
LAO LASA Array 133.08 32 *e*PKPdf PKPdf 11 26 49.3 +1.0
U12A Valley of Fire 133.35 48 ⇑P PKPdf 11 26 50.5 +1.7
baz=133
V12A Nelson 133.40 49 ⇓P PKPdf 11 26 50.7 +1.8
baz=133
W12A Cal Nev Ari 133.55 50 ⇑P PKPdf 11 26 51.3 +2.1
baz=134
PDAR Pinedale Array 133.60 38 PKP PKPdf 11 26 50.3 +1.0
comp=Z,2.4nm,0.6s,baz=111,slow=1.0,SNR=12
PDAR PP PP 11 29 20.1 +2.1
comp=Z,4.0nm,1.2s,baz=289,slow=4.5,SNR=3.9
DAU Daniels Canyon 133.80 42 *e*PKIKP PKPdf 11 26 50.7 +1.1
MSU Marysvale 134.11 44 *e*PKIKP PKPdf 11 26 48.8 -1.4
W13A Hualapai Mount 134.37 50 ⇑P PKPdf 11 26 52.1 +1.4
baz=134
TMUT Trail Mountain 134.39 43 *e*PKPdf PKPdf 11 26 53.6 +2.9
Y12C Blythe 134.41 52 ⇑P PKPdf 11 26 52.4 +1.6
baz=134
GLA Glamis 134.43 53 ⇑P PKPdf 11 26 52.4 +1.6
baz=134
X13A Yucca 134.62 50 ⇓P PKPdf 11 26 52.8 +1.6
baz=135
SCHQ Schefferville 134.62 356 PKP PKPdf 11 26 51.6 +0.4
comp=Z,11nm,0.9s,baz=85,slow=1.4,SNR=9.4
Y13A Salome 134.92 51 ⇓P PKPdf 11 26 53.5 +1.7
baz=135
W14A Seligman 134.93 49 ⇑P PKPdf 11 26 53.5 +1.7
baz=135
ULM Lac du Bonnet 134.97 21 PKP PKPdf 11 26 51.8 -0.1
comp=Z,18nm,1.1s,baz=356,slow=4.9,SNR=8.5
X14A Yava 135.38 50 ⇑P PKPdf 11 26 54.2 +1.6
baz=135
Y14A Wickenburg 135.50 51 ⇓P PKPdf 11 26 54.2 +1.4
baz=136
W15A Williams 135.54 49 ⇑P PKPdf 11 26 53.9 +1.0
baz=136
RWWY Rawlins 135.65 38 *e*PKPdf PKPdf 11 26 54.6 +1.5
X15A Humboldt 135.86 50 ⇑P PKPdf 11 26 56.0 +2.6
baz=136
RSSD Black Hills 135.93 33 *e*PKIKP PKPdf 11 26 54.5 +0.9
PV10 Paradox Valley 136.32 43 *e*PKPdf PKPdf 11 26 56.8 +2.5
PV01 Paradox Valley 136.76 43 *e*PKPdf PKPdf 11 26 58.2 +3.0
116A Eloy 137.05 52 ⇓P PKPdf 11 26 58.7 +3.0
baz=137
SMCO Snowmass 137.24 41 *e*PKPdf PKPdf 11 26 59.2 +3.2

MVCO	**Mesa Verde**	**137.29**	**44**	*e*PKPdf	PKPdf	11 26 57.5	+1.4
ISCO	**Idaho Springs**	**137.74**	**39**	*e*PKIKP	PKPdf	11 26 57.5	+0.5
ANMO	**Albuquerque**	**139.86**	**46**	*e*PKIKP	PKPdf	11 27 01.8	+1.0
LENM	**Lemitar**	**139.89**	**47**	*e*PKPdf	PKPdf	11 27 01.8	+0.9
LPM	**Los Pinos Moun**	**140.06**	**47**	*e*PKPdf	PKPdf	11 27 01.8	+0.6
BNM	**Barren Site**	**140.14**	**47**	*e*PKPdf	PKPdf	11 27 01.5	+0.1
CPUP	**Villa Florida**	**141.48**	**202**	PKP	PKPdf	11 27 02.4	-1.3
	comp=Z,1.1nm,0.4s,baz=157,slow=3.6,SNR=7.7						
CPUP	**Villa Florida**	**141.48**	**202**	PKIKP	PKPdf	11 27 02.4	-1.4
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CPUP	**Villa Florida**	**141.48**	**202**	PKP	PKPdf	11 27 02.4	-1.4
AMTX	**Amarillo**	**143.17**	**42**	*e*PKPdf	PKPdf	11 27 06.1	-0.7
PKME	**Peaks-Kenny Pk**	**144.32**	**356**	*e*PKPdf	PKPdf	11 27 07.2	-1.6
MSNY	**Massena**	**144.61**	**3**	*e*PKPdf	PKPdf	11 27 08.7	-0.6
MSNY				*e*		11 27 20.5	
LTX	**Lajitas**	**144.66**	**52**	*e*PKIKP	PKPdf	11 27 10.2	+0.8
FRNY	**Flat Rock**	**144.82**	**2**	*e*PKPdf	PKPdf	11 27 08.5	-1.2
FRNY				*e*		11 27 20.8	
LONY	**Lake Ozonia**	**145.00**	**3**	*e*PKPdf	PKPdf	11 27 09.4	-0.5
LONY				*e*		11 27 21.9	
WMOK	**Wichita Mounta**	**145.14**	**40**	*e*PKIKP	PKPdf	11 27 10.8	+0.6
BDFB	**Brasilia**	**145.28**	**224**	PKPbc	PKPbc	11 27 11.9	+1.6
	comp=Z,31nm,0.8s,baz=154,slow=2.3,SNR=29						
BDFB	**Brasilia**	**145.28**	**224**	PKIKP	PKPdf	11 27 11.9	+1.4
BDFB				pmax	pmax		
	comp=Z,31nm,0.8s						
LBNH	**Lisbon**	**145.43**	**360**	*e*PKIKP	PKPdf	11 27 11.1	+0.4
MIV	**Mineville/With**	**145.59**	**2**	*e*PKPbc	PKPbc	11 27 11.4	+0.1
MIV				*e*		11 27 23.0	
NCB	**Newcomb**	**145.66**	**2**	*e*PKPbc	PKPbc	11 27 11.5	+0.1
NCB				*e*		11 27 24.3	
HNH	**Hanover**	**145.97**	**360**	*e*PKPbc	PKPbc	11 27 13.2	+0.8
ACCN	**Adirondack Com**	**146.27**	**2**	*e*PKPbc	PKPbc	11 27 13.3	0.0
ERPA	**Erie**	**146.86**	**10**	*e*PKPdf	PKPdf	11 27 13.7	+0.6
ERPA				*e*PKPbc	PKPbc	11 27 15.6	+0.6
SLM	**Saint Louis**	**146.87**	**26**	*e*PKP2	PKPab	11 27 15.5	-0.9
JCT	**Junction City**	**146.98**	**47**	*e*PKPdf	PKPdf	11 27 15.0	+1.7
JCT				*e*PKPbc	PKPbc	11 27 17.3	+1.9
HRV	**Harvard--Oak R**	**147.16**	**359**	*e*PKP2	PKPdf	11 27 15.8	+2.2
WES	**Weston**	**147.28**	**359**	*e*PKP2	PKPdf	11 27 15.5	+1.7
BINY	**Binghamton**	**147.31**	**5**	*e*PKPdf	PKPdf	11 27 12.8	-1.1
BINY				*e*PKPbc	PKPbc	11 27 16.1	-0.2
QUA2	**Belchertown**	**147.40**	**0**	*e*PKPdf	PKPdf	11 27 14.5	+0.5
QUA2				*e*PKPbc	PKPbc	11 27 17.0	+0.5
QUA2				*e*PKPab	PKPab	11 27 19.6	+1.1
LVC	**Limon Verde**	**147.87**	**186**	*e*PKPbc	PKPbc	11 27 19.1	+1.3
LVC				*e*PKPab	PKPab	11 27 22.2	+1.9
BLO	**Bloomington**	**147.88**	**21**	*e*PKP2	PKPbc	11 27 18.4	+0.6
MIAR	**Mount Ida**	**148.40**	**35**	*e*PKIKP	PKPdf	11 27 17.8	+2.1
MIAR				*e*		11 27 20.4	
MIAR				*e*		11 27 23.4	
USIN	**University of**	**148.50**	**24**	*e*PKPbc	PKPbc	11 27 20.3	+0.8
PAL	**Palisades**	**148.64**	**2**	*e*PKIKP	PKPdf	11 27 16.4	+0.3
PAL				*e*		11 27 20.4	
PAL				*e*		11 27 23.9	
SSPA	**Standing Stone**	**148.64**	**8**	*e*PKPdf	PKPdf	11 27 16.7	+0.6
SSPA				*e*PKPbc	PKPbc	11 27 20.5	+0.7
PARMO	**Parma**	**148.71**	**28**	*e*PKPdf	PKPdf	11 27 16.7	+0.5
PARMO				*e*PKPbc	PKPbc	11 27 20.9	+0.9
WCI	**Wyandotte Cave**	**148.79**	**22**	PKPdf	PKPdf	11 27 17.5	+1.2
WCI	**Wyandotte Cave**	**148.79**	**22**	*e*PKPdf	PKPdf	11 27 17.1	+0.8
WCI				*e*PKPbc	PKPbc	11 27 20.8	+0.6
WCI				*e*PKPab	PKPab	11 27 24.4	+0.3
CPNY	**Central Park**	**148.85**	**2**	*e*PKPbc	PKPbc	11 27 21.5	+1.1
UALR	**University of**	**148.91**	**33**	*e*PKPbc	PKPbc	11 27 21.1	+0.5
UALR				*e*PKPab	PKPab	11 27 25.3	+0.8
HBAR	**Harrisburg**	**149.18**	**30**	*e*PKPbc	PKPbc	11 27 22.5	+1.3
GLAT	**Glass**	**149.25**	**27**	*e*PKPdf	PKPdf	11 27 19.0	+1.9
GLAT				*e*PKPbc	PKPbc	11 27 22.5	+1.1
GLAT				*e*PKPab	PKPab	11 27 26.1	+0.2
MCWV	**Mont Chateau**	**149.27**	**11**	*e*PKPbc	PKPbc	11 27 22.3	+0.9
MCWV				*e*PKPab	PKPab	11 27 27.5	+1.5
UTMT	**University of**	**149.38**	**27**	*e*PKPbc	PKPbc	11 27 23.0	+1.3
NATX	**Nacogdoches**	**149.70**	**40**	*e*PKPdf	PKPdf	11 27 18.6	+0.8
NATX				*e*PKPbc	PKPbc	11 27 24.4	+1.9
NATX				*e*PKPab	PKPab	11 27 28.1	+0.3
KVTX	**Kingsville**	**149.96**	**50**	*e*PKPbc	PKPbc	11 27 26.2	+3.0
WVT	**Waverly**	**150.01**	**26**	*e*PKPdf	PKPdf	11 27 18.8	+0.6
WVT				*e*PKPbc	PKPbc	11 27 24.2	+1.0
WVT				*e*PKPab	PKPab	11 27 29.7	+0.6
OXF	**Oxford**	**150.62**	**30**	*e*PKIKP	PKPdf	11 27 20.8	+1.6
OXF				*e*		11 27 25.6	
OXF				*e*		11 27 31.0	
PLAL	**Pickwick Lake**	**150.87**	**27**	*e*PKPdf	PKPdf	11 27 19.7	+0.1
PLAL				*e*PKPbc	PKPbc	11 27 25.6	+0.4
PLAL				*e*PKPab	PKPab	11 27 33.8	+1.2
FWV	**Forest Hill**	**151.05**	**14**	*e*PKPdf	PKPdf	11 27 20.0	+0.1
FWV				*e*PKPbc	PKPbc	11 27 26.0	+0.3
FWV				*e*PKPab	PKPab	11 27 34.6	+1.2
ELN	**Prospectdale**	**151.40**	**14**	*e*PKPdf	PKPdf	11 27 20.8	+0.4
ELN				*e*PKPbc	PKPbc	11 27 26.8	+0.3
ELN				*e*PKPab	PKPab	11 27 35.3	+0.4
BLA	**Blacksburg**	**151.50**	**14**	*e*PKIKP	PKPdf	11 27 21.1	+0.5
BLA				*e*		11 27 27.3	
BLA				*e*		11 27 35.7	
CPCT	**Cooper Cave**	**151.91**	**22**	*e*PKPdf	PKPdf	11 27 22.5	+1.3
CPCT				*e*PKPbc	PKPbc	11 27 29.0	+1.3
CPCT				*e*PKPab	PKPab	11 27 37.6	+0.7
MYNC	**Murphy**	**152.39**	**21**	*e*PKIKP	PKPdf	11 27 23.2	+1.3
MYNC				*e*		11 27 29.0	
MYNC				*e*		11 27 39.4	
LRAL	**Lakeview Retre**	**152.98**	**28**	*e*PKPdf	PKPdf	11 27 23.9	+1.1
LPAZ	**La Paz**	**154.00**	**189**	PKP	PKPdf	11 27 26.9	+2.7
	comp=Z,3.1nm,0.9s,baz=92,slow=3.1,SNR=7.3						
LPAZ				PKPbc	PKPbc	11 27 34.8	+2.5
	comp=Z,4.9nm,0.8s,baz=52,slow=8.1,SNR=9.8						
LPAZ				PKPab	PKPab	11 27 47.6	+1.9
	comp=Z,8.9nm,0.9s,baz=167,slow=3.1,SNR=7.9						
LPAZ	**La Paz**	**154.00**	**189**	PKIKP	PKPdf	11 27 26.9	+2.7
LPAZ						11 27 34.8	
LPAZ						11 27 47.6	
LPAZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
OTAV	**Otavalo**	**168.92**	**146**	*e*PKPdf	PKPdf	11 27 42.4	+2.6
ROSC	**El Rosal**	**174.93**	**157**	PKP	PKPdf	11 27 45.2	+2.7
	comp=Z,9.9nm,0.8s,baz=100,slow=22,SNR=6.5						

IDC 17 11:14:10.7±2.7**, 958S**×**10752E, h0**^{km}**, mb4.1**/4**, mb1 4.1**/4**, mb1mx3.8**/16**, mbtmp4.1**/4**, Error ellipse: s-maj=184.8km s-min=27.5km az=92.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	**Songino Array**	**57.17**	**359**	P	P	11 23 59.4	+0.1
	1.0nm,0.6s,baz=175,slow=7.4,SNR=4.6						
MKAR	**Makanchi Array**	**60.47**	**340**	P	P	11 24 22.2	-0.1
	2.4nm,0.6s,baz=151,slow=7.7,SNR=6.0						
MAW	**Mawson**	**65.07**	**197**	P	P	11 24 52.6	-0.3
	1.0nm,0.6s,baz=55,slow=11,SNR=2.6						
BVAR	**Borovoye Array**	**69.93**	**337**	P	P	11 25 23.7	+0.1
	0.9nm,0.5s,baz=150,slow=6.7,SNR=3.0						

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*IDC **17** 11:15:30.1±0.4, 931S×10851E, h0^{km}, mb4.7/21, mb1 4.8/22, mb1mx4.7/24, mbtmp4.7/22, ML4.4/1, Error ellipse: s-maj=19.6km s-min=11.9km az=57.0*

*BJI **17** 11:15:33.6, 920S×10850E, h35^{km}, mB5.8, mb5.2, Ms5.8, Msz5.5*

*MOS **17** 11:15:33.9±1.3, 9.18S×10868E, h33^{km}, mb5.4/26, Error ellipse: s-maj=13.8km s-min=7.6km az=109.4*

*ISCJB **17** 11:15:34.2±0.3, 927S±005×10861E±007, h39^{km}, mb5.0/62, MS5.6/1, Error ellipse: s-maj=10.2km s-min=5.9km az=119.1*

*NEIC **17** 11:15:35.6±0.3, 925S×10853E, h35^{km}, mb5.2/27, Error ellipse: s-maj=13.8km s-min=6.7km az=51.0*

ISC 17 11:15:36.2±0.3**, 932S**±005×**10858E**±007**, h41**^{km}**, h41**^{km}±2.0^{km}**:pP-P, n133,** σ**0**^{s}**97**/103**, mb5.0**/62**, MS5.6**/1**, 12C-8D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**15.41**	**321**	Pn	**Pn**	**11 19 03.0**	**-7.6**
	1.2nm,0.3s,baz=161,slow=11,SNR=4.1						
MBWA	**Marble Bar**	**15.94**	**139**	*e*P	**Pn**	**11 19 19.7**	**+2.3**
	30nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.72**	**120**	*e*P	**Pn**	**11 19 51.6**	**-0.3**
	49nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.72**	**120**	P	**Pn**	**11 19 51.8**	**-0.1**
	1.0nm,0.3s,baz=272,slow=7.0,SNR=10						
FITZ				Sn	**Sn**	**11 23 02.3**	**-18**
	0.8nm,0.3s,baz=315,slow=2.9,SNR=3.3						
KAKA	**Kakadu**	**23.66**	**100**	*e*P	**P**	**11 20 43.1**	**-0.7**
	24nm,0.6s,mb4.8						
CGP	**Cagayan de Oro**	**23.86**	**43**	*e*P	**P**	**11 20 46.8**	**+1.1**
NWAO	**Narrogin (SRO)**	**24.82**	**162**	P	**P**	**11 20 53.6**	**-0.8**
	14nm,0.7s,mb4.6,baz=360,slow=10,SNR=4.1						
NWAO				Sn	**S**	**11 25 19.2**	**+4.9**
	1.8nm,0.4s,baz=49,slow=20,SNR=2.0						
WRA	**Warramunga Arr**	**27.03**	**116**	P	**P**	**11 21 14.7**	**+0.3**
	16nm,0.9s,mb4.5,baz=287,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**28.09**	**124**	P	**P**	**11 21 23.4**	**-0.5**
	5.2nm,0.7s,mb4.3,baz=298,slow=7.9,SNR=5.7						
ASAR				PcP	PcP	11 24 38.6	+1.1
	4.7nm,0.5s,baz=305,slow=2.2,SNR=15						
CHTO	**Chiang Mai**	**29.52**	**341**	*e*P	**P**	**11 21 36.9**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
CHTO	**Chiang Mai**	**29.52**	**341**	*e*P	**P**	**11 21 36.9**	**+0.3**
	comp=Z,15nm,0.9s,mb4.7						
GYA	**Guiyang**	**35.61**	**357**	⇑*i*P	**P**	**11 22 30.8**	**+1.0**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
CTA	**Charters Tower**	**37.89**	**111**	*e*P	**P**	**11 22 50.6**	**+1.4**
	comp=Z,9.6nm,1.1s,mb4.4						
CTA	**Charters Tower**	**37.89**	**111**	P	**P**	**11 22 50.7**	**+1.4**
	comp=Z,9.4nm,0.7s,mb4.6,baz=274,slow=12,SNR=12						
CTA				PcP	PcP	11 25 06.2	+1.4
	comp=Z,4.6nm,0.7s,baz=238,slow=5.5,SNR=4.8						
CTA	**Charters Tower**	**37.89**	**111**	*e*P	**P**	**11 22 50.6**	**+1.4**
CTA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CTAO	**Charters Tower**	**37.89**	**111**	*e*P	**P**	**11 22 50.5**	**+1.3**
PMG	**Port Moresby**	**38.05**	**93**	P	**P**	**11 22 52.3**	**+1.8**
	comp=Z,12nm,0.8s,mb4.7,baz=326,slow=13,SNR=3.8						
PMG	**Port Moresby**	**38.05**	**93**	*e*P	**P**	**11 22 52.3**	**+1.7**
PMG				pmax	pmax		
	comp=Z,20nm,1.0s						
PMG	**Port Moresby**	**38.05**	**93**	*e*P	**P**	**11 22 52.2**	**+1.7**
	comp=Z,20nm,1.0s,mb4.8						
CD2	**Chengdu**	**40.26**	**354**	⇑*i*P	**P**	**11 23 10.3**	**+1.3**
CD2				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.7						
JOW	**Kunigami**	**40.70**	**28**	P	**P**	**11 23 12.8**	**+0.1**
	comp=Z,15nm,0.9s,mb4.6,baz=225,slow=4.9,SNR=4.9						
JIRN	**Jiri**	**42.68**	**330**	*e*P	**P**	**11 23 29.2**	**+0.4**
	comp=Z,89nm,0.8s,mb5.5						
PKI	**Pulchoki**	**42.99**	**329**	*e*P	**P**	**11 23 31.0**	**-0.4**
GUN	**Gumba**	**43.04**	**330**	*e*P	**P**	**11 23 32.1**	**+0.3**
XAN	**Xi'an**	**43.12**	**0**	P	**P**	**11 23 32.8**	**+0.4**
XAN				AMB	AMB		
	comp=Z,39nm,1.1s,mb5.0						
DMN	**Daman**	**43.18**	**329**	*e*P	**P**	**11 23 32.9**	**0.0**
	comp=Z,100nm,0.9s,mb5.6						
KKN	**Kakani**	**43.24**	**329**	*e*P	**P**	**11 23 33.2**	**-0.2**
	comp=Z,93nm,1.0s,mb5.5						
KKN	**Kakani**	**43.24**	**329**	*e*P	**P**	**11 23 33.2**	**-0.2**
KKN				pmax	pmax		
	comp=Z,93nm,1.0s,mb5.5						
GKN	**Gorkha**	**43.74**	**329**	*e*P	**P**	**11 23 37.2**	**-0.2**
	comp=Z,125nm,1.0s,mb5.6						
KOLN	**Koldanda**	**44.09**	**327**	*e*P	**P**	**11 23 40.3**	**+0.1**
	comp=Z,145nm,0.8s,mb5.8						
ARMA	**Armidale**	**45.24**	**124**	*e*P	**P**	**11 23 51.3**	**+1.9**
LZH	**Lanzhou**	**45.38**	**355**	*e*P	**P**	**11 23 51.8**	**+1.3**
LZH				AP	pP	11 24 01.6	-0.4
LZH				XP	sP	11 24 05.5	-1.3
LZH				PP	PP	11 25 38.3	+1.2
LZH				AMB	AMB		
	comp=Z,51nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,269nm,5.0s						
GTA	**Gaotai**	**49.16**	**351**	*e*P	**P**	**11 24 20.5**	**+0.6**
GTA				AP	pP	11 24 31.5	0.0
GTA				XP	sP	11 24 36.8	+0.5
GTA				PP	PP	11 26 15.3	+1.5
GTA				PPP		11 27 08.5	
GTA				S	**S**	**11 31 22.5**	**+0.1**
GTA				XS	sS	11 31 40.8	-0.9
GTA				AMB	AMB		
	comp=Z,24nm,1.9s,mb4.9						
GTA				LR	LR		
	comp=N,5μm,15.2s,MS5.7						
GTA				LR	LR		
	comp=E,4μm,16.7s,MS5.7						
GTA				LR	LR		
	comp=Z,4μm,14.8s,MS5.5						
BJT	**Baijiatuau**	**49.59**	**8**	*e*P	**P**	**11 24 24.1**	**+0.9**
BJT				pmax	pmax		
	comp=Z,64nm,1.3s						
BJT	**Baijiatuau**	**49.59**	**8**	*e*P	**P**	**11 24 24.1**	**+0.9**
	comp=Z,64nm,1.3s,mb5.5						
BJI	**Beijing**	**49.61**	**8**	*e*P	**P**	**11 24 22.9**	**-0.4**
BJI				AMB	AMB		
	comp=Z,37nm,1.1s,mb5.3						
MAJO	**Matsushiro**	**53.45**	**30**	*e*P	**P**	**11 24 50.8**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MAJO	**Matsushiro**	**53.45**	**30**	*e*P	**P**	**11 24 50.8**	**-1.2**
	comp=Z,8.5nm,1.0s,mb4.6						
MAT	**Matsushiro**	**53.45**	**30**	P	**P**	**11 24 50.1**	**-1.9**
MAT	**Matsushiro**	**53.45**	**30**	*e*P	**P**	**11 24 50.0**	**-2.0**
MAT				pmax	pmax		
	comp=Z,36nm,1.5s,mb5.1						
MAT	**Matsushiro**	**53.45**	**30**	*e*P	**P**	**11 24 50.0**	**-2.0**
	comp=Z,36nm,1.5s,mb5.1						
MJAR	**Matsushiro Arr**	**53.45**	**30**	P	**P**	**11 24 49.8**	**-2.3**
	comp=Z,2.7nm,0.4s,mb4.5,baz=254,slow=7.6,SNR=13						
SONM	**Songino Array**	**56.93**	**358**	P	**P**	**11 25 17.2**	**0.0**
	comp=Z,12nm,0.5s,mb5.2,baz=176,slow=8.8,SNR=75						
ULN	**Ulaanbaatar**	**56.94**	**359**	*e*P	**P**	**11 25 17.1**	**-0.1**
ULN				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.3						
ULN	**Ulaanbaatar**	**56.94**	**359**	*e*P	**P**	**11 25 17.1**	**-0.1**
	comp=Z,28nm,0.9s,mb5.3						
ZAK	**Zakamensk**	**59.63**	**356**	⇑*i*P	**P**	**11 25 36.2**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.6						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**60.59**	**340**	P	**P**	**11 25 42.2**	**-0.3**
	comp=Z,14nm,0.5s,mb5.3,baz=148,slow=8.0,SNR=40						
MOY	**Mondy**	**61.09**	**355**	*e*P	**P**	**11 25 46.6**	**+0.7**
MOY				pmax	pmax		
	comp=Z,75nm,2.0s,mb5.5						
IRK	**Irkutsk**	**61.42**	**357**	*e*P	**P**	**11 25 48.4**	**+0.2**
IRK				*e*		11 26 26.2	
IRK				pmax	pmax		
	comp=Z,54nm,2.0s,mb5.3						
ASAJ	**Asahikawa**	**61.47**	**27**	P	**P**	**11 25 47.2**	**-1.3**
	comp=Z,3.3nm,0.4s,mb4.8,baz=245,slow=5.7,SNR=13						
KLR	**Kul'dur**	**61.75**	**17**	*e*P	**P**	**11 25 46.7**	**-3.7**
KLR				pmax	pmax		
	comp=E,28nm,1.8s						
KLR				pmax	pmax		
	comp=Z,70nm,1.8s,mb5.5						
YSS	**Yuzh-Sakhalins**	**63.76**	**25**	*e*P	**P**	**11 26 03.7**	**-0.1**
YSS				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
YSS	**Yuzh-Sakhalins**	**63.76**	**25**	*e*P	**P**	**11 26 03.7**	**-0.1**
	comp=Z,18nm,0.9s,mb5.1						
KURK	**Kurchatov**	**65.20**	**340**	*e*P	**P**	**11 26 12.8**	**-0.4**
KURK				*e*	pP	11 26 25.9	+0.7
KURK				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.5						
KURK	**Kurchatov**	**65.20**	**340**	*e*P	**P**	**11 26 12.8**	**-0.4**
	comp=Z,46nm,1.0s,mb5.5						
KURK				*e*	pP	11 26 25.9	+0.7
MAW	**Mawson**	**65.63**	**198**	*e*P	**P**	**11 26 15.0**	**-1.0**
	comp=Z,4.7nm,0.6s,mb4.7						
MAW	**Mawson**	**65.63**	**198**	P	**P**	**11 26 14.9**	**-1.0**
	comp=Z,5.2nm,0.6s,mb4.7,baz=58,slow=6.1,SNR=13						
MAW	**Mawson**	**65.63**	**198**	*e*P	**P**	**11 26 12.0**	**-4.0**
ZAL	**Zalesovo**	**66.15**	**345**	P	**P**	**11 26 18.3**	**-1.0**
	comp=Z,5.9nm,0.3s,mb5.0,baz=338,slow=2.0,SNR=15						
BOD	**Bodaibo**	**67.05**	**3**	*e*P	**P**	**11 26 23.6**	**-1.5**
BOD				*e*	pP	11 26 35.2	-1.9
BOD				pmax	pmax		
	comp=Z,24nm,1.7s,mb5.0						
BOD				pmax	pmax		
	comp=Z,22nm,1.4s,mb5.0						
NVS	**Novosibirsk**	**67.37**	**344**	*e*P	**P**	**11 26 24.5**	**-2.6**
NVS				*e*S	S	11 35 16.5	-3.2
NVS				pmax	pmax		
	comp=Z,44nm,2.0s,mb5.1						
NVS				pmax	pmax		
	comp=N,44nm,2.1s						
NVS				smax			
	comp=N,23nm,2.1s						
BVAR	**Borovoye Array**	**70.10**	**337**	P	**P**	**11 26 43.6**	**-0.5**
	comp=N,6.9nm,0.6s,mb4.8,baz=141,slow=7.9,SNR=14						
BRVK	**Borovoye**	**70.17**	**337**	*e*P	**P**	**11 26 44.3**	**-0.2**
BRVK				*e*	pP	11 26 56.2	-0.4
BRVK				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
BRVK	**Borovoye**	**70.17**	**337**	*e*P	**P**	**11 26 44.2**	**-0.2**
	comp=Z,25nm,1.1s,mb5.1						
BRVK				*e*	pP	11 26 56.2	-0.5
CHKZ	**Chkalovo**	**70.51**	**337**	*e*P	**P**	**11 26 46.3**	**-0.3**
CHKZ				*e*	pP	11 26 58.3	-0.5
CHKZ				pmax	pmax		
	comp=Z,23nm,0.5s,mb5.4						
CHKZ	**Chkalovo**	**70.51**	**337**	*e*P	**P**	**11 26 46.3**	**-0.3**
	comp=Z,24nm,0.5s,mb5.4						
CHKZ				*e*	pP	11 26 58.3	-0.4
ZRNK	**Zerenda**	**70.59**	**336**	*e*P	**P**	**11 26 46.4**	**-0.7**
ZRNK				*e*	pP	11 26 58.8	-0.5
ZRNK				pmax	pmax		
	comp=Z,27nm,0.6s,mb5.3						
ZRNK	**Zerenda**	**70.59**	**336**	*e*P	**P**	**11 26 46.4**	**-0.7**
	comp=Z,27nm,0.6s,mb5.3						
ZRNK				*e*	pP	11 26 58.8	-0.4
YAK	**Yakutsk**	**73.00**	**10**	*e*P	**P**	**11 27 01.0**	**-0.6**
YAK				*e*	pP	11 27 11.3	-2.5
YAK				pmax	pmax		
	comp=Z,57nm,0.6s,mb5.7						
YAK	**Yakutsk**	**73.00**	**10**	*e*P	**P**	**11 27 01.0**	**-0.6**
	comp=Z,57nm,0.6s,mb5.7						
YAK				*e*	pP	11 27 11.3	-2.5
VNDA	**Vanda**	**73.42**	**170**	P	**P**	**11 27 02.9**	**-1.1**
	comp=Z,6.2nm,1.0s,mb4.5,baz=311,slow=6.0,SNR=16						
SYO	**Syowa Base**	**73.89**	**200**	⇑*e*P	**P**	**11 27 04.9**	**-1.9**
AKTK	**Aktyubinsk**	**73.90**	**329**	P	**P**	**11 27 06.6**	**-0.3**
AKTO	**Aktyubinsk**	**73.90**	**329**	P	**P**	**11 27 06.6**	**-0.3**
	comp=Z,1.8nm,0.5s,mb4.2,baz=132,slow=4.9,SNR=7.5						
SBA	**Scott Base**	**74.49**	**169**	*e*P	**P**	**11 27 10.0**	**-0.3**
SBA				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
SBA	**Scott Base**	**74.49**	**169**	*e*P	**P**	**11 27 10.0**	**-0.3**
	comp=Z,17nm,1.3s,mb4.8						
PET	**Petropavlovsk**	**75.26**	**29**	*i* P	**P**	**11 27 14.4**	**-0.3**
PET				pmax	pmax		
	comp=Z,33nm,0.6s,mb5.4						
ARU	**Arti**	**77.37**	**334**	*e*P	**P**	**11 27 27.3**	**+0.6**
ARU				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.1						
ARU	**Arti**	**77.37**	**334**	*e*P	**P**	**11 27 27.3**	**+0.6**
	comp=Z,33nm,1.4s,mb5.1						
LSZ	**Lusaka**	**78.40**	**256**	*e*P	**P**	**11 27 32.8**	**+0.4**
LSZ				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
LSZ	**Lusaka**	**78.40**	**256**	*e*P	**P**	**11 27 32.8**	**+0.4**
	comp=Z,21nm,1.4s,mb4.9						
KIV	**Kislovodsk**	**79.64**	**318**	*e*P	**P**	**11 27 40.7**	**+1.5**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
ASF	**Jabal al Asfar**	**79.76**	**305**	P	**P**	**11 27 41.4**	**+1.5**
	comp=Z,5.4nm,1.0s,mb4.4,baz=18,slow=2.5,SNR=12						
MALT	**Malatya**	**80.54**	**311**	*e*P	**P**	**11 27 46.3**	**+2.2**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
MALT	**Malatya**	**80.54**	**311**	*e*P	**P**	**11 27 46.3**	**+2.2**
	comp=Z,2.2nm,0.8s,mb4.1						
QSPA	**South Pole Qui**	**80.69**	**180**	⇓*i*P	**P**	**11 27 44.0**	**-0.9**
	comp=Z,12nm,0.7s,mb4.9						
MMAI	**Mount Meron Ar**	**81.21**	**306**	P	**P**	**11 27 49.6**	**+1.9**
	comp=Z,4.5nm,0.8s,mb4.5,baz=102,slow=10,SNR=7.6						
TIXI	**Tiksi**	**81.91**	**6**	*e*P	**P**	**11 27 50.5**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
BRTR	**Keskin Array B**	**84.53**	**312**	P	**P**	**11 28 04.8**	**-0.1**
	comp=Z,5.2nm,0.9s,mb4.7,baz=138,slow=6.0,SNR=13						
MOS	**Moscow**	**87.16**	**328**	*e*P	**P**	**11 28 18.2**	**+0.3**
MOS				pmax	pmax		
	comp=Z,68nm,1.5s,mb5.7						
OBN	**Obninsk**	**87.51**	**327**	*e*P	**P**	**11 28 20.4**	**+0.8**
OBN				pmax	pmax		
	comp=Z,39nm,1.3s,mb5.5						
SNAA	**Sanae**	**87.79**	**197**	*e*	**P**	**11 28 20.9**	**0.0**
SNAA				*e*		11 28 22.6	
SNAA	**Sanae**	**87.79**	**197**	*e*P	**P**	**11 28 20.4**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,15nm,1.3s						
SNAA	**Sanae**	**87.79**	**197**	*e*P	**P**	**11 28 20.4**	**-0.6**
	comp=Z,15nm,1.3s,mb5.0						
VNA1	**Neumayer--Stat**	**89.82**	**197**	*e*	**P**	**11 28 31.1**	**+0.6**
VNA1				*e*		11 28 32.7	
AKASG	**Malin Array Be**	**90.47**	**321**	P	**P**	**11 28 32.4**	**-1.1**
	comp=Z,1.1nm,0.5s,mb4.5,baz=88,slow=4.7,SNR=5.6						
AKASG				PP	PP	11 32 07.0	-1.3
	comp=Z,0.3nm,0.4s,baz=97,slow=6.0,SNR=8.8						
AKASG	**Malin Array Be**	**90.47**	**321**	P	**P**	**11 28 32.4**	**-1.1**
AKASG				PP	PP	11 32 07.0	-1.3
MLR	**Muntele Rosu**	**91.45**	**316**	P	**P**	**11 28 38.5**	**+0.4**
	comp=Z,2.4nm,0.8s,mb4.6,baz=342,slow=10,SNR=4.7						
FINES	**FINESS Array B**	**94.54**	**331**	P	**P**	**11 28 52.0**	**-0.3**
	comp=Z,3.5nm,1.0s,mb4.8,baz=171,slow=4.8,SNR=4.7						
ARCES	**ARCESS Array B**	**96.24**	**339**	P	**P**	**11 29 00.5**	**+0.4**
	comp=Z,1.8nm,0.8s,mb4.5,baz=116,slow=4.1,SNR=3.9						
YKA	**Yellowknife Ar**	**118.46**	**21**	PKP	PKPdf	11 34 18.6	-0.7
	comp=Z,0.9nm,0.5s,baz=337,slow=1.3,SNR=8.9						
YKA	**Yellowknife Ar**	**118.46**	**21**	PKP	PKPdf	11 34 18.6	-0.7
O05C	**Quincy**	**126.55**	**47**	⇓P	PKPdf	11 34 36.5	+1.7
	baz=126						
J08A	**Circle Bar Ran**	**126.91**	**42**	⇑P	PKPdf	11 34 38.4	+2.9
	baz=127						
N06A	**Buffalo Meadow**	**127.04**	**45**	⇑P	PKPdf	11 34 37.4	+1.6
	baz=127						
LAVA	**Lava Cap Winer**	**127.10**	**48**	⇑P	PKPdf	11 34 37.3	+1.5
	baz=127						
M07A	**Soldier Meadow**	**127.25**	**44**	⇑P	PKPdf	11 34 40.0	+3.8
	baz=127						
R05C	**Kirkwood Meado**	**127.61**	**48**	⇓P	PKPdf	11 34 40.1	+3.3
	baz=128						
CMB	**Columbia Colle**	**127.61**	**49**	⇓P	PKPdf	11 34 38.1	+1.3
	baz=128						
WCN	**Washoe City**	**127.63**	**47**	⇓P	PKPdf	11 34 39.8	+3.0
	baz=128						
M08A	**Happy Creek Ra**	**127.77**	**44**	⇑P	PKPdf	11 34 40.7	+3.6
	baz=128						
S06C	**San Francisco**	**128.06**	**49**	⇑P	PKPdf	11 34 41.1	+3.5
	baz=128						
NVAR	**Mina Array Bea**	**129.00**	**48**	PKP	PKPdf	11 34 42.4	+2.9
	comp=Z,0.7nm,0.8s,baz=258,slow=2.1,SNR=5.8						
Q11A	**Duckwater**	**130.75**	**46**	⇓P	PKPdf	11 34 45.7	+2.9
	baz=131						
PFO	**Pinyon Flat Ob**	**132.12**	**53**	*e*P	Pdif	11 31 41.7	+2.0
W13A	**Hualapai Mount**	**133.55**	**50**	⇑P	PKPdf	11 34 52.8	+4.7
	baz=134						
X13A	**Yucca**	**133.80**	**50**	⇓P	PKPdf	11 34 53.2	+4.7
	baz=134						
W14A	**Seligman**	**134.12**	**49**	⇓P	PKPdf	11 34 54.5	+5.3
	baz=134						
X15A	**Humboldt**	**135.04**	**50**	⇑P	PKPdf	11 34 55.4	+4.5
	baz=135						
LBNH	**Lisbon**	**145.21**	**1**	*e*PKIKP	PKPdf	11 35 11.1	+1.9
BDFB	**Brasilia**	**146.05**	**223**	PKPbc	PKPbc	11 35 13.1	+1.5
	comp=Z,5.9nm,0.5s,baz=95,slow=2.7,SNR=7.6						
JCT	**Junction City**	**146.18**	**48**	*e*PKP2	PKPab	11 35 13.5	+0.8
CCM	**Cathedral Cave**	**146.27**	**29**	*e*PKP2	PKPab	11 35 12.5	-0.5
HRV	**Harvard--Oak R**	**146.94**	**0**	*e*PKP2	PKPab	11 35 16.2	+0.6
ACSO	**Alum Creek Sta**	**147.54**	**17**	*e*PKPbc	PKPbc	11 35 17.5	+1.6
MIAR	**Mount Ida**	**147.71**	**36**	*e*PKPdf	PKPbc	11 35 16.9	+0.7
MIAR				*e*PKPbc	PKPab	11 35 18.5	-0.2
WCI	**Wyandotte Cave**	**148.25**	**23**	*e*PKP2	PKPbc	11 35 18.3	+0.6
SSPA	**Standing Stone**	**148.28**	**9**	*e*PKPdf	PKPdf	11 35 16.4	+2.0
SSPA				*e*PKPbc	PKPbc	11 35 19.7	+1.9
SSPA				*e*PKPab	PKPab	11 35 23.7	+2.7
WVT	**Waverly**	**149.42**	**27**	*e*PKHKP	PKPdf	11 35 18.2	+2.0
WVT				*e*	PKPbc	11 35 21.5	+0.8
OXF	**Oxford**	**149.99**	**31**	*e*PKP2	PKPbc	11 35 22.9	+0.8
PLAL	**Pickwick Lake**	**150.25**	**28**	*e*PKPbc	PKPbc	11 35 23.0	+0.3
ELN	**Prospectdale**	**150.96**	**15**	*e*PKPdf	PKPdf	11 35 21.2	+2.6
ELN				*e*PKPab	PKPab	11 35 36.7	+4.8
LPAZ	**La Paz**	**154.35**	**187**	PKPbc	PKPbc	11 35 35.0	+3.0
	comp=Z,1.2nm,0.6s,baz=214,slow=0.6,SNR=5.9						
LPAZ				PKPab	PKPab	11 35 47.5	+1.3
	comp=Z,2.3nm,0.7s,baz=209,slow=6.7,SNR=6.8						

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*IDC **17** 11:18:25.5±6.6, 1032S×10856E, h0km, mb4.4/5, mb1 4.5/5, mb1mx4.1/15, mbtmp4.4/5, Error ellipse: s-maj=160.9km s-min=59.4km az=162.0*
*NEIC **17** 11:18:25.1±0.8, 1059S×10874E, h10km, mb4.6/2, Error ellipse: s-maj=36.1km s-min=12.2km az=54.0*
*ISCJB **17** 11:18:26.7±1.0, 105S±02×1089E±03, h33km, mb4.5/7, Error ellipse: s-maj=44.5km s-min=15.7km az=108.1*
ISC 17 11:18:28.6±1.0**, 106S**±02×**1088E**±03**, h35km, n14,** σ**0s80**/14**, mb4.5**/7**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBWA	Marble Bar	14.85	136	eP	Pn	11 21 55.5	-0.5
	18nm,0.4s						
CHTO	Chiang Mai	30.82	342	eP	P	11 24 39.0	-2.2
	17nm,1.0s,mb4.8						
MJAR	Matsushiro Arr	54.50	29	P	P	11 27 53.7	+0.9
	3.2nm,0.8s,mb4.3,baz=219,slow=7.7,SNR=4.4						
SONM	Songino Array	58.24	358	P	P	11 28 20.2	+0.7
	3.4nm,0.7s,mb4.5,baz=174,slow=8.1,SNR=5.2						
ULN	Ulaanbaatar	58.26	359	eP	P	11 28 19.6	0.0
MKAR	Makanchi Array	61.88	340	P	P	11 28 43.7	-0.7
	3.3nm,0.6s,mb4.7,baz=142,slow=7.8,SNR=5.0						
MKAR	Makanchi Array	61.88	340	P	P	11 28 43.7	-0.7
KURK	Kurchatov	66.49	340	eP	P	11 29 14.2	-0.5
BVAR	Borovoye Array	71.37	337	P	P	11 29 44.9	-0.1
	3.9nm,0.6s,mb4.5,baz=139,slow=8.7,SNR=6.9						
BRVK	Borovoye	71.44	337	eP	P	11 29 45.3	-0.1
CHKZ	Chkalovo	71.78	337	eP	P	11 29 47.6	+0.2
ZRNK	Zerenda	71.86	336	eP	P	11 29 47.8	-0.1
ARU	Arti	78.63	334	eP	P	11 30 27.5	+0.7
	2.3nm,0.6s,mb4.3						
BRTR	Keskin Array B	85.53	312	P	P	11 31 04.3	+1.3
	1.7nm,0.7s,mb4.4,baz=125,slow=6.5,SNR=3.7						

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*IDC **17** 11:20:33.6±4.7, 994S×10797E, h0km, mb4.1/7, mb1 4.1/7, mb1mx3.9/16, mbtmp4.1/7, Error ellipse: s-maj=122.5km s-min=45.1km az=162.0*
*NEIC **17** 11:20:35.7±0.8, 978S×10794E, h10km, mb4.8/2, Error ellipse: s-maj=34.5km s-min=10.3km az=222.0*
*ISCJB **17** 11:20:37.5±1.1, 97S±02×1080E±02, h33km, mb4.3/9, Error ellipse: s-maj=41.0km s-min=16.1km az=80.6*
ISC 17 11:20:39.6±1.2**, 98S**±02×**1079E**±02**, h35km, n15,** σ**0s61**/11**, mb4.3**/9**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	Tennant Creek	27.42	115	eP	P	11 26 21.8	0.0
	24nm,0.8s,mb4.8						
WB2	Warramunga Arr	27.42	115	eP	P	11 26 21.8	-0.1
MDRS	Chennai	35.66	309	ex	x	11 27 21.9	
MDRS				ex	x	11 31 21.9	
MJAR	Matsushiro Arr	54.19	30	P	P	11 30 01.1	-0.4
	1.9nm,0.9s,mb4.0,baz=199,slow=8.0,SNR=4.3						
SONM	Songino Array	57.40	359	P	P	11 30 25.2	+0.7
	1.9nm,0.7s,mb4.2,baz=173,slow=7.3,SNR=6.1						
MKAR	Makanchi Array	60.81	340	P	P	11 30 48.3	+0.2
	3.9nm,0.7s,mb4.7,baz=144,slow=7.9,SNR=7.5						
ASAJ	Asahikawa	62.19	28	P	P	11 30 58.0	+0.6
	2.2nm,0.7s,mb4.4,baz=246,slow=23,SNR=4.2						
KURK	Kurchatov	65.43	340	eP	P	11 31 17.7	-1.0
	5.4nm,0.9s,mb4.6						
BVAR	Borovoye Array	70.28	337	P	P	11 31 49.4	+0.1
	2.1nm,0.7s,mb4.2,baz=133,slow=8.7,SNR=3.9						
CHKZ	Chkalovo	70.70	338	P	P	11 31 50.8	-1.1
BRTR	Keskin Array B	84.36	312	P	P	11 33 09.0	+0.9
	0.5nm,0.6s,mb3.8,baz=140,slow=9.1,SNR=2.8						
AKASG	Malin Array Be	90.44	321	P	P	11 33 37.4	-0.1
	0.4nm,0.4s,mb4.2,baz=79,slow=4.8,SNR=4.5						
ESLA	Sonseca Array	113.02	309	eP	Pdif	11 35 24.1	+5.2
WMOK	Wichita Mounta	145.19	40	ePKPbc	PKPbc	11 40 16.6	+3.5
CCM	Cathedral Cave	147.01	28	ePKPdf	PKPdf	11 40 15.4	-1.1
CCM				ePKPbc	PKPbc	11 40 21.3	+2.8

IDC 17 11:21:04.3±4.7**, 316N**×**12680E, h0km, mb4.2**/3**, mb1 4.5**/3**, mb1mx4.0**/16**, mbtmp4.2**/3**, Error ellipse: s-maj=148.4km s-min=79.2km az=64.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	16.73	161	eP	Pn	11 25 03.4	+3.4
	15nm,0.6s						
WRA	Warramunga Arr	24.12	162	P	P	11 26 21.8	+0.1
	9.2nm,0.5s,baz=342,slow=10,SNR=18						
ASAR	Alice Springs	27.55	166	P	P	11 26 53.0	+0.2
	4.5nm,0.7s,baz=341,slow=7.8,SNR=8.9						
VNDA	Vanda	82.86	173	P	P	11 33 30.6	0.0
	1.4nm,0.9s,baz=314,slow=6.7,SNR=5.2						

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*BJI **17** 11:24:42.5, 910S×10790E, h10km, mB5.9, mb5.1, Ms5.7, Msz5.6*
*IDC **17** 11:24:43.4±0.4, 908S×10791E, h0km, mb4.9/26, mb1 4.9/27, mb1mx4.9/29, mbtmp4.9/27, ML4.6/1, MS5.3/1, Ms1 5.3/1, ms1mx4.1/35, Error ellipse: s-maj=15.1km s-min=10.6km az=51.0*
*NEIC **17** 11:24:44.5±0.2, 914S×10789E, h10km, mb5.1/30, Error ellipse: s-maj=8.6km s-min=5.4km az=54.0*
*ISCJB **17** 11:24:46.8±0.2, 910S±004×10798E±004, h38km, mb5.1/81, MS5.4/6, Error ellipse: s-maj=6.4km s-min=4.6km az=120.3*
*MOS **17** 11:24:46.7±1.2, 897S×10799E, h33km, mb5.2/51, Error ellipse: s-maj=10.9km s-min=6.4km az=108.5*
ISC 17 11:24:49.0±0.2**, 911S**±003×**10798E**±004**, h40km, h40km**±3.5km**:pP-P, n283,** σ**1s02**/191**, mb5.1**/81**, MS5.4**/6**, 38C-36D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEM	Lembang	2.30	351	P	Pn	11 25 25.5	+1.1
	3μm,1.1s						
BJII	Banjamegara	2.46	44	P	Pn	11 25 27.5	+0.9
	1μm,0.8s						
KSI	Kapahiang	7.62	315	P	Pn	11 26 36.5	-1.0
	263nm,0.9s						
KSM	Kuching	10.77	13	ePn	Pn	11 27 23.1	+2.5
KSM				eSn	Sn	11 29 16.2	-3.6
KGM	Kluang	11.99	337	P	Pn	11 27 37.6	+0.3
PCI	Palu	14.34	56	P	Pn	11 28 12.1	+2.7
	230nm,1.2s						
PSI	Prapat	14.89	322	Pn	Pn	11 28 07.7	-9.0
	0.6nm,0.3s,baz=177,slow=15,SNR=2.8						
PSI	Prapat	14.89	322	P	Pn	11 28 07.7	-9.0
PSI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PSI	Prapat	14.89	322	Pn	Pn	11 28 07.7	-9.0
IPM	Ipoh	15.18	333	P	Pn	11 28 24.8	+4.3
MBWA	Marble Bar	16.48	138	eP	Pn	11 28 32.8	-4.4
	comp=Z,34nm,0.8s						
TSM	Tawau	16.57	37	P	Pn	11 28 40.1	+1.8
KKM	Kota Kinabalu	17.15	29	P	Pn	11 28 45.9	+0.3
KKM	Kota Kinabalu	17.15	29	eP	Pn	11 28 46.2	+0.7
BSI	Banda Aceh	19.25	318	P	Pn	11 29 11.8	+0.6
	comp=Z,224nm,1.1s						
FITZ	Fitzroy Crossi	19.33	119	eP	Pn	11 29 11.7	-0.5
	comp=Z,34nm,0.6s						
FITZ	Fitzroy Crossi	19.33	119	P	Pn	11 29 11.7	-0.4
	comp=Z,1.5nm,0.3s,baz=277,slow=8.2,SNR=22						
FITZ				Sn	Sn	11 32 32.4	-16
	comp=Z,0.4nm,0.3s,baz=240,slow=20,SNR=2.7						
KLBR	Kellerberrin	24.14	159	eP	P	11 30 00.4	-0.8
	comp=Z,17nm,0.8s,mb4.5						
KAKA	Kakadu	24.27	101	eP	P	11 30 03.2	+0.8
	comp=Z,70nm,0.6s,mb5.3						
NWAO	Narrogin (SRO)	25.19	161	P	P	11 30 09.7	-1.1
	comp=Z,26nm,0.9s,mb4.7,baz=332,slow=12,SNR=8.4						
NWAO				Sn	S	11 34 44.4	+11
	comp=Z,7.4nm,0.7s,baz=30,slow=14,SNR=2.4						
WRA	Warramunga Arr	27.65	116	P	P	11 30 33.2	+0.3
	comp=Z,23nm,0.7s,mb4.9,baz=286,slow=11,SNR=39						
WRA	Warramunga Arr	27.65	116	P	P	11 30 33.2	+0.3
WRA				pmax	pmax		
	comp=Z,23nm,0.7s						
WRAB	Tennant Creek	27.65	116⇓	eP	P	11 30 33.7	+0.7
WRAB	Tennant Creek	27.65	116	eP	P	11 30 33.2	+0.2
	comp=Z,40nm,0.7s,mb5.2						
WB2	Warramunga Arr	27.66	116	eP	P	11 30 32.8	-0.2
ASPA	Alice Springs	28.69	123	eP	P	11 30 42.2	0.0
AS31	Alice Springs	28.70	123	eP	P	11 30 42.2	-0.1
ASAR	Alice Springs	28.70	123	P	P	11 30 42.1	-0.1
	comp=Z,8.4nm,0.7s,mb4.6,baz=296,slow=8.0,SNR=35						
ASAR				PcP	PcP	11 33 53.5	+1.5
	comp=Z,4.7nm,0.7s,baz=317,slow=2.2,SNR=7.9						
ASAR	Alice Springs	28.70	123	P	P	11 30 42.2	-0.1
ASAR						11 33 53.5	
ASAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CHTO	Chiang Mai	29.15	342	eP	P	11 30 46.8	+0.5
CHTO				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.8						
CHTO	Chiang Mai	29.15	342	eP	P	11 30 46.8	+0.5
	comp=Z,20nm,1.1s,mb4.8						
GYA	Guiyang	35.38	358⇑	iP	P	11 31 42.1	+1.3
GYA				AP	pP	11 31 46.8	-5.1
GYA				XP	sP	11 31 49.8	-6.9
GYA				PP	PP	11 33 04.8	+3.2
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
GYA				AMB	AMB		
	comp=Z,670nm,4.8s						
GYA				LR	LR		
	comp=N,640nm,15.7s,MS4.7						
GYA				LR	LR		
	comp=E,870nm,16.4s,MS4.7						
GYA				LR	LR		
	comp=Z,730nm,15.2s,MS4.5						
CTA	Charters Tower	38.52	111⇑	iP	P	11 32 09.3	+1.8
	comp=Z,7.4nm,0.6s,mb4.6						
CTA	Charters Tower	38.52	111	P	P	11 32 09.4	+1.9
	comp=Z,8.0nm,0.7s,mb4.6,baz=281,slow=11,SNR=16						
CTA	Charters Tower	38.52	111⇑	iP	P	11 32 09.3	+1.8
CTA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CTAO	Charters Tower	38.52	111	eP	P	11 32 09.5	+2.0
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
CTAO	Charters Tower	38.52	111	eP	P	11 32 09.5	+2.0
	comp=Z,6.6nm,0.6s,mb4.5						
PMG	Port Moresby	38.65	94	P	P	11 32 10.5	+1.9
	comp=Z,16nm,0.7s,mb4.9,baz=272,slow=9.0,SNR=5.8						
PMG	Port Moresby	38.65	94	P	P	11 32 10.6	+1.9
PMG				eP		11 32 11.1	
CD2	Chengdu	40.00	354⇓	iP	P	11 32 20.4	+0.6
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
JOW	Kunigami	40.80	28	P	P	11 32 27.1	+0.7
	comp=Z,54nm,0.8s,mb5.2,baz=206,slow=4.4,SNR=14						
JIRN	Jiri	42.21	331	eP	P	11 32 38.9	+0.9
	comp=Z,173nm,0.9s,mb5.7						
NJ2	Nanjing	42.23	14	eP	P	11 32 39.4	+1.2
NJ2				PP	PP	11 34 20.5	+4.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,1μm,4.5s						
NJ2				LR	LR		
	comp=N,21μm,12.4s,MS6.3						
NJ2				LR	LR		
	comp=E,13μm,14.6s,MS6.3						
NJ2				LR	LR		
	comp=Z,7μm,14.6s,MS5.7						
PKI	Pulchoki	42.52	330	eP	P	11 32 40.8	+0.3
	comp=Z,64nm,0.9s,mb5.3						
PKI	Pulchoki	42.52	330	eP	P	11 32 40.8	+0.3
PKI				pmax	pmax		
	comp=Z,64nm,0.9s,mb5.3						
GUN	Gumba	42.57	331	eP	P	11 32 41.8	+0.9
	comp=Z,158nm,0.9s,mb5.8						
DMN	Daman	42.70	329	eP	P	11 32 42.7	+0.7
	comp=Z,210nm,0.9s,mb5.9						
KKN	Kakani	42.76	330	eP	P	11 32 43.0	+0.5
	comp=Z,147nm,0.9s,mb5.7						
KKN	Kakani	42.76	330	eP	P	11 32 43.0	+0.5
KKN				pmax	pmax		
	comp=Z,147nm,0.9s,mb5.7						
XAN	Xi'an	42.92	1	P	P	11 32 44.0	+0.2
XAN				AMB	AMB		
	comp=Z,34nm,1.0s,mb5.0						
GKN	Gorkha	43.26	329	eP	P	11 32 47.2	+0.7
	comp=Z,123nm,0.7s,mb5.7						
KOLN	Koldanda	43.61	328	eP	P	11 32 50.1	+0.8
	comp=Z,207nm,0.8s,mb5.9						
ARMA	Armidale	45.85	124	eP	P	11 33 09.4	+2.2
TIA	Tai'an	45.90	10	eP	P	11 33 06.8	-0.8
LGTI	Lohaghat	46.73	326	eP	P	11 33 13.0	-1.1
NDI	New Delhi	47.90	323	eP	P	11 33 20.5	-2.7
GTA	Gaotai	48.87	352	eP	P	11 33 31.1	+0.4
GTA				AP	pP	11 33 39.0	-3.1
GTA				XP	sP	11 33 42.8	-4.0
GTA				PCP	PcP	11 34 56.4	+1.7
GTA				PP	PP	11 35 26.1	+2.0
GTA				PPP		11 36 19.4	
GTA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
GTA				AMB	AMB		
	comp=Z,3μm,4.9s						
GTA				LR	LR		
	comp=N,2μm,16.0s,MS5.5						
GTA				LR	LR		
	comp=E,4μm,17.1s,MS5.5						
GTA				LR	LR		
	comp=Z,4μm,15.6s,MS5.5						
BJT	Baijiatuau	49.47	8	eP	P	11 33 35.3	+0.1
BJT				pmax	pmax		
	comp=Z,43nm,0.9s						
BJT	Baijiatuau	49.47	8	eP	P	11 33 35.3	+0.1
	comp=Z,43nm,0.9s,mb5.5						
BJI	Beijing	49.49	8	eP	P	11 33 35.1	-0.3
BJI				AMB	AMB		
	comp=Z,49nm,1.0s,mb5.5						
SNY	Shenyang	52.67	15 ⇑	P	P	11 33 57.4	-1.9
SNY				PCP	PcP	11 35 08.0	-0.8
SNY				PP	PP	11 35 57.4	-1.3
SNY				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.0						
SNY				AMB	AMB		
	comp=Z,2μm,12.0s						
SNY				LR	LR		
	comp=N,2μm,13.1s,MS5.6						
SNY				LR	LR		
	comp=E,4μm,14.9s,MS5.6						
SNY				LR	LR		
	comp=Z,5μm,15.9s,MS5.7						
MAJO	Matsushiro	53.56	30	eP	P	11 34 03.9	-2.0
MAJO				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
MAJO	Matsushiro	53.56	30	eP	P	11 34 03.9	-2.0
	comp=Z,14nm,0.9s,mb4.9						
MAT	Matsushiro	53.56	30	P	P	11 34 03.7	-2.2
MAT	Matsushiro	53.56	30	eP	P	11 34 04.0	-1.9
MAT				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
MAT	Matsushiro	53.56	30	eP	P	11 34 04.0	-1.9
	comp=Z,11nm,1.0s,mb4.7						
MJAR	Matsushiro Arr	53.56	30	P	P	11 34 03.9	-2.0
	comp=Z,14nm,0.9s,mb4.8,baz=205,slow=8.2,SNR=18						
MJAR	Matsushiro Arr	53.56	30	P	P	11 34 03.9	-2.0
MJAR				pmax	pmax		
	comp=Z,14nm,1.0s						
CN2	Changchun	55.00	15	eP	P	11 34 14.9	-1.4
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
VLA	Vladivostok	56.37	21⇓	eP	P	11 34 23.8	-2.3
VLA				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.3						
SONM	Songino Array	56.71	359	P	P	11 34 28.5	-0.1
	comp=Z,27nm,0.9s,mb5.3,baz=174,slow=8.5,SNR=128						
SONM	Songino Array	56.71	359	P	P	11 34 28.5	-0.1
SONM				pmax	pmax		
	comp=Z,27nm,0.9s						
ULN	Ulaanbaatar	56.73	359	P	P	11 34 29.1	+0.3
	SNR=22						
ULN	Ulaanbaatar	56.73	359	eP	P	11 34 29.0	+0.3
ULN				i P		11 34 29.2	
CASY	Casey	57.11	179	eP	P	11 34 29.3	-2.1
DZM	Mont Dzumac	57.46	110	P	P	11 34 35.6	+1.8
	comp=Z,7.0nm,0.7s,mb4.8,baz=271,slow=17,SNR=3.7						
WSAR	Wadi Sarin	58.00	305	P	P	11 34 38.1	+0.5
	comp=Z,11nm,0.7s,mb5.0,baz=96,slow=8.4,SNR=7.6						
WSAR				LR	LR	12 00 37.0	
	comp=Z,2μm,19.1s,MS5.3,baz=176,slow=37						
MIR	Mirnyy	58.27	187c	iP	P	11 34 40.0	+0.5
MIR				pmax	pmax		
	comp=Z,200nm,1.0s,mb6.1						
SMDO	Samad	58.39	304	⇑P	P	11 34 41.6	+1.2
	SNR=12						
ULHL	Ulahol	58.79	333	P	P	11 34 43.6	+0.4
	SNR=8.3						
HIA	Hailar	59.04	9⇑	eP	P	11 34 44.0	-0.9
HIA				eP		11 34 44.4	
KZA	Kyzart	59.11	332	P	P	11 34 46.5	+1.1
	SNR=32						
ZAK	Zakamensk	59.39	357⇑	iP	P	11 34 47.4	+0.1
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
OPO	Ambohidratompo	59.54	254	P	P	11 34 49.0	+0.6
	comp=Z,14nm,0.8s,mb5.0,baz=71,slow=4.8,SNR=13						
TKM2	Tokmak 2	59.61	333	P	P	11 34 48.6	-0.3
	SNR=36						
TKM2	Tokmak 2	59.61	333	i P	P	11 34 47.8	-1.1
TKM2				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.5						
KBK	Karagaybulak	59.70	332	P	P	11 34 50.2	+0.7
	SNR=18						
AML	Almayashu	59.88	331	P	P	11 34 51.1	+0.4
	SNR=6.9						
AAK	Ala-Archa	59.89	332	P	P	11 34 51.6	+0.8
	SNR=8.0						
AAK	Ala-Archa	59.89	332	⇓P	P	11 34 50.0	-0.8
	SNR=8.0						
AAK	Ala-Archa	59.89	332	eP	P	11 34 50.0	-0.8
AAK				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
AAK	Ala-Archa	59.89	332	eP	P	11 34 50.0	-0.8
	comp=Z,16nm,1.0s,mb5.0						
AAK				⇑eP		11 34 50.3	
FRU	Bishkek	59.99	332	eP	P	11 34 50.0	-1.5
FRU				e	pP	11 35 03.0	-0.2
MK31	Makanchi Array	60.19	340	P	P	11 34 50.3	-2.5
MK31				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.2						
MKAR	Makanchi Array	60.19	340	P	P	11 34 52.1	-0.8
	comp=Z,51nm,0.9s,mb5.6,baz=145,slow=7.8,SNR=131						
MKAR	Makanchi Array	60.19	340	i P	P	11 34 52.7	-0.1
MKAR				pmax	pmax		
	comp=Z,51nm,0.9s						
EKS2	Erkin-Say	60.25	331	P	P	11 34 54.0	+0.7
	SNR=7.4						
USP	Ospenovka	60.38	332	P	P	11 34 54.0	-0.1
	SNR=14						
ASHO	Ashiyiah	60.75	305	⇑P	P	11 34 56.0	-0.6
	SNR=11						
IRK	Irkutsk	61.19	357	eP	P	11 34 59.6	0.0
IRK				pmax	pmax		
	comp=Z,38nm,1.4s,mb5.3						
ASAJ	Asahikawa	61.56	28	P	P	11 35 01.9	-0.3
	comp=Z,9.1nm,0.6s,mb5.1,baz=239,slow=9.2,SNR=20						
ASAJ	Asahikawa	61.56	28	P	P	11 35 01.9	-0.2
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KLR	Kul'dur	61.73	17	eP	P	11 34 58.2	-5.1
HABR	Khabarovsk	62.11	20	eP	P	11 35 04.6	-1.2
HABR				eS	S	11 43 24.6	-3.5
HABR				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.2						
KK31	Karatay Array	62.17	330	i P	P	11 35 04.9	-1.3
KK31				pmax	pmax		
	comp=Z,2.0nm,0.2s,mb4.9						
KKAR	Karatay Array	62.17	330	i P	P	11 35 04.9	-1.3
YSS	Yuzh-Sakhalins	63.83	26⇑	eP	P	11 35 16.8	-0.4
YSS				eP		11 35 17.1	
KURK	Kurchatov	64.81	340	⇓P	P	11 35 23.6	-0.1
	SNR=13						
KURK	Kurchatov	64.81	340	eP	P	11 35 23.3	-0.3
KURK				pmax	pmax		
	comp=Z,17nm,1.8s,mb4.8						
KURK	Kurchatov	64.81	340	eP	P	11 35 23.2	-0.4
	comp=Z,17nm,1.8s,mb4.8						
KURK				eP		11 35 23.7	
MAW	Mawson	65.64	197⇑	iP	P	11 35 28.6	-0.5
	comp=Z,26nm,0.8s,mb5.3						
MAW	Mawson	65.64	197	P	P	11 35 28.7	-0.4
	comp=Z,33nm,0.8s,mb5.4,baz=49,slow=7.1,SNR=68						
MAW	Mawson	65.64	197	P	P	11 35 28.7	-0.4
MAW				pmax	pmax		
	comp=Z,33nm,0.8s						
ZAL	Zalesovo	65.80	345	P	P	11 35 29.3	-0.8
	comp=Z,5.2nm,0.5s,mb4.9,baz=313,slow=3.4,SNR=20						
ZAL	Zalesovo	65.80	345	P	P	11 35 29.3	-0.8
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZAL	Zalesovo	65.80	345	P	P	11 35 29.3	-0.8
KRAR	Krasnoyarsk	66.09	351⇑	eP	P	11 35 27.6	-4.4
KRAR				pmax	pmax		
	comp=Z,44nm,0.6s,mb5.7						
BOD	Bodaibo	66.88	3	eP	P	11 35 35.4	-1.6
BOD				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
BVA0	Borovoye Array	69.68	337	i P	P	11 35 54.1	-0.4
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BVAR	Borovoye Array	69.68	337	P	P	11 35 53.4	-1.2
	comp=Z,17nm,0.7s,mb5.1,baz=143,slow=8.5,SNR=69						
BVAR	Borovoye Array	69.68	337	P	P	11 35 53.4	-1.1
BVAR				pmax	pmax		
	comp=Z,17nm,0.7s						
BRVK	Borovoye	69.75	337	eP	P	11 35 54.8	-0.1
CHKZ	Chkalovo	70.09	337	eP	P	11 35 56.5	-0.6
CHKZ				pmax	pmax		
	comp=Z,20nm,0.5s,mb5.3						
CHKZ	Chkalovo	70.09	337	eP	P	11 35 56.5	-0.6
	comp=Z,20nm,0.5s,mb5.3						
ZRNK	Zerenda	70.17	336	eP	P	11 35 56.7	-0.8
ZRNK				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.2						
ZRNK	Zerenda	70.17	336	eP	P	11 35 56.6	-0.9
	comp=Z,17nm,0.6s,mb5.1						
KMBO	Kilima Mbogo	70.80	272	P	P	11 36 01.8	+0.4
	comp=Z,6.0nm,0.8s,mb4.5,baz=52,slow=9.4,SNR=13						
KMBO	Kilima Mbogo	70.80	272	P	P	11 36 01.8	+0.4
KMBO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KMBO	Kilima Mbogo	70.80	272	P	P	11 36 01.8	+0.4
YAK	Yakutsk	72.91	11d	eP	P	11 36 12.9	-1.1
YAK				pmax	pmax		
	comp=Z,68nm,0.8s,mb5.6						
YAK	Yakutsk	72.91	11	eP	P	11 36 12.0	-2.0
YAK				eP		11 36 13.6	
AKTK	Aktyubinsk	73.42	329	P	P	11 36 17.0	-0.1
AKTO	Aktyubinsk	73.42	329	P	P	11 36 17.0	-0.1
	comp=Z,11nm,1.0s,mb4.7,baz=107,slow=12,SNR=13						
AKTO	Aktyubinsk	73.42	329	i P	P	11 36 16.4	-0.7
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
VNDA	Vanda	73.72	169	P	P	11 36 18.3	-0.5
	comp=Z,17nm,0.8s,mb5.1,baz=310,slow=5.9,SNR=93						
VNDA	Vanda	73.72	169	P	P	11 36 18.3	-0.5
VNDA				pmax	pmax		
	comp=Z,17nm,0.8s						
SYO	Syowa Base	73.87	200⇓	eP	P	11 36 18.4	-1.3
SBA	Scott Base	74.80	169	eP	P	11 36 25.0	-0.1
SBA				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
SBA	Scott Base	74.80	169	eP	P	11 36 25.0	-0.1
	comp=Z,19nm,0.8s,mb5.1						
PET	Petropavlovsk	75.36	29⇑	eP	P	11 36 28.1	-0.2
PET				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.1						
PET	Petropavlovsk	75.36	29⇑	eP	P	11 36 28.2	-0.1
GNI	Garni	76.13	315⇓	eP	P	11 36 33.3	+0.6
SVE	Sverdlovsk	76.33	335	eP	P	11 36 33.8	0.0
MA2	Magadan	76.50	21⇑	eP	P	11 36 35.1	+0.3
MA2				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
MA2	Magadan	76.50	21	eP	P	11 36 35.0	+0.2
ARU	Arti	76.94	334⇑	iP	P	11 36 37.1	-0.2
ARU				e	pP	11 36 48.3	-1.0
ARU				e		11 39 31.5	
ARU				eS	S	11 46 21.5	-0.9
ARU				eSS	SS	11 51 20.5	+1.0
ARU				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
ARU	Arti	76.94	334	eP	P	11 36 37.1	-0.1
MBAR	Mbarara	77.31	271⇓	eP	P	11 36 40.3	+0.9
ZEI	Tsey	77.80	317	eP	P	11 36 42.7	+0.6
ZEI				e*PP	pP	11 36 59.5	+5.3
ZEI				pmax	pmax		
	comp=Z,12nm,0.4s,mb5.2						
LSZ	Lusaka	77.88	256	eP	P	11 36 42.8	+0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSZ				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
LSZ	Lusaka	77.88	256	eP	P	11 36 42.8	+0.3
	comp=Z,7.5nm,0.8s,mb4.7						
KIV	Kislovodsk	79.09	318⇑	iP	P	11 36 49.5	+0.3
KIV				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
ASF	Jabal al Asfar	79.16	305	P	P	11 36 51.2	+1.6
	comp=Z,9.5nm,0.8s,mb4.8,baz=8.8,slow=3.9,SNR=16						
ASF	Jabal al Asfar	79.16	305	P	P	11 36 51.2	+1.6
ASF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LBTB	Lobatse	79.35	246	eP	P	11 36 51.2	+0.6
LBTB				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
LBTB	Lobatse	79.35	246	eP	P	11 36 51.2	+0.5
	comp=Z,8.2nm,0.8s,mb4.7						
EIL	Elat	80.02	302	eP	P	11 36 55.1	+0.8
	comp=Z,172nm,0.8s,mb6.0						
MMAI	Mount Meron Ar	80.61	306	P	P	11 36 58.7	+1.2
	comp=Z,6.4nm,0.6s,mb4.7,baz=100,slow=9.6,SNR=7.4						
QSPA	South Pole Qui	80.89	180	eP	P	11 36 57.2	-1.7
	comp=Z,19nm,0.8s,mb5.1						
TIXI	Tiksi	81.78	7	deP	P	11 37 02.7	-0.9
TIXI				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.2						
SUR	Sutherland	82.81	238	eP	P	11 37 10.2	+1.1
ANN	Anapa	82.90	317	eP	P	11 37 08.1	-1.4
ANN				i *PP	pP	11 37 27.1	+5.4
ANN				e		11 40 18.8	
ANN				eS	S	11 47 21.4	-3.9
ANN				pmax	pmax		
	comp=Z,53nm,1.8s,mb5.3						
BOYT	Boyabat	83.54	314	i P	P	11 37 13.9	+1.1
BR131	Keskin Array S	83.95	312	eP	P	11 37 15.3	+0.4
	comp=Z,7.4nm,0.8s,mb4.9						
BRTR	Keskin Array B	83.95	312	P	P	11 37 15.3	+0.4
	comp=Z,8.4nm,0.8s,mb4.9,baz=125,slow=7.7,SNR=43						
BRTR	Keskin Array B	83.95	312	i P	P	11 37 15.3	+0.4
BRTR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SGKT	Sivrigoynuk	85.36	312	i P	P	11 37 22.7	+0.7
ESKT	Eskisehir	85.96	311	i P	P	11 37 25.6	+0.6
TKTP	Tekketepe	85.98	309	i P	P	11 37 25.5	+0.4
OBN	Obninsk	87.02	327⇑	eP	P	11 37 30.0	-0.2
OBN				e*PP	pP	11 37 42.1	-0.3
OBN				e		11 40 54.1	
OBN				eSS	SS	11 53 47.7	-1.7
OBN				pmax	pmax		
	comp=Z,61nm,2.5s,mb5.4						
OBN				MLR	MLR		
	comp=Z,1µm,16.0s,MS5.4						
ULDT	Uludag	87.40	311	i P	P	11 37 33.4	+1.3
TSUM	Tsumeb	87.42	251	eP	P	11 37 33.1	+0.9
	comp=Z,6.9nm,0.9s,mb4.9						
KLMR	Klimovskoe	87.69	333	eP	P	11 37 32.4	-1.0
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.0						
SNAA	Sanae	87.81	197	eP	P	11 37 32.7	-1.3
SNAA				e		11 37 34.5	
SNAA				e		11 37 39.7	
SNAA				e	pP	11 37 45.1	-1.2
SNAA				e		11 37 50.0	
SNAA				e		11 38 07.9	
SNAA				e		11 38 18.4	
SNAA	Sanae	87.81	197	eP	P	11 37 33.4	-0.6
SNAA				e	pP	11 37 44.8	-1.5
SNAA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SNAA	Sanae	87.81	197	eP	P	11 37 33.4	-0.6
	comp=Z,7.0nm,0.9s,mb4.9						
SNAA				e	pP	11 37 44.8	-1.4
IDI	Anoyia	89.62	306	P	P	11 37 43.6	+1.1
	comp=Z,16nm,0.9s,mb5.3,baz=90,slow=9.1,SNR=4.5						
VNA1	Neumayer--Stat	89.84	197	eP	P	11 37 43.7	+0.1
VNA1				e		11 37 44.8	
VNA1				e		11 37 49.4	
VNA1				e	pP	11 37 55.3	-0.5
VNA1				e		11 38 00.0	
VNA1				e		11 38 12.5	
VNA1				e		11 38 17.3	
VNA1				e		11 38 28.3	
AKASG	Malin Array Be	89.94	321	P	P	11 37 43.5	-0.5
	comp=Z,1.2nm,0.6s,mb4.4,baz=87,slow=4.4,SNR=4.8						
AKASG				PP	PP	11 41 15.7	-1.4
	comp=Z,0.3nm,0.3s,baz=91,slow=6.4,SNR=5.6						
AKASG	Malin Array Be	89.94	321	P	P	11 37 43.6	-0.4
AKASG						11 41 15.7	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MLR	Muntele Rosu	90.89	316	P	P	11 37 49.6	+1.1
	comp=Z,4.7nm,0.8s,mb4.9,baz=178,slow=3.8,SNR=6.4						
MLR				PP	PP	11 41 26.4	+1.7
	comp=Z,7.5nm,1.1s,baz=198,slow=13,SNR=2.9						
MLR	Muntele Rosu	90.89	316	P	P	11 37 49.6	+1.1
MLR						11 41 26.4	
MLR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MLR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
FINES	FINESS Array B	94.08	332	P	P	11 38 02.7	-0.5
	comp=Z,2.1nm,0.8s,mb4.6,baz=60,slow=3.9,SNR=4.7						
FINES				PP	PP	11 41 54.5	+4.7
	comp=Z,1.7nm,0.9s,baz=62,slow=12,SNR=1.8						
FINES	FINESS Array B	94.08	332	P	P	11 38 02.7	-0.5
FINES						11 41 54.5	
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	FINESS Array B	94.08	332	P	P	11 38 02.7	-0.5
FINES				PP	PP	11 41 54.5	+4.7
ARCES	ARCESS Array B	95.84	339	P	P	11 38 11.4	+0.2
	comp=Z,3.0nm,1.0s,mb4.7,baz=108,slow=5.9,SNR=4.0						
ARCES	ARCESS Array B	95.84	339	P	P	11 38 11.4	+0.2
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TORD	Torodi Ar. Bea	107.78	281	PKiKP	PKiKP	11 43 12.7	+0.7
	comp=Z,0.5nm,0.8s,baz=49,slow=1.4,SNR=5.2						
YKA	Yellowknife Ar	118.48	21	PKP	PKPdf	11 43 32.0	-0.3
	comp=Z,1.9nm,0.8s,baz=321,slow=1.8,SNR=9.4						
YKA				PP	PP	11 44 47.8	-1.6
	comp=Z,0.6nm,0.6s,baz=306,slow=5.0,SNR=4.2						
YKA	Yellowknife Ar	118.48	21	PKIKP	PKPdf	11 43 32.0	-0.3
YKA						11 44 47.8	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	118.48	21	PKP	PKPdf	11 43 32.0	-0.3
YKA				PP	PP	11 44 47.9	-1.6
B05A	Bryant	122.72	38	⇑P	PKPdf	11 43 42.3	+1.8
	baz=123						
C05A	Tolt Reservoir	123.22	38	⇑P	PKPdf	11 43 42.6	+1.2
	baz=123						
H03A	Soap Creek Ran	123.44	42	⇓P	PKPdf	11 43 44.5	+2.7
	baz=124						
F04A	Amboy	123.50	40	⇓P	PKPdf	11 43 43.9	+2.0
	baz=124						
E05A	Randle	123.66	39	⇓P	PKPdf	11 43 43.8	+1.6
	baz=124						
J02A	Umpqua	123.74	43	⇓P	PKPdf	11 43 44.8	+2.4
	baz=124						
F05A	White Salmon	124.14	40	⇓P	PKPdf	11 43 44.7	+1.6
	baz=124						
J03A	Ideyld Park	124.15	43	⇑P	PKPdf	11 43 45.3	+2.1
	baz=124						
H04A	Detroit Lake	124.16	41	⇑P	PKPdf	11 43 44.8	+1.6
	baz=124						
HUMO	Hull Mountain	124.44	44	⇓P	PKPdf	11 43 45.9	+2.1
	baz=124						
H05A	Madras	124.80	41	⇓P	PKPdf	11 43 46.7	+2.2
	baz=125						
EDM	Edmonton	124.86	29	ePKIKP	PKPdf	11 43 45.4	+0.8
M02C	Callahan	124.95	45	⇑P	PKPdf	11 43 47.4	+2.6
	baz=125						
L04A	Klamath Falls	125.34	44	⇓P	PKPdf	11 43 47.4	+2.0
	baz=125						
O02C	Red Bluff	125.42	47	⇓P	PKPdf	11 43 48.4	+2.8
	baz=126						
FARB	Farallon Islan	126.08	50	⇓P	PKPdf	11 43 49.8	+2.9
	baz=126						
J06A	Christmas Vall	126.09	42	⇓P	PKPdf	11 43 49.5	+2.6
	baz=126						
MNRC	McLaughlin Nat	126.12	48	⇓P	PKPdf	11 43 49.9	+2.9
	baz=126						
HATC	Hat Creek Radi	126.14	46	⇓P	PKPdf	11 43 49.1	+2.1
	baz=126						
K06A	Valley Falls	126.20	43	⇑P	PKPdf	11 43 50.0	+2.9
	baz=126						
ORV	Oroville	126.57	47	⇓P	PKPdf	11 43 48.3	+0.5
	baz=127						
O04C	Chester	126.59	46	⇓P	PKPdf	11 43 50.5	+2.6
	baz=127						
O05C	Quincy	126.84	46	⇓P	PKPdf	11 43 51.4	+3.0
	baz=127						
J08A	Circle Bar Ran	127.15	42	⇑P	PKPdf	11 43 51.8	+2.9
	baz=127						
P05C	Yuba Gap, Truc	127.31	47	⇓P	PKPdf	11 43 52.1	+2.9
	baz=127						
N06A	Buffalo Meadow	127.31	45	⇓P	PKPdf	11 43 51.8	+2.5
	baz=127						
LAVA	Lava Cap Winer	127.41	48	⇑P	PKPdf	11 43 52.3	+2.9
	baz=128						
M07A	Soldier Meadow	127.51	44	⇓P	PKPdf	11 43 52.2	+2.6
	baz=128						
O06A	Flanigan	127.54	46	⇑P	PKPdf	11 43 52.2	+2.5
	baz=128						
PACP	Pacheco Peak	127.60	50	⇓P	PKPdf	11 43 52.4	+2.6
	baz=128						
R05C	Kirkwood Meado	127.91	48	⇑P	PKPdf	11 43 53.1	+2.8
	baz=128						
O07A	Toulon	128.21	45	⇓P	PKPdf	11 43 53.8	+2.9
	baz=128						
S06C	San Francisco	128.37	48	⇓P	PKPdf	11 43 53.6	+2.3
	baz=128						
N08A	GE Springer Mi	128.48	44	⇑P	PKPdf	11 43 53.9	+2.4
	baz=128						
M09A	Marrel Ranch,	128.67	43	⇑P	PKPdf	11 43 55.1	+3.2
	baz=129						
N09A	Rock Creek Ran	128.87	44	⇑P	PKPdf	11 43 55.3	+3.1
	baz=129						
NVAR	Mina Array Bea	129.30	47	PKP	PKPdf	11 43 55.0	+2.0
	comp=Z,1.3nm,0.8s,baz=228,slow=2.5,SNR=11						
BOZ	Bozeman (W)	130.23	36	ePKIKP	PKPdf	11 43 57.2	+2.4
S09A	Goldfield	130.36	48	⇓P	PKPdf	11 43 57.8	+2.7
	baz=130						
M13A	Montello	130.90	42	⇑P	PKPdf	11 43 60.0	+3.9
	baz=131						
Q11A	Duckwater	131.03	46	⇓P	PKPdf	11 43 59.1	+2.8
	baz=131						
GCMT	Greycliff	131.26	35	ePKPdf	PKPdf	11 43 59.8	+3.0
P12A	McGill	131.27	45	⇑P	PKPdf	11 44 00.1	+3.3
	baz=131						
U10A	Ash Meadows, A	131.53	49	⇑P	PKPdf	11 44 01.2	+3.9
	baz=132						
GSC	Goldstone	131.59	50	⇓P	PKPdf	11 44 01.3	+3.9
	baz=132						
V12A	Nelson	132.90	49	⇓P	PKPdf	11 44 03.6	+3.7
	baz=133						
PDAR	Pinedale Array	133.09	38	PKP	PKPdf	11 44 02.6	+2.4
	comp=Z,0.8nm,0.7s,baz=278,slow=0.9,SNR=8.0						
MSU	Marysvale	133.60	44	ePKIKP	PKPdf	11 44 05.4	+4.2
X13A	Yucca	134.12	50	⇑P	PKPdf	11 44 05.5	+3.3
	baz=134						
W14A	Seligman	134.43	49	⇑P	PKPdf	11 44 07.0	+4.2
	baz=134						
PV10	Paradox Valley	135.81	43	ePKPdf	PKPdf	11 44 08.4	+3.1
ANMO	Albuquerque	139.35	46⇑	iPKIKP	PKPdf	11 44 13.5	+1.7
CFAA	Coronel Fontan	139.35	185	PKhKP		11 44 06.5	
	comp=Z,0.3nm,0.7s,baz=297,slow=2.5,SNR=4.5						
CPUP	Villa Florida	141.99	202	PKhKP		11 44 13.9	
	comp=Z,3.2nm,0.8s,baz=138,slow=4.5,SNR=8.8						
PKME	Peaks-Kenny Pk	143.91	357	ePKPdf	PKPdf	11 44 18.4	-1.6
LTX	Lajitas	144.17	52	ePKIKP	PKPdf	11 44 21.4	+1.0
FRNY	Flat Rock	144.38	2	ePKPdf	PKPdf	11 44 19.5	-1.3
LONY	Lake Ozonia	144.56	3	ePKPdf	PKPdf	11 44 20.3	-0.8
WMOK	Wichita Mounta	144.63	40	ePKIKP	PKPdf	11 44 21.7	+0.5
LBNH	Lisbon	145.01	360	ePKIKP	PKPdf	11 44 21.7	-0.2
MIV	Mineville/With	145.15	2	ePKPbc	PKPbc	11 44 22.5	+0.8
NCB	Newcomb	145.22	3	ePKPbc	PKPbc	11 44 22.4	+0.4
BDFB	Brasilia	145.79	224	PKPbc	PKPbc	11 44 25.7	+1.9
	comp=Z,19nm,0.7s,baz=119,slow=1.5,SNR=27						
BDFB	Brasilia	145.79	224	PKP2	PKPab	11 44 25.7	+1.5
BDFB				pmax	pmax		
	comp=Z,19nm,0.7s						
ACCN	Adirondack Com	145.83	2	ePKPbc	PKPbc	11 44 24.8	+0.9
CCM	Cathedral Cave	146.38	28	ePKPdf	PKPdf	11 44 23.9	-0.3
CCM				ePKPbc	PKPbc	11 44 26.4	+0.9
JCT	Junction City	146.48	47	ePKP2	PKPab	11 44 28.3	+1.5
FVM	French Village	146.81	27	ePKIKP	PKPdf	11 44 24.9	-0.1
FVM				e		11 44 27.7	
BINY	Binghamton	146.86	5	ePKPdf	PKPdf	11 44 24.2	-0.9
BINY				ePKPbc	PKPbc	11 44 28.0	+1.0
ACSO	Alum Creek Sta	147.51	16	ePKPbc	PKPbc	11 44 29.8	+1.0
MIAR	Mount Ida	147.88	35	ePKIKP	PKPdf	11 44 27.3	+0.5
MIAR				e		11 44 31.3	
SSPA	Standing Stone	148.18	8	ePKPbc	PKPbc	11 44 31.2	+0.6
PAL	Palisades	148.19	3	ePKIKP	PKPdf	11 44 27.0	-0.3
PAL				e		11 44 31.7	
PAL				e		11 44 34.5	
PARMO	Parma	148.20	28	ePKPdf	PKPdf	11 44 28.7	+1.4
PARMO				ePKPbc	PKPbc	11 44 32.3	+1.7
WCI	Wyandotte Cave	148.29	22	ePKP2	PKPab	11 44 32.3	-1.7
LVC	Limon Verde	148.32	185	PKPbc	PKPbc	11 44 33.7	+2.7
	comp=Z,14nm,0.7s,baz=234,slow=2.3,SNR=17						
UALR	University of	148.39	33	ePKPdf	PKPdf	11 44 28.1	+0.5
UALR				ePKPbc	PKPbc	11 44 32.6	+1.5
UALR				ePKPab	PKPab	11 44 34.6	+0.2
MCWV	Mont Chateau	148.79	12	ePKPdf	PKPdf	11 44 29.5	+1.2
MCWV				ePKPbc	PKPbc	11 44 33.8	+1.6
MCWV				ePKPab	PKPab	11 44 35.7	-0.3
WVT	Waverly	149.50	26	ePKPbc	PKPbc	11 44 34.7	+0.8
WVT				ePKPab	PKPab	11 44 39.5	+0.7
HKT	Hockley	149.57	44	ePKIKP	PKPdf	11 44 28.6	-0.9
HKT				e		11 44 37.0	
HKT				e		11 44 39.5	
OXF	Oxford	150.11	30	ePKPdf	PKPdf	11 44 30.9	+0.6
OXF				ePKPbc	PKPbc	11 44 36.5	+1.1
OXF				ePKPab	PKPab	11 44 43.0	+1.6
PLAL	Pickwick Lake	150.35	27	ePKPdf	PKPdf	11 44 31.0	+0.3
PLAL				ePKPbc	PKPbc	11 44 36.7	+0.7
FWV	Forest Hill	150.56	14	ePKPdf	PKPdf	11 44 32.1	+1.0
FWV				ePKPbc	PKPbc	11 44 37.1	+0.6
FWV				ePKPab	PKPab	11 44 44.1	+0.8
TZTN	Tazewell	150.75	19	ePKPdf	PKPdf	11 44 32.1	+0.8
TZTN				ePKPbc	PKPbc	11 44 37.5	+0.6
TZTN				ePKPab	PKPab	11 44 43.4	-0.6
ELN	Prospectdale	150.91	14	ePKPdf	PKPdf	11 44 32.4	+0.8
ELN				ePKPbc	PKPbc	11 44 38.0	+0.7
BLA	Blacksburg	151.01	14	ePKIKP	PKPdf	11 44 32.5	+0.8
BLA				e		11 44 38.0	
BLA				e		11 44 45.6	
CPCT	Cooper Cave	151.40	22	ePKPdf	PKPdf	11 44 33.6	+1.3
CPCT				ePKPbc	PKPbc	11 44 39.6	+1.1
MYNC	Murphy	151.88	21	ePKIKP	PKPdf	11 44 35.0	+1.9
MYNC				e		11 44 40.4	
MYNC				e		11 44 47.0	
LRAL	Lakeview Retre	152.46	28	ePKPdf	PKPdf	11 44 35.9	+1.9
LRAL				ePKPbc	PKPbc	11 44 41.9	+1.1
LRAL				ePKPab	PKPab	11 44 51.2	+0.1
SIV	San Ignacio	152.81	204	PKP	PKPdf	11 44 36.4	+2.0
	comp=Z,3.1nm,0.8s,baz=137,slow=2.1,SNR=16						
SIV				PKPbc	PKPbc	11 44 43.3	+1.6
	comp=Z,21nm,0.8s,baz=130,slow=2.3,SNR=72						
SIV				PKPab	PKPab	11 44 54.3	+1.7
	comp=Z,14nm,0.8s,baz=120,slow=6.1,SNR=7.2						
LPAZ	La Paz	154.47	189	PKP	PKPdf	11 44 39.5	+2.7
	comp=Z,1.2nm,0.9s,baz=62,slow=9.2,SNR=4.5						
LPAZ				PKPbc	PKPbc	11 44 48.6	+3.4
	comp=Z,3.1nm,0.7s,baz=203,slow=3.6,SNR=14						
LPAZ				PKPab	PKPab	11 45 01.6	+1.9
	comp=Z,3.4nm,0.8s,baz=217,slow=7.9,SNR=7.0						
LPAZ	La Paz	154.47	189	PKIKP	PKPdf	11 44 39.5	+2.7
LPAZ						11 44 48.6	
LPAZ						11 45 01.6	
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						

MEX 17 11:24:59.7±0.8**,1664N**×**9785W,h97**km±53km**,MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VHO	Vista Hermosa	1.15	68	i P	Pn	11 25 19.7	-1.8
VHO				i S	Sn	11 25 37.5	-0.4
OXX	Oaxaca	1.16	68	i P	Pn	11 25 19.5	-2.1
OXX				i S	Sn	11 25 37.5	-0.7
UTMO	Huajuapan	1.18	2	eP	Pn	11 25 22.0	+0.1
UTMO				i S	Sn	11 25 37.4	-1.2
ACX	Acapulco	2.00	277	eP	Pn	11 25 29.5	-2.6
ACX				i S	Sn	11 25 56.0	-0.8
MEIG	Mezcala	2.12	307	eP	Pn	11 25 33.7	0.0
MEIG				i S	Sn	11 25 57.3	-2.4
CAIG	El Cayaco	2.35	280	i S	Sn	11 26 06.6	+1.5

IDC 17 11:25:15.0±1.4**,911S**×**10801E,h0**km**,mb4.9**/7**,mb1 4.9**/7**, mb1mx4.7**/18**,mbtmp4.9**/7**,MS4.8**/1**,Ms1 4.8**/1**, ms1mx3.9**/35**,Error ellipse: s-maj=47.8km s-min=27.4km az=38.0,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	28.68	123	P	P	11 31 14.1	+0.5
	6.3nm,0.7s,baz=300,slow=9.2,SNR=5.3						
GUMO	Guam	42.98	59	LR	LR	11 51 30.1	
	comp=Z,1µm,22.0s,baz=15,slow=37						
MJAR	Matsushiro Arr	53.55	30	P	P	11 34 37.4	-0.1
	6.5nm,0.7s,baz=207,slow=8.0,SNR=5.6						
SONM	Songino Array	56.71	359	P	P	11 35 01.1	+0.7
	10nm,0.7s,baz=168,slow=7.8,SNR=6.3						
WSAR	Wadi Sarin	58.01	305	P	P	11 35 09.9	+0.4
	9.6nm,0.8s,baz=105,slow=7.2,SNR=4.1						
MKAR	Makanchi Array	60.20	340	P	P	11 35 24.8	+0.1
	19nm,0.6s,baz=145,slow=7.9,SNR=7.3						
BVAR	Borovoye Array	69.69	337	P	P	11 36 26.2	-0.3
	9.8nm,0.6s,baz=145,slow=8.7,SNR=5.7						
MMAI	Mount Meron Ar	80.63	306	P	P	11 37 30.2	+0.6
	5.7nm,0.6s,baz=94,slow=6.8,SNR=4.6						

*ISCJB **17** 11:28:46.1±0.3, 927S±005×10870E±006, h33km, mb5.0/57, Error ellipse: s-maj=9.5km s-min=6.4km az=137.7*
*MOS **17** 11:28:46.5±1.2, 921S×10867E, h33km, mb5.4/18, Error ellipse: s-maj=13.0km s-min=7.3km az=110.8*
*BJI **17** 11:28:46.1, 930S×10860E, h33km, mB5.9, mb5.1, Ms5.8, Msz5.5*
*IDC **17** 11:28:47.8±0.5, 933S×10859E, h31km±3km, mb4.5/20, mb1 4.6/21, mb1mx4.6/23, mbtmp4.7/21, ML4.3/1, Error ellipse: s-maj=18.0km s-min=10.9km az=68.0*
*NEIC **17** 11:28:48.1±0.2, 929S×10857E, mb5.3/17, Error ellipse: s-maj=8.2km s-min=5.0km az=58.0*
ISC 17 11:28:48.3±0.3**,930S**±005×**10867E**±006**,h35**km**, h35**km±1.0km**:pP-P,n146,**σ0.86/109**,mb5.0**/57**,17C-8D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.65	120	P	Pn	11 33 03.5	0.0
	0.7nm,0.3s,baz=291,slow=6.1,SNR=5.8						
NWAO	Narrogin (SRO)	24.81	163	P	P	11 34 05.7	-1.2
	22nm,0.8s,mb4.7,baz=322,slow=12,SNR=6.5						
NWAO	Narrogin (SRO)	24.81	163	P	P	11 34 05.7	-1.2
NWAO				eP		11 34 07.6	
WRA	Warramunga Arr	26.96	116	P	P	11 34 27.0	+0.6
	13nm,0.8s,mb4.5,baz=287,slow=11,SNR=8.4						
WRAB	Tennant Creek	26.96	116⇑	eP	P	11 34 26.5	0.0
WRAB	Tennant Creek	26.96	116	eP	P	11 34 27.1	+0.7
ASAR	Alice Springs	28.03	124	P	P	11 34 36.5	+0.5
	7.8nm,0.8s,mb4.4,baz=296,slow=9.5,SNR=5.1						
ASAR				PcP	PcP	11 37 51.8	+1.6
	6.3nm,0.8s,baz=322,slow=1.8,SNR=7.2						
KMI	Kunming	34.70	351	P	P	11 35 36.0	+1.4
KMI				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.8						
GYA	Guiyang	35.60	357⇑	iP	P	11 35 43.8	+1.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CTA	Charters Tower	37.82	111	eP	P	11 36 03.3	+2.0
	comp=Z,8.2nm,0.8s,mb4.5						
CTA	Charters Tower	37.82	111	P	P	11 36 03.3	+2.1
	comp=Z,9.3nm,0.7s,mb4.6,baz=265,slow=12,SNR=6.2						
CTA	Charters Tower	37.82	111	eP	P	11 36 03.3	+2.0
CTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CTAO	Charters Tower	37.82	111	eP	P	11 36 03.6	+2.3
CTAO				e	pP	11 36 13.8	+2.3
CD2	Chengdu	40.26	353⇑	iP	P	11 36 21.9	+0.2
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
JOW	Kunigami	40.65	27	P	P	11 36 26.2	+1.3
	comp=Z,21nm,0.8s,mb4.8,baz=212,slow=8.3,SNR=4.1						
SSE	Sheshan	41.92	16	eP	P	11 36 34.8	-0.6
SSE				AMB	AMB		
	comp=Z,35nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,4µm,12.0s						
NJ2	Nanjing	42.26	13	eP	P	11 36 38.5	+0.4
NJ2				AP	pP	11 36 48.3	-0.1
NJ2				XP	sP	11 36 56.1	+3.4
NJ2				PP	PP	11 38 19.6	+3.3
NJ2				AMB	AMB		
	comp=Z,40nm,1.2s						
NJ2				AMB	AMB		
	comp=Z,1µm,4.6s						
NJ2				LR	LR		
	comp=N,21µm,12.4s						
NJ2				LR	LR		
	comp=E,11µm,14.6s						
NJ2				LR	LR		
	comp=Z,17µm,14.6s						
JIRN	Jiri	42.71	330	eP	P	11 36 41.9	+0.2
	comp=Z,142nm,1.1s,mb5.6						
PKI	Pulchoki	43.02	329	eP	P	11 36 44.0	-0.3
	comp=Z,64nm,1.1s,mb5.2						
PKI	Pulchoki	43.02	329	eP	P	11 36 44.0	-0.3
PKI				pmax	pmax		
	comp=Z,64nm,1.1s,mb5.3						
GUN	Gumba	43.07	330	eP	P	11 36 44.8	+0.1
	comp=Z,322nm,1.5s,mb5.8						
XAN	Xi'an	43.10	0	P	P	11 36 44.9	0.0
XAN				AMB	AMB		
	comp=Z,46nm,1.0s,mb5.2						
DMN	Daman	43.21	329	eP	P	11 36 45.6	-0.2
	comp=Z,133nm,1.0s,mb5.6						
KKN	Kakani	43.27	329	eP	P	11 36 46.0	-0.3
	comp=Z,106nm,1.0s,mb5.5						
KKN	Kakani	43.27	329	eP	P	11 36 46.0	-0.3
KKN				pmax	pmax		
	comp=Z,106nm,1.0s,mb5.5						
GKN	Gorkha	43.77	329	eP	P	11 36 49.0	-1.3
	comp=Z,156nm,1.0s,mb5.7						
KOLN	Koldanda	44.12	327	eP	P	11 36 53.0	-0.2
	comp=Z,172nm,1.0s,mb5.8						
LZH	Lanzhou	45.37	355	eP	P	11 37 04.8	+1.7
LZH				AP	pP	11 37 14.6	+1.1
LZH				XP	sP	11 37 18.5	+0.8
LZH				PP	PP	11 38 51.4	+1.8
LZH				AMB	AMB		
	comp=Z,71nm,1.2s,mb5.4						
LZH				AMB	AMB		
	comp=Z,369nm,5.1s						
TIA	Tai'an	45.96	10	eP	P	11 37 07.3	-0.5
LGTI	Lohaghat	47.27	326	eP	P	11 37 26.0	+8.0
NDI	New Delhi	48.46	322	eP	P	11 37 24.0	-3.2
GTA	Gaotai	49.15	351	eP	P	11 37 33.8	+1.2
GTA				AP	pP	11 37 44.3	+1.2
GTA				XP	sP	11 37 49.3	+2.0
GTA				PP	PP	11 39 28.4	+2.0
GTA				PPP		11 40 21.8	
GTA				S	S	11 44 36.0	+0.5
GTA				XS	sS	11 44 49.0	-3.8
GTA				SS	SS	11 48 04.0	-2.9
GTA				AMB	AMB		
	comp=Z,22nm,1.0s						
GTA				AMB	AMB		
	comp=Z,2µm,5.3s						
GTA				LR	LR		
	comp=N,4µm,13.7s						
GTA				LR	LR		
	comp=E,2µm,20.5s						
GTA				LR	LR		
	comp=Z,4µm,17.1s						
BJT	Baijiatuau	49.56	8	eP	P	11 37 36.2	+0.6
BJT				pmax	pmax		
	comp=Z,68nm,1.1s						
BJT	Baijiatuau	49.56	8	eP	P	11 37 36.2	+0.6

	comp=Z,68nm,1.1s,mb5.6						
BJI	Beijing	49.58	8	eP	P	11 37 35.9	+0.1
BJI				AMB	AMB		
	comp=Z,54nm,1.1s,mb5.5						
SNY	Shenyang	52.69	14	⇓P	P	11 37 58.5	-0.6
SNY				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
MAT	Matsushiro	53.39	30	P	P	11 38 03.0	-1.3
MJAR	Matsushiro Arr	53.39	30	P	P	11 38 02.5	-1.8
	comp=Z,2.6nm,0.6s,mb4.3,baz=198,slow=9.2,SNR=5.4						
VLA	Vladivostok	56.30	20	eP	pP	11 38 34.4	-1.7
VLA				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.2						
MDJ	Mudanjiang	56.90	18	eP	P	11 38 29.8	+0.2
SONM	Songino Array	56.92	358	P	P	11 38 30.6	+0.8
	comp=Z,16nm,0.9s,mb5.0,baz=176,slow=9.3,SNR=19						
ULN	Ulaanbaatar	56.93	359c	iP	P	11 38 30.0	+0.1
ULN	Ulaanbaatar	56.93	359	eP	P	11 38 30.5	+0.6
ULN				e	pP	11 38 40.6	+0.1
HIA	Hailar	59.12	8	⇑iP	P	11 38 45.3	+0.1
ZAK	Zakamensk	59.62	356	⇑iP	P	11 38 48.9	+0.3
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.5						
AAK	Ala-Archa	60.38	332	⇓eP	P	11 38 52.7	-1.1
AAK				pmax	pmax		
	comp=Z,14nm,2.5s,mb4.5						
AAK	Ala-Archa	60.38	332	eP	P	11 38 52.5	-1.4
	comp=Z,17nm,1.3s,mb4.9						
MKAR	Makanchi Array	60.60	339	P	P	11 38 55.0	-0.4
	comp=Z,19nm,0.9s,mb5.2,baz=141,slow=7.8,SNR=16						
MKAR				pP	pP	11 39 05.0	-1.1
	comp=Z,17nm,0.7s,baz=148,slow=7.8,SNR=13						
MKAR	Makanchi Array	60.60	339	⇑eP	P	11 38 55.0	-0.4
MOY	Mondy	61.08	355	eP	P	11 38 59.7	+1.1
MOY				pmax	pmax		
	comp=Z,49nm,2.0s,mb5.3						
IRK	Irkutsk	61.41	357	eP	P	11 39 01.1	+0.2
IRK				pmax	pmax		
	comp=Z,35nm,1.6s,mb5.2						
ASAJ	Asahikawa	61.41	27	P	P	11 39 00.3	-0.6
	comp=Z,5.3nm,0.7s,mb4.8,baz=249,slow=13,SNR=4.8						
KLR	Kul'dur	61.71	17	eP	P	11 38 58.4	-4.4
HABR	Khabarovsk	62.06	20	eP	P	11 39 04.6	-0.6
HABR				eS	S	11 47 27.5	0.0
YSS	Yuzh-Sakhalins	63.70	25	eP	P	11 39 15.9	-0.3
YSS				e	pP	11 39 27.8	+0.8
YSS				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.2						
YSS	Yuzh-Sakhalins	63.70	25	eP	P	11 39 15.8	-0.3
	comp=Z,29nm,1.2s,mb5.2						
YSS				e	pP	11 39 27.8	+0.8
KURK	Kurchatov	65.22	339	eP	P	11 39 25.6	-0.4
KURK				e		11 39 32.3	
MAW	Mawson	65.67	198	eP	P	11 39 27.9	-1.1
	comp=Z,7.0nm,0.7s,mb4.8						
MAW				e	pP	11 39 38.3	-1.5
MAW	Mawson	65.67	198	P	P	11 39 27.8	-1.1
	comp=Z,8.5nm,0.7s,mb4.9,baz=50,slow=7.1,SNR=12						
MAW				pP	pP	11 39 38.1	-1.7
	comp=Z,9.5nm,0.8s,baz=51,slow=5.7,SNR=12						
MAW	Mawson	65.67	198	eP	P	11 39 27.5	-1.5
MAW				e	pP	11 39 37.9	-1.9
MAW				e	pP	11 39 38.3	-1.5
MAW				pmax	pmax		
	comp=Z,11nm,0.8s						
MAW	Mawson	65.67	198	eP	P	11 39 27.5	-1.5
	comp=Z,11nm,0.8s,mb5.0						
MAW				eP		11 39 27.9	
MAW				e	pP	11 39 37.9	-1.9
MAW				e	pP	11 39 38.3	-1.5
ZAL	Zalesovo	66.16	345	P	P	11 39 30.7	-1.4
	comp=Z,3.9nm,0.4s,mb4.8,baz=349,slow=3.2,SNR=5.7						
ZAL				pP	pP	11 39 42.0	-0.9
	comp=Z,8.3nm,0.8s,baz=326,slow=3.6,SNR=6.8						
ZAL	Zalesovo	66.16	345	P	P	11 39 30.7	-1.5
ZAL				pP	pP	11 39 42.0	-0.9
BOD	Bodaibo	67.03	3	eP	P	11 39 36.3	-1.4
BOD				e	pP	11 39 46.4	-2.1
BOD				pmax	pmax		
	comp=Z,15nm,1.7s,mb4.8						
BOD				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.2						
NVS	Novosibirsk	67.38	344	eP	P	11 39 36.5	-3.4
NVS				pmax	pmax		
	comp=Z,30nm,1.9s,mb5.0						
NVS				pmax	pmax		
	comp=N,15nm,1.6s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.3s						
BVAR	Borovoye Array	70.12	337	P	P	11 39 56.4	-0.5
	comp=E,12nm,0.8s,mb4.8,baz=141,slow=7.6,SNR=13						
BVAR				pP	pP	11 40 06.5	-1.3
	comp=E,24nm,0.7s,baz=142,slow=8.0,SNR=14						
BRVK	Borovoye	70.19	337	eP	P	11 39 57.2	-0.2
BRVK				e	pP	11 40 07.3	-1.0
CHKZ	Chkalovo	70.53	337	eP	P	11 39 59.1	-0.4
ZRNK	Zerenda	70.61	336	eP	P	11 39 59.5	-0.5
KMBO	Kilima Mbogo	71.48	272	P	P	11 40 06.1	+0.9
	comp=E,1.4nm,0.8s,mb3.9,baz=148,slow=15,SNR=3.0						
KMBO				pP	pP	11 40 16.2	0.0
	comp=E,2.4nm,0.8s,baz=51,slow=11,SNR=4.3						
KMBO	Kilima Mbogo	71.48	272	P	P	11 40 06.1	+0.8
KMBO				pP	pP	11 40 16.2	0.0
YAK	Yakutsk	72.97	10d	iP	P	11 40 13.6	-0.6
YAK				pmax	pmax		
	comp=Z,65nm,1.0s,mb5.5						
YAK	Yakutsk	72.97	10	eP	P	11 40 13.9	-0.2
	comp=Z,46nm,0.8s,mb5.5						
YAK				e		11 40 19.8	
VNDA	Vanda	73.42	170	P	P	11 40 16.2	-0.5
	comp=Z,10nm,0.9s,mb4.8,baz=309,slow=6.1,SNR=13						
AKTK	Aktyubinsk	73.93	329	P	P	11 40 19.7	-0.1
AKTO	Aktyubinsk	73.93	329	P	P	11 40 19.7	-0.1
	comp=Z,3.0nm,0.9s,mb4.2,baz=116,slow=4.7,SNR=5.2						
SBA	Scott Base	74.49	169	eP	P	11 40 23.3	+0.3
MA2	Magadan	76.44	21d	eP	P	11 40 34.8	+0.6
MA2				pmax	pmax		
	comp=Z,41nm,1.7s,mb5.1						
MA2	Magadan	76.44	21	eP	P	11 40 34.6	+0.4
GNI	Garni	76.74	315	eP	P	11 40 36.8	+0.9
SVE	Sverdlovsk	76.78	335	eP	P	11 40 36.0	-0.1
SVE				e	pP	11 40 47.0	-0.2
ARU	Arti	77.40	334	⇓iP	P	11 40 38.7	-0.9
ARU				e	pP	11 40 49.4	-1.2
ARU				e		11 43 33.3	
ARU				eS	S	11 50 27.4	-0.2
ARU				eSS	SS	11 55 26.9	+0.4
ARU				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						
ARU	Arti	77.40	334	eP	P	11 40 39.0	-0.6
	comp=Z,27nm,1.3s,mb5.0						
MBAR	Mbarara	77.99	271	⇑eP	P	11 40 43.4	+0.5
ZEI	Tsey	78.39	317	eP	P	11 40 46.5	+1.3
ZEI				e*PP	pP	11 40 53.1	-3.1
LSZ	Lusaka	78.49	256	eP	P	11 40 46.1	+0.4
LSZ				e	pP	11 40 56.7	0.0
LSZ				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
LSZ	Lusaka	78.49	256	eP	P	11 40 46.1	+0.4
	comp=Z,19nm,1.1s,mb4.9						
LSZ				e	pP	11 40 56.7	0.0
KIV	Kislovodsk	79.68	318	⇑iP	P	11 40 52.8	+0.6
KIV				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
ASF	Jabal al Asfar	79.82	305	P	P	11 40 54.1	+1.2
	comp=Z,5.6nm,0.8s,mb4.5,baz=320,slow=3.3,SNR=8.1						
QSPA	South Pole Qui	80.70	180	⇓iP	P	11 40 56.9	-0.8
	comp=Z,29nm,1.0s,mb5.2						
MMAI	Mount Meron Ar	81.27	306	P	P	11 41 02.4	+1.6
	comp=Z,4.3nm,0.7s,mb4.5,baz=86,slow=13,SNR=4.8						
TIXI	Tiksi	81.89	6c	eP	P	11 41 02.7	-1.3
TIXI				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.2						
ANN	Anapa	83.49	317	eP	P	11 41 08.7	-3.6
ANN				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.2						
BR131	Keskin Array S	84.58	312	eP	P	11 41 18.1	+0.2
BRTR	Keskin Array B	84.58	312	P	P	11 41 18.4	+0.5
	comp=Z,7.7nm,0.9s,mb4.8,baz=130,slow=6.8,SNR=17						
BRTR	Keskin Array B	84.58	312	⇑eP	P	11 41 18.3	+0.4
VRSR	Storozhevoye	84.67	324	eP	P	11 41 18.0	-0.3
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.1						
VRSR				pmax	pmax		
	comp=N,10.0nm,1.0s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.7s						
OBN	Obninsk	87.54	327c	eP	P	11 41 32.2	-0.3
OBN				e		11 41 39.8	
OBN				e		11 44 56.8	
OBN				pmax	pmax		
	comp=Z,72nm,1.7s,mb5.6						
SNAA	Sanae	87.83	197	eP	P	11 41 33.4	-0.5
SNAA				e		11 41 35.3	
SNAA				e	pP	11 41 44.0	-1.1
SNAA				e		11 41 47.9	
SNAA				e		11 41 58.7	
SNAA	Sanae	87.83	197	P	P	11 41 33.4	-0.5
TSUM	Tsumeb	88.00	251	eP	P	11 41 35.6	+0.9
	comp=Z,3.5nm,0.8s,mb4.6						
TSUM				e	pP	11 41 46.1	+0.2
KLMR	Klimovskoe	88.17	333	eP	P	11 41 35.5	0.0
KLMR				pmax	pmax		
	comp=Z,60nm,1.4s,mb5.6						
VNA1	Neumayer--Stat	89.86	197	eP	P	11 41 43.9	+0.5
VNA1				e		11 41 45.2	
VNA1				e	pP	11 41 54.5	-0.1
VNA1				e		11 41 58.1	
VNA1				e		11 42 07.3	
AKASG	Malin Array Be	90.51	321	P	P	11 41 46.0	-0.5
	comp=Z,1.9nm,0.6s,mb4.6,baz=89,slow=4.5,SNR=6.1						
AKASG				PP	PP	11 45 19.2	-2.2
	comp=Z,0.3nm,0.3s,baz=98,slow=6.1,SNR=8.7						
AKASG	Malin Array Be	90.51	321	P	P	11 41 46.0	-0.5
AKASG				PP	PP	11 45 19.2	-2.2
MLR	Muntele Rosu	91.50	316	P	P	11 41 51.9	+0.9
	comp=Z,2.2nm,0.6s,mb4.7,baz=100,slow=9.0,SNR=4.5						
MLR				PP	PP	11 45 32.5	+3.3
	comp=Z,1.2nm,0.4s,baz=67,slow=6.8,SNR=4.6						
FINES	FINESS Array B	94.57	331	P	P	11 42 04.5	-0.6
	comp=Z,2.0nm,0.8s,mb4.6,baz=59,slow=7.4,SNR=5.0						
FINES	FINESS Array B	94.57	331	i P	P	11 42 04.5	-0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	Yellowknife Ar	118.42	21	PKP	PKPdf	11 47 31.5	-0.5
	comp=Z,1.3nm,0.6s,baz=333,slow=1.7,SNR=8.5						
YKA	Yellowknife Ar	118.42	21	⇑iPKIKP	PKPdf	11 47 31.8	-0.2
O05C	Quincy	126.48	47	⇑P	PKPdf	11 47 49.6	+2.2
	baz=126						
BNLO	Ben Lomond (Sa	126.49	50	⇑P	PKPdf	11 47 49.5	+2.0
	baz=126						
J08A	Circle Bar Ran	126.84	42	⇓P	PKPdf	11 47 49.9	+1.8
	baz=127						
N06A	Buffalo Meadow	126.96	45	⇑P	PKPdf	11 47 50.5	+2.1
	baz=127						
M07A	Soldier Meadow	127.18	44	⇑P	PKPdf	11 47 51.1	+2.3
	baz=127						
O06A	Flanigan	127.19	46	⇓P	PKPdf	11 47 51.5	+2.7
	baz=127						
CHMT	Chamberlain Mo	128.34	36	ePKPdf	PKPdf	11 47 52.9	+1.8
NVAR	Mina Array Bea	128.93	48	PKP	PKPdf	11 47 55.1	+3.0
	comp=Z,1.0nm,0.8s,baz=254,slow=2.0,SNR=4.7						
PDAR	Pinedale Array	132.81	38	PKP	PKPdf	11 48 01.8	+2.3
	comp=Z,0.5nm,0.7s,baz=66,slow=3.7,SNR=3.7						
ULM	Lac du Bonnet	134.39	22	PKP	PKPdf	11 48 02.9	+0.5
	comp=Z,3.4nm,0.9s,baz=321,slow=3.9,SNR=3.3						
ULM	Lac du Bonnet	134.39	22	PKP	PKPdf	11 48 02.9	+0.5
CFAA	Coronel Fontan	139.22	184	PKP	PKPdf	11 48 13.5	+2.1
	comp=Z,0.3nm,0.7s,baz=294,slow=4.1,SNR=5.2						
WMOK	Wichita Mounta	144.34	41	ePKIKP	PKPdf	11 48 20.6	+0.1
LONY	Lake Ozonia	144.70	4	ePKPdf	PKPdf	11 48 21.1	-0.1
LBNH	Lisbon	145.19	1	ePKIKP	PKPdf	11 48 23.1	+1.1
MIV	Mineville/With	145.31	3	ePKPbc	PKPbc	11 48 23.0	+1.0
NCB	Newcomb	145.37	4	ePKPbc	PKPbc	11 48 22.9	+0.7
ACCN	Adirondack Com	145.99	3	ePKPbc	PKPbc	11 48 25.1	+0.9
JCT	Junction City	146.11	48	ePKPdf	PKPdf	11 48 24.4	+0.8
JCT				ePKPbc	PKPbc	11 48 26.7	+2.1
BDFB	Brasilia	146.12	223	PKPbc	PKPbc	11 48 25.9	+1.3
	comp=Z,4.9nm,0.8s,baz=125,slow=3.3,SNR=3.5						
CCM	Cathedral Cave	146.22	29	ePKP2	PKPab	11 48 25.3	-0.3
FVM	French Village	146.66	28	ePKPdf	PKPdf	11 48 25.2	+0.7
FVM				ePKPbc	PKPbc	11 48 26.9	+0.7
FVM				ePKPab	PKPab	11 48 28.6	+1.2
HRV	Harvard--Oak R	146.93	0	ePKP2	PKPab	11 48 27.8	-0.6
BINY	Binghamton	146.98	6	ePKPbc	PKPbc	11 48 28.1	+1.0
QUA2	Belchertown	147.14	1	ePKPbc	PKPbc	11 48 28.4	+0.9
MIAR	Mount Ida	147.65	36	ePKIKP	PKPdf	11 48 27.3	+1.1
MIAR				e		11 48 30.3	
MIAR				e		11 48 33.0	
PARMO	Parma	148.04	29	ePKPdf	PKPdf	11 48 28.2	+1.4
PARMO				ePKPbc	PKPbc	11 48 31.6	+1.7
LVC	Limon Verde	148.20	184	PKPbc	PKPbc	11 48 30.9	+0.6
	comp=Z,7.9nm,1.0s,baz=176,slow=1.6,SNR=4.0						
HKT	Hockley	149.24	45	ePKPbc	PKPbc	11 48 36.0	+3.0
HKT				ePKPab	PKPab	11 48 39.6	+2.0
OXF	Oxford	149.93	31	ePKPbc	PKPbc	11 48 35.5	+0.7
OXF				ePKPab	PKPab	11 48 42.0	+1.5
PLAL	Pickwick Lake	150.20	28	ePKPdf	PKPdf	11 48 31.1	+0.8
PLAL				ePKPbc	PKPbc	11 48 36.0	+0.6
PLAL				ePKPab	PKPab	11 48 42.2	+0.7
TZTN	Tazewell	150.70	20	ePKPdf	PKPdf	11 48 32.7	+1.7
TZTN				ePKPbc	PKPbc	11 48 37.6	+1.0
TZTN				ePKPab	PKPab	11 48 43.8	+0.2
CPCT	Cooper Cave	151.32	23	ePKPbc	PKPbc	11 48 39.6	+1.6
MYNC	Murphy	151.80	23	ePKIKP	PKPdf	11 48 34.3	+1.5
MYNC				e		11 48 40.3	
SIV	San Ignacio	152.90	202	PKPbc	PKPbc	11 48 42.9	+1.3
	comp=Z,5.9nm,0.9s,baz=138,slow=4.1,SNR=8.2						
SIV				PKPab	PKPab	11 48 53.2	+0.4
	comp=Z,6.1nm,0.9s,baz=130,slow=2.2,SNR=5.4						
LPAZ	La Paz	154.38	187	PKPbc	PKPbc	11 48 47.3	+2.5
	comp=Z,2.4nm,1.0s,baz=116,slow=2.8,SNR=5.3						
LPAZ				PKPab	PKPab	11 49 00.2	+1.1
	comp=Z,2.5nm,0.8s,baz=154,slow=6.0,SNR=4.5						

*NEIC **17** 11:29:43.4±8.2, 23.57N×123.78E, h35^{km}, MG4.0(JMA), Error ellipse: s-maj=127.0km s-min=20.0km az=161.0*
*JMA **17** 11:29:46.8±0.1, 23.96N×123.58E, h32^{km}±1^{km}, M4.0*
JMA Felt I J1.
*ISCJB **17** 11:29:47.1±1.0, 24.00N±0.10×123.62E±0.04, h38^{km}±8^{km}, Error ellipse: s-maj=16.3km s-min=5.2km az=168.9*
ISC 17 11:29:47.6±1.0**, 24.01N**±0.09×**123.61E**±0.03**, h31**^{km}±4^{km}**, n13, σ0^{s}73**/21**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.18	74	P	Pb	11 29 53.3	-0.5
HATJ				S	Sb	11 29 58.3	+0.4
IRIF	Iriomote-Funau	0.34	18	P	Pb	11 29 55.5	-0.3
IRIF				S	Sb	11 30 01.7	+0.4
JKRS	Kuro-shima	0.43	57	P	Pb	11 29 56.9	-0.1
JKRS				S	Sb	11 30 04.2	+0.8
JIJ	Ishigaki jima	0.60	54	P	Pb	11 29 59.1	-0.7
JIJ				S	Sb	11 30 07.8	-0.2
YOJ	Yonaguni jima	0.71	310	P	Pn	11 30 00.6	-1.0
YOJ				eS	Sb	11 30 10.7	-0.4
JTJ	Tarama	1.18	57	P	Pn	11 30 08.3	+0.3
JTJ				eS	Sn	11 30 23.2	+0.2
JMJ	Miyako jima 2	1.73	62	eS	Sn	11 30 35.6	-1.0
JOGS	Gusukube	1.80	65	P	Pn	11 30 18.3	+1.8
NACB	Ninganchiao	1.85	276	ePn	Pn	11 30 15.8	-1.5
NACB				eSn	Sn	11 30 40.8	+1.2
YHNB	Yeheng	2.15	288	eP	Pn	11 30 21.6	+0.3
TATO	Taipei	2.16	297	ePn	Pn	11 30 21.5	-0.1
TATO				eSn	Sn	11 30 48.1	+0.8
JKE	Kume jima 2	3.69	51	P	Pn	11 30 42.4	-0.1
MDJ	Mudanjiang	21.13	12	eP	P	11 34 29.4	-0.5

JMA 17 11:32:20.5±0.1**, 23.96N×123.58E, h32**^{km}±1^{km}**, M4.1, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.23	65	P	Pb	11 32 27.0	-0.2
HATJ				S	Sb	11 32 31.9	+0.1
IRIF	Iriomote-Funau	0.40	20	P	Pb	11 32 29.3	-0.2
IRIF				S	Sb	11 32 35.6	0.0
JKRS	Kuro-shima	0.48	55	P	Pb	11 32 30.8	+0.1
JKRS				S	Sb	11 32 37.9	+0.2
JIJ	Ishigaki jima	0.65	52	P	Pn	11 32 32.8	-0.7
JIJ				S	Sb	11 32 41.5	-0.8
YOJ	Yonaguni jima	0.72	314	P	Pn	11 32 34.5	+0.1
YOJ				eS	Sb	11 32 44.0	-0.2
JTJ	Tarama	1.23	56	P	Pn	11 32 42.2	+0.8
JTJ				eS	Sn	11 32 57.1	+0.2
JMJ	Miyako jima 2	1.78	61	eS	Sn	11 33 11.8	+1.3
JOGS	Gusukube	1.85	64	P	Pn	11 32 51.9	+2.0
JKE	Kume jima 2	3.74	50	P	Pn	11 33 16.9	+0.9
JAGN	Aguni-jima	4.22	51	P	Pn	11 33 23.3	+0.7

*ISCJB **17** 11:36:21.7±1.1, 9.1S±0.2×108.1E±0.2, h31^{km}, mb3.9/5, Error ellipse: s-maj=31.3km s-min=14.7km az=104.6*
*IDC **17** 11:36:24.1±2.6, 9.14S×108.00E, h30^{km}±6^{km}, mb3.7/4, mb1 3.7/5, mb1mx3.6/17, mbtmp3.8/5, ML3.8/1, MS4.6/1, Ms1 4.6/1, ms1mx3.6/32, Error ellipse: s-maj=115.7km s-min=22.6km az=48.0*
*NEIC **17** 11:36:24.2±0.9, 9.08S×108.09E, mb4.4/1, Error ellipse: s-maj=26.9km s-min=12.6km az=53.0*
ISC 17 11:36:24.3±1.2**, 9.1S**±0.2×**108.1E**±0.2**, h33**^{km}**, h33**^{km}±.7^{km}**:pP-P, n10, σ0^{s}93**/10**, mb3.9**/5**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	17.10	29	eP	Pn	11 40 20.5	-0.3
FITZ	Fitzroy Crossi	19.23	120	P	Pn	11 40 45.4	-1.4
	0.2nm,0.3s,baz=288,slow=9.6,SNR=3.4						
QIZ	Qiongzhong	28.02	4	eP	P	11 42 13.2	+0.9
ASAR	Alice Springs	28.60	124	P	P	11 42 19.4	+2.0
	0.8nm,0.7s,mb3.6,baz=300,slow=8.4,SNR=4.1						
SONM	Songino Array	56.72	359	P	P	11 46 05.2	+0.4
	0.6nm,0.6s,mb3.8,baz=174,slow=8.4,SNR=4.3						
SONM				pP	pP	11 46 14.7	-0.1
	1.0nm,0.6s,baz=178,slow=8.5,SNR=4.4						
MKAR	Makanchi Array	60.23	340	P	P	11 46 29.5	+0.3
	1.0nm,0.5s,mb4.1,baz=141,slow=7.6,SNR=6.6						
MKAR				pP	pP	11 46 38.7	-0.6
	1.2nm,0.6s,baz=135,slow=8.7,SNR=4.8						
MKAR	Makanchi Array	60.23	340	P	P	11 46 29.5	+0.3
MKAR				pP	pP	11 46 38.7	-0.6
KURK	Kurchatov	64.85	340	eP	P	11 46 59.1	-0.9
KURK				e	pP	11 47 09.5	-0.7
BVAR	Borovoye Array	69.73	337	P	P	11 47 30.6	-0.4
	0.8nm,0.7s,mb3.7,baz=156,slow=7.3,SNR=2.8						
BVAR				pP	pP	11 47 40.2	-1.0
	1.3nm,0.7s,baz=128,slow=9.7,SNR=4.3						
CHKZ	Chkalovo	70.14	337	eP	P	11 47 33.1	-0.4
	2.8nm,0.9s,mb4.2						
CHKZ				e	pP	11 47 42.8	-0.9

MAN 17 11:38:56.7, 11.33N×126.60E, h89^{km}**, mb2.9, ML4.3, MS5.7, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	1.17	283	eP	Pn	11 39 18.8	+0.4
PLP	Palo	1.60	264	eP	Pn	11 39 24.0	+0.4
	101μm,93.0s						
PLP				eS	Sn	11 39 45.5	+1.4
SCPH	Surigao	1.89	216	⇓eP	Pn	11 39 26.2	-1.2
	162μm,88.0s						
MSLP	Maasin	2.09	235	eP	Pn	11 39 30.6	+0.6
MSLP				eS	Sn	11 39 58.6	+3.2
BUTP	Butuan	2.54	202	eP	Pn	11 39 37.4	+1.4
PVCP	Virac	3.28	313	eP	Pn	11 39 47.5	+1.5
PVCP				eS	Sn	11 40 28.7	+4.7

*ISCJB **17** 11:40:05.7±0.5, 9.44S±0.09×108.78E±0.10, h33^{km}, mb4.6/35, Error ellipse: s-maj=16.8km s-min=8.4km az=102.0*
*BJI **17** 11:40:05.3, 9.82S×108.96E, h47^{km}, mb4.7*
*MOS **17** 11:40:05.5±1.0, 9.40S×108.77E, h33^{km}, mb5.1/10, Error ellipse: s-maj=23.2km s-min=10.9km az=109.4*
*IDC **17** 11:40:07.5±0.7, 9.47S×108.69E, h33^{km}±5^{km}, mb4.0/11, mb1 4.1/12, mb1mx4.0/17, mbtmp4.2/12, ML4.2/1, Error ellipse: s-maj=27.0km s-min=14.6km az=64.0*
*NEIC **17** 11:40:07.3±0.3, 9.51S×108.66E, mb5.0/9, Error ellipse: s-maj=14.4km s-min=5.9km az=50.0*
ISC 17 11:40:07.9±0.5**, 9.48S**±0.09×**108.73E**±0.10**, h35**^{km}**, h35**^{km}±1.8^{km}**:pP-P, n55, σ0^{s}94**/54**, mb4.6**/35**, 7C-3D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.51	119	P	Pn	11 44 20.5	-0.9
	0.5nm,0.3s,baz=283,slow=16,SNR=10						
FITZ				Sn	Sn	11 47 32.0	-15
	0.2nm,0.3s,baz=90,slow=7.1,SNR=1.9						
WRA	Warramunga Arr	26.82	116	P	P	11 45 45.6	+0.8
	2.0nm,0.8s,mb3.7,baz=291,slow=12,SNR=7.7						
WRAB	Tennant Creek	26.83	116	⇑iP	pP	11 45 52.4	-2.5
WRAB	Tennant Creek	26.83	116	eP	P	11 45 46.4	+1.6
ASAR	Alice Springs	27.88	123	P	P	11 45 55.4	+1.2
	0.9nm,1.1s,mb3.3,baz=300,slow=8.9,SNR=4.2						
ASAR				PcP	PcP	11 49 11.2	+1.8
	0.4nm,0.4s,baz=293,slow=1.9,SNR=4.7						
ASAR				Sn	S	11 51 18.2	+43
	0.7nm,0.7s,baz=284,slow=22,SNR=3.9						
ASAR	Alice Springs	27.88	123	P	P	11 45 55.4	+1.2
ASAR						11 49 11.2	
CD2	Chengdu	40.44	353	P	P	11 47 43.3	+0.6
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
SSE	Sheshan	42.07	16	eP	P	11 47 53.4	-2.8
SSE				AMB	AMB		
	comp=Z,52nm,0.7s,mb5.3						
NJ2	Nanjing	42.41	13	eP	P	11 47 59.0	+0.1
NJ2				AP	pP	11 48 11.4	+2.1
NJ2				XP	sP	11 48 16.1	+2.6
NJ2				PP	PP	11 49 38.9	+1.4
NJ2				S	S	11 54 12.0	-6.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
JIRN	Jiri	42.89	330	eP	P	11 48 03.4	+0.6
	comp=Z,44nm,0.9s,mb5.2						
PKI	Pulchoki	43.21	329	eP	P	11 48 05.3	-0.1
GUN	Gumba	43.25	330	eP	P	11 48 06.3	+0.6
	comp=Z,43nm,0.8s,mb5.2						
XAN	Xi'an	43.27	0	P	P	11 48 06.8	+0.9
XAN				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.6						
DMN	Daman	43.39	329	eP	P	11 48 07.1	+0.2
	comp=Z,43nm,1.0s,mb5.1						
KKN	Kakani	43.45	329	eP	P	11 48 07.5	+0.1
	comp=Z,42nm,1.1s,mb5.1						
KKN	Kakani	43.45	329	eP	P	11 48 07.5	+0.1
KKN				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.1						
GKN	Gorkha	43.95	329	eP	P	11 48 11.4	0.0
KOLN	Koldanda	44.31	327	eP	P	11 48 14.5	+0.3
	comp=Z,36nm,0.9s,mb5.1						
LZH	Lanzhou	45.55	354	eP	P	11 48 26.1	+2.0
LZH				AP	pP	11 48 36.1	+1.5
LZH				XP	sP	11 48 39.9	+1.1
LZH				PP	PP	11 50 14.6	+3.5
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.9						
GTA	Gaotai	49.34	351	eP	P	11 48 55.3	+1.8
GTA				AP	pP	11 49 05.8	+1.7
GTA				XP	sP	11 49 11.0	+2.7
GTA				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.5						
BJI	Beijing	49.74	7	eP	P	11 48 55.9	-0.7
BJI				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.9						
SNY	Shenyang	52.84	14	⇓P	P	11 49 18.9	-0.9
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
MJAR	Matsushiro Arr	53.51	30	P	P	11 49 23.5	-1.3
	comp=Z,2.2nm,0.8s,mb4.1,baz=194,slow=8.2,SNR=4.5						
SONM	Songino Array	57.09	358	P	P	11 49 51.1	+0.5
	comp=Z,2.1nm,0.5s,mb4.4,baz=178,slow=7.9,SNR=17						
SONM				pP	pP	11 50 01.6	+0.3
	comp=Z,2.6nm,0.7s,baz=176,slow=8.5,SNR=8.9						
ULN	Ulaanbaatar	57.11	359	⇑iP	P	11 49 49.9	-0.8
ULN	Ulaanbaatar	57.11	359	eP	P	11 49 51.9	+1.2
	comp=Z,4.6nm,1.1s,mb4.4						
AAK	Ala-Archa	60.56	332	⇑eP	P	11 50 13.4	-1.3
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.3						
MKAR	Makanchi Array	60.79	339	P	P	11 50 16.2	0.0
	comp=Z,7.4nm,0.6s,mb5.0,baz=143,slow=7.7,SNR=70						
MKAR				pP	pP	11 50 25.8	-1.2
	comp=Z,5.8nm,0.7s,baz=150,slow=7.4,SNR=9.3						
MKAR	Makanchi Array	60.79	339	⇑eP	P	11 50 16.2	0.0
MKAR	Makanchi Array	60.79	339	P	P	11 50 16.2	0.0
MKAR				pP	pP	11 50 25.8	-1.2

YSS	Yuzh-Sakhalins	63.83	25⇑	eP	P	11 50 36.5	-0.1
YSS				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
YSS	Yuzh-Sakhalins	63.83	25	eP	P	11 50 37.1	+0.5
KURK	Kurchatov	65.40	339⇑	iP	P	11 50 46.7	-0.1
KURK	Kurchatov	65.40	339	eP	P	11 50 46.6	-0.2
	comp=Z,10nm,0.9s,mb4.8						
MAW	Mawson	65.52	198	P	P	11 50 46.6	-1.0
	comp=Z,1.2nm,0.6s,mb4.1,baz=48,slow=8.5,SNR=5.8						
ZAL	Zalesovo	66.34	345	P	P	11 50 52.5	-0.4
	comp=Z,2.2nm,0.3s,mb4.6,baz=66,slow=1.5,SNR=10						
ZAL	Zalesovo	66.34	345	i P	P	11 50 52.5	-0.4
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BOD	Bodaibo	67.20	3	eP	P	11 50 55.9	-2.4
BOD				e		11 51 29.1	
BOD				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
BOD				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.4						
BVAR	Borovoye Array	70.31	337	P	P	11 51 17.4	-0.3
	comp=Z,2.1nm,0.7s,mb4.2,baz=148,slow=8.6,SNR=13						
BVAR				pP	pP	11 51 28.3	-0.3
	comp=Z,4.0nm,0.8s,baz=142,slow=7.5,SNR=9.3						
CHKZ	Chkalovo	70.71	337	eP	P	11 51 20.0	-0.2
CHKZ				e	pP	11 51 30.8	-0.3
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
CHKZ	Chkalovo	70.71	337	eP	P	11 51 20.0	-0.1
	comp=Z,7.8nm,0.7s,mb4.8						
CHKZ				e	pP	11 51 30.8	-0.3
ZRNK	Zerenda	70.80	336	eP	P	11 51 20.4	-0.3
ZRNK				e	pP	11 51 31.1	-0.5
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ZRNK	Zerenda	70.80	336	eP	P	11 51 20.4	-0.3
	comp=Z,5.2nm,0.8s,mb4.5						
ZRNK				e	pP	11 51 31.1	-0.5
YAK	Yakutsk	73.14	10⇓	iP	P	11 51 34.1	-0.6
YAK				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
VNDA	Vanda	73.23	170	P	P	11 51 34.4	-0.9
	comp=Z,0.3nm,0.4s,mb3.6,baz=338,slow=10,SNR=5.4						
AKTK	Aktyubinsk	74.12	329	P	P	11 51 40.0	-0.4
AKTO	Aktyubinsk	74.12	329	P	P	11 51 40.0	-0.4
	comp=Z,0.4nm,0.3s,mb3.8,baz=61,slow=10,SNR=3.2						
MA2	Magadan	76.58	21	i P	P	11 51 54.8	+0.2
KIV	Kislovodsk	79.86	318⇑	eP	P	11 52 14.2	+1.5
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
BRTR	Keskin Array B	84.75	312	P	P	11 52 38.4	+0.1
	comp=Z,0.6nm,0.5s,mb4.0,baz=133,slow=5.5,SNR=5.0						
BRTR				pP	pP	11 52 48.4	-1.0
	comp=Z,1.4nm,0.8s,baz=134,slow=7.1,SNR=5.8						
OBN	Obninsk	87.72	327⇓	iP	P	11 52 53.5	+0.6
OBN				e		11 56 17.5	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb5.2						
KLMR	Klimovskoe	88.35	333	eP	P	11 52 55.3	-0.6
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.8						
LVV	L'vov	93.76	320	eP	P	11 53 24.8	+3.7
LVV				e	pP	11 53 32.6	+0.3
SIV	San Ignacio	152.76	202	PKPbc	PKPbc	12 00 02.0	+1.2
	comp=Z,0.5nm,0.4s,baz=243,slow=6.8,SNR=3.3						
LPAZ	La Paz	154.21	187	PKPab	PKPab	12 00 20.6	+2.6
	comp=Z,1.0nm,0.8s,baz=90,slow=3.0,SNR=5.1						

*NEIC **17** 11:40:24.6±0.8, 989S×10778E, h10km, mb4.6/3, Error ellipse: s-maj=20.5km s-min=13.7km az=57.0*
*ISCJB **17** 11:40:27.1±1.1, 96S±02×1080E±02, h33km, mb4.5/7, Error ellipse: s-maj=31.0km s-min=16.3km az=105.6*
*IDC **17** 11:40:29.1±11.0, 973S×10795E, h36km±8km, mb4.2/4, mb1 4.2/4, mb1mx3.8/15, mbtmp4.4/4, Error ellipse: s-maj=282.8km s-min=76.0km az=136.0*
ISC 17 11:40:28.8±1.0**, 98S**±01×**1079E**±02**, h35km, (h39km±.3km:pP-P), n11, σ0.75/11, mb4.5/7, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	Kuching	11.47	12	ePn	Pn	11 43 08.7	-1.3
KKM	Kota Kinabalu	17.82	28	eP	Pn	11 44 35.7	+1.9
WRAB	Tennant Creek	27.48	115	eP	P	11 46 11.6	-0.1
	7.0nm,0.8s,mb4.2						
CTAO	Charters Tower	38.40	110	P	P	11 47 46.4	-0.3
SONM	Songino Array	57.40	359	P	P	11 50 13.4	-0.3
	3.1nm,0.6s,mb4.5,baz=175,slow=7.8,SNR=8.1						
SONM				pP	pP	11 50 24.4	+0.1
	2.1nm,0.8s,baz=173,slow=7.8,SNR=2.7						
ULN	Ulaanbaatar	57.42	359	eP	P	11 50 13.6	-0.2
	3.4nm,0.6s,mb4.5						
ULN				e		11 50 19.8	
MKAR	Makanchi Array	60.79	340	P	P	11 50 37.2	0.0
	3.0nm,0.6s,mb4.6,baz=148,slow=7.6,SNR=4.6						
MKAR				pP	pP	11 50 48.0	+0.2
	3.5nm,0.6s,baz=143,slow=7.8,SNR=3.5						
MKAR	Makanchi Array	60.79	340	P	P	11 50 37.2	0.0
MKAR				pP	pP	11 50 48.0	+0.2
BVAR	Borovoye Array	70.26	337	P	P	11 51 38.2	-0.1
	5.4nm,0.7s,mb4.6,baz=134,slow=8.5,SNR=4.2						
BVAR				pP	pP	11 51 49.5	+0.3
	3.6nm,0.8s,baz=148,slow=6.8,SNR=3.8						
ARU	Arti	77.50	334	eP	P	11 52 20.8	+0.1
	13nm,1.0s,mb4.8						
ARU				e	pP	11 52 31.8	+0.1
BRTR	Keskin Array B	84.31	312	P	P	11 52 57.8	+0.7
	1.9nm,0.7s,mb4.3,baz=145,slow=7.6,SNR=7.3						

*ISCJB **17** 11:42:15.5±0.7, 99S±02×1085E±02, h32km, mb4.3/7, Error ellipse: s-maj=38.0km s-min=13.8km az=114.3*
*IDC **17** 11:42:17.3±9.7, 1001S×10837E, h31km±5km, mb4.1/4, mb1 4.1/4, mb1mx3.8/15, mbtmp4.3/4, Error ellipse: s-maj=254.7km s-min=66.8km az=132.0*
*NEIC **17** 11:42:17.5±0.5, 996S×10841E, mb4.4/3, Error ellipse: s-maj=24.7km s-min=9.1km az=57.0*
ISC 17 11:42:17.8±0.7**, 100S**±02×**1084E**±02**, h34km, h34km±.3km:pP-P, n11, σ0.33/11, mb4.3/7, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	Marble Bar	15.56	137	eP	Pn	11 45 55.1	+0.4
PALK	Pallekele	32.49	301	eP	P	11 48 45.7	+0.5
SONM	Songino Array	57.56	358	P	P	11 52 04.3	+0.3
	1.6nm,0.7s,mb4.2,baz=173,slow=7.3,SNR=5.1						
SONM				pP	pP	11 52 13.8	-0.5
	1.7nm,0.7s,baz=176,slow=7.9,SNR=4.6						
ULN	Ulaanbaatar	57.58	359	eP	P	11 52 04.3	+0.1
MKAR	Makanchi Array	61.13	340	P	P	11 52 28.6	-0.1
	3.0nm,0.6s,mb4.6,baz=143,slow=8.2,SNR=7.2						
MKAR				pP	pP	11 52 38.6	-0.5
	3.0nm,0.9s,baz=140,slow=7.7,SNR=5.6						
KURK	Kurchatov	65.74	340	eP	P	11 52 59.0	-0.2
KURK				e	pP	11 53 08.9	-0.7
BVAR	Borovoye Array	70.62	337	P	P	11 53 29.5	-0.3
	2.4nm,0.7s,mb4.3,baz=148,slow=8.5,SNR=6.1						
BVAR				pP	pP	11 53 39.5	-0.8
	2.1nm,0.8s,baz=148,slow=8.7,SNR=5.7						
CHKZ	Chkalovo	71.04	337	eP	P	11 53 32.2	-0.1
	4.4nm,0.9s,mb4.4						
CHKZ				e	pP	11 53 42.5	-0.3
ZRNK	Zerenda	71.11	336	eP	P	11 53 32.7	-0.1
	2.6nm,0.7s,mb4.3						
ZRNK				e	pP	11 53 42.7	-0.6
VNDA	Vanda	72.82	169	eP	P	11 53 42.4	-0.6
	1.7nm,0.5s,mb4.2						
BRTR	Keskin Array B	84.84	312	P	P	11 54 49.2	+0.2
	1.3nm,0.7s,mb4.2,baz=137,slow=6.8,SNR=4.9						
BRTR				pP	pP	11 54 59.1	-0.5
	1.3nm,0.9s,baz=120,slow=7.3,SNR=3.7						

*BJI **17** 11:46:15.5, 970S×10820E, h10km, mB4.8, mb4.9, Ms4.7, Msz4.4*
*NEIC **17** 11:46:17.5±0.5, 969S×108.16E, h10km, mb4.6/3, Error ellipse: s-maj=26.1km s-min=12.7km az=56.0*
*ISCJB **17** 11:46:18.9±5.2, 97S±0.1×1082E±02, h32km±37km, mb4.4/13, Error ellipse: s-maj=31.0km s-min=17.9km az=120.8*
*IDC **17** 11:46:20.8±1.1, 994S×10795E, h38km±6km, mb3.9/8, mb1 4.0/8, mb1mx3.9/16, mbtmp4.2/8, Error ellipse: s-maj=45.1km s-min=19.7km az=48.0*
ISC 17 11:46:23.0±4.5**, 98S**±01×**1081E**±02**, h49km**±43km**, h40km**±2.5km**:pP-P, n18, σ0.81/18, mb4.4/13, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.25	115	P	P	11 52 01.7	-0.7
	1.9nm,0.8s,mb3.7,baz=286,slow=10,SNR=5.1						
ASAR	Alice Springs	28.23	123	P	P	11 52 11.2	-0.1
	1.2nm,0.8s,mb3.5,baz=293,slow=8.8,SNR=4.3						
GYA	Guiyang	36.03	358	P	P	11 53 20.8	+1.3
GYA				AP	pP	11 53 24.8	-7.5
GYA				XP	sP	11 53 27.9	-10
GYA				PP	PP	11 54 40.8	-1.2
GYA				S	S	11 58 55.5	+0.5
GYA				AMB	AMB		
	comp=Z,20nm,0.7s						
GYA				AMB	AMB		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=N,510nm,14.9s						
GYA				LR	LR		
	comp=E,530nm,15.4s						
GYA				LR	LR		
	comp=Z,490nm,15.7s						
XAN	Xi'an	43.57	1	P	P	11 54 23.1	+1.1
XAN				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
SONM	Songino Array	57.36	359	P	P	11 56 06.4	+0.2
	comp=Z,4.2nm,0.6s,mb4.6,baz=176,slow=8.2,SNR=26						
SONM				pP	pP	11 56 18.9	-0.8
	comp=Z,3.3nm,0.6s,baz=177,slow=7.9,SNR=9.9						
ULN	Ulaanbaatar	57.38	359	eP	P	11 56 06.5	+0.2
	comp=Z,6.1nm,0.8s,mb4.7						
ULN				e	pP	11 56 17.7	-2.2
MKAR	Makanchi Array	60.85	340	P	P	11 56 29.7	-0.6
	comp=Z,2.8nm,0.7s,mb4.5,baz=139,slow=7.7,SNR=10						
MKAR				pP	pP	11 56 41.3	-2.7
	comp=Z,3.8nm,0.8s,baz=145,slow=7.2,SNR=11						
MKAR	Makanchi Array	60.85	340	P	P	11 56 29.7	-0.6
MKAR				pP	pP	11 56 41.3	-2.7
MAW	Mawson	65.07	197	eP	P	11 56 59.8	+1.5
	comp=Z,52nm,0.6s,mb5.7						
KURK	Kurchatov	65.46	340	eP	P	11 57 00.3	-0.5
	comp=Z,2.5nm,0.8s,mb4.3						
BVAR	Borovoye Array	70.33	337	P	P	11 57 30.5	-0.9
	comp=Z,2.7nm,0.7s,mb4.3,baz=134,slow=8.5,SNR=9.3						
CHKZ	Chkalovo	70.74	337	eP	P	11 57 33.1	-0.8
	comp=Z,4.1nm,0.7s,mb4.5						
CHKZ				e		11 57 37.5	
AKTK	Aktyubinsk	74.05	329	P	P	11 57 53.2	-0.5
AKTO	Aktyubinsk	74.05	329	P	P	11 57 53.2	-0.5
	comp=Z,1.2nm,0.6s,mb4.0,baz=114,slow=10.0,SNR=4.3						
BRTR	Keskin Array B	84.48	312	P	P	11 58 49.6	-0.9
	comp=Z,1.2nm,0.7s,mb4.1,baz=138,slow=6.3,SNR=6.6						
BRTR				pP	pP	11 59 00.6	-4.2
	comp=Z,0.9nm,0.7s,baz=131,slow=7.2,SNR=4.0						
AKASG	Malin Array Be	90.53	321	P	P	11 59 20.8	+1.1
	comp=Z,0.3nm,0.3s,mb4.2,baz=109,slow=2.9,SNR=6.8						
AKASG	Malin Array Be	90.53	321	P	P	11 59 20.8	+1.1
SIV	San Ignacio	152.26	203	PKPbc	PKPbc	12 06 13.5	+0.2
	comp=Z,1.8nm,1.1s,baz=360,slow=0.7,SNR=6.6						

IDC 17 11:55:52.1±13.0**, 616S**×**10668E, h0km, mb3.9**/3**, mb1 3.9**/3**, mb1mx3.6**/15**, mbtmp3.9**/3**, Error ellipse: s-maj=337.0km s-min=88.8km az=134.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	53.77	360	P	P	12 05 16.3	+0.1
	0.8nm,0.5s,baz=185,slow=7.2,SNR=5.9						
MKAR	Makanchi Array	57.00	340	P	P	12 05 39.5	0.0
	1.9nm,0.7s,baz=145,slow=7.7,SNR=9.1						
BRTR	Keskin Array B	81.04	312	P	P	12 08 09.4	+0.6
	0.6nm,0.7s,baz=129,slow=7.9,SNR=4.0						

*PRU **17** 11:56:32.5, 5139N×1605E, h0km*
WAR 17 11:56:32.1, 5145N×1608E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.62	168	i Pg	Pg	11 56 43.5	-0.6
KSP				eSg	Sg	11 56 52.0	-0.2
UPC	Upice	0.95	183	ePG	Pg	11 56 49.4	-0.9
DPC	Dobruska-Polom	1.11	172	ePG	Pg	11 56 52.2	-1.3
DPC				eSG	Sg	11 57 06.4	-1.5
	36nm,0.6s						
PVCC	Panska Ves	1.33	226	ePG	Pg	11 56 56.4	-1.2
BRG	Berggiesshubel	1.47	248	PG	Pg	11 56 58.9	-1.3
BRG				SG	Sg	11 57 18.9	-0.3
	22nm,0.4s						
PRU	Pruhonice	1.76	214	ePN	Pn	11 57 02.3	-1.6
PRU				ePG	Pg	11 57 03.5	-2.4
PRU				eSG	Sg	11 57 25.9	-2.9
	16nm,0.4s						
CLL	Collm	1.94	267	ePg	Pg	11 57 07.0	-2.2
CLL				eSg	Sg	11 57 34.0	-0.3
	comp=Z,23nm,1.0s						
OKC	Ostrava-Krasne	2.08	140	eSG	Sg	11 57 36.4	-2.7
	comp=Z,24nm,0.7s						
NKC	Novy Kostel	2.61	243	ePN	Pn	11 57 14.3	-1.2
NKC				ePG	Pg	11 57 19.6	-2.5
NKC				eSG	Sg	11 57 53.6	-2.3
	comp=Z,22nm,0.3s						
OJC	Ojcow	2.66	116	ePg	Pg	11 57 21.5	-1.6
OJC				eSg	Sg	11 57 56.3	-1.3
KHC	Kasperske Hory	2.83	216	ePN	Pn	11 57 18.0	-0.5
KHC				ePG	Pg	11 57 22.8	-3.5
KHC				eSN	Sn	11 57 51.8	-1.4
KHC				eSG	Sg	11 58 00.3	-2.6
	comp=Z,6.8nm,0.4s						
MOX	Moxa	2.93	256	ePG	Pg	11 57 26.8	-1.5
MOX				eSG	Sg	11 58 06.2	-0.1
MOX				ePP		13 09 59.6	
MOX				ePP		15 46 56.7	
	comp=Z,31nm,1.9s						
VYHS	Vyhne	3.46	148	eSG	Sg	11 58 22.4	-0.7
CRVS	Cervenica-Dubn	4.30	124	ePG	Pg	11 57 53.3	-1.2

IDC 17 12:14:46.5±4.6**, 968S**×**10745E, h0km, mb3.6**/3**, mb1 3.7**/3**, mb1mx3.5**/15**, mbtmp3.6**/3**, Error ellipse: s-maj=203.1km s-min=30.9km az=52.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	28.83	122	P	P	12 20 46.8	+0.4
	0.4nm,0.8s,baz=296,slow=9.3,SNR=4.6						
SONM	Songino Array	57.26	359	P	P	12 24 35.9	+0.2
	0.5nm,0.6s,baz=174,slow=12,SNR=3.1						
MKAR	Makanchi Array	60.54	340	P	P	12 24 58.5	0.0
	0.3nm,0.5s,baz=142,slow=7.3,SNR=2.7						

*ISCJB **17** 12:21:26.8±1.2, 196S±02×1777W±02, h591km±30km, mb4.2/7, Error ellipse: s-maj=30.2km s-min=25.3km az=36.7*
*IDC **17** 12:21:26.8±2.0, 1959S×17799W, h530km±29km, mb3.6/3, mb1 3.7/6, mb1mx3.3/16, mbtmp4.5/6, Error ellipse: s-maj=28.2km s-min=23.0km az=128.0*
*NEIC **17** 12:21:26.7±1.1, 1970S×17785W, h545km±16km, mb4.2/5, Error ellipse: s-maj=22.7km s-min=15.6km az=153.0*
ISC 17 12:21:27.0±1.3**, 197S**±02×**1778W**±02**, h553km**±27km**, n19, σ0.75/16, mb4.2/7, 1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.14	46	P	P	12 23 26.1	0.0
	2.1nm,0.3s,baz=247,slow=23,SNR=7.1						
DZM	Mont Dzumac	14.93	258	P	P	12 24 34.6	-0.9
	0.2nm,0.3s,baz=115,slow=14,SNR=3.4						
URZ	Urewera	19.01	192	P	P	12 25 15.3	+1.5
	2.6nm,0.3s,baz=269,slow=3.1,SNR=14						
CTA	Charters Tower	33.78	263⇓	iP	P	12 27 23.9	+0.6
	2.5nm,0.3s,mb4.2						
CTAO	Charters Tower	33.78	263	eP	P	12 27 23.9	+0.7
	2.7nm,0.4s,mb4.1						
AS31	Alice Springs	44.90	256	eP	P	12 28 52.8	+0.2
ASAR	Alice Springs	44.91	256	P	P	12 28 52.8	+0.2
	6.9nm,0.5s,mb4.4,baz=92,slow=7.6,SNR=179						
ASPA	Alice Springs	44.91	256	eP	P	12 28 52.8	+0.1
WB2	Warramunga Arr	44.91	261	eP	P	12 28 53.1	+0.4
WRAB	Tennant Creek	44.91	261	eP	P	12 28 52.8	+0.1
	4.1nm,0.3s,mb4.4						
WRA	Warramunga Arr	44.92	261	P	P	12 28 52.8	+0.1
	2.7nm,0.3s,mb4.3,baz=97,slow=7.4,SNR=266						
FORT	Forrest	49.80	246	eP	P	12 29 28.2	-1.1
	8.1nm,0.5s,mb4.4						
FITZ	Fitzroy Crossi	53.34	262	eP	P	12 29 55.9	+1.1
	4.4nm,0.5s,mb4.0						
FITZ	Fitzroy Crossi	53.34	262	P	P	12 29 55.6	+0.8
	2.2nm,0.5s,mb3.7,baz=108,slow=6.4,SNR=16						
KLBR	Kellerberrin	58.58	244	eP	P	12 30 30.2	-0.8
	5.6nm,0.6s,mb4.0						
SBA	Scott Base	58.67	184	eP	P	12 30 30.4	-1.2
AKASG	Malin Array Be	142.42	332	PKP	PKPdf	12 39 56.2	-0.8
	0.9nm,0.4s,baz=39,slow=3.9,SNR=10						
AKASG	Malin Array Be	142.42	332	PKP	PKPdf	12 39 56.2	-0.8
BRTR	Keskin Array B	146.45	313	PKPbc	PKPbc	12 40 09.0	+2.6
	0.6nm,0.6s,baz=80,slow=1.8,SNR=3.9						

IDC 17 12:26:23.0±9.8**, 2114S**×**17883W, h508km**±92km**, mb3.1**/4**, mb1 3.4**/4**, mb1mx3.1**/12**, mbtmp4.0**/4**, Error ellipse: s-maj=158.5km s-min=42.0km az=152.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.62	257	P	P	12 33 42.1	+0.3
	2.3nm,0.8s,baz=97,slow=8.1,SNR=26						
ASAR				PcP	PcP	12 35 18.5	+0.5
	0.9nm,0.5s,baz=108,slow=4.0,SNR=12						
WRA	Warramunga Arr	43.74	263	P	P	12 33 43.0	+0.2
	0.8nm,0.3s,baz=95,slow=7.8,SNR=34						
FITZ	Fitzroy Crossi	52.17	263	P	P	12 34 46.1	+0.3
	0.8nm,0.3s,baz=268,slow=21,SNR=7.5						
PDAR	Pinedale Array	89.96	44	P	P	12 38 28.4	+0.6
	0.5nm,0.7s,baz=233,slow=6.7,SNR=4.9						
ARCES	ARCESS Array B	129.40	349	PKP	PKPdf	12 44 33.0	-0.5
	2.1nm,1.0s,baz=354,slow=2.4,SNR=4.9						
AKASG	Malin Array Be	143.18	330	PKP	PKPdf	12 44 56.9	-2.0
	1.9nm,0.4s,baz=42,slow=4.0,SNR=18						
BRTR	Keskin Array B	146.68	311	PKPbc	PKPbc	12 45 08.2	+0.8
	1.2nm,0.6s,baz=144,slow=4.8,SNR=6.9						
GERES	GERESS Array B	150.59	343	PKPbc	PKPbc	12 45 15.9	-1.3
	0.4nm,0.2s,baz=29,slow=3.0,SNR=4.6						

GII 17 12:34:41.8±8.6**, 3111N**×**3625E, h0km, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRNI	Paran	1.31	235	Pg	Pg	12 35 07.3	+0.4
PRNI	Paran	1.31	235	Pn	Pn	12 35 07.3	0.0
PRNI				Sn	Sn	12 35 26.8	+1.2
RMNI	Mount Ramon	1.38	249	Pn	Pn	12 35 08.5	+0.2
RMNI	Mount Ramon	1.38	249	Pn	Pn	12 35 08.5	+0.2
HRFI	Mount Harif	1.50	225	Pn	Pn	12 35 07.7	-2.2
HRFI				Sn	Sn	12 35 28.9	-1.3
HRFI	Mount Harif	1.50	225	Pn	Pn	12 35 07.7	-2.2
HRFI				Sn	Sn	12 35 28.9	-1.3
EIL	Elat	1.82	218	Pn	Pn	12 35 16.2	+1.8
EIL				Sn	Sn	12 35 40.5	+2.3
EIL	Elat	1.82	218	Pn	Pn	12 35 16.2	+1.8
EIL				Sn	Sn	12 35 40.5	+2.3

*IDC **17** 12:36:34.3±0.9, 922S×10782E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.9/17, mbtmp3.9/8, ML3.6/1, Error ellipse: s-maj=35.8km s-min=17.7km az=60.0*
*NEIC **17** 12:36:36.0±0.4, 9.16S×10788E, h10km, mb4.3/4, Error ellipse: s-maj=17.0km s-min=8.0km az=54.0*
*ISCJB **17** 12:36:37.4±0.7, 907S±009×1080E±0.1, h33km, mb4.0/11, Error ellipse: s-maj=17.8km s-min=11.7km az=124.0*
ISC 17 12:36:39.8±0.7**, 907S**±010×**1080E**±01**, h35km, n14, σ0.88/15, mb4.0/11, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	Banjamegara	2.40	44	eP	Pn	12 37 14.5	-2.0
BJII				eS	Sn	12 37 32.0	-13
FITZ	Fitzroy Crossi	19.32	120	P	Pn	12 41 02.8	-0.3
	0.1nm,0.3s,baz=241,slow=10,SNR=4.3						
WRA	Warramunga Arr	27.63	116	P	P	12 42 24.8	+0.9
	1.5nm,0.5s,mb3.9,baz=289,slow=11,SNR=18						
WRAB	Tennant Creek	27.64	116	eP	P	12 42 24.7	+0.7
	2.5nm,0.4s,mb4.2						
WB2	Warramunga Arr	27.64	116	eP	P	12 42 24.5	+0.4
ASAR	Alice Springs	28.69	124	P	P	12 42 34.0	+0.6
	0.6nm,0.7s,mb3.4,baz=296,slow=7.9,SNR=8.1						
SONM	Songino Array	56.67	359	P	P	12 46 20.6	+1.1
	1.3nm,0.6s,mb4.2,baz=178,slow=8.0,SNR=15						
ULN	Ulaanbaatar	56.69	359	eP	P	12 46 20.1	+0.4
	1.8nm,0.5s,mb4.4						
MKAR	Makanchi Array	60.16	340	P	P	12 46 44.3	+0.4
	1.3nm,0.6s,mb4.1,baz=149,slow=8.1,SNR=12						
KURK	Kurchatov	64.78	340	eP	P	12 47 14.7	0.0
	2.3nm,0.8s,mb4.3						
MAW	Mawson	65.70	197	P	P	12 47 19.4	-1.3
	1.6nm,0.7s,mb4.2,baz=111,slow=3.1,SNR=4.6						
BVAR	Borovoye Array	69.66	337	P	P	12 47 45.7	0.0
	1.1nm,0.6s,mb4.0,baz=139,slow=9.2,SNR=5.5						
VNDA	Vanda	73.76	169	P	P	12 48 09.0	-1.3
	1.0nm,0.7s,mb3.9,baz=302,slow=5.4,SNR=8.9						
SBA	Scott Base	74.83	169	eP	P	12 48 16.7	+0.2
	1.6nm,0.8s,mb4.0						

*ISCJB **17** 12:40:42.2±1.9, 288N±0.10×1234E±02, h465km±26km, mb3.8/9, Error ellipse: s-maj=28.5km s-min=9.9km az=130.0*
*IDC **17** 12:40:42.9±1.9, 292N×12347E, h450km±24km, mb3.4/8, mb1 3.5/8, mb1mx3.2/18, mbtmp4.2/8, Error ellipse: s-maj=68.9km s-min=10.5km az=69.0*
*NEIC **17** 12:40:43.4±0.9, 286N×12339E, h462km±13km, mb4.2/4, Error ellipse: s-maj=17.1km s-min=6.0km az=66.0*
ISC 17 12:40:43.6±1.4**, 288N**±010×**1234E**±02**, h462km**±20km**, n20, σ0.50/20, mb3.8/9, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	11.41	348	P	P	12 43 16.0	+0.1
	35nm,0.3s,baz=86,slow=11,SNR=4.2						
KSM	Kuching	13.15	264	eP	P	12 43 34.9	+0.2
KAKA	Kakadu	17.90	150	eP	P	12 44 24.3	-0.6
	13nm,0.6s						
FITZ	Fitzroy Crossi	20.96	174	eP	P	12 44 52.9	-0.1
	7.1nm,0.9s						
FITZ	Fitzroy Crossi	20.96	174	P	P	12 44 53.5	+0.6
	1.6nm,0.3s,baz=1.1,slow=10,SNR=16						
MBWA	Marble Bar	24.16	188	eP	P	12 45 21.0	-0.7
	3.4nm,0.6s,mb4.0						
WRAB	Tennant Creek	25.09	155	eP	P	12 45 29.8	-0.2
WRA	Warramunga Arr	25.10	155	P	P	12 45 29.8	-0.2
	3.1nm,0.3s,mb4.2,baz=337,slow=9.7,SNR=108						
WB2	Warramunga Arr	25.10	155	eP	P	12 45 30.0	-0.1
AS31	Alice Springs	28.30	159	eP	P	12 45 58.8	+0.5
ASPA	Alice Springs	28.30	159	eP	P	12 45 58.8	+0.5
ASAR	Alice Springs	28.30	159	P	P	12 45 58.9	+0.6
	0.8nm,0.3s,mb3.6,baz=336,slow=7.2,SNR=46						
ASAR				PcP	PcP	12 48 58.0	+1.0
	0.3nm,0.5s,baz=351,slow=2.6,SNR=3.1						
ASAR				ScP	ScP	12 51 56.0	+2.3
	0.4nm,0.6s,baz=342,slow=3.3,SNR=5.2						
SONM	Songino Array	47.13	344	P	P	12 48 33.4	+0.7
	0.9nm,0.7s,mb3.3,baz=160,slow=10,SNR=8.0						
MKAR	Makanchi Array	56.41	327	P	P	12 49 40.5	+0.5
	2.9nm,0.4s,mb4.0,baz=124,slow=7.9,SNR=29						
MKAR	Makanchi Array	56.41	327	P	P	12 49 40.5	+0.5
ZAL	Zalesovo	59.88	335	P	P	12 50 02.6	-1.0
	0.9nm,0.3s,mb3.6,baz=312,slow=6.1,SNR=3.3						
KURK	Kurchatov	60.71	329	eP	P	12 50 08.3	-0.8
	5.8nm,0.8s,mb4.1						
BVAR	Borovoye Array	66.25	328	P	P	12 50 44.6	-0.2
	1.0nm,0.6s,mb3.7,baz=134,slow=8.5,SNR=6.4						
AKTK	Aktyubinsk	72.28	322	P	P	12 51 21.4	+0.3
AKTO	Aktyubinsk	72.28	322	P	P	12 51 21.4	+0.3
	2.6nm,0.6s,mb4.0,baz=100,slow=6.7,SNR=8.7						

*NEIC **17** 12:44:51.8±0.4, 9.12S×10772E, h10km, mb4.6/3, Error ellipse: s-maj=17.2km s-min=7.6km az=55.0*
*ISCJB **17** 12:44:53.1±0.6, 9.1S±0.1×1078E±02, h33km, mb4.2/10,*

Error ellipse: s-maj=25.3km s-min=11.2km az=108.5
*IDC **17** 12:44:55.2±0.8, 9.14S×107.72E, h34km±5km, mb3.8/7, mb1 3.9/8, mb1mx3.8/16, mbtmp4.0/8, ML3.4/1, Error ellipse: s-maj=28.5km s-min=14.5km az=65.0*
ISC 17 12:44:55.4±0.6**, 9.1S**±0.1×**107.7E**±0.1**, h35km, (h36km**±1.4km**:pP-P), n15,** σ0^s**53**/14**, mb4.2**/10**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.54	119	P	Pn	12 49 20.5	-0.8
	0.1nm,0.3s,baz=291,slow=4.8,SNR=3.9						
WRA	Warramunga Arr	27.86	116	P	P	12 50 41.6	0.0
	0.7nm,0.6s,mb3.5,baz=290,slow=11,SNR=6.5						
WRA				pP	pP	12 50 52.2	+0.5
	0.3nm,0.4s,baz=290,slow=10,SNR=2.8						
WRAB	Tennant Creek	27.87	116	eP	P	12 50 42.1	+0.4
WB2	Warramunga Arr	27.88	116	eP	P	12 50 42.1	+0.3
ASAR	Alice Springs	28.89	123	P	P	12 50 50.9	+0.1
	1.1nm,0.7s,mb3.7,baz=299,slow=8.7,SNR=7.9						
ASAR				PcP	PcP	12 53 59.8	+0.4
	0.6nm,0.9s,baz=290,slow=1.9,SNR=5.3						
SONM	Songino Array	56.73	359	P	P	12 54 36.3	+0.7
	1.1nm,0.5s,mb4.1,baz=177,slow=7.9,SNR=12						
SONM				pP	pP	12 54 46.3	+0.1
	1.5nm,0.8s,baz=184,slow=10.0,SNR=6.0						
ULN	Ulaanbaatar	56.76	359	eP	P	12 54 35.7	-0.1
	1.7nm,0.5s,mb4.3						
MKAR	Makanchi Array	60.13	340	P	P	12 54 59.5	+0.3
	1.8nm,0.4s,mb4.4,baz=152,slow=8.2,SNR=22						
MKAR				pP	pP	12 55 09.2	-0.8
	1.6nm,0.5s,baz=142,slow=8.0,SNR=8.1						
KURK	Kurchatov	64.74	340	eP	P	12 55 30.4	+0.3
	5.1nm,0.9s,mb4.5						
MAW	Mawson	65.54	197	P	P	12 55 35.0	-0.2
	1.3nm,0.6s,mb4.1,baz=58,slow=8.2,SNR=5.0						
MAW				pP	pP	12 55 45.8	-0.2
	1.2nm,0.6s,baz=56,slow=6.3,SNR=2.1						
ZAL	Zalesovo	65.77	345	P	P	12 55 35.6	-1.1
	1.4nm,0.3s,mb4.5,baz=36,slow=3.0,SNR=3.1						
CHKZ	Chkalovo	70.02	338	eP	P	12 56 03.1	-0.4
	4.5nm,0.5s,mb4.7						
VNDA	Vanda	73.74	169	P	P	12 56 25.4	-0.4
	0.6nm,0.8s,mb3.6,baz=271,slow=6.9,SNR=3.9						
SBA	Scott Base	74.82	169	eP	P	12 56 33.0	+0.9
NCB	Newcomb	145.26	2	ePKP	PKPdf	13 04 29.9	+0.6

*NEIC **17** 12:50:44.4±0.2, 9.95S×107.86E, h10km, mb4.9/9, Error ellipse: s-maj=10.1km s-min=5.3km az=51.0*
*BJI **17** 12:50:44.3, 10.00S×107.90E, h10km, mb4.5*
*ISCJB **17** 12:50:47.3±0.4, 9.96S±0.08×107.89E±0.09, h47km, mb4.4/26, Error ellipse: s-maj=15.0km s-min=7.4km az=104.6*
*IDC **17** 12:50:49.2±0.5, 9.89S×107.90E, h44km±4km, mb4.0/16, mb1 4.1/18, mb1mx4.0/22, mbtmp4.3/18, ML4.0/2, Error ellipse: s-maj=15.7km s-min=10.4km az=57.0*
ISC 17 12:50:49.6±0.4**, 9.97S**±0.08×**107.89E**±0.09**, h49km, h49km**±1.1km**:pP-P, n60,** σ0^s**68**/41**, mb4.4**/26**, 1C, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	15.51	324	P	Pn	12 54 24.4	-0.7
	0.4nm,0.3s,baz=141,slow=9.7,SNR=4.6						
FITZ	Fitzroy Crossi	19.01	117	P	Pn	12 55 08.7	+0.3
	0.5nm,0.3s,baz=57,slow=3.9,SNR=11						
NWAO	Narrogin (SRO)	24.42	161	P	P	12 56 03.9	+0.4
	7.1nm,0.9s,mb4.1,baz=339,slow=8.2,SNR=5.3						
NWAO				pP		12 56 15.1	
	11nm,0.9s,baz=338,slow=10,SNR=3.3						
NWAO	Narrogin (SRO)	24.42	161	eP	P	12 56 03.3	-0.2
NWAO				pP		12 56 15.1	
WRA	Warramunga Arr	27.37	114	P	P	12 56 30.5	+0.4
	5.6nm,1.0s,mb4.0,baz=286,slow=11,SNR=12						
WRA				pP	pP	12 56 42.5	-0.3
	6.0nm,1.0s,baz=286,slow=11,SNR=10						
ASAR	Alice Springs	28.31	122	P	P	12 56 38.9	+0.2
	2.1nm,0.7s,mb3.9,baz=299,slow=8.3,SNR=18						
ASAR				pP	pP	12 56 52.1	+0.8
	3.3nm,0.7s,baz=303,slow=9.0,SNR=9.4						
AS31	Alice Springs	28.31	122	eP	P	12 56 37.8	-0.8
GYA	Guiyang	36.23	358⇑	iP	P	12 57 48.9	+1.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CTA	Charters Tower	38.31	110	P	P	12 58 06.3	+0.9
	comp=Z,1.2nm,0.3s,mb4.1,baz=240,slow=8.1,SNR=2.2						
CD2	Chengdu	40.84	355	P	P	12 58 32.4	+5.9
JIRN	Jiri	42.91	331	eP	P	12 58 44.2	+0.8
	comp=Z,43nm,0.8s,mb5.2						
PKI	Pulchoki	43.21	330	eP	P	12 58 45.8	0.0
GUN	Gumba	43.27	331	eP	P	12 58 46.7	+0.4
	comp=Z,36nm,0.7s,mb5.2						
DMN	Daman	43.39	330	eP	P	12 58 47.6	+0.3
	comp=Z,30nm,0.9s,mb5.0						
KKN	Kakani	43.45	330	eP	P	12 58 47.9	+0.1
GKN	Gorkha	43.95	330	eP	P	12 58 51.9	+0.1
KOLN	Koldanda	44.28	329	eP	P	12 58 54.7	+0.3
GTA	Gaotai	49.70	352	eP	P	12 59 37.9	+1.2
GTA				AP	pP	12 59 50.0	0.0
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.6						
MJAR	Matsushiro Arr	54.35	30	P	P	13 00 09.4	-1.8
	comp=Z,1.6nm,0.8s,mb4.0,baz=227,slow=7.6,SNR=3.3						
MJAR				pP	pP	13 00 21.9	-2.8
	comp=Z,7.4nm,0.9s,baz=208,slow=7.8,SNR=10						
MJAR	Matsushiro Arr	54.35	30	P	P	13 00 09.4	-1.8
MJAR				pP	pP	13 00 21.9	-2.8
SONM	Songino Array	57.56	359	P	P	13 00 34.4	+0.2
	comp=Z,6.2nm,0.7s,mb4.8,baz=176,slow=7.6,SNR=44						
SONM				pP	pP	13 00 46.8	-0.9
	comp=Z,5.1nm,0.6s,baz=173,slow=8.2,SNR=13						
ULN	Ulaanbaatar	57.58	359	eP	P	13 00 34.6	+0.3
OPO	Ambohidratompo	59.22	254	P	P	13 00 45.6	-0.2
	comp=Z,1.9nm,0.3s,mb4.6,baz=158,slow=2.1,SNR=8.3						
MKAR	Makanchi Array	60.96	340	P	P	13 00 57.1	-0.6
	comp=Z,2.2nm,0.6s,mb4.5,baz=143,slow=7.2,SNR=23						
MKAR				pP	pP	13 01 10.5	-0.8
	comp=Z,3.1nm,0.6s,baz=146,slow=7.7,SNR=12						
MKAR	Makanchi Array	60.96	340	P	P	13 00 57.1	-0.6
MKAR				pP	pP	13 01 10.5	-0.8
MAW	Mawson	64.81	197	P	P	13 01 23.0	-0.3
	comp=Z,4.4nm,0.9s,mb4.5,baz=306,slow=2.1,SNR=9.0						
MAW				pP	pP	13 01 37.0	-0.1
	comp=Z,4.2nm,0.9s,baz=46,slow=8.2,SNR=5.5						
KURK	Kurchatov	65.57	340	eP	P	13 01 26.8	-1.4
	comp=Z,6.6nm,1.0s,mb4.6						
BVAR	Borovoye Array	70.43	337	P	P	13 01 58.6	-0.1
	comp=Z,4.4nm,0.8s,mb4.4,baz=142,slow=7.5,SNR=18						
BRVK	Borovoye	70.49	337	eP	P	13 01 58.4	-0.7
	comp=Z,3.9nm,1.0s,mb4.3						
KMBO	Kilima Mbogo	70.74	272	P	P	13 02 00.9	+0.3
	comp=Z,1.8nm,0.8s,mb4.1,baz=44,slow=12,SNR=3.6						
CHKZ	Chkalovo	70.84	338	eP	P	13 02 01.2	0.0
	comp=Z,11nm,1.1s,mb4.7						
ZRNK	Zerenda	70.91	336	eP	P	13 02 00.9	-0.7
	comp=Z,4.5nm,0.8s,mb4.5						
VNDA	Vanda	72.91	169	P	P	13 02 12.6	-1.0
	comp=Z,0.9nm,0.9s,mb3.7,baz=309,slow=6.6,SNR=4.7						
AKTK	Aktyubinsk	74.11	329	P	P	13 02 20.1	-0.6
AKTO	Aktyubinsk	74.11	329	P	P	13 02 20.1	-0.6
	comp=Z,2.4nm,0.6s,mb4.3,baz=108,slow=16,SNR=7.5						
LSZ	Lusaka	77.58	256	P	P	13 02 41.1	+0.6
	comp=Z,0.6nm,0.3s,mb4.0,baz=149,slow=5.2,SNR=4.0						
LSZ	Lusaka	77.58	256	P	P	13 02 41.1	+0.6
ARU	Arti	77.66	334	eP	P	13 02 41.0	+0.1
	comp=Z,14nm,1.0s,mb4.9						
ASF	Jabal al Asfar	79.58	305	P	P	13 02 52.5	+1.0
	comp=Z,3.0nm,0.9s,mb4.2,baz=22,slow=7.7,SNR=5.4						
BR131	Keskin Array S	84.45	312	eP	P	13 03 17.4	+0.4
	comp=Z,1.2nm,0.6s,mb4.2						
BRTR	Keskin Array B	84.45	312	P	P	13 03 17.0	0.0
	comp=Z,2.5nm,0.7s,mb4.4,baz=136,slow=5.9,SNR=16						
BRTR				pP	pP	13 03 31.2	-0.1
	comp=Z,1.6nm,0.9s,baz=124,slow=6.6,SNR=3.6						
NVAR	Mina Array Bea	129.94	48	PKP	PKPdf	13 09 56.3	+2.6
	comp=Z,0.6nm,0.8s,baz=246,slow=2.2,SNR=4.1						
LTX	Lajitas	144.76	52	ePKP	PKPdf	13 10 22.7	+1.7
BDFB	Brasilia	145.12	223	PKPbc	PKPbc	13 10 23.7	+2.5
	comp=Z,6.1nm,0.7s,baz=126,slow=4.8,SNR=7.8						
FRNY	Flat Rock	145.24	2	ePKP	PKPdf	13 10 22.1	+0.3
WMOK	Wichita Mounta	145.34	41	eP	PKPbc	13 10 23.4	+1.6
LONY	Lake Ozonia	145.41	3	ePKP	PKPdf	13 10 22.6	+0.5
LONY				e		13 10 35.7	
NCB	Newcomb	146.08	3	ePKPbc	PKPbc	13 10 24.5	+0.3
NCB				e		13 10 37.8	
JCT	Junction City	147.12	48	ePKPab	PKPab	13 10 29.5	+0.6
CCM	Cathedral Cave	147.17	29	ePKPbc	PKPbc	13 10 27.4	+0.1
BINY	Binghamton	147.72	5	ePKPbc	PKPbc	13 10 30.1	+1.3
ACSO	Alum Creek Sta	148.35	16	ePKPbc	PKPbc	13 10 30.4	-0.1
MIAR	Mount Ida	148.63	35	ePKPbc	PKPbc	13 10 32.6	+1.4
SSPA	Standing Stone	149.03	9	ePKPbc	PKPbc	13 10 33.0	+0.7
WVT	Waverly	150.30	26	ePKPbc	PKPbc	13 10 36.6	+1.3
PLAL	Pickwick Lake	151.15	28	ePKPbc	PKPbc	13 10 38.2	+0.9
TZTN	Tazewell	151.58	20	ePKPbc	PKPbc	13 10 39.8	+1.4
SIV	San Ignacio	151.99	203	PKPbc	PKPbc	13 10 41.6	+2.3
	comp=Z,4.9nm,0.8s,baz=129,slow=2.4,SNR=26						
LPAZ	La Paz	153.62	189	PKPbc	PKPbc	13 10 46.4	+3.5
	comp=Z,1.4nm,0.7s,baz=212,slow=6.3,SNR=7.2						
LPAZ	La Paz	153.62	189	PKPbc	PKPbc	13 10 46.4	+3.5

*ISCJB **17** 12:52:10.4±0.2, 9.03S±0.03×107.84E±0.03, h20km, mb5.4/122, MS5.4/49, Error ellipse: s-maj=5.0km s-min=4.1km az=106.2*
*NEIC **17** 12:52:12.6±2.1, 9.01S×107.83E, h24km±14km, mb5.4/48, MS5.3/9, Error ellipse: s-maj=6.2km s-min=4.0km az=50.0*
*MOS **17** 12:52:12.7±1.2, 8.90S×107.92E, h33km, mb5.6/53, MS5.2/14, Error ellipse: s-maj=9.6km s-min=5.4km az=115.9*
*HRVD **17** 12:52:12.6±0.2, 9.40S×107.73E, h18km, MW5.7/100, Centroid moment Tensor Solution. LP body waves: s64,c91; Mantle waves: s100,c182; Half duration: 1^{s}7 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.63±.14; $M_{\theta\theta}$3.29±.09; $M_{\phi\phi}$0.33±.09; $M_{r\theta}$-1.82±.20; $M_{\theta\phi}$-0.84±.05; $M_{\phi r}$0.14±.25; Best double couple: $M_0$4.01100×10^{17} NP1:ϕ_s289.00000°,δ32.00000°,λ-82.00000°. NP2: ϕ_s100.00000°,δ59.00000°,λ-95.00000°. Principal axes: T 3.9410, Plg13.0000°, Azm194.0000°; N 0.1320, Plg4.0000°, Azm103.0000°; P -4.0800, Plg76.0000°, Azm356.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **17** 12:52:12.3, 9.00S×107.80E, h20km, mB5.6, mb5.3, Ms5.8, Msz5.6*
*IDC **17** 12:52:14.8±0.5, 8.99S×107.87E, h39km±4km, mb4.9/28, mb1 4.9/29, mb1mx4.9/30, mbtmp5.1/29, ML4.7/1, MS5.3/15, Ms1 5.3/15, ms1mx4.9/31, Error ellipse: s-maj=12.2km s-min=9.7km az=36.0*
ISC 17 12:52:12.6±0.2**, 9.06S**±0.03×**107.83E**±0.03**, h21km, h21km**±2.1km**:pP-P, n547,** σ1^s**03**/363**, mb5.4**/122**, MS5.4**/49**, 88C-69D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	Banjamegara	2.53	48⇑	iP	Pn	12 52 57.2	+4.8
BJII				i S	Sn	12 53 13.0	-10
KSI	Kapahiang	7.47	316	P	Pn	12 53 59.3	-1.0
	540nm,1.1s						
KSM	Kuching	10.75	13	eP	Pn	12 54 50.4	+5.2
COCO	West Island	11.24	253	Pn	Pn	12 54 50.3	-1.7
	2μm,0.5s,SNR=6.6						
COCO	West Island	11.24	253	ePn	Pn	12 54 49.0	-3.0
	558nm,0.7s						
PCI	Palu	14.44	57	P	Pn	12 55 40.7	+5.1
	441nm,2.0s						
PSI	Prapat	14.75	323	Pn	Pn	12 55 31.9	-7.9
	1.6nm,0.3s,baz=148,slow=8.3,SNR=8.2						
PSI	Prapat	14.75	323	P	Pn	12 55 32.0	-7.8
PSI				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KULM	Kulim	15.95	333	eP	Pn	12 55 51.6	-4.0
MBWA	Marble Bar	16.62	138	eP	Pn	12 56 01.2	-3.1
	comp=Z,44nm,0.6s						
KKM	Kota Kinabalu	17.17	29	eP	Pn	12 56 12.5	+1.4
SNG	Songkhla	17.65	336	P	Pn	12 56 17.0	-0.1
BSI	Banda Aceh	19.11	319	P	Pn	12 56 36.3	+1.5
	comp=Z,506nm,1.0s						
FITZ	Fitzroy Crossi	19.49	119	eP	Pn	12 56 33.7	-5.8
	comp=Z,92nm,0.7s						
FITZ				eS	Sn	12 59 59.6	-18
FITZ	Fitzroy Crossi	19.49	119	P	Pn	12 56 37.7	-1.8
	comp=Z,1.9nm,0.3s,baz=264,slow=6.5,SNR=25						
FITZ				Sn	Sn	13 00 03.2	-14
	comp=Z,2.1nm,0.3s,baz=153,slow=19,SNR=3.3						
FITZ	Fitzroy Crossi	19.49	119	P	Pn	12 56 37.7	-1.8
	comp=Z,92nm,0.7s						
FITZ				eS	Sn	12 59 59.6	-18
FITZ				Sn	Sn	13 00 03.2	-14
PAGZ	Pagadian	22.85	43	eP	P	12 57 15.0	+0.7
NNT	Nongplab	22.96	339	P	P	12 57 20.4	+5.0
CTBH	Cotabato--PC H	23.00	46⇑	iP	P	12 57 19.3	+3.4
SNPH	Sibulan	23.86	40	eP	P	12 57 27.0	+2.6
DAV	Davao City (W)	23.86	48	P	P	12 57 26.8	+2.3
	SNR=16						
BUKP	Musuan	24.04	46	eP	P	12 57 26.8	+0.7
KLBR	Kellerberrin	24.25	159	eP	P	12 57 27.4	-0.6
	comp=Z,81nm,1.2s,mb5.0						
KLBR				eS	S	13 01 49.6	+4.1
BUSP	Coron	24.27	31	eP	P	12 57 20.5	-7.6
KAKA	Kakadu	24.43	101	eP	P	12 57 31.8	+2.1
	comp=Z,108nm,0.7s,mb5.4						
NWAO	Narrogin (SRO)	25.30	161	P	P	12 57 36.6	-0.9
	comp=Z,19nm,0.7s,mb4.8,baz=336,slow=11,SNR=13						
NWAO				Sn	S	13 02 22.4	+20
	comp=Z,11nm,0.8s,baz=70,slow=22,SNR=3.6						
NWAO				LR	LR	13 06 28.6	
	comp=Z,4μm,18.9s,MS5.0,baz=334,slow=34						
NWAO	Narrogin (SRO)	25.30	161	eP	P	12 57 36.5	-1.0
	comp=Z,114nm,1.5s,mb5.2						
NWAO				LR	LR		
	comp=Z,4μm,19.0s,MS4.9						
MSLP	Maasin	25.51	42	eP	P	12 57 40.5	+1.1
NST	Nakhon Sawan	25.72	343	P	P	12 57 39.0	-2.4
WRA	Warramunga Arr	27.81	116	P	P	12 57 58.9	-1.2
	comp=Z,17nm,0.8s,mb4.7,baz=286,slow=10,SNR=20						
WRA				PcP	PcP	13 01 16.9	+0.8
	comp=Z,7.1nm,0.7s,baz=296,slow=2.1,SNR=7.0						
WRA				Sn	S	13 03 24.1	+42
	comp=Z,4.2nm,0.8s,baz=290,slow=24,SNR=4.3						
WRA				LR	LR	13 09 07.7	
	comp=Z,4μm,21.4s,MS5.0,baz=290,slow=36						
WRA	Warramunga Arr	27.81	116	P	P	12 57 58.9	-1.3
WRA						13 01 16.9	
WRA				pmax	pmax		
	comp=Z,17nm,0.8s						
WRA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WRA				MLR	MLR		
	comp=Z,4μm,21.4s						
WRAB	Tennant Creek	27.82	116	P	P	12 58 00.9	+0.7
	comp=Z,368nm,0.8s,mb6.1,SNR=10						
WRAB	Tennant Creek	27.82	116d	iP	P	12 58 00.8	+0.6
WRAB	Tennant Creek	27.82	116	eP	P	12 58 00.4	+0.1
	comp=Z,78nm,0.8s,mb5.4						
WRAB				LR	LR		
	comp=Z,6μm,22.0s,MS5.1						
WB2	Warramunga Arr	27.82	116⇑	iP	P	12 58 00.5	+0.2
WB2				eS	S	13 03 21.3	+39
QIZ	Qiongzhong	27.98	4	P	P	12 58 03.3	+1.6
QIZ				S	S	13 02 44.8	+0.2
QIZ				SS		13 04 06.5	
QIZ				AMB	AMB		
	comp=Z,996nm,14.5s						
QIZ				LR	LR		
	comp=N,8μm,14.1s						
QIZ				LR	LR		
	comp=Z,13μm,14.1s,MS5.7						
BALP	Baler	28.15	29	eP	P	12 58 04.2	+1.1
NANT	Nan	28.56	346	P	P	12 58 07.0	+0.2
FORT	Forrest	28.69	142	eP	P	12 58 15.1	+7.1
	comp=Z,24nm,0.8s,mb5.0						
ASPA	Alice Springs	28.85	123	eP	P	12 58 09.9	+0.4
ASPA				eS	S	13 03 42.9	+45
ASAR	Alice Springs	28.86	123	P	P	12 58 08.3	-1.2
	comp=Z,16nm,0.7s,mb4.9,baz=302,slow=8.1,SNR=30						
ASAR				PcP	PcP	13 01 19.2	+0.6
	comp=Z,6.7nm,0.7s,baz=309,slow=1.9,SNR=8.4						
ASAR				pPcP		13 01 31.1	
	comp=Z,8.3nm,0.8s,baz=301,slow=2.0,SNR=5.9						
ASAR				Sn	S	13 03 48.1	+50
	comp=Z,9.3nm,1.0s,baz=295,slow=23,SNR=6.4						
ASAR				LR	LR	13 10 56.7	
	comp=Z,3μm,18.2s,MS5.0,baz=302,slow=39						
ASAR	Alice Springs	28.86	123	P	P	12 58 08.3	-1.2
ASAR						13 01 19.3	
ASAR				pmax	pmax		
	comp=Z,16nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ASAR				MLR	MLR		
	comp=Z,3μm,18.2s						
AS31	Alice Springs	28.86	123	eP	P	12 58 09.9	+0.4
AS31				eS	S	13 03 42.9	+44
CHTO	Chiang Mai	29.04	342	P	P	12 58 11.4	+0.2
	SNR=5.9						
CHTO	Chiang Mai	29.04	342	eP	P	12 58 10.6	-0.6
CHTO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
CHTO				MLR	MLR		
	comp=Z,7μm,19.0s,MS5.3						
CHTO	Chiang Mai	29.04	342	eP	P	12 58 10.6	-0.6
	comp=Z,13nm,0.8s,mb4.7						
CHTO				LR	LR		
	comp=Z,7μm,19.0s,MS5.3						
PALK	Pallekele	31.52	300	P	P	12 58 35.8	+2.7
	comp=Z,384nm,1.0s,mb6.2,SNR=5.2						
PALK	Pallekele	31.52	300	P	P	12 58 35.9	+2.8
	SNR=6.8						
PALK	Pallekele	31.52	300	eP	P	12 58 35.3	+2.2
	comp=Z,85nm,1.1s,mb5.5						
PALK				LR	LR		
	comp=Z,5μm,19.0s,MS5.2						
GZH	Guangzhou	32.40	10	P	P	12 58 48.0	+7.3
GZH				LR	LR		
	comp=N,5μm,15.5s,MS5.4						
GZH				LR	LR		
	comp=E,4μm,17.1s,MS5.4						
GZH				LR	LR		
	comp=Z,8μm,15.5s,MS5.5						
KMI	Kunming	34.33	352	P	P	12 58 59.5	+1.9
KMI				AP	pP	12 59 02.4	-1.7
KMI				PP	PP	13 00 15.8	+0.3
KMI				PPP		13 00 33.8	
KMI				S	S	13 04 27.8	+3.9
KMI				SS	SS	13 06 38.3	-14
KMI				SSS		13 07 04.9	
KMI				AMB	AMB		
	comp=Z,16nm,1.4s,mb4.8						
KMI				AMB	AMB		
	comp=Z,477nm,8.5s						
KMI				LR	LR		
	comp=N,20μm,14.7s,MS6.0						
KMI				LR	LR		
	comp=E,12μm,16.0s,MS6.0						
KMI				LR	LR		
	comp=Z,24μm,15.4s,MS6.0						
GYA	Guiyang	35.32	358⇑	iP	P	12 59 08.1	+2.0
GYA				AP	pP	12 59 12.4	-0.3
GYA				XP	sP	12 59 15.6	+0.3
GYA				PP	PP	13 00 28.5	+2.1
GYA				PCP	PcP	13 01 37.0	+0.8
GYA				S	S	13 04 42.9	+3.8
GYA				SCP	ScP	13 05 21.3	+0.6
GYA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
GYA				AMB	AMB		
	comp=Z,1μm,6.4s						
GYA				LR	LR		
	comp=N,970nm,16.4s,MS4.8						
GYA				LR	LR		
	comp=E,840nm,15.8s,MS4.8						
TRD	Trivandrum	35.35	299	eP	P	12 59 06.8	+0.3
TRD				AMb	AMB	12 59 11.1	
	comp=Z,106nm,0.9s,mb5.8						
QZH	Quanzhou	35.38	17	P	P	12 59 07.3	+0.6
QZH				PP	PP	13 00 29.6	+2.5
QZH				S	S	13 04 41.3	+1.2
QZH				AMB	AMB		
	comp=Z,1μm,6.2s						
QZH				LR	LR		
	comp=N,5μm,14.2s,MS5.6						
QZH				LR	LR		
	comp=E,5μm,13.4s,MS5.6						
QZH				LR	LR		
	comp=Z,8μm,15.7s,MS5.6						
VIS	Vishakhapatnam	35.97	318	eP	P	12 59 12.0	+0.3
VIS				AMb	AMB	12 59 18.9	
	comp=Z,112nm,1.7s,mb5.5						
YHNB	Yeheng	36.03	21	eP	P	12 59 11.0	-1.3
ADE	Adelaide	38.24	137	eP	P	12 59 31.9	+0.9
CTA	Charters Tower	38.68	111	eP	P	12 59 36.0	+1.3
	comp=Z,20nm,0.8s,mb4.9						
CTA				ePCP	PcP	13 01 47.7	+1.3
CTA	Charters Tower	38.68	111	P	P	12 59 35.9	+1.2
	comp=Z,11nm,0.8s,mb4.7,baz=266,slow=15,SNR=9.2						
CTA	Charters Tower	38.68	111	eP	P	12 59 36.0	+1.3
CTA				e		13 01 47.7	
CTA				pmax	pmax		
	comp=Z,20nm,0.8s						
CTAO	Charters Tower	38.68	111	eP	P	12 59 35.6	+0.9
CTAO				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.1						
CTAO	Charters Tower	38.68	111	eP	P	12 59 35.5	+0.9
	comp=Z,39nm,1.0s,mb5.1						
PMG	Port Moresby	38.81	94	P	P	12 59 37.4	+1.6
	comp=Z,21nm,0.7s,mb5.0,baz=259,slow=4.9,SNR=8.8						
PMG	Port Moresby	38.81	94⇓	iP	P	12 59 36.8	+1.0
PMG	Port Moresby	38.81	94	eP	P	12 59 36.4	+0.6
	comp=Z,65nm,1.0s,mb5.3						
PMG				LR	LR		
	comp=Z,4μm,21.0s,MS5.2						
BOK	Bokaro	39.06	327	eP	P	12 59 37.7	-0.2
BOK				AMb	AMB	12 59 42.6	
	comp=Z,134nm,2.3s,mb5.3						
WHN	Wuhan	39.87	9	eP	P	12 59 48.1	+3.5
WHN				LR	LR		
	comp=Z,17μm,16.0s,MS6.0						
CD2	Chengdu	39.93	355⇑	iP	P	12 59 45.8	+0.7
CD2				AP	pP	12 59 50.3	-1.4
CD2				XP	sP	12 59 53.0	-1.4
CD2				PP	PP	13 01 22.3	+5.3
CD2				S	S	13 05 52.0	+3.0
CD2				XS	sS	13 05 59.3	-0.6
CD2				SS	SS	13 08 43.8	-2.1
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
CD2				AMB	AMB		
	comp=Z,400nm,5.6s						
CD2				LR	LR		
	comp=N,4μm,14.4s						
CD2				LR	LR		
	comp=Z,5μm,14.4s,MS5.5						
JOW	Kunigami	40.82	29	P	P	12 59 52.6	+0.1
	comp=Z,32nm,0.6s,mb5.2,baz=251,slow=8.7,SNR=25						
SSE	Sheshan	41.92	17	eP	P	13 00 02.3	+0.7
SSE				PP	PP	13 01 38.8	+0.1
SSE				PCP	PcP	13 01 56.6	-0.3
SSE				S	S	13 06 21.3	+2.6
SSE				SCS	ScS	13 10 05.5	+2.4
SSE				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.1						
SSE				AMB	AMB		
	comp=Z,339nm,5.2s						
SSE				LR	LR		
	comp=N,3μm,15.4s,MS5.3						
SSE				LR	LR		
	comp=E,1μm,15.3s,MS5.3						
SSE				LR	LR		
	comp=Z,3μm,13.5s,MS5.4						
JBP	Jabalpur	42.05	320⇓	iP	P	13 00 02.8	+0.2
JBP				ex	x	13 00 06.5	
	comp=Z,42nm,0.7s						
JBP				eS	S	13 06 21.5	+1.0
JIRN	Jiri	42.08	331	eP	P	13 00 03.4	+0.5
	comp=Z,266nm,0.8s,mb5.9						
NJ2	Nanjing	42.21	14	eP	P	13 00 00.9	-3.0
NJ2				AP	pP	13 00 09.6	-0.9
NJ2				XP	sP	13 00 13.8	+0.6
NJ2				S	S	13 06 14.0	-8.9
NJ2				XS	sS	13 06 32.0	-1.9
NJ2				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,530nm,9.4s						
NJ2				LR	LR		
	comp=N,11μm,13.9s,MS5.9						
NJ2				LR	LR		
	comp=E,5μm,15.1s,MS5.9						
KAD	Karad	42.33	308	eP	P	13 00 05.6	+0.7

KAD AMb AMB 13 00 09.4
comp=Z,97nm,1.1s,mb5.4
AKL Akola 42.33 315 *e*P **P** **13 00 04.3 -0.6**
AKL AMb AMB 13 00 19.4
comp=Z,88nm,1.8s,mb5.1
PKI Pulchoki 42.39 330 *e*P **P** **13 00 05.0 -0.4**
comp=Z,72nm,0.6s,mb5.5
PKI Pulchoki 42.39 330 *e*P **P** **13 00 05.0 -0.4**
PKI pmax pmax
comp=Z,72nm,0.6s,mb5.5
GUN Gumba 42.44 331 *e*P **P** **13 00 06.3 +0.5**
comp=Z,303nm,0.7s,mb6.0
DMN Daman 42.57 330 *e*P **P** **13 00 06.8 -0.1**
comp=Z,228nm,0.7s,mb6.0
KKN Kakani 42.64 330 *e*P **P** **13 00 07.3 -0.1**
comp=Z,328nm,1.0s,mb6.0
KKN Kakani 42.64 330 *e*P **P** **13 00 07.3 -0.1**
KKN pmax pmax
comp=Z,328nm,1.0s,mb6.0
XAN Xi'an 42.87 1 P **P** **13 00 08.9 -0.4**
XAN S **S** **13 06 30.3 -2.3**
XAN AMB AMB
comp=Z,70nm,0.7s,mb5.5
XAN AMB AMB
comp=Z,583nm,10.0s
XAN LR LR
comp=N,6μm,17.1s,MS5.8
XAN LR LR
comp=E,8μm,15.1s,MS5.8
XAN LR LR
comp=Z,12μm,16.5s,MS5.9
GUMO Guam 43.10 59 P **P** **13 00 10.8 -0.4**
comp=Z,64nm,0.7s,mb5.5,baz=161,slow=12,SNR=5.2
GUMO LR LR 13 18 24.3
comp=Z,2μm,21.2s,MS4.9,baz=112,slow=36
GUMO Guam 43.10 59 P **P** **13 00 10.8 -0.4**
GUMO pmax pmax
comp=Z,64nm,0.7s,mb5.5
GUMO MLR MLR
comp=Z,2μm,21.2s,MS4.9
GKN Gorkha 43.13 329 *e*P **P** **13 00 11.1 -0.3**
comp=Z,298nm,0.7s,mb6.1
POO Poona 43.30 309⇑ *i*P **P** **13 00 11.0 -1.8**
comp=Z,170nm,1.0s,mb5.7
KOLN Koldanda 43.48 328 *e*P **P** **13 00 14.1 -0.1**
comp=Z,498nm,0.7s,mb6.3
BHPL Bhopal 43.76 318 *e*P **P** **13 00 16.2 -0.2**
BHPL AMb AMB 13 00 18.9
comp=Z,52nm,0.7s,mb5.4
LZH Lanzhou 45.05 355 ⇑P **P** **13 00 27.9 +1.1**
LZH AP pP 13 00 37.8 +4.3
LZH XP sP 13 00 41.8 +5.7
LZH PP PP 13 02 14.5 +2.3
LZH *e*S **S** **13 07 05.6 +1.1**
LZH XS sS 13 07 22.1 +6.6
LZH AMB AMB
comp=Z,61nm,1.4s,mb5.2
LZH AMB AMB
comp=Z,322nm,5.1s
LZH LR LR
comp=N,4μm,14.6s
LZH LR LR
comp=Z,5μm,15.4s,MS5.6
ARMA Armidale 46.01 124 *e*P **P** **13 00 36.8 +2.4**
LGTI Lohaghat 46.60 326 *i* x **P** **13 00 37.0 -2.0**
PTH Pithoragarh 46.69 326 *e*P **P** **13 00 41.4 +1.7**
RIV Riverview 46.79 128 *e*P **P** **13 00 41.0 +0.5**
NDI New Delhi 47.76 323 *e*P **P** **13 00 46.0 -2.0**
AJM Ajmer 47.81 319 *e*P **P** **13 00 47.8 -0.7**
AJM AMb AMB 13 00 53.9
comp=Z,35nm,1.9s,mb5.1
GTA Gaotai 48.79 352 *e*P **P** **13 00 56.3 +0.3**
GTA AP pP 13 01 01.4 -1.3
GTA XP sP 13 01 04.3 -1.0
GTA PCP PcP 13 02 22.0 +1.4
GTA PP PP 13 02 51.1 +1.9
GTA PPP 13 03 42.8
GTA S **S** **13 07 59.1 +1.3**
GTA XS sS 13 08 10.5 +1.6
GTA AMB AMB
comp=Z,9.0nm,0.7s,mb4.9
GTA AMB AMB
comp=Z,763nm,6.1s
GTA LR LR
comp=N,2μm,18.6s,MS5.5
GTA LR LR
comp=E,4μm,21.7s,MS5.5
GTA LR LR
comp=Z,1μm,17.5s,MS5.0
CBIJ Chichi jima 49.00 42 P **P** **13 00 56.5 -1.2**
comp=Z,52nm,0.6s,mb5.7,baz=255,slow=24,SNR=5.8
BHJ Bhuj 49.25 311 *e*P **P** **13 00 59.5 -0.1**
BHJ AMb AMB 13 01 06.6
comp=Z,147nm,1.5s,mb5.8
DL2 Dalian 49.41 14 P **P** **13 01 00.0 -0.8**
DL2 S **S** **13 08 04.3 -2.3**
DL2 AMB AMB
comp=Z,30nm,0.7s,mb5.4
DL2 AMB AMB
comp=Z,200nm,4.7s
DL2 LR LR
comp=N,1μm,12.9s,MS5.2
DL2 LR LR
comp=E,2μm,14.7s,MS5.2
DL2 LR LR
comp=Z,2μm,13.9s,MS5.2
BJT Baijiatuau 49.43 8 *e*P **P** **13 01 00.6 -0.3**
BJT pmax pmax
comp=Z,114nm,1.0s
BJT MLR MLR
comp=Z,5μm,19.0s
BJT Baijiatuau 49.43 8 *e*P **P** **13 01 00.6 -0.3**
comp=Z,114nm,1.0s,mb5.9
BJT LR LR
comp=Z,5μm,19.0s,MS5.6
BTO Baotou 49.45 2 *e*P **P** **13 00 59.9 -1.2**
BJI Beijing 49.45 8 *e*P **P** **13 01 00.8 -0.3**
BJI S **S** **13 08 03.3 -3.9**
BJI AMB AMB
comp=Z,60nm,0.7s,mb5.7
BJI AMB AMB
comp=Z,801nm,3.7s
BJI LR LR
comp=N,6μm,16.5s,MS5.9
BJI LR LR
comp=E,7μm,15.6s,MS5.9
BJI LR LR
comp=Z,5μm,17.9s,MS5.6
SMLA Simla 49.60 325 *e*P **P** **13 01 01.3 -0.9**
SMLA AMb AMB 13 01 06.8
comp=Z,119nm,1.3s,mb5.8
HHC Hu-ho-hao-te 49.77 4 *e*P **P** **13 01 05.3 +1.8**
HHC AP pP 13 01 10.3 +0.1
HHC XP sP 13 01 12.3 -0.6
HHC PP PP 13 03 00.5 +2.3
HHC PCS PcS 13 06 19.4 -1.6
HHC S **S** **13 08 13.5 +1.9**
HHC XS sS 13 08 21.9 -0.8
HHC SS SS 13 11 42.8 -1.4
HHC AMB AMB
comp=Z,50nm,1.2s,mb5.4
HHC AMB AMB
comp=Z,952nm,8.3s
HHC LR LR
comp=N,11μm,11.9s,MS6.1
HHC LR LR
comp=E,4μm,13.1s,MS6.1
HHC LR LR
comp=Z,9μm,14.3s,MS5.9
HNR Honiara 51.40 95 P **P** **13 01 16.8 +0.9**
comp=Z,62nm,0.7s,mb5.7,baz=95,slow=0.8,SNR=8.0
HNR Honiara 51.40 95 *e*P **P** **13 01 16.3 +0.5**
HNR pmax pmax
comp=Z,176nm,1.2s,mb5.9
HNR Honiara 51.40 95 *e*P **P** **13 01 16.3 +0.5**
comp=Z,176nm,1.2s,mb5.9
SNY Shenyang 52.66 15 ⇑P **P** **13 01 25.1 0.0**
SNY AP pP 13 01 30.4 -1.5
SNY PCP PcP 13 02 38.4 +3.5
SNY PP PP 13 03 22.6 -1.7
SNY S **S** **13 08 46.1 -5.4**
SNY AMB AMB
comp=Z,49nm,1.6s,mb5.2
SNY AMB AMB
comp=Z,685nm,9.1s
SNY LR LR
comp=N,3μm,16.1s,MS5.7
SNY LR LR
comp=E,4μm,14.3s,MS5.7
SNY LR LR
comp=Z,5μm,14.9s,MS5.7
MAJO Matsushiro 53.59 30 *e*P **P** **13 01 29.6 -2.4**
MAJO pmax pmax
comp=Z,24nm,0.8s,mb5.2
MAJO Matsushiro 53.59 30 *e*P **P** **13 01 29.6 -2.4**
comp=Z,24nm,0.8s,mb5.2
MAT Matsushiro 53.59 30 P **P** **13 01 30.0 -2.0**
MAT S **S** **13 08 55.0 -9.2**
MAT Matsushiro 53.59 30 *e*P **P** **13 01 30.0 -2.0**
MAT *e*S **S** **13 08 55.0 -9.2**
MAT pmax pmax
comp=Z,97nm,1.5s,mb5.5
MAT MLR MLR
comp=Z,2μm,20.0s,MS5.2
MAT Matsushiro 53.59 30 *e*P **P** **13 01 30.0 -2.0**
comp=Z,97nm,1.5s,mb5.5
MAT *e*S **S** **13 08 55.0 -9.2**
MAT LR LR
comp=Z,2μm,20.0s,MS5.2
MJAR Matsushiro Arr 53.59 30 P **P** **13 01 30.3 -1.8**
comp=Z,11nm,0.6s,mb5.0,baz=210,slow=7.7,SNR=23
MJAR Matsushiro Arr 53.59 30 P **P** **13 01 30.3 -1.7**
MJAR pmax pmax
comp=Z,11nm,0.6s
CN2 Changchun 54.99 16 *e*P **P** **13 01 40.4 -1.8**
CN2 *e*S **S** **13 09 24.0 +1.0**
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.3
CN2 AMB AMB
comp=Z,200nm,6.0s
WMQ Urumqi 55.71 342 P **P** **13 01 49.0 +1.6**
WMQ AP pP 13 01 53.1 -1.1
WMQ XP sP 13 01 55.5 -1.3
WMQ PCP PcP 13 02 48.1 +1.5
WMQ PP PP 13 03 54.8 +3.0
WMQ SCP ScP 13 06 45.3 +1.0
WMQ S **S** **13 09 33.3 +0.6**
WMQ AMB AMB
comp=Z,157nm,1.4s,mb5.8
WMQ AMB AMB
comp=Z,854nm,4.8s
WMQ LR LR
comp=N,4μm,17.0s,MS5.7
WMQ LR LR
comp=E,3μm,15.9s,MS5.7
WMQ LR LR
comp=Z,4μm,17.5s,MS5.6
VLA Vladivostok 56.37 21 *i* P **P** **13 01 52.4 +0.3**
KSH Kashi 56.64 331 P **P** **13 01 54.8 +0.7**
KSH *e*AP pP 13 02 00.3 -0.6
KSH *e*XP sP 13 02 03.5 0.0
KSH *e*PP PP 13 04 02.4 +2.3
KSH *e*PPP 13 05 19.1
KSH *e*SCP ScP 13 06 49.5 +1.1
KSH *e*S **S** **13 09 44.5 -0.6**
KSH *e*PS 13 10 02.3
KSH *e*SCS ScS 13 11 40.3 -1.8
KSH *e*SS SS 13 13 31.1 -1.6
KSH AMB AMB
comp=Z,383nm,4.1s
KSH LR LR
comp=N,6μm,16.6s,MS5.9
KSH LR LR
comp=E,5μm,16.6s,MS5.9
KSH LR LR
comp=Z,4μm,14.6s,MS5.6
SONM Songino Array 56.65 359 P **P** **13 01 53.8 -0.3**
comp=Z,23nm,0.6s,mb5.4,baz=171,slow=8.2,SNR=34
SONM LR LR 13 28 51.8
comp=Z,5μm,18.5s,MS5.7,baz=178,slow=39
SONM PKPPKP 13 31 45.6
comp=Z,0.8nm,1.0s,baz=90,slow=1.6,SNR=4.4
SONM PKP2bc 13 32 00.9
comp=Z,1.1nm,1.0s,baz=38,slow=1.0,SNR=4.6
SONM Songino Array 56.65 359 P **P** **13 01 53.8 -0.3**
SONM LR LR 13 28 51.8
SONM P'P' 13 31 45.6
SONM ⇑*e* 13 32 00.9
ULN Ulaanbaatar 56.67 359 P **P** **13 01 54.5 +0.2**
SNR=26
ULN Ulaanbaatar 56.67 359 *d i*P **P** **13 01 54.1 -0.2**
ULN Ulaanbaatar 56.67 359 *e*P **P** **13 01 53.7 -0.6**
comp=Z,5.8nm,1.3s,mb4.5
ULN LR LR
comp=Z,4μm,20.0s,MS5.5
MDJ Mudanjiang 56.93 18 P **P** **13 01 54.5 -1.6**
MDJ AP pP 13 02 02.4 -0.5
MDJ XP sP 13 02 12.1 +6.6
MDJ PCP PcP 13 02 50.5 -0.8
MDJ SCP ScP 13 06 51.9 +2.3
MDJ S **S** **13 09 48.0 -0.8**
MDJ AMB AMB
comp=Z,20nm,0.9s,mb5.2
MDJ AMB AMB
comp=Z,262nm,4.5s
MDJ LR LR
comp=N,2μm,13.9s,MS5.4
MDJ LR LR
comp=E,1μm,14.6s,MS5.4
MDJ LR LR
comp=Z,3μm,13.7s,MS5.5
MDJ Mudanjiang 56.93 18 *e*P **P** **13 01 54.8 -1.3**
comp=Z,22nm,0.8s,mb5.2
CASY Casey 57.17 179 *e*P **P** **13 01 57.7 -0.1**
WSAR Wadi Sarin 57.84 305 P **P** **13 02 02.8 +0.2**
comp=Z,23nm,0.8s,mb5.3,baz=117,slow=6.1,SNR=13
WSAR LR LR 13 25 52.9
comp=Z,6μm,19.9s,MS5.7,baz=116,slow=35
SMDO Samad 58.23 304 P **P** **13 02 06.5 +1.3**
SNR=9.8
BIDO Bidbid 58.38 305 ⇑P **P** **13 02 07.1 +0.8**
SNR=13
KZA Kyzart 58.99 332 P **P** **13 02 11.3 +0.8**
SNR=17
HIA Hailar 59.01 9 *d i*P **P** **13 02 10.5 -0.2**
HIA Hailar 59.01 9 *e*P **P** **13 02 10.6 -0.1**
comp=Z,19nm,0.9s,mb5.1
HOQ Hoqain 59.07 304 P **P** **13 02 12.6 +1.5**
SNR=8.1
AAA Alma-Ata 59.18 334 *e*P **P** **13 02 10.5 -1.4**
AAA *e*S **S** **13 10 18.0 -0.3**
AAA pmax pmax
comp=Z,11μm,4.0s
AAA smax
comp=E,20μm,7.0s
AAA MLR MLR
comp=Z,48μm,16.0s
ZAK Zakamensk 59.32 357 *e*P **P** **13 02 12.4 -0.4**
ZAK *e* 13 05 44.0
ZAK *e* 13 10 23.0
ZAK pmax pmax
comp=Z,25nm,1.7s,mb5.0
OPO Ambohidratompo 59.41 254 P **P** **13 02 14.3 +0.8**
comp=Z,18nm,0.9s,mb5.1,baz=60,slow=5.3,SNR=9.8
OPO pP pP 13 02 25.7 +5.4
comp=Z,13nm,0.8s,baz=119,slow=6.4,SNR=6.0
TKM2 Tokmak 2 59.49 333 P **P** **13 02 13.8 -0.3**
SNR=36
KBK Karagaybulak 59.58 332 P **P** **13 02 14.6 0.0**
SNR=9.7
ARQ Araqi 59.60 304 ⇓P **P** **13 02 14.6 -0.2**
SNR=7.1
WHFO Wadi Hawf 59.72 297 P **P** **13 02 15.4 -0.2**
SNR=7.8
AAK Ala-Archa 59.77 332 P **P** **13 02 16.4 +0.4**
SNR=5.8
AAK Ala-Archa 59.77 332 P **P** **13 02 15.9 0.0**
comp=Z,95nm,1.3s,mb5.7,SNR=9.4
AAK Ala-Archa 59.77 332 P **P** **13 02 15.8 -0.2**
SNR=9.9
AAK Ala-Archa 59.77 332⇑ *e*P **P** **13 02 14.9 -1.0**
AAK pmax pmax
comp=Z,29nm,1.3s,mb5.2
AAK Ala-Archa 59.77 332 *e*P **P** **13 02 14.4 -1.5**
comp=Z,35nm,1.2s,mb5.3
FRU Bishkek 59.87 332 *e*P **P** **13 02 16.0 -0.6**
FRU pmax pmax
comp=Z,100nm,2.0s,mb5.5
MK31 Makanchi Array 60.08 340 P **P** **13 02 17.2 -0.9**
MK31 pmax pmax
comp=Z,33nm,0.6s,mb5.5
MKAR Makanchi Array 60.08 340 P **P** **13 02 17.3 -0.8**
comp=Z,60nm,0.6s,mb5.8,baz=146,slow=7.4,SNR=95
MKAR PKP2bc 13 31 50.5
comp=Z,0.3nm,0.6s,baz=340,slow=3.4,SNR=3.4
MKAR Makanchi Array 60.08 340 P **P** **13 02 17.3 -0.8**
MKAR ⇑*e* 13 31 50.5
EKS2 Erkin-Say 60.13 332 P **P** **13 02 18.9 +0.5**
SNR=16
USP Ospenovka 60.26 332 P **P** **13 02 18.6 -0.7**
SNR=13
ASHO Ashiyiah 60.59 305 P **P** **13 02 21.6 +0.1**
SNR=22
TLY Talaya 60.59 357 P **P** **13 02 22.0 +0.4**
comp=Z,128nm,1.3s,mb5.9,SNR=8.3
MOY Mondy 60.76 355 *e*P **P** **13 02 23.5 +0.8**
MOY pmax pmax
comp=Z,205nm,2.1s,mb5.9
IRK Irkutsk 61.13 358 *e*P **P** **13 02 25.3 +0.1**
IRK pmax pmax
comp=Z,127nm,2.4s,mb5.6
KLR Kul'dur 61.72 18 *e*P **P** **13 02 24.4 -4.8**
KLR pmax pmax
comp=E,42nm,1.8s
KLR pmax pmax
comp=Z,170nm,1.8s,mb5.9
KK31 Karatay Array 62.04 330 *i* P **P** **13 02 30.9 -0.5**
KK31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
KKAR Karatay Array 62.04 330 *i* P **P** **13 02 30.9 -0.5**
KKAR pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
HABR Khabarovsk 62.11 20⇑ *i*P **P** **13 02 30.5 -1.3**
HABR *e*S **S** **13 10 53.9 -1.8**
HABR pmax pmax
comp=Z,60nm,1.3s,mb5.6
YSS Yuzh-Sakhalins 63.84 26⇑ *i*P **P** **13 02 42.1 -1.3**
YSS *e* pP 13 02 50.0 -0.2
YSS S **S** **13 11 09.0 -8.4**
YSS pmax pmax
comp=Z,110nm,1.1s,mb5.8
YSS Yuzh-Sakhalins 63.84 26 *e*P **P** **13 02 42.2 -1.2**
comp=Z,86nm,0.8s,mb5.8
RPZ Rata Peaks 64.51 134 LR LR 13 32 02.5
comp=Z,4μm,19.5s,MS5.6,baz=286,slow=37
KURK Kurchatov 64.70 340 P **P** **13 02 48.1 -0.9**
comp=Z,487nm,0.8s,SNR=27
KURK Kurchatov 64.70 340 P **P** **13 02 48.6 -0.3**
SNR=28
KURK Kurchatov 64.70 340⇑ *i*P **P** **13 02 48.6 -0.4**
KURK Kurchatov 64.70 340 *e*P **P** **13 02 48.2 -0.8**
KURK LR LR
comp=Z,4μm,19.0s,MS5.6
MAW Mawson 65.65 197 *e*P **P** **13 02 54.5 -0.7**
comp=Z,16nm,0.6s,mb5.2
MAW Mawson 65.65 197 P **P** **13 02 54.9 -0.2**
comp=Z,18nm,0.6s,mb5.3,baz=52,slow=7.1,SNR=30
MAW Mawson 65.65 197 *e*P **P** **13 02 54.5 -0.7**
MAW pmax pmax
comp=Z,16nm,0.6s
ABKT Ailbek 65.83 319 P **P** **13 02 56.5 +0.2**
comp=Z,201nm,1.2s,mb6.0,SNR=7.7
KRAR Krasnoyarsk 66.01 351⇑ *e*P **P** **13 02 54.6 -2.9**
BOD Bodaibo 66.83 4 *e*P **P** **13 03 01.1 -1.6**
BOD pmax pmax
comp=Z,53nm,1.7s,mb5.3
NVS Novosibirsk 66.92 345 *e*P **P** **13 03 01.6 -1.7**
NVS *e*S S 13 11 51.5 -3.6
NVS pmax pmax
comp=Z,90nm,1.9s,mb5.5
NVS pmax pmax
comp=N,73nm,1.8s
NVS pmax pmax
comp=E,57nm,2.0s
NVS smax
comp=N,82nm,2.3s
CLNS Chul'man 67.15 10 *e*P **P** **13 03 04.9 +0.2**
CLNS *e**PP pP 13 03 12.0 +0.3
CLNS *e* 13 03 34.2
CLNS *e* 13 05 29.7
CLNS *e*S S 13 11 53.9 -4.0
CLNS *e*SS SS 13 16 07.5 -10
CLNS pmax pmax
comp=Z,18nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,18nm,1.1s
CLNS pmax pmax
comp=E,16nm,0.9s
CLNS pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS smax
comp=N,628nm,11.7s
CLNS smax
comp=Z,319nm,12.5s
CLNS smax
comp=E,345nm,11.6s
CLNS MLR MLR
comp=N,4μm,14.0s,MS5.8
CLNS MLR MLR
comp=E,2μm,14.0s,MS5.8
CLNS MLR MLR
comp=Z,4μm,14.0s,MS5.8
CLNS Chul'man 67.15 10 *e*P **P** **13 03 05.0 +0.3**
ATD Arta Tunnel 67.77 286 P **P** **13 03 09.0 +0.4**
comp=Z,15nm,0.8s,mb5.1,baz=97,slow=7.1,SNR=8.3
ATD Arta Tunnel 67.77 286 P **P** **13 03 09.0 +0.4**
KBD Kabd 69.25 306 *e*P **P** **13 03 17.5 -0.4**
KBD AMb AMB 13 03 20.7
comp=Z,342nm,1.2s,mb6.2
RDF Al-Radifah 69.27 306 *e*P **P** **13 03 17.3 -0.7**
RDF AMb AMB 13 03 20.7
comp=Z,188nm,1.0s,mb6.0
UMR Umm Al-Rimmam 69.38 306 *e*P **P** **13 03 18.1 -0.6**
UMR AMb AMB 13 03 20.8
comp=Z,188nm,0.7s,mb6.1
BVA0 Borovoye Array 69.57 337 *i* P **P** **13 03 18.6 -1.3**
BVA0 pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BVAR Borovoye Array 69.57 337 P **P** **13 03 19.3 -0.6**
comp=Z,24nm,0.5s,mb5.3,baz=144,slow=8.9,SNR=46
BVAR Borovoye Array 69.57 337 P **P** **13 03 19.3 -0.6**
BVAR pmax pmax
comp=Z,24nm,0.5s
BRVK Borovoye 69.63 337 P **P** **13 03 19.6 -0.7**
comp=Z,276nm,1.2s,mb6.1,SNR=13
BRVK Borovoye 69.63 337 *e*P **P** **13 03 19.6 -0.7**
BRVK pmax pmax
comp=Z,49nm,1.0s,mb5.4
BRVK Borovoye 69.63 337 *e*P **P** **13 03 19.6 -0.7**
comp=Z,49nm,1.0s,mb5.4
NAY Al-Naaiem 69.64 306 *e*P **P** **13 03 19.2 -1.1**
NAY AMb AMB 13 03 22.3
comp=Z,66nm,0.8s,mb5.6
MIB Mutribah 69.78 306 *e*P **P** **13 03 20.5 -0.7**
MIB AMb AMB 13 03 23.4
comp=Z,109nm,1.1s,mb5.7
CHKZ Chkalovo 69.98 337 *e*P **P** **13 03 21.9 -0.5**
ZRNK Zerenda 70.05 336 *e*P **P** **13 03 22.1 -0.8**
KMBO Kilima Mbogo 70.64 272 P **P** **13 03 27.0 +0.5**
comp=Z,19nm,1.0s,mb5.0,baz=65,slow=9.6,SNR=22
KMBO LR LR 13 33 29.2
comp=Z,1μm,18.2s,MS5.3,baz=96,slow=35
KMBO Kilima Mbogo 70.64 272⇑ *e*P pP 13 03 33.7 +0.3
SKR Severo-Kuril's 72.69 30 P **P** **13 03 39.4 +0.6**
SKR *e* 13 03 51.0
SKR *e* 13 13 26.0
SKR *e*PS 13 13 44.0
SKR MLR MLR
comp=N,2μm,16.0s,MS5.7
SKR MLR MLR
comp=E,2μm,16.0s,MS5.7
SKR MLR MLR
comp=Z,2μm,16.0s,MS5.5
YAK Yakutsk 72.88 11 *e*P **P** **13 03 38.3 -1.6**
YAK *e* 13 03 51.5
YAK *e* 13 06 23.2
YAK *e*PPP 13 08 06.6
YAK *e*S S 13 12 58.5 -6.6
YAK *e* 13 13 36.3
YAK *e**SS sS 13 13 41.4 +25
YAK *e*SS SS 13 17 39.3 -6.1
YAK *e*SSS 13 21 00.0
YAK pmax pmax
comp=Z,56nm,0.7s,mb5.6

YAK pmax pmax
comp=N,33nm,1.9s
YAK pmax pmax
comp=E,16nm,1.7s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
YAK smax
comp=E,4.0nm,1.2s
YAK smax
comp=N,2.0nm,1.3s
YAK Yakutsk 72.88 11 *e*P **P 13 03 38.1 -1.8**
comp=N,145nm,0.7s,mb6.0
AKTK Aktyubinsk 73.30 329 P **P 13 03 41.7 -0.7**
AKTO Aktyubinsk 73.30 329 P **P 13 03 41.7 -0.7**
comp=N,4.5nm,0.3s,mb4.8,baz=120,slow=7.2,SNR=19
AKTO Aktyubinsk 73.30 329 P **P 13 03 41.7 -0.7**
AKTO pmax pmax
comp=Z,5.0nm,0.3s,mb4.9
BHD Baghdad 73.47 309 *e*x x 13 03 22.0
BHD *e*x x 13 13 22.0
VNDA Vanda 73.81 169 P **P 13 03 44.7 -0.7**
comp=Z,10nm,0.7s,mb4.8,baz=312,slow=6.4,SNR=39
VNDA LR LR 13 34 18.8
comp=Z,924nm,20.1s,MS5.1,baz=328,slow=34
VNDA Vanda 73.81 169 *e*P **P 13 03 44.3 -1.1**
VNDA pmax pmax
comp=Z,15nm,0.9s
VNDA Vanda 73.81 169 *e*P **P 13 03 44.3 -1.1**
comp=Z,15nm,0.9s,mb4.9
SYO Syowa Base 73.87 200⇓ *e*P **P 13 03 43.6 -2.2**
SBA Scott Base 74.88 169 *e*P **P 13 03 51.5 -0.2**
SBA pmax pmax
comp=Z,30nm,1.1s,mb5.1
SBA Scott Base 74.88 169 *e*P **P 13 03 51.5 -0.1**
comp=Z,30nm,1.1s,mb5.1
PET Petropavlovsk 75.39 29*b* *i*P **P 13 03 54.3 -0.2**
PET *e*S S 13 13 37.9 +4.7
PET pmax pmax
comp=Z,500nm,13.5s
PET pmax pmax
comp=Z,51nm,0.7s,mb5.6
PET smax
comp=N,400nm,12.1s
PET smax
comp=E,600nm,10.1s
PET MLR MLR
comp=Z,800nm,18.0s,MS5.1
PET Petropavlovsk 75.39 29 *e*P **P 13 03 53.7 -0.8**
comp=Z,58nm,1.0s,mb5.5
GNI Garni 75.98 315 *e*P **P 13 04 05.7 +7.8**
GNI Garni 75.98 315 P **P 13 03 59.9 +1.9**
comp=Z,11nm,0.6s,mb5.0,baz=150,slow=5.0,SNR=7.3
GNI Garni 75.98 315⇓ *e*P **P 13 03 57.7 -0.2**
GNI pmax pmax
comp=Z,26nm,1.0s
GNI Garni 75.98 315 P **P 13 03 57.6 -0.3**
comp=Z,33nm,0.8s,mb5.3
MA2 Magadan 76.50 21⇑ *e*P **P 13 04 01.3 +0.4**
MA2 pmax pmax
comp=Z,90nm,1.7s,mb5.4
MA2 Magadan 76.50 21 *e*P **P 13 04 00.5 -0.5**
comp=Z,26nm,0.8s,mb5.2
MTA Mtatsminda 76.60 317 P **P 13 04 01.5 +0.1**
MTA S S 13 14 09.2 +23
TBLG Delisi 76.65 317 P **P 13 04 02.1 +0.4**
TBLG S S 13 14 10.7 +24
TBLG Delisi 76.65 317 P **P 13 04 02.1 +0.4**
TBLG S S 13 14 10.7 +24
ARU Arti 76.82 334 P **P 13 04 02.1 -0.6**
comp=Z,255nm,1.1s,mb6.1,SNR=6.6
ARU Arti 76.82 334⇓ *i*P **P 13 04 01.5 -1.2**
ARU *e* 13 06 54.2
ARU *e*PPP 13 08 43.5
ARU *e*S S 13 13 47.0 -1.9
ARU *e*SS SS 13 18 40.0 -5.1
ARU *e*SSS 13 22 07.1
ARU pmax pmax
comp=Z,49nm,1.1s,mb5.3
ARU MLR MLR
comp=Z,2μm,21.0s,MS5.4
ARU MLR MLR
comp=N,800nm,20.5s,MS5.3
ARU MLR MLR
comp=E,1μm,20.0s,MS5.3
ARU Arti 76.82 334 *e*P **P 13 04 01.9 -0.8**
comp=E,54nm,1.0s,mb5.4
MBAR Mbarara 77.16 271⇑ *e*P **P 13 04 05.6 +1.0**
GOR Gori 77.18 317 P **P 13 04 05.7 +0.9**
GOR S tx 13 12 33.3
AKH Akhalkalaki 77.36 316 P **P 13 04 06.5 +0.7**
AKH S SKSac 13 14 13.6 -4.0
BEST Besiri 77.57 312 *i*P **P 13 04 06.0 -0.9**
ZEI Tsey 77.65 317 *e*P **P 13 04 07.6 +0.2**
ZEI pmax pmax
comp=Z,36nm,1.0s,mb5.3
LSZ Lusaka 77.74 256 P **P 13 04 08.5 +0.7**
comp=Z,18nm,0.7s,mb5.1,baz=93,slow=4.7,SNR=32
LSZ pP pP 13 04 20.6 +5.7
comp=Z,20nm,0.8s,baz=118,slow=4.7,SNR=9.5
LSZ Lusaka 77.74 256 P **P 13 04 08.7 +0.8**
SNR=10
LSZ Lusaka 77.74 256 P **P 13 04 08.5 +0.6**
LSZ *PP pP 13 04 20.6 +5.7
LSZ pmax pmax
comp=Z,18nm,0.7s,mb5.1
LSZ pmax pmax
comp=Z,20nm,0.8s,mb5.1
LSZ Lusaka 77.74 256 *e*P **P 13 04 08.1 +0.2**
comp=Z,21nm,0.8s,mb5.1
BNGL BINGOL 78.05 313 *i*P **P 13 04 10.0 +0.4**
EZM Erzurum 78.26 314 *e*P **P 13 04 11.7 +0.9**
BCA Borcka 78.67 315 *e*P **P 13 04 12.2 -0.8**
KIV Kislovodsk 78.95 318 P **P 13 04 15.2 +0.6**
SNR=8.6
KIV Kislovodsk 78.95 318*d* *i*P **P 13 04 14.2 -0.3**
KIV pmax pmax
comp=Z,21nm,0.6s,mb5.2
KIV Kislovodsk 78.95 318 *e*P **P 13 04 13.7 -0.8**
comp=Z,22nm,0.6s,mb5.3
ASF Jabal al Asfar 79.00 305 P **P 13 04 16.1 +1.3**
comp=Z,35nm,0.9s,mb5.3,baz=349,slow=4.5,SNR=34
ASF Jabal al Asfar 79.00 305 P **P 13 04 16.1 +1.3**
ASF pmax pmax
comp=Z,35nm,0.9s
GOF Gofitskoye 79.17 319 *e*P **P 13 04 12.5 -3.3**
GOF *e*S S 13 14 18.7 +4.4
GOF pmax pmax
comp=Z,50nm,0.6s,mb5.6
URFA Urfa 79.22 311 *e*P **P 13 04 16.2 +0.2**
LBTB Lobatse 79.23 246 *e*P **P 13 04 16.2 +0.1**
LBTB pmax pmax
comp=Z,11nm,0.8s,mb4.8
LBTB Lobatse 79.23 246 *e*P **P 13 04 16.2 +0.1**
comp=Z,11nm,0.8s,mb4.8
EZC Erzincan 79.31 313 *e*P **P 13 04 17.7 +1.2**
ATAB Bozova 79.62 311 *i*P **P 13 04 18.6 +0.4**
MALT Malatya 79.81 312⇓ *i*P **P 13 04 19.8 +0.5**
MALT Malatya 79.81 312 *e*P **P 13 04 19.5 +0.2**
comp=Z,31nm,1.2s,mb5.1
MYA Malatya 79.82 312 *e*P **P 13 04 20.2 +0.9**
EIL Elat 79.86 302 *e*P **P 13 04 19.6 +0.1**
comp=Z,539nm,0.8s
GZT Gaziantep 80.14 310 *i*P **P 13 04 22.0 +1.0**
GAZ Gaziantep 80.34 310 *e*P **P 13 04 22.7 +0.6**
SOC Sochi 80.78 317 *e*P **P 13 04 24.1 -0.4**
SOC *e* 13 07 23.2
SOC *e*S S 13 14 31.4 +0.1
SOC *e*SS SS 13 19 40.4 -4.3
SOC *e*SSS 13 23 11.3
SOC pmax pmax
comp=Z,36nm,1.0s,mb5.3
SOC MLR MLR
comp=Z,984nm,19.0s,MS5.2
GRSN GIRESUNGRSN 80.83 314 *i*P **P 13 04 25.2 +0.5**
COBT Iskenderun 80.86 309 *i*P **P 13 04 25.4 +0.5**
QSPA South Pole Qui 80.95 180 *e*P **P 13 04 24.6 -0.8**
comp=Z,19nm,0.8s,mb5.1
SVSK Karacayir 81.40 313 *e*P **P 13 04 28.8 +1.0**
TIXI Tiksi 81.74 7 *e*P **P 13 04 27.2 -2.3**
TIXI *e*S S 13 14 37.1 -4.1
TIXI *e*SS SS 13 19 58.7 -0.3
TIXI pmax pmax
comp=Z,52nm,0.7s,mb5.6
TIXI Tiksi 81.74 7 *i*P **P 13 04 27.4 -2.1**
VRHR Novokhopersk 82.53 324 *e*P **P 13 04 33.1 -0.6**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,70nm,0.7s,mb5.8
VRHR pmax pmax
comp=E,20nm,0.6s
CSS Prodhromos 82.67 307 *e*P **P 13 04 35.2 +0.8**
comp=E,74nm,0.8s,mb5.8
ANN Anapa 82.75 317 *e*P **P 13 04 34.8 -0.1**
ANN *i* *PP pP 13 04 46.0 +4.1
ANN *e* 13 07 47.8
ANN *e*S S 13 14 52.5 +0.9
ANN *e*SS SS 13 20 16.3 +2.2
ANN pmax pmax
comp=Z,21nm,0.8s,mb5.2
CTKT Corum 83.23 313 *i*P **P 13 04 37.5 +0.2**
CDAG Cicekdag 83.23 312 *i*P **P 13 04 37.2 -0.2**
BOYT Boyabat 83.39 314 *i*P **P 13 04 38.7 +0.5**
ERMK Ermenek 83.46 309 *i*P **P 13 04 39.6 +1.0**
NVL N'lazarevskaya 83.49 199 *e*P pP 13 04 48.8 +3.0
NVL *i*S S 13 14 58.2 -0.9
NVL pmax pmax
comp=Z,27nm,1.2s,mb5.2
NVL MLR MLR
comp=Z,748nm,11.6s,MS5.3
MAIT Maitri 83.52 199 *e*P **P 13 04 39.7 +0.9**
BR131 Keskin Array S 83.80 312 *e*P **P 13 04 39.2 -1.0**
comp=Z,24nm,0.8s,mb5.4
BRTR Keskin Array B 83.80 312 P **P 13 04 40.0 -0.3**
comp=Z,35nm,1.0s,mb5.4,baz=135,slow=7.0,SNR=42
BRTR LR LR 13 44 14.8
comp=Z,2μm,20.8s,MS5.4,baz=92,slow=37
BRTR Keskin Array B 83.80 312 P **P 13 04 40.0 -0.3**
BRTR pmax pmax
comp=Z,35nm,1.0s
BRTR MLR MLR
comp=Z,2μm,20.8s
VRSR Storozhevoye 83.99 324 *e*P **P 13 04 40.0 -1.2**
VRSR pmax pmax
comp=Z,20nm,0.6s,mb5.4
VRSR pmax pmax
comp=N,2.0nm,0.3s
VRSR pmax pmax
comp=E,6.0nm,0.6s
ELDT Eldivan 84.18 312 *i*P **P 13 04 42.1 -0.1**
VOR Voronezh 84.18 324 *e*P **P 13 04 42.0 -0.2**
VOR pmax pmax
comp=Z,150nm,1.9s,mb5.8
ANTO Ankara 84.46 312⇓ *i*P **P 13 04 45.7 +2.1**
ANTO Ankara 84.46 312 P **P 13 04 44.6 +1.0**
SNR=12
ANTO Ankara 84.46 312 *e*P **P 13 04 44.2 +0.6**
comp=Z,74nm,1.4s,mb5.6
BALT Daday 84.51 313 *i*P **P 13 04 44.7 +0.8**
KDHN Kadinhani 84.59 310 *i*P **P 13 04 43.6 -0.7**
SIM Simferopol' 85.03 317 *e*P **P 13 04 47.0 +0.5**
SIM pmax pmax
comp=Z,37nm,0.6s,mb5.7
SGKT Sivrigoynuk 85.20 312 *i*P **P 13 04 47.3 -0.1**
ISP Isparta 85.63 309⇓ *e*P **P 13 04 49.9 +0.4**
ISP Isparta 85.63 309⇓ *e*P **P 13 04 49.0 -0.5**
AMKA Amchitka 85.71 37 *e*P **P 13 04 49.2 -0.6**
ESKT Eskisehir 85.81 311 *i*P **P 13 04 50.9 +0.5**
TKTP Tekketepe 85.83 309 *i*P **P 13 04 50.3 -0.2**
HENT Hendek 86.12 312 *i*P **P 13 04 52.1 +0.2**
BORA Eskisehir 86.20 311 *i*P **P 13 04 53.1 +0.8**
MOS Moscow 86.55 328 *e*P **P 13 04 53.5 -0.5**
MOS *e* 13 08 15.8
MOS *e*S 13 15 25.0
MOS pmax pmax
comp=Z,51nm,0.7s,mb5.9
MOS Moscow 86.55 328 *e*P **P 13 04 53.4 -0.6**
GDZ Gediz 86.73 310 *i*P **P 13 04 56.0 +1.1**
OBN Obninsk 86.88 327*d* *i*P **P 13 04 54.7 -1.0**
OBN *e* 13 08 17.9
OBN *e*S 13 15 22.6
OBN *e*SS SS 13 21 17.8 +2.9
OBN pmax pmax
comp=Z,163nm,1.7s,mb6.0
OBN Obninsk 86.88 327 *e*P **P 13 04 54.8 -0.9**
comp=Z,59nm,0.8s,mb5.9
ULDT Uludag 87.25 311 *i*P **P 13 04 58.0 +0.6**
TSUM Tsumeb 87.30 251 *e*P **P 13 04 58.3 +0.6**
comp=Z,48nm,1.5s,mb5.5
KLMR Klimovskoe 87.57 333 *e*P **P 13 04 58.6 -0.4**
KLMR pmax pmax
comp=Z,110nm,1.5s,mb5.9
SNAA Sanae 87.82 197⇑ *i*P **P 13 05 00.5 +0.3**
SNAA *e* 13 05 01.3
SNAA *e* 13 05 04.1
SNAA *e* pP 13 05 06.2 -1.1
SNAA *e* 13 05 14.1
SNAA *e* 13 05 19.9
AKHS Akhisar 87.94 310 *i*P **P 13 05 01.0 +0.3**
KDAG Bornova 88.25 309 *i*P **P 13 05 02.8 +0.6**
URLA Izmir 88.75 309 *i*P **P 13 05 04.6 0.0**
TIRR Tirgusor 88.81 315⇓ *i*P **P 13 05 04.9 0.0**
TIRR Tirgusor 88.81 315 *e*P **P 13 05 04.6 -0.2**
KIS Kishinev 89.15 318 *e*P **P 13 05 04.0 -2.4**
KIS *e*S 13 15 50.0
KIS pmax pmax
comp=Z,500nm,9.0s
CFR Carcaliu 89.17 316⇑ *i*P **P 13 05 07.1 +0.5**
CFR Carcaliu 89.17 316⇑ *e*P **P 13 05 07.0 +0.5**
HARR Harsova 89.20 315⇓ *i*P **P 13 05 07.3 +0.6**
HARR Harsova 89.20 315⇓ *e*P **P 13 05 07.3 +0.6**
AKASG Malin Array Be 89.80 321 P **P 13 05 08.6 -0.9**
comp=Z,1.7nm,0.5s,mb4.7,baz=86,slow=4.5,SNR=19
AKASG PP PP 13 08 40.4 -1.5
comp=Z,3.1nm,0.9s,baz=96,slow=6.0,SNR=11
AKASG LR LR 13 50 42.4
comp=Z,804nm,20.7s,MS5.1,baz=95,slow=39
AKASG Malin Array Be 89.80 321 P **P 13 05 08.6 -0.9**
AKASG 13 08 40.4
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG pmax pmax
comp=Z,3.0nm,0.9s
VNA1 Neumayer--Stat 89.85 197⇑ *i*P **P 13 05 10.6 +0.9**
VNA1 *e* 13 05 11.4
VNA1 *e* 13 05 13.4
VNA1 *e* pP 13 05 15.6 -1.3
VNA1 *e* 13 05 20.5
VNA1 *e* 13 05 32.0
VNA1 *e* 13 05 37.7
VRI Vrincioaia 90.29 316⇓ *i*P **P 13 05 12.7 +0.9**
VRI Vrincioaia 90.29 316⇓ *e*P **P 13 05 12.7 +0.9**
PLOR Plostina 90.34 316⇑ *i*P **P 13 05 13.6 +1.6**
MLR Muntele Rosu 90.75 316 LR LR 13 54 15.3
comp=Z,1μm,20.2s,MS5.3,baz=76,slow=41
MLR Muntele Rosu 90.75 316⇓ *i*P **P 13 05 14.6 +0.7**
MLR Muntele Rosu 90.75 316⇓ *e*P **P 13 05 14.6 +0.7**
VOIR 91.35 316⇑ *i*P **P 13 05 18.0 +1.3**
VOIR 91.35 316⇑ *e*P **P 13 05 18.0 +1.3**
MNK Minsk 91.54 325 *e*P **P 13 05 16.0 -1.6**
BURAR Bucovina Array 91.67 318⇑ *i*P **P 13 05 19.3 +1.1**
BURAR Bucovina Array 91.67 318⇑ *e*P **P 13 05 19.3 +1.1**
APA Apatity 92.44 338⇓ *e*P pP 13 05 33.5 +4.6
APA pmax pmax
comp=Z,218nm,2.5s,mb6.0
GZR Gura Zlata 92.92 315⇓ *i*P **P 13 05 24.3 +0.3**
GZR Gura Zlata 92.92 315⇓ *e*P **P 13 05 24.3 +0.4**
DRGR 93.20 317⇓ *i*P **P 13 05 27.9 +2.6**
DRGR 93.20 317⇓ *e*P **P 13 05 27.9 +2.6**
BZS Buzias 93.76 315⇑ *i*P **P 13 05 28.0 +0.2**
BZS Buzias 93.76 315⇑ *e*P **P 13 05 28.0 +0.1**
KOLS Kolonicke sedl 93.84 319 *e*P **P 13 05 28.4 +0.2**
KOLS pmax pmax
comp=Z,18nm,1.7s,mb5.2
KOLS Kolonicke sedl 93.84 319 *e*P **P 13 05 28.4 +0.2**
comp=Z,18nm,1.7s,mb5.2
FINES FINESS Array B 93.96 332 P **P 13 05 26.3 -2.5**
comp=Z,2.1nm,0.7s,mb4.7,baz=114,slow=4.6,SNR=5.4
FINES pP pP 13 05 39.9 +4.0
comp=Z,6.0nm,0.9s,baz=94,slow=5.7,SNR=5.5
FINES FINESS Array B 93.96 332 P **P 13 05 26.3 -2.5**
FINES *PP pP 13 05 39.9 +4.0
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES pmax pmax
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 95.74 339 P **P 13 05 35.3 -1.6**
comp=Z,1.9nm,0.7s,mb4.7,baz=91,slow=6.1,SNR=8.9
ARCES pP pP 13 05 48.8 +4.8
comp=Z,4.0nm,0.9s,baz=64,slow=5.6,SNR=2.7
ARCES LR LR 13 54 49.7
comp=Z,4μm,18.7s,MS5.9,baz=5.1,slow=39
ARCES ARCESS Array B 95.74 339 P **P 13 05 35.3 -1.6**
ARCES *PP pP 13 05 48.8 +4.8
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES pmax pmax
comp=Z,4.0nm,0.9s
PKSM Moragy 95.90 316⇑ *e*P **P 13 05 37.6 0.0**
VYHS Vyhne 96.04 318 *e*P **P 13 05 39.3 +1.0**
VYHS pmax pmax
comp=Z,11nm,1.8s,mb5.0
VYHS Vyhne 96.04 318 *e*P **P 13 05 39.3 +1.0**
comp=Z,11nm,1.8s,mb5.0
VYHS *e*PP PP 13 09 31.1 +0.2
OKC Ostrava-Krasne 96.64 319 AMS AMS 13 57 10.0
comp=Z,1μm,16.4s
DPC Dobruska-Polom 97.86 320 *e*PP PP 13 09 47.0 +2.1
DPC AMS AMS 13 58 50.0
comp=Z,2μm,16.3s
UPC Upice 98.07 320 *e*PP PP 13 09 50.4 +3.9
TREC Trest 98.31 319 AMS AMS 13 59 20.0
comp=Z,2μm,18.2s
PRU Pruhonice 98.97 319 *e*PP PP 13 10 00.3 +6.9
PRU AMS AMS 13 58 50.0
comp=Z,1μm,16.0s
PVCC Panska Ves 98.99 320 AMS AMS 13 58 50.0
comp=Z,1μm,15.5s
PPT Papeete 99.12 109 *e*LQ 13 33 52.6
comp=Z,2μm,27.0s
PPT *e*LR LR 13 38 04.2
comp=Z,1μm,23.0s
GERES GERESS Array B 99.46 318 P **P 13 05 52.9 -0.7**
comp=Z,0.3nm,0.3s,mb4.2,baz=124,slow=4.0,SNR=5.2
GERES PP PP 13 09 56.4 -0.7
comp=Z,0.4nm,0.2s,baz=96,slow=8.2,SNR=4.0
GERES LR LR 14 00 39.7
comp=Z,2μm,19.0s,MS5.6,baz=302,slow=41
GERES GERESS Array B 99.46 318 P **P 13 05 52.9 -0.8**
GERES 13 09 56.4
KHC Kasperske Hory 99.55 318 *e*PP PP 13 10 11.4 +14
KHC AMS AMS 13 59 50.0
comp=Z,1μm,18.8s
HFS Hagfors 99.84 330 LR LR 13 58 42.2
comp=Z,1μm,20.8s,MS5.4,baz=88,slow=40
CLL Collm 100.01 321 *e*Pdiff Pdif 13 05 54.0 -2.1
comp=Z,14nm,1.6s
CLL *e*PP PP 13 10 00.3 -1.0
CLL *e*SKSac SKSac 13 16 36.9 +3.3
CLL *e*PS PS 13 18 56.9 -3.5
CLL *e*PPS 13 20 00.6
CLL *e*SS SS 13 24 15.2 -7.5
CLL *e*L 13 59 30.8
comp=Z,1μm,18.0s
CLL Collm 100.01 321 *e*PDIF Pdif 13 05 54.0 -2.1
CLL *e* 13 10 12.0
CLL *e* 13 16 37.0
CLL *e*PS PS 13 18 54.0 -6.4
CLL *e*PPS 13 20 00.0
CLL *e*SS SS 13 24 18.0 -4.7
CLL Collm 100.01 321 *e*Pdif Pdif 13 05 54.0 -2.1
CLL *e*(sPP) 13 10 12.0
CLL *e*SKSac SKSac 13 16 37.0 +3.4
CLL *e*PS PS 13 18 54.0 -6.4
CLL *e*PPS 13 20 00.0
CLL *e*x x 13 22 42.0
CLL *e*SS SS 13 24 18.0 -4.7
CLL Collm 100.01 321 *e*Pdif Pdif 13 05 54.0 -2.1
CLL *e*PP PP 13 10 12.0 +11
CLL *e*SKS 13 16 37.0
CLL LR LR
comp=Z,1μm,16.8s,MS5.5
NKC Novy Kostel 100.33 319 *e*PP PP 13 09 56.6 -7.1
NKC AMS AMS 13 57 30.0
comp=Z,1μm,24.3s
NB2 NORSAR Subarra101.07 330 PP PP 13 10 11.4 +2.1
comp=Z,7.4nm,1.2s,baz=89,slow=7.9
NB2 NORSAR Subarra101.07 330 PP PP 13 10 11.4 +2.1
baz=89,slow=7.9
NOA NORSAR Array B101.07 330 P Pdif 13 06 00.5 -0.3
comp=Z,0.8nm,0.8s,baz=148,slow=6.6,SNR=2.3
NOA pP 13 06 13.3
comp=Z,2.8nm,1.0s,baz=89,slow=4.2,SNR=4.3
NOA PP PP 13 10 09.1 -0.2
comp=Z,2.3nm,1.0s,baz=86,slow=7.8,SNR=3.0
NOA NORSAR Array B101.07 330 P Pdif 13 06 00.5 -0.3
NOA 13 10 09.1
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA pmax pmax
comp=Z,3.0nm,1.0s
NOA pmax pmax
comp=Z,2.0nm,1.0s
NOA NORSAR Array B101.07 330 P Pdif 13 06 00.5 -0.3
NOA pP 13 06 13.3
NOA PP PP 13 10 09.1 -0.2
GRF Grafenberg Arr 101.11 319 *e*PP PP 13 10 09.2 -0.4
GRF Grafenberg Arr 101.11 319 *e*PP PP 13 10 09.2 -0.4
TORD Torodi Ar. Bea 107.62 281 PKiKP PKiKP 13 10 38.0 +0.2
comp=Z,1.5nm,0.9s,baz=83,slow=1.2,SNR=4.1
TORD PKKPbc PKKPbc 13 21 52.6 +0.7
comp=Z,1.6nm,0.8s,baz=309,slow=3.6,SNR=8.8
TAOE Nuku Hiva Isla 110.01 103 *e*LR LR 13 43 06.9
comp=Z,2μm,23.2s
ESDC Sonseca Array 112.48 309 PP PP 13 11 28.9 -4.3
comp=Z,0.4nm,0.3s,baz=79,slow=7.7,SNR=5.6
YKA Yellowknife Ar 118.49 21 PKP PKPdf 13 10 57.7 -0.8
comp=Z,1.3nm,0.7s,baz=292,slow=1.1,SNR=7.3
YKA PKKPbc PKKPbc 13 21 13.6 -1.8
comp=Z,0.6nm,0.7s,baz=131,slow=3.2,SNR=4.0
YKA Yellowknife Ar 118.49 21 PKIKP PKPdf 13 10 57.7 -0.9
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 118.49 21 PKP PKPdf 13 10 57.7 -0.8
YKA PKKPbc PKKPbc 13 21 13.7 -1.8
C03A Quillayute Air 121.39 39⇑ P PKPdf 13 11 04.8 +0.6
baz=121
A05A Maple Falls 122.44 37⇓ P PKPdf 13 11 07.3 +1.1
baz=122
E03A Lebam 122.58 40⇑ P PKPdf 13 11 08.0 +1.6
baz=122
B05A Bryant 122.77 37 P PKPdf 13 11 07.9 +1.1
baz=123,SNR=7.8
C05A Tolt Reservoir 123.26 38⇑ P PKPdf 13 11 08.0 +0.3
baz=123
F04A Amboy 123.56 40 P PKPdf 13 11 09.8 +1.5
baz=124,SNR=6.9
E05A Randle 123.71 39⇓ P PKPdf 13 11 09.4 +0.8
baz=124
I03A Eugene 123.78 43⇑ P PKPdf 13 11 09.8 +1.1
baz=124
J02A Umpqua 123.81 43⇑ P PKPdf 13 11 09.6 +0.8
baz=124
K02A Glendale 124.08 44⇑ P PKPdf 13 11 10.0 +0.7
baz=124
F05A White Salmon 124.19 40⇓ P PKPdf 13 11 10.6 +1.1
baz=124
H04A Detroit Lake 124.22 41⇑ P PKPdf 13 11 10.4 +0.8
baz=124
J03A Ideyld Park 124.22 43⇑ P PKPdf 13 11 10.4 +0.8
baz=124
L02A Cave Junction 124.22 45⇑ P PKPdf 13 11 11.2 +1.6
baz=124
HUMO Hull Mountain 124.50 44⇑ P PKPdf 13 11 11.5 +1.3
baz=124
G05A Wamic 124.55 40⇑ P PKPdf 13 11 11.5 +1.3
baz=124
H05A Madras 124.85 41⇓ P PKPdf 13 11 11.3 +0.5
baz=125
EDM Edmonton 124.89 29 *e*PKIKP PKPdf 13 11 10.9 0.0
N02C Big Bar 124.90 46⇑ P PKPdf 13 11 12.5 +1.6
baz=125
YBH Yreka Blue Hor 125.00 45⇑ P PKPdf 13 11 12.4 +1.3
baz=125
M02C Callahan 125.02 45⇓ P PKPdf 13 11 13.5 +2.3
baz=125
I05A Bend 125.03 42⇑ P PKPdf 13 11 13.5 +2.3
baz=125

HAWA	Hanford	125.17	39	ePKPdf	PKPdf	13 11 13.3	+1.9
O02C	Red Bluff	125.49	47	⇓P	PKPdf	13 11 13.6	+1.6
	baz=125						
WDC	Whiskeytown Da	125.53	46	⇓P	PKPdf	13 11 12.9	+0.8
	baz=126						
M04C	Macdoel	125.58	45	⇑P	PKPdf	13 11 13.8	+1.6
	baz=126						
J06A	Christmas Vall	126.15	42	P	PKPdf	13 11 15.4	+2.2
	baz=126,SNR=6.2						
L05A	Lakeview	126.17	44	⇓P	PKPdf	13 11 15.9	+2.6
	baz=126						
MNRC	McLaughlin Nat	126.19	48	⇑P	PKPdf	13 11 16.2	+2.8
	baz=126						
HATC	Hat Creek Radi	126.21	45	⇑P	PKPdf	13 11 13.9	+0.5
	baz=126						
M05C	Lookout	126.22	45	⇓P	PKPdf	13 11 14.5	+1.0
	baz=126						
K06A	Valley Falls	126.27	43	⇑P	PKPdf	13 11 15.0	+1.5
	baz=126						
CVS	Carmenet Viney	126.36	49	⇓P	PKPdf	13 11 17.5	+3.9
	baz=126						
Q03C	Winters	126.59	48	⇑P	PKPdf	13 11 15.9	+1.8
	baz=126						
ORV	Oroville	126.64	47	⇑P	PKPdf	13 11 16.0	+1.8
	baz=127						
J07A	Hines	126.65	42	⇑P	PKPdf	13 11 15.8	+1.5
	baz=127						
O04C	Chester	126.66	46	⇑P	PKPdf	13 11 16.3	+2.1
	baz=127						
M06C	Likely Place G	126.75	45	⇑P	PKPdf	13 11 16.2	+1.8
	baz=127						
ELFS	Eagle Lake Fie	126.80	45	⇓P	PKPdf	13 11 14.3	-0.2
	baz=127						
O05C	Quincy	126.91	46	⇓P	PKPdf	13 11 15.8	+1.0
	baz=127						
Q04C	Lincoln	126.98	48	⇑P	PKPdf	13 11 18.2	+3.3
	baz=127						
WALA	Waterton Lakes	127.05	33	ePKPdf	PKPdf	13 11 13.8	-1.3
L07A	Adell	127.20	43	⇓P	PKPdf	13 11 17.1	+1.8
	baz=127						
J08A	Circle Bar Ran	127.21	41	⇑P	PKPdf	13 11 17.1	+1.8
	baz=127						
BMO	Blue Mountains	127.27	39	ePKIKP	PKPdf	13 11 15.5	+0.1
P05C	Yuba Gap, Truc	127.38	47	⇑P	PKPdf	13 11 16.4	+0.8
	baz=127						
N06A	Buffalo Meadow	127.38	45	⇑P	PKPdf	13 11 16.6	+1.0
	baz=127						
LAVA	Lava Cap Winer	127.48	48	⇓P	PKPdf	13 11 17.1	+1.3
	baz=127						
S04C	Ingram Canyon,	127.48	49	⇑P	PKPdf	13 11 17.4	+1.5
	baz=127						
WVOR	Wild Horse Val	127.50	43	ePKIKP	PKPdf	13 11 15.6	-0.3
M07A	Soldier Meadow	127.58	44	⇑P	PKPdf	13 11 18.3	+2.3
	baz=128						
O06A	Flanigan	127.61	46	⇑P	PKPdf	13 11 17.6	+1.5
	baz=128,SNR=7.1						
HAST	UC Hastings Re	127.68	51	⇓P	PKPdf	13 11 18.0	+1.8
	baz=128						
PACP	Pacheco Peak	127.68	50	⇓P	PKPdf	13 11 18.5	+2.3
	baz=128						
N07B	Gerlach	127.97	45	⇓P	PKPdf	13 11 18.5	+1.8
	baz=128						
R05C	Kirkwood Meado	127.98	47	⇑P	PKPdf	13 11 17.8	+1.0
	baz=128						
WCN	Washoe City	127.99	47	⇑P	PKPdf	13 11 19.1	+2.3
	baz=128						
CMB	Columbia Colle	128.00	48	⇑P	PKPdf	13 11 17.8	+1.0
	baz=128						
V03C	Hunter Liggett	128.03	51	⇓P	PKPdf	13 11 18.9	+2.1
	baz=128						
M08A	Happy Creek Ra	128.09	44	⇑P	PKPdf	13 11 20.0	+3.0
	baz=128						
U04C	Hernandez Rese	128.28	50	⇑P	PKPdf	13 11 18.1	+0.8
	baz=128						
MSO	Missoula	128.28	36	ePKPdf	PKPdf	13 11 18.6	+1.3
O07A	Toulon	128.28	45	⇑P	PKPdf	13 11 19.4	+2.0
	baz=128						
S05C	Merced	128.28	49	⇓P	PKPdf	13 11 18.1	+0.8
	baz=128						
L09A	Wilkinson Ranc	128.33	43	⇑P	PKPdf	13 11 19.2	+1.8
	baz=128						
V04C	Ramage Ranch,	128.44	51	⇑P	PKPdf	13 11 19.4	+1.8
	baz=128						
S06C	San Francisco	128.45	48	⇓P	PKPdf	13 11 18.7	+1.0
	baz=128						
R06C	Coleville	128.51	47	⇑P	PKPdf	13 11 19.6	+1.8
	baz=128						
N08A	GE Springer Mi	128.55	44	⇓P	PKPdf	13 11 19.4	+1.5
	baz=128						
PKD	Parkfield	128.59	51	⇓P	PKPdf	13 11 20.0	+2.0
	baz=128						
CHMT	Chamberlain Mo	128.63	35	ePKPdf	PKPdf	13 11 19.2	+1.2
M09A	Marrel Ranch,	128.74	43	⇓P	PKPdf	13 11 20.5	+2.3
	baz=129						
T06C	Millerton Lake	128.86	49	⇑P	PKPdf	13 11 20.8	+2.3
	baz=129						
N09A	Rock Creek Ran	128.94	44	⇑P	PKPdf	13 11 20.1	+1.5
	baz=129,SNR=7.5						
R07C	Lee Vining	128.96	48	⇓P	PKPdf	13 11 20.9	+2.3
	baz=129						
KCC	Kaiser Creek	129.04	49	⇓P	PKPdf	13 11 20.1	+1.3
	baz=129						
V05C	Boulder Hill,	129.11	51	⇓P	PKPdf	13 11 19.7	+0.8
	baz=129						
NVAR	Mina Array Bea	129.37	47	PKP	PKPdf	13 11 19.0	-0.4
	comp=Z,2.5nm,0.7s,baz=232,slow=2.1,SNR=17						
O09A	Fish Creek Ran	129.45	45	⇓P	PKPdf	13 11 20.8	+1.2
	baz=129						
Q08A	Gabbs	129.47	46	⇑P	PKPdf	13 11 20.9	+1.2
	baz=129						
R08A	Mina	129.54	47	⇑P	PKPdf	13 11 21.3	+1.5
	baz=130						
HLID	Hailey	129.71	39	PKPdf	PKPdf	13 11 20.5	+0.4
M11A	Holland Ranch,	129.85	43	⇓P	PKPdf	13 11 21.3	+1.0
	baz=130						
DLMT	Dillon	129.87	37	ePKPdf	PKPdf	13 11 20.2	-0.2
MCMT	McKenzie Canyo	130.01	37	ePKPdf	PKPdf	13 11 21.8	+1.2
BOZ	Bozeman (W)	130.27	36	ePKIKP	PKPdf	13 11 21.8	+0.7
ISA	Isabella	130.27	50	⇑P	PKPdf	13 11 22.1	+1.0
	baz=130						
CWC	Cottonwood Cre	130.29	49	⇑P	PKPdf	13 11 22.4	+1.2
	baz=130						
M12A	Wells	130.44	42	⇑P	PKPdf	13 11 23.4	+2.0
	baz=130						
S09A	Goldfield	130.44	48	⇓P	PKPdf	13 11 23.4	+2.0
	baz=130						
PLCA	Paso Flores	130.44	182	PKP	PKPdf	13 11 22.9	+1.5
	comp=Z,5.0nm,0.9s,baz=70,slow=3.3,SNR=7.4						
PLCA	Paso Flores	130.44	182	PKIKP	PKPdf	13 11 23.0	+1.5
PLCA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
O11A	Cowboy Ranch,	130.53	44	⇓P	PKPdf	13 11 23.6	+2.0
	baz=130						
ELK	Elko	130.53	43	ePKIKP	PKPdf	13 11 22.8	+1.2
N12A	Clover Valley,	130.62	43	⇑P	PKPdf	13 11 24.0	+2.2
	baz=130						
P11A	Circle Ranch,	130.72	45	⇑P	PKPdf	13 11 24.2	+2.2
	baz=131						
Q11A	Duckwater	131.10	45	⇑P	PKPdf	13 11 23.4	+0.7
	baz=131						
GCMT	Greycliff	131.30	35	PKPdf	PKPdf	13 11 24.2	+1.1
P12A	McGill	131.34	44	⇓P	PKPdf	13 11 25.1	+2.0
	baz=131						
Q12A	Willow Creek R	131.59	45	⇓P	PKPdf	13 11 26.4	+2.7
	baz=132						
U10A	Ash Meadows, A	131.60	49	⇓P	PKPdf	13 11 27.2	+3.5
	baz=132						
HVU	Hansel Valley	131.66	41	ePKIKP	PKPdf	13 11 26.3	+2.5
IMW	Indian Meadow	131.66	37	ePKPdf	PKPdf	13 11 23.4	-0.3
GSC	Goldstone	131.67	50	⇑P	PKPdf	13 11 25.5	+1.7
	baz=132,SNR=5.5						
RRI2	Red Ridge	131.74	38	ePKPdf	PKPdf	13 11 24.6	+0.7
TUQ	Turquoise Mtn.	132.29	50	⇓P	PKPdf	13 11 27.2	+2.2
	baz=132						
DUG	Dugway	132.42	43	ePKIKP	PKPdf	13 11 26.2	+1.0
V11A	Goodsprings	132.50	49	⇑P	PKPdf	13 11 26.5	+1.2
	baz=132						
HWUT	Hardware Ranch	132.52	40	ePKPdf	PKPdf	13 11 27.6	+2.2
PFO	Pinyon Flat Ob	132.55	52	⇓P	PKPdf	13 11 27.4	+2.0
	baz=132						
LAO	LASA Array	132.59	32	ePKPdf	PKPdf	13 11 27.1	+1.6
U12A	Valley of Fire	132.92	48	⇓P	PKPdf	13 11 28.1	+2.0
	baz=133						
V12A	Nelson	132.98	49	⇓P	PKPdf	13 11 30.3	+4.0
	baz=133						
PDAR	Pinedale Array	133.13	38	PKP	PKPdf	13 11 24.6	-2.0
	comp=Z,2.4nm,0.7s,baz=104,slow=1.4,SNR=12						
MSU	Marysvale	133.67	44	ePKIKP	PKPdf	13 11 26.7	-0.8
GLA	Glamis	134.02	52	⇑P	PKPdf	13 11 30.9	+2.7
	baz=134						
X13A	Yucca	134.20	50	⇓P	PKPdf	13 11 31.0	+2.4
	baz=134						
ULM	Lac du Bonnet	134.47	21	PKP	PKPdf	13 11 29.7	+0.6
	comp=Z,2.9nm,0.7s,baz=105,slow=6.0,SNR=4.7						
ULM	Lac du Bonnet	134.47	21	PKP	PKPdf	13 11 29.7	+0.6
SRU	San Rafael	134.50	43	ePKIKP	PKPdf	13 11 29.9	+0.8
W14A	Seligman	134.51	49	⇓P	PKPdf	13 11 31.0	+1.9
	baz=134						
Y13A	Salome	134.51	51	⇓P	PKPdf	13 11 32.1	+3.0
	baz=134						
X14A	Yava	134.96	50	⇓P	PKPdf	13 11 32.7	+2.7
	baz=135						
Y14A	Wickenburg	135.09	50	⇓P	PKPdf	13 11 31.1	+0.9
	baz=135						
W15A	Williams	135.12	48	⇑P	PKPdf	13 11 33.7	+3.5
	baz=135						
X15A	Humboldt	135.44	49	⇓P	PKPdf	13 11 33.8	+2.9
	baz=135						
RSSD	Black Hills	135.45	33	PKIKP	PKPdf	13 11 31.2	+0.3
PV10	Paradox Valley	135.87	43	ePKPdf	PKPdf	13 11 31.8	+0.1
PV01	Paradox Valley	136.31	43	PKPdf	PKPdf	13 11 33.1	+0.6
ANMO	Albuquerque	139.42	45⇑	iPKIKP	PKPdf	13 11 37.4	-0.8
LPM	Los Pinos Moun	139.63	46	PKPpre		13 11 34.4	
BNM	Barren Site	139.71	47	PKPdf	PKPdf	13 11 39.0	+0.3
CPUP	Villa Florida	141.99	202	PKhKP		13 11 36.8	
	comp=Z,0.9nm,0.4s,baz=127,slow=2.5,SNR=4.4						
CPUP				PKP	PKPdf	13 11 44.0	+1.1
	comp=Z,5.3nm,0.7s,baz=105,slow=2.6,SNR=15						
CPUP	Villa Florida	141.99	202	ePKPpre		13 11 39.8	
CPUP				PKP	PKPdf	13 11 44.0	+1.1
PKME	Peaks-Kenny Pk	143.84	357	ePKPpre		13 11 44.0	
LTX	Lajitas	144.25	51	ePKIKP	PKPdf	13 11 46.9	+0.1
FRNY	Flat Rock	144.33	2	ePKP	PKPdf	13 11 44.7	-2.3
LONY	Lake Ozonia	144.51	3	ePKPdf	PKPdf	13 11 45.6	-1.6
WMOK	Wichita Mounta	144.68	40	ePKIKP	PKPdf	13 11 47.1	-0.5
LBNH	Lisbon	144.95	360	ePKIKP	PKPdf	13 11 47.3	-0.7
MIV	Mineville/With	145.09	2	ePKP	PKPdf	13 11 47.8	-0.5
NCB	Newcomb	145.17	3	ePKP	PKPdf	13 11 48.0	-0.4
AAM	Ann Arbor	145.38	15	ePKIKP	PKPdf	13 11 48.3	-0.5
HNH	Hanover	145.48	0	ePKP	PKPdf	13 11 48.1	-0.9
BDFB	Brasilia	145.73	224	PKPbc	PKPbc	13 11 50.6	+0.8
	comp=Z,12nm,0.5s,baz=200,slow=2.3,SNR=10						
BDFB	Brasilia	145.73	224	PKP2	PKPab	13 11 50.6	+0.5
BDFB				pmax	pmax		
	comp=Z,12nm,0.5s						
ACCN	Adirondack Com	145.78	2	ePKP	PKPdf	13 11 49.5	0.0
ERPA	Erie	146.36	11	ePKPbc	PKPbc	13 11 51.7	0.0
SLM	Saint Louis	146.37	26	ePKP2	PKPab	13 11 51.9	-0.7
CCM	Cathedral Cave	146.40	28	ePKP2	PKPbc	13 11 50.7	-1.1
JCT	Junction City	146.55	47	ePKP2	PKPab	13 11 52.9	-0.4
HRV	Harvard--Oak R	146.68	359	ePKP2	PKPbc	13 11 51.8	-0.8
WES	Weston	146.79	359	ePKP2	PKPbc	13 11 52.8	-0.2
BINY	Binghamton	146.82	5	ePKPbc	PKPbc	13 11 53.1	0.0
FVM	French Village	146.83	27	ePKP2	PKPbc	13 11 53.2	+0.1
BLO	Bloomington	147.37	21	ePKP2	PKPbc	13 11 54.8	+0.2
ACSO	Alum Creek Sta	147.49	15	ePKPbc	PKPbc	13 11 55.0	0.0
MIAR	Mount Ida	147.92	35	ePKP2	PKPbc	13 11 56.6	+0.5
USIN	University of	148.00	23	ePKPbc	PKPbc	13 11 56.2	-0.1
SSPA	Standing Stone	148.14	8	ePKPbc	PKPbc	13 11 56.6	-0.1
PAL	Palisades	148.14	2	ePKP2	PKPbc	13 11 56.7	0.0
PARMO	Parma	148.22	27	ePKPbc	PKPbc	13 11 58.3	+1.5
WCI	Wyandotte Cave	148.29	21	ePKIKP	PKPdf	13 11 52.7	-1.0
WCI				e		13 11 57.2	
LVC	Limon Verde	148.37	186	PKP	PKPdf	13 11 56.1	+2.3
	comp=Z,28nm,0.8s,baz=297,slow=2.7,SNR=5.7						
LVC				PKPbc	PKPbc	13 12 00.3	+3.1
	comp=Z,28nm,0.8s,baz=277,slow=4.7,SNR=14						
LVC				pPKPbc	pPKPbc	13 12 10.6	+6.0
	comp=Z,63nm,0.9s,baz=215,slow=0.8,SNR=10						
LVC	Limon Verde	148.37	186	PKPbc	PKPbc	13 11 57.4	+0.1
UALR	University of	148.43	33	ePKPbc	PKPbc	13 11 58.1	+0.7
BRNJ	Basking Ridge	148.43	3	ePKPab	PKPab	13 12 00.4	-0.4
MCWV	Mont Chateau	148.76	11	ePKPbc	PKPbc	13 11 59.2	+1.0
NATX	Nacogdoches	149.24	40	ePKPbc	PKPbc	13 11 59.5	0.0
WVT	Waverly	149.51	26	ePKP2	PKPbc	13 12 00.7	+0.5
HKT	Hockley	149.64	44	ePKP2	PKPbc	13 12 00.3	-0.2
OXF	Oxford	150.13	29	ePKP2	PKPbc	13 12 01.9	+0.2
PLAL	Pickwick Lake	150.37	27	ePKPbc	PKPbc	13 12 02.2	-0.1
FWV	Forest Hill	150.54	14	ePKPbc	PKPbc	13 12 03.3	+0.6
TZTN	Tazewell	150.75	19	ePKPbc	PKPbc	13 12 03.6	+0.4
ELN	Prospectdale	150.90	14	ePKPbc	PKPbc	13 12 03.8	+0.3
CPCT	Cooper Cave	151.41	21	ePKPbc	PKPbc	13 12 05.5	+0.8
MYNC	Murphy	151.88	21	ePKIKP	PKPbc	13 12 06.6	+0.8
LRAL	Lakeview Retre	152.49	28	ePKPbc	PKPbc	13 12 07.6	+0.5
LPAZ	La Paz	154.50	189	PKP	PKPdf	13 12 06.1	+3.0
	comp=Z,1.9nm,1.0s,baz=74,slow=5.9,SNR=5.9						
LPAZ				PKPbc	PKPbc	13 12 15.1	+3.6
	comp=Z,13nm,0.7s,baz=202,slow=5.8,SNR=27						
LPAZ	La Paz	154.50	189	PKIKP	PKPdf	13 12 06.1	+3.0
LPAZ						13 12 15.1	
LPAZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
LPAZ				pmax	pmax		
	comp=Z,13nm,0.7s						
OTAV	Otavalo	169.24	144	ePKPdf	PKPdf	13 12 20.1	+2.0
ROSC	El Rosal	175.31	153	PKP	PKPdf	13 12 23.7	+2.9
	comp=Z,2.4nm,0.3s,baz=86,slow=23,SNR=4.5						

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*TIR **17** 12:59:36.4, 41.53N×20.10E, h23^{km}, Ml2.4*
*CSEM **17** 12:59:36.8±0.3, 41.48N×20.18E, h1^{km}±2^{km}, ML3.1, Error ellipse: s-maj=7.7km s-min=3.9km az=16.0*
*ISCJB **17** 12:59:37.0±0.3, 41.52N±0.02×20.20E±0.03, h10^{km}, Error ellipse: s-maj=4.0km s-min=2.2km az=70.9*
*SKO **17** 12:59:37.7, 41.40N×20.16E, h20^{km}, M1.0, ML2.7*
*THE **17** 12:59:37.4, 41.51N×20.24E, h10^{km}, ML3.1*
*PDG **17** 12:59:38.7±0.3, 41.54N×20.04E, h8^{km}*
*NEIC **17** 12:59:38.7, 41.54N×20.04E, h8^{km}, MD2.9(PDG), After PDG.*

ISC 17 12:59:37.4±0.4**, 41.48N**±0.03×**20.19E**±0.03**, h2**^{km}±4^{km}**, n29,** σ**1**^{s}**21**/56**, 2C-8D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QSH	Qafa e Shtames	0.22	280	i Pg	Pg	12 59 42.0	+0.4
QSH				i Sg	Sg	12 59 47.0	+2.5
TIR	Tirane	0.28	241	ePg	Pg	12 59 43.3	+0.5
TIR				eSg	Sg	12 59 48.7	+2.2
LACI	Lac	0.39	293	i Pg	Pg	12 59 44.4	-0.6
LACI				i Sg	Sg	12 59 50.8	+0.7
OHR	Ohrid	0.59	129	ePg	Pg	12 59 47.9	-0.8
OHR				eSg	Sg	12 59 57.9	+1.6
OHR	Ohrid	0.59	129	i Pg	Pg	12 59 48.0	-0.7
OHR				i Sg	Sg	12 59 58.4	+2.0
OHR				eLg		12 59 58.4	
	comp=N,282nm,0.4s						
OHR				eLg		12 59 59.0	
	comp=E,316nm,0.4s						
OHR	Ohrid	0.59	129	i Pg	Pg	12 59 47.9	-0.8
OHR				i Sg	Sg	12 59 58.3	+2.0
SDA	Shkodra	0.77	318	i Pg	Pg	12 59 50.5	-1.7
SDA				i Sg	Sg	13 00 02.6	+0.4
ULC	Ulcinj	0.85	304⇑	iPg	Pg	12 59 52.0	-1.8
ULC				eSg	Sg	13 00 03.3	-1.6
BIA	Bitola	0.97	118	ePg	Pg	12 59 55.0	-1.0
BIA				eSg	Sg	13 00 08.8	+0.2
BIA	Bitola	0.97	118	i Pg	Pg	12 59 54.4	-1.6
BIA				eSg	Sg	13 00 09.3	+0.7
BIA				eLg		13 00 10.6	
	comp=N,53nm,0.2s						
BIA				eLg		13 00 10.7	
	comp=E,124nm,0.4s						
BIA	Bitola	0.97	118	i Pg	Pg	12 59 54.4	-1.6
BIA				eSg	Sg	13 00 09.2	+0.6
SKO	Skopje	1.05	62	ePg	Pg	12 59 57.9	+0.3
SKO	Skopje	1.05	62	i Pg	Pg	12 59 58.0	+0.4
SKO				i Sg	Sg	13 00 11.1	-0.2
SKO				eLg		13 00 11.1	
	comp=N,382nm,0.5s						
SKO				eLg		13 00 12.6	
	comp=E,176nm,0.6s						
SKO	Skopje	1.05	62	i Pg	Pg	12 59 57.9	+0.3
SKO				i Sg	Sg	13 00 11.0	-0.3
PVY	Plav	1.12	352⇓	iPg	Pg	12 59 58.3	-0.7
PVY				eSg	Sg	13 00 14.5	+1.0
FNA	Florina	1.13	128	ePg	Pn	12 59 58.7	-1.6
FNA				eSg	Sg	13 00 15.1	+1.3
TTG	Podgorica	1.17	324⇓	iPg	Pn	12 59 57.6	-3.3
TTG				eSg	Sg	13 00 15.1	-0.1
BUM	Brajici-Budva	1.27	311⇓	iPg	Pn	12 59 59.5	-2.7
BUM				eSg	Sg	13 00 17.8	-0.3
LSK	Leskovik	1.37	167	i Pn	Pn	13 00 02.6	-0.9
LSK				i Sn	Sn	13 00 28.4	+6.2
IVA	Berane	1.41	351⇓	iPg	Pg	13 00 03.4	-1.0
IVA				eSg	Sg	13 00 23.9	+1.3
HCY	Herceg Novi	1.59	308⇓	iPg	Pn	13 00 04.7	-1.9
HCY				eSg	Sg	13 00 28.2	-0.3
NKY	Niksic	1.60	327⇑	iPg	Pn	13 00 05.7	-1.0
NKY				eSg	Sg	13 00 29.2	+0.4
VAY	Valandovo	1.79	94	ePn	Pn	13 00 09.6	+0.2
VAY				eSn	Sn	13 00 33.3	+0.5
VAY				eLg		13 00 34.7	
	comp=N,29nm,0.4s						
VAY				eLg		13 00 34.9	
	comp=E,33nm,0.5s						
VAY	Valandovo	1.79	94	ePn	Pn	13 00 09.6	+0.2
VAY				eSn	Sn	13 00 33.2	+0.4
BRY	Bratogost	1.87	320⇓	iPn	Pn	13 00 10.2	-0.3
BRY				eSn	Sn	13 00 35.9	+1.2
PLE	Pljevlja	1.94	342⇓	iPn	Pn	13 00 12.7	+1.3
PLE				eSn	Sn	13 00 38.4	+2.1
UPM	Unac-Piva	1.96	331⇓	iPn	Pn	13 00 12.2	+0.4
UPM				eSn	Sn	13 00 38.8	+1.8
LIT	Litokhoron	2.22	128	ePn	Pn	13 00 15.4	+0.1
STON	Ston	2.31	308	i Pn	Pn	13 00 15.4	-1.2
STON				i Sn	Sn	13 00 51.2	+5.6

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*BJI **17** 13:01:38.4, 10.27S×108.71E, h10^{km}, mB5.1, mb4.6*
*NEIC **17** 13:01:46.3±0.3, 9.40S×108.67E, h10^{km}, mb4.8/6, Error ellipse: s-maj=11.1km s-min=7.7km az=59.0*
*ISCJB **17** 13:01:48.3±0.4, 9.35S±0.06×108.79E±0.09, h35^{km}, mb4.5/19, Error ellipse: s-maj=12.2km s-min=8.7km az=159.8*
*IDC **17** 13:01:50.1±0.5, 9.36S×108.68E, h35^{km}±3^{km}, mb4.2/13, mb1 4.2/14, mb1mx4.1/19, mbtmp4.4/14, ML3.9/1, Error ellipse: s-maj=20.0km s-min=12.7km az=61.0*

ISC 17 13:01:50.4±0.4**, 9.44S**±0.07×**108.70E**±0.09**, h37**^{km}**, h37**^{km}±1.5^{km}**:pP-P, n41,** σ**1**^{s}**00**/31**, mb4.5**/19**, 1C, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BJII	Banjamegara	2.32	26⇑	iP	Pn	13 02 27.4	+1.3
BJII				i S	Sn	13 02 47.3	-6.1
MBWA	Marble Bar	15.77	139	eP	Pn	13 05 25.2	-4.4
KKM	Kota Kinabalu	17.11	26	Pn	Pn	13 05 46.3	-0.3
FITZ	Fitzroy Crossi	18.56	119	P	Pn	13 06 03.2	-1.2
	0.3nm,0.3s,baz=295,slow=14,SNR=5.5						
WRA	Warramunga Arr	26.87	116	P	P	13 07 27.9	+0.3
	7.6nm,0.8s,mb4.3,baz=287,slow=11,SNR=9.0						
WRA				pP	pP	13 07 39.5	+1.6
	4.3nm,0.7s,baz=289,slow=11,SNR=4.6						
WRAB	Tennant Creek	26.88	116	eP	P	13 07 27.8	+0.2
	15nm,0.8s,mb4.6						
ASAR	Alice Springs	27.93	124	P	P	13 07 37.4	+0.3
	2.4nm,0.9s,mb3.8,baz=306,slow=9.9,SNR=4.8						
ASAR				PcP	PcP	13 10 51.9	0.0
	2.0nm,0.8s,baz=269,slow=1.6,SNR=6.0						
JOW	Kunigami	40.76	27	P	P	13 09 27.1	-0.7
	11nm,0.8s,mb4.5,baz=287,slow=10,SNR=3.5						
LZH	Lanzhou	45.51	354	eP	P	13 10 08.1	+1.9
LZH				AP	pP	13 10 18.0	+1.0
LZH				AMB	AMB		
	comp=Z,31nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,153nm,4.6s						
GTA	Gaotai	49.30	351	P	P	13 10 36.5	+0.9
GTA				AP	pP	13 10 44.1	-2.4
GTA				XP	sP	13 10 47.3	-3.5
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.4						
SONM	Songino Array	57.06	358	P	P	13 11 33.3	+0.6
	comp=Z,2.7nm,0.8s,mb4.3,baz=176,slow=8.8,SNR=13						
SONM				pP	pP	13 11 43.1	-0.7
	comp=Z,4.7nm,0.5s,baz=178,slow=8.6,SNR=17						
ULN	Ulaanbaatar	57.07	359	eP	P	13 11 32.5	-0.3
	comp=Z,3.4nm,0.9s,mb4.4						
MKAR	Makanchi Array	60.74	339	P	P	13 11 58.3	+0.1
	comp=Z,5.0nm,0.6s,mb4.8,baz=144,slow=7.9,SNR=20						
MKAR				pP	pP	13 12 08.3	-1.1
	comp=Z,5.2nm,0.5s,baz=150,slow=8.0,SNR=12						
MKAR	Makanchi Array	60.74	339	P	P	13 11 58.3	+0.1
MKAR				pP	pP	13 12 08.3	-1.1
MAW	Mawson	65.55	198	P	P	13 12 29.5	-0.6
	comp=Z,4.5nm,0.9s,mb4.5,baz=106,slow=0.9,SNR=8.2						
ZAL	Zalesovo	66.30	345	P	P	13 12 32.5	-2.5
	comp=Z,1.5nm,0.4s,mb4.4,baz=314,slow=2.5,SNR=4.0						
ZAL				pP	pP	13 12 44.3	-1.9
	comp=Z,3.8nm,0.4s,baz=325,slow=2.8,SNR=6.2						
BVAR	Borovoye Array	70.26	337	P	P	13 12 60.0	+0.3
	comp=Z,3.0nm,0.7s,mb4.3,baz=147,slow=8.5,SNR=10						
BVAR				pP	pP	13 13 10.3	-0.7
	comp=Z,10nm,0.6s,baz=144,slow=8.7,SNR=21						
CHKZ	Chkalovo	70.67	337	eP	P	13 13 01.5	-0.7
	comp=Z,92nm,2.6s,mb5.2						
ZRNK	Zerenda	70.75	336	eP	P	13 13 01.6	-1.1
	comp=Z,11nm,0.6s,mb5.0						
VNDA	Vanda	73.28	170	P	P	13 13 17.9	+0.1
	comp=Z,3.9nm,0.9s,mb4.3,baz=301,slow=6.3,SNR=18						
VNDA	Vanda	73.28	170	eP	P	13 13 17.9	+0.1
	comp=Z,4.7nm,1.0s,mb4.4						
LSZ	Lusaka	78.48	256	P	P	13 13 48.8	+1.2
	comp=Z,2.8nm,0.8s,mb4.3,baz=96,slow=3.8,SNR=6.1						
LSZ				pP	pP	13 13 59.8	+0.8
	comp=Z,1.9nm,0.5s,baz=19,slow=6.0,SNR=3.5						
LSZ	Lusaka	78.48	256	P	P	13 13 48.8	+1.2
LSZ				pP	pP	13 13 59.8	+0.8
ASF	Jabal al Asfar	79.92	305	P	P	13 13 54.1	-1.3
	comp=Z,1.2nm,0.4s,mb4.2,baz=297,slow=4.5,SNR=1.9						
ASF				pP	pP	13 14 06.1	-0.8
	comp=Z,2.6nm,0.8s,baz=41,slow=2.8,SNR=3.3						
BR131	Keskin Array S	84.69	312	eP	P	13 14 21.0	+0.6
	comp=Z,1.9nm,0.8s,mb4.3						
BR131				e	pP	13 14 32.0	+0.1
BRTR	Keskin Array B	84.69	312	P	P	13 14 20.6	+0.3
	comp=Z,3.1nm,0.9s,mb4.4,baz=137,slow=6.1,SNR=12						
BRTR				pP	pP	13 14 32.1	+0.2
	comp=Z,4.6nm,0.9s,baz=127,slow=3.7,SNR=11						
SNAA	Sanae	87.71	197	e	P	13 14 35.7	+0.5
SNAA				e		13 14 38.8	
VNA1	Neumayer--Stat	89.74	197	e	P	13 14 46.4	+1.6
VNA1				e		13 14 49.3	
AKASG	Malin Array Be	90.64	321	P	P	13 14 47.6	-1.3
	comp=Z,1.6nm,0.8s,mb4.4,baz=90,slow=4.3,SNR=4.1						
AKASG				pP	pP	13 14 58.9	-1.6
	comp=Z,1.2nm,0.6s,baz=89,slow=4.1,SNR=3.2						
AKASG	Malin Array Be	90.64	321	P	P	13 14 47.6	-1.3
AKASG				pP	pP	13 14 58.9	-1.7
CPUP	Villa Florida	141.94	201	PKP	PKPdf	13 21 19.3	+1.1
	comp=Z,0.3nm,0.4s,baz=40,slow=2.4,SNR=3.0						
WMOK	Wichita Mounta	144.42	41	ePKPdf	PKPdf	13 21 22.8	+0.2
WMOK				e		13 21 33.9	
NCB	Newcomb	145.51	4	ePKP	PKPdf	13 21 25.9	+1.4
BDFB	Brasilia	146.04	223	PKPbc	PKPbc	13 21 27.8	+1.6
	comp=Z,2.0nm,0.4s,baz=106,slow=8.3,SNR=3.4						
CCM	Cathedral Cave	146.33	29	ePKP	PKPdf	13 21 26.6	+0.7
SSPA	Standing Stone	148.39	10	ePKPbc	PKPbc	13 21 33.5	+0.7
WVT	Waverly	149.47	27	ePKPbc	PKPbc	13 21 36.2	+0.7
PLAL	Pickwick Lake	150.31	29	ePKPbc	PKPbc	13 21 37.9	+0.4
CPCT	Cooper Cave	151.44	23	ePKPbc	PKPbc	13 21 41.9	+1.7
SIV	San Ignacio	152.78	202	PKPbc	PKPbc	13 21 45.5	+2.2
	comp=Z,2.9nm,0.8s,baz=115,slow=2.9,SNR=10						
LPAZ	La Paz	154.25	187	PKPbc	PKPbc	13 21 50.1	+3.7
	comp=Z,1.2nm,0.8s,baz=126,slow=2.8,SNR=4.7						

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*BJI **17** 13:02:55.8, 9.00S×107.90E, h10^{km}, mb4.9*
*IDC **17** 13:02:55.4±1.3, 8.99S×107.86E, h0^{km}, mb4.5/6, mb1 4.5/6, mb1mx4.2/17, mbtmp4.5/6, Error ellipse: s-maj=50.9km s-min=31.3km az=97.0*
*NEIC **17** 13:02:56.9±0.4, 9.04S×107.89E, h10^{km}, mb5.2/13, Error ellipse: s-maj=18.2km s-min=9.7km az=78.0*
*ISCJB **17** 13:02:57.5±1.0, 9.1S±0.1×108.1E±0.2, h33^{km}, mb4.9/21, Error ellipse: s-maj=29.0km s-min=20.0km az=9.4*
*MOS **17** 13:02:58.2±0.9, 8.96S×108.06E, h33^{km}, mb4.9/11, Error ellipse: s-maj=38.4km s-min=14.7km az=107.1*

ISC 17 13:02:59.9±1.0**, 9.2S**±0.1×**108.0E**±0.2**, h35**^{km}**, n44,** σ**0**^{s}**64**/37**, mb4.9**/21**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIRN	Jiri	42.26	331	eP	P	13 10 50.3	+0.5
	55nm,0.6s,mb5.3						
PKI	Pulchoki	42.57	330	eP	P	13 10 52.2	-0.1
	25nm,0.8s,mb5.0						
PKI	Pulchoki	42.57	330	eP	P	13 10 52.2	-0.1
PKI				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.0						
GUN	Gumba	42.62	330	eP	P	13 10 53.1	+0.4
	comp=Z,66nm,0.7s,mb5.5						
DMN	Daman	42.76	329	eP	P	13 10 53.7	-0.1
	comp=Z,52nm,0.7s,mb5.4						
KKN	Kakani	42.82	330	eP	P	13 10 54.2	-0.1
	comp=Z,44nm,0.8s,mb5.2						
KKN	Kakani	42.82	330	eP	P	13 10 54.2	-0.1
KKN				pmax	pmax		
	comp=Z,44nm,0.8s,mb5.2						
XAN	Xi'an	42.96	1	P	P	13 10 56.0	+0.5
XAN				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.8						
GKN	Gorkha	43.31	329	eP	P	13 10 58.2	-0.1
	comp=Z,59nm,0.7s,mb5.4						
KOLN	Koldanda	43.66	328	eP	P	13 11 01.1	0.0
	comp=Z,72nm,0.7s,mb5.5						
LZH	Lanzhou	45.17	355	eP	P	13 11 14.3	+1.1
LZH				AP	pP	13 11 21.5	-2.0
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.9						
GTA	Gaotai	48.91	352	eP	P	13 11 43.8	+1.4
GTA				AP	pP	13 11 50.5	-2.3
GTA				XP	sP	13 11 54.3	-2.7
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
MJAR	Matsushiro Arr	53.58	30	P	P	13 12 16.7	-0.7
	comp=Z,3.0nm,1.0s,mb4.2,baz=208,slow=8.7,SNR=4.2						
MJAR	Matsushiro Arr	53.58	30	P	P	13 12 16.7	-0.7
MJAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MJAR	Matsushiro Arr	53.58	30	P	P	13 12 16.7	-0.7
SONM	Songino Array	56.75	359	P	P	13 12 41.3	+1.0
	comp=Z,2.7nm,0.6s,mb4.5,baz=175,slow=7.4,SNR=7.8						
SONM	Songino Array	56.75	359	P	P	13 12 41.3	+1.0
SONM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	Makanchi Array	60.24	340	P	P	13 13 04.5	-0.1
	comp=Z,11nm,0.5s,mb5.1,baz=147,slow=8.3,SNR=19						
MKAR	Makanchi Array	60.24	340	P	P	13 13 04.5	-0.1
MKAR				pmax	pmax		
	comp=Z,11nm,0.5s						
KURK	Kurchatov	64.85	340	eP	P	13 13 34.8	-0.6
KURK				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
KURK	Kurchatov	64.85	340	eP	P	13 13 34.8	-0.5
	comp=Z,15nm,0.8s,mb5.1						
MAW	Mawson	65.62	197	eP	P	13 13 41.0	+0.7
MAW				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MAW	Mawson	65.62	197	eP	P	13 13 41.0	+0.7
	comp=Z,1.0nm,0.5s,mb4.1						
BOD	Bodaibo	66.91	3	eP	P	13 13 47.2	-1.4
BVAR	Borovoye Array	69.73	337	P	P	13 14 05.8	-0.4
	comp=Z,6.3nm,0.6s,mb4.7,baz=146,slow=8.7,SNR=8.7						
BVAR	Borovoye Array	69.73	337	P	P	13 14 05.8	-0.5
BVAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BRVK	Borovoye	69.80	337	eP	P	13 14 06.1	-0.6
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	Borovoye	69.80	337	eP	P	13 14 06.1	-0.5
	comp=Z,3.0nm,0.6s,mb4.4						
CHKZ	Chkalovo	70.14	337	eP	P	13 14 08.6	-0.2
CHKZ				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
CHKZ	Chkalovo	70.14	337	eP	P	13 14 08.6	-0.2
	comp=Z,12nm,0.6s,mb5.0						
ZRNK	Zerenda	70.22	336	eP	P	13 14 08.7	-0.6
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
ZRNK	Zerenda	70.22	336	eP	P	13 14 08.7	-0.6
	comp=Z,5.9nm,0.6s,mb4.7						
ASF	Jabal al Asfar	79.21	305	P	P	13 15 01.1	-0.2
	comp=Z,4.2nm,0.8s,mb4.4,baz=281,slow=3.3,SNR=6.0						
ASF	Jabal al Asfar	79.21	305	P	P	13 15 01.1	-0.2
ASF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BR131	Keskin Array S	84.01	312	eP	P	13 15 26.6	0.0
	comp=Z,1.1nm,0.5s,mb4.2						
BRTR	Keskin Array B	84.01	312	P	P	13 15 26.2	-0.4
	comp=Z,2.3nm,0.8s,mb4.3,baz=134,slow=7.3,SNR=5.7						
BRTR	Keskin Array B	84.01	312	P	P	13 15 26.2	-0.4
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NCB	Newcomb	145.26	3	ePKP	PKPdf	13 22 34.9	+1.1
BDFB	Brasilia	145.79	224	PKPbc	PKPbc	13 22 37.1	+1.9
	comp=Z,2.0nm,0.4s,baz=172,slow=3.0,SNR=3.1						
BDFB	Brasilia	145.79	224	PKP2	PKPab	13 22 37.2	+1.5
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.4s						
JCT	Junction City	146.47	47	ePKP2	PKPab	13 22 39.5	+1.2
SIV	San Ignacio	152.79	203	PKPbc	PKPbc	13 22 55.6	+2.6
	comp=Z,2.0nm,0.7s,baz=105,slow=2.3,SNR=5.6						
LPAZ	La Paz	154.44	189	PKPbc	PKPbc	13 23 00.8	+4.1
	comp=Z,0.8nm,0.9s,baz=255,slow=6.4,SNR=3.7						
LPAZ	La Paz	154.44	189	PKPbc	PKPbc	13 23 00.8	+4.1

*ISCJB **17** 13:04:05.7±3.1, 961S±008×10807E±009, h15km±22km, mb4.7/31, MS4.5/1, Error ellipse: s-maj=17.2km s-min=11.1km az=106.2*
*IDC **17** 13:04:05.3±0.6, 950S×10806E, h0km, mb4.3/13, mb1 4.3/15, mb1mx4.3/21, mbtmp4.3/15, ML3.6/2, Error ellipse: s-maj=24.0km s-min=15.9km az=53.0*
*NEIC **17** 13:04:06.5±4.0, 953S×10807E, h6km±24km, mb5.1/12, Error ellipse: s-maj=12.0km s-min=7.1km az=48.0*
*BJI **17** 13:04:06.4, 950S×108.10E, h6km, mB5.1, mb4.8, Ms4.7, Msz4.5*
ISC 17 13:04:08.7±3.2**, 962S**±008×**10804E**±009**, h20**km±23km**, n55,** σ**1§05**/42**, mb4.7**/31**, MS4.5**/1**, 1C, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	15.32	323	Pn	Pn	13 07 41.8	-1.8
	0.2nm,0.3s,baz=145,slow=16,SNR=2.4						
KKM	Kota Kinabalu	17.57	28	Pn	Pn	13 08 09.9	-2.3
FITZ	Fitzroy Crossi	19.04	118	P	Pn	13 08 30.7	+0.5
	0.1nm,0.3s,baz=313,slow=13,SNR=2.5						
WRA	Warramunga Arr	27.38	115	P	P	13 09 52.6	0.0
	1.9nm,0.6s,mb3.8,baz=287,slow=11,SNR=4.3						
ASAR	Alice Springs	28.37	123	P	P	13 10 01.8	+0.4
	1.4nm,0.8s,mb3.6,baz=303,slow=9.1,SNR=3.4						
CHTO	Chiang Mai	29.64	342	eP	P	13 10 13.5	+0.8
	20nm,1.0s,mb4.8						
KMI	Kunming	34.92	352	P	P	13 11 00.3	+1.4
KMI				AMB	AMB		
	comp=Z,11nm,1.8s,mb4.5						
GYA	Guiyang	35.89	358⇑	iP	P	13 11 08.9	+1.6
GYA				AP	pP	13 11 13.3	-0.2
GYA				XP	sP	13 11 15.9	-0.1
GYA				PP	PP	13 12 29.3	+0.4
GYA				S	S	13 16 43.8	-0.4
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,130nm,4.6s						
GYA				LR	LR		
	comp=N,540nm,15.8s,MS4.6						
GYA				LR	LR		
	comp=E,570nm,16.0s,MS4.6						
GYA				LR	LR		
	comp=Z,610nm,15.9s,MS4.5						
WHN	Wuhan	40.39	8	eP	P	13 11 47.3	+2.1
JIRN	Jiri	42.68	331	eP	P	13 12 04.8	+0.8
	comp=Z,76nm,0.9s,mb5.4						
PKI	Pulchoki	42.98	330	eP	P	13 12 07.0	+0.6
GUN	Gumba	43.04	331	eP	P	13 12 07.7	+0.8
DMN	Daman	43.17	330	eP	P	13 12 07.8	-0.1
	comp=Z,59nm,0.8s,mb5.3						
KKN	Kakani	43.23	330	eP	P	13 12 08.8	+0.4
	comp=Z,43nm,0.9s,mb5.2						
XAN	Xi'an	43.43	1	P	P	13 12 10.4	+0.4
XAN				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.8						
KOLN	Koldanda	44.06	328	eP	P	13 12 15.7	+0.6
	comp=Z,55nm,0.7s,mb5.4						
LZH	Lanzhou	45.63	355	eP	P	13 12 30.8	+3.2
LZH				PP	PP	13 14 17.6	+3.0
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,167nm,5.1s						
GTA	Gaotai	49.38	352	eP	P	13 12 58.3	+1.6
GTA				AP	pP	13 13 05.5	+2.4
GTA				XP	sP	13 13 09.3	+3.8
GTA				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.9						
BJI	Beijing	49.98	8	eP	P	13 13 07.3	+6.0
BJI				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.8						
MAT	Matsushiro	53.98	30	P	P	13 13 32.0	+0.9
MAT	Matsushiro	53.98	30	eP	P	13 13 32.0	+0.9
MJAR	Matsushiro Arr	53.98	30	P	P	13 13 29.5	-1.6
	comp=Z,6.1nm,1.0s,mb4.5,baz=198,slow=8.0,SNR=7.0						
SONM	Songino Array	57.22	359	P	P	13 13 53.7	-0.7
	comp=Z,4.4nm,0.4s,mb4.8,baz=179,slow=8.9,SNR=18						
ULN	Ulaanbaatar	57.24	359	eP	P	13 13 54.9	+0.3
	comp=Z,7.3nm,0.5s,mb5.0						
MKAR	Makanchi Array	60.69	340	P	P	13 14 18.4	-0.1
	comp=Z,7.8nm,0.7s,mb5.0,baz=141,slow=7.8,SNR=10.0						
YSS	Yuzh-Sakhalins	64.26	26	eP	P	13 14 41.2	-1.1
	comp=Z,18nm,1.0s,mb5.1						
MAW	Mawson	65.18	197	P	P	13 14 47.7	-0.6
	comp=Z,1.9nm,0.7s,mb4.3,baz=60,slow=11,SNR=4.6						
KURK	Kurchatov	65.30	340	eP	P	13 14 48.9	-0.3
	comp=Z,7.8nm,0.9s,mb4.7						
BVAR	Borovoye Array	70.17	337	P	P	13 15 19.7	-0.1
	comp=Z,2.7nm,0.5s,mb4.4,baz=136,slow=8.4,SNR=6.8						
BRVK	Borovoye	70.23	337	eP	P	13 15 19.5	-0.7
CHKZ	Chkalovo	70.58	337	eP	P	13 15 22.2	-0.1
	comp=Z,5.3nm,0.5s,mb4.7						
ZRNK	Zerenda	70.65	336	eP	P	13 15 22.6	-0.2
	comp=Z,6.0nm,0.8s,mb4.6						
YAK	Yakutsk	73.40	10	eP	P	13 15 35.8	-3.4
	comp=Z,28nm,0.8s,mb5.2						
AKTK	Aktyubinsk	73.89	329	P	P	13 15 40.8	-1.3
AKTO	Aktyubinsk	73.89	329	P	P	13 15 40.8	-1.3
	comp=Z,1.0nm,0.5s,mb4.0,baz=141,slow=6.5,SNR=2.0						
ARU	Arti	77.42	334	eP	P	13 16 02.4	+0.1
	comp=Z,22nm,1.3s,mb4.9						
LSZ	Lusaka	77.81	256	P	P	13 16 05.5	+1.0
	comp=Z,0.7nm,0.3s,mb4.1,baz=56,slow=3.6,SNR=2.4						
ASF	Jabal al Asfar	79.50	305	P	P	13 16 14.3	+0.6
	comp=Z,1.4nm,0.6s,mb4.1,baz=90,slow=2.0,SNR=2.9						
BRTR	Keskin Array B	84.33	312	P	P	13 16 38.1	-1.1
	comp=Z,1.0nm,0.6s,mb4.1,baz=118,slow=6.0,SNR=3.5						
AKASG	Malin Array Be	90.37	321	P	P	13 17 08.1	-0.3
	comp=Z,0.3nm,0.4s,mb4.0,baz=88,slow=5.9,SNR=3.3						
ARCES	ARCESS Array B	96.34	339	P	P	13 17 34.4	-1.5
	comp=Z,2.1nm,0.9s,mb4.6,baz=12,slow=6.2,SNR=3.9						
YKA	Yellowknife Ar	118.94	21	PKP	PKPdf	13 22 55.1	-0.6
	comp=Z,0.5nm,0.7s,baz=322,slow=1.4,SNR=4.2						
WMOK	Wichita Mounta	144.98	40	ePKP	PKPdf	13 23 45.3	+1.0
LONY	Lake Ozonia	145.06	3	ePKP	PKPdf	13 23 44.7	+0.2
BDFB	Brasilia	145.47	224	PKPbc	PKPbc	13 23 47.1	+1.8
	comp=Z,2.2nm,0.5s,baz=45,slow=8.6,SNR=2.5						
NCB	Newcomb	145.72	3	ePKP	PKPdf	13 23 46.9	+1.3
JCT	Junction City	146.78	47	ePKPbc	PKPbc	13 23 51.5	+2.3
CCM	Cathedral Cave	146.80	28	ePKPbc	PKPbc	13 23 49.0	-0.3
BINY	Binghamton	147.36	6	ePKPbc	PKPbc	13 23 52.0	+1.1
LVC	Limon Verde	147.83	185	PKPbc	PKPbc	13 23 54.9	+2.8
	comp=Z,4.3nm,0.9s,baz=265,slow=2.3,SNR=3.6						
MIAR	Mount Ida	148.27	35	ePKPbc	PKPbc	13 23 54.8	+1.5
SSPA	Standing Stone	148.67	9	ePKPbc	PKPbc	13 23 54.8	+0.5
WVT	Waverly	149.93	26	ePKPbc	PKPbc	13 23 58.5	+1.1
PLAL	Pickwick Lake	150.77	28	ePKPbc	PKPbc	13 24 00.1	+0.6
SIV	San Ignacio	152.36	203	PKPbc	PKPbc	13 24 04.0	+0.9
	comp=Z,1.7nm,0.8s,baz=117,slow=6.0,SNR=3.0						

*NEIC **17** 13:11:22.2±1.2, 10.18S×108.25E, h10km, mb4.2/3, Error ellipse: s-maj=62.7km s-min=11.0km az=223.0*
*ISCJB **17** 13:11:25.8±1.0, 96S±02×1088E±02, h33km, mb3.9/9, Error ellipse: s-maj=39.4km s-min=11.9km az=89.1*
*IDC **17** 13:11:26.3±1.8, 10.12S×108.35E, h38km±7km, mb3.7/6, mb1 3.8/7, mb1mx3.7/15, mbtmp3.9/7, ML3.4/1, Error ellipse: s-maj=74.7km s-min=18.2km az=45.0*
ISC 17 13:11:28.0±1.1**, 97S**±02×**1088E**±02**, h35**km**, (h41**km±2.2km**:pP-P), n14,** σ**0§69**/11**, mb3.9**/9**, 1D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.39	119	P	Pn	13 15 40.7	+0.6
	0.1nm,0.3s,baz=285,slow=19,SNR=4.3						
WRA	Warramunga Arr	26.71	115	P	P	13 17 03.9	0.0
	2.0nm,0.8s,mb3.7,baz=287,slow=11,SNR=5.4						
WRAB	Tennant Creek	26.72	115	eP	P	13 17 04.1	+0.1
	3.0nm,0.7s,mb3.9						
PVCP	Virac	27.68	34⇓	iP	P	13 17 11.6	-1.1
PVCP				i S	pP	13 17 23.8	+1.1
ASAR	Alice Springs	27.75	123	P	P	13 17 12.8	-0.4
	0.5nm,0.6s,mb3.3,baz=305,slow=9.0,SNR=6.0						
SONM	Songino Array	57.27	358	P	P	13 21 13.4	+1.4
	0.9nm,0.5s,mb4.0,baz=177,slow=8.3,SNR=10.0						
SONM				pP	pP	13 21 24.4	+1.8
	1.1nm,0.5s,baz=159,slow=6.2,SNR=6.4						
MKAR	Makanchi Array	60.96	339	P	P	13 21 38.2	+0.7
	1.2nm,0.7s,mb4.2,baz=139,slow=7.3,SNR=12						
MKAR				pP	pP	13 21 48.8	+0.5
	1.7nm,0.7s,baz=143,slow=7.6,SNR=7.9						
KURK	Kurchatov	65.58	339	eP	P	13 22 08.3	+0.1
	1.0nm,0.6s,mb4.0						
BVAR	Borovoye Array	70.48	337	P	P	13 22 38.3	-0.6
	1.0nm,0.6s,mb3.9,baz=150,slow=8.1,SNR=7.6						
BVAR				pP	pP	13 22 50.2	+0.4
	1.2nm,0.8s,baz=154,slow=7.4,SNR=4.1						
ZRNK	Zerenda	70.97	336	eP	P	13 22 42.1	+0.2
	1.7nm,0.7s,mb4.1						
BRTR	Keskin Array B	84.89	312	P	P	13 23 58.4	-0.8
	0.8nm,0.6s,mb4.0,baz=149,slow=6.5,SNR=4.5						
YKA	Yellowknife Ar	118.70	21	PKP	PKPdf	13 30 09.0	-3.3
	0.6nm,0.7s,baz=341,slow=1.8,SNR=3.2						
WMOK	Wichita Mounta	144.53	41	ePKP	PKPdf	13 31 01.2	+0.5
PLAL	Pickwick Lake	150.45	29	ePKPbc	PKPbc	13 31 16.5	+0.7

*ISCJB **17** 13:19:58.2±1.8, 6.1S±0.1×1485E±03, h33km, mb4.5/3, Error ellipse: s-maj=37.7km s-min=15.7km az=34.7*
*IDC **17** 13:20:03.5±4.9, 625S×14800E, h24km±32km, mb4.3/2, mb1 4.4/4, mb1mx3.9/12, mbtmp4.3/4, ML3.7/2, Error ellipse: s-maj=46.6km s-min=16.8km az=124.0*
*NEIC **17** 13:20:07.0±4.2, 648S×148.14E, h57km±32km, mb4.7/3, Error ellipse: s-maj=51.1km s-min=22.9km az=154.0*
ISC 17 13:20:00.2±3.8**, 62S**±01×**1479E**±02**, h5**km±35km**, n13,** σ**0§59**/13**, mb4.5**/3**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.32	193	Pn	Pn	13 20 52.9	+0.1
	17nm,0.3s,baz=15,slow=8.7,SNR=43						
PMG				Sn	Sn	13 21 32.9	+0.3
	23nm,0.3s,baz=27,slow=15,SNR=9.3						
WRAB	Tennant Creek	19.02	223	eP	Pn	13 24 24.3	+0.6
	11nm,0.8s						
WB2	Warramunga Arr	19.03	223	eP	Pn	13 24 23.4	-0.3
WRA	Warramunga Arr	19.04	223	P	Pn	13 24 23.2	-0.6
	0.6nm,0.3s,baz=45,slow=11,SNR=26						
WRA				S	Sn	13 27 57.2	-0.1
	0.1nm,0.3s,baz=48,slow=22,SNR=5.2						
AS31	Alice Springs	22.03	216	eP	P	13 24 55.5	-0.1
ASAR	Alice Springs	22.03	216	P	P	13 24 55.4	-0.2
	5.1nm,0.5s,mb4.2,baz=52,slow=9.8,SNR=54						
ASAR				S	S	13 28 58.8	-0.2
	3.6nm,0.9s,baz=30,slow=22,SNR=11						
ASPA	Alice Springs	22.03	216	eP	P	13 24 55.5	-0.1
FITZ	Fitzroy Crossi	24.79	239	eP	P	13 25 24.3	+1.3
	22nm,0.7s,mb4.8						
FITZ	Fitzroy Crossi	24.79	239	P	P	13 25 24.6	+1.6
	8.2nm,0.4s,mb4.6,baz=80,slow=9.1,SNR=37						
KLBR	Kellerberrin	37.91	224	eP	P	13 27 17.4	-1.0
	18nm,1.2s,mb4.7						
KLBR				e		13 27 26.4	
TORD	Torodi Ar. Bea	146.03	284	PKPbc	PKPbc	13 39 42.6	+1.5
	0.9nm,0.4s,baz=61,slow=2.9,SNR=29						
DBIC	Dimbokro	152.96	273	PKPbc	PKPbc	13 39 59.4	+0.7
	3.4nm,0.8s,baz=51,slow=5.0,SNR=3.9						
BDFB	Brasilia	153.19	144	PKPbc	PKPbc	13 39 59.3	+0.1
	2.7nm,0.5s,baz=180,slow=1.0,SNR=3.5						

*BJI **17** 13:25:36.9, 1052S×108.13E, h34km, mb4.7*
*ISCJB **17** 13:25:44.2±0.6, 965S±009×1079E±0.1, h38km, mb4.6/26, Error ellipse: s-maj=18.0km s-min=7.8km az=100.0*
*NEIC **17** 13:25:45.9±3.7, 961S×10787E, h34km±26km, mb4.8/14, Error ellipse: s-maj=14.4km s-min=5.8km az=51.0*
*IDC **17** 13:25:46.2±0.9, 954S×10792E, h38km±7km, mb4.0/7, mb1 4.1/8, mb1mx3.9/15, mbtmp4.2/8, ML3.6/1, Error ellipse: s-maj=28.2km s-min=16.9km az=57.0*
ISC 17 13:25:46.6±0.6**, 965S**±009×**1079E**±01**, h40**km**, h40**km±1.6km**:pP-P, n40,** σ**0§70**/34**, mb4.6**/26**, 1C, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	17.66	28	eP	Pn	13 29 49.4	-0.1
FITZ	Fitzroy Crossi	19.16	118	P	Pn	13 30 08.1	+0.4
	0.2nm,0.3s,baz=315,slow=11,SNR=4.3						
WRA	Warramunga Arr	27.51	115	P	P	13 31 29.3	0.0
	2.7nm,0.9s,mb3.9,baz=285,slow=11,SNR=10						
WRAB	Tennant Creek	27.52	115	eP	P	13 31 29.7	+0.3
	9.6nm,1.0s,mb4.4						
WB2	Warramunga Arr	27.52	115	eP	P	13 31 30.4	+1.0
AS31	Alice Springs	28.49	123	P	P	13 31 37.8	-0.3
ASAR	Alice Springs	28.49	123	P	P	13 31 37.8	-0.2
	2.1nm,0.8s,mb3.8,baz=298,slow=8.7,SNR=15						
CHTO	Chiang Mai	29.62	343	eP	P	13 31 48.0	-0.1
	5.3nm,1.1s,mb4.2						
KMI	Kunming	34.92	352	P	P	13 32 35.0	+0.5
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7						
GYA	Guiyang	35.91	358	P	P	13 32 44.8	+1.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CD2	Chengdu	40.52	355⇑	iP	P	13 33 21.6	-0.2
CD2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
JIRN	Jiri	42.63	331	eP	P	13 33 39.5	+0.5
	comp=Z,33nm,0.8s,mb5.1						
PKI	Pulchoki	42.93	330	eP	P	13 33 41.6	+0.1
GUN	Gumba	42.99	331	eP	P	13 33 42.7	+0.8
	comp=Z,28nm,0.7s,mb5.1						
DMN	Daman	43.11	330	eP	P	13 33 43.0	+0.1
	comp=Z,25nm,0.8s,mb5.0						
KKN	Kakani	43.18	330	eP	P	13 33 43.5	0.0
	comp=Z,27nm,0.9s,mb5.0						
XAN	Xi'an	43.46	1	P	P	13 33 45.8	+0.1
XAN				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.4						
GKN	Gorkha	43.67	330	eP	P	13 33 47.5	+0.1
KOLN	Koldanda	44.01	328	eP	P	13 33 50.2	+0.1
	comp=Z,24nm,0.8s,mb5.0						
LZH	Lanzhou	45.65	355	eP	P	13 34 04.1	+0.9
LZH				AP	pP	13 34 14.5	0.0
LZH				XP	sP	13 34 17.9	-1.3
LZH				PP	PP	13 35 51.8	+1.3
LZH				AMB	AMB		
	comp=Z,23nm,1.1s,mb5.0						
GTA	Gaotai	49.38	352	eP	P	13 34 33.4	+1.2
GTA				AP	pP	13 34 45.0	+1.4
GTA				XP	sP	13 34 49.5	+1.3
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.5						
MJAR	Matsushiro Arr	54.08	30	P	P	13 35 05.0	-2.3
	comp=Z,4.4nm,1.0s,mb4.3,baz=208,slow=7.7,SNR=7.1						
SONM	Songino Array	57.24	359	P	P	13 35 29.7	-0.3
	comp=Z,3.9nm,0.8s,mb4.5,baz=175,slow=7.5,SNR=23						
SONM				pP	pP	13 35 41.4	-0.1
	comp=Z,3.4nm,0.6s,baz=174,slow=8.1,SNR=13						
ULN	Ulaanbaatar	57.26	359	eP	P	13 35 30.3	+0.2
	comp=Z,4.5nm,0.6s,mb4.7						
MKAR	Makanchi Array	60.66	340	P	P	13 35 52.8	-0.8
	comp=Z,2.8nm,0.7s,mb4.5,baz=144,slow=7.7,SNR=24						
MKAR				pP	pP	13 36 04.3	-1.0
	comp=Z,4.0nm,0.6s,baz=151,slow=7.7,SNR=12						
MKAR	Makanchi Array	60.66	340	P	P	13 35 52.8	-0.8
MKAR				pP	pP	13 36 04.3	-1.0
YSS	Yuzh-Sakhalins	64.35	26	eP	P	13 36 17.8	-0.5
	comp=Z,14nm,1.1s,mb4.9						
MAW	Mawson	65.11	197	P	P	13 36 23.7	+0.5
	comp=Z,1.4nm,0.7s,mb4.1,baz=62,slow=6.9,SNR=5.0						
MAW	Mawson	65.11	197	eP	P	13 36 22.5	-0.7
	comp=Z,2.6nm,0.8s,mb4.3						
KURK	Kurchatov	65.27	340	eP	P	13 36 23.4	-0.9
	comp=Z,3.4nm,0.8s,mb4.4						
CHKZ	Chkalovo	70.55	338	eP	P	13 36 56.5	-0.9
	comp=Z,3.5nm,0.6s,mb4.5						
ZRNK	Zerenda	70.62	336	eP	P	13 36 57.4	-0.5
	comp=Z,6.0nm,1.1s,mb4.4						
YAK	Yakutsk	73.45	11	eP	P	13 37 14.1	-0.8
	comp=Z,11nm,0.8s,mb4.8						
BRTR	Keskin Array B	84.23	312	P	P	13 38 13.8	-0.2
	comp=Z,1.6nm,0.9s,mb4.1,baz=134,slow=7.1,SNR=7.2						
BRTR				pP	pP	13 38 24.1	-1.9
	comp=Z,0.7nm,0.6s,baz=138,slow=5.8,SNR=3.8						
LONY	Lake Ozonia	145.09	3	ePKP	PKPdf	13 45 19.8	+0.1
WMOK	Wichita Mounta	145.10	40	ePKPbc	PKPbc	13 45 20.4	+1.2
CCM	Cathedral Cave	146.89	28	ePKPbc	PKPbc	13 45 24.6	-0.1
JCT	Junction City	146.91	47	ePKPbc	PKPbc	13 45 26.3	+1.6
MIAR	Mount Ida	148.38	35	ePKPbc	PKPbc	13 45 30.4	+1.7
PLAL	Pickwick Lake	150.87	28	ePKPbc	PKPbc	13 45 35.5	+0.6

*NEIC **17** 13:32:50.4±2.7, 1005S×10807E, h10km, mb4.1/1, Error ellipse: s-maj=108.0km s-min=12.5km az=50.0*
*ISCJB **17** 13:32:52.7±3.6, 100S±06×1082E±07, h39km, mb3.8/5, Error ellipse: s-maj=135.8km s-min=15.8km az=98.6*
*IDC **17** 13:32:54.7±3.4, 1008S×108.12E, h39km±9km, mb3.6/4, mb1 3.8/5, mb1mx3.5/14, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=131.7km s-min=17.3km az=50.0*
ISC 17 13:32:55.8±3.6**, 99S**±06×**1083E**±07**, h41**km**, h41**km±3.5km**:pP-P, n7,** σ**1§01**/6**, mb3.8**/5**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.68	118	P	Pn	13 37 09.9	-1.2
	0.1nm,0.3s,baz=288,slow=20,SNR=4.1						
WRA	Warramunga Arr	27.03	115	P	P	13 38 35.1	+1.1
	1.1nm,0.8s,mb3.4,baz=287,slow=12,SNR=4.3						
WRA				pP	pP	13 38 44.3	-0.8
	1.3nm,0.8s,baz=285,slow=11,SNR=6.0						
ASAR	Alice Springs	28.00	122	P	P	13 38 43.0	+0.2
	0.5nm,0.7s,mb3.3,baz=302,slow=8.8,SNR=3.4						
ASAR				pP	pP	13 38 53.4	-0.5
	0.5nm,0.6s,baz=304,slow=9.6,SNR=2.3						
SONM	Songino Array	57.51	358	P	P	13 42 41.0	+0.2
	1.0nm,0.8s,mb3.9,baz=160,slow=7.7,SNR=7.0						
SONM				pP	pP	13 42 53.8	+1.1
	0.7nm,0.6s,baz=173,slow=7.6,SNR=3.9						
ULN	Ulaanbaatar	57.52	359	P	P	13 42 41.2	+0.2
	1.4nm,0.7s,mb4.1						
MKAR	Makanchi Array	61.04	340	P	P	13 43 04.7	-0.6
	1.6nm,0.6s,mb4.3,baz=142,slow=7.8,SNR=16						
WMOK	Wichita Mounta	145.03	41	ePKP	PKPdf	13 52 28.6	0.0

*BJI **17** 13:39:22.6, 1000S×10790E, h13km, mB5.2, mb4.8, Ms4.9, Msz4.7*
*NEIC **17** 13:39:24.6±3.8, 1000S×10794E, h13km±22km, mb5.0/26, Error ellipse: s-maj=10.0km s-min=4.8km az=54.0*
*MOS **17** 13:39:25.9±1.2, 988S×10805E, h33km, mb4.9/32, Error ellipse: s-maj=12.8km s-min=6.8km az=110.9*
*ISCJB **17** 13:39:26.1±0.3, 999S±004×10798E±006, h38km, mb4.8/62, MS4.6/10, Error ellipse: s-maj=8.7km s-min=4.8km az=119.5*
*IDC **17** 13:39:28.3±0.4, 998S×10794E, h39km±3km, mb4.5/16, mb1 4.6/18, mb1mx4.6/21, mbtmp4.7/18, ML4.5/2, Error ellipse: s-maj=16.4km s-min=9.9km az=64.0*
ISC 17 13:39:28.2±0.3**, 1004S**±004×**10792E**±005**, h40**km**, h40**km±2.3km**:pP-P, n192,** σ**1§14**/154**, mb4.8**/62**, MS4.6**/10**, 17C-17D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEM	Lembang	3.20	355	P	Pn	13 40 15.4	-0.6
	2µm,0.9s						
BJII	Banjamegara	3.21	33	P	Pn	13 40 22.0	+5.9
	328nm,1.2s						
BJII	Banjamegara	3.21	33⇑	iP	Pn	13 40 26.6	+10
BJII				i S	Sn	13 40 46.0	-7.2
KSI	Kapahiang	8.26	320	P	Pn	13 41 24.0	-1.4
	196nm,0.8s						

COCO West Island 11.09 258 *e*P P 13 42 01.1 -3.1
192nm,0.8s
KSM Kuching 11.68 12 *e*P P 13 42 17.1 +5.0
KGM Kluang 12.82 339 P P 13 42 26.2 -1.6
PSI Prapat 15.59 324 Pn Pn 13 43 05.3 +0.4
0.6nm,0.3s,baz=142,slow=12,SNR=5.5
PSI Prapat 15.59 324 P P 13 43 05.4 +0.5
PSI pmax pmax
comp=Z,1.0nm,0.3s
MBWA Marble Bar 15.85 136 *e*P P 13 43 02.8 -5.6
comp=Z,44nm,0.8s
KULM Kulim 16.86 334 *e*P Pn 13 43 17.6 -3.5
TSM Tawau 17.34 35 P P 13 43 29.3 +2.1
KKM Kota Kinabalu 17.98 28 P Pn 13 43 34.0 -1.0
KKM Kota Kinabalu 17.98 28 *e*P P 13 43 32.2 -2.8
FITZ Fitzroy Crossi 18.95 117 *e*P Pn 13 43 45.0 -1.8
comp=Z,46nm,0.6s
FITZ Fitzroy Crossi 18.95 117 P Pn 13 43 46.9 +0.2
comp=Z,2.8nm,0.3s,baz=295,slow=7.9,SNR=38
FITZ Sn Sn 13 47 02.8 -15
comp=Z,1.4nm,0.3s,baz=24,slow=18,SNR=4.8
BSI Banda Aceh 19.91 320 P P 13 43 56.6 -1.5
comp=Z,112nm,1.1s
KLBR Kellerberrin 23.31 158 *e*P P 13 44 32.8 +0.1
comp=Z,21nm,0.7s,mb4.7
KLBR *e*S S 13 48 36.0 -6.0
KAKA Kakadu 24.18 99 *e*P P 13 44 41.0 +0.3
comp=Z,55nm,0.6s,mb5.2
NWAO Narrogin (SRO) 24.35 161 P P 13 44 42.0 -0.3
comp=Z,26nm,0.7s,mb4.7,baz=333,slow=10.0,SNR=12
NWAO S S 13 49 02.7 +3.9
comp=Z,9.1nm,0.6s,baz=70,slow=7.5,SNR=3.1
NWAO Narrogin (SRO) 24.35 161 P P 13 44 42.0 -0.2
NWAO S S 13 49 02.7 +3.8
NWAO pmax pmax
comp=Z,26nm,0.7s
NWAO smax
comp=E,9.0nm,0.6s
NWAO Narrogin (SRO) 24.35 161 *e*P P 13 44 42.0 -0.2
comp=E,25nm,0.8s,mb4.7
NWAO *e* 13 44 54.2
NST Nakhon Sawan 26.68 343 P P 13 45 05.8 +2.4
WRA Warramunga Arr 27.31 114 P P 13 45 09.1 +0.1
comp=E,37nm,0.8s,mb5.0,baz=286,slow=11,SNR=98
WRA Pn P 13 45 39.0 +30
comp=E,9.1nm,0.5s,baz=294,slow=14,SNR=16
WRA Warramunga Arr 27.31 114 P P 13 45 09.1 0.0
WRA pmax pmax
comp=Z,37nm,0.8s
WRA pmax pmax
comp=Z,9.0nm,0.5s
WRAB Tennant Creek 27.32 114 *de*P P 13 45 09.2 +0.1
WRAB Tennant Creek 27.32 114 *e*P P 13 45 09.1 0.0
comp=Z,58nm,0.8s,mb5.2
WB2 Warramunga Arr 27.32 114 *e*P P 13 45 09.1 -0.1
WB2 *e*S S 13 50 25.3 +39
ASPA Alice Springs 28.25 122 *e*P P 13 45 17.6 +0.2
ASPA *e*S S 13 50 47.3 +47
AS31 Alice Springs 28.25 122 *e*P P 13 45 17.6 +0.2
AS31 *e*S S 13 50 47.3 +47
ASAR Alice Springs 28.25 122 P P 13 45 17.4 0.0
comp=Z,22nm,0.8s,mb4.8,baz=306,slow=8.4,SNR=33
ASAR Pn P 13 45 51.3 +34
comp=Z,3.9nm,0.8s,baz=301,slow=8.3,SNR=4.4
ASAR Sn S 13 50 47.1 +46
comp=Z,3.0nm,0.8s,baz=298,slow=25,SNR=4.7
CM31 Chiang Mai Arr 29.66 343 P P 13 45 31.6 +1.7
CHTO Chiang Mai 30.00 343 *e*P P 13 45 33.3 +0.3
CHTO *e* pP 13 45 46.2 +2.2
CHTO pmax pmax
comp=Z,14nm,0.9s,mb4.7
CHTO Chiang Mai 30.00 343 *e*P P 13 45 33.3 +0.4
comp=Z,14nm,0.9s,mb4.7
CHTO *e* pP 13 45 46.2 +2.2
KMI Kunming 35.31 352 P P 13 46 21.8 +2.5
KMI AMB AMB
comp=Z,11nm,1.1s,mb4.7
KMI LR LR
comp=N,423nm,16.4s,MS4.5
KMI LR LR
comp=E,635nm,19.0s,MS4.5
KMI LR LR
comp=Z,537nm,16.9s,MS4.4
GYA Guiyang 36.29 358 ⇑*i*P P 13 46 29.3 +1.5
GYA AP pP 13 46 33.8 -5.1
GYA XP sP 13 46 36.8 -6.9
GYA PP PP 13 47 52.8 +2.0
GYA S S 13 52 09.6 +3.9
GYA AMB AMB
comp=Z,30nm,0.7s,mb5.3
GYA AMB AMB
comp=Z,190nm,4.8s
GYA LR LR
comp=N,670nm,15.6s,MS4.7
GYA LR LR
comp=E,680nm,15.8s,MS4.7
GYA LR LR
comp=Z,640nm,16.0s,MS4.5
CTA Charters Tower 38.25 110 *e*P P 13 46 45.8 +1.4
comp=Z,8.8nm,0.8s,mb4.5
CTA Charters Tower 38.25 110 P P 13 46 44.8 +0.4
comp=Z,12nm,0.8s,mb4.7,baz=269,slow=10,SNR=12
CTA Charters Tower 38.25 110 *e*P P 13 46 45.8 +1.4
CTA pmax pmax
comp=Z,9.0nm,0.8s
CTAO Charters Tower 38.25 110 *e*P P 13 46 45.8 +1.4
CTAO pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
CTAO Charters Tower 38.25 110 *e*P P 13 46 45.8 +1.4
comp=Z,7.0nm,0.7s,mb4.5
PMG Port Moresby 38.66 93 P P 13 46 49.7 +1.9
comp=Z,55nm,0.9s,mb5.3,baz=266,slow=3.0,SNR=14
PMG Port Moresby 38.66 93 *d*iP P 13 46 50.0 +2.2
PMG Port Moresby 38.66 93 *e*P P 13 46 50.4 +2.6
comp=Z,94nm,1.2s,mb5.4
CD2 Chengdu 40.91 355 ⇑*i*P P 13 47 07.9 +1.4
CD2 AP pP 13 47 12.4 -5.3
CD2 XP sP 13 47 14.9 -7.6
CD2 PP PP 13 48 46.1 +4.9
CD2 S S 13 53 19.9 +4.6
CD2 XS sS 13 53 27.4 -6.6
CD2 SS SS 13 56 18.4 +0.6
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.4
CD2 AMB AMB
comp=Z,120nm,5.8s
CD2 LR LR
comp=E,280nm,14.4s
CD2 LR LR
comp=Z,270nm,13.2s,MS4.3
SSE Sheshan 42.83 17 *e*P P 13 47 21.1 -1.1
SSE AMB AMB
comp=Z,26nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,104nm,4.1s
JIRN Jiri 42.98 331 *e*P P 13 47 24.5 +1.1
NJ2 Nanjing 43.13 14 *e*P P 13 47 23.3 -1.3
NJ2 AP pP 13 47 33.3 -2.7
NJ2 PP PP 13 49 05.4 +0.1
NJ2 S S 13 53 45.0 -3.2
NJ2 XS sS 13 54 01.0 -6.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
NJ2 AMB AMB
comp=Z,1μm,4.9s
PKI Pulchoki 43.28 330 *e*P P 13 47 26.3 +0.5
GUN Gumba 43.34 331 *e*P P 13 47 27.4 +1.1
comp=Z,47nm,0.6s,mb5.4
DMN Daman 43.46 330 *e*P P 13 47 28.0 +0.7
KKN Kakani 43.53 330 *e*P P 13 47 28.0 +0.2
comp=Z,30nm,0.8s,mb5.1
KKN Kakani 43.53 330 *e*P P 13 47 28.0 +0.2
KKN pmax pmax
comp=Z,30nm,0.8s,mb5.1
XAN Xi'an 43.84 1 P P 13 47 30.3 0.0
XAN AMB AMB
comp=Z,14nm,0.9s,mb4.7
GKN Gorkha 44.02 330 *e*P P 13 47 32.1 +0.3
KOLN Koldanda 44.35 329 *e*P P 13 47 35.0 +0.6
comp=Z,27nm,0.8s,mb5.0
LZH Lanzhou 46.03 355 *e*P P 13 47 52.1 +4.3
LZH PP PP 13 49 39.5 +3.4
LZH *e*S S 13 54 35.4 +5.2
LZH *e*SS SS 13 57 53.1 -2.4
LZH AMB AMB
comp=Z,21nm,1.3s,mb4.9
LZH AMB AMB
comp=Z,125nm,5.1s
LZH LR LR
comp=N,2μm,15.6s
LZH LR LR
comp=Z,3μm,16.3s,MS5.3
GTA Gaotai 49.77 352 *e*P P 13 48 18.3 +1.7
GTA AP pP 13 48 26.0 -2.1
GTA XP sP 13 48 29.8 -3.0
GTA PP PP 13 50 14.9 +3.5
GTA PPP 13 51 11.1
GTA S S 13 55 28.9 +5.8
GTA XS sS 13 55 39.3 -2.9
GTA SS SS 13 58 55.8 0.0
GTA AMB AMB
comp=Z,7.0nm,0.9s,mb4.7
GTA AMB AMB
comp=Z,133nm,5.7s
GTA LR LR
comp=N,303nm,15.2s,MS4.6
GTA LR LR
comp=E,471nm,19.8s,MS4.6
GTA LR LR
comp=Z,315nm,15.6s,MS4.4
BJT Baijiatuau 50.38 8 *e*P P 13 48 21.5 +0.2
BJI Beijing 50.40 8 *e*P P 13 48 21.3 -0.2
BJI AMB AMB
comp=Z,12nm,0.8s,mb5.0
HHC Hu-ho-hao-te 50.74 4 *e*P P 13 48 27.1 +3.1
HHC AP pP 13 48 31.8 -3.7
HHC XP sP 13 48 34.5 -5.7
HHC PP PP 13 50 23.4 +3.1
HHC S S 13 55 35.8 -0.8
HHC XS sS 13 55 44.5 -11
HHC SCS ScS 13 58 08.0 -3.5
HHC SS SS 13 59 07.4 -4.0
HHC AMB AMB
comp=Z,11nm,0.5s,mb5.0
HHC AMB AMB
comp=Z,287nm,4.5s
HHC LR LR
comp=N,210nm,15.5s,MS4.6
HHC LR LR
comp=E,364nm,14.3s,MS4.6
HHC LR LR
comp=Z,358nm,15.5s,MS4.5
SNY Shenyang 53.58 15 ⇑P P 13 48 47.4 +2.3
SNY AP pP 13 48 51.3 -5.4
SNY XP sP 13 48 53.1 -8.2
SNY PP PP 13 50 45.1 -0.8
SNY S S 13 56 23.3 +7.8
SNY XS sS 13 56 30.4 -4.3
SNY SS SS 14 00 00.1 +3.9
SNY AMB AMB
comp=Z,7.0nm,0.5s,mb4.8
SNY AMB AMB
comp=Z,292nm,10.2s
SNY LR LR
comp=N,304nm,14.5s
SNY LR LR
comp=Z,430nm,15.2s,MS4.6
MAJO Matsushiro 54.39 30 *e*P P 13 48 48.8 -2.2
MAJO pmax pmax
comp=Z,16nm,1.1s,mb4.9
MAJO Matsushiro 54.39 30 *e*P P 13 48 48.8 -2.2
comp=Z,16nm,1.1s,mb4.9
MAT Matsushiro 54.39 30 P P 13 48 48.4 -2.6
MAT Matsushiro 54.39 30 *e*P P 13 48 48.0 -3.0
MAT pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MAT Matsushiro 54.39 30 *e*P P 13 48 48.0 -3.0
comp=Z,7.0nm,1.0s,mb4.5
MJAR Matsushiro Arr 54.39 30 P P 13 48 49.0 -2.0
comp=Z,7.7nm,0.9s,mb4.7,baz=207,slow=8.0,SNR=12
MJAR pP pP 13 49 00.8 -1.8
comp=Z,8.1nm,1.0s,baz=202,slow=7.3,SNR=6.0
MJAR Matsushiro Arr 54.39 30 P P 13 48 49.0 -2.0
MJAR *PP pP 13 49 00.8 -1.8
MJAR pmax pmax
comp=Z,8.0nm,0.9s
MJAR pmax pmax
comp=Z,8.0nm,1.0s
CN2 Changchun 55.90 15 *e*P P 13 49 01.4 -0.5
WMQ Urumqi 56.67 343 P P 13 49 09.3 +1.9
WMQ AP pP 13 49 13.5 -5.6
WMQ XP sP 13 49 15.9 -7.8
WMQ PP PP 13 51 16.8 +3.2
WMQ AMB AMB
comp=Z,21nm,1.5s,mb5.0
WMQ AMB AMB
comp=Z,138nm,4.9s
WMQ LR LR
comp=N,703nm,18.5s,MS4.9
WMQ LR LR
comp=E,527nm,17.4s,MS4.9
WMQ LR LR
comp=Z,705nm,19.0s,MS4.8
VLA Vladivostok 57.24 21 *e*P P 13 49 09.3 -2.2
VLA pmax pmax
comp=Z,26nm,1.3s,mb5.1
SONM Songino Array 57.63 359 P P 13 49 14.9 +0.7
comp=Z,9.8nm,0.7s,mb5.0,baz=176,slow=8.0,SNR=69
SONM pP pP 13 49 26.1 +0.2
comp=Z,12nm,0.7s,baz=177,slow=8.1,SNR=14
SONM Songino Array 57.63 359 P P 13 49 14.9 +0.7
SONM *PP pP 13 49 26.1 +0.2
SONM pmax pmax
comp=Z,10.0nm,0.7s
SONM pmax pmax
comp=Z,12nm,0.7s
ULN Ulaanbaatar 57.65 359 ⇓P P 13 49 15.0 +0.7
SNR=13
ULN Ulaanbaatar 57.65 359 *d*iP P 13 49 14.3 0.0
ULN Ulaanbaatar 57.65 359 *e*P P 13 49 14.7 +0.4
comp=Z,17nm,0.9s,mb5.1
MDJ Mudanjiang 57.82 18 P P 13 49 14.9 -0.7
MDJ AP pP 13 49 18.0 -9.2
MDJ PCP PcP 13 50 07.6 -0.2
MDJ PP PP 13 51 23.1 -0.8
MDJ SCP ScP 13 54 07.6 +3.0
MDJ S S 13 57 14.5 +2.4
MDJ XS sS 13 57 20.1 -11
MDJ AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,315nm,7.4s
MDJ LR LR
comp=N,204nm,15.6s,MS4.5
MDJ LR LR
comp=E,192nm,18.0s,MS4.5
MDJ LR LR
comp=Z,374nm,14.8s,MS4.6
MDJ Mudanjiang 57.82 18 *e*P P 13 49 15.0 -0.6
WSAR Wadi Sarin 58.47 305 P P 13 49 20.9 +0.9
comp=Z,8.3nm,0.8s,mb4.8,baz=106,slow=9.1,SNR=5.9
HIA Hailar 59.95 9 *e*P P 13 49 29.5 -0.8
ZAK Zakamensk 60.30 357 *e*P P 13 49 32.5 -0.2
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
AAK Ala-Archa 60.67 332 ⇑*i*P P 13 49 35.0 -0.3
AAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.4
AAK Ala-Archa 60.67 332 *e*P P 13 49 34.9 -0.3
comp=Z,12nm,1.3s,mb4.9
MK31 Makanchi Array 61.03 340 P P 13 49 36.2 -1.5
MK31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
MKAR Makanchi Array 61.03 340 P P 13 49 37.2 -0.5
comp=Z,2.6nm,0.5s,mb4.6,baz=144,slow=7.8,SNR=23
MKAR pP pP 13 49 49.7 +0.2
comp=Z,8.5nm,0.7s,baz=141,slow=7.6,SNR=14
MKAR Makanchi Array 61.03 340 P P 13 49 37.2 -0.5
MKAR *PP pP 13 49 49.7 +0.2
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 61.03 340 P P 13 49 37.2 -0.5
MKAR pP pP 13 49 49.7 +0.2
MOY Mondy 61.74 355 *e*P P 13 49 44.0 +1.5
MOY pmax pmax
comp=Z,17nm,1.9s,mb4.8
KLR Kul'dur 62.62 17 *e*P P 13 49 44.0 -4.4
KK31 Karatay Array 62.93 330 *i*P P 13 49 50.1 -0.3
KK31 pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
KKAR Karatay Array 62.93 330 *i*P P 13 49 50.1 -0.3
KKAR pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
HABR Khabarovsk 62.99 20 *e*P P 13 49 50.6 -0.2
HABR *e*S S 13 58 18.0 -0.3
YSS Yuzh-Sakhalins 64.68 26 *e*P P 13 50 01.0 -0.9
YSS *e* pP 13 50 12.8 -1.0
YSS Yuzh-Sakhalins 64.68 26 *e*P P 13 49 60.0 -2.0
comp=Z,28nm,1.1s,mb5.2
YSS *e* pP 13 50 12.8 -1.0
MAW Mawson 64.75 197 *e*P P 13 50 02.9 +0.5
comp=Z,3.7nm,0.7s,mb4.5
MAW Mawson 64.75 197 P P 13 50 01.7 -0.7
comp=Z,2.8nm,0.7s,mb4.4,baz=29,slow=8.3,SNR=12
MAW pP pP 13 50 14.1 -0.2
comp=Z,4.5nm,0.8s,baz=63,slow=7.6,SNR=6.5
MAW Mawson 64.75 197 P P 13 50 01.7 -0.7
MAW *PP pP 13 50 14.1 -0.2
MAW pmax pmax
comp=Z,3.0nm,0.7s
MAW pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 65.64 340 ⇓P P 13 50 08.4 +0.2
SNR=6.4
KURK Kurchatov 65.64 340 ⇓*i*P P 13 50 08.1 -0.1
KURK Kurchatov 65.64 340 *e*P P 13 50 08.3 +0.1
comp=Z,15nm,1.0s,mb5.0
KRAR Krasnoyarsk 66.99 351 *i*P P 13 50 15.9 -0.9
BOD Bodaibo 67.80 4 *e*P P 13 50 20.9 -1.0
BOD pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
BVA0 Borovoye Array 70.50 337 *i*P P 13 50 37.6 -1.1
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BVAR Borovoye Array 70.50 337 P P 13 50 38.8 +0.2
comp=Z,7.3nm,0.7s,mb4.8,baz=144,slow=8.6,SNR=48
BVAR pP pP 13 50 52.0 +1.4
comp=Z,7.1nm,0.7s,baz=139,slow=7.9,SNR=9.0
BVAR Borovoye Array 70.50 337 P P 13 50 38.8 +0.1
BVAR *PP pP 13 50 52.0 +1.4
BVAR pmax pmax
comp=Z,7.0nm,0.7s
BVAR pmax pmax
comp=Z,7.0nm,0.7s
BRVK Borovoye 70.57 337 P P 13 50 39.7 +0.6
SNR=6.9
BRVK Borovoye 70.57 337 *e*P P 13 50 39.0 -0.1
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BRVK Borovoye 70.57 337 *e*P P 13 50 39.0 -0.1
comp=Z,5.0nm,0.8s,mb4.5
VNDA Vanda 72.84 169 P P 13 50 52.4 -0.3
comp=Z,1.9nm,0.8s,mb4.1,baz=302,slow=7.8,SNR=10
VNDA Vanda 72.84 169 *e*P P 13 50 51.9 -0.8
VNDA pmax pmax
comp=Z,2.0nm,0.9s
VNDA Vanda 72.84 169 *e*P P 13 50 51.9 -0.9
comp=Z,2.4nm,0.9s,mb4.1
SYO Syowa Base 72.99 200 ⇑*e*P P 13 50 53.0 -0.6
YAK Yakutsk 73.82 10 *i*P P 13 50 57.7 -0.8
YAK pmax pmax
comp=Z,53nm,1.7s,mb5.2
YAK Yakutsk 73.82 10 *e*P P 13 50 58.0 -0.5
comp=Z,35nm,0.8s,mb5.3
SBA Scott Base 73.91 169 *e*P P 13 50 59.3 +0.3
AKTO Aktyubinsk 74.18 329 *i*P P 13 50 59.2 -1.4
AKTO pmax pmax
comp=Z,2.0nm,1.4s,mb3.9
GNI Garni 76.74 315 *e*P P 13 51 17.3 +2.0
GNI pmax pmax
comp=Z,9.0nm,1.7s
SVE Sverdlovsk 77.13 336 ⇓*e*P P 13 51 18.0 +0.5
SVE pmax pmax
comp=Z,36nm,1.4s,mb5.1
MA2 Magadan 77.38 21 *d*iP P 13 51 18.9 0.0
MA2 pmax pmax
comp=Z,56nm,1.7s,mb5.2
ARU Arti 77.74 334 ⇓*i*P P 13 51 21.0 +0.1
ARU *e* 13 54 16.7
ARU *e*S S 14 01 12.4 +2.2
ARU *e*SS SS 14 06 09.1 -1.6
ARU pmax pmax
comp=Z,19nm,1.0s,mb5.0
ARU Arti 77.74 334 *e*P P 13 51 21.4 +0.5
comp=Z,17nm,0.9s,mb5.0
KIV Kislovodsk 79.73 318 ⇑*e*P P 13 51 32.7 +0.8
KIV pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
EIL Elat 80.46 302 *e*P P 13 51 36.9 +1.1
comp=Z,123nm,0.9s,mb5.8
EIL *e* pP 13 51 48.1 +0.2
SUR Sutherland 82.28 239 *e*P P 13 51 49.8 +4.3
SUR *e* pP 13 51 59.9 +2.3
TIXI Tiksi 82.69 7 *de*P P 13 51 46.7 -0.9
TIXI pmax pmax
comp=Z,29nm,0.8s,mb5.4
BR131 Keskin Array S 84.52 312 *e*P P 13 51 57.0 +0.1
comp=Z,3.0nm,0.7s,mb4.5
BRTR Keskin Array B 84.52 312 P P 13 51 57.0 +0.1
comp=Z,4.3nm,0.9s,mb4.6,baz=133,slow=5.9,SNR=17
BRTR pP pP 13 52 08.2 -0.9
comp=Z,3.2nm,0.8s,baz=120,slow=7.3,SNR=8.1
BRTR Keskin Array B 84.52 312 P P 13 51 57.0 +0.1
BRTR *PP pP 13 52 08.3 -0.8
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR pmax pmax
comp=Z,3.0nm,0.8s
VRSR Storozhevoye 84.83 324 *e*P P 13 51 58.5 0.0
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,4.0nm,0.6s
SNAA Sanae 86.92 197 *e*P P 13 52 07.1 -1.7
OBN Obninsk 87.75 327 *d*iP P 13 52 12.9 +0.1
OBN *i* pP 13 52 24.8 -0.3
OBN *e*SS SS 14 08 38.4 -0.9
OBN pmax pmax
comp=Z,45nm,1.7s,mb5.4
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.3
KLMR Klimovskoe 88.48 333 *e*P P 13 52 15.8 -0.5
KLMR pmax pmax
comp=Z,30nm,1.2s,mb5.4
VNA1 Neumayer--Stat 88.95 197 *e*P P 13 52 19.9 +1.4
VNA1 *e* 13 52 22.0
VNA1 *e* 13 52 37.9
AKASG Malin Array Be 90.62 321 P P 13 52 25.3 -1.0
comp=Z,0.3nm,0.3s,mb4.1,baz=89,slow=4.0,SNR=7.0
AKASG pP pP 13 52 37.2 -1.4
comp=Z,2.0nm,0.7s,baz=95,slow=3.9,SNR=3.2
AKASG Malin Array Be 90.62 321 P P 13 52 25.3 -1.0
AKASG *PP pP 13 52 37.2 -1.4
AKASG pmax pmax
comp=Z,2.0nm,0.7s
MLR Muntele Rosu 91.51 316 P P 13 52 30.8 +0.4
comp=Z,3.4nm,0.6s,mb4.8,baz=177,slow=2.9,SNR=5.6
MLR Muntele Rosu 91.51 316 P P 13 52 30.8 +0.4
MLR pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 94.86 331 P P 13 52 45.4 -0.4
comp=Z,1.7nm,0.8s,mb4.5,baz=116,slow=6.3,SNR=2.6
FINES FINESS Array B 94.86 331 P P 13 52 45.4 -0.5
FINES pmax pmax
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 119.36 21 PKP PKPdf 13 58 12.6 -0.5
comp=Z,1.5nm,0.7s,baz=315,slow=1.9,SNR=8.3
YKA pPKP pPKPdf 13 58 24.6 -1.2
comp=Z,1.2nm,0.8s,baz=318,slow=1.9,SNR=5.3
YKA Yellowknife Ar 119.36 21 PKIKP PKPdf 13 58 12.6 -0.5
YKA 13 58 24.6
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.8s
B05A Bryant 123.48 38 ⇑P PKPdf 13 58 22.8 +1.7
baz=123
L07A Adell 127.84 44 ⇑P PKPdf 13 58 32.1 +2.7
baz=128

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
N06A	Buffalo Meadow	128.00	46	⇑P	PKPdf	13 58 32.2	+2.5
	baz=128						
M07A	Soldier Meadow	128.21	45	⇓P	PKPdf	13 58 32.8	+2.7
	baz=128						
O06A	Flanigan	128.22	46	⇑P	PKPdf	13 58 32.8	+2.7
	baz=128						
PACP	Pacheco Peak	128.23	50	⇓P	PKPdf	13 58 32.1	+1.9
	baz=128						
R05C	Kirkwood Meado	128.57	48	⇓P	PKPdf	13 58 33.9	+3.1
	baz=128						
S06C	San Francisco	129.02	49	⇑P	PKPdf	13 58 34.5	+2.8
	baz=129						
NVAR	Mina Array Bea	129.96	48	PKP	PKPdf	13 58 36.1	+2.6
	comp=Z,1.1nm,0.7s,baz=267,slow=1.9,SNR=10						
S09A	Goldfield	131.02	48	⇓P	PKPdf	13 58 38.5	+3.0
	baz=131						
Q11A	Duckwater	131.71	46	⇑P	PKPdf	13 58 38.1	+1.4
	baz=132						
V12A	Nelson	133.54	50	⇓P	PKPdf	13 58 44.1	+3.9
	baz=134						
PDAR	Pinedale Array	133.84	38	PKP	PKPdf	13 58 42.8	+2.0
	comp=Z,0.5nm,0.6s,baz=313,slow=0.9,SNR=5.5						
X13A	Yucca	134.75	51	⇑P	PKPdf	13 58 46.2	+3.7
	baz=135						
W14A	Seligman	135.07	50	⇑P	PKPdf	13 58 47.0	+4.0
	baz=135						
SCHQ	Schefferville	135.12	356	PKP	PKPdf	13 58 44.4	+1.2
	comp=Z,2.3nm,0.6s,baz=254,slow=17,SNR=5.9						
X14A	Yava	135.51	50	⇓P	PKPdf	13 58 47.5	+3.6
	baz=135						
Y14A	Wickenburg	135.63	51	⇑P	PKPdf	13 58 48.1	+4.0
	baz=136						
ANMO	Albuquerque	140.03	46	⇑*i*PKIKP	PKPdf	13 58 58.4	+6.2
CPUP	Villa Florida	141.11	201	PKP	PKPdf	13 58 55.7	+1.5
	comp=Z,0.6nm,0.5s,baz=89,slow=4.4,SNR=4.1						
CPUP	Villa Florida	141.11	201	PKIKP	PKPdf	13 58 55.7	+1.5
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CPUP	Villa Florida	141.11	201	PKP	PKPdf	13 58 55.7	+1.5
LTX	Lajitas	144.78	52	*e*PKIKP	PKPdf	13 59 02.2	+1.6
PKME	Peaks-Kenny Pk	144.82	357	*e*PKPdf	PKPdf	13 59 00.8	+0.1
PKME				*e*		13 59 12.0	
BDFB	Brasilia	145.09	223	PKPbc	PKPbc	13 59 01.7	+1.1
	comp=Z,7.8nm,0.7s,baz=143,slow=4.4,SNR=9.2						
BDFB				pPKPbc	pPKPbc	13 59 14.8	+1.6
	comp=Z,16nm,0.9s,baz=154,slow=3.6,SNR=8.5						
BDFB	Brasilia	145.09	223	PKIKP	PKPdf	13 59 01.7	+0.5
BDFB						13 59 14.8	
BDFB				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BDFB				pmax	pmax		
	comp=Z,16nm,0.9s						
FRNY	Flat Rock	145.30	2	*e*PKPdf	PKPdf	13 59 01.6	+0.1
FRNY				*e*		13 59 13.7	
WMOK	Wichita Mounta	145.37	41	*e*PKIKP	PKPdf	13 59 03.1	+1.5
WMOK				*e*		13 59 14.8	
LONY	Lake Ozonia	145.47	3	*e*PKPdf	PKPdf	13 59 02.7	+0.8
LONY				*e*		13 59 14.4	
NCB	Newcomb	146.14	3	*e*PKPdf	PKPdf	13 59 04.4	+1.5
NCB				*e*		13 59 16.3	
ACCN	Adirondack Com	146.75	2	*e*PKPdf	PKPdf	13 59 06.7	+2.7
ACCN				*e*		13 59 20.0	
JCT	Junction City	147.14	48	*e*PKPdf	PKPdf	13 59 07.2	+2.5
JCT				*e*PKPbc	PKPbc	13 59 09.4	+2.6
LVC	Limon Verde	147.41	185	*e*PKPbc	PKPbc	13 59 10.5	+2.9
BINY	Binghamton	147.78	5	*e*PKPbc	PKPbc	13 59 09.8	+1.2
BINY				*e*		13 59 21.2	
ACSO	Alum Creek Sta	148.41	16	*e*PKPbc	PKPbc	13 59 11.3	+1.1
MIAR	Mount Ida	148.67	36	*e*PKP2	PKPbc	13 59 11.7	+0.8
SSPA	Standing Stone	149.09	9	*e*PKPbc	PKPbc	13 59 12.9	+0.8
WCI	Wyandotte Cave	149.16	22	*e*PKP2	PKPbc	13 59 13.3	+1.1
HKT	Hockley	150.27	45	*e*PKIKP	PKPbc	13 59 17.7	+2.8
WVT	Waverly	150.34	26	*e*PKIKP	PKPbc	13 59 16.1	+1.0
WVT				*e*		13 59 28.2	
WVT	Waverly	150.34	26	*e*PKPbc	PKPbc	13 59 16.1	+1.0
WVT				*e*		13 59 28.2	
WVT				*e*		14 03 29.4	
OXF	Oxford	150.93	30	*e*PKIKP	PKPbc	13 59 17.2	+0.7
OXF				*e*		13 59 25.8	
PLAL	Pickwick Lake	151.19	28	*e*PKPbc	PKPbc	13 59 17.5	+0.4
PLAL				*e*		13 59 29.8	
TZTN	Tazewell	151.63	20	*e*PKPbc	PKPbc	13 59 19.2	+1.1
ELN	Prospectdale	151.82	15	*e*PKPbc	PKPbc	13 59 19.2	+0.6
CPCT	Cooper Cave	152.28	22	*e*PKPbc	PKPbc	13 59 21.0	+1.5
CPCT				*e*		13 59 30.8	
LRAL	Lakeview Retre	153.30	29	*e*PKPdf	PKPdf	13 59 16.1	+1.8
LPAZ	La Paz	153.56	189	PKP	PKPdf	13 59 15.2	+0.5
	comp=Z,0.5nm,0.7s,baz=114,slow=5.9,SNR=4.1						
LPAZ				PKPbc	PKPbc	13 59 25.3	+2.9
	comp=Z,1.3nm,0.6s,baz=207,slow=2.8,SNR=9.1						
LPAZ				pPKPbc	pPKPbc	13 59 37.2	+2.1
	comp=Z,1.8nm,0.8s,baz=198,slow=5.2,SNR=5.2						
LPAZ	La Paz	153.56	189	PKIKP	PKPdf	13 59 15.2	+0.5
LPAZ						13 59 25.3	
LPAZ						13 59 37.2	
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LPAZ	La Paz	153.56	189	PKP	PKPdf	13 59 15.2	+0.5
LPAZ				PKPbc	PKPbc	13 59 25.3	+2.9
LPAZ				pPKPbc	pPKPbc	13 59 37.2	+2.1

*ISCJB **17** 13:47:45.8±0.8, 2681N±004×8944E±003, h8km±5km, mb4.0/9, Error ellipse: s-maj=7.3km s-min=5.2km az=12.1*
*IDC **17** 13:47:46.4±0.9, 2673N×8925E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/19, mbtmp3.8/8, Error ellipse: s-maj=45.0km s-min=18.5km az=57.0*
*NEIC **17** 13:47:48.4±0.7, 2674N×8943E, h10km, mb4.1/1, Error ellipse: s-maj=15.5km s-min=8.5km az=186.0*
NEIC Felt in Jalpaiguri, Koch Bihar and at Shiliguri, India.
*DMN **17** 13:47:50.1±0.7, 2641N×89.17E, h72km±36km, Ml4.8/6, Error ellipse: s-maj=83.8km s-min=23.4km az=2.0*
ISC 17 13:47:47.1±0.9, **2684N**±004×**8941E**±003, **h2**km±5km, **n38**, σ**1^{s}42**/54, **mb4.0**/9, **1D, India-Bangladesh border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTK	Gangtok	0.86	305	*e*P	Pg	13 48 02.0	-1.6
SLGI	Shiliguri	0.90	261	*i* PG	Pg	13 48 05.6	+1.2
SLGI				*i* SG	Sg	13 48 15.6	-0.5
SHL	Shillong	2.56	119	*e*P	Pg	13 48 35.1	-1.0
SHL				*e*S	Sg	13 49 06.6	-2.6
JIRN	Jiri	2.98	287	*e*Sn	Sn	13 49 12.8	+1.0
	1µm,0.3s						
JIRN	Jiri	2.98	287	*e*Pn	Pn	13 48 37.4	+2.0
JIRN				*e*Sn	Sn	13 49 12.8	+1.0
GUN	Gumba	3.32	290	*e*Sn	Sn	13 49 21.4	+1.3
	524nm,0.4s						
GUN	Gumba	3.32	290	*e*Pn	Pn	13 48 42.2	+2.1
GUN				*e*Sn	Sn	13 49 21.4	+1.3
PKI	Pulchoki	3.64	282	*e*Pn	Pn	13 48 45.9	+1.4
PKI				*e*Sn	Sn	13 49 27.3	-0.7
	1µm,0.6s						
KKN	Kakani	3.80	285	*e*Pn	Pn	13 48 48.2	+1.6
KKN				*e*Sn	Sn	13 49 31.2	-0.7
	561nm,0.4s						
DMN	Daman	3.91	282	*e*Pn	Pn	13 48 49.4	+1.2
DMN				*e*Sn	Sn	13 49 34.3	-0.4
CAL	Calcutta	4.39	193	*e*P	Pn	13 48 58.1	+3.2
CAL				*i* x	x	13 49 26.1	
GKN	Gorkha	4.40	286	*e*Pn	Pn	13 48 56.8	+1.9
GKN				*e*Sn	Sn	13 49 45.5	-1.3
	399nm,0.3s						
BOK	Bokaro	4.40	227	*e*P	Pn	13 48 55.2	+0.2
BOK				*e*S	Sn	13 49 43.4	-3.4
BOK				AML	AML	13 50 03.9	
	comp=N,478nm,0.5s						
BOK				AML	AML	13 50 05.0	
	comp=E,490nm,0.6s						
KOLN	Koldanda	5.25	281	*e*Pn	Pn	13 49 07.1	+0.4
KOLN				*e*Sn	Sn	13 50 04.9	-2.9
	comp=E,182nm,0.3s						
LGTI	Lohaghat	8.50	290	*e*P	Pn	13 49 49.3	-1.9
LGTI				*e*x	Sn	13 51 26.5	-1.2
JBP	Jabalpur	9.30	249	⇓*i*x	Sn	13 51 43.1	-4.3
JBP				*e*x	Sn	13 51 49.0	+1.5
	comp=Z,56nm,0.5s						
JBP				*e*x	x	13 52 43.1	
VIS	Vishakhapatnam	10.68	213	*e*P	Pn	13 50 20.7	-0.4
VIS				AML	AML	13 53 07.7	
	comp=N,74nm,1.3s						
NDI	New Delhi	10.96	282	*e*x	x	13 51 25.0	
NDI				*e*S	Sn	13 52 15.0	-13
BHPL	Bhopal	11.44	254	*e*P	Pn	13 50 29.1	-2.5
BHPL				*e*S	Sn	13 52 27.6	-12
BHPL				AML	AML	13 52 30.3	
	comp=E,42nm,0.3s						
BHPL				AML	AML	13 52 30.7	
	comp=N,84nm,0.3s						
AJM	Ajmer	13.21	272	*e*P	Pn	13 50 52.6	-3.1
AJM				*e*S	Sn	13 53 08.9	-14
HYB	Hyderabad	13.75	229	*i* P	Pn	13 51 05.0	+1.9
HYB				*e*S	Sn	13 53 38.0	+1.7
LATR	Latur	14.52	237	*e*x	Sn	13 53 42.0	-13
POO	Poona	16.56	243	*e*P	Pn	13 51 42.0	+1.5
POO				*i* x	Sn	13 54 50.0	+5.1
POO				*e*x	x	13 55 10.0	
KAD	Karad	16.99	239	*e*P	Pn	13 51 45.5	-0.4
KAD				*e*S	Sn	13 54 54.2	-1.1
MKAR	Makanchi Array	20.70	346	P	P	13 52 29.8	+1.2
	comp=N,1.0nm,0.5s,baz=173,slow=7.9,SNR=5.9						
MKAR	Makanchi Array	20.70	346	P	P	13 52 29.8	+1.2
SONM	Songino Array	24.82	28	P	P	13 53 11.6	+0.9
	comp=N,0.5nm,0.7s,mb3.2,baz=206,slow=9.6,SNR=3.8						
ULN	Ulaanbaatar	25.13	29	*e*P	P	13 53 16.6	+3.2
	comp=N,3.4nm,0.8s,mb3.9						
KURK	Kurchatov	25.23	344	P	P	13 53 12.7	-1.6
JOF	Joensuu	52.02	330	*e*p	P	13 56 57.7	-0.3
	comp=N,2.5nm,0.5s,mb4.4						
FINES	FINESS Array B	54.09	328	P	P	13 57 12.7	-0.6
	comp=N,1.4nm,0.7s,mb4.0,baz=103,slow=8.4,SNR=8.1						
ARCES	ARCESS Array B	56.04	338	P	P	13 57 27.1	-0.3
	comp=N,2.4nm,1.0s,mb4.2,baz=112,slow=7.1,SNR=3.9						
HFS	Hagfors	60.06	326	P	P	13 57 55.0	-0.6
	comp=N,1.6nm,0.5s,mb4.3,baz=86,slow=9.1,SNR=8.1						
NB2	NORSAR Subarra	61.23	327	P	P	13 58 02.5	-1.1
	comp=Z,0.6nm,0.5s,mb4.0,baz=85,slow=6.5						
NOA	NORSAR Array B	61.23	327	P	P	13 58 02.5	-1.0
	comp=Z,1.2nm,0.7s,mb4.1,baz=86,slow=6.8,SNR=4.5						
WRA	Warramunga Arr	63.71	132	P	P	13 58 20.0	-0.2
	comp=Z,0.4nm,0.5s,mb3.7,baz=326,slow=6.9,SNR=7.9						
ASAR	Alice Springs	66.10	135	P	P	13 58 36.2	+0.5
	comp=Z,0.3nm,0.3s,mb3.8,baz=316,slow=6.0,SNR=9.9						
CPUP	Villa Florida	150.30	263	PKPbc	PKPbc	14 07 39.0	-0.9
	comp=Z,0.3nm,0.4s,baz=239,slow=11,SNR=2.8						

*NEIC **17** 13:49:27.8±2.3, 926S×10796E, h10km, Error ellipse: s-maj=99.7km s-min=14.8km az=50.0*
*ISCJB **17** 13:49:29.9±2.6, 92S±05×108.1E±06, h38km, mb3.9/4, Error ellipse: s-maj=110.0km s-min=16.6km az=99.6*
*IDC **17** 13:49:32.4±2.4, 9.11S×108.17E, h37km±7km, mb3.7/4, mb1 3.8/5, mb1mx3.6/16, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=103.8km s-min=21.3km az=49.0*
ISC 17 13:49:32.4±2.7, **92S**±05×**1081E**±06, **h40**km, **h40**km±2.0km**: pP-P, n6,** σ**1^{s}14**/6, **mb3.9**/4, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.17	119	P	Pn	13 53 52.8	-0.7
	0.2nm,0.3s,baz=288,slow=9.6,SNR=6.3						
ASAR	Alice Springs	28.53	123	P	P	13 55 24.9	+0.8
	1.0nm,0.6s,mb3.7,baz=294,slow=9.4,SNR=6.4						
SONM	Songino Array	56.81	359	P	P	13 59 12.6	0.0
	1.4nm,0.8s,mb4.1,baz=173,slow=7.9,SNR=9.8						
SONM				pP	pP	13 59 23.4	-0.9
	1.6nm,0.5s,baz=175,slow=7.9,SNR=9.9						
ULN	Ulaanbaatar	56.83	359	*e*P	P	13 59 13.5	+0.7
MKAR	Makanchi Array	60.33	340	P	P	13 59 35.7	-1.4
	1.0nm,0.4s,mb4.2,baz=146,slow=7.0,SNR=6.9						
MKAR				pP	pP	13 59 48.0	-0.9
	1.9nm,0.6s,baz=141,slow=7.9,SNR=8.0						
BVAR	Borovoye Array	69.82	337	P	P	14 00 39.3	+0.6
	0.9nm,0.7s,mb3.8,baz=139,slow=13,SNR=3.3						
BVAR				pP	pP	14 00 50.3	-0.4
	0.9nm,0.5s,baz=140,slow=9.4,SNR=4.5						

*BJI **17** 13:52:58.7, 1073S×109.11E, h10km, mb4.6, Ms4.8, Msz4.5*
*IDC **17** 13:53:06.7±0.7, 979S×10870E, h0km, mb3.9/9, mb1 4.1/10, mb1mx4.0/16, mbtmp4.0/10, ML4.2/1, Error ellipse: s-maj=34.2km s-min=16.5km az=58.0*
*NEIC **17** 13:53:08.4±0.4, 980S×10873E, h10km, mb4.6/3, Error ellipse: s-maj=19.4km s-min=8.0km az=50.0*
*ISCJB **17** 13:53:09.9±0.6, 98S±0.1×1088E±02, h33km, mb4.1/13, Error ellipse: s-maj=27.2km s-min=11.2km az=102.6*
ISC 17 13:53:12.1±0.6, **98S**±01×**1087E**±02, **h35**km, **n15,** σ**0^{s}46**/15, **mb4.1**/13, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.35	118	P	Pn	13 57 23.5	-0.2
	0.5nm,0.3s,baz=269,slow=5.3,SNR=10						
WRA	Warramunga Arr	26.68	115	P	P	13 58 47.4	-0.3
	1.0nm,0.7s,mb3.4,baz=284,slow=12,SNR=5.0						
ASAR	Alice Springs	27.69	123	P	P	13 58 57.8	+0.9
	0.6nm,0.7s,mb3.4,baz=313,slow=7.2,SNR=4.5						
LZH	Lanzhou	45.89	354	*e*P	P	14 01 31.3	+0.2
LZH				AP	pP	14 01 41.3	-0.2
LZH				XP	sP	14 01 45.1	-0.5
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
SONM	Songino Array	57.44	358	P	P	14 02 56.9	-0.4
	comp=Z,0.8nm,0.6s,mb4.0,baz=163,slow=8.7,SNR=8.2						
MKAR	Makanchi Array	61.11	340	P	P	14 03 22.0	-0.7
	comp=Z,3.8nm,0.7s,mb4.6,baz=140,slow=6.3,SNR=23						
MAW	Mawson	65.19	198	P	P	14 03 49.3	-0.4
	comp=Z,1.7nm,0.6s,mb4.2,baz=57,slow=6.7,SNR=7.3						
KURK	Kurchatov	65.72	340	*e*P	P	14 03 53.7	+0.5
	comp=Z,2.8nm,0.8s,mb4.3						
BVAR	Borovoye Array	70.62	337	P	P	14 04 23.3	-0.6
	comp=Z,0.9nm,0.6s,mb3.9,baz=137,slow=11,SNR=5.2						
CHKZ	Chkalovo	71.03	337	*e*P	P	14 04 26.3	0.0
	comp=Z,10nm,0.6s,mb4.9						
ZRNK	Zerenda	71.11	336	*e*P	P	14 04 26.8	0.0
	comp=Z,2.8nm,0.8s,mb4.2						
VNDA	Vanda	72.90	170	P	P	14 04 37.5	-0.1
	comp=Z,0.7nm,0.7s,mb3.7,baz=312,slow=6.7,SNR=7.5						
AKTK	Aktyubinsk	74.41	329	P	P	14 04 46.7	+0.2
AKTO	Aktyubinsk	74.41	329	P	P	14 04 46.7	+0.2
	comp=Z,0.6nm,0.4s,mb3.9,baz=159,slow=2.0,SNR=3.0						
BRTR	Keskin Array B	84.97	312	P	P	14 05 44.5	+0.8
	comp=Z,0.8nm,0.7s,mb4.0,baz=117,slow=4.3,SNR=5.2						

MAN 17 13:53:44.6, 649N×12377E, h1km, mb3.5, ML4.7, MS1.4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.87	33	⇓*e*P	Pg	13 54 01.8	+0.6
CTBH				*i* S	Sg	13 54 14.4	+1.9
PAGZ	Pagadian	1.40	344	*e*P	Pn	13 54 11.0	-0.3
PAGZ				*e*S	Sg	13 54 30.4	+0.7
BUKP	Musuan	1.89	43	*e*P	Pn	13 54 18.1	+0.2
BUKP				*e*S	Sn	13 54 44.1	+1.8

*BJI **17** 13:53:46.4, 960S×10800E, h10km, mB5.2, mb5.0, Ms4.9, Msz4.6*
*ISCJB **17** 13:53:48.8±0.3, 968S±004×10796E±005, h28km, mb5.0/70, MS4.7/12, Error ellipse: s-maj=7.9km s-min=5.3km az=120.8*
*NEIC **17** 13:53:48.4±0.2, 957S×10801E, h10km, mb5.3/22, Error ellipse: s-maj=7.4km s-min=4.4km az=53.0*
*MOS **17** 13:53:50.6±1.0, 949S×10809E, h38km, mb5.4/26, Error ellipse: s-maj=12.9km s-min=6.7km az=111.5*
*IDC **17** 13:53:51.8±0.5, 958S×10801E, h34km±3km, mb4.4/18, mb1 4.4/20, mb1mx4.4/23, mbtmp4.5/20, ML3.9/2, Error ellipse: s-maj=16.5km s-min=11.0km az=57.0*
ISC 17 13:53:51.0±0.3, **971S**±004×**10794E**±005, **h29**km, **h29**km±1.6km**: pP-P, n178,** σ**1^{s}15**/147, **mb5.0**/70, **MS4.7**/12, **9C-17D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSI	Kapahiang	8.02	318	P	Pn	13 55 44.0	-1.5
	227nm,0.9s						
KGM	Kluang	12.52	338	P	Pn	13 56 49.9	+2.8
PCI	Palu	14.71	54	P	Pn	13 57 17.8	+0.8
	201nm,1.6s						
PSI	Prapat	15.33	324	Pn	Pn	13 57 23.4	-1.9
	0.3nm,0.3s,baz=166,slow=11,SNR=3.6						
IPM	Ipoh	15.69	334	P	Pn	13 57 32.2	+2.4
MBWA	Marble Bar	16.07	136	P	Pn	13 57 31.3	-3.5
KULM	Kulim	16.57	334	*e*P	Pn	13 57 36.2	-5.0
TSM	Tawau	17.07	36	P	Pn	13 57 49.5	+2.1
KKM	Kota Kinabalu	17.69	28	P	Pn	13 57 55.8	+0.8
KKM	Kota Kinabalu	17.69	28	*e*P	Pn	13 57 53.6	-1.4
FITZ	Fitzroy Crossi	19.09	118	P	Pn	13 58 12.6	+0.5
	0.5nm,0.3s,baz=192,slow=5.9,SNR=4.9						
BSI	Banda Aceh	19.67	320	P	Pn	13 58 18.7	-0.4
	390nm,1.3s						
KLBR	Kellerberrin	23.60	159	*e*P	P	13 58 56.9	-2.5
	56nm,1.5s,mb4.8						
NWAO	Narrogin (SRO)	24.65	161	P	P	13 59 09.1	+0.1
	8.2nm,0.9s,mb4.3,baz=108,slow=6.4,SNR=3.7						
NWAO	Narrogin (SRO)	24.65	161	*e*P	P	13 59 08.9	0.0
KALP	Kalibo	25.62	34	*e*P	pP	13 59 29.3	+3.1
	375µm,3.0s						
WRA	Warramunga Arr	27.43	115	P	P	13 59 34.0	-0.1
	8.9nm,0.9s,mb4.3,baz=288,slow=11,SNR=10						
WRA				pP	pP	13 59 44.6	+1.9
	13nm,1.0s,baz=287,slow=11,SNR=7.8						
WRAB	Tennant Creek	27.44	115	⇑*i*P	P	13 59 34.5	+0.3
WRAB	Tennant Creek	27.44	115	P	P	13 59 34.9	+0.7
	32nm,1.1s,mb4.8						
WB2	Warramunga Arr	27.44	115	*e*P	P	13 59 33.5	-0.7
ASAR	Alice Springs	28.41	122	P	P	13 59 43.2	+0.4
	2.1nm,0.8s,mb3.8,baz=300,slow=9.4,SNR=5.4						
ASAR				Sn	S	14 05 15.8	+48
	5.4nm,1.0s,baz=302,slow=24,SNR=5.2						
QIZ	Qiongzhong	28.62	4	P	P	13 59 44.0	-0.7
QIZ				*e*S	S	14 04 30.0	-1.3
QIZ				LR	LR		
	comp=N,715nm,16.1s,MS4.6						
QIZ				LR	LR		
	comp=E,941nm,15.8s,MS4.6						
QIZ				LR	LR		
	comp=Z,755nm,15.9s,MS4.4						
NANT	Nan	29.21	346	⇑P	P	13 59 49.0	-1.0
	comp=Z,212nm,1.0s,mb5.8						
CM31	Chiang Mai Arr	29.36	342	*e*P	P	13 59 52.1	+0.8
CHG	Chiang Mai	29.70	343	⇑P	P	13 59 53.8	-0.5
	comp=Z,46nm,1.3s,mb5.0						
CHTO	Chiang Mai	29.70	343	⇑P	P	13 59 54.7	+0.4
	SNR=10						
CHTO	Chiang Mai	29.70	343	*e*P	P	13 59 53.2	-1.1
CHTO				pmax	pmax		
	comp=Z,62nm,1.2s,mb5.2						
CHTO	Chiang Mai	29.70	343	*e*P	P	13 59 53.2	-1.1
	comp=Z,62nm,1.2s,mb5.2						
CHTO				*e*		14 03 10.4	
KMI	Kunming	34.99	352	P	P	14 00 43.0	+2.4
KMI				AP	pP	14 00 49.5	+0.3
KMI				XP	sP	14 00 52.1	-0.7
KMI				PP	PP	14 02 02.8	+2.6
KMI				PPP		14 02 21.8	
KMI				AMB	AMB		
	comp=Z,38nm,1.4s,mb5.1						
KMI				LR	LR		
	comp=N,1µm,14.7s,MS4.8						
KMI				LR	LR		
	comp=E,618nm,15.6s,MS4.8						
KMI				LR	LR		
	comp=Z,2µm,14.2s,MS4.9						
GYA	Guiyang	35.97	358	⇓*i*P	P	14 00 50.1	+1.1
GYA				AP	pP	14 00 54.8	-2.9
GYA				XP	sP	14 00 57.6	-3.6
GYA				PP	PP	14 02 11.8	+0.8
GYA				PCP	PcP	14 03 16.8	+1.5
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,180nm,4.9s						
GYA				LR	LR		
	comp=N,840nm,15.0s,MS4.8						
GYA				LR	LR		
	comp=E,740nm,15.2s,MS4.8						
GYA				LR	LR		
	comp=Z,810nm,16.0s,MS4.6						
CTA	Charters Tower	38.35	110	P	P	14 01 10.5	+1.3
	comp=Z,11nm,1.1s,mb4.5,baz=305,slow=9.0,SNR=4.1						
PMG	Port Moresby	38.66	93	P	P	14 01 12.5	+0.6
	comp=Z,8.5nm,0.9s,mb4.5,baz=297,slow=9.9,SNR=5.0						
WHN	Wuhan	40.49	9	P	P	14 01 28.0	+0.9
WHN				AP	pP	14 01 38.0	+2.2
CD2	Chengdu	40.58	354	⇑*i*P	P	14 01 28.4	+0.5
CD2				AP	pP	14 01 32.9	-3.7
CD2				XP	sP	14 01 35.8	-4.3
CD2				PP	PP	14 03 06.9	+5.3
CD2				S	S	14 07 38.8	+3.4
CD2				XS	sS	14 07 46.1	-3.7
CD2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.8						
CD2				AMB	AMB		
	comp=Z,180nm,5.7s						
CD2				LR	LR		
	comp=E,480nm,18.0s						
CD2				LR	LR		
	comp=Z,370nm,13.2s,MS4.4						
JOW	Kunigami	41.34	28	P	P	14 01 33.9	-0.2
	comp=Z,19nm,1.1s,mb4.7,baz=76,slow=4.4,SNR=5.3						
SSE	Sheshan	42.51	17	*e*P	P	14 01 44.8	+1.1
SSE				AMB	AMB		
	comp=Z,33nm,0.9s,mb5.1						
SSE				AMB	AMB		
	comp=Z,104nm,3.6s						
JIRN	Jiri	42.71	331	*e*P	P	14 01 46.2	+1.0
	comp=Z,117nm,0.8s,mb5.7						
NJ2	Nanjing	42.81	14	*e*P	P	14 01 46.8	+0.7
NJ2				AP	pP	14 01 56.5	+1.6
NJ2				PP	PP	14 03 28.1	+2.4
NJ2				S	S	14 08 06.0	-2.4
NJ2				XS	sS	14 08 22.0	-0.9
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,230nm,4.2s						
NJ2				LR	LR		
	comp=N,570nm,14.1s,MS4.9						
NJ2				LR	LR		
	comp=E,720nm,11.1s,MS4.9						
PKI	Pulchoki	43.01	330	*e*P	P	14 01 47.9	+0.2
GUN	Gumba	43.06	331	*e*P	P	14 01 49.0	+0.9
	comp=E,122nm,0.9s,mb5.7						
DMN	Daman	43.19	330	*e*P	P	14 01 49.8	+0.6
	comp=E,107nm,1.0s,mb5.5						
KKN	Kakani	43.26	330	*e*P	P	14 01 50.0	+0.3
	comp=E,95nm,1.0s,mb5.5						
KKN	Kakani	43.26	330	*e*P	P	14 01 50.0	+0.3
KKN				pmax	pmax		
	comp=Z,95nm,1.0s,mb5.5						
XAN	Xi'an	43.51	1	P	P	14 01 51.6	-0.2
XAN				AMB	AMB		
	comp=Z,37nm,1.5s,mb4.9						
XAN				LR	LR		
	comp=Z,973nm,15.2s,MS4.8						
GKN	Gorkha	43.75	330	*e*P	P	14 01 53.9	+0.2
	comp=Z,76nm,0.9s,mb5.4						
KOLN	Koldanda	44.09	328	*e*P	P	14 01 56.9	+0.5
	comp=Z,80nm,0.8s,mb5.5						
LZH	Lanzhou	45.71	355	*e*P	P	14 02 10.6	+1.3
LZH				AP	pP	14 02 20.0	+1.9
LZH				PP	PP	14 03 57.0	+0.4
LZH				AMB	AMB		
	comp=Z,30nm,1.6s,mb5.0						
LZH				AMB	AMB		
	comp=Z,163nm,8.0s						
LZH				LR	LR		
	comp=E,705nm,14.9s						
LZH				LR	LR		
	comp=Z,905nm,15.9s,MS4.8						
TIA	Tai'an	46.48	10	*e*P	P	14 02 14.0	-1.4
GTA	Gaotai	49.45	352	*e*P	P	14 02 39.3	+1.0
GTA				AP	pP	14 02 46.5	-0.7
GTA				XP	sP	14 02 49.8	-0.9
GTA				AMB	AMB		
	comp=Z,22nm,1.8s,mb4.9						
GTA				AMB	AMB		
	comp=Z,272nm,6.5s						
GTA				LR	LR		
	comp=N,442nm,19.4s,MS4.7						
GTA				LR	LR		
	comp=E,551nm,20.9s,MS4.7						
GTA				LR	LR		
	comp=Z,378nm,20.9s,MS4.4						
BJT	Baijiatuau	50.06	8	P	P	14 02 41.3	-1.6

BJI Beijing 50.08 8 *e*P P **14 02 42.6 -0.5**
BJI AMB AMB
comp=Z,13nm,1.0s,mb4.9
BTO Baotou 50.10 2 *e*P P **14 02 41.0 -2.2**
HHC Hu-ho-hao-te 50.41 4 *e*P P **14 02 48.4 +2.8**
HHC AP pP 14 02 52.9 -1.7
HHC XP sP 14 02 55.9 -2.2
HHC PCP PcP 14 04 06.3 +2.6
HHC PCS PcS 14 08 03.3 +2.4
HHC S **S** **14 09 59.9 +2.8**
HHC XS sS 14 10 04.6 -7.2
HHC SCS ScS 14 12 28.5 -6.1
HHC SS SS 14 13 28.0 -3.1
HHC AMB AMB
comp=Z,15nm,0.9s,mb5.0
HHC LR LR
comp=N,503nm,11.9s,MS4.8
HHC LR LR
comp=E,314nm,11.9s,MS4.8
HHC LR LR
comp=Z,392nm,15.5s,MS4.5
SNY Shenyang 53.26 15 ⇑P P **14 03 09.6 +2.8**
SNY AMB AMB
comp=Z,12nm,0.5s,mb5.1
MAJO Matsushiro 54.10 30 *e*P P **14 03 10.1 -2.9**
MAJO pmax pmax
comp=Z,24nm,1.3s,mb5.0
MAJO Matsushiro 54.10 30 *e*P P **14 03 10.1 -2.9**
comp=Z,24nm,1.3s,mb5.0
MAT Matsushiro 54.10 30 P P **14 03 10.5 -2.5**
MAT Matsushiro 54.10 30 *e*P P **14 03 11.0 -2.0**
MAT pmax pmax
comp=Z,16nm,1.1s,mb4.9
MAT Matsushiro 54.10 30 *e*P P **14 03 11.0 -2.0**
comp=Z,16nm,1.1s,mb4.9
MJAR Matsushiro Arr 54.10 30 P P **14 03 10.8 -2.2**
comp=Z,15nm,1.1s,mb4.9,baz=207,slow=7.8,SNR=17
CN2 Changchun 55.58 15 *e*P P **14 03 25.4 +1.6**
WMQ Urumqi 56.36 342 P P **14 03 31.6 +2.3**
WMQ AP pP 14 03 35.8 -2.5
WMQ XP sP 14 03 38.3 -3.5
WMQ PP PP 14 05 38.6 +3.7
WMQ SCP ScP 14 08 26.3 +2.8
WMQ S **S** **14 11 19.5 +1.6**
WMQ AMB AMB
comp=Z,34nm,1.5s,mb5.2
WMQ AMB AMB
comp=Z,219nm,4.9s
WMQ LR LR
comp=N,1μm,18.5s,MS5.1
WMQ LR LR
comp=E,844nm,17.4s,MS5.1
WMQ LR LR
comp=Z,1μm,19.0s,MS5.0
KSH Kashi 57.26 331 *e*P P **14 03 32.5 -3.2**
KSH *e*AP pP 14 03 38.3 -6.4
KSH *e*XP sP 14 03 41.8 -6.4
KSH *e*PCP PcP 14 04 28.3 -1.5
KSH *e*PP PP 14 05 40.8 -2.1
KSH *e*S **S** **14 11 21.9 -7.9**
KSH *e*PS 14 11 37.8
KSH AMB AMB
comp=Z,639nm,3.4s
KSH LR LR
comp=N,503nm,12.4s
KSH LR LR
comp=E,480nm,6.5s
KSH LR LR
comp=Z,390nm,15.6s,MS4.6
SONM Songino Array 57.30 359 P P **14 03 36.4 +0.4**
comp=Z,11nm,0.7s,mb5.0,baz=175,slow=9.0,SNR=33
SONM pP pP 14 03 46.4 +1.3
comp=Z,4.7nm,0.6s,baz=179,slow=7.3,SNR=5.9
ULN Ulaanbaatar 57.32 359 ⇑P P **14 03 36.3 +0.2**
SNR=7.7
ULN Ulaanbaatar 57.32 359 *d i*P P **14 03 36.3 +0.2**
ULN Ulaanbaatar 57.32 359 *e*P P **14 03 36.2 +0.1**
comp=Z,48nm,0.6s,mb5.7
MDJ Mudanjiang 57.51 18 P P **14 03 36.8 -0.7**
MDJ AP pP 14 03 40.0 -6.5
MDJ PCP PcP 14 04 30.4 -0.4
MDJ PP PP 14 05 44.3 -0.8
MDJ SCP ScP 14 08 30.3 +1.7
MDJ PCS PcS 14 08 31.8 -0.1
MDJ S **S** **14 11 34.5 +1.5**
MDJ AMB AMB
comp=Z,7.0nm,1.2s,mb4.6
MDJ AMB AMB
comp=Z,131nm,4.3s
MDJ LR LR
comp=N,92nm,16.6s,MS4.1
MDJ LR LR
comp=E,125nm,21.3s,MS4.1
MDJ LR LR
comp=Z,176nm,20.7s,MS4.2
MDJ Mudanjiang 57.51 18 P P **14 03 36.4 -1.1**
WSAR Wadi Sarin 58.30 305 P P **14 03 44.2 +1.2**
comp=Z,3.8nm,0.7s,mb4.6,baz=128,slow=12,SNR=4.2
WSAR Wadi Sarin 58.30 305 P P **14 03 44.2 +1.2**
HIA Hailar 59.63 9 *d*P P **14 03 50.9 -1.3**
HIA Hailar 59.63 9 *e*P P **14 03 51.5 -0.8**
AAK Ala-Archa 60.40 332 P P **14 03 57.3 -0.2**
SNR=6.2
AAK Ala-Archa 60.40 332 *e*P P **14 03 56.5 -1.0**
AAK pmax pmax
comp=Z,19nm,1.4s,mb4.9
AAK Ala-Archa 60.40 332 *e*P P **14 03 56.5 -1.0**
comp=Z,19nm,1.4s,mb4.9
FRU Bishkek 60.49 332 *e*P P **14 03 58.0 -0.2**
MKAR Makanchi Array 60.73 340 P P **14 03 59.5 -0.2**
comp=Z,11nm,0.7s,mb5.1,baz=143,slow=7.6,SNR=16
MKAR pP pP 14 04 09.7 +0.8
comp=Z,7.3nm,0.6s,baz=141,slow=7.8,SNR=5.0
TLY Talaya 61.25 357 P P **14 04 04.8 +1.5**
comp=Z,58nm,1.5s,mb5.5,SNR=5.0
MOY Mondy 61.42 355 *e*P P **14 04 05.1 +0.7**
MOY pmax pmax
comp=Z,44nm,2.0s,mb5.2
IRK Irkutsk 61.78 357 *e*P P **14 04 06.5 -0.4**
IRK pmax pmax
comp=Z,38nm,2.0s,mb5.2
KLR Kul'dur 62.30 17 *e*P P **14 04 06.2 -4.2**
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,45nm,1.2s,mb5.5
HABR Khabarovsk 62.68 20 ⇓ *i*P P **14 04 12.2 -0.7**
HABR *e*S **S** **14 12 38.7 -0.7**
HABR pmax pmax
comp=Z,34nm,1.2s,mb5.3
YSS Yuzh-Sakhalins 64.38 26 ⇓ *e*P P **14 04 23.0 -1.1**
YSS *e* pP 14 04 33.0 -0.2
YSS pmax pmax
comp=Z,50nm,1.1s,mb5.5
YSS Yuzh-Sakhalins 64.38 26 *e*P P **14 04 23.2 -0.9**
comp=Z,62nm,1.2s,mb5.5
YSS *e* pP 14 04 33.5 +0.3
MAW Mawson 65.07 197 P P **14 04 29.4 +0.8**
comp=Z,3.2nm,0.7s,mb4.5,baz=68,slow=9.0,SNR=6.7
MAW pP pP 14 04 39.9 +2.1
comp=Z,6.0nm,0.7s,baz=37,slow=7.5,SNR=8.2
MAW Mawson 65.07 197 *e*P P **14 04 29.1 +0.5**
MAW *e* pP 14 04 36.8 -0.9
MAW pmax pmax
comp=Z,20nm,1.1s
MAW Mawson 65.07 197 *e*P P **14 04 29.1 +0.5**
comp=Z,20nm,1.1s,mb5.1
MAW *e* pP 14 04 36.8 -1.0
KURK Kurchatov 65.35 340 P P **14 04 30.0 -0.4**
comp=Z,67nm,1.2s,mb5.5,SNR=6.8
KURK Kurchatov 65.35 340 ⇓P P **14 04 30.3 -0.1**
SNR=10.0
KURK Kurchatov 65.35 340 *d i*P P **14 04 30.1 -0.3**
KURK Kurchatov 65.35 340 *e*P P **14 04 30.1 -0.3**
KURK *e* 14 06 21.7
NVS Novosibirsk 67.58 345 *e*P P **14 04 43.2 -1.5**
NVS pmax pmax
comp=N,24nm,1.9s
NVS pmax pmax
comp=Z,26nm,1.9s,mb4.9
CLNS Chul'man 67.77 10 *e*P P **14 04 42.4 -3.5**
CLNS pmax pmax
comp=Z,24nm,1.1s,mb5.1
CLNS pmax pmax
comp=N,14nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,1.0s
BVAR Borovoye Array 70.21 337 P P **14 05 00.6 -0.5**
comp=E,4.8nm,0.6s,mb4.6,baz=139,slow=8.3,SNR=9.3
BRVK Borovoye 70.27 337 ⇓P P **14 05 01.2 -0.2**
SNR=5.9
BRVK Borovoye 70.27 337 *e*P P **14 05 01.1 -0.3**
BRVK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BRVK Borovoye 70.27 337 *e*P P **14 05 01.1 -0.3**
comp=Z,7.1nm,1.0s,mb4.5
CHKZ Chkalovo 70.62 338 *e*P P **14 05 03.5 -0.1**
ZRNK Zerenda 70.69 336 *e*P P **14 05 03.1 -0.9**
ZRNK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ZRNK Zerenda 70.69 336 *e*P P **14 05 03.1 -0.9**
comp=Z,8.4nm,1.0s,mb4.6
KMBO Kilima Mbogo 70.78 272 P P **14 05 06.2 +1.6**
comp=Z,2.8nm,0.9s,mb4.2,baz=55,slow=3.4,SNR=6.3
KMBO Kilima Mbogo 70.78 272 ⇓ *i*P P **14 05 06.1 +1.6**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
VNDA Vanda 73.15 169 P P **14 05 19.4 +0.6**
comp=Z,1.3nm,0.9s,mb3.9,baz=287,slow=5.8,SNR=5.4
VNDA pP pP 14 05 29.4 +1.4
comp=Z,3.1nm,1.0s,baz=299,slow=6.6,SNR=5.2
VNDA Vanda 73.15 169 *e*P P **14 05 18.9 +0.1**
VNDA pmax pmax
comp=Z,2.0nm,1.0s
VNDA Vanda 73.15 169 *e*P P **14 05 18.9 +0.1**
comp=Z,2.2nm,1.0s,mb4.0
SYO Syowa Base 73.30 200 ⇓ *e*P P **14 05 19.8 +0.2**
YAK Yakutsk 73.50 10 *d i*P P **14 05 19.8 -1.0**
YAK pmax pmax
comp=Z,139nm,1.7s,mb5.6
YAK Yakutsk 73.50 10 *e*P P **14 05 19.7 -1.2**
comp=Z,139nm,1.4s,mb5.7
YAK *e* pP 14 05 29.3 -0.8
AKTK Aktyubinsk 73.91 329 P P **14 05 22.9 -0.3**
AKTO Aktyubinsk 73.91 329 P P **14 05 22.9 -0.3**
comp=Z,2.6nm,0.7s,mb4.3,baz=126,slow=7.4,SNR=14
AKTO Aktyubinsk 73.91 329 *i*P P **14 05 21.1 -2.1**
AKTO pmax pmax
comp=Z,4.0nm,1.5s,mb4.1
SBA Scott Base 74.22 169 *e*P P **14 05 25.7 +0.6**
SBA pmax pmax
comp=Z,14nm,1.8s,mb4.6
SBA Scott Base 74.22 169 *e*P P **14 05 25.7 +0.6**
comp=Z,14nm,1.8s,mb4.6
PET Petropavlovsk 75.90 29 *de*P P **14 05 34.3 -0.4**
PET pmax pmax
comp=Z,35nm,1.7s,mb5.0
GNI Garni 76.52 315 *i*P P **14 05 38.8 +0.6**
GNI pmax pmax
comp=Z,16nm,1.3s
SVE Sverdlovsk 76.84 335 ⇓ *e*P P **14 05 40.7 +0.6**
SVE pmax pmax
comp=Z,80nm,2.0s,mb5.3
MA2 Magadan 77.07 21 *d i*P P **14 05 41.3 0.0**
MA2 pmax pmax
comp=Z,42nm,1.7s,mb5.1
ARU Arti 77.45 334 P P **14 05 43.2 -0.3**
comp=Z,121nm,1.3s,mb5.7,SNR=5.3
ARU Arti 77.45 334 ⇓ *i*P P **14 05 43.3 -0.2**
ARU *e* 14 08 38.5
ARU *e*PPP 14 10 23.7
ARU *e*S S 14 15 33.4 +1.1
ARU *e*SS SS 14 20 33.1 +1.8
ARU pmax pmax
comp=Z,33nm,1.3s,mb5.1
ARU Arti 77.45 334 *e*P P **14 05 42.9 -0.6**
comp=Z,48nm,1.4s,mb5.2
ZEI Tsey 78.20 317 *e*P P **14 05 48.4 +0.7**
ZEI *e**PP pP 14 05 56.9 -0.1
ZEI pmax pmax
comp=Z,11nm,0.4s,mb5.1
KIV Kislovodsk 79.50 318 ⇓ *i*P P **14 05 54.4 -0.4**
GOF Gofitskoye 79.74 319 *e*P P **14 05 55.3 -0.8**
GOF pmax pmax
comp=Z,50nm,1.1s,mb5.4
TIXI Tiksi 82.37 7 *d i*P P **14 06 09.0 -1.1**
TIXI pmax pmax
comp=Z,33nm,1.2s,mb5.1
TIXI Tiksi 82.37 7 *i*P P **14 06 09.1 -1.0**
ANN Anapa 83.31 317 *e*P P **14 06 13.7 -1.2**
ANN *i **PP pP 14 06 24.5 +0.2
ANN *e*S S 14 16 32.1 -1.6
ANN pmax pmax
comp=Z,28nm,1.2s,mb5.2
BR131 Keskin Array S 84.31 312 *e*P P **14 06 20.7 +0.6**
comp=Z,4.6nm,0.9s,mb4.6
BR131 *e* pP 14 06 30.5 +1.0
BRTR Keskin Array B 84.31 312 P P **14 06 19.9 -0.2**
comp=Z,4.0nm,0.7s,mb4.7,baz=130,slow=6.7,SNR=14
BRTR pP pP 14 06 30.4 +0.9
comp=Z,2.1nm,0.6s,baz=144,slow=7.1,SNR=3.4
VRSR Storozhevoye 84.58 324 *e*P P **14 06 21.2 -0.2**
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.4
VRSR pmax pmax
comp=N,6.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,0.8s
MOS Moscow 87.15 328 *e*P P **14 06 33.8 -0.4**
MOS pmax pmax
comp=Z,53nm,1.0s,mb5.7
SNAA Sanae 87.23 197 *e*P P **14 06 34.4 -0.2**
SNAA *e* 14 06 36.4
SNAA *e* 14 06 38.1
SNAA *e* 14 06 45.9
OBN Obninsk 87.49 327 ⇓ *e*P P **14 06 35.8 0.0**
OBN *e* pP 14 06 43.1 -2.1
OBN pmax pmax
comp=Z,76nm,1.7s,mb5.7
OBN Obninsk 87.49 327 *e*P P **14 06 36.4 +0.6**
comp=Z,17nm,0.8s,mb5.3
KLMR Klimovskoe 88.20 333 *e*P P **14 06 38.3 -0.9**
KLMR pmax pmax
comp=Z,90nm,1.4s,mb5.8
VNA1 Neumayer--Stat 89.26 197 *e*P P **14 06 46.1 +1.9**
VNA1 *e* 14 06 48.3
VNA1 *e* 14 06 52.2
VNA1 *e* pP 14 06 55.6 +2.0
AKASG Malin Array Be 90.38 321 P P **14 06 48.1 -1.3**
comp=Z,0.1nm,0.3s,mb3.6,baz=94,slow=3.4,SNR=8.9
AKASG pP pP 14 06 57.5 -1.4
comp=Z,0.5nm,0.4s,baz=88,slow=4.5,SNR=2.8
AKASG Malin Array Be 90.38 321 P P **14 06 48.1 -1.3**
AKASG pP pP 14 06 57.5 -1.4
ARCES ARCESS Array B 96.38 339 P P **14 07 16.4 -0.6**
comp=Z,2.0nm,0.8s,mb4.6,baz=104,slow=5.1,SNR=4.9
ARCES ARCESS Array B 96.38 339 P P **14 07 16.4 -0.6**
YKA Yellowknife Ar 119.05 21 PKP PKPdf 14 12 36.0 -0.8
comp=Z,1.7nm,0.9s,baz=293,slow=1.8,SNR=6.9
YKA pPKP pPKPdf 14 12 46.7 +0.2
comp=Z,0.7nm,0.5s,baz=337,slow=1.9,SNR=4.2
YKA Yellowknife Ar 119.05 21 PKP PKPdf 14 12 36.0 -0.8
YKA pPKP pPKPdf 14 12 46.7 +0.2
NVAR Mina Array Bea 129.73 48 PKP PKPdf 14 12 59.2 +2.0
comp=Z,0.8nm,0.8s,baz=239,slow=3.7,SNR=5.9
ELK Elko 130.93 43 *e*PKP PKPdf 14 13 02.4 +2.9
ANMO Albuquerque 139.80 46 ⇑ *i*PKIKP PKPdf 14 13 22.2 +6.2
CPUP Villa Florida 141.42 201 PKP PKPdf 14 13 21.1 +2.1
comp=Z,0.4nm,0.5s,baz=131,slow=5.9,SNR=3.1
LTX Lajitas 144.57 52 *e*PKIKP PKPdf 14 13 26.0 +1.5
LTX *e* 14 13 35.7
WMOK Wichita Mounta 145.11 40 *e*PKIKP PKPdf 14 13 26.6 +1.1
WMOK *e* 14 13 36.9
LONY Lake Ozonia 145.15 3 *e*PKPdf PKPdf 14 13 25.9 +0.4
LONY *e* 14 13 36.0
BDFB Brasilia 145.34 224 PKPbc PKPbc 14 13 27.9 +2.2
comp=Z,9.8nm,1.1s,baz=84,slow=4.2,SNR=7.3
BDFB pPKPbc pPKPbc 14 13 38.5 +3.2
comp=Z,22nm,1.1s,baz=84,slow=2.2,SNR=6.4
MIV Mineville/With 145.74 2 *e*PKPdf PKPdf 14 13 27.8 +1.2
NCB Newcomb 145.81 3 *e*PKPdf PKPdf 14 13 27.9 +1.2
NCB *e* 14 13 38.2
ACCN Adirondack Com 146.42 2 *e*PKPdf PKPdf 14 13 29.8 +2.0
JCT Junction City 146.91 47 *e*PKP2 PKPab 14 13 32.9 +1.0
JCT *e* 14 16 49.9
CCM Cathedral Cave 146.92 28 *e*PKPbc PKPbc 14 13 31.5 +1.0
CCM *e* 14 13 41.7
HRV Harvard--Oak R 147.33 359 *e*PKP2 PKPab 14 13 32.7 -0.8
FVM French Village 147.35 27 *e*PKP2 PKPab 14 13 32.4 -1.2
BINY Binghamton 147.45 5 *e*PKPbc PKPbc 14 13 33.0 +1.0
BINY *e* 14 13 43.5
QUA2 Belchertown 147.56 0 *e*PKPbc PKPbc 14 13 33.6 +1.3
LVC Limon Verde 147.73 185 *e*PKPbc PKPbc 14 13 36.0 +3.2
LVC *e* 14 13 45.9
ACSO Alum Creek Sta 148.09 16 *e*PKPbc PKPbc 14 13 34.5 +0.8
ACSO *e* 14 13 44.6
MIAR Mount Ida 148.39 35 *e*PKPbc PKPbc 14 13 36.4 +1.9
MIAR *e* 14 13 46.3
USIN University of 148.55 24 *e*PKPbc PKPbc 14 13 36.0 +1.1
SSPA Standing Stone 148.77 9 *e*PKPbc PKPbc 14 13 36.1 +0.6
SSPA *e* 14 13 46.7
WCI Wyandotte Cave 148.85 22 *e*PKP2 PKPab 14 13 37.1 -2.5
MCWV Mont Chateau 149.38 12 *e*PKPbc PKPbc 14 13 38.3 +1.3
HKT Hockley 150.03 44 *e*PKP2 PKPab 14 13 41.3 -3.1
WVT Waverly 150.05 26 *e*PKPbc PKPbc 14 13 39.8 +1.2
WVT *e* 14 13 50.3
OXF Oxford 150.64 30 *e*PKIKP PKPbc 14 13 40.5 +0.4
OXF *e* PKPab 14 13 48.4 +1.5
PLAL Pickwick Lake 150.89 28 *e*PKPbc PKPbc 14 13 41.4 +0.8
PLAL *e* 14 13 51.5
FWV Forest Hill 151.15 15 *e*PKPbc PKPbc 14 13 41.3 0.0
FWV *e* 14 13 49.8
TZTN Tazewell 151.32 20 *e*PKPbc PKPbc 14 13 42.7 +1.0
ELN Prospectdale 151.50 15 *e*PKPbc PKPbc 14 13 42.9 +0.9
ELN *e* 14 13 51.1
BLA Blacksburg 151.59 14 *e*PKIKP PKPbc 14 13 43.1 +0.8
CPCT Cooper Cave 151.97 22 *e*PKPbc PKPbc 14 13 44.8 +1.7
CPCT *e* 14 13 53.5
LRAL Lakeview Retre 153.00 28 *e*PKPab PKPab 14 13 56.7 -0.1
LPAZ La Paz 153.88 189 PKPbc PKPbc 14 13 50.5 +3.2
comp=Z,1.1nm,0.8s,baz=242,slow=2.5,SNR=4.1
LPAZ pPKPbc pPKPbc 14 14 00.6 +3.5
comp=Z,1.0nm,0.7s,baz=204,slow=2.7,SNR=3.6
LPAZ La Paz 153.88 189 PKPbc PKPbc 14 13 50.5 +3.2
LPAZ pPKPbc pPKPbc 14 14 00.6 +3.5

IDC ***17*** *13:55:29.7±0.6, 9.16S×10771E, h0km, mb4.6/10, mb1 4.6/11, mb1mx4.5/17, mbtmp4.6/11, ML4.2/1, MS4.4/1, Ms1 4.4/1, ms1mx2.7/31, Error ellipse: s-maj=24.9km s-min=16.5km az=64.0*
BJI ***17*** *13:55:30.6, 9.10S×10780E, h25km, mb4.8*
ISCJB ***17*** *13:55:32.6±0.4, 9.13S±008×10783E±009, h33km, mb4.8/25, MS4.5/1, Error ellipse: s-maj=14.6km s-min=7.9km az=106.2*
MOS ***17*** *13:55:32.8±1.0, 9.01S×10789E, h33km, mb5.0/7, Error ellipse: s-maj=21.9km s-min=10.5km az=116.1*
NEIC ***17*** *13:55:33.7±3.2, 9.11S×10780E, h26km±21km, mb5.1/11, Error ellipse: s-maj=10.8km s-min=5.2km az=56.0*
ISC 17 13:55:34.9±0.4, 914S±008×10782E±009, h35km, n61, σ0s68/46, mb4.8/25, MS4.5/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**17.25**	**29**	*e*P	**Pn**	**13 59 33.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.46**	**119**	P	**Pn**	**13 59 59.6**	**-0.3**
	0.5nm,0.3s,baz=249,slow=7.0,SNR=5.1						
WRA	**Warramunga Arr**	**27.78**	**116**	P	**P**	**14 01 20.8**	**+0.4**
	9.0nm,0.9s,mb4.4,baz=289,slow=11,SNR=5.5						
WRAB	**Tennant Creek**	**27.78**	**116**	*e*P	**P**	**14 01 21.0**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.6						
WRAB	**Tennant Creek**	**27.78**	**116**	*e*P	**P**	**14 01 20.9**	**+0.5**
	comp=Z,12nm,0.7s,mb4.6						
WB2	**Warramunga Arr**	**27.79**	**116**	*e*P	**P**	**14 01 20.7**	**+0.2**
ASAR	**Alice Springs**	**28.81**	**123**	P	**P**	**14 01 30.0**	**+0.4**
	comp=Z,3.6nm,0.8s,mb4.1,baz=292,slow=6.9,SNR=5.9						
ASAR				PcP	PcP	14 04 40.1	+1.4
	comp=Z,1.7nm,0.7s,baz=301,slow=2.0,SNR=5.1						
JOW	**Kunigami**	**40.90**	**28**	P	**P**	**14 03 14.2**	**+0.6**
	comp=Z,15nm,0.9s,mb4.6,baz=140,slow=6.0,SNR=3.0						
JIRN	**Jiri**	**42.16**	**331**	*e*P	**P**	**14 03 25.0**	**+1.0**
PKI	**Pulchoki**	**42.47**	**330**	*e*P	**P**	**14 03 26.9**	**+0.4**
GUN	**Gumba**	**42.52**	**331**	*e*P	**P**	**14 03 27.7**	**+0.8**
	comp=Z,62nm,0.7s,mb5.5						
DMN	**Daman**	**42.65**	**330**	*e*P	**P**	**14 03 28.5**	**+0.6**
	comp=Z,45nm,0.7s,mb5.3						
KKN	**Kakani**	**42.71**	**330**	*e*P	**P**	**14 03 29.0**	**+0.5**
	comp=Z,50nm,0.9s,mb5.3						
KKN	**Kakani**	**42.71**	**330**	*e*P	**P**	**14 03 29.0**	**+0.5**
KKN				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.2						
XAN	**Xi'an**	**42.95**	**1**	P	**P**	**14 03 30.5**	**+0.1**
XAN				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.7						
GKN	**Gorkha**	**43.20**	**329**	*e*P	**P**	**14 03 33.0**	**+0.5**
KOLN	**Koldanda**	**43.55**	**328**	*e*P	**P**	**14 03 35.4**	**+0.2**
	comp=Z,70nm,0.7s,mb5.5						
GTA	**Gaotai**	**48.87**	**352**	*e*P	**P**	**14 04 18.5**	**+1.4**
GTA				AP	pP	14 04 24.3	-3.2
GTA				XP	sP	14 04 27.8	-3.9
GTA				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.9						
SONM	**Songino Array**	**56.74**	**359**	P	**P**	**14 05 15.7**	**+0.6**
	comp=Z,5.4nm,0.7s,mb4.7,baz=177,slow=8.0,SNR=9.0						
ULN	**Ulaanbaatar**	**56.76**	**359**	*e*P	**P**	**14 05 15.1**	**-0.2**
ULN				pmax	pmax		
	comp=Z,49nm,0.9s,mb5.5						
ULN	**Ulaanbaatar**	**56.76**	**359**	*e*P	**P**	**14 05 15.1**	**-0.2**
	comp=Z,49nm,0.9s,mb5.5						
MK31	**Makanchi Array**	**60.16**	**340**	P	**P**	**14 05 38.1**	**-1.0**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
MKAR	**Makanchi Array**	**60.16**	**340**	P	**P**	**14 05 39.0**	**0.0**
	comp=Z,12nm,0.6s,mb5.1,baz=146,slow=7.6,SNR=17						
YSS	**Yuzh-Sakhalins**	**63.92**	**26**	*e*P	**P**	**14 06 02.8**	**-1.5**
YSS				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
YSS	**Yuzh-Sakhalins**	**63.92**	**26**	*e*P	**P**	**14 06 02.8**	**-1.4**
	comp=Z,6.0nm,0.8s,mb4.7						
KURK	**Kurchatov**	**64.78**	**340**	*e*P	**P**	**14 06 09.8**	**-0.1**
	comp=Z,104nm,0.9s,mb5.9,SNR=7.2						
KURK	**Kurchatov**	**64.78**	**340**	*e*P	**P**	**14 06 09.7**	**-0.2**
KURK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
KURK	**Kurchatov**	**64.78**	**340**	*e*P	**P**	**14 06 09.7**	**-0.2**
	comp=Z,17nm,0.9s,mb5.1						
MAW	**Mawson**	**65.57**	**197**	P	**P**	**14 06 14.7**	**-0.3**
	comp=Z,7.5nm,0.9s,mb4.7,baz=45,slow=6.1,SNR=7.9						
MAW	**Mawson**	**65.57**	**197**	*e*P	**P**	**14 06 15.0**	**0.0**
BVA0	**Borovoye Array**	**69.64**	**337**	*i*P	**P**	**14 06 40.4**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
BVAR	**Borovoye Array**	**69.64**	**337**	P	**P**	**14 06 40.5**	**-0.2**
	comp=Z,6.0nm,0.6s,mb4.7,baz=144,slow=8.9,SNR=9.3						
BRVK	**Borovoye**	**69.71**	**337**	*e*P	**P**	**14 06 39.6**	**-1.5**
CHKZ	**Chkalovo**	**70.06**	**337**	*e*P	**P**	**14 06 43.0**	**-0.3**
ZRNK	**Zerenda**	**70.13**	**336**	*e*P	**P**	**14 06 42.6**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
ZRNK	**Zerenda**	**70.13**	**336**	*e*P	**P**	**14 06 42.6**	**-1.1**
	comp=Z,6.4nm,0.7s,mb4.7						
KMBO	**Kilima Mbogo**	**70.64**	**272**	P	**P**	**14 06 46.7**	**-0.1**
	comp=Z,0.6nm,0.4s,mb3.8,baz=56,slow=16,SNR=3.8						
KMBO				LR	LR	14 31 31.2	
	comp=Z,262nm,19.2s,MS4.5,baz=91,slow=31						
KMBO	**Kilima Mbogo**	**70.64**	**272**	P	**P**	**14 06 46.7**	**-0.1**
KMBO				LR	LR	14 31 31.2	
YAK	**Yakutsk**	**72.97**	**11**	*e*P	**P**	**14 06 59.5**	**-1.3**
YAK				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
YAK	**Yakutsk**	**72.97**	**11**	*e*P	**P**	**14 06 59.5**	**-1.4**
	comp=Z,14nm,0.6s,mb5.1						
VNDA	**Vanda**	**73.73**	**169**	P	**P**	**14 07 05.1**	**-0.2**
	comp=Z,2.7nm,0.8s,mb4.2,baz=309,slow=6.1,SNR=6.9						
VNDA	**Vanda**	**73.73**	**169**	*e*P	**P**	**14 07 04.4**	**-0.9**
SBA	**Scott Base**	**74.80**	**169**	*e*P	**P**	**14 07 12.1**	**+0.6**
ARU	**Arti**	**76.89**	**334**	*e*P	**P**	**14 07 22.8**	**-0.7**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ARU	**Arti**	**76.89**	**334**	*e*P	**P**	**14 07 22.8**	**-0.6**
	comp=Z,2.4nm,0.6s,mb4.3						
BRTR	**Keskin Array B**	**83.85**	**312**	P	**P**	**14 08 01.1**	**+0.3**
	comp=Z,2.6nm,0.8s,mb4.4,baz=138,slow=6.0,SNR=4.5						
NVAR	**Mina Array Bea**	**129.44**	**47**	PKP	PKPdf	14 14 42.4	+2.6
	comp=Z,0.4nm,0.6s,baz=245,slow=2.8,SNR=4.0						
CPUP	**Villa Florida**	**141.90**	**202**	PKP	PKPdf	14 15 04.2	+1.2
	comp=Z,0.9nm,0.6s,baz=117,slow=5.3,SNR=4.4						
WMOK	**Wichita Mounta**	**144.75**	**40**	*e*PKIKP	PKPdf	14 15 08.4	+0.4
MIV	**Mineville/With**	**145.18**	**2**	*e*PKPdf	PKPdf	14 15 08.9	+0.2
NCB	**Newcomb**	**145.26**	**3**	*e*PKPdf	PKPdf	14 15 09.2	+0.4
BDFB	**Brasilia**	**145.66**	**224**	PKPbc	PKPbc	14 15 11.4	+1.5
	comp=Z,2.6nm,0.6s,baz=170,slow=2.2,SNR=3.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CCM	Cathedral Cave	146.48	28	ePKP2	PKPab	14 15 12.4	-0.9
JCT	Junction City	146.61	47	ePKP2	PKPab	14 15 14.7	+0.9
BINY	Binghamton	146.91	5	ePKPbc	PKPbc	14 15 14.4	+0.8
ACSO	Alum Creek Sta	147.58	16	ePKPbc	PKPbc	14 15 15.0	-0.4
MIAR	Mount Ida	148.00	35	ePKP2	PKPab	14 15 17.7	-1.6
SSPA	Standing Stone	148.23	8	ePKPbc	PKPbc	14 15 17.8	+0.6
LVC	Limon Verde	148.28	186	ePKPbc	PKPbc	14 15 20.1	+2.8
PLAL	Pickwick Lake	150.45	27	ePKPbc	PKPbc	14 15 23.0	+0.3
LPAZ	La Paz	154.42	189	PKPbc	PKPbc	14 15 34.0	+2.5
	comp=Z,1.8nm,0.7s,baz=192,slow=3.5,SNR=6.9						

BJI ***17*** *13:56:55.2, 9.50S×108.00E, h22km, mB5.0, mb4.8*
MOS ***17*** *13:56:55.8±1.0, 9.50S×108.12E, h33km, mb5.0/8, Error ellipse: s-maj=20.7km s-min=9.3km az=105.6*
ISCJB ***17*** *13:56:56.2±0.4, 9.59S±0.07×108.05E±0.09, h36km, mb4.6/29, MS4.2/2, Error ellipse: s-maj=14.5km s-min=8.1km az=120.8*
NEIC ***17*** *13:56:56.3±3.2, 9.53S×108.02E, h22km±22km, mb5.0/9, Error ellipse: s-maj=14.1km s-min=6.8km az=55.0*
IDC ***17*** *13:56:58.0±0.8, 9.52S×108.03E, h38km±6km, mb4.2/13, mb1 4.2/14, mb1mx4.2/18, mbtmp4.4/14, ML3.6/1, MS4.3/2, Ms1 4.3/2, ms1mx3.2/31, Error ellipse: s-maj=25.6km s-min=14.7km az=64.0*
ISC 17 13:56:58.4±0.4**, 9.63S**±0.07×**108.02E**±0.09**, h38km, h38km**±2.4km**:pP-P, n69,** σ1.03/56**, mb4.6**/29**, MS4.2**/2**, 1C, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	16.54	333	eP	Pn	14 00 43.5	-3.9
KKM	Kota Kinabalu	17.58	28	eP	Pn	14 00 59.6	-0.8
FITZ	Fitzroy Crossi	19.06	118	P	Pn	14 01 19.4	+1.0
	0.2nm,0.3s,baz=328,slow=9.5,SNR=3.0						
FITZ				Sn	Sn	14 04 33.0	-18
	0.2nm,0.3s,baz=130,slow=19,SNR=2.3						
NWAO	Narrogin (SRO)	24.70	161	P	P	14 02 16.6	+0.8
	9.1nm,0.8s,mb4.4,baz=353,slow=13,SNR=4.6						
NWAO				LR	LR	14 11 02.8	
	comp=Z,900nm,21.2s,MS4.2,baz=307,slow=34						
WRA	Warramunga Arr	27.40	115	P	P	14 02 40.4	+0.1
	4.9nm,0.8s,mb4.1,baz=287,slow=11,SNR=5.1						
ASAR	Alice Springs	28.39	123	P	P	14 02 50.0	+0.8
	2.1nm,0.6s,mb4.0,baz=299,slow=9.1,SNR=4.9						
ASAR				Sn	S	14 08 20.2	+47
	4.1nm,0.9s,baz=302,slow=23,SNR=5.6						
CM31	Chiang Mai Arr	29.30	342	eP	P	14 02 57.1	-0.1
CHTO	Chiang Mai	29.64	342	eP	P	14 03 00.3	+0.1
CHTO				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.9						
CHTO	Chiang Mai	29.64	342	eP	P	14 03 00.2	+0.1
	comp=Z,27nm,1.1s,mb4.9						
KMI	Kunming	34.92	352	P	P	14 03 47.5	+1.1
KMI				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.7						
GYA	Guiyang	35.89	358	⇑iP	P	14 03 56.4	+1.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
WHN	Wuhan	40.40	8	eP	P	14 04 34.3	+1.6
WHN				AP	pP	14 04 44.5	+1.0
JIRN	Jiri	42.67	331	eP	P	14 04 52.1	+0.8
	comp=Z,57nm,0.7s,mb5.4						
PKI	Pulchoki	42.98	330	eP	P	14 04 53.9	+0.1
GUN	Gumba	43.03	331	eP	P	14 04 54.9	+0.7
DMN	Daman	43.16	330	eP	P	14 04 55.5	+0.2
	comp=Z,41nm,0.9s,mb5.2						
KKN	Kakani	43.22	330	eP	P	14 04 55.8	0.0
XAN	Xi'an	43.43	1	P	P	14 04 57.1	-0.4
XAN				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.6						
GKN	Gorkha	43.72	329	eP	P	14 05 00.7	+0.9
KOLN	Koldanda	44.05	328	eP	P	14 05 02.7	+0.2
	comp=Z,48nm,0.7s,mb5.3						
LZH	Lanzhou	45.63	355	eP	P	14 05 16.3	+1.2
LZH				AP	pP	14 05 26.1	+0.1
LZH				XP	sP	14 05 30.1	-0.3
LZH				PP	PP	14 07 03.8	+1.5
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb5.0						
GTA	Gaotai	49.38	352	eP	P	14 05 46.0	+1.9
GTA				AP	pP	14 05 52.8	-2.3
GTA				XP	sP	14 05 56.3	-3.2
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
BJI	Beijing	49.99	8	eP	P	14 05 50.3	+1.5
BJI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.8						
MAT	Matsushiro	53.99	30	P	P	14 06 16.4	-2.2
MAT	Matsushiro	53.99	30	P	P	14 06 16.0	-2.6
MJAR	Matsushiro Arr	53.99	30	P	P	14 06 16.7	-1.8
	comp=Z,7.1nm,1.0s,mb4.6,baz=202,slow=8.1,SNR=7.7						
MJAR				pP	pP	14 06 27.9	-1.8
	comp=Z,8.2nm,1.0s,baz=207,slow=7.9,SNR=6.7						
SONM	Songino Array	57.22	359	P	P	14 06 40.5	-1.3
	comp=Z,5.7nm,0.5s,mb4.9,baz=178,slow=7.9,SNR=18						
SONM				pP	pP	14 06 52.3	-0.7
	comp=Z,3.7nm,0.5s,baz=178,slow=8.0,SNR=5.7						
ULN	Ulaanbaatar	57.24	359	eP	P	14 06 41.9	0.0
ZAK	Zakamensk	59.90	356	eP	P	14 07 00.6	+0.2
AAK	Ala-Archa	60.36	332	eP	P	14 07 05.5	+1.9
MKAR	Makanchi Array	60.68	340	P	P	14 07 05.4	-0.3
	comp=Z,6.4nm,0.7s,mb4.8,baz=152,slow=8.0,SNR=8.2						
MKAR				pP	pP	14 07 17.6	+0.6
	comp=Z,3.4nm,0.5s,baz=148,slow=7.8,SNR=5.3						
KLR	Kul'dur	62.20	17	eP	P	14 07 17.2	+1.2
YSS	Yuzh-Sakhalins	64.27	26	eP	P	14 07 28.8	-0.9
YSS				e	pP	14 07 39.2	-1.8
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
YSS	Yuzh-Sakhalins	64.27	26	eP	P	14 07 28.8	-0.9
	comp=Z,10nm,0.9s,mb4.9						
YSS				e	pP	14 07 39.2	-1.9
MAW	Mawson	65.17	197	P	P	14 07 35.2	-0.4
	comp=Z,3.3nm,0.8s,mb4.4,baz=30,slow=5.2,SNR=6.9						
MAW	Mawson	65.17	197	eP	P	14 07 35.1	-0.5
KURK	Kurchatov	65.29	340	eP	P	14 07 36.0	-0.4
BOD	Bodaibo	67.38	3	eP	P	14 07 48.3	-1.5
BOD				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
BVAR	Borovoye Array	70.16	337	P	P	14 08 05.9	-1.2
	comp=Z,2.6nm,0.5s,mb4.4,baz=145,slow=8.3,SNR=4.3						
CHKZ	Chkalovo	70.58	337	eP	P	14 08 09.3	-0.3
ZRNK	Zerenda	70.65	336	eP	P	14 08 09.5	-0.5
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ZRNK	Zerenda	70.65	336	eP	P	14 08 09.5	-0.6
	comp=Z,4.5nm,0.6s,mb4.6						
VNDA	Vanda	73.22	169	P	P	14 08 25.2	-0.3
	comp=Z,1.1nm,0.9s,mb3.8,baz=311,slow=11,SNR=2.8						
VNDA	Vanda	73.22	169	P	P	14 08 24.7	-0.8
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
VNDA	Vanda	73.22	169	P	P	14 08 24.7	-0.8
	comp=Z,5.1nm,1.3s,mb4.3						
YAK	Yakutsk	73.41	10	eP	P	14 08 25.2	-1.4
YAK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,5.0nm,1.2s						
YAK	Yakutsk	73.41	10	eP	P	14 08 25.2	-1.3
	comp=N,28nm,0.8s,mb5.2						
AKTK	Aktyubinsk	73.88	329	P	P	14 08 30.1	+0.7
AKTO	Aktyubinsk	73.88	329	P	P	14 08 30.1	+0.7
	comp=N,1.6nm,0.5s,mb4.2,baz=156,slow=10.0,SNR=2.3						
ARU	Arti	77.41	334	eP	P	14 08 48.8	-0.7
ARU				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
ARU	Arti	77.41	334	eP	P	14 08 48.8	-0.8
	comp=Z,12nm,1.1s,mb4.7						
GOF	Gofitskoye	79.72	319	eP	pP	14 09 12.7	-1.2
BRTR	Keskin Array B	84.31	312	P	P	14 09 25.2	-1.1
	comp=Z,1.3nm,0.7s,mb4.2,baz=142,slow=6.3,SNR=3.7						
BRTR				pP	pP	14 09 37.1	-0.9
	comp=Z,2.0nm,0.7s,baz=131,slow=5.1,SNR=5.1						
OBN	Obninsk	87.46	327	eP	P	14 09 41.4	-0.5
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.9						
IDI	Anoyia	89.94	306	LR	LR	14 49 20.2	
	comp=Z,93nm,19.4s,MS4.2,baz=263,slow=35						
AKASG	Malin Array Be	90.36	321	P	P	14 09 53.9	-1.7
	comp=Z,0.2nm,0.4s,mb3.8,baz=82,slow=6.6,SNR=1.8						
ARCES	ARCESS Array B	96.33	339	P	P	14 10 22.1	-1.0
	comp=Z,2.4nm,0.9s,mb4.6,baz=61,slow=5.6,SNR=3.5						
YKA	Yellowknife Ar	118.95	21	PKP	PKPdf	14 15 42.4	-0.5
	comp=Z,0.8nm,0.8s,baz=281,slow=1.8,SNR=3.7						
WMOK	Wichita Mounta	145.00	40	ePKIKP	PKPdf	14 16 32.0	+0.5
MIV	Mineville/With	145.65	2	ePKPdf	PKPdf	14 16 33.5	+0.9
NCB	Newcomb	145.73	3	ePKPdf	PKPdf	14 16 33.7	+1.0
JCT	Junction City	146.80	47	ePKP2	PKPab	14 16 38.3	+0.6
CCM	Cathedral Cave	146.81	28	ePKP2	PKPab	14 16 37.1	-0.6
BINY	Binghamton	147.36	6	ePKPbc	PKPbc	14 16 38.1	+0.1
ACSO	Alum Creek Sta	147.99	16	ePKPbc	PKPbc	14 16 39.7	0.0
MIAR	Mount Ida	148.28	35	ePKPbc	PKPbc	14 16 41.6	+1.2
MIAR				e		14 16 53.5	
SSPA	Standing Stone	148.68	9	ePKPbc	PKPbc	14 16 41.6	+0.1
WVT	Waverly	149.94	26	ePKP2	PKPbc	14 16 45.5	+0.9
PLAL	Pickwick Lake	150.79	28	ePKPbc	PKPbc	14 16 46.4	-0.2

IDC ***17*** *14:10:27.9±0.8, 9.36S×108.28E, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.1/15, mbtmp4.2/8, Error ellipse: s-maj=32.3km s-min=17.2km az=70.0*
NEIC ***17*** *14:10:29.9±0.5, 9.32S×108.26E, h10km, mb4.8/9, Error ellipse: s-maj=20.4km s-min=7.4km az=50.0*
ISCJB ***17*** *14:10:31.4±0.5, 9.3S±0.1×108.3E±0.1, h33km, mb4.4/17, Error ellipse: s-maj=22.8km s-min=8.1km az=98.7*
ISC 17 14:10:33.7±0.5**, 9.4S**±0.1×**108.3E**±0.1**, h35km, n28,** σ0.92/27**, mb4.4**/17**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.97	119	P	Pn	14 14 54.2	+1.4
	0.1nm,0.3s,baz=256,slow=6.6,SNR=3.3						
WRA	Warramunga Arr	27.29	116	P	P	14 16 14.9	0.0
	0.8nm,0.6s,mb3.4,baz=287,slow=11,SNR=7.1						
WRAB	Tennant Creek	27.30	116	P	P	14 16 15.1	+0.1
WB2	Warramunga Arr	27.30	116	P	P	14 16 15.8	+0.9
AS31	Alice Springs	28.33	123	eP	P	14 16 24.3	+0.1
ASAR	Alice Springs	28.33	123	P	P	14 16 24.3	+0.1
	1.5nm,0.8s,mb3.7,baz=300,slow=9.1,SNR=13						
ASAR				PcP	PcP	14 19 36.0	-0.4
	0.7nm,0.9s,baz=300,slow=9.5,SNR=6.4						
CHTO	Chiang Mai	29.46	342	eP	P	14 16 35.0	+0.8
	12nm,1.4s,mb4.5						
JIRN	Jiri	42.56	330	eP	P	14 18 27.1	+1.1
PKI	Pulchoki	42.87	330	eP	P	14 18 28.0	-0.5
GUN	Gumba	42.92	330	eP	P	14 18 29.9	+1.0
DMN	Daman	43.05	329	eP	P	14 18 30.5	+0.5
	27nm,1.0s,mb4.9						
KKN	Kakani	43.11	330	eP	P	14 18 31.2	+0.7
GKN	Gorkha	43.61	329	eP	P	14 18 35.1	+0.6
KOLN	Koldanda	43.96	328	eP	P	14 18 38.1	+0.8
	12nm,0.6s,mb4.8						
MJAR	Matsushiro Arr	53.63	30	P	P	14 19 49.4	-2.2
	1.5nm,0.7s,mb4.0,baz=208,slow=7.0,SNR=4.8						
SONM	Songino Array	56.96	358	P	P	14 20 15.9	+0.4
	1.7nm,0.6s,mb4.2,baz=173,slow=8.2,SNR=15						
ULN	Ulaanbaatar	56.97	359	eP	P	14 20 16.1	+0.4
	1.9nm,0.7s,mb4.2						
MKAR	Makanchi Array	60.51	340	P	P	14 20 40.5	+0.2
	4.9nm,0.7s,mb4.8,baz=142,slow=7.6,SNR=51						
YSS	Yuzh-Sakhalins	63.92	26	eP	P	14 21 01.3	-1.7
	3.3nm,0.4s,mb4.7						
KURK	Kurchatov	65.13	340	eP	P	14 21 10.9	0.0
	6.1nm,1.0s,mb4.6						
KURK				e	pP	14 21 20.9	-0.8
MAW	Mawson	65.50	197	P	P	14 21 12.7	-0.7
	1.7nm,0.7s,mb4.2,baz=56,slow=8.8,SNR=9.8						
BVAR	Borovoye Array	70.01	337	P	P	14 21 41.2	-0.6
	2.4nm,0.7s,mb4.2,baz=168,slow=7.6,SNR=11						
CHKZ	Chkalovo	70.42	337	eP	P	14 21 41.5	-2.8
	5.7nm,0.8s,mb4.5						
ZRNK	Zerenda	70.50	336	eP	P	14 21 44.4	-0.4
	4.2nm,0.9s,mb4.4						
YAK	Yakutsk	73.09	10	eP	P	14 21 59.6	-0.7
	11nm,0.6s,mb5.0						
VNDA	Vanda	73.44	169	P	P	14 22 01.2	-1.2
	2.2nm,0.9s,mb4.1,baz=304,slow=6.1,SNR=13						
VNDA	Vanda	73.44	169	eP	P	14 22 01.3	-1.1
NCB	Newcomb	145.44	3	ePKP	PKPdf	14 30 08.6	+0.6

ISCJB ***17*** *14:21:12.2±0.6, 9.41S±0.09×107.86E±0.08, h33km, mb4.7/35, MS4.0/2, Error ellipse: s-maj=15.2km s-min=7.4km az=74.7*
IDC ***17*** *14:21:12.6±0.8, 8.69S×108.48E, h0km, mb4.2/8, mb1 4.3/10, mb1mx4.2/17, mbtmp4.2/10, ML4.1/1, MS3.9/1, Ms1 3.9/1, ms1mx2.9/31, Error ellipse: s-maj=32.4km s-min=16.3km az=60.0*
BJI ***17*** *14:21:13.5, 8.80S×108.40E, h10km, mB5.1, mb4.7, Ms4.9, Msz4.8*
NEIC ***17*** *14:21:13.5±0.6, 8.76S×108.38E, h10km, mb4.9/15, Error ellipse: s-maj=23.5km s-min=8.4km az=48.0*
MOS ***17*** *14:21:14.9±1.3, 8.76S×108.30E, h33km, mb4.9/13, Error ellipse: s-maj=19.1km s-min=9.1km az=112.5*
ISC 17 14:21:14.4±0.7**, 9.4S**±0.1×**107.9E**±0.1**, h35km, n62,** σ1.16/58**, mb4.7**/35**, MS4.0**/2**, 6C-4D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BJII	Banjamegara	2.72	41	P	Pn	14 22 01.7	+6.1
	183nm,0.8s						
KSI	Kapahiang	7.78	317	P	Pn	14 23 06.0	+1.0
	114nm,1.6s						
PCI	Palu	14.56	55	P	Pn	14 24 43.9	+6.0
	46nm,1.2s						
PSI	Prapat	15.07	323	Pn	Pn	14 24 44.4	-0.2
	0.3nm,0.3s,baz=131,slow=15,SNR=3.5						
FITZ	Fitzroy Crossi	19.26	119	eP	Pn	14 25 35.7	-1.2
	11nm,0.8s						
FITZ	Fitzroy Crossi	19.26	119	P	Pn	14 25 36.5	-0.5
	0.4nm,0.3s,baz=212,slow=16,SNR=12						
BSI	Banda Aceh	19.42	319	P	Pn	14 25 39.0	+0.2
	125nm,1.2s						
KAKA	Kakadu	24.30	100	eP	P	14 26 27.2	-1.2
	50nm,1.6s,mb4.7						
WRA	Warramunga Arr	27.59	115	P	P	14 26 59.7	+1.5
	2.4nm,0.7s,mb3.9,baz=284,slow=12,SNR=11						
WRA				LR	LR	14 36 46.5	
	comp=Z,228nm,18.2s,MS3.8,baz=245,slow=34						
WRAB	Tennant Creek	27.60	115	eP	P	14 27 00.4	+2.1
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
WRAB	Tennant Creek	27.60	115	eP	P	14 27 00.4	+2.2
	comp=Z,3.9nm,0.6s,mb4.2						
WB2	Warramunga Arr	27.60	115	eP	P	14 26 55.7	-2.6
ASAR	Alice Springs	28.60	123	P	P	14 27 10.1	+2.9
	comp=Z,1.3nm,0.7s,mb3.8,baz=299,slow=9.3,SNR=17						
AS31	Alice Springs	28.60	123	eP	P	14 27 10.8	+3.6
CHTO	Chiang Mai	29.40	343	eP	P	14 27 14.9	+0.6
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
CHTO	Chiang Mai	29.40	343	eP	P	14 27 14.9	+0.6
	comp=Z,7.1nm,1.1s,mb4.3						
KMI	Kunming	34.68	352	P	P	14 28 03.8	+3.2
KMI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
GYA	Guiyang	35.66	358	⇑iP	P	14 28 11.3	+2.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
SSE	Sheshan	42.23	17	eP	P	14 29 03.4	-0.6
SSE				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,40nm,3.5s						
JIRN	Jiri	42.42	331	eP	P	14 29 06.4	+0.8
	comp=Z,55nm,0.8s,mb5.3						
NJ2	Nanjing	42.53	14	eP	P	14 29 05.1	-1.3
NJ2				AP	pP	14 29 15.1	-1.6
NJ2				XP	sP	14 29 18.9	-2.0
NJ2				PP	PP	14 30 46.4	+1.1
NJ2				S	S	14 35 21.0	-5.3
NJ2				XS	sS	14 35 37.0	-6.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,1μm,4.9s						
PKI	Pulchoki	42.73	330	eP	P	14 29 08.1	0.0
GUN	Gumba	42.78	331	eP	P	14 29 09.2	+0.7
	comp=Z,41nm,0.7s,mb5.3						
DMN	Daman	42.91	330	eP	P	14 29 09.9	+0.4
	comp=Z,27nm,0.8s,mb5.0						
KKN	Kakani	42.97	330	eP	P	14 29 10.2	+0.1
	comp=Z,38nm,0.9s,mb5.1						
KKN	Kakani	42.97	330	eP	P	14 29 10.2	+0.1
KKN				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.1						
XAN	Xi'an	43.21	1	P	P	14 29 12.5	+0.5
XAN				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.6						
GKN	Gorkha	43.47	329	eP	P	14 29 14.1	0.0
KOLN	Koldanda	43.81	328	eP	P	14 29 17.0	+0.2
	comp=Z,36nm,0.8s,mb5.2						
LZH	Lanzhou	45.40	355	eP	P	14 29 31.0	+1.5
LZH				AP	pP	14 29 40.8	+0.9
LZH				PP	PP	14 31 18.8	+2.7
LZH				AMB	AMB		
	comp=Z,30nm,1.4s,mb4.9						
SNY	Shenyang	52.97	15	⇓P	P	14 30 29.4	+2.1
SNY				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb5.0						
MJAR	Matsushiro Arr	53.85	30	P	P	14 30 31.9	-1.9
	comp=Z,2.3nm,0.8s,mb4.1,baz=214,slow=8.2,SNR=5.5						
SONM	Songino Array	57.00	359	P	P	14 30 56.7	+0.3
	comp=Z,2.6nm,0.7s,mb4.4,baz=175,slow=7.4,SNR=18						
ULN	Ulaanbaatar	57.02	359	eP	P	14 30 57.2	+0.6
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ULN	Ulaanbaatar	57.02	359	eP	P	14 30 57.2	+0.6
	comp=Z,2.5nm,0.6s,mb4.4						
ZAK	Zakamensk	59.67	357	eP	P	14 31 14.4	-0.7
ZAK				pmax	pmax		
	comp=Z,2.0nm,2.1s,mb3.8						
MKAR	Makanchi Array	60.43	340	P	P	14 31 20.2	-0.2
	comp=Z,5.7nm,0.7s,mb4.7,baz=144,slow=7.6,SNR=41						
MKAR	Makanchi Array	60.43	340	⇑eP	P	14 31 20.2	-0.2
KLR	Kul'dur	62.02	17	eP	P	14 31 27.7	-3.4
YSS	Yuzh-Sakhalins	64.12	26	⇑eP	P	14 31 45.1	+0.1
YSS				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
YSS	Yuzh-Sakhalins	64.12	26	eP	P	14 31 45.0	-0.1
	comp=Z,18nm,1.2s,mb5.0						
KURK	Kurchatov	65.05	340	⇑iP	P	14 31 50.4	-0.7
KURK	Kurchatov	65.05	340	eP	P	14 31 50.1	-1.0
	comp=Z,3.4nm,0.7s,mb4.5						
MAW	Mawson	65.35	197	P	pP	14 32 02.7	-1.1
	comp=Z,2.1nm,0.7s,baz=22,slow=5.0,SNR=5.2						
BOD	Bodaibo	67.17	4	eP	P	14 32 02.6	-2.1
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
BVAR	Borovoye Array	69.91	337	P	P	14 32 21.2	-0.6
	comp=Z,2.7nm,0.6s,mb4.4,baz=141,slow=8.9,SNR=13						
CHKZ	Chkalovo	70.33	337	eP	P	14 32 23.8	-0.6
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
CHKZ	Chkalovo	70.33	337	eP	P	14 32 23.8	-0.6
	comp=Z,5.1nm,0.5s,mb4.7						
ZRNK	Zerenda	70.40	336	eP	P	14 32 24.0	-0.8
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ZRNK	Zerenda	70.40	336	eP	P	14 32 24.0	-0.8
	comp=Z,3.0nm,0.6s,mb4.4						
YAK	Yakutsk	73.21	11	deP	P	14 32 40.8	-0.9
YAK				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
YAK	Yakutsk	73.21	11	eP	P	14 32 41.0	-0.6
	comp=Z,6.8nm,0.6s,mb4.8						
VNDA	Vanda	73.46	169	P	pP	14 32 50.2	-3.8
	comp=Z,1.3nm,1.0s,baz=271,slow=3.5,SNR=3.9						
MA2	Magadan	76.80	21	⇑iP	P	14 33 03.1	+0.7
MA2				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
ARU	Arti	77.16	334	⇓iP	P	14 33 03.6	-0.8
ARU				e		14 35 57.2	
ARU				eS	S	14 42 50.9	-0.3
ARU				eSS	SS	14 47 47.2	-1.9
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
KIV	Kislovodsk	79.25	318	d iP	P	14 33 15.1	-0.9
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
VRSR	Storozhevoye	84.31	324	eP	P	14 33 41.7	-1.0
VRSR				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.1						
VRSR				pmax	pmax		
	comp=N,3.0nm,0.4s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.7s						
OBN	Obninsk	87.22	327	⇑iP	P	14 33 56.7	-0.4
OBN				e		14 37 16.2	
OBN				pmax	pmax		
	comp=Z,14nm,0.4s,mb5.5						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.3						
KLMR	Klimovskoe	87.91	333	eP	P	14 33 59.5	-0.9
KLMR				pmax	pmax		
	comp=Z,30nm,1.8s,mb5.2						
WMOK	Wichita Mounta	144.90	40	ePKIKP	PKPdf	14 40 48.1	+0.4
CCM	Cathedral Cave	146.66	28	ePKIKP	PKPdf	14 40 51.1	+0.4
MIAR	Mount Ida	148.16	35	ePKP2	PKPbc	14 40 57.5	+1.1

IDC ***17*** *14:43:39.2±1.6, 9.49S×107.67E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=75.0km s-min=19.8km az=45.0*
NEIC ***17*** *14:43:40.4±0.5, 9.56S×107.58E, h10km, mb4.6/3, Error ellipse: s-maj=21.0km s-min=9.4km az=49.0*
ISCJB ***17*** *14:43:41.8±0.8, 9.6S±0.2×107.7E±0.2, h33km, mb4.1/8, Error ellipse: s-maj=31.6km s-min=13.8km az=98.3*
ISC 17 14:43:44.1±0.8**, 9.6S**±0.2×**107.6E**±0.2**, h35km, n12,** σ0.51/10**, mb4.1**/8**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.41	118	P	Pn	14 48 08.2	-0.3
	0.2nm,0.3s,baz=263,slow=15,SNR=6.4						
WRA	Warramunga Arr	27.76	115	P	P	14 49 29.4	0.0
	1.1nm,0.7s,mb3.6,baz=285,slow=11,SNR=6.0						
ASAR	Alice Springs	28.73	122	P	P	14 49 39.0	+0.8
	0.5nm,0.6s,mb3.4,baz=301,slow=9.1,SNR=8.8						
SONM	Songino Array	57.16	359	P	P	14 53 27.5	+0.2
	1.5nm,0.8s,mb4.1,baz=175,slow=8.6,SNR=8.9						
MKAR	Makanchi Array	60.50	340	P	P	14 53 50.6	+0.1
	2.7nm,0.7s,mb4.5,baz=148,slow=7.8,SNR=22						
KURK	Kurchatov	65.11	340	eP	P	14 54 21.1	-0.1
	3.1nm,0.8s,mb4.4						
MAW	Mawson	65.11	197	eP	P	14 54 20.7	-0.6
	3.3nm,0.6s,mb4.5						
CHKZ	Chkalovo	70.38	338	eP	P	14 54 54.5	0.0
	3.7nm,0.9s,mb4.3						
YAK	Yakutsk	73.42	11	eP	P	14 55 11.8	-0.9
BRTR	Keskin Array B	84.00	312	P	P	14 56 11.6	+0.8
	0.3nm,0.4s,mb3.8,baz=175,slow=4.1,SNR=2.5						
WMOK	Wichita Mounta	145.19	40	ePKPbc	PKPbc	15 03 18.9	+1.3
JCT	Junction City	147.03	47	ePKPbc	PKPbc	15 03 24.6	+1.5

IDC 17 14:45:20.7±12.0**, 10.28S×114.81W, h0km, mb3.7**/3**, mb1 4.1**/3**, mb1mx3.8**/12**, mbtmp3.7**/3**, Error ellipse: s-maj=422.2km s-min=246.1km az=81.0, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NVAR	Mina Array Bea	48.56	356	P	P	14 54 06.0	+0.3
	1.3nm,0.6s,baz=181,slow=10,SNR=12						
PDAR	Pinedale Array	53.00	5	P	P	14 54 39.2	+0.1
	0.5nm,1.0s,baz=190,slow=4.6,SNR=4.2						
YKA	Yellowknife Ar	72.54	0	P	P	14 56 49.3	-0.1
	0.5nm,0.6s,baz=178,slow=5.5,SNR=5.1						

BJI ***17*** *14:50:47.0, 10.15S×107.40E, h10km, mB5.2, mb5.0, Ms5.0, Msz4.7*
ISCJB ***17*** *14:50:54.7±0.2, 9.25S±0.04×107.17E±0.04, h14km, mb5.0/72, MS4.6/16, Error ellipse: s-maj=6.7km s-min=4.5km az=111.1*
IDC ***17*** *14:50:54.1±0.5, 9.18S×107.23E, h0km, mb4.6/17, mb1 4.7/18, mb1mx4.6/21, mbtmp4.6/18, ML4.2/1, MS4.0/3, Ms1 4.0/3, ms1mx3.4/44, Error ellipse: s-maj=20.5km s-min=13.0km az=62.0*
NEIC ***17*** *14:50:55.8±0.2, 9.24S×107.14E, h10km, mb5.1/30, Error ellipse: s-maj=7.9km s-min=5.4km az=55.0*
MOS ***17*** *14:50:57.8±1.1, 9.06S×107.36E, h33km, mb5.3/22, Error ellipse: s-maj=13.2km s-min=7.0km az=110.4*
ISC 17 14:50:56.7±0.2**, 9.27S**±0.04×**107.15E**±0.04**, h15km, h15km**±1.8km**:pP-P, n187,** σ1.03/170**, mb5.0**/72**, MS4.6**/16**, 15C-8D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEM	Lembang	2.47	11	P	Pn	14 51 36.5	+0.1
	5µm,0.8s						
JCJI	Jatiwangi	2.97	22	P	Pn	14 51 41.0	-2.3
	3µm,0.8s						
TNG	Tangerang	3.12	351	P	Pn	14 51 46.0	+0.7
	2µm,0.7s						
BJII	Banjamegara	3.18	53	P	Pn	14 51 46.1	0.0
	437nm,1.0s						
SBJI	Serang	3.29	342	P	Pn	14 51 47.6	0.0
	2µm,0.9s						
KLI	Kotabumi	4.93	332	P	Pn	14 52 14.7	+4.5
	240nm,1.1s						
KSI	Kapahiang	7.18	321	P	Pn	14 52 40.7	-0.5
	356nm,0.9s						
NBBI	Negara	7.44	84	P	Pn	14 52 45.9	+1.3
	992nm,0.7s						
DNP	Denpasar	7.98	86	P	Pn	14 52 56.6	+4.5
	834nm,1.0s						
COCO	West Island	10.54	253	ePn	Pn	14 53 24.1	-3.1
	187nm,0.8s						
KSM	Kuching	11.12	17	eP	Pn	14 53 35.9	+0.7
PSI	Prapat	14.52	325	Pn	Pn	14 54 15.3	-6.2
	0.6nm,0.3s,baz=199,slow=8.6,SNR=3.5						
PSI				LR	LR	15 01 05.4	
	comp=Z,568nm,18.2s,baz=144,slow=42						
PCI	Palu	15.11	57	P	Pn	14 54 29.7	+0.1
	99nm,1.6s						
KULM	Kulim	15.85	336	eP	Pn	14 54 34.7	-4.4
MBWA	Marble Bar	16.93	136	eP	Pn	14 54 47.7	-5.2
	24nm,0.9s						
KKM	Kota Kinabalu	17.69	31	eP	Pn	14 55 02.1	-0.4
FITZ	Fitzroy Crossi	19.98	118	eP	Pn	14 55 29.0	-1.2
	29nm,0.8s						
FITZ	Fitzroy Crossi	19.98	118	P	Pn	14 55 28.3	-1.9
	0.5nm,0.3s,baz=262,slow=7.9,SNR=14						
NNT	Nongplab	22.93	341	P	P	14 56 03.9	+3.8
KLBR	Kellerberrin	24.30	158	eP	P	14 56 13.1	-0.4
	23nm,1.2s,mb4.5						
DAV	Davao City (W)	24.51	49	eP	P	14 56 17.2	+1.8
KAKA	Kakadu	25.05	100	eP	P	14 56 21.0	+0.7
	35nm,0.6s,mb5.1						
NWAO	Narrogin (SRO)	25.32	160	P	P	14 56 23.9	+1.2
	11nm,0.9s,mb4.4,baz=336,slow=16,SNR=3.5						
NWAO				LR	LR	15 04 31.9	
	comp=Z,324nm,20.8s,MS3.8,baz=320,slow=32						
NWAO	Narrogin (SRO)	25.32	160	P	P	14 56 23.9	+1.2
NWAO				LR	LR	15 04 31.9	
NST	Nakhon Sawan	25.74	344	P	P	14 56 25.0	-1.5
QIZ	Qiongzhong	28.24	5	P	P	14 56 50.4	+1.3
QIZ				eS	S	15 01 34.5	+0.1
QIZ				LR	LR		
	comp=N,686nm,13.6s						
QIZ				LR	LR		
	comp=Z,769nm,14.8s,MS4.4						
WRA	Warramunga Arr	28.32	115	P	P	14 56 49.0	-0.7
	comp=Z,8.1nm,1.1s,mb4.3,baz=290,slow=10,SNR=23						
WRAB	Tennant Creek	28.33	115	⇑eP	P	14 56 50.0	+0.2
WRAB	Tennant Creek	28.33	115	eP	P	14 56 49.5	-0.3
	comp=Z,24nm,1.3s,mb4.7						
WB2	Warramunga Arr	28.33	115	eP	P	14 56 49.4	-0.5
NANT	Nan	28.61	347	⇓P	P	14 56 51.0	-1.3
	comp=Z,138nm,0.8s,mb5.7						
CHG	Chiang Mai	29.05	344	⇓P	P	14 56 57.3	+1.0
	comp=Z,40nm,1.0s,mb5.1						
CHTO	Chiang Mai	29.05	344	⇓P	P	14 56 55.1	-1.2
	SNR=8.6						
CHTO	Chiang Mai	29.05	344	eP	P	14 56 53.9	-2.4
CHTO				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.1						
CHTO	Chiang Mai	29.05	344	eP	P	14 56 53.9	-2.4
	comp=Z,42nm,1.1s,mb5.1						
ASPA	Alice Springs	29.30	123	eP	P	14 56 58.5	0.0
ASPA				eS	S	15 02 38.3	+47
ASAR	Alice Springs	29.30	123	P	P	14 56 58.1	-0.3
	comp=Z,6.0nm,1.0s,mb4.3,baz=292,slow=7.9,SNR=24						
ASAR				LR	LR	15 08 27.2	
	comp=Z,269nm,19.4s,MS3.9,baz=310,slow=36						
AS31	Alice Springs	29.30	123	eP	P	14 56 58.5	0.0
AS31				eS	S	15 02 38.3	+47
KMI	Kunming	34.45	353	P	P	14 57 46.1	+2.4
KMI				AP	pP	14 57 49.0	+0.7
KMI				XP	sP	14 57 50.3	+0.2
KMI				PP	PP	14 59 03.1	+1.3
KMI				PPP		14 59 21.3	
KMI				S	S	15 03 15.4	+4.0
KMI				SSS		15 05 54.3	
KMI				AMB	AMB		
	comp=Z,35nm,1.1s,mb5.2						
KMI				AMB	AMB		
	comp=Z,116nm,3.1s						
KMI				LR	LR		
	comp=N,1µm,11.4s,MS5.0						
KMI				LR	LR		
	comp=E,989nm,11.1s,MS5.0						
KMI				LR	LR		
	comp=Z,2µm,11.7s,MS5.0						
GYA	Guiyang	35.51	359	⇑iP	P	14 57 53.6	+0.7
GYA				AP	pP	14 57 58.0	+0.6
GYA				XP	sP	14 58 01.3	+2.0
GYA				PP	PP	14 59 14.3	+0.8
GYA				PCP	PcP	15 00 22.5	+0.5
GYA				S	S	15 03 28.4	+0.6
GYA				SCP	ScP	15 04 05.8	-1.5
GYA				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.5						
GYA				AMB	AMB		
	comp=Z,170nm,4.8s						
GYA				LR	LR		
	comp=N,970nm,15.0s,MS4.8						
GYA				LR	LR		
	comp=E,840nm,15.4s,MS4.8						
GYA				LR	LR		
	comp=Z,860nm,16.2s,MS4.6						
VIS	Vishakhapatnam	35.68	319	eP	P	14 57 52.3	-1.9
VIS				AMb	AMB	14 57 59.0	
	comp=Z,58nm,1.3s,mb5.3						
BOK	Bokaro	38.88	328	eP	P	14 58 21.3	-0.2
CTA	Charters Tower	39.23	110	eP	P	14 58 25.5	+1.1
	comp=Z,12nm,1.5s,mb4.4						
CTA	Charters Tower	39.23	110	P	P	14 58 25.1	+0.8
	comp=Z,7.8nm,1.0s,mb4.4,baz=279,slow=9.5,SNR=4.6						
CTA	Charters Tower	39.23	110	eP	P	14 58 25.5	+1.1
CTA				pmax	pmax		
	comp=Z,12nm,1.5s						
CTAO	Charters Tower	39.23	110	eP	P	14 58 24.2	-0.2
CTAO				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.0						
CTAO	Charters Tower	39.23	110	eP	P	14 58 24.1	-0.2
	comp=Z,41nm,1.4s,mb5.0						
PMG	Port Moresby	39.46	94	P	P	14 58 27.2	+0.9
	comp=Z,12nm,0.9s,mb4.6,baz=275,slow=7.3,SNR=3.3						
CD2	Chengdu	40.08	355	P	P	14 58 31.1	-0.3
CD2				AP	pP	14 58 35.6	-0.4
CD2				XP	sP	14 58 39.0	+1.1
CD2				PP	PP	15 00 07.8	+4.2
CD2				S	S	15 04 37.4	+0.4
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,100nm,5.6s						
CD2				LR	LR		
	comp=N,620nm,13.2s						
CD2				LR	LR		
	comp=Z,600nm,12.0s,MS4.7						
JOW	Kunigami	41.33	29	P	P	14 58 41.1	-0.6
	comp=Z,25nm,0.9s,mb4.9,baz=231,slow=7.3,SNR=6.4						
KAD	Karad	41.94	309	eP	P	14 58 47.6	+0.8
KAD				AMb	AMB	14 59 04.7	
	comp=Z,60nm,0.9s,mb5.2						
JIRN	Jiri	41.95	332	eP	P	14 58 47.8	+1.0
	comp=Z,280nm,1.1s,mb5.8						
AKL	Akola	42.01	315	eP	P	14 58 46.8	-0.5
AKL				AMb	AMB	14 58 50.1	
	comp=Z,40nm,1.7s,mb4.8						
PKI	Pulchoki	42.24	331	eP	P	14 58 49.8	+0.6
	comp=Z,190nm,1.4s,mb5.5						
PKI	Pulchoki	42.24	331	eP	P	14 58 49.8	+0.6
PKI				pmax	pmax		
	comp=Z,190nm,1.4s,mb5.5						
GUN	Gumba	42.30	332	eP	P	14 58 50.8	+1.1
	comp=Z,366nm,1.2s,mb5.9						
SSE	Sheshan	42.33	18	eP	P	14 58 50.4	+0.5
SSE				AMB	AMB		
	comp=Z,39nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,127nm,4.5s						
DMN	Daman	42.42	330	eP	P	14 58 51.9	+1.2
	comp=Z,184nm,1.1s,mb5.6						
KKN	Kakani	42.49	331	eP	P	14 58 52.0	+0.8
	comp=Z,203nm,1.2s,mb5.6						
KKN	Kakani	42.49	331	eP	P	14 58 52.0	+0.8
KKN				pmax	pmax		
	comp=Z,203nm,1.2s,mb5.6						
NJ2	Nanjing	42.58	15	eP	P	14 58 52.0	0.0
NJ2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,1µm,4.5s						
NJ2				LR	LR		
	comp=N,5µm,12.4s,MS5.7						
NJ2				LR	LR		
	comp=E,3µm,14.6s,MS5.7						
NJ2				LR	LR		
	comp=Z,7µm,14.6s,MS5.7						
GKN	Gorkha	42.98	330	eP	P	14 58 55.7	+0.5
	comp=Z,211nm,1.1s,mb5.8						
XAN	Xi'an	43.10	2	P	P	14 58 56.3	+0.1
XAN				S	S	15 05 17.4	-4.3
XAN				AMB	AMB		
	comp=Z,52nm,1.0s,mb5.2						
XAN				LR	LR		
	comp=N,672nm,11.2s,MS4.8						
XAN				LR	LR		
	comp=E,200nm,10.4s,MS4.8						
XAN				LR	LR		
	comp=Z,119nm,11.7s,MS4.0						
KOLN	Koldanda	43.31	329	eP	P	14 58 59.3	+1.4
	comp=Z,112nm,0.7s,mb5.7						
BHPL	Bhopal	43.47	318	eP	P	14 58 59.5	+0.3
BHPL				AMb	AMB	14 59 12.1	
	comp=Z,30nm,0.7s,mb5.1						
LZH	Lanzhou	45.22	356	eP	P	14 59 13.3	+0.1
LZH				AP	pP	14 59 22.5	+4.7
LZH				XP	sP	14 59 26.5	+6.8
LZH				PP	PP	15 01 00.1	+1.2
LZH				eS	S	15 05 52.0	-0.6
LZH				XS	sS	15 06 12.0	+12
LZH				SS	SS	15 09 15.0	-0.4
LZH				AMB	AMB		
	comp=Z,27nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,220nm,4.4s						
LZH				LR	LR		
	comp=N,753nm,13.0s						
LZH				LR	LR		
	comp=Z,928nm,14.0s,MS4.9						
TIA	Tai'an	46.20	11	eP	P	14 59 19.8	-1.1
LGTI	Lohaghat	46.41	327	eP	P	14 59 23.5	+0.9
ARMA	Armidale	46.45	123	eP	P	14 59 25.3	+2.4
NDI	New Delhi	47.53	324	eP	P	14 59 30.0	-1.3
GTA	Gaotai	48.91	352	eP	P	14 59 42.5	+0.5
GTA				AP	pP	14 59 51.6	+5.0
GTA				XP	sP	14 59 55.4	+6.9
GTA				PP	PP	15 01 37.3	+2.0
GTA				PPP		15 02 30.0	
GTA				S	S	15 06 46.3	+1.1
GTA				XS	sS	15 07 01.1	+8.2
GTA				AMB	AMB		
	comp=Z,26nm,1.6s,mb5.0						
GTA				AMB	AMB		
	comp=Z,292nm,6.1s						
GTA				LR	LR		
	comp=N,219nm,16.7s,MS4.4						
GTA				LR	LR		
	comp=E,275nm,17.5s,MS4.4						
GTA				LR	LR		
	comp=Z,429nm,16.0s,MS4.5						
SMLA	Simla	49.39	326	eP	P	14 59 46.1	+0.4
BTO	Baotou	49.69	3	eP	P	14 59 47.8	-0.2
BJT	Baijiatuau	49.74	9	eP	P	14 59 47.9	-0.4
BJT				pmax	pmax		
	comp=Z,28nm,0.9s						
BJT	Baijiatuau	49.74	9	eP	P	14 59 47.9	-0.4
	comp=Z,28nm,0.9s,mb5.3						
BJI	Beijing	49.76	9	eP	P	14 59 47.8	-0.7
BJI				AMB	AMB		
	comp=Z,23nm,1.1s,mb5.1						
SDNR	Sundarnagar	49.78	326	eP	P	14 59 48.6	0.0
HHC	Hu-ho-hao-te	50.03	4	eP	P	14 59 52.1	+1.6
HHC				AP	pP	14 59 57.3	+2.1
HHC				XP	sP	14 59 59.4	+2.3
HHC				PCP	PcP	15 01 08.1	-2.2
HHC				PP	PP	15 01 49.8	+4.3
HHC				PCS	PcS	15 05 07.3	0.0
HHC				S	S	15 06 55.4	-5.6
HHC				XS	sS	15 07 13.3	+4.6
HHC				SCS	ScS	15 09 32.4	-9.1
HHC				SS	SS	15 10 34.3	+0.3
HHC				AMB	AMB		
	comp=Z,21nm,1.2s,mb5.0						
HHC				AMB	AMB		
	comp=Z,102nm,4.4s						
HHC				LR	LR		
	comp=N,837nm,10.7s,MS5.0						
HHC				LR	LR		
	comp=E,331nm,13.1s,MS5.0						
HHC				LR	LR		
	comp=Z,677nm,13.1s,MS4.8						
SNY	Shenyang	53.03	15	⇓P	P	15 00 16.0	+3.0
SNY				AP	pP	15 00 19.6	+1.9
SNY				XP	sP	15 00 21.8	+2.2
SNY				S	S	15 07 46.6	+4.2
SNY				XS	sS	15 07 52.3	+2.2
SNY				AMB	AMB		
	comp=Z,13nm,0.5s,mb5.1						
SNY				AMB	AMB		
	comp=Z,248nm,5.1s						
SNY				LR	LR		
	comp=N,287nm,14.9s,MS4.6						
SNY				LR	LR		
	comp=E,202nm,11.4s,MS4.6						
SNY				LR	LR		
	comp=Z,364nm,13.0s,MS4.6						
MAJO	Matsushiro	54.12	31	eP	P	15 00 19.2	-1.7
MAJO				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
MAJO	Matsushiro	54.12	31	eP	P	15 00 19.2	-1.8
	comp=Z,19nm,1.1s,mb4.9						
MAT	Matsushiro	54.12	31	P	P	15 00 18.2	-2.7
MAT				S	S	15 08 06.0	+9.0
MAT	Matsushiro	54.12	31	eP	P	15 00 18.0	-2.9
MJAR	Matsushiro Arr	54.12	31	P	P	15 00 18.5	-2.4
	comp=Z,4.2nm,0.6s,mb4.5,baz=214,slow=7.4,SNR=15						
CN2	Changchun	55.37	16	eP	P	15 00 33.4	+3.4
WMQ	Urumqi	55.71	343	P	P	15 00 34.5	+2.0
WMQ				AP	pP	15 00 38.6	+1.3
WMQ				XP	sP	15 00 41.0	+1.9
WMQ				PCP	PcP	15 01 33.6	+1.9
WMQ				PP	PP	15 02 40.3	+3.5
WMQ				SCP	ScP	15 05 30.8	+0.6
WMQ				S	S	15 08 18.8	+0.3
WMQ				AMB	AMB		
	comp=Z,31nm,1.4s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,170nm,4.8s						
WMQ				LR	LR		
	comp=N,880nm,17.9s,MS5.0						
WMQ				LR	LR		
	comp=E,660nm,16.8s,MS5.0						
WMQ				LR	LR		
	comp=Z,882nm,18.4s,MS4.9						
KSH	Kashi	56.50	331	eP	P	15 00 38.9	+0.7
KSH				eAP	pP	15 00 44.0	+1.1
KSH				eXP	sP	15 00 47.8	+3.1
KSH				ePCP	PcP	15 01 35.3	+0.5
KSH				ePP	PP	15 02 44.9	+1.0
KSH				ePPP		15 04 03.8	
KSH				eSCP	ScP	15 05 32.6	-1.1
KSH				eS	S	15 08 28.0	-1.0
KSH				ePS		15 08 47.9	
KSH				eSCS	ScS	15 10 23.9	-3.1
KSH				AMB	AMB		
	comp=Z,639nm,3.4s						
KSH				LR	LR		
	comp=N,286nm,4.3s						
KSH				LR	LR		
	comp=E,369nm,5.2s						
KSH				LR	LR		
	comp=Z,412nm,18.4s,MS4.6						
SONM	Songino Array	56.85	359	P	P	15 00 41.0	+0.3
	comp=Z,7.3nm,0.9s,mb4.7,baz=172,slow=6.8,SNR=41						
ULN	Ulaanbaatar	56.88	360	⇑P	P	15 00 41.2	+0.3
	SNR=14						
ULN	Ulaanbaatar	56.88	360c	iP	P	15 00 41.0	+0.2
MDJ	Mudanjiang	57.34	19	P	P	15 00 45.8	+1.7
MDJ				AP	pP	15 00 48.9	0.0
MDJ				XP	sP	15 00 50.4	-0.3
MDJ				PCP	PcP	15 01 39.1	+1.0
MDJ				PP	PP	15 02 53.4	+2.0
MDJ				S	S	15 08 44.3	+4.2
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,41nm,4.7s						
MDJ				LR	LR		
	comp=N,127nm,18.9s,MS4.2						
MDJ				LR	LR		
	comp=E,80nm,16.4s,MS4.2						
MDJ				LR	LR		
	comp=Z,153nm,19.4s,MS4.1						
HIA	Hailar	59.32	10	⇑eP	P	15 00 56.4	-1.5
HIA	Hailar	59.32	10	P	P	15 00 56.5	-1.5
TKM2	Tokmak 2	59.38	333	iP	P	15 00 57.5	-0.8
TKM2				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2						
ZAK	Zakamensk	59.49	357	eP	P	15 00 59.4	+0.3
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
AAK	Ala-Archa	59.65	333	⇓iP	P	15 00 59.8	-0.4
AAK				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
AAK	Ala-Archa	59.65	333	eP	P	15 00 59.4	-0.8
	comp=Z,5.3nm,0.6s,mb4.8						
FRU	Bishkek	59.75	333	eP	P	15 01 00.0	-0.9
MK31	Makanchi Array	60.06	341	P	P	15 01 02.7	-0.3
MK31				pmax	pmax		
	comp=Z,80nm,1.3s,mb5.6						
MKAR	Makanchi Array	60.06	341	P	P	15 01 03.0	0.0
	comp=Z,9.3nm,0.5s,mb5.1,baz=144,slow=7.8,SNR=143						
MKAR	Makanchi Array	60.06	341	⇑eP	P	15 01 03.0	0.0
MOY	Mondy	60.92	356	eP	P	15 01 10.0	+1.1
MOY				pmax	pmax		
	comp=Z,36nm,2.1s,mb5.1						
KLR	Kul'dur	62.12	18	eP	P	15 01 12.2	-4.8
YSS	Yuzh-Sakhalins	64.33	26c	eP	P	15 01 30.0	-1.6
YSS				pmax	pmax		
	comp=Z,35nm,1.7s,mb5.1						
YSS	Yuzh-Sakhalins	64.33	26	eP	P	15 01 30.2	-1.4
	comp=Z,28nm,0.9s,mb5.3						
KURK	Kurchatov	64.67	340	P	P	15 01 34.6	+0.7
	comp=Z,118nm,0.9s,mb5.9,SNR=20						
KURK	Kurchatov	64.67	340	⇑P	P	15 01 34.0	+0.2
	SNR=19						
KURK	Kurchatov	64.67	340c	iP	P	15 01 33.9	0.0
KURK	Kurchatov	64.67	340	eP	P	15 01 33.8	0.0
	comp=Z,39nm,1.0s,mb5.4						
MAW	Mawson	65.25	197	P	P	15 01 38.3	+0.6
	comp=Z,2.7nm,0.3s,mb4.8,baz=97,slow=8.5,SNR=11						
MAW	Mawson	65.25	197	eP	P	15 01 38.1	+0.4
MAW				pmax	pmax		
	comp=Z,22nm,1.3s						
MAW	Mawson	65.25	197	eP	P	15 01 38.1	+0.4
	comp=Z,22nm,1.3s,mb5.0						
ZAL	Zalesovo	65.75	346	P	P	15 01 40.0	-0.9
	comp=Z,3.3nm,0.5s,mb4.6,baz=322,slow=6.6,SNR=14						
KRAR	Krasnoyarsk	66.12	351	⇑eP	P	15 01 37.4	-5.8
KRAR				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.3						
NVS	Novosibirsk	66.95	345	eP	P	15 01 47.4	-1.2
NVS				pmax	pmax		
	comp=Z,18nm,1.6s,mb4.8						
NVS				pmax	pmax		
	comp=N,20nm,1.7s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.5s						
BOD	Bodaibo	67.09	4	eP	P	15 01 48.0	-1.4
BOD				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
BVA0	Borovoye Array	69.50	337	iP	P	15 02 03.4	-1.2
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	Borovoye	69.57	337	P	P	15 02 05.0	0.0
	comp=Z,120nm,0.6s,mb6.0,SNR=9.8						
BRVK	Borovoye	69.57	337	⇑P	P	15 02 05.0	0.0
	SNR=6.5						
BRVK	Borovoye	69.57	337	eP	P	15 02 04.8	-0.2
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
BRVK	Borovoye	69.57	337	eP	P	15 02 04.8	-0.2
	comp=Z,7.4nm,0.6s,mb4.8						
YAK	Yakutsk	73.22	11c	iP	P	15 02 25.4	-1.6
YAK				pmax	pmax		
	comp=Z,108nm,1.7s,mb5.5						
YAK	Yakutsk	73.22	11	eP	P	15 02 24.7	-2.3
	comp=Z,56nm,0.9s,mb5.5						
SYO	Syowa Base	73.44	200	⇓epP	pP	15 02 31.4	-1.8
VNDA	Vanda	73.72	169	P	P	15 02 29.9	-0.2
	comp=Z,2.7nm,1.0s,mb4.2,baz=307,slow=5.7,SNR=13						
VNDA	Vanda	73.72	169	eP	P	15 02 29.2	-0.8
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
VNDA	Vanda	73.72	169	eP	P	15 02 29.2	-0.8
	comp=Z,6.4nm,1.2s,mb4.4						
SBA	Scott Base	74.80	169	eP	P	15 02 36.5	+0.2
SBA				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
SBA	Scott Base	74.80	169	eP	P	15 02 36.5	+0.2
	comp=Z,8.2nm,1.1s,mb4.6						
GNI	Garni	75.66	315	iP	P	15 02 41.4	+0.2
DGRG	David-gareji	75.79	317	P	P	15 02 41.2	-0.8
PET	Petropavlovsk	75.90	29c	iP	P	15 02 41.7	-0.9
PET				pmax	pmax		
	comp=Z,40nm,1.7s,mb5.1						
PET	Petropavlovsk	75.90	29	eP	P	15 02 41.3	-1.3
	comp=Z,12nm,0.6s,mb5.0						
SVE	Sverdlovsk	76.12	336	eP	P	15 02 44.5	+0.6
SVE				e		15 13 20.0	
SVE				pmax	pmax		
	comp=Z,60nm,2.1s,mb5.2						
MTA	Mtatsminda	76.29	317	P	P	15 02 45.4	+0.6
TBLG	Delisi	76.34	317	P	P	15 02 45.5	+0.3
ARU	Arti	76.72	335	eP	P	15 02 46.0	-1.3
ARU				e		15 05 38.5	
ARU				ePPP		15 07 30.3	
ARU				eS	S	15 12 26.6	-7.1
ARU				eSS	SS	15 17 21.0	-8.4
ARU	Arti	76.72	335	eP	P	15 02 46.8	-0.5
	comp=Z,12nm,0.9s,mb4.8						
MA2	Magadan	76.94	21d	eP	P	15 02 47.9	-0.6
MA2				pmax	pmax		
	comp=Z,50nm,1.6s,mb5.2						
AKH	Akhalkalaki	77.05	316	P	P	15 02 50.1	+0.9
ZEI	Tsey	77.36	318	eP	P	15 02 50.6	-0.2
ONI	Oni	77.57	317	P	P	15 02 53.1	+1.1
KIV	Kislovodsk	78.66	318d	iP	P	15 02 59.3	+1.2
KIV				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
GOF	Gofitskoye	78.90	319	eP	P	15 02 58.8	-0.6
QSPA	South Pole Qui	80.74	180	eP	P	15 03 09.3	0.0
	comp=Z,6.4nm,0.8s,mb4.6						
TIXI	Tiksi	82.03	7c	iP	P	15 03 14.0	-2.2
TIXI				pmax	pmax		
	comp=Z,32nm,2.5s,mb4.8						
BR131	Keskin Array S	83.44	312	eP	P	15 03 24.3	+0.8
	comp=Z,2.0nm,0.6s,mb4.3						
BRTR	Keskin Array B	83.44	312	P	P	15 03 23.7	+0.2
	comp=Z,1.8nm,0.7s,mb4.2,baz=144,slow=6.6,SNR=14						
VRSR	Storozhevoye	83.77	324	eP	P	15 03 25.4	+0.2
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.2						
VRSR				pmax	pmax		
	comp=N,2.0nm,0.6s						
VRSR				pmax	pmax		
	comp=E,4.0nm,0.5s						
OBN	Obninsk	86.70	327c	iP	P	15 03 40.1	+0.2
OBN				e		15 07 05.4	
OBN				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.6						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.3						
OBN	Obninsk	86.70	327	eP	P	15 03 40.2	+0.3
	comp=Z,22nm,0.8s,mb5.5						
SNAA	Sanae	87.42	197	eP	P	15 03 43.3	-0.1
SNAA				e	pP	15 03 46.0	-2.4

SNAA				*e*	pP	15 03 47.6	-0.8
SNAA				*e*		15 03 51.6	
SNAA				*e*		15 03 57.0	
KLMR	**Klimovskoe**	**87.46**	**333**	*e*P	**P**	**15 03 43.7**	**+0.1**
KLMR				pmax	pmax		
	comp=Z,50nm,1.5s,mb5.5						
VNA1	**Neumayer--Stat**	**89.45**	**198**	*e*P	**P**	**15 03 53.3**	**+0.3**
VNA1				*e*	pP	15 03 56.4	-1.6
AKASG	**Malin Array Be**	**89.55**	**322**	P	**P**	**15 03 53.0**	**-0.4**
	comp=Z,0.4nm,0.5s,mb4.0,baz=90,slow=3.8,SNR=8.7						
AKASG				PP	PP	15 07 23.6	-1.4
	comp=Z,1.5nm,0.7s,baz=86,slow=6.6,SNR=6.2						
MLR	**Muntele Rosu**	**90.43**	**316**	P	**P**	**15 03 58.7**	**+1.1**
	comp=Z,3.0nm,0.5s,mb4.9,baz=150,slow=0.7,SNR=8.6						
FINES	**FINESS Array B**	**93.83**	**332**	P	**P**	**15 04 13.2**	**0.0**
	comp=Z,1.2nm,0.8s,mb4.4,baz=165,slow=5.8,SNR=2.6						
ARCES	**ARCESS Array B**	**95.70**	**340**	P	**P**	**15 04 20.7**	**-1.2**
	comp=Z,1.2nm,0.6s,mb4.5,baz=88,slow=6.4,SNR=4.4						
YKA	**Yellowknife Ar**	**118.92**	**21**	PKP	PKPdf	15 09 41.8	-2.7
	comp=Z,0.1nm,0.5s,baz=281,slow=3.3,SNR=3.1						
WVOR	**Wild Horse Val**	**128.11**	**42**	PKHKP		15 09 28.6	
LONY	**Lake Ozonia**	**144.75**	**2**	*e*PKPdf	PKPdf	15 10 32.1	-0.8
LTX	**Lajitas**	**144.91**	**51**	PKIKP	PKPdf	15 10 35.3	+2.2
LTX				*e*		15 10 51.1	
LTX	**Lajitas**	**144.91**	**51**	*e*PKPdf	PKPdf	15 10 34.1	+1.0
BDFB	**Brasilia**	**145.11**	**225**	PKPbc	PKPbc	15 10 35.4	+2.4
	comp=Z,4.4nm,0.7s,baz=140,slow=6.1,SNR=5.1						
LBNH	**Lisbon**	**145.15**	**359**	PKIKP	PKPdf	15 10 34.3	+0.7
LBNH	**Lisbon**	**145.15**	**359**	*e*PKPdf	PKPdf	15 10 33.7	+0.2
WMOK	**Wichita Mounta**	**145.27**	**39**	*e*PKIKP	PKPdf	15 10 34.0	+0.2
MIV	**Mineville/With**	**145.32**	**1**	*e*PKPdf	PKPdf	15 10 34.2	+0.4
NCB	**Newcomb**	**145.41**	**2**	*e*PKPdf	PKPdf	15 10 34.5	+0.5
HNH	**Hanover**	**145.69**	**359**	*e*PKPdf	PKPdf	15 10 35.7	+1.2
HRV	**Harvard--Oak R**	**146.87**	**358**	*e*PKP2	PKPab	15 10 39.0	-0.7
CCM	**Cathedral Cave**	**146.89**	**27**	*e*PKP2	PKPab	15 10 38.9	-0.9
WES	**Weston**	**146.99**	**358**	*e*PKP2	PKPab	15 10 40.3	+0.2
BINY	**Binghamton**	**147.08**	**4**	*e*PKPbc	PKPbc	15 10 38.9	0.0
QUA2	**Belchertown**	**147.12**	**359**	*e*PKPbc	PKPbc	15 10 39.9	+0.8
JCT	**Junction City**	**147.18**	**46**	*e*PKP2	PKPab	15 10 41.1	+0.2
ACSO	**Alum Creek Sta**	**147.87**	**15**	*e*PKPbc	PKPbc	15 10 42.0	+0.8
LVC	**Limon Verde**	**148.08**	**187**	*e*PKPbc	PKPbc	15 10 43.7	+2.0
SSPA	**Standing Stone**	**148.44**	**7**	*e*PKPbc	PKPbc	15 10 43.3	+0.7
MIAR	**Mount Ida**	**148.47**	**34**	*e*PKP2	PKPbc	15 10 43.8	+1.1
WCI	**Wyandotte Cave**	**148.73**	**21**	*e*PKP2	PKPbc	15 10 45.0	+1.6
WVT	**Waverly**	**149.99**	**25**	*e*PKP2	PKPbc	15 10 47.1	+0.6
HKT	**Hockley**	**150.25**	**43**	*e*PKP2	PKPbc	15 10 49.7	+2.6
PLAL	**Pickwick Lake**	**150.86**	**26**	*e*PKPbc	PKPbc	15 10 48.7	+0.1
ELN	**Prospectdale**	**151.26**	**13**	*e*PKPbc	PKPbc	15 10 50.1	+0.6
CPCT	**Cooper Cave**	**151.84**	**20**	*e*PKPbc	PKPbc	15 10 52.0	+1.1
LPAZ	**La Paz**	**154.18**	**190**	PKPbc	PKPbc	15 10 57.8	+1.8
	comp=Z,1.2nm,0.8s,baz=122,slow=7.1,SNR=6.2						
LPAZ				PKPab	PKPab	15 11 08.9	-0.8
	comp=Z,1.4nm,0.8s,baz=162,slow=7.1,SNR=5.6						

*IDC **17** 15:02:56.6±1.0, 15.25S×173.40W, h0km, mb4.0/5, mb1 4.3/6, mb1mx4.1/15, mbtmp4.1/6, Error ellipse: s-maj=55.0km s-min=19.3km az=141.0*

*ISCJB **17** 15:02:58.9±5.9, 15.2S±0.2×173.5W±0.2, h24km±44km, mb4.0/6, Error ellipse: s-maj=50.6km s-min=16.2km az=101.2*

*NEIC **17** 15:03:01.9±0.6, 15.25S×173.39W, h35km, mb4.2/1, Error ellipse: s-maj=33.0km s-min=10.2km az=142.0*

ISC 17 15:03:00.2±6.5**, 15.3S**±0.2×**173.3W**±0.2**, h21**km±48km**, n9, σ0.74**/10**, mb4.0**/6**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.02**	**49**	Pn	**Pn**	**15 03 33.4**	**+0.4**
	164nm,0.3s,baz=201,slow=1.0,SNR=661						
AFI				Sn	**Sn**	**15 03 54.4**	**-3.1**
	245nm,0.3s,baz=53,slow=22,SNR=14						
URZ	**Urewera**	**24.43**	**198**	P	**P**	**15 08 16.9**	**-0.3**
	8.5nm,0.6s,mb4.4,baz=155,slow=5.3,SNR=7.1						
WRA	**Warramunga Arr**	**49.93**	**257**	P	**P**	**15 11 52.2**	**-0.2**
	0.3nm,0.5s,mb3.6,baz=95,slow=6.9,SNR=9.8						
AS31	**Alice Springs**	**50.21**	**252**	*e*P	**P**	**15 11 54.3**	**-0.2**
ASAR	**Alice Springs**	**50.21**	**252**	P	**P**	**15 11 54.2**	**-0.3**
	2.8nm,0.6s,mb4.4,baz=90,slow=7.6,SNR=71						
ASPA	**Alice Springs**	**50.22**	**252**	*e*P	**P**	**15 11 54.3**	**-0.2**
NVAR	**Mina Array Bea**	**74.18**	**42**	P	**P**	**15 14 35.6**	**+0.4**
	1.2nm,0.8s,mb3.9,baz=218,slow=8.3,SNR=6.9						
HLID	**Hailey**	**79.47**	**39**	*e*P	**P**	**15 15 06.3**	**+1.2**
	2.1nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**82.11**	**42**	P	**P**	**15 15 19.4**	**+0.2**
	0.5nm,0.7s,mb3.5,baz=199,slow=3.1,SNR=4.0						

*IDC **17** 15:07:07.8±1.6, 7.61S×106.03E, h0km, mb4.0/6, mb1 4.0/6, mb1mx3.8/16, mbtmp4.0/6, Error ellipse: s-maj=73.7km s-min=21.1km az=48.0*

*NEIC **17** 15:07:09.2±1.6, 7.65S×106.00E, h10km, mb4.6/2, Error ellipse: s-maj=83.7km s-min=18.6km az=46.0*

*ISCJB **17** 15:07:11.0±1.5, 7.5S±0.4×106.2E±0.4, h33km, mb4.1/8, Error ellipse: s-maj=75.7km s-min=17.2km az=92.7*

ISC 17 15:07:13.2±1.5**, 7.6S**±0.4×**106.1E**±0.4**, h35**km**, n9, σ1.17**/9**, mb4.1**/8**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.03**	**117**	P	**P**	**15 13 17.0**	**-1.7**
	0.7nm,0.7s,mb3.5,baz=288,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**31.12**	**124**	P	**P**	**15 13 30.4**	**+1.9**
	0.5nm,0.8s,mb3.4,baz=293,slow=9.6,SNR=3.9						
SONM	**Songino Array**	**55.18**	**0**	P	**P**	**15 16 41.4**	**-0.9**
	2.0nm,0.6s,mb4.3,baz=179,slow=8.4,SNR=16						
MKAR	**Makanchi Array**	**58.12**	**341**	P	**P**	**15 17 05.1**	**+1.8**
	1.6nm,0.6s,mb4.2,baz=143,slow=7.6,SNR=18						
BVAR	**Borovoye Array**	**67.54**	**338**	P	**P**	**15 18 06.2**	**+0.3**
	2.4nm,0.7s,mb4.3,baz=142,slow=7.3,SNR=15						
BRVK	**Borovoye**	**67.61**	**338**	*e*P	**P**	**15 18 05.8**	**-0.5**
CHKZ	**Chkalovo**	**67.97**	**338**	*e*P	**P**	**15 18 08.8**	**+0.2**
	5.7nm,1.0s,mb4.6						
ZRNK	**Zerenda**	**68.02**	**337**	*e*P	**P**	**15 18 09.3**	**+0.3**
	2.7nm,0.7s,mb4.4						
BRTR	**Keskin Array B**	**81.52**	**312**	P	**P**	**15 19 25.9**	**-1.2**
	0.9nm,0.6s,mb3.9,baz=140,slow=6.4,SNR=5.8						

*BJI **17** 15:09:05.8, 10.23S×108.70E, h10km, mB5.0, mb4.9, Ms5.2, Msz5.1*

*IDC **17** 15:09:13.3±0.5, 9.30S×108.57E, h0km, mb4.6/14, mb1 4.6/15, mb1mx4.5/19, mbtmp4.6/15, ML3.8/1, Error ellipse: s-maj=23.2km s-min=13.2km az=67.0*

*NEIC **17** 15:09:14.7±0.2, 9.30S×108.60E, h10km, mb5.1/20, Error ellipse: s-maj=9.1km s-min=4.6km az=59.0*

*ISCJB **17** 15:09:15.9±0.3, 9.30S±0.05×108.56E±0.06, h30km, mb4.8/52, MS5.4/2, Error ellipse: s-maj=9.9km s-min=6.0km az=108.5*

*MOS **17** 15:09:16.5±1.2, 9.17S×108.70E, h33km, mb5.1/20, Error ellipse: s-maj=18.3km s-min=8.0km az=107.2*

ISC 17 15:09:18.1±0.3**, 9.34S**±0.05×**108.53E**±0.06**, h32**km**, h32**km±2.9km**:pP-P, n97, σ1.09**/89**, mb4.8**/52**, MS5.4**/2**, 12C-3D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.66**	**340**	P	**Pn**	**15 10 00.0**	**+1.3**
	3μm,0.9s						
NBBI	**Negara**	**6.09**	**81**	P	**Pn**	**15 10 48.0**	**+2.1**
	920nm,0.7s						
DNP	**Denpasar**	**6.63**	**85**	P	**Pn**	**15 10 58.4**	**+5.2**
	605nm,0.7s						
KSI	**Kapahiang**	**8.17**	**313**	P	**Pn**	**15 11 13.3**	**-1.1**
	242nm,0.7s						
KSM	**Kuching**	**10.89**	**9**	*e*Pn	**Pn**	**15 11 49.8**	**-1.8**
PCI	**Palu**	**14.03**	**54**	P	**Pn**	**15 12 37.2**	**+2.7**
	90nm,1.7s						
MBWA	**Marble Bar**	**15.95**	**139**	*e*Pn	**Pn**	**15 12 56.7**	**-3.3**
MBWA				*e*Sn	**Sn**	**15 15 35.8**	**-20**
FITZ	**Fitzroy Crossi**	**18.75**	**119**	*e*P	**Pn**	**15 13 35.2**	**+0.4**
	15nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.75**	**119**	P	**Pn**	**15 13 35.0**	**+0.2**
	0.2nm,0.3s,baz=286,slow=8.6,SNR=9.8						
KAKA	**Kakadu**	**23.70**	**100**	*e*P	**P**	**15 14 26.0**	**-1.0**
	14nm,0.6s,mb4.6						
NWAO	**Narrogin (SRO)**	**24.81**	**162**	P	**P**	**15 14 37.6**	**+0.4**
	16nm,0.8s,mb4.6,baz=335,slow=10,SNR=8.3						
NWAO	**Narrogin (SRO)**	**24.81**	**162**	*e*P	**P**	**15 14 37.7**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,16nm,0.8s						
NWAO	**Narrogin (SRO)**	**24.81**	**162**	*e*P	**P**	**15 14 37.7**	**+0.5**
	comp=Z,16nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**27.06**	**116**	P	**P**	**15 14 57.6**	**+0.1**
	comp=Z,3.6nm,0.7s,mb4.0,baz=287,slow=11,SNR=11						
WRAB	**Tennant Creek**	**27.07**	**116**	*e*P	**P**	**15 14 58.0**	**+0.4**
	comp=Z,8.8nm,0.8s,mb4.3						
ASPA	**Alice Springs**	**28.12**	**124**	*e*P	**P**	**15 15 07.1**	**+0.1**
ASAR	**Alice Springs**	**28.12**	**124**	P	**P**	**15 15 07.2**	**+0.2**
	comp=Z,4.1nm,0.8s,mb4.1,baz=300,slow=8.6,SNR=15						
ASAR				PcP	PcP	15 18 22.1	+1.5
	comp=Z,2.1nm,0.6s,baz=306,slow=2.2,SNR=16						
CHTO	**Chiang Mai**	**29.53**	**341**	*e*P	**P**	**15 15 18.8**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
CHTO	**Chiang Mai**	**29.53**	**341**	*e*P	**P**	**15 15 18.8**	**-0.7**
	comp=Z,11nm,1.0s,mb4.5						
KMI	**Kunming**	**34.72**	**351**	P	**P**	**15 16 07.6**	**+2.6**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
GYA	**Guiyang**	**35.63**	**357**⇑	*i*P	**P**	**15 16 14.3**	**+1.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CD2	**Chengdu**	**40.28**	**354**⇑	*i*P	**P**	**15 16 52.3**	**+0.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
JOW	**Kunigami**	**40.75**	**28**	P	**P**	**15 16 56.0**	**+0.1**
	comp=Z,21nm,0.8s,mb4.8,baz=196,slow=5.4,SNR=5.6						
SSE	**Sheshan**	**42.00**	**16**	*e*P	**P**	**15 17 03.3**	**-2.9**
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,47nm,3.5s						
NJ2	**Nanjing**	**42.33**	**13**	*e*P	**P**	**15 17 10.0**	**+1.1**
NJ2				AP	pP	15 17 19.8	+1.4
NJ2				PP	PP	15 18 52.4	+5.2
NJ2				AMB	AMB		
	comp=Z,60nm,1.1s,mb5.1						
NJ2				LR	LR		
	comp=N,2μm,12.4s,MS5.4						
NJ2				LR	LR		
	comp=E,2μm,14.6s,MS5.4						
NJ2				LR	LR		
	comp=Z,2μm,14.6s,MS5.2						
JIRN	**Jiri**	**42.68**	**330**	*e*P	**P**	**15 17 12.5**	**+0.8**
PKI	**Pulchoki**	**42.99**	**329**	*e*P	**P**	**15 17 14.7**	**+0.4**
GUN	**Gumba**	**43.04**	**330**	*e*P	**P**	**15 17 15.6**	**+1.0**
	comp=Z,54nm,0.8s,mb5.3						
XAN	**Xi'an**	**43.14**	**0**	P	**P**	**15 17 15.4**	**-0.1**
XAN				AMB	AMB		
	comp=Z,26nm,1.1s,mb4.9						
DMN	**Daman**	**43.18**	**329**	*e*P	**P**	**15 17 16.3**	**+0.5**
	comp=Z,51nm,0.9s,mb5.3						
KKN	**Kakani**	**43.24**	**329**	*e*P	**P**	**15 17 16.4**	**+0.1**
	comp=Z,54nm,1.0s,mb5.2						
KKN	**Kakani**	**43.24**	**329**	*e*P	**P**	**15 17 16.4**	**+0.1**
KKN				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.2						
GKN	**Gorkha**	**43.74**	**329**	*e*P	**P**	**15 17 20.3**	**0.0**
KOLN	**Koldanda**	**44.09**	**328**	*e*P	**P**	**15 17 23.5**	**+0.4**
	comp=Z,68nm,0.8s,mb5.5						
LZH	**Lanzhou**	**45.40**	**355**	*e*P	**P**	**15 17 34.6**	**+1.0**
LZH				AP	pP	15 17 45.1	+2.0
LZH				XP	sP	15 17 48.3	+1.4
LZH				PP	PP	15 19 22.5	+2.4
LZH				AMB	AMB		
	comp=Z,38nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,211nm,4.5s						
GTA	**Gaotai**	**49.18**	**351**	*e*P	**P**	**15 18 04.3**	**+1.3**
GTA				AP	pP	15 18 10.8	-1.8
GTA				XP	sP	15 18 15.3	-1.1
GTA				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.8						
BJT	**Baijiatuau**	**49.62**	**8**	*e*P	**P**	**15 18 06.4**	**+0.1**
BJT				pmax	pmax		
	comp=Z,26nm,1.0s						
BJT	**Baijiatuau**	**49.62**	**8**	*e*P	**P**	**15 18 06.4**	**+0.1**
	comp=Z,26nm,1.0s,mb5.2						
BJI	**Beijing**	**49.64**	**8**	*e*P	**P**	**15 18 06.5**	**0.0**
BJI				AMB	AMB		
	comp=Z,31nm,1.1s,mb5.2						
BTO	**Baotou**	**49.72**	**1**	*e*P	**P**	**15 18 06.8**	**-0.3**
SNY	**Shenyang**	**52.76**	**14**	⇑P	**P**	**15 18 33.8**	**+3.9**
SNY				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.8						
MJAR	**Matsushiro Arr**	**53.49**	**30**	P	**P**	**15 18 33.5**	**-1.8**
	comp=Z,1.2nm,0.6s,mb4.0,baz=214,slow=7.3,SNR=5.9						
SONM	**Songino Array**	**56.96**	**358**	P	**P**	**15 19 01.2**	**+0.9**
	comp=Z,8.5nm,0.9s,mb4.8,baz=175,slow=8.2,SNR=42						
ULN	**Ulaanbaatar**	**56.97**	**359***c*	*i*P	**P**	**15 19 00.6**	**+0.2**
ULN	**Ulaanbaatar**	**56.97**	**359**	*e*P	**P**	**15 19 00.2**	**-0.1**
	comp=Z,12nm,0.8s,mb5.0						
ZAK	**Zakamensk**	**59.65**	**356**	*e*P	**P**	**15 19 18.9**	**-0.2**
ZAK				*e*		15 21 33.2	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb4.0						
AAK	**Ala-Archa**	**60.35**	**332**⇑	*i*P	**P**	**15 19 22.9**	**-1.0**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.3						
MKAR	**Makanchi Array**	**60.59**	**340**	P	**P**	**15 19 25.6**	**0.0**
	comp=Z,5.9nm,0.4s,mb5.0,baz=148,slow=8.0,SNR=59						
MKAR	**Makanchi Array**	**60.59**	**340**⇑	*e*P	**P**	**15 19 25.6**	**+0.1**
MOY	**Mondy**	**61.11**	**355**	*e*P	**P**	**15 19 30.2**	**+1.2**
MOY				pmax	pmax		
	comp=Z,31nm,2.4s,mb5.0						
KLR	**Kul'dur**	**61.79**	**17**	*e*P	**P**	**15 19 29.4**	**-4.2**
YSS	**Yuzh-Sakhalins**	**63.80**	**25**⇑	*e*P	**P**	**15 19 45.1**	**-1.9**
YSS				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
YSS	**Yuzh-Sakhalins**	**63.80**	**25**	*e*P	**P**	**15 19 46.1**	**-1.0**
	comp=Z,25nm,1.3s,mb5.1						
KURK	**Kurchatov**	**65.21**	**340***c*	*i*P	**P**	**15 19 56.2**	**0.0**
KURK	**Kurchatov**	**65.21**	**340**	*e*P	**P**	**15 19 56.3**	**0.0**
	comp=Z,15nm,0.9s,mb5.0						
MAW	**Mawson**	**65.59**	**198**	P	**P**	**15 19 58.4**	**-0.3**
	comp=Z,9.8nm,1.0s,mb4.8,baz=44,slow=6.6,SNR=16						
ZAL	**Zalesovo**	**66.17**	**345**	P	**P**	**15 20 01.5**	**-0.9**
	comp=Z,2.0nm,0.4s,mb4.5,baz=322,slow=3.6,SNR=8.5						
ZAL	**Zalesovo**	**66.17**	**345**⇑	*e*P	**P**	**15 20 01.5**	**-0.9**
BOD	**Bodaibo**	**67.08**	**3**	*e*P	**P**	**15 20 05.3**	**-2.9**
BOD				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.7						
NVS	**Novosibirsk**	**67.38**	**344**	*e*P	**P**	**15 20 07.4**	**-2.8**
NVS				*e*S	S	15 28 54.4	-9.3
NVS				pmax	pmax		
	comp=Z,28nm,2.5s,mb4.8						
NVS				pmax	pmax		
	comp=N,17nm,2.2s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.5s						
NVS				smax			
	comp=N,21nm,2.5s						
BVAR	**Borovoye Array**	**70.11**	**337**	P	**P**	**15 20 27.2**	**+0.1**
	comp=N,5.5nm,0.7s,mb4.6,baz=142,slow=8.8,SNR=28						
BRVK	**Borovoye**	**70.17**	**337**	*e*P	**P**	**15 20 27.2**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
BRVK	**Borovoye**	**70.17**	**337**	*e*P	**P**	**15 20 27.2**	**-0.3**
	comp=Z,8.1nm,1.1s,mb4.6						
CHKZ	**Chkalovo**	**70.52**	**337**	*e*P	**P**	**15 20 29.4**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
CHKZ	**Chkalovo**	**70.52**	**337**	*e*P	**P**	**15 20 29.4**	**-0.2**
	comp=Z,11nm,0.7s,mb4.9						
ZRNK	**Zerenda**	**70.60**	**336**	*e*P	**P**	**15 20 29.8**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
ZRNK	**Zerenda**	**70.60**	**336**	*e*P	**P**	**15 20 29.8**	**-0.3**
	comp=Z,16nm,1.0s,mb4.9						
YAK	**Yakutsk**	**73.04**	**10**⇓	*e*P	**P**	**15 20 43.3**	**-1.5**
YAK				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.2						
YAK	**Yakutsk**	**73.04**	**10**	*e*P	**P**	**15 20 43.1**	**-1.6**
	comp=Z,23nm,0.8s,mb5.2						
VNDA	**Vanda**	**73.40**	**170**	P	**P**	**15 20 46.5**	**-0.4**
	comp=Z,8.5nm,0.9s,mb4.7,baz=296,slow=6.2,SNR=35						
PET	**Petropavlovsk**	**75.30**	**29***c*	*i*P	**P**	**15 20 55.5**	**-2.5**
PET				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
SVE	**Sverdlovsk**	**76.76**	**335**	*e*P	**P**	**15 21 03.3**	**-3.0**
SVE				*e*		15 21 17.3	
SVE				pmax	pmax		
	comp=Z,20nm,1.9s,mb4.7						
ARU	**Arti**	**77.38**	**334**⇓	*i*P	**P**	**15 21 10.1**	**+0.3**
ARU				*e*	pP	15 21 19.9	+0.1
ARU				*e*		15 24 06.8	
ARU				*e*S	S	15 31 03.2	+5.3
ARU				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
MBAR	**Mbarara**	**77.86**	**271**⇑	*e*P	**P**	**15 21 13.7**	**+1.3**
ASF	**Jabal al Asfar**	**79.73**	**305**	P	**P**	**15 21 24.6**	**+1.9**
	comp=Z,2.2nm,0.5s,mb4.4,baz=360,slow=4.6,SNR=9.0						
GOF	**Gofitskoye**	**79.84**	**319**	*e*P	**P**	**15 21 22.8**	**-0.5**
QSPA	**South Pole Qui**	**80.66**	**180**	*e*P	**P**	**15 21 27.5**	**-0.2**
	comp=Z,36nm,1.2s,mb5.2						
TIXI	**Tiksi**	**81.94**	**6***d*	*i*P	**P**	**15 21 33.8**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
BR131	**Keskin Array S**	**84.51**	**312**	*e*P	**P**	**15 21 48.5**	**+0.8**
	comp=Z,2.9nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**84.51**	**312**	P	**P**	**15 21 48.5**	**+0.7**
	comp=Z,2.2nm,0.6s,mb4.5,baz=140,slow=6.4,SNR=15						
BRTR	**Keskin Array B**	**84.51**	**312**⇑	*e*P	**P**	**15 21 48.5**	**+0.7**
VRSR	**Storozhevoye**	**84.63**	**324**	*e*P	**P**	**15 21 48.8**	**+0.4**
VRSR				pmax	pmax		
	comp=N,2.0nm,0.4s						
VRSR				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb5.2						
VRSR				pmax	pmax		
	comp=E,6.0nm,0.9s						
OBN	**Obninsk**	**87.50**	**327**	*i* P	**P**	**15 22 01.8**	**-0.8**
OBN				*e*		15 25 29.9	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
OBN				MLR	MLR		
	comp=Z,1μm,16.0s,MS5.4						
SNAA	**Sanae**	**87.75**	**197**	*e*P	**P**	**15 22 03.7**	**0.0**
SNAA				*e*		15 22 06.5	
SNAA	**Sanae**	**87.75**	**197**	*e*P	**P**	**15 22 04.0**	**+0.3**
SNAA				pmax	pmax		
	comp=Z,41nm,2.0s						
SNAA	**Sanae**	**87.75**	**197**	*e*P	**P**	**15 22 04.0**	**+0.3**
	comp=Z,40nm,2.0s,mb5.3						
VNA1	**Neumayer--Stat**	**89.78**	**197**	*e*P	**P**	**15 22 14.0**	**+0.7**
VNA1				*e*		15 22 15.4	
VNA1				*e*		15 22 17.2	
AKASG	**Malin Array Be**	**90.46**	**321**	P	**P**	**15 22 15.9**	**-0.6**
	comp=Z,0.5nm,0.5s,mb4.2,baz=88,slow=4.5,SNR=4.9						
YKA	**Yellowknife Ar**	**118.50**	**21**	PKP	PKPdf	15 28 02.3	-0.1
	comp=Z,0.3nm,0.5s,baz=326,slow=1.4,SNR=5.6						
WMOK	**Wichita Mounta**	**144.46**	**41**	*e*PKIKP	PKPdf	15 28 50.9	-0.1
NCB	**Newcomb**	**145.42**	**4**	*e*PKP	PKPdf	15 28 53.7	+1.0
BDFB	**Brasilia**	**146.00**	**223**	PKPbc	PKPbc	15 28 56.2	+1.8
	comp=Z,4.2nm,0.5s,baz=124,slow=1.4,SNR=6.0						
JCT	**Junction City**	**146.24**	**47**	*e*PKP2	PKPab	15 28 56.6	+0.7
CCM	**Cathedral Cave**	**146.32**	**29**	*e*PKP2	PKPab	15 28 55.1	-1.2
WVT	**Waverly**	**149.46**	**27**	*e*PKP2	PKPbc	15 29 04.9	+1.0
PLAL	**Pickwick Lake**	**150.30**	**28**	PKPbc	PKPbc	15 29 05.8	-0.1
LPAZ	**La Paz**	**154.32**	**187**	PKPbc	PKPbc	15 29 18.1	+3.2
	comp=Z,1.4nm,0.8s,baz=132,slow=2.5,SNR=5.6						

*IDC **17** 15:12:30.2±3.6, 9.45S×108.47E, h0km, mb4.2/3, mb1 4.3/4, mb1mx4.0/15, mbtmp4.2/4, ML4.2/1, Error ellipse: s-maj=145.1km s-min=24.4km az=47.0*

*NEIC **17** 15:12:30.5±2.1, 9.69S×108.20E, h10km, mb4.3/2, Error ellipse: s-maj=93.7km s-min=11.6km az=46.0*

*ISCJB **17** 15:12:32.3±2.4, 9.6S±0.5×108.2E±0.5, h33km, mb4.2/5, Error ellipse: s-maj=104.1km s-min=14.3km az=90.9*

ISC 17 15:12:34.4±2.4**, 9.7S**±0.5×**108.1E**±0.5**, h35**km**, n10, σ0.32**/10**, mb4.2**/5**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.95**	**118**	P	**Pn**	**15 16 48.9**	**-4.4**
	0.6nm,0.3s,baz=204,slow=20,SNR=7.7						
WRA	**Warramunga Arr**	**27.30**	**115**	P	**P**	**15 18 15.6**	**0.0**
	1.7nm,0.8s,mb3.6,baz=287,slow=11,SNR=5.7						
WRAB	**Tennant Creek**	**27.30**	**115**	*e*P	**P**	**15 18 16.0**	**+0.3**
	6.7nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**27.31**	**115**	P	**P**	**15 18 15.4**	**-0.2**
SONM	**Songino Array**	**57.30**	**359**	P	**P**	**15 22 18.7**	**+0.1**
	1.1nm,0.5s,mb4.2,baz=174,slow=8.5,SNR=5.5						
ULN	**Ulaanbaatar**	**57.32**	**359**	*e*P	**P**	**15 22 18.5**	**-0.2**
	1.7nm,0.9s,mb4.1						
MKAR	**Makanchi Array**	**60.78**	**340**	P	**P**	**15 22 42.8**	**+0.1**
	3.7nm,0.6s,mb4.7,baz=143,slow=7.7,SNR=16						
KURK	**Kurchatov**	**65.39**	**340**	*e*P	**P**	**15 23 13.8**	**+0.5**
CHKZ	**Chkalovo**	**70.68**	**337**	*e*P	**P**	**15 23 46.4**	**-0.1**
ZRNK	**Zerenda**	**70.75**	**336**	*e*P	**P**	**15 23 46.6**	**-0.4**

*IDC **17** 15:15:09.5±0.5, 9.51S×107.94E, h0km, mb4.4/17, mb1 4.5/18, mb1mx4.5/22, mbtmp4.4/18, ML3.8/1, Error ellipse: s-maj=24.0km s-min=13.0km az=57.0*

*BJI **17** 15:15:11.3, 9.50S×108.00E, h10km, mB5.0, mb4.8, Ms5.1, Msz4.9*

*NEIC **17** 15:15:11.4±0.3, 9.52S×107.99E, h10km, mb4.9/24, Error ellipse: s-maj=10.9km s-min=5.2km az=54.0*

*ISCJB **17** 15:15:12.2±0.3, 9.55S±0.05×108.03E±0.06, h27km, mb4.8/56, MS5.0/4, Error ellipse: s-maj=9.5km s-min=5.5km az=106.2*

*MOS **17** 15:15:12.9±1.0, 9.46S×108.08E, h33km, mb5.0/15, Error ellipse: s-maj=15.2km s-min=7.9km az=112.4*

ISC 17 15:15:14.3±0.3**, 9.56S**±0.05×**108.01E**±0.06**, h29**km**, h29**km±2.4km**:pP-P, n125, σ1.16**/110**, mb4.8**/56**, MS5.0**/4**, 8C-8D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.75**	**352**	P	**Pn**	**15 15 55.7**	**-0.7**
	1μm,0.8s						
KSI	**Kapahiang**	**7.96**	**317**	P	**Pn**	**15 17 09.1**	**+1.0**
	147nm,1.4s						
KSM	**Kuching**	**11.20**	**12**	P	**Pn**	**15 17 51.2**	**-1.3**
PCI	**Palu**	**14.57**	**55**	P	**Pn**	**15 18 40.3**	**+1.8**
	67nm,1.9s						
MBWA	**Marble Bar**	**16.13**	**137**	P	**Pn**	**15 19 01.3**	**+2.4**
	6.5nm,0.3s						
KULM	**Kulim**	**16.48**	**333**	*e*P	**Pn**	**15 19 04.4**	**+1.1**
KKM	**Kota Kinabalu**	**17.53**	**28**	*e*P	**Pn**	**15 19 16.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.09**	**118**	*e*P	**Pn**	**15 19 35.5**	**-0.1**
	16nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.09**	**118**	P	**Pn**	**15 19 36.5**	**+1.0**
	0.2nm,0.3s,baz=324,slow=6.4,SNR=7.5						
BSI	**Banda Aceh**	**19.61**	**319**	P	**Pn**	**15 19 42.0**	**+0.3**
	163nm,1.2s						
SWI	**Sorong**	**24.69**	**71**	P	**P**	**15 20 33.3**	**+0.6**
	34nm,0.9s,mb4.9						
NWAO	**Narrogin (SRO)**	**24.76**	**161**	P	**P**	**15 20 33.7**	**+0.3**
	11nm,0.9s,mb4.4,baz=358,slow=6.9,SNR=3.9						
NWAO	**Narrogin (SRO)**	**24.76**	**161**	P	**P**	**15 20 33.7**	**+0.3**
WRA	**Warramunga Arr**	**27.43**	**115**	P	**P**	**15 20 57.0**	**-0.5**
	7.8nm,0.9s,mb4.2,baz=287,slow=11,SNR=13						
WRA				PcP	PcP	15 24 16.9	+1.2
	1.8nm,0.8s,baz=302,slow=2.2,SNR=5.6						
WRAB	**Tennant Creek**	**27.44**	**115**⇓	*e*P	**P**	**15 20 57.6**	**0.0**
WRAB	**Tennant Creek**	**27.44**	**115**	*e*P	**P**	**15 20 57.2**	**-0.4**
	6.7nm,0.5s,mb4.4						
WB2	**Warramunga Arr**	**27.44**	**115**	*e*P	**P**	**15 20 56.2**	**-1.4**
ASAR	**Alice Springs**	**28.43**	**123**	P	**P**	**15 21 07.5**	**+1.1**
	4.7nm,0.7s,mb4.2,baz=297,slow=8.5,SNR=18						
ASAR				PcP	PcP	15 24 19.1	+0.9
	1.3nm,0.8s,baz=339,slow=1.7,SNR=5.7						
AS31	**Alice Springs**	**28.43**	**123**	*e*P	**P**	**15 21 09.8**	**+3.3**
CM31	**Chiang Mai Arr**	**29.25**	**342**	*e*P	**P**	**15 21 13.1**	**-0.6**
	11nm,0.8s,mb4.6						
CHTO	**Chiang Mai**	**29.58**	**342**	*e*P	**P**	**15 21 16.6**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.9						
CHTO	**Chiang Mai**	**29.58**	**342**	*e*P	**P**	**15 21 16.6**	**-0.1**
	comp=Z,26nm,1.0s,mb4.9						
KMI	**Kunming**	**34.86**	**352**	P	**P**	**15 22 05.3**	**+2.4**
KMI				AP	pP	15 22 10.5	-0.9
KMI				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.7						
GYA	**Guiyang**	**35.83**	**358**⇑	*i*P	**P**	**15 22 12.9**	**+1.7**
GYA				AP	pP	15 22 17.4	-2.4
GYA				XP	sP	15 22 20.8	-2.5
GYA				PP	PP	15 23 33.3	+0.4
GYA				S	**S**	**15 27 47.8**	**+0.8**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,120nm,4.0s						
GYA				LR	LR		

comp=N,670nm,16.0s,MS4.7
GYA LR LR
comp=E,740nm,15.8s,MS4.7
GYA LR LR
comp=Z,840nm,15.7s,MS4.6
CTA Charters Tower 38.33 110 P **P 15 22 33.4 +0.9**
comp=Z,4.5nm,0.9s,mb4.2,baz=289,slow=16,SNR=3.9
CTAO Charters Tower 38.33 110 *eP* **P 15 22 33.3 +0.8**
CTAO pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
CTAO Charters Tower 38.33 110 *eP* **P 15 22 33.3 +0.8**
comp=Z,8.7nm,1.0s,mb4.4
CD2 Chengdu 40.45 354⇑ *i*P **P 15 22 50.5 +0.4**
CD2 AMB AMB
comp=Z,10.0nm,1.4s,mb4.3
SSE Sheshan 42.35 17 *eP* **P 15 23 03.8 -2.0**
SSE AMB AMB
comp=Z,26nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,216nm,11.1s
JIRN Jiri 42.61 331 *eP* **P 15 23 08.4 +0.5**
comp=Z,74nm,0.8s,mb5.5
NJ2 Nanjing 42.66 14 *eP* **P 15 23 08.1 -0.2**
NJ2 AP pP 15 23 18.1 +1.2
NJ2 XP sP 15 23 21.3 +0.9
NJ2 PP PP 15 24 51.1 +3.7
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,1µm,4.2s
PKI Pulchoki 42.92 330 *eP* **P 15 23 10.2 -0.2**
GUN Gumba 42.97 331 *eP* **P 15 23 11.3 +0.5**
comp=Z,55nm,0.8s,mb5.3
DMN Daman 43.10 330 *eP* **P 15 23 12.0 +0.1**
comp=Z,46nm,0.8s,mb5.2
KKN Kakani 43.16 330 *eP* **P 15 23 12.4 0.0**
comp=Z,44nm,0.9s,mb5.2
KKN Kakani 43.16 330 *eP* **P 15 23 12.4 0.0**
KKN pmax pmax
comp=Z,44nm,0.9s,mb5.2
XAN Xi'an 43.37 1 P **P 15 23 13.9 -0.1**
XAN AMB AMB
comp=Z,21nm,1.1s,mb4.8
GKN Gorkha 43.66 329 *eP* **P 15 23 16.4 0.0**
comp=Z,35nm,0.9s,mb5.1
KOLN Koldanda 44.00 328 *eP* **P 15 23 19.2 +0.1**
comp=Z,49nm,0.7s,mb5.3
LZH Lanzhou 45.57 355 *eP* **P 15 23 32.8 +1.2**
LZH AP pP 15 23 42.1 +1.8
LZH XP sP 15 23 46.5 +2.7
LZH AMB AMB
comp=Z,24nm,1.4s,mb4.9
GTA Gaotai 49.31 352 *eP* **P 15 24 02.1 +1.4**
GTA AP pP 15 24 12.3 +2.8
GTA XP sP 15 24 16.9 +4.0
GTA AMB AMB
comp=Z,12nm,0.9s,mb4.9
BJI Beijing 49.93 8 *eP* **P 15 24 05.4 0.0**
BJI AMB AMB
comp=Z,17nm,0.9s,mb5.1
HHC Hu-ho-hao-te 50.27 4 *eP* **P 15 24 11.6 +3.7**
HHC AP pP 15 24 16.0 -0.7
HHC XP sP 15 24 19.5 -0.7
HHC PCP PcP 15 25 29.9 +3.3
HHC PP PP 15 26 06.9 +3.5
HHC PCS PcS 15 29 24.3 +0.6
HHC AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
HHC AMB AMB
comp=Z,286nm,9.2s
HHC LR LR
comp=N,3µm,14.3s,MS5.4
HHC LR LR
comp=E,746nm,17.8s,MS5.4
HHC LR LR
comp=Z,5µm,16.7s,MS5.6
SNY Shenyang 53.10 15⇑P **P 15 24 29.8 +0.7**
MAT Matsushiro 53.94 30 P **P 15 24 32.7 -2.5**
MAT Matsushiro 53.94 30 *eP* **P 15 24 33.0 -2.2**
MAT pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
MAT Matsushiro 53.94 30 *eP* **P 15 24 33.0 -2.2**
comp=Z,9.4nm,1.2s,mb4.6
MJAR Matsushiro Arr 53.94 30 P **P 15 24 33.3 -2.0**
comp=Z,7.1nm,1.0s,mb4.6,baz=203,slow=8.1,SNR=13
WMQ Urumqi 56.25 342 P **P 15 24 53.9 +2.0**
WMQ AP pP 15 24 58.5 -2.3
WMQ XP sP 15 25 00.9 -3.3
WMQ PP PP 15 27 00.8 +3.5
WMQ AMB AMB
comp=Z,12nm,1.7s,mb4.7
WMQ AMB AMB
comp=Z,91nm,5.1s
WMQ LR LR
comp=N,229nm,18.8s,MS4.4
WMQ LR LR
comp=E,172nm,17.7s,MS4.4
WMQ LR LR
comp=Z,230nm,19.3s,MS4.3
SONM Songino Array 57.16 359 P **P 15 24 59.0 +0.6**
comp=Z,6.0nm,0.6s,mb4.8,baz=175,slow=8.3,SNR=40
ULN Ulaanbaatar 57.18 359 *de*P **P 15 24 58.6 +0.1**
ULN Ulaanbaatar 57.18 359 *eP* **P 15 24 58.9 +0.4**
comp=Z,9.2nm,0.7s,mb4.9
KZA Kyzart 59.52 332 P **P 15 25 15.3 +0.4**
SNR=13
TKM2 Tokmak 2 60.02 333 P **P 15 25 21.2 +2.8**
SNR=21
KBK Karagaybulak 60.11 332 P **P 15 25 22.2 +3.3**
SNR=5.5
AML Almayashu 60.29 331 P **P 15 25 23.1 +2.9**
SNR=6.7
AAK Ala-Archa 60.30 332 *d iP* **P 15 25 21.7 +1.5**
AAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
AAK Ala-Archa 60.30 332 *eP* **P 15 25 21.8 +1.5**
comp=Z,2.2nm,0.6s,mb4.4
CHMS Chumysh 60.47 332 P **P 15 25 25.0 +3.6**
SNR=6.8
MKAR Makanchi Array 60.62 340 P **P 15 25 21.8 -0.7**
comp=Z,8.6nm,0.8s,mb5.0,baz=147,slow=6.9,SNR=29
MKAR Makanchi Array 60.62 340‖ *eP* **P 15 25 21.7 -0.7**
MKAR Makanchi Array 60.62 340 P **P 15 25 21.8 -0.7**
EKS2 Erkin-Say 60.66 332 P **P 15 25 25.9 +3.2**
SNR=7.9
MOY Mondy 61.28 355 *eP* **P 15 25 27.4 +0.5**
MOY pmax pmax
comp=Z,18nm,1.7s,mb4.9
KLR Kul'dur 62.15 17 *eP* **P 15 25 27.7 -5.0**
HABR Khabarovsk 62.52 20 *eP* **P 15 25 34.8 -0.5**
HABR *eS* **S 15 34 01.8 +0.9**
YSS Yuzh-Sakhalins 64.22 26 *eP* **P 15 25 45.8 -0.7**
YSS *e* pP 15 25 55.0 -0.5
YSS pmax pmax
comp=Z,22nm,1.3s,mb5.0
YSS Yuzh-Sakhalins 64.22 26 *eP* **P 15 25 45.8 -0.7**
comp=Z,22nm,1.3s,mb5.0
YSS *e* pP 15 25 55.0 -0.5
MAW Mawson 65.23 197 P **P 15 25 51.8 -1.2**
comp=Z,2.8nm,0.7s,mb4.4,baz=54,slow=8.4,SNR=7.2
MAW Mawson 65.23 197 *eP* **P 15 25 51.7 -1.4**
MAW *e* pP 15 26 01.2 -0.9
MAW pmax pmax
comp=Z,3.0nm,0.7s
MAW Mawson 65.23 197 *eP* **P 15 25 51.7 -1.3**
comp=Z,3.0nm,0.7s,mb4.4
MAW *e* pP 15 26 01.2 -0.9
KURK Kurchatov 65.23 340‖ *iP* **P 15 25 52.4 -0.7**
KURK Kurchatov 65.23 340 *eP* **P 15 25 52.5 -0.6**
comp=Z,6.8nm,0.8s,mb4.7
ZAL Zalesovo 66.24 345 P **P 15 25 57.5 -2.1**
comp=Z,1.8nm,0.7s,mb4.2,baz=353,slow=3.2,SNR=7.5
KRAR Krasnoyarsk 66.54 351 *i* P **P 15 26 01.0 -0.5**
BOD Bodaibo 67.32 3 *eP* **P 15 26 05.1 -1.4**
BOD pmax pmax
comp=Z,12nm,1.1s,mb4.8
NVS Novosibirsk 67.46 345 *eP* **P 15 26 04.1 -3.2**
BVAR Borovoye Array 70.10 337 P **P 15 26 22.9 -0.9**
comp=Z,6.1nm,0.8s,mb4.6,baz=147,slow=8.5,SNR=18
BRVK Borovoye 70.17 337 *eP* **P 15 26 23.6 -0.6**
BRVK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BRVK Borovoye 70.17 337 *eP* **P 15 26 23.6 -0.6**
comp=Z,4.1nm,0.9s,mb4.4
CHKZ Chkalovo 70.52 337 *eP* **P 15 26 25.9 -0.5**
CHKZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CHKZ Chkalovo 70.52 337 *eP* **P 15 26 25.9 -0.5**
comp=Z,9.7nm,0.8s,mb4.8
CHKZ *e* 15 26 29.4
ZRNK Zerenda 70.59 336 *eP* **P 15 26 26.1 -0.7**
ZRNK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ZRNK Zerenda 70.59 336 *eP* **P 15 26 26.1 -0.7**
comp=Z,7.2nm,0.8s,mb4.7
VNDA Vanda 73.28 169 P **P 15 26 41.5 -1.4**
comp=Z,1.3nm,1.0s,mb3.8,baz=276,slow=4.1,SNR=4.3
VNDA Vanda 73.28 169 *eP* **P 15 26 41.2 -1.7**
VNDA pmax pmax
comp=Z,1.0nm,0.8s
VNDA Vanda 73.28 169 *eP* **P 15 26 41.2 -1.7**
comp=Z,0.9nm,0.8s,mb3.8
YAK Yakutsk 73.35 10 *de*P **P 15 26 42.2 -1.1**
YAK Yakutsk 73.35 10 *eP* **P 15 26 42.4 -0.9**
comp=Z,37nm,0.8s,mb5.4
SYO Syowa Base 73.46 200‖ *e*X 15 26 42.0
SYO Syowa Base 73.46 200‖ *e*pP pP 15 26 47.6 -5.5
AKTK Aktyubinsk 73.82 329 P **P 15 26 45.9 -0.2**
AKTO Aktyubinsk 73.82 329 P **P 15 26 45.9 -0.2**
comp=Z,2.1nm,0.9s,mb4.1,baz=122,slow=11,SNR=5.8
MA2 Magadan 76.91 21 *c iP* **P 15 27 04.2 +0.4**
MA2 pmax pmax
comp=Z,34nm,1.7s,mb5.0
ARU Arti 77.35 334‖ *iP* **P 15 27 05.7 -0.6**
ARU *e* pP 15 27 15.6 +0.1
ARU *e* 15 30 00.5
ARU *e*PPP 15 31 46.5
ARU *e*S S 15 36 55.1 +0.4
ARU *e*SS SS 15 41 56.5 +3.2
ARU pmax pmax
comp=Z,15nm,1.3s,mb4.8
ARU Arti 77.35 334 *eP* **P 15 27 05.9 -0.5**
comp=Z,15nm,1.2s,mb4.8
ASF Jabal al Asfar 79.44 305 P **P 15 27 18.0 +0.2**
comp=Z,2.5nm,0.8s,mb4.2,baz=37,slow=3.8,SNR=4.8
KIV Kislovodsk 79.44 318 *eP* **P 15 27 18.4 +0.5**
KIV pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TIXI Tiksi 82.22 7 *de*P **P 15 27 31.4 -1.3**
TIXI pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BRTR Keskin Array B 84.27 312 P **P 15 27 43.2 0.0**
comp=Z,2.3nm,0.8s,mb4.4,baz=141,slow=6.1,SNR=13
BRTR Keskin Array B 84.27 312⇑ *eP* **P 15 27 43.2 -0.1**
VRSR Storozhevoye 84.50 324 *eP* **P 15 27 43.6 -0.9**
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VRSR pmax pmax
comp=N,10.0nm,1.2s
VRSR pmax pmax
comp=E,4.0nm,0.5s
SNAA Sanae 87.39 197 *eP* **P 15 28 01.5 +2.8**
SNAA *e* 15 28 04.7
SNAA *e* 15 28 07.1
SNAA *e* pP 15 28 11.8 +3.8
OBN Obninsk 87.41 327⇑ *eP* **P 15 27 56.5 -2.3**
OBN *e**PP pP 15 28 06.3 -1.8
OBN *e*S 15 38 21.7
OBN pmax pmax
comp=Z,34nm,1.7s,mb5.3
OBN MLR MLR
comp=Z,2µm,18.0s,MS5.5
KLMR Klimovskoe 88.10 333 *eP* **P 15 28 00.8 -1.3**
KLMR pmax pmax
comp=Z,40nm,1.5s,mb5.4
VNA1 Neumayer--Stat 89.42 197 *eP* **P 15 28 08.0 -0.4**
VNA1 *e* 15 28 10.5
VNA1 *e* 15 28 19.3
VNA1 *e* 15 28 22.9
AKASG Malin Array Be 90.31 321 P **P 15 28 11.3 -1.2**
comp=Z,0.2nm,0.3s,mb4.0,baz=84,slow=5.4,SNR=4.6
AKASG Malin Array Be 90.31 321 *i* P **P 15 28 12.0 -0.5**
MLR Muntele Rosu 91.23 316 P **P 15 28 17.3 +0.5**
comp=Z,0.9nm,0.3s,mb4.5,baz=38,slow=23,SNR=3.3
ARCES ARCESS Array B 96.27 339 P **P 15 28 39.1 -0.8**
comp=Z,2.5nm,0.9s,mb4.6,baz=91,slow=4.9,SNR=3.6
YKA Yellowknife Ar 118.89 21 PKP PKPdf 15 33 59.5 -0.4
comp=Z,1.1nm,0.8s,baz=318,slow=2.1,SNR=6.6
YKA Yellowknife Ar 118.89 21 PKP PKPdf 15 33 59.5 -0.4
NVAR Mina Array Bea 129.58 47 PKP PKPdf 15 34 22.5 +2.1
comp=Z,0.3nm,0.7s,baz=248,slow=1.6,SNR=4.3
WMOK Wichita Mounta 144.95 40 *e*PKIKP PKPdf 15 34 48.9 +0.3
BDFB Brasilia 145.49 224 PKPbc PKPbc 15 34 50.7 +1.0
comp=Z,9.6nm,1.1s,baz=126,slow=2.4,SNR=6.7
NCB Newcomb 145.67 3 *e*PKP PKPdf 15 34 50.8 +0.9
ACCN Adirondack Com 146.28 2 *e*PKP PKPdf 15 34 52.1 +1.2
CCM Cathedral Cave 146.76 28 *e*PKP2 PKPdf 15 34 52.9 +1.2
JCT Junction City 146.76 47 *e*PKP2 PKPab 15 34 55.0 +0.3
BINY Binghamton 147.30 6 *e*PKPbc PKPbc 15 34 55.6 +0.6
ACSO Alum Creek Sta 147.93 16 *e*PKPbc PKPbc 15 34 57.2 +0.5
MIAR Mount Ida 148.23 35 *e*PKP2 PKPbc 15 34 58.7 +1.2
PLAL Pickwick Lake 150.73 28 *e*PKPbc PKPbc 15 35 03.7 0.0
CPCT Cooper Cave 151.81 22 *e*PKPbc PKPbc 15 35 07.4 +1.2
CPCT *e*PKPab PKPab 15 35 16.1 +0.9
LPAZ La Paz 154.03 188 PKPbc PKPbc 15 35 13.5 +2.4
comp=Z,0.4nm,0.5s,baz=211,slow=5.9,SNR=3.5

BJI ***17*** *15:20:51.9, 9.40S× 108.70E, h12km, mB5.3, mb5.2, Ms5.2, Msz5.0*
IDC ***17*** *15:20:52.1±0.3, 9.37S× 108.70E, h0km, mb5.0/29, mb1 5.0/30, mb1mx5.0/31, mbtmp5.0/30, ML4.4/1, Error ellipse: s-maj=14.1km s-min=10.7km az=49.0*
ISCJB ***17*** *15:20:53.9±0.2, 9.33S±003.0× 108.73E±004, h25km, mb5.3/117, MS5.0/11, Error ellipse: s-maj=5.5km s-min=4.4km az=120.2*
NEIC ***17*** *15:20:54.0±2.7, 9.38S× 108.68E, h12km±16km, mb5.4/47, Error ellipse: s-maj=6.8km s-min=4.1km az=52.0*
MOS ***17*** *15:20:56.3±1.2, 9.08S× 108.81E, h33km, mb5.5/41, Error ellipse: s-maj=10.9km s-min=6.1km az=115.1*
ISC 17 15:20:56.1±0.2**, 9.37S**±004.0×**108.73E**±004, **h26**km, **h26**km±2.5km**:pP-P, n343,** σ0**s94**/239**, mb5.3**/117**, MS5.0**/11**, 55C-25D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.24**	**26**	⇑*iP*		**Pn**	**15 21 36.4**	**+4.9**
BJII				*i* S		**Sn**	**15 21 54.1**	**-4.2**
KSM	**Kuching**	**10.88**	**8**	*e*Pn		**Pn**	**15 23 32.4**	**+2.3**
PCI	**Palu**	**13.89**	**53**	P		**Pn**	**15 24 15.4**	**+4.2**
211nm,1.5s								
PSI	**Prapat**	**15.54**	**321**	Pn		**Pn**	**15 24 26.5**	**-6.9**
1.0nm,0.3s,baz=162,slow=11,SNR=6.2								
MBWA	**Marble Bar**	**15.80**	**139**	*e*P		**Pn**	**15 24 31.8**	**-5.0**
53nm,0.8s								
KULM	**Kulim**	**16.64**	**331**	*e*P		**Pn**	**15 24 42.5**	**-5.0**
KKM	**Kota Kinabalu**	**17.03**	**26**	*e*P		**Pn**	**15 24 53.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**18.57**	**120**	*e*P		**Pn**	**15 25 10.7**	**-0.6**
54nm,0.8s								
FITZ				*e*S		**Sn**	**15 28 23.5**	**-15**
FITZ	**Fitzroy Crossi**	**18.57**	**120**	P		**Pn**	**15 25 11.0**	**-0.3**
1.0nm,0.3s,baz=318,slow=12,SNR=16								
KAKA	**Kakadu**	**23.50**	**100**	*e*P		**P**	**15 26 05.6**	**+1.5**
48nm,0.6s,mb5.1								
BUKP	**Musuan**	**23.63**	**44**	*e*P		**P**	**15 26 06.8**	**+1.6**
KLBR	**Kellerberrin**	**23.65**	**161**	*e*P		**P**	**15 26 04.1**	**-1.3**
91nm,1.9s,mb4.9								
KLBR				*e*S		**S**	**15 30 14.5**	**-3.8**
CGP	**Cagayan de Oro**	**23.80**	**42**	*e*P		**P**	**15 26 07.6**	**+0.9**
SWI	**Sorong**	**23.96**	**71**	P		**P**	**15 26 06.1**	**-2.1**
84nm,1.0s,mb5.1								
TBP	**Tagbilaran**	**24.19**	**39**	*e*P		**P**	**15 26 11.7**	**+1.3**
TBP				*e*S			15 26 22.2	
NWAO	**Narrogin (SRO)**	**24.73**	**163**	P		**P**	**15 26 13.9**	**-1.3**
12nm,0.7s,mb4.5,baz=322,slow=13,SNR=6.4								
OCLP	**Ormoc**	**25.71**	**38**	*e*P		**P**	**15 26 24.9**	**+0.8**
PLP	**Palo**	**26.02**	**39**	*e*P		**P**	**15 26 27.8**	**+0.7**
PLP				*e*S		pP	15 26 38.4	+3.7
WRA	**Warramunga Arr**	**26.88**	**116**	P		**P**	**15 26 34.9**	**+0.2**
36nm,0.9s,mb4.9,baz=287,slow=11,SNR=46								
WRA				PcP		PcP	15 29 57.4	+0.8
3.5nm,0.8s,baz=306,slow=1.9,SNR=4.8								
WRAB	**Tennant Creek**	**26.88**	**116**	P		**P**	**15 26 35.0**	**+0.2**
SNR=11								
WRAB	**Tennant Creek**	**26.88**	**116**	*e*P		**P**	**15 26 35.1**	**+0.3**
WRAB				pmax		pmax		
comp=Z,55nm,0.7s,mb5.2								
WRAB	**Tennant Creek**	**26.88**	**116**	*e*P		**P**	**15 26 35.1**	**+0.4**
comp=Z,55nm,0.7s,mb5.2								
WB2	**Warramunga Arr**	**26.89**	**116**	*e*P		**P**	**15 26 35.1**	**+0.3**
ASPA	**Alice Springs**	**27.94**	**124**	*e*P		**P**	**15 26 44.1**	**-0.2**
AS31	**Alice Springs**	**27.94**	**124**	*e*P		**P**	**15 26 44.1**	**-0.2**
ASAR	**Alice Springs**	**27.94**	**124**	P		**P**	**15 26 42.9**	**-1.4**
comp=Z,3.6nm,1.1s,baz=296,slow=8.1,SNR=7.1								
ASAR				PcP		PcP	15 30 00.8	+1.5
comp=Z,5.0nm,0.6s,baz=300,slow=2.1,SNR=9.3								
QIZ	**Qiongzhong**	**28.24**	**2**	P		**P**	**15 26 46.3**	**-0.6**
QIZ				S		**S**	**15 31 37.1**	**+5.9**
QIZ				LR		LR		
comp=N,1µm,16.5s,MS4.7								
QIZ				LR		LR		
comp=E,1µm,16.9s,MS4.7								
QIZ				LR		LR		
comp=Z,2µm,17.4s,MS4.7								
CM31	**Chiang Mai Arr**	**29.28**	**341**	*eP*		**P**	**15 26 57.4**	**+1.2**
comp=Z,6.3nm,0.6s,mb4.5								
CHTO	**Chiang Mai**	**29.62**	**341**	*eP*		**P**	**15 26 58.8**	**-0.4**
CHTO				pmax		pmax		
comp=Z,11nm,0.5s,mb4.8								
CHTO	**Chiang Mai**	**29.62**	**341**	*eP*		**P**	**15 26 58.8**	**-0.4**
comp=Z,11nm,0.5s,mb4.9								
KMI	**Kunming**	**34.77**	**350**	P		**P**	**15 27 47.3**	**+3.0**
KMI				AP		pP	15 27 53.4	+1.3
KMI				AMB		AMB		
comp=Z,27nm,1.3s,mb5.0								
GYA	**Guiyang**	**35.67**	**357**⇑	*iP*		**P**	**15 27 53.6**	**+1.6**
GYA				AP		pP	15 27 57.8	-2.0
GYA				XP		sP	15 28 01.4	-1.6
GYA				PP		PP	15 29 14.0	+0.8
GYA				PCP		PcP	15 30 22.5	+2.4
GYA				AMB		AMB		
comp=Z,50nm,0.6s,mb5.6								
GYA				AMB		AMB		
comp=Z,170nm,4.8s								
GYA				LR		LR		
comp=N,890nm,16.2s,MS4.8								
GYA				LR		LR		
comp=E,970nm,15.8s,MS4.8								
GYA				LR		LR		
comp=Z,840nm,15.7s,MS4.6								
VIS	**Vishakhapatnam**	**36.80**	**317**	*eP*		**P**	**15 28 02.1**	**+0.4**
VIS				AMb		AMB	15 28 16.4	
comp=Z,79nm,1.7s,mb5.3								
CTA	**Charters Tower**	**37.74**	**111**	*eP*		**P**	**15 28 11.7**	**+2.0**
comp=Z,12nm,0.6s,mb4.8								
CTA	**Charters Tower**	**37.74**	**111**	*eP*		**P**	**15 28 11.7**	**+2.0**
CTA				pmax		pmax		
comp=Z,12nm,0.6s								
CTAO	**Charters Tower**	**37.74**	**111**	*eP*		**P**	**15 28 11.6**	**+1.9**
CTAO				pmax		pmax		
comp=Z,60nm,1.3s,mb5.2								
CTAO	**Charters Tower**	**37.74**	**111**	*eP*		**P**	**15 28 11.6**	**+1.9**
comp=Z,60nm,1.3s,mb5.2								
PMG	**Port Moresby**	**37.90**	**93**	P		**P**	**15 28 12.9**	**+1.9**
comp=Z,12nm,0.9s,mb4.6,baz=273,slow=7.0,SNR=6.4								
BOK	**Bokaro**	**39.81**	**326**	*eP*		**P**	**15 28 27.7**	**+0.6**
BOK				AMb		AMB	15 28 29.2	
comp=Z,61nm,1.3s,mb5.2								
BOK				AML		AML	15 36 41.8	
comp=E,22nm,0.6s								
BOK				AML		AML	15 36 42.6	
comp=N,19nm,0.5s								
HYB	**Hyderabad**	**39.97**	**312**	*i* P		**P**	**15 28 29.0**	**+0.6**
HYB	**Hyderabad**	**39.97**	**312**	*eP*		**P**	**15 28 29.0**	**+0.6**
WHN	**Wuhan**	**40.05**	**8**	*eP*		**P**	**15 28 30.6**	**+1.6**
CD2	**Chengdu**	**40.33**	**353**⇑	*iP*		**P**	**15 28 31.8**	**+0.5**
CD2				AMB		AMB		
comp=Z,40nm,1.2s,mb5.0								
JOW	**Kunigami**	**40.68**	**27**	P		**P**	**15 28 34.9**	**+0.7**
comp=Z,71nm,1.0s,mb5.3,baz=215,slow=5.3,SNR=15								
SSE	**Sheshan**	**41.97**	**16**	*eP*		**P**	**15 28 40.8**	**-4.0**
SSE				AMB		AMB		
comp=Z,15nm,0.7s,mb4.7								
SSE				AMB		AMB		
comp=Z,67nm,3.5s								
NJ2	**Nanjing**	**42.31**	**13**	*eP*		**P**	**15 28 47.8**	**+0.2**
NJ2				AP		pP	15 28 56.4	+0.9
NJ2				XP		sP	15 29 00.6	+2.0
NJ2				PP		PP	15 30 28.4	+2.6
NJ2				S		**S**	**15 35 04.0**	**-2.8**
NJ2				XS		sS	15 35 20.0	+0.2
NJ2				AMB		AMB		
comp=Z,30nm,1.0s,mb4.9								
NJ2				AMB		AMB		
comp=Z,1µm,3.9s								
NJ2				LR		LR		
comp=N,15µm,15.4s,MS6.1								
NJ2				LR		LR		
comp=E,12µm,15.6s,MS6.1								
NJ2				LR		LR		
comp=Z,17µm,15.6s,MS6.0								
JIRN	**Jiri**	**42.79**	**330**	*eP*		**P**	**15 28 52.1**	**+0.6**
comp=Z,235nm,1.2s,mb5.8								
PKI	**Pulchoki**	**43.11**	**329**	*eP*		**P**	**15 28 54.3**	**+0.2**
GUN	**Gumba**	**43.15**	**330**	*eP*		**P**	**15 28 55.1**	**+0.6**
comp=Z,103nm,0.6s,mb5.7								
XAN	**Xi'an**	**43.16**	**0**	P		**P**	**15 28 54.3**	**-0.3**
XAN				AMB		AMB		
comp=Z,46nm,1.2s,mb5.1								
AKL	**Akola**	**43.19**	**314**	*eP*		**P**	**15 28 53.5**	**-1.3**
AKL				AMb		AMB	15 29 02.8	
comp=Z,54nm,1.0s,mb5.2								
KAD	**Karad**	**43.22**	**308**	*eP*		**P**	**15 28 55.2**	**+0.2**
DMN	**Daman**	**43.30**	**329**	*eP*		**P**	**15 28 56.0**	**+0.4**
comp=Z,227nm,1.1s,mb5.8								
KKN	**Kakani**	**43.35**	**329**	*eP*		**P**	**15 28 56.3**	**+0.2**
comp=Z,187nm,1.1s,mb5.7								
KKN	**Kakani**	**43.35**	**329**	*eP*		**P**	**15 28 56.3**	**+0.2**
KKN				pmax		pmax		
comp=Z,187nm,1.1s,mb5.7								
GKN	**Gorkha**	**43.86**	**329**	*eP*		**P**	**15 29 00.0**	**-0.1**
KOLN	**Koldanda**	**44.21**	**327**	*eP*		**P**	**15 29 03.1**	**+0.1**
comp=Z,371nm,1.1s,mb6.0								
BHPL	**Bhopal**	**44.59**	**317**	*eP*		**P**	**15 29 05.2**	**-0.8**
BHPL				AMb		AMB	15 29 18.6	
comp=Z,50nm,0.7s,mb5.5								
ARMA	**Armidale**	**45.10**	**124**	*eP*		**P**	**15 29 11.9**	**+1.9**
LZH	**Lanzhou**	**45.44**	**354**	*eP*		**P**	**15 29 14.8**	**+2.0**
LZH				AP		pP	15 29 22.5	+1.8
LZH				XP		sP	15 29 26.5	+2.7
LZH				PP		PP	15 31 01.0	+1.7
LZH				AMB		AMB		
comp=Z,150nm,1.3s,mb5.7								
LZH				AMB		AMB		
comp=Z,453nm,4.0s								
LZH				LR		LR		
comp=N,1µm,13.0s								
LZH				LR		LR		
comp=Z,2µm,15.6s,MS5.2								
TIA	**Tai'an**	**46.02**	**9**	*eP*		**P**	**15 29 16.0**	**-1.3**
LGTI	**Lohaghat**	**47.35**	**326**	*i* P		**P**	**15 29 26.5**	**-1.3**
NDI	**New Delhi**	**48.55**	**322**	*eP*		**P**	**15 29 34.5**	**-2.5**
AJM	**Ajmer**	**48.63**	**318**	*eP*		**P**	**15 29 37.6**	**-0.1**
AJM				AMb		AMB	15 29 50.1	
comp=Z,43nm,0.8s,mb5.5								
GTA	**Gaotai**	**49.23**	**351**	*eP*		**P**	**15 29 43.1**	**+0.9**
GTA				AP		pP	15 29 55.0	+4.8
GTA				PCP		PcP	15 31 06.6	+1.5
GTA				PP		PP	15 31 37.8	+1.7
GTA				AMB		AMB		
comp=Z,43nm,1.2s,mb5.3								
GTA				AMB		AMB		
comp=Z,235nm,7.6s								
GTA				LR		LR		
comp=N,676nm,14.8s,MS4.9								
GTA				LR		LR		
comp=E,632nm,17.5s,MS4.9								
GTA				LR		LR		
comp=Z,402nm,11.4s								
INCN	**Inchon**	**49.53**	**19**	P		**P**	**15 29 44.1**	**-0.5**
comp=Z,21nm,0.6s,mb5.3								
BJT	**Baijiatuau**	**49.61**	**8**	*eP*		**P**	**15 29 45.1**	**-0.1**
BJT				pmax		pmax		
comp=Z,51nm,0.5s								
BJT	**Baijiatuau**	**49.61**	**8**	*eP*		**P**	**15 29 45.0**	**-0.1**
comp=Z,51nm,0.5s,mb5.8								
BJI	**Beijing**	**49.64**	**8**	*eP*		**P**	**15 29 45.3**	**-0.1**
BJI				AMB		AMB		
comp=Z,83nm,1.3s,mb5.6								
BTO	**Baotou**	**49.73**	**1**	*eP*		**P**	**15 29 46.3**	**+0.2**
HHC	**Hu-ho-hao-te**	**50.03**	**3**	*eP*		**P**	**15 29 48.4**	**0.0**
HHC				AP		pP	15 29 52.8	-3.6
HHC				XP		sP	15 29 55.6	-3.9
HHC				PCP		PcP	15 31 07.9	-0.1

HHC PP PP 15 31 46.0 +2.6
HHC PCS PcS 15 35 04.6 -0.4
HHC S **S** **15 36 57.5 -0.2**
HHC XS sS 15 37 11.8 +0.9
HHC AMB AMB
comp=Z,36nm,1.2s,mb5.3
HHC AMB AMB
comp=Z,214nm,4.0s
HHC LR LR
comp=N,3µm,15.5s,MS5.4
HHC LR LR
comp=E,771nm,16.6s,MS5.4
HHC LR LR
comp=Z,5µm,16.7s,MS5.6
SMLA Simla 50.36 324 *e*P **P** **15 29 50.5 -0.4**
SMLA AMb AMB 15 29 55.0
comp=Z,141nm,1.4s,mb5.8
HNR Honiara 50.49 95 P **P** **15 29 53.3 +1.5**
comp=Z,46nm,0.7s,mb5.6,baz=176,slow=0.7,SNR=3.8
SDNR Sundarnagar 50.75 325 *e*P **P** **15 29 53.0 -0.8**
SNY Shenyang 52.73 14 ⇓P **P** **15 30 07.8 -0.8**
SNY AP pP 15 30 17.9 +1.3
SNY XP sP 15 30 21.5 +1.7
SNY PP PP 15 32 06.3 -1.7
SNY S **S** **15 37 27.0 -8.0**
SNY AMB AMB
comp=Z,12nm,0.8s,mb4.9
SNY AMB AMB
comp=Z,315nm,12.0s
SNY LR LR
comp=E,614nm,17.4s
SNY LR LR
comp=Z,631nm,19.6s,MS4.7
MAT Matsushiro 53.42 30 P **P** **15 30 11.7 -1.9**
MAT Matsushiro 53.42 30 *e*P **P** **15 30 12.0 -1.6**
MAT pmax pmax
comp=Z,21nm,1.3s,mb4.9
MAT Matsushiro 53.42 30 *e*P **P** **15 30 12.0 -1.6**
comp=Z,21nm,1.3s,mb4.9
MJAR Matsushiro Arr 53.42 30 P **P** **15 30 12.0 -1.6**
comp=Z,7.8nm,0.6s,mb4.8,baz=204,slow=8.2,SNR=24
CN2 Changchun 55.05 15 ⇑P **P** **15 30 24.9 -0.7**
CN2 AMB AMB
comp=Z,20nm,1.2s,mb5.0
WMQ Urumqi 56.28 342 P **P** **15 30 38.3 +4.0**
WMQ AP pP 15 30 42.8 +0.4
WMQ XP sP 15 30 45.3 -0.2
WMQ PCP PcP 15 31 35.3 +3.7
WMQ PP PP 15 32 45.1 +5.3
WMQ AMB AMB
comp=Z,67nm,1.5s,mb5.5
WMQ AMB AMB
comp=Z,354nm,5.0s
WMQ LR LR
comp=N,2µm,17.4s,MS5.3
WMQ LR LR
comp=E,1µm,16.3s,MS5.3
WMQ LR LR
comp=Z,2µm,17.9s,MS5.2
VLA Vladivostok 56.34 20 *e*P **P** **15 30 32.7 -2.1**
VLA *e* pP 15 30 40.5 -2.4
VLA *e* 15 30 45.7
VLA pmax pmax
comp=Z,67nm,1.4s,mb5.5
VLA Vladivostok 56.34 20*c e*P **P** **15 30 33.4 -1.4**
VLA pmax pmax
comp=Z,80nm,1.7s,mb5.5
MDJ Mudanjiang 56.95 18 P **P** **15 30 38.3 -0.8**
MDJ AP pP 15 30 41.4 -5.8
MDJ PP PP 15 32 44.5 -1.2
MDJ SCP ScP 15 35 33.4 +1.3
MDJ S **S** **15 38 31.9 +0.3**
MDJ AMB AMB
comp=Z,15nm,1.4s,mb4.8
MDJ AMB AMB
comp=Z,21nm,3.3s
MDJ LR LR
comp=N,450nm,19.9s,MS4.6
MDJ LR LR
comp=E,114nm,21.0s,MS4.6
MDJ LR LR
comp=Z,346nm,19.2s,MS4.5
MDJ Mudanjiang 56.95 18 *e*P **P** **15 30 37.9 -1.2**
comp=Z,6.3nm,0.8s,mb4.7
SONM Songino Array 56.98 358 P **P** **15 30 39.8 +0.5**
comp=Z,14nm,0.5s,mb5.2,baz=178,slow=8.1,SNR=132
ULN Ulaanbaatar 57.00 359 ⇓P **P** **15 30 40.2 +0.8**
SNR=28
ULN Ulaanbaatar 57.00 359*c i*P **P** **15 30 37.3 -2.2**
ULN Ulaanbaatar 57.00 359 *e*P **P** **15 30 39.7 +0.2**
comp=Z,30nm,0.6s,mb5.5
KSH Kashi 57.35 330 P **P** **15 30 42.1 +0.2**
KSH *e*AP pP 15 30 47.3 -2.7
KSH *e*XP sP 15 30 49.9 -3.3
KSH *e*PCP PcP 15 31 37.8 +2.0
KSH LR LR
comp=N,555nm,4.0s
KSH LR LR
comp=E,478nm,4.4s
KSH LR LR
comp=Z,412nm,18.4s,MS4.6
WSAR Wadi Sarin 58.74 304 P **P** **15 30 52.8 +1.1**
comp=Z,9.9nm,0.6s,mb5.0,baz=84,slow=7.2,SNR=9.2
HIA Hailar 59.18 8*ce*P **P** **15 30 53.7 -1.0**
HIA Hailar 59.18 8 *e*P **P** **15 30 54.6 -0.2**
comp=Z,22nm,1.1s,mb5.1
BIDO Bidbid 59.28 304 ⇓P **P** **15 30 56.4 +1.0**
SNR=6.6
ULHL Ulahol 59.35 332 P **P** **15 30 56.0 0.0**
SNR=9.2
KZA Kyzart 59.68 332 P **P** **15 30 58.8 +0.6**
SNR=26
ZAK Zakamensk 59.69 356 *e*P **P** **15 30 58.2 0.0**
ZAK pmax pmax
comp=Z,16nm,1.5s,mb4.8
TKM2 Tokmak 2 60.17 332 P **P** **15 31 01.8 +0.2**
SNR=54
TKM2 Tokmak 2 60.17 332 *i*P **P** **15 30 59.6 -2.0**
TKM2 pmax pmax
comp=Z,39nm,0.6s,mb5.6
OPO Ambohidratompo 60.18 254 P **P** **15 31 02.0 +0.3**
comp=Z,9.7nm,1.1s,mb4.8,baz=132,slow=7.6,SNR=7.9
KBK Karagaybulak 60.27 332 P **P** **15 31 02.8 +0.6**
SNR=18
AML Almayashu 60.46 331 P **P** **15 31 04.0 +0.4**
SNR=29
AAK Ala-Archa 60.46 331 P **P** **15 31 03.9 +0.4**
SNR=5.5
AAK Ala-Archa 60.46 331 P **P** **15 31 02.9 -0.7**
comp=Z,52nm,0.7s,mb5.7,SNR=5.7
AAK Ala-Archa 60.46 331 P **P** **15 31 03.2 -0.4**
SNR=10
AAK Ala-Archa 60.46 331*c i*P **P** **15 31 02.7 -0.9**
AAK pmax pmax
comp=Z,33nm,2.5s,mb4.9
AAK Ala-Archa 60.46 331 *e*P **P** **15 31 02.5 -1.0**
comp=Z,7.2nm,0.8s,mb4.8
ARQ Araqi 60.52 303 ⇑P **P** **15 31 04.5 +0.6**
SNR=6.2
MK31 Makanchi Array 60.68 339 P **P** **15 31 03.5 -1.6**
MK31 pmax pmax
comp=Z,14nm,0.5s,mb5.3
MKAR Makanchi Array 60.68 339 P **P** **15 31 04.5 -0.6**
comp=Z,25nm,0.5s,mb5.6,baz=122,slow=7.5,SNR=102
MKAR Makanchi Array 60.68 339 *i*P **P** **15 31 02.7 -2.4**
MKAR pmax pmax
comp=Z,25nm,0.5s
MKAR Makanchi Array 60.68 339 P **P** **15 31 04.5 -0.6**
EKS2 Erkin-Say 60.83 331 P **P** **15 31 06.1 +0.1**
SNR=24
USP Ospenovka 60.95 332 P **P** **15 31 06.6 -0.2**
SNR=9.9
MOY Mondy 61.15 355 *e*P **P** **15 31 09.1 +0.9**
MOY pmax pmax
comp=Z,91nm,2.0s,mb5.6
IRK Irkutsk 61.48 357 *e*P **P** **15 31 10.2 -0.3**
IRK pmax pmax
comp=Z,64nm,2.0s,mb5.4
ASHO Ashiyiah 61.49 305 ⇑P **P** **15 31 11.1 +0.5**
SNR=7.8
KLR Kul'dur 61.75 17 *e*P **P** **15 31 08.2 -4.1**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,100nm,1.8s,mb5.6
HABR Khabarovsk 62.10 20 ⇑*i*P **P** **15 31 13.8 -0.8**
HABR *e*S **S** **15 39 30.0 -8.0**
HABR pmax pmax
comp=Z,45nm,1.6s,mb5.3
KK31 Karatay Array 62.76 329 *i*P **P** **15 31 18.2 -0.8**
KK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
KKAR Karatay Array 62.76 329 *i*P **P** **15 31 18.2 -0.8**
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
RPZ Rata Peaks 63.66 134 P **P** **15 31 25.3 +0.2**
comp=Z,32nm,1.0s,mb5.3,baz=290,slow=4.3,SNR=10.0
YSS Yuzh-Sakhalins 63.74 25*c i*P **P** **15 31 25.0 -0.5**
YSS pmax pmax
comp=Z,29nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 63.74 25 *e*P **P** **15 31 25.0 -0.6**
comp=Z,18nm,0.6s,mb5.3
KURK Kurchatov 65.30 339 P **P** **15 31 35.1 -0.6**
comp=Z,292nm,1.2s,mb6.2,SNR=25
KURK Kurchatov 65.30 339 ⇑P **P** **15 31 35.8 +0.1**
SNR=31
KURK Kurchatov 65.30 339 P **P** **15 31 35.3 -0.4**
KURK pmax pmax
comp=Z,32nm,1.1s,mb5.3
KURK Kurchatov 65.30 339 *e*P **P** **15 31 35.2 -0.5**
comp=Z,34nm,0.6s,mb5.5
MAW Mawson 65.62 198 P **P** **15 31 37.3 -0.5**
comp=Z,8.4nm,0.8s,mb4.8,baz=46,slow=7.7,SNR=17
MAW Mawson 65.62 198 *e*P **P** **15 31 37.0 -0.8**
MAW pmax pmax
comp=Z,24nm,1.2s
MAW Mawson 65.62 198 *e*P **P** **15 31 37.0 -0.9**
comp=Z,24nm,1.2s,mb5.1
ZAL Zalesovo 66.24 345 P **P** **15 31 40.4 -1.4**
comp=Z,9.2nm,0.4s,mb5.1,baz=330,slow=3.8,SNR=35
KRAR Krasnoyarsk 66.46 350⇑*e*P **P** **15 31 40.8 -2.4**
KRAR pmax pmax
comp=Z,98nm,1.7s,mb5.6
BOD Bodaibo 67.09 3 *e*P **P** **15 31 46.0 -1.2**
BOD pmax pmax
comp=Z,29nm,1.4s,mb5.1
CLNS Chul'man 67.30 10 *e*P **P** **15 31 45.3 -3.3**
CLNS pmax pmax
comp=Z,12nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.8s
NVS Novosibirsk 67.46 344⇑*i*P **P** **15 31 44.9 -4.7**
NVS pmax pmax
comp=Z,56nm,2.0s,mb5.2
NVS pmax pmax
comp=N,38nm,1.9s
NVS pmax pmax
comp=E,21nm,1.7s
ATD Arta Tunnel 68.71 286 P **P** **15 31 58.7 +1.3**
comp=E,3.0nm,0.5s,mb4.5,baz=139,slow=19,SNR=3.8
ATD Arta Tunnel 68.71 286 P **P** **15 31 58.7 +1.3**
QRN Al-Qurain 69.80 305 *e*P **P** **15 32 03.7 -0.5**
QRN AMb AMB 15 32 06.2
comp=Z,122nm,1.0s,mb5.8
KBD Kabd 70.15 306 *e*P **P** **15 32 06.5 +0.2**
KBD AMb AMB 15 32 08.5
comp=Z,210nm,1.2s,mb6.0
RDF Al-Radifah 70.17 305 *e*P **P** **15 32 05.7 -0.8**
RDF AMb AMB 15 32 08.5
comp=Z,147nm,1.2s,mb5.8
BVA0 Borovoye Array 70.20 337 *i*P **P** **15 32 06.3 -0.3**
BVA0 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BVAR Borovoye Array 70.20 337 P **P** **15 32 06.5 -0.1**
comp=Z,17nm,0.7s,mb5.1,baz=142,slow=7.5,SNR=78
BRVK Borovoye 70.27 337 P **P** **15 32 06.7 -0.3**
comp=Z,179nm,1.1s,mb5.9,SNR=16
BRVK Borovoye 70.27 337 ⇓P **P** **15 32 07.2 +0.2**
SNR=21
BRVK Borovoye 70.27 337 *e*P **P** **15 32 06.3 -0.7**
BRVK pmax pmax
comp=Z,20nm,0.6s,mb5.2
BRVK Borovoye 70.27 337 *e*P **P** **15 32 06.3 -0.7**
comp=Z,20nm,0.6s,mb5.2
UMR Umm Al-Rimmam 70.28 306 *e*P **P** **15 32 07.0 -0.1**
UMR AMb AMB 15 32 08.4
comp=Z,144nm,0.6s,mb6.1
NAY Al-Naaiem 70.54 305 *e*P **P** **15 32 08.3 -0.4**
NAY AMb AMB 15 32 09.9
comp=Z,47nm,0.8s,mb5.5
CHKZ Chkalovo 70.61 337 *e*P **P** **15 32 09.0 -0.1**
CHKZ pmax pmax
comp=Z,76nm,0.6s,mb5.8
CHKZ Chkalovo 70.61 337 *e*P **P** **15 32 09.0 -0.2**
comp=Z,76nm,0.6s,mb5.8
MIB Mutribah 70.68 306 *e*P **P** **15 32 09.3 -0.3**
MIB AMb AMB 15 32 11.6
comp=Z,83nm,0.8s,mb5.7
ZRNK Zerenda 70.70 336 *e*P **P** **15 32 09.4 -0.3**
ZRNK pmax pmax
comp=Z,64nm,0.6s,mb5.7
ZRNK Zerenda 70.70 336 *e*P **P** **15 32 09.4 -0.3**
comp=Z,64nm,0.6s,mb5.7
RST Umm Al-Ruwaisa 70.84 306 *e*P **P** **15 32 10.0 -0.5**
RST AMb AMB 15 32 11.1
comp=Z,123nm,0.7s,mb6.0
KMBO Kilima Mbogo 71.54 272 P **P** **15 32 15.3 +0.5**
comp=Z,9.4nm,1.1s,mb4.6,baz=64,slow=7.6,SNR=9.4
YAK Yakutsk 73.03 10 *e*P **P** **15 32 23.2 -0.5**
YAK pmax pmax
comp=N,16nm,1.0s
YAK pmax pmax
comp=Z,54nm,1.0s,mb5.4
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK Yakutsk 73.03 10 *e*P **P** **15 32 22.6 -1.1**
comp=E,86nm,0.6s,mb5.8
VNDA Vanda 73.34 170 P **P** **15 32 24.8 -0.7**
comp=E,17nm,1.1s,mb4.9,baz=298,slow=6.1,SNR=49
VNDA Vanda 73.34 170 *e*P **P** **15 32 24.9 -0.6**
VNDA pmax pmax
comp=Z,32nm,1.2s
VNDA Vanda 73.34 170 *e*P **P** **15 32 24.9 -0.7**
comp=Z,32nm,1.2s,mb5.1
SYO Syowa Base 73.89 201⇑*e*P **P** **15 32 27.4 -1.3**
AKTK Aktyubinsk 74.02 329 P **P** **15 32 29.4 -0.1**
AKTO Aktyubinsk 74.02 329 P **P** **15 32 29.4 -0.1**
comp=Z,17nm,1.2s,mb4.8,baz=126,slow=5.1,SNR=19
AKTO Aktyubinsk 74.02 329 *i*P **P** **15 32 28.5 -1.0**
AKTO pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
SBA Scott Base 74.41 169 *e*P **P** **15 32 32.0 +0.2**
SBA pmax pmax
comp=Z,33nm,1.2s,mb5.1
SBA Scott Base 74.41 169 *e*P **P** **15 32 32.0 +0.3**
comp=Z,33nm,1.2s,mb5.1
PET Petropavlovsk 75.23 29*c i*P **P** **15 32 36.2 -0.3**
PET pmax pmax
comp=Z,55nm,1.3s,mb5.3
PET Petropavlovsk 75.23 29 *e*P **P** **15 32 35.9 -0.6**
comp=Z,22nm,0.6s,mb5.3
MA2 Magadan 76.48 21*de*P **P** **15 32 43.2 -0.4**
MA2 Magadan 76.48 21 *e*P **P** **15 32 43.6 -0.1**
comp=Z,52nm,1.0s,mb5.4
GNI Garni 76.83 315 P **P** **15 32 46.1 +0.5**
comp=Z,2.9nm,0.3s,mb4.7,baz=143,slow=21,SNR=5.6
GNI Garni 76.83 315*c i*P **P** **15 32 46.3 +0.7**
GNI Garni 76.83 315 *e*P **P** **15 32 45.9 +0.3**
comp=Z,14nm,0.8s,mb4.9
SVE Sverdlovsk 76.86 335⇑*i*P **P** **15 32 46.7 +0.9**
SVE *e* 15 32 58.2
SVE pmax pmax
comp=Z,96nm,1.8s,mb5.4
ARU Arti 77.48 334 P **P** **15 32 49.4 +0.1**
comp=Z,132nm,1.6s,mb5.6,SNR=9.9
ARU Arti 77.48 334⇑*i*P **P** **15 32 49.2 -0.1**
ARU *e* 15 32 59.5
ARU *e* 15 35 40.7
ARU *e*PPP 15 37 27.2
ARU *e*S S 15 42 32.5 -6.1
ARU pmax pmax
comp=Z,28nm,1.2s,mb5.1
ARU Arti 77.48 334 *e*P **P** **15 32 48.9 -0.3**
comp=Z,20nm,0.8s,mb5.1
MBAR Mbarara 78.05 271⇑*e*P **P** **15 32 53.7 +1.2**
ZEI Tsey 78.48 317 *e*P **P** **15 32 56.2 +1.4**
ZEI *e**PP pP 15 33 06.1 +2.9
ZEI pmax pmax
comp=Z,16nm,0.5s,mb5.2
LSZ Lusaka 78.53 256 P **P** **15 32 56.1 +1.0**
comp=Z,10.0nm,0.7s,mb4.9,baz=100,slow=5.0,SNR=28
LSZ Lusaka 78.53 256 *e*P **P** **15 32 55.9 +0.8**
LSZ pmax pmax
comp=Z,12nm,0.8s,mb4.9
LSZ Lusaka 78.53 256 *e*P **P** **15 32 55.9 +0.8**
comp=Z,12nm,0.8s,mb4.9
KIV Kislovodsk 79.77 318*c i*P **P** **15 33 02.3 +0.4**
KIV Kislovodsk 79.77 318 *e*P **P** **15 33 03.5 +1.6**
comp=Z,30nm,1.1s,mb5.1
ASF Jabal al Asfar 79.90 305 P **P** **15 33 03.2 +0.6**
comp=Z,26nm,1.2s,mb5.0,baz=348,slow=1.5,SNR=30
LBTB Lobatse 79.92 246 P **P** **15 33 03.5 +0.8**
comp=Z,6.7nm,0.7s,mb4.7,baz=121,slow=5.9,SNR=14
LBTB Lobatse 79.92 246 *e*P **P** **15 33 03.4 +0.7**
LBTB pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
LBTB Lobatse 79.92 246 *e*P **P** **15 33 03.4 +0.7**
comp=Z,8.4nm,0.7s,mb4.8
GOF Gofitskoye 79.99 319 *e*P **P** **15 33 02.4 -0.7**
GOF pmax pmax
comp=Z,20nm,0.6s,mb5.2
QSPA South Pole Qui 80.64 180⇓*i*P **P** **15 33 05.9 -0.7**
comp=Z,74nm,1.2s,mb5.5
MALT Malatya 80.69 311 *e*P **P** **15 33 07.3 +0.5**
MALT pmax pmax
comp=Z,19nm,1.0s,mb5.0
MALT Malatya 80.69 311 *e*P **P** **15 33 07.3 +0.5**
comp=Z,18nm,1.0s,mb5.0
EIL Elat 80.77 302 *e*P **P** **15 33 08.1 +0.8**
comp=Z,245nm,0.8s,mb6.2
TIXI Tiksi 81.94 6 *e*P **P** **15 33 09.7 -3.8**
TIXI pmax pmax
comp=Z,49nm,0.7s,mb5.5
TIXI Tiksi 81.94 6*c i*P **P** **15 33 12.3 -1.2**
TIXI pmax pmax
comp=Z,55nm,1.0s,mb5.4
CSS Prodhromos 83.56 307 *e*P **P** **15 33 21.8 -0.1**
comp=Z,83nm,1.4s,mb5.7
BR131 Keskin Array S 84.67 312 *e*P **P** **15 33 28.0 +0.5**
comp=Z,18nm,0.8s,mb5.2
BRTR Keskin Array B 84.67 312 P **P** **15 33 27.9 +0.3**
comp=Z,25nm,1.0s,mb5.3,baz=131,slow=5.6,SNR=80
BRTR Keskin Array B 84.67 312⇑*e*P **P** **15 33 27.8 +0.3**
VRSR Storozhevoye 84.76 324 *e*P **P** **15 33 27.6 -0.4**
VRSR pmax pmax
comp=Z,50nm,0.7s,mb5.8
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,30nm,0.8s
VOR Voronezh 84.95 324 *e*P **P** **15 33 29.0 +0.1**
VOR pmax pmax
comp=Z,100nm,1.7s,mb5.7
ANTO Ankara 85.33 311 *e*P **P** **15 33 31.6 +0.7**
ANTO pmax pmax
comp=Z,50nm,1.4s,mb5.5
ANTO Ankara 85.33 311 *e*P **P** **15 33 31.6 +0.8**
comp=Z,50nm,1.4s,mb5.5
SIM Simferopol' 85.86 317 *e*P **P** **15 33 34.0 +0.5**
SIM pmax pmax
comp=Z,23nm,1.2s,mb5.3
ISP Isparta 86.52 309⇑*e*P **P** **15 33 37.0 +0.3**
MOS Moscow 87.28 328 *e*P **P** **15 33 39.6 -0.8**
MOS *e* pP 15 33 47.1 -1.8
MOS pmax pmax
comp=Z,123nm,1.3s,mb6.0
OBN Obninsk 87.63 327*c i*P **P** **15 33 42.0 -0.1**
OBN *e**PP pP 15 33 53.0 +2.4
OBN *e* 15 37 04.1
OBN *e*S 15 44 05.6
OBN pmax pmax
comp=Z,159nm,1.7s,mb6.0
OBN MLR MLR
comp=Z,700nm,15.0s,MS5.2
OBN Obninsk 87.63 327 *e*P **P** **15 33 42.1 0.0**
comp=Z,89nm,1.1s,mb5.9
SNAA Sanae 87.79 197 *e*P **P** **15 33 42.3 -0.6**
SNAA *e* 15 33 45.0
SNAA *e* 15 33 47.4
SNAA Sanae 87.79 197 *e*P **P** **15 33 42.6 -0.3**
SNAA pmax pmax
comp=Z,33nm,1.3s
SNAA Sanae 87.79 197 *e*P **P** **15 33 42.6 -0.2**
comp=Z,33nm,1.3s,mb5.4
TSUM Tsumeb 88.04 251 P **P** **15 33 45.5 +1.4**
comp=Z,10nm,1.0s,mb5.0,baz=81,slow=4.1,SNR=16
TSUM Tsumeb 88.04 251 *e*P **P** **15 33 45.5 +1.4**
comp=Z,16nm,1.1s,mb5.2
KLMR Klimovskoe 88.25 333 *e*P **P** **15 33 45.1 0.0**
KLMR pmax pmax
comp=Z,110nm,1.3s,mb5.9
TIRR Tirgusor 89.65 315 *e*P **P** **15 33 52.6 +0.9**
VNA1 Neumayer--Stat 89.82 197 *e*P **P** **15 33 53.2 +0.8**
VNA1 *e* 15 33 53.9
AKASG Malin Array Be 90.60 321 P **P** **15 33 55.5 -0.5**
comp=Z,4.0nm,0.6s,mb4.9,baz=88,slow=4.6,SNR=18
AKASG PP PP 15 37 28.8 -2.4
comp=Z,0.4nm,0.3s,baz=93,slow=6.2,SNR=13
AKASG Malin Array Be 90.60 321 P **P** **15 33 55.5 -0.5**
AKASG PP PP 15 37 28.8 -2.4
AKBB Malin Array Si 90.60 321 *e*P **P** **15 33 55.3 -0.8**
MLR Muntele Rosu 91.59 316 P **P** **15 34 01.7 +1.0**
comp=Z,14nm,1.1s,mb5.2,baz=43,slow=3.4,SNR=15
MLR PP PP 15 37 38.9 -0.1
comp=Z,10nm,1.1s,baz=96,slow=7.4,SNR=6.8
JOF Joensuu 92.60 333 *ep* **P** **15 34 04.1 -1.2**
comp=Z,6.0nm,0.7s,mb5.1
JOF Joensuu 92.60 333 *e*P **P** **15 34 04.1 -1.2**
JOF pmax pmax
comp=Z,6.0nm,0.7s,mb5.1
FINES FINESS Array B 94.65 331 P **P** **15 34 14.7 -0.1**
comp=Z,6.5nm,1.0s,mb5.0,baz=116,slow=4.4,SNR=9.3
FINES FINESS Array B 94.65 331 *i*P **P** **15 34 14.6 -0.2**
FINES pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl 94.66 319 *e*P **P** **15 34 15.7 +0.9**
KOLS *e*PP PP 15 37 59.5 -3.6
KAF Kangasniemi 94.67 332 *ep* **P** **15 34 13.9 -1.0**
comp=Z,13nm,0.9s,mb5.3
KAF Kangasniemi 94.67 332 *e*P **P** **15 34 13.9 -1.0**
KAF pmax pmax
comp=Z,13nm,0.9s,mb5.4
ARCES ARCESS Array B 96.34 339 P **P** **15 34 21.4 -1.0**
comp=Z,6.2nm,1.1s,mb5.0,baz=328,slow=6.2,SNR=4.8
VYHS Vyhne 96.86 318 *e*P **P** **15 34 25.8 +0.9**
GERES GERESS Array B 100.28 318 P Pdif 15 34 39.9 -0.3
comp=Z,0.2nm,0.2s,baz=108,slow=3.0,SNR=5.8
GERES PP PP 15 38 48.2 +1.9
comp=Z,0.6nm,0.7s,baz=117,slow=0.9,SNR=3.4
HFS Hagfors 100.56 330 P Pdif 15 34 41.8 +0.4
comp=Z,4.4nm,1.0s,baz=79,slow=7.7,SNR=4.8
CLL Collm 100.82 321 ⇓*i*PP PP 15 38 51.1 +0.8
CLL *i* *SPP 15 38 55.5
CLL Collm 100.82 321 ⇓*i*PP PP 15 38 51.1 +0.8
comp=Z,8.0nm,0.8s
CLL *i* sPP 15 38 55.5
comp=Z,4.0nm,0.4s
GRF Grafenberg Arr 101.93 319 *e*PP PP 15 38 58.0 -0.7
GRF Grafenberg Arr 101.93 319 *e*PP PP 15 38 58.0 -0.7
ESDC Sonseca Array 113.37 309 PP PP 15 40 25.1 +2.7
comp=Z,0.2nm,0.3s,baz=76,slow=6.9,SNR=4.3
YKA Yellowknife Ar 118.46 21 PKP PKPdf 15 39 41.0 -0.3
comp=Z,2.1nm,0.7s,baz=328,slow=1.7,SNR=13
YKA PKPPKP 15 58 36.7
comp=Z,0.5nm,0.8s,baz=134,slow=4.0,SNR=4.4
YKA Yellowknife Ar 118.46 21 PKIKP PKPdf 15 39 41.0 -0.3
YKA Yellowknife Ar 118.46 21 PKP PKPdf 15 39 41.0 -0.3
YKA P'P' 15 58 36.7
K02A Glendale 123.68 44 ⇑P PKPdf 15 39 53.6 +2.2
baz=124
HUMO Hull Mountain 124.11 44 ⇑P PKPdf 15 39 54.7 +2.5
baz=124
M02C Callahan 124.61 46 ⇑P PKPdf 15 39 55.4 +2.2
baz=125
EDM Edmonton 124.72 29 *e*PKIKP PKPdf 15 39 53.8 +0.4
M04C Macdoel 125.18 45 ⇑P PKPdf 15 39 56.8 +2.6
baz=125
GASB Alder Springs 125.28 48 ⇓P PKPdf 15 39 56.8 +2.3
baz=125
J06A Christmas Vall 125.78 43 ⇑P PKPdf 15 39 57.3 +2.0
baz=126
L05A Lakeview 125.78 44 ⇓P PKPdf 15 39 57.6 +2.2
baz=126
HATC Hat Creek Radi 125.79 46 ⇓P PKPdf 15 39 56.9 +1.5
baz=126
M05C Lookout 125.81 45 ⇑P PKPdf 15 39 57.5 +2.1

	baz=126						
K06A	**Valley Falls**	**125.89**	**43**	⇑P	PKPdf	15 39 58.0	+2.4
	baz=126						
CVS	**Carmenet Viney**	**125.89**	**49**	⇓P	PKPdf	15 39 57.7	+2.1
	baz=126						
J07A	**Hines**	**126.29**	**42**	⇑P	PKPdf	15 39 59.0	+2.6
	baz=126						
M06C	**Likely Place G**	**126.34**	**45**	⇑P	PKPdf	15 39 59.0	+2.5
	baz=126						
P05C	**Yuba Gap, Truc**	**126.94**	**47**	⇑P	PKPdf	15 40 00.0	+2.4
	baz=127						
N06A	**Buffalo Meadow**	**126.97**	**45**	⇓P	PKPdf	15 40 00.2	+2.5
	baz=127						
S04C	**Ingram Canyon,**	**127.01**	**50**	⇓P	PKPdf	15 40 00.3	+2.6
	baz=127						
WVOR	**Wild Horse Val**	**127.12**	**43**	*e*PKIKP	PKPdf	15 39 59.6	+1.6
M07A	**Soldier Meadow**	**127.18**	**44**	⇓P	PKPdf	15 40 00.2	+2.2
	baz=127						
HAST	**UC Hastings Re**	**127.18**	**51**	⇑P	PKPdf	15 39 59.5	+1.4
	baz=127						
O06A	**Flanigan**	**127.19**	**46**	⇓P	PKPdf	15 40 00.4	+2.3
	baz=127						
PACP	**Pacheco Peak**	**127.19**	**50**	⇑P	PKPdf	15 40 00.4	+2.3
	baz=127						
R05C	**Kirkwood Meado**	**127.53**	**48**	⇑P	PKPdf	15 40 01.9	+3.1
	baz=128						
N07B	**Gerlach**	**127.56**	**45**	⇑P	PKPdf	15 40 01.3	+2.5
	baz=128						
M08A	**Happy Creek Ra**	**127.70**	**44**	⇓P	PKPdf	15 40 02.0	+3.0
	baz=128						
O07A	**Toulon**	**127.86**	**46**	⇑P	PKPdf	15 40 02.0	+2.6
	baz=128						
L09A	**Wilkinson Ranc**	**127.95**	**43**	⇑P	PKPdf	15 40 02.0	+2.5
	baz=128						
S06C	**San Francisco**	**127.99**	**49**	⇑P	PKPdf	15 40 01.7	+2.1
	baz=128						
R06C	**Coleville**	**128.06**	**48**	⇑P	PKPdf	15 40 03.0	+3.2
	baz=128						
PKD	**Parkfield**	**128.10**	**51**	⇑P	PKPdf	15 40 02.2	+2.4
	baz=128						
N08A	**GE Springer Mi**	**128.14**	**45**	⇓P	PKPdf	15 40 02.5	+2.6
	baz=128						
M09A	**Marrel Ranch,**	**128.35**	**44**	⇑P	PKPdf	15 40 03.7	+3.4
	baz=128						
CHMT	**Chamberlain Mo**	**128.36**	**36**	*e*PKPdf	PKPdf	15 40 00.7	+0.4
R07C	**Lee Vining**	**128.51**	**48**	⇓P	PKPdf	15 40 03.3	+2.8
	baz=128						
N09A	**Rock Creek Ran**	**128.54**	**44**	⇑P	PKPdf	15 40 03.4	+2.7
	baz=128						
NVAR	**Mina Array Bea**	**128.93**	**48**	PKP	PKPdf	15 40 04.6	+3.2
	comp=Z,3.6nm,1.1s,baz=237,slow=0.6,SNR=14						
NVAR	**Mina Array Bea**	**128.93**	**48**	PKP	PKPdf	15 40 04.6	+3.2
HLID	**Hailey**	**129.38**	**40**	*e*PKPdf	PKPdf	15 40 04.2	+2.0
DLMT	**Dillon**	**129.58**	**37**	*e*PKPdf	PKPdf	15 40 03.8	+1.2
S09A	**Goldfield**	**129.99**	**48**	⇓P	PKPdf	15 40 06.4	+2.9
	baz=130						
BOZ	**Bozeman (W)**	**130.00**	**36**	*e*PKIKP	PKPdf	15 40 05.8	+2.4
M12A	**Wells**	**130.07**	**43**	⇓P	PKPdf	15 40 06.4	+2.8
	baz=130						
O11A	**Cowboy Ranch,**	**130.13**	**45**	⇑P	PKPdf	15 40 06.7	+3.1
	baz=130						
ELK	**Elko**	**130.15**	**44**	*e*PKIKP	PKPdf	15 40 06.5	+2.8
PLCA	**Paso Flores**	**130.15**	**181**	PKP	PKPdf	15 40 06.0	+2.3
	comp=Z,1.8nm,0.7s,baz=163,slow=9.3,SNR=3.4						
PLCA	**Paso Flores**	**130.15**	**181**	PKP	PKPdf	15 40 06.0	+2.3
Q11A	**Duckwater**	**130.68**	**46**	⇓P	PKPdf	15 40 08.3	+3.6
	baz=131						
GSC	**Goldstone**	**131.18**	**51**	⇑P	PKPdf	15 40 09.3	+3.6
	baz=131						
U12A	**Valley of Fire**	**132.46**	**49**	⇑P	PKPdf	15 40 12.0	+4.0
	baz=132						
V12A	**Nelson**	**132.51**	**50**	⇓P	PKPdf	15 40 11.6	+3.4
	baz=132						
PDAR	**Pinedale Array**	**132.83**	**38**	PKP	PKPdf	15 40 10.6	+1.8
	comp=Z,0.5nm,0.4s,baz=14,slow=3.1,SNR=4.1						
MSU	**Marysvale**	**133.27**	**45**	*e*PKIKP	PKPdf	15 40 11.8	+2.2
W13A	**Hualapai Mount**	**133.47**	**50**	⇑P	PKPdf	15 40 12.9	+2.9
	baz=134						
GLA	**Glamis**	**133.50**	**53**	⇑P	PKPdf	15 40 13.3	+3.3
	baz=134						
X13A	**Yucca**	**133.72**	**51**	⇑P	PKPdf	15 40 13.6	+3.1
	baz=134						
W14A	**Seligman**	**134.04**	**49**	⇓P	PKPdf	15 40 14.6	+3.6
	baz=134						
ULM	**Lac du Bonnet**	**134.43**	**22**	PKP	PKPdf	15 40 12.4	+0.6
	comp=Z,3.6nm,0.9s,baz=334,slow=5.2,SNR=3.5						
X14A	**Yava**	**134.48**	**50**	⇑P	PKPdf	15 40 15.5	+3.6
	baz=134						
SCHQ	**Schefferville**	**134.52**	**356**	PKP	PKPdf	15 40 14.2	+2.3
	comp=Z,1.4nm,0.5s,baz=317,slow=2.1,SNR=6.5						
Y14A	**Wickenburg**	**134.60**	**51**	⇑P	PKPdf	15 40 15.4	+3.3
	baz=135						
RWWY	**Rawlins**	**134.88**	**38**	*e*PKPdf	PKPdf	15 40 13.6	+1.0
X15A	**Humboldt**	**134.96**	**50**	⇓P	PKPdf	15 40 15.9	+3.1
	baz=135						
RSSD	**Black Hills**	**135.22**	**34**	*e*PKIKP	PKPdf	15 40 13.2	-0.1
PV10	**Paradox Valley**	**135.49**	**43**	*e*PKPdf	PKPdf	15 40 15.1	+1.3
ANMO	**Albuquerque**	**139.00**	**46**	*e*PKIKP	PKPdf	15 40 23.5	+3.2
CPUP	**Villa Florida**	**142.02**	**201**	PKhKP		15 40 22.3	
	comp=Z,2.0nm,0.7s,baz=22,slow=2.4,SNR=3.1						
LTX	**Lajitas**	**143.75**	**52**	*e*PKIKP	PKPdf	15 40 27.9	-0.9
PKME	**Peaks-Kenny Pk**	**144.19**	**358**	*e*PKPdf	PKPdf	15 40 28.1	-1.5
WMOK	**Wichita Mounta**	**144.34**	**41**	*e*PKIKP	PKPdf	15 40 29.3	-0.5
LONY	**Lake Ozonia**	**144.76**	**4**	*e*PKPdf	PKPdf	15 40 29.9	-0.6
LBNH	**Lisbon**	**145.25**	**1**	*e*PKIKP	PKPdf	15 40 31.4	0.0
MIV	**Mineville/With**	**145.37**	**3**	*e*PKP	PKPdf	15 40 31.9	+0.4
NCB	**Newcomb**	**145.43**	**4**	*e*PKP	PKPdf	15 40 31.8	+0.1
AAM	**Ann Arbor**	**145.44**	**16**	PKIKP	PKPdf	15 40 30.7	-1.0
ACCN	**Adirondack Com**	**146.05**	**3**	*e*PKPbc	PKPbc	15 40 34.0	+0.4
JCT	**Junction City**	**146.11**	**48**	*e*PKP2	PKPab	15 40 34.7	+0.3
BDFB	**Brasilia**	**146.12**	**223**	PKPbc	PKPbc	15 40 35.0	+1.2
	comp=Z,6.3nm,0.6s,baz=151,slow=4.5,SNR=9.4						
CCM	**Cathedral Cave**	**146.25**	**29**	*e*PKP2	PKPbc	15 40 33.6	-0.6
FVM	**French Village**	**146.69**	**28**	*e*PKP2	PKPbc	15 40 35.0	-0.5
HRV	**Harvard--Oak R**	**146.99**	**0**	*e*PKP2	PKPab	15 40 37.1	-0.7
WES	**Weston**	**147.11**	**0**	PKP2	PKPbc	15 40 36.7	0.0
QUA2	**Belchertown**	**147.20**	**1**	*e*PKPbc	PKPbc	15 40 37.5	+0.6
ACSO	**Alum Creek Sta**	**147.54**	**17**	*e*PKPbc	PKPbc	15 40 38.2	+0.3
MIAR	**Mount Ida**	**147.66**	**36**	*e*PKP2	PKPab	15 40 39.5	-1.0
USIN	**University of**	**147.92**	**25**	*e*PKPbc	PKPbc	15 40 39.6	+0.7
LVC	**Limon Verde**	**148.14**	**184**	*e*PKPbc	PKPbc	15 40 39.3	-0.2
UALR	**University of**	**148.19**	**34**	*e*PKPbc	PKPbc	15 40 40.6	+1.0
WCI	**Wyandotte Cave**	**148.24**	**23**	*e*PKP2	PKPbc	15 40 40.5	+0.7
PAL	**Palisades**	**148.40**	**4**	*e*PKP2	PKPbc	15 40 40.8	+0.6
MCWV	**Mont Chateau**	**148.88**	**13**	*e*PKPbc	PKPbc	15 40 42.3	+0.9
NATX	**Nacogdoches**	**148.90**	**41**	*e*PKPbc	PKPbc	15 40 42.9	+1.4
HKT	**Hockley**	**149.24**	**45**	PKP2	PKPbc	15 40 44.4	+2.1
WVT	**Waverly**	**149.40**	**27**	*e*PKIKP	PKPdf	15 40 39.4	+1.1
WVT				*e*		15 40 43.6	
OXF	**Oxford**	**149.95**	**31**	*e*PKP2	PKPbc	15 40 44.9	+0.8
PLAL	**Pickwick Lake**	**150.23**	**29**	*e*PKPdf	PKPdf	15 40 40.4	+0.8
PLAL				*e*PKPbc	PKPbc	15 40 45.0	+0.2
FWV	**Forest Hill**	**150.62**	**16**	*e*PKPbc	PKPbc	15 40 46.2	+0.5
TZTN	**Tazewell**	**150.74**	**21**	*e*PKPbc	PKPbc	15 40 46.9	+0.9
ELN	**Prospectdale**	**150.97**	**16**	*e*PKPbc	PKPbc	15 40 46.9	+0.4
CPCT	**Cooper Cave**	**151.36**	**23**	*e*PKPbc	PKPbc	15 40 48.7	+1.3
LRAL	**Lakeview Retre**	**152.33**	**29**	*e*PKPdf	PKPdf	15 40 44.1	+1.3
LRAL				*e*PKPbc	PKPbc	15 40 50.5	+0.9
LRAL				*e*PKPab	PKPab	15 41 01.1	+1.4
LPAZ	**La Paz**	**154.32**	**187**	PKP	PKPdf	15 40 48.8	+3.1
	comp=Z,2.1nm,1.0s,baz=108,slow=3.8,SNR=6.9						
LPAZ				PKPbc	PKPbc	15 40 56.4	+2.5
	comp=Z,3.8nm,0.9s,baz=203,slow=4.4,SNR=11						
LPAZ				PKPab	PKPab	15 41 08.9	+0.8
	comp=Z,7.0nm,0.9s,baz=276,slow=1.1,SNR=9.6						
LPAZ	**La Paz**	**154.32**	**187**	*e*PKPdf	PKPdf	15 40 48.3	+2.6
LPAZ				*e*PKPbc	PKPbc	15 40 56.1	+2.2
OTAV	**Otavalo**	**168.45**	**141**	*e*PKPdf	PKPdf	15 41 02.9	+2.5

*IDC **17** 15:21:03.2±0.5, 929S×10868E, h0^{km}, mb5.1/16, mb1 5.1/17, mb1mx5.0/24, mbtmp5.1/17, ML4.6/1, Error ellipse: s-maj=18.5km s-min=14.6km az=27.0*
*NEIC **17** 15:21:04.7±0.3, 929S×10871E, h10^{km}, mb5.2/4, Error ellipse: s-maj=9.5km s-min=6.4km az=221.0*
*ISCJB **17** 15:21:06.5±0.4, 924S±008×10880E±008, h33^{km}, mb5.0/21, Error ellipse: s-maj=13.6km s-min=8.8km az=82.9*
*MOS **17** 15:21:06.5±0.8, 922S×10877E, h33^{km}, mb5.5/20, Error ellipse: s-maj=18.5km s-min=11.9km az=128.3*
ISC 17 15:21:08.8±0.4**, 925S**±008×**10878E**±008**, h35**^{km}**, n56,** σ**0**^{s}**75**/50**, mb5.0**/21**, 1C, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**15.49**	**320**	Pn	**Pn**	**15 24 37.7**	**-6.8**
	1.5nm,0.3s,baz=157,slow=14,SNR=4.7						
PSI	**Prapat**	**15.49**	**320**	P	**Pn**	**15 24 37.7**	**-6.8**
PSI				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PSI	**Prapat**	**15.49**	**320**	Pn	**Pn**	**15 24 37.7**	**-6.8**
FITZ	**Fitzroy Crossi**	**18.58**	**120**	P	**Pn**	**15 25 23.1**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=308,slow=8.3,SNR=13						
NWAO	**Narrogin (SRO)**	**24.82**	**163**	P	**P**	**15 26 26.2**	**-1.4**
	comp=Z,15nm,0.6s,mb4.7,baz=334,slow=9.7,SNR=9.6						
NWAO	**Narrogin (SRO)**	**24.82**	**163**	P	**P**	**15 26 26.3**	**-1.3**
NWAO				pmax	pmax		
	comp=Z,15nm,0.6s						
WRA	**Warramunga Arr**	**26.88**	**116**	P	**P**	**15 26 46.5**	**+0.2**
	comp=Z,56nm,1.1s,mb5.0,baz=289,slow=11,SNR=27						
WRA	**Warramunga Arr**	**26.88**	**116**	P	**P**	**15 26 46.5**	**+0.2**
WRA				pmax	pmax		
	comp=Z,56nm,1.1s						
WRAB	**Tennant Creek**	**26.89**	**116**	*e*P	**P**	**15 26 46.1**	**-0.2**
WB2	**Warramunga Arr**	**26.89**	**116**	*e*P	**P**	**15 26 45.8**	**-0.6**
CTA	**Charters Tower**	**37.73**	**111**	P	**P**	**15 28 23.0**	**+1.9**
	comp=Z,14nm,0.6s,mb4.9,baz=288,slow=11,SNR=6.2						
CTA	**Charters Tower**	**37.73**	**111**	P	**P**	**15 28 23.0**	**+1.9**
CTA				pmax	pmax		
	comp=Z,14nm,0.6s						
PMG	**Port Moresby**	**37.86**	**93**	P	**P**	**15 28 23.0**	**+0.8**
	comp=Z,22nm,0.7s,mb5.0,baz=269,slow=4.8,SNR=8.9						
PMG	**Port Moresby**	**37.86**	**93**	P	**P**	**15 28 23.0**	**+0.8**
PMG				pmax	pmax		
	comp=Z,22nm,0.7s						
JOW	**Kunigami**	**40.56**	**27**	P	**P**	**15 28 45.4**	**+0.7**
	comp=Z,45nm,0.7s,mb5.2,baz=251,slow=13,SNR=7.0						
INCN	**Inchon**	**49.41**	**19**	*e*P	**P**	**15 29 55.1**	**0.0**
MJAR	**Matsushiro Arr**	**53.30**	**30**	P	**P**	**15 30 22.9**	**-1.3**
	comp=Z,3.4nm,0.5s,mb4.5,baz=208,slow=8.0,SNR=11						
MJAR	**Matsushiro Arr**	**53.30**	**30**	P	**P**	**15 30 22.9**	**-1.3**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MDJ	**Mudanjiang**	**56.83**	**18**	*e*P	**P**	**15 30 48.9**	**-0.8**
	comp=Z,12nm,0.6s,mb5.1						
SONM	**Songino Array**	**56.88**	**358**	P	**P**	**15 30 51.0**	**+0.9**
	comp=Z,24nm,0.5s,mb5.5,baz=178,slow=8.2,SNR=24						
SONM	**Songino Array**	**56.88**	**358**	P	**P**	**15 30 51.0**	**+1.0**
SONM				pmax	pmax		
	comp=Z,24nm,0.5s						
ULN	**Ulaanbaatar**	**56.89**	**359**	*e*P	**P**	**15 30 50.7**	**+0.6**
HIA	**Hailar**	**59.06**	**8**	P	**P**	**15 31 04.9**	**-0.5**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
HIA	**Hailar**	**59.06**	**8**	P	**P**	**15 31 04.9**	**-0.4**
	comp=Z,6.4nm,0.4s,mb5.0						
MKAR	**Makanchi Array**	**60.59**	**339**	P	**P**	**15 31 16.3**	**+0.4**
	comp=Z,23nm,0.6s,mb5.5,baz=148,slow=7.5,SNR=16						
MKAR	**Makanchi Array**	**60.59**	**339**	P	**P**	**15 31 16.3**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,23nm,0.6s						
KURK	**Kurchatov**	**65.21**	**339**	*e*P	**P**	**15 31 46.2**	**-0.4**
KURK				pmax	pmax		
	comp=Z,40nm,0.7s						
KURK	**Kurchatov**	**65.21**	**339**	*e*P	**P**	**15 31 46.2**	**-0.4**
	comp=Z,40nm,0.7s,mb5.5						
BVAR	**Borovoye Array**	**70.12**	**336**	P	**P**	**15 32 17.2**	**-0.3**
	comp=Z,42nm,0.6s,baz=146,slow=8.6,SNR=33						
BVAR	**Borovoye Array**	**70.12**	**336**	P	**P**	**15 32 17.2**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,43nm,0.6s						
BRVK	**Borovoye**	**70.19**	**336**	*e*P	**P**	**15 32 17.2**	**-0.7**
CHKZ	**Chkalovo**	**70.53**	**337**	*e*P	**P**	**15 32 19.5**	**-0.5**
KMBO	**Kilima Mbogo**	**71.58**	**272**	P	**P**	**15 32 26.6**	**+0.2**
	comp=Z,6.5nm,0.8s,mb4.6,baz=66,slow=8.9,SNR=14						
KMBO	**Kilima Mbogo**	**71.58**	**272**	P	**P**	**15 32 26.6**	**+0.2**
KMBO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
YAK	**Yakutsk**	**72.91**	**10**	*e**PP	pP	15 32 47.4	+2.2
LSZ	**Lusaka**	**78.60**	**256**	P	**P**	**15 33 06.8**	**-0.1**
	comp=E,14nm,0.7s,mb5.0,baz=87,slow=3.9,SNR=12						
LSZ	**Lusaka**	**78.60**	**256**	P	**P**	**15 33 06.8**	**-0.1**
LSZ				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
KIV	**Kislovodsk**	**79.72**	**318**	*e*P	**P**	**15 33 13.8**	**+0.8**
KIV				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.3						
KIV	**Kislovodsk**	**79.72**	**318**	*e*P	**P**	**15 33 13.8**	**+0.8**
	comp=Z,44nm,1.1s,mb5.3						
ASF	**Jabal al Asfar**	**79.88**	**305**	P	**P**	**15 33 15.2**	**+1.3**
	comp=Z,18nm,0.8s,mb5.0,baz=6.5,slow=3.8,SNR=19						
ASF	**Jabal al Asfar**	**79.88**	**305**	P	**P**	**15 33 15.2**	**+1.3**
ASF				pmax	pmax		
	comp=Z,18nm,0.9s						
LBTB	**Lobatse**	**80.00**	**246**	P	**P**	**15 33 15.1**	**+0.6**
	comp=Z,8.7nm,0.7s,mb4.8,baz=124,slow=6.8,SNR=14						
LBTB	**Lobatse**	**80.00**	**246**	P	**P**	**15 33 15.1**	**+0.6**
LBTB				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
CSS	**Prodhromos**	**83.53**	**307**	*e*P	**P**	**15 33 33.1**	**0.0**
	comp=Z,42nm,0.8s						
BRTR	**Keskin Array B**	**84.63**	**312**	P	**P**	**15 33 38.6**	**-0.1**
	comp=Z,21nm,0.8s,mb5.3,baz=126,slow=6.3,SNR=17						
BRTR	**Keskin Array B**	**84.63**	**312**	P	**P**	**15 33 38.7**	**0.0**
BRTR				pmax	pmax		
	comp=Z,21nm,0.8s						
ANTO	**Ankara**	**85.30**	**311**	*e*P	**P**	**15 33 41.8**	**-0.2**
ANTO				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.2						
ANTO	**Ankara**	**85.30**	**311**	*e*P	**P**	**15 33 41.8**	**-0.2**
	comp=Z,24nm,1.1s,mb5.2						
TSUM	**Tsumeb**	**88.12**	**251**	P	**P**	**15 33 56.2**	**+0.4**
	comp=Z,7.4nm,0.9s,mb4.9,baz=81,slow=4.5,SNR=4.3						
AKASG	**Malin Array Be**	**90.54**	**321**	P	**P**	**15 34 05.8**	**-1.4**
	comp=Z,7.3nm,0.8s,mb5.1,baz=89,slow=4.5,SNR=13						
AKASG	**Malin Array Be**	**90.54**	**321**	P	**P**	**15 34 05.8**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YKA	**Yellowknife Ar**	**118.33**	**21**	PKP	PKPdf	15 39 51.5	-0.9
	comp=Z,1.8nm,0.6s,baz=332,slow=1.9,SNR=7.6						
YKA	**Yellowknife Ar**	**118.33**	**21**	PKIKP	PKPdf	15 39 51.5	-0.9
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ANMO	**Albuquerque**	**138.89**	**46**	⇑*i*PKHKP		15 40 24.2	
BDFB	**Brasilia**	**146.23**	**223**	PKPbc	PKPbc	15 40 46.9	+1.4
	comp=Z,8.7nm,0.7s,baz=115,slow=3.5,SNR=4.6						
BDFB	**Brasilia**	**146.23**	**223**	PKP2	PKPab	15 40 46.9	+0.7
BDFB				pmax	pmax		
	comp=Z,9.0nm,0.7s						

MAN 17 15:23:46.0, 1103N×12188E, h1^{km}, mb2.7, ML4.2, MS2.9, 1C-1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KALP	**Kalibo**	**0.79**	**35**	⇑*e*P	Pg	15 24 01.6	+0.6
GUIM	**Jordan**	**0.80**	**120**	*e*P	Pg	15 24 01.7	+0.4
CUYO	**Cuyo Island**	**0.87**	**258**	*e*P	Pg	15 24 02.6	-0.1
CUYO				*e*S	Sg	15 24 14.9	+1.0
RCP	**Roxas**	**1.00**	**58**	⇓*e*P	Pg	15 24 05.4	+0.3
OTRP	**Odiongan**	**1.33**	**6**	*e*P	Pg	15 24 10.2	-1.4
BUSP	**Coron**	**1.92**	**301**	*e*P	Pn	15 24 20.7	+1.0

*IDC **17** 15:26:17.9±0.4, 907S×10787E, h0^{km}, mb4.7/24, mb1 4.8/25, mb1mx4.7/28, mbtmp4.7/25, ML4.4/1, Error ellipse: s-maj=15.1km s-min=11.8km az=42.0*
*ISCJB **17** 15:26:20.9±0.3, 909S±005×10795E±006, h33^{km}, mb4.9/54, Error ellipse: s-maj=8.9km s-min=6.3km az=98.3*
*BJI **17** 15:26:20.8, 910S×10790E, h32^{km}, mB5.0, mb5.1, Ms5.4, Msz4.8*
*MOS **17** 15:26:21.7±1.2, 898S×10802E, h38^{km}, mb5.1/10, Error ellipse: s-maj=13.0km s-min=8.6km az=109.9*
*NEIC **17** 15:26:22.8±3.4, 906S×10793E, h32^{km}±23^{km}, mb5.3/20, Error ellipse: s-maj=9.0km s-min=5.5km az=49.0*
ISC 17 15:26:23.2±0.3**, 911S**±005×**10796E**±006**, h35**^{km}**, n122,** σ**0**^{s}**97**/98**, mb4.9**/54**, 3C-4D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**17.15**	**29**	*e*P	**Pn**	**15 30 20.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.36**	**119**	*e*P	**Pn**	**15 30 47.0**	**0.0**
	17nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.36**	**119**	P	**Pn**	**15 30 47.0**	**0.0**
	1.0nm,0.3s,baz=248,slow=8.2,SNR=6.0						
KAKA	**Kakadu**	**24.30**	**101**	*e*P	**P**	**15 31 38.2**	**+0.9**
	40nm,0.6s,mb5.0						
WRA	**Warramunga Arr**	**27.67**	**116**	P	**P**	**15 32 08.1**	**+0.3**
	16nm,0.7s,mb4.8,baz=286,slow=11,SNR=18						
WRAB	**Tennant Creek**	**27.68**	**116**	*e*P	**P**	**15 32 08.2**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.0						
WRAB	**Tennant Creek**	**27.68**	**116**	*e*P	**P**	**15 32 08.2**	**+0.4**
	comp=Z,23nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**27.68**	**116**	*e*P	**P**	**15 32 07.5**	**-0.4**
ASPA	**Alice Springs**	**28.72**	**123**	*e*P	**P**	**15 32 13.1**	**-4.0**
ASAR	**Alice Springs**	**28.72**	**123**	P	**P**	**15 32 17.1**	**0.0**
	comp=Z,10.0nm,0.9s,mb4.5,baz=308,slow=25,SNR=8.5						
AS31	**Alice Springs**	**28.72**	**123**	*e*P	**P**	**15 32 13.1**	**-4.0**
KMI	**Kunming**	**34.40**	**352**	P	**P**	**15 33 07.6**	**+0.6**
KMI				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
GYA	**Guiyang**	**35.37**	**358**	⇑*i*P	**P**	**15 33 17.8**	**+2.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CTA	**Charters Tower**	**38.54**	**111**	*e*P	**P**	**15 33 44.3**	**+2.0**
	comp=Z,6.1nm,0.7s,mb4.4						
CTA				*e*S	tx	15 36 24.9	
CTA	**Charters Tower**	**38.54**	**111**	P	**P**	**15 33 44.3**	**+1.9**
	comp=Z,4.4nm,0.8s,mb4.2,baz=264,slow=10,SNR=8.4						
CTA				PcP	PcP	15 35 56.2	+1.7
	comp=Z,2.9nm,0.7s,baz=339,slow=1.9,SNR=4.2						
CTA	**Charters Tower**	**38.54**	**111**	*e*P	**P**	**15 33 44.3**	**+2.0**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PMG	**Port Moresby**	**38.68**	**94**	P	**P**	**15 33 44.7**	**+1.2**
	comp=Z,14nm,0.9s,mb4.7,baz=284,slow=8.3,SNR=4.3						
JOW	**Kunigami**	**40.80**	**28**	P	**P**	**15 34 01.5**	**+0.4**
	comp=Z,23nm,0.7s,mb4.9,baz=244,slow=3.6,SNR=9.2						
JIRN	**Jiri**	**42.19**	**331**	*e*P	**P**	**15 34 13.3**	**+0.8**
	comp=Z,102nm,0.7s,mb5.5						
PKI	**Pulchoki**	**42.50**	**330**	*e*P	**P**	**15 34 15.4**	**+0.4**
	comp=Z,45nm,0.8s,mb5.1						
PKI	**Pulchoki**	**42.50**	**330**	*e*P	**P**	**15 34 15.4**	**+0.4**
PKI				pmax	pmax		
	comp=Z,45nm,0.8s,mb5.2						
GUN	**Gumba**	**42.55**	**331**	*e*P	**P**	**15 34 16.4**	**+1.0**
	comp=Z,111nm,0.7s,mb5.7						
DMN	**Daman**	**42.68**	**329**	*e*P	**P**	**15 34 16.8**	**+0.3**
	comp=Z,123nm,0.8s,mb5.7						
KKN	**Kakani**	**42.74**	**330**	*e*P	**P**	**15 34 17.3**	**+0.3**
	comp=Z,104nm,0.9s,mb5.6						
KKN	**Kakani**	**42.74**	**330**	*e*P	**P**	**15 34 17.3**	**+0.3**
KKN				pmax	pmax		
	comp=Z,104nm,0.9s,mb5.6						
XAN	**Xi'an**	**42.92**	**1**	P	**P**	**15 34 18.6**	**+0.2**
XAN				AMB	AMB		
	comp=Z,32nm,0.8s,mb5.1						
GKN	**Gorkha**	**43.24**	**329**	*e*P	**P**	**15 34 21.4**	**+0.4**
	comp=Z,105nm,0.8s,mb5.6						
KOLN	**Koldanda**	**43.59**	**328**	*e*P	**P**	**15 34 24.4**	**+0.6**
	comp=Z,154nm,0.7s,mb5.8						
LZH	**Lanzhou**	**45.12**	**355**	*e*P	**P**	**15 34 37.5**	**+1.5**
LZH				AP	pP	15 34 47.3	+0.9
LZH				XP	sP	15 34 51.3	+0.7
LZH				PP	PP	15 36 25.3	+3.5
LZH				AMB	AMB		
	comp=Z,51nm,1.1s,mb5.3						
LZH				AMB	AMB		
	comp=Z,261nm,5.1s						
NDI	**New Delhi**	**47.88**	**323**	*e*P	**P**	**15 34 55.0**	**-2.7**
GTA	**Gaotai**	**48.86**	**352**	*e*P	**P**	**15 35 06.0**	**+0.8**
GTA				AP	pP	15 35 16.3	+0.6
GTA				XP	sP	15 35 20.9	+1.1
GTA				AMB	AMB		
	comp=Z,21nm,1.2s,mb5.0						
BJI	**Beijing**	**49.48**	**8**	*e*P	**P**	**15 35 09.5**	**-0.5**
BJI				AMB	AMB		
	comp=Z,33nm,0.8s,mb5.4						
MAJO	**Matsushiro**	**53.57**	**30**	*e*P	**P**	**15 35 39.4**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
MAJO	**Matsushiro**	**53.57**	**30**	*e*P	**P**	**15 35 39.4**	**-1.2**
	comp=Z,6.6nm,0.7s,mb4.7						
MAT	**Matsushiro**	**53.57**	**30**	P	**P**	**15 35 39.0**	**-1.6**
MAT	**Matsushiro**	**53.57**	**30**	*e*P	**P**	**15 35 39.0**	**-1.6**
MAT				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
MAT	**Matsushiro**	**53.57**	**30**	*e*P	**P**	**15 35 39.0**	**-1.6**
	comp=Z,11nm,1.2s,mb4.7						
MJAR	**Matsushiro Arr**	**53.57**	**30**	P	**P**	**15 35 39.1**	**-1.5**
	comp=Z,6.1nm,0.7s,mb4.6,baz=208,slow=8.1,SNR=14						
SONM	**Songino Array**	**56.70**	**359**	P	**P**	**15 36 04.1**	**+0.9**
	comp=Z,16nm,0.7s,mb5.2,baz=175,slow=7.8,SNR=79						
ULN	**Ulaanbaatar**	**56.72**	**359**	*e*P	**P**	**15 36 03.3**	**0.0**
DZM	**Mont Dzumac**	**57.48**	**110**	P	**P**	**15 36 10.9**	**+2.2**
	comp=Z,4.6nm,0.7s,mb4.6,baz=254,slow=7.4,SNR=4.0						
WSAR	**Wadi Sarin**	**57.97**	**305**	P	**P**	**15 36 12.7**	**+0.6**
	comp=Z,4.1nm,0.6s,mb4.6,baz=83,slow=9.4,SNR=5.7						
ULHL	**Ulahol**	**58.77**	**333**	P	**P**	**15 36 17.5**	**-0.2**
	SNR=8.6						
KZA	**Kyzart**	**59.09**	**332**	P	**P**	**15 36 20.4**	**+0.5**
	SNR=16						
ZAK	**Zakamensk**	**59.38**	**357**	*e*P	**P**	**15 36 21.8**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
OPO	**Ambohidratompo**	**59.52**	**254**	P	**P**	**15 36 23.8**	**+0.9**
	comp=Z,4.5nm,0.8s,mb4.6,baz=55,slow=8.7,SNR=4.9						
TKM2	**Tokmak 2**	**59.59**	**333**	P	**P**	**15 36 23.5**	**+0.1**
	SNR=32						
KBK	**Karagaybulak**	**59.68**	**332**	P	**P**	**15 36 24.6**	**+0.6**
	SNR=12						
AML	**Almayashu**	**59.86**	**331**	P	**P**	**15 36 25.6**	**+0.3**
	SNR=8.5						
AAK	**Ala-Archa**	**59.87**	**332**	*e*P	**P**	**15 36 24.4**	**-0.9**
MKAR	**Makanchi Array**	**60.17**	**340**	P	**P**	**15 36 27.4**	**0.0**
	comp=Z,28nm,0.5s,mb5.5,baz=145,slow=7.8,SNR=128						
MKAR	**Makanchi Array**	**60.17**	**340**	P	**P**	**15 36 27.4**	**0.0**
EKS2	**Erkin-Say**	**60.23**	**331**	P	**P**	**15 36 28.4**	**+0.6**
	SNR=10						
USP	**Ospenovka**	**60.36**	**332**	P	**P**	**15 36 28.7**	**0.0**
	SNR=8.6						
MOY	**Mondy**	**60.82**	**355**	*e*P	**P**	**15 36 32.5**	**+0.7**
MOY				pmax	pmax		
	comp=Z,31nm,2.2s,mb5.0						
KLR	**Kul'dur**	**61.73**	**17**	*e*P	**P**	**15 36 35.2**	**-2.8**
YSS	**Yuzh-Sakhalins**	**63.83**	**26**	*e*P	**P**	**15 36 51.0**	**-1.0**
KURK	**Kurchatov**	**64.79**	**340**	*e*P	**P**	**15 36 57.9**	**-0.3**
KURK				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.4						
KURK	**Kurchatov**	**64.79**	**340**	*e*P	**P**	**15 36 57.9**	**-0.3**
	comp=Z,29nm,0.8s,mb5.4						
MAW	**Mawson**	**65.64**	**197**	*e*P	**P**	**15 37 02.9**	**-0.9**
	comp=Z,12nm,0.8s,mb5.0						
MAW	**Mawson**	**65.64**	**197**	P	**P**	**15 37 03.4**	**-0.3**
	comp=Z,15nm,0.8s,mb5.1,baz=50,slow=6.8,SNR=36						
MAW	**Mawson**	**65.64**	**197**	*e*P	**P**	**15 37 02.9**	**-0.9**
MAW				pmax	pmax		
	comp=Z,12nm,0.8s						
ZAL	**Zalesovo**	**65.79**	**345**	P	**P**	**15 37 03.4**	**-1.4**
	comp=Z,3.6nm,0.5s,mb4.6,baz=308,slow=5.4,SNR=9.2						
BOD	**Bodaibo**	**66.87**	**4**	*e*P	**P**	**15 37 09.4**	**-2.2**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.6						
UMR	**Umm Al-Rimmam**	**69.51**	**306**	*e*P	**P**	**15 37 28.0**	**-0.2**
UMR				AMb	AMB	15 37 28.8	
	comp=Z,63nm,0.6s,mb5.7						
BVAR	**Borovoye Array**	**69.66**	**337**	P	**P**	**15 37 29.0**	**-0.1**
	comp=Z,16nm,0.6s,mb5.1,baz=144,slow=8.2,SNR=32						
NAY	**Al-Naaiem**	**69.77**	**306**	*e*P	**P**	**15 37 29.3**	**-0.5**
NAY				AMb	AMB	15 37 31.0	
	comp=Z,17nm,1.1s,mb4.9						
MIB	**Mutribah**	**69.92**	**306**	*e*P	**P**	**15 37 30.4**	**-0.2**
MIB				AMb	AMB	15 37 34.3	
	comp=Z,30nm,1.3s,mb5.0						
CHKZ	**Chkalovo**	**70.08**	**337**	*e*P	**P**	**15 37 31.5**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,28nm,0.6s,mb5.4						
CHKZ	**Chkalovo**	**70.08**	**337**	*e*P	**P**	**15 37 31.5**	**-0.1**
	comp=Z,28nm,0.6s,mb5.4						
ZRNK	**Zerenda**	**70.15**	**336**	*e*P	**P**	**15 37 31.7**	**-0.4**
KMBO	**Kilima Mbogo**	**70.77**	**272**	P	**P**	**15 37 36.7**	**+0.8**
	comp=Z,2.5nm,0.8s,mb4.2,baz=63,slow=11,SNR=5.9						
YAK	**Yakutsk**	**72.91**	**11**	*e*P	**P**	**15 37 46.8**	**-1.9**

Code	Station	Δ°	AZ°	Op	ISC	Time	Res
YAK				pmax	pmax		
	comp=Z,37nm,0.6s,mb5.5						
YAK	Yakutsk	72.91	11	eP	P	15 37 46.8	-1.9
	comp=Z,37nm,0.6s,mb5.5						
AKTK	Aktyubinsk	73.41	329	P	P	15 37 51.2	-0.4
AKTO	Aktyubinsk	73.41	329	P	P	15 37 51.2	-0.4
	comp=Z,4.0nm,0.7s,mb4.5,baz=110,slow=7.8,SNR=10						
VNDA	Vanda	73.74	169	P	P	15 37 52.8	-0.9
	comp=Z,8.8nm,0.7s,mb4.8,baz=308,slow=5.8,SNR=45						
SYO	Syowa Base	73.87	200⇑	eP	P	15 37 52.7	-1.7
PET	Petropavlovsk	75.37	29	iP	P	15 38 03.1	0.0
PET				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
SVE	Sverdlovsk	76.31	335	eP	P	15 38 08.4	0.0
SVE				pmax	pmax		
	comp=Z,40nm,2.2s,mb5.0						
ARU	Arti	76.92	334	eP	P	15 38 10.9	-1.0
ARU	Arti	76.92	334	eP	P	15 38 11.4	-0.5
LSZ	Lusaka	77.85	256	P	P	15 38 17.5	+0.4
	comp=Z,1.9nm,0.5s,mb4.3,baz=62,slow=5.5,SNR=9.6						
LSZ	Lusaka	77.85	256	P	P	15 38 17.5	+0.4
ASF	Jabal al Asfar	79.13	305	P	P	15 38 25.6	+1.4
	comp=Z,6.0nm,0.8s,mb4.6,baz=6.3,slow=3.2,SNR=7.1						
LBTB	Lobatse	79.32	246	P	P	15 38 25.8	+0.6
	comp=Z,3.8nm,0.8s,mb4.4,baz=112,slow=6.7,SNR=6.7						
MALT	Malatya	79.94	312	eP	P	15 38 29.1	+0.5
MALT				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
MALT	Malatya	79.94	312	eP	P	15 38 29.1	+0.5
	comp=Z,2.4nm,0.6s,mb4.3						
BR131	Keskin Array S	83.93	312	eP	P	15 38 47.4	-2.1
BRTR	Keskin Array B	83.93	312	P	P	15 38 47.9	-1.6
	comp=Z,4.9nm,0.9s,mb4.6,baz=128,slow=5.7,SNR=13						
TSUM	Tsumeb	87.40	251	P	P	15 39 07.4	+0.7
	comp=Z,3.4nm,0.7s,mb4.7,baz=66,slow=6.8,SNR=6.3						
TSUM	Tsumeb	87.40	251	P	P	15 39 07.4	+0.7
SNAA	Sanae	87.81	197	e	P	15 39 08.7	0.0
SNAA				e		15 39 10.2	
SNAA				e		15 39 13.8	
SNAA	Sanae	87.81	197	eP	P	15 39 08.7	0.0
SNAA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SNAA	Sanae	87.81	197	eP	P	15 39 08.7	0.0
	comp=Z,6.2nm,1.3s,mb4.7						
VNA1	Neumayer--Stat	89.84	197	e	P	15 39 16.1	-2.2
VNA1				e		15 39 19.2	
AKASG	Malin Array Be	89.92	321	P	P	15 39 19.5	+0.9
	comp=Z,1.0nm,0.5s,mb4.4,baz=87,slow=4.5,SNR=4.0						
ARCES	ARCESS Array B	95.83	339	P	P	15 39 45.5	-0.3
	comp=Z,1.0nm,0.6s,mb4.4,baz=99,slow=6.3,SNR=4.9						
KBS	Kingsbay	100.04	349	eP	Pdif	15 40 08.8	+4.0
KBS				pmax	pmax		
	comp=Z,21nm,0.5s						
KBS	Kingsbay	100.04	349	eP	Pdif	15 40 08.8	+4.0
	comp=Z,21nm,0.5s						
YKA	Yellowknife Ar	118.49	21	PKP	PKPdf	15 45 06.8	-0.2
	comp=Z,1.1nm,0.7s,baz=323,slow=1.5,SNR=7.2						
YKA	Yellowknife Ar	118.49	21	PKP	PKPdf	15 45 06.8	-0.3
N06A	Buffalo Meadow	127.33	45	⇓P	PKPdf	15 45 26.2	+2.2
	baz=127						
O06A	Flanigan	127.56	46	⇑P	PKPdf	15 45 26.2	+1.7
	baz=128						
P06A	Stead Airport,	127.69	46	⇓P	PKPdf	15 45 26.2	+1.4
	baz=128						
S06C	San Francisco	128.39	48	⇓P	PKPdf	15 45 28.2	+2.1
	baz=128						
S09A	Goldfield	130.38	48	⇓P	PKPdf	15 45 33.1	+3.2
	baz=130						
PDAR	Pinedale Array	133.10	38	PKP	PKPdf	15 45 37.7	+2.7
	comp=Z,0.7nm,0.5s,baz=53,slow=1.6,SNR=7.0						
CPUP	Villa Florida	141.98	202	PKhKP		15 45 48.4	
	comp=Z,1.4nm,0.6s,baz=174,slow=3.8,SNR=6.6						
LONY	Lake Ozonia	144.55	3	ePKP	PKPdf	15 45 55.0	-0.9
WMOK	Wichita Mounta	144.64	40	ePKIKP	PKPdf	15 45 56.2	+0.2
BDFB	Brasilia	145.78	224	PKPbc	PKPbc	15 46 00.5	+2.0
	comp=Z,10nm,0.6s,baz=158,slow=3.0,SNR=13						
CCM	Cathedral Cave	146.38	28	ePKP2	PKPab	15 45 59.7	-1.5
JCT	Junction City	146.49	47	ePKP2	PKPab	15 46 01.8	+0.2
ACSO	Alum Creek Sta	147.51	16	ePKPbc	PKPbc	15 46 04.0	+0.5
MIAR	Mount Ida	147.89	35	ePKP2	PKPab	15 46 05.9	-1.2
UALR	University of	148.40	33	ePKPbc	PKPbc	15 46 07.0	+1.2
WVT	Waverly	149.50	26	ePKP2	PKPbc	15 46 09.7	+1.0
PLAL	Pickwick Lake	150.36	27	ePKPbc	PKPbc	15 46 11.2	+0.5
SIV	San Ignacio	152.80	204	PKP	PKPdf	15 46 11.5	+2.3
	comp=Z,2.6nm,0.8s,baz=189,slow=4.5,SNR=4.9						
SIV				PKPbc	PKPbc	15 46 17.8	+1.4
	comp=Z,12nm,0.7s,baz=136,slow=3.7,SNR=28						
LPAZ	La Paz	154.47	189	PKPbc	PKPbc	15 46 22.7	+2.7
	comp=Z,1.9nm,0.7s,baz=218,slow=7.8,SNR=6.5						
LPAZ	La Paz	154.47	189	PKPbc	PKPbc	15 46 22.7	+2.7

*BJI **17** 15:28:35.4, 10.18S×107.48E, h10^{km}, mB5.2, mb4.8, Ms5.6, Msz5.3*
*ISCJB **17** 15:28:42.7±0.3, 9.24S±0.05×107.30E±0.06, h10^{km}, mb4.8/46, MS5.0/3, Error ellipse: s-maj=8.1km s-min=7.5km az=121.7*
*IDC **17** 15:28:43.1±0.4, 9.15S×107.31E, h0^{km}, mb4.6/24, mb1 4.6/25, mb1mx4.6/28, mbtmp4.6/25, ML4.1/1, Error ellipse: s-maj=16.4km s-min=13.2km az=57.0*
*NEIC **17** 15:28:44.5±0.2, 9.19S×107.32E, h10^{km}, mb5.2/18, Error ellipse: s-maj=8.1km s-min=6.2km az=51.0*
*MOS **17** 15:28:46.4±1.2, 9.11S×107.41E, h33^{km}, mb5.2/9, Error ellipse: s-maj=14.9km s-min=8.1km az=114.3*
ISC 17 15:28:44.6±0.3, **9.27S**±0.05×**107.30E**±0.05, **h10**^{km}, **(h13**^{km}±4.2^{km}**:pP-P), n131**, σ1^{s}**13**/104, **mb4.8**/46, **MS5.0**/3, **4C-1D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCO	West Island	10.68	253	eP	Pn	15 31 14.4	-3.2
PSI	Prapat	14.61	325	Pn	Pn	15 32 11.5	+0.3
	baz=157,slow=17,SNR=3.2						
PSI	Prapat	14.61	325	Pn	Pn	15 32 11.5	+0.3
KULM	Kulim	15.90	335	ePn	Pn	15 32 24.2	-4.3
KKM	Kota Kinabalu	17.61	31	eP	Pn	15 32 50.3	+0.2
SNG	Songkhla	17.64	338	P	Pn	15 32 59.0	+8.6
FITZ	Fitzroy Crossi	19.85	118	P	Pn	15 33 17.1	-0.1
	0.4nm,0.3s,baz=318,slow=9.2,SNR=3.2						
BATP	Bataraza	20.77	31	eP	P	15 33 27.0	+1.4
NNT	Nongplab	22.98	341	P	P	15 33 51.9	+2.7
BUKP	Musuan	24.56	47	eP	P	15 34 06.2	+1.7
CGP	Cagayan de Oro	24.70	45	eP	P	15 34 07.3	+1.5
BUSP	Coron	24.72	31	eP	P	15 34 07.5	+1.6
KALP	Kalibo	25.62	36	eP	P	15 34 22.2	+8.1
NST	Nakhon Sawan	25.77	344	P	P	15 34 13.2	-2.3
BOAC	Boac	26.80	33	eP	P	15 34 29.9	+5.1
WRA	Warramunga Arr	28.19	115	P	P	15 34 37.5	+0.3
	2.9nm,0.5s,mb4.2,baz=289,slow=10,SNR=8.0						
QIZ	Qiongzhong	28.23	5	P	P	15 34 40.6	+3.0
BALP	Baler	28.59	30	eP	P	15 34 40.5	-0.3
CHG	Chiang Mai	29.09	344	⇑P	P	15 34 46.1	+0.8
	121nm,1.1s,mb5.5						
CHTO	Chiang Mai	29.09	344	eP	P	15 34 43.8	-1.5
CHTO				pmax	pmax		
	comp=Z,158nm,1.2s,mb5.6						
CHTO	Chiang Mai	29.09	344	eP	P	15 34 43.8	-1.5
	comp=Z,158nm,1.2s,mb5.6						
ASAR	Alice Springs	29.18	123	P	P	15 34 46.3	+0.2
	comp=Z,1.6nm,0.7s,mb3.9,baz=304,slow=7.6,SNR=5.8						
CHRT	Chiangrai	29.88	346	⇑P	P	15 34 53.0	+0.7
	comp=Z,263nm,0.9s						
KMI	Kunming	34.47	353	P	P	15 35 35.3	+2.8
KMI				AP	pP	15 35 38.3	+2.7
KMI				XP	sP	15 35 39.4	+2.6
KMI				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
KMI				LR	LR		
	comp=N,2μm,15.2s,MS5.5						
KMI				LR	LR		
	comp=E,6μm,13.4s,MS5.5						
KMI				LR	LR		
	comp=Z,3μm,17.6s,MS5.1						
GYA	Guiyang	35.52	359⇑	iP	P	15 35 42.9	+1.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CTA	Charters Tower	39.10	110	P	P	15 36 13.5	+1.6
	comp=Z,2.4nm,0.6s,mb4.1,baz=274,slow=4.3,SNR=3.6						
CTA	Charters Tower	39.10	110	P	P	15 36 13.5	+1.6
CD2	Chengdu	40.09	355⇑	iP	P	15 36 19.3	-0.9
CD2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
JOW	Kunigami	41.26	29	P	P	15 36 30.3	+0.5
	comp=Z,12nm,0.9s,mb4.5,baz=257,slow=12,SNR=5.4						
JIRN	Jiri	42.02	331	eP	P	15 36 37.0	+1.0
	comp=Z,75nm,0.8s,mb5.4						
PKI	Pulchoki	42.31	331	eP	P	15 36 40.3	+1.8
GUN	Gumba	42.37	331	eP	P	15 36 39.0	0.0
DMN	Daman	42.49	330	eP	P	15 36 40.9	+1.0
NJ2	Nanjing	42.54	15	eP	P	15 36 40.4	+0.1
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
KKN	Kakani	42.56	331	eP	P	15 36 41.1	+0.6
GKN	Gorkha	43.05	330	eP	P	15 36 45.1	+0.6
XAN	Xi'an	43.09	2	P	P	15 36 45.3	+0.5
XAN				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.9						
KOLN	Koldanda	43.38	329	eP	P	15 36 47.4	+0.3
	comp=Z,84nm,0.8s,mb5.5						
TIA	Tai'an	46.17	11	eP	P	15 37 08.3	-1.1
NDI	New Delhi	47.61	323	eP	P	15 37 27.0	+6.3
BTO	Baotou	49.68	3	eP	P	15 37 36.4	-0.2
BJT	Baijiatuau	49.72	9	eP	P	15 37 35.8	-1.0
BJT				pmax	pmax		
	comp=Z,17nm,1.0s						
BJT	Baijiatuau	49.72	9	eP	P	15 37 35.8	-1.0
	comp=Z,17nm,1.0s,mb5.0						
BJI	Beijing	49.74	9	eP	P	15 37 36.3	-0.7
BJI				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.7						
MAJO	Matsushiro	54.04	31	P	P	15 38 07.1	-2.0
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
MAJO	Matsushiro	54.04	31	P	P	15 38 07.1	-2.0
	comp=Z,4.2nm,0.7s,mb4.5						
MAT	Matsushiro	54.04	31	P	P	15 38 07.3	-1.8
MJAR	Matsushiro Arr	54.04	31	P	P	15 38 07.0	-2.1
	comp=Z,2.8nm,0.9s,mb4.2,baz=217,slow=6.1,SNR=4.6						
WMQ	Urumqi	55.76	343	P	P	15 38 23.0	+1.5
WMQ				AP	pP	15 38 25.1	+0.4
WMQ				AMB	AMB		
	comp=Z,224nm,5.0s						
WMQ				LR	LR		
	comp=N,1μm,17.8s,MS5.1						
WMQ				LR	LR		
	comp=E,826nm,16.7s,MS5.1						
WMQ				LR	LR		
	comp=Z,1μm,18.3s,MS5.0						
KSH	Kashi	56.57	331	P	P	15 38 27.9	+0.6
KSH				eAP	pP	15 38 34.6	+4.1
KSH				eXP	sP	15 38 38.6	+6.9
KSH				ePP	PP	15 40 35.1	+2.0
KSH				eS	S	15 46 14.9	-4.2
KSH				ePS		15 46 32.8	
KSH				LR	LR		
	comp=N,704nm,5.4s						
KSH				LR	LR		
	comp=E,599nm,6.1s						
KSH				LR	LR		
	comp=Z,625nm,15.7s,MS4.8						
SONM	Songino Array	56.85	359	P	P	15 38 29.7	+0.3
	comp=Z,2.9nm,0.6s,mb4.5,baz=178,slow=8.3,SNR=7.3						
WSAR	Wadi Sarin	57.53	305	P	P	15 38 35.0	+0.9
	comp=Z,6.2nm,1.0s,mb4.6,baz=318,slow=23,SNR=3.6						
OPO	Ambohidratompo	58.85	254	P	P	15 38 45.1	+1.7
	comp=Z,3.9nm,0.9s,mb4.4,baz=102,slow=10,SNR=3.5						
MKAR	Makanchi Array	60.10	340	P	P	15 38 51.8	-0.2
	comp=Z,8.6nm,0.7s,mb4.9,baz=141,slow=7.8,SNR=12						
KLR	Kul'dur	62.08	18	eP	P	15 39 01.8	-3.6
YSS	Yuzh-Sakhalins	64.26	26	P	P	15 39 18.9	-1.0
KURK	Kurchatov	64.72	340	eP	P	15 39 22.9	0.0
KURK				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1						
KURK	Kurchatov	64.72	340	eP	P	15 39 22.9	0.0
	comp=Z,21nm,1.0s,mb5.1						
MAW	Mawson	65.30	197	eP	P	15 39 26.2	-0.5
	comp=Z,11nm,0.8s,mb4.9						
MAW	Mawson	65.30	197	P	P	15 39 26.1	-0.6
	comp=Z,5.6nm,0.6s,mb4.8,baz=38,slow=6.8,SNR=21						
MAW	Mawson	65.30	197	eP	P	15 39 26.2	-0.5
MAW				pmax	pmax		
	comp=Z,11nm,0.8s						
ZAL	Zalesovo	65.78	346	P	P	15 39 28.2	-1.6
	comp=Z,3.0nm,0.3s,mb4.9,baz=286,slow=3.7,SNR=7.4						
BOD	Bodaibo	67.07	4	eP	P	15 39 37.2	-0.9
BOD				e		15 39 53.9	
BOD				pmax	pmax		
	comp=Z,47nm,1.4s,mb5.3						
BVAR	Borovoye Array	69.56	337	P	P	15 39 53.2	-0.4
	comp=Z,7.3nm,0.7s,mb4.7,baz=146,slow=8.8,SNR=9.2						
BRVK	Borovoye	69.62	337	eP	P	15 39 52.5	-1.5
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
BRVK	Borovoye	69.62	337	eP	P	15 39 52.5	-1.6
	comp=Z,3.9nm,0.5s,mb4.6						
CHKZ	Chkalovo	69.98	338	eP	P	15 39 55.8	-0.4
ZRNK	Zerenda	70.04	336	eP	P	15 39 55.9	-0.7
KMBO	Kilima Mbogo	70.13	272	P	P	15 39 57.9	+0.8
	comp=Z,2.7nm,0.8s,mb4.2,baz=66,slow=6.7,SNR=7.2						
YAK	Yakutsk	73.19	11	eP	P	15 40 14.0	-1.6
YAK				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
YAK	Yakutsk	73.19	11	eP	P	15 40 14.0	-1.6
	comp=Z,25nm,0.8s,mb5.2						
BHD	Baghdad	73.19	309	ex	x	15 40 13.0	
AKTK	Aktyubinsk	73.21	330	P	P	15 40 15.4	-0.3
AKTO	Aktyubinsk	73.21	330	P	P	15 40 15.4	-0.3
	comp=Z,3.4nm,0.8s,mb4.4,baz=68,slow=5.6,SNR=3.6						
SYO	Syowa Base	73.49	200⇓	eP	P	15 40 16.8	-0.5
VNDA	Vanda	73.70	169	P	P	15 40 18.6	0.0
	comp=Z,2.0nm,0.8s,mb4.1,baz=296,slow=4.4,SNR=3.7						
VNDA	Vanda	73.70	169	eP	P	15 40 18.2	-0.4
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
VNDA	Vanda	73.70	169	eP	P	15 40 18.2	-0.4
	comp=Z,4.7nm,1.2s,mb4.3						
GNI	Garni	75.76	315	P	P	15 40 29.4	-1.1
	comp=Z,6.5nm,0.4s,mb4.9,baz=132,slow=24,SNR=3.7						
PET	Petropavlovsk	75.83	29	iP	P	15 40 31.0	+0.1
PET				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
PET	Petropavlovsk	75.83	29	eP	P	15 40 30.7	-0.2
	comp=Z,9.7nm,0.6s,mb4.9						
ARU	Arti	76.78	335	eP	P	15 40 35.6	-0.7
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
ARU	Arti	76.78	335	eP	P	15 40 35.6	-0.7
	comp=Z,5.0nm,0.7s,mb4.5						
ARU	Arti	76.78	335	eS	S	15 50 29.2	+5.6
LSZ	Lusaka	77.18	256	P	P	15 40 39.6	+1.1
	comp=Z,4.2nm,0.6s,mb4.5,baz=77,slow=4.6,SNR=7.8						
LSZ	Lusaka	77.18	256	eP	P	15 40 38.7	+0.1
LSZ				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.9						
LSZ	Lusaka	77.18	256	eP	P	15 40 38.7	+0.1
	comp=Z,22nm,1.5s,mb4.9						
LBTB	Lobatse	78.67	246	P	P	15 40 48.2	+1.4
	comp=Z,5.0nm,0.7s,mb4.6,baz=114,slow=6.0,SNR=9.2						
ASF	Jabal al Asfar	78.69	305	P	P	15 40 48.2	+1.2
	comp=Z,7.8nm,0.9s,mb4.6,baz=1.2,slow=2.4,SNR=8.8						
GOF	Gofitskoye	78.99	319	eP	P	15 40 47.6	-1.0
EIL	Elat	79.53	303	eP	P	15 40 51.6	0.0
	comp=Z,84nm,0.7s,mb5.8						
TIXI	Tiksi	82.01	7	eP	P	15 41 03.2	-1.6
TIXI				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.9						
CSS	Prodhromos	82.38	307	eP	P	15 41 05.2	-1.6
	comp=Z,16nm,0.9s,mb4.9						
VRHR	Novokhopersk	82.40	325	eP	P	15 41 07.0	+0.1
VRHR				pmax	pmax		
	comp=N,10.0nm,0.5s						
VRHR				pmax	pmax		
	comp=Z,30nm,0.5s,mb5.5						
VRHR				pmax	pmax		
	comp=E,20nm,0.6s						
BR131	Keskin Array S	83.55	312	eP	P	15 41 11.4	-1.4
	comp=E,27nm,1.2s,mb5.2						
BRTR	Keskin Array B	83.55	312	P	P	15 41 12.4	-0.4
	comp=E,5.0nm,0.9s,mb4.6,baz=131,slow=6.7,SNR=13						
TSUM	Tsumeb	86.73	251	P	P	15 41 30.8	+2.0
	comp=E,7.5nm,1.0s,mb4.9,baz=109,slow=4.7,SNR=10						
TSUM	Tsumeb	86.73	251	eP	P	15 41 30.0	+1.2
	comp=E,5.3nm,0.8s,mb4.8						
OBN	Obninsk	86.78	327	eP	P	15 41 29.4	+0.4
OBN				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.4						
OBN	Obninsk	86.78	327	eP	P	15 41 29.1	+0.2
	comp=Z,31nm,0.9s,mb5.5						
KLMR	Klimovskoe	87.52	333	eP	P	15 41 32.6	0.0
KLMR				pmax	pmax		
	comp=Z,170nm,1.6s						
TIRR	Tirgusor	88.59	315	eP	P	15 41 37.1	-0.6
AKASG	Malin Array Be	89.64	322	P	P	15 41 41.9	-0.7
	comp=Z,0.3nm,0.4s,mb4.0,baz=92,slow=4.1,SNR=6.9						
MLR	Muntele Rosu	90.53	316	P	P	15 41 47.9	+1.1
	comp=Z,8.2nm,1.0s,mb5.0,baz=124,slow=6.6,SNR=5.9						
ARCES	ARCESS Array B	95.75	340	P	P	15 42 09.4	-1.4
	comp=Z,1.7nm,0.8s,mb4.5,baz=20,slow=3.9,SNR=3.7						
VYHS	Vyhne	95.84	318	e	PP	15 46 06.9	+3.8
VYHS	Vyhne	95.84	318	ePP	PP	15 46 06.9	+3.8
PDAR	Pinedale Array	133.62	38	PKP	PKPdf	15 48 03.1	+1.8
	comp=Z,0.5nm,0.7s,baz=331,slow=1.3,SNR=3.6						
PKME	Peaks-Kenny Pk	144.01	356	ePKPdf	PKPdf	15 48 18.5	-1.8
LBNH	Lisbon	145.15	359	ePKIKP	PKPdf	15 48 22.8	+0.5
WMOK	Wichita Mounta	145.18	39	ePKIKP	PKPdf	15 48 23.0	+0.7
BDFB	Brasilia	145.21	225	PKPbc	PKPbc	15 48 24.4	+2.3
	comp=Z,14nm,0.8s,baz=142,slow=4.2,SNR=10						
MIV	Mineville/With	145.32	1	ePKP	PKPdf	15 48 22.7	+0.1
NCB	Newcomb	145.40	2	ePKP	PKPdf	15 48 22.5	-0.2
NCB				e		15 48 31.4	
ACCN	Adirondack Com	146.00	1	ePKP	PKPdf	15 48 25.1	+1.4
CCM	Cathedral Cave	146.82	27	ePKP2	PKPab	15 48 26.4	-1.8
HRV	Harvard--Oak R	146.88	358	ePKP2	PKPab	15 48 27.7	-0.7
WES	Weston	146.99	358	ePKP2	PKPab	15 48 27.2	-1.7
BINY	Binghamton	147.07	4	ePKPbc	PKPbc	15 48 27.6	0.0
JCT	Junction City	147.07	46	ePKP2	PKPab	15 48 28.3	-0.9
QUA2	Belchertown	147.12	360	ePKPbc	PKPbc	15 48 27.9	+0.1
ACSO	Alum Creek Sta	147.83	15	PKPbc	PKPbc	15 48 30.1	+0.4
LVC	Limon Verde	148.10	187	PKPbc	PKPbc	15 48 33.3	+2.9
	comp=Z,6.3nm,0.7s,baz=243,slow=2.9,SNR=6.9						
MIAR	Mount Ida	148.39	34	ePKP2	PKPab	15 48 32.6	-1.8
WVT	Waverly	149.92	25	ePKP2	PKPbc	15 48 35.2	+0.1
PLAL	Pickwick Lake	150.79	26	ePKPbc	PKPbc	15 48 36.4	-0.7
FWV	Forest Hill	150.87	13	ePKPdf	PKPdf	15 48 30.8	-0.9
TZTN	Tazewell	151.11	18	ePKPbc	PKPbc	15 48 37.2	-0.7
CPCT	Cooper Cave	151.79	21	PKPbc	PKPbc	15 48 40.2	+0.8
SIV	San Ignacio	152.39	205	PKP	PKPdf	15 48 35.1	+1.2
	comp=Z,1.4nm,0.8s,baz=183,slow=6.6,SNR=3.6						
SIV				PKPbc	PKPbc	15 48 42.1	+1.3
	comp=Z,5.1nm,0.8s,baz=126,slow=3.8,SNR=8.7						
SIV				PKPab	PKPab	15 48 52.8	+1.9
	comp=Z,4.3nm,0.8s,baz=156,slow=6.6,SNR=6.7						
LPAZ	La Paz	154.21	190	PKPbc	PKPbc	15 48 47.5	+2.7
	comp=Z,1.7nm,0.7s,baz=88,slow=3.6,SNR=5.7						

*BJI **17** 15:28:52.6, 10.19S×107.24E, h10^{km}, mB5.6, mb5.3, Ms5.6, Msz5.4*
*IDC **17** 15:28:59.9±0.4, 9.23S×107.39E, h0^{km}, mb4.9/27, mb1 4.9/27, mb1mx4.9/28, mbtmp4.9/27, Error ellipse: s-maj=17.0km s-min=13.1km az=61.0*
*ISCJB **17** 15:29:00.6±0.3, 9.25S±0.05×107.41E±0.06, h16^{km}, mb5.2/72, MS5.5/8, Error ellipse: s-maj=8.6km s-min=6.5km az=7.2*
*NEIC **17** 15:29:00.1±5.5, 9.22S×107.31E, h1^{km}±32^{km}, mb5.3/15, Error ellipse: s-maj=8.6km s-min=7.1km az=90.0*
*MOS **17** 15:29:02.8±1.0, 9.21S×107.52E, h33^{km}, mb5.4/30, Error ellipse: s-maj=13.8km s-min=7.6km az=112.2*
ISC 17 15:29:02.6±0.3, **9.27S**±0.04×**107.40E**±0.06, **h17**^{km}, **h17**^{km}±2.4^{km}**:pP-P, n201**, σ1^{s}**07**/162, **mb5.2**/72, **MS5.5**/8, **14C-17D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNG	Tangerang	3.17	346	P	Pn	15 29 53.5	+1.8
	3μm,1.2s						
DNP	Denpasar	7.74	86	P	Pb	15 31 07.5	-8.9
	1μm,0.6s						
COCO	West Island	10.78	253	P	Pn	15 31 32.7	-3.4
KSM	Kuching	11.06	15	P	Pn	15 31 36.2	-3.8
PCI	Palu	14.91	57	P	Pn	15 32 35.7	+3.1
	99nm,1.9s						
KULM	Kulim	15.95	335	eP	Pn	15 32 41.0	-5.2
AAI	Ambon	21.39	76	P	P	15 33 59.2	+10
	227nm,0.7s,mb5.6						
KLBR	Kellerberrin	24.21	158	eP	P	15 34 19.5	+1.2
	118nm,1.8s,mb5.0						
SWI	Sorong	25.18	72	P	P	15 34 35.3	+8.2
	54nm,1.2s,mb5.0						
KKTK	Khon Kaen	25.84	350	PG	P	15 34 34.0	+0.8
	309nm,0.8s,mb5.9						
MSLP	Maasin	25.95	42	eP	P	15 34 33.8	-0.4
SCZP	Santa Cruz	27.80	27	eP	P	15 34 51.0	+0.2
WRA	Warramunga Arr	28.10	115	P	P	15 34 52.9	-0.6
	4.1nm,0.5s,mb4.3,baz=289,slow=10,SNR=8.4						
WRA				PcP	PcP	15 38 09.3	+1.7
	2.2nm,0.6s,baz=302,slow=1.9,SNR=4.8						
WRA	Warramunga Arr	28.10	115	P	P	15 34 52.9	-0.6
WRA						15 38 09.3	
WRA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRAB	Tennant Creek	28.11	115⇑	iP	P	15 35 00.3	+6.7
PVCP	Virac	28.16	36	eP	P	15 34 57.7	+3.7
NANT	Nan	28.66	347	⇑P	P	15 34 57.0	-1.5
	comp=Z,300nm,1.0s,mb6.0						
ASAR	Alice Springs	29.10	123	P	P	15 35 01.8	-0.6
	comp=Z,7.4nm,0.9s,mb4.4,baz=294,slow=8.7,SNR=10						
ASAR	Alice Springs	29.10	123	P	P	15 35 01.8	-0.6
ASAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CHTO	Chiang Mai	29.12	343	eP	P	15 35 02.7	+0.1
CHTO				pmax	pmax		
	comp=Z,140nm,1.2s,mb5.6						
CHTO	Chiang Mai	29.12	343	eP	P	15 35 02.7	+0.1
	comp=Z,140nm,1.2s,mb5.6						
CHTO				e		15 35 30.4	
KMI	Kunming	34.48	353	P	P	15 35 52.3	+2.6
KMI				AP	pP	15 35 55.3	+0.6
KMI				PP	PP	15 37 08.1	+0.3
KMI				PPP		15 37 26.0	
KMI				S	S	15 41 19.6	+2.2
KMI				SSS		15 43 55.8	
KMI				AMB	AMB		
	comp=Z,72nm,1.2s,mb5.5						
KMI				AMB	AMB		
	comp=Z,603nm,8.6s						
KMI				LR	LR		
	comp=N,2μm,15.4s,MS5.5						
KMI				LR	LR		
	comp=E,6μm,13.2s,MS5.5						
KMI				LR	LR		
	comp=Z,3μm,18.2s,MS5.1						
GYA	Guiyang	35.52	359⇑	iP	P	15 36 00.1	+1.5
GYA				AP	pP	15 36 04.8	+1.1
GYA				XP	sP	15 36 07.4	+1.7
GYA				PP	PP	15 37 20.5	+1.2
GYA				PCP	PcP	15 38 29.0	+1.4
GYA				S	S	15 41 35.0	+1.6
GYA				SCP	ScP	15 42 13.3	+0.5
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,170nm,4.9s						
GYA				LR	LR		
	comp=N,1μm,14.9s,MS4.9						
GYA				LR	LR		
	comp=E,1μm,15.0s,MS4.9						
GYA				LR	LR		
	comp=Z,1μm,15.4s,MS4.8						
HYB	Hyderabad	38.93	313	iP	P	15 36 30.0	+2.5
HYB	Hyderabad	38.93	313	eP	P	15 36 28.0	+0.5
PMG	Port Moresby	39.22	94	deP	P	15 36 34.0	+4.0
WHN	Wuhan	40.14	9	eP	P	15 36 38.8	+1.2
JOW	Kunigami	41.21	29	P	P	15 36 46.9	+0.4
	comp=Z,18nm,0.9s,mb4.7,baz=275,slow=14,SNR=4.1						
SSE	Sheshan	42.26	18	eP	P	15 36 53.3	-1.7
SSE				AMB	AMB		
	comp=Z,55nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,126nm,3.5s						
NJ2	Nanjing	42.52	14	eP	P	15 36 55.1	-2.1
NJ2				AP	pP	15 37 05.3	+3.0
NJ2				XP	sP	15 37 07.4	+3.0
NJ2				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,2μm,5.9s						
NJ2				LR	LR		
	comp=N,25μm,14.4s,MS6.2						
NJ2				LR	LR		

comp=E,3μm,14.4s,MS6.2
NJ2 LR LR
comp=Z,7μm,14.6s,MS5.7
XAN Xi'an 43.09 2 P **P** 15 37 02.1 +0.3
XAN AMB AMB
comp=Z,56nm,1.4s,mb5.1
LZH Lanzhou 45.23 356 *e*P **P** 15 37 20.4 +1.4
LZH AP pP 15 37 28.5 +4.3
LZH XP sP 15 37 34.0 +7.8
LZH PP PP 15 39 05.0 +0.2
LZH XS sS 15 44 15.0 +8.1
LZH AMB AMB
comp=Z,118nm,1.2s,mb5.6
LZH AMB AMB
comp=Z,551nm,8.9s
LZH LR LR
comp=N,3μm,14.8s
LZH LR LR
comp=Z,5μm,16.6s,MS5.6
GTA Gaotai 48.94 352 P **P** 15 37 48.0 +0.1
GTA AP pP 15 37 53.1 0.0
GTA XP sP 15 37 56.3 +1.2
GTA PP PP 15 39 42.5 +1.2
GTA PPP 15 40 36.1
GTA S **S** 15 44 51.9 +0.7
GTA XS sS 15 45 04.9 +5.1
GTA SCS ScS 15 47 36.9 -2.6
GTA SS SS 15 48 20.0 -1.9
GTA AMB AMB
comp=Z,49nm,1.5s,mb5.3
GTA AMB AMB
comp=Z,627nm,4.6s
GTA LR LR
comp=N,2μm,14.8s
GTA LR LR
comp=E,3μm,20.9s
GTA LR LR
comp=Z,3μm,16.3s,MS5.4
BJT Baijiatuau 49.70 9 *e*P **P** 15 37 54.9 +1.1
BJT pmax pmax
comp=Z,41nm,0.8s
BJT Baijiatuau 49.70 9 *e*P **P** 15 37 54.9 +1.1
comp=Z,41nm,0.8s,mb5.5
DL2 Dalian 49.72 15 P **P** 15 37 59.4 +5.5
DL2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
BJI Beijing 49.73 9 *e*P **P** 15 37 54.5 +0.6
BJI AMB AMB
comp=Z,55nm,1.5s,mb5.4
HHC Hu-ho-hao-te 50.01 4 ⇑P **P** 15 37 57.1 +1.0
HHC AP pP 15 38 01.5 +0.2
HHC XP sP 15 38 04.3 +0.9
HHC PCP PcP 15 39 14.1 -1.8
HHC PP PP 15 39 53.4 +2.3
HHC S **S** 15 45 05.0 -1.2
HHC SS SS 15 48 41.4 +2.2
HHC AMB AMB
comp=Z,49nm,0.5s,mb5.8
HHC AMB AMB
comp=Z,503nm,4.5s
HHC LR LR
comp=N,8μm,13.1s,MS5.8
HHC LR LR
comp=E,3μm,17.8s,MS5.8
HHC LR LR
comp=Z,8μm,17.8s,MS5.8
SNY Shenyang 52.97 15 ⇑P **P** 15 38 19.1 +0.9
SNY AMB AMB
comp=Z,12nm,0.5s,mb5.1
MAT Matsushiro 53.99 31 P **P** 15 38 33.0 +7.3
MAT pmax pmax
comp=Z,15nm,1.3s,mb4.8
MAT Matsushiro 53.99 31 P **P** 15 38 33.0 +7.3
comp=Z,15nm,1.3s,mb4.8
MJAR Matsushiro Arr 53.99 31 P **P** 15 38 23.8 -1.9
comp=Z,1.5nm,0.7s,mb4.1,baz=109,slow=9.3,SNR=5.3
MJAR Matsushiro Arr 53.99 31 P **P** 15 38 23.8 -1.9
MJAR pmax pmax
comp=Z,2.0nm,0.7s
WMQ Urumqi 55.79 343 P **P** 15 38 40.4 +1.7
WMQ AP pP 15 38 44.4 +0.4
WMQ XP sP 15 38 46.9 +0.9
WMQ PCP PcP 15 39 39.6 +1.9
WMQ PP PP 15 40 46.3 +3.1
WMQ SCP ScP 15 43 36.6 +0.6
WMQ S **S** 15 46 24.6 -0.4
WMQ AMB AMB
comp=Z,120nm,1.7s,mb5.7
WMQ AMB AMB
comp=Z,583nm,5.2s
WMQ LR LR
comp=N,3μm,18.3s,MS5.5
WMQ LR LR
comp=E,2μm,17.2s,MS5.5
WMQ LR LR
comp=Z,3μm,18.8s,MS5.4
VLA Vladivostok 56.72 21 *e*P **P** 15 38 44.5 -0.9
VLA *e* 15 39 43.3
VLA pmax pmax
comp=Z,40nm,2.0s,mb5.1
SONM Songino Array 56.86 359 P **P** 15 38 47.2 +0.8
comp=Z,33nm,1.2s,mb5.2,baz=172,slow=7.5,SNR=14
SONM Songino Array 56.86 359 P **P** 15 38 47.2 +0.8
SONM pmax pmax
comp=Z,33nm,1.2s
ULN Ulaanbaatar 56.88 360 ⇓P **P** 15 38 46.7 +0.2
SNR=12
ULN Ulaanbaatar 56.88 360 *d i*P **P** 15 38 46.4 -0.1
ULN Ulaanbaatar 56.88 360 *i* P **P** 15 38 46.5 0.0
WSAR Wadi Sarin 57.61 305 P **P** 15 38 52.0 +0.3
comp=Z,8.0nm,0.7s,mb4.9,baz=141,slow=9.8,SNR=6.3
WSAR Wadi Sarin 57.61 305 P **P** 15 38 52.0 +0.3
BIDO Bidbid 58.15 305 ⇓P **P** 15 38 55.3 -0.2
SNR=5.2
OPO Ambohidratompo 58.94 254 P **P** 15 39 02.4 +1.4
comp=Z,9.4nm,1.0s,mb4.8,baz=86,slow=6.1,SNR=4.3
AAA Alma-Ata 59.18 334 *e*P **P** 15 39 06.0 +3.3
AAA *e*S **S** 15 47 08.5 -1.1
AAA pmax pmax
comp=Z,8μm,6.5s
AAA smax
comp=E,41μm,20.5s
HIA Hailar 59.28 9 *de*P **P** 15 39 02.0 -1.4
AAK Ala-Archa 59.76 332 ⇓P **P** 15 39 05.3 -1.4
SNR=7.7
AAK Ala-Archa 59.76 332 ⇓*e*P **P** 15 39 05.2 -1.4
FRU Bishkek 59.86 333 *e*P **P** 15 39 07.0 -0.3
FRU *e* 15 39 15.0
FRU pmax pmax
comp=Z,60nm,1.4s,mb5.4
MKAR Makanchi Array 60.14 340 P **P** 15 39 09.2 0.0
comp=Z,25nm,0.7s,mb5.4,baz=148,slow=7.3,SNR=14
MKAR Makanchi Array 60.14 340 P **P** 15 39 09.2 0.0
MKAR pmax pmax
comp=Z,25nm,0.7s
TLY Talaya 60.79 357 P **P** 15 39 14.4 +0.7
comp=Z,74nm,1.2s,mb5.7,SNR=5.3
HABR Khabarovsk 62.46 20 *e*P **P** 15 39 23.0 -1.9
HABR *e*S **S** 15 47 46.4 -5.0
YSS Yuzh-Sakhalins 64.22 26 *de*P **P** 15 39 35.7 -0.9
YSS pmax pmax
comp=Z,54nm,1.7s,mb5.3
YSS Yuzh-Sakhalins 64.22 26 *e*P **P** 15 39 35.8 -0.8
RPZ Rata Peaks 64.67 134 P **P** 15 39 41.6 +2.0
comp=Z,7.5nm,0.8s,mb4.8,baz=275,slow=8.7,SNR=4.0
KURK Kurchatov 64.75 340 *de*P **P** 15 39 39.6 -0.5
KURK Kurchatov 64.75 340 *e*P **P** 15 39 39.7 -0.4
comp=Z,7.8nm,1.0s,mb4.7
MAW Mawson 65.33 197 P **P** 15 39 44.5 +0.7
comp=Z,8.2nm,0.6s,mb4.9,baz=71,slow=8.9,SNR=9.5
MAW Mawson 65.33 197 *e*P **P** 15 39 43.5 -0.3
MAW pmax pmax
comp=Z,50nm,1.3s
MAW Mawson 65.33 197 *e*P **P** 15 39 43.5 -0.3
comp=Z,50nm,1.3s,mb5.4
ZAL Zalesovo 65.81 346 P **P** 15 39 46.7 -0.2
comp=Z,8.6nm,0.5s,mb5.0,baz=322,slow=5.9,SNR=15
ZAL Zalesovo 65.81 346 P **P** 15 39 46.7 -0.2
ZAL pmax pmax
comp=Z,9.0nm,0.5s
ZAL Zalesovo 65.81 346 P **P** 15 39 46.7 -0.2
KRAR Krasnoyarsk 66.15 351 *ce*P **P** 15 39 47.2 -2.0
KRAR pmax pmax
comp=Z,135nm,1.3s,mb5.8
NVS Novosibirsk 67.02 345 ⇑*i*P **P** 15 39 53.5 -1.2
NVS *i* 15 40 20.0
NVS *e*S S 15 48 40.4 -7.2
NVS pmax pmax
comp=Z,45nm,1.6s,mb5.2
NVS pmax pmax
comp=N,27nm,1.5s
NVS pmax pmax
comp=E,12nm,1.2s
NVS smax
comp=N,50nm,2.2s
NVS smax
comp=E,36nm,2.3s
CLNS Chul'man 67.43 10 *e*P **P** 15 39 53.3 -4.0
CLNS pmax pmax
comp=Z,57nm,1.2s,mb5.5
CLNS pmax pmax
comp=N,27nm,1.0s
CLNS pmax pmax
comp=E,14nm,0.9s
BVAR Borovoye Array 69.59 337 P **P** 15 40 10.6 -0.2
comp=E,18nm,0.7s,mb5.1,baz=143,slow=8.7,SNR=8.0
BVAR Borovoye Array 69.59 337 P **P** 15 40 10.6 -0.2
BVAR pmax pmax
comp=Z,18nm,0.7s
BRVK Borovoye 69.66 337 P **P** 15 40 11.0 -0.2
BRVK pmax pmax
comp=Z,13nm,0.7s,mb5.0
BRVK Borovoye 69.66 337 P **P** 15 40 10.9 -0.3
comp=Z,13nm,0.7s,mb5.0
KMBO Kilima Mbogo 70.22 272 P **P** 15 40 15.3 +0.6
comp=Z,7.3nm,1.1s,mb4.5,baz=54,slow=3.2,SNR=12
KMBO Kilima Mbogo 70.22 272 P **P** 15 40 15.3 +0.6
KMBO pmax pmax
comp=Z,7.0nm,1.1s
KMBO Kilima Mbogo 70.22 272 P **P** 15 40 15.3 +0.6
YAK Yakutsk 73.17 11 *de*P **P** 15 40 31.1 -1.3
YAK pmax pmax
comp=Z,127nm,1.3s,mb5.7
YAK Yakutsk 73.17 11 *e*P **P** 15 40 31.2 -1.2
AKTK Aktyubinsk 73.26 330 P **P** 15 40 32.9 -0.1
AKTO Aktyubinsk 73.26 330 P **P** 15 40 32.9 0.0
comp=Z,15nm,1.0s,mb4.9,baz=106,slow=12,SNR=9.8
AKTO Aktyubinsk 73.26 330 P **P** 15 40 32.9 -0.1
AKTO pmax pmax
comp=Z,15nm,1.0s,mb4.9
SYO Syowa Base 73.52 200 ⇑*e*P **P** 15 40 35.0 +0.5
VNDA Vanda 73.68 169 *e*P **P** 15 40 35.0 -0.4
comp=Z,4.6nm,0.9s,mb4.4,baz=310,slow=5.5,SNR=9.4
VNDA Vanda 73.68 169 *e*P **P** 15 40 34.5 -0.9
VNDA pmax pmax
comp=Z,9.0nm,1.1s
VNDA Vanda 73.68 169 *e*P **P** 15 40 34.5 -0.9
comp=Z,8.8nm,1.1s,mb4.6
MAK Makhachkala 75.23 319 *e*P **P** 15 40 54.7 +10
MAK *i* 15 41 12.7
MAK *e* 15 43 29.8
MAK *i* S S 15 50 20.1 -2.7
MAK *i* 15 51 00.7
MAK *i* SS SS 15 55 08.4 -4.0
MAK pmax pmax
comp=Z,206nm,2.0s,mb5.7
PET Petropavlovsk 75.78 29 ⇑*e*P **P** 15 40 47.9 +0.3
PET pmax pmax
comp=Z,64nm,1.3s,mb5.4
PET Petropavlovsk 75.78 29 *e*P **P** 15 40 47.7 +0.1
comp=Z,62nm,1.3s,mb5.4
GNI Garni 75.83 315 P **P** 15 40 47.8 0.0
comp=Z,7.0nm,0.4s,mb5.0,baz=180,slow=19,SNR=5.1
GNI Garni 75.83 315 *ce*P **P** 15 40 48.6 +0.7
GNI pmax pmax
comp=Z,46nm,1.3s
SVE Sverdlovsk 76.22 336 *e*P **P** 15 40 50.8 +0.7
SVE pmax pmax
comp=Z,136nm,1.7s,mb5.6
MBAR Mbarara 76.73 272 *de*P **P** 15 40 53.2 +0.2
ARU Arti 76.82 335 ⇓*i*P **P** 15 40 48.8 -4.7
ARU *e* 15 41 01.5
ARU pmax pmax
comp=Z,42nm,1.4s,mb5.2
ARU Arti 76.82 335 *e*P **P** 15 40 52.8 -0.7
comp=Z,5.0nm,1.2s,mb4.3
MA2 Magadan 76.85 21 *d i*P **P** 15 40 53.3 -0.4
MA2 Magadan 76.85 21 *i* P **P** 15 40 53.4 -0.3
LSZ Lusaka 77.27 256 P **P** 15 40 56.5 +0.5
comp=Z,23nm,1.2s,mb5.0,baz=104,slow=5.6,SNR=15
LSZ Lusaka 77.27 256 P **P** 15 40 56.9 +0.8
SNR=7.1
LSZ Lusaka 77.27 256 *e*P **P** 15 40 55.3 -0.8
LSZ pmax pmax
comp=Z,40nm,1.3s,mb5.2
LSZ Lusaka 77.27 256 *e*P **P** 15 40 55.3 -0.8
comp=Z,40nm,1.3s,mb5.2
ZEI Tsey 77.52 318 *e*P **P** 15 40 58.5 +1.1
LBTB Lobatse 78.75 246 P **P** 15 41 04.2 -0.1
comp=Z,3.5nm,0.7s,mb4.4,baz=145,slow=4.7,SNR=4.9
LBTB Lobatse 78.75 246 P **P** 15 41 04.2 -0.1
LBTB pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ASF Jabal al Asfar 78.77 305 P **P** 15 41 05.7 +1.3
comp=Z,21nm,1.1s,mb5.0,baz=138,slow=0.7,SNR=19
ASF Jabal al Asfar 78.77 305 P **P** 15 41 05.7 +1.3
ASF pmax pmax
comp=Z,21nm,1.1s
KIV Kislovodsk 78.82 318 ⇓P **P** 15 41 04.6 -0.1
SNR=5.8
KIV Kislovodsk 78.82 318 *d i*P **P** 15 41 04.2 -0.4
KIV pmax pmax
comp=Z,40nm,1.3s,mb5.2
KIV Kislovodsk 78.82 318 *i* P **P** 15 41 04.3 -0.3
GOF Gofitskoye 79.06 319 *e*P **P** 15 41 04.3 -1.6
GOF pmax pmax
comp=Z,100nm,1.3s,mb5.6
EIL Elat 79.61 302 *e*P **P** 15 41 08.8 -0.1
comp=Z,618nm,1.3s
MMAI Mount Meron Ar 80.23 306 P **P** 15 41 12.8 +0.5
comp=Z,4.0nm,0.6s,mb4.6,baz=99,slow=7.4,SNR=10
SOC Sochi 80.65 317 *e*P **P** 15 41 13.0 -1.5
SOC *e*S S 15 51 16.7 -4.5
SOC pmax pmax
comp=Z,26nm,1.0s,mb5.1
TIXI Tiksi 82.00 7 *ce*P **P** 15 41 20.7 -1.0
TIXI pmax pmax
comp=Z,28nm,1.3s,mb5.0
CSS Prodhromos 82.45 307 *e*P **P** 15 41 24.4 +0.2
comp=Z,68nm,1.3s,mb5.4
PECR Pechory 83.44 330 *i* P **P** 15 41 28.6 -0.6
PECR *e*S S 15 51 48.0 -2.0
PECR pmax pmax
comp=Z,600nm,1.6s
PECR smax
comp=E,400nm,6.0s
BR131 Keskin Array S 83.62 312 *e*P **P** 15 41 29.6 -0.6
comp=E,11nm,0.9s,mb5.0
BRTR Keskin Array B 83.62 312 P **P** 15 41 29.8 -0.4
comp=E,17nm,1.1s,mb5.1,baz=134,slow=5.3,SNR=15
BRTR Keskin Array B 83.62 312 P **P** 15 41 29.8 -0.3
BRTR pmax pmax
comp=Z,17nm,1.1s
VOR Voronezh 84.10 325 *e*P **P** 15 41 32.0 -0.6
ANTO Ankara 84.29 312 ⇑P **P** 15 41 33.8 +0.2
SNR=7.2
ANTO Ankara 84.29 312 *e*P **P** 15 41 33.7 +0.2
ANTO pmax pmax
comp=Z,34nm,1.1s,mb5.4
ANTO Ankara 84.29 312 *e*P **P** 15 41 33.7 +0.2
comp=Z,34nm,1.1s,mb5.4
SIM Simferopol' 84.89 317 *d i*P **P** 15 41 37.0 +0.4
SIM *e*S S 15 51 59.0 -5.5
SIM pmax pmax
comp=Z,22nm,0.9s,mb5.3
MOS Moscow 86.50 328 *e*P **P** 15 41 44.1 -0.5
MOS *e* 15 45 03.6
MOS pmax pmax
comp=Z,118nm,1.2s,mb6.0
TSUM Tsumeb 86.83 251 P **P** 15 41 46.8 +0.6
comp=Z,9.1nm,1.1s,mb4.9,baz=78,slow=2.8,SNR=8.9
TSUM Tsumeb 86.83 251 *e*P **P** 15 41 47.3 +1.1
comp=Z,26nm,1.3s,mb5.3
OBN Obninsk 86.83 327 *de*P **P** 15 41 45.8 -0.4
OBN *i* 15 41 54.6
OBN *e* 15 45 04.8
OBN *e*S S 15 52 09.7 -14
OBN *e*SS SS 15 57 58.1 -7.3
OBN pmax pmax
comp=Z,136nm,1.2s,mb6.0
OBN MLR MLR
comp=Z,1μm,18.0s,MS5.3
SNAA Sanae 87.49 197 *e*P **P** 15 41 49.4 0.0
SNAA *e* pP 15 41 53.0 -1.9
SNAA *e* 15 42 10.1
SNAA *e* 15 42 20.5
SNAA *e* 15 42 28.6
SNAA *e* 15 42 55.5
TIRR Tirgusor 88.66 315 *e*P **P** 15 41 54.7 -0.3
KIS Kishinev 89.02 318 *e*P **P** 15 41 55.0 -1.6
KIS *e*S S 15 52 38.0 -6.3
KIS *e*PS 15 53 46.0
VNA1 Neumayer--Stat 89.52 197 *e*P **P** 15 42 00.0 +1.0
VNA1 *e* 15 42 01.6
VNA1 *e* 15 42 10.3
VNA1 *e* 15 42 26.4
AKASG Malin Array Be 89.70 322 P **P** 15 41 58.2 -1.6
comp=Z,2.6nm,0.8s,mb4.6,baz=88,slow=4.2,SNR=17
AKASG Malin Array Be 89.70 322 P **P** 15 41 58.2 -1.7
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 89.70 322 P **P** 15 41 58.2 -1.6
MLR Muntele Rosu 90.60 316 P **P** 15 42 05.1 +1.0
comp=Z,19nm,1.0s,mb5.4,baz=73,slow=2.7,SNR=14
MLR Muntele Rosu 90.60 316 P **P** 15 42 05.1 +1.0
MLR pmax pmax
comp=Z,19nm,1.0s
KOLS Kolonicke sedl 93.72 319 *e*P **P** 15 42 18.4 -0.1
KOLS pmax pmax
comp=Z,16nm,1.8s,mb5.2
KOLS Kolonicke sedl 93.72 319 *e*P **P** 15 42 18.4 -0.1
comp=Z,16nm,1.8s,mb5.1
FINES FINESS Array B 93.94 332 P **P** 15 42 20.2 +0.7
comp=Z,3.0nm,0.9s,mb4.7,baz=107,slow=16,SNR=4.2
FINES FINESS Array B 93.94 332 P **P** 15 42 20.2 +0.7
FINES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 95.78 340 P **P** 15 42 26.1 -1.8
comp=Z,6.7nm,1.1s,mb5.0,baz=297,slow=14,SNR=6.1
ARCES ARCESS Array B 95.78 340 P **P** 15 42 26.1 -1.8
ARCES pmax pmax
comp=Z,7.0nm,1.1s
VYHS Vyhne 95.91 318 *e*P **P** 15 42 27.9 -0.6
VYHS *e* 15 43 06.8
VYHS Vyhne 95.91 318 *e*P **P** 15 42 27.9 -0.6
VYHS pmax pmax
comp=Z,7.0nm,1.6s,mb4.8
VYHS Vyhne 95.91 318 *e*P **P** 15 42 27.9 -0.6
comp=Z,6.7nm,1.6s,mb4.8
VYHS *e* 15 43 06.8
OKC Ostrava-Krasne 96.52 319 *e*PP PP 15 46 28.4 +3.1
ZST Bratislava 97.02 318 *e*PP PP 15 46 24.9 -4.3
DPC Dobruska-Polom 97.74 320 *e*PP PP 15 46 28.6 -6.1
UPC Upice 97.95 320 *e*PP PP 15 46 38.4 +2.0
PRU Pruhonice 98.86 319 *e*PP PP 15 46 41.9 -1.4
GERES GERESS Array B 99.33 318 P **P** 15 42 44.5 +0.6
comp=Z,0.5nm,0.7s,mb4.2,baz=132,slow=2.0,SNR=5.6
GERES GERESS Array B 99.33 318 P **P** 15 42 44.5 +0.6
GERES pmax pmax
comp=Z,1.0nm,0.7s
KHC Kasperske Hory 99.43 318 *e*PP PP 15 46 46.1 -1.5
CLL Collm 99.91 321 *e*PP PP 15 46 53.0 +1.7
CLL *e* 15 47 20.0
CLL Collm 99.91 321 *e*PP PP 15 46 53.0 +1.7
CLL *ex* x 15 47 20.0
NKC Novy Kostel 100.21 319 *e*PP PP 15 46 51.0 -2.6
GRF Grafenberg Arr 100.99 319 *e*PP PP 15 47 02.5 +3.0
GRF Grafenberg Arr 100.99 319 *e*PP PP 15 47 02.5 +3.0
YKA Yellowknife Ar 118.84 21 PKP PKPdf 15 47 50.5 +0.5
comp=Z,0.4nm,0.6s,baz=312,slow=2.4,SNR=4.2
YKA Yellowknife Ar 118.84 21 ⇑*i*PKIKP PKPdf 15 47 54.0 +3.9
YKA Yellowknife Ar 118.84 21 PKP PKPdf 15 47 50.5 +0.5
CHMT Chamberlain Mo 129.04 35 *e*PKPdf PKPdf 15 48 10.3 +0.7
NVAR Mina Array Bea 129.83 47 PKP PKPdf 15 48 12.3 +1.2
comp=Z,0.6nm,0.7s,baz=288,slow=1.5,SNR=3.8
PDAR Pinedale Array 133.56 38 PKP PKPdf 15 48 19.2 +1.1
comp=Z,0.4nm,0.6s,baz=222,slow=2.0,SNR=4.0
ANMO Albuquerque 139.87 45 ⇑*i*PKIKP PKPdf 15 48 28.9 -1.0
PKME Peaks-Kenny Pk 144.02 356 *e*PKPdf PKPdf 15 48 36.0 -1.2
LTX Lajitas 144.72 51 *e*PKIKP PKPdf 15 48 40.0 +1.5
LONY Lake Ozonia 144.74 2 *e*PKPdf PKPdf 15 48 38.1 -0.4
LBNH Lisbon 145.16 359 *e*PKIKP PKPdf 15 48 39.6 +0.4
BDFB Brasilia 145.28 225 PKP PKPdf 15 48 40.0 +0.6
comp=Z,23nm,1.1s,baz=52,slow=4.2,SNR=8.0
BDFB Brasilia 145.28 225 PKIKP PKPdf 15 48 40.0 +0.6
BDFB pmax pmax
comp=Z,23nm,1.1s
MIV Mineville/With 145.32 1 *e*PKP PKPdf 15 48 39.6 +0.1
NCB Newcomb 145.40 2 *e*PKP PKPdf 15 48 40.2 +0.5
NCB *e* 15 48 49.1
HNH Hanover 145.69 360 *e*PKPbc PKPbc 15 48 41.4 +0.9
ACCN Adirondack Com 146.00 1 *e*PKP PKPdf 15 48 42.0 +1.3
HRV Harvard--Oak R 146.88 359 *e*PKP2 PKPab 15 48 44.8 -0.6
WES Weston 147.00 358 *e*PKP2 PKPab 15 48 44.9 -0.9
JCT Junction City 147.00 46 *e*PKP2 PKPab 15 48 48.0 +2.1
BINY Binghamton 147.06 5 *e*PKPbc PKPbc 15 48 45.2 +0.6
ALLY Alegheny Colle 147.07 10 *e*PKPbc PKPbc 15 48 45.2 +0.7
QUA2 Belchertown 147.12 360 *e*PKPbc PKPbc 15 48 45.6 +0.9
FVM French Village 147.21 27 PKP2 PKPbc 15 48 44.9 -0.1
ACSO Alum Creek Sta 147.81 15 *e*PKPbc PKPbc 15 48 46.7 +0.1
LVC Lmon Verde 148.11 186 PKPbc PKPbc 15 48 48.8 +1.4
comp=Z,18nm,1.1s,baz=139,slow=4.8,SNR=7.3
PAL Palisades 148.37 2 *e*PKP2 PKPbc 15 48 48.8 +0.7
MCWV Mont Chateau 149.06 11 *e*PKPbc PKPbc 15 48 50.9 +1.0
WVT Waverly 149.88 25 *e*PKP2 PKPbc 15 48 53.1 +1.2
HKT Hockley 150.08 43 PKP2 PKPbc 15 48 54.6 +2.2
OXF Oxford 150.53 29 *e*PKIKP PKPbc 15 48 54.2 +0.8
PLAL Pickwick Lake 150.75 27 *e*PKPbc PKPbc 15 48 54.6 +0.6
CPCT Cooper Cave 151.76 21 *e*PKPbc PKPbc 15 48 58.8 +2.5
LPAZ La Paz 154.22 190 PKPbc PKPbc 15 49 04.2 +2.4
comp=Z,1.5nm,0.6s,baz=138,slow=9.8,SNR=5.4
OTAV Otavalo 169.31 147 *e*PKPdf PKPdf 15 49 10.6 +1.6

IDC ***17*** *15:30:25.2±0.9, 9.31S×108.51E, h0km, mb4.8/7, mb1 4.9/7, mb1mx4.6/17, mbtmp4.8/7, Error ellipse: s-maj=33.0km s-min=26.1km az=71.0*
NEIC ***17*** *15:30:26.8±0.5, 9.27S×108.54E, h10km, mb5.2/1, Error ellipse: s-maj=19.6km s-min=14.0km az=65.0*
ISCJB ***17*** *15:30:28.4±0.8, 92S±0.1×1086E±0.2, h33km, mb4.8/9, Error ellipse: s-maj=27.4km s-min=19.9km az=138.7*
ISC 17 15:30:31.0±0.8, 92S±01×1086E±02, h35km, n16, σ0857/13, mb4.8/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**28.13**	**124**	P	**P**	**15 36 19.8**	**+0.1**
	6.9nm,0.9s,mb4.3,baz=303,slow=10,SNR=2.8						
ASAR				PcP	PcP	15 39 33.1	-0.1
	2.9nm,0.5s,baz=310,slow=2.1,SNR=6.8						
SONM	**Songino Array**	**56.81**	**358**	P	**P**	**15 40 12.7**	**+0.9**
	5.2nm,0.5s,mb4.8,baz=179,slow=8.4,SNR=6.1						
ULN	**Ulaanbaatar**	**56.83**	**359**	*e*P	**P**	**15 40 12.6**	**+0.7**
MKAR	**Makanchi Array**	**60.48**	**340**	P	**P**	**15 40 37.7**	**+0.4**
	12nm,0.5s,mb5.2,baz=147,slow=7.9,SNR=5.2						
MKAR	**Makanchi Array**	**60.48**	**340**	P	**P**	**15 40 37.7**	**+0.4**
KURK	**Kurchatov**	**65.10**	**339**	*e*P	**P**	**15 41 07.9**	**-0.1**
ZAL	**Zalesovo**	**66.05**	**345**	P	**P**	**15 41 13.7**	**-0.4**
	5.0nm,0.4s,mb4.9,baz=346,slow=3.6,SNR=4.3						
BVAR	**Borovoye Array**	**70.00**	**337**	P	**P**	**15 41 38.9**	**-0.1**
	11nm,0.7s,mb4.9,baz=141,slow=9.3,SNR=3.1						
ZRNK	**Zerenda**	**70.50**	**336**	*e*P	**P**	**15 41 41.7**	**-0.3**
	14nm,0.7s,mb5.0						
YAK	**Yakutsk**	**72.88**	**10**	*e*P	**P**	**15 41 55.0**	**-1.3**
	22nm,0.7s,mb5.2						
LSZ	**Lusaka**	**78.46**	**256**	P	**P**	**15 42 28.5**	**+0.2**
	5.9nm,0.8s,mb4.6,baz=70,slow=8.1,SNR=3.2						
LBTB	**Lobatse**	**79.88**	**246**	P	**P**	**15 42 35.9**	**-0.1**
	3.1nm,0.7s,mb4.4,baz=109,slow=7.0,SNR=3.2						
LBTB	**Lobatse**	**79.88**	**246**	P	**P**	**15 42 35.9**	**-0.1**
YKA	**Yellowknife Ar**	**118.34**	**21**	PKP	PKPdf	15 49 13.4	-1.2
	1.2nm,0.6s,baz=332,slow=1.6,SNR=5.5						
YKA	**Yellowknife Ar**	**118.34**	**21**	PKP	PKPdf	15 49 13.4	-1.2
NVAR	**Mina Array Bea**	**128.90**	**47**	PKP	PKPdf	15 49 36.3	+1.4
	1.2nm,0.7s,baz=298,slow=1.9,SNR=4.2						

IDC ***17*** *15:32:50.5±0.7, 9.14S×107.94E, h0km, mb4.7/8, mb1 4.7/8, mb1mx4.5/17, mbtmp4.7/8, Error ellipse: s-maj=30.4km s-min=17.7km az=74.0*
NEIC ***17*** *15:32:52.0±0.4, 9.13S×107.95E, h10km, mb4.9/4, Error ellipse: s-maj=18.0km s-min=9.7km az=58.0*

*ISCJB **17** 15:32:53.3±0.7, 9.1S±0.1×108.0E±0.2, h33km, mb4.6/12, Error ellipse: s-maj=24.9km s-min=11.8km az=111.6*

ISC 17 15:32:55.6±0.7**, 9.2S**±0.1×**107.9E**±0.2**, h35**km**, n19,** σ**0s44**/14**, mb4.6**/12**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.70**	**116**	P	**P**	**15 38 40.7**	**+0.3**
	6.8nm,0.6s,mb4.5,baz=289,slow=11,SNR=8.3						
WRAB	**Tennant Creek**	**27.70**	**116**	*e*P	**P**	**15 38 40.7**	**+0.2**
	12nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**27.71**	**116**	*e*P	**P**	**15 38 40.3**	**-0.2**
ASAR	**Alice Springs**	**28.73**	**123**	P	**P**	**15 38 49.5**	**-0.1**
	2.4nm,0.7s,mb4.0,baz=304,slow=7.5,SNR=4.4						
JOW	**Kunigami**	**40.88**	**28**	P	**P**	**15 40 33.7**	**-0.5**
	11nm,0.7s,mb4.6,baz=177,slow=29,SNR=3.7						
SONM	**Songino Array**	**56.77**	**359**	P	**P**	**15 42 36.5**	**+0.5**
	6.6nm,0.5s,mb4.9,baz=179,slow=8.7,SNR=12						
ULN	**Ulaanbaatar**	**56.79**	**359**	*e*P	**P**	**15 42 36.3**	**+0.1**
	7.8nm,0.6s,mb4.9						
MKAR	**Makanchi Array**	**60.22**	**340**	P	**P**	**15 42 59.9**	**-0.2**
	10nm,0.5s,mb5.1,baz=150,slow=8.0,SNR=9.8						
MAW	**Mawson**	**65.57**	**197**	P	**P**	**15 43 35.8**	**+0.1**
	4.5nm,0.7s,mb4.6,baz=38,slow=7.0,SNR=8.4						
BVAR	**Borovoye Array**	**69.70**	**337**	P	**P**	**15 44 01.5**	**-0.2**
	5.2nm,0.6s,mb4.7,baz=139,slow=9.0,SNR=5.9						
BRVK	**Borovoye**	**69.77**	**337**	P	**P**	**15 44 03.3**	**+1.2**
	3.6nm,0.7s,mb4.4						
CHKZ	**Chkalovo**	**70.11**	**337**	*e*P	**P**	**15 44 04.0**	**-0.3**
	8.4nm,0.5s,mb4.9						
ZRNK	**Zerenda**	**70.19**	**336**	*e*P	**P**	**15 44 04.2**	**-0.6**
VNDA	**Vanda**	**73.69**	**169**	P	**P**	**15 44 25.4**	**-0.3**
	3.5nm,0.7s,mb4.4,baz=308,slow=6.6,SNR=12						
NVAR	**Mina Array Bea**	**129.40**	**47**	PKP	PKPdf	15 52 03.8	+3.4
	1.2nm,0.9s,baz=254,slow=3.2,SNR=3.5						
BDFB	**Brasilia**	**145.70**	**224**	PKPbc	PKPbc	15 52 33.0	+2.3
	5.7nm,0.6s,baz=148,slow=2.9,SNR=5.3						
WCI	**Wyandotte Cave**	**148.37**	**22**	*e*PKPbc	PKPbc	15 52 38.7	+0.5
CPCT	**Cooper Cave**	**151.49**	**22**	*e*PKP	PKPdf	15 52 38.5	-1.1
SIV	**San Ignacio**	**152.72**	**204**	PKPbc	PKPbc	15 52 50.3	+1.7
	4.3nm,0.6s,baz=108,slow=3.1,SNR=11						

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*IDC **17** 15:40:52.9±0.6, 9.37S×108.38E, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.2/19, mbtmp4.2/14, ML3.5/1, Error ellipse: s-maj=22.9km s-min=15.5km az=67.0*

*NEIC **17** 15:40:54.4±0.3, 9.31S×108.40E, h10km, mb4.6/6, Error ellipse: s-maj=14.6km s-min=8.9km az=53.0*

*ISCJB **17** 15:40:56.0±0.5, 9.23S±0.07×108.54E±0.08, h33km, mb4.2/17, Error ellipse: s-maj=12.2km s-min=9.6km az=24.5*

ISC 17 15:40:58.4±0.5**, 9.25S**±0.07×**108.52E**±0.09**, h35**km**, n26,** σ**1s16**/23**, mb4.2**/17**, 1C, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.24**	**32**	⇑*i*P	**Pn**	**15 41 35.4**	**+2.4**
BJII				*i* S	**Sn**	**15 41 57.0**	**-2.4**
FITZ	**Fitzroy Crossi**	**18.81**	**120**	P	**Pn**	**15 45 15.6**	**0.0**
	0.1nm,0.3s,baz=288,slow=13,SNR=3.8						
WRA	**Warramunga Arr**	**27.11**	**116**	P	**P**	**15 46 37.9**	**-0.1**
	1.4nm,0.9s,mb3.5,baz=332,slow=20,SNR=5.0						
ASAR	**Alice Springs**	**28.18**	**124**	P	**P**	**15 46 49.1**	**+1.6**
	0.9nm,0.8s,mb3.5,baz=298,slow=9.6,SNR=6.3						
MJAR	**Matsushiro Arr**	**53.42**	**30**	P	**P**	**15 50 14.9**	**+0.2**
	1.0nm,0.8s,mb3.8,baz=229,slow=23,SNR=3.0						
SONM	**Songino Array**	**56.86**	**358**	P	**P**	**15 50 40.2**	**+0.7**
	3.0nm,1.0s,mb4.3,baz=177,slow=8.2,SNR=18						
ULN	**Ulaanbaatar**	**56.88**	**359**	*e*P	**P**	**15 50 39.8**	**+0.1**
	3.4nm,0.7s,mb4.5						
MKAR	**Makanchi Array**	**60.50**	**340**	P	**P**	**15 51 04.9**	**0.0**
	1.4nm,0.5s,mb4.4,baz=151,slow=7.7,SNR=21						
KURK	**Kurchatov**	**65.11**	**340**	*e*P	**P**	**15 51 33.5**	**-2.1**
	3.8nm,0.8s,mb4.5						
MAW	**Mawson**	**65.67**	**198**	P	**P**	**15 51 37.5**	**-1.6**
	4.5nm,0.9s,mb4.5,baz=44,slow=6.5,SNR=7.8						
ZAL	**Zalesovo**	**66.07**	**345**	P	**P**	**15 51 43.5**	**+1.7**
	1.0nm,0.3s,mb4.3,baz=170,slow=13,SNR=3.2						
ZAL	**Zalesovo**	**66.07**	**345**	P	**P**	**15 51 43.5**	**+1.7**
BVAR	**Borovoye Array**	**70.01**	**337**	P	**P**	**15 52 06.7**	**+0.2**
	2.5nm,0.9s,mb4.2,baz=152,slow=6.7,SNR=8.3						
CHKZ	**Chkalovo**	**70.42**	**337**	*e*P	**P**	**15 52 07.5**	**-1.5**
	7.9nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**70.51**	**336**	*e*P	**P**	**15 52 09.8**	**+0.3**
	4.7nm,0.8s,mb4.5						
VNDA	**Vanda**	**73.50**	**170**	P	**P**	**15 52 25.8**	**-1.6**
	3.8nm,0.9s,mb4.3,baz=287,slow=6.1,SNR=16						
LSZ	**Lusaka**	**78.35**	**256**	P	**P**	**15 52 55.1**	**0.0**
	3.5nm,0.9s,mb4.3,baz=113,slow=5.8,SNR=6.5						
LSZ	**Lusaka**	**78.35**	**256**	*e*P	**P**	**15 52 55.7**	**+0.6**
	4.0nm,1.0s,mb4.3						
LSZ				*e*	pP	15 53 06.5	+0.4
ASF	**Jabal al Asfar**	**79.67**	**305**	P	**P**	**15 53 02.9**	**+0.6**
	1.5nm,0.5s,mb4.2,baz=192,slow=2.3,SNR=4.0						
BR131	**Keskin Array S**	**84.43**	**312**	*e*P	**P**	**15 53 27.3**	**0.0**
	0.8nm,0.5s,mb4.1						
BRTR	**Keskin Array B**	**84.43**	**312**	P	**P**	**15 53 27.2**	**-0.1**
	1.8nm,1.0s,mb4.2,baz=134,slow=5.3,SNR=8.6						
TSUM	**Tsumeb**	**87.88**	**251**	P	**P**	**15 53 45.0**	**+0.7**
	1.1nm,0.8s,mb4.1,baz=51,slow=4.4,SNR=4.7						
WMOK	**Wichita Mounta**	**144.39**	**40**	*e*PKPdf	PKPdf	16 00 31.1	+0.2
JCT	**Junction City**	**146.18**	**47**	*e*PKPdf	PKPdf	16 00 35.4	+1.5
WVT	**Waverly**	**149.39**	**27**	*e*PKPbc	PKPbc	16 00 44.2	+0.6
SIV	**San Ignacio**	**152.89**	**202**	PKPbc	PKPbc	16 00 52.7	+0.9
	2.5nm,0.9s,baz=158,slow=1.5,SNR=8.7						
SIV				PKPab	PKPab	16 01 03.0	+0.1
	2.6nm,0.9s,baz=146,slow=4.7,SNR=7.2						

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*IDC **17** 15:42:00.8±0.3, 9.51S×107.69E, h0km, mb5.0/28, mb1 5.0/30, mb1mx5.0/31, mbtmp4.9/30, ML4.5/2, Error ellipse: s-maj=13.2km s-min=10.7km az=54.0*

*NEIC **17** 15:42:02.6±2.3, 9.53S×107.71E, h13km±13km, mb5.5/41, Error ellipse: s-maj=6.2km s-min=4.0km az=46.0*

*ISCJB **17** 15:42:03.7±0.2, 9.51S±0.04×107.75E±0.03, h35km, mb5.4/93, Error ellipse: s-maj=5.3km s-min=4.3km az=45.8*

*MOS **17** 15:42:03.6±1.0, 9.45S×107.82E, h33km, mb5.6/42, Error ellipse: s-maj=10.4km s-min=6.2km az=111.4*

ISC 17 15:42:06.0±0.2**, 9.53S**±0.04×**107.75E**±0.03**, h37**km**, h37**km±1.7km**:pP-P, n357,** σ**0s98**/239**, mb5.4**/92**, 38C-36D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNG	**Tangerang**	**3.51**	**342**	P	**Pn**	**15 43 00.3**	**+2.4**
	2μm,0.8s						
KLI	**Kotabumi**	**5.45**	**328**	P	**Pn**	**15 43 25.2**	**+0.6**
	286nm,1.0s						
KMMI	**Kalianget**	**6.63**	**69**	P	**Pn**	**15 43 46.7**	**+5.8**
	279nm,1.5s						
DNP	**Denpasar**	**7.42**	**84**	P	**Pn**	**15 43 52.5**	**+0.8**
	2μm,0.7s						
KSI	**Kapahiang**	**7.76**	**318**	P	**Pn**	**15 43 54.8**	**-1.6**
	480nm,0.7s						
COCO	**West Island**	**11.04**	**255**	*e*P	**Pn**	**15 44 36.1**	**-5.2**
KSM	**Kuching**	**11.22**	**13**	*e*P	**Pn**	**15 44 44.6**	**+0.9**
PSI	**Prapat**	**15.07**	**324**	Pn	**Pn**	**15 45 34.9**	**-1.3**
	0.4nm,0.3s,baz=142,slow=14,SNR=7.1						
TSI	**Tuntungan**	**15.85**	**324**	P	**Pn**	**15 45 50.9**	**+4.7**
	111nm,1.0s						
KULM	**Kulim**	**16.33**	**334**	*e*Pn	**Pn**	**15 45 48.0**	**-4.4**
MBWA	**Marble Bar**	**16.34**	**136**	*e*Pn	**Pn**	**15 45 47.2**	**-5.3**
	39nm,0.7s						
KKM	**Kota Kinabalu**	**17.62**	**29**	*e*P	**Pn**	**15 46 08.4**	**-0.1**
SNG	**Songkhla**	**18.05**	**337**	P	**Pn**	**15 46 10.0**	**-3.8**
FITZ	**Fitzroy Crossi**	**19.34**	**118**	*e*P	**Pn**	**15 46 28.2**	**-1.2**
	37nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.34**	**118**	P	**Pn**	**15 46 29.4**	**0.0**
	3.5nm,0.3s,baz=290,slow=6.0,SNR=29						
BSI	**Banda Aceh**	**19.41**	**320**	P	**Pn**	**15 46 29.3**	**-0.9**
	575nm,1.2s						
BATP	**Bataraza**	**20.77**	**29**	*e*P	**P**	**15 46 44.2**	**+0.5**
AAI	**Ambon**	**21.12**	**75**	P	**P**	**15 46 46.3**	**-1.1**
	813nm,1.3s,mb5.9						
IPIL	**Ipil**	**22.67**	**41**	*e*P	**P**	**15 47 04.3**	**+0.3**
PAGZ	**Pagadian**	**23.25**	**43**	*e*P	**P**	**15 47 07.2**	**-2.9**
NNT	**Nongplab**	**23.37**	**340**	P	**P**	**15 47 12.9**	**+1.5**
CTBH	**Cotabato--PC H**	**23.39**	**45**	⇑*i*P	**P**	**15 47 12.8**	**+1.3**
ENPP	**El Nido**	**23.64**	**30**	*e*P	**P**	**15 47 12.2**	**-1.6**
KLBR	**Kellerberrin**	**23.84**	**158**	*e*P	**P**	**15 47 12.7**	**-3.0**
	23nm,0.8s,mb4.7						
CUYO	**Cuyo Island**	**24.17**	**33**	*e*P	**P**	**15 47 19.4**	**+0.8**
BUKP	**Musuan**	**24.42**	**45**	*e*P	**P**	**15 47 22.0**	**+1.0**
KAKA	**Kakadu**	**24.43**	**100**	*e*P	**P**	**15 47 21.3**	**+0.2**
	106nm,0.6s,mb5.5						
CGP	**Cagayan de Oro**	**24.57**	**44**	⇓*e*P	**P**	**15 47 22.9**	**+0.5**
MATI	**Mati**	**24.66**	**49**	*e*P	**P**	**15 47 23.8**	**+0.7**
BUSP	**Coron**	**24.71**	**30**	*e*P	**P**	**15 47 24.1**	**+0.5**
GUIM	**Jordan**	**24.88**	**37**	*e*P	**P**	**15 47 26.5**	**+1.3**
NWAO	**Narrogin (SRO)**	**24.88**	**161**	P	**P**	**15 47 24.1**	**-1.1**
	24nm,0.9s,mb4.7,baz=335,slow=12,SNR=10.0						
NWAO	**Narrogin (SRO)**	**24.88**	**161**	*e*P	**P**	**15 47 23.8**	**-1.4**
NWAO				pmax	pmax		
	comp=Z,54nm,1.0s						
NWAO	**Narrogin (SRO)**	**24.88**	**161**	*e*P	**P**	**15 47 23.8**	**-1.4**
	comp=Z,54nm,1.0s,mb5.0						
SWI	**Sorong**	**24.93**	**71**	P	**P**	**15 47 24.5**	**-1.1**
	comp=Z,126nm,1.3s,mb5.3						
TBP	**Tagbilaran**	**24.93**	**40**	*e*P	**P**	**15 47 25.4**	**-0.2**
LLP	**Lapu-Lapu**	**25.48**	**40**	*e*P	**P**	**15 47 30.7**	**+0.1**
KALP	**Kalibo**	**25.58**	**35**	*e*P	**P**	**15 47 34.2**	**+2.7**
OTRP	**Odiongan**	**25.96**	**33**	*e*P	**P**	**15 47 36.1**	**+1.1**
SCPH	**Surigao**	**26.07**	**43**	⇓*e*P	**P**	**15 47 38.1**	**+2.1**
	comp=Z,119μm,81.0s						
NST	**Nakhon Sawan**	**26.15**	**343**	⇑P	**P**	**15 47 37.5**	**+0.9**
	comp=Z,112nm,1.0s,mb5.3						
KKTK	**Khon Kaen**	**26.15**	**349**	PG	**P**	**15 47 38.0**	**+1.3**
	comp=Z,556nm,0.7s,mb6.2						
LUBP	**Lubang**	**26.23**	**28**	*e*P	**P**	**15 47 36.6**	**-0.8**
OCLP	**Ormoc**	**26.44**	**40**	*e*P	**P**	**15 47 39.3**	**0.0**
BOAC	**Boac**	**26.78**	**32**	*e*P	**P**	**15 47 41.4**	**-1.0**
TGY	**Tagaytay City**	**26.88**	**29**	P	**P**	**15 47 44.9**	**+1.6**
	comp=Z,173nm,0.4s,baz=135,slow=22,SNR=6.5						
TGY	**Tagaytay City**	**26.88**	**29**	P	**P**	**15 47 44.9**	**+1.7**
TGY				pmax	pmax		
	comp=Z,173nm,0.4s						
WRA	**Warramunga Arr**	**27.68**	**115**	P	**P**	**15 47 50.3**	**-0.2**
	comp=Z,37nm,0.9s,mb5.0,baz=286,slow=11,SNR=24						
WRA				PcP	PcP	15 51 08.2	+1.4
	comp=Z,6.4nm,0.8s,baz=290,slow=2.5,SNR=5.1						
WRA	**Warramunga Arr**	**27.68**	**115**	P	**P**	**15 47 50.3**	**-0.1**
WRA						15 51 08.2	
WRA				pmax	pmax		
	comp=Z,37nm,0.9s						
WRA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WRAB	**Tennant Creek**	**27.69**	**115**	P	**P**	**15 47 51.0**	**+0.5**
	SNR=10						
WRAB	**Tennant Creek**	**27.69**	**115**	*e*P	**P**	**15 47 50.9**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,47nm,0.8s,mb5.2						
WRAB	**Tennant Creek**	**27.69**	**115**	*e*P	**P**	**15 47 50.9**	**+0.4**
	comp=Z,47nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**27.69**	**115**	*e*P	**P**	**15 47 50.7**	**+0.2**
SCZP	**Santa Cruz**	**27.88**	**26**	*e*P	**P**	**15 47 52.1**	**0.0**
POLP	**Polilio Island**	**27.91**	**30**	*e*P	**P**	**15 47 52.1**	**-0.3**
PVCP	**Virac**	**28.16**	**36**	*e*P	**P**	**15 47 54.3**	**-0.4**
BOLP	**Bolinao**	**28.42**	**25**	*e*P	**P**	**15 47 56.8**	**-0.3**
BALP	**Baler**	**28.60**	**29**	*e*P	**P**	**15 47 57.4**	**-1.2**
ASPA	**Alice Springs**	**28.67**	**123**	*e*P	**P**	**15 47 59.4**	**+0.2**
ASAR	**Alice Springs**	**28.67**	**123**	P	**P**	**15 47 59.8**	**+0.6**
	comp=Z,18nm,0.8s,mb4.8,baz=298,slow=9.5,SNR=8.9						
ASAR				PcP	PcP	15 51 10.9	+1.7
	comp=Z,7.0nm,0.9s,baz=305,slow=1.1,SNR=7.9						
ASAR	**Alice Springs**	**28.67**	**123**	P	**P**	**15 47 59.8**	**+0.6**
ASAR						15 51 11.0	
ASAR				pmax	pmax		
	comp=Z,18nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AS31	**Alice Springs**	**28.67**	**123**	*e*P	**P**	**15 47 59.4**	**+0.2**
NANT	**Nan**	**28.99**	**346**	⇓P	**P**	**15 48 01.0**	**-1.1**
	comp=Z,411nm,1.0s,mb6.1						
CHG	**Chiang Mai**	**29.47**	**343**	⇓P	**P**	**15 48 07.1**	**+0.8**
	comp=Z,102nm,1.2s,mb5.4						
CHTO	**Chiang Mai**	**29.47**	**343**	*e*P	**P**	**15 48 07.0**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,110nm,1.0s,mb5.5						
CHTO	**Chiang Mai**	**29.47**	**343**	*e*P	**P**	**15 48 07.0**	**+0.6**
	comp=Z,105nm,1.0s,mb5.5						
CAUP	**Cauayan**	**29.76**	**28**	*e*P	**P**	**15 48 07.7**	**-1.2**
ABRA	**Dolores**	**29.89**	**25**	*e*P	**P**	**15 48 08.8**	**-1.2**
CHRT	**Chiangrai**	**30.25**	**345**	⇓P	**P**	**15 48 14.0**	**+0.8**
	comp=Z,250nm,0.8s,mb6.0						
APYP	**Conner**	**30.30**	**26**	*e*P	**P**	**15 48 09.0**	**-4.7**
NACB	**Ninganchiao**	**36.12**	**22**	*e*P	**P**	**15 49 04.3**	**-0.1**
VIS	**Vishakhapatnam**	**36.26**	**318**	*e*P	**P**	**15 49 05.4**	**-0.2**
VIS				AMb	AMB	15 49 10.4	
	comp=Z,93nm,1.6s,mb5.5						
YHNB	**Yeheng**	**36.50**	**21**	*e*P	**P**	**15 49 08.3**	**+0.7**
TATO	**Taipei**	**36.82**	**21**	*e*P	**P**	**15 49 09.4**	**-0.9**
	comp=Z,243nm,1.1s,mb5.9						
SHL	**Shillong**	**38.15**	**336**	*e*P	**P**	**15 49 21.2**	**-0.4**
SHL				AMb	AMB	15 49 21.7	
	comp=Z,944nm,1.5s,mb6.3						
CTA	**Charters Tower**	**38.59**	**110**	*e*P	**P**	**15 49 26.7**	**+1.4**
	comp=Z,24nm,0.7s,mb5.0						
CTA	**Charters Tower**	**38.59**	**110**	P	**P**	**15 49 27.2**	**+1.9**
	comp=Z,27nm,0.7s,mb5.1,baz=276,slow=10,SNR=28						
CTA	**Charters Tower**	**38.59**	**110**	*e*P	**P**	**15 49 26.7**	**+1.4**
CTA				pmax	pmax		
	comp=Z,24nm,0.7s						
CTAO	**Charters Tower**	**38.59**	**110**	*e*P	**P**	**15 49 26.6**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,125nm,1.4s,mb5.5						
CTAO	**Charters Tower**	**38.59**	**110**	*e*P	**P**	**15 49 26.6**	**+1.3**
	comp=Z,125nm,1.4s,mb5.5						
PMG	**Port Moresby**	**38.86**	**93**	P	**P**	**15 49 28.2**	**+0.6**
	comp=Z,47nm,0.9s,mb5.2,baz=287,slow=6.9,SNR=12						
PMG	**Port Moresby**	**38.86**	**93**	*e*P	**P**	**15 49 28.4**	**+0.8**
PMG				*e*	pP	15 49 41.1	+2.9
PMG				pmax	pmax		
	comp=Z,129nm,1.4s						
PMG	**Port Moresby**	**38.86**	**93**	*e*P	**P**	**15 49 28.4**	**+0.8**
	comp=Z,129nm,1.4s,mb5.5						
PMG				*e*	pP	15 49 41.1	+2.9
HYB	**Hyderabad**	**39.36**	**313**	⇑*i*P	**P**	**15 49 32.0**	**+0.3**
HYB	**Hyderabad**	**39.36**	**313**	⇑*e*P	**P**	**15 49 32.0**	**+0.3**
BOK	**Bokaro**	**39.41**	**328**	*e*P	**P**	**15 49 33.1**	**+0.9**
BOK				AMb	AMB	15 49 35.5	
	comp=Z,105nm,2.0s,mb5.2						
MNGI	**Mangalore**	**39.59**	**304**	*e*P	**P**	**15 49 33.6**	**-0.1**
MNGI				AMb	AMB	15 49 59.9	
	comp=Z,106nm,2.7s,mb5.1						
JOW	**Kunigami**	**41.27**	**28**	P	**P**	**15 49 48.8**	**+1.2**
	comp=Z,74nm,0.9s,mb5.3,baz=232,slow=5.1,SNR=17						
JIRN	**Jiri**	**42.45**	**331**	*e*P	**P**	**15 49 58.2**	**+1.0**
	comp=Z,301nm,0.8s,mb6.0						
KAD	**Karad**	**42.56**	**309**	*e*P	**P**	**15 49 57.5**	**-0.6**
KAD				AMb	AMB	15 50 10.6	
	comp=Z,46nm,1.0s,mb5.2						
AKL	**Akola**	**42.61**	**315**	*e*P	**P**	**15 49 59.0**	**+0.5**
AKL				AMb	AMB	15 50 00.9	
	comp=Z,78nm,0.8s,mb5.5						
PKI	**Pulchoki**	**42.76**	**330**	*e*P	**P**	**15 50 00.1**	**+0.4**
	comp=Z,243nm,1.4s,mb5.8						
PKI	**Pulchoki**	**42.76**	**330**	*e*P	**P**	**15 50 00.1**	**+0.4**
PKI				pmax	pmax		
	comp=Z,243nm,1.4s,mb5.7						
GUN	**Gumba**	**42.81**	**331**	*e*P	**P**	**15 50 01.1**	**+0.9**
	comp=Z,238nm,0.8s,mb6.0						
DMN	**Daman**	**42.94**	**330**	*e*P	**P**	**15 50 01.7**	**+0.5**
	comp=Z,250nm,0.9s,mb5.9						
KKN	**Kakani**	**43.00**	**330**	*e*P	**P**	**15 50 02.1**	**+0.4**
	comp=Z,223nm,0.9s,mb5.9						
KKN	**Kakani**	**43.00**	**330**	*e*P	**P**	**15 50 02.1**	**+0.4**
KKN				pmax	pmax		
	comp=Z,223nm,0.9s,mb5.9						
GKN	**Gorkha**	**43.50**	**330**	*e*P	**P**	**15 50 05.8**	**+0.1**
POO	**Poona**	**43.54**	**310**	⇓*i*P	**P**	**15 50 04.0**	**-2.0**
	comp=Z,40nm,1.0s,mb5.1						
KOLN	**Koldanda**	**43.83**	**328**	*e*P	**P**	**15 50 08.6**	**+0.2**
	comp=Z,237nm,0.9s,mb5.9						
BHPL	**Bhopal**	**44.05**	**318**	*e*P	**P**	**15 50 10.3**	**+0.1**
BHPL				AMb	AMB	15 50 12.1	
	comp=Z,48nm,1.4s,mb5.0						
ARMA	**Armidale**	**45.82**	**123**	*e*P	**P**	**15 50 26.0**	**+1.8**
LGTI	**Lohaghat**	**46.95**	**327**	*i* P	**P**	**15 50 31.7**	**-1.3**
NDI	**New Delhi**	**48.08**	**323**	*e*P	**P**	**15 50 40.0**	**-1.9**
NDI	**New Delhi**	**48.08**	**323**	*e*P	**P**	**15 50 40.0**	**-1.9**
AJM	**Ajmer**	**48.11**	**319**	*i* P	**P**	**15 50 42.0**	**-0.1**
AJM				*e*P		15 50 42.1	
BHJ	**Bhuj**	**49.50**	**312**	*e*P	**P**	**15 50 51.9**	**-0.9**
BHJ				AMb	AMB	15 51 11.7	
	comp=Z,123nm,1.4s,mb5.7						
BJT	**Baijiatuau**	**49.91**	**8**	*e*P	**P**	**15 50 56.1**	**+0.3**
BJT				pmax	pmax		
	comp=Z,71nm,0.8s						
BJT	**Baijiatuau**	**49.91**	**8**	*e*P	**P**	**15 50 56.1**	**+0.2**
	comp=Z,71nm,0.8s,mb5.8						
SMLA	**Simla**	**49.93**	**325**	*e*P	**P**	**15 50 56.0**	**0.0**
SMLA				AMb	AMB	15 51 00.0	
	comp=Z,152nm,0.4s,mb6.4						
MAJO	**Matsushiro**	**54.04**	**30**	*e*P	**P**	**15 51 24.2**	**-2.4**
MAJO				pmax	pmax		
	comp=Z,59nm,1.0s,mb5.5						
MAJO	**Matsushiro**	**54.04**	**30**	*e*P	**P**	**15 51 24.2**	**-2.4**
	comp=Z,59nm,1.0s,mb5.5						
MAT	**Matsushiro**	**54.04**	**30**	P	**P**	**15 51 24.8**	**-1.8**
MAT	**Matsushiro**	**54.04**	**30**	*e*P	**P**	**15 51 25.0**	**-1.6**
MAT				pmax	pmax		
	comp=Z,56nm,1.2s,mb5.4						
MAT	**Matsushiro**	**54.04**	**30**	*e*P	**P**	**15 51 25.0**	**-1.6**
	comp=Z,56nm,1.2s,mb5.4						
MJAR	**Matsushiro Arr**	**54.04**	**30**	P	**P**	**15 51 25.4**	**-1.2**
	comp=Z,46nm,1.0s,mb5.4,baz=207,slow=8.1,SNR=60						
MJAR	**Matsushiro Arr**	**54.04**	**30**	P	**P**	**15 51 25.4**	**-1.2**
MJAR				pmax	pmax		
	comp=Z,46nm,1.0s						
VLA	**Vladivostok**	**56.83**	**21**	*e*P	**P**	**15 51 46.2**	**-0.5**
VLA				pmax	pmax		
	comp=Z,81nm,1.8s,mb5.5						
VLA	**Vladivostok**	**56.83**	**21**	⇑*e*P	**P**	**15 51 46.6**	**-0.1**
SONM	**Songino Array**	**57.12**	**359**	P	**P**	**15 51 49.5**	**+0.8**
	comp=Z,37nm,0.9s,mb5.4,baz=177,slow=7.3,SNR=52						
SONM	**Songino Array**	**57.12**	**359**	P	**P**	**15 51 49.5**	**+0.8**
SONM				pmax	pmax		
	comp=Z,37nm,0.9s						
ULN	**Ulaanbaatar**	**57.14**	**359**	*de*P	**P**	**15 51 49.5**	**+0.6**
ULN	**Ulaanbaatar**	**57.14**	**359**	*e*P	**P**	**15 51 49.5**	**+0.7**
	comp=Z,25nm,0.6s,mb5.4						
MDJ	**Mudanjiang**	**57.40**	**18**	*e*P	**P**	**15 51 50.0**	**-0.6**
	comp=Z,18nm,0.9s,mb5.1						
WSAR	**Wadi Sarin**	**58.04**	**305**	P	**P**	**15 51 55.9**	**+0.7**
	comp=Z,7.2nm,0.8s,mb4.8,baz=68,slow=5.0,SNR=4.2						
ULHL	**Ulahol**	**59.05**	**333**	P	**P**	**15 52 02.6**	**+0.4**
	SNR=12						
OPO	**Ambohidratompo**	**59.20**	**254**	P	**P**	**15 52 03.8**	**+0.5**
	comp=Z,1.7nm,0.3s,mb4.5,baz=73,slow=12,SNR=10						
KZA	**Kyzart**	**59.36**	**332**	P	**P**	**15 52 04.9**	**+0.5**
	SNR=19						
HIA	**Hailar**	**59.48**	**9**	*de*P	**P**	**15 52 04.5**	**-0.7**
HIA	**Hailar**	**59.48**	**9**	*e*P	**P**	**15 52 04.6**	**-0.6**
	comp=Z,45nm,1.2s,mb5.4						
ZAK	**Zakamensk**	**59.78**	**357**	⇑*i*P	**P**	**15 52 07.7**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.9						
TKM2	**Tokmak 2**	**59.87**	**333**	P	**P**	**15 52 07.7**	**-0.3**
	SNR=27						
KBK	**Karagaybulak**	**59.96**	**333**	P	**P**	**15 52 09.5**	**+1.0**
	SNR=18						
AML	**Almayashu**	**60.13**	**331**	P	**P**	**15 52 10.4**	**+0.8**
	SNR=12						
AAK	**Ala-Archa**	**60.15**	**332**	P	**P**	**15 52 10.5**	**+0.8**
	SNR=10						
AAK	**Ala-Archa**	**60.15**	**332**	P	**P**	**15 52 09.4**	**-0.4**
	comp=Z,108nm,1.2s,mb5.8,SNR=6.5						
AAK	**Ala-Archa**	**60.15**	**332**	*de*P	**P**	**15 52 08.6**	**-1.2**
AAK				pmax	pmax		
	comp=Z,22nm,1.7s,mb4.9						
AAK	**Ala-Archa**	**60.15**	**332**	*e*P	**P**	**15 52 09.0**	**-0.8**
	comp=Z,28nm,1.2s,mb5.2						
MKAR	**Makanchi Array**	**60.50**	**340**	P	**P**	**15 52 12.2**	**0.0**
	comp=Z,37nm,0.7s,mb5.5,baz=144,slow=7.6,SNR=46						
MKAR	**Makanchi Array**	**60.50**	**340**	P	**P**	**15 52 12.2**	**0.0**
MKAR				pmax	pmax		
	comp=Z,37nm,0.7s						
EKS2	**Erkin-Say**	**60.50**	**332**	P	**P**	**15 52 12.4**	**+0.2**
	SNR=20						
USP	**Ospenovka**	**60.64**	**333**	P	**P**	**15 52 12.9**	**-0.3**
	SNR=11						
TLY	**Talaya**	**61.06**	**357**	P	**P**	**15 52 17.7**	**+1.7**
	comp=Z,118nm,1.3s,mb5.9,SNR=9.5						
MOY	**Mondy**	**61.22**	**355**	*e*P	**P**	**15 52 18.0**	**+0.9**
MOY				pmax	pmax		
	comp=Z,90nm,1.5s,mb5.7						
IRK	**Irkutsk**	**61.59**	**358**	*e*P	**P**	**15 52 19.9**	**+0.3**
IRK				pmax	pmax		
	comp=Z,54nm,1.5s,mb5.5						
KLR	**Kul'dur**	**62.19**	**18**	⇑*i*P	**P**	**15 52 20.7**	**-2.9**
KLR				pmax	pmax		
	comp=E,38nm,1.4s						
KLR				pmax	pmax		
	comp=Z,120nm,1.4s,mb5.8						
HABR	**Khabarovsk**	**62.58**	**20**	⇓*i*P	**P**	**15 52 25.6**	**-0.6**
HABR				*e*S	**S**	**16 00 50.6**	**-0.9**
HABR				pmax	pmax		
	comp=Z,94nm,1.1s,mb5.8						
YSS	**Yuzh-Sakhalins**	**64.30**	**26**	*d i*P	**P**	**15 52 37.2**	**-0.4**
YSS				pmax	pmax		
	comp=Z,279nm,1.7s,mb6.0						
YSS	**Yuzh-Sakhalins**	**64.30**	**26**	*e*P	**P**	**15 52 36.8**	**-0.8**
	comp=Z,178nm,1.1s,mb6.0						
KURK	**Kurchatov**	**65.11**	**340**	P	**P**	**15 52 43.4**	**+0.5**
	comp=Z,453nm,0.9s,mb6.5,SNR=30						
KURK	**Kurchatov**	**65.11**	**340**	*e*P	**P**	**15 52 42.5**	**-0.4**
KURK				pmax	pmax		
	comp=Z,82nm,1.0s,mb5.7						
KURK	**Kurchatov**	**65.11**	**340**	*e*P	**P**	**15 52 42.5**	**-0.3**
	comp=Z,82nm,1.0s,mb5.7						
MAW	**Mawson**	**65.18**	**197**	*e*P	**P**	**15 52 42.4**	**-1.0**
	comp=Z,20nm,1.0s,mb5.1						
MAW	**Mawson**	**65.18**	**197**	P	**P**	**15 52 43.2**	**-0.1**
	comp=Z,25nm,1.0s,mb5.2,baz=47,slow=6.8,SNR=26						
MAW	**Mawson**	**65.18**	**197**	*e*P	**P**	**15 52 42.4**	**-1.0**
MAW				pmax	pmax		
	comp=Z,20nm,1.0s						
ABKT	**Ailbek**	**66.13**	**319**	P	**P**	**15 52 49.9**	**+0.4**
	comp=Z,217nm,1.4s,mb6.0,SNR=8.0						
ZAL	**Zalesovo**	**66.14**	**345**	P	**P**	**15 52 48.5**	**-1.1**
	comp=Z,3.6nm,0.5s,mb4.7,baz=354,slow=1.5,SNR=11						
ZAL	**Zalesovo**	**66.14**	**345**	P	**P**	**15 52 48.5**	**-1.0**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KRAR	**Krasnoyarsk**	**66.46**	**351**	⇓*e*P	**P**	**15 52 49.5**	**-2.1**
KRAR				pmax	pmax		
	comp=Z,133nm,1.7s,mb5.7						
BOD	**Bodaibo**	**67.30**	**4**	⇑*i*P	**P**	**15 52 56.3**	**-0.6**
BOD				pmax	pmax		
	comp=Z,52nm,1.3s,mb5.4						
NVS	**Novosibirsk**	**67.35**	**345**	*e*P	**P**	**15 52 55.3**	**-2.0**
NVS				pmax	pmax		
	comp=Z,28nm,1.7s,mb5.0						
NVS				pmax	pmax		
	comp=N,26nm,1.9s						
NVS				pmax	pmax		
	comp=E,16nm,1.9s						
CLNS	**Chul'man**	**67.62**	**10**	*e*P	**P**	**15 52 56.9**	**-2.1**
CLNS				pmax	pmax		
	comp=N,31nm,1.0s						
CLNS				pmax	pmax		
	comp=E,24nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,61nm,1.0s,mb5.6						
RDF	**Al-Radifah**	**69.47**	**306**	*e*P	**P**	**15 53 09.5**	**-1.0**
UMR	**Umm Al-Rimmam**	**69.59**	**306**	*e*P	**P**	**15 53 10.9**	**-0.4**
BVAR	**Borovoye Array**	**69.97**	**337**	P	**P**	**15 53 13.6**	**0.0**
	comp=Z,13nm,0.8s,mb4.9,baz=146,slow=8.2,SNR=23						
BVAR	**Borovoye Array**	**69.97**	**337**	P	**P**	**15 53 13.6**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,13nm,0.8s						
MIB	**Mutribah**	**70.00**	**306**	*e*P	**P**	**15 53 13.0**	**-0.8**
BRVK	**Borovoye**	**70.03**	**337**	P	**P**	**15 53 14.8**	**+0.8**
	comp=Z,120nm,0.9s,mb5.8,SNR=6.2						
BRVK	**Borovoye**	**70.03**	**337**	*e*P	**P**	**15 53 13.8**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
BRVK	**Borovoye**	**70.03**	**337**	*e*P	**P**	**15 53 13.8**	**-0.2**
	comp=Z,25nm,1.1s,mb5.0						
RST	**Umm Al-Ruwaisa**	**70.14**	**306**	*e*P	**P**	**15 53 13.8**	**-0.8**
KMBO	**Kilima Mbogo**	**70.58**	**272**	P	**P**	**15 53 18.4**	**+1.1**
	comp=Z,6.4nm,0.9s,mb4.5,baz=47,slow=7.2,SNR=12						
KMBO	**Kilima Mbogo**	**70.58**	**272**	⇑*e*P	**P**	**15 53 18.3**	**+1.0**
SKR	**Severo-Kuril's**	**73.14**	**30**	*e*P	**P**	**15 53 29.5**	**-3.2**
YAK	**Yakutsk**	**73.36**	**11**	*d i*P	**P**	**15 53 33.2**	**-0.8**
YAK				pmax	pmax		
	comp=Z,215nm,1.0s,mb6.0						
YAK	**Yakutsk**	**73.36**	**11**	*e*P	**P**	**15 53 33.0**	**-1.0**
	comp=Z,191nm,1.0s,mb6.0						
VNDA	**Vanda**	**73.36**	**169**	P	**P**	**15 53 33.3**	**-0.7**
	comp=Z,4.4nm,0.9s,mb4.4,baz=304,slow=6.9,SNR=9.6						
VNDA	**Vanda**	**73.36**	**169**	P	**P**	**15 53 33.3**	**-0.7**
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.9s						

SYO	Syowa Base	73.40	200	⇑eP	P	15 53 32.8	-1.4
SYO	Syowa Base	73.40	200	⇑epP	pP	15 53 36.7	-8.8
AKTK	Aktyubinsk	73.66	329	P	P	15 53 35.7	0.0
AKTO	Aktyubinsk	73.66	329	P	P	15 53 35.7	0.0
	comp=Z,16nm,1.2s,mb4.8,baz=123,slow=5.7,SNR=20						
AKTO	Aktyubinsk	73.66	329	P	P	15 53 35.7	0.0
AKTO				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
BHD	Baghdad	73.70	309	ex	x	15 54 45.0	
PET	Petropavlovsk	75.84	29	deP	P	15 53 48.3	0.0
PET				pmax	pmax		
	comp=Z,122nm,1.7s,mb5.6						
PET	Petropavlovsk	75.84	29	eP	P	15 53 48.7	+0.4
	comp=Z,137nm,1.5s,mb5.7						
GNI	Garni	76.25	315	P	P	15 53 51.7	+1.0
	comp=Z,2.5nm,0.3s,mb4.7,baz=146,slow=7.9,SNR=3.9						
GNI	Garni	76.25	315	deP	P	15 53 51.1	+0.4
GNI	Garni	76.25	315	eP	P	15 53 51.8	+1.1
	comp=Z,39nm,1.1s,mb5.2						
GNI				e	pP	15 54 00.2	-1.9
MA2	Magadan	76.97	21	diP	P	15 53 55.2	+0.5
MA2				pmax	pmax		
	comp=Z,188nm,1.7s,mb5.7						
MA2	Magadan	76.97	21	eP	P	15 53 55.1	+0.4
	comp=Z,101nm,1.0s,mb5.7						
MA2				e	pP	15 54 06.7	+0.6
MBAR	Mbarara	77.09	272	⇓iP	P	15 53 56.1	+0.7
ARU	Arti	77.20	334	P	P	15 53 56.4	+0.3
	comp=Z,237nm,1.1s,mb6.0,SNR=12						
ARU	Arti	77.20	334	⇓iP	P	15 53 56.1	0.0
ARU				e	pP	15 54 07.1	-0.3
ARU				e		15 56 50.8	
ARU				eS	S	16 03 43.6	+0.7
ARU				eSS	SS	16 08 47.4	+6.4
ARU				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.4						
ARU	Arti	77.20	334	eP	P	15 53 56.1	+0.1
	comp=Z,99nm,1.4s,mb5.5						
LSZ	Lusaka	77.55	256	P	P	15 53 59.1	+1.1
	comp=Z,8.3nm,0.7s,mb4.8,baz=87,slow=4.4,SNR=15						
LSZ	Lusaka	77.55	256	eP	P	15 53 58.5	+0.5
LSZ				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
LSZ	Lusaka	77.55	256	eP	P	15 53 58.9	+0.9
	comp=Z,11nm,0.8s,mb4.8						
ZEI	Tsey	77.94	317	eP	P	15 54 01.5	+1.3
ZEI				e*PP	pP	15 54 10.6	-1.0
ZEI				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
LBTB	Lobatse	78.97	246	P	P	15 54 06.8	+1.0
	comp=Z,8.0nm,0.9s,mb4.7,baz=127,slow=4.5,SNR=8.5						
LBTB	Lobatse	78.97	246	P	P	15 54 06.8	+1.0
LBTB				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
LBTB	Lobatse	78.97	246	P	P	15 54 06.8	+1.0
ASF	Jabal al Asfar	79.20	305	P	P	15 54 09.1	+1.9
	comp=Z,11nm,0.8s,mb4.8,baz=3.8,slow=3.2,SNR=14						
ASF	Jabal al Asfar	79.20	305	P	P	15 54 09.1	+2.0
ASF				pmax	pmax		
	comp=Z,11nm,0.8s						
KIV	Kislovodsk	79.24	318	deP	P	15 54 07.6	+0.3
KIV				pmax	pmax		
	comp=Z,35nm,1.3s,mb5.1						
KIV	Kislovodsk	79.24	318	eP	P	15 54 08.1	+0.7
	comp=Z,17nm,0.9s,mb5.0						
GOF	Gofitskoye	79.47	319	eP	P	15 54 09.0	+0.4
GOF				pmax	pmax		
	comp=Z,90nm,1.1s,mb5.6						
EIL	Elat	80.04	302	eP	P	15 54 12.5	+0.9
	comp=Z,274nm,1.2s,mb6.1						
EIL				e	pP	15 54 23.9	+0.8
MALT	Malatya	80.06	312	eP	P	15 54 12.4	+0.6
MALT				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
MALT	Malatya	80.06	312	eP	P	15 54 12.4	+0.6
	comp=Z,13nm,1.0s,mb4.8						
TIXI	Tiksi	82.21	7	⇓iP	P	15 54 21.4	-1.8
TIXI				pmax	pmax		
	comp=Z,52nm,0.8s,mb5.5						
TIXI	Tiksi	82.21	7	eP	P	15 54 22.4	-0.8
VRHR	Novokhopersk	82.87	324	eP	P	15 54 26.7	+0.1
VRHR				pmax	pmax		
	comp=Z,40nm,0.4s,mb5.8						
VRHR				pmax	pmax		
	comp=N,20nm,0.6s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.4s						
CSS	Prodhromos	82.88	307	eP	P	15 54 27.4	+0.7
	comp=E,14nm,0.9s,mb5.0						
CSS				e	pP	15 54 39.1	+1.0
BRTR	Keskin Array B	84.05	312	P	P	15 54 32.5	-0.2
	comp=E,9.9nm,1.0s,mb4.9,baz=130,slow=6.7,SNR=18						
BRTR	Keskin Array B	84.05	312	P	P	15 54 32.6	-0.1
BRTR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BR131	Keskin Array S	84.05	312	eP	P	15 54 32.5	-0.2
	comp=Z,24nm,0.9s,mb5.3						
BR131				e	pP	15 54 43.5	-0.7
VOR	Voronezh	84.51	324	eP	P	15 54 35.0	-0.1
VOR				pmax	pmax		
	comp=Z,150nm,1.8s,mb5.8						
SIM	Simferopol’	85.32	317	diP	P	15 54 40.0	+0.9
MOS	Moscow	86.90	328	eP	P	15 54 46.4	-0.5
MOS				e	pP	15 54 57.6	-0.8
MOS				pmax	pmax		
	comp=Z,118nm,1.3s,mb6.0						
TSUM	Tsumeb	87.07	251	P	P	15 54 49.3	+1.5
	comp=Z,7.7nm,0.8s,mb5.0,baz=91,slow=4.7,SNR=17						
TSUM	Tsumeb	87.07	251	eP	P	15 54 49.0	+1.3
	comp=Z,12nm,1.0s,mb5.1						
TSUM				e	pP	15 55 00.5	+1.3
OBN	Obninsk	87.23	327	deP	P	15 54 48.5	0.0
OBN				e*PP	pP	15 55 00.4	+0.4
OBN				e		15 58 15.4	
OBN				pmax	pmax		
	comp=Z,141nm,1.6s,mb6.0						
OBN	Obninsk	87.23	327	eP	P	15 54 48.8	+0.3
	comp=Z,129nm,1.1s,mb6.1						
OBN				e	pP	15 55 00.2	+0.2
SNAA	Sanae	87.35	197	eP	P	15 54 49.0	-0.1
SNAA				e		15 54 50.7	
SNAA				e		15 54 52.0	
SNAA				e		15 54 54.8	
SNAA				e		15 55 24.4	
KLMR	Klimovskoe	87.95	333	eP	P	15 54 51.0	-1.0
KLMR				pmax	pmax		
	comp=Z,180nm,1.4s,mb6.1						
TIRR	Tirgusor	89.08	315	eP	P	15 54 57.5	+0.2
TIRR				e	pP	15 55 08.0	-0.9
VNA1	Neumayer--Stat	89.38	197	eP	P	15 54 59.5	+0.8
VNA1				e		15 55 00.2	
VNA1				e		15 55 03.0	
VNA1				e		15 55 04.3	
VNA1				e		15 55 36.4	
AKASG	Malin Array Be	90.12	321	P	P	15 55 01.4	-0.7
	comp=Z,2.6nm,0.8s,mb4.6,baz=88,slow=4.1,SNR=17						
AKASG				PP	PP	15 58 34.8	-0.9
	comp=Z,6.2nm,1.0s,baz=87,slow=6.2,SNR=7.1						
AKASG	Malin Array Be	90.12	321	P	P	15 55 01.5	-0.6
AKASG						15 58 34.8	
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AKBB	Malin Array Si	90.12	321	eP	P	15 55 01.2	-0.9
AKBB				e	pP	15 55 10.9	-2.8
MLR	Muntele Rosu	91.03	316	P	P	15 55 07.2	+0.8
	comp=Z,5.5nm,0.7s,mb5.0,baz=62,slow=5.0,SNR=6.7						
MLR	Muntele Rosu	91.03	316	P	P	15 55 07.2	+0.8
MLR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
APA	Apatity	92.85	338	eP	P	15 55 19.0	+4.2
VSU	Vasula	93.37	329	⇑iP	P	15 55 14.9	-2.3
FINES	FINESS Array B	94.33	332	P	P	15 55 21.5	-0.1
	comp=Z,5.0nm,1.0s,mb4.9,baz=148,slow=11,SNR=5.8						
FINES	FINESS Array B	94.33	332	P	P	15 55 21.5	-0.1
FINES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FINES	FINESS Array B	94.33	332	P	P	15 55 21.5	-0.1
ARCES	ARCESS Array B	96.15	339	P	P	15 55 28.9	-1.0
	comp=Z,8.0nm,0.9s,mb5.1,baz=90,slow=4.9,SNR=9.4						
ARCES	ARCESS Array B	96.15	339	P	P	15 55 28.9	-1.0
ARCES				pmax	pmax		
	comp=Z,8.0nm,1.0s						
DPC	Dobruska-Polom	98.16	320	ePP	PP	15 59 37.0	-1.5
UPC	Upice	98.37	320	ePP	PP	15 59 46.2	+6.1
PRU	Pruhonice	99.27	319	ePP	PP	15 59 52.5	+5.5
GERES	GERESS Array B	99.75	318	P	Pdif	15 55 46.3	+0.2
	comp=Z,0.2nm,0.2s,baz=90,slow=5.3,SNR=4.2						
KHC	Kasperske Hory	99.85	318	ePP	PP	15 59 55.1	+3.7
MCK	McKinley	104.38	27	P	Pdif	15 56 06.8	+0.1
YKA	Yellowknife Ar	118.95	21	PKP	PKPdf	16 00 50.6	+0.1
	comp=Z,4.3nm,0.8s,baz=311,slow=2.0,SNR=24						
B05A	Bryant	123.19	38	⇓P	PKPdf	16 00 60.0	+1.3
	baz=123						
C05A	Tolt Reservoir	123.68	38	⇑P	PKPdf	16 01 00.9	+1.3
	baz=124						
I02A	Mapleton	123.80	43	⇑P	PKPdf	16 01 02.5	+2.6
	baz=124						
K02A	Glendale	124.47	44	⇑P	PKPdf	16 01 03.2	+2.1
	baz=124						
H04A	Detroit Lake	124.62	42	⇓P	PKPdf	16 01 02.2	+0.8
	baz=125						
HUMO	Hull Mountain	124.90	44	⇓P	PKPdf	16 01 04.2	+2.3
	baz=125						
N02C	Big Bar	125.28	46	⇑P	PKPdf	16 01 03.5	+0.8
	baz=125						
EDM	Edmonton	125.33	29	eP	PKPdf	16 01 03.8	+1.0
M02C	Callahan	125.41	46	⇑P	PKPdf	16 01 05.0	+2.1
	baz=125						
O02C	Red Bluff	125.87	47	⇑P	PKPdf	16 01 04.8	+0.9
	baz=126						
J06A	Christmas Vall	126.55	42	⇑P	PKPdf	16 01 06.2	+1.1
	baz=126						
MNRC	McLaughlin Nat	126.56	48	⇑P	PKPdf	16 01 08.0	+2.8
	baz=127						
L05A	Lakeview	126.57	44	⇓P	PKPdf	16 01 07.8	+2.6
	baz=127						
HATC	Hat Creek Radi	126.60	46	⇓P	PKPdf	16 01 07.6	+2.4
	baz=127						
K06A	Valley Falls	126.67	43	⇑P	PKPdf	16 01 07.4	+2.1
	baz=127						
ELFS	Eagle Lake Fie	127.19	46	⇑P	PKPdf	16 01 09.3	+3.0
	baz=127						
WALA	Waterton Lakes	127.49	33	ePKPdf	PKPdf	16 01 07.3	+0.4
L07A	Adell	127.60	44	⇑P	PKPdf	16 01 10.3	+3.2
	baz=128						
P05C	Yuba Gap, Truc	127.76	47	⇑P	PKPdf	16 01 09.8	+2.4
	baz=128						
N06A	Buffalo Meadow	127.77	45	⇑P	PKPdf	16 01 09.7	+2.2
	baz=128						
WVOR	Wild Horse Val	127.90	43	ePKPdf	PKPdf	16 01 10.0	+2.3
M07A	Soldier Meadow	127.97	44	⇓P	PKPdf	16 01 10.4	+2.6
	baz=128						
O06A	Flanigan	128.00	46	⇑P	PKPdf	16 01 10.3	+2.4
	baz=128						
PACP	Pacheco Peak	128.04	50	⇓P	PKPdf	16 01 10.4	+2.4
	baz=128						
N07B	Gerlach	128.36	45	⇑P	PKPdf	16 01 12.1	+3.5
	baz=128						
R05C	Kirkwood Meado	128.36	48	⇑P	PKPdf	16 01 11.5	+3.0
	baz=128						
V03C	Hunter Liggett	128.39	51	⇓P	PKPdf	16 01 11.4	+2.8
	baz=128						
M08A	Happy Creek Ra	128.49	44	⇓P	PKPdf	16 01 11.6	+2.8
	baz=128						
MSO	Missoula	128.71	36	ePKPdf	PKPdf	16 01 10.6	+1.3
L09A	Wilkinson Ranc	128.73	43	⇑P	PKPdf	16 01 12.4	+3.1
	baz=129						
S06C	San Francisco	128.82	49	⇑P	PKPdf	16 01 12.2	+2.8
	baz=129						
N08A	GE Springer Mi	128.94	44	⇑P	PKPdf	16 01 12.8	+3.1
	baz=129						
CHMT	Chamberlain Mo	129.06	35	ePKPdf	PKPdf	16 01 11.1	+1.2
FFC	Flin Flon	129.11	22	ePKPdf	PKPdf	16 01 10.9	+0.9
N09A	Rock Creek Ran	129.33	44	⇓P	PKPdf	16 01 13.2	+2.7
	baz=129						
KCC	Kaiser Creek	129.41	49	⇓P	PKPdf	16 01 13.7	+3.1
	baz=129						
NVAR	Mina Array Bea	129.75	47	PKP	PKPdf	16 01 14.9	+3.7
	comp=Z,2.0nm,0.8s,baz=288,slow=0.8,SNR=12						
HLID	Hailey	130.12	40	ePKPdf	PKPdf	16 01 14.9	+2.9
O10A	Cortez Mining,	130.27	44	⇑P	PKPdf	16 01 14.7	+2.5
	baz=130						
DLMT	Dillon	130.29	37	ePKPdf	PKPdf	16 01 13.5	+1.3
MCMT	McKenzie Canyo	130.43	37	ePKPdf	PKPdf	16 01 14.4	+1.9
BOZ	Bozeman (W)	130.70	36	ePKPdf	PKPdf	16 01 15.2	+2.2
S09A	Goldfield	130.81	48	⇑P	PKPdf	16 01 16.7	+3.5
	baz=131						
O11A	Cowboy Ranch,	130.92	44	⇑P	PKPdf	16 01 16.9	+3.5
	baz=131						
QLMT	Earthquake Lak	131.27	37	ePKP	PKPdf	16 01 18.1	+4.0
QLMT				e		16 04 40.9	
Q11A	Duckwater	131.48	46	⇓P	PKPdf	16 01 17.4	+2.9
	baz=132						
GCMT	Greycliff	131.73	35	ePKPdf	PKPdf	16 01 16.0	+1.0
HWUT	Hardware Ranch	132.93	40	PKPdf	PKPdf	16 01 17.9	+0.7
V12A	Nelson	133.35	49	⇑P	PKPdf	16 01 20.7	+2.7
	baz=133						
PDAR	Pinedale Array	133.55	38	PKP	PKPdf	16 01 21.2	+2.8
	comp=Z,0.9nm,0.6s,baz=27,slow=0.3,SNR=6.7						
MSU	Marysvale	134.06	44	ePKPdf	PKPdf	16 01 20.1	+0.7
W13A	Hualapai Mount	134.31	50	⇓P	PKPdf	16 01 24.0	+4.2
	baz=134						
X13A	Yucca	134.56	50	⇑P	PKPdf	16 01 23.5	+3.2
	baz=135						
SCHQ	Schefferville	134.61	356	PKP	PKPdf	16 01 22.2	+1.8
	comp=Z,4.6nm,0.8s,baz=21,slow=5.6,SNR=6.2						
SCHQ	Schefferville	134.61	356	PKP	PKPdf	16 01 22.2	+1.8
W14A	Seligman	134.88	49	⇑P	PKPdf	16 01 24.1	+3.2
	baz=135						
ULM	Lac du Bonnet	134.93	21	PKP	PKPdf	16 01 21.3	+0.3
	comp=Z,4.9nm,0.9s,baz=352,slow=5.9,SNR=3.4						
X14A	Yava	135.32	50	⇓P	PKPdf	16 01 26.3	+4.5
	baz=135						
RWWY	Rawlins	135.60	38	ePKPdf	PKPdf	16 01 22.5	+0.3
X15A	Humboldt	135.80	50	⇑P	PKPdf	16 01 26.4	+3.8
	baz=136						
RSSD	Black Hills	135.89	33	ePKPdf	PKPdf	16 01 24.0	+1.2
PV10	Paradox Valley	136.27	43	ePKP	PKPdf	16 01 22.9	-0.6
PV01	Paradox Valley	136.71	43	PKP	PKPdf	16 01 24.0	-0.3
AMTX	Amarillo	143.12	42	ePKPdf	PKPdf	16 01 35.7	-0.2
PKME	Peaks-Kenny Pk	144.30	356	ePKPdf	PKPdf	16 01 37.4	-0.6
MSNY	Massena	144.59	3	ePKPdf	PKPdf	16 01 38.2	-0.3
LTX	Lajitas	144.61	52	ePKPdf	PKPdf	16 01 39.6	+1.1
FRNY	Flat Rock	144.80	2	ePKPdf	PKPdf	16 01 37.6	-1.2
LONY	Lake Ozonia	144.98	3	ePKPdf	PKPdf	16 01 38.9	-0.3
WMOK	Wichita Mounta	145.09	40	ePKPdf	PKPdf	16 01 40.0	+0.6
BDFB	Brasilia	145.33	224	PKPbc	PKPbc	16 01 41.6	+1.9
	comp=Z,19nm,0.8s,baz=125,slow=3.9,SNR=16						
LBNH	Lisbon	145.41	360	ePKPdf	PKPdf	16 01 41.2	+1.3
MIV	Mineville/With	145.56	2	ePKPdf	PKPdf	16 01 41.2	+1.0
ACCN	Adirondack Com	146.25	2	ePKP	PKPdf	16 01 42.5	+1.1
SLM	Saint Louis	146.83	26	ePKPbc	PKPbc	16 01 45.2	+1.1
ERPA	Erie	146.83	11	ePKPdf	PKPdf	16 01 44.5	+2.1
CCM	Cathedral Cave	146.85	28	ePKPdf	PKPdf	16 01 42.9	+0.5
JCT	Junction City	146.93	47	ePKPdf	PKPdf	16 01 44.9	+2.4
HRV	Harvard--Oak R	147.14	359	ePKPbc	PKPbc	16 01 45.7	+0.6
ALLY	Alegheny Colle	147.26	11	ePKPbc	PKPbc	16 01 46.3	+1.0
WES	Weston	147.26	359	ePKPdf	PKPdf	16 01 42.8	-0.2
WES				ePKPbc	PKPbc	16 01 46.2	+0.9
FVM	French Village	147.28	27	ePKPdf	PKPdf	16 01 43.2	+0.2
FVM				ePKPbc	PKPbc	16 01 46.2	+0.8
BINY	Binghamton	147.29	5	ePKPbc	PKPbc	16 01 46.8	+1.3
BINY				e		16 01 57.8	
QUA2	Belchertown	147.38	0	ePKPbc	PKPbc	16 01 47.0	+1.3
LVC	Limon Verde	147.89	186	PKPbc	PKPbc	16 01 49.5	+2.4
	comp=Z,8.5nm,0.8s,baz=250,slow=3.3,SNR=7.6						
ACSO	Alum Creek Sta	147.97	16	ePKPbc	PKPbc	16 01 48.3	+1.0
SIUC	Southern Illin	148.04	26	ePKPdf	PKPdf	16 01 43.7	-0.6
SIUC				ePKPbc	PKPbc	16 01 48.4	+0.9
MIAR	Mount Ida	148.35	35	ePKPbc	PKPbc	16 01 50.0	+1.6
USIN	University of	148.47	24	ePKPbc	PKPbc	16 01 49.9	+1.3
PAL	Palisades	148.62	2	ePKPbc	PKPbc	16 01 50.1	+1.1
SSPA	Standing Stone	148.62	8	ePKPdf	PKPdf	16 01 46.5	+1.2
SSPA				ePKPbc	PKPbc	16 01 49.8	+0.8
WCI	Wyandotte Cave	148.76	22	ePKPdf	PKPdf	16 01 46.8	+1.3
WCI				ePKPbc	PKPbc	16 01 50.8	+1.5
UALR	University of	148.86	33	ePKPdf	PKPdf	16 01 45.5	-0.1
UALR				ePKPbc	PKPbc	16 01 50.5	+0.9
HBAR	Harrisburg	149.13	30	PKPbc	PKPbc	16 01 51.4	+1.1
GLAT	Glass	149.21	28	ePKPbc	PKPbc	16 01 52.3	+1.9
MCWV	Mont Chateau	149.24	12	ePKPbc	PKPbc	16 01 52.1	+1.6
NATX	Nacogdoches	149.65	40	ePKPbc	PKPbc	16 01 53.8	+2.2
KVTX	Kingsville	149.91	50	ePKPbc	PKPbc	16 01 56.0	+3.8
WVT	Waverly	149.97	26	ePKPdf	PKPdf	16 01 48.7	+1.2
WVT				ePKPbc	PKPbc	16 01 53.2	+0.9
HKT	Hockley	150.03	44	ePKPbc	PKPbc	16 01 55.0	+2.5
PLAL	Pickwick Lake	150.82	27	PKPdf	PKPdf	16 01 49.8	+1.0
PLAL				ePKPbc	PKPbc	16 01 55.4	+0.9
FWV	Forest Hill	151.02	14	ePKPdf	PKPdf	16 01 50.2	+1.2
FWV				ePKPbc	PKPbc	16 01 55.9	+1.0
TZTN	Tazewell	151.22	19	ePKPbc	PKPbc	16 01 56.9	+1.5
ELN	Prospectdale	151.37	14	ePKPdf	PKPdf	16 01 50.7	+1.1
ELN				ePKPbc	PKPbc	16 01 56.6	+0.9
BLA	Blacksburg	151.47	14	ePKIKP	PKPbc	16 01 56.9	+1.0
CPCT	Cooper Cave	151.87	22	PKPdf	PKPdf	16 01 51.1	+0.8
SIV	San Ignacio	152.34	204	PKP	PKPdf	16 01 52.9	+1.9
	comp=Z,2.7nm,0.8s,baz=41,slow=2.4,SNR=6.0						
SIV				PKPbc	PKPbc	16 01 59.5	+1.7
	comp=Z,10nm,0.8s,baz=134,slow=2.7,SNR=20						
SIV				PKPab	PKPab	16 02 11.1	+3.1
	comp=Z,10nm,0.9s,baz=105,slow=3.4,SNR=6.9						
LRAL	Lakeview Retre	152.94	28	ePKPdf	PKPdf	16 01 53.8	+1.9
LPAZ	La Paz	154.03	189	PKP	PKPdf	16 01 56.6	+3.1
	comp=Z,0.9nm,0.7s,baz=8.6,slow=7.1,SNR=3.7						
LPAZ				PKPbc	PKPbc	16 02 04.1	+2.5
	comp=Z,3.4nm,0.8s,baz=45,slow=6.4,SNR=8.1						
LPAZ				PKPab	PKPab	16 02 17.4	+2.3
	comp=Z,4.4nm,0.8s,baz=186,slow=7.1,SNR=10.0						
LPAZ	La Paz	154.03	189	PKIKP	PKPdf	16 01 56.6	+3.1
LPAZ						16 02 04.1	
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						

IDC **17** *15:45:56.1±0.3, 9.45S×108.23E, h0km, mb5.6/30, mb1 5.6/31, mb1mx5.6/32, mbtmp5.6/31, ML5.2/1, MS5.9/25, Ms1 5.9/25, ms1mx5.8/40, Error ellipse: s-maj=12.3km s-min=10.5km az=41.0*

BJI **17** *15:45:57.8, 9.40S×108.30E, h21km, mB6.4, mb5.8, Ms6.5, Msz6.2*

ISCJB **17** *15:45:57.5±0.1, 9.42S±0.03×108.33E±0.02, h18km, mb5.8/141, MS6.1/76, Error ellipse: s-maj=3.7km s-min=3.3km az=41.0*

NEIC **17** *15:45:59.8±0.1, 9.42S×108.32E, h21km, mb5.9/59, ME5.9, MS5.9/20, MW6.1, Error ellipse: s-maj=6.8km s-min=4.6km az=46.0, Moment Tensor Solution. s34 Moment tensor: Scale 10^{18}Nm; M_{rr}0.47; $M_{\theta\theta}$-0.15; $M_{\phi\phi}$-0.33; $M_{r\theta}$1.79; $M_{\theta\phi}$-0.47; $M_{\phi r}$-0.16; Best double couple: $M_0$1.90000×10^{18} NP1:ϕ_s90.00000°,δ85.00000°,λ105.00000°. NP2: ϕ_s199.00000°,δ16.00000°,λ20.00000°. Principal axes: T 2.0600, Plg48.0000°, Azm15.0000°; N -0.3500, Plg15.0000°, Azm268.0000°; P -1.7000, Plg38.0000°, Azm166.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s280.00000°,δ5.00000°,λ90.00000°. NP2: ϕ_s100.00000°,δ85.00000°,λ90.00000°. Principal axes: T Plg50.0000°, Azm10.0000°; N Plg0.0000°, Azm0.0000°; P Plg40.0000°, Azm190.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [II] at Karangkates. Felt at Bandung and Jakarta.

HRVD **17** *15:45:59.8±0.1, 9.57S×108.29E, h12km, MW6.1/107, Centroid moment Tensor Solution. LP body waves: s106,c239;Mantle waves: s107,c258; Half duration: 2.8s Moment tensor: Scale 10^{18}Nm; M_{rr}-0.93±.01; $M_{\theta\theta}$0.91±.01; $M_{\phi\phi}$0.02±.01; $M_{r\theta}$1.59±.02; $M_{\theta\phi}$-0.19±.01; $M_{\phi r}$-0.36±.03; Best double couple: $M_0$1.88200×10^{18} NP1:ϕ_s100.00000°,δ15.00000°,λ-93.00000°. NP2: ϕ_s283.00000°,δ75.00000°,λ-89.00000°. Principal axes: T 1.8890, Plg30.0000°, Azm12.0000°; N -0.0150, Plg1.0000°, Azm102.0000°; P -1.8740, Plg60.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS **17** *15:46:01.6±1.0, 8.92S×108.48E, h33km, mb5.9/60, MS6.0/32 Error ellipse: s-maj=10.8km s-min=5.6km az=115.6*

ISC 17 15:45:59.6±0.1**, 9.43S**±0.02×**108.33E**±0.02**, h19km, h19km**±1.7km**:pP-P, n838,** σ**1.22**/569**, mb5.8**/139**, MS6.1**/76**, 108C-51D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	Banjamegara	2.50	33	⇑iP	Pn	15 46 41.1	+2.0
BJII				iS	Sn	15 46 59.3	-10
TNG	Tangerang	3.64	333	P	Pn	15 46 56.6	+1.7
	8μm,1.3s						
KMMI	Kalianget	6.06	67	P	Pn	15 47 29.7	+1.5
	523nm,1.1s						
KSI	Kapahiang	8.09	315	P	Pn	15 47 51.7	-4.3
	6μm,1.0s						
KSM	Kuching	11.01	10	ePn	Pn	15 48 38.9	+2.9
COCO	West Island	11.62	255	Pn	Pn	15 48 39.7	-4.6
	2μm,0.6s,SNR=5.3						
COCO	West Island	11.62	255	eP	Pn	15 48 39.4	-4.9
	1μm,0.8s						
WSI	Waingapu	11.81	92	P	Pn	15 48 46.9	0.0
	6μm,0.8s						
PPI	Padang Panjang	11.91	318	P	Pn	15 48 42.4	-5.9
	295nm,1.0s						
KGM	Kluang	12.42	336	P	Pn	15 48 54.7	-0.6
PSI	Prapat	15.35	322	Pn	Pn	15 49 27.5	-7.5
	2.6nm,0.3s,baz=146,slow=12,SNR=17						
PSI	Prapat	15.35	322	P	Pn	15 49 27.5	-7.5
PSI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PSI	Prapat	15.35	322	Pn	Pn	15 49 27.5	-7.5
IPM	Ipoh	15.62	332	P	Pn	15 49 36.3	-2.3
MBWA	Marble Bar	16.02	138	eP	Pn	15 49 40.0	-3.7
TSI	Tuntungan	16.12	322	⇑eP	Pn	15 49 41.9	-3.1
KULM	Kulim	16.51	332	eP	Pn	15 49 44.9	-5.1
TSM	Tawau	16.63	35	P	Pn	15 49 55.6	+4.1
KKM	Kota Kinabalu	17.27	27	eP	Pn	15 49 59.5	-0.1
SNG	Songkhla	18.20	335	P	Pn	15 50 07.0	-4.1
	comp=Z,360nm,0.9s						
FITZ	Fitzroy Crossi	18.88	119	eP	Pn	15 50 19.9	+0.5
	comp=Z,482nm,0.9s						
FITZ				eS	Sn	15 53 32.9	-17
FITZ	Fitzroy Crossi	18.88	119	P	Pn	15 50 20.4	+1.0
	comp=Z,5.7nm,0.3s,baz=255,slow=6.9,SNR=22						
FITZ				LR	LR	15 57 20.0	
	comp=Z,33μm,18.3s,baz=309,slow=36						
BSI	Banda Aceh	19.71	318	P	Pn	15 50 25.4	-4.0
	comp=Z,1μm,1.3s						
BATP	Bataraza	20.42	28	eP	P	15 50 36.0	+0.4
AAI	Ambon	20.54	75	P	P	15 50 35.8	-1.0
	comp=Z,1μm,1.1s						
IPIL	Ipil	22.23	40	eP	P	15 50 55.9	+0.9
PAGZ	Pagadian	22.80	42	eP	P	15 51 04.0	+2.9
CTBH	Cotabato--PC H	22.92	44	⇓iP	P	15 51 04.1	+1.8
ENPP	El Nido	23.29	29	eP	P	15 51 06.8	+0.6
KLBR	Kellerberrin	23.72	160	eP	P	15 51 09.1	-1.4
	comp=Z,350nm,1.0s,mb5.7						
KLBR				eS	S	15 55 23.7	-0.8
DAV	Davao City (W)	23.75	47	⇑P	P	15 51 14.0	+3.3
	SNR=17						
DAV	Davao City (W)	23.75	47	eP	P	15 51 12.7	+1.9
	comp=Z,758nm,1.0s,mb6.1						
CUYO	Cuyo Island	23.78	32	eP	P	15 51 12.5	+1.5
KAKA	Kakadu	23.88	100	eP	P	15 51 12.3	+0.4
	comp=Z,285nm,0.6s,mb5.9						
KAKA				eS	S	15 55 38.1	+11
BUKP	Musuan	23.95	45	eP	P	15 51 13.4	+0.8
CGP	Cagayan de Oro	24.11	43	⇑eP	P	15 51 14.2	+0.2
MATI	Mati	24.16	48	eP	P	15 51 15.4	+0.9
BUSP	Coron	24.35	29	eP	P	15 51 17.4	+1.2
SWI	Sorong	24.36	71	P	P	15 51 14.6	-1.6
	comp=Z,399nm,1.4s,mb5.7						
GUIM	Jordan	24.46	36	eP	P	15 51 17.5	+0.3
TBP	Tagbilaran	24.50	40	eP	P	15 51 18.0	+0.5
UBT	Ubonrachathani	24.74	352	⇑P	P	15 51 28.5	+8.8
NWAO	Narrogin (SRO)	24.78	162	P	P	15 51 19.0	-1.2
	comp=Z,403nm,0.8s,mb6.0,baz=331,slow=10,SNR=56						
NWAO				LR	LR	16 01 16.2	
	comp=Z,35μm,18.3s,MS5.9,baz=72,slow=37						
NWAO	Narrogin (SRO)	24.78	162	P	P	15 51 19.0	-1.1
NWAO				pmax	pmax		
	comp=Z,403nm,0.8s						
NWAO				MLR	MLR		
	comp=Z,35μm,18.3s						
NWAO	Narrogin (SRO)	24.78	162	eP	P	15 51 18.8	-1.3
	comp=Z,580nm,0.9s,mb6.1						
NWAO				LR	LR		
	comp=Z,32μm,20.0s,MS5.8						

LLP **Lapu-Lapu** 25.04 39⇑ *e*P P 15 51 22.7 +0.2
BUTP **Butuan** 25.11 44 *e*P P 15 51 27.1 +4.0
BUTP **Butuan** 25.11 44 *e*P P 15 51 23.0 -0.2
KALP **Kalibo** 25.18 34⇓ *e*P P 15 51 26.4 +2.7
comp=Z,1768μm,0.5s
RCP **Roxas** 25.31 35⇓ *e*P P 15 51 26.4 +1.5
comp=Z,208μm,3.0s
MSLP **Maasin** 25.47 41 *e*P P 15 51 26.3 0.0
OTRP **Odiongan** 25.57 32 *e*P P 15 51 28.2 +0.9
SCPH **Surigao** 25.62 42⇓ *e*P P 15 51 29.8 +2.1
LUBP **Lubang** 25.88 27 *e*P P 15 51 30.1 0.0
OCLP **Ormoc** 26.01 39 *e*P P 15 51 31.5 +0.3
NST **Nakhon Sawan** 26.23 342 ⇑P P 15 51 33.0 -0.3
comp=Z,375nm,0.8s,mb6.0
PLP **Palo** 26.33 39 *e*P P 15 51 34.5 +0.4
BOAC **Boac** 26.41 31 *e*P P 15 51 34.0 -0.9
TGY **Tagaytay City** 26.52 28 P P 15 51 36.8 +1.0
comp=Z,200nm,0.5s,baz=192,slow=3.3,SNR=7.0
TGY LR LR 16 04 38.6
comp=Z,88nm,19.1s,baz=353,slow=42
TGY **Tagaytay City** 26.52 28 P P 15 51 36.8 +0.9
TGY pmax pmax
comp=Z,200nm,0.5s
TGY MLR MLR
comp=Z,88nm,19.1s
WRA **Warramunga Arr** 27.20 116 P P 15 51 41.7 -0.3
comp=Z,85nm,0.6s,mb5.4,baz=286,slow=11,SNR=44
WRA PcP PcP 15 55 02.1 +0.1
comp=Z,17nm,0.7s,baz=303,slow=1.9,SNR=5.5
WRA **Warramunga Arr** 27.20 116 P P 15 51 41.7 -0.3
WRA 15 55 02.1
WRA pmax pmax
comp=Z,85nm,0.6s
WRA pmax pmax
comp=Z,17nm,0.7s
WRAB **Tennant Creek** 27.21 115 P P 15 51 43.0 +0.9
SNR=26
WRAB **Tennant Creek** 27.21 115 *ce*P P 15 51 42.9 +0.8
WRAB **Tennant Creek** 27.21 115 *e*P P 15 51 42.9 +0.8
WRAB LR LR
comp=Z,47μm,21.0s,MS6.0
WB2 **Warramunga Arr** 27.21 115 *e*P P 15 51 42.0 -0.1
WB2 *e*S S 15 56 49.1 +29
SCZP **Santa Cruz** 27.55 25 *e*P P 15 51 44.1 -0.8
PVCP **Virac** 27.75 35 *e*P P 15 51 47.0 0.0
PCPH **Palayan** 27.87 27⇓ *e*P P 15 51 47.1 -0.9
FORT **Forrest** 28.09 142⇑ *i*P P 15 51 50.2 +0.2
comp=Z,136nm,0.7s,mb5.7
FORT *e*S S 15 57 03.3 +29
BOLP **Bolinao** 28.09 24 *e*P P 15 51 50.1 +0.1
ASPA **Alice Springs** 28.23 123 *e*P P 15 51 51.3 0.0
ASPA *e*PCP PcP 15 55 05.7 +1.3
ASPA *e*S S 15 57 19.3 +43
ASAR **Alice Springs** 28.24 123 P P 15 51 51.5 +0.2
comp=Z,81nm,0.7s,mb5.5,baz=296,slow=7.9,SNR=43
ASAR PcP PcP 15 55 05.7 +1.2
comp=Z,24nm,0.6s,baz=309,slow=2.4,SNR=9.3
ASAR LR LR 16 03 34.3
comp=Z,33μm,18.3s,MS6.0,baz=303,slow=37
ASAR **Alice Springs** 28.24 123 P P 15 51 51.5 +0.2
ASAR 15 55 05.7
ASAR pmax pmax
comp=Z,81nm,0.7s
ASAR pmax pmax
comp=Z,24nm,0.6s
ASAR MLR MLR
comp=Z,33μm,18.3s
AS31 **Alice Springs** 28.24 123 *e*P P 15 51 51.3 0.0
AS31 *e*PcP PcP 15 55 05.7 +1.3
AS31 *e*S S 15 57 19.3 +43
BALP **Baler** 28.25 28 *e*P P 15 51 50.6 -0.7
QIZ **Qiongzhong** 28.32 3 P P 15 51 51.5 -0.5
QIZ S **S** 15 56 35.8 -1.7
QIZ SS 15 57 58.6
QIZ LR LR
comp=N,34μm,16.7s,MS6.2
QIZ LR LR
comp=E,39μm,16.1s,MS6.2
QIZ LR LR
comp=Z,57μm,16.2s,MS6.3
QIZ **Qiongzhong** 28.32 3 *e*P P 15 51 52.6 +0.5
comp=Z,49nm,0.9s,mb5.1
BAKI **Biak** 28.82 75 P P 15 51 56.2 -0.3
comp=Z,272nm,1.6s,mb5.7
NANT **Nan** 29.05 345 ⇑P P 15 51 56.0 -2.5
comp=Z,1μm,1.0s,mb6.6
CAUP **Cauayan** 29.41 27 *e*P P 15 52 00.3 -1.4
CHTO **Chiang Mai** 29.55 342 P P 15 52 03.1 +0.1
SNR=159
CHTO **Chiang Mai** 29.55 342 *e*P P 15 52 02.9 -0.1
CHTO pmax pmax
comp=Z,330nm,1.0s,mb6.0
CHTO **Chiang Mai** 29.55 342 *e*P P 15 52 02.9 -0.1
comp=Z,328nm,1.0s,mb6.0
ABRA **Dolores** 29.56 24 *e*P P 15 52 02.5 -0.6
APYP **Conner** 29.97 25 *e*P P 15 52 05.7 -0.9
CHRT **Chiangrai** 30.31 344 ⇓P P 15 52 10.0 +0.3
comp=Z,816nm,0.7s,mb6.6
PALK **Pallekele** 32.14 300 P P 15 52 29.8 +4.0
comp=Z,446nm,1.1s,mb6.2,SNR=5.7
PALK **Pallekele** 32.14 300 ⇑P P 15 52 29.0 +3.2
SNR=8.2
PALK **Pallekele** 32.14 300 *e*P P 15 52 26.9 +1.1
comp=Z,79nm,0.9s,mb5.5
GZH **Guangzhou** 32.69 9 P P 15 52 35.1 +4.5
GZH S **S** 15 57 50.4 +4.4
GZH LR LR
comp=N,30μm,17.7s,MS6.1
GZH LR LR
comp=E,20μm,16.2s,MS6.1
GZH LR LR
comp=Z,39μm,18.7s,MS6.1
JAY **Jayapura** 32.91 80 P P 15 52 33.8 +1.3
comp=Z,51nm,1.0s,mb5.4
KMI **Kunming** 34.78 351 P P 15 52 50.6 +1.8
KMI AP pP 15 52 53.5 -1.1
KMI PP PP 15 54 08.8 +1.1
KMI S **S** 15 58 21.8 +3.5
KMI XS sS 15 58 26.8 -1.1
KMI AMB AMB
comp=Z,117nm,1.4s,mb5.6
QZH **Quanzhou** 35.60 16⇑ *i*P P 15 52 55.4 -0.5
QZH S **S** 15 58 29.4 -1.6
QZH AMB AMB
comp=Z,200nm,1.5s,mb5.8
QZH AMB AMB
comp=Z,5μm,6.0s
QZH LR LR
comp=N,41μm,14.5s,MS6.4
QZH LR LR
comp=E,14μm,13.4s,MS6.4
QZH LR LR
comp=Z,43μm,15.1s,MS6.3
GYA **Guiyang** 35.71 357⇑ *i*P P 15 52 57.9 +1.1
GYA AP pP 15 53 01.8 -0.9
GYA XP sP 15 53 05.4 +0.3
GYA PP PP 15 54 20.6 +2.6
GYA PCP PcP 15 55 23.5 -1.2
GYA S **S** 15 58 36.4 +3.7
GYA SCP ScP 15 59 08.3 -1.5
GYA AMB AMB
comp=Z,240nm,0.8s,mb6.2
GYA AMB AMB
comp=Z,4μm,14.1s
GYA LR LR
comp=N,33μm,14.6s,MS6.4
GYA LR LR
comp=E,44μm,16.7s,MS6.4
GYA LR LR
comp=Z,31μm,15.6s,MS6.2
MDRS **Chennai** 35.74 308 *e*P P 15 52 57.9 +0.8
NACB **Ninganchiao** 35.83 21 *e*P P 15 52 57.4 -0.4
TRD **Trivandrum** 35.97 299 *e*P P 15 52 59.8 +0.8
TRD AMb AMB 15 53 07.2
comp=Z,172nm,1.5s,mb5.8
YHNB **Yeheng** 36.21 20 *e*P P 15 53 00.8 -0.2
TATO **Taipei** 36.53 20 ⇑P P 15 53 04.7 +0.9
SNR=15
TATO **Taipei** 36.53 20 *e*P P 15 53 02.9 -0.9
comp=Z,229nm,0.8s,mb6.1
TATO LR LR
comp=Z,21μm,19.0s,MS5.9
VIS **Vishakhapatnam** 36.58 317 *e*P P 15 53 04.8 +0.6
VIS AMb AMB 15 53 11.4
comp=Z,367nm,1.5s,mb6.0

CAL **Calcutta** 37.33 329 *e*P P 15 53 09.5 -1.1
CAL *e*S S 15 58 57.6 +0.2
ADE **Adelaide** 37.63 137⇑ *i*P P 15 53 14.0 +0.8
CTA **Charters Tower** 38.09 111 *e*P P 15 53 18.5 +1.5
comp=Z,70nm,0.9s,mb5.4
CTA **Charters Tower** 38.09 111 P P 15 53 18.6 +1.6
comp=Z,77nm,0.8s,mb5.5,baz=276,slow=10,SNR=37
CTA **Charters Tower** 38.09 111 *e*P P 15 53 18.5 +1.5
CTA pmax pmax
comp=Z,70nm,0.9s
CTAO **Charters Tower** 38.09 111 *e*P P 15 53 18.3 +1.3
CTAO pmax pmax
comp=Z,168nm,1.0s,mb5.7
CTAO MLR MLR
comp=Z,24μm,19.0s,MS6.0
CTAO **Charters Tower** 38.09 111 *e*P P 15 53 18.3 +1.3
comp=Z,168nm,1.0s,mb5.7
CTAO LR LR
comp=Z,24μm,19.0s,MS6.0
PMG **Port Moresby** 38.30 93 P P 15 53 20.8 +2.0
comp=Z,66nm,0.8s,mb5.4,baz=316,slow=6.2,SNR=23
PMG **Port Moresby** 38.30 93 P P 15 53 20.8 +2.0
PMG pmax pmax
comp=Z,66nm,0.8s
PMG **Port Moresby** 38.30 93 *e*P P 15 53 21.6 +2.8
comp=Z,204nm,1.1s,mb5.8
SHL **Shillong** 38.30 336 *e*P P 15 53 21.3 +2.5
BOK **Bokaro** 39.65 327 *e*P P 15 53 30.3 +0.2
BOK AMb AMB 15 53 36.3
comp=Z,432nm,1.2s,mb6.1
HYB **Hyderabad** 39.72 312⇓ *i*P P 15 53 33.5 +2.8
HYB *e*S S 15 59 36.0 +2.6
HYB LR LR
comp=Z,13nm,16.0s
HYB **Hyderabad** 39.72 312⇓ *e*P P 15 53 30.5 -0.2
MNGI **Mangalore** 40.02 303 *i*P P 15 53 33.5 +0.3
MNGI AMb AMB 15 53 51.3
comp=Z,119nm,0.7s,mb5.8
MNGI *i*x x 15 59 33.5
MNGI *e*x x 16 09 07.1
comp=Z,17μm,19.8s
WHN **Wuhan** 40.17 8⇑ *i*P P 15 53 35.0 +0.6
WHN S **S** 15 59 40.3 +0.2
WHN LR LR
comp=Z,90μm,15.0s,MS6.7
CD2 **Chengdu** 40.35 354⇑ *i*P P 15 53 35.6 -0.3
CD2 AP pP 15 53 40.1 -1.8
CD2 XP sP 15 53 42.6 -1.6
CD2 PP PP 15 55 12.9 +4.0
CD2 S **S** 15 59 44.5 +1.6
CD2 XS sS 15 59 51.9 -0.7
CD2 SS SS 16 02 39.1 -2.7
CD2 AMB AMB
comp=Z,230nm,1.1s,mb5.8
CD2 AMB AMB
comp=Z,3μm,10.5s
CD2 LR LR
comp=E,23μm,14.4s
CD2 LR LR
comp=Z,24μm,15.6s,MS6.1
JOW **Kunigami** 40.92 28 P P 15 53 40.9 +0.3
comp=Z,288nm,1.0s,mb5.8,baz=226,slow=6.8,SNR=46
GTK **Gangtok** 41.24 333 *ex* P 15 53 39.0 -4.3
LATR **Latur** 41.82 311 *e*P P 15 53 48.2 +0.2
SSE **Sheshan** 42.14 17 ⇑P P 15 53 51.3 +0.6
SSE AP pP 15 53 54.3 -2.3
SSE PP PP 15 55 29.1 +0.8
SSE PCP PcP 15 55 45.3 +0.4
SSE S **S** 16 00 12.4 +2.9
SSE XS sS 16 00 17.1 -2.2
SSE SCS ScS 16 03 54.3 +2.2
SSE AMB AMB
comp=Z,189nm,1.1s,mb5.6
SSE AMB AMB
comp=Z,5μm,9.9s
SSE LR LR
comp=N,13μm,15.6s,MS5.9
SSE LR LR
comp=E,2μm,15.6s,MS5.9
SSE LR LR
comp=Z,15μm,15.8s,MS6.0
GOA **Goa** 42.21 306 *ex* P 15 53 48.0 -3.2
JBP **Jabalpur** 42.65 320⇑ *e*P P 15 53 54.6 -0.2
JBP *ex* x 15 54 01.0
comp=Z,197nm,1.2s
JBP *e*S S 16 00 17.0 +0.1
JIRN **Jiri** 42.65 330 *e*P P 15 53 54.9 +0.1
comp=Z,1μm,1.0s,mb6.6
GUMO **Guam** 42.88 58 P P 15 53 55.4 -1.3
comp=Z,45nm,0.5s,mb5.4,baz=7.4,slow=13,SNR=3.5
GUMO LR LR 16 14 19.4
comp=Z,5μm,18.5s,MS5.4,baz=340,slow=40
GUMO **Guam** 42.88 58 P P 15 53 55.4 -1.3
GUMO pmax pmax
comp=Z,45nm,0.5s,mb5.5
GUMO MLR MLR
comp=Z,5μm,18.5s,MS5.4
GUMO **Guam** 42.88 58 P P 15 53 55.4 -1.3
GUMO LR LR 16 14 19.4
AKL **Akola** 42.95 314 *i*P P 15 53 57.5 +0.3
AKL *e*P 15 53 58.0
AKL AMb AMB 15 54 02.8
comp=Z,226nm,1.0s,mb5.9
AKL *i*x x 16 00 17.3
KAD **Karad** 42.95 308 *e*P P 15 53 58.0 +0.8
KAD AMb AMB 15 54 06.7
comp=Z,223nm,1.3s,mb5.7
PKI **Pulchoki** 42.97 330 *e*P P 15 53 57.1 -0.3
comp=Z,459nm,1.1s,mb6.1
PKI **Pulchoki** 42.97 330 *e*P P 15 53 57.1 -0.3
PKI pmax pmax
comp=Z,459nm,1.1s,mb6.1
GUN **Gumba** 43.01 330 *e*P P 15 53 58.0 +0.3
DMN **Daman** 43.15 329 *e*P P 15 53 58.8 0.0
comp=Z,1μm,1.0s,mb6.5
KKN **Kakani** 43.21 330 *e*P P 15 53 59.2 -0.1
comp=Z,824nm,0.9s,mb6.5
KKN **Kakani** 43.21 330 *e*P P 15 53 59.2 -0.1
KKN pmax pmax
comp=Z,824nm,0.9s,mb6.5
XAN **Xi'an** 43.24 1 P P 15 53 59.4 -0.1
XAN S **S** 16 00 21.4 -4.2
XAN AMB AMB
comp=Z,456nm,0.9s,mb6.2
XAN LR LR
comp=N,28μm,15.9s,MS6.4
XAN LR LR
comp=E,26μm,17.7s,MS6.4
XAN LR LR
comp=Z,56μm,16.6s,MS6.5
VLK **Valmikinagar** 43.55 328 *e*P P 15 54 03.0 +0.9
VLK *ex* x 15 54 05.0
TOO **Toolangi** 43.65 136 *e*P P 15 54 03.9 +1.1
comp=Z,40nm,0.9s,mb5.2
TOO **Toolangi** 43.65 136 *e*P P 15 54 03.9 +1.1
TOO pmax pmax
comp=Z,40nm,0.9s,mb5.2
GKN **Gorkha** 43.71 329 *e*P P 15 54 03.0 -0.4
comp=Z,831nm,1.0s,mb6.4
POO **Poona** 43.92 309⇓ *i*P P 15 54 04.0 -1.1
comp=Z,260nm,1.0s,mb5.9
KOLN **Koldanda** 44.06 328 *e*P P 15 54 05.9 -0.2
comp=Z,809nm,0.9s,mb6.4
BHPL **Bhopal** 44.37 318 *e*P P 15 54 09.6 +1.0
BHPL AMb AMB 15 54 14.4
comp=Z,199nm,0.9s,mb5.8
CNB **Canberra Magne** 45.38 131 *e*P P 15 54 15.4 -1.3
comp=Z,251nm,1.7s,mb5.8
LZH **Lanzhou** 45.47 355 *e*P P 15 54 18.3 +0.9
LZH AP pP 15 54 23.5 +0.1
LZH XP sP 15 54 25.6 -0.2
LZH PP PP 15 56 06.0 +2.1
LZH *e*S S 16 00 49.0 -9.1
LZH XS sS 16 01 14.3 +6.4
LZH SS SS 16 04 10.1 -12
LZH AMB AMB
comp=Z,213nm,1.0s,mb5.9
LZH AMB AMB
comp=Z,4μm,6.5s
LZH LR LR
comp=E,22μm,14.2s
LZH LR LR
comp=Z,32μm,16.9s,MS6.3
TIA **Tai'an** 46.15 10 P P 15 54 21.9 -0.9
TIA S **S** 16 01 08.0 +0.2

TIA AMB AMB
comp=Z,129nm,0.7s,mb6.0
TIA LR LR
comp=N,8μm,18.0s
RIV **Riverview** 46.17 128 *e*P P 15 54 24.7 +1.8
BHV **Bhavnagar** 47.13 312 *e*P P 15 54 31.0 +0.5
LGTI **Lohaghat** 47.19 326 *i*P P 15 54 29.5 -1.4
PTH **Pithoragarh** 47.28 326 *e*P P 15 54 32.2 +0.6
PTH *e*S S 16 01 25.2 +1.2
TAU **Tasmania Unive** 47.63 141 P P 15 54 35.6 +1.2
comp=N,496nm,0.9s,mb6.5,SNR=6.2
TAU **Tasmania Unive** 47.63 141 *e*P P 15 54 35.3 +0.9
TAU pmax pmax
comp=Z,70nm,0.9s,mb5.7
TAU **Tasmania Unive** 47.63 141 *e*P P 15 54 35.3 +0.9
comp=Z,70nm,0.8s,mb5.7
NDI **New Delhi** 48.36 323 *ex* P 15 54 37.0 -3.0
NDI *ex* x 16 01 32.0
AJM **Ajmer** 48.42 318 *e*P P 15 54 40.6 +0.2
AJM AMb AMB 15 54 47.9
comp=Z,216nm,1.5s,mb6.0
GTA **Gaotai** 49.23 351⇑ *i*P P 15 54 47.3 +0.6
GTA AP pP 15 54 54.9 +2.2
GTA XP sP 15 54 59.3 +4.2
GTA PCP PcP 15 56 11.8 +2.2
GTA PP PP 15 56 42.8 +2.2
GTA PPP 15 57 35.9
GTA S **S** 16 01 53.8 +2.2
GTA XS sS 16 02 06.3 +4.8
GTA SCS ScS 16 04 36.0 -1.8
GTA SS SS 16 05 19.8 -3.2
GTA AMB AMB
comp=Z,97nm,1.6s,mb5.6
GTA AMB AMB
comp=Z,4μm,5.7s
GTA LR LR
comp=N,17μm,21.7s,MS6.3
GTA LR LR
comp=E,26μm,21.7s,MS6.3
GTA LR LR
comp=Z,18μm,21.7s,MS6.0
DL2 **Dalian** 49.66 14⇑ *i*P P 15 54 48.8 -1.2
DL2 S **S** 16 01 55.6 -2.0
DL2 AMB AMB
comp=Z,60nm,0.6s,mb5.8
DL2 AMB AMB
comp=Z,1μm,5.1s
DL2 LR LR
comp=N,6μm,14.9s,MS5.9
DL2 LR LR
comp=E,7μm,14.0s,MS5.9
DL2 LR LR
comp=Z,10μm,17.1s,MS5.9
INCN **Inchon** 49.72 19 P P 15 54 51.4 +0.9
SNR=13
INCN **Inchon** 49.72 19 *e*P P 15 54 50.2 -0.2
comp=Z,91nm,0.8s,mb5.9
BJT **Baijiatuau** 49.73 8 *e*P P 15 54 50.0 -0.5
BJT pmax pmax
comp=Z,506nm,1.1s
BJT MLR MLR
comp=Z,24μm,19.0s
BJT **Baijiatuau** 49.73 8 *e*P P 15 54 50.0 -0.6
comp=Z,506nm,1.1s,mb6.5
BJT LR LR
comp=Z,24μm,19.0s,MS6.2
BJI **Beijing** 49.76 8 P P 15 54 50.0 -0.7
BJI PP PP 15 56 45.8 +0.5
BJI S **S** 16 01 59.4 +0.5
BJI SCS ScS 16 04 38.8 -2.5
BJI AMB AMB
comp=Z,178nm,0.9s,mb6.1
BJI AMB AMB
comp=Z,4μm,4.7s
BJI LR LR
comp=N,24μm,16.8s,MS6.5
BJI LR LR
comp=E,28μm,15.4s,MS6.5
BJI LR LR
comp=Z,21μm,17.9s,MS6.2
BTO **Baotou** 49.81 2 *e*P P 15 54 50.8 -0.3
BHJ **Bhuj** 49.87 311 *e*P P 15 54 50.7 -0.8
BHJ AMb AMB 15 55 02.1
comp=Z,446nm,1.6s,mb6.2
HHC **Hu-ho-hao-te** 50.12 3 ⇑P P 15 54 53.4 -0.1
HHC AP pP 15 54 57.8 -1.7
HHC XP sP 15 55 00.5 -1.3
HHC PCP PcP 15 56 08.9 -3.9
HHC PP PP 15 56 47.0 -1.6
HHC PCS PcS 16 00 12.8 +3.0
HHC S **S** 16 02 02.3 -1.7
HHC SS SS 16 05 33.9 -3.3
HHC AMB AMB
comp=Z,74nm,1.1s,mb5.6
HHC AMB AMB
comp=Z,4μm,6.4s
HHC LR LR
comp=N,15μm,16.7s,MS6.2
HHC LR LR
comp=E,12μm,16.7s,MS6.2
HHC LR LR
comp=Z,19μm,16.7s,MS6.2
SMLA **Simla** 50.19 325 *e*P P 15 54 53.6 -0.4
SMLA AMb AMB 15 55 10.9
comp=Z,658nm,1.0s,mb6.6
SDNR **Sundarnagar** 50.58 325 *e*P P 15 54 57.0 +0.1
HNR **Honiara** 50.88 94 *e*P P 15 55 00.8 +1.6
HNR pmax pmax
comp=Z,687nm,1.1s,mb6.5
HNR **Honiara** 50.88 94 *e*P P 15 55 00.8 +1.6
comp=Z,688nm,1.1s,mb6.5
DLH **Dalhousie** 51.92 325 *e*P P 15 55 09.0 +2.0
SNY **Shenyang** 52.90 14 ⇑P P 15 55 12.6 -1.6
SNY XP sP 15 55 20.8 -1.8
SNY PP PP 15 57 19.9 +6.1
SNY S **S** 16 02 46.9 +4.6
SNY XS sS 16 02 51.9 -0.4
SNY AMB AMB
comp=Z,129nm,2.5s,mb5.4
SNY AMB AMB
comp=Z,3μm,4.4s
SNY LR LR
comp=N,19μm,16.3s
SNY LR LR
comp=Z,21μm,14.3s,MS6.3
MAJO **Matsushiro** 53.67 30 *e*P P 15 55 17.5 -2.4
MAJO pmax pmax
comp=Z,51nm,0.7s,mb5.6
MAJO **Matsushiro** 53.67 30 *e*P P 15 55 17.5 -2.4
comp=Z,51nm,0.7s,mb5.6
MAT **Matsushiro** 53.67 30 P P 15 55 17.7 -2.2
MAT S **S** 16 02 50.0 -2.8
MAT **Matsushiro** 53.67 30 *e*P P 15 55 18.0 -1.9
MAT *e*S S 16 02 51.0 -1.8
MAT pmax pmax
comp=Z,41nm,0.7s,mb5.5
MAT MLR MLR
comp=Z,9μm,20.0s,MS5.8
MAT **Matsushiro** 53.67 30 *e*P P 15 55 18.0 -1.9
comp=Z,41nm,0.7s,mb5.5
MAT *e*S S 16 02 51.0 -1.8
MAT LR LR
comp=Z,9μm,20.0s,MS5.8
MJAR **Matsushiro Arr** 53.67 30 P P 15 55 18.3 -1.6
comp=Z,43nm,0.8s,mb5.5,baz=210,slow=7.5,SNR=73
MJAR LR LR 16 20 14.8
comp=Z,8μm,19.6s,MS5.8,baz=220,slow=38
MJAR **Matsushiro Arr** 53.67 30 P P 15 55 18.3 -1.6
MJAR pmax pmax
comp=Z,43nm,0.8s
MJAR MLR MLR
comp=Z,8μm,19.6s
NIL **Nilore** 54.28 324 P P 15 55 25.3 +0.9
comp=Z,202nm,1.2s,mb5.9,SNR=5.8
CN2 **Changchun** 55.22 15 ⇑P P 15 55 29.5 -1.7
CN2 *e*S S 16 03 13.0 -0.7
CN2 AMB AMB
comp=Z,80nm,1.4s,mb5.6
CN2 LR LR
comp=N,18μm,15.0s,MS6.3
CN2 LR LR
comp=E,12μm,15.0s,MS6.3
CN2 LR LR
comp=Z,12μm,18.0s,MS6.0
WMQ **Urumqi** 56.22 342 P P 15 55 40.3 +1.9

WMQ AP pP 15 55 44.4 -0.1
WMQ XP sP 15 55 46.8 0.0
WMQ PCP PcP 15 56 37.8 +1.9
WMQ PP PP 15 57 47.0 +3.4
WMQ SCP ScP 16 00 35.0 +0.9
WMQ S **S** **16 03 27.5 +0.5**
WMQ XS sS 16 03 35.3 -1.8
WMQ PS 16 03 40.9
WMQ SCS ScS 16 05 25.4 -1.2
WMQ SS SS 16 07 14.3 +0.7
WMQ AMB AMB
comp=Z,176nm,1.3s,mb5.9
WMQ AMB AMB
comp=Z,4μm,6.0s
WMQ LR LR
comp=N,24μm,15.2s,MS6.5
WMQ LR LR
comp=E,17μm,17.4s,MS6.5
WMQ LR LR
comp=Z,22μm,15.2s,MS6.4
VLA Vladivostok 56.55 21*d* iP **P** **15 55 39.2 -1.5**
VLA *i* 15 56 34.5
VLA *i* 15 57 44.1
VLA *i* S **S** **16 03 30.7 -0.6**
VLA pmax pmax
comp=Z,140nm,1.7s,mb5.7
VLA Vladivostok 56.55 21 *i* P **P** **15 55 39.9 -0.8**
NOUC Port Laguerre 56.90 110 *e*P **P** **15 55 45.3 +2.1**
DZM Mont Dzumac 57.03 110 *e*P **P** **15 55 46.6 +2.5**
SONM Songino Array 57.04 358 P **P** **15 55 44.2 0.0**
comp=Z,59nm,0.8s,mb5.7,baz=172,slow=6.2,SNR=65
SONM PcP PcP 15 56 38.7 -0.4
comp=Z,22nm,0.6s,baz=181,slow=3.4,SNR=7.7
SONM LR LR 16 21 47.5
comp=Z,27μm,22.0s,MS6.3,baz=181,slow=38
SONM Songino Array 57.04 358 P **P** **15 55 44.2 0.0**
SONM 15 56 38.7
SONM pmax pmax
comp=Z,59nm,0.8s
SONM pmax pmax
comp=Z,22nm,0.6s
SONM MLR MLR
comp=Z,27μm,22.0s
ULN Ulaanbaatar 57.06 359 ⇓P **P** **15 55 44.6 +0.3**
SNR=32
ULN Ulaanbaatar 57.06 359*c* iP **P** **15 55 44.2 -0.1**
ULN Ulaanbaatar 57.06 359 *e*P **P** **15 55 44.1 -0.3**
ULN LR LR
comp=Z,18μm,22.0s,MS6.1
MDJ Mudanjiang 57.13 18 P **P** **15 55 43.3 -1.6**
MDJ PCP PcP 15 56 38.3 -1.2
MDJ AMB AMB
comp=Z,39nm,2.1s,mb5.1
MDJ AMB AMB
comp=Z,1μm,4.7s
MDJ LR LR
comp=N,9μm,16.8s,MS6.0
MDJ LR LR
comp=E,7μm,19.8s,MS6.0
MDJ LR LR
comp=Z,13μm,16.8s,MS6.1
MDJ Mudanjiang 57.13 18 *e*P **P** **15 55 44.3 -0.6**
comp=Z,65nm,0.8s,mb5.7
KSH Kashi 57.21 331 ⇑P **P** **15 55 44.8 -0.6**
KSH *e*AP pP 15 55 50.3 -1.2
KSH *e*XP sP 15 55 54.1 +0.2
KSH *e*PCP PcP 15 56 41.1 +1.3
KSH *e*PP PP 15 57 57.3 +4.8
KSH *e*PPP 15 59 09.4
KSH *e*SCP ScP 16 00 38.8 +0.3
KSH *e*S **S** **16 03 37.3 -2.8**
KSH *e*PS 16 03 56.6
KSH *e*SCS ScS 16 05 30.4 -3.4
KSH AMB AMB
comp=Z,3μm,7.3s
KSH LR LR
comp=N,18μm,16.3s,MS6.5
KSH LR LR
comp=E,27μm,16.6s,MS6.5
KSH LR LR
comp=Z,25μm,16.9s,MS6.4
WBK Wadi Bani Khal 57.89 304 ⇓P **P** **15 55 52.5 +2.3**
MIR Mirnyy 57.99 187*d* iP **P** **15 55 51.5 +0.6**
MIR *e*PS 16 03 59.5
MIR pmax pmax
comp=Z,750nm,1.0s,mb6.7
MIR pmax pmax
comp=Z,4μm,16.0s
WSAR Wadi Sarin 58.46 305 P **P** **15 55 54.1 -0.1**
comp=Z,36nm,0.9s,mb5.4,baz=114,slow=7.6,SNR=20
WSAR LR LR 16 20 53.0
comp=Z,19μm,19.9s,MS6.2,baz=115,slow=36
JMDO Jabal Madar 58.49 303 P **P** **15 55 56.6 +2.2**
SNR=13
SMDO Samad 58.85 304 P **P** **15 55 59.2 +2.4**
SNR=25
SMDO P 15 55 59.4
SNR=26
BIDO Bidbid 59.00 305 P **P** **15 56 00.3 +2.4**
SNR=22
ULHL Ulahol 59.23 333 P **P** **15 55 58.7 -0.8**
SNR=21
HIA Hailar 59.30 9 *e*P **P** **15 55 58.6 -1.4**
comp=Z,99nm,1.3s,mb5.7
BSY Bisya 59.40 303 ⇑P **P** **15 56 01.4 +0.6**
SNR=16
KZA Kyzart 59.55 332 P **P** **15 56 01.5 -0.2**
SNR=27
HOQ Hoqain 59.69 304 ⇑P **P** **15 56 02.6 -0.1**
SNR=20
ZAK Zakamensk 59.73 356 *e*P **P** **15 56 02.5 -0.5**
ZAK *e* 15 56 52.1
ZAK *e* 16 04 12.1
ZAK pmax pmax
comp=Z,47nm,1.8s,mb5.2
ZAK pmax pmax
comp=Z,27nm,0.9s,mb5.3
AAA Alma-Ata 59.73 334 *e*P **P** **15 56 02.0 -1.0**
AAA *e*S **S** **16 04 13.5 +0.5**
AAA pmax pmax
comp=Z,46μm,13.0s
AAA smax
comp=E,94μm,14.0s
AAA MLR MLR
comp=Z,253μm,16.0s
OPO Ambohidratompo 59.78 254 P **P** **15 56 03.8 +0.5**
comp=Z,34nm,0.9s,mb5.4,baz=81,slow=6.5,SNR=35
TKM2 Tokmak 2 60.05 333 P **P** **15 56 04.6 -0.6**
SNR=42
KBK Karagaybulak 60.14 332 P **P** **15 56 05.6 -0.2**
SNR=25
ARQ Araqi 60.22 304 P **P** **15 56 07.0 +0.6**
SNR=8.7
AML Almayashu 60.33 331 P **P** **15 56 06.6 -0.5**
SNR=17
WHFO Wadi Hawf 60.33 297 ⇓P **P** **15 56 06.5 -0.6**
SNR=8.3
AAK Ala-Archa 60.33 332 P **P** **15 56 06.5 -0.6**
SNR=16
AAK Ala-Archa 60.33 332 P **P** **15 56 05.5 -1.6**
comp=Z,233nm,1.3s,mb6.0,SNR=18
AAK Ala-Archa 60.33 332 P **P** **15 56 06.0 -1.1**
SNR=27
AAK Ala-Archa 60.33 332*c* iP **P** **15 56 05.3 -1.8**
AAK pmax pmax
comp=Z,36nm,1.3s,mb5.2
AAK Ala-Archa 60.33 332 *e*P **P** **15 56 05.3 -1.8**
FRU Bishkek 60.43 332 *e*P **P** **15 56 07.0 -0.8**
FRU *i* pP 15 56 14.0 +0.1
FRU *i* 15 58 24.0
FRU *e*S **S** **16 04 16.0 -6.0**
CHMS Chumysh 60.50 332 P **P** **15 56 07.0 -1.2**
SNR=5.8
MKAR Makanchi Array 60.61 340 P **P** **15 56 08.4 -0.6**
comp=Z,202nm,0.8s,mb6.3,baz=153,slow=7.5,SNR=92
MKAR Makanchi Array 60.61 340⇑ *e*P **P** **15 56 08.3 -0.7**
EKS2 Erkin-Say 60.69 331 P **P** **15 56 08.7 -0.9**
SNR=29
USP Ospenovka 60.82 332 P **P** **15 56 08.7 -1.8**
SNR=17
TLY Talaya 61.00 357 P **P** **15 56 12.6 +0.9**
comp=Z,204nm,0.7s,mb6.4,SNR=22
MOY Mondy 61.18 355 *e*P **P** **15 56 13.2 +0.3**
MOY pmax pmax
comp=Z,463nm,3.4s
ASHO Ashiyiah 61.21 305 ⇓P **P** **15 56 12.2 -0.8**
SNR=12
IRK Irkutsk 61.53 357⇑ *i*P **P** **15 56 14.7 -0.5**
IRK *e* 15 56 53.4
IRK *e*S **S** **16 04 37.0 +1.1**
IRK pmax pmax
comp=Z,323nm,3.0s
ASAJ Asahikawa 61.69 27 LR LR 16 26 34.3
comp=Z,8μm,18.3s,MS5.9,baz=198,slow=40
KLR Kul'dur 61.93 17*k* iP **P** **15 56 13.4 -4.6**
KLR *e*S **S** **16 04 35.0 -6.0**
KLR *e*SS SS 16 08 36.0 -7.3
KLR pmax pmax
comp=E,100nm,2.4s
KLR pmax pmax
comp=Z,370nm,2.4s,mb6.1
KLR pmax pmax
comp=N,2μm,11.0s
KLR pmax pmax
comp=E,800nm,11.0s
KLR pmax pmax
comp=Z,2μm,11.0s
HABR Khabarovsk 62.30 20⇑ *i*P **P** **15 56 19.4 -1.0**
HABR *e*S **S** **16 04 45.0 -0.6**
HABR pmax pmax
comp=Z,167nm,1.2s,mb6.0
HABR pmax pmax
comp=Z,3μm,5.2s
YUK Yuzh-Kuril'sk 63.16 30 *e*P **P** **15 56 25.0 -1.2**
YUK *e* 15 56 36.0
YUK *e* 15 58 38.1
YUK *e*PPP 16 00 12.1
YUK S **S** **16 04 53.9 -2.6**
YUK *e*PS 16 05 27.3
YUK pmax pmax
comp=Z,4μm,4.0s
YUK pmax pmax
comp=N,2μm,3.0s
YUK pmax pmax
comp=E,2μm,3.0s
YUK smax
comp=N,2μm,4.0s
YUK smax
comp=E,2μm,4.0s
YUK pmax pmax
comp=Z,6μm,20.0s
YUK pmax pmax
comp=N,6μm,19.0s
YUK pmax pmax
comp=E,5μm,16.0s
RPZ Rata Peaks 63.90 134 LR LR 16 25 35.7
comp=E,21μm,20.4s,MS6.3,baz=278,slow=37
YSS Yuzh-Sakhalins 63.97 26α *i*P **P** **15 56 30.0 -1.5**
YSS *i* *SP sP 15 56 42.0 +2.0
YSS *e* 15 58 59.0
YSS *e*PPP 16 00 24.0
YSS *e*S **S** **16 05 01.0 -5.5**
YSS *e*PS 16 05 14.0
YSS *e*PPS 16 05 32.0
YSS pmax pmax
comp=Z,180nm,1.1s,mb6.0
YSS pmax pmax
comp=Z,340nm,1.0s,mb6.3
YSS pmax pmax
comp=Z,250nm,1.0s,mb6.2
YSS MLR MLR
comp=N,6μm,17.0s,MS6.0
YSS MLR MLR
comp=E,6μm,17.0s,MS6.0
YSS MLR MLR
comp=Z,6μm,17.0s,MS5.9
YSS Yuzh-Sakhalins 63.97 26 *e*P **P** **15 56 30.5 -1.0**
KURK Kurchatov 65.22 340 P **P** **15 56 39.5 -0.2**
comp=Z,1μm,0.9s,SNR=47
KURK Kurchatov 65.22 340 P **P** **15 56 39.2 -0.5**
SNR=83
KURK Kurchatov 65.22 340*c* iP **P** **15 56 39.0 -0.7**
KURK Kurchatov 65.22 340 *e*P **P** **15 56 39.0 -0.7**
KURK LR LR
comp=Z,19μm,20.0s,MS6.3
MAW Mawson 65.44 197 *e*P **P** **15 56 39.3 -1.8**
comp=Z,94nm,0.9s,mb5.8
MAW Mawson 65.44 197 P **P** **15 56 39.3 -1.8**
comp=Z,98nm,0.8s,mb5.9,baz=42,slow=7.2,SNR=127
MAW LR LR 16 20 46.9
comp=Z,3μm,18.7s,MS5.5,baz=31,slow=32
MAW PKP2ab 16 25 29.2
comp=Z,14nm,1.1s,baz=117,slow=3.0,SNR=6.1
SNZO South Karori 66.11 131 *e*P **P** **15 56 43.5 -2.0**
comp=Z,73nm,0.7s,mb5.8
ZAL Zalesovo 66.20 345 P **P** **15 56 44.0 -2.1**
comp=Z,52nm,1.1s,mb5.5,baz=315,slow=5.4,SNR=32
ZAL LR LR 16 29 57.5
comp=Z,22μm,18.1s,MS6.4,baz=308,slow=40
ZAL Zalesovo 66.20 345 P **P** **15 56 44.0 -2.0**
ZAL pmax pmax
comp=Z,52nm,1.1s
ZAL MLR MLR
comp=Z,22μm,18.1s
ABKT Ailbek 66.44 318 P **P** **15 56 47.0 -0.6**
comp=Z,994nm,1.1s,mb6.8,SNR=22
KRAR Krasnoyarsk 66.46 351*c* iP **P** **15 56 45.0 -2.7**
KRAR pmax pmax
comp=Z,388nm,1.3s,mb6.3
LBOS 66.73 290 *e*P **P** **15 56 50.3 +0.9**
BOD Bodaibo 67.18 3 *e*P **P** **15 56 50.8 -1.4**
BOD pmax pmax
comp=Z,137nm,1.1s,mb5.9
NVS Novosibirsk 67.42 345⇑ *i*P **P** **15 56 51.8 -2.0**
NVS *i* S S 16 05 43.4 -5.3
NVS *e* 16 06 41.9
NVS pmax pmax
comp=N,72nm,1.3s
NVS pmax pmax
comp=E,61nm,1.3s
NVS pmax pmax
comp=Z,100nm,1.3s,mb5.7
NVS pmax pmax
comp=Z,161nm,2.5s,mb5.6
NVS smax
comp=N,218nm,2.5s
NVS smax
comp=E,100nm,2.2s
CLNS Chul'man 67.44 10 *e*P **P** **15 56 53.2 -0.7**
CLNS *e**PP pP 15 57 01.7 +1.6
CLNS *e* 15 57 26.6
CLNS *e*S S 16 05 35.1 -14
CLNS *e* 16 06 22.9
CLNS pmax pmax
comp=Z,120nm,0.8s,mb6.0
CLNS pmax pmax
comp=N,65nm,1.1s
CLNS pmax pmax
comp=E,59nm,1.0s
CLNS pmax pmax
comp=N,27nm,1.0s
CLNS pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CLNS pmax pmax
comp=E,24nm,0.9s
CLNS smax
comp=N,3μm,12.9s
CLNS smax
comp=Z,1μm,10.7s
CLNS smax
comp=E,3μm,13.5s
URZ Urewera 67.57 127 LR LR 16 26 17.1
comp=E,13μm,20.4s,MS6.1,baz=118,slow=36
TRBA At Turbah 67.61 288 *e*P **P** **15 56 56.2 +1.3**
ATD Arta Tunnel 68.35 286 P **P** **15 57 01.0 +1.4**
comp=E,17nm,0.8s,mb5.1,baz=236,slow=4.8,SNR=7.8
ATD LR LR 16 21 33.1
comp=E,3μm,18.6s,MS5.5,baz=275,slow=31
BVAR Borovoye Array 70.11 337 P **P** **15 57 09.7 -0.8**
comp=E,76nm,0.8s,mb5.7,baz=144,slow=8.7,SNR=48
BVAR LR LR 16 31 22.2
comp=E,12μm,20.4s,MS6.2,baz=234,slow=39
BVAR Borovoye Array 70.11 337 P **P** **15 57 09.7 -0.8**
BVAR pmax pmax
comp=Z,76nm,0.8s
BVAR MLR MLR
comp=Z,12μm,20.4s
BRVK Borovoye 70.17 337 P **P** **15 57 10.8 -0.1**
comp=Z,333nm,0.6s,mb6.4,SNR=17
BRVK Borovoye 70.17 337 ⇑P **P** **15 57 08.8 -2.1**
SNR=28
BRVK Borovoye 70.17 337 *e*P **P** **15 57 09.3 -1.6**
BRVK pmax pmax
comp=Z,38nm,0.9s,mb5.3
BRVK Borovoye 70.17 337 *e*P **P** **15 57 09.2 -1.7**
comp=Z,38nm,0.9s,mb5.3
KMBO Kilima Mbogo 71.15 272 P **P** **15 57 16.4 -0.5**
comp=Z,9.7nm,1.0s,baz=59,slow=7.4,SNR=10
KMBO SKKP 16 20 27.2
comp=Z,1.9nm,0.3s,baz=294,slow=4.1,SNR=6.7
KMBO LR LR 16 24 51.6
comp=Z,7μm,18.7s,baz=101,slow=33
KMBO Kilima Mbogo 71.15 272 P **P** **15 57 16.4 -0.5**
KMBO pmax pmax
comp=Z,10.0nm,1.0s
KMBO pmax pmax
comp=E,2.0nm,0.3s
KMBO MLR MLR
comp=Z,7μm,18.7s
SKR Severo-Kuril's 72.78 30 *e*P **P** **15 57 21.9 -4.7**
SKR *e* 15 57 34.4
SKR *e*S S 16 06 49.0 -2.5
SKR *e* 16 07 28.0
SKR *e*PS 16 07 35.0
SKR *e*SS SS 16 11 31.0 -0.3
SKR pmax pmax
comp=N,80nm,0.5s
SKR pmax pmax
comp=E,60nm,0.5s
SKR pmax pmax
comp=Z,330nm,0.5s,mb6.5
SKR pmax pmax
comp=N,3μm,14.0s
SKR pmax pmax
comp=E,3μm,14.0s
SKR pmax pmax
comp=Z,5μm,14.0s
SKR smax
comp=N,5μm,16.0s
SKR smax
comp=E,10μm,16.0s
SKR MLR MLR
comp=N,5μm,16.0s,MS6.0
SKR MLR MLR
comp=E,3μm,16.0s,MS6.0
SKR MLR MLR
comp=Z,5μm,16.0s,MS5.9
YAK Yakutsk 73.17 10*c* iP **P** **15 57 28.2 -0.7**
YAK *e* 15 57 44.4
YAK *e* 16 00 12.1
YAK *e*PPP 16 01 56.5
YAK *e*S S 16 06 49.4 -6.4
YAK *e* 16 07 26.2
YAK *e**SS sS 16 07 32.3 +26
YAK *e*SS SS 16 11 32.3 -4.9
YAK pmax pmax
comp=Z,226nm,0.8s,mb6.2
YAK pmax pmax
comp=N,121nm,1.3s
YAK pmax pmax
comp=E,55nm,1.3s
YAK pmax pmax
comp=Z,19nm,1.2s,mb4.9
YAK pmax pmax
comp=N,16nm,1.5s
YAK pmax pmax
comp=E,17nm,1.2s
YAK smax
comp=N,43nm,1.4s
YAK smax
comp=E,25nm,1.5s
YAK Yakutsk 73.17 10 *e*P **P** **15 57 27.4 -1.5**
comp=E,361nm,0.7s,mb6.4
VNDA Vanda 73.35 169 P **P** **15 57 28.3 -1.7**
comp=E,71nm,0.9s,mb5.6,baz=304,slow=6.1,SNR=113
VNDA LR LR 16 27 37.4
comp=E,6μm,18.8s,MS5.9,baz=324,slow=34
VNDA Vanda 73.35 169 P **P** **15 57 28.3 -1.7**
VNDA pmax pmax
comp=Z,71nm,0.9s
VNDA MLR MLR
comp=Z,6μm,18.8s
VNDA Vanda 73.35 169 *e*P **P** **15 57 28.2 -1.8**
comp=Z,80nm,0.9s,mb5.7
SYO Syowa Base 73.69 200⇑ *e*P **P** **15 57 29.5 -2.5**
SYO Syowa Base 73.69 200⇑ *e*pP pP 15 57 35.0 -3.3
AKTK Aktyubinsk 73.87 329 P **P** **15 57 33.1 0.0**
AKTO Aktyubinsk 73.87 329 P **P** **15 57 33.1 0.0**
comp=Z,17nm,0.7s,mb5.1,baz=126,slow=3.8,SNR=14
AKTO Aktyubinsk 73.87 329 P **P** **15 57 33.1 0.0**
AKTO pmax pmax
comp=Z,17nm,0.7s,mb5.1
BHD Baghdad 74.09 308 *i* x x 15 57 31.0
BHD *i* x x 16 06 58.0
SBA Scott Base 74.42 169 *e*P **P** **15 57 35.4 -0.9**
SBA pmax pmax
comp=Z,83nm,0.9s,mb5.7
SBA MLR MLR
comp=Z,5μm,19.0s,MS5.8
SBA Scott Base 74.42 169 *e*P **P** **15 57 35.4 -0.9**
comp=Z,83nm,0.9s,mb5.7
SBA LR LR
comp=Z,5μm,19.0s,MS5.8
PET Petropavlovsk 75.48 29α *i*P **P** **15 57 41.7 -0.7**
PET *e* 15 57 53.7
PET *i* S S 16 07 22.4 +0.6
PET *e*PS 16 07 59.4
PET pmax pmax
comp=Z,137nm,0.7s,mb6.0
PET pmax pmax
comp=Z,2μm,11.9s
PET pmax pmax
comp=Z,4μm,16.8s
PET pmax pmax
comp=Z,185nm,0.7s,mb6.1
PET smax
comp=E,7μm,17.8s
PET MLR MLR
comp=Z,4μm,19.0s,MS5.8
PET MLR MLR
comp=Z,4μm,20.0s
PET Petropavlovsk 75.48 29 *e*P **P** **15 57 41.5 -0.9**
comp=Z,124nm,0.8s,mb5.9
MAK Makhachkala 75.96 319 *e*P **P** **15 57 46.3 +1.1**
MAK *i* 15 58 01.9
MAK *i* 16 00 41.5
MAK *i* PPP 16 02 26.3
MAK *i* S S 16 07 23.3 -3.8
MAK *i* 16 07 57.7
MAK *e*SS SS 16 12 19.7 -0.1
MAK pmax pmax
comp=Z,284nm,1.3s,mb6.0
MAK pmax pmax
comp=Z,2μm,4.3s
MAK smax
comp=E,10μm,16.3s
MAK smax
comp=N,11μm,15.4s
MAK Makhachkala 75.96 319 *i* P **P** **15 57 46.6 +1.4**
CUKT Cukurca 76.23 312 *e*P **P** **15 57 45.7 -1.0**
MSL Mosul 76.23 311 *ex* x x 15 57 48.5
MSL *i* x x 15 57 56.0
MSL *ex* x 16 07 24.5
MSL *ex* x 16 07 57.0
HAKT HAKKARI 76.28 312 *i* P **P** **15 57 46.2 -0.8**
GNI Garni 76.59 315 *e*P **P** **15 57 51.5 +2.8**
GNI Garni 76.59 315 P **P** **15 57 48.5 -0.3**
baz=111,slow=2.0,SNR=7.7
GNI LR LR 16 32 54.1
comp=N,4μm,21.9s,MS5.7,baz=343,slow=37
GNI Garni 76.59 315 ⇑P **P** **15 57 51.2 +2.5**
SNR=7.1
GNI Garni 76.59 315*d* iP **P** **15 57 48.0 -0.8**
GNI pmax pmax
comp=Z,66nm,1.3s
GNI Garni 76.59 315 *e*P **P** **15 57 50.5 +1.7**
comp=Z,137nm,0.9s,mb5.9
MA2 Magadan 76.68 21*c* iP **P** **15 57 48.9 -0.3**
MA2 pmax pmax
comp=Z,124nm,1.3s,mb5.7
MA2 Magadan 76.68 21 *e*P **P** **15 57 48.7 -0.5**
comp=Z,167nm,1.0s,mb5.9
DGRG David-gareji 76.71 317 P **P** **15 57 50.1 +0.7**
DGRG S S 16 07 33.7 -1.6
DGRG David-gareji 76.71 317 P **P** **15 57 50.0 +0.6**
SVE Sverdlovsk 76.76 335⇑ *i*P **P** **15 57 49.9 +0.2**
SVE *e* 16 00 44.0
SVE *i* S S 16 07 35.0 -0.8

SVE ePS 16 08 36.0
SVE pmax pmax
comp=Z,575nm,2.7s,mb6.0
SVE smax
comp=N,6μm,14.0s
SVE smax
comp=E,8μm,14.0s
CLDR Caldiran 76.76 314 eP **P 15 57 49.6 -0.1**
VANB Van 76.92 313 eP **P 15 57 46.0 -4.6**
MTA Mtatsminda 77.21 317 P P **15 57 51.8 -0.4**
MTA S S 16 07 37.0 -3.7
MTA Mtatsminda 77.21 317 P P **15 57 52.0 -0.2**
TBLG Delisi 77.26 317 P P **15 57 52.3 -0.2**
TBLG S S 16 07 37.5 -3.8
TBLG Delisi 77.26 317 P P **15 57 54.6 +2.1**
TBLG Delisi 77.26 317 P P **15 57 54.6 +2.1**
ARU Arti 77.37 334 P P **15 57 52.8 -0.3**
comp=E,363nm,1.2s,mb6.2,SNR=17
ARU Arti 77.37 334 eP P **15 57 52.3 -0.8**
ARU e 15 58 03.7
ARU e 16 00 46.5
ARU ePPP 16 02 36.3
ARU eS S 16 07 39.6 -2.9
ARU MLR MLR
comp=Z,10μm,18.0s,MS6.2
ARU MLR MLR
comp=N,5μm,20.0s,MS6.0
ARU MLR MLR
comp=E,6μm,17.0s,MS6.0
ARU Arti 77.37 334 eP P **15 57 52.1 -1.0**
MBAR Mbarara 77.66 271*d* iP P **15 57 54.2 -0.5**
GOR Gori 77.79 317 P P **15 57 57.7 +2.3**
MZRK Al-Mazaregh 77.90 310 ⇑P P **15 57 57.6 +1.6**
KARS Kars 77.93 315 eP P **15 57 59.6 +3.4**
AKH Akhalkalaki 77.98 316 P P **15 57 57.4 +0.9**
AKH S tx 16 04 57.1
LSZ Lusaka 78.13 256 P P **15 57 57.2 -0.2**
comp=E,50nm,0.8s,mb5.5,baz=92,slow=4.8,SNR=53
LSZ Lusaka 78.13 256 ⇑P P **15 57 57.4 0.0**
SNR=22
LSZ Lusaka 78.13 256 eP P **15 57 56.7 -0.7**
LSZ pmax pmax
comp=Z,73nm,0.9s,mb5.6
LSZ Lusaka 78.13 256 eP P **15 57 56.7 -0.6**
comp=Z,73nm,0.9s,mb5.6
BTMT Batman 78.14 312 eP P **15 57 57.9 +0.5**
BEST Besiri 78.19 312 iP P **15 57 56.6 -1.1**
ZEI Tsey 78.26 317 eP P **15 57 58.4 +0.3**
ZEI e*PP pP 15 58 01.8 -2.6
ZEI e 16 00 53.5
ZEI pmax pmax
comp=Z,22nm,0.6s,mb5.3
MARD Mardin 78.34 311 *i* P P **15 57 57.9 -0.6**
SFNV Sufian 78.52 310 ⇑P P **15 58 00.2 +0.7**
BNGL BINGOL 78.67 313 *i* P P **15 58 05.8 +5.5**
ERZM Erzurum 78.87 314 *i* P P **15 58 04.6 +3.1**
EZM Erzurum 78.88 314 eP P **15 58 02.4 +0.9**
DRBT Darb Altahta 78.89 310 ⇑P P **15 58 08.2 +6.6**
BINT Bingol 79.12 313 eP P **15 58 04.1 +1.3**
BCA Borcka 79.28 315 eP P **15 58 01.6 -2.1**
ZALF Zalf 79.50 306 ⇑P P **15 58 06.6 +1.7**
LBTB Lobatse 79.53 246 P P **15 58 04.6 -0.4**
comp=Z,38nm,0.9s,mb5.3,baz=120,slow=5.9,SNR=35
LBTB Lobatse 79.53 246 eP P **15 58 04.4 -0.6**
LBTB pmax pmax
comp=Z,56nm,1.0s,mb5.5
LBTB Lobatse 79.53 246 eP P **15 58 04.3 -0.7**
comp=Z,56nm,1.0s,mb5.5
JHLN Al Jahlan 79.53 309 ⇑P P **15 58 05.6 +0.6**
KIV Kislovodsk 79.56 318 ⇓P P **15 58 05.8 +0.6**
comp=Z,432nm,1.0s,mb6.3,SNR=9.9
KIV Kislovodsk 79.56 318 ⇓P P **15 58 05.6 +0.5**
SNR=26
KIV Kislovodsk 79.56 318*c* iP P **15 58 05.3 +0.1**
KIV pmax pmax
comp=Z,115nm,1.3s,mb5.7
KIV Kislovodsk 79.56 318 eP P **15 58 05.7 +0.5**
comp=Z,248nm,1.3s,mb6.0
KIV LR LR
comp=Z,4μm,20.0s,MS5.8
ASF Jabal al Asfar 79.62 305 P P **15 58 05.2 -0.3**
comp=Z,34nm,0.9s,mb5.3,baz=350,slow=3.0,SNR=22
ASF Jabal al Asfar 79.62 305 P P **15 58 05.2 -0.3**
ASF pmax pmax
comp=Z,34nm,0.9s
GOF Gofitskoye 79.78 319 eP P **15 58 06.0 -0.4**
GOF *i* S S 16 08 05.0 -3.3
GOF pmax pmax
comp=Z,340nm,1.3s,mb6.1
GOF smax
comp=N,70nm,0.8s
GOF smax
comp=E,60nm,0.8s
URFA Urfa 79.84 311 eP P **15 58 07.8 +1.1**
SALA Sala 79.92 306 ⇑P P **15 58 08.5 +1.4**
EZC Erzincan 79.92 313 eP P **15 58 09.4 +2.3**
ROOS tl_alroos 79.93 307 ⇑P P **15 58 11.2 +4.0**
ELZG Elazig 80.09 312 *i* P P **15 58 09.2 +1.2**
ATAB Bozova 80.24 311 *i* P P **15 58 09.5 +0.6**
MALT Malatya 80.43 311 eP P **15 58 09.2 -0.7**
MYA Malatya 80.44 311 eP P **15 58 06.1 -3.8**
EIL Elat 80.47 302 eP P **15 58 09.9 -0.2**
comp=E,791nm,0.8s,mb6.7
TCHB Talchebab 80.52 305 ⇑P P **15 58 14.3 +3.9**
QASN Qassioun 80.53 306 ⇑P P **15 58 09.7 -0.8**
QSPA South Pole Qui 80.57 180 eP P **15 58 09.0 -1.7**
comp=E,109nm,0.8s,mb5.8
GZT Gaziantep 80.75 310 *i* P P **15 58 12.0 +0.3**
BRBR Barbar 80.76 306 ⇑P P **15 58 14.5 +2.8**
RCY Rachaya 80.88 306 eP P **15 58 13.1 +0.8**
BIDA Albida 80.96 308 ⇑P P **15 58 14.0 +1.3**
GAZ Gaziantep 80.96 310 eP P **15 58 14.3 +1.6**
WRDH Warideh 81.04 308 ⇑P P **15 58 13.4 +0.2**
MMAI Mount Meron Ar 81.08 306 P P **15 58 13.9 +0.6**
comp=E,22nm,0.6s,mb5.2,baz=100,slow=8.6,SNR=31
MMAI LR LR 16 33 12.9
comp=E,7μm,20.8s,MS6.0,baz=135,slow=35
BHL Bhannes 81.14 307 eP P **15 58 16.2 +2.4**
BTCH Batrach 81.17 309 ⇑P P **15 58 15.4 +1.6**
DRWC Darouich 81.20 309 ⇑P P **15 58 14.2 +0.2**
SLNF Slenfeh 81.21 308 ⇑P P **15 58 14.7 +0.6**
SOC Sochi 81.39 317*c* iP P **15 58 14.1 -1.0**
SOC e 16 01 22.2
SOC ePPP 16 03 09.9
SOC *i* S S 16 08 18.6 -6.6
SOC eSS SS 16 13 38.3 -3.1
SOC pmax pmax
comp=Z,63nm,0.8s,mb5.6
SOC pmax pmax
comp=Z,155nm,2.6s,mb5.5
SOC MLR MLR
comp=Z,5μm,19.0s,MS5.8
SOC Sochi 81.39 317 eP P **15 58 14.3 -0.8**
HTY Hatay 81.44 309 eP P **15 58 17.9 +2.6**
GRSN GIRESUNGRSN 81.45 314 *i* P P **15 58 13.3 -2.0**
COBT Iskenderun 81.48 309 *i* P P **15 58 13.5 -2.0**
ARNB Al Arnab 81.49 308 ⇑P P **15 58 14.6 -1.0**
CEYT Ceyhan 82.02 310 eP P **15 58 18.5 +0.1**
SVSK Karacayir 82.02 313 eP P **15 58 19.5 +1.1**
TIXI Tiksi 82.06 6 eP P **15 58 15.7 -2.9**
TIXI e 16 01 22.7
TIXI eS S 16 08 18.7 -13
TIXI eSS SS 16 13 38.9 -12
TIXI pmax pmax
comp=Z,1μm,2.9s,mb6.3
TIXI pmax pmax
comp=Z,138nm,0.8s,mb5.9
TIXI MLR MLR
comp=Z,15μm,17.0s,MS6.4
TIXI MLR MLR
comp=N,9μm,16.0s,MS6.3
TIXI MLR MLR
comp=E,4μm,15.0s,MS6.3
TIXI Tiksi 82.06 6⇑ *i* P P **15 58 17.1 -1.5**
KOZT Kozan 82.11 310 eP P **15 58 19.1 +0.3**
TOKT Tokat 82.48 313 eP P **15 58 19.9 -0.9**
BNN Bunyan 82.52 311 eP P **15 58 21.9 +1.0**
KARA Karasisali 82.62 310 eP P **15 58 25.1 +3.5**
MERS Mersin 82.91 309 eP P **15 58 20.3 -2.7**
SUR Sutherland 82.94 238 P P **15 58 24.4 +1.3**
comp=E,468nm,1.4s,mb6.3,SNR=14
SUR Sutherland 82.94 238 P P **15 58 22.9 -0.2**
comp=E,33nm,0.8s,mb5.4,baz=90,slow=6.8,SNR=22
SUR Sutherland 82.94 238 eP P **15 58 23.9 +0.7**
comp=E,155nm,1.3s,mb5.9
KVT Kavak 83.08 313 eP P **15 58 22.7 -1.2**
MEST Erdemli 83.12 309 *i* P P **15 58 23.8 -0.3**
VRHR Novokhopersk 83.13 324 eP P **15 58 23.4 -0.7**
VRHR pmax pmax
comp=Z,210nm,0.6s,mb6.3
VRHR pmax pmax
comp=N,40nm,0.7s
VRHR pmax pmax
comp=E,90nm,1.2s
VRHR MLR MLR
comp=Z,3μm,19.0s,MS5.7
VRHR MLR MLR
comp=N,4μm,22.0s
VRHR MLR MLR
comp=E,1μm,15.0s
SMY Shemya 83.28 34 eP P **15 58 25.1 +0.2**
SMY pmax pmax
comp=Z,98nm,1.0s,mb5.8
SMY Shemya 83.28 34 eP P **15 58 25.1 +0.1**
comp=Z,98nm,1.0s,mb5.8
CSS Prodhromos 83.29 307 P P **15 58 26.7 +1.7**
comp=Z,3.4nm,1.4s
CSS Prodhromos 83.29 307 eP P **15 58 28.7 +3.7**
NVL N'lazarevskaya 83.30 199⇓ iP P **15 58 23.2 -1.8**
NVL *i* S S 16 08 41.3 -3.5
NVL *i* SS SS 16 14 26.2 +16
NVL pmax pmax
comp=Z,71nm,1.4s,mb5.5
NVL MLR MLR
comp=Z,10μm,18.6s,MS6.2
MAIT Maitri 83.33 199 eP P **15 58 24.6 -0.6**
ANN Anapa 83.36 317*c* iP P **15 58 24.4 -1.0**
ANN e 16 01 35.2
ANN e 16 08 38.9
ANN eS S 16 08 45.4 0.0
ANN eSS SS 16 14 09.5 -1.1
ANN pmax pmax
comp=Z,20nm,0.9s,mb5.2
ANN pmax pmax
comp=Z,2μm,9.8s
ANN Anapa 83.36 317 eP P **15 58 24.3 -1.1**
IKL Isikli 83.37 308 eP P **15 58 24.3 -1.1**
CORM Corum 83.83 312 eP P **15 58 28.5 +0.8**
DIKM Dikmen 83.83 314 eP P **15 58 26.6 -1.1**
CDAG Cicekdag 83.85 312 *i* P P **15 58 26.9 -0.9**
ALFC Alevga 83.92 307 P P **15 58 30.7 +2.5**
comp=Z,1.0nm,0.7s
BOYT Boyabat 84.01 314 *i* P P **15 58 28.8 +0.1**
PECR Pechory 84.05 330 eP P **15 58 27.6 -1.3**
PECR e 15 58 35.6
PECR e 16 01 42.6
PECR *i* S S 16 08 46.0 -6.3
PECR pmax pmax
comp=Z,1μm,1.6s,mb6.8
PECR smax
comp=E,4μm,10.0s
PECR smax
comp=N,6μm,15.0s
PECR MLR MLR
comp=N,5μm,16.0s,MS6.0
PECR MLR MLR
comp=E,1μm,16.0s,MS6.0
ERMK Ermenek 84.08 309 *i* P P **15 58 32.0 +3.0**
KAMT Kaman 84.26 311 eP P **15 58 28.6 -1.3**
BR131 Keskin Array S 84.42 312 eP P **15 58 30.1 -0.6**
BRTR Keskin Array B 84.42 312 P P **15 58 29.9 -0.8**
comp=E,44nm,1.0s,mb5.6,baz=128,slow=4.9,SNR=46
BRTR LR LR 16 38 09.8
comp=E,5μm,21.2s,MS5.9,baz=93,slow=37
BRTR Keskin Array B 84.42 312 P P **15 58 30.0 -0.7**
BRTR pmax pmax
comp=Z,44nm,1.0s
BRTR MLR MLR
comp=Z,5μm,21.3s
TOS Tosya 84.52 313 eP P **15 58 29.6 -1.7**
CANT Cankiri 84.69 312 eP P **15 58 31.3 -0.8**
VOR Voronezh 84.77 324 eP P **15 58 32.0 -0.5**
VOR pmax pmax
comp=N,70nm,2.0s
VOR pmax pmax
comp=E,100nm,2.0s
VOR pmax pmax
comp=Z,300nm,2.0s,mb6.1
ELDT Eldivan 84.80 312 *i* P P **15 58 32.4 -0.3**
KONT Konya--Tatoy 84.87 310 eP P **15 58 31.8 -1.2**
ANTO Ankara 85.08 312 eP P **15 58 34.2 +0.1**
ANTO Ankara 85.08 312⇑ iP P **15 58 35.6 +1.5**
ANTO Ankara 85.08 312 P P **15 58 34.1 0.0**
SNR=33
ANTO Ankara 85.08 312 eP P **15 58 33.8 -0.3**
ANTO pmax pmax
comp=Z,205nm,1.3s,mb6.1
ANTO Ankara 85.08 312 eP P **15 58 33.8 -0.3**
comp=Z,205nm,1.3s,mb6.1
LOD Lodumlu 85.11 312 eP P **15 58 33.4 -0.8**
BALT Daday 85.13 313 *i* P P **15 58 34.9 +0.5**
KDHN Kadinhani 85.21 310 *i* P P **15 58 36.3 +1.6**
SAFT Safranbolu 85.55 313 eP P **15 58 39 -0.5**
SIM Simferopol' 85.64 317*c* eP P **15 58 37.0 +0.1**
SIM eS S 16 08 57.0 -11
SIM pmax pmax
comp=Z,88nm,0.9s,mb6.0
SIM Simferopol' 85.64 317 eP P **15 58 37.3 +0.4**
AMKA Amchitka 85.72 36 eP P **15 58 37.5 +0.2**
ISP Isparta 86.25 309 eP P **15 58 38.4 -1.6**
ISP Isparta 86.25 309⇑ eP P **15 58 38.6 -1.3**
ISP Isparta 86.25 309 P P **15 58 40.1 +0.2**
comp=Z,297nm,1.9s,mb6.2
KDZE Karadeniz Ereo 86.47 313 eP P **15 58 37.1 -3.8**
HENT Hendek 86.73 312 *i* P P **15 58 42.0 -0.3**
BORA Eskisehir 86.82 311 *i* P P **15 58 46.3 +3.6**
FETY Fethiye 87.06 308 eP P **15 58 42.6 -1.3**
MOS Moscow 87.13 328*α* iP P **15 58 43.4 -0.8**
MOS *i* 16 02 08.4
MOS e 16 09 08.2
MOS *i* S S 16 09 18.9 -3.7
MOS eSS SS 16 14 57.9 -8.1
MOS pmax pmax
comp=Z,1μm,3.6s
MOS pmax pmax
comp=N,600nm,3.8s
MOS pmax pmax
comp=E,400nm,4.0s
MOS pmax pmax
comp=Z,328nm,1.5s,mb6.3
MOS smax
comp=N,5μm,4.8s
MOS smax
comp=E,2μm,5.6s
DNZL Cakiroluk 87.34 309 *i* P P **15 58 48.0 +2.8**
GDZ Gediz 87.35 310 *i* P P **15 58 47.0 +1.7**
OBN Obninsk 87.47 327 P P **15 58 45.6 -0.2**
comp=E,1μm,0.6s,SNR=11
OBN Obninsk 87.47 327*c* iP P **15 58 45.1 -0.7**
OBN e 16 02 11.1
OBN eS S 16 09 12.1 -14
OBN eSS SS 16 15 03.8 -7.2
OBN pmax pmax
comp=Z,173nm,0.8s,mb6.3
OBN Obninsk 87.47 327 eP P **15 58 45.1 -0.7**
comp=Z,662nm,1.3s,mb6.7
ADVT Abdulvahap 87.49 312 eP P **15 58 44.4 -1.6**
SNAA Sanae 87.61 197 eP P **15 58 45.6 -0.9**
SNAA e 15 58 47.7
SNAA e 15 58 48.8
SNAA e pP 15 58 51.8 -1.1
SNAA e 15 59 04.2
HRT Hereke 87.64 312 eP P **15 58 43.8 -2.9**
TSUM Tsumeb 87.64 251 P P **15 58 46.2 -0.5**
comp=Z,33nm,0.8s,mb5.6,baz=78,slow=5.0,SNR=33
TSUM Tsumeb 87.64 251 eP P **15 58 46.5 -0.2**
comp=Z,43nm,0.9s,mb5.7
ARG Arkhangelos 87.71 307 eP P **15 58 48.6 +1.6**
YLV Yalova 87.79 312 eP P **15 58 50.2 +2.8**
YER Yerkesik 87.80 308 eP P **15 58 46.2 -1.2**
GEMT Gemlik 87.90 311 eP P **15 58 47.4 -0.5**
KLMR Klimovskoe 88.13 333*c* iP P **15 58 48.4 -0.6**
KLMR e 16 02 15.6
KLMR eS S 16 09 13.5 -19
KLMR eSS SS 16 15 24.2 +3.5
KLMR pmax pmax
comp=Z,860nm,1.4s,mb6.8
KLMR pmax pmax
comp=Z,2μm,13.4s
ISK Istanbul-Kandi 88.14 312 eP P **15 58 48.6 -0.5**
KLYT Kilyos 88.20 312 eP P **15 58 40.8 -8.6**
MLSB Milas 88.23 308 eP P **15 58 49.8 +0.3**
AYDN Tasoluk 88.23 308 *i* P P **15 58 53.5 +4.0**
KARP Karpathos 88.32 306 eP P **15 58 51.0 +1.1**
AKHS Akhisar 88.56 310 *i* P sP 15 59 02.5 +2.9
AKS Akhisar 88.56 310 eP P **15 58 53.2 +2.2**
KDAG Bornova 88.87 309 *i* P P **15 58 50.6 -1.9**
IZM Izmir 88.87 309 eP P **15 58 51.0 -1.5**
BLCB Balcova 89.04 309 eP P **15 58 51.3 -2.0**
URLA Izmir 89.38 309 *i* P P **15 58 54.3 -0.6**
CANB Canakkale 89.38 311 eP P **15 58 53.2 -1.6**
MFT Murefte 89.39 311 eP P **15 58 52.8 -2.1**
PSN Preselentsi 89.40 314 eP P **15 58 59.0 +4.0**
TIRR Tirgusor 89.42 315⇑ iP P **15 58 56.5 +1.4**
TIRR Tirgusor 89.42 315 eP P **15 58 54.6 -0.5**
RKY Sarkoy-Tekirda 89.44 311 eP P **15 58 54.0 -1.2**
NPS Neapolis 89.50 306 eP P **15 58 54.8 -0.6**
AYVA Ayvalik 89.51 310 *i* P P **15 58 55.4 -0.1**
VNA1 Neumayer--Stat 89.64 197 eP P **15 58 56.5 +0.4**
VNA1 e 15 58 58.0
VNA1 e 15 59 59.0
VNA1 e 15 59 59.8
VNA1 e 15 59 08.3
KIS Kishinev 89.76 318 eP P **15 58 54.0 -2.6**
KIS e 16 02 34.0
KIS *i* 16 09 22.0
KIS *i* S S 16 09 43.0 -4.5
KIS *i* PS PS 16 10 50.0 -5.2
KIS ePPS 16 11 25.0
KIS pmax pmax
comp=Z,2μm,15.0s
KIS smax
comp=E,7μm,14.0s
KIS smax
comp=N,8μm,17.0s
KIS Kishinev 89.76 318 eP P **15 58 58.0 +1.4**
CFR Carcaliu 89.78 316⇑ iP P **15 58 57.1 +0.3**
PRK Paraskevi 89.81 310 eP P **15 58 55.5 -1.4**
HARR Harsova 89.81 315⇑ iP P **15 58 57.7 +0.8**
SANT Santorini 89.84 307 eP P **15 58 57.8 +0.8**
comp=N,244nm,1.3s,mb6.4
EDRB Edirne 90.02 312 eP P **15 58 55.8 -2.1**
BOZC Bozcaada 90.10 310 *i* P P **15 58 59.2 +1.0**
ENEZ Enez 90.22 311 eP P **15 58 58.2 -0.6**
JMB Yambol 90.27 313 eP P **15 59 02.0 +3.0**
GADA Gvkgeada 90.29 311 eP P **15 58 53.4 -5.7**
AKASG Malin Array Be 90.40 321 P P **15 58 58.6 -1.1**
comp=N,13nm,0.8s,mb5.3,baz=89,slow=4.5,SNR=23
AKASG PP PP 16 02 34.7 +0.7
comp=N,19nm,1.0s,baz=89,slow=6.2,SNR=10
AKASG SKKP 16 19 54.9
comp=N,0.6nm,0.4s,baz=208,slow=0.7,SNR=6.0
AKASG LR LR 16 49 04.9
comp=N,4μm,18.2s,MS5.9,baz=115,slow=42
AKASG Malin Array Be 90.40 321 P P **15 58 58.6 -1.1**
AKASG 16 02 34.7
AKASG pmax pmax
comp=Z,13nm,0.8s
AKASG pmax pmax
comp=Z,19nm,1.0s
AKASG MLR MLR
comp=Z,4μm,18.2s
AKASG Malin Array Be 90.40 321 P P **15 58 58.6 -1.1**
AKASG PP PP 16 02 34.7 +0.7
AKASG SKKP 16 19 54.9
AKASG LR LR 16 49 04.9
AKBB Malin Array Si 90.40 321 eP P **15 58 59.2 -0.5**
VAM Vamos 90.66 306 eP P **15 59 04.6 +3.8**
RDO Rodhopi 90.76 311 eP P **15 59 01.8 +0.5**
VRI Vrincioaia 90.90 316⇑ iP P **15 59 03.8 +1.8**
VRI Vrincioaia 90.90 316 P P **15 59 03.4 +1.4**
KDZ Kurdzhali 90.95 312 eP P **15 59 04.0 +1.8**
PVL Pavlikeni 91.33 313 eP P **15 59 05.0 +1.1**
MLR Muntele Rosu 91.36 316 LR LR 16 45 49.0
comp=Z,5μm,20.1s,MS5.9,baz=74,slow=39
MLR Muntele Rosu 91.36 316⇑ iP P **15 59 06.2 +2.1**
MLR Muntele Rosu 91.36 316 P P **15 59 06.3 +2.2**
VLI Veliai 91.90 307 eP P **15 59 02.1 -4.5**
NVR Nevrokopi 92.04 311 eP P **15 59 07.1 -0.1**
PUL Pulkovo 92.11 330 P P **15 59 06.9 -0.7**
PUL S S 16 09 38.5 -30
PUL pmax pmax
comp=Z,98nm,0.6s,mb6.3
PUL pmax pmax
comp=Z,882nm,3.5s
PUL Pulkovo 92.11 330⇓ eP P **15 59 07.5 -0.1**
MNK Minsk 92.13 325 eP P **15 59 06.0 -1.7**
MNK e 16 02 42.0
MNK e 16 09 34.0
MNK eS S 16 10 06.0 -3.2
MMB Musomiste 92.18 312 *i* P P **15 59 08.5 +0.6**
BURAR Bucovina Array 92.28 318⇑ iP P **15 59 10.4 +2.0**
JOF Joensuu 92.48 333 *ep* P **15 59 08.1 -1.2**
comp=Z,33nm,0.7s,mb5.8
JOF Joensuu 92.48 333 eP P **15 59 08.1 -1.2**
JOF pmax pmax
comp=Z,33nm,0.7s,mb5.8
VTS Vitosha 92.74 313 *i* P P **15 59 12.0 +1.5**
VTS Vitosha 92.74 313⇑ iP P **15 59 12.6 +2.1**
APA Apatity 92.97 338⇓ iP P **15 59 12.2 +0.6**
APA *i* PPP 16 04 56.0
APA *i* 16 09 42.0
APA *i* S S 16 10 14.0 -2.7
APA *i* PS PS 16 11 32.0 +1.2
APA pmax pmax
comp=Z,72nm,1.2s,mb6.0
APA MLR MLR
comp=Z,18μm,19.0s,MS6.5
EVR Evrytania 93.16 309 eP P **15 59 11.8 -0.6**
SPIA Saint Paul Isl 93.24 33 eP P **15 59 12.1 -0.7**
LVV L'vov 93.47 320 eP P **15 59 16.8 +2.9**
LVV e 16 09 36.6
LVV eS S 16 10 19.9 -1.2
LVV e 16 11 37.6
LVV *i* 16 16 36.4
GZR Gura Zlata 93.53 315⇓ iP P **15 59 15.7 +1.6**
VSU Vasula 93.59 329⇑ eP P **15 59 14.2 -0.2**
VSU Vasula 93.59 329⇑ eP P **15 59 14.3 -0.1**
KWP Kalwaria 94.28 319 eP P **15 59 23.7 +6.1**
KWP L 16 51 17.6
comp=Z,6.5nm,19.4s
BZS Buzias 94.37 315⇑ iP P **15 59 19.9 +1.9**
KOLS Kolonicke sedl 94.45 319 eP P **15 59 19.6 +1.2**
KOLS e 15 59 33.0
KOLS e 15 59 39.6
KOLS Kolonicke sedl 94.45 319⇑ eSKSp SKSac 16 09 46.7 -5.9
KOLS eSS SS 16 16 46.4 -5.4
KOLS Kolonicke sedl 94.45 319 eP P **15 59 19.6 +1.2**
KOLS e 15 59 33.0
KOLS e 15 59 39.6
KOLS eS SKSac 16 09 46.7 -5.9
KOLS eSS SS 16 16 46.4 -5.4
KOLS pmax pmax
comp=Z,29nm,1.2s,mb5.6
KOLS Kolonicke sedl 94.45 319 eP P **15 59 19.6 +1.2**
comp=Z,29nm,1.2s,mb5.6
KOLS e 15 59 33.0
KOLS e 15 59 39.6
KOLS eS SKSac 16 09 46.7 -5.9
KOLS eSS SS 16 16 46.4 -5.4
KOLS LR LR
comp=Z,3μm,20.2s,MS5.8
FIA1 FINESS Array S 94.52 331 eP P **15 59 19.0 +0.3**
FINES FINESS Array B 94.52 331 P P **15 59 19.0 +0.3**
comp=Z,12nm,0.7s,mb5.4,baz=109,slow=5.1,SNR=35
FINES PKKP PKKPbc 16 16 18.7 +1.6
comp=Z,1.1nm,0.7s,baz=194,slow=3.9,SNR=6.0
FINES LR LR 16 47 30.2
comp=Z,5μm,21.0s,MS6.0,baz=281,slow=39
FINES FINESS Array B 94.52 331 P P **15 59 19.0 +0.3**
FINES pmax pmax
comp=Z,12nm,0.7s
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES MLR MLR
comp=Z,5μm,21.0s
FINES FINESS Array B 94.52 331 P P **15 59 19.0 +0.3**
FINES PKKP PKKPbc 16 16 18.7 +1.6
FINES LR LR 16 47 30.2
KAF Kangasniemi 94.55 332 *ep* P **15 59 18.3 -0.5**

comp=Z,56nm,0.9s,mb6.0
KAF Kangasniemi 94.55 332 *e*P **P** **15 59 18.3 -0.5**
KAF pmax pmax
comp=Z,56nm,0.9s,mb6.0
SUW Suwalki 94.71 324 *e*P **P** **15 59 20.4 +0.8**
SUW L 16 48 15.0
comp=Z,8.8nm,19.8s
CRVS Cervenica-Dubn 94.98 319⇑ *e*SKSp SKSac 16 10 02.4 +7.0
CRVS *e*SS SS 16 16 53.0 -6.3
CRVS Cervenica-Dubn 94.98 319 *e*P sP 15 59 34.3 +4.9
CRVS *e*PP PP 16 03 07.8 -2.1
CRVS *e*S SKSac 16 10 02.4 +7.0
CRVS *e*SS SS 16 16 53.0 -6.3
CRVS LR LR
comp=Z,3µm,21.3s,MS5.8
AKUT Akutan 95.17 36 *e*P **P** **15 59 20.8 -0.8**
KEV Kevo 95.79 340 *e*p **P** **15 59 21.7 -2.8**
comp=Z,11nm,1.0s,mb5.2
KEV Kevo 95.79 340 *e*P **P** **15 59 21.7 -2.8**
KEV pmax pmax
comp=Z,11nm,1.0s,mb5.2
NIE Niedzica 95.80 319 *e*P **P** **15 59 21.5 -3.0**
PSZ Piszkesteto 95.87 317⇓ *e*P **P** **15 59 18.0 -6.9**
OJC Ojcow 96.23 320 *e*P **P** **15 59 25.9 -0.6**
OJC *e*pP pP 15 59 35.2 +2.3
OJC *e*PP PP 16 03 17.8 -1.9
OJC *e*SKSac SKSac 16 10 00.9 -1.2
OJC *e*SP SP 16 11 59.1 -5.1
OJC *e*SS SS 16 17 09.9 -7.2
OJC L 16 50 49.3
comp=Z,28nm,18.0s
ARCES ARCESS Array B 96.26 339 P **P** **15 59 25.9 -0.8**
comp=Z,8.1nm,0.6s,mb5.3,baz=96,slow=5.2,SNR=47
ARCES LR LR 16 48 43.9
comp=Z,13µm,18.8s,MS6.4,baz=112,slow=39
ARCES ARCESS Array B 96.26 339 P **P** **15 59 25.9 -0.7**
ARCES pmax pmax
comp=Z,8.0nm,0.6s
ARCES MLR MLR
comp=Z,13µm,18.8s
ARE0 ARCESS Array S 96.26 339 *e*P **P** **15 59 25.9 -0.8**
PKSM Moragy 96.51 316 P **P** **15 59 34.6 +6.8**
VYHS Vyhne 96.65 318⇑ *e*SKSp SKSac 16 09 56.1 -8.1
VYHS *e*SS SS 16 17 04.2 -19
VYHS Vyhne 96.65 318 *e*P **P** **15 59 31.4 +3.0**
VYHS *e* pP 15 59 38.2 +3.4
VYHS *e* 15 59 50.2
VYHS *e* 16 03 19.5
VYHS *e*S SKSac 16 09 56.1 -8.1
VYHS pmax pmax
comp=Z,15nm,1.6s,mb5.2
VYHS Vyhne 96.65 318 *e*P **P** **15 59 31.4 +3.0**
comp=Z,15nm,1.6s,mb5.2
VYHS *e* pP 15 59 38.2 +3.4
VYHS *e* 15 59 50.2
VYHS *e*PP PP 16 03 19.5 -3.4
VYHS *e*S SKSac 16 09 56.1 -8.1
VYHS *e*SS SS 16 17 04.2 -19
VYHS LR LR
comp=Z,3µm,20.3s,MS5.8
VYHS *e*sP sP 15 59 38.2 +1.2
VYHS *e* 15 59 50.2
VYHS *e*PP PP 16 03 19.5 -3.4
VYHS Vyhne 96.65 318 *e* **P** **15 59 31.4 +3.0**
OKC Ostrava-Krasne 97.24 319 *e*PP **P** **15 59 41.3 +10**
OKC Ostrava-Krasne 97.24 319 *e*PP PP 16 03 27.1 -0.4
OKC *e*SKS 16 10 06.0
OKC *e*SS SS 16 17 26.8 -4.6
OKC AMS AMS 16 51 10.0
MORC Moravsky Berou 97.63 319 *e*P **P** **15 59 30.8 -2.0**
ZST Bratislava 97.77 318 *e*P **P** **15 59 34.1 +0.7**
ZST *e*PP PP 16 03 29.8 -1.7
ZST Bratislava 97.77 318⇑ *e*SKSp SKSac 16 09 56.1 -14
ZST Bratislava 97.77 318 *e*P **P** **15 59 34.1 +0.7**
ZST *e*PP PP 16 03 29.8 -1.7
ZST LR LR
comp=Z,2µm,16.9s,MS5.8
VRAC Vranov 98.20 319 LR LR 16 52 36.8
comp=Z,5µm,18.6s,MS6.0,baz=291,slow=41
DPC Dobruska-Polom 98.46 320 *e*PP PP 16 03 33.9 -2.9
DPC *e*SKS 16 10 12.2
DPC *ex* x 16 17 39.9
DPC AMS AMS 16 51 40.0
DPC Dobruska-Polom 98.46 320 *e*PP PP 16 03 33.9 -2.9
DPC *e*S 16 10 12.2
DPC *e*SS SS 16 17 39.9 -8.6
KSP Ksiaz 98.52 320 *e*P sP 15 59 46.9 +1.4
KSP L 16 51 14.6
comp=Z,12nm,20.4s
KSP Ksiaz 98.52 320 *e*P **P** **15 59 36.3 -0.5**
KSP *e* 16 03 32.0
KSP *e* 16 10 12.5
KSP *e*S S 16 11 01.0 -3.7
KSP *e*SS SS 16 17 39.0 -10
KSP MLR MLR
comp=Z,14µm,20.4s,MS6.4
PPT Papeete 98.53 109 *e*SS SS 16 17 49.3 -0.3
comp=Z,5µm,26.0s
PPT *e*LQ 16 27 22.2
comp=Z,9µm,29.0s
PPT *e*LR LR 16 31 39.0
comp=Z,10µm,25.0s
TRO Tromso 98.56 339 *e* **P** **15 59 42.5 +5.5**
TRO *e*PP PP 16 03 35.9 -1.7
TRO *e*SKS 16 10 05.3
TRO AMS AMS 16 50 19.4
comp=Z,12µm,18.8s,MS6.4
CONA Conrad Observa 98.57 317⇑ *i*Pdiff **P** **15 59 40.0 +2.9**
comp=Z,10nm,1.7s,mb5.1
CONA Conrad Observa 98.57 317 PP 16 03 38.1 +0.5
comp=Z,43nm,1.8s
UPC Upice 98.67 320 *e*PP PP 16 03 34.9 -3.5
UPC *e*SKS 16 10 12.9
UPC *e*SS SS 16 17 50.1 -1.4
CRES Cresnjev 98.68 315 *e*Pdiff **P** **15 59 40.7 +3.1**
CRES *e*PP PP 16 03 39.1 +0.6
CRES *e* 16 04 57.5
CRES *e* 16 05 56.4
CRES *e*Sdiff S 16 11 01.6 -4.5
DOBS Dobrina 98.70 315 *e*Pdiff **P** **15 59 40.3 +2.7**
DOBS *e* 15 59 48.5
DOBS *e*SKSac SKSac 16 10 11.7 -3.1
DOBS *e*Sdiff S 16 11 01.3 -4.9
DOBS *e*SS SS 16 17 59.7 +7.8
ARSA Arzberg 98.75 316⇑ *i*P **P** **15 59 41.2 +3.4**
comp=Z,21nm,1.4s,mb5.5
ARSA *i* 16 03 34.0
VAE Valguarnera 98.76 307 LR LR 16 49 32.5
comp=Z,2µm,18.4s,MS5.6,baz=24,slow=39
BJO Bjornoya 98.79 344 *e*PP PP 16 03 37.6 -1.8
BJO *e*SKS 16 10 13.1
BJO AMS AMS 16 52 19.6
comp=Z,12µm,21.2s,MS6.4
TREC Trest 98.92 319 *e*PP PP 16 03 36.1 -4.2
TREC *e*SKS 16 10 14.7
TREC *e*SS SS 16 17 52.6 -2.4
TREC AMS AMS 16 54 10.0
PDKS Podkum 99.02 315 *e*Pdiff **P** **15 59 42.3 +3.2**
PDKS *e* pP 15 59 49.5 +4.0
PDKS *e*PP PP 16 03 41.7 +0.6
PDKS *e* 16 05 53.1
PDKS *e*SKSac SKSac 16 10 15.3 -1.0
PDKS *e*SS SS 16 17 57.3 +1.0
OBKA Obir 99.36 316⇑ *i*P **P** **15 59 49.4 +8.8**
comp=Z,18nm,1.4s,mb5.4
OBKA Obir 99.36 316⇑ *i* PP 16 03 41.9 -1.8
comp=Z,28nm,1.3s
OBKA Obir 99.36 316 PP 16 03 41.9 -1.8
comp=Z,28nm,1.3s
SPB4 Spitsbergen Ar 99.58 348 *e*P **P** **15 59 41.7 +0.2**
PRU Pruhonice 99.58 319 *e*PP PP 16 03 38.9 -6.5
PRU *e*SKS 16 10 16.2
PRU *e*SS SS 16 17 57.2 -7.0
PRU AMS AMS 16 52 40.0
PVCC Panska Ves 99.59 320 *e*PP PP 16 03 38.4 -7.1
PVCC *e*SKS 16 10 17.2
PVCC *e*SS SS 16 17 59.4 -5.0
PVCC AMS AMS 16 51 30.0
BSD Bornholm Skovb 99.61 324 *i* P Pdif 15 59 41.5 -0.2
BSD *i* 16 03 40.1
BSD *i* S 16 10 18.9
BSD *i* 16 11 10.9
BSD
comp=Z,6µm,19.0s
BSD Bornholm Skovb 99.61 324 *i* P Pdif 15 59 41.5 -0.2
BSD *i* 16 03 40.1
BSD *i* S 16 10 18.9
BSD *i* 16 11 10.9
MOA Molln 99.64 317⇑ *i*P Pdif 15 59 44.3 +2.5
comp=Z,14nm,1.2s
MOA *i* 16 03 45.7
BRG Berggiesshubel 100.01 320 *e*Pdiff Pdif 15 59 44.5 +1.1
BRG *e*PP PP 16 03 46.9 -1.7
BRG *e*PPP 16 06 01.6
BRG Berggiesshubel 100.01 320 *e*P Pdif 15 59 46.5 +3.1
comp=Z,4.0nm,1.2s
BRG *e* 15 59 50.0
comp=Z,11nm,1.6s
BRG Berggiesshubel 100.01 320 PP PP 16 03 46.0 -2.6
BRG *e* 16 04 05.7
comp=Z,11nm,1.2s
BRG SKS 16 10 21.0
BRG S Sdif 16 11 16.0 -1.2
BRG SS SS 16 17 54.0 -16
BRG
comp=N,4µm,17.9s
BRG
comp=E,2µm,18.1s
BRG
comp=Z,2µm,17.0s
BRG Berggiesshubel 100.01 320 *e*P Pdif 15 59 46.5 +3.1
BRG pmax pmax
comp=Z,4.0nm,1.2s
BRG pmax pmax
comp=Z,11nm,1.6s
GEC2 GERESS Array S 100.07 318 *e*Pdiff Pdif 15 59 44.4 +0.7
GEC2 *e*PP PP 16 03 47.5 -1.6
GEC2 *e*PPP 16 06 02.2
GERES GERESS Array B 100.07 318 P Pdif 15 59 44.2 +0.4
comp=Z,0.4nm,0.3s,baz=83,slow=32,SNR=6.7
GERES PP PP 16 03 50.7 +1.6
comp=Z,10nm,1.2s,baz=90,slow=6.7,SNR=4.8
GERES GERESS Array B 100.07 318 P Pdif 15 59 44.2 +0.5
GERES 16 03 50.7
GERES pmax pmax
comp=Z,11nm,1.2s
KHC Kasperske Hory 100.16 318 *e*PP PP 16 03 49.5 -0.3
KHC *e*SKS 16 10 19.4
KHC *ex* x 16 17 53.9
KHC AMS AMS 16 57 10.0
RUE Ruedersdorf 100.18 322 *e*Pdiff Pdif 15 59 44.7 +0.5
RUE *e*PP PP 16 03 47.4 -2.5
RUE *e*PPP 16 06 01.7
KBA Koelnbreinsper 100.22 316⇑ *i*P Pdif 15 59 48.6 +4.2
KBA *i* 16 03 47.2
KBA pmax pmax
comp=Z,13nm,1.8s
KBA Koelnbreinsper 100.22 316⇑ *i*P Pdif 15 59 48.6 +4.2
comp=Z,13nm,1.8s
KBA *i* 16 03 47.2
HFS Hagfors 100.42 330 P Pdif 15 59 46.1 +0.8
comp=Z,9.8nm,1.0s,baz=133,slow=6.3,SNR=6.6
HFS PP PP 16 03 52.9 +1.1
comp=Z,11nm,0.9s,baz=76,slow=6.3,SNR=4.1
HFS Hagfors 100.42 330 P Pdif 15 59 46.1 +0.8
HFS 16 03 52.9
HFS pmax pmax
comp=Z,10.0nm,1.0s
HFS pmax pmax
comp=Z,11nm,0.9s
KBS Kingsbay 100.43 349 *e* Pdif 15 59 50.0 +4.7
KBS *e*PP PP 16 03 47.3 -4.5
KBS AMS AMS 16 54 13.0
comp=Z,8µm,16.6s,MS6.3
RGN Rugen 100.52 324 *e*Pdiff Pdif 15 59 46.8 +1.1
RGN *e*PP PP 16 03 50.4 -2.1
RGN *e*PPP 16 06 04.5
CLL Collm 100.62 321 *e*Pdiff Pdif 15 59 52.1 +5.9
CLL *e*PP PP 16 03 52.1 -1.1
CLL *e*PPP 16 06 07.3
CLL *e*SKSac SKSac 16 10 27.4 +3.2
CLL *e*Sdiff Sdif 16 11 16.5 -5.7
CLL *e*PS PS 16 12 58.0 +3.9
CLL *e*PPS 16 13 42.0
CLL *e*SS SS 16 18 24.4 +5.7
CLL *e*SSS 16 22 24.6
CLL *e*L 16 57 55.2
comp=Z,6µm,20.0s
CLL Collm 100.62 321 *i* PP PP 16 03 53.1 -0.1
CLL *e*PPP 16 06 04.0
CLL *e* 16 10 23.0
CLL *e* 16 11 16.0
CLL *e*PS PS 16 12 54.0 -0.1
CLL *e*PPS 16 13 42.0
CLL *e*SS SS 16 18 08.0 -11
CLL *e* 16 19 59.0
CLL Collm 100.62 321 *e*P Pdif 15 59 52.0 +5.8
comp=Z,283nm,3.4s
CLL *i* 16 03 53.1
CLL *e* 16 10 23.0
CLL *e*S Sdif 16 11 16.0 -6.2
CLL pmax pmax
comp=Z,283nm,3.4s
CLL MLR MLR
comp=Z,6µm,16.0s,MS6.2
CLL Collm 100.62 321 *e*Pdif Pdif 15 59 52.0 +5.8
comp=Z,283nm,3.4s
CLL *e* 16 00 16.0
CLL *i* PP PP 16 03 53.1 -0.1
CLL *e*SKS 16 10 23.0
CLL *e*Sdif Sdif 16 11 16.0 -6.2
CLL LR LR
comp=Z,6µm,16.0s,MS6.2
WET Wettzell 100.62 318 *e*Pdiff Pdif 15 59 47.5 +1.3
WET *e*PP PP 16 03 51.8 -1.5
WET *e*PPP 16 06 06.6
TANN Tannenbergstha 100.93 320 *e*Pdiff Pdif 15 59 48.9 +1.3
TANN *e*PP PP 16 03 54.1 -1.5
TANN *e*PPP 16 09 09.0
NKC Novy Kostel 100.94 319 *e*PP PP 16 03 54.0 -1.7
NKC *e*SKS 16 10 25.0
NKC *ex* x 16 18 13.5
NKC AMS AMS 16 57 40.0
COP Copenhagen 101.05 325 *e*S SKSac 16 10 12.7 -14
COP *e* 16 11 08.5
COP *i* 16 18 22.1
COP
comp=Z,2µm,19.0s
COP Copenhagen 101.05 325 *i* P Pdif 15 59 46.8 -1.3
COP LR LR
comp=Z,2µm,19.0s,MS5.6
ROTZ Rotzenmuhle 101.08 319 *e*Pdiff Pdif 15 59 49.7 +1.5
ROTZ *e*PP PP 16 03 55.5 -1.2
ROTZ *e*PPP 16 06 10.3
MANZ Manzenberg 101.15 319 *e*Pdiff Pdif 15 59 49.9 +1.4
MANZ *e*PP PP 16 03 55.9 -1.4
MANZ *e*PPP 16 06 10.7
NSS Namsos 101.19 334 *e*PP PP 16 03 58.9 +1.4
NSS *e*SKS 16 10 26.3
NSS AMS AMS 16 52 15.8
comp=Z,9µm,20.5s,MS6.3
WTTA Wattenberg 101.39 316⇓ *i*P Pdif 16 00 00.1 +10
comp=Z,16nm,1.5s
WTTA Wattenberg 101.39 316⇑ *i* PP 16 04 01.2 +2.1
comp=Z,45nm,1.6s
WTTA Wattenberg 101.39 316⇑ *e*Pdiff Pdif 15 59 51.8 +2.2
comp=Z,16nm,1.5s
WTTA Wattenberg 101.39 316 PP 16 04 01.2 +2.1
comp=Z,45nm,1.6s
MOX Moxa 101.48 320 *e*Pdiff Pdif 15 59 51.2 +1.2
MOX *e*PP PP 16 03 58.2 -1.5
MOX *e*PPP 16 06 13.0
MOX Moxa 101.48 320 *e*P Pdif 15 59 51.7 +1.7
MOX *e* 16 03 58.0
MOX pmax pmax
comp=Z,21nm,1.6s
MOX MLR MLR
comp=Z,5µm,19.0s,MS6.0
MOX Moxa 101.48 320 *e*Pdif Pdif 15 59 51.7 +1.7
comp=Z,21nm,1.6s
MOX *e*PP PP 16 03 58.0 -1.7
MOX LR LR
comp=Z,5µm,19.0s,MS6.0
MOX *e*PP PP 16 03 58.0 -1.7
MOX
comp=Z,5µm,19.0s
MOX Moxa 101.48 320 *e*PDIFF Pdif 15 59 51.7 +1.7
comp=Z,21nm,1.6s
NB2 NORSAR Subarra101.64 330 Pdif Pdif 15 59 48.8 -1.9
comp=Z,7.7nm,1.0s,baz=88,slow=4.4
NOA NORSAR Array B 101.64 330 P Pdif 15 59 50.8 +0.1
comp=Z,4.3nm,1.0s,baz=89,slow=4.7,SNR=5.6
NOA PP PP 16 04 00.5 -0.4
comp=Z,4.5nm,0.8s,baz=86,slow=7.0,SNR=4.5
NOA NORSAR Array B 101.64 330 P Pdif 15 59 50.8 +0.1
NOA 16 04 00.5
NOA pmax pmax
comp=Z,4.0nm,1.0s
NOA pmax pmax
comp=Z,5.0nm,0.8s
FUR Furstenfeldbru 101.66 317 *e*Pdiff Pdif 15 59 52.1 +1.3
FUR *e*PP PP 16 03 59.9 -1.2
FUR *e*PPP 16 06 14.4
GRA1 Grafenberg Arr 101.72 319 *e*Pdif Pdif 15 59 52.4 +1.3
GRA1 *e*PP PP 16 04 00.5 -1.0
GRA1 *e*PPP 16 06 15.2
GRA1 *e*SKSac SKSac 16 10 30.8 +1.3
GRA1 *e*Sdif Sdif 16 11 32.8 +1.4
GRA1 *e*SS SS 16 18 37.7 +3.7
GRA1 LR LR
comp=Z,4µm,21.0s,MS5.9
GRF Grafenberg Arr 101.72 319 *e*Pdiff Pdif 15 59 52.4 +1.3
GRF *e*PP PP 16 04 00.5 -1.0
GRF *e*PPP 16 06 15.2
GRF *e*SKSac SKSac 16 10 30.8 +1.3
GRF *e*Sdiff Sdif 16 11 32.8 +1.4
GRF *e*SS SS 16 18 37.7 +3.7
GRF *e*L 16 52 41.9
comp=Z,4µm,21.0s
GRF Grafenberg Arr 101.72 319 *e*P Pdif 15 59 52.4 +1.3
GRF *e* 16 04 00.5
GRF *e*PPP 16 06 15.2
GRF *e*S Sdif 16 11 32.8 +1.4
GRF *e*SS SS 16 18 37.7 +3.7
GRFO Grafenberg 101.72 319 *e*PP PP 16 04 01.9 +0.3
GRFO Grafenberg 101.72 319 *e*PP PP 16 04 01.9 +0.3
IMA2 Indian Mountai 101.81 24 *e*Pdif Pdif 15 59 51.9 +0.5
CLZ Clausthal 102.26 321 *e*Pdiff Pdif 15 59 54.7 +1.2
CLZ *e*PP PP 16 04 04.0 -1.7
CLZ *e*PPP 16 06 18.7
BSEG Bad Segeberg 102.28 323 *e*Pdiff Pdif 15 59 53.5 0.0
BSEG *e*PP PP 16 04 04.6 -1.1
BSEG *e*PPP 16 06 18.2
KONO Kongsberg 102.49 329 *e* Pdif 15 59 57.0 +2.5
KONO *e*PP PP 16 03 59.5 -7.9
KONO *e*SKS 16 10 29.8
UBBA Unterbreizbach 102.50 320 *e*Pdiff Pdif 15 59 55.8 +1.2
UBBA *e*PP PP 16 04 06.8 -0.7
UBBA *e*PPP 16 06 21.0
DAVA Damuels 102.59 316⇑ *i*P Pdif 16 00 02.3 +7.4
comp=Z,12nm,1.3s
DAVA Damuels 102.59 316⇓ *i* PP 16 04 03.3 -4.8
comp=Z,42nm,1.0s
DAVA Damuels 102.59 316 PP 16 04 03.3 -4.8
comp=Z,42nm,1.0s
MUD Monsted U'grnd 102.86 326 *i* P Pdif 16 00 05.1 +9.0
MUD *i* 16 04 12.3
MUD *i* S SKSac 16 10 38.0 +3.1
MUD *i* 16 11 44.8
MUD
comp=Z,5µm,18.0s
MUD Monsted U'grnd 102.86 326 *i* P Pdif 16 00 05.1 +9.0
MUD *i* 16 04 12.3
MUD *i* S SKSac 16 10 38.0 +3.1
MUD *i* 16 11 44.8
STU Stuttgart 103.04 318 *e*Pdiff Pdif 15 59 58.2 +1.2
STU *e*PP PP 16 04 10.5 -1.0
STU *e*PPP 16 06 25.2
MOL Molde 103.28 332 *e*PP PP 16 04 14.8 +1.6
MOL *e*SS SS 16 18 57.1 +1.5
TNS Taunus Mts 103.51 319 *e*Pdiff Pdif 16 00 00.5 +1.5
TNS *e*PP PP 16 04 14.7 -0.3
TNS *e*PPP 16 06 29.4
BFO Black Forest 103.63 317 *e*Pdiff Pdif 16 00 00.9 +1.4
BFO *e*PP PP 16 04 14.9 -1.0
BFO *e*PPP 16 06 29.9
HLG Helgoland 103.70 323 *e*Pdiff Pdif 16 00 00.9 +1.0
HLG *e*PP PP 16 04 17.3 +0.9
HLG *e*PPP 16 06 31.8
IBBN Ibbenburen 103.87 322 *e*Pdiff Pdif 16 00 01.7 +1.1
IBBN *e*PP PP 16 04 17.2 -0.4
IBBN *e*PPP 16 06 32.1
MCK McKinley 104.04 27 *e*P Pdif 16 00 01.9 +0.5
MCK pmax pmax
comp=Z,9.0nm,1.2s
MCK McKinley 104.04 27 *e*Pdif Pdif 16 00 01.9 +0.5
comp=Z,8.8nm,1.2s
BUG Bochum--Univer 104.21 321 *e*Pdiff Pdif 16 00 03.5 +1.4
BUG *e*PP PP 16 04 19.3 -0.9
BUG *e*PPP 16 06 33.9
CDF Champ du Feu 104.33 318 *e*PKIKP PKiKP 16 04 15.9 -3.2
ECH Echery 104.41 317 *e*P PKiKP 16 04 11.5 -7.8
MOF Molkenrain 104.44 317 *e*P PKiKP 16 04 11.5 -7.9
BER Bergen 104.57 330 *e* Pdif 16 00 12.8 +9.1
BER *e*PP PP 16 04 21.0 -1.8
BER *e*SKS 16 10 40.4
BER AMS AMS 16 53 49.5
comp=Z,7µm,17.1s,MS6.3
HINF Hinteralfeld 104.63 317 *e*PKIKP PKiKP 16 04 16.5 -3.2
LOMF Lomont 104.66 316 *e*P PKiKP 16 04 11.5 -8.3
LPG La Plagne 104.77 315 *e*PKIKP PKiKP 16 04 16.9 -3.1
comp=Z,6.6nm,0.8s
MBDF Montbardon 104.78 314 *e*PKIKP PKiKP 16 04 16.8 -3.2
comp=Z,6.9nm,0.8s
LPL La Plagne 104.79 315 *e*PKIKP PKiKP 16 04 16.8 -3.2
comp=Z,4.4nm,0.6s
FRF La Foret Royal 104.89 313 *e*PKIKP PKiKP 16 04 16.9 -3.3
comp=Z,37nm,1.2s
WLF Walferdange 105.01 319 *e*Pdiff Pdif 16 00 08.0 +2.3
WLF *e*PP PP 16 04 26.2 +0.1
WLF *e*PPP 16 06 41.1
CABF La Chapelle 105.20 316 *e*PKIKP PKiKP 16 04 17.4 -3.4
comp=Z,19nm,1.1s
VIVF Saint-Julien-l 106.27 314 *e*PKIKP PKiKP 16 04 19.7 -3.0
SMF Signal de Mont 106.74 316 *e*PKIKP PKiKP 16 04 20.4 -3.2
LASF Ste Croix 106.89 313 *e*PKIKP PKiKP 16 04 21.1 -2.8
SSF Saint Saulge 106.94 316 *e*PKIKP PKiKP 16 04 21.2 -2.8
AVF Avril sur Loir 107.07 316 *e*PKIKP PKiKP 16 04 21.3 -2.9
DAG Danmarks Havn 107.17 349 *i* P Pdif 16 00 14.0 -1.3
DAG Danmarks Havn 107.17 349 *e*P Pdif 16 00 14.0 -1.3
JMIC Jan Mayen 107.45 342 *e* Pdif 16 00 19.8 +3.2
JMIC *e*PP PP 16 04 43.0 -1.1
JMIC AMS AMS 16 55 22.4
comp=Z,4µm,16.1s,MS6.1
JMIC Jan Mayen 107.45 342 *e*P Pdif 16 00 19.8 +3.2
JMIC *e*PP PP 16 04 43.0 -1.1
JMIC *i* 16 04 47.3
JMIC LR LR
comp=Z,4µm,16.1s,MS6.1
CAF Calviac 108.11 314 *e*PKIKP PKiKP 16 04 22.6 -3.6
TOA0 Torodi Ar. Sit 108.17 281 *e*P PKiKP 16 04 26.4 +0.1
TORD Torodi Ar. Bea 108.17 281 Pdiff Pdif 16 00 19.6 -0.2
comp=Z,0.2nm,0.6s,baz=130,slow=35,SNR=2.8
TORD PKiKP PKiKP 16 04 26.3 +0.1
comp=Z,1.8nm,0.5s,baz=60,slow=1.5,SNR=18
TORD PP PP 16 04 49.8 +0.3
comp=Z,1.6nm,0.6s,baz=102,slow=0.8,SNR=3.5
TORD PKKPbc PKKPbc 16 15 39.4 +1.9
comp=Z,2.7nm,0.8s,baz=299,slow=4.2,SNR=9.5
TORD Torodi Ar. Bea 108.17 281 Pdif Pdif 16 00 19.6 -0.2
TORD PKPdf PKiKP 16 04 26.3 +0.1
TORD PP PP 16 04 49.8 +0.3
TORD PKKPbc PKKPbc 16 15 39.4 +1.9
RJF Les Rejaudoux 108.47 315 *e*PKIKP PKiKP 16 04 23.4 -3.4
RJF *e*R
comp=Z,5µm,22.0s
RJF Les Rejaudoux 108.47 315 *e*PKPdf PKiKP 16 04 23.4 -3.4
RJF LR LR
comp=Z,5µm,22.0s,MS6.1
INK Inuvik 108.92 20 PKKPbc PKKPbc 16 15 35.0 -0.1

	comp=Z,2.0nm,0.6s,baz=108,slow=9.1,SNR=3.4						
TAOE	**Nuku Hiva Isla**	**109.44**	**103**	*e*SS	SS	16 20 21.5	+2.1
	comp=Z,18μm,25.7s						
TAOE				*e*LR	LR	16 36 49.5	
	comp=Z,12μm,23.5s						
EKA	**Eskdalemuir Ar**	**109.89**	**326**	Pdiff	Pdif	16 00 29.2	+1.9
	comp=Z,1.2nm,1.0s,baz=45,slow=8.4,SNR=3.1						
EKA				PKiKP	PKiKP	16 04 30.8	+1.3
	comp=Z,5.5nm,1.1s,baz=76,slow=1.9,SNR=7.3						
EKA				PP	PP	16 04 59.6	-2.3
	comp=Z,2.6nm,0.8s,baz=79,slow=7.7,SNR=3.7						
EKA	**Eskdalemuir Ar**	**109.89**	**326**	P	Pdif	16 00 29.2	+1.8
EKA						16 04 59.6	
EKA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
EKA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
EKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
RKT	**Rikitea**	**110.16**	**119**	*e*PP	PP	16 05 00.5	-3.3
	comp=Z,969nm,37.0s						
RKT	**Rikitea**	**110.16**	**119**	*e*PS	PS	16 14 29.7	-3.4
	comp=Z,2μm,26.2s						
RKT	**Rikitea**	**110.16**	**119**	*e*SS	SS	16 20 37.5	+8.5
	comp=Z,4μm,31.8s						
RKT				*e*LR	LR	16 37 05.3	
	comp=Z,10μm,23.5s						
QUIF	**Quistinic**	**111.33**	**318**	*e*PKIKP	PKiKP	16 04 29.7	-2.5
SCO	**Scoresbysund**	**111.58**	**344**	*i* P	PP	16 05 14.8	+0.8
	comp=Z,2.4nm,0.9s						
ESDC	**Sonseca Array**	**113.10**	**309**	PP	PP	16 05 21.8	-3.2
	comp=Z,0.3nm,0.3s,baz=67,slow=6.9,SNR=4.6						
DLBC	**Dease Lake**	**114.25**	**29**	*e*PKiKP	PKiKP	16 04 37.6	-0.2
YKA	**Yellowknife Ar**	**118.66**	**21**	PKP	PKPdf	16 04 45.7	-0.6
	comp=Z,10nm,0.7s,baz=331,slow=1.9,SNR=33						
YKA				PP	PP	16 06 04.3	+0.4
	comp=Z,5.5nm,1.0s,baz=312,slow=6.2,SNR=4.0						
YKA				PKKPbc	PKKPbc	16 15 01.6	-0.5
	comp=Z,1.6nm,0.9s,baz=130,slow=3.1,SNR=9.8						
YKA				SKKPbc		16 18 51.9	
	comp=Z,0.8nm,0.8s,baz=140,slow=3.1,SNR=4.0						
YKA	**Yellowknife Ar**	**118.66**	**21**	PKIKP	PKPdf	16 04 45.7	-0.6
YKA						16 06 04.3	
YKA				pmax	pmax		
	comp=Z,11nm,0.7s						
YKA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA	**Yellowknife Ar**	**118.66**	**21**	PKP	PKPdf	16 04 45.7	-0.6
YKA				PP	PP	16 06 04.3	+0.4
YKA				PKKPbc	PKKPbc	16 15 01.6	-0.5
YKA				SKKPbc		16 18 51.9	
A05A	**Maple Falls**	**122.45**	**37**	⇑P	PKPdf	16 04 54.5	+0.9
	baz=122						
B05A	**Bryant**	**122.77**	**38**	⇓P	PKPdf	16 04 55.1	+0.9
	baz=123						
G03A	**Yamhill**	**123.21**	**41**	⇓P	PKPdf	16 04 56.1	+1.1
	baz=123						
C05A	**Tolt Reservoir**	**123.25**	**38**	⇑P	PKPdf	16 04 55.5	+0.4
	baz=123						
F04A	**Amboy**	**123.53**	**40**	⇓P	PKPdf	16 04 55.8	+0.2
	baz=124						
E05A	**Randle**	**123.69**	**40**	⇑P	PKPdf	16 04 56.0	+0.1
	baz=124						
I03A	**Eugene**	**123.72**	**43**	⇑P	PKPdf	16 04 57.8	+1.8
	baz=124						
J02A	**Umpqua**	**123.74**	**44**	⇑P	PKPdf	16 04 57.6	+1.6
	baz=124						
K02A	**Glendale**	**124.01**	**44**	⇓P	PKPdf	16 04 56.6	+0.1
	baz=124						
J03A	**Ideyld Park**	**124.15**	**43**	⇑P	PKPdf	16 04 57.4	+0.6
	baz=124						
H04A	**Detroit Lake**	**124.17**	**42**	⇑P	PKPdf	16 04 57.7	+0.8
	baz=124						
HUMO	**Hull Mountain**	**124.43**	**44**	*e*PKPdf	PKPdf	16 04 59.7	+2.4
HUMO	**Hull Mountain**	**124.43**	**44**	⇓P	PKPdf	16 04 58.3	+0.9
	baz=124						
N02C	**Big Bar**	**124.81**	**46**	⇓P	PKPdf	16 04 58.8	+0.7
	baz=125						
YBH	**Yreka Blue Hor**	**124.92**	**45**	PKPdf	PKPdf	16 04 58.0	-0.3
YBH	**Yreka Blue Hor**	**124.92**	**45**	⇑P	PKPdf	16 05 00.3	+2.0
	baz=125						
M02C	**Callahan**	**124.93**	**46**	⇓P	PKPdf	16 04 59.7	+1.4
	baz=125						
EDM	**Edmonton**	**124.98**	**29**	*e*PKPdf	PKPdf	16 04 58.2	-0.2
KIPM	**Iron Peak**	**125.01**	**48**	PKPdf	PKPdf	16 05 00.4	+1.9
HAWA	**Hanford**	**125.15**	**39**	*e*PKPdf	PKPdf	16 04 59.5	+0.7
L04A	**Klamath Falls**	**125.33**	**44**	⇓P	PKPdf	16 05 01.7	+2.6
	baz=125						
O02C	**Red Bluff**	**125.39**	**47**	⇓P	PKPdf	16 04 59.1	0.0
	baz=125						
WDC	**Whiskeytown Da**	**125.44**	**46**	*e*PKPdf	PKPdf	16 04 58.5	-0.8
MNRC	**McLaughlin Nat**	**126.08**	**48**	⇓P	PKPdf	16 05 01.8	+1.3
	baz=126						
J06A	**Christmas Vall**	**126.09**	**43**	⇑P	PKPdf	16 05 02.3	+1.7
	baz=126						
L05A	**Lakeview**	**126.10**	**44**	⇑P	PKPdf	16 05 02.3	+1.8
	baz=126						
HATC	**Hat Creek Radi**	**126.12**	**46**	⇑P	PKPdf	16 05 01.7	+1.2
	baz=126						
K06A	**Valley Falls**	**126.21**	**43**	⇓P	PKPdf	16 05 01.9	+1.1
	baz=126						
ORV	**Oroville**	**126.54**	**47**	⇓P	PKPdf	16 05 02.4	+1.0
	baz=126						
O04C	**Chester**	**126.57**	**46**	⇑P	PKPdf	16 05 01.7	+0.3
	baz=126						
J07A	**Hines**	**126.60**	**42**	⇑P	PKPdf	16 05 02.1	+0.6
	baz=127						
M06C	**Likely Place G**	**126.67**	**45**	⇓P	PKPdf	16 05 02.6	+1.0
	baz=127						
ELFS	**Eagle Lake Fie**	**126.71**	**46**	⇑P	PKPdf	16 05 04.2	+2.5
	baz=127						
WALA	**Waterton Lakes**	**127.10**	**34**	*e*PKPdf	PKPdf	16 05 02.4	0.0
BMO	**Blue Mountains**	**127.24**	**40**	*e*PKPdf	PKPdf	16 05 03.6	+0.9
N06A	**Buffalo Meadow**	**127.29**	**45**	⇓P	PKPdf	16 05 05.4	+2.6
	baz=127						
S04C	**Ingram Canyon,**	**127.35**	**50**	⇑P	PKPdf	16 05 06.7	+3.8
	baz=127						
WVOR	**Wild Horse Val**	**127.44**	**43**	*e*PKPdf	PKPdf	16 05 05.1	+2.0
M07A	**Soldier Meadow**	**127.51**	**44**	⇓P	PKPdf	16 05 05.9	+2.7
	baz=128						
O06A	**Flanigan**	**127.52**	**46**	⇓P	PKPdf	16 05 05.3	+2.1
	baz=128						
PACP	**Pacheco Peak**	**127.54**	**50**	⇓P	PKPdf	16 05 04.4	+1.2
	baz=128						
R05C	**Kirkwood Meado**	**127.88**	**48**	⇑P	PKPdf	16 05 05.5	+1.6
	baz=128						
N07B	**Gerlach**	**127.89**	**45**	⇓P	PKPdf	16 05 06.5	+2.6
	baz=128						
FCC	**Fort Churchill**	**127.90**	**15**	*e*PKPdf	PKPdf	16 05 04.4	+0.4
LRV	**Little Rabbit**	**127.93**	**51**	*e*PKPdf	PKPdf	16 05 06.8	+2.8
PAHR	**Pah Rah Range**	**128.01**	**46**	PKPdf	PKPdf	16 05 05.1	+1.0
M08A	**Happy Creek Ra**	**128.03**	**44**	⇓P	PKPdf	16 05 06.2	+2.0
	baz=128						
O07A	**Toulon**	**128.19**	**46**	⇑P	PKPdf	16 05 05.6	+1.1
	baz=128						
L09A	**Wilkinson Ranc**	**128.27**	**43**	⇓P	PKPdf	16 05 05.7	+1.0
	baz=128						
MSO	**Missoula**	**128.30**	**36**	*e*PKPdf	PKPdf	16 05 05.3	+0.6
S06C	**San Francisco**	**128.33**	**49**	⇑P	PKPdf	16 05 05.8	+1.0
	baz=128						
PKD	**Parkfield**	**128.45**	**51**	⇑P	PKPdf	16 05 07.5	+2.5
	baz=128						
N08A	**GE Springer Mi**	**128.47**	**45**	⇑P	PKPdf	16 05 07.5	+2.4
	baz=128						
CHMT	**Chamberlain Mo**	**128.65**	**36**	*e*PKPdf	PKPdf	16 05 06.5	+1.1
PTRM	**Twissleman Ran**	**128.79**	**52**	*e*PKPdf	PKPdf	16 05 04.7	-1.0
FFC	**Flin Flon**	**128.81**	**22**	*e*PKPdf	PKPdf	16 05 06.2	+0.5
R07C	**Lee Vining**	**128.85**	**48**	⇑P	PKPdf	16 05 09.6	+3.8
	baz=129						
KCC	**Kaiser Creek**	**128.92**	**49**	⇓P	PKPdf	16 05 09.1	+3.2
	baz=129						
NVAR	**Mina Array Bea**	**129.27**	**48**	PKP	PKPdf	16 05 08.4	+1.9
	comp=Z,4.7nm,0.8s,baz=232,slow=1.2,SNR=13						
NVAR				PP	PP	16 07 18.6	+3.3
	comp=Z,5.5nm,0.9s,baz=272,slow=4.9,SNR=4.3						
NVAR				SKKPbc		16 18 11.6	
	comp=Z,1.4nm,0.9s,baz=98,slow=5.3,SNR=4.0						
NVAR	**Mina Array Bea**	**129.27**	**48**	PKP	PKPdf	16 05 08.4	+1.9
NVAR				PP	PP	16 07 18.6	+3.3
NVAR				SKKPbc		16 18 11.6	
MNV	**Mina**	**129.38**	**47**	*e*PKPdf	PKPdf	16 05 07.5	+0.7
MTUM	**Tungsten Hills**	**129.47**	**49**	*e*PKPdf	PKPdf	16 05 09.3	+2.3
HRY	**Holter Researc**	**129.57**	**35**	PKPdf	PKPdf	16 05 09.1	+2.0
HLID	**Hailey**	**129.69**	**40**	*e*PKPdf	PKPdf	16 05 09.1	+1.7
DLMT	**Dillon**	**129.87**	**37**	*e*PKPdf	PKPdf	16 05 09.5	+1.8
EGMT	**Eagleton**	**129.94**	**33**	*e*PKPdf	PKPdf	16 05 08.9	+1.0
MCMT	**McKenzie Canyo**	**130.01**	**38**	*e*PKPdf	PKPdf	16 05 09.2	+1.2
PLCA	**Paso Flores**	**130.07**	**181**	PKP	PKPdf	16 05 09.9	+1.8
	comp=Z,13nm,1.0s,baz=235,slow=0.8,SNR=12						
BOZ	**Bozeman (W)**	**130.28**	**36**	*e*PKPdf	PKPdf	16 05 10.3	+1.8
S09A	**Goldfield**	**130.32**	**48**	⇓P	PKPdf	16 05 10.5	+1.9
	baz=130						
O11A	**Cowboy Ranch,**	**130.46**	**44**	⇑P	PKPdf	16 05 10.0	+1.2
	baz=130						
QLMT	**Earthquake Lak**	**130.85**	**37**	*e*PKPdf	PKPdf	16 05 10.7	+1.1
Q11A	**Duckwater**	**131.01**	**46**	⇑P	PKPdf	16 05 12.0	+2.2
	baz=131						
U10A	**Ash Meadows, A**	**131.48**	**49**	⇓P	PKPdf	16 05 13.1	+2.3
	baz=131						
Q12A	**Willow Creek R**	**131.50**	**45**	⇑P	PKPdf	16 05 12.7	+1.9
	baz=132						
HVU	**Hansel Valley**	**131.62**	**41**	*e*PKPdf	PKPdf	16 05 10.5	-0.6
RRI2	**Red Ridge**	**131.73**	**39**	*e*PKPdf	PKPdf	16 05 12.5	+1.3
MOOW	**Moose Ponds**	**131.86**	**38**	*e*PKPdf	PKPdf	16 05 12.8	+1.3
BGU	**Big Grassy Mou**	**131.87**	**42**	*e*PKPdf	PKPdf	16 05 14.5	+3.0
TPAW	**Teton Pass**	**131.88**	**38**	PKPdf	PKPdf	16 05 13.6	+2.1
TRQA	**Tornquist**	**131.90**	**190**	*e*PKPdf	PKPdf	16 05 10.6	-1.0
HWUT	**Hardware Ranch**	**132.49**	**41**	*e*PKPdf	PKPdf	16 05 12.2	-0.4
TCUT	**Toone Canyon**	**132.84**	**41**	PKPdf	PKPdf	16 05 15.8	+2.5
V12A	**Nelson**	**132.85**	**49**	⇓P	PKPdf	16 05 15.4	+2.0
	baz=133						
PDAR	**Pinedale Array**	**133.13**	**38**	PKP	PKPdf	16 05 16.3	+2.4
	comp=Z,1.2nm,0.6s,baz=119,slow=2.6,SNR=10						
CCUT	**Cedar City**	**133.19**	**46**	PKPdf	PKPdf	16 05 15.4	+1.4
DAU	**Daniels Canyon**	**133.30**	**42**	PKPdf	PKPdf	16 05 16.7	+2.5
MVU	**Marysvale**	**133.57**	**45**	*e*PKPdf	PKPdf	16 05 13.4	-1.3
MSU	**Marysvale**	**133.59**	**45**	*e*PKPdf	PKPdf	16 05 18.5	+3.7
Y12C	**Blythe**	**133.85**	**52**	⇑P	PKPdf	16 05 16.9	+1.6
	baz=134						
TMUT	**Trail Mountain**	**133.88**	**43**	PKPdf	PKPdf	16 05 16.5	+1.2
X13A	**Yucca**	**134.06**	**50**	⇑P	PKPdf	16 05 18.7	+3.1
	baz=134						
SRU	**San Rafael**	**134.44**	**43**	*e*PKPdf	PKPdf	16 05 14.2	-2.2
SCHQ	**Schefferville**	**134.56**	**356**	PKP	PKPdf	16 05 16.9	+0.3
	comp=Z,8.5nm,0.5s,baz=358,slow=3.1,SNR=29						
SCHQ				PP	PP	16 07 48.1	-1.2
	comp=Z,7.2nm,0.9s,baz=8.0,slow=6.0,SNR=3.7						
SCHQ	**Schefferville**	**134.56**	**356**	*e*PKPdf	PKPdf	16 05 15.9	-0.6
ULM	**Lac du Bonnet**	**134.64**	**22**	PKP	PKPdf	16 05 17.0	+0.3
	comp=Z,3.6nm,0.6s,baz=333,slow=3.7,SNR=3.9						
ULM				SKPbc	SKPbc	16 08 45.7	-0.1
	comp=Z,4.2nm,0.7s,baz=310,slow=4.1,SNR=3.5						
ULM	**Lac du Bonnet**	**134.64**	**22**	*e*PKP	PKPdf	16 05 13.0	-3.7
ULM				PKP	PKPdf	16 05 17.0	+0.3
ULM				SKPbc	SKPbc	16 08 45.7	-0.1
RWWY	**Rawlins**	**135.17**	**38**	*e*PKPdf	PKPdf	16 05 20.1	+2.4
X15A	**Humboldt**	**135.31**	**50**	⇑P	PKPdf	16 05 19.8	+1.9
	baz=135						
RSSD	**Black Hills**	**135.50**	**33**	*e*PKPdf	PKPdf	16 05 13.4	-4.9
PV10	**Paradox Valley**	**135.81**	**43**	*e*PKPdf	PKPdf	16 05 20.7	+1.8
115A	**Sonoran Desert**	**136.02**	**52**	⇑P	PKPdf	16 05 19.3	0.0
	baz=136						
116A	**Eloy**	**136.49**	**52**	⇑P	PKPdf	16 05 20.2	0.0
	baz=136						
SMCO	**Snowmass**	**136.75**	**41**	*e*PKPdf	PKPdf	16 05 20.9	+0.2
ISCO	**Idaho Springs**	**137.26**	**39**	*e*PKPdf	PKPdf	16 05 24.4	+2.9
TUC	**Tucson**	**137.30**	**52**	*e*PKPdf	PKPdf	16 05 22.4	+0.7
EYMN	**Ely**	**138.12**	**20**	*e*PKPdf	PKPdf	16 05 23.8	+0.6
LAZ	**Ladron**	**139.12**	**47**	PKPdf	PKPdf	16 05 23.8	-1.2
ANMO	**Albuquerque**	**139.33**	**46**	PKPdf	PKPdf	16 05 24.1	-1.3
LENM	**Lemitar**	**139.35**	**47**	PKPdf	PKPdf	16 05 24.8	-0.6
LPM	**Los Pinos Moun**	**139.53**	**47**	*e*PKPdf	PKPdf	16 05 26.6	+0.8
BNM	**Barren Site**	**139.61**	**47**	*e*PKP	PKPdf	16 05 26.9	+1.0
SCIA	**State Center**	**142.51**	**27**	*e*PKPdf	PKPdf	16 05 29.4	-1.7
AMTX	**Amarillo**	**142.67**	**43**	PKPdf	PKPdf	16 05 30.7	-0.7
AMTX				*e*PKP	PKPdf	16 05 31.1	-0.3
LTX	**Lajitas**	**144.10**	**52**	*e*PKPdf	PKPdf	16 05 34.2	+0.3
PKME	**Peaks-Kenny Pk**	**144.24**	**357**	*e*PKPdf	PKPdf	16 05 33.1	-1.1
MSNY	**Massena**	**144.46**	**4**	*e*PKPdf	PKPdf	16 05 33.8	-0.7
WMOK	**Wichita Mounta**	**144.66**	**40**	*e*PKPdf	PKPdf	16 05 34.6	-0.3
FRNY	**Flat Rock**	**144.69**	**2**	*e*PKPdf	PKPdf	16 05 33.1	-1.9
LONY	**Lake Ozonia**	**144.85**	**4**	*e*PKPdf	PKPdf	16 05 34.6	-0.7
LBNH	**Lisbon**	**145.32**	**0**	*e*PKPdf	PKPdf	16 05 35.8	-0.3
LBNH				*e*PKPdf	PKPdf	16 05 36.1	0.0
MIV	**Mineville/With**	**145.45**	**2**	*e*PKPdf	PKPdf	16 05 36.3	0.0
AAM	**Ann Arbor**	**145.61**	**16**	*e*PKP	PKPdf	16 05 37.9	+1.4
BAO	**Brasilia Array**	**145.79**	**223**	P	PKPdf	16 05 39.0	+2.2
BDFB	**Brasilia**	**145.80**	**223**	PKPbc	PKPbc	16 05 38.7	+1.4
	comp=Z,48nm,0.9s,baz=139,slow=2.5,SNR=24						
HNH	**Hanover**	**145.86**	**1**	*e*PKP	PKPdf	16 05 37.6	+0.7
ACCN	**Adirondack Com**	**146.14**	**3**	*e*PKPdf	PKPdf	16 05 38.4	+1.0
JCT	**Junction City**	**146.44**	**47**	*e*PKPdf	PKPdf	16 05 40.1	+2.1
SLM	**Saint Louis**	**146.49**	**27**	*e*PKPdf	PKPdf	16 05 39.5	+1.5
CCM	**Cathedral Cave**	**146.50**	**29**	*e*PKPdf	PKPdf	16 05 38.4	+0.4
ERPA	**Erie**	**146.63**	**11**	*e*PKPbc	PKPbc	16 05 39.8	0.0
FVM	**French Village**	**146.94**	**28**	*e*PKPbc	PKPbc	16 05 40.3	-0.4
ALLY	**Alegheny Colle**	**147.06**	**12**	*e*PKPbc	PKPbc	16 05 41.8	+0.8
HRV	**Harvard--Oak R**	**147.06**	**360**	*e*PKPbc	PKPbc	16 05 41.3	+0.2
BINY	**Binghamton**	**147.15**	**6**	*e*PKPdf	PKPbc	16 05 40.3	+1.2
BINY				*e*PKPbc	PKPbc	16 05 41.2	-0.1
WES	**Weston**	**147.18**	**360**	*e*PKPbc	PKPbc	16 05 41.4	0.0
QUA2	**Belchertown**	**147.28**	**1**	*e*PKPdf	PKPbc	16 05 41.4	+2.0
CEN1	**Los Morros**	**147.35**	**183**	*e*P	PKPdf	16 05 42.5	+3.1
BLO	**Bloomington**	**147.54**	**22**	*e*PKPbc	PKPbc	16 05 43.4	+1.0
ACSO	**Alum Creek Sta**	**147.72**	**16**	*e*PKPbc	PKPbc	16 05 41.3	-1.6
MIAR	**Mount Ida**	**147.95**	**35**	*e*PKPbc	PKPbc	16 05 44.5	+0.9
LVC	**Limon Verde**	**148.04**	**185**	*e*PKPbc	PKPbc	16 05 45.3	+1.5
USIN	**University of**	**148.15**	**24**	*e*PKPbc	PKPbc	16 05 45.5	+1.4
SSPA	**Standing Stone**	**148.44**	**9**	*e*PKPbc	PKPbc	16 05 44.9	+0.1
WCI	**Wyandotte Cave**	**148.46**	**22**	PKPdf	PKPbc	16 05 45.8	+1.0
WCI	**Wyandotte Cave**	**148.46**	**22**	*e*PKPbc	PKPbc	16 05 45.0	+0.1
UALR	**University of**	**148.47**	**34**	*e*PKPbc	PKPbc	16 05 46.2	+1.3
PAL	**Palisades**	**148.50**	**3**	*e*PKPbc	PKPbc	16 05 44.9	-0.1
CPNY	**Central Park**	**148.71**	**3**	*e*PKPbc	PKPbc	16 05 46.1	+0.6
HBAR	**Harrisburg**	**148.76**	**31**	*e*PKP	PKPbc	16 05 46.6	+1.0
HBAR				*e*PKPbc	PKPbc	16 05 47.5	+1.8
GLAT	**Glass**	**148.86**	**28**	*e*PKPbc	PKPbc	16 05 47.1	+1.3
NATX	**Nacogdoches**	**149.21**	**41**	*e*PKPbc	PKPbc	16 05 48.3	+1.6
KVTX	**Kingsville**	**149.41**	**50**	*e*PKPbc	PKPbc	16 05 51.9	+4.6
HKT	**Hockley**	**149.56**	**45**	*e*PKPbc	PKPbc	16 05 49.7	+2.1
WVT	**Waverly**	**149.63**	**26**	*e*PKPbc	PKPbc	16 05 48.3	+0.5
MOIG	**Morelia**	**149.72**	**67**	*i* P	PKPbc	16 05 49.1	+1.1
PLAL	**Pickwick Lake**	**150.48**	**28**	*e*PKPbc	PKPbc	16 05 49.8	-0.1
FWV	**Forest Hill**	**150.79**	**15**	*e*PKPbc	PKPbc	16 05 51.6	+1.0
CBN	**Corbin**	**150.90**	**9**	PKPdf	PKPdf	16 05 44.1	-1.1
TZTN	**Tazewell**	**150.94**	**20**	*e*PKPbc	PKPbc	16 05 51.2	+0.2
ELN	**Prospectdale**	**151.14**	**15**	*e*PKPbc	PKPbc	16 05 51.5	+0.1
BLA	**Blacksburg**	**151.24**	**15**	*e*PKIKP	PKPbc	16 05 52.9	+1.3
BLA	**Blacksburg**	**151.24**	**15**	*e*PKPbc	PKPbc	16 05 51.7	+0.1
CPCT	**Cooper Cave**	**151.57**	**22**	PKPdf	PKPdf	16 05 47.6	+1.4
CPCT				*e*PKPbc	PKPbc	16 05 55.6	+3.2
LRAL	**Lakeview Retre**	**152.58**	**29**	*e*PKPdf	PKPdf	16 05 48.6	+0.9
LPAZ	**La Paz**	**154.20**	**188**	PKP	PKPdf	16 05 52.6	+2.6
	comp=Z,4.8nm,0.9s,baz=81,slow=1.7,SNR=9.0						
LPAZ	**La Paz**	**154.20**	**188**	PKIKP	PKPdf	16 05 52.6	+2.6
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SAML	**Samuel**	**159.88**	**205**	*e*PKPdf	PKPdf	16 05 58.4	+1.1
MGV	**Manicaragua**	**165.08**	**31**	*e*P	PKPdf	16 06 04.9	+2.4
MOAC	**Moa**	**168.40**	**15**	*e*P	PKPdf	16 06 05.8	+0.9
ROSC	**El Rosal**	**174.74**	**150**	PKP	PKPdf	16 06 09.4	+1.4
	comp=Z,4.0nm,0.4s,baz=99,slow=22,SNR=3.4						

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*IDC **17** 15:49:55.4±1.9, 9.55S×109.22E, h0km, mb4.6/4, mb1 4.6/4, mb1mx4.3/15, mbtmp4.6/4, MS6.0/2, Ms1 6.0/2, ms1mx4.5/41, Error ellipse: s-maj=148.2km s-min=26.8km az=90.0*

NEIC 17 15:49:56.9±1.3**, 9.53S×109.15E, h10km, Error ellipse: s-maj=98.4km s-min=19.3km az=87.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**50.07**	**94**	LR	LR	16 18 02.7	
	comp=Z,9μm,21.2s,baz=178,slow=34						
DZM	**Mont Dzumac**	**56.23**	**110**	LR	LR	16 22 14.6	
	comp=Z,23μm,19.0s,baz=282,slow=34						
SONM	**Songino Array**	**57.16**	**358**	P	P	15 59 44.8	+0.9
	3.1nm,0.7s,baz=174,slow=7.4,SNR=3.1						
MKAR	**Makanchi Array**	**60.98**	**339**	P	P	16 00 10.6	+0.3
	7.1nm,0.6s,baz=152,slow=7.6,SNR=5.9						
MKAR	**Makanchi Array**	**60.98**	**339**	P	P	16 00 10.6	+0.2
MAW	**Mawson**	**65.59**	**198**	P	P	16 00 41.3	+0.4
	5.9nm,0.6s,baz=54,slow=5.9,SNR=6.4						
BVAR	**Borovoye Array**	**70.52**	**336**	P	P	16 01 11.9	0.0
	1.9nm,0.4s,baz=127,slow=7.6,SNR=5.4						
CHKZ	**Chkalovo**	**70.92**	**337**	*e*P	P	16 01 13.7	-0.6
	5.7nm,0.4s						
ZRNK	**Zerenda**	**71.02**	**336**	P	P	16 01 14.6	-0.3
LPAZ	**La Paz**	**154.21**	**186**	PKPbc	PKPbc	16 09 58.2	+1.1
	2.5nm,0.9s,baz=167,slow=5.6,SNR=4.0						
LPAZ	**La Paz**	**154.21**	**186**	PKPbc	PKPbc	16 09 58.2	+1.1

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*IDC **17** 15:54:18.4±1.2, 9.58S×108.83E, h0km, mb4.3/5, mb1 4.3/5, mb1mx4.1/15, mbtmp4.3/5, Error ellipse: s-maj=102.5km s-min=26.9km az=77.0*

*NEIC **17** 15:54:19.5±1.0, 9.70S×108.71E, h10km, mb4.7/2, Error ellipse: s-maj=47.2km s-min=18.2km az=93.0*

*ISCJB **17** 15:54:21.3±1.1, 9.6S±0.1×108.9E±0.4, h33km, mb4.4/7, Error ellipse: s-maj=53.2km s-min=20.2km az=4.8*

ISC 17 15:54:23.3±1.1**, 9.7S**±0.1×**108.9E**±0.4**, h35km, n11, σ0s79**/11**, mb4.4**/7**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**11.16**	**7**	*e*P	**Pn**	**15 57 01.7**	**+1.4**
ENH	**Enshi**	**39.71**	**1**	*e*P	**P**	**16 01 51.5**	**-0.7**
SONM	**Songino Array**	**57.28**	**358**	P	**P**	**16 04 07.4**	**+0.1**
	2.7nm,0.5s,mb4.6,baz=177,slow=8.8,SNR=29						
ULN	**Ulaanbaatar**	**57.30**	**359**	*e*P	**P**	**16 04 07.3**	**-0.2**
	3.0nm,0.4s,mb4.7						
MKAR	**Makanchi Array**	**61.01**	**339**	P	**P**	**16 04 33.5**	**+0.3**
	5.1nm,0.6s,mb4.8,baz=154,slow=7.8,SNR=20						
KURK	**Kurchatov**	**65.62**	**339**	*e*P	**P**	**16 05 03.1**	**-0.6**
	7.4nm,1.0s,mb4.7						
BVAR	**Borovoye Array**	**70.53**	**337**	P	**P**	**16 05 33.9**	**-0.6**
	2.4nm,0.6s,mb4.3,baz=135,slow=7.3,SNR=7.3						
VNDA	**Vanda**	**73.03**	**170**	P	**P**	**16 05 50.3**	**+0.8**
	0.7nm,0.7s,mb3.7,baz=305,slow=4.2,SNR=3.7						
VNDA	**Vanda**	**73.03**	**170**	P	**P**	**16 05 49.8**	**+0.3**
YAK	**Yakutsk**	**73.30**	**10**	*e*P	**P**	**16 05 49.9**	**-1.2**
BRTR	**Keskin Array B**	**84.97**	**312**	P	**P**	**16 06 55.9**	**+1.0**
	1.3nm,0.6s,mb4.2,baz=138,slow=6.3,SNR=4.7						

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*NEIC **17** 15:56:52.7, 35.26S×72.80W, h14km, ML3.2(GUC), After GUC.*

GUC 17 15:56:52.7±0.7**, 35.26S×72.80W, h14km**±2km**, MD3.8, ML3.2, 2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCH	**Constitucion**	**0.33**	**102**	*e*P	Pg	15 56 59.9	+0.6
CTCH				*i* S	Sg	15 57 05.1	+1.3
CTCH				AML	AML	15 57 09.1	
	comp=E,5μm,0.8s						
CTCH	**Constitucion**	**0.33**	**102**	*e*P	Pg	15 56 59.9	+0.6
CTCH				*i* S	Sg	15 57 05.1	+1.3
CNCO	**Chanco**	**0.52**	**155**	*e*P	Pg	15 57 03.2	+0.2
CNCO				*i* S	Sg	15 57 10.5	+0.6
CNCO				AML	AML	15 57 10.9	
	comp=E,2μm,0.2s						
LNCH	**Linares**	**1.14**	**121**	*e*P	Pb	15 57 12.7	-1.5
LNCH				*i* S	Sb	15 57 28.0	-0.9
LNCH				AML	AML	15 57 30.4	
	comp=N,2μm,0.3s						
LNCH	**Linares**	**1.14**	**121**	*e*P	Pb	15 57 12.7	-1.5
LNCH				*i* S	Sb	15 57 28.0	-0.9
NICH	**Los Niches**	**1.31**	**79**	⇓*i*P	Pn	15 57 15.9	-0.7
CCHI	**Chillan**	**1.46**	**157**	*e*P	Pn	15 57 17.9	-0.8
CCHI				*i* S	Sn	15 57 36.7	-0.9
CCHI				AML	AML	15 57 40.6	
	comp=E,452nm,0.4s						
CCHI	**Chillan**	**1.46**	**157**	*e*P	Pn	15 57 17.9	-0.8
CCHI				*i* S	Sn	15 57 36.7	-0.9
SFDO	**San Fernando**	**1.60**	**67**	⇓*e*P	Pn	15 57 19.6	-1.0
SFDO				*i* S	Sn	15 57 41.0	-0.1
CACH	**El Canelo**	**2.14**	**58**	*e*P	Pn	15 57 29.0	+1.0
CACH				*i* S	Sn	15 57 57.2	+2.8
CICH	**Cipreses**	**2.17**	**65**	*e*P	Pn	15 57 29.8	+1.3
CICH				*i* S	Sn	15 57 57.1	+1.9
CHCH	**Chadas Angostu**	**2.21**	**54**	*e*P	Pn	15 57 30.0	+1.0
CHCH				*i* S	Sn	15 58 00.2	+4.0
TACH	**Talagante**	**2.22**	**44**	*e*P	Pn	15 57 29.9	+0.8
PCH	**Pirque**	**2.50**	**50**	*e*P	Pn	15 57 34.1	+1.1
PCH				*i* S	Sn	15 58 06.0	+2.8
PEL	**Peldehue**	**2.74**	**40**	*e*P	Pn	15 57 37.3	+1.0
PEL				*i* S	Sn	15 58 13.9	+4.6
PEL				AML	AML	15 58 23.6	
	comp=N,146nm,0.5s						
PEL	**Peldehue**	**2.74**	**40**	*e*P	Pn	15 57 37.3	+1.0
PEL				S	Sn	15 58 13.9	+4.6
FCH	**Farellones**	**2.83**	**48**	*e*P	Pn	15 57 39.3	+1.8
FCH				*i* S	Sn	15 58 14.8	+3.2
FCH				AML	AML	15 58 22.6	
	comp=N,73nm,0.4s						

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*ISCJB **17** 15:56:55.9±3.0, 8.0S±0.4×105.8E±0.3, h33km, mb4.5/14, Error ellipse: s-maj=64.0km s-min=37.9km az=124.2*

*IDC **17** 15:56:57.4±2.2, 7.14S×105.56E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/16, mbtmp4.1/5, Error ellipse: s-maj=62.2km s-min=43.5km az=130.0*

*BJI **17** 15:56:57.4, 8.09S×106.34E, h42km, mb4.7*

*NEIC **17** 15:56:58.5±1.0, 7.28S×105.58E, h10km, mb4.5/1, Error ellipse: s-maj=36.2km s-min=26.1km az=89.0*

ISC 17 15:56:58.9±3.0**, 8.0S**±0.4×**105.6E**±0.3**, h35km, n19, σ1s41**/14**, mb4.5**/14**, 1C, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**23.31**	**327**	*e*x	x	16 02 53.4	
	comp=E,805nm,0.4s						
PBA				*e*x	x	16 02 53.7	
	comp=N,536nm,0.4s						
CHTO	**Chiang Mai**	**27.40**	**346**	P	**P**	**16 02 39.4**	**-1.6**
	comp=N,11nm,1.0s,mb4.3						
KMI	**Kunming**	**32.99**	**355**	P	**P**	**16 03 34.4**	**+3.9**
KMI				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
GYA	**Guiyang**	**34.22**	**2**	⇑*i*P	**P**	**16 03 42.5**	**+1.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
XAN	**Xi'an**	**41.88**	**4**	P	**P**	**16 04 44.9**	**-0.8**
XAN				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.4						
LZH	**Lanzhou**	**43.84**	**358**	*e*P	**P**	**16 05 03.3**	**+1.8**
LZH				AP	pP	16 05 12.3	+0.5
LZH				XP	sP	16 05 17.1	+1.1
LZH				PP	PP	16 06 51.3	+7.4
LZH				AMB	AMB		
	comp=Z,31nm,1.3s,mb4.9						
GTA	**Gaotai**	**47.43**	**354**	*e*P	**P**	**16 05 31.8**	**+1.9**
GTA				AP	pP	16 05 40.5	+0.2
GTA				XP	sP	16 05 45.5	+1.0
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.5						
MJAR	**Matsushiro Arr**	**53.80**	**33**	P	**P**	**16 06 16.9**	**-1.1**
	comp=Z,1.7nm,0.9s,mb4.0,baz=210,slow=8.3,SNR=3.4						
SONM	**Songino Array**	**55.55**	**1**	P	**P**	**16 06 29.2**	**-1.4**
	comp=Z,1.1nm,0.6s,mb4.1,baz=177,slow=8.1,SNR=5.4						
MKAR	**Makanchi Array**	**58.33**	**341**	P	**P**	**16 06 47.8**	**-2.5**
	comp=Z,2.0nm,0.5s,mb4.5,baz=162,slow=8.3,SNR=5.3						
BVAR	**Borovoye Array**	**67.72**	**338**	P	**P**	**16 07 52.6**	**-0.1**
	comp=Z,4.3nm,0.6s,mb4.6,baz=147,slow=8.4,SNR=12						
CHKZ	**Chkalovo**	**68.15**	**338**	*e*P	**P**	**16 07 55.0**	**-0.4**
	comp=Z,12nm,0.8s,mb5.0						
ZRNK	**Zerenda**	**68.18**	**337**	*e*P	**P**	**16 07 55.8**	**+0.1**
	comp=Z,6.0nm,0.8s,mb4.7						
YAK	**Yakutsk**	**72.23**	**12**	*e*P	**P**	**16 08 23.5**	**+3.1**
	comp=Z,27nm,0.9s,mb5.2						
BRTR	**Keskin Array B**	**81.44**	**312**	P	**P**	**16 09 13.0**	**+0.7**
	comp=Z,0.6nm,0.6s,mb3.7,baz=132,slow=8.9,SNR=3.7						
NCB	**Newcomb**	**144.12**	**360**	*e*PKPdf	PKPdf	16 16 32.1	+1.3
BDFB	**Brasilia**	**144.90**	**228**	PKPbc	PKPdf	16 16 37.9	+5.7
	comp=Z,3.3nm,0.8s,baz=144,slow=5.2,SNR=3.5						
BINY	**Binghamton**	**145.86**	**2**	*e*PKPdf	PKPdf	16 16 37.4	+3.6
MIAR	**Mount Ida**	**148.19**	**31**	*e*PKPbc	PKPbc	16 16 45.4	+4.4

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*ISCJB **17** 16:01:20.1±0.6, 41.74S±0.03×172.10E±0.03, h9km±4km, mb3.5/2, Error ellipse: s-maj=5.5km s-min=3.4km az=103.6*

*WEL **17** 16:01:20.7±0.1, 41.71S×172.13E, h5km, ML4.0/40, Error ellipse: s-maj=0.9km s-min=0.9km az=0.0*

WEL Felt in the West Coast region, maximum reported intensity MM 5.

NEIC ***17*** *16:01:20.5, 4171S×172.14E, h5km, ML4.0(WEL), After WEL.*
IDC ***17*** *16:01:22.0±3.7, 4179S×172.19E, h21km±25km, mb3.4/2, mb1 3.7/4, mb1mx3.6/10, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=32.9km s-min=20.3km az=118.0*
ISC 17 16:01:20.4±0.6**, 4174S**±003×**17212E**±003**, h7km**±4km**, n44, σ0.81**/60**, mb3.5**/2**, 2C-6D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSZ	Denniston Nort	0.24	267	⇓PG	Pg	16 01 25.6	+0.5
DSZ				SG	Sg	16 01 29.1	+0.8
DSZ	Denniston Nort	0.24	267	P	Pg	16 01 25.6	+0.5
DSZ				S	Sg	16 01 29.1	+0.8
THZ	Tophouse	0.58	93	⇓P*	Pg	16 01 31.6	0.0
THZ				SG	Sg	16 01 39.6	+0.3
THZ	Tophouse	0.58	93	P	Pg	16 01 31.6	-0.1
THZ				S	Sg	16 01 39.6	+0.3
QRZ	Quartz Range	0.96	19	⇑P*	Pb	16 01 38.5	-0.8
QRZ				S*	Sb	16 01 50.9	-1.3
QRZ	Quartz Range	0.96	19	P	Pg	16 01 38.5	-0.3
LTZ	Lake Taylor	1.05	174	⇓P*	Pb	16 01 40.7	-0.2
LTZ				S*	Sb	16 01 54.0	-1.0
LTZ	Lake Taylor	1.05	174	P	Pg	16 01 40.7	+0.1
NNZ	Nelson	1.08	62	⇑P*	Pb	16 01 40.2	-1.1
NNZ				S*	Sb	16 01 55.1	-0.5
NNZ	Nelson	1.08	62	eP	Pg	16 01 40.2	-0.8
KHZ	Kahutara	1.26	123	⇓P*	Pb	16 01 44.8	+0.4
KHZ				S*	Sb	16 02 02.2	+1.3
KHZ	Kahutara	1.26	123	P	Pn	16 01 44.8	+0.4
BSWZ	Blackbirch Sta	1.31	90	⇓P*	Pb	16 01 45.2	-0.2
BSWZ				S*	Sb	16 02 02.3	-0.1
BSWZ	Blackbirch Sta	1.31	90	P	Pn	16 01 45.2	0.0
TUWZ	Tuamarina	1.40	78	⇓PN	Pn	16 01 45.8	-0.6
TUWZ				SN	Sn	16 02 04.2	-0.8
CMWZ	Cape Campbell	1.56	91	PN	Pn	16 01 50.4	+1.8
CMWZ	Cape Campbell	1.56	91	P	Pn	16 01 50.6	+2.0
DUWZ	D'Urville Isla	1.64	56	PN	Pn	16 01 50.0	+0.2
DUWZ				SN	Sn	16 02 12.0	+0.8
WVZ	Waitaha Valley	1.69	217	PN	Pn	16 01 49.2	-1.1
WVZ				SN	Sn	16 02 13.1	+0.8
TCW	Tory Channel	1.70	73	PN	Pn	16 01 51.0	+0.5
TCW				SN	Sn	16 02 12.8	+0.3
CRLZ	Canterbury Las	1.88	169	PN	Pn	16 01 52.3	-0.6
SNZO	South Karori	1.98	79	PN	Pn	16 01 55.1	+0.7
SNZO	South Karori	1.98	79	ePn	Pn	16 01 55.3	+0.9
SNZO				eSn	Sn	16 02 19.8	+0.2
MRW	Makara Radio	2.00	76	PN	Pn	16 01 55.2	+0.6
MRW	Makara Radio	2.00	76	P	Pn	16 01 55.5	+0.9
MQZ	McQueen's Vall	2.01	169	PN	Pn	16 01 53.8	-1.0
MQZ				SN	Sn	16 02 18.5	-1.6
BHW	Baring Head	2.09	82	PN	Pn	16 01 56.5	+0.7
BHW	Baring Head	2.09	82	P	Pn	16 01 56.5	+0.7
RPZ	Rata Peaks	2.13	201	Pn	Pn	16 01 56.4	-0.1
	43nm,0.3s,baz=320,slow=4.8,SNR=41						
RPZ				Pg	Pg	16 02 00.1	-1.1
	75nm,0.3s,baz=325,slow=4.0,SNR=174						
RPZ				Sn	Sn	16 02 23.7	+0.6
	16nm,0.3s,baz=180,slow=22,SNR=9.1						
RPZ				Lg		16 02 29.0	
	37nm,0.3s,baz=350,slow=20,SNR=9.8						
RPZ	Rata Peaks	2.13	201	PN	Pn	16 01 56.3	-0.1
RPZ	Rata Peaks	2.13	201	P	Pn	16 01 56.3	-0.1
KIW	Kapiti Island	2.27	68	PN	Pn	16 01 59.8	+1.4
KIW	Kapiti Island	2.27	68	P	Pn	16 01 59.9	+1.5
CAW	Cannon Point	2.30	75	PN	Pn	16 01 59.5	+0.8
CAW	Cannon Point	2.30	75	P	Pn	16 01 59.6	+0.8
MSWZ	Moikau Station	2.37	83	PN	Pn	16 01 59.7	0.0
MSWZ	Moikau Station	2.37	83	P	Pn	16 01 59.7	0.0
PAWZ	Paruwai Farm	2.50	83	P	Pn	16 02 01.2	-0.4
MTW	Mount Morrison	2.60	78	P	Pn	16 02 02.8	-0.1
URZ	Urewera	5.17	49	Pn	Pn	16 02 39.6	+1.4
	0.9nm,0.3s,baz=236,slow=11,SNR=5.8						
URZ				Sn	Sn	16 03 36.3	-1.8
	1.5nm,0.3s,baz=86,slow=23,SNR=3.6						
ASAR	Alice Springs	36.50	288	P	P	16 08 26.6	+0.3
	0.3nm,0.5s,mb3.5,baz=126,slow=7.8,SNR=5.4						
WRA	Warramunga Arr	38.62	293	P	P	16 08 44.4	+0.2
	0.7nm,0.6s,mb3.5,baz=131,slow=8.2,SNR=7.8						
TORD	Torodi Ar. Bea	150.32	199	PKPbc	PKPbc	16 21 11.0	-1.4
	0.6nm,1.1s,baz=162,slow=2.1,SNR=5.2						
TORD	Torodi Ar. Bea	150.32	199	PKPbc	PKPbc	16 21 11.0	-1.4

IDC ***17*** *16:07:44.2±1.0, 926S×10699E, h0km, mb4.0/6, mb1 4.0/6, mb1mx3.9/17, mbtmp4.0/6, Error ellipse: s-maj=38.5km s-min=21.4km az=59.0*
NEIC ***17*** *16:07:45.8±0.7, 925S×10702E, h10km, mb4.7/3, Error ellipse: s-maj=31.8km s-min=14.6km az=54.0*
BJI ***17*** *16:07:45.8, 920S×10700E, h10km, mb4.7*
ISCJB ***17*** *16:07:47.3±0.8, 93S±01×1070E±02, h33km, mb4.3/10, Error ellipse: s-maj=31.7km s-min=15.5km az=119.7*
ISC 17 16:07:49.7±0.8**, 94S**±01×**1070E**±02**, h35km, n12, σ1.07**/12**, mb4.3**/10**, 1C, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	Tuntungan	15.26	326	⇑eP	Pn	16 11 27.7	+5.3
	7.0nm,1.0s						
WRA	Warramunga Arr	28.46	115	P	P	16 13 39.6	-1.6
	0.1nm,0.3s,baz=288,slow=10,SNR=5.6						
ASAR	Alice Springs	29.42	122	P	P	16 13 51.7	+1.9
	0.6nm,0.7s,mb3.4,baz=306,slow=8.7,SNR=6.9						
GYA	Guiyang	35.59	360	P	P	16 14 44.3	+0.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
GTA	Gaotai	48.96	353	eP	P	16 16 34.5	+2.0
GTA				AP	pP	16 16 43.8	+0.9
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
SONM	Songino Array	56.93	360	P	P	16 17 30.4	-0.9
	comp=Z,1.1nm,0.6s,mb4.0,baz=178,slow=7.4,SNR=7.3						
MKAR	Makanchi Array	60.07	341	P	P	16 17 52.6	-0.6
	comp=Z,3.3nm,0.6s,mb4.6,baz=142,slow=8.0,SNR=28						
KURK	Kurchatov	64.68	340	eP	P	16 18 22.9	-1.1
	comp=Z,6.9nm,1.0s,mb4.6						
MAW	Mawson	65.12	197	P	P	16 18 26.8	0.0
	comp=Z,1.6nm,0.6s,mb4.2,baz=62,slow=7.1,SNR=7.2						
CHKZ	Chkalovo	69.93	338	eP	P	16 18 57.0	-0.2
	comp=Z,4.6nm,0.7s,mb4.5						
ZRNK	Zerenda	69.98	337	eP	P	16 18 57.2	-0.3
	comp=Z,3.0nm,0.6s,mb4.4						
BRTR	Keskin Array B	83.35	312	P	P	16 20 13.7	+0.6
	comp=Z,0.5nm,0.5s,mb3.8,baz=126,slow=5.3,SNR=4.1						

BJI ***17*** *16:09:45.1, 1039S×10899E, h26km, mB6.1, mb5.7, Ms6.1, Msz5.9*
ISCJB ***17*** *16:09:52.0±0.2, 940S±003×10874E±002, h16km, mb5.7/146, MS5.8/37, Error ellipse: s-maj=3.9km s-min=3.3km az=56.6*
MOS ***17*** *16:09:55.2±1.2, 919S×10887E, h33km, mb5.9/64, MS5.7/12, Error ellipse: s-maj=9.3km s-min=5.3km az=115.5*
HRVD ***17*** *16:09:55.0±0.2, 955S×10877E, h15km, MW5.9/99, Centroid moment Tensor Solution. LP body waves: s64,c119; Mantle waves: s99,c213; Half duration: 2.1 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.64±.10; $M_{\theta\theta}$3.31±.07; $M_{\phi\phi}$0.33±.07; $M_{r\theta}$7.20±.46; $M_{\theta\phi}$-1.86±.04; $M_{\phi r}$-1.10±.24; Best double couple: $M_0$8.28400×10^{17} NP1: ϕ_s133.00000°, δ16.00000°, λ-59.00000°. NP2: ϕ_s281.00000°, δ76.00000°, λ-98.00000°. Principal axes: T 8.4080, Plg31.0000°, Azm18.0000°; N -0.2450, Plg8.0000°, Azm283.0000°; P -8.1600, Plg58.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***17*** *16:09:55.9±1.9, 930S×10879E, h31km±12km, mb5.2/24, mb1 5.2/25, mb1mx5.2/26, mbtmp5.4/25, ML5.0/1, MS5.7/14, Ms1 5.7/14, ms1mx5.4/31 Error ellipse: s-maj=14.0km s-min=9.8km az=60.0*
NEIC ***17*** *16:09:55.0±2.6, 937S×10877E, h27km±17km, mb5.8/56, Error ellipse: s-maj=7.7km s-min=4.7km az=54.0*
NEIC Felt [IV] at Jakarta.
ISC 17 16:09:54.1±0.2**, 942S**±003×**10874E**±002**, h17km, h17km**±1.6km**: pP-P, n582, σ1.13**/428**, mb5.7**/146**, MS5.8**/37**, 63C-41D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNG	Tangerang	3.83	327	P	Pn	16 10 55.0	+2.8
	3µm,0.9s						
KMMI	Kalianget	5.68	66	P	Pn	16 11 20.5	+2.9
	496nm,1.2s						
NBBI	Negara	5.90	80	P	Pn	16 11 21.8	+1.1
	6µm,0.6s						
KLI	Kotabumi	5.94	319	P	Pn	16 11 24.2	+3.0
	872nm,0.8s						
DNP	Denpasar	6.43	84	P	Pn	16 11 29.5	+1.5
	4µm,1.3s						
KSI	Kapahiang	8.37	313	P	Pn	16 11 55.1	+0.5
	1µm,0.9s						
KSM	Kuching	10.93	8	eP	Pn	16 12 31.8	+2.2
WSI	Waingapu	11.40	92	P	Pn	16 12 34.6	-1.5
	2µm,1.1s						
PPI	Padang Panjang	12.17	317	P	Pn	16 12 44.5	-2.1
	121nm,1.1s						
PCI	Palu	13.91	53	P	Pn	16 13 11.6	+1.3
	531nm,1.9s						
PSI	Prapat	15.59	321	Pn	Pn	16 13 26.6	-6.2
	2.9nm,0.3s,baz=152,slow=10,SNR=9.0						
PSI	Prapat	15.59	321	P	Pn	16 13 26.7	-6.2
PSI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MBWA	Marble Bar	15.76	139	⇓P	Pn	16 13 25.8	-9.4
	SNR=7.0						
MBWA	Marble Bar	15.76	139	eP	Pn	16 13 29.9	-5.2
	comp=Z,209nm,1.0s						
MBWA				eS	Sn	16 16 09.7	-20
KKM	Kota Kinabalu	17.07	26	eP	Pn	16 13 51.1	-0.7
SNG	Songkhla	18.36	334	P	Pn	16 14 06.0	-1.8
	comp=Z,170nm,0.8s						
FITZ	Fitzroy Crossi	18.53	120	eP	Pn	16 14 09.7	-0.2
	comp=Z,201nm,0.8s						
FITZ				eS	Sn	16 17 20.3	-16
FITZ	Fitzroy Crossi	18.53	120	P	Pn	16 14 09.2	-0.7
	comp=Z,3.9nm,0.3s,baz=304,slow=8.5,SNR=72						
FITZ				Sn	Sn	16 17 21.8	-15
	comp=Z,2.2nm,0.3s,baz=164,slow=20,SNR=4.6						
BSI	Banda Aceh	19.97	317	P	Pn	16 14 27.9	+0.7
	comp=Z,368nm,0.9s						
AAI	Ambon	20.14	75	P	P	16 14 27.2	-0.1
	comp=Z,1µm,1.2s						
BATP	Bataraza	20.22	27	eP	P	16 14 27.7	-0.4
IPIL	Ipil	21.95	39	eP	P	16 14 48.5	+1.7
IPIL	Ipil	21.95	39	eP	P	16 14 48.5	+1.7
PAGZ	Pagadian	22.51	41	eP	P	16 14 54.2	+1.5
CTBH	Cotabato--PC H	22.62	44	⇑eP	P	16 14 55.4	+1.5
DAV	Davao City (W)	23.45	46	P	P	16 15 05.2	+2.5
	SNR=18						
DAV	Davao City (W)	23.45	46	P	P	16 15 00.8	-1.9
	comp=Z,646nm,0.9s,mb6.1						
KAKA	Kakadu	23.48	100	eP	P	16 15 02.6	-0.4
	comp=Z,111nm,0.6s,mb5.5						
CUYO	Cuyo Island	23.55	32	eP	P	16 15 04.4	+0.8
SNPH	Sibulan	23.57	38	⇓eP	P	16 15 05.7	+1.9
KLBR	Kellerberrin	23.60	160	eP	P	16 15 03.1	-1.0
	comp=Z,265nm,1.4s,mb5.5						
KLBR				eS	S	16 19 17.1	-0.3
NNT	Nongplab	23.62	338	P	P	16 15 13.0	+8.7
BUKP	Musuan	23.66	44	eP	P	16 15 05.6	+1.0
CGP	Cagayan de Oro	23.82	42	eP	P	16 15 06.9	+0.7
SWI	Sorong	23.96	71	P	P	16 15 05.3	-2.1
	comp=Z,245nm,1.1s,mb5.5						
BUSP	Coron	24.14	28	eP	P	16 15 10.4	+1.4
GUIM	Jordan	24.21	35	eP	P	16 15 10.4	+0.7
TBP	Tagbilaran	24.23	39	eP	P	16 15 10.1	+0.3
NWAO	Narrogin (SRO)	24.68	163	P	P	16 15 12.6	-1.4
	comp=Z,29nm,0.6s,mb5.0,baz=338,slow=10,SNR=29						
NWAO				Sn	S	16 19 39.0	+4.2
	comp=Z,16nm,0.8s,baz=0.0,slow=0.0,SNR=2.9						
NWAO				LR	LR	16 23 48.2	
	comp=Z,21µm,19.4s,MS5.6,baz=331,slow=34						
NWAO	Narrogin (SRO)	24.68	163	P	P	16 15 12.6	-1.3
NWAO						16 19 39.0	
NWAO				pmax	pmax		
	comp=Z,29nm,0.6s						
NWAO				smax			
	comp=E,16nm,0.8s						
NWAO				MLR	MLR		
	comp=Z,21µm,19.4s						
LLP	Lapu-Lapu	24.78	38	eP	P	16 15 14.5	-0.4
BUTP	Butuan	24.82	43	eP	P	16 15 15.6	+0.3
KALP	Kalibo	24.94	33	⇑eP	P	16 15 18.7	+2.4
	comp=Z,689µm,25.0s						
RCP	Roxas	25.06	34	⇑eP	P	16 15 18.3	+0.8
	comp=Z,114µm,2.0s						
MSLP	Maasin	25.19	40	eP	P	16 15 17.7	-0.9
SCPH	Surigao	25.33	42	⇓eP	P	16 15 21.9	+2.1
OTRP	Odiongan	25.34	32	eP	P	16 15 21.8	+1.8
LUBP	Lubang	25.68	27	eP	P	16 15 22.7	-0.3
OCLP	Ormoc	25.74	38	eP	P	16 15 23.4	-0.2
PLP	Palo	26.05	39	eP	P	16 15 26.3	-0.2
BOAC	Boac	26.19	30	eP	P	16 15 23.4	-4.2
KKTK	Khon Kaen	26.25	347	PG	P	16 15 28.0	-0.2
	comp=Z,37nm,0.8s,mb5.0						
TGY	Tagaytay City	26.31	28	P	P	16 15 29.2	+0.4
	comp=Z,146nm,0.5s,baz=136,slow=23,SNR=8.5						
TGY				Sn	S	16 20 00.7	-0.1
	comp=Z,27nm,0.3s,baz=38,slow=19,SNR=4.0						
TGY	Tagaytay City	26.31	28	P	P	16 15 29.2	+0.4
TGY						16 20 00.7	
TGY				pmax	pmax		
	comp=Z,146nm,0.5s						
TGY				smax			
	comp=E,27nm,0.3s						
NST	Nakhon Sawan	26.34	341	P	P	16 15 29.5	+0.4
AUQP	San Andres	26.49	32	eP	P	16 15 30.5	+0.1
WRA	Warramunga Arr	26.84	116	P	P	16 15 33.2	-0.4
	comp=E,117nm,0.7s,mb5.5,baz=288,slow=11,SNR=119						
WRA				Sn	S	16 20 37.9	+29
	comp=E,4.3nm,0.7s,baz=284,slow=25,SNR=4.0						
WRAB	Tennant Creek	26.85	116	P	P	16 15 33.0	-0.6
	comp=E,1µm,1.1s,mb6.3,SNR=41						
WRAB	Tennant Creek	26.85	116	⇑eP	P	16 15 33.9	+0.3
WB2	Warramunga Arr	26.85	116	eP	P	16 15 33.5	-0.2
WB2				eS	S	16 20 34.4	+25
SCZP	Santa Cruz	27.37	24	eP	P	16 15 37.9	-0.4
PVCP	Virac	27.51	34	eP	P	16 15 40.0	+0.4
FORT	Forrest	27.85	142	eP	P	16 15 43.0	+0.4
	comp=E,57nm,0.6s,mb5.4						
FORT				eS	S	16 20 56.7	+32
ASPA	Alice Springs	27.91	124	eP	P	16 15 42.8	-0.3
ASPA				eS	S	16 21 04.9	+39
AS31	Alice Springs	27.91	124	eP	P	16 15 42.8	-0.3
AS31				eS	S	16 21 04.9	+39
ASAR	Alice Springs	27.91	124	P	P	16 15 42.6	-0.5
	comp=E,35nm,0.9s,mb5.0,baz=295,slow=8.0,SNR=92						
ASAR				PcP	PcP	16 18 59.4	+1.0
	comp=E,10nm,0.7s,baz=291,slow=1.7,SNR=8.4						
ASAR				Sn	S	16 21 02.0	+36
	comp=E,19nm,1.1s,baz=295,slow=22,SNR=5.4						
ASAR				LR	LR	16 26 39.2	
	comp=E,16µm,18.6s,MS5.7,baz=308,slow=36						
ASAR	Alice Springs	27.91	124	P	P	16 15 42.6	-0.5
ASAR						16 18 59.4	
ASAR				pmax	pmax		
	comp=Z,35nm,1.0s						
ASAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ASAR				MLR	MLR		
	comp=Z,16µm,18.6s						
BOLP	Bolinao	27.91	23	eP	P	16 15 44.1	+0.9
BALP	Baler	28.04	27	eP	P	16 15 42.8	-1.5
QIZ	Qiongzhong	28.29	2	P	P	16 15 46.8	+0.3
QIZ				S	S	16 20 30.0	-1.9
QIZ				LR	LR		
	comp=N,15µm,15.2s,MS5.8						
QIZ				LR	LR		
	comp=E,11µm,14.5s,MS5.8						
QIZ				LR	LR		
	comp=Z,19µm,14.6s,MS5.8						
BAKI	Biak	28.43	75	P	P	16 15 46.3	-1.4
	comp=Z,166nm,1.1s,mb5.6						
CAUP	Cauayan	29.21	26	eP	P	16 15 53.4	-1.3
ABRA	Dolores	29.38	24	eP	P	16 15 55.8	-0.4
CHG	Chiang Mai	29.67	341	⇑P	P	16 15 58.6	-0.2
	comp=Z,62nm,0.7s,mb5.5						
CHTO	Chiang Mai	29.67	341	⇓P	P	16 15 57.5	-1.3
	SNR=14						
APYP	Conner	29.79	25	eP	P	16 15 59.1	-0.7
JAY	Jayapura	32.50	80	P	P	16 16 23.6	-0.1
	comp=Z,30nm,1.7s,mb5.0						
KMI	Kunming	34.82	350	P	P	16 16 45.6	+1.6
KMI				AMB	AMB		
	comp=Z,88nm,1.3s,mb5.5						
KMI				LR	LR		
	comp=N,24µm,16.4s,MS6.2						
KMI				LR	LR		
	comp=E,21µm,16.0s,MS6.2						
KMI				LR	LR		
	comp=Z,30µm,17.1s,MS6.1						
QZH	Quanzhou	35.48	16	eP	P	16 16 50.4	+0.8
QZH				eS	S	16 22 28.3	+4.3
QZH				LR	LR		
	comp=N,16µm,16.0s,MS6.0						
QZH				LR	LR		
	comp=E,13µm,14.6s,MS6.0						
QZH				LR	LR		
	comp=Z,22µm,16.8s,MS6.0						
NACB	Ninganchiao	35.67	20	eP	P	16 16 50.7	-0.5
GYA	Guiyang	35.72	357	⇑iP	P	16 16 52.3	+0.7
GYA				AP	pP	16 16 56.9	0.0
GYA				XP	sP	16 16 59.8	+0.7
GYA				PCP	PcP	16 19 19.0	-0.6
GYA				S	S	16 22 30.3	+2.6
GYA				SCP	ScP	16 23 03.5	-1.3
GYA				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.7						
GYA				AMB	AMB		
	comp=Z,2µm,6.9s						
GYA				LR	LR		
	comp=N,16µm,14.8s,MS6.1						
GYA				LR	LR		
	comp=E,19µm,15.4s,MS6.1						
GYA				LR	LR		
	comp=Z,18µm,16.0s,MS5.9						
YHNB	Yeheng	36.05	20	eP	P	16 16 55.7	+1.2
TRD	Trivandrum	36.32	298	eP	P	16 16 56.7	-0.1
TATO	Taipei	36.37	20	eP	P	16 16 58.1	+0.9
	comp=Z,110nm,1.0s,mb5.7						
VIS	Vishakhapatnam	36.84	317	eP	P	16 17 01.6	+0.4
VIS				AMb	AMB	16 17 17.3	
	comp=Z,297nm,1.0s,mb6.1						
CTA	Charters Tower	37.71	111	eP	P	16 17 09.3	+0.7
	comp=Z,64nm,0.9s,mb5.3						
CTA				e		16 17 22.7	
CTA	Charters Tower	37.71	111	eP	P	16 17 09.3	+0.7
CTA				e		16 17 22.7	
CTA				pmax	pmax		
	comp=Z,64nm,0.9s						
PMG	Port Moresby	37.89	93	⇑iP	P	16 17 11.9	+1.8
SHL	Shillong	38.45	335	eP	P	16 17 15.5	+0.6
SHL				AMb	AMB	16 17 23.0	
	comp=Z,2µm,0.5s						
BOK	Bokaro	39.86	326	eP	P	16 17 26.9	+0.3
BOK				AMb	AMB	16 17 30.6	
	comp=Z,187nm,1.6s,mb5.6						
HYB	Hyderabad	40.01	312	i P	P	16 17 29.5	+1.6
HYB				eS	S	16 23 35.0	+2.3
HYB	Hyderabad	40.01	312	eP	P	16 17 29.5	+1.6
WHN	Wuhan	40.09	8	P	P	16 17 29.8	+1.2
CD2	Chengdu	40.38	353	⇑iP	P	16 17 30.8	-0.1
CD2				AP	pP	16 17 35.3	-1.0
CD2				XP	sP	16 17 38.0	-0.4
CD2				PP	PP	16 19 07.8	+3.9
CD2				S	S	16 23 39.0	+0.8
CD2				AMB	AMB		
	comp=Z,80nm,1.1s,mb5.4						
CD2				AMB	AMB		
	comp=Z,250nm,5.6s						
CD2				LR	LR		
	comp=E,9µm,15.6s						
CD2				LR	LR		
	comp=Z,7µm,16.8s,MS5.6						
JOW	Kunigami	40.72	27	P	P	16 17 33.5	-0.2
	comp=Z,259nm,0.9s,mb5.8,baz=223,slow=6.0,SNR=49						
JOW				LR	LR	16 37 00.3	
	comp=Z,9µm,18.1s,MS5.7,baz=25,slow=40						
SSE	Sheshan	42.01	16	eP	P	16 17 45.1	+0.7
SSE				AMB	AMB		
	comp=Z,135nm,1.2s,mb5.5						
SSE				AMB	AMB		
	comp=Z,8µm,11.3s						
NJ2	Nanjing	42.35	13	eP	P	16 17 47.3	+0.1
NJ2				AP	pP	16 17 53.1	+0.6
NJ2				XP	sP	16 17 56.6	+2.0
NJ2				PP	PP	16 19 28.9	+3.6
NJ2				S	S	16 24 07.0	-0.5
NJ2				AMB	AMB		
	comp=Z,240nm,1.2s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,1µm,4.9s						
NJ2				LR	LR		
	comp=N,1µm,14.4s,MS6.0						
NJ2				LR	LR		
	comp=E,13µm,14.4s,MS6.0						
NJ2				LR	LR		
	comp=Z,2µm,12.6s,MS5.3						
GUMO	Guam	42.52	58	P	P	16 17 47.5	-1.0
	comp=Z,38nm,0.5s,mb5.4,baz=190,slow=12,SNR=4.6						
GUMO	Guam	42.52	58	P	P	16 17 47.5	-1.1
GUMO				pmax	pmax		
	comp=Z,38nm,0.5s,mb5.4						
GUMO	Guam	42.52	58	P	P	16 17 47.5	-1.0
JIRN	Jiri	42.84	330	eP	P	16 17 51.2	+0.1
	comp=Z,342nm,0.7s,mb6.2						
PKI	Pulchoki	43.16	329	eP	P	16 17 53.8	+0.1
	comp=Z,185nm,0.9s,mb5.8						
PKI	Pulchoki	43.16	329	eP	P	16 17 53.8	+0.1
PKI				pmax	pmax		
	comp=Z,185nm,0.9s,mb5.8						
GUN	Gumba	43.20	330	eP	P	16 17 54.3	+0.2
	comp=Z,397nm,0.8s,mb6.2						
XAN	Xi'an	43.22	0	P	P	16 17 53.1	-1.1
XAN				AMB	AMB		
	comp=Z,124nm,0.9s,mb5.6						
AKL	Akola	43.23	314	eP	P	16 17 54.0	-0.3
AKL				AMb	AMB	16 17 59.6	
	comp=Z,125nm,0.6s,mb5.8						
KAD	Karad	43.26	308	eP	P	16 17 54.7	+0.2
KAD				AMb	AMB	16 18 01.5	
	comp=Z,67nm,1.6s,mb5.1						
DMN	Daman	43.34	329	eP	P	16 17 54.9	-0.3
	comp=Z,511nm,0.8s,mb6.3						
TOO	Toolangi	43.38	136	eP	P	16 17 57.3	+1.9
	comp=Z,48nm,1.1s,mb5.1						
TOO	Toolangi	43.38	136	eP	P	16 17 57.3	+1.9
TOO				pmax	pmax		
	comp=Z,48nm,1.1s,mb5.1						
KKN	Kakani	43.40	329	eP	P	16 17 55.5	-0.2
	comp=Z,452nm,1.0s,mb6.2						
KKN	Kakani	43.40	329	eP	P	16 17 55.5	-0.2
KKN				pmax	pmax		
	comp=Z,452nm,1.0s,mb6.2						
GKN	Gorkha	43.91	329	eP	P	16 17 59.5	-0.2
	comp=Z,504nm,0.9s,mb6.2						
POO	Poona	44.23	309	⇓ix	P	16 18 00.0	-2.3
	comp=Z,90nm,1.0s,mb5.5						
KOLN	Koldanda	44.26	327	eP	P	16 18 02.6	0.0
	comp=Z,706nm,0.7s,mb6.5						
BHPL	Bhopal	44.63	317	eP	P	16 18 04.8	-0.7
BHPL				AMb	AMB	16 18 10.0	
	comp=Z,122nm,1.5s,mb5.5						
ARMA	Armidale	45.06	124	eP	P	16 18 10.9	+2.0
CNB	Canberra Magne	45.09	131	eP	P	16 18 09.6	+0.4
	comp=Z,139nm,1.3s,mb5.6						
LZH	Lanzhou	45.49	354	eP	P	16 18 13.5	+1.1
LZH				AP	pP	16 18 23.4	+5.6
LZH				XP	sP	16 18 27.3	+7.4
LZH				PP	PP	16 20 00.9	+2.0
LZH				eS	S	16 24 53.5	+0.2
LZH				XS	sS	16 25 09.8	+7.6
LZH				AMB	AMB		
	comp=Z,282nm,1.1s,mb6.0						
LZH				AMB	AMB		
	comp=Z,1µm,5.0s						
LZH				LR	LR		
	comp=N,8µm,14.6s						
LZH				LR	LR		
	comp=Z,9µm,15.4s,MS5.8						
RIV	Riverview	45.86	129	eP	P	16 18 17.0	+1.7
TIA	Tai'an	46.06	9	⇑P	P	16 18 15.6	-1.3
TIA				AMB	AMB		
	comp=Z,124nm,0.9s,mb5.8						
LGTI	Lohaghat	47.40	326	eP	P	16 18 25.7	-1.7
PTH	Pithoragarh	47.49	326	eP	P	16 18 29.9	+1.8
NDI	New Delhi	48.59	322	ex	P	16 18 34.0	-2.6
NDI				ex	x	16 25 29.0	
CBIJ	Chichi jima	48.67	41	LR	LR	16 38 11.5	

comp=Z,3μm,18.4s,MS5.3,baz=70,slow=35
AJM Ajmer 48.68 318 *e*P **P 16 18 37.6 +0.3**
AJM AMb AMB 16 18 50.2
comp=Z,113nm,1.1s,mb5.8
GTA Gaotai 49.28 351 *e*P **P 16 18 42.3 +0.5**
GTA AP pP 16 18 49.4 +2.1
GTA XP sP 16 18 53.4 +4.0
GTA PP PP 16 20 38.0 +2.3
GTA PPP 16 21 32.0
GTA S **S 16 25 48.3 +1.1**
GTA SCS ScS 16 28 30.6 -2.5
GTA AMB AMB
comp=Z,132nm,1.5s,mb5.7
GTA AMB AMB
comp=Z,14μm,5.3s
GTA LR LR
comp=N,14μm,20.5s,MS6.1
GTA LR LR
comp=E,15μm,19.0s,MS6.1
GTA LR LR
comp=Z,21μm,18.2s,MS6.2
DL2 Dalian 49.55 13 P **P 16 18 42.8 -1.1**
DL2 *e*S **S 16 25 48.3 -2.7**
DL2 AMB AMB
comp=Z,80nm,1.2s,mb5.6
DL2 LR LR
comp=N,3μm,17.2s,MS5.5
DL2 LR LR
comp=E,2μm,14.4s,MS5.5
DL2 LR LR
comp=Z,6μm,16.2s,MS5.7
INCN Inchon 49.57 19 P **P 16 18 43.6 -0.5**
SNR=7.5
INCN Inchon 49.57 19 *e*P **P 16 18 43.1 -0.9**
comp=Z,120nm,1.1s,mb5.8
BJT Baijiatuau 49.66 7 *e*P **P 16 18 44.1 -0.7**
BJT pmax pmax
comp=Z,393nm,1.1s
BJT Baijiatuau 49.66 7 *e*P **P 16 18 44.1 -0.7**
comp=Z,393nm,1.1s,mb6.3
BJI Beijing 49.69 7 *e*P **P 16 18 44.3 -0.6**
BJI AMB AMB
comp=Z,295nm,1.1s,mb6.2
HHC Hu-ho-hao-te 50.08 3 *e*P **P 16 18 48.3 +0.3**
HHC AP pP 16 18 53.5 +0.1
HHC XP sP 16 18 56.3 +0.8
HHC PP PP 16 20 45.4 +2.4
HHC S **S 16 25 57.0 -1.4**
HHC AMB AMB
comp=Z,140nm,1.2s,mb5.9
HHC AMB AMB
comp=Z,5μm,9.3s
HHC LR LR
comp=N,8μm,15.5s,MS6.0
HHC LR LR
comp=E,8μm,15.5s,MS6.0
HHC LR LR
comp=Z,11μm,16.7s,MS6.0
BHJ Bhuj 50.16 311 *e*P **P 16 18 49.2 +0.6**
BHJ AMb AMB 16 18 56.3
comp=Z,168nm,1.9s,mb5.8
SMLA Simla 50.41 324 *e*P **P 16 18 50.2 -0.3**
SMLA AMb AMB 16 18 53.3
comp=Z,516nm,0.7s,mb6.7
HNR Honiara 50.48 94 P **P 16 18 52.2 +1.2**
comp=Z,185nm,0.8s,mb6.2,baz=98,slow=2.9,SNR=12
HNR Honiara 50.48 94 P **P 16 18 51.2 +0.2**
HNR pmax pmax
comp=Z,320nm,1.0s,mb6.3
HNR Honiara 50.48 94 P **P 16 18 51.2 +0.3**
comp=Z,321nm,1.0s,mb6.3
SDNR Sundarnagar 50.80 325 *e*P **P 16 18 53.0 -0.4**
DLH Dalhousie 52.14 325 *e*PG **P 16 19 05.0 +1.6**
DLH *ex* x 16 19 20.0
SNY Shenyang 52.78 14 ⇑P **P 16 19 07.0 -1.2**
SNY AP pP 16 19 11.0 -2.6
SNY PCP PcP 16 20 16.0 -1.5
SNY PP PP 16 21 06.4 -1.1
SNY S **S 16 26 35.8 +0.1**
SNY AMB AMB
comp=Z,105nm,1.3s,mb5.6
SNY AMB AMB
comp=Z,7μm,12.0s
SNY LR LR
comp=N,4μm,23.0s
SNY LR LR
comp=E,5μm,17.2s
SNY LR LR
comp=Z,6μm,17.8s
MAJO Matsushiro 53.45 30 *e*P **P 16 19 11.2 -1.9**
MAJO pmax pmax
comp=Z,142nm,1.3s,mb5.7
MAJO Matsushiro 53.45 30 *e*P **P 16 19 11.2 -1.9**
comp=Z,142nm,1.3s,mb5.7
MAT Matsushiro 53.45 30 P **P 16 19 11.0 -2.1**
MAT Matsushiro 53.45 30 *e*P **P 16 19 11.0 -2.1**
MAT pmax pmax
comp=Z,34nm,0.8s,mb5.3
MAT Matsushiro 53.45 30 *e*P **P 16 19 11.0 -2.1**
comp=Z,34nm,0.8s,mb5.3
MJAR Matsushiro Arr 53.45 30 P **P 16 19 10.6 -2.5**
comp=Z,23nm,0.7s,mb5.2,baz=203,slow=7.8,SNR=48
MJAR LR LR 16 43 20.1
comp=Z,3μm,20.5s,MS5.4,baz=215,slow=38
MJAR Matsushiro Arr 53.45 30 P **P 16 19 10.6 -2.5**
MJAR pmax pmax
comp=Z,23nm,0.7s
MJAR MLR MLR
comp=Z,3μm,20.5s
NIL Nilore 54.51 324 P **P 16 19 22.8 +1.9**
comp=Z,131nm,1.2s,mb5.8,SNR=6.7
CN2 Changchun 55.10 15 ⇓P **P 16 19 23.4 -1.7**
CN2 *e*S **S 16 27 07.0 0.0**
CN2 AMB AMB
comp=Z,30nm,0.9s,mb5.3
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,14μm,16.0s,MS6.2
CN2 LR LR
comp=E,10μm,16.0s,MS6.2
CN2 LR LR
comp=Z,10μm,18.0s,MS6.0
WMQ Urumqi 56.33 342 P **P 16 19 35.5 +1.6**
WMQ AP pP 16 19 39.8 +0.4
WMQ XP sP 16 19 42.1 +0.6
WMQ PP PP 16 21 42.5 +3.1
WMQ S **S 16 27 23.4 0.0**
WMQ AMB AMB
comp=Z,192nm,1.3s,mb6.0
WMQ AMB AMB
comp=Z,5μm,8.0s
WMQ LR LR
comp=N,25μm,14.6s,MS6.5
WMQ LR LR
comp=E,17μm,18.6s,MS6.5
WMQ LR LR
comp=Z,22μm,14.6s,MS6.4
VLA Vladivostok 56.39 20 *d* *i*P **P 16 19 33.6 -0.8**
VLA *i* 16 19 45.6
VLA *e* 16 21 40.9
VLA pmax pmax
comp=Z,118nm,1.3s,mb5.8
VLA Vladivostok 56.39 20 *e*P **P 16 19 33.5 -0.9**
NOUC Port Laguerre 56.52 110 *e*P **P 16 19 38.0 +2.6**
DZM Mont Dzumac 56.65 110 *e*P **P 16 19 39.2 +3.0**
DZM Mont Dzumac 56.65 110 P **P 16 19 36.5 +0.3**
comp=Z,20nm,1.0s,mb5.1,baz=249,slow=5.9,SNR=9.2
MDJ Mudanjiang 56.99 18 P **P 16 19 37.3 -1.4**
MDJ PCP PcP 16 20 31.8 -1.9
MDJ PP PP 16 21 43.4 -1.9
MDJ PCS PcS 16 24 33.4 -1.2
MDJ S **S 16 27 32.0 -0.2**
MDJ AMB AMB
comp=Z,38nm,1.4s,mb5.2
MDJ LR LR
comp=N,2μm,14.9s,MS5.5
MDJ LR LR
comp=E,2μm,15.5s,MS5.5
MDJ LR LR
comp=Z,3μm,14.6s,MS5.5
MDJ Mudanjiang 56.99 18 *e*P **P 16 19 37.6 -1.0**
comp=Z,55nm,1.1s,mb5.5
SONM Songino Array 57.03 358 P **P 16 19 38.6 -0.4**
comp=Z,121nm,1.1s,mb5.9,baz=175,slow=7.4,SNR=144
SONM LR LR 16 48 12.0
comp=Z,8μm,18.1s,MS5.8,baz=182,slow=40
SONM Songino Array 57.03 358 P **P 16 19 38.6 -0.4**
SONM pmax pmax
comp=Z,121nm,1.1s
SONM MLR MLR
comp=Z,8μm,18.2s
ULN Ulaanbaatar 57.05 359 ⇓P **P 16 19 38.9 -0.2**
SNR=72
ULN Ulaanbaatar 57.05 359 ⇓*e*P **P 16 19 39.2 +0.2**
ULN Ulaanbaatar 57.05 359 *e*P **P 16 19 38.4 -0.6**
comp=Z,106nm,0.9s,mb5.9
KSH Kashi 57.40 330 P **P 16 19 42.3 +0.8**
KSH *e*AP pP 16 19 47.3 +0.3
KSH *e*XP sP 16 19 50.8 +1.7
KSH *e*PP PP 16 21 49.8 +0.9
KSH *e*PPP 16 23 06.6
KSH *e*S **S 16 27 36.5 -1.1**
KSH *e*PS 16 27 56.1
KSH *e*SCS ScS 16 29 27.4 -2.8
KSH AMB AMB
comp=Z,3μm,7.3s
KSH LR LR
comp=N,11μm,13.3s,MS6.3
KSH LR LR
comp=E,14μm,16.2s,MS6.3
KSH LR LR
comp=Z,11μm,15.6s,MS6.1
MIR Mirnyy 58.06 187 *c* *i*P **P 16 19 48.0 +1.8**
MIR *i* 16 20 35.0
MIR pmax pmax
comp=Z,300nm,1.8s,mb6.0
WSAR Wadi Sarin 58.78 304 P **P 16 19 50.4 -0.8**
comp=Z,23nm,0.8s,mb5.3,baz=116,slow=8.0,SNR=16
WSAR LR LR 16 43 44.1
comp=Z,10μm,20.0s,MS5.9,baz=115,slow=34
JMDO Jabal Madar 58.82 303 ⇑P **P 16 19 52.1 +0.7**
SNR=12
SMDO Samad 59.17 304 ⇑P **P 16 19 54.6 +0.6**
SNR=12
HIA Hailar 59.23 8 ⇑*i*P **P 16 19 53.7 -0.6**
HIA Hailar 59.23 8 *e*P **P 16 19 53.4 -0.9**
comp=Z,95nm,1.3s,mb5.7
BIDO Bidbid 59.32 304 ⇓P **P 16 19 55.7 +0.7**
SNR=12
ULHL Ulahol 59.40 332 P **P 16 19 55.1 -0.4**
SNR=25
KZA Kyzart 59.73 332 P **P 16 19 57.9 +0.2**
SNR=92
ZAK Zakamensk 59.74 356 *e*P **P 16 19 57.6 -0.2**
ZAK *e* 16 28 02.3
ZAK pmax pmax
comp=Z,46nm,1.5s,mb5.3
HOQ Hoqain 60.02 304 ⇑P **P 16 20 00.2 +0.5**
SNR=7.3
TKM2 Tokmak 2 60.22 332 P **P 16 20 00.9 -0.2**
SNR=159
TKM2 Tokmak 2 60.22 332 *i*P **P 16 20 01.0 -0.2**
TKM2 pmax pmax
comp=Z,287nm,1.8s,mb6.0
KBK Karagaybulak 60.32 332 P **P 16 20 02.0 +0.2**
SNR=90
AML Almayashu 60.51 331 P **P 16 20 03.1 -0.1**
SNR=68
AAK Ala-Archa 60.51 332 P **P 16 20 04.4 +1.3**
SNR=13
AAK Ala-Archa 60.51 332 P **P 16 20 02.7 -0.4**
comp=Z,133nm,1.0s,mb6.0,SNR=14
AAK Ala-Archa 60.51 332 ⇓P **P 16 20 03.4 +0.2**
SNR=41
AAK Ala-Archa 60.51 332 ⇑*e*P **P 16 20 01.9 -1.2**
AAK pmax pmax
comp=Z,98nm,2.5s,mb5.5
AAK Ala-Archa 60.51 332 *e*P **P 16 20 01.9 -1.2**
comp=Z,94nm,1.4s,mb5.7
FRU Bishkek 60.61 332 *e*P **P 16 20 04.0 +0.2**
FRU *e* 16 20 13.0
FRU pmax pmax
comp=Z,180nm,2.0s,mb5.8
CHMS Chumysh 60.67 332 P **P 16 20 03.8 -0.5**
SNR=12
MK31 Makanchi Array 60.73 339 P **P 16 20 03.8 -0.8**
MK31 pmax pmax
comp=Z,40nm,0.6s,mb5.7
MKAR Makanchi Array 60.73 339 P **P 16 20 04.1 -0.5**
comp=Z,96nm,0.6s,mb6.1,baz=152,slow=7.9,SNR=176
MKAR S **S 16 28 18.8 -2.0**
comp=Z,13nm,1.3s,baz=146,slow=11,SNR=11
MKAR Makanchi Array 60.73 339 P **P 16 20 04.1 -0.5**
MKAR S **S 16 28 18.8 -2.0**
MKAR pmax pmax
comp=Z,96nm,0.6s
MKAR smax
comp=E,13nm,1.3s
EKS2 Erkin-Say 60.87 331 P **P 16 20 05.6 0.0**
SNR=118
USP Ospenovka 61.00 332 P **P 16 20 05.8 -0.6**
SNR=32
TLY Talaya 61.01 356 P **P 16 20 08.2 +1.7**
comp=E,243nm,1.6s,mb6.1,SNR=17
MOY Mondy 61.20 355 *e*P **P 16 20 09.0 +1.2**
MOY pmax pmax
comp=Z,328nm,2.3s,mb6.0
ASAJ Asahikawa 61.48 27 P **P 16 20 07.8 -1.9**
comp=Z,12nm,0.7s,mb5.2,baz=237,slow=13,SNR=26
ASAJ Asahikawa 61.48 27 P **P 16 20 07.9 -1.8**
ASAJ pmax pmax
comp=Z,12nm,0.7s
IRK Irkutsk 61.53 357 *e*P **P 16 20 10.4 +0.3**
IRK *e* 16 20 21.1
IRK *e*S **S 16 28 31.9 +1.0**
IRK pmax pmax
comp=Z,194nm,2.6s,mb5.8
ASHO Ashiyiah 61.53 305 ⇓P **P 16 20 09.8 -0.3**
SNR=30
KLR Kul'dur 61.80 17 *e*P **P 16 20 07.0 -4.8**
KLR pmax pmax
comp=E,34nm,1.6s
KLR pmax pmax
comp=Z,120nm,1.6s,mb5.8
HABR Khabarovsk 62.14 19 ⇑*e*P **P 16 20 13.4 -0.8**
HABR *e*S **S 16 28 37.8 -0.9**
HABR pmax pmax
comp=Z,227nm,1.3s,mb6.1
KK31 Karatay Array 62.80 329 *i*P **P 16 20 17.4 -1.2**
KK31 pmax pmax
comp=Z,55nm,1.3s,mb5.5
KKAR Karatay Array 62.80 329 *i*P **P 16 20 17.4 -1.2**
KKAR pmax pmax
comp=Z,72nm,1.3s,mb5.6
RPZ Rata Peaks 63.62 134 P **P 16 20 23.9 -0.1**
comp=Z,88nm,1.0s,mb5.7,baz=278,slow=4.0,SNR=24
YSS Yuzh-Sakhalins 63.78 25 ⇑*e*P **P 16 20 23.0 -2.0**
YSS *e* 16 20 31.7
YSS *e* 16 20 34.7
YSS pmax pmax
comp=Z,120nm,1.0s,mb5.9
YSS pmax pmax
comp=Z,190nm,1.1s,mb6.0
YSS Yuzh-Sakhalins 63.78 25 *e*P **P 16 20 23.5 -1.6**
comp=Z,270nm,1.3s,mb6.1
KURK Kurchatov 65.35 339 P **P 16 20 34.8 -0.5**
comp=Z,1μm,1.0s,mb6.8
KURK Kurchatov 65.35 339 ⇑P **P 16 20 34.8 -0.5**
SNR=84
KURK Kurchatov 65.35 339 ⇑*e*P **P 16 20 34.8 -0.5**
KURK Kurchatov 65.35 339 *e*P **P 16 20 34.7 -0.6**
comp=Z,157nm,0.9s,mb6.0
MAW Mawson 65.58 198 *e*P **P 16 20 36.0 -0.8**
comp=Z,25nm,1.3s,mb5.1
MAW Mawson 65.58 198 P **P 16 20 36.3 -0.5**
comp=Z,32nm,1.1s,mb5.3,baz=49,slow=7.1,SNR=36
MAW LR LR 16 43 48.5
comp=Z,3μm,18.3s,MS5.6,baz=65,slow=31
MAW Mawson 65.58 198 *e*P **P 16 20 36.1 -0.7**
MAW pmax pmax
comp=Z,160nm,1.5s
SNZO South Karori 65.82 131 *e*P **P 16 20 36.8 -1.6**
comp=Z,208nm,1.3s,mb6.0
ZAL Zalesovo 66.29 345 P **P 16 20 39.8 -1.6**
comp=Z,60nm,1.0s,mb5.6,baz=336,slow=3.2,SNR=72
ZAL S S 16 29 24.4 -5.6
comp=Z,1.3nm,0.4s,baz=204,slow=21,SNR=9.8
ZAL LR LR 16 53 20.6
comp=Z,8μm,18.9s,MS5.9,baz=312,slow=39
ZAL Zalesovo 66.29 345 P **P 16 20 39.8 -1.6**
ZAL S S 16 29 24.4 -5.6
ZAL pmax pmax
comp=Z,60nm,1.0s
ZAL smax
comp=E,1.0nm,0.4s
ZAL MLR MLR
comp=Z,8μm,18.9s
KRAR Krasnoyarsk 66.51 350 ⇑*e*P **P 16 20 40.4 -2.4**
KRAR pmax pmax
comp=Z,203nm,1.3s,mb6.0
ABKT Ailbek 66.70 318 P **P 16 20 43.1 -0.9**
comp=Z,213nm,1.0s,mb6.1,SNR=10
BOD Bodaibo 67.14 3 *e*P **P 16 20 45.4 -1.4**
BOD pmax pmax
comp=Z,129nm,1.3s,mb5.8
URZ Urewera 67.26 127 P **P 16 20 47.1 -0.4**
comp=Z,23nm,0.6s,mb5.4,baz=250,slow=3.4,SNR=20
CLNS Chul'man 67.35 10 *e*P **P 16 20 46.9 -1.2**
CLNS pmax pmax
comp=Z,83nm,1.0s,mb5.7
CLNS pmax pmax
comp=N,33nm,0.8s
CLNS pmax pmax
comp=E,42nm,1.0s
NVS Novosibirsk 67.51 344 *e*P **P 16 20 47.3 -1.8**
NVS *e*S S 16 29 36.3 -8.4
NVS pmax pmax
comp=Z,180nm,2.0s,mb5.8
NVS pmax pmax
comp=N,86nm,1.8s
NVS pmax pmax
comp=E,102nm,2.0s
NVS smax
comp=N,110nm,2.0s
NVS smax
comp=E,93nm,2.4s
ATD Arta Tunnel 68.73 286 P **P 16 20 58.2 +1.4**
comp=E,10.0nm,0.7s,mb4.8,baz=72,slow=5.0,SNR=5.3
QRN Al-Qurain 69.84 305 *e*P **P 16 21 02.3 -1.4**
QRN AMb AMB 16 21 04.6
comp=Z,74nm,0.7s,mb5.7
RDF Al-Radifah 70.21 305 *e*P **P 16 21 03.6 -2.3**
RDF AMb AMB 16 21 06.9
comp=Z,112nm,0.7s,mb5.9
BVA0 Borovoye Array 70.25 337 *i*P **P 16 21 05.6 -0.6**
BVA0 pmax pmax
comp=Z,13nm,1.0s,mb4.8
BVAR Borovoye Array 70.25 337 S S 16 30 13.8 -3.5
comp=Z,2.3nm,0.9s,baz=124,slow=9.2,SNR=7.5
BVAR LR LR 16 56 26.4
comp=Z,7μm,18.2s,MS5.9,baz=139,slow=40
BRVK Borovoye 70.32 337 P **P 16 21 06.6 0.0**
comp=Z,438nm,1.3s,mb6.2,SNR=20
BRVK Borovoye 70.32 337 ⇓P **P 16 21 06.4 -0.2**
SNR=68
BRVK Borovoye 70.32 337 *e*P **P 16 21 05.6 -1.0**
BRVK pmax pmax
comp=Z,42nm,0.8s,mb5.4
BRVK Borovoye 70.32 337 *e*P **P 16 21 05.6 -1.0**
comp=Z,42nm,0.8s,mb5.4
UMR Umm Al-Rimmam 70.32 306 *e*P **P 16 21 06.0 -0.7**
UMR AMb AMB 16 21 07.6
comp=Z,171nm,0.6s,mb6.1
NAY Al-Naaiem 70.58 305 *e*P **P 16 21 07.1 -1.1**
NAY AMb AMB 16 21 09.0
comp=Z,62nm,0.8s,mb5.6
CHKZ Chkalovo 70.66 337 *e*P **P 16 21 07.9 -0.8**
CHKZ pmax pmax
comp=Z,84nm,0.7s,mb5.8
CHKZ Chkalovo 70.66 337 *e*P **P 16 21 07.9 -0.8**
comp=Z,84nm,0.7s,mb5.8
MIB Mutribah 70.72 306 *e*P **P 16 21 08.3 -0.8**
MIB AMb AMB 16 21 12.3
comp=Z,133nm,0.7s,mb6.0
ZRNK Zerenda 70.75 336 *e*P **P 16 21 08.5 -0.7**
ZRNK pmax pmax
comp=Z,87nm,0.8s,mb5.7
ZRNK Zerenda 70.75 336 *e*P **P 16 21 08.5 -0.7**
comp=Z,87nm,0.8s,mb5.7
RST Umm Al-Ruwaisa 70.88 306 *e*P **P 16 21 08.9 -1.1**
RST AMb AMB 16 21 12.4
comp=Z,234nm,0.8s,mb6.2
KMBO Kilima Mbogo 71.55 272 P **P 16 21 14.7 +0.5**
comp=Z,8.2nm,0.9s,mb4.7,baz=61,slow=6.5,SNR=12
KMBO LR LR 16 51 41.6
comp=Z,5μm,18.3s,MS5.8,baz=96,slow=35
KMBO Kilima Mbogo 71.55 272 *i*P **P 16 21 14.6 +0.5**
KMBO pmax pmax
comp=Z,8.0nm,0.9s
SKR Severo-Kuril's 72.56 29 *e*P **P 16 21 15.9 -4.3**
SKR pmax pmax
comp=E,130nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
YAK Yakutsk 73.08 10 *e*P **P 16 21 22.2 -1.0**
YAK *e* 16 21 38.3
YAK *e* 16 24 04.4
YAK *e*PPP 16 25 51.5
YAK *e*S S 16 30 43.4 -6.4
YAK *e* 16 31 21.2
YAK *e**SS SKSac 16 31 26.2 -2.0
YAK *e*SS SS 16 35 25.2 -5.6
YAK pmax pmax
comp=Z,217nm,1.2s,mb6.0
YAK pmax pmax
comp=N,93nm,1.3s
YAK pmax pmax
comp=E,52nm,1.3s
YAK pmax pmax
comp=Z,10.0nm,1.3s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK smax
comp=N,31nm,1.5s
YAK smax
comp=E,74nm,1.5s
YAK Yakutsk 73.08 10 *e*P **P 16 21 20.4 -2.8**
comp=E,333nm,1.0s,mb6.2
VNDA Vanda 73.29 170 P **P 16 21 23.6 -0.9**
comp=E,30nm,0.8s,mb5.3,baz=299,slow=6.3,SNR=85
VNDA Vanda 73.29 170 P **P 16 21 23.6 -0.9**
VNDA pmax pmax
comp=Z,30nm,0.8s
VNDA Vanda 73.29 170 *e*P **P 16 21 23.6 -0.9**
comp=Z,321nm,1.8s,mb6.0
SYO Syowa Base 73.85 201 ⇑*i*P **P 16 21 26.2 -1.6**
SYO Syowa Base 73.85 201 ⇑*i*pP pP 16 21 29.0 -4.4
AKTK Aktyubinsk 74.07 329 *i*P **P 16 21 29.6 +0.6**
AKTO Aktyubinsk 74.07 329 S S 16 30 57.2 -3.9
comp=Z,0.4nm,0.3s,baz=279,slow=19,SNR=11
AKTO Aktyubinsk 74.07 329 *i*P **P 16 21 29.6 +0.6**
AKTO pmax pmax
comp=Z,19nm,1.3s,mb4.9
SBA Scott Base 74.36 169 *e*P **P 16 21 30.7 -0.1**
SBA pmax pmax
comp=Z,140nm,1.3s,mb5.7
SBA Scott Base 74.36 169 *e*P **P 16 21 30.7 0.0**
comp=Z,142nm,1.4s,mb5.7
BHD Baghdad 74.40 308 *ex* x 16 21 30.0
BHD *i* x x 16 30 59.0
PET Petropavlovsk 75.27 29 *i*P **P 16 21 35.2 -0.8**
PET *e* 16 21 49.0
PET *e*S S 16 31 13.5 -1.0
PET pmax pmax
comp=Z,73nm,1.2s,mb5.5
PET pmax pmax
comp=Z,73nm,1.4s,mb5.4
PET smax
comp=E,17nm,2.1s
PET Petropavlovsk 75.27 29 *e*P **P 16 21 34.7 -1.3**
comp=E,128nm,1.3s,mb5.7
MAK Makhachkala 76.22 319 *e*P **P 16 21 46.7 +5.3**
CUKT Cukurca 76.52 312 *e*P **P 16 21 41.4 -1.8**
MA2 Magadan 76.52 21 *c* *i*P **P 16 21 43.0 -0.1**
MA2 pmax pmax
comp=Z,119nm,1.0s,mb5.8
MA2 Magadan 76.52 21 *e*P **P 16 21 42.2 -0.9**
comp=Z,92nm,0.8s,mb5.8
MSL Mosul 76.53 311 *ex* x 16 21 45.0
MSL *ex* x 16 22 06.5
MSL *ex* x 16 31 25.0
GNI Garni 76.87 315 *e*P **P 16 21 46.8 +1.7**
GNI Garni 76.87 315 P **P 16 21 46.6 +1.4**
comp=Z,26nm,0.8s,mb5.2,baz=60,slow=1.2,SNR=7.3
GNI PP PP 16 24 39.7 +1.6

comp=Z,6.6nm,0.5s,baz=197,slow=10.0,SNR=4.3
GNI Garni 76.87 315 P **P** **16 21 46.6 +1.5**
GNI 16 24 39.7
GNI pmax pmax
comp=Z,26nm,0.8s
GNI pmax pmax
comp=Z,7.0nm,0.5s
GNI Garni 76.87 315 *e*P **P** **16 21 45.7 +0.6**
comp=Z,105nm,1.4s,mb5.6
SVE Sverdlovsk 76.91 335 *e*P **P** **16 21 46.0 +0.7**
SVE pmax pmax
comp=Z,160nm,2.0s,mb5.6
SVE MLR MLR
comp=N,2μm,17.0s,MS5.7
SVE MLR MLR
comp=E,2μm,17.0s,MS5.7
SVE MLR MLR
comp=Z,5μm,17.0s,MS5.9
DGRG David-gareji 76.98 316 P **P** **16 21 46.6 +0.9**
DGRG S S 16 31 39.4 +6.1
DGRG David-gareji 76.98 316 P **P** **16 21 46.4 +0.7**
CLDR Caldiran 77.04 314 *e*P **P** **16 21 44.4 -1.7**
TVAN Van 77.17 313 *i* P **P** **16 21 48.1 +1.3**
VANB Van 77.20 313 *e*P **P** **16 21 54.6 +7.6**
MTA Mtatsminda 77.48 316 P **P** **16 21 49.0 +0.4**
MTA S S 16 31 35.5 -3.1
MTA Mtatsminda 77.48 316 P **P** **16 21 49.0 +0.4**
TBLG Delisi 77.53 316 P **P** **16 21 48.4 -0.4**
TBLG S S 16 31 37.8 -1.4
TBLG Delisi 77.53 316 P **P** **16 21 49.3 +0.5**
TBLG Delisi 77.53 316 P **P** **16 21 49.3 +0.5**
ARU Arti 77.53 334 P **P** **16 21 48.2 -0.6**
comp=Z,366nm,0.9s,mb6.3,SNR=11
ARU Arti 77.53 334 *e*P **P** **16 21 48.4 -0.4**
ARU *e* 16 21 59.2
ARU *e* 16 24 42.4
ARU *e*S S 16 31 35.8 -3.5
ARU Arti 77.53 334 *e*P **P** **16 21 48.0 -0.9**
comp=Z,221nm,1.3s,mb5.9
GOR Gori 78.06 316 P **P** **16 21 53.9 +2.1**
MBAR Mbarara 78.06 271 *de*P **P** **16 21 52.5 +0.7**
BEST Besiri 78.48 312 *i* P **P** **16 21 54.7 +0.6**
ZEI Tsey 78.53 317 *e*P **P** **16 21 55.2 +0.8**
ZEI *e**PP pP 16 21 58.5 -1.5
ZEI *e* 16 24 55.4
ZEI pmax pmax
comp=Z,22nm,0.6s,mb5.3
LSZ Lusaka 78.53 256 LR LR 16 52 55.9
comp=Z,6μm,18.5s,MS5.9,baz=93,slow=33
LSZ Lusaka 78.53 256 ⇑P **P** **16 21 55.5 +1.2**
SNR=19
LSZ Lusaka 78.53 256 *e*P **P** **16 21 54.7 +0.3**
LSZ pmax pmax
comp=Z,94nm,1.4s,mb5.5
LSZ Lusaka 78.53 256 *e*P **P** **16 21 54.7 +0.3**
comp=Z,94nm,1.4s,mb5.5
MARD Mardin 78.63 311 *i* P **P** **16 21 52.1 -2.8**
AMRG 78.94 317 P **P** **16 22 00.7 +4.0**
BNGL BINGOL 78.96 313 *i* P **P** **16 21 57.3 +0.6**
ERZM Erzurum 79.16 314 *i* P **P** **16 21 59.4 +1.5**
KIV Kislovodsk 79.82 318 P **P** **16 22 03.8 +2.4**
comp=Z,321nm,0.9s,mb6.2,SNR=5.7
KIV Kislovodsk 79.82 318 ⇑P **P** **16 22 02.9 +1.5**
SNR=13
KIV Kislovodsk 79.82 318 *e*P **P** **16 22 02.8 +1.4**
KIV *e*S S 16 32 00.8 -2.9
KIV pmax pmax
comp=Z,63nm,1.1s,mb5.5
KIV pmax pmax
comp=Z,173nm,2.3s,mb5.6
KIV Kislovodsk 79.82 318 *e*P **P** **16 22 01.6 +0.2**
comp=Z,43nm,0.8s,mb5.4
LBTB Lobatse 79.91 246 *e*P **P** **16 22 02.4 +0.5**
LBTB pmax pmax
comp=Z,17nm,0.7s,mb5.1
LBTB Lobatse 79.91 246 *e*P **P** **16 22 02.3 +0.4**
comp=Z,17nm,0.7s,mb5.1
ASF Jabal al Asfar 79.94 305 LR LR 16 57 52.9
comp=Z,4μm,19.6s,MS5.8,baz=338,slow=36
GOF Gofitskoye 80.03 319 *e*P **P** **16 22 00.2 -2.4**
GOF *e*S S 16 32 00.9 -5.1
GOF pmax pmax
comp=Z,90nm,1.0s,mb5.7
URFA Urfa 80.14 311 *e*P **P** **16 22 04.9 +1.7**
EZC Erzincan 80.21 313 *e*P **P** **16 22 05.2 +1.6**
QSPA South Pole Qui 80.59 180⇓ *i*P **P** **16 22 04.6 -1.0**
comp=Z,249nm,1.3s,mb6.0
MALT Malatya 80.73 311 P **P** **16 22 07.0 +0.7**
MALT pmax pmax
comp=Z,110nm,1.7s,mb5.5
MALT Malatya 80.73 311 *e*P **P** **16 22 06.9 +0.6**
comp=Z,114nm,1.7s,mb5.5
EIL Elat 80.81 302 *e*P **P** **16 22 07.1 +0.3**
comp=Z,2μm,1.4s,mb6.8
GZT Gaziantep 81.05 310 *i* P **P** **16 22 09.0 +0.9**
SOC Sochi 81.66 317 *e*P **P** **16 22 10.1 -1.2**
SOC *e*S S 16 32 20.9 -2.1
SOC *e*SS SS 16 37 35.6 -4.7
SOC pmax pmax
comp=Z,40nm,0.7s,mb5.5
SOC Sochi 81.66 317 *i* P **P** **16 22 13.5 +2.2**
GRSN GIRESUNGRSN 81.73 314 *i* P **P** **16 22 11.7 +0.1**
COBT Iskenderun 81.78 309 *i* P **P** **16 22 12.0 +0.1**
TIXI Tiksi 81.99 6*c i*P **P** **16 22 11.2 -1.8**
TIXI pmax pmax
comp=Z,189nm,1.3s,mb5.9
SVSK Karacayir 82.31 313 *e*P **P** **16 22 13.5 -1.1**
KOZT Kozan 82.41 310 *e*P **P** **16 22 21.3 +6.1**
KARA Karaisali 82.92 310 *e*P **P** **16 22 20.0 +2.1**
MERS Mersin 83.22 309 *e*P **P** **16 22 19.4 0.0**
VRHR Novokhopersk 83.35 324 *e*P **P** **16 22 20.1 0.0**
VRHR pmax pmax
comp=Z,140nm,0.7s,mb6.1
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,50nm,0.8s
MEST Erdemli 83.42 309 *i* P **P** **16 22 20.2 -0.3**
NVL N'lazarevskaya 83.45 199⇓ *i*P **P** **16 22 20.3 -0.3**
NVL pmax pmax
comp=Z,84nm,1.6s,mb5.5
NVL MLR MLR
comp=Z,4μm,15.8s,MS5.9
MAIT Maitri 83.48 199 *e*P **P** **16 22 20.7 -0.1**
CSS Prodhromos 83.60 307 *e*P **P** **16 22 15.7 -5.7**
CSS Prodhromos 83.60 307 *e*P **P** **16 22 20.7 -0.6**
comp=Z,395nm,1.7s,mb6.3
ANN Anapa 83.63 317 *e*P **P** **16 22 19.3 -2.2**
ANN *e*S S 16 32 40.4 -2.7
ANN pmax pmax
comp=Z,43nm,1.7s,mb5.3
IKL Isikli 83.68 308 *e*P **P** **16 22 20.7 -1.1**
DIKM Dikmen 84.11 314 *e*P **P** **16 22 22.9 -1.1**
CORM Corum 84.11 312 *e*P **P** **16 22 14.8 -9.2**
CTKT Corum 84.13 313 *i* P **P** **16 22 23.2 -0.9**
CDAG Cicekdag 84.14 312 *i* P **P** **16 22 26.7 +2.6**
PECR Pechory 84.24 330 *e*P **P** **16 22 24.0 -0.6**
PECR *e* 16 22 36.6
PECR *e* 16 25 38.6
PECR *e*S 16 32 44.0
PECR pmax pmax
comp=Z,800nm,1.7s,mb6.6
PECR smax
comp=N,2μm,11.0s
PECR smax
comp=E,2μm,8.4s
PECR MLR MLR
comp=N,2μm,17.0s,MS5.7
PECR MLR MLR
comp=E,500nm,14.0s,MS5.7
BOYT Boyabat 84.29 313 *i* P **P** **16 22 25.1 +0.2**
ERMK Ermenek 84.39 308 *i* P **P** **16 22 27.6 +2.2**
KAMT Kaman 84.55 311 *e*P **P** **16 22 26.8 +0.5**
BR131 Keskin Array S 84.71 312 *e*P **P** **16 22 27.0 0.0**
comp=E,16nm,0.7s,mb5.3
BRTR Keskin Array B 84.71 312 P **P** **16 22 27.0 0.0**
comp=E,27nm,1.0s,mb5.3,baz=136,slow=6.3,SNR=61
BRTR Keskin Array B 84.71 312 P **P** **16 22 27.0 0.0**
BRTR pmax pmax
comp=Z,27nm,1.0s
TOS Tosya 84.81 313 *e*P **P** **16 22 26.8 -0.8**
CANT Cankiri 84.98 312 *e*P **P** **16 22 28.7 +0.3**
VOR Voronezh 85.00 324 P **P** **16 22 28.0 -0.5**
VOR pmax pmax
comp=Z,180nm,2.0s,mb5.8
VOR pmax pmax
comp=E,100nm,1.8s
ELDT Eldivan 85.08 312 *i* P **P** **16 22 29.2 +0.3**
ANTO Ankara 85.38 311 *e*P **P** **16 22 28.7 -1.7**
ANTO Ankara 85.38 311⇑ *i*P **P** **16 22 31.4 +1.0**
ANTO Ankara 85.38 311⇑ P **P** **16 22 31.1 +0.7**
SNR=28
ANTO Ankara 85.38 311 P **P** **16 22 31.2 +0.8**
ANTO *e* 16 22 42.3
ANTO pmax pmax
comp=Z,210nm,1.6s,mb6.0
ANTO Ankara 85.38 311 *e*P **P** **16 22 31.1 +0.7**
comp=Z,21nm,0.8s,mb5.3
AMKA Amchitka 85.46 36 *e*P **P** **16 22 29.9 -0.8**
KDHN Kadinhani 85.51 310 *i* P **P** **16 22 29.5 -1.6**
KIZT Kizilcal 85.79 310 *e*P **P** **16 22 31.6 -0.9**
SAFT Safranbolu 85.84 313 *e*P **P** **16 22 34.4 +1.8**
SIM Simferopol' 85.91 317 *e*P **P** **16 22 36.0 +3.0**
SIM *e*S 16 32 56.0
SIM pmax pmax
comp=Z,37nm,0.8s,mb5.7
SGKT Sivrigoynuk 86.11 312 *i* P **P** **16 22 35.4 +1.4**
ANTB Antalya 86.21 308 *e*P **P** **16 22 34.4 -0.1**
ISP Isparta 86.56 309⇑ *e*P **P** **16 22 37.2 +1.0**
ESKT Eskisehir 86.73 311 *i* P **P** **16 22 37.5 +0.5**
ELL Elmali 86.75 308 *e*P **P** **16 22 40.7 +3.5**
TKTP Tekketepe 86.75 309 *i* P **P** **16 22 36.3 -0.9**
HENT Hendek 87.03 312 *i* P **P** **16 22 38.1 -0.4**
BORA Eskisehir 87.11 311 *i* P **P** **16 22 40.5 +1.6**
MOS Moscow 87.33 328 *e*P **P** **16 22 41.0 +1.0**
MOS *i* 16 22 51.7
MOS *e* 16 26 01.9
MOS *e* 16 33 04.5
MOS *i* S 16 33 15.4
MOS pmax pmax
comp=Z,500nm,2.4s,mb6.3
MOS pmax pmax
comp=Z,137nm,1.3s,mb6.0
MOS smax
comp=N,2μm,5.8s
MOS smax
comp=E,1μm,7.3s
MOS MLR MLR
comp=E,3μm,18.0s
MOS MLR MLR
comp=Z,8μm,18.0s,MS6.1
GDZ Gediz 87.65 310 *i* P **P** **16 22 45.0 +3.5**
OBN Obninsk 87.68 327 *de*P **P** **16 22 41.0 -0.6**
OBN *e* 16 22 53.2
OBN *e* 16 26 05.8
OBN *e*S 16 33 08.5
OBN *e*SS SS 16 39 12.1 +3.1
OBN pmax pmax
comp=Z,166nm,1.7s,mb6.0
OBN MLR MLR
comp=Z,2μm,16.0s,MS5.7
OBN Obninsk 87.68 327 *e*P **P** **16 22 41.3 -0.4**
comp=Z,435nm,1.5s,mb6.5
SNAA Sanae 87.74 197⇓ *i*P **P** **16 22 41.4 -0.6**
SNAA *e* 16 22 44.3
SNAA *e* 16 22 55.3
TSUM Tsumeb 88.03 251 LR LR 16 54 34.2
comp=Z,1μm,20.6s,MS5.2,baz=85,slow=30
TSUM Tsumeb 88.03 251 *e*P **P** **16 22 44.0 +0.6**
comp=Z,35nm,1.3s,mb5.4
ULDT Uludag 88.16 311 *i* P **P** **16 22 44.6 +0.6**
GEMT Gemlik 88.19 311 *e*P **P** **16 22 44.0 -0.1**
KLMR Klimovskoe 88.30 333 *e*P **P** **16 22 44.1 -0.5**
KLMR pmax pmax
comp=Z,440nm,1.8s,mb6.4
KDAG Bornova 89.17 309 *i* P **P** **16 22 49.1 +0.4**
IZM Izmir 89.18 309 *e*P **P** **16 22 46.9 -1.8**
URLA Izmir 89.68 309 *i* P **P** **16 22 52.6 +1.5**
TIRR Tirgusor 89.70 315⇓ *i*P **P** **16 22 51.4 +0.2**
TIRR Tirgusor 89.70 315 *e*P **P** **16 22 51.2 0.0**
VNA1 Neumayer--Stat 89.78 197⇓ *i*P **P** **16 22 52.0 +0.5**
VNA1 *e* 16 22 53.5
VNA1 *e* 16 22 54.1
VNA1 *e* pP 16 22 56.5 -0.8
VNA1 *e* 16 23 02.0
VNA1 *e* 16 23 08.7
KIS Kishinev 90.02 318 *e*P **P** **16 22 48.0 -4.7**
KIS *i* S 16 33 38.0
KIS *e*PS PS 16 34 44.0 -8.8
KIS MLR MLR
comp=Z,3μm,19.0s,MS5.8
KIS MLR MLR
comp=E,1μm,16.0s
KIS MLR MLR
comp=Z,4μm,20.0s
CFR Carcaliu 90.06 316⇓ *i*P **P** **16 22 53.3 +0.5**
CFR Carcaliu 90.06 316⇓ P **P** **16 22 53.4 +0.5**
AKASG Malin Array Be 90.64 321 P **P** **16 22 54.2 -1.4**
comp=Z,12nm,0.7s,mb5.3,baz=88,slow=4.5,SNR=26
AKASG PP PP 16 26 27.4 -3.3
comp=Z,8.7nm,0.8s,baz=91,slow=6.0,SNR=14
AKASG Malin Array Be 90.64 321 P **P** **16 22 54.2 -1.4**
AKASG 16 26 27.4
AKASG pmax pmax
comp=Z,12nm,0.7s
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKASG Malin Array Be 90.64 321 P **P** **16 22 54.2 -1.4**
AKASG PP PP 16 26 27.4 -3.3
AKBB Malin Array Si 90.64 321 *e*P **P** **16 22 54.5 -1.1**
VRI Vrincioaia 91.17 316⇓ *i*P **P** **16 22 59.0 +1.0**
VRI Vrincioaia 91.17 316⇓ P **P** **16 22 59.0 +0.9**
MLR Muntele Rosu 91.63 316⇑ *i*P **P** **16 23 00.8 +0.6**
MNK Minsk 92.35 325 *e*P **P** **16 23 02.0 -1.5**
MNK *e* 16 26 42.0
BURAR Bucovina Array 92.54 318⇑ *i*P **P** **16 23 05.1 +0.7**
BURAR Bucovina Array 92.54 318⇑ P **P** **16 23 05.1 +0.7**
JOF Joensuu 92.65 333 *e*p **P** **16 23 03.8 -1.1**
comp=Z,9.0nm,0.5s,mb5.5
JOF Joensuu 92.65 333 *e*P **P** **16 23 03.8 -1.1**
JOF pmax pmax
comp=Z,9.0nm,0.5s,mb5.5
VTS Vitosha 93.03 313⇑ *i*P **P** **16 23 06.8 +0.2**
VTS Vitosha 93.03 313⇑ P **P** **16 23 06.8 +0.2**
APA Apatity 93.11 338⇓ *e*P **P** **16 23 15.5 +8.5**
APA *e* 16 33 38.0
APA pmax pmax
comp=Z,52nm,1.3s,mb5.8
APA MLR MLR
comp=Z,6μm,20.0s,MS6.0
LVV L'vov 93.72 320 *e*P **P** **16 23 11.9 +2.1**
VSU Vasula 93.79 329⇓ *e*P **P** **16 23 11.2 +1.1**
GZR Gura Zlata 93.81 315⇑ *i*P **P** **16 23 11.6 +1.4**
GZR Gura Zlata 93.81 315⇑ P **P** **16 23 11.6 +1.3**
DRGR 94.08 317⇑ *i*P **P** **16 23 14.6 +3.1**
DRGR 94.08 317⇑ P **P** **16 23 14.6 +3.1**
FINES FINESS Array B 94.70 331 P **P** **16 23 13.6 -0.7**
comp=Z,8.3nm,0.8s,mb5.2,baz=119,slow=11,SNR=21
KOLS Kolonicke sedl 94.71 319 *e*P **P** **16 23 14.7 +0.4**
KOLS *e* 16 27 08.3
KOLS pmax pmax
comp=Z,21nm,1.5s,mb5.3
KOLS Kolonicke sedl 94.71 319 *e*P **P** **16 23 14.7 +0.4**
comp=Z,21nm,1.5s,mb5.3
KOLS *e* 16 23 35.6
KOLS *e*PP PP 16 27 08.3 +5.7
KAF Kangasniemi 94.72 332 *e*p **P** **16 23 13.6 -0.8**
comp=Z,22nm,0.9s,mb5.6
KAF Kangasniemi 94.72 332 *e*P **P** **16 23 13.6 -0.8**
KAF pmax pmax
comp=Z,22nm,0.9s,mb5.6
AKUT Akutan 94.92 36 *e*P **P** **16 23 14.1 -1.2**
SUW Suwalki 94.94 324 *e*P **P** **16 23 15.1 -0.3**
SUW pmax pmax
comp=Z,108nm,1.2s,mb6.2
SUW Suwalki 94.94 324 *e*P **P** **16 23 15.1 -0.3**
comp=Z,108nm,1.2s,mb6.2
CRVS Cervenica-Dubn 95.23 319 *e*P **P** **16 23 18.9 +2.2**
CRVS *e*PP PP 16 26 57.4 -9.3
ARCES ARCESS Array B 96.39 339 P **P** **16 23 21.8 -0.2**
comp=Z,6.6nm,0.8s,mb5.1,baz=92,slow=3.7,SNR=13
ARCES ARCESS Array B 96.39 339 P **P** **16 23 21.8 -0.2**
ARCES pmax pmax
comp=Z,7.0nm,0.8s
OJC Ojcow 96.48 320 *e*P **P** **16 23 19.7 -2.7**
VYHS Vyhne 96.91 318 *e*P **P** **16 23 26.0 +1.6**
VYHS *e* 16 23 36.7
VYHS *e*PP PP 16 27 15.3 -4.4
MORC Moravsky Berou 97.88 319 P **P** **16 23 28.7 -0.1**
MORC *e* 16 23 41.6
MORC pmax pmax
comp=Z,17nm,1.4s,mb5.4
MORC Moravsky Berou 97.88 319 *e*P **P** **16 23 27.0 -1.8**
comp=Z,4.3nm,0.9s,mb5.0
ZST Bratislava 98.03 318 *e*PP PP 16 27 26.3 -2.0
BRG Berggiesshubel 100.25 320 *e*P Pdif 16 23 41.2 +1.9
comp=Z,2.3nm,1.0s
BRG *e* 16 23 52.6
comp=Z,2.4nm,0.9s
BRG *e* 16 27 46.8
comp=Z,6.2nm,1.1s
BRG *e* 16 27 59.0
comp=Z,19nm,1.6s
BRG Berggiesshubel 100.25 320 *e*P Pdif 16 23 41.2 +1.8
BRG *e* 16 27 46.8
BRG pmax pmax
comp=Z,2.0nm,1.0s
BRG pmax pmax
comp=Z,2.0nm,0.9s
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG pmax pmax
comp=Z,19nm,1.6s
GERES GERESS Array B 100.33 318 P Pdif 16 23 38.9 -0.8
comp=Z,0.6nm,0.6s,baz=97,slow=6.9,SNR=5.8
GERES PP PP 16 27 35.8 -10
comp=Z,0.3nm,0.2s,baz=94,slow=5.4,SNR=4.1
KHC Kasperske Hory 100.42 318⇑ *e*P Pdif 16 23 39.3 -0.8
CLL Collm 100.86 321 *e*PDIF Pdif 16 23 48.0 +5.9
CLL *e* 16 24 10.0
CLL *i* PP PP 16 27 49.9 0.0
CLL *i* 16 28 00.8
CLL *i* 16 28 09.6
CLL *e*PPP 16 29 55.0
CLL *e* 16 34 27.0
CLL Collm 100.86 321 *e*(Pdif) 16 23 48.0
CLL *ex* x 16 24 10.0
CLL *i* PP PP 16 27 49.9 0.0
CLL *i* x x 16 28 00.8
CLL *i* x x 16 28 09.6
CLL *e*PPP 16 29 55.0
CLL *e*SKSac SKSac 16 34 27.0 +6.6
CLL Collm 100.86 321 *e*P Pdif 16 23 48.0 +5.9
CLL *i* 16 27 49.9
CLL MLR MLR
comp=Z,900nm,18.3s,MS5.3
CLL Collm 100.86 321 *e*Pdif Pdif 16 23 48.0 +5.9
CLL *e* 16 24 10.0
CLL *i* PP PP 16 27 49.9 0.0
CLL *i* 16 28 00.8
CLL *e*SKS 16 34 27.0
MOX Moxa 101.73 320 *e*PDIFF Pdif 16 23 48.6 +2.7
MOX *e*PP PP 16 27 56.4 0.0
comp=Z,34nm,1.7s
MOX Moxa 101.73 320 *e*P Pdif 16 23 48.6 +2.7
MOX *e* 16 27 56.4
MOX pmax pmax
comp=Z,34nm,1.7s
MOX Moxa 101.73 320 *e*Pdif Pdif 16 23 48.6 +2.7
comp=Z,34nm,1.7s
MOX *e*PP PP 16 27 56.4 0.0
NB2 NORSAR Subarra101.82 330 Pdif Pdif 16 23 44.8 -1.5
comp=Z,2.9nm,0.9s,baz=88,slow=4.4
NOA NORSAR Array B101.82 330 P Pdif 16 23 45.5 -0.8
comp=Z,1.5nm,0.7s,baz=89,slow=4.5,SNR=5.3
NOA PP PP 16 27 55.1 -2.0
comp=Z,2.4nm,0.8s,baz=90,slow=7.1,SNR=4.8
NOA NORSAR Array B101.82 330 P Pdif 16 23 45.5 -0.8
NOA 16 27 55.1
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA pmax pmax
comp=Z,2.0nm,0.8s
GRA1 Grafenberg Arr 101.97 319 *e*Pdif Pdif 16 23 47.2 +0.2
GRA1 *e*PP PP 16 27 56.4 -1.8
GRF Grafenberg Arr 101.97 319 *e*Pdiff Pdif 16 23 47.2 +0.2
GRF *e*PP PP 16 27 56.4 -1.8
CDF Champ du Feu 104.59 318 *e*PKIKP PKiKP 16 28 11.8 -2.6
comp=Z,12nm,1.1s
HINF Hinteralfeld 104.89 317 *e*PKIKP PKiKP 16 28 12.4 -2.6
LPG La Plagne 105.05 315 *e*PKIKP PKiKP 16 28 13.0 -2.3
comp=Z,16nm,1.0s
LPL La Plagne 105.06 315 *e*PKIKP PKiKP 16 28 12.9 -2.4
comp=Z,9.2nm,0.9s
LMR La Mourre 105.29 312 *e*PKIKP PKiKP 16 28 12.8 -2.9
VIVF Saint-Julien-l 106.55 314 *e*PKIKP PKiKP 16 28 15.6 -2.5
LASF Ste Croix 107.18 313 *e*PKIKP PKiKP 16 28 16.9 -2.3
comp=Z,14nm,1.2s
SSF Saint Saulge 107.21 316 *e*PKIKP PKiKP 16 28 16.5 -2.8
MTLF Montolieu 108.41 313 *e*PKIKP PKiKP 16 28 19.3 -2.2
TORD Torodi Ar. Bea 108.57 281 PKiKP PKiKP 16 28 22.1 +0.3
comp=Z,0.7nm,0.6s,baz=106,slow=3.2,SNR=3.8
TORD PKKPbc PKKPbc 16 39 31.7 +0.6
comp=Z,1.3nm,0.6s,baz=307,slow=3.3,SNR=13
TORD PKKPab PKKPab 16 39 43.5 -0.8
comp=Z,1.5nm,0.8s,baz=319,slow=2.7,SNR=7.3
RJF Les Rejaudoux 108.74 315 *e*PKIKP PKiKP 16 28 20.0 -2.1
RJF *e*R
comp=Z,3μm,19.2s
RJF Les Rejaudoux 108.74 315 *e*PKPdf PKiKP 16 28 20.0 -2.1
RJF LR LR
comp=Z,3μm,19.3s,MS5.9
MFF Saint Martin d 109.75 316 *e*PKIKP PKiKP 16 28 21.9 -2.1
comp=Z,6.1nm,0.7s
ETSF Etsaut 110.48 312 *e*PKIKP PKiKP 16 28 23.5 -1.9
SGMF Saint Gilles 111.13 318 *e*PKIKP PKiKP 16 28 24.6 -2.0
ESDC Sonseca Array 113.41 309 PP PP 16 29 22.7 +0.8
comp=Z,1.5nm,0.7s,baz=66,slow=7.6,SNR=5.0
ESDC PKKPbc PKKPbc 16 39 22.5 +7.2
comp=Z,0.3nm,0.3s,baz=272,slow=4.4,SNR=5.4
DBIC Dimbokro 114.27 273 PKP PKiKP 16 28 32.2 -0.4
comp=Z,1.8nm,0.6s,baz=104,slow=4.2,SNR=3.0
DBIC Dimbokro 114.27 273 PKIKP PKiKP 16 28 32.2 -0.4
DBIC pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 118.50 21 PKP PKPdf 16 28 39.5 -1.2
comp=Z,3.9nm,0.6s,baz=336,slow=2.0,SNR=26
YKA PP PP 16 30 06.3 +8.7
comp=Z,3.6nm,1.1s,baz=306,slow=6.5,SNR=6.6
YKA PKKPbc PKKPbc 16 38 57.2 -0.3
comp=Z,0.8nm,0.8s,baz=118,slow=4.1,SNR=5.6
YKA Yellowknife Ar 118.50 21 PKIKP PKPdf 16 28 39.5 -1.3
YKA 16 30 06.3
YKA pmax pmax
comp=Z,4.0nm,0.6s
YKA pmax pmax
comp=Z,4.0nm,1.1s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 118.50 21 PKP PKPdf 16 28 39.5 -1.2
YKA PP PP 16 30 06.3 +8.7
YKA PKKPbc PKKPbc 16 38 57.2 -0.3
H03A Soap Creek Ran 123.16 42⇑ P PKPdf 16 28 51.0 +1.3
baz=123
HUMO Hull Mountain 124.14 44⇑ P PKPdf 16 28 52.0 +0.4
baz=124
N02C Big Bar 124.50 47⇓ P PKPdf 16 28 52.7 +0.4
baz=124
M02C Callahan 124.63 46⇓ P PKPdf 16 28 53.3 +0.8
baz=124
EDM Edmonton 124.76 29 *e*PKIKP PKPdf 16 28 52.9 +0.1
EDM *e* 16 29 05.6
O02C Red Bluff 125.08 47⇓ P PKPdf 16 28 54.8 +1.4
baz=125
M04C Macdoel 125.21 45⇓ P PKPdf 16 28 54.7 +1.1
baz=125
MNRC McLaughlin Nat 125.76 49⇓ P PKPdf 16 28 55.3 +0.6
baz=126
J06A Christmas Vall 125.80 43⇑ P PKPdf 16 28 55.0 +0.2
baz=126
L05A Lakeview 125.81 44⇑ P PKPdf 16 28 56.2 +1.4
baz=126
HATC Hat Creek Radi 125.82 46⇑ P PKPdf 16 28 56.6 +1.8
baz=126
K06A Valley Falls 125.91 43⇑ P PKPdf 16 28 56.5 +1.6
baz=126

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORV	**Oroville**	**126.23**	**47**	⇑P	PKPdf	16 28 56.8	+1.2
	baz=126						
O04C	**Chester**	**126.26**	**46**	⇓P	PKPdf	16 28 57.1	+1.4
	baz=126						
J07A	**Hines**	**126.31**	**42**	⇓P	PKPdf	16 28 57.5	+1.7
	baz=126						
P05C	**Yuba Gap, Truc**	**126.96**	**47**	⇑P	PKPdf	16 28 58.9	+1.9
	baz=127						
N06A	**Buffalo Meadow**	**126.99**	**45**	⇑P	PKPdf	16 28 58.4	+1.4
	baz=127						
S04C	**Ingram Canyon,**	**127.03**	**50**	⇓P	PKPdf	16 28 58.7	+1.6
	baz=127						
WVOR	**Wild Horse Val**	**127.15**	**43**	*e*PKIKP	PKPdf	16 28 58.7	+1.3
M07A	**Soldier Meadow**	**127.21**	**45**	⇑P	PKPdf	16 28 59.5	+2.1
	baz=127						
O06A	**Flanigan**	**127.21**	**46**	⇑P	PKPdf	16 28 59.2	+1.7
	baz=127						
R05C	**Kirkwood Meado**	**127.56**	**48**	⇓P	PKPdf	16 28 59.0	+0.9
	baz=128						
M08A	**Happy Creek Ra**	**127.73**	**44**	⇑P	PKPdf	16 29 00.0	+1.6
	baz=128						
O07A	**Toulon**	**127.89**	**46**	⇑P	PKPdf	16 29 00.5	+1.7
	baz=128						
L09A	**Wilkinson Ranc**	**127.98**	**43**	⇓P	PKPdf	16 29 00.6	+1.7
	baz=128						
S06C	**San Francisco**	**128.01**	**49**	⇑P	PKPdf	16 29 00.6	+1.6
	baz=128						
MSO	**Missoula**	**128.04**	**36**	*e*PKPdf	PKPdf	16 28 59.5	+0.4
MSO				*e*		16 29 12.4	
R06C	**Coleville**	**128.08**	**48**	⇑P	PKPdf	16 29 01.4	+2.2
	baz=128						
CHMT	**Chamberlain Mo**	**128.40**	**36**	*e*PKPdf	PKPdf	16 28 58.9	-0.9
CHMT				*e*		16 29 12.8	
N09A	**Rock Creek Ran**	**128.57**	**45**	⇑P	PKPdf	16 29 01.9	+1.9
	baz=128						
NVAR	**Mina Array Bea**	**128.95**	**48**	PKP	PKPdf	16 29 02.6	+1.8
	comp=Z,2.6nm,0.7s,baz=248,slow=0.9,SNR=15						
NVAR				PP	PP	16 31 08.4	+0.4
	comp=Z,2.8nm,1.1s,baz=264,slow=6.3,SNR=2.9						
NVAR				SKKPbc		16 42 06.4	
	comp=Z,0.2nm,0.6s,baz=109,slow=2.9,SNR=3.8						
Q08A	**Gabbs**	**129.06**	**47**	⇑P	PKPdf	16 29 03.4	+2.4
	baz=129						
MTUM	**Tungsten Hills**	**129.15**	**49**	*e*PKPdf	PKPdf	16 29 03.3	+2.2
MTUM				*e*		16 29 15.6	
DLMT	**Dillon**	**129.61**	**37**	*e*PKPdf	PKPdf	16 29 03.6	+1.5
EGMT	**Eagleton**	**129.71**	**33**	*e*PKPdf	PKPdf	16 29 00.9	-1.3
EGMT				*e*		16 29 16.1	
MCMT	**McKenzie Canyo**	**129.74**	**38**	*e*PKPdf	PKPdf	16 29 04.1	+1.8
S09A	**Goldfield**	**130.01**	**48**	⇑P	PKPdf	16 29 04.7	+1.9
	baz=130						
BOZ	**Bozeman (W)**	**130.03**	**36**	*e*PKIKP	PKPdf	16 29 03.5	+0.7
PLCA	**Paso Flores**	**130.10**	**181**	PKP	PKPdf	16 29 03.8	+0.9
	comp=Z,6.4nm,1.0s,baz=211,slow=1.6,SNR=5.5						
PLCA				SKPbc		16 32 25.1	
	comp=Z,8.3nm,1.0s,baz=159,slow=8.4,SNR=4.9						
PLCA	**Paso Flores**	**130.10**	**181**	PKIKP	PKPdf	16 29 03.8	+0.8
PLCA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PLCA				pmax	pmax		
	comp=E,8.0nm,1.0s						
N12A	**Clover Valley,**	**130.27**	**43**	⇓P	PKPdf	16 29 06.3	+3.0
	baz=130						
QLMT	**Earthquake Lak**	**130.59**	**37**	*e*PKPdf	PKPdf	16 29 06.2	+2.3
Q11A	**Duckwater**	**130.70**	**46**	⇓P	PKPdf	16 29 06.1	+2.0
	baz=131						
TPNV	**Topopah Spring**	**131.02**	**49**	*e*PKIKP	PKPdf	16 29 07.4	+2.7
GCMT	**Greycliff**	**131.08**	**35**	*e*PKPdf	PKPdf	16 29 06.5	+1.7
U10A	**Ash Meadows, A**	**131.16**	**49**	⇓P	PKPdf	16 29 08.4	+3.4
	baz=131						
GSC	**Goldstone**	**131.20**	**51**	⇓P	PKPdf	16 29 08.6	+3.6
	baz=131						
HVU	**Hansel Valley**	**131.34**	**41**	*e*PKIKP	PKPdf	16 29 06.4	+1.1
RRI2	**Red Ridge**	**131.46**	**39**	*e*PKPdf	PKPdf	16 29 05.8	+0.3
TPAW	**Teton Pass**	**131.61**	**38**	*e*PKPdf	PKPdf	16 29 06.8	+1.0
DUG	**Dugway**	**132.07**	**43**	*e*PKIKP	PKPdf	16 29 09.6	+2.9
DUG				*e*		16 29 20.8	
HWUT	**Hardware Ranch**	**132.21**	**41**	*e*PKPdf	PKPdf	16 29 09.4	+2.4
HWUT				*e*		16 29 20.5	
V12A	**Nelson**	**132.53**	**50**	⇓P	PKPdf	16 29 10.1	+2.5
	baz=132						
ARUT	**Antelope Range**	**132.72**	**46**	*e*PKIKP	PKPdf	16 29 07.0	-0.9
ARUT				*e*		16 29 23.2	
PDAR	**Pinedale Array**	**132.86**	**39**	PKP	PKPdf	16 29 08.5	+0.3
	comp=E,1.3nm,0.6s,baz=358,slow=1.7,SNR=11						
PDAR				SKKPbc		16 41 53.4	
	comp=E,0.6nm,0.8s,baz=116,slow=3.4,SNR=3.8						
MSU	**Marysvale**	**133.29**	**45**	*e*PKIKP	PKPdf	16 29 10.8	+1.8
W13A	**Hualapai Mount**	**133.50**	**50**	⇑P	PKPdf	16 29 12.1	+2.7
	baz=133						
X13A	**Yucca**	**133.74**	**51**	⇑P	PKPdf	16 29 11.8	+2.0
	baz=134						
SRU	**San Rafael**	**134.14**	**43**	*e*PKIKP	PKPdf	16 29 11.5	+0.9
ULM	**Lac du Bonnet**	**134.47**	**22**	PKP	PKPdf	16 29 10.3	-0.9
	comp=E,3.7nm,0.8s,baz=226,slow=2.0,SNR=3.6						
ULM				SKPbc	SKPbc	16 32 38.1	-2.2
	comp=E,9.1nm,1.1s,baz=308,slow=3.3,SNR=4.0						
ULM	**Lac du Bonnet**	**134.47**	**22**	PKP	PKPdf	16 29 10.3	-0.9
ULM				SKPbc	SKPbc	16 32 38.1	-2.1
X14A	**Yava**	**134.50**	**50**	⇑P	PKPdf	16 29 12.5	+1.3
	baz=134						
SCHQ	**Schefferville**	**134.57**	**356**	PKP	PKPdf	16 29 11.1	-0.3
	comp=E,2.7nm,0.5s,baz=352,slow=3.2,SNR=15						
SCHQ				PP	PP	16 31 38.7	-5.5
	comp=E,8.4nm,0.9s,baz=18,slow=7.7,SNR=4.8						
SCHQ	**Schefferville**	**134.57**	**356**	PKP	PKPdf	16 29 11.1	-0.3
SCHQ				PP	PP	16 31 38.7	-5.5
Y14A	**Wickenburg**	**134.62**	**51**	⇑P	PKPdf	16 29 12.3	+0.8
	baz=134						
RSSD	**Black Hills**	**135.26**	**34**	*e*PKIKP	PKPdf	16 29 12.1	-0.6
PV10	**Paradox Valley**	**135.52**	**43**	*e*PKPdf	PKPdf	16 29 12.6	-0.6
ANMO	**Albuquerque**	**139.03**	**46**	⇑*i*PKIKP	PKPdf	16 29 22.4	+2.8
LPM	**Los Pinos Moun**	**139.22**	**47**	*e*PKPdf	PKPdf	16 29 21.4	+1.4
BNM	**Barren Site**	**139.30**	**47**	*e*PKPdf	PKPdf	16 29 20.8	+0.6
LTX	**Lajitas**	**143.77**	**52**	*e*PKIKP	PKPdf	16 29 28.0	-0.1
PKME	**Peaks-Kenny Pk**	**144.24**	**358**	*e*PKPdf	PKPdf	16 29 27.0	-2.0
WMOK	**Wichita Mounta**	**144.38**	**41**	*e*PKIKP	PKPdf	16 29 28.1	-1.1
MSNY	**Massena**	**144.41**	**4**	*e*PKPdf	PKPdf	16 29 27.3	-2.0
FRNY	**Flat Rock**	**144.66**	**3**	*e*PKPdf	PKPdf	16 29 28.2	-1.5
LONY	**Lake Ozonia**	**144.81**	**4**	*e*PKPdf	PKPdf	16 29 28.6	-1.4
LBNH	**Lisbon**	**145.30**	**1**	*e*PKIKP	PKPdf	16 29 30.7	-0.1
MIV	**Mineville/With**	**145.42**	**3**	*e*PKPdf	PKPdf	16 29 30.7	-0.3
AAM	**Ann Arbor**	**145.48**	**16**	*e*PKIKP	PKPbc	16 29 34.2	+3.0
AAM				*e*		16 29 45.0	
AAM	**Ann Arbor**	**145.48**	**16**	*e*PKP	PKPdf	16 29 31.3	+0.2
NCB	**Newcomb**	**145.48**	**4**	*e*PKP	PKPdf	16 29 31.1	0.0
HNH	**Hanover**	**145.83**	**1**	*e*PKPdf	PKPdf	16 29 31.1	-0.6
BAO	**Brasilia Array**	**146.08**	**223**	P	PKPdf	16 29 29.0	-3.1
BDFB	**Brasilia**	**146.09**	**223**	PKPbc	PKPbc	16 29 33.4	+0.3
	comp=E,20nm,0.7s,baz=129,slow=1.7,SNR=21						
BDFB	**Brasilia**	**146.09**	**223**	PKP2	PKPab	16 29 33.4	-0.3
BDFB				pmax	pmax		
	comp=Z,20nm,0.7s						
ACCN	**Adirondack Com**	**146.10**	**3**	*e*PKPdf	PKPdf	16 29 32.4	+0.2
JCT	**Junction City**	**146.13**	**48**	*e*PKIKP	PKPdf	16 29 31.3	-0.9
JCT	**Junction City**	**146.13**	**48**	*e*PKPdf	PKPdf	16 29 31.1	-1.1
CCM	**Cathedral Cave**	**146.28**	**29**	*e*PKP2	PKPab	16 29 32.1	-2.3
CCM	**Cathedral Cave**	**146.28**	**29**	*e*PKPdf	PKPdf	16 29 32.0	-0.5
SLM	**Saint Louis**	**146.29**	**27**	PKP2	PKPab	16 29 33.6	-0.8
SLM	**Saint Louis**	**146.29**	**27**	*e*PKPbc	PKPbc	16 29 33.3	-0.4
ERPA	**Erie**	**146.53**	**12**	*e*PKPbc	PKPbc	16 29 33.8	-0.6
FVM	**French Village**	**146.73**	**28**	*e*PKIKP	PKPdf	16 29 32.6	-0.6
ALLY	**Alegheny Colle**	**146.95**	**12**	*e*PKPbc	PKPbc	16 29 35.2	-0.4
HRV	**Harvard--Oak R**	**147.04**	**0**	PKP2	PKPab	16 29 35.3	-2.0
HRV	**Harvard--Oak R**	**147.04**	**0**	*e*PKPbc	PKPbc	16 29 35.0	-0.8
WES	**Weston**	**147.16**	**0**	PKP2	PKPab	16 29 36.3	-1.5
WES	**Weston**	**147.16**	**0**	*e*PKPbc	PKPbc	16 29 36.0	-0.1
QUA2	**Belchertown**	**147.25**	**1**	*e*PKPbc	PKPbc	16 29 36.4	0.0
BLO	**Bloomington**	**147.37**	**22**	PKP2	PKPab	16 29 36.6	-2.1
SIUC	**Southern Illin**	**147.50**	**27**	*e*PKPdf	PKPdf	16 29 34.7	+0.2
ACSO	**Alum Creek Sta**	**147.59**	**17**	*e*PKPbc	PKPbc	16 29 37.0	-0.4
MIAR	**Mount Ida**	**147.70**	**36**	*e*PKPbc	PKPbc	16 29 37.5	-0.1
USIN	**University of**	**147.96**	**25**	*e*PKPbc	PKPbc	16 29 38.0	-0.4
LVC	**Limon Verde**	**148.09**	**184**	PKPdf	PKPdf	16 29 36.4	+0.9
PARMO	**Parma**	**148.11**	**29**	*e*PKPbc	PKPbc	16 29 37.5	-1.2
UALR	**University of**	**148.23**	**34**	*e*PKPbc	PKPbc	16 29 39.1	0.0
WCI	**Wyandotte Cave**	**148.28**	**23**	PKP2	PKPbc	16 29 38.5	-0.7
WCI	**Wyandotte Cave**	**148.28**	**23**	*e*PKPbc	PKPbc	16 29 38.4	-0.8
SSPA	**Standing Stone**	**148.36**	**10**	*e*PKPdf	PKPdf	16 29 36.0	0.0
SSPA				*e*PKPbc	PKPbc	16 29 39.5	+0.1
SSPA				*e*PKPab	PKPab	16 29 41.4	-1.2
PAL	**Palisades**	**148.45**	**4**	PKP2	PKPbc	16 29 39.4	-0.2
PAL	**Palisades**	**148.45**	**4**	*e*PKPbc	PKPbc	16 29 39.1	-0.6
CPNY	**Central Park**	**148.66**	**4**	*e*PKPab	PKPab	16 29 42.8	-1.0
BRNJ	**Basking Ridge**	**148.72**	**5**	PKPbc	PKPbc	16 29 40.7	+0.4
NATX	**Nacogdoches**	**148.93**	**41**	PKPdf	PKPdf	16 29 37.8	+0.9
HKT	**Hockley**	**149.27**	**45**	PKP2	PKPbc	16 29 40.5	-1.2
HKT	**Hockley**	**149.27**	**45**	*e*PKPbc	PKPbc	16 29 40.3	-1.4
WVT	**Waverly**	**149.43**	**27**	*e*PKP2	PKPbc	16 29 42.3	+0.2
PLAL	**Pickwick Lake**	**150.27**	**29**	*e*PKPdf	PKPdf	16 29 38.8	-0.2
PLAL				*e*PKPbc	PKPbc	16 29 43.6	-0.5
PLAL				*e*		16 29 56.9	
FWV	**Forest Hill**	**150.66**	**16**	*e*PKPdf	PKPdf	16 29 40.2	+0.6
FWV				*e*PKPbc	PKPbc	16 29 44.8	-0.3
TZTN	**Tazewell**	**150.78**	**21**	*e*PKPbc	PKPbc	16 29 45.6	+0.2
BLA	**Blacksburg**	**151.11**	**15**	*e*PKIKP	PKPbc	16 29 45.5	-0.7
CPCT	**Cooper Cave**	**151.40**	**23**	*e*PKPdf	PKPdf	16 29 41.7	+0.9
CPCT				*e*PKPbc	PKPbc	16 29 47.5	+0.7
LRAL	**Lakeview Retre**	**152.37**	**29**	*e*PKPdf	PKPdf	16 29 42.7	+0.5
LRAL				*e*PKPbc	PKPbc	16 29 49.1	0.0
LPAZ	**La Paz**	**154.27**	**187**	PKP	PKPdf	16 29 47.5	+2.5
	comp=Z,3.4nm,0.9s,baz=151,slow=0.9,SNR=14						
LPAZ				PKPbc	PKPbc	16 29 55.1	+2.0
	comp=Z,7.1nm,0.6s,baz=181,slow=2.3,SNR=27						
LPAZ				PP	PP	16 33 42.7	+0.7
	comp=Z,4.1nm,1.1s,baz=220,slow=2.0,SNR=3.6						
LPAZ	**La Paz**	**154.27**	**187**	PKIKP	PKPdf	16 29 47.5	+2.5
LPAZ						16 29 55.2	
LPAZ						16 33 42.7	
LPAZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LPAZ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LPAZ	**La Paz**	**154.27**	**187**	PKP	PKPdf	16 29 47.5	+2.5
LPAZ				PKPbc	PKPbc	16 29 55.1	+2.0
LPAZ				PP	PP	16 33 42.7	+0.7
ARE	**Arequipa**	**154.29**	**179**	*e*PKIKP	PKPdf	16 29 48.0	+3.0
SAML	**Samuel**	**160.06**	**204**	*e*PKPdf	PKPdf	16 29 53.3	+1.0
SAML				*e*PKPab	PKPab	16 30 32.3	+0.2
ROSC	**El Rosal**	**174.54**	**146**	PKP	PKPdf	16 30 04.8	+2.0
	comp=Z,5.6nm,0.4s,baz=108,slow=21,SNR=9.6						
ROSC				PKPab	PKPab	16 31 37.9	+1.9
	comp=Z,4.4nm,0.3s,baz=286,slow=15,SNR=3.8						
SDV	**Santo Domingo**	**179.19**	**230**	*e*PKPdf	PKPdf	16 30 03.4	-0.2

IDC ***17*** *16:19:22.8±6.1, 9.85S×108.83E, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.0/15, mbtmp4.2/5, Error ellipse: s-maj=148.5km s-min=57.1km az=161.0*
NEIC ***17*** *16:19:27.9±1.0, 9.31S×108.61E, h10km, mb4.9/5, Error ellipse: s-maj=30.3km s-min=16.4km az=214.0*
ISCJB ***17*** *16:19:29.2±3.2, 9.3S±0.5×108.8E±0.2, h33km, mb4.6/12, Error ellipse: s-maj=67.5km s-min=35.4km az=1.9*
ISC 17 16:19:30.8±3.2**, 9.5S**±0.5×**108.7E**±0.3**, h35km, n18,** σ**0.31**/15**, mb4.6**/12**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**29.69**	**341**	*e*P	**P**	**16 25 33.0**	**-0.2**
	4.3nm,0.8s,mb4.2						
JIRN	**Jiri**	**42.85**	**330**	*e*P	**P**	**16 27 25.8**	**+0.3**
	28nm,0.7s,mb5.1						
PKI	**Pulchoki**	**43.17**	**329**	*e*P	**P**	**16 27 27.9**	**-0.1**
GUN	**Gumba**	**43.22**	**330**	*e*P	**P**	**16 27 28.6**	**+0.2**
	26nm,0.6s,mb5.1						
DMN	**Daman**	**43.36**	**329**	*e*P	**P**	**16 27 29.8**	**+0.3**
	54nm,1.0s,mb5.2						
KKN	**Kakani**	**43.42**	**329**	*e*P	**P**	**16 27 29.5**	**-0.5**
GKN	**Gorkha**	**43.92**	**329**	*e*P	**P**	**16 27 33.7**	**-0.3**
	21nm,0.8s,mb4.9						
KOLN	**Koldanda**	**44.27**	**327**	*e*P	**P**	**16 27 36.7**	**-0.2**
	27nm,0.8s,mb5.1						
MJAR	**Matsushiro Arr**	**53.49**	**30**	P	**P**	**16 28 47.2**	**-0.3**
	1.1nm,0.8s,mb3.9,baz=210,slow=8.3,SNR=4.8						
SONM	**Songino Array**	**57.06**	**358**	P	**P**	**16 29 13.9**	**+0.6**
	1.0nm,0.6s,mb4.0,baz=174,slow=8.2,SNR=4.3						
MKAR	**Makanchi Array**	**60.75**	**339**	P	**P**	**16 29 39.2**	**+0.3**
	6.4nm,0.6s,mb4.9,baz=146,slow=8.1,SNR=46						
MKAR	**Makanchi Array**	**60.75**	**339**	P	**P**	**16 29 39.2**	**+0.3**
BVAR	**Borovoye Array**	**70.27**	**337**	P	**P**	**16 30 40.1**	**-0.3**
	2.8nm,0.8s,mb4.2,baz=156,slow=8.6,SNR=6.2						
CHKZ	**Chkalovo**	**70.68**	**337**	*e*P	**P**	**16 30 43.0**	**+0.2**
	3.0nm,0.5s,mb4.5						
BRTR	**Keskin Array B**	**84.71**	**312**	P	**P**	**16 32 01.1**	**0.0**
	1.1nm,0.7s,mb4.1,baz=134,slow=5.3,SNR=5.5						
WMOK	**Wichita Mounta**	**144.41**	**41**	*e*PKP	PKPdf	16 39 04.6	+1.4
NCB	**Newcomb**	**145.51**	**4**	*e*PKP	PKPdf	16 39 06.9	+1.8
WVT	**Waverly**	**149.47**	**27**	*e*PKPbc	PKPbc	16 39 18.5	+2.3

IDC ***17*** *16:22:55.1±2.0, 9.15S×107.36E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/16, mbtmp4.0/6, Error ellipse: s-maj=87.7km s-min=27.4km az=44.0*
NEIC ***17*** *16:22:56.8±1.1, 9.26S×107.35E, h10km, mb4.7/5, Error ellipse: s-maj=47.2km s-min=13.5km az=221.0*
ISCJB ***17*** *16:22:58.7±1.5, 9.1S±0.3×107.6E±0.3, h33km, mb4.3/11, Error ellipse: s-maj=60.6km s-min=18.5km az=82.9*
ISC 17 16:23:00.9±1.5**, 9.2S**±0.3×**107.4E**±0.3**, h35km, n17,** σ**0.82**/16**, mb4.3**/11**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.09**	**115**	P	**P**	**16 28 49.7**	**+0.5**
	0.6nm,0.8s,mb3.3,baz=289,slow=10,SNR=3.4						
JIRN	**Jiri**	**42.03**	**331**	*e*P	**P**	**16 30 50.3**	**+1.4**
	16nm,0.6s,mb4.8						
PKI	**Pulchoki**	**42.33**	**330**	*e*P	**P**	**16 30 52.3**	**+0.9**
GUN	**Gumba**	**42.39**	**331**	*e*P	**P**	**16 30 53.1**	**+1.3**
DMN	**Daman**	**42.51**	**330**	*e*P	**P**	**16 30 53.5**	**+0.7**
KKN	**Kakani**	**42.58**	**330**	*e*P	**P**	**16 30 53.6**	**+0.3**
GKN	**Gorkha**	**43.07**	**330**	*e*P	**P**	**16 30 57.0**	**-0.3**
KOLN	**Koldanda**	**43.40**	**329**	*e*P	**P**	**16 30 59.3**	**-0.7**
	17nm,0.7s,mb4.9						
SONM	**Songino Array**	**56.79**	**359**	P	**P**	**16 32 41.0**	**-0.5**
	0.6nm,0.5s,mb3.9,baz=177,slow=8.7,SNR=4.5						
ULN	**Ulaanbaatar**	**56.81**	**360**	*e*P	**P**	**16 32 42.2**	**+0.5**
	2.2nm,0.4s,mb4.5						
MKAR	**Makanchi Array**	**60.09**	**340**	P	**P**	**16 33 04.0**	**-0.6**
	2.2nm,0.5s,mb4.5,baz=151,slow=7.9,SNR=25						
KURK	**Kurchatov**	**64.71**	**340**	*e*P	**P**	**16 33 35.4**	**0.0**
	5.8nm,1.2s,mb4.5						
ZAL	**Zalesovo**	**65.75**	**346**	P	**P**	**16 33 40.3**	**-1.9**
	1.2nm,0.4s,mb4.3,baz=331,slow=3.3,SNR=4.4						
BVAR	**Borovoye Array**	**69.55**	**337**	P	**P**	**16 34 05.7**	**-0.5**
	2.1nm,0.6s,mb4.2,baz=143,slow=8.9,SNR=9.4						
CHKZ	**Chkalovo**	**69.97**	**338**	*e*P	**P**	**16 34 08.2**	**-0.5**
	3.4nm,0.6s,mb4.5						
BRTR	**Keskin Array B**	**83.61**	**312**	P	**P**	**16 35 24.9**	**-0.7**
	0.6nm,0.7s,mb3.9,baz=120,slow=6.2,SNR=4.1						
WMOK	**Wichita Mounta**	**145.04**	**39**	*e*PKP	PKPdf	16 42 35.2	+0.8

IDC ***17*** *16:27:02.9±0.9, 9.60S×108.00E, h0km, mb4.0/9, mb1 4.1/9, mb1mx4.0/16, mbtmp4.0/9, Error ellipse: s-maj=32.8km s-min=18.9km az=62.0*
BJI ***17*** *16:27:03.6, 9.60S×107.90E, h10km, mb4.6*
NEIC ***17*** *16:27:04.7±0.4, 9.58S×107.92E, h10km, mb4.8/4, Error ellipse: s-maj=19.1km s-min=7.9km az=50.0*
ISCJB ***17*** *16:27:06.1±0.7, 9.6S±0.1×108.0E±0.1, h33km, mb4.2/14, Error ellipse: s-maj=25.7km s-min=10.6km az=102.9*
ISC 17 16:27:08.4±0.7**, 9.6S**±0.1×**107.9E**±0.1**, h35km, n24,** σ**0.82**/19**, mb4.2**/14**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.51**	**115**	P	**P**	**16 32 50.6**	**-1.0**
	0.8nm,0.7s,mb3.5,baz=288,slow=10,SNR=6.6						
WRAB	**Tennant Creek**	**27.52**	**115**	P	**P**	**16 32 52.7**	**+1.1**
WB2	**Warramunga Arr**	**27.52**	**115**	*e*P	**P**	**16 32 53.1**	**+1.5**
ASAR	**Alice Springs**	**28.50**	**123**	P	**P**	**16 32 59.5**	**-0.9**
	0.3nm,0.4s,mb3.2,baz=301,slow=8.6,SNR=4.3						
AS31	**Alice Springs**	**28.50**	**123**	P	**P**	**16 33 00.1**	**-0.2**
GYA	**Guiyang**	**35.88**	**358**	P	**P**	**16 34 06.8**	**+1.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
MJAR	**Matsushiro Arr**	**54.04**	**30**	P	**P**	**16 36 28.4**	**-0.9**
	comp=Z,1.9nm,0.9s,mb4.0,baz=210,slow=8.9,SNR=5.2						
SONM	**Songino Array**	**57.21**	**359**	P	**P**	**16 36 52.7**	**+0.7**
	comp=Z,2.4nm,0.5s,mb4.5,baz=176,slow=8.2,SNR=20						
ULN	**Ulaanbaatar**	**57.23**	**359**	*e*P	**P**	**16 36 52.4**	**+0.3**
	comp=Z,8.4nm,0.9s,mb4.8						
MKAR	**Makanchi Array**	**60.63**	**340**	P	**P**	**16 37 15.5**	**-0.2**
	comp=Z,3.0nm,0.6s,mb4.6,baz=144,slow=7.7,SNR=25						
MKAR	**Makanchi Array**	**60.63**	**340**	P	**P**	**16 37 15.5**	**-0.2**
MAW	**Mawson**	**65.14**	**197**	P	**P**	**16 37 45.9**	**+0.2**
	comp=Z,1.0nm,0.7s,mb4.0,baz=45,slow=7.1,SNR=4.1						
KURK	**Kurchatov**	**65.25**	**340**	*e*P	**P**	**16 37 46.3**	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.3						
ZAL	**Zalesovo**	**66.27**	**345**	P	**P**	**16 37 53.3**	**+0.3**
	comp=Z,0.7nm,0.3s,mb4.2,baz=83,slow=3.6,SNR=3.6						
BVAR	**Borovoye Array**	**70.11**	**337**	P	**P**	**16 38 16.5**	**-0.5**
	comp=Z,2.2nm,0.6s,mb4.3,baz=149,slow=6.9,SNR=4.2						
BRVK	**Borovoye**	**70.17**	**337**	*e*P	**P**	**16 38 17.0**	**-0.4**
CHKZ	**Chkalovo**	**70.52**	**338**	*e*P	**P**	**16 38 19.6**	**-0.1**
	comp=Z,4.5nm,0.6s,mb4.6						
YAK	**Yakutsk**	**73.42**	**11**	*e*P	**P**	**16 38 35.6**	**-1.4**
	comp=Z,13nm,0.8s,mb4.9						
BRTR	**Keskin Array B**	**84.22**	**312**	P	**P**	**16 39 36.5**	**+0.2**
	comp=Z,0.7nm,0.7s,mb3.9,baz=133,slow=5.5,SNR=4.1						
WMOK	**Wichita Mounta**	**145.07**	**40**	*e*PKP	PKPdf	16 46 43.4	+1.4
NCB	**Newcomb**	**145.73**	**3**	*e*PKP	PKPdf	16 46 43.6	+0.5
CCM	**Cathedral Cave**	**146.86**	**28**	*e*PKPdf	PKPdf	16 46 45.5	+0.4
WVT	**Waverly**	**149.99**	**26**	*e*PKPbc	PKPbc	16 46 56.5	+1.4
PLAL	**Pickwick Lake**	**150.84**	**28**	*e*PKPbc	PKPbc	16 46 57.8	+0.7

IDC ***17*** *16:27:35.4±0.5, 9.52S×108.35E, h0km, mb4.4/18, mb1 4.5/18, mb1mx4.4/23, mbtmp4.4/18, Error ellipse: s-maj=18.6km s-min=13.4km az=76.0*
BJI ***17*** *16:27:36.9, 9.50S×108.30E, h15km, mB4.9, mb4.8*
NEIC ***17*** *16:27:38.0±10.0, 9.50S×108.32E, h16km±63km, mb5.3/9, Error ellipse: s-maj=13.7km s-min=7.7km az=63.0*
ISCJB ***17*** *16:27:38.9±0.4, 9.48S±0.06×108.38E±0.08, h33km, mb4.7/33, Error ellipse: s-maj=12.8km s-min=7.8km az=124.4*
ISC 17 16:27:41.2±0.4**, 9.51S**±0.06×**108.36E**±0.08**, h35km, n44,** σ**0.99**/41**, mb4.7**/33**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**24.70**	**162**	P	**P**	**16 32 57.4**	**-1.5**
	15nm,0.6s,mb4.7,baz=320,slow=13,SNR=15						
WRA	**Warramunga Arr**	**27.14**	**115**	P	**P**	**16 33 21.5**	**+0.6**
	2.7nm,0.5s,mb4.0,baz=286,slow=11,SNR=9.4						
WRAB	**Tennant Creek**	**27.14**	**115**	*e*P	**P**	**16 33 23.0**	**+2.0**
WB2	**Warramunga Arr**	**27.15**	**115**	*e*P	**P**	**16 33 23.2**	**+2.1**
ASAR	**Alice Springs**	**28.17**	**123**	P	**P**	**16 33 29.8**	**-0.4**
	1.6nm,0.9s,mb3.6,baz=290,slow=8.5,SNR=4.2						
ASAR				PcP	PcP	16 36 44.1	+0.7
	1.2nm,0.6s,baz=307,slow=2.0,SNR=8.1						
GYA	**Guiyang**	**35.79**	**357**	P	**P**	**16 34 37.9**	**+1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CTA	**Charters Tower**	**38.02**	**110**	P	**P**	**16 34 56.2**	**+0.2**
	comp=Z,2.9nm,0.7s,mb4.1,baz=235,slow=18,SNR=2.5						
CTA	**Charters Tower**	**38.02**	**110**	P	**P**	**16 34 56.2**	**+0.2**
JOW	**Kunigami**	**40.97**	**28**	P	**P**	**16 35 19.6**	**-0.8**
	comp=Z,14nm,0.8s,mb4.7,baz=216,slow=6.2,SNR=5.0						
JIRN	**Jiri**	**42.74**	**330**	*e*P	**P**	**16 35 35.4**	**+0.5**
	comp=Z,71nm,0.9s,mb5.4						
GUN	**Gumba**	**43.10**	**330**	*e*P	**P**	**16 35 38.3**	**+0.5**
	comp=Z,64nm,0.9s,mb5.4						
DMN	**Daman**	**43.23**	**329**	*e*P	**P**	**16 35 38.3**	**-0.6**
	comp=Z,63nm,0.9s,mb5.3						
KKN	**Kakani**	**43.30**	**330**	*e*P	**P**	**16 35 39.3**	**-0.1**
	comp=Z,54nm,0.9s,mb5.3						
XAN	**Xi'an**	**43.31**	**1**	P	**P**	**16 35 39.6**	**0.0**
XAN				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.9						
GKN	**Gorkha**	**43.79**	**329**	*e*P	**P**	**16 35 43.5**	**+0.1**
	comp=Z,63nm,0.8s,mb5.4						
KOLN	**Koldanda**	**44.14**	**328**	*e*P	**P**	**16 35 46.3**	**+0.1**
	comp=Z,73nm,0.8s,mb5.4						
LZH	**Lanzhou**	**45.55**	**355**	*e*P	**P**	**16 35 58.8**	**+1.4**
LZH				AP	pP	16 36 08.8	+1.0
LZH				XP	sP	16 36 12.3	+0.3
LZH				PP	PP	16 37 47.3	+2.9
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.9						
GTA	**Gaotai**	**49.31**	**351**	*e*P	**P**	**16 36 27.8**	**+1.1**
GTA				AP	pP	16 36 34.8	-2.3
GTA				XP	sP	16 36 39.3	-2.0
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.5						
BJI	**Beijing**	**49.83**	**8**	*e*P	**P**	**16 36 30.8**	**+0.2**
BJI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.9						
MAT	**Matsushiro**	**53.72**	**30**	P	**P**	**16 36 57.6**	**-2.0**
MAT	**Matsushiro**	**53.72**	**30**	*e*P	**P**	**16 36 58.0**	**-1.6**
MJAR	**Matsushiro Arr**	**53.72**	**30**	P	**P**	**16 36 57.6**	**-2.1**
	comp=Z,3.8nm,0.7s,mb4.4,baz=210,slow=7.3,SNR=12						
SONM	**Songino Array**	**57.12**	**358**	P	**P**	**16 37 24.4**	**+0.3**
	comp=Z,3.2nm,0.7s,mb4.5,baz=176,slow=8.1,SNR=11						
ULN	**Ulaanbaatar**	**57.13**	**359**	*e*P	**P**	**16 37 24.3**	**+0.1**
	comp=Z,7.4nm,0.9s,mb4.7						
OPO	**Ambohidratompo**	**59.79**	**254**	P	**P**	**16 37 43.0**	**+0.3**
	comp=Z,4.3nm,0.8s,mb4.6,baz=104,slow=9.0,SNR=6.1						
MKAR	**Makanchi Array**	**60.69**	**340**	P	**P**	**16 37 48.9**	**0.0**
	comp=Z,9.3nm,0.6s,mb5.1,baz=143,slow=7.8,SNR=20						
KURK	**Kurchatov**	**65.31**	**340**	*e*P	**P**	**16 38 18.9**	**-0.6**
	comp=Z,9.9nm,0.8s,mb4.9						
MAW	**Mawson**	**65.38**	**197**	P	**P**	**16 38 18.1**	**-1.9**
	comp=Z,9.2nm,0.6s,mb5.0,baz=70,slow=6.1,SNR=28						
ZAL	**Zalesovo**	**66.28**	**345**	P	**P**	**16 38 23.8**	**-2.0**
	comp=Z,1.1nm,0.5s,mb4.2,baz=13,slow=4.5,SNR=5.7						
BVAR	**Borovoye Array**	**70.19**	**337**	P	**P**	**16 38 50.1**	**-0.3**
	comp=Z,3.6nm,0.7s,mb4.4,baz=134,slow=8.5,SNR=7.7						
CHKZ	**Chkalovo**	**70.60**	**337**	*e*P	**P**	**16 38 52.2**	**-0.7**
	comp=Z,4.2nm,0.6s,mb4.5						
YAK	**Yakutsk**	**73.23**	**10**	*e*P	**P**	**16 39 07.4**	**-1.2**
	comp=Z,19nm,0.6s,mb5.2						
VNDA	**Vanda**	**73.27**	**169**	P	**P**	**16 39 08.1**	**-0.7**
	comp=Z,3.4nm,0.8s,mb4.3,baz=303,slow=6.1,SNR=18						
AKTK	**Aktyubinsk**	**73.96**	**329**	P	**P**	**16 39 14.1**	**+1.3**
AKTO	**Aktyubinsk**	**73.96**	**329**	P	**P**	**16 39 14.1**	**+1.3**
	comp=Z,1.0nm,0.6s,mb3.9,baz=135,slow=7.1,SNR=3.6						
LSZ	**Lusaka**	**78.14**	**256**	P	**P**	**16 39 37.3**	**+0.6**
	comp=Z,5.3nm,0.7s,mb4.6,baz=95,slow=4.7,SNR=14						
BRTR	**Keskin Array B**	**84.49**	**312**	P	**P**	**16 40 10.2**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.2,baz=104,slow=2.5,SNR=4.0						
SNAA	**Sanae**	**87.54**	**197**	P	**P**	**16 40 24.7**	**-0.7**
	comp=Z,1.0nm,1.1s,mb4.0,baz=111,slow=7.1,SNR=9.6						
SNAA	**Sanae**	**87.54**	**197**	*e*	**P**	**16 40 25.5**	**+0.1**
SNAA				*e*		16 40 27.5	
TSUM	**Tsumeb**	**87.65**	**251**	P	**P**	**16 40 26.7**	**+0.8**
	comp=Z,1.5nm,0.8s,mb4.3,baz=93,slow=4.8,SNR=5.6						
VNA1	**Neumayer--Stat**	**89.58**	**197**	*e*	**P**	**16 40 35.6**	**+0.6**
VNA1				*e*		16 40 37.8	
YKA	**Yellowknife Ar**	**118.72**	**21**	PKP	PKPdf	16 46 27.1	+1.6
	comp=Z,0.4nm,0.7s,baz=320,slow=2.0,SNR=2.7						
LPAZ	**La Paz**	**154.13**	**188**	PKP	PKPdf	16 47 30.1	+1.1
	comp=Z,0.3nm,0.5s,baz=161,slow=8.6,SNR=3.8						
LPAZ				PKPbc	PKPbc	16 47 40.5	+3.3
	comp=Z,0.5nm,0.5s,baz=216,slow=8.7,SNR=3.3						
LPAZ				PKPab	PKPab	16 47 52.4	+1.5
	comp=Z,1.1nm,0.7s,baz=318,slow=0.5,SNR=8.6						
LPAZ	**La Paz**	**154.13**	**188**	PKP	PKPdf	16 47 30.1	+1.1
LPAZ				PKPbc	PKPbc	16 47 40.5	+3.3
LPAZ				PKPab	PKPab	16 47 52.4	+1.5

IDC ***17*** *16:31:54.0±0.5, 9.59S×108.73E, h0km, mb4.2/19, mb1 4.3/20, mb1mx4.3/24, mbtmp4.3/20, ML4.1/1, Error ellipse: s-maj=20.3km s-min=13.3km az=58.0*
BJI ***17*** *16:31:54.6, 9.60S×108.70E, h10km, mB5.1, mb4.8, Ms5.4, Msz5.1*
NEIC ***17*** *16:31:55.6±4.9, 9.59S×108.71E, h10km±30km, mb4.8/4, Error ellipse: s-maj=10.6km s-min=5.4km az=56.0*
ISCJB ***17*** *16:31:57.7±0.3, 9.56S±0.06×108.81E±0.07, h35km, mb4.6/44, MS5.1/3, Error ellipse: s-maj=10.9km s-min=7.0km az=125.3*
MOS ***17*** *16:31:57.5±1.1, 9.50S×108.83E, h33km, mb5.1/14, Error ellipse: s-maj=15.7km s-min=8.8km az=114.5*
ISC 17 16:31:59.8±0.3**, 9.60S**±0.05×**108.77E**±0.07**, h37km, h37km**±2.7km**:pP-P, n82,** σ**1.00**/73**, mb4.6**/44**, MS5.1**/3**, 9C-8D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.44**	**23**	⇑*i*P	**Pn**	**16 32 39.3**	**+2.2**
BJII				*i*S	**Sn**	**16 32 51.2**	**-15**
FITZ	**Fitzroy Crossi**	**18.42**	**119**	P	**Pn**	**16 36 12.8**	**+0.7**
	0.5nm,0.3s,baz=303,slow=5.2,SNR=4.2						
NWAO	**Narrogin (SRO)**	**24.49**	**163**	P	**P**	**16 37 14.4**	**-1.0**
	7.5nm,0.8s,mb4.2,baz=11,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**26.74**	**116**	P	**P**	**16 37 36.0**	**+0.1**
	2.9nm,0.6s,mb4.0,baz=286,slow=11,SNR=8.5						
WRA				Sn	S	16 42 46.2	+37

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.6nm,0.7s,baz=282,slow=24,SNR=4.7						
WRAB	**Tennant Creek**	**26.74**	**115**	⇓eP	**P**	**16 37 37.6**	**+1.7**
WRAB	**Tennant Creek**	**26.74**	**115**	eP	**P**	**16 37 37.2**	**+1.3**
ASAR	**Alice Springs**	**27.78**	**123**	P	**P**	**16 37 45.6**	**+0.4**
	1.6nm,0.8s,mb3.7,baz=299,slow=8.6,SNR=8.0						
ASAR				PcP	PcP	16 41 02.4	+1.5
	0.7nm,0.6s,baz=325,slow=2.8,SNR=3.7						
ASAR				Sn	S	16 43 08.0	+43
	3.8nm,0.8s,baz=304,slow=23,SNR=6.7						
ASAR	**Alice Springs**	**27.78**	**123**	P	**P**	**16 37 45.6**	**+0.4**
ASAR						16 41 02.4	
KMI	**Kunming**	**35.01**	**350**	P	**P**	**16 38 51.3**	**+2.6**
KMI				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.7						
GYA	**Guiyang**	**35.90**	**357**	⇑iP	**P**	**16 38 57.8**	**+1.4**
GYA				AP	pP	16 39 01.8	-5.1
GYA				XP	sP	16 39 05.6	-5.7
GYA				PP	PP	16 40 20.6	+2.3
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,170nm,4.5s						
GYA				LR	LR		
	comp=N,640nm,14.8s,MS4.7						
GYA				LR	LR		
	comp=E,670nm,15.0s,MS4.7						
GYA				LR	LR		
	comp=Z,710nm,15.2s,MS4.5						
CTA	**Charters Tower**	**37.62**	**110**	P	**P**	**16 39 10.7**	**-0.3**
	comp=Z,3.1nm,0.7s,mb4.1,baz=280,slow=6.1,SNR=2.6						
WHN	**Wuhan**	**40.27**	**7**	eP	**P**	**16 39 34.8**	**+1.6**
SSE	**Sheshan**	**42.18**	**16**	eP	**P**	**16 39 47.3**	**-1.6**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,2µm,12.0s						
NJ2	**Nanjing**	**42.53**	**13**	eP	**P**	**16 39 51.0**	**-0.7**
NJ2				AP	pP	16 40 01.1	-1.3
NJ2				XP	sP	16 40 05.0	-1.8
NJ2				PP	PP	16 41 32.4	+1.8
NJ2				S	**S**	**16 46 09.0**	**-2.5**
NJ2				XS	sS	16 46 25.0	-4.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
NJ2				LR	LR		
	comp=N,5µm,15.4s,MS5.9						
NJ2				LR	LR		
	comp=E,10µm,14.5s,MS5.9						
NJ2				LR	LR		
	comp=Z,5µm,14.5s,MS5.6						
JIRN	**Jiri**	**43.02**	**330**	eP	**P**	**16 39 56.3**	**+0.7**
PKI	**Pulchoki**	**43.33**	**329**	eP	**P**	**16 39 58.4**	**+0.2**
GUN	**Gumba**	**43.38**	**330**	eP	**P**	**16 39 59.2**	**+0.6**
XAN	**Xi'an**	**43.40**	**0**	P	**P**	**16 39 59.1**	**+0.3**
XAN				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
DMN	**Daman**	**43.52**	**329**	eP	**P**	**16 39 59.4**	**-0.3**
KKN	**Kakani**	**43.58**	**329**	eP	**P**	**16 40 00.1**	**-0.1**
GKN	**Gorkha**	**44.08**	**329**	eP	**P**	**16 40 04.0**	**-0.2**
KOLN	**Koldanda**	**44.43**	**327**	eP	**P**	**16 40 06.9**	**-0.1**
LZH	**Lanzhou**	**45.68**	**354**	eP	**P**	**16 40 18.4**	**+1.5**
LZH				AP	pP	16 40 28.3	+0.6
LZH				XP	sP	16 40 31.3	-0.8
LZH				PP	PP	16 42 06.3	+2.0
LZH				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,223nm,5.1s						
GTA	**Gaotai**	**49.47**	**351**	eP	**P**	**16 40 48.1**	**+1.8**
GTA				AP	pP	16 40 58.3	+1.1
GTA				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.9						
BJI	**Beijing**	**49.87**	**7**	eP	**P**	**16 40 48.8**	**-0.6**
BJI				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.9						
SNY	**Shenyang**	**52.95**	**14**	⇓P	**P**	**16 41 13.3**	**+0.8**
SNY				AMB	AMB		
	comp=Z,32nm,0.6s,mb5.4						
MJAR	**Matsushiro Arr**	**53.60**	**29**	P	**P**	**16 41 15.8**	**-1.4**
	comp=Z,2.8nm,0.8s,mb4.2,baz=209,slow=8.3,SNR=8.4						
VLA	**Vladivostok**	**56.55**	**20**	eP	**P**	**16 41 44.3**	**+5.8**
VLA				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
SONM	**Songino Array**	**57.22**	**358**	P	**P**	**16 41 43.3**	**0.0**
	comp=Z,2.5nm,0.6s,mb4.4,baz=175,slow=8.2,SNR=15						
ULN	**Ulaanbaatar**	**57.23**	**359**	⇑eP	**P**	**16 41 43.6**	**+0.2**
ULN	**Ulaanbaatar**	**57.23**	**359**	eP	**P**	**16 41 43.4**	**0.0**
	comp=Z,3.9nm,0.5s,mb4.7						
AAK	**Ala-Archa**	**60.69**	**332**	⇑iP	**P**	**16 42 05.7**	**-1.6**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.5						
MKAR	**Makanchi Array**	**60.92**	**339**	P	**P**	**16 42 08.8**	**-0.1**
	comp=Z,8.5nm,0.7s,mb5.0,baz=147,slow=7.5,SNR=36						
MKAR	**Makanchi Array**	**60.92**	**339**	⇑eP	**P**	**16 42 08.8**	**-0.1**
KLR	**Kul'dur**	**61.97**	**17**	eP	**P**	**16 42 12.2**	**-3.8**
YSS	**Yuzh-Sakhalins**	**63.93**	**25**	⇓eP	**P**	**16 42 28.9**	**-0.1**
YSS				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7						
MAW	**Mawson**	**65.41**	**198**	P	**P**	**16 42 37.6**	**-1.1**
	comp=Z,2.9nm,0.8s,mb4.4,baz=34,slow=5.2,SNR=5.1						
KURK	**Kurchatov**	**65.53**	**339**	⇑iP	**P**	**16 42 38.9**	**-0.6**
ZAL	**Zalesovo**	**66.47**	**345**	P	**P**	**16 42 44.1**	**-1.4**
	comp=Z,2.5nm,0.3s,mb4.7,baz=64,slow=5.1,SNR=7.4						
BOD	**Bodaibo**	**67.32**	**3**	eP	**P**	**16 42 50.1**	**-0.8**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.5						
NVS	**Novosibirsk**	**67.69**	**344**	eP	**P**	**16 42 51.6**	**-1.7**
BVAR	**Borovoye Array**	**70.43**	**337**	P	**P**	**16 43 09.9**	**-0.3**
	comp=Z,2.8nm,0.8s,mb4.2,baz=143,slow=8.4,SNR=11						
BRVK	**Borovoye**	**70.50**	**337**	eP	**P**	**16 43 10.1**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
BRVK	**Borovoye**	**70.50**	**337**	eP	**P**	**16 43 10.1**	**-0.6**
	comp=Z,5.9nm,1.2s,mb4.4						
CHKZ	**Chkalovo**	**70.84**	**337**	eP	**P**	**16 43 12.3**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
CHKZ	**Chkalovo**	**70.84**	**337**	eP	**P**	**16 43 12.3**	**-0.4**
	comp=Z,6.8nm,0.5s,mb4.8						
ZRNK	**Zerenda**	**70.93**	**336**	eP	**P**	**16 43 12.5**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**70.93**	**336**	eP	**P**	**16 43 12.5**	**-0.7**
	comp=Z,5.3nm,0.6s,mb4.7						
KMBO	**Kilima Mbogo**	**71.59**	**272**	P	**P**	**16 43 17.5**	**+0.2**
	comp=Z,1.5nm,0.9s,mb3.9,baz=223,slow=22,SNR=4.2						
KMBO	**Kilima Mbogo**	**71.59**	**272**	⇑eP	**P**	**16 43 20.2**	**+2.9**
VNDA	**Vanda**	**73.11**	**170**	P	**P**	**16 43 25.1**	**-1.2**
	comp=Z,2.1nm,1.0s,mb4.0,baz=336,slow=2.1,SNR=7.7						
YAK	**Yakutsk**	**73.25**	**10**	⇑iP	**P**	**16 43 26.3**	**-0.9**
YAK				pmax	pmax		
	comp=Z,39nm,1.7s,mb5.1						
AKTK	**Aktyubinsk**	**74.24**	**329**	P	**P**	**16 43 32.4**	**-0.5**
AKTO	**Aktyubinsk**	**74.24**	**329**	P	**P**	**16 43 32.4**	**-0.5**
	comp=Z,0.8nm,0.4s,mb4.0,baz=98,slow=6.1,SNR=5.5						
MA2	**Magadan**	**76.68**	**20**	⇓eP	**P**	**16 43 46.6**	**-0.4**
MA2				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
ARU	**Arti**	**77.71**	**334**	⇓iP	**P**	**16 43 52.8**	**+0.1**
ARU				e	pP	16 44 02.8	-1.3
ARU				e		16 46 47.9	
ARU				eS	S	16 53 43.0	+0.8
ARU				eSS	SS	16 58 48.7	+6.2
ARU				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
MBAR	**Mbarara**	**78.10**	**271**	⇓eP	**P**	**16 43 55.8**	**+0.9**
LSZ	**Lusaka**	**78.51**	**256**	P	**P**	**16 43 57.4**	**+0.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=81,slow=7.5,SNR=4.2						
KIV	**Kislovodsk**	**79.97**	**318**	eP	**P**	**16 44 09.7**	**+4.6**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
ASF	**Jabal al Asfar**	**80.07**	**305**	P	**P**	**16 44 07.1**	**+1.4**
	comp=Z,0.8nm,0.3s,mb4.2,baz=2.2,slow=3.9,SNR=3.2						
MMAI	**Mount Meron Ar**	**81.53**	**306**	P	**P**	**16 44 14.8**	**+1.4**
	comp=Z,0.8nm,0.4s,mb4.0,baz=96,slow=7.7,SNR=3.9						
TIXI	**Tiksi**	**82.17**	**6**	⇓eP	**P**	**16 44 17.0**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BRTR	**Keskin Array B**	**84.85**	**312**	P	**P**	**16 44 30.4**	**-0.2**
	comp=Z,1.2nm,0.7s,mb4.2,baz=126,slow=6.3,SNR=6.3						
BRTR	**Keskin Array B**	**84.85**	**312**	⇑eP	**P**	**16 44 33.5**	**+2.9**
VRSR	**Storozhevoye**	**84.98**	**324**	eP	**P**	**16 44 31.0**	**-0.2**
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
VRSR				pmax	pmax		
	comp=N,7.0nm,0.7s						
VRSR				pmax	pmax		
	comp=E,10.0nm,1.1s						
SNAA	**Sanae**	**87.57**	**197**	P	**P**	**16 44 44.7**	**+0.7**
	comp=E,0.5nm,0.9s,mb3.8,baz=166,slow=8.3,SNR=4.6						
OBN	**Obninsk**	**87.85**	**327**	⇓eP	**P**	**16 44 45.8**	**+0.5**
OBN				pmax	pmax		
	comp=Z,29nm,1.7s,mb5.2						
OBN				MLR	MLR		
	comp=Z,500nm,18.0s,MS5.0						
TSUM	**Tsumeb**	**88.00**	**251**	P	**P**	**16 44 46.1**	**+0.1**
	comp=Z,1.8nm,0.9s,mb4.3,baz=17,slow=3.2,SNR=3.9						
TSUM	**Tsumeb**	**88.00**	**251**	P	**P**	**16 44 46.1**	**0.0**
KLMR	**Klimovskoe**	**88.48**	**333**	eP	**P**	**16 44 46.9**	**-1.4**
KLMR				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.3						
VNA1	**Neumayer--Stat**	**89.61**	**197**	eP	**P**	**16 44 54.1**	**+0.5**
VNA1				e		16 44 56.0	
VNA1				e	pP	16 45 07.1	+1.9
YKA	**Yellowknife Ar**	**118.66**	**21**	PKP	PKPdf	16 50 43.3	-0.5
	comp=Z,0.2nm,0.6s,baz=342,slow=2.7,SNR=3.7						
YKA	**Yellowknife Ar**	**118.66**	**21**	PKP	PKPdf	16 50 43.3	-0.5
NVAR	**Mina Array Bea**	**129.06**	**48**	PKP	PKPdf	16 51 06.1	+2.4
	comp=Z,0.4nm,0.6s,baz=207,slow=1.7,SNR=4.1						
WMOK	**Wichita Mounta**	**144.50**	**41**	ePKIKP	PKPdf	16 51 32.7	+0.5
LONY	**Lake Ozonia**	**144.99**	**4**	ePKPdf	PKPdf	16 51 32.3	-0.7
BDFB	**Brasilia**	**145.97**	**223**	PKPbc	PKPbc	16 51 37.1	+1.6
	comp=Z,2.3nm,0.4s,baz=123,slow=3.7,SNR=3.4						
LVC	**Limon Verde**	**147.90**	**184**	ePKPbc	PKPbc	16 51 43.2	+2.2
WVT	**Waverly**	**149.59**	**27**	ePKP2	PKPbc	16 51 46.6	+1.3
PLAL	**Pickwick Lake**	**150.42**	**29**	ePKPbc	PKPbc	16 51 47.8	+0.5
CPCT	**Cooper Cave**	**151.56**	**23**	ePKPbc	PKPbc	16 51 50.8	+0.9
LPAZ	**La Paz**	**154.09**	**187**	PKPbc	PKPbc	16 51 58.4	+2.8
	comp=Z,0.7nm,0.5s,baz=101,slow=5.2,SNR=4.2						

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*HLW **17** 16:33:29.0, 3460N×2473E, h20km, Mb4.6*
*CSEM **17** 16:33:30.3±0.1, 3425N×2464E, h64km±1km, ML4.3, Error ellipse: s-maj=2.1km s-min=1.1km az=60.0*
*IDC **17** 16:33:30.6±2.9, 3438N×2461E, h35km±17km, mb3.9/9, mb1 4.0/16, mb1mx3.8/27, mbtmp4.1/16, ML3.9/5, Error ellipse: s-maj=25.2km s-min=15.8km az=3.0*
*ISCJB **17** 16:33:30.8±0.4, 3429N±002×2467E±004, h70km±5km, mb3.9/11, Error ellipse: s-maj=6.2km s-min=3.5km az=130.4*
*NEIC **17** 16:33:31.0, 3432N×2456E, h60km, mb4.2/2, After ATH.*
*ATH **17** 16:33:31.0, 3432N×2456E, h60km±4km, ML4.3*
ISC 17 16:33:32.3±0.3**, 3432N**±002×**2463E**±004**, h62**km±5km**, n88, σ0s94**/97**, mb4.0**/11**, 27C-3D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.69**	**319**	eP	**Pn**	**16 33 45.2**	**-1.4**
IDI	**Anoyia**	**0.99**	**12**	Pg	**Pn**	**16 33 49.9**	**-0.4**
	101nm,0.3s,baz=194,slow=16,SNR=630						
IDI				Lg		16 34 02.5	
	201nm,0.3s,baz=343,slow=20,SNR=18						
XRY	**Khrisi**	**1.04**	**57**	eP	**Pn**	**16 33 51.0**	**+0.1**
VAM	**Vamos**	**1.14**	**342**	eP	**Pn**	**16 33 52.0**	**-0.3**
VAM				eS	**Sn**	**16 34 06.8**	**-0.4**
NPS	**Neapolis**	**1.24**	**40**	eP	**Pn**	**16 33 53.5**	**-0.1**
KYTH	**Kithira**	**2.35**	**327**	eP	**Pn**	**16 34 08.0**	**-0.6**
KARP	**Karpathos**	**2.41**	**59**	eP	**Pn**	**16 34 10.5**	**+1.1**
VLI	**Veliai**	**2.77**	**330**	eP	**Pn**	**16 34 13.8**	**-0.4**
SLUM		**2.86**	**170**	⇑P	**Pn**	**16 34 16.2**	**+0.7**
DAT	**Datca**	**3.40**	**44**	eP	**Pn**	**16 34 23.8**	**+0.9**
ARG	**Arkhangelos**	**3.43**	**55**	eP	**Pn**	**16 34 24.1**	**+0.8**
BODT	**Bodrum**	**3.50**	**38**	eP	**Pn**	**16 34 24.8**	**+0.5**
BDRM	**Kayabasi**	**3.57**	**39**	iP	**Pn**	**16 34 25.4**	**+0.2**
BDRM				iS	**Sn**	**16 35 03.4**	**-2.8**
ITM	**Ithomi**	**3.60**	**323**	eP	**Pn**	**16 34 26.0**	**+0.3**
ATH	**Athens Observa**	**3.72**	**349**	eP	**Pn**	**16 34 27.9**	**+0.6**
HMAT	**Matruh**	**3.83**	**146**	⇓P	**Pn**	**16 34 28.8**	**0.0**
MLSB	**Milas**	**3.92**	**40**	eP	**Pn**	**16 34 30.3**	**+0.4**
DALT	**Dalyan (Mudla)**	**4.08**	**52**	eP	**Pn**	**16 34 33.1**	**+0.9**
YER	**Yerkesik**	**4.09**	**46**	eP	**Pn**	**16 34 33.3**	**+1.0**
AYDN	**Tasoluk**	**4.25**	**37**	iP	**Pn**	**16 34 35.3**	**+0.8**
AYDN				iS	**Sn**	**16 35 23.9**	**+1.1**
FETY	**Fethiye**	**4.30**	**56**	eP	**Pn**	**16 34 35.5**	**+0.2**
DABA	**Dabaa**	**4.51**	**136**	⇑P	**Pn**	**16 34 37.5**	**-0.6**
DNZL	**Cakiroluk**	**4.91**	**45**	iP	**Pn**	**16 34 44.1**	**+0.6**
DNZL				iS	**Sn**	**16 35 30.6**	**-8.5**
ELL	**Elmali**	**4.94**	**59**	eP	**Pn**	**16 34 44.7**	**+0.8**
DENT	**Denizli**	**4.95**	**45**	eP	**Pn**	**16 34 45.0**	**+0.9**
SWA2		**5.11**	**172**	⇑P	**Pn**	**16 34 47.5**	**+1.2**
SWA1		**5.12**	**169**	⇑P	**Pn**	**16 34 48.0**	**+1.5**
BCK	**Bucak**	**5.76**	**55**	eP	**Pn**	**16 34 56.7**	**+1.5**
HBRG	**Burj al 'Arab**	**5.77**	**129**	⇑P	**Pn**	**16 34 55.0**	**-0.4**
TKTP	**Tekketepe**	**5.91**	**49**	iP	**Pn**	**16 34 57.6**	**+0.4**
TKTP				iS	**Sn**	**16 36 00.3**	**-3.3**
HNAT	**Natroun**	**6.90**	**131**	⇓P	**Pn**	**16 35 11.9**	**+1.0**
HMYD	**Mayadein**	**6.91**	**129**	⇑P	**Pn**	**16 35 10.7**	**-0.2**
AANS		**6.99**	**123**	P	**Pn**	**16 35 12.0**	**-0.1**
AWBH		**7.01**	**147**	⇑P	**Pn**	**16 35 12.6**	**+0.4**
SQR		**7.11**	**127**	⇑P	**Pn**	**16 35 13.6**	**-0.1**
FYM	**Al Fayyum**	**7.13**	**129**	⇑P	**Pn**	**16 35 13.4**	**-0.6**
AYT	**Al 'Ayyat**	**7.20**	**128**	⇑P	**Pn**	**16 35 14.5**	**-0.4**
HLW	**Helwan**	**7.22**	**126**	⇑P	**Pn**	**16 35 15.1**	**-0.1**
KONT	**Konya--Tatoy**	**7.22**	**58**	eP	**Pn**	**16 35 15.8**	**+0.5**
KIZT	**Kizilcal**	**7.39**	**50**	eP	**Pn**	**16 35 18.1**	**+0.6**
KOT	**Kottamia**	**7.51**	**124**	⇑P	**Pn**	**16 35 19.0**	**-0.1**
HSAF	**As Saff**	**7.52**	**127**	⇑P	**Pn**	**16 35 19.3**	**0.0**
GLL	**Jalalah**	**7.65**	**126**	⇑P	**Pn**	**16 35 20.9**	**-0.1**
HHAG	**Hagoal**	**7.68**	**122**	⇑P	**Pn**	**16 35 21.2**	**-0.3**
HBNS	**Bani Suwayf**	**7.75**	**132**	⇑P	**Pn**	**16 35 22.4**	**0.0**
AMAG	**Maghara**	**8.12**	**114**	⇑P	**Pn**	**16 35 25.7**	**-1.7**
SUZ		**8.26**	**120**	⇑P	**Pn**	**16 35 28.8**	**-0.7**
ZAF		**8.40**	**125**	⇑P	**Pn**	**16 35 31.0**	**-0.4**
ANTO	**Ankara**	**8.55**	**47**	eP	**Pn**	**16 35 33.8**	**+0.4**
	15nm,0.6s						
ZNM		**8.57**	**123**	⇑P	**Pn**	**16 35 33.4**	**-0.2**
VAE	**Valguarnera**	**8.87**	**294**	Pn	**Pn**	**16 35 36.9**	**-0.9**
	4.2nm,0.3s,baz=49,slow=20,SNR=5.5						
BRTR	**Keskin Array B**	**8.99**	**51**	Pn	**Pn**	**16 35 37.9**	**-1.6**
	0.5nm,0.3s,baz=230,slow=13,SNR=14						
BRTR				Sn	**Sn**	**16 37 10.7**	**-8.5**
	0.1nm,0.3s,baz=212,slow=25,SNR=2.2						
BR131	**Keskin Array S**	**9.00**	**51**	P	**Pn**	**16 35 39.0**	**-0.5**
	1.6nm,0.5s						
BR131	**Keskin Array S**	**9.00**	**51**	P	**Pn**	**16 35 39.0**	**-0.5**
	1.6nm,0.5s						
HNKL	**Nakhl**	**9.05**	**116**	⇑P	**Pn**	**16 35 39.7**	**-0.5**
MMAI	**Mount Meron Ar**	**9.07**	**95**	Pn	**Pn**	**16 35 38.0**	**-2.5**
	4.6nm,0.3s,baz=282,slow=12,SNR=8.7						
MMAI				Sn	**Sn**	**16 37 14.2**	**-6.9**
	22nm,0.3s,baz=285,slow=28,SNR=6.0						
ASUT		**9.11**	**137**	⇑P	**Pn**	**16 35 41.4**	**+0.3**
HDK1	**Dakhla**	**9.67**	**153**	⇓P	**Pn**	**16 35 50.0**	**+1.2**
HKAT	**Jabal Katrina**	**9.86**	**123**	⇑P	**Pn**	**16 35 50.9**	**-0.4**
EIL	**Elat**	**9.91**	**115**	ePn	**Pn**	**16 35 50.9**	**-1.1**
	310nm,0.6s						
EIL	**Elat**	**9.91**	**115**	ePn	**Pn**	**16 35 50.8**	**-1.2**
	310nm,0.6s						
HBST	**Basata**	**9.99**	**118**	⇑P	**Pn**	**16 35 51.8**	**-1.2**
HDHB	**Dhahab**	**10.18**	**121**	⇑P	**Pn**	**16 35 54.9**	**-0.8**
ASF	**Jabal al Asfar**	**10.49**	**98**	Pn	**Pn**	**16 35 59.6**	**-0.3**
	0.8nm,0.3s,baz=143,slow=4.0,SNR=5.7						
ASF				Sn	**Sn**	**16 37 49.4**	**-6.4**
	1.9nm,0.3s,baz=312,slow=16,SNR=6.5						
HSFG		**11.13**	**131**	⇑P	**Pn**	**16 36 08.6**	**0.0**
EMRS	**Mersa Alam**	**12.83**	**134**	⇑P	**Pn**	**16 36 31.6**	**-0.1**
GERES	**GERESS Array B**	**16.63**	**334**	Pn	**Pn**	**16 37 19.6**	**-1.7**
	0.1nm,0.3s,baz=142,slow=11,SNR=2.6						
AKASG	**Malin Array Be**	**16.71**	**10**	Pn	**Pn**	**16 37 20.3**	**-2.0**
	8.8nm,0.3s,baz=201,slow=10,SNR=51						
AKASG				Sn	**Sn**	**16 40 27.5**	**+0.4**
	0.5nm,0.3s,baz=194,slow=21,SNR=3.6						
AKBB	**Malin Array Si**	**16.71**	**10**	eP	**Pn**	**16 37 22.6**	**+0.4**
AKBB	**Malin Array Si**	**16.71**	**10**	eP	**Pn**	**16 37 22.6**	**+0.3**
DAVOX	**Davos**	**16.72**	**323**	Pn	**Pn**	**16 37 22.7**	**+0.3**
	baz=283,slow=18,SNR=1.6						
KHC	**Kasperske Hory**	**16.92**	**334**	eP	**Pn**	**16 37 27.0**	**+2.2**
ESDC	**Sonseca Array**	**23.40**	**292**	P	**P**	**16 38 36.8**	**+1.1**
	2.7nm,0.7s,mb3.8,baz=82,slow=9.5,SNR=12						
MDT	**Midelt**	**24.38**	**275**	P	**P**	**16 38 47.0**	**+2.4**
	1.3nm,0.6s,mb3.5,baz=96,slow=12,SNR=6.8						
HFS	**Hagfors**	**26.80**	**348**	P	**P**	**16 39 05.1**	**-1.4**
	1.3nm,0.6s,mb3.6,baz=139,slow=13,SNR=2.6						
FINES	**FINESS Array B**	**27.16**	**2**	P	**P**	**16 39 08.5**	**-1.2**
	1.9nm,0.5s,mb3.9,baz=159,slow=12,SNR=16						
KAF	**Kangasniemi**	**27.83**	**2**	ep	**P**	**16 39 16.2**	**+0.4**
	4.8nm,0.5s,mb4.4,baz=179,slow=9.3						
NAO01	**NORSAR Array S**	**27.99**	**346**	eP	**P**	**16 39 16.6**	**-0.6**
	1.5nm,0.4s,mb4.0						
NAO01	**NORSAR Array S**	**27.99**	**346**	eP	**P**	**16 39 16.6**	**-0.6**
NB2	**NORSAR Subarra**	**28.11**	**346**	P	**P**	**16 39 17.5**	**-0.7**
	comp=Z,0.9nm,0.5s,mb3.7,baz=152,slow=9.3						
NOA	**NORSAR Array B**	**28.11**	**346**	P	**P**	**16 39 17.4**	**-0.8**
	comp=Z,0.8nm,0.5s,mb3.6,baz=147,slow=9.2,SNR=6.0						
NOA	**NORSAR Array B**	**28.11**	**346**	P	**P**	**16 39 17.4**	**-0.8**
JOF	**Joensuu**	**28.93**	**6**	ep	**P**	**16 39 23.9**	**-1.6**
ARCES	**ARCESS Array B**	**35.27**	**1**	P	**P**	**16 40 19.5**	**-1.5**
	comp=Z,2.7nm,0.8s,mb4.2,baz=193,slow=10,SNR=10						
MKAR	**Makanchi Array**	**44.60**	**56**	P	**P**	**16 41 39.8**	**+1.4**
	comp=Z,5.6nm,0.5s,mb4.6,baz=267,slow=7.8,SNR=86						
ZAL	**Zalesovo**	**45.89**	**46**	P	**P**	**16 41 48.7**	**+0.2**
	comp=Z,1.6nm,0.4s,mb4.3,baz=216,slow=4.0,SNR=3.4						
ZAL	**Zalesovo**	**45.89**	**46**	P	**P**	**16 41 48.7**	**+0.2**
SONM	**Songino Array**	**60.36**	**50**	P	**P**	**16 43 36.6**	**+1.8**
	comp=Z,1.6nm,0.5s,mb4.3,baz=288,slow=6.6,SNR=10						

IDC 17 16:35:04.1±14.0**, 1023S**×**10830E, h0**km**, mb4.0**/4**, mb1 4.0**/4**, mb1mx3.8**/15**, mbtmp4.0**/4**, Error ellipse: s-maj=379.7km s-min=97.4km az=133.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**57.83**	**358**	P	P	16 44 57.5	+0.1
	1.4nm,0.6s,baz=177,slow=8.7,SNR=5.3						
MKAR	**Makanchi Array**	**61.34**	**340**	P	P	16 45 21.7	+0.2
	1.0nm,0.7s,baz=144,slow=7.6,SNR=4.7						
BVAR	**Borovoye Array**	**70.82**	**337**	P	P	16 46 22.3	-0.2
	1.5nm,0.7s,baz=141,slow=8.1,SNR=4.7						
BRTR	**Keskin Array B**	**84.92**	**312**	P	P	16 47 41.5	+0.5
	0.8nm,0.6s,baz=139,slow=6.0,SNR=3.5						

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*IDC **17** 16:38:36.9±0.4, 961S×10759E, h0km, mb4.7/25, mb1 4.7/27, mb1mx4.7/30, mbtmp4.7/27, ML4.2/1, MS4.9/4, Ms1 4.9/4, ms1mx4.0/28, Error ellipse: s-maj=16.3km s-min=11.4km az=47.0*
*HRVD **17** 16:38:38.9±0.4, 986S×10767E, h12km, MW5.2/78, Centroid moment Tensor Solution. LP body waves: s26,c34;Mantle waves: s78,c121; Half duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr-0.73±.03; Mθθ0.71±.02; Mφφ0.01±.03; Mrθ-0.37±.08; Mθφ-0.20±.02; Mφr0.20±.10; Best double couple: M0 0.85400×10^17 NP1:φs278.00000°, δ31.00000°, λ-102.00000°. NP2: φs111.00000°, δ60.00000°, λ-83.00000°. Principal axes: T 0.8660, Plg15.0000°, Azm196.0000°; N -0.0230, Plg6.0000°, Azm288.0000°; P -0.8430, Plg74.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **17** 16:38:38.5±0.2, 961S±004×10765E±004, h21km, mb5.0/91, MS5.2/12 Error ellipse: s-maj=5.8km s-min=4.7km az=73.3*
*NEIC **17** 16:38:38.9±3.2, 957S×10766E, h13km±19km, mb5.4/23, Error ellipse: s-maj=8.2km s-min=5.4km az=46.0*
*BJI **17** 16:38:38.9, 960S×10770E, h13km, mB5.7, mb5.1, Ms5.5, Msz5.2*
*MOS **17** 16:38:41.3±1.0, 935S×10778E, h33km, mb5.4/27, Error ellipse: s-maj=12.2km s-min=6.6km az=115.2*
ISC 17 16:38:40.7±0.2**, 962S**±004×**10765E**±004**, h22**km**, h22**km±2.9km**: pP-P, n226, σ1s09**/203**, mb5.0**/91**, MS5.2**/12**, 22C-7D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.77**	**359**	P	**Pn**	**16 39 24.5**	**+0.8**
	0.0nm,0.0s						
BJII	**Banjamegara**	**3.05**	**42**	P	**Pn**	**16 39 28.1**	**+0.5**
	0.0nm,0.0s						
JCJI	**Jatiwangi**	**3.17**	**11**	P	**Pn**	**16 39 26.6**	**-2.6**
	0.0nm,0.0s						
SBJI	**Serang**	**3.79**	**337**	P	**Pn**	**16 39 37.8**	**+0.1**
	0.0nm,0.0s						
KLI	**Kotabumi**	**5.48**	**329**	P	**Pn**	**16 40 05.9**	**+5.0**
	0.0nm,0.0s						
NBBI	**Negara**	**7.00**	**80**	P	**Pn**	**16 40 23.1**	**+1.3**
	0.0nm,0.0s						
DNP	**Denpasar**	**7.53**	**83**	P	**Pn**	**16 40 29.5**	**+0.5**
	0.0nm,0.0s						
KSI	**Kapahiang**	**7.77**	**319**	P	**Pn**	**16 40 31.0**	**-1.3**
	0.0nm,0.0s						
PCI	**Palu**	**14.90**	**55**	P	**Pn**	**16 42 09.8**	**-0.1**
	0.0nm,0.0s						
PSI	**Prapat**	**15.09**	**324**	Pn	**Pn**	**16 42 11.1**	**-1.4**
	1.0nm,0.3s,baz=151,slow=17,SNR=3.1						
PSI				LR	LR	16 48 09.2	
	comp=Z,5µm,20.4s,baz=140,slow=38						
KKM	**Kota Kinabalu**	**17.75**	**29**	ePn	**Pn**	**16 42 45.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**19.38**	**118**	eP	**Pn**	**16 43 06.8**	**+0.7**
	13nm,0.4s						
FITZ				eS	**Sn**	**16 46 26.0**	**-17**
FITZ	**Fitzroy Crossi**	**19.38**	**118**	P	**Pn**	**16 43 05.8**	**-0.3**
	1.2nm,0.3s,baz=268,slow=6.7,SNR=11						
FITZ				Sn	**Sn**	**16 46 26.5**	**-16**
	0.4nm,0.3s,baz=173,slow=17,SNR=4.0						
BSI	**Banda Aceh**	**19.42**	**320**	P	**Pn**	**16 43 07.9**	**+1.4**
	198nm,1.2s						
BATP	**Bataraza**	**20.90**	**29**	eP	**P**	**16 43 21.4**	**-0.1**
AAI	**Ambon**	**21.23**	**75**	P	**P**	**16 43 23.6**	**-1.4**
	295nm,1.4s,mb5.4						
PAGZ	**Pagadian**	**23.38**	**43**	eP	**P**	**16 43 51.1**	**+3.3**
NNT	**Nongplab**	**23.42**	**340**	P	**P**	**16 43 49.9**	**+1.6**
SNPH	**Sibulan**	**24.41**	**40**	eP	**P**	**16 43 59.0**	**+1.7**
KAKA	**Kakadu**	**24.51**	**100**	eP	**P**	**16 43 56.1**	**-2.2**
	41nm,0.8s,mb5.0						
BUKP	**Musuan**	**24.56**	**46**	eP	**P**	**16 43 59.7**	**+1.0**
NWAO	**Narrogin (SRO)**	**24.82**	**161**	P	**P**	**16 44 00.5**	**-0.7**
	17nm,0.9s,mb4.6,baz=335,slow=12,SNR=4.9						
NWAO				LR	LR	16 52 41.3	
	comp=Z,2µm,18.2s,MS4.6,baz=340,slow=34						
NWAO	**Narrogin (SRO)**	**24.82**	**161**	P	**P**	**16 44 00.5**	**-0.7**
NWAO				LR	LR	16 52 41.3	
SWI	**Sorong**	**25.05**	**71**	P	**P**	**16 44 02.2**	**-1.0**
	58nm,1.4s,mb4.9						
TBP	**Tagbilaran**	**25.07**	**41**	eP	**P**	**16 44 04.0**	**+0.6**
MSLP	**Maasin**	**26.05**	**42**	eP	**P**	**16 44 25.0**	**+13**
NST	**Nakhon Sawan**	**26.21**	**343**	P	**P**	**16 44 11.5**	**-2.2**
KKTK	**Khon Kaen**	**26.23**	**349**	⇑P	**P**	**16 44 15.0**	**+1.1**
BOAC	**Boac**	**26.91**	**32**	eP	**P**	**16 44 19.3**	**-0.8**
WRA	**Warramunga Arr**	**27.73**	**115**	P	**P**	**16 44 27.0**	**-0.4**
	15nm,1.0s,mb4.6,baz=286,slow=11,SNR=16						
WRA				PcP	PcP	16 47 44.6	+0.8
	2.8nm,0.9s,baz=291,slow=1.9,SNR=5.6						
WRA				Sn	S	16 49 44.2	+36
	1.0nm,1.0s,baz=277,slow=21,SNR=3.3						
WRA	**Warramunga Arr**	**27.73**	**115**	P	**P**	**16 44 27.0**	**-0.4**
WRA						16 47 44.6	
WRAB	**Tennant Creek**	**27.74**	**115**	P	**P**	**16 44 28.0**	**+0.5**
	122nm,1.4s,mb5.3,SNR=5.2						
WRAB	**Tennant Creek**	**27.74**	**115**	⇑eP	**P**	**16 44 27.9**	**+0.4**
WB2	**Warramunga Arr**	**27.74**	**115**	eP	**P**	**16 44 27.2**	**-0.3**
WB2				eS	S	16 49 47.8	+39
ASPA	**Alice Springs**	**28.70**	**122**	eP	**P**	**16 44 39.7**	**+3.7**
ASPA				eS	S	16 50 08.7	+45
AS31	**Alice Springs**	**28.70**	**122**	eP	**P**	**16 44 39.7**	**+3.7**
AS31				eS	S	16 50 08.7	+45
ASAR	**Alice Springs**	**28.70**	**122**	P	**P**	**16 44 36.9**	**+0.9**
	8.2nm,0.7s,mb4.5,baz=295,slow=8.6,SNR=22						
ASAR				PcP	PcP	16 47 47.1	+1.0
	4.8nm,1.0s,baz=347,slow=1.5,SNR=6.9						
ASAR				Sn	S	16 50 09.2	+45
	9.4nm,1.1s,baz=300,slow=24,SNR=5.1						
ASAR	**Alice Springs**	**28.70**	**122**	P	**P**	**16 44 36.9**	**+0.9**
ASAR						16 47 47.2	
BALP	**Baler**	**28.73**	**29**	eP	**P**	**16 44 30.5**	**-5.8**
CHG	**Chiang Mai**	**29.53**	**343**	⇑P	**P**	**16 44 44.4**	**+1.0**
	32nm,1.2s,mb4.9						
CHTO	**Chiang Mai**	**29.53**	**343**	⇑P	**P**	**16 44 43.7**	**+0.3**
	SNR=10						
CHTO	**Chiang Mai**	**29.53**	**343**	eP	**P**	**16 44 42.8**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.0						
CHTO	**Chiang Mai**	**29.53**	**343**	eP	**P**	**16 44 42.8**	**-0.6**
	comp=Z,27nm,0.9s,mb5.0						
APYP	**Conner**	**30.43**	**26**	eP	**P**	**16 44 60.0**	**+8.6**
KMI	**Kunming**	**34.86**	**352**	P	**P**	**16 45 32.3**	**+2.2**
KMI				AP	pP	16 45 35.3	-1.6
KMI				AMB	AMB		
	comp=Z,37nm,1.3s,mb5.2						
GYA	**Guiyang**	**35.87**	**358**	⇑iP	**P**	**16 45 40.3**	**+1.5**

GYA AP pP 16 45 44.8 -0.8
GYA XP sP 16 45 47.9 -0.5
GYA PP PP 16 47 02.1 +1.6
GYA PCP PcP 16 48 07.0 +1.2
GYA S **S** **16 51 17.9 +2.5**
GYA SS SS 16 53 42.8 -9.3
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,180nm,4.9s
GYA LR LR
comp=N,1μm,14.9s,MS5.0
GYA LR LR
comp=E,1μm,15.7s,MS5.0
GYA LR LR
comp=Z,1μm,15.6s,MS4.8
VIS Vishakhapatnam 36.27 318 *e*P **P** **16 45 41.2 -1.0**
VIS AMb AMB 16 45 45.7
comp=Z,53nm,1.6s,mb5.2
YHNB Yeheng 36.62 21 *e*P **P** **16 45 45.1 -0.1**
CTA Charters Tower 38.65 110 *e*P **P** **16 46 03.6 +1.2**
comp=Z,11nm,0.9s,mb4.6
CTA Charters Tower 38.65 110 P **P** **16 46 02.9 +0.5**
comp=Z,13nm,1.0s,mb4.6,baz=272,slow=10,SNR=9.2
CTA Charters Tower 38.65 110 *e*P **P** **16 46 03.6 +1.2**
CTA pmax pmax
comp=Z,11nm,0.9s
PMG Port Moresby 38.95 93 P **P** **16 46 06.3 +1.3**
comp=Z,18nm,1.0s,mb4.8,baz=309,slow=9.7,SNR=8.6
PMG Port Moresby 38.95 93⇓ *e*P **P** **16 46 07.4 +2.5**
HYB Hyderabad 39.35 313 *i* P **P** **16 46 09.0 +0.8**
HYB Hyderabad 39.35 313 *e*P **P** **16 46 09.0 +0.8**
BOK Bokaro 39.44 328 *e*P **P** **16 46 09.2 +0.2**
BOK AMb AMB 16 46 12.5
comp=Z,53nm,1.1s,mb5.2
WHN Wuhan 40.45 9 *e*P **P** **16 46 18.0 +0.6**
WHN AP pP 16 46 28.5 +4.3
CD2 Chengdu 40.47 355⇑ *i*P **P** **16 46 17.4 -0.1**
CD2 AP pP 16 46 21.9 -2.5
CD2 XP sP 16 46 24.9 -2.3
CD2 PP PP 16 47 54.9 +4.1
CD2 S **S** **16 52 26.3 +1.3**
CD2 XS sS 16 52 33.8 -2.5
CD2 SS SS 16 55 20.9 -3.7
CD2 AMB AMB
comp=Z,30nm,1.1s,mb4.9
CD2 LR LR
comp=N,1μm,14.4s
CD2 LR LR
comp=Z,1μm,13.2s,MS5.0
JOW Kunigami 41.40 28 P **P** **16 46 24.9 -0.2**
comp=Z,15nm,0.8s,mb4.7,baz=283,slow=12,SNR=5.1
JOW LR LR 17 03 28.4
comp=Z,1μm,19.5s,MS4.8,baz=303,slow=36
JIRN Jiri 42.49 331 *e*P **P** **16 46 34.9 +0.8**
comp=Z,207nm,1.1s,mb5.7
SSE Sheshan 42.51 17 *e*P **P** **16 46 34.3 0.0**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,2μm,12.0s
KAD Karad 42.54 309 *e*P **P** **16 46 34.8 +0.3**
PKI Pulchoki 42.79 330 *e*P **P** **16 46 37.6 +1.0**
NJ2 Nanjing 42.80 14 *e*P **P** **16 46 36.8 +0.2**
NJ2 AP pP 16 46 45.6 +2.1
NJ2 XP sP 16 46 50.4 +4.1
NJ2 PP PP 16 48 19.6 +3.6
NJ2 S **S** **16 52 57.0 -2.5**
NJ2 XS sS 16 53 13.0 +2.2
NJ2 AMB AMB
comp=Z,40nm,1.2s,mb5.0
NJ2 AMB AMB
comp=Z,1μm,4.2s
NJ2 LR LR
comp=N,5μm,17.4s,MS5.6
NJ2 LR LR
comp=E,3μm,14.6s,MS5.6
NJ2 LR LR
comp=Z,5μm,14.6s,MS5.6
GUN Gumba 42.85 331 *e*P **P** **16 46 37.6 +0.6**
comp=Z,247nm,1.3s,mb5.8
DMN Daman 42.97 330 *e*P **P** **16 46 38.2 +0.2**
comp=Z,102nm,1.0s,mb5.5
KKN Kakani 43.03 330 *e*P **P** **16 46 38.9 +0.4**
comp=Z,122nm,1.1s,mb5.5
KKN Kakani 43.03 330 *e*P **P** **16 46 38.9 +0.4**
KKN pmax pmax
comp=Z,122nm,1.1s,mb5.5
XAN Xi'an 43.43 2 P **P** **16 46 41.4 -0.4**
XAN AMB AMB
comp=Z,44nm,1.3s,mb5.0
GKN Gorkha 43.53 330 *e*P **P** **16 46 42.3 -0.2**
KOLN Koldanda 43.86 329 *e*P **P** **16 46 45.5 +0.3**
comp=Z,80nm,0.7s,mb5.6
BHPL Bhopal 44.06 318 *e*P **P** **16 46 46.0 -0.7**
BHPL AMb AMB 16 46 48.9
comp=Z,24nm,1.1s,mb4.8
LZH Lanzhou 45.60 356 *e*P **P** **16 47 00.5 +1.4**
LZH AP pP 16 47 10.1 +4.1
LZH XP sP 16 47 14.3 +5.6
LZH PP PP 16 48 48.3 +2.3
LZH *e*S **S** **16 53 41.3 +1.1**
LZH XS sS 16 53 57.1 +5.4
LZH AMB AMB
comp=Z,51nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,253nm,5.1s
LZH LR LR
comp=N,4μm,14.6s
LZH LR LR
comp=Z,5μm,15.3s,MS5.6
TIA Tai'an 46.45 11 *e*P **P** **16 47 04.5 -1.3**
NDI New Delhi 48.10 323 *e*P **P** **16 47 16.5 -2.1**
GTA Gaotai 49.32 352 *e*P **P** **16 47 29.6 +1.6**
GTA AP pP 16 47 36.6 +1.6
GTA XP sP 16 47 40.4 +2.7
GTA PP PP 16 49 26.5 +4.5
GTA PPP 16 50 20.1
GTA S **S** **16 54 36.8 +3.7**
GTA XS sS 16 54 50.1 +5.5
GTA SCS ScS 16 57 14.1 -4.5
GTA SS SS 16 58 05.5 +0.8
GTA AMB AMB
comp=Z,12nm,0.9s,mb4.9
GTA AMB AMB
comp=Z,4μm,6.8s
GTA LR LR
comp=N,1μm,19.4s,MS5.2
GTA LR LR
comp=E,2μm,21.7s,MS5.2
GTA LR LR
comp=Z,2μm,15.2s
SMLA Simla 49.96 325 *e*P **P** **16 47 33.1 +0.3**
SMLA AMb AMB 16 47 46.5
comp=Z,79nm,0.4s,mb6.1
BJT Baijiatuau 50.01 9 *e*P **P** **16 47 32.1 -1.2**
BJT pmax pmax
comp=Z,48nm,0.6s
BJT Baijiatuau 50.01 9 *e*P **P** **16 47 32.1 -1.1**
comp=Z,48nm,0.6s,mb5.7
BTO Baotou 50.02 2 *e*P **P** **16 47 33.1 -0.2**
BJI Beijing 50.03 9 *e*P **P** **16 47 33.8 +0.4**
BJI AMB AMB
comp=Z,21nm,0.8s,mb5.2
HHC Hu-ho-hao-te 50.34 4 *e*P **P** **16 47 37.3 +1.5**
HHC AP pP 16 47 41.6 -1.2
HHC XP sP 16 47 44.8 -0.7
HHC PP PP 16 49 33.3 +2.0
HHC S **S** **16 54 46.9 -0.5**
HHC SCS ScS 16 57 22.8 -2.7
HHC SS SS 16 58 16.3 -4.9
HHC AMB AMB
comp=Z,23nm,0.9s,mb5.2
HHC AMB AMB
comp=Z,5μm,10.8s
HHC LR LR
comp=N,2μm,16.6s,MS5.3
HHC LR LR
comp=E,1μm,14.3s,MS5.3
HHC LR LR
comp=Z,1μm,14.3s,MS5.0
SNY Shenyang 53.24 15⇑ P **P** **16 47 59.3 +1.9**
SNY AMB AMB
comp=Z,7.0nm,0.5s,mb4.8
MAT Matsushiro 54.17 30 P **P** **16 48 01.0 -3.1**
MAT Matsushiro 54.17 30 *e*P **P** **16 48 01.0 -3.2**
MAT pmax pmax
comp=Z,16nm,1.2s,mb4.8
MAT Matsushiro 54.17 30 *e*P **P** **16 48 01.0 -3.2**
comp=Z,16nm,1.2s,mb4.8
MJAR Matsushiro Arr 54.17 30 P **P** **16 48 01.3 -2.9**
comp=Z,13nm,1.1s,mb4.8,baz=207,slow=8.1,SNR=21
MJAR Matsushiro Arr 54.17 30 P **P** **16 48 01.3 -2.9**
CN2 Changchun 55.57 16 *e*P **P** **16 48 16.4 +2.0**
WMQ Urumqi 56.19 343 P **P** **16 48 19.9 +1.1**
WMQ AP pP 16 48 24.0 -1.9
WMQ XP sP 16 48 26.4 -2.2
WMQ PCP PcP 16 49 18.1 +1.7
WMQ PP PP 16 50 26.3 +2.3
WMQ SCP ScP 16 53 15.3 +1.1
WMQ S **S** **16 56 06.0 -1.0**
WMQ AMB AMB
comp=Z,84nm,1.5s,mb5.5
WMQ AMB AMB
comp=Z,437nm,4.9s
WMQ LR LR
comp=N,2μm,18.5s,MS5.4
WMQ LR LR
comp=E,2μm,17.4s,MS5.4
WMQ LR LR
comp=Z,2μm,19.0s,MS5.3
VLA Vladivostok 56.95 21 *de*P **P** **16 48 24.2 0.0**
VLA pmax pmax
comp=Z,42nm,1.3s,mb5.3
KSH Kashi 57.05 331 *e*P **P** **16 48 23.5 -1.4**
KSH *e*AP pP 16 48 29.8 -2.1
KSH *e*XP sP 16 48 32.9 -1.7
KSH *e*PCP PcP 16 49 19.9 +0.2
KSH *e*PP PP 16 50 30.9 -0.7
KSH *e*PPP 16 51 46.8
KSH *e*SCP ScP 16 53 17.9 -0.1
KSH *e*PCS PcS 16 53 25.9 +5.3
KSH *e*S **S** **16 56 13.9 -4.3**
KSH *e*PS 16 56 33.3
KSH *e*SCS ScS 16 58 08.4 -4.5
KSH AMB AMB
comp=Z,3μm,6.1s
KSH LR LR
comp=N,2μm,12.2s,MS5.8
KSH LR LR
comp=E,5μm,12.8s,MS5.8
KSH LR LR
comp=Z,3μm,15.8s,MS5.4
SONM Songino Array 57.21 359 P **P** **16 48 26.1 +0.1**
comp=Z,6.2nm,0.5s,mb4.9,baz=177,slow=7.2,SNR=46
SONM LR LR 17 16 43.3
comp=Z,2μm,18.2s,MS5.2,baz=169,slow=40
ULN Ulaanbaatar 57.23 360 P **P** **16 48 26.3 +0.1**
SNR=16
ULN Ulaanbaatar 57.23 360⇑ *i*P **P** **16 48 26.4 +0.2**
MDJ Mudanjiang 57.52 18 P **P** **16 48 27.9 -0.3**
MDJ PCP PcP 16 49 21.5 0.0
MDJ PP PP 16 50 35.4 -0.4
MDJ SCP ScP 16 53 21.3 +1.2
MDJ S **S** **16 56 25.8 +1.4**
MDJ AMB AMB
comp=Z,7.0nm,1.7s,mb4.4
MDJ AMB AMB
comp=Z,682nm,9.0s
MDJ LR LR
comp=N,1μm,20.4s
MDJ LR LR
comp=E,765nm,12.7s
MDJ LR LR
comp=Z,2μm,15.1s
OPO Ambohidratompo 59.09 254 P **P** **16 48 37.8 -1.3**
comp=Z,11nm,1.1s,mb4.8,baz=151,slow=5.5,SNR=3.3
ULHL Ulahol 59.09 333 P **P** **16 48 39.5 +0.3**
SNR=7.2
KZA Kyzart 59.40 332 P **P** **16 48 42.0 +0.7**
SNR=12
HIA Hailar 59.59 9⇑ *e*P **P** **16 48 42.2 -0.4**
HIA Hailar 59.59 9 *e*P **P** **16 48 40.5 -2.1**
comp=Z,17nm,1.2s,mb4.9
ZAK Zakamensk 59.87 357 *e*P **P** **16 48 44.7 +0.1**
ZAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
TKM2 Tokmak 2 59.91 333 P **P** **16 48 44.6 -0.3**
SNR=15
KBK Karagaybulak 59.99 333 P **P** **16 48 45.6 +0.2**
SNR=9.0
AAK Ala-Archa 60.18 332⇑ P **P** **16 48 46.2 -0.5**
SNR=5.2
AAK Ala-Archa 60.18 332⇓ *e*P **P** **16 48 45.9 -0.8**
AAK pmax pmax
comp=Z,17nm,2.5s,mb4.6
AAK Ala-Archa 60.18 332⇓ *e*P **P** **16 48 45.0 -1.7**
EKS2 Erkin-Say 60.54 332 P **P** **16 48 49.2 +0.1**
SNR=12
MKAR Makanchi Array 60.55 340 P **P** **16 48 47.7 -1.5**
comp=Z,18nm,0.6s,mb5.3,baz=144,slow=7.9,SNR=48
MKAR Makanchi Array 60.55 340⇑ *e*P **P** **16 48 48.5 -0.7**
MKAR Makanchi Array 60.55 340 P **P** **16 48 47.7 -1.6**
MOY Mondy 61.30 355 *e*P **P** **16 48 55.7 +1.4**
MOY pmax pmax
comp=Z,45nm,2.5s,mb5.2
IRK Irkutsk 61.68 358 *e*P **P** **16 48 55.8 -1.1**
IRK pmax pmax
comp=Z,29nm,2.2s,mb5.0
KLR Kul'dur 62.31 18 *e*P **P** **16 48 57.0 -4.1**
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,36nm,1.2s,mb5.4
HABR Khabarovsk 62.70 20 *e*P **P** **16 49 03.1 -0.6**
HABR *e*S **S** **16 57 30.1 -0.9**
YSS Yuzh-Sakhalins 64.42 26 *e*P **P** **16 49 13.7 -1.4**
YSS *e* 16 49 24.3
YSS pmax pmax
comp=Z,70nm,1.1s,mb5.6
YSS Yuzh-Sakhalins 64.42 26 *e*P **P** **16 49 13.6 -1.5**
comp=Z,47nm,0.8s,mb5.6
YSS *e* 16 49 24.8
MAW Mawson 65.06 197 P **P** **16 49 18.5 -0.7**
comp=Z,22nm,1.0s,mb5.2,baz=47,slow=6.8,SNR=25
KURK Kurchatov 65.17 340 P **P** **16 49 19.7 -0.2**
comp=Z,114nm,0.9s,mb5.9,SNR=9.1
KURK Kurchatov 65.17 340⇑ *e*P **P** **16 49 19.6 -0.3**
KURK Kurchatov 65.17 340 *e*P **P** **16 49 19.1 -0.8**
comp=Z,22nm,0.6s,mb5.4
ZAL Zalesovo 66.21 345 *i* P **P** **16 49 29.4 +2.7**
KRAR Krasnoyarsk 66.54 351⇑ *e*P **P** **16 49 27.0 -1.8**
KRAR pmax pmax
comp=Z,75nm,2.5s,mb5.3
BOD Bodaibo 67.40 4 *e*P **P** **16 49 32.8 -1.5**
BOD pmax pmax
comp=Z,20nm,1.7s,mb4.9
CLNS Chul'man 67.73 10 *e*P **P** **16 49 35.9 -0.5**
CLNS pmax pmax
comp=Z,16nm,1.1s,mb5.0
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=E,11nm,0.9s
BVAR Borovoye Array 70.01 337 P **P** **16 49 49.1 -1.4**
comp=E,3.8nm,0.6s,mb4.5,baz=150,slow=8.6,SNR=20
BRVK Borovoye 70.08 337 *e*P **P** **16 49 49.6 -1.4**
BRVK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BRVK Borovoye 70.08 337 *e*P **P** **16 49 49.5 -1.4**
comp=Z,6.4nm,0.7s,mb4.7
CHKZ Chkalovo 70.43 338 *e*P **P** **16 49 52.5 -0.6**
CHKZ *e* 16 50 06.9
CHKZ pmax pmax
comp=Z,31nm,0.6s,mb5.4
CHKZ Chkalovo 70.43 338 *e*P **P** **16 49 52.5 -0.6**
comp=Z,31nm,0.6s,mb5.4
CHKZ *e* 16 50 06.9
KMBO Kilima Mbogo 70.48 272 P **P** **16 49 54.0 +0.5**
comp=Z,4.6nm,0.9s,mb4.4,baz=64,slow=9.0,SNR=9.4
ZRNK Zerenda 70.50 336 *e*P **P** **16 49 52.6 -0.9**
ZRNK pmax pmax
comp=Z,15nm,0.7s,mb5.0
ZRNK Zerenda 70.50 336 *e*P **P** **16 49 52.6 -0.9**
comp=Z,15nm,0.7s,mb5.0
SYO Syowa Base 73.28 200⇑ *e*P **P** **16 50 09.6 -0.6**
SYO Syowa Base 73.28 200⇑ *r*pP pP 16 50 13.4 -4.1
VNDA Vanda 73.29 169 P **P** **16 50 07.9 -2.3**
comp=Z,2.0nm,0.8s,mb4.1,baz=308,slow=6.4,SNR=10.0
YAK Yakutsk 73.47 11⇓ *i*P **P** **16 50 09.5 -1.8**
YAK pmax pmax
comp=Z,61nm,1.0s,mb5.5
YAK Yakutsk 73.47 11 *e*P **P** **16 50 09.2 -2.1**
comp=Z,58nm,0.7s,mb5.6
AKTK Aktyubinsk 73.69 329 P **P** **16 50 12.1 -0.5**
AKTO Aktyubinsk 73.69 329 P **P** **16 50 12.1 -0.5**
comp=Z,4.0nm,1.0s,mb4.3,baz=116,slow=7.9,SNR=12
PET Petropavlovsk 75.96 29*c* *i*P **P** **16 50 25.9 +0.1**
PET pmax pmax
comp=Z,21nm,1.3s,mb4.9
PET Petropavlovsk 75.96 29 *e*P **P** **16 50 26.2 +0.4**
comp=Z,17nm,0.9s,mb5.0
GNI Garni 76.25 315 P **P** **16 50 27.2 -0.3**
comp=Z,2.3nm,0.3s,mb4.6,baz=46,slow=6.6,SNR=3.2
GNI Garni 76.25 315⇑ *e*P **P** **16 50 28.6 +1.2**
GNI pmax pmax
comp=Z,33nm,2.5s
SVE Sverdlovsk 76.64 336 *e*P **P** **16 50 30.8 +1.2**
SVE pmax pmax
comp=Z,88nm,2.0s,mb5.3
MBAR Mbarara 76.99 272⇑ *i*P **P** **16 50 33.4 +1.8**
MA2 Magadan 77.09 21 *e*P **P** **16 50 31.6 -0.5**
MA2 *e* 16 50 42.6
MA2 pmax pmax
comp=Z,37nm,0.8s,mb5.4
MA2 Magadan 77.09 21 *e*P **P** **16 50 31.6 -0.5**
comp=Z,37nm,0.8s,mb5.4
MA2 *e* 16 50 42.6
ARU Arti 77.25 335 P **P** **16 50 33.7 +0.7**
comp=Z,103nm,1.2s,mb5.6,SNR=7.2
ARU Arti 77.25 335⇓ *i*P **P** **16 50 32.8 -0.2**
ARU *e* 16 50 42.0
ARU *e* 16 53 26.7
ARU *e*S S 17 00 21.4 0.0
ARU *e*SS SS 17 05 17.6 -1.9
ARU pmax pmax
comp=Z,24nm,1.2s,mb5.0
ARU Arti 77.25 335 *e*P **P** **16 50 32.9 -0.1**
LSZ Lusaka 77.43 256 P **P** **16 50 35.4 +1.3**
comp=Z,6.9nm,0.8s,mb4.6,baz=109,slow=4.9,SNR=15
LSZ Lusaka 77.43 256 P **P** **16 50 35.4 +1.3**
ZEI Tsey 77.94 318 *e*P **P** **16 50 35.9 -1.0**
ZEI *e**PP pP 16 50 45.9 +1.7
ZEI pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
ASF Jabal al Asfar 79.18 305 P **P** **16 50 44.7 +1.0**
comp=Z,7.6nm,1.0s,mb4.6,baz=11,slow=2.0,SNR=10.0
KIV Kislovodsk 79.25 318*c* *i*P **P** **16 50 45.3 +1.2**
KIV pmax pmax
comp=Z,16nm,1.0s,mb4.9
KIV Kislovodsk 79.25 318⇑ *i*P **P** **16 50 45.4 +1.3**
GOF Gofitskoye 79.48 319 *e*P **P** **16 50 45.9 +0.5**
EIL Elat 80.01 302 *e*P **P** **16 50 48.6 +0.3**
comp=Z,227nm,1.3s,mb5.9
MALT Malatya 80.05 312 *e*P **P** **16 50 49.3 +0.8**
MALT pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
MALT Malatya 80.05 312 *e*P **P** **16 50 49.3 +0.9**
comp=Z,3.2nm,1.1s,mb4.2
MMAI Mount Meron Ar 80.64 306 P **P** **16 50 53.0 +1.4**
comp=Z,2.5nm,0.5s,mb4.4,baz=85,slow=11,SNR=6.7
SOC Sochi 81.07 317 *e*P **P** **16 50 58.5 +4.6**
SOC pmax pmax
comp=Z,22nm,0.7s,mb5.2
TIXI Tiksi 82.32 7⇑ *i*P **P** **16 50 59.1 -1.4**
TIXI pmax pmax
comp=Z,31nm,1.3s,mb5.1
VRHR Novokhopersk 82.89 325 *e*P **P** **16 51 03.9 +0.4**
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.4
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.9s
BRTR Keskin Array B 84.04 312 P **P** **16 51 09.3 -0.1**
comp=E,8.5nm,1.2s,mb4.8,baz=131,slow=5.6,SNR=23
BRTR Keskin Array B 84.04 312⇑ *e*P **P** **16 51 09.3 -0.1**
BR131 Keskin Array S 84.04 312 *e*P **P** **16 51 08.7 -0.7**
comp=E,9.2nm,0.7s,mb5.0
BR131 *e* 16 51 19.9
VRSR Storozhevoye 84.34 324 *e*P **P** **16 51 10.9 0.0**
VRSR pmax pmax
comp=Z,60nm,1.3s,mb5.6
VRSR pmax pmax
comp=N,30nm,1.4s
VRSR pmax pmax
comp=E,20nm,0.7s
VOR Voronezh 84.53 324 *e*P **P** **16 51 12.0 +0.1**
VOR pmax pmax
comp=Z,70nm,1.8s,mb5.5
SIM Simferopol' 85.32 317 *e*P **P** **16 51 17.0 +1.1**
SIM pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
MOS Moscow 86.93 328 *e*P **P** **16 51 23.4 -0.4**
MOS pmax pmax
comp=Z,50nm,0.8s,mb5.8
TSUM Tsumeb 86.95 251 P **P** **16 51 24.3 +0.4**
comp=Z,7.1nm,1.0s,mb4.9,baz=88,slow=5.4,SNR=13
TSUM Tsumeb 86.95 251 P **P** **16 51 24.3 +0.4**
SNAA Sanae 87.23 197 P **P** **16 51 25.6 +0.3**
comp=Z,2.3nm,1.0s,mb4.4,baz=104,slow=5.7,SNR=13
SNAA Sanae 87.23 197 *e*P **P** **16 51 26.2 +0.9**
SNAA *e* 16 51 27.6
SNAA *e* 16 51 29.5
OBN Obninsk 87.26 327*d* *i*P **P** **16 51 25.5 +0.1**
OBN *e* 16 51 36.2
OBN *e* 16 54 49.4
OBN pmax pmax
comp=Z,59nm,1.2s,mb5.7
OBN MLR MLR
comp=Z,600nm,15.0s,MS5.1
OBN Obninsk 87.26 327 *i* P **P** **16 51 25.6 +0.2**
KLMR Klimovskoe 87.99 333 *e*P **P** **16 51 28.4 -0.5**
KLMR pmax pmax
comp=Z,70nm,1.2s,mb5.8
TIRR Tirgusor 89.08 315 *e*P **P** **16 51 34.8 +0.7**
VNA1 Neumayer--Stat 89.26 197 *e*P **P** **16 51 36.3 +1.4**
VNA1 *e* 16 51 37.2
VNA1 *e* 16 51 39.8
IDI Anoyia 89.64 306 P **P** **16 51 33.8 -2.9**
comp=Z,15nm,1.1s,mb5.2,baz=348,slow=20,SNR=1.8
AKASG Malin Array Be 90.13 321 P **P** **16 51 37.8 -1.2**
comp=Z,0.7nm,0.6s,mb4.2,baz=90,slow=3.6,SNR=10
AKASG Malin Array Be 90.13 321 *i* P **P** **16 51 38.5 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
MLR Muntele Rosu 91.03 316 P **P** **16 51 42.7 -0.4**
comp=Z,5.2nm,0.9s,mb4.9,baz=72,slow=6.3,SNR=5.4
JOF Joensuu 92.35 334 *e*p **P** **16 51 48.1 -1.2**
comp=Z,2.2nm,0.6s,mb4.7
JOF Joensuu 92.35 334 *e*P **P** **16 51 48.1 -1.2**
JOF pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
FINES FINESS Array B 94.37 332 P **P** **16 51 59.0 +0.5**
comp=Z,2.2nm,0.8s,mb4.6,baz=129,slow=8.1,SNR=4.7
FINES FINESS Array B 94.37 332 *i* P **P** **16 51 59.5 +0.9**
FINES pmax pmax
comp=Z,2.0nm,0.8s
KAF Kangasniemi 94.40 332 *e*p **P** **16 51 58.3 -0.4**
comp=Z,8.2nm,0.9s,mb5.2
KAF Kangasniemi 94.40 332 *e*P **P** **16 51 58.3 -0.4**
KAF pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
ARCES ARCESS Array B 96.20 339 P **P** **16 52 06.3 -0.7**
comp=Z,3.1nm,0.9s,mb4.7,baz=99,slow=7.5,SNR=6.9
TORD Torodi Ar. Bea 107.55 281 PKiKP PKiKP 16 57 05.7 0.0
comp=Z,1.2nm,1.0s,baz=75,slow=1.2,SNR=4.6
YKA Yellowknife Ar 119.07 21 PKP PKPdf 16 57 26.4 -1.2
comp=Z,1.2nm,0.7s,baz=313,slow=2.0,SNR=7.8
YKA Yellowknife Ar 119.07 21 PKP PKPdf 16 57 26.4 -1.2
EDM Edmonton 125.46 29 *e*PKIKP PKPdf 16 57 39.9 0.0
NVAR Mina Array Bea 129.89 47 PKP PKPdf 16 57 49.4 +1.1
comp=Z,0.6nm,0.6s,baz=210,slow=0.9,SNR=4.8
NVAR Mina Array Bea 129.89 47 PKP PKPdf 16 57 49.4 +1.1
PDAR Pinedale Array 133.69 38 PKP PKPdf 16 57 56.7 +1.2
comp=Z,0.5nm,0.8s,baz=50,slow=2.3,SNR=4.2
MSU Marysvale 134.19 44 *e*PKIKP PKPdf 16 57 58.9 +2.5
RSSD Black Hills 136.02 33 PKIKP PKPdf 16 57 59.1 -0.8
LTX Lajitas 144.74 52 *e*PKIKP PKPdf 16 58 16.4 +0.8
LONY Lake Ozonia 145.08 3 *e*PKP PKPdf 16 58 15.5 -0.7
BDFB Brasilia 145.20 224 PKPbc PKPbc 16 58 17.4 +1.4
comp=Z,17nm,1.0s,baz=120,slow=4.2,SNR=14
WMOK Wichita Mounta 145.23 40 *e*PKIKP PKPdf 16 58 16.8 +0.4
LBNH Lisbon 145.51 359 *e*PKIKP PKPdf 16 58 17.3 +0.4
MIV Mineville/With 145.66 2 *e*PKP PKPdf 16 58 17.6 +0.4

NCB	**Newcomb**	**145.74**	**2**	*e*PKP	PKPdf	16 58 18.0	+0.7
CCM	**Cathedral Cave**	**146.98**	**28**	*e*PKP2	PKPbc	16 58 20.4	-1.0
JCT	**Junction City**	**147.06**	**47**	*e*PKP2	PKPab	16 58 22.5	-0.7
HRV	**Harvard--Oak R**	**147.24**	**359**	*e*PKP2	PKPbc	16 58 22.6	+0.5
ACSO	**Alum Creek Sta**	**148.08**	**15**	*e*PKPbc	PKPbc	16 58 24.8	+0.3
MIAR	**Mount Ida**	**148.49**	**35**	*e*PKP2	PKPbc	16 58 26.4	+0.9
SSPA	**Standing Stone**	**148.72**	**8**	*e*PKPbc	PKPbc	16 58 25.9	-0.2
WCI	**Wyandotte Cave**	**148.88**	**22**	PKP2	PKPbc	16 58 26.0	-0.5
UALR	**University of**	**149.00**	**33**	*e*PKPbc	PKPbc	16 58 27.2	+0.4
WVT	**Waverly**	**150.09**	**26**	*e*PKPdf	PKPdf	16 58 24.5	0.0
WVT				*e*PKPbc	PKPbc	16 58 30.2	+0.7
HKT	**Hockley**	**150.16**	**44**	*e*PKP2	PKPbc	16 58 32.5	+2.8
OXF	**Oxford**	**150.71**	**30**	*e*PKIKP	PKPbc	16 58 31.0	0.0
PLAL	**Pickwick Lake**	**150.95**	**27**	*e*PKPbc	PKPbc	16 58 31.4	-0.2
TZTN	**Tazewell**	**151.34**	**19**	*e*PKPbc	PKPbc	16 58 33.1	+0.7
ELN	**Prospectdale**	**151.48**	**14**	*e*PKPbc	PKPbc	16 58 33.3	+0.5
CPCT	**Cooper Cave**	**151.99**	**22**	*e*PKPbc	PKPbc	16 58 34.5	+0.6
LRAL	**Lakeview Retre**	**153.06**	**28**	*e*PKPdf	PKPdf	16 58 30.6	+1.6
LPAZ	**La Paz**	**153.92**	**189**	PKP	PKPdf	16 58 32.7	+2.5
	comp=Z,1.7nm,1.0s,baz=55,slow=5.2,SNR=6.4						
LPAZ				PKPbc	PKPbc	16 58 41.5	+3.2
	comp=Z,1.0nm,0.6s,baz=72,slow=9.2,SNR=5.1						
LPAZ				PKPab	PKPab	16 58 53.2	+1.8
	comp=Z,2.1nm,0.9s,baz=149,slow=13,SNR=4.6						
LPAZ	**La Paz**	**153.92**	**189**	PKP	PKPdf	16 58 32.7	+2.5
LPAZ				PKPbc	PKPbc	16 58 41.5	+3.2
LPAZ				PKPab	PKPab	16 58 53.2	+1.8

GUC 17 16:40:07.4±0.5, 3259S×7181W, h33km±2km, MD3.6, ML2.4, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.75**	**21**	⇓*iP*	Pn	16 40 21.6	-0.1
CHNG				*i* S	Sn	16 40 31.8	-0.1
CHNG				AML	AML	16 40 34.8	
	comp=N,141nm,0.2s						
ROCH	**El Roble**	**0.77**	**120**	⇑*iP*	Pn	16 40 22.2	+0.2
ROCH				*i* S	Sn	16 40 32.8	+0.3
LCCH	**Las Cruces**	**0.91**	**167**	*i* P	Pn	16 40 23.7	-0.1
LCCH				*i* S	Sn	16 40 36.3	+0.5
JACH	**Jahuel**	**1.03**	**96**	⇓*iP*	Pn	16 40 26.0	+0.5
JACH				*i* S	Sn	16 40 39.8	+1.0
PEL	**Peldehue**	**1.10**	**121**	*eP*	Pn	16 40 27.0	+0.6
PEL				*i* S	Sn	16 40 42.0	+1.6
PEL				AML	AML	16 40 44.1	
	comp=E,402nm,0.3s						
RCDM	**Rinconada Maip**	**1.23**	**137**	*eP*	Pn	16 40 28.9	+0.6
RCDM				*i* S	Sn	16 40 43.7	-0.1
RCDM				AML	AML	16 40 49.2	
	comp=E,136nm,0.1s						
FCH	**Farellones**	**1.48**	**120**	⇓*eP*	Pn	16 40 33.3	+1.6
FCH				*i* S	Sn	16 40 52.5	+2.6
FCH				AML	AML	16 40 54.1	
	comp=E,97nm,0.1s						
PCH	**Pirque**	**1.50**	**134**	*eP*	Pn	16 40 33.4	+1.4
PCH				*i* S	Sn	16 40 53.2	+2.8
CHCH	**Chadas Angostu**	**1.66**	**144**	*i* P	Pn	16 40 35.8	+1.6
CHCH				*i* S	Sn	16 40 57.1	+2.8
CACH	**El Canelo**	**1.83**	**147**	*eP*	Pn	16 40 38.8	+2.2
CACH				*i* S	Sn	16 41 02.9	+4.3
CICH	**Cipreses**	**2.08**	**146**	*eP*	Pn	16 40 41.7	+1.7
CICH				*i* S	Sn	16 41 08.0	+3.2
SFDO	**San Fernando**	**2.13**	**162**	*eP*	Pn	16 40 43.0	+2.4

IDC 17 16:46:58.3±0.9, 979S×10738E, h0km, mb4.0/8, mb1 4.0/9, mb1mx3.9/17, mbtmp3.9/9, Error ellipse: s-maj=41.7km s-min=18.8km az=54.0
NEIC 17 16:46:59.8±0.7, 978S×10741E, h10km, mb4.7/1, Error ellipse: s-maj=30.3km s-min=12.5km az=49.0
ISCJB 17 16:47:01.0±0.7, 98S±02×1075E±02, h33km, mb4.2/11, Error ellipse: s-maj=31.5km s-min=12.9km az=99.3
ISC 17 16:47:03.4±0.7, 98S±02×1075E±02, h35km, n14, σ1§13/14, mb4.2/11, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.46**	**117**	P	Pn	**16 51 27.8**	**-0.5**
	0.1nm,0.3s,baz=18,slow=16,SNR=2.1						
WRA	**Warramunga Arr**	**27.82**	**114**	P	**P**	**16 52 48.8**	**-0.5**
	1.4nm,0.7s,mb3.7,baz=284,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**28.76**	**122**	P	**P**	**16 52 59.8**	**+2.2**
	0.9nm,0.6s,mb3.7,baz=298,slow=9.4,SNR=6.0						
ASAR				PcP	PcP	16 56 09.2	+2.1
	0.5nm,0.7s,baz=334,slow=3.0,SNR=4.3						
SONM	**Songino Array**	**57.38**	**359**	P	**P**	**16 56 48.8**	**+0.6**
	1.3nm,0.8s,mb4.0,baz=174,slow=8.2,SNR=9.9						
MKAR	**Makanchi Array**	**60.66**	**340**	P	**P**	**16 57 10.6**	**-0.3**
	2.4nm,0.6s,mb4.5,baz=140,slow=8.0,SNR=15						
MAW	**Mawson**	**64.84**	**197**	P	**P**	**16 57 37.8**	**-1.0**
	2.4nm,0.8s,mb4.3,baz=43,slow=5.9,SNR=1.9						
KURK	**Kurchatov**	**65.27**	**340**	*eP*	**P**	**16 57 42.3**	**+0.7**
	3.8nm,0.7s,mb4.5						
ZAL	**Zalesovo**	**66.33**	**346**	P	**P**	**16 57 46.8**	**-1.6**
	0.8nm,0.4s,mb4.1,baz=195,slow=16,SNR=2.1						
BVAR	**Borovoye Array**	**70.11**	**337**	P	**P**	**16 58 12.3**	**+0.3**
	1.3nm,0.7s,mb4.0,baz=152,slow=7.7,SNR=5.1						
CHKZ	**Chkalovo**	**70.53**	**338**	*eP*	**P**	**16 58 15.4**	**+0.8**
	5.7nm,0.5s,mb4.8						
ZRNK	**Zerenda**	**70.58**	**336**	*eP*	**P**	**16 58 13.4**	**-1.5**
YAK	**Yakutsk**	**73.67**	**11**	*eP*	**P**	**16 58 32.7**	**-0.7**
	8.8nm,0.6s,mb4.9						
BRTR	**Keskin Array B**	**84.02**	**312**	P	**P**	**16 59 32.4**	**+2.2**
	0.2nm,0.4s,mb3.6,baz=132,slow=8.5,SNR=2.6						
BRTR	**Keskin Array B**	**84.02**	**312**	P	**P**	**16 59 32.4**	**+2.2**

BJI 17 16:51:13.8, 1.16N×97.31E, h35km, mB5.3, mb4.8
ISCJB 17 16:51:14.2±0.7, 140N±0.10×9705E±007, h26km, mb4.4/32, Error ellipse: s-maj=14.5km s-min=10.2km az=26.9
NEIC 17 16:51:15.8±0.6, 135N×9704E, mb4.7/9, Error ellipse: s-maj=13.5km s-min=8.8km az=201.0
IDC 17 16:51:15.7±1.0, 140N×9696E, h24km±4km, mb4.1/16, mb1 4.2/17, mb1mx4.0/23, mbtmp4.2/17, Error ellipse: s-maj=29.2km s-min=17.6km az=40.0
ISC 17 16:51:16.2±0.7, 14N±01×9708E±007, h28km, h28km±1.7km:pP-P, n43, σ0§93/41, mb4.4/32, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.32**	**52**	Pn	**Pn**	**16 51 51.7**	**-0.9**
	3.8nm,0.3s,baz=242,slow=4.5,SNR=36						
KULM	**Kulim**	**5.27**	**42**	*eP*	**Pn**	**16 52 33.4**	**+0.2**
KKM	**Kota Kinabalu**	**19.64**	**76**	*eP*	**Pn**	**16 55 44.1**	**-0.1**
KMI	**Kunming**	**24.23**	**13**	P	**P**	**16 56 31.8**	**+1.2**
KMI				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.4						
GYA	**Guiyang**	**26.59**	**19**	⇓*iP*	**P**	**16 56 51.8**	**-0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	**Jiri**	**28.14**	**339**	*eP*	**P**	**16 57 07.8**	**+1.9**
	comp=Z,29nm,0.7s,mb5.0						
GUN	**Gumba**	**28.48**	**339**	*eP*	**P**	**16 57 10.6**	**+1.6**
	comp=Z,36nm,0.6s,mb5.2						
DMN	**Daman**	**28.50**	**337**	*eP*	**P**	**16 57 12.0**	**+2.9**
KKN	**Kakani**	**28.59**	**338**	*eP*	**P**	**16 57 11.1**	**+1.1**
GKN	**Gorkha**	**29.03**	**337**	*eP*	**P**	**16 57 15.3**	**+1.4**
KOLN	**Koldanda**	**29.25**	**335**	*eP*	**P**	**16 57 17.4**	**+1.6**
	comp=Z,30nm,0.7s,mb5.1						
LGTI	**Lohaghat**	**32.19**	**332**	*eP*	**P**	**16 57 41.7**	**-0.1**
XAN	**Xi'an**	**34.33**	**18**	P	**P**	**16 57 58.8**	**-1.6**
XAN				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
LZH	**Lanzhou**	**35.10**	**10**	*eP*	**P**	**16 58 07.4**	**+0.3**
LZH				AP	pP	16 58 17.3	+2.0
LZH				XP	sP	16 58 21.3	+2.7
LZH				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.2						
GTA	**Gaotai**	**37.94**	**3**	*eP*	**P**	**16 58 31.3**	**0.0**
GTA				AP	pP	16 58 38.8	-0.7
GTA				XP	sP	16 58 42.3	-0.5
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.0						
BJI	**Beijing**	**42.22**	**22**	*eP*	**P**	**16 59 07.1**	**+0.3**
BJI				AMB	AMB		
	comp=Z,21nm,0.6s,mb4.9						
WRA	**Warramunga Arr**	**42.23**	**122**	P	**P**	**16 59 07.3**	**+0.5**
	comp=Z,0.9nm,0.6s,mb3.6,baz=301,slow=9.4,SNR=6.8						
WB2	**Warramunga Arr**	**42.24**	**122**	*eP*	**P**	**16 58 59.3**	**-7.7**

ASAR	**Alice Springs**	**43.60**	**127**	P	**P**	**16 59 20.0**	**+2.1**
	comp=Z,2.6nm,0.9s,mb4.0,baz=302,slow=8.0,SNR=7.1						
SONM	**Songino Array**	**46.97**	**9**	P	**P**	**16 59 44.7**	**-0.1**
	comp=Z,8.7nm,0.8s,mb4.7,baz=188,slow=8.4,SNR=53						
SONM				pP	pP	16 59 53.1	0.0
	comp=Z,4.7nm,0.6s,baz=192,slow=9.3,SNR=11						
MKAR	**Makanchi Array**	**47.04**	**346**	P	**P**	**16 59 45.6**	**+0.3**
	comp=Z,8.2nm,0.5s,mb4.9,baz=160,slow=8.8,SNR=50						
ULN	**Ulaanbaatar**	**47.10**	**9**	*eP*	**P**	**16 59 45.7**	**-0.1**
	comp=Z,7.1nm,0.8s,mb4.7						
KURK	**Kurchatov**	**51.59**	**345**	*eP*	**P**	**17 00 19.9**	**-0.1**
	comp=Z,6.5nm,1.0s,mb4.5						
ZAL	**Zalesovo**	**53.36**	**351**	P	**P**	**17 00 32.7**	**-0.4**
	comp=Z,5.1nm,0.5s,mb4.7,baz=298,slow=4.9,SNR=23						
BVAR	**Borovoye Array**	**56.04**	**341**	P	**P**	**17 00 51.4**	**-1.2**
	comp=Z,2.2nm,0.5s,mb4.4,baz=138,slow=9.6,SNR=15						
BRVK	**Borovoye**	**56.11**	**341**	*eP*	**P**	**17 00 52.3**	**-0.7**
	comp=Z,1.7nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**56.45**	**340**	*eP*	**P**	**17 00 54.6**	**-0.8**
	comp=Z,2.2nm,0.8s,mb4.2						
CHKZ	**Chkalovo**	**56.52**	**341**	*eP*	**P**	**17 00 55.5**	**-0.5**
	comp=Z,6.3nm,0.6s,mb4.8						
AKTK	**Aktyubinsk**	**59.02**	**332**	P	**P**	**17 01 12.7**	**-0.8**
AKTO	**Aktyubinsk**	**59.02**	**332**	P	**P**	**17 01 12.7**	**-0.8**
	comp=Z,1.1nm,0.5s,mb4.1,baz=100,slow=6.6,SNR=3.3						
BRTR	**Keskin Array B**	**68.90**	**312**	P	**P**	**17 02 18.2**	**-0.3**
	comp=Z,1.0nm,0.8s,mb3.8,baz=143,slow=6.5,SNR=6.3						
BRTR				pP	pP	17 02 26.5	-0.7
	comp=Z,1.6nm,0.8s,baz=129,slow=6.6,SNR=6.2						
AKASG	**Malin Array Be**	**75.05**	**322**	P	**P**	**17 02 54.3**	**-1.0**
	comp=Z,1.1nm,0.5s,mb4.0,baz=95,slow=4.4,SNR=6.8						
AKASG				pP	pP	17 03 01.3	-2.8
	comp=Z,1.3nm,0.5s,baz=93,slow=4.8,SNR=5.3						
MLR	**Muntele Rosu**	**75.86**	**317**	P	**P**	**17 03 00.1**	**+0.1**
	comp=Z,0.8nm,0.4s,mb4.0,baz=172,slow=16,SNR=3.1						
JOF	**Joensuu**	**77.93**	**335**	*ep*	**P**	**17 03 11.2**	**-0.5**
	comp=Z,1.7nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**79.79**	**333**	P	**P**	**17 03 21.3**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.1,baz=121,slow=6.3,SNR=13						
KAF	**Kangasniemi**	**79.87**	**333**	*ep*	**P**	**17 03 20.6**	**-1.7**
	comp=Z,2.5nm,0.5s,mb4.4						
ARCES	**ARCESS Array B**	**82.33**	**340**	P	**P**	**17 03 35.1**	**-0.3**
	comp=Z,1.4nm,0.5s,mb4.2,baz=93,slow=5.3,SNR=14						
ARCES				pP	pP	17 03 42.4	-1.9
	comp=Z,1.5nm,0.5s,baz=100,slow=5.0,SNR=2.6						
GERES	**GERESS Array B**	**84.60**	**319**	P	**P**	**17 03 47.4**	**+0.3**
	comp=Z,0.2nm,0.2s,mb3.8,baz=88,slow=9.5,SNR=6.5						
CLL	**Collm**	**85.22**	**321**	*e**SP	sP	17 04 04.0	+1.7
CLL	**Collm**	**85.22**	**321**	*e*(sP)	sP	17 04 04.0	+1.7
HFS	**Hagfors**	**85.51**	**330**	P	**P**	**17 03 51.7**	**+0.1**
	comp=Z,2.1nm,0.9s,mb4.4,baz=151,slow=3.3,SNR=3.0						
NOA	**NORSAR Array B**	**86.79**	**331**	P	**P**	**17 03 57.0**	**-0.9**
	comp=Z,0.7nm,0.8s,mb3.9,baz=95,slow=4.9,SNR=3.4						
EKA	**Eskdalemuir Ar**	**94.70**	**326**	P	**P**	**17 04 34.5**	**-0.4**
	comp=Z,0.4nm,0.7s,mb4.0,baz=93,slow=6.0,SNR=3.3						

CSEM 17 16:51:45.9±0.1, 4226N×2516E, h2km, MD2.8, Error ellipse: s-maj=2.5km s-min=1.9km az=14.0
SOF 17 16:51:47.1, 4215N×2513E, h16km, MD2.8
NEIC 17 16:51:47.1, 4215N×2513E, h16km, MD2.8(SOF), MD3.7(ATH), After SOF.
THE 17 16:51:48.1, 4220N×2522E, h10km, ML3.7
ISCJB 17 16:51:48.3±0.3, 4205N±002×2510E±003, h10km, Error ellipse: s-maj=3.5km s-min=3.0km az=32.4
ATH 17 16:51:54.4, 4168N×2500E, h5km, MD3.7/3
ISC 17 16:51:48.2±0.7, 4207N±002×2510E±004, h1km±6km, n42, σ1§14/49, 7C-1D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLD	**Plovdiv**	**0.30**	**276**	*i* P	**Pg**	**16 51 54.0**	**+0.1**
RZN	**Rozhen**	**0.48**	**217**	*i* P	**Pg**	**16 51 58.0**	**+0.6**
KDZ	**Kurdzhali**	**0.48**	**151**	*i* P	**Pg**	**16 51 58.0**	**+0.5**
PGB	**Panagyurishte**	**0.84**	**305**	*i* P	**Pg**	**16 52 03.0**	**-1.3**
RDO	**Rodhopi**	**0.98**	**160**	*e*PB	**Pg**	**16 52 07.3**	**+0.3**
MMB	**Musomiste**	**1.14**	**245**	*i* P	**Pg**	**16 52 10.0**	**0.0**
PVL	**Pavlikeni**	**1.15**	**8**	*i* P	**Pg**	**16 52 06.0**	**-4.3**
JMB	**Yambol**	**1.17**	**70**	*e*Pg	**Pn**	**16 52 08.1**	**-3.5**
JMB				*e*Sg	**Sn**	**16 52 22.7**	**-5.4**
JMB	**Yambol**	**1.17**	**70**	*i* P	**Pn**	**16 52 08.5**	**-3.1**
JMB				*e*Sg	**Sn**	**16 52 22.7**	**-5.4**
NVR	**Nevrokopi**	**1.18**	**233**	*e*PG	**Pg**	**16 52 11.5**	**+0.7**
EDRB	**Edirne**	**1.25**	**100**	PN	**Pn**	**16 52 09.8**	**-2.9**
ALN	**Alexandroupoli**	**1.37**	**149**	*e*Pg	**Pg**	**16 52 14.2**	**-0.4**
ALN				*e*Sg	**Sg**	**16 52 32.9**	**+0.6**
ALN	**Alexandroupoli**	**1.37**	**149**	*e*Pg	**Pg**	**16 52 14.1**	**-0.4**
VTS	**Vitosha**	**1.50**	**291**	*e*Pg	**Pn**	**16 52 14.8**	**-1.3**
VTS				*e*Sg	**Sb**	**16 52 35.2**	**-1.0**
VTS	**Vitosha**	**1.50**	**291**	⇓*iP*	**Pn**	**16 52 14.8**	**-1.3**
VTS	**Vitosha**	**1.50**	**291**	S	**Sb**	**16 52 35.2**	**-1.0**
ENEZ	**Enez**	**1.55**	**149**	PN	**Pn**	**16 52 16.8**	**-0.1**
ENEZ				SN	**Sn**	**16 52 39.0**	**+1.3**
ZIMR		**1.59**	**7**	⇑*iP*	**Pn**	**16 52 16.7**	**-0.8**
ZIMR		**1.59**	**7**	S	**Sn**	**16 52 36.8**	**-1.9**
SOH	**Sokhos**	**1.81**	**227**	*e*Pb	**Pn**	**16 52 20.4**	**-0.2**
SOH				*e*Sb	**Sg**	**16 52 46.9**	**+0.4**
OUR	**Ouranopolis**	**1.93**	**206**	*e*Pn	**Pn**	**16 52 22.4**	**+0.3**
GADA	**Gvkgeada**	**1.98**	**162**	PN	**Pn**	**16 52 24.6**	**+1.9**
VAY	**Valandovo**	**2.04**	**249**	*e*Pn	**Pb**	**16 52 25.7**	**-0.3**
VAY				*i* Sn	**Sg**	**16 52 54.3**	**+0.5**
MFT	**Murefte**	**2.08**	**127**	PN	**Pn**	**16 52 22.8**	**-1.4**
RKY	**Sarkoy-Tekirda**	**2.09**	**131**	*e*PN	**Pn**	**16 52 24.1**	**-0.2**
PLG	**Polygyros**	**2.11**	**217**	*e*PG	**Pg**	**16 52 27.4**	**-1.2**
HORT	**Hortiatis**	**2.11**	**226**	*e*Pn	**Pn**	**16 52 25.4**	**+0.8**
LIA	**Limnos Island**	**2.17**	**178**	*e*PG	**Pb**	**16 52 27.5**	**-0.8**
PAIG	**Paliouri**	**2.40**	**207**	*e*Pn	**Pn**	**16 52 28.1**	**-0.5**
CTT	**Catalca**	**2.66**	**109**	*e*PN	**Pn**	**16 52 31.3**	**-0.8**
XOR	**Xorichti**	**3.07**	**209**	*e*Pn	**Pn**	**16 52 37.3**	**-0.5**
HARR	**Harsova**	**3.33**	**37**	⇑*iP*	**Pb**	**16 52 45.8**	**-2.2**
VOIR		**3.36**	**359**	⇑*iP*	**Pn**	**16 52 43.7**	**+1.9**
VOIR		**3.36**	**359**	S	**Sb**	**16 53 30.9**	**+1.0**
TIRR	**Tirgusor**	**3.39**	**44**	⇑*iP*	**Pn**	**16 52 43.0**	**+0.8**
TIRR	**Tirgusor**	**3.39**	**44**	S	**Sb**	**16 53 31.1**	**+0.3**
MLR	**Muntele Rosu**	**3.47**	**10**	⇑*iP*	**Pn**	**16 52 45.3**	**+2.0**
MLR	**Muntele Rosu**	**3.47**	**10**	S	**Sb**	**16 53 35.4**	**+2.4**
CHOS	**Chios island**	**3.75**	**168**	*e*Pn	**Pn**	**16 52 47.6**	**+0.4**
VRI	**Vrincioaia**	**3.97**	**17**	⇑*iP*	**Pn**	**16 52 51.2**	**+1.1**
BZS	**Buzias**	**4.35**	**326**	⇑*iP*	**Pn**	**16 52 54.8**	**-0.5**
BZS	**Buzias**	**4.35**	**326**	S	**Sb**	**16 54 01.3**	**+3.0**

BJI 17 16:53:00.7, 970S×10780E, h10km, mb4.8
IDC 17 16:53:00.7±1.6, 936S×10807E, h0km, mb4.0/6, mb1 4.1/7, mb1mx4.0/16, mbtmp4.0/7, ML3.6/1, Error ellipse: s-maj=59.8km s-min=20.2km az=47.0
NEIC 17 16:53:01.7±0.9, 974S×10779E, h10km, mb4.9/6, Error ellipse: s-maj=44.6km s-min=8.7km az=224.0
ISCJB 17 16:53:03.0±0.7, 98S±01×1078E±01, h33km, mb4.4/13, Error ellipse: s-maj=23.9km s-min=9.4km az=88.2
ISC 17 16:53:05.4±0.7, 98S±01×1078E±01, h35km, n21, σ0§89/21, mb4.4/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**14.88**	**54**	P	**Pn**	**16 56 32.4**	**-0.7**
	37nm,1.3s						
MBWA	**Marble Bar**	**16.08**	**136**	Pn	**Pn**	**16 56 47.1**	**-1.6**
FITZ	**Fitzroy Crossi**	**19.14**	**117**	*eP*	**Pn**	**16 57 32.5**	**+5.9**
	12nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.14**	**117**	P	**Pn**	**16 57 26.8**	**+0.2**
	0.1nm,0.3s,baz=282,slow=9.3,SNR=4.0						
WRA	**Warramunga Arr**	**27.50**	**115**	P	**P**	**16 58 48.2**	**-0.2**
	2.4nm,0.8s,mb3.8,baz=287,slow=11,SNR=6.8						
WRAB	**Tennant Creek**	**27.50**	**114**	*eP*	**P**	**16 58 49.4**	**+0.9**
	14nm,1.1s,mb4.5						
ASPA	**Alice Springs**	**28.45**	**122**	*eP*	**P**	**16 59 03.4**	**+6.5**
ASAR	**Alice Springs**	**28.45**	**122**	P	**P**	**16 58 58.6**	**+1.7**
	1.0nm,0.8s,mb3.5,baz=298,slow=9.5,SNR=10						
JIRN	**Jiri**	**42.74**	**331**	*eP*	**P**	**17 00 59.8**	**+0.6**
	25nm,0.8s,mb5.0						
GUN	**Gumba**	**43.10**	**331**	*eP*	**P**	**17 01 02.3**	**+0.2**
DMN	**Daman**	**43.23**	**330**	*eP*	**P**	**17 01 03.2**	**+0.1**
KKN	**Kakani**	**43.29**	**330**	*eP*	**P**	**17 01 03.7**	**+0.1**
	27nm,1.0s,mb4.9						
XAN	**Xi'an**	**43.63**	**1**	P	**P**	**17 01 08.5**	**+2.1**
XAN				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
GKN	**Gorkha**	**43.78**	**330**	*eP*	**P**	**17 01 07.7**	**+0.1**
	comp=Z,19nm,0.9s,mb4.8						
KOLN	**Koldanda**	**44.12**	**329**	*eP*	**P**	**17 01 10.1**	**-0.2**
	comp=Z,18nm,0.9s,mb4.8						

MJAR	**Matsushiro Arr**	**54.26**	**30**	P	**P**	**17 02 22.9**	**-4.9**
	comp=Z,3.6nm,1.1s,mb4.2,baz=212,slow=8.9,SNR=5.8						
SONM	**Songino Array**	**57.41**	**359**	P	**P**	**17 02 49.6**	**-0.8**
	comp=Z,2.0nm,0.7s,mb4.2,baz=174,slow=8.0,SNR=7.0						
ULN	**Ulaanbaatar**	**57.43**	**359**	*eP*	**P**	**17 02 50.0**	**-0.5**
	comp=Z,2.0nm,0.6s,mb4.3						
MKAR	**Makanchi Array**	**60.80**	**340**	P	**P**	**17 03 13.3**	**-0.6**
	comp=Z,1.5nm,0.6s,mb4.3,baz=153,slow=7.9,SNR=6.8						
MKAR	**Makanchi Array**	**60.80**	**340**	P	**P**	**17 03 13.3**	**-0.6**
BRTR	**Keskin Array B**	**84.30**	**312**	P	**P**	**17 05 32.9**	**-0.8**
	comp=Z,1.6nm,1.1s,mb4.1,baz=107,slow=4.8,SNR=5.9						

IDC 17 16:53:12.1±5.8, 128N×9697E, h0km, mb4.3/5, mb1 4.3/6, mb1mx3.9/18, mbtmp4.2/6, ML3.1/1, Error ellipse: s-maj=127.8km s-min=41.2km az=167.0
ISCJB 17 16:53:16.3±0.9, 15N±01×971E±01, h33km, mb4.3/6, Error ellipse: s-maj=19.8km s-min=15.5km az=114.0
NEIC 17 16:53:17.4±0.7, 142N×9704E, h30km, mb4.6/1, Error ellipse: s-maj=15.7km s-min=10.3km az=62.0
ISC 17 16:53:18.6±1.0, 15N±01×971E±01, h35km, n11, σ0§61/11, mb4.3/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.27**	**55**	Pn	**Pn**	**16 53 53.1**	**-0.4**
	4.2nm,0.3s,baz=270,slow=6.1,SNR=8.8						
KULM	**Kulim**	**5.20**	**43**	*eP*	**Pn**	**16 54 33.9**	**+0.1**
WRAB	**Tennant Creek**	**42.31**	**122**	*eP*	**P**	**17 01 09.6**	**+0.8**
	4.9nm,0.4s,mb4.5						
WB2	**Warramunga Arr**	**42.31**	**122**	*eP*	**P**	**17 01 09.6**	**+0.7**
AS31	**Alice Springs**	**43.68**	**127**	*eP*	**P**	**17 01 18.6**	**-1.3**
SONM	**Songino Array**	**46.86**	**9**	P	**P**	**17 01 45.5**	**+0.4**
	2.8nm,0.8s,mb4.2,baz=189,slow=8.6,SNR=6.8						
MKAR	**Makanchi Array**	**46.92**	**346**	P	**P**	**17 01 46.3**	**+0.6**
	2.2nm,0.5s,mb4.3,baz=161,slow=8.9,SNR=9.5						
ZAL	**Zalesovo**	**53.24**	**351**	P	**P**	**17 02 33.2**	**-0.4**
	1.7nm,0.5s,mb4.2,baz=321,slow=4.0,SNR=3.4						
ZAL	**Zalesovo**	**53.24**	**351**	P	**P**	**17 02 33.2**	**-0.4**
FINES	**FINESS Array B**	**79.68**	**332**	P	**P**	**17 05 22.1**	**-0.4**
	3.6nm,1.2s,mb4.2,baz=87,slow=11,SNR=3.1						
ARCES	**ARCESS Array B**	**82.22**	**340**	P	**P**	**17 05 35.8**	**-0.2**
	3.9nm,1.1s,mb4.3,baz=104,slow=6.6,SNR=3.9						

IDC 17 16:55:18.9±0.8, 9.17S×10785E, h0km, mb4.3/7, mb1 4.4/8, mb1mx4.2/16, mbtmp4.3/8, ML3.9/1, Error ellipse: s-maj=32.0km s-min=17.5km az=64.0
NEIC 17 16:55:20.5±0.5, 9.19S×10781E, h10km, mb4.6/6, Error ellipse: s-maj=24.2km s-min=10.9km az=70.0
ISCJB 17 16:55:21.8±0.6, 92S±01×1079E±02, h33km, mb4.4/12, Error ellipse: s-maj=26.5km s-min=11.3km az=113.6
ISC 17 16:55:24.0±0.6, 92S±01×1079E±02, h35km, n18, σ0§60/17, mb4.4/12, South of Jawa

| Code |

	2.6nm,0.6s,mb4.3								
VNDA	**Vanda**	**73.59**	**169**	P		**P**	**17 09 21.4**	**-0.9**	
	1.7nm,0.8s,mb4.0,baz=284,slow=5.3,SNR=5.4								
BRTR	**Keskin Array B**	**84.19**	**312**	P		**P**	**17 10 21.1**	**+0.7**	
	0.8nm,0.8s,mb3.9,baz=130,slow=5.5,SNR=4.7								

IDC 17 16:59:39.7±8.1, 819S×12928E, h63km±92km, mb3.3/1, mb1 3.4/4, mb1mx3.2/12, mbtmp3.4/4, ML2.8/2, Error ellipse: s-maj=56.4km s-min=53.3km az=22.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.47**	**199**	P	Pn	17 02 07.4	+0.4
	0.1nm,0.3s,baz=58,slow=15,SNR=1.8						
FITZ				S	Sn	17 04 04.1	+1.5
	0.1nm,0.3s,baz=141,slow=16,SNR=2.0						
WRA	**Warramunga Arr**	**12.68**	**158**	P	Pn	17 02 36.9	-0.2
	0.1nm,0.3s,baz=332,slow=13,SNR=3.5						
WRA				S	Sn	17 04 58.1	+1.6
	0.2nm,0.3s,baz=336,slow=22,SNR=3.8						
ASAR	**Alice Springs**	**16.02**	**164**	P	Pn	17 03 20.4	-0.5
	0.1nm,0.3s,baz=341,slow=9.3,SNR=5.5						
MKAR	**Makanchi Array**	**68.82**	**327**	P	P	17 10 37.5	+0.2
	0.4nm,0.6s,baz=134,slow=8.3,SNR=3.9						

IDC 17 17:26:27.5±3.5, 867S×10839E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.6/3, Error ellipse: s-maj=136.1km s-min=31.0km az=49.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.48**	**117**	P	P	17 32 15.6	+0.3
	0.4nm,0.8s,baz=290,slow=10,SNR=5.0						
SONM	**Songino Array**	**56.28**	**358**	P	P	17 36 10.7	+0.9
	0.4nm,0.6s,baz=165,slow=7.7,SNR=5.2						
MKAR	**Makanchi Array**	**59.91**	**340**	P	P	17 36 34.8	-0.5
	0.8nm,0.7s,baz=144,slow=8.7,SNR=8.7						

IDC ***17*** *17:33:18.1±2.1, 922S×10879E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/15, mbtmp3.6/5, Error ellipse: s-maj=102.3km s-min=22.3km az=51.0*
NEIC ***17*** *17:33:19.0±2.0, 938S×10863E, h10km, mb4.2/1, Error ellipse: s-maj=99.7km s-min=13.8km az=48.0*
ISCJB ***17*** *17:33:20.6±2.6, 93S×06×1087E±0.7, h33km, mb3.6/6, Error ellipse: s-maj=127.6km s-min=18.1km az=95.3*
ISC 17 17:33:22.7±2.7, 94S×06×1086E±07, h35km, n6, σ0°18/6, mb3.6/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.98**	**116**	P	P	**17 39 01.0**	**-0.1**
	0.7nm,0.8s,mb3.3,baz=288,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**28.04**	**123**	P	**P**	**17 39 10.6**	**+0.1**
	0.6nm,1.0s,mb3.2,baz=297,slow=9.5,SNR=5.7						
ASAR				PcP	PcP	17 42 26.1	+1.4
	0.3nm,0.5s,baz=308,slow=2.2,SNR=5.9						
SONM	**Songino Array**	**57.02**	**358**	P	**P**	**17 43 05.1**	**+0.1**
	0.3nm,0.5s,mb3.6,baz=175,slow=8.0,SNR=6.7						
MKAR	**Makanchi Array**	**60.67**	**340**	P	**P**	**17 43 30.2**	**-0.1**
	0.6nm,0.7s,mb3.9,baz=162,slow=7.8,SNR=7.3						
BVAR	**Borovoye Array**	**70.19**	**337**	P	**P**	**17 44 31.7**	**-0.2**
	0.4nm,0.5s,mb3.6,baz=120,slow=8.5,SNR=3.6						
CHKZ	**Chkalovo**	**70.60**	**337**	*e*P	**P**	**17 44 34.6**	**+0.2**
	1.3nm,0.6s,mb4.0						

IDC ***17*** *17:36:36.0±1.6, 9.11S×10738E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.9/18, mbtmp3.9/9, ML3.7/1, Error ellipse: s-maj=79.6km s-min=17.8km az=45.0*
NEIC ***17*** *17:36:37.7±1.1, 9.17S×10736E, h10km, mb4.8/8, Error ellipse: s-maj=59.7km s-min=8.0km az=224.0*
ISCJB ***17*** *17:36:39.2±1.1, 92S±03×1075E±03, h33km, mb4.3/16, Error ellipse: s-maj=61.4km s-min=8.1km az=88.6*
ISC 17 17:36:41.6±1.1, 92S±03×1075E±03, h35km, n26, σ1°00/27, mb4.3/16, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**16.79**	**137**	*e*P	**Pn**	**17 40 29.6**	**-4.3**
FITZ	**Fitzroy Crossi**	**19.76**	**119**	*e*P	**Pn**	**17 41 10.2**	**+0.1**
	7.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.76**	**119**	P	**Pn**	**17 41 09.3**	**-0.8**
	0.2nm,0.3s,baz=309,slow=12,SNR=4.8						
FITZ				Sn	**Sn**	**17 44 35.2**	**-16**
	0.1nm,0.3s,baz=65,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**28.09**	**115**	P	**P**	**17 42 30.1**	**+0.2**
	0.4nm,0.5s,mb3.3,baz=290,slow=10,SNR=8.3						
WRAB	**Tennant Creek**	**28.10**	**115**	P	**P**	**17 42 31.9**	**+1.9**
WB2	**Warramunga Arr**	**28.10**	**115**	*e*P	**P**	**17 42 31.4**	**+1.4**
ASPA	**Alice Springs**	**29.10**	**123**	*e*P	**P**	**17 42 37.6**	**-1.2**
ASAR	**Alice Springs**	**29.10**	**123**	P	**P**	**17 42 39.7**	**+0.8**
	0.5nm,0.6s,mb3.5,baz=304,slow=8.5,SNR=10						
AS31	**Alice Springs**	**29.10**	**123**	*e*P	**P**	**17 42 37.6**	**-1.3**
JIRN	**Jiri**	**42.01**	**331**	*e*P	**P**	**17 44 30.2**	**+0.8**
	32nm,0.8s,mb5.0						
GUN	**Gumba**	**42.37**	**331**	*e*P	**P**	**17 44 33.2**	**+0.9**
	38nm,0.9s,mb5.0						
DMN	**Daman**	**42.49**	**330**	*e*P	**P**	**17 44 34.0**	**+0.7**
	23nm,0.8s,mb4.8						
KKN	**Kakani**	**42.56**	**330**	*e*P	**P**	**17 44 34.5**	**+0.6**
GKN	**Gorkha**	**43.05**	**330**	*e*P	**P**	**17 44 38.3**	**+0.5**
	6.3nm,0.3s,mb4.8						
KOLN	**Koldanda**	**43.38**	**329**	*e*P	**P**	**17 44 40.9**	**+0.4**
	21nm,0.7s,mb5.0						
SONM	**Songino Array**	**56.77**	**359**	P	**P**	**17 46 21.8**	**-0.2**
	0.9nm,0.5s,mb4.0,baz=178,slow=8.6,SNR=18						
MKAR	**Makanchi Array**	**60.07**	**340**	P	**P**	**17 46 44.5**	**-0.6**
	1.0nm,0.4s,mb4.2,baz=155,slow=8.1,SNR=35						
KURK	**Kurchatov**	**64.68**	**340**	*e*P	**P**	**17 47 15.1**	**-0.9**
	3.5nm,0.9s,mb4.4						
ZAL	**Zalesovo**	**65.73**	**346**	P	**P**	**17 47 20.2**	**-2.5**
	0.9nm,0.3s,mb4.2,baz=354,slow=4.2,SNR=4.5						
ZAL	**Zalesovo**	**65.73**	**346**	P	**P**	**17 47 20.2**	**-2.5**
BVAR	**Borovoye Array**	**69.53**	**337**	P	**P**	**17 47 46.2**	**-0.5**
	0.7nm,0.5s,mb3.9,baz=165,slow=6.2,SNR=4.4						
CHKZ	**Chkalovo**	**69.95**	**338**	*e*P	**P**	**17 47 48.6**	**-0.7**
	2.5nm,0.4s,mb4.5						
ZRNK	**Zerenda**	**70.01**	**336**	*e*P	**P**	**17 47 48.5**	**-1.1**
	2.7nm,0.8s,mb4.2						
AKTK	**Aktyubinsk**	**73.21**	**330**	P	**P**	**17 48 09.7**	**+0.8**
AKTO	**Aktyubinsk**	**73.21**	**330**	P	**P**	**17 48 09.7**	**+0.8**
	0.7nm,0.6s,mb3.8,baz=105,slow=7.0,SNR=3.8						
BRTR	**Keskin Array B**	**83.60**	**312**	P	**P**	**17 49 05.7**	**-0.5**
	0.6nm,0.6s,mb3.9,baz=131,slow=5.4,SNR=4.6						

BJI ***17*** *17:40:40.6, 980S×10830E, h10km, mB5.2, mb4.8, Ms4.8, Msz4.4*
IDC ***17*** *17:40:41.1±0.5, 976S×10833E, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.4/18, mbtmp4.3/15, ML3.9/1, MS3.6/1, Ms1 3.6/1, ms1mx2.5/27, Error ellipse: s-maj=23.7km s-min=14.5km az=56.0*
ISCJB ***17*** *17:40:41.6±1.9, 983S±006×10827E±006, h15km±13km, mb4.7/46, MS4.7/3, Error ellipse: s-maj=11.8km s-min=7.7km az=85.4*
NEIC ***17*** *17:40:42.7±0.2, 979S×10833E, h10km, mb5.1/15, Error ellipse: s-maj=10.9km s-min=4.7km az=48.0*
CSEM ***17*** *17:40:43.4, 955S×10821E, h20km, mb5.5*
MOS ***17*** *17:40:45.1±1.0, 970S×10843E, h37km, mb5.1/12, Error ellipse: s-maj=17.1km s-min=8.5km az=111.3*
ISC 17 17:40:45.1±1.9, 983S±006×10828E±006, h25km±13km, h31km±2.0km:pP-P, n94, σ0°94/87, mb4.7/46, MS4.7/3, 8C-7D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJI	**Jatiwangi**	**3.31**	**360**	P	**Pn**	**17 41 33.0**	**-2.4**
	0.0nm,0.0s						
KRKI	**Karangkates**	**4.44**	**68**	P	**Pn**	**17 41 51.4**	**+0.5**
	0.0nm,0.0s						
NBBI	**Negara**	**6.43**	**78**	P	**Pn**	**17 42 19.7**	**+1.5**
	0.0nm,0.0s						
KSI	**Kapahiang**	**8.34**	**317**	P	**Pn**	**17 42 43.0**	**-1.3**
	0.0nm,0.0s						
PCI	**Palu**	**14.52**	**53**	P	**Pn**	**17 44 10.6**	**+1.7**
	0.0nm,0.0s						
FITZ	**Fitzroy Crossi**	**18.74**	**118**	P	**Pn**	**17 45 01.1**	**-1.4**
	0.3nm,0.3s,baz=192,slow=7.7,SNR=5.2						
FITZ				Sn	**Sn**	**17 48 16.8**	**-14**
	0.2nm,0.3s,baz=170,slow=20,SNR=5.1						
FITZ				LR	LR	17 51 60.0	
	comp=Z,167nm,18.7s,baz=165,slow=36						
BSI	**Banda Aceh**	**19.97**	**319**	P	**Pn**	**17 45 16.6**	**-0.7**
	94nm,1.2s						
WRA	**Warramunga Arr**	**27.08**	**115**	P	**P**	**17 46 25.3**	**-0.4**
	6.1nm,0.9s,mb4.1,baz=286,slow=11,SNR=13						
WRA				PcP	PcP	17 49 47.4	+1.1
	1.4nm,0.9s,baz=291,slow=1.7,SNR=5.2						
WRAB	**Tennant Creek**	**27.09**	**115**	*i*P	**P**	**17 46 26.5**	**+0.7**
WRAB	**Tennant Creek**	**27.09**	**115**	*e*P	**P**	**17 46 26.0**	**+0.2**
	5.9nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**27.09**	**115**	*e*P	**P**	**17 46 25.8**	**0.0**
AS31	**Alice Springs**	**28.07**	**123**	P	**P**	**17 46 34.4**	**-0.1**
ASAR	**Alice Springs**	**28.07**	**123**	P	**P**	**17 46 34.7**	**+0.2**
	2.3nm,0.8s,mb3.8,baz=300,slow=8.3,SNR=7.1						
ASAR				PcP	PcP	17 49 49.9	+1.2
	1.6nm,0.7s,baz=315,slow=2.6,SNR=8.9						
ASAR				Sn	S	17 52 01.0	+43
	1.7nm,1.0s,baz=299,slow=23,SNR=4.8						
ASAR	**Alice Springs**	**28.07**	**123**	P	**P**	**17 46 34.7**	**+0.2**
ASAR						17 49 49.9	
CM31	**Chiang Mai Arr**	**29.57**	**342**	P	**P**	**17 46 46.9**	**-1.0**
CHTO	**Chiang Mai**	**29.91**	**342**	*e*P	**P**	**17 46 51.3**	**+0.4**
CHTO				*e*	pP	17 47 00.0	+1.7
CHTO				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
CHTO	**Chiang Mai**	**29.91**	**342**	*e*P	**P**	**17 46 51.3**	**+0.4**
	comp=Z,20nm,1.0s,mb4.8						
CHTO				*e*	pP	17 46 60.0	+1.6
GYA	**Guiyang**	**36.10**	**358**	*i*P	**P**	**17 47 46.6**	**+1.7**
GYA				AP	pP	17 47 50.8	-1.6
GYA				XP	sP	17 47 53.9	-1.6
GYA				PP	PP	17 49 08.4	+1.3
GYA				S	**S**	**17 53 24.3**	**+1.5**
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
GYA				AMB	AMB		
	comp=Z,160nm,4.2s						
GYA				LR	LR		
	comp=N,670nm,15.8s,MS4.7						
GYA				LR	LR		
	comp=E,740nm,15.4s,MS4.7						
GYA				LR	LR		
	comp=Z,690nm,15.0s,MS4.5						
WHN	**Wuhan**	**40.56**	**8**	P	**P**	**17 48 23.5**	**+1.1**
WHN				AP	pP	17 48 33.0	+3.0
SSE	**Sheshan**	**42.53**	**16**	*e*P	**P**	**17 48 37.4**	**-1.1**
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,167nm,6.4s						
NJ2	**Nanjing**	**42.85**	**13**	*e*P	**P**	**17 48 39.8**	**-1.4**
NJ2				AP	pP	17 48 49.0	+0.2
NJ2				XP	sP	17 48 53.1	+1.3
NJ2				PP	PP	17 50 21.0	+0.2
NJ2				S	**S**	**17 55 00.0**	**-4.1**
NJ2				XS	sS	17 55 17.0	+0.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
JIRN	**Jiri**	**42.97**	**331**	*e*P	**P**	**17 48 43.2**	**+1.1**
	comp=Z,79nm,0.8s,mb5.5						
PKI	**Pulchoki**	**43.28**	**330**	*e*P	**P**	**17 48 44.8**	**+0.2**
GUN	**Gumba**	**43.33**	**331**	*e*P	**P**	**17 48 45.6**	**+0.6**
	comp=Z,76nm,0.8s,mb5.5						
DMN	**Daman**	**43.46**	**329**	*e*P	**P**	**17 48 46.7**	**+0.6**
	comp=Z,56nm,0.9s,mb5.3						
KKN	**Kakani**	**43.52**	**330**	*e*P	**P**	**17 48 47.1**	**+0.5**
	comp=Z,54nm,1.0s,mb5.2						
KKN	**Kakani**	**43.52**	**330**	*e*P	**P**	**17 48 47.1**	**+0.5**
KKN				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.2						
XAN	**Xi'an**	**43.62**	**1**	P	**P**	**17 48 47.8**	**+0.4**
XAN				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.7						
GKN	**Gorkha**	**44.02**	**329**	*e*P	**P**	**17 48 51.1**	**+0.5**
	comp=Z,52nm,1.1s,mb5.2						
KOLN	**Koldanda**	**44.36**	**328**	*e*P	**P**	**17 48 53.8**	**+0.5**
	comp=Z,41nm,0.9s,mb5.2						
LZH	**Lanzhou**	**45.85**	**355**	*e*P	**P**	**17 49 06.5**	**+1.3**
LZH				AP	pP	17 49 15.5	+2.7
LZH				XP	sP	17 49 18.0	+2.1
LZH				AMB	AMB		
	comp=Z,45nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,231nm,5.1s						
GTA	**Gaotai**	**49.61**	**351**	*e*P	**P**	**17 49 35.6**	**+1.3**
GTA				AP	pP	17 49 45.6	+3.6
GTA				AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.5						
BJI	**Beijing**	**50.15**	**8**	*e*P	**P**	**17 49 37.5**	**-0.9**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.7						
SNY	**Shenyang**	**53.29**	**14**	⇓P	**P**	**17 50 03.3**	**+1.5**
SNY				AMB	AMB		
	comp=Z,12nm,0.5s,mb5.1						
MJAR	**Matsushiro Arr**	**54.03**	**30**	P	**P**	**17 50 05.1**	**-2.2**
	comp=Z,4.7nm,1.0s,mb4.4,baz=204,slow=7.8,SNR=9.3						
SONM	**Songino Array**	**57.43**	**358**	P	**P**	**17 50 32.1**	**+0.4**
	comp=Z,4.2nm,0.7s,mb4.5,baz=176,slow=8.3,SNR=27						
SONM				PcP	PcP	17 51 25.7	+0.5
	comp=Z,1.6nm,0.7s,baz=175,slow=3.5,SNR=4.5						
ULN	**Ulaanbaatar**	**57.44**	**359**	*de*P	**P**	**17 50 31.8**	**0.0**
ULN	**Ulaanbaatar**	**57.44**	**359**	*e*P	**P**	**17 50 31.8**	**0.0**
WSAR	**Wadi Sarin**	**58.64**	**305**	P	**P**	**17 50 40.4**	**+0.2**
	comp=Z,5.3nm,1.0s,mb4.5,baz=130,slow=7.9,SNR=3.3						
ZAK	**Zakamensk**	**60.11**	**356**	*e*P	**P**	**17 50 50.0**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						
AAK	**Ala-Archa**	**60.66**	**332**	*i*P	**P**	**17 50 53.7**	**-0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.1						
AAK	**Ala-Archa**	**60.66**	**332**	*e*P	**P**	**17 50 52.8**	**-1.3**
MKAR	**Makanchi Array**	**60.96**	**340**	P	**P**	**17 50 56.4**	**+0.3**
	comp=Z,6.7nm,0.6s,mb5.0,baz=142,slow=7.9,SNR=35						
MOY	**Mondy**	**61.56**	**355**	*e*P	**P**	**17 51 00.7**	**+0.5**
KLR	**Kul'dur**	**62.32**	**17**	*e*P	**P**	**17 51 00.0**	**-5.2**
HABR	**Khabarovsk**	**62.68**	**20**	*e*P	**P**	**17 51 06.9**	**-0.8**
HABR				*e*S	**S**	**17 59 33.5**	**-1.1**
YSS	**Yuzh-Sakhalins**	**64.34**	**25**	*i*P	**P**	**17 51 18.0**	**-0.6**
YSS				pmax	pmax		
	comp=Z,15nm,1.7s,mb4.8						
MAW	**Mawson**	**65.06**	**198**	P	**P**	**17 51 23.2**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.2,baz=39,slow=7.0,SNR=6.7						
KURK	**Kurchatov**	**65.57**	**340**	P	**P**	**17 51 26.2**	**-0.4**
	comp=Z,82nm,1.0s,mb5.7,SNR=11						
KURK	**Kurchatov**	**65.57**	**340**	*de*P	**P**	**17 51 26.6**	**0.0**
KURK	**Kurchatov**	**65.57**	**340**	*e*P	**P**	**17 51 26.3**	**-0.3**
	comp=Z,11nm,0.9s,mb4.9						
ZAL	**Zalesovo**	**66.56**	**345**	P	**P**	**17 51 31.1**	**-1.9**
	comp=Z,1.0nm,0.6s,mb4.0,baz=310,slow=5.8,SNR=7.8						
BOD	**Bodaibo**	**67.57**	**3**	*e*P	**P**	**17 51 38.3**	**-1.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.5						
NVS	**Novosibirsk**	**67.78**	**345**	*e*P	**P**	**17 51 37.0**	**-3.7**
BVAR	**Borovoye Array**	**70.44**	**337**	P	**P**	**17 51 57.5**	**+0.3**
	comp=Z,6.9nm,0.7s,mb4.7,baz=142,slow=8.9,SNR=33						
BVAR	**Borovoye Array**	**70.44**	**337**	P	**P**	**17 51 57.5**	**+0.3**
BRVK	**Borovoye**	**70.51**	**337**	*e*P	**P**	**17 51 57.5**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
BRVK	**Borovoye**	**70.51**	**337**	*e*P	**P**	**17 51 57.5**	**-0.2**
	comp=Z,9.1nm,1.2s,mb4.6						
CHKZ	**Chkalovo**	**70.86**	**337**	*e*P	**P**	**17 51 59.9**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
CHKZ	**Chkalovo**	**70.86**	**337**	*e*P	**P**	**17 51 59.9**	**+0.1**
	comp=Z,16nm,0.9s,mb5.0						
ZRNK	**Zerenda**	**70.93**	**336**	*e*P	**P**	**17 52 00.5**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
ZRNK	**Zerenda**	**70.93**	**336**	*e*P	**P**	**17 52 00.5**	**+0.2**
	comp=Z,12nm,0.9s,mb4.8						
KMBO	**Kilima Mbogo**	**71.11**	**272**	P	**P**	**17 52 02.0**	**+0.7**
	comp=Z,2.4nm,0.9s,mb4.1,baz=45,slow=22,SNR=4.5						
VNDA	**Vanda**	**72.98**	**169**	P	**P**	**17 52 11.8**	**-0.7**
	comp=Z,0.6nm,0.9s,mb3.5,baz=296,slow=6.2,SNR=3.8						
VNDA	**Vanda**	**72.98**	**169**	P	**P**	**17 52 11.8**	**-0.7**
YAK	**Yakutsk**	**73.56**	**10**	*de*P	**P**	**17 52 14.5**	**-1.4**
YAK	**Yakutsk**	**73.56**	**10**	*e*P	**P**	**17 52 15.1**	**-0.8**
	comp=Z,8.9nm,0.5s,mb5.0						
AKTK	**Aktyubinsk**	**74.18**	**329**	P	**P**	**17 52 19.4**	**-0.1**
AKTO	**Aktyubinsk**	**74.18**	**329**	P	**P**	**17 52 19.4**	**-0.1**
	comp=Z,2.9nm,0.6s,mb4.4,baz=143,slow=2.9,SNR=9.6						
SVE	**Sverdlovsk**	**77.09**	**335**	⇓*e*P	**P**	**17 52 36.5**	**+0.3**
SVE				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.2						
SVE				MLR	MLR		
	comp=N,200nm,16.0s,MS4.7						
SVE				MLR	MLR		
	comp=E,400nm,16.0s,MS4.8						
SVE				MLR	MLR		
	comp=E,200nm,18.0s,MS4.7						
MBAR	**Mbarara**	**77.62**	**272**	⇑*i*P	**P**	**17 52 40.6**	**+1.4**
ARU	**Arti**	**77.70**	**334**	P	**P**	**17 52 40.1**	**+0.5**
	comp=E,96nm,0.8s,mb5.8,SNR=6.9						
ARU	**Arti**	**77.70**	**334**	⇓*i*P	**P**	**17 52 39.8**	**+0.2**
ARU				*e*	pP	17 52 48.9	+1.2
ARU				*e*		17 55 35.4	
ARU				*e*PPP		17 57 24.1	
ARU				*e*S	S	18 02 30.5	+0.3
ARU				*e*SS	SS	18 07 27.6	-2.6
ARU				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
ARU	**Arti**	**77.70**	**334**	*e*P	**P**	**17 52 39.9**	**+0.3**
	comp=Z,28nm,1.3s,mb5.0						
KIV	**Kislovodsk**	**79.81**	**318**	*c i*P	**P**	**17 52 52.2**	**+0.9**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.5						
TIXI	**Tiksi**	**82.45**	**6**	⇑*e*P	**P**	**17 53 04.4**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
BR131	**Keskin Array S**	**84.64**	**312**	*e*P	**P**	**17 53 17.2**	**+0.7**
	comp=Z,2.0nm,0.7s,mb4.4						
BRTR	**Keskin Array B**	**84.64**	**312**	P	**P**	**17 53 17.2**	**+0.7**
	comp=Z,3.9nm,0.8s,mb4.6,baz=134,slow=7.0,SNR=24						
VRSR	**Storozhevoye**	**84.87**	**324**	*e*P	**P**	**17 53 18.0**	**+0.3**
VRSR				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.0						
VRSR				pmax	pmax		
	comp=N,4.0nm,0.5s						
VRSR				pmax	pmax		
	comp=E,6.0nm,0.7s						
OBN	**Obninsk**	**87.77**	**327**	⇑*e*P	**P**	**17 53 32.4**	**+0.5**
OBN				*e*		17 56 58.8	
OBN				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.9						
OBN				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.8						
KLMR	**Klimovskoe**	**88.46**	**333**	*e*P	**P**	**17 53 34.9**	**-0.3**
KLMR				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.4						
AKASG	**Malin Array Be**	**90.68**	**321**	P	**P**	**17 53 44.0**	**-1.6**
	comp=Z,0.4nm,0.4s,mb4.1,baz=89,slow=4.3,SNR=7.7						
AKASG	**Malin Array Be**	**90.68**	**321**	P	**P**	**17 53 44.0**	**-1.6**
YKA	**Yellowknife Ar**	**119.04**	**21**	PKP	PKPdf	17 59 30.8	-0.8
	comp=Z,1.0nm,0.7s,baz=305,slow=1.6,SNR=5.6						
YKA	**Yellowknife Ar**	**119.04**	**21**	*i*PKIKP	PKPdf	17 59 31.7	+0.1
NVAR	**Mina Array Bea**	**129.56**	**48**	PKP	PKPdf	17 59 53.5	+1.7
	comp=Z,0.3nm,0.5s,baz=180,slow=1.4,SNR=3.9						
WMOK	**Wichita Mounta**	**144.98**	**41**	*e*PKIKP	PKPdf	18 00 21.0	+0.9
LONY	**Lake Ozonia**	**145.25**	**4**	*e*PKP	PKPdf	18 00 21.1	+0.5
BDFB	**Brasilia**	**145.48**	**223**	PKPbc	PKPbc	18 00 22.4	+1.4
	comp=Z,2.0nm,0.3s,baz=284,slow=1.5,SNR=5.2						
NCB	**Newcomb**	**145.91**	**3**	*e*PKPbc	PKPbc	18 00 23.1	+0.7
JCT	**Junction City**	**146.74**	**48**	*e*PKP2	PKPab	18 00 26.1	+0.1
WVT	**Waverly**	**150.00**	**27**	*e*PKP2	PKPbc	18 00 34.4	+1.1
PLAL	**Pickwick Lake**	**150.84**	**28**	*e*PKPbc	PKPbc	18 00 36.0	+0.7
LPAZ	**La Paz**	**153.81**	**188**	PKPbc	PKPbc	18 00 44.5	+2.5
	comp=Z,0.8nm,0.6s,baz=233,slow=5.3,SNR=4.4						

IDC 17 17:44:14.2±2.2, 296S×12826E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.6/14, mbtmp3.6/3, ML3.1/1, Error ellipse: s-maj=139.8km s-min=28.8km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.89**	**161**	P	Pn	17 48 23.5	-0.8
	0.1nm,0.3s,baz=340,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**21.29**	**166**	P	P	17 49 02.4	+0.1
	3.6nm,0.8s,baz=344,slow=11,SNR=13						
MKAR	**Makanchi Array**	**63.92**	**327**	P	P	17 54 49.5	+0.6
	0.2nm,0.7s,baz=128,slow=7.5,SNR=2.6						

IDC 17 17:48:54.2±4.0, 914S×10863E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/14, mbtmp3.6/3, Error ellipse: s-maj=208.3km s-min=27.8km az=48.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.06**	**116**	P	P	17 54 38.9	+0.5
	0.4nm,0.7s,baz=286,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**28.15**	**124**	P	P	17 54 48.4	+0.3
	0.6nm,0.6s,baz=301,slow=9.3,SNR=6.3						
MKAR	**Mak

s-min=29.5km az=49.0
NEIC ***17*** *17:57:30.7±1.1,924S×10807E,h10km,mb4.2/4, Error ellipse: s-maj=52.9km s-min=16.9km az=51.0*
ISCJB ***17*** *17:57:32.5±1.4,9.1S±0.3×1083E±0.4,h33km,mb4.0/9, Error ellipse: s-maj=65.5km s-min=21.0km az=102.0*

ISC 17 17:57:34.7±1.5,92S±03×1081E±04,h35km,n9,σ0§54/9, mb4.0/9,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**28.54**	**123**	P		**P**	**18 03 27.0**	**0.0**
	0.3nm,0.7s,mb3.1,baz=297,slow=9.2,SNR=4.2							
CHTO	**Chiang Mai**	**29.27**	**342**	*eP*		**P**	**18 03 33.2**	**-0.3**
	3.7nm,1.0s,mb4.1							
SONM	**Songino Array**	**56.80**	**359**	P		**P**	**18 07 15.6**	**+0.2**
	1.4nm,0.8s,mb4.0,baz=172,slow=8.5,SNR=9.1							
ULN	**Ulaanbaatar**	**56.82**	**359**	*eP*		**P**	**18 07 15.2**	**-0.3**
	2.0nm,0.8s,mb4.2							
MKAR	**Makanchi Array**	**60.31**	**340**	P		**P**	**18 07 39.9**	**0.0**
	3.2nm,0.6s,mb4.5,baz=142,slow=7.6,SNR=33							
KURK	**Kurchatov**	**64.93**	**340**	*eP*		**P**	**18 08 09.8**	**-0.9**
	2.3nm,0.9s,mb4.2							
BVAR	**Borovoye Array**	**69.81**	**337**	P		**P**	**18 08 42.0**	**+0.5**
	0.9nm,0.5s,mb4.0,baz=144,slow=9.1,SNR=7.2							
CHKZ	**Chkalovo**	**70.22**	**337**	*eP*		**P**	**18 08 45.2**	**+1.1**
	1.1nm,0.5s,mb4.0							
BRTR	**Keskin Array B**	**84.10**	**312**	P		**P**	**18 10 01.6**	**-0.4**
	0.7nm,0.8s,mb3.8,baz=144,slow=8.6,SNR=3.8							

BJI ***17*** *17:58:23.9,990S×10820E,h10km,mB5.2,mb4.7,Ms4.6, Msz4.3*
IDC ***17*** *17:58:24.1±0.5,984S×10821E,h0km,mb4.4/17, mb1 4.3/18,mb1mx4.3/21,mbtmp4.3/18,ML3.9/1,Error ellipse: s-maj=20.9km s-min=14.2km az=51.0*
NEIC ***17*** *17:58:25.9±0.2,991S×10822E,h10km,mb4.9/16,Error ellipse: s-maj=11.5km s-min=5.3km az=49.0*
ISCJB ***17*** *17:58:28.1±1.7,993S±007×10825E±008,h40km±15km, mb4.6/34,Error ellipse: s-maj=15.4km s-min=7.9km az=103.6*

ISC 17 17:58:30.7±1.4,994S±007×10825E±008,h44km±13km, h26km±10.2km:pP-P,n66,σ0§81/58,mb4.6/34,1C,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SBJI	**Serang**	**4.34**	**331**	P		**Pn**	**17 59 41.9**	**+7.9**
	0.0nm,0.0s							
KRKI	**Karangkates**	**4.51**	**67**	P		**Pn**	**17 59 35.6**	**-0.8**
	0.0nm,0.0s							
NBBI	**Negara**	**6.48**	**77**	P		**Pn**	**18 00 04.1**	**+0.7**
	0.0nm,0.0s							
DNP	**Denpasar**	**6.98**	**80**	P		**Pn**	**18 00 15.2**	**+4.9**
	0.0nm,0.0s							
MBWA	**Marble Bar**	**15.70**	**137**	*eP*		**Pn**	**18 02 04.1**	**-4.6**
PSI	**Prapat**	**15.70**	**323**	Pn		**Pn**	**18 02 08.4**	**-0.3**
	0.7nm,0.3s,baz=176,slow=11,SNR=4.9							
FITZ	**Fitzroy Crossi**	**18.71**	**118**	*eP*		**Pn**	**18 02 46.7**	**+0.7**
	9.2nm,0.8s							
FITZ				*eS*		**S**	**18 05 56.1**	**-19**
FITZ	**Fitzroy Crossi**	**18.71**	**118**	P		**Pn**	**18 02 46.2**	**+0.2**
	0.3nm,0.3s,baz=316,slow=9.7,SNR=11							
FITZ				Sn		**Sn**	**18 05 57.3**	**-17**
	0.4nm,0.3s,baz=86,slow=19,SNR=3.9							
BSI	**Banda Aceh**	**20.04**	**319**	P		**P**	**18 02 59.8**	**-0.1**
	89nm,1.3s							
NWAO	**Narrogin (SRO)**	**24.33**	**161**	P		**P**	**18 03 44.1**	**0.0**
	3.9nm,0.7s,mb4.0,baz=323,slow=15,SNR=3.7							
NWAO	**Narrogin (SRO)**	**24.33**	**161**	*eP*		**P**	**18 03 44.5**	**+0.4**
WRA	**Warramunga Arr**	**27.06**	**115**	P		**P**	**18 04 08.9**	**0.0**
	6.2nm,1.0s,mb4.1,baz=286,slow=11,SNR=9.2							
WRA				PcP		PcP	18 07 30.3	+1.2
	1.5nm,0.7s,baz=290,slow=2.0,SNR=7.7							
WRA				Sn		S	18 09 21.1	+38
	0.9nm,0.8s,baz=291,slow=26,SNR=4.6							
WRAB	**Tennant Creek**	**27.07**	**115**	*eP*		**P**	**18 04 09.3**	**+0.4**
	12nm,1.0s,mb4.4							
WB2	**Warramunga Arr**	**27.07**	**115**	*eP*		**P**	**18 04 07.4**	**-1.5**
AS31	**Alice Springs**	**28.03**	**122**	*eP*		**P**	**18 04 18.2**	**+0.7**
ASAR	**Alice Springs**	**28.03**	**122**	P		**P**	**18 04 17.8**	**+0.3**
	1.8nm,0.7s,mb3.8,baz=298,slow=8.2,SNR=5.2							
ASAR				PcP		PcP	18 07 32.8	+1.3
	1.4nm,0.7s,baz=280,slow=2.5,SNR=8.8							
ASAR				Sn		S	18 09 42.3	+43
	0.5nm,0.8s,baz=295,slow=20,SNR=5.2							
CHTO	**Chiang Mai**	**30.01**	**342**	*eP*		**P**	**18 04 34.9**	**-0.2**
	25nm,1.1s,mb4.9							
KMI	**Kunming**	**35.26**	**351**	P		**P**	**18 05 22.9**	**+1.9**
KMI				AMB		AMB		
	comp=Z,11nm,1.3s,mb4.6							
GYA	**Guiyang**	**36.21**	**358**	*iP*		**P**	**18 05 30.5**	**+1.4**
GYA				AP		pP	18 05 34.8	-6.3
GYA				XP		sP	18 05 37.6	-8.8
GYA				PP		PP	18 06 52.3	+0.3
GYA				PCP		PcP	18 07 57.3	+3.6
GYA				S		**S**	**18 11 08.1**	**+1.9**
GYA				SCP		ScP	18 11 43.5	+7.0
GYA				AMB		AMB		
	comp=Z,20nm,0.7s,mb5.2							
GYA				AMB		AMB		
	comp=Z,140nm,4.0s							
PMG	**Port Moresby**	**38.34**	**93**	P		**P**	**18 05 48.1**	**+0.9**
	comp=Z,6.6nm,0.6s,mb4.5,baz=167,slow=9.1,SNR=4.5							
PMG	**Port Moresby**	**38.34**	**93**	P		**P**	**18 05 49.4**	**+2.2**
	comp=Z,5.8nm,0.6s,mb4.5							
JIRN	**Jiri**	**43.06**	**331**	*eP*		**P**	**18 06 26.7**	**+0.7**
PKI	**Pulchoki**	**43.36**	**330**	*eP*		**P**	**18 06 28.4**	**-0.1**
GUN	**Gumba**	**43.42**	**331**	*eP*		**P**	**18 06 29.4**	**+0.5**
	comp=Z,31nm,0.8s,mb5.1							
DMN	**Daman**	**43.55**	**330**	*eP*		**P**	**18 06 29.7**	**-0.3**
	comp=Z,27nm,1.0s,mb5.0							
KKN	**Kakani**	**43.61**	**330**	*eP*		**P**	**18 06 30.6**	**+0.1**
	comp=Z,26nm,1.0s,mb4.9							
XAN	**Xi'an**	**43.74**	**1**	P		**P**	**18 06 31.6**	**0.0**
XAN				AMB		AMB		
	comp=Z,11nm,0.9s,mb4.6							
GKN	**Gorkha**	**44.10**	**329**	*eP*		**P**	**18 06 34.5**	**0.0**
KOLN	**Koldanda**	**44.44**	**328**	*eP*		**P**	**18 06 37.3**	**+0.1**
	comp=Z,25nm,0.8s,mb5.0							
LZH	**Lanzhou**	**45.97**	**355**	*eP*		**P**	**18 06 50.0**	**+0.7**
LZH				AP		pP	18 06 53.0	-8.6
LZH				XP		sP	18 06 55.0	-12
LZH				AMB		AMB		
	comp=Z,40nm,1.5s,mb5.1							
LZH				AMB		AMB		
	comp=Z,213nm,5.2s							
GTA	**Gaotai**	**49.72**	**351**	*eP*		**P**	**18 07 19.3**	**+1.0**
GTA				AMB		AMB		
	comp=Z,6.0nm,1.3s,mb4.5							
MJAR	**Matsushiro Arr**	**54.15**	**30**	P		**P**	**18 07 49.2**	**-2.1**
	comp=Z,3.1nm,0.8s,mb4.3,baz=205,slow=8.4,SNR=5.8							
SONM	**Songino Array**	**57.54**	**359**	P		**P**	**18 08 15.7**	**+0.2**
	comp=Z,7.1nm,0.6s,mb4.9,baz=177,slow=8.2,SNR=41							
ULN	**Ulaanbaatar**	**57.56**	**359**	*eP*		**P**	**18 08 16.0**	**+0.3**
	comp=Z,12nm,0.8s,mb5.0							
ULN				*e*		pP	18 08 27.1	-1.3
MKAR	**Makanchi Array**	**61.05**	**340**	P		**P**	**18 08 39.6**	**-0.2**
	comp=Z,4.7nm,0.6s,mb4.8,baz=144,slow=7.9,SNR=16							
ASAJ	**Asahikawa**	**62.17**	**27**	P		**P**	**18 08 46.0**	**-1.3**
	comp=Z,1.0nm,0.4s,mb4.3,baz=235,slow=6.1,SNR=3.5							
MAW	**Mawson**	**64.94**	**198**	P		**P**	**18 09 05.0**	**-0.6**
	comp=Z,2.1nm,0.9s,mb4.2,baz=9.9,slow=9.2,SNR=2.7							
MAW	**Mawson**	**64.94**	**198**	*eP*		**P**	**18 09 05.7**	**+0.1**
	comp=Z,3.6nm,0.9s,mb4.4							
KURK	**Kurchatov**	**65.67**	**340**	*eP*		**P**	**18 09 10.2**	**-0.1**
	comp=Z,7.6nm,0.8s,mb4.8							
ZAL	**Zalesovo**	**66.67**	**345**	P		**P**	**18 09 15.1**	**-1.7**
	comp=Z,1.2nm,0.4s,mb4.2,baz=342,slow=3.2,SNR=6.6							
ZAL	**Zalesovo**	**66.67**	**345**	P		**P**	**18 09 15.1**	**-1.7**
BVAR	**Borovoye Array**	**70.54**	**337**	P		**P**	**18 09 40.6**	**-0.3**
	comp=Z,8.5nm,0.7s,mb4.8,baz=146,slow=8.7,SNR=34							
CHKZ	**Chkalovo**	**70.96**	**337**	*eP*		**P**	**18 09 43.5**	**+0.1**
	comp=Z,23nm,0.9s,mb5.1							
ZRNK	**Zerenda**	**71.03**	**336**	*eP*		**P**	**18 09 43.9**	**0.0**
	comp=Z,12nm,0.8s,mb4.9							
KMBO	**Kilima Mbogo**	**71.09**	**272**	P		**P**	**18 09 44.8**	**+0.6**
	comp=Z,1.3nm,0.8s,mb3.9,baz=63,slow=6.8,SNR=2.5							
VNDA	**Vanda**	**72.87**	**169**	P		**P**	**18 09 54.6**	**-0.2**
YAK	**Yakutsk**	**73.67**	**10**	*eP*		**P**	**18 09 58.6**	**-1.0**
	comp=Z,8.9nm,0.6s,mb4.9							
YAK				*e*		pP	18 10 10.2	-2.5
AKTK	**Aktyubinsk**	**74.27**	**329**	P		**P**	**18 10 02.6**	**-0.5**
AKTO	**Aktyubinsk**	**74.27**	**329**	P		**P**	**18 10 02.6**	**-0.5**
	comp=Z,1.2nm,0.4s,mb4.2,baz=136,slow=4.6,SNR=8.8							
ARU	**Arti**	**77.79**	**334**	*eP*		**P**	**18 10 23.2**	**+0.1**
	comp=Z,13nm,0.9s,mb4.9							
LSZ	**Lusaka**	**77.94**	**256**	P		**P**	**18 10 25.0**	**+1.1**
	comp=Z,3.2nm,0.8s,mb4.3,baz=104,slow=5.8,SNR=7.7							
BR131	**Keskin Array S**	**84.70**	**312**	*eP*		**P**	**18 11 00.1**	**+0.4**
	comp=Z,2.8nm,0.8s,mb4.4							
BRTR	**Keskin Array B**	**84.70**	**312**	P		**P**	**18 10 59.8**	**0.0**
	comp=Z,3.4nm,0.7s,mb4.6,baz=139,slow=5.8,SNR=19							
AKASG	**Malin Array Be**	**90.75**	**321**	P		**P**	**18 11 27.6**	**-1.2**
	comp=Z,0.3nm,0.3s,mb4.0,baz=92,slow=4.0,SNR=6.9							
FINES	**FINESS Array B**	**94.93**	**331**	P		**P**	**18 11 47.0**	**-1.1**
	comp=Z,1.2nm,0.8s,mb4.4,baz=138,slow=8.8,SNR=2.8							
YKA	**Yellowknife Ar**	**119.16**	**21**	PKP	PKPdf		18 17 14.6	-0.1
	comp=Z,1.0nm,0.7s,baz=319,slow=2.3,SNR=5.4							
NVAR	**Mina Array Bea**	**129.66**	**48**	PKP	PKPdf		18 17 37.1	+2.3
	comp=Z,0.5nm,0.6s,baz=343,slow=2.4,SNR=4.5							
WMOK	**Wichita Mounta**	**145.09**	**41**	*e*PKPbc	PKPbc		18 18 04.1	+1.5
LONY	**Lake Ozonia**	**145.36**	**4**	*e*PKP	PKPdf		18 18 04.2	+0.7
BDFB	**Brasilia**	**145.38**	**223**	PKPbc	PKPbc		18 18 04.7	+1.2
	comp=Z,3.7nm,0.7s,baz=83,slow=1.8,SNR=4.8							
JCT	**Junction City**	**146.84**	**48**	*e*PKPbc	PKPbc		18 18 10.2	+2.3
CCM	**Cathedral Cave**	**146.97**	**29**	*e*PKPbc	PKPbc		18 18 09.0	+0.7
MIAR	**Mount Ida**	**148.41**	**36**	*e*PKPbc	PKPbc		18 18 14.0	+1.8
WVT	**Waverly**	**150.12**	**27**	*e*PKPbc	PKPbc		18 18 17.7	+1.2
PLAL	**Pickwick Lake**	**150.96**	**28**	*e*PKPbc	PKPbc		18 18 19.1	+0.6
LPAZ	**La Paz**	**153.69**	**188**	PKPbc	PKPbc		18 18 27.6	+3.0
	comp=Z,0.8nm,0.8s,baz=223,slow=8.0,SNR=4.2							

IDC ***17*** *18:04:43.8±1.7,952S×10835E,h0km,mb4.0/7,mb1 4.1/7, mb1mx3.9/15,mbtmp4.0/7,Error ellipse: s-maj=59.1km s-min=28.9km az=45.0*
NEIC ***17*** *18:04:45.5±0.9,951S×10840E,h10km,mb4.2/5,Error ellipse: s-maj=37.0km s-min=11.9km az=225.0*
ISCJB ***17*** *18:04:47.2±1.2,94S±03×1085E±03,h33km,mb4.0/12, Error ellipse: s-maj=48.3km s-min=15.6km az=89.0*

ISC 17 18:04:49.4±1.2,95S±03×1084E±03,h35km,n12,σ0§52/12, mb4.0/12,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**27.11**	**115**	P		**P**	**18 10 28.6**	**-0.3**
	2.4nm,0.6s,mb3.9							
ASAR	**Alice Springs**	**28.14**	**123**	P		**P**	**18 10 38.7**	**+0.6**
	0.7nm,0.9s,mb3.3,baz=309,slow=9.0,SNR=4.0							
MJAR	**Matsushiro Arr**	**53.67**	**30**	P		**P**	**18 14 06.7**	**-0.8**
	3.0nm,1.1s,mb4.1,baz=211,slow=8.7,SNR=5.8							
SONM	**Songino Array**	**57.09**	**358**	P		**P**	**18 14 33.1**	**+1.0**
	1.3nm,0.8s,mb4.0,baz=175,slow=8.3,SNR=11							
MKAR	**Makanchi Array**	**60.68**	**340**	P		**P**	**18 14 57.6**	**+0.5**
	3.3nm,1.0s,mb4.4,baz=145,slow=7.5,SNR=13							
KURK	**Kurchatov**	**65.29**	**340**	*eP*		**P**	**18 15 28.0**	**+0.3**
	2.2nm,1.0s,mb4.1							
ZAL	**Zalesovo**	**66.26**	**345**	P		**P**	**18 15 33.6**	**-0.3**
	0.7nm,0.3s,mb4.2,baz=280,slow=1.0,SNR=4.0							
BVAR	**Borovoye Array**	**70.18**	**337**	P		**P**	**18 15 58.2**	**-0.3**
	1.3nm,0.7s,mb4.0,baz=149,slow=8.1,SNR=9.4							
BRVK	**Borovoye**	**70.25**	**337**	*eP*		**P**	**18 15 58.6**	**-0.3**
	0.6nm,0.6s,mb3.7							
CHKZ	**Chkalovo**	**70.59**	**337**	*eP*		**P**	**18 16 01.5**	**+0.5**
	3.3nm,0.6s,mb4.4							
CHKZ				*e*		pP	18 16 10.3	-1.5
ZRNK	**Zerenda**	**70.67**	**336**	*eP*		**P**	**18 16 01.3**	**-0.2**
	2.7nm,0.9s,mb4.2							
ZRNK				*e*		pP	18 16 10.8	-1.6
BRTR	**Keskin Array B**	**84.51**	**312**	P		**P**	**18 17 18.1**	**-0.6**
	0.7nm,0.7s,mb3.9,baz=152,slow=8.3,SNR=5.1							

WEL 17 18:07:12.5±0.2,4513S×16743E,h65km±1km,ML3.6/11, 6D,Error ellipse: s-maj=1.4km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**209**	⇓PN		Pn	18 07 23.6	-0.3
DCZ				SN		Sn	18 07 32.2	0.0
MLZ	**Mavora Lakes**	**0.57**	**113**	⇓PN		Pn	18 07 25.2	-0.4
MLZ				SN		Sn	18 07 34.7	-0.4
MSZ	**Milford Sound**	**0.58**	**38**	PN		Pn	18 07 25.3	-0.3
MSZ				SN		Sn	18 07 35.2	-0.1
WHZ	**Wether Hill Ro**	**0.85**	**155**	⇓PN		Pn	18 07 28.6	-0.2
WHZ				SN		Sn	18 07 40.7	-0.1
WKZ	**Wanaka**	**1.17**	**76**	⇓PN		Pn	18 07 32.9	0.0
WKZ				SN		Sn	18 07 47.5	-0.5
EAZ	**Earnscleugh**	**1.33**	**95**	⇓PN		Pn	18 07 35.0	0.0
EAZ				SN		Sn	18 07 50.7	-1.3
JCZ	**Jackson Bay**	**1.42**	**42**	PN		Pn	18 07 36.1	0.0
JCZ				SN		Sn	18 07 54.0	0.0
APZ	**The Paps**	**1.75**	**167**	PN		Pn	18 07 40.1	-0.5
APZ				SN		Sn	18 08 02.1	+0.2
TUZ	**Tuapeka**	**1.75**	**119**	PN		Pn	18 07 40.2	-0.4
TUZ				SN		Sn	18 08 00.2	-1.8
SYZ	**Scrubby Hill**	**1.85**	**140**	PN		Pn	18 07 41.4	-0.5
SYZ				SN		Sn	18 08 03.2	-1.0
LBZ	**Lake Benmore**	**2.10**	**70**	PN		Pn	18 07 43.3	-1.4
ODZ	**Otahua Downs**	**2.28**	**89**	PN		Pn	18 07 46.6	-1.2
ODZ				SN		Sn	18 08 10.9	-3.9
HHSZ	**Highcliff Hill**	**2.35**	**110**	⇓PN		Pn	18 07 48.4	-0.3
HHSZ				SN		Sn	18 08 13.2	-3.4
RPZ	**Rata Peaks**	**2.96**	**63**	PN		Pn	18 07 54.8	-2.2
RPZ				SN		Sn	18 08 27.2	-4.1
WVZ	**Waitaha Valley**	**3.15**	**50**	PN		Pn	18 07 58.3	-1.3
WVZ				SN		Sn	18 08 33.1	-2.8
MQZ	**McQueen's Vall**	**4.00**	**71**	SN		Sn	18 08 49.7	-7.2
LTZ	**Lake Taylor**	**4.21**	**58**	PN		Pn	18 08 10.8	-3.3
LTZ				SN		Sn	18 08 57.5	-4.5
DSZ	**Denniston Nort**	**4.64**	**45**	PN		Pn	18 08 17.5	-2.5
DSZ				SN		Sn	18 09 06.8	-5.8
THZ	**Tophouse**	**5.21**	**52**	PN		Pn	18 08 24.5	-3.3
THZ				SN		Sn	18 09 21.2	-5.4
QRZ	**Quartz Range**	**5.70**	**43**	PN		Pn	18 08 32.8	-1.7

IDC 17 18:10:37.5±3.8,889S×10825E,h0km,mb3.8/3,mb1 3.9/3, mb1mx3.6/15,mbtmp3.8/3,Error ellipse: s-maj=149.4km s-min=30.2km az=49.0,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.51**	**116**	P		P	18 16 25.8	+0.3
	0.5nm,0.5s,baz=290,slow=10,SNR=6.0							
SONM	**Songino Array**	**56.50**	**359**	P		P	18 20 22.2	+0.9
	0.7nm,0.6s,baz=172,slow=8.0,SNR=8.8							
MKAR	**Makanchi Array**	**60.07**	**340**	P		P	18 20 45.7	-0.6
	1.6nm,0.6s,baz=150,slow=8.2,SNR=26							

IDC ***17*** *18:11:03.6±1.3,920S×10786E,h0km,mb3.8/5,mb1 3.9/5, mb1mx3.7/15,mbtmp3.8/5,Error ellipse: s-maj=55.9km s-min=22.1km az=61.0*
NEIC ***17*** *18:11:05.2±0.8,919S×10786E,h10km,mb4.2/4,Error ellipse: s-maj=37.2km s-min=11.0km az=51.0*

ISC 17 18:11:08.8±1.0,92S±02×1078E±03,h35km,n11,σ0§49/12, mb3.9/9,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BJI	**Banjamegara**	**2.66**	**45**	*eP*		**Pn**	**18 11 59.0**	**+10**
BJI				*eS*		**Sn**	**18 12 09.5**	**-11**
WRA	**Warramunga Arr**	**27.75**	**116**	P		**P**	**18 16 54.3**	**+0.2**
	1.0nm,0.6s,mb3.6,baz=288,slow=10,SNR=6.1							
WRAB	**Tennant Creek**	**27.76**	**115**	*eP*		**P**	**18 16 54.3**	**+0.2**
	1.6nm,0.6s,mb3.8							
ASAR	**Alice Springs**	**28.78**	**123**	P		**P**	**18 17 02.8**	**-0.4**
	0.4nm,0.6s,mb3.3,baz=287,slow=7.4,SNR=3.7							
SONM	**Songino Array**	**56.82**	**359**	P		**P**	**18 20 49.7**	**+0.1**
	0.9nm,0.5s,mb4.0,baz=176,slow=7.9,SNR=11							
MKAR	**Makanchi Array**	**60.24**	**340**	P		**P**	**18 21 13.5**	**0.0**
	1.4nm,0.6s,mb4.2,baz=146,slow=8.1,SNR=8.6							
KURK	**Kurchatov**	**64.85**	**340**	P		**P**	**18 21 43.4**	**-0.8**
	2.2nm,1.1s,mb4.1							
CHKZ	**Chkalovo**	**70.13**	**338**	*eP*		**P**	**18 22 18.6**	**+1.1**
	2.0nm,0.7s,mb4.2							
ZRNK	**Zerenda**	**70.20**	**336**	P		**P**	**18 22 17.7**	**-0.3**
	1.4nm,0.8s,mb3.9							
VNDA	**Vanda**	**73.65**	**169**	P		**P**	**18 22 38.7**	**+0.1**
	0.5nm,0.8s,mb3.5,baz=321,slow=8.2,SNR=2.8							
VNDA	**Vanda**	**73.65**	**169**	P		**P**	**18 22 38.7**	**+0.1**

CSEM ***17*** *18:11:16.2,3758N×2097E,h7km,MD3.8/9,After ATH*
NEIC ***17*** *18:11:16.2,3758N×2097E,h7km,ML3.5(ATH),After ATH.*

ATH 17 18:11:16.2,3758N×2097E,h7km±2km,MD3.8/9,ML3.5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.62**	**39**	*e*PB		Pb	18 11 28.1	-1.2
RLS				*e*SB		Sb	18 11 36.7	-1.5
VLS	**Valsamata**	**0.67**	**333**	*e*PG		Pg	18 11 28.8	-0.3
VLS				*e*SB		Sb	18 11 38.7	-0.9
ITM	**Ithomi**	**0.86**	**117**	*e*PB		Pb	18 11 32.6	-0.9
EVR	**Evrytania**	**1.49**	**26**	*e*PB		Pb	18 11 44.7	+0.5
VLI	**Veliai**	**1.79**	**118**	*e*PN		Pn	18 11 50.3	+2.8
MGER	**Gerania Oros**	**1.86**	**77**	*e*PN		Pn	18 11 50.5	+2.0
LKR	**Lokris**	**1.93**	**56**	*e*PN		Pn	18 11 51.7	+2.3
NAIG	**Nisos Aigina**	**2.01**	**84**	*e*PN		Pn	18 11 52.0	+1.5
JAN	**Janina**	**2.08**	**357**	*e*PN		Pn	18 11 53.5	+2.1
KYTH	**Kithira**	**2.10**	**127**	*e*PN		Pn	18 11 53.5	+1.7
ATH	**Athens Observa**	**2.21**	**79**	*e*PN		Pn	18 11 55.0	+1.7
KEK	**Kerkira**	**2.32**	**337**	*e*PN		Pn	18 11 57.7	+2.9
NEO	**Neokhori**	**2.47**	**45**	*e*PN		Pn	18 11 58.8	+1.9

IDC ***17*** *18:16:09.2±1.0,954S×10902E,h0km,mb3.9/8,mb1 4.1/9, mb1mx4.0/15,mbtmp3.9/9,ML3.6/1,Error ellipse: s-maj=42.4km s-min=17.5km az=55.0*
NEIC ***17*** *18:16:10.5±0.8,954S×10899E,h10km,mb4.3/3,Error ellipse: s-maj=35.2km s-min=12.2km az=48.0*
ISCJB ***17*** *18:16:12.3±0.8,95S±02×109.1E±02,h33km,mb4.0/11, Error ellipse: s-maj=33.9km s-min=11.8km az=96.2*

ISC 17 18:16:14.4±0.8,96S±02×1090E±02,h35km,n15,σ1§01/16, mb4.0/11,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.48**	**139**	*eP*		**Pn**	**18 19 40.9**	**-9.1**
FITZ	**Fitzroy Crossi**	**18.23**	**120**	P		**Pn**	**18 20 24.7**	**+0.1**
	0.2nm,0.3s,baz=291,slow=7.6,SNR=6.3							
FITZ				Sn		**Sn**	**18 23 29.7**	**-17**
	0.1nm,0.3s,baz=14,slow=17,SNR=2.6							
WRA	**Warramunga Arr**	**26.54**	**116**	P		**P**	**18 21 48.5**	**-0.3**
	1.8nm,0.7s,mb3.7,baz=285,slow=12,SNR=10							
WRAB	**Tennant Creek**	**26.55**	**116**	*eP*		**P**	**18 21 48.6**	**-0.3**
	3.6nm,0.7s,mb4.0							
ASAR	**Alice Springs**	**27.60**	**124**	P		**P**	**18 21 57.9**	**-0.5**
	0.7nm,0.7s,mb3.4,baz=302,slow=9.8,SNR=10							
ASAR				Sn		S	18 27 18.0	+40
	0.6nm,0.8s,baz=304,slow=20,SNR=4.2							
ASAR	**Alice Springs**	**27.60**	**124**	P		**P**	**18 21 57.9**	**-0.5**
ASAR				Sn		S	18 27 18.0	+40
MJAR	**Matsushiro Arr**	**53.44**	**29**	P		**P**	**18 25 31.8**	**+0.9**
	0.9nm,0.8s,mb3.8,baz=206,slow=8.1,SNR=4.3							
SONM	**Songino Array**	**57.18**	**358**	P		**P**	**18 25 58.2**	**+0.4**
	0.9nm,0.6s,mb4.0,baz=177,slow=8.1,SNR=12							
MKAR	**Makanchi Array**	**60.96**	**339**	P		**P**	**18 26 22.1**	**-1.8**
	4.2nm,0.6s,mb4.7,baz=144,slow=7.1,SNR=41							
KURK	**Kurchatov**	**65.57**	**339**	*eP*		**P**	**18 26 54.5**	**0.0**
	2.8nm,0.9s,mb4.3							
KURK				*e*		pP	18 27 06.0	+0.7
ZAL	**Zalesovo**	**66.49**	**345**	P		**P**	**18 27 01.9**	**+1.5**
	1.6nm,0.4s,mb4.5,baz=19,slow=3.1,SNR=6.1							
ZAL	**Zalesovo**	**66.49**	**345**	P		**P**	**18 27 01.9**	**+1.5**
ZRNK	**Zerenda**	**70.98**	**336**	*eP*		**P**	**18 27 26.0**	**-2.4**
	1.6nm,0.6s,mb4.1							
VNDA	**Vanda**	**73.11**	**170**	P		**P**	**18 27 41.8**	**+0.7**
	1.0nm,0.9s,mb3.8,baz=294,slow=6.1,SNR=6.1							
BRTR	**Keskin Array B**	**85.00**

*NEIC **17** 18:52:48.4±2.6, 3681N×7034E, h98km±29km, mb3.9/7, Error ellipse: s-maj=23.3km s-min=10.7km az=62.0*
*BJI **17** 18:52:57.9, 3717N×7117E, h97km, mB4.5, mb4.6*
ISC 17 18:52:48.6±1.6, 3690N±008×703E±01, h104km±17km, n40, σ1§49/42, mb3.7/6, 8C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.85**	**26**	P	**Pn**	**18 54 13.6**	**+0.7**
	SNR=27						
KK31	**Karatay Array**	**6.20**	**2**	⇓Pn	**Pn**	**18 54 14.8**	**-2.8**
	1.5nm,0.3s,baz=196,slow=15,SNR=53						
KK31				⇑Sn	**Sn**	**18 55 25.7**	**-1.3**
	14nm,0.9s,baz=195,slow=29,SNR=3.5						
KK31				⇑Lg		18 55 58.8	
	19nm,0.8s						
EKS2	**Erkin-Say**	**6.35**	**24**	P	**Pn**	**18 54 22.1**	**+2.4**
	SNR=6.1						
KZA	**Kyzart**	**6.44**	**35**	P	**Pn**	**18 54 23.7**	**+2.8**
	SNR=8.4						
AAK	**Ala-Archa**	**6.58**	**28**	P	**Pn**	**18 54 23.1**	**+0.4**
	SNR=15						
AAK	**Ala-Archa**	**6.58**	**28**	*e*P	**Pn**	**18 54 22.4**	**-0.4**
	14nm,0.6s						
AAK				*e*S	**Sn**	**18 55 42.0**	**+5.7**
KBK	**Karagaybulak**	**6.78**	**31**	P	**Pn**	**18 54 26.7**	**+1.3**
	SNR=12						
CHMS	**Chumysh**	**6.99**	**28**	P	**Pn**	**18 54 28.7**	**+0.4**
	SNR=27						
ULHL	**Ulahol**	**7.05**	**39**	P	**Pn**	**18 54 30.0**	**+0.8**
	SNR=12						
USP	**Ospenovka**	**7.13**	**26**	P	**Pn**	**18 54 29.9**	**-0.3**
	SNR=12						
TKM2	**Tokmak 2**	**7.27**	**33**	P	**Pn**	**18 54 32.5**	**+0.3**
	SNR=19						
TKM2	**Tokmak 2**	**7.27**	**33**	⇑Pn	**Pn**	**18 54 32.5**	**+0.4**
	2.9nm,1.0s						
TKM2				⇑Lg		18 56 37.7	
	5.0nm,1.2s						
MKAR	**Makanchi Array**	**13.32**	**38**	Pn	**Pn**	**18 55 55.0**	**+1.5**
	0.1nm,0.3s,baz=222,slow=15,SNR=7.2						
KOLN	**Koldanda**	**14.47**	**125**	*e*P	**Pn**	**18 56 04.2**	**-4.1**
WMQ	**Urumqi**	**14.96**	**57**	P	**Pn**	**18 56 15.3**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.4s						
WMQ				AMB	AMB		
	comp=Z,12nm,3.9s						
GKN	**Gorkha**	**15.01**	**122**	*e*P	**Pn**	**18 56 14.2**	**-1.0**
	comp=Z,35nm,0.7s						
DMN	**Daman**	**15.58**	**122**	*e*P	**Pn**	**18 56 20.3**	**-2.1**
KKN	**Kakani**	**15.58**	**121**	*e*P	**Pn**	**18 56 21.9**	**-0.5**
	comp=Z,16nm,0.5s						
PKI	**Pulchoki**	**15.81**	**122**	*e*P	**Pn**	**18 56 24.1**	**-1.1**
	comp=Z,19nm,0.7s						
VOSK	**Vostochnaya**	**15.83**	**2**	⇑P	**Pn**	**18 56 23.6**	**-1.8**
	comp=Z,2.5nm,0.8s						
GUN	**Gumba**	**15.92**	**120**	*e*P	**Pn**	**18 56 28.3**	**+1.7**
ZRNK	**Zerenda**	**16.07**	**357**	⇑P	**Pn**	**18 56 27.7**	**-0.8**
	comp=Z,1.2nm,0.6s						
ZRNK	**Zerenda**	**16.07**	**357**	*e*P	**Pn**	**18 56 22.9**	**-5.5**
	comp=Z,1.4nm,0.5s						
BVA0	**Borovoye Array**	**16.12**	**0**	⇑P	**Pn**	**18 56 26.0**	**-3.1**
	comp=Z,0.5nm,1.2s,baz=167,slow=11,SNR=9.4						
BVAR	**Borovoye Array**	**16.12**	**0**	Pn	**Pn**	**18 56 27.8**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=169,slow=11,SNR=9.4						
AKTK	**Aktyubinsk**	**16.14**	**331**	Pn	**Pn**	**18 56 24.1**	**-5.3**
AKTO	**Aktyubinsk**	**16.14**	**331**	⇓P	**Pn**	**18 56 23.7**	**-5.6**
	comp=Z,0.3nm,0.9s						
AKTO	**Aktyubinsk**	**16.14**	**331**	Pn	**Pn**	**18 56 24.1**	**-5.3**
	comp=Z,0.1nm,0.3s,baz=146,slow=9.3,SNR=4.2						
BRVK	**Borovoye**	**16.16**	**0**	*e*P	**Pn**	**18 56 26.3**	**-3.2**
	comp=Z,3.0nm,0.9s						
JIRN	**Jiri**	**16.29**	**120**	*e*P	**Pn**	**18 56 31.3**	**+0.1**
	comp=Z,15nm,0.5s						
CHKZ	**Chkalovo**	**16.78**	**1**	⇑P	**Pn**	**18 56 34.8**	**-2.4**
	comp=Z,1.3nm,0.7s						
CHKZ	**Chkalovo**	**16.78**	**1**	*e*P	**Pn**	**18 56 35.1**	**-2.1**
	comp=Z,2.3nm,0.7s						
ZAL	**Zalesovo**	**19.79**	**26**	P	**P**	**18 57 11.9**	**+1.4**
	comp=Z,2.5nm,0.6s,baz=260,slow=11,SNR=14						
BRTR	**Keskin Array B**	**28.76**	**287**	P	**P**	**18 58 36.9**	**+0.5**
	comp=Z,0.9nm,0.7s,mb3.5,baz=101,slow=9.1,SNR=5.0						
ULN	**Ulaanbaatar**	**29.04**	**56**	*e*P	**P**	**18 58 36.9**	**-1.9**
	comp=Z,2.6nm,1.2s,mb3.7						
FINES	**FINESS Array B**	**36.83**	**326**	P	**P**	**18 59 48.8**	**+2.2**
	comp=Z,0.8nm,0.6s,mb3.8,baz=116,slow=13,SNR=3.7						
ARCES	**ARCESS Array B**	**40.55**	**338**	P	**P**	**19 00 19.9**	**+2.3**
	comp=Z,4.1nm,1.0s,mb4.2,baz=115,slow=5.8,SNR=4.2						
NOA	**NORSAR Array B**	**43.71**	**323**	P	**P**	**19 00 44.8**	**+1.5**
	comp=Z,1.1nm,0.7s,mb3.7,baz=97,slow=8.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**65.15**	**268**	P	**P**	**19 03 18.8**	**+0.4**
	comp=Z,0.6nm,0.8s,mb3.5,baz=39,slow=5.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**65.15**	**268**	P	**P**	**19 03 18.8**	**+0.4**

*ISCJB **17** 18:53:25.7±0.4, 1982S±005×7064W±008, h10km, mb4.3/15, MS4.1/5, Error ellipse: s-maj=11.1km s-min=6.2km az=134.4*
*IDC **17** 18:53:25.5±0.6, 1988S×7071W, h0km, mb4.3/11, mb1 4.4/13, mb1mx4.4/17, mbtmp4.3/13, ML5.0/2, MS3.9/7, Ms1 3.9/7, ms1mx3.7/19, Error ellipse: s-maj=22.8km s-min=14.0km az=64.0*
*BJI **17** 18:53:28.8, 2084S×7065W, h28km, mB5.2, Msz4.5*
*NEIC **17** 18:53:30.2±2.8, 1986S±005×7070W±008, h1km±21km, n55, σ1§04/40, mb4.4/15, MS4.1/5, 2C, Near coast of northern Chile*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.20**	**149**	Pn	**Pn**	**18 54 18.3**	**+0.7**
	28nm,0.3s,baz=310,slow=10,SNR=29						
LVC				Sn	**Sn**	**18 54 56.5**	**0.0**
	82nm,0.3s,baz=311,slow=20,SNR=8.7						
LVC				Lg		18 55 07.4	
	106nm,0.3s,baz=110,slow=18,SNR=12						
LVC	**Limon Verde**	**3.20**	**149**	⇑*i*P	**Pn**	**18 54 18.5**	**+0.9**
LPAZ	**La Paz**	**4.31**	**35**	Pn	**Pn**	**18 54 38.5**	**+5.6**
	1.2nm,0.3s,baz=212,slow=9.5,SNR=31						
LPAZ	**La Paz**	**4.31**	**35**	*e*P	**Pn**	**18 54 38.7**	**+5.8**
NNA	**Nana**	**9.81**	**322**	P	**Pn**	**18 55 46.6**	**-1.8**
SIV	**San Ignacio**	**9.94**	**69**	Pn	**Pn**	**18 55 51.5**	**+1.4**
	3.6nm,0.3s,baz=262,slow=10,SNR=58						
CFAA	**Coronel Fontan**	**11.90**	**170**	Pn	**Pn**	**18 56 19.4**	**+2.4**
	0.1nm,0.3s,baz=333,slow=12,SNR=2.3						
CFAA				LR	LR	19 00 58.4	
	comp=Z,78nm,19.2s,baz=186,slow=38						
SAML	**Samuel**	**13.06**	**35**	*e*P	**Pn**	**18 56 31.6**	**-1.2**
	28nm,1.3s						
ATAH	**Atahualpa**	**14.81**	**329**	LR	LR	19 03 30.5	
	comp=Z,264nm,20.2s,baz=160,slow=41						
TRQA	**Tornquist**	**19.65**	**159**	*e*P	**Pn**	**18 57 54.8**	**-2.8**
	32nm,1.3s						
PLCA	**Paso Flores**	**20.80**	**180**	P	**P**	**18 58 08.2**	**-0.7**
	5.0nm,0.9s,baz=350,slow=13,SNR=6.7						
BDFB	**Brasilia**	**22.00**	**83**	P	**P**	**18 58 21.6**	**-0.2**
	2.5nm,0.4s,mb4.0,baz=279,slow=7.7,SNR=4.4						
BDFB				LR	LR	19 07 36.0	
	comp=Z,536nm,21.3s,MS3.9,baz=305,slow=39						
BDFB	**Brasilia**	**22.00**	**83**	*e*P	**P**	**18 58 19.7**	**-2.0**
ROSC	**El Rosal**	**24.82**	**351**	LR	LR	19 08 55.2	
	comp=Z,349nm,19.7s,MS3.9,baz=190,slow=37						
SDV	**Santo Domingo**	**28.57**	**0**	P	**P**	**18 59 24.1**	**+0.5**
	1.8nm,0.3s,mb4.3,baz=224,slow=5.3,SNR=3.5						
SDV	**Santo Domingo**	**28.57**	**0**	P	**P**	**18 59 23.1**	**-0.5**
RCBR	**Riachuelo**	**36.58**	**72**	*e*P	**P**	**19 00 34.5**	**+0.8**
SSPA	**Standing Stone**	**60.55**	**354**	*e*P	**P**	**19 03 38.1**	**-0.1**
	4.7nm,0.9s,mb4.6						
SNAA	**Sanae**	**64.36**	**161**	*e*P	**P**	**19 04 02.3**	**-1.4**
	15nm,1.5s,mb5.0						
FRNY	**Flat Rock**	**64.44**	**358**	*e*P	**P**	**19 04 03.7**	**-0.5**
ISCO	**Idaho Springs**	**67.71**	**332**	P	**P**	**19 04 26.8**	**+1.6**
MSU	**Marysvale**	**69.89**	**326**	*e*P	**P**	**19 04 39.6**	**+0.8**
DBIC	**Dimbokro**	**69.90**	**75**	P	**P**	**19 04 38.2**	**-0.6**
	6.5nm,1.0s,mb4.7,baz=216,slow=7.4,SNR=4.1						
DBIC				LR	LR	19 34 02.0	
	comp=Z,160nm,19.5s,MS4.3,baz=219,slow=35						
RSSD	**Black Hills**	**70.61**	**335**	*e*P	**P**	**19 04 43.6**	**+0.4**
TPNV	**Topopah Spring**	**70.98**	**323**	*e*P	**P**	**19 04 46.8**	**+1.4**
	8.0nm,1.2s,mb4.7						
DUG	**Dugway**	**71.48**	**327**	P	**P**	**19 04 48.3**	**-0.1**
BW06	**Boulder Array**	**71.87**	**331**	P	**P**	**19 04 50.2**	**-0.6**
PDAR	**Pinedale Array**	**71.87**	**331**	P	**P**	**19 04 50.1**	**-0.7**
	1.7nm,1.2s,mb4.0,baz=157,slow=4.2,SNR=5.8						
MTUM	**Tungsten Hills**	**72.59**	**322**	*e*P	**P**	**19 04 56.8**	**+1.6**
MNV	**Mina**	**73.10**	**323**	P	**P**	**19 04 58.4**	**+0.2**
ELK	**Elko**	**73.14**	**326**	*e*P	**P**	**19 04 59.1**	**+0.7**
	1.6nm,0.9s,mb4.2						
NVAR	**Mina Array Bea**	**73.18**	**323**	P	**P**	**19 04 59.5**	**+0.9**
	1.8nm,0.9s,mb4.2,baz=133,slow=6.7,SNR=4.6						
SCHQ	**Schefferville**	**74.46**	**2**	LR	LR	19 39 12.6	
	comp=Z,86nm,19.1s,MS4.1,baz=312,slow=37						
SBA	**Scott Base**	**77.13**	**191**	*e*P	**P**	**19 05 20.8**	**-0.6**
VNDA	**Vanda**	**78.16**	**190**	P	**P**	**19 05 26.6**	**-0.5**
	1.6nm,1.2s,mb4.0,baz=184,slow=4.2,SNR=2.9						
TOA0	**Torodi Ar. Sit**	**78.40**	**71**	*e*P	**P**	**19 05 28.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**78.40**	**71**	P	**P**	**19 05 28.3**	**-0.2**
	21nm,1.0s,mb5.2,baz=254,slow=4.9,SNR=59						
TORD				LR	LR	19 39 09.4	
	comp=Z,157nm,19.1s,MS4.4,baz=250,slow=35						
SYO	**Syowa Base**	**78.61**	**160**	⇑*e*pP	pP	19 05 28.8	-1.1
TSUM	**Tsumeb**	**82.12**	**108**	*e*P	**P**	**19 05 49.6**	**+1.1**
	3.9nm,0.9s,mb4.5						
ESDC	**Sonseca Array**	**85.86**	**45**	P	**P**	**19 06 07.7**	**+0.1**
	0.3nm,0.3s,mb3.9,baz=246,slow=5.0,SNR=12						
MAW	**Mawson**	**86.37**	**164**	P	**P**	**19 06 09.3**	**-0.9**
	5.1nm,1.1s,mb4.6,baz=236,slow=11,SNR=6.1						
MAW	**Mawson**	**86.37**	**164**	*e*P	**P**	**19 06 08.9**	**-1.2**
	7.8nm,1.1s,mb4.8						
YKA	**Yellowknife Ar**	**89.10**	**341**	P	**P**	**19 06 21.8**	**-1.4**
	1.6nm,0.8s,mb4.3,baz=136,slow=4.8,SNR=13						
ASAR	**Alice Springs**	**130.53**	**210**	PKP	PKPdf	19 12 37.8	-1.0
	0.6nm,0.5s,baz=138,slow=1.9,SNR=5.5						
WRA	**Warramunga Arr**	**133.46**	**213**	PKP	PKPdf	19 12 43.5	-0.7
	0.4nm,0.4s,baz=143,slow=1.7,SNR=7.2						
ZAL	**Zalesovo**	**141.15**	**23**	PKP	PKPdf	19 12 57.7	-0.7
	1.4nm,0.6s,baz=208,slow=3.6,SNR=5.5						
MKAR	**Makanchi Array**	**145.24**	**33**	PKPbc	PKPbc	19 13 05.1	-0.2
	10nm,1.0s,baz=336,slow=2.7,SNR=31						
KSH	**Kashi**	**145.32**	**48**	*e*PKP	PKPdf	19 13 06.9	+1.1
KSH				*e*APKP		19 13 14.1	
KSH				*e*XPKP		19 13 18.3	
MJAR	**Matsushiro Arr**	**149.75**	**309**	PKP	PKPdf	19 13 13.3	+0.2
	0.8nm,0.8s,baz=249,slow=24,SNR=3.1						
MJAR				PKPbc	PKPbc	19 13 17.2	-0.6
	3.6nm,1.1s,baz=358,slow=0.2,SNR=8.2						
MAT	**Matsushiro**	**149.75**	**309**	PKP	PKPbc	19 13 17.7	-0.1
MAT	**Matsushiro**	**149.75**	**309**	*e*P	PKPbc	19 13 18.0	+0.2
WMQ	**Urumqi**	**150.05**	**32**	PKP	PKPdf	19 13 14.3	+0.7
SONM	**Songino Array**	**152.00**	**4**	PKP	PKPdf	19 13 16.3	-0.3
	1.5nm,1.2s,baz=48,slow=2.2,SNR=5.2						
SONM				PKPbc	PKPbc	19 13 22.4	-0.7
	4.6nm,1.0s,baz=277,slow=1.0,SNR=18						
ULN	**Ulaanbaatar**	**152.01**	**3**	*e*PKPbc	PKPbc	19 13 23.4	+0.2
HHC	**Hu-ho-hao-te**	**158.99**	**355**	*e*PKP	PKPdf	19 13 26.5	+0.5
HHC				APKP		19 13 36.8	
HHC				XPKP		19 13 40.3	
HHC				PKP2	PKPab	19 14 02.3	0.0
HHC				PKS		19 16 58.8	
HHC				PP	PP		
	comp=Z,153nm,8.6s						

IDC 17 18:57:20.5±3.2, 950S×10851E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/16, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=148.7km s-min=23.5km az=48.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.69**	**119**	P	Pn	19 01 39.8	-0.7
	0.1nm,0.3s,baz=348,slow=19,SNR=2.2						
ASAR	**Alice Springs**	**28.05**	**123**	P	P	19 03 14.1	+0.7
	0.4nm,0.6s,baz=296,slow=9.9,SNR=6.5						
SONM	**Songino Array**	**57.11**	**358**	P	P	19 07 09.0	+0.3
	0.4nm,0.5s,baz=175,slow=8.3,SNR=6.4						
MKAR	**Makanchi Array**	**60.73**	**340**	P	P	19 07 33.5	-0.3
	0.5nm,0.7s,baz=137,slow=6.5,SNR=4.9						
BVAR	**Borovoye Array**	**70.24**	**337**	P	P	19 08 35.5	+0.1
	0.4nm,0.6s,baz=147,slow=8.1,SNR=3.5						

*BJI **17** 19:00:48.9, 940S×10820E, h10km, mB5.3, mb4.7*
*IDC **17** 19:00:49.1±0.9, 938S×10826E, h0km, mb4.3/11, mb1 4.3/11, mb1mx4.1/17, mbtmp4.2/11, Error ellipse: s-maj=41.9km s-min=17.3km az=56.0*
*NEIC **17** 19:00:50.9±0.3, 941S×10823E, h10km, mb5.0/12, Error ellipse: s-maj=16.7km s-min=6.3km az=52.0*
*ISCJB **17** 19:00:52.2±0.5, 944S±009×1083E±01, h33km, mb4.6/26, Error ellipse: s-maj=20.4km s-min=7.6km az=109.1*
ISC 17 19:00:54.4±0.5, 949S±009×1083E±01, h35km, (h29km±6.4km:pP-P), n40, σ0§85/35, mb4.6/26, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**16.02**	**138**	P	**Pn**	**19 04 34.9**	**-2.1**
FITZ	**Fitzroy Crossi**	**18.92**	**119**	P	**Pn**	**19 05 15.0**	**+2.1**
	0.1nm,0.3s,baz=255,slow=16,SNR=2.8						
FITZ				Sn	**Sn**	**19 08 29.2**	**-14**
	0.1nm,0.3s,baz=41,slow=20,SNR=2.9						
NWAO	**Narrogin (SRO)**	**24.76**	**162**	P	**P**	**19 06 12.5**	**-0.1**
	7.5nm,0.8s,mb4.3,baz=328,slow=7.4,SNR=3.9						
WRA	**Warramunga Arr**	**27.24**	**115**	P	**P**	**19 06 35.7**	**+0.6**
	1.0nm,1.0s,mb3.3,baz=281,slow=12,SNR=4.2						
WRAB	**Tennant Creek**	**27.25**	**115**	*e*P	**P**	**19 06 35.4**	**+0.2**
	21nm,1.3s,mb4.5						
ASAR	**Alice Springs**	**28.27**	**123**	P	**P**	**19 06 45.4**	**+1.1**
	0.6nm,0.7s,mb3.4,baz=299,slow=8.6,SNR=8.2						
ASAR				PcP	PcP	19 09 58.6	+1.7
	0.8nm,0.8s,baz=321,slow=2.3,SNR=5.3						
CM31	**Chiang Mai Arr**	**29.25**	**342**	*e*P	**P**	**19 06 53.4**	**+0.4**
CM31				*e*	pP	19 07 03.3	+0.3
CHTO	**Chiang Mai**	**29.58**	**342**	*e*P	**P**	**19 06 56.4**	**+0.4**
	15nm,0.9s,mb4.7						
JIRN	**Jiri**	**42.66**	**331**	*e*P	**P**	**19 08 48.4**	**+0.8**
	51nm,0.8s,mb5.3						
PKI	**Pulchoki**	**42.98**	**330**	*e*P	**P**	**19 08 50.3**	**+0.2**
GUN	**Gumba**	**43.02**	**330**	*e*P	**P**	**19 08 51.1**	**+0.6**
	50nm,0.8s,mb5.3						
DMN	**Daman**	**43.16**	**329**	*e*P	**P**	**19 08 51.7**	**+0.1**
	38nm,0.9s,mb5.2						
KKN	**Kakani**	**43.22**	**330**	*e*P	**P**	**19 08 52.3**	**+0.2**
	40nm,0.9s,mb5.1						
XAN	**Xi'an**	**43.29**	**1**	P	**P**	**19 08 52.8**	**+0.2**
XAN				AP	pP	19 09 02.4	-0.5
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
GKN	**Gorkha**	**43.72**	**329**	*e*P	**P**	**19 08 56.4**	**+0.3**
	comp=Z,29nm,0.7s,mb5.1						
KOLN	**Koldanda**	**44.06**	**328**	*e*P	**P**	**19 09 00.0**	**+1.1**
LZH	**Lanzhou**	**45.52**	**355**	*e*P	**P**	**19 09 12.0**	**+1.6**
LZH				AP	pP	19 09 17.5	-3.3
LZH				XP	sP	19 09 20.0	-5.0
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
BJI	**Beijing**	**49.82**	**8**	*e*P	**P**	**19 09 43.8**	**0.0**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.7						
BJI				AMB	AMB		
	comp=Z,62nm,2.6s,mb5.2						
MJAR	**Matsushiro Arr**	**53.75**	**30**	P	**P**	**19 10 11.1**	**-2.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=216,slow=7.7,SNR=7.0						
SONM	**Songino Array**	**57.09**	**359**	P	**P**	**19 10 37.4**	**+0.3**
	comp=Z,2.0nm,0.7s,mb4.3,baz=172,slow=8.3,SNR=22						
SONM				PcP	PcP	19 11 32.7	+0.9
	comp=Z,0.5nm,0.4s,baz=168,slow=4.6,SNR=4.5						
ULN	**Ulaanbaatar**	**57.11**	**359**	*e*P	**P**	**19 10 37.7**	**+0.4**
	comp=Z,4.3nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**60.63**	**340**	P	**P**	**19 11 01.6**	**-0.1**
	comp=Z,9.9nm,0.8s,mb5.0,baz=138,slow=7.5,SNR=70						
KURK	**Kurchatov**	**65.25**	**340**	*e*P	**P**	**19 11 31.9**	**-0.5**
	comp=Z,8.4nm,0.9s,mb4.8						
MAW	**Mawson**	**65.37**	**197**	*e*P	**P**	**19 11 33.6**	**+0.4**
ZAL	**Zalesovo**	**66.23**	**345**	P	**P**	**19 11 37.6**	**-1.2**
	comp=Z,1.5nm,0.8s,mb4.1,baz=348,slow=7.5,SNR=12						
BVAR	**Borovoye Array**	**70.13**	**337**	P	**P**	**19 12 02.2**	**-0.9**
	comp=Z,2.0nm,0.6s,mb4.2,baz=144,slow=8.7,SNR=18						
BRVK	**Borovoye**	**70.19**	**337**	*e*P	**P**	**19 12 03.0**	**-0.6**
CHKZ	**Chkalovo**	**70.54**	**337**	*e*P	**P**	**19 12 05.4**	**-0.3**
	comp=Z,3.0nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**70.62**	**336**	*e*P	**P**	**19 12 05.7**	**-0.5**
	comp=Z,3.1nm,0.8s,mb4.3						
YAK	**Yakutsk**	**73.23**	**10**	*e*P	**P**	**19 12 20.7**	**-1.2**
	comp=Z,16nm,0.8s,mb5.0						
ARU	**Arti**	**77.39**	**334**	P	**P**	**19 12 45.8**	**0.0**
BRTR	**Keskin Array B**	**84.40**	**312**	P	**P**	**19 13 23.1**	**0.0**
	comp=Z,3.4nm,1.1s,mb4.4,baz=129,slow=5.3,SNR=11						
FINES	**FINESS Array B**	**94.54**	**331**	P	**P**	**19 14 10.9**	**-0.3**
	comp=Z,1.8nm,0.8s,mb4.5,baz=90,slow=4.2,SNR=5.3						
ARCES	**ARCESS Array B**	**96.29**	**339**	P	**P**	**19 14 18.1**	**-1.1**
	comp=Z,3.7nm,1.0s,mb4.8,baz=72,slow=4.0,SNR=5.7						
WMOK	**Wichita Mounta**	**144.74**	**40**	*e*PKPdf	PKPdf	19 20 27.8	+0.3
NCB	**Newcomb**	**145.58**	**3**	*e*PKPdf	PKPdf	19 20 30.1	+1.3
NCB				*e*		19 20 36.4	
CCM	**Cathedral Cave**	**146.58**	**29**	*e*PKPdf	PKPdf	19 20 32.6	+2.1
CCM				*e*		19 20 40.4	
BINY	**Binghamton**	**147.20**	**6**	*e*PKPbc	PKPbc	19 20 35.2	+1.3
WVT	**Waverly**	**149.71**	**26**	*e*PKPbc	PKPbc	19 20 42.0	+1.6
PLAL	**Pickwick Lake**	**150.56**	**28**	*e*PKPbc	PKPbc	19 20 43.4	+0.9

*IDC **17** 19:09:29.9±0.4, 907S×10779E, h0km, mb5.0/19, mb1 5.0/20, mb1mx5.0/21, mbtmp5.0/20, ML4.4/1, MS4.5/11, Ms1 4.4/11, ms1mx4.0/37, Error ellipse: s-maj=16.4km s-min=12.2km az=43.0*
*ISCJB **17** 19:09:30.7±0.2, 911S±003×10784E±003, h18km, mb5.2/112, MS4.7/34, Error ellipse: s-maj=5.1km s-min=4.2km az=90.2*
*BJI **17** 19:09:32.1, 910S×10780E, h21km, mB5.2, mb5.1, Ms5.2, Msz4.8*
*MOS **17** 19:09:33.1±1.2, 896S×10792E, h33km, mb5.4/45, MS4.7/5, Error ellipse: s-maj=11.1km s-min=6.2km az=111.8*
*NEIC **17** 19:09:33.2±2.6, 909S×10784E, h22km±18km, mb5.2/44, Error ellipse: s-maj=8.5km s-min=5.0km az=56.0*
ISC 17 19:09:32.9±0.2, 913S±003×10786E±003, h20km, h20km±2.7km:pP-P, n308, σ1§06/271, mb5.2/112, MS4.7/34, 40C-18D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.56**	**46**	P	**Pn**	**19 10 11.5**	**-1.7**
	0.0nm,0.0s						
JCJI	**Jatiwangi**	**2.65**	**9**	P	**Pn**	**19 10 13.7**	**-0.8**
	0.0nm,0.0s						
CBJI	**Citeko**	**2.87**	**340**	P	**Pn**	**19 10 23.5**	**+5.9**
	0.0nm,0.0s						
TNG	**Tangerang**	**3.18**	**338**	P	**Pn**	**19 10 23.9**	**+2.2**
	0.0nm,0.0s						
KRKI	**Karangkates**	**4.64**	**78**	P	**Pn**	**19 10 44.5**	**+2.6**
	0.0nm,0.0s						
KLI	**Kotabumi**	**5.18**	**325**	P	**Pn**	**19 10 50.9**	**+1.6**
	0.0nm,0.0s						
NBBI	**Negara**	**6.72**	**84**	P	**Pn**	**19 11 13.7**	**+3.2**
	0.0nm,0.0s						
DNP	**Denpasar**	**7.28**	**87**	P	**Pn**	**19 11 20.9**	**+2.9**
	0.0nm,0.0s						
KSI	**Kapahiang**	**7.55**	**316**	P	**Pn**	**19 11 21.1**	**-0.7**
	0.0nm,0.0s						
KSM	**Kuching**	**10.81**	**13**	*e*P	**Pn**	**19 12 09.0**	**+2.4**
PCI	**Palu**	**14.45**	**56**	P	**Pn**	**19 12 58.9**	**+2.7**
	0.0nm,0.0s						
PSI	**Prapat**	**14.83**	**323**	Pn	**Pn**	**19 12 54.3**	**-7.1**
	0.5nm,0.3s,baz=166,slow=15,SNR=6.2						
MBWA	**Marble Bar**	**16.55**	**138**	*e*P	**Pn**	**19 13 19.7**	**-4.1**
	69nm,1.0s						
KKM	**Kota Kinabalu**	**17.22**	**29**	*e*P	**Pn**	**19 13 32.6**	**+0.4**
BSI	**Banda Aceh**	**19.18**	**319**	P	**Pn**	**19 13 58.0**	**+1.8**
	274nm,1.0s						
FITZ	**Fitzroy Crossi**	**19.43**	**119**	*e*P	**Pn**	**19 13 59.1**	**-0.1**
	92nm,1.0s						
FITZ				*e*S	**Sn**	**19 17 18.1**	**-18**
FITZ	**Fitzroy Crossi**	**19.43**	**119**	P	**Pn**	**19 13 58.6**	**-0.5**
	0.9nm,0.3s,baz=246,slow=5.0,SNR=37						
FITZ				Sn	**Sn**	**19 17 20.5**	**-16**
	0.5nm,0.3s,baz=134,slow=18,SNR=9.1						
BATP	**Bataraza**	**20.38**	**29**	*e*P	**P**	**19 14 09.1**	**+0.8**
AAI	**Ambon**	**20.91**	**76**	P	**P**	**19 14 14.7**	**+0.6**
	210nm,1.3s						
DAV	**Davao City (W)**	**23.89**	**48**	⇑P	**P**	**19 14 45.

GYA AMB AMB
comp=Z,180nm,4.3s
GYA LR LR
comp=N,740nm,15.8s,MS4.7
GYA LR LR
comp=E,840nm,16.4s,MS4.7
GYA LR LR
comp=Z,680nm,15.0s,MS4.5
QZH Quanzhou 35.45 17⇑ *i*P P 19 16 26.8 -0.9
QZH *e*S **S 19 21 59.0 -2.7**
QZH AMB AMB
comp=Z,70nm,1.2s,mb5.5
QZH AMB AMB
comp=Z,550nm,3.6s
QZH LR LR
comp=N,2μm,23.4s,MS4.9
QZH LR LR
comp=E,1μm,18.9s,MS4.9
QZH LR LR
comp=Z,2μm,16.5s,MS4.9
CAL Calcutta 36.84 329 *ex* **P 19 16 32.1 -7.6**
SHL Shillong 37.83 336 *e*P **P 19 16 48.5 +0.4**
SHL AMb AMB 19 16 59.6
comp=Z,623nm,0.6s
CTA Charters Tower 38.62 111 *e*P **P 19 16 56.8 +2.1**
comp=Z,15nm,0.9s,mb4.7
CTA Charters Tower 38.62 111 P **P 19 16 56.6 +1.8**
comp=Z,24nm,1.0s,mb4.9,baz=277,slow=10.0,SNR=9.5
CTA Charters Tower 38.62 111 *e*P **P 19 16 56.8 +2.1**
CTA pmax pmax
comp=Z,15nm,0.9s
CTAO Charters Tower 38.62 111 *e*P **P 19 16 56.8 +2.1**
CTAO pmax pmax
comp=Z,33nm,1.1s,mb5.0
CTAO Charters Tower 38.62 111 *e*P **P 19 16 56.8 +2.0**
comp=Z,33nm,1.1s,mb5.0
PMG Port Moresby 38.77 94 P **P 19 16 57.8 +1.8**
comp=Z,24nm,0.9s,mb4.9,baz=267,slow=7.7,SNR=5.9
PMG Port Moresby 38.77 94*c i*P **P 19 16 57.9 +1.9**
PMG Port Moresby 38.77 94 *e*P **P 19 16 57.8 +1.8**
comp=Z,14nm,0.9s,mb4.7
BOK Bokaro 39.14 327 *e*P **P 19 16 59.6 +0.5**
BOK AMb AMB 19 17 01.8
comp=Z,94nm,1.1s,mb5.4
WHN Wuhan 39.93 9 *e*P **P 19 17 07.5 +1.8**
CD2 Chengdu 40.00 355⇑ *i*P **P 19 17 05.8 -0.5**
CD2 AP pP 19 17 10.3 -2.1
CD2 PP PP 19 18 42.4 +4.1
CD2 S **S 19 23 12.1 +1.2**
CD2 XS sS 19 23 19.4 -1.4
CD2 SS SS 19 26 03.9 -4.2
CD2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,60nm,5.2s
CD2 LR LR
comp=E,690nm,15.6s
CD2 LR LR
comp=Z,600nm,14.4s,MS4.6
JOW Kunigami 40.87 28 P **P 19 17 13.7 +0.3**
comp=Z,58nm,0.9s,mb5.2,baz=240,slow=5.5,SNR=13
JOW LR LR 19 37 39.7
comp=Z,447nm,18.4s,MS4.4,baz=182,slow=41
SSE Sheshan 41.99 17 *e*P **P 19 17 24.6 +2.0**
SSE AP pP 19 17 27.6 -1.1
SSE PP PP 19 19 02.6 +2.8
SSE PCP PcP 19 19 19.9 +2.3
SSE S **S 19 23 45.0 +4.7**
SSE XS sS 19 23 51.8 +1.4
SSE AMB AMB
comp=Z,39nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,43nm,3.5s
SSE LR LR
comp=N,198nm,20.2s,MS4.0
SSE LR LR
comp=E,117nm,20.2s,MS4.0
SSE LR LR
comp=Z,268nm,18.1s,MS4.2
JIRN Jiri 42.17 331 *e*P **P 19 17 25.0 +0.9**
comp=Z,205nm,1.0s,mb5.7
NJ2 Nanjing 42.27 14 *e*P **P 19 17 25.3 +0.3**
NJ2 PP PP 19 19 07.0 +4.0
NJ2 S **S 19 23 35.0 -10**
NJ2 AMB AMB
comp=Z,40nm,1.2s,mb4.9
NJ2 AMB AMB
comp=Z,1μm,4.5s
NJ2 LR LR
comp=N,1μm,19.4s,MS5.0
NJ2 LR LR
comp=E,1μm,14.9s,MS5.0
KAD Karad 42.40 308 *ex* x 19 17 44.6
KAD AMb AMB 19 17 54.6
comp=Z,48nm,1.6s,mb4.9
PKI Pulchoki 42.47 330 *e*P **P 19 17 26.9 +0.3**
comp=Z,146nm,1.2s,mb5.5
PKI Pulchoki 42.47 330 *e*P **P 19 17 26.9 +0.3**
PKI pmax pmax
comp=Z,146nm,1.2s,mb5.5
GUN Gumba 42.52 331 *e*P **P 19 17 28.0 +1.0**
comp=Z,294nm,1.1s,mb5.9
DMN Daman 42.66 330 *e*P **P 19 17 28.7 +0.6**
comp=Z,180nm,0.9s,mb5.8
KKN Kakani 42.72 330 *e*P **P 19 17 29.0 +0.4**
comp=Z,248nm,1.2s,mb5.8
KKN Kakani 42.72 330 *e*P **P 19 17 29.0 +0.4**
KKN pmax pmax
comp=Z,248nm,1.2s,mb5.8
XAN Xi'an 42.94 1 P **P 19 17 30.1 -0.3**
XAN AP pP 19 17 39.9 +3.4
XAN AMB AMB
comp=Z,44nm,1.3s,mb5.0
XAN LR LR
comp=N,1μm,17.2s,MS4.9
XAN LR LR
comp=E,871nm,16.2s,MS4.9
XAN LR LR
comp=Z,2μm,16.0s,MS5.1
GUMO Guam 43.12 59 LR LR 19 35 57.3
comp=Z,146nm,21.9s,MS3.8,baz=236,slow=37
GKN Gorkha 43.22 329 *e*P **P 19 17 32.7 +0.1**
comp=Z,206nm,1.0s,mb5.8
KOLN Koldanda 43.56 328 *e*P **P 19 17 35.9 +0.6**
comp=Z,284nm,1.1s,mb5.9
BHPL Bhopal 43.84 318 *e*P **P 19 17 38.2 +0.6**
BHPL AMb AMB 19 17 40.5
comp=Z,26nm,1.3s,mb4.8
TOO Toolangi 44.18 136 *e*P **P 19 17 42.1 +1.7**
comp=Z,19nm,0.9s,mb4.8
TOO Toolangi 44.18 136 *e*P **P 19 17 42.1 +1.7**
TOO pmax pmax
comp=Z,19nm,0.9s,mb4.8
LZH Lanzhou 45.13 355 *e*P **P 19 17 49.5 +1.5**
LZH AP pP 19 17 58.0 +3.9
LZH XP sP 19 18 01.0 +4.5
LZH PP PP 19 19 36.8 +3.3
LZH *e*S **S 19 24 20.0 -6.3**
LZH XS sS 19 24 45.0 +8.6
LZH SS SS 19 27 42.0 -6.9
LZH AMB AMB
comp=Z,70nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,260nm,4.2s
LZH LR LR
comp=N,1μm,14.6s
LZH LR LR
comp=Z,2μm,15.3s,MS5.1
TIA Tai'an 45.93 10 *e*P **P 19 17 53.3 -1.0**
LGTI Lohaghat 46.68 326 *e*P **P 19 17 59.3 -0.9**
NDI New Delhi 47.84 323 *e*P **P 19 18 17.0 +7.8**
AJM Ajmer 47.89 319 *e*P **P 19 18 09.2 -0.4**
AJM AMb AMB 19 18 14.2
comp=Z,37nm,1.8s,mb5.1
GTA Gaotai 48.87 352 P **P 19 18 17.9 +0.8**
GTA AP pP 19 18 25.3 +2.0
GTA XP sP 19 18 29.6 +3.9
GTA PCP PcP 19 19 43.0 +1.5
GTA PP PP 19 20 13.8 +3.4
GTA PPP 19 20 48.0
GTA S **S 19 25 22.5 +2.9**
GTA XS sS 19 25 35.4 +5.6
GTA SCS ScS 19 28 06.1 -2.4
GTA AMB AMB
comp=Z,49nm,1.3s,mb5.4
GTA AMB AMB
comp=Z,214nm,5.3s
GTA LR LR
comp=N,862nm,19.8s,MS4.9
GTA LR LR
comp=E,847nm,16.7s,MS4.9
GTA LR LR
comp=Z,851nm,16.7s,MS4.8
DL2 Dalian 49.48 14 P **P 19 18 22.5 +0.7**
DL2 *e*S **S 19 25 30.0 +1.8**
DL2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
DL2 LR LR
comp=N,350nm,12.1s,MS4.7
DL2 LR LR
comp=E,310nm,12.4s,MS4.7
DL2 LR LR
comp=Z,250nm,14.2s,MS4.4
BJT Baijiatuau 49.50 8 *e*P **P 19 18 21.3 -0.7**
BJT pmax pmax
comp=Z,74nm,1.1s
BJT Baijiatuau 49.50 8 *e*P **P 19 18 21.3 -0.7**
comp=Z,74nm,1.1s,mb5.6
BJI Beijing 49.52 8 *e*P **P 19 18 21.5 -0.6**
BJI S **S 19 25 34.4 +5.6**
BJI AMB AMB
comp=Z,66nm,1.0s,mb5.6
BJI AMB AMB
comp=Z,279nm,3.4s
BJI LR LR
comp=N,785nm,17.4s,MS5.0
BJI LR LR
comp=E,1μm,15.7s,MS5.0
BJI LR LR
comp=Z,573nm,20.2s,MS4.6
BTO Baotou 49.52 2 *e*P **P 19 18 21.8 -0.4**
SMLA Simla 49.68 325 *e*P **P 19 18 22.3 -1.0**
SMLA AMb AMB 19 18 32.7
comp=Z,75nm,1.8s,mb5.4
HHC Hu-ho-hao-te 49.84 4 *e*P **P 19 18 24.9 +0.3**
HHC AP pP 19 18 30.4 -0.4
HHC XP sP 19 18 33.3 +0.1
HHC PCP PcP 19 19 42.6 -2.4
HHC PP PP 19 20 21.9 +2.6
HHC PCS PcS 19 23 39.3 -2.6
HHC S **S 19 25 39.4 +6.0**
HHC XS sS 19 25 46.6 +3.1
HHC AMB AMB
comp=Z,42nm,1.1s,mb5.4
HHC AMB AMB
comp=Z,128nm,3.5s
HHC LR LR
comp=N,1μm,14.3s,MS5.2
HHC LR LR
comp=E,501nm,13.1s,MS5.2
HHC LR LR
comp=Z,1μm,14.3s,MS5.1
SNY Shenyang 52.72 15 ⇓P **P 19 18 45.3 -0.9**
SNY PP PP 19 20 50.3 +4.9
SNY S **S 19 26 19.1 +6.1**
SNY XS sS 19 26 31.3 +8.0
SNY AMB AMB
comp=Z,31nm,1.7s,mb5.0
SNY AMB AMB
comp=Z,104nm,3.5s
SNY LR LR
comp=N,526nm,14.2s,MS4.9
SNY LR LR
comp=E,622nm,15.1s,MS4.9
SNY LR LR
comp=Z,735nm,14.6s,MS4.9
MAJO Matsushiro 53.64 30 *e*P **P 19 18 51.0 -1.9**
MAJO pmax pmax
comp=Z,11nm,1.0s,mb4.7
MAJO Matsushiro 53.64 30 *e*P **P 19 18 51.0 -1.9**
comp=Z,11nm,1.0s,mb4.7
MAT Matsushiro 53.64 30 P **P 19 18 51.1 -1.8**
MAT S **S 19 26 33.0 +7.4**
MAT Matsushiro 53.64 30 *e*P **P 19 18 51.0 -1.9**
MAT *e*S **S 19 26 34.0 +8.4**
MAT pmax pmax
comp=Z,37nm,1.3s,mb5.2
MAT Matsushiro 53.64 30 *e*P **P 19 18 51.0 -1.9**
comp=Z,36nm,1.3s,mb5.2
MAT *e*S **S 19 26 34.0 +8.4**
MJAR Matsushiro Arr 53.64 30 P **P 19 18 50.4 -2.5**
comp=Z,14nm,1.0s,mb4.8,baz=208,slow=8.2,SNR=31
MJAR LR LR 19 42 47.7
comp=Z,269nm,19.4s,MS4.3,baz=120,slow=37
CN2 Changchun 55.05 15 ⇑P **P 19 19 01.8 -1.4**
CN2 *e*S **S 19 26 45.3 +0.7**
CN2 AMB AMB
comp=Z,30nm,1.5s,mb5.1
CN2 AMB AMB
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,4μm,16.0s,MS5.7
CN2 LR LR
comp=E,3μm,16.0s,MS5.7
CN2 LR LR
comp=Z,4μm,18.0s,MS5.6
WMQ Urumqi 55.79 342 P **P 19 19 10.9 +2.4**
WMQ AP pP 19 19 15.0 +0.2
WMQ XP sP 19 19 17.4 +0.2
WMQ PCP PcP 19 20 09.8 +2.3
WMQ PP PP 19 21 16.9 +3.9
WMQ SCP ScP 19 24 06.8 +1.4
WMQ S **S 19 26 55.8 +1.3**
WMQ AMB AMB
comp=Z,53nm,1.5s,mb5.3
WMQ AMB AMB
comp=Z,276nm,4.9s
WMQ LR LR
comp=N,1μm,18.0s,MS5.2
WMQ LR LR
comp=E,1μm,16.9s,MS5.2
WMQ LR LR
comp=Z,1μm,18.5s,MS5.1
VLA Vladivostok 56.42 21*d i*P **P 19 19 11.4 -1.7**
VLA *i* *PP pP 19 19 23.8 +4.5
VLA *e*S **S 19 27 02.6 -0.3**
VLA *e**SS sS 19 27 18.0 +4.8
VLA pmax pmax
comp=Z,80nm,2.1s,mb5.4
VLA Vladivostok 56.42 21 *e*P **P 19 19 11.5 -1.6**
KSH Kashi 56.72 331 ⇑P **P 19 19 15.9 +0.7**
KSH *e*AP pP 19 19 21.5 +0.1
KSH *e*XP sP 19 19 23.8 0.0
KSH *e*PP PP 19 21 18.8 -2.5
KSH *e*PPP 19 22 40.4
KSH *e*SCP ScP 19 24 10.3 +0.8
KSH *e*S **S 19 27 05.3 -1.6**
KSH *e*PS 19 27 23.8
KSH *e*SCS ScS 19 29 00.8 -2.6
KSH *e*SS SS 19 30 52.8 -1.9
KSH AMB AMB
comp=Z,383nm,4.1s
KSH LR LR
comp=N,380nm,6.1s
KSH LR LR
comp=E,359nm,6.1s
KSH LR LR
comp=Z,478nm,21.0s,MS4.6
SONM Songino Array 56.73 359 P **P 19 19 15.5 +0.3**
comp=Z,19nm,0.7s,mb5.2,baz=177,slow=8.6,SNR=149
SONM LR LR 19 46 16.1
comp=Z,1μm,19.2s,MS4.9,baz=180,slow=39
ULN Ulaanbaatar 56.75 359 ⇑P **P 19 19 15.7 +0.3**
SNR=23
ULN Ulaanbaatar 56.75 359*c i*P **P 19 19 15.3 0.0**
ULN Ulaanbaatar 56.75 359 *e*P **P 19 19 15.4 +0.1**
comp=Z,12nm,0.6s,mb5.1
MDJ Mudanjiang 56.99 18 P **P 19 19 15.1 -2.0**
MDJ PCP PcP 19 20 10.8 -1.3
MDJ SCP ScP 19 24 10.3 -0.4
MDJ PCS PcS 19 24 11.5 -1.5
MDJ S **S 19 27 08.8 -1.6**
MDJ AMB AMB
comp=Z,14nm,1.2s,mb4.9
MDJ AMB AMB
comp=Z,56nm,4.2s
MDJ LR LR
comp=Z,109nm,17.8s,MS4.0
MDJ Mudanjiang 56.99 18 *e*P **P 19 19 15.4 -1.6**
comp=Z,12nm,0.9s,mb4.9
WSAR Wadi Sarin 57.91 305 P **P 19 19 23.6 0.0**
comp=Z,5.2nm,0.6s,mb4.7,baz=114,slow=8.4,SNR=6.1
SMDO Samad 58.30 304 ⇑P **P 19 19 27.6 +1.3**
SNR=6.1
BIDO Bidbid 58.45 305 ⇓P **P 19 19 28.4 +1.1**
SNR=6.8
ULHL Ulahol 58.75 333 P **P 19 19 29.7 +0.3**
SNR=16
BSY Bisya 58.85 303 P **P 19 19 31.1 +1.0**
SNR=6.6
KZA Kyzart 59.07 332 P **P 19 19 32.1 +0.5**
SNR=30
HIA Hailar 59.08 9*c i*P **P 19 19 30.5 -1.2**
HIA Hailar 59.08 9 *e*P **P 19 19 29.2 -2.5**
comp=Z,30nm,1.2s,mb5.2
ZAK Zakamensk 59.40 357⇓ *e*P **P 19 19 33.3 -0.6**
ZAK pmax pmax
comp=Z,15nm,1.3s,mb4.9
OPO Ambohidratompo 59.42 254 P **P 19 19 35.8 +1.7**
comp=Z,10nm,0.9s,mb4.8,baz=75,slow=11,SNR=7.2
TKM2 Tokmak 2 59.57 333 P **P 19 19 35.1 0.0**
SNR=38
TKM2 Tokmak 2 59.57 333 P **P 19 19 32.2 -2.9**
TKM2 pmax pmax
comp=Z,19nm,0.8s,mb5.2
KBK Karagaybulak 59.66 332 P **P 19 19 36.1 +0.4**
SNR=21
AML Almayashu 59.84 331 P **P 19 19 37.2 +0.3**
SNR=10.0
AAK Ala-Archa 59.85 332 P **P 19 19 37.7 +0.7**
SNR=6.8
AAK Ala-Archa 59.85 332 P **P 19 19 36.8 -0.2**
comp=Z,65nm,1.1s,mb5.6,SNR=5.3
AAK Ala-Archa 59.85 332 ⇑P **P 19 19 37.0 0.0**
SNR=9.8
AAK Ala-Archa 59.85 332*c i*P **P 19 19 36.0 -1.0**
AAK pmax pmax
comp=Z,16nm,1.3s,mb4.9
AAK Ala-Archa 59.85 332 *e*P **P 19 19 36.4 -0.6**
comp=Z,17nm,1.2s,mb5.0
FRU Bishkek 59.95 332 *e*P **P 19 19 36.0 -1.7**
CHMS Chumysh 60.02 332 P **P 19 19 37.1 -1.1**
SNR=5.1
MK31 Makanchi Array 60.17 340 P **P 19 19 36.9 -2.3**
MK31 pmax pmax
comp=Z,11nm,0.5s,mb5.1
MKAR Makanchi Array 60.17 340 P **P 19 19 39.1 -0.1**
comp=Z,20nm,0.6s,mb5.4,baz=144,slow=7.4,SNR=120
MKAR Makanchi Array 60.17 340⇑ *e*P **P 19 19 39.0 -0.2**
EKS2 Erkin-Say 60.21 332 P **P 19 19 39.7 +0.2**
SNR=22
USP Ospenovka 60.34 332 P **P 19 19 40.0 -0.4**
SNR=11
ASHO Ashiyiah 60.66 305 ⇑P **P 19 19 43.0 +0.5**
SNR=6.1
MOY Mondy 60.84 355 *e*P **P 19 19 44.0 +0.2**
MOY pmax pmax
comp=Z,90nm,2.1s,mb5.5
IRK Irkutsk 61.20 357 *e*P **P 19 19 45.9 -0.4**
IRK *e* 19 20 21.3
IRK pmax pmax
comp=Z,68nm,1.6s,mb5.5
KLR Kul'dur 61.78 18 *e*P **P 19 19 45.7 -4.5**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,100nm,1.8s,mb5.6
KKAR Karatay Array 62.12 330 *i* P **P 19 19 51.6 -0.8**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
HABR Khabarovsk 62.17 20 *e*P **P 19 19 52.1 -0.7**
HABR *e*S **S 19 28 11.9 -5.3**
YSS Yuzh-Sakhalins 63.89 26⇑ *e*P **P 19 20 03.0 -1.2**
YSS *e* 19 20 14.0
YSS pmax pmax
comp=Z,90nm,1.1s,mb5.7
YSS Yuzh-Sakhalins 63.89 26 *e*P **P 19 20 03.1 -1.1**
comp=Z,97nm,1.2s,mb5.7
RPZ Rata Peaks 64.44 134 LR LR 19 47 32.3
comp=Z,607nm,21.4s,MS4.8,baz=201,slow=35
KURK Kurchatov 64.78 340 P **P 19 20 10.5 +0.5**
comp=Z,298nm,0.9s,mb6.3,SNR=58
KURK Kurchatov 64.78 340 ⇑P **P 19 20 10.2 +0.1**
SNR=34
KURK Kurchatov 64.78 340*c i*P **P 19 20 09.8 -0.2**
KURK Kurchatov 64.78 340 *e*P **P 19 20 09.8 -0.2**
comp=Z,51nm,0.9s,mb5.5
MAW Mawson 65.59 197 *e*P **P 19 20 14.8 -0.5**
comp=Z,20nm,0.9s,mb5.2
MAW Mawson 65.59 197 P **P 19 20 15.1 -0.3**
comp=Z,29nm,0.9s,mb5.3,baz=40,slow=7.3,SNR=47
MAW LR LR 19 44 32.5
comp=Z,195nm,20.4s,MS4.3,baz=218,slow=32
MAW Mawson 65.59 197 *e*P **P 19 20 14.8 -0.5**
MAW pmax pmax
comp=Z,21nm,0.9s
ZAL Zalesovo 65.79 345 P **P 19 20 15.1 -1.5**
comp=Z,5.3nm,0.5s,mb4.8,baz=336,slow=3.2,SNR=28
ZAL Zalesovo 65.79 345⇓ *e*P **P 19 20 15.3 -1.3**
ZAL Zalesovo 65.79 345 P **P 19 20 15.1 -1.5**
ABKT Ailbek 65.91 319 P **P 19 20 17.4 0.0**
comp=Z,191nm,1.3s,mb6.0,SNR=12
KRAR Krasnoyarsk 66.09 351*c e*P **P 19 20 16.0 -2.5**
KRAR pmax pmax
comp=Z,115nm,1.7s,mb5.6
BOD Bodaibo 66.90 4 *e*P **P 19 20 21.8 -1.9**
BOD pmax pmax
comp=Z,27nm,1.7s,mb5.0
NVS Novosibirsk 67.00 345⇑ *i*P **P 19 20 22.1 -2.3**
NVS *e*S S 19 29 11.4 -5.5
NVS pmax pmax
comp=Z,27nm,1.3s,mb5.1
NVS pmax pmax
comp=N,25nm,1.4s
NVS pmax pmax
comp=E,18nm,1.5s
NVS smax
comp=N,29nm,2.1s
NVS smax
comp=E,16nm,1.9s
CLNS Chul'man 67.22 10 *e*P **P 19 20 24.9 -0.8**
CLNS pmax pmax
comp=Z,19nm,1.1s,mb5.0
CLNS pmax pmax
comp=N,14nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS MLR MLR
comp=Z,700nm,15.0s,MS5.0
CLNS MLR MLR
comp=N,400nm,11.0s,MS4.9
CLNS MLR MLR
comp=E,300nm,15.0s,MS4.9
QRN Al-Qurain 68.97 305 *e*P **P 19 20 35.9 -0.8**
QRN AMb AMB 19 20 37.5
comp=Z,43nm,0.6s,mb5.5
VOSK Vostochnaya 69.19 337 P **P 19 20 33.3 -4.8**
VOSK pmax pmax
comp=Z,49nm,1.4s,mb5.2
UMR Umm Al-Rimmam 69.45 306 *e*P **P 19 20 39.6 -0.1**
UMR AMb AMB 19 20 41.4
comp=Z,71nm,0.7s,mb5.7
NAY Al-Naaiem 69.71 306 *e*P **P 19 20 40.9 -0.4**
NAY AMb AMB 19 20 42.8
comp=Z,24nm,0.8s,mb5.2
BRVK Borovoye 69.72 337 P **P 19 20 41.9 +0.6**
comp=Z,131nm,0.8s,mb5.9,SNR=8.0
BRVK Borovoye 69.72 337 *e*P **P 19 20 40.2 -1.1**
BRVK pmax pmax
comp=Z,29nm,1.1s,mb5.1
BRVK Borovoye 69.72 337 *e*P **P 19 20 40.2 -1.1**
comp=Z,29nm,1.1s,mb5.1
RST Umm Al-Ruwaisa 70.01 306 *e*P **P 19 20 42.5 -0.6**
RST AMb AMB 19 20 44.5
comp=Z,72nm,0.8s,mb5.6
CHKZ Chkalovo 70.06 337 *e*P **P 19 20 43.3 -0.2**
CHKZ pmax pmax
comp=Z,34nm,0.7s,mb5.4
CHKZ Chkalovo 70.06 337 *e*P **P 19 20 43.3 -0.1**
comp=Z,34nm,0.7s,mb5.4
ZRNK Zerenda 70.14 336 *e*P **P 19 20 43.5 -0.4**
ZRNK pmax pmax
comp=Z,41nm,1.1s,mb5.3
ZRNK Zerenda 70.14 336 *e*P **P 19 20 43.5 -0.4**
comp=Z,41nm,1.1s,mb5.3
KMBO Kilima Mbogo 70.68 272 P **P 19 20 48.0 +0.8**
comp=Z,5.6nm,0.8s,mb4.5,baz=44,slow=12,SNR=8.0

AB31	**Akbulak array**	**71.67**	**329**	P	**P**	**19 20 50.3**	**-2.9**
AB31				pmax	pmax			
	comp=Z,104nm,1.2s,mb5.6							
YAK	**Yakutsk**	**72.95**	**11**	*e*P	**P**	**19 21 00.6**	**-0.3**
YAK				*e*		19 21 16.1		
YAK				*e*		19 23 43.4		
YAK				*e*S	S	19 30 21.2	-5.4	
YAK				*e*		19 30 58.5		
YAK				*e**SS	sS	19 31 04.4	+27	
YAK				*e*SS	SS	19 35 04.4	-2.7	
YAK				pmax	pmax			
	comp=Z,30nm,0.8s,mb5.3							
YAK				pmax	pmax			
	comp=N,11nm,1.4s							
YAK				pmax	pmax			
	comp=E,5.0nm,1.3s							
YAK				pmax	pmax			
	comp=Z,3.0nm,1.2s,mb4.1							
YAK				pmax	pmax			
	comp=N,3.0nm,1.4s							
YAK				smax				
	comp=E,3.0nm,1.5s							
YAK				smax				
	comp=N,4.0nm,1.4s							
YAK	**Yakutsk**	**72.95**	**11**	*e*P	**P**	**19 20 59.5**	**-1.4**
	comp=N,58nm,0.8s,mb5.6							
AKTO	**Aktyubinsk**	**73.38**	**329**	P	**P**	**19 20 58.5**	**-4.9**
AKTO				pmax	pmax			
	comp=Z,8.0nm,1.4s,mb4.5							
BHD	**Baghdad**	**73.54**	**309**	*ex*	x	19 21 01.0		
VNDA	**Vanda**	**73.73**	**169**	P	**P**	**19 21 04.8**	**-0.6**
	comp=Z,16nm,0.9s,mb5.0,baz=306,slow=6.2,SNR=69							
VNDA	**Vanda**	**73.73**	**169**	*e*P	**P**	**19 21 04.5**	**-1.0**
VNDA				pmax	pmax			
	comp=Z,20nm,1.0s							
VNDA	**Vanda**	**73.73**	**169**	*e*P	**P**	**19 21 04.5**	**-0.9**
	comp=Z,20nm,1.0s,mb5.0							
SYO	**Syowa Base**	**73.81**	**200**⇑	*e*P	**P**	**19 21 04.6**	**-1.4**
SBA	**Scott Base**	**74.80**	**169**	*e*P	**P**	**19 21 11.7**	**0.0**
SBA				pmax	pmax			
	comp=Z,16nm,0.9s,mb5.0							
SBA	**Scott Base**	**74.80**	**169**	*e*P	**P**	**19 21 11.7**	**0.0**
	comp=Z,16nm,0.9s,mb4.9							
PET	**Petropavlovsk**	**75.44**	**29**	*e*P	**P**	**19 21 14.9**	**-0.5**
PET				*e*S	S	19 30 52.0	-2.5	
PET				*e*PS		19 31 29.8		
PET				pmax	pmax			
	comp=Z,29nm,0.7s,mb5.3							
PET				pmax	pmax			
	comp=Z,100nm,8.4s							
PET				smax				
	comp=N,100nm,10.7s							
PET	**Petropavlovsk**	**75.44**	**29**⇓	*i*P	**P**	**19 21 15.1**	**-0.3**
MSL	**Mosul**	**75.69**	**311**	*ex*	x	19 21 19.5		
HAKT	**HAKKARI**	**75.73**	**312**	*i*P	**P**	**19 21 17.0**	**-0.1**
GNI	**Garni**	**76.06**	**315**	P	**P**	**19 21 19.5**	**+0.6**
GNI				pmax	pmax			
	comp=Z,56nm,1.7s							
GNI	**Garni**	**76.06**	**315**	P	**P**	**19 21 19.5**	**+0.6**
	comp=Z,56nm,1.7s,mb5.2							
DGRG	**David-gareji**	**76.17**	**317**	P	**P**	**19 21 20.2**	**+0.6**
SVE	**Sverdlovsk**	**76.29**	**335**⇑	*e*P	**P**	**19 21 20.6**	**+0.3**
SVE				*e*		19 21 35.2		
SVE				pmax	pmax			
	comp=Z,72nm,2.0s,mb5.3							
SVE				MLR	MLR			
	comp=N,400nm,16.0s,MS4.9							
SVE				MLR	MLR			
	comp=E,200nm,16.0s,MS4.9							
SVE				MLR	MLR			
	comp=Z,400nm,16.0s,MS4.8							
MA2	**Magadan**	**76.56**	**21***c*	*i*P	**P**	**19 21 21.5**	**-0.3**
MA2				pmax	pmax			
	comp=Z,39nm,1.7s,mb5.1							
MA2	**Magadan**	**76.56**	**21**	*e*P	**P**	**19 21 21.3**	**-0.4**
	comp=Z,12nm,0.8s,mb4.9							
MTA	**Mtatsminda**	**76.67**	**317**	P	**P**	**19 21 22.4**	**0.0**
TBLG	**Delisi**	**76.73**	**317**	P	**P**	**19 21 23.4**	**+0.7**
ARU	**Arti**	**76.90**	**334**	P	**P**	**19 21 23.9**	**+0.2**
	comp=Z,119nm,1.2s,mb5.7,SNR=10							
ARU	**Arti**	**76.90**	**334**⇑	*i*P	**P**	**19 21 23.4**	**-0.3**
ARU				*e*		19 21 39.1		
ARU				*e*		19 24 17.3		
ARU				*e*PPP		19 26 04.3		
ARU				*e*S	S	19 31 08.0	-2.6	
ARU				*e*SS	SS	19 36 00.4	-6.7	
ARU				pmax	pmax			
	comp=Z,24nm,1.3s,mb5.0							
ARU	**Arti**	**76.90**	**334**	*e*P	**P**	**19 21 23.2**	**-0.4**
	comp=Z,28nm,1.1s,mb5.1							
MBAR	**Mbarara**	**77.19**	**271**	*de*P	**P**	**19 21 25.7**	**+0.4**
GOR	**Gori**	**77.26**	**317**	P	**P**	**19 21 32.1**	**+6.4**
AKH	**Akhalkalaki**	**77.44**	**316**	P	**P**	**19 21 32.3**	**+5.5**
ZEI	**Tsey**	**77.73**	**317**	*e*P	**P**	**19 21 29.5**	**+1.1**
ZEI				pmax	pmax			
	comp=Z,12nm,0.6s,mb5.0							
LSZ	**Lusaka**	**77.75**	**256**	P	**P**	**19 21 28.6**	**+0.1**
	comp=Z,7.3nm,0.9s,mb4.6,baz=120,slow=4.0,SNR=19							
LSZ	**Lusaka**	**77.75**	**256**	*e*P	**P**	**19 21 29.2**	**+0.7**
LSZ				pmax	pmax			
	comp=Z,39nm,1.5s,mb5.1							
LSZ	**Lusaka**	**77.75**	**256**	*e*P	**P**	**19 21 29.1**	**+0.7**
	comp=Z,39nm,1.5s,mb5.1							
ONI	**Oni**	**77.95**	**317**	P	**P**	**19 21 29.8**	**+0.2**
ONI	**Oni**	**77.95**	**317**	P	**P**	**19 21 38.7**	**+9.1**
KIV	**Kislovodsk**	**79.02**	**318**	*e*P	**P**	**19 21 35.6**	**+0.1**
KIV				*e*S	S	19 31 28.7	-4.8	
KIV				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.7							
KIV	**Kislovodsk**	**79.02**	**318**	*e*P	**P**	**19 21 35.9**	**+0.4**
	comp=Z,29nm,1.1s,mb5.1							
ASF	**Jabal al Asfar**	**79.07**	**305**	P	**P**	**19 21 36.4**	**+0.6**
	comp=Z,15nm,1.1s,mb4.8,baz=350,slow=2.9,SNR=22							
GOF	**Gofitskoye**	**79.25**	**319**	*e*P	**P**	**19 21 36.2**	**-0.6**
GOF				pmax	pmax			
	comp=Z,30nm,0.6s,mb5.4							
MALT	**Malatya**	**79.89**	**312**	*e*P	**P**	**19 21 40.2**	**0.0**
MALT				pmax	pmax			
	comp=Z,12nm,1.2s,mb4.7							
MALT	**Malatya**	**79.89**	**312**	*e*P	**P**	**19 21 40.2**	**0.0**
	comp=Z,12nm,1.2s,mb4.7							
EIL	**Elat**	**79.93**	**302**	*e*P	**P**	**19 21 41.1**	**+0.7**
	comp=Z,491nm,1.4s,mb6.2							
GZT	**Gaziantep**	**80.21**	**310**	*i*P	**P**	**19 21 42.3**	**+0.4**
MMAI	**Mount Meron Ar**	**80.53**	**306**	P	**P**	**19 21 44.8**	**+1.1**
	comp=Z,6.4nm,0.6s,mb4.7,baz=91,slow=8.8,SNR=6.7							
MMAI				LR	LR	20 00 57.8		
	comp=Z,260nm,19.4s,MS4.6,baz=120,slow=38							
SOC	**Sochi**	**80.86**	**317**	*e*P	**P**	**19 21 51.4**	**+6.0**
SOC				*e**PP	pP	19 22 02.3	+10	
SOC				*e*		19 24 52.1		
SOC				*e*PPP		19 26 44.4		
SOC				*e*S	S	19 31 56.5	+3.7	
SOC				*e*SS	SS	19 36 59.4	-7.2	
SOC				pmax	pmax			
	comp=Z,22nm,0.9s,mb5.1							
SOC				MLR	MLR			
	comp=Z,170nm,17.0s,MS4.5							
QSPA	**South Pole Qui**	**80.87**	**180**	*e*P	**P**	**19 21 44.8**	**-0.7**
	comp=Z,30nm,1.1s,mb5.1							
TIXI	**Tiksi**	**81.81**	**7***c*	*i*P	**P**	**19 21 48.8**	**-1.7**
TIXI				pmax	pmax			
	comp=Z,33nm,1.3s,mb5.1							
TIXI	**Tiksi**	**81.81**	**7**⇑	*i*P	**P**	**19 21 48.9**	**-1.6**
VRHR	**Novokhopersk**	**82.61**	**324**	*e*P	**P**	**19 21 54.9**	**+0.2**
VRHR				pmax	pmax			
	comp=Z,30nm,0.8s,mb5.4							
VRHR				pmax	pmax			
	comp=N,10.0nm,1.2s							
VRHR				pmax	pmax			
	comp=E,10.0nm,0.5s							
CSS	**Prodhromos**	**82.74**	**307**	*e*P	**P**	**19 21 56.2**	**+0.8**
	comp=E,39nm,1.1s,mb5.3							
CDAG	**Cicekdag**	**83.30**	**312**	*i*P	**P**	**19 21 58.3**	**+0.1**
NVL	**N'lazarevskaya**	**83.43**	**199**⇓	*i*P	**P**	**19 21 59.7**	**+0.8**
NVL				pmax	pmax			
	comp=Z,27nm,1.4s,mb5.1							
BOYT	**Boyabat**	**83.47**	**314**	*i*P	**P**	**19 21 59.8**	**+0.7**
BR131	**Keskin Array S**	**83.87**	**312**	*e*P	**P**	**19 22 01.2**	**0.0**
	comp=Z,10nm,1.0s,mb4.9							
BRTR	**Keskin Array B**	**83.87**	**312**	P	**P**	**19 22 01.1**	**-0.1**
	comp=Z,10nm,1.0s,mb4.9,baz=126,slow=6.3,SNR=50							
BRTR	**Keskin Array B**	**83.87**	**312**⇑	*e*P	**P**	**19 22 01.3**	**+0.1**
VRSR	**Storozhevoye**	**84.07**	**324**	*e*P	**P**	**19 22 02.3**	**+0.1**
VRSR				pmax	pmax			
	comp=N,5.0nm,0.8s							
VRSR				pmax	pmax			
	comp=Z,30nm,0.8s,mb5.5							
VRSR				pmax	pmax			
	comp=E,20nm,1.0s							
ELDT	**Eldivan**	**84.25**	**312**	*i*P	**P**	**19 22 02.9**	**-0.2**
VOR	**Voronezh**	**84.26**	**324**	*e*P	**P**	**19 22 02.5**	**-0.7**
VOR				pmax	pmax			
	comp=Z,60nm,1.6s,mb5.5							
ANTO	**Ankara**	**84.54**	**312**	⇓P	**P**	**19 22 04.5**	**-0.1**
	SNR=6.7							
ANTO	**Ankara**	**84.54**	**312**	*e*P	**P**	**19 22 05.3**	**+0.7**
ANTO				pmax	pmax			
	comp=Z,21nm,1.3s,mb5.1							
ANTO	**Ankara**	**84.54**	**312**	*e*P	**P**	**19 22 05.3**	**+0.7**
	comp=Z,21nm,1.3s,mb5.1							
BALT	**Daday**	**84.59**	**313**	*i*P	**P**	**19 22 05.9**	**+1.1**
KDHN	**Kadinhani**	**84.67**	**310**	*i*P	**P**	**19 22 04.7**	**-0.6**
SIM	**Simferopol'**	**85.11**	**317**	*e*P	**P**	**19 22 08.0**	**+0.6**
SIM				pmax	pmax			
	comp=Z,11nm,0.8s,mb5.0							
ISP	**Isparta**	**85.71**	**309**⇑	*i*P	**P**	**19 22 10.0**	**-0.4**
ESKT	**Eskisehir**	**85.89**	**311**	*i*P	**P**	**19 22 11.6**	**+0.3**
TKTP	**Tekketepe**	**85.90**	**309**	*i*P	**P**	**19 22 11.5**	**+0.1**
HENT	**Hendek**	**86.19**	**312**	*i*P	**P**	**19 22 10.0**	**-2.9**
MOS	**Moscow**	**86.63**	**328**	*e*P	**P**	**19 22 14.0**	**-1.0**
MOS				*e*		19 25 34.0		
MOS				pmax	pmax			
	comp=Z,22nm,1.0s,mb5.3							
MOS				MLR	MLR			
	comp=Z,700nm,19.0s,MS5.1							
OBN	**Obninsk**	**86.97**	**327***d*	*i*P	**P**	**19 22 16.9**	**+0.3**
OBN				*e*		19 25 40.2		
OBN				*e*S		19 32 35.3		
OBN				pmax	pmax			
	comp=Z,59nm,1.7s,mb5.5							
OBN				MLR	MLR			
	comp=Z,200nm,16.0s,MS4.6							
ULDT	**Uludag**	**87.32**	**311**	*i*P	**P**	**19 22 19.5**	**+1.1**
KLMR	**Klimovskoe**	**87.65**	**333**	*e*P	**P**	**19 22 19.4**	**-0.5**
KLMR				pmax	pmax			
	comp=Z,40nm,1.5s,mb5.4							
SNAA	**Sanae**	**87.76**	**197**	*e*P	**P**	**19 22 20.4**	**-0.1**
SNAA				*e*		19 22 23.1		
SNAA				*e*		19 22 30.7		
KDAG	**Bornova**	**88.32**	**309**	*i*P	**P**	**19 22 24.3**	**+1.1**
VNA1	**Neumayer--Stat**	**89.79**	**197**	*e*P	**P**	**19 22 30.4**	**+0.4**
VNA1				*e*		19 22 31.3		
VNA1				*e*		19 22 33.4		
VNA1				*e*		19 22 41.1		
AKASG	**Malin Array Be**	**89.88**	**321**	P	**P**	**19 22 28.4**	**-2.0**
	comp=Z,0.4nm,0.5s,mb4.0,baz=89,slow=4.5,SNR=12							
AKASG				PP	PP	19 26 00.8	-2.2	
	comp=Z,0.2nm,0.3s,baz=95,slow=5.9,SNR=16							
AKASG	**Malin Array Be**	**89.88**	**321**	P	**P**	**19 22 28.4**	**-2.0**
AKASG				PP	PP	19 26 00.8	-2.2	
FINES	**FINESS Array B**	**94.04**	**332**	P	**P**	**19 22 49.1**	**-0.6**
	comp=Z,2.6nm,0.9s,mb4.7,baz=164,slow=36,SNR=2.6							
ARCES	**ARCESS Array B**	**95.82**	**339**	P	**P**	**19 22 56.0**	**-1.8**
	comp=Z,3.5nm,0.9s,mb4.8,baz=36,slow=4.5,SNR=3.7							
ARCES				LR	LR	20 12 15.1		
	comp=Z,502nm,18.9s,MS5.0,baz=16,slow=39							
GERES	**GERESS Array B**	**99.54**	**318**	P	**P**	**19 23 11.6**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=257,slow=17,SNR=2.1							
TORD	**Torodi Ar. Bea**	**107.67**	**281**	PKKPbc	PKKPbc	19 39 13.2	+0.8	
	comp=Z,1.0nm,0.9s,baz=311,slow=3.7,SNR=5.4							
ESDC	**Sonseca Array**	**112.56**	**309**	PKKPbc	PKKPab	19 39 06.5	+1.5	
	comp=Z,0.9nm,0.7s,baz=276,slow=4.8,SNR=5.3							
YKA	**Yellowknife Ar**	**118.54**	**21**	PKP	PKPdf	19 28 18.3	-0.9	
	comp=Z,1.5nm,0.8s,baz=313,slow=2.3,SNR=7.0							
YKA				PKKPbc	PKKPbc	19 38 35.4	-0.4	
	comp=Z,0.4nm,0.7s,baz=126,slow=2.8,SNR=4.1							
YKA	**Yellowknife Ar**	**118.54**	**21**	PKP	PKPdf	19 28 18.3	-0.9	
YKA				PKKPbc	PKKPbc	19 38 35.4	-0.4	
M02C	**Callahan**	**125.05**	**45**	⇓P	PKPdf	19 28 33.4	+1.6	
	baz=125							
J06A	**Christmas Vall**	**126.18**	**42**	⇑P	PKPdf	19 28 35.1	+1.2	
	baz=126							
HATC	**Hat Creek Radi**	**126.24**	**46**	⇑P	PKPdf	19 28 36.4	+2.4	
	baz=126							
K06A	**Valley Falls**	**126.30**	**43**	⇑P	PKPdf	19 28 36.5	+2.4	
	baz=126							
J08A	**Circle Bar Ran**	**127.24**	**42**	⇑P	PKPdf	19 28 37.9	+2.0	
	baz=127							
N06A	**Buffalo Meadow**	**127.41**	**45**	⇑P	PKPdf	19 28 37.7	+1.4	
	baz=128							
LAVA	**Lava Cap Winer**	**127.50**	**48**	⇓P	PKPdf	19 28 38.1	+1.7	
	baz=128							
M07A	**Soldier Meadow**	**127.61**	**44**	⇓P	PKPdf	19 28 38.6	+2.0	
	baz=128							
O06A	**Flanigan**	**127.64**	**46**	⇑P	PKPdf	19 28 38.6	+1.9	
	baz=128							
R05C	**Kirkwood Meado**	**128.01**	**48**	⇓P	PKPdf	19 28 39.0	+1.6	
	baz=128							
M08A	**Happy Creek Ra**	**128.12**	**44**	⇓P	PKPdf	19 28 40.4	+2.7	
	baz=128							
O07A	**Toulon**	**128.31**	**45**	⇑P	PKPdf	19 28 40.3	+2.4	
	baz=128							
PKD	**Parkfield**	**128.62**	**51**	⇓P	PKPdf	19 28 41.9	+3.3	
	baz=129							
CHMT	**Chamberlain Mo**	**128.67**	**35**	*e*P	PKPdf	19 28 40.4	+1.7	
NVAR	**Mina Array Bea**	**129.40**	**47**	PKP	PKPdf	19 28 43.1	+3.1	
	comp=Z,1.0nm,0.7s,baz=241,slow=1.2,SNR=7.7							
S09A	**Goldfield**	**130.46**	**48**	⇑P	PKPdf	19 28 46.1	+4.0	
	baz=130							
M12A	**Wells**	**130.47**	**42**	⇓P	PKPdf	19 28 45.9	+3.8	
	baz=130							
ELK	**Elko**	**130.57**	**43**	*e*PKIKP	PKPdf	19 28 44.8	+2.5	
N12A	**Clover Valley,**	**130.65**	**43**	⇑P	PKPdf	19 28 46.3	+3.8	
	baz=131							
HWUT	**Hardware Ranch**	**132.56**	**40**	*e*P	PKPdf	19 28 47.0	+0.9	
V12A	**Nelson**	**133.00**	**49**	⇑P	PKPdf	19 28 51.1	+4.2	
	baz=133							
PDAR	**Pinedale Array**	**133.17**	**38**	PKP	PKPdf	19 28 48.2	+1.1	
	comp=Z,0.7nm,0.6s,baz=213,slow=0.8,SNR=8.0							
X13A	**Yucca**	**134.22**	**50**	⇑P	PKPdf	19 28 52.0	+2.8	
	baz=134							
W14A	**Seligman**	**134.53**	**49**	⇓P	PKPdf	19 28 53.7	+4.0	
	baz=134							
CFAA	**Coronel Fontan**	**139.33**	**185**	PKP	PKPdf	19 28 59.6	+1.0	
	comp=Z,0.7nm,0.9s,baz=217,slow=0.6,SNR=7.7							
LONY	**Lake Ozonia**	**144.58**	**3**	*e*P	PKPdf	19 29 07.1	-0.9	
WMOK	**Wichita Mounta**	**144.72**	**40**	*e*PKIKP	PKPdf	19 29 08.5	+0.3	
MIV	**Mineville/With**	**145.17**	**2**	*e*P	PKPbc	19 29 08.9	+0.4	
NCB	**Newcomb**	**145.24**	**3**	*e*P	PKPbc	19 29 09.4	+0.5	
BDFB	**Brasilia**	**145.70**	**224**	PKPbc	PKPbc	19 29 11.1	+0.9	
	comp=Z,13nm,0.8s,baz=134,slow=3.4,SNR=15							
ACCN	**Adirondack Com**	**145.85**	**2**	*e*P	PKPdf	19 29 11.6	+1.5	
CCM	**Cathedral Cave**	**146.45**	**28**	*e*PKP2	PKPdf	19 29 11.9	+0.7	
JCT	**Junction City**	**146.57**	**47**	*e*PKPdf	PKPdf	19 29 13.7	+2.3	
JCT				*e*PKPbc	PKPbc	19 29 15.3	+2.4	
HRV	**Harvard--Oak R**	**146.75**	**359**	*e*PKP2	PKPab	19 29 14.1	-0.5	
ASCO	**Alum Creek Sta**	**147.56**	**16**	*e*PKPbc	PKPbc	19 29 16.3	+0.6	
MIAR	**Mount Ida**	**147.97**	**35**	*e*PKP2	PKPab	19 29 18.1	-1.3	
SSPA	**Standing Stone**	**148.21**	**8**	*e*PKPbc	PKPbc	19 29 17.8	+0.4	
LVC	**Limon Verde**	**148.30**	**186**	PKP	PKPdf	19 29 16.8	+2.5	
	comp=Z,30nm,1.0s,baz=174,slow=1.1,SNR=5.1							
LVC				PKPbc	PKPbc	19 29 20.1	+2.5	
	comp=Z,30nm,1.0s,baz=185,slow=1.6,SNR=19							
LVC	**Limon Verde**	**148.30**	**186**	*e*PKPdf	PKPdf	19 29 16.6	+2.3	
WCI	**Wyandotte Cave**	**148.35**	**22**	*e*PKPdf	PKPdf	19 29 15.8	+1.4	
WCI				*e*PKPbc	PKPbc	19 29 18.6	+0.9	
UALR	**University of**	**148.47**	**33**	*e*PKPbc	PKPbc	19 29 19.2	+1.1	
NATX	**Nacogdoches**	**149.27**	**40**	*e*PKPbc	PKPbc	19 29 22.3	+2.2	
WVT	**Waverly**	**149.56**	**26**	*e*PKP2	PKPbc	19 29 21.5	+0.6	
HKT	**Hockley**	**149.67**	**44**	*e*PKHKP		19 29 17.7		
HKT				*e*	PKPbc	19 29 23.6	+2.5	
PLAL	**Pickwick Lake**	**150.42**	**27**	*e*PKPbc	PKPbc	19 29 23.2	+0.2	
FWV	**Forest Hill**	**150.61**	**14**	*e*PKPbc	PKPbc	19 29 24.2	+0.9	
TZTN	**Tazewell**	**150.81**	**19**	*e*PKPbc	PKPbc	19 29 24.7	+0.9	
ELN	**Prospectdale**	**150.96**	**14**	*e*PKPbc	PKPbc	19 29 24.7	+0.5	
LRAL	**Lakeview Retre**	**152.53**	**28**	*e*PKPdf	PKPdf	19 29 22.2	+1.4	
SIV	**San Ignacio**	**152.74**	**204**	PKP	PKPdf	19 29 23.3	+2.1	
	comp=Z,4.2nm,0.9s,baz=148,slow=1.9,SNR=17							
SIV				PKPbc	PKPbc	19 29 29.3	+1.0	
	comp=Z,23nm,0.8s,baz=142,slow=2.5,SNR=77							
SIV				PKPab	PKPab	19 29 40.3	+1.2	
	comp=Z,18nm,0.8s,baz=133,slow=3.8,SNR=13							
LPAZ	**La Paz**	**154.44**	**189**	PKP	PKPdf	19 29 26.5	+2.9	
	comp=Z,2.6nm,1.1s,baz=85,slow=4.2,SNR=7.6							
LPAZ				PKPbc	PKPbc	19 29 34.5	+2.6	
	comp=Z,4.6nm,0.7s,baz=109,slow=4.8,SNR=12							
LPAZ	**La Paz**	**154.44**	**189**	*e*PKPdf	PKPdf	19 29 25.9	+2.4	
LPAZ				*e*PKPbc	PKPbc	19 29 34.4	+2.5	
SAML	**Samuel**	**159.95**	**207**	*e*PKPdf	PKPdf	19 29 32.2	+1.7	

IDC ***17*** *19:12:09.0±6.7, 1575N×12189E, h106km±60km, mb3.7/5, mb1 3.9/5, mb1mx3.5/17, mbtmp4.1/5, Error ellipse: s-maj=85.9km s-min=21.3km az=64.0*

ISCJB ***17*** *19:12:13.0±0.5, 1528N±004×12039E±007, h144km±4km, mb3.7/5, Error ellipse: s-maj=11.7km s-min=6.9km az=178.8*

MAN ***17*** *19:12:14.5, 1526N×12038E, h120km, mb3.5, ML4.7, MS3.4*

ISC 17 19:12:13.8±0.5, 1528N±004×12040E±007, h142km±4km, n19, σ0§70/26, mb3.7/5, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.69**	**316**	*e*P		**Pn**		**19 12 35.2**	**-0.1**
SCZP				*e*S		**Sn**		**19 12 51.1**	**-0.5**
PCPH	**Palayan**	**0.73**	**67**⇓	*e*P		**Pn**		**19 12 35.0**	**-0.6**
PCPH				*i*S		**Sn**		**19 12 50.7**	**-1.5**
BCPH	**Baguio City Da**	**1.11**	**9**⇑	*e*P		**Pn**		**19 12 38.5**	**-0.3**
BCPH				*e*S		**Sn**		**19 12 58.0**	**+0.1**
BOLP	**Bolinao**	**1.20**	**337**	*e*P		**Pn**		**19 12 39.8**	**+0.2**
BOLP				*e*S		**Sn**		**19 12 59.5**	**+0.2**
BALP	**Baler**	**1.22**	**68**	*e*P		**Pn**		**19 12 40.5**	**+0.7**
BALP				*e*S		**Sn**		**19 13 00.4**	**+0.7**
TGY	**Tagaytay City**	**1.28**	**156**	P		**Pn**		**19 12 40.3**	**-0.1**
	50nm,0.3s,baz=275,slow=9.6,SNR=6.3								
TGY				S		**Sn**		**19 13 04.7**	**+4.1**
	61nm,0.3s,baz=172,slow=5.4,SNR=8.8								
LUBP	**Lubang**	**1.54**	**186**	*e*P		**Pn**		**19 12 43.7**	**+0.5**
LUBP				*e*S		**Sn**		**19 13 05.3**	**-0.3**
POLP	**Polilio Island**	**1.58**	**110**	*e*P		**Pn**		**19 12 44.2**	**+0.6**
CAUP	**Cauayan**	**2.15**	**39**	*e*P		**Pn**		**19 12 50.8**	**+0.6**
ABRA	**Dolores**	**2.38**	**7**	*e*P		**Pn**		**19 12 52.3**	**-0.6**
APYP	**Conner**	**2.69**	**17**	*e*P		**Pn**		**19 12 57.1**	**+0.2**
BUSP	**Coron**	**3.26**	**183**	*e*P		**Pn**		**19 13 04.2**	**+0.1**
ENPP	**El Nido**	**4.16**	**193**	*e*P		**Pn**		**19 13 17.0**	**+1.2**
WRA	**Warramunga Arr**	**37.59**	**158**	P		**P**		**19 19 12.6**	**-1.8**
	1.2nm,0.5s,mb3.8,baz=342,slow=8.9,SNR=9.8								
ASAR	**Alice Springs**	**40.89**	**161**	P		**P**		**19 19 41.2**	**-0.6**
	1.2nm,0.6s,mb3.7,baz=332,slow=6.8,SNR=4.9								
ARCES	**ARCESS Array B**	**77.52**	**339**	P		**P**		**19 23 53.9**	**+0.2**
	1.4nm,0.9s,mb3.6,baz=83,slow=7.4,SNR=3.7								
FINES	**FINESS Array B**	**78.78**	**331**	P		**P**		**19 24 01.6**	**+0.9**
	3.1nm,1.1s,mb3.8,baz=30,slow=6.4,SNR=2.7								
NB2	**NORSAR Subarra**	**85.74**	**333**	P		**P**		**19 24 36.7**	**-0.1**
	comp=Z,1.2nm,0.6s,mb3.8,baz=65,slow=5.1								
NOA	**NORSAR Array B**	**85.74**	**333**	P		**P**		**19 24 36.3**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.6,baz=65,slow=5.3,SNR=4.2								

BJI ***17*** *19:14:17.2, 940S×10730E, h10km, mb4.6*

IDC ***17*** *19:14:17.7±2.0, 938S×10725E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/16, mbtmp4.1/5, MS4.7/1, Ms1 4.7/1, ms1mx3.0/37, Error ellipse: s-maj=83.9km s-min=27.9km az=44.0*

NEIC ***17*** *19:14:19.2±0.9, 937S×10733E, h10km, mb4.8/8, Error ellipse: s-maj=35.8km s-min=11.7km az=220.0*

ISCJB ***17*** *19:14:21.2±1.4, 93S±03×1075E±02, h33km, mb4.5/15, MS4.7/1, Error ellipse: s-maj=46.7km s-min=18.0km az=79.6*

ISC 17 19:14:23.5±1.4, 93S±03×1074E±02, h35km, n19, σ0§54/18, mb4.5/15, MS4.7/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.07**	**115**	P		**P**		**19 20 12.1**	**+0.5**
	1.6nm,0.9s,mb3.6,baz=289,slow=11,SNR=2.7								
JIRN	**Jiri**	**42.09**	**331**	*e*P		**P**		**19 22 12.7**	**+0.7**
PKI	**Pulchoki**	**42.39**	**330**	*e*P		**P**	

0.3nm,0.7s,mb3.2,baz=298,slow=8.6,SNR=4.3

CTA	**Charters Tower**	**38.53**	**111**	P	**P**	**19 28 26.4**	**+0.5**
	2.8nm,0.7s,mb4.1,baz=315,slow=10.0,SNR=4.4						
CTA	**Charters Tower**	**38.53**	**111**	P	**P**	**19 28 26.4**	**+0.5**
SONM	**Songino Array**	**56.87**	**359**	P	**P**	**19 30 48.2**	**+0.1**
	0.9nm,0.4s,mb4.1,baz=178,slow=8.6,SNR=15						
MKAR	**Makanchi Array**	**60.31**	**340**	P	**P**	**19 31 11.7**	**-0.4**
	1.1nm,0.4s,mb4.3,baz=151,slow=8.0,SNR=10						
KURK	**Kurchatov**	**64.93**	**340**	*e*P	**P**	**19 31 43.0**	**+0.1**
	1.9nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**69.80**	**337**	P	**P**	**19 32 13.8**	**+0.1**
	0.7nm,0.4s,mb3.9,baz=120,slow=8.9,SNR=4.5						
VNDA	**Vanda**	**73.58**	**169**	P	**P**	**19 32 36.7**	**+0.2**
	0.6nm,0.8s,mb3.6,baz=298,slow=6.9,SNR=7.8						

IDC 17 19:26:29.4±2.3, 927S×10854E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/12, mbtmp3.8/4, Error ellipse: s-maj=105.1km s-min=23.1km az=53.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.09**	**116**	P	P	19 32 13.7	0.0
	0.6nm,0.6s,baz=289,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**28.15**	**124**	P	P	19 32 23.8	+0.5
	0.5nm,0.6s,baz=302,slow=8.5,SNR=6.8						
ASAR				PcP	PcP	19 35 38.0	+0.6
	0.3nm,0.5s,baz=304,slow=1.6,SNR=4.9						
SONM	**Songino Array**	**56.89**	**358**	P	P	19 36 16.6	+0.7
	1.0nm,0.6s,baz=178,slow=8.4,SNR=14						
MKAR	**Makanchi Array**	**60.53**	**340**	P	P	19 36 40.8	-0.6
	0.7nm,0.4s,baz=142,slow=6.0,SNR=7.0						

CASC 17 19:28:56.8±1.7, 1365N×9105W, h58km±32km, MD3.6, 4C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TER	**Terranova**	**0.74**	**29**↓	*e*P	Pn	19 29 11.3	-0.1
TER				*e*S	Sn	19 29 23.6	+1.6
IXG	**Ixpaco**	**0.78**	**48**	*e*P	Pn	19 29 11.2	-0.7
IXG				*e*S	Sn	19 29 23.4	+0.4
FUG	**Fuego 3**	**0.82**	**14**↑	*e*P	Pn	19 29 12.9	+0.6
PCG	**Pacaya**	**0.85**	**30**↑	*e*P	Pn	19 29 14.6	+1.8
PCG				*e*S	Sn	19 29 26.5	+1.8
JAT	**Jato**	**0.87**	**319**↑	*e*P	Pn	19 29 13.7	+0.6
TP2	**Tecpan 2**	**1.13**	**1**↑	*e*P	Pn	19 29 16.6	+0.2
TP2				*e*S	Sn	19 29 32.7	+1.7
SBLS	**San Blas**	**1.40**	**82**↓	*e*P	x	19 29 33.4	
SBLS				*e*S	x	19 29 52.4	
RBDL	**Robledal**	**1.40**	**71**↓	*e*P	x	19 29 34.0	
RBDL				*e*S	x	19 29 52.8	
SNJE	**San Jose**	**1.42**	**81**↓	*e*P	x	19 29 33.6	
SNJE				*e*S	x	19 29 52.5	
LFRS	**El Faro**	**1.93**	**91**	*e*P	x	19 29 41.0	
LFRS				*e*S	x	19 30 04.3	

IDC 17 19:42:28.7±2.8, 921S×10877E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/15, mbtmp4.0/4, Error ellipse: s-maj=116.4km s-min=28.1km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.90**	**116**	P	P	19 48 11.7	+0.3
	0.4nm,0.8s,baz=290,slow=11,SNR=3.3						
SONM	**Songino Array**	**56.83**	**358**	P	P	19 52 15.5	+0.6
	1.3nm,0.5s,baz=177,slow=8.6,SNR=23						
MKAR	**Makanchi Array**	**60.55**	**339**	P	P	19 52 40.6	-0.2
	2.8nm,0.5s,baz=139,slow=7.1,SNR=4.4						
BVAR	**Borovoye Array**	**70.08**	**336**	P	P	19 53 42.3	-0.3
	1.2nm,0.6s,baz=139,slow=9.6,SNR=8.3						

BJI ***17*** *19:44:08.9, 950S×10860E, h10km, mB5.1, mb4.9, Ms5.1, Msz4.6*
NEIC ***17*** *19:44:11.0±0.2, 945S×10864E, h10km, mb5.1/28, Error ellipse: s-maj=9.3km s-min=5.1km az=57.0*
ISCJB ***17*** *19:44:12.9±0.2, 938S±004×10877E±005, h35km, mb4.9/74, MS4.9/4, Error ellipse: s-maj=7.9km s-min=4.9km az=107.0*
MOS ***17*** *19:44:12.8±1.2, 934S×10882E, h33km, mb5.3/24, Error ellipse: s-maj=13.3km s-min=6.8km az=115.8*
IDC ***17*** *19:44:14.9±0.4, 943S×10870E, h38km±3km, mb4.4/19, mb1 4.4/21, mb1mx4.4/23, mbtmp4.6/21, ML4.0/2, Error ellipse: s-maj=15.6km s-min=10.0km az=50.0*
ISC 17 19:44:15.1±0.2, 941S±004×10875E±005, h37km, h37km±1.2km:pP-P, n181, σ1°05/159, mb4.9/74, MS4.9/4, 14C-2D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**2.80**	**336**	P	**Pn**	**19 44 58.2**	**+0.8**
	3μm,0.9s						
JCJI	**Jatiwangi**	**2.94**	**351**	P	**Pn**	**19 44 57.5**	**-1.8**
	1μm,1.0s						
CBJI	**Citeko**	**3.52**	**327**	P	**Pn**	**19 45 03.7**	**-3.5**
	3μm,0.9s						
KRKI	**Karangkates**	**3.86**	**72**	P	**Pn**	**19 45 16.8**	**+4.8**
	734nm,0.9s						
SBJI	**Serang**	**4.17**	**321**	P	**Pn**	**19 45 22.2**	**+5.9**
	630nm,1.0s						
NBBI	**Negara**	**5.89**	**80**	P	**Pn**	**19 45 43.0**	**+3.2**
	1μm,0.9s						
KLI	**Kotabumi**	**5.94**	**319**	P	**Pn**	**19 45 42.4**	**+1.8**
	93nm,1.7s						
DNP	**Denpasar**	**6.42**	**84**	P	**Pn**	**19 45 51.1**	**+4.0**
	659nm,0.6s						
KSI	**Kapahiang**	**8.37**	**313**	P	**Pn**	**19 46 12.0**	**-2.0**
	172nm,1.4s						
KSM	**Kuching**	**10.92**	**8**	P	**Pn**	**19 46 50.8**	**+2.0**
PCI	**Palu**	**13.89**	**53**	P	**Pn**	**19 47 35.9**	**+6.5**
	69nm,1.0s						
PSI	**Prapat**	**15.59**	**321**	Pn	**Pn**	**19 47 52.5**	**+0.4**
	0.5nm,0.3s,baz=123,slow=16,SNR=5.7						
MBWA	**Marble Bar**	**15.76**	**139**	*e*P	**Pn**	**19 47 59.2**	**+5.0**
	26nm,0.9s						
KKM	**Kota Kinabalu**	**17.05**	**26**	*e*P	**Pn**	**19 48 10.7**	**0.0**
FITZ	**Fitzroy Crossi**	**18.52**	**120**	*e*P	**Pn**	**19 48 28.7**	**-0.1**
	18nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.52**	**120**	P	**Pn**	**19 48 27.9**	**-0.9**
	0.4nm,0.3s,baz=287,slow=8.7,SNR=10						
NWAO	**Narrogin (SRO)**	**24.68**	**163**	P	**P**	**19 49 30.0**	**-2.5**
	7.7nm,1.0s,mb4.2,baz=324,slow=14,SNR=3.5						
NWAO	**Narrogin (SRO)**	**24.68**	**163**	P	**P**	**19 49 30.0**	**-2.5**
WRA	**Warramunga Arr**	**26.84**	**116**	P	**P**	**19 49 52.0**	**-0.1**
	16nm,0.8s,mb4.6,baz=288,slow=11,SNR=30						
WRA				pP	pP	19 50 04.1	+1.8
	18nm,0.9s,baz=289,slow=12,SNR=12						
WRAB	**Tennant Creek**	**26.84**	**116**↑	*e*P	**P**	**19 49 52.3**	**+0.2**
WRAB	**Tennant Creek**	**26.84**	**116**	*e*P	**P**	**19 49 52.8**	**+0.7**
	25nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**26.84**	**116**	*e*P	**P**	**19 49 52.9**	**+0.8**
ASPA	**Alice Springs**	**27.90**	**124**	*e*P	**P**	**19 50 02.3**	**+0.7**
ASAR	**Alice Springs**	**27.90**	**124**	P	**P**	**19 50 01.4**	**-0.2**
	4.4nm,0.9s,mb4.1,baz=301,slow=9.3,SNR=22						
ASAR				PcP	PcP	19 53 17.6	+1.0
	3.0nm,0.7s,baz=313,slow=1.4,SNR=11						
AS31	**Alice Springs**	**27.90**	**124**	*e*P	**P**	**19 50 02.3**	**+0.7**
CHTO	**Chiang Mai**	**29.66**	**341**	*e*P	**P**	**19 50 16.9**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.8						
CHTO	**Chiang Mai**	**29.66**	**341**	*e*P	**P**	**19 50 16.9**	**-0.4**
	comp=Z,9.9nm,0.5s,mb4.8						
KMI	**Kunming**	**34.82**	**350**	P	**P**	**19 51 05.3**	**+2.9**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
GYA	**Guiyang**	**35.71**	**357**↑	*i*P	**P**	**19 51 11.3**	**+1.3**
GYA				AP	pP	19 51 15.8	-4.7
GYA				XP	sP	19 51 18.6	-6.3
GYA				PP	PP	19 52 30.3	-1.2
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
GYA				AMB	AMB		
	comp=Z,120nm,4.3s						
GYA				LR	LR		
	comp=N,540nm,15.2s,MS4.6						
GYA				LR	LR		
	comp=E,570nm,14.8s,MS4.6						
GYA				LR	LR		
	comp=Z,610nm,15.0s,MS4.5						
VIS	**Vishakhapatnam**	**36.84**	**317**	*e*P	**P**	**19 51 19.1**	**-0.7**
VIS				AMb	AMB	19 51 52.9	
	comp=Z,42nm,2.1s,mb4.9						

CTA	**Charters Tower**	**37.70**	**111**	*e*P	**P**	**19 51 29.5**	**+2.5**
	comp=Z,9.0nm,1.1s,mb4.4						
CTA	**Charters Tower**	**37.70**	**111**	P	**P**	**19 51 28.7**	**+1.7**
	comp=Z,2.9nm,0.8s,mb4.0,baz=279,slow=7.3,SNR=5.1						
CTA				pP	pP	19 51 39.7	+2.2
	comp=Z,12nm,0.9s,baz=273,slow=12,SNR=5.0						
CTA	**Charters Tower**	**37.70**	**111**	*e*P	**P**	**19 51 29.5**	**+2.5**
CTA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CTAO	**Charters Tower**	**37.70**	**111**	P	**P**	**19 51 29.5**	**+2.5**
PMG	**Port Moresby**	**37.88**	**93**↓	*i*P	**P**	**19 51 26.9**	**-1.6**
SHL	**Shillong**	**38.45**	**335**	*ex*	x	19 48 22.9	
BOK	**Bokaro**	**39.86**	**326**	*e*P	**P**	**19 51 45.9**	**+0.9**
BOK				AMb	AMB	19 51 57.3	
	comp=Z,25nm,0.6s,mb5.1						
CD2	**Chengdu**	**40.37**	**353**	*e*P	**P**	**19 51 49.5**	**+0.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
JOW	**Kunigami**	**40.70**	**27**	P	**P**	**19 51 52.2**	**+0.2**
	comp=Z,21nm,0.8s,mb4.8,baz=176,slow=1.0,SNR=7.9						
JOW				pP	pP	19 52 03.8	+1.1
	comp=Z,12nm,0.6s,baz=223,slow=15,SNR=7.9						
SSE	**Sheshan**	**42.00**	**16**	*e*P	**P**	**19 52 01.9**	**-0.8**
SSE				AMB	AMB		
	comp=Z,24nm,0.6s,mb5.0						
SSE				AMB	AMB		
	comp=Z,152nm,4.3s						
JIRN	**Jiri**	**42.84**	**330**	*e*P	**P**	**19 52 10.2**	**+0.6**
	comp=Z,88nm,1.1s,mb5.4						
PKI	**Pulchoki**	**43.16**	**329**	*e*P	**P**	**19 52 12.3**	**+0.2**
GUN	**Gumba**	**43.20**	**330**	*e*P	**P**	**19 52 12.8**	**+0.3**
XAN	**Xi'an**	**43.21**	**0**	P	**P**	**19 52 12.4**	**-0.1**
XAN				AP	pP	19 52 22.8	-0.4
XAN				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.7						
AKL	**Akola**	**43.23**	**314**	*e*P	**P**	**19 52 10.9**	**-1.8**
AKL				AMb	AMB	19 52 18.6	
	comp=Z,45nm,2.0s,mb4.8						
DMN	**Daman**	**43.34**	**329**	*e*P	**P**	**19 52 13.8**	**+0.2**
	comp=Z,76nm,1.0s,mb5.4						
KKN	**Kakani**	**43.40**	**329**	*e*P	**P**	**19 52 14.2**	**+0.1**
	comp=Z,54nm,1.0s,mb5.2						
KKN	**Kakani**	**43.40**	**329**	*e*P	**P**	**19 52 14.2**	**+0.1**
KKN				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.2						
GKN	**Gorkha**	**43.90**	**329**	*e*P	**P**	**19 52 18.0**	**-0.1**
KOLN	**Koldanda**	**44.26**	**327**	*e*P	**P**	**19 52 21.3**	**+0.3**
	comp=Z,105nm,0.9s,mb5.6						
BHPL	**Bhopal**	**44.64**	**317**	*e*P	**P**	**19 52 23.6**	**-0.4**
BHPL				AMb	AMB	19 52 36.5	
	comp=Z,38nm,0.8s,mb5.2						
LZH	**Lanzhou**	**45.48**	**354**	*e*P	**P**	**19 52 32.5**	**+1.8**
LZH				AP	pP	19 52 40.0	-1.4
LZH				XP	sP	19 52 43.5	-2.3
LZH				AMB	AMB		
	comp=Z,50nm,1.6s,mb5.1						
LZH				AMB	AMB		
	comp=Z,249nm,5.1s						
AJM	**Ajmer**	**48.68**	**318**	*e*P	**P**	**19 52 55.1**	**-0.6**
AJM				AMb	AMB	19 53 08.4	
	comp=Z,25nm,0.5s,mb5.5						
GTA	**Gaotai**	**49.27**	**351**	*e*P	**P**	**19 53 01.4**	**+1.2**
GTA				AP	pP	19 53 08.9	-2.1
GTA				XP	sP	19 53 12.5	-2.8
GTA				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.9						
BJT	**Baijiatuan**	**49.65**	**7**	*e*P	**P**	**19 53 03.0**	**-0.1**
BJT				*e*	pP	19 53 13.2	-0.7
BJT				pmax	pmax		
	comp=Z,40nm,0.6s						
BJT	**Baijiatuan**	**49.65**	**7**	*e*P	**P**	**19 53 03.0**	**-0.1**
	comp=Z,40nm,0.6s,mb5.6						
BJT				*e*	pP	19 53 13.2	-0.7
BJI	**Beijing**	**49.67**	**7**	*e*P	**P**	**19 53 03.3**	**+0.1**
BJI				AMB	AMB		
	comp=Z,28nm,1.1s,mb5.2						
BTO	**Baotou**	**49.77**	**1**	*e*P	**P**	**19 53 03.8**	**-0.2**
HHC	**Hu-ho-hao-te**	**50.07**	**3**	*e*P	**P**	**19 53 08.8**	**+2.5**
HHC				AP	pP	19 53 13.3	-3.8
HHC				XP	sP	19 53 16.6	-4.8
HHC				PCP	PcP	19 54 27.6	+2.0
HHC				PP	PP	19 55 04.4	+2.9
HHC				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
HHC				AMB	AMB		
	comp=Z,116nm,5.6s						
HHC				LR	LR		
	comp=N,6μm,15.5s,MS5.7						
HHC				LR	LR		
	comp=E,2μm,14.3s,MS5.7						
HHC				LR	LR		
	comp=Z,5μm,15.5s,MS5.6						
SMLA	**Simla**	**50.41**	**324**	*e*P	**P**	**19 53 07.3**	**-1.6**
MAT	**Matsushiro**	**53.44**	**30**	P	**P**	**19 53 29.8**	**-1.6**
MJAR	**Matsushiro Arr**	**53.44**	**30**	P	**P**	**19 53 29.2**	**-2.2**
	comp=Z,3.1nm,0.9s,mb4.2,baz=202,slow=8.3,SNR=7.2						
WMQ	**Urumqi**	**56.32**	**342**	P	**P**	**19 53 53.9**	**+1.6**
WMQ				AP	pP	19 53 58.0	-5.2
WMQ				XP	sP	19 54 00.4	-7.1
WMQ				PCP	PcP	19 54 51.0	+1.7
WMQ				PP	PP	19 56 00.9	+3.0
WMQ				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,246nm,5.5s						
WMQ				LR	LR		
	comp=N,986nm,16.3s,MS5.1						
WMQ				LR	LR		
	comp=E,739nm,15.2s,MS5.1						
WMQ				LR	LR		
	comp=Z,977nm,16.8s,MS5.0						
MDJ	**Mudanjiang**	**56.98**	**18**	P	**P**	**19 53 55.9**	**-1.0**
MDJ				PCP	PcP	19 54 51.3	-0.5
MDJ				PP	PP	19 56 01.9	-1.8
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.6						
MDJ				LR	LR		
	comp=N,352nm,18.7s,MS4.5						
MDJ				LR	LR		
	comp=E,180nm,19.6s,MS4.5						
MDJ				LR	LR		
	comp=Z,330nm,17.8s,MS4.5						
SONM	**Songino Array**	**57.03**	**358**	P	**P**	**19 53 58.0**	**+0.8**
	comp=Z,4.1nm,0.5s,mb4.7,baz=178,slow=8.6,SNR=42						
SONM				pP	pP	19 54 08.7	+0.5
	comp=Z,20nm,0.5s,baz=178,slow=8.5,SNR=44						
ULN	**Ulaanbaatar**	**57.04**	**359**	↑P	**P**	**19 53 57.7**	**+0.4**
	SNR=9.0						
ULN	**Ulaanbaatar**	**57.04**	**359**	*e*P	**P**	**19 53 57.3**	**0.0**
ULN				*e*	pP	19 54 08.3	0.0
ULN				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.4						
ULN	**Ulaanbaatar**	**57.04**	**359**	*e*P	**P**	**19 53 57.3**	**0.0**
	comp=Z,22nm,0.6s,mb5.4						
ULN				*e*	pP	19 54 08.2	0.0
HIA	**Hailar**	**59.21**	**8**↑	*i*P	**P**	**19 54 12.4**	**-0.1**
HIA	**Hailar**	**59.21**	**8**	*e*P	**P**	**19 54 12.3**	**-0.3**
KZA	**Kyzart**	**59.73**	**332**	P	**P**	**19 54 15.9**	**-0.2**
	SNR=10						
ZAK	**Zakamensk**	**59.73**	**356**↑	*i*P	**P**	**19 54 16.3**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
TKM2	**Tokmak 2**	**60.22**	**332**	P	**P**	**19 54 19.6**	**+0.2**
	SNR=15						
KBK	**Karagaybulak**	**60.32**	**332**	P	**P**	**19 54 20.7**	**+0.6**
	SNR=8.6						
AML	**Almayashu**	**60.51**	**331**	P	**P**	**19 54 21.7**	**+0.3**
	SNR=9.2						
AAK	**Ala-Archa**	**60.51**	**331**↑	*i*P	**P**	**19 54 20.5**	**-1.0**
AAK				pmax	pmax		
	comp=Z,11nm,2.5s,mb4.5						
AAK	**Ala-Archa**	**60.51**	**331**	*e*P	**P**	**19 54 20.4**	**-1.0**
	comp=Z,2.4nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**60.73**	**339**	P	**P**	**19 54 22.1**	**-0.9**
	comp=Z,14nm,0.8s,mb5.1,baz=145,slow=7.4,SNR=24						
MKAR				pP	pP	19 54 33.9	-0.1
	comp=Z,18nm,0.5s,baz=148,slow=7.8,SNR=17						
EKS2	**Erkin-Say**	**60.87**	**331**	P	**P**	**19 54 24.1**	**+0.2**
	SNR=11						
USP	**Ospenovka**	**61.00**	**332**	P	**P**	**19 54 24.4**	**-0.3**
	SNR=5.3						
MOY	**Mondy**	**61.19**	**354**	*e*P	**P**	**19 54 26.9**	**+0.8**
ASAJ	**Asahikawa**	**61.47**	**27**	P	**P**	**19 54 26.2**	**-1.7**
	comp=Z,2.4nm,0.7s,mb4.4,baz=215,slow=9.1,SNR=5.2						

ASAJ				pP	pP	19 54 38.0	-1.0
	comp=Z,5.8nm,0.6s,baz=232,slow=7.3,SNR=8.7						
IRK	**Irkutsk**	**61.52**	**357**	*e*P	**P**	**19 54 28.0**	**-0.3**
IRK				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
KLR	**Kul'dur**	**61.78**	**17**	*e*P	**P**	**19 54 25.8**	**-4.3**
RPZ	**Rata Peaks**	**63.62**	**134**	P	**P**	**19 54 42.0**	**-0.2**
	comp=Z,15nm,1.0s,mb5.0,baz=15,slow=6.5,SNR=6.6						
YSS	**Yuzh-Sakhalins**	**63.76**	**25**	P	**P**	**19 54 42.0**	**-1.3**
YSS				*e*	pP	19 54 52.6	-1.7
KURK	**Kurchatov**	**65.34**	**339**	P	**P**	**19 54 53.0**	**-0.6**
	comp=Z,121nm,0.8s,mb6.0,SNR=14						
KURK	**Kurchatov**	**65.34**	**339**↑	P	**P**	**19 54 53.7**	**+0.1**
	SNR=9.2						
KURK	**Kurchatov**	**65.34**	**339**	*e*P	**P**	**19 54 53.5**	**-0.1**
KURK				*e*	pP	19 55 04.5	-0.2
KURK				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.2						
KURK	**Kurchatov**	**65.34**	**339**	*e*P	**P**	**19 54 53.5**	**0.0**
	comp=Z,17nm,0.6s,mb5.2						
KURK				*e*	pP	19 55 04.5	-0.2
MAW	**Mawson**	**65.59**	**198**	P	**P**	**19 54 53.5**	**-1.7**
	comp=Z,5.3nm,0.9s,mb4.6,baz=63,slow=7.0,SNR=7.2						
MAW	**Mawson**	**65.59**	**198**	*e*P	**P**	**19 54 53.3**	**-1.9**
MAW				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MAW	**Mawson**	**65.59**	**198**	*e*P	**P**	**19 54 53.3**	**-1.9**
	comp=Z,6.7nm,1.1s,mb4.6						
ZAL	**Zalesovo**	**66.28**	**345**	P	**P**	**19 54 58.2**	**-1.4**
	comp=Z,3.6nm,0.5s,mb4.7,baz=341,slow=3.2,SNR=16						
ZAL				pP	pP	19 55 09.4	-1.4
	comp=Z,12nm,0.4s,baz=342,slow=3.4,SNR=12						
ZAL	**Zalesovo**	**66.28**	**345**	P	**P**	**19 54 58.2**	**-1.4**
ZAL				pP	pP	19 55 09.4	-1.4
BOD	**Bodaibo**	**67.13**	**3**	*e*P	**P**	**19 55 04.1**	**-0.9**
BOD				*e*	pP	19 55 15.0	-1.2
BOD				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.3						
NVS	**Novosibirsk**	**67.50**	**344**	*e*P	**P**	**19 55 05.3**	**-2.1**
QRN	**Al-Qurain**	**69.84**	**305**	*e*P	**P**	**19 55 21.8**	**-0.2**
QRN				AMb	AMB	19 55 22.8	
	comp=Z,54nm,0.8s,mb5.5						
RDF	**Al-Radifah**	**70.21**	**305**	*e*P	**P**	**19 55 24.2**	**0.0**
RDF				AMb	AMB	19 55 26.0	
	comp=Z,81nm,1.0s,mb5.6						
BVAR	**Borovoye Array**	**70.25**	**337**	P	**P**	**19 55 24.1**	**-0.4**
	comp=Z,9.1nm,0.7s,mb4.8,baz=140,slow=7.8,SNR=38						
BVAR				pP	pP	19 55 35.5	-0.2
	comp=Z,30nm,0.6s,baz=146,slow=8.6,SNR=33						
BRVK	**Borovoye**	**70.32**	**336**	P	**P**	**19 55 24.7**	**-0.2**
	comp=Z,74nm,1.0s,mb5.6,SNR=8.3						
BRVK	**Borovoye**	**70.32**	**336**	P	**P**	**19 55 25.1**	**+0.2**
	SNR=8.5						
BRVK	**Borovoye**	**70.32**	**336**	*e*P	**P**	**19 55 24.6**	**-0.3**
BRVK				*e*	pP	19 55 32.5	-3.6
BRVK				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
BRVK	**Borovoye**	**70.32**	**336**	*e*P	**P**	**19 55 24.6**	**-0.3**
	comp=Z,14nm,0.6s,mb5.1						
BRVK				*e*	pP	19 55 32.5	-3.5
NAY	**Al-Naaiem**	**70.59**	**305**	*e*P	**P**	**19 55 26.3**	**-0.2**
NAY				AMb	AMB	19 55 28.1	
	comp=Z,17nm,0.9s,mb5.0						
CHKZ	**Chkalovo**	**70.66**	**337**	*e*P	**P**	**19 55 26.9**	**-0.1**
CHKZ				*e*	pP	19 55 37.7	-0.5
CHKZ				pmax	pmax		
	comp=Z,50nm,0.6s,mb5.6						
CHKZ	**Chkalovo**	**70.66**	**337**	*e*P	**P**	**19 55 26.9**	**-0.1**
	comp=Z,50nm,0.6s,mb5.6						
CHKZ				*e*	pP	19 55 37.7	-0.5
ZRNK	**Zerenda**	**70.75**	**336**	*e*P	**P**	**19 55 27.4**	**-0.1**
ZRNK				*e*	pP	19 55 38.1	-0.6
ZRNK				pmax	pmax		
	comp=Z,35nm,0.6s,mb5.5						
ZRNK	**Zerenda**	**70.75**	**336**	*e*P	**P**	**19 55 27.4**	**-0.1**
	comp=Z,35nm,0.6s,mb5.5						
ZRNK				*e*	pP	19 55 38.1	-0.6
RST	**Umm Al-Ruwaisa**	**70.88**	**306**	*e*P	**P**	**19 55 27.6**	**-0.7**
RST				AMb	AMB	19 55 29.8	
	comp=Z,65nm,0.9s,mb5.6						
KMBO	**Kilima Mbogo**	**71.57**	**272**	P	**P**	**19 55 32.6**	**+0.2**
	comp=Z,1.7nm,0.8s,mb4.0,baz=294,slow=19,SNR=4.0						
KMBO				pP	pP	19 55 44.3	+0.6
	comp=Z,4.5nm,1.0s,baz=52,slow=9.1,SNR=7.1						
YAK	**Yakutsk**	**73.06**	**10***c*	*i*P	**P**	**19 55 40.3**	**-1.1**
YAK				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.2						
YAK	**Yakutsk**	**73.06**	**10**	*e*P	**P**	**19 55 40.4**	**-1.0**
	comp=Z,61nm,0.6s,mb5.7						
YAK				*e*	pP	19 55 51.3	-1.3
VNDA	**Vanda**	**73.30**	**170**	P	**P**	**19 55 41.6**	**-1.2**
	comp=Z,5.4nm,0.8s,mb4.6,baz=251,slow=13,SNR=27						
VNDA	**Vanda**	**73.30**	**170**	*e*P	**P**	**19 55 41.7**	**-1.1**
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
VNDA	**Vanda**	**73.30**	**170**	*e*P	**P**	**19 55 41.7**	**-1.0**
	comp=Z,9.5nm,1.1s,mb4.6						
SYO	**Syowa Base**	**73.86**	**201**↑	*e*P	**P**	**19 55 45.2**	**-0.9**
AKTK	**Aktyubinsk**	**74.07**	**329**	P	**P**	**19 55 46.9**	**-0.4**
AKTO

BOYT	**Boyabat**	**84.30**	**313**	*i*	P		**P**	**19 56 44.2**	**+1.0**
BR131	**Keskin Array S**	**84.71**	**312**	*e*	P		**P**	**19 56 45.7**	**+0.5**
	comp=E,9.5nm,0.8s,mb5.0								
BR131				*e*			pP	19 56 56.8	+0.1
BRTR	**Keskin Array B**	**84.71**	**312**		P		**P**	**19 56 46.0**	**+0.7**
	comp=E,7.0nm,0.9s,mb4.8,baz=130,slow=6.7,SNR=37								
BRTR					pP		pP	19 56 56.6	-0.1
	comp=E,13nm,0.9s,baz=135,slow=6.4,SNR=21								
VRSR	**Storozhevoye**	**84.81**	**324**	*eP*			**P**	**19 56 45.6**	**-0.1**
VRSR					pmax		pmax		
	comp=Z,20nm,0.7s,mb5.4								
VRSR					pmax		pmax		
	comp=N,3.0nm,0.6s								
VRSR					pmax		pmax		
	comp=E,10.0nm,1.0s								
ELDT	**Eldivan**	**85.09**	**312**	*i*	P		**P**	**19 56 48.1**	**+0.9**
SIM	**Simferopol'**	**85.91**	**317**	*eP*			**P**	**19 56 53.0**	**+1.8**
SIM					pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.8								
OBN	**Obninsk**	**87.68**	**327**	*c i*	P		**P**	**19 57 00.0**	**+0.2**
OBN				*e*				20 00 25.8	
OBN					pmax		pmax		
	comp=Z,40nm,1.7s,mb5.4								
OBN	**Obninsk**	**87.68**	**327**	*eP*			**P**	**19 56 59.4**	**-0.5**
	comp=Z,16nm,0.6s,mb5.4								
SNAA	**Sanae**	**87.76**	**197**	*eP*			**P**	**19 57 00.9**	**+0.7**
SNAA				*e*				19 57 02.6	
SNAA				*e*			pP	19 57 11.4	-0.3
SNAA	**Sanae**	**87.76**	**197**	*eP*			**P**	**19 57 00.8**	**+0.6**
SNAA					pmax		pmax		
	comp=Z,7.0nm,1.1s								
SNAA	**Sanae**	**87.76**	**197**	*eP*			**P**	**19 57 00.8**	**+0.6**
	comp=Z,6.7nm,1.1s,mb4.8								
KLMR	**Klimovskoe**	**88.30**	**333**	*eP*			**P**	**19 57 01.9**	**-0.9**
KLMR					pmax		pmax		
	comp=Z,30nm,1.4s,mb5.3								
VNA1	**Neumayer--Stat**	**89.79**	**197**	*eP*			**P**	**19 57 10.8**	**+1.0**
VNA1				*e*				19 57 12.6	
AKASG	**Malin Array Be**	**90.65**	**321**		P		**P**	**19 57 12.6**	**-1.2**
	comp=Z,2.1nm,0.7s,mb4.6,baz=87,slow=4.6,SNR=10								
AKASG					pP		pP	19 57 24.0	-1.3
	comp=Z,3.2nm,0.6s,baz=89,slow=4.5,SNR=8.7								
AKASG					PP		PP	20 00 48.5	-0.6
	comp=Z,0.2nm,0.3s,baz=92,slow=6.3,SNR=6.7								
AKASG	**Malin Array Be**	**90.65**	**321**		P		**P**	**19 57 12.6**	**-1.2**
AKASG					pP		pP	19 57 24.0	-1.3
AKASG					PP		PP	20 00 48.5	-0.6
LVZ	**Lovozero**	**92.75**	**339**		P		**P**	**19 57 20.4**	**-3.1**
	comp=Z,449nm,0.7s,SNR=7.9								
FINES	**FINESS Array B**	**94.70**	**331**		P		**P**	**19 57 32.1**	**-0.4**
	comp=Z,1.9nm,0.9s,mb4.5,baz=354,slow=12,SNR=5.4								
FINES					pP		pP	19 57 43.2	-0.8
	comp=Z,8.3nm,1.2s,baz=142,slow=7.2,SNR=4.0								
FINES	**FINESS Array B**	**94.70**	**331**		P		**P**	**19 57 32.1**	**-0.4**
FINES					pP		pP	19 57 43.2	-0.8
GERES	**GERESS Array B**	**100.33**	**318**		PP		PP	20 02 12.2	+8.0
	comp=Z,0.3nm,0.7s,baz=102,slow=6.2,SNR=4.2								
CLL	**Collm**	**100.86**	**321**	*eP*	P		PP	20 02 01.0	-7.3
CLL	**Collm**	**100.86**	**321**	*eP*	P		PP	20 02 01.0	-7.3
YKA	**Yellowknife Ar**	**118.48**	**21**	PKP			PKPdf	20 02 56.8	-2.0
	comp=Z,1.3nm,0.8s,baz=306,slow=2.4,SNR=4.4								
YKA	**Yellowknife Ar**	**118.48**	**21**	PKP			PKPdf	20 02 56.8	-2.0
NVAR	**Mina Array Bea**	**128.94**	**48**	PKP			PKPdf	20 03 20.8	+2.0
	comp=Z,0.3nm,0.4s,baz=353,slow=0.8,SNR=3.9								
ELK	**Elko**	**130.16**	**44**	*e*	PKIKP		PKPdf	20 03 22.2	+1.0
WMOK	**Wichita Mounta**	**144.36**	**41**	*e*	PKIKP		PKPdf	20 03 47.0	-0.3
LONY	**Lake Ozonia**	**144.80**	**4**	*e*	PKPdf		PKPdf	20 03 47.6	-0.4
NCB	**Newcomb**	**145.47**	**4**	*e*	PKPdf		PKPdf	20 03 50.4	+1.2
BDFB	**Brasilia**	**146.10**	**223**		PKPbc		PKPbc	20 03 50.2	-1.0
	comp=Z,2.2nm,0.4s,baz=148,slow=1.9,SNR=4.5								
JCT	**Junction City**	**146.12**	**48**	*e*	PKP2		PKPab	20 03 53.3	+1.4
BINY	**Binghamton**	**147.07**	**6**	*e*	PKPbc		PKPbc	20 03 54.8	+0.8
ACSO	**Alum Creek Sta**	**147.57**	**17**	*e*	PKPbc		PKPbc	20 03 56.4	+1.0
MIAR	**Mount Ida**	**147.68**	**36**	*e*	PKP2		PKPab	20 03 57.3	-0.7
SSPA	**Standing Stone**	**148.34**	**10**	*e*	PKPbc		PKPbc	20 03 57.9	+0.4
PLAL	**Pickwick Lake**	**150.25**	**29**	*e*	PKPbc		PKPbc	20 04 02.5	+0.2
PLAL				*e*				20 04 14.0	
TZTN	**Tazewell**	**150.77**	**21**	*e*	PKPbc		PKPbc	20 04 04.1	+0.7
CPCT	**Cooper Cave**	**151.38**	**23**	*e*	PKPbc		PKPbc	20 04 06.7	+1.8
CPCT				*e*				20 04 17.6	
LPAZ	**La Paz**	**154.28**	**187**		PKP		PKPdf	20 04 05.9	+2.8
	comp=Z,0.5nm,0.7s,baz=59,slow=5.9,SNR=4.3								
LPAZ					PKPbc		PKPbc	20 04 11.7	+0.4
	comp=Z,1.8nm,0.9s,baz=136,slow=6.1,SNR=9.5								
LPAZ					PKPab		PKPab	20 04 24.2	-1.2
	comp=Z,2.9nm,0.7s,baz=209,slow=4.0,SNR=8.6								
LPAZ	**La Paz**	**154.28**	**187**		PKP		PKPdf	20 04 05.9	+2.8
LPAZ					PKPbc		PKPbc	20 04 11.7	+0.4
LPAZ					PKPab		PKPab	20 04 24.2	-1.2

NEIC ***17*** *19:46:23.3, 1831N×102.66W, h10km, MD4.2(MEX), After MEX.*

MEX 17 19:46:22.9±0.9, 1842N×10261W, h7km±11km, MD4.3, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZIIG	**Zihuatanejo**	**1.36**	**126**	*i*	P	Pn	19 46 44.0	-4.2
ZIIG				*i*	S	Sb	19 47 02.5	-3.7
ZIIG	**Zihuatanejo**	**1.36**	**126**	*i*	P	Pn	19 46 44.0	-4.2
ZIIG				*i*	S	Sb	19 47 01.0	-5.2
MOIG	**Morelia**	**1.84**	**47**	*eP*		Pn	19 46 52.0	-2.9
MOIG				*i*	S	Sn	19 47 14.2	-4.2
MOIG	**Morelia**	**1.84**	**47**	*i*	P	Pn	19 46 53.8	-1.1
MOIG				*i*	S	Sn	19 47 16.4	-2.0
MRX	**Morelia**	**1.85**	**46**	*eP*		Pn	19 46 54.5	-0.6
SFJM	**Santa Fe**	**2.10**	**349**	*i*	P	Pn	19 46 55.0	-3.4
SFJM				*i*	S	Sn	19 47 24.5	-0.3
SFJM	**Santa Fe**	**2.10**	**349**	*i*	P	Pn	19 46 55.0	-3.4
SFJM				*i*	S	Sn	19 47 26.5	+1.7
CJM	**Chamela**	**2.54**	**295**	*i*	P	Pn	19 47 02.1	-2.4
CJM				*i*	S	Sn	19 47 30.9	-4.8
CJM	**Chamela**	**2.54**	**295**	*i*	P	Pn	19 47 02.1	-2.4
CJM				*i*	S	Sn	19 47 31.9	-3.8
CAIG	**El Cayaco**	**2.62**	**121**	*eP*		Pn	19 47 01.9	-3.7
CAIG				*i*	S	Sn	19 47 32.6	-5.0
CAIG	**El Cayaco**	**2.62**	**121**	*i*	P	Pn	19 47 03.2	-2.4
CAIG				*i*	S	Sn	19 47 32.6	-5.0
MEIG	**Mezcala**	**2.89**	**99**	*i*	P	Pn	19 47 07.0	-2.3
MEIG				*i*	S	Sn	19 47 39.7	-4.6
PLIG	**Platanillo**	**2.95**	**90**	*i*	P	Pn	19 47 06.0	-4.2
PLIG				*i*	S	Sn	19 47 40.8	-5.1
PLIG	**Platanillo**	**2.95**	**90**	*i*	P	Pn	19 47 08.5	-1.7
PLIG				*i*	S	Sn	19 47 45.7	-0.2
ACX	**Acapulco**	**3.00**	**121**	*eP*		Pn	19 47 09.0	-1.8
IIZ	**Mezontepec**	**3.28**	**76**	*i*	P	Pn	19 47 09.5	-5.3
IIZ				*i*	S	Sn	19 47 52.2	-1.8
UNM	**Universidad Na**	**3.38**	**74**	*eP*		Pn	19 47 15.0	-1.0
YAIG	**Yautepec**	**3.39**	**82**	*i*	P	Pn	19 47 13.4	-2.8
YAIG				*i*	S	Sn	19 47 52.4	-4.3
PPM	**Popocatepetl**	**3.83**	**80**	*eP*		Pn	19 47 20.1	-2.2
PPM				*eP*			19 47 29.0	
PPM				*i*	S	Sn	19 48 04.5	-3.1
PPM				*i*	S	Sn	19 48 04.8	-2.7
PPM	**Popocatepetl**	**3.83**	**80**	*i*	P	Pn	19 47 23.0	+0.8
PPM				*i*	S	Sn	19 48 11.2	+3.6
UTMO	**Huajuapan**	**4.61**	**97**	*i*	P	Pn	19 47 30.1	-2.9
VHO	**Vista Hermosa**	**5.76**	**103**	*i*	S	Sn	19 48 50.7	-4.4
OXX	**Oaxaca**	**5.77**	**102**	*eP*		Pn	19 47 49.0	+0.1

MOS ***17*** *19:48:27.5±0.9, 027N×11975E, h33km, mb5.7/32, Error ellipse: s-maj=12.0km s-min=5.9km az=114.0*

BJI ***17*** *19:48:28.4, 000N×11969E, h54km, mB5.2, mb5.2, Ms5.2, Msz4.8*

ISCJB ***17*** *19:48:28.3±0.2, 024N±003×11976E±004, h38km, mb5.3/93, MS4.8/13, Error ellipse: s-maj=6.1km s-min=4.1km az=113.4*

IDC ***17*** *19:48:31.8±4.9, 024N×11974E, h56km±44km, mb4.7/27, mb1 4.7/28, mb1mx4.7/30, mbtmp5.0/28, ML4.4/1, MS5.0/1, Ms1 5.0/1, ms1mx3.0/29, Error ellipse: s-maj=19.6km s-min=9.6km az=68.0*

NEIC ***17*** *19:48:33.3±1.4, 0.19N×11970E, h72km±13km, mb5.5/34, Error ellipse: s-maj=7.0km s-min=4.0km az=60.0*

HRVD ***17*** *19:48:33.3±0.5, 032N×11994E, h99km±4km, MW5.2/51, Centroid moment Tensor Solution. LP body waves: s11,c12;Mantle waves: s51,c82; Half duration: †s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.74±.03; $M_{\theta\theta}$-0.21±.03; $M_{\phi\phi}$0.95±.04; $M_{r\theta}$0.03±.02; $M_{\theta\phi}$-0.12±.03; $M_{r\phi}$0.31±.04; Best double couple: $M_0$0.85500×10^{17} NP1:ϕ_s351.00000°, δ45.00000°, λ-94.00000°. NP2: ϕ_s177.00000°, δ45.00000°, λ-86.00000°. Principal axes: T 0.9660, Plg0.0000°, Azm264.0000°; N -0.2220, Plg3.0000°, Azm354.0000°; P -0.7440, Plg87.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 17 19:48:30.5±0.2, 023N±003×11977E±004, h40km, h40km±1.6km: pP-P, n239, σ1†02/220, mb5.3/93, MS4.8/13, 25C-5D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KKM	**Kota Kinabalu**	**6.78**	**329**	*e*	Pn	**Pn**	**19 50 06.3**	**-1.1**
IPIL	**Ipil**	**8.01**	**20**	*eP*		**Pn**	**19 50 24.7**	**+0.4**
IPIL				*eS*		**Sn**	**19 51 52.2**	**-1.5**
PAGZ	**Pagadian**	**8.38**	**25**	*eP*		**Pn**	**19 50 28.5**	**-0.9**
PAGZ				*eS*		**Sn**	**19 51 59.6**	**-3.1**
BATP	**Bataraza**	**8.73**	**347**	*eP*		**Pn**	**19 50 32.6**	**-1.6**
SWI	**Sorong**	**11.54**	**95**	P		**Pn**	**19 51 13.1**	**+0.4**
	49nm,1.6s							
TGY	**Tagaytay City**	**13.83**	**5**	P		**Pn**	**19 51 53.9**	**+10**
	5.5nm,0.3s,baz=172,slow=7.2,SNR=6.7							
BAKI	**Biak**	**16.40**	**95**	P		**Pn**	**19 52 19.4**	**+1.7**
	80nm,0.8s							
KAKA	**Kakadu**	**17.98**	**136**	*eP*		**Pn**	**19 52 38.3**	**+1.0**
	111nm,1.2s							
FITZ	**Fitzroy Crossi**	**19.11**	**163**	*eP*		**Pn**	**19 52 50.3**	**-0.7**
	37nm,0.7s							
FITZ	**Fitzroy Crossi**	**19.11**	**163**	P		**Pn**	**19 52 49.9**	**-1.1**
	1.0nm,0.3s,baz=16,slow=10.0,SNR=12							
FITZ					LR	LR	20 02 37.3	
	comp=Z,4μm,19.3s,baz=303,slow=44							
KULM	**Kulim**	**19.74**	**285**	*eP*		**Pn**	**19 52 56.7**	**-1.8**
SNG	**Songkhla**	**20.31**	**290**	P		**P**	**19 53 03.0**	**0.0**
QIZ	**Qiongzhong**	**21.07**	**333**	P		**P**	**19 53 12.3**	**+1.1**
QIZ					LR	LR		
	comp=N,1μm,15.6s							
QIZ					LR	LR		
	comp=Z,2μm,24.1s							
JAY	**Jayapura**	**21.11**	**98**	P		**P**	**19 53 14.5**	**+2.9**
	comp=Z,32nm,0.9s,mb4.7							
MBWA	**Marble Bar**	**21.26**	**180**	*eP*		**P**	**19 53 13.1**	**-0.1**
	comp=Z,190nm,1.1s,mb5.3							
NNT	**Nongplab**	**23.36**	**302**	P		**P**	**19 53 34.8**	**-0.7**
GZH	**Guangzhou**	**23.56**	**345**	P		**P**	**19 53 39.6**	**+2.2**
GZH					LR	LR		
	comp=N,1μm,19.3s							
GZH					LR	LR		
	comp=E,663nm,13.4s							
GZH					LR	LR		
	comp=Z,1μm,20.5s,MS4.4							
YHNB	**Yeheng**	**24.34**	**4**	*eP*		**P**	**19 53 44.8**	**+0.3**
WRAB	**Tennant Creek**	**24.61**	**145**	⇑	*iP*	**P**	**19 53 46.1**	**-0.8**
WRAB	**Tennant Creek**	**24.61**	**145**	*eP*		**P**	**19 53 46.7**	**-0.3**
WRA	**Warramunga Arr**	**24.61**	**145**	P		**P**	**19 53 46.3**	**-0.7**
	comp=Z,10nm,0.7s,mb4.5,baz=335,slow=9.5,SNR=40							
WB2	**Warramunga Arr**	**24.62**	**145**	*eP*		**P**	**19 53 46.4**	**-0.6**
NS1T	**Nakhon Sawan**	**24.72**	**309**	P		**P**	**19 53 47.9**	**-0.1**
AS31	**Alice Springs**	**27.43**	**151**	*eP*		**P**	**19 54 12.5**	**0.0**
ASPA	**Alice Springs**	**27.43**	**151**	*eP*		**P**	**19 54 12.5**	**0.0**
ASAR	**Alice Springs**	**27.44**	**151**	P		**P**	**19 54 12.6**	**+0.1**
	comp=Z,4.3nm,0.6s,baz=340,slow=11,SNR=18							
CHG	**Chiang Mai**	**27.55**	**313**	⇑	P	**P**	**19 54 13.3**	**-0.2**
	comp=Z,34nm,0.8s,mb5.0							
CHTO	**Chiang Mai**	**27.55**	**313**	P		**P**	**19 54 13.6**	**+0.1**
	SNR=9.7							
CHTO	**Chiang Mai**	**27.55**	**313**	*eP*		**P**	**19 54 12.8**	**-0.7**
CHTO					pmax	pmax		
	comp=Z,15nm,1.0s,mb4.6							
CHTO	**Chiang Mai**	**27.55**	**313**	*eP*		**P**	**19 54 12.8**	**-0.7**
	comp=Z,15nm,1.0s,mb4.6							
JOW	**Kunigami**	**27.69**	**17**	P		**P**	**19 54 16.3**	**+1.6**
	comp=Z,9.4nm,0.6s,mb4.6,baz=187,slow=12,SNR=8.9							
PMG	**Port Moresby**	**28.90**	**110**	P		**P**	**19 54 25.3**	**-0.3**
	comp=Z,27nm,0.8s,mb5.0,baz=305,slow=4.7,SNR=8.4							
PMG	**Port Moresby**	**28.90**	**110**	*c i*	P	**P**	**19 54 25.0**	**-0.5**
GYA	**Guiyang**	**28.97**	**335**	⇓	*iP*	**P**	**19 54 26.5**	**+0.3**
GYA					AP	pP	19 54 38.3	+1.1
GYA					XP	sP	19 54 43.8	+1.8
GYA					PP	PP	19 55 20.5	-11
GYA					AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9							
GYA					AMB	AMB		
	comp=Z,130nm,4.0s							
GYA					LR	LR		
	comp=N,670nm,14.2s,MS4.6							
GYA					LR	LR		
	comp=E,870nm,14.8s,MS4.6							
GYA					LR	LR		
	comp=Z,860nm,15.0s,MS4.5							
KMI	**Kunming**	**29.72**	**328**		P	**P**	**19 54 33.8**	**+1.0**
KMI					AP	pP	19 54 45.4	+1.6
KMI					XP	sP	19 54 50.3	+1.7
KMI					PP	PP	19 55 32.5	-7.8
KMI					PPP		19 55 46.9	
KMI					AMB	AMB		
	comp=Z,11nm,1.0s,mb4.5							
KMI					LR	LR		
	comp=N,1μm,17.6s,MS4.7							
KMI					LR	LR		
	comp=E,735nm,14.0s,MS4.7							
KMI					LR	LR		
	comp=Z,940nm,17.6s,MS4.5							
WHN	**Wuhan**	**30.58**	**351**		P	**P**	**19 54 42.1**	**+1.7**
SSE	**Sheshan**	**30.73**	**2**	*eP*		**P**	**19 54 43.1**	**+1.4**
SSE					AMB	AMB		
	comp=Z,40nm,0.7s,mb5.4							
SSE					AMB	AMB		
	comp=Z,116nm,4.3s							
NJ2	**Nanjing**	**31.66**	**359**	*eP*		**P**	**19 54 55.3**	**+5.4**
NJ2					AP	pP	19 55 05.3	+4.3
NJ2					XP	sP	19 55 08.8	+3.0
NJ2					PP	PP	19 56 00.5	-1.4
NJ2					AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6							
NJ2					AMB	AMB		
	comp=Z,1μm,4.2s							
NJ2					LR	LR		
	comp=E,23μm,14.6s							
NJ2					LR	LR		
	comp=Z,12μm,14.6s,MS5.7							
FORT	**Forrest**	**31.83**	**166**	*eP*		**P**	**19 54 51.7**	**+0.3**
	comp=Z,29nm,0.6s,mb5.3							
CTA	**Charters Tower**	**32.87**	**129**	*eP*		**P**	**19 55 01.7**	**+1.2**
	comp=Z,12nm,0.8s,mb4.9							
CTA	**Charters Tower**	**32.87**	**129**	P		**P**	**19 55 01.4**	**+0.8**
	comp=Z,21nm,1.0s,mb5.0,baz=302,slow=13,SNR=8.2							
CTA	**Charters Tower**	**32.87**	**129**	*eP*		**P**	**19 55 01.7**	**+1.2**
CTA					pmax	pmax		
	comp=Z,12nm,0.8s							
CTAO	**Charters Tower**	**32.87**	**129**	*eP*		**P**	**19 55 01.3**	**+0.8**
CTAO					pmax	pmax		
	comp=Z,23nm,0.9s,mb5.1							
CTAO	**Charters Tower**	**32.87**	**129**	*eP*		**P**	**19 55 01.3**	**+0.8**
	comp=Z,23nm,0.9s,mb5.1							
CD2	**Chengdu**	**34.09**	**335**	⇑	*iP*	**P**	**19 55 10.8**	**-0.3**
CD2					AP	pP	19 55 22.9	+0.7
CD2					XP	sP	19 55 28.3	+1.3
CD2					PP	PP	19 56 26.4	-2.3
CD2					AMB	AMB		
	comp=Z,50nm,0.8s,mb5.5							
CD2					AMB	AMB		
	comp=Z,180nm,6.2s							
CD2					LR	LR		
	comp=N,560nm,15.6s							
CD2					LR	LR		
	comp=Z,450nm,16.8s,MS4.3							
CBIJ	**Chichi jima**	**34.32**	**37**	P		**P**	**19 55 12.2**	**-0.9**
	comp=Z,197nm,0.7s,mb6.1,baz=215,slow=5.5,SNR=12							
XAN	**Xi'an**	**35.14**	**344**	P		**P**	**19 55 20.4**	**+0.2**
XAN					AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6							
TIA	**Tai'an**	**35.88**	**356**	*eP*		**P**	**19 55 27.0**	**+0.4**
DL2	**Dalian**	**38.53**	**2**	P		**P**	**19 55 49.9**	**+0.9**
DL2					AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8							
DL2					AMB	AMB		
	comp=Z,110nm,6.8s							
DL2					LR	LR		
	comp=N,550nm,19.8s,MS4.4							
DL2					LR	LR		
	comp=E,260nm,18.4s,MS4.4							
DL2					LR	LR		
	comp=Z,510nm,17.0s,MS4.4							
LZH	**Lanzhou**	**38.62**	**339**	*eP*		**P**	**19 55 49.8**	**0.0**
LZH					AP	pP	19 55 59.0	-2.0
LZH					PP	PP	19 57 19.0	+0.3
LZH					AMB	AMB		
	comp=Z,50nm,1.0s,mb5.2							
LZH					AMB	AMB		
	comp=Z,272nm,4.7s							
LZH					LR	LR		
	comp=N,3μm,16.9s							
LZH					LR	LR		
	comp=Z,3μm,15.3s,MS5.3							
BJT	**Baijiatuao**	**39.74**	**356**	*eP*		**P**	**19 55 59.9**	**+0.8**
BJT					pmax	pmax		
	comp=Z,81nm,1.2s							
BJT	**Baijiatuao**	**39.74**	**356**	*eP*		**P**	**19 55 59.9**	**+0.8**
	comp=Z,81nm,1.2s,mb5.3							
BJI	**Beijing**	**39.76**	**356**	*eP*		**P**	**19 56 00.0**	**+0.7**
BJI					AMB	AMB		
	comp=Z,169nm,1.8s,mb5.5							
MAJO	**Matsushiro**	**39.97**	**23**	*eP*		**P**	**19 56 00.3**	**-0.8**
MAJO					pmax	pmax		
	comp=Z,76nm,1.3s,mb5.3							
MAJO	**Matsushiro**	**39.97**	**23**	*eP*		**P**	**19 56 00.3**	**-0.8**
	comp=Z,76nm,1.3s,mb5.3							
MAT	**Matsushiro**	**39.97**	**23**	P		**P**	**19 56 00.1**	**-1.0**
MAT					S	**S**	**20 02 18.0**	**+14**
MAT	**Matsushiro**	**39.97**	**23**	*eP*		**P**	**19 56 00.0**	**-1.1**
MAT				*eS*		**S**	**20 02 19.0**	**+15**
MJAR	**Matsushiro Arr**	**39.97**	**23**	P		**P**	**19 56 00.1**	**-1.0**
	comp=Z,35nm,0.9s,mb5.1,baz=197,slow=8.6,SNR=49							
MJAR					PcP	PcP	19 58 06.2	+0.5
	comp=Z,3.8nm,0.9s,baz=195,slow=4.6,SNR=4.7							
HHC	**Hu-ho-hao-te**	**41.11**	**351**	*eP*		**P**	**19 56 10.8**	**+0.3**
HHC					AP	pP	19 56 23.3	+1.5
HHC					XP	sP	19 56 29.0	+2.5
HHC					PP	PP	19 57 50.4	+4.6
HHC					AMB	AMB		
	comp=Z,17nm,0.7s,mb4.8							
HHC					AMB	AMB		
	comp=Z,210nm,5.5s							
HHC					LR	LR		
	comp=N,804nm,16.7s,MS4.7							
HHC					LR	LR		
	comp=E,321nm,15.5s,MS4.7							
HHC					LR	LR		
	comp=Z,806nm,20.2s,MS4.6							
BTO	**Baotou**	**41.15**	**349**	*eP*		**P**	**19 56 10.6**	**-0.2**
SNY	**Shenyang**	**41.55**	**4**	⇑	P	**P**	**19 56 14.3**	**+0.2**
SNY					AMB	AMB		
	comp=Z,24nm,1.0s,mb4.8							
JIRN	**Jiri**	**42.20**	**313**	*eP*		**P**	**19 56 20.1**	**+0.7**
	comp=Z,171nm,1.0s,mb5.6							
GUN	**Gumba**	**42.57**	**313**	*eP*		**P**	**19 56 23.1**	**+0.7**
	comp=Z,179nm,0.8s,mb5.8							
PKI	**Pulchoki**	**42.72**	**312**	*eP*		**P**	**19 56 24.0**	**+0.4**
	comp=Z,123nm,1.0s,mb5.6							
PKI	**Pulchoki**	**42.72**	**312**	*eP*		**P**	**19 56 24.0**	**+0.4**
PKI					pmax	pmax		
	comp=Z,123nm,1.0s,mb5.6							
KKN	**Kakani**	**42.94**	**313**	*eP*		**P**	**19 56 25.5**	**+0.1**
	comp=Z,135nm,1.0s,mb5.6							
KKN	**Kakani**	**42.94**	**313**	*eP*		**P**	**19 56 25.5**	**+0.1**
KKN					pmax	pmax		
	comp=Z,135nm,1.0s,mb5.6							
DMN	**Daman**	**42.97**	**312**	*eP*		**P**	**19 56 26.1**	**+0.5**
	comp=Z,164nm,1.0s,mb5.7							
GTA	**Gaotai**	**43.05**	**337**	P		**P**	**19 56 27.3**	**+1.0**
GTA					AP	pP	19 56 40.9	+3.3
GTA					XP	sP	19 56 46.8	+4.4
GTA					PP	PP	19 58 11.9	+5.2
GTA					AMB	AMB		
	comp=Z,35nm,0.9s,mb5.1							
GTA					AMB	AMB		
	comp=Z,205nm,5.7s							
GTA					LR	LR		
	comp=N,1μm,18.6s,MS5.1							
GTA					LR	LR		
	comp=E,2μm,23.6s,MS5.1							
GTA					LR	LR		
	comp=Z,1μm,20.1s,MS4.7							
GKN	**Gorkha**	**43.53**	**312**	*eP*		**P**	**19 56 30.4**	**+0.2**
	comp=Z,229nm,0.9s,mb5.9							
CN2	**Changchun**	**43.68**	**6**	*eP*		**P**	**19 56 34.0**	**+2.7**
HYB	**Hyderabad**	**44.00**	**295**	*i*	P	**P**	**19 56 35.0**	**+1.1**
HYB				*eS*		**S**	**20 03 00.0**	**-3.1**
HYB	**Hyderabad**	**44.00**	**295**	*eP*		**P**	**19 56 35.0**	**+1.1**
VLA	**Vladivostok**	**44.06**	**13**	‖	*eP*	**P**	**19 56 34.9**	**+0.5**
KOLN	**Koldanda**	**44.18**	**311**	*eP*		**P**	**19 56 35.8**	**+0.4**
	comp=Z,163nm,0.9s,mb5.8							
MDJ	**Mudanjiang**	**45.05**	**10**	P		**P**	**19 56 43.0**	**+0.7**
MDJ					AP	pP	19 56 54.3	+0.6
MDJ		

KSH					LR	LR			
	comp=E,2μm,17.5s,MS5.3								
KSH					LR	LR			
	comp=Z,2μm,22.5s,MS5.2								
CLNS	**Chul'man**	**56.58**	**3**	*e*P	**P**		**19 58 07.9**	**-1.2**	
CLNS					pmax	pmax			
	comp=Z,53nm,0.8s,mb5.6								
CLNS					pmax	pmax			
	comp=N,35nm,1.1s								
CLNS					pmax	pmax			
	comp=E,18nm,1.0s								
MKAR	**Makanchi Array**	**56.76**	**330**	P	**P**		**19 58 10.8**	**+0.5**	
	comp=E,29nm,0.8s,mb5.4,baz=124,slow=7.5,SNR=60								
MKAR				PcP	PcP		19 59 05.7	-0.2	
	comp=E,9.4nm,0.7s,baz=121,slow=4.5,SNR=4.8								
MKAR	**Makanchi Array**	**56.76**	**330**	P	**P**		**19 58 10.8**	**+0.5**	
MKAR				PcP	PcP		19 59 05.7	-0.2	
ULHL	**Ulahol**	**57.25**	**323**	P	**P**		**19 58 15.1**	**+1.2**	
	SNR=24								
BOD	**Bodaibo**	**57.60**	**356**	*e*P	**P**		**19 58 16.3**	**0.0**	
BOD					pmax	pmax			
	comp=Z,58nm,1.1s,mb5.5								
KZA	**Kyzart**	**57.76**	**322**	P	**P**		**19 58 19.0**	**+1.5**	
	SNR=53								
TKM2	**Tokmak 2**	**58.02**	**323**	P	**P**		**19 58 20.4**	**+1.1**	
	SNR=39								
KBK	**Karagaybulak**	**58.27**	**322**	P	**P**		**19 58 22.5**	**+1.5**	
	SNR=40								
AAK	**Ala-Archa**	**58.53**	**322**	P	**P**		**19 58 24.3**	**+1.4**	
	SNR=24								
AAK	**Ala-Archa**	**58.53**	**322**	P	**P**		**19 58 23.8**	**+1.0**	
	comp=Z,270nm,0.8s,mb6.3,SNR=19								
AAK	**Ala-Archa**	**58.53**	**322**	⇓P	**P**		**19 58 23.4**	**+0.6**	
	SNR=19								
AAK	**Ala-Archa**	**58.53**	**322**	*c i*P	**P**		**19 58 22.7**	**-0.1**	
AAK					pmax	pmax			
	comp=Z,42nm,0.8s,mb5.5								
AAK	**Ala-Archa**	**58.53**	**322**	*e*P	**P**		**19 58 22.9**	**0.0**	
	comp=Z,40nm,0.9s,mb5.5								
FRU	**Bishkek**	**58.57**	**322**	*e*P	**P**		**19 58 24.0**	**+0.9**	
FRU					pmax	pmax			
	comp=Z,60nm,2.0s,mb5.3								
CHMS	**Chumysh**	**58.58**	**323**	P	**P**		**19 58 23.8**	**+0.6**	
	SNR=10.0								
AML	**Almayashu**	**58.76**	**321**	P	**P**		**19 58 25.8**	**+1.4**	
	SNR=47								
USP	**Ospenovka**	**58.88**	**323**	P	**P**		**19 58 25.8**	**+0.5**	
	SNR=28								
EKS2	**Erkin-Say**	**58.99**	**322**	P	**P**		**19 58 27.4**	**+1.4**	
	SNR=17								
ZAL	**Zalesovo**	**60.81**	**337**	P	**P**		**19 58 37.4**	**-1.1**	
	comp=Z,23nm,0.9s,mb5.3,baz=346,slow=5.4,SNR=51								
ZAL	**Zalesovo**	**60.81**	**337**	⇑*e*P	**P**		**19 58 37.4**	**-1.1**	
ZAL	**Zalesovo**	**60.81**	**337**	P	**P**		**19 58 37.4**	**-1.1**	
KURK	**Kurchatov**	**61.20**	**331**	P	**P**		**19 58 41.1**	**0.0**	
	comp=E,660nm,0.8s,SNR=47								
KURK	**Kurchatov**	**61.20**	**331**	P	**P**		**19 58 41.6**	**+0.4**	
	SNR=37								
KURK	**Kurchatov**	**61.20**	**331**	*c i*P	**P**		**19 58 41.0**	**-0.1**	
KURK	**Kurchatov**	**61.20**	**331**	*e*P	**P**		**19 58 41.0**	**-0.2**	
	comp=E,78nm,0.8s,mb5.9								
PET	**Petropavlovsk**	**61.75**	**26**	*c i*P	**P**		**19 58 45.0**	**+0.2**	
PET					pmax	pmax			
	comp=Z,69nm,1.3s,mb5.6								
PET	**Petropavlovsk**	**61.75**	**26**	*e*P	**P**		**19 58 44.9**	**+0.1**	
	comp=E,127nm,1.6s,mb5.8								
NVS	**Novosibirsk**	**62.09**	**337**	⇑*i*P	**P**		**19 58 45.8**	**-1.4**	
NVS				*e*S	**S**		**20 07 04.9**	**-4.4**	
NVS					pmax	pmax			
	comp=Z,48nm,1.4s,mb5.4								
NVS					pmax	pmax			
	comp=N,43nm,1.6s								
NVS					pmax	pmax			
	comp=E,30nm,1.3s								
NVS					smax				
	comp=N,17nm,1.8s								
NVS					smax				
	comp=E,18nm,1.8s								
YAK	**Yakutsk**	**62.10**	**5**	*c i*P	**P**		**19 58 46.6**	**-0.6**	
YAK					pmax	pmax			
	comp=Z,108nm,1.0s,mb5.9								
YAK	**Yakutsk**	**62.10**	**5**	*e*P	**P**		**19 58 46.7**	**-0.5**	
	comp=Z,79nm,0.8s,mb5.9								
RPZ	**Rata Peaks**	**63.21**	**141**	P	**P**		**19 58 54.4**	**-0.2**	
	comp=Z,48nm,0.9s,mb5.6,baz=325,slow=4.0,SNR=17								
WSAR	**Wadi Sarin**	**63.54**	**296**	P	**P**		**19 58 55.9**	**-1.0**	
	comp=Z,4.7nm,0.7s,mb4.6,baz=140,slow=10,SNR=5.1								
MA2	**Magadan**	**63.92**	**17**	*c i*P	**P**		**19 58 59.8**	**+0.5**	
MA2					pmax	pmax			
	comp=Z,102nm,1.7s,mb5.6								
MA2	**Magadan**	**63.92**	**17**	*e*P	**P**		**19 58 59.9**	**+0.6**	
	comp=Z,76nm,1.2s,mb5.6								
URZ	**Urewera**	**65.02**	**133**	P	**P**		**19 59 06.8**	**+0.3**	
	comp=Z,7.5nm,0.5s,mb5.0,baz=290,slow=16,SNR=6.9								
BVAR	**Borovoye Array**	**66.64**	**330**	P	**P**		**19 59 16.7**	**-0.2**	
	comp=E,24nm,0.8s,mb5.3,baz=134,slow=8.5,SNR=66								
BRVK	**Borovoye**	**66.72**	**330**	P	**P**		**19 59 17.7**	**+0.3**	
	comp=Z,306nm,1.0s,mb6.3,SNR=28								
BRVK	**Borovoye**	**66.72**	**330**	P	**P**		**19 59 17.6**	**+0.2**	
	SNR=32								
BRVK	**Borovoye**	**66.72**	**330**	*e*P	**P**		**19 59 16.9**	**-0.5**	
BRVK				*e*	pP		19 59 28.3	-1.0	
CHKZ	**Chkalovo**	**66.90**	**331**	*e*P	**P**		**19 59 18.1**	**-0.5**	
ZRNK	**Zerenda**	**67.30**	**329**	*e*P	**P**		**19 59 20.8**	**-0.3**	
ZRNK				*e*	pP		19 59 31.2	-1.8	
ABKT	**Ailbek**	**67.79**	**311**	P	**P**		**19 59 25.1**	**+0.9**	
	comp=Z,189nm,0.9s,mb6.1,SNR=11								
SMY	**Shemya**	**69.04**	**32**	*e*P	**P**		**19 59 32.3**	**+0.3**	
SMY					pmax	pmax			
	comp=Z,108nm,1.1s,mb5.7								
SMY	**Shemya**	**69.04**	**32**	*e*P	**P**		**19 59 32.3**	**+0.3**	
	comp=Z,108nm,1.1s,mb5.7								
TIXI	**Tiksi**	**71.55**	**3**	*c i*P	**P**		**19 59 45.5**	**-1.8**	
TIXI					pmax	pmax			
	comp=Z,27nm,0.8s,mb5.2								
AKTK	**Aktyubinsk**	**72.20**	**324**	P	**P**		**19 59 51.0**	**-0.2**	
AKTO	**Aktyubinsk**	**72.20**	**324**	P	**P**		**19 59 51.0**	**-0.2**	
	comp=Z,37nm,0.8s,mb5.4,baz=107,slow=7.4,SNR=97								
SVE	**Sverdlovsk**	**73.42**	**331**	⇑*i*P	**P**		**19 59 59.0**	**+0.5**	
SVE				*e*	pP		20 00 08.0	-2.5	
ARU	**Arti**	**74.28**	**330**	P	**P**		**20 00 02.3**	**-1.2**	
	comp=Z,307nm,1.0s,mb6.2,SNR=23								
ARU	**Arti**	**74.28**	**330**	⇑*i*P	**P**		**20 00 02.8**	**-0.8**	
ARU				*e*	pP		20 00 13.2	-2.4	
ARU				*e*			20 02 49.4		
ARU				*e*PPP			20 04 30.0		
ARU				*e*S	S		20 09 33.3	-1.3	
ARU				*e*SS	SS		20 14 18.7	-2.1	
ARU					pmax	pmax			
	comp=Z,67nm,1.1s,mb5.5								
ARU	**Arti**	**74.28**	**330**	*e*P	**P**		**20 00 02.5**	**-1.0**	
	comp=Z,60nm,0.9s,mb5.5								
ARU				*e*	pP		20 00 13.5	-2.1	
BHD	**Baghdad**	**77.67**	**304**	*ex*	x		20 00 20.0		
MAW	**Mawson**	**78.14**	**199**	P	**P**		**20 00 25.9**	**+0.5**	
	comp=Z,16nm,0.5s,mb5.2,baz=87,slow=3.5,SNR=14								
DGRG	**David-gareji**	**78.18**	**312**	P	**P**		**20 00 26.9**	**+1.2**	
DGRG	**David-gareji**	**78.18**	**312**	P	**P**		**20 00 26.5**	**+0.9**	
GNI	**Garni**	**78.43**	**311**	⇑*e*P	**P**		**20 00 27.3**	**+0.2**	
MTA	**Mtatsminda**	**78.65**	**312**	P	**P**		**20 00 29.1**	**+0.8**	
MTA	**Mtatsminda**	**78.65**	**312**	P	**P**		**20 00 28.3**	**0.0**	
TBLG	**Delisi**	**78.70**	**312**	P	**P**		**20 00 29.3**	**+0.8**	
TBLG	**Delisi**	**78.70**	**312**	P	**P**		**20 00 29.2**	**+0.7**	
TBLG	**Delisi**	**78.70**	**312**	P	**P**		**20 00 29.2**	**+0.7**	
MSL	**Mosul**	**79.13**	**307**	*ex*	x		20 00 32.5		
ZEI	**Tsey**	**79.49**	**313**	*e*P	**P**		**20 00 32.8**	**-0.1**	
ZEI				*e**PP	pP		20 00 42.7	-2.3	
ZEI					pmax	pmax			
	comp=Z,29nm,1.0s,mb5.2								
AKH	**Akhalkalaki**	**79.57**	**312**	P	**P**		**20 00 34.6**	**+1.4**	
ONI	**Oni**	**79.78**	**313**	P	**P**		**20 00 35.0**	**+0.5**	
ONI	**Oni**	**79.78**	**313**	P	**P**		**20 00 35.3**	**+0.8**	
AMRG		**80.00**	**313**	P	**P**		**20 00 39.1**	**+3.4**	
GOF	**Gofitskoye**	**80.48**	**316**	*e*P	**P**		**20 00 36.7**	**-1.5**	
GOF					pmax	pmax			
	comp=Z,30nm,0.7s,mb5.3								
KIV	**Kislovodsk**	**80.55**	**314**	*e*P	**P**		**20 00 38.3**	**-0.3**	
KIV				*e*	pP		20 00 48.3	-2.4	
KIV					pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5								
KIV	**Kislovodsk**	**80.55**	**314**	*e*P	**P**		**20 00 38.3**	**-0.3**	
	comp=Z,5.4nm,0.7s,mb4.6								
KIV				*e*	pP		20 00 48.3	-2.4	
VNDA	**Vanda**	**80.94**	**172**	P	**P**		**20 00 39.6**	**-1.0**	
	comp=Z,6.8nm,0.7s,mb4.7,baz=313,slow=6.2,SNR=39								
ERZM	**Erzurum**	**80.96**	**310**	*i* P	**P**		**20 00 42.2**	**+1.4**	
PECR	**Pechory**	**81.89**	**327**	*e*P	**P**		**20 00 44.0**	**-1.7**	
VRHR	**Novokhopersk**	**82.38**	**321**	*e*P	**P**		**20 00 47.7**	**-0.6**	
VRHR					pmax	pmax			
	comp=Z,30nm,0.9s,mb5.2								
VRHR					pmax	pmax			
	comp=N,6.0nm,0.5s								
VRHR					pmax	pmax			
	comp=E,30nm,0.7s								
KMBO	**Kilima Mbogo**	**82.52**	**269**	⇑*e*P	**P**		**20 00 49.2**	**+0.2**	
GZT	**Gaziantep**	**83.66**	**307**	*i* P	**P**		**20 00 55.6**	**+0.7**	
ASF	**Jabal al Åsfar**	**83.84**	**302**	P	**P**		**20 00 56.5**	**+0.7**	
	comp=E,5.0nm,0.8s,mb4.7,baz=359,slow=1.5,SNR=12								
VRSR	**Storozhevoye**	**83.91**	**321**	*e*P	**P**		**20 00 54.8**	**-1.4**	
VRSR					pmax	pmax			
	comp=Z,60nm,1.2s,mb5.6								
VRSR					pmax	pmax			
	comp=N,10.0nm,0.8s								
VRSR					pmax	pmax			
	comp=E,40nm,1.0s								
VOR	**Voronezh**	**83.97**	**322**	*e*P	**P**		**20 00 55.3**	**-1.2**	
VOR					pmax	pmax			
	comp=Z,110nm,1.7s,mb5.7								
VOR					pmax	pmax			
	comp=E,60nm,1.5s								
ANN	**Anapa**	**84.39**	**315**	*e*P	**P**		**20 00 56.9**	**-1.7**	
ANN				*e*			20 04 11.7		
ANN				*e*			20 11 17.1		
ANN					pmax	pmax			
	comp=Z,66nm,1.6s,mb5.5								
KLMR	**Klimovskoe**	**85.05**	**331**	*e*P	**P**		**20 00 59.8**	**-2.1**	
KLMR					pmax	pmax			
	comp=Z,160nm,1.4s,mb6.0								
MMAI	**Mount Meron Ar**	**85.14**	**303**	P	**P**		**20 01 03.3**	**+0.9**	
	comp=Z,7.9nm,0.8s,mb4.9,baz=78,slow=9.5,SNR=9.6								
MOS	**Moscow**	**85.38**	**326**	*e*P	**P**		**20 01 01.0**	**-2.6**	
MOS				*e*			20 01 07.3		
MOS				*e*			20 11 31.9		
MOS					pmax	pmax			
	comp=Z,200nm,1.8s,mb6.0								
MOS					pmax	pmax			
	comp=Z,101nm,1.4s,mb5.8								
EIL	**Elat**	**85.38**	**300**	*e*P	**P**		**20 01 03.0**	**-0.6**	
	comp=Z,290nm,1.3s,mb6.2								
OBN	**Obninsk**	**85.91**	**325**	P	**P**		**20 01 05.9**	**-0.3**	
	comp=Z,324nm,1.0s,SNR=5.5								
OBN	**Obninsk**	**85.91**	**325**	*c i*P	**P**		**20 01 04.7**	**-1.5**	
OBN				*i* *PP	pP		20 01 15.3	-3.2	
OBN					pmax	pmax			
	comp=Z,84nm,1.2s,mb5.8								
OBN	**Obninsk**	**85.91**	**325**	*e*P	**P**		**20 01 04.8**	**-1.4**	
	comp=Z,210nm,1.6s,mb6.1								
OBN				*e*	pP		20 01 15.5	-2.9	
BOYT	**Boyabat**	**85.99**	**311**	*i* P	**P**		**20 01 06.9**	**+0.3**	
CTKT	**Corum**	**86.03**	**311**	*i* P	**P**		**20 01 06.5**	**-0.3**	
SIM	**Simferopol'**	**86.75**	**315**	*c i*P	**P**		**20 01 10.0**	**-0.4**	
SIM				*e*S			20 11 38.0		
SIM					pmax	pmax			
	comp=Z,29nm,0.6s,mb5.7								
BR131	**Keskin Array S**	**86.87**	**310**	*e*P	**P**		**20 01 10.2**	**-0.7**	
	comp=Z,7.9nm,0.8s,mb5.0								
BRTR	**Keskin Array B**	**86.87**	**310**	P	**P**		**20 01 09.9**	**-1.0**	
	comp=Z,4.9nm,0.7s,mb4.9,baz=132,slow=5.8,SNR=26								
BRTR	**Keskin Array B**	**86.87**	**310**	⇑*e*P	**P**		**20 01 10.5**	**-0.4**	
CSS	**Prodhromos**	**86.94**	**305**	*e*P	**P**		**20 01 09.5**	**-1.8**	
	comp=Z,30nm,0.9s,mb5.5								
CSS				*e*			20 02 05.4		
ELDT	**Eldivan**	**87.06**	**310**	*i* P	**P**		**20 01 11.5**	**-0.4**	
SVW2	**Sparrevohn**	**87.20**	**29**	*e*P	**P**		**20 01 12.5**	**-0.1**	
IMA2	**Indian Mountai**	**88.38**	**24**	*e*P	**P**		**20 01 18.3**	**+0.1**	
APA	**Apatity**	**88.39**	**337**	⇓*i*P	**P**		**20 01 14.0**	**-4.2**	
APA				*i*	pP		20 01 27.0	-3.5	
APA				*i* S			20 11 52.0		
APA				*i* PS			20 13 14.0		
APA					pmax	pmax			
	comp=Z,12nm,0.8s,mb5.2								
APA					MLR	MLR			
	comp=Z,1μm,20.0s,MS5.3								
KDAK	**Kodiak Island**	**88.55**	**32**	P	**P**		**20 01 18.4**	**-0.5**	
	comp=Z,8.0nm,0.8s,mb5.1,baz=326,slow=7.3,SNR=7.7								
QSPA	**South Pole Qui**	**90.16**	**180**	*e*P	**P**		**20 01 25.3**	**-1.2**	
	comp=Z,6.0nm,1.0s,mb4.9								
AKASG	**Malin Array Be**	**90.17**	**321**	P	**P**		**20 01 24.5**	**-2.0**	
	comp=Z,4.4nm,0.7s,mb4.9,baz=75,slow=4.7,SNR=24								
AKASG	**Malin Array Be**	**90.17**	**321**	P	**P**		**20 01 24.5**	**-2.0**	
MCK	**McKinley**	**90.37**	**26**	*e*P	**P**		**20 01 26.2**	**-1.3**	
MCK					pmax	pmax			
	comp=Z,20nm,1.2s,mb5.3								
MCK	**McKinley**	**90.37**	**26**	*e*P	**P**		**20 01 26.1**	**-1.4**	
	comp=Z,20nm,1.2s,mb5.3								
ARCES	**ARCESS Array B**	**91.28**	**339**	P	**P**		**20 01 29.0**	**-2.8**	
	comp=Z,2.3nm,0.8s,mb4.5,baz=88,slow=4.1,SNR=6.6								
FINES	**FINESS Array B**	**91.57**	**331**	P	**P**		**20 01 30.9**	**-2.1**	
	comp=Z,2.0nm,0.8s,mb4.5,baz=198,slow=3.6,SNR=4.3								
FINES	**FINESS Array B**	**91.57**	**331**	P	**P**		**20 01 30.9**	**-2.2**	
MLR	**Muntele Rosu**	**92.53**	**315**	P	**P**		**20 01 36.4**	**-1.1**	
	comp=Z,4.2nm,0.7s,mb5.0,baz=265,slow=4.1,SNR=3.8								
SUW	**Suwalki**	**93.70**	**324**	*e*P	**P**		**20 01 41.8**	**-1.1**	
IDI	**Anoyia**	**93.86**	**305**	P	**P**		**20 01 42.8**	**-0.9**	
	comp=Z,7.6nm,0.8s,mb5.2,baz=60,slow=8.8,SNR=4.4								
DAWY	**Dawson**	**94.54**	**26**	*e*P	**P**		**20 01 46.5**	**-0.2**	
DAWY				*e*	pP		20 01 57.9	-1.2	
CRVS	**Cervenica-Dubn**	**95.30**	**319**	*e*P	**P**		**20 01 50.2**	**0.0**	
CRVS				*e*			20 03 01.3		
CRVS				*e*PP			20 06 39.2		
INK	**Inuvik**	**95.92**	**21**	*e*P	**P**		**20 01 51.8**	**-1.3**	
INK				*e*	pP		20 02 03.3	-2.1	
INK					pmax	pmax			
	comp=Z,20nm,1.1s								
INK	**Inuvik**	**95.92**	**21**	*e*P	**P**		**20 01 51.8**	**-1.3**	
	comp=Z,20nm,1.1s,mb5.5								
INK				*e*	pP		20 02 03.3	-2.1	
NVL	**N'lazarevskaya**	**96.07**	**198**	*e*SP	SP		20 14 38.0	+9.4	
MAIT	**Maitri**	**96.10**	**198**	*e*P	**P**		**20 02 00.9**	**+7.0**	
VYHS	**Vyhne**	**97.08**	**319**	*e*	**P**		**20 02 01.0**	**+2.7**	
SKAG	**Skagway**	**97.35**	**30**	*e*P	**P**		**20 01 59.9**	**+0.4**	
NB2	**NORSAR Subarra**	**98.71**	**332**	P	**P**		**20 02 03.4**	**-2.2**	
	comp=Z,10nm,1.4s,mb5.2,baz=72,slow=4.4								
NOA	**NORSAR Array B**	**98.71**	**332**	P	**P**		**20 02 02.2**	**-3.4**	
	comp=Z,1.5nm,0.8s,mb4.6,baz=74,slow=4.5,SNR=4.5								
NOA	**NORSAR Array B**	**98.71**	**332**	P	**P**		**20 02 02.2**	**-3.4**	
BRG	**Berggiesshubel**	**99.77**	**322**	*e*P	Pdif		20 02 09.5	-0.9	
	comp=Z,3.9nm,1.3s								
BRG				*i*			20 07 15.0		
BRG				*e*			20 07 20.8		
	comp=Z,2.4nm,0.8s								
BRG	**Berggiesshubel**	**99.77**	**322**	*e*P	Pdif		20 02 09.5	-0.9	
BRG					pmax	pmax			
	comp=Z,4.0nm,1.3s,mb4.7								
BRG					pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.6								
BRG	**Berggiesshubel**	**99.77**	**322**	*e*P	Pdif		20 02 09.5	-0.9	
	comp=Z,3.9nm,1.3s								
BRG				*i*			20 07 15.0		
BRG				*e*			20 07 20.8		
CLL	**Collm**	**100.25**	**322**	*e*PDIF	Pdif		20 02 12.0	-0.5	
CLL				*e*PP	PP		20 06 23.0	+4.3	
CLL	**Collm**	**100.25**	**322**	*e*Pdif	Pdif		20 02 12.0	-0.5	
CLL				*e*PP	PP		20 06 23.0	+4.3	
CLL				LmV			20 55 00.0		
	comp=Z,900nm,18.3s								
GERES	**GERESS Array B**	**100.36**	**320**	PP	PP		20 06 20.2	+0.7	
	comp=Z,0.9nm,0.8s,baz=103,slow=5.9,SNR=4.4								
KHC	**Kasperske Hory**	**100.38**	**320**	*ex*	PP		20 06 11.0	-8.6	
MOX	**Moxa**	**101.26**	**322**	*e*P	PP		20 06 30.3	+4.0	
YKA	**Yellowknife Ar**	**105.48**	**23**	Pdiff	Pdif		20 02 36.3	+0.6	
	comp=Z,0.9nm,0.9s,baz=302,slow=5.8,SNR=3.0								
ELK	**Elko**	**115.67**	**44**	*e*PKIKP	PKPdf		20 07 09.3	+0.9	
TORD	**Torodi Ar. Bea**	**117.23**	**285**	PKP	PKPdf		20 07 09.7	-1.7	
	comp=Z,0.6nm,0.6s,baz=29,slow=2.3,SNR=7.8								
PDAR	**Pinedale Array**	**118.51**	**39**	PKP	PKPdf		20 07 12.4	-1.4	
	comp=Z,0.6nm,0.7s,baz=329,slow=1.7,SNR=5.8								
MSU	**Marysvale**	**118.76**	**45**	*e*PKIKP	PKPdf		20 07 15.8	+1.5	
ANMO	**Albuquerque**	**124.47**	**46**	*i*PKIKP	PKPdf		20 07 27.4	+2.1	
SCHQ	**Schefferville**	**124.85**	**5**	PKP	PKPdf		20 07 25.1	-1.0	
	comp=Z,2.4nm,0.6s,baz=38,slow=3.9,SNR=5.2								
JCT	**Junction City**	**131.56**	**47**	*e*PKIKP	PKPdf		20 07 39.5	+0.7	
MIAR	**Mount Ida**	**133.42**	**39**	*e*PKIKP	PKPdf		20 07 42.0	-0.3	
DWPF	**Disney**	**145.25**	**34**	*e*PKPdf	PKPdf		20 08 02.6	-1.1	
BDFB	**Brasilia**	**160.51**	**218**	PKP	PKPdf		20 08 26.2	+0.4	
	comp=Z,1.3nm,0.4s,baz=122,slow=5.7,SNR=3.9								
LPAZ	**La Paz**	**162.24**	**154**	PKP	PKPdf		20 08 28.6	+1.0	
	comp=Z,2.1nm,0.8s,baz=64,slow=0.3,SNR=8.2								
LPAZ				PKPab	PKPab		20 09 16.6	+1.8	
	comp=Z,3.9nm,1.1s,baz=185,slow=4.1,SNR=3.7								
LPAZ	**La Paz**	**162.24**	**154**	PKPdf	PKPdf		20 08 28.7	+1.1	
SDV	**Santo Domingo**	**166.24**	**49**	*e*PKPdf	PKPdf		20 08 31.6	+0.3	
SDV				*e*			20 08 40.3		
SAML	**Samuel**	**170.85**	**161**	*e*PKPdf	PKPdf		20 08 34.9	+0.7	

NNC ***17*** *19:48:36.1±3.7, 43.15N×8309E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=30.1km s-min=23.9km az=139.0*

BJI 17 19:48:32.0, 4301N×8328E, h6km, ML2.9, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**3.32**	**74**	PG	Pn	19 49 28.5	+4.1
WMQ				S	Sn	19 50 09.3	+5.2
WMQ				SG	Sb	19 50 17.3	+5.5
WMQ				Smax			
	comp=N,31nm,0.4s						
WMQ				Smax			
	comp=E,47nm,0.4s						
MK02	**Makanchi Array**	**3.82**	**350**	⇓Pn	Pn	19 49 34.6	+3.2
	comp=E,3.2nm,0.5s,baz=172,slow=14						
MK02				⇑Pg	Pg	19 49 42.0	-3.2
	baz=167,slow=16						
MK02				⇓Lg		19 50 29.9	
	comp=E,32nm,0.7s,baz=174,slow=27						
TKM2	**Tokmak 2**	**5.64**	**272**	⇓Lg		19 51 30.5	
	comp=E,1.4nm,0.8s						
KURK	**Kurchatov**	**8.34**	**339**	⇑Lg		19 52 57.0	
	comp=E,1.7nm,0.7s						

BJI ***17*** *19:49:26.7, 1003S×10803E, h33km, mB5.6, mb5.5, Ms5.6, Msz5.4*

IDC ***17*** *19:49:31.2±0.4, 9.10S×107.82E, h0km, mb5.2/28, mb1 5.2/29, mb1mx5.2/30, mbtmp5.2/29, ML4.6/1, MS5.1/17, Ms1 5.1/17, ms1mx4.8/29, Error ellipse: s-maj=15.2km s-min=9.9km az=42.0*

ISCJB ***17*** *19:49:33.3±0.2, 9.08S±003.003×107.91E±0.03, h26km, mb5.5/106, MS5.2/49, Error ellipse: s-maj=4.9km s-min=4.0km az=112.6*

HRVD ***17*** *19:49:33.2±0.2, 8.88S×107.85E, h40km±1km, MW5.3/70, Centroid moment Tensor Solution. LP body waves: s68,c102;Mantle waves: s70,c122; Half duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr~0.62±.03; Mθθ0.93±.02; Mθφ~0.30±.03; Mrθ0.70±.02; Mφφ~0.20±.02; Mφr~0.18±.03; Best double couple: M0 1.07700×10^17 NP1:φ90.00000°, δ24.00000°, λ-104.00000°. NP2: φ285.00000°, δ66.00000°, λ-84.00000°. Principal axes: T 1.2430, Plg21.0000°, Azm10.0000°; N -0.3330, Plg6.0000°, Azm102.0000°; P -0.9100, Plg68.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***17*** *19:49:33.2±3.1, 9.06S×107.86E, h12km±18km, mb5.5/36, MS5.2/10 Error ellipse: s-maj=6.9km s-min=4.2km az=49.0*

MOS ***17*** *19:49:34.9±1.0, 8.93S×107.98E, h33km, mb5.6/50, MS5.1/18, Error ellipse: s-maj=10.2km s-min=6.0km az=116.1*

CSEM ***17*** *19:49:34.3, 9.09S×107.86E, h30km, mb5.5*

ISC 17 19:49:35.6±0.2, 9.09S±003×10.790E±003, h27km, h27km±2.6km: pP-P, n420, σ1§90/309, mb5.5/106, MS5.2/49, 76C-38D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**2.27**	**353**	P	**Pn**	**19 50 12.6**	**+1.4**
	13μm,1.4s						
BJII	**Banjamegara**	**2.51**	**46**	P	**Pn**	**19 50 16.2**	**+1.7**
	3μm,1.1s						
SBJI	**Serang**	**3.43**	**329**	P	**Pn**	**19 50 27.7**	**+0.5**
	3μm,0.8s						
KSI	**Kapahiang**	**7.55**	**315**	P	**Pn**	**19 51

comp=Z,52nm,1.0s,mb5.2,baz=297,slow=8.6,SNR=32
ASAR PcP PcP 19 58 41.9 +1.4
comp=Z,8.5nm,0.7s,baz=311,slow=2.2,SNR=16
ASAR Sn S 20 01 03.5 +45
comp=Z,2.7nm,0.7s,baz=291,slow=24,SNR=3.8
ASAR LR LR 20 07 53.1
comp=Z,3μm,20.0s,MS4.9,baz=306,slow=38
ASAR Alice Springs 28.78 123 P **P** **19 55 31.1 +0.1**
ASAR 19 58 41.9
ASAR pmax pmax
comp=Z,52nm,1.0s
ASAR pmax pmax
comp=Z,9.0nm,0.7s
ASAR MLR MLR
comp=Z,3μm,20.0s
CHTO Chiang Mai 29.10 342 P **P** **19 55 34.3 +0.4**
SNR=5.1
CHTO Chiang Mai 29.10 342 *e*P **P** **19 55 34.2 +0.4**
APYP Conner 29.85 26 *e*P **P** **19 55 39.5 -1.0**
PALK Pallekele 31.60 300 P **P** **19 55 58.1 +2.2**
comp=Z,246nm,0.8s,mb6.1,SNR=5.0
PALK Pallekele 31.60 300 *e*P **P** **19 55 58.4 +2.5**
comp=Z,70nm,1.3s,mb5.3
PALK LR LR
comp=Z,3μm,20.0s,MS4.9
KMI Kunming 34.38 352 P **P** **19 56 21.0 +0.8**
KMI PP PP 19 57 37.8 -0.5
KMI PPP 19 57 55.8
KMI S **S** **20 01 50.0 +3.8**
KMI SSS 20 04 28.3
KMI AMB AMB
comp=Z,28nm,1.4s,mb5.0
KMI AMB AMB
comp=Z,489nm,6.0s
KMI LR LR
comp=N,15μm,14.6s,MS5.9
KMI LR LR
comp=E,8μm,18.8s,MS5.9
KMI LR LR
comp=Z,18μm,14.0s,MS6.0
GYA Guiyang 35.36 358 ⇓ *i*P **P** **19 56 28.9 +0.3**
GYA AP pP 19 56 35.3 -1.5
GYA PP PP 19 57 48.6 -0.5
GYA PCP PcP 19 58 58.9 +0.5
GYA S **S** **20 02 02.3 +1.0**
GYA AMB AMB
comp=Z,90nm,0.8s,mb5.8
GYA AMB AMB
comp=Z,2μm,4.9s
GYA LR LR
comp=N,1μm,15.0s,MS4.9
GYA LR LR
comp=E,1μm,14.8s,MS4.9
GYA LR LR
comp=Z,1μm,15.2s,MS4.8
QZH Quanzhou 35.40 17 P **P** **19 56 30.8 +1.8**
QZH S **S** **20 02 03.0 +1.0**
QZH LR LR
comp=N,3μm,14.0s,MS5.3
QZH LR LR
comp=E,3μm,15.6s,MS5.3
QZH LR LR
comp=Z,5μm,20.1s,MS5.3
YHNB Yeheng 36.04 21 *e*P **P** **19 56 35.1 +0.6**
ADE Adelaide 38.17 137 *e*P **P** **19 56 53.0 +0.4**
CTA Charters Tower 38.60 111 *e*P **P** **19 56 57.6 +1.4**
comp=Z,38nm,1.0s,mb5.1
CTA Charters Tower 38.60 111 P **P** **19 56 56.7 +0.5**
comp=Z,60nm,1.1s,mb5.2,baz=285,slow=10,SNR=13
CTA Charters Tower 38.60 111 *e*P **P** **19 56 57.6 +1.4**
CTA pmax pmax
comp=Z,39nm,1.0s
CTAO Charters Tower 38.60 111 *e*P **P** **19 56 58.1 +1.9**
CTAO pmax pmax
comp=Z,99nm,1.1s,mb5.5
CTAO MLR MLR
comp=Z,2μm,20.0s,MS5.0
CTAO Charters Tower 38.60 111 *e*P **P** **19 56 58.1 +1.8**
comp=Z,99nm,1.1s,mb5.5
CTAO LR LR
comp=Z,2μm,20.0s,MS5.0
PMG Port Moresby 38.74 94 P **P** **19 56 58.4 +1.0**
comp=Z,39nm,0.8s,mb5.2,baz=295,slow=2.7,SNR=10
PMG Port Moresby 38.74 94 *e*P **P** **19 56 59.4 +2.0**
PMG pmax pmax
comp=Z,166nm,1.5s
PMG MLR MLR
comp=Z,3μm,20.0s
PMG Port Moresby 38.74 94 *e*P **P** **19 56 59.4 +2.0**
comp=Z,166nm,1.5s,mb5.5
PMG LR LR
comp=Z,3μm,20.0s,MS5.1
HYB Hyderabad 39.17 312 *e*sP **P** **19 57 01.5 +0.5**
WHN Wuhan 39.89 9 *e*P **P** **19 57 08.0 +1.0**
CD2 Chengdu 39.97 354 P **P** **19 57 07.1 -0.5**
CD2 PP PP 19 58 44.3 +4.6
CD2 PCP PcP 19 59 11.3 -1.3
CD2 S **S** **20 03 13.4 +2.1**
CD2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
CD2 AMB AMB
comp=Z,120nm,6.8s
CD2 LR LR
comp=E,2μm,13.2s
CD2 LR LR
comp=Z,3μm,15.6s,MS5.2
JOW Kunigami 40.82 28 P **P** **19 57 15.2 +0.5**
comp=Z,112nm,0.9s,mb5.5,baz=230,slow=8.1,SNR=26
JOW LR LR 20 17 23.0
comp=Z,2μm,18.5s,MS4.9,baz=26,slow=41
SSE Sheshan 41.94 17 ⇑ P **P** **19 57 24.5 +0.6**
SSE PP PP 19 59 01.8 +0.7
SSE PCP PcP 19 59 19.3 +0.3
SSE S **S** **20 03 43.6 +3.0**
SSE AMB AMB
comp=Z,51nm,1.3s,mb5.0
SSE AMB AMB
comp=Z,410nm,6.8s
SSE LR LR
comp=N,1μm,15.5s,MS5.0
SSE LR LR
comp=E,700nm,15.5s,MS5.0
SSE LR LR
comp=Z,2μm,17.7s,MS5.0
JIRN Jiri 42.15 331 *e*P **P** **19 57 26.6 +1.0**
comp=Z,394nm,0.8s,mb6.1
NJ2 Nanjing 42.23 14 *e*P **P** **19 57 27.3 +1.1**
NJ2 AP pP 19 57 30.9 -3.6
NJ2 XP sP 19 57 34.5 -3.3
NJ2 PP PP 19 59 06.8 +2.6
NJ2 S **S** **20 03 45.0 +0.1**
NJ2 AMB AMB
comp=Z,730nm,1.1s,mb6.2
NJ2 AMB AMB
comp=Z,1μm,4.3s
NJ2 LR LR
comp=N,15μm,16.4s,MS6.1
NJ2 LR LR
comp=E,11μm,16.6s,MS6.1
NJ2 LR LR
comp=Z,6μm,16.6s,MS5.6
PKI Pulchoki 42.46 330 *e*P **P** **19 57 28.3 +0.2**
comp=Z,178nm,0.9s,mb5.7
PKI Pulchoki 42.46 330 *e*P **P** **19 57 28.3 +0.2**
PKI pmax pmax
comp=Z,178nm,0.9s,mb5.7
GUN Gumba 42.51 331 *e*P **P** **19 57 29.4 +0.9**
comp=Z,377nm,0.8s,mb6.2
DMN Daman 42.64 330 *e*P **P** **19 57 30.1 +0.5**
comp=Z,400nm,0.8s,mb6.2
KKN Kakani 42.70 330 *e*P **P** **19 57 30.2 +0.1**
comp=Z,338nm,0.9s,mb6.1
KKN Kakani 42.70 330 *e*P **P** **19 57 30.2 +0.1**
KKN pmax pmax
comp=Z,338nm,0.9s,mb6.1
GUMO Guam 43.07 59 LR LR 20 14 03.6
comp=Z,602nm,20.6s,MS4.5,baz=353,slow=34
GKN Gorkha 43.20 329 *e*P **P** **19 57 34.5 +0.4**
comp=Z,317nm,0.8s,mb6.1
KOLN Koldanda 43.54 328 *e*P **P** **19 57 37.4 +0.5**
comp=Z,514nm,0.7s,mb6.3
TOO Toolangi 44.19 136 *e*P **P** **19 57 43.7 +1.7**
comp=Z,36nm,0.9s,mb5.1
TOO Toolangi 44.19 136 *e*P **P** **19 57 43.7 +1.7**
TOO pmax pmax
comp=Z,36nm,0.9s,mb5.1

LZH Lanzhou 45.10 355 *e*P **P** **19 57 50.0 +0.7**
LZH AP pP 19 57 59.5 +1.9
LZH XP sP 19 58 01.5 +0.6
LZH PP PP 19 59 35.5 +0.6
LZH *e*S **S** **20 04 23.0 -3.8**
LZH AMB AMB
comp=Z,121nm,1.0s,mb5.7
LZH AMB AMB
comp=Z,742nm,4.8s
LZH LR LR
comp=N,5μm,15.0s
LZH LR LR
comp=Z,6μm,16.3s,MS5.6
TIA Tai'an 45.89 10 *e*P **P** **19 57 53.6 -2.0**
CNB Canberra Magne 45.93 131 *e*P **P** **19 57 56.9 +1.0**
comp=Z,59nm,1.0s,mb5.5
TAU Tasmania Unive 48.16 141 *e*P **P** **19 58 14.3 +1.0**
TAU pmax pmax
comp=Z,43nm,0.9s,mb5.5
TAU Tasmania Unive 48.16 141 *e*P **P** **19 58 14.3 +1.0**
comp=Z,43nm,0.9s,mb5.5
GTA Gaotai 48.83 352 *e*P **P** **19 58 16.3 -2.2**
GTA PCP PcP 19 59 43.3 +0.4
GTA PP PP 20 00 10.9 -0.9
GTA PPP 20 01 04.1
GTA S **S** **20 05 18.9 -1.2**
GTA SCS ScS 20 08 05.3 -3.6
GTA AMB AMB
comp=Z,14nm,1.4s,mb4.8
GTA AMB AMB
comp=Z,205nm,5.7s
GTA LR LR
comp=N,4μm,17.6s,MS5.6
GTA LR LR
comp=E,4μm,16.1s,MS5.6
GTA LR LR
comp=Z,3μm,16.4s,MS5.3
DL2 Dalian 49.43 14 P **P** **19 58 21.9 -1.2**
DL2 *e*S **S** **20 05 27.5 -1.0**
DL2 AMB AMB
comp=Z,30nm,0.8s,mb5.4
DL2 AMB AMB
comp=Z,270nm,6.7s
DL2 LR LR
comp=N,780nm,14.3s,MS5.0
DL2 LR LR
comp=E,810nm,16.3s,MS5.0
DL2 LR LR
comp=Z,980nm,14.6s,MS4.9
BJT Baijiatuau 49.46 8 *e*P **P** **19 58 23.2 -0.1**
BJT pmax pmax
comp=Z,163nm,1.1s
BJT MLR MLR
comp=Z,3μm,19.0s
BJT Baijiatuau 49.46 8 *e*P **P** **19 58 23.2 0.0**
comp=Z,163nm,1.1s,mb6.0
BJT LR LR
comp=Z,3μm,19.0s,MS5.3
BJI Beijing 49.48 8 P **P** **19 58 23.4 0.0**
BJI PP PP 20 00 20.6 +2.9
BJI S **S** **20 05 38.6 +9.4**
BJI AMB AMB
comp=Z,133nm,1.0s,mb5.9
BJI AMB AMB
comp=Z,848nm,3.2s
BJI LR LR
comp=N,3μm,18.7s,MS5.6
BJI LR LR
comp=E,4μm,16.0s,MS5.6
BJI LR LR
comp=Z,2μm,19.1s,MS5.2
BTO Baotou 49.49 2 *e*P **P** **19 58 23.5 0.0**
BTO AMB AMB
comp=Z,43nm,1.1s,mb5.4
HHC Hu-ho-hao-te 49.81 4 ⇑ P **P** **19 58 26.0 +0.1**
HHC PCP PcP 19 59 41.0 -5.4
HHC PP PP 20 00 23.8 +3.1
HHC PCS PcS 20 03 41.3 -1.9
HHC S **S** **20 05 39.0 +5.3**
HHC SCS ScS 20 08 10.0 -5.5
HHC SS SS 20 09 07.1 +0.7
HHC AMB AMB
comp=Z,72nm,1.2s,mb5.6
HHC AMB AMB
comp=Z,477nm,4.9s
HHC LR LR
comp=N,6μm,11.9s,MS5.8
HHC LR LR
comp=E,3μm,14.3s,MS5.8
HHC LR LR
comp=Z,5μm,14.3s,MS5.7
HNR Honiara 51.33 95 P **P** **19 58 38.2 +0.8**
comp=Z,89nm,0.8s,mb5.8,baz=249,slow=4.1,SNR=3.6
HNR Honiara 51.33 95 P **P** **19 58 38.2 +0.8**
HNR pmax pmax
comp=Z,89nm,0.8s,mb5.8
SNY Shenyang 52.67 15 ⇑ P **P** **19 58 46.0 -1.4**
SNY PP PP 20 00 49.1 +2.4
SNY S **S** **20 06 19.8 +6.5**
SNY SS SS 20 09 53.1 +1.2
SNY AMB AMB
comp=Z,56nm,1.6s,mb5.2
SNY AMB AMB
comp=Z,612nm,5.0s
SNY LR LR
comp=N,2μm,17.2s,MS5.5
SNY LR LR
comp=E,3μm,14.3s,MS5.5
SNY LR LR
comp=Z,3μm,14.0s,MS5.5
MAJO Matsushiro 53.59 30 *e*P **P** **19 58 52.0 -2.2**
MAJO pmax pmax
comp=Z,251nm,1.9s,mb5.8
MAJO Matsushiro 53.59 30 *e*P **P** **19 58 52.0 -2.1**
comp=Z,251nm,1.9s,mb5.8
MAT Matsushiro 53.59 30 P **P** **19 58 51.8 -2.4**
MAT S **S** **20 06 15.0 -11**
MAT Matsushiro 53.59 30 *e*P **P** **19 58 52.0 -2.2**
MAT *e*S **S** **20 06 16.0 -10**
MAT pmax pmax
comp=Z,106nm,1.5s,mb5.5
MAT Matsushiro 53.59 30 *e*P **P** **19 58 52.0 -2.2**
comp=Z,106nm,1.5s,mb5.5
MAT *e*S **S** **20 06 16.0 -10**
MJAR Matsushiro Arr 53.59 30 P **P** **19 58 52.1 -2.0**
comp=Z,36nm,1.1s,mb5.2,baz=207,slow=8.0,SNR=19
MJAR LR LR 20 22 59.1
comp=Z,1μm,19.5s,MS5.0,baz=225,slow=37
MJAR Matsushiro Arr 53.59 30 P **P** **19 58 52.1 -2.1**
MJAR pmax pmax
comp=Z,36nm,1.1s
MJAR MLR MLR
comp=Z,1μm,19.5s
CN2 Changchun 55.00 15 ⇑ P **P** **19 59 03.3 -1.2**
CN2 *e*S **S** **20 06 46.8 +2.0**
CN2 AMB AMB
comp=Z,50nm,1.5s,mb5.3
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,3μm,16.0s,MS5.6
CN2 LR LR
comp=E,3μm,16.0s,MS5.6
CN2 LR LR
comp=Z,4μm,18.0s,MS5.5
WMQ Urumqi 55.77 342 P **P** **19 59 12.4 +2.5**
WMQ AP pP 19 59 16.5 -1.9
WMQ XP sP 19 59 18.9 -2.9
WMQ PP PP 20 01 18.4 +3.9
WMQ S **S** **20 06 57.3 +2.3**
WMQ AMB AMB
comp=Z,84nm,1.5s,mb5.5
WMQ AMB AMB
comp=Z,437nm,4.9s
WMQ LR LR
comp=N,2μm,18.0s,MS5.4
WMQ LR LR
comp=E,2μm,16.9s,MS5.4
WMQ LR LR
comp=Z,2μm,18.5s,MS5.3
VLA Vladivostok 56.38 21 *d i*P **P** **19 59 13.6 -0.7**
VLA *e* pP 19 59 22.0 -0.8
VLA *e* 19 59 25.3
VLA *e*S **S** **20 07 01.0 -2.2**
VLA pmax pmax
comp=Z,90nm,1.6s,mb5.5

VLA Vladivostok 56.38 21 *i*P **P** **19 59 12.0 -2.3**
SONM Songino Array 56.69 359 P **P** **19 59 16.7 +0.2**
comp=Z,60nm,0.8s,mb5.7,baz=178,slow=7.7,SNR=81
SONM LR LR 20 26 18.2
comp=Z,4μm,19.1s,MS5.6,baz=181,slow=39
SONM Songino Array 56.69 359 P **P** **19 59 16.7 +0.2**
SONM pmax pmax
comp=Z,60nm,0.8s
SONM MLR MLR
comp=Z,4μm,19.1s
KSH Kashi 56.71 331 ⇑ P **P** **19 59 17.0 +0.3**
KSH *e*AP pP 19 59 23.1 -2.0
KSH *e*XP sP 19 59 25.3 -3.1
KSH *e*PCP PcP 20 00 13.5 +1.0
KSH *e*PP PP 20 01 24.5 +1.6
KSH *e*PPP 20 02 41.8
KSH *e*S **S** **20 07 06.3 -1.2**
KSH *e*PS 20 07 27.3
KSH *e*SCS ScS 20 09 02.3 -1.7
KSH AMB AMB
comp=Z,961nm,1.9s,mb6.5
KSH LR LR
comp=N,4μm,16.3s,MS5.7
KSH LR LR
comp=E,3μm,15.0s,MS5.7
KSH LR LR
comp=Z,2μm,14.6s,MS5.4
ULN Ulaanbaatar 56.71 359 ⇑ P **P** **19 59 17.3 +0.6**
SNR=18
ULN Ulaanbaatar 56.71 359 *c i*P **P** **19 59 16.4 -0.3**
ULN Ulaanbaatar 56.71 359 *e*P **P** **19 59 16.0 -0.7**
ULN LR LR
comp=Z,3μm,21.0s,MS5.4
MDJ Mudanjiang 56.94 18 P **P** **19 59 16.8 -1.5**
MDJ PCP PcP 20 00 13.8 +0.4
MDJ PP PP 20 01 26.8 +1.8
MDJ S **S** **20 07 15.9 +5.3**
MDJ AMB AMB
comp=Z,28nm,1.4s,mb5.1
MDJ AMB AMB
comp=Z,332nm,7.5s
MDJ LR LR
comp=N,324nm,19.8s,MS4.6
MDJ LR LR
comp=E,340nm,19.4s,MS4.6
MDJ LR LR
comp=Z,473nm,19.4s,MS4.6
MDJ Mudanjiang 56.94 18 *e*P **P** **19 59 17.2 -1.1**
comp=Z,8.5nm,0.6s,mb5.0
CASY Casey 57.13 179 *e*P **P** **19 59 16.2 -3.5**
DZM Mont Dzumac 57.55 110 P **P** **19 59 24.5 +1.9**
comp=Z,19nm,0.8s,mb5.2,baz=313,slow=2.9,SNR=9.4
WSAR Wadi Sarin 57.91 305 P **P** **19 59 25.2 +0.1**
comp=Z,19nm,0.6s,mb5.3,baz=184,slow=8.5,SNR=18
WSAR LR LR 20 22 58.6
comp=Z,3μm,20.0s,MS5.4,baz=118,slow=35
MIR Mirnyy 58.27 187 *d i*P **P** **19 59 26.0 -1.7**
MIR pmax pmax
comp=Z,550nm,1.5s,mb6.4
SMDO Samad 58.30 304 ⇓ P **P** **19 59 28.7 +0.8**
SNR=11
HIA Hailar 59.03 9 *c i*P **P** **19 59 31.9 -1.1**
HIA Hailar 59.03 9 *e*P **P** **19 59 31.5 -1.4**
HIA LR LR
comp=Z,2μm,19.0s,MS5.3
AAA Alma-Ata 59.24 334 *e*P **P** **19 59 34.5 +0.1**
AAA *e*S **S** **20 07 37.5 -3.1**
AAA pmax pmax
comp=Z,9μm,4.0s
AAA smax
comp=N,14μm,7.0s
AAA MLR MLR
comp=Z,32μm,15.0s
ZAK Zakamensk 59.36 357 ⇑ *e*P **P** **19 59 34.8 -0.4**
ZAK pmax pmax
comp=Z,29nm,1.4s,mb5.1
OPO Ambohidratompo 59.47 254 P **P** **19 59 37.1 +1.1**
comp=Z,15nm,0.7s,mb5.1,baz=84,slow=5.2,SNR=24
ARQ Araqi 59.68 304 ⇑ P **P** **19 59 37.8 +0.3**
SNR=6.8
AAK Ala-Archa 59.83 332 *c i*P **P** **19 59 37.6 -0.9**
AAK pmax pmax
comp=Z,35nm,1.3s,mb5.2
AAK Ala-Archa 59.83 332 ⇑ *i*P **P** **19 59 37.7 -0.8**
MKAR Makanchi Array 60.14 340 *i* P **P** **19 59 40.6 0.0**
comp=Z,91nm,0.5s,mb6.0,baz=144,slow=7.4,SNR=72
MKAR Makanchi Array 60.14 340 *i* P **P** **19 59 47.0 +6.4**
MKAR pmax pmax
comp=Z,11nm,0.5s
TLY Talaya 60.64 357 P **P** **19 59 44.3 +0.3**
comp=Z,147nm,0.8s,mb6.2,SNR=13
IRK Irkutsk 61.17 357 ⇑ *i*P **P** **19 59 47.3 -0.3**
IRK *e*S **S** **20 08 06.2 +0.8**
IRK pmax pmax
comp=Z,124nm,2.0s,mb5.7
ASAJ Asahikawa 61.58 28 P **P** **19 59 49.4 -1.1**
comp=Z,20nm,0.6s,mb5.4,baz=229,slow=9.7,SNR=17
ASAJ Asahikawa 61.58 28 P **P** **19 59 49.4 -1.0**
ASAJ pmax pmax
comp=Z,20nm,0.6s
KLR Kul'dur 61.73 18 κ *i*P **P** **19 59 47.0 -4.4**
KLR *e*S **S** **20 08 08.0 -4.6**
HABR Khabarovsk 62.12 20 ⇑ *i*P **P** **19 59 53.1 -0.9**
HABR *e*S **S** **20 08 16.6 -0.8**
HABR pmax pmax
comp=Z,91nm,1.4s,mb5.7
YSS Yuzh-Sakhalins 63.85 26 α *i*P **P** **20 00 04.2 -1.3**
YSS *e**SP sP 20 00 15.0 -2.3
YSS S **S** **20 08 30.0 -9.0**
YSS pmax pmax
comp=Z,120nm,1.0s,mb5.9
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
YSS Yuzh-Sakhalins 63.85 26 *e*P **P** **20 00 04.7 -0.8**
comp=Z,195nm,1.2s,mb6.0
KURK Kurchatov 64.76 340 P **P** **20 00 11.1 -0.4**
comp=Z,681nm,0.8s,SNR=19
KURK Kurchatov 64.76 340 ⇑ P **P** **20 00 11.7 +0.2**
SNR=11
KURK Kurchatov 64.76 340 *c i*P **P** **20 00 11.4 -0.1**
KURK Kurchatov 64.76 340 *e*P **P** **20 00 11.4 -0.1**
KURK LR LR
comp=Z,3μm,19.0s,MS5.5
MAW Mawson 65.64 197 *e*P **P** **20 00 16.2 -1.0**
comp=Z,46nm,1.2s,mb5.4
MAW Mawson 65.64 197 P **P** **20 00 16.3 -0.8**
comp=Z,46nm,0.9s,mb5.5,baz=52,slow=7.2,SNR=85
MAW LR LR 20 24 34.0
comp=Z,630nm,18.1s,MS4.9,baz=44,slow=32
MAW Mawson 65.64 197 P **P** **20 00 16.3 -0.9**
MAW pmax pmax
comp=Z,46nm,0.9s
MAW MLR MLR
comp=Z,630nm,18.1s
MAW Mawson 65.64 197 *e*P **P** **20 00 16.2 -1.0**
comp=Z,46nm,1.2s,mb5.4
ZAL Zalesovo 65.76 345 P **P** **20 00 16.8 -1.2**
comp=Z,11nm,0.5s,mb5.2,baz=321,slow=2.6,SNR=11
ZAL LR LR 20 32 12.6
comp=Z,3μm,18.3s,MS5.5,baz=73,slow=39
ZAL Zalesovo 65.76 345 *i* P **P** **20 00 16.7 -1.3**
ZAL pmax pmax
comp=Z,11nm,0.5s
KRAR Krasnoyarsk 66.06 351 *c i*P **P** **20 00 17.5 -2.4**
KRAR pmax pmax
comp=Z,240nm,1.7s,mb6.0
BOD Bodaibo 66.86 4 *e*P **P** **20 00 24.2 -0.8**
BOD pmax pmax
comp=Z,58nm,1.8s,mb5.3
NVS Novosibirsk 66.98 345 ⇑ *i*P **P** **20 00 24.1 -1.6**
NVS *e*S S 20 09 06.4 -11
NVS pmax pmax
comp=Z,77nm,1.7s,mb5.5
NVS pmax pmax
comp=N,57nm,1.5s
NVS pmax pmax
comp=E,42nm,1.5s
NVS smax
comp=N,75nm,2.1s
NVS smax
comp=E,32nm,1.8s
CLNS Chul'man 67.17 10 *e*P **P** **20 00 25.9 -1.1**
CLNS pmax pmax
comp=N,22nm,1.2s
CLNS pmax pmax
comp=Z,33nm,1.2s,mb5.2

CLNS pmax pmax
comp=E,11nm,1.1s
CLNS MLR MLR
comp=N,2μm,14.0s,MS5.6
CLNS MLR MLR
comp=E,3μm,14.0s,MS5.6
CLNS MLR MLR
comp=E,1μm,15.0s,MS5.6
ATD Arta Tunnel 67.84 286 P **P 20 00 32.6 +1.3**
comp=E,10nm,0.8s,mb4.9,baz=88,slow=22,SNR=4.3
ATD LR LR 20 23 41.7
comp=E,303nm,20.4s,MS4.5,baz=238,slow=30
URZ Urewera 68.12 128 P **P 20 00 35.4 +2.4**
baz=293,slow=8.1
QRN Al-Qurain 68.97 305 *e*P **P 20 00 37.8 -0.5**
QRN AMb AMB 20 00 39.1
comp=Z,128nm,0.6s,mb6.0
KBD Kabd 69.33 306 *e*P **P 20 00 40.0 -0.4**
RDF Al-Radifah 69.34 305 *e*P **P 20 00 40.3 -0.3**
RDF AMb AMB 20 00 41.2
comp=Z,96nm,0.7s,mb5.8
UMR Umm Al-Rimmam 69.46 306 *e*P **P 20 00 41.2 -0.1**
UMR AMb AMB 20 00 42.6
comp=Z,197nm,0.5s,mb6.3
BVAR Borovoye Array 69.63 337 P **P 20 00 42.2 -0.2**
comp=Z,37nm,0.6s,mb5.5,baz=148,slow=8.0,SNR=38
BVAR Borovoye Array 69.63 337 P **P 20 00 42.2 -0.1**
BVAR pmax pmax
comp=Z,37nm,0.6s
BRVK Borovoye 69.69 337 P **P 20 00 42.7 -0.1**
comp=Z,422nm,0.7s,mb6.5,SNR=17
BRVK Borovoye 69.69 337 ⇑P **P 20 00 42.7 -0.1**
SNR=9.2
BRVK Borovoye 69.69 337 *e*P **P 20 00 42.4 -0.4**
BRVK pmax pmax
comp=Z,24nm,0.6s,mb5.3
BRVK Borovoye 69.69 337 *e*P **P 20 00 42.4 -0.4**
comp=Z,24nm,0.6s,mb5.3
NAY Al-Naaiem 69.72 306 *e*P **P 20 00 42.3 -0.6**
NAY AMb AMB 20 00 43.3
comp=Z,54nm,0.7s,mb5.6
RST Umm Al-Ruwaisa 70.01 306 *e*P **P 20 00 44.2 -0.5**
RST AMb AMB 20 00 45.6
comp=Z,140nm,0.6s,mb6.0
CHKZ Chkalovo 70.04 337 *e*P **P 20 00 44.9 0.0**
ZRNK Zerenda 70.11 336 *e*P **P 20 00 45.1 -0.2**
KMBO Kilima Mbogo 70.71 272 P **P 20 00 48.2 -0.8**
comp=Z,5.8nm,0.8s,mb4.6,baz=67,slow=9.3,SNR=14
KMBO LR LR 20 26 07.6
comp=Z,1μm,21.0s,MS5.0,baz=274,slow=31
KMBO Kilima Mbogo 70.71 272 P **P 20 00 48.2 -0.8**
KMBO pmax pmax
comp=Z,6.0nm,0.8s
KMBO MLR MLR
comp=Z,1μm,21.0s
SKR Severo-Kuril's 72.69 30 *e*P **P 20 00 57.2 -3.7**
SKR *e* 20 10 18.0
SKR pmax pmax
comp=Z,160nm,0.9s,mb6.0
YAK Yakutsk 72.91 11 *e*P **P 20 01 01.1 -1.1**
YAK *e* 20 01 19.1
YAK *e* 20 03 38.3
YAK *e*PPP 20 05 25.2
YAK *e*S S 20 10 22.2 -4.7
YAK *e* 20 11 04.4
YAK *e*SS SS 20 14 59.5 -7.9
YAK *e*SSS 20 18 20.2
YAK pmax pmax
comp=Z,56nm,0.8s,mb5.5
YAK pmax pmax
comp=N,28nm,1.4s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=Z,3.0nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK smax
comp=E,10.0nm,1.6s
YAK smax
comp=N,20nm,1.0s
YAK MLR MLR
comp=Z,1μm,18.0s,MS5.2
YAK MLR MLR
comp=N,1μm,17.0s,MS5.3
YAK MLR MLR
comp=E,972nm,16.0s,MS5.3
YAK Yakutsk 72.91 11 *e*P **P 20 01 00.8 -1.4**
AKTK Aktyubinsk 73.36 329 P **P 20 01 04.6 -0.3**
AKTO Aktyubinsk 73.36 329 P **P 20 01 04.6 -0.3**
comp=E,16nm,0.8s,mb5.0,baz=118,slow=9.1,SNR=15
AKTO Aktyubinsk 73.36 329 P **P 20 01 04.6 -0.3**
AKTO pmax pmax
comp=Z,16nm,0.8s,mb5.0
BHD Baghdad 73.55 309 *ex* x 20 01 04.0
VNDA Vanda 73.76 169 P **P 20 01 06.2 -1.0**
comp=Z,27nm,0.9s,mb5.2,baz=295,slow=7.7,SNR=19
VNDA Vanda 73.76 169 P **P 20 01 06.2 -1.0**
VNDA pmax pmax
comp=Z,27nm,0.9s
VNDA Vanda 73.76 169 *e*P **P 20 01 06.3 -0.9**
comp=Z,41nm,1.1s,mb5.3
SYO Syowa Base 73.86 200‖ *e*P **P 20 01 08.0 +0.2**
SYO Syowa Base 73.86 200‖ *e*P **P 20 01 06.0 -1.8**
SBA Scott Base 74.83 169 *e*P **P 20 01 13.5 0.0**
SBA pmax pmax
comp=Z,67nm,1.2s,mb5.5
SBA Scott Base 74.83 169 *e*P **P 20 01 13.5 0.0**
comp=Z,67nm,1.2s,mb5.4
PET Petropavlovsk 75.39 29 *e*P **P 20 01 16.1 -0.5**
PET *e* 20 01 30.0
PET *e*S S 20 10 55.3 +0.6
PET *e*PS 20 11 31.5
PET pmax pmax
comp=Z,52nm,1.5s,mb5.2
PET pmax pmax
comp=Z,300nm,3.2s
PET pmax pmax
comp=Z,200nm,17.2s
PET pmax pmax
comp=Z,300nm,10.0s
PET pmax pmax
comp=Z,62nm,1.0s,mb5.5
PET pmax pmax
comp=Z,500nm,6.4s
PET smax
comp=N,400nm,7.2s
PET smax
comp=E,500nm,7.6s
PET smax
comp=N,200nm,9.3s
PET smax
comp=E,300nm,8.7s
PET Petropavlovsk 75.39 29 *e*P **P 20 01 16.4 -0.2**
comp=E,17nm,0.6s,mb5.2
MAK Makhachkala 75.43 319 *i*P **P 20 01 18.0 +1.1**
MSL Mosul 75.69 311 *ex* x 20 01 20.0
HAKT HAKKARI 75.73 312 *i*P **P 20 01 18.3 -0.4**
GNI Garni 76.05 315‖ *e*P **P 20 01 21.6 +1.1**
GNI pmax pmax
comp=Z,13nm,1.1s
DGRG David-gareji 76.17 317 S **P 20 01 26.4 +5.3**
DGRG David-gareji 76.17 317 S **P 20 01 22.0 +0.9**
MA2 Magadan 76.51 21*c* *i*P **P 20 01 22.9 -0.2**
MA2 pmax pmax
comp=Z,42nm,1.0s,mb5.3
MA2 Magadan 76.51 21 *e*P **P 20 01 23.0 -0.1**
MTA Mtatsminda 76.67 317 S **P 20 01 24.0 0.0**
MTA Mtatsminda 76.67 317 S **P 20 01 29.7 +5.8**
TBLG Delisi 76.72 317 S **P 20 01 29.1 +4.9**
TBLG Delisi 76.72 317 S **P 20 01 23.3 -0.9**
ARU Arti 76.88 334 P **P 20 01 25.3 +0.2**
comp=Z,240nm,0.7s,mb6.2,SNR=6.1
ARU Arti 76.88 334⇑ *i*P **P 20 01 24.9 -0.2**
ARU *e* 20 01 35.7
ARU *e* 20 04 18.6
ARU *e*PPP 20 06 04.9
ARU *e*S S 20 11 09.5 -1.6
ARU *e*SSS 20 19 28.8
ARU pmax pmax
comp=Z,35nm,0.9s,mb5.3
ARU MLR MLR
comp=Z,2μm,20.5s,MS5.3
ARU MLR MLR
comp=N,600nm,20.0s,MS5.3
ARU MLR MLR
comp=E,1μm,20.0s,MS5.3
ARU Arti 76.88 334 *e*P **P 20 01 24.7 -0.4**
MBAR Mbarara 77.22 271*d* *i*P **P 20 01 27.5 +0.4**
BEST Besiri 77.64 312 *i*P **P 20 01 29.6 +0.2**
ZEI Tsey 77.72 317 *e*P **P 20 01 30.2 +0.3**
ZEI *e**PP pP 20 01 38.6 0.0
ZEI pmax pmax
comp=Z,25nm,0.7s,mb5.2
MARD Mardin 77.79 311 *i*P **P 20 01 30.7 +0.5**
LSZ Lusaka 77.80 256 LR LR 20 32 12.7
comp=Z,1μm,19.9s,MS5.3,baz=101,slow=33
LSZ Lusaka 77.80 256 *e*P **P 20 01 30.7 +0.4**
LSZ pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LSZ Lusaka 77.80 256 *e*P **P 20 01 30.7 +0.4**
comp=Z,9.1nm,0.6s,mb4.9
ONI Oni 77.95 317 S **P 20 01 38.4 +7.3**
KIV Kislovodsk 79.02 318*c* *i*P **P 20 01 37.3 +0.3**
KIV pmax pmax
comp=Z,16nm,0.6s,mb5.1
KIV Kislovodsk 79.02 318 *e*P **P 20 01 37.3 +0.2**
comp=Z,24nm,0.7s,mb5.2
ASF Jabal al Asfar 79.08 305 P **P 20 01 38.4 +1.0**
comp=Z,11nm,0.6s,mb5.0,baz=3.5,slow=3.1,SNR=13
ASF LR LR 20 39 52.3
comp=Z,1μm,19.9s,MS5.2,baz=158,slow=38
ASF Jabal al Asfar 79.08 305 P **P 20 01 38.4 +1.1**
ASF pmax pmax
comp=Z,11nm,0.6s
ASF MLR MLR
comp=Z,1μm,19.9s
GOF Gofitskoye 79.25 319 *e*P **P 20 01 41.6 +3.3**
GOF *e*S S 20 11 42.6 +6.0
GOF pmax pmax
comp=Z,60nm,1.3s,mb5.4
LBTB Lobatse 79.28 246 *e*P **P 20 01 39.1 +0.7**
LBTB pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LBTB Lobatse 79.28 246 *e*P **P 20 01 39.1 +0.6**
comp=Z,8.8nm,0.6s,mb4.9
KELT Kelkit 79.93 314 *i*P **P 20 01 42.2 +0.3**
EIL Elat 79.93 302 *e*P **P 20 01 41.2 -0.8**
MMAI Mount Meron Ar 80.53 306 P **P 20 01 46.4 +1.2**
comp=Z,12nm,0.5s,mb5.0,baz=93,slow=8.4,SNR=20
MMAI LR LR 20 40 50.8
comp=Z,1μm,19.4s,MS5.2,baz=115,slow=38
SOC Sochi 80.86 317 *e*P **P 20 01 45.3 -1.7**
SOC *e**PP pP 20 01 56.7 +1.0
SOC *e* 20 04 46.9
SOC *e*PPP 20 06 50.3
SOC *e*S S 20 11 48.7 -4.9
SOC *e*SSS 20 20 29.4
SOC pmax pmax
comp=Z,19nm,0.8s,mb5.1
SOC MLR MLR
comp=Z,578nm,22.0s,MS4.9
TIXI Tiksi 81.77 7 *e*P **P 20 01 49.4 -2.4**
TIXI pmax pmax
comp=Z,43nm,0.8s,mb5.4
TIXI Tiksi 81.77 7⇑ *i*P **P 20 01 50.4 -1.4**
VRHR Novokhopersk 82.60 324 *e*P **P 20 01 55.9 -0.3**
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=Z,80nm,0.6s,mb5.9
VRHR pmax pmax
comp=E,10.0nm,0.5s
CSS Prodhromos 82.74 307 *e*P **P 20 01 57.6 +0.7**
comp=E,39nm,1.0s,mb5.4
NVL N'lazarevskaya 83.48 199*d* *i*P **P 20 02 00.0 -0.7**
NVL pmax pmax
comp=Z,50nm,1.5s,mb5.3
NVL *e*SSS 20 23 25.1
NVL pmax pmax
comp=Z,50nm,1.5s,mb5.3
NVL N'lazarevskaya 83.48 199*d* *i*P **P 20 02 00.0 -0.7**
ERMK Ermenek 83.54 309 *i*P **P 20 02 01.6 +0.6**
BR131 Keskin Array S 83.87 312 *e*P **P 20 02 02.8 +0.1**
comp=Z,7.2nm,0.7s,mb4.9
BRTR Keskin Array B 83.87 312 P **P 20 02 02.9 +0.2**
comp=Z,12nm,0.8s,mb5.0,baz=142,slow=6.7,SNR=9.4
BRTR LR LR 20 41 19.6
comp=Z,908nm,21.4s,MS5.1,baz=95,slow=37
BRTR Keskin Array B 83.87 312 P **P 20 02 02.9 +0.2**
BRTR pmax pmax
comp=Z,12nm,0.8s
BRTR MLR MLR
comp=Z,908nm,21.4s
VRSR Storozhevoye 84.06 324 *e*P **P 20 02 02.9 -0.8**
VRSR *e**PP pP 20 02 14.4 +1.9
VRSR *e*S S 20 12 20.2 -6.1
VRSR pmax pmax
comp=Z,90nm,0.7s,mb6.0
VRSR pmax pmax
comp=N,20nm,1.1s
VRSR pmax pmax
comp=E,10.0nm,0.4s
VRSR smax
comp=N,80nm,4.6s
VRSR smax
comp=Z,40nm,3.1s
VRSR smax
comp=E,160nm,4.3s
VOR Voronezh 84.25 324 *e*P **P 20 02 04.0 -0.6**
VOR *e* 20 05 20.0
VOR pmax pmax
comp=Z,10.0nm,1.8s,mb4.6
ANTO Ankara 84.54 312⇑ *i*P **P 20 02 05.0 -1.1**
ANTO Ankara 84.54 312 *e*P **P 20 02 05.9 -0.2**
ANTO pmax pmax
comp=Z,48nm,1.3s,mb5.5
ANTO Ankara 84.54 312 *e*P **P 20 02 05.9 -0.2**
comp=Z,48nm,1.3s,mb5.5
KDHN Kadinhani 84.67 310 *i*P **P 20 02 06.6 -0.2**
SGKT Sivrigoynuk 85.28 312 *i*P **P 20 02 10.8 +1.0**
ESKT Eskisehir 85.89 311 *i*P **P 20 02 13.4 +0.6**
TKTP Tekketepe 85.90 309 *i*P **P 20 02 12.9 0.0**
HENT Hendek 86.19 312 *i*P **P 20 02 14.5 +0.2**
BORA Eskisehir 86.27 311 *i*P **P 20 02 15.2 +0.4**
MOS Moscow 86.61 328 *e*P **P 20 02 14.4 -2.0**
MOS *e* 20 05 34.4
MOS *e* 20 12 38.7
MOS *i*S S 20 12 48.2 -3.3
MOS pmax pmax
comp=Z,55nm,1.1s,mb5.7
GDZ Gediz 86.80 310 *i*P **P 20 02 17.1 -0.3**
OBN Obninsk 86.95 327*c* *i*P **P 20 02 17.8 -0.3**
OBN *e**PP pP 20 02 30.9 +4.0
OBN *e* 20 05 38.0
OBN pmax pmax
comp=Z,116nm,1.7s,mb5.8
OBN Obninsk 86.95 327 *e*P **P 20 02 17.8 -0.3**
comp=Z,34nm,0.6s,mb5.8
ULDT Uludag 87.32 311 *i*P **P 20 02 20.8 +0.9**
TSUM Tsumeb 87.35 251 *e*P **P 20 02 20.7 +0.7**
comp=Z,32nm,1.5s,mb5.3
KLMR Klimovskoe 87.64 333 *e*P **P 20 02 21.0 -0.4**
KLMR *e*S S 20 12 44.5 -17
KLMR pmax pmax
comp=Z,120nm,1.6s,mb5.9
KLMR pmax pmax
comp=Z,130nm,7.4s
KLMR MLR MLR
comp=Z,1μm,19.0s,MS5.4
SNAA Sanae 87.81 197⇓ *i*Pdiff **P 20 02 21.4 -0.8**
SNAA *e* 20 02 22.5
SNAA *e* 20 02 24.2
SNAA *e* 20 02 24.8
SNAA *e* pP 20 02 29.5 -1.6
AKHS Akhisar 88.02 310 *i*P **P 20 02 21.8 -1.4**
KDAG Bornova 88.33 309 *i*P **P 20 02 26.0 +1.3**
URLA Izmir 88.83 309 *i*P **P 20 02 28.2 +1.1**
TIRR Tirgusor 88.88 315⇑ *i*P **P 20 02 28.0 +0.7**
TIRR Tirgusor 88.88 315 *e*P **P 20 02 27.6 +0.3**
KIS Kishinev 89.22 318 *e*P **P 20 02 28.0 -0.9**
KIS *e* 20 06 00.0
KIS *e*S S 20 13 14.0 -2.4
KIS *e*PS PS 20 14 20.0 -4.2
CFR Carcaliu 89.24 316‖ *i*P **P 20 02 29.5 +0.5**
CFR Carcaliu 89.24 316‖ P **P 20 02 29.5 +0.5**
HARR Harsova 89.27 315⇑ *i*P **P 20 02 29.9 +0.8**
HARR Harsova 89.27 315 ⇑P **P 20 02 29.9 +0.8**
VNA1 Neumayer--Stat 89.83 197⇓ *i*Pdiff **P 20 02 31.9 +0.2**
VNA1 *e* 20 02 33.1
VNA1 *e* 20 02 34.8
VNA1 *e* pP 20 02 38.9 -1.7
AKASG Malin Array Be 89.87 321 P **P 20 02 31.1 -0.8**
comp=Z,1.3nm,0.5s,mb4.5,baz=90,slow=4.5,SNR=7.1
AKASG PP PP 20 06 02.5 -2.2
comp=Z,2.2nm,0.8s,baz=91,slow=5.9,SNR=14
AKASG Malin Array Be 89.87 321 P **P 20 02 31.1 -0.8**
AKASG 20 06 02.5
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG pmax pmax
comp=Z,2.0nm,0.8s
VRI Vrincioaia 90.36 316⇑ *i*P **P 20 02 35.2 +1.0**
VRI Vrincioaia 90.36 316 ⇑P **P 20 02 35.2 +0.9**
MLR Muntele Rosu 90.82 316 P **P 20 02 36.4 +0.1**
comp=Z,6.8nm,0.6s,mb5.2,baz=279,slow=1.1,SNR=7.5
MLR Muntele Rosu 90.82 316⇓ *i*P **P 20 02 36.5 +0.2**
MLR Muntele Rosu 90.82 316 ⇓P **P 20 02 36.5 +0.2**
VOIR 91.43 316⇑ *i*P **P 20 02 38.8 -0.3**
VOIR 91.43 316 ⇑P **P 20 02 38.8 -0.4**
BURAR Bucovina Array 91.75 318⇑ *i*P **P 20 02 42.4 +1.8**
BURAR Bucovina Array 91.75 318 ⇑P **P 20 02 42.4 +1.7**
VTS Vitosha 92.20 313⇑ *i*P **P 20 02 43.1 +0.4**
VTS Vitosha 92.20 313 ⇑P **P 20 02 43.1 +0.4**
GZR Gura Zlata 92.99 315⇑ *i*P **P 20 02 47.3 +0.9**
GZR Gura Zlata 92.99 315 ⇑P **P 20 02 47.3 +0.9**
BZS Buzias 93.83 315⇑ *i*P **P 20 02 50.5 +0.2**
BZS Buzias 93.83 315 ⇑P **P 20 02 50.5 +0.2**
KOLS Kolonicke sedl 93.92 319 *e*P **P 20 02 50.8 +0.2**
FINES FINESS Array B 94.02 332 P **P 20 02 50.6 -0.5**
comp=Z,1.9nm,0.8s,mb4.6,baz=112,slow=5.1,SNR=4.8
FINES FINESS Array B 94.02 332 P **P 20 02 50.6 -0.5**
FINES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 95.79 339 P **P 20 02 58.2 -1.0**
comp=Z,2.1nm,0.6s,mb4.8,baz=87,slow=5.2,SNR=8.3
ARCES LR LR 20 52 17.0
comp=Z,2μm,18.9s,MS5.7,baz=108,slow=39
ARCES ARCESS Array B 95.79 339 P **P 20 02 58.2 -1.0**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES MLR MLR
comp=Z,2μm,18.9s
ARCES ARCESS Array B 95.79 339 P **P 20 02 58.2 -1.0**
ARCES LR LR 20 52 17.1
PKSM Moragy 95.97 316⇑ *i*P **P 20 03 00.0 0.0**
PKSM Moragy 95.97 316 ⇑P **P 20 02 60.0 -0.1**
VYHS Vyhne 96.11 318 *e*PP PP 20 06 51.0 -2.6
OKC Ostrava-Krasne 96.71 319 *e*PP PP 20 06 58.9 +0.7
OKC AMS AMS 20 54 50.0
comp=Z,700nm,15.8s
DPC Dobruska-Polom 97.93 320 *e*PP PP 20 07 08.1 +0.5
DPC AMS AMS 20 56 30.0
comp=Z,1μm,17.4s
UPC Upice 98.14 320 *e*PP PP 20 07 04.0 -5.2
TREC Trest 98.39 319 *e*PP PP 20 07 10.7 -0.4
TREC AMS AMS 20 56 50.0
comp=Z,1μm,19.8s
PRU Pruhonice 99.04 319 *e*PP PP 20 07 13.7 -2.4
PRU AMS AMS 20 55 10.0
comp=Z,800nm,18.9s
PPT Papeete 99.05 109 *e*LR LR 20 35 18.3
PVCC Panska Ves 99.06 320 *e*PP PP 20 07 17.1 +0.9
PVCC AMS AMS 20 55 00.0
comp=Z,1μm,19.6s
GERES GERESS Array B 99.53 318 P **P 20 03 15.5 -0.5**
comp=Z,0.2nm,0.3s,baz=96,slow=3.0,SNR=3.0
GERES PP PP 20 07 17.2 -2.6
comp=Z,0.7nm,0.8s,baz=96,slow=6.7,SNR=4.0
GERES GERESS Array B 99.53 318 P **P 20 03 15.5 -0.6**
GERES 20 07 17.2
GERES pmax pmax
comp=Z,1.0nm,0.8s
KHC Kasperske Hory 99.63 318 *e*PP PP 20 07 16.6 -3.9
KHC AMS AMS 20 56 20.0
comp=Z,1μm,17.8s
CLL Collm 100.08 321 *e*PP PP 20 07 24.0 0.0
CLL *e* 20 07 32.0
CLL Collm 100.08 321 *e*PP PP 20 07 24.0 0.0
CLL *e*(sPP) 20 07 32.0
NKC Novy Kostel 100.40 319 AMS AMS 20 55 50.0
comp=Z,800nm,17.2s
MOX
comp=Z,500nm,20.0s
MOX Moxa 100.94 320 *e* PP 20 07 29.3 -1.2
comp=Z,34nm,2.0s
DAG Danmarks Havn 106.75 349 *i*P PKiKP 20 08 03.0 +4.7
DAG
comp=Z,2μm,17.0s
TOA0 Torodi Ar. Sit 107.69 281 *e*PKiKP PKiKP 20 07 59.9 -0.2
TORD Torodi Ar. Bea 107.69 281 PKiKP PKiKP 20 08 00.5 +0.4
comp=Z,0.9nm,0.6s,baz=60,slow=1.4,SNR=11
TORD PKKPbc PKKPbc 20 19 15.3 +1.5
comp=Z,1.4nm,0.6s,baz=302,slow=3.6,SNR=23
TAOE Nuku Hiva Isla 109.93 103 *e*SS SS 20 23 53.9 -6.2
comp=Z,13μm,37.7s
TAOE *e*LR LR 20 40 27.0
comp=Z,2μm,22.1s
RKT Rikitea 110.69 119 *e*LR LR 20 40 48.7
comp=Z,1μm,33.2s
ESDC Sonseca Array 112.56 309 PKKPbc PKKPbc 20 18 59.8 +1.7
comp=Z,0.6nm,0.6s,baz=259,slow=2.8,SNR=4.0
DBIC Dimbokro 113.42 273 PKiKP PKiKP 20 08 11.5 +0.6
comp=Z,2.3nm,0.6s,baz=182,slow=9.3,SNR=6.7
DBIC Dimbokro 113.42 273 *i*PKiKP PKiKP 20 08 11.5 +0.6
DBIC pmax pmax
comp=Z,2.0nm,0.6s
DBIC Dimbokro 113.42 273 PKPdf PKiKP 20 08 11.5 +0.6
YKA Yellowknife Ar 118.50 21 PKP PKPdf 20 08 19.8 -0.8
comp=Z,1.8nm,0.6s,baz=326,slow=1.7,SNR=16
YKA PKKP PKKPdf 20 19 06.3 -0.5
comp=Z,0.4nm,0.6s,baz=133,slow=3.0,SNR=4.2
MCW Mount Constitu 122.13 37 PKiKP PKPdf 20 08 29.4 +1.8
HDW Hoodsport 122.44 38 P PKPdf 20 08 30.2 +1.9
A05A Maple Falls 122.44 37 ⇑P PKPdf 20 08 29.0 +0.8
baz=122
CMW Cultus Mountai 122.67 37 P PKPdf 20 08 30.4 +1.7
B05A Bryant 122.76 37 ⇑P PKPdf 20 08 30.0 +1.1
baz=123
JCW Jim Creek 122.89 38 P PKPdf 20 08 30.9 +1.8
RPW Rockport 123.02 37 P PKPdf 20 08 30.4 +1.1
C05A Tolt Reservoir 123.25 38 ⇓P PKPdf 20 08 30.8 +1.1
baz=123
H03A Soap Creek Ran 123.48 42 ⇑P PKPdf 20 08 32.2 +2.0
baz=123
F04A Amboy 123.54 40 ⇑P PKPdf 20 08 32.0 +1.6
baz=124
FMW Mount Fremont 123.59 39 P PKPdf 20 08 32.1 +1.7
E05A Randle 123.70 39 ⇑P PKPdf 20 08 32.2 +1.5
baz=124
I03A Eugene 123.76 43 ⇑P PKPdf 20 08 32.6 +1.9
baz=124
J02A Umpqua 123.78 43 ⇑P PKPdf 20 08 32.6 +1.8
baz=124
K02A Glendale 124.06 44 ⇓P PKPdf 20 08 33.2 +1.9
baz=124
J03A Ideyld Park 124.19 43 ⇑P PKPdf 20 08 33.0 +1.4
baz=124
H04A Detroit Lake 124.20 41 ⇓P PKPdf 20 08 33.1 +1.5
baz=124
VFP Flag Point 124.41 40 P PKPdf 20 08 34.2 +2.2
HUMO Hull Mountain 124.49 44 ⇓P PKPdf 20 08 34.2 +2.0
baz=124
N02C Big Bar 124.88 46 ⇓P PKPdf 20 08 35.2 +2.3
baz=125
EDM Edmonton 124.89 29 *e*PKiKP PKPdf 20 08 33.4 +0.5
M02C Callahan 125.00 45 ⇓P PKPdf 20 08 35.4 +2.3
baz=125
VIPM Ingram Point 125.29 41 PKiKP PKPdf 20 08 36.0 +2.3
O02C Red Bluff 125.47 47 ⇑P PKPdf 20 08 36.5 +2.5
baz=125
WDC Whiskeytown Da 125.51 46 ⇑P PKPdf 20 08 35.6 +1.5
baz=126
M04C Macdoel 125.56 45 ⇓P PKPdf 20 08 36.1 +1.9
baz=126
J06A Christmas Vall 126.13 42 ⇓P PKPdf 20 08 37.4 +2.1
baz=126
L05A Lakeview 126.16 44 ⇑P PKPdf 20 08 37.6 +2.3
baz=126
MNRC McLaughlin Nat 126.17 48 ⇓P PKPdf 20 08 38.1 +2.7
baz=126
HATC Hat Creek Radi 126.19 46 ⇑P PKPdf 20 08 37.1 +1.7

	baz=126							
K06A	**Valley Falls**	**126.25**	**43**	⇑P		PKPdf	20 08 37.6	+2.1
	baz=126							
ORV	**Oroville**	**126.62**	**47**	⇑P		PKPdf	20 08 37.6	+1.4
	baz=127							
O05C	**Quincy**	**126.89**	**46**	⇓P		PKPdf	20 08 39.3	+2.5
	baz=127							
L07A	**Adell**	**127.19**	**43**	⇓P		PKPdf	20 08 40.0	+2.7
	baz=127							
J08A	**Circle Bar Ran**	**127.19**	**42**	⇑P		PKPdf	20 08 39.4	+2.1
	baz=127							
BSMT	**Bassoo Peak**	**127.23**	**35**	P		PKPdf	20 08 38.8	+1.4
N06A	**Buffalo Meadow**	**127.36**	**45**	⇓P		PKPdf	20 08 40.0	+2.4
	baz=127							
M07A	**Soldier Meadow**	**127.56**	**44**	⇑P		PKPdf	20 08 40.8	+2.7
	baz=128							
O06A	**Flanigan**	**127.59**	**46**	⇑P		PKPdf	20 08 40.5	+2.4
	baz=128							
HAST	**UC Hastings Re**	**127.65**	**51**	⇑P		PKPdf	20 08 40.6	+2.4
	baz=128							
PACP	**Pacheco Peak**	**127.65**	**50**	⇑P		PKPdf	20 08 40.9	+2.7
	baz=128							
N07B	**Gerlach**	**127.94**	**45**	⇑P		PKPdf	20 08 41.1	+2.3
	baz=128							
S05C	**Merced**	**128.26**	**49**	⇑P		PKPdf	20 08 41.3	+1.9
	baz=128							
O07A	**Toulon**	**128.26**	**45**	⇑P		PKPdf	20 08 41.8	+2.4
	baz=128							
MSO	**Missoula**	**128.27**	**36**	*e*PKPdf		PKPdf	20 08 39.5	+0.2
S06C	**San Francisco**	**128.43**	**48**	⇓P		PKPdf	20 08 42.3	+2.7
	baz=128							
N08A	**GE Springer Mi**	**128.52**	**44**	⇓P		PKPdf	20 08 42.6	+2.7
	baz=128							
PKD	**Parkfield**	**128.57**	**51**	⇑P		PKPdf	20 08 42.3	+2.3
	baz=128							
CHMT	**Chamberlain Mo**	**128.62**	**35**	*e*PKPdf		PKPdf	20 08 41.5	+1.4
T06C	**Millerton Lake**	**128.84**	**49**	⇓P		PKPdf	20 08 43.0	+2.6
	baz=129							
NVAR	**Mina Array Bea**	**129.35**	**47**	PKP		PKPdf	20 08 43.3	+1.8
	comp=Z,2.0nm,0.6s,baz=274,slow=3.5,SNR=8.3							
NVAR				SKPbc			20 12 06.5	
	comp=Z,2.1nm,1.0s,baz=265,slow=2.8,SNR=4.0							
DLMT	**Dillon**	**129.86**	**37**	*e*PKPdf		PKPdf	20 08 44.6	+2.2
EGMT	**Eagleton**	**129.89**	**32**	*e*PKPdf		PKPdf	20 08 44.2	+1.7
PLCA	**Paso Flores**	**130.41**	**182**	PKP		PKPdf	20 08 44.5	+1.0
	comp=Z,3.2nm,0.7s,baz=193,slow=3.7,SNR=8.3							
PLCA	**Paso Flores**	**130.41**	**182**	PKIKP		PKPdf	20 08 44.5	+1.1
PLCA				pmax		pmax		
	comp=Z,3.0nm,0.7s							
PLCA	**Paso Flores**	**130.41**	**182**	PKP		PKPdf	20 08 44.5	+1.0
S09A	**Goldfield**	**130.41**	**48**	⇑P		PKPdf	20 08 46.1	+2.6
	baz=130							
Q11A	**Duckwater**	**131.07**	**46**	⇓P		PKPdf	20 08 46.8	+2.1
	baz=131							
TPNV	**Topopah Spring**	**131.43**	**48**	*e*PKIKP		PKPdf	20 08 48.0	+2.6
GSC	**Goldstone**	**131.64**	**50**	⇑P		PKPdf	20 08 48.5	+2.7
	baz=132							
IMW	**Indian Meadow**	**131.65**	**37**	*e*PKPdf		PKPdf	20 08 44.3	-1.5
PFO	**Pinyon Flat Ob**	**132.52**	**52**	⇑P		PKPdf	20 08 51.1	+3.7
	baz=132							
V12A	**Nelson**	**132.95**	**49**	⇑P		PKPdf	20 08 51.8	+3.6
	baz=133							
W13A	**Hualapai Mount**	**133.93**	**49**	⇑P		PKPdf	20 08 54.1	+4.0
	baz=134							
GLA	**Glamis**	**133.99**	**52**	⇓P		PKPdf	20 08 53.6	+3.4
	baz=134							
X13A	**Yucca**	**134.17**	**50**	⇓P		PKPdf	20 08 54.3	+3.7
	baz=134							
SCHQ	**Schefferville**	**134.19**	**356**	PKP		PKPdf	20 08 51.6	+1.0
	comp=Z,2.0nm,0.5s,baz=45,slow=0.7,SNR=6.6							
SCHQ	**Schefferville**	**134.19**	**356**	PKP		PKPdf	20 08 51.6	+1.0
SCHQ				LR		LR		
	comp=Z,1μm,22.0s,MS5.6							
W14A	**Seligman**	**134.48**	**49**	⇑P		PKPdf	20 08 54.9	+3.8
	baz=134							
X14A	**Yava**	**134.93**	**50**	⇓P		PKPdf	20 08 55.9	+3.9
	baz=135							
Y14A	**Wickenburg**	**135.06**	**50**	⇓P		PKPdf	20 08 56.2	+4.0
	baz=135							
W15A	**Williams**	**135.10**	**48**	⇓P		PKPdf	20 08 56.5	+4.2
	baz=135							
X15A	**Humboldt**	**135.41**	**49**	⇓P		PKPdf	20 08 56.9	+4.0
	baz=135							
PV01	**Paradox Valley**	**136.29**	**43**	*e*PKPdf		PKPdf	20 08 58.0	+3.5
PKME	**Peaks-Kenny Pk**	**143.88**	**357**	*e*PKPpre			20 09 06.2	
LTX	**Lajitas**	**144.22**	**51**	*e*PKIKP		PKPdf	20 09 09.0	+0.2
FRNY	**Flat Rock**	**144.37**	**2**	*e*PKP		PKPdf	20 09 07.2	-1.8
LONY	**Lake Ozonia**	**144.54**	**3**	*e*PKP		PKPdf	20 09 08.6	-0.8
WMOK	**Wichita Mounta**	**144.67**	**40**	*e*PKIKP		PKPdf	20 09 09.9	+0.3
MIV	**Mineville/With**	**145.13**	**2**	*e*PKP		PKPdf	20 09 10.4	0.0
NCB	**Newcomb**	**145.21**	**3**	*e*PKP		PKPdf	20 09 11.0	+0.4
HNH	**Hanover**	**145.52**	**0**	*e*PKP		PKPdf	20 09 12.0	+1.0
BDFB	**Brasilia**	**145.75**	**224**	PKPbc		PKPbc	20 09 12.6	+0.7
	comp=Z,25nm,0.7s,baz=256,slow=3.0,SNR=3.1							
BDFB	**Brasilia**	**145.75**	**224**	PKP2		PKPab	20 09 12.6	+0.3
BDFB				pmax		pmax		
	comp=Z,25nm,0.7s							
ACCN	**Adirondack Com**	**145.81**	**2**	*e*PKPdf		PKPdf	20 09 11.6	0.0
ACCN				*e*PKPbc		PKPbc	20 09 12.4	+0.3
SLM	**Saint Louis**	**146.38**	**26**	*e*PKP2		PKPab	20 09 14.2	-0.5
ERPA	**Erie**	**146.38**	**11**	*e*PKPbc		PKPbc	20 09 14.2	+0.4
CCM	**Cathedral Cave**	**146.40**	**28**	*e*PKPdf		PKPdf	20 09 12.4	-0.1
CCM				*e*PKPbc		PKPbc	20 09 13.8	-0.1
JCT	**Junction City**	**146.53**	**47**	*e*PKPdf		PKPdf	20 09 14.4	+1.6
JCT				*e*PKPbc		PKPbc	20 09 16.3	+2.1
HRV	**Harvard--Oak R**	**146.72**	**359**	*e*PKP2		PKPab	20 09 15.4	-0.6
ALLY	**Alegheny Colle**	**146.81**	**11**	*e*PKPbc		PKPbc	20 09 15.4	+0.4
FVM	**French Village**	**146.83**	**27**	*e*PKP2		PKPab	20 09 15.7	-0.7
BINY	**Binghamton**	**146.85**	**5**	*e*PKPbc		PKPbc	20 09 15.8	+0.7
QUA2	**Belchertown**	**146.94**	**0**	*e*PKPbc		PKPbc	20 09 16.2	+0.7
BLO	**Bloomington**	**147.38**	**21**	*e*PKP2		PKPbc	20 09 16.8	+0.1
ACSO	**Alum Creek Sta**	**147.51**	**16**	*e*PKPbc		PKPbc	20 09 17.7	+0.6
MIAR	**Mount Ida**	**147.92**	**35**	*e*PKIKP		PKPdf	20 09 15.4	+0.3
MIAR				*e*			20 09 19.4	
USIN	**University of**	**148.01**	**24**	*e*PKPbc		PKPbc	20 09 18.9	+0.6
SSPA	**Standing Stone**	**148.17**	**8**	*e*PKPbc		PKPbc	20 09 19.5	+0.7
PAL	**Palisades**	**148.18**	**3**	*e*PKP2		PKPbc	20 09 19.4	+0.6
WCI	**Wyandotte Cave**	**148.30**	**22**	*e*PKP2		PKPbc	20 09 19.6	+0.5
LVC	**Limon Verde**	**148.34**	**186**	*e*PKPbc		PKPbc	20 09 21.3	+2.1
UALR	**University of**	**148.42**	**33**	*e*PKPbc		PKPbc	20 09 19.6	+0.2
WVT	**Waverly**	**149.51**	**26**	*e*PKP2		PKPbc	20 09 23.1	+0.9
HKT	**Hockley**	**149.62**	**44**	*e*PKP2		PKPbc	20 09 24.6	+2.1
FWV	**Forest Hill**	**150.56**	**14**	*e*PKPbc		PKPbc	20 09 25.0	+0.2
TZTN	**Tazewell**	**150.76**	**19**	*e*PKPbc		PKPbc	20 09 26.1	+0.9
ELN	**Prospectdale**	**150.92**	**14**	*e*PKPbc		PKPbc	20 09 26.0	+0.4
BLA	**Blacksburg**	**151.01**	**14**	*e*PKIKP		PKPbc	20 09 26.3	+0.5
BLA				*e*			20 09 33.5	
CPCT	**Cooper Cave**	**151.42**	**22**	*e*PKPdf		PKPdf	20 09 22.0	+1.4
CPCT				*e*PKPbc		PKPbc	20 09 28.1	+1.4
CPCT				*e*PKPab		PKPab	20 09 35.2	+0.2
LRAL	**Lakeview Retre**	**152.49**	**28**	*e*PKPdf		PKPdf	20 09 23.3	+1.0
LRAL				*e*PKPbc		PKPbc	20 09 29.6	+0.4
LPAZ	**La Paz**	**154.48**	**189**	PKPbc		PKPbc	20 09 36.1	+2.6
	comp=Z,8.2nm,0.9s,baz=203,slow=4.0,SNR=5.5							
LPAZ	**La Paz**	**154.48**	**189**	PKIKP		PKPbc	20 09 36.1	+2.6
LPAZ				pmax		pmax		
	comp=Z,8.0nm,0.9s							
LPAZ	**La Paz**	**154.48**	**189**	*e*PKPbc		PKPbc	20 09 35.7	+2.2
SAML	**Samuel**	**160.00**	**207**	*e*PKPdf		PKPdf	20 09 33.1	+1.0

IDC 17 20:04:13.1±2.6, 928S×10888E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/15, mbtmp3.7/5, Error ellipse: s-maj=118.7km s-min=22.9km az=49.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.78**	**116**	P	P	20 09 55.4	+0.8
	1.0nm,0.6s,baz=288,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**27.86**	**124**	P	P	20 10 04.3	-0.1
	0.5nm,0.8s,baz=307,slow=7.7,SNR=2.5						
SONM	**Songino Array**	**56.91**	**358**	P	P	20 13 59.8	-0.1
	0.6nm,0.5s,baz=182,slow=8.5,SNR=6.8						
MKAR	**Makanchi Array**	**60.66**	**339**	P	P	20 14 25.6	-0.3
	0.7nm,0.5s,baz=140,slow=6.7,SNR=9.0						
BVAR	**Borovoye Array**	**70.19**	**336**	P	P	20 15 28.2	+0.5
	0.8nm,0.6s,baz=136,slow=11,SNR=4.7						

IDC 17 20:06:44.4±1.0, 9.10S×107.88E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/17, mbtmp4.0/7, ML3.6/1, Error ellipse: s-maj=50.2km s-min=18.0km az=56.0
NEIC 17 20:06:45.7±0.7, 9.16S×107.81E, h10km, mb4.5/2, Error ellipse: s-maj=32.9km s-min=9.6km az=49.0

ISCJB 17 20:06:47.2±1.0, 9.1S±02×1079E±03, h33km, mb4.1/8, Error ellipse: s-maj=46.9km s-min=13.6km az=97.8
ISC 17 20:06:49.4±1.0, 92S±02×1078E±03, h35km, n9, σ0 45/9, mb4.1/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.43**	**119**	P	**Pn**	**20 11 13.0**	**-1.0**
	0.1nm,0.3s,baz=292,slow=19,SNR=2.5						
WRA	**Warramunga Arr**	**27.75**	**116**	P	P	**20 12 34.9**	**+0.2**
	1.4nm,0.5s,mb3.9,baz=290,slow=10,SNR=15						
WRA				PcP	PcP	20 15 52.1	+1.5
	0.3nm,0.7s,baz=312,slow=1.5,SNR=3.8						
WRAB	**Tennant Creek**	**27.76**	**116**	*e*P	P	**20 12 35.4**	**+0.7**
	3.6nm,0.5s,mb4.3						
ASAR	**Alice Springs**	**28.78**	**123**	P	P	**20 12 44.0**	**+0.2**
	0.8nm,0.7s,mb3.6,baz=303,slow=9.3,SNR=8.1						
ASAR				PcP	PcP	20 15 54.8	+1.6
	0.3nm,0.6s,baz=313,slow=2.2,SNR=5.6						
SONM	**Songino Array**	**56.78**	**359**	P	P	**20 16 30.2**	**+0.3**
	1.6nm,0.5s,mb4.3,baz=178,slow=8.5,SNR=22						
MKAR	**Makanchi Array**	**60.20**	**340**	P	P	**20 16 53.6**	**-0.2**
	1.5nm,0.6s,mb4.2,baz=142,slow=7.3,SNR=11						
BVAR	**Borovoye Array**	**69.68**	**337**	P	P	**20 17 55.0**	**-0.4**
	1.2nm,0.5s,mb4.1,baz=138,slow=8.2,SNR=4.6						
CHKZ	**Chkalovo**	**70.10**	**338**	*e*P	P	**20 17 58.1**	**+0.2**
	3.7nm,0.6s,mb4.5						
VNDA	**Vanda**	**73.69**	**169**	P	P	**20 18 19.6**	**0.0**
	0.6nm,0.5s,mb3.8,baz=302,slow=8.7,SNR=6.8						

IDC 17 20:08:05.3±3.8, 882S×10799E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/15, mbtmp3.8/3, Error ellipse: s-maj=146.4km s-min=29.7km az=49.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.77**	**116**	P	P	20 13 56.2	+0.4
	0.5nm,0.6s,baz=286,slow=12,SNR=3.1						
SONM	**Songino Array**	**56.42**	**359**	P	P	20 17 48.7	0.0
	0.7nm,0.5s,baz=179,slow=8.3,SNR=6.4						
MKAR	**Makanchi Array**	**59.92**	**340**	P	P	20 18 13.2	+0.1
	1.2nm,0.5s,baz=137,slow=7.9,SNR=6.7						

IDC 17 20:11:59.9±3.0, 3.596N×71.41E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.6/21, mbtmp3.8/8, ML3.7/3, Error ellipse: s-maj=61.9km s-min=26.6km az=134.0
NEIC 17 20:12:03.8±0.7, 3.621N×71.06E, h10km, mb3.2/4, Error ellipse: s-maj=15.2km s-min=6.9km az=54.0
MOS 17 20:12:05.1±1.7, 3.628N×71.14E, h33km, mb4.0/4, Error ellipse: s-maj=19.5km s-min=8.5km az=92.1
NNC 17 20:12:08.0±6.0, 3.665N×7053E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=63.9km s-min=47.2km az=49.0
ISCJB 17 20:12:11.8±0.5, 3.642N±003×7155E±007, h115km±10km, mb3.6/4, Error ellipse: s-maj=9.5km s-min=4.8km az=163.9
ISC 17 20:12:13.1±0.4, 3642N±003×7156E±007, h114km±8km, n55, σ1 9 20/61, mb3.6/4, 7C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.61**	**174**	⇓P	**Pn**	**20 12 56.2**	**+2.1**
THW	**Thamme Wali**	**3.62**	**178**	P	**Pn**	**20 13 08.6**	**+1.1**
SBDP	**Sheikh Budin**	**4.16**	**189**	P	**Pn**	**20 13 14.5**	**-0.1**
SARP	**Sargodha**	**4.58**	**168**	P	**Pn**	**20 13 20.9**	**+0.6**
SARP				S	**Sn**	**20 14 13.0**	**+0.4**
DRP	**Derazinda**	**4.80**	**194**	P	**Pn**	**20 13 24.0**	**+0.7**
DRP				S	**Sn**	**20 14 16.0**	**-1.8**
AML	**Almayashu**	**5.94**	**16**	P	**Pn**	**20 13 39.1**	**+0.5**
	SNR=73						
KZA	**Kyzart**	**6.33**	**26**	P	**Pn**	**20 13 44.7**	**+0.8**
	SNR=13						
EKS2	**Erkin-Say**	**6.46**	**15**	P	**Pn**	**20 13 46.3**	**+0.5**
	SNR=36						
AAK	**Ala-Archa**	**6.60**	**19**	P	**Pn**	**20 13 48.7**	**+1.1**
	SNR=11						
AAK	**Ala-Archa**	**6.60**	**19**	*e*PN	**Pn**	**20 13 46.9**	**-0.7**
AAK				pmax	pmax		
	comp=Z,11nm,0.5s						
AAK	**Ala-Archa**	**6.60**	**19**	*e*P	**Pn**	**20 13 46.9**	**-0.8**
	comp=Z,11nm,0.5s						
SDNR	**Sundarnagar**	**6.65**	**136**	*e*P	**Pn**	**20 13 49.0**	**+0.7**
SDNR				*e*S	**Sn**	**20 15 01.0**	**-1.7**
KK31	**Karatay Array**	**6.72**	**353**	Pn	**Pn**	**20 13 47.5**	**-1.7**
	comp=Z,3.3nm,0.3s,baz=171,slow=11,SNR=168						
KK31				⇑Sn	**Sn**	**20 14 58.0**	**-6.3**
	comp=Z,6.0nm,0.4s						
KK31				⇓Lg		20 15 35.1	
	comp=Z,20nm,0.9s,baz=176,slow=31,SNR=4.1						
CHMS	**Chumysh**	**7.01**	**20**	P	**Pn**	**20 13 53.8**	**+0.6**
	SNR=7.5						
TKM2	**Tokmak 2**	**7.20**	**24**	P	**Pn**	**20 13 56.1**	**+0.5**
	SNR=15						
TKM2	**Tokmak 2**	**7.20**	**24**	⇑Pn	**Pn**	**20 13 56.7**	**+1.0**
	comp=Z,0.7nm,0.6s						
USP	**Ospenovka**	**7.20**	**17**	P	**Pn**	**20 13 56.6**	**+0.9**
	SNR=9.4						
MKAR	**Makanchi Array**	**13.09**	**34**	Pn	**Pn**	**20 15 15.3**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=222,slow=14,SNR=5.5						
KOLN	**Koldanda**	**13.35**	**127**	*e*P	**Pn**	**20 15 17.1**	**-1.0**
	comp=Z,6.5nm,0.3s						
KOLN				*e*S	**Sn**	**20 17 38.3**	**-6.8**
GKN	**Gorkha**	**13.88**	**124**	*e*P	**Pn**	**20 15 23.9**	**-1.0**
	comp=Z,13nm,0.3s						
DMN	**Daman**	**14.45**	**124**	*e*P	**Pn**	**20 15 31.2**	**-1.0**
	comp=Z,10.0nm,0.4s						
KKN	**Kakani**	**14.45**	**123**	*e*P	**Pn**	**20 15 31.7**	**-0.5**
	comp=Z,18nm,0.6s						
KKN	**Kakani**	**14.45**	**123**	*e*P	**Pn**	**20 15 31.7**	**-0.5**
KKN				pmax	pmax		
	comp=Z,18nm,0.6s						
PKI	**Pulchoki**	**14.68**	**123**	*e*P	**Pn**	**20 15 35.6**	**+0.5**
	comp=Z,8.8nm,0.3s						
PKI	**Pulchoki**	**14.68**	**123**	*e*P	**Pn**	**20 15 35.6**	**+0.5**
PKI				pmax	pmax		
	comp=Z,9.0nm,0.3s						
JIRN	**Jiri**	**15.16**	**121**	*e*P	**Pn**	**20 15 40.8**	**-0.3**
	comp=Z,19nm,0.3s						
KURK	**Kurchatov**	**15.16**	**17**	*e*P	**Pn**	**20 15 44.3**	**+3.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**15.16**	**17**	*e*P	**Pn**	**20 15 44.3**	**+3.1**
	comp=Z,2.5nm,0.8s						
AB31	**Akbulak array**	**15.37**	**330**	⇑Pn	**Pn**	**20 15 41.5**	**-2.3**
	comp=Z,0.4nm,0.3s						
AB31				⇑Sn	**Sn**	**20 18 18.4**	**-16**
	comp=Z,0.9nm,0.5s						
VOSK	**Vostochnaya**	**16.30**	**359**	⇓P	**Pn**	**20 15 51.8**	**-3.5**
	comp=Z,2.5nm,1.0s						
BVA0	**Borovoye Array**	**16.62**	**358**	⇑P	**Pn**	**20 15 59.9**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=161,slow=10,SNR=6.6						
BVAR	**Borovoye Array**	**16.62**	**358**	Pn	**Pn**	**20 15 57.5**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=165,slow=9.2,SNR=8.2						
BVAR	**Borovoye Array**	**16.62**	**358**	P	**Pn**	**20 15 57.5**	**-1.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZRNK	**Zerenda**	**16.62**	**355**	⇑P	**Pn**	**20 15 57.0**	**-2.2**
	comp=Z,3.1nm,1.0s						
ZRNK	**Zerenda**	**16.62**	**355**	*e*P	**Pn**	**20 15 57.2**	**-2.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZRNK	**Zerenda**	**16.62**	**355**	*e*P	**Pn**	**20 15 57.2**	**-2.1**
	comp=Z,1.4nm,0.7s						
BRVK	**Borovoye**	**16.66**	**357**	*e*P	**Pn**	**20 15 59.3**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**16.66**	**357**	*e*P	**Pn**	**20 15 59.3**	**-0.4**
	comp=Z,1.5nm,0.7s						
AKTK	**Aktyubinsk**	**17.07**	**329**	P	**Pn**	**20 16 03.6**	**-1.1**
AKTO	**Aktyubinsk**	**17.07**	**329**	⇑P	**Pn**	**20 16 03.8**	**-1.0**
	comp=Z,0.2nm,1.2s						
AKTO	**Aktyubinsk**	**17.07**	**329**	P	**Pn**	**20 16 03.6**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=133,slow=12,SNR=7.2						
CHKZ	**Chkalovo**	**17.27**	**358**	P	**Pn**	**20 16 05.6**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	**Chkalovo**	**17.27**	**358**	P	**Pn**	**20 16 05.6**	**-1.5**
	comp=Z,1.3nm,0.6s						
ZAL	**Zalesovo**	**19.79**	**24**	P	**Pn**	**20 16 35.4**	**+1.0**
	comp=Z,2.3nm,0.6s,baz=254,slow=8.2,SNR=9.0						
ZAL	**Zalesovo**	**19.79**	**24**	P	**Pn**	**20 16 35.4**	**+1.1**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						

NVS	**Novosibirsk**	**20.10**	**20**	*e*P		**P**	**20 16 38.0**	**+0.3**
FINES	**FINESS Array B**	**37.80**	**326**	P		**P**	**20 19 20.1**	**+1.8**
	comp=Z,1.0nm,0.8s,mb3.7,baz=159,slow=5.9,SNR=3.5							
FINES	**FINESS Array B**	**37.80**	**326**	P		**P**	**20 19 20.1**	**+1.8**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.8s							
ARCES	**ARCESS Array B**	**41.39**	**337**	P		**P**	**20 19 50.0**	**+1.9**
	comp=Z,1.6nm,0.8s,mb3.9,baz=106,slow=8.9,SNR=9.2							
ARCES	**ARCESS Array B**	**41.39**	**337**	P		**P**	**20 19 50.0**	**+2.0**
ARCES				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ARCES	**ARCESS Array B**	**41.39**	**337**	P		**P**	**20 19 50.0**	**+1.9**
NB2	**NORSAR Subarra**	**44.72**	**323**	P		**P**	**20 20 16.4**	**+1.6**
	comp=Z,0.4nm,0.5s,mb3.4,baz=95,slow=7.9							
NOA	**NORSAR Array B**	**44.72**	**323**	P		**P**	**20 20 16.2**	**+1.4**
	comp=Z,1.1nm,0.8s,mb3.7,baz=96,slow=7.8,SNR=4.1							
NOA	**NORSAR Array B**	**44.72**	**323**	P		**P**	**20 20 16.2**	**+1.4**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**66.17**	**269**	P		P	**20 22 49.1**	**+0.7**
	comp=Z,0.2nm,0.5s,mb3.2,baz=51,slow=5.8,SNR=8.8							

BJI 17 20:13:11.3, 10.18S×108.93E, h26km, mB5.2, mb4.9, Ms5.1, Msz4.9
IDC 17 20:13:15.6±0.5, 9.32S×108.51E, h0km, mb4.5/19, mb1 4.5/20, mb1mx4.5/23, mbtmp4.4/20, ML3.9/1, Error ellipse: s-maj=19.7km s-min=11.0km az=52.0
ISCJB 17 20:13:17.9±0.3, 9.28S±005×108.64E±007, h25km, mb4.7/49, MS5.2/2, Error ellipse: s-maj=10.8km s-min=5.7km az=113.7
MOS 17 20:13:19.0±0.9, 9.22S×108.67E, h33km, mb5.2/7, Error ellipse: s-maj=16.4km s-min=8.2km az=112.2
NEIC 17 20:13:19.8±2.2, 9.33S×108.55E, h27km±15km, mb5.1/15, Error ellipse: s-maj=9.2km s-min=4.1km az=55.0
ISC 17 20:13:20.0±0.3, 934S±005×10853E±006, h27km, h27km±4.1km: pP-P, n97, σ1 9 08/91, mb4.7/49, MS5.2/2, 8C-2D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJI	**Jatiwangi**	**2.84**	**355**	P	**Pn**	**20 14 02.6**	**-1.0**
	1μm,1.1s						
KLI	**Kotabumi**	**5.75**	**320**	P	**Pn**	**20 14 47.5**	**+3.9**
	106nm,2.3s						
NBBI	**Negara**	**6.09**	**81**	P	**Pn**	**20 14 51.4**	**+3.1**
	1μm,0.6s						
DNP	**Denpasar**	**6.63**	**85**	P	**Pn**	**20 14 58.4**	**+2.7**
	768nm,0.5s						
KSI	**Kapahiang**	**8.17**	**313**	P	**Pn**	**20 15 15.0**	**-1.8**
	206nm,0.7s						
KSM	**Kuching**	**10.88**	**9**	*e*P	**Pn**	**20 15 54.7**	**+0.7**
MBWA	**Marble Bar**	**15.95**	**139**	*e*P	**Pn**	**20 16 56.9**	**-5.6**
	6.8nm,0.6s						
KULM	**Kulim**	**16.52**	**331**	*e*P	**Pn**	**20 17 08.5**	**-1.3**
FITZ	**Fitzroy Crossi**	**18.75**	**119**	*e*P	**Pn**	**20 17 36.2**	**-1.2**
	17nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.75**	**119**	P	**Pn**	**20 17 35.8**	**-1.5**
	0.3nm,0.3s,baz=283,slow=8.6,SNR=7.9						
NWAO	**Narrogin (SRO)**	**24.81**	**162**	P	**P**	**20 18 40.1**	**+0.2**
	5.4nm,0.7s,mb4.2,baz=325,slow=14,SNR=5.3						
WRA	**Warramunga Arr**	**27.06**	**116**	P	**P**	**20 18 59.9**	**-0.3**
	4.5nm,0.7s,mb4.1,baz=287,slow=11,SNR=13						
WRA				PcP	PcP	20 22 21.6	+0.7
	0.9nm,0.6s,baz=313,slow=1.7,SNR=4.8						
WRA				S	**S**	**20 23 22.8**	**-14**
	0.9nm,0.8s,baz=289,slow=23,SNR=3.1						
WRA	**Warramunga Arr**	**27.06**	**116**	P	**P**	**20 18 59.9**	**-0.3**
WRA						20 22 21.6	
WRAB	**Tennant Creek**	**27.07**	**116**	⇑*e*P	**P**	**20 18 59.9**	**-0.3**
WB2	**Warramunga Arr**	**27.07**	**

WMQ				PP	PP	20 25 05.9	+3.1			
WMQ				S	**S**	**20 30 46.0**	**+0.7**			
WMQ				AMB	AMB					
	comp=Z,19nm,1.7s,mb4.8									
WMQ				AMB	AMB					
	comp=Z,138nm,4.9s									
WMQ				LR	LR					
	comp=N,722nm,18.7s,MS4.9									
WMQ				LR	LR					
	comp=E,542nm,17.6s,MS4.9									
WMQ				LR	LR					
	comp=Z,725nm,19.2s,MS4.8									
SONM	**Songino Array**	**56.95**	**358**	P	**P**	**20 23 03.4**	**+0.5**			
	comp=Z,5.3nm,0.5s,mb4.8,baz=175,slow=8.5,SNR=41									
ULN	**Ulaanbaatar**	**56.96**	**359**	*d iP*	**P**	**20 23 02.3**	**-0.7**			
ULN	**Ulaanbaatar**	**56.96**	**359**	*eP*	**P**	**20 23 02.7**	**-0.3**			
	comp=Z,8.4nm,0.7s,mb4.9									
HIA	**Hailar**	**59.18**	**9**	⇑ *iP*	**P**	**20 23 16.8**	**-1.7**			
ZAK	**Zakamensk**	**59.64**	**356**	*eP*	**P**	**20 23 21.9**	**+0.2**			
ZAK				pmax	pmax					
	comp=Z,3.0nm,1.4s,mb4.1									
AAK	**Ala-Archa**	**60.35**	**332**	*eP*	**P**	**20 23 24.8**	**-1.8**			
AAK				pmax	pmax					
	comp=Z,7.0nm,2.5s,mb4.2									
MKAR	**Makanchi Array**	**60.59**	**340**	P	**P**	**20 23 28.1**	**-0.1**			
	comp=Z,8.9nm,0.7s,mb5.0,baz=134,slow=6.9,SNR=40									
MKAR	**Makanchi Array**	**60.59**	**340**	⇑ *eP*	**P**	**20 23 28.1**	**-0.1**			
KLR	**Kul'dur**	**61.78**	**17**	*eP*	**P**	**20 23 42.0**	**+5.7**			
YSS	**Yuzh-Sakhalins**	**63.79**	**25**	P	**P**	**20 23 48.0**	**-1.7**			
YSS				*e*		20 23 59.6				
KURK	**Kurchatov**	**65.20**	**340**	⇑ *eP*	**P**	**20 23 58.9**	**0.0**			
KURK	**Kurchatov**	**65.20**	**340**	*eP*	**P**	**20 23 58.6**	**-0.3**			
	comp=Z,14nm,0.9s,mb5.0									
MAW	**Mawson**	**65.59**	**198**	P	**P**	**20 24 00.5**	**-0.9**			
	comp=Z,3.3nm,0.6s,mb4.5,baz=50,slow=4.6,SNR=7.8									
ZAL	**Zalesovo**	**66.16**	**345**	P	**P**	**20 24 03.9**	**-1.1**			
	comp=Z,2.8nm,0.6s,mb4.5,baz=314,slow=2.9,SNR=12									
ZAL	**Zalesovo**	**66.16**	**345**	P	**P**	**20 24 03.9**	**-1.2**			
BOD	**Bodaibo**	**67.07**	**3**	*eP*	**P**	**20 24 09.2**	**-1.7**			
BOD				pmax	pmax					
	comp=Z,5.0nm,1.9s,mb4.2									
NVS	**Novosibirsk**	**67.38**	**344**	*eP*	**P**	**20 24 12.5**	**-0.3**			
BVAR	**Borovoye Array**	**70.10**	**337**	P	**P**	**20 24 29.7**	**-0.1**			
	comp=Z,6.4nm,0.8s,mb4.6,baz=140,slow=8.5,SNR=30									
CHKZ	**Chkalovo**	**70.51**	**337**	*eP*	**P**	**20 24 32.1**	**-0.2**			
CHKZ				pmax	pmax					
	comp=Z,12nm,0.7s,mb4.9									
CHKZ	**Chkalovo**	**70.51**	**337**	*eP*	**P**	**20 24 32.1**	**-0.2**			
	comp=Z,12nm,0.7s,mb4.9									
ZRNK	**Zerenda**	**70.59**	**336**	*eP*	**P**	**20 24 32.2**	**-0.6**			
ZRNK				*e*		20 24 43.0				
ZRNK				pmax	pmax					
	comp=Z,8.0nm,0.7s,mb4.8									
ZRNK	**Zerenda**	**70.59**	**336**	*eP*	**P**	**20 24 32.2**	**-0.6**			
	comp=Z,8.1nm,0.7s,mb4.8									
ZRNK				*e*		20 24 43.0				
YAK	**Yakutsk**	**73.03**	**10**	*c iP*	**P**	**20 24 46.3**	**-1.2**			
YAK				pmax	pmax					
	comp=Z,28nm,0.8s,mb5.2									
YAK	**Yakutsk**	**73.03**	**10**	*eP*	**P**	**20 24 46.3**	**-1.2**			
	comp=Z,37nm,0.9s,mb5.3									
VNDA	**Vanda**	**73.41**	**170**	P	**P**	**20 24 49.3**	**-0.4**			
	comp=Z,4.2nm,0.9s,mb4.4,baz=295,slow=6.8,SNR=18									
AKTK	**Aktyubinsk**	**73.89**	**329**	P	**P**	**20 24 52.3**	**-0.2**			
AKTO	**Aktyubinsk**	**73.89**	**329**	P	**P**	**20 24 52.3**	**-0.2**			
	comp=Z,0.8nm,0.5s,mb3.9,baz=78,slow=6.9,SNR=4.9									
SVE	**Sverdlovsk**	**76.75**	**335**	*eP*	**P**	**20 25 09.2**	**+0.2**			
SVE				*e*		20 25 22.8				
ARU	**Arti**	**77.37**	**334**	⇑ *iP*	**P**	**20 25 12.3**	**-0.1**			
ARU				*e*		20 28 07.2				
ARU				*e*PPP		20 29 53.1				
ARU				*e*S	S	20 35 02.0	+0.9			
ARU				*e*SS	SS	20 40 03.1	+3.3			
ARU				pmax	pmax					
	comp=Z,6.0nm,0.9s,mb4.5									
ARU	**Arti**	**77.37**	**334**	*eP*	**P**	**20 25 11.6**	**-0.9**			
	comp=Z,5.3nm,0.9s,mb4.5									
LSZ	**Lusaka**	**78.35**	**256**	P	**P**	**20 25 18.6**	**+0.7**			
	comp=Z,2.5nm,0.6s,mb4.3,baz=92,slow=3.8,SNR=8.3									
LSZ	**Lusaka**	**78.35**	**256**	P	**P**	**20 25 18.6**	**+0.7**			
KIV	**Kislovodsk**	**79.62**	**318**	*deP*	**P**	**20 25 26.2**	**+1.4**			
KIV				pmax	pmax					
	comp=Z,6.0nm,1.0s,mb4.5									
ASF	**Jabal al Asfar**	**79.73**	**305**	P	**P**	**20 25 26.4**	**+0.9**			
	comp=Z,3.8nm,1.0s,mb4.3,baz=350,slow=3.0,SNR=5.1									
GOF	**Gofitskoye**	**79.84**	**319**	*eP*	**P**	**20 25 25.8**	**-0.2**			
MMAI	**Mount Meron Ar**	**81.19**	**306**	P	**P**	**20 25 34.7**	**+1.5**			
	comp=Z,2.4nm,0.7s,mb4.3,baz=119,slow=8.7,SNR=5.9									
TIXI	**Tiksi**	**81.94**	**6**	*c iP*	**P**	**20 25 36.1**	**-1.1**			
TIXI				pmax	pmax					
	comp=Z,17nm,1.0s,mb4.9									
BR131	**Keskin Array S**	**84.50**	**312**	*eP*	**P**	**20 25 50.9**	**+0.5**			
	comp=Z,2.8nm,0.7s,mb4.5									
BRTR	**Keskin Array B**	**84.50**	**312**	P	**P**	**20 25 50.5**	**0.0**			
	comp=Z,4.0nm,0.9s,mb4.5,baz=126,slow=6.3,SNR=22									
OBN	**Obninsk**	**87.50**	**327**	⇑ *eP*	**P**	**20 26 05.3**	**0.0**			
OBN				pmax	pmax					
	comp=Z,29nm,1.7s,mb5.2									
SNAA	**Sanae**	**87.76**	**197**	*eP*	**P**	**20 26 06.5**	**0.0**			
SNAA				*e*		20 26 11.0				
KLMR	**Klimovskoe**	**88.14**	**333**	*eP*	**P**	**20 26 07.9**	**-0.4**			
KLMR				pmax	pmax					
	comp=Z,20nm,1.4s,mb5.2									
VNA1	**Neumayer--Stat**	**89.79**	**197**	*eP*	**P**	**20 26 16.9**	**+0.8**			
VNA1				*e*		20 26 19.4				
AKASG	**Malin Array Be**	**90.46**	**321**	P	**P**	**20 26 18.8**	**-0.4**			
	comp=Z,0.9nm,0.7s,mb4.2,baz=89,slow=4.1,SNR=6.9									
FINES	**FINESS Array B**	**94.53**	**331**	P	**P**	**20 26 37.3**	**-0.7**			
	comp=Z,1.6nm,0.7s,mb4.5,baz=147,slow=11,SNR=3.0									
YKA	**Yellowknife Ar**	**118.50**	**21**	PKP	PKPdf	20 32 04.2	-0.9			
	comp=Z,0.7nm,0.7s,baz=244,slow=2.2,SNR=3.9									
YKA	**Yellowknife Ar**	**118.50**	**21**	PKP	PKPdf	20 32 04.2	-1.0			
WMOK	**Wichita Mounta**	**144.45**	**41**	*e*PKIKP	PKPdf	20 32 53.6	-0.2			
NCB	**Newcomb**	**145.41**	**4**	*e*PKPdf	PKPdf	20 32 56.2	+0.7			
CCM	**Cathedral Cave**	**146.31**	**29**	*e*PKP2	PKPbc	20 32 57.3	-0.9			
BINY	**Binghamton**	**147.03**	**6**	*e*PKPbc	PKPbc	20 33 00.7	+0.4			
MIAR	**Mount Ida**	**147.75**	**36**	*e*PKP2	PKPbc	20 33 03.8	+1.6			
BLA	**Blacksburg**	**151.09**	**15**	*e*PKIKP	PKPbc	20 33 10.6	0.0			
SIV	**San Ignacio**	**152.81**	**202**	PKPbc	PKPbc	20 33 15.3	+0.8			
	comp=Z,2.6nm,0.8s,baz=177,slow=3.5,SNR=13									
LPAZ	**La Paz**	**154.33**	**187**	PKPbc	PKPbc	20 33 19.9	+2.2			
	comp=Z,0.7nm,0.8s,baz=126,slow=9.2,SNR=4.5									
LPAZ	**La Paz**	**154.33**	**187**	PKPbc	PKPbc	20 33 19.9	+2.2			

*NEIC **17** 20:21:07.1, 38.29S×176.14E, h162km, MG3.9(WEL), After WEL.*

WEL 17 20:21:07.4±0.3, 38.31S×176.16E, h160km±2km, ML3.8/16, 5C-2D, Error ellipse: s-maj=2.3km s-min=1.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.75**	**87**	⇓PN	Pn	20 21 31.1	-0.1
URZ				SN	Sn	20 21 49.1	-0.4
KATZ	**Kakaramea**	**0.76**	**208**	PN	Pn	20 21 31.6	+0.3
KATZ	**Kakaramea**	**0.76**	**208**	P	Pn	20 21 31.7	+0.4
BKZ	**Black Stump Fm**	**0.90**	**163**	⇑PN	Pn	20 21 32.6	+0.3
BKZ				SN	Sn	20 21 51.1	-0.3
BKZ	**Black Stump Fm**	**0.90**	**163**	P	Pn	20 21 32.6	+0.3
WTVZ	**West Tongariro**	**0.92**	**209**	PN	Pn	20 21 32.6	+0.1
WTVZ	**West Tongariro**	**0.92**	**209**	P	Pn	20 21 32.6	+0.1
OTVZ	**Oturere**	**0.94**	**204**	PN	Pn	20 21 33.0	+0.4
OTVZ				SN	Sn	20 21 52.7	+0.8
TWVZ	**Taurewa**	**0.95**	**216**	⇑PN	Pn	20 21 32.8	+0.2
TWVZ	**Taurewa**	**0.95**	**216**	P	Pn	20 21 32.9	+0.2
NGZ	**Ngauruhoe**	**0.97**	**206**	PN	Pn	20 21 33.0	+0.1
NGZ	**Ngauruhoe**	**0.97**	**206**	P	Pn	20 21 33.0	+0.1
WPVZ	**Whakapapa**	**1.02**	**208**	PN	Pn	20 21 33.5	+0.3
WPVZ	**Whakapapa**	**1.02**	**208**	P	Pn	20 21 33.5	+0.3
TUVZ	**Tukino**	**1.04**	**202**	⇑PN	Pn	20 21 33.8	+0.4
TUVZ	**Tukino**	**1.04**	**202**	P	Pn	20 21 33.8	+0.4
FWVZ	**Far West T-bar**	**1.06**	**206**	PN	Pn	20 21 33.9	+0.4
MWZ	**Matawai**	**1.08**	**92**	⇓PN	Pn	20 21 33.9	+0.2
MWZ				SN	Sn	20 21 54.1	+0.2
MWZ	**Matawai**	**1.08**	**92**	*eP*	Pn	20 21 33.9	+0.2
MWZ				S	Sn	20 21 54.1	+0.2
MOVZ	**Moawhango**	**1.15**	**196**	PN	Pn	20 21 34.1	-0.2
MOVZ	**Moawhango**	**1.15**	**196**	P	Pn	20 21 34.0	-0.3
PKVZ	**Pokaka**	**1.17**	**212**	⇑PN	Pn	20 21 34.4	-0.1
VRZ	**Vera Road**	**1.37**	**233**	⇑PN	Pn	20 21 36.4	0.0
KNZ	**Kokohu**	**1.39**	**122**	PN	Pn	20 21 37.0	+0.4
KNZ				SN	Sn	20 21 58.5	-0.4
KNZ	**Kokohu**	**1.39**	**122**	P	Pn	20 21 37.0	+0.5
WAZ	**Wanganui**	**1.71**	**212**	PN	Pn	20 21 39.2	-0.7
WAZ	**Wanganui**	**1.71**	**212**	P	Pn	20 21 39.4	-0.5
TSZ	**Takapari Road**	**1.76**	**185**	PN	Pn	20 21 39.9	-0.5
TSZ				SN	Sn	20 22 04.3	-1.5
TSZ	**Takapari Road**	**1.76**	**185**	P	Pn	20 21 39.9	-0.5
PXZ	**Pawanui**	**1.81**	**163**	PN	Pn	20 21 40.9	-0.1
PXZ				SN	Sn	20 22 05.4	-1.4
BFZ	**Birch Farm**	**2.38**	**178**	PN	Pn	20 21 46.2	-1.3
BFZ				SN	Sn	20 22 16.3	-2.1
TIWZ	**Tintock**	**2.48**	**185**	PN	Pn	20 21 47.2	-1.5
MTW	**Mount Morrison**	**2.90**	**190**	PN	Pn	20 21 51.3	-2.5
MTW	**Mount Morrison**	**2.90**	**190**	P	Pn	20 21 51.3	-2.5
PAWZ	**Paruwai Farm**	**3.12**	**190**	P	Pn	20 21 54.0	-2.7
MRW	**Makara Radio**	**3.13**	**201**	P	Pn	20 21 54.1	-2.6
MSWZ	**Moikau Station**	**3.18**	**192**	P	Pn	20 21 54.7	-2.7
TCW	**Tory Channel**	**3.25**	**206**	P	Pn	20 21 55.3	-2.9
BHW	**Baring Head**	**3.25**	**197**	P	Pn	20 21 55.4	-2.9

WEL 17 20:24:50.0±0.4, 3835S×17567E, h262km±3km, ML3.6/9, 1D, Error ellipse: s-maj=6.0km s-min=3.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KATZ	**Kakaramea**	**0.63**	**178**	PN	Pn	20 25 24.8	+0.1
HIZ	**Hauiti**	**0.66**	**255**	PN	Pn	20 25 24.6	-0.2
TWVZ	**Taurewa**	**0.74**	**194**	SN	S	20 25 52.0	-0.8
KRVZ	**Karewarewa**	**0.75**	**182**	SN	S	20 25 53.4	+0.6
WTVZ	**West Tongariro**	**0.77**	**185**	SN	S	20 25 52.7	-0.3
NGZ	**Ngauruhoe**	**0.83**	**184**	SN	S	20 25 52.7	-0.7
PKVZ	**Pokaka**	**0.97**	**195**	SN	S	20 25 53.4	-1.3
BKZ	**Black Stump Fm**	**1.04**	**142**	⇓PN	Pn	20 25 26.5	0.0
BKZ				SN	S	20 25 54.9	-0.4
URZ	**Urewera**	**1.14**	**86**	PN	Pn	20 25 26.7	-0.3
URZ				SN	S	20 25 55.6	-0.7
MWZ	**Matawai**	**1.46**	**90**	PN	Pn	20 25 29.6	+0.4
MWZ				SN	S	20 26 00.1	0.0
BFZ	**Birch Farm**	**2.37**	**169**	SN	S	20 26 11.5	-2.5
KIW	**Kapiti Island**	**2.58**	**193**	PN	Pn	20 25 36.0	-2.9
KIW				SN	S	20 26 12.6	-5.0
DUWZ	**D'Urville Isla**	**2.80**	**208**	SN	S	20 26 16.1	-5.6
MRW	**Makara Radio**	**2.97**	**194**	SN	S	20 26 19.6	-5.3
TCW	**Tory Channel**	**3.06**	**200**	PN	Pn	20 25 40.4	-3.4
TCW				SN	S	20 26 20.7	-5.9

*ISCJB **17** 20:40:34.1±1.8, 7.1S±0.1×124.9E±0.1, h495km±25km, mb4.1/6, Error ellipse: s-maj=21.8km s-min=14.6km az=135.3*
*IDC **17** 20:40:35.4±4.2, 7.13S×125.04E, h499km±63km, mb3.5/4, mb1 3.8/7, mb1mx3.5/16, mbtmp4.6/7, Error ellipse: s-maj=47.0km s-min=26.7km az=84.0*
*NEIC **17** 20:40:36.3±1.3, 7.17S×125.02E, h511km±20km, mb4.6/6, Error ellipse: s-maj=18.8km s-min=13.6km az=90.0*

ISC 17 20:40:36.3±1.6, 72S±01×1250E±01, h510km±22km, n16, σ0°64/18, mb4.1/6, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.13**	**127**	*eP*	**P**	**20 42 45.4**	**+0.8**
	14nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.86**	**177**	⇑ *iP*	**P**	**20 43 03.8**	**+1.1**
	21nm,0.2s						
FITZ	**Fitzroy Crossi**	**10.86**	**177**	P	**P**	**20 43 02.4**	**-0.3**
	4.4nm,0.3s,baz=17,slow=11,SNR=333						
FITZ				S	**S**	**20 45 02.6**	**-0.6**
	0.5nm,0.3s,baz=164,slow=19,SNR=5.0						
MBWA	**Marble Bar**	**14.79**	**200**	*eP*	**P**	**20 43 43.7**	**-0.5**
	6.0nm,0.5s						
WRAB	**Tennant Creek**	**15.56**	**145**	*eP*	**P**	**20 43 51.8**	**-0.3**
	26nm,0.9s						
WRA	**Warramunga Arr**	**15.56**	**145**	P	**P**	**20 43 51.3**	**-0.8**
	3.4nm,0.3s,baz=322,slow=11,SNR=228						
WRA				S	**S**	**20 46 32.5**	**-1.1**
	baz=324,slow=17,SNR=4.2						
WB2	**Warramunga Arr**	**15.57**	**145**	⇑ *iP*	**P**	**20 43 51.9**	**-0.3**
AS31	**Alice Springs**	**18.46**	**153**	*eP*	**P**	**20 44 21.1**	**+0.8**
ASPA	**Alice Springs**	**18.46**	**153**	*eP*	**P**	**20 44 21.1**	**+0.8**
ASAR	**Alice Springs**	**18.46**	**153**	P	**P**	**20 44 21.2**	**+0.9**
	2.8nm,0.3s,baz=329,slow=7.7,SNR=274						
FORT	**Forrest**	**23.63**	**173**	*eP*	**P**	**20 45 07.2**	**+0.2**
	9.4nm,0.6s,mb4.6						
KLBR	**Kelleberrin**	**25.20**	**195**	*eP*	**P**	**20 45 21.4**	**+0.4**
	32nm,1.4s,mb4.8						
NWAO	**Narrogin (SRO)**	**26.61**	**195**	P	**P**	**20 45 33.8**	**+0.4**
	4.0nm,0.3s,mb4.5,baz=24,slow=8.3,SNR=12						
SONM	**Songino Array**	**57.21**	**345**	P	**P**	**20 49 34.3**	**-0.2**
	0.9nm,0.9s,mb3.0,baz=167,slow=7.5,SNR=4.4						
MKAR	**Makanchi Array**	**65.78**	**329**	P	**P**	**20 50 30.2**	**-0.3**
	4.5nm,0.6s,mb4.2,baz=118,slow=6.9,SNR=4.7						
BVAR	**Borovoye Array**	**75.66**	**329**	P	**P**	**20 51 28.1**	**-0.7**
	1.2nm,0.4s,mb3.7,baz=122,slow=6.6,SNR=7.8						

*ISCJB **17** 20:41:12.3±0.5, 0.38N×005×9697E±0.07, h36km, mb4.5/18, Error ellipse: s-maj=9.9km s-min=7.4km az=176.9*
*NEIC **17** 20:41:13.9±0.4, 0.33N×9692E, mb5.3/3, Error ellipse: s-maj=11.2km s-min=7.7km az=46.0*
*IDC **17** 20:41:13.6±0.7, 0.21N×9673E, h36km±3km, mb4.2/16, mb1 4.3/16, mb1mx4.2/20, mbtmp4.4/16, MS3.9/1, Ms1 3.9/1, ms1mx2.6/36, Error ellipse: s-maj=28.2km s-min=10.9km az=50.0*

ISC 17 20:41:14.5±0.5, 038N±005×9694E±007, h38km, h38km±1.1km: pP-P, n41, σ1°10/40, mb4.5/18, 1C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.12**	**39**	Pn	**Pn**	**20 41 59.2**	**-1.9**
	12nm,0.3s,baz=216,slow=6.4,SNR=43						
PSI				LR	LR	20 43 38.2	
	comp=Z,2μm,19.5s,baz=282,slow=44						
PSI	**Prapat**	**3.12**	**39**	Pn	**Pn**	**20 41 59.2**	**-1.9**
PSI				LR	LR	20 43 38.2	
TSI	**Tuntungan**	**3.50**	**28**	⇑ *eP*	**Pn**	**20 42 03.5**	**-2.9**
TSI				*eS*	**Sn**	**20 42 46.7**	**+0.2**
KULM	**Kulim**	**6.13**	**37**	*eP*	**Pn**	**20 42 41.1**	**-1.3**
SNG	**Songkhla**	**7.69**	**28**	P	**Pn**	**20 43 02.0**	**-1.8**
NST	**Nakhon Sawan**	**15.52**	**12**	P	**Pn**	**20 44 52.0**	**+1.5**
UBT	**Ubonrachathani**	**16.79**	**28**	⇓P	**Pn**	**20 45 09.0**	**+2.3**
KKM	**Kota Kinabalu**	**20.04**	**73**	*eP*	**P**	**20 45 44.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**33.67**	**125**	*eP*	**P**	**20 47 51.5**	**-0.2**
	26nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**33.67**	**125**	P	**P**	**20 47 51.3**	**-0.4**
	16nm,0.7s,mb5.1,baz=294,slow=6.0,SNR=17						
FITZ				pP	pP	20 48 02.6	+0.3
	4.7nm,0.8s,baz=267,slow=4.5,SNR=4.9						
JOW	**Kunigami**	**39.99**	**46**	P	**P**	**20 48 46.9**	**+1.4**
	11nm,1.0s,mb4.6,baz=293,slow=7.1,SNR=3.3						
WRA	**Warramunga Arr**	**41.83**	**121**	P	**P**	**20 49 00.7**	**+0.1**
	21nm,0.7s,mb4.9,baz=301,slow=9.0,SNR=76						
WRA				pP	pP	20 49 11.6	+0.2
	9.6nm,0.6s,baz=300,slow=9.1,SNR=11						
WRAB	**Tennant Creek**	**41.83**	**121**	*eP*	**P**	**20 49 00.4**	**-0.1**
	64nm,1.0s,mb5.2						
WB2	**Warramunga Arr**	**41.84**	**121**	*eP*	**P**	**20 49 00.5**	**-0.1**
ASPA	**Alice Springs**	**43.11**	**126**	*eP*	**P**	**20 49 11.4**	**+0.4**
AS31	**Alice Springs**	**43.12**	**126**	*eP*	**P**	**20 49 11.4**	**+0.4**
ASAR	**Alice Springs**	**43.12**	**126**	P	**P**	**20 49 10.9**	**0.0**
	5.1nm,0.6s,mb4.4,baz=299,slow=8.1,SNR=32						
ASAR				pP	pP	20 49 23.1	+1.3
	2.8nm,0.8s,baz=317,slow=8.8,SNR=6.4						
MKAR	**Makanchi Array**	**47.97**	**346**	P	**P**	**20 49 50.2**	**+0.8**
	3.7nm,0.6s,mb4.6,baz=160,slow=8.5,SNR=10						
MKAR				pP	pP	20 50 01.2	+0.8
	4.8nm,0.6s,baz=154,slow=6.8,SNR=18						
MKAR				PcP	PcP	20 51 15.6	-1.6
	2.3nm,1.0s,baz=143,slow=9.9,SNR=1.2						
MKAR	**Makanchi Array**	**47.97**	**346**	P	**P**	**20 49 50.2**	**+0.8**
MKAR				pP	pP	20 50 01.2	+0.8
MKAR				PcP	PcP	20 51 15.6	-1.6
SONM	**Songino Array**	**47.98**	**9**	P	**P**	**20 49 50.2**	**+0.8**
	1.6nm,0.6s,mb4.2,baz=196,slow=9.1,SNR=3.6						
SONM				pP	pP	20 50 01.3	+0.9
	6.1nm,0.7s,baz=190,slow=8.9,SNR=12						
MJAR	**Matsushiro Arr**	**52.47**	**42**	P	**P**	**20 50 25.6**	**+2.1**
	1.4nm,0.8s,mb4.0,baz=202,slow=6.5,SNR=4.6						
ZAL	**Zalesovo**	**54.32**	**351**	P	**P**	**20 50 37.2**	**+0.2**
	4.8nm,0.3s,mb4.9,baz=328,slow=6.1,SNR=4.8						
ZAL				pP	pP	20 50 48.0	-0.2
	16nm,0.4s,baz=306,slow=5.8,SNR=16						
ZAL	**Zalesovo**	**54.32**	**351**	P	**P**	**20 50 37.2**	**+0.2**
ZAL				pP	pP	20 50 48.0	-0.2
BVAR	**Borovoye Array**	**56.94**	**341**	P	**P**	**20 50 54.6**	**-1.3**
	1.5nm,0.6s,mb4.2,baz=148,slow=10,SNR=4.4						
BVAR				pP	pP	20 51 06.3	-0.7
	5.1nm,0.5s,baz=140,slow=8.8,SNR=12						
BRVK	**Borovoye**	**57.00**	**341**	*eP*	**P**	**20 50 58.5**	**+2.3**
BRVK				*e*pP	pP	20 51 06.5	-0.9
CHKZ	**Chkalovo**	**57.42**	**342**	*eP*	**P**	**20 50 59.4**	**+0.1**
CHKZ				*e*pP	pP	20 51 09.9	-0.5
ARU	**Arti**	**63.84**	**337**	*eP*	**P**	**20 51 42.4**	**-0.6**
ARU				*e*pP	pP	20 51 52.9	-1.4
YAK	**Yakutsk**	**66.28**	**16**	*eP*	**P**	**20 51 58.6**	**-0.2**
	27nm,0.8s,mb5.3						
YAK				*e*pP	pP	20 52 08.9	-1.2
BR131	**Keskin Array S**	**69.47**	**313**	*eP*	**P**	**20 52 17.6**	**-1.3**
BRTR	**Keskin Array B**	**69.47**	**313**	P	**P**	**20 52 19.0**	**+0.1**
	1.9nm,0.7s,mb4.1,baz=135,slow=7.6,SNR=3.7						
BRTR				pP	pP	20 52 29.4	-0.9
	2.1nm,0.7s,baz=133,slow=6.4,SNR=3.4						
AKASG	**Malin Array Be**	**75.75**	**323**	P	**P**	**20 52 55.6**	**-0.6**
	4.1nm,0.7s,mb4.5,baz=93,slow=4.9,SNR=6.5						
AKASG				pP	pP	20 53 06.3	-1.4
	5.7nm,0.6s,baz=92,slow=4.9,SNR=12						
AKBB	**Malin Array Si**	**75.75**	**323**	*eP*	**P**	**20 52 55.7**	**-0.5**
AKBB				*e*	pP	20 53 06.4	-1.3
JOF	**Joensuu**	**78.77**	**335**	*ep*	pP	20 53 22.4	-2.3
	3.1nm,0.6s						
FINES	**FINESS Array B**	**80.60**	**333**	P	**P**	**20 53 22.7**	**-0.4**
	3.4nm,0.8s,mb4.3,baz=111,slow=7.6,SNR=4.3						
FINES				pP	pP	20 53 33.1	-1.6
	2.8nm,0.5s,baz=101,slow=6.4,SNR=4.0						
KAF	**Kangasniemi**	**80.70**	**333**	*ep*	pP	20 53 33.6	-1.6
	4.3nm,0.5s,baz=103,slow=4.8						
ARCES	**ARCESS Array B**	**83.22**	**340**	P	**P**	**20 53 35.9**	**-1.0**
	2.6nm,0.9s,mb4.2,baz=93,slow=3.7,SNR=3.5						
ARCES				pP	pP	20 53 47.9	-0.6
	1.9nm,0.4s,baz=103,slow=5.8,SNR=3.6						
VNDA	**Vanda**	**85.08**	**169**	P	**P**	**20 53 45.0**	**-1.3**
	1.3nm,0.8s,mb4.1,baz=265,slow=4.6,SNR=2.8						
GERES	**GERESS Array B**	**85.26**	**319**	P	**P**	**20 53 47.7**	**+0.5**
	1.0nm,0.9s,mb4.0,baz=91,slow=5.9,SNR=2.7						
CLL	**Collm**	**85.91**	**321**	*e*(P)	**P**	**20 53 54.0**	**+3.6**
CLL				*ex*	x	20 54 11.0	
NB2	**NORSAR Subarra**	**87.59**	**331**	P	**P**	**20 53 58.6**	**0.0**
	comp=Z,2.1nm,0.9s,mb4.4,baz=94,slow=4.8						
NOA	**NORSAR Array B**	**87.59**	**331**	P	**P**	**20 53 59.1**	**+0.5**
	comp=Z,1.0nm,0.9s,mb4.1,baz=97,slow=5.3,SNR=2.6						
NOA				pP	pP	20 54 09.3	-1.1
	comp=Z,1.8nm,0.7s,baz=95,slow=4.8,SNR=4.2

WMQ Urumqi 12.73 331 P Pn 20 44 55.3 +1.4
WMQ AP 20 44 58.3
WMQ XP 20 45 01.4
WMQ PP 20 45 05.6
WMQ S **Sn** **20 47 17.8 +3.4**
WMQ XS 20 47 22.8
WMQ SS 20 47 30.0
WMQ PCP PcP 20 50 31.8 +2.7
WMQ AMB AMB
comp=Z,64nm,1.0s
WMQ AMB AMB
comp=Z,908nm,4.2s
WMQ LR LR
comp=N,6μm,11.0s
WMQ LR LR
comp=E,6μm,9.5s
WMQ LR LR
comp=Z,8μm,12.6s
CHRT Chiangrai 13.41 165 ⇓P Pn 20 45 04.0 +0.9
comp=Z,132nm,0.8s
BTO Baotou 13.45 51 eP Pn 20 45 00.6 -3.1
LGTI Lohaghat 14.09 260 i P Pn 20 45 11.5 -0.9
CHG Chiang Mai 14.29 169 ⇓P Pn 20 45 15.9 +0.9
comp=Z,54nm,1.5s
CHTO Chiang Mai 14.29 169 eP Pn 20 45 15.5 +0.5
CHTO pmax pmax
comp=Z,131nm,1.5s
CHTO Chiang Mai 14.29 169 eP Pn 20 45 15.5 +0.5
comp=Z,130nm,1.5s
HHC Hu-ho-hao-te 14.60 53 eP Pn 20 45 16.6 -2.7
HHC AP pP 20 45 20.0 -14
HHC XP sP 20 45 23.5 -15
HHC PP 20 45 28.6
HHC S **Sn** **20 47 58.9 -1.0**
HHC XS 20 48 05.9
HHC SS 20 48 15.8
HHC LG2 20 49 52.9
HHC AMB AMB
comp=Z,26nm,0.6s
HHC AMB AMB
comp=Z,190nm,3.7s
HHC LR LR
comp=N,5μm,8.9s
HHC LR LR
comp=E,4μm,7.9s
HHC LR LR
comp=Z,3μm,9.9s
WHN Wuhan 15.63 94 eP Pn 20 45 30.8 -2.1
WHN LR LR
comp=Z,9μm,10.0s
SMLA Simla 16.24 269 eP Pn 20 45 38.1 -2.6
SONM Songino Array 16.76 24 Pn Pn 20 45 45.4 -1.9
comp=Z,2.0nm,0.3s,baz=208,slow=14,SNR=71
SONM LR LR 20 52 59.7
comp=Z,1μm,18.0s,baz=208,slow=40
SONM Songino Array 16.76 24 P Pn 20 45 45.4 -1.9
SONM pmax pmax
comp=Z,2.0nm,0.3s
SONM MLR MLR
comp=Z,1μm,18.0s
NDI New Delhi 16.84 260 ex Pn 20 45 44.0 -4.4
NDI *e*S **Sn** **20 48 59.0 +4.5**
ULN Ulaanbaatar 17.02 26 ⇓P Pn 20 45 52.2 +1.7
SNR=26
ULN Ulaanbaatar 17.02 26 c iP Pn 20 45 50.8 +0.2
ULN Ulaanbaatar 17.02 26 eP Pn 20 45 50.2 -0.4
comp=Z,15nm,0.9s
MKAR Makanchi Array 17.43 327 P Pn 20 45 54.0 -1.7
comp=Z,1.2nm,0.3s,baz=130,slow=11,SNR=98
MKAR Makanchi Array 17.43 327 i P Pn 20 45 54.0 -1.7
MKAR pmax pmax
comp=Z,29nm,0.8s
BJT Baijiatuau 17.53 61 eP Pn 20 45 57.5 +0.6
BJT pmax pmax
comp=Z,32nm,1.1s
BJT Baijiatuau 17.53 61 eP Pn 20 45 57.5 +0.6
comp=Z,32nm,1.1s
TIA Tai'an 17.54 73 eP Pn 20 45 57.3 +0.3
TIA LR LR
comp=N,909nm,12.0s
TIA LR LR
comp=E,866nm,12.0s
BJI Beijing 17.54 61 eP Pn 20 45 57.5 +0.5
BJI S **Sn** **20 49 17.8 +6.5**
BJI AMB AMB
comp=Z,20nm,1.5s
BJI LR LR
comp=N,7μm,12.5s
BJI LR LR
comp=E,3μm,12.7s
BJI LR LR
comp=Z,4μm,25.0s
KSH Kashi 17.57 298 eP Pn 20 45 58.1 +0.7
KSH *e*AP pP 20 46 04.0 -3.1
KSH *e*XP sP 20 46 08.1 -3.3
KSH *e*PP 20 46 12.4
KSH *e*PPP 20 46 21.5
KSH *e*S **Sn** **20 49 10.4 -1.6**
KSH *e*XS sS 20 49 19.8 -13
KSH *e*PS 20 49 27.5
KSH *e*SS 20 49 32.4
KSH *e*PCP PcP 20 50 40.0 +4.1
KSH *e*PCS PcS 20 54 14.6 +2.4
KSH *e*SCS ScS 20 57 49.8 +1.3
KSH AMB AMB
comp=Z,383nm,4.1s
KSH LR LR
comp=N,4μm,7.6s
KSH LR LR
comp=E,17μm,6.9s
KSH LR LR
comp=Z,4μm,7.6s
GZH Guangzhou 18.02 119 P Pn 20 46 04.1 +1.1
GZH S **Sn** **20 49 26.4 +3.4**
GZH LR LR
comp=N,16μm,11.8s
GZH LR LR
comp=E,11μm,12.1s
GZH LR LR
comp=Z,8μm,11.5s
ZAK Zakamensk 18.20 15 eP Pn 20 46 04.0 -1.1
ZAK pmax pmax
comp=Z,10.0nm,1.3s
AAA Alma-Ata 18.28 310 eP Pn 20 46 08.0 +1.8
AAA *e*S **Sn** **20 49 32.0 +2.7**
AAA pmax pmax
comp=Z,14μm,3.5s
AAA smax
comp=E,29μm,6.0s
AAA MLR MLR
comp=Z,46μm,16.5s
ULHL Ulahol 18.30 306 P Pn 20 46 09.7 +3.3
SNR=30
QIZ Qiongzhong 18.48 135 P Pn 20 46 08.4 -0.2
QIZ AP pP 20 46 12.4 -4.7
QIZ S **Sn** **20 49 35.1 +1.1**
QIZ XS sS 20 49 41.1 -10
QIZ AMB AMB
comp=Z,40nm,1.3s
QIZ LR LR
comp=N,8μm,15.8s
QIZ LR LR
comp=E,10μm,17.2s
QIZ LR LR
comp=Z,7μm,11.1s
QIZ Qiongzhong 18.48 135 eP Pn 20 46 07.0 -1.6
KZA Kyzart 18.92 305 P Pn 20 46 15.6 +1.8
SNR=40
TKM2 Tokmak 2 19.02 308 P Pn 20 46 15.8 +0.7
SNR=23
MOY Mondy 19.04 9 eP Pn 20 46 16.2 +0.9
MOY pmax pmax
comp=Z,99nm,2.7s
VIS Vishakhapatnam 19.08 220 eP Pn 20 46 14.9 -0.9
NJ2 Nanjing 19.13 87 eP Pn 20 46 16.1 -0.3
NJ2 AP pP 20 46 22.0 -2.3
NJ2 XP sP 20 46 26.1 -2.5
NJ2 PP 20 46 33.9
NJ2 S **Sn** **20 49 55.0 +5.2**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s
NJ2 AMB AMB
comp=Z,360nm,7.4s
NJ2 LR LR
comp=N,5μm,10.1s
NJ2 LR LR
comp=E,9μm,11.3s
NJ2 LR LR
comp=Z,3μm,11.8s
BHPL Bhopal 19.15 244 eP Pn 20 46 14.4 -2.3
BHPL AMb AMB 20 46 23.9
comp=Z,147nm,1.9s
KBK Karagaybulak 19.34 306 P Pn 20 46 19.9 +0.9
SNR=15
TLY Talaya 19.50 14 Pn Pn 20 46 22.0 +1.2
comp=Z,45nm,0.8s,SNR=6.3
CHMS Chumysh 19.61 307 P Pn 20 46 21.9 -0.3
SNR=7.6
FRU Bishkek 19.64 306 eP Pn 20 46 22.0 -0.5
FRU pmax pmax
comp=Z,120nm,1.4s
AAK Ala-Archa 19.64 306 P Pn 20 46 23.1 +0.5
SNR=24
AAK Ala-Archa 19.64 306 P Pn 20 46 22.4 -0.2
comp=Z,375nm,0.9s,SNR=27
AAK Ala-Archa 19.64 306 P Pn 20 46 22.1 -0.4
SNR=49
AAK Ala-Archa 19.64 306 deP Pn 20 46 21.9 -0.7
AAK pmax pmax
comp=Z,102nm,1.7s
AAK MLR MLR
comp=Z,5μm,19.0s
AAK Ala-Archa 19.64 306 eP Pn 20 46 21.3 -1.3
comp=Z,86nm,1.1s
AJM Ajmer 19.78 257 eP Pn 20 46 23.4 -0.7
USP Ospenovka 19.89 307 P Pn 20 46 25.6 +0.2
SNR=22
AML Almayashu 20.02 304 P P 20 46 31.1 +6.0
SNR=29
EKS2 Erkin-Say 20.15 305 P P 20 46 30.8 +4.3
SNR=7.0
IRK Irkutsk 20.16 15 eP P 20 46 27.8 +1.2
IRK *e* 20 46 53.6
IRK pmax pmax
comp=Z,96nm,2.1s
AKL Akola 20.97 239 eP P 20 46 36.4 +0.9
AKL AMb AMB 20 46 44.2
comp=Z,155nm,1.9s
QZH Quanzhou 21.13 106 ⇑iP P 20 46 37.8 +0.7
QZH S **S** **20 50 24.4 -5.9**
QZH AMB AMB
comp=Z,70nm,0.9s,mb5.0
QZH AMB AMB
comp=Z,1μm,3.4s
QZH LR LR
comp=N,16μm,12.2s,MS5.7
QZH LR LR
comp=E,9μm,12.8s,MS5.7
QZH LR LR
comp=Z,8μm,10.2s,MS5.4
SSE Sheshan 21.26 88 eP P 20 46 38.9 +0.4
SSE AP 20 46 46.0
SSE XP sP 20 46 50.6 -1.2
SSE S **S** **20 50 33.9 +1.1**
SSE SCS ScS 20 57 58.3 -2.3
SSE AMB AMB
comp=Z,34nm,0.8s,mb4.7
SSE AMB AMB
comp=Z,117nm,3.6s
SSE LR LR
comp=N,4μm,15.0s,MS4.9
SSE LR LR
comp=E,927nm,15.0s,MS4.9
SSE LR LR
comp=Z,4μm,16.9s,MS4.9
KURK Kurchatov 21.97 329 P P 20 46 45.5 -0.6
comp=Z,378nm,1.2s,mb5.7,SNR=9.9
KURK Kurchatov 21.97 329 ⇓P P 20 46 46.5 +0.4
SNR=39
KURK Kurchatov 21.97 329 i P P 20 46 42.4 -3.7
KURK pmax pmax
comp=Z,43nm,1.2s,mb4.8
KURK Kurchatov 21.97 329 eP P 20 46 44.9 -1.2
comp=Z,56nm,0.8s,mb5.0
HYB Hyderabad 22.17 230 i P P 20 46 50.0 +1.7
HYB *e*S **S** **20 50 50.0 -0.6**
HYB Hyderabad 22.17 230 eP P 20 46 51.0 +2.7
ZAL Zalesovo 22.50 342 P P 20 46 51.3 -0.5
comp=Z,14nm,0.8s,mb4.5,baz=312,slow=9.8,SNR=41
ZAL LR LR 20 56 40.9
comp=Z,946nm,18.5s,MS4.2,baz=282,slow=40
ZAL Zalesovo 22.50 342 P P 20 46 51.3 -0.5
ZAL pmax pmax
comp=Z,14nm,0.8s
ZAL MLR MLR
comp=Z,946nm,18.5s
KK31 Karatay Array 22.55 304 i P P 20 46 52.5 +0.2
KK31 pmax pmax
comp=Z,48nm,1.1s,mb4.8
KKAR Karatay Array 22.55 304 i P P 20 46 52.5 +0.2
KKAR pmax pmax
comp=Z,55nm,1.2s,mb4.9
LATR Latur 22.80 235 eP P 20 46 55.0 +0.1
KRAR Krasnoyarsk 23.18 355 ⇓eP P 20 46 59.9 +0.9
KRAR pmax pmax
comp=Z,74nm,1.7s,mb4.8
KRAR MLR MLR
comp=Z,900nm,19.0s,MS4.2
SNY Shenyang 23.42 60 ⇑P P 20 47 01.4 0.0
SNY AP 20 47 08.4
SNY XP sP 20 47 11.9 -2.9
SNY PP 20 47 34.3
SNY S **S** **20 51 15.6 +3.6**
SNY XS sS 20 51 22.6 -5.3
SNY SS 20 51 59.4
SNY AMB AMB
comp=Z,20nm,0.5s,mb4.8
SNY AMB AMB
comp=Z,327nm,3.8s
SNY LR LR
comp=N,3μm,11.1s
SNY LR LR
comp=E,1μm,16.4s
SNY LR LR
comp=Z,1μm,16.1s,MS4.5
YHNB Yeheng 23.51 104 eP P 20 47 02.6 +0.4
NVS Novosibirsk 23.72 341 eP P 20 47 02.3 -1.9
NVS *e*S **S** **20 51 12.0 -5.0**
NVS pmax pmax
comp=N,107nm,2.1s
NVS pmax pmax
comp=Z,100nm,2.1s,mb4.9
NVS pmax pmax
comp=E,57nm,2.0s
NVS smax
comp=N,268nm,2.3s
NVS smax
comp=E,130nm,2.4s
NACB Ninganchiao 23.91 105 eP P 20 47 07.2 +1.2
HIA Hailar 23.95 40 deP P 20 47 06.8 +0.5
POO Poona 24.65 240 eP P 20 47 11.0 -1.7
KAD Karad 25.21 237 eP P 20 47 18.2 +0.4
KAD AMb AMB 20 47 22.6
comp=Z,58nm,1.2s,mb5.0
CN2 Changchun 25.24 56 ⇓P P 20 47 17.8 -0.3
CN2 *e*XP sP 20 47 28.8 -3.1
CN2 *e*S **S** **20 51 39.8 -1.6**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,6μm,16.0s,MS5.2
CN2 LR LR
comp=E,1μm,16.0s,MS5.2
CN2 LR LR
comp=Z,3μm,15.0s,MS4.9
BHJ Bhuj 25.27 254 eP P 20 47 19.3 +1.1
BVA0 Borovoye Array 27.30 325 i P P 20 47 36.8 +0.1
BVAR Borovoye Array 27.30 325 P P 20 47 36.4 -0.2
comp=Z,6.2nm,1.0s,mb4.1,baz=125,slow=7.8,SNR=13
BVAR ScP ScP 20 54 34.7 +1.3
comp=Z,0.8nm,0.6s,baz=180,slow=1.5,SNR=4.4
BVAR LR LR 20 59 33.8
comp=Z,2μm,20.8s,MS4.7,baz=319,slow=39
BVAR Borovoye Array 27.30 325 P P 20 47 36.4 -0.3
BVAR pmax pmax
comp=Z,6.0nm,1.0s
BVAR pmax pmax
comp=E,1.0nm,0.6s
BVAR MLR MLR
comp=Z,2μm,20.8s
BRVK Borovoye 27.37 325 P P 20 47 37.3 0.0
comp=Z,49nm,0.7s,mb5.1,SNR=5.1
BRVK Borovoye 27.37 325 ⇓P P 20 47 39.2 +1.9
SNR=10
BRVK Borovoye 27.37 325 eP P 20 47 36.9 -0.4
BRVK pmax pmax
comp=Z,17nm,1.2s,mb4.5
BRVK Borovoye 27.37 325 eP P 20 47 36.9 -0.4
comp=Z,17nm,1.2s,mb4.5
CHKZ Chkalovo 27.59 326 eP P 20 47 41.4 +2.1
CHKZ pmax pmax
comp=Z,17nm,1.0s,mb4.6
CHKZ Chkalovo 27.59 326 eP P 20 47 41.4 +2.1
comp=Z,17nm,1.0s,mb4.6
BOD Bodaibo 27.67 21 eP P 20 47 40.7 +0.8
BOD pmax pmax
comp=Z,6.0nm,1.5s,mb4.0
KULM Kulim 27.82 170 eP P 20 47 39.2 -2.1
ZRNK Zerenda 27.94 324 eP P 20 47 44.1 +1.8
ZRNK pmax pmax
comp=Z,17nm,1.2s,mb4.5
ZRNK Zerenda 27.94 324 eP P 20 47 44.1 +1.7
comp=Z,17nm,1.2s,mb4.5
MDJ Mudanjiang 28.33 56 P P 20 47 45.3 -0.5
MDJ AP pP 20 47 48.0 -7.6
MDJ PCP PcP 20 50 55.9 -2.2
MDJ S **S** **20 52 32.3 +2.2**
MDJ XS sS 20 52 37.3 -8.9
MDJ AMB AMB
comp=Z,3.0nm,1.8s
MDJ AMB AMB
comp=Z,463nm,9.6s
MDJ LR LR
comp=N,4μm,17.3s
MDJ LR LR
comp=E,1μm,17.6s
MDJ LR LR
comp=Z,2μm,15.6s
JOW Kunigami 28.40 94 P P 20 47 47.8 +1.3
comp=Z,8.4nm,0.9s,mb4.3,baz=197,slow=19,SNR=2.5
JOW LR LR 21 01 22.7
comp=Z,2μm,19.6s,MS4.6,baz=129,slow=41
TGY Tagaytay City 29.31 124 LR LR 20 59 30.2
comp=Z,5.5nm,20.5s,baz=157,slow=36
VLA Vladivostok 29.70 60 P P 20 47 50.0 -8.0
VLA pmax pmax
comp=Z,30nm,1.0s,mb5.0
VLA MLR MLR
comp=Z,2μm,17.0s,MS4.7
PSI Prapat 30.09 175 LR LR 21 00 03.2
comp=Z,823nm,21.8s,MS4.3,baz=336,slow=36
CLNS Chul'man 30.96 31 eP P 20 48 17.3 +8.2
CLNS *e**PP pP 20 48 23.7 +4.8
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=Z,13nm,0.9s,mb4.8
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS pmax pmax
comp=Z,12nm,1.1s,mb4.6
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS MLR MLR
comp=Z,1μm,12.0s,MS4.8
CLNS MLR MLR
comp=N,6μm,13.0s
CLNS MLR MLR
comp=E,2μm,9.0s
KLR Kul'dur 31.00 48 eP P 20 48 06.4 -3.1
KKM Kota Kinabalu 32.61 141 eP P 20 48 24.4 +0.8
HABR Khabarovsk 32.89 50 eP P 20 48 24.9 -1.2
HABR *e*S **S** **20 53 42.6 +1.2**
HABR pmax pmax
comp=Z,27nm,0.6s,mb5.3
HABR MLR MLR
comp=Z,1μm,15.7s,MS4.7
AKTO Aktyubinsk 32.99 313 i P P 20 48 24.5 -2.4
AKTO pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KSM Kuching 34.00 154 eP P 20 48 36.7 +1.0
SVE Sverdlovsk 34.09 325 eP P 20 48 38.0 +1.5
SVE *e* 20 49 48.0
SVE pmax pmax
comp=Z,100nm,1.8s,mb5.4
SVE MLR MLR
comp=N,500nm,20.0s,MS4.6
SVE MLR MLR
comp=E,1μm,20.0s,MS4.6
SVE MLR MLR
comp=Z,1μm,20.0s,MS4.5
WSAR Wadi Sarin 34.37 263 P P 20 48 39.5 +0.6
comp=Z,17nm,1.1s,mb4.9,baz=63,slow=8.2,SNR=4.4
MJAR Matsushiro Arr 34.51 72 LR LR 21 03 47.6
comp=Z,821nm,19.1s,MS4.5,baz=265,slow=38
ARU Arti 34.92 324 P P 20 48 44.5 +0.8
comp=Z,168nm,0.8s,SNR=7.6
ARU Arti 34.92 324 ⇑iP P 20 48 43.9 +0.2
ARU *e* 20 49 58.9
ARU *e*PPP 20 50 15.4
ARU *e* 20 51 15.4
ARU *e*S **S** **20 54 15.8 +2.9**
ARU *e*SS SS 20 56 31.2 -14
ARU pmax pmax
comp=Z,42nm,1.1s,mb5.3
ARU MLR MLR
comp=N,1μm,19.0s,MS4.7
ARU MLR MLR
comp=Z,1μm,19.0s,MS4.7
ARU MLR MLR
comp=E,800nm,20.0s,MS4.7
ARU Arti 34.92 324 eP P 20 48 43.5 -0.2
comp=E,64nm,1.3s,mb5.4
YAK Yakutsk 36.10 26 eP P 20 48 53.5 -0.4
YAK pmax pmax
comp=Z,17nm,0.9s,mb5.0
YAK pmax pmax
comp=N,8.0nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK pmax pmax
comp=Z,20nm,0.9s,mb5.0
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK Yakutsk 36.10 26 eP P 20 48 53.1 -0.8
comp=E,28nm,0.5s,mb5.5
ASAJ Asahikawa 37.52 59 P P 20 49 05.8 -0.1
comp=E,8.7nm,0.9s,mb4.5,baz=269,slow=9.0,SNR=9.2
ASAJ Asahikawa 37.52 59 P P 20 49 05.8 -0.1
ASAJ pmax pmax
comp=Z,9.0nm,1.0s
YSS Yuzh-Sakhalins 37.78 54 eP P 20 49 06.0 -2.1
YSS *e* pP 20 49 18.2 +0.2
UMR Umm Al-Rimmam 41.30 279 eP P 20 49 37.3 -0.1
UMR AMb AMB 20 49 39.4
comp=Z,23nm,0.7s,mb4.9
KBD Kabd 41.43 278 eP P 20 49 37.6 -0.9
KBD AMb AMB 20 49 39.7
comp=Z,93nm,0.9s,mb5.4
GNI Garni 41.48 295 ⇓eP P 20 49 41.2 +2.3
GNI pmax pmax
comp=Z,51nm,1.3s
GNI MLR MLR
comp=Z,600nm,24.0s
GNI Garni 41.48 295 P P 20 49 41.0 +2.1
comp=Z,47nm,1.2s,mb5.0
MIB Mutribah 41.54 279 eP P 20 49 39.2 -0.2
MIB AMb AMB 20 49 45.3
comp=Z,82nm,1.2s,mb5.2
NAY Al-Naaiem 41.79 278 eP P 20 49 41.0 -0.5
NAY AMb AMB 20 49 42.6
comp=Z,36nm,0.9s,mb5.0
RST Umm Al-Ruwaisa 41.91 279 eP P 20 49 41.8 -0.7
RST AMb AMB 20 49 44.0
comp=Z,42nm,0.9s,mb5.1
GOF Gofitskoye 42.34 303 eP P 20 49 45.1 -0.9
GOF pmax pmax
comp=Z,30nm,0.8s,mb5.0
TIXI Tiksi 42.48 15 ⇑eP P 20 49 47.8 +0.8
TIXI pmax pmax
comp=Z,7.0nm,0.6s,mb4.5

TIXI MLR MLR
comp=Z,800nm,19.0s,MS4.6
PECR Pechory 42.51 319 *eP* **P 20 49 50.4 +3.1**
KIV Kislovodsk 42.65 301 P **P 20 49 50.9 +2.4**
comp=Z,96nm,1.1s,mb5.4,SNR=5.7
KIV Kislovodsk 42.65 301 ⇑P **P 20 49 50.1 +1.6**
SNR=11
KIV Kislovodsk 42.65 301 *deP* **P 20 49 50.1 +1.6**
KIV pmax pmax
comp=Z,43nm,1.7s,mb4.9
KIV MLR MLR
comp=Z,800nm,17.0s,MS4.7
KIV Kislovodsk 42.65 301 *eP* **P 20 49 49.2 +0.8**
comp=Z,23nm,1.0s,mb4.9
ERZM Erzurum 44.08 295 *i* P **P 20 50 02.3 +2.3**
SOC Sochi 44.83 301 *eP* **P 20 50 05.9 -0.1**
SOC *e* 21 00 06.0
SOC pmax pmax
comp=Z,17nm,0.8s,mb4.9
VRSR Storozhevoye 44.87 312 *eP* **P 20 50 05.6 -0.7**
VRSR pmax pmax
comp=Z,20nm,0.8s,mb5.0
VRSR pmax pmax
comp=N,8.0nm,0.5s
VRSR pmax pmax
comp=E,10.0nm,1.3s
VRSR MLR MLR
comp=Z,510nm,11.0s,MS4.7
VRSR MLR MLR
comp=N,430nm,14.0s,MS4.7
VRSR MLR MLR
comp=E,430nm,13.0s,MS4.7
VOR Voronezh 44.87 312 *eP* **P 20 50 07.0 +0.7**
VOR pmax pmax
comp=Z,100nm,1.6s,mb5.4
KLMR Klimovskoe 45.73 325 *eP* **P 20 50 12.6 -0.5**
KLMR *eS* **S 20 56 55.1 +1.0**
KLMR pmax pmax
comp=Z,80nm,1.4s,mb5.5
KLMR pmax pmax
comp=Z,930nm,19.5s
KLMR MLR MLR
comp=Z,1µm,23.0s,MS4.9
MOS Moscow 46.03 318 *eP* **P 20 50 14.5 -1.0**
MOS *e* 20 52 05.7
MOS *eS* **S 20 57 00.0 +1.6**
MOS pmax pmax
comp=Z,150nm,1.4s,mb5.7
MOS pmax pmax
comp=Z,125nm,1.3s,mb5.7
MOS MLR MLR
comp=E,500nm,12.0s
MOS MLR MLR
comp=Z,800nm,12.0s,MS4.9
ELZG Elazig 46.15 294 *i* P **P 20 50 18.1 +1.7**
OBN Obninsk 46.59 317 *ceP* **P 20 50 20.7 +0.8**
OBN *e**PP pP 20 50 28.7 -1.2
OBN *e* 20 51 53.4
OBN pmax pmax
comp=Z,88nm,1.7s,mb5.4
OBN MLR MLR
comp=Z,500nm,17.0s,MS4.5
OBN Obninsk 46.59 317 *eP* **P 20 50 22.0 +2.1**
comp=Z,52nm,1.1s,mb5.4
MALT Malatya 46.61 294 *eP* **P 20 50 20.6 +0.5**
MALT pmax pmax
comp=Z,17nm,1.3s,mb4.8
MALT Malatya 46.61 294 *eP* **P 20 50 20.6 +0.6**
comp=Z,17nm,1.3s,mb4.8
GZT Gaziantep 47.48 293 *i* P **P 20 50 27.7 +0.8**
GUMO Guam 48.22 102 LR LR 21 10 37.2
comp=Z,238nm,18.7s,MS4.2,baz=278,slow=36
SIM Simferopol' 48.65 303 *eP* **P 20 50 38.0 +2.1**
SIM pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
SIM MLR MLR
comp=Z,1µm,20.1s,MS4.9
BOYT Boyabat 48.66 299 *i* P **P 20 50 36.2 +0.3**
COBT Iskenderun 48.70 292 *i* P **P 20 50 37.2 +1.0**
CTKT Corum 48.90 298 *i* P **P 20 50 38.5 +0.7**
APA Apatity 49.66 333 *eP* **P 20 50 39.0 -4.6**
APA MLR MLR
comp=Z,2µm,18.0s,MS5.2
JOF Joensuu 49.87 327 *ep* **P 20 50 44.8 -0.4**
comp=Z,4.3nm,0.5s,mb4.7
JOF Joensuu 49.87 327 *eP* **P 20 50 44.8 -0.4**
JOF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
ELDT Eldivan 49.95 298 *i* P **P 20 50 45.9 +0.2**
BR131 Keskin Array S 49.95 297 *eP* **P 20 50 45.8 -0.1**
comp=Z,5.9nm,0.9s,mb4.6
BRTR Keskin Array B 49.95 297 P **P 20 50 45.2 -0.6**
comp=Z,4.5nm,1.0s,mb4.5,baz=99,slow=7.6,SNR=20
BRTR LR LR 21 16 58.9
comp=Z,274nm,19.1s,MS4.3,baz=69,slow=42
BRTR Keskin Array B 49.95 297 *i* P **P 20 50 45.9 +0.1**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
MEST Erdemli 50.33 293 *i* P **P 20 50 46.6 -2.0**
ANTO Ankara 50.56 297 ⇑*i*P **P 20 50 51.0 +0.6**
ANTO Ankara 50.56 297 ⇓P **P 20 50 54.1 +3.7**
SNR=12
ANTO Ankara 50.56 297 *eP* **P 20 50 49.0 -1.4**
ANTO pmax pmax
comp=Z,58nm,1.3s,mb5.3
ANTO Ankara 50.56 297 *eP* **P 20 50 49.0 -1.4**
comp=Z,58nm,1.3s,mb5.3
SGKT Sivrigoynuk 50.95 298 *i* P **P 20 50 53.8 +0.5**
AKASG Malin Array Be 51.18 311 P **P 20 50 54.1 -0.9**
comp=Z,5.2nm,0.7s,mb4.6,baz=76,slow=6.2,SNR=22
AKASG LR LR 21 17 06.7
comp=Z,393nm,18.0s,MS4.5,baz=80,slow=41
AKASG Malin Array Be 51.18 311 *i* P **P 20 50 56.5 +1.4**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 51.18 311 *eP* **P 20 50 54.4 -0.7**
CSS Prodhromos 51.41 291 *eP* **P 20 50 57.1 +0.3**
comp=Z,24nm,1.0s,mb5.1
HENT Hendek 51.75 299 *i* P **P 20 50 58.5 -0.8**
EIL Elat 51.78 284 *eP* **P 20 50 59.4 -0.2**
comp=Z,443nm,1.1s
VSU Vasula 52.01 321 ⇓*eP* **P 20 51 01.5 +0.2**
KAF Kangasniemi 52.15 326 *ep* **P 20 51 01.3 -1.0**
comp=Z,2.4nm,0.6s,mb4.3,baz=89,slow=7.3
KAF Kangasniemi 52.15 326 *eP* **P 20 51 01.3 -1.0**
KAF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
FINES FINESS Array B 52.26 325 P **P 20 51 02.6 -0.6**
comp=Z,7.8nm,0.8s,mb4.7,baz=80,slow=8.2,SNR=39
FINES LR LR 21 14 53.1
comp=Z,517nm,20.9s,MS4.5,baz=243,slow=38
FINES FINESS Array B 52.26 325 *i* P **P 20 51 03.2 0.0**
FINES pmax pmax
comp=Z,8.0nm,0.8s
KEV Kevo 52.31 336 *ep* **P 20 51 04.8 +1.3**
ARCES ARCESS Array B 52.81 335 P **P 20 51 06.9 -0.4**
comp=Z,4.2nm,0.6s,mb4.5,baz=90,slow=7.6,SNR=16
ARCES PcP PcP 20 52 16.0 -0.3
comp=Z,3.4nm,0.6s,baz=104,slow=3.8,SNR=4.1
ARCES LR LR 21 16 08.1
comp=Z,2µm,18.4s,MS5.2,baz=99,slow=39
ARCES ARCESS Array B 52.81 335 P **P 20 51 06.9 -0.3**
ARCES 20 52 16.0
ARCES pmax pmax
comp=Z,4.0nm,0.6s
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES MLR MLR
comp=Z,2µm,18.4s
ARCES ARCESS Array B 52.81 335 P **P 20 51 06.9 -0.3**
ARCES PcP PcP 20 52 16.0 -0.3
ARCES LR LR 21 16 08.1
ARE0 ARCESS Array S 52.81 335 P **P 20 51 07.1 -0.1**
HARR Harsova 53.03 304 ⇑*i*P **P 20 51 09.1 +0.3**
ATD Arta Tunnel 53.17 259 LR LR 21 12 28.6
comp=Z,238nm,19.6s,MS4.2,baz=248,slow=35
ULDT Uludag 53.22 298 *i* P **P 20 51 10.1 -0.2**
VRI Vrincioaia 53.61 306 ⇑*i*P **P 20 51 19.0 +5.9**
PLOR Plostina 53.67 306 ⇓*i*P **P 20 51 14.6 +1.1**
MLR Muntele Rosu 54.23 305 LR LR 21 18 39.6
comp=Z,1µm,21.6s,MS4.8,baz=111,slow=41
MLR Muntele Rosu 54.23 305 ⇓*i*P **P 20 51 18.9 +1.3**
MLR Muntele Rosu 54.23 305 ⇓P **P 20 51 18.9 +1.3**
BURAR Bucovina Array 54.27 308 ⇑*i*P **P 20 51 17.5 -0.4**
BURAR Bucovina Array 54.27 308 ⇑P **P 20 51 17.5 -0.4**

SUW Suwalki 54.42 316 *eP* **P 20 51 18.8 -0.2**
LVV L'vov 54.61 311 *eP* **P 20 51 21.6 +1.2**
LVV *eS* **S 20 59 04.4 +6.7**
LVV MLR MLR
comp=Z,600nm,18.0s,MS4.7
LVV MLR MLR
comp=N,400nm,17.0s,MS4.8
LVV MLR MLR
comp=E,600nm,18.0s,MS4.8
VOIR 54.85 305 ⇓*i*P **P 20 51 24.5 +2.3**
VOIR 54.85 305 ⇓P **P 20 51 24.4 +2.3**
KWP Kalwaria 55.49 311 *eP* **P 20 51 27.1 +0.4**
KOLS Kolonicke sedl 55.91 310 *eP* **P 20 51 31.6 +1.8**
KOLS pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
KOLS Kolonicke sedl 55.91 310 *eP* **P 20 51 31.6 +1.8**
comp=Z,9.1nm,1.3s,mb4.7
DRGR 56.12 307 ⇑*i*P **P 20 51 32.0 +0.7**
DRGR 56.12 307 ⇑P **P 20 51 31.9 +0.7**
CRVS Cervenica-Dubn 56.44 310 *eP* **P 20 51 34.3 +0.7**
comp=Z,31nm,2.4s,mb4.9
CRVS LR LR
comp=Z,400nm,27.8s,MS4.4
VTS Vitosha 56.86 303 ⇓*i*P **P 20 51 38.0 +1.4**
OJC Ojcow 57.19 312 *eP* **P 20 51 39.6 +0.7**
PSZ Piszkesteto 57.70 309 ⇑*eP* **P 20 51 45.4 +3.0**
FITZ Fitzroy Crossi 58.04 147 LR LR 21 17 36.9
comp=Z,253nm,21.7s,MS4.3,baz=328,slow=37
VYHS Vyhne 58.23 310 *eP* **P 20 51 46.3 +0.1**
VYHS pmax pmax
comp=Z,11nm,1.4s,mb4.7
VYHS Vyhne 58.23 310 *eP* **P 20 51 46.3 +0.1**
comp=Z,11nm,1.4s,mb4.7
OKC Ostrava-Krasne 58.32 312 *eP* **P 20 51 47.9 +1.1**
OKC AMS AMS 21 22 20.0
comp=Z,500nm,13.8s
HFS Hagfors 58.43 324 LR LR 21 17 54.5
comp=Z,823nm,19.9s,MS4.8,baz=109,slow=37
MORC Moravsky Berou 58.71 312 ⇓*i*P **P 20 51 50.2 +0.7**
MORC Moravsky Berou 58.71 312 *eP* **P 20 51 49.7 +0.2**
MORC pmax pmax
comp=Z,16nm,1.3s,mb4.9
MORC Moravsky Berou 58.71 312 *eP* **P 20 51 49.7 +0.1**
comp=Z,16nm,1.3s,mb4.9
PKSM Moragy 58.98 308 ⇓*i*P **P 20 51 51.2 -0.2**
PKSM Moragy 58.98 308 ⇓*eP* **P 20 51 51.3 -0.1**
KSP Ksiaz 59.20 313 *eP* **P 20 51 56.1 +3.2**
KSP Ksiaz 59.20 313 *eP* **P 20 51 55.6 +2.7**
DPC Dobruska-Polom 59.32 313 *eP* **P 20 51 54.4 +0.7**
DPC AMS AMS 21 19 00.0
comp=Z,700nm,13.6s
NB2 NORSAR Subarra 59.43 326 P **P 20 51 53.3 -1.2**
comp=Z,12nm,0.8s,mb5.0,baz=76,slow=7.4
NOA NORSAR Array B 59.43 326 P **P 20 51 53.3 -1.2**
comp=Z,9nm,0.6s,mb4.5,baz=76,slow=6.8,SNR=13
NOA LR LR 21 19 26.1
comp=Z,587nm,19.7s,MS4.7,baz=60,slow=38
NOA NORSAR Array B 59.43 326 P **P 20 51 53.3 -1.2**
NOA pmax pmax
comp=Z,3.0nm,0.6s
NOA MLR MLR
comp=Z,587nm,19.7s
VRAC Vranov 59.44 312 LR LR 21 21 26.8
comp=Z,579nm,18.7s,MS4.7,baz=87,slow=40
UPC Upice 59.47 313 *eP* **P 20 51 55.5 +0.8**
NAO01 NORSAR Array S 59.63 326 *eP* **P 20 51 54.0 -1.9**
comp=Z,4.7nm,0.6s,mb4.7
RGN Rugen 59.96 318 *eP* **P 20 51 57.3 -0.8**
comp=Z,92nm,1.6s,mb5.6
TREC Trest 60.13 312 *eP* **P 20 52 00.4 +1.1**
TREC AMS AMS 21 21 10.0
comp=Z,700nm,16.3s
RUE Ruedersdorf 60.26 316 *eP* **P 20 52 00.3 +0.1**
comp=Z,44nm,1.5s,mb5.3
CONA Conrad Observa 60.30 310 ⇓*i*P **P 20 51 59.3 -1.1**
comp=Z,16nm,1.3s,mb4.9
PVCC Panska Ves 60.34 313 *eP* **P 20 52 01.5 +0.7**
PVCC AMS AMS 21 19 50.0
comp=Z,700nm,14.0s
PRU Pruhonice 60.52 313 *eP* **P 20 52 02.3 +0.3**
PRU AMS AMS 21 20 00.0
comp=Z,800nm,12.7s
BRG Berggiesshubel 60.62 314 *eP* **P 20 52 02.9 +0.2**
comp=Z,24nm,1.6s,mb5.1
BRG Berggiesshubel 60.62 314 *eP* **P 20 52 02.5 -0.2**
comp=Z,1.9nm,0.7s,mb4.3
BRG Berggiesshubel 60.62 314 *eP* **P 20 52 02.5 -0.2**
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
ARSA Arzberg 60.72 310 ⇑*i*P **P 20 52 01.3 -2.1**
comp=Z,7.1nm,1.1s,mb4.7
FBE Freiberg 60.97 314 *eP* **P 20 52 05.5 +0.5**
comp=Z,32nm,1.6s,mb5.2
CLL Collm 61.06 315 *eP* **P 20 52 05.6 -0.1**
comp=Z,17nm,1.3s,mb5.0
CLL Collm 61.06 315 P **P 20 52 06.0 +0.3**
comp=Z,logA/T=1.1,mb5.0
CLL *e* pP 20 52 15.0 -1.0
CLL Collm 61.06 315 *eP* **P 20 52 06.0 +0.3**
comp=Z,17nm,1.3s,mb5.0
CLL *ex* x 20 52 15.0
CLL LmH 21 18 00.0
comp=N,1µm,20.5s
CLL LmH 21 18 00.0
comp=E,200nm,20.8s
CLL Collm 61.06 315 *eP* **P 20 52 06.0 +0.3**
comp=E,17nm,1.3s,mb5.0
CLL *e* pP 20 52 15.0 -1.0
CLL LR LR
comp=Z,800nm,16.0s,MS5.0
KHC Kasperske Hory 61.38 312 *ceP* **P 20 52 10.4 +2.6**
KHC Kasperske Hory 61.38 312 *eP* **P 20 52 08.4 +0.6**
KHC LR LR
comp=Z,500nm,16.1s,MS4.8
GEC2 GERESS Array S 61.39 312 *eP* **P 20 52 08.5 +0.6**
comp=Z,14nm,1.3s,mb4.9
GEC2 GERESS Array S 61.39 312 *eP* **P 20 52 08.5 +0.6**
GEC2 pmax pmax
comp=Z,14nm,1.3s,mb4.9
GERES GERESS Array B 61.39 312 P **P 20 52 07.5 -0.3**
comp=Z,2.7nm,0.9s,mb4.4,baz=73,slow=4.6,SNR=16
GERES LR LR 21 22 37.3
comp=Z,392nm,18.5s,MS4.6,baz=255,slow=40
GERES GERESS Array B 61.39 312 P **P 20 52 07.5 -0.4**
GERES pmax pmax
comp=Z,3.0nm,0.9s
GERES MLR MLR
comp=Z,392nm,18.5s
TANN Tannenbergstha 61.66 314 *eP* **P 20 52 10.1 +0.4**
comp=Z,14nm,1.4s,mb4.9
NKC Novy Kostel 61.73 314 *eP* **P 20 52 11.4 +1.2**
NKC AMS AMS 21 23 20.0
comp=Z,600nm,17.3s
WERD Werda 61.75 314 *eP* **P 20 52 10.6 +0.3**
comp=Z,17nm,1.5s,mb5.0
WET Wettzell 61.81 312 *eP* **P 20 52 11.3 +0.6**
comp=Z,23nm,1.6s,mb5.1
WET Wettzell 61.81 312 *eP* **P 20 52 11.3 +0.6**
WET pmax pmax
comp=Z,23nm,1.6s,mb5.1
BSEG Bad Segeberg 61.82 318 *eP* **P 20 52 10.6 -0.2**
comp=Z,67nm,2.0s,mb5.4
BSEG Bad Segeberg 61.82 318 *eP* **P 20 52 10.6 -0.2**
BSEG pmax pmax
comp=Z,67nm,2.0s,mb5.4
MANZ Manzenberg 62.01 313 *eP* **P 20 52 12.9 +0.8**
comp=Z,24nm,1.7s,mb5.0
ROTZ Rotzenmuhle 62.02 313 *eP* **P 20 52 13.1 +0.9**
comp=Z,24nm,1.3s,mb5.2
MOX Moxa 62.10 314 *eP* **P 20 52 13.0 +0.3**
comp=Z,22nm,1.5s,mb5.1
MOX Moxa 62.10 314 *eP* **P 20 52 12.8 +0.1**
comp=Z,27nm,1.7s,mb5.1
MOX
comp=Z,700nm,17.0s
MOX Moxa 62.10 314 *eP* **P 20 52 12.8 +0.1**
MOX pmax pmax
comp=Z,27nm,1.7s,mb5.1
MOX MLR MLR
comp=Z,700nm,17.0s,MS4.9
CLZ Clausthal 62.45 316 *eP* **P 20 52 15.6 +0.6**
comp=Z,22nm,1.2s,mb5.2
CLZ Clausthal 62.45 316 *eP* **P 20 52 15.6 +0.6**
CLZ pmax pmax
comp=Z,22nm,1.2s,mb5.2
GRA1 Grafenberg Arr 62.65 313 *eP* **P 20 52 17.2 +0.8**
comp=Z,24nm,1.2s,mb5.2
GRF Grafenberg Arr 62.65 313 *eP* **P 20 52 17.2 +0.8**
comp=Z,24nm,1.2s,mb5.2
GRF Grafenberg Arr 62.65 313 *eP* **P 20 52 17.2 +0.8**
GRF pmax pmax
comp=Z,24nm,1.2s,mb5.2
GRF Grafenberg Arr 62.65 313 *eP* **P 20 52 17.2 +0.8**
GRF pmax pmax
comp=Z,24nm,1.2s,mb5.2
UBBA Unterbreizbach 63.01 315 *eP* **P 20 52 19.3 +0.5**
comp=Z,23nm,1.7s,mb5.0
HLG Helgoland 63.10 319 *eP* **P 20 52 20.0 +0.7**
comp=Z,32nm,1.1s,mb5.4
FUR Furstenfeldbru 63.13 312 *eP* **P 20 52 20.4 +0.8**
comp=Z,54nm,1.4s,mb5.5
FUR Furstenfeldbru 63.13 312 *eP* **P 20 52 20.4 +0.8**
FUR pmax pmax
comp=Z,54nm,1.4s,mb5.5
WTTA Wattenberg 63.22 311 ⇑*i*P **P 20 52 20.1 0.0**
comp=Z,22nm,1.5s,mb5.1
WTTA Wattenberg 63.22 311 ⇑*i*P **P 20 52 20.1 0.0**
WTTA pmax pmax
comp=Z,22nm,1.5s,mb5.1
SQTA Sankt Quirin 63.51 311 ⇑*i*P **P 20 52 22.2 +0.1**
comp=Z,10nm,1.3s,mb4.7
SQTA Sankt Quirin 63.51 311 ⇑*i*P **P 20 52 22.2 +0.2**
SQTA pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
MOTA Moosalm 63.53 311 ⇑*i*P **P 20 52 21.9 -0.3**
comp=Z,20nm,1.5s,mb4.9
MOTA Moosalm 63.53 311 ⇑*i*P **P 20 52 21.9 -0.3**
MOTA pmax pmax
comp=Z,20nm,1.5s,mb4.9
JMIC Jan Mayen 63.81 339 LR LR 21 22 02.3
comp=Z,305nm,18.1s,MS4.5,baz=293,slow=38
IBBN Ibbenburen 63.82 317 *eP* **P 20 52 24.4 +0.3**
WRAB Tennant Creek 63.98 140 ⇑*i*P **P 20 52 25.1 -0.1**
WRA Warramunga Arr 63.98 140 P **P 20 52 24.8 -0.4**
comp=Z,5.9nm,0.9s,mb4.6,baz=334,slow=7.2,SNR=9.3
WRA LR LR 21 25 18.9
comp=Z,142nm,18.1s,MS4.2,baz=330,slow=41
WRA Warramunga Arr 63.98 140 P **P 20 52 24.8 -0.4**
WRA pmax pmax
comp=Z,6.0nm,0.9s
WRA MLR MLR
comp=Z,142nm,18.1s
TNS Taunus Mts 64.15 315 *eP* **P 20 52 26.6 +0.3**
comp=Z,14nm,1.4s,mb4.8
TNS Taunus Mts 64.15 315 *eP* **P 20 52 26.6 +0.3**
TNS pmax pmax
comp=Z,14nm,1.4s,mb4.8
TOD Tromm 64.16 314 *eP* **P 20 52 27.7 +1.4**
STU Stuttgart 64.22 313 *eP* **P 20 52 27.0 +0.3**
comp=Z,15nm,0.8s,mb5.1
PMG Port Moresby 64.23 122 LR LR 21 21 31.3
comp=Z,187nm,19.9s,MS4.3,baz=128,slow=37
PMG Port Moresby 64.23 122 *ceP* **P 20 52 27.4 +0.6**
BUG Bochum-Univer 64.41 316 *eP* **P 20 52 28.3 +0.3**
comp=Z,22nm,1.4s,mb5.0
DAVOX Davos 64.51 311 LR LR 21 26 41.9
comp=Z,566nm,18.8s,MS4.8,baz=64,slow=42
BFO Black Forest 64.92 313 *eP* **P 20 52 31.3 0.0**
comp=Z,21nm,1.5s,mb5.0
BFO Black Forest 64.92 313 *eP* **P 20 52 31.3 0.0**
BFO pmax pmax
comp=Z,21nm,1.5s,mb5.0
KMBO Kilima Mbogo 64.97 251 P **P 20 52 31.5 -0.1**
comp=Z,6.7nm,0.9s,mb4.7,baz=42,slow=12,SNR=11
KMBO LR LR 21 22 53.0
comp=Z,319nm,18.4s,MS4.5,baz=96,slow=38
KMBO Kilima Mbogo 64.97 251 *i* P **P 20 52 32.9 +1.3**
KMBO pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 64.97 251 P **P 20 52 31.5 -0.1**
KMBO LR LR 21 22 53.0
FELD Feldberg im Sc 65.29 312 *eP* **P 20 52 31.1 -2.6**
MEM Membach 65.46 316 P **P 20 52 34.8 0.0**
CDF Champ du Feu 65.53 313 *eP* **P 20 52 34.6 -0.7**
comp=Z,21nm,1.2s,mb4.7
CDF Champ du Feu 65.53 313 *eP* **P 20 52 34.6 -0.7**
CDF pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
CDF Champ du Feu 65.53 313 *eP* **P 20 52 34.6 -0.7**
comp=Z,10nm,1.2s,mb4.7
BEBN Eben Emael 65.58 316 XP **P 20 52 39.3 +3.8**
ECH Echery 65.68 313 *eP* **P 20 52 35.7 -0.5**
WLF Walferdange 65.73 315 *eP* **P 20 52 37.5 +0.9**
comp=Z,41nm,1.4s,mb5.3
WLF Walferdange 65.73 315 P **P 20 52 36.8 +0.3**
WLF Walferdange 65.73 315 *eP* **P 20 52 37.1 +0.5**
WLF pmax pmax
comp=Z,18nm,0.9s,mb5.1
WLF Walferdange 65.73 315 *eP* **P 20 52 37.1 +0.6**
comp=Z,18nm,0.9s,mb5.1
MOF Molkenrain 65.84 312 *eP* **P 20 52 37.4 +0.2**
BCLA Clavier 65.94 316 AP **P 20 52 41.0 +3.1**
comp=Z,3.0nm,1.3s,mb4.2
HINF Hinteralfeld 66.03 312 *eP* **P 20 52 37.9 -0.5**
HAU Haudompre 66.26 313 *eP* **P 20 52 39.4 -0.6**
comp=Z,2.8nm,0.4s,mb4.3
HAU *eR*
comp=Z,556nm,19.2s
DOU Dourbes 66.49 315 P **P 20 52 39.8 -1.6**
DOU E 20 52 42.3
DOU E pP 20 52 49.5 -2.4
SNF Seneffe 66.51 316 P **P 20 52 42.0 +0.4**
SNF XP sP 20 52 46.4 -10
PGF Pioggiola 66.73 307 *eP* **P 20 52 42.5 -0.5**
comp=Z,71nm,1.5s,mb5.2
PGF Pioggiola 66.73 307 *eP* **P 20 52 42.5 -0.5**
PGF pmax pmax
comp=Z,36nm,1.5s,mb5.2
PGF Pioggiola 66.73 307 *eP* **P 20 52 42.5 -0.5**
comp=Z,36nm,1.5s,mb5.0
BAIF Baives 66.73 315 *eP* **P 20 52 42.1 -0.9**
ASAR Alice Springs 66.80 142 P **P 20 52 42.9 -0.6**
comp=Z,3.1nm,0.4s,mb4.7,baz=327,slow=6.4,SNR=12
ASAR Alice Springs 66.80 142 P **P 20 52 42.9 -0.5**
ASAR pmax pmax
comp=Z,3.0nm,0.4s
CABF La Chapelle 66.99 311 *eP* **P 20 52 44.0 -0.6**
comp=Z,5.6nm,0.6s,mb4.5
CABF La Chapelle 66.99 311 *eP* **P 20 52 44.0 -0.6**
CABF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
CABF La Chapelle 66.99 311 *eP* **P 20 52 44.0 -0.6**
comp=Z,2.8nm,0.6s,mb4.5
LPG La Plagne 67.02 310 *eP* **P 20 52 44.5 -0.3**
comp=Z,27nm,0.8s,mb5.0
LPG La Plagne 67.02 310 *eP* **P 20 52 44.5 -0.3**
LPG pmax pmax
comp=Z,13nm,0.8s,mb5.0
LPG La Plagne 67.02 310 *eP* **P 20 52 44.5 -0.3**
comp=Z,13nm,0.8s,mb5.0
LPL La Plagne 67.02 310 *eP* **P 20 52 44.5 -0.3**
comp=Z,23nm,0.8s,mb5.0
LPL La Plagne 67.02 310 *eP* **P 20 52 44.5 -0.3**
LPL pmax pmax
comp=Z,11nm,0.8s,mb4.9
LPL La Plagne 67.02 310 *eP* **P 20 52 44.5 -0.3**
comp=Z,11nm,0.8s,mb5.0
AUTN L'Aution 67.19 308 *eP* **P 20 52 42.5 -3.4**
SBF Sospel 67.24 308 *eP* **P 20 52 45.6 -0.6**
BNI Bardonecchia 67.25 310 *eP* **P 20 52 45.8 -0.4**
BNI pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BNI Bardonecchia 67.25 310 *eP* **P 20 52 45.8 -0.5**
comp=Z,6.4nm,0.8s,mb4.7
LUCF Luceram 67.29 308 *eP* **P 20 52 43.6 -2.9**
TOUF Mont Tournerai 67.30 309 *eP* **P 20 52 43.2 -3.4**
MBDF Montbardon 67.32 309 *eP* **P 20 52 46.3 -0.4**
comp=Z,13nm,1.0s,mb4.6
MBDF Montbardon 67.32 309 *eP* **P 20 52 46.3 -0.4**
MBDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MBDF Montbardon 67.32 309 *eP* **P 20 52 46.3 -0.4**
comp=Z,6.4nm,1.0s,mb4.6
ORIF Oris-en-Rattie 67.82 310 *eP* **P 20 52 49.2 -0.6**
comp=Z,12nm,0.8s,mb4.7
ORIF *eR*
comp=Z,964nm,20.8s
ORIF Oris-en-Rattie 67.82 310 *eP* **P 20 52 49.2 -0.6**
ORIF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ORIF Oris-en-Rattie 67.82 310 *eP* **P 20 52 49.2 -0.6**
comp=Z,5.9nm,0.8s,mb4.7

FRF La Foret Royal 67.89 308 eP P 20 52 49.0 -1.3
LMR La Mourre 68.07 308 eP P 20 52 50.2 -1.2
comp=Z,35nm,1.2s,mb5.0
LMR La Mourre 68.07 308 eP P 20 52 50.2 -1.2
LMR pmax pmax
comp=Z,18nm,1.3s,mb4.9
LMR La Mourre 68.07 308 eP P 20 52 50.2 -1.2
comp=Z,18nm,1.3s,mb4.9
LOR Lormes 68.10 313 eP P 20 52 50.8 -0.8
comp=Z,3.2nm,0.6s,mb4.3
LOR eR
comp=Z,470nm,17.2s
LOR Lormes 68.10 313 eP P 20 52 50.8 -0.8
LOR pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
LOR MLR MLR
comp=Z,470nm,17.3s,MS4.8
LOR Lormes 68.10 313 eP P 20 52 50.8 -0.8
comp=Z,1.6nm,0.6s,mb4.2
LOR LR LR
comp=Z,470nm,17.3s,MS4.8
SMF Signal de Mont 68.38 312 eP P 20 52 52.5 -0.9
comp=Z,58nm,1.4s,mb5.1
SMF Signal de Mont 68.38 312 eP P 20 52 52.5 -0.9
SMF pmax pmax
comp=Z,29nm,1.4s,mb5.1
SMF Signal de Mont 68.38 312 eP P 20 52 52.5 -0.9
comp=Z,29nm,1.4s,mb5.1
SSF Saint Saulge 68.41 313 eP P 20 52 52.5 -1.0
comp=Z,11nm,0.9s,mb4.6
SSF Saint Saulge 68.41 313 eP P 20 52 52.5 -1.0
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
SSF Saint Saulge 68.41 313 eP P 20 52 52.5 -1.0
comp=Z,5.3nm,0.9s,mb4.6
SMRF Simiane la Rot 68.41 309 eP P 20 52 52.9 -0.7
NWAO Narrogin (SRO) 68.45 161 LR LR 21 26 32.6
comp=Z,243nm,21.4s,MS4.4,baz=332,slow=39
AVF Avril sur Loir 68.62 313 eP P 20 52 54.0 -0.9
comp=Z,54nm,1.3s,mb5.0
AVF Avril sur Loir 68.62 313 eP P 20 52 54.0 -0.9
AVF pmax pmax
comp=Z,27nm,1.3s,mb5.0
AVF Avril sur Loir 68.62 313 eP P 20 52 54.0 -0.9
comp=Z,27nm,1.3s,mb5.0
VIVF Saint-Julien-l 68.62 310 eP P 20 52 53.9 -1.0
PLDF La Plantade 68.81 312 eP P 20 52 53.9 -2.1
BGF Bois d'Agland 69.03 312 eP P 20 52 56.6 -0.8
PYM Petit Puy Mans 69.29 312 eP P 20 52 59.3 +0.3
LBL Lubilhac 69.37 311 eP P 20 52 59.6 +0.1
OPO Ambohidratompo 69.40 230 P P 20 53 00.6 +0.9
comp=Z,2.1nm,0.7s,mb4.2,baz=56,slow=3.6,SNR=5.0
LASF Ste Croix 69.49 310 eP P 20 52 59.4 -0.8
comp=Z,15nm,1.0s,mb4.6
TCF Toulx Ste Croi 69.55 312 eP P 20 53 00.2 -0.4
comp=Z,45nm,1.3s,mb4.9
TCF Toulx Ste Croi 69.55 312 eP P 20 53 00.2 -0.4
TCF pmax pmax
comp=Z,23nm,1.3s,mb5.0
TCF Toulx Ste Croi 69.55 312 eP P 20 53 00.2 -0.4
comp=Z,22nm,1.3s,mb4.9
LDF La Druitiere 69.92 315 eP P 20 53 02.1 -0.8
comp=Z,6.7nm,0.8s,mb4.3
LDF La Druitiere 69.92 315 eP P 20 53 02.1 -0.8
LDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LDF La Druitiere 69.92 315 eP P 20 53 02.1 -0.8
comp=Z,3.3nm,0.8s,mb4.3
CAF Calviac 70.25 311 eP P 20 53 04.1 -0.9
comp=Z,28nm,1.4s,mb4.7
CAF Calviac 70.25 311 eP P 20 53 04.1 -0.9
CAF pmax pmax
comp=Z,14nm,1.4s,mb4.7
CAF Calviac 70.25 311 eP P 20 53 04.1 -0.9
comp=Z,14nm,1.4s,mb4.7
RJF Les Rejaudoux 70.43 312 eP P 20 53 05.2 -0.8
comp=Z,62nm,1.5s,mb5.0
RJF eR
comp=Z,457nm,21.4s
RJF Les Rejaudoux 70.43 312 eP P 20 53 05.2 -0.8
RJF pmax pmax
comp=Z,31nm,1.5s,mb5.0
RJF MLR MLR
comp=Z,460nm,21.4s,MS4.7
RJF Les Rejaudoux 70.43 312 eP P 20 53 05.2 -0.8
comp=Z,31nm,1.5s,mb5.0
RJF LR LR
comp=Z,460nm,21.4s,MS4.7
GRR Gorron 70.45 315 eP P 20 53 04.9 -1.3
comp=Z,9.8nm,0.7s,mb4.5
GRR Gorron 70.45 315 eP P 20 53 04.9 -1.3
GRR pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GRR Gorron 70.45 315 eP P 20 53 04.9 -1.3
comp=Z,4.9nm,0.7s,mb4.5
MFF Saint Martin d 70.86 313 eP P 20 53 07.7 -0.9
comp=Z,43nm,1.5s,mb4.9
MFF Saint Martin d 70.86 313 eP P 20 53 07.7 -0.9
MFF pmax pmax
comp=Z,22nm,1.5s,mb4.9
MFF Saint Martin d 70.86 313 eP P 20 53 07.7 -0.9
comp=Z,22nm,1.5s,mb4.9
MTLF Montolieu 70.88 310 eP P 20 53 07.7 -1.1
comp=Z,28nm,1.5s,mb4.7
MTLF Montolieu 70.88 310 eP P 20 53 07.7 -1.1
MTLF pmax pmax
comp=Z,14nm,1.5s,mb4.7
MTLF Montolieu 70.88 310 eP P 20 53 07.7 -1.1
comp=Z,14nm,1.5s,mb4.7
LFF La Frestale 71.08 312 eP P 20 53 08.8 -1.2
BORG Borgarnes 71.20 336 LR LR 21 25 43.9
comp=Z,418nm,18.1s,MS4.7,baz=29,slow=37
SGMF Saint Gilles 71.51 316 eP P 20 53 11.8 -0.8
comp=Z,14nm,0.7s,mb4.7
SGMF Saint Gilles 71.51 316 eP P 20 53 11.8 -0.8
SGMF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
SGMF Saint Gilles 71.51 316 eP P 20 53 11.8 -0.8
comp=Z,7.3nm,0.7s,mb4.7
ROSF Rostrenen 71.89 316 eP P 20 53 13.9 -1.0
comp=Z,24nm,0.9s,mb4.8
ROSF Rostrenen 71.89 316 eP P 20 53 13.9 -1.0
ROSF pmax pmax
comp=Z,12nm,0.9s,mb4.8
ROSF Rostrenen 71.89 316 eP P 20 53 13.9 -1.0
comp=Z,12nm,0.9s,mb4.8
QUIF Quistinic 72.03 316 eP P 20 53 14.6 -1.1
comp=Z,17nm,1.1s,mb4.6
QUIF Quistinic 72.03 316 eP P 20 53 14.6 -1.1
QUIF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
QUIF Quistinic 72.03 316 eP P 20 53 14.6 -1.1
comp=Z,8.4nm,1.1s,mb4.6
PMR Palmer 72.09 27 eP P 20 53 14.8 -1.3
PMR pmax pmax
comp=Z,12nm,0.3s,mb5.3
PMR Palmer 72.09 27 eP P 20 53 14.8 -1.3
comp=Z,22nm,0.3s,mb5.3
ETOS Mallorca 72.15 306 P P 20 53 16.4 -0.1
comp=Z,28nm,1.3s,mb5.0
EPF Esparros 72.24 310 eP P 20 53 16.1 -0.9
comp=Z,3.2nm,0.6s,mb4.1
EPF Esparros 72.24 310 eP P 20 53 16.1 -0.9
EPF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
EPF Esparros 72.24 310 eP P 20 53 16.1 -0.9
comp=Z,1.6nm,0.6s,mb4.1
INK Inuvik 72.53 17 eP P 20 53 18.0 -0.7
INK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 72.53 17 eP P 20 53 18.0 -0.7
comp=Z,8.7nm,0.9s,mb4.7
EBIE Bielsa 72.53 310 P P 20 53 18.4 -0.3
comp=Z,21nm,1.6s,mb4.8
EPOB Poblet 72.56 308 P P 20 53 17.5 -1.3
comp=Z,13nm,1.3s,mb4.7
ETSF Etsaut 72.88 310 eP P 20 53 19.7 -1.1
comp=Z,20nm,1.0s,mb4.7
ETSF Etsaut 72.88 310 eP P 20 53 19.7 -1.1
ETSF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ETSF Etsaut 72.88 310 eP P 20 53 19.7 -1.1
comp=Z,9.9nm,1.0s,mb4.7
KDAK Kodiak Island 72.91 31 LR LR 21 25 59.5
comp=Z,764nm,18.0s,MS5.0,baz=131,slow=36
ERTA Horta de San J 73.24 308 P P 20 53 21.6 -1.3
comp=Z,23nm,1.5s,mb4.9

DAWY Dawson 73.91 22 eP P 20 53 26.1 -0.8
EMOS Mosqueruela 74.07 308 P P 20 53 27.4 -0.3
comp=Z,34nm,1.7s,mb5.0
EMUR La Murta 75.85 306 P P 20 53 37.4 -0.7
comp=Z,17nm,1.4s,mb4.8
EVIA Vianos 76.29 307 P P 20 53 40.8 +0.2
EVIA pmax pmax
comp=Z,18nm,1.4s,mb4.8
EVIA Vianos 76.29 307 P P 20 53 40.8 +0.2
comp=Z,18nm,1.4s,mb4.8
GUD Guadarrama 76.34 310 P P 20 53 41.7 +0.9
GUD pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
GUD Guadarrama 76.34 310 P P 20 53 41.7 +0.8
comp=Z,5.0nm,0.8s,mb4.5
ESDC Sonseca Array 76.72 309 P P 20 53 43.3 +0.3
comp=Z,1.7nm,0.9s,mb4.0,baz=50,slow=6.0,SNR=7.5
ESDC Sonseca Array 76.72 309 P P 20 53 42.5 -0.5
comp=Z,6.5nm,1.5s,mb4.3
SKAG Skagway 78.57 24 eP P 20 53 53.5 +0.2
LSZ Lusaka 80.67 245 eP P 20 54 05.6 +0.9
LSZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
LSZ Lusaka 80.67 245 eP P 20 54 05.6 +0.9
comp=Z,5.0nm,0.6s,mb4.6
DLBC Dease Lake 81.12 23 LR LR 21 31 57.4
comp=Z,631nm,18.7s,MS5.0,baz=120,slow=37
DLBC Dease Lake 81.12 23 eP P 20 54 08.3 +1.1
YKA Yellowknife Ar 81.72 14 P P 20 54 08.8 -1.5
comp=Z,2.0nm,0.8s,mb4.1,baz=332,slow=4.5,SNR=8.1
YKA Yellowknife Ar 81.72 14 P P 20 54 08.8 -1.5
YKA pmax pmax
comp=Z,2.0nm,0.8s
FRB Frobisher Bay 82.88 353 LR LR 21 32 57.7
comp=Z,409nm,19.6s,MS4.8,baz=340,slow=37
TOA0 Torodi Ar. Sit 86.67 283 eP P 20 54 33.9 -1.6
TORD Torodi Ar. Bea 86.67 283 P P 20 54 34.9 -0.6
comp=Z,3.3nm,0.7s,mb4.7,baz=51,slow=3.8,SNR=27
TORD LR LR 21 39 49.2
comp=Z,302nm,18.2s,MS4.7,baz=30,slow=40
LBTB Lobatse 88.52 239 eP P 20 54 44.4 +0.1
LBTB pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
LBTB Lobatse 88.52 239 eP P 20 54 44.4 +0.1
comp=Z,3.7nm,0.6s,mb4.9
EDM Edmonton 90.43 17 P P 20 54 53.5 +0.3
FFC Flin Flon 91.30 10 eP P 20 54 57.4 +0.1
FFC pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
FFC Flin Flon 91.30 10 eP P 20 54 57.4 +0.1
comp=Z,4.7nm,0.8s,mb4.9
DBIC Dimbokro 95.61 282 P P 20 55 17.6 +0.5
comp=Z,3.7nm,0.9s,mb4.8,baz=132,slow=16,SNR=3.7
DBIC LR LR 21 43 06.0
comp=Z,482nm,20.7s,MS5.0,baz=27,slow=38
DBIC Dimbokro 95.61 282 P P 20 55 17.7 +0.6
DBIC pmax pmax
comp=Z,4.0nm,0.9s
DBIC MLR MLR
comp=Z,482nm,20.7s
BOZ Bozeman (W) 97.81 19 eP P 20 55 26.4 -0.7
BOZ pmax pmax
comp=Z,9.0nm,1.5s,mb5.1
BOZ Bozeman (W) 97.81 19 eP P 20 55 26.4 -0.7
comp=Z,9.1nm,1.5s,mb5.1
OTAV Otavalo 146.61 350 ePKPbc PKPbc 21 01 35.6 +2.4
SAML Samuel 149.45 317 ePKPdf PKPdf 21 01 37.6 +1.3

SZGRF **17** *20:41:51.2, 1840S×17531W, h33km, Tonga Islands*
ISCJB **17** *20:42:13.0±1.2, 1806S±006×17505W±008, h217km±12km, mb4.5/37, Error ellipse: s-maj=13.3km s-min=7.5km az=66.8*
BJI **17** *20:42:18.6, 1774S×17458W, h272km, mB5.1, mb4.7*
NEIC **17** *20:42:19.6±1.7, 1803S×175.12W, h268km±14km, mb4.5/16, Error ellipse: s-maj=12.6km s-min=7.0km az=130.0*
IDC **17** *20:42:22.4±2.0, 18.10S×175.13W, h293km±18km, mb4.1/14, mb1 4.2/15, mb1mx4.1/18, mbtmp4.7/15, Error ellipse: s-maj=14.5km s-min=9.5km az=131.0*
ISC 17 20:42:14.1±1.1, 1822S±006×17486W±008, h220km±10km, h255km±2.2km; pP-P, n207, σ1s06/65, mb4.5/37, 33C-11D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	5.21	35	P	Pn	20 43 31.0	-0.7
	18nm,0.3s,baz=52,slow=3.1,SNR=8.2						
AFI				S	S	20 44 25.4	-7.7
	53nm,0.3s,baz=41,slow=22,SNR=14						
FUNA	Funafuti	11.24	328	eP	Pn	20 44 50.0	+1.2
RAO	Raoul Island	11.33	194	S	S	20 46 55.4	-1.2
	117nm,0.3s,baz=63,slow=20,SNR=5.2						
DZM	Mont Dzumac	17.97	255	P	P	20 46 10.1	+2.0
	0.5nm,0.3s,baz=82,slow=16,SNR=16						
URZ	Urewera	21.16	198	P	P	20 46 45.0	+2.7
	21nm,0.4s,mb5.0,baz=357,slow=5.0,SNR=25						
URZ				S	S	20 50 21.8	-1.6
	5.1nm,0.4s,baz=198,slow=23,SNR=4.9						
RPZ	Rata Peaks	28.05	202	P	P	20 47 53.8	+8.8
	8.7nm,0.7s,mb4.5,baz=252,slow=4.6,SNR=9.7						
CTA	Charters Tower	36.73	261	eP	P	20 48 59.6	-0.6
	6.6nm,0.8s,mb4.2						
CTAO	Charters Tower	36.73	261	eP	P	20 48 59.2	-1.0
	6.8nm,0.6s,mb4.3						
PMG	Port Moresby	37.84	278	eP	P	20 49 08.8	-0.8
	24nm,0.8s,mb4.8						
WB2	Warramunga Arr	47.88	259	eP	P	20 50 29.3	-0.7
WRAB	Tennant Creek	47.89	259	eP	P	20 50 28.9	-1.1
	74nm,1.0s,mb5.0						
WRA	Warramunga Arr	47.90	259	P	P	20 50 29.0	-1.1
	30nm,0.8s,mb4.7,baz=94,slow=7.2,SNR=56						
WRA				S	S	20 57 02.7	-7.5
	1.9nm,1.1s,baz=94,slow=14,SNR=4.7						
AS31	Alice Springs	47.96	254	eP	P	20 50 30.3	-0.3
ASAR	Alice Springs	47.96	254	P	P	20 50 30.4	-0.2
	116nm,0.7s,mb5.3,baz=87,slow=8.6,SNR=435						
ASAR				S	S	20 57 05.0	-6.2
	4.6nm,0.8s,baz=88,slow=17,SNR=21						
ASPA	Alice Springs	47.96	254	eP	P	20 50 30.3	-0.3
KAKA	Kakadu	50.95	268	eP	P	20 50 52.3	-0.9
	30nm,0.4s,mb5.1						
FORT	Forrest	52.93	245	eP	P	20 51 07.1	-0.6
	17nm,0.6s,mb4.7						
FITZ	Fitzroy Crossi	56.31	260	eP	P	20 51 32.0	+0.1
	8.6nm,0.4s,mb4.6						
FITZ	Fitzroy Crossi	56.31	260	P	P	20 51 31.8	-0.2
	4.4nm,0.5s,mb4.2,baz=104,slow=23,SNR=21						
VNDA	Vanda	60.44	186	P	P	20 52 03.4	+2.9
	1.8nm,0.9s,mb3.7,baz=11,slow=6.5,SNR=7.3						
MBWA	Marble Bar	61.27	255	eP	P	20 52 05.6	-0.4
KLBR	Kellerberrin	61.71	243	eP	P	20 52 08.5	-0.5
	19nm,0.7s,mb4.8						
NWAO	Narrogin (SRO)	62.04	242	eP	P	20 52 11.1	-0.1
TSM	Tanau	69.93	282	P	P	20 53 01.6	+0.2
MJAR	Matsushiro Arr	70.22	321	P	P	20 53 02.0	-1.1
	13nm,0.8s,mb4.6,baz=159,slow=6.0,SNR=34						
MAT	Matsushiro	70.22	321	eP	P	20 53 02.0	-1.1
	8.9nm,0.7s,mb4.5						
MAT				LR	LR		
	comp=Z,690nm,18.0s						
JOW	Kunigami	71.06	308	P	P	20 53 08.4	+0.2
	comp=Z,16nm,0.9s,mb4.7,baz=145,slow=8.9,SNR=5.0						
KKM	Kota Kinabalu	72.10	283	P	P	20 53 15.7	+1.3
ASAJ	Asahikawa	73.22	329	P	P	20 53 21.3	+0.3
	comp=Z,13nm,0.8s,mb4.6,baz=217,slow=8.6,SNR=14						
KSM	Kuching	76.08	276	eP	P	20 53 38.1	+0.8
YBH	Yreka Blue Hor	76.68	37	P	P	20 53 41.7	+0.9
	comp=Z,3.6nm,0.8s,mb4.0,baz=80,slow=4.6,SNR=4.1						
NVAR	Mina Array Bea	77.35	42	P	P	20 53 44.6	+0.2
	comp=Z,2.7nm,0.8s,mb3.9,baz=218,slow=6.9,SNR=17						
MNV	Mina	77.44	42	eP	P	20 53 45.9	+0.9
	comp=Z,2.1nm,1.1s,mb3.7						
TPNV	Topopah Spring	77.84	44	eP	P	20 53 48.3	+1.1
	comp=Z,4.1nm,1.3s,mb3.9						
MDJ	Mudanjiang	80.42	323	P	P	20 54 01.1	-0.1
MDJ				AP	pP	20 55 00.4	+6.5
MDJ				PP	PP	20 57 06.5	-0.9
MDJ				S	S	21 03 44.6	-4.0
MDJ				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,143nm,4.7s						
MDJ	Mudanjiang	80.42	323	eP	P	20 54 00.6	-0.5
	comp=Z,3.2nm,0.6s,mb4.1						
ELK	Elko	80.61	42	eP	P	20 54 02.8	+0.7

CN2 Changchun 82.36 321 eP P 20 54 11.5 +0.2
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
HLID Hailey 82.68 40 eP P 20 54 13.7 +0.7
comp=Z,1.1nm,0.5s,mb3.8
KGM Kluang 82.86 274 P P 20 54 15.5 +1.6
MCK McKinley 84.14 11 eP P 20 54 19.1 -1.4
comp=Z,7.5nm,0.9s,mb4.4
MAW Mawson 84.69 199 P P 20 54 23.6 +0.5
comp=Z,3.8nm,0.7s,mb4.3,baz=127,slow=7.7,SNR=7.8
MAW Mawson 84.69 199 eP P 20 54 24.3 +1.1
PDAR Pinedale Array 85.29 42 P P 20 54 25.7 -0.4
comp=Z,0.9nm,0.9s,mb3.5,baz=270,slow=0.7,SNR=6.9
COLA College 85.38 11 eP P 20 54 24.0 -2.6
comp=Z,27nm,0.9s,mb5.0
IMA2 Indian Mountai 85.54 8 eP P 20 54 26.5 -0.9
IPM Ipoh 85.81 276 P P 20 54 30.8 +2.1
BJT Baijiatuao 86.40 314 P P 20 54 31.6 0.0
DAWY Dawson 86.49 15 eP P 20 54 31.5 -0.5
PSI Prapat 87.28 274 P P 20 54 36.0 +0.2
comp=Z,26nm,0.9s,mb5.0,baz=125,slow=1.7,SNR=23
GYA Guiyang 88.14 298 P P 20 54 40.8 +0.9
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
HIA Hailar 88.61 323 P P 20 54 39.8 -2.3
XAN Xi'an 89.15 306 P P 20 54 45.0 +0.4
XAN AMB AMB
comp=Z,15nm,1.2s,mb4.7
SYO Syowa Base 89.57 192⇑ eP P 20 54 46.5 -0.1
HHC Hu-ho-hao-te 89.92 313 eP P 20 54 48.9 +0.7
HHC AP pP 20 55 50.9 +8.8
HHC XP sP 20 56 17.1 +12
HHC PP PP 20 58 27.3 +3.1
HHC SKS 21 04 53.6
HHC S 21 05 15.0
HHC SS SS 21 11 23.3 -1.4
HHC AMB AMB
comp=Z,26nm,0.9s,mb5.1
HHC AMB AMB
comp=Z,831nm,6.2s
HHC LR LR
comp=N,195nm,19.0s
HHC LR LR
comp=E,193nm,15.5s
HHC LR LR
comp=Z,158nm,19.0s
KMI Kunming 90.99 296 P P 20 54 54.8 +1.6
KMI AP pP 20 55 57.1 +10
KMI XP sP 20 56 22.8 +13
KMI AMB AMB
comp=Z,8.0nm,1.3s,mb4.5
KMI AMB AMB
comp=Z,377nm,7.1s
INK Inuvik 91.33 14 eP P 20 54 53.1 -1.6
comp=Z,9.6nm,1.4s,mb4.5
CHTO Chiang Mai 92.29 289 eP P 20 54 59.8 +0.6
comp=Z,6.4nm,0.8s,mb4.6
YKA Yellowknife Ar 93.23 24 P P 20 55 02.4 -1.1
comp=Z,1.9nm,1.0s,mb4.1,baz=242,slow=4.1,SNR=4.4
LZH Lanzhou 93.77 307 eP P 20 55 07.5 +1.5
LZH AMB AMB
comp=Z,40nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,213nm,5.1s
SONM Songino Array 96.01 318 P P 20 55 15.1 -1.1
comp=Z,0.8nm,0.9s,mb4.0,baz=158,slow=7.2,SNR=3.9
MKAR Makanchi Array 111.78 314 PKiKP PKiKP 21 00 21.3 -1.3
comp=Z,1.4nm,0.7s,baz=32,slow=0.9,SNR=13
KURK Kurchatov 114.32 318 ePKPdf PKiKP 21 00 25.9 -1.5
CHKZ Chkalovo 118.98 322 ePKPdf PKPdf 21 00 34.6 -1.8
BVAR Borovoye Array 119.22 321 PKP PKPdf 21 00 35.9 -1.0
comp=Z,2.4nm,0.6s,baz=112,slow=1.6,SNR=20
BRVK Borovoye 119.28 321 ePKPdf PKPdf 21 00 35.8 -1.2
ZRNK Zerenda 120.06 321 ePKPdf PKPdf 21 00 37.1 -1.4
ARU Arti 124.97 327 ePKPdf PKPdf 21 00 46.7 -1.2
ARCES ARCESS Array B 127.18 351 PKP PKPdf 21 00 50.8 -1.3
comp=Z,3.7nm,0.9s,baz=329,slow=1.6,SNR=9.3
JOF Joensuu 131.82 344 ep PKPdf 21 00 59.1 -1.8
comp=Z,4.3nm,0.7s
NOA NORSAR Array B 137.02 356 PKP PKPdf 21 01 09.6 -1.1
comp=Z,2.1nm,1.1s,baz=16,slow=1.8,SNR=3.3
AKASG Malin Array Be 142.34 335 PKhKP 21 01 14.1
comp=Z,1.8nm,0.6s,baz=42,slow=4.5,SNR=14
AKASG PKP PKPdf 21 01 20.9 +0.6
comp=Z,0.8nm,0.6s,baz=42,slow=3.3,SNR=5.9
MARD Mardin 143.47 309 iP PKPdf 21 01 19.4 -2.9
MALT Malatya 144.78 312⇑ iP PKPdf 21 01 25.6 +1.0
MALT Malatya 144.78 312⇑ P PKPdf 21 01 25.6 +1.0
KWP Kalwaria 145.62 340 ePKP PKPdf 21 01 26.5 +0.5
GZT Gaziantep 145.80 311 iP PKPdf 21 01 28.0 +1.7
IBBN Ibbenburen 145.93 357 ePKPbc PKPdf 21 01 27.3 +0.8
OJC Ojcow 145.99 343 eP PKPdf 21 01 27.2 +0.6
CTKT Corum 146.13 317 iP PKPbc 21 01 29.0 +0.7
CLZ Clausthal 146.20 354 ePKPbc PKPbc 21 01 28.3 -0.2
KSP Ksiaz 146.26 347 ePKP PKPdf 21 01 28.8 +1.7
KSP Ksiaz 146.26 347 eP PKPdf 21 01 28.5 +1.4
WTSB Winterswijk 146.31 358⇑ ePKiKP PKPdf 21 01 27.8 +0.6
comp=Z,37nm,2.1s
KOLS Kolonicke sedl 146.37 339 ePKP PKPdf 21 01 29.0 +1.7
BURAR Bucovina Array 146.40 335⇑ iP PKPbc 21 01 29.7 +0.7
BURAR Bucovina Array 146.40 335 ⇑P PKPbc 21 01 29.7 +0.7
CLL Collm 146.41 351 ePKPbc PKPbc 21 01 28.5 -0.5
CLL Collm 146.41 351⇑ iPKPbc PKPbc 21 01 28.4 -0.6
comp=Z,83nm,1.7s
CLL i PKiKP PKiKP 21 01 31.2 -0.6
CLL epPKPbc pPKPbc 21 02 36.0 +11
NIE Niedzica 146.56 342 eP PKPdf 21 01 30.0 +2.4
UPC Upice 146.64 347 ePKPbc PKPbc 21 01 30.0 +0.3
CRVS Cervenica-Dubn 146.66 340 ePKP PKPdf 21 01 29.7 +1.9
BRG Berggiesshubel 146.68 350 ePKPbc PKPbc 21 01 29.5 -0.3
BRG Berggiesshubel 146.68 350 i PKP PKPdf 21 01 29.7 +1.9
comp=Z,11nm,1.0s
BRG
comp=N,492nm,18.2s
BRG
comp=E,275nm,15.9s
BRG
comp=Z,360nm,14.6s
DPC Dobruska-Polom 146.72 347 ePKPbc PKPbc 21 01 30.1 +0.2
FBE Freiberg 146.73 351 ePKPbc PKPbc 21 01 29.8 -0.2
OKC Ostrava-Krasne 146.77 345 ePKPbc PKPbc 21 01 29.5 -0.6
BUG Bochum--Univer 146.81 358 ePKPbc PKPbc 21 01 29.4 -0.8
PVCC Panska Ves 146.90 349 ePKPbc PKPbc 21 01 31.0 +0.6
MORC Moravsky Berou 146.98 345⇓ iP PKPbc 21 01 30.2 -0.5
CFR Carcaliu 146.99 330⇑ iP PKPbc 21 01 31.1 +0.4
CFR Carcaliu 146.99 330 ⇑P PKPbc 21 01 31.1 +0.4
COBT Iskenderun 147.11 310 iP PKPbc 21 01 31.2 +0.2
VRI Vrincioaia 147.13 332⇑ iP PKPbc 21 01 30.9 -0.2
PLOR Plostina 147.18 332⇑ iP PKPbc 21 01 31.3 +0.1
MOX Moxa 147.24 352 ePKP PKPbc 21 01 30.9 -0.5
comp=Z,24nm,1.5s
MOX e 21 02 36.1
UBBA Unterbreizbach 147.25 354 ePKPbc PKPbc 21 01 30.7 -0.7
WERD Werda 147.34 352 ePKPbc PKPbc 21 01 31.4 -0.3
TANN Tannenbergstha 147.35 351 ePKPbc PKPbc 21 01 31.3 -0.4
BR131 Keskin Array S 147.36 317 ePKPbc PKPbc 21 01 31.5 -0.2
BRTR Keskin Array B 147.36 317 PKPbc PKPbc 21 01 31.6 -0.1
comp=Z,12nm,0.9s,baz=135,slow=3.4,SNR=44
TIRR Tirgusor 147.38 328⇑ iP PKPbc 21 01 31.5 -0.2
TIRR Tirgusor 147.38 328 ⇑P PKPbc 21 01 31.5 -0.2
PRU Pruhonice 147.43 349 ePKPbc PKPbc 21 01 31.7 -0.2
HARR Harsova 147.45 329⇓ iP PKPbc 21 01 32.2 +0.3
UCC Uccle 147.50 1 PKPbc PKPbc 21 01 31.4 -0.6
BEBN Eben Emael 147.50 359 PKP PKPdf 21 01 28.6 -0.5
BEBN PKPbc PKPbc 21 01 30.4 -1.6
BEBN PKPab PKPab 21 01 34.1 -0.6
HGN Heimansgroeve 147.53 359⇑ ePKiKP PKPbc 21 01 31.5 -0.6
comp=Z,16nm,1.9s
NKC Novy Kostel 147.53 351 ePKPbc PKPbc 21 01 32.1 -0.1
VRAC Vranov 147.64 346⇓ iP PKPbc 21 01 33.0 +0.5
VRAC Vranov 147.64 346 ⇓P PKPbc 21 01 33.0 +0.5
MEM Membach 147.68 359 PKPbc PKPbc 21 01 32.1 -0.5
MLR Muntele Rosu 147.77 332⇑ iP PKPbc 21 01 33.3 +0.5
MLR Muntele Rosu 147.77 332 ⇑P PKPbc 21 01 33.3 +0.5
SNF Seneffe 147.78 1 PKPbc PKPbc 21 01 32.2 -0.6
SNF PKPab PKPab 21 01 35.4 -0.5
VYHS Vyhne 147.82 343 ePKP PKPbc 21 01 33.0 +0.1
MANZ Manzenberg 147.82 352 ePKPbc PKPbc 21 01 33.0 +0.1
ANTO Ankara 147.82 318⇑ iP PKPbc 21 01 32.5 -0.4
ANTO Ankara 147.82 318 ⇑P PKPbc 21 01 32.5 -0.5
BCLA Clavier 147.88 360 PKPbc PKPbc 21 01 32.6 -0.5
BCLA PKPab PKPab 21 01 35.2 -1.0
BCLA APKPbc 21 01 37.4

SGKT	**Sivrigoynuk**	**147.88**	**320**	*i* P	PKPbc	21 01 32.9	-0.2
TREC	**Trest**	**147.90**	**347**	*e*PKPbc	PKPbc	21 01 32.8	-0.3
TNS	**Taunus Mts**	**147.97**	**356**	*e*PKPbc	PKPbc	21 01 32.9	-0.4
TNS				*e*PKPab	PKPab	21 01 35.9	-0.7
ROTZ	**Rotzenmuhle**	**148.02**	**351**	*e*PKPbc	PKPbc	21 01 33.6	+0.1
ROTZ				*e*PKPab	PKPab	21 01 36.3	-0.5
DRGR		**148.04**	**337** ⇑ *i* P		PKPbc	21 01 33.5	0.0
DRGR		**148.04**	**337** ⇑P		PKPbc	21 01 33.5	0.0
DOU	**Dourbes**	**148.20**	**1**	PKPbc	PKPbc	21 01 33.5	-0.4
DOU				PKPab	PKPab	21 01 36.4	-1.1
VOIR		**148.21**	**333** ⇓ *i* P		PKPbc	21 01 34.9	+1.0
VOIR		**148.21**	**333** ⇓P		PKPbc	21 01 34.9	+0.9
GRF	**Grafenberg Arr**	**148.23**	**352**	*e*PKPbc	PKPbc	21 01 34.0	0.0
GRF				*e*PKPab	PKPab	21 01 37.2	-0.5
KHC	**Kasperske Hory**	**148.42**	**349**	*e*PKPdf	PKPdf	21 01 30.0	-0.7
KHC				*e*PKPbc	PKPbc	21 01 34.0	-0.5
WET	**Wettzell**	**148.53**	**350**	*e*PKPbc	PKPbc	21 01 34.4	-0.4
WET				*e*PKPab	PKPab	21 01 38.4	-0.5
ZST	**Bratislava**	**148.56**	**345**	*e*PKP	PKPbc	21 01 35.2	+0.4
BHL	**Bhannes**	**148.61**	**306**	*e*P	PKPbc	21 01 35.4	+0.4
WLF	**Walferdange**	**148.62**	**359**	*e*PKPbc	PKPbc	21 01 35.6	+0.6
WLF				*e*PKPab	PKPab	21 01 39.4	+0.1
WLF	**Walferdange**	**148.62**	**359**	PKP	PKPdf	21 01 29.7	-1.3
WLF				PKPbc	PKPbc	21 01 35.4	+0.4
GEC2	**GERESS Array S**	**148.68**	**349**	*e*PKPbc	PKPbc	21 01 34.8	-0.3
GEC2				*e*PKPab	PKPab	21 01 38.8	-0.7
GEC2	**GERESS Array S**	**148.68**	**349**	*e*PKPbc	PKPbc	21 01 34.8	-0.3
GERES	**GERESS Array B**	**148.68**	**349**	PKPbc	PKPbc	21 01 35.1	0.0
	comp=Z,3.3nm,0.9s,baz=31,slow=2.3,SNR=25						
CONA	**Conrad Observa**	**149.11**	**346** ⇑ *i*PKPbc		PKPbc	21 01 34.7	-1.5
	comp=Z,51nm,1.5s						
GZR	**Gura Zlata**	**149.18**	**335** ⇑ *i* P		PKPdf	21 01 34.4	+2.5
GZR	**Gura Zlata**	**149.18**	**335** ⇑P		PKPdf	21 01 34.4	+2.5
FLN	**La Foliniere**	**149.20**	**7**	*e*PKIKP	PKPdf	21 01 31.7	-0.2
SGMF	**Saint Gilles**	**149.40**	**10**	*e*PKIKP	PKPdf	21 01 32.6	+0.3
ERMK	**Ermenek**	**149.44**	**313**	*i* P	PKPbc	21 01 37.2	+0.2
BZS	**Buzias**	**149.44**	**337** ⇓ *i* P		PKPbc	21 01 36.5	-0.5
ZIMR		**149.45**	**330** ⇑ *i* P		PKPbc	21 01 38.0	+1.0
ZIMR		**149.45**	**330** ⇑P		PKPbc	21 01 38.0	+0.9
MOA	**Molln**	**149.53**	**348** ⇑ *i* P		PKPbc	21 01 36.7	-0.6
	comp=Z,16nm,1.6s						
FUR	**Furstenfeldbru**	**149.72**	**352**	*e*PKPbc	PKPbc	21 01 37.5	-0.2
FUR				*e*PKPab	PKPab	21 01 43.1	-0.6
ARSA	**Arzberg**	**149.82**	**346** ⇑ *i* P		PKPbc	21 01 37.4	-0.5
	comp=Z,14nm,1.6s						
CDF	**Champ du Feu**	**149.84**	**357**	*e*PKIKP	PKPdf	21 01 33.5	+0.5
BFO	**Black Forest**	**149.86**	**356**	*e*PKPbc	PKPbc	21 01 37.6	-0.4
BFO				*e*PKPab	PKPab	21 01 43.5	-0.8
BFO	**Black Forest**	**149.86**	**356**	*e*PKPbc	PKPbc	21 01 37.6	-0.4
ULDT	**Uludag**	**149.91**	**322**	*i* P	PKPbc	21 01 38.5	+0.3
PKSM	**Moragy**	**149.94**	**341** ⇑ *i* P		PKPbc	21 01 37.8	-0.4
PKSM	**Moragy**	**149.94**	**341** ⇑P		PKPbc	21 01 37.8	-0.4
ECH	**Echery**	**150.04**	**357**	PKP	PKPbc	21 01 37.8	-0.7
THEF	**They Montfort**	**150.07**	**359**	PKP	PKPbc	21 01 37.8	-0.7
HAU	**Haudompre**	**150.28**	**358**	*e*PKIKP	PKPdf	21 01 34.2	+0.5
	comp=Z,1.6nm,0.3s						
MOF	**Molkenrain**	**150.41**	**357**	PKP	PKPbc	21 01 38.3	-1.0
KBA	**Koelnbreinsper**	**150.44**	**349** ⇓ *i* P		PKPbc	21 01 39.2	-0.3
	comp=Z,19nm,1.3s						
HINF	**Hinteralfeld**	**150.45**	**358**	*e*PKIKP	PKPdf	21 01 34.4	+0.5
	comp=Z,1.1nm,0.4s						
WATA	**Walderalm**	**150.49**	**351** ⇑ *i* P		PKPbc	21 01 39.2	-0.4
	comp=Z,9.4nm,1.1s						
PERS	**Pernice**	**150.49**	**346**	*e*PKPbc	PKPbc	21 01 38.7	-0.9
PERS				*e*		21 01 46.1	
MOTA	**Moosalm**	**150.55**	**352** ⇑ *i* P		PKPbc	21 01 39.3	-0.4
	comp=Z,17nm,1.1s						
WTTA	**Wattenberg**	**150.55**	**351** ⇑ *i* P		PKPbc	21 01 39.5	-0.1
	comp=Z,41nm,1.5s						
SQTA	**Sankt Quirin**	**150.66**	**352** ⇓ *i* P		PKPbc	21 01 39.9	0.0
	comp=Z,12nm,1.0s						
DAVA	**Damuels**	**150.75**	**353** ⇑ *i* P		PKPbc	21 01 39.8	-0.3
	comp=Z,19nm,1.1s						
DOBS	**Dobrina**	**150.87**	**345**	*e*PKPbc	PKPbc	21 01 39.8	-0.6
LOMF	**Lomont**	**150.92**	**358**	PKP	PKPbc	21 01 40.4	-0.1
LOR	**Lormes**	**151.01**	**2**	*e*PKIKP	PKPdf	21 01 35.1	+0.3
	comp=Z,3.3nm,0.7s						
LEGS	**Legarje**	**151.09**	**345**	*e*PKPbc	PKPbc	21 01 40.4	-0.5
LEGS				*e*		21 01 48.4	
LJU	**Ljubljana**	**151.19**	**346**	*e*PKPbc	PKPbc	21 01 40.8	-0.4
SSF	**Saint Saulge**	**151.21**	**2**	*e*PKIKP	PKPdf	21 01 35.4	+0.3
VTS	**Vitosha**	**151.27**	**332** ⇓ *i* P		PKPbc	21 01 41.5	+0.1
VTS	**Vitosha**	**151.27**	**332** ⇓P		PKPbc	21 01 41.5	+0.1
VISS	**Visnje**	**151.34**	**346**	*e*PKPbc	PKPbc	21 01 41.1	-0.4
VISS				*e*		21 01 49.3	
MFF	**Saint Martin d**	**151.37**	**8**	*e*PKIKP	PKPdf	21 01 35.0	-0.3
AVF	**Avril sur Loir**	**151.47**	**3**	*e*PKIKP	PKPdf	21 01 35.8	+0.3
BOJS	**Bojanci**	**151.53**	**345**	*e*PKPbc	PKPbc	21 01 41.9	0.0
SMF	**Signal de Mont**	**151.64**	**2**	*e*PKIKP	PKPdf	21 01 36.6	+0.9
CABF	**La Chapelle**	**151.68**	**359**	*e*PKIKP	PKPdf	21 01 36.1	+0.3
TCF	**Toulx Ste Croi**	**151.91**	**4**	*e*PKIKP	PKPdf	21 01 36.7	+0.6
	comp=Z,2.5nm,0.7s						
LPL	**La Plagne**	**152.75**	**358**	*e*PKIKP	PKPdf	21 01 37.8	+0.4
LPG	**La Plagne**	**152.77**	**358**	*e*PKIKP	PKPdf	21 01 37.8	+0.4
ORIF	**Oris-en-Rattie**	**153.38**	**359**	*e*PKIKP	PKPdf	21 01 38.6	+0.3
VIVF	**Saint-Julien-l**	**153.44**	**1**	*e*PKIKP	PKPdf	21 01 38.8	+0.4
MBDF	**Montbardon**	**153.54**	**357**	*e*PKIKP	PKPdf	21 01 39.2	+0.7
	comp=Z,0.9nm,0.3s						
LASF	**Ste Croix**	**154.20**	**2**	*e*PKIKP	PKPdf	21 01 39.8	+0.3
SMRF	**Simiane la Rot**	**154.32**	**359**	*e*PKIKP	PKPdf	21 01 40.0	+0.4
FRF	**La Foret Royal**	**154.71**	**357**	*e*PKIKP	PKPdf	21 01 40.4	+0.2
ETSF	**Etsaut**	**154.93**	**10**	*e*PKIKP	PKPdf	21 01 41.0	+0.5
LMR	**La Mourre**	**154.94**	**358**	*e*PKIKP	PKPdf	21 01 40.7	+0.2
PGF	**Pioggiola**	**155.53**	**353**	*e*PKIKP	PKPdf	21 01 41.9	+0.6
	comp=Z,4.8nm,0.7s						
ESDC	**Sonseca Array**	**157.22**	**18**	PKPab	PKPab	21 02 15.4	-0.1
	comp=Z,1.6nm,0.8s,baz=334,slow=3.7,SNR=12						
TORD	**Torodi Ar. Bea**	**173.96**	**146**	PKP	PKPdf	21 01 56.5	-0.5
	comp=Z,1.3nm,0.8s,baz=302,slow=1.4,SNR=6.2						

IDC 17 20:55:32.4±2.0, 233S×12802E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=122.2km s-min=24.3km az=70.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.85**	**188**		Pn	20 59 18.1	+1.3
	0.0nm,0.3s,baz=16,slow=19,SNR=2.7						
FITZ				Sn	Sn	21 02 06.2	-7.0
	0.1nm,0.3s,baz=266,slow=20,SNR=2.2						
WRA	**Warramunga Arr**	**18.56**	**161**	P	Pn	20 59 50.2	-0.7
	0.2nm,0.3s,baz=342,slow=12,SNR=22						
ASAR	**Alice Springs**	**21.96**	**165**	P	P	21 00 28.3	+0.6
	0.4nm,0.4s,baz=342,slow=9.9,SNR=15						
MKAR	**Makanchi Array**	**63.26**	**327**	P	P	21 06 02.8	+0.1
	0.4nm,0.6s,baz=144,slow=8.6,SNR=3.5						

IDC 17 21:00:31.6±3.5, 952S×10791E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.6/4, Error ellipse: s-maj=149.0km s-min=28.7km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.54**	**115**	P	P	21 06 20.3	+0.3
	0.7nm,1.0s,baz=290,slow=10,SNR=3.2						
SONM	**Songino Array**	**57.11**	**359**	P	P	21 10 20.8	+1.0
	0.4nm,0.7s,baz=189,slow=8.5,SNR=4.3						
MKAR	**Makanchi Array**	**60.54**	**340**	P	P	21 10 43.7	+0.1
	1.0nm,0.7s,baz=135,slow=7.9,SNR=7.3						
BVAR	**Borovoye Array**	**70.02**	**337**	P	P	21 11 44.3	-0.8
	0.8nm,0.8s,baz=138,slow=9.1,SNR=4.1						

IDC ***17*** *21:01:13.7±0.8, 928S×10793E, h0km, mb4.0/8, mb1 4.1/8, mb1mx4.0/16, mbtmp4.0/8, Error ellipse: s-maj=39.4km s-min=18.7km az=62.0*
NEIC ***17*** *21:01:15.5±0.6, 926S×10781E, h10km, mb4.5/4, Error ellipse: s-maj=24.7km s-min=10.3km az=51.0*
ISCJB ***17*** *21:01:16.9±0.6, 92S±0.1×1079E±0.2, h33km, mb4.0/12, Error ellipse: s-maj=27.6km s-min=11.5km az=102.5*

ISC 17 21:01:19.2±0.6, 93S±01×1078E±02, h35km, n14, σ0§74/14, mb4.0/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.38**	**119**	P	**Pn**	**21 05 43.5**	**+0.4**
	0.1nm,0.3s,baz=292,slow=11,SNR=2.4						
WRA	**Warramunga Arr**	**27.70**	**115**	P	**P**	**21 07 03.2**	**-0.8**
	1.5nm,0.8s,mb3.7,baz=286,slow=12,SNR=6.6						
WRAB	**Tennant Creek**	**27.71**	**115**	*e*P	**P**	**21 07 05.6**	**+1.5**
ASAR	**Alice Springs**	**28.73**	**123**	P	**P**	**21 07 12.6**	**-0.5**
	1.0nm,1.0s,mb3.5,baz=296,slow=9.9,SNR=4.4						
SONM	**Songino Array**	**56.88**	**359**	P	**P**	**21 11 00.2**	**-0.2**
	1.8nm,0.6s,mb4.3,baz=176,slow=8.0,SNR=16						
ULN	**Ulaanbaatar**	**56.90**	**359**	*e*P	**P**	**21 10 59.6**	**-0.9**
	2.1nm,0.6s,mb4.3						
MKAR	**Makanchi Array**	**60.30**	**340**	P	**P**	**21 11 24.1**	**-0.1**
	3.2nm,0.6s,mb4.5,baz=138,slow=6.8,SNR=18						
KURK	**Kurchatov**	**64.91**	**340**	*e*P	**P**	**21 11 54.4**	**-0.6**
	2.9nm,0.8s,mb4.4						
MAW	**Mawson**	**65.44**	**197**	P	**P**	**21 11 58.9**	**+0.5**
	1.4nm,0.6s,mb4.2,baz=59,slow=11,SNR=3.7						
BVAR	**Borovoye Array**	**69.78**	**337**	P	**P**	**21 12 26.5**	**+0.7**
	2.1nm,0.7s,mb4.2,baz=141,slow=8.7,SNR=13						
CHKZ	**Chkalovo**	**70.19**	**338**	*e*P	**P**	**21 12 28.5**	**+0.1**
	2.7nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**70.26**	**336**	P	**P**	**21 12 29.8**	**+1.1**
	2.0nm,0.6s,mb4.2						
VNDA	**Vanda**	**73.59**	**169**	P	**P**	**21 12 47.5**	**-1.2**
	0.5nm,0.6s,mb3.6,baz=284,slow=4.2,SNR=4.2						
BRTR	**Keskin Array B**	**83.95**	**312**	P	**P**	**21 13 45.6**	**0.0**
	0.1nm,0.4s,mb3.3,baz=154,slow=8.2,SNR=3.2						

BJI ***17*** *21:03:10.3, 9.10S×10790E, h10km, mB5.0, mb4.8*
IDC ***17*** *21:03:10.6±0.7, 9.10S×10790E, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.3/18, mbtmp4.4/11, ML4.1/1, Error ellipse: s-maj=29.7km s-min=14.9km az=63.0*
NEIC ***17*** *21:03:12.4±0.3, 9.09S×10790E, h10km, mb4.9/12, Error ellipse: s-maj=14.2km s-min=5.2km az=49.0*
ISCJB ***17*** *21:03:13.9±0.5, 9.1S±0.1×1080E±0.1, h33km, mb4.6/22, Error ellipse: s-maj=20.5km s-min=7.6km az=99.6*

ISC 17 21:03:16.1±0.5, 91S±01×1079E±01, h35km, n31, σ0§62/32, mb4.6/22, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**16.51**	**138**	*e*P	**Pn**	**21 07 00.8**	**-4.1**
FITZ	**Fitzroy Crossi**	**19.38**	**119**	*e*P	**Pn**	**21 07 39.7**	**-0.5**
	8.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.38**	**119**	P	**Pn**	**21 07 39.8**	**-0.4**
	0.5nm,0.3s,baz=254,slow=6.6,SNR=8.0						
FITZ				S	**S**	**21 11 02.0**	**-14**
	0.2nm,0.3s,baz=1.0,slow=22,SNR=3.6						
KAKA	**Kakadu**	**24.34**	**101**	*e*P	**P**	**21 08 31.8**	**+1.3**
	6.4nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**27.70**	**116**	P	**P**	**21 09 01.2**	**+0.3**
	4.2nm,0.6s,mb4.3,baz=290,slow=10,SNR=29						
WRA				PcP	PcP	21 12 18.4	+1.2
	0.6nm,0.6s,baz=307,slow=1.8,SNR=5.4						
WRAB	**Tennant Creek**	**27.71**	**116**	*e*P	**P**	**21 09 01.6**	**+0.7**
WB2	**Warramunga Arr**	**27.71**	**116**	*e*P	**P**	**21 09 01.2**	**+0.2**
AS31	**Alice Springs**	**28.74**	**123**	*e*P	**P**	**21 09 10.0**	**-0.3**
ASAR	**Alice Springs**	**28.74**	**123**	P	**P**	**21 09 10.3**	**+0.1**
	2.0nm,0.7s,mb3.9,baz=297,slow=7.9,SNR=14						
ASAR				PcP	PcP	21 12 20.9	+1.1
	0.8nm,0.6s,baz=299,slow=2.2,SNR=7.6						
JIRN	**Jiri**	**42.19**	**331**	*e*P	**P**	**21 11 06.1**	**+0.7**
	22nm,0.7s,mb4.9						
GUN	**Gumba**	**42.55**	**331**	*e*P	**P**	**21 11 09.1**	**+0.7**
DMN	**Daman**	**42.68**	**330**	*e*P	**P**	**21 11 09.8**	**+0.4**
	25nm,0.8s,mb5.0						
KKN	**Kakani**	**42.74**	**330**	*e*P	**P**	**21 11 10.1**	**+0.2**
	22nm,0.8s,mb4.9						
XAN	**Xi'an**	**42.94**	**1**	P	**P**	**21 11 11.5**	**0.0**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
GKN	**Gorkha**	**43.24**	**329**	*e*P	**P**	**21 11 14.1**	**+0.1**
	comp=Z,23nm,0.7s,mb5.0						
KOLN	**Koldanda**	**43.58**	**328**	*e*P	**P**	**21 11 17.2**	**+0.5**
	comp=Z,38nm,0.7s,mb5.2						
MJAR	**Matsushiro Arr**	**53.62**	**30**	P	**P**	**21 12 32.0**	**-1.9**
	comp=Z,1.6nm,0.8s,mb4.0,baz=216,slow=7.9,SNR=5.5						
SONM	**Songino Array**	**56.73**	**359**	P	**P**	**21 12 56.6**	**+0.3**
	comp=Z,3.9nm,0.5s,mb4.7,baz=178,slow=8.6,SNR=26						
ULN	**Ulaanbaatar**	**56.75**	**359**	*e*P	**P**	**21 12 56.7**	**+0.2**
	comp=Z,8.0nm,0.8s,mb4.8						
MKAR	**Makanchi Array**	**60.18**	**340**	P	**P**	**21 13 20.1**	**-0.3**
	comp=Z,7.8nm,0.6s,mb4.9,baz=137,slow=6.8,SNR=37						
KURK	**Kurchatov**	**64.80**	**340**	*e*P	**P**	**21 13 50.9**	**-0.3**
	comp=Z,7.5nm,0.9s,mb4.7						
MAW	**Mawson**	**65.61**	**197**	P	**P**	**21 13 56.1**	**-0.4**
	comp=Z,3.3nm,0.6s,mb4.5,baz=46,slow=6.1,SNR=8.8						
ZAL	**Zalesovo**	**65.80**	**345**	P	**P**	**21 13 56.5**	**-1.2**
	comp=Z,1.6nm,0.4s,mb4.4,baz=339,slow=6.1,SNR=5.3						
BVAR	**Borovoye Array**	**69.67**	**337**	P	**P**	**21 14 21.7**	**-0.4**
	comp=Z,4.5nm,0.6s,mb4.5,baz=145,slow=8.2,SNR=18						
BRVK	**Borovoye**	**69.73**	**337**	*e*P	**P**	**21 14 22.0**	**-0.5**
	comp=Z,2.0nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**70.08**	**337**	*e*P	**P**	**21 14 24.4**	**-0.2**
	comp=Z,7.5nm,0.6s,mb4.8						
ZRNK	**Zerenda**	**70.16**	**336**	*e*P	**P**	**21 14 24.8**	**-0.2**
	comp=Z,4.9nm,0.7s,mb4.5						
AKTK	**Aktyubinsk**	**73.41**	**329**	P	**P**	**21 14 45.0**	**+0.4**
AKTO	**Aktyubinsk**	**73.41**	**329**	P	**P**	**21 14 45.0**	**+0.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=123,slow=13,SNR=4.1						
VNDA	**Vanda**	**73.72**	**169**	P	**P**	**21 14 45.5**	**-0.9**
	comp=Z,2.6nm,0.9s,mb4.2,baz=311,slow=5.8,SNR=14						
SBA	**Scott Base**	**74.79**	**169**	*e*P	**P**	**21 14 53.2**	**+0.6**

ISCJB ***17*** *21:04:13.9±1.0, 9.0S±02×1096W±0.1, h10km, mb4.1/8, MS4.6/11, Error ellipse: s-maj=24.7km s-min=18.3km az=34.4*
IDC ***17*** *21:04:16.8±11.0, 860S×10922W, h0km, mb3.8/4, mb1 4.2/4, mb1mx4.1/11, mbtmp3.8/4, MS4.6/11, Ms1 4.6/11, ms1mx4.2/29, Error ellipse: s-maj=385.0km s-min=34.5km az=48.0*
HRVD ***17*** *21:04:19.7±0.2, 9.00S×10926W, h18km±1km, MW5.2/93, Centroid moment Tensor Solution. LP body waves: s47,c66;Mantle waves: s93,c142; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.07±.20; $M_{\theta\theta}$1.39±.16; $M_{\phi\phi}$-1.31±.20; $M_{r\theta}$2.22±.41; $M_{\theta\phi}$6.85±.16; $M_{\phi r}$-2.55±.49; Best double couple: $M_0$7.67500×10^{16} NP1:φ=8.00000°, δ74.00000°, λ-164.00000°. NP2: φ=273.00000°, δ75.00000°, λ-17.00000°. Principal axes: T 7.0230, Plg1.0000°, Azm321.0000°; N 1.3100, Plg68.0000°, Azm53.0000°; P -8.3260, Plg22.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***17*** *21:04:19.7±1.6, 8.34S×10895W, h10km, mb4.5/4 Error ellipse: s-maj=58.8km s-min=15.1km az=54.0*

ISC 17 21:04:15.8±1.0, 90S±02×1097W±01, h10km, n18, σ0§75/10, mb4.1/8, MS4.6/11, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**31.01**	**89**	LR	LR	21 20 11.6	
	comp=Z,605nm,18.1s,MS4.3,baz=276,slow=31						
LPIG	**La Paz**	**32.90**	**359**	LR	LR	21 20 45.9	
	comp=Z,940nm,21.9s,MS4.5,baz=48,slow=30						
PPT	**Papeete**	**39.72**	**253**	*e*S	**S**	**21 17 52.0**	**+0.1**
	168nm,24.5s						
PPT				*e*LQ		21 21 02.6	
	2μm,29.2s						
PPT				*e*LR	LR	21 22 46.3	
	2μm,25.0s,baz=79						
PPT	**Papeete**	**39.72**	**253**	LR	LR	21 24 08.0	
	comp=Z,666nm,19.5s,MS4.5,baz=118,slow=30						
LPAZ	**La Paz**	**41.09**	**104**	P	**P**	**21 12 00.8**	**+1.1**
	1.5nm,1.0s,mb3.6,baz=326,slow=4.4,SNR=3.6						
LPAZ				LR	LR	21 24 51.7	
	comp=Z,604nm,21.2s,MS4.4,baz=110,slow=30						
SAML	**Samuel**	**45.87**	**94**	*e*P	**P**	**21 12 37.1**	**-1.1**
	7.9nm,1.1s,mb4.6						
PLCA	**Paso Flores**	**46.88**	**139**	LR	LR	21 27 11.5	
	comp=Z,1μm,20.9s,MS4.8,baz=292,slow=29						
PLCA	**Paso Flores**	**46.88**	**139**	P	**P**	**21 12 51.3**	**+5.1**
	4.0nm,1.1s,mb4.3						
NVAR	**Mina Array Bea**	**47.86**	**351**	P	**P**	**21 12 53.7**	**-0.1**
	1.1nm,0.9s,mb3.9,baz=169,slow=12,SNR=5.4						
ELK	**Elko**	**49.76**	**354**	P	**P**	**21 13 08.9**	**+0.6**
	5.2nm,1.2s,mb4.4						
PDAR	**Pinedale Array**	**51.51**	**0**	P	**P**	**21 13 22.1**	**+0.6**
	1.7nm,1.0s,mb3.9,baz=155,slow=6.7,SNR=5.8						
PDAR				LR	LR	21 32 31.0	
	comp=Z,713nm,18.2s,MS4.7,baz=342,slow=33						
PDAR	**Pinedale Array**	**51.51**	**0**	P	**P**	**21 13 22.1**	**+0.6**
PDAR				LR	LR	21 32 31.0	
YBH	**Yreka Blue Hor**	**51.88**	**348**	LR	LR	21 30 17.1	
	comp=Z,839nm,21.4s,MS4.7,baz=163,slow=30						
NEW	**Newport**	**57.39**	**354**	LR	LR	21 34 27.5	
	comp=Z,514nm,21.9s,MS4.6,baz=147,slow=32						
URZ	**Urewera**	**71.34**	**233**	LR	LR	21 39 08.3	
	comp=Z,547nm,21.0s,MS4.8,baz=121,slow=29						
YKA	**Yellowknife Ar**	**71.37**	**358**	P	**P**	**21 15 35.8**	**-0.1**
	1.4nm,0.9s,mb3.9,baz=170,slow=6.3,SNR=3.5						
YKA				LR	LR	21 44 03.9	
	comp=Z,351nm,18.0s,MS4.7,baz=235,slow=34						
INK	**Inuvik**	**78.95**	**351**	*e*P	**P**	**21 16 18.6**	**-1.0**
	7.7nm,1.2s,mb4.5						
VNDA	**Vanda**	**80.96**	**193**	LR	LR	21 45 58.4	
	comp=Z,182nm,19.2s,MS4.5,baz=282,slow=31						

IDC 17 21:08:23.2±3.5, 878S×10798E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/16, mbtmp3.9/5, Error ellipse: s-maj=156.2km s-min=27.3km az=46.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.80**	**116**	P	P	21 14 14.3	+0.4
	0.6nm,0.9s,baz=291,slow=8.8,SNR=5.2						
SONM	**Songino Array**	**56.38**	**359**	P	P	21 18 06.3	+0.1
	0.7nm,0.7s,baz=174,slow=8.3,SNR=6.4						
MKAR	**Makanchi Array**	**59.88**	**340**	P	P	21 18 30.9	+0.2
	2.3nm,0.6s,baz=147,slow=7.1,SNR=28						
ZAL	**Zalesovo**	**65.48**	**345**	P	P	21 19 07.8	-0.3
	0.5nm,0.6s,baz=155,slow=17,SNR=3.8						
BVAR	**Borovoye Array**	**69.38**	**337**	P	P	21 19 32.7	-0.1
	1.5nm,0.7s,baz=145,slow=9.2,SNR=11						

IDC ***17*** *21:24:54.2±0.8, 951S×10758E, h0km, mb4.0/7, mb1 4.1/7, mb1mx4.0/16, mbtmp4.0/7, Error ellipse: s-maj=37.1km s-min=19.4km az=59.0*
NEIC ***17*** *21:24:55.5±0.5, 964S×10767E, h10km, mb4.5/6, Error ellipse: s-maj=28.4km s-min=8.3km az=50.0*
ISCJB ***17*** *21:24:57.1±0.6, 96S±02×1077E±02, h33km, mb4.2/12, Error ellipse: s-maj=32.3km s-min=9.6km az=99.3*

ISC 17 21:24:59.5±0.6, 96S±02×1077E±02, h35km, n20, σ0§91/19, mb4.2/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**16.30**	**136**	*e*P	**Pn**	**21 28 43.0**	**-2.8**
	8.1nm,0.8s						
WRA	**Warramunga Arr**	**27.70**	**115**	P	**P**	**21 30 45.0**	**+0.7**
	1.7nm,0.8s,mb3.7,baz=288,slow=11,SNR=7.2						
WRAB	**Tennant Creek**	**27.71**	**115**	*e*P	**P**	**21 30 44.5**	**+0.1**
	7.0nm,1.0s,mb4.2						
ASAR	**Alice Springs**	**28.67**	**122**	P	**P**	**21 30 54.1**	**+1.1**
	1.2nm,0.8s,mb3.7,baz=297,slow=8.2,SNR=5.1						
ASAR				PcP	PcP	21 34 05.2	+2.1
	0.6nm,0.7s,baz=272,slow=1.1,SNR=6.1						
JIRN	**Jiri**	**42.52**	**331**	*e*P	**P**	**21 32 52.3**	**+0.8**
PKI	**Pulchoki**	**42.82**	**330**	*e*P	**P**	**21 32 54.1**	**+0.1**
GUN	**Gumba**	**42.88**	**331**	*e*P	**P**	**21 32 55.8**	**+1.4**
	18nm,0.7s,mb4.9						
DMN	**Daman**	**43.00**	**330**	*e*P	**P**	**21 32 55.6**	**+0.2**
KKN	**Kakani**	**43

CHKZ	**Chkalovo**	**69.52**	**337**	*e*P		**P**	**21**	**45**	**43.5 +0.7**
	1.8nm,0.6s,mb4.2								
ZRNK	**Zerenda**	**69.61**	**336**	*e*P		**P**	**21**	**45**	**43.8 +0.5**
	1.8nm,0.9s,mb4.0								

IDC ***17*** *21:37:12.7±0.8, 922S×10826E, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.1/15, mbtmp4.1/7, MS4.3/4, Ms1 4.3/4, ms1mx3.4/34, Error ellipse: s-maj=36.9km s-min=19.5km az=62.0*

NEIC ***17*** *21:37:14.7±0.5, 924S×10820E, h10km, mb4.8/8, Error ellipse: s-maj=23.8km s-min=8.9km az=51.0*

ISCJB ***17*** *21:37:16.4±0.7, 92S±02×108 4E±02, h33km, mb4.4/16, MS4.3/4, Error ellipse: s-maj=31.8km s-min=10.5km az=95.0*

ISC 17 21:37:18.6±0.7, 92S±02×1083E±02, h35km, n26, σ0§71/20, mb4.4/16, MS4.3/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**16.20**	**138**	*e*P	**Pn**	**21 40 58.1**	**-5.3**
FITZ	**Fitzroy Crossi**	**19.02**	**119**	P	**Pn**	**21 41 40.0**	**+1.7**
	0.1nm,0.3s,baz=192,slow=19,SNR=3.9						
WRA	**Warramunga Arr**	**27.34**	**116**	P	**P**	**21 42 59.9**	**-0.3**
	1.1nm,0.7s,mb3.5,baz=290,slow=10,SNR=7.4						
ASAR	**Alice Springs**	**28.39**	**123**	P	**P**	**21 43 09.4**	**-0.1**
	1.4nm,0.7s,mb3.7,baz=299,slow=7.8,SNR=6.2						
ASAR				PcP	PcP	21 46 22.2	+0.9
	0.6nm,0.5s,baz=309,slow=2.0,SNR=8.3						
JIRN	**Jiri**	**42.46**	**330**	*e*P	**P**	**21 45 11.0**	**+0.9**
	25nm,0.6s,mb5.0						
PKI	**Pulchoki**	**42.77**	**329**	*e*P	**P**	**21 45 13.6**	**+1.0**
GUN	**Gumba**	**42.82**	**330**	*e*P	**P**	**21 45 13.7**	**+0.7**
DMN	**Daman**	**42.96**	**329**	*e*P	**P**	**21 45 14.2**	**+0.1**
	32nm,0.9s,mb5.0						
KKN	**Kakani**	**43.02**	**330**	*e*P	**P**	**21 45 14.5**	**-0.1**
	25nm,0.9s,mb5.0						
GKN	**Gorkha**	**43.52**	**329**	*e*P	**P**	**21 45 18.6**	**0.0**
	13nm,0.4s,mb5.1						
KOLN	**Koldanda**	**43.87**	**328**	*e*P	**P**	**21 45 21.7**	**+0.3**
	33nm,0.7s,mb5.2						
MJAR	**Matsushiro Arr**	**53.54**	**30**	P	**P**	**21 46 33.9**	**-1.8**
	1.5nm,0.7s,mb4.1,baz=204,slow=7.1,SNR=5.1						
SONM	**Songino Array**	**56.85**	**358**	P	**P**	**21 46 59.6**	**0.0**
	1.8nm,0.6s,mb4.3,baz=173,slow=8.1,SNR=11						
SONM				LR	LR	22 12 58.2	
	comp=Z,378nm,21.4s,MS4.5,baz=112,slow=38						
ULN	**Ulaanbaatar**	**56.87**	**359**	*e*P	**P**	**21 47 00.1**	**+0.3**
	4.2nm,0.8s,mb4.5						
DZM	**Mont Dzumac**	**57.15**	**110**	LR	LR	22 07 18.1	
	comp=Z,151nm,21.1s,MS4.1,baz=211,slow=32						
MKAR	**Makanchi Array**	**60.41**	**340**	P	**P**	**21 47 24.1**	**-0.2**
	2.9nm,0.5s,mb4.5,baz=148,slow=7.6,SNR=17						
KURK	**Kurchatov**	**65.02**	**340**	*e*P	**P**	**21 47 54.8**	**-0.3**
	3.8nm,0.8s,mb4.5						
ZAL	**Zalesovo**	**66.00**	**345**	LR	LR	22 18 21.4	
	comp=Z,206nm,21.1s,MS4.3,baz=112,slow=37						
CHKZ	**Chkalovo**	**70.32**	**337**	*e*P	**P**	**21 48 28.4**	**-0.2**
	2.5nm,0.5s,mb4.4						
ZRNK	**Zerenda**	**70.40**	**336**	*e*P	**P**	**21 48 28.6**	**-0.5**
	3.2nm,0.9s,mb4.2						
VNDA	**Vanda**	**73.55**	**169**	P	**P**	**21 48 47.0**	**-0.9**
	1.8nm,1.0s,mb4.0,baz=316,slow=8.0,SNR=6.5						
AKTO	**Aktyubinsk**	**73.68**	**329**	LR	LR	22 27 12.0	
	comp=Z,212nm,19.8s,MS4.4,baz=102,slow=41						
BRTR	**Keskin Array B**	**84.25**	**312**	P	**P**	**21 49 46.0**	**-0.5**
	1.5nm,1.0s,mb4.1,baz=128,slow=8.1,SNR=6.3						
SIV	**San Ignacio**	**152.80**	**203**	PKPbc	PKPbc	21 57 11.8	+0.1
	1.0nm,0.7s,baz=260,slow=3.4,SNR=5.8						
LPAZ	**La Paz**	**154.38**	**188**	PKPbc	PKPbc	21 57 17.8	+2.6
	0.8nm,0.8s,baz=2.2,slow=7.0,SNR=4.5						
LPAZ	**La Paz**	**154.38**	**188**	PKPbc	PKPbc	21 57 17.8	+2.6

IDC 17 21:37:45.3±5.2, 2108S×17372W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/15, mbtmp4.3/4, Error ellipse: s-maj=271.8km s-min=78.9km az=158.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.42**	**264**	P	P	21 45 00.9	+0.8
	4.2nm,0.4s,baz=89,slow=11						
ASAR	**Alice Springs**	**48.29**	**257**	P	P	21 46 27.0	-1.2
	0.6nm,0.5s,baz=99,slow=7.2,SNR=8.9						
WRA	**Warramunga Arr**	**48.49**	**262**	P	P	21 46 30.0	+0.3
	1.4nm,0.3s,baz=97,slow=8.3,SNR=38						
FITZ	**Fitzroy Crossi**	**56.92**	**262**	P	P	21 47 34.2	+2.0
	13nm,1.4s,baz=306,slow=13,SNR=4.2						
FINES	**FINESS Array B**	**137.37**	**346**	PKP	PKPdf	21 57 09.6	-1.2
	1.1nm,0.8s,baz=41,slow=4.4,SNR=7.4						

IDC ***17*** *21:47:42.1±1.8, 984S×10836E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/15, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=82.6km s-min=20.5km az=45.0*

NEIC ***17*** *21:47:43.5±1.0, 978S×10838E, h10km, mb4.3/4, Error ellipse: s-maj=48.3km s-min=10.3km az=45.0*

ISCJB ***17*** *21:47:45.8±1.4, 95S±03×1086E±03, h33km, mb3.9/9, Error ellipse: s-maj=62.8km s-min=11.5km az=91.4*

ISC 17 21:47:47.9±1.4, 96S±03×1085E±03, h35km, n12, σ0§70/11, mb3.9/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**15.87**	**332**	P	**Pn**	**21 51 26.9**	**-1.6**
FITZ	**Fitzroy Crossi**	**18.62**	**119**	P	**Pn**	**21 52 02.3**	**-0.4**
	0.1nm,0.3s,baz=264,slow=9.2,SNR=5.4						
WRA	**Warramunga Arr**	**26.95**	**115**	P	**P**	**21 53 25.4**	**-0.5**
	0.5nm,0.8s,mb3.1,baz=285,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**27.97**	**123**	P	**P**	**21 53 35.5**	**+0.3**
	0.7nm,0.8s,mb3.3,baz=300,slow=9.4,SNR=3.7						
SONM	**Songino Array**	**57.22**	**358**	P	**P**	**21 57 32.8**	**+1.3**
	0.7nm,0.4s,mb4.0,baz=174,slow=7.8,SNR=8.1						
ULN	**Ulaanbaatar**	**57.23**	**359**	*e*P	**P**	**21 57 31.6**	**0.0**
	1.3nm,0.6s,mb4.1						
MKAR	**Makanchi Array**	**60.84**	**340**	P	**P**	**21 57 57.5**	**+0.9**
	1.8nm,0.6s,mb4.3,baz=134,slow=6.9,SNR=19						
KURK	**Kurchatov**	**65.45**	**340**	*e*P	**P**	**21 58 27.1**	**-0.1**
	1.3nm,0.8s,mb4.0						
CHKZ	**Chkalovo**	**70.76**	**337**	*e*P	**P**	**21 59 00.7**	**+0.2**
	2.1nm,0.7s,mb4.2						
CHKZ				*e*	pP	21 59 11.1	-0.2
ZRNK	**Zerenda**	**70.84**	**336**	*e*P	**P**	**21 59 00.8**	**-0.2**
	3.3nm,1.0s,mb4.2						
ZRNK				*e*	pP	21 59 11.1	-0.8
BRTR	**Keskin Array B**	**84.68**	**312**	P	**P**	**22 00 18.2**	**+0.2**
	0.6nm,0.6s,mb3.9,baz=110,slow=7.1,SNR=4.4						
WMOK	**Wichita Mounta**	**144.65**	**41**	*e*PKPdf	PKPdf	22 07 20.4	-0.4
WMOK				*e*		22 07 31.5	

IDC ***17*** *21:49:02.3±0.5, 959S×10786E, h0km, mb4.3/10, mb1 4.4/10, mb1mx4.3/16, mbtmp4.3/10, MS3.9/6, Ms1 3.9/6, ms1mx3.5/33, Error ellipse: s-maj=25.3km s-min=16.0km az=71.0*

BJI ***17*** *21:49:04.4, 960S×10780E, h10km, mB5.0, mb4.9, Ms4.9, Msz4.5*

NEIC ***17*** *21:49:04.4±0.3, 964S×10782E, h10km, mb5.0/18, Error ellipse: s-maj=12.3km s-min=6.8km az=56.0*

ISCJB ***17*** *21:49:05.1±0.3, 966S±005×10783E±006, h27km, mb4.8/53, MS4.3/14, Error ellipse: s-maj=9.4km s-min=6.4km az=112.4*

MOS ***17*** *21:49:06.5±0.9, 954S×10801E, h37km, mb5.2/22, Error ellipse: s-maj=16.3km s-min=7.9km az=106.1*

ISC 17 21:49:07.0±0.3, 971S±005×10780E±006, h27km, h27km±2.7km:pP-P, n117, σ1§11/107, mb4.8/53, MS4.3/14, 6C-9D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**7.39**	**83**	P	**Pn**	**21 50 58.2**	**+5.1**
	410nm,0.6s						
DNP	**Denpasar**	**7.39**	**83**	P	**Pn**	**21 50 58.2**	**+5.1**
	410nm,0.6s						
KSI	**Kapahiang**	**7.93**	**319**	P	**Pn**	**21 50 59.3**	**-1.2**
	111nm,0.9s						
KSI	**Kapahiang**	**7.93**	**319**	P	**Pn**	**21 50 59.3**	**-1.2**
	111nm,0.9s						
KSM	**Kuching**	**11.39**	**13**	P	**Pn**	**21 51 47.9**	**+0.1**
PCI	**Palu**	**14.83**	**55**	P	**Pn**	**21 52 34.8**	**-0.1**
	160nm,1.7s						
PCI	**Palu**	**14.83**	**55**	P	**Pn**	**21 52 34.8**	**-0.1**
	160nm,1.7s						
PSI	**Prapat**	**15.25**	**324**	Pn	**Pn**	**21 52 32.8**	**-7.6**
	0.5nm,0.3s,baz=339,slow=17,SNR=3.2						
PSI				LR	LR	22 00 13.1	
	comp=Z,429nm,19.4s,baz=142,slow=44						
MBWA	**Marble Bar**	**16.17**	**136**	*e*P	**Pn**	**21 52 50.0**	**-2.4**
TSM	**Tawau**	**17.16**	**36**	P	**Pn**	**21 53 08.2**	**+3.5**
KKM	**Kota Kinabalu**	**17.75**	**29**	P	**Pn**	**21 53 10.5**	**-1.6**
KKM	**Kota Kinabalu**	**17.75**	**29**	*e*P	**Pn**	**21 53 11.3**	**-0.9**
KKM				*e*		21 53 21.2	
FITZ	**Fitzroy Crossi**	**19.21**	**118**	P	**Pn**	**21 53 31.3**	**+1.4**
	0.3nm,0.3s,baz=269,slow=10,SNR=4.0						
BSI	**Banda Aceh**	**19.58**	**320**	P	**Pn**	**21 53 34.8**	**+0.6**
	157nm,1.2s						
BSI	**Banda Aceh**	**19.58**	**320**	P	**Pn**	**21 53 34.8**	**+0.6**
	157nm,1.2s						
NWAO	**Narrogin (SRO)**	**24.69**	**161**	LR	LR	22 02 28.7	
	comp=Z,337nm,21.6s,MS3.8,baz=76,slow=32						
WRA	**Warramunga Arr**	**27.56**	**115**	P	**P**	**21 54 51.3**	**-0.3**
	3.1nm,0.7s,mb4.0,baz=286,slow=12,SNR=11						
WRA				PcP	PcP	21 58 09.7	+0.7
	1.3nm,0.8s,baz=310,slow=1.5,SNR=5.2						
WRAB	**Tennant Creek**	**27.57**	**115**	↑*e*P	**P**	**21 54 51.9**	**+0.2**
WRAB	**Tennant Creek**	**27.57**	**115**	*e*P	**P**	**21 54 52.3**	**+0.6**
ASAR	**Alice Springs**	**28.53**	**122**	P	**P**	**21 55 00.5**	**+0.2**
	3.1nm,0.7s,mb4.2,baz=294,slow=8.5,SNR=10						
ASAR				PcP	PcP	21 58 11.9	+0.5
	1.6nm,0.8s,baz=312,slow=3.6,SNR=8.7						
CHTO	**Chiang Mai**	**29.66**	**343**	*e*P	**P**	**21 55 10.2**	**0.0**
CHTO				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.8						
CHTO	**Chiang Mai**	**29.66**	**343**	*e*P	**P**	**21 55 10.2**	**0.0**
	comp=Z,27nm,1.3s,mb4.8						
KMI	**Kunming**	**34.97**	**352**	P	**P**	**21 55 59.3**	**+2.5**
KMI				AP	pP	21 56 06.6	+1.7
KMI				XP	sP	21 56 10.0	+1.8
KMI				PP	PP	21 57 17.5	+1.2
KMI				S	**S**	**22 01 32.5**	**+5.7**
KMI				XS	sS	22 01 37.0	-3.2
KMI				AMB	AMB		
	comp=Z,24nm,1.3s,mb5.0						
KMI				AMB	AMB		
	comp=Z,105nm,4.1s						
KMI				LR	LR		
	comp=N,509nm,16.4s,MS4.5						
KMI				LR	LR		
	comp=E,510nm,17.6s,MS4.5						
KMI				LR	LR		
	comp=Z,552nm,13.2s,MS4.5						
GYA	**Guiyang**	**35.97**	**358**	↑*i*P	**P**	**21 56 06.8**	**+1.5**
GYA				AP	pP	21 56 10.8	-2.6
GYA				XP	sP	21 56 13.9	-2.9
GYA				PP	PP	21 57 28.6	+1.3
GYA				PCP	PcP	21 58 33.4	+1.7
GYA				S	**S**	**22 01 44.3**	**+2.2**
GYA				SCP	ScP	22 02 17.9	+1.9
GYA				SS	SS	22 04 08.6	-11
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
GYA				AMB	AMB		
	comp=Z,140nm,4.3s						
GYA				LR	LR		
	comp=N,840nm,14.8s,MS4.8						
GYA				LR	LR		
	comp=E,760nm,15.0s,MS4.8						
GYA				LR	LR		
	comp=Z,860nm,15.2s,MS4.6						
CTAO	**Charters Tower**	**38.48**	**110**	*e*P	**P**	**21 56 29.1**	**+2.4**
PMG	**Port Moresby**	**38.80**	**93**	↑*e*P	**P**	**21 56 32.0**	**+2.6**
WHN	**Wuhan**	**40.51**	**9**	P	**P**	**21 56 44.5**	**+0.9**
SSE	**Sheshan**	**42.55**	**17**	*e*P	**P**	**21 56 59.3**	**-1.1**
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,73nm,3.5s						
JIRN	**Jiri**	**42.64**	**331**	*e*P	**P**	**21 57 01.8**	**+0.8**
	comp=Z,74nm,1.0s,mb5.4						
NJ2	**Nanjing**	**42.85**	**14**	*e*P	**P**	**21 57 01.8**	**-0.9**
NJ2				AP	pP	21 57 12.1	+1.1
NJ2				XP	sP	21 57 14.3	0.0
NJ2				PP	PP	21 58 45.4	+3.0
NJ2				S	**S**	**22 03 24.0**	**-1.5**
NJ2				XS	sS	22 03 40.0	+1.0
NJ2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
PKI	**Pulchoki**	**42.94**	**330**	*e*P	**P**	**21 57 03.8**	**+0.3**
GUN	**Gumba**	**42.99**	**331**	*e*P	**P**	**21 57 04.9**	**+1.0**
DMN	**Daman**	**43.12**	**330**	*e*P	**P**	**21 57 05.6**	**+0.7**
	comp=Z,37nm,0.8s,mb5.2						
KKN	**Kakani**	**43.18**	**330**	*e*P	**P**	**21 57 05.4**	**0.0**
	comp=Z,54nm,1.1s,mb5.2						
KKN	**Kakani**	**43.18**	**330**	*e*P	**P**	**21 57 05.4**	**0.0**
KKN				pmax	pmax		
	comp=Z,55nm,1.1s,mb5.2						
GUMO	**Guam**	**43.47**	**58**	LR	LR	22 14 39.0	
	comp=Z,100nm,19.0s,MS3.7,baz=67,slow=35						
XAN	**Xi'an**	**43.52**	**1**	P	**P**	**21 57 08.3**	**+0.2**
XAN				AP	pP	21 57 17.6	+1.2
XAN				AMB	AMB		
	comp=Z,22nm,1.6s,mb4.6						
GKN	**Gorkha**	**43.68**	**330**	*e*P	**P**	**21 57 09.7**	**+0.3**
	comp=Z,31nm,0.8s,mb5.1						
KOLN	**Koldanda**	**44.01**	**328**	*e*P	**P**	**21 57 12.4**	**+0.3**
	comp=Z,39nm,0.8s,mb5.2						
LZH	**Lanzhou**	**45.70**	**356**	*e*P	**P**	**21 57 27.1**	**+1.6**
LZH				AP	pP	21 57 37.5	+3.7
LZH				XP	sP	21 57 40.0	+2.9
LZH				*e*S	**S**	**22 04 02.0**	**-4.9**
LZH				XS	sS	22 04 23.1	+2.6
LZH				SS	SS	22 07 25.1	-6.2
LZH				AMB	AMB		
	comp=Z,24nm,1.1s,mb5.0						
LZH				AMB	AMB		
	comp=Z,123nm,8.7s						
LZH				LR	LR		
	comp=N,412nm,14.5s						
LZH				LR	LR		
	comp=Z,802nm,15.1s,MS4.8						
GTA	**Gaotai**	**49.43**	**352**	*e*P	**P**	**21 57 54.8**	**+0.3**
GTA				AP	pP	21 58 02.9	+0.1
GTA				XP	sP	21 58 06.8	+0.7
GTA				AMB	AMB		
	comp=Z,6.0nm,1.9s,mb4.3						
BJT	**Baijiatuau**	**50.08**	**8**	*e*P	**P**	**21 57 59.4**	**-0.1**
BJT				*e*		21 58 10.3	
BJT				pmax	pmax		
	comp=Z,23nm,1.4s						
BJT	**Baijiatuau**	**50.08**	**8**	*e*P	**P**	**21 57 59.4**	**0.0**
	comp=Z,23nm,1.4s,mb5.0						
BJT				*e*		21 58 10.3	
BJI	**Beijing**	**50.10**	**8**	*e*P	**P**	**21 57 59.3**	**-0.3**
BJI				AMB	AMB		
	comp=Z,17nm,1.2s,mb5.0						
BJI				LR	LR		
	comp=N,175nm,19.4s,MS4.3						
BJI				LR	LR		
	comp=E,212nm,14.5s,MS4.3						
BJI				LR	LR		
	comp=Z,226nm,20.5s						
HHC	**Hu-ho-hao-te**	**50.42**	**4**	*e*P	**P**	**21 58 04.6**	**+2.5**
HHC				AP	pP	21 58 09.8	-0.6
HHC				XP	sP	21 58 12.5	-1.2
HHC				PCP	PcP	21 59 21.9	+1.8
HHC				PP	PP	21 59 59.9	+2.2
HHC				PCS	PcS	22 03 22.1	+4.7
HHC				S	**S**	**22 05 13.9**	**+0.1**
HHC				XS	sS	22 05 24.6	-2.9
HHC				SCS	ScS	22 07 50.9	-0.3
HHC				SS	SS	22 08 45.6	-2.1
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,115nm,3.2s						
HHC				LR	LR		
	comp=N,251nm,14.3s,MS4.4						
HHC				LR	LR		
	comp=E,173nm,16.7s,MS4.4						
HHC				LR	LR		
	comp=Z,271nm,16.7s,MS4.3						
SNY	**Shenyang**	**53.29**	**15**	↓P	**P**	**21 58 25.0**	**+1.5**
SNY				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb5.0						
MAJO	**Matsushiro**	**54.17**	**30**	*e*P	**P**	**21 58 27.6**	**-2.3**
MAJO				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
MAJO	**Matsushiro**	**54.17**	**30**	*e*P	**P**	**21 58 27.6**	**-2.3**
	comp=Z,15nm,1.2s,mb4.8						
MAT	**Matsushiro**	**54.17**	**30**	P	**P**	**21 58 27.5**	**-2.4**
MAT	**Matsushiro**	**54.17**	**30**	*e*P	**P**	**21 58 28.0**	**-1.9**
MAT				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
MAT	**Matsushiro**	**54.17**	**30**	*e*P	**P**	**21 58 28.0**	**-1.9**
	comp=Z,21nm,1.4s,mb4.9						
MJAR	**Matsushiro Arr**	**54.17**	**30**	P	**P**	**21 58 27.2**	**-2.7**
	comp=Z,7.8nm,1.1s,mb4.5,baz=207,slow=8.3,SNR=16						
WMQ	**Urumqi**	**56.32**	**343**	P	**P**	**21 58 47.6**	**+2.2**
WMQ				AP	pP	21 58 51.8	-2.0
WMQ				XP	sP	21 58 54.1	-3.0
WMQ				S	**S**	**22 06 35.5**	**+1.6**
WMQ				AMB	AMB		
	comp=Z,16nm,1.4s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,147nm,5.2s						
WMQ				LR	LR		
	comp=N,599nm,15.7s,MS4.9						
WMQ				LR	LR		
	comp=E,449nm,14.6s,MS4.9						
WMQ				LR	LR		
	comp=Z,590nm,16.2s,MS4.8						
SONM	**Songino Array**	**57.30**	**359**	P	**P**	**21 58 52.1**	**-0.2**
	comp=Z,5.0nm,0.8s,mb4.6,baz=174,slow=7.6,SNR=31						
ULN	**Ulaanbaatar**	**57.32**	**359**	*e*P	**P**	**21 58 52.3**	**-0.2**
ULN				*e*		21 59 04.6	
ULN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**57.32**	**359**	*e*P	**P**	**21 58 52.3**	**-0.1**
	comp=Z,7.4nm,0.8s,mb4.8						
ULN				*e*		21 59 04.6	
MDJ	**Mudanjiang**	**57.55**	**18**	P	**P**	**21 58 53.8**	**-0.3**
MDJ				PP	PP	22 01 01.3	-0.6
MDJ				SCP	ScP	22 03 46.9	+1.6
MDJ				PCS	PcS	22 03 48.0	-0.5
MDJ				S	**S**	**22 06 52.1**	**+1.9**
MDJ				XS	sS	22 06 57.6	-6.5
MDJ				AMB	AMB		
	comp=Z,5.0nm,2.1s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,59nm,3.6s						
MDJ				LR	LR		
	comp=Z,65nm,21.9s,MS3.7						
ZAK	**Zakamensk**	**59.97**	**357**	↓*i*P	**P**	**21 59 11.1**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.3						
AAK	**Ala-Archa**	**60.33**	**332**	↑*i*P	**P**	**21 59 12.5**	**-0.9**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.5						
MKAR	**Makanchi Array**	**60.68**	**340**	P	**P**	**21 59 15.4**	**-0.3**
	comp=Z,3.2nm,0.5s,mb4.7,baz=149,slow=6.7,SNR=17						
MOY	**Mondy**	**61.41**	**355**	*e*P	**P**	**21 59 21.6**	**+0.9**
MOY				pmax	pmax		
	comp=Z,29nm,1.6s,mb5.2						
IRK	**Irkutsk**	**61.77**	**358**	*e*P	**P**	**21 59 22.6**	**-0.6**
IRK				pmax	pmax		
	comp=Z,22nm,1.5s,mb5.1						
ASAJ	**Asahikawa**	**62.17**	**28**	LR	LR	22 29 03.0	
	comp=Z,90nm,18.1s,MS4.0,baz=169,slow=39						
KLR	**Kul'dur**	**62.35**	**17**	*e*P	**P**	**21 59 22.8**	**-4.2**
YSS	**Yuzh-Sakhalins**	**64.44**	**26**	↑*i*P	**P**	**21 59 40.0**	**-0.9**
YSS				*e*		21 59 50.8	
YSS				*e*		22 00 07.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.2						
MAW	**Mawson**	**65.02**	**197**	P	**P**	**21 59 45.7**	**+1.0**
	comp=Z,3.0nm,0.8s,mb4.4,baz=58,slow=9.6,SNR=5.7						
MAW				LR	LR	22 23 16.8	
	comp=Z,96nm,19.9s,MS4.0,baz=334,slow=32						
MAW	**Mawson**	**65.02**	**197**	*e*P	**P**	**21 59 45.7**	**+1.1**
MAW				*e*		21 59 56.3	
KURK	**Kurchatov**	**65.30**	**340**	*de*P	**P**	**21 59 46.0**	**-0.5**
KURK	**Kurchatov**	**65.30**	**340**	*e*P	**P**	**21 59 45.4**	**-1.0**
	comp=Z,8.9nm,0.9s,mb4.8						
ZAL	**Zalesovo**	**66.33**	**345**	P	**P**	**21 59 51.9**	**-1.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=303,slow=3.2,SNR=5.7						
ZAL	**Zalesovo**	**66.33**	**345**	P	**P**	**21 59 51.9**	**-1.2**
BOD	**Bodaibo**	**67.48**	**4**	*e*P	**P**	**21 59 58.2**	**-2.2**
BOD				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.7						
NVS	**Novosibirsk**	**67.54**	**345**	*e*P	**P**	**21 59 59.2**	**-1.6**
BRVK	**Borovoye**	**70.22**	**337**	*e*P	**P**	**22 00 16.7**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
BRVK	**Borovoye**	**70.22**	**337**	*e*P	**P**	**22 00 16.7**	**-0.8**
	comp=Z,9.5nm,1.4s,mb4.5						
CHKZ	**Chkalovo**	**70.57**	**338**	*e*P	**P**	**22 00 19.3**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
CHKZ	**Chkalovo**	**70.57**	**338**	*e*P	**P**	**22 00 19.3**	**-0.3**
	comp=Z,6.4nm,0.7s,mb4.7						
ZRNK	**Zerenda**	**70.64**	**336**	*e*P	**P**	**22 00 20.0**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**70.64**	**336**	*e*P	**P**	**22 00 19.9**	**-0.1**
	comp=Z,4.6nm,0.6s,mb4.6						
VNDA	**Vanda**	**73.18**	**169**	P	**P**	**22 00 34.8**	**-0.5**
	comp=Z,0.9nm,1.0s,mb3.7,baz=322,slow=6.3,SNR=3.8						
VNDA	**Vanda**	**73.18**	**169**	*e*P	**P**	**22 00 34.7**	**-0.6**
SYO	**Syowa Base**	**73.25**	**200**	↓*e*P	**P**	**22 00 35.6**	**-0.1**
YAK	**Yakutsk**	**73.53**	**11**	*de*P	**P**	**22 00 36.3**	**-1.0**
YAK				pmax	pmax		
	comp=Z,64nm,1.7s,mb5.3						
YAK	**Yakutsk**	**73.53**	**11**	*e*P	**P**	**22 00 36.7**	**-0.6**
	comp=Z,25nm,0.7s,mb5.2						
SVE	**Sverdlovsk**	**76.78**	**336**	*e*P	**P**	**22 00 57.0**	**+0.9**
SVE				*e*	pP	22 01 06.7	+1.9
SVE				pmax	pmax		
	comp=Z,44nm,2.0s,mb5.0						
MA2	**Magadan**	**77.12**	**21**	*de*P	**P**	**22 00 58.0**	**0.0**
MA2				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.0						

OBN	**Obninsk**	**87.41**	**327**	*e*P	**P**	**22 01 51.5**	**-0.3**
KLMR	**Klimovskoe**	**88.13**	**333**	*e*P	**P**	**22 01 54.6**	**-0.6**
KLMR				pmax	pmax		
	comp=Z,50nm,1.6s,mb5.5						
ARCES	**ARCESS Array B**	**96.33**	**339**	LR	LR	22 51 51.3	
	comp=Z,105nm,18.4s,MS4.3,baz=40,slow=39						
SCHQ	**Schefferville**	**134.79**	**356**	PKP	PKPdf	22 08 24.8	+1.6
	comp=Z,2.7nm,0.8s,baz=29,slow=0.6,SNR=4.1						
SCHQ	**Schefferville**	**134.79**	**356**	PKP	PKPdf	22 08 24.8	+1.6
BDFB	**Brasilia**	**145.24**	**224**	PKPbc	PKPbc	22 08 44.6	+2.9
	comp=Z,2.9nm,0.7s,baz=86,slow=4.1,SNR=3.9						
NCB	**Newcomb**	**145.82**	**3**	*e*PKPdf	PKPdf	22 08 44.6	+1.5
CCM	**Cathedral Cave**	**146.99**	**28**	*e*PKP2	PKPbc	22 08 46.9	-0.2
JCT	**Junction City**	**147.02**	**47**	*e*PKP2	PKPab	22 08 48.6	-0.1
LVC	**Limon Verde**	**147.72**	**186**	PKPbc	PKPbc	22 08 49.7	+0.6
	comp=Z,1.9nm,0.7s,baz=229,slow=4.0,SNR=2.5						
MIAR	**Mount Ida**	**148.47**	**35**	*e*PKP2	PKPbc	22 08 52.9	+1.8
WVT	**Waverly**	**150.11**	**26**	*e*PKP2	PKPbc	22 08 55.1	-0.1
PLAL	**Pickwick Lake**	**150.96**	**28**	*e*PKPbc	PKPbc	22 08 57.7	+0.6
SIV	**San Ignacio**	**152.19**	**203**	PKPbc	PKPbc	22 09 00.8	+0.8
	comp=Z,1.7nm,0.8s,baz=126,slow=4.1,SNR=9.0						
SIV				PKPab	PKPab	22 09 10.0	+0.2
	comp=Z,4.3nm,0.9s,baz=138,slow=2.8,SNR=15						
LPAZ	**La Paz**	**153.86**	**189**	PKPbc	PKPbc	22 09 05.3	+1.6
	comp=Z,0.5nm,0.7s,baz=113,slow=4.6,SNR=3.4						
LPAZ				PKPab	PKPab	22 09 16.8	0.0
	comp=Z,1.0nm,0.7s,baz=201,slow=8.8,SNR=6.2						
LPAZ	**La Paz**	**153.86**	**189**	PKPdf	PKPdf	22 08 59.1	+3.4

IDC 17 21:51:51.0±1.1, 654N×7274W, h169km±10km, mb3.5/1, mb1 3.4/3, mb1mx3.0/20, mbtmpg3.9/3, Error ellipse: s-maj=96.9km s-min=7.7km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ROSC	**El Rosal**	**2.31**	**223**	P		Pn	21 52 32.0	+1.2
	22nm,0.3s,baz=270,slow=23,SNR=62							
ROSC				S		Sn	21 53 02.6	+1.1
	13nm,0.3s,baz=98,slow=15,SNR=9.8							
SDV	**Santo Domingo**	**3.13**	**42**	P		Pn	21 52 41.9	+1.2
	8.7nm,0.3s,baz=262,slow=3.8,SNR=24							
SDV				S		Sn	21 53 19.8	+0.5
	18nm,0.3s,baz=87,slow=20,SNR=28							
SCHQ	**Schefferville**	**48.38**	**5**	P		P	22 00 15.7	-0.1
	1.7nm,0.8s,baz=180,slow=9.1,SNR=3.5							
WRA	**Warramunga Arr**	**150.53**	**241**	PKPbc	PKPbc	22 11 23.2	+0.6
	0.3nm,0.5s,baz=108,slow=2.6,SNR=9.9							

NEIC ***17*** *21:52:33.7, 2858S×7237W, h30km, ML3.8(GUC), After GUC.*

GUC 17 21:52:33.7±0.8, 2858S×7237W, h30km, ML3.8, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LCO	**Las Campanas**	**1.53**	**107**	⇑*i*P		Pn	21 53 01.8	+2.8
LCO				*i* S		Sn	21 53 22.3	+4.5
CDCH	**Caldera**	**2.03**	**43**	*e*P		Pn	21 53 07.0	+1.2
CDCH				*i* S		Sn	21 53 31.6	+1.5
CDCH				AML	AML		21 53 32.7	
	comp=N,172nm,0.2s							
CDCH	**Caldera**	**2.03**	**43**	*e*P		Pn	21 53 07.0	+1.2
CDCH				S		Sn	21 53 31.6	+1.5
TLL	**Tololo Astrono**	**2.10**	**140**	*e*P		Pn	21 53 09.5	+2.8
TLL				*i* S		Sn	21 53 35.1	+3.4
TLL				AML	AML		21 53 36.7	
	comp=E,516nm,0.7s							
TLL	**Tololo Astrono**	**2.10**	**140**	*e*P		Pn	21 53 09.5	+2.8
TLL				*i* S		Sn	21 53 35.1	+3.4
CPCH	**Copiapo**	**2.16**	**56**	*i* S		Sn	21 53 36.0	+2.6
CPCH				AML	AML		21 53 37.8	
	comp=E,4μm,0.1s							
CMCH	**Combarbala**	**2.85**	**156**	⇑*i*P		Pn	21 53 18.6	+1.4
CMCH				*i* S		Sn	21 53 50.5	+0.1
CMCH				AML	AML		21 53 50.9	
	comp=E,548nm,0.4s							
VNA1	**Neumayer--Stat**	**54.79**	**158**	*e*P	P		22 01 59.4	-1.2
VNA1				*e*			22 02 00.2	
VNA1				*e*			22 02 02.5	
VNA1				*e*			22 02 12.8	

IDC 17 21:57:57.6±1.7, 891S×10722E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/15, mbtmp3.7/5, Error ellipse: s-maj=78.1km s-min=23.1km az=45.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**28.41**	**116**	P		P	22 03 53.9	+0.1
	1.0nm,0.7s,baz=286,slow=11,SNR=4.7							
ASAR	**Alice Springs**	**29.44**	**123**	P		P	22 04 03.7	+0.8
	0.7nm,0.7s,baz=306,slow=10,SNR=4.6							
SONM	**Songino Array**	**56.49**	**359**	P		P	22 07 41.3	-0.1
	0.4nm,0.5s,baz=185,slow=6.7,SNR=3.9							
MKAR	**Makanchi Array**	**59.74**	**340**	P		P	22 08 05.0	+0.9
	0.9nm,0.5s,baz=146,slow=7.6,SNR=6.8							
BRTR	**Keskin Array B**	**83.25**	**312**	P		P	22 10 25.9	-0.1
	0.3nm,0.7s,baz=70,slow=13,SNR=2.6							

CSEM ***17*** *22:00:56.5±0.1, 2645N×5598E, h10km, mb4.3/49, Ms4.0, Error ellipse: s-maj=3.8km s-min=2.5km az=140.0*
BJI ***17*** *22:00:58.6, 2670N×5580E, h10km, mB4.9, mb4.9, Ms4.2, Msz4.0*
THR ***17*** *22:01:00.2±0.6, 2671N×5582E, h8km±8km, ML4.1*
ISCJB ***17*** *22:01:00.5±0.2, 2684N±002×5581E±003, h10km, mb4.3/65, MS3.8/3, Error ellipse: s-maj=4.4km s-min=2.5km az=111.9*
NEIC ***17*** *22:01:00.6, 2672N×5582E, h10km, mb4.4/43, ML4.1(THR), MN4.0(TEH), After THR.*
IDC ***17*** *22:01:00.4±1.0, 2684N×5587E, h0km, mb4.1/15, mb1 4.2/17, mb1mx4.1/25, mbtmp4.2/17, ML4.0/2, Error ellipse: s-maj=21.2km s-min=16.4km az=169.0*
MOS ***17*** *22:01:01.6±0.9, 2660N×5590E, h33km, mb4.5/50, Error ellipse: s-maj=9.9km s-min=4.6km az=123.5*
TEH ***17*** *22:01:05.1, 2688N×5591E, h10km, Mn4.0*

ISC 17 22:01:02.4±0.2, 2685N±002×5585E±003, h10km, (h16km±3.0km: pP-P), n277, σ1§22/322, mb4.3/65, MS3.8/3, 13C-10D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BNDS	**Bandar-Abbas**	**0.62**	**28**	*e*PG		**Pg**	**22 01 15.2**	**+0.7**
BNDS				*e*Sg		**Sg**	**22 01 25.9**	**+3.2**
BNDS				AML	AML		22 01 29.2	
	comp=N,7μm,0.6s							
BNDS	**Bandar-Abbas**	**0.62**	**28**	*e*Pg		**Pg**	**22 01 15.0**	**+0.5**
BNDS				*e*Sg		**Sg**	**22 01 25.0**	**+2.4**
BNDS	**Bandar-Abbas**	**0.62**	**28**	*e*Pg		**Pg**	**22 01 15.0**	**+0.5**
BNDS				*e*Sg		**Sg**	**22 01 25.9**	**+3.3**
	SNR=92							
BANOM	**Banah**	**1.00**	**156**	⇓P		**Pg**	**22 01 21.8**	**0.0**
	SNR=863							
BANOM				⇑S		**Sg**	**22 01 35.9**	**+1.1**
ASHO	**Ashiyiah**	**2.16**	**175**	P		**Pn**	**22 01 39.9**	**+1.5**
	SNR=206							
ASHO				P			22 01 40.0	
	SNR=169							
ASHO	**Ashiyiah**	**2.16**	**175**	P		**Pn**	**22 01 40.0**	**+1.6**
	SNR=169							
KRBR	**Kerman**	**3.23**	**14**	*e*Pn		**Pn**	**22 01 55.8**	**+2.7**
KRBR				AML	AML		22 02 48.9	
	comp=E,549nm,0.6s							
KRBR				AML	AML		22 02 55.3	
	comp=N,469nm,0.5s							
KRBR	**Kerman**	**3.23**	**14**	*e*Pn		**Pn**	**22 01 55.0**	**+1.9**
ISRV	**Sarvestan**	**3.49**	**317**	*e*Pn		**Pn**	**22 01 59.3**	**+2.5**
ISRV				*e*Sn		**Sn**	**22 02 39.3**	**+1.1**
ISRV				*e*Sn		**Sn**	**22 02 39.5**	**+1.3**
ISRV	**Sarvestan**	**3.49**	**317**	Pn		**Pn**	**22 01 59.2**	**+2.4**
ISRV				Sn		**Sn**	**22 02 39.2**	**+1.0**
ISRV				Sn		**Sn**	**22 02 39.4**	**+1.2**
HOQ	**Hoqain**	**3.51**	**157**	⇑P		**Pn**	**22 01 56.1**	**-0.9**
	SNR=12							
IMOK	**Mook**	**3.53**	**309**	*e*Pn		**Pn**	**22 01 59.7**	**+2.4**
IMOK				*e*Sn		**Sn**	**22 02 39.8**	**+0.7**
IMOK				*e*Sn		**Sn**	**22 02 40.5**	**+1.4**
IMOK	**Mook**	**3.53**	**309**	Pn		**Pn**	**22 01 59.6**	**+2.3**
IMOK				Sn		**Sn**	**22 02 39.7**	**+0.6**
IMOK				Sn		**Sn**	**22 02 40.4**	**+1.3**
IMOK	**Mook**	**3.53**	**309**	*e*Pn		**Pn**	**22 01 59.7**	**+2.4**
IMOK				*e*Sn		**Sn**	**22 02 39.8**	**+0.7**
ARQ	**Araqi**	**3.55**	**170**	P		**Pn**	**22 01 58.3**	**+0.8**
	SNR=40							
BIDO	**Bidbid**	**3.90**	**148**	⇓P		**Pn**	**22 02 01.9**	**-0.4**
BIDO				⇑S		**Sn**	**22 02 47.7**	**-0.5**
SHI	**Shiraz**	**4.05**	**314**	*e*Pn		**Pn**	**22 02 07.0**	**+2.6**
SHI				*e*Sn		**Sn**	**22 02 41.2**	**-11**
SHI				*e*Sn		**Sn**	**22 02 41.3**	**-11**
SHI	**Shiraz**	**4.05**	**314**	Pn		**Pn**	**22 02 06.9**	**+2.5**
SHI				Sn		**Sn**	**22 02 41.2**	**-11**
BSY	**Bisya**	**4.26**	**163**	⇑P		**Pn**	**22 02 08.7**	**+1.3**
	SNR=17							
SMDO	**Samad**	**4.27**	**152**	⇑P		**Pn**	**22 02 08.2**	**+0.8**
	SNR=16							
SMDO				⇑S		**Sn**	**22 02 58.9**	**+1.6**
SMDO	**Samad**	**4.27**	**152**	P		**Pn**	**22 02 08.2**	**+0.8**
	SNR=16							
SMDO				S		**Sn**	**22 02 58.9**	**+1.7**
BSYO	**Bisya**	**4.29**	**163**	P		**Pn**	**22 02 08.7**	**+1.0**
	SNR=17							
WSAR	**Wadi Sarin**	**4.39**	**144**	Pn		**Pn**	**22 02 09.6**	**+0.5**
	comp=N,8.7nm,0.3s,baz=325,slow=6.8,SNR=51							
WSAR				Sn		**Sn**	**22 03 00.8**	**+0.5**
	comp=N,23nm,0.3s,baz=186,slow=5.9,SNR=9.0							
IMEH	**Mehriz**	**4.66**	**347**	*e*Pn		**Pn**	**22 02 14.7**	**+2.0**
IMEH				*e*Sn		**Sn**	**22 03 05.7**	**-1.1**
IBAF	**Bafgh**	**4.73**	**357**	*e*Pn		**Pn**	**22 02 15.8**	**+2.0**
IBAF				*e*Sn		**Sn**	**22 03 07.2**	**-1.6**
IBAF				*e*Sn		**Sn**	**22 03 07.3**	**-1.5**
IBAF	**Bafgh**	**4.73**	**357**	Pn		**Pn**	**22 02 15.7**	**+1.9**
IBAF				Sn		**Sn**	**22 03 07.2**	**-1.6**
JMDO	**Jabal Madar**	**4.91**	**155**	⇑P		**Pn**	**22 02 17.2**	**+1.0**
	SNR=8.1							
WBK	**Wadi Bani Khal**	**5.08**	**145**	⇑P		**Pn**	**22 02 18.7**	**0.0**
	SNR=26							
WBK				⇓S		**Sn**	**22 03 14.8**	**-2.6**
ZHSF	**Zahedan**	**5.15**	**57**	*e*PN		**Pn**	**22 02 21.0**	**+1.5**
ISAD	**Sadrabad**	**5.39**	**340**	*e*Sn		**Sn**	**22 03 24.0**	**-0.9**
ISAD				*e*Sn		**Sn**	**22 03 24.3**	**-0.6**
ICHK	**Chekchek**	**5.52**	**347**	*e*Pn		**Pn**	**22 02 26.2**	**+1.5**
ICHK	**Chekchek**	**5.52**	**347**	Pn		**Pn**	**22 02 26.1**	**+1.4**
NASN	**Na'in**	**6.49**	**337**	*e*PN		**Pn**	**22 02 40.2**	**+2.2**
NASN				AML	AML		22 03 59.2	
	comp=N,35nm,0.8s							
NASN	**Na'in**	**6.49**	**337**	*e*Pn		**Pn**	**22 02 40.0**	**+2.0**
IZEF	**Zefreh**	**6.76**	**334**	*e*Pn		**Pn**	**22 02 43.0**	**+1.4**
IZEF				*e*Sn		**Sn**	**22 03 57.2**	**-1.4**
IZEF				*e*Sn		**Sn**	**22 03 57.2**	**-1.4**
IZEF	**Zefreh**	**6.76**	**334**	*e*Pn		**Pn**	**22 02 43.0**	**+1.4**
IZEF				Sn		**Sn**	**22 03 57.1**	**-1.5**
IPIR	**Pirpir**	**7.24**	**325**	*e*Pn		**Pn**	**22 02 49.7**	**+1.5**
IPIR				*e*Sn		**Sn**	**22 04 07.9**	**-2.5**
IPIR				*e*Sn		**Sn**	**22 04 08.0**	**-2.4**
IPIR	**Pirpir**	**7.24**	**325**	Pn		**Pn**	**22 02 49.6**	**+1.4**
IPIR				Sn		**Sn**	**22 04 07.9**	**-2.5**
QRN	**Al-Qurain**	**7.27**	**287**	*e*P		**Pn**	**22 02 48.5**	**-0.2**
QRN				AML	AML		22 04 12.0	
	comp=Z,40nm,0.3s							
IKLH	**Kalahroud**	**7.43**	**331**	*e*Pn		**Pn**	**22 02 52.3**	**+1.4**
IKLH				*e*Sn		**Sn**	**22 04 11.9**	**-3.4**
IKLH				*e*Sn		**Sn**	**22 04 11.9**	**-3.4**
IKLH	**Kalahroud**	**7.43**	**331**	*e*Pn		**Pn**	**22 02 52.3**	**+1.4**
IKLH				Sn		**Sn**	**22 04 11.8**	**-3.5**
KBD	**Kabd**	**7.57**	**290**	*e*P		**Pn**	**22 02 53.3**	**+0.5**
KBD				AML	AML		22 04 18.4	
	comp=Z,97nm,0.3s							
RDF	**Al-Radifah**	**7.63**	**288**	*e*P		**Pn**	**22 02 53.8**	**+0.3**
RDF				AML	AML		22 04 17.5	
	comp=Z,25nm,0.4s							
UMR	**Umm Al-Rimmam**	**7.66**	**292**	*e*P		**Pn**	**22 02 55.0**	**+0.9**
UMR				AML	AML		22 04 21.6	
	comp=Z,25nm,0.3s							
NAY	**Al-Naaiem**	**7.97**	**289**	*e*P		**Pn**	**22 02 58.6**	**+0.4**
NAY				AML	AML		22 04 28.2	
	comp=Z,10nm,0.3s							
MIB	**Mutribah**	**8.05**	**293**	*e*P		**Pn**	**22 03 00.5**	**+1.0**
MIB				AML	AML		22 04 30.3	
	comp=Z,42nm,0.4s							
RST	**Umm Al-Ruwaisa**	**8.24**	**291**	*e*P		**Pn**	**22 03 02.5**	**+0.4**
RST				AML	AML		22 04 33.4	
	comp=Z,28nm,0.3s							
IVRN	**Varamin**	**8.86**	**337**	*e*Pn		**Pn**	**22 03 11.8**	**+1.3**
IVRN	**Varamin**	**8.86**	**337**	Pn		**Pn**	**22 03 11.7**	**+1.2**
IFIR	**Firoozkooh**	**9.16**	**344**	*e*Pn		**Pn**	**22 03 16.1**	**+1.6**
IFIR				*e*Sn		**Sn**	**22 04 52.6**	**-5.1**
ASAO	**Ashtian**	**9.16**	**328**	*e*PN		**Pn**	**22 03 16.5**	**+1.8**
ASAO	**Ashtian**	**9.16**	**328**	*e*Pn		**Pn**	**22 03 16.0**	**+1.4**
IDMV	**Damavand**	**9.29**	**340**	*e*Pn		**Pn**	**22 03 17.7**	**+1.3**
IDMV				*e*Sn		**Sn**	**22 04 56.1**	**-4.9**
IDMV				*e*Sn		**Sn**	**22 04 56.4**	**-4.6**
IDMV	**Damavand**	**9.29**	**340**	Pn		**Pn**	**22 03 17.6**	**+1.2**
IDMV				Sn		**Sn**	**22 04 56.0**	**-5.0**
IDMV				Sn		**Sn**	**22 04 56.4**	**-4.6**
IDMV	**Damavand**	**9.29**	**340**	*e*Pn		**Pn**	**22 03 17.7**	**+1.3**
IDMV				Sn		**Sn**	**22 04 56.0**	**-5.0**
IRAZ	**Razeghan**	**9.92**	**331**	*e*Sn		**Sn**	**22 05 11.2**	**-5.2**
IRAZ				*e*Sn		**Sn**	**22 05 11.6**	**-4.8**
IRAZ	**Razeghan**	**9.92**	**331**	Sn		**Sn**	**22 05 11.1**	**-5.3**
IRAZ				Sn		**Sn**	**22 05 11.6**	**-4.8**
GNI	**Garni**	**16.16**	**328**	Pn		**Pn**	**22 04 56.0**	**+6.4**
	comp=Z,0.9nm,0.3s,baz=60,slow=3.9,SNR=3.7							
GNI	**Garni**	**16.16**	**328**	*e*P		**Pn**	**22 04 54.6**	**+5.0**
GNI							22 07 50.5	
GNI				pmax	pmax			
	comp=Z,13nm,0.8s							
GNI	**Garni**	**16.16**	**328**	*e*Pn		**Pn**	**22 04 54.6**	**+5.1**
	comp=Z,13nm,0.8s							
GNI				Sn		**Sn**	**22 07 50.5**	**+1.7**
GNI	**Garni**	**16.16**	**328**	S		**Sn**	**22 07 50.5**	**+1.7**
MARD	**Mardin**	**16.47**	**313**	*i* P		**Pn**	**22 04 53.2**	**-0.3**
ASF	**Jabal al Asfar**	**17.32**	**292**	P		**Pn**	**22 05 05.8**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=336,slow=6.6,SNR=5.2							
ASF	**Jabal al Asfar**	**17.32**	**292**	P		**Pn**	**22 05 05.8**	**+1.6**
ASF				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ERZM	**Erzurum**	**17.74**	**321**	*i* P		**Pn**	**22 05 13.9**	**+4.4**
MALT	**Malatya**	**18.57**	**312**	*e*P		**Pn**	**22 05 20.5**	**+0.8**
MALT				*e*S		**Sn**	**22 08 48.6**	**+1.3**
MALT				pmax	pmax			
	comp=Z,17nm,0.9s							
MALT	**Malatya**	**18.57**	**312**	*e*P		**Pn**	**22 05 20.5**	**+0.9**
	comp=Z,18nm,0.9s							
MALT				*e*S		**Sn**	**22 08 48.6**	**+1.3**
MALT	**Malatya**	**18.57**	**312**	*e*P		**Pn**	**22 05 20.5**	**+0.8**
	comp=Z,17nm,0.9s							
EIL	**Elat**	**18.62**	**284**	*e*P		**Pn**	**22 05 20.4**	**+0.2**
	comp=Z,53nm,0.6s							
EIL	**Elat**	**18.62**	**284**	*e*P		**Pn**	**22 05 20.4**	**+0.2**
	comp=Z,53nm,0.6s							
ZEI	**Tsey**	**18.64**	**332**	*e*P		**Pn**	**22 05 23.0**	**+2.5**
GZT	**Gaziantep**	**18.67**	**309**	*i* P		**Pn**	**22 05 21.9**	**+1.1**
AMRG		**18.77**	**330**	P		**Pn**	**22 05 27.7**	**+5.7**
KIV	**Kislovodsk**	**20.12**	**331**	*de*P		**P**	**22 05 38.0**	**+1.7**
KIV				pmax	pmax			
	comp=Z,30nm,1.3s							
KIV	**Kislovodsk**	**20.12**	**331**	*e*P		**P**	**22 05 38.0**	**+1.7**
	comp=Z,25nm,0.8s							
KIV	**Kislovodsk**	**20.12**	**331**	*e*P		**P**	**22 05 38.0**	**+1.7**
	comp=Z,30nm,1.3s							
GRSN	**GIRESUNGRSN**	**20.20**	**318**	*i* P		**P**	**22 05 41.7**	**+4.4**
GOF	**Gofitskoye**	**20.88**	**334**	*e*P		**P**	**22 05 44.5**	**-0.1**
GOF				pmax	pmax			
	comp=Z,30nm,0.8s							
GOF	**Gofitskoye**	**20.88**	**334**	*e*P		**P**	**22 05 44.5**	**-0.1**
	comp=Z,30nm,0.8s							
CSS	**Prodhromos**	**20.91**	**298**	*e*P		**P**	**22 05 46.3**	**+1.3**
CSS	**Prodhromos**	**20.91**	**298**	*e*P		**P**	**22 05 46.3**	**+1.3**
SOC	**Sochi**	**21.21**	**326**	*e*P		**P**	**22 05 54.6**	**+6.4**
SOC				pmax	pmax			
	comp=Z,20nm,0.8s,mb4.5							
AAK	**Ala-Archa**	**21.90**	**39**	⇑*e*P		**P**	**22 05 54.7**	**-0.9**
AAK				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb3.9							
AAK	**Ala-Archa**	**21.90**	**39**	*e*P		**P**	**22 05 54.9**	**-0.7**
	comp=Z,9.4nm,0.9s,mb4.2							
AAK	**Ala-Archa**	**21.90**	**39**	*e*P		**P**	**22 05 54.7**	**-0.9**
	comp=Z,4.0nm,0.9s,mb3.9							
BR131	**Keskin Array S**	**22.50**	**310**	*e*P		**P**	**22 06 05.0**	**+3.0**
	comp=Z,2.6nm,0.6s,mb3.8							
BRTR	**Keskin Array B**	**22.50**	**310**	P		**P**	**22 06 02.1**	**+0.1**
	comp=Z,3.1nm,0.7s,mb3.9,baz=134,slow=11,SNR=16							
BRTR	**Keskin Array B**	**22.50**	**310**	P		**P**	**22 06 02.2**	**+0.2**
BRTR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
ANN	**Anapa**	**23.23**	**325**	*i* *PP		**P**	**22 06 05.0**	**-4.7**
AKTK	**Aktyubinsk**	**23.61**	**3**	P		**P**	**22 06 13.4**	**-0.2**
AKTK	**Aktyubinsk**	**23.61**	**3**	P		**P**	**22 06 13.5**	**-0.2**
	comp=Z,2.0nm,0.5s,mb3.8							
AKTO	**Aktyubinsk**	**23.61**	**3**	P		**P**	**22 06 13.4**	**-0.2**
	comp=Z,2.1nm,0.5s,mb3.9,baz=181,slow=10,SNR=12							
AKTO	**Aktyubinsk**	**23.61**	**3**	P		**P**	**22 06 13.5**	**-0.2**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb3.8							
SGKT	**Sivrigoynuk**	**23.97**	**311**	*i* P		**P**	**22 06 20.0**	**+3.0**
ESKT	**Eskisehir**	**24.35**	**308**	*i* P		**P**	**22 06 24.6**	**+4.2**
ULDT	**Uludag**	**25.81**	**308**	*i* P		**P**	**22 06 34.0**	**+0.4**
IDI	**Anoyia**	**27.73**	**295**	P		**P**	**22 06 51.6**	**+0.6**
	comp=Z,3.2nm,0.4s,mb4.3,baz=313,slow=3.0,SNR=9.4							
ZRNK	**Zerenda**	**27.87**	**17**	*e*P		**P**	**22 06 51.5**	**-0.7**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.6							
ZRNK	**Zerenda**	**27.87**	**17**	*e*P		**P**	**22 06 51.5**	**-0.7**
	comp=Z,1.3nm,0.6s,mb3.7							
ZRNK	**Zerenda**	**27.87**	**17**	*e*P		**P**	**22 06 51.5**	**-0.7**
	comp=Z,1.0nm,0.6s,mb3.6							
BRVK	**Borovoye**	**28.31**	**18**	*e*P		**P**	**22 06 55.5**	**-0.7**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb3.9							
BRVK	**Borovoye**	**28.31**	**18**	*e*P		**P**	**22 06 55.5**	**-0.7**
	comp=Z,1.8nm,0.6s,mb3.9							
BRVK	**Borovoye**	**28.31**	**18**	*e*P		**P**	**22 06 55.5**	**-0.7**
	comp=Z,2.0nm,0.6s,mb3.8							
BVAR	**Borovoye Array**	**28.31**	**19**	P		**P**	**22 06 55.3**	**-0.9**
	comp=Z,3.7nm,0.7s,mb4.2,baz=201,slow=7.6,SNR=17							
BVAR	**Borovoye Array**	**28.31**	**19**	P		**P**	**22 06 55.3**	**-0.9**
BVAR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
GVD	**Gavdhos**	**28.32**	**294**	*e*P		**P**	**22 06 56.5**	**+0.3**
GVD	**Gavdhos**	**28.32**	**294**	*e*P		**P**	**22 06 56.5**	**+0.3**
MKAR	**Makanchi Array**	**28.84**	**39**	P		**P**	**22 07 00.0**	**-0.8**
	comp=Z,0.9nm,0.7s,mb3.6,baz=219,slow=6.4,SNR=6.8							
MKAR	**Makanchi Array**	**28.84**	**39**	P		**P**	**22 07 00.0**	**-0.8**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
CHKZ	**Chkalovo**	**28.95**	**18**	*e*P		**P**	**22 07 01.0**	**-0.9**
KURK	**Kurchatov**	**29.49**	**30**	*e*P		**P**	**22 07 05.9**	**-0.7**
KURK	**Kurchatov**	**29.49**	**30**	*i* P		**P**	**22 07 06.5**	**-0.1**
ARU	**Arti**	**29.63**	**3**	P		**P**	**22 07 07.2**	**-0.6**
ARU	**Arti**	**29.63**	**3**	P		**P**	**22 07 07.2**	**-0.6**
WMQ	**Urumqi**	**30.77**	**48**	P		**P**	**22 07 19.6**	**+1.7**
WMQ				AP	pP		22 07 24.0	+3.0
WMQ				XP	sP		22 07 26.6	+4.4
WMQ				PP	PP		22 08 21.3	-6.0
WMQ				AMB	AMB			
	comp=Z,3.0nm,0.9s,mb4.1							
WMQ				AMB	AMB			
	comp=Z,23nm,4.1s							
WMQ				LR	LR			
	comp=N,92nm,11.4s,MS3.8							
WMQ				LR	LR			
	comp=E,69nm,10.3s,MS3.8							
WMQ				LR	LR			
	comp=Z,101nm,11.9s,MS3.7							
AKASG	**Malin Array Be**	**31.29**	**327**	P		**P**	**22 07 21.9**	**-0.6**
	comp=Z,1.4nm,0.5s,mb4.0,baz=130,slow=8.8,SNR=8.8							
AKASG	**Malin Array Be**	**31.29**	**327**	P		**P**	**22 07 21.9**	**-0.6**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
OBN	**Obninsk**	**31.55**	**339**	⇑*e*P		**P**	**22 07 25.8**	**+1.0**
OBN				*e*			22 10 17.8	
OBN				*e*S		**S**	**22 12 26.5**	**-6.8**
OBN				*e*SS		SS	22 14 17.6	-31
OBN				pmax	pmax			
	comp=Z,17nm,2.2s,mb4.5					

comp=Z,7.0nm,0.5s,mb4.7
CLL Collm 40.46 319 *e*P **P 22 08 44.1 +3.0**
comp=Z,5.0nm,0.9s,mb4.2
CLL Collm 40.46 319 *i* *PP pP 22 08 44.3 +0.1
CLL Collm 40.46 319 *i* pP pP 22 08 44.3 +0.1
comp=Z,5.0nm,0.9s
CLL Collm 40.46 319 *i* P **P 22 08 44.3 +3.2**
CLL pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
CLL Collm 40.46 319 *i* P **P 22 08 44.3 +3.2**
comp=Z,5.0nm,0.9s,mb4.2
GRA1 Grafenberg Arr 41.02 316 *e*P **P 22 08 48.6 +2.9**
comp=Z,7.0nm,0.9s,mb4.3
GRF Grafenberg Arr 41.02 316 *e*P **P 22 08 48.6 +2.9**
comp=Z,7.0nm,0.9s,mb4.3
GRF Grafenberg Arr 41.02 316 *e*P **P 22 08 48.6 +2.9**
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
GRF Grafenberg Arr 41.02 316 *e*P **P 22 08 48.6 +2.9**
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
PGF Pioggiola 41.05 305 *e*P **P 22 08 44.7 -1.2**
comp=Z,6.9nm,0.7s,mb4.1
PGF Pioggiola 41.05 305 *e*P **P 22 08 44.7 -1.2**
PGF pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
PGF Pioggiola 41.05 305 *e*P **P 22 08 44.7 -1.2**
comp=Z,3.5nm,0.7s,mb4.1
DAVA Damuels 41.25 312⇓ *i*P **P 22 08 46.5 -1.1**
comp=Z,31nm,0.5s,mb5.2
KMI Kunming 42.01 81 P **P 22 08 54.3 +0.5**
KMI AP pP 22 08 58.6 +1.7
KMI XP sP 22 09 01.5 +3.4
KMI AMB AMB
comp=Z,4.0nm,1.3s,mb3.9
STU Stuttgart 42.05 314 *e*P **P 22 08 53.4 -0.7**
CLZ Clausthal 42.19 319 *e*P **P 22 08 59.1 +3.9**
comp=Z,10.0nm,0.8s,mb4.5
CLZ Clausthal 42.19 319 *e*P **P 22 08 59.1 +3.9**
CLZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
MBDF Montbardon 42.93 308 *e*P **P 22 08 59.6 -1.7**
comp=Z,6.3nm,0.6s,mb4.2
MBDF Montbardon 42.93 308 *e*P **P 22 08 59.6 -1.7**
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
MBDF Montbardon 42.93 308 *e*P **P 22 08 59.6 -1.7**
comp=Z,3.2nm,0.6s,mb4.2
LPG La Plagne 43.05 309 *e*P **P 22 09 01.0 -1.3**
comp=Z,6.9nm,0.7s,mb4.2
LPG La Plagne 43.05 309 *e*P **P 22 09 01.0 -1.3**
LPG pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
LPG La Plagne 43.05 309 *e*P **P 22 09 01.0 -1.3**
comp=Z,3.5nm,0.7s,mb4.2
LPL La Plagne 43.06 309 *e*P **P 22 09 01.2 -1.2**
comp=Z,5.2nm,0.6s,mb4.1
LPL La Plagne 43.06 309 *e*P **P 22 09 01.2 -1.2**
LPL pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
LPL La Plagne 43.06 309 *e*P **P 22 09 01.2 -1.2**
comp=Z,2.6nm,0.6s,mb4.1
CDF Champ du Feu 43.21 313 *e*P **P 22 09 02.2 -1.4**
HINF Hinteralfeld 43.37 312 *e*P **P 22 09 03.6 -1.3**
comp=Z,4.1nm,0.5s,mb4.1
HINF Hinteralfeld 43.37 312 *e*P **P 22 09 03.6 -1.3**
HINF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
HINF Hinteralfeld 43.37 312 *e*P **P 22 09 03.6 -1.3**
comp=Z,2.0nm,0.5s,mb4.1
CABF La Chapelle 43.67 310 *e*P **P 22 09 06.2 -1.1**
comp=Z,7.7nm,0.7s,mb4.2
CABF La Chapelle 43.67 310 *e*P **P 22 09 06.2 -1.1**
CABF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
CABF La Chapelle 43.67 310 *e*P **P 22 09 06.2 -1.1**
comp=Z,3.8nm,0.7s,mb4.2
SMRF Simiane la Rot 43.69 307 *e*P **P 22 09 06.4 -1.0**
HAU Haudompre 43.74 312 *e*P **P 22 09 06.8 -1.0**
comp=Z,2.8nm,0.4s,mb4.1
HAU Haudompre 43.74 312 *e*P **P 22 09 06.8 -1.0**
HAU pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
HAU Haudompre 43.74 312 *e*P **P 22 09 06.8 -1.0**
comp=Z,1.4nm,0.4s,mb4.1
WLF Walferdange 44.20 315 P **P 22 09 12.3 +0.8**
SONM Songino Array 44.41 48 P **P 22 09 13.4 +0.2**
comp=Z,1.6nm,0.8s,mb3.8,baz=249,slow=8.4,SNR=7.8
SONM Songino Array 44.41 48 P **P 22 09 13.4 +0.2**
SONM pmax pmax
comp=Z,2.0nm,0.8s
VIVF Saint-Julien-l 44.43 308 *e*P **P 22 09 11.7 -1.6**
comp=Z,3.4nm,0.5s,mb4.0
VIVF Saint-Julien-l 44.43 308 *e*P **P 22 09 11.7 -1.6**
VIVF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
VIVF Saint-Julien-l 44.43 308 *e*P **P 22 09 11.7 -1.6**
comp=Z,1.7nm,0.5s,mb4.0
ULN Ulaanbaatar 44.85 48 *e*P **P 22 09 16.4 -0.3**
LASF Ste Croix 44.93 306 *e*P **P 22 09 15.8 -1.6**
comp=Z,9.1nm,0.8s,mb4.3
LASF Ste Croix 44.93 306 *e*P **P 22 09 15.8 -1.6**
comp=Z,4.6nm,0.8s,mb4.4
SMF Signal de Mont 45.21 310 *e*P **P 22 09 18.1 -1.5**
comp=Z,14nm,0.8s,mb4.5
SMF Signal de Mont 45.21 310 *e*P **P 22 09 18.1 -1.5**
SMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
SMF Signal de Mont 45.21 310 *e*P **P 22 09 18.1 -1.5**
comp=Z,7.2nm,0.8s,mb4.5
LOR Lormes 45.28 311 *e*P **P 22 09 18.7 -1.5**
comp=Z,2.7nm,0.5s,mb4.0
LOR Lormes 45.28 311 *e*P **P 22 09 18.7 -1.5**
LOR pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
LOR Lormes 45.28 311 *e*P **P 22 09 18.7 -1.5**
comp=Z,1.4nm,0.5s,mb4.1
NB2 NORSAR Subarra 45.43 331 P **P 22 09 20.1 -1.2**
comp=Z,0.5nm,0.6s,mb3.5,baz=113,slow=7.9
NOA NORSAR Array B 45.43 331 P **P 22 09 20.6 -0.7**
comp=Z,1.2nm,0.8s,mb3.8,baz=116,slow=7.8,SNR=3.8
NOA NORSAR Array B 45.43 331 P **P 22 09 20.6 -0.7**
NOA pmax pmax
comp=Z,1.0nm,0.8s
SSF Saint Saulge 45.49 311 *e*P **P 22 09 20.5 -1.3**
comp=Z,8.4nm,0.7s,mb4.4
SSF Saint Saulge 45.49 311 *e*P **P 22 09 20.5 -1.3**
SSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
SSF Saint Saulge 45.49 311 *e*P **P 22 09 20.5 -1.3**
comp=Z,4.2nm,0.7s,mb4.4
BAIF Baives 45.51 315 *e*P **P 22 09 20.8 -1.2**
comp=Z,15nm,0.8s,mb4.6
BAIF Baives 45.51 315 *e*P **P 22 09 20.8 -1.2**
BAIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BAIF Baives 45.51 315 *e*P **P 22 09 20.8 -1.2**
comp=Z,7.3nm,0.8s,mb4.6
KONO Kongsberg 45.52 329 P **P 22 09 22.4 +0.4**
AVF Avril sur Loir 45.56 310 *e*P **P 22 09 20.9 -1.5**
comp=Z,4.2nm,0.7s,mb4.2
AVF Avril sur Loir 45.56 310 *e*P **P 22 09 20.9 -1.5**
AVF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
AVF Avril sur Loir 45.56 310 *e*P **P 22 09 20.9 -1.5**
comp=Z,2.1nm,0.7s,mb4.2
BGF Bois d'Agland 45.88 310 *e*P **P 22 09 23.7 -1.2**
comp=Z,11nm,0.7s,mb4.6
BGF Bois d'Agland 45.88 310 *e*P **P 22 09 23.7 -1.2**
BGF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BGF Bois d'Agland 45.88 310 *e*P **P 22 09 23.7 -1.2**
comp=Z,5.3nm,0.7s,mb4.6
MTLF Montolieu 46.07 305 *e*P **P 22 09 25.4 -1.0**
comp=Z,11nm,0.9s,mb4.5
MTLF Montolieu 46.07 305 *e*P **P 22 09 25.4 -1.0**
MTLF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MTLF Montolieu 46.07 305 *e*P **P 22 09 25.4 -1.0**
comp=Z,5.7nm,0.9s,mb4.5
ARCES ARCESS Array B 46.24 346 P **P 22 09 28.3 +0.6**
comp=Z,1.1nm,0.6s,mb4.0,baz=141,slow=10,SNR=8.8
ARCES ARCESS Array B 46.24 346 P **P 22 09 28.3 +0.6**
ARCES pmax pmax
comp=Z,1.0nm,0.6s
CAF Calviac 46.28 308 *e*P **P 22 09 27.3 -0.7**
comp=Z,9.3nm,0.8s,mb4.5
CAF Calviac 46.28 308 *e*P **P 22 09 27.3 -0.7**
CAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CAF Calviac 46.28 308 *e*P **P 22 09 27.3 -0.7**
comp=Z,4.7nm,0.8s,mb4.5
TCF Toulx Ste Croi 46.29 309 *e*P **P 22 09 27.1 -1.1**
comp=Z,6.1nm,0.7s,mb4.3
TCF Toulx Ste Croi 46.29 309 *e*P **P 22 09 27.1 -1.1**
TCF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
TCF Toulx Ste Croi 46.29 309 *e*P **P 22 09 27.1 -1.1**
comp=Z,3.0nm,0.7s,mb4.3
RJF Les Rejaudoux 46.69 308 *e*P **P 22 09 30.3 -1.0**
comp=Z,14nm,1.0s,mb4.6
RJF Les Rejaudoux 46.69 308 *e*P **P 22 09 30.3 -1.0**
RJF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
RJF Les Rejaudoux 46.69 308 *e*P **P 22 09 30.3 -1.0**
comp=Z,7.2nm,1.0s,mb4.6
LFF La Frestale 47.22 307 *e*P **P 22 09 34.5 -0.9**
comp=Z,5.5nm,0.8s,mb4.5
LFF La Frestale 47.22 307 *e*P **P 22 09 34.5 -0.9**
LFF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
LFF La Frestale 47.22 307 *e*P **P 22 09 34.5 -0.9**
comp=Z,2.8nm,0.5s,mb4.5
HHC Hu-ho-hao-te 47.59 58 *e*P **P 22 09 37.0 -1.3**
HHC AP pP 22 09 41.3 -0.2
HHC XP sP 22 09 44.3 +1.6
HHC PP PP 22 11 26.8 -3.0
HHC S **S 22 16 34.8 +1.2**
HHC AMB AMB
comp=Z,13nm,0.7s,mb5.1
HHC AMB AMB
comp=Z,186nm,7.3s
HHC LR LR
comp=N,145nm,17.8s,MS4.1
HHC LR LR
comp=E,115nm,19.0s,MS4.1
HHC LR LR
comp=Z,167nm,13.1s
ETSF Etsaut 48.09 305 *e*P **P 22 09 40.7 -1.5**
comp=Z,11nm,0.8s,mb4.7
ETSF Etsaut 48.09 305 *e*P **P 22 09 40.7 -1.5**
ETSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ETSF Etsaut 48.09 305 *e*P **P 22 09 40.7 -1.5**
comp=Z,5.5nm,0.8s,mb4.7
LDF La Druitiere 48.10 312 *e*P **P 22 09 41.2 -1.0**
comp=Z,4.0nm,0.6s,mb4.3
LDF La Druitiere 48.10 312 *e*P **P 22 09 41.2 -1.0**
LDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
LDF La Druitiere 48.10 312 *e*P **P 22 09 41.2 -1.0**
comp=Z,2.0nm,0.6s,mb4.3
FLN La Foliniere 48.35 313 *e*P **P 22 09 42.5 -1.7**
GRR Gorron 48.57 312 *e*P **P 22 09 44.8 -1.0**
SGMF Saint Gilles 49.69 312 *e*P **P 22 09 53.1 -1.3**
QUIF Quistinic 50.07 311 *e*P **P 22 09 55.8 -1.6**
comp=Z,15nm,0.9s,mb4.7
QUIF Quistinic 50.07 311 *e*P **P 22 09 55.8 -1.6**
QUIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
QUIF Quistinic 50.07 311 *e*P **P 22 09 55.8 -1.6**
comp=Z,7.4nm,0.9s,mb4.7
ESDC Sonseca Array 50.77 301 P **P 22 10 02.2 -0.4**
comp=Z,1.5nm,0.6s,mb4.1,baz=66,slow=7.7,SNR=8.2
BOD Bodaibo 50.83 36 *e*P **P 22 09 59.1 -4.0**
BOD pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
TOA0 Torodi Ar. Sit 52.32 266 *e*P **P 22 10 13.0 -1.2**
TOA0 Torodi Ar. Sit 52.32 266 *e*P **P 22 10 13.0 -1.2**
TORD Torodi Ar. Bea 52.32 266 P **P 22 10 13.6 -0.6**
comp=Z,3.1nm,0.5s,mb4.5,baz=64,slow=7.3,SNR=39
SNY Shenyang 56.53 56⇓P **P 22 10 45.1 +0.2**
SNY AMB AMB
comp=Z,11nm,0.5s,mb5.1
SSE Sheshan 56.59 69 *e*P **P 22 10 41.4 -3.9**
SSE AMB AMB
comp=Z,27nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,105nm,6.1s
MDJ Mudanjiang 60.46 52 P **P 22 11 11.8 -0.5**
MDJ AMB AMB
comp=Z,2.0nm,1.1s,mb4.1
MDJ AMB AMB
comp=Z,58nm,3.7s
DBIC Dimbokro 60.91 262 P **P 22 11 15.2 -0.2**
comp=Z,6.1nm,1.0s,mb4.7,baz=35,slow=11,SNR=3.3
DBIC Dimbokro 60.91 262 P **P 22 11 15.2 -0.2**
DBIC pmax pmax
comp=Z,6.0nm,1.0s
KLR Kul'dur 61.20 47 *e*P **P 22 11 13.4 -3.9**
LIC Lamto 61.27 262 *e*P **P 22 11 16.2 -1.6**
YSS Yuzh-Sakhalins 68.89 47⇑*e*P **P 22 12 07.2 -0.1**
YSS pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
YSS Yuzh-Sakhalins 68.89 47 *e*P **P 22 12 07.2 -0.1**
comp=Z,1.0nm,0.3s,mb4.2

ISCJB ***17*** *22:19:54.9±3.8, 57S×0.1×1500E±0.02, h60km±29km, mb3.8/3, Error ellipse: s-maj=29.5km s-min=23.3km az=158.3*
NEIC ***17*** *22:19:56.5±2.5, 570S×15002E, h61km±19km, mb4.0/3, Error ellipse: s-maj=21.9km s-min=14.1km az=66.0*
IDC ***17*** *22:19:57.1±9.1, 577S×15004E, h65km±68km, mb3.7/2, mb1 3.9/3, mb1mx3.5/12, mbtmp4.0/3, ML2.6/1, Error ellipse: s-maj=125.5km s-min=57.8km az=121.0*
ISC 17 22:19:56.3±3.6, 57S·01×1501E·02, h60km±27km, n17, σ0§52/17, mb3.8/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.68**	**218**	P	**Pn**	**22 21 03.9**	**-0.4**
	1.8nm,0.3s,baz=19,slow=9.8,SNR=4.6						
PMG				S	**Sn**	**22 21 57.4**	**+0.1**
	1.3nm,0.3s,baz=84,slow=10,SNR=3.4						
CTAO	**Charters Tower**	**14.77**	**194**	Pn	**Pn**	**22 23 21.8**	**+0.2**
WRAB	**Tennant Creek**	**20.83**	**226**	*e*P	**P**	**22 24 33.2**	**+0.3**
	9.5nm,0.7s						
WB2	**Warramunga Arr**	**20.84**	**226**	*e*P	**P**	**22 24 33.3**	**+0.4**
WB2	**Warramunga Arr**	**20.84**	**226**	*e*P	**P**	**22 24 33.2**	**+0.3**
WRA	**Warramunga Arr**	**20.85**	**226**	P	**P**	**22 24 33.3**	**+0.3**
	4.3nm,0.6s,baz=51,slow=10,SNR=35						
AS31	**Alice Springs**	**23.69**	**219**	*e*P	**P**	**22 25 01.9**	**-0.6**
AS31				*e*		22 25 16.8	
ASAR	**Alice Springs**	**23.70**	**219**	P	**P**	**22 25 01.9**	**-0.5**
	2.2nm,0.4s,mb3.9,baz=57,slow=8.6,SNR=41						
ASPA	**Alice Springs**	**23.70**	**220**	*e*P	**P**	**22 25 02.0**	**-0.5**
MBWA	**Marble Bar**	**33.18**	**240**	P	**P**	**22 26 26.9**	**-0.2**
TAU	**Tasmania Unive**	**37.12**	**183**	P	**P**	**22 27 01.9**	**+1.0**
KULM	**Kulim**	**50.56**	**282**	*e*P	**P**	**22 28 49.3**	**+0.6**
VNDA	**Vanda**	**72.03**	**177**	*e*P	**P**	**22 31 12.9**	**-0.9**
	0.3nm,0.7s,mb3.3						
SBA	**Scott Base**	**72.63**	**176**	P	**P**	**22 31 17.8**	**+0.4**
KURK	**Kurchatov**	**82.84**	**323**	*e*P	**P**	**22 32 14.6**	**+0.5**
	0.6nm,0.3s,mb4.1						
BRVK	**Borovoye**	**88.43**	**324**	P	**P**	**22 32 41.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**147.99**	**286**	PKPbc	PKPbc	22 39 35.7	+0.9
	0.7nm,0.8s,baz=75,slow=1.5,SNR=12						

IDC 17 22:30:09.2±3.4, 2887S×17877W, h279km±21km, mb3.0/2, mb1 3.3/2, mb1mx2.5/11, mbtmp3.7/2, Error ellipse: s-maj=186.7km s-min=35.2km az=26.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.84**	**117**	P	Pn	22 30 46.3	-0.2
	84nm,0.3s,baz=167,slow=20,SNR=8.5						
RAO				S	S	22 31 16.7	+0.6
	212nm,0.3s,baz=67,slow=20,SNR=4.6						
ASAR	**Alice Springs**	**42.54**	**266**	P	P	22 37 37.8	+0.1
	0.3nm,0.4s,baz=100,slow=7.4,SNR=7.2						
WRA	**Warramunga Arr**	**43.39**	**271**	P	P	22 37 44.8	+0.3
	0.6nm,0.4s,baz=110,slow=8.2,SNR=28						
TORD	**Torodi Ar. Bea**	**164.35**	**182**	PKPab	PKPab	22 50 35.3	+0.1
	0.6nm,1.0s,baz=191,slow=4.7,SNR=5.4						

BJI ***17*** *22:31:44.2, 1735S×17304W, h8km, mB5.6, mb5.4, Ms5.2, Msz5.0*

SZGRF ***17*** *22:31:46.0, 1898S×173.16W, h33km, mb4.9, Tonga Islands*
ISCJB ***17*** *22:31:47.2±0.2, 1768S·005×17322W±0.04, h33km, mb5.1/82, MS4.9/41, Error ellipse: s-maj=7.5km s-min=3.9km az=110.4*
NEIC ***17*** *22:31:49.1±0.2, 1767S×17326W, h35km, mb5.1/48, MS5.0/8, Error ellipse: s-maj=8.6km s-min=4.5km az=148.0*
HRVD ***17*** *22:31:49.1±0.2, 1773S×17271W, h24km, MW5.3/79, Centroid moment Tensor Solution. LP body waves: s62,c99;Mantle waves: s79,c146; Half duration: 1§1 Moment tensor: Scale 10¹⁷Nm; Mrr0.66±.02; Mθθ-0.05±.01; Mϕϕ-0.61±.02; Mrθ0.59±.04; Mϕθ-0.49±.01; Mϕr0.32±.03; Best double couple: M₀1.04600×10¹⁷ NP1:ϕs185.00000°, δ32.00000°, λ47.00000°. NP2: ϕs52.00000°, δ67.00000°, λ113.00000°. Principal axes: T 0.9970, Plg61.0000°, Azm357.0000°; N 0.0970, Plg21.0000°, Azm223.0000°; P -1.0950, Plg19.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***17*** *22:31:51.8±1.6, 1662S×17320W, h33km, mb5.3/41, MS4.9/22 Error ellipse: s-maj=13.4km s-min=8.1km az=71.4*
IDC ***17*** *22:31:52.5±2.4, 1777S×17332W, h69km±20km, mb4.6/19, mb1 4.7/19, mb1mx4.7/21, mbtmp4.9/19, MS4.6/18, Ms1 4.6/18, ms1mx4.5/27, Error ellipse: s-maj=15.3km s-min=10.3km az=135.0*
ISC 17 22:31:49.1±0.1, 1773S·004×17321W±004, h35km, h35km±1.3km:pP-P, n594, σ0§81/339, mb5.1/82, MS4.9/41, 103C-67D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.04**	**20**	P	**Pn**	**22 32 40.6**	**-7.8**
	19nm,0.3s,baz=216,slow=24,SNR=10						
AFI				S	**Sn**	**22 33 24.6**	**-10**
	108nm,0.3s,baz=282,slow=22,SNR=7.4						
AFI				LR	LR	22 34 18.8	
	comp=Z,8μm,19.5s,baz=173,slow=36						
RAO	**Raoul Island**	**12.26**	**200**	S	**Sn**	**22 36 55.0**	**-1.3**
	32nm,0.3s,baz=56,slow=22,SNR=3.9						
RAR	**Rarotonga**	**13.13**	**107**	P	**Pn**	**22 34 44.5**	**-8.6**
	4.3nm,0.3s,baz=257,slow=9.8,SNR=6.3						
RAR				LR	LR	22 38 55.4	
	comp=Z,1μm,20.4s,baz=334,slow=32						
RAR	**Rarotonga**	**13.13**	**107**	P	**Pn**	**22 34 44.5**	**-8.6**
RAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
RAR				MLR	MLR		
	comp=Z,1μm,20.4s						
DZM	**Mont Dzumac**	**19.61**	**254**	P	**Pn**	**22 36 17.8**	**+1.9**
	comp=Z,1.0nm,0.3s,baz=73,slow=18,SNR=9.9						
DZM				LR	LR	22 42 28.9	
	comp=Z,2μm,19.8s,baz=72,slow=33						
NOUC	**Port Laguerre**	**19.75**	**254**	*e*P	**Pn**	**22 36 20.2**	**+2.8**
MWZ	**Matawai**	**22.07**	**200**	*e*PN	**P**	**22 36 39.3**	**-1.6**
URZ	**Urewera**	**22.14**	**201**	P	**P**	**22 36 42.0**	**+0.4**
	comp=Z,89nm,0.7s,mb5.3,baz=283,slow=3.8,SNR=27						
URZ				S	**S**	**22 40 39.7**	**-3.9**
	comp=Z,17nm,0.7s,baz=54,slow=22,SNR=7.1						
URZ	**Urewera**	**22.14**	**201**	PN	**P**	**22 36 42.0**	**+0.4**
TAZ	**Tarawera**	**22.32**	**202**	PN	**P**	**22 36 45.3**	**+1.7**
PPT	**Papeete**	**22.52**	**93**	*e*LQ		22 40 54.0	
	comp=Z,6μm,26.2s						
PPT				*e*LR	LR	22 41 58.8	
	comp=Z,3μm,26.8s,baz=266						
PPT	**Papeete**	**22.52**	**93**	LR	LR	22 43 23.1	
	comp=Z,775nm,19.1s,MS4.2,baz=270,slow=30						
PATZ	**Paeroa**	**22.55**	**202**	PN	**P**	**22 36 46.8**	**+0.9**
HIZ	**Hauiti**	**23.19**	**204**	*e*PN	**P**	**22 36 53.5**	**+0.8**
BFZ	**Birch Farm**	**24.62**	**200**	SN	**S**	**22 41 30.1**	**+5.2**
HNR	**Honiara**	**27.34**	**284**	LR	LR	22 46 48.2	
	comp=Z,3μm,18.5s,MS4.9,baz=179,slow=33						
RPZ	**Rata Peaks**	**29.12**	**204**	P	**P**	**22 37 51.3**	**+4.8**
	comp=Z,39nm,0.5s,mb5.4,baz=349,slow=2.7,SNR=29						
TAOE	**Nuku Hiva Isla**	**33.31**	**79**	*e*LR	LR	22 46 54.2	
	comp=Z,2μm,27.7s						
ARMA	**Armidale**	**34.36**	**242**	*e*P	**P**	**22 38 32.0**	**-0.5**
RKT	**Rikitea**	**36.16**	**105**	*e*LR	LR	22 48 01.5	
	comp=Z,2μm,32.5s,baz=266						
CTA	**Charters Tower**	**38.36**	**260**	*e*P	**P**	**22 39 06.3**	**-0.3**
	comp=Z,16nm,0.8s,mb4.8						
CTA	**Charters Tower**	**38.36**	**260**	P	**P**	**22 39 06.5**	**-0.1**
	comp=Z,28nm,0.8s,mb5.0,baz=99,slow=9.4,SNR=16						
CTA				LR	LR	22 53 42.8	
	comp=Z,2μm,19.1s,MS4.8,baz=88,slow=34						
CTA	**Charters Tower**	**38.36**	**260**	*e*P	**P**	**22 39 06.3**	**-0.3**
CTA				pmax	pmax		
	comp=Z,16nm,0.8s						
CTAO	**Charters Tower**	**38.36**	**260**	*e*P	**P**	**22 39 06.5**	**-0.1**
CTAO				*e*		22 41 21.8	
CTAO				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.0						
CTAO	**Charters Tower**	**38.36**	**260**	*e*P	**P**	**22 39 06.5**	**-0.1**
	comp=Z,30nm,0.9s,mb5.0						
CTAO				*e*PcP	PcP	22 41 21.8	+2.0
PMG	**Port Moresby**	**39.34**	**277**	P	**P**	**22 39 14.2**	**-0.6**
	comp=Z,17nm,0.8s,mb4.8,baz=85,slow=5.5,SNR=7.9						
PMG	**Port Moresby**	**39.34**	**277**	*e*P	**P**	**22 39 14.6**	**-0.2**
WAKE	**Wake Island**	**41.76**	**331**	*e*P	**P**	**22 39 34.7**	**-0.2**
STKA	**Stephens Creek**	**43.08**	**242**	*e*P	**P**	**22 39 43.5**	**-2.0**
	comp=Z,9.4nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**43.08**	**242**	P	**P**	**22 39 43.8**	**-1.7**
	comp=Z,3.1nm,0.5s,mb4.3,baz=76,slow=9.3,SNR=6.4						
WB2	**Warramunga Arr**	**49.52**	**259**	*e*P	**P**	**22 40 33.4**	**-2.8**
WB2				*e*PCP	PcP	22 42 08.8	+11
WRAB	**Tennant Creek**	**49.52**	**259**	P	**P**	**22 40 35.0**	**-1.2**
	SNR=13						
WRAB	**Tennant Creek**	**49.52**	**259**⇓	*e*P	**P**	**22 40 34.3**	**-1.9**
WRAB	**Tennant Creek**	**49.52**	**259**	*e*P	**P**	**22 40 34.2**	**-1.9**
WRA	**Warramunga Arr**	**49.53**	**259**	P	**P**	**22 40 34.8**	**-1.5**
	comp=Z,27nm,0.9s,mb5.3,baz=98,slow=7.2,SNR=102						
WRA				S	**S**	**22 47 38.6**	**-3.0**
	comp=Z,1.5nm,0.9s,baz=95,slow=14,SNR=3.4						
AS31	**Alice Springs**	**49.60**	**254**	*e*P	**P**	**22 40 35.3**	**-1.5**
AS31				*e*PcP	PcP	22 41 59.3	+1.3
ASAR	**Alice Springs**	**49.60**	**254**	P	**P**	**22 40 35.1**	**-1.7**
ASAR						22 41 59.3	
ASAR				pmax	pmax		
	comp=Z,43nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,14nm,0.8s						
ASPA	**Alice Springs**	**49.61**	**254**	*e*P	**P**	**22 40 35.4**	**-1.4**
ASPA				*e*PCP	PcP	22 42 00.2	+2.2
GUMO	**Guam**	**51.77**	**304**	LR	LR	22 59 35.3	
	comp=Z,678nm,19.2s,MS4.7,baz=93,slow=32						
KAKA	**Kakadu**	**52.54**	**267**	*e*P	**P**	**22 40 57.3**	**-1.5**
	comp=Z,20nm,0.7s,mb5.2						
FORT	**Forrest**	**54.56**	**245**	*e*P	**P**	**22 41 10.9**	**-2.7**
	comp=Z,21nm,0.7s,mb5.3						
FITZ	**Fitzroy Crossi**	**57.94**	**259**	*e*P	**P**	**22 41 38.0**	**+0.3**
	comp=Z,23nm,2.0s,mb4.9						
FITZ	**Fitzroy Crossi**	**57.94**	**259**	P	**P**	**22 41 37.3**	**-0.5**
	comp=Z,4.6nm,0.8s,mb4.6,baz=57,slow=7.4,SNR=9.8						
FITZ				LR	LR	23 05 30.9	
	comp=Z,568nm,18.4s,MS4.7,baz=277,slow=35						
SBA	**Scott Base**	**60.96**	**185**	*e*P	**P**	**22 42 00.4**	**+1.8**
SBA				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.1						
SBA	**Scott Base**	**60.96**	**185**	*e*P	**P**	**22 42 00.3**	**+1.8**
	comp=Z,12nm,0.7s,mb5.1						
VNDA	**Vanda**	**61.09**	**186**	P	**P**	**22 41 60.0**	**+0.5**
	comp=Z,4.6nm,0.7s,mb4.7,baz=6.5,slow=6.9,SNR=33						
VNDA				LR	LR	23 03 20.9	
	comp=Z,207nm,18.7s,MS4.3,baz=17,slow=31						
VNDA	**Vanda**	**61.09**	**186**	P	**P**	**22 42 00.0**	**+0.5**
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
VNDA				MLR	MLR		
	comp=Z,207nm,18.7s						
VNDA	**Vanda**	**61.09**	**186**	P	**P**	**22 41 60.0**	**+0.5**
VNDA				LR	LR	23 03 20.9	
MBWA	**Marble Bar**	**62.91**	**255**	*e*P	**P**	**22 42 12.3**	**+0.6**
KLBR	**Kellerberrin**	**63.34**	**243**	*e*P	**P**	**22 42 14.3**	**-0.2**
	comp=Z,25nm,0.7s,mb5.5						
NWAO	**Narrogin (SRO)**	**63.66**	**242**	LR	LR	23 09 53.0	

comp=Z,706nm,18.7s,MS4.9,baz=260,slow=36
CASY Casey 68.38 205 *e*P P **22 42 45.9 -1.1**
MJAR Matsushiro Arr 70.83 320 P P **22 43 01.7 -0.4**
comp=Z,17nm,0.9s,mb5.0,baz=158,slow=5.7,SNR=39
MJAR LR LR 23 08 28.2
comp=Z,756nm,21.9s,MS4.9,baz=140,slow=31
MJAR Matsushiro Arr 70.83 320 P P **22 43 01.7 -0.4**
MJAR pmax pmax
comp=Z,17nm,0.9s
MJAR MLR MLR
comp=Z,756nm,21.9s
MAJO Matsushiro 70.83 320 *e*P P **22 43 02.0 -0.1**
MAJO pmax pmax
comp=Z,21nm,0.9s,mb5.1
MAJO Matsushiro 70.83 320 *e*P P **22 43 02.0 -0.1**
comp=Z,21nm,0.9s,mb5.1
MAT Matsushiro 70.83 320 P P **22 43 01.6 -0.5**
MAT S S 22 52 15.0 +0.3
MAT Matsushiro 70.83 320 *e*P P **22 43 02.0 -0.1**
MAT *e*S S 22 52 16.0 +1.4
MAT pmax pmax
comp=Z,11nm,0.8s,mb4.8
MAT MLR MLR
comp=Z,740nm,22.0s,MS4.9
MAT Matsushiro 70.83 320 *e*P P **22 43 02.0 -0.1**
comp=Z,11nm,0.8s,mb4.8
MAT *e*S S 22 52 16.0 +1.4
MAT LR LR
comp=Z,740nm,22.0s,MS4.9
JOW Kunigami 72.01 307 P P **22 43 09.8 +0.7**
comp=Z,12nm,0.9s,mb4.8,baz=134,slow=10.0,SNR=5.1
QSPA South Pole Qui 72.33 180 *e*P P **22 43 11.5 +0.4**
comp=Z,26nm,0.9s,mb5.2
V03C Hunter Liggett 72.61 42 ⇓P P **22 43 13.4 +0.6**
baz=73
V04C Ramage Ranch, 72.61 43 ⇓P P **22 43 13.0 +0.1**
baz=73
HAST UC Hastings Re 72.64 42 ⇑P P **22 43 12.9 -0.1**
baz=73
JRSC Jasper Ridge 72.85 40 ⇑P P **22 43 15.0 +0.8**
baz=73
SAO San Andreas Ge 72.94 41 *e*P P **22 43 15.0 +0.3**
SAO *e**PP pP 22 43 26.2 +0.5
SAO pmax pmax
comp=Z,12nm,0.8s,mb4.9
SAO San Andreas Ge 72.94 41 *e*P P **22 43 15.0 +0.3**
comp=Z,12nm,0.8s,mb4.9
SAO *e*pP pP 22 43 26.2 +0.5
PKD Parkfield 73.01 42 ⇑P P **22 43 15.4 +0.2**
baz=73
U04C Hernandez Rese 73.11 42 ⇓P P **22 43 16.1 +0.3**
baz=73,SNR=5.6
PACP Pacheco Peak 73.19 41 ⇑P P **22 43 16.7 +0.4**
baz=73
WENL Wente Brothers 73.28 40 ⇑P P **22 43 16.9 +0.2**
baz=74
CVS Carmenet Viney 73.31 39 ⇑P P **22 43 16.5 -0.4**
baz=74
HOPS Hopland 73.36 39 ⇑P P **22 43 17.0 -0.2**
baz=74
S04C Ingram Canyon, 73.47 41 ⇓P P **22 43 18.0 +0.1**
baz=74
109C Camp Elliot, M 73.52 47 ⇓P P **22 43 19.1 +0.9**
baz=74
KKM Kota Kinabalu 73.53 282 *e*P P **22 43 19.2 +1.0**
MNRC McLaughlin Nat 73.66 39 ⇓P P **22 43 19.9 +0.9**
baz=74
GASB Alder Springs 73.99 38 ⇑P P **22 43 21.4 +0.5**
baz=74
ISA Isabella 74.19 44 *e*P P **22 43 22.5 +0.4**
ISA Isabella 74.19 44 ⇑P P **22 43 22.1 0.0**
baz=74
T06C Millerton Lake 74.19 42 ⇓P P **22 43 21.6 -0.5**
baz=74
O02C Red Bluff 74.29 38 ⇓P P **22 43 22.3 -0.3**
baz=74
PFO Pinyon Flat Ob 74.37 46 *e*P P **22 43 19.7 -3.5**
PFO Pinyon Flat Ob 74.37 46 ⇑P P **22 43 23.1 -0.1**
baz=74
CMB Columbia Colle 74.39 41 *e*P P **22 43 23.3 +0.1**
CMB pmax pmax
comp=Z,17nm,1.0s,mb4.9
CMB Columbia Colle 74.39 41 *e*P P **22 43 23.3 +0.1**
comp=Z,17nm,1.0s,mb4.9
CMB Columbia Colle 74.39 41 ⇓P P **22 43 23.0 -0.3**
baz=75,SNR=5.6
PET Petropavlovsk 74.54 343 *e*P P **22 43 21.9 -2.2**
PET pmax pmax
comp=Z,200nm,14.7s
PET Petropavlovsk 74.54 343 ⇑*e*P P **22 43 22.8 -1.3**
LAVA Lava Cap Winer 74.62 40 ⇑P P **22 43 24.2 -0.3**
baz=75
M01C Crescent City 74.62 36 ⇓P P **22 43 24.5 -0.1**
baz=75
KCC Kaiser Creek 74.63 42 ⇑P P **22 43 24.1 -0.5**
baz=75
S06C San Francisco 74.63 41 ⇓P P **22 43 24.0 -0.6**
baz=75
ORV Oroville 74.65 39 ⇑P P **22 43 25.3 +0.5**
baz=75
WDC Whiskeytown Da 74.69 38 *e*P P **22 43 25.2 +0.2**
WDC pmax pmax
comp=Z,26nm,1.4s,mb5.0
WDC Whiskeytown Da 74.69 38 *e*P P **22 43 25.2 +0.2**
comp=Z,26nm,1.4s,mb5.0
WDC Whiskeytown Da 74.69 38 ⇓P P **22 43 24.8 -0.2**
baz=75
CWC Cottonwood Cre 74.90 43 ⇓P P **22 43 25.9 -0.3**
baz=75
R05C Kirkwood Meado 74.99 40 ⇓P P **22 43 26.5 -0.2**
baz=75,SNR=5.2
P05C Yuba Gap, Truc 75.03 40 ⇑P P **22 43 26.9 0.0**
baz=75
M02C Callahan 75.04 37 ⇑P P **22 43 27.5 +0.5**
baz=75
K01A Sixes 75.07 35 ⇑P P **22 43 27.5 +0.3**
baz=75
GSC Goldstone 75.09 45 *e*P P **22 43 27.5 +0.2**
GSC Goldstone 75.09 45 ⇑P P **22 43 27.1 -0.2**
baz=75
MTUM Tungsten Hills 75.13 42 *e*P P **22 43 27.8 +0.2**
TIN Tinemaha 75.17 43 ⇓P P **22 43 27.6 -0.2**
baz=75
GLA Glamis 75.20 48 *e*P P **22 43 28.6 +0.6**
GLA Glamis 75.20 48 ⇑P P **22 43 27.4 -0.5**
baz=75
O05C Quincy 75.25 39 ⇑P P **22 43 28.1 -0.1**
baz=75
R07C Lee Vining 75.26 41 ⇓P P **22 43 28.4 +0.1**
baz=75,SNR=6.0
WAKR Walker 75.27 41 *e*P P **22 43 28.9 +0.6**
R06C Coleville 75.27 41 P P **22 43 28.5 +0.2**
baz=76,SNR=5.5
YBH Yreka Blue Hor 75.34 37 P P **22 43 29.0 +0.2**
comp=Z,12nm,1.1s,mb4.7,baz=179,slow=5.2,SNR=6.2
YBH Yreka Blue Hor 75.34 37 *e*P P **22 43 29.4 +0.7**
YBH pmax pmax
comp=Z,17nm,1.0s
YBH Yreka Blue Hor 75.34 37 *e*P P **22 43 29.4 +0.7**
comp=Z,17nm,1.0s,mb4.9
YBH Yreka Blue Hor 75.34 37 ⇓P P **22 43 29.1 +0.4**
baz=76,SNR=5.1
O04C Chester 75.38 39 ⇓P P **22 43 28.9 0.0**
baz=76
HATC Hat Creek Radi 75.48 38 ⇑P P **22 43 29.6 +0.1**
baz=76
WCN Washoe City 75.55 40 ⇑P P **22 43 30.2 +0.3**
baz=76,SNR=5.4
K02A Glendale 75.58 35 ⇓P P **22 43 29.7 -0.4**
baz=76
YSS Yuzh-Sakhalins 75.59 331*c i*P P **22 43 30.8 +0.6**
YSS pmax pmax
comp=Z,58nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 75.59 331 P P **22 43 28.2 -1.9**
TUQ Turquoise Mtn. 75.76 45 ⇑P P **22 43 30.9 -0.2**
baz=76
HUMO Hull Mountain 75.77 36 *e*P P **22 43 32.0 +0.8**
comp=Z,23nm,1.4s,mb4.9
HUMO *e*PP PP 22 46 17.1 -4.2
HUMO Hull Mountain 75.77 36 ⇑P P **22 43 31.4 +0.2**
baz=76
ELFS Eagle Lake Fie 75.78 39 ⇓P P **22 43 31.1 -0.1**
baz=76
Y12C Blythe 75.80 47 ⇑P P **22 43 31.6 +0.2**
baz=76
M04C Macdoel 75.87 37 ⇓P P **22 43 32.0 +0.2**
baz=76

NVAR Mina Array Bea 75.93 41 P P **22 43 31.9 -0.3**
comp=Z,6.4nm,0.9s,mb4.6,baz=215,slow=7.2,SNR=35
J02A Umpqua 75.93 35 ⇓P P **22 43 32.4 +0.3**
baz=76
M05C Lookout 76.00 38 ⇓P P **22 43 32.5 -0.1**
baz=76,SNR=7.2
NACB Ninganchiao 76.00 301 *e*P P **22 43 32.7 +0.2**
R08A Mina 76.01 42 ⇓P P **22 43 32.6 +0.1**
baz=76,SNR=6.4
MNV Mina 76.03 42 *e*P P **22 43 32.6 -0.1**
MNV pmax pmax
comp=Z,22nm,1.1s,mb5.0
MNV Mina 76.03 42 *e*P P **22 43 32.6 -0.1**
comp=Z,22nm,1.1s,mb5.0
PAHR Pah Rah Range 76.03 40 *e*P P **22 43 33.1 +0.5**
comp=Z,23nm,1.1s,mb5.0
O06A Flanigan 76.03 39 ⇓P P **22 43 32.6 -0.1**
baz=78,SNR=10
U10A Ash Meadows, A 76.04 44 ⇑P P **22 43 32.9 +0.1**
baz=76
L04A Klamath Falls 76.09 37 ⇑P P **22 43 32.9 -0.1**
baz=76
S09A Goldfield 76.21 43 ⇑P P **22 43 33.2 -0.5**
baz=76
M06C Likely Place G 76.29 38 ⇑P P **22 43 33.9 -0.3**
baz=76
Y13A Salome 76.31 48 ⇑P P **22 43 34.1 -0.2**
baz=76
V11A Goodsprings 76.32 45 ⇑P P **22 43 34.0 -0.3**
baz=76
N06A Buffalo Meadow 76.40 39 ⇓P P **22 43 34.8 0.0**
baz=77,SNR=9.4
TPNV Topopah Spring 76.40 44 *e*P P **22 43 34.9 +0.1**
TPNV pmax pmax
comp=Z,16nm,1.2s,mb4.8
TPNV Topopah Spring 76.40 44 *e*P P **22 43 34.9 +0.1**
comp=Z,16nm,1.2s,mb4.8
W12A Cal Nev Ari 76.40 46 ⇓P P **22 43 34.9 +0.1**
baz=77
YHNB Yeheng 76.40 302 *e*P P **22 43 35.5 +0.7**
YHNB *e* pP 22 43 44.8 -1.0
TPH Tonopah 76.41 42 *e*P P **22 43 35.3 +0.4**
TPH pmax pmax
comp=Z,24nm,1.0s,mb5.1
TPH Tonopah 76.41 42 *e*P P **22 43 35.3 +0.5**
comp=Z,24nm,1.0s,mb5.1
Q08A Gabbs 76.42 41 ⇑P P **22 43 34.7 -0.2**
baz=77
TATO Taipei 76.45 302 *e*P P **22 43 35.9 +0.9**
O07A Toulon 76.61 40 ⇓P P **22 43 36.1 +0.1**
baz=77,SNR=14
L05A Lakeview 76.62 37 ⇓P P **22 43 35.9 -0.2**
baz=77,SNR=6.1
V12A Nelson 76.65 45 ⇑P P **22 43 35.7 -0.6**
baz=77
U11A Corn Creek 76.68 45 ⇓P P **22 43 36.6 +0.3**
baz=77
Z14A Wintersburg 76.70 48 ⇑P P **22 43 36.3 -0.2**
baz=77
X13A Yucca 76.73 47 ⇑P P **22 43 36.1 -0.5**
baz=77,SNR=7.6
115A Sonoran Desert 76.87 49 ⇑P P **22 43 37.2 -0.2**
baz=77
SHPR Sheep Range 76.87 45 *e*P P **22 43 38.1 +0.7**
H03A Soap Creek Ran 76.95 34 ⇓P P **22 43 37.4 -0.5**
baz=77
W13A Hualapai Mount 76.97 46 ⇓P P **22 43 38.0 0.0**
baz=77
Y14A Wickenburg 76.97 48 P P **22 43 37.9 -0.1**
baz=77,SNR=6.7
O08A Rochester Mine 77.13 40 ⇑P P **22 43 38.8 -0.1**
baz=77
R10A Warm Springs 77.13 43 ⇓P P **22 43 39.0 +0.1**
baz=77,SNR=11
KDAK Kodiak Island 77.16 11 *e*P P **22 43 38.5 -0.5**
comp=Z,22nm,1.2s,mb5.0
KDAK *e* pP 22 43 49.2 -0.9
116A Eloy 77.18 50 ⇑P P **22 43 39.3 +0.1**
baz=77
M07A Soldier Meadow 77.19 39 ⇑P P **22 43 39.2 0.0**
baz=77,SNR=7.8
U12A Valley of Fire 77.25 45 ⇑P P **22 43 39.6 +0.1**
baz=77
X14A Yava 77.32 47 ⇑P P **22 43 39.9 -0.1**
baz=78,SNR=9.1
P09A Austin 77.33 41 ⇑P P **22 43 39.9 -0.1**
baz=78
K06A Valley Falls 77.43 37 ⇓P P **22 43 40.5 -0.1**
baz=78,SNR=14
N08A GE Springer Mi 77.44 40 ⇓P P **22 43 40.3 -0.4**
baz=78,SNR=14
L07A Adell 77.47 38 ⇑P P **22 43 40.8 0.0**
baz=78,SNR=15
H04A Detroit Lake 77.55 35 ⇑P P **22 43 40.5 -0.7**
baz=78
W14A Seligman 77.58 47 ⇓P P **22 43 41.6 +0.1**
baz=78,SNR=12
KSM Kuching 77.59 276 *e*P P **22 43 42.8 +1.3**
KSM *e*PcP PcP 22 43 51.7 +0.1
F03A Seaside 77.64 33 ⇑P P **22 43 41.2 -0.6**
baz=78
M08A Happy Creek Ra 77.69 39 ⇑P P **22 43 42.4 +0.3**
baz=78,SNR=11
I05A Bend 77.71 35 ⇓P P **22 43 42.2 +0.1**
baz=78
TUC Tucson 77.72 50 *e*P P **22 43 41.4 -0.8**
TUC pmax pmax
comp=Z,15nm,1.1s,mb4.8
TUC Tucson 77.72 50 *e*P P **22 43 41.4 -0.9**
comp=Z,15nm,1.1s,mb4.8
G04A Mulino 77.74 34 ⇓P P **22 43 42.2 -0.1**
baz=78
J06A Christmas Vall 77.77 37 ⇓P P **22 43 42.3 -0.2**
baz=78,SNR=12
BMN Battle Mountai 77.79 40 *e*P P **22 43 39.2 -3.4**
X15A Humboldt 77.79 48 ⇑P P **22 43 42.8 +0.2**
baz=78
P10A Eureka 77.79 41 ⇓P P **22 43 42.5 -0.1**
baz=78
N09A Rock Creek Ran 77.86 40 ⇓P P **22 43 43.0 +0.1**
baz=78
Q11A Duckwater 77.87 42 ⇓P P **22 43 43.1 +0.1**
baz=78,SNR=27
E03A Lebam 78.06 33 ⇑P P **22 43 43.8 -0.3**
baz=78
WVOR Wild Horse Val 78.14 38 *e*P P **22 43 44.1 -0.4**
WVOR *e* pP 22 43 54.2 -1.4
WVOR pmax pmax
comp=Z,24nm,1.2s,mb5.0
WVOR Wild Horse Val 78.14 38 *e*P P **22 43 44.0 -0.5**
comp=Z,24nm,1.2s,mb5.0
WVOR *e*PcP PcP 22 43 54.2 +0.2
P11A Circle Ranch, 78.20 42 ⇓P P **22 43 44.6 -0.3**
baz=78
M09A Marrel Ranch, 78.24 39 ⇑P P **22 43 45.1 0.0**
baz=78,SNR=7.1
F04A Amboy 78.24 34 ⇑P P **22 43 44.4 -0.7**
baz=78
J07A Hines 78.32 37 ⇓P P **22 43 45.2 -0.3**
baz=78
D03A Wishkah Elem. 78.33 32 ⇓P P **22 43 45.8 +0.2**
baz=78
Q12A Willow Creek R 78.50 43 ⇑P P **22 43 46.6 +0.1**
baz=79,SNR=8.9
CCUT Cedar City 78.65 45 *e*P P **22 43 47.6 +0.2**
P12A McGill 78.69 42 ⇓P P **22 43 47.5 -0.1**
baz=79
F05A White Salmon 78.72 34 ⇓P P **22 43 47.0 -0.7**
baz=79
ARUT Antelope Range 78.72 44 *e*P P **22 43 48.6 +0.8**
VLA Vladivostok 78.75 322 P P **22 43 49.0 +1.1**
VLA pmax pmax
comp=Z,41nm,0.8s,mb5.4
VLA MLR MLR
comp=Z,1µm,20.3s,MS5.1
QZH Quanzhou 78.79 301 P P **22 43 50.0 +1.9**
QZH S S 22 53 44.0 +0.6
QZH LR LR
comp=Z,1µm,27.1s,MS5.0
J08A Circle Bar Ran 78.80 37 ⇑P P **22 43 48.1 -0.1**
baz=79,SNR=12
INCN Inchon 78.82 315 *e*P P **22 43 47.5 -0.8**
M10A I.L. Ranch, Tu 78.85 40 ⇓P P **22 43 48.6 +0.1**
baz=79,SNR=9.7
E05A Randle 79.00 33 ⇑P P **22 43 48.7 -0.6**
baz=79,SNR=10
GNW Green Mountain 79.11 32 *e*P P **22 43 50.0 +0.2**

ELK Elko 79.20 41 *e*P P **22 43 50.3 -0.1**
ELK pmax pmax
comp=Z,8.0nm,0.3s
ELK Elko 79.20 41 *e*P P **22 43 50.3 -0.1**
comp=Z,7.7nm,0.3s,mb5.1
O12A Currie 79.24 42 ⇓P P **22 43 50.8 +0.2**
baz=79
M11A Holland Ranch, 79.25 40 ⇓P P **22 43 51.0 +0.3**
baz=79,SNR=10
D05A Enumclaw 79.29 33 ⇑P P **22 43 50.9 0.0**
baz=80
N12A Clover Valley, 79.39 41 ⇑P P **22 43 51.3 -0.1**
baz=80
SSE Sheshan 79.51 307 *e*P P **22 43 52.8 +0.8**
SSE PCP PcP 22 43 59.5 -0.4
SSE S S 22 53 52.0 +1.0
SSE AMB AMB
comp=Z,18nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,118nm,6.1s
SSE LR LR
comp=N,120nm,25.8s,MS4.5
SSE LR LR
comp=E,258nm,25.8s,MS4.5
SSE LR LR
comp=Z,338nm,32.2s
C05A Tolt Reservoir 79.77 33 ⇓P P **22 43 52.6 -0.9**
baz=80
M12A Wells 79.79 41 P P **22 43 53.6 0.0**
baz=80,SNR=18
SVW2 Sparrevohn 79.82 9 *e*P P **22 43 51.6 -2.1**
N13A Wendover, West 79.92 41 ⇑P P **22 43 54.2 -0.1**
baz=80,SNR=9.0
MVU Marysvale 79.92 44 *e*P P **22 43 49.5 -4.8**
comp=Z,24nm,1.3s,mb5.0
A04A Legoe Bay, Lum 79.94 31 ⇑P P **22 43 54.2 -0.1**
baz=80
B05A Bryant 79.94 32 ⇑P P **22 43 53.9 -0.5**
baz=80
MSU Marysvale 79.95 44 *e*P P **22 43 55.3 +0.8**
HAWA Hanford 80.08 34 *e*P P **22 43 54.8 -0.3**
SLKM Skilak Lake 80.14 11 *e*P P **22 43 54.3 -1.2**
BMO Blue Mountains 80.37 37 *e*P P **22 43 56.0 -0.7**
BMO *e* pP 22 44 03.7 -4.1
BMO pmax pmax
comp=Z,27nm,1.4s,mb5.0
BMO Blue Mountains 80.37 37 *e*P P **22 43 56.0 -0.7**
comp=Z,27nm,1.4s,mb5.0
BMO *e*PcP PcP 22 44 03.7 0.0
HABR Khabarovsk 80.40 328 *e*P P **22 43 57.6 +0.8**
HABR *e*S S 22 54 00.0 -0.3
HABR pmax pmax
comp=Z,88nm,1.3s,mb5.5
DUG Dugway 80.44 42 *e*P P **22 43 57.3 +0.2**
BGU Big Grassy Mou 80.70 42 *e*P P **22 43 58.5 0.0**
MDJ Mudanjiang 80.97 323 P P **22 44 01.1 +1.2**
MDJ AP pP 22 44 10.8 -0.3
MDJ XP sP 22 44 14.5 -0.6
MDJ PP PP 22 47 06.0 +1.2
MDJ S S 22 54 08.9 +2.5
MDJ AMB AMB
comp=Z,23nm,1.1s,mb5.0
MDJ AMB AMB
comp=Z,161nm,4.8s
MDJ LR LR
comp=N,305nm,24.3s,MS4.8
MDJ LR LR
comp=E,413nm,22.5s,MS4.8
MDJ LR LR
comp=Z,728nm,21.6s,MS5.0
MDJ Mudanjiang 80.97 323 *e*P P **22 44 01.2 +1.3**
comp=Z,26nm,1.1s,mb5.1
MDJ *e*pP pP 22 44 10.6 -0.5
TMUT Trail Mountain 81.01 44 *e*P P **22 44 01.5 +1.3**
EYAK Cordova Ski Ar 81.09 13 *e*P P **22 43 59.7 -0.9**
EYAK *e*PcP PcP 22 44 05.9 -0.9
NOQ North Oquirrh 81.13 42 P P **22 44 01.2 +0.5**
SPUT South Promonto 81.27 42 *e*P P **22 44 01.4 -0.2**
HLID Hailey 81.31 39 *e*P P **22 44 01.9 +0.2**
comp=Z,19nm,1.0s,mb5.0
HVU Hansel Valley 81.32 41 *e*P P **22 44 02.7 +0.9**
PMR Palmer 81.35 11 *e*P P **22 44 01.2 -0.8**
PMR pmax pmax
comp=Z,10.0nm,0.3s,mb5.2
PMR Palmer 81.35 11 *e*P P **22 44 01.1 -0.8**
comp=Z,10nm,0.3s,mb5.2
SRU San Rafael 81.36 44 *e*P P **22 44 02.7 +0.7**
CTU Camp Tracy 81.39 42 *e*P P **22 44 02.4 +0.3**
comp=Z,8.2nm,1.0s,mb4.6
CTU *e*PcP PcP 22 44 07.3 -0.9
LAZ Ladron 81.40 50 *e*P P **22 44 02.9 +0.6**
BNM Barren Site 81.66 50 *e*P P **22 44 04.7 +1.1**
NJ2 Nanjing 81.71 307 *e*P P **22 44 01.9 -2.0**
NJ2 AP pP 22 44 15.1 +0.1
NJ2 PP PP 22 47 09.6 -1.3
NJ2 S S 22 54 08.0 -6.0
NJ2 XS sS 22 54 31.0 -1.4
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
NJ2 AMB AMB
comp=Z,1µm,4.3s
LPM Los Pinos Moun 81.73 50 *e*P P **22 44 04.9 +1.0**
LTX Lajitas 81.75 56 *e*P P **22 44 04.7 +0.6**
LTX pmax pmax
comp=Z,18nm,1.3s,mb4.8
LTX Lajitas 81.75 56 *e*P P **22 44 04.7 +0.6**
comp=Z,18nm,1.3s,mb4.8
TCUT Toone Canyon 81.83 42 *e*P P **22 44 05.2 +0.7**
HWUT Hardware Ranch 81.99 42 *e*P P **22 44 05.3 0.0**
ANMO Albuquerque 82.15 50*c i*P P **22 44 06.6 +0.4**
ANMO Albuquerque 82.15 50 *e*P P **22 44 06.9 +0.8**
PV01 Paradox Valley 82.19 46 *e*P P **22 44 06.8 +0.4**
PV01 *e*pP pP 22 44 19.1 +1.6
MA2 Magadan 82.43 342*ce*P P **22 44 06.0 -1.6**
MA2 pmax pmax
comp=Z,16nm,1.0s,mb4.9
KLR Kul'dur 82.56 327 *e*P P **22 44 06.0 -2.3**
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,25nm,1.2s,mb5.1
SKAG Skagway 82.88 18 *e*P P **22 44 09.7 -0.3**
AHID Auburn Hatcher 82.90 41 *e*P P **22 44 10.5 +0.4**
comp=Z,8.0nm,0.6s,mb4.9
MCMT McKenzie Canyo 82.95 39 *e*P P **22 44 10.4 +0.1**
MCMT *e*pP pP 22 44 20.0 -1.5
CN2 Changchun 82.98 320 ⇑P P **22 44 11.3 +0.8**
CN2 *e*AP pP 22 44 22.5 +0.9
CN2 *e*S S 22 54 26.8 -0.2
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.4
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1µm,19.0s,MS5.5
CN2 LR LR
comp=E,2µm,19.0s,MS5.5
CN2 LR LR
comp=Z,3µm,21.0s,MS5.6
RRI2 Red Ridge 83.07 40 *e*P P **22 44 11.5 +0.6**
MCK McKinley 83.36 11 *e*P P **22 44 11.4 -1.1**
MCK pmax pmax
comp=Z,20nm,0.9s,mb5.2
MCK McKinley 83.36 11 *e*P P **22 44 11.4 -1.1**
comp=Z,20nm,0.9s,mb5.2
TPAW Teton Pass 83.38 40 *e*P P **22 44 12.7 +0.2**
comp=Z,24nm,0.9s,mb5.2
DLMT Dillon 83.39 38 *e*P P **22 44 12.3 -0.3**
MSO Missoula 83.43 36 *e*P P **22 44 12.2 -0.6**
BSMT Bassoo Peak 83.54 35 *e*P P **22 44 12.6 -0.8**
IMW Indian Meadow 83.60 40 *e*P P **22 44 13.9 +0.2**
comp=Z,54nm,1.3s,mb5.5
IMW *e*pP pP 22 44 24.3 -0.5
IMW *e*sP sP 22 44 29.0 +0.1
MOOW Moose Ponds 83.64 40 *e*P P **22 44 14.1 +0.2**
comp=Z,15nm,1.2s,mb5.0
LRM Limekiln Ridge 83.73 38 *e*P P **22 44 14.1 -0.3**
DLBC Dease Lake 83.79 21 *e*P P **22 44 14.7 0.0**
SMCO Snowmass 83.79 46 *e*P P **22 44 15.2 +0.6**
QLMT Earthquake Lak 83.80 39 *e*P P **22 44 15.3 +0.6**
FLWY Flagg Ranch 83.84 40 *e*P P **22 44 15.4 +0.5**
CHMT Chamberlain Mo 83.87 37 *e*P P **22 44 14.2 -0.9**
BW06 Boulder Array 83.87 42 *e*P P **22 44 14.3 -0.7**
comp=Z,16nm,0.9s,mb5.1
PDAR Pinedale Array 83.87 42 P P **22 44 14.4 -0.7**

comp=Z,14nm,1.0s,mb5.1,baz=214,slow=3.4,SNR=96
PDAR LR LR 23 14 49.7
comp=Z,186nm,19.1s,MS4.5,baz=253,slow=31
QIZ Qiongzhong 83.94 292 P **P** **22 44 16.3 +0.9**
QIZ S S 22 54 37.8 +1.1
QIZ LR LR
comp=Z,529nm,23.9s,MS4.8
YFT Old Faithful 83.95 40 *e*P **P** **22 44 17.8 +2.4**
YMR Madison River 83.99 39 P **P** **22 44 15.4 -0.3**
comp=Z,25nm,0.3s,mb5.8
BOZ Bozeman (W) 84.11 38 *e*P **P** **22 44 16.1 -0.2**
HRY Holter Researc 84.57 37 *e*P **P** **22 44 18.3 -0.3**
COLA College 84.60 11c *i*P **P** **22 44 17.3 -1.5**
COLA College 84.60 11⇑ *i*P **P** **22 44 17.4 -1.4**
WALA Waterton Lakes 84.71 35 *e*P **P** **22 44 19.0 -0.3**
comp=Z,35nm,1.4s,mb5.3
IMA2 Indian Mountai 84.83 8 *e*P **P** **22 44 19.4 -0.5**
RWWY Rawlins 84.84 43 *e*P **P** **22 44 20.1 +0.1**
TIA Tai'an 84.85 310 P **P** **22 44 21.1 +1.1**
ISCO Idaho Springs 85.01 46 *e*P **P** **22 44 21.4 +0.6**
JCT Junction City 85.28 56 *e*P **P** **22 44 21.8 -0.4**
GCMT Greycliff 85.36 39 *e*P **P** **22 44 22.9 +0.3**
GCMT *e*pP pP 22 44 34.5 +0.8
DAWY Dawson 85.62 14 *e*P **P** **22 44 23.5 -0.3**
DAWY *e*pP pP 22 44 33.5 -1.5
AMTX Amarillo 85.64 51 *e*P **P** **22 44 24.2 +0.2**
comp=Z,24nm,0.8s,mb5.5
AMTX *e*pP pP 22 44 35.8 +0.7
MAW Mawson 85.66 199 *e*P **P** **22 44 24.3 +0.2**
comp=Z,9.3nm,0.8s,mb5.1
MAW Mawson 85.66 199 P **P** **22 44 24.7 +0.6**
comp=Z,5.4nm,0.7s,mb4.9,baz=120,slow=8.1,SNR=12
MAW LR LR 23 19 36.1
comp=Z,596nm,19.6s,MS5.0,baz=100,slow=34
MAW Mawson 85.66 199 *e*P **P** **22 44 24.3 +0.2**
MAW pmax pmax
comp=Z,9.0nm,0.8s
PHWY Pilot Hill 85.82 44 *e*P **P** **22 44 24.6 -0.2**
BJT Baijiatuan 87.19 314 *e*P **P** **22 44 32.5 +0.9**
BJT pmax pmax
comp=Z,67nm,1.5s
BJT Baijiatuan 87.19 314 *e*P **P** **22 44 32.5 +0.9**
comp=Z,67nm,1.5s,mb5.7
BJI Beijing 87.20 314 *e*P **P** **22 44 32.3 +0.7**
BJI SKS 22 54 55.5
BJI S S 22 55 09.3
BJI AMB AMB
comp=Z,29nm,1.5s,mb5.3
BJI AMB AMB
comp=Z,310nm,3.3s
BJI LR LR
comp=N,213nm,22.3s,MS4.8
BJI LR LR
comp=E,348nm,20.8s,MS4.8
BJI LR LR
comp=Z,324nm,26.0s
EDM Edmonton 87.36 31 *e*P **P** **22 44 31.8 -0.6**
WMOK Wichita Mounta 87.76 53 *e*P **P** **22 44 34.7 +0.4**
PLCA Paso Flores 87.82 132 P **P** **22 44 35.2 +0.6**
comp=Z,4.2nm,0.9s,mb4.7,baz=273,slow=12,SNR=3.6
PLCA LR LR 23 15 53.9
comp=Z,380nm,18.9s,MS4.8,baz=202,slow=30
PLCA Paso Flores 87.82 132 P **P** **22 44 35.3 +0.7**
PLCA pmax pmax
comp=Z,4.0nm,1.0s
PLCA MLR MLR
comp=Z,380nm,18.9s
KULM Kulim 87.93 276 *e*P **P** **22 44 37.2 +2.1**
RSSD Black Hills 88.05 42 *e*P **P** **22 44 34.3 -1.4**
RSSD *e**PP pP 22 44 46.8 -0.1
RSSD pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
RSSD Black Hills 88.05 42 *e*P **P** **22 44 34.3 -1.4**
comp=Z,7.4nm,0.8s,mb5.0
RSSD *e*pP pP 22 44 46.8 -0.1
PSI Prapat 88.81 273 P **P** **22 44 40.0 +0.7**
comp=Z,38nm,0.9s,mb5.7,baz=162,slow=4.1,SNR=30
PSI Prapat 88.81 273 P **P** **22 44 40.0 +0.7**
PSI pmax pmax
comp=Z,38nm,0.9s,mb5.7
HIA Hailar 89.15 323 *e*P **P** **22 44 41.6 +0.7**
HIA pmax pmax
comp=Z,30nm,1.0s
HIA Hailar 89.15 323 *e*P **P** **22 44 41.6 +0.7**
comp=Z,30nm,1.0s,mb5.6
GYA Guiyang 89.29 298⇑ *i*P **P** **22 44 43.5 +2.0**
GYA AP pP 22 44 54.1 +1.3
GYA PP PP 22 48 17.3 +4.9
GYA SKS 22 55 09.0
GYA S S 22 55 29.8
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,110nm,4.0s
GYA LR LR
comp=N,460nm,20.6s,MS5.0
GYA LR LR
comp=E,480nm,21.0s,MS5.0
GYA LR LR
comp=Z,430nm,20.8s,MS4.8
NATX Nacogdoches 89.84 57 *e*P **P** **22 44 43.4 -0.7**
XAN Xi'an 90.13 306 P **P** **22 44 47.1 +1.6**
XAN AMB AMB
comp=Z,23nm,1.4s,mb5.3
XAN LR LR
comp=E,194nm,21.0s
XAN LR LR
comp=Z,293nm,20.0s,MS4.7
SYO Syowa Base 90.36 191⇑ *e*P **P** **22 44 45.6 -1.0**
INK Inuvik 90.47 14 *e*P **P** **22 44 46.3 -0.8**
INK pmax pmax
comp=Z,10.0nm,1.0s
INK Inuvik 90.47 14 *e*P **P** **22 44 46.3 -0.8**
comp=Z,10nm,1.0s,mb5.1
SNAA Sanae 90.58 177 *e*P **P** **22 44 47.6 0.0**
SNAA *e* 22 44 48.6
SNAA *e* 22 44 53.0
SNAA *e* pP 22 44 59.4 +0.6
SNAA *e* 22 45 02.1
SNAA *e* 22 45 07.6
SNAA *e* 22 45 13.4
SNAA *e* 22 45 32.1
SNAA Sanae 90.58 177 *e*P **P** **22 44 47.3 -0.3**
SNAA *e**PP pP 22 44 59.2 +0.4
SNAA pmax pmax
comp=Z,12nm,0.9s
SNAA Sanae 90.58 177 *e*P **P** **22 44 47.3 -0.3**
comp=Z,12nm,0.9s,mb5.2
SNAA *e*pP pP 22 44 59.2 +0.4
HHC Hu-ho-hao-te 90.74 313 *e*P **P** **22 44 49.4 +1.1**
HHC AP pP 22 45 00.0 +0.5
HHC PP PP 22 48 20.5 -3.4
HHC SKS 22 55 16.8
HHC S S 22 55 33.4
HHC XS sS 22 55 58.4 -2.2
HHC PS PS 22 56 55.5 +1.9
HHC SS SS 23 01 48.9 +4.6
HHC AMB AMB
comp=Z,29nm,0.9s,mb5.6
HHC AMB AMB
comp=Z,140nm,4.0s
HHC LR LR
comp=N,179nm,15.5s,MS4.7
HHC LR LR
comp=E,165nm,19.0s,MS4.7
HHC LR LR
comp=Z,230nm,20.2s,MS4.6
VNA1 Neumayer--Stat 91.23 175 *e*P **P** **22 44 50.2 -0.4**
VNA1 *e* 22 44 51.3
VNA1 *e* 22 44 55.8
VNA1 *e* pP 22 45 00.8 -1.0
VNA1 *e* 22 45 04.2
VNA1 *e* 22 45 11.2
VNA1 *e* 22 45 17.3
VNA1 *e* 22 45 35.2
BTO Baotou 91.73 312 *e*P **P** **22 44 54.0 +1.1**
NANT Nan 92.03 289⇓ P **P** **22 44 54.0 -0.3**
comp=Z,102nm,1.0s,mb6.1
YKA Yellowknife Ar 92.15 23 P **P** **22 44 53.2 -1.6**
comp=Z,2.2nm,1.0s,mb4.4,baz=237,slow=4.6,SNR=11
YKA LR LR 23 19 32.7
comp=Z,353nm,20.6s,MS4.8,baz=180,slow=31
YKA Yellowknife Ar 92.15 23 P **P** **22 44 53.2 -1.6**
YKA pmax pmax
comp=Z,2.0nm,1.0s
YKA MLR MLR
comp=Z,353nm,20.6s
YKA Yellowknife Ar 92.15 23 P **P** **22 44 53.2 -1.6**
YKA LR LR 23 19 32.6
KMI Kunming 92.19 296 P **P** **22 44 56.8 +1.8**
KMI AP pP 22 45 07.5 +1.2
KMI PP PP 22 48 39.0 +3.6
KMI PPP 22 50 40.8
KMI SKS 22 55 25.5
KMI S S 22 55 53.6
KMI XS sS 22 56 10.9 -3.0
KMI PS PS 22 57 12.1 +2.3
KMI SS SS 23 02 06.8 +1.5
KMI SSS 23 05 44.8
KMI AMB AMB
comp=Z,28nm,1.0s,mb5.5
KMI LR LR
comp=N,153nm,17.6s,MS4.8
KMI LR LR
comp=E,290nm,22.1s,MS4.8
KMI LR LR
comp=Z,319nm,23.6s,MS4.7
CD2 Chengdu 93.17 301 *e*P **P** **22 44 59.0 -0.6**
CD2 AP pP 22 45 09.3 -1.5
CD2 XP sP 22 45 13.5 -1.4
CD2 PP PP 22 48 44.8 +1.7
CD2 S 22 55 59.8
CD2 XS sS 22 56 17.6 -5.0
CD2 PS PS 22 57 21.8 +1.2
CD2 SS SS 23 02 18.8 -0.6
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,100nm,9.2s
CD2 LR LR
comp=E,230nm,16.8s
CD2 LR LR
comp=Z,170nm,16.8s,MS4.6
CHRT Chiangrai 93.18 290⇓ P **P** **22 45 03.0 +3.4**
comp=Z,105nm,0.7s,mb6.4
CM31 Chiang Mai Arr 93.51 288 *e*P **P** **22 45 03.8 +2.7**
comp=Z,14nm,0.8s,mb5.4
CHTO Chiang Mai 93.62 288 *e*P **P** **22 45 03.6 +2.0**
CHTO pmax pmax
comp=Z,12nm,0.8s,mb5.4
CHTO Chiang Mai 93.62 288 *e*P **P** **22 45 03.6 +1.9**
comp=Z,12nm,0.8s,mb5.4
LZH Lanzhou 94.74 306 *e*P **P** **22 45 08.0 +1.2**
LZH AP pP 22 45 18.0 0.0
LZH XP sP 22 45 22.0 -0.1
LZH AMB AMB
comp=Z,40nm,1.0s,mb5.8
LZH AMB AMB
comp=Z,211nm,5.0s
ULM Lac du Bonnet 95.62 39 P **P** **22 45 09.3 -1.4**
comp=Z,3.8nm,0.8s,mb4.8,baz=287,slow=6.3,SNR=6.7
ULM LR LR 23 22 26.8
comp=Z,348nm,19.9s,MS4.8,baz=214,slow=32
BOD Bodaibo 96.01 329 *e*P **P** **22 45 09.8 -2.8**
BOD pmax pmax
comp=Z,2.0nm,1.0s,mb4.5
SONM Songino Array 96.69 318 P **P** **22 45 16.0 +0.3**
comp=Z,1.9nm,0.9s,mb4.5,baz=115,slow=4.3,SNR=13
SONM PP PP 22 49 15.6 +5.1
comp=Z,0.3nm,0.6s,baz=100,slow=7.7,SNR=3.6
SONM LR LR 23 23 55.7
comp=Z,298nm,20.9s,MS4.8,baz=150,slow=32
SONM Songino Array 96.69 318 P **P** **22 45 16.0 +0.3**
SONM 22 49 15.6
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM MLR MLR
comp=Z,298nm,20.9s
TIXI Tiksi 97.28 344⇑ *e*P **P** **22 45 17.3 -1.0**
TIXI pmax pmax
comp=Z,8.0nm,1.3s,mb5.0
GTA Gaotai 98.77 308 *e*P **P** **22 45 26.1 +1.1**
GTA AP pP 22 45 32.3 -4.0
GTA XP sP 22 45 36.4 -3.9
LPAZ La Paz 98.84 110 LR LR 23 20 02.0
comp=Z,283nm,21.7s,MS4.7,baz=282,slow=29
ZAK Zakamensk 99.41 320 *e*P **P** **22 45 27.0 -0.9**
ZAK pmax pmax
comp=Z,2.0nm,1.6s,mb4.4
WMQ Urumqi 108.54 311 PDIF Pdif 22 46 09.4 +1.0
WMQ PP PP 22 50 43.3 +4.0
WMQ PP PP
comp=Z,109nm,9.5s
WMQ LR LR
comp=N,432nm,21.0s,MS5.1
WMQ LR LR
comp=E,324nm,19.9s,MS5.1
WMQ LR LR
comp=Z,395nm,21.5s,MS4.9
ZAL Zalesovo 111.17 322 PKiKP PKiKP 22 50 17.9 -1.0
comp=Z,0.9nm,0.5s,baz=199,slow=9.2,SNR=4.2
ZAL Zalesovo 111.17 322⇑ *i*PKIKP PKiKP 22 50 19.1 +0.2
MKAR Makanchi Array 112.58 314 Pdiff Pdif 22 46 27.5 +1.1
comp=Z,0.5nm,0.8s,baz=79,slow=2.6,SNR=3.7
MKAR PKiKP PKiKP 22 50 21.4 -0.2
comp=Z,2.3nm,0.8s,baz=46,slow=3.5,SNR=18
MKAR Makanchi Array 112.58 314⇑ *i*PKIKP PKiKP 22 50 21.3 -0.3
KURK Kurchatov 115.00 318⇓ *i*PKIKP PKiKP 22 50 26.2 0.0
KSH Kashi 116.99 306 *e*PKP PKPdf 22 50 26.9 -3.1
KSH *e*PPP 22 53 49.8
KSH *e*PKS 22 54 02.8
KSH *e*SKS SKSdf 22 57 34.8 -4.6
KSH PP PP
comp=Z,243nm,6.4s
KSH LR LR
comp=N,344nm,5.0s
KSH LR LR
comp=E,312nm,4.2s
KSH LR LR
comp=Z,572nm,24.4s,MS5.1
AAK Ala-Archa 118.11 309⇑ *e*PKIKP PKPdf 22 50 31.8 -0.4
CHKZ Chkalovo 119.56 322 *e*PKIKP PKPdf 22 50 34.3 -0.7
CHKZ *e* 22 50 44.6
BRVK Borovoye 119.87 321⇑ *e*PKIKP PKPdf 22 50 35.1 -0.5
ZRNK Zerenda 120.65 322 *e*PKIKP PKPdf 22 50 36.4 -0.7
ZRNK *e* 22 50 46.9
SVE Sverdlovsk 124.19 328 *e*PKIKP PKPdf 22 50 44.3 +0.4
SVE MLR MLR
comp=N,200nm,20.0s,MS4.9
SVE MLR MLR
comp=E,200nm,20.0s,MS4.9
SVE MLR MLR
comp=Z,400nm,20.0s,MS5.1
ARU Arti 125.40 328 *i* PKIKP PKPdf 22 50 44.7 -1.5
ARU *e* 22 52 32.8
ARU *e*PPP 22 55 12.8
ARU *e* 22 57 43.7
ARU *e*SS SS 23 09 23.4 -9.2
ARU MLR MLR
comp=N,90nm,19.0s,MS5.0
ARU MLR MLR
comp=E,300nm,19.0s,MS5.0
ARU MLR MLR
comp=Z,400nm,19.0s,MS5.1
ARU Arti 125.40 328⇑ *e*PKP PKPdf 22 50 45.8 -0.4
ARCES ARCESS Array B 126.93 352 PKP PKPdf 22 50 47.4 -1.7
comp=Z,4.8nm,0.7s,baz=96,slow=1.2,SNR=6.8
ARCES ARCESS Array B 126.93 352 PKIKP PKPdf 22 50 47.4 -1.7
ARCES pmax pmax
comp=Z,5.0nm,0.7s
ARCES ARCESS Array B 126.93 352 PKP PKPdf 22 50 47.4 -1.7
JOF Joensuu 131.76 345 *e*p PKPdf 22 50 56.7 -1.6
comp=Z,3.4nm,0.6s
JOF Joensuu 131.76 345 *e*PKIKP PKPdf 22 50 56.7 -1.6
JOF pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 134.24 347 PKP PKPdf 22 51 01.2 -1.7
comp=Z,2.6nm,0.9s,baz=150,slow=4.2,SNR=5.3
FINES FINESS Array B 134.24 347⇑ *i*PKIKP PKPdf 22 51 02.2 -0.8
OBN Obninsk 136.30 336⇓ *i*PKIKP PKPdf 22 51 07.1 +0.3
OBN *e* 22 51 18.1
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN Obninsk 136.30 336⇓ *e*PKP PKPdf 22 51 07.2 +0.4
NOA NORSAR Array B 136.63 357 PKP PKPdf 22 51 05.6 -1.8
comp=Z,1.1nm,0.8s,baz=13,slow=4.0,SNR=3.6
NOA NORSAR Array B 136.63 357 PKIKP PKPdf 22 51 05.6 -1.8
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 136.63 357 PKP PKPdf 22 51 05.6 -1.8
KIV Kislovodsk 140.08 319⇑ *i*PKIKP PKPdf 22 51 15.4 +1.6
KIV Kislovodsk 140.08 319⇑ *e*PKP PKPdf 22 51 15.5 +1.7
CLDR Calderan 141.37 311 *e*P PKPdf 22 51 20.4 +4.3
SOC Sochi 142.12 320 *i* PKHKP 22 51 12.4
SOC *e*PPP 22 57 37.9
SOC *e* 22 58 23.9
SOC pmax pmax
comp=Z,16nm,0.9s
SOC MLR MLR
comp=Z,387nm,22.0s,MS5.1
HAKT HAKKARI 142.12 309 *i* P PKPdf 22 51 14.0 -3.4
CUKT Cukurca 142.31 309 *e*P PKPdf 22 51 14.8 -3.0
AKASG Malin Array Be 142.54 336 PKP PKPdf 22 51 15.4 -2.8
comp=Z,0.3nm,0.3s,baz=31,slow=2.7,SNR=8.5
ANN Anapa 142.78 323 *i* PKHKP 22 51 12.6
ANN *e* 22 58 21.0
ANN pmax pmax
comp=Z,25nm,1.4s
DCN Croghan 142.80 14 *e*P PKPdf 22 51 13.0 -5.6
DLF Lyons Farm 143.01 13 *e*P PKPdf 22 51 14.0 -5.0
MSL Mosul 143.03 307 *ex* x 22 51 18.0
BNGL BINGOL 143.42 312 *i* P PKPdf 22 51 20.2 +0.5
BTMT Batman 143.50 311 *e*P PKPdf 22 51 17.1 -2.7
BSEG Bad Segeberg 143.76 356 *e*PKPbc PKPdf 22 51 17.7 -2.6
BEST Besiri 143.78 311 *i* P PKPdf 22 51 19.8 -0.6
EZC Erzincan 143.98 314 *e*P PKPdf 22 51 21.8 +1.1
KELT Kelkit 144.17 315 *i* P PKPdf 22 51 20.7 -0.4
MARD Mardin 144.37 310 *i* P PKPdf 22 51 19.4 -2.0
GRSN GIRESUNGRSN 144.43 317 *i* P PKPdf 22 51 22.0 +0.5
SIM Simferopol' 144.53 326 *i* PKIKP PKPdf 22 51 21.0 -0.7
SIM pmax pmax
comp=Z,100nm,15.8s
SIM MLR MLR
comp=Z,300nm,19.7s,MS5.1
KMBO Kilima Mbogo 144.64 241 PKP PKPdf 22 51 22.5 +0.7
comp=Z,27nm,0.9s,baz=82,slow=4.1,SNR=52
KMBO Kilima Mbogo 144.64 241 PKP PKPdf 22 51 22.5 +0.7
RUE Ruedersdorf 144.89 353 *e*PKPbc PKPdf 22 51 21.1 -1.2
LVV L'vov 145.11 340⇑ *i*PKIKP PKPdf 22 51 22.4 -0.3
LVV MLR MLR
comp=Z,200nm,22.0s,MS4.8
LVV MLR MLR
comp=N,100nm,23.0s,MS4.7
LVV MLR MLR
comp=E,100nm,21.0s,MS4.7
ELZG Elazig 145.14 313 *i* P PKPbc 22 51 25.4 +3.1
IBBN Ibbenburen 145.49 359 *e*PKPbc PKPbc 22 51 23.6 +0.2
MYA Malatya 145.61 313 *e*P PKPdf 22 51 23.7 +0.2
MALT Malatya 145.61 313⇑ *i*P PKPdf 22 51 25.7 +2.2
MALT Malatya 145.61 313 *e*PKPdf PKPdf 22 51 25.4 +1.9
MALT *es*PKPdf 22 51 38.8
KIS Kishinev 145.63 333 *e*PKIKP PKPdf 22 51 23.0 -0.6
KWP Kalwaria 145.68 342 *e*PKP PKPdf 22 51 24.4 +0.8
KWP Kalwaria 145.68 342 *e*PKPdf PKPdf 22 51 24.8 +1.1
URFA Urfa 145.73 311 *e*P PKPdf 22 51 26.1 +2.3
KVT Kavak 145.77 319 *e*P PKPdf 22 51 25.6 +1.8
SVSK Karacayir 145.79 317 *e*P PKPdf 22 51 24.2 +0.3
WTSB Winterswijk 145.84 360⇑ *i*PKP PKPdf 22 51 24.5 +0.6
comp=E,82nm,1.4s
CLZ Clausthal 145.84 356 *e*PKPbc PKPbc 22 51 25.0 +0.5
DIKM Dikmen 145.93 320 *e*P PKPdf 22 51 26.1 +2.0
OJC Ojcow 145.95 345 *e*PKP PKPdf 22 51 24.4 +0.3
KSP Ksiaz 146.10 349 *e*PKP PKPdf 22 51 25.9 +1.5
KSP Ksiaz 146.10 349 *e*PKP PKPdf 22 51 24.8 +0.4
KSP *ep*PKP pPKPdf 22 51 32.9 -3.0
KSP LR LR
comp=Z,700nm,21.1s,MS5.4
CLL Collm 146.13 353 *e*PKPbc PKPbc 22 51 25.5 +0.1
CLL Collm 146.13 353⇑ *i*PKPbc PKPbc 22 51 25.6 +0.2
comp=Z,97nm,1.1s
CLL *ep*PKPbc pPKPbc 22 51 33.0 -3.9
CLL *e*(PP) 22 54 40.0
CLL Collm 146.13 353⇑ *i*PKIKP PKPdf 22 51 25.6 +1.2
CLL *e* 22 51 33.0
CLL pmax pmax
comp=Z,97nm,1.1s
CLL Collm 146.13 353⇑ *i*PKP PKPdf 22 51 25.6 +1.2
CLL *e* 22 51 33.0
BOYT Boyabat 146.28 320 *i* P PKPdf 22 51 27.6 +2.9
BYBT Boyabat 146.33 321 *e*P PKPdf 22 51 26.1 +1.3
BUG Bochum--Univer 146.36 359 *e*PKPbc PKPbc 22 51 26.2 +0.1
KOLS Kolonicke sedl 146.43 341 *e*PKP PKPdf 22 51 26.1 +1.2
KOLS *e* 22 51 36.7
BRG Berggiesshubel 146.44 352 *e*PKPbc PKPbc 22 51 26.4 +0.1
BRG Berggiesshubel 146.44 352 *i* PKP PKPdf 22 51 26.5 +1.5
comp=Z,2.0nm,0.9s
BRG
comp=N,156nm,23.7s
BRG
comp=E,77nm,18.3s
BRG
comp=Z,146nm,19.3s
BRG Berggiesshubel 146.44 352 *i* PKIKP PKPdf 22 51 26.5 +1.6
BRG pmax pmax
comp=Z,2.0nm,0.9s
BRG MLR MLR
comp=N,156nm,23.7s
BRG MLR MLR
comp=E,77nm,18.3s
BRG MLR MLR
comp=Z,146nm,19.3s,MS4.8
FBE Freiberg 146.47 352 *e*PKPbc PKPbc 22 51 27.0 +0.6
UPC Upice 146.47 349 *e*PKPbc PKPbc 22 51 26.9 +0.5
UPC *ep*PKP pPKPdf 22 51 36.9 +0.3
NIE Niedzica 146.55 344 *e*PKP PKPdf 22 51 27.3 +2.2
DPC Dobruska-Polom 146.57 349 *e*PKPbc PKPbc 22 51 27.7 +1.0
DPC *ep*PKP pPKPdf 22 51 36.8 +0.1
DPC AMS AMS 23 55 40.0
comp=Z,400nm,24.5s
BURAR Bucovina Array 146.58 337⇓ *i*P PKPdf 22 51 27.6 +2.4
GZT Gaziantep 146.66 312 *i* P PKPdf 22 51 26.7 +1.4
OKC Ostrava-Krasne 146.69 347 *e*PKPbc PKPbc 22 51 28.0 +1.0
OKC *ep*PKP pPKPdf 22 51 39.0 +2.1
OKC AMS AMS 23 56 40.0
comp=Z,300nm,23.7s
OKC Ostrava-Krasne 146.69 347 *e*PKP PKPdf 22 51 28.0 +2.6
OKC *e* 22 51 39.0
PVCC Panska Ves 146.69 351 *e*PKPbc PKPbc 22 51 28.2 +1.2
PVCC *ep*PKP pPKPdf 22 51 37.7 +0.8
PVCC AMS AMS 23 55 30.0
comp=Z,500nm,27.5s
CRVS Cervenica-Dubn 146.70 342 *e*PKP PKPdf 22 51 26.4 +1.0
CRVS *e* 22 51 41.5
CTKT Corum 146.81 319 *i* P PKPdf 22 51 28.9 +3.3
MORC Moravsky Berou 146.88 347⇑ *i*P PKPdf 22 51 28.4 +2.7
MOVC Moravsky Berou 146.88 347 P PKPdf 22 51 28.5 +2.8
UBBA Unterbreizbach 146.89 356 *e*PKPbc PKPbc 22 51 27.7 +0.1
MOX Moxa 146.94 354 *e*PKPbc PKPbc 22 51 28.3 +0.6
MOX Moxa 146.94 354 *e*PKP PKPdf 22 51 22.2 -3.6
MOX *e* 22 51 28.4
comp=Z,58nm,1.6s
UCC Uccle 146.95 3 PKPab PKPab 22 51 28.1 -1.1
BEBN Eben Emael 147.00 1 PKPab PKPab 22 51 28.2 -1.3
HGN Heimansgroeve 147.03 1⇑ *e*PKP PKPdf 22 51 28.2 +2.3
comp=Z,45nm,2.7s
MENF Mencas 147.04 5 PKP PKPdf 22 51 28.1 +2.2
TOS Tosya 147.04 320 *e*P PKPdf 22 51 28.4 +2.5
WERD Werda 147.06 354 *e*PKPbc PKPbc 22 51 28.2 +0.1
TANN Tannenbergstha 147.08 353 *e*PKPbc PKPbc 22 51 28.8 +0.7
BNN Bunyan 147.10 316 *e*P PKPbc 22 51 30.4 +2.2
BALT Dastay 147.12 322 *i* P PKPbc 22 51 29.4 +1.1
CORM Corum 147.16 319 *e*P PKPdf 22 51 27.9 +1.8
MEM Membach 147.19 1 PKPab PKPbc 22 51 28.8 +0.3
PRU Pruhonice 147.22 351 *e*PKPbc PKPbc 22 51 29.4 +0.9
PRU *ex* x 22 51 38.5
PRU AMS AMS 23 55 50.0
comp=Z,400nm,21.0s
SNF Seneffe 147.24 3 PKPab PKPbc 22 51 29.0 +0.4
NKC Novy Kostel 147.26 353 *e*PKPbc PKPbc 22 51 29.6 +1.0
NKC *ex* x 22 51 39.3
CFR Carcaliu 147.34 332⇑ *i*P PKPbc 22 51 29.7 +0.8
BCLA Clavier 147.37 2 PKPbc PKPbc 22 51 27.2 -1.7
BCLA PKPab PKPab 22 51 29.2 -1.7
VRI Vrincioaia 147.41 334⇑ *i*P PKPbc 22 51 29.9 +0.8
PLOR Plostina 147.46 334⇑ *i*P PKPbc 22 51 29.6 +0.4
VRAC Vranov 147.51 348 PKP2 PKPbc 22 51 30.9 -0.6
MANZ Manzenberg 147.54 354 *e*PKPbc PKPbc 22 51 30.3 +0.9
CANT Cankiri 147.54 320 *e*P PKPdf 22 51 27.0 +0.2
TNS Taunus Mts 147.56 358 *e*PKPbc PKPbc 22 51 29.8 +0.3
CDAG Cicekdag 147.64 318 *i* P PKPbc 22 51 30.5 +0.8
SAFT Safranbolu 147.71 322 *e*P PKPdf 22 51 29.4 +2.3

ELDT	**Eldivan**	**147.73**	**320**	*i*	P		PKPbc	22 51 31.6 +1.7
TREC	**Trest**	**147.74**	**349**	*e*	PKPbc		PKPbc	22 51 30.4 +0.4
TREC					AMS		AMS	23 55 00.0
	comp=Z,300nm,15.4s							
ROTZ	**Rotzenmuhle**	**147.74**	**353**	*e*	PKPbc		PKPbc	22 51 30.9 +0.9
VYHS	**Vyhne**	**147.78**	**345**	*e*	PKP		PKPdf	22 51 27.5 +0.3
VYHS				*e*				22 51 30.6
HARR	**Harsova**	**147.80**	**331**	⇓	*i*	P	PKPbc	22 51 30.3 +0.2
HARR	**Harsova**	**147.80**	**331**	⇓	P		PKPbc	22 51 30.3 +0.1
KOZT	**Kozan**	**147.81**	**314**	*e*	P		PKPbc	22 51 31.8 +1.6
GRA1	**Grafenberg Arr**	**147.92**	**355**	*e*	PKPbc		PKPbc	22 51 31.0 +0.6
GRF	**Grafenberg Arr**	**147.92**	**355**	*e*	L			00 01 04.1
	comp=Z,197nm,21.8s							
GRF	**Grafenberg Arr**	**147.92**	**355**	*e*	L			00 01 04.1
	comp=Z,197nm,21.8s							
GRF	**Grafenberg Arr**	**147.92**	**355**	*e*	PKP2		PKPbc	22 51 31.0 +0.6
GRF					MLR		MLR	
	comp=Z,200nm,21.8s,MS4.9							
ABH	**Alteburg**	**147.92**	**359**		PKP		PKPbc	22 51 30.6 +0.2
PSZ	**Piszkesteto**	**148.04**	**343**	⇑	*e*	PKP	PKPbc	22 51 31.5 +0.7
PSZ	**Piszkesteto**	**148.04**	**343**		PKP2		PKPbc	22 51 32.3 +1.5
MLR	**Muntele Rosu**	**148.04**	**334**	⇑	*i*	P	PKPbc	22 51 32.5 +1.7
MLR	**Muntele Rosu**	**148.04**	**334**		P		PKPbc	22 51 32.1 +1.4
BR131	**Keskin Array S**	**148.05**	**319**	*e*	PKPdf		PKPdf	22 51 28.3 +0.7
BRTR	**Keskin Array B**	**148.05**	**319**		PKPbc		PKPbc	22 51 28.1 -2.7
	comp=Z,18nm,0.9s,baz=110,slow=1.4,SNR=36							
BRTR	**Keskin Array B**	**148.05**	**319**	⇑	*i*	PKP2	PKPbc	22 51 31.7 +0.9
SMOL	**Smolenice**	**148.09**	**347**	*e*	PKP		PKPbc	22 51 32.3 +1.4
CEYT	**Ceyhan**	**148.10**	**313**	*e*	P		PKPdf	22 51 27.9 +0.2
RUP	**Ruppelstein**	**148.10**	**360**		PKP2		PKPbc	22 51 31.1 +0.2
WLF	**Walferdange**	**148.14**	**1**	*e*	PKPbc		PKPbc	22 51 32.3 +1.3
WLF	**Walferdange**	**148.14**	**1**		PKPab		PKPbc	22 51 31.9 +0.9
WLF	**Walferdange**	**148.14**	**1**	*e*	PKPbc		PKPbc	22 51 31.8 +0.8
TOD	**Tromm**	**148.16**	**358**		PKP2		PKPbc	22 51 31.3 +0.2
DRGR		**148.18**	**339**	⇓	*i*	P	PKPbc	22 51 31.3 +0.2
DRGR		**148.18**	**339**		P		PKPbc	22 51 32.0 +0.9
KHC	**Kasperske Hory**	**148.20**	**352**	*e*	PKPbc		PKPbc	22 51 32.3 +1.1
KHC				*e*	pPKP		pPKPdf	22 51 43.4 +4.0
KHC					AMS		AMS	23 56 20.0
	comp=Z,400nm,23.6s							
KAMT	**Kaman**	**148.21**	**318**	*e*	P		PKPdf	22 51 26.5 -1.4
WET	**Wettzell**	**148.28**	**352**	*e*	PKPbc		PKPbc	22 51 32.5 +1.1
VOIR		**148.45**	**335**	⇑	*i*	P	PKPbc	22 51 33.9 +2.1
VOIR		**148.45**	**335**	⇑	P		PKPbc	22 51 33.9 +2.1
KARA	**Karaisali**	**148.46**	**314**	*e*	P		PKPdf	22 51 28.4 +0.1
GEC2	**GERESS Array S**	**148.46**	**351**	*e*	PKPbc		PKPbc	22 51 32.5 +0.6
GERES	**GERESS Array B**	**148.46**	**351**		PKPbc		PKPbc	22 51 32.5 +0.6
	comp=Z,5.9nm,0.8s,baz=29,slow=3.0,SNR=46							
GERES	**GERESS Array B**	**148.46**	**351**		PKP2		PKPbc	22 51 32.5 +0.6
GERES					pmax		pmax	
	comp=Z,6.0nm,0.8s							
ZST	**Bratislava**	**148.47**	**347**	*e*	PKP		PKPbc	22 51 32.9 +1.0
ZST					LR		LR	
	comp=Z,100nm,19.3s,MS4.6							
ANTO	**Ankara**	**148.49**	**320**	*e*	P		PKPdf	22 51 31.2 +2.9
ANTO	**Ankara**	**148.49**	**320**	⇑	*i*	P	PKPdf	22 51 30.4 +2.1
ANTO	**Ankara**	**148.49**	**320**	⇑	P		PKPdf	22 51 30.4 +2.1
ANTO					P			22 51 33.5
LOD	**Lodumlu**	**148.50**	**320**	*e*	P		PKPdf	22 51 30.3 +1.9
SGKT	**Sivrigoynuk**	**148.50**	**322**	*i*	P		PKPbc	22 51 33.0 +1.0
BUD	**Budapest**	**148.67**	**344**	⇑	*e*	PKP	PKPbc	22 51 33.0 +0.6
STU	**Stuttgart**	**148.97**	**357**	*e*	PKPbc		PKPbc	22 51 34.0 +0.8
CONA	**Conrad Observa**	**148.98**	**348**	*i*	PKPbc		PKPbc	22 51 32.5 -0.6
	comp=Z,180nm,2.8s,SNR=12							
HENT	**Hendek**	**149.02**	**323**	*i*	P		PKPdf	22 51 37.8 +8.6
MERS	**Mersin**	**149.02**	**314**	*e*	P		PKPdf	22 51 31.7 +2.5
MDU	**Mudurnu**	**149.07**	**322**	*e*	P		PKPbc	22 51 35.0 +1.6
MEZF	**Maizieres J'vi**	**149.27**	**2**	*e*	PKIKP		PKPdf	22 51 30.3 +0.7
	comp=Z,6.9nm,0.6s							
MOA	**Molln**	**149.34**	**350**	⇑	*i*	P	PKPbc	22 51 34.6 +0.5
	comp=Z,116nm,3.7s							
GZR	**Gura Zlata**	**149.36**	**338**	⇑	*i*	P	PKPdf	22 51 29.8 +0.1
FUR	**Furstenfeldbru**	**149.42**	**354**	*e*	PKPbc		PKPbc	22 51 35.2 +0.9
MEST	**Erdemli**	**149.43**	**313**	*i*	P		PKPbc	22 51 35.5 +1.2
BFO	**Black Forest**	**149.45**	**358**	*e*	PKPbc		PKPbc	22 51 34.6 +0.2
BZS	**Buzias**	**149.57**	**339**	⇓	*i*	P	PKPdf	22 51 31.9 +1.8
BZS	**Buzias**	**149.57**	**339**	⇓	P		PKPdf	22 51 31.9 +1.8
BZS					P			22 51 35.0
THEF	**They Montfort**	**149.57**	**1**		PKP		PKPbc	22 51 34.5 -0.2
ECH	**Echery**	**149.59**	**360**		PKP		PKPbc	22 51 34.5 -0.2
KIZT	**Kizilcal**	**149.65**	**319**	*e*	P		PKPbc	22 51 35.9 +1.1
ARSA	**Arzberg**	**149.69**	**348**	⇑	*i*	P	PKPbc	22 51 34.6 -0.3
	comp=Z,124nm,3.0s							
KDHN	**Kadinhani**	**149.71**	**318**	*i*	P		PKPbc	22 51 36.2 +1.2
ISK	**Istanbul-Kandi**	**149.88**	**325**	*e*	P		PKPdf	22 51 33.6 +3.0
ESKT	**Eskisehir**	**149.88**	**321**	*i*	P		PKPbc	22 51 35.9 +0.4
FELD	**Feldberg im Sc**	**149.92**	**358**		PKP		PKPbc	22 51 35.7 +0.2
IKL	**Isikli**	**149.92**	**313**	*e*	P		PKPdf	22 51 33.1 +2.5
ADVT	**Abdulvahap**	**149.94**	**324**	*e*	P		PKPdf	22 51 34.0 +3.4
PKSM	**Moragy**	**149.94**	**343**	⇓	*i*	P	PKPdf	22 51 30.7 0.0
PKSM	**Moragy**	**149.94**	**343**	⇓	P		PKPdf	22 51 30.7 0.0
PKSM				⇑	*e*	P		22 51 35.8
PKSM						P		22 51 36.2
MOF	**Molkenrain**	**149.96**	**360**		PKP		PKPbc	22 51 35.0 -0.6
MMAI	**Mount Meron Ar**	**150.13**	**306**		PKPbc		PKPbc	22 51 37.8 +1.8
	comp=Z,16nm,1.0s,baz=75,slow=6.1,SNR=12							
KBA	**Koelnbreinsper**	**150.24**	**351**	⇑	*i*	P	PKPbc	22 51 36.4 +0.1
	comp=Z,76nm,2.8s							
ERMK	**Ermenek**	**150.24**	**314**	*i*	P		PKPbc	22 51 37.3 +1.0
MOTA	**Moosalm**	**150.25**	**354**	⇓	*i*	P	PKPbc	22 51 36.8 +0.5
	comp=Z,41nm,1.3s							
WTTA	**Wattenberg**	**150.28**	**353**	⇑	*i*	P	PKPbc	22 51 36.8 +0.4
	comp=Z,163nm,2.8s,SNR=11							
BBS	**Basel-Blauen**	**150.34**	**359**		PKHKP		PKPbc	22 51 36.4 -0.1
PERS	**Pernice**	**150.36**	**348**	*e*	PKPbc		PKPbc	22 51 36.5 -0.1
SQTA	**Sankt Quirin**	**150.37**	**354**	⇓	*i*	P	PKPbc	22 51 37.1 +0.5
	comp=Z,26nm,1.3s,SNR=9.6							
DAVA	**Damuels**	**150.41**	**356**	⇑	*i*	P	PKPbc	22 51 37.2 +0.5
	comp=Z,40nm,1.2s,SNR=14							
LOR	**Lormes**	**150.44**	**4**	*e*	PKIKP		PKPdf	22 51 32.0 +0.5
LOR					eR			
	comp=Z,369nm,20.5s							
LOR	**Lormes**	**150.44**	**4**	*e*	PKPdf		PKPdf	22 51 32.0 +0.5
LOR					LR		LR	
	comp=Z,370nm,20.5s,MS5.2							
LOMF	**Lomont**	**150.46**	**360**		PKP		PKPbc	22 51 37.4 +0.6
ULDT	**Uludag**	**150.47**	**324**	*i*	P		PKPbc	22 51 37.8 +0.9
EDRB	**Edirne**	**150.52**	**329**	*e*	P		PKPdf	22 51 25.6 -6.0
SSF	**Saint Saulge**	**150.62**	**5**	*e*	PKIKP		PKPdf	22 51 32.5 +0.8
	comp=Z,25nm,1.3s							
CSS	**Prodhromos**	**150.81**	**311**	*e*	PKPdf		PKPdf	22 51 32.1 +0.1
CSS				*e*	PKPbc		PKPbc	22 51 38.1 +0.5
GDZ	**Gediz**	**150.97**	**322**	*i*	P		PKPbc	22 51 37.5 -0.5
LJU	**Ljubljana**	**151.04**	**349**	*e*	PKPbc		PKPbc	22 51 38.4 +0.2
SMF	**Signal de Mont**	**151.06**	**4**	*e*	PKIKP		PKPdf	22 51 33.0 +0.6
CRES	**Cresnjev**	**151.07**	**347**	*e*	PKPbc		PKPbc	22 51 38.4 +0.1
TKTP	**Tekketepe**	**151.13**	**319**	*i*	P		PKPbc	22 51 39.1 +0.7
TCF	**Toulx Ste Croi**	**151.27**	**7**	*e*	PKIKP		PKPdf	22 51 32.7 0.0
	comp=Z,9.1nm,1.0s							
BOJS	**Bojanci**	**151.42**	**348**	*e*	PKPbc		PKPbc	22 51 39.8 +0.7
EMAZ	**Mazaricos**	**151.51**	**25**		P		PKPbc	22 51 39.3 0.0
VTS	**Vitosha**	**151.55**	**334**	⇑	*i*	P	PKPbc	22 51 40.5 +1.1
VTS	**Vitosha**	**151.55**	**334**	⇑	P		PKPbc	22 51 40.5 +1.2
EIL	**Elat**	**151.69**	**300**	*e*	PKPdf		PKPdf	22 51 34.7 +1.3
EIL				*e*	PKPbc		PKPbc	22 51 40.8 +1.2
PLDF	**La Plantade**	**151.72**	**5**		PKP		PKPbc	22 51 40.3 +0.6
STS	**Santiago**	**151.74**	**24**		PKIKP		PKPbc	22 51 40.0 +0.2
OG05	**Jujurieux**	**151.75**	**2**		PKP		PKPbc	22 51 40.6 +0.8
EPON	**Pontenova**	**151.88**	**22**		P		PKPbc	22 51 40.4 +0.2
PYM	**Petit Puy Mans**	**151.88**	**6**		PKP		PKPbc	22 51 41.3 +1.2
DNZL	**Cakiroluk**	**152.13**	**320**	*i*	P		PKPbc	22 51 42.5 +1.8
RJF	**Les Rejaudoux**	**152.15**	**8**	*e*	PKIKP		PKPdf	22 51 34.6 +0.5
RJF				*e*	R			
	comp=Z,322nm,19.8s							
RJF	**Les Rejaudoux**	**152.15**	**8**	*e*	PKPdf		PKPdf	22 51 34.6 +0.5
RJF					LR		LR	
	comp=Z,320nm,19.8s,MS5.1							
LPL	**La Plagne**	**152.29**	**0**	*e*	PKIKP		PKPdf	22 51 35.1 +0.8
LPG	**La Plagne**	**152.31**	**0**	*e*	PKIKP		PKPdf	22 51 35.2 +0.9
LBL	**Lubilhac**	**152.42**	**5**		PKP		PKPbc	22 51 43.0 +1.7
EARI	**Arriondas**	**152.55**	**19**		P		PKPbc	22 51 42.0 +0.4
CAF	**Calviac**	**152.60**	**7**	*e*	PKIKP		PKPdf	22 51 35.3 +0.6
BNI	**Bardonecchia**	**152.76**	**0**	*e*	PKIKP		PKPdf	22 51 32.9 -2.1
ELOB	**Lobios**	**152.79**	**25**		P		PKPbc	22 51 42.4 +0.3
AYDN	**Tasoluk**	**152.86**	**321**	*i*	P		PKPbc	22 51 43.4 +1.1
ORIF	**Oris-en-Rattie**	**152.88**	**1**	*e*	PKIKP		PKPdf	22 51 36.1 +1.0
	comp=Z,7.6nm,0.9s							
ORIF				*e*	R			
	comp=Z,258nm,20.5s							
VIVF	**Saint-Julien-l**	**152.90**	**3**	*e*	PKIKP		PKPdf	22 51 35.7 +0.5
MBDF	**Montbardon**	**153.08**	**0**	*e*	PKIKP		PKPdf	22 51 36.2 +0.8
	comp=Z,13nm,1.1s							
ELAN	**Lanestosa**	**153.14**	**17**		P		PKPbc	22 51 42.9 -0.1
ECAL	**Calabor**	**153.24**	**23**		P		PKPbc	22 51 43.4 +0.3
LASF	**Ste Croix**	**153.62**	**5**	*e*	PKIKP		PKPdf	22 51 36.7 +0.5
DAT	**Datca**	**153.65**	**320**	*e*	P		PKPdf	22 51 35.5 -0.8
SMRF	**Simiane la Rot**	**153.81**	**2**	*e*	PKIKP		PKPdf	22 51 36.9 +0.4
	comp=Z,24nm,1.4s							
ATE	**Arette**	**153.94**	**13**		PKP		PKPbc	22 51 44.3 -0.4
ETSF	**Etsaut**	**154.14**	**12**	*e*	PKIKP		PKPdf	22 51 37.6 +0.6
	comp=Z,8.5nm,1.0s							
MTLF	**Montolieu**	**154.18**	**8**	*e*	PKIKP		PKPdf	22 51 37.5 +0.5
EPF	**Esparros**	**154.19**	**11**	*e*	PKIKP		PKPdf	22 51 37.7 +0.7
MTE	**Manteigas**	**154.24**	**26**	*e*	PKPbc		PKPbc	22 51 46.2 +0.9
FRF	**La Foret Royal**	**154.25**	**0**	*e*	PKIKP		PKPdf	22 51 37.5 +0.4
GELF	**Grande-Etoile**	**154.40**	**2**		PKP		PKPdf	22 51 38.1 +0.8
LMR	**La Mourre**	**154.47**	**0**	*e*	PKIKP		PKPdf	22 51 37.7 +0.3
	comp=Z,8.2nm,1.1s							
EBIE	**Bielsa**	**154.49**	**11**		P		PKPbc	22 51 49.8 +4.0
PGF	**Pioggiola**	**155.19**	**356**	*e*	PKIKP		PKPdf	22 51 38.9 +0.5
ESDC	**Sonseca Array**	**156.22**	**21**		PKPbc		PKPdf	22 51 49.7 +10
	comp=Z,1.4nm,0.9s,baz=329,slow=3.0,SNR=7.0							
TORD	**Torodi Ar. Bea**	**173.30**	**132**		PKP		PKPdf	22 51 54.6 +0.2
	comp=Z,2.5nm,1.0s,baz=59,slow=0.5,SNR=9.8							
TORD					PKPab		PKPab	22 53 23.4 +0.6
	comp=Z,2.3nm,0.8s,baz=255,slow=2.7,SNR=7.7							

IDC 17 22:33:25.2±1.8, 214N×12304E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=288.4km s-min=25.0km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.59**	**154**	P	P	22 38 47.4	+0.5
	1.3nm,0.7s,baz=336,slow=9.5,SNR=13						
ASAR	**Alice Springs**	**27.75**	**158**	P	P	22 39 15.6	+0.1
	0.4nm,0.4s,baz=342,slow=15,SNR=6.8						
MKAR	**Makanchi Array**	**56.83**	**328**	P	P	22 43 11.6	+0.1
	0.4nm,0.4s,baz=129,slow=7.6,SNR=8.3						

KRSC 17 22:39:12, 5548N×16282E, h34km, ML3.5, Near east coast of Kamchatka Peninsula

INMG 17 22:42:08.6±0.9, 4209N×742W, h0km, ML1.5, Error ellipse: s-maj=2.5km s-min=1.5km az=111.0
MDD 17 22:42:08.6±0.3, 4212N×740W, h4km±7km, mbLg1.8/10, 2C, Error ellipse: s-maj=4.0km s-min=2.0km az=177.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECAL	**Calabor**	**0.52**	**109**	⇑Pg	Pg	22 42 18.3	-0.4
	2.8nm,0.3s,SNR=18						
ECAL				Lg		22 42 25.9	
	16nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**0.55**	**243**	⇑Pg	Pg	22 42 18.4	-0.8
	3.0nm,0.4s,SNR=18						
ELOB				Lg		22 42 27.0	
	5.6nm,0.1s,SNR=15						
PBRG	**Braganca**	**0.58**	**122**	*e*Pg	Pg	22 42 19.1	-0.7
PBRG				*e*Sg	Sg	22 42 26.8	-0.5
PBRG							
	14nm,0.1s						
PVRL	**Vila Real**	**0.87**	**196**	*e*P	Pg	22 42 24.4	-1.0
PVRL				*e*S	Sg	22 42 35.7	-1.0
PVRL							
	26nm,0.1s						
STS	**Santiago**	**1.15**	**313**	Lg		22 42 44.3	
	1.9nm,0.2s,SNR=7.8						
EPON	**Pontenova**	**1.22**	**9**	Pg	Pg	22 42 31.1	-0.9
	5.3nm,0.7s,SNR=7.7						
EPON				Lg		22 42 47.3	
	3.6nm,0.2s,SNR=16						
PTO	**Porto**	**1.33**	**223**	*e*S	Sg	22 42 49.9	-1.4
EMAZ	**Mazaricos**	**1.43**	**306**	Pg	Pg	22 42 34.6	-1.5
	1.1nm,0.1s,SNR=7.9						
EMAZ				Lg		22 42 53.2	
	2.2nm,0.1s,SNR=8.5						
PVIS	**Viseu**	**1.45**	**195**	*e*P	Pn	22 42 34.6	-0.9
PVIS				*e*S	Sb	22 42 53.3	-1.5
PVIS							
	11nm,0.1s						
MTE	**Manteigas**	**1.72**	**184**	*e*Sg	Sg	22 43 02.1	-1.7
MTE							
	3.7nm,0.3s						
MTE	**Manteigas**	**1.72**	**184**	Lg		22 43 02.1	
	1.9nm,0.3s						
EARI	**Arriondas**	**2.00**	**53**	Pg	Pg	22 42 45.7	-1.3
	4.9nm,1.0s,SNR=7.3						
EARI				Lg		22 43 13.2	
	0.8nm,0.2s,SNR=4.0						
PCBR	**Castelo Branco**	**2.27**	**182**	*e*Pn	Pn	22 42 45.7	-1.2
PCBR				*e*Sg	Sg	22 43 20.0	-1.7
PCBR							
	1.1nm,0.1s						
GUD	**Guadarrama**	**2.85**	**120**	Pg	Pg	22 43 01.7	-1.6
	0.2nm,0.2s,SNR=4.0						
GUD				Sn	Sn	22 43 27.1	-2.5
	0.3nm,0.2s,SNR=7.9						
GUD				Lg		22 43 36.2	
	1.7nm,0.4s,SNR=4.0						

IDC 17 22:53:24.1±2.9, 9.71S×107.80E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, Error ellipse: s-maj=128.6km s-min=21.0km az=53.0
NEIC 17 22:53:25.8±0.9, 9.68S×107.83E, h10km, mb4.1/5, Error ellipse: s-maj=29.9km s-min=9.3km az=54.0
ISCJB 17 22:53:27.1±0.9, 9.7S±0.1×107.9E±0.2, h33km, mb3.9/9, Error ellipse: s-maj=31.0km s-min=10.0km az=107.8
ISC 17 22:53:29.5±0.9, 9.7S±01×1079E±02, h35km, n14, σ0§85/14, mb3.9/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**16.17**	**136**	*e*Pn	Pn	22 57 14.1	+0.1
	13nm,1.0s						
KULM	**Kulim**	**16.50**	**334**	Pn	Pn	22 57 19.6	+1.5
KKM	**Kota Kinabalu**	**17.69**	**28**	*e*Pn	Pn	22 57 32.9	-0.2
WRA	**Warramunga Arr**	**27.54**	**115**	P	P	22 59 12.4	-0.4
	0.7nm,0.8s,mb3.4,baz=284,slow=11,SNR=3.1						
WRAB	**Tennant Creek**	**27.54**	**115**	*e*P	P	22 59 13.1	+0.1
	4.6nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**27.55**	**115**	P	P	22 59 13.0	+0.1
ASAR	**Alice Springs**	**28.51**	**122**	P	P	22 59 23.2	+1.7
	0.8nm,0.8s,mb3.5,baz=306,slow=10.0,SNR=6.0						
STKA	**Stephens Creek**	**38.27**	**130**	P	P	**23 00 45.5**	**-0.9**
	1.0nm,0.5s,mb3.8,baz=313,slow=10,SNR=4.6						
STKA	**Stephens Creek**	**38.27**	**130**	P	P	**23 00 45.5**	**-0.9**
SONM	**Songino Array**	**57.26**	**359**	P	P	**23 03 13.4**	**0.0**
	1.1nm,0.6s,mb4.1,baz=170,slow=8.1,SNR=8.1						
MKAR	**Makanchi Array**	**60.66**	**340**	P	P	**23 03 37.5**	**+0.5**
	1.3nm,0.8s,mb4.1,baz=139,slow=7.0,SNR=10.0						
KURK	**Kurchatov**	**65.27**	**340**	*e*P	P	**23 04 05.8**	**-1.9**
	0.7nm,0.6s,mb3.9						
CHKZ	**Chkalovo**	**70.55**	**338**	*e*P	P	**23 04 40.5**	**-0.4**
	1.3nm,0.5s,mb4.1						
ZRNK	**Zerenda**	**70.62**	**336**	*e*P	P	**23 04 41.1**	**-0.2**
	0.7nm,0.6s,mb3.8						

NEIC 17 22:59:23.3, 1537N×9896W, h20km, MD4.1(MEX), After MEX.
MEX 17 22:59:22.1±0.7, 1532N×9894W, h23km±30km, MD4.2, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**1.80**	**329**	*i*P	Pn	22 59 49.5	-2.2
ACX				*i*S	Sn	23 00 10.0	-3.8
CAIG	**El Cayaco**	**2.14**	**324**	*i*P	Pn	22 59 54.1	-2.2
CAIG				*i*S	Sn	23 00 18.9	-3.2
CAIG	**El Cayaco**	**2.14**	**324**	*i*P	Pn	22 59 55.4	-1.0
CAIG				*i*S	Sn	23 00 20.0	-2.1
MEIG	**Mezcala**	**2.67**	**346**	*i*P	Pn	23 00 01.6	-2.0
MEIG				*i*S	Sn	23 00 30.8	-4.5
UTMO	**Huajuapan**	**2.73**	**23**	*e*P	Pn	23 00 01.9	-2.5
UTMO				*i*S	Sn	23 00 34.6	-2.0
VHO	**Vista Hermosa**	**2.75**	**50**	*i*P	Pn	23 00 03.2	-1.5
VHO				*i*S	Sn	23 00 32.9	-4.3
VHO	**Vista Hermosa**	**2.75**	**50**	*i*P	Pn	23 00 04.5	-0.2
VHO				*i*S	Sn	23 00 36.5	-0.7
OXX	**Oaxaca**	**2.76**	**50**	*i*P	Pn	23 00 05.5	+0.6
OXX				*i*S	Sn	23 00 36.0	-1.5
HUIG	**Huatulco**	**2.77**	**80**	*e*P	Pn	23 00 07.0	+2.0
HUIG				*i*S	Sn	23 00 34.9	-2.8
HUIG	**Huatulco**	**2.77**	**80**	*i*P	Pn	23 00 08.2	+3.1
HUIG				*i*S	Sn	23 00 34.9	-2.8
PLIG	**Platanillo**	**3.10**	**350**	*i*P	Pn	23 00 08.1	-1.5
PLIG				*i*S	Sn	23 00 44.2	-1.7
ZIIG	**Zihuatanejo**	**3.32**	**314**	*i*S	Sn	23 00 47.9	-3.4
ZIIG	**Zihuatanejo**	**3.32**	**314**	*i*S	Sn	23 00 46.2	-5.2
YAIG	**Yautepec**	**3.52**	**358**	*e*P	Pn	23 00 12.8	-2.6
YAIG				*i*S	Sn	23 00 53.2	-3.2
YAIG	**Yautepec**	**3.52**	**358**	*i*P	Pn	23 00 16.9	+1.4
YAIG				*i*S	Sn	23 00 55.3	-1.1
PPM	**Popocatepetl**	**3.74**	**5**	*e*P	Pn	23 00 18.4	0.0
PPM				*i*S	Sn	23 01 00.1	-1.6
PPM	**Popocatepetl**	**3.74**	**5**	*i*P	Pn	23 00 20.6	+2.2
PPM				*i*S	Sn	23 01 00.1	-1.6
IIZ	**Mezontepec**	**3.86**	**356**	*e*P	Pn	23 00 18.1	-1.9
IIZ				*i*S	Sn	23 01 01.9	-2.6
UNM	**Universidad Na**	**3.99**	**357**	*e*P	Pn	23 00 20.0	-1.9
UNM				*i*P		23 00 20.9	
UNM				*i*S	Sn	23 01 07.1	-0.8
MOIG	**Morelia**	**4.83**	**334**	*i*P	Pn	23 00 35.0	+1.5
MOIG	**Morelia**	**4.83**	**334**	*i*P	Pn	23 00 45.7	+12
MRX	**Morelia**	**4.86**	**334**	*e*P	Pn	23 00 35.0	+1.2
LVIG	**Laguna Verde**	**5.00**	**28**	*i*P	Pn	23 00 31.8	-3.9
LVIG				*i*S	Sn	23 01 23.5	-9.2

IDC 17 23:00:40.2±1.6, 7.45S×106.34E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/16, mbtmp4.0/6, Error ellipse: s-maj=82.5km s-min=19.3km az=50.0
ISCJB 17 23:00:42.5±7.5, 7.4S±0.2×106.3E±0.2, h29km±52km, mb4.1/12, Error ellipse: s-maj=41.7km s-min=11.7km az=100.2
NEIC 17 23:00:44.4±5.4, 7.43S×106.36E, h28km±37km, mb4.2/5, Error ellipse: s-maj=28.0km s-min=8.5km az=50.0
ISC 17 23:00:45.7±2.9, 74S±02×1063E±02, h35km±25km, n18, σ0§91/18, mb4.1/12, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**13.83**	**336**	Pn	**Pn**	**23 03 59.3**	**+0.2**
KKM	**Kota Kinabalu**	**16.60**	**37**	*e*Pn	**Pn**	**23 04 35.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**21.60**	**121**	P	**P**	**23 05 27.8**	**-4.6**
	2.3nm,0.7s,mb3.7,baz=119,slow=22,SNR=7.5						
FITZ	**Fitzroy Crossi**	**21.60**	**121**	P	**P**	**23 05 27.8**	**-4.6**
WRA	**Warramunga Arr**	**29.87**	**118**	P	**P**	**23 06 49.2**	**-0.6**
	1.6nm,0.8s,mb3.8,baz=286,slow=11,SNR=5.6						
WRAB	**Tennant Creek**	**29.87**	**117**	*e*P	**P**	**23 06 52.5**	**+2.7**
	2.4nm,0.6s,mb4.1						
WB2	**Warramunga Arr**	**29.88**	**117**	*e*P	**P**	**23 06 50.7**	**+0.8**
ASAR	**Alice Springs**	**31.00**	**125**	P	**P**	**23 07 00.0**	**+0.3**
	1.2nm,0.6s,mb3.9,baz=300,

CHKZ	**Chkalovo**	**69.04**	**338**	*e*P		**P**	**23 12 24.2**	**+0.8**
	comp=Z,7.2nm,0.6s,mb4.8								
ZRNK	**Zerenda**	**69.08**	**337**	*e*P		**P**	**23 12 24.2**	**+0.5**
	comp=Z,5.2nm,0.7s,mb4.6								
ARU	**Arti**	**75.81**	**335**	*e*P		**P**	**23 13 03.7**	**-0.1**
	comp=Z,14nm,1.3s,mb4.7								
ARU					*e*PcP	PcP	23 13 16.0	-0.3	
BR131	**Keskin Array S**	**82.48**	**312**	*e*P		**P**	**23 13 40.6**	**+0.4**
	comp=Z,1.5nm,0.7s,mb4.0								
BRTR	**Keskin Array B**	**82.48**	**312**	P		**P**	**23 13 40.6**	**+0.4**
	comp=Z,2.1nm,0.7s,mb4.2,baz=137,slow=6.0,SNR=13								
AKASG	**Malin Array Be**	**88.60**	**322**	P		**P**	**23 14 08.3**	**-2.3**
	comp=Z,0.2nm,0.2s,mb4.0,baz=84,slow=5.5,SNR=4.1								
AKASG	**Malin Array Be**	**88.60**	**322**	P		**P**	**23 14 08.3**	**-2.3**

MEX 17 23:09:20.6±0.3, 1578N×9902W, h6km±36km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**2.21**	**345**	*i* P	Pn	23 09 54.6	-3.1
MEIG				*i* S	Sn	23 10 21.1	-4.2
UTMO	**Huajuapan**	**2.35**	**30**	*i* P	Pn	23 09 56.7	-2.9
UTMO				*i* S	Sn	23 10 24.9	-3.8
VHO	**Vista Hermosa**	**2.54**	**59**	*i* P	Pn	23 09 59.5	-2.8
VHO				*i* S	Sn	23 10 29.9	-3.7
OXX	**Oaxaca**	**2.56**	**59**	*e*P	Pn	23 10 01.5	-1.0

BJI ***17*** *23:24:18.8, 1020S×10882E, h10km, mB5.0, mb4.9, Ms4.7, Msz4.5*

IDC ***17*** *23:24:25.4±0.4, 930S×10873E, h0km, mb4.7/20, mb1 4.7/21, mb1mx4.7/23, mbtmp4.7/21, ML4.0/1, MS4.1/6, Ms1 4.0/6, ms1mx3.4/28, Error ellipse: s-maj=16.6km s-min=13.1km az=53.0*

NEIC ***17*** *23:24:27.1±0.2, 934S×10870E, h10km, mb5.0/25, Error ellipse: s-maj=8.2km s-min=5.7km az=52.0*

ISCJB ***17*** *23:24:28.4±1.3, 938S±004×10867E±005, h30km±9km, mb4.9/75, MS4.3/21, Error ellipse: s-maj=8.0km s-min=6.4km az=123.6*

MOS ***17*** *23:24:28.9±1.1, 924S×10888E, h33km, mb5.2/27, Error ellipse: s-maj=15.3km s-min=7.9km az=117.5*

ISC 17 23:24:31.7±0.8, 938S±004×10870E±005, h41km±6km, h39km±1.7km:pP-P, n177, σ1s13/160, mb4.9/75, MS4.3/21, 10C-4D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**2.27**	**26**	P	**Pn**	**23 25 05.8**	**-0.8**
	4μm,1.1s						
BJII	**Banjamegara**	**2.27**	**26**	⇑*i*P	**Pn**	**23 25 08.1**	**+1.5**
LEM	**Lembang**	**2.76**	**337**	P	**Pn**	**23 25 11.0**	**-2.3**
	3μm,0.8s						
JCJI	**Jatiwangi**	**2.91**	**352**	P	**Pn**	**23 25 13.2**	**-2.2**
	2μm,0.8s						
CBJI	**Citeko**	**3.47**	**328**	P	**Pn**	**23 25 18.7**	**-4.4**
	4μm,0.8s						
SBJI	**Serang**	**4.12**	**322**	P	**Pn**	**23 25 36.4**	**+4.3**
	305nm,0.9s						
NBBI	**Negara**	**5.94**	**81**	P	**Pn**	**23 25 58.8**	**+1.8**
	985nm,0.6s						
DNP	**Denpasar**	**6.47**	**84**	P	**Pn**	**23 26 06.7**	**+2.4**
	652nm,0.4s						
KSI	**Kapahiang**	**8.32**	**313**	P	**Pn**	**23 26 29.1**	**-0.6**
	289nm,0.8s						
KSM	**Kuching**	**10.90**	**9**	*e*Pn	**Pn**	**23 27 06.5**	**+1.5**
PCI	**Palu**	**13.92**	**53**	P	**Pn**	**23 27 49.3**	**+3.0**
	72nm,1.5s						
KKM	**Kota Kinabalu**	**17.06**	**26**	*e*Pn	**Pn**	**23 28 26.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**18.58**	**120**	*e*P	**Pn**	**23 28 45.6**	**-0.1**
	12nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.58**	**120**	P	**Pn**	**23 28 44.3**	**-1.4**
	0.3nm,0.3s,baz=249,slow=6.7,SNR=10						
KAKA	**Kakadu**	**23.53**	**100**	*e*P	**P**	**23 29 38.5**	**+0.4**
	22nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**26.89**	**116**	P	**P**	**23 30 08.4**	**-0.2**
	7.5nm,1.0s,mb4.2,baz=288,slow=11,SNR=15						
WRA				PcP	PcP	23 33 30.7	+0.6
	1.6nm,0.8s,baz=299,slow=1.9,SNR=4.7						
WRAB	**Tennant Creek**	**26.90**	**116**	*e*P	**P**	**23 30 08.2**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,29nm,1.4s,mb4.6						
WRAB	**Tennant Creek**	**26.90**	**116**	*e*P	**P**	**23 30 08.2**	**-0.5**
	comp=Z,29nm,1.4s,mb4.6						
WB2	**Warramunga Arr**	**26.90**	**116**	*e*P	**P**	**23 30 08.6**	**-0.1**
ASAR	**Alice Springs**	**27.96**	**124**	P	**P**	**23 30 17.4**	**-0.8**
	comp=Z,2.3nm,0.9s,mb3.8,baz=301,slow=8.8,SNR=14						
ASAR				PcP	PcP	23 33 33.9	+1.2
	comp=Z,3.6nm,0.8s,baz=312,slow=1.8,SNR=17						
ASAR				LR	LR	23 40 19.0	
	comp=Z,255nm,20.0s,MS3.8,baz=58,slow=34						
ASAR				PKiKP	PKiKP	23 41 08.3	-0.3
	comp=Z,0.4nm,0.6s,baz=290,slow=2.4,SNR=4.3						
ASAR	**Alice Springs**	**27.96**	**124**	P	**P**	**23 30 17.4**	**-0.8**
ASAR						23 33 33.9	
ASAR	**Alice Springs**	**27.96**	**124**	P	**P**	**23 30 17.4**	**-0.8**
ASAR				PcP	PcP	23 33 33.9	+1.2
ASAR				LR	LR	23 40 19.0	
QIZ	**Qiongzhong**	**28.25**	**2**	P	**P**	**23 30 20.1**	**-0.7**
QIZ				S	**S**	**23 35 05.8**	**+1.8**
QIZ				AMB	AMB		
	comp=Z,29nm,1.4s,mb4.7						
QIZ				LR	LR		
	comp=E,417nm,18.0s						
QIZ				LR	LR		
	comp=Z,499nm,18.8s,MS4.1						
CM31	**Chiang Mai Arr**	**29.29**	**341**	*e*P	**P**	**23 30 30.3**	**+0.3**
	comp=Z,16nm,0.6s,mb4.9						
KMI	**Kunming**	**34.78**	**351**	P	**P**	**23 31 20.3**	**+2.1**
KMI				AP	pP	23 31 29.9	+0.3
KMI				PP	PP	23 32 36.8	-0.7
KMI				PPP		23 32 54.8	
KMI				S	**S**	**23 36 45.1**	**-0.7**
KMI				XS	sS	23 37 01.5	-3.3
KMI				SSS		23 39 23.3	
KMI				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
KMI				LR	LR		
	comp=N,647nm,18.8s,MS4.6						
KMI				LR	LR		
	comp=E,579nm,15.9s,MS4.6						
KMI				LR	LR		
	comp=Z,800nm,19.4s,MS4.5						
GYA	**Guiyang**	**35.68**	**357**	⇑*i*P	**P**	**23 31 27.1**	**+1.2**
GYA				AP	pP	23 31 36.8	-0.5
GYA				XP	sP	23 31 40.8	-1.4
GYA				PP	PP	23 32 45.9	-1.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,110nm,3.8s						
GYA				LR	LR		
	comp=N,540nm,15.4s,MS4.5						
GYA				LR	LR		
	comp=E,480nm,15.0s,MS4.5						
GYA				LR	LR		
	comp=Z,460nm,14.8s,MS4.4						
STKA	**Stephens Creek**	**37.81**	**131**	P	**P**	**23 31 44.3**	**+0.3**
	comp=Z,20nm,0.7s,mb4.9,baz=303,slow=8.5,SNR=36						
STKA				LR	LR	23 47 58.4	
	comp=Z,123nm,20.6s,MS3.7,baz=338,slow=37						
STKA	**Stephens Creek**	**37.81**	**131**	*e*P	**P**	**23 31 43.8**	**-0.2**
	comp=Z,16nm,0.7s,mb4.8						
STKA				*e*P		23 31 44.1	
HYB	**Hyderabad**	**39.96**	**312**	*i* P	**P**	**23 32 04.0**	**+2.0**
HYB	**Hyderabad**	**39.96**	**312**	*e*P	**P**	**23 32 05.0**	**+3.0**
CD2	**Chengdu**	**40.34**	**353**	⇑*i*P	**P**	**23 32 05.6**	**+0.4**
CD2				AP	pP	23 32 15.4	-1.3
CD2				XP	sP	23 32 19.4	-2.2
CD2				PP	PP	23 33 43.3	+4.8
CD2				S	**S**	**23 38 12.8**	**+2.7**
CD2				XS	sS	23 38 29.0	-0.3
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,80nm,9.2s						
CD2				LR	LR		
	comp=E,270nm,20.4s						
CD2				LR	LR		
	comp=Z,160nm,18.0s,MS3.9						
JOW	**Kunigami**	**40.70**	**27**	P	**P**	**23 32 08.1**	**-0.1**
	comp=Z,38nm,0.9s,mb5.0,baz=232,slow=5.1,SNR=15						
JOW				LR	LR	23 51 34.8	
	comp=Z,296nm,18.3s,MS4.2,baz=178,slow=40						
SSE	**Sheshan**	**41.99**	**16**	*e*P	**P**	**23 32 21.3**	**+2.6**
SSE				AMB	AMB		
	comp=Z,23nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,26nm,3.5s						
SSE				LR	LR		
	comp=N,105nm,21.8s,MS3.8						
SSE				LR	LR		
	comp=E,72nm,21.7s,MS3.8						
SSE				LR	LR		
	comp=Z,143nm,22.5s,MS3.8						
NJ2	**Nanjing**	**42.33**	**13**	*e*P	**P**	**23 32 20.4**	**-1.1**
NJ2				AP	pP	23 32 30.0	-3.1
NJ2				XP	sP	23 32 34.0	-4.0
NJ2				PP	PP	23 34 04.8	+4.8
NJ2				S	**S**	**23 38 40.0**	**+0.4**
NJ2				XS	sS	23 38 56.0	-2.8
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,1μm,4.5s						
NJ2				LR	LR		
	comp=Z,2μm,14.6s,MS5.2						
JIRN	**Jiri**	**42.79**	**330**	*e*P	**P**	**23 32 25.8**	**+0.6**
PKI	**Pulchoki**	**43.11**	**329**	*e*P	**P**	**23 32 28.3**	**+0.5**
GUN	**Gumba**	**43.15**	**330**	*e*P	**P**	**23 32 29.0**	**+0.8**
XAN	**Xi'an**	**43.18**	**0**	P	**P**	**23 32 27.9**	**-0.5**
XAN				AP	pP	23 32 39.1	-0.9
XAN				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.8						
XAN				LR	LR		
	comp=N,128nm,21.2s,MS4.1						
XAN				LR	LR		
	comp=E,211nm,17.8s,MS4.1						
XAN				LR	LR		
	comp=Z,293nm,20.0s,MS4.2						
DMN	**Daman**	**43.30**	**329**	*e*P	**P**	**23 32 29.4**	**+0.1**
	comp=Z,59nm,0.9s,mb5.3						
KKN	**Kakani**	**43.35**	**329**	*e*P	**P**	**23 32 29.8**	**0.0**
	comp=Z,49nm,0.9s,mb5.2						
KKN	**Kakani**	**43.35**	**329**	*e*P	**P**	**23 32 29.8**	**0.0**
KKN				pmax	pmax		
	comp=Z,49nm,0.9s,mb5.2						
GKN	**Gorkha**	**43.86**	**329**	*e*P	**P**	**23 32 33.5**	**-0.3**
	comp=Z,32nm,0.4s,mb5.4						
KOLN	**Koldanda**	**44.21**	**327**	*e*P	**P**	**23 32 36.6**	**0.0**
	comp=Z,68nm,0.8s,mb5.4						
LZH	**Lanzhou**	**45.45**	**354**	*e*P	**P**	**23 32 47.0**	**+0.5**
LZH				AP	pP	23 32 55.0	-3.2
LZH				XP	sP	23 32 58.0	-5.1
LZH				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.5						
LZH				AMB	AMB		
	comp=Z,355nm,5.1s						
NDI	**New Delhi**	**48.54**	**322**	*ex*	x	23 33 08.0	
GTA	**Gaotai**	**49.24**	**351**	*e*P	**P**	**23 33 17.3**	**+1.3**
GTA				AP	pP	23 33 27.8	0.0
GTA				PP	PP	23 35 13.3	+3.3
GTA				PPP		23 36 06.5	
GTA				S	**S**	**23 40 20.8**	**+1.8**
GTA				XS	sS	23 40 35.3	-3.3
GTA				AMB	AMB		
	comp=Z,16nm,1.1s,mb5.0						
GTA				AMB	AMB		
	comp=Z,169nm,5.7s						
GTA				LR	LR		
	comp=N,440nm,20.5s,MS4.6						
GTA				LR	LR		
	comp=E,344nm,17.9s,MS4.6						
GTA				LR	LR		
	comp=Z,483nm,18.6s,MS4.5						
BJT	**Baijiatuau**	**49.63**	**8**	*e*P	**P**	**23 33 19.1**	**+0.1**
BJT				*e**PP	pP	23 33 30.6	-0.2
BJT				*e**SP	sP	23 33 37.3	+1.7
BJT				pmax	pmax		
	comp=Z,64nm,1.1s						
BJT	**Baijiatuau**	**49.63**	**8**	*e*P	**P**	**23 33 19.1**	**+0.1**
	comp=Z,64nm,1.1s,mb5.6						
BJT				*ep*P	pP	23 33 30.6	-0.2
BJT				*es*P	sP	23 33 37.3	+1.6
BJI	**Beijing**	**49.66**	**8**	*e*P	**P**	**23 33 19.1**	**-0.1**
BJI				AMB	AMB		
	comp=Z,41nm,1.2s,mb5.3						
BTO	**Baotou**	**49.75**	**1**	*e*P	**P**	**23 33 19.6**	**-0.3**
HHC	**Hu-ho-hao-te**	**50.05**	**3**	*e*P	**P**	**23 33 22.1**	**0.0**
HHC				AP	pP	23 33 26.9	-7.1
HHC				XP	sP	23 33 29.8	-9.0
HHC				PCP	PcP	23 34 39.5	-2.0
HHC				PP	PP	23 35 20.0	+2.6
HHC				PCS	PcS	23 38 36.3	-2.2
HHC				S	**S**	**23 40 35.1**	**+4.8**
HHC				SS	SS	23 44 03.3	-0.3
HHC				AMB	AMB		
	comp=Z,14nm,0.9s,mb5.0						
HHC				AMB	AMB		
	comp=Z,204nm,7.7s						
HHC				LR	LR		
	comp=N,334nm,17.8s,MS4.5						
HHC				LR	LR		
	comp=E,255nm,16.7s,MS4.5						
HHC				LR	LR		
	comp=Z,356nm,15.5s,MS4.5						
SNY	**Shenyang**	**52.76**	**14**	⇓P	**P**	**23 33 40.9**	**-1.5**
SNY				AMB	AMB		
	comp=Z,16nm,0.9s,mb5.0						
MAT	**Matsushiro**	**53.44**	**30**	P	**P**	**23 33 56.4**	**+8.9**
MAT	**Matsushiro**	**53.44**	**30**	*e*P	**P**	**23 33 56.0**	**+8.5**
MJAR	**Matsushiro Arr**	**53.44**	**30**	P	**P**	**23 33 44.9**	**-2.6**
	comp=Z,1.8nm,0.4s,mb4.3,baz=214,slow=7.6,SNR=7.6						
MJAR				LR	LR	23 58 26.2	
	comp=Z,206nm,18.9s,MS4.2,baz=220,slow=38						
CN2	**Changchun**	**55.08**	**15**	*e*P	**P**	**23 34 03.6**	**+4.3**
CN2				*e*XP	sP	23 34 10.0	-6.1
CN2				*e*S	**S**	**23 41 46.0**	**+7.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,15.0s,MS5.3						
CN2				LR	LR		
	comp=E,2μm,15.0s,MS5.3						
CN2				LR	LR		
	comp=Z,2μm,17.0s,MS5.3						
WMQ	**Urumqi**	**56.28**	**342**	P	**P**	**23 34 10.9**	**+2.9**
WMQ				AP	pP	23 34 15.1	-4.9
WMQ				XP	sP	23 34 17.5	-7.3
WMQ				PP	PP	23 36 17.9	+4.3
WMQ				AMB	AMB		
	comp=Z,17nm,1.5s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,110nm,4.9s						
WMQ				LR	LR		
	comp=N,564nm,18.5s,MS4.8						
WMQ				LR	LR		
	comp=E,423nm,17.4s,MS4.8						
WMQ				LR	LR		
	comp=Z,566nm,19.0s,MS4.7						
MDJ	**Mudanjiang**	**56.97**	**18**	P	**P**	**23 34 14.4**	**+1.5**
MDJ				AP	pP	23 34 17.3	-7.6
MDJ				PCP	PcP	23 35 07.8	0.0
MDJ				PP	PP	23 36 21.3	+1.6
MDJ				S	**S**	**23 42 10.1**	**+6.0**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,47nm,5.0s						
MDJ				LR	LR		
	comp=N,83nm,17.7s,MS4.0						
MDJ				LR	LR		
	comp=E,63nm,14.9s,MS4.0						
MDJ				LR	LR		
	comp=Z,125nm,13.6s,MS4.2						
SONM	**Songino Array**	**57.00**	**358**	P	**P**	**23 34 12.9**	**-0.2**
	comp=Z,5.6nm,0.5s,mb4.8,baz=176,slow=7.5,SNR=41						
SONM				LR	LR	00 01 16.6	
	comp=Z,231nm,20.9s,MS4.3,baz=181,slow=39						
ULN	**Ulaanbaatar**	**57.01**	**359**	*e*P	**P**	**23 34 13.3**	**+0.1**
ULN				*e**PP	pP	23 34 24.6	-0.6
ULN				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
ULN	**Ulaanbaatar**	**57.01**	**359**	*e*P	**P**	**23 34 13.3**	**+0.1**
	comp=Z,14nm,0.8s,mb5.0						
ULN				*ep*P	pP	23 34 24.6	-0.6
KSH	**Kashi**	**57.35**	**330**	*e*P	**P**	**23 34 11.0**	**-4.6**
KSH				*e*XP	sP	23 34 19.3	-13
KSH				*e*PCP	PcP	23 35 07.6	-1.6
KSH				*e*PPP		23 37 36.0	
KSH				*e*PS		23 42 18.3	
KSH				*e*SCS	ScS	23 43 56.0	-5.5
KSH				AMB	AMB		
	comp=Z,383nm,4.1s						
KSH				LR	LR		
	comp=N,265nm,4.9s						
KSH				LR	LR		
	comp=E,266nm,8.4s						
KSH				LR	LR		
	comp=Z,348nm,14.0s,MS4.6						
ZAK	**Zakamensk**	**59.70**	**356**	*e*P	**P**	**23 34 31.7**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
OPO	**Ambohidratompo**	**60.15**	**254**	P	**P**	**23 34 34.4**	**-0.6**
	comp=Z,6.4nm,0.9s,mb4.6,baz=78,slow=6.2,SNR=4.4						
AAK	**Ala-Archa**	**60.46**	**332**	*ce*P	**P**	**23 34 36.5**	**-0.7**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.3						
AAK	**Ala-Archa**	**60.46**	**332**	*e*P	**P**	**23 34 36.2**	**-1.0**
	comp=Z,3.8nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**60.69**	**339**	P	**P**	**23 34 36.6**	**-2.1**
	comp=Z,8.0nm,0.6s,mb5.1,baz=145,slow=8.0,SNR=45						
KLR	**Kul'dur**	**61.77**	**17**	*e*P	**P**	**23 34 41.3**	**-4.7**
HABR	**Khabarovsk**	**62.12**	**20**	*e*P	**P**	**23 34 44.3**	**-4.1**
HABR				*e*S	**S**	**23 43 08.7**	**-1.9**
YSS	**Yuzh-Sakhalins**	**63.76**	**25**	⇓*e*P	**P**	**23 34 58.4**	**-0.9**
YSS				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.9						
YSS	**Yuzh-Sakhalins**	**63.76**	**25**	*e*P	**P**	**23 34 58.8**	**-0.5**
	comp=Z,26nm,1.0s,mb5.2						
YSS				*e*	pP	23 35 10.8	-0.6
KURK	**Kurchatov**	**65.30**	**339**	⇑*i*P	**P**	**23 35 08.5**	**-0.8**
KURK	**Kurchatov**	**65.30**	**339**	*e*P	**P**	**23 35 08.7**	**-0.6**
	comp=Z,18nm,0.8s,mb5.2						
MAW	**Mawson**	**65.60**	**198**	P	**P**	**23 35 11.0**	**-0.2**
	comp=Z,7.9nm,1.0s,mb4.7,baz=51,slow=6.9,SNR=9.5						
MAW				LR	LR	23 58 04.1	
	comp=Z,114nm,18.7s,MS4.1,baz=58,slow=31						
MAW	**Mawson**	**65.60**	**198**	*e*P	**P**	**23 35 11.0**	**-0.3**
MAW				*e**PP	pP	23 35 23.2	-0.2
MAW				pmax	pmax		
	comp=Z,15nm,1.3s						
MAW	**Mawson**	**65.60**	**198**	*e*P	**P**	**23 35 11.0**	**-0.2**
	comp=Z,15nm,1.3s,mb4.9						
MAW				*ep*P	pP	23 35 23.2	-0.3
BOD	**Bodaibo**	**67.11**	**3**	*e*P	**P**	**23 35 19.2**	**-1.7**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
NVS	**Novosibirsk**	**67.47**	**344**	*e*P	**P**	**23 35 21.9**	**-1.3**
KBD	**Kabd**	**70.14**	**306**	*e*P	**P**	**23 35 39.5**	**-0.3**
KBD				AMb	AMB	23 35 40.9	
	comp=Z,102nm,1.0s,mb5.7						
UMR	**Umm Al-Rimmam**	**70.27**	**306**	*e*P	**P**	**23 35 40.4**	**-0.2**
UMR				AMb	AMB	23 35 41.7	
	comp=Z,54nm,0.7s,mb5.6						
BRVK	**Borovoye**	**70.27**	**337**	*e*P	**P**	**23 35 40.1**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
BRVK	**Borovoye**	**70.27**	**337**	*e*P	**P**	**23 35 40.1**	**-0.5**
	comp=Z,7.7nm,0.8s,mb4.7						
NAY	**Al-Naaiem**	**70.53**	**305**	*e*P	**P**	**23 35 41.3**	**-0.9**
NAY				AMb	AMB	23 35 43.0	
	comp=Z,20nm,0.9s,mb5.0						
CHKZ	**Chkalovo**	**70.61**	**337**	*e*P	**P**	**23 35 42.3**	**-0.4**
CHKZ				*e**PP	pP	23 35 54.9	-0.1
CHKZ				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.1						
CHKZ	**Chkalovo**	**70.61**	**337**	*e*P	**P**	**23 35 42.3**	**-0.4**
	comp=Z,16nm,0.6s,mb5.1						
CHKZ				*ep*P	pP	23 35 54.9	-0.1
MIB	**Mutribah**	**70.67**	**306**	*e*P	**P**	**23 35 42.6**	**-0.4**
MIB				AMb	AMB	23 35 46.4	
	comp=Z,36nm,0.9s,mb5.3						
ZRNK	**Zerenda**	**70.70**	**336**	*e*P	**P**	**23 35 42.7**	**-0.5**
ZRNK				*e**PP	pP	23 35 55.9	+0.4
ZRNK				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.1						
ZRNK	**Zerenda**	**70.70**	**336**	*e*P	**P**	**23 35 42.7**	**-0.5**
	comp=Z,18nm,0.7s,mb5.1						
ZRNK				*ep*P	pP	23 35 55.9	+0.3
RST	**Umm Al-Ruwaisa**	**70.83**	**306**	*e*P	**P**	**23 35 43.3**	**-0.7**
RST				AMb	AMB	23 35 44.7	
	comp=Z,57nm,0.8s,mb5.5						
KMBO	**Kilima Mbogo**	**71.51**	**272**	P	**P**	**23 35 48.5**	**+0.3**
	comp=Z,4.9nm,1.1s,mb4.3,baz=49,slow=5.6,SNR=6.7						
KMBO	**Kilima Mbogo**	**71.51**	**272**	*i* P	**P**	**23 35 49.5**	**+1.4**
KMBO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KMBO	**Kilima Mbogo**	**71.51**	**272**	P	**P**	**23 35 48.5**	**+0.3**
YAK	**Yakutsk**	**73.05**	**10**	*e*P	**P**	**23 35 55.5**	**-1.8**
YAK				*ep*P	pP	23 36 05.1	-4.6
YAK				*es*P	sP	23 36 11.1	-3.3
VNDA	**Vanda**	**73.33**	**170**	P	**P**	**23 35 58.4**	**-0.6**
	comp=Z,7.8nm,0.9s,mb4.6,baz=307,slow=6.1,SNR=34						
VNDA	**Vanda**	**73.33**	**170**	P	**P**	**23 35 58.4**	**-0.6**
SYO	**Syowa Base**	**73.87**	**201**	⇑*e*P	**P**	**23 36 00.8**	**-1.3**
SVE	**Sverdlovsk**	**76.86**	**335**	*e*P	**P**	**23 36 20.0**	**+0.7**
SVE				*e*	pP	23 36 29.7	-2.0
SVE				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						
SVE				MLR	MLR		
	comp=N,200nm,14.0s,MS4.6						
SVE				MLR	MLR		
	comp=E,100nm,14.0s,MS4.6						
SVE				MLR	MLR		
	comp=Z,200nm,14.0s,MS4.6						
DGRG	**David-gareji**	**76.93**	**316**	P	**P**	**23 36 20.9**	**+1.2**
MTA	**Mtatsminda**	**77.42**	**316**	P	**P**	**23 36 23.0**	**+0.5**
TBLG	**Delisi**	**77.48**	**316**	P	**P**	**23 36 23.2**	**+0.4**
ARU	**Arti**	**77.48**	**334**	⇑*i*P	**P**	**23 36 22.0**	**-0.8**
ARU				*e*	pP	23 36 36.8	+1.6
ARU				*e*		23 39 18.4	
ARU				*eS*	S	23 46 14.4	+3.7
ARU				*e*SS	SS	23 51 15.0	+4.8
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ARU	**Arti**	**77.48**	**334**	*e*P	**P**	**23 36 22.1**	**-0.7**
	comp=Z,4.0nm,0.6s,mb4.5						
ARU				*e*	pP	23 36 32.2	-3.0
ARU				*es*P	sP	23 36 37.5	-2.4
GOR	**Gori**	**78.01**	**316**	P	**P**	**23 36 27.0**	**+1.3**
AKH	**Akhalkalaki**	**78.20**	**316**	P	**P**	**23 36 29.2**	**+2.4**
BEST	**Besiri**	**78.43**	**312**	*i* P	**P**	**23 36 28.2**	**+0.2**
ZEI	**Tsey**	**78.47**	**317**	*e*P	**P**	**23 36 28.4**	**+0.1**
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb5.1						
LSZ	**Lusaka**	**78.50**	**256**	*e*P	**P**	**23 36 29.

comp=Z,8.0nm,1.1s,mb4.6,baz=24,slow=5.7,SNR=3.8
QSPA South Pole Qui 80.62 180 *e*P **P** **23 36 39.5 -0.5**
comp=Z,32nm,1.2s,mb5.1
MALT Malatya 80.67 311 *e*P **P** **23 36 41.2 +0.9**
MALT *e**PP pP 23 36 50.9 -1.8
MALT *e**SP sP 23 36 54.8 -2.6
MALT pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MALT Malatya 80.67 311 *e*P **P** **23 36 41.2 +0.9**
comp=Z,2.6nm,0.9s,mb4.2
MALT *ep*P pP 23 36 50.9 -1.9
MALT *es*P sP 23 36 54.8 -2.7
MMAI Mount Meron Ar 81.35 306 P **P** **23 36 45.1 +1.3**
comp=Z,3.7nm,0.6s,mb4.5,baz=90,slow=8.6,SNR=5.9
SOC Sochi 81.61 317 *e*P **P** **23 36 43.0 -2.2**
SOC pmax pmax
comp=Z,16nm,0.8s,mb5.0
TIXI Tiksi 81.96 6*c i*P **P** **23 36 45.5 -1.6**
TIXI pmax pmax
comp=Z,16nm,0.7s,mb5.1
SUR Sutherland 83.28 238 P **P** **23 36 55.2 +1.3**
comp=Z,12nm,1.1s,mb4.8,baz=51,slow=9.3,SNR=3.9
VRHR Novokhopersk 83.30 324 *e*P **P** **23 36 53.8 -0.2**
VRHR pmax pmax
comp=Z,30nm,0.7s,mb5.4
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,30nm,0.7s
ANN Anapa 83.58 317 *e*P **P** **23 36 51.0 -4.4**
ANN *i**PP pP 23 37 02.6 -5.4
ANN *e* 23 40 05.4
ANN *e*S S 23 47 11.4 -3.0
ANN *e*SS SS 23 52 44.7 +3.6
ANN pmax pmax
comp=Z,28nm,1.2s,mb5.3
BR131 Keskin Array S 84.66 312 *e*P **P** **23 37 01.4 +0.5**
comp=Z,11nm,1.0s,mb4.9
BR131 *e*PcP PcP 23 37 05.8 +1.5
BR131 *e* pP 23 37 14.9 +1.4
BRTR Keskin Array B 84.66 312 P **P** **23 37 01.3 +0.3**
comp=Z,6.7nm,0.9s,mb4.8,baz=133,slow=6.2,SNR=31
BRTR Keskin Array B 84.66 312 *i*P **P** **23 37 01.2 +0.2**
BRTR pmax pmax
comp=Z,7.0nm,0.9s
VRSR Storozhevoye 84.76 324 *e*P **P** **23 36 58.5 -3.0**
VRSR pmax pmax
comp=Z,20nm,0.9s,mb5.2
VRSR pmax pmax
comp=N,3.0nm,0.5s
VRSR pmax pmax
comp=E,10.0nm,0.9s
BALT Daday 85.36 313 *i*P **P** **23 37 05.3 +0.8**
SGKT Sivrigoynuk 86.06 312 *i*P **P** **23 37 15.6 +7.6**
ESKT Eskisehir 86.67 311 *i*P **P** **23 37 11.2 +0.3**
TKTP Tekketepe 86.70 309 *i*P **P** **23 37 11.0 -0.1**
OBN Obninsk 87.63 327*de*P **P** **23 37 15.5 -0.1**
OBN *e* pP 23 37 29.4 +1.2
OBN pmax pmax
comp=Z,25nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.3
SNAA Sanae 87.76 197 *e*P **P** **23 37 16.5 +0.3**
SNAA *e**PP pP 23 37 28.1 -0.8
SNAA pmax pmax
comp=Z,15nm,1.1s
SNAA Sanae 87.76 197 *e*P **P** **23 37 16.5 +0.3**
comp=Z,15nm,1.1s,mb5.1
SNAA *ep*P pP 23 37 28.1 -0.7
TSUM Tsumeb 88.01 251 P **P** **23 37 19.2 +1.8**
comp=Z,5.8nm,0.9s,mb4.8,baz=60,slow=4.2,SNR=14
ULDT Uludag 88.11 311 *i*P **P** **23 37 18.7 +0.8**
KLMR Klimovskoe 88.25 333 *e*P **P** **23 37 17.3 -1.3**
KLMR pmax pmax
comp=Z,40nm,1.8s,mb5.3
AKASG Malin Array Be 90.59 321 P **P** **23 37 29.0 -0.5**
comp=Z,2.0nm,0.7s,mb4.6,baz=88,slow=4.3,SNR=3.11
AKASG Malin Array Be 90.59 321 *i*P **P** **23 37 29.0 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 90.59 321 *e*P **P** **23 37 28.5 -1.0**
AKBB *e**PP pP 23 37 40.9 -1.3
MLR Muntele Rosu 91.58 316 P **P** **23 37 34.6 +0.5**
comp=Z,2.4nm,0.5s,mb4.8,baz=183,slow=17,SNR=3.4
BURAR Bucovina Array 92.49 318 ǁ *i*P **P** **23 37 39.4 +1.1**
JOF Joensuu 92.60 333 *ep* **P** **23 37 36.9 -1.9**
comp=Z,4.6nm,0.8s,mb5.0
JOF Joensuu 92.60 333 *e*P **P** **23 37 36.9 -1.9**
JOF pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
FINES FINESS Array B 94.66 331 P **P** **23 37 48.2 0.0**
comp=Z,1.5nm,0.8s,mb4.5,baz=123,slow=9.4,SNR=4.8
FINES FINESS Array B 94.66 331 *i*P **P** **23 37 48.2 -0.1**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 94.66 331 P **P** **23 37 48.2 0.0**
KAF Kangasniemi 94.68 332 *ep* **P** **23 37 45.8 -2.6**
comp=Z,3.3nm,0.8s,mb4.8
KAF Kangasniemi 94.68 332 *e*P **P** **23 37 45.8 -2.6**
KAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
PKSM Moragy 96.73 316 ǁ *i*P **P** **23 37 57.7 0.0**
PKSM Moragy 96.73 316 ǁ *e*P **P** **23 37 57.0 -0.7**
YKA Yellowknife Ar 118.48 21 PKP PKPdf 23 43 14.2 -0.6
comp=Z,1.1nm,0.8s,baz=321,slow=2.3,SNR=5.1
YKA Yellowknife Ar 118.48 21 PKP PKPdf 23 43 14.2 -0.6
NVAR Mina Array Bea 128.96 48 PKP PKPdf 23 43 36.4 +1.6
comp=Z,0.7nm,0.7s,baz=299,slow=1.9,SNR=3.6
WMOK Wichita Mounta 144.38 41 *e*PKIKP PKPdf 23 44 01.6 -1.7
WMOK *e* 23 44 15.3
LONY Lake Ozonia 144.78 4 *e*PKPdf PKPdf 23 44 03.6 -0.3
LBNH Lisbon 145.27 1 *e*PKIKP PKPdf 23 44 05.7 +0.9
MIV Mineville/With 145.38 3 *e*PKP PKPdf 23 44 04.8 -0.2
NCB Newcomb 145.45 4 *e*PKP PKPdf 23 44 05.6 +0.5
NCB *ep*PKPdf pPKPdf 23 44 17.8 -0.4
BDFB Brasilia 146.09 223 PKPbc PKPbc 23 44 08.5 +1.4
comp=Z,4.3nm,0.5s,baz=118,slow=2.3,SNR=10
JCT Junction City 146.14 48 *e*PKP2 PKPab 23 44 07.7 -0.3
CCM Cathedral Cave 146.27 29 *e*PKP2 PKPab 23 44 06.7 -1.8
ACSO Alum Creek Sta 147.57 17 *e*PKPdf PKPdf 23 44 11.6 +2.9
MIAR Mount Ida 147.69 36 *e*PKP PKPdf 23 44 11.7 +2.9
MIAR *ep*PKPdf pPKPdf 23 44 20.5 -1.5
LVC Limon Verde 148.12 184 PKPbc PKPbc 23 44 14.7 +1.8
comp=Z,5.2nm,0.8s,baz=217,slow=3.3,SNR=5.0
WCI Wyandotte Cave 148.27 23 *e*PKP2 PKPbc 23 44 11.4 -1.8
SSPA Standing Stone 148.33 10 *e*PKPdf PKPdf 23 44 10.7 +0.8
WVT Waverly 149.42 27 *e*PKP2 PKPbc 23 44 14.5 -1.7
PLAL Pickwick Lake 150.26 29 *e*PKPdf PKPdf 23 44 14.6 +1.5
TZTN Tazewell 150.76 20 *e*PKPbc PKPbc 23 44 20.5 +1.1
ELN Prospectdale 150.99 16 *e*PKPbc PKPbc 23 44 19.6 -0.3
BLA Blacksburg 151.09 15 *e*PKIKP PKPbc 23 44 20.7 +0.5
CPCT Cooper Cave 151.38 23 *e*PKPbc PKPbc 23 44 22.3 +1.5
SIV San Ignacio 152.83 202 PKP PKPdf 23 44 18.9 +2.0
comp=Z,2.4nm,0.9s,baz=118,slow=3.5,SNR=13
SIV PKPbc PKPbc 23 44 25.5 +1.4
comp=Z,7.1nm,0.9s,baz=157,slow=2.1,SNR=30
LPAZ La Paz 154.30 187 PKP PKPdf 23 44 22.4 +3.3
comp=Z,0.7nm,0.9s,baz=221,slow=2.7,SNR=5.0
LPAZ PKPbc PKPbc 23 44 30.0 +2.7
comp=Z,2.3nm,0.9s,baz=126,slow=5.8,SNR=9.7
LPAZ PKPab PKPab 23 44 43.2 +1.8
comp=Z,3.0nm,0.9s,baz=103,slow=4.0,SNR=8.6
LPAZ La Paz 154.30 187 PKP PKPdf 23 44 22.4 +3.3
LPAZ PKPbc PKPbc 23 44 30.0 +2.7
LPAZ PKPab PKPab 23 44 43.2 +1.7

ISCJB ***17*** *23:29:09.0± 1.0, 2401S± 009× 670W± 02, h233km± 12km, mb3.1/1, Error ellipse: s-maj=26.0km s-min=13.4km az=157.9*
IDC ***17*** *23:29:09.1± 2.2, 2397S× 6685W, h207km± 33km, mb3.0/1, mb1 3.3/4, mb1mx3.1/15, mbtmp3.8/4, Error ellipse: s-maj=42.7km s-min=34.0km az=107.0*
NEIC ***17*** *23:29:09.9± 0.9, 2393S× 6698W, h224km± 11km, mb3.3/1, Error ellipse: s-maj=18.9km s-min=11.7km az=73.0*
ISC 17 23:29:10.1± 1.0, 2397S± 008× 670W± 02, h222km± 12km, n8, σ0$47/10, mb3.1/1, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.22**	**307**	P		**Pn**	**23 29 52.2**	**-0.2**
	24nm,0.3s,baz=126,slow=6.2,SNR=291							
LVC				S		**S**	**23 30 25.5**	**-0.2**
	12nm,0.3s,baz=244,slow=22,SNR=20							
LPAZ La Paz 7.72 352 P **Pn** **23 31 00.1 +0.5**
0.8nm,0.3s,baz=168,slow=9.6,SNR=24
LPAZ S **S** **23 32 27.8 +0.4**
0.1nm,0.3s,baz=72,slow=23,SNR=4.5
TRQA Tornquist 14.68 164 *e*Pn **Pn** **23 32 27.9 +0.5**
SAML Samuel 15.37 14 *e*Pn **Pn** **23 32 35.8 0.0**
0.4nm,0.3s
BDFB Brasilia 19.67 69 P **P** **23 33 21.3 -1.0**
0.3nm,0.3s,baz=237,slow=8.9,SNR=5.1
OTAV Otavalo 26.51 334 P **P** **23 34 26.6 -0.4**
PHWY Pilot Hill 74.09 331 *e*P **P** **23 40 21.7 -0.1**
PHWY *e*PcP PcP 23 40 36.9 +1.1
TORD Torodi Ar. Bea 76.55 69 P **P** **23 40 36.3 +0.5**
0.3nm,0.6s,mb3.1,baz=254,slow=4.6,SNR=7.6

IDC ***17*** *23:31:59.3± 2.2, 891S× 10786E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/16, mbtmp4.0/6, MS4.1/1, Ms1 4.1/1, ms1mx2.6/33, Error ellipse: s-maj=109.3km s-min=18.5km az=52.0*
NEIC ***17*** *23:32:00.4± 0.5, 901S× 10773E, h10km, mb4.4/6, Error ellipse: s-maj=21.7km s-min=5.5km az=51.0*
ISCJB ***17*** *23:32:01.8± 0.8, 90S± 02× 1078E± 02, h33km, mb4.1/12, MS4.2/1, Error ellipse: s-maj=35.4km s-min=9.2km az=102.7*
ISC 17 23:32:04.0± 0.8, 90S± 02× 1077E± 02, h35km, n18, σ0$45/17, mb4.1/12, MS4.2/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**15.86**	**334**	Pn		**Pn**	**23 35 43.6**	**-0.9**
NWAO	**Narrogin (SRO)**	**25.37**	**161**	P		**P**	**23 37 27.7**	**-0.1**
WRA	**Warramunga Arr**	**27.96**	**116**	P		**P**	**23 37 50.3**	**-0.9**
	0.8nm,0.6s,mb3.5,baz=290,slow=10,SNR=2.9							
WRAB	**Tennant Creek**	**27.96**	**116**	*e*P		**P**	**23 37 50.8**	**-0.4**
	1.1nm,0.5s,mb3.7							
WB2	**Warramunga Arr**	**27.97**	**116**	*e*P		**P**	**23 37 51.0**	**-0.2**
ASAR	**Alice Springs**	**29.00**	**123**	P		**P**	**23 38 00.5**	**+0.1**
	0.9nm,0.6s,mb3.6,baz=297,slow=9.0,SNR=5.8							
STKA	**Stephens Creek**	**38.80**	**131**	P		**P**	**23 39 25.7**	**+0.3**
	2.1nm,0.6s,mb4.0,baz=298,slow=7.1,SNR=6.1							
CTAO	**Charters Tower**	**38.83**	**111**	P		**P**	**23 39 25.3**	**-0.3**
TAU	**Tasmania Unive**	**48.35**	**141**	*e*P		**P**	**23 40 42.5**	**+0.3**
	3.5nm,0.5s,mb4.7							
HNR	**Honiara**	**51.55**	**95**	P		**P**	**23 41 07.3**	**+0.8**
SONM	**Songino Array**	**56.62**	**359**	P		**P**	**23 41 43.9**	**+0.4**
	2.0nm,0.6s,mb4.4,baz=174,slow=8.1,SNR=20							
DZM	**Mont Dzumac**	**57.77**	**110**	LR		LR	00 05 03.0	
	comp=Z,170nm,19.5s,MS4.2,baz=354,slow=34							
MKAR	**Makanchi Array**	**60.01**	**340**	P		**P**	**23 42 07.5**	**+0.3**
	1.3nm,0.5s,mb4.2,baz=150,slow=8.3,SNR=20							
KURK	**Kurchatov**	**64.62**	**340**	*e*P		**P**	**23 42 38.2**	**+0.3**
	3.2nm,0.8s,mb4.4							
BVAR	**Borovoye Array**	**69.48**	**337**	P		**P**	**23 43 08.5**	**-0.4**
	1.1nm,0.5s,mb4.0,baz=145,slow=8.8,SNR=9.0							
BRVK	**Borovoye**	**69.55**	**337**	*e*P		**P**	**23 43 09.1**	**-0.1**
	0.7nm,0.4s,mb3.9							
CHKZ	**Chkalovo**	**69.90**	**338**	*e*P		**P**	**23 43 11.8**	**+0.3**
	2.6nm,0.5s,mb4.4							
ZRNK	**Zerenda**	**69.97**	**336**	*e*P		**P**	**23 43 12.2**	**+0.3**
	2.2nm,0.7s,mb4.2							

IDC ***17*** *23:35:55.6± 0.7, 903S× 10779E, h0km, mb4.0/11, mb1 4.1/12, mb1mx4.0/19, mbtmp4.0/12, ML3.5/1, Error ellipse: s-maj=34.3km s-min=14.8km az=54.0*
ISCJB ***17*** *23:35:56.8± 6.2, 90S± 01× 1078E± 01, h19km± 44km, mb4.1/15, Error ellipse: s-maj=29.5km s-min=10.6km az=103.0*
NEIC ***17*** *23:35:59.1± 4.9, 901S× 10780E, h23km± 34km, mb4.3/2, Error ellipse: s-maj=19.7km s-min=7.3km az=52.0*
ISC 17 23:35:57.3± 8.1, 90S± 01× 1078E± 01, h9km± 50km, n22, σ0$75/22, mb4.1/15, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**15.91**	**333**	P		**Pn**	**23 39 41.4**	**0.0**
KKM	**Kota Kinabalu**	**17.18**	**30**	*e*Pn		**Pn**	**23 39 57.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**19.54**	**119**	P		**Pn**	**23 40 26.7**	**+0.5**
	0.1nm,0.3s,baz=195,slow=21,SNR=3.3							
WRA	**Warramunga Arr**	**27.85**	**116**	P		**P**	**23 41 47.4**	**+0.3**
	0.7nm,0.6s,mb3.4,baz=290,slow=11,SNR=3.9							
WRAB	**Tennant Creek**	**27.86**	**116**	*e*P		**P**	**23 41 46.8**	**-0.3**
	1.5nm,0.6s,mb3.8							
WB2	**Warramunga Arr**	**27.86**	**116**	*e*P		**P**	**23 41 47.7**	**+0.6**
ASAR	**Alice Springs**	**28.90**	**123**	P		**P**	**23 41 56.5**	**+0.1**
	0.7nm,0.7s,mb3.5,baz=306,slow=7.9,SNR=4.1							
STKA	**Stephens Creek**	**38.71**	**131**	P		**P**	**23 43 21.7**	**+0.2**
	2.5nm,0.6s,mb4.1,baz=286,slow=4.5,SNR=6.1							
STKA	**Stephens Creek**	**38.71**	**131**	P		**P**	**23 43 21.7**	**+0.2**
HNR	**Honiara**	**51.45**	**95**	P		**P**	**23 45 02.8**	**+0.1**
SONM	**Songino Array**	**56.64**	**359**	P		**P**	**23 45 38.5**	**-2.1**
	2.2nm,1.0s,mb4.1,baz=173,slow=8.3,SNR=9.4							
MKAR	**Makanchi Array**	**60.06**	**340**	P		**P**	**23 46 04.8**	**+0.2**
	2.0nm,0.5s,mb4.4,baz=148,slow=8.6,SNR=37							
KURK	**Kurchatov**	**64.67**	**340**	*e*P		**P**	**23 46 35.7**	**+0.3**
	5.3nm,0.8s,mb4.6							
MAW	**Mawson**	**65.65**	**197**	P		**P**	**23 46 40.9**	**-0.8**
	1.2nm,0.5s,mb4.2,baz=302,slow=8.2,SNR=3.9							
BVAR	**Borovoye Array**	**69.54**	**337**	P		**P**	**23 47 06.2**	**-0.2**
	3.2nm,0.8s,mb4.3,baz=141,slow=7.5,SNR=18							
CHKZ	**Chkalovo**	**69.95**	**338**	*e*P		**P**	**23 47 08.8**	**-0.1**
	11nm,0.6s,mb5.0							
ZRNK	**Zerenda**	**70.03**	**336**	*e*P		**P**	**23 47 08.8**	**-0.5**
	8.7nm,0.9s,mb4.7							
AKTK	**Aktyubinsk**	**73.27**	**329**	P		**P**	**23 47 29.9**	**+1.0**
AKTO	**Aktyubinsk**	**73.27**	**329**	P		**P**	**23 47 29.9**	**+1.0**
	0.5nm,0.5s,mb3.7,baz=124,slow=7.3,SNR=2.2							
VNDA	**Vanda**	**73.83**	**169**	P		**P**	**23 47 31.0**	**-1.2**
	0.7nm,0.9s,mb3.6,baz=303,slow=10,SNR=3.6							
MMAI	**Mont Meron Ar**	**80.42**	**306**	P		**P**	**23 48 10.7**	**+1.5**
	0.4nm,0.3s,mb3.8,baz=101,slow=7.5,SNR=1.9							
BRTR	**Keskin Array B**	**83.76**	**312**	P		**P**	**23 48 26.1**	**-0.6**
	0.4nm,0.6s,mb3.7,baz=101,slow=6.4,SNR=4.1							

ISCJB ***17*** *23:36:37.8± 0.3, 5143N± 002× 16.11E± 002, h0km, mb3.5/1, Error ellipse: s-maj=2.6km s-min=1.7km az=31.1*
BGR ***17*** *23:36:38.5± 0.5, 5148N× 1623E, h1km, ML3.5, Error ellipse: s-maj=6.7km s-min=4.4km az=143.0*
MOS ***17*** *23:36:38.7± 0.8, 5159N× 1613E, h20km, mb3.8/1, Error ellipse: s-maj=7.3km s-min=4.0km az=76.5*
LDG ***17*** *23:36:38.8± 0.4, 5144N× 1619E, h1km, Ml3.8/6, Error ellipse: s-maj=10.0km s-min=6.0km az=6.0, Suspected Mining induced.*
NEIC ***17*** *23:36:39.0± 0.3, 5154N× 1614E, h5km, ML3.0(STR), ML3.5(SZGRF), Error ellipse: s-maj=4.1km s-min=3.1km az=213.0*
CSEM ***17*** *23:36:39.8± 0.1, 5150N× 1617E, h1km, ML3.8/16, Error ellipse: s-maj=1.6km s-min=1.0km az=20.0*
IPEC ***17*** *23:36:39.8± 0.2, 5149N× 1618E, h9km± 1km, ML3.0/2, Error ellipse: s-maj=1.5km s-min=0.7km az=46.0*
PRU ***17*** *23:36:40.0, 5148N× 1611E, h0km, Felt In Harrachov*
WAR ***17*** *23:36:40.5, 5148N× 1611E, ML3.2, Mining Induced*
IDC ***17*** *23:36:40.2± 0.6, 5146N× 1601E, h0km, mb3.7/1, mb1 3.6/9, mb1mx3.5/22, mbtmp3.5/9, ML3.3/8, Error ellipse: s-maj=10.7km s-min=6.0km az=110.0*
VIE ***17*** *23:36:43.9± 0.8, 5121N× 1609E, h10km, mb2.9/7, ML3.0/10, Error ellipse: s-maj=4.9km s-min=3.6km az=0.0 65 km WNW of Breslau Suspected Mining induced.*
ISC 17 23:36:38.3± 0.3, 5153N± 002× 1615E± 002, h0km, n138, σ1$07/234, mb3.5/1, 13C-9D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**173**	*e*Pg		**Pg**	**23 36 52.4**	**+0.7**
KSP				*e*Sg		**Sg**	**23 37 01.0**	**+0.3**
KSP	**Ksiaz**	**0.70**	**173**	*i*Pg		**Pg**	**23 36 52.3**	**+0.6**
KSP				*e*Sg		**Sg**	**23 37 00.9**	**+0.2**
KSP				*e*L			23 37 04.2	
KSP	**Ksiaz**	**0.70**	**173**	ǁ *i*Pg		**Pg**	**23 36 52.3**	**+0.6**
KSP				*e*Sg		**Sg**	**23 37 00.9**	**+0.2**
KSP				*e*			23 37 04.5	
KSP	**Ksiaz**	**0.70**	**173**	ǁ *i*Pg		**Pg**	**23 36 52.3**	**+0.6**
KSP				*e*Sg		**Sg**	**23 37 00.9**	**+0.2**
UPC	**Upice**	**1.03**	**185**	*e*PG		**Pg**	**23 36 58.4**	**+0.3**
UPC	**Upice**	**1.03**	**185**	*e*Pg		**Pg**	**23 36 58.3**	**+0.2**
DPC	**Dobruska-Polom**	**1.19**	**175**	*e*PG		**Pg**	**23 37 01.2**	**+0.1**
DPC				*e*SG		**Sg**	**23 37 15.9**	**-0.6**
	177nm,0.6s							
DPC Dobruska-Polom 1.19 175 *e*P **Pg** **23 37 01.2 +0.1**
DPC *e* 23 37 15.9
DPC smax
comp=N,177nm,0.6s
DPC Dobruska-Polom 1.19 175 *e*Pg **Pg** **23 37 01.1 0.0**
DPC *e*Sg **Sg** **23 37 15.9 -0.6**
PVCC Panska Ves 1.42 225 *e*Pn **Pn** **23 37 05.1 -0.2**
PVCC Panska Ves 1.42 225 *e*Pg **Pg** **23 37 05.7 +0.2**
PVCC *e*Sg **Sg** **23 37 23.9 0.0**
BRG Berggiesshubel 1.54 245 *e*Pn **Pn** **23 37 06.7 -0.3**
BRG *e*Sg **Sg** **23 37 28.4 +0.6**
BRG Berggiesshubel 1.54 245 PN **Pn** **23 37 06.7 -0.3**
BRG PG **Pg** **23 37 08.2 +0.4**
BRG SG **Sg** **23 37 28.1 +0.3**
comp=N,111nm,0.3s
BRG Berggiesshubel 1.54 245 P **Pn** **23 37 06.7 -0.3**
BRG 23 37 28.0
BRG smax
comp=N,111nm,0.3s
RUE Ruedersdorf 1.75 304 *e*Pn **Pn** **23 37 10.1 +0.3**
RUE *e*Sg **Sg** **23 37 37.3 +2.9**
RUE Ruedersdorf 1.75 304 *e*Pn **Pn** **23 37 10.1 +0.3**
RUE *e*Sg **Sg** **23 37 37.3 +2.9**
RUE Ruedersdorf 1.75 304 *e*Pn **Pn** **23 37 10.1 +0.3**
RUE *e*Sg **Sg** **23 37 36.4 +2.0**
PRU Pruhonice 1.85 214 *e*PN **Pn** **23 37 11.1 -0.2**
PRU *e*PG **Pg** **23 37 13.0 -0.8**
PRU *e*x x 23 37 18.0
PRU *e*SG **Sg** **23 37 36.4 -1.5**
comp=N,124nm,0.6s
PRU Pruhonice 1.85 214 *e*P **Pn** **23 37 11.1 -0.2**
PRU *e* 23 37 36.4
PRU smax
comp=N,124nm,0.6s
FBE Freiberg 1.86 252 *e*Pn **Pn** **23 37 11.6 +0.1**
FBE *e*Sg **Sg** **23 37 37.9 -0.2**
GKP Gorka Klasztor 1.86 20 *e*Pn **Pn** **23 37 17.4 +5.9**
GKP *e*Pg **Pg** **23 37 21.7 +7.7**
GKP *e*Sn **Sn** **23 37 43.6 +7.9**
RAC Raciborz 1.94 137 *e*Pg **Pg** **23 37 15.6 0.0**
RAC *e*Sg **Sg** **23 37 40.1 -0.7**
MORC Moravsky Berou 1.97 153 ǁ *i*P **Pn** **23 37 13.3 +0.4**
MORC Moravsky Berou 1.97 153 *e*Pn **Pn** **23 37 13.1 +0.2**
MORC *e*Sn **Sn** **23 37 40.0 +1.7**
MORC Moravsky Berou 1.97 153 *e*Pn **Pn** **23 37 13.1 +0.2**
MORC *e*S **Sn** **23 37 40.0 +1.7**
CLL Collm 1.98 265 *e*Pn **Pn** **23 37 13.0 -0.1**
CLL *i*Pg **Pg** **23 37 16.9 +0.6**
CLL *e*Sg **Sg** **23 37 42.2 +0.1**
CLL Collm 1.98 265 *i*Pn **Pn** **23 37 12.9 -0.2**
CLL *i*Pg **Pg** **23 37 16.9 +0.6**
CLL *i*x x 23 37 20.1
CLL *ex* x 23 37 31.0
CLL *i*Sg **Sg** **23 37 41.5 -0.6**
comp=Z,86nm,0.8s
CLL Collm 1.98 265 *i*Pn **Pn** **23 37 12.9 -0.2**
CLL *i*Pg **Pg** **23 37 16.9 +0.6**
CLL *i*Sg **Sg** **23 37 41.5 -0.6**
CLL Collm 1.98 265 *e*Pn **Pn** **23 37 12.8 -0.3**
CLL Collm 1.98 265 Pg **Pg** **23 37 16.9 +0.6**
CLL *i*S **Sg** **23 37 41.5 -0.6**
CLL Sg **Sg** **23 37 42.2 +0.1**
OKC Ostrava-Krasne 2.12 142 *e*PN **Pn** **23 37 15.0 0.0**
OKC *e*PG **Pg** **23 37 18.8 -0.1**
OKC *e*SG **Sg** **23 37 45.2 -1.2**
comp=Z,136nm,0.6s
OKC Ostrava-Krasne 2.12 142 *e*P **Pn** **23 37 15.0 0.0**
OKC *e* 23 37 45.2
OKC smax
comp=N,136nm,0.6s
VRAC Vranov 2.25 173 Pn **Pn** **23 37 17.4 +0.7**
comp=N,4.3nm,0.3s,baz=335,slow=14,SNR=30
VRAC Sn **Sn** **23 37 45.0 -0.1**
comp=N,7.4nm,0.3s,baz=263,slow=19,SNR=5.0
VRAC Lg 23 37 49.3
comp=N,18nm,0.3s,baz=263,slow=21,SNR=10
VRAC Vranov 2.25 173 ǁ *i*P **Pn** **23 37 17.3 +0.6**
VRAC Vranov 2.25 173 P **Pn** **23 37 17.4 +0.7**
VRAC 23 37 45.0
VRAC pmax pmax
comp=Z,4.0nm,0.3s
VRAC smax
comp=E,7.0nm,0.3s
VRAC Vranov 2.25 173 *e*Pn **Pn** **23 37 17.3 +0.6**
VRAC S **Sn** **23 37 45.0 -0.1**
VRAC *e*Sg **Sg** **23 37 48.1 -2.3**
comp=E,67nm,0.4s
KRUC Moravsky 2.48 176 *e*Pn **Pn** **23 37 20.3 +0.4**
KRUC Moravsky 2.48 176 *e*Pg **Pg** **23 37 24.2 -1.6**
KRUC *e*Sg **Sg** **23 37 56.8 -1.1**
comp=E,81nm,0.7s
TANN Tannenbergstha 2.59 246 *e*Pn **Pn** **23 37 22.0 +0.6**
TANN *e*Sg **Sg** **23 37 59.5 -2.0**
OJC Ojcow 2.66 118 *e*Pn **Pn** **23 37 21.5 -0.9**
OJC *e*Pg **Pg** **23 37 30.7 +1.4**
OJC *e*Sn **Sn** **23 37 52.2 -3.1**
OJC *e*Sg **Sg** **23 38 05.5 +1.8**
OJC Ojcow 2.66 118 *e*P **Pn** **23 37 21.5 -0.9**
OJC *e* 23 37 52.2
WERD Werda 2.66 247 *e*Pn **Pn** **23 37 22.8 +0.4**
WERD *e*Sg **Sg** **23 38 05.6 +1.8**
NKC Novy Kostel 2.68 242 *e*PN **Pn** **23 37 23.2 +0.5**
NKC *e*PG **Pg** **23 37 29.7 0.0**
NKC *e*SG **Sg** **23 38 04.7 +0.2**
comp=E,114nm,0.5s
NKC Novy Kostel 2.68 242 *e*Pn **Pn** **23 37 23.1 +0.4**
KHC Kasperske Hory 2.92 215 *e*PN **Pn** **23 37 25.9 0.0**
KHC *e*PG **Pg** **23 37 32.1 -2.0**
KHC *e*SN **Sn** **23 38 00.9 -0.7**
KHC *e*SG **Sg** **23 38 11.8 -0.2**
comp=E,52nm,0.6s
MOX Moxa 3.00 255 *e*Pn **Pn** **23 37 27.3 +0.3**
MOX *e*Pg **Pg** **23 37 35.1 -0.6**
MOX *e*Sg **Sg** **23 38 15.6 +1.0**
MOX Moxa 3.00 255 *e*PN **Pn** **23 37 27.0 0.0**
MOX *e*PG **Pg** **23 37 35.1 -0.6**
MOX *e*SG **Sg** **23 38 15.6 +1.1**
MOX Moxa 3.00 255 *e*Pn **Pn** **23 37 27.0 0.0**
MOX *e*Pg **Pg** **23 37 35.1 -0.6**
MOX *e*Sg **Sg** **23 38 15.6 +1.1**
MANZ Manzenberg 3.00 240 *e*Pn **Pn** **23 37 27.7 +0.7**
MANZ *e*Sg **Sg** **23 38 14.9 +0.3**
ROTZ Rotzenmuhle 3.07 236 *e*Pn **Pn** **23 37 28.5 +0.4**
ROTZ *e*Sg **Sg** **23 38 15.1 -1.9**
GEC2 GERESS Array S 3.12 211 *e*P **Pn** **23 37 29.0 +0.3**
GEC2 *e* 23 38 07.7
GEC2 GERESS Array S 3.12 211 *e*Pn **Pn** **23 37 29.0 +0.3**
GEC2 *e*Pg **Pg** **23 37 31.1 -1.0**
GEC2 *e*Sn **Sn** **23 38 07.7 +1.1**
GEC2 *e*Sg **Sg** **23 38 18.8 +0.3**
GEC2 GERESS Array S 3.12 211 *e*Pn **Pn** **23 37 29.0 +0.3**
GEC2 GERESS Array S 3.12 211 *e*Pg **Pg** **23 37 31.1 -1.0**
GEC2 *e*S **Sn** **23 38 07.7 +1.1**
GERES GERESS Array B 3.12 211 Pn **Pn** **23 37 29.2 +0.5**
comp=E,3.2nm,0.3s,baz=28,slow=12,SNR=94
GERES Pg **Pg** **23 37 35.4 -2.6**
comp=E,10nm,0.3s,baz=27,slow=17,SNR=52
GERES Sn **Sn** **23 38 07.2 +0.6**
comp=E,4.9nm,0.3s,baz=39,slow=24,SNR=4.8
GERES Lg 23 38 15.1
comp=E,8.4nm,0.3s,baz=33,slow=27,SNR=6.3
GERES GERESS Array B 3.12 211 P **Pn** **23 37 29.2 +0.5**
GERES 23 38 07.2
GERES pmax pmax
comp=Z,3.0nm,0.3s
GERES pmax pmax
comp=Z,10.0nm,0.3s
GERES smax
comp=E,5.0nm,0.3s
SMOL Smolenice 3.13 164 *e*PG **Pg** **23 37 38.5 +0.2**
SMOL *e*SG **Sg** **23 38 18.9 -0.1**
WET Wettzell 3.18 223 *e*Pn **Pn** **23 37 29.7 +0.2**
VKA Vienna 3.27 178 *i*Pn **Pn** **23 37 33.1 +2.3**
VKA *i*Pg **Pg** **23 37 41.2 +0.2**
VKA *i*Sg **Sg** **23 38 24.0 +0.5**
**

VYHS	**Vyhne**	**3.50**	**149**	*i* PN	**Pn**	**23 37 34.0**	**0.0**
VYHS				*e*PG	**Pg**	**23 37 44.9**	**-0.5**
VYHS				*e*SG	**Sg**	**23 38 33.1**	**+2.3**
CLZ	**Clausthal**	**3.61**	**277**	*e*Pn	**Pn**	**23 37 36.1**	**+0.6**
CLZ	**Clausthal**	**3.61**	**277**	*e*Pn	**Pn**	**23 37 36.1**	**+0.6**
CONA	**Conrad Observa** SNR=17	**3.61**	**183**	*i* Pn	**Pn**	**23 37 34.7**	**-0.8**
CONA	comp=N,65nm,0.6s			⇓*i*Sg	**Sg**	**23 38 32.5**	**-1.9**
GRA1	**Grafenberg Arr**	**3.64**	**242**	*e*Pn	**Pn**	**23 37 36.6**	**+0.7**
GRA1				*e*Sg	**Sg**	**23 38 35.1**	**-0.2**
GRA1	**Grafenberg Arr**	**3.64**	**242**	Pn	**Pn**	**23 37 36.6**	**+0.7**
GRA1				Sg	**Sg**	**23 38 35.1**	**-0.2**
GRF	**Grafenberg Arr**	**3.64**	**242**	*e*Pn	**Pn**	**23 37 36.6**	**+0.7**
GRF				*e*Sg	**Sg**	**23 38 35.1**	**-0.1**
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P	**Pn**	**23 37 36.4**	**+0.2**
BSD				*i* S	**Sn**	**23 38 16.7**	**-3.4**
BSD				*i* LG		23 38 19.5	
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P	**Pn**	**23 37 36.4**	**+0.2**
BSD				*i* S	**Sn**	**23 38 16.7**	**-3.4**
MOA	**Molln** SNR=9.9	**3.88**	**199**	⇓*i* Pn	**Pn**	**23 37 39.4**	**+0.1**
MOA	comp=N,53nm,0.6s			⇓*i*Sg	**Sg**	**23 38 42.2**	**-0.9**
MOA	**Molln** comp=N,9.0nm,9.0s	**3.88**	**199**	Pn	**Pn**	**23 37 39.4**	**+0.2**
MOA	comp=N,53nm,0.6s			Sg	**Sg**	**23 38 42.2**	**-0.9**
UBBA	**Unterbreizbach**	**3.94**	**262**	*e*Pn	**Pn**	**23 37 41.1**	**+1.1**
BSEG	**Bad Segeberg**	**4.29**	**306**	*e*Pn	**Pn**	**23 37 44.1**	**-0.7**
ARSA	**Arzberg**	**4.31**	**186**	⇑*i* Pn	**Pn**	**23 37 45.1**	**+0.1**
ARSA	comp=N,58nm,0.7s			⇑*i*Sg	**Sg**	**23 38 54.4**	**-2.2**
CRVS	**Cervenica-Dubn**	**4.31**	**126**	*i* PN	**Pn**	**23 37 45.8**	**+0.7**
CRVS				*e*PG	**Pg**	**23 38 01.7**	**+0.8**
CRVS				*e*SG	**Sg**	**23 38 57.0**	**+0.3**
PSZ	**Piszkesteto**	**4.36**	**145**	⇓*e*P	**Pn**	**23 37 47.2**	**+1.5**
PSZ				*e*S	**Sg**	**23 38 53.0**	**-5.3**
BUD	**Budapest**	**4.46**	**154**	⇑*e*P	**Pn**	**23 37 49.6**	**+2.4**
BUD				*e*S	**Sg**	**23 39 12.4**	**+11**
KWP	**Kalwaria**	**4.59**	**112**	*e*Pn	**Pn**	**23 37 48.8**	**-0.2**
KWP				*e*Pg	**Pg**	**23 38 04.3**	**-2.0**
FUR	**Furstenfeldbru**	**4.62**	**225**	*e*Pn	**Pn**	**23 37 50.0**	**+0.7**
KOLS	**Kolonicke sedl**	**4.71**	**121**	*i* PN	**Pn**	**23 37 51.4**	**+0.8**
KOLS				*e*		23 38 10.2	
KOLS	**Kolonicke sedl**	**4.71**	**121**	*e*SG	**Sg**	**23 39 13.7**	**+4.0**
KOLS	**Kolonicke sedl**	**4.71**	**121**	*i* Pn	**Pn**	**23 37 51.4**	**+0.8**
KOLS				*e*		23 38 10.2	
KOLS				*e*Sg	**Sg**	**23 39 13.7**	**+4.0**
KBA	**Koelnbreinsper**	**4.82**	**203**	⇑*i* Pn	**Pn**	**23 37 53.3**	**+1.2**
KBA	comp=N,29nm,0.6s			⇑*i*Sg	**Sg**	**23 39 13.0**	**-0.2**
TOD	**Tromm**	**5.06**	**250**	P	**Pn**	**23 37 55.2**	**-0.3**
TOD				S	**Sn**	**23 38 37.0**	**-18**
GROS	**Grobnik**	**5.09**	**185**	*i* Pn	**Pn**	**23 37 57.0**	**+1.1**
GROS				*e*		23 39 17.4	
WATA	**Walderalm**	**5.15**	**217**	⇑*i* Pn	**Pn**	**23 37 57.9**	**+1.2**
WATA	comp=N,19nm,0.4s			⇑*i*Sg	**Sg**	**23 39 24.9**	**+1.1**
WTTA	**Wattenberg**	**5.19**	**216**	⇑*i* Pn	**Pn**	**23 37 57.9**	**+0.7**
WTTA	comp=N,24nm,0.7s			⇑*i*Sg	**Sg**	**23 39 25.3**	**+0.2**
MOTA	**Moosalm** SNR=8.3	**5.33**	**220**	⇑*i* Pn	**Pn**	**23 37 59.7**	**+0.6**
MOTA	comp=N,11nm,0.6s			⇑*i*Sg	**Sg**	**23 39 29.4**	**-0.1**
MOTA	**Moosalm** comp=N,8.0nm,3.0s	**5.33**	**220**	Pn	**Pn**	**23 37 59.7**	**+0.6**
MOTA	comp=N,11nm,0.6s			Sg	**Sg**	**23 39 29.4**	**-0.1**
SQTA	**Sankt Quirin** SNR=9.2	**5.39**	**219**	⇓*i* Pn	**Pn**	**23 38 01.1**	**+1.2**
SQTA	comp=N,11nm,0.5s			⇓*i*Sg	**Sg**	**23 39 33.0**	**+1.6**
SQTA	**Sankt Quirin** comp=N,9.0nm,2.0s	**5.39**	**219**	Pn	**Pn**	**23 38 01.1**	**+1.2**
SQTA	comp=N,11nm,0.5s			Sg	**Sg**	**23 39 33.0**	**+1.6**
PDKS	**Podkum**	**5.53**	**188**	*i* Pn	**Pn**	**23 38 03.4**	**+1.5**
VOY	**Vojsko**	**5.70**	**196**	*e*Pn	**Pg**	**23 38 25.8**	**-1.8**
VOY				*e*Sn	**Sg**	**23 39 43.0**	**+1.5**
ABH	**Alteburg**	**5.71**	**257**	P	**Pn**	**23 38 05.3**	**+1.0**
CRES	**Cresnjev**	**5.73**	**185**	*i* Pn	**Pn**	**23 38 06.0**	**+1.4**
BFO	**Black Forest**	**5.98**	**241**	*e*Pn	**Pn**	**23 38 07.2**	**-0.8**
BOJS	**Bojanci**	**6.06**	**186**	*i* Pn	**Pn**	**23 38 10.6**	**+1.5**
DAVOX	**Davos** comp=N,0.6nm,0.3s,baz=59,slow=14,SNR=7.1	**6.29**	**223**	Pn	**Pn**	**23 38 13.4**	**+1.2**
DAVOX	comp=N,0.9nm,0.3s,baz=52,slow=5.3,SNR=5.8			Pg	**Pg**	**23 38 36.5**	**-2.2**
DAVOX	comp=N,0.7nm,0.3s,baz=190,slow=20,SNR=3.3			Lg		23 39 56.6	
DAVOX	**Davos**	**6.29**	**223**	Pg	**Pg**	**23 38 36.5**	**-2.3**
DRGR		**6.40**	**135**	⇑*i* P	**Pn**	**23 38 13.9**	**0.0**
FELD	**Feldberg im Sc**	**6.43**	**238**	P	**Pn**	**23 38 19.5**	**+5.3**
WLS	**Welschbruch**	**6.48**	**245**	P	**Pn**	**23 38 15.2**	**+0.3**
HGN	**Heimansgroeve** comp=N,1.0nm,0.6s	**6.48**	**267**	*e*Pn	**Pn**	**23 38 17.9**	**+3.1**
HGN				*ex*	x	23 38 22.7	
HGN				*e*Sn	**Sg**	**23 40 05.4**	**-1.0**
CDF	**Champ du Feu**	**6.52**	**245**	*e*Pn	**Pn**	**23 38 14.4**	**-1.1**
CDF	comp=N,38nm,0.9s			*e*Sg	**Sg**	**23 40 02.5**	**-5.2**
CDF	**Champ du Feu** comp=N,19nm,0.9s	**6.52**	**245**	*e*Pn	**Pn**	**23 38 14.4**	**-1.1**
CDF				*e*Sg	**Sg**	**23 40 02.5**	**-5.2**
HINF	**Hinteralfeld**	**7.09**	**242**	*e*Pn	**Pn**	**23 38 23.5**	**+0.3**
HINF	comp=N,23nm,0.8s			*e*Sg	**Sg**	**23 40 21.2**	**-4.7**
HINF	**Hinteralfeld**	**7.09**	**242**	*e*Pn	**Pn**	**23 38 23.5**	**+0.3**
HINF	comp=N,11nm,0.8s			*e*Sg	**Sg**	**23 40 21.2**	**-4.7**
SFTF	**Sexfontaines** comp=N,21nm,0.9s	**7.91**	**249**	*e*Sg	**Sg**	**23 40 45.4**	**-7.0**
SFTF	**Sexfontaines** comp=N,11nm,0.9s	**7.91**	**249**	*e*Sg	**Sg**	**23 40 45.4**	**-7.0**
CABF	**La Chapelle** comp=N,35nm,1.0s	**8.24**	**237**	*e*Sg	**Sg**	**23 40 57.6**	**-5.2**
CABF	**La Chapelle** comp=N,18nm,1.0s	**8.24**	**237**	*e*Sg	**Sg**	**23 40 57.6**	**-5.2**
AKASG	**Malin Array Be** comp=N,1.8nm,0.3s,baz=280,slow=12,SNR=9.6	**8.27**	**91**	Pn	**Pn**	**23 38 38.9**	**-0.6**
AKASG	comp=N,1.1nm,0.3s,baz=336,slow=23,SNR=4.0			Sn	**Sn**	**23 40 09.8**	**-3.8**
AKASG	comp=N,0.2nm,0.3s,baz=280,slow=26,SNR=4.7			Lg		23 41 08.5	
AKASG	**Malin Array Be**	**8.27**	**91**	P	**Pn**	**23 38 38.9**	**-0.6**
AKASG						23 40 09.9	
AKASG	comp=Z,2.0nm,0.3s			pmax	pmax		
AKASG	comp=E,1.0nm,0.3s			smax			
AKASG	**Malin Array Be**	**8.27**	**91**	Pn	**Pn**	**23 38 38.8**	**-0.7**
LPL	**La Plagne**	**8.67**	**230**	*e*Pn	**Pn**	**23 38 46.2**	**+1.2**
LPG	**La Plagne**	**8.68**	**230**	*e*Pn	**Pn**	**23 38 46.0**	**+0.9**
HFS	**Hagfors** comp=E,0.3nm,0.3s,baz=167,slow=14,SNR=8.3	**8.73**	**352**	Pn	**Pn**	**23 38 45.7**	**-0.1**
LOR	**Lormes**	**9.08**	**247**	*e*Pn	**Pn**	**23 38 48.8**	**-1.8**
MBDF	**Montbardon**	**9.25**	**226**	*e*Pn	**Pn**	**23 38 53.0**	**+0.1**
SMF	**Signal de Mont** comp=E,16nm,0.9s	**9.44**	**244**	*e*Sg	Sx	23 41 34.9	
SMF	**Signal de Mont** comp=E,8.0nm,0.9s	**9.44**	**244**	*e*Sg	Sx	23 41 34.9	
ORIF	**Oris-en-Rattie**	**9.52**	**230**	*e*Pn	**Pn**	**23 38 55.1**	**-1.5**
SBF	**Sospel**	**9.66**	**221**	*e*Pn	**Pn**	**23 38 59.1**	**+0.6**
NOA	**NORSAR Array B** comp=E,0.3nm,0.3s,baz=164,slow=12,SNR=3.4	**9.91**	**346**	Pn	**Pn**	**23 39 01.2**	**-0.8**
NOA	**NORSAR Array B**	**9.91**	**346**	Pn	**Pn**	**23 39 01.2**	**-0.8**
FRF	**La Foret Royal**	**10.23**	**223**	*e*Pn	**Pn**	**23 39 06.7**	**+0.3**
SMRF	**Simiane la Rot**	**10.38**	**227**	*e*Pn	**Pn**	**23 39 06.9**	**-1.5**
LMR	**La Mourre**	**10.48**	**222**	*e*Pn	**Pn**	**23 39 09.8**	**+0.1**
LASF	**Ste Croix**	**11.12**	**233**	*e*Pn	**Pn**	**23 39 17.0**	**-1.6**
FINES	**FINESS Array B** comp=E,0.3nm,0.3s,baz=204,slow=12,SNR=11	**11.33**	**25**	Pn	**Pn**	**23 39 20.8**	**-0.7**
FINES	comp=E,0.4nm,0.3s,baz=211,slow=19,SNR=6.3			Sn	**Sn**	**23 41 23.1**	**-5.7**
KAF	**Kangasniemi**	**11.96**	**24**	*e*p	**Pn**	**23 39 23.5**	**-6.5**
EKA	**Eskdalemuir Ar** comp=E,0.2nm,0.3s,baz=105,slow=14,SNR=7.6	**12.12**	**296**	Pn	**Pn**	**23 39 29.1**	**-3.2**
JOF	**Joensuu** comp=E,1.1nm,0.4s	**14.01**	**30**	*e*p	**Pn**	**23 39 55.8**	**-2.2**
ARCES	**ARCESS Array B** comp=E,0.6nm,0.3s,baz=198,slow=12,SNR=14	**18.60**	**10**	Pn	**Pn**	**23 40 54.7**	**-2.5**
KEV	**Kevo** comp=E,2.6nm,0.5s	**18.98**	**12**	*e*p	**Pn**	**23 41 00.7**	**-1.2**
TORD	**Torodi Ar. Bea** comp=E,1.5nm,1.1s,mb3.5,baz=8.9,slow=6.7,SNR=6.0	**40.03**	**202**	P	**P**	**23 44 14.4**	**-0.6**

*BJI **17** 23:36:32.5, 9.10S×107.80E, h10km, mB4.9, mb4.7*
*IDC **17** 23:36:34.0±0.6, 9.10S×107.77E, h0km, mb4.3/13, mb1 4.4/13, mb1mx4.3/19, mbtmp4.3/13, Error ellipse: s-maj=24.9km s-min=15.3km az=60.0*
*NEIC **17** 23:36:35.5±0.3, 9.11S×107.81E, h10km, mb5.2/8, Error ellipse: s-maj=11.8km s-min=4.9km az=54.0*
*ISCJB **17** 23:36:37.0±0.4, 9.08S±0.08×107.87E±0.10, h33km, mb4.5/25, Error ellipse: s-maj=16.2km s-min=6.8km az=109.6*
*MOS **17** 23:36:37.0±0.8, 9.03S×107.89E, h33km, mb5.1/5, Error ellipse: s-maj=19.4km s-min=10.2km az=117.2*

ISC 17 23:36:39.4±0.4, 911S±0.08×10783E±0.10, h35km, n49, σ0s89/47, mb4.5/25, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**15.99**	**333**	*e*P	**Pn**	**23 40 19.3**	**-2.3**
MBWA	**Marble Bar**	**16.58**	**138**	*e*Pn	**Pn**	**23 40 27.1**	**-2.0**
NWAO	**Narrogin (SRO)**	**25.24**	**161**	*e*P	**P**	**23 42 01.7**	**-0.3**
WRA	**Warramunga Arr** 1.2nm,0.8s,mb3.6,baz=290,slow=10,SNR=3.8	**27.79**	**116**	P	**P**	**23 42 24.9**	**-0.1**
WRAB	**Tennant Creek**	**27.79**	**116**	*e*P	**P**	**23 42 25.3**	**+0.3**
WB2	**Warramunga Arr**	**27.80**	**116**	*e*P	**P**	**23 42 26.1**	**+1.1**
QIZ	**Qiongzhong**	**28.03**	**4**	P	**P**	**23 42 27.1**	**0.0**
ASAR	**Alice Springs** 2.0nm,1.1s,mb3.8,baz=298,slow=9.2,SNR=5.1	**28.83**	**123**	P	**P**	**23 42 35.0**	**+0.8**
STKA	**Stephens Creek** 7.8nm,0.9s,mb4.5,baz=330,slow=9.6,SNR=6.8	**38.64**	**131**	P	**P**	**23 44 00.8**	**+1.5**
STKA	**Stephens Creek**	**38.64**	**131**	*e*P	**P**	**23 44 00.1**	**+0.8**
JIRN	**Jiri**	**42.13**	**331**	*e*P	**P**	**23 44 29.0**	**+0.8**
PKI	**Pulchoki**	**42.44**	**330**	*e*P	**P**	**23 44 31.3**	**+0.6**
GUN	**Gumba** 48nm,0.8s,mb5.2	**42.49**	**331**	*e*P	**P**	**23 44 31.7**	**-0.6**
DMN	**Daman** 52nm,0.9s,mb5.3	**42.62**	**330**	*e*P	**P**	**23 44 32.6**	**+0.4**
KKN	**Kakani** 40nm,0.9s,mb5.2	**42.69**	**330**	*e*P	**P**	**23 44 32.9**	**+0.2**
KKN	comp=Z,41nm,0.9s,mb5.2			pmax	pmax		
XAN	**Xi'an**	**42.92**	**1**	P	**P**	**23 44 35.3**	**+0.7**
XAN	comp=Z,11nm,0.8s,mb4.6			AMB	AMB		
GKN	**Gorkha** comp=Z,41nm,0.8s,mb5.2	**43.18**	**329**	*e*P	**P**	**23 44 36.8**	**+0.1**
KOLN	**Koldanda** comp=Z,56nm,0.7s,mb5.4	**43.52**	**328**	*e*P	**P**	**23 44 39.8**	**+0.3**
BJI	**Beijing**	**49.51**	**8**	*e*P	**P**	**23 45 26.5**	**+0.1**
BJI	comp=Z,16nm,0.7s,mb5.2			AMB	AMB		
HNR	**Honiara**	**51.40**	**95**	P	**P**	**23 45 40.9**	**+0.2**
MJAR	**Matsushiro Arr**	**53.64**	**30**	P	**P**	**23 45 55.8**	**-1.5**
SONM	**Songino Array** comp=Z,4.3nm,0.9s,mb4.5,baz=176,slow=8.6,SNR=12	**56.71**	**359**	P	**P**	**23 46 20.1**	**+0.7**
ULN	**Ulaanbaatar**	**56.73**	**359**	*e*P	**P**	**23 46 20.0**	**+0.4**
ULN	comp=Z,4.0nm,0.8s,mb4.5			pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,4.5nm,0.8s,mb4.5	**56.73**	**359**	*e*P	**P**	**23 46 20.0**	**+0.4**
ZAK	**Zakamensk**	**59.38**	**357**	*e*P	**P**	**23 46 38.1**	**0.0**
ZAK	comp=Z,1.0nm,1.3s,mb3.7			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,4.5nm,0.5s,mb4.8,baz=150,slow=8.5,SNR=24	**60.14**	**340**	P	**P**	**23 46 43.2**	**-0.1**
MKAR	**Makanchi Array**	**60.14**	**340**	P	**P**	**23 46 43.2**	**-0.1**
KURK	**Kurchatov**	**64.75**	**340**	*e*P	**P**	**23 47 14.0**	**-0.1**
KURK	comp=Z,2μm,1.9s			pmax	pmax		
KURK	**Kurchatov** comp=Z,2μm,1.9s	**64.75**	**340**	*e*P	**P**	**23 47 14.0**	**-0.1**
MAW	**Mawson** comp=Z,2.4nm,0.6s,mb4.4,baz=39,slow=7.9,SNR=6.1	**65.60**	**197**	P	**P**	**23 47 19.6**	**0.0**
BOD	**Bodaibo**	**66.89**	**4**	*e*P	**P**	**23 47 25.8**	**-2.1**
BVAR	**Borovoye Array** comp=Z,8.1nm,0.8s,mb4.7,baz=142,slow=8.1,SNR=12	**69.62**	**337**	P	**P**	**23 47 44.6**	**-0.4**
BRVK	**Borovoye**	**69.68**	**337**	*e*P	**P**	**23 47 44.9**	**-0.5**
BRVK	comp=Z,5.0nm,0.9s,mb4.4			pmax	pmax		
BRVK	**Borovoye** comp=Z,5.2nm,0.9s,mb4.5	**69.68**	**337**	*e*P	**P**	**23 47 44.9**	**-0.5**
CHKZ	**Chkalovo**	**70.03**	**337**	*e*P	**P**	**23 47 47.4**	**-0.2**
CHKZ	comp=Z,8.0nm,0.4s,mb5.0			pmax	pmax		
CHKZ	**Chkalovo** comp=Z,8.4nm,0.4s,mb5.0	**70.03**	**337**	*e*P	**P**	**23 47 47.4**	**-0.2**
ZRNK	**Zerenda**	**70.11**	**336**	*e*P	**P**	**23 47 47.4**	**-0.6**
AKTK	**Aktyubinsk**	**73.34**	**329**	P	**P**	**23 48 09.1**	**+1.6**
AKTO	**Aktyubinsk** comp=Z,1.9nm,0.7s,mb4.1,baz=118,slow=16,SNR=4.7	**73.34**	**329**	P	**P**	**23 48 09.1**	**+1.6**
VNDA	**Vanda** comp=Z,1.8nm,0.9s,mb4.0,baz=298,slow=6.2,SNR=7.2	**73.75**	**169**	P	**P**	**23 48 09.2**	**-0.7**
ARU	**Arti**	**76.87**	**334**	*e*P	**P**	**23 48 26.0**	**-1.8**
LSZ	**Lusaka** comp=Z,1.7nm,0.6s,mb4.2,baz=76,slow=6.3,SNR=6.7	**77.72**	**256**	P	**P**	**23 48 32.3**	**-0.3**
LSZ	**Lusaka**	**77.72**	**256**	P	**P**	**23 48 32.3**	**-0.3**
ASF	**Jabal al Asfar** comp=Z,2.1nm,0.8s,mb4.1,baz=360,slow=7.5,SNR=3.9	**79.03**	**305**	P	**P**	**23 48 40.4**	**+0.6**
BRTR	**Keskin Array B** comp=Z,1.5nm,0.8s,mb4.2,baz=133,slow=7.4,SNR=6.7	**83.83**	**312**	P	**P**	**23 49 05.0**	**-0.3**
OBN	**Obninsk**	**86.93**	**327**	*e*P	**P**	**23 49 25.2**	**+4.5**
OBN	comp=Z,5.0nm,0.9s,mb4.7			pmax	pmax		
BDFB	**Brasilia** comp=Z,2.0nm,0.5s,baz=158,slow=1.5,SNR=4.4	**145.69**	**224**	PKPbc	PKPbc	23 56 15.4	+1.1
LPAZ	**La Paz** comp=Z,0.7nm,0.6s,baz=211,slow=4.0,SNR=3.6	**154.45**	**189**	PKPbc	PKPbc	23 56 39.6	+3.5

*IDC **17** 23:37:18.7±1.2, 9.40S×108.39E, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.1/16, mbtmp4.2/7, ML3.7/1, Error ellipse: s-maj=40.6km s-min=24.5km az=37.0*
*ISCJB **17** 23:37:21.2±5.1, 9.93S±0.01×108.51E±0.01, h28km±37km, mb4.1/11, Error ellipse: s-maj=28.8km s-min=10.9km az=102.5*
*NEIC **17** 23:37:22.2±3.7, 9.35S×108.37E, h21km±27km, mb4.3/6, Error ellipse: s-maj=17.9km s-min=6.7km az=52.0*

ISC 17 23:37:22.3±5.1, 93S±0.1×1084E±0.1, h20km±37km, n19, σ0s87/19, mb4.1/11, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar** 5.6nm,0.8s	**16.04**	**138**	*e*Pn	**Pn**	**23 41 07.1**	**+0.4**
KULM	**Kulim**	**16.45**	**332**	*e*Pn	**Pn**	**23 41 11.7**	**-0.2**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=319,slow=4.1,SNR=4.2	**18.87**	**119**	P	**Pn**	**23 41 41.2**	**-0.5**
NWAO	**Narrogin (SRO)** 3.6nm,0.6s,mb4.1	**24.86**	**162**	*e*P	**P**	**23 42 44.3**	**+1.0**
WRA	**Warramunga Arr** 3.3nm,1.0s,mb3.8,baz=287,slow=12,SNR=3.2	**27.18**	**116**	P	**P**	**23 43 03.5**	**-0.9**
WRAB	**Tennant Creek**	**27.19**	**116**	P	**P**	**23 43 05.1**	**+0.6**
WB2	**Warramunga Arr**	**27.19**	**116**	*e*P	**P**	**23 43 02.6**	**-1.9**
ASAR	**Alice Springs** 1.4nm,0.7s,mb3.7,baz=299,slow=9.8,SNR=4.6	**28.23**	**123**	P	**P**	**23 43 14.5**	**+0.7**
CTAO	**Charters Tower** 0.9nm,0.3s,mb4.0	**38.05**	**111**	*e*P	**P**	**23 44 40.2**	**+1.0**
STKA	**Stephens Creek** 8.7nm,0.7s,mb4.6,baz=309,slow=8.6,SNR=9.5	**38.07**	**131**	P	**P**	**23 44 39.0**	**-0.4**
TAU	**Tasmania Univ**	**47.67**	**141**	*e*P	**P**	**23 45 56.7**	**-0.5**
HNR	**Honiara**	**50.82**	**95**	*e*P	**P**	**23 46 22.7**	**+1.5**
SONM	**Songino Array** 1.5nm,0.5s,mb4.3,baz=174,slow=8.6,SNR=3.6	**56.94**	**358**	P	**P**	**23 47 06.4**	**+0.3**
KURK	**Kurchatov** 2.3nm,0.5s,mb4.5	**65.15**	**340**	*e*P	**P**	**23 48 01.4**	**-0.3**
BRVK	**Borovoye**	**70.11**	**337**	P	**P**	**23 48 33.6**	**+0.6**
CHKZ	**Chkalovo** 2.0nm,0.6s,mb4.2	**70.45**	**337**	*e*P	**P**	**23 48 34.7**	**-0.4**
ZRNK	**Zerenda** 1.5nm,0.6s,mb4.1	**70.53**	**336**	*e*P	**P**	**23 48 35.1**	**-0.5**
VNDA	**Vanda** 1.7nm,0.8s,mb4.0,baz=296,slow=8.4,SNR=5.3	**73.44**	**169**	P	**P**	**23 48 51.3**	**-1.8**
LSZ	**Lusaka** 0.8nm,0.5s,mb3.9,baz=87,slow=5.5,SNR=3.6	**78.22**	**256**	P	**P**	**23 49 21.4**	**+1.0**

*ISCJB **17** 23:38:41.7±4.6, 9.38S±0.06×108.49E±0.07, h3km±29km, mb4.5/41, MS3.9/6, Error ellipse: s-maj=12.4km s-min=8.8km az=102.2*

*IDC **17** 23:38:42.9±0.5, 9.38S×108.47E, h0km, mb4.3/19, mb1 4.3/20, mb1mx4.3/23, mbtmp4.3/20, ML3.9/1, MS3.6/2, Ms1 3.6/2, ms1mx3.1/33, Error ellipse: s-maj=18.6km s-min=14.0km az=52.0*
*NEIC **17** 23:38:48.3±2.6, 9.31S×108.43E, h34km±18km, mb4.5/16, Error ellipse: s-maj=7.9km s-min=6.0km az=71.0*
*BJI **17** 23:38:49.2, 9.30S×108.40E, h33km, mB5.0, mb4.7, Ms4.5, Msz4.2*

ISC 17 23:38:46.8±3.4, 939S±0.06×10848E±0.07, h23km±24km, h16km±1.5km: pP-P, n72, σ0s95/67, mb4.5/41, MS3.9/6, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**10.94**	**10**	Pn	**Pn**	**23 41 28.8**	**+6.9**
COCO	**West Island**	**11.78**	**255**	Pn	**Pn**	**23 41 32.5**	**-0.8**
MBWA	**Marble Bar**	**15.95**	**138**	*e*Pn	**Pn**	**23 42 37.4**	**+7.7**
KULM	**Kulim**	**16.54**	**332**	*e*Pn	**Pn**	**23 42 36.4**	**-0.8**
KKM	**Kota Kinabalu**	**17.16**	**27**	*e*Pn	**Pn**	**23 42 54.2**	**+9.2**
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=297,slow=13,SNR=5.7	**18.77**	**119**	P	**Pn**	**23 43 04.7**	**-0.1**
NWAO	**Narrogin (SRO)**	**24.78**	**162**	*e*P	**P**	**23 44 10.5**	**+3.7**
WRA	**Warramunga Arr** 1.4nm,0.7s,mb3.6,baz=288,slow=12,SNR=4.0	**27.09**	**116**	P	**P**	**23 44 29.5**	**+1.9**
WRA	0.7nm,0.7s,baz=305,slow=1.9,SNR=3.9			PcP	PcP	23 47 48.0	-0.3
WRA	comp=Z,204nm,21.2s,MS3.7,baz=285,slow=37			LR	LR	23 55 24.9	
WRAB	**Tennant Creek** 12nm,0.9s,mb4.4	**27.09**	**116**	*e*P	**P**	**23 44 36.5**	**+8.8**
WB2	**Warramunga Arr**	**27.10**	**116**	*e*P	**P**	**23 44 27.1**	**-0.7**
ASAR	**Alice Springs** 1.3nm,0.9s,mb3.5,baz=299,slow=9.4,SNR=3.2	**28.14**	**123**	P	**P**	**23 44 38.2**	**+1.1**
ASAR	1.6nm,0.6s,baz=300,slow=1.9,SNR=8.7			PcP	PcP	23 47 50.6	-0.2
QIZ	**Qiongzhong**	**28.27**	**3**	P	**P**	**23 44 38.7**	**+0.4**
NACB	**Ninganchiao**	**35.73**	**21**	P	**P**	**23 45 43.7**	**0.0**
YHNB	**Yeheng**	**36.11**	**20**	*e*P	**P**	**23 45 46.4**	**-0.5**
CTAO	**Charters Tower** 7.5nm,0.9s,mb4.4	**37.96**	**111**	*e*P	**P**	**23 46 11.8**	**+9.2**
STKA	**Stephens Creek** 2.1nm,0.6s,mb4.1,baz=313,slow=6.8,SNR=3.6	**37.97**	**131**	P	**P**	**23 46 01.0**	**-1.7**
STKA	**Stephens Creek**	**37.97**	**131**	P	**P**	**23 46 09.2**	**+6.5**
ENH	**Enshi**	**39.44**	**1**	*e*P	**P**	**23 46 18.4**	**+3.3**
CD2	**Chengdu**	**40.32**	**354**	⇑*i*P	**P**	**23 46 26.1**	**+3.7**
CD2				AP	pP	23 46 30.0	+0.5
CD2				XP	sP	23 46 33.3	+1.0
CD2				PP	PP	23 48 03.4	+8.1
CD2				S	**S**	**23 52 35.0**	**+6.2**
CD2				XS	sS	23 52 42.4	+2.0
CD2	comp=Z,10.0nm,0.8s,mb4.6			AMB	AMB		
CD2	comp=E,120nm,13.2s			LR	LR		
CD2	comp=Z,90nm,13.2s,MS3.8			LR	LR		
JOW	**Kunigami** comp=Z,3.2nm,0.4s,mb4.3,baz=130,slow=19,SNR=4.9	**40.81**	**28**	P	**P**	**23 46 25.9**	**-0.5**
NJ2	**Nanjing**	**42.38**	**13**	*e*P	**P**	**23 46 45.3**	**+6.0**
NJ2				AP	pP	23 46 50.8	+4.4
NJ2				XP	sP	23 46 51.8	+2.6
NJ2				PP	PP	23 48 27.8	+10
NJ2	comp=Z,10.0nm,0.8s,mb4.5			AMB	AMB		
NJ2	comp=Z,1μm,4.4s			AMB	AMB		
JIRN	**Jiri** comp=Z,19nm,0.4s,mb5.2	**42.69**	**330**	*e*P	**P**	**23 46 42.9**	**+1.1**
GUMO	**Guam** comp=Z,43nm,20.4s,MS3.3,baz=109,slow=37	**42.73**	**58**	LR	LR	00 05 00.4	
PKI	**Pulchoki**	**43.00**	**329**	*e*P	**P**	**23 46 44.6**	**+0.2**
GUN	**Gumba**	**43.05**	**330**	*e*P	**P**	**23 46 45.9**	**+1.2**
DMN	**Daman** comp=Z,22nm,0.6s,mb5.0	**43.19**	**329**	*e*P	**P**	**23 46 46.6**	**+0.8**
KKN	**Kakani**	**43.25**	**329**	*e*P	**P**	**23 46 46.6**	**+0.3**
GKN	**Gorkha** comp=Z,16nm,0.4s,mb5.1	**43.75**	**329**	*e*P	**P**	**23 46 50.9**	**+0.5**
KOLN	**Koldanda** comp=Z,37nm,0.6s,mb5.3	**44.10**	**328**	*e*P	**P**	**23 46 53.8**	**+0.6**
HHC	**Hu-ho-hao-te**	**50.06**	**3**	*e*P	**P**	**23 47 47.3**	**+7.6**
HHC				AP	pP	23 47 52.8	+5.9
HHC				XP	sP	23 47 55.3	+5.6
HHC				PCP	PcP	23 49 04.5	+5.2
HHC				S	**S**	**23 54 55.4**	**+5.8**
H

comp=Z,2.7nm,0.6s,mb4.3
ASF Jabal al Asfar 79.72 305 P **P** 23 50 54.0 +1.3
comp=Z,1.5nm,0.4s,mb4.2,baz=320,slow=3.8,SNR=4.6
MALT Malatya 80.52 311 P **P** 23 50 57.5 +0.4
EIL Elat 80.58 302 *eP* **P** 23 50 58.3 +0.9
comp=Z,39nm,0.7s,mb5.4
MMAI Mount Meron Ar 81.17 306 P **P** 23 51 01.8 +1.2
comp=Z,3.9nm,0.6s,mb4.5,baz=101,slow=11,SNR=6.1
BRTR Keskin Array B 84.50 312 P **P** 23 51 18.2 +0.4
comp=Z,2.6nm,0.7s,mb4.5,baz=139,slow=6.4,SNR=10
OBN Obninsk 87.51 327 *eP* **P** 23 51 30.8 -1.9
comp=Z,6.1nm,0.6s,mb5.0
SNAA Sanae 87.69 197 *eP* **P** 23 51 33.5 0.0
comp=Z,2.9nm,1.0s,mb4.5
TSUM Tsumeb 87.80 251 P **P** 23 51 34.1 0.0
comp=Z,1.4nm,0.6s,mb4.4,baz=26,slow=3.0,SNR=11
SANT Santorini 89.94 307 P **P** 23 51 43.5 -0.6
AKASG Malin Array Be 90.46 321 P **P** 23 51 45.5 -1.1
comp=Z,1.2nm,0.6s,mb4.4,baz=89,slow=4.5,SNR=5.9
FINES FINESS Array B 94.56 331 P **P** 23 52 04.5 -1.0
comp=Z,1.3nm,0.8s,mb4.4,baz=25,slow=5.0,SNR=3.4
YKA Yellowknife Ar 118.56 21 PKP PKPdf 23 57 31.3 -1.3
comp=Z,0.6nm,0.6s,baz=335,slow=1.6,SNR=4.1
YKA Yellowknife Ar 118.56 21 PKP PKPdf 23 57 31.3 -1.4
SCHQ Schefferville 134.52 356 PKP PKPdf 23 58 03.8 +0.7
comp=Z,2.5nm,1.0s,baz=236,slow=5.1,SNR=3.7
NCB Newcomb 145.47 3 *e*PKPdf PKPdf 23 58 22.8 -0.2
BDFB Brasília 145.94 223 PKPbc PKPbc 23 58 25.9 +1.5
comp=Z,2.9nm,0.4s,baz=154,slow=3.8,SNR=5.0
LPAZ La Paz 154.27 188 PKPbc PKPbc 23 58 46.6 +1.6
comp=Z,0.5nm,0.5s,baz=116,slow=4.2,SNR=5.1

IDC ***17*** *23:52:06.2±1.0, 957S×10886E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.9/15, mbtmp3.9/8, ML3.7/1, Error ellipse: s-maj=48.8km s-min=17.4km az=53.0*
NEIC ***17*** *23:52:08.0±10.0, 948S×10893E, h11km±63km, mb4.2/4, Error ellipse: s-maj=27.2km s-min=8.3km az=65.0*
ISCJB ***17*** *23:52:09.5±0.7, 955S±01×1090E±01, h33km, mb3.9/10, Error ellipse: s-maj=21.7km s-min=10.4km az=112.1*

ISC 17 23:52:11.6±0.7, 955S±01×1090E±01, h35km, n17, σ0°63/17, mb3.9/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.58**	**139**	*e*Pn		**Pn**	**23 55 43.6**	**-5.0**
7.6nm,0.7s								
KKM	**Kota Kinabalu**	**17.03**	**25**	*e*Pn		**Pn**	**23 56 06.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**18.33**	**120**	P		**Pn**	**23 56 23.3**	**+0.4**
0.2nm,0.3s,baz=250,slow=15,SNR=12								
NWAO	**Narrogin (SRO)**	**24.56**	**163**	*e*P		**P**	**23 57 27.7**	**-0.5**
WRA	**Warramunga Arr**	**26.63**	**116**	P		**P**	**23 57 45.8**	**-1.0**
0.7nm,0.4s,mb3.6,baz=286,slow=12,SNR=4.9								
WRA	**Warramunga Arr**	**26.63**	**116**	P		**P**	**23 57 45.8**	**-1.0**
WRAB	**Tennant Creek**	**26.64**	**116**	*e*P		**P**	**23 57 47.9**	**+0.9**
1.5nm,0.4s,mb3.9								
WB2	**Warramunga Arr**	**26.64**	**116**	*e*P		**P**	**23 57 46.7**	**-0.2**
ASAR	**Alice Springs**	**27.70**	**124**	P		**P**	**23 57 57.5**	**+1.0**
0.9nm,0.6s,mb3.6,baz=298,slow=9.2,SNR=14								
CTAO	**Charters Tower**	**37.50**	**111**	P		**P**	**23 59 22.3**	**+0.3**
STKA	**Stephens Creek**	**37.57**	**131**	P		**P**	**23 59 22.1**	**-0.5**
2.6nm,0.7s,mb4.1,baz=302,slow=10,SNR=8.8								
SONM	**Songino Array**	**57.10**	**358**	P		**P**	**00 01 55.3**	**+0.9**
1.0nm,0.5s,mb4.1,baz=178,slow=8.5,SNR=11								
MKAR	**Makanchi Array**	**60.86**	**339**	P		**P**	**00 02 20.8**	**+0.3**
1.6nm,0.6s,mb4.3,baz=142,slow=7.7,SNR=20								
CHKZ	**Chkalovo**	**70.79**	**337**	*e*P		**P**	**00 03 24.1**	**-0.4**
2.0nm,0.7s,mb4.2								
ZRNK	**Zerenda**	**70.88**	**336**	*e*P		**P**	**00 03 25.1**	**+0.1**
1.6nm,0.5s,mb4.2								
VNDA	**Vanda**	**73.20**	**170**	P		**P**	**00 03 38.4**	**-0.5**
0.4nm,0.6s,mb3.5,baz=327,slow=6.2,SNR=4.5								
BRTR	**Keskin Array B**	**84.90**	**311**	P		**P**	**00 04 43.1**	**+0.2**
0.5nm,0.7s,mb3.8,baz=154,slow=10,SNR=4.1								

IDC ***18*** *00:04:51.5±75.0, 1828S×175.11E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/12, mbtmp4.1/3, Error ellipse: s-maj=1314.0km s-min=146.1km az=76.0*
ISCJB ***18*** *00:04:57.7±4.6, 185S±05×1747E±05, h33km, mb4.1/4, Error ellipse: s-maj=94.1km s-min=35.6km az=82.8*
NEIC ***18*** *00:04:58.5±3.1, 1834S×17486E, h35km, mb4.3/1, Error ellipse: s-maj=64.6km s-min=24.6km az=222.0*

ISC 18 00:04:58.1±4.7, 184S±05×1750E±05, h35km, n12, σ0°23/12, mb4.1/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**27.15**	**262**	P		**P**	**00 10 38.4**	**+0.4**
STKA	**Stephens Creek**	**32.93**	**239**	P		**P**	**00 11 29.6**	**+0.4**
1.7nm,0.6s,mb4.1,baz=84,slow=9.2,SNR=4.4								
TAU	**Tasmania Unive**	**33.86**	**218**	P		**P**	**00 11 36.9**	**-0.3**
WB2	**Warramunga Arr**	**38.33**	**261**	*e*P		**P**	**00 12 15.2**	**-0.3**
WB2	**Warramunga Arr**	**38.33**	**261**	*e*P		**P**	**00 12 15.4**	**-0.1**
WRAB	**Tennant Creek**	**38.33**	**261**	*e*P		**P**	**00 12 15.4**	**-0.1**
2.5nm,0.6s,mb4.1								
WRA	**Warramunga Arr**	**38.34**	**261**	P		**P**	**00 12 15.3**	**-0.3**
0.7nm,0.5s,mb3.7,baz=96,slow=7.9,SNR=5.5								
AS31	**Alice Springs**	**38.59**	**255**	*e*P		**P**	**00 12 17.7**	**0.0**
ASAR	**Alice Springs**	**38.59**	**255**	P		**P**	**00 12 17.7**	**0.0**
4.2nm,0.4s,mb4.5,baz=89,slow=8.0,SNR=81								
ASPA	**Alice Springs**	**38.60**	**255**	*e*P		**P**	**00 12 17.7**	**0.0**
NWAO	**Narrogin (SRO)**	**53.43**	**242**	P		**P**	**00 14 14.7**	**+0.1**
MAW	**Mawson**	**81.25**	**201**	P		**P**	**00 17 10.6**	**+0.1**

IDC 18 00:07:19.1±3.4, 872S×10826E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, Error ellipse: s-maj=145.9km s-min=23.1km az=51.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.58**	**117**	P		P	00 13 08.0	+0.2
0.6nm,0.6s,baz=290,slow=11,SNR=2.5								
ASAR	**Alice Springs**	**28.69**	**124**	P		P	00 13 18.3	+0.5
0.7nm,1.1s,baz=299,slow=8.2,SNR=3.1								
SONM	**Songino Array**	**56.32**	**358**	P		P	00 17 02.5	+0.8
0.7nm,0.6s,baz=174,slow=7.7,SNR=8.5								
MKAR	**Makanchi Array**	**59.91**	**340**	P		P	00 17 26.3	-0.5
0.6nm,0.6s,baz=150,slow=7.7,SNR=8.2								

IGQ 18 00:14:37.5, 113S×8131W, h5km±13km, Mb4.2, Ms4.0, 1C-5D, Error ellipse: s-maj=10.0km s-min=3.0km az=18.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**1.86**	**56**	P		Pn	00 15 12.1	+2.1
MAG1				S		Sn	00 15 36.0	+2.1
IGUA	**Igualata**	**2.69**	**98**	P		Pn	00 15 23.8	+2.4
IGUA				S		Sn	00 15 58.0	+3.6
JUIV	**Juive**	**2.86**	**96**	⇓P		Pn	00 15 28.2	+4.5
TERV	**Terraza Guagua**	**2.87**	**71**	⇓P		Pn	00 15 27.2	+3.4
PINO	**Pino**	**2.87**	**70**	P		Pn	00 15 25.7	+1.8
GGP	**Refugio Guagua**	**2.88**	**71**	P		Pn	00 15 26.9	+2.9
ARRY	**Arrayan**	**2.88**	**97**	⇑P		Pn	00 15 26.1	+2.1
ARRY				S		Sn	00 15 58.2	-0.7
PATA	**Patacocha**	**2.90**	**97**	P		Pn	00 15 27.1	+2.8
PATA				S		Sn	00 16 01.3	+1.8
YANA	**Yana**	**2.92**	**70**	⇓P		Pn	00 15 26.7	+2.2
ULBA	**Ulba**	**2.92**	**96**	P		Pn	00 15 27.3	+2.8
ULBA				S		Sn	00 16 00.9	+0.9
VC1	**Cotopaxi 1**	**2.95**	**81**	⇓P		Pn	00 15 28.3	+3.4
ANTI	**Antisana**	**3.22**	**78**	⇓P		Pn	00 15 32.1	+3.5
ANTI				S		Sn	00 16 10.1	+2.7
CAYR	**Refugio Cayamb**	**3.49**	**71**	P		Pn	00 15 37.6	+5.2
CAYR				S		Sn	00 16 19.6	+5.5
CAYA	**Cayambe**	**3.53**	**70**	P		Pn	00 15 37.2	+4.3

BJI ***18*** *00:15:47.6, 930S×10880E, h20km, mB5.7, mb5.5, Ms5.9, Msz5.7*
NEIC ***18*** *00:15:48.6±0.1, 930S×10875E, h20km, mb5.7/61, ME5.5, MS5.5/61, MW5.7, Error ellipse: s-maj=5.0km s-min=3.6km az=47.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^17 Nm; Mrr-4.36; Mθθ4.62; Mϕϕ-0.26; Mrθ2.16; Mθϕ-1.03; Mrϕ0.70; Best double couple: Mo5.10000×10^17 NP1:ϕs268.00000°, δ58.00000°, λ-105.00000°. NP2: ϕs115.00000°, δ35.00000°, λ-67.00000°. Principal axes: T 5.2500, Plg12.0000°, Azm9.0000°; N -0.2200, Plg13.0000°, Azm276.0000°; P -5.0300, Plg72.0000°, Azm141.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
HRVD ***18*** *00:15:48.6±0.1, 966S×10877E, h16km, MW5.8/101, Centroid moment Tensor Solution. LP body waves: s101,c202;Mantle waves: s101,c243; Half duration: 1s Moment tensor: Scale 10^17 Nm; Mrr-4.23±.06; Mθθ4.02±.04; Mϕϕ0.20±.05; Mrθ-2.92±.15; Mθϕ-1.53±.04; Mrϕ0.09±.15; Best double couple: Mo5.28200×10^17 NP1:ϕs300.00000°, δ30.00000°, λ-72.00000°. NP2: ϕs99.00000°, δ62.00000°, λ-100.00000°. Principal axes: T 5.3760, Plg16.0000°, Azm197.0000°; N -0.1930, Plg9.0000°, Azm104.0000°; P -5.1870, Plg71.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MOS ***18*** *00:15:49.8±1.1, 902S×10882E, h33km, mb5.9/62, MS5.4/25 Error ellipse: s-maj=8.8km s-min=4.8km az=118.6*
ISCJB ***18*** *00:15:49.1±0.1, 927S±002×10884E±002, h36km, mb5.7/143, MS5.5/105, Error ellipse: s-maj=3.9km s-min=3.0km az=86.6*
IDC ***18*** *00:15:50.8±0.3, 927S×10879E, h37km±2km, mb5.4/32, mb1 5.3/33, mb1mx5.3/34, mbtmp5.5/33, ML5.0/1, MS5.2/18, Ms1 5.2/18, ms1mx5.2/26, Error ellipse: s-maj=11.1km s-min=7.5km az=42.0*

ISC 18 00:15:51.3±0.1, 929S±002×10882E±002, h38km, h38km±6km:pP-P, n914, σ1°00/554, mb5.7/143, MS5.5/105, 103C-114D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BJI	**Banjamegara**	**2.13**	**24**	P		**Pn**	**00 16 25.9**	**+1.5**
18µm,1.0s								
BJI	**Banjamegara**	**2.13**	**24**	⇑*i*P		**Pn**	**00 16 27.5**	**+3.1**
BJI				*i*S		**Sn**	**00 16 44.9**	**-4.7**
LEM	**Lembang**	**2.72**	**334**	P		**Pn**	**00 16 33.4**	**+1.0**
13µm,0.9s								
JCJI	**Jatiwangi**	**2.83**	**349**	P		**Pn**	**00 16 32.3**	**-1.7**
7µm,1.0s								
CBJI	**Citeko**	**3.45**	**325**	P		**Pn**	**00 16 39.4**	**-3.1**
39µm,0.7s								
KRKI	**Karangkates**	**3.76**	**73**	P		**Pn**	**00 16 48.3**	**+1.5**
5µm,0.8s								
TNG	**Tangerang**	**3.77**	**325**	P		**Pn**	**00 16 48.1**	**+1.2**
3µm,0.5s								
SBJI	**Serang**	**4.12**	**320**	P		**Pn**	**00 16 51.6**	**-0.1**
1µm,1.3s								
KMMI	**Kalianget**	**5.56**	**67**	P		**Pn**	**00 17 16.8**	**+5.3**
401nm,1.2s								
NBBI	**Negara**	**5.81**	**81**	P		**Pn**	**00 17 17.2**	**+2.4**
9µm,0.5s								
KLI	**Kotabumi**	**5.90**	**318**	P		**Pn**	**00 17 16.9**	**+0.8**
992nm,1.0s								
DNP	**Denpasar**	**6.34**	**85**	P		**Pn**	**00 17 23.6**	**+1.4**
5µm,0.7s								
KSI	**Kapahiang**	**8.34**	**312**	P		**Pn**	**00 17 48.0**	**-1.6**
2µm,0.7s								
KSM	**Kuching**	**10.79**	**8**	Pn		**Pn**	**00 18 23.0**	**-0.2**
WSI	**Waingapu**	**11.33**	**93**	P		**Pn**	**00 18 29.4**	**-1.2**
2µm,0.7s								
COCO	**West Island**	**12.12**	**255**	*e*Pn		**Pn**	**00 18 36.9**	**-4.5**
290nm,0.9s								
PPI	**Padang Panjang**	**12.13**	**316**	P		**Pn**	**00 18 36.2**	**-5.4**
130nm,0.9s								
KGM	**Kluang**	**12.49**	**334**	P		**Pn**	**00 18 45.8**	**-0.7**
PCI	**Palu**	**13.77**	**53**	P		**Pn**	**00 19 07.5**	**+3.6**
439nm,1.4s								
PSI	**Prapat**	**15.54**	**320**	Pn		**Pn**	**00 19 19.6**	**-8.0**
2.8nm,0.3s,baz=151,slow=10,SNR=15								
PSI	**Prapat**	**15.54**	**320**	P		**Pn**	**00 19 19.6**	**-7.9**
PSI				pmax		pmax		
comp=Z,3.0nm,0.3s								
IPM	**Ipoh**	**15.73**	**330**	P		**Pn**	**00 19 26.1**	**-3.9**
MBWA	**Marble Bar**	**15.80**	**140**	*e*Pn		**Pn**	**00 19 25.2**	**-5.7**
MBWA				*e*Sn		Sn	00 22 04.2	-21
TSM	**Tawau**	**16.23**	**34**	P		**Pn**	**00 19 42.0**	**+5.6**
KULM	**Kulim**	**16.61**	**330**	*e*Pn		**Pn**	**00 19 37.0**	**-4.2**
KKM	**Kota Kinabalu**	**16.92**	**26**	P		**Pn**	**00 19 45.8**	**+0.7**
KKM	**Kota Kinabalu**	**16.92**	**26**	*e*Pn		**Pn**	**00 19 46.0**	**+0.9**
SNG	**Songkhla**	**18.28**	**333**	P		**Pn**	**00 20 03.5**	**+1.6**
comp=Z,200nm,0.9s								
FITZ	**Fitzroy Crossi**	**18.53**	**120**	*e*P		**Pn**	**00 20 04.3**	**-0.6**
comp=Z,138nm,0.7s								
FITZ				*e*			00 20 16.7	
FITZ				*e*S		**S**	**00 23 14.8**	**-19**
FITZ	**Fitzroy Crossi**	**18.53**	**120**	P		**Pn**	**00 20 04.1**	**-0.8**
comp=Z,3.7nm,0.3s,baz=276,slow=6.6,SNR=90								
FITZ				S		**S**	**00 23 14.0**	**-20**
comp=Z,3.3nm,0.3s,baz=51,slow=21,SNR=7.5								
BSI	**Banda Aceh**	**19.93**	**317**	P		**Pn**	**00 20 16.9**	**-4.8**
comp=Z,303nm,0.9s								
AAI	**Ambon**	**20.03**	**75**	P		**P**	**00 20 20.6**	**-0.3**
comp=Z,1µm,1.2s								
DAV	**Davao City (W)**	**23.30**	**46**	*e*P		**P**	**00 20 56.6**	**+0.7**
comp=Z,624nm,0.8s,mb6.1								
SNPH	**Sibulan**	**23.42**	**38**	⇓*i*P		**P**	**00 20 58.5**	**+1.5**
KAKA	**Kakadu**	**23.43**	**101**	*e*P		**P**	**00 20 57.0**	**-0.1**
comp=Z,173nm,0.6s,mb5.7								
NNT	**Nongplab**	**23.53**	**337**	P		**P**	**00 20 58.8**	**+0.7**
CGP	**Cagayan de Oro**	**23.68**	**42**	⇑*i*P		**P**	**00 21 00.9**	**+1.6**
KLBR	**Kellerberrin**	**23.70**	**161**	*e*P		**P**	**00 20 57.6**	**-2.0**
comp=Z,306nm,1.8s,mb5.4								
SWI	**Sorong**	**23.85**	**71**	P		**P**	**00 20 59.5**	**-1.5**
comp=Z,274nm,0.8s,mb5.7								
TBP	**Tagbilaran**	**24.08**	**39**	*e*P		**P**	**00 21 04.2**	**+1.2**
NWAO	**Narrogin (SRO)**	**24.78**	**163**	P		**P**	**00 21 07.8**	**-1.6**
comp=Z,10.0nm,0.5s,baz=318,slow=7.8,SNR=11								
NWAO				S		**S**	**00 25 33.5**	**+4.3**
comp=Z,9.7nm,0.6s,baz=61,slow=10,SNR=2.0								
NWAO				LR		LR	00 30 13.0	
comp=Z,9µm,20.4s,MS5.2,baz=326,slow=35								
NWAO	**Narrogin (SRO)**	**24.78**	**163**	P		**P**	**00 21 07.8**	**-1.6**
NWAO				S		**S**	**00 25 33.6**	**+4.4**
NWAO				pmax		pmax		
comp=Z,10.0nm,0.5s								
NWAO				smax				
comp=E,10.0nm,0.6s								
NWAO				MLR		MLR		
comp=Z,9µm,20.4s								
NWAO	**Narrogin (SRO)**	**24.78**	**163**	*e*P		**P**	**00 21 07.5**	**-1.9**
RCP	**Roxas**	**24.91**	**34**	*e*P		**P**	**00 21 12.1**	**+1.5**
MSLP	**Maasin**	**25.04**	**40**	*e*P		**P**	**00 21 16.4**	**+4.5**
SCPH	**Surigao**	**25.18**	**42**	⇓*e*P		**P**	**00 21 15.1**	**+2.0**
OCLP	**Ormoc**	**25.59**	**38**	*e*P		**P**	**00 21 17.8**	**+0.9**
PLP	**Palo**	**25.91**	**39**	*e*P		**P**	**00 21 20.2**	**+0.6**
TGY	**Tagaytay City**	**26.16**	**28**	P		**P**	**00 21 22.4**	**+0.4**
comp=Z,142nm,0.3s,baz=142,slow=16,SNR=5.9								
TGY				LR		LR	00 34 26.4	
comp=Z,24nm,18.6s,baz=14,slow=43								
TGY	**Tagaytay City**	**26.16**	**28**	P		**P**	**00 21 22.4**	**+0.4**
TGY				pmax		pmax		
comp=Z,142nm,0.3s								
TGY				MLR		MLR		
comp=Z,24nm,18.6s								
WRA	**Warramunga Arr**	**26.83**	**116**	P		**P**	**00 21 27.2**	**-0.8**
comp=Z,57nm,0.6s,mb5.3,baz=289,slow=11,SNR=80								
WRA				PcP		PcP	00 24 50.9	+0.9
comp=Z,14nm,0.7s,baz=297,slow=2.1,SNR=7.6								
WRA				pPcP			00 25 02.3	
comp=Z,8.6nm,0.8s,baz=296,slow=2.5,SNR=4.6								
WRA				S		S	00 26 30.2	+28
comp=Z,8.3nm,0.8s,baz=283,slow=25,SNR=3.5								
WRA				LR		LR	00 32 29.0	
comp=Z,9µm,21.7s,MS5.3,baz=295,slow=37								
WRA	**Warramunga Arr**	**26.83**	**116**	P		**P**	**00 21 27.2**	**-0.8**
WRA							00 24 50.9	
WRA				pmax		pmax		
comp=Z,57nm,0.6s								
WRA				pmax		pmax		
comp=Z,14nm,0.7s								
WRA				pmax		pmax		
comp=Z,9.0nm,0.8s								
WRA				MLR		MLR		
comp=Z,9µm,21.7s								
WRAB	**Tennant Creek**	**26.84**	**116**	*e*P		**P**	**00 21 28.3**	**+0.2**
WRAB				pmax		pmax		
comp=Z,110nm,0.7s,mb5.5								
WRAB	**Tennant Creek**	**26.84**	**116**	*e*P		**P**	**00 21 28.3**	**+0.3**
comp=Z,108nm,0.6s,mb5.6								
WB2	**Warramunga Arr**	**26.84**	**116**	*e*P		**P**	**00 21 28.1**	**0.0**
FORT	**Forrest**	**27.91**	**143**	*e*P		**P**	**00 21 35.8**	**-1.9**
comp=Z,40nm,0.6s,mb5.2								
ASPA	**Alice Springs**	**27.91**	**124**	*e*P		**P**	**00 21 37.1**	**-0.6**
AS31	**Alice Springs**	**27.91**	**124**	*e*P		**P**	**00 21 37.1**	**-0.6**
ASAR	**Alice Springs**	**27.91**	**124**	P		**P**	**00 21 37.0**	**-0.7**
comp=Z,26nm,0.8s,mb4.9,baz=308,slow=9.5,SNR=113								
ASAR				PcP		PcP	00 24 53.6	+1.1
comp=Z,27nm,0.7s,baz=314,slow=1.9,SNR=22								
ASAR				pPcP			00 25 05.3	
comp=Z,27nm,0.8s,baz=308,slow=2.0,SNR=8.5								
ASAR				S		S	00 26 55.5	+37
comp=Z,21nm,0.9s,baz=303,slow=22,SNR=7.8								
ASAR				PKiKP		PKiKP	00 32 26.6	-2.0
comp=Z,1.4nm,0.8s,baz=36,slow=0.8,SNR=4.7								
ASAR	**Alice Springs**	**27.91**	**124**	P		**P**	**00 21 37.0**	**-0.7**
ASAR				PcP		PcP	00 24 53.6	+1.1
ASAR				pPcP			00 25 05.3	
ASAR				S		S	00 26 55.5	+37
QIZ	**Qiongzhong**	**28.15**	**2**	P		**P**	**00 21 42.0**	**+2.1**
QIZ				AP		pP	00 21 52.0	+1.5
QIZ				XP		sP	00 21 55.4	+0.3
QIZ				S		**S**	**00 26 29.8**	**+7.2**
QIZ				AMB		AMB		
comp=Z,25nm,1.4s,mb4.7								
QIZ				LR		LR		
comp=N,8µm,15.1s,MS5.6								
QIZ				LR		LR		
comp=E,10µm,16.8s,MS5.6								
QIZ				LR		LR		
comp=Z,13µm,14.6s,MS5.6								
BAKI	**Biak**	**28.32**	**75**	P		**P**	**00 21 41.3**	**0.0**
comp=Z,141nm,0.9s,mb5.6								
CHG	**Chiang Mai**	**29.57**	**341**	⇓P		**P**	**00 21 52.0**	**-0.5**
comp=Z,74nm,0.7s,mb5.5								
CHTO	**Chiang Mai**	**29.57**	**341**	*e*P		**P**	**00 21 51.5**	**-1.0**
CHTO				*e*		pP	00 22 01.9	-1.2
CHTO				pmax		pmax		
comp=Z,58nm,0.9s,mb5.3								
CHTO	**Chiang Mai**	**29.57**	**341**	*e*P		**P**	**00 21 51.5**	**-1.0**
comp=Z,58nm,0.9s,mb5.3								
CHTO				*e*		pP	00 22 01.9	-1.1
GZH	**Guangzhou**	**32.48**	**8**	P		**P**	**00 22 23.1**	**+5.0**
GZH				S		**S**	**00 27 38.9**	**+8.6**
GZH				LR		LR		
comp=N,5µm,18.3s,MS5.5								
GZH				LR		LR		
comp=E,7µm,16.8s,MS5.5								
GZH				LR		LR		
comp=Z,11µm,14.9s,MS5.7								
PALK	**Pallekele**	**32.49**	**299**	*e*P		**P**	**00 22 19.7**	**+1.5**
KMI	**Kunming**	**34.71**	**350**	P		**P**	**00 22 39.5**	**+2.0**
KMI				AP		pP	00 22 49.8	+1.6
KMI				XP		sP	00 22 54.0	+1.2
KMI				PP		PP	00 23 58.4	+1.9
KMI				PPP			00 24 17.1	
KMI				PCP		PcP	00 25 11.4	+0.7
KMI				S		**S**	**00 28 08.1**	**+3.2**
KMI				XS		sS	00 28 25.8	+3.1
KMI				SCP		ScP	00 28 52.8	-0.2
KMI				PCS		PcS	00 28 56.9	-0.4
KMI				SS		SS	00 30 24.1	-12
KMI				SSS			00 30 51.8	
KMI				SCS		ScS	00 32 55.3	-0.9
KMI				AMB		AMB		
comp=Z,60nm,1.1s,mb5.4								
KMI				AMB		AMB		
comp=Z,870nm,10.8s								
KMI				LR		LR		
comp=N,20µm,14.2s,MS6.0								
KMI				LR		LR		
comp=E,8µm,16.7s,MS6.0								
KMI				LR		LR		
comp=Z,26µm,14.2s,MS6.1								
QZH	**Quanzhou**	**35.33**	**15**	P		**P**	**00 22 48.8**	**+6.0**
QZH				S		**S**	**00 28 21.6**	**+7.2**
QZH				AMB		AMB		
comp=Z,2µm,12.1s								
QZH				LR		LR		
comp=N,5µm,12.2s,MS5.7								
QZH				LR		LR		
comp=E,8µm,14.9s,MS5.7								
QZH				LR		LR		
comp=Z,10µm,16.4s,MS5.7								
NACB	**Ninganchiao**	**35.52**	**20**	*e*P		**P**	**00 22 43.9**	**-0.5**
NACB				*e*			00 22 50.1	
GYA	**Guiyang**	**35.59**	**357**	⇑*i*P		**P**	**00 22 45.6**	**+0.5**
GYA				AP		pP	00 22 55.3	-0.5
GYA				XP		sP	00 22 59.3	-1.1
GYA				PP		PP	00 24 06.4	+0.1
GYA				PCP		PcP	00 25 14.3	+1.0
GYA				XS		sS	00 28 36.1	-0.2
GYA				SCP		ScP	00 28 56.4	+0.2
GYA				SS		SS	00 30 39.0	-15
GYA				AMB		AMB		
comp=Z,80nm,0.9s,mb5.7								
GYA				AMB		AMB		
comp=Z,1µm,8.7s								
GYA				LR		LR		
comp=N,10µm,13.7s,MS5.8								
GYA				LR		LR		
comp=E,8µm,14.9s,MS5.8								
GYA				LR		LR		
comp=Z,12µm,14.3s,MS5.8								
YHNB	**Yeheng**	**35.90**	**20**	*e*P		**P**	**00 22 48.2**	**+0.5**
DGAR	**Diego Garcia**	**36.02**	**270**	*e*P		**P**	**00 22 51.8**	**+3.1**
TATO	**Taipei**	**36.23**	**20**	*e*P		**P**	**00 22 50.3**	**-0.2**
comp=Z,121nm,0.8s,mb5.9								
TRD	**Trivandrum**	**36.32**	**298**	*e*P		**P**	**00 22 51.1**	**-0.3**
TRD				AMb		AMB	00 22 57.2	
comp=Z,125nm,1.4s,mb5.7								
VIS	**Vishakhapatnam**	**36.80**	**317**	*e*P		**P**	**00 22 55.8**	**+0.4**
VIS				AMb		AMB	00 22 58.2

BOK AMb AMB 00 23 22.9
comp=Z,206nm,0.9s,mb5.8
WHN Wuhan 39.95 7 ⇑P **P 00 23 23.3 +1.4**
WHN S **S 00 29 27.0 +2.4**
WHN AMB AMB
comp=Z,90nm,1.0s,mb5.5
WHN LR LR
comp=Z,13μm,17.2s,MS5.8
HYB Hyderabad 39.98 312 ⇓*i*P **P 00 23 25.0 +2.9**
HYB *e*S **S 00 29 30.0 +5.0**
HYB Hyderabad 39.98 312 ⇓*e*P **P 00 23 31.0 +8.9**
CD2 Chengdu 40.26 353 ⇑*i*P **P 00 23 24.3 -0.1**
CD2 AP pP 00 23 34.1 -1.2
CD2 XP sP 00 23 38.1 -1.7
CD2 PP PP 00 25 01.8 +4.3
CD2 PCP PcP 00 25 27.8 +0.1
CD2 SCP ScP 00 29 13.1 -0.8
CD2 PCS PcS 00 29 17.0 -1.2
CD2 S **S 00 29 30.1 +1.0**
CD2 XS sS 00 29 46.4 -0.7
CD2 SS SS 00 32 24.4 -3.9
CD2 SCS ScS 00 33 25.6 -2.1
CD2 AMB AMB
comp=Z,90nm,1.2s,mb5.4
CD2 AMB AMB
comp=Z,730nm,10.8s
CD2 LR LR
comp=E,6μm,15.6s
CD2 LR LR
comp=Z,7μm,13.2s,MS5.7
JOW Kunigami 40.57 27 P **P 00 23 27.8 +0.8**
comp=Z,179nm,0.9s,mb5.7,baz=224,slow=7.0,SNR=66
JOW LR LR 00 43 16.9
comp=Z,5μm,18.0s,MS5.4,baz=218,slow=41
SSE Sheshan 41.87 16 P **P 00 23 38.1 +0.4**
SSE XP sP 00 23 51.1 -2.0
SSE PP PP 00 25 15.6 +0.7
SSE SCP ScP 00 29 21.3 +1.1
SSE S **S 00 29 54.8 +1.8**
SSE XS sS 00 30 10.6 -0.4
SSE AMB AMB
comp=Z,50nm,1.2s,mb5.0
SSE AMB AMB
comp=Z,385nm,6.3s
SSE LR LR
comp=N,3μm,16.3s,MS5.3
SSE LR LR
comp=E,3μm,16.1s,MS5.3
SSE LR LR
comp=Z,3μm,13.2s,MS5.4
LATR Latur 42.09 311 *e*P **P 00 23 38.5 -0.9**
NJ2 Nanjing 42.21 13 *e*P **P 00 23 41.1 +0.7**
NJ2 AP pP 00 23 50.9 -0.5
NJ2 XP sP 00 23 54.9 -1.0
NJ2 PP PP 00 25 22.0 +3.4
NJ2 S **S 00 29 59.0 +1.0**
NJ2 XS sS 00 30 16.0 -0.1
NJ2 AMB AMB
comp=Z,80nm,0.7s,mb5.5
NJ2 AMB AMB
comp=Z,870nm,8.4s
NJ2 LR LR
comp=N,11μm,14.3s,MS6.0
NJ2 LR LR
comp=E,6μm,10.7s,MS6.0
GUMO Guam 42.39 58 P **P 00 23 40.5 -1.4**
comp=E,120nm,0.9s,mb5.5,baz=268,slow=4.1,SNR=4.3
GUMO Guam 42.39 58 P **P 00 23 40.5 -1.4**
GUMO pmax pmax
comp=Z,120nm,0.9s,mb5.5
GUMO Guam 42.39 58 P **P 00 23 40.5 -1.4**
GOA Goa 42.52 305 *e*P **P 00 23 41.0 -2.0**
JIRN Jiri 42.77 330 *e*P **P 00 23 45.3 +0.3**
comp=Z,417nm,0.9s,mb6.2
JBP Jabalpur 42.86 319 ⇓*i*P **P 00 23 45.5 -0.2**
JBP *ex* x 00 24 00.9
comp=Z,230nm,0.9s
JBP *e*S **S 00 30 11.0 +3.4**
XAN Xi'an 43.09 0 P **P 00 23 46.9 -0.7**
XAN S **S 00 30 09.6 -1.3**
XAN AMB AMB
comp=Z,90nm,1.0s,mb5.5
XAN LR LR
comp=N,8μm,13.9s,MS5.8
XAN LR LR
comp=E,7μm,15.6s,MS5.8
XAN LR LR
comp=Z,16μm,14.1s,MS6.1
PKI Pulchoki 43.09 329 *e*P **P 00 23 47.5 -0.1**
comp=Z,346nm,1.1s,mb6.0
PKI Pulchoki 43.09 329 *e*P **P 00 23 47.5 -0.1**
PKI pmax pmax
comp=Z,346nm,1.1s,mb6.0
GUN Gumba 43.13 330 *e*P **P 00 23 47.7 -0.2**
comp=Z,699nm,0.8s,mb6.5
AKL Akola 43.20 314 *ex* x 00 23 42.9
AKL AMb AMB 00 23 52.7
comp=Z,96nm,1.1s,mb5.4
KAD Karad 43.24 308 *e*P **P 00 23 48.2 -0.7**
KAD AMb AMB 00 23 53.3
comp=Z,89nm,1.1s,mb5.4
DMN Daman 43.27 329 *e*P **P 00 23 48.8 -0.3**
comp=Z,620nm,0.9s,mb6.4
KKN Kakani 43.33 329 *e*P **P 00 23 49.2 -0.4**
comp=Z,583nm,1.0s,mb6.3
KKN Kakani 43.33 329 *e*P **P 00 23 49.2 -0.4**
KKN pmax pmax
comp=Z,583nm,1.0s,mb6.3
TOO Toolangi 43.41 136 *e*P **P 00 23 51.7 +1.5**
comp=Z,21nm,1.2s,mb4.8
TOO Toolangi 43.41 136 *e*P **P 00 23 51.7 +1.5**
TOO pmax pmax
comp=Z,21nm,1.2s,mb4.7
GKN Gorkha 43.84 328 *e*P **P 00 23 53.4 -0.2**
comp=Z,502nm,0.9s,mb6.3
KOLN Koldanda 44.19 327 *e*P **P 00 23 56.3 -0.2**
comp=Z,696nm,0.8s,mb6.5
POO Poona 44.21 309 ⇑*i*x x 00 23 54.0
comp=Z,150nm,1.0s
POO *i* PP PP 00 25 40.0 0.0
POO *ex* x 00 26 18.0
POO *i* S **S 00 30 30.0 +2.7**
BHPL Bhopal 44.59 317 *e*P **P 00 23 59.3 -0.4**
BHPL AMb AMB 00 24 01.9
comp=Z,131nm,1.1s,mb5.7
ARMA Armidale 45.07 124 *e*P **P 00 24 05.5 +2.1**
ARMA *e*pP pP 00 24 17.9 +3.5
LZH Lanzhou 45.37 354 *e*P **P 00 24 07.4 +1.5**
LZH AP pP 00 24 16.5 -0.3
LZH XP sP 00 24 20.0 -1.3
LZH *e*S **S 00 30 42.0 -2.2**
LZH XS sS 00 31 05.0 +2.7
LZH AMB AMB
comp=Z,172nm,1.3s,mb5.7
LZH AMB AMB
comp=Z,623nm,5.9s
LZH LR LR
comp=N,11μm,14.2s
LZH LR LR
comp=Z,14μm,15.5s,MS6.0
LGTI Lohaghat 47.34 325 *i* P **P 00 24 19.3 -2.0**
PTH Pithoragarh 47.43 326 *e*P **P 00 24 22.9 +0.9**
TAU Tasmania Unive 47.45 142 PFAKE 00 24 30.0 +7.9
TAU LR LR
comp=Z,2μm,20.6s,MS5.0
NDI New Delhi 48.54 322 *e*P **P 00 24 28.0 -2.6**
NDI *ex* x 00 31 25.5
AJM Ajmer 48.64 318 *e*P **P 00 24 30.6 -0.7**
AJM AMb AMB 00 24 34.9
comp=Z,78nm,1.2s,mb5.6
GTA Gaotai 49.16 351 ⇓*i*P **P 00 24 36.0 +0.6**
GTA AP pP 00 24 48.1 +1.6
GTA XP sP 00 24 52.6 +1.7
GTA PCP PcP 00 25 59.5 +1.2
GTA PP PP 00 26 30.5 +1.2
GTA PPP 00 27 25.6
GTA SCP ScP 00 29 52.8 +2.4
GTA PCS PcS 00 29 55.9 +1.2
GTA S **S 00 31 39.6 +1.4**
GTA XS sS 00 31 56.0 -0.5
GTA SS SS 00 35 07.3 -2.3
GTA AMB AMB
comp=Z,72nm,1.0s,mb5.7
GTA AMB AMB
comp=Z,759nm,5.3s
GTA LR LR
comp=N,9μm,19.0s,MS6.0
GTA LR LR
comp=E,11μm,16.3s,MS6.0
GTA LR LR
comp=Z,13μm,16.7s,MS6.0
DDI Dehra Dun 49.24 324 *e*P **P 00 24 35.0 -1.0**
DL2 Dalian 49.41 13 P **P 00 24 34.9 -2.3**
DL2 XP sP 00 24 47.0 -5.8
DL2 S **S 00 31 39.6 -1.9**
DL2 AMB AMB
comp=Z,40nm,0.9s,mb5.5
DL2 AMB AMB
comp=Z,170nm,7.0s
DL2 LR LR
comp=N,2μm,15.7s,MS5.3
DL2 LR LR
comp=E,1μm,14.1s,MS5.3
DL2 LR LR
comp=Z,2μm,16.4s,MS5.2
INCN Inchon 49.43 19 *e*P **P 00 24 37.6 +0.3**
comp=Z,180nm,1.0s,mb6.1
INCN *e*pP pP 00 24 47.0 -1.5
BJT Baijiatuao 49.52 7 *e*P **P 00 24 38.0 -0.1**
BJT pmax pmax
comp=Z,255nm,0.9s
BJT Baijiatuao 49.52 7 *e*P **P 00 24 38.0 -0.1**
comp=Z,255nm,0.9s,mb6.2
BJI Beijing 49.55 7 P **P 00 24 37.9 -0.4**
BJI S **S 00 31 43.8 +0.3**
BJI AMB AMB
comp=Z,152nm,1.1s,mb5.9
BJI LR LR
comp=N,5μm,18.3s,MS5.8
BJI LR LR
comp=E,7μm,15.0s,MS5.8
BJI LR LR
comp=Z,4μm,17.9s,MS5.4
BTO Baotou 49.65 1 *e*P **P 00 24 38.6 -0.5**
HHC Hu-ho-hao-te 49.95 3 ⇓P **P 00 24 41.6 +0.3**
HHC AP pP 00 24 48.8 -3.6
HHC XP sP 00 24 51.4 -5.5
HHC PCP PcP 00 26 01.1 0.0
HHC PP PP 00 26 39.3 +2.9
HHC PCS PcS 00 29 54.3 -3.8
HHC S **S 00 31 50.8 +1.7**
HHC AMB AMB
comp=Z,76nm,1.2s,mb5.6
HHC AMB AMB
comp=Z,1μm,5.3s
HHC LR LR
comp=N,6μm,13.1s,MS5.9
HHC LR LR
comp=E,8μm,17.8s,MS5.9
HHC LR LR
comp=Z,8μm,13.1s,MS5.9
BHJ Bhuj 50.14 311 *e*P **P 00 24 42.8 0.0**
BHJ AMb AMB 00 24 47.0
comp=Z,115nm,1.0s,mb5.9
SMLA Simla 50.35 324 *e*P **P 00 24 43.5 -0.9**
SMLA AMb AMB 00 24 56.2
comp=Z,547nm,0.5s,mb6.8
HNR Honiara 50.41 95 P **P 00 24 45.0 +0.2**
comp=Z,375nm,0.8s,mb6.5,baz=249,slow=1.0,SNR=11
HNR Honiara 50.41 95 P **P 00 24 45.0 +0.2**
HNR pmax pmax
comp=Z,375nm,0.8s,mb6.5
SDNR Sundarnagar 50.74 324 *e*P **P 00 24 46.0 -1.3**
SDNR *ex* x 00 31 59.0
DLH Dalhousie 52.08 324 *e*P **P 00 24 59.0 +1.6**
SNY Shenyang 52.64 14 ⇓P **P 00 24 59.8 -1.7**
SNY S **S 00 32 21.4 -4.8**
SNY AMB AMB
comp=Z,43nm,1.1s,mb5.3
SNY AMB AMB
comp=Z,955nm,9.6s
SNY LR LR
comp=N,2μm,16.2s
SNY LR LR
comp=Z,4μm,14.4s,MS5.6
MAJO Matsushiro 53.30 30 *e*P **P 00 25 04.6 -1.8**
MAJO *e**PP pP 00 25 15.5 -2.1
MAT Matsushiro 53.30 30 P **P 00 25 04.4 -2.0**
MAT S **S 00 32 34.0 -1.3**
MAT Matsushiro 53.30 30 *e*P **P 00 25 04.0 -2.4**
MAT *e*S **S 00 32 30.0 -5.3**
MAT pmax pmax
comp=Z,57nm,1.1s,mb5.4
MAT MLR MLR
comp=Z,2μm,21.0s,MS5.1
MAT Matsushiro 53.30 30 *e*P **P 00 25 04.0 -2.4**
comp=Z,57nm,1.1s,mb5.4
MAT *e*S **S 00 32 30.0 -5.3**
MAT LR LR
comp=Z,2μm,21.0s,MS5.1
MJAR Matsushiro Arr 53.30 30 P **P 00 25 04.6 -1.8**
comp=Z,31nm,0.8s,mb5.3,baz=208,slow=7.7,SNR=46
MJAR pP pP 00 25 15.6 -1.9
comp=Z,31nm,0.7s,baz=203,slow=8.5,SNR=10
MJAR LR LR 00 49 39.5
comp=Z,2μm,18.9s,MS5.2,baz=210,slow=38
MJAR Matsushiro Arr 53.30 30 P **P 00 25 04.6 -1.8**
MJAR *PP pP 00 25 15.6 -2.0
MJAR pmax pmax
comp=Z,31nm,0.8s
MJAR pmax pmax
comp=Z,31nm,0.7s
MJAR MLR MLR
comp=Z,2μm,18.9s
MJAR Matsushiro Arr 53.30 30 P **P 00 25 04.6 -1.8**
MJAR pP pP 00 25 15.6 -1.9
MJAR LR LR 00 49 39.5
CN2 Changchun 54.95 15 ⇑P **P 00 25 16.3 -2.1**
CN2 *e*XP sP 00 25 31.0 -3.1
CN2 *e*S **S 00 32 55.5 -2.1**
CN2 AMB AMB
comp=Z,30nm,1.4s,mb5.1
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,4μm,18.0s,MS5.6
CN2 LR LR
comp=E,2μm,18.0s,MS5.6
CN2 LR LR
comp=Z,4μm,19.0s,MS5.5
WMQ Urumqi 56.23 342 P **P 00 25 30.4 +2.8**
WMQ AP pP 00 25 40.5 +1.7
WMQ XP sP 00 25 44.4 +1.1
WMQ PCP PcP 00 26 27.8 +2.9
WMQ PP PP 00 27 37.3 +4.2
WMQ SCP ScP 00 30 22.9 +1.8
WMQ S **S 00 33 15.9 +1.3**
WMQ AMB AMB
comp=Z,183nm,1.0s,mb6.1
WMQ AMB AMB
comp=Z,1μm,4.0s
WMQ LR LR
comp=N,5μm,16.6s,MS5.7
WMQ LR LR
comp=E,2μm,18.0s,MS5.7
WMQ LR LR
comp=Z,5μm,15.6s,MS5.7
VLA Vladivostok 56.24 20*c* *i*P **P 00 25 26.9 -0.8**
VLA *i* *PP pP 00 25 38.0 -0.9
VLA *e*S **S 00 33 15.0 +0.3**
VLA *SS sS 00 33 32.0 -1.3
VLA pmax pmax
comp=Z,85nm,1.2s,mb5.7
VLA Vladivostok 56.24 20 ⇑*i*P **P 00 25 26.4 -1.3**
NOUC Port Laguerre 56.49 110 *e*P **P 00 25 31.3 +1.8**
DZM Mont Dzumac 56.62 110 *e*P **P 00 25 32.4 +2.0**
DZM Mont Dzumac 56.62 110 P **P 00 25 31.1 +0.7**
comp=Z,19nm,0.7s,mb5.2,baz=318,slow=5.0,SNR=16
MDJ Mudanjiang 56.84 18 P **P 00 25 30.9 -1.1**
MDJ AP pP 00 25 41.9 -1.3
MDJ XP sP 00 25 45.8 -1.9
MDJ PP PP 00 27 41.4 +2.9
MDJ SCP ScP 00 30 25.5 +1.7
MDJ PCS PcS 00 30 29.9 +1.8
MDJ S **S 00 33 20.1 -2.6**
MDJ XS sS 00 33 38.4 -2.9
MDJ AMB AMB
comp=Z,36nm,1.0s,mb5.4
MDJ AMB AMB
comp=Z,257nm,5.2s
MDJ LR LR
comp=N,2μm,18.1s,MS5.5
MDJ LR LR
comp=E,3μm,18.1s,MS5.5
MDJ LR LR
comp=Z,3μm,16.4s,MS5.4
MDJ Mudanjiang 56.84 18 *e*P **P 00 25 31.5 -0.5**
comp=Z,76nm,1.2s,mb5.6
MDJ *e* pP 00 25 40.0 -3.2
SONM Songino Array 56.91 358 P **P 00 25 32.6 +0.2**
comp=Z,68nm,0.6s,mb5.9,baz=176,slow=8.3,SNR=208
SONM pP pP 00 25 43.4 -0.2
comp=Z,74nm,0.7s,baz=178,slow=8.0,SNR=15
SONM LR LR 00 51 23.1
comp=Z,3μm,21.8s,MS5.4,baz=181,slow=38
SONM Songino Array 56.91 358 P **P 00 25 32.6 +0.2**
SONM *PP pP 00 25 43.4 -0.3
SONM pmax pmax
comp=Z,69nm,0.6s
SONM pmax pmax
comp=Z,74nm,0.7s
SONM MLR MLR
comp=Z,3μm,21.8s
ULN Ulaanbaatar 56.92 359 *e*P **P 00 25 32.3 -0.2**
ULN *e**PP pP 00 25 43.7 -0.1
CASY Casey 56.92 179 *e*P **P 00 25 30.9 -1.6**
KSH Kashi 57.33 330 P **P 00 25 35.6 +0.2**
KSH *e*AP pP 00 25 46.0 -0.6
KSH *e*XP sP 00 25 50.0 -1.1
KSH *e*PCP PcP 00 26 32.5 +3.3
KSH *e*PP PP 00 27 42.3 -0.5
KSH *e*S **S 00 33 25.3 -3.8**
KSH *e*PS 00 33 42.9
KSH *e*SCS ScS 00 35 19.9 -1.8
KSH *e*SS SS 00 37 16.3 -2.4
KSH AMB AMB
comp=Z,383nm,4.1s
KSH LR LR
comp=N,3μm,14.5s
KSH LR LR
comp=E,9μm,24.3s
KSH LR LR
comp=Z,5μm,24.8s
MIR Mirnyy 58.20 187 *e*P **P 00 25 43.5 +2.0**
MIR pmax pmax
comp=Z,300nm,1.5s,mb6.1
WSAR Wadi Sarin 58.77 304 P **P 00 25 45.9 +0.4**
comp=Z,59nm,0.9s,mb5.6,baz=115,slow=5.5,SNR=24
WSAR LR LR 00 53 25.8
comp=Z,4μm,18.2s,MS5.6,baz=102,slow=38
HIA Hailar 59.09 8 *e*P **P 00 25 47.8 +0.1**
HIA *e* pP 00 25 57.7 -1.3
HIA pmax pmax
comp=Z,93nm,1.0s
HIA Hailar 59.09 8 *e*P **P 00 25 47.8 +0.2**
comp=Z,93nm,1.0s,mb5.8
HIA *e* pP 00 25 57.6 -1.3
SMDO Samad 59.17 304 P **P 00 25 48.8 +0.6**
SNR=32
BIDO Bidbid 59.31 304 ⇑P **P 00 25 49.6 +0.3**
SNR=38
ULHL Ulahol 59.32 332 P **P 00 25 49.0 -0.3**
SNR=37
ZAK Zakamensk 59.61 356 *e*P **P 00 25 50.9 -0.4**
ZAK *e* 00 26 36.5
ZAK pmax pmax
comp=Z,35nm,1.7s,mb5.1
ZAK pmax pmax
comp=Z,25nm,1.1s,mb5.2
KZA Kyzart 59.65 332 P **P 00 25 51.6 0.0**
SNR=50
AAA Alma-Ata 59.82 334 *i* P **P 00 25 51.4 -1.3**
AAA *i* S **S 00 34 00.2 -1.3**
AAA pmax pmax
comp=Z,16μm,4.5s
AAA smax
comp=N,26μm,6.9s
AAA MLR MLR
comp=Z,54μm,17.9s
TKM2 Tokmak 2 60.15 332 P **P 00 25 54.5 -0.5**
SNR=282
KBK Karagaybulak 60.24 332 P **P 00 25 55.7 +0.1**
SNR=67
OPO Ambohidratompo 60.29 254 P **P 00 25 56.9 +1.0**
comp=Z,33nm,0.9s,mb5.4,baz=78,slow=5.1,SNR=19
AAK Ala-Archa 60.44 331 P **P 00 25 56.7 -0.3**
SNR=29
AAK Ala-Archa 60.44 331*d* *i*P **P 00 25 55.6 -1.4**
AAK pmax pmax
comp=Z,66nm,1.3s,mb5.5
AAK Ala-Archa 60.44 331 *e*P **P 00 25 55.6 -1.4**
AML Almayashu 60.44 331 P **P 00 25 56.6 -0.4**
SNR=133
FRU Bishkek 60.53 332 ⇓*i*P **P 00 25 56.0 -1.6**
FRU *e* 00 34 20.0
FRU pmax pmax
comp=Z,120nm,1.0s,mb6.0
CHMS Chumysh 60.60 332 P **P 00 25 57.4 -0.7**
SNR=17
MK31 Makanchi Array 60.64 339 P **P 00 25 57.7 -0.6**
MK31 pmax pmax
comp=Z,224nm,0.9s,mb6.3
MKAR Makanchi Array 60.64 339 P **P 00 25 57.9 -0.4**
comp=Z,114nm,0.5s,mb6.2,baz=148,slow=7.6,SNR=561
MKAR pP pP 00 26 09.3 -0.3
comp=Z,219nm,0.7s,baz=144,slow=7.4,SNR=22
MKAR Makanchi Array 60.64 339 P **P 00 25 57.9 -0.4**
MKAR *PP pP 00 26 09.3 -0.4
MKAR pmax pmax
comp=Z,114nm,0.5s
MKAR pmax pmax
comp=Z,219nm,0.7s
MKAR Makanchi Array 60.64 339 P **P 00 25 57.9 -0.4**
MKAR pP pP 00 26 09.3 -0.4
EKS2 Erkin-Say 60.80 331 P **P 00 25 59.3 -0.1**
SNR=107
USP Ospenovka 60.92 332 P **P 00 25 59.6 -0.7**
SNR=56
DRV Dumont d'Urvil 61.09 166 P **P 00 26 03.0 +1.6**
DRV Dumont d'Urvil 61.09 166 PP PP 00 28 18.0 +1.8
DRV S **S 00 34 19.0 +1.2**
DRV SS SS 00 38 22.0 +4.2
DRV R 00 45 00.0
IRK Irkutsk 61.41 357 ⇓*i*P **P 00 26 03.1 -0.4**
IRK *e* pP 00 26 13.1 -1.8
IRK *e*S **S 00 34 13.5 -8.3**
IRK pmax pmax
comp=Z,110nm,2.2s,mb5.6
ASHO Ashiyiah 61.52 305 P **P 00 26 04.7 +0.4**
SNR=14
KLR Kul'dur 61.65 17 *e*P **P 00 26 00.0 -5.2**
KLR *e*S **S 00 34 18.5 -6.4**
KLR pmax pmax
comp=E,48nm,1.4s
KLR pmax pmax
comp=Z,110nm,1.4s,mb5.8
HABR Khabarovsk 61.99 19 *e*P **P 00 26 08.3 +0.8**
HABR *e*S **S 00 34 29.0 -0.2**
HABR pmax pmax
comp=Z,113nm,1.2s,mb5.9
APZ The Paps 62.36 138 *e*PN **P 00 26 09.8 -0.2**
APZ pP pP 00 26 22.4 +1.1
KK31 Karatay Array 62.73 329 *i* P **P 00 26 11.0 -1.4**
KK31 pmax pmax
comp=Z,19nm,0.6s,mb5.4
KK31 Karatay Array 62.73 329 *i* P **P 00 26 11.1 -1.3**
KKAR Karatay Array 62.73 329 *i* P **P 00 26 11.0 -1.4**
KKAR pmax pmax
comp=Z,11nm,0.6s,mb5.2
YUK Yuzh-Kuril'sk 62.79 29 *e*P **P 00 26 07.0 -5.8**
YUK S **S 00 34 46.0 +6.7**
YUK *e*PS 00 35 02.0
YUK *e*SS SS 00 38 48.0 +3.5
YSS Yuzh-Sakhalins 63.63 25*k* *i*P **P 00 26 17.5 -0.9**
YSS *e* pP 00 26 28.8 -1.0
YSS *e* 00 26 36.0
YSS *e*S **S 00 34 46.0 -3.7**
YSS *e*PPS 00 35 04.0
YSS pmax pmax
comp=Z,100nm,1.0s,mb5.8
YSS Yuzh-Sakhalins 63.63 25 *e*P **P 00 26 17.8 -0.6**
RPZ Rata Peaks 63.65 134 P **P 00 26 18.4 -0.2**
comp=Z,33nm,0.8s,mb5.4,baz=306,slow=3.2,SNR=15
RPZ pP pP 00 26 30.5 +0.6

comp=Z,104nm,0.9s,baz=337,slow=3.0,SNR=15
WAKE Wake Island 63.66 63 PFAKE 00 26 30.0 +11
WAKE LR LR
comp=Z,667nm,18.3s,MS4.9
QRZ Quartz Range 64.14 131 PN **P** **00 26 22.7 +1.0**
QRZ pP pP 00 26 34.4 +1.2
THZ Tophouse 64.59 132 *e*PN **P** **00 26 25.1 +0.4**
comp=Z,82nm,0.6s,mb5.9
THZ pP pP 00 26 37.0 +0.9
NNZ Nelson 64.84 131 PN **P** **00 26 26.0 -0.4**
DUWZ D'Urville Isla 65.18 131 PN **P** **00 26 28.5 0.0**
KURK Kurchatov 65.25 339 P **P** **00 26 28.4 -0.6**
SNR=88
KURK Kurchatov 65.25 339 *d i*P **P** **00 26 28.5 -0.5**
KURK Kurchatov 65.25 339 *e*P **P** **00 26 27.4 -1.6**
TCW Tory Channel 65.51 131 *e*PN **P** **00 26 30.4 -0.3**
MAW Mawson 65.73 198 *e*P **P** **00 26 30.7 -1.4**
comp=Z,20nm,0.9s,mb5.2
MAW Mawson 65.73 198 P **P** **00 26 30.9 -1.2**
comp=Z,18nm,0.8s,mb5.2,baz=52,slow=7.0,SNR=41
MAW LR LR 00 50 35.6
comp=Z,2µm,18.9s,MS5.2,baz=52,slow=32
MAW Mawson 65.73 198 *e*P **P** **00 26 30.7 -1.4**
MAW pmax pmax
comp=Z,20nm,0.9s
SNZO South Karori 65.84 131 *e*P **P** **00 26 32.4 -0.4**
comp=Z,72nm,0.8s,mb5.8
KIW Kapiti Island 65.93 131 PN **P** **00 26 33.0 -0.3**
KIW pP pP 00 26 45.4 +0.6
ZAL Zalesovo 66.19 345 P **P** **00 26 33.4 -1.6**
comp=Z,34nm,0.4s,mb5.7,baz=343,slow=3.5
ZAL Zalesovo 66.19 345 P **P** **00 26 33.4 -1.6**
ZAL pmax pmax
comp=Z,34nm,0.4s
KRAR Krasnoyarsk 66.40 350 ⇓ *i*P **P** **00 26 33.8 -2.6**
KRAR pmax pmax
comp=Z,133nm,1.3s,mb5.8
ABKT Ailbek 66.66 318 P **P** **00 26 38.4 +0.4**
comp=Z,325nm,1.5s,mb6.1,SNR=18
BOD Bodaibo 67.00 3 *e*P **P** **00 26 38.9 -1.3**
BOD *e* pP 00 26 49.9 -1.8
BOD pmax pmax
comp=Z,56nm,1.3s,mb5.4
BOD pmax pmax
comp=Z,140nm,0.8s,mb6.0
CLNS Chul'man 67.21 10 *e*P **P** **00 26 41.5 0.0**
CLNS *e**PP pP 00 26 52.4 -0.6
CLNS *e* 00 27 09.7
CLNS *e*PPP 00 30 43.0
CLNS *e*S S 00 35 35.6 +2.1
CLNS pmax pmax
comp=Z,48nm,0.7s,mb5.6
CLNS pmax pmax
comp=N,29nm,0.8s
CLNS pmax pmax
comp=E,35nm,0.9s
CLNS pmax pmax
comp=Z,84nm,1.1s,mb5.7
CLNS pmax pmax
comp=N,123nm,1.3s
CLNS pmax pmax
comp=E,68nm,1.1s
CLNS smax
comp=N,722nm,11.7s
CLNS smax
comp=Z,374nm,11.8s
CLNS smax
comp=E,742nm,12.2s
CLNS MLR MLR
comp=Z,3µm,16.0s,MS5.5
CLNS MLR MLR
comp=N,3µm,14.0s,MS5.7
CLNS MLR MLR
comp=E,2µm,16.0s,MS5.7
URZ Urewera 67.28 128 P **P** **00 26 41.6 -0.4**
comp=E,24nm,0.7s,mb5.3,baz=297,slow=3.6,SNR=12
URZ LR LR 00 57 35.8
comp=E,9µm,19.1s,MS6.0,baz=100,slow=37
NVS Novosibirsk 67.41 344 *i*P **P** **00 26 40.6 -2.2**
NVS *i*S S 00 35 33.1 -2.8
NVS pmax pmax
comp=N,126nm,1.6s
NVS pmax pmax
comp=Z,96nm,1.6s,mb5.6
NVS pmax pmax
comp=E,52nm,1.5s
NVS smax
comp=N,75nm,2.1s
NVS smax
comp=E,68nm,2.1s
ATD Arta Tunnel 68.77 286 P **P** **00 26 52.2 +0.9**
comp=E,25nm,0.7s,mb5.2,baz=76,slow=6.8,SNR=8.8
ATD Arta Tunnel 68.77 286 P **P** **00 26 52.2 +0.9**
VOSK Vostochnaya 69.70 337 P **P** **00 26 56.1 -1.0**
VOSK pmax pmax
comp=Z,73nm,1.2s,mb5.5
QRN Al-Qurain 69.83 305 *e*P **P** **00 26 57.2 -0.6**
QRN AMb AMB 00 26 58.6
comp=Z,404nm,0.9s,mb6.4
BVA0 Borovoye Array 70.17 336 *i*P **P** **00 26 59.4 -0.6**
BVA0 pmax pmax
comp=Z,18nm,0.8s,mb5.0
BVAR Borovoye Array 70.17 336 P **P** **00 26 59.4 -0.5**
comp=Z,89nm,0.6s,mb5.9,baz=142,slow=8.8,SNR=322
BVAR pP pP 00 27 09.6 -1.9
comp=Z,184nm,0.8s,baz=142,slow=7.3,SNR=21
BVAR Borovoye Array 70.17 336 P **P** **00 26 59.4 -0.6**
BVAR *PP pP 00 27 09.6 -1.9
BVAR pmax pmax
comp=Z,89nm,0.6s
BVAR pmax pmax
comp=Z,184nm,0.8s
KBD Kabd 70.18 306 *e*P **P** **00 26 59.2 -0.8**
KBD AMb AMB 00 27 00.9
comp=Z,854nm,0.8s,mb6.7
RDF Al-Radifah 70.20 305 *e*P **P** **00 26 59.5 -0.6**
RDF AMb AMB 00 27 01.0
comp=Z,362nm,0.9s,mb6.3
BRVK Borovoye 70.23 336 ⇓P **P** **00 26 60.0 -0.4**
SNR=91
BRVK Borovoye 70.23 336 *e*P **P** **00 26 59.8 -0.6**
BRVK *e**PP pP 00 27 11.1 -0.8
BRVK pmax pmax
comp=Z,100nm,1.0s,mb5.7
BRVK Borovoye 70.23 336 *e*P **P** **00 26 59.8 -0.6**
comp=Z,101nm,0.9s,mb5.8
BRVK *e*pP pP 00 27 11.1 -0.8
UMR Umm Al-Rimmam 70.31 306 *e*P **P** **00 27 00.5 -0.4**
UMR AMb AMB 00 27 01.6
comp=Z,482nm,0.9s,mb6.4
NAY Al-Naaiem 70.57 305 *e*P **P** **00 27 01.8 -0.6**
NAY AMb AMB 00 27 03.0
comp=Z,190nm,0.9s,mb6.0
CHKZ Chkalovo 70.57 337 *i*P **P** **00 27 01.5 -0.9**
CHKZ pmax pmax
comp=Z,181nm,0.8s,mb6.0
ZRNK Zerenda 70.66 336 *e*P **P** **00 27 02.5 -0.5**
ZRNK *e* pP 00 27 13.3 -1.2
ZRNK pmax pmax
comp=Z,97nm,0.5s,mb6.0
ZRNK Zerenda 70.66 336 *e*P **P** **00 27 02.5 -0.5**
comp=Z,97nm,0.5s,mb6.0
ZRNK *e* pP 00 27 13.3 -1.2
MIB Mutribah 70.71 306 *e*P **P** **00 27 02.8 -0.4**
MIB AMb AMB 00 27 06.5
comp=Z,390nm,0.8s,mb6.4
RST Umm Al-Ruwaisa 70.86 306 *e*P **P** **00 27 03.4 -0.8**
RST AMb AMB 00 27 04.7
comp=Z,492nm,0.9s,mb6.4
KMBO Kilima Mbogo 71.63 272 P **P** **00 27 09.2 +0.3**
comp=Z,24nm,1.0s,mb5.1,baz=63,slow=8.9,SNR=37
KMBO pP pP 00 27 20.6 +0.2
comp=Z,13nm,1.0s,baz=38,slow=2.8,SNR=5.7
KMBO LR LR 00 54 42.3
comp=Z,3µm,19.9s,MS5.6,baz=90,slow=33
KMBO Kilima Mbogo 71.63 272 P **P** **00 27 09.2 +0.4**
KMBO *PP pP 00 27 20.6 +0.2
KMBO pmax pmax
comp=Z,24nm,1.0s
KMBO pmax pmax
comp=Z,13nm,1.0s
SKR Severo-Kuril's 72.41 29 *e*P **P** **00 27 09.5 -4.0**
SKR *e* 00 27 28.0
SKR *e*PPP 00 31 37.0
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
SKR MLR MLR
comp=E,2µm,18.0s
SKR MLR MLR
comp=Z,3µm,18.0s,MS5.6
YAK Yakutsk 72.93 10 *d i*P **P** **00 27 15.5 -1.1**
YAK *e**PP pP 00 27 26.2 -2.0
YAK *e* 00 27 37.3
YAK *e* 00 29 56.5
YAK *e*PPP 00 31 39.7
YAK *i*S S 00 36 37.3 -3.2
YAK *e* 00 37 18.1
YAK pmax pmax
comp=N,87nm,1.0s
YAK pmax pmax
comp=E,26nm,1.0s
YAK pmax pmax
comp=Z,260nm,1.0s,mb6.1
YAK pmax pmax
comp=Z,13nm,0.9s,mb4.9
YAK pmax pmax
comp=N,14nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK smax
comp=Z,8.0nm,0.8s
YAK smax
comp=N,24nm,1.6s
YAK smax
comp=E,43nm,1.4s
YAK pmax pmax
comp=E,2µm,18.9s
YAK pmax pmax
comp=Z,608nm,18.4s
YAK pmax pmax
comp=N,2µm,16.8s
YAK Yakutsk 72.93 10 *e*P **P** **00 27 15.7 -1.0**
YAK *e*pP pP 00 27 26.5 -1.7
VNDA Vanda 73.41 170 P **P** **00 27 18.2 -1.2**
comp=N,32nm,0.8s,mb5.3,baz=306,slow=5.9,SNR=133
VNDA pP pP 00 27 29.8 -1.2
comp=N,34nm,0.8s,baz=304,slow=7.6,SNR=9.9
VNDA LR LR 00 58 05.8
comp=N,1µm,18.8s,MS5.2,baz=320,slow=34
VNDA Vanda 73.41 170 P **P** **00 27 18.3 -1.1**
VNDA *PP pP 00 27 29.8 -1.2
VNDA pmax pmax
comp=Z,32nm,0.8s
VNDA pmax pmax
comp=Z,34nm,0.9s
SYO Syowa Base 74.00 201 ⇑ *e*P **P** **00 27 20.8 -2.1**
AKTK Aktyubinsk 74.00 329 P **P** **00 27 22.2 -0.7**
AKTK LR LR 01 05 39.0
AKTO Aktyubinsk 74.00 329 P **P** **00 27 22.2 -0.7**
comp=Z,17nm,0.8s,mb5.0,baz=130,slow=5.9,SNR=35
AKTO LR LR 01 05 39.0
comp=Z,2µm,20.3s,MS5.3,baz=243,slow=40
AKTO Aktyubinsk 74.00 329 *i*P **P** **00 27 21.4 -1.5**
BHD Baghdad 74.38 308 *i* x x 00 27 22.0
BHD *ex* x 00 36 59.0
SBA Scott Base 74.47 169 *e*P **P** **00 27 25.3 -0.4**
PET Petropavlovsk 75.12 29 *d i*P **P** **00 27 28.9 -0.5**
PET *e* 00 30 24.4
PET *e*PS 00 37 52.8
PET pmax pmax
comp=Z,800nm,19.0s
PET Petropavlovsk 75.12 29 *e*P **P** **00 27 29.0 -0.4**
comp=Z,59nm,0.6s,mb5.7
PET *e*pP pP 00 27 39.5 -1.5
MAK Makhachkala 76.17 318 *d i*P **P** **00 27 35.7 +0.3**
MAK *i* 00 27 50.4
MAK *i* 00 30 31.4
MAK *e*S S 00 37 20.1 +3.4
MAK *e* 00 38 01.8
MAK pmax pmax
comp=Z,110nm,1.0s,mb5.7
MAK MLR MLR
comp=Z,1µm,22.0s,MS5.2
MAK Makhachkala 76.17 318 *e*P **P** **00 27 35.5 +0.1**
MA2 Magadan 76.37 20 *e*P **P** **00 27 36.2 -0.3**
MA2 *e* pP 00 27 47.8 -0.4
MA2 *e*S S 00 37 17.8 -1.1
MA2 *e*PS 00 37 57.0
MA2 pmax pmax
comp=N,60nm,0.8s
MA2 pmax pmax
comp=Z,200nm,0.8s,mb6.1
MA2 MLR MLR
comp=Z,3µm,17.7s,MS5.7
MA2 Magadan 76.37 20 *e*P **P** **00 27 36.4 -0.1**
comp=Z,104nm,0.8s,mb5.8
CUKT Cukurca 76.49 312 *e*P **P** **00 27 36.2 -1.0**
MSL Mosul 76.51 311 *i* x x 00 27 39.0
MSL *ex* x 00 27 50.0
MSL *ex* x 00 37 18.0
SVE Sverdlovsk 76.83 335 ⇓ *i*P **P** **00 27 39.0 -0.1**
SVE *e*PPP 00 32 15.0
SVE *e* 00 38 10.0
SVE pmax pmax
comp=Z,225nm,2.7s,mb5.6
SVE MLR MLR
comp=N,2µm,16.0s,MS5.6
SVE MLR MLR
comp=E,2µm,16.0s,MS5.6
SVE MLR MLR
comp=Z,4µm,16.0s,MS5.8
GNI Garni 76.83 315 *e*P **P** **00 27 39.9 +0.7**
GNI Garni 76.83 315 P **P** **00 27 39.0 -0.2**
comp=Z,35nm,0.8s,mb5.3,baz=249,slow=0.8,SNR=17
GNI Garni 76.83 315 P **P** **00 27 39.8 +0.7**
SNR=15
GNI Garni 76.83 315 *d i*P **P** **00 27 39.2 0.0**
GNI pmax pmax
comp=Z,75nm,1.3s
GNI Garni 76.83 315 *e*P **P** **00 27 39.4 +0.2**
comp=Z,70nm,0.9s,mb5.6
DGRG David-gareji 76.94 316 P **P** **00 27 40.6 +0.8**
DGRG S S 00 37 35.1 +10
CLDR Caldiran 77.01 314 *e*P **P** **00 27 40.2 0.0**
TVAN Van 77.13 313 *i*P **P** **00 27 39.6 -1.2**
VANB Van 77.17 313 *e*P **P** **00 27 38.2 -2.8**
MTA Mtatsminda 77.44 316 P **P** **00 27 42.7 +0.2**
MTA S S 00 37 39.8 +9.3
ARU Arti 77.45 334 ⇓ *i*P **P** **00 27 42.0 -0.6**
ARU *e* 00 30 36.7
ARU *e*PPP 00 32 25.0
ARU *e*S S 00 37 30.5 -0.1
ARU *e* 00 37 59.0
ARU *e*SS SS 00 42 22.7 -7.2
ARU *e*SSS 00 45 48.6
ARU pmax pmax
comp=Z,60nm,1.1s,mb5.4
ARU MLR MLR
comp=Z,4µm,19.0s,MS5.8
ARU MLR MLR
comp=N,2µm,20.0s,MS5.7
ARU MLR MLR
comp=E,2µm,19.0s,MS5.7
ARU Arti 77.45 334 *e*P **P** **00 27 41.9 -0.7**
comp=E,248nm,1.5s,mb5.9
TBLG Delisi 77.49 316 P **P** **00 27 43.3 +0.4**
GOR Gori 78.02 316 P **P** **00 27 46.8 +1.0**
MBAR Mbarara 78.14 271 *e*P **P** **00 27 46.6 +0.1**
KARS Kars 78.17 315 *e*P **P** **00 27 47.5 +0.9**
MZRK Al-Mazaregh 78.18 310 ⇓P **P** **00 27 48.2 +1.6**
AKH Akhalkalaki 78.21 316 P **P** **00 27 46.6 -0.2**
BTMT Batman 78.40 312 *e*P **P** **00 27 47.7 -0.2**
BEST Besiri 78.45 312 *i*P **P** **00 27 48.5 +0.3**
ZEI Tsey 78.48 317 *e*P **P** **00 27 48.4 0.0**
ZEI *e**PP pP 00 27 58.1 -1.9
ZEI *e* 00 30 48.0
ZEI pmax pmax
comp=Z,76nm,0.8s,mb5.7
MARD Mardin 78.61 311 *i*P **P** **00 27 49.6 +0.6**
LSZ Lusaka 78.63 256 P **P** **00 27 49.7 +0.6**
comp=Z,62nm,0.8s,mb5.6,baz=92,slow=5.0,SNR=135
LSZ pP pP 00 28 01.2 +0.3
comp=Z,46nm,0.9s,baz=122,slow=7.2,SNR=8.0
LSZ Lusaka 78.63 256 P **P** **00 27 49.7 +0.5**
LSZ *PP pP 00 28 01.2 +0.3
LSZ pmax pmax
comp=Z,62nm,0.8s,mb5.6
LSZ pmax pmax
comp=Z,46nm,0.9s,mb5.4
LSZ Lusaka 78.63 256 *e*P **P** **00 27 49.4 +0.2**
comp=Z,63nm,0.8s,mb5.6
ONI Oni 78.71 317 P **P** **00 27 50.2 +0.6**
ONI S S 00 37 44.5 +0.3
SFNV Sufian 78.79 310 ⇓P **P** **00 27 49.8 -0.2**
BNGL BINGOL 78.93 313 *i*P **P** **00 27 51.8 +1.0**
ERZM Erzurum 79.12 314 *i*P **P** **00 27 53.0 +1.1**
EZM Erzurum 79.12 314 *e*P **P** **00 27 53.4 +1.5**
DRBT Darb Altahta 79.17 310 ⇓P **P** **00 27 57.7 +5.6**
BINT Bingol 79.38 312 *e*P **P** **00 27 53.0 -0.2**
BCA Borcka 79.52 315 *e*P **P** **00 27 49.1 -4.9**
KIV Kislovodsk 79.77 318 *d i*P **P** **00 27 55.5 +0.1**
KIV *e*S S 00 37 54.3 -1.2
KIV pmax pmax
comp=Z,55nm,0.5s,mb5.7
KIV pmax pmax
comp=Z,121nm,1.2s,mb5.7
KIV Kislovodsk 79.77 318 *e*P **P** **00 27 55.5 +0.1**
comp=Z,92nm,0.9s,mb5.7
ZALF Zalf 79.81 306 ⇓P **P** **00 27 56.9 +1.3**
JHLN Al Jahlan 79.81 309 ⇓P **P** **00 27 56.6 +1.0**
LBTB Lobatse 80.03 246 *e*P **P** **00 27 57.2 +0.4**
LBTB *e* pP 00 28 09.3 +0.8
LBTB pmax pmax
comp=Z,40nm,0.8s,mb5.4
LBTB Lobatse 80.03 246 *e*P **P** **00 27 57.2 +0.4**
comp=Z,40nm,0.8s,mb5.4
LBTB *e* pP 00 28 09.3 +0.8
URFA Urfa 80.11 311 *e*P **P** **00 27 58.0 +0.7**
EZC Erzincan 80.18 313 *e*P **P** **00 28 00.4 +2.8**
SALA Sala 80.23 306 ⇓P **P** **00 27 59.4 +1.5**
ROOS tl_alroos 80.23 307 ⇓P **P** **00 27 59.8 +1.9**
ELZG Elazig 80.35 312 *i*P **P** **00 27 59.5 +0.9**
MIDW Midway 80.36 59 PFAKE 00 28 10.0 +11
MIDW LR LR
comp=Z,1µm,19.0s,MS5.4
ATAB Bozova 80.52 310 *i*P **P** **00 28 00.3 +0.9**
MACK Trabzon 80.64 314 *i*P **P** **00 28 00.5 +0.4**
TOTH TOTAH 80.67 306 ⇓P **P** **00 28 01.6 +1.4**
MALT Malatya 80.70 311 *e*P **P** **00 28 00.3 -0.1**
MYA Malataya 80.71 311 *e*P **P** **00 27 59.5 -1.0**
QSPA South Pole Qui 80.72 180 ⇓ *i*P **P** **00 27 59.4 -1.1**
comp=Z,294nm,0.8s,mb6.3
KELT Kelkit 80.72 313 *i*P **P** **00 28 01.1 +0.6**
EIL Elat 80.81 302 *e*P **P** **00 28 01.6 +0.6**
EIL *e*pP pP 00 28 12.3 -0.4
TCHB Talchebab 80.83 305 ⇓P **P** **00 28 02.7 +1.6**
QASN Qassioun 80.84 306 ⇓P **P** **00 28 02.2 +1.1**
KFRA Kufra 80.94 308 ⇓P **P** **00 28 01.1 -0.5**
GZT Gaziantep 81.03 310 *i*P **P** **00 28 03.0 +0.8**
BRBR Barbar 81.06 306 ⇓P **P** **00 28 04.2 +1.8**
RCY Rachaya 81.19 306 *e*P **P** **00 28 04.2 +1.2**
BIDA Albida 81.25 308 ⇓P **P** **00 28 04.4 +1.1**
WRDH Warideh 81.33 308 ⇓P **P** **00 28 04.6 +0.9**
BHL Bhannes 81.45 306 *e*P **P** **00 28 05.4 +1.1**
BTCH Batrach 81.46 309 ⇓P **P** **00 28 05.2 +0.8**
DRWC Darouich 81.48 309 ⇓P **P** **00 28 05.4 +0.9**
SLNF Slenfeh 81.50 308 ⇓P **P** **00 28 05.8 +1.2**
SOC Sochi 81.62 317 *i*P **P** **00 28 05.3 0.0**
GRSN GIRESUNGRSN 81.69 314 *i*P **P** **00 28 05.7 0.0**
HTY Hatay 81.73 309 *e*P **P** **00 28 06.2 +0.4**
COBT Iskenderun 81.76 309 *i*P **P** **00 28 06.7 +0.6**
ARNB Al Arnab 81.78 308 ⇓P **P** **00 28 06.8 +0.7**
TIXI Tiksi 81.86 6 ⇓ *i*P **P** **00 28 03.6 -2.9**
TIXI *e* 00 31 10.0
TIXI *e*S S 00 38 10.1 -7.1
TIXI pmax pmax
comp=Z,223nm,0.8s,mb6.2
TIXI pmax pmax
comp=N,34nm,0.7s
TIXI pmax pmax
comp=E,40nm,0.9s
TIXI Tiksi 81.86 6 *i*P **P** **00 28 04.8 -1.7**
SVST Sivas 82.26 312 *i*P **P** **00 28 10.1 +1.5**
SVSK Karacayir 82.28 312 *e*P **P** **00 28 09.8 +1.0**
CEYT Ceyhan 82.30 309 *e*P **P** **00 28 09.0 +0.2**
KOZT Kozan 82.38 310 *e*P **P** **00 28 09.1 -0.2**
KRTS Karatas 82.45 309 *e*P **P** **00 28 10.5 +0.8**
TOKT Tokat 82.73 313 *e*P **P** **00 28 10.8 -0.3**
BNN Bunyan 82.79 311 *e*P **P** **00 28 11.9 +0.5**
SMY Shemya 82.89 34 *e*P **P** **00 28 12.0 +0.1**
SMY pmax pmax
comp=Z,160nm,1.2s,mb5.9
SMY Shemya 82.89 34 *e*P **P** **00 28 12.0 +0.1**
comp=Z,156nm,1.3s,mb5.9
KARA Karaisali 82.90 309 *e*P **P** **00 28 12.2 +0.2**
MERS Mersin 83.20 309 *e*P **P** **00 28 11.8 -1.7**
VRHR Novokhopersk 83.29 324 *e*P **P** **00 28 13.5 -0.5**
VRHR *e**PP pP 00 28 22.6 -3.1
VRHR pmax pmax
comp=Z,260nm,0.8s,mb6.3
VRHR pmax pmax
comp=N,30nm,0.5s
VRHR pmax pmax
comp=E,90nm,1.2s
VRHR MLR MLR
comp=N,850nm,22.0s,MS5.3
VRHR MLR MLR
comp=Z,1µm,22.0s,MS5.2
VRHR MLR MLR
comp=E,1µm,18.0s,MS5.3
KVT Kavak 83.33 313 *e*P **P** **00 28 14.7 +0.5**
MEST Erdemli 83.41 309 *i*P **P** **00 28 14.6 0.0**
SUR Sutherland 83.43 238 LR LR 01 00 16.1
comp=E,953nm,18.6s,MS5.2,baz=270,slow=32
SUR Sutherland 83.43 238 *e*P **P** **00 28 15.7 +1.0**
comp=E,72nm,1.2s,mb5.6
ANN Anapa 83.58 317 *d i*P **P** **00 28 14.8 -0.7**
ANN *i**PP pP 00 28 26.3 -1.0
ANN *i*S S 00 38 33.2 -1.6
ANN pmax pmax
comp=Z,200nm,1.2s,mb6.1
ANN pmax pmax
comp=Z,976nm,8.9s
CSS Prodhromos 83.59 307 *e*P **P** **00 28 14.5 -1.0**
CSS Prodhromos 83.59 307 *e*P **P** **00 28 16.3 +0.7**
comp=Z,80nm,0.6s,mb6.0
CSS *e* pP 00 28 28.1 +0.8
NVL N'lazarevskaya 83.60 199 ⇑ *i*P **P** **00 28 15.2 -0.4**
NVL *i*S S 00 38 33.5 -1.5
NVL *e*SS SS 00 44 11.5 +10
NVL pmax pmax
comp=Z,34nm,0.8s,mb5.5
IKL Isikli 83.66 308 *e*P **P** **00 28 15.9 0.0**
DIKM Dikmen 84.08 314 *e*P **P** **00 28 17.7 -0.3**
CORM Corum 84.09 312 *e*P **P** **00 28 18.4 +0.3**
CTKT Corum 84.10 313 *i*P **P** **00 28 19.1 +1.0**
CDAG Cicekdag 84.11 312 *i*P **P** **00 28 18.6 +0.4**
PECR Pechory 84.17 330 *i*P **P** **00 28 17.2 -1.3**
PECR *i* pP 00 28 28.8 -1.4
PECR pmax pmax
comp=Z,1µm,1.2s,mb6.8
BOYT Boyabat 84.26 313 *i*P **P** **00 28 19.4 +0.5**
BYBT Boyabat 84.37 313 *e*P **P** **00 28 19.6 +0.1**
ERMK Ermenek 84.37 308 *i*P **P** **00 28 23.0 +3.5**
KAMT Kaman 84.53 311 *e*P **P** **00 28 19.9 -0.4**
BR131 Keskin Array S 84.68 312 *e*P **P** **00 28 21.1 0.0**
comp=Z,92nm,1.0s,mb5.9
BR131 *e* pP 00 28 33.0 +0.2
BRTR Keskin Array B 84.68 312 P **P** **00 28 21.1 +0.1**
comp=Z,111nm,1.1s,mb5.9,baz=134,slow=7.6,SNR=266
BRTR pP pP 00 28 32.8 -0.1
comp=Z,92nm,1.0s,baz=129,slow=7.7,SNR=11
BRTR PKKPbc PKKPbc 00 46 32.2 +1.8
comp=Z,0.9nm,0.7s,baz=28,slow=1.5,SNR=5.6
BRTR LR LR 01 14 02.3
comp=Z,1µm,18.4s,MS5.3,baz=96,slow=41
BRTR Keskin Array B 84.68 312 P **P** **00 28 21.2 +0.1**
BRTR *PP pP 00 28 32.8 -0.1
BRTR pmax pmax
comp=Z,111nm,1.1s
BRTR pmax pmax
comp=Z,92nm,1.0s
BRTR pmax pmax
comp=Z,1.0nm,0.7s
VRSR Storozhevoye 84.75 324 *e*P **P** **00 28 20.6 -0.8**
VRSR *e**PP pP 00 28 31.6 -1.6
VRSR *e*S S 00 38 53.9 +7.4
VRSR pmax pmax
comp=Z,200nm,0.7s,mb6.4
VRSR pmax pmax
comp=N,40nm,0.6s
VRSR pmax pmax
comp=E,40nm,0.5s

VRSR smax
comp=N,410nm,14.3s
VRSR smax
comp=Z,50nm,5.2s
VRSR smax
comp=E,400nm,7.3s
VRSR MLR MLR
comp=Z,2µm,26.0s,MS5.3
VRSR MLR MLR
comp=N,2µm,24.0s,MS5.5
VRSR MLR MLR
comp=E,1µm,21.0s,MS5.5
TOS Tosya 84.78 313 *e*P **P 00 28 22.5 +0.9**
VOR Voronezh 84.94 324 *e*P **P 00 28 21.6 -0.8**
VOR *e**PP pP 00 28 32.0 -2.1
VOR pmax pmax
comp=Z,300nm,1.5s,mb6.2
VOR pmax pmax
comp=N,40nm,1.4s
VOR pmax pmax
comp=E,170nm,1.4s
CANT Cankiri 84.95 312 *e*P **P 00 28 23.4 +1.0**
ELDT Eldivan 85.06 312 *i* P **P 00 28 23.3 +0.4**
KONT Konya--Tatoy 85.15 310 *e*P **P 00 28 23.0 -0.4**
ANTO Ankara 85.35 311 *e*P **P 00 28 23.1 -1.3**
ANTO Ankara 85.35 311⇑ *i*P **P 00 28 25.4 +1.0**
ANTO Ankara 85.35 311 *e*P **P 00 28 24.9 +0.5**
ANTO *e* pP 00 28 35.5 -0.7
ANTO pmax pmax
comp=Z,82nm,0.9s,mb5.9
ANTO Ankara 85.35 311 *e*P **P 00 28 24.9 +0.5**
comp=Z,82nm,0.9s,mb5.9
ANTO *e* pP 00 28 35.5 -0.7
LOD Lodumlu 85.38 311 *e*P **P 00 28 24.6 +0.1**
BALT Daday 85.38 313 *i* P **P 00 28 25.6 +1.0**
KIZT Kizilcal 85.76 310 *e*P **P 00 28 26.2 -0.3**
SAFT Safranbolu 85.81 313 *e*P **P 00 28 27.5 +0.8**
SIM Simferopol' 85.87 317*d i*P **P 00 28 27.0 0.0**
SIM *e**PP pP 00 28 45.0 +6.2
SIM *e*S S 00 39 02.0 +4.5
SIM pmax pmax
comp=Z,118nm,0.8s,mb6.2
SGKT Sivrigoynuk 86.08 312 *i* P **P 00 28 28.5 +0.4**
ANTB Antalya 86.19 308 *e*P **P 00 28 32.0 +3.4**
ISP Isparta 86.54 309 *e*P **P 00 28 29.7 -0.6**
ISP Isparta 86.54 309⇓ *i*P **P 00 28 31.2 +0.9**
MDU Mudurnu 86.67 312 *e*P **P 00 28 31.5 +0.6**
ESKT Eskisehir 86.70 311 *i* P **P 00 28 31.3 +0.2**
KDZE Karadeniz Ereo 86.73 313 *e*P **P 00 28 29.8 -1.4**
TKTP Tekketepe 86.73 309 *i* P **P 00 28 31.5 +0.3**
HENT Hendek 87.00 312 *i* P **P 00 28 32.6 0.0**
BORA Eskisehir 87.09 311 *i* P **P 00 28 32.5 -0.5**
MOS Moscow 87.26 328*d i*P **P 00 28 33.5 -0.3**
MOS *i* pP 00 28 44.0 -1.6
MOS *i* 00 28 51.4
MOS *e* 00 32 00.8
MOS *i* 00 39 10.6
MOS pmax pmax
comp=Z,300nm,1.1s,mb6.4
MOS pmax pmax
comp=Z,259nm,1.1s,mb6.4
MOS smax
comp=N,1µm,5.6s
FETY Fethiye 87.35 308 *e*P **P 00 28 32.5 -1.7**
OBN Obninsk 87.61 327*d i*P **P 00 28 35.1 -0.4**
OBN *i* pP 00 28 47.3 0.0
OBN *e* 00 31 56.4
OBN *i* S S 00 39 19.7 +5.3
OBN pmax pmax
comp=Z,224nm,1.1s,mb6.3
OBN Obninsk 87.61 327 *e*P **P 00 28 35.4 -0.2**
GDZ Gediz 87.62 310 *i* P **P 00 28 35.0 -0.6**
DNZL Cakiroluk 87.62 309 *i* P **P 00 28 36.1 +0.5**
DALT Dalyan (Mudla) 87.73 308 *e*P **P 00 28 30.1 -6.0**
ADVT Abdulvahap 87.76 311 *e*P **P 00 28 36.8 +0.6**
SNAA Sanae 87.89 197⇓ *i*P **P 00 28 36.1 -0.7**
SNAA *e* 00 28 38.3
SNAA *e* pP 00 28 48.0 -0.7
SNAA *e* 00 28 50.7
SNAA *e* 00 28 56.4
SNAA *e* 00 29 00.3
SNAA *e* 00 29 03.1
SNAA *e* 00 29 13.8
SNAA *e* 00 29 23.8
SNAA Sanae 87.89 197*d i*P **P 00 28 36.1 -0.7**
SNAA Sanae 87.89 197 *e*P **P 00 28 36.0 -0.8**
comp=Z,40nm,1.0s,mb5.6
HRT Hereke 87.90 312 *e*P **P 00 28 35.0 -1.9**
YLV Yalova 88.06 311 *e*P **P 00 28 35.5 -2.2**
YER Yerkesik 88.09 308 *e*P **P 00 28 34.5 -3.3**
ULDT Uludag 88.13 311 *i* P **P 00 28 38.5 +0.5**
TSUM Tsumeb 88.15 251 *e*P **P 00 28 39.0 +0.9**
GEMT Gemlik 88.16 311 *e*P **P 00 28 38.7 +0.6**
KLYT Kilyos 88.47 312 *e*P **P 00 28 39.3 -0.3**
AYDN Tasoluk 88.52 308 *i* P **P 00 28 40.9 +1.1**
KARP Karpathos 88.62 306 *e*P **P 00 28 40.5 +0.2**
BDRM Kayabasi 88.73 308 *i* P **P 00 28 41.2 +0.4**
AKHS Akhisar 88.84 310 *i* P **P 00 28 42.1 +0.8**
AKS Akhisar 88.84 310 *e*P **P 00 28 40.9 -0.4**
BTOK Tokmak 88.87 310 *i* P **P 00 28 42.0 +0.5**
BNT Bandirma 89.09 311 *e*P **P 00 28 42.4 -0.1**
KDAG Bornova 89.15 309 *i* P **P 00 28 43.8 +1.0**
IZM Izmir 89.16 309 *e*P **P 00 28 43.8 +0.9**
BLCB Balcova 89.32 309 *e*P **P 00 28 40.4 -3.2**
PSN Preselentsi 89.64 314 *e*P **P 00 28 46.0 +0.9**
CANB Canakkale 89.66 311 *e*P **P 00 28 45.4 +0.2**
TIRR Tirgusor 89.66 315⇓ *i*P **P 00 28 45.6 +0.4**
TIRR Tirgusor 89.66 315 *e*P **P 00 28 45.3 +0.1**
TIRR *e* pP 00 28 56.7 -0.3
RKY Sarkoy-Tekirda 89.71 311 *e*P **P 00 28 42.9 -2.5**
AYVA Ayvalik 89.79 310 *i* P **P 00 28 46.5 +0.7**
NPS Neapolis 89.80 306 *e*P **P 00 28 46.0 +0.1**
LAST Lasithi 89.89 306 *e*P **P 00 28 47.4 +1.1**
VNA1 Neumayer--Stat 89.92 197⇓ *i*P **P 00 28 46.4 0.0**
VNA1 *e* 00 28 47.9
VNA1 *e* pP 00 28 57.8 -0.4
VNA1 *e* 00 29 00.9
VNA1 *e* 00 29 06.2
VNA1 *e* 00 29 10.4
VNA1 *e* 00 29 13.5
VNA1 *e* 00 29 23.0
VNA1 *e* 00 29 35.0
KIS Kishinev 89.97 318 *e*P **P 00 28 46.0 -0.7**
KIS *e* 00 29 04.0
KIS *e* 00 32 20.0
KIS *e*PPP 00 34 26.0
KIS *e*S S 00 39 34.0 -2.6
KIS *e*PS PS 00 40 38.0 -9.2
CFR Carcaliu 90.02 316⇑ *i*P **P 00 28 47.4 +0.6**
HARR Harsova 90.05 315⇑ *i*P **P 00 28 47.6 +0.6**
CHOS Chios island 90.08 309 *e*P **P 00 28 48.2 +1.0**
PRK Paraskevi 90.09 310 *e*P **P 00 28 47.5 +0.3**
SANT Santorini 90.14 307 *e*P **P 00 28 47.8 +0.3**
APE Apeiranthos 90.23 307⇓ *i*P **P 00 28 47.7 -0.1**
EDRB Edirne 90.28 312 *e*P **P 00 28 38.9 -9.1**
IDI Anoyia 90.39 306 P **P 00 28 48.9 +0.3**
comp=Z,23nm,0.8s,mb5.5,baz=115,slow=8.1,SNR=6.8
SIVA Sivas 90.40 305 *e*P **P 00 28 49.6 +0.9**
JMB Yambol 90.53 313 *e*P **P 00 28 49.6 +0.4**
JMB Yambol 90.53 313 *e*P **P 00 28 50.0 +0.8**
AKASG Malin Array Be 90.59 321 P **P 00 28 48.2 -1.3**
comp=Z,22nm,0.7s,mb5.6,baz=86,slow=4.6,SNR=93
AKASG PP PP 00 32 22.6 -2.1
comp=Z,10nm,0.9s,baz=92,slow=5.9,SNR=8.7
AKASG LR LR 01 19 49.0
comp=Z,1µm,18.3s,MS5.4,baz=80,slow=42
AKASG Malin Array Be 90.59 321 P **P 00 28 48.2 -1.3**
AKASG 00 32 22.7
AKASG pmax pmax
comp=Z,22nm,0.7s
AKASG pmax pmax
comp=Z,10.0nm,0.9s
AKBB Malin Array Si 90.59 321 *e*P **P 00 28 48.4 -1.1**
AKBB *e* pP 00 28 59.5 -1.9
AKBB *e* 00 32 23.1
ALN Alexandroupoli 90.60 311 *e*P **P 00 28 49.7 +0.2**
IAS Iasi 90.86 318 P **P 00 28 50.9 +0.2**
VAM Vamos 90.97 306 *e*P **P 00 28 51.5 +0.2**
VRI Vrincioaia 91.13 316⇑ *i*P **P 00 28 53.0 +1.0**
VRI Vrincioaia 91.13 316 ⇑P **P 00 28 53.0 +0.9**
PLOR Plostina 91.18 316⇓ *i*P **P 00 28 53.0 +0.7**
KARN Karanos 91.19 306 *e*P **P 00 28 53.1 +0.8**
PVL Pavlikeni 91.58 313 *e*P **P 00 28 55.0 +0.9**
MLR Muntele Rosu 91.59 316⇑ *i*P **P 00 28 55.1 +0.9**
MLR Muntele Rosu 91.59 316 ⇑P **P 00 28 55.1 +0.9**
ZIMR 91.64 314⇑ *i*P **P 00 28 55.1 +0.7**
ZIMR 91.64 314 ⇑P **P 00 28 55.1 +0.7**
VOIR 92.20 316⇑ *i*P **P 00 28 55.8 -1.2**
VOIR 92.20 316 ⇑P **P 00 28 55.8 -1.2**
VLI Veliai 92.20 307 *e*P **P 00 28 55.0 -2.0**
PUL Pulkovo 92.22 330 *e*P **P 00 28 56.8 -0.3**
MNK Minsk 92.29 325 *e*P **P 00 28 54.0 -3.4**
MNK *e* 00 32 37.0
MMB Musomiste 92.44 312 *i* P **P 00 28 58.0 -0.1**
BURAR Bucovina Array 92.50 318⇑ *i*P **P 00 28 59.6 +1.2**
BURAR Bucovina Array 92.50 318 ⇑P **P 00 28 59.6 +1.2**
JOF Joensuu 92.57 333 *e*p **P 00 28 57.4 -1.3**
comp=Z,53nm,0.9s,mb6.0
JOF Joensuu 92.57 333 *e*P **P 00 28 57.4 -1.3**
JOF pmax pmax
comp=Z,53nm,0.9s,mb6.0
SOH Sokhos 92.59 311 *e*P **P 00 28 58.0 -0.8**
LVZ Lovozero 92.66 339 PFAKE 00 29 10.0 +11
LVZ LR LR
comp=Z,3µm,20.0s,MS5.8
VTS Vitosha 93.00 312 *e*P **P 00 29 00.4 -0.2**
VTS Vitosha 93.00 312⇑ *i*P **P 00 29 01.0 +0.3**
AGG Agios Georgios 93.06 309 *e*P **P 00 29 00.1 -0.8**
LIT Litokhoron 93.12 310 *e*P **P 00 29 00.6 -0.6**
EVR Evrytania 93.45 309 *e*P **P 00 29 02.8 +0.1**
LVV L'vov 93.67 320 *e*P **P 00 29 03.2 -0.6**
LVV *e* 00 32 50.0
LVV *e* 00 34 50.2
LVV *e* 00 39 28.0
LVV *e*S S 00 40 11.6 +1.7
LVV *e* 00 41 34.4
LVV *e* 00 46 29.2
LVV *e* 00 50 14.0
GZR Gura Zlata 93.77 315⇑ *i*P **P 00 29 05.9 +1.7**
GZR Gura Zlata 93.77 315 ⇑P **P 00 29 05.9 +1.6**
LKD Levkas 94.31 308 *e*P **P 00 29 07.2 +0.5**
KWP Kalwaria 94.49 319 *e*P **P 00 29 05.9 -1.6**
KWP *e*PP PP 00 32 48.3 -7.1
KWP L 01 14 32.4
comp=Z,0.9nm,26.9s
KWP Kalwaria 94.49 319 *e*P **P 00 29 05.9 -1.6**
KWP *e*PP PP 00 32 48.3 -7.1
BZS Buzias 94.61 315⇑ *i*P **P 00 29 08.3 +0.2**
BZS Buzias 94.61 315 ⇑P **P 00 29 08.3 +0.2**
FIA1 FINESS Array S 94.63 331 *e*P **P 00 29 08.0 -0.2**
FIA1 *e* pP 00 29 17.7 -2.3
FINES FINESS Array B 94.63 331 P **P 00 29 07.9 -0.3**
comp=Z,15nm,0.7s,mb5.5,baz=104,slow=8.0,SNR=50
FINES PP PP 00 32 58.6 +2.2
comp=Z,4.5nm,0.9s,baz=141,slow=5.3,SNR=3.0
FINES LR LR 01 16 57.2
comp=Z,2µm,20.5s,MS5.5,baz=306,slow=39
FINES FINESS Array B 94.63 331 P **P 00 29 07.9 -0.3**
FINES 00 32 58.7
FINES pmax pmax
comp=Z,15nm,0.7s
FINES pmax pmax
comp=Z,5.0nm,0.9s
KAF Kangasniemi 94.65 332 *e*p **P 00 29 06.6 -1.6**
comp=Z,54nm,0.9s,mb6.0,baz=92,slow=4.1
KAF Kangasniemi 94.65 332 *e*P **P 00 29 06.6 -1.6**
KAF pmax pmax
comp=Z,54nm,0.9s,mb6.0
KOLS Kolonicke sedl 94.66 319 *e*P **P 00 29 08.3 0.0**
comp=Z,41nm,1.9s,mb5.5
KOLS LR LR
comp=Z,600nm,25.4s,MS5.0
IGT Igoumenitsa 94.67 309 *e*P **P 00 29 08.5 +0.1**
AKUT Akutan 94.77 36 *e*P **P 00 29 07.9 -0.9**
comp=Z,178nm,1.0s,mb6.5
SUW Suwalki 94.88 324 *e*P **P 00 29 08.5 -0.8**
SUW *e*pP pP 00 29 20.0 -1.2
SUW L 01 12 46.7
comp=Z,1.0nm,26.2s
SUW Suwalki 94.88 324 *e*P **P 00 29 08.5 -0.8**
SUW *e* pP 00 29 19.5 -1.7
GRUS Gruza 95.00 313 *i* P **P 00 29 09.5 -0.4**
CRVS Cervenica-Dubn 95.19 319 *e*P **P 00 29 10.5 -0.2**
CRVS *e*PP PP 00 33 01.9 +1.1
CRVS Cervenica-Dubn 95.19 319 *e*P **P 00 29 10.5 -0.2**
comp=Z,6.9nm,1.1s,mb5.0
CRVS *e*PP PP 00 33 01.9 +1.1
CRVS LR LR
comp=Z,700nm,19.4s,MS5.1
DIVS Divcibare 95.54 314 *i* P **P 00 29 12.1 -0.2**
DIVS Divcibare 95.54 314 *e*P **P 00 29 12.4 0.0**
TNA Tin City 95.60 25 PFAKE 00 29 20.0 +7.4
TNA LR LR
comp=Z,736nm,22.0s,MS5.1
KEV Kevo 95.82 340 *e*p **P 00 29 12.0 -1.6**
comp=Z,8.8nm,0.9s,mb5.2
KEV Kevo 95.82 340 *e*P **P 00 29 12.0 -1.6**
KEV pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
NIE Niedzica 96.00 319 *e*P **P 00 29 14.8 +0.4**
NIE *e*PP PP 00 33 07.3 +0.2
PSZ Piszkesteto 96.09 317⇑ *e*P **P 00 29 14.9 +0.1**
PSZ *e*PP PP 00 33 09.4 +1.6
KIP Kipapa 96.26 69 PFAKE 00 29 30.0 +14
KIP LR LR
comp=Z,1µm,20.0s,MS5.3
ARCES ARCESS Array B 96.30 339 P **P 00 29 14.3 -1.4**
comp=Z,12nm,0.8s,mb5.4,baz=90,slow=4.9,SNR=16
ARCES PP PP 00 33 14.7 +5.3
comp=Z,6.6nm,0.8s,baz=79,slow=6.5,SNR=4.4
ARCES LR LR 01 19 20.8
comp=Z,3µm,20.5s,MS5.8,baz=102,slow=40
ARCES ARCESS Array B 96.30 339 P **P 00 29 14.4 -1.4**
ARCES 00 33 14.7
ARCES pmax pmax
comp=Z,12nm,0.8s
ARCES pmax pmax
comp=Z,7.0nm,0.8s
ARE0 ARCESS Array S 96.30 339 *e*P **P 00 29 15.2 -0.6**
OJC Ojcow 96.43 320 *e*P **P 00 29 15.8 -0.6**
OJC *e*PP PP 00 33 09.9 -0.5
OJC *e*SKS 00 39 50.4
OJC *e*SS SS 00 46 59.8 -7.7
OJC L 01 16 38.2
comp=Z,4.8nm,20.9s
OJC Ojcow 96.43 320 *e*P **P 00 29 15.8 -0.6**
OJC *e* 00 33 09.9
OJC *e* 00 39 50.4
OJC *e*SS SS 00 46 59.8 -7.7
PKSM Moragy 96.75 316⇑ *i*P **P 00 29 17.7 -0.1**
PKSM Moragy 96.75 316 ⇑P **P 00 29 17.9 +0.1**
VYHS Vyhne 96.86 318 *e*P **P 00 29 17.6 -0.7**
VYHS *e*PP PP 00 33 09.5 -4.3
VYHS Vyhne 96.86 318 *e*P **P 00 29 17.6 -0.7**
comp=Z,4.7nm,1.2s,mb4.8
VYHS *e*PP PP 00 33 09.5 -4.3
VYHS LR LR
comp=Z,600nm,20.3s,MS5.1
TBI Tubuai 96.96 115 *e*SS SS 00 47 14.7 -0.2
comp=Z,1µm,26.8s
TBI *e*LR LR 01 01 16.0
comp=Z,2µm,23.2s
OKC Ostrava-Krasne 97.45 319 *e*PDIF **P 00 29 20.9 -0.1**
OKC *e*PP PP 00 33 13.9 -4.4
OKC *ex* x 00 40 08.3
OKC *e*SS SS 00 47 29.4 +7.6
OKC AMS AMS 01 25 10.0
comp=Z,900nm,17.8s
OKC Ostrava-Krasne 97.45 319 *e*P **P 00 29 20.9 -0.1**
OKC *e* 00 33 13.9
OKC *e*SS SS 00 47 29.4 +7.6
OKC MLR MLR
comp=Z,900nm,17.8s,MS5.3
OKC Ostrava-Krasne 97.45 319 *e*Pdif **P 00 29 20.9 -0.1**
OKC *e*PP PP 00 33 13.9 -4.4
OKC *e*SKS 00 40 08.3
OKC *e*SS SS 00 47 29.4 +7.6
MORC Moravsky Berou 97.83 319⇓ *i*P **P 00 29 22.7 0.0**
MORC Moravsky Berou 97.83 319 ⇓P **P 00 29 22.7 0.0**
ZST Bratislava 97.99 318 *e*P **P 00 29 22.8 -0.6**
ZST *e*PP PP 00 33 18.0 -4.4
ZST Bratislava 97.99 318 *e*P **P 00 29 22.8 -0.6**
comp=Z,8.9nm,1.2s,mb5.2
ZST *e*PP PP 00 33 18.0 -4.4
ZST LR LR
comp=Z,400nm,18.0s,MS5.0
PPT Papeete 98.12 109 *e*PP PP 00 33 13.3 -10
comp=Z,165nm,24.0s
PPT Papeete 98.12 109 *e*SS SS 00 47 43.4 +12
comp=Z,1µm,27.0s
PPT *e*LR LR 01 01 47.2
comp=Z,2µm,23.5s
POHA Pohakuloa 98.36 71 PFAKE 00 29 40.0 +15
POHA LR LR
comp=Z,1µm,19.0s,MS5.3
DPC Dobruska-Polom 98.66 320 *e*PDIF **P 00 29 26.8 +0.4**
DPC *e*PP PP 00 33 34.7 +7.1
DPC *ex* x 00 40 15.4
DPC *e*SS SS 00 47 44.1 +5.2
DPC AMS AMS 01 23 50.0
comp=Z,2µm,18.9s
DPC Dobruska-Polom 98.66 320 *e*P **P 00 29 26.8 +0.4**
DPC *e* 00 33 34.7
DPC *e*SS SS 00 47 44.1 +5.2
DPC MLR MLR
comp=Z,2µm,18.9s,MS5.6
KSP Ksiaz 98.72 320 *e*P **P 00 29 26.3 -0.4**
KSP *e* 00 33 27.0
KSP *e*SS SS 00 47 33.0 -6.6
KSP Ksiaz 98.72 320 *e*P **P 00 29 26.3 -0.4**
KSP *e*PP PP 00 33 27.0 -1.0
KSP *e*SKS 00 40 13.0
KSP *e*S S 00 41 01.0 +7.6
KSP *e*SS SS 00 47 33.0 -6.6
KSP LR LR
comp=Z,3µm,21.4s,MS5.7
UPC Upice 98.87 320 *e*PDIF **P 00 29 27.0 -0.4**
UPC *e*PP PP 00 33 27.7 -1.5
ARSA Arzberg 98.98 316⇑ *i*P **P 00 29 27.1 -0.8**
comp=Z,9.9nm,1.3s,mb5.2
ARSA *i* 00 33 30.9
TREC Trest 99.13 319 *e*PDIF **P 00 29 28.5 0.0**
TREC *e*PP PP 00 33 23.5 -7.7
TREC *e*SKS 00 40 07.7
TREC *e*SS SS 00 47 55.6 +10
TREC AMS AMS 01 23 20.0
comp=Z,1µm,18.0s
SPB4 Spitsbergen Ar 99.53 348 *e*PcP PcP 00 29 28.8 -1.5
BSD Bornholm Skovb 99.78 324 *i* P Pdif 00 29 43.5 +12
BSD *i* 00 33 51.2
BSD *e* 00 42 39.7
BSD
comp=Z,1µm,19.0s
BSD Bornholm Skovb 99.78 324 *e*P Pdif 00 29 43.5 +12
BSD *i* 00 33 51.2
BSD *e* 00 42 39.7
PRU Pruhonice 99.79 319 *e*PDIF Pdif 00 29 31.4 0.0
PRU *e*PP PP 00 33 35.9 -0.2
PRU *ex* x 00 40 20.9
PRU *e*SS SS 00 48 05.8 +11
PRU AMS AMS 01 24 30.0
comp=Z,2µm,17.3s
PRU Pruhonice 99.79 319 *e*P Pdif 00 29 31.4 0.0
PRU *e* 00 33 35.9
PRU *e*SS SS 00 48 05.8 +11
PRU MLR MLR
comp=Z,2µm,17.3s,MS5.6
PVCC Panska Ves 99.79 320 *e*PDIF Pdif 00 29 31.7 +0.2
PVCC *e*PP PP 00 33 35.8 -0.4
PVCC *e*SKS 00 40 11.4
PVCC *e*SS SS 00 48 01.9 +7.2
PVCC AMS AMS 01 24 30.0
comp=Z,2µm,19.1s
BRG Berggiesshubel 100.21 320 *e*Pdiff Pdif 00 29 33.1 -0.2
BRG *e*PP PP 00 33 37.7 -1.6
BRG Berggiesshubel 100.21 320 *e*PDIF Pdif 00 29 32.9 -0.4
comp=Z,2.6nm,0.8s
BRG *e* 00 29 44.5
comp=Z,3.1nm,0.9s
BRG PP PP 00 33 34.0 -5.3
BRG SKS 00 40 25.0
BRG S Sdif 00 41 12.0 +6.1
BRG SS SS 00 47 57.0 -3.5
BRG
comp=N,641nm,18.9s
BRG
comp=E,460nm,16.3s
BRG
comp=Z,787nm,16.3s
BRG Berggiesshubel 100.21 320 *e*P Pdif 00 29 32.9 -0.4
BRG 00 33 34.0
BRG S Sdif 00 41 12.0 +6.1
BRG SS SS 00 47 57.0 -3.5
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG MLR MLR
comp=N,641nm,18.9s,MS5.3
BRG MLR MLR
comp=E,460nm,16.3s,MS5.3
BRG MLR MLR
comp=Z,787nm,16.3s,MS5.3
BRG Berggiesshubel 100.21 320 *e*Pdif Pdif 00 29 32.9 -0.4
comp=Z,2.6nm,0.8s
BRG *e* 00 29 44.5
BRG PP PP 00 33 34.0 -5.3
BRG SKS 00 40 25.0
BRG S Sdif 00 41 12.0 +6.1
BRG SS SS 00 47 57.0 -3.5
BRG LR LR
comp=Z,790nm,16.3s,MS5.3
GEC2 GERESS Array S 100.28 318 *e*PDIF Pdif 00 29 32.9 -0.8
GEC2 *e*PP PP 00 33 38.3 -1.6
GERES GERESS Array B 100.28 318 P Pdif 00 29 33.3 -0.3
comp=Z,3.4nm,0.8s,baz=83,slow=4.4,SNR=21
GERES PP PP 00 33 35.4 -4.5
comp=Z,2.1nm,0.9s,baz=66,slow=12,SNR=2.5
GERES GERESS Array B 100.28 318 P Pdif 00 29 33.3 -0.4
GERES 00 33 35.4
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES pmax pmax
comp=Z,2.0nm,0.9s
KHC Kasperske Hory 100.38 318 *e*PDIF Pdif 00 29 31.0 -3.1
KHC *e*PP PP 00 33 32.3 -8.3
KHC *e*SKS 00 40 14.0
KHC *e*SS SS 00 48 13.7 +11
KHC AMS AMS 01 22 40.0
comp=Z,1µm,20.0s
KBS Kingsbay 100.38 349 PFAKE 00 29 40.0 +5.9
KBS LR LR
comp=Z,2µm,19.0s,MS5.7
KBA Koelnbreinsper 100.45 316⇑ *i*P Pdif 00 29 36.4 +2.0
KBA *i* 00 33 43.7
KBA pmax pmax
comp=Z,7.0nm,1.3s
KBA Koelnbreinsper 100.45 316⇑ *i*P Pdif 00 29 36.4 +2.0
comp=Z,7.4nm,1.3s
KBA *i* 00 33 43.7
FBE Freiberg 100.58 320 *e*Pdiff Pdif 00 29 35.0 0.0
FBE *e*PP PP 00 33 39.0 -3.1
CLL Collm 100.81 321 *e*Pdiff Pdif 00 29 35.3 -0.7
comp=Z,6.0nm,1.3s
CLL *e*pPdiff 00 29 46.8
CLL *e*PP PP 00 33 44.4 +0.5
CLL *e*PPP 00 35 55.5
CLL *e*SKSac SKSac 00 40 23.1 +11
CLL *e*SKKSac SKKSac 00 40 45.6 -1.7
CLL *e*Sdiff Sdif 00 41 14.5 +3.5
CLL *e*PS PS 00 42 49.3 +3.5
CLL *e*SS SS 00 48 07.6 -1.3
CLL *e*SSS 00 52 03.7
CLL *e*L 01 22 30.0
comp=Z,2µm,22.0s
CLL Collm 100.81 321 *i* PDIF Pdif 00 29 35.3 -0.7
CLL *i* 00 29 46.8
CLL *i* 00 29 53.3
CLL *e*PP PP 00 33 44.0 +0.1
CLL *e* 00 33 59.0
CLL *e* 00 34 20.0
CLL *e* 00 40 15.0
CLL *e* 00 40 49.0
CLL *e* 00 41 10.0
CLL *e*PS PS 00 42 50.0 +4.2
CLL *e* 00 43 17.0
CLL *e*SS SS 00 47 57.0 -12
CLL Collm 100.81 321 *i* Pdif Pdif 00 29 35.3 -0.7

comp=Z,6.0nm,1.3s
CLL *i* (sPdif) 00 29 46.8
CLL *i* x x 00 29 53.3
CLL *e*PP PP 00 33 44.0 +0.1
CLL *e*x x 00 33 59.0
CLL *e*x x 00 34 20.0
CLL *e*SKSac SKSac 00 40 15.0 +2.9
CLL *e*SKKSac SKKSac 00 40 49.0 +1.7
CLL *e*Sdif Sdif 00 41 10.0 -1.0
CLL *e*PS PS 00 42 50.0 +4.2
CLL *e*x x 00 43 17.0
CLL *e*(SS) 00 47 57.0
CLL *e*x x 00 50 48.0
CLL *e*(SSS) 00 52 36.0
CLL *e*x x 00 54 18.0
CLL Collm 100.81 321 *i* P Pdif 00 29 35.3 -0.7
CLL *e* 00 33 44.0
CLL *e* 00 40 15.0
CLL *e*S Sdif 00 41 10.0 -1.0
CLL pmax pmax
comp=Z,6.0nm,1.3s
CLL MLR MLR
comp=Z,2µm,18.6s,MS5.6
CLL Collm 100.81 321 *i* Pdif Pdif 00 29 35.3 -0.7
comp=Z,6.0nm,1.3s
CLL *i* 00 29 46.8
CLL *e*PP PP 00 33 44.0 +0.1
CLL *e*SKS 00 40 15.0
CLL *e*Sdif Sdif 00 41 10.0 -1.0
CLL LR LR
comp=Z,2µm,18.6s,MS5.6
WET Wettzell 100.84 318 *e*Pdiff Pdif 00 29 35.9 -0.2
TANN Tannenbergstha 101.14 320 *e*Pdiff Pdif 00 29 37.2 -0.2
NKC Novy Kostel 101.14 319 *e*PDIF Pdif 00 29 39.1 +1.6
NKC *e*PP PP 00 33 44.5 -1.9
NKC AMS AMS 01 25 10.0
comp=Z,1µm,15.9s
NKC Novy Kostel 101.14 319 *e*Pdif Pdif 00 29 39.1 +1.6
NKC *e*PP PP 00 33 44.5 -1.9
COP Copenhagen 101.20 325 *i* P Pdif 00 29 40.8 +3.1
COP *i* 00 33 47.0
COP *i* S SKSac 00 40 29.7 +16
COP
comp=Z,470nm,18.0s
COP Copenhagen 101.20 325 *e*P Pdif 00 29 40.8 +3.1
COP *i* 00 33 47.0
COP MLR MLR
comp=Z,470nm,18.0s,MS5.0
COP Copenhagen 101.20 325 *e*P Pdif 00 29 40.8 +3.1
COP *i* 00 33 47.0
COP *i* S SKSac 00 40 29.7 +16
COP LR LR
comp=Z,470nm,18.0s,MS5.0
GUNZ Gunzen 101.22 320 *e*Pdiff Pdif 00 29 36.6 -1.2
WERD Werda 101.24 320 *e*Pdiff Pdif 00 29 37.6 -0.3
ROTZ Rotzenmuhle 101.29 319 *e*Pdiff Pdif 00 29 38.1 0.0
MANZ Manzenberg 101.36 319 *e*Pdiff Pdif 00 29 38.8 +0.4
MANZ *e*PP PP 00 33 47.5 -0.5
IMA2 Indian Mountai 101.47 24 *e*Pdif Pdif 00 29 41.8 +2.9
WTTA Wattenberg 101.62 316⇑ *i* PP 00 33 38.5 -11
comp=Z,24nm,1.4s
WTTA Wattenberg 101.62 316 PP 00 33 38.5 -11
comp=Z,24nm,1.4s
WTTA Wattenberg 101.62 316⇑ *i*P Pdif 00 29 39.2 -0.4
WTTA pmax pmax
comp=Z,7.0nm,0.9s
WTTA Wattenberg 101.62 316⇑ *i*P Pdif 00 29 39.2 -0.4
comp=Z,6.7nm,0.9s
WTTA *i* 00 33 38.5
MOX Moxa 101.68 320 *e*Pdiff Pdif 00 29 40.9 +1.0
MOX *e*PP PP 00 33 50.9 +0.5
MOX Moxa 101.68 320 *e*Pdif Pdif 00 29 37.8 -2.1
MOX *e*PP PP 00 33 51.0 +0.6
MOX LR LR
comp=Z,1µm,22.0s,MS5.3
MOX *e*PP PP 00 33 51.0 +0.6
MOX
comp=Z,1µm,22.0s
MOX Moxa 101.68 320 *e*PDIFF Pdif 00 29 37.8 -2.1
NB2 NORSAR Subarra101.75 330 Pdif Pdif 00 29 39.2 -1.0
comp=Z,4.6nm,0.8s,baz=88,slow=4.4
NOA NORSAR Array B101.75 330 P Pdif 00 29 38.9 -1.3
comp=Z,2.8nm,0.7s,baz=89,slow=4.5,SNR=9.5
NOA PP PP 00 33 40.5 -10
comp=Z,2.4nm,0.7s,baz=74,slow=8.7,SNR=5.1
NOA PKKPbc PKKPbc 00 45 46.2 +0.3
comp=Z,1.2nm,0.9s,baz=14,slow=3.9,SNR=3.4
NOA NORSAR Array B101.75 330 P Pdif 00 29 38.9 -1.3
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA pmax pmax
comp=Z,1.0nm,0.9s
NAO01 NORSAR Array S 101.92 330 PFAKE 00 29 50.0 +9.1
NAO01 LR LR
comp=Z,2µm,21.0s,MS5.7
GRA1 Grafenberg Arr 101.93 319 *e*Pdif Pdif 00 29 41.0 0.0
GRA1 *e*PP PP 00 33 50.5 -1.8
GRA1 *e*Sdif Sdif 00 41 27.2 +6.9
GRA1 *e*SS SS 00 48 15.3 -9.1
GRA1 LR LR
comp=Z,1µm,18.2s,MS5.5
GRF Grafenberg Arr 101.93 319 *e*Pdiff Pdif 00 29 41.0 0.0
GRF *e*PP PP 00 33 50.5 -1.8
GRF *e*Sdiff Sdif 00 41 27.2 +6.9
GRF *e*SS SS 00 48 15.3 -9.1
GRF *e*L 01 26 03.7
comp=Z,1µm,18.2s
GRF Grafenberg Arr 101.93 319 *e*P Pdif 00 29 41.0 0.0
GRF *e* 00 33 50.5
GRF Grafenberg Arr 101.93 319 *e*P Pdif 00 29 41.0 0.0
GRF *e* 00 33 50.5
GRF MLR MLR
comp=Z,1µm,18.2s,MS5.5
BSEG Bad Segeberg 102.45 323 *e*Pdiff Pdif 00 29 43.2 -0.1
BSEG *e*PP PP 00 33 54.7 -1.5
CLZ Clausthal 102.46 321 *e*Pdiff Pdif 00 29 42.9 -0.4
CLZ *e*PP PP 00 33 56.1 -0.2
KONO Kongsberg 102.62 329 PFAKE 00 30 00.0 +16
KONO LR LR
comp=Z,2µm,21.0s,MS5.6
DAVA Damuels 102.82 316⇑ *i*P Pdif 00 29 45.3 +0.4
comp=Z,8.2nm,1.0s
DAVA *i* 00 33 46.9
MCK McKinley 103.69 27 PFAKE 00 30 00.0 +11
MCK LR LR
comp=Z,847nm,21.0s,MS5.2
TNS Taunus Mts 103.71 319 *e*Pdiff Pdif 00 29 49.2 +0.3
TNS *e*PP PP 00 34 09.0 +3.3
PMR Palmer 103.85 29 PFAKE 00 30 00.0 +10
PMR LR LR
comp=Z,1µm,20.0s,MS5.4
COLA College 104.01 25 PFAKE 00 30 00.0 +10
COLA LR LR
comp=Z,998nm,21.0s,MS5.3
CDF Champ du Feu 104.55 318 *e*P Pdif 00 29 52.3 -0.3
LPG La Plagne 105.02 315 *e*P Pdif 00 29 55.1 +0.4
comp=Z,5.9nm,0.8s
LPG La Plagne 105.02 315 *e*P Pdif 00 29 55.1 +0.4
LPG pmax pmax
comp=Z,3.0nm,0.8s
LPG La Plagne 105.02 315 *e*P Pdif 00 29 55.1 +0.4
comp=Z,3.0nm,0.8s
MBDF Montbardon 105.03 314 *e*P Pdif 00 29 54.2 -0.5
comp=Z,3.3nm,0.7s
MBDF Montbardon 105.03 314 *e*P Pdif 00 29 54.2 -0.5
MBDF pmax pmax
comp=Z,2.0nm,0.7s
MBDF Montbardon 105.03 314 *e*P Pdif 00 29 54.2 -0.5
comp=Z,1.6nm,0.7s
LPL La Plagne 105.03 315 *e*P Pdif 00 29 54.6 -0.2
comp=Z,5.1nm,0.8s
LPL La Plagne 105.03 315 *e*P Pdif 00 29 54.6 -0.2
LPL pmax pmax
comp=Z,3.0nm,0.8s
LPL La Plagne 105.03 315 *e*P Pdif 00 29 54.6 -0.2
comp=Z,2.5nm,0.8s
HAU Haudompre 105.18 317 *e*P Pdif 00 29 55.0 -0.4
comp=Z,2.5nm,0.6s
HAU *e*R
comp=Z,1µm,18.5s
HAU Haudompre 105.18 317 *e*P Pdif 00 29 55.0 -0.4
HAU pmax pmax
comp=Z,1.0nm,0.6s
HAU MLR MLR
comp=Z,1µm,18.5s,MS5.5
HAU Haudompre 105.18 317 *e*P Pdif 00 29 55.0 -0.4
comp=Z,1.3nm,0.6s
HAU LR LR
comp=Z,1µm,18.5s,MS5.5
CABF La Chapelle 105.43 316 *e*P Pdif 00 29 56.2 -0.3
comp=Z,11nm,1.0s
CABF La Chapelle 105.43 316 *e*P Pdif 00 29 56.2 -0.3
CABF pmax pmax
comp=Z,6.0nm,1.0s
CABF La Chapelle 105.43 316 *e*P Pdif 00 29 56.2 -0.3
comp=Z,5.7nm,1.0s
PMSA Palmer Station 105.95 183 PFAKE 00 34 20.0 +9.0
PMSA LR LR
comp=Z,2µm,19.0s,MS5.7
BAIF Baives 106.44 319 *e*P Pdif 00 30 00.5 -0.5
LOR Lormes 106.91 317 *e*P Pdif 00 30 02.6 -0.5
comp=Z,3.5nm,0.6s
LOR *e*R
comp=Z,1µm,18.8s
LOR Lormes 106.91 317 *e*P Pdif 00 30 02.6 -0.5
LOR pmax pmax
comp=Z,2.0nm,0.6s
LOR MLR MLR
comp=Z,1µm,18.8s,MS5.4
LOR Lormes 106.91 317 *e*P Pdif 00 30 02.6 -0.5
comp=Z,1.8nm,0.6s
LOR LR LR
comp=Z,1µm,18.8s,MS5.4
DAG Danmarks Havn 107.12 349⇑ *i*P PP 00 34 28.0 -2.9
comp=Z,3.3nm,0.6s
DAG
comp=Z,2µm,18.0s
DAG Danmarks Havn 107.12 349⇑ *e*P PP 00 34 28.0 -2.9
DAG LR LR
comp=Z,2µm,18.0s,MS5.8
SSF Saint Saulge 107.17 316 *e*P Pdif 00 30 03.6 -0.7
INK Inuvik 108.61 20 *e*PKiKP PKiKP 00 34 15.0 -1.0
TORD Torodi Ar. Bea 108.62 281 Pdiff Pdif 00 30 11.3 +0.6
comp=Z,1.0nm,0.8s,baz=87,slow=4.1,SNR=6.5
TORD PKiKP PKiKP 00 34 15.4 -0.6
comp=Z,3.0nm,0.8s,baz=63,slow=1.6,SNR=16
TORD PKKPbc PKKPbc 00 45 26.6 +1.6
comp=Z,5.3nm,0.7s,baz=306,slow=4.0,SNR=7.1
ESK Eskdalemuir 110.07 326 PFAKE 00 34 30.0 +11
ESK LR LR
comp=Z,2µm,20.0s,MS5.6
HOPE Hope Point 110.24 201 PFAKE 00 34 30.0 +11
HOPE LR LR
comp=Z,2µm,20.0s,MS5.7
SIT Sitka 111.68 32 PFAKE 00 34 30.0 +8.2
SIT LR LR
comp=Z,942nm,20.0s,MS5.4
ESDC Sonseca Array 113.39 309 PP PP 00 35 12.7 -3.4
comp=Z,3.0nm,0.8s,baz=75,slow=6.2,SNR=7.8
ESDC PKKPbc PKKPbc 00 45 17.0 +7.6
comp=Z,1.5nm,0.7s,baz=268,slow=4.5,SNR=6.2
ESLA Sonseca Array 113.39 309 PFAKE 00 34 40.0 +15
ESLA LR LR
comp=Z,5µm,19.0s,MS6.1
SUMG Summit 113.77 350 *e*PKiKP PKiKP 00 34 25.9 +0.2
DLBC Dease Lake 113.89 29 *e*PKiKP PKiKP 00 34 26.5 +0.6
DBIC Dimbokro 114.34 273 PKP PKiKP 00 34 27.2 +0.4
comp=Z,5.9nm,0.8s,baz=103,slow=1.5,SNR=7.4
DBIC Dimbokro 114.34 273 PKiKP PKiKP 00 34 27.2 +0.4
DBIC pmax pmax
comp=Z,6.0nm,0.8s
BORG Borgarnes 114.70 339 PFAKE 00 34 40.0 +12
BORG LR LR
comp=Z,1µm,20.0s,MS5.5
EFI East Falkland 118.24 189 PFAKE 00 34 50.0 +16
EFI LR LR
comp=Z,2µm,21.0s,MS5.8
YKA Yellowknife Ar 118.35 21 PKP PKPdf 00 34 33.8 -0.7
comp=Z,12nm,0.6s,baz=328,slow=2.0,SNR=61
YKA pPKP pPKPdf 00 34 45.0 -1.7
comp=Z,8.2nm,0.8s,baz=330,slow=1.1,SNR=9.4
YKA Yellowknife Ar 118.35 21 PKiKP PKPdf 00 34 33.8 -0.7
YKA 00 34 45.0
YKA pmax pmax
comp=Z,12nm,0.6s
YKA pmax pmax
comp=Z,8.0nm,0.8s
YKA Yellowknife Ar 118.35 21 PKP PKPdf 00 34 33.9 -0.7
YKA pPKP pPKPdf 00 34 45.0 -1.7
SFJD Kangerlussuaq 120.71 351 *i*P PKPdf 00 34 38.6 -0.5
comp=Z,24nm,0.8s
SFJD *i* 00 36 11.6
SFJD *e* 00 38 51.3
SFJD *e*S PS 00 46 11.4 +13
SFJD
comp=Z,1µm,19.0s
SFJD Kangerlussuaq 120.71 351⇓ *i*PKiKP PKPdf 00 34 38.6 -0.5
SFJD *i* 00 36 11.6
SFJD pmax pmax
comp=Z,24nm,0.8s
SFJD MLR MLR
comp=Z,1µm,19.0s,MS5.5
B04A Port Angeles baz=122 **121.58 39**⇓P PKPdf 00 34 41.6 +0.8
D03A Wishkah Elem. baz=122 **121.78 40**⇑P PKPdf 00 34 42.2 +1.1
A04A Legoe Bay, Lum baz=122 **121.79 38**⇑P PKPdf 00 34 42.3 +1.1
E03A Lebam baz=122 **122.13 40**⇓P PKPdf 00 34 42.6 +0.8
B05A Bryant baz=122,SNR=15 **122.35 38**⇑P PKPdf 00 34 43.0 +0.8
F03A Seaside baz=122 **122.37 41**⇓P PKPdf 00 34 43.3 +1.1
D04A Dobbs Creek Ra baz=122 **122.39 39**⇑P PKPdf 00 34 43.6 +1.3
C05A Tolt Reservoir baz=123,SNR=7.4 **122.84 38**⇓P PKPdf 00 34 43.5 +0.3
D05A Enumclaw baz=123 **122.87 39**⇑P PKPdf 00 34 44.0 +0.8
I02A Mapleton baz=123 **122.90 43**⇑P PKPdf 00 34 43.5 +0.3
H03A Soap Creek Ran baz=123 **123.01 42**⇑P PKPdf 00 34 44.4 +0.9
COR Corvallis COR **123.04 42** PFAKE 00 35 00.0 +16
comp=Z,759nm,22.0s,MS5.3
LR LR
F04A Amboy baz=123 **123.10 41**⇑P PKPdf 00 34 44.6 +0.9
E05A Randle baz=123,SNR=11 **123.27 40**⇑P PKPdf 00 34 44.5 +0.5
I03A Eugene baz=123 **123.28 43**⇓P PKPdf 00 34 44.9 +0.8
J02A Umpqua baz=123,SNR=5.7 **123.30 44**⇓P PKPdf 00 34 44.9 +0.8
G04A Mulino baz=123 **123.35 41**⇑P PKPdf 00 34 44.8 +0.7
K02A Glendale baz=124 **123.56 44**⇓P PKPdf 00 34 45.3 +0.7
L02A Cave Junction baz=124 **123.70 45**⇑P PKPdf 00 34 45.8 +1.0
J03A Ideyld Park baz=124 **123.71 44**⇓P PKPdf 00 34 45.5 +0.7
F05A White Salmon baz=124 **123.74 40**⇓P PKPdf 00 34 45.8 +0.9
H04A Detroit Lake baz=124 **123.74 42**⇓P PKPdf 00 34 45.6 +0.7
HUMO Hull Mountain HUMO **123.99 44** *e*PKPdf PKPdf 00 34 46.8 +1.4
comp=Z,606nm,21.0s,MS5.2
LR LR
HUMO Hull Mountain baz=124,SNR=19 **123.99 44**⇓P PKPdf 00 34 46.3 +0.9
KHMM Horse Mountain **124.03 47** *e*PKPdf PKPdf 00 34 47.9 +2.5
G05A Wamic baz=124 **124.09 41**⇑P PKPdf 00 34 46.5 +1.0
N02C Big Bar baz=124 **124.36 47**⇑P PKPdf 00 34 46.9 +0.8
H05A Madras baz=124 **124.39 42**⇓P PKPdf 00 34 47.3 +1.1
YBH Yreka Blue Hor **124.47 45** *e*PKiKP PKPdf 00 34 47.5 +1.2
YBH Yreka Blue Hor baz=124 **124.47 45**⇑P PKPdf 00 34 47.3 +1.0
M02C Callahan baz=124,SNR=7.2 **124.48 46**⇓P PKPdf 00 34 47.6 +1.2
I05A Bend baz=125 **124.55 42**⇑P PKPdf 00 34 47.1 +0.6
EDM Edmonton **124.61 29** *e*PKiKP PKPdf 00 34 46.7 +0.1
HAWA Hanford HAWA **124.73 39** *e*PKPdf PKPdf 00 34 48.1 +1.3
e 00 34 59.4
P01C Double 8 Ranch baz=125 **124.77 48**⇓P PKPdf 00 34 48.1 +1.2
K04A Chilquin baz=125 **124.83 44**⇑P PKPdf 00 34 48.1 +1.1
L04A Klamath Falls baz=125,SNR=8.8 **124.88 45**⇓P PKPdf 00 34 48.1 +1.0
O02C Red Bluff baz=125 **124.94 47**⇓P PKPdf 00 34 48.8 +1.6
WDC Whiskeytown Da **124.98 47** *e*PKiKP PKPdf 00 34 48.3 +1.0
WDC Whiskeytown Da baz=125 **124.98 47**⇑P PKPdf 00 34 48.4 +1.2
M04C Macdoel baz=125,SNR=11 **125.06 45**⇑P PKPdf 00 34 48.6 +1.1
HOPS Hopland HOPS **125.11 49** PFAKE 00 35 00.0 +12
comp=Z,898nm,20.0s,MS5.4
LR LR
NEW Newport **125.31 36** *e*PKiKP PKPdf 00 34 48.4 +0.5
O03C Acorn Hollow, baz=126 **125.55 47**⇑P PKPdf 00 34 49.4 +1.1
MNRC McLaughlin Nat baz=126 **125.61 48**⇑P PKPdf 00 34 49.8 +1.3
J06A Christmas Vall baz=126,SNR=18 **125.65 43**⇑P PKPdf 00 34 49.5 +1.0
L05A Lakeview baz=126,SNR=8.0 **125.66 44**⇓P PKPdf 00 34 49.9 +1.3
HATC Hat Creek Radi baz=126,SNR=7.6 **125.67 46**⇓P PKPdf 00 34 49.7 +1.1
M05C Lookout baz=126 **125.70 45**⇑P PKPdf 00 34 49.5 +0.9
K06A Valley Falls baz=126,SNR=12 **125.77 43**⇓P PKPdf 00 34 49.8 +1.0
CVS Carmenet Viney baz=126 **125.77 49**⇑P PKPdf 00 34 50.2 +1.4
SUTB Sutter Butte baz=126 **125.98 48**⇑P PKPdf 00 34 49.7 +0.5
Q03C Winters baz=126 **126.01 49**⇓P PKPdf 00 34 49.8 +0.6
ORV Oroville baz=126 **126.08 47**⇑P PKPdf 00 34 50.0 +0.6
O04C Chester baz=126,SNR=7.3 **126.11 46**⇑P PKPdf 00 34 50.5 +1.1
J07A Hines baz=126 **126.17 42**⇑P PKPdf 00 34 50.7 +1.1
M06C Likely Place G baz=126 **126.22 45**⇓P PKPdf 00 34 51.0 +1.4
JRSC Jasper Ridge baz=126 **126.23 50**⇑P PKPdf 00 34 51.2 +1.5
ELFS Eagle Lake Fie baz=126 **126.26 46**⇓P PKPdf 00 34 51.4 +1.7
O05C Quincy baz=126,SNR=8.3 **126.36 47**⇓P PKPdf 00 34 51.2 +1.3
WENL Wente Brothers baz=127 **126.53 50**⇑P PKPdf 00 34 52.0 +1.8
L07A Adell baz=127 **126.70 44**⇓P PKPdf 00 34 52.2 +1.7
WALA Waterton Lakes **126.70 34** *e*PKPdf PKPdf 00 34 51.2 +0.6
J08A Circle Bar Ran baz=127 **126.73 42**⇑P PKPdf 00 34 52.1 +1.5
P05C Yuba Gap, Truc baz=127,SNR=11 **126.82 47**⇓P PKPdf 00 34 52.5 +1.7
BMO Blue Mountains BMO **126.82 40** PFAKE 00 35 00.0 +9.2
comp=Z,849nm,21.0s,MS5.4
LR LR
N06A Buffalo Meadow baz=127,SNR=26 **126.84 45**⇑P PKPdf 00 34 52.4 +1.5
S04C Ingram Canyon, baz=127 **126.89 50**⇓P PKPdf 00 34 52.6 +1.7
LAVA Lava Cap Winer baz=127,SNR=9.2 **126.91 48** P PKPdf 00 34 52.5 +1.6
WVOR Wild Horse Val WVOR **127.00 43** *e*PKiKP PKPdf 00 34 52.9 +1.8
e 00 35 04.1
SAO San Andreas Ge SAO **127.03 51** PFAKE 00 35 00.0 +8.8
comp=Z,866nm,21.0s,MS5.4
LR LR
M07A Soldier Meadow baz=127,SNR=17 **127.06 44**⇑P PKPdf 00 34 53.0 +1.8
HAST UC Hastings Re baz=127 **127.06 51**⇓P PKPdf 00 34 53.3 +2.1
O06A Flanigan baz=127,SNR=9.7 **127.07 46**⇑P PKPdf 00 34 53.1 +1.8
PACP Pacheco Peak baz=127,SNR=6.0 **127.08 50**⇓P PKPdf 00 34 53.2 +1.9
P06A Stead Airport, baz=127 **127.20 47**⇑P PKPdf 00 34 53.5 +2.0
CMB Columbia Colle CMB **127.42 49** *e*PKiKP PKPdf 00 34 52.9 +1.0
e 00 35 03.5
CMB Columbia Colle baz=128,SNR=8.9 **127.42 49**⇓P PKPdf 00 34 53.6 +1.6
R05C Kirkwood Meado baz=127 **127.42 48**⇑P PKPdf 00 34 53.6 +1.7
WCN Washoe City baz=128 **127.44 47**⇑P PKPdf 00 34 53.8 +1.9
PAHR Pah Rah Range PAHR **127.56 47** *e*PKPdf PKPdf 00 34 53.7 +1.5
e 00 35 05.4
T05C Eagle Field, D baz=128 **127.58 50**⇓P PKPdf 00 34 54.0 +1.7
M08A Happy Creek Ra baz=128,SNR=5.4 **127.58 44** P PKPdf 00 34 54.7 +2.4
FCC Fort Churchill FCC **127.64 15** *e*PKiKP PKPdf 00 34 52.2 -0.2
e 00 35 03.2
U04C Hernandez Rese baz=128 **127.66 51**⇓P PKPdf 00 34 55.2 +2.8
S05C Merced baz=128,SNR=6.9 **127.69 50**⇓P PKPdf 00 34 54.1 +1.6
O07A Toulon baz=128,SNR=18 **127.74 46** P PKPdf 00 34 54.6 +2.0
V04C Ramage Ranch, baz=128 **127.82 52**⇓P PKPdf 00 34 54.4 +1.7
S06C San Francisco baz=128,SNR=21 **127.87 49** P PKPdf 00 34 55.0 +2.2
MSO Missoula MSO **127.89 36** *e*PKPdf PKPdf 00 34 52.6 -0.3
e 00 35 04.9
R06C Coleville baz=128 **127.94 48**⇓P PKPdf 00 34 54.6 +1.7
PKD Parkfield baz=128,SNR=5.3 **127.98 51**⇓P PKPdf 00 34 54.6 +1.5
N08A GE Springer Mi baz=128,SNR=15 **128.02 45** P PKPdf 00 34 54.5 +1.4
M09A Marrel Ranch, baz=128 **128.23 44**⇑P PKPdf 00 34 54.7 +1.2
CHMT Chamberlain Mo CHMT **128.25 36** *e*PKPdf PKPdf 00 34 54.0 +0.5
e 00 35 05.9
T06C Millerton Lake baz=128 **128.27 50**⇑P PKPdf 00 34 55.1 +1.5
N09A Rock Creek Ran baz=128 **128.42 44**⇓P PKPdf 00 34 55.3 +1.5
KCC Kaiser Creek baz=128 **128.46 49**⇓P PKPdf 00 34 55.7 +1.8
FFC Flin Flon **128.50 22** *e*PKiKP PKPdf 00 34 53.7 -0.3
BMN Battle Mountai BMN **128.80 45** PFAKE 00 35 10.0 +15
comp=Z,717nm,21.0s,MS5.3
LR LR
NVAR Mina Array Bea **128.81 48** PKhKP 00 34 49.2
comp=Z,0.5nm,0.7s,baz=246,slow=3.2,SNR=4.4
NVAR PKP PKPdf 00 34 56.7 +2.1
comp=Z,11nm,0.8s,baz=237,slow=1.1,SNR=51
NVAR pPKP pPKPdf 00 35 07.5 +0.7
comp=Z,5.3nm,0.8s,baz=269,slow=4.8,SNR=5.7
NVAR Mina Array Bea **128.81 48** PKP PKPdf 00 34 49.2 -5.4
NVAR PKP PKPdf 00 34 56.7 +2.1
NVAR pPKP pPKPdf 00 35 07.5 +0.7
MNV Mina MNV **128.92 48** *e*PKiKP PKPdf 00 34 54.7 -0.1
e 00 35 05.3
Q08A Gabbs baz=129 **128.92 47**⇑P PKPdf 00 34 56.4 +1.6
O09A Fish Creek Ran baz=129 **128.93 45**⇓P PKPdf 00 34 56.1 +1.3
MTUM Tungsten Hills MTUM **129.01 49** *e*PKPdf PKPdf 00 34 57.7 +2.8
e 00 35 09.2
N10A Dunphy baz=129 **129.17 44**⇑P PKPdf 00 34 57.1 +1.8
HLID Hailey HLID **129.26 40** *e*PKPdf PKPdf 00 34 56.7 +1.3
e 00 35 08.9
M11A Holland Ranch, baz=129 **129.35 43**⇑P PKPdf 00 34 57.2 +1.6
O10A Cortez Mining, baz=129 **129.36 45**⇓P PKPdf 00 34 57.4 +1.8
DLMT Dillon DLMT **129.46 37** *e*PKPdf PKPdf 00 34 57.6 +1.8
e 00 35 09.4
EGMT Eagleton EGMT **129.56 33** PFAKE 00 35 10.0 +14
comp=Z,784nm,19.0s,MS5.4
LR LR
MCMT McKenzie Canyo **129.59 38** *e*PKPdf PKPdf 00 34 57.3 +1.2
ISA Isabella ISA **129.66 51** PFAKE 00 35 10.0 +14
comp=Z,215nm,21.0s,MS4.8
LR LR

N11A	**Elko Archery C**	**129.66**	**44**	⇑P		PKPdf	00 34 58.5 +2.3
	baz=130						
P10A	**Eureka**	**129.66**	**45**	⇑P		PKPdf	00 34 58.0 +1.8
	baz=130						
CWC	**Cottonwood Cre**	**129.69**	**50**	⇑P		PKPdf	00 34 58.4 +2.1
	baz=130						
TPH	**Tonopah**	**129.73**	**48**	PFAKE			00 35 10.0 +14
TPH				LR	LR		
	comp=Z,670nm,20.0s,MS5.3						
S09A	**Goldfield**	**129.86**	**48**	⇓P		PKPdf	00 34 58.8 +2.2
	baz=130						
BOZ	**Bozeman (W)**	**129.88**	**36**	*e*PKIKP		PKPdf	00 34 57.9 +1.3
BOZ				*e*			00 35 09.8
M12A	**Wells**	**129.95**	**43**	⇑P		PKPdf	00 34 58.6 +1.9
	baz=130						
O11A	**Cowboy Ranch,**	**130.01**	**45**	⇑P		PKPdf	00 34 58.8 +1.9
	baz=130						
ELK	**Elko**	**130.03**	**44**	*e*PKIKP		PKPdf	00 34 58.7 +1.8
ELK				*e*			00 35 10.4
ELK				*e*			00 37 07.6
DAC	**Darwin (Calif)**	**130.12**	**50**	*e*PKIKP		PKPdf	00 34 58.6 +1.5
N12A	**Clover Valley,**	**130.12**	**43**	⇑P		PKPdf	00 34 59.1 +2.0
	baz=130						
P11A	**Circle Ranch,**	**130.19**	**45**	⇑P		PKPdf	00 34 59.2 +2.0
	baz=130						
PLCA	**Paso Flores**	**130.23**	**181**	PKP		PKPdf	00 34 58.8 +1.5
	comp=Z,6.2nm,0.8s,baz=193,slow=5.3,SNR=9.2						
PLCA	**Paso Flores**	**130.23**	**181**	PKIKP		PKPdf	00 34 58.8 +1.5
PLCA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FMP	**Fort Macarthur**	**130.43**	**53**	⇑P		PKPdf	00 35 00.7 +3.0
	baz=130						
QLMT	**Earthquake Lak**	**130.44**	**37**	*e*PKPdf		PKPdf	00 35 00.3 +2.6
M13A	**Montello**	**130.47**	**42**	⇑P		PKPdf	00 34 58.9 +1.1
	baz=130						
Q11A	**Duckwater**	**130.56**	**46**	⇑P		PKPdf	00 34 59.7 +1.8
	baz=131						
O12A	**Currie**	**130.58**	**44**	⇑P		PKPdf	00 34 59.7 +1.7
	baz=131						
YMR	**Madison River**	**130.81**	**37**	*e*PKPdf		PKPdf	00 35 00.8 +2.5
P12A	**McGill**	**130.81**	**45**	⇓P		PKPdf	00 35 00.3 +1.9
	baz=131						
TPNV	**Topopah Spring**	**130.88**	**49**	*e*PKIKP		PKPdf	00 35 01.1 +2.6
GCMT	**Greycliff**	**130.93**	**35**	*e*PKPdf		PKPdf	00 34 60.0 +1.3
YFT	**Old Faithful**	**131.01**	**37**	*e*PKPdf		PKPdf	00 35 02.6 +3.8
U10A	**Ash Meadows, A**	**131.02**	**49**	⇑P		PKPdf	00 35 01.1 +2.3
	baz=131,SNR=8.5						
Q12A	**Willow Creek R**	**131.06**	**45**	⇓P		PKPdf	00 35 00.5 +1.6
	baz=131						
GSC	**Goldstone**	**131.06**	**51**	⇓P		PKPdf	00 35 01.4 +2.6
	baz=131						
HVU	**Hansel Valley**	**131.19**	**41**	*e*PKIKP		PKPdf	00 35 00.4 +1.3
LKWY	**Lake**	**131.20**	**37**	PFAKE			00 35 10.0 +11
LKWY				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
IMW	**Indian Meadow**	**131.25**	**38**	*e*PKPdf		PKPdf	00 35 00.8 +1.5
RRI2	**Red Ridge**	**131.31**	**39**	*e*PKPdf		PKPdf	00 34 59.9 +0.6
BGU	**Big Grassy Mou**	**131.44**	**42**	*e*PKPdf		PKPdf	00 35 01.1 +1.5
MOOW	**Moose Ponds**	**131.45**	**38**	*e*PKPdf		PKPdf	00 35 01.8 +2.2
MOOW				*e*			00 35 09.9
TPAW	**Teton Pass**	**131.46**	**38**	*e*PKPdf		PKPdf	00 35 01.4 +1.8
SPUT	**South Promonto**	**131.63**	**42**	*e*PKPdf		PKPdf	00 35 01.1 +1.2
TUQ	**Turquoise Mtn.**	**131.69**	**50**	⇓P		PKPdf	00 35 02.3 +2.3
	baz=132						
U11A	**Corn Creek**	**131.72**	**49**	⇓P		PKPdf	00 35 02.7 +2.5
	baz=132						
AHID	**Auburn Hatcher**	**131.76**	**39**	*e*PKPdf		PKPdf	00 35 01.8 +1.6
V11A	**Goodsprings**	**131.91**	**50**	⇓P		PKPdf	00 35 02.8 +2.4
	baz=132						
PFO	**Pinyon Flat Ob**	**131.91**	**53**	*e*PKIKP		PKPdf	00 35 02.8 +2.3
PFO				*e*			00 35 13.6
PFO	**Pinyon Flat Ob**	**131.91**	**53**	⇓P		PKPdf	00 35 02.9 +2.4
	baz=132						
DUG	**Dugway**	**131.93**	**43**	*e*PKIKP		PKPdf	00 35 01.9 +1.4
DUG				*e*			00 35 13.7
HWUT	**Hardware Ranch**	**132.06**	**41**	*e*PKPdf		PKPdf	00 35 01.2 +0.5
HWUT				*e*			00 35 15.3
TRQA	**Tornquist**	**132.13**	**190**	*e*PKPdf		PKPdf	00 35 01.1 +0.3
NOQ	**North Oquirrh**	**132.17**	**42**	*e*PKPdf		PKPdf	00 35 02.7 +1.8
LAO	**LASA Array**	**132.27**	**32**	PFAKE			00 35 10.0 +8.8
LAO				LR	LR		
	comp=Z,950nm,22.0s,MS5.5						
U12A	**Valley of Fire**	**132.34**	**49**	⇑P		PKPdf	00 35 03.0 +1.7
	baz=132						
V12A	**Nelson**	**132.39**	**50**	⇓P		PKPdf	00 35 03.8 +2.4
	baz=132,SNR=23						
CTU	**Camp Tracy**	**132.40**	**42**	*e*PKPdf		PKPdf	00 35 02.5 +1.1
TCUT	**Toone Canyon**	**132.41**	**41**	*e*PKPdf		PKPdf	00 35 03.6 +2.2
NLU	**North Lily Min**	**132.54**	**43**	*e*PKPdf		PKPdf	00 35 02.1 +0.5
ARUT	**Antelope Range**	**132.58**	**46**	*e*PKIKP		PKPdf	00 35 04.9 +3.2
BW06	**Boulder Array**	**132.71**	**38**	PFAKE			00 35 10.0 +8.0
BW06				LR	LR		
	comp=Z,1μm,19.0s,MS5.6						
PDAR	**Pinedale Array**	**132.71**	**38**	PKP		PKPdf	00 35 03.0 +1.0
	comp=Z,4.2nm,0.7s,baz=287,slow=0.2,SNR=24						
CCUT	**Cedar City**	**132.74**	**47**	*e*PKPdf		PKPdf	00 35 04.5 +2.4
MPU	**Maple Canyon**	**132.81**	**43**	*e*PKPdf		PKPdf	00 35 03.6 +1.4
DAU	**Daniels Canyon**	**132.86**	**42**	*e*PKIKP		PKPdf	00 35 03.9 +1.6
MVU	**Marysvale**	**133.13**	**45**	*e*PKPdf		PKPdf	00 34 59.7 -3.1
MVU				*e*			00 35 10.5
MVU				*e*PP	PP		00 37 29.6 +0.3
MSU	**Marysvale**	**133.15**	**45**	PKIKP		PKPdf	00 34 58.0 -4.8
MSU				*e*			00 35 05.9
W13A	**Hualapai Mount**	**133.36**	**50**	⇓P		PKPdf	00 35 05.5 +2.3
	baz=133,SNR=6.8						
Y12C	**Blythe**	**133.38**	**52**	⇓P		PKPdf	00 35 05.5 +2.3
	baz=133						
GLA	**Glamis**	**133.38**	**53**	⇓P		PKPdf	00 35 05.5 +2.3
	baz=133						
TMUT	**Trail Mountain**	**133.44**	**43**	*e*PKPdf		PKPdf	00 35 05.2 +1.8
X13A	**Yucca**	**133.59**	**51**	⇑P		PKPdf	00 35 05.7 +2.0
	baz=134,SNR=9.3						
Y13A	**Salome**	**133.89**	**52**	⇑P		PKPdf	00 35 06.8 +2.6
	baz=134						
W14A	**Seligman**	**133.92**	**49**	⇓P		PKPdf	00 35 06.6 +2.3
	baz=134						
SRU	**San Rafael**	**134.00**	**43**	*e*PKIKP		PKPdf	00 35 05.9 +1.5
ULM	**Lac du Bonnet**	**134.32**	**22**	PKP		PKPdf	00 35 04.0 -1.0
	comp=Z,13nm,1.1s,baz=350,slow=2.7,SNR=7.7						
X14A	**Yava**	**134.36**	**50**	⇓P		PKPdf	00 35 07.5 +2.4
	baz=134,SNR=6.9						
SCHQ	**Schefferville**	**134.44**	**356**	PKP		PKPdf	00 35 05.2 0.0
	comp=Z,15nm,0.7s,baz=61,slow=2.9,SNR=25						
SCHQ				PP	PP		00 37 33.2 -4.4
	comp=Z,7.2nm,0.9s,baz=12,slow=7.9,SNR=4.6						
SCHQ	**Schefferville**	**134.44**	**356**	PKP		PKPdf	00 35 05.2 0.0
SCHQ				PP	PP		00 37 33.2 -4.4
Y14A	**Wickenburg**	**134.48**	**51**	⇓P		PKPdf	00 35 07.9 +2.6
	baz=134,SNR=6.0						
W15A	**Williams**	**134.54**	**49**	⇑P		PKPdf	00 35 07.7 +2.3
	baz=135						
Z14A	**Wintersburg**	**134.74**	**52**	⇓P		PKPdf	00 35 08.4 +2.6
	baz=135						
RWWY	**Rawlins**	**134.76**	**38**	*e*PKPdf		PKPdf	00 35 06.7 +0.9
X15A	**Humboldt**	**134.84**	**50**	⇑P		PKPdf	00 35 08.9 +2.9
	baz=135						
RSSD	**Black Hills**	**135.11**	**34**	*e*PKIKP		PKPdf	00 35 06.7 +0.2
RSSD				*e*			00 37 42.2
PV10	**Paradox Valley**	**135.37**	**43**	*e*PKPdf		PKPdf	00 35 09.1 +2.1
115A	**Sonoran Desert**	**135.55**	**52**	⇑P		PKPdf	00 35 10.1 +2.8
	baz=136						
PV01	**Paradox Valley**	**135.81**	**43**	*e*PKPdf		PKPdf	00 35 10.0 +2.2
116A	**Eloy**	**136.01**	**52**	⇑P		PKPdf	00 35 10.8 +2.6
	baz=136						
SMCO	**Snowmass**	**136.32**	**41**	*e*PKPdf		PKPdf	00 35 03.8 -4.9
TUC	**Tucson**	**136.83**	**52**	*e*PKIKP		PKPdf	00 35 06.4 -3.3
ISCO	**Idaho Springs**	**136.84**	**40**	*e*PKIKP		PKPdf	00 35 10.8 +1.1
ISCO				*e*			00 35 22.3
EYMN	**Ely**	**137.82**	**20**	*e*PKPdf		PKPdf	00 35 11.8 +0.3
CAM4	**Nova Friburgo**	**137.86**	**221**	*e*P		PKPdf	00 35 12.0 +0.4
CAM4				*i*			00 35 16.8
CAM4				*i*			00 35 27.4
CAM4				*i*			00 35 33.0
CAM4				*i*			00 35 33.2
CAM4				*i*			00 37 02.5
CAM4				*i*			00 37 10.9
CAM4				*i*			00 37 19.2
SDCO	**Great Sand Dun**	**138.07**	**42**	PFAKE			00 35 20.0 +8.0
SDCO				LR	LR		
	comp=Z,887nm,20.0s,MS5.5						
LAZ	**Ladron**	**138.66**	**47**	*e*PKPdf		PKPdf	00 35 09.6 -3.5
ANMO	**Albuquerque**	**138.88**	**46**	PKP		PKPdf	00 35 13.3 -0.2
	comp=Z,5.7nm,0.7s,baz=232,slow=1.3						
ANMO	**Albuquerque**	**138.88**	**46**	*e*PKP		PKPdf	00 35 06.7 -6.8
ANMO				PKP		PKPdf	00 35 13.3 -0.2
LENM	**Lemitar**	**138.89**	**48**	*e*PKPdf		PKPdf	00 35 10.9 -2.6
Y22C	**IRIS PASSCAL I**	**138.98**	**48**	⇓P		PKPdf	00 35 16.2 +2.5
	baz=139						
LPM	**Los Pinos Moun**	**139.07**	**47**	*e*PKPdf		PKPdf	00 35 11.3 -2.5
BNM	**Barren Site**	**139.15**	**47**	*e*PKPdf		PKPdf	00 35 14.0 0.0
ECSD	**EROS,Sioux Fal**	**139.17**	**28**	*e*PKPdf		PKPdf	00 35 05.2 -8.8
ECSD				*e*			00 35 14.2
CFAA	**Coronel Fontan**	**139.24**	**184**	PKP		PKPdf	00 35 15.1 +1.0
	comp=Z,3.0nm,0.8s,baz=338,slow=3.2,SNR=6.3						
RCBR	**Riachuelo**	**141.77**	**248**	PFAKE			00 35 30.0 +11
RCBR				LR	LR		
	comp=Z,1μm,19.0s,MS5.7						
SCIA	**State Center**	**142.16**	**27**	*e*PKPdf		PKPdf	00 35 16.2 -3.2
AMTX	**Amarillo**	**142.23**	**43**	PFAKE			00 35 30.0 +10
AMTX				LR	LR		
	comp=Z,1μm,21.0s,MS5.7						
LTX	**Lajitas**	**143.63**	**52**	*e*PKIKP		PKPdf	00 35 21.0 -1.0
PKME	**Peaks-Kenny Pk**	**144.12**	**358**	*e*PKPdf		PKPdf	00 35 21.0 -1.8
PKME				*e*			00 35 32.0
WMOK	**Wichita Mounta**	**144.23**	**41**	*e*PKIKP		PKPdf	00 35 22.3 -0.7
WMOK				*e*			00 35 33.7
MSNY	**Massena**	**144.28**	**4**	*e*PKPdf		PKPdf	00 35 21.6 -1.5
MSNY				*e*			00 35 32.9
FRNY	**Flat Rock**	**144.52**	**3**	*e*PKPdf		PKPdf	00 35 22.0 -1.5
FRNY				*e*			00 35 32.9
LONY	**Lake Ozonia**	**144.68**	**4**	*e*PKPdf		PKPdf	00 35 23.0 -0.8
LONY				*e*			00 35 34.2
LBNH	**Lisbon**	**145.17**	**1**	*e*PKIKP		PKPdf	00 35 24.7 0.0
LBNH				*e*			00 35 36.4
MIV	**Mineville/With**	**145.28**	**3**	*e*PKPdf		PKPdf	00 35 25.1 +0.2
AAM	**Ann Arbor**	**145.34**	**16**	*e*PKIKP		PKPdf	00 35 25.4 +0.5
AAM				*e*			00 35 36.4
NCB	**Newcomb**	**145.35**	**4**	*e*PKP		PKPdf	00 35 25.5 +0.6
NCB				*e*			00 35 37.0
HNH	**Hanover**	**145.70**	**1**	*e*PKPdf		PKPdf	00 35 26.4 +0.9
HNH				*e*			00 35 38.3
ACCN	**Adirondack Com**	**145.97**	**3**	*e*PKPdf		PKPdf	00 35 27.1 +1.1
ACCN				*e*			00 35 38.4
JCT	**Junction City**	**145.99**	**48**	*e*PKPdf		PKPdf	00 35 27.6 +1.5
JCT				*e*			00 35 39.8
CCM	**Cathedral Cave**	**146.13**	**29**	PFAKE			00 35 40.0 +14
CCM				LR	LR		
	comp=Z,1μm,21.0s,MS5.7						
SLM	**Saint Louis**	**146.14**	**27**	*e*PKPdf		PKPdf	00 35 27.7 +1.4
SLM				*e*			00 35 38.8
BAO	**Brasilia Array**	**146.22**	**223**	PKPdf		PKPdf	00 35 28.0 +1.5
BDFB	**Brasilia**	**146.24**	**223**	PKPbc		PKPbc	00 35 27.6 0.0
	comp=Z,65nm,0.8s,baz=152,slow=3.4,SNR=61						
BDFB	**Brasilia**	**146.24**	**223**	PKIKP		PKPdf	00 35 27.6 +1.1
BDFB				pmax	pmax		
	comp=Z,65nm,0.8s						
ERPA	**Erie**	**146.39**	**12**	*e*PKP		PKPdf	00 35 28.5 +1.8
ERPA				*e*			00 35 40.1
FVM	**French Village**	**146.58**	**28**	*e*PKP2		PKPab	00 35 27.7 -2.0
ALLY	**Alegheny Colle**	**146.81**	**12**	*e*PKPdf		PKPdf	00 35 29.4 +2.0
HRV	**Harvard--Oak R**	**146.91**	**1**	*e*PKP2		PKPab	00 35 29.9 -1.1
BINY	**Binghamton**	**146.95**	**7**	*e*PKPdf		PKPdf	00 35 28.5 +0.8
BINY				*e*			00 35 41.4
WES	**Weston**	**147.03**	**0**	*e*PKP2		PKPab	00 35 30.0 -1.5
QUA2	**Belchertown**	**147.12**	**2**	*e*PKPdf		PKPdf	00 35 28.7 +0.7
BLO	**Bloomington**	**147.22**	**22**	*e*PKP2		PKPab	00 35 29.1 -3.1
SIUC	**Southern Illin**	**147.35**	**27**	*e*PKPdf		PKPdf	00 35 30.7 +2.4
ACSO	**Alum Creek Sta**	**147.44**	**17**	*e*PKPdf		PKPdf	00 35 29.3 +0.8
MIAR	**Mount Ida**	**147.55**	**36**	*e*PKP2		PKPab	00 35 31.7 -1.8
USIN	**University of**	**147.81**	**25**	*e*PKPdf		PKPdf	00 35 31.7 +2.5
UALR	**University of**	**148.08**	**34**	*e*PKPdf		PKPdf	00 35 32.6 +3.1
WCI	**Wyandotte Cave**	**148.13**	**23**	*e*PKIKP		PKPdf	00 35 30.3 +0.6
PVMO	**Portageville**	**148.19**	**29**	*e*PKPdf		PKPdf	00 35 30.4 +0.7
PVMO				*e*PKPbc		PKPbc	00 35 33.9 +0.8
PVMO				*e*			00 35 45.9
SSPA	**Standing Stone**	**148.22**	**10**	*e*PKPdf		PKPdf	00 35 30.4 +0.6
SSPA				*e*PKPbc		PKPbc	00 35 33.6 +0.5
LVC	**Limon Verde**	**148.22**	**184**	PFAKE			00 35 40.0 +10
LVC				LR	LR		
	comp=Z,1μm,21.0s,MS5.8						
PAL	**Palisades**	**148.32**	**4**	*e*PKIKP		PKPdf	00 35 31.2 +1.2
PAL				*e*			00 35 34.2
HBAR	**Harrisburg**	**148.39**	**31**	*e*PKPdf		PKPdf	00 35 31.4 +1.3
HBAR				*e*PKPbc		PKPbc	00 35 34.7 +1.2
GLAT	**Glass**	**148.50**	**29**	*e*PKPbc		PKPbc	00 35 34.4 +0.6
CPNY	**Central Park**	**148.53**	**4**	*e*PKPbc		PKPbc	00 35 34.1 +0.2
UTMT	**University of**	**148.64**	**28**	*e*PKPdf		PKPdf	00 35 32.0 +1.5
UTMT				*e*PKPbc		PKPbc	00 35 35.5 +1.3
NATX	**Nacogdoches**	**148.78**	**41**	*e*PKPdf		PKPdf	00 35 33.3 +2.6
MCWV	**Mont Chateau**	**148.78**	**13**	*e*PKPbc		PKPbc	00 35 35.4 +0.8
KVTX	**Kingsville**	**148.94**	**51**	*e*PKP		PKPbc	00 35 38.1 +3.1
HKT	**Hockley**	**149.12**	**45**	*e*PKIKP		PKPdf	00 35 32.1 +0.8
HKT				*e*			00 35 37.7
HKT	**Hockley**	**149.12**	**45**	*e*PKPdf		PKPdf	00 35 32.1 +0.8
HKT				*e*PKPbc		PKPbc	00 35 37.7 +2.3
HKT				*e*			00 35 49.1
WVT	**Waverly**	**149.28**	**27**	*e*PKIKP		PKPdf	00 35 31.7 +0.2
WVT				*e*			00 35 36.7
OXF	**Oxford**	**149.84**	**31**	PFAKE			00 35 40.0 +7.6
OXF				LR	LR		
	comp=Z,959nm,19.0s,MS5.6						
PLAL	**Pickwick Lake**	**150.12**	**29**	*e*PKPdf		PKPdf	00 35 32.9 +0.1
PLAL				*e*PKPbc		PKPbc	00 35 38.3 +0.4
PLAL				*e*			00 35 48.6
FWV	**Forest Hill**	**150.52**	**16**	*e*PKPdf		PKPdf	00 35 34.0 +0.5
FWV				*e*PKPbc		PKPbc	00 35 39.4 +0.5
TZTN	**Tazewell**	**150.63**	**21**	*e*PKPdf		PKPdf	00 35 34.7 +1.0
TZTN				*e*PKPbc		PKPbc	00 35 39.9 +0.8
TZTN				*e*			00 35 49.6
CBN	**Corbin**	**150.67**	**10**	*e*PKPbc		PKPbc	00 35 40.1 +0.9
ELN	**Prospectdale**	**150.87**	**16**	*e*PKPdf		PKPdf	00 35 34.8 +0.8
ELN				*e*PKPbc		PKPbc	00 35 39.9 +0.3
ELN				*e*			00 35 50.6
BLA	**Blacksburg**	**150.97**	**15**	*e*PKIKP		PKPdf	00 35 34.9 +0.7
BLA				*e*			00 35 40.4
BLA				*e*			00 35 50.7
CPCT	**Cooper Cave**	**151.25**	**23**	*e*PKPdf		PKPdf	00 35 35.5 +0.9
CPCT				*e*PKPbc		PKPbc	00 35 41.8 +1.2
LRAL	**Lakeview Retre**	**152.22**	**29**	*e*PKPdf		PKPdf	00 35 36.6 +0.6
LRAL				*e*PKPbc		PKPbc	00 35 43.4 +0.6
SIV	**San Ignacio**	**152.96**	**202**	PKP		PKPdf	00 35 38.4 +1.2
	comp=Z,23nm,0.7s,baz=338,slow=21,SNR=4.0						
SIV				PKPbc		PKPbc	00 35 45.7 +1.3
	comp=Z,65nm,0.8s,baz=156,slow=4.8,SNR=6.5						
CNNC	**Cliffs of the**	**153.45**	**12**	*e*PKPdf		PKPdf	00 35 39.2 +1.4
LPAZ	**La Paz**	**154.41**	**187**	PFAKE			00 35 50.0 +11
LPAZ				LR	LR		
	comp=Z,734nm,21.0s,MS5.5						
BBSR	**BB Station**	**156.26**	**346**	PFAKE			00 35 50.0 +8.3
BBSR				LR	LR		
	comp=Z,990nm,21.0s,MS5.6						
NNA	**Nana**	**158.13**	**165**	PFAKE			00 36 00.0 +16
NNA				LR	LR		
	comp=Z,1μm,20.0s,MS5.8						
PAYG	**Puerto Ayora**	**158.55**	**116**	PFAKE			00 36 00.0 +15
PAYG				LR	LR		
	comp=Z,1μm,22.0s,MS5.6						
DWPF	**Disney**	**158.93**	**26**	PFAKE			00 36 00.0 +15
DWPF				LR	LR		
	comp=Z,1μm,20.0s,MS5.8						
SAML	**Samuel**	**160.21**	**204**	PFAKE			00 36 00.0 +13
SAML				LR	LR		
	comp=Z,1μm,22.0s						
TEIG	**Tepich**	**160.24**	**55**	*e*PKPdf		PKPdf	00 35 49.9 +3.3
ATAH	**Atahualpa**	**162.29**	**156**	PKP		PKPdf	00 35 51.4 +2.7
	comp=Z,17nm,1.0s,baz=16,slow=3.0,SNR=5.8						
OTAV	**Otavalo**	**168.46**	**141**	*e*PKPdf		PKPdf	00 35 56.2 +2.4
ROSC	**El Rosal**	**174.60**	**144**	PKP		PKPdf	00 35 57.9 +1.0
	comp=Z,5.0nm,0.6s,baz=83,slow=18,SNR=7.0						
ROSC	**El Rosal**	**174.60**	**144**	PKP		PKPdf	00 35 57.9 +1.0
ROSC				*e*PKPbc		PKPdf	00 35 58.6 +1.8
SDV	**Santo Domingo**	**179.33**	**234**	PKP		PKPdf	00 35 58.1 +0.4
	comp=Z,10nm,0.9s,baz=269,slow=4.5,SNR=6.9						

*ISCJB **18** 00:27:22.0±0.3, 9.42S±005×10830E±0.07, h28km, mb4.6/46, MS4.8/3, Error ellipse: s-maj=10.7km s-min=6.0km az=121.5*

*BJI **18** 00:27:21.3, 9.14S×10873E, h9km, mB5.0, mb4.7, Ms5.1, Msz4.6*

*MOS **18** 00:27:22.9±1.1, 9.27S×10836E, h33km, mb4.8/17, Error ellipse: s-maj=17.0km s-min=9.3km az=115.6*

*NEIC **18** 00:27:22.9±3.6, 9.46S×108.17E, h21km±25km, mb4.6/26, Error ellipse: s-maj=13.4km s-min=5.7km az=63.0*

*IDC **18** 00:27:24.2±0.7, 9.36S×10839E, h34km±5km, mb4.3/11, mb1 4.3/12, mb1mx4.2/17, mbtmp4.5/12, ML3.9/1, Error ellipse: s-maj=21.9km s-min=13.3km az=67.0*

ISC 18 00:27:24.3±0.3, 9.45S±005×10827E±007, h30km, h30km±2.8km:pP-P, n98, σ1s25/90, mb4.6/46, MS4.8/3, 9C-1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**11.04**	**11**	Pn	**Pn**	**00 30 00.9**	**+0.9**
COCO	**West Island**	**11.56**	**255**	Pn	**Pn**	**00 30 01.0**	**-6.2**
MBWA	**Marble Bar**	**16.04**	**138**	*e*Pn	**Pn**	**00 31 08.8**	**+1.2**
MBWA				*e*Sn	**Sn**	**00 33 44.6**	**-20**
KKM	**Kota Kinabalu**	**17.30**	**28**	*e*Pn	**Pn**	**00 31 24.8**	**+1.3**
FITZ	**Fitzroy Crossi**	**18.92**	**119**	*e*P	**Pn**	**00 31 42.5**	**-0.8**
	17nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.92**	**119**	P	**Pn**	**00 31 42.7**	**-0.6**
	0.3nm,0.3s,baz=275,slow=12,SNR=6.7						
NWAO	**Narrogin (SRO)**	**24.79**	**162**	*e*P	**P**	**00 32 42.5**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,19nm,1.2s						
NWAO	**Narrogin (SRO)**	**24.79**	**162**	*e*P	**P**	**00 32 42.5**	**-1.0**
	comp=Z,19nm,1.2s,mb4.5						
WRA	**Warramunga Arr**	**27.24**	**115**	P	**P**	**00 33 03.6**	**-2.0**
	comp=Z,3.2nm,0.8s,mb3.9,baz=286,slow=11,SNR=4.6						
WRAB	**Tennant Creek**	**27.25**	**115**	*e*P	**P**	**00 33 06.8**	**+1.1**
WRAB				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.3						
WRAB	**Tennant Creek**	**27.25**	**115**	*e*P	**P**	**00 33 06.8**	**+1.1**
	comp=Z,12nm,1.0s,mb4.4						
ASAR	**Alice Springs**	**28.27**	**123**	P	**P**	**00 33 14.2**	**-0.7**
	comp=Z,4.3nm,0.8s,mb4.1,baz=302,slow=8.9,SNR=12						
ASAR				PcP	PcP	00 36 28.3	+0.8
	comp=Z,1.9nm,0.8s,baz=287,slow=2.6,SNR=8.3						
QIZ	**Qiongzhong**	**28.34**	**3**	*e*P	**P**	**00 33 17.2**	**+1.8**
CHTO	**Chiang Mai**	**29.55**	**342**	*e*P	**P**	**00 33 25.9**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
CHTO	**Chiang Mai**	**29.55**	**342**	*e*P	**P**	**00 33 25.9**	**-0.3**
	comp=Z,4.7nm,1.0s,mb4.2						
KMI	**Kunming**	**34.78**	**351**	P	**P**	**00 34 14.5**	**+2.5**
KMI				AP	pP	00 34 19.3	-1.5
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
NACB	**Ninganchiao**	**35.86**	**21**	*e*P	**P**	**00 34 22.9**	**+1.6**
YHNB	**Yeheng**	**36.24**	**20**	P	**P**	**00 34 25.6**	**+1.1**
STKA	**Stephens Creek**	**38.09**	**131**	P	**P**	**00 34 39.3**	**-0.9**
	comp=Z,18nm,0.8s,mb4.9,baz=306,slow=7.4,SNR=9.4						
STKA	**Stephens Creek**	**38.09**	**131**	*e*P	**P**	**00 34 39.9**	**-0.3**
CTAO	**Charters Tower**	**38.13**	**110**	*e*P	**P**	**00 34 42.5**	**+1.9**
CTAO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
CTAO	**Charters Tower**	**38.13**	**110**	*e*P	**P**	**00 34 42.5**	**+2.0**
	comp=Z,1.0nm,0.4s,mb3.9						
ENH	**Enshi**	**39.51**	**2**	P	**P**	**00 34 53.9**	**+1.8**
JOW	**Kunigami**	**40.96**	**28**	P	**P**	**00 35 02.2**	**-1.9**
	comp=Z,12nm,0.8s,mb4.6,baz=263,slow=6.0,SNR=5.7						
SSE	**Sheshan**	**42.17**	**17**	P	**P**

comp=Z,7.1nm,0.8s,mb4.8
MAW Mawson 65.41 197 P **P 00 38 03.3 -0.7**
comp=Z,2.4nm,0.8s,mb4.3,baz=72,slow=2.5,SNR=4.7
MAW pP pP 00 38 14.3 +0.9
comp=Z,5.8nm,1.0s,baz=32,slow=8.5,SNR=5.5
MAW Mawson 65.41 197 *e*P **P 00 38 04.3 +0.3**
MAW pmax pmax
comp=Z,2.0nm,0.6s
MAW Mawson 65.41 197 *e*P **P 00 38 04.3 +0.2**
comp=Z,2.1nm,0.6s,mb4.3
ZAL Zalesovo 66.20 345 P **P 00 38 07.1 -2.0**
comp=Z,1.3nm,0.3s,mb4.5,baz=16,slow=3.6,SNR=3.8
ZAL Zalesovo 66.20 345 *i* P **P 00 38 07.0 -2.1**
ZAL pmax pmax
comp=Z,1.0nm,0.3s
BOD Bodaibo 67.19 3 *e*P **P 00 38 13.4 -2.0**
BRVK Borovoye 70.17 337 *e*P **P 00 38 33.3 -0.7**
BRVK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BRVK Borovoye 70.17 337 *e*P **P 00 38 33.2 -0.7**
comp=Z,1.9nm,0.7s,mb4.1
CHKZ Chkalovo 70.51 337 *e*P **P 00 38 35.2 -0.9**
CHKZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CHKZ Chkalovo 70.51 337 *e*P **P 00 38 35.2 -0.9**
comp=Z,5.5nm,0.7s,mb4.6
ZRNK Zerenda 70.59 336 *e*P **P 00 38 35.8 -0.7**
ZRNK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ZRNK Zerenda 70.59 336 *e*P **P 00 38 35.8 -0.7**
comp=Z,3.1nm,0.6s,mb4.4
YAK Yakutsk 73.19 10⇑ *i*P **P 00 38 49.9 -2.2**
YAK pmax pmax
comp=Z,29nm,0.8s,mb5.3
VNDA Vanda 73.35 169 P **P 00 38 52.4 -0.7**
comp=Z,4.6nm,0.9s,mb4.4,baz=295,slow=6.8,SNR=22
VNDA Vanda 73.35 169 *e*P **P 00 38 52.7 -0.4**
VNDA pmax pmax
comp=Z,4.0nm,0.9s
VNDA Vanda 73.35 169 *e*P **P 00 38 52.7 -0.4**
comp=Z,4.4nm,0.9s,mb4.4
SBA Scott Base 74.42 169 *e*P **P 00 39 00.0 +0.6**
SBA pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
SBA Scott Base 74.42 169 *e*P **P 00 39 00.0 +0.7**
comp=Z,4.6nm,1.0s,mb4.4
GNI Garni 76.57 315 *e*P **P 00 39 13.0 +1.3**
GNI pmax pmax
comp=Z,4.0nm,0.8s
GNI Garni 76.57 315 *e*P **P 00 39 13.0 +1.3**
comp=Z,3.6nm,0.8s,mb4.3
MA2 Magadan 76.71 21⇓ *e*P **P 00 39 09.6 -2.9**
MA2 pmax pmax
comp=Z,30nm,1.7s,mb5.0
ARU Arti 77.36 334⇑ *e*P **P 00 39 15.2 -0.9**
ARU pmax pmax
comp=Z,13nm,1.7s,mb4.6
ARU Arti 77.36 334 *e*P **P 00 39 16.0 -0.1**
comp=Z,2.5nm,0.6s,mb4.3
LSZ Lusaka 78.07 256 P **P 00 39 21.0 +0.9**
comp=Z,1.4nm,0.8s,mb3.9,baz=71,slow=7.9,SNR=5.3
LBTB Lobatse 79.47 246 *e*P **P 00 39 29.8 +2.0**
LBTB pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
LBTB Lobatse 79.47 246 *e*P **P 00 39 29.8 +2.0**
comp=Z,1.2nm,0.7s,mb3.9
KIV Kislovodsk 79.53 318 *i* P **P 00 39 28.6 +0.5**
KIV Kislovodsk 79.53 318 P **P 00 39 27.1 -1.0**
MALT Malatya 80.40 311 *e*P **P 00 39 34.0 +1.2**
MALT pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
MALT Malatya 80.40 311 *e*P **P 00 39 34.0 +1.2**
comp=Z,2.4nm,0.9s,mb4.1
EIL Elat 80.44 302 P **P 00 39 34.1 +1.1**
TIXI Tiksi 82.08 6*c i*P **P 00 39 39.3 -2.4**
TIXI pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
BR131 Keskin Array S 84.39 312 *e*P **P 00 39 54.0 +0.3**
comp=Z,1.0nm,0.6s,mb4.1
BRTR Keskin Array B 84.39 312 P **P 00 39 53.7 +0.1**
comp=Z,2.6nm,0.9s,mb4.4,baz=134,slow=7.1,SNR=11
BRTR Keskin Array B 84.39 312⇓ *e*P **P 00 39 54.2 +0.6**
OBN Obninsk 87.45 327*ce*P **P 00 40 08.3 -0.5**
OBN *e* 00 43 29.9
OBN pmax pmax
comp=Z,22nm,1.7s,mb5.1
OBN Obninsk 87.45 327 *e*P **P 00 40 08.5 -0.3**
comp=Z,5.9nm,0.7s,mb4.9
SNAA Sanae 87.58 197 *e*P pP 00 40 19.6 +0.5
SNAA *e* 00 40 21.2
SNAA Sanae 87.58 197⇑ *i*P pP 00 40 20.5 +1.4
VNA1 Neumayer--Stat 89.61 197 *e*P pP 00 40 29.0 +0.3
VNA1 *e* 00 40 30.0
SANT Santorini 89.81 307 P **P 00 40 20.4 +0.5**
COLA College 104.39 25 P Pdif 00 41 26.2 +0.2
WMOK Wichita Mounta 144.70 40 *e*PKIKP PKPdf 00 46 57.3 -0.6
JCT Junction City 146.49 47 *e*PKP2 PKPab 00 47 03.3 -0.1
MIAR Mount Ida 147.99 35 *e*PKP2 PKPbc 00 47 06.5 -0.1
PLAL Pickwick Lake 150.51 28 *e*PKP PKPbc 00 47 12.7 -0.3
SIV San Ignacio 152.61 203 PKPbc PKPbc 00 47 18.9 +1.1
comp=Z,2.1nm,0.9s,baz=126,slow=3.1,SNR=5.0

*ISCJB **18** 00:31:19.8±0.2, 1974S×004×7062W×006, h10km, mb4.5/35, MS5.2/4, Error ellipse: s-maj=8.8km s-min=4.6km az=142.7*
*IDC **18** 00:31:19.6±0.5, 1968S×7061W, h0km, mb4.4/14, mb1 4.6/16, mb1mx4.5/18, mbtmp4.4/16, ML4.4/3, MS4.2/4, Ms1 4.2/4, ms1mx3.8/21, Error ellipse: s-maj=20.9km s-min=12.5km az=67.0*
*NEIC **18** 00:31:21.0±1.9, 1973S×7059W, h7km±12km, mb4.7/29, Error ellipse: s-maj=6.6km s-min=4.2km az=68.0*
NEIC Felt [III] at Huara, Pica, Pisagua and Pozo Almonte; [II] at Alto Hospicio and Iquique.
*HRVD **18** 00:31:21.0±0.8, 1968S×7120W, h35km±2km, MW5.0/23, Centroid moment Tensor Solution. LP body waves: s15,c16;Mantle waves: s23,c29; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mr=3.66±.46; Mθθ=-0.53±.24; Mφφ=-3.13±.27; Mrθ=0.66±.33; Mrφ=0.93±.15; Mθφ=-2.18±.37; Best double couple: M=4.21300×10^16^ NP1:φs=342.00000°, δ29.00000°, λ89.00000°. NP2: φs=163.00000°, δ61.00000°, λ90.00000°. Principal axes: T 4.3290, Plg74.0000°, Azm74.0000°; N -0.2330, Plg0.0000°, Azm343.0000°; P -4.0960, Plg16.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **18** 00:31:22.9, 1970S×7060W, h7km, mB5.2, Ms5.3, Msz5.1*
*MOS **18** 00:31:23.5±1.0, 1970S×7061W, h33km, mb4.9/16, Error ellipse: s-maj=14.0km s-min=8.2km az=94.4*
*LDG **18** 00:31:32.2±0.2, 1929S×70.12W, h80km, Mb4.7/9, Ms4.0/1, Error ellipse: s-maj=10.8km s-min=5.4km az=28.0*
ISC 18 00:31:21.5±0.2, 1977S±003×7058W±006, h10km, n150, σ0s89/135, mb4.5/35, MS5.2/4, 2C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**3.23**	**151**	Pn	**Pn**	**00 32 14.3**	**+2.1**
	40nm,0.3s,baz=310,slow=9.6,SNR=261						
LVC				Sn	**Sn**	**00 32 55.2**	**+4.4**
	156nm,0.3s,baz=113,slow=13,SNR=4.9						
LVC				Lg		00 33 03.6	
	349nm,0.3s,baz=69,slow=17,SNR=10						
LVC	**Limon Verde**	**3.23**	**151**⇑	*i*Pn	**Pn**	**00 32 14.4**	**+2.2**
LVC				*e*Sn	**Sg**	**00 33 02.8**	**-2.5**
ARE	**Arequipa**	**3.40**	**345**	*e*P	**Pn**	**00 32 15.0**	**+0.4**
ARE				*e*S	**Sn**	**00 32 55.0**	**+0.1**
CEN1	**Los Morros**	**3.62**	**174**⇓	*i*P	**Pn**	**00 32 17.7**	**0.0**
ANCH	**Antofagasta**	**3.90**	**178**⇓	*i*P	**Pn**	**00 32 19.1**	**-2.4**
LPAZ	**La Paz**	**4.17**	**34**	Pn	**Pn**	**00 32 31.7**	**+6.5**
	13nm,0.3s,baz=227,slow=9.1,SNR=95						
LPAZ				Lg		00 33 39.7	
	baz=217,slow=18,SNR=1.9						
LPAZ				LR	LR	00 34 19.9	
	comp=Z,2μm,18.8s,baz=226,slow=44						
LPAZ	**La Paz**	**4.17**	**34**⇑	*i*Pn	**Pg**	**00 32 31.9**	**-9.5**
LPAZ				*e*Sn	**Sg**	**00 33 29.6**	**-5.9**
CPN1	**Cerro Paranal**	**4.84**	**178**	*i*P	**Pn**	**00 32 31.4**	**-2.9**
NNA	**Nana**	**9.80**	**321**	*e*Pn	**Pn**	**00 33 40.8**	**-1.7**
SIV	**San Ignacio**	**9.80**	**69**	Pn	**Pn**	**00 33 43.6**	**+1.1**
	6.4nm,0.3s,baz=257,slow=11,SNR=123						

CFAA Coronel Fontan 11.97 170 Pn **Pn 00 34 13.1 +0.9**
0.1nm,0.3s,baz=359,slow=14,SNR=4.3
CFAA Sn Sn 00 36 50.0 +24
0.1nm,0.3s,baz=217,slow=13,SNR=5.0
CFAA LR LR 00 38 57.7
comp=Z,97nm,19.9s,baz=239,slow=38
CFAA Coronel Fontan 11.97 170 Pn **Pn 00 34 13.1 +0.9**
CFAA Sn Sn 00 36 50.0 +24
CFAA LR LR 00 38 57.7
SAML Samuel 12.92 35 *e*Pn **Pn 00 34 24.9 -0.3**
TRQA Tornquist 19.70 159 *e*P **Pn 00 35 51.3 -1.0**
19nm,0.9s
PLCA Paso Flores 20.90 180 P **P 00 36 04.2 +0.3**
5.1nm,0.5s,baz=3.5,slow=11,SNR=9.5
PLCA Paso Flores 20.90 180 *e*P **P 00 36 04.2 +0.3**
PLCA pmax pmax
comp=Z,5.0nm,0.7s
PLCA Paso Flores 20.90 180 *e*P **P 00 36 04.2 +0.3**
comp=Z,4.6nm,0.7s
BDFB Brasilia 21.88 83 P **P 00 36 14.8 +0.3**
comp=Z,29nm,0.8s,mb4.8,baz=252,slow=11,SNR=5.4
BDFB LR LR 00 46 22.5
comp=Z,800nm,19.1s,MS4.2,baz=89,slow=41
SDV Santo Domingo 28.47 360 P **P 00 37 17.2 +0.5**
comp=Z,6.7nm,0.8s,mb4.3,baz=204,slow=7.8,SNR=3.5
SDV Santo Domingo 28.47 360 *e*P **P 00 37 16.0 -0.7**
comp=Z,11nm,1.0s,mb4.5
SJG San Juan 37.89 7 *e*P **P 00 38 36.8 -1.9**
TEIG Tepich 43.36 335 *e*P **P 00 39 23.8 -0.1**
PMSA Palmer Station 45.19 176 *e*P **P 00 39 39.4 +0.9**
comp=Z,6.1nm,0.6s,mb4.6
BBSR BB Station 52.15 6 P **P 00 40 30.4 -1.6**
ELN Prospectdale 57.49 350 *e*P **P 00 41 10.7 -0.1**
WVT Waverly 57.94 344 *e*P **P 00 41 12.2 -1.7**
WVT pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
WVT Waverly 57.94 344 *e*P **P 00 41 12.2 -1.8**
comp=Z,4.4nm,0.7s,mb4.6
MIAR Mount Ida 58.27 338 *e*P **P 00 41 15.8 -0.4**
MIAR pmax pmax
comp=Z,16nm,1.1s,mb5.0
MIAR Mount Ida 58.27 338 *e*P **P 00 41 15.8 -0.5**
comp=Z,16nm,1.1s,mb5.0
LTX Lajitas 58.32 326 *e*P **P 00 41 16.2 -0.4**
FVM French Village 60.40 342 *e*P **P 00 41 30.1 -0.8**
FVM pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
FVM French Village 60.40 342 *e*P **P 00 41 30.1 -0.8**
comp=Z,8.3nm,0.8s,mb4.8
WMOK Wichita Mounta 60.47 333 *e*P **P 00 41 32.4 +1.0**
WMOK pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
WMOK Wichita Mounta 60.47 333 *e*P **P 00 41 32.4 +0.9**
comp=Z,1.5nm,0.4s,mb4.4
ACSO Alum Creek Sta 60.80 349 *e*P **P 00 41 32.6 -1.1**
comp=Z,8.0nm,0.9s,mb4.8
BINY Binghamton 61.85 355 *e*P **P 00 41 41.3 +0.5**
HRV Harvard--Oak R 61.97 359 *e*P **P 00 41 41.6 0.0**
HRV pmax pmax
comp=Z,16nm,0.8s,mb5.2
HRV Harvard--Oak R 61.97 359 *e*P **P 00 41 41.6 0.0**
comp=Z,16nm,0.8s,mb5.2
VNA1 Neumayer--Stat 62.43 161 *e*P **P 00 41 45.3 +0.6**
VNA1 *e* 00 41 52.0
VNA1 *e* 00 41 54.2
VNA1 *e* 00 41 57.7
VNA1 *e* 00 42 10.9
VNA1 *e* 00 42 24.8
LBNH Lisbon 63.70 359 *e*P **P 00 41 53.9 +0.8**
ANMO Albuquerque 64.20 328 P **P 00 41 55.9 -0.5**
comp=Z,1.3nm,0.7s,mb4.0,baz=139,slow=9.3,SNR=4.1
ANMO Albuquerque 64.20 328 *e*P **P 00 41 56.7 +0.3**
ANMO pmax pmax
comp=Z,1.0nm,0.5s
ANMO Albuquerque 64.20 328 *e*P **P 00 41 56.7 +0.3**
comp=Z,0.8nm,0.5s,mb4.0
FRNY Flat Rock 64.34 358 *e*P **P 00 41 57.7 +0.4**
SNAA Sanae 64.42 161 *e*P **P 00 41 57.4 -0.5**
SNAA *e* 00 42 04.4
SNAA *e* 00 42 06.9
SNAA *e* 00 42 09.8
SNAA *e* 00 42 19.5
SNAA *e* 00 42 30.1
SNAA Sanae 64.42 161 *e*P **P 00 41 57.6 -0.3**
SNAA pmax pmax
comp=Z,8.0nm,0.9s
SNAA Sanae 64.42 161 *e*P **P 00 41 57.6 -0.3**
comp=Z,8.1nm,0.9s,mb4.8
SDCO Great Sand Dun 65.97 330 P **P 00 42 08.2 +0.3**
ECSD EROS,Sioux Fal 67.55 340 *e*P **P 00 42 16.7 -1.3**
SRU San Rafael 69.48 328 *e*P **P 00 42 30.8 +0.8**
DBIC Dimbokro 69.77 75 P **P 00 42 31.9 0.0**
comp=Z,8.1nm,0.8s,mb4.7,baz=217,slow=8.6,SNR=8.4
DBIC Dimbokro 69.77 75 *e*P **P 00 42 31.8 -0.1**
DBIC pmax pmax
comp=Z,7.0nm,0.7s
DBIC Dimbokro 69.77 75 *e*P **P 00 42 31.8 0.0**
comp=Z,7.3nm,0.7s,mb4.7
CCUT Cedar City 69.80 325 *e*P **P 00 42 33.5 +1.5**
MSU Marysvale 69.87 326 *e*P **P 00 42 33.8 +1.3**
ARUT Antelope Range 70.01 325 *e*P **P 00 42 35.2 +1.9**
SHPR Sheep Range 70.04 323 *e*P **P 00 42 34.8 +1.3**
QSPA South Pole Qui 70.41 180 *e*P **P 00 42 36.1 +0.3**
comp=Z,8.5nm,0.7s,mb4.8
RSSD Black Hills 70.57 335 *e*P **P 00 42 36.8 +0.1**
RSSD pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
RSSD Black Hills 70.57 335 *e*P **P 00 42 36.8 +0.1**
comp=Z,3.0nm,0.6s,mb4.4
DUG Dugway 71.45 327 *e*P **P 00 42 43.2 +1.1**
PDAR Pinedale Array 71.84 331 P **P 00 42 43.6 -0.8**
comp=Z,0.9nm,0.6s,mb3.9,baz=121,slow=5.4,SNR=5.7
HWUT Hardware Ranch 71.89 329 *e*P **P 00 42 45.0 +0.2**
comp=Z,5.1nm,0.8s,mb4.5
SPUT South Promonto 72.10 328 *e*P **P 00 42 46.4 +0.4**
BGU Big Grassy Mou 72.11 327 *e*P **P 00 42 46.2 +0.2**
TPAW Teton Pass 73.04 330 *e*P **P 00 42 52.3 +0.7**
RRI2 Red Ridge 73.10 330 *e*P **P 00 42 52.8 +0.8**
comp=Z,11nm,0.9s,mb4.8
RRI2 *e* 00 43 04.9
ELK Elko 73.11 326 *e*P **P 00 42 51.8 -0.2**
ELK pmax pmax
comp=Z,3.0nm,1.1s
ELK Elko 73.11 326 *e*P **P 00 42 51.8 -0.2**
comp=Z,3.3nm,1.1s,mb4.2
NVAR Mina Array Bea 73.17 323 P **P 00 42 52.8 +0.5**
comp=Z,2.0nm,0.9s,mb4.0,baz=141,slow=7.0,SNR=8.4
ULM Lac du Bonnet 73.21 343 P **P 00 42 50.6 -1.9**
comp=Z,4.3nm,1.0s,mb4.3,baz=172,slow=6.7,SNR=3.6
IMW Indian Meadow 73.35 331 *e*P **P 00 42 53.7 +0.2**
FLWY Flagg Ranch 73.38 331 *e*P **P 00 42 54.7 +1.1**
PPT Papeete 74.19 257 *e*PS 00 42 23.5
comp=Z,14μm,33.5s
GCMT Greycliff 74.26 333 *e*P **P 00 42 59.1 +0.3**
SCHQ Schefferville 74.36 2 P **P 00 42 58.3 -1.1**
comp=Z,2.5nm,0.7s,mb4.2,baz=116,slow=2.2,SNR=4.4
SCHQ Schefferville 74.36 2 *e*P **P 00 42 58.8 -0.6**
comp=Z,3.0nm,0.7s,mb4.3
HLID Hailey 74.75 329 *e*P **P 00 43 02.5 +0.9**
HLID *e*PcP PcP 00 43 16.2 +0.5
BOZ Bozeman (W) 75.01 332 *e*P **P 00 43 03.1 0.0**
BOZ *e* 00 43 16.6
TOA0 Torodi Ar. Sit 78.27 71 *e*P **P 00 43 21.6 0.0**
TORD Torodi Ar. Bea 78.27 71 P **P 00 43 21.6 0.0**
comp=Z,13nm,0.8s,mb4.9,baz=251,slow=5.2,SNR=78
TORD LR LR 01 19 11.3
comp=Z,2μm,19.9s,MS5.5,baz=65,slow=37
TORD Torodi Ar. Bea 78.27 71 P **P 00 43 21.6 0.0**
TORD LR LR 01 19 11.3
VNDA Vanda 78.27 190 P **P 00 43 21.9 +0.3**
comp=Z,0.6nm,0.7s,mb3.6,baz=147,slow=3.9,SNR=4.9
VNDA Vanda 78.27 190 *e*P **P 00 43 22.3 +0.7**
VNDA pmax pmax
comp=Z,1.0nm,0.6s
VNDA Vanda 78.27 190 *e*P **P 00 43 22.3 +0.7**
comp=Z,0.6nm,0.6s,mb3.7
WALA Waterton Lakes 78.61 333 *e*P **P 00 43 23.7 +0.2**
SYO Syowa Base 78.66 160‖ *e*P **P 00 43 23.2 -0.5**
FCC Fort Churchill 80.61 348 *e*P **P 00 43 34.0 -0.3**
SUR Sutherland 80.81 121 *e*P **P 00 43 38.0 +2.6**
EDM Edmonton 81.54 336 *e*P **P 00 43 37.7 -1.6**
TSUM Tsumeb 82.05 107 *e*P **P 00 43 42.5 +0.6**
comp=Z,6.6nm,0.9s,mb4.6
ESDC Sonseca Array 85.72 45 P **P 00 44 00.9 +0.2**
comp=Z,3.1nm,1.0s,mb4.5,baz=250,slow=4.9,SNR=16
ESLA Sonseca Array 85.72 45 *e*P **P 00 44 01.9 +1.2**
comp=Z,1.6nm,1.1s,mb4.2
MAW Mawson 86.43 164 P **P 00 44 04.0 -0.2**
comp=Z,5.6nm,1.0s,mb4.8,baz=222,slow=8.2,SNR=6.4
LBTB Lobatse 87.17 115 P **P 00 44 08.3 +0.5**
YKA Yellowknife Ar 89.04 341 P **P 00 44 14.6 -2.1**
comp=Z,2.6nm,0.8s,mb4.6,baz=135,slow=4.9,SNR=19
ETSF Etsaut 89.52 44 *e*P **P 00 44 19.2 +0.2**
EPF Esparros 90.17 44 *e*P **P 00 44 21.9 -0.1**
QUIF Quistinic 90.31 38 *e*P **P 00 44 22.6 -0.1**
ROSF Rostrenen 90.46 38 *e*P **P 00 44 23.2 -0.1**
comp=Z,4.1nm,0.7s,mb4.6
ROSF Rostrenen 90.46 38 *e*P **P 00 44 23.2 -0.1**
ROSF pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
ROSF Rostrenen 90.46 38 *e*P **P 00 44 23.2 -0.1**
comp=Z,2.0nm,0.7s,mb4.6
SGMF Saint Gilles 90.83 38 *e*P **P 00 44 24.8 -0.3**
comp=Z,8.2nm,1.0s,mb4.7
SGMF Saint Gilles 90.83 38 *e*P **P 00 44 24.8 -0.3**
SGMF pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
SGMF Saint Gilles 90.83 38 *e*P **P 00 44 24.8 -0.3**
comp=Z,4.1nm,1.0s,mb4.7
LFF La Frestale 91.29 42 *e*P **P 00 44 26.6 -0.6**
MFF Saint Martin d 91.49 41 *e*P **P 00 44 28.3 +0.1**
MTLF Montolieu 91.53 44 *e*P **P 00 44 28.3 0.0**
RJF Les Rejaudoux 91.94 42 *e*P **P 00 44 30.2 0.0**
DLBC Dease Lake 91.95 333 P **P 00 44 28.8 -1.5**
CAF Calviac 92.12 43 *e*P **P 00 44 31.3 +0.2**
AVF Avril sur Loir 93.74 41 *e*P **P 00 44 38.5 0.0**
VIVF Saint-Julien-l 93.78 44 *e*P **P 00 44 38.7 0.0**
SSF Saint Saulge 93.95 41 *e*P **P 00 44 39.3 -0.2**
SMF Signal de Mont 93.98 42 *e*P **P 00 44 39.5 -0.1**
SMRF Simiane la Rot 94.01 45 *e*P **P 00 44 39.7 -0.1**
LOR Lormes 94.25 41 *e*P **P 00 44 40.7 -0.2**
comp=Z,4.2nm,0.8s,mb4.6
LOR Lormes 94.25 41 *e*P **P 00 44 40.7 -0.2**
LOR pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
LOR Lormes 94.25 41 *e*P **P 00 44 40.7 -0.2**
comp=Z,2.1nm,0.8s,mb4.6
ORIF Oris-en-Rattie 94.59 44 *e*P **P 00 44 42.4 0.0**
SUMG Summit 94.61 9 *e*P **P 00 44 43.9 +1.4**
comp=Z,2.7nm,0.6s,mb4.8
LPL La Plagne 95.37 44 *e*P **P 00 44 45.6 -0.4**
LPG La Plagne 95.38 44 *e*P **P 00 44 45.6 -0.4**
comp=Z,4.1nm,0.8s,mb4.6
LPG La Plagne 95.38 44 *e*P **P 00 44 45.6 -0.4**
LPG pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
LPG La Plagne 95.38 44 *e*P **P 00 44 45.6 -0.4**
comp=Z,2.0nm,0.8s,mb4.6
CABF La Chapelle 95.39 42 *e*P **P 00 44 45.7 -0.4**
comp=Z,6.3nm,0.9s,mb4.7
CABF La Chapelle 95.39 42 *e*P **P 00 44 45.7 -0.4**
CABF pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
CABF La Chapelle 95.39 42 *e*P **P 00 44 45.7 -0.4**
comp=Z,3.2nm,0.9s,mb4.8
PGF Pioggiola 95.78 47 *e*P **P 00 44 47.4 -0.5**
comp=Z,7.9nm,1.0s,mb4.8
PGF Pioggiola 95.78 47 *e*P **P 00 44 47.4 -0.5**
PGF pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
PGF Pioggiola 95.78 47 *e*P **P 00 44 47.4 -0.5**
comp=Z,4.0nm,1.0s,mb4.8
CDF Champ du Feu 96.82 41 *e*P **P 00 44 52.0 -0.6**
NWAO Narrogin (SRO) 127.07 188 PKIKP PKPdf 00 50 20.6 -5.3
ASAR Alice Springs 130.67 210 PKP PKPdf 00 50 32.5 -0.3
comp=Z,1.3nm,0.8s,baz=147,slow=2.4,SNR=8.6
ASAR SKPbc SKPbc 00 54 00.1 +3.7
comp=Z,2.0nm,0.8s,baz=115,slow=3.8,SNR=4.4
ZRNK Zerenda 134.55 33 *e*PKIKP PKPdf 00 50 40.0 0.0
NVS Novosibirsk 139.74 23 *i*PKIKP PKPdf 00 50 51.0 +1.4
ZAL Zalesovo 141.02 23 PKP PKPdf 00 50 48.6 -3.3
comp=Z,1.7nm,0.7s,baz=162,slow=2.8,SNR=6.9
MKAR Makanchi Array 145.10 33 PKPbc PKPbc 00 50 58.6 0.0
comp=Z,7.4nm,0.7s,baz=330,slow=4.2,SNR=71
KSH Kashi 145.18 48 *e*PKP PKPdf 00 51 00.3 +1.0
KSH *e*SKS SKSdf 00 58 05.1 -3.4
KSH LR LR
comp=N,852nm,13.2s,MS6.0
KSH LR LR
comp=E,2μm,17.6s,MS6.0
KSH LR LR
comp=Z,855nm,16.0s,MS5.6
KLR Kul'dur 145.58 334 *e*PKHKP 00 50 55.8
ZAK Zakamensk 149.07 8 *e*PKHKP 00 51 02.1
ZAK pmax pmax
comp=Z,2.0nm,1.3s
ZAK pmax pmax
comp=Z,2.0nm,1.5s
MJAR Matsushiro Arr 149.77 310 PKPbc PKPbc 00 51 11.0 -0.6
comp=Z,6.7nm,1.0s,baz=95,slow=2.2,SNR=22
WMQ Humqi 149.91 32 PKP PKPdf 00 51 06.1 -1.0
MDJ Mudanjiang 150.07 330 PKP PKPdf 00 51 11.8 +4.4
SONM Songino Array 151.90 4 PKP PKPdf 00 51 10.4 +0.2
comp=Z,1.2nm,1.0s,baz=267,slow=0.6,SNR=6.9
SONM PKPbc PKPbc 00 51 16.4 -0.3
comp=Z,3.6nm,0.9s,baz=319,slow=1.4,SNR=21
CN2 Changchun 152.53 334 *e*PKP PKPdf 00 51 12.8 +1.7
HHC Hu-ho-hao-te 158.91 355 *e*PKP PKPdf 00 51 22.3 +2.7
HHC PKP2 PKPab 00 51 57.3 +1.6
HHC LR LR
comp=N,244nm,20.2s,MS5.3
HHC LR LR
comp=E,458nm,23.8s,MS5.3
HHC LR LR
comp=Z,182nm,15.2s
LZH Lanzhou 163.02 16 *e*PKP PKPdf 00 51 26.8 +2.8
LZH LR LR
comp=N,129nm,19.6s
LZH LR LR
comp=Z,265nm,20.4s
NJ2 Nanjing 165.12 327 *e*PKP PKPdf 00 51 29.0 +3.1
NJ2 LR LR
comp=N,110nm,23.0s
NJ2 LR LR
comp=E,240nm,20.5s
CD2 Chengdu 167.79 24 *e*PKP PKPdf 00 51 28.1 +0.1

*IDC **18** 00:44:55.9±0.6, 952S×10790E, h36km±4km, mb4.1/9, mb1 4.2/11, mb1mx4.0/19, mbtmp4.2/11, ML3.9/2, Error ellipse: s-maj=23.4km s-min=13.8km az=46.0*
*BJI **18** 00:44:55.3, 900S×10840E, h14km, mB5.3, mb4.7, Ms4.9, Msz4.7*
*ISCJB **18** 00:44:56.6±0.3, 900S±005×10837E±006, h35km, mb4.6/39, MS4.7/3, Error ellipse: s-maj=9.6km s-min=5.6km az=99.9*
*MOS **18** 00:44:56.6±1.6, 897S×10842E, h33km, mb4.9/12, Error ellipse: s-maj=15.2km s-min=8.4km az=118.2*
*NEIC **18** 00:44:57.4±2.9, 897S×10838E, h25km±20km, mb4.7/19, Error ellipse: s-maj=11.9km s-min=6.6km az=49.0*
ISC 18 00:44:59.1±0.3, 898S±005×10839E±006, h37km, h37km±2.1km:pP-P, n95, σ1s39/82, mb4.6/39, MS4.7/3, 2C-1D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCO	**West Island**	**11.80**	**253**	Pn	**Pn**	**00 47 44.5**	**-0.3**
PSI	**Prapat**	**15.04**	**321**	Pn	**Pn**	**00 48 28.4**	**-0.4**
	0.3nm,0.3s,baz=167,slow=12,SNR=4.6						
KULM	**Kulim**	**16.14**	**331**	Pn	**Pn**	**00 48 42.6**	**-0.5**
MBWA	**Marble Bar**	**16.31**	**139**	Pn	**Pn**	**00 48 45.4**	**+0.2**
KKM	**Kota Kinabalu**	**16.84**	**28**	*e*Pn	**Pn**	**00 48 50.6**	**-1.3**
FITZ	**Fitzroy Crossi**	**19.05**	**120**	*e*P	**Pn**	**00 49 18.8**	**-0.1**
	13nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.05**	**120**	P	**Pn**	**00 49 17.8**	**-1.2**
	0.4nm,0.3s,baz=328,slow=12,SNR=9.4						
KAKA	**Kakadu**	**23.90**	**101**	*e*P	**P**	**00 50 10.9**	**+1.6**
	9.3nm,0.6s,mb4.4						
WRAA	**Warramunga Arr**	**27.34**	**116**	P	**P**	**00 50 38.8**	**-1.6**
	3.2nm,0.6s,mb4.1,baz=286,slow=11,SNR=6.2						
WRAB	**Tennant Creek**	**27.35**	**116**	*e*P	**P**	**00 50 39.4**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.3						
WRAB	**Tennant Creek**	**27.35**	**116**	*e*P	**P**	**00 50 39.4**	**-1.1**
	comp=Z,3.8nm,0.4s,mb4.3						
WB2	**Warramunga Arr**	**27.35**	**116**	*e*P	**P**	**00 50 38.6**	**-1.9**
QIZ	**Qiongzhong**	**27.87**	**3**	P	**P**	**00 50 45.2**	**+0.1**
ASPA	**Alice Springs**	**28.43**	**124**	*e*P	**P**	**00 50 52.8**	**+2.6**
AS31	**Alice Springs**	**28.43**	**124**	*e*P	**P**	**00 50 52.5**	**+2.3**

ASAR Alice Springs 28.43 124 P **P** **00 50 48.6 -1.6**
comp=Z,2.4nm,0.5s,mb4.0,baz=298,slow=9.4,SNR=22
PALK Pallekele 31.97 299 P **P** **00 51 22.7 +1.2**
KMI Kunming 34.34 351 PKP **P** **00 51 35.6 -6.6**
KMI Kunming 34.34 351 P **P** **00 51 44.0 +1.8**
KMI AP pP 00 51 48.8 -3.9
KMI XP sP 00 51 50.9 -6.2
KMI AMB AMB
comp=Z,9.0nm,1.0s,mb4.7
GYA Guiyang 35.27 357⇑ *iP* **P** **00 51 54.0 +3.9**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
DGAR Diego Garcia 35.60 270 P **P** **00 51 53.2 +0.2**
CTAO Charters Tower 38.18 111 *e*P **P** **00 52 17.2 +2.2**
STKA Stephens Creek 38.30 131 P **P** **00 52 13.4 -2.5**
comp=Z,7.2nm,0.5s,mb4.6,baz=305,slow=8.2,SNR=18
STKA Stephens Creek 38.30 131 *e*P **P** **00 52 13.3 -2.6**
NJ2 Nanjing 42.01 13 *e*P **P** **00 52 45.9 -0.8**
NJ2 AP pP 00 52 55.8 -1.6
NJ2 XP sP 00 52 59.4 -2.4
NJ2 PP PP 00 54 26.0 +1.8
NJ2 S **S** **00 59 02.0 -1.0**
NJ2 XS sS 00 59 18.0 -2.7
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
NJ2 AMB AMB
comp=Z,160nm,4.7s
NJ2 LR LR
comp=N,3μm,18.0s,MS5.2
NJ2 LR LR
comp=E,610nm,18.1s,MS5.2
NJ2 LR LR
comp=Z,1μm,18.4s,MS4.7
JIRN Jiri 42.30 330 *e*P **P** **00 52 49.3 +0.3**
PKI Pulchoki 42.61 329 *e*P **P** **00 52 50.8 -0.8**
GUN Gumba 42.66 330 *e*P **P** **00 52 51.8 -0.1**
comp=Z,42nm,0.7s,mb5.3
XAN Xi'an 42.78 1 P **P** **00 52 55.1 +2.1**
XAN AP pP 00 53 05.3 +1.6
XAN AMB AMB
comp=Z,8.0nm,1.1s,mb4.4
DMN Daman 42.80 329 *e*P **P** **00 52 52.7 -0.4**
comp=Z,23nm,0.7s,mb5.0
KKN Kakani 42.86 329 *e*P **P** **00 52 53.1 -0.5**
comp=Z,35nm,0.8s,mb5.1
KKN Kakani 42.86 329 *e*P **P** **00 52 53.1 -0.5**
KKN pmax pmax
comp=Z,35nm,0.8s,mb5.1
GKN Gorkha 43.36 329 *e*P **P** **00 52 57.0 -0.6**
comp=Z,20nm,0.7s,mb4.9
KOLN Koldanda 43.71 327 *e*P **P** **00 52 59.9 -0.6**
comp=Z,29nm,0.8s,mb5.1
LZH Lanzhou 45.03 355 *e*P **P** **00 53 16.0 +5.0**
LZH AP pP 00 53 21.8 0.0
LZH XP sP 00 53 25.6 -0.6
LZH AMB AMB
comp=Z,26nm,1.2s,mb4.9
TAU Tasmania Unive 47.94 142 P **P** **00 53 35.2 +1.4**
GTA Gaotai 48.80 351 *e*P **P** **00 53 43.3 +2.9**
GTA AP pP 00 53 50.8 -0.5
GTA XP sP 00 53 54.8 -0.9
GTA AMB AMB
comp=Z,3.0nm,1.0s,mb4.3
BJT Baijiatuau 49.28 8 P **P** **00 53 46.1 +2.0**
BJT pmax pmax
comp=Z,5.0nm,0.6s
BJT Baijiatuau 49.28 8 P **P** **00 53 46.1 +2.0**
comp=Z,5.4nm,0.6s,mb4.8
HHC Hu-ho-hao-te 49.67 3 *e*P **P** **00 53 50.4 +3.3**
HHC AP pP 00 53 55.3 -2.7
HHC XP sP 00 53 59.3 -3.0
HHC PP PP 00 55 47.8 +6.1
HHC PCS PcS 00 59 04.1 -0.6
HHC S **S** **01 01 00.6 +7.5**
HHC XS sS 01 01 08.9 -2.2
HHC AMB AMB
comp=Z,9.0nm,0.6s,mb5.0
HHC LR LR
comp=N,390nm,14.3s,MS4.7
HHC LR LR
comp=E,417nm,13.1s,MS4.7
HHC LR LR
comp=Z,617nm,15.5s,MS4.7
MJAR Matsushiro Arr 53.25 30 P **P** **00 54 14.6 +0.7**
comp=Z,3.2nm,0.8s,mb4.3,baz=209,slow=7.9,SNR=6.2
MJAR pP pP 00 54 25.5 +0.6
comp=Z,4.6nm,0.9s,baz=205,slow=7.5,SNR=5.4
MJAR Matsushiro Arr 53.25 30 P **P** **00 54 14.6 +0.7**
MJAR pP pP 00 54 25.5 +0.6
WMQ Urumqi 55.81 342 P **P** **00 54 35.4 +2.9**
WMQ PP PP 00 56 41.4 +4.2
WMQ AMB AMB
comp=Z,14nm,1.9s,mb4.7
WMQ AMB AMB
comp=Z,97nm,5.4s
WMQ LR LR
comp=N,220nm,17.9s,MS4.4
WMQ LR LR
comp=E,165nm,16.8s,MS4.4
WMQ LR LR
comp=Z,221nm,18.4s,MS4.3
SONM Songino Array 56.59 358 P **P** **00 54 39.9 +1.8**
comp=Z,4.8nm,0.7s,mb4.6,baz=175,slow=8.0,SNR=20
SONM pP pP 00 54 50.9 +1.9
comp=Z,3.1nm,0.5s,baz=178,slow=8.9,SNR=12
ULN Ulaanbaatar 56.61 359 *e*P **P** **00 54 40.4 +2.3**
ULN *e**PP pP 00 54 50.6 +1.4
ULN pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
ULN Ulaanbaatar 56.61 359 *e*P **P** **00 54 40.4 +2.2**
comp=Z,7.6nm,0.7s,mb4.8
ULN *e*pP pP 00 54 50.6 +1.4
MDJ Mudanjiang 56.69 18 P **P** **00 54 39.9 +1.2**
MDJ AMB AMB
comp=Z,3.0nm,0.4s,mb4.7
CASY Casey 57.23 179 *e*P **P** **00 54 43.2 +0.7**
comp=Z,0.4nm,0.2s,mb4.1
HIA Hailar 58.85 9 P **P** **00 54 53.0 -0.9**
AAK Ala-Archa 59.97 332 *e*P **P** **00 55 03.0 +1.4**
AAK pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
AAK Ala-Archa 59.97 332 *e*P **P** **00 55 03.0 +1.4**
comp=Z,1.3nm,0.3s,mb4.4
MKAR Makanchi Array 60.21 340 P **P** **00 55 02.9 -0.4**
comp=Z,3.8nm,0.6s,mb4.6,baz=144,slow=7.5,SNR=30
MKAR pP pP 00 55 13.8 -0.6
comp=Z,11nm,0.7s,baz=141,slow=7.8,SNR=19
KLR Kul'dur 61.48 17 *e*P **P** **00 55 10.0 -1.9**
YSS Yuzh-Sakhalins 63.53 26 *e*P **P** **00 55 28.1 +2.5**
YSS *e**PP pP 00 55 38.4 +1.6
YSS pmax pmax
comp=Z,7.0nm,0.4s,mb5.0
YSS Yuzh-Sakhalins 63.53 26 *e*P **P** **00 55 28.1 +2.5**
comp=Z,7.0nm,0.4s,mb5.0
YSS *e*pP pP 00 55 38.4 +1.6
KURK Kurchatov 64.82 340 *e*P **P** **00 55 33.6 -0.5**
KURK *e**PP pP 00 55 46.0 +0.7
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
KURK Kurchatov 64.82 340 *e*P **P** **00 55 33.6 -0.5**
comp=Z,4.5nm,0.8s,mb4.5
KURK *e*pP pP 00 55 46.0 +0.7
BOD Bodaibo 66.72 3 *e*P **P** **00 55 45.7 -0.6**
BOD *e* pP 00 55 55.3 -2.3
BOD pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BRVK Borovoye 69.79 337 *e*P **P** **00 56 04.7 -0.8**
BRVK *e**PP pP 00 56 16.7 -0.1
CHKZ Chkalovo 70.13 337 *e*P **P** **00 56 06.7 -0.9**
CHKZ *e**PP pP 00 56 18.3 -0.6
CHKZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
CHKZ Chkalovo 70.13 337 *e*P **P** **00 56 06.7 -0.9**
comp=Z,5.2nm,0.6s,mb4.6
CHKZ *e*pP pP 00 56 18.3 -0.6
ZRNK Zerenda 70.21 336 *e*P **P** **00 56 06.8 -1.3**
ZRNK *e**PP pP 00 56 21.2 +1.8
ZRNK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ZRNK Zerenda 70.21 336 *e*P **P** **00 56 06.8 -1.3**
comp=Z,3.3nm,0.6s,mb4.4
ZRNK *e*pP pP 00 56 21.1 +1.7
KMBO Kilima Mbogo 71.20 272 P **P** **00 56 08.6 -5.5**
comp=Z,0.7nm,0.6s,mb3.8,baz=142,slow=17,SNR=2.4
KMBO pP pP 00 56 19.6 -5.8
comp=Z,1.6nm,0.9s,baz=46,slow=11,SNR=3.4
RAO Raoul Island 71.47 118 *e*P **P** **00 56 15.3 -0.4**
RAO pmax pmax
comp=Z,204nm,0.3s
RAO Raoul Island 71.47 118 *e*P **P** **00 56 15.3 -0.5**
comp=Z,204nm,0.3s
YAK Yakutsk 72.71 10 *e*P pP 00 56 33.3 -1.2
YAK pmax pmax
comp=Z,15nm,0.8s,mb5.0
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.1s
AKTK Aktyubinsk 73.52 329 P **P** **00 56 26.3 -1.6**
AKTO Aktyubinsk 73.52 329 P **P** **00 56 26.3 -1.6**
comp=E,0.5nm,0.5s,mb3.8,baz=112,slow=5.4,SNR=3.2
VNDA Vanda 73.78 170 *e*P **P** **00 56 28.1 -1.4**
VNDA *e**PP pP 00 56 40.4 -0.5
VNDA pmax pmax
comp=Z,1.0nm,0.5s
VNDA Vanda 73.78 170 *e*P **P** **00 56 28.1 -1.4**
comp=Z,0.5nm,0.5s,mb3.7
VNDA *e*pP pP 00 56 40.4 -0.4
SYO Syowa Base 74.13 200‖ *e*pP pP 00 56 34.0 -8.9
MA2 Magadan 76.23 21 *e*P **P** **00 56 43.1 -0.5**
MA2 *e**PP pP 00 56 55.2 +0.1
ARU Arti 76.99 334 *e*P **P** **00 56 46.8 -1.1**
ARU Arti 76.99 334 *e*P **P** **00 56 46.8 -1.2**
KIV Kislovodsk 79.27 318 *e*P **P** **00 56 59.5 -1.0**
KIV *e* pP 00 57 09.6 -2.4
KIV pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
KIV Kislovodsk 79.27 318 *e*P **P** **00 56 59.5 -1.0**
comp=Z,2.7nm,0.4s,mb4.5
KIV *e*PcP PcP 00 57 09.6 +1.0
LBTB Lobatse 79.77 246 *e*P **P** **00 57 05.7 +2.5**
MALT Malatya 80.18 311 P **P** **00 57 07.6 +2.1**
TIXI Tiksi 81.60 6 *e*P **P** **00 57 11.6 -1.5**
TIXI pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BR131 Keskin Array S 84.17 312 *e*P **P** **00 57 27.3 +1.0**
comp=Z,0.8nm,0.6s,mb4.0
BRTR Keskin Array B 84.17 312 P **P** **00 57 23.4 -2.9**
comp=Z,1.2nm,0.7s,mb4.1,baz=138,slow=7.4,SNR=8.9
BRTR pP pP 00 57 33.8 -4.1
comp=Z,1.8nm,0.7s,baz=138,slow=6.2,SNR=9.5
OBN Obninsk 87.13 327 *ce*P pP 00 57 50.4 -2.2
OBN pmax pmax
comp=Z,13nm,1.1s,mb5.1
WMOK Wichita Mounta 144.27 40 *e*PKIKP PKPdf 01 04 30.9 -0.1
WMOK *e* 01 04 41.7
LONY Lake Ozonia 144.40 4 *e*PKPdf PKPdf 01 04 29.5 -1.7
CCM Cathedral Cave 146.07 28 *e*PKP2 PKPab 01 04 35.7 +0.1
JCT Junction City 146.09 47 *e*PKP PKPdf 01 04 36.1 +2.0
JCT *ep*PKPdf pPKPdf 01 04 47.2 +1.1
BDFB Brasilia 146.17 224 pPKPbc pPKPbc 01 04 41.4 -5.8
comp=Z,6.4nm,0.9s,baz=85,slow=2.1,SNR=6.0
BINY Binghamton 146.69 6 *e*PKPdf PKPdf 01 04 36.9 +1.7
BINY *ep*PKPdf pPKPdf 01 04 47.0 -0.1
MIAR Mount Ida 147.54 35 *e*PKP2 PKPab 01 04 39.8 -1.6
SSPA Standing Stone 147.99 9 *e*PKPdf PKPdf 01 04 38.4 +1.1
SSPA *ep*PKPdf pPKPdf 01 04 51.0 +1.7
WVT Waverly 149.20 26 *e*PKP2 PKPbc 01 04 43.5 0.0
PLAL Pickwick Lake 150.05 28 *e*PKP PKPbc 01 04 44.9 -0.7
PLAL *e* 01 04 56.5
CPCT Cooper Cave 151.13 22 *e*PKPbc PKPbc 01 04 48.8 +0.7
CPCT *e* 01 04 57.9
LPAZ La Paz 154.66 188 PKPbc PKPbc 01 04 54.9 -1.1
comp=Z,0.6nm,0.7s,baz=168,slow=2.4,SNR=3.7
LPAZ pPKPbc pPKPbc 01 05 06.4 -1.5
comp=Z,0.9nm,0.7s,baz=210,slow=4.6,SNR=4.5

*ISCJB **18** 00:52:53.3±0.7, 97.5S±0.1×108.4E±0.1, h44km, mb4.0/12, Error ellipse: s-maj=24.0km s-min=8.2km az=102.6*
*NEIC **18** 00:52:54.3±2.0, 9.70S×108.37E, h36km±18km, mb4.3/5, Error ellipse: s-maj=22.0km s-min=7.3km az=53.0*
*IDC **18** 00:52:55.0±1.4, 9.73S×108.33E, h47km±11km, mb3.6/8, mb1 3.7/9, mb1mx3.6/16, mbtmp3.8/9, ML3.7/1, Error ellipse: s-maj=52.9km s-min=17.2km az=49.0*
ISC 18 00:52:55.5±0.7, 97.5S±01×108.4E±01, h46km, h46km±3.4km:pP-P, n21, σ0.9s87/20, mb4.0/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**15.79**	**138**	*e*Pn	**Pn**	**00 56 33.9**	**-0.7**
	2.1nm,0.4s						
KULM	**Kulim**	**16.76**	**332**	Pn	**Pn**	**00 56 46.9**	**0.0**
KKM	**Kota Kinabalu**	**17.48**	**27**	*e*Pn	**Pn**	**00 56 55.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**18.71**	**118**	P	**Pn**	**00 57 10.1**	**-0.7**
	0.2nm,0.3s,baz=358,slow=10,SNR=9.2						
FITZ				S	S	01 00 19.1	-21
	0.2nm,0.3s,baz=147,slow=17,SNR=3.9						
WRA	**Warramunga Arr**	**27.05**	**115**	P	**P**	**00 58 33.7**	**+0.3**
	1.5nm,0.9s,mb3.5,baz=290,slow=10.0,SNR=4.1						
WRA				pP	pP	00 58 45.0	-0.5
	3.7nm,0.7s,baz=287,slow=11,SNR=9.8						
WRAB	**Tennant Creek**	**27.05**	**115**	*e*P	**P**	**00 58 33.5**	**0.0**
	7.5nm,0.8s,mb4.3						
WB2	**Warramunga Arr**	**27.06**	**115**	P	**P**	**00 58 34.8**	**+1.3**
ASAR	**Alice Springs**	**28.05**	**123**	P	**P**	**00 58 43.1**	**+0.7**
	0.6nm,0.8s,mb3.3,baz=306,slow=8.0,SNR=3.4						
ASAR				pP	pP	00 58 55.6	+1.0
	1.0nm,0.7s,baz=301,slow=8.8,SNR=5.0						
ASAR				Sn	S	01 04 05.2	+41
	2.1nm,0.9s,baz=302,slow=24,SNR=5.5						
QIZ	**Qiongzhong**	**28.58**	**3**	*e*P	**P**	**00 58 47.0**	**-0.1**
STKA	**Stephens Creek**	**37.85**	**131**	P	**P**	**01 00 06.4**	**-1.3**
	3.0nm,0.8s,mb4.1,baz=230,slow=8.1,SNR=4.3						
STKA				pP	pP	01 00 20.1	0.0
	3.1nm,0.7s,baz=302,slow=9.9,SNR=3.3						
CTA	**Charters Tower**	**37.95**	**110**	pP	pP	01 00 21.4	+0.5
	5.5nm,0.8s,baz=264,slow=10,SNR=2.8						
HNR	**Honiara**	**50.81**	**94**	*e*P	**P**	**01 01 52.3**	**+1.1**
MJAR	**Matsushiro Arr**	**53.87**	**30**	P	**P**	**01 02 13.4**	**-0.5**
	0.5nm,0.4s,mb3.8,baz=211,slow=8.1,SNR=4.2						
SONM	**Songino Array**	**57.30**	**358**	P	**P**	**01 02 39.5**	**+1.0**
	0.7nm,0.6s,mb3.9,baz=173,slow=8.4,SNR=6.6						
MKAR	**Makanchi Array**	**60.87**	**340**	P	**P**	**01 03 02.0**	**-1.2**
	2.5nm,0.7s,mb4.5,baz=145,slow=6.4,SNR=18						
KURK	**Kurchatov**	**65.48**	**340**	*e*P	**P**	**01 03 35.0**	**+1.2**
	4.6nm,1.2s,mb4.4						
ZAL	**Zalesovo**	**66.46**	**345**	P	**P**	**01 03 39.4**	**-0.7**
	0.8nm,0.5s,mb4.0,baz=329,slow=5.9,SNR=2.1						
BRVK	**Borovoye**	**70.43**	**337**	P	**P**	**01 04 06.6**	**+1.7**
CHKZ	**Chkalovo**	**70.78**	**337**	*e*P	**P**	**01 04 05.8**	**-1.2**
	2.8nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**70.86**	**336**	*e*P	**P**	**01 04 07.0**	**-0.5**
	2.3nm,0.8s,mb4.2						
ZRNK				*ep*P	pP	01 04 18.0	-2.8
BRTR	**Keskin Array B**	**84.63**	**312**	P	**P**	**01 05 24.3**	**+0.2**
	0.3nm,0.6s,mb3.6,baz=94,slow=4.3,SNR=2.8						

IDC 18 01:03:57.6±3.0, 996S×10827E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/16, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=128.5km s-min=21.1km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.68**	**118**	P	Pn	01 08 18.1	+0.6
	0.2nm,0.3s,baz=315,slow=17,SNR=6.2						
WRA	**Warramunga Arr**	**27.03**	**115**	P	P	01 09 41.3	-0.1
	1.7nm,0.9s,baz=285,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**28.00**	**122**	P	P	01 09 50.6	+0.5
	0.7nm,0.7s,baz=294,slow=9.4,SNR=5.6						
STKA	**Stephens Creek**	**37.76**	**130**	P	P	01 11 15.5	+0.3
	1.9nm,0.8s,baz=321,slow=13,SNR=3.1						
SONM	**Songino Array**	**57.56**	**359**	P	P	01 13 49.2	+0.2
	0.6nm,0.6s,baz=178,slow=8.0,SNR=6.1						
MKAR	**Makanchi Array**	**61.08**	**340**	P	P	01 14 13.3	0.0
	0.5nm,0.6s,baz=153,slow=8.2,SNR=5.4						

*NEIC **18** 01:08:24.3±0.3, 9.71S×108.29E, h10km, mb4.8/12, Error ellipse: s-maj=10.9km s-min=7.3km az=46.0*
*BJI **18** 01:08:24.2, 9.70S×108.30E, h10km, mB5.1, mb4.8, Ms4.9, Msz4.6*
*ISCJB **18** 01:08:26.4±0.3, 9.47S±006×10861E±008, h36km, mb4.5/39, MS4.5/2, Error ellipse: s-maj=12.8km s-min=7.4km az=115.2*
*MOS **18** 01:08:26.5±0.8, 9.18S×108.85E, h33km, mb4.8/12, Error ellipse: s-maj=19.2km s-min=9.4km az=114.9*
*IDC **18** 01:08:28.1±0.5, 9.31S×108.73E, h36km±3km, mb4.1/13, mb1 4.1/14, mb1mx4.1/17, mbtmp4.3/14, ML3.5/1, Error ellipse: s-maj=19.1km s-min=10.8km az=57.0*
ISC 18 01:08:28.5±0.3, 9.68S±006×108.34E±007, h37km, h37km±1.5km:pP-P, n87, σ1.9s51/81, mb4.5/39, MS4.5/2, 5C-3D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSM	**Kuching**	**11.25**	**10**	*e*Pn	**Pn**	**01 11 06.6**	**-0.2**
COCO	**West Island**	**11.57**	**257**	Pn	**Pn**	**01 11 08.8**	**-2.4**
KKM	**Kota Kinabalu**	**17.48**	**27**	*e*Pn	**Pn**	**01 12 31.8**	**+2.5**
FITZ	**Fitzroy Crossi**	**18.75**	**118**	P	**Pn**	**01 12 42.6**	**-2.3**
	0.1nm,0.3s,baz=310,slow=17,SNR=4.3						
FITZ				S	**S**	**01 15 54.7**	**-21**
	0.1nm,0.3s,baz=323,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**27.08**	**115**	P	**P**	**01 14 06.2**	**-1.4**
	3.4nm,0.7s,mb4.0,baz=288,slow=11,SNR=9.5						
WRA				pP	pP	01 14 16.9	-1.2
	11nm,1.0s,baz=288,slow=11,SNR=11						
WRAB	**Tennant Creek**	**27.09**	**115**	*e*P	**P**	**01 14 08.2**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.5						
WRAB	**Tennant Creek**	**27.09**	**115**	*e*P	**P**	**01 14 08.2**	**+0.6**
	comp=Z,7.3nm,0.5s,mb4.5						
ASAR	**Alice Springs**	**28.09**	**123**	P	**P**	**01 14 15.0**	**-1.6**
	comp=Z,0.8nm,0.7s,mb3.5,baz=301,slow=7.6,SNR=9.6						
ASAR				pP	pP	01 14 25.4	-1.6
	comp=Z,2.9nm,0.8s,baz=297,slow=8.5,SNR=10						
ASAR				PcP	PcP	01 17 31.4	+1.1
	comp=Z,0.9nm,0.7s,baz=309,slow=2.0,SNR=7.0						
ASAR				pPcP		01 17 42.8	
	comp=Z,2.0nm,0.8s,baz=320,slow=2.3,SNR=9.5						
ASAR	**Alice Springs**	**28.09**	**123**	P	**P**	**01 14 15.0**	**-1.6**
ASAR				*pP	pP	01 14 25.5	-1.6
ASAR						01 17 31.5	
QIZ	**Qiongzhong**	**28.56**	**3**	*e*P	**P**	**01 14 21.3**	**+0.5**
CM31	**Chiang Mai Arr**	**29.46**	**342**	*e*P	**P**	**01 14 31.0**	**+2.3**
KMI	**Kunming**	**35.02**	**351**	P	**P**	**01 15 23.3**	**+5.9**
KMI				AP	pP	01 15 27.8	-0.3
KMI				XP	sP	01 15 30.3	-2.2
KMI				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
DGAR	**Diego Garcia**	**35.55**	**271**	P	**P**	**01 15 21.8**	**-0.2**
NACB	**Ninganchiao**	**36.05**	**21**	P	**P**	**01 15 29.0**	**+2.7**
YHNB	**Yeheng**	**36.43**	**20**	*e*P	**P**	**01 15 31.4**	**+1.9**
STKA	**Stephens Creek**	**37.88**	**131**	P	**P**	**01 15 41.5**	**-0.4**
	comp=Z,10nm,0.7s,mb4.7,baz=294,slow=7.2,SNR=22						
STKA				pP	pP	01 15 52.8	+0.3
	comp=Z,13nm,0.6s,baz=310,slow=8.8,SNR=14						
STKA	**Stephens Creek**	**37.88**	**131**	*e*P	**P**	**01 15 41.7**	**-0.1**
STKA				*e*	pP	01 15 52.5	-0.1
CTA	**Charters Tower**	**37.99**	**110**	pP	pP	01 15 53.4	0.0
	comp=Z,3.2nm,0.6s,baz=286,slow=17,SNR=2.1						
JOW	**Kunigami**	**41.13**	**28**	P	**P**	**01 16 04.8**	**-4.1**
	comp=Z,9.0nm,0.8s,mb4.5,baz=184,slow=14,SNR=3.7						
JOW				pP	pP	01 16 16.0	-3.7
	comp=Z,19nm,0.7s,baz=201,slow=4.8,SNR=8.0						
JIRN	**Jiri**	**42.87**	**331**	*e*P	**P**	**01 16 23.2**	**+0.1**
PKI	**Pulchoki**	**43.18**	**330**	*e*P	**P**	**01 16 25.4**	**-0.3**
GUN	**Gumba**	**43.23**	**330**	*e*P	**P**	**01 16 25.3**	**-0.8**
	comp=Z,19nm,0.5s,mb5.1						
DMN	**Daman**	**43.37**	**329**	*e*P	**P**	**01 16 26.9**	**-0.2**
KKN	**Kakani**	**43.43**	**330**	*e*P	**P**	**01 16 27.0**	**-0.6**
GKN	**Gorkha**	**43.93**	**329**	*e*P	**P**	**01 16 31.3**	**-0.3**
	comp=Z,40nm,1.0s,mb5.1						
KOLN	**Koldanda**	**44.27**	**328**	*e*P	**P**	**01 16 34.1**	**-0.3**
	comp=Z,41nm,0.8s,mb5.2						
LZH	**Lanzhou**	**45.72**	**355**	*e*P	**P**	**01 16 50.6**	**+4.7**
LZH				PP	PP	01 18 38.8	+5.5
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb5.0						
GTA	**Gaotai**	**49.48**	**351**	*e*P	**P**	**01 17 14.8**	**-0.3**
GTA				AP	pP	01 17 24.9	-1.1
GTA				XP	sP	01 17 30.5	+0.1
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.4						
BJI	**Beijing**	**49.99**	**8**	P	**P**	**01 17 25.8**	**+6.8**
BJI				AMB	AMB		
	comp=Z,16nm,1.1s,mb5.0						
HHC	**Hu-ho-hao-te**	**50.36**	**3**	*e*P	**P**	**01 17 25.3**	**+3.5**
HHC				AP	pP	01 17 30.3	-2.5
HHC				XP	sP	01 17 34.0	-3.2
HHC				PCP	PcP	01 18 43.8	+3.8
HHC				PP	PP	01 19 19.4	+1.9
HHC				S	**S**	**01 24 33.4**	**+1.2**
HHC				XS	sS	01 24 45.3	-5.1
HHC				SS	SS	01 28 07.5	+1.4
HHC				AMB	AMB		
	comp=Z,17nm,0.5s,mb5.3						
HHC				AMB	AMB		
	comp=Z,135nm,6.4s						
HHC				LR	LR		
	comp=N,315nm,11.9s						
HHC				LR	LR		
	comp=E,388nm,19.0s						
HHC				LR	LR		
	comp=Z,177nm,14.3s,MS4.2						
MAJO	**Matsushiro**	**53.87**	**30**	P	**P**	**01 17 49.9**	**+2.0**
MJAR	**Matsushiro Arr**	**53.87**	**30**	P	**P**	**01 17 42.5**	**-5.4**
	comp=Z,1.4nm,0.6s,mb4.0,baz=188,slow=7.4,SNR=4.1						
MJAR				pP	pP	01 17 53.0	-5.9
	comp=Z,3.4nm,0.7s,baz=205,slow=7.3,SNR=5.0						
MJAR	**Matsushiro Arr**	**53.87**	**30**	P	**P**	**01 17 42.5**	**-5.4**
MJAR				pP	pP	01 17 53.0	-5.9
WMQ	**Urumqi**	**56.46**	**342**	P	**P**	**01 18 09.4**	**+2.9**
WMQ				AP	pP	01 18 14.0	-3.6
WMQ				XP	sP	01 18 16.4	-5.6
WMQ				PCP	PcP	01 19 06.3	+3.2
WMQ				PP	PP	01 20 16.5	+4.1
WMQ				S	**S**	**01 25 57.9**	**+3.0**
WMQ				AMB	AMB		
	comp=Z,21nm,1.2s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,141nm,5.0s						
WMQ				LR	LR		
	comp=N,671nm,17.6s,MS4.9						
WMQ				LR	LR		
	comp=E,503nm,16.5s,MS4.9						
WMQ				LR	LR		
	comp=Z,671nm,18.1s,MS4.8						
SONM	**Songino Array**	**57.28**	**358**	P	**P**	**01 18 10.6**	**-1.8**
	comp=Z,1.6nm,0.5s,mb4.3,baz=178,slow=8.6,SNR=23						
SONM				pP	pP	01 18 20.8	-2.7
	comp=Z,5.1nm,0.7s,baz=179,slow=8.2,SNR=21						
ULN	**Ulaanbaatar**	**57.30**	**359**	*e*P	**P**	**01 18 10.9**	**-1.6**
ULN				*e*	pP	01 18 20.2	-3.4
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ULN	**Ulaanbaatar**	**57.30**	**359**	*e*P	**P**	**01 18 10.8**	**-1.6**
	comp=Z,1.0nm,0.4s,mb4.2						
ULN				*e*	pP	01 18 20.2	-3.4
MDJ	**Mudanjiang**	**57.36**	**18**	P	**P**	**01 18 15.6**	**+2.7**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,100nm,6.6s						
ZAK	**Zakamensk**	**59.97**	**356**	*e*P	**P**	**01 18 28.8**	**-2.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb4.0						
AAK	**Ala-Archa**	**60.56**	**332**⇑	*e*P	**P**	**01 18 34.0**	**-1.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.3						
MKAR	**Makanchi Array**	**60.84**	**340**	P	**P**	**01 18 36.0**	**-1.1**
	comp=Z,4.4nm,0.5s,mb4.8,baz=146,slow=7.5,SNR=39						
MKAR				pP	pP	01 18 46.7	-1.5
	comp=Z,12nm,0.7s,baz=132,slow=7.3,SNR=25						
MKAR	**Makanchi Array**	**60.84**	**340**⇑	*e*P	**P**	**01 18 36.0**	**-1.0**
MKAR	**Makanchi Array**	**60.84**	**340**	P	**P**	**01 18 36.0**	**-1.1**
MKAR				pP	pP	01 18 46.7	-1.6
KLR	**Kul'dur**	**62.16**	**17**	*e*P	**P**	**01 18 49.4**	**+3.5**
YSS	**Yuzh-Sakhalins**	**64.18**	**25**⇑	*e*P	**P**	**01 18 55.7**	**-3.6**
YSS				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
MAW	**Mawson**	**65.21**	**198**	P	**P**	**01 19 07.0**	**+1.0**
	comp=Z,1.8nm,0.8s,mb4.2,baz=7.8,slow=12,SNR=3.6						
KURK	**Kurchatov**	**65.45**	**340**	*e*P	**P**	**01 19 06.7**	**

comp=Z,1.6nm,0.3s,mb4.5,baz=337,slow=6.0,SNR=4.2
ZAL pP pP 01 19 21.8 -3.4
comp=Z,1.9nm,0.5s,baz=323,slow=4.1,SNR=3.6
BOD Bodaibo 67.42 3 *e*P **P 01 19 16.7 -3.5**
BOD *e* pP 01 19 27.7 -3.8
BOD pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BRVK Borovoye 70.40 337 *e*P **P 01 19 39.1 +0.4**
BRVK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BRVK Borovoye 70.40 337 *e*P **P 01 19 39.1 +0.4**
comp=Z,1.6nm,0.7s,mb4.1
CHKZ Chkalovo 70.75 337 *e*P **P 01 19 39.8 -1.0**
CHKZ *e* pP 01 19 50.2 -2.0
CHKZ pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CHKZ Chkalovo 70.75 337 *e*P **P 01 19 39.8 -1.0**
comp=Z,9.6nm,0.7s,mb4.8
CHKZ *e* pP 01 19 50.2 -2.0
ZRNK Zerenda 70.83 336 *e*P **P 01 19 40.2 -1.1**
ZRNK *e* pP 01 19 50.9 -1.8
ZRNK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ZRNK Zerenda 70.83 336 *e*P **P 01 19 40.2 -1.1**
comp=Z,9.2nm,0.9s,mb4.7
ZRNK *e* pP 01 19 50.9 -1.8
KMBO Kilima Mbogo 71.17 272 P **P 01 19 46.3 +2.9**
comp=Z,1.5nm,0.8s,mb4.0,baz=112,slow=11,SNR=3.3
VNDA Vanda 73.11 169 P **P 01 19 55.6 +0.6**
comp=Z,2.0nm,0.9s,mb4.0,baz=302,slow=6.3,SNR=9.0
YAK Yakutsk 73.40 10⇑ *e*P **P 01 19 53.5 -3.2**
YAK pmax pmax
comp=Z,12nm,0.6s,mb5.0
SBA Scott Base 74.18 169 *e*P **P 01 20 03.2 +2.0**
SBA *e* pP 01 20 14.6 +1.9
SBA pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
SBA Scott Base 74.18 169 *e*P **P 01 20 03.2 +2.0**
comp=Z,2.0nm,0.7s,mb4.2
SBA *e*PcP PcP 01 20 14.6 -1.5
GNI Garni 76.78 315 *e*P **P 01 20 16.4 +0.3**
GNI *e* pP 01 20 28.2 +0.6
MA2 Magadan 76.90 21 *e*P **P 01 20 18.3 +1.5**
ARU Arti 77.60 334 *e*P **P 01 20 19.2 -1.5**
ARU Arti 77.60 334 P **P 01 20 20.1 -0.6**
KIV Kislovodsk 79.75 318⇑ *e*P **P 01 20 33.6 +1.0**
KIV pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
KIV Kislovodsk 79.75 318 *e*P **P 01 20 31.9 -0.6**
MALT Malatya 80.61 312 *e*P **P 01 20 38.7 +1.5**
MALT *e* 01 20 44.0
TIXI Tiksi 82.30 6⇓ *e*P **P 01 20 42.9 -3.2**
TIXI pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BR131 Keskin Array S 84.59 312 *e*P **P 01 20 59.3 +1.4**
comp=Z,1.7nm,0.7s,mb4.3
BRTR Keskin Array B 84.59 312 P **P 01 20 58.4 +0.5**
comp=Z,2.8nm,0.9s,mb4.4,baz=132,slow=5.5,SNR=14
BRTR pP pP 01 21 09.6 0.0
comp=Z,2.8nm,1.0s,baz=136,slow=6.4,SNR=7.3
SNAA Sanae 87.38 197 *e*P **P 01 21 14.7 +3.0**
SNAA *e* 01 21 16.9
SNAA *e* 01 21 28.9
SNAA Sanae 87.38 197 *d*iP **P 01 21 14.7 +3.0**
SNAA Sanae 87.38 197 *e*P **P 01 21 14.7 +3.0**
comp=Z,2.7nm,0.9s,mb4.5
OBN Obninsk 87.68 327 *de*P **P 01 21 13.1 -0.1**
OBN *e* 01 24 35.9
OBN pmax pmax
comp=Z,9.0nm,1.2s,mb4.9
OBN Obninsk 87.68 327 *e*P **P 01 21 13.2 +0.1**
VNA1 Neumayer--Stat 89.41 197 *e*P **P 01 21 23.3 +2.0**
VNA1 *e* 01 21 25.0
VNA1 *e* pP 01 21 37.1 +4.1
AKASG Malin Array Be 90.60 321 P **P 01 21 26.8 -0.1**
comp=Z,0.5nm,0.5s,mb4.1,baz=88,slow=4.4,SNR=3.6
AKASG Malin Array Be 90.60 321 P **P 01 21 26.8 -0.1**
CPUP Villa Florida 141.59 201 PKP PKPdf 01 27 57.4 +1.7
comp=Z,0.2nm,0.4s,baz=83,slow=4.8,SNR=4.8
CPUP Villa Florida 141.59 201 PKP PKPdf 01 27 57.4 +1.7
WMOK Wichita Mounta 144.83 41 *e*PKIKP PKPdf 01 27 59.9 -1.5
WMOK *e* 01 28 11.3
NCB Newcomb 145.76 3 *e*PKP PKPdf 01 28 03.0 0.0
JCT Junction City 146.60 48 *e*PKP2 PKPab 01 28 06.1 -1.0
ACSO Alum Creek Sta 147.95 16 *e*PKPdf PKPdf 01 28 06.9 +0.3
PLAL Pickwick Lake 150.68 28 *e*PKPdf PKPdf 01 28 13.8 +2.7
PLAL *e*PKPab PKPab 01 28 26.5 +3.0
LPAZ La Paz 153.97 188 PKPbc PKPbc 01 28 27.5 +3.6
comp=Z,0.8nm,0.9s,baz=154,slow=6.3,SNR=4.6
LPAZ pPKPbc pPKPbc 01 28 38.5 +2.6
comp=Z,0.8nm,0.8s,baz=212,slow=2.2,SNR=3.1

*ISCJB **18** 01:10:06.1±1.0,430N±0.1×0.18W±004,h11km±9km, Error ellipse: s-maj=18.1km s-min=5.2km az=169.0*
*LDG **18** 01:10:06.3±0.2,4287N×0.14W,h2km, Md1.8/2, Error ellipse: s-maj=8.6km s-min=0.9km az=169.0*
*CSEM **18** 01:10:06.7±0.1,4302N×0.18W,h2km, ML2.0, Error ellipse: s-maj=4.6km s-min=1.2km az=175.0*
*STR **18** 01:10:06.1±0.1,4315N×0.18W,h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 18 01:10:06.6±0.9, 430N±01×018W±004, h9km±10km, n7, σ0§19/13, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	**0.16**	**286**	Pg	**Pg**	**01 10 09.7**	**-0.3**
REYF				Sg	**Sg**	**01 10 12.5**	**+0.1**
LABF	**Labassere**	**0.19**	**83**	Pg	**Pg**	**01 10 10.4**	**-0.1**
LABF				Sg	**Sg**	**01 10 13.4**	**+0.3**
ETSF	**Etsaut**	**0.30**	**246**	*e*Pg	**Pg**	**01 10 12.5**	**-0.1**
ETSF				*e*Sg	**Sg**	**01 10 16.9**	**+0.2**
	1.8nm,0.3s						
ETSF	**Etsaut**	**0.30**	**246**	*e*Pg	**Pg**	**01 10 12.5**	**-0.1**
ETSF				*e*Sg	**Sg**	**01 10 16.9**	**+0.2**
	0.9nm,0.3s						
EPF	**Esparros**	**0.38**	**89**	*e*Pg	**Pg**	**01 10 13.9**	**-0.1**
EPF				*e*Sg	**Sg**	**01 10 19.0**	**-0.1**
	1.2nm,0.3s						
EPF	**Esparros**	**0.38**	**89**	*e*Pg	**Pg**	**01 10 13.9**	**-0.1**
EPF				*e*Sg	**Sg**	**01 10 19.0**	**-0.1**
	0.6nm,0.3s						
CAF	**Calviac**	**2.50**	**40**	*e*Pn	**Pn**	**01 10 47.5**	**+0.2**

*NEIC **18** 01:20:28.1,3857S×17596E,h145km, MG3.8(WEL), After WEL.*

WEL 18 01:20:28.1±0.2, 3856S×17597E, h144km±1km, ML3.9/18, 7C-1D, Error ellipse: s-maj=1.8km s-min=1.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KATZ	**Kakaramea**	**0.46**	**207**	PN	Pn	01 20 48.8	+0.2
KATZ	**Kakaramea**	**0.46**	**207**	P	Pn	01 20 48.8	+0.3
KRVZ	**Karewarewa**	**0.59**	**206**	PN	Pn	01 20 49.4	+0.2
WTVZ	**West Tongariro**	**0.63**	**208**	PN	Pn	01 20 49.6	+0.2
WTVZ				SN	Sn	01 21 05.7	0.0
WTVZ	**West Tongariro**	**0.63**	**208**	P	Pn	01 20 49.6	+0.2
WTVZ				S	Sn	01 21 02.3	-3.4
OTVZ	**Oturere**	**0.65**	**201**	PN	Pn	01 20 49.8	+0.2
OTVZ				SN	Sn	01 21 06.4	+0.5
TWVZ	**Taurewa**	**0.66**	**219**	⇑PN	Pn	01 20 49.7	+0.1
NGZ	**Ngauruhoe**	**0.68**	**205**	⇑PN	Pn	01 20 50.1	+0.3
WPVZ	**Whakapapa**	**0.72**	**207**	PN	Pn	01 20 50.3	+0.2
BKZ	**Black Stump Fm**	**0.73**	**146**	⇑PN	Pn	01 20 50.4	+0.3
BKZ				SN	Sn	01 21 06.5	-0.4
BKZ	**Black Stump Fm**	**0.73**	**146**	*e*P	Pn	01 20 50.4	+0.3
BKZ				S	Sn	01 21 06.5	-0.4
TUVZ	**Tukino**	**0.75**	**199**	⇑PN	Pn	01 20 50.6	+0.3
TUVZ	**Tukino**	**0.75**	**199**	P	Pn	01 20 50.6	+0.4
FWVZ	**Far West T-bar**	**0.76**	**205**	PN	Pn	01 20 50.7	+0.3
FWVZ	**Far West T-bar**	**0.76**	**205**	P	Pn	01 20 50.7	+0.3
MOVZ	**Moawhango**	**0.86**	**191**	PN	Pn	01 20 50.9	-0.2
PKVZ	**Pokaka**	**0.87**	**214**	PN	Pn	01 20 51.2	0.0
URZ	**Urewera**	**0.95**	**72**	⇓PN	Pn	01 20 51.7	-0.1
URZ				SN	Sn	01 21 09.6	-0.3
URZ	**Urewera**	**0.95**	**72**	P	Pn	01 20 51.7	-0.1
VRZ	**Vera Road**	**1.10**	**239**	PN	Pn	01 20 53.1	0.0
MWZ	**Matawai**	**1.25**	**80**	PN	Pn	01 20 54.7	+0.2
MWZ				SN	Sn	01 21 14.3	-0.4
KNZ	**Kokohu**	**1.41**	**109**	PN	Pn	01 20 56.6	+0.4
KNZ				SN	Sn	01 21 17.6	-0.1
KNZ	**Kokohu**	**1.41**	**109**	*e*P	Pn	01 20 56.6	+0.4
WAZ	**Wanganui**	**1.42**	**212**	⇑PN	Pn	01 20 55.9	-0.3
WAZ	**Wanganui**	**1.42**	**212**	P	Pn	01 20 55.9	-0.4
TSZ	**Takapari Road**	**1.49**	**180**	⇑PN	Pn	01 20 56.7	-0.4
TSZ	**Takapari Road**	**1.49**	**180**	P	Pn	01 20 56.7	-0.4
PXZ	**Pawanui**	**1.62**	**155**	PN	Pn	01 20 58.5	0.0
MRZ	**Mangatainoka R**	**2.12**	**188**	⇑PN	Pn	01 21 02.8	-1.4
BFZ	**Birch Farm**	**2.13**	**174**	PN	Pn	01 21 03.1	-1.2
BFZ	**Birch Farm**	**2.13**	**174**	P	Pn	01 21 03.1	-1.2
MTW	**Mount Morrison**	**2.62**	**188**	P	Pn	01 21 08.0	-2.3
CAW	**Cannon Point**	**2.63**	**195**	P	Pn	01 21 08.4	-2.1
MRW	**Makara Radio**	**2.84**	**200**	P	Pn	01 21 10.6	-2.5
PAWZ	**Paruwai Farm**	**2.85**	**188**	P	Pn	01 21 10.8	-2.4
MSWZ	**Moikau Station**	**2.90**	**191**	P	Pn	01 21 11.3	-2.6
TCW	**Tory Channel**	**2.95**	**206**	P	Pn	01 21 11.8	-2.7
BHW	**Baring Head**	**2.96**	**196**	P	Pn	01 21 12.1	-2.6
MQZ	**McQueen's Vall**	**5.72**	**205**	*e*P	Pn	01 21 45.6	-5.3

RSPR 18 01:22:10.5, 1808N×6694W, h18km±2km, 6C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGP	**Maguayo**	**0.16**	**244**⇑	*e*P	Pg	01 22 14.7	-0.2
MGP				*e*S	Sg	01 22 17.6	-0.3
MGP	**Maguayo**	**0.16**	**244**⇑	*e*P	Pg	01 22 14.8	-0.1
MGP				*e*S	Sg	01 22 17.1	-0.8
LSP	**Las Mesas**	**0.17**	**305**⇑	*e*P	Pg	01 22 14.8	-0.2
LSP	**Las Mesas**	**0.17**	**305**	*e*S	Sg	01 22 18.4	+0.3
LSP	**Las Mesas**	**0.17**	**305**⇑	*e*P	Pg	01 22 14.8	-0.2
LSP	**Las Mesas**	**0.17**	**305**	*e*S	Sg	01 22 18.4	+0.3
OBIP	**Obispado Ponce**	**0.32**	**97**	*e*S	Sg	01 22 22.1	+0.1
OBIP	**Obispado Ponce**	**0.32**	**97**	*e*S	Sg	01 22 22.1	+0.1
AOPR	**Arecibo Observ**	**0.32**	**34**⇑	*e*P	Pg	01 22 17.1	-0.3
AOPR	**Arecibo Observ**	**0.32**	**34**	*e*S	Sg	01 22 21.9	-0.1
AOPR	**Arecibo Observ**	**0.32**	**34**⇑	*e*P	Pg	01 22 17.1	-0.2
AOPR	**Arecibo Observ**	**0.32**	**34**	*e*S	Sg	01 22 22.1	0.0

*ISCJB **18** 01:32:45.9±0.2, 9.18S±004×10826E±005, h33km, mb4.9/71, MS4.7/5, Error ellipse: s-maj=8.1km s-min=4.8km az=111.2*
*MOS **18** 01:32:46.1±0.9, 9.09S×10831E, h33km, mb5.1/27, Error ellipse: s-maj=14.4km s-min=7.2km az=108.4*
*BJI **18** 01:32:46.2, 9.20S×10830E, h34km, mB5.0, mb5.1, Ms4.8, Msz4.4*
*IDC **18** 01:32:47.9±0.5, 9.18S×10820E, h33km±3km, mb4.5/17, mb1 4.6/18, mb1mx4.5/21, mbtmp4.7/18, ML4.4/1, MS4.5/1, Ms1 4.5/1, ms1mx3.3/24, Error ellipse: s-maj=15.9km s-min=9.8km az=61.0*
*NEIC **18** 01:32:48.3±2.2, 9.18S×10826E, h35km±15km, mb5.0/29, Error ellipse: s-maj=8.1km s-min=4.4km az=56.0*

ISC 18 01:32:48.1±0.2, 923S±004×10822E±005, h35km, h35km±1.1km: pP-P, n168, σ0§93/146, mb4.9/71, MS4.7/5, 14C-4D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**2.39**	**38**	P	**Pn**	**01 33 25.9**	**+1.2**
	564nm,1.2s						
BJII	**Banjamegara**	**2.39**	**38**⇑	*i*P	**Pn**	**01 33 26.4**	**+1.7**
BJII				*i* S	**Pn**	**01 33 26.4**	**+1.7**
LEM	**Lembang**	**2.46**	**346**	P	**Pn**	**01 33 27.1**	**+1.4**
	3μm,0.9s						
KSI	**Kapahiang**	**7.87**	**314**	P	**Pn**	**01 34 39.0**	**-1.1**
	326nm,0.9s						
PCI	**Palu**	**14.21**	**55**	P	**Pn**	**01 36 10.3**	**+3.5**
	96nm,1.1s						
PSI	**Prapat**	**15.12**	**322**	Pn	**Pn**	**01 36 20.8**	**+1.7**
	0.4nm,0.3s,baz=135,slow=16,SNR=4.6						
PSI	**Prapat**	**15.12**	**322**	P	**Pn**	**01 36 20.8**	**+1.7**
KKM	**Kota Kinabalu**	**17.14**	**28**	*e*Pn	**Pn**	**01 36 44.4**	**-0.3**
KKM				*e*		01 36 58.3	
FITZ	**Fitzroy Crossi**	**19.07**	**119**	*e*P	**Pn**	**01 37 08.4**	**0.0**
	32nm,1.5s						
FITZ				*e*pP	pP	01 37 18.4	+1.8
FITZ	**Fitzroy Crossi**	**19.07**	**119**	P	**Pn**	**01 37 08.5**	**+0.1**
	0.8nm,0.3s,baz=282,slow=9.3,SNR=22						
FITZ				pP	pP	01 37 18.2	+1.6
	0.8nm,0.3s,baz=286,slow=5.8,SNR=8.8						
FITZ				S	S	01 40 21.4	-20
	0.3nm,0.3s,baz=15,slow=20,SNR=3.3						
BSI	**Banda Aceh**	**19.49**	**318**	P	**Pn**	**01 37 14.5**	**+1.0**
	107nm,1.1s						
PAGZ	**Pagadian**	**22.71**	**42**	*e*P	**P**	**01 37 49.5**	**+2.8**
BUKP	**Musuan**	**23.88**	**45**	*e*P	**P**	**01 37 60.0**	**+1.6**
KLBR	**Kellerberrin**	**23.95**	**160**	*e*P	**P**	**01 37 59.6**	**+0.6**
	27nm,0.9s,mb4.7						
KAKA	**Kakadu**	**24.02**	**100**	*e*P	**P**	**01 38 00.1**	**+0.5**
	14nm,0.6s,mb4.6						
NWAO	**Narrogin (SRO)**	**25.01**	**162**	P	**P**	**01 38 08.5**	**-0.2**
	14nm,0.9s,mb4.5,baz=330,slow=7.4,SNR=5.9						
NWAO				pP	pP	01 38 19.1	+0.5
	31nm,0.8s,baz=334,slow=11,SNR=9.9						
NWAO	**Narrogin (SRO)**	**25.01**	**162**	*e*P	**P**	**01 38 09.4**	**+0.8**
NWAO				*e*PP	pP	01 38 19.1	+0.5
NWAO				pmax	pmax		
	comp=Z,14nm,0.8s						
NWAO	**Narrogin (SRO)**	**25.01**	**162**	*e*P	**P**	**01 38 09.4**	**+0.8**
	comp=Z,14nm,0.8s,mb4.5						
NWAO				pP	pP	01 38 19.1	+0.5
BUTP	**Butuan**	**25.04**	**44**	*e*P	**P**	**01 38 05.2**	**-3.7**
NST	**Nakhon Sawan**	**26.01**	**342**	P	**P**	**01 38 16.0**	**-1.7**
	comp=Z,96nm,1.0s,mb5.3						
WRA	**Warramunga Arr**	**27.38**	**116**	P	**P**	**01 38 30.3**	**+0.2**
	comp=Z,9.4nm,0.9s,mb4.3,baz=286,slow=11,SNR=18						
WRA				pP	pP	01 38 40.8	+0.7
	comp=Z,12nm,0.8s,baz=287,slow=11,SNR=10						
WRAB	**Tennant Creek**	**27.39**	**116**	*e*P	**P**	**01 38 31.0**	**+0.9**
WRAB				*e*	pP	01 38 40.7	+0.5
WRAB				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**27.39**	**116**	*e*P	**P**	**01 38 31.0**	**+0.8**
	comp=Z,22nm,0.8s,mb4.7						
WRAB				*e*	pP	01 38 40.7	+0.5
WB2	**Warramunga Arr**	**27.39**	**116**	*e*P	**P**	**01 38 30.3**	**+0.1**
WB2	**Warramunga Arr**	**27.39**	**116**	*e*P	**P**	**01 38 30.4**	**+0.2**
ASPA	**Alice Springs**	**28.43**	**123**	*e*P	**P**	**01 38 39.4**	**-0.1**
ASPA				*e*		01 38 53.3	
ASAR	**Alice Springs**	**28.43**	**123**	P	**P**	**01 38 39.5**	**0.0**
	comp=Z,9.3nm,0.7s,mb4.5,baz=294,slow=7.6,SNR=35						
ASAR				pP	pP	01 38 51.2	+1.7
	comp=Z,15nm,0.7s,baz=301,slow=9.4,SNR=18						
ASAR				PcP	PcP	01 41 52.5	+1.5
	comp=Z,2.5nm,0.6s,baz=311,slow=2.2,SNR=8.2						
ASAR				pPcP		01 42 02.9	
	comp=Z,1.8nm,0.6s,baz=315,slow=1.8,SNR=6.3						
ASAR	**Alice Springs**	**28.43**	**123**	P	**P**	**01 38 39.5**	**0.0**
ASAR				*PP	pP	01 38 51.3	+1.8
ASAR						01 41 52.6	
AS31	**Alice Springs**	**28.43**	**123**	*e*P	**P**	**01 38 39.4**	**-0.1**
AS31				*e*		01 38 53.3	
CHG	**Chiang Mai**	**29.33**	**342**	⇓P	**P**	**01 38 42.8**	**-5.2**
CHTO	**Chiang Mai**	**29.33**	**342**	⇓P	**P**	**01 38 48.2**	**+0.8**
	SNR=6.4						
CHTO	**Chiang Mai**	**29.33**	**342**	*e*P	**P**	**01 38 47.8**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.9						
CHTO	**Chiang Mai**	**29.33**	**342**	*e*P	**P**	**01 38 47.8**	**+0.4**
	comp=Z,27nm,1.0s,mb4.9						
GYA	**Guiyang**	**35.51**	**358**⇑	*i*P	**P**	**01 39 42.8**	**+1.4**
GYA				AP	pP	01 39 52.0	+0.4
GYA				XP	sP	01 39 56.0	+0.2
GYA				PP	PP	01 41 03.6	+1.2
GYA				S	**S**	**01 45 15.8**	**+1.3**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
GYA				AMB	AMB		
	comp=Z,110nm,4.0s						
GYA				LR	LR		
	comp=N,570nm,14.9s,MS4.6						
GYA				LR	LR		
	comp=E,530nm,15.0s,MS4.6						
GYA				LR	LR		
	comp=Z,550nm,15.2s,MS4.4						
CTA	**Charters Tower**	**38.25**	**111**	*e*P	**P**	**01 40 06.7**	**+1.9**
	comp=Z,8.2nm,0.6s,mb4.6						
CTA	**Charters Tower**	**38.25**	**111**	P	**P**	**01 40 06.2**	**+1.4**
	baz=283,slow=11						
CTA	**Charters Tower**	**38.25**	**111**	*e*P	**P**	**01 40 06.7**	**+1.9**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
STKA	**Stephens Creek**	**38.27**	**131**	*e*P	**P**	**01 40 05.3**	**+0.4**
	comp=Z,17nm,0.9s,mb4.8						
STKA				*e*pP	pP	01 40 15.0	-0.1
STKA	**Stephens Creek**	**38.27**	**131**	P	**P**	**01 40 05.3**	**+0.4**
	comp=Z,21nm,0.8s,mb4.9,baz=302,slow=7.9,SNR=27						
BOK	**Bokaro**	**39.42**	**327**	*e*P	**P**	**01 40 15.6**	**+1.0**
BOK				AMb	AMB	01 40 16.8	
	comp=Z,82nm,1.6s,mb5.2						
JOW	**Kunigami**	**40.79**	**28**	P	**P**	**01 40 25.9**	**0.0**
	comp=Z,41nm,0.9s,mb5.1,baz=223,slow=4.6,SNR=18						
SSE	**Sheshan**	**41.98**	**17**	P	**P**	**01 40 33.4**	**-2.3**
SSE				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,127nm,5.5s						
NJ2	**Nanjing**	**42.29**	**13**	*e*P	**P**	**01 40 37.3**	**-0.9**
NJ2				AP	pP	01 40 47.1	-1.4
NJ2				XP	sP	01 40 51.1	-1.6
NJ2				PP	PP	01 42 18.3	+1.8
NJ2				S	**S**	**01 46 55.0**	**-1.5**
NJ2				XS	sS	01 47 11.0	-2.5
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,110nm,4.1s						
NJ2				LR	LR		
	comp=N,3μm,17.0s,MS5.2						
NJ2				LR	LR		
	comp=E,2μm,18.1s,MS5.2						
NJ2				LR	LR		
	comp=Z,1μm,17.7s,MS4.8						
JIRN	**Jiri**	**42.43**	**330**	*e*P	**P**	**01 40 40.2**	**+0.9**
	comp=Z,170nm,1.0s,mb5.6						
AKL	**Akola**	**42.73**	**314**	*e*P	**P**	**01 40 42.3**	**+0.5**
AKL				AMb	AMB	01 40 48.7	
	comp=Z,45nm,1.3s,mb5.0						
PKI	**Pulchoki**	**42.74**	**330**	*e*P	**P**	**01 40 42.3**	**+0.4**
	comp=Z,94nm,1.1s,mb5.4						
PKI	**Pulchoki**	**42.74**	**330**	*e*P	**P**	**01 40 42.3**	**+0.4**
PKI				pmax	pmax		
	comp=Z,94nm,1.1s,mb5.4						
KAD	**Karad**	**42.75**	**308**	*e*P	**P**	**01 40 42.4**	**+0.5**
KAD				AMb	AMB	01 40 48.1	
	comp=Z,54nm,2.6s,mb4.8						
GUN	**Gumba**	**42.79**	**330**	*e*P	**P**	**01 40 43.0**	**+0.7**
	comp=Z,246nm,1.1s,mb5.8						
DMN	**Daman**	**42.92**	**329**	*e*P	**P**	**01 40 43.8**	**+0.4**
	comp=Z,174nm,0.9s,mb5.8						
KKN	**Kakani**	**42.98**	**330**	*e*P	**P**	**01 40 44.3**	**+0.4**
	comp=Z,153nm,1.0s,mb5.7						
KKN	**Kakani**	**42.98**	**330**	*e*P	**P**	**01 40 44.3**	**+0.4**
KKN				pmax	pmax		
	comp=Z,153nm,1.0s,mb5.7						
XAN	**Xi'an**	**43.03**	**1**	P	**P**	**01 40 44.3**	**0.0**
XAN				AP	pP	01 40 53.0	-1.6
XAN				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.0						
GKN	**Gorkha**	**43.48**	**329**	*e*P	**P**	**01 40 48.1**	**+0.2**
	comp=Z,167nm,1.0s,mb5.7						
KOLN	**Koldanda**	**43.83**	**328**	*e*P	**P**	**01 40 51.3**	**+0.6**
	comp=Z,185nm,0.9s,mb5.8						
BHPL	**Bhopal**	**44.15**	**317**	*e*P	**P**	**01 40 53.2**	**-0.1**
BHPL				AMb	AMB	01 40 57.1	
	comp=Z,33nm,1.2s,mb4.9						
LZH	**Lanzhou**	**45.26**	**355**	*e*P	**P**	**01 41 03.3**	**+1.2**
LZH				AP	pP	01 41 12.5	0.0
LZH				XP	sP	01 41 18.6	+2.0
LZH				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,159nm,4.3s						
NDI	**New Delhi**	**48.13**	**323**	*e*P	**P**	**01 41 23.0**	**-1.6**
AJM	**Ajmer**	**48.20**	**318**	*e*P	**P**	**01 41 25.9**	**+0.8**
GTA	**Gaotai**	**49.02**	**351**	*e*P	**P**	**01 41 32.5**	**+1.1**
GTA				AP	pP	01 41 42.3	+0.5
GTA				XP	sP	01 41 47.5	+1.5
GTA				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.1						
BJT	**Baijiatuan**	**49.55**	**8**	*e*P	**P**	**01 41 34.7**	**-0.7**
BJT				*e*PP	pP	01 41 45.0	-0.9
BJT				pmax	pmax		
	comp=Z,39nm,1.0s						
BJT	**Baijiatuan**	**49.55**	**8**	*e*P	**P**	**01 41 34.7**	**-0.7**
	comp=Z,39nm,1.0s,mb5.4						
BJT				*e*pP	pP	01 41 45.0	-0.9
BJI	**Beijing**	**49.57**	**8**	P	**P**	**01 41 35.1**	**-0.5**
BJI				AMB	AMB		
	comp=Z,39nm,0.9s,mb5.4						
BTO	**Baotou**	**49.61**	**2**	*e*P	**P**	**01 41 35.4**	**-0.5**
SMLA	**Simla**	**49.96**	**325**	*e*P	**P**	**01 41 38.1**	**-0.5**
SMLA				AMb	AMB	01 41 53.2	
	comp=Z,48nm,0.8s,mb5.6						
SNY	**Shenyang**	**52.73**	**14**	⇓P	**P**	**01 42 04.0**	**+4.7**
SNY				AMB	AMB		
	comp=Z,14nm,0.7s,mb5.0						
MAJO	**Matsushiro**	**53.55**	**30**	*e*P	**P**	**01 42 03.7**	**-1.6**
MAJO				*e*PP	pP	01 42 13.6	-2.3
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MAJO	**Matsushiro**	**53.55**	**30**	*e*P	**P**	**01 42 03.7**	**-1.6**
	comp=Z,10nm,0.9s,mb4.8						
MAJO				*e*pP	pP	01 42 13.6	-2.2
MAT	**Matsushiro**	**53.55**	**30**	P	**P**	**01 42 03.7**	**-1.6**
MAT	**Matsushiro**	**53.55**	**30**	*e*P	**P**	**01 42 04.0**	**-1.3**
MJAR	**Matsushiro Arr**	**53.55**	**30**	P	**P**	**01 42 03.5**	**-1.8**
	comp=Z,11nm,0.8s,mb4.8,baz=204,slow=8.1,SNR=22						
MJAR				pP	pP	01 42 12.7	-3.1
	comp=Z,9.6nm,0.9s,baz=208,slow=8.2,SNR=7.1						
SONM	**Songino Array**	**56.83**	**359**	P	**P**	**01 42 29.5**	**+0.4**
	comp=Z,15nm,0.9s,mb5.0,baz=172,slow=7.9,SNR=94						
SONM				pP	pP	01 42 39.1	-0.5
	comp=Z,10nm,1.0s,baz=178,slow=8.9,SNR=10.0						
ULN	**Ulaanbaatar**	**56.85**	**359***c*	*i*P	**P**	**01 42 29.4**	**+0.2**
KSH	**Kashi**	**56.98**	**331**	*e*P	**P**	**01 42 31.3**

comp=Z,2.0nm,0.5s,mb4.5
KKAR Karatay Array 62.38 330 P P 01 43 03.5 -3.8
KKAR pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
YSS Yuzh-Sakhalins 63.83 26 *e*P **P 01 43 16.0 -0.8**
YSS *e* 01 43 30.0
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 63.83 26 *e*P **P 01 43 16.2 -0.7**
comp=Z,10nm,0.5s,mb5.1
YSS *ep*P pP 01 43 27.6 0.0
KURK Kurchatov 65.00 340 ⇑P **P 01 43 24.4 -0.1**
SNR=11
KURK Kurchatov 65.00 340 *e*P **P 01 43 24.6 +0.1**
KURK *e**PP pP 01 43 33.4 -1.8
KURK pmax pmax
comp=Z,25nm,0.9s,mb5.2
KURK Kurchatov 65.00 340 *e*P **P 01 43 24.6 +0.1**
comp=Z,25nm,0.9s,mb5.2
KURK *ep*P pP 01 43 33.4 -1.8
MAW Mawson 65.61 197 P **01 43 27.5 -1.0**
comp=Z,8.9nm,1.0s,mb4.8,baz=55,slow=11,SNR=12
ZAL Zalesovo 65.98 345 P **P 01 43 29.8 -1.0**
comp=Z,1.9nm,0.4s,mb4.4,baz=319,slow=2.1,SNR=11
BOD Bodaibo 66.98 3 *e*P **P 01 43 36.2 -1.0**
BOD pmax pmax
comp=Z,12nm,1.3s,mb4.8
NVS Novosibirsk 67.19 345 *i* P **P 01 43 37.4 -1.2**
BVA0 Borovoye Array 69.88 337 *i* P **P 01 43 54.8 -0.6**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BVAR Borovoye Array 69.88 337 P **P 01 43 55.0 -0.4**
comp=Z,4.7nm,0.7s,mb4.5,baz=147,slow=8.6
BRVK Borovoye 69.95 337 P **P 01 43 55.7 -0.1**
SNR=6.2
BRVK Borovoye 69.95 337 *e*P **P 01 43 54.9 -0.9**
BRVK *e**PP pP 01 44 05.5 -1.1
BRVK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BRVK Borovoye 69.95 337 *e*P **P 01 43 54.9 -0.8**
comp=Z,7.0nm,1.0s,mb4.5
BRVK *ep*P pP 01 44 05.5 -1.1
CHKZ Chkalovo 70.29 337 *e*P **P 01 43 57.8 -0.1**
CHKZ *e**PP pP 01 44 07.5 -1.2
CHKZ pmax pmax
comp=Z,12nm,0.8s,mb4.9
CHKZ Chkalovo 70.29 337 *e*P **P 01 43 57.8 -0.1**
comp=Z,12nm,0.8s,mb4.9
CHKZ *ep*P pP 01 44 07.5 -1.3
ZRNK Zerenda 70.37 336 *i* P **P 01 43 57.7 -0.7**
ZRNK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ZRNK Zerenda 70.37 336 *e*P **P 01 43 57.7 -0.7**
comp=Z,10nm,0.9s,mb4.8
ZRNK *ep*P pP 01 44 09.2 0.0
KMBO Kilima Mbogo 71.04 272 P **P 01 44 03.1 +0.7**
comp=Z,1.9nm,0.9s,mb4.0,baz=40,slow=21,SNR=3.5
KMBO Kilima Mbogo 71.04 272⇑ *e*P **P 01 44 03.9 +1.5**
YAK Yakutsk 72.98 10*c i*P **P 01 44 13.7 -0.4**
YAK pmax pmax
comp=Z,72nm,0.8s,mb5.7
YAK Yakutsk 72.98 10 *e*P **P 01 44 13.1 -1.0**
comp=Z,79nm,0.9s,mb5.6
VNDA Vanda 73.57 169 P **P 01 44 16.7 -0.8**
comp=Z,9.7nm,0.9s,mb4.7,baz=296,slow=6.3,SNR=46
VNDA pP pP 01 44 27.1 -1.4
comp=Z,7.3nm,0.8s,baz=288,slow=7.5,SNR=12
SYO Syowa Base 73.84 200⇑ *e*P **P 01 44 17.7 -1.5**
SBA Scott Base 74.64 169 *e*P **P 01 44 24.1 +0.3**
SBA *e**PP pP 01 44 34.3 -0.4
SBA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SBA Scott Base 74.64 169 *e*P **P 01 44 24.1 +0.3**
comp=Z,10nm,0.9s,mb4.8
SBA *ep*P pP 01 44 34.3 -0.4
PET Petropavlovsk 75.35 29⇓ *e*P **P 01 44 27.8 -0.1**
PET pmax pmax
comp=Z,28nm,1.3s,mb5.0
MA2 Magadan 76.52 21⇑ *e*P **P 01 44 34.7 +0.1**
MA2 pmax pmax
comp=Z,15nm,1.3s,mb4.8
SVE Sverdlovsk 76.53 335 *e*P **P 01 44 34.7 +0.1**
SVE *e* 01 44 48.8
SVE MLR MLR
comp=N,200nm,17.0s,MS4.7
SVE MLR MLR
comp=E,200nm,17.0s,MS4.7
SVE MLR MLR
comp=Z,200nm,17.0s,MS4.5
ARU Arti 77.14 334⇑ *i*P **P 01 44 37.6 -0.5**
ARU *e* pP 01 44 47.4 -1.6
ARU *e* 01 47 31.5
ARU *e*PPP 01 49 20.0
ARU *e*S S 01 54 25.2 +0.5
ARU *e*SS SS 01 59 24.0 +1.4
ARU pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ARU Arti 77.14 334 *e*P **P 01 44 38.1 0.0**
comp=Z,15nm,1.1s,mb4.8
ARU *ep*P pP 01 44 48.2 -0.8
KIV Kislovodsk 79.34 318 *e*P **P 01 44 49.8 -0.4**
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MALT Malatya 80.22 311 *e*P **P 01 44 56.3 +1.3**
MALT *e**PP pP 01 45 04.6 -1.4
MALT pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
MALT Malatya 80.22 311 *e*P **P 01 44 56.3 +1.3**
comp=Z,7.3nm,1.1s,mb4.5
MALT *ep*P pP 01 45 04.6 -1.4
QSPA South Pole Qui 80.77 180 *e*P **P 01 44 56.9 -1.1**
comp=Z,12nm,1.0s,mb4.8
TIXI Tiksi 81.86 6*c i*P **P 01 45 02.5 -1.2**
BR131 Keskin Array S 84.20 312 *e*P **P 01 45 16.2 +0.4**
comp=Z,6.0nm,1.0s,mb4.7
BRTR Keskin Array B 84.20 312 P **P 01 45 16.2 +0.3**
comp=Z,5.7nm,1.0s,mb4.7,baz=131,slow=6.7,SNR=23
BRTR Keskin Array B 84.20 312 *e*P **P 01 45 16.2 +0.3**
VRSR Storozhevoye 84.36 324 *e*P **P 01 45 15.8 -0.8**
VRSR pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
VRSR pmax pmax
comp=N,4.0nm,0.6s
VRSR pmax pmax
comp=E,9.0nm,0.7s
SIM Simferopol' 85.42 317 *e*P **P 01 45 22.0 0.0**
SIM pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
MOS Moscow 86.90 328 *e*P **P 01 45 29.5 +0.2**
MOS pmax pmax
comp=Z,28nm,1.0s,mb5.5
OBN Obninsk 87.24 327*c i*P **P 01 45 30.7 -0.2**
OBN *e* 01 48 56.0
OBN *e*S 01 55 54.8
OBN pmax pmax
comp=Z,24nm,1.2s,mb5.3
SNAA Sanae 87.77 197 *e*P **P 01 45 33.5 0.0**
SNAA *e* 01 45 38.2
SNAA *e* 01 45 47.3
SNAA Sanae 87.77 197⇑ *e*P **P 01 45 33.4 -0.1**
SNAA Sanae 87.77 197 *e*P **P 01 45 32.6 -0.8**
comp=Z,7.4nm,1.1s,mb4.8
VNA1 Neumayer--Stat 89.80 197 *e*P **P 01 45 44.0 +1.0**
VNA1 *e* 01 45 48.8
VNA1 *e* pP 01 45 56.4 +2.2
AKASG Malin Array Be 90.18 321 P **P 01 45 43.9 -0.9**
comp=Z,1.1nm,0.6s,mb4.4,baz=90,slow=4.1,SNR=7.2
AKASG PP PP 01 49 18.5 -0.1
comp=Z,0.2nm,0.3s,baz=100,slow=6.3,SNR=6.1
AKASG Malin Array Be 90.18 321 P **P 01 45 43.9 -0.9**
AKASG PP PP 01 49 18.5 -0.1
FINES FINESS Array B 94.30 331 P **P 01 46 03.8 0.0**
comp=Z,1.8nm,0.9s,mb4.5,baz=153,slow=12,SNR=3.3
FINES FINESS Array B 94.30 331 *i* P **P 01 46 09.1 +5.3**
FINES pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 118.51 21 PKP PKPdf 01 51 31.8 -0.2
comp=Z,0.7nm,0.6s,baz=336,slow=1.6,SNR=5.9
YKA Yellowknife Ar 118.51 21 PKP PKPdf 01 51 31.8 -0.2
PDAR Pinedale Array 133.03 38 PKP PKPdf 01 52 02.3 +2.5
comp=Z,0.3nm,0.6s,baz=289,slow=4.5,SNR=3.8
CFAA Coronel Fontan 139.26 185 PKP PKPdf 01 52 12.4 +1.1
comp=Z,0.2nm,0.8s,baz=164,slow=5.4,SNR=4.0
WMOK Wichita Mounta 144.56 40 *e*PKIKP PKPdf 01 52 21.0 +0.2
BDFB Brasilia 145.88 224 PKPbc PKPbc 01 52 25.2 +1.5
comp=Z,4.1nm,0.6s,baz=25,slow=7.8,SNR=6.4
ACCN Adirondack Com 145.94 2 *e*PKPdf PKPdf 01 52 24.3 +1.1
ACCN *ep*PKPdf pPKPdf 01 52 34.9 +0.2
CCM Cathedral Cave 146.37 28 *e*PKP PKPdf 01 52 26.1 +2.2
CCM *ep*PKPdf pPKPdf 01 52 35.2 -0.1
JCT Junction City 146.38 47 *e*PKP2 PKPab 01 52 25.5 -0.6
BINY Binghamton 146.95 6 *e*PKP PKPdf 01 52 27.5 +2.6
ACSO Alum Creek Sta 147.55 16 *e*PKPdf PKPdf 01 52 27.1 +1.2
MIAR Mount Ida 147.84 35 *e*PKP2 PKPbc 01 52 30.7 +1.4
PARMO Parma 148.19 28 *e*PKPdf PKPdf 01 52 27.3 +0.4
PARMO *e*PKPbc PKPbc 01 52 31.8 +1.6
LVC Limon Verde 148.23 185 PKPbc PKPbc 01 52 32.7 +2.4
comp=Z,8.7nm,0.9s,baz=218,slow=4.4,SNR=6.6
SSPA Standing Stone 148.25 9 *e*PKPbc PKPbc 01 52 31.1 +0.7
WCI Wyandotte Cave 148.31 22 *e*PKP2 PKPbc 01 52 28.9 -1.7
UALR University of 148.36 33 *e*PKPdf PKPdf 01 52 28.2 +1.0
MCWV Mont Chateau 148.85 12 *e*PKPbc PKPbc 01 52 33.3 +1.3
HKT Hockley 149.49 44 *e*PKP2 PKPbc 01 52 34.5 +0.9
WVT Waverly 149.50 26 *e*PKP2 PKPbc 01 52 34.8 +1.2
PLAL Pickwick Lake 150.34 28 *e*PKPbc PKPbc 01 52 36.1 +0.5
TZTN Tazewell 150.78 20 *e*PKPbc PKPbc 01 52 37.9 +1.2
LRAL Lakeview Retre 152.45 28 PKPdf PKPdf 01 52 35.1 +1.5
SIV San Ignacio 152.79 203 PKP PKPdf 01 52 36.4 +2.3
comp=Z,1.1nm,0.9s,baz=187,slow=3.1,SNR=5.3
SIV PKPbc PKPbc 01 52 42.9 +1.6
comp=Z,6.4nm,0.8s,baz=139,slow=2.0,SNR=32
LPAZ La Paz 154.39 188 PKPbc PKPbc 01 52 46.9 +2.2
comp=Z,1.4nm,0.9s,baz=199,slow=6.1,SNR=8.1

NNC 18 01:34:41.4±7.0, 3846N×6897E, h29km±40km, mb3.3, mpv2.9, 3C-3D, Error ellipse: s-maj=49.6km s-min=19.3km az=175.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.79**	**14**	Pn	Pn	01 35 54.2	+2.6
	0.5nm,0.2s,baz=189,slow=12,SNR=27						
KK31				Pg	Pn	01 36 10.6	+19
	3.7nm,0.6s,baz=196,slow=16,SNR=18						
KK31				⇑Lg		01 37 17.3	
	22nm,0.8s,baz=192,slow=31,SNR=4.3						
TKM2	**Tokmak 2**	**6.73**	**46**	⇓Pn	Pn	01 36 18.4	+0.2
	0.1nm,0.3s						
TKM2				⇓Sn	Sn	01 37 37.2	+3.4
	0.5nm,0.7s						
TKM2				⇑Lg		01 38 14.1	
	1.3nm,0.9s						
AB31	**Akbulak array**	**12.60**	**332**	⇑Pn	Pn	01 37 38.2	-0.4
	0.2nm,0.3s						
AB31				⇓Sn	Sn	01 39 54.1	-3.7
	0.4nm,0.5s						

BJI ***18*** *01:38:19.8, 1032S×10779E, h43km, mB5.1, mb4.8, Ms4.8, Msz4.7*
MOS ***18*** *01:38:24.7±1.1, 946S×10773E, h33km, mb4.8/12, Error ellipse: s-maj=15.3km s-min=7.6km az=115.5*
ISCJB ***18*** *01:38:25.3±0.3, 953S±005×10767E±006, h39km, mb4.8/45, MS4.4/10, Error ellipse: s-maj=9.4km s-min=6.0km az=117.6*
NEIC ***18*** *01:38:26.1±2.8, 956S×10762E, h31km±19km, mb4.9/16, Error ellipse: s-maj=10.2km s-min=4.9km az=53.0*
HRVD ***18*** *01:38:26.1±0.4, 971S×10771E, h17km±1km, MW5.0/54, Centroid moment Tensor Solution. LP body waves: s20,c22;Mantle waves: s54,c81; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.16±.28; $M_{\theta\theta}$2.77±.18; $M_{\phi\phi}$0.39±.20; $M_{r\theta}$1.97±.43; $M_{r\phi}$-0.57±.12; $M_{\theta\phi}$-1.66±.64; Best double couple: M≥3.96000×10^{16} NP1:ϕ_s299.00000°, δ65.00000°, λ-78.00000°. NP2: ϕ_s299.00000°, δ27.00000°, λ-115.00000°. Principal axes: T 3.7100, Plg19.0000°, Azm20.0000°; N 0.4900, Plg11.0000°, Azm114.0000°; P -4.2090, Plg67.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***18*** *01:38:27.4±0.7, 950S×10764E, h44km±6km, mb4.3/17, mb1 4.3/19, mb1mx4.3/23, mbtmp4.5/19, ML4.1/2, MS4.2/5, Ms1 4.2/5, ms1mx3.7/25 Error ellipse: s-maj=18.6km s-min=11.0km az=58.0*
ISC 18 01:38:27.5±0.3, 956S±005×10766E±006, h41km, h41km±1.6km:pP-P, n106, σ1§03/92, mb4.8/45, MS4.4/10, 6C-7D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**3.00**	**43**	P	**Pn**	**01 39 11.4**	**-1.1**
	637nm,1.0s						
KSI	**Kapahiang**	**7.73**	**319**	P	**Pn**	**01 40 25.0**	**+7.7**
	139nm,0.7s						
PCI	**Palu**	**14.86**	**55**	P	**Pn**	**01 41 55.3**	**+0.7**
	155nm,1.0s						
PSI	**Prapat**	**15.05**	**324**	P	**Pn**	**01 41 55.2**	**-2.0**
	0.3nm,0.3s,baz=148,slow=15,SNR=3.0						
MBWA	**Marble Bar**	**16.38**	**136**	*e*Pn	**Pn**	**01 42 09.5**	**-4.8**
	6.8nm,0.4s						
KKM	**Kota Kinabalu**	**17.69**	**29**	*e*Pn	**Pn**	**01 42 31.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**19.40**	**118**	*e*P	**Pn**	**01 42 53.3**	**+1.9**
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.40**	**118**	P	**Pn**	**01 42 50.1**	**-1.3**
	0.8nm,0.3s,baz=288,slow=8.5,SNR=12						
FITZ				S	**S**	**01 46 08.1**	**-19**
	0.3nm,0.3s,baz=114,slow=18,SNR=3.5						
FITZ	**Fitzroy Crossi**	**19.40**	**118**	P	**Pn**	**01 42 50.1**	**-1.3**
FITZ				*e*P		01 42 53.3	
FITZ				S	**S**	**01 46 08.1**	**-19**
NWAO	**Narrogin (SRO)**	**24.88**	**161**	P	**P**	**01 43 45.9**	**-0.4**
	7.8nm,0.7s,mb4.3,baz=339,slow=12,SNR=3.8						
NWAO				LR	LR	01 52 58.7	
	comp=Z,553nm,20.8s,MS4.0,baz=327,slow=35						
NWAO	**Narrogin (SRO)**	**24.88**	**161**	*e*P	**P**	**01 43 46.1**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**24.88**	**161**	*e*P	**P**	**01 43 46.1**	**-0.2**
	comp=Z,7.6nm,0.8s,mb4.3						
NST	**Nakhon Sawan**	**26.15**	**343**	P	**P**	**01 43 48.0**	**-10**
	comp=Z,53nm,1.2s,mb5.0						
WRA	**Warramunga Arr**	**27.75**	**115**	P	**P**	**01 44 11.7**	**-0.5**
	comp=Z,9.8nm,1.0s,mb4.4,baz=285,slow=10,SNR=9.1						
WRAB	**Tennant Creek**	**27.76**	**115**	⇑*i*P	**P**	**01 44 13.8**	**+1.6**
WRAB	**Tennant Creek**	**27.76**	**115**	P	**P**	**01 44 13.3**	**+1.1**
	comp=Z,25nm,1.1s,mb4.8						
WB2	**Warramunga Arr**	**27.76**	**115**	*e*P	**P**	**01 44 13.7**	**+1.5**
ASAR	**Alice Springs**	**28.73**	**122**	P	**P**	**01 44 20.8**	**0.0**
	comp=Z,1.3nm,0.8s,mb3.7,baz=302,slow=8.7,SNR=5.1						
ASAR				PcP	PcP	01 47 31.8	+1.4
	comp=Z,1.2nm,0.8s,baz=304,slow=2.9,SNR=4.1						
ASAR				Sn	S	01 49 54.4	+47
	comp=Z,3.1nm,0.9s,baz=303,slow=25,SNR=6.8						
ASAR	**Alice Springs**	**28.73**	**122**	P	**P**	**01 44 20.8**	**-0.1**
ASAR						01 47 31.8	
CHG	**Chiang Mai**	**29.47**	**343**	⇓P	**P**	**01 44 28.0**	**+0.6**
CHTO	**Chiang Mai**	**29.47**	**343**	*e*P	**P**	**01 44 27.7**	**+0.3**
CHTO				*e**PP	pP	01 44 37.5	-1.1
CHTO				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
CHTO	**Chiang Mai**	**29.47**	**343**	*e*P	**P**	**01 44 27.7**	**+0.3**
	comp=Z,13nm,1.0s,mb4.6						
CHTO				*ep*P	pP	01 44 37.5	-1.1
KMI	**Kunming**	**34.80**	**352**	P	**P**	**01 45 15.3**	**+1.2**
KMI				AP	pP	01 45 23.0	-2.4
KMI				XP	sP	01 45 27.8	-2.5
KMI				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,301nm,12.1s						
KMI				LR	LR		
	comp=N,1μm,13.9s,MS4.8						
KMI				LR	LR		
	comp=E,581nm,17.0s,MS4.8						
KMI				LR	LR		
	comp=Z,2μm,14.5s,MS4.9						
GYA	**Guiyang**	**35.81**	**358**⇑	*i*P	**P**	**01 45 23.5**	**+0.7**
GYA				AP	pP	01 45 32.8	-1.3
GYA				S	**S**	**01 50 56.5**	**-1.0**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
GYA				AMB	AMB		
	comp=Z,120nm,4.0s						
GYA				LR	LR		
	comp=N,540nm,15.4s,MS4.6						
GYA				LR	LR		
	comp=E,570nm,14.8s,MS4.6						
GYA				LR	LR		
	comp=Z,580nm,15.0s,MS4.5						
NACB	**Ninganchiao**	**36.18**	**22**	*e*P	**P**	**01 45 25.8**	**-0.2**
YHNB	**Yeheng**	**36.55**	**21**	P	**P**	**01 45 28.7**	**-0.5**
STKA	**Stephens Creek**	**38.48**	**130**	P	**P**	**01 45 45.8**	**+0.3**
	comp=Z,8.7nm,0.9s,mb4.5,baz=304,slow=7.0,SNR=7.7						
STKA				LR	LR	02 02 12.8	
	comp=Z,355nm,20.3s,MS4.2,baz=139,slow=37						
CTA	**Charters Tower**	**38.66**	**110**	P	**P**	**01 45 47.4**	**+0.3**
	comp=Z,8.2nm,1.0s,mb4.4,baz=292,slow=5.9,SNR=3.5						
CTA				pP	pP	01 45 59.6	+1.2
	comp=Z,6.4nm,0.9s,baz=265,slow=9.0,SNR=2.5						
CTAO	**Charters Tower**	**38.66**	**110**	*e*P	**P**	**01 45 47.4**	**+0.4**
PMG	**Port Moresby**	**38.95**	**93**	P	**P**	**01 45 50.9**	**+1.5**
	comp=Z,3.2nm,0.3s,mb4.5,baz=295,slow=14,SNR=4.7						
WHN	**Wuhan**	**40.38**	**9**⇓	P	**P**	**01 46 02.4**	**+1.1**
JOW	**Kunigami**	**41.34**	**28**	P	**P**	**01 46 09.6**	**+0.3**
	comp=Z,17nm,1.0s,mb4.6,baz=256,slow=7.4,SNR=4.9						
JOW				LR	LR	02 05 35.8	
	comp=Z,155nm,18.1s,MS3.9,baz=160,slow=39						
JIRN	**Jiri**	**42.44**	**331**	*e*P	**P**	**01 46 19.4**	**+1.2**
	comp=Z,60nm,0.9s,mb5.2						
PKI	**Pulchoki**	**42.74**	**330**	*e*P	**P**	**01 46 22.0**	**+1.4**
GUN	**Gumba**	**42.80**	**331**	*e*P	**P**	**01 46 22.3**	**+1.2**
	comp=Z,64nm,0.7s,mb5.4						
DMN	**Daman**	**42.92**	**330**	*e*P	**P**	**01 46 22.8**	**+0.7**
	comp=Z,32nm,0.8s,mb5.1						
KKN	**Kakani**	**42.98**	**330**	*e*P	**P**	**01 46 23.2**	**+0.6**
	comp=Z,52nm,1.1s,mb5.2						
KKN	**Kakani**	**42.98**	**330**	*e*P	**P**	**01 46 23.2**	**+0.6**
KKN				pmax	pmax		
	comp=Z,52nm,1.1s,mb5.2						
XAN	**Xi'an**	**43.37**	**2**	P	**P**	**01 46 24.9**	**-0.8**
XAN				AP	pP	01 46 35.8	-1.4
XAN				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.6						
XAN				LR	LR		
	comp=N,396nm,15.4s						
XAN				LR	LR		
	comp=Z,903nm,16.9s,MS4.8						
GKN	**Gorkha**	**43.48**	**330**	*e*P	**P**	**01 46 27.3**	**+0.7**
	comp=Z,35nm,0.6s,mb5.3						
KOLN	**Koldanda**	**43.81**	**329**	*e*P	**P**	**01 46 29.6**	**+0.3**
	comp=Z,59nm,0.8s,mb5.3						
LZH	**Lanzhou**	**45.54**	**356**	*e*P	**P**	**01 46 44.1**	**+1.1**
LZH				AP	pP	01 46 54.5	-0.1
LZH				XP	sP	01 47 01.3	+1.9
LZH				AMB	AMB		
	comp=Z,39nm,1.1s,mb5.2						
LZH				AMB	AMB		
	comp=Z,196nm,4.6s						
GTA	**Gaotai**	**49.26**	**352**	*e*P	**P**	**01 47 13.3**	**+1.4**
GTA				AP	pP	01 47 24.3	+0.7
GTA				XP	sP	01 47 29.0	+0.6
GTA				PP	PP	01 49 09.0	+3.0
GTA				PPP		01 50 05.8	
GTA				S	**S**	**01 54 17.4**	**+2.3**
GTA				XS	sS	01 54 37.6	+3.2
GTA				SS	SS	01 57 51.1	+4.3
GTA				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.9						
GTA				AMB	AMB		
	comp=Z,164nm,5.7s						
GTA				LR	LR		
	comp=N,375nm,14.8s						
GTA				LR	LR		
	comp=E,410nm,22.1s						
GTA				LR	LR		
	comp=Z,523nm,15.2s,MS4.7						
BJI	**Beijing**	**49.97**	**9**	P	**P**	**01 47 17.3**	**-0.1**
BJI				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.1						
SNY	**Shenyang**	**53.18**	**15**	⇓P	**P**	**01 47 39.9**	**-1.5**
SNY				AMB	AMB		
	comp=Z,13nm,0.5s,mb5.1						
MJAR	**Matsushiro Arr**	**54.11**	**30**	P	**P**	**01 47 45.9**	**-2.2**
	comp=Z,9.8nm,1.1s,mb4.6,baz=208,slow=7.0,SNR=10.0						
SONM	**Songino Array**	**57.15**	**359**	P	**P**	**01 48 09.1**	**-0.8**
	comp=Z,4.4nm,0.8s,mb4.5,baz=174,slow=8.0,SNR=20						
SONM				pP	pP	01 48 22.1	+0.2
	comp=Z,3.7nm,0.6s,baz=174,slow=8.3,SNR=7.8						
SONM				LR	LR	02 15 07.7	
	comp=Z,467nm,19.5s,MS4.6,baz=173,slow=38						
SONM	**Songino Array**	**57.15**	**359**	P	**P**	**01 48 09.1**	**-0.9**
SONM				*P	pP	01 48 22.1	+0.3
ULN	**Ulaanbaatar**	**57.17**	**360***c i*P		**P**	**01 48 10.2**	**+0.1**
HIA	**Hailar**	**59.52**	**9**⇑ *e*P		**P**	**01 48 26.4**	**-0.2**
ZAK	**Zakamensk**	**59.81**	**357**	*e*P	**P**	**01 48 26.6**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,2.0s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s,mb3.9						
AAK	**Ala-Archa**	**60.13**	**332**⇓	*e*P	**P**	**01 48 30.7**	**0.0**
AAK				pmax	pmax		
	comp=Z,8.0nm,2.5s,mb4.3						
MKAR	**Makanchi Array**	**60.49**	**340**	P	**P**	**01 48 32.5**	**-0.7**
	comp=Z,7.4nm,0.6s,mb4.9,baz=152,slow=7.9,SNR=34						
MKAR				pP	pP	01 48 46.4	+1.3
	comp=Z,11nm,0.6s,baz=143,slow=7.8,SNR=18						
MOY	**Mondy**	**61.24**	**355**	*e*P	**P**	**01 48 42.0**	**+3.7**
KLR	**Kul'dur**	**62.24**	**18**	*e*P	**P**	**01 48 40.8**	**-4.2**
YSS	**Yuzh-Sakhalins**	**64.36**	**26**	*e*P	**P**	**01 48 58.0**	**-1.1**
YSS				*e*	pP	01 49 09.0	-2.1
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
KURK	**Kurchatov**	**65.11**	**340**	*e*P	**P**	**01 49 03.7**	**-0.2**
KURK				*e**PP	pP	01 49 15.8	-0.1
KURK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
KURK	**Kurchatov**	**65.11**	**340**	*e*P	**P**	**01 49 03.7**	**-0.2**
	comp=Z,16nm,0.9s,mb5.0						
KURK				*ep*P	pP	01 49 15.8	-0.2
MAW	**Mawson**	**65.13**	**197**	P	**P**	**01 49 03.4**	**-0.7**
	comp=Z,8.2nm,0.7s,mb4.8,baz=46,slow=8.8,SNR=17						
MAW				LR	LR	02 12 38.1	
	comp=Z,146nm,18.5s,MS4.2,baz=175,slow=32						
MAW	**Mawson**	**65.13**	**197**	*e*P	**P**	**01 49 03.1**	**-0.9**
ZAL	**Zalesovo**	**66.15**	**345**	P	**P**	**01 49 09.5**	**-1.1**
	comp=Z,2.6nm,0.3s,mb4.7,baz=342,slow=4.2,SNR=7.6						
BOD	**Bodaibo**	**67.34**	**4**	*e*P	**P**	**01 49 16.4**	**-1.8**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.6						
BVAR	**Borovoye Array**	**69.96**	**337**	P	**P**	**01 49 33.1**	**-1.4**
	comp=Z,4.0nm,0.8s,mb4.5,baz=134,slow=8.5,SNR=13						
BRVK	**Borovoye**	**70.03**	**337**	*e*P	**P**	**01 49 36.3**	**+1.4**
BRVK				*e**PP	pP	01 49 48.1	+1.0
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
BRVK	**Borovoye**	**70.03**	**337**	*e*P	**P**	**01 49 36.2**	**+1.3**
	comp=Z,6.6nm,1.1s,mb4.5						
BRVK				*ep*P	pP	01 49 48.1	+1.0
CHKZ	**Chkalovo**	**70.38**	**338**	*e*P	**P**	**01 49 36.8**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
CHKZ	**Chkalovo**	**70.38**	**338**	*e*P	**P**	**01 49 36.8**	**-0.3**
	comp=Z,11nm,0.7s,mb4.9						
ZRNK	**Zerenda**	**70.44**	**336**	*e*P	**P**	**01 49 37.4**	**-0.1**
ZRNK				*e**PP	pP	01 49 48.9	-0.7
VNDA	**Vanda**	**73.35**	**169**	P	**P**	**01 49 53.7**	**-1.3**
	comp=Z,2.9nm,1.1s,mb4.1,baz=319,slow=8.3,SNR=7.1						
VNDA	**Vanda**	**73.35**	**169**	*e*P	**P**	**01 49 54.1**	**-0.8**
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VNDA	**Vanda**	**73.35**	**169**	*e*P	**P**	**01 49 54.1**	**-0.8**
	comp=Z,3.7nm,1.0s,mb4.3						
YAK	**Yakutsk**	**73.40**	**11**⇑ *i*P		**P**	**01 49 54.4**	**-0.8**
YAK				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.1						
SBA	**Scott Base**	**74.43**	**169**	*e*P	**P**	**01 50 00.1**	**-1.1**
SVE	**Sverdlovsk**	**76.59**	**336**	*e*P	**P**	**01 50 15.3**	**+1.7**
SVE				MLR	MLR		
	comp

BR131	**Keskin Array S**	**84.00 312**	*e*P	**P**		**01 50 53.8**	**+0.3**
	comp=Z,2.0nm,0.6s,mb4.4						
BR131				pP	pP	01 51 03.7	-2.2
BR131				*e*sP	sP	01 51 12.6	+2.0
BRTR	**Keskin Array B**	**84.00 312**	P	**P**		**01 50 52.6**	**-0.9**
	comp=Z,2.3nm,1.1s,mb4.2,baz=139,slow=7.1,SNR=6.4						
BRTR				pP	pP	01 51 05.1	-0.8
	comp=Z,2.4nm,0.7s,baz=141,slow=5.8,SNR=11						
OBN	**Obninsk**	**87.21 327**	*e*P	**P**		**01 51 10.3**	**+0.9**
OBN			*e*			01 54 30.6	
OBN			*e*S			02 01 25.5	
OBN			pmax	pmax			
	comp=Z,26nm,1.2s,mb5.3						
SNAA	**Sanae**	**87.30 197**	*e*	**P**		**01 51 10.1**	**+0.3**
SNAA			*e*			01 51 15.8	
SNAA			*e*	pP		01 51 22.2	-0.1
SNAA			*e*			01 51 27.8	
SNAA	**Sanae**	**87.30 197**	*e*P	**P**		**01 51 09.7**	**-0.1**
SNAA			pmax	pmax			
	comp=Z,6.0nm,1.1s						
SNAA	**Sanae**	**87.30 197**	*e*P	**P**		**01 51 09.7**	**-0.1**
	comp=Z,6.1nm,1.1s,mb4.7						
VNA1	**Neumayer--Stat**	**89.33 197**	*e*	**P**		**01 51 20.4**	**+1.0**
VNA1			*e*			01 51 25.9	
VNA1			*e*	pP		01 51 32.3	+0.4
VNA1			*e*			01 51 38.5	
FINES	**FINESS Array B**	**94.31 332**	P	**P**		**01 51 42.6**	**+0.1**
	comp=Z,1.2nm,0.8s,mb4.4,baz=157,slow=6.2,SNR=4.0						
FINES	**FINESS Array B**	**94.31 332**	*i* P	**P**		**01 51 45.5**	**+3.0**
FINES			pmax	pmax			
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**96.14 339**	P	**P**		**01 51 49.1**	**-1.8**
	comp=Z,4.2nm,0.9s,mb4.8,baz=77,slow=8.0,SNR=4.8						
KBS	**Kingsbay**	**100.42 349**⇓	*e*P	Pdif		01 52 08.7	-1.4
YKA	**Yellowknife Ar**	**119.01 21**	PKP	PKPdf		01 57 10.5	-1.1
	comp=Z,0.2nm,0.6s,baz=270,slow=15,SNR=4.8						
YKA	**Yellowknife Ar**	**119.01 21**⇑	*i* PKIKP	PKPdf		01 57 15.6	+4.0
YKA	**Yellowknife Ar**	**119.01 21**	PKP	PKPdf		01 57 10.5	-1.1
WMOK	**Wichita Mounta**	**145.17 40**	*e*PKIKP	PKPdf		01 58 01.7	+1.2
WMOK			*e*			01 58 13.1	
BDFB	**Brasilia**	**145.25 224**	PKPbc	PKPbc		01 58 01.7	+1.3
	comp=Z,3.2nm,0.6s,baz=167,slow=0.5,SNR=7.7						
CCM	**Cathedral Cave**	**146.91 28**	*e*PKPdf	PKPdf		01 58 05.1	+1.6
CCM			*ep*PKPdf	pPKPdf		01 58 16.7	+0.4
JCT	**Junction City**	**147.01 47**	*e*PKP2	PKPab		01 58 08.1	+0.9
LVC	**Limon Verde**	**147.86 186**	PKPbc	PKPbc		01 58 08.3	+0.3
	comp=Z,5.3nm,0.9s,baz=218,slow=6.5,SNR=4.7						
LVC	**Limon Verde**	**147.86 186**	*e*PKPdf	PKPdf		01 58 05.4	+0.4
LVC			PKPbc	PKPbc		01 58 08.3	+0.3
MIAR	**Mount Ida**	**148.43 35**	*e*PKP2	PKPbc		01 58 10.5	+1.0
WVT	**Waverly**	**150.03 26**	*e*PKP2	PKPbc		01 58 14.8	+1.3
HKT	**Hockley**	**150.11 44**	*e*PKP2	PKPbc		01 58 16.2	+2.5
PLAL	**Pickwick Lake**	**150.89 27**	*e*PKPbc	PKPbc		01 58 15.6	+0.1
CPCT	**Cooper Cave**	**151.93 21**	*e*PKPbc	PKPbc		01 58 19.5	+1.5
SIV	**San Ignacio**	**152.27 204**	PKPbc	PKPbc		01 58 20.0	+1.2
	comp=Z,2.0nm,0.7s,baz=137,slow=4.1,SNR=11						
LPAZ	**La Paz**	**153.99 189**	PKPbc	PKPbc		01 58 25.5	+3.0
	comp=Z,1.1nm,0.8s,baz=233,slow=5.9,SNR=4.7						
LPAZ	**La Paz**	**153.99 189**	PKPbc	PKPbc		01 58 25.5	+3.0

*ISCJB **18** 01:43:25.6±1.1,2762S±005×678W±02,h160km±34km, Error ellipse: s-maj=31.3km s-min=7.4km az=3.1*
*GUC **18** 01:43:25.2±0.6,2759S×6770W,h150km, ML5.0*
*NEIC **18** 01:43:26.0±0.9,2766S×6765W,h139km±31km,mb3.3/1, Error ellipse: s-maj=26.1km s-min=8.1km az=86.0*

ISC 18 01:43:26.2±1.1,**2762S**±005×**677W**±02,**h134**km±36km,**n12, σ0 95/20**,**1C,Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CPCH	**Copiapo**	**2.41**	**276**	*e*P		**Pn**	**01 44 05.8**	**+0.4**
CPCH				*i* S		**Sn**	**01 44 35.6**	**0.0**
CPCH				AML		AML	01 44 38.5	
	comp=E,6μm,0.1s							
CPCH	**Copiapo**	**2.41**	**276**	*e*P		**Pn**	**01 44 05.8**	**+0.4**
CPCH				*i* S		**Sn**	**01 44 35.6**	**0.0**
CDCH	**Caldera**	**2.88**	**280**	⇑*i*P		**Pn**	**01 44 10.9**	**-0.4**
CDCH				*i* S		**Sn**	**01 44 43.4**	**-2.6**
LCO	**Las Campanas**	**3.02**	**242**	*e*P		**Pn**	**01 44 13.7**	**+0.5**
LCO				*i* S		**Sn**	**01 44 50.5**	**+1.1**
TLL	**Tololo Astrono**	**3.75**	**227**	*e*P		**Pn**	**01 44 23.3**	**+0.6**
TLL				*i* S		**Sn**	**01 45 07.7**	**+1.2**
CPN1	**Cerro Paranal**	**3.87**	**320**	*e*P		**Pn**	**01 44 24.7**	**+0.4**
CPN1				*i* S		**Sn**	**01 45 09.5**	**+0.1**
CMCH	**Combarbala**	**4.59**	**219**	*e*P		**Pn**	**01 44 33.0**	**-0.8**
CMCH				*e*S		**Sn**	**01 45 25.5**	**-0.9**
CEN1	**Los Morros**	**4.80**	**331**	*e*P		**Pn**	**01 44 34.7**	**-1.9**
LVC	**Limon Verde**	**5.12**	**347**	*e*Pn		**Pn**	**01 44 41.8**	**+0.9**
	comp=E,15nm,0.4s							
LVC				*e*Sn		**Sn**	**01 45 32.8**	**-6.2**
LPAZ	**La Paz**	**11.29**	**358**	*e*Pn		**Pn**	**01 46 04.3**	**+0.9**
TRQA	**Tornquist**	**11.45**	**157**	*e*Pn		**Pn**	**01 46 04.7**	**-0.8**
SAML	**Samuel**	**19.05**	**14**	*e*P		**P**	**01 47 38.1**	**+0.2**
	comp=E,0.7nm,0.4s							

*NEIC **18** 01:47:31.5±0.4,9.72S×10781E,h10km,mb4.4/7, Error ellipse: s-maj=20.3km s-min=7.0km az=51.0*
*ISCJB **18** 01:47:33.2±0.6,9.7S±0.1×1079E±0.1,h35km,mb4.2/15, Error ellipse: s-maj=25.7km s-min=8.9km az=101.5*
*IDC **18** 01:47:35.4±0.8,9.73S×10783E,h36km±6km,mb4.0/9, mb1 4.0/10,mb1mx3.9/18,mbtmp4.1/10,ML3.6/1,Error ellipse: s-maj=34.1km s-min=14.7km az=57.0*

ISC 18 01:47:35.5±0.6,**98S**±01×**1078E**±01,**h37**km,**h37**km±2.2km**:pP-P,n23,σ0 71/20,mb4.2**/15,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBWA	**Marble Bar**	**16.13**	**136**	*e*Pn		**Pn**	**01 51 19.1**	**-0.3**
	2.1nm,0.4s							
FITZ	**Fitzroy Crossi**	**19.18**	**118**	P		**Pn**	**01 51 56.6**	**-0.3**
	0.1nm,0.3s,baz=256,slow=12,SNR=3.0							
WRA	**Warramunga Arr**	**27.53**	**115**	P		**P**	**01 53 18.7**	**+0.2**
	3.2nm,0.7s,mb4.0,baz=286,slow=11,SNR=5.4							
WRAB	**Tennant Creek**	**27.54**	**115**	*e*P		**P**	**01 53 18.7**	**+0.1**
	6.7nm,0.8s,mb4.3							
WB2	**Warramunga Ar**	**27.54**	**115**	*e*P		**P**	**01 53 18.1**	**-0.5**
ASAR	**Alice Springs**	**28.49**	**122**	P		**P**	**01 53 28.0**	**+0.9**
	1.7nm,0.6s,mb3.9,baz=298,slow=9.5,SNR=14							
STKA	**Stephens Creek**	**38.23**	**130**	P		**P**	**01 54 51.6**	**-0.2**
	6.7nm,0.7s,mb4.5,baz=312,slow=8.9,SNR=9.4							
CTAO	**Charters Tower**	**38.45**	**110**	*e*P		**P**	**01 54 53.8**	**+0.3**
	0.7nm,0.4s,mb3.7							
SONM	**Songino Array**	**57.34**	**359**	P		**P**	**01 57 19.4**	**-0.3**
	1.3nm,0.5s,mb4.2,baz=175,slow=8.4,SNR=12							
SONM				pP		pP	01 57 31.4	+0.5
	2.1nm,0.6s,baz=170,slow=8.1,SNR=8.1							
ULN	**Ulaanbaatar**	**57.37**	**359**	*e*P		**P**	**01 57 20.0**	**+0.1**
	2.8nm,0.6s,mb4.5							
ULN				*ep*P		pP	01 57 30.2	-0.8
MKAR	**Makanchi Array**	**60.73**	**340**	P		**P**	**01 57 41.9**	**-1.3**
	2.3nm,0.6s,mb4.5,baz=156,slow=7.9,SNR=13							
MKAR				pP		pP	01 57 53.4	-1.1
	4.1nm,0.6s,baz=146,slow=7.3,SNR=11							
MAW	**Mawson**	**64.99**	**197**	P		**P**	**01 58 11.8**	**+0.2**
	1.1nm,0.3s,mb4.3,baz=79,slow=13,SNR=5.0							
KURK	**Kurchatov**	**65.34**	**340**	*e*P		**P**	**01 58 13.1**	**-0.8**
	2.6nm,0.8s,mb4.3							
KURK				*ep*P		pP	01 58 26.1	+1.0
ZAL	**Zalesovo**	**66.38**	**345**	P		**P**	**01 58 21.4**	**+1.0**
	0.8nm,0.4s,mb4.1,baz=301,slow=3.8,SNR=3.0							
ZAL				pP		pP	01 58 30.8	-1.0
	1.1nm,0.3s,baz=225,slow=4.0,SNR=2.0							
ZAL	**Zalesovo**	**66.38**	**345**	P		**P**	**01 58 21.4**	**+1.0**
ZAL				pP		pP	01 58 30.8	-1.0
BVAR	**Borovoye Array**	**70.20**	**337**	P		**P**	**01 58 45.3**	**+0.9**
	1.9nm,0.6s,mb4.2,baz=144,slow=9.1,SNR=10							
BVAR				pP		pP	01 58 56.0	+0.3
	1.4nm,0.7s,baz=138,slow=9.7,SNR=4.6							
BRVK	**Borovoye**	**70.27**	**337**	P		**P**	**01 58 43.3**	**-1.5**
CHKZ	**Chkalovo**	**70.62**	**338**	*e*P		**P**	**01 58 47.5**	**+0.5**
	2.6nm,0.6s,mb4.3							
CHKZ				*ep*P		pP	01 58 58.0	-0.4
ZRNK	**Zerenda**	**70.68**	**336**	*e*P		**P**	**01 58 48.5**	**+1.2**
	1.9nm,0.6s,mb4.2							
ZRNK				*ep*P		pP	01 58 57.8	-1.0
VNDA	**Vanda**	**73.13**	**169**	P		**P**	**01 59 01.6**	**-0.4**
	0.5nm,0.8s,mb3.5,baz=320,slow=4.4,SNR=3.7							
WMOK	**Wichita Mounta**	**145.22**	**40**	*e*PKP		PKPdf	02 07 09.3	+0.3
WMOK				*ep*PKPdf		pPKPdf	02 07 21.0	-0.1
MIAR	**Mount Ida**	**148.50**	**35**	*e*PKPdf		PKPdf	02 07 14.8	+0.3
PLAL	**Pickwick Lake**	**150.99**	**28**	*e*PKPbc		PKPbc	02 07 24.0	-0.2

*ISCJB **18** 01:53:53.8±0.6,2025S±004×10206E±005,h173km±5km, mb4.7/68, Error ellipse: s-maj=9.6km s-min=5.5km az=114.9*
*MOS **18** 01:53:53.5±1.1, 196S×102.12E,h170km,mb4.7/17, Error ellipse: s-maj=15.0km s-min=6.4km az=116.4*
*IDC **18** 01:53:55.3±1.8,2075S×10203E,h176km±16km, mb4.2/17, mb1 4.3/18,mb1mx4.2/19,mbtmp4.7/18,MS3.3/1, Ms1 3.3/1,ms1mx2.9/30, Error ellipse: s-maj=21.0km s-min=9.1km az=54.0*
*NEIC **18** 01:53:55.3±0.8,2035S×10203E,h174km±7km,mb4.6/25, Error ellipse: s-maj=8.0km s-min=4.2km az=59.0*
*BJI **18** 01:53:55.3,2005S×10200E,h174km,mB4.8,mb4.9*

ISC 18 01:53:54.9±0.6,**2045**±004×**10203E**±005,**h168**km±5km, **n153,σ0 93/146,mb4.7**/68,**13C-8D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSI	**Kapahiang**	**1.70**	**161**	P		**Pn**	**01 54 27.3**	**-0.5**
	3μm,0.8s							
PPI	**Padang Panjang**	**2.27**	**314**	P		**Pn**	**01 54 33.4**	**-0.7**
	679nm,1.4s							
PSI	**Prapat**	**5.72**	**327**	P		**Pn**	**01 55 17.4**	**-0.7**
	5.2nm,0.3s,baz=150,slow=11,SNR=61							
PSI				LR		LR	01 57 02.3	
	comp=Z,315nm,20.4s,baz=306,slow=33							
KULM	**Kulim**	**7.41**	**349**	*e*Pn		**Pn**	**01 55 40.8**	**+0.4**
KULM				*e*			01 55 47.0	
BJII	**Banjamegara**	**9.29**	**125**	P		**Pn**	**01 56 06.1**	**+0.9**
	107nm,0.9s							
COCO	**West Island**	**11.32**	**207**	*e*Pn		**Pn**	**01 56 33.0**	**+1.1**
KKM	**Kota Kinabalu**	**16.29**	**60**	P		**Pn**	**01 57 35.2**	**+1.0**
CHTO	**Chiang Mai**	**20.94**	**352**	*e*P		**P**	**01 58 24.5**	**-0.1**
CHTO				pmax	pmax			
	comp=Z,6.0nm,0.6s							
CHTO	**Chiang Mai**	**20.94**	**352**	*e*P		**P**	**01 58 24.5**	**0.0**
	comp=Z,6.3nm,0.6s							
QIZ	**Qiongzhong**	**22.30**	**20**	*e*P		**P**	**01 58 40.2**	**+1.5**
MBWA	**Marble Bar**	**25.67**	**139**	*e*P		**P**	**01 59 09.3**	**+0.1**
	comp=Z,5.1nm,0.5s,mb4.4							
FITZ	**Fitzroy Crossi**	**28.13**	**126**	*e*P		**P**	**01 59 30.9**	**-0.3**
	comp=Z,4.3nm,0.5s,mb4.4							
FITZ	**Fitzroy Crossi**	**28.13**	**126**	P		**P**	**01 59 30.4**	**-0.8**
	comp=Z,4.3nm,0.8s,mb4.2,baz=219,slow=20,SNR=9.2							
GYA	**Guiyang**	**28.68**	**9**	⇑*i*P		**P**	**01 59 38.3**	**+2.2**
GYA				AMB		AMB		
	comp=Z,30nm,0.7s,mb5.1							
GYA				AMB		AMB		
	comp=Z,130nm,4.2s							
GYA				LR		LR		
	comp=N,690nm,14.8s							
GYA				LR		LR		
	comp=E,740nm,15.0s							
GYA				LR		LR		
	comp=Z,680nm,14.9s							
YHNB	**Yeheng**	**32.52**	**34**	*e*P		**P**	**02 00 09.4**	**-0.4**
KLBR	**Kellerberrin**	**32.93**	**155**	*e*P		**P**	**02 00 13.8**	**+0.5**
	comp=Z,44nm,1.5s,mb5.0							
JIRN	**Jiri**	**33.23**	**344**	*e*P		**P**	**02 00 16.2**	**+0.2**
	comp=Z,65nm,0.7s,mb5.5							
PKI	**Pulchoki**	**33.51**	**333**	*e*P		**P**	**02 00 18.1**	**-0.3**
GUN	**Gumba**	**33.59**	**334**	*e*P		**P**	**02 00 19.3**	**+0.3**
	comp=Z,116nm,0.5s							
DMN	**Daman**	**33.68**	**332**	*e*P		**P**	**02 00 19.4**	**-0.4**
	comp=Z,30nm,0.8s,mb5.1							
KKN	**Kakani**	**33.75**	**333**	*e*P		**P**	**02 00 20.2**	**-0.3**
	comp=Z,62nm,0.6s,mb5.5							
KKN	**Kakani**	**33.75**	**333**	*e*P		**P**	**02 00 20.2**	**-0.3**
KKN				pmax	pmax			
	comp=Z,62nm,0.6s,mb5.5							
NWAO	**Narrogin (SRO)**	**33.88**	**157**	P		**P**	**02 00 21.8**	**+0.2**
	comp=Z,5.3nm,0.8s,mb4.3,baz=347,slow=12,SNR=5.5							
GKN	**Gorkha**	**34.23**	**332**	*e*P		**P**	**02 00 24.4**	**-0.2**
	comp=Z,38nm,0.4s,mb5.5							
KOLN	**Koldanda**	**34.54**	**330**	*e*P		**P**	**02 00 27.3**	**+0.1**
	comp=Z,54nm,0.8s,mb5.2							
WRA	**Warramunga Ar**	**36.24**	**122**	P		**P**	**02 00 40.3**	**-1.4**
	comp=Z,8.7nm,0.7s,mb4.5,baz=299,slow=9.4,SNR=24							
WRAB	**Tennant Creek**	**36.24**	**122**	*e*P		**P**	**02 00 41.8**	**0.0**
WRAB				pmax	pmax			
	comp=Z,11nm,0.4s,mb4.8							
WRAB	**Tennant Creek**	**36.24**	**122**	*e*P		**P**	**02 00 41.8**	**0.0**
	comp=Z,11nm,0.4s,mb4.8							
WB2	**Warramunga Arr**	**36.25**	**122**	*e*P		**P**	**02 00 40.8**	**-1.0**
XAN	**Xi'an**	**36.47**	**10**	P		**P**	**02 00 44.6**	**+0.9**
XAN				AMB		AMB		
	comp=Z,70nm,0.8s,mb5.3							
NJ2	**Nanjing**	**37.48**	**24**	*e*P		**P**	**02 00 49.8**	**-2.4**
NJ2				PP		PP	02 02 27.8	+6.6
NJ2				S		**S**	**02 06 35.0**	**+6.7**
NJ2				AMB		AMB		
	comp=Z,20nm,0.6s,mb4.9							
NJ2				AMB		AMB		
	comp=Z,160nm,4.7s							
NJ2				LR		LR		
	comp=N,1μm,12.2s							
NJ2				LR		LR		
	comp=E,1μm,12.1s							
NJ2				LR		LR		
	comp=Z,1μm,10.4s							
ASPA	**Alice Springs**	**37.60**	**127**	*e*P		**P**	**02 00 53.1**	**-0.2**
AS31	**Alice Springs**	**37.61**	**127**	*e*P		**P**	**02 00 52.6**	**-0.7**
ASAR	**Alice Springs**	**37.61**	**127**	P		**P**	**02 00 52.5**	**-0.7**
	comp=Z,7.0nm,0.5s,mb4.6,baz=299,slow=8.0,SNR=68							
ASAR				ScP		ScP	02 06 37.3	-1.6
	comp=Z,1.5nm,0.8s,baz=305,slow=4.3,SNR=7.9							
SSE	**Sheshan**	**37.66**	**27**	P		**P**	**02 00 51.4**	**-2.4**
SSE				AMB		AMB		
	comp=Z,15nm,0.7s,mb4.7							
SSE				AMB		AMB		
	comp=Z,67nm,6.7s							
FORT	**Forrest**	**37.73**	**142**	*e*P		**P**	**02 00 55.0**	**+0.6**
	comp=Z,51nm,0.7s,mb5.3							
LZH	**Lanzhou**	**37.97**	**2**	*e*P		**P**	**02 00 57.8**	**+1.5**
LZH				AMB		AMB		
	comp=Z,51nm,1.0s,mb5.1							
LZH				AMB		AMB		
	comp=Z,248nm,5.0s							
GTA	**Gaotai**	**41.30**	**357**	*e*P		**P**	**02 01 24.6**	**+0.8**
GTA				AMB		AMB		
	comp=Z,9.0nm,1.3s,mb4.2							
BJI	**Beijing**	**43.84**	**16**	P		**P**	**02 01 46.1**	**+1.8**
BJI				AMB		AMB		
	comp=Z,16nm,0.6s,mb4.8							
CTAO	**Charters Tower**	**46.75**	**116**	P		**P**	**02 02 07.6**	**+0.4**
STKA	**Stephens Creek**	**47.62**	**133**	*e*P		**P**	**02 02 14.2**	**+0.2**
	comp=Z,12nm,0.8s,mb4.6							
STKA	**Stephens Creek**	**47.62**	**133**	P		**P**	**02 02 14.2**	**+0.2**
	comp=Z,13nm,0.6s,mb4.7,baz=315,slow=7.4,SNR=34							
SONM	**Songino Array**	**49.82**	**4**	P		**P**	**02 02 32.2**	**+1.5**
	comp=Z,15nm,0.6s,mb4.8,baz=186,slow=9.5,SNR=146							
SONM				PcP		PcP	02 03 48.9	0.0
	comp=Z,1.4nm,0.4s,baz=190,slow=3.9,SNR=7.1							
SONM				ScP		ScP	02 07 26.2	-2.3
	comp=Z,0.8nm,0.8s,baz=180,slow=3.9,SNR=4.6							
SONM	**Songino Array**	**49.82**	**4**	P		**P**	**02 02 32.2**	**+1.5**
SONM							02 03 48.9	
ULHL	**Ulahol**	**49.87**	**335**	P		**P**	**02 02 31.3**	**+0.2**
	SNR=6.1							
ULN	**Ulaanbaatar**	**49.89**	**4**	*de*P		**P**	**02 02 31.8**	**+0.5**
ULN	**Ulaanbaatar**	**49.89**	**4**	*e*P		**P**	**02 02 32.8**	**+1.5**
	comp=Z,11nm,0.9s,mb4.5							
KZA	**Kyzart**	**50.16**	**334**	P		**P**	**02 02 34.3**	**+1.0**
	SNR=11							
CN2	**Changchun**	**50.24**	**22**	⇓P		**P**	**02 02 34.6**	**+0.7**
CN2				AMB		AMB		
	comp=Z,30nm,0.7s,mb5.0							
TKM2	**Tokmak 2**	**50.70**	**335**	P		**P**	**02 02 37.4**	**+0.1**
	SNR=42							
KBK	**Karagaybulak**	**50.76**	**334**	P		**P**	**02 02 38.5**	**+0.7**
	SNR=12							
AML	**Almayashu**	**50.90**	**333**	P		**P**	**02 02 39.4**	**+0.7**
	SNR=29							
AAK	**Ala-Archa**	**50.94**	**334**	*de*P		**P**	**02 02 38.3**	**-0.8**
AAK				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.3							
AAK	**Ala-Archa**	**50.94**	**334**	*e*P		**P**	**02 02 38.9**	**-0.2**
	comp=Z,5.4nm,0.8s,mb4.2							
MJAR	**Matsushiro Arr**	**51.05**	**38**	P		**P**	**02 02 40.6**	**+0.6**
	comp=Z,3.7nm,0.7s,mb4.1,baz=216,slow=8.1,SNR=6.9							
EKS2	**Erkin-Say**	**51.28**	**333**	P		**P**	**02 02 42.2**	**+0.6**
	SNR=56							
MKAR	**Makanchi Array**	**51.64**	**343**	P		**P**	**02 02 43.9**	**-0.4**
	comp=Z,16nm,0.6s,mb4.8,baz=146,slow=7.8,SNR=175							
MKAR	**Makanchi Array**	**51.64**	**343**⇑	*e*P		**P**	**02 02 43.9**	**-0.4**
MKAR	**Makanchi Array**	**51.64**	**343**	P		**P**	**02 02 43.9**	**-0.4**
ZAK	**Zakamensk**	**52.23**	**1**	*e*P		**P**	**02 02 49.4**	**+0.7**
ZAK				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.1s							
MDJ	**Mudanjiang**	**52.56**	**25**	P		**P**	**02 02 48.3**	**-2.8**
MDJ				AMB		AMB		
	comp=Z,9.0nm,0.7s,mb4.6							
MDJ				AMB		AMB		
	comp=Z,59nm,4.1s							
KURK	**Kurchatov**	**56.24**	**342**	*de*P		**P**	**02 03 17.0**	**-0.6**
KURK	**Kurchatov**	**56.24**	**342**	*e*P		**P**	**02 03 17.1**	**-0.5**
	comp=Z,26nm,0.8s,mb5.1							
KLR	**Kul'dur**	**57.16**	**23**	*e*P		**P**	**02 03 22.0**	**-2.2**
ZAL	**Zalesovo**	**57.60**	**348**	P		**P**	**02 03 26.4**	**-0.8**
	comp=Z,11nm,0.6s,mb4.9,baz=302,slow=5.7,SNR=54							
BOD	**Bodaibo**	**60.44**	**7**	*e*P		**P**	**02 03 45.3**	**-1.4**
BOD				pmax	pmax			
	comp=Z,4.0nm,1.4s,mb4.1							
YSS	**Yuzh-Sakhalins**	**60.46**	**31**⇓	*e*P		**P**	**02 03 48.2**	**+1.3**
YSS				pmax	pmax			
	comp=Z,22nm,1.3s,mb4.8							
UMR	**Umm Al-Rimmam**	**60.62**	**306**	*e*P		**P**	**02 03 48.0**	**+0.1**
UMR				AMb		AMB	02 03 49.6	
	comp=Z,41nm,0.7s,mb5.4							
NAY	**Al-Naaiem**	**60.89**	**305**	*e*P		**P**	**02 03 49.0**	**-0.8**
NAY				AMb		AMB	02 03 51.9	
	comp=Z,18nm,0.8s,mb5.0							
BRVK	**Borovoye**	**61.00**	**339**	*e*P		**P**	**02 03 49.2**	**-1.3**
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.5							
BRVK	**Borovoye**	**61.00**	**339**	*e*P		**P**	**02 03 49.2**	**-1.3**
	comp=Z,4.1nm,0.5s,mb4.5							
MIB	**Mutribah**	**61.01**	**306**	*e*P		**P**	**02 03 50.8**	**+0.2**
MIB				AMb		AMB	02 03 53.0	
	comp=Z,41nm,0.7s,mb5.3							
RST	**Umm Al-Ruwaisa**	**61.18**	**305**	*e*P		**P**	**02 03 51.1**	**-0.6**
RST				AMb		AMB	02 03 53.6	
	comp=Z,29nm,0.7s,mb5.2							
CHKZ	**Chkalovo**	**61.38**	**339**	*e*P		**P**	**02 03 52.2**	**-0.9**
CHKZ				pmax	pmax			
	comp=Z,21nm,0.8s,mb5.0							
CHKZ	**Chkalovo**	**61.38**	**339**	*e*P		**P**	**02 03 52.1**	**-0.9**
	comp=Z,21nm,0.8s,mb5.0							
ZRNK	**Zerenda**	**61.39**	**338**	*e*P		**P**	**02 03 51.8**	**-1.3**
ZRNK				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.6							
ZRNK	**Zerenda**	**61.39**	**338**	*e*P		**P**	**02 03 51.8**	**-1.3**
	comp=Z,12nm,1.1s,mb4.7							
KMBO	**Kilima Mbogo**	**64.75**	**270**	P		**P**	**02 04 16.5**	**+1.2**
	comp=Z,1.4nm,0.8s,mb3.9,baz=56,slow=14,SNR=4.1							
KMBO	**Kilima Mbogo**	**64.75**	**270**⇑	*e*P		**P**	**02 04 17.2**	**+1.9**
GNI	**Garni**	**66.97**	**316**⇑	*e*P		**P**	**02 04 30.2**	**+0.8**
GNI				pmax	pmax			
	comp=Z,18nm,1.7s							
YAK	**Yakutsk**	**67.28**	**14**⇑	*e*P		**P**	**02 04 30.9**	**-0.6**
YAK				pmax	pmax			
	comp=Z,11nm,0.5s,mb4.9							
SVE	**Sverdlovsk**	**67.50**	**337**	*e*P		**P**	**02 04 32.0**	**-0.8**
SVE				pmax	pmax			
	comp=Z,20nm,1.1s,mb4.8							
ARU	**Arti**	**68.06**	**336**⇓	*i*P		**P**	**02 04 35.1**	**-1.2**
ARU				*e*SS		SS	02 17 46.1	-1.8
ARU				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.5							
ARU	**Arti**	**68.06**	**336**	*e*P		**P**	**02 04 35.0**	**-1.4**
	comp=Z,8.6nm,0.9s,mb4.5							
ZEI	**Tsey**	**68.61**	**318**	*e*P		**P**	**02 04 40.4**	**+0.7**
ZEI				pmax	pmax			
	comp=Z,18nm,0.6s,mb

CLL	**Collm**	**90.97**	**321**	*e*P		**P**	**02 06 39.2**	**-0.6**
	comp=Z,4.0nm,0.4s,mb4.8							
CLL	**Collm**	**90.97**	**321**	P		**P**	**02 06 39.4**	**-0.4**
	comp=Z,logA/T=0.6,mb4.4							
CLL	**Collm**	**90.97**	**321**	*i* P		**P**	**02 06 39.4**	**-0.4**
	comp=Z,3.0nm,0.7s,mb4.4							
CLL	**Collm**	**90.97**	**321**	*i* P		**P**	**02 06 39.4**	**-0.4**
CLL					pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4							
WET	**Wettzell**	**90.97**	**319**	*e*P		**P**	**02 06 40.3**	**+0.5**
	comp=Z,5.0nm,1.0s,mb4.5							
TANN	**Tannenbergstha**	**91.28**	**320**	*e*P		**P**	**02 06 42.3**	**+1.0**
	comp=Z,4.0nm,1.3s,mb4.3							
NKC	**Novy Kostel**	**91.28**	**320**	*e*P		**P**	**02 06 36.1**	**-5.2**
ROTZ	**Rotzenmuhle**	**91.43**	**320**	*e*P		**P**	**02 06 42.8**	**+0.8**
	comp=Z,5.0nm,1.3s,mb4.4							
MANZ	**Manzenberg**	**91.50**	**320**	*e*P		**P**	**02 06 42.8**	**+0.5**
	comp=Z,4.0nm,1.1s,mb4.4							
GRA1	**Grafenberg Arr**	**92.06**	**319**	*e*Pdif		**P**	**02 06 45.6**	**+0.7**
GRF	**Grafenberg Arr**	**92.06**	**319**	*e*P		**P**	**02 06 45.6**	**+0.7**
	comp=Z,4.0nm,0.9s,mb4.5							
NB2	**NORSAR Subarra**	**92.17**	**331**	P		**P**	**02 06 44.4**	**-1.0**
	comp=Z,2.3nm,0.7s,mb4.3,baz=95,slow=5.3							
NOA	**NORSAR Array B**	**92.17**	**331**	P		**P**	**02 06 43.2**	**-2.1**
	comp=Z,2.5nm,0.8s,mb4.3,baz=92,slow=4.7,SNR=7.3							
NOA	**NORSAR Array B**	**92.17**	**331**	P		**P**	**02 06 43.2**	**-2.2**
BSEG	**Bad Segeberg**	**92.64**	**324**	*e*P		**P**	**02 06 46.3**	**-1.3**
	comp=Z,7.0nm,1.4s,mb4.6							
PDAR	**Pinedale Array**	**130.61**	**31**	SKPbc		SKPbc	02 15 50.7	-3.1
	comp=Z,1.3nm,0.8s,baz=20,slow=2.9,SNR=10							
PLCA	**Paso Flores**	**136.90**	**188**	SKPbc		SKPbc	02 16 12.2	-2.5
	comp=Z,3.7nm,0.9s,baz=36,slow=5.6,SNR=4.5							
MIAR	**Mount Ida**	**144.54**	**22**	*e*PKIKP		PKPdf	02 13 10.7	-0.6
WVT	**Waverly**	**144.87**	**14**	*e*PKIKP		PKPdf	02 13 11.3	-0.6
JCT	**Junction City**	**144.96**	**34**	*e*PKIKP		PKPdf	02 13 12.5	+0.5
BDFB	**Brasilia**	**145.56**	**238**	PKPbc		PKPbc	02 13 14.8	+1.2
	comp=Z,3.3nm,0.7s,baz=130,slow=7.4,SNR=7.1							
PLAL	**Pickwick Lake**	**145.90**	**15**	*e*PKPdf		PKPdf	02 13 14.0	+0.4
CPCT	**Cooper Lake**	**146.21**	**10**	*e*PKPdf		PKPdf	02 13 15.2	+1.1

IDC ***18*** *02:00:25.4±4.6, 959S×108.11E, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.6/15, mbtmp3.8/3, Error ellipse: s-maj=206.6km s-min=31.1km az=52.0*

NEIC 18 02:00:26.2±2.1, 971S×10794E, h10km, mb4.5/2, Error ellipse: s-maj=111.0km s-min=18.8km az=49.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**28.41**	**122**	P	P	02 06 21.2	+0.4
	0.6nm,0.9s,baz=300,slow=13,SNR=4.3						
SONM	**Songino Array**	**57.31**	**359**	P	P	02 10 14.3	+0.1
	0.7nm,0.6s,baz=169,slow=8.0,SNR=6.7						
MKAR	**Makanchi Array**	**60.74**	**340**	P	P	02 10 38.4	+0.4
	0.9nm,0.7s,baz=150,slow=7.8,SNR=8.0						
CHKZ	**Chkalovo**	**70.63**	**338**	*e*P	P	02 11 41.8	0.0
	2.4nm,1.0s						
CHKZ				*e*pP	pP	02 11 52.2	+7.0
ZRNK	**Zerenda**	**70.70**	**336**	*e*P	P	02 11 42.0	-0.3
	1.0nm,0.6s						
ZRNK				*e*pP	pP	02 11 52.6	+7.0

BJI ***18*** *02:04:42.8, 1041S×108.11E, h41km, mB4.7, mb4.8, Ms4.7, Msz4.5*

NEIC ***18*** *02:04:46.0±0.2, 970S×10779E, h10km, mb5.0/20, Error ellipse: s-maj=8.1km s-min=5.1km az=48.0*

MOS ***18*** *02:04:47.7±1.1, 967S×10783E, h33km, mb4.9/17, Error ellipse: s-maj=18.6km s-min=10.4km az=111.7*

ISCJB ***18*** *02:04:48.0±1.2, 968S±005×10780E±006, h37km±10km, mb4.8/41, MS4.0/4, Error ellipse: s-maj=10.3km s-min=7.2km az=120.8*

IDC ***18*** *02:04:49.8±0.6, 973S×10770E, h37km±5km, mb4.3/14, mb1 4.3/15, mb1mx4.3/18, mbtmp4.5/15, ML4.7/1, MS3.8/3, Ms1 3.8/3, ms1mx3.3/30, Error ellipse: s-maj=20.5km s-min=11.7km az=61.0*

ISC 18 02:04:50.2±1.0, 968S±005×10781E±006, h37km±9km, h37km±2.1km:pP-P, n107, σ0s87/83, mb4.8/41, MS4.0/4, 3C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.84**	**356**	P	**Pn**	**02 05 31.7**	**-1.2**
	5μm,0.8s						
BJII	**Banjamegara**	**2.99**	**39**	P	**Pn**	**02 05 34.3**	**-0.8**
	346nm,0.7s						
COCO	**West Island**	**11.06**	**256**	Pn	**Pn**	**02 07 26.4**	**+0.6**
	54nm,0.5s						
PCI	**Palu**	**14.80**	**55**	P	**Pn**	**02 08 19.2**	**+2.4**
	82nm,1.5s						
MBWA	**Marble Bar**	**16.18**	**136**	*e*Pn	**Pn**	**02 08 31.1**	**-3.6**
	89nm,2.0s						
MBWA				*e*Sn	**Sn**	**02 11 17.5**	**-16**
KKM	**Kota Kinabalu**	**17.72**	**29**	*e*Pn	**Pn**	**02 08 53.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**19.21**	**118**	*e*P	**Pn**	**02 09 12.0**	**-0.1**
	8.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.21**	**118**	P	**Pn**	**02 09 11.7**	**-0.4**
	1.8nm,0.3s,baz=304,slow=9.0,SNR=30						
FITZ				S	**S**	**02 12 28.2**	**-18**
	0.3nm,0.3s,baz=159,slow=17,SNR=3.0						
BSI	**Banda Aceh**	**19.56**	**320**	P	**Pn**	**02 09 16.4**	**+0.2**
	111nm,1.4s						
KAKA	**Kakadu**	**24.34**	**99**	*e*P	**P**	**02 10 04.8**	**+0.4**
	20nm,0.6s,mb4.7						
NWAO	**Narrogin (SRO)**	**24.72**	**161**	P	**P**	**02 10 07.0**	**-0.9**
	12nm,0.7s,mb4.5,baz=306,slow=7.7,SNR=5.5						
NWAO				LR	LR	02 18 39.7	
	comp=Z,183nm,19.7s,MS3.6,baz=132,slow=34						
NWAO	**Narrogin (SRO)**	**24.72**	**161**	*e*P	**P**	**02 10 06.9**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**24.72**	**161**	*e*P	**P**	**02 10 06.9**	**-0.9**
	comp=Z,10nm,0.7s,mb4.5						
NWAO				LR	LR	02 18 39.7	
WRA	**Warramunga Arr**	**27.56**	**115**	P	**P**	**02 10 33.5**	**0.0**
	comp=Z,5.9nm,0.6s,mb4.4,baz=286,slow=11,SNR=12						
WRA	**Warramunga Arr**	**27.56**	**115**	P	**P**	**02 10 33.5**	**0.0**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WRAB	**Tennant Creek**	**27.57**	**115**	*e*P	**P**	**02 10 33.8**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.6						
WRAB	**Tennant Creek**	**27.57**	**115**	*e*P	**P**	**02 10 33.8**	**+0.2**
	comp=Z,6.0nm,0.4s,mb4.6						
WB2	**Warramunga Arr**	**27.57**	**115**	*e*P	**P**	**02 10 33.7**	**+0.1**
WB2	**Warramunga Arr**	**27.57**	**115**	*e*P	**P**	**02 10 34.1**	**+0.5**
ASPA	**Alice Springs**	**28.53**	**122**	*e*P	**P**	**02 10 46.6**	**+4.4**
ASAR	**Alice Springs**	**28.54**	**122**	P	**P**	**02 10 42.5**	**+0.3**
	comp=Z,3.8nm,0.5s,mb4.4,baz=302,slow=9.0,SNR=23						
ASAR				PcP	PcP	02 13 53.2	+0.2
	comp=Z,1.2nm,0.7s,baz=292,slow=2.2,SNR=5.8						
ASAR	**Alice Springs**	**28.54**	**122**	P	**P**	**02 10 42.5**	**+0.3**
ASAR						02 13 53.3	
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AS31	**Alice Springs**	**28.54**	**122**	*e*P	**P**	**02 10 42.3**	**+0.1**
KMI	**Kunming**	**34.94**	**352**	P	**P**	**02 11 38.3**	**-0.1**
KMI				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
GYA	**Guiyang**	**35.93**	**358**	⇑*i* P	**P**	**02 11 47.8**	**+0.9**
GYA				AP	pP	02 11 57.6	0.0
GYA				XP	sP	02 12 01.4	-0.6
GYA				PP	PP	02 13 08.6	-0.4
GYA				S	**S**	**02 17 20.8**	**-1.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
GYA				AMB	AMB		
	comp=Z,90nm,4.0s						
GYA				LR	LR		
	comp=N,460nm,15.0s,MS4.5						
GYA				LR	LR		
	comp=E,480nm,14.8s,MS4.5						
GYA				LR	LR		
	comp=Z,540nm,15.2s,MS4.4						
STKA	**Stephens Creek**	**38.28**	**130**	*e*P	**P**	**02 12 07.2**	**+0.3**
	comp=Z,12nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**38.28**	**130**	P	**P**	**02 12 07.2**	**+0.3**
	comp=Z,10nm,0.5s,mb4.8,baz=297,slow=9.3,SNR=19						
STKA				pP	pP	02 12 19.0	+1.4
	comp=Z,7.9nm,0.7s,baz=301,slow=8.7,SNR=5.7						
STKA				PcP	PcP	02 14 21.0	+0.6

	comp=Z,1.9nm,0.4s,baz=249,slow=2.6,SNR=4.8							
JOW	**Kunigami**	**41.37**	**28**	P		**P**	**02 12 32.5**	**0.0**
	comp=Z,5.0nm,0.5s,mb4.4,baz=190,slow=3.2,SNR=4.2							
JOW				LR		LR	02 33 13.8	
	comp=Z,76nm,18.3s,MS3.6,baz=158,slow=41							
JIRN	**Jiri**	**42.62**	**331**	*e*P		**P**	**02 12 43.1**	**+0.4**
	comp=Z,51nm,0.7s,mb5.4							
GUN	**Gumba**	**42.97**	**331**	*e*P		**P**	**02 12 45.7**	**+0.1**
	comp=Z,47nm,0.6s,mb5.4							
DMN	**Daman**	**43.10**	**330**	*e*P		**P**	**02 12 46.5**	**-0.1**
	comp=Z,38nm,0.9s,mb5.1							
KKN	**Kakani**	**43.16**	**330**	*e*P		**P**	**02 12 47.0**	**-0.1**
	comp=Z,37nm,0.8s,mb5.2							
KKN	**Kakani**	**43.16**	**330**	*e*P		**P**	**02 12 47.0**	**-0.1**
KKN				pmax		pmax		
	comp=Z,37nm,0.8s,mb5.2							
XAN	**Xi'an**	**43.48**	**1**	P		**P**	**02 12 49.0**	**-0.7**
XAN				AP		pP	02 12 59.1	-1.4
XAN				AMB		AMB		
	comp=Z,4.0nm,0.6s,mb4.3							
GKN	**Gorkha**	**43.66**	**330**	*e*P		**P**	**02 12 51.2**	**+0.1**
	comp=Z,36nm,0.7s,mb5.2							
KOLN	**Koldanda**	**43.99**	**328**	*e*P		**P**	**02 12 53.8**	**0.0**
	comp=Z,65nm,0.7s,mb5.4							
GTA	**Gaotai**	**49.40**	**352**	*e*P		**P**	**02 13 37.8**	**+1.7**
GTA				AP		pP	02 13 45.8	-1.2
GTA				XP		sP	02 13 50.8	-0.6
GTA				AMB		AMB		
	comp=Z,5.0nm,0.6s,mb4.7							
BJT	**Baijiatuau**	**50.04**	**8**	*e*P		**P**	**02 13 41.2**	**+0.2**
BJT				pmax		pmax		
	comp=Z,7.0nm,0.5s							
BJT	**Baijiatuau**	**50.04**	**8**	*e*P		**P**	**02 13 41.2**	**+0.2**
	comp=Z,6.5nm,0.5s,mb4.9							
BJI	**Beijing**	**50.07**	**8**	P		**P**	**02 13 40.6**	**-0.6**
BJI				AMB		AMB		
	comp=Z,11nm,0.8s,mb4.9							
MJAR	**Matsushiro Arr**	**54.13**	**30**	P		**P**	**02 14 12.5**	**+1.0**
	comp=Z,0.9nm,0.5s,mb4.0,baz=208,slow=6.9,SNR=4.2							
MJAR	**Matsushiro Arr**	**54.13**	**30**	P		**P**	**02 14 12.5**	**+1.1**
MJAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
SONM	**Songino Array**	**57.27**	**359**	P		**P**	**02 14 33.9**	**0.0**
	comp=Z,5.8nm,0.6s,mb4.8,baz=176,slow=8.1,SNR=54							
SONM				pP		pP	02 14 46.3	+1.3
	comp=Z,6.4nm,0.7s,baz=170,slow=8.0,SNR=9.5							
SONM	**Songino Array**	**57.27**	**359**	P		**P**	**02 14 33.9**	**0.0**
SONM				*PP		pP	02 14 46.3	+1.3
SONM				pmax		pmax		
	comp=Z,6.0nm,0.6s							
SONM				pmax		pmax		
	comp=Z,6.0nm,0.7s							
ULN	**Ulaanbaatar**	**57.29**	**359**	*e*P		**P**	**02 14 33.8**	**-0.2**
ULN				*e*PP		pP	02 14 46.7	+1.5
ULN				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.9							
ULN	**Ulaanbaatar**	**57.29**	**359**	*e*P		**P**	**02 14 33.8**	**-0.3**
	comp=Z,7.7nm,0.6s,mb4.9							
ULN				*e*pP		pP	02 14 46.7	+1.5
ZAK	**Zakamensk**	**59.94**	**357**	*e*P		**P**	**02 14 51.7**	**-0.8**
ZAK				*e*		pP	02 15 03.6	0.0
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.1							
ZAK				pmax		pmax		
	comp=Z,1.0nm,0.9s,mb3.9							
MKAR	**Makanchi Array**	**60.66**	**340**	P		**P**	**02 14 57.0**	**-0.4**
	comp=Z,11nm,0.6s,mb5.2,baz=143,slow=7.7,SNR=44							
MKAR				pP		pP	02 15 08.2	-0.4
	comp=Z,10nm,0.6s,baz=143,slow=7.9,SNR=13							
MKAR	**Makanchi Array**	**60.66**	**340**	P		**P**	**02 14 57.1**	**-0.3**
MKAR				*PP		pP	02 15 08.2	-0.4
MKAR				pmax		pmax		
	comp=Z,11nm,0.6s							
MKAR				pmax		pmax		
	comp=Z,11nm,0.6s							
KLR	**Kul'dur**	**62.31**	**17**	*e*P		**P**	**02 15 04.7**	**-3.9**
YSS	**Yuzh-Sakhalins**	**64.41**	**26**	*e*P		**P**	**02 15 22.0**	**-0.4**
YSS				*e*		pP	02 15 34.0	+0.3
MAW	**Mawson**	**65.06**	**197**	P		**P**	**02 15 25.4**	**-1.3**
	comp=Z,7.1nm,0.8s,mb4.7,baz=48,slow=7.8,SNR=13							
MAW	**Mawson**	**65.06**	**197**	*e*P		**P**	**02 15 26.2**	**-0.5**
MAW				pmax		pmax		
	comp=Z,15nm,1.1s							
MAW	**Mawson**	**65.06**	**197**	*e*P		**P**	**02 15 26.2**	**-0.5**
	comp=Z,15nm,1.1s,mb4.9							
KURK	**Kurchatov**	**65.27**	**340**	*e*P		**P**	**02 15 30.6**	**+2.5**
KURK				*e*PP		pP	02 15 38.3	-1.0
KURK				pmax		pmax		
	comp=Z,5.0nm,0.3s,mb5.0							
KURK	**Kurchatov**	**65.27**	**340**	*e*P		**P**	**02 15 30.6**	**+2.6**
	comp=Z,5.1nm,0.3s,mb5.0							
KURK				*e*pP		pP	02 15 38.3	-1.1
ZAL	**Zalesovo**	**66.30**	**345**	P		**P**	**02 15 34.5**	**-0.2**
	comp=Z,1.4nm,0.4s,mb4.4,baz=302,slow=4.7,SNR=6.2							
ZAL	**Zalesovo**	**66.30**	**345**	P		**P**	**02 15 34.5**	**-0.2**
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.4s							
BOD	**Bodaibo**	**67.45**	**4**	*e*P		**P**	**02 15 38.9**	**-3.1**
BOD				pmax		pmax		
	comp=Z,4.0nm,1.4s,mb4.3							
RDF	**Al-Radifah**	**69.61**	**306**	*e*P		pP	02 16 05.6	-1.3
RDF				AMb		AMB	02 16 06.5	
	comp=Z,41nm,0.9s,mb5.4							
UMR	**Umm Al-Rimmam**	**69.73**	**306**	*e*P		pP	02 16 05.2	-2.4
UMR				AMb		AMB	02 16 07.1	
	comp=Z,32nm,0.5s,mb5.5							
NAY	**Al-Naaiem**	**69.99**	**306**	*e*P		pP	02 16 07.2	-2.0
NAY				AMb		AMB	02 16 08.6	
	comp=Z,16nm,0.6s,mb5.1							
MIB	**Mutribah**	**70.14**	**306**	*e*P		pP	02 16 08.3	-1.8
MIB				AMb		AMB	02 16 11.9	
	comp=Z,23nm,0.6s,mb5.3							
RST	**Umm Al-Ruwaisa**	**70.28**	**306**	*e*P		pP	02 16 08.8	-2.2
RST				AMb		AMB	02 16 10.3	
	comp=Z,37nm,0.6s,mb5.5							
CHKZ	**Chkalovo**	**70.55**	**338**	*e*P		**P**	**02 16 00.8**	**-0.4**
CHKZ				*e*			02 16 14.8	
CHKZ				pmax		pmax		
	comp=Z,13nm,0.5s,mb5.1							
CHKZ	**Chkalovo**	**70.55**	**338**	*e*P		**P**	**02 16 00.8**	**-0.4**
	comp=Z,13nm,0.5s,mb5.1							
CHKZ				*e*			02 16 14.8	
ZRNK	**Zerenda**	**70.61**	**336**	*e*P		**P**	**02 16 02.0**	**+0.4**
ZRNK				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.8							
ZRNK	**Zerenda**	**70.61**	**336**	*e*P		**P**	**02 16 02.0**	**+0.4**
	comp=Z,7.8nm,0.6s,mb4.8							
KMBO	**Kilima Mbogo**	**70.65**	**272**	P		**P**	**02 16 02.0**	**+0.2**
	comp=Z,0.6nm,0.4s,mb3.9,baz=35,slow=8.6,SNR=3.6							
KMBO	**Kilima Mbogo**	**70.65**	**272**	P		**P**	**02 16 02.1**	**+0.3**
KMBO				pmax		pmax		
	comp=Z,1.0nm,0.4s							
VNDA	**Vanda**	**73.21**	**169**	P		**P**	**02 16 16.4**	**-0.8**
	comp=Z,1.3nm,1.0s,mb3.8,baz=293,slow=6.4,SNR=6.6							
VNDA	**Vanda**	**73.21**	**169**	P		**P**	**02 16 16.4**	**-0.8**
VNDA				pmax		pmax		
	comp=Z,1.0nm,1.0s							
SYO	**Syowa Base**	**73.29**	**200**	⇑*e*P		**P**	**02 16 16.5**	**-1.2**
AKTO	**Aktyubinsk**	**73.82**	**329**	LR		LR	02 56 17.0	
	comp=Z,118nm,18.5s,MS4.2,baz=162,slow=42							
SVE	**Sverdlovsk**	**76.76**	**336**	*e*P		**P**	**02 16 39.8**	**+2.1**
ARU	**Arti**	**77.37**	**334**	*e*P		**P**	**02 16 39.7**	**-1.4**
LSZ	**Lusaka**	**77.58**	**256**	*e*P		**P**	**02 16 42.5**	**+0.2**
LSZ				*e*PP		pP	02 16 54.4	+0.6
LSZ				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
LSZ	**Lusaka**	**77.58**	**256**	*e*P		**P**	**02 16 42.5**	**+0.3**
	comp=Z,2.0nm,0.6s,mb4.2							
LSZ				*e*pP		pP	02 16 54.4	+0.6
BR131	**Keskin Array S**	**84.20**	**312**	*e*P		**P**	**02 17 17.0**	**-0.5**
	comp=Z,2.5nm,0.8s,mb4.4							
BR131				*e*pP		pP	02 17 27.7	-1.4
BR131				*e*sP		sP	02 17 32.3	-1.1
BRTR	**Keskin Array B**	**84.20**	**312**	P		**P**	**02 17 17.2**	**-0.3**
	comp=Z,0.8nm,0.7s,mb4.0,baz=130,slow=5.8,SNR=5.8							
BRTR				pP		pP	02 17 27.6	-1.6
	comp=Z,2.7nm,0.9s,baz=140,slow=6.9,SNR=10							
BRTR	**Keskin Array B**	**84.20**	**312**	P		**P**	**02 17 17.3**	**-0.3**
BRTR				*PP		pP	02 17 27.6	-1.6
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BRTR				pmax		pmax		
	comp=Z,3.0nm,0.9s							
SNAA	**Sanae**	**87.23**	**197**	*e*		**P**	**02 17 33.1**	**+0.5**
SNAA				*e*			02 17 36.1	
SNAA				*e*		pP	02 17 43.1	-1.2

OBN	**Obninsk**	**87.39**	**327**	*ce*P		**P**	**02 17 32.8**	**-0.6**
OBN				*e*		pP	02 17 44.0	-1.1
OBN				pmax		pmax		
	comp=Z,19nm,1.7s,mb5.0							
VNA1	**Neumayer--Stat**	**89.26**	**197**	*e*		**P**	**02 17 43.2**	**+1.0**
VNA1				*e*			02 17 46.8	
VNA1				*e*		pP	02 17 52.6	-1.3
AKASG	**Malin Array Be**	**90.27**	**321**	pP		pP	02 17 54.8	-3.9
	comp=Z,1.2nm,0.6s,baz=86,slow=4.6,SNR=3.8							
ARCES	**ARCESS Array B**	**96.31**	**339**	P		**P**	**02 18 15.6**	**+0.8**
	comp=Z,2.1nm,0.9s,mb4.6,baz=91,slow=15,SNR=2.8							
ARCES	**ARCESS Array B**	**96.31**	**339**	P		**P**	**02 18 15.6**	**+0.8**
ARCES				pmax		pmax		
	comp=Z,2.0nm,0.9s							
YKA	**Yellowknife Ar**	**119.07**	**21**	PKP		PKPdf	02 23 34.2	-0.7
	comp=Z,0.3nm,0.7s,baz=306,slow=0.7,SNR=4.0							
YKA	**Yellowknife Ar**	**119.07**	**21**	PKP		PKPdf	02 23 34.2	-0.7
LONY	**Lake Ozonia**	**145.12**	**3**	*e*PKPbc		PKPbc	02 24 23.1	0.0
LONY				*ep*PKPdf		pPKPdf	02 24 34.7	-0.9
WMOK	**Wichita Mounta**	**145.17**	**40**	*e*PKIKP		PKPdf	02 24 24.2	+0.6
WMOK				*e*			02 24 35.4	
BDFB	**Brasilia**	**145.27**	**224**	PKPbc		PKPbc	02 24 24.8	+1.2
	comp=Z,5.4nm,0.9s,baz=169,slow=2.2,SNR=6.8							
BDFB	**Brasilia**	**145.27**	**224**	PKIKP		PKPdf	02 24 24.8	+1.0
BDFB				pmax		pmax		
	comp=Z,5.0nm,0.9s							
NCB	**Newcomb**	**145.79**	**3**	*e*PKPbc		PKPbc	02 24 25.6	+0.4
NCB				*ep*PKPdf		pPKPdf	02 24 36.8	+0.1
NCB				*es*PKPdf			02 24 40.2	
CCM	**Cathedral Cave**	**146.95**	**28**	*e*PKP2		PKPab	02 24 29.0	-1.1
JCT	**Junction City**	**146.98**	**47**	*e*PKP2		PKPab	02 24 29.9	-0.3
BINY	**Binghamton**	**147.43**	**5**	*e*PKPbc		PKPbc	02 24 30.5	+0.5
ACSO	**Alum Creek Sta**	**148.09**	**16**	*e*PKPbc		PKPbc	02 24 31.5	-0.2
MIAR	**Mount Ida**	**148.44**	**35**	*e*PKP2		PKPbc	02 24 34.0	+1.3
SSPA	**Standing Stone**	**148.75**	**8**	*e*PKPbc		PKPbc	02 24 33.8	+0.3
WVT	**Waverly**	**150.07**	**26**	*e*PKIKP		PKPbc	02 24 37.1	+0.4
PLAL	**Pickwick Lake**	**150.93**	**28**	*e*PKPbc		PKPbc	02 24 38.5	-0.2
TZTN	**Tazewell**	**151.34**	**19**	*e*PKPbc		PKPbc	02 24 40.6	+0.9
CPCT	**Cooper Cave**	**151.99**	**22**	*e*PKPbc		PKPbc	02 24 42.6	+1.4
LPAZ	**La Paz**	**153.89**	**189**	PKPbc		PKPbc	02 24 47.0	+1.6
	comp=Z,0.6nm,0.7s,baz=88,slow=7.4,SNR=3.6							
LPAZ	**La Paz**	**153.89**	**189**	PKIKP		PKPbc	02 24 47.0	+1.6
LPAZ				pmax		pmax		
	comp=Z,1.0nm,0.7s							
LPAZ	**La Paz**	**153.89**	**189**	PKPbc		PKPbc	02 24 47.0	+1.6

BJI ***18*** *02:11:33.0, 900S×10790E, h10km, mB5.0, mb5.0*

NEIC ***18*** *02:11:34.0±0.3, 903S×10787E, h10km, mb5.0/19, Error ellipse: s-maj=12.8km s-min=5.6km az=51.0*

ISCJB ***18*** *02:11:35.8±0.4, 901S±007×10793E±008, h34km, mb4.8/42, Error ellipse: s-maj=13.2km s-min=6.4km az=104.2*

MOS ***18*** *02:11:35.7±1.1, 893S×10799E, h33km, mb5.0/14, Error ellipse: s-maj=17.8km s-min=8.8km az=112.6*

IDC ***18*** *02:11:37.8±0.8, 905S×10781E, h33km±5km, mb4.3/11, mb1 4.3/13, mb1mx4.2/18, mbtmp4.4/13, ML4.0/2, Error ellipse: s-maj=24.8km s-min=11.9km az=58.0*

ISC 18 02:11:37.9±0.4, 909S±006×10784E±007, h36km, h36km±1.4km:pP-P, n90, σ0s92/76, mb4.8/42, 6C-1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.26**	**354**	P	**Pn**	**02 12 14.7**	**+1.9**
	1μm,0.9s						
BJII	**Banjamegara**	**2.54**	**47**	P	**Pn**	**02 12 18.5**	**+1.9**
	169nm,1.1s						
PSI	**Prapat**	**14.79**	**323**	Pn	**Pn**	**02 15 04.1**	**-0.3**
	0.6nm,0.3s,baz=143,slow=18,SNR=2.2						
PSI	**Prapat**	**14.79**	**323**	Pn	**Pn**	**02 15 04.1**	**-0.3**
MBWA	**Marble Bar**	**16.59**	**138**	Pn	**Pn**	**02 15 28.0**	**+0.4**
	12nm,0.8s						
BSI	**Banda Aceh**	**19.14**	**319**	P	**Pn**	**02 16 00.5**	**+1.4**
	144nm,1.0s						
FITZ	**Fitzroy Crossi**	**19.46**	**119**	P	**Pn**	**02 16 02.9**	**0.0**
	0.3nm,0.3s,baz=303,slow=13,SNR=3.7						

comp=Z,173nm,7.6s
MJAR Matsushiro Arr 53.62 30 P **P** **02 20 53.0 -2.6**
comp=Z,1.8nm,0.6s,mb4.2,baz=214,slow=7.4,SNR=5.7
MJAR pP pP 02 21 04.5 -1.7
comp=Z,3.8nm,0.9s,baz=205,slow=8.7,SNR=4.4
SONM Songino Array 56.69 359 P **P** **02 21 17.9 +0.1**
comp=Z,5.2nm,0.5s,mb4.8,baz=176,slow=8.4,SNR=52
SONM PcP PcP 02 22 14.1 +0.5
comp=Z,1.7nm,0.8s,baz=178,slow=5.0,SNR=3.6
ULN Ulaanbaatar 56.71 359 *e*P **P** **02 21 17.8 -0.1**
ULN *e**PP pP 02 21 28.9 +0.3
ULN *e*SP sP 02 21 33.9 +1.0
ULN pmax pmax
comp=Z,14nm,0.8s,mb5.0
ULN Ulaanbaatar 56.71 359 *e*P **P** **02 21 17.8 0.0**
comp=Z,14nm,0.8s,mb5.0
ULN *e*pP pP 02 21 28.9 +0.3
ULN *e*sP sP 02 21 33.9 +1.1
KZA Kyzart 59.03 332 P **P** **02 21 34.6 +0.4**
SNR=6.5
ZAK Zakamensk 59.36 357 *e*P **P** **02 21 35.8 -0.6**
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
TKM2 Tokmak 2 59.53 333 P **P** **02 21 37.6 0.0**
SNR=15
KBK Karagaybulak 59.62 332 P **P** **02 21 38.9 +0.7**
SNR=7.8
AML Almayashu 59.80 331 P **P** **02 21 39.8 +0.4**
SNR=7.0
AAK Ala-Archa 59.81 332⇑ *e*P **P** **02 21 38.6 -0.9**
AAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
AAK Ala-Archa 59.81 332 *e*P **P** **02 21 38.2 -1.3**
comp=Z,3.4nm,0.9s,mb4.4
MKAR Makanchi Array 60.12 340 P **P** **02 21 41.6 -0.1**
comp=Z,15nm,0.6s,mb5.2,baz=143,slow=7.7,SNR=148
MKAR pP pP 02 21 52.0 -0.5
comp=Z,5.4nm,0.6s,baz=142,slow=8.1,SNR=8.5
EKS2 Erkin-Say 60.17 332 P **P** **02 21 42.0 +0.1**
SNR=10
KLR Kul'dur 61.75 18 *e*P **P** **02 21 49.9 -2.8**
YSS Yuzh-Sakhalins 63.87 26 *e*P **P** **02 22 07.0 +0.2**
YSS *e* pP 02 22 17.2 -0.5
KURK Kurchatov 64.74 340 *e*P **P** **02 22 12.4 -0.1**
KURK pmax pmax
comp=Z,29nm,0.9s,mb5.3
KURK Kurchatov 64.74 340 *e*P **P** **02 22 12.3 -0.2**
comp=Z,29nm,0.9s,mb5.3
MAW Mawson 65.62 197 P **P** **02 22 18.0 -0.3**
comp=Z,1.5nm,0.6s,mb4.2,baz=78,slow=5.5,SNR=10
MAW Mawson 65.62 197 *e*P **P** **02 22 17.6 -0.7**
MAW pmax pmax
comp=Z,3.0nm,0.7s
MAW Mawson 65.62 197 *e*P **P** **02 22 17.6 -0.7**
comp=Z,3.1nm,0.7s,mb4.5
ZAL Zalesovo 65.75 345 P **P** **02 22 17.9 -1.2**
comp=Z,3.7nm,0.4s,mb4.8,baz=324,slow=3.5,SNR=11
BOD Bodaibo 66.87 4 *e*P **P** **02 22 23.5 -2.7**
BOD pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
BRVK Borovoye 69.67 337 *e*P **P** **02 22 43.4 -0.4**
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BRVK Borovoye 69.67 337 *e*P **P** **02 22 43.4 -0.4**
comp=Z,4.2nm,0.7s,mb4.5
CHKZ Chkalovo 70.02 337 *e*P **P** **02 22 45.8 -0.2**
CHKZ pmax pmax
comp=Z,14nm,0.6s,mb5.1
CHKZ Chkalovo 70.02 337 *e*P **P** **02 22 45.8 -0.2**
comp=Z,14nm,0.6s,mb5.1
ZRNK Zerenda 70.09 336 *e*P **P** **02 22 45.8 -0.6**
ZRNK pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
ZRNK Zerenda 70.09 336 *e*P **P** **02 22 45.8 -0.6**
comp=Z,9.4nm,0.7s,mb4.8
YAK Yakutsk 72.92 11*c i*P **P** **02 23 02.5 -0.9**
YAK pmax pmax
comp=Z,26nm,0.7s,mb5.3
VNDA Vanda 73.77 169 P **P** **02 23 08.3 -0.1**
comp=Z,1.5nm,0.8s,mb4.0,baz=338,slow=3.9,SNR=8.5
VNDA Vanda 73.77 169 P **P** **02 23 08.3 -0.1**
ARU Arti 76.86 334⇑ *i*P **P** **02 23 25.1 -1.1**
ARU *e* 02 26 16.4
ARU *e*S S 02 33 07.8 -3.5
ARU *e*SS SS 02 38 01.5 -6.4
ARU pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KIV Kislovodsk 78.98 318 *e*P **P** **02 23 38.9 +0.9**
KIV pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LBTB Lobatse 79.23 246 *e*P **P** **02 23 39.8 +0.5**
LBTB pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
LBTB Lobatse 79.23 246 *e*P **P** **02 23 39.8 +0.5**
comp=Z,2.2nm,0.8s,mb4.1
VRHR Novokhopersk 82.57 324 *e*P **P** **02 23 56.9 -0.3**
VRHR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRHR pmax pmax
comp=N,7.0nm,0.7s
VRHR pmax pmax
comp=E,8.0nm,0.5s
BR131 Keskin Array S 83.83 312 *e*P **P** **02 24 03.5 -0.1**
comp=E,3.9nm,0.9s,mb4.5
BRTR Keskin Array B 83.83 312 P **P** **02 24 04.0 +0.3**
comp=E,4.1nm,0.9s,mb4.5,baz=137,slow=6.0,SNR=23
BRTR Keskin Array B 83.83 312⇑ *e*P **P** **02 24 04.0 +0.3**
OBN Obninsk 86.92 327*de*P **P** **02 24 18.7 -0.4**
OBN *e* 02 27 43.7
OBN *e*S 02 34 44.4
OBN pmax pmax
comp=Z,16nm,1.2s,mb5.1
AKASG Malin Array Be 89.84 321 P **P** **02 24 31.6 -1.4**
comp=Z,0.4nm,0.4s,mb4.1,baz=81,slow=5.8,SNR=3.7
PDAR Pinedale Array 133.15 38 PKP PKPdf 02 30 52.1 +2.4
comp=Z,0.3nm,0.6s,baz=143,slow=0.7,SNR=4.0
WMOK Wichita Mounta 144.70 40 *e*PKIKP PKPdf 02 31 11.0 +0.2
MIV Mineville/With 145.13 2 *e*PKPbc PKPbc 02 31 11.6 +0.5
NCB Newcomb 145.21 3 *e*PKPdf PKPdf 02 31 11.9 +0.2
BDFB Brasilia 145.71 224 PKPbc PKPbc 02 31 15.0 +2.1
comp=Z,2.5nm,0.5s,baz=96,slow=2.4,SNR=5.4
CCM Cathedral Cave 146.42 28 *e*PKP2 PKPab 02 31 15.7 -0.3
JCT Junction City 146.56 47 *e*PKP2 PKPab 02 31 17.3 +0.8
BINY Binghamton 146.85 5 *e*PKPab PKPab 02 31 16.9 -0.7
ACSO Alum Creek Sta 147.53 16 *e*PKPdf PKPdf 02 31 15.1 -0.5
ACSO *e*PKPab PKPab 02 31 16.1 -1.2
MIAR Mount Ida 147.94 35 *e*PKP2 PKPab 02 31 21.0 -1.0
SSPA Standing Stone 148.18 8 *e*PKPab PKPab 02 31 20.9 -2.0
SSPA *ep*PKPdf pPKPdf 02 31 31.8 +3.5
OXF Oxford 150.16 29 *e*PKPbc PKPbc 02 31 26.0 +1.1
OXF *ep*PKPdf pPKPdf 02 31 37.6 +6.2
CPCT Cooper Cave 151.44 21 *e*PKPbc PKPbc 02 31 29.3 +1.4
CPCT *ep*PKPdf pPKPdf 02 31 37.6 +4.1
LPAZ La Paz 154.47 189 PKPbc PKPbc 02 31 37.2 +2.6
comp=Z,1.3nm,0.7s,baz=173,slow=4.2,SNR=8.8
LPAZ La Paz 154.47 189 PKPbc PKPbc 02 31 37.2 +2.6

*BJI **18** 02:32:18.3, 060N×125 02E, h220km, mB4.6, mb4.4*
*ISCJB **18** 02:32:20.5±1.5, 136N±005×124 7E±0.1, h191km±15km, mb4.3/24, Error ellipse: s-maj=19.1km s-min=6.7km az=149.8*
*IDC **18** 02:32:23.9±2.1, 129N×124 65E, h209km±19km, mb3.9/13, mb1 4.1/14, mb1mx3.9/19, mbtmp4.4/14, Error ellipse: s-maj=25.3km s-min=7.0km az=73.0*
*NEIC **18** 02:32:24.9±1.5, 135N×124 78E, h220km±14km, mb4.4/11, Error ellipse: s-maj=14.3km s-min=6.3km az=71.0*
ISC 18 02:32:26.3±1.6, 132N±005×1248E±01, h233km±15km, n44, σ0 97/43, mb4.2/24, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TSM	**Tawau**	**7.47**	**293**	P		**Pn**		**02 34 06.7**	**-6.1**
KKM	**Kota Kinabalu**	**9.72**	**299**	*e*Pn		**Pn**		**02 34 42.1**	**+0.6**
KSM	**Kuching**	**14.43**	**271**	*e*Pn		**Pn**		**02 35 40.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**19.32**	**177**	*e*P		**P**		**02 36 32.0**	**-2.1**
	14nm,0.4s								
FITZ	**Fitzroy Crossi**	**19.32**	**177**	P		**P**		**02 36 32.6**	**-1.5**
	1.2nm,0.3s,baz=4.1,slow=10.0,SNR=24								
FITZ				S		**S**		**02 39 57.8**	**-2.2**
	0.1nm,0.3s,baz=198,slow=20,SNR=2.7								
MBWA	**Marble Bar**	**22.87**	**192**	*e*P		**P**		**02 37 08.1**	**-1.5**
	4.9nm,0.6s,mb4.2								
WRAB	**Tennant Creek**	**23.12**	**156**	*e*P		**P**		**02 37 12.1**	**+0.2**
	70nm,0.8s,mb5.2								
WRA	**Warramunga Arr**	**23.13**	**156**	P		**P**		**02 37 12.0**	**+0.1**
	55nm,0.7s,mb5.2,baz=334,slow=11,SNR=91								
WRA				S		**S**		**02 41 06.4**	**+0.9**
	9.2nm,0.9s,baz=336,slow=16,SNR=15								
WB2	**Warramunga Arr**	**23.13**	**156**	*e*P		**P**		**02 37 12.0**	**0.0**
WB2				*e*S		**S**		**02 41 06.0**	**+0.4**
AS31	**Alice Springs**	**26.38**	**161**	*e*P		**P**		**02 37 41.7**	**+0.4**
ASPA	**Alice Springs**	**26.38**	**161**	*e*P		**P**		**02 37 41.7**	**+0.4**
ASAR	**Alice Springs**	**26.38**	**161**	P		**P**		**02 37 41.6**	**+0.3**
	3.0nm,0.5s,mb4.2,baz=344,slow=8.2,SNR=38								
ASAR				PcP		PcP		02 41 03.0	+2.7
	3.2nm,0.6s,baz=343,slow=2.2,SNR=18								
ASAR				S		**S**		**02 42 00.4**	**+3.4**
	2.6nm,0.8s,baz=348,slow=20,SNR=9.1								
FORT	**Forrest**	**32.07**	**175**	*e*P		**P**		**02 38 32.0**	**+0.5**
	27nm,0.6s,mb5.0								
KLBR	**Kellerberrin**	**33.40**	**191**	*e*P		**P**		**02 38 42.0**	**-0.9**
	79nm,1.8s,mb4.9								
STKA	**Stephens Creek**	**36.67**	**156**	*e*P		**P**		**02 39 11.9**	**+1.0**
	5.0nm,0.6s,mb4.2								
STKA	**Stephens Creek**	**36.67**	**156**	P		**P**		**02 39 12.0**	**+1.1**
	6.9nm,0.6s,mb4.4,baz=330,slow=9.3,SNR=12								
STKA				PcP		PcP		02 41 28.8	+0.5
	4.2nm,0.8s,baz=308,slow=4.6,SNR=3.8								
MJAR	**Matsushiro Arr**	**37.20**	**18**	P		**P**		**02 39 14.0**	**-1.2**
	11nm,0.7s,mb4.5,baz=195,slow=9.0,SNR=25								
MJAR	**Matsushiro Arr**	**37.20**	**18**	P		**P**		**02 39 14.0**	**-1.2**
MAJO	**Matshiro**	**37.20**	**18**	*e*P		**P**		**02 39 15.1**	**-0.2**
	6.8nm,0.8s,mb4.2								
MAT	**Matsushiro**	**37.20**	**18**	P		**P**		**02 39 15.2**	**-0.1**
MAT	**Matsushiro**	**37.20**	**18**	*e*P		**P**		**02 39 15.0**	**-0.3**
LZH	**Lanzhou**	**39.65**	**333**	*e*P		**P**		**02 39 37.5**	**+1.8**
MDJ	**Mudanjiang**	**43.33**	**5**	P		**P**		**02 40 06.3**	**+0.9**
MDJ				AMB		AMB			
	comp=Z,9.0nm,0.8s,mb4.2								
MDJ				AMB		AMB			
	comp=Z,37nm,3.9s								
GTA	**Gaotai**	**44.21**	**332**	*e*P		**P**		**02 40 13.8**	**+1.4**
GTA				AMB		AMB			
	comp=Z,7.0nm,0.9s,mb4.0								
SONM	**Songino Array**	**48.99**	**344**	P		**P**		**02 40 49.1**	**-0.3**
	comp=Z,1.9nm,0.9s,mb3.4,baz=161,slow=9.0,SNR=9.9								
MKAR	**Makanchi Array**	**58.44**	**327**	P		**P**		**02 41 57.5**	**-0.2**
	comp=Z,2.6nm,0.6s,mb4.1,baz=123,slow=8.6,SNR=22								
MKAR				PcP		PcP		02 42 46.5	+0.7
	comp=Z,3.8nm,0.7s,baz=121,slow=5.2,SNR=18								
ZAL	**Zalesovo**	**61.86**	**334**	P		**P**		**02 42 19.6**	**-1.4**
	comp=Z,14nm,0.3s,mb4.1,baz=46,slow=3.4,SNR=4.4								
KURK	**Kurchatov**	**62.73**	**329**	*e*P		**P**		**02 42 25.8**	**-0.9**
	comp=Z,8.9nm,0.9s,mb4.4								
CASY	**Casey**	**68.21**	**186**	P		**P**		**02 43 02.4**	**+0.6**
	comp=Z,2.7nm,0.7s,mb4.0								
BVAR	**Borovoye Array**	**68.28**	**328**	P		**P**		**02 43 01.6**	**-0.5**
	comp=Z,2.6nm,0.9s,mb3.9,baz=147,slow=6.9,SNR=7.2								
ZRNK	**Zerenda**	**68.98**	**328**	*e*P		**P**		**02 43 05.3**	**-1.2**
	comp=Z,3.8nm,1.0s,mb4.0								
AKTK	**Aktyubinsk**	**74.33**	**322**	P		**P**		**02 43 37.7**	**-0.6**
AKTO	**Aktyubinsk**	**74.33**	**322**	P		**P**		**02 43 37.7**	**-0.6**
	comp=Z,2.1nm,0.7s,mb3.9,baz=98,slow=10.0,SNR=5.3								
MAW	**Mawson**	**80.82**	**200**	*e*P		**P**		**02 44 15.1**	**+1.0**
	comp=Z,0.6nm,0.6s,mb3.4								
VNDA	**Vanda**	**81.31**	**172**	P		**P**		**02 44 17.5**	**+0.9**
	comp=Z,1.4nm,0.6s,mb3.8,baz=308,slow=6.6,SNR=16								
VNDA	**Vanda**	**81.31**	**172**	P		**P**		**02 44 17.5**	**+0.8**
ASF	**Jabal al Asfar**	**87.48**	**302**	P		**P**		**02 44 48.7**	**+1.1**
	comp=Z,1.8nm,0.7s,mb3.9,baz=211,slow=2.9,SNR=4.4								
KMBO	**Kilima Mbogo**	**87.52**	**269**	P		**P**		**02 44 48.9**	**+1.1**
	comp=Z,0.9nm,0.7s,mb3.7,baz=42,slow=11,SNR=5.9								
ARCES	**ARCESS Array B**	**92.01**	**340**	P		**P**		**02 45 07.5**	**-1.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=79,slow=5.1,SNR=6.2								
ULM	**Lac du Bonnet**	**118.01**	**28**	PKP		PKPdf		02 50 47.0	+1.7
	comp=Z,1.2nm,0.9s,baz=76,slow=2.1,SNR=3.2								
ULM	**Lac du Bonnet**	**118.01**	**28**	PKP		PKPdf		02 50 47.0	+1.7
TORD	**Torodi Ar. Bea**	**121.73**	**286**	PKP		PKPdf		02 50 54.3	+1.9
	comp=Z,1.7nm,0.7s,baz=48,slow=1.4,SNR=13								
SCHQ	**Schefferville**	**123.23**	**8**	PKP		PKPdf		02 50 57.0	+1.8
	comp=Z,2.2nm,0.8s,baz=255,slow=7.4,SNR=4.1								
DBIC	**Dimbokro**	**129.08**	**280**	PKP		PKPdf		02 51 08.2	+1.7
	comp=Z,5.7nm,1.0s,baz=192,slow=6.3,SNR=4.0								

*NNC **18** 02:44:17.9±8.4, 36.30N×68.51E, h0km, mb3.5, mpv3.6, Error ellipse: s-maj=77.2km s-min=44.2km az=41.0*
*IDC **18** 02:44:38.7±2.1, 37.89N×69.10E, h0km, mb3.9/5, mb1 3.9/9, mb1mx3.6/24, mbtmp3.8/9, ML3.2/3, Error ellipse: s-maj=37.9km s-min=19.9km az=150.0*
*ISCJB **18** 02:44:41.3±2.1, 38.24N±005×69.05E±008, h20km±16km, mb3.7/6, Error ellipse: s-maj=11.0km s-min=7.1km az=132.5*
*MOS **18** 02:44:42.8±1.5, 38.22N×69.09E, h33km, mb4.1/5, Error ellipse: s-maj=16.4km s-min=9.1km az=90.1*
*NEIC **18** 02:44:45.0±0.7, 38.26N×69.17E, h35km, mb4.3/3, Error ellipse: s-maj=16.2km s-min=7.0km az=53.0*
ISC 18 02:44:42.6±3.1, 3818N±005×6899E±007, h18km±22km, n44, σ1 9 21/49, mb3.7/6, 4C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.05**	**13**	Pn		**Pn**		**02 45 59.0**	**+1.6**
	3.5nm,0.6s,baz=186,slow=11,SNR=45								
KK31				Sn		Sn		02 47 23.4	+28
	86nm,0.7s,baz=157,slow=21,SNR=9.3								
AML	**Almayashu**	**5.34**	**41**	P		**Pn**		**02 46 11.2**	**+10**
	SNR=6.2								
UCH	**Uchtor**	**5.85**	**45**	P		**Pn**		**02 46 10.8**	**+2.4**
	SNR=17								
AAK	**Ala-Archa**	**6.12**	**42**	*e*PN		**Pn**		**02 46 11.7**	**-0.4**
AAK				pmax		pmax			
	comp=Z,25nm,0.7s								
AAK	**Ala-Archa**	**6.12**	**42**	*e*Pn		**Pn**		**02 46 11.7**	**-0.4**
	comp=Z,26nm,0.7s								
AAK				Sn		**Sn**		**02 47 20.6**	**-1.1**
KZA	**Kyzart**	**6.18**	**49**	P		**Pn**		**02 46 14.3**	**+1.4**
	SNR=15								
FRU	**Bishkek**	**6.32**	**41**	*e*PN		**Pn**		**02 46 23.5**	**+8.6**
FRU				*e*				02 47 50.0	
FRU				pmax		pmax			
	comp=Z,90nm,1.7s								
FRU				pmax		pmax			
	comp=N,340nm,1.7s								
KBK	**Karagaybulak**	**6.38**	**44**	P		**Pn**		**02 46 17.5**	**+1.8**
	SNR=13								
ULHL	**Ulahol**	**6.88**	**52**	P		**Pn**		**02 46 22.6**	**0.0**
	SNR=8.8								
TKM2	**Tokmak 2**	**6.91**	**45**	P		**Pn**		**02 46 23.8**	**+0.8**
	SNR=9.6								
TKM2	**Tokmak 2**	**6.91**	**45**	⇓Pn		**Pn**		**02 46 23.7**	**+0.8**
	comp=N,0.9nm,0.6s								
TKM2				⇑Sn		**Sb**		**02 48 00.4**	**-3.8**
	comp=N,11nm,1.1s								
MK07	**Makanchi Array**	**13.03**	**45**	⇓Pn		**Pn**		**02 47 46.1**	**-0.8**
	comp=N,7.0nm,1.1s								
MKAR	**Makanchi Array**	**13.04**	**44**	Pn		**Pn**		**02 47 46.0**	**-1.0**
	comp=N,0.1nm,0.3s,baz=226,slow=13,SNR=16								
AKTK	**Aktyubinsk**	**14.53**	**331**	Pn		**Pn**		**02 48 05.8**	**-1.5**
AKTO	**Aktyubinsk**	**14.53**	**331**	⇑Pn		**Pn**		**02 48 07.1**	**-0.1**
	comp=N,0.1nm,0.8s								
AKTO				⇑Sn		**Sn**		**02 51 02.1**	**+14**
	comp=N,0.5nm,1.5s								
AKTO				⇑Lg				02 52 46.7	
	comp=N,0.6nm,1.2s								
AKTO	**Aktyubinsk**	**14.53**	**331**	Pn		**Pn**		**02 48 05.8**	**-1.5**
	comp=N,0.2nm,0.3s,baz=158,slow=15,SNR=3.6								
ZRNK	**Zerenda**	**14.77**	**0**	*e*P		**Pn**		**02 48 10.2**	**-0.4**
ZRNK				*e*				02 50 49.4	
ZRNK				pmax		pmax			
	comp=Z,3.0nm,0.7s								
ZRNK	**Zerenda**	**14.77**	**0**	*e*Pn		**Pn**		**02 48 10.2**	**-0.4**
	comp=Z,2.7nm,0.7s								
ZRNK				*e*Sn		**Sn**		**02 50 49.4**	**-4.4**
BVA0	**Borovoye Array**	**14.88**	**3**	Pn		**Pn**		**02 48 16.6**	**+4.6**
	comp=Z,0.1nm,0.4s,baz=158,slow=10.0,SNR=4.0								
BVAR	**Borovoye Array**	**14.88**	**3**	Pn		**Pn**		**02 48 10.1**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=186,slow=13,SNR=3.0								
KOLN	**Koldanda**	**16.05**	**126**	*e*P		**Pn**		**02 48 28.5**	**+1.2**
	comp=Z,25nm,1.0s								
GKN	**Gorkha**	**16.56**	**123**	*e*P		**Pn**		**02 48 34.3**	**+0.4**
KKN	**Kakani**	**17.13**	**122**	*e*P		**Pn**		**02 48 40.3**	**-0.8**
	comp=Z,20nm,0.7s								
KKN	**Kakani**	**17.13**	**122**	*e*P		**Pn**		**02 48 40.3**	**-0.8**
KKN				pmax		pmax			
	comp=Z,20nm,0.7s								
DMN	**Daman**	**17.13**	**123**	*e*P		**Pn**		**02 48 40.9**	**-0.2**
	comp=Z,25nm,0.9s								
PKI	**Pulchoki**	**17.36**	**123**	*e*P		**Pn**		**02 48 42.6**	**-1.3**
JIRN	**Jiri**	**17.82**	**121**	*e*P		**Pn**		**02 48 48.4**	**-1.3**
ZAL	**Zalesovo**	**19.13**	**29**	P		**Pn**		**02 49 03.9**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=259,slow=11,SNR=6.5								
ZAL	**Zalesovo**	**19.13**	**29**	P		**Pn**		**02 49 03.9**	**-1.7**
ZAL				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ZAL	**Zalesovo**	**19.13**	**29**	P		**Pn**		**02 49 03.9**	**-1.7**
NVS	**Novosibirsk**	**19.27**	**26**	*e*P		**Pn**		**02 49 09.0**	**+1.7**
ARU	**Arti**	**19.54**	**343**	*e*P		**Pn**		**02 49 09.9**	**-0.6**
ARU				*e*S		**Sn**		**02 52 41.5**	**-7.8**
ZAK	**Zakamensk**	**27.16**	**52**	*e*P		**P**		**02 50 26.2**	**+1.3**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.4s,mb3.5								
BOD	**Bodaibo**	**35.10**	**41**	*e*P		**P**		**02 51 31.5**	**-3.3**
FINES	**FINESS Array B**	**35.19**	**325**	P		**P**		**02 51 36.9**	**+1.2**
	comp=Z,1.8nm,0.8s,mb4.0,baz=108,slow=8.9,SNR=3.1								
FINES	**FINESS Array B**	**35.19**	**325**	P		**P**		**02 51 36.9**	**+1.3**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ARCES	**ARCESS Array B**	**38.98**	**337**	P		**P**		**02 52 08.5**	**+0.7**
	comp=Z,3.3nm,0.9s,mb3.9,baz=116,slow=8.1,SNR=3.0								
ARCES	**ARCESS Array B**	**38.98**	**337**	P		**P**		**02 52 08.5**	**+0.7**
ARCES				pmax		pmax			
	comp=Z,2.0nm,0.9s								
ARCES	**ARCESS Array B**	**38.98**	**337**	P		**P**		**02 52 08.5**	**+0.7**
HFS	**Hagfors**	**40.75**	**321**	P		**P**		**02 52 22.4**	**-0.2**
	comp=Z,2.8nm,0.9s,mb3.9,baz=115,slow=13,SNR=3.5								
HFS	**Hagfors**	**40.75**	**321**	P		**P**		**02 52 22.4**	**-0.1**
HFS				pmax		pmax			
	comp=Z,3.0nm,0.9s								
NOA	**NORSAR Array B**	**42.07**	**322**	P		**P**		**02 52 34.4**	**+1.0**
	comp=Z,0.6nm,0.7s,mb3.4,baz=97,slow=8.1,SNR=3.0								
NOA	**NORSAR Array B**	**42.07**	**322**	P		**P**		**02 52 34.4**	**+1.1**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
TORD	**Torodi Ar. Bea**	**64.18**	**267**	P		**P**		**02 55 16.2**	**0.0**
	comp=Z,0.8nm,1.0s,mb3.7,baz=45,slow=6.3,SNR=9.1								

*NEIC **18** 02:47:24.7±2.6, 983S×107.11E, h10km, Error ellipse: s-maj=117.0km s-min=14.3km az=47.0*
IDC 18 02:47:25.8±1.7, 928S×10776E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/18, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=86.1km s-min=19.0km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.45**	**119**	P		**Pn**		**02 51 55.8**	**+0.9**
	0.1nm,0.3s,baz=276,slow=18,SNR=2.9								
WRA	**Warramunga Arr**	**27.78**	**115**	P		**P**		**02 53 16.3**	**0.0**
	0.7nm,0.7s,baz=288,slow=11,SNR=2.8								
ASAR	**Alice Springs**	**28.79**	**123**	P		**P**		**02 53 25.5**	**+0.2**
	0.5nm,0.7s,baz=300,slow=8.4,SNR=3.2								
ASAR				PcP		PcP		02 56 34.5	-0.8
	0.4nm,0.9s,baz=282,slow=2.0,SNR=4.4								
SONM	**Songino Array**	**56.88**	**359**	P		**P**		02 57 13.5	+1.2
	0.6nm,0.7s,baz=171,slow=8.2,SNR=5.1								
MKAR	**Makanchi Array**	**60.27**	**340**	P		**P**		02 57 36.2	+0.3
	1.4nm,0.6s,baz=141,slow=8.0,SNR=13								
BVAR	**Borovoye Array**	**69.75**	**337**	P		**P**		02 58 35.9	-1.7
	0.7nm,0.5s,baz=127,slow=9.6,SNR=4.1								
AKASG	**Malin Array Be**	**89.93**	**321**	P		**P**		03 00 27.9	+1.1
	0.3nm,0.3s,baz=92,slow=16,SNR=5.0								

*BJI **18** 02:59:11.3, 930S×108.70E, h10km, mB4.7, mb4.9*
*NEIC **18** 02:59:12.3±0.2, 933S×108.74E, h10km, mb5.0/22, Error ellipse: s-maj=10.2km s-min=6.2km az=55.0*
*ISCJB **18** 02:59:14.5±0.3, 930S±005×108.85E±006, h38km, mb4.8/43, Error ellipse: s-maj=9.8km s-min=6.3km az=108.7*
*MOS **18** 02:59:14.0±0.7, 926S×108.85E, h33km, mb5.1/16, Error ellipse: s-maj=17.5km s-min=9.9km az=114.5*
*IDC **18** 02:59:16.4±0.5, 926S×108.81E, h37km±4km, mb4.4/16, mb1 4.5/17, mb1mx4.5/19, mbtmp4.6/17, ML4.1/1, Error ellipse: s-maj=17.7km s-min=11.5km az=57.0*
ISC 18 02:59:16.8±0.3, 932S±006×10882E±007, h40km, h40km±.7km:pP-P, n100, σ0 72/79, mb4.8/43, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**12.11**	**255**	*e*Pn		**Pn**		**03 02 10.0**	**+3.3**
	84nm,0.7s								
MBWA	**Marble Bar**	**15.78**	**139**	*e*Pn		**Pn**		**03 02 50.4**	**-5.7**
MBWA				*e*Sn		Sn		03 05 21.4	-28
KKM	**Kota Kinabalu**	**16.95**	**26**	*e*Pn		**Pn**		**03 03 11.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**18.51**	**120**	*e*P		**Pn**		**03 03 29.9**	**-0.2**
	18nm,0.4s								
FITZ	**Fitzroy Crossi**	**18.51**	**120**	P		**Pn**		**03 03 30.1**	**0.0**
	0.5nm,0.3s,baz=281,slow=7.6,SNR=14								
WRA	**Warramunga Arr**	**26.82**	**116**	P		**P**		**03 04 53.8**	**+0.6**
	11nm,0.7s,mb4.5,baz=288,slow=11,SNR=24								
WRA				pP		pP		03 05 04.6	+0.4
	10nm,0.9s,baz=288,slow=11,SNR=9.2								
WRAB	**Tennant Creek**	**26.82**	**116**	*e*P		**P**		**03 04 53.7**	**+0.4**
WRAB				*e**PP		pP		03 05 05.4	+1.2
WRAB				pmax		pmax			
	comp=Z,15nm,0.7s,mb4.6								
WRAB	**Tenn

MJAR comp=Z,2.6nm,0.5s,mb4.4,baz=199,slow=8.0,SNR=6.3 pP pP 03 08 41.3 -2.2
CASY Casey 56.89 179 *e*P **P** **03 08 56.9 -0.8**
SONM Songino Array 56.94 358 P **P** **03 08 57.6 -0.4**
SONM comp=Z,6.8nm,0.5s,mb4.9,baz=178,slow=8.4,SNR=65 pP pP 03 09 08.8 -0.8
ULN Ulaanbaatar 56.95 359 *e*P **P** **03 08 58.1 0.0**
ULN *e**PP pP 03 09 09.1 -0.6
ULN comp=Z,4.1nm,0.8s,baz=202,slow=8.5,SNR=5.0 pmax pmax
ULN Ulaanbaatar 56.95 359 *e*P **P** **03 08 58.1 0.0**
ULN comp=Z,17nm,1.1s,mb5.0 *e*pP pP 03 09 09.1 -0.5
ZAK Zakamensk 59.65 356 *e*P **P** **03 09 16.8 -0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.5s,mb4.1
KZA Kyzart 59.68 332 P **P** **03 09 17.1 0.0**
SNR=10
TKM2 Tokmak 2 60.17 332 P **P** **03 09 20.3 -0.2**
SNR=20
KBK Karagaybulak 60.27 332 P **P** **03 09 21.4 +0.2**
SNR=5.7
AML Almayashu 60.46 331 P **P** **03 09 22.8 +0.3**
SNR=8.4
MKAR Makanchi Array 60.67 339 P **P** **03 09 23.7 -0.2**
MKAR comp=Z,11nm,0.5s,mb5.2,baz=146,slow=7.5,SNR=110 pP pP 03 09 34.4 -1.2
comp=Z,13nm,0.8s,baz=144,slow=6.9,SNR=13
EKS2 Erkin-Say 60.83 331 P **P** **03 09 25.1 +0.1**
SNR=5.8
MOY Mondy 61.11 354 *e*P **P** **03 09 28.1 +1.2**
KLR Kul'dur 61.68 17 *e*P **P** **03 09 26.3 -4.4**
KURK Kurchatov 65.28 339 *e*P **P** **03 09 54.2 -0.3**
KURK *e**PP pP 03 10 05.1 -1.2
KURK comp=Z,14nm,0.8s,mb5.0 pmax pmax
KURK Kurchatov 65.28 339 *e*P **P** **03 09 54.2 -0.3**
KURK comp=Z,14nm,0.8s,mb5.0 *e*pP pP 03 10 05.1 -1.2
MAW Mawson 65.70 198 *e*P **P** **03 09 56.2 -1.0**
comp=Z,2.0nm,0.6s,mb4.3,baz=63,slow=10.0,SNR=8.0
MAW Mawson 65.70 198 *e*P **P** **03 09 56.4 -0.8**
MAW *e**PP pP 03 10 08.1 -0.9
MAW comp=Z,4.0nm,0.8s pmax pmax
MAW Mawson 65.70 198 *e*P **P** **03 09 56.4 -0.8**
comp=Z,3.6nm,0.8s,mb4.5
MAW *e*pP pP 03 10 08.1 -0.9
BOD Bodaibo 67.04 3 *e*P **P** **03 10 04.8 -1.0**
BOD *e* pP 03 10 15.5 -2.1
BOD comp=Z,4.0nm,0.9s,mb4.5 pmax pmax
BOD comp=Z,7.0nm,1.1s,mb4.6 pmax pmax
BRVK Borovoye 70.26 336 *e*P **P** **03 10 25.5 -0.4**
BRVK *e**PP pP 03 10 36.5 -1.2
BRVK comp=Z,7.0nm,0.8s,mb4.6 pmax pmax
BRVK Borovoye 70.26 336 *e*P **P** **03 10 25.4 -0.4**
comp=Z,7.5nm,0.8s,mb4.7
BRVK *e*pP pP 03 10 36.5 -1.3
CHKZ Chkalovo 70.60 337 *e*P **P** **03 10 27.6 -0.4**
CHKZ *e**PP pP 03 10 38.7 -1.1
CHKZ comp=Z,15nm,0.7s,mb5.0 pmax pmax
CHKZ Chkalovo 70.60 337 *e*P **P** **03 10 27.6 -0.4**
comp=Z,15nm,0.7s,mb5.0
CHKZ *e*pP pP 03 10 38.7 -1.1
ZRNK Zerenda 70.69 336 *e*P **P** **03 10 28.0 -0.5**
ZRNK *e**PP pP 03 10 39.7 -0.7
ZRNK comp=Z,11nm,0.6s,mb5.0 pmax pmax
ZRNK Zerenda 70.69 336 *e*P **P** **03 10 28.0 -0.5**
comp=Z,11nm,0.6s,mb5.0
ZRNK *e*pP pP 03 10 39.7 -0.7
KMBO Kilima Mbogo 71.63 272 P **P** **03 10 34.2 +0.1**
comp=Z,2.0nm,0.8s,mb4.1,baz=3.9,slow=9.6,SNR=3.8
KMBO Kilima Mbogo 71.63 272 P **P** **03 10 34.2 0.0**
YAK Yakutsk 72.97 10 *e*P **P** **03 10 41.4 -0.8**
YAK *e* pP 03 10 52.5 -1.6
YAK comp=N,5.0nm,1.0s pmax pmax
YAK comp=Z,21nm,1.0s,mb5.0 pmax pmax
YAK comp=E,3.0nm,1.1s pmax pmax
YAK comp=Z,19nm,0.9s,mb5.0 pmax pmax
YAK comp=N,5.0nm,1.1s pmax pmax
YAK comp=E,2.0nm,1.0s pmax pmax
YAK Yakutsk 72.97 10 *e*P **P** **03 10 40.6 -1.5**
YAK comp=E,28nm,0.8s,mb5.2 *e*pP pP 03 10 52.1 -1.9
VNDA Vanda 73.37 170 P **P** **03 10 43.8 -0.8**
comp=E,3.7nm,0.8s,mb4.3,baz=304,slow=6.2,SNR=21
AKTK Aktyubinsk 74.02 329 P **P** **03 10 47.2 -1.1**
AKTO Aktyubinsk 74.02 329 P **P** **03 10 47.2 -1.1**
comp=E,2.4nm,0.8s,mb4.2,baz=113,slow=10,SNR=8.3
LSZ Lusaka 78.63 256 *e*P **P** **03 11 15.4 +0.9**
LSZ *e**PP pP 03 11 27.2 +0.7
LSZ comp=Z,5.0nm,0.8s,mb4.5 pmax pmax
LSZ Lusaka 78.63 256 *e*P **P** **03 11 15.4 +0.9**
comp=Z,4.6nm,0.8s,mb4.5
LSZ *e*pP pP 03 11 27.2 +0.7
KIV Kislovodsk 79.80 318 *e*P **P** **03 11 20.7 -0.2**
KIV comp=Z,6.0nm,0.5s,mb4.8 pmax pmax
ASF Jabal al Asfar 79.95 305 P **P** **03 11 23.1 +1.4**
comp=Z,2.9nm,0.6s,mb4.4,baz=308,slow=3.8,SNR=7.7
LBTB Lobatse 80.02 246 *e*P **P** **03 11 22.5 +0.4**
LBTB comp=Z,5.0nm,0.9s,mb4.4 pmax pmax
LBTB Lobatse 80.02 246 *e*P **P** **03 11 22.5 +0.4**
comp=Z,5.3nm,0.9s,mb4.5
QSPA South Pole Qui 80.68 180 *e*P **P** **03 11 25.1 -0.5**
comp=Z,11nm,1.3s,mb4.6
QSPA *e*pP pP 03 11 37.5 -0.2
TIXI Tiksi 81.89 6 *e*P **P** **03 11 27.3 -4.7**
TIXI comp=Z,21nm,0.8s,mb5.1 pmax pmax
BRTR Keskin Array B 84.70 312 P **P** **03 11 46.7 +0.2**
comp=Z,5.0nm,0.8s,mb4.7,baz=134,slow=6.7,SNR=28
BRTR *e*pP pP 03 11 58.0 -0.6
comp=Z,2.5nm,0.8s,baz=132,slow=7.4,SNR=5.0
BR131 Keskin Array S 84.70 312 *e*P **P** **03 11 46.5 0.0**
comp=Z,4.7nm,0.7s,mb4.7
BR131 *e*pP pP 03 11 58.2 -0.5
AKASG Malin Array Be 90.62 321 P **P** **03 12 13.8 -1.1**
comp=Z,1.0nm,0.5s,mb4.4,baz=90,slow=3.9,SNR=9.9
MLR Muntele Rosu 91.62 316 P **P** **03 12 19.9 +0.3**
comp=Z,4.8nm,0.9s,mb4.8,baz=219,slow=0.3,SNR=3.4
FINES FINESS Array B 94.66 331 P **P** **03 12 32.6 -1.0**
comp=Z,4.9nm,1.1s,mb4.8,baz=265,slow=4.8,SNR=3.8
YKA Yellowknife Ar 118.38 21 PKP PKPdf 03 17 59.5 -0.4
comp=Z,1.1nm,0.6s,baz=338,slow=1.8,SNR=9.7
YKA pPKP pPKPdf 03 18 10.7 -1.8
comp=Z,0.7nm,0.8s,baz=315,slow=1.5,SNR=3.8
YKA Yellowknife Ar 118.38 21 PKP PKPdf 03 17 59.5 -0.4
YKA pPKP pPKPdf 03 18 10.7 -1.8
NVAR Mina Array Bea 128.83 48 PKP PKPdf 03 18 22.3 +2.3
comp=Z,0.8nm,0.6s,baz=293,slow=0.5,SNR=5.3
PDAR Pinedale Array 132.74 38 PKP PKPdf 03 18 27.6 +0.2
comp=Z,0.4nm,0.6s,baz=45,slow=2.3,SNR=4.3
MSU Marysvale 133.17 45 *e*PKIKP PKPdf 03 18 31.9 +3.7
CFAA Coronel Fontan 139.21 184 PKP PKPdf 03 18 37.6 -1.8
comp=Z,0.2nm,0.5s,baz=64,slow=4.6,SNR=3.3
CPUP Villa Florida 142.09 200 PKhKP 03 18 39.5
CPUP comp=Z,0.3nm,0.4s,baz=176,slow=15,SNR=2.9 PKP PKPdf 03 18 45.5 +0.9
comp=Z,1.1nm,0.6s,baz=81,slow=1.9,SNR=9.0
WMOK Wichita Mounta 144.25 41 *e*PKIKP PKPdf 03 18 47.4 -1.0
WMOK *e* 03 18 59.1
NCB Newcomb 145.38 4 *e*PKPdf PKPdf 03 18 51.0 +0.7
NCB *ep*PKPdf pPKPdf 03 19 02.3 -0.6
JCT Junction City 146.01 48 *e*PKPdf PKPdf 03 18 53.8 +2.3
JCT *ep*PKPdf pPKPdf 03 19 06.1 +2.1
CCM Cathedral Cave 146.16 29 *e*PKPdf PKPdf 03 18 53.1 +1.4
CCM *ep*PKPdf pPKPdf 03 19 04.6 +0.4
BDFB Brasilia 146.21 223 PKPbc PKPbc 03 18 54.5 +1.7
comp=Z,3.6nm,0.6s,baz=140,slow=3.6,SNR=9.4
BDFB pPKPbc pPKPbc 03 19 06.1 +0.8
comp=Z,3.2nm,0.6s,baz=134,slow=0.9,SNR=4.5
BINY Binghamton 146.98 7 *e*PKPdf PKPdf 03 18 55.5 +2.4
BINY *ep*PKPdf pPKPdf 03 19 07.3 +1.7
MIAR Mount Ida 147.57 36 *e*PKP2 PKPab 03 18 58.0 -0.9
WCI Wyandotte Cave 148.16 23 *e*PKP2 PKPab 03 18 59.0 -2.3
SSPA Standing Stone 148.25 10 *e*PKPdf PKPdf 03 18 58.7 +3.5
HKT Hockley 149.14 45 *e*PKHKP 03 18 55.2
PLAL Pickwick Lake 150.15 29 *e*PKPbc PKPbc 03 19 03.6 +0.3
PLAL *ep*PKPdf pPKPdf 03 19 15.2 +4.4
TZTN Tazewell 150.66 21 *e*PKPbc PKPbc 03 19 05.6 +1.1
TZTN *ep*PKPdf pPKPdf 03 19 16.7 +5.1
LPAZ La Paz 154.38 187 PKPbc PKPbc 03 19 15.1 +2.2
comp=Z,1.4nm,0.6s,baz=138,slow=7.9,SNR=11
OTAV Otavalo 168.44 141 *e*PKPdf PKPdf 03 19 21.9 +2.7

MOS ***18*** *03:01:46.1±0.9, 922S×10897E, h33km, mb5.5/22, Error ellipse: s-maj=13.4km s-min=6.7km az=112.3*
ISCJB ***18*** *03:01:46.2±0.2, 927S±003×10890E±004, h34km, mb5.1/90, MS4.6/13, Error ellipse: s-maj=6.2km s-min=4.6km az=137.9*
HRVD ***18*** *03:01:48.2±0.6, 966S×10876E, h20km±1km, MW4.9/45, Centroid moment Tensor Solution. LP body waves: s30,c33;Mantle waves: s45,c63; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.60±.20; $M_{\theta\theta}$1.90±.12; $M_{\phi\phi}$0.70±.17; $M_{r\theta}$-0.67±.21; $M_{\theta\phi}$-1.16±.10; $M_{\phi r}$0.91±.32; Best double couple: M_o2.83700×10^{16} NP1:ϕ_s293.00000°,δ35.00000°,λ-104.00000°. NP2: ϕ_s130.00000°,δ57.00000°,λ-81.00000°. Principal axes: T 2.8110, Plg11.0000°, Azm213.0000°; N 0.0540, Plg8.0000°, Azm305.0000°; P -2.8630, Plg76.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***18*** *03:01:48.4±0.3, 929S×10890E, h34km±2km, mb4.6/20, mb1 4.6/21, mb1mx4.6/22, mbtmp4.8/21, ML4.4/1, MS4.0/2, Ms1 4.0/2, ms1mx3.0/40 Error ellipse: s-maj=13.5km s-min=9.7km az=63.0*
BJI ***18*** *03:01:48.1, 930S×10890E, h32km, mB5.1, mb5.0, Ms4.9, Msz4.7*
NEIC ***18*** *03:01:48.2±0.7, 926S×10889E, h33km±4km, mb5.3/24, Error ellipse: s-maj=7.7km s-min=4.9km az=53.0*
ISC 18 03:01:48.4±0.2, 931S±004×10889E±004, h36km, h36km±.5km:pP-P, n228, σ0=96/190, mb5.1/90, MS4.6/13, 11C-13D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.12**	**23**	⇑*i*P		P	**Pn**	**03 02 24.7**	**+3.3**
BJII				*i* S		S	**Sn**	**03 02 43.4**	**-3.1**
KSI	**Kapahiang**	**8.40**	**312**	P		P	**Pn**	**03 03 46.9**	**-0.8**
	253nm,0.7s								
KSM	**Kuching**	**10.80**	**8**	*e*Sn			**Sn**	**03 06 21.4**	**+1.3**
PSI	**Prapat**	**15.59**	**320**	Pn		Pn	**Pn**	**03 05 18.5**	**-7.0**
	1.2nm,0.3s,baz=343,slow=20,SNR=5.2								
IPM	**Ipoh**	**15.78**	**330**	P		P	**Pn**	**03 05 35.6**	**+7.8**
KKM	**Kota Kinabalu**	**16.91**	**26**	P		P	**Pn**	**03 05 44.5**	**+2.3**
KKM	**Kota Kinabalu**	**16.91**	**26**	*e*Pn		P	**Pn**	**03 05 42.7**	**+0.5**
FITZ	**Fitzroy Crossi**	**18.46**	**120**	*e*P		P	**Pn**	**03 06 02.6**	**+1.2**
	27nm,0.6s								
FITZ				*e*				03 06 11.8	
FITZ	**Fitzroy Crossi**	**18.46**	**120**	P		P	**Pn**	**03 06 01.9**	**+0.6**
	1.0nm,0.3s,baz=290,slow=6.6,SNR=17								
FITZ				S		S		**03 09 11.8**	**-18**
	0.3nm,0.3s,baz=65,slow=19,SNR=3.6								
KAKA	**Kakadu**	**23.36**	**100**	*e*P		P	**P**	**03 06 54.9**	**+1.1**
	19nm,0.6s,mb4.7								
NWAO	**Narrogin (SRO)**	**24.74**	**163**	P		P	**P**	**03 07 05.2**	**-1.2**
	4.8nm,0.5s,mb4.3,baz=328,slow=14,SNR=6.3								
NWAO				S		S		**03 11 32.0**	**+5.9**
	12nm,1.0s,baz=75,slow=19,SNR=2.4								
NWAO				LR		LR		03 17 20.3	
	comp=Z,282nm,18.1s,MS3.8,baz=324,slow=38								
NWAO	**Narrogin (SRO)**	**24.74**	**163**	P		P	**P**	**03 07 05.2**	**-1.2**
NWAO				S		S		**03 11 32.0**	**+5.9**
WRA	**Warramunga Arr**	**26.76**	**116**	P		P	**P**	**03 07 25.0**	**+0.3**
	10.0nm,0.7s,mb4.5,baz=289,slow=11,SNR=14								
WRA				LR		LR		03 18 00.9	
	comp=Z,434nm,21.6s,MS4.0,baz=295,slow=36								
WRA	**Warramunga Arr**	**26.76**	**116**	P		P	**P**	**03 07 25.0**	**+0.3**
WRA				LR		LR		03 18 00.9	
WRAB	**Tennant Creek**	**26.77**	**116**	P		P	**P**	**03 07 25.0**	**+0.2**
	SNR=8.4								
WRAB	**Tennant Creek**	**26.77**	**116**	*c* *i*P		P	**P**	**03 07 25.3**	**+0.5**
WRAB	**Tennant Creek**	**26.77**	**116**	*e*P		P	**P**	**03 07 25.2**	**+0.4**
	24nm,0.8s,mb4.8								
WB2	**Warramunga Arr**	**26.77**	**116**	*e*P		P	**P**	**03 07 25.0**	**+0.2**
ASPA	**Alice Springs**	**27.85**	**124**	*e*P		P	**P**	**03 07 34.3**	**-0.2**
AS31	**Alice Springs**	**27.85**	**124**	*e*P		P	**P**	**03 07 34.3**	**-0.2**
ASAR	**Alice Springs**	**27.85**	**124**	P		P	**P**	**03 07 34.4**	**-0.1**
	2.2nm,0.6s,mb4.0,baz=294,slow=8.0,SNR=9.1								
ASAR				PcP		PcP		03 10 51.0	+1.2
	2.6nm,0.7s,baz=300,slow=2.2,SNR=8.5								
ASAR				pPcP				03 11 01.9	
	5.4nm,0.8s,baz=302,slow=1.8,SNR=9.0								
ASAR				S		S		03 12 58.1	+43
	3.5nm,0.7s,baz=311,slow=24,SNR=4.9								
ASAR	**Alice Springs**	**27.85**	**124**	P		P	**P**	**03 07 34.4**	**-0.1**
ASAR								03 10 51.0	
QIZ	**Qiongzhong**	**28.17**	**2**	P		P	**P**	**03 07 39.0**	**+1.6**
QIZ				*e*S		S	**S**	**03 12 24.3**	**+4.0**
QIZ				LR		LR			
	comp=N,504nm,14.5s,MS4.4								
QIZ				LR		LR			
	comp=E,660nm,18.4s,MS4.4								
QIZ				LR		LR			
	comp=Z,695nm,15.0s,MS4.4								
CHTO	**Chiang Mai**	**29.61**	**341**	*e*P		P	**P**	**03 07 50.6**	**+0.5**
CHTO				*e*		pP		03 08 01.3	+0.9
CHTO				pmax		pmax			
	comp=Z,36nm,1.3s,mb4.9								
CHTO	**Chiang Mai**	**29.61**	**341**	*e*P		P	**P**	**03 07 50.6**	**+0.4**
	comp=Z,36nm,1.3s,mb4.9								
CHTO				*e*		pP		03 08 01.3	+0.9
KMI	**Kunming**	**34.74**	**350**	P		P	**P**	**03 08 38.1**	**+3.0**
KMI				AP		pP		03 08 47.5	+2.1
KMI				XP		sP		03 08 50.9	+1.1
KMI				PP		PP		03 09 56.8	+2.6
KMI				PPP				03 10 15.4	
KMI				PCP		PcP		03 11 10.1	+1.9
KMI				S		S		**03 14 07.5**	**+4.6**
KMI				XS		sS		03 14 22.6	+2.7
KMI				SCP		ScP		03 14 52.0	+1.3
KMI				PCS		PcS		03 14 55.6	+0.8
KMI				SS		SS		03 16 22.8	-12
KMI				SSS				03 16 50.3	
KMI				SCS		ScS		03 18 54.5	+0.5
KMI				AMB		AMB			
	comp=Z,16nm,1.2s,mb4.8								
KMI				LR		LR			
	comp=N,1μm,13.0s								
KMI				LR		LR			
	comp=E,518nm,19.5s								
KMI				LR		LR			
	comp=Z,1μm,13.7s,MS4.8								
GYA	**Guiyang**	**35.61**	**357**	⇑*i*P		P	**P**	**03 08 43.8**	**+1.2**
GYA				AP		pP		03 08 53.4	+0.4
GYA				XP		sP		03 08 57.0	-0.3
GYA				PP		PP		03 10 04.6	+0.8
GYA				PCP		PcP		03 11 12.3	+1.5
GYA				S		S		**03 14 16.8**	**+0.5**
GYA				XS		sS		03 14 32.8	-0.6
GYA				SCP		ScP		03 14 54.5	+0.6
GYA				SS		SS		03 16 37.0	-15
GYA				AMB		AMB			
	comp=Z,20nm,0.8s,mb5.1								
GYA				AMB		AMB			
	comp=Z,160nm,4.3s								
GYA				LR		LR			
	comp=N,670nm,14.9s,MS4.6								
GYA				LR		LR			
	comp=E,530nm,15.0s,MS4.6								
GYA				LR		LR			
	comp=Z,570nm,14.2s,MS4.5								
MDRS	**Chennai**	**36.10**	**308**	*ex*		x		03 12 39.9	
VIS	**Vishakhapatnam**	**36.86**	**317**	*e*P		P	**P**	**03 08 54.4**	**+1.2**
VIS				*i* x		x		03 09 05.0	
VIS				AMb		AMB		03 09 05.9	
	comp=Z,65nm,0.6s,mb5.7								
STKA	**Stephens Creek**	**37.72**	**131**	*e*P		P	**P**	**03 09 00.9**	**+0.3**
	comp=Z,20nm,0.6s,mb5.0								
STKA	**Stephens Creek**	**37.72**	**131**	P		P		**03 09 01.2**	**+0.6**
	comp=Z,28nm,0.6s,mb5.2,baz=304,slow=8.2,SNR=20								
BOK	**Bokaro**	**39.84**	**326**	*e*P		P	**P**	**03 09 18.9**	**+0.5**
BOK				*i* pP		pP		03 09 29.3	+0.5
HYB	**Hyderabad**	**40.05**	**311**	*i* P		P	**P**	**03 09 23.0**	**+3.0**
CD2	**Chengdu**	**40.29**	**353**	⇓*i*P		P	**P**	**03 09 22.4**	**+0.4**
CD2				AP		pP		03 09 32.3	-0.2
CD2				XP		sP		03 09 36.3	-0.5
CD2				PP		PP		03 10 59.6	+4.5
CD2				S		S		**03 15 28.9**	**+1.9**
CD2				XS		sS		03 15 45.4	+1.1
CD2				SS		SS		03 18 23.9	-2.3
CD2				AMB		AMB			
	comp=Z,20nm,1.1s,mb4.8								
CD2				AMB		AMB			
	comp=Z,80nm,5.6s								
CD2				LR		LR			
	comp=N,310nm,15.6s								
CD2				LR		LR			
	comp=Z,380nm,14.4s,MS4.4								
JOW	**Kunigami**	**40.55**	**27**	P		P	**P**	**03 09 25.4**	**+1.1**
	comp=Z,32nm,0.8s,mb5.0,baz=209,slow=4.8,SNR=15								
JOW				pP		pP		03 09 35.6	+0.9
	comp=Z,37nm,0.8s,baz=179,slow=4.6,SNR=8.8								
SSE	**Sheshan**	**41.87**	**16**	P		P	**P**	**03 09 36.8**	**+1.8**
SSE				AMB		AMB			
	comp=Z,33nm,0.7s,mb5.1								
SSE				AMB		AMB			
	comp=Z,96nm,3.8s								
NJ2	**Nanjing**	**42.21**	**13**	*e*P		P	**P**	**03 09 36.3**	**-1.5**
NJ2				AP		pP		03 09 46.1	-2.2
NJ2				XP		sP		03 09 50.1	-2.5
NJ2				PP		PP		03 11 16.3	+0.4
NJ2				S		S		**03 15 52.0**	**-3.6**
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.6								
NJ2				AMB		AMB			
	comp=Z,160nm,4.7s								
NJ2				LR		LR			
	comp=N,2μm,22.0s,MS5.0								
NJ2				LR		LR			
	comp=E,610nm,22.1s,MS5.0								
NJ2				LR		LR			
	comp=Z,1μm,20.4s,MS4.8								
JIRN	**Jiri**	**42.82**	**330**	*e*P		P	**P**	**03 09 43.3**	**+0.5**
	comp=Z,151nm,0.8s,mb5.8								
XAN	**Xi'an**	**43.10**	**0**	P		P	**P**	**03 09 45.5**	**+0.4**
XAN				AP		pP		03 09 55.3	-0.3
XAN				AMB		AMB			
	comp=Z,16nm,0.8s,mb4.8								
XAN				LR		LR			
	comp=N,463nm,12.9s								
XAN				LR		LR			
	comp=Z,888nm,14.3s,MS4.8								
PKI	**Pulchoki**	**43.14**	**329**	*e*P		P	**P**	**03 09 45.2**	**-0.1**
	comp=Z,82nm,0.9s,mb5.4								
PKI	**Pulchoki**	**43.14**	**329**	*e*P		P	**P**	**03 09 45.2**	**-0.1**
PKI				pmax		pmax			
	comp=Z,82nm,0.9s,mb5.5								
GUN	**Gumba**	**43.18**	**330**	*e*P		P	**P**	**03 09 46.0**	**+0.3**
	comp=Z,127nm,0.8s,mb5.7								
AKL	**Akola**	**43.26**	**314**	*e*P		P	**P**	**03 09 47.1**	**+0.8**
AKL				AMb		AMB		03 09 59.3	
	comp=Z,44nm,0.6s,mb5.4								
KAD	**Karad**	**43.31**	**308**	*e*P		P	**P**	**03 09 47.4**	**+0.7**
KAD				AMb		AMB		03 10 02.1	
	comp=Z,38nm,0.8s,mb5.2								
DMN	**Daman**	**43.33**	**329**	*e*P		P	**P**	**03 09 47.2**	**+0.3**
	comp=Z,210nm,0.9s,mb5.9								
KKN	**Kakani**	**43.38**	**329**	*e*P		P	**P**	**03 09 47.5**	**+0.2**
	comp=Z,151nm,1.0s,mb5.7								
KKN	**Kakani**	**43.38**	**329**	*e*P		P	**P**	**03 09 47.5**	**+0.2**
KKN				pmax		pmax			
	comp=Z,151nm,1.0s,mb5.7								
GKN	**Gorkha**	**43.89**	**328**	*e*P		P	**P**	**03 09 51.3**	**-0.1**
	comp=Z,130nm,0.8s,mb5.7								
KOLN	**Koldanda**	**44.24**	**327**	*e*P		P	**P**	**03 09 54.3**	**+0.1**
	comp=Z,319nm,0.8s,mb6.1								
POO	**Poona**	**44.27**	**309**	*ex*		x		03 09 43.5	
BHPL	**Bhopal**	**44.65**	**317**	*e*P		P	**P**	**03 09 57.2**	**-0.3**
BHPL				AML		AML		03 09 58.9	
	comp=Z,22nm,0.6s								
BHPL				*i* pP		pP		03 10 07.9	-0.1
BHPL				*i* pP		pP		03 10 08.8	+0.8
LZH	**Lanzhou**	**45.40**	**354**	*e*P		P	**P**	**03 10 04.8**	**+1.4**
LZH				AP		pP		03 10 15.1	+1.1
LZH				XP		sP		03 10 20.1	+1.8
LZH				AMB		AMB			
	comp=Z,47nm,1.2s,mb5.2								
LZH				AMB		AMB			
	comp=Z,249nm,5.0s								
TIA	**Tai'an**	**45.93**	**9**	*e*P		P	**P**	**03 10 07.0**	**-0.6**
AGRA	**Agra**	**47.10**	**321**	*e*P		P	**P**	**03 10 16.3**	**-0.6**
AGRA				AMb		AMB		03 10 29.2	
	comp=Z,96nm,1.0s,mb5.7								
LGTI	**Lohaghat**	**47.39**	**325**	*i* P		P	**P**	**03 10 17.5**	**-1.6**
AYAN	**Aya Nagar**	**48.50**	**322**	*e*P		P	**P**	**03 10 26.4**	**-1.3**
AYAN				*i* pP		pP		03 10 36.9	-1.4
NDI	**New Delhi**	**48.59**	**322**	*e*P		P	**P**	**03 10 26.0**	**-2.4**
KUDL	**Kundal**	**48.66**	**321**	*e*P		P	**P**	**03 10 28.0**	**-0.8**
KUDL				AMb		AMB		03 10 29.2	
	comp=Z,28nm,0.9s,mb5.3								
KUDL				*i* pP		pP		03 10 38.1	-1.4
AJM	**Ajmer**	**48.70**	**318**	*e*P		P	**P**	**03 10 30.3**	**+1.2**
AJM				AMb		AMB		03 10 41.5	
	comp=Z,33nm,0.7s,mb5.5								
KHET	**Khetri**	**49.03**	**320**	*e*P		P	**P**	**03 10 30.7**	**-1.1**
KHET				AMb		AMB		03 10 32.5	
	comp=Z,22nm,0.2s,mb5.8								
KHET				*i* pP		pP		03 10 41.1	-1.3
GTA	**Gaotai**	**49.19**	**351**	*e*P		P	**P**	**03 10 33.9**	**+0.9**
GTA				AP		pP		03 10 44.9	+1.3
GTA				XP		sP		03 10 49.8	+1.9
GTA				PCP		PcP		03 11 56.3	+0.5
GTA				PP		PP		03 12 28.8	+1.9
GTA				PPP				03 13 23.4	
GTA				S		S		**03 17 37.0**	**+0.9**
GTA				XS		sS		03 17 53.0	-0.7
GTA				SS		SS		03 21 04.3	-3.3
GTA				AMB		AMB			
	comp=Z,20nm,1.5s,mb4.9								
GTA				AMB		AMB			
	comp=Z,122nm,5.7s								
GTA				LR		LR			
	comp=N,480nm,16.4s,MS4.8								
GTA				LR		LR			
	comp=E,559nm,17.5s,MS4.8								
GTA				LR		LR			
	comp=Z,643nm,15.6s,MS4.7								
BJT	**Baijiatuao**	**49.53**	**7**	*e*P		P	**P**	**03 10 35.6**	**0.0**
BJT				*e**PP		pP		03 10 46.0	-0.2
BJT				pmax		pmax			
	comp=Z,31nm,0.9s								
BJT	**Baijiatuao**	**49.53**	**7**	*e*P		P	**P**	**03 10 35.6**	**0.0**
	comp=Z,31nm,0.9s,mb5.3								
BJT				*e*pP		pP		03 10 46.0	-0.3
BJI	**Beijing**	**49.56**	**7**	P		P	**P**	**03 10 35.6**	**-0.1**
BJI				AMB		AMB			
	comp=Z,33nm,1.1s,mb5.3								
BJI				AMB		AMB			
	comp=Z,173nm,7.6s								
BTO	**Baotou**	**49.67**	**1**	*e*P		P	**P**	**03 10 36.5**	**-0.1**
HHC	**Hu-ho-hao-te**	**49.96**	**3**	*e*P		P	**P**	**03 10 42.5**	**+3.7**
HHC				AP		pP		03 10 47.8	-1.7
HHC				PP		PP		03 12 39.5	+5.6
HHC				PCS		PcS		03 16 00.5	+5.0
HHC	

SDNR ex x 03 10 55.0
SNY Shenyang 52.64 14 ⇓P P 03 10 56.8 -2.1
SNY AMB AMB
comp=Z,8.0nm,0.4s,mb5.0
MAJO Matsushiro 53.29 29 *e*P **P 03 11 02.5 -1.2**
MAJO *e**PP pP 03 11 12.9 -1.5
MAJO pmax pmax
comp=Z,27nm,1.0s,mb5.1
MAJO Matsushiro 53.29 29 *e*P **P 03 11 02.5 -1.1**
comp=Z,26nm,1.0s,mb5.1
MAJO *ep*P pP 03 11 12.9 -1.5
MAT Matsushiro 53.29 29 P **P 03 11 01.8 -1.9**
MAT Matsushiro 53.29 29 *e*P **P 03 11 02.0 -1.7**
MJAR Matsushiro Arr 53.29 29 P **P 03 11 02.5 -1.1**
comp=Z,3.8nm,0.5s,mb4.6,baz=205,slow=8.4,SNR=14
MJAR pP pP 03 11 12.5 -1.9
comp=Z,13nm,0.8s,baz=201,slow=8.0,SNR=12
CN2 Changchun 54.95 15 *e*P **P 03 11 15.1 -0.7**
CN2 *e*AP pP 03 11 25.0 -1.6
CN2 *e*S **S 03 18 54.4 -0.7**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,17.0s,MS4.5
CN2 LR LR
comp=E,200nm,17.0s,MS4.5
CN2 LR LR
comp=Z,400nm,19.0s,MS4.5
WMQ Urumqi 56.27 342 P **P 03 11 27.4 +2.2**
WMQ AP pP 03 11 37.5 +1.4
WMQ XP sP 03 11 41.4 +1.1
WMQ PCP PcP 03 12 24.8 +2.4
WMQ PP PP 03 13 34.3 +3.6
WMQ S **S 03 19 12.9 +0.2**
WMQ AMB AMB
comp=Z,56nm,1.5s,mb5.4
WMQ AMB AMB
comp=Z,263nm,4.8s
WMQ LR LR
comp=N,1μm,17.6s,MS5.2
WMQ LR LR
comp=E,1μm,16.5s,MS5.2
WMQ LR LR
comp=Z,1μm,18.1s,MS5.1
MDJ Mudanjiang 56.84 18 P **P 03 11 28.6 -0.7**
MDJ AMB AMB
comp=Z,6.0nm,0.8s,mb4.7
MDJ AMB AMB
comp=Z,24nm,3.4s
SONM Songino Array 56.93 358 P **P 03 11 30.1 +0.1**
comp=Z,7.9nm,0.5s,mb5.0,baz=178,slow=7.1,SNR=30
SONM pP pP 03 11 40.7 -0.1
comp=Z,24nm,1.0s,baz=172,slow=6.9,SNR=18
ULN Ulaanbaatar 56.94 359 ⇑P **P 03 11 30.7 +0.7**
SNR=15
ULN Ulaanbaatar 56.94 359 *d i*P **P 03 11 29.8 -0.2**
ULN Ulaanbaatar 56.94 359 *i* P **P 03 11 29.9 -0.1**
KSH Kashi 57.37 330 *e*P **P 03 11 34.3 +1.2**
KSH *e*AP pP 03 11 44.6 +0.7
KSH *e*XP sP 03 11 48.0 -0.1
KSH *e*PCP PcP 03 12 28.3 +1.5
KSH *e*PP PP 03 13 42.8 +2.2
KSH *e*PPP 03 15 03.4
KSH *e*SCP ScP 03 16 23.8 +0.1
KSH *e*PCS PcS 03 16 31.8 +4.0
KSH *e*S **S 03 19 25.8 -1.4**
KSH *e*PS 03 19 42.5
KSH *e*SCS ScS 03 21 17.8 -1.8
KSH AMB AMB
comp=Z,182nm,1.4s,mb5.9
KSH AMB AMB
comp=Z,383nm,4.1s
KSH LR LR
comp=N,367nm,5.0s
KSH LR LR
comp=E,322nm,6.7s
KSH LR LR
comp=Z,505nm,17.2s,MS4.7
WSAR Wadi Sarin 58.84 304 P **P 03 11 44.2 +0.9**
comp=Z,14nm,1.0s,mb4.9,baz=142,slow=8.4,SNR=6.5
WSAR pP pP 03 11 54.7 +0.5
comp=Z,6.7nm,0.7s,baz=74,slow=14,SNR=2.5
WSAR Wadi Sarin 58.84 304 P **P 03 11 44.2 +0.8**
WSAR pP pP 03 11 54.7 +0.5
ULHL Ulahol 59.37 332 P **P 03 11 47.1 +0.1**
SNR=7.3
ZAK Zakamensk 59.64 356 ⇓*e*P **P 03 11 48.9 +0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.6s,mb4.5
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
KZA Kyzart 59.70 331 P **P 03 11 50.0 +0.7**
SNR=14
UCH Uchtor 60.16 331 P **P 03 11 53.2 +0.7**
SNR=6.3
TKM2 Tokmak 2 60.19 332 P **P 03 11 52.6 -0.1**
SNR=47
KBK Karagaybulak 60.29 332 P **P 03 11 53.7 +0.4**
SNR=10
OPO Ambohidratompo 60.35 254 P **P 03 11 54.8 +1.1**
comp=Z,3.9nm,0.9s,mb4.4,baz=82,slow=8.4,SNR=4.2
OPO pP pP 03 12 05.8 +1.2
comp=Z,6.3nm,0.8s,baz=55,slow=6.0,SNR=4.2
AML Almayashu 60.48 330 P **P 03 11 54.7 0.0**
SNR=22
FRU Bishkek 60.58 332 *e*P **P 03 11 54.5 -0.8**
FRU *e* pP 03 12 05.5 -0.7
MK31 Makanchi Array 60.68 339 P **P 03 11 55.8 -0.2**
MK31 pmax pmax
comp=Z,69nm,1.0s,mb5.7
MKAR Makanchi Array 60.68 339 P **P 03 11 55.8 -0.2**
comp=Z,20nm,0.5s,mb5.5,baz=149,slow=7.8,SNR=73
MKAR pP pP 03 12 06.4 -0.5
comp=Z,54nm,0.8s,baz=145,slow=7.7,SNR=25
EKS2 Erkin-Say 60.85 331 P **P 03 11 57.2 +0.1**
SNR=13
USP Ospenovka 60.97 332 P **P 03 11 57.3 -0.7**
SNR=11
MOY Mondy 61.10 354 *e*P **P 03 12 00.1 +1.2**
MOY pmax pmax
comp=Z,46nm,1.8s,mb5.3
KLR Kul'dur 61.65 17 *e*P **P 03 11 57.7 -4.8**
KK31 Karatay Array 62.78 329 *i* P **P 03 12 09.5 -0.6**
KKAR Karatay Array 62.78 329 *i* P **P 03 12 09.4 -0.7**
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
RPZ Rata Peaks 63.59 134 P **P 03 12 15.7 +0.1**
comp=Z,12nm,0.9s,mb4.9,baz=27,slow=6.8,SNR=4.2
RPZ pP pP 03 12 26.8 +0.3
comp=Z,20nm,1.0s,baz=315,slow=5.7,SNR=4.6
YSS Yuzh-Sakhalins 63.62 25 *e*P **P 03 12 15.0 -0.7**
YSS *e* pP 03 12 25.2 -1.4
YSS Yuzh-Sakhalins 63.62 25 *e*P **P 03 12 15.4 -0.2**
comp=Z,22nm,0.7s,mb5.3
YSS *ep*P pP 03 12 25.5 -1.2
KURK Kurchatov 65.30 339 P **P 03 12 26.5 -0.1**
comp=Z,177nm,0.6s,mb6.3,SNR=13
KURK Kurchatov 65.30 339 ⇓P **P 03 12 26.3 -0.3**
SNR=19
KURK Kurchatov 65.30 339 *d i*P **P 03 12 26.0 -0.6**
KURK Kurchatov 65.30 339 *e*P **P 03 12 26.1 -0.5**
comp=Z,37nm,0.7s,mb5.5
KURK *ep*P pP 03 12 36.5 -1.1
MAW Mawson 65.73 198 P **P 03 12 29.3 -0.2**
comp=Z,9.9nm,1.1s,mb4.8,baz=43,slow=8.8,SNR=9.1
MAW pP pP 03 12 40.1 -0.3
comp=Z,3.8nm,0.8s,baz=57,slow=10,SNR=3.2
BOD Bodaibo 67.02 3 *e*P **P 03 12 36.6 -1.1**
BOD *e* pP 03 12 47.4 -1.3
BOD pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
BOD pmax pmax
comp=Z,22nm,1.5s,mb5.0
NVS Novosibirsk 67.44 344 *i* P **P 03 12 39.1 -1.3**
NVS pmax pmax
comp=Z,23nm,1.1s,mb5.1
NVS pmax pmax
comp=N,21nm,1.2s
NVS pmax pmax
comp=E,15nm,1.0s
VOSK Vostochnaya 69.75 337 P **P 03 12 54.0 -0.8**
VOSK pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
QRN Al-Qurain 69.89 305 *e*P **P 03 12 55.0 -0.7**
QRN AMb AMB 03 12 56.4
comp=Z,52nm,0.6s,mb5.7
BVA0 Borovoye Array 70.21 336 *i* P **P 03 12 57.6 0.0**
BVA0 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
RDF Al-Radifah 70.26 305 *e*P **P 03 12 57.3 -0.6**
RDF AMb AMB 03 12 58.8
comp=Z,86nm,0.9s,mb5.7
BRVK Borovoye 70.28 336 P **P 03 12 57.1 -0.9**
comp=Z,135nm,0.6s,mb6.0,SNR=8.3
BRVK Borovoye 70.28 336 ⇑P **P 03 12 58.0 0.0**
SNR=15
BRVK Borovoye 70.28 336 *e*P **P 03 12 57.9 -0.1**
BRVK *e**PP pP 03 13 08.5 -0.6
BRVK pmax pmax
comp=Z,22nm,0.8s,mb5.1
BRVK Borovoye 70.28 336 *e*P **P 03 12 57.9 -0.1**
comp=Z,22nm,0.8s,mb5.1
BRVK *ep*P pP 03 13 08.5 -0.6
UMR Umm Al-Rimmam 70.37 306 *e*P **P 03 12 57.8 -0.8**
UMR AMb AMB 03 12 59.5
comp=Z,94nm,0.8s,mb5.8
CHKZ Chkalovo 70.62 337 *e*P **P 03 13 00.8 +0.7**
NAY Al-Naaiem 70.63 305 *e*P **P 03 12 59.3 -0.9**
NAY AMb AMB 03 13 00.9
comp=Z,30nm,0.8s,mb5.3
ZRNK Zerenda 70.71 336 *i* P **P 03 13 00.1 -0.5**
ZRNK pmax pmax
comp=Z,40nm,0.7s,mb5.5
ZRNK Zerenda 70.71 336 *e*P **P 03 13 00.1 -0.5**
ZRNK *ep*P pP 03 13 10.8 -0.9
MIB Mutribah 70.77 306 *e*P **P 03 13 00.5 -0.6**
MIB AMb AMB 03 13 01.9
comp=Z,46nm,0.6s,mb5.6
KMBO Kilima Mbogo 71.69 272 P **P 03 13 07.5 +0.9**
comp=Z,3.5nm,0.8s,mb4.3,baz=54,slow=9.9,SNR=6.1
KMBO pP pP 03 13 18.0 +0.3
comp=Z,5.8nm,0.9s,baz=42,slow=12,SNR=7.6
KMBO Kilima Mbogo 71.69 272 ⇑*e*P **P 03 13 07.5 +0.9**
YAK Yakutsk 72.94 10 *e*P **P 03 13 13.1 -0.9**
YAK *e* pP 03 13 23.2 -2.0
YAK pmax pmax
comp=Z,19nm,0.9s,mb5.0
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,43nm,0.9s,mb5.4
YAK pmax pmax
comp=N,16nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK Yakutsk 72.94 10 *e*P **P 03 13 11.5 -2.6**
VNDA Vanda 73.38 170 P **P 03 13 16.1 -0.5**
comp=E,8.0nm,0.9s,mb4.6,baz=298,slow=6.3,SNR=18
VNDA pP pP 03 13 26.9 -0.8
comp=E,7.5nm,0.8s,baz=294,slow=6.8,SNR=13
VNDA Vanda 73.38 170 P **P 03 13 16.1 -0.5**
VNDA pP pP 03 13 26.9 -0.8
SYO Syowa Base 74.00 201 ⇓*e*X 03 13 18.9
SYO Syowa Base 74.00 201 ⇑*e*pP pP 03 13 30.0 -1.4
AKTK Aktyubinsk 74.05 329 *i* P **P 03 13 20.2 -0.4**
AKTO Aktyubinsk 74.05 329 *i* P **P 03 13 20.2 -0.4**
AKTO pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
BHD Baghdad 74.44 308 *ex* x 03 13 22.0
SBA Scott Base 74.44 169 *e*P **P 03 13 23.6 +0.7**
SBA *e**PP pP 03 13 33.6 -0.4
PET Petropavlovsk 75.10 29 ⇑*e*P **P 03 13 26.8 +0.1**
MAK Makhachkala 76.23 318 *i* P **P 03 13 30.9 -2.2**
MAK *i* 03 13 48.4
MAK *e*S S 03 23 18.0 +3.1
MAK *e* 03 23 56.4
MAK pmax pmax
comp=Z,68nm,1.3s,mb5.4
MA2 Magadan 76.37 20 *e*P **P 03 13 33.8 -0.1**
MA2 *e* pP 03 13 44.6 -0.5
MA2 S S 03 23 16.0 -0.4
MA2 pmax pmax
comp=Z,30nm,1.0s,mb5.2
MA2 Magadan 76.37 20 *e*P **P 03 13 33.6 -0.3**
comp=Z,25nm,0.8s,mb5.2
MA2 *ep*P pP 03 13 43.5 -1.6
MSL Mosul 76.57 311 *ex* x 03 13 37.0
ARU Arti 77.50 334 ⇓*i*P **P 03 13 38.4 -1.9**
ARU *e* pP 03 13 49.6 -1.8
ARU *e* 03 16 33.1
ARU *e*S S 03 23 27.7 -1.0
ARU *e*SS SS 03 28 26.2 -1.9
ARU pmax pmax
comp=Z,22nm,1.6s,mb4.8
ARU Arti 77.50 334 *e*P **P 03 13 40.1 -0.1**
comp=Z,18nm,0.8s,mb5.0
MBAR Mbarara 78.21 271 ⇑*i*P **P 03 13 45.2 +1.0**
ZEI Tsey 78.54 317 *e*P **P 03 13 46.9 +0.8**
ZEI *e**PP pP 03 13 56.0 -1.3
ZEI pmax pmax
comp=Z,17nm,0.8s,mb5.0
LSZ Lusaka 78.69 256 *e*P **P 03 13 47.2 +0.3**
LSZ *e**PP pP 03 13 58.5 +0.4
KIV Kislovodsk 79.83 318 ⇓P **P 03 13 53.7 +0.6**
SNR=6.4
KIV Kislovodsk 79.83 318 *de*P **P 03 13 53.4 +0.3**
KIV pmax pmax
comp=Z,24nm,1.3s,mb5.0
KIV Kislovodsk 79.83 318 *e*P **P 03 13 54.2 +1.1**
KIV *ep*P pP 03 14 06.7 +2.4
ASF Jabal al Asfar 80.00 305 P **P 03 13 55.3 +1.3**
comp=Z,16nm,1.1s,mb4.8,baz=343,slow=1.1,SNR=19
ASF pP pP 03 14 06.2 +1.0
comp=Z,21nm,1.0s,baz=335,slow=2.8,SNR=13
QSPA South Pole Qui 80.70 180 *e*P **P 03 13 57.4 -0.4**
comp=Z,38nm,1.3s,mb5.2
MALT Malatya 80.76 311 *e*P **P 03 13 58.8 +0.7**
MALT *e**PP pP 03 14 09.3 0.0
EIL Elat 80.87 302 *e*P **P 03 13 59.9 +1.2**
EIL *ep*P pP 03 14 10.8 +0.8
TIXI Tiksi 81.87 6 *d i*P **P 03 14 02.5 -1.5**
TIXI pmax pmax
comp=Z,48nm,1.1s,mb5.3
ANN Anapa 83.64 317 *e*P **P 03 14 10.8 -2.4**
ANN pmax pmax
comp=Z,53nm,1.4s,mb5.5
CSS Prodhromos 83.65 307 *e*P **P 03 14 14.3 +1.1**
comp=Z,18nm,1.2s,mb5.1
CSS *ep*P pP 03 14 24.8 +0.3
BR131 Keskin Array S 84.74 312 *e*P **P 03 14 19.1 +0.3**
comp=Z,26nm,1.0s,mb5.3
BR131 *ep*P pP 03 14 29.1 -0.9
BRTR Keskin Array B 84.74 312 P **P 03 14 19.2 +0.5**
comp=Z,12nm,1.0s,mb5.0,baz=126,slow=6.3,SNR=33
BRTR pP pP 03 14 29.7 -0.4
comp=Z,12nm,0.8s,baz=136,slow=5.7,SNR=17
VRSR Storozhevoye 84.81 324 *e*P **P 03 14 18.5 -0.6**
VRSR pmax pmax
comp=Z,20nm,0.6s,mb5.4
VRSR pmax pmax
comp=N,5.0nm,0.8s
VRSR pmax pmax
comp=E,30nm,1.0s
VOR Voronezh 84.99 324 P **P 03 14 18.0 -2.0**
VOR pmax pmax
comp=Z,70nm,1.5s,mb5.6
ANTO Ankara 85.41 311 ⇑P **P 03 14 23.1 +1.0**
SNR=6.5
ANTO Ankara 85.41 311 *e*P **P 03 14 22.6 +0.5**
ANTO *e**PP pP 03 14 32.9 -0.5
ANTO pmax pmax
comp=Z,25nm,1.3s,mb5.2
ANTO Ankara 85.41 311 *e*P **P 03 14 22.6 +0.5**
comp=Z,25nm,1.3s,mb5.2
ANTO *ep*P pP 03 14 32.9 -0.5
SIM Simferopol' 85.93 317 *d i*P **P 03 14 25.0 +0.3**
MOS Moscow 87.31 328 *e*P **P 03 14 31.3 -0.2**
MOS pmax pmax
comp=Z,58nm,1.4s,mb5.6
OBN Obninsk 87.66 327 *c i*P **P 03 14 33.5 +0.3**
OBN *e* 03 17 55.1
OBN *e*S 03 25 12.7
OBN *e*SS SS 03 31 00.5 +1.5
OBN pmax pmax
comp=Z,83nm,1.7s,mb5.7
OBN Obninsk 87.66 327 *e*P **P 03 14 33.4 +0.2**
OBN *ep*P pP 03 14 44.0 -0.5
SNAA Sanae 87.89 197 *e*P **P 03 14 34.8 +0.6**
SNAA *e* 03 14 35.8
SNAA *e* pP 03 14 45.2 -0.4
SNAA *e* pP 03 14 46.3 +0.7
SNAA *e* 03 14 51.4
SNAA Sanae 87.89 197 *e*P **P 03 14 33.9 -0.4**
comp=Z,23nm,1.3s,mb5.2
SNAA *ep*P pP 03 14 41.4 -4.2
TSUM Tsumeb 88.20 251 *ep*P pP 03 14 47.9 +0.8
VNA1 Neumayer--Stat 89.92 197 *e*P **P 03 14 45.0 +1.2**
VNA1 *e* 03 14 46.0
VNA1 *e* 03 14 52.5
VNA1 *e* pP 03 14 56.0 +0.8
VNA1 *e* 03 15 01.4
AKASG Malin Array Be 90.65 321 P **P 03 14 46.3 -0.9**
comp=Z,2.2nm,0.5s,mb4.7,baz=86,slow=4.6,SNR=13
AKASG pP pP 03 14 56.4 -2.2
comp=Z,5.0nm,0.7s,baz=90,slow=4.2,SNR=11
AKASG PP PP 03 18 19.4 -3.2
comp=Z,0.2nm,0.3s,baz=99,slow=5.0,SNR=7.1
AKBB Malin Array Si 90.65 321 *e*P **P 03 14 46.2 -1.0**
AKBB *e**PP pP 03 14 56.7 -1.9
MLR Muntele Rosu 91.65 316 P **P 03 14 52.8 +1.0**
comp=Z,7.4nm,0.9s,mb5.0,baz=91,slow=3.4,SNR=8.4
MLR PP PP 03 18 27.4 -3.1
comp=Z,2.4nm,0.7s,baz=131,slow=18,SNR=2.0
JOF Joensuu 92.61 333 *ep* **P 03 14 55.9 -0.4**
comp=Z,3.4nm,0.6s,mb5.0
JOF Joensuu 92.61 333 *e*P **P 03 14 55.9 -0.4**
JOF pmax pmax
comp=Z,3.0nm,0.6s,mb4.9
FINES FINESS Array B 94.67 331 P **P 03 15 06.1 +0.4**
comp=Z,2.5nm,0.7s,mb4.7,baz=139,slow=12,SNR=4.9
FINES FINESS Array B 94.67 331 *i* P **P 03 15 04.8 -1.0**
FINES pmax pmax
comp=Z,3.0nm,0.7s
KOLS Kolonicke sedl 94.72 319 *e*P **P 03 15 06.2 +0.2**
ARCES ARCESS Array B 96.34 339 P **P 03 15 12.8 -0.5**
comp=Z,1.3nm,0.6s,mb4.5,baz=96,slow=4.3,SNR=6.4
ARCES ARCESS Array B 96.34 339 P **P 03 15 12.8 -0.5**
BRG Berggiesshubel 100.26 320 *e*P PKiKP 03 19 50.0 -8.1
comp=Z,1.3nm,0.7s
GERES GERESS Array B 100.34 318 P Pdif 03 15 31.3 0.0
comp=Z,0.1nm,0.3s,baz=93,slow=7.1,SNR=3.8
CLL Collm 100.87 321 *e*PP PP 03 19 43.0 +1.3
CLL Collm 100.87 321 *e*PP PP 03 19 43.0 +1.3
NB2 NORSAR Subarra101.80 330 PP PP 03 19 50.6 +1.9
comp=Z,7.9nm,1.2s,baz=88,slow=7.9
NB2 NORSAR Subarra101.80 330 PP PP 03 19 50.6 +1.9
baz=88,slow=7.9
GRF Grafenberg Arr 101.98 319 *e*PP PP 03 19 44.5 -5.6
GRF Grafenberg Arr 101.98 319 *e*PP PP 03 19 44.5 -5.6
TORD Torodi Ar. Bea 108.69 281 PKKPbc PKKPbc 03 31 23.9 +1.7
comp=Z,0.4nm,0.7s,baz=287,slow=3.4,SNR=5.7
TORD PKKPab PKKPab 03 31 34.5 -0.8
comp=Z,0.5nm,0.7s,baz=243,slow=4.7,SNR=4.9
YKA Yellowknife Ar 118.34 21 PKP PKPdf 03 20 31.2 -0.7
comp=Z,0.9nm,0.5s,baz=337,slow=1.3,SNR=15
YKA pPKP pPKPdf 03 20 42.1 -1.5
comp=Z,1.1nm,0.6s,baz=332,slow=2.1,SNR=8.1
NVAR Mina Array Bea 128.77 48 PKP PKPdf 03 20 55.0 +3.1
comp=Z,0.8nm,1.0s,baz=31,slow=1.7,SNR=4.7
NVAR pPKP pPKPdf 03 21 05.5 +1.9
comp=Z,1.6nm,0.9s,baz=344,slow=0.8,SNR=5.3
PDAR Pinedale Array 132.69 39 PKP PKPdf 03 21 01.6 +2.3
comp=Z,0.3nm,0.6s,baz=350,slow=2.0,SNR=3.3
PDAR pPKP pPKPdf 03 21 12.2 +1.2
comp=Z,0.7nm,0.7s,baz=332,slow=0.5,SNR=5.1
MSU Marysvale 133.11 45 *e*PKIKP PKPdf 03 20 57.3 -2.8
SCHQ Schefferville 134.47 357 PKP PKPdf 03 21 04.1 +1.4
comp=Z,2.0nm,0.7s,baz=202,slow=2.3,SNR=5.2
SCHQ pPKP pPKPdf 03 21 15.1 +0.7
comp=Z,1.8nm,0.7s,baz=3.6,slow=2.6,SNR=2.6
ANMO Albuquerque 138.85 46 PKP PKPdf 03 21 13.9 +3.1
comp=Z,0.9nm,0.8s,baz=216,slow=3.8,SNR=4.0
ANMO Albuquerque 138.85 46 ⇓*i*PKIKP PKPdf 03 21 15.7 +4.9
CFAA Coronel Fontan 139.23 184 PKP PKPdf 03 21 13.6 +2.1
comp=Z,0.1nm,0.4s,baz=100,slow=3.3,SNR=3.5
CFAA pPKP pPKPdf 03 21 24.0 +0.8
comp=Z,0.5nm,0.8s,baz=239,slow=2.3,SNR=3.8
PKME Peaks-Kenny Pk 144.14 358 *e*PKPdf PKPdf 03 21 18.7 -1.6
WMOK Wichita Mounta 144.20 41 *e*PKIKP PKPdf 03 21 19.7 -0.7
WMOK *e* 03 21 30.4
LONY Lake Ozonia 144.69 4 *e*PKPdf PKPdf 03 21 20.6 -0.6
LONY *ep*PKPdf pPKPdf 03 21 31.3 -1.6
LBNH Lisbon 145.19 1 *e*PKIKP PKPdf 03 21 22.6 +0.5
LBNH *e* 03 21 33.4
MIV Mineville/With 145.30 3 *e*PKPdf PKPdf 03 21 19.1 -3.2
NCB Newcomb 145.36 4 *e*PKPdf PKPdf 03 21 22.9 +0.5
NCB *ep*PKPdf pPKPdf 03 21 33.6 -0.5
JCT Junction City 145.95 48 *e*PKP2 PKPab 03 21 25.1 +0.4
ACCN Adirondack Com 145.98 3 *e*PKPdf PKPdf 03 21 24.6 +1.2
CCM Cathedral Cave 146.12 29 *e*PKPdf PKPdf 03 21 24.8 +1.1
CCM *ep*PKPdf pPKPdf 03 21 35.7 +0.3
BDFB Brasilia 146.27 223 PKPbc PKPbc 03 21 26.1 +1.0
comp=Z,4.4nm,0.5s,baz=145,slow=2.5,SNR=9.6
BDFB pPKPbc pPKPbc 03 21 37.5 +0.8
comp=Z,13nm,0.8s,baz=179,slow=2.6,SNR=11
HRV Harvard--Oak R 146.93 1 *e*PKP2 PKPbc 03 21 27.2 +0.2
BINY Binghamton 146.96 7 *e*PKPbc PKPbc 03 21 27.7 +0.6
BINY *ep*PKPdf pPKPdf 03 21 38.2 +1.4
QUA2 Belchertown 147.14 2 *e*PKPdf PKPbc 03 21 28.1 +0.5
QUA2 *ep*PKPdf pPKPdf 03 21 37.7 +0.6
ACSO Alum Creek Sta 147.44 17 *e*PKPdf PKPbc 03 21 28.7 +0.3
ACSO *ep*PKPdf pPKPdf 03 21 37.7 0.0
MIAR Mount Ida 147.53 36 *e*PKP2 PKPbc 03 21 28.1 -0.6
WCI Wyandotte Cave 148.13 23 *e*PKP2 PKPbc 03 21 30.6 +0.3
LVC Limon Verde 148.21 184 *e*PKPbc PKPbc 03 21 33.2 +2.7
SSPA Standing Stone 148.22 10 *e*PKPbc PKPbc 03 21 31.0 +0.5
PAL Palisades 148.33 4 *e*PKPbc PKPbc 03 21 31.8 +0.9
PAL *ep*PKPdf pPKPdf 03 21 39.5 +0.4
MCWV Mont Chateau 148.79 13 *e*PKPbc PKPbc 03 21 32.8 +0.8
HKT Hockley 149.09 45 *e*PKP2 PKPbc 03 21 35.0 +2.2
WVT Waverly 149.27 27 *e*PKP2 PKPbc 03 21 33.8 +0.6
PLAL Pickwick Lake 150.10 29 *e*PKPbc PKPbc 03 21 35.2 0.0
TZTN Tazewell 150.63 21 *e*PKPbc PKPbc 03 21 37.0 +0.5
LRAL Lakeview Retre 152.20 30 *e*PKPbc PKPbc 03 21 40.6 +0.5
LPAZ La Paz 154.40 187 PKP PKPdf 03 21 40.4 +3.7
comp=Z,1.2nm,0.8s,baz=117,slow=4.5,SNR=4.3
LPAZ PKPbc PKPbc 03 21 47.3 +2.4
comp=Z,2.4nm,0.9s,baz=108,slow=8.6,SNR=6.6
LPAZ pPKPbc pPKPbc 03 21 58.7 +2.1
comp=Z,7.4nm,1.1s,baz=142,slow=6.0,SNR=7.5
LPAZ La Paz 154.40 187 PKP PKPdf 03 21 40.4 +3.7
LPAZ PKPbc PKPbc 03 21 47.3 +2.4
LPAZ pPKPbc pPKPbc 03 21 58.7 +2.1
OTAV Otavalo 168.40 141 *e*PKPdf PKPdf 03 21 54.5 +3.3
OTAV *ep*PKPdf pPKPdf 03 22 04.7 +1.7

IDC ***18*** *03:06:35.4±2.0, 2.31N×84.82W, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.9/21, mbtmp4.1/7, ML3.6/2, MS3.6/7, Ms1 3.6/7, ms1mx3.3/35, Error ellipse: s-maj=48.6km s-min=28.5km az=33.0*

ISCJB ***18*** *03:06:38.5±1.2, 2.18N±006×84.94W±008, h42km±14km, mb4.1/8, MS3.5/6, Error ellipse: s-maj=14.1km s-min=9.5km az=175.5*

NEIC ***18*** *03:06:39.1±0.6, 2.08N×84.79W, h35km, mb4.3/4, Error ellipse: s-maj=15.3km s-min=10.9km az=174.0*

ISC 18 03:06:39.1±2.8, 207N±006×8476W±007, h30km±23km, n31, σ1§04/21, mb4.1/8, MS3.5/6, 2C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**6.16**	**244**	Pn		**Pn**	**03 08 07.0**	**-0.9**
OTAV	**Otavalo**	**6.57**	**106**	⇑*e*Pn		**Pn**	**03 08 12.7**	**-0.9**
	15nm,0.6s							
OTAV					*e*Sn	**Sn**	**03 09 26.3**	**-1.1**
BUS	**Buena Vista**	**7.51**	**8**	*e*P		**Pn**	**03 08 27.5**	**+1.0**
LCR2	**La Lucha 2**	**7.66**	**6**	*e*P		**Pn**	**03 08 29.6**	**+1.0**
LCR2					*e*S	**Sn**	**03 09 53.4**	**-1.0**
PRS1	**Puriscal**	**7.88**	**3**	*e*P		**Pn**	**03 08 30.8**	**-0.8**
CGA2	**Cerro Gallo 2**	**7.90**	**2**	*e*P		**Pn**	**03 08 33.0**	**+1.0**
ROSC	**El Rosal**	**10.78**	**75**	Pn		**Pn**	**03 09 15.8**	**+4.5**
	0.8nm,0.3s,baz=266,slow=19,SNR=5.0							
ATAH	**Atahualpa**	**11.02**	**145**	Pn		**Pn**	**03 09 20.2**	**+5.5**
	0.3nm,0.3s,baz=306,slow=14,SNR=2.9							
ATAH				LR		LR	03 13 19.3	
	comp=Z,332nm,18.4s,baz=327,slow=36							
LCBS	**La Ceiba**	**12.24**	**340**	⇓*e*P		x	03 09 35.9	
BOQS	**Boqueron**	**12.42**	**339**	⇓*i*P		x	03 09 38.8	

SBLS	**San Blas**	**12.65**	**338**	*e*P	x		03 09 43.1	
SNJE	**San Jose**	**12.67**	**338**	*e*P	x		03 09 41.5	
RTR	**El Retiro**	**12.71**	**338**⇑	*e*P	x		03 09 43.9	
RBDL	**Robledal**	**12.92**	**338**	*e*P	x		03 09 46.2	
SDV	**Santo Domingo**	**15.61**	**64**	Pn	**Pn**	**03 10 15.1**		**-1.7**
	0.3nm,0.3s,baz=241,slow=10,SNR=3.7							
SDV	**Santo Domingo**	**15.61**	**64**	*e*Pn	**Pn**	**03 10 16.0**		**-0.9**
	23nm,1.1s							
PCRV	**Puerto La Cruz**	**21.56**	**67**	P	**P**	**03 11 27.1**		**+1.1**
	18nm,1.1s,mb4.4,baz=268,slow=7.6,SNR=4.2							
SAML	**Samuel**	**24.13**	**117**	*e*P	**P**	**03 11 53.2**		**+0.9**
	25nm,1.6s,mb4.4							
SJG	**San Juan**	**24.24**	**48**	P	**P**	**03 11 53.6**		**+0.3**
	11nm,0.9s,mb4.3,baz=114,slow=5.7,SNR=2.8							
LPAZ	**La Paz**	**24.55**	**139**	LR	LR	03 22 29.9		
	comp=Z,253nm,19.3s,MS3.7,baz=251,slow=38							
LPAZ	**La Paz**	**24.55**	**139**	*e*P	**P**	**03 11 57.1**		**+1.0**
	17nm,1.5s,mb4.3							
CFAA	**Coronel Fontan**	**36.98**	**156**	LR	LR	03 26 18.6		
	comp=Z,14nm,20.7s,MS2.7,baz=308,slow=32							
ANMO	**Albuquerque**	**38.45**	**331**	LR	LR	03 30 13.8		
	comp=Z,62nm,20.8s,MS3.4,baz=177,slow=37							
BDFB	**Brasilia**	**40.37**	**117**	LR	LR	03 31 17.8		
	comp=Z,163nm,18.8s,MS3.9,baz=105,slow=37							
SADO	**Sadowa**	**42.81**	**6**	LR	LR	03 30 46.5		
	comp=Z,97nm,21.2s,MS3.7,baz=204,slow=34							
SRU	**San Rafael**	**43.72**	**331**	P	**P**	**03 14 35.1**		**-6.4**
	3.3nm,0.7s,mb4.2							
PDAR	**Pinedale Array**	**46.19**	**335**	P	**P**	**03 14 59.8**		**-1.3**
	0.3nm,0.7s,mb3.3,baz=85,slow=11,SNR=3.6							
PDAR				LR	LR	03 34 49.8		
	comp=Z,112nm,20.0s,MS3.8,baz=167,slow=37							
YKA	**Yellowknife Ar**	**64.27**	**345**	P	**P**	**03 17 10.9**		**-0.5**
	0.8nm,0.8s,mb3.8,baz=139,slow=6.5,SNR=7.9							
TORD	**Torodi Ar. Bea**	**86.09**	**77**	P	**P**	**03 19 18.3**		**+1.3**
	0.4nm,0.6s,mb3.8,baz=274,slow=6.5,SNR=5.5							
TORD	**Torodi Ar. Bea**	**86.09**	**77**	P	**P**	**03 19 18.3**		**+1.3**
NIE	**Niedzica**	**98.20**	**40**	*e*PX		03 19 14.6		

IDC ***18*** *03:09:59.4±3.3,3173S×17671W,h0km,mb4.0/3, mb1 4.2/5,mb1mx3.9/14,mbtmp4.1/5,ML3.8/2,MS3.4/1, Ms1 3.4/1,ms1mx2.4/29,Error ellipse: s-maj=66.1km s-min=34.4km az=106.0*

NEIC ***18*** *03:10:00.0±2.1,3175S×17663W,h10km,mb4.2/1,Error ellipse: s-maj=43.0km s-min=15.4km az=100.0*

ISCJB ***18*** *03:10:02.6±5.0,320S±02×1768W±07,h33km,mb3.9/4, Error ellipse: s-maj=92.6km s-min=13.9km az=32.7*

ISC 18 03:10:03.6±5.0,320S±02×1766W±07,h35km,n9,σ0s73/11, mb3.9/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
RAO	**Raoul Island**	**2.94**	**336**	Pn		**Pn**	**03 10 43.1**	**-4.7**
	53nm,0.3s,baz=90,slow=23,SNR=3.0							
RAO				Sn		**Sn**	**03 11 09.7**	**-12**
	192nm,0.3s,baz=73,slow=19,SNR=4.7							
RAO				LR		LR	03 11 17.4	
	comp=Z,703nm,19.8s,baz=200,slow=29							
RAO	**Raoul Island**	**2.94**	**336**	Pn		**Pn**	**03 10 43.1**	**-4.7**
RAO				Sn		**Sn**	**03 11 09.7**	**-12**
RAO				LR		LR	03 11 17.4	
URZ	**Urewera**	**8.14**	**218**	Pn		**Pn**	**03 11 59.5**	**+0.2**
	0.4nm,0.3s,baz=297,slow=4.5,SNR=7.0							
URZ				Sn		**Sn**	**03 13 29.9**	**-0.2**
	1.3nm,0.3s,baz=119,slow=19,SNR=4.9							
CTA	**Charters Tower**	**35.27**	**280**	P		**P**	**03 16 56.1**	**+1.1**
	3.6nm,0.9s,mb4.3							
STKA	**Stephens Creek**	**35.35**	**259**	P		**P**	**03 16 56.3**	**+0.7**
ASAR	**Alice Springs**	**44.27**	**268**	P		**P**	**03 18 09.8**	**0.0**
	0.3nm,0.5s,mb3.2,baz=105,slow=7.4,SNR=4.9							
WRAB	**Tennant Creek**	**45.39**	**273**	*e*P		**P**	**03 18 17.6**	**-1.1**
	1.6nm,0.5s,mb4.1							
WRA	**Warramunga Arr**	**45.40**	**273**	P		**P**	**03 18 18.0**	**-0.7**
	2.7nm,0.8s,mb4.1,baz=114,slow=7.8,SNR=5.9							
FINES	**FINESS Array B**	**147.03**	**340**	PKPbc	PKPbc		03 29 42.0	-0.6
	2.3nm,0.8s,baz=48,slow=2.1,SNR=3.9							

NEIC ***18*** *03:15:18.0±0.6,968S×10792E,h10km,mb4.5/4,Error ellipse: s-maj=29.7km s-min=7.7km az=49.0*

ISCJB ***18*** *03:15:20.4±1.1,96S±02×1081E±03,h40km,mb4.1/10, Error ellipse: s-maj=47.3km s-min=11.4km az=96.1*

IDC ***18*** *03:15:21.4±1.2,974S×10785E,h36km±8km,mb3.8/6, mb1 3.9/7,mb1mx3.7/17,mbtmp4.0/7,ML3.4/1,Error ellipse: s-maj=66.0km s-min=15.5km az=45.0*

ISC 18 03:15:22.6±1.1,97S±02×1080E±03,h42km, h42km±3.0km:pP-P,n18,σ0s37/13,mb4.1/10,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
FITZ	**Fitzroy Crossi**	**19.06**	**118**	P		**Pn**	**03 19 41.6**	**-0.7**
	0.1nm,0.3s,baz=288,slow=20,SNR=2.5							
WRA	**Warramunga Arr**	**27.40**	**115**	P		**P**	**03 21 04.0**	**0.0**
	0.4nm,0.4s,mb3.3,baz=287,slow=12,SNR=4.0							
WRA				pP		pP	03 21 15.0	-0.4
	1.9nm,0.9s,baz=286,slow=14,SNR=5.8							
ASAR	**Alice Springs**	**28.39**	**123**	P		**P**	**03 21 13.2**	**+0.4**
	0.8nm,0.6s,mb3.6,baz=300,slow=8.7,SNR=3.9							
CAL	**Calcutta**	**37.36**	**329**	*e*P		**P**	**03 22 31.1**	**+0.1**
CAL				*ex*		x	03 24 05.0	
STKA	**Stephens Creek**	**38.16**	**130**	P		**P**	**03 22 38.1**	**+0.4**
	1.3nm,0.4s,mb4.0,baz=304,slow=11,SNR=4.6							
STKA				pP		pP	03 22 49.2	-0.1
	4.5nm,0.7s,baz=304,slow=8.9,SNR=4.9							
STKA	**Stephens Creek**	**38.16**	**130**	P		**P**	**03 22 38.1**	**+0.4**
STKA				pP		pP	03 22 49.2	-0.1
BJT	**Baijiatuau**	**50.00**	**8**	*e*P		**P**	**03 24 12.8**	**+0.2**
	5.0nm,0.9s,mb4.5							
SONM	**Songino Array**	**57.26**	**359**	P		**P**	**03 25 06.2**	**+0.5**
	1.5nm,0.5s,mb4.3,baz=175,slow=8.7,SNR=23							
ULN	**Ulaanbaatar**	**57.28**	**359**	*e*P		**P**	**03 25 06.0**	**+0.1**
	4.9nm,0.8s,mb4.6							
ULN				*e*pP		pP	03 25 18.2	+0.2
MKAR	**Makanchi Array**	**60.71**	**340**	P		**P**	**03 25 29.2**	**-0.4**
	2.5nm,0.5s,mb4.6,baz=145,slow=7.6,SNR=32							
KURK	**Kurchatov**	**65.32**	**340**	*e*P		**P**	**03 26 00.0**	**-0.2**
	1.9nm,0.9s,mb4.1							
KURK				*e*pP		pP	03 26 13.8	+1.2
CHKZ	**Chkalovo**	**70.60**	**337**	*e*P		**P**	**03 26 32.8**	**-0.6**
	3.1nm,0.6s,mb4.4							
BRTR	**Keskin Array B**	**84.32**	**312**	P		**P**	**03 27 50.2**	**+0.2**
	0.8nm,0.7s,mb4.0,baz=150,slow=6.7,SNR=5.4							
BRTR				pP		pP	03 28 00.1	-2.7
	0.7nm,0.7s,baz=141,slow=9.0,SNR=3.5							
WMOK	**Wichita Mounta**	**145.04**	**40**	*e*PKPdf	PKPdf		03 34 56.3	+1.1
JCT	**Junction City**	**146.84**	**47**	*e*PKPdf	PKPdf		03 34 59.7	+1.5
CCM	**Cathedral Cave**	**146.85**	**28**	*e*PKPdf	PKPdf		03 35 00.5	+2.2
MIAR	**Mount Ida**	**148.32**	**35**	*e*PKPbc	PKPbc		03 35 05.3	+1.1
WVT	**Waverly**	**149.98**	**26**	*e*PKPbc	PKPbc		03 35 09.7	+1.3

ISCJB ***18*** *03:19:19.1±1.1,95S±02×1087E±03,h10km,mb3.9/8, MS4.7/1,Error ellipse: s-maj=45.3km s-min=13.9km az=99.3*

IDC ***18*** *03:19:19.9±1.0,952S×10870E,h0km,mb4.0/6,mb1 4.1/7, mb1mx3.9/16,mbtmp4.0/7,ML3.7/1,MS4.7/1,Ms1 4.7/1, ms1mx3.2/38,Error ellipse: s-maj=45.9km s-min=19.4km az=55.0*

NEIC ***18*** *03:19:21.4±0.6,951S×10871E,h10km,mb4.3/2,Error ellipse: s-maj=24.9km s-min=9.7km az=48.0*

ISC 18 03:19:21.1±1.1,96S±02×1086E±03,h10km,n12,σ0s28/10, mb3.9/8,MS4.7/1,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
FITZ	**Fitzroy Crossi**	**18.58**	**119**	P		**Pn**	**03 23 38.1**	**-0.3**
	0.2nm,0.3s,baz=270,slow=10,SNR=4.1							
WRA	**Warramunga Arr**	**26.90**	**115**	P		**P**	**03 25 02.2**	**-0.1**
	2.0nm,0.6s,mb3.9,baz=286,slow=11,SNR=5.8							
WRAB	**Tennant Creek**	**26.91**	**115**	*e*P		**P**	**03 25 02.0**	**-0.3**
	5.2nm,0.6s,mb4.2							
ASAR	**Alice Springs**	**27.94**	**123**	P		**P**	**03 25 12.0**	**+0.5**
	0.5nm,0.5s,mb3.4,baz=299,slow=8.4,SNR=5.4							
STKA	**Stephens Creek**	**37.76**	**131**	P		**P**	**03 26 37.5**	**+0.4**
	5.9nm,1.1s,mb4.2,baz=306,slow=8.1,SNR=4.8							
MJAR	**Matsushiro Arr**	**53.69**	**30**	LR		LR	03 53 01.7	
	comp=Z,717nm,20.3s,MS4.7,baz=200,slow=38							
SONM	**Songino Array**	**57.21**	**358**	P		**P**	**03 29 08.7**	**+0.3**
	0.3nm,0.5s,mb3.5,baz=182,slow=10,SNR=4.8							
MKAR	**Makanchi Array**	**60.85**	**340**	P		**P**	**03 29 33.6**	**0.0**
	2.3nm,0.5s,mb4.5,baz=146,slow=7.9,SNR=24							
KURK	**Kurchatov**	**65.46**	**340**	*e*P		**P**	**03 30 04.0**	**-0.2**
	2.3nm,1.1s,mb4.1							
VNDA	**Vanda**	**73.14**	**170**	P		**P**	**03 30 51.7**	**-0.2**
	0.5nm,0.7s,mb3.6,baz=315,slow=6.9,SNR=4.3							
VNDA	**Vanda**	**73.14**	**170**	P		**P**	**03 30 51.7**	**-0.2**
BDFB	**Brasilia**	**145.85**	**223**	PKPbc	PKPbc		03 39 03.2	+2.6
	0.7nm,0.3s,baz=172,slow=7.1,SNR=3.3							

BJI ***18*** *03:27:47.8,047S×12531E,h39km,mB5.4,mb5.5,Ms4.9, Msz4.8*

ISCJB ***18*** *03:27:49.1±0.1,023S±002×12500E±003,h26km, mb5.8/150,MS4.8/66,Error ellipse: s-maj=4.5km s-min=2.9km az=138.9*

HRVD ***18*** *03:27:50.4±0.2,028S×12535E,h35km,MW5.5/90, Centroid moment Tensor Solution. LP body waves: s87,c162;Mantle waves: s90,c153; Half duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr1.72±.04; Mθθ-1.02±.03; Mϕϕ-0.69±.04; Mrθ0.62±.04; Mrϕ-1.20±.03; Mθϕ1.31±.06; Best double couple: Mo2.39800×10^17 NP1:ϕs246.00000°,δ30.00000°,λ119.00000°. NP2: ϕs34.00000°,δ64.00000°,λ74.00000°. Principal axes: T 2.2970, Plg67.0000°, Azm274.0000°; N 0.2080, Plg14.0000°, Azm40.0000°; P -2.4980, Plg18.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

IDC ***18*** *03:27:51.8±1.5,0.15S×12505E,h31km±10km,mb5.4/33, mb1 5.4/34,mb1mx5.4/35,mbtmp5.6/34,ML4.5/1,MS4.7/18, Ms1 4.7/18,ms1mx4.3/36 Error ellipse: s-maj=13.1km s-min=7.3km az=69.0*

NEIC ***18*** *03:27:52.6±0.1,0.18S×12494E,h37km,mb5.8/61,ME5.4, MS4.8/15,MW5.5,Error ellipse: s-maj=4.8km s-min=3.2km az=65.0,Moment Tensor Solution. s11 Moment tensor: Scale 10^17Nm; Mrr2.00; Mθθ0.31; Mϕϕ-2.31; Mrθ0.55; Mθϕ1.06; Mrϕ0.88; Best double couple: Mo2.60000×10^17 NP1:ϕs3.00000°,δ57.00000°,λ119.00000°. NP2: ϕs137.00000°,δ43.00000°,λ53.00000°. Principal axes: T 2.4500, Plg65.0000°, Azm325.0000°; N 0.3200, Plg24.0000°, Azm166.0000°; P -2.7800, Plg8.0000°, Azm72.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

MOS ***18*** *03:27:52.1±0.9,0.15N×12479E,h33km,mb6.0/59, MS4.7/29 Error ellipse: s-maj=9.4km s-min=4.8km az=117.4*

ISC 18 03:27:51.2±0.1,020S±002×12505E±003,h27km, h27km±1.8km:pP-P,n804,σ1s14/539,mb5.8/150,MS4.8/66, 85C-69D,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PCI	**Palu**	**5.26**	**262**	P		**Pn**	**03 29 12.4**	**+4.4**
	4µm,0.8s							
KCP	**Kidapawan**	**7.16**	**0**⇓	*e*P		**Pn**	**03 29 44.0**	**+10**
DAV	**Davao City (W)**	**7.24**	**4**	*e*P		**Pn**	**03 29 41.0**	**+5.9**
DAV	**Davao City (W)**	**7.24**	**4**	⇑P		**Pn**	**03 29 42.2**	**+7.0**
	SNR=33							
DAV	**Davao City (W)**	**7.24**	**4**	*e*Pb		**Pn**	**03 29 42.5**	**+7.3**
BUKP	**Musuan**	**8.02**	**0**	*e*P		**Pn**	**03 29 49.0**	**+3.1**
PAGZ	**Pagadian**	**8.16**	**348**	*e*P		**Pn**	**03 29 51.4**	**+3.6**
IPIL	**Ipil**	**8.31**	**343**	*e*P		**Pn**	**03 29 53.6**	**+3.8**
CGP	**Cagayan de Oro**	**8.60**	**358**⇓	*e*P		**Pn**	**03 29 58.4**	**+4.6**
BUTP	**Butuan**	**9.12**	**4**	P		**Pn**	**03 30 05.7**	**+4.7**
SNPH	**Sibulan**	**9.65**	**349**⇓	*e*P		**Pn**	**03 30 15.0**	**+6.8**
TBP	**Tagbilaran**	**9.90**	**353**	*e*P		**Pn**	**03 30 16.2**	**+4.7**
SCPH	**Surigao**	**9.92**	**2**⇑	*e*P		**Pn**	**03 30 17.7**	**+5.8**
MSLP	**Maasin**	**10.27**	**359**	*e*P		**Pn**	**03 30 22.3**	**+5.7**
LLP	**Lapu-Lapu**	**10.50**	**354**	*e*P		**Pn**	**03 30 26.7**	**+6.8**
KKM	**Kota Kinabalu**	**10.79**	**305**⇓	*e*Pn		**Pn**	**03 30 29.0**	**+5.3**
KKM				*e*Sn		**Sn**	**03 32 23.9**	**+0.4**
GUIM	**Jordan**	**11.03**	**347**	*e*P		**Pn**	**03 30 29.0**	**+1.9**
OCLP	**Ormoc**	**11.18**	**358**	*e*P		**Pn**	**03 30 35.7**	**+6.5**
PLP	**Palo**	**11.29**	**360**	*e*P		**Pn**	**03 30 36.3**	**+5.7**
BATP	**Bataraza**	**11.49**	**321**	*e*P		**Pn**	**03 30 37.6**	**+4.2**
CUYO	**Cuyo Island**	**11.69**	**340**	*e*P		**Pn**	**03 30 42.4**	**+6.3**
PPR	**Puerto Princes**	**11.74**	**328**⇑	*e*P		**Pn**	**03 30 46.0**	**+9.2**
RCP	**Roxas**	**11.90**	**349**⇑	*e*P		**Pn**	**03 30 45.4**	**+6.4**
ENPP	**El Nido**	**12.63**	**334**	*e*P		**Pn**	**03 30 54.1**	**+5.1**
OTRP	**Odiongan**	**12.84**	**347**	*e*P		**Pn**	**03 30 57.0**	**+5.2**
BUSP	**Coron**	**13.04**	**338**	*e*P		**Pn**	**03 30 59.7**	**+5.1**
PVCP	**Virac**	**13.73**	**356**	*e*P		**Pn**	**03 31 08.1**	**+4.1**
BOAC	**Boac**	**13.94**	**347**	*e*P		**Pn**	**03 31 16.1**	**+9.2**
PGP	**Puerto Galera**	**14.21**	**344**	*e*P		**Pn**	**03 31 16.0**	**+5.5**
KAKA	**Kakadu**	**14.43**	**150**	*e*P		**Pn**	**03 31 11.9**	**-1.6**
	270nm,0.6s							
LUBP	**Lubang**	**14.64**	**341**	*e*P		**Pn**	**03 31 21.2**	**+4.8**
TGY	**Tagaytay City**	**14.78**	**344**	Pn		**Pn**	**03 31 23.8**	**+5.4**
	93nm,0.3s,baz=185,slow=10,SNR=9.3							
TGY	**Tagaytay City**	**14.78**	**344**	P		**P**	**03 31 23.8**	**+5.5**
TGY				pmax		pmax		
	comp=Z,93nm,0.3s							
KSM	**Kuching**	**14.84**	**276**	*e*Pn		**Pn**	**03 31 23.8**	**+4.7**
POLP	**Polillo Island**	**15.15**	**348**	*e*P		**Pn**	**03 31 27.4**	**+4.2**
BALP	**Baler**	**16.21**	**348**	*e*P		**Pn**	**03 31 40.8**	**+3.9**
BCPH	**Baguio City Da**	**17.05**	**345**⇓	*e*P		**Pn**	**03 31 52.3**	**+4.7**
BOLP	**Bolinao**	**17.24**	**343**	*e*P		**Pn**	**03 31 52.6**	**+2.7**
CAUP	**Cauayan**	**17.33**	**350**	*e*P		**Pn**	**03 31 53.2**	**+2.1**
FITZ	**Fitzroy Crossi**	**17.80**	**178**⇓	*i*P		**Pn**	**03 31 56.6**	**-0.3**
	comp=Z,123nm,1.2s							
FITZ				*e*S		**Sn**	**03 35 16.4**	**+1.9**
FITZ	**Fitzroy Crossi**	**17.80**	**178**	P		**Pn**	**03 31 56.8**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=13,slow=12,SNR=23							
FITZ				S		**Sn**	**03 35 17.0**	**+2.6**
	comp=Z,0.9nm,0.3s,baz=120,slow=19,SNR=6.0							
FITZ				LR		LR	03 38 57.7	
	comp=Z,1µm,20.8s,baz=3.8,slow=37							
CVP	**Callao Caves**	**18.07**	**350**	*e*P		**Pn**	**03 32 02.0**	**+1.8**
ABRA	**Dolores**	**18.24**	**347**	*e*P		**Pn**	**03 32 03.1**	**+0.8**
APYP	**Conner**	**18.33**	**348**	*e*P		**Pn**	**03 32 04.6**	**+1.2**
SGCP	**Mt. Cagua**	**18.56**	**351**	*e*P		**Pn**	**03 32 07.1**	**+0.9**
LEM	**Lembang**	**18.60**	**249**	P		**Pn**	**03 32 09.9**	**+3.3**
	comp=Z,2µm,1.1s							
MBWA	**Marble Bar**	**21.47**	**194**	⇓P		**P**	**03 32 39.1**	**+1.6**
	SNR=11							
MBWA	**Marble Bar**	**21.47**	**194**	*e*P		**P**	**03 32 39.0**	**+1.6**
MBWA				LR		LR		
	comp=Z,1µm,21.0s,MS4.3							
WRAB	**Tennant Creek**	**21.62**	**156**	P		**P**	**03 32 38.0**	**-1.1**
	comp=Z,1µm,0.9s,mb6.4,SNR=32							
WRAB	**Tennant Creek**	**21.62**	**156**	*d*iP		**P**	**03 32 37.9**	**-1.2**
WRAB	**Tennant Creek**	**21.62**	**156**	*e*P		**P**	**03 32 37.9**	**-1.2**
	comp=Z,339nm,1.1s,mb5.7							
WRAB				LR		LR		
	comp=Z,4µm,21.0s,MS4.8							
WRA	**Warramunga Arr**	**21.63**	**156**	P		**P**	**03 32 38.5**	**-0.7**
	comp=Z,155nm,1.0s,mb5.4,baz=337,slow=11,SNR=167							
WRA				S		**S**	**03 36 31.0**	**-6.3**
	comp=Z,21nm,1.2s,baz=344,slow=15,SNR=6.2							
WRA				ScP	ScP		03 40 15.0	-0.4
	comp=Z,9.0nm,0.9s,baz=330,slow=3.0,SNR=9.2							
WRA				P3KPbc			04 06 32.0	
	comp=Z,0.3nm,0.4s,baz=150,slow=3.5,SNR=5.0							
WRA	**Warramunga Arr**	**21.63**	**156**	*i* P		**P**	**03 32 37.9**	**-1.3**
WRA				pmax		pmax		
	comp=Z,155nm,1.0s							
WRA	**Warramunga Arr**	**21.63**	**156**	P		**P**	**03 32 38.5**	**-0.7**
WRA				S		**S**	**03 36 31.0**	**-6.3**
WRA				ScP	ScP		03 40 15.0	-0.4
WB2	**Warramunga Arr**	**21.63**	**156**	⇓*i*P		**P**	**03 32 37.9**	**-1.3**
WB2				*e*S		**S**	**03 36 29.2**	**-8.1**
WB2				*e*SCS		ScS	03 43 56.2	-3.4
KSI	**Kapahiang**	**22.71**	**261**	P		**P**	**03 32 51.0**	**+0.3**
	comp=Z,229nm,0.7s,mb5.7							
PMG	**Port Moresby**	**23.83**	**113**	P		**P**	**03 33 01.5**	**-0.5**
	comp=Z,44nm,0.8s,mb5.0,baz=321,slow=9.4,SNR=15							
PMG	**Port Moresby**	**23.83**	**113**	P		**P**	**03 33 01.5**	**-0.5**
PMG				pmax		pmax		
	comp=Z,44nm,0.8s							
PMG	**Port Moresby**	**23.83**	**113**	*e*P		**P**	**03 33 01.0**	**-0.9**
	comp=Z,406nm,1.3s,mb5.7							
PMG				LR		LR		
	comp=Z,2µm,21.0s,MS4.4							
QIZ	**Qiongzhong**	**24.25**	**323**	P		**P**	**03 33 06.6**	**+0.8**
QIZ				AP			03 33 13.8	
QIZ				XP		sP	03 33 17.6	+0.5
QIZ				S		**S**	**03 37 21.8**	**-1.0**
QIZ				SS			03 38 13.8	
QIZ				AMB		AMB		
	comp=Z,92nm,1.5s,mb5.0							
QIZ				AMB		AMB		
	comp=Z,1µm,5.1s							
QIZ				LR		LR		
	comp=N,2µm,18.0s,MS4.6							
QIZ				LR		LR		
	comp=E,1µm,20.3s,MS4.6							
QIZ				LR		LR		
	comp=Z,3µm,19.3s,MS4.7							
QIZ	**Qiongzhong**	**24.25**	**323**	*e*P		**P**	**03 33 06.4**	**+0.6**
	comp=Z,138nm,1.1s,mb5.3							
IPM	**Ipoh**	**24.45**	**281**	P		**P**	**03 33 08.5**	**+0.9**
NACB	**Ninganchiao**	**24.46**	**352**	*e*P		**P**	**03 33 07.6**	**-0.1**
PPI	**Padang Panjang**	**24.66**	**269**	P		**P**	**03 33 09.5**	**0.0**
	comp=Z,271nm,1.2s,mb5.7							
AS31	**Alice Springs**	**24.86**	**160**⇓	*i*P		**P**	**03 33 11.3**	**0.0**
AS31				*e*S		**S**	**03 37 29.0**	**-3.6**
AS31				*e*			03 43 44.8	
AS31				*e*ScS		ScS	03 44 08.4	-3.6
ASPA	**Alice Springs**	**24.86**	**160**⇓	*i*P		**P**	**03 33 11.3**	**0.0**
ASPA				*e*S		**S**	**03 37 29.0**	**-3.6**
ASPA				*e*			03 43 44.8	
ASPA				*e*SCS		ScS	03 44 08.4	-3.7
ASAR	**Alice Springs**	**24.86**	**160**	P		**P**	**03 33 11.4**	**0.0**
	comp=Z,138nm,1.0s,mb5.5,baz=338,slow=8.7,SNR=239							
ASAR				PcP	PcP		03 36 47.6	+0.7
	comp=Z,15nm,0.8s,baz=347,slow=2.0,SNR=8.1							
ASAR				S		**S**	**03 37 31.2**	**-1.4**
	comp=Z,32nm,1.1s,baz=351,slow=23,SNR=5.0							
ASAR				ScP	ScP		03 40 23.7	-0.2
	comp=Z,12nm,1.1s,baz=333,slow=2.0,SNR=11							
ASAR				P3KPbc			04 06 17.4	
	comp=Z,1.1nm,0.9s,baz=156,slow=4.3,SNR=5.9							
ASAR	**Alice Springs**	**24.86**	**160**	P		**P**	**03 33 11.4**	**0.0**
ASAR							03 36 47.6	
ASAR				S		**S**	**03 37 31.3**	**-1.3**
ASAR				pmax		pmax		
	comp=Z,138nm,1.0s							
ASAR				pmax		pmax		
	comp=Z,15nm,0.8s							
ASAR				smax				
	comp=E,32nm,1.1s							
ASAR				pmax		pmax		
	comp=E,13nm,1.1s							
KULM	**Kulim**	**24.97**	**283**	*e*P		**P**	**03 33 13.2**	**+0.8**
YHNB	**Yeheng**	**24.98**	**352**	*e*P		**P**	**03 33 10.8**	**-1.6**
UBT	**Ubonrachathani**	**25.05**	**309**	P		**P**	**03 33 14.4**	**+1.3**
TATO	**Taipei**	**25.26**	**352**	⇑P		**P**	**03 33 15.6**	**+0.6**
	SNR=6.9							
TATO	**Taipei**	**25.26**	**352**	*e*P		**P**	**03 33 15.7**	**+0.7**
TATO				LR		LR		
	comp=Z,4µm,22.0s,MS4.8							
SNG	**Songkhla**	**25.45**	**287**	P		**P**	**03 33 17.5**	**+0.8**
	comp=Z,494nm,0.9s,mb6.0							
QZH	**Quanzhou**	**25.76**	**346**⇑	*i*P		**P**	**03 33 19.0**	**-0.6**
QZH				S		**S**	**03 37 43.0**	**-4.0**
QZH				AMB		AMB		
	comp=Z,120nm,0.9s,mb5.4							
QZH				AMB		AMB		
	comp=Z,1µm,4.8s							
QZH				LR		LR		
	comp=N,2µm,20.4s							
QZH				LR		LR		
	comp=E,7µm,27.4s							
QZH				LR		LR		
	comp=Z,4µm,32.9s							
GZH	**Guangzhou**	**25.80**	**335**	P		**P**	**03 33 22.6**	**+2.7**
GZH				LR		LR		
	comp=N,2µm,15.5s,MS4.8							
GZH				LR		LR		
	comp=E,1µm,19.0s,MS4.8							
GZH				LR		LR		
	comp=Z,4µm,18.6s,MS5.0							
PSI	**Prapat**	**26.29**	**277**	P		**P**	**03 33 24.1**	**-0.2**
	comp=Z,56nm,0.9s,mb5.1,baz=113,slow=3.8,SNR=42							
PSI				ScP	ScP		03 40 27.2	-0.8
	comp=Z,4.3nm,0.8s,baz=212,slow=14,SNR=3.9							
PSI	**Prapat**	**26.29**	**277**	P		**P**	**03 33 24.2**	**-0.1**
PSI				pmax		pmax		
	comp=Z,56nm,0.9s,mb5.1							
PSI				pmax		pmax		
	comp=E,4.0nm,0.8s							
JOW	**Kunigami**	**27.05**	**6**	P		**P

NJ2 PP PP 03 35 29.0 -5.3
NJ2 S **S** **03 39 35.0 +0.6**
NJ2 XS sS 03 39 51.0 +3.3
NJ2 AMB AMB
comp=Z,90nm,1.0s,mb5.7
NJ2 AMB AMB
comp=Z,200nm,6.5s
NJ2 LR LR
comp=N,6μm,21.2s,MS5.3
NJ2 LR LR
comp=E,3μm,20.9s,MS5.3
NJ2 LR LR
comp=Z,8μm,21.6s,MS5.4
KMI Kunming 33.16 321 P **P** **03 34 27.3 +2.1**
KMI AP pP 03 34 34.9 +1.6
KMI XP sP 03 34 37.8 +1.2
KMI PP PP 03 35 38.8 -1.6
KMI PPP 03 35 55.6
KMI PCP PcP 03 37 09.3 +1.6
KMI S **S** **03 39 44.8 +1.8**
KMI SCP ScP 03 40 50.9 +0.8
KMI PCS PcS 03 40 53.9 +0.6
KMI SS SS 03 41 46.8 -20
KMI SSS 03 42 11.8
KMI SCS ScS 03 44 49.9 -0.7
KMI AMB AMB
comp=Z,49nm,1.3s,mb5.3
KMI AMB AMB
comp=Z,464nm,6.8s
KMI LR LR
comp=N,655nm,18.9s,MS4.7
KMI LR LR
comp=E,1μm,17.6s,MS4.7
KMI LR LR
comp=Z,2μm,17.6s,MS4.8
NWAO Narrogin (SRO) 33.38 192 P **P** **03 34 27.1 0.0**
comp=Z,12nm,0.5s,mb5.0,baz=354,slow=5.6,SNR=12
NWAO LR LR 03 49 58.7
comp=Z,479nm,20.0s,MS4.2,baz=176,slow=40
NWAO Narrogin (SRO) 33.38 192 P **P** **03 34 27.2 +0.1**
NWAO pmax pmax
comp=Z,12nm,0.5s
NWAO MLR MLR
comp=Z,479nm,20.0s
NWAO Narrogin (SRO) 33.38 192 *eP* **P** **03 34 27.7 +0.6**
comp=Z,12nm,0.6s,mb5.0
NWAO LR LR 03 49 58.7
STKA Stephens Creek 35.18 155⇓*i*P **P** **03 34 43.2 +0.5**
comp=Z,79nm,1.1s,mb5.6
STKA *e*S **S** **03 40 11.3 -2.9**
STKA Stephens Creek 35.18 155 P **P** **03 34 43.2 +0.5**
comp=Z,103nm,0.9s,mb5.8,baz=326,slow=8.6,SNR=92
STKA S **S** **03 40 12.4 -1.8**
comp=Z,44nm,1.3s,baz=235,slow=20,SNR=6.0
STKA ScP ScP 03 40 57.2 -0.1
comp=Z,13nm,0.9s,baz=311,slow=3.8,SNR=4.2
HNR Honiara 35.92 106 P **P** **03 34 50.2 +1.1**
CD2 Chengdu 36.96 329⇑*i*P **P** **03 34 57.5 -0.5**
CD2 AP pP 03 35 04.8 -1.3
CD2 PP PP 03 36 24.1 +1.7
CD2 S **S** **03 40 41.1 -0.4**
CD2 SS SS 03 43 10.6 -13
CD2 AMB AMB
comp=Z,60nm,1.1s,mb5.3
CD2 AMB AMB
comp=Z,250nm,8.4s
CD2 LR LR
comp=E,800nm,22.8s
CD2 LR LR
comp=Z,760nm,22.8s,MS4.4
TIA Tai'an 36.97 349 *eP* **P** **03 34 56.8 -1.2**
XAN Xi'an 37.27 338 P **P** **03 34 59.6 -1.0**
XAN AP pP 03 35 09.4 +0.7
XAN AMB AMB
comp=Z,15nm,1.0s,mb4.8
XAN LR LR
comp=N,1μm,18.4s
XAN LR LR
comp=Z,2μm,18.4s,MS4.9
INCN Inchon 37.52 2 P **P** **03 35 04.8 +2.1**
SNR=5.8
INCN Inchon 37.52 2 *eP* **P** **03 35 03.4 +0.7**
comp=Z,207nm,1.4s,mb5.7
MAJO Matsushiro 38.54 17 *eP* **P** **03 35 10.6 -0.7**
MAT Matsushiro 38.54 17 P **P** **03 35 10.6 -0.7**
MAT S **S** **03 41 00.0 -5.5**
MAT Matsushiro 38.54 17 *eP* **P** **03 35 11.0 -0.3**
MAT *e*S **S** **03 41 00.0 -5.5**
MAT pmax pmax
comp=Z,264nm,1.5s,mb5.8
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.5
MAT Matsushiro 38.54 17 *eP* **P** **03 35 11.0 -0.3**
comp=Z,264nm,1.5s,mb5.8
MAT *e*S **S** **03 41 00.0 -5.5**
MAT LR LR
comp=Z,710nm,20.0s,MS4.5
MJAR Matsushiro Arr 38.54 17 P **P** **03 35 10.6 -0.8**
comp=Z,57nm,0.8s,mb5.4,baz=191,slow=9.0,SNR=123
MJAR PcP PcP 03 37 24.6 +0.9
comp=Z,22nm,0.8s,baz=183,slow=3.2,SNR=10
MJAR ScP ScP 03 41 08.9 -0.9
comp=Z,5.8nm,0.9s,baz=183,slow=4.8,SNR=5.7
MJAR Matsushiro Arr 38.54 17 P **P** **03 35 10.6 -0.7**
MJAR 03 37 24.6
MJAR 03 41 08.9
MJAR pmax pmax
comp=Z,57nm,0.8s
MJAR pmax pmax
comp=Z,22nm,0.8s
MJAR pmax pmax
comp=E,6.0nm,0.9s
MJAR Matsushiro Arr 38.54 17 P **P** **03 35 10.6 -0.8**
MJAR PcP PcP 03 37 24.6 +0.9
MJAR ScP ScP 03 41 08.9 -0.9
DL2 Dalian 39.04 356 P **P** **03 35 15.8 +0.3**
DL2 PCP PcP 03 37 26.3 +1.0
DL2 *e*S **S** **03 41 15.0 +2.0**
DL2 AMB AMB
comp=Z,70nm,1.0s,mb5.3
DL2 AMB AMB
comp=Z,110nm,4.6s
DL2 LR LR
comp=N,630nm,21.0s,MS4.4
DL2 LR LR
comp=E,260nm,22.5s,MS4.4
DL2 LR LR
comp=Z,900nm,23.6s,MS4.5
ARMA Armidale 39.26 142 *eP* **P** **03 35 18.6 +1.3**
ARMA *ep*P pP 03 35 32.2 +6.7
BJT Baijiatuau 40.84 350 *eP* **P** **03 35 29.8 -0.7**
BJT pmax pmax
comp=Z,68nm,1.0s
BJT Baijiatuau 40.84 350 *eP* **P** **03 35 29.8 -0.7**
comp=Z,68nm,1.0s,mb5.2
BJI Beijing 40.86 350 P **P** **03 35 29.5 -1.1**
BJI AMB AMB
comp=Z,42nm,1.2s,mb4.9
BJI AMB AMB
comp=Z,173nm,7.6s
BJI LR LR
comp=N,803nm,29.0s,MS4.6
BJI LR LR
comp=E,664nm,25.6s,MS4.6
BJI LR LR
comp=Z,2μm,32.8s
SHL Shillong 41.01 311 *ex* x 03 35 26.2
SHL AMb AMB 03 35 28.2
comp=Z,1μm,1.0s,mb6.5
LZH Lanzhou 41.14 334 *eP* **P** **03 35 32.8 -0.1**
LZH AP pP 03 35 40.0 -1.1
LZH XP sP 03 35 44.0 -0.4
LZH *e*S **S** **03 41 46.3 +1.9**
LZH XS sS 03 42 05.0 +7.2
LZH AMB AMB
comp=Z,68nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,373nm,5.1s
LZH LR LR
comp=N,2μm,14.7s
LZH LR LR
comp=Z,4μm,15.4s,MS5.4
CNB Canberra Magne 41.64 150 *eP* **P** **03 35 39.7 +2.6**
comp=Z,44nm,0.9s,mb5.1
CNB *ep*P pP 03 35 55.1 +10

TOO Toolangi 41.70 155 *eP* **P** **03 35 40.0 +2.5**
comp=Z,36nm,1.0s,mb5.0
TOO *ep*P pP 03 35 55.7 +10
TOO Toolangi 41.70 155 *eP* **P** **03 35 40.0 +2.5**
TOO *e**PP pP 03 35 55.7 +10
TOO pmax pmax
comp=Z,36nm,1.0s,mb5.0
SNY Shenyang 41.85 358⇑P **P** **03 35 38.6 -0.2**
SNY AP pP 03 35 48.4 +1.4
SNY XP sP 03 35 52.6 +2.3
SNY PP PP 03 37 15.9 +0.1
SNY S **S** **03 41 51.6 -3.4**
SNY AMB AMB
comp=Z,77nm,1.0s,mb5.3
SNY AMB AMB
comp=Z,423nm,7.4s
SNY LR LR
comp=N,672nm,19.2s,MS4.7
SNY LR LR
comp=E,837nm,21.0s,MS4.7
SNY LR LR
comp=Z,1μm,26.4s
HHC Hu-ho-hao-te 42.66 345⇓P **P** **03 35 46.6 +1.3**
HHC AP pP 03 35 52.0 -1.5
HHC XP sP 03 35 55.9 -0.9
HHC PP PP 03 37 30.5 +6.1
HHC S **S** **03 42 07.8 +1.0**
HHC SS SS 03 45 14.4 -3.1
HHC AMB AMB
comp=Z,56nm,0.9s,mb5.3
HHC AMB AMB
comp=Z,230nm,4.2s
HHC LR LR
comp=N,382nm,15.5s,MS4.7
HHC LR LR
comp=E,885nm,20.2s,MS4.7
HHC LR LR
comp=Z,1μm,23.8s,MS4.7
BTO Baotou 42.85 343 *eP* **P** **03 35 46.3 -0.6**
VLA Vladivostok 43.56 7*d*P **P** **03 35 53.2 +0.6**
VLA *e**PP pP 03 35 59.2 -1.7
VLA *e*S **S** **03 42 17.7 -2.3**
VLA pmax pmax
comp=Z,138nm,0.6s,mb5.9
VLA MLR MLR
comp=Z,900nm,22.0s,MS4.6
VLA Vladivostok 43.56 7 *i*P **P** **03 35 52.7 +0.1**
CN2 Changchun 43.81 0 *eP* **P** **03 35 53.8 -0.8**
CN2 *e*XP sP 03 36 04.5 -1.6
CN2 *e*S **S** **03 42 23.8 +0.1**
CN2 AMB AMB
comp=Z,50nm,1.1s,mb5.2
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,600nm,21.0s,MS4.6
CN2 LR LR
comp=E,600nm,21.0s,MS4.6
CN2 LR LR
comp=Z,700nm,22.0s,MS4.5
VIS Vishakhapatnam 44.74 296 *eP* **P** **03 36 01.9 -0.2**
MDJ Mudanjiang 44.80 5 P **P** **03 36 02.9 +0.3**
MDJ AP pP 03 36 09.1 -1.7
MDJ XP sP 03 36 12.3 -1.8
MDJ PP PP 03 37 49.4 +2.0
MDJ S **S** **03 42 33.8 -4.3**
MDJ XS sS 03 42 52.6 +0.9
MDJ AMB AMB
comp=Z,99nm,0.9s,mb5.6
MDJ AMB AMB
comp=Z,321nm,3.4s
MDJ LR LR
comp=N,481nm,22.5s,MS4.5
MDJ LR LR
comp=E,513nm,25.7s,MS4.5
MDJ LR LR
comp=Z,664nm,25.7s,MS4.5
MDJ Mudanjiang 44.80 5 *eP* **P** **03 36 03.0 +0.5**
comp=Z,76nm,0.8s,mb5.6
PALK Pallekele 44.85 280 *eP* **P** **03 36 02.2 -0.8**
comp=Z,14nm,0.6s,mb5.0
BOK Bokaro 44.86 305 *eP* **P** **03 36 02.6 -0.5**
GTA Gaotai 45.69 333 *eP* **P** **03 36 09.4 -0.2**
GTA AP pP 03 36 16.3 -1.6
GTA PCP PcP 03 37 47.8 +0.5
GTA PP PP 03 37 57.4 +0.6
GTA PPP 03 38 40.0
GTA SCP ScP 03 41 37.0 -1.3
GTA PCS PcS 03 41 40.8 -0.7
GTA S **S** **03 42 51.3 +0.4**
GTA XS sS 03 43 06.9 +2.4
GTA AMB AMB
comp=Z,21nm,1.5s,mb4.8
GTA AMB AMB
comp=Z,324nm,5.3s
GTA LR LR
comp=N,982nm,17.9s,MS4.9
GTA LR LR
comp=E,1μm,20.5s,MS4.9
GTA LR LR
comp=Z,2μm,17.9s,MS5.0
DZM Mont Dzumac 45.80 121 P **P** **03 36 11.1 +0.7**
comp=Z,14nm,0.9s,mb4.9,baz=290,slow=11,SNR=5.1
MDRS Chennai 46.33 288 *eP* **P** **03 36 14.3 -0.3**
JIRN Jiri 46.44 310 *eP* **P** **03 36 15.9 +0.3**
comp=Z,230nm,0.7s,mb6.2
GUN Gumba 46.81 310 *eP* **P** **03 36 18.4 0.0**
comp=Z,341nm,0.7s,mb6.4
ASAJ Asahikawa 46.81 17 P **P** **03 36 19.2 +0.8**
comp=Z,71nm,0.8s,mb5.7,baz=230,slow=12,SNR=78
ASAJ Asahikawa 46.81 17 P **P** **03 36 19.3 +0.8**
ASAJ pmax pmax
comp=Z,71nm,0.8s
TAU Tasmania Unive 46.98 158 P **P** **03 36 20.5 +0.7**
PKI Pulchoki 47.00 309 *eP* **P** **03 36 19.6 -0.3**
comp=Z,130nm,0.7s,mb6.0
PKI Pulchoki 47.00 309 *eP* **P** **03 36 19.6 -0.3**
PKI pmax pmax
comp=Z,131nm,0.7s,mb6.0
KKN Kakani 47.21 309 *eP* **P** **03 36 21.4 -0.2**
comp=Z,271nm,1.0s,mb6.1
KKN Kakani 47.21 309 *eP* **P** **03 36 21.4 -0.2**
KKN pmax pmax
comp=Z,271nm,1.0s,mb6.1
DMN Daman 47.26 309 *eP* **P** **03 36 21.6 -0.3**
comp=Z,256nm,0.9s,mb6.2
GKN Gorkha 47.81 309 *eP* **P** **03 36 25.9 -0.3**
comp=Z,248nm,0.7s,mb6.3
KOLN Koldanda 48.51 308 *eP* **P** **03 36 31.5 -0.1**
comp=Z,546nm,0.7s,mb6.7
TRD Trivandrum 48.69 281 *eP* **P** **03 36 33.3 +0.3**
TRD AMb AMB 03 36 36.0
comp=Z,98nm,1.6s,mb5.6
HYB Hyderabad 48.99 293 *i*P **P** **03 36 36.5 +1.2**
HYB Hyderabad 48.99 293 *eP* **P** **03 36 34.5 -0.8**
HABR Khabarovsk 49.25 9 *eP* **P** **03 36 37.5 +0.2**
HABR *e*S **S** **03 43 42.9 +1.4**
HABR pmax pmax
comp=Z,127nm,1.1s,mb5.9
YSS Yuzh-Sakhalins 49.45 16α *i*P **P** **03 36 39.0 +0.2**
YSS *e* 03 36 54.8
YSS *e*S **S** **03 43 43.0 -1.4**
YSS *e*SS ScS 03 46 26.0 -2.8
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS MLR MLR
comp=Z,500nm,19.0s,MS4.5
YSS Yuzh-Sakhalins 49.45 16 *eP* **P** **03 36 39.0 +0.2**
comp=Z,111nm,1.1s,mb5.8
HIA Hailar 49.48 355*c i*P **P** **03 36 38.9 -0.2**
KLR Kul'dur 49.57 6⇓*i*P **P** **03 36 37.0 -2.8**
KLR *e* 03 38 30.0
KLR pmax pmax
comp=E,28nm,1.4s
KLR pmax pmax
comp=Z,140nm,1.4s,mb5.8
KLR MLR MLR
comp=N,500nm,20.0s,MS4.8
KLR MLR MLR
comp=E,900nm,20.0s,MS4.8
ULN Ulaanbaatar 50.37 344⇑P **P** **03 36 45.6 -0.2**
SNR=53
ULN Ulaanbaatar 50.37 344*c i*P **P** **03 36 44.9 -0.9**
ULN Ulaanbaatar 50.37 344 *eP* **P** **03 36 45.3 -0.5**
comp=E,85nm,0.9s,mb5.8

SONM Songino Array 50.52 344 P **P** **03 36 46.3 -0.7**
comp=E,63nm,0.8s,mb5.6,baz=156,slow=8.5,SNR=69
SONM PcP PcP 03 38 04.4 -0.2
comp=E,16nm,0.9s,baz=158,slow=3.9,SNR=3.6
SONM LR LR 03 59 02.9
comp=E,995nm,19.3s,MS4.8,baz=156,slow=37
SONM PKPPKP 04 07 34.3
comp=E,0.4nm,0.9s,baz=250,slow=4.3,SNR=3.2
SONM Songino Array 50.52 344 P **P** **03 36 46.3 -0.7**
SONM 03 38 04.4
SONM pmax pmax
comp=Z,63nm,0.8s
SONM pmax pmax
comp=Z,16nm,0.9s
SONM MLR MLR
comp=Z,995nm,19.3s
LATR Latur 51.09 294 *eP* **P** **03 36 49.5 -1.8**
AKL Akola 51.34 297 *eP* **P** **03 36 52.6 -0.5**
AKL AMb AMB 03 36 55.7
comp=Z,251nm,1.0s,mb6.1
MNGI Mangalore 51.47 287 *eP* **P** **03 36 53.2 -0.9**
BHPL Bhopal 51.79 300 *eP* **P** **03 36 55.8 -0.7**
BHPL AMb AMB 03 36 58.5
comp=Z,122nm,0.7s,mb5.9
LGTI Lohaghat 51.89 309 *i*P **P** **03 36 55.3 -2.0**
AGRA Agra 52.81 305 *eP* **P** **03 37 02.8 -1.3**
AGRA AMb AMB 03 37 04.4
comp=Z,104nm,0.5s,mb6.0
JOSI Joshimath 52.92 310 *ex* x 03 36 53.4
JOSI AMb AMB 03 36 55.2
comp=Z,729nm,0.7s
DGAR Diego Garcia 52.93 261 *eP* **P** **03 37 04.5 -0.4**
DGAR pmax pmax
comp=Z,378nm,1.1s,mb6.2
DGAR Diego Garcia 52.93 261 *eP* **P** **03 37 04.5 -0.5**
comp=Z,378nm,1.1s,mb6.2
KAD Karad 53.00 292 *eP* **P** **03 37 03.9 -1.5**
KAD AMb AMB 03 37 05.5
comp=Z,77nm,1.2s,mb5.5
POO Poona 53.60 293⇓*ix* x 03 37 05.0
comp=Z,60nm,1.0s
ZAK Zakamensk 53.71 343 *eP* **P** **03 37 09.5 -1.2**
ZAK *e* 03 38 16.7
ZAK pmax pmax
comp=Z,21nm,1.0s,mb5.0
ZAK pmax pmax
comp=Z,17nm,1.2s,mb4.8
BISR Bishrakh 53.75 306 *eP* **P** **03 37 09.6 -1.4**
AYAN Aya Nagar 53.97 306 *eP* **P** **03 37 10.9 -1.6**
AYAN AMb AMB 03 37 12.1
comp=Z,126nm,1.2s,mb5.7
NDI New Delhi 53.98 306 *eP* **P** **03 37 10.0 -2.6**
DDI Dehra Dun 53.98 309 *ex* x 03 37 09.3
KUDL Kundal 54.35 305 *eP* **P** **03 37 14.1 -1.2**
KUDL AMb AMB 03 37 15.4
comp=Z,140nm,0.8s,mb6.0
KLP Kalpa 54.36 310 *eP* **P** **03 37 15.2 -0.2**
KLP AMb AMB 03 37 24.0
comp=Z,277nm,1.6s,mb6.0
TLY Talaya 54.76 344 P **P** **03 37 18.2 -0.1**
comp=Z,541nm,0.9s,mb6.6,SNR=14
KHET Khetri 54.88 305 *eP* **P** **03 37 17.6 -1.6**
KHET AMb AMB 03 37 19.9
comp=Z,112nm,1.2s,mb5.8
SMLA Simla 55.02 309 *eP* **P** **03 37 20.1 -0.1**
SMLA AMb AMB 03 37 23.7
comp=Z,1μm,0.9s
WMQ Urumqi 55.04 328 P **P** **03 37 22.8 +2.4**
WMQ AP pP 03 37 30.4 +1.6
WMQ XP sP 03 37 33.8 +1.8
WMQ PCP PcP 03 38 24.3 +2.6
WMQ PP PP 03 39 27.4 +3.8
WMQ AMB AMB
comp=Z,101nm,1.2s,mb5.7
WMQ AMB AMB
comp=Z,721nm,4.0s
WMQ LR LR
comp=N,1μm,18.2s,MS5.0
WMQ LR LR
comp=E,628nm,20.5s,MS5.0
WMQ LR LR
comp=Z,731nm,20.5s,MS4.7
IRK Irkutsk 55.10 345 *eP* **P** **03 37 20.2 -0.6**
IRK pmax pmax
comp=Z,126nm,1.3s,mb5.8
AJM Ajmer 55.27 303 *eP* **P** **03 37 21.6 -0.4**
SDNR Sundarnagar 55.33 309 *eP* **P** **03 37 22.4 0.0**
SDNR *ex* x 03 43 36.9
MOY Mondy 55.53 342 *eP* **P** **03 37 23.7 -0.2**
MOY pmax pmax
comp=Z,96nm,1.4s,mb5.6
DLH Dalhousie 56.54 310 *eP* **P** **03 37 31.0 -0.1**
DLH *ex* x 03 37 38.0
CLNS Chul'man 56.86 360 *eP* **P** **03 37 33.8 +0.4**
CLNS *e* 03 38 29.7
CLNS *e* 03 39 36.6
CLNS *e*S **S** **03 45 24.9 -0.2**
CLNS *e*SS SS 03 49 11.9 -1.5
CLNS pmax pmax
comp=Z,121nm,0.7s,mb6.0
CLNS pmax pmax
comp=N,71nm,0.8s
CLNS pmax pmax
comp=E,65nm,0.8s
CLNS pmax pmax
comp=Z,15nm,0.8s,mb5.1
CLNS pmax pmax
comp=N,20nm,0.9s
CLNS pmax pmax
comp=E,27nm,0.7s
CLNS smax
comp=N,360nm,13.1s
CLNS smax
comp=Z,210nm,14.0s
CLNS smax
comp=E,326nm,16.6s
CLNS MLR MLR
comp=Z,300nm,20.0s,MS4.4
CLNS MLR MLR
comp=N,1μm,15.0s,MS5.3
CLNS MLR MLR
comp=E,900nm,15.0s,MS5.3
SKR Severo-Kuril's 57.16 23 *eP* **P** **03 37 30.6 -4.9**
SKR *e* 03 37 41.0
SKR pmax pmax
comp=Z,180nm,1.0s,mb6.1
BOD Bodaibo 58.51 353⇓*i*P **P** **03 37 44.9 -0.1**
BOD pmax pmax
comp=Z,213nm,1.1s,mb6.1
JASL Jaisalmer 58.58 302 *eP* **P** **03 37 43.9 -1.6**
RPZ Rata Peaks 59.60 143 P **P** **03 37 53.3 +0.8**
comp=Z,30nm,0.9s,mb5.3,baz=22,slow=6.3,SNR=3.0
KSH Kashi 59.70 317⇑P **P** **03 37 55.3 +2.1**
KSH *e*AP pP 03 38 03.4 +1.7
KSH *e*PP PP 03 40 09.3 +4.2
KSH *e*PPP 03 41 34.4
KSH *e*SCP ScP 03 42 40.3 +1.3
KSH *e*S **S** **03 46 01.3 -1.0**
KSH *e*PS 03 46 21.5
KSH *e*SCS ScS 03 47 39.5 -2.2
KSH *e*SS SS 03 49 59.5 +1.3
KSH AMB AMB
comp=Z,961nm,1.9s,mb6.5
KSH AMB AMB
comp=Z,765nm,3.6s
KSH LR LR
comp=N,1μm,17.4s,MS5.2
KSH LR LR
comp=E,635nm,13.0s,MS5.2
KSH LR LR
comp=Z,755nm,20.8s
MK31 Makanchi Array 59.87 327 P **P** **03 37 53.6 -0.8**
MK31 pmax pmax
comp=Z,35nm,0.5s,mb5.7
MKAR Makanchi Array 59.87 327 P **P** **03 37 53.5 -1.0**
comp=Z,114nm,0.7s,mb6.0,baz=121,slow=7.8,SNR=118
MKAR PcP PcP 03 38 41.2 +0.5
comp=Z,40nm,0.9s,baz=111,slow=6.6,SNR=5.0
MKAR PKPPKP 04 07 02.8
comp=Z,0.2nm,0.6s,baz=243,slow=1.6,SNR=2.4
MKAR Makanchi Array 59.87 327 P **P** **03 37 53.5 -0.9**
MKAR 03 38 41.2
MKAR pmax pmax
comp=Z,115nm,0.7s
MKAR pmax pmax

comp=Z,40nm,0.9s
MKAR Makanchi Array 59.87 327 P **P** **03 37 53.5 -1.0**
MKAR PcP PcP 03 38 41.2 +0.5
MKAR P'P' 04 07 02.8
PET Petropavlovsk 59.97 23 *e*P **P** **03 37 56.1 +1.0**
PET *e*S **S** **03 46 05.4 -0.3**
PET pmax pmax
comp=Z,600nm,6.7s
PET pmax pmax
comp=Z,138nm,1.4s,mb5.8
PET pmax pmax
comp=Z,300nm,8.3s
PET smax
comp=N,500nm,17.9s
PET MLR MLR
comp=Z,300nm,21.0s,MS4.4
PET Petropavlovsk 59.97 23 *e*P **P** **03 37 56.2 +1.1**
comp=Z,141nm,1.1s,mb5.9
ULHL Ulahol 60.88 320 P **P** **03 38 03.6 +2.3**
SNR=116
URZ Urewera 60.91 135 P **P** **03 38 01.0 -0.5**
comp=Z,4.1nm,0.4s,mb4.9,baz=332,slow=4.0
KZA Kyzart 61.43 320 P **P** **03 38 05.3 +0.2**
SNR=148
RAO Raoul Island 61.49 123 P **P** **03 38 06.6 +1.2**
TKM2 Tokmak 2 61.63 321 P **P** **03 38 06.1 -0.3**
SNR=144
KRAR Krasnoyarsk 61.80 340⇑ *e*P **P** **03 38 06.3 -1.2**
KRAR pmax pmax
comp=Z,105nm,1.3s,mb5.8
KBK Karagaybulak 61.91 320 P **P** **03 38 08.5 +0.2**
SNR=64
UCH Uchtor 61.98 319 P **P** **03 38 09.3 +0.6**
SNR=209
YAK Yakutsk 62.17 2*c* *i*P **P** **03 38 10.1 +0.1**
YAK *e**PP pP 03 38 18.1 -0.4
YAK *e* 03 38 49.4
YAK *e* 03 40 28.2
YAK *e*PPP 03 41 51.5
YAK *i*S **S** **03 46 30.3 -3.4**
YAK *e* 03 47 56.5
YAK *e*SS SS 03 50 29.2 -7.6
YAK pmax pmax
comp=Z,223nm,0.9s,mb6.3
YAK pmax pmax
comp=N,83nm,1.2s
YAK pmax pmax
comp=E,39nm,1.2s
YAK pmax pmax
comp=Z,17nm,1.1s,mb5.1
YAK pmax pmax
comp=N,13nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK smax
comp=E,27nm,1.6s
YAK smax
comp=Z,4.0nm,0.9s
YAK smax
comp=N,48nm,1.4s
YAK MLR MLR
comp=Z,322nm,21.0s,MS4.5
YAK MLR MLR
comp=N,228nm,20.0s
YAK MLR MLR
comp=E,189nm,27.0s
YAK Yakutsk 62.17 2 *e*P **P** **03 38 09.8 -0.2**
AAK Ala-Archa 62.19 320 P **P** **03 38 12.6 +2.4**
SNR=74
AAK Ala-Archa 62.19 320 P **P** **03 38 09.0 -1.2**
comp=E,690nm,1.0s,mb6.7,SNR=16
AAK Ala-Archa 62.19 320⇑P **P** **03 38 09.3 -0.8**
SNR=71
AAK Ala-Archa 62.19 320⇑ *e*P **P** **03 38 08.9 -1.3**
AAK pmax pmax
comp=Z,138nm,1.0s,mb6.0
AAK Ala-Archa 62.19 320 *e*P **P** **03 38 09.1 -1.0**
CHMS Chumysh 62.21 320 P **P** **03 38 11.2 +1.0**
SNR=25
FRU Bishkek 62.21 320 *i*P **P** **03 38 12.0 +1.7**
FRU *i* 03 38 28.0
FRU pmax pmax
comp=Z,110nm,2.0s,mb5.6
FRU MLR MLR
comp=Z,2μm,23.0s,MS5.1
AML Almayashu 62.47 319 P **P** **03 38 11.9 -0.1**
SNR=160
USP Ospenovka 62.50 321 P **P** **03 38 11.7 -0.5**
SNR=183
EKS2 Erkin-Say 62.67 320 P **P** **03 38 13.4 +0.1**
SNR=154
MA2 Magadan 62.90 14*c* *i*P **P** **03 38 15.6 +0.7**
MA2 pmax pmax
comp=Z,212nm,1.3s,mb6.1
MA2 Magadan 62.90 14 *e*P **P** **03 38 14.8 0.0**
ZAL Zalesovo 63.35 335 LR LR 04 07 14.4
comp=Z,1μm,20.3s,MS5.0,baz=339,slow=37
KURK Kurchatov 64.18 329 P **P** **03 38 22.9 -0.5**
comp=Z,2μm,0.6s
KURK Kurchatov 64.18 329 P **P** **03 38 22.2 -1.1**
SNR=73
KURK Kurchatov 64.18 329*c* *i*P **P** **03 38 22.0 -1.4**
KURK Kurchatov 64.18 329 *e*P **P** **03 38 22.1 -1.2**
NVS Novosibirsk 64.64 335 *i*P **P** **03 38 24.0 -2.3**
NVS *i*S **S** **03 46 57.3 -7.2**
NVS pmax pmax
comp=N,49nm,0.9s
NVS pmax pmax
comp=Z,106nm,0.9s,mb5.9
NVS pmax pmax
comp=E,56nm,0.8s
NVS smax
comp=N,64nm,2.2s
NVS smax
comp=E,85nm,2.2s
KK31 Karatay Array 65.01 319 *i*P **P** **03 38 28.2 -0.5**
KK31 pmax pmax
comp=Z,113nm,0.8s,mb6.0
KK31 Karatay Array 65.01 319 *i*P **P** **03 38 28.3 -0.4**
KKAR Karatay Array 65.01 319 *i*P **P** **03 38 28.2 -0.5**
KKAR pmax pmax
comp=Z,96nm,0.9s,mb5.8
SMY Shemya 66.68 30 *e*P **P** **03 38 40.5 +1.0**
SMY pmax pmax
comp=Z,485nm,1.5s,mb6.3
SMY MLR MLR
comp=Z,500nm,20.0s,MS4.7
SMY Shemya 66.68 30 *e*P **P** **03 38 40.5 +1.0**
comp=Z,485nm,1.5s,mb6.3
SMY LR LR
comp=Z,500nm,20.0s,MS4.7
CASY Casey 66.75 186 *e*P **P** **03 38 40.4 +0.5**
WSAR Wadi Sarin 68.50 295 P **P** **03 38 49.8 -1.1**
comp=Z,15nm,0.8s,mb5.1,baz=101,slow=7.5,SNR=9.4
BIDO Bidbid 69.00 295⇑P **P** **03 38 52.9 -1.2**
SNR=8.8
BSY Bisya 69.72 294⇓P **P** **03 38 57.5 -1.0**
SNR=6.3
BVA0 Borovoye Array 69.72 328 *i*P **P** **03 38 57.4 -1.2**
BVA0 pmax pmax
comp=Z,18nm,1.0s,mb5.0
BVAR Borovoye Array 69.72 328 P **P** **03 38 57.1 -1.5**
comp=Z,83nm,0.8s,mb5.7,baz=132,slow=8.2,SNR=107
BVAR LR LR 04 13 25.6
comp=Z,523nm,20.4s,MS4.8,baz=319,slow=39
BVAR Borovoye Array 69.72 328 P **P** **03 38 57.1 -1.5**
BVAR pmax pmax
comp=Z,83nm,0.8s
BVAR MLR MLR
comp=Z,523nm,20.4s
BRVK Borovoye 69.79 328 P **P** **03 38 58.9 -0.1**
comp=Z,1μm,1.2s,mb6.7,SNR=88
BRVK Borovoye 69.79 328⇑P **P** **03 38 57.9 -1.1**
SNR=102
BRVK Borovoye 69.79 328 *e*P **P** **03 38 58.0 -1.0**
BRVK pmax pmax
comp=Z,110nm,1.0s,mb5.7
BRVK Borovoye 69.79 328 *e*P **P** **03 38 58.0 -1.0**
comp=Z,179nm,1.0s,mb6.0
CHKZ Chkalovo 69.93 329 *i*P **P** **03 38 58.5 -1.3**
CHKZ pmax pmax
comp=Z,88nm,0.8s,mb5.7
CHKZ Chkalovo 69.93 329 *e*P **P** **03 38 58.6 -1.2**
comp=Z,134nm,1.0s,mb5.8
MIR Mirnyy 69.98 193*c* *i*P **P** **03 39 01.5 +1.4**
MIR *i* 03 39 24.0
MIR pmax pmax
comp=Z,600nm,1.0s,mb6.5
ZRNK Zerenda 70.42 328 *i*P **P** **03 39 01.7 -1.1**
ZRNK pmax pmax
comp=Z,162nm,0.8s,mb6.0
ZRNK Zerenda 70.42 328 *e*P **P** **03 39 01.4 -1.4**
comp=Z,207nm,0.8s,mb6.1
ARQ Araqi 70.42 295 P **P** **03 39 02.0 -0.9**
SNR=7.5
ASHO Ashiyiah 71.06 296⇑P **P** **03 39 06.1 -0.6**
SNR=8.4
TIXI Tiksi 71.77 1 *e*P **P** **03 39 07.3 -3.7**
TIXI *e*S S 03 48 16.1 -13
TIXI pmax pmax
comp=Z,131nm,1.0s,mb5.8
TIXI pmax pmax
comp=N,16nm,0.7s
TIXI pmax pmax
comp=E,5.0nm,0.6s
TIXI MLR MLR
comp=Z,750nm,22.0s,MS4.9
TIXI Tiksi 71.77 1⇑ *i*P **P** **03 39 09.3 -1.7**
ABKT Ailbek 72.08 310 P **P** **03 39 12.6 -0.3**
comp=Z,409nm,0.9s,mb6.4,SNR=16
WHFO Wadi Hawf 72.27 289 P **P** **03 39 14.0 -0.1**
SNR=12
BILL Bilibino 73.75 15 P **P** **03 39 21.7 -1.1**
BILL Bilibino 73.75 15 P **P** **03 39 21.7 -1.1**
comp=Z,0.2nm,0.7s
AKTK Aktyubinsk 75.71 323 P **P** **03 39 33.4 -0.8**
AKTK LR LR 04 15 12.6
AKTO Aktyubinsk 75.71 323 P **P** **03 39 33.4 -0.8**
comp=Z,169nm,0.8s,mb6.0,baz=107,slow=7.8,SNR=181
AKTO LR LR 04 15 12.6
comp=Z,753nm,20.6s,MS5.0,baz=315,slow=38
AKTO Aktyubinsk 75.71 323 P **P** **03 39 33.4 -0.7**
AKTO pmax pmax
comp=Z,169nm,0.8s,mb6.0
AKTO MLR MLR
comp=Z,753nm,20.6s,MS5.0
SVE Sverdlovsk 76.44 329⇑ *i*P **P** **03 39 37.2 -1.1**
SVE *e* 03 39 53.6
SVE *e* 03 42 29.0
SVE pmax pmax
comp=Z,256nm,2.2s,mb5.8
MUKL Al Mukalla 76.52 285 *e*P **P** **03 39 39.4 +0.6**
SPIA Saint Paul Isl 76.71 30 *e*P **P** **03 39 41.4 +1.6**
ARU Arti 77.36 329 P **P** **03 39 42.8 -0.7**
comp=Z,984nm,0.8s,mb6.8,SNR=12
ARU Arti 77.36 329⇑ *i*P **P** **03 39 42.1 -1.4**
ARU *e* pP 03 39 51.2 -1.0
ARU *e* 03 42 36.7
ARU *e*PPP 03 44 22.3
ARU *e*S S 03 49 32.9 +0.8
ARU *e*SS SS 03 54 32.7 +2.0
ARU pmax pmax
comp=Z,159nm,0.9s,mb6.0
ARU MLR MLR
comp=Z,500nm,22.5s,MS4.8
ARU MLR MLR
comp=N,200nm,20.0s,MS4.8
ARU MLR MLR
comp=E,400nm,22.0s,MS4.8
ARU Arti 77.36 329 *e*P **P** **03 39 42.1 -1.4**
comp=E,136nm,0.8s,mb5.9
AKUT Akutan 78.09 34 *e*P **P** **03 39 47.8 +0.3**
comp=E,766nm,1.9s,mb6.3
AKUT LR LR
comp=Z,500nm,21.0s,MS4.8
OPO Ambohidratompo 78.44 251 P **P** **03 39 51.4 +2.0**
comp=Z,73nm,0.9s,mb5.6,baz=82,slow=4.7,SNR=62
QRN Al-Qurain 78.82 299 *e*P **P** **03 39 49.9 -1.7**
QRN AMb AMB 03 39 53.9
comp=Z,104nm,0.7s,mb5.9
KBD Kabd 79.07 300 *e*P **P** **03 39 51.3 -1.7**
KBD AMb AMB 03 39 53.9
comp=Z,216nm,0.9s,mb6.1
RDF Al-Radifah 79.16 299 *e*P **P** **03 39 53.1 -0.4**
RDF AMb AMB 03 39 55.2
comp=Z,97nm,0.9s,mb5.7
MIB Mutribah 79.44 300 *e*P **P** **03 39 53.4 -1.6**
MIB AMb AMB 03 39 56.7
comp=Z,205nm,0.8s,mb6.1
NAY Al-Naaiem 79.47 300 *e*P **P** **03 39 53.4 -1.7**
NAY AMb AMB 03 39 56.9
comp=Z,73nm,1.1s,mb5.5
MAW Mawson 79.51 200 *e*P **P** **03 39 56.2 +0.8**
comp=Z,27nm,1.3s,mb5.0
MAW Mawson 79.51 200 P **P** **03 39 56.2 +0.8**
comp=Z,37nm,1.1s,mb5.2,baz=65,slow=6.9,SNR=40
MAW Mawson 79.51 200 P **P** **03 39 56.1 +0.7**
MAW pmax pmax
comp=Z,150nm,1.6s
FALS False Pass 79.61 34 *e*P **P** **03 39 48.1 -7.7**
RST Umm Al-Ruwaisa 79.70 300 *e*P **P** **03 39 55.1 -1.3**
RST AMb AMB 03 39 57.9
comp=Z,357nm,0.7s,mb6.4
VNDA Vanda 79.77 172 P **P** **03 39 56.7 -0.1**
comp=Z,12nm,1.0s,mb4.8,baz=316,slow=6.1,SNR=38
VNDA LR LR 04 13 12.4
comp=Z,496nm,21.8s,MS4.8,baz=332,slow=34
VNDA Vanda 79.77 172 P **P** **03 39 56.7 -0.1**
VNDA LR LR 04 13 12.4
SBA Scott Base 80.70 172 *e*P **P** **03 40 02.6 +0.8**
TNA Tin City 80.83 23 *e*P **P** **03 40 03.8 +1.3**
DHBB Dhamar BB 81.01 285 *e*P **P** **03 40 04.5 +1.1**
DHBB AMb AMB 03 40 05.9
comp=Z,69nm,0.9s,mb5.6
MAK Makhachkala 81.03 313 *i*P **P** **03 40 01.4 -2.1**
MAK *i* 03 40 13.5
MAK *i*PPP 03 44 56.7
MAK *e*S S 03 50 04.7 -6.3
MAK pmax pmax
comp=Z,229nm,1.6s,mb5.9
MAK MLR MLR
comp=Z,414nm,23.0s,MS4.7
TRBA At Turbah 81.22 283 *e*P **P** **03 40 05.6 +1.0**
SDPT Sand Point 81.37 34 *e*P **P** **03 40 05.7 +0.4**
comp=Z,256nm,0.7s,mb6.3
SDPT LR LR
comp=Z,500nm,21.0s,MS4.8
BHD Baghdad 82.31 303 *ex* x 03 40 19.0
DGRG David-gareji 82.39 312 P **P** **03 40 11.4 +0.7**
ATD Arta Tunnel 82.40 282 P **P** **03 40 13.1 +2.4**
comp=Z,58nm,0.9s,mb5.5,baz=3.5,slow=1.4,SNR=16
ATD LR LR 04 15 16.6
comp=Z,261nm,20.1s,MS4.6,baz=262,slow=34
GNI Garni 82.72 310 *e*P **P** **03 40 10.8 -1.6**
GNI Garni 82.72 310 P **P** **03 40 13.1 +0.7**
comp=Z,28nm,0.7s,mb5.4,baz=358,slow=5.4,SNR=20
GNI Garni 82.72 310 P **P** **03 40 14.1 +1.7**
SNR=16
GNI Garni 82.72 310*c* *i*P **P** **03 40 13.0 +0.6**
GNI pmax pmax
comp=Z,125nm,1.7s
GNI Garni 82.72 310 *e*P **P** **03 40 13.7 +1.3**
comp=Z,89nm,0.9s,mb5.8
MTA Mtatsminda 82.85 312 P **P** **03 40 13.6 +0.5**
TBLG Delisi 82.90 312 P **P** **03 40 14.5 +1.2**
CLDR Caldiran 83.24 309 *e*P **P** **03 40 16.8 +1.6**
HAKT HAKKARI 83.25 308 *i*P **P** **03 40 16.8 +1.6**
CUKT Cukurca 83.30 307 *e*P **P** **03 40 15.2 -0.3**
GOR Gori 83.39 312 P **P** **03 40 17.7 +1.8**
TVAN Van 83.58 309 *i*P **P** **03 40 18.5 +1.6**
VANB Van 83.60 309 *e*P **P** **03 40 15.7 -1.3**
MSL Mosul 83.63 306 *i*x x 03 40 07.0
ZEI Tsey 83.63 313 *e*P **P** **03 40 18.9 +1.8**
ZEI *e* 03 43 27.7
ZEI pmax pmax
comp=Z,135nm,1.1s,mb6.0
AKH Akhalkalaki 83.79 312 P **P** **03 40 19.6 +1.6**
ONI Oni 83.94 313 P **P** **03 40 19.5 +0.8**
KARS Kars 84.02 311 *e*P **P** **03 40 20.8 +1.7**
AMRG 84.17 313 P **P** **03 40 21.3 +1.4**
KIV Kislovodsk 84.63 314 P **P** **03 40 23.2 +1.0**
comp=Z,386nm,0.8s,mb6.6,SNR=13
KIV Kislovodsk 84.63 314 P **P** **03 40 22.4 +0.2**
SNR=31
KIV P 03 40 23.3
SNR=8.1
KIV Kislovodsk 84.63 314*c* *i*P **P** **03 40 21.0 -1.2**
KIV *e* 03 43 37.8
KIV *e* 03 50 43.0
KIV pmax pmax
comp=Z,57nm,0.6s,mb5.9
KIV pmax pmax
comp=Z,472nm,2.7s,mb6.1
KIV MLR MLR
comp=Z,263nm,19.0s,MS4.6
KIV Kislovodsk 84.63 314 *e*P **P** **03 40 23.2 +1.0**
comp=Z,60nm,0.8s,mb5.8
SVW2 Sparrevohn 85.03 29 *e*P **P** **03 40 25.4 +1.2**
BTMT Batman 85.06 308 *e*P **P** **03 40 25.9 +1.5**
TTA Tatalina 85.14 27 *e*P **P** **03 40 25.5 +0.7**
TTA 03 40 39.6
TTA Tatalina 85.14 27 *e*P **P** **03 40 25.7 +0.9**
PECR Pechory 85.15 326 *i*P **P** **03 40 24.0 -0.8**
PECR pmax pmax
comp=Z,920nm,2.0s,mb6.6
PECR pmax pmax
comp=Z,2μm,2.0s,mb6.8
BEST Besiri 85.21 308 *i*P **P** **03 40 26.1 +1.0**
ERZM Erzurum 85.28 310 *i*P **P** **03 40 27.5 +2.0**
EZM Erzurum 85.28 310 *e*P **P** **03 40 27.0 +1.6**
BNGL BINGOL 85.37 309 *i*P **P** **03 40 28.5 +2.6**
PPT Papeete 85.52 107 *e*S S 03 50 54.9 -1.6
comp=Z,399nm,25.5s
PPT *e*LR LR 04 07 30.2
comp=Z,884nm,26.5s
PPT Papeete 85.52 107 LR LR 04 14 46.3
comp=Z,494nm,19.8s,MS4.9,baz=170,slow=33
MARD Mardin 85.56 307 *i*P **P** **03 40 27.9 +1.0**
MZRK Al-Mazaregh 85.57 306⇑P **P** **03 40 29.4 +2.5**
KBSD Kabsdagh 85.73 307⇑P **P** **03 40 29.3 +1.6**
TBI Tubuai 85.77 113 *e*S S 03 50 57.4 -1.6
comp=Z,941nm,27.5s
TBI *e*LR LR 04 07 36.9
comp=Z,538nm,30.0s
BINT Bingol 85.88 309 *e*P **P** **03 40 29.1 +0.7**
VRHR Novokhopersk 86.02 321 *e*P **P** **03 40 28.4 -0.7**
VRHR pmax pmax
comp=Z,190nm,0.5s,mb6.6
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,130nm,0.8s
SFNV Sufian 86.04 306⇑P **P** **03 40 29.9 +0.7**
KDAK Kodiak Island 86.08 32 P **P** **03 40 30.6 +1.1**
comp=E,390nm,0.8s,mb6.7,SNR=6.4
KDAK Kodiak Island 86.08 32 *e*P **P** **03 40 30.4 +1.0**
DRBT Darb Altahta 86.30 307⇑P **P** **03 40 36.5 +6.0**
EZC Erzincan 86.46 310 *e*P **P** **03 40 34.5 +3.2**
IMA2 Indian Mountai 86.63 24 *e*P **P** **03 40 32.2 +0.1**
SOC Sochi 86.75 313 *i*P **P** **03 40 33.0 +0.3**
ELZG Elazig 87.04 308 *i*P **P** **03 40 36.4 +2.2**
URFA Urfa 87.12 307 *e*P **P** **03 40 33.0 -1.5**
JHLN Al Jahlan 87.36 306⇑P **P** **03 40 36.8 +1.1**
MALT Malatya 87.47 308⇑ *i*P **P** **03 40 38.4 +2.2**
MALT Malatya 87.47 308 *e*P **P** **03 40 37.2 +0.9**
MYA Malataya 87.47 308 *e*P **P** **03 40 37.3 +1.1**
VRSR Storozhevoye 87.55 321 *e*P **P** **03 40 35.5 -1.1**
VRSR pmax pmax
comp=Z,330nm,1.3s,mb6.4
VRSR pmax pmax
comp=N,10.0nm,0.6s
VRSR pmax pmax
comp=E,190nm,1.0s
VRSR MLR MLR
comp=Z,240nm,17.0s,MS4.7
VRSR MLR MLR
comp=N,220nm,13.0s,MS4.8
VRSR MLR MLR
comp=E,180nm,16.0s,MS4.8
SLKM Skilak Lake 87.56 30 P **P** **03 40 36.1 -0.6**
SLKM Skilak Lake 87.56 30 *e*P **P** **03 40 35.8 -0.9**
VOR Voronezh 87.58 322 *e*P **P** **03 40 35.5 -1.2**
VOR pmax pmax
comp=Z,370nm,1.3s,mb6.5
VOR pmax pmax
comp=E,330nm,1.4s
KMBO Kilima Mbogo 87.80 269 P **P** **03 40 39.5 +1.8**
comp=E,115nm,1.0s,mb6.1,baz=66,slow=5.9,SNR=143
KMBO LR LR 04 19 45.6
comp=E,569nm,20.2s,MS5.0,baz=75,slow=36
KMBO Kilima Mbogo 87.80 269 P **P** **03 40 39.6 +1.8**
KMBO pmax pmax
comp=Z,115nm,1.0s
KMBO MLR MLR
comp=Z,569nm,20.2s
GZT Gaziantep 88.12 307 *i*P **P** **03 40 40.0 +0.7**
PMR Palmer 88.17 29 *e*P **P** **03 40 38.8 -0.8**
PMR pmax pmax
comp=Z,40nm,1.1s,mb5.6
PMR Palmer 88.17 29 *e*P **P** **03 40 38.2 -1.4**
comp=Z,29nm,0.8s,mb5.6
SYO Syowa Base 88.18 201⇓ *i*P **P** **03 40 39.4 -0.2**
SYO Syowa Base 88.18 201⇓ *i*PcP PcP 03 40 41.5 +0.2
ZALF Zalf 88.19 303⇑P **P** **03 40 41.1 +1.5**
ROOS tl_alroos 88.26 304⇑P **P** **03 40 41.9 +1.9**
GAZ Gaziantep 88.40 307 *e*P **P** **03 40 41.4 +0.8**
MCK McKinley 88.40 26 *e*P **P** **03 40 39.9 -0.8**
ANN Anapa 88.44 315 *e*P **P** **03 40 39.9 -1.0**
ANN *i**PP pP 03 40 52.9 +3.2
ANN *e*S S 03 51 07.5 -17
ANN pmax pmax
comp=Z,432nm,1.0s,mb6.6
ANN Anapa 88.44 315 *i*P **P** **03 40 39.9 -1.0**
ASF Jabal al Asfar 88.54 302 P **P** **03 40 42.8 +1.5**
comp=Z,65nm,0.8s,mb6.0,baz=333,slow=2.3,SNR=14
ASF Jabal al Asfar 88.54 302 P **P** **03 40 42.8 +1.5**
ASF pmax pmax
comp=Z,65nm,0.8s
SML Sawmill 88.57 28 *e*P **P** **03 40 33.3 -8.1**
SVSK Karacayir 88.63 310 *e*P **P** **03 40 42.3 +0.5**
KFRA Kufra 88.68 305⇑P **P** **03 40 43.2 +1.2**
SALA Sala 88.69 303⇑P **P** **03 40 43.5 +1.5**
MOS Moscow 88.71 326*c* *i*P **P** **03 40 41.3 -0.8**
MOS *e* 03 44 08.8
MOS *e* 03 51 03.0
MOS *i*S S 03 51 20.4 -6.8
MOS pmax pmax
comp=Z,500nm,1.5s,mb6.6
MOS pmax pmax
comp=Z,309nm,1.0s,mb6.6
MOS smax
comp=N,800nm,4.3s
DRWC Darouich 88.82 306⇑P **P** **03 40 43.5 +0.8**
COLA College 88.94 25*c* *i*P **P** **03 40 41.6 -1.6**
COLA College 88.94 25⇑ *i*P **P** **03 40 41.7 -1.5**
TOTH TOTAH 88.96 303⇑P **P** **03 40 44.5 +1.3**
BTCH Batrach 88.98 306⇑P **P** **03 40 43.9 +0.6**
TOKT Tokat 88.99 310 *e*P **P** **03 40 43.8 +0.4**
HAWK Haweek 89.00 304⇑P **P** **03 40 44.8 +1.3**
WRDH Warideh 89.01 305⇑P **P** **03 40 44.0 +0.5**
BIDA Albida 89.07 305⇑P **P** **03 40 44.8 +1.0**
QASN Qassioun 89.09 303⇑P **P** **03 40 45.5 +1.6**
COBT Iskenderun 89.15 306 *i*P **P** **03 40 44.9 +0.7**
SLNF Slenfeh 89.16 305⇑P **P** **03 40 45.3 +1.1**
HTY Hatay 89.24 306 *e*P **P** **03 40 45.0 +0.4**
OBN Obninsk 89.29 325 P **P** **03 40 44.4 -0.4**
comp=N,2μm,0.8s,SNR=9.4
OBN Obninsk 89.29 325*c* *i*P **P** **03 40 43.8 -1.0**
OBN *e* 03 44 21.9
OBN *e*S S 03 51 19.5 -13
OBN *e*PS PS 03 52 35.9 -4.7
OBN pmax pmax
comp=Z,444nm,1.2s,mb6.7
OBN Obninsk 89.29 325 *e*P **P** **03 40 44.0 -0.8**
TCHB Talchebab 89.33 302⇑P **P** **03 40 47.1 +2.0**
BRBR Barbar 89.36 303⇑P **P** **03 40 46.6 +1.5**
KVT Kavak 89.38 311 *e*P **P** **03 40 45.1 -0.2**
RCY Rachaya 89.47 303 *e*P **P** **03 40 46.2 +0.5**
BNN Bunyan 89.50 309 *e*P **P** **03 40 45.4 -0.4**
KOZT Kozan 89.50 307 *e*P **P** **03 40 45.6 -0.2**
CEYT Ceyhan 89.56 307 *e*P **P** **03 40 46.6 +0.5**
BHL Bhannes 89.61 304 *e*P **P** **03 40 47.3 +1.0**
QSPA South Pole Qui 89.73 180⇑ *i*P **P** **03 40 47.4 +0.5**
comp=Z,49nm,1.0s,mb5.8
EYAK Cordova Ski Ar 89.78 30 *e*P **P** **03 40 47.1 0.0**
MMAI Mount Meron Ar 89.81 303 P **P** **03 40 48.6 +1.3**
comp=Z,55nm,0.8s,mb6.0,baz=83,slow=6.8,SNR=120
KARA Karaisali 90.12 307 *e*P **P** **03 40 47.6 -1.1**
EIL Elat 90.19 300 *e*P **P** **03 40 49.8 +0.7**
BOYT Boyabat 90.24 311 *i*P **P** **03 40 49.6 +0.3**
CTKT Corum 90.33 310 *i*P **P** **03 40 50.4 +0.7**
CORM Corum 90.45 310 *e*P **P** **03 40 49.4 -0.9**
MERS Mersin 90.54 307 *e*P **P** **03 40 50.0 -0.6**
CDAG Cicekdag 90.65 309 *i*P **P** **03 40 50.5 -0.7**

MENT	Mentasta	90.74	27	eP		P	03 40 51.4	-0.2	
SIM	Simferopol'	90.81	315	c/P		P	03 40 51.0	-0.9	
SIM				eS		S	03 51 35.0	-12	
SIM				pmax	pmax				
	comp=Z,114nm,1.0s,mb6.2								
SIM				MLR	MLR				
	comp=Z,600nm,24.9s,MS4.9								
SIM	Simferopol'	90.81	315	eP		P	03 40 51.3	-0.6	
APA	Apatity	90.81	337	⇓/P		P	03 40 50.0	-2.0	
APA				pmax	pmax				
	comp=Z,40nm,1.2s,mb5.6								
MEST	Erdemli	90.85	306	i P		P	03 40 52.2	+0.1	
TOS	Tosya	90.91	311	eP		P	03 40 52.1	-0.3	
PHNC	Paralimni	90.95	305	P		P	03 40 51.8	-0.8	
	comp=Z,1.9nm,0.9s								
KAMT	Kaman	91.16	309	eP		P	03 40 52.7	-0.9	
BR131	Keskin Array S	91.22	310	eP		P	03 40 53.2	-0.6	
	comp=Z,16nm,0.8s,mb5.4								
BRTR	Keskin Array B	91.22	310	P		P	03 40 53.2	-0.6	
	comp=Z,24nm,0.9s,mb5.5,baz=125,slow=5.2,SNR=96								
BRTR				PP		PP	03 44 26.1	-4.9	
	comp=Z,1.9nm,0.8s,baz=113,slow=9.5,SNR=3.1								
BRTR	Keskin Array B	91.22	310	P		P	03 40 53.2	-0.6	
BRTR							03 44 26.1		
BRTR				pmax	pmax				
	comp=Z,25nm,0.9s								
BRTR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
IKL	Isikli	91.22	306	eP		P	03 40 53.5	-0.4	
ELDT	Eldivan	91.37	310	i P		P	03 40 54.0	-0.5	
CSS	Prodhromos	91.53	305	P		P	03 40 55.7	+0.4	
	comp=Z,1.5nm,1.1s								
CSS	Prodhromos	91.53	305	eP		P	03 40 52.3	-3.0	
ERMK	Ermenek	91.84	306	i P		P	03 40 57.2	+0.5	
ANTO	Ankara	91.86	310	eP		P	03 40 50.8	-6.0	
ANTO	Ankara	91.86	310	⇑/P		P	03 40 56.8	0.0	
ANTO	Ankara	91.86	310	P		P	03 40 57.2	+0.4	
	SNR=8.6								
ANTO	Ankara	91.86	310	P		P	03 40 57.0	+0.2	
JOF	Joensuu	91.89	333	ep		P	03 40 54.4	-2.5	
	comp=Z,46nm,0.7s,mb5.9								
JOF	Joensuu	91.89	333	eP		P	03 40 54.4	-2.5	
JOF				pmax	pmax				
	comp=Z,46nm,0.7s,mb5.9								
SAFT	Safranbolu	91.91	311	eP		P	03 40 55.0	-2.0	
ALFC	Alevga	92.12	305	⇑P		P	03 40 57.7	-0.3	
	comp=Z,2.6nm,0.9s								
ALFC	Alevga	92.12	305	⇑eP		P	03 40 57.7	-0.3	
KONT	Konya--Tatoy	92.25	308	eP		P	03 40 57.9	-0.8	
PPCY	Paphos	92.34	305	P		P	03 40 58.8	-0.2	
SGKT	Sivrigoynuk	92.41	310	i P		P	03 40 59.2	-0.1	
KDHN	Kadinhani	92.43	308	i P		P	03 40 57.9	-1.5	
KIZT	Kizilcal	92.60	309	eP		P	03 40 59.1	-1.1	
DAWY	Dawson	92.62	26	eP		P	03 41 00.4	+0.1	
MDU	Mudurnu	93.06	310	eP		P	03 41 01.2	-1.1	
HENT	Hendek	93.28	311	i P		P	03 41 02.7	-0.7	
ESKT	Eskisehir	93.38	309	i P		P	03 41 03.2	-0.6	
ARCES	ARCESS Array B	93.53	340	P		P	03 41 02.3	-2.2	
	comp=Z,23nm,0.9s,mb5.6,baz=76,slow=5.1,SNR=21								
ARCES				LR		LR	04 29 15.5		
	comp=Z,491nm,21.1s,MS4.9,baz=199,slow=39								
ARE0	ARCESS Array S	93.53	340	eP		P	03 41 02.5	-2.0	
BORA	Eskisehir	93.67	310	i P		P	03 41 03.8	-1.4	
ISP	Isparta	93.72	308	eP		P	03 41 01.4	-3.9	
ISP	Isparta	93.72	308	c/P		P	03 41 04.0	-1.4	
ISP	Isparta	93.72	308	⇑/P		P	03 41 04.1	-1.3	
AKASG	Malin Array Be	93.86	321	P		P	03 41 04.5	-1.5	
	comp=Z,31nm,0.8s,mb5.8,baz=72,slow=4.2,SNR=104								
AKASG				LR		LR	04 29 56.1		
	comp=Z,287nm,20.8s,MS4.7,baz=60,slow=40								
AKASG	Malin Array Be	93.86	321	i P		P	03 41 04.5	-1.5	
AKASG				pmax	pmax				
	comp=Z,31nm,0.8s								
AKBB	Malin Array Si	93.86	321	eP		P	03 41 04.6	-1.4	
TKTP	Tekketepe	93.86	308	i P		P	03 41 04.5	-1.5	
SPB4	Spitsbergen Ar	93.98	349	eP		P	03 41 05.6	-1.0	
ADVT	Abdulvahap	94.18	310	eP		P	03 41 04.3	-3.2	
ELL	Elmali	94.25	307	eP		P	03 41 07.6	-0.2	
KAF	Kangasniemi	94.28	332	ep		P	03 41 05.1	-2.8	
	comp=Z,22nm,0.8s,mb5.6,baz=78,slow=4.2								
KAF	Kangasniemi	94.28	332	eP		P	03 41 05.1	-2.8	
KAF				pmax	pmax				
	comp=Z,22nm,0.8s,mb5.6								
MBAR	Mbarara	94.31	269	⇑eP		P	03 41 08.4	+0.3	
MNK	Minsk	94.36	325	eP		P	03 41 06.0	-2.3	
MNK				pmax	pmax				
	comp=Z,560nm,1.0s								
INK	Inuvik	94.41	21	eP		P	03 41 07.8	-0.7	
INK				pmax	pmax				
	comp=Z,84nm,1.1s								
KIS	Kishinev	94.41	317	eP		P	03 41 06.0	-2.5	
KIS				e			03 41 23.0		
KIS				MLR	MLR				
	comp=Z,600nm,21.0s,MS5.0								
KIS				MLR	MLR				
	comp=Z,500nm,21.0s								
YLV	Yalova	94.45	311	eP		P	03 41 02.4	-6.3	
GDZ	Gediz	94.46	309	i P		P	03 41 08.0	-0.8	
FIA1	FINESS Array S	94.47	332	eP		P	03 41 06.8	-2.0	
FINES	FINESS Array B	94.47	332	P		P	03 41 06.9	-1.9	
	comp=Z,10nm,0.7s,mb5.4,baz=97,slow=7.7,SNR=21								
FINES				LR		LR	04 29 37.5		
	comp=Z,375nm,20.3s,MS4.8,baz=295,slow=39								
FINES	FINESS Array B	94.47	332	i P		P	03 41 07.3	-1.5	
FINES				pmax	pmax				
	comp=Z,10.0nm,0.7s								
VSU	Vasula	94.53	329	d/P		P	03 41 06.8	-2.3	
KBS	Kingsbay	94.55	350	ce/P		P	03 41 07.6	-1.6	
ULDT	Uludag	94.66	310	i P		P	03 41 09.3	-0.4	
TAOE	Nuku Hiva Isla	94.71	99	eLR		LR	04 11 43.2		
	comp=Z,2μm,24.1s								
TIRR	Tirgusor	94.89	314	⇑/P		P	03 41 09.4	-1.3	
TIRR	Tirgusor	94.89	314	P		P	03 41 10.3	-0.4	
TIRR	Tirgusor	94.89	314	P		P	03 41 10.5	-0.3	
FETY	Fethiye	94.92	307	eP		P	03 41 05.3	-5.6	
CFR	Carcaliu	95.03	315	⇑/P		P	03 41 11.3	-0.1	
CFR	Carcaliu	95.03	315	⇑P		P	03 41 11.3	-0.1	
SKAG	Skagway	95.06	30	eP		P	03 41 11.9	+0.4	
	comp=Z,58nm,1.0s,mb6.0								
HARR	Harsova	95.21	315	⇓/P		P	03 41 12.3	+0.1	
YER	Yerkesik	95.53	307	eP		P	03 41 07.7	-5.9	
VRI	Vrincioaia	95.95	316	⇓/P		P	03 41 15.4	-0.2	
VRI	Vrincioaia	95.95	316	P		P	03 41 15.4	-0.2	
PLOR	Plostina	96.00	316	⇑/P		P	03 41 16.3	+0.5	
KDAG	Bornova	96.23	308	i P		P	03 41 16.5	-0.3	
IZM	Izmir	96.24	308	eP		P	03 41 11.6	-5.3	
MLR	Muntele Rosu	96.53	316	P		P	03 41 17.9	-0.4	
	comp=Z,45nm,0.8s,mb5.9,baz=42,slow=1.6,SNR=36								
MLR				LR		LR	04 30 39.2		
	comp=Z,429nm,21.5s,MS4.9,baz=75,slow=39								
MLR	Muntele Rosu	96.53	316	⇓/P		P	03 41 18.0	-0.2	
MLR	Muntele Rosu	96.53	316	P		P	03 41 18.1	-0.2	
LSZ	Lusaka	96.57	255	LR		LR	04 21 16.1		
	comp=Z,1μm,20.7s,MS5.3,baz=127,slow=33								
LSZ	Lusaka	96.57	255	P		P	03 41 19.7	+1.3	
	SNR=9.1								
LSZ	Lusaka	96.57	255	eP		P	03 41 19.3	+0.8	
BURAR	Bucovina Array	96.78	318	⇓/P		P	03 41 19.8	+0.4	
BURAR	Bucovina Array	96.78	318	⇓P		P	03 41 19.8	+0.4	
SZH	Strazhica	96.78	313	i P		P	03 41 20.1	+0.7	
SUW	Suwalki	97.14	324	eP		P	03 41 20.2	-0.8	
SUW				epP		pP	03 41 24.6	-5.2	
LVV	L'vov	97.27	320	P		P	03 41 20.8	-0.8	
SANT	Santorini	97.85	307	eP		P	03 41 24.2	+0.1	
	comp=Z,75nm,0.9s,mb6.2								
RZN	Rozhen	97.86	312	i P		P	03 41 22.7	-1.5	
DLBC	Dease Lake	97.95	31	eP		P	03 41 25.7	+1.1	
KWP	Kalwaria	98.14	320	eP		P	03 41 25.4	-0.1	
KWP				ePP		PP	03 45 31.1	+6.2	
IDI	Anoyia	98.42	306	P		P	03 41 26.7	0.0	
	comp=Z,18nm,0.7s,mb5.7,baz=67,slow=6.2,SNR=13								
IDI				LR		LR	04 25 09.2		
	comp=Z,126nm,21.5s,MS4.4,baz=217,slow=35								
LBTB	Lobatse	98.49	245	eP		P	03 41 27.3	+0.2	
LBTB				pmax	pmax				
	comp=Z,7.0nm,1.0s,mb5.2								
LBTB	Lobatse	98.49	245	eP		P	03 41 27.3	+0.3	
	comp=Z,7.1nm,1.0s,mb5.2								
KOLS	Kolonicke sedl	98.54	319	eP		P	03 41 27.1	-0.2	
KOLS				pmax	pmax				
	comp=Z,21nm,1.0s,mb5.6								
KOLS	Kolonicke sedl	98.54	319	eP		P	03 41 27.1	-0.2	
	comp=Z,21nm,1.0s,mb5.6								
DRGR		98.59	317	⇓/P		P	03 41 27.6	+0.1	
DRGR		98.59	317	P		P	03 41 27.4	-0.1	
MMB	Musomiste	98.60	312	i P		P	03 41 26.5	-1.1	
GZR	Gura Zlata	98.76	316	⇑/P		P	03 41 28.6	+0.3	
VTS	Vitosha	98.85	313	i P		P	03 41 28.4	-0.3	
VTS	Vitosha	98.85	313	⇑/P		P	03 41 27.7	-1.0	
KKB	Krupnik	99.05	312	P		P	03 41 28.0	-1.5	
CRVS	Cervenica-Dubn	99.07	319	eP		P	03 41 29.8	+0.1	
CRVS				pmax	pmax				
	comp=Z,27nm,1.0s,mb5.7								
CRVS	Cervenica-Dubn	99.07	319	eP		P	03 41 29.8	+0.1	
	comp=Z,27nm,1.0s,mb5.7								
BZS	Buzias	99.53	316	P		P	03 41 31.4	-0.3	
NIE	Niedzica	99.72	320	eP		Pdif	03 41 32.6	+0.1	
OJC	Ojcow	99.89	321	eP		Pdif	03 41 32.9	-0.4	
OJC				ePP		PP	03 45 34.6	-3.5	
PSZ	Piszkesteto	100.28	319	⇑/P		Pdif	03 41 34.7	-0.3	
HFS	Hagfors	100.68	332	P		Pdif	03 41 34.5	-2.3	
	comp=Z,13nm,1.0s,baz=104,slow=4.9,SNR=10								
HFS	Hagfors	100.68	332	P		Pdif	03 41 34.5	-2.3	
HFS				pmax	pmax				
	comp=Z,13nm,1.0s								
VYHS	Vyhne	100.86	319	eP		Pdif	03 41 37.2	-0.4	
VYHS				ePP		PP	03 45 47.6	+2.1	
VYHS	Vyhne	100.86	319	eP		Pdif	03 41 37.2	-0.4	
VYHS				pmax	pmax				
	comp=Z,12nm,1.4s								
VYHS	Vyhne	100.86	319	eP		Pdif	03 41 37.2	-0.4	
	comp=Z,12nm,1.4s								
VYHS				ePP		PP	03 45 47.6	+2.1	
DAG	Danmarks Havn	100.89	352	⇓/P		Pdif	03 41 36.1	-1.7	
	comp=Z,8.9nm,0.7s								
DAG	Danmarks Havn	100.89	352	⇓/P		Pdif	03 41 36.1	-1.7	
DAG				pmax	pmax				
	comp=Z,9.0nm,0.7s								
BUD	Budapest	100.94	318	⇑eP		Pdif	03 41 38.1	+0.1	
OKC	Ostrava-Krasne	101.01	321	ePDIF		Pdif	03 41 38.7	+0.4	
OKC				AMS	AMS		04 33 30.0		
	comp=Z,400nm,18.5s								
SNAA	Sanae	101.02	195	⇓/Pdiff		Pdif	03 41 39.3	+1.0	
SNAA				e			03 41 46.4		
SNAA				e			03 41 50.9		
SNAA				e			03 41 55.5		
SNAA				e			03 42 04.2		
SNAA				e			03 42 07.2		
SNAA	Sanae	101.02	195	eP		Pdif	03 41 38.9	+0.6	
SNAA				pmax	pmax				
	comp=Z,4.0nm,1.0s								
SNAA	Sanae	101.02	195	eP		Pdif	03 41 38.9	+0.6	
	comp=Z,4.2nm,1.0s								
MORC	Moravsky Berou	101.40	321	⇓/P		Pdif	03 41 40.1	+0.1	
MORC	Moravsky Berou	101.40	321	⇓P		Pdif	03 41 40.1	+0.1	
SRO1	Iza	101.41	319	eP		Pdif	03 41 40.7	+0.7	
SRO1				pmax	pmax				
	comp=Z,47nm,1.2s								
PKSM	Moragy	101.46	317	⇓/P		Pdif	03 41 40.0	-0.3	
PKSM	Moragy	101.46	317	⇓eP		Pdif	03 41 39.9	-0.4	
NB2	NORSAR Subarra	101.52	333	Pdif		Pdif	03 41 38.4	-2.1	
	comp=Z,13nm,1.0s,baz=69,slow=4.4								
NOA	NORSAR Array B	101.52	333	P		Pdif	03 41 38.9	-1.7	
	comp=Z,6.7nm,0.9s,baz=69,slow=4.5,SNR=15								
NOA	NORSAR Array B	101.52	333	P		Pdif	03 41 38.9	-1.6	
NOA				pmax	pmax				
	comp=Z,7.0nm,0.9s								
KSP	Ksiaz	101.92	322	eP		Pdif	03 41 42.8	+0.5	
KSP	Ksiaz	101.92	322	ePdif		Pdif	03 41 42.4	+0.1	
RES	Resolute Bay	101.95	10	P		Pdif	03 41 41.9	-0.6	
DPC	Dobruska-Polom	102.03	322	ePDIF		Pdif	03 41 43.1	+0.3	
DPC				AMS	AMS		04 29 20.0		
	comp=Z,500nm,26.7s								
ZST	Bratislava	102.05	319	eP		Pdif	03 41 42.6	-0.3	
	comp=Z,12nm,1.3s								
ZST				LR	LR				
	comp=Z,200nm,18.8s,MS4.7								
VRAC	Vranov	102.11	321	P		Pdif	03 41 43.6	+0.4	
	comp=Z,14nm,1.1s,baz=85,slow=5.3,SNR=23								
VRAC	Vranov	102.11	321	⇓/P		Pdif	03 41 43.5	+0.3	
VRAC	Vranov	102.11	321	P		Pdif	03 41 43.6	+0.4	
VRAC				pmax	pmax				
	comp=Z,14nm,1.1s								
VRAC	Vranov	102.11	321	P		Pdif	03 41 43.7	+0.5	
UPC	Upice	102.18	322	ePDIF		Pdif	03 41 43.9	+0.4	
KONO	Kongsberg	102.78	332	P		Pdif	03 41 45.8	-0.4	
TREC	Trest	102.82	321	ePDIF		Pdif	03 41 46.6	+0.3	
TREC				AMS	AMS		04 27 20.0		
	comp=Z,600nm,28.7s								
CONA	Conrad Observa	102.92	319	i/Pdiff		Pdif	03 41 44.9	-1.9	
	comp=Z,30nm,1.7s								
RUE	Ruedersdorf	102.98	324	ePdiff		Pdif	03 41 47.7	+0.7	
PVCC	Panska Ves	103.06	322	ePDIF		Pdif	03 41 47.7	+0.3	
PRU	Pruhonice	103.23	322	ePDIF		Pdif	03 41 48.5	+0.4	
PRU				ex	x		03 45 12.8		
PRU				AMS	AMS		04 30 30.0		
	comp=Z,400nm,23.5s								
ARSA	Arzberg	103.31	319	⇑/P		Pdif	03 41 48.3	-0.2	
	comp=Z,38nm,1.8s								
BRG	Berggiesshubel	103.35	323	ePdiff		Pdif	03 41 48.9	+0.2	
BRG	Berggiesshubel	103.35	323	ePDIF		Pdif	03 41 48.6	0.0	
	comp=Z,19nm,1.2s								
BRG				PP	PP		03 45 57.0	-7.2	
BRG				eSKS			03 52 27.9		
	comp=Z,1.5nm,0.8s								
BRG				SS	SS		04 01 14.0	+28	
BRG									
	comp=N,291nm,22.0s								
BRG									
	comp=E,153nm,20.8s								
BRG									
	comp=Z,233nm,28.6s								
BRG	Berggiesshubel	103.35	323	eP		Pdif	03 41 48.7	0.0	
BRG				e			03 52 27.9		
BRG				pmax	pmax				
	comp=Z,19nm,1.2s								
BRG				pmax	pmax				
	comp=N,2.0nm,0.8s								
BRG				MLR	MLR				
	comp=N,291nm,22.0s,MS4.8								
BRG				MLR	MLR				
	comp=E,153nm,20.8s,MS4.8								
BRG				MLR	MLR				
	comp=Z,233nm,28.6s								
BRG	Berggiesshubel	103.35	323	ePdif		Pdif	03 41 48.6	0.0	
	comp=Z,19nm,1.2s								
BRG				PP	PP		03 45 57.0	-7.2	
BRG				eSKS			03 52 27.9		
FBE	Freiberg	103.69	323	ePdiff		Pdif	03 41 50.5	+0.3	
FBE				ePP	PP		03 46 09.7	+2.9	
YKA	Yellowknife Ar	103.74	24	Pdiff		Pdif	03 41 49.6	-0.8	
	comp=Z,2.2nm,0.8s,baz=299,slow=4.8,SNR=16								
YKA				PKiKP	PKiKP		03 46 07.8	-0.6	
	comp=Z,2.5nm,0.9s,baz=298,slow=2.3,SNR=8.7								
YKA				PKKPbc	PKKPbc		03 57 41.3	-0.2	
	comp=Z,1.3nm,0.8s,baz=104,slow=2.5,SNR=7.4								
YKA	Yellowknife Ar	103.74	24	P		Pdif	03 41 49.6	-0.8	
YKA				i			03 46 07.8		
YKA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
YKA				pmax	pmax				
	comp=Z,3.0nm,0.9s								
YKA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
CLL	Collm	103.79	323	ePdiff		Pdif	03 41 50.2	-0.4	
	comp=Z,15nm,1.1s								
CLL				ePP	PP		03 46 09.2	+1.7	
CLL				eSKSac	SKSac		03 52 28.7	0.0	
CLL				ePS	PS		03 55 37.0	+19	
CLL				ePPS			03 56 09.7		
CLL				eSS	SS		04 01 17.8	+26	
CLL				eSSS			04 05 03.9		
CLL				eL			04 33 42.2		
	comp=Z,333nm,22.0s								
CLL	Collm	103.79	323	i/Pdif		Pdif	03 41 50.2	-0.4	
	comp=Z,15nm,1.1s								
CLL				i x	x		03 41 54.8		
CLL				i x	x		03 41 56.9		
CLL				ePP	PP		03 46 09.0	+1.5	
	comp=Z,13nm,1.1s								
CLL				ex	x		03 46 29.0		
CLL				eSKSac	SKSac		03 52 30.0	+1.3	
CLL				eSdif	Sdif		03 53 35.0	-3.2	
CLL				ePPS			03 55 30.0		
CLL				ePPS			03 56 18.0		
CLL				esPSS			04 01 18.0		
CLL				esSSS			04 05 24.0		
CLL				eSSSS			04 08 12.0		
CLL	Collm	103.79	323	⇑/P		Pdif	03 41 50.2	-0.4	
CLL				e			03 46 09.0		
CLL				e			03 52 30.0		
CLL				eS		Sdif	03 53 35.0	-3.2	
CLL				pmax	pmax				
	comp=Z,15nm,1.1s								
CLL				pmax	pmax				
	comp=Z,13nm,1.1s								
CLL				MLR	MLR				
	comp=Z,400nm,17.5s,MS5.0								
CLL	Collm	103.79	323	⇑/Pdif		Pdif	03 41 50.2	-0.4	
	comp=Z,15nm,1.1s								
CLL				i			03 41 54.8		
CLL				ePP	PP		03 46 09.0	+1.5	
CLL				eSKS			03 52 30.0		
CLL				eSdif	Sdif		03 53 35.0	-3.2	
CLL				LR	LR				
	comp=Z,400nm,17.5s,MS5.0								
MOA	Molln	103.98	320	⇑/P		Pdif	03 41 51.4	-0.1	
	comp=Z,38nm,1.5s,SNR=8.4								
KHC	Kasperske Hory	104.07	321	ePDIF		Pdif	03 41 51.8	-0.1	
KHC				ex	x		03 45 12.2		
KHC				AMS	AMS		04 30 50.0		
	comp=Z,600nm,23.2s								
GEC2	GERESS Array S	104.07	321	ePdiff		Pdif	03 41 51.4	-0.5	
GERES	GERESS Array B	104.07	321	Pdiff		Pdif	03 41 51.7	-0.1	
	comp=Z,4.5nm,0.9s,baz=76,slow=5.6,SNR=38								
GERES				PKiKP	PKiKP		03 46 09.7	+0.6	
	comp=Z,2.6nm,0.9s,baz=62,slow=2.7,SNR=3.0								
GERES	GERESS Array B	104.07	321	P		Pdif	03 41 51.7	-0.2	
GERES				i			03 46 09.7		
GERES				pmax	pmax				
	comp=Z,5.0nm,0.9s								
GERES				pmax	pmax				
	comp=Z,3.0nm,0.9s								
TANN	Tannenbergstha	104.38	322	ePdiff		Pdif	03 41 53.3	0.0	
NKC	Novy Kostel	104.45	322	ePDIF		Pdif	03 41 54.0	+0.4	
NKC				AMS	AMS		04 35 20.0		
	comp=Z,400nm,20.1s								
WERD	Werda	104.47	322	ePdiff		Pdif	03 41 53.6	-0.1	
GUNZ	Gunzen	104.48	322	ePdiff		Pdif	03 41 53.8	+0.1	
GUNZ				ePP	PP		03 46 14.2	+1.5	
BSEG	Bad Segeberg	104.49	326	ePdiff		Pdif	03 41 53.8	+0.1	
WET	Wettzell	104.50	321	ePdiff		Pdif	03 41 53.9	+0.1	
WET				ePP	PP		03 46 13.8	+0.9	
MANZ	Manzenberg	104.73	322	ePdiff		Pdif	03 41 55.2	+0.4	
ROTZ	Rotzenmuhle	104.74	322	ePdiff		Pdif	03 41 55.0	+0.1	
MOX	Moxa	104.83	323	ePdiff		Pdif	03 41 55.2	-0.1	
MOX				ePP	PP		03 46 16.9	+1.7	
MOX	Moxa	104.83	323	eP		Pdif	03 41 55.0	-0.2	
MOX				e			03 46 18.0		
MOX				pmax	pmax				
	comp=Z,24nm,1.4s								
MOX	Moxa	104.83	323	ePdif		Pdif	03 41 55.0	-0.2	
	comp=Z,24nm,1.4s								
MOX				ePP	PP		03 46 18.0	+2.8	
MOX				ePP	PP		03 46 18.0	+2.8	
MOX	Moxa	104.83	323	ePDIFF		Pdif	03 41 55.0	-0.2	
	comp=Z,24nm,1.4s								
CLZ	Clausthal	105.17	324	ePdiff		Pdif	03 41 57.3	+0.5	
GRA1	Grafenberg Arr	105.37	322	ePdif		Pdif	03 41 57.9	+0.2	
GRA1				ePP	PP		03 46 21.6	+2.3	
GRA1				eSdif	Sdif		03 53 48.4	-3.0	
GRA1				eSSS			04 05 22.8		
GRA1				LR	LR				
	comp=Z,500nm,20.4s,MS5.0								
GRF	Grafenberg Arr	105.37	322	ePdiff		Pdif	03 41 57.9	+0.2	
GRF				ePP	PP		03 46 21.6	+2.3	
GRF				eSdiff	Sdif		03 53 48.4	-3.0	
GRF				eSSS			04 05 22.8		
GRF				eL			04 38 02.7		
	comp=Z,453nm,20.4s								
GRF	Grafenberg Arr	105.37	322	eP		Pdif	03 41 57.9	+0.2	
GRF				e			03 46 21.6		
GRF				eS		Sdif	03 53 48.4	-3.0	
GRF	Grafenberg Arr	105.37	322	eP		Pdif	03 41 57.9	+0.2	
GRF				e			03 46 21.6		
GRF				S		Sdif	03 53 48.4	-3.0	
GRF				MLR	MLR				
	comp=Z,500nm,20.4s,MS5.0								
UBBA	Unterbreizbach	105.74	323	ePdiff		Pdif	03 41 59.8	+0.5	
WTTA	Wattenberg	105.86	319	⇑/P		Pdif	03 41 59.4	-0.4	
	comp=Z,31nm,1.4s,SNR=5.5								
WTTA	Wattenberg	105.86	319	⇑/P		Pdif	03 41 59.4	-0.4	
WTTA				pmax	pmax				
	comp=Z,31nm,1.4s								
MOTA	Moosalm	106.18	320	⇑/P		Pdif	03 42 00.9	-0.3	
	comp=Z,9.5nm,1.0s,SNR=5.7								
MOTA	Moosalm	106.18	320	⇑/P		Pdif	03 42 01.0	-0.2	
MOTA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
TNS	Taunus Mts	106.88	323	ePdiff

ORIF *e*R
comp=Z,493nm,21.2s
LMR La Mourre 110.55 317 *e*PKIKP PKiKP 03 46 21.2 +0.1
N09A Rock Creek Ran 110.58 46 ⇓P PKiKP 03 46 22.5 +1.3
baz=111
NVAR Mina Array Bea 110.75 49 Pdiff Pdif 03 42 23.3 +1.7
comp=Z,0.2nm,0.3s,baz=301,slow=5.9,SNR=2.7
NVAR PKiKP PKiKP 03 46 23.0 +1.5
comp=Z,1.4nm,0.8s,baz=222,slow=1.1,SNR=6.6
NVAR PP PP 03 46 52.2 -6.3
comp=Z,1.6nm,0.9s,baz=276,slow=4.3,SNR=3.1
NVAR PKKPbc PKKPbc 03 57 22.6 +2.9
comp=Z,1.1nm,0.8s,baz=160,slow=4.1,SNR=4.7
NVAR PKKPab PKKPab 03 57 31.9 +1.8
comp=Z,3.7nm,1.1s,baz=127,slow=5.1,SNR=7.6
NVAR Mina Array Bea 110.75 49 Pdif Pdif 03 42 23.3 +1.7
NVAR PKPdf PKiKP 03 46 23.0 +1.5
NVAR PP PP 03 46 52.2 -6.3
NVAR PKKPbc PKKPbc 03 57 22.6 +2.9
NVAR PKKPab PKKPab 03 57 31.9 +1.8
LOR Lormes 110.81 321 *e*PKIKP PKiKP 03 46 21.6 0.0
comp=Z,4.8nm,0.6s
LOR *e*R
comp=Z,291nm,19.5s
LOR Lormes 110.81 321 *e*PKPdf PKiKP 03 46 21.6 0.0
LOR LR LR
comp=Z,290nm,19.5s,MS4.9
MSO Missoula 110.87 39 *e*PKPdf PKiKP 03 46 22.1 +0.4
Q08A Gabbs 110.90 48 ⇓P PKiKP 03 46 23.3 +1.6
baz=111
R08A Mina 110.92 49 ⇑P PKiKP 03 46 23.4 +1.6
baz=111
SMRF Simiane la Rot 110.96 318 *e*PKIKP PKiKP 03 46 22.1 +0.3
comp=Z,8.5nm,0.9s
SMF Signal de Mont 111.07 321 *e*PKIKP PKiKP 03 46 22.1 0.0
SSF Saint Saulge 111.11 321 *e*PKIKP PKiKP 03 46 22.5 +0.4
comp=Z,18nm,1.0s
VIVF Saint-Julien-l 111.23 319 *e*PKIKP PKiKP 03 46 22.7 +0.3
AVF Avril sur Loir 111.32 321 *e*PKIKP PKiKP 03 46 22.3 -0.2
comp=Z,5.4nm,0.8s
ISA Isabella 111.41 52 PKIKP PKiKP 03 46 23.7 +1.0
M11A Holland Ranch, 111.63 45 ⇓P PKiKP 03 46 24.8 +1.7
baz=112
BGF Bois d'Agland 111.73 321 *e*PKIKP PKiKP 03 46 23.8 +0.5
comp=Z,20nm,0.9s
S09A Goldfield 111.77 49 ⇓P PKiKP 03 46 24.7 +1.4
baz=112,SNR=5.4
HLID Hailey 111.82 42 *e*PKPdf PKiKP 03 46 25.5 +2.0
N11A Elko Archery C 111.88 46 ⇓P PKiKP 03 46 25.2 +1.6
baz=112
LASF Ste Croix 112.07 318 *e*PKIKP PKiKP 03 46 24.4 +0.5
O11A Cowboy Ranch, 112.17 46 ⇑P PKiKP 03 46 25.0 +0.9
baz=112
TCF Toulx Ste Croi 112.25 321 *e*PKIKP PKiKP 03 46 24.6 +0.3
comp=Z,20nm,1.0s
M12A Wells 112.25 45 ⇑P PKiKP 03 46 25.6 +1.3
baz=112
ELK Elko 112.26 45 *e*PKIKP PKiKP 03 46 25.7 +1.4
DLMT Dillon 112.31 40 *e*PKPdf PKiKP 03 46 25.9 +1.5
N12A Clover Valley, 112.36 45 ⇓P PKiKP 03 46 25.7 +1.2
baz=112
MCMT McKenzie Canyo 112.37 41 *e*PKPdf PKiKP 03 46 25.9 +1.4
Q11A Duckwater 112.59 48 ⇑P PKiKP 03 46 26.4 +1.4
baz=113
O12A Currie 112.78 46 ⇓P PKiKP 03 46 26.5 +1.2
baz=113
FLN La Foliniere 112.78 324 *e*PKIKP PKiKP 03 46 25.6 +0.3
M13A Montello 112.80 45 ⇑P PKiKP 03 46 26.4 +1.1
baz=113
GSC Goldstone 112.81 51 ⇓P PKiKP 03 46 27.2 +1.8
baz=113
U10A Ash Meadows, A 112.85 50 ⇑P PKiKP 03 46 27.4 +1.9
baz=113
CAF Calviac 112.91 320 *e*PKIKP PKiKP 03 46 26.0 +0.5
comp=Z,13nm,1.1s
EGMT Eagleton 112.92 37 *e*PKPdf PKiKP 03 46 26.5 +1.0
P12A McGill 112.93 47 ⇓P PKiKP 03 46 27.1 +1.6
baz=113
N13A Wendover, West 112.95 45 ⇓P PKiKP 03 46 27.0 +1.4
baz=113
RJF Les Rejaudoux 113.10 320 *e*PKIKP PKiKP 03 46 26.3 +0.4
RJF *e*R
comp=Z,181nm,18.6s
RJF Les Rejaudoux 113.10 320 *e*PKPdf PKiKP 03 46 26.3 +0.4
RJF LR LR
comp=Z,180nm,18.6s,MS4.7
Q12A Willow Creek R 113.14 47 ⇓P PKiKP 03 46 27.2 +1.3
baz=113
MTLF Montolieu 113.45 318 *e*PKIKP PKiKP 03 46 26.8 +0.2
comp=Z,7.9nm,0.9s
TUQ Turquoise Mtn. 113.46 51 ⇓P PKiKP 03 46 28.0 +1.4
baz=114
FFC Flin Flon 113.47 28 *e*PKIKP PKiKP 03 46 26.8 +0.2
MFF Saint Martin d 113.57 322 *e*PKIKP PKiKP 03 46 27.3 +0.5
comp=Z,18nm,0.9s
PFO Pinyon Flat Ob 113.58 53 ⇑P PKiKP 03 46 28.4 +1.6
baz=114
V11A Goodsprings 113.72 51 ⇑P PKiKP 03 46 29.0 +1.9
baz=114
LFF La Frestale 113.75 320 *e*PKIKP PKiKP 03 46 27.7 +0.5
IMW Indian Meadow 114.00 41 *e*PKPdf PKiKP 03 46 29.4 +1.7
TPAW Teton Pass 114.16 41 *e*PKPdf PKiKP 03 46 29.4 +1.4
DUG Dugway 114.18 45 *e*PKIKP PKiKP 03 46 29.2 +1.2
MOOW Moose Ponds 114.19 41 *e*PKPdf PKiKP 03 46 29.1 +1.1
V12A Nelson 114.20 51 ⇓P PKiKP 03 46 30.0 +2.0
baz=114,SNR=5.6
U12A Valley of Fire 114.22 50 ⇓P PKiKP 03 46 29.9 +1.9
baz=114
SGMF Saint Gilles 114.23 325 *e*PKIKP PKiKP 03 46 28.1 0.0
W12A Cal Nev Ari 114.32 51 ⇑P PKiKP 03 46 29.9 +1.7
baz=114
HWUT Hardware Ranch 114.51 43 *e*PKPdf PKiKP 03 46 29.9 +1.3
ROSF Rostrenen 114.61 325 *e*PKIKP PKiKP 03 46 29.1 +0.3
QUIF Quistinic 114.75 324 *e*PKIKP PKiKP 03 46 29.3 +0.2
EPF Esparros 114.83 318 *e*PKIKP PKiKP 03 46 29.8 +0.6
GLA Glamis 115.04 53 ⇓P PKiKP 03 46 31.4 +1.8
baz=115
Y12C Blythe 115.08 52 ⇑P PKiKP 03 46 31.6 +1.9
baz=115
W13A Hualapai Mount 115.15 51 ⇑P PKiKP 03 46 31.9 +2.0
baz=115,SNR=10
MVU Marysvale 115.24 47 *e*PKPdf PKiKP 03 46 27.0 -3.0
MSU Marysvale 115.26 47 *e*PKIKP 03 46 32.0
X13A Yucca 115.36 51 ⇑P PKiKP 03 46 32.0 +1.8
baz=115,SNR=10
PDAR Pinedale Array 115.39 42 PKP PKPdf 03 46 31.4 +1.1
comp=Z,2.8nm,1.0s,baz=211,slow=0.9,SNR=16
PDAR PKKPbc PKKPbc 03 57 05.3 +1.2
comp=Z,1.2nm,0.7s,baz=117,slow=5.5,SNR=8.9
PDAR PKKPab PKKPab 03 57 10.6 +1.0
comp=Z,4.7nm,0.9s,baz=111,slow=5.1,SNR=22
ETSF Etsaut 115.48 319 *e*PKIKP PKPdf 03 46 31.0 +0.5
comp=Z,6.7nm,0.7s
Y13A Salome 115.61 52 ⇑P PKPdf 03 46 32.7 +2.0
baz=116
LAO LASA Array 115.67 37 *e*PKPdf PKPdf 03 46 32.4 +1.5
TMUT Trail Mountain 115.67 46 *e*PKPdf PKPdf 03 46 32.9 +2.1
W14A Seligman 115.74 51 ⇓P PKPdf 03 46 33.3 +2.3
baz=116,SNR=11
X14A Yava 116.13 51 P PKPdf 03 46 34.0 +2.3
baz=116,SNR=8.0
Y14A Wickenburg 116.22 52 ⇓P PKPdf 03 46 33.2 +1.4
baz=116
SRU San Rafael 116.23 46 *e*PKIKP PKPdf 03 46 33.1 +1.2
W15A Williams 116.38 50 ⇓P PKPdf 03 46 34.3 +2.1
baz=116
Z14A Wintersburg 116.45 52 ⇓P PKPdf 03 46 33.9 +1.6
baz=116
X15A Humboldt 116.64 51 ⇓P PKPdf 03 46 34.5 +1.8
baz=117,SNR=11
ECHE Chera 117.17 315 PKIKP PKPdf 03 46 34.2 +0.5
115A Sonoran Desert 117.23 53 ⇓P PKPdf 03 46 35.2 +1.3
baz=117,SNR=7.0
PV10 Paradox Valley 117.59 46 *e*PKPdf PKPdf 03 46 36.3 +1.7
116A Eloy 117.69 53 ⇑P PKPdf 03 46 36.2 +1.5
baz=118,SNR=8.5
PV01 Paradox Valley 118.02 46 *e*PKPdf PKPdf 03 46 37.1 +1.7
RSSD Black Hills 118.30 38 *e*PKIKP PKPdf 03 46 36.3 +0.4
MVCO Mesa Verde 118.45 47 *e*PKPdf PKPdf 03 46 38.1 +2.0
TUC Tucson 118.51 53 *e*PKIKP PKPdf 03 46 37.9 +1.6
EVIA Vianos 118.65 315 PKIKP PKPdf 03 46 38.0 +1.4
GUD Guadarrama 118.90 318 PKIKP PKPdf 03 46 38.8 +1.7
ENIJ Nijar 119.14 313 PKIKP PKPdf 03 46 38.5 +1.0
ULM Lac du Bonnet 119.19 29 PKP PKPdf 03 46 36.8 -0.8
comp=Z,7.5nm,0.8s,baz=320,slow=4.3,SNR=14
ULM PKKPbc PKKPbc 03 56 51.0 +0.5
comp=Z,4.9nm,0.9s,baz=117,slow=5.1,SNR=6.8
ULM PKP2ab 04 03 23.3
comp=Z,1.2nm,0.7s,baz=138,slow=2.5,SNR=3.4
ULM Lac du Bonnet 119.19 29 PKP PKPdf 03 46 36.8 -0.8
ULM PKKPbc PKKPbc 03 56 51.0 +0.5
ULM P'P'ab 04 03 23.3
ESDC Sonseca Array 119.21 317 PKP PKPdf 03 46 38.3 +0.7
comp=Z,1.0nm,0.6s,baz=26,slow=3.3,SNR=10
ESDC PP PP 03 47 57.3 -0.9
comp=Z,3.3nm,1.0s,baz=57,slow=6.7,SNR=6.2
ESDC Sonseca Array 119.21 317 PKP PKPdf 03 46 38.5 +0.9
ISCO Idaho Springs 119.37 43 *e*PKIKP PKPdf 03 46 39.6 +1.6
EBAN Banos Encina 119.77 315 PKIKP PKPdf 03 46 39.9 +1.2
ECOG Cogollos-Vega 120.00 314 PKIKP PKPdf 03 46 39.0 -0.2
EGUA Guajares 120.19 314 PKIKP PKPdf 03 46 40.1 +0.6
ERON Agron 120.28 314 PKP PKPdf 03 46 40.1 +0.4
ELOJ Sierra Loja 120.47 314 PKIKP PKPdf 03 46 40.5 +0.4
LAZ Ladron 120.58 49 *e*PKPdf PKPdf 03 46 42.3 +2.0
LENM Lemitar 120.80 50 *e*PKPdf PKPdf 03 46 42.3 +1.6
ANMO Albuquerque 120.88 49 *d i*PKIKP PKPdf 03 46 41.7 +0.8
ANMO Albuquerque 120.88 49 *e*PKPdf PKPdf 03 46 42.4 +1.6
BNM Barren Site 121.07 49 *e*PKPdf PKPdf 03 46 43.2 +2.0
TOA0 Torodi Ar. Sit 122.44 285 *e*PKPdf PKPdf 03 46 45.1 +1.2
TORD Torodi Ar. Bea 122.44 285 *e*PKPdf PKPdf 03 46 44.7 +0.9
comp=Z,23nm,0.8s,baz=59,slow=1.9,SNR=105
TORD PP PP 03 48 13.0 -7.3
comp=Z,2.8nm,0.8s,baz=82,slow=4.5,SNR=2.7
TORD PKKPab PKKPab 03 56 42.0 +3.2
comp=Z,2.1nm,0.9s,baz=289,slow=3.9,SNR=6.5
TORD Torodi Ar. Bea 122.44 285 PKP PKPdf 03 46 44.7 +0.9
TORD PP PP 03 48 13.0 -7.3
TORD PKKPab PKKPab 03 56 42.0 +3.2
AMTX Amarillo 124.43 47 *e*PKPdf PKPdf 03 46 49.1 +1.4
SCHQ Schefferville 124.68 8 PKP PKPdf 03 46 48.4 +0.2
comp=Z,24nm,0.8s,baz=19,slow=2.2,SNR=37
SCHQ PP PP 03 48 40.2 +4.8
comp=Z,9.6nm,0.9s,baz=343,slow=4.0,SNR=5.2
LTX Lajitas 125.29 54 *e*PKIKP PKPdf 03 46 50.9 +1.6
SCIA State Center 126.04 35 *e*PKPdf PKPdf 03 46 51.1 +0.4
WMOK Wichita Mounta 126.58 45 *e*PKIKP PKPdf 03 46 52.6 +0.8
JCT Junction City 127.86 50 *e*PKIKP PKPdf 03 46 55.3 +1.1
DBIC Dimbokro 129.62 278 PKP PKPdf 03 46 59.2 +1.6
comp=Z,15nm,0.8s,baz=33,slow=2.1,SNR=17
DBIC Dimbokro 129.62 278 PKIKP PKPdf 03 46 59.2 +1.6
DBIC pmax pmax
comp=Z,15nm,0.8s
LIC Lamto 129.83 278 *e*PKIKP PKPdf 03 46 58.3 +0.3
comp=Z,25nm,0.6s
LIC *e*R
comp=Z,294nm,20.8s
LIC Lamto 129.83 278 *e*PKPdf PKPdf 03 46 58.3 +0.3
LIC LR LR
comp=Z,150nm,20.8s,MS4.7
FVM French Village 130.21 37 *e*PKPdf PKPdf 03 46 59.8 +1.1
FVM *e*SKPab 03 50 18.9
MIAR Mount Ida 130.30 43 *e*PKIKP PKPdf 03 47 00.8 +1.9
UALR University of 130.99 41 *e*PKPdf PKPdf 03 47 01.9 +1.7
NATX Nacogdoches 131.08 46 *e*SKPbc SKPbc 03 50 24.7 +1.7
HKT Hockley 131.14 49 *e*PKIKP PKPdf 03 47 03.1 +2.6
PARMO Parma 131.47 38 *e*PKPdf PKPdf 03 47 02.5 +1.4
HBAR Harrisburg 131.61 40 *e*SKPbc SKPbc 03 50 24.4 -0.5
BLO Bloomington 131.64 33 *e*PKIKP PKPdf 03 47 03.1 +1.7
USIN University of 131.84 35 *e*PKPdf PKPdf 03 47 03.6 +1.8
HALT Halls 132.21 38 *e*PKPdf PKPdf 03 47 05.2 +2.8
WCI Wyandotte Cave 132.43 34 *e*PKIKP PKPdf 03 47 03.9 +1.0
FRNY Flat Rock 132.58 18 *e*PKPdf PKPdf 03 47 03.5 +0.3
ACSO Alum Creek Sta 132.68 29 *e*PKPdf PKPdf 03 47 04.3 +0.9
WVT Waverly 132.99 37 *e*PKIKP PKPdf 03 47 04.6 +0.6
OXF Oxford 133.06 40 *e*PKIKP PKPdf 03 47 04.4 +0.3
NCB Newcomb 133.15 19 *e*PKPdf PKPdf 03 47 05.2 +0.9
NCB *e*SKPbc SKPbc 03 50 28.8 -1.5
PLAL Pickwick Lake 133.60 38 *e*PKPdf PKPdf 03 47 05.2 +0.1
ACCN Adirondack Com 133.86 19 *e*PKPdf PKPdf 03 47 05.7 +0.1
HNH Hanover 134.00 17 *e*PKPdf PKPdf 03 47 07.0 +1.2
BINY Binghamton 134.09 22 *e*PKPdf PKPdf 03 47 06.8 +0.8
MCWV Mont Chateau 134.62 27 *e*PKPdf PKPdf 03 47 08.0 +1.0
SSPA Standing Stone 134.57 25 *e*PKPdf PKPdf 03 47 07.8 +0.7
TZTN Tazewell 135.16 33 *e*PKPdf PKPdf 03 47 08.7 +0.7
HRV Harvard--Oak R 135.31 17 *e*PKPdf PKPdf 03 47 09.4 +1.1
CPCT Cooper Cave 135.40 35 *e*PKPdf PKPdf 03 47 09.2 +0.8
CPCT *e*SKPbc SKPbc 03 50 36.8 -0.9
WES Weston 135.49 17 *e*PKPdf PKPdf 03 47 09.1 +0.5
WES *e*SKPbc SKPbc 03 50 36.4 -1.6
LRAL Lakeview Retre 135.55 40 *e*PKPdf PKPdf 03 47 09.7 +0.9
FWV Forest Hill 135.80 30 *e*PKPdf PKPdf 03 47 09.9 +0.7
PAL Palisades 135.89 21 *e*PKIKP PKPdf 03 47 09.9 +0.5
ELN Prospectdale 136.11 30 *e*PKPdf PKPdf 03 47 10.7 +0.9
PLCA Paso Flores 136.86 163 PKP PKPdf 03 47 12.8 +1.7
comp=Z,10nm,1.0s,baz=162,slow=4.8,SNR=9.0
PLCA SKPbc SKPbc 03 50 43.1 +1.0
comp=Z,7.8nm,1.0s,baz=154,slow=3.7,SNR=5.2
PLCA Paso Flores 136.86 163 PKIKP PKPdf 03 47 12.9 +1.7
PLCA pmax pmax
comp=Z,10.0nm,1.0s
PLCA pmax pmax
comp=E,8.0nm,1.0s
CBN Corbin 136.92 26 *e*PKPdf PKPdf 03 47 12.2 +0.9
MDZ Mendoza 144.58 160 *e*PKIKP PKPdf 03 47 25.0 -0.1
CMCH Combarbala 145.28 155 ⇓ *i*P PKPbc 03 47 27.1 +1.1
CFAA Coronel Fontan 145.96 159 PKPbc PKPbc 03 47 29.2 +1.1
comp=E,1.5nm,0.6s,baz=216,slow=2.3,SNR=33
BBSR BB Station 146.70 15 *e*PKPdf PKPdf 03 47 31.5 +2.7
MGV Manicaragua 147.30 47 *e*P PKPdf 03 47 24.9 -4.9
LMGC Las Mercedes 150.74 46 *e*P PKPbc 03 47 42.2 +1.4
LMGC *e*P 03 47 44.1
MOAC Moa 151.78 43 *e*P PKPdf 03 47 36.9 +0.1
LVC Limon Verde 153.56 150 PKP PKPdf 03 47 42.5 +3.1
comp=E,5.7nm,1.1s,baz=207,slow=1.3,SNR=4.2
LVC PKPbc PKPbc 03 47 50.4 +3.2
comp=E,9.6nm,0.6s,baz=244,slow=4.0,SNR=11
CAM4 Nova Friburgo 154.54 207 *e*P PKPdf 03 47 43.4 +2.6
CAM4 *i* 03 47 51.7
CAM4 *i* 03 48 05.2
CAM4 *i* 03 48 05.2
CAM4 *i* 03 48 12.4
CAM4 *i* 03 48 39.3
ATAH Atahualpa 155.54 107 PKP PKPdf 03 47 45.2 +3.0
comp=E,3.4nm,0.6s,baz=307,slow=2.0,SNR=9.0
OTAV Otavalo 156.50 90 *e*PKPdf PKPdf 03 47 46.4 +2.9
LPAZ La Paz 159.08 142 PKP PKPdf 03 47 49.5 +2.8
comp=E,7.7nm,1.1s,baz=22,slow=2.7,SNR=22
LPAZ PKPab PKPab 03 48 26.4 +3.0
comp=E,4.8nm,0.9s,baz=76,slow=15,SNR=6.8
LPAZ La Paz 159.08 142 PKIKP PKPdf 03 47 49.5 +2.8
LPAZ 03 48 26.4
LPAZ pmax pmax
comp=Z,8.0nm,1.1s
LPAZ pmax pmax
comp=Z,5.0nm,0.9s
LPAZ La Paz 159.08 142 PKP PKPdf 03 47 49.5 +2.8
LPAZ PKPab PKPab 03 48 26.4 +3.0
ROSC El Rosal 160.09 76 PKP PKPdf 03 47 50.0 +2.1
comp=Z,9.9nm,0.9s,baz=112,slow=16,SNR=11
ROSC PKPab PKPab 03 48 30.3 +2.4
comp=Z,17nm,0.9s,baz=99,slow=14,SNR=6.6
SDV Santo Domingo 162.15 61 PKP PKPdf 03 47 51.5 +1.4
comp=Z,20nm,1.0s,baz=346,slow=1.5,SNR=17
SDV PKPab PKPab 03 48 38.5 +1.7
comp=Z,12nm,0.9s,baz=15,slow=3.4,SNR=4.8
SDV Santo Domingo 162.15 61 *e*PKPdf PKPdf 03 47 51.5 +1.5
SIV San Ignacio 162.81 160 PKP PKPdf 03 47 52.6 +1.9
comp=Z,7.0nm,1.0s,baz=214,slow=2.0,SNR=23
SIV PKPab PKPab 03 48 41.3 +1.6
comp=Z,6.4nm,1.1s,baz=206,slow=5.3,SNR=4.7
BDFB Brasilia 162.84 203 PKP PKPdf 03 47 52.4 +1.7
comp=Z,9.3nm,1.0s,baz=25,slow=3.1,SNR=10
BDFB PKPab PKPab 03 48 41.5 +1.7
comp=Z,10nm,0.8s,baz=184,slow=5.1,SNR=9.6
BDFB Brasilia 162.84 203 PKIKP PKPdf 03 47 52.4 +1.7
BDFB 03 48 41.5
BDFB pmax pmax
comp=Z,9.0nm,1.0s
BDFB pmax pmax
comp=Z,10.0nm,0.8s
SAML Samuel 167.76 138 *e*PKPdf PKPdf 03 47 56.3 +1.5

BJI ***18*** *03:34:35.8, 9.30S×108.50E, h10km, mB5.2, mb4.9*
IDC ***18*** *03:34:36.1±0.4, 9.29S×108.56E, h0km, mb4.7/21, mb1 4.7/22, mb1mx4.7/25, mbtmp4.7/22, ML4.2/1, MS4.5/1, Ms1 4.5/1, ms1mx3.3/31, Error ellipse: s-maj=16.9km s-min=11.6km az=58.0*

NEIC ***18*** *03:34:37.8±0.2, 9.29S×108.53E, h10km, mb5.3/15, Error ellipse: s-maj=10.7km s-min=6.4km az=60.0*
ISCJB ***18*** *03:34:39.3±0.3, 9.29S±005×10860E±007, h36km, mb4.9/51, Error ellipse: s-maj=10.0km s-min=6.7km az=127.7*
MOS ***18*** *03:34:39.4±1.0, 9.19S×108.70E, h33km, mb5.2/13, Error ellipse: s-maj=17.2km s-min=8.3km az=109.8*
ISC 18 03:34:41.5±0.3, 932S±005×10860E±006, h38km, h38km±1.9km:pP-P,n116,σ0s90/85,mb4.9/51,12C-3D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**2.26**	**29**	⇑ *i*P	**Pn**	**03 35 18.0**	**+1.7**
BJII				*i* S	**Pn**	**03 35 18.0**	**+1.7**
PSI	**Prapat**	**15.43**	**321**	LR	LR	03 45 33.1	
	comp=Z,2μm,19.9s,baz=102,slow=43						
MBWA	**Marble Bar**	**15.92**	**139**	*e*Pn	**Pn**	**03 38 18.9**	**-3.8**
	19nm,0.9s						
KKM	**Kota Kinabalu**	**17.05**	**27**	*e*Pn	**Pn**	**03 38 35.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**18.70**	**120**	*e*P	**Pn**	**03 38 58.1**	**+0.9**
	35nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.70**	**120**	P	**Pn**	**03 38 58.1**	**+0.9**
	0.6nm,0.3s,baz=289,slow=6.6,SNR=7.7						
FITZ				S	**S**	**03 42 09.5**	**-18**
	0.3nm,0.3s,baz=12,slow=20,SNR=3.8						
NWAO	**Narrogin (SRO)**	**24.81**	**162**	P	**P**	**03 39 59.6**	**-0.3**
	23nm,0.9s,mb4.7,baz=320,slow=11,SNR=5.6						
NWAO	**Narrogin (SRO)**	**24.81**	**162**	*e*P	**P**	**03 39 59.7**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,12nm,0.6s						
NWAO	**Narrogin (SRO)**	**24.81**	**162**	*e*P	**P**	**03 39 59.7**	**-0.2**
	comp=Z,12nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**27.01**	**116**	P	**P**	**03 40 20.5**	**+0.6**
	comp=Z,7.9nm,0.8s,mb4.3,baz=287,slow=11,SNR=7.3						
WRA				PcP	PcP	03 43 41.2	+0.6
	comp=Z,0.7nm,0.3s,baz=352,slow=0.9,SNR=7.1						
WRAB	**Tennant Creek**	**27.02**	**116**	*e*P	**P**	**03 40 14.8**	**-5.1**
ASAR	**Alice Springs**	**28.08**	**124**	P	**P**	**03 40 29.8**	**+0.4**
	comp=Z,6.5nm,0.8s,mb4.3,baz=299,slow=8.4,SNR=6.8						
ASAR				PcP	PcP	03 43 44.7	+1.5
	comp=Z,5.2nm,0.7s,baz=302,slow=1.8,SNR=19						
ASAR				S	S	03 45 54.8	+43
	comp=Z,0.9nm,0.7s,baz=300,slow=23,SNR=3.7						
ASAR	**Alice Springs**	**28.08**	**124**	P	**P**	**03 40 29.8**	**+0.4**
ASAR						03 43 44.7	
CHTO	**Chiang Mai**	**29.53**	**341**	*e*P	**P**	**03 40 42.9**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
CHTO	**Chiang Mai**	**29.53**	**341**	*e*P	**P**	**03 40 42.9**	**+0.5**
	comp=Z,13nm,0.9s,mb4.7						
GYA	**Guiyang**	**35.62**	**357**	⇓ *i*P	**P**	**03 41 37.0**	**+1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CTA	**Charters Tower**	**37.88**	**111**	P	**P**	**03 41 56.6**	**+1.9**
	comp=Z,5.4nm,0.7s,mb4.4,baz=282,slow=15,SNR=4.2						
STKA	**Stephens Creek**	**37.93**	**131**	*e*P	**P**	**03 41 55.7**	**+0.6**
	comp=Z,41nm,0.8s,mb5.2						
STKA	**Stephens Creek**	**37.93**	**131**	P	**P**	**03 41 56.0**	**+0.9**
	comp=Z,49nm,0.8s,mb5.3,baz=307,slow=8.4,SNR=34						
JOW	**Kunigami**	**40.70**	**27**	P	**P**	**03 42 18.8**	**+0.5**
	comp=Z,21nm,0.8s,mb4.8,baz=238,slow=6.1,SNR=8.5						
JIRN	**Jiri**	**42.69**	**330**	*e*P	**P**	**03 42 35.1**	**+0.5**
	comp=Z,88nm,0.9s,mb5.5						
PKI	**Pulchoki**	**43.01**	**329**	*e*P	**P**	**03 42 37.3**	**+0.2**
	comp=Z,32nm,0.9s,mb5.1						
PKI	**Pulchoki**	**43.01**	**329**	*e*P	**P**	**03 42 37.3**	**+0.2**
PKI				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.0						
GUN	**Gumba**	**43.05**	**330**	*e*P	**P**	**03 42 37.8**	**+0.3**
	comp=Z,68nm,0.8s,mb5.4						
XAN	**Xi'an**	**43.12**	**0**	P	**P**	**03 42 38.4**	**+0.3**
XAN				AP	pP	03 42 50.0	+1.1
XAN				AMB	AMB		
	comp=Z,31nm,0.9s,mb5.0						
DMN	**Daman**	**43.19**	**329**	*e*P	**P**	**03 42 38.6**	**0.0**
	comp=Z,82nm,0.9s,mb5.5						
KKN	**Kakani**	**43.25**	**329**	*e*P	**P**	**03 42 38.9**	**-0.2**
	comp=Z,66nm,1.0s,mb5.3						
KKN	**Kakani**	**43.25**	**329**	*e*P	**P**	**03 42 38.9**	**-0.2**
KKN				pmax	pmax		
	comp=Z,66nm,1.0s,mb5.3						
GKN	**Gorkha**	**43.75**	**329**	*e*P	**P**	**03 42 43.2**	**+0.1**
	comp=Z,112nm,1.0s,mb5.6						
KOLN	**Koldanda**	**44.10**	**327**	*e*P	**P**	**03 42 46.0**	**0.0**
	comp=Z,125nm,0.8s,mb5.7						
LZH	**Lanzhou**	**45.38**	**355**	*e*P	**P**	**03 42 57.4**	**+1.2**
LZH				AP	pP	03 43 06.1	-1.0
LZH				XP	sP	03 43 09.9	-1.6
LZH				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,211nm,5.1s						
NDI	**New Delhi**	**48.43**	**322**	*e*P	**P**	**03 43 17.0**	**-3.0**
GTA	**Gaotai**	**49.16**	**351**	*e*P	**P**	**03 43 27.1**	**+1.5**
GTA				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.9						
BJT	**Baijiatuau**	**49.59**	**8**	*e*P	**P**	**03 43 28.9**	**+0.1**
BJT				pmax	pmax		
	comp=Z,47nm,1.1s						
BJT	**Baijiatuau**	**49.59**	**8**	*e*P	**P**	**03 43 28.9**	**0.0**
	comp=Z,47nm,1.1s,mb5.4						
BJI	**Beijing**	**49.61**	**8**	P	**P**	**03 43 29.1**	**+0.1**
BJI				AMB	AMB		
	comp=Z,39nm,0.9s,mb5.4						
SNY	**Shenyang**	**52.72**	**14**	⇓P	**P**	**03 43 51.4**	**-0.9**
SNY				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.9						
MJAR	**Matsushiro Arr**	**53.44**	**30**	P	**P**	**03 43 56.1**	**-1.6**
	comp=Z,1.6nm,0.6s,mb4.1,baz=210,slow=7.0,SNR=4.5						
SONM	**Songino Array**	**56.94**	**358**	P	**P**	**03 44 23.3**	**+0.5**
	comp=Z,8.2nm,0.7s,mb4.9,baz=171,slow=7.7,SNR=27						
ULN	**Ulaanbaatar**	**56.95**	**359**	*c i*P	**P**	**03 44 22.9**	**0.0**
ULN				*i* *PP	pP	03 44 35.3	+1.2
ULN	**Ulaanbaatar**	**56.95**	**359**	*e*P	**P**	**03 44 23.2**	**+0.3**
ULN				*e*pP	pP	03 44 33.2	-0.9
WSAR	**Wadi Sarin**	**58.61**	**304**	P	**P**	**03 44 35.4**	**+0.8**
	comp=Z,4.9nm,0.7s,mb4.7,baz=222,slow=3.2,SNR=5.5						
WSAR	**Wadi Sarin**	**58.61**	**304**	*e*P	**P**	**03 44 35.4**	**+0.8**
ZAK	**Zakamensk**	**59.63**	**356**	*e*P	**P**	**03 44 40.9**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.3						
OPO	**Ambohidratompo**	**60.07**	**254**	P	**P**	**03 44 45.5**	**+0.8**
	comp=Z,3.7nm,0.7s,mb4.5,baz=85,slow=15,SNR=3.9						
AAK	**Ala-Archa**	**60.36**	**332**	*e*P	**P**	**03 44 47.0**	**+0.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
FRU	**Bishkek**	**60.46**	**332**	*e*P	pP	03 45 00.0	+1.4
MKAR	**Makanchi Array**	**60.60**	**340**	P	**P**	**03 44 48.3**	**0.0**
	comp=Z,15nm,0.8s,mb5.2,baz=148,slow=8.2,SNR=24						
MKAR	**Makanchi Array**	**60.60**	**340**	*e*P	**P**	**03 44 48.2**	**-0.1**
ASAJ	**Asahikawa**	**61.46**	**27**	P	**P**	**03 44 53.6**	**-0.5**
	comp=Z,4.0nm,0.8s,mb4.6,baz=265,slow=5.4,SNR=5.0						
KLR	**Kul'dur**	**61.75**	**17**	*e*P	**P**	**03 44 52.0**	**-4.0**
YSS	**Yuzh-Sakhalins**	**63.75**	**25**	*e*P	**P**	**03 45 07.6**	**-1.8**
YSS				pmax	pmax		
	comp=Z,6.0nm,

RST					AMb	AMB	03 45 53.7	
	comp=Z,59nm,0.7s,mb5.6							
KMBO	**Kilima Mbogo**	**71.41**	**272**		P	**P**	**03 45 58.4**	**+0.7**
	comp=Z,3.0nm,0.9s,mb4.2,baz=50,slow=11,SNR=4.5							
KMBO	**Kilima Mbogo**	**71.41**	**272**	⇑	*eP*	**P**	**03 45 59.0**	**+1.3**
KMBO	**Kilima Mbogo**	**71.41**	**272**		P	**P**	**03 45 58.4**	**+0.7**
YAK	**Yakutsk**	**73.01**	**10**	⇑	*eP*	**P**	**03 46 06.4**	**-0.9**
YAK					*p*max	*p*max		
	comp=Z,44nm,0.8s,mb5.4							
YAK	**Yakutsk**	**73.01**	**10**		*eP*	**P**	**03 46 06.8**	**-0.5**
	comp=Z,48nm,0.9s,mb5.4							
VNDA	**Vanda**	**73.41**	**170**		P	**P**	**03 46 09.3**	**-0.3**
	comp=Z,9.9nm,0.9s,mb4.8,baz=306,slow=6.3,SNR=19							
VNDA	**Vanda**	**73.41**	**170**		P	**P**	**03 46 09.3**	**-0.3**
SYO	**Syowa Base**	**73.89**	**200**	⇑	*eP*	**P**	**03 46 11.0**	**-1.4**
MA2	**Magadan**	**76.48**	**21**	⇑	*eP*	**P**	**03 46 25.8**	**-1.6**
MA2					*p*max	*p*max		
	comp=Z,25nm,1.2s,mb5.0							
SVE	**Sverdlovsk**	**76.77**	**335**		*eP*	**P**	**03 46 28.0**	**-1.0**
SVE					*e*	pP	03 46 40.5	0.0
ARU	**Arti**	**77.39**	**334**	⇓	*iP*	**P**	**03 46 32.5**	**0.0**
ARU					*e*	pP	03 46 42.7	-1.3
ARU					*e*		03 49 28.0	
ARU					*e*PPP		03 51 14.2	
ARU					*e*S	S	03 56 26.3	+6.1
ARU					*e*SS	SS	04 01 25.8	+6.7
ARU					*p*max	*p*max		
	comp=Z,12nm,1.1s,mb4.7							
KIV	**Kislovodsk**	**79.65**	**318**		*eP*	**P**	**03 46 45.4**	**+0.4**
KIV					*p*max	*p*max		
	comp=Z,13nm,1.4s,mb4.7							
ASF	**Jabal al Asfar**	**79.77**	**305**		P	**P**	**03 46 47.4**	**+1.8**
	comp=Z,5.4nm,0.8s,mb4.5,baz=332,slow=4.8,SNR=6.6							
QSPA	**South Pole Qui**	**80.68**	**180**		*eP*	**P**	**03 46 49.9**	**-0.6**
	comp=Z,18nm,0.8s,mb5.0							
MMAI	**Mount Meron Ar**	**81.23**	**306**		P	**P**	**03 46 55.3**	**+1.9**
	comp=Z,5.5nm,0.7s,mb4.6,baz=101,slow=7.0,SNR=10							
TIXI	**Tiksi**	**81.92**	**6**		*eP*	**P**	**03 46 56.3**	**-0.8**
TIXI					*p*max	*p*max		
	comp=Z,16nm,1.0s,mb4.9							
BRTR	**Keskin Array B**	**84.54**	**312**		P	**P**	**03 47 11.1**	**+0.5**
	comp=Z,7.9nm,0.9s,mb4.8,baz=139,slow=7.4,SNR=16							
BRTR					PP	PP	03 50 31.7	+5.5
	comp=Z,0.8nm,0.9s,baz=79,slow=7.5,SNR=3.2							
OBN	**Obninsk**	**87.52**	**327**	*c*	*eP*	**P**	**03 47 25.5**	**+0.2**
OBN					*e*S	S	03 57 47.6	-16
OBN					*p*max	*p*max		
	comp=Z,24nm,0.7s,mb5.5							
SNAA	**Sanae**	**87.79**	**197**	*c*	*iP*	**P**	**03 47 26.6**	**0.0**
AKASG	**Malin Array Be**	**90.48**	**321**		P	**P**	**03 47 38.6**	**-0.7**
	comp=Z,2.7nm,0.7s,mb4.7,baz=88,slow=4.4,SNR=8.5							
FINES	**FINESS Array B**	**94.55**	**331**		P	**P**	**03 47 57.8**	**-0.2**
	comp=Z,3.5nm,0.9s,mb4.8,baz=74,slow=10,SNR=3.3							
TORD	**Torodi Ar. Bea**	**108.41**	**281**		PKKPbc	PKKPbc	04 04 18.2	+2.2
	comp=Z,0.5nm,0.8s,baz=321,slow=3.8,SNR=5.1							
YKA	**Yellowknife Ar**	**118.46**	**21**		PKP	PKPdf	03 53 24.8	-0.1
	comp=Z,1.3nm,0.6s,baz=328,slow=2.0,SNR=14							
YKA	**Yellowknife Ar**	**118.46**	**21**	⇑	*i*PKIKP	PKPdf	03 53 24.7	-0.3
YKA	**Yellowknife Ar**	**118.46**	**21**		PKP	PKPdf	03 53 24.8	-0.1
SCHQ	**Schefferville**	**134.47**	**356**		PKP	PKPdf	03 53 57.0	+1.5
	comp=Z,1.4nm,0.8s,baz=288,slow=6.4,SNR=3.3							
CFAA	**Coronel Fontan**	**139.19**	**184**		PKP	PKPdf	03 54 05.6	+1.4
	comp=Z,0.3nm,0.7s,baz=146,slow=3.6,SNR=6.1							
WMOK	**Wichita Mounta**	**144.40**	**41**		*e*PKIKP	PKPdf	03 54 13.8	+0.3
LONY	**Lake Ozonia**	**144.73**	**4**		*e*P	PKPdf	03 54 11.4	-2.8
WVL	**Waterville**	**144.86**	**358**		*e*P	PKPdf	03 54 14.6	+0.2
LBNH	**Lisbon**	**145.21**	**1**		*e*PKIKP	PKPdf	03 54 16.2	+1.3
NCB	**Newcomb**	**145.40**	**4**		*e*P	PKPbc	03 54 16.5	+1.3
BDFB	**Brasilia**	**146.06**	**223**		PKPbc	PKPbc	03 54 19.0	+1.7
	comp=Z,7.3nm,0.7s,baz=139,slow=2.2,SNR=12							
JCT	**Junction City**	**146.17**	**48**		*e*PKP2	PKPab	03 54 19.0	+0.7
CCM	**Cathedral Cave**	**146.27**	**29**		*e*PKP2	PKPab	03 54 18.6	-0.1
FVM	**French Village**	**146.71**	**28**		*e*PKP2	PKPab	03 54 20.5	+0.1
HRV	**Harvard--Oak R**	**146.95**	**0**		*e*PKP2	PKPbc	03 54 19.9	0.0
BINY	**Binghamton**	**147.01**	**6**		*e*P	PKPbc	03 54 21.3	+1.2
BINY					*e*pP		03 54 37.4	
ACSO	**Alum Creek Sta**	**147.54**	**17**		*e*P	PKPbc	03 54 22.7	+1.1
LVC	**Limon Verde**	**148.17**	**184**		PKPbc	PKPbc	03 54 25.9	+2.7
	comp=Z,8.7nm,0.8s,baz=256,slow=4.3,SNR=9.1							
UALR	**University of**	**148.23**	**34**		*e*P	PKPbc	03 54 24.2	+0.9
WCI	**Wyandotte Cave**	**148.25**	**23**		*e*PKP2	PKPbc	03 54 24.3	+0.9
SSPA	**Standing Stone**	**148.29**	**9**		*e*P	PKPbc	03 54 24.4	+0.9
PAL	**Palisades**	**148.37**	**4**		*e*PKP2	PKPbc	03 54 25.2	+1.5
WVT	**Waverly**	**149.41**	**27**		*e*PKP2	PKPbc	03 54 27.7	+1.3
OXF	**Oxford**	**149.98**	**31**		*e*PKP2	PKPbc	03 54 29.2	+1.4
PLAL	**Pickwick Lake**	**150.25**	**28**		*e*P	PKPbc	03 54 29.2	+0.8
TZTN	**Tazewell**	**150.74**	**20**		*e*P	PKPbc	03 54 31.1	+1.5
BLA	**Blacksburg**	**151.06**	**15**		*e*PKPbc	PKPbc	03 54 30.4	+0.1
CPCT	**Cooper Cave**	**151.37**	**23**		*e*P	PKPbc	03 54 33.0	+1.9
SIV	**San Ignacio**	**152.85**	**202**		PKPbc	PKPbc	03 54 36.1	+1.7
	comp=Z,6.7nm,0.8s,baz=142,slow=2.6,SNR=17							
SIV					PKPab	PKPab	03 54 47.1	+1.6
	comp=Z,6.7nm,0.9s,baz=121,slow=3.7,SNR=8.1							
LPAZ	**La Paz**	**154.35**	**187**		PKPbc	PKPbc	03 54 40.5	+2.8
	comp=Z,2.4nm,0.9s,baz=118,slow=4.8,SNR=9.5							
LPAZ					PKPab	PKPab	03 54 53.8	+1.9
	comp=Z,3.3nm,0.8s,baz=147,slow=5.8,SNR=7.9							

*IDC **18** 03:44:39.5±1.4,3778N×6912E,h0km,mb3.8/11, mb1 3.9/14,mb1mx3.8/25,mbtmp3.8/14,ML3.4/3,MS3.9/1, Ms1 3.9/1,ms1mx2.6/43,Error ellipse: s-maj=28.7km s-min=15.5km az=155.0*

*NNC **18** 03:44:44.0±5.3,3810N×6945E,h0km,mb4.3,mpv4.2, Error ellipse: s-maj=43.8km s-min=36.3km az=139.0*

*ISCJB **18** 03:44:45.4±1.0,3804N±004×6938E±008,h59km±12km, mb3.8/15,MS3.9/1, Error ellipse: s-maj=10.5km s-min=6.0km az=155.1*

*MOS **18** 03:44:46.5±1.7,3858N×6927E,h33km,mb4.2/11,Error ellipse: s-maj=16.9km s-min=9.3km az=99.2*

*NEIC **18** 03:44:46.7±1.4,3820N×6925E,h35km,mb4.4/4,Error ellipse: s-maj=25.6km s-min=11.8km az=159.0*

ISC 18 03:44:46.7±0.9,3799N±004×6934E±008,h57km±11km, n69,σ1$33/74,mb3.8/15,MS3.9/1,2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
CEP	**Cherat**	**4.65**	**153**		P	**Pn**	**03 45 57.7**	**+3.4**
KK31	**Karatay Array**	**5.19**	**10**		Pn	**Pn**	**03 46 00.5**	**-1.3**
	4.6nm,0.4s,baz=197,slow=12,SNR=87							
KK31					Pg	**Pn**	**03 46 16.9**	**+15**
	123nm,0.8s,baz=186,slow=14,SNR=31							
KK31					Lg		03 47 23.7	
	331nm,0.8s,baz=172,slow=22,SNR=9.9							
AML	**Almayashu**	**5.32**	**38**		P	**Pn**	**03 46 04.0**	**+0.5**
	SNR=12							
THW	**Thamme Wali**	**5.54**	**159**		P	**Pn**	**03 46 08.6**	**+2.0**
EKS2	**Erkin-Say**	**5.77**	**35**		P	**Pn**	**03 46 11.5**	**+1.8**
	SNR=8.4							
UCH	**Uchtor**	**5.80**	**41**		P	**Pn**	**03 46 11.5**	**+1.4**
	SNR=17							
AAK	**Ala-Archa**	**6.08**	**39**		P	**Pn**	**03 46 14.6**	**+0.5**
	SNR=9.4							
AAK	**Ala-Archa**	**6.08**	**39**		*e*PN	**Pn**	**03 46 13.3**	**-0.7**
AAK					*p*max	*p*max		
	comp=Z,75nm,0.8s							
AAK	**Ala-Archa**	**6.08**	**39**		*e*Pn	**Pn**	**03 46 13.3**	**-0.8**
	comp=Z,75nm,0.8s							
KZA	**Kyzart**	**6.10**	**46**		P	**Pn**	**03 46 15.5**	**+1.2**
	SNR=16							
FRU	**Bishkek**	**6.29**	**38**		*e*PN	**Pn**	**03 46 24.0**	**+7.1**
FRU					*e*		03 46 31.0	
FRU					*i*		03 46 43.0	
FRU					*p*max	*p*max		
	comp=Z,180nm,1.7s							
KBK	**Karagaybulak**	**6.33**	**41**		P	**Pn**	**03 46 17.8**	**+0.4**
	SNR=18							
ULHL	**Ulahol**	**6.79**	**49**		P	**Pn**	**03 46 22.4**	**-1.2**
	SNR=12							
TKM2	**Tokmak 2**	**6.86**	**42**		P	**Pn**	**03 46 24.6**	**0.0**
	SNR=12							
TKM2	**Tokmak 2**	**6.86**	**42**	⇑	Pn	**Pn**	**03 46 24.8**	**+0.2**
	comp=Z,12nm,1.1s							
TKM2					Sn	**Sn**	**03 47 42.0**	**+0.8**
TKM2				⇑	Lg		03 48 19.4	
	comp=Z,20nm,0.9s							
NDI	**New Delhi**	**11.37**	**142**		*e*P	**Pn**	**03 47 27.5**	**+1.2**
NDI					*e*S	**Sn**	**03 49 30.0**	**-1.8**
MK08	**Makanchi Array**	**12.96**	**43**		Pn	**Pn**	**03 47 46.6**	**-1.4**
MKAR	**Makanchi Array**	**12.99**	**43**		Pn	**Pn**	**03 47 47.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=222,slow=13,SNR=10							
MKAR					Lg		03 51 40.0	
	comp=Z,0.1nm,0.3s,baz=260,slow=8.5,SNR=3.3							
AKTK	**Aktyubinsk**	**14.84**	**331**		Pn	**Pn**	**03 48 07.1**	**-5.9**
AKTO	**Aktyubinsk**	**14.84**	**331**		Pn	**Pn**	**03 48 07.1**	**-5.9**
	comp=Z,0.1nm,0.3s,baz=148,slow=17,SNR=4.6							
ZRNK	**Zerenda**	**14.97**	**359**		Pn	**Pn**	**03 48 18.8**	**+4.1**
ZRNK	**Zerenda**	**14.97**	**359**		*eP*	**Pn**	**03 48 12.3**	**-2.5**
ZRNK					*p*max	*p*max		
	comp=Z,7.0nm,0.8s							
ZRNK	**Zerenda**	**14.97**	**359**		*eP*	**Pn**	**03 48 12.3**	**-2.5**
	comp=Z,7.4nm,0.8s							
BVA0	**Borovoye Array**	**15.06**	**2**		Pn	**Pn**	**03 48 14.6**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=166,slow=11,SNR=14							
BVAR	**Borovoye Array**	**15.06**	**2**		Pn	**Pn**	**03 48 11.7**	**-4.3**
	comp=Z,0.2nm,0.3s,baz=172,slow=12,SNR=3.2							
BRVK	**Borovoye**	**15.09**	**2**		*eP*	**Pn**	**03 48 09.9**	**-6.4**
BRVK					*p*max	*p*max		
	comp=Z,18nm,1.3s							
BRVK	**Borovoye**	**15.09**	**2**		*ePn*	**Pn**	**03 48 09.9**	**-6.4**
	comp=Z,18nm,1.3s							
KOLN	**Koldanda**	**15.71**	**126**		*eP*	**Pn**	**03 48 23.8**	**-0.5**
	comp=Z,19nm,0.6s							
CHKZ	**Chkalovo**	**15.72**	**3**		Pn	**Pn**	**03 48 21.3**	**-3.1**
GKN	**Gorkha**	**16.22**	**123**		*eP*	**Pn**	**03 48 30.5**	**-0.3**
	comp=Z,53nm,0.8s							
GKN					*e*S	**S**	**03 51 21.3**	**-19**
KKN	**Kakani**	**16.79**	**123**		*eP*	**Pn**	**03 48 37.6**	**-0.3**
DMN	**Daman**	**16.79**	**123**		*eP*	**Pn**	**03 48 37.5**	**-0.4**
	comp=Z,47nm,0.8s							
DMN					*e*S	**S**	**03 51 36.1**	**-15**
PKI	**Pulchoki**	**17.02**	**123**		*eP*	**Pn**	**03 48 40.5**	**-0.2**
GUN	**Gumba**	**17.11**	**121**		*eP*	**Pn**	**03 48 40.0**	**-1.9**
	comp=Z,47nm,0.8s							
JIRN	**Jiri**	**17.48**	**121**		*eP*	**Pn**	**03 48 46.0**	**-0.5**
GNI	**Garni**	**19.21**	**284**		*eP*	**Pn**	**03 49 07.7**	**+0.3**
GNI					*p*max	*p*max		
	comp=Z,27nm,1.1s							
GNI	**Garni**	**19.21**	**284**		*eP*	**Pn**	**03 49 07.7**	**+0.4**
	comp=Z,27nm,1.1s							
ARU	**Arti**	**19.81**	**342**	⇓	*iP*	**Pn**	**03 49 11.5**	**-2.9**
ARU					*e*S	**S**	**03 52 47.3**	**-5.1**
ARU					*p*max	*p*max		
	comp=Z,12nm,0.8s							
ARU	**Arti**	**19.81**	**342**		*eP*	**Pn**	**03 49 11.8**	**-2.6**
	comp=Z,14nm,0.8s							
KIV	**Kislovodsk**	**20.94**	**295**		*eP*	**P**	**03 49 25.9**	**+1.2**
KIV					*p*max	*p*max		
	comp=Z,13nm,1.1s							
KIV	**Kislovodsk**	**20.94**	**295**		*eP*	**P**	**03 49 26.3**	**+1.6**
ZAK	**Zakamensk**	**27.06**	**52**		*eP*	**P**	**03 50 27.5**	**+3.8**
ZAK					*p*max	*p*max		
	comp=Z,2.0nm,1.3s,mb3.5							
MMAI	**Mount Meron Ar**	**27.98**	**270**		P	**P**	**03 50 29.1**	**-2.8**
	comp=Z,0.5nm,0.3s,mb3.6,baz=76,slow=24,SNR=4.0							
SONM	**Songino Array**	**28.62**	**58**		P	**P**	**03 50 39.3**	**+1.7**
	comp=Z,0.2nm,0.5s,mb3.1,baz=275,slow=10,SNR=2.8							
AKASG	**Malin Array Be**	**30.99**	**307**		P	**P**	**03 50 57.9**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.7,baz=82,slow=7.6,SNR=3.0							
AKASG	**Malin Array Be**	**30.99**	**307**		P	**P**	**03 50 57.9**	**-0.7**
AKASG					*p*max	*p*max		
	comp=Z,1.0nm,0.4s							
JOF	**Joensuu**	**33.92**	**330**		*ep*	**P**	**03 51 20.6**	**-3.6**
	comp=Z,3.7nm,0.9s,mb4.3							
JOF	**Joensuu**	**33.92**	**330**		*eP*	**P**	**03 51 20.6**	**-3.6**
JOF					*p*max	*p*max		
	comp=Z,4.0nm,0.9s,mb4.3							
BOD	**Bodaibo**	**35.06**	**41**		*eP*	**P**	**03 51 34.3**	**+0.2**
BOD					*p*max	*p*max		
	comp=Z,6.0nm,1.1s,mb4.4							
FINES	**FINESS Array B**	**35.51**	**325**		P	**P**	**03 51 38.4**	**+0.4**
	comp=Z,2.5nm,0.8s,mb4.2,baz=132,slow=11,SNR=5.3							
FINES	**FINESS Array B**	**35.51**	**325**		P	**P**	**03 51 38.4**	**+0.4**
FINES					*p*max	*p*max		
	comp=Z,3.0nm,0.8s							
KEV	**Kevo**	**38.93**	**338**		*ep*	**P**	**03 52 02.2**	**-4.7**
	comp=Z,10nm,1.0s,mb4.5							
KEV	**Kevo**	**38.93**	**338**		*eP*	**P**	**03 52 02.2**	**-4.7**
KEV					*p*max	*p*max		
	comp=Z,10.0nm,1.0s,mb4.5							
VRAC	**Vranov**	**39.06**	**304**		LR	LR	04 10 57.8	
	comp=Z,170nm,20.8s,MS3.9,baz=72,slow=40							
ARCES	**ARCESS Array B**	**39.27**	**337**		P	**P**	**03 52 11.7**	**+1.9**
	comp=Z,4.3nm,0.9s,mb4.2,baz=107,slow=7.8,SNR=8.7							
ARCES	**ARCESS Array B**	**39.27**	**337**		P	**P**	**03 52 11.7**	**+2.0**
ARCES					*p*max	*p*max		
	comp=Z,4.0nm,0.9s							
GERES	**GERESS Array B**	**41.00**	**304**		P	**P**	**03 52 25.2**	**+1.2**
	comp=Z,0.1nm,0.4s,mb2.8,baz=83,slow=10.0,SNR=2.5							
HFS	**Hagfors**	**41.08**	**321**		P	**P**	**03 52 24.5**	**-0.2**
	comp=Z,1.5nm,0.8s,mb3.7,baz=108,slow=4.7,SNR=4.1							
HFS	**Hagfors**	**41.08**	**321**		P	**P**	**03 52 24.5**	**-0.2**
HFS					*p*max	*p*max		
	comp=Z,2.0nm,0.8s							
NB2	**NORSAR Subarra**	**42.40**	**322**		P	**P**	**03 52 36.3**	**+0.8**
	comp=Z,1.2nm,0.7s,mb3.6,baz=98,slow=8.6							
NOA	**NORSAR Array B**	**42.40**	**322**		P	**P**	**03 52 35.0**	**-0.5**
	comp=Z,0.9nm,0.8s,mb3.4,baz=153,slow=20,SNR=2.6							
NOA	**NORSAR Array B**	**42.40**	**322**		P	**P**	**03 52 35.0**	**-0.5**
NOA					*p*max	*p*max		
	comp=Z,1.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**64.45**	**267**		P	**P**	**03 55 17.1**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.1,baz=49,slow=5.7,SNR=24							
INK	**Inuvik**	**72.65**	**9**		P	**P**	**03 56 09.4**	**+1.2**
	comp=Z,1.0nm,0.6s,mb3.9,baz=19,slow=5.1,SNR=3.9							
INK	**Inuvik**	**72.65**	**9**		*eP*	**P**	**03 56 09.2**	**+1.0**
INK					*p*max	*p*max		
	comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**72.65**	**9**		*eP*	**P**	**03 56 09.2**	**+1.0**
	comp=Z,1.5nm,0.5s,mb4.2							
YKA	**Yellowknife Ar**	**79.81**	**2**		P	**P**	**03 56 50.7**	**+1.9**
	comp=Z,1.0nm,0.6s,mb3.9,baz=351,slow=5.7,SNR=7.7							
YKA	**Yellowknife Ar**	**79.81**	**2**		P	**P**	**03 56 50.7**	**+1.8**
YKA					*p*max	*p*max		
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**79.81**	**2**		P	**P**	**03 56 50.7**	**+1.9**

*CSEM **18** 03:51:25.2±1.2,3899N×2781W,h5km,ML1.5, Error ellipse: s-maj=9.0km s-min=2.9km az=69.0,After PDA*

*PDA **18** 03:51:25.2±1.2,3899N×2781W,h5km,MD3.0,ML1.5, Error ellipse: s-maj=9.0km s-min=2.9km az=69.0*

SVSA 18 03:51:25.2±1.2,3899N×2781W,h5km,MD3.0,ML1.5, Error ellipse: s-maj=9.0km s-min=2.9km az=69.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**0.14**	**288**		*eP*	Pg	03 51 27.7	-0.4
PGRA					*e*S	Sg	03 51 29.9	-0.1
PGRA								
	79nm,0.2s							
PGRA	**Graciosa**	**0.14**	**288**		*eP*	Pg	03 51 27.7	-0.4
PGRA					*e*S	Sg	03 51 29.9	-0.1
STGR	**Santa Cruz**	**0.18**	**302**		*e*S	Sg	03 51 31.5	+0.3
STGR								
	29nm,0.2s							
SRBC	**Serra Branca**	**0.19**	**286**		*e*S	Sg	03 51 31.3	-0.2
PVIA	**Vitoria**	**0.21**	**294**		*erx*		03 51 32.3	
PMAN	**Manadas**	**0.41**	**212**		*iP*	Pg	03 51 32.3	-0.9
PMAN					*e*S	Sg	03 51 38.3	-0.3
PMAN								
	90nm,0.1s							
PMAN	**Manadas**	**0.41**	**212**		*e*S	Sg	03 51 38.3	-0.3
PAMA	**Santo Amaro**	**0.42**	**224**		*e*S	Sg	03 51 38.5	-0.3
PAMA								
	15nm,0.2s							
ROSA	**Rosais**	**0.43**	**232**		*eP*	Pg	03 51 32.5	-1.0
ROSA					*e*S	Sg	03 51 38.0	-1.1
PSBA	**Serra de Santa**	**0.43**	**120**		*erx*		03 51 33.4	
PID	**Ribeirinha**	**0.59**	**204**		*eP*	Pg	03 51 35.6	-1.0
PICO	**Pico**	**0.68**	**225**		*eP*	Pg	03 51 36.7	-1.6
PLUZ	**Luz**	**0.91**	**272**		*e*S	Sg	03 51 29.9	-25
PLUZ								
	19nm,0.1s							

*ISCJB **18** 03:54:27.2±2.7, 1981S±004×7065W±006,h10km±17km, mb4.4/30,MS4.5/8,Error ellipse: s-maj=10.3km s-min=7.3km az=164.6*

*IDC **18** 03:54:27.4±0.6, 1977S×7062W,h0km,mb4.3/16, mb1 4.4/19,mb1mx4.3/22,mbtmp4.3/19,ML4.2/4,MS4.2/8, Ms1 4.2/8,ms1mx4.0/24,Error ellipse: s-maj=22.1km s-min=12.0km az=66.0*

*NEIC **18** 03:54:32.5±0.3, 1982S×7063W,h35km,mb4.6/16, MS4.9/3,Error ellipse: s-maj=8.8km s-min=5.3km az=68.0*

*HRVD **18** 03:54:32.5±1.0, 1970S×7082W,h16km±3km,MW4.9/30, Centroid moment Tensor Solution. LP body waves: s7,c7;Mantle waves: s30,c37; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.08±.35; $M_{\theta\theta}$0.21±.16; $M_{\phi\phi}$-2.29±.24; $M_{r\theta}$0.06±.54; $M_{r\phi}$0.58±.11; $M_{\theta\phi}$-2.27±.70; Best double couple: M_o3.20000×10^{16} NP1:ϕ_s337.00000°, δ23.00000°,λ73.00000°. NP2:ϕ_s176.00000°,δ68.00000°, λ97.00000°. Principal axes: T 3.0560, Plg66.0000°, Azm99.0000°; N 0.2920, Plg7.0000°, Azm353.0000°; P -3.3440, Plg23.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 03:54:29.3±3.0,1983S±004×7072W±007,h11km±19km, n62,σ1$03/54,mb4.4/30,MS4.5/8,1C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.24**	**149**		Pn	**Pn**	**03 55 21.8**	**+1.7**
	33nm,0.3s,baz=324,slow=9.8,SNR=209							
LVC					Lg		03 56 09.0	
	123nm,0.3s,baz=146,slow=20,SNR=6.0							
ARE	**Arequipa**	**3.43**	**348**		*eP*	**Pn**	**03 55 22.0**	**-0.7**
ARE					*e*S	**Sn**	**03 56 03.0**	**-0.4**
CEN1	**Los Morros**	**3.57**	**172**		*eP*	**Pn**	**03 55 25.2**	**+0.6**
ANCH	**Antofagasta**	**3.84**	**176**	⇑	*iP*	**Pn**	**03 55 26.6**	**-1.7**
LPAZ	**La Paz**	**4.30**	**35**		Pn	**Pn**	**03 55 39.8**	**+5.1**
	11nm,0.3s,baz=204,slow=6.0,SNR=62							
LPAZ					LR	LR	03 57 28.5	
	comp=Z,3μm,18.5s,baz=231,slow=43							
CPN1	**Cerro Paranal**	**4.78**	**177**		*eP*	**Pn**	**03 55 37.1**	**-4.1**
SIV	**San Ignacio**	**9.95**	**69**		Pn	**Pn**	**03 56 52.2**	**+0.1**
	5.1nm,0.3s,baz=265,slow=9.3,SNR=69							
CFAA	**Coronel Fontan**	**11.93**	**170**		Pn	**Pn**	**03 57 18.6**	**-0.7**
	0.0nm,0.3s,baz=10,slow=13,SNR=4.8							
CFAA					LR	LR	04 02 13.1	
	comp=Z,171nm,18.2s,baz=338,slow=39							
SAML	**Samuel**	**13.05**	**35**		*ePn*	**Pn**	**03 57 34.3**	**-0.2**
	12nm,0.9s							
SAML					*e*Sn	**Sn**	**04 00 01.1**	**+1.4**
CPUP	**Villa Florida**	**13.91**	**120**		Pn	**Pn**	**03 57 47.2**	**+0.9**
	0.2nm,0.3s,baz=291,slow=12,SNR=3.3							
CPUP	**Villa Florida**	**13.91**	**120**		Pn	**Pn**	**03 57 47.2**	**+0.9**
ATAH	**Atahualpa**	**14.77**	**329**		LR	LR	04 03 31.5	
	comp=Z,512nm,18.5s,baz=351,slow=37							
TRQA	**Tornquist**	**19.68**	**159**		*eP*	**Pn**	**03 58 58.6**	**-1.2**
	24nm,1.0s							
PLCA	**Paso Flores**	**20.83**	**180**		P	**P**	**03 59 12.6**	**+1.7**
	3.3nm,0.8s,baz=353,slow=6.9,SNR=7.9							
OTAV	**Otavalo**	**21.34**	**338**		*eP*	**P**	**03 59 18.4**	**+2.1**
	33nm,1.4s,mb4.5							
BDFB	**Brasilia**	**22.02**	**83**		P	**P**	**03 59 22.0**	**-1.6**
	10.0nm,0.5s,mb4.5,baz=258,slow=7.4,SNR=9.3							
BDFB					LR	LR	04 09 31.1	
	comp=Z,1μm,18.8s,MS4.3,baz=291,slow=41							
ROSC	**El Rosal**	**24.79**	**351**		P	**P**	**03 59 52.8**	**+1.7**
	5.4nm,0.4s,mb4.4,baz=105,slow=16,SNR=3.2							
ROSC					LR	LR	04 09 56.4	
	comp=Z,470nm,20.6s,MS4.0,baz=190,slow=38							
SDV	**Santo Domingo**	**28.54**	**0**		P	**P**	**04 00 25.9**	**+1.0**
	2.6nm,0.4s,mb4.3,baz=165,slow=6.4,SNR=3.9							
SDV					LR	LR	04 11 00.3	
	comp=Z,512nm,21.3s,MS4.1,baz=192,slow=35							
PCRV	**Puerto La Cruz**	**30.41**	**12**	

Ms1 3.8/3,ms1mx3.3/34,Error ellipse: s-maj=22.3km s-min=18.1km az=137.0

NEIC ***18*** *03:56:43.2±0.5,2553N×4530W,h10km,mb4.6/3,MS4.5/1, Error ellipse: s-maj=13.3km s-min=10.6km az=169.0*

ISC 18 03:56:43.5±0.6,256N±01×453W±01,h10km,n28,σ0°80/24, mb4.2/17,MS3.9/4,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SJG	**San Juan**	**20.71**	**253**	LR		LR	04 07 37.3	
	comp=Z,257nm,19.9s,MS3.6,baz=270,slow=32							
SCHQ	**Schefferville**	**33.25**	**337**	LR		LR	04 14 41.0	
	comp=Z,126nm,20.9s,MS3.6,baz=298,slow=32							
ULM	**Lac du Bonnet**	**45.78**	**316**	P		**P**	**04 05 04.8**	**-0.4**
	3.7nm,0.9s,mb4.3,baz=94,slow=7.4,SNR=6.2							
TORD	**Torodi Ar. Bea**	**45.80**	**96**	P		**P**	**04 05 05.2**	**-0.2**
	1.7nm,0.8s,mb4.0,baz=292,slow=8.3,SNR=11							
WMOK	**Wichita Mounta**	**46.67**	**295**	P		**P**	**04 05 11.2**	**-1.1**
	7.8nm,1.3s,mb4.5							
LPAZ	**La Paz**	**47.18**	**211**	P		**P**	**04 05 16.6**	**+0.4**
	5.9nm,0.9s,mb4.5,baz=4.9,slow=7.4,SNR=7.1							
RSSD	**Black Hills**	**50.55**	**307**	*e*P		**P**	**04 05 43.9**	**+1.8**
	3.1nm,0.8s,mb4.3							
KHC	**Kasperske Hory**	**50.92**	**46**	*e*P		**P**	**04 05 40.5**	**-4.4**
GERES	**GERESS Array B**	**50.98**	**47**	P		**P**	**04 05 45.3**	**0.0**
	0.5nm,0.6s,mb3.6,baz=252,slow=6.9,SNR=5.2							
NB2	**NORSAR Subarra**	**51.86**	**31**	P		**P**	**04 05 52.0**	**+0.1**
	comp=Z,2.9nm,0.8s,mb4.3,baz=253,slow=7.9							
NOA	**NORSAR Array B**	**51.86**	**31**	P		**P**	**04 05 52.7**	**+0.8**
	comp=Z,1.5nm,0.8s,mb4.0,baz=254,slow=7.8,SNR=4.6							
HFS	**Hagfors**	**52.80**	**33**	P		**P**	**04 05 59.3**	**+0.4**
	comp=Z,1.9nm,0.8s,mb4.1,baz=216,slow=7.3,SNR=4.5							
GCMT	**Greycliff**	**54.54**	**309**	*e*P		**P**	**04 06 06.3**	**-5.3**
EGMT	**Eagleton**	**54.57**	**312**	*e*P		**P**	**04 06 12.3**	**+0.5**
	comp=Z,20nm,1.4s,mb5.0							
PDAR	**Pinedale Array**	**54.60**	**306**	P		**P**	**04 06 12.4**	**+0.4**
	comp=Z,2.1nm,0.8s,mb4.2,baz=79,slow=7.9,SNR=12							
PDAR				LR		LR	04 29 08.2	
	comp=Z,123nm,21.1s,MS4.0,baz=106,slow=36							
EDM	**Edmonton**	**56.90**	**318**	*e*P		**P**	**04 06 28.7**	**+0.1**
YKA	**Yellowknife Ar**	**58.10**	**329**	P		**P**	**04 06 35.8**	**-1.2**
	comp=Z,1.5nm,0.8s,mb4.1,baz=97,slow=7.8,SNR=10							
ARCES	**ARCESS Array B**	**59.58**	**23**	P		**P**	**04 06 45.4**	**-1.9**
	comp=Z,4.1nm,0.9s,mb4.4,baz=262,slow=7.2,SNR=7.5							
AKASG	**Malin Array Be**	**61.01**	**44**	P		**P**	**04 06 56.5**	**-0.7**
	comp=Z,1.0nm,0.5s,mb4.2,baz=280,slow=5.9,SNR=5.4							
AKASG	**Malin Array Be**	**61.01**	**44**	P		**P**	**04 06 56.5**	**-0.7**
BRTR	**Keskin Array B**	**65.99**	**56**	P		**P**	**04 07 30.7**	**+0.7**
	comp=Z,0.7nm,0.8s,mb3.8,baz=289,slow=3.8,SNR=5.1							
PLCA	**Paso Flores**	**70.02**	**200**	P		**P**	**04 07 54.7**	**-0.7**
	comp=Z,2.4nm,0.8s,mb4.2,baz=295,slow=22,SNR=5.6							
PLCA	**Paso Flores**	**70.02**	**200**	P		**P**	**04 07 54.7**	**-0.7**
KIV	**Kislovodsk**	**71.34**	**50**	PFAKE			04 08 20.0	+17
KIV				LR		LR		
	comp=Z,323nm,22.0s,MS4.5							
AKTK	**Aktyubinsk**	**78.64**	**39**	P		**P**	**04 08 46.0**	**+0.4**
AKTO	**Aktyubinsk**	**78.64**	**39**	P		**P**	**04 08 46.0**	**+0.4**
	comp=Z,1.6nm,0.7s,mb4.1,baz=280,slow=3.3,SNR=4.6							
BVAR	**Borovoye Array**	**83.93**	**33**	P		**P**	**04 09 14.3**	**+0.6**
	comp=Z,0.8nm,0.6s,mb4.1,baz=336,slow=3.3,SNR=4.5							
VNDA	**Vanda**	**126.43**	**187**	PKP		PKPdf	04 15 46.1	-0.6
	comp=Z,1.3nm,0.7s,baz=274,slow=3.5,SNR=8.4							

IDC ***18*** *04:05:47.6±0.5,9.19S×108.05E,h0km,mb4.4/13, mb1 4.4/14,mb1mx4.3/21,mbtmp4.4/14,ML3.6/1,Error ellipse: s-maj=25.4km s-min=13.5km az=60.0*

NEIC ***18*** *04:05:49.0±0.2,9.20S×108.08E,h10km,mb4.9/11, MS5.1/14,Error ellipse: s-maj=10.9km s-min=5.4km az=56.0*

BJI ***18*** *04:05:48.9,9.20S×108.10E,h10km,mB5.1,mb4.7*

ISCJB ***18*** *04:05:49.9±4.2,9.18S±008×108.1E±01,h33km±38km, mb4.6/25,MS5.1/14,Error ellipse: s-maj=24.3km s-min=9.6km az=128.4*

MOS ***18*** *04:05:50.9±1.3,8.99S×108.19E,h33km,mb5.1/5,Error ellipse: s-maj=24.3km s-min=11.9km az=116.6*

ISC 18 04:05:53.2±3.7,918S±008×1081E±01,h39km±34km,n70, σ1§03/43,mb4.6/25,MS5.1/14,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBWA	**Marble Bar**	**16.35**	**138**	*e*Pn		**Pn**	**04 09 36.8**	**-3.0**
	5.3nm,0.4s							
KKM	**Kota Kinabalu**	**17.15**	**28**	*e*Pn		**Pn**	**04 09 49.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**19.20**	**119**	*e*P		**Pn**	**04 10 19.0**	**+4.2**
	15nm,0.8s							
FITZ	**Fitzroy Crossi**	**19.20**	**119**	P		**Pn**	**04 10 14.7**	**-0.1**
	0.1nm,0.3s,baz=274,slow=15,SNR=4.1							
WRA	**Warramunga Arr**	**27.51**	**116**	P		**P**	**04 11 36.4**	**+0.4**
	4.3nm,0.8s,mb4.2,baz=287,slow=11,SNR=11							
WRAB	**Tennant Creek**	**27.52**	**116**	*e*P		**P**	**04 11 36.9**	**+0.8**
WRAB				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.5							
WRAB	**Tennant Creek**	**27.52**	**116**	*e*P		**P**	**04 11 36.9**	**+0.9**
	comp=Z,6.5nm,0.6s,mb4.4							
WB2	**Warramunga Arr**	**27.52**	**116**	*e*P		**P**	**04 11 36.7**	**+0.6**
ASAR	**Alice Springs**	**28.56**	**123**	P		**P**	**04 11 46.0**	**+0.6**
	comp=Z,2.1nm,0.8s,mb3.9,baz=302,slow=8.3,SNR=9.9							
ASAR				PcP		PcP	04 14 58.1	+2.1
	comp=Z,0.5nm,0.8s,baz=302,slow=2.4,SNR=5.0							
GYA	**Guiyang**	**35.45**	**358**	P		**P**	**04 12 47.8**	**+2.0**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.9							
STKA	**Stephens Creek**	**38.39**	**131**	P		**P**	**04 13 10.9**	**+0.2**
	comp=Z,6.1nm,0.8s,mb4.4,baz=305,slow=8.4,SNR=9.7							
JOW	**Kunigami**	**40.80**	**28**	P		**P**	**04 13 30.9**	**+0.1**
	comp=Z,9.7nm,0.7s,mb4.5,baz=222,slow=7.1,SNR=4.7							
JIRN	**Jiri**	**42.33**	**331**	*e*P		**P**	**04 13 44.0**	**+0.7**
	comp=Z,53nm,0.8s,mb5.2							
GUN	**Gumba**	**42.69**	**330**	*e*P		**P**	**04 13 46.8**	**+0.6**
DMN	**Daman**	**42.82**	**329**	*e*P		**P**	**04 13 47.4**	**+0.1**
	comp=Z,41nm,0.8s,mb5.2							
KKN	**Kakani**	**42.88**	**330**	*e*P		**P**	**04 13 47.7**	**-0.1**
	comp=Z,35nm,0.7s,mb5.2							
KKN	**Kakani**	**42.88**	**330**	*e*P		**P**	**04 13 47.7**	**-0.1**
KKN				pmax		pmax		
	comp=Z,35nm,0.7s,mb5.2							
XAN	**Xi'an**	**42.99**	**1**	P		**P**	**04 13 49.0**	**+0.3**
XAN				AP		pP	04 13 59.0	-0.7
XAN				AMB		AMB		
	comp=Z,13nm,0.8s,mb4.7							
KOLN	**Koldanda**	**43.73**	**328**	*e*P		**P**	**04 13 54.3**	**-0.3**
	comp=Z,48nm,0.8s,mb5.3							
GTA	**Gaotai**	**48.95**	**351**	P		**P**	**04 14 42.3**	**+6.7**
BTO	**Baotou**	**49.57**	**2**	*e*P		**P**	**04 14 47.8**	**+7.5**
SONM	**Songino Array**	**56.78**	**359**	P		**P**	**04 15 34.0**	**+0.6**
	comp=Z,3.4nm,0.6s,mb4.6,baz=174,slow=7.9,SNR=14							
ZAK	**Zakamensk**	**59.46**	**356**	*e*P		**P**	**04 15 49.9**	**-2.2**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.4s,mb4.0							
MKAR	**Makanchi Array**	**60.30**	**340**	P		**P**	**04 15 57.9**	**0.0**
	comp=Z,12nm,0.6s,mb5.1,baz=146,slow=7.6,SNR=53							
KLR	**Kul'dur**	**61.76**	**17**	*e*P		**P**	**04 16 03.2**	**-4.6**
YSS	**Yuzh-Sakhalins**	**63.84**	**26**	*e*P		**P**	**04 16 21.0**	**-0.6**
KURK	**Kurchatov**	**64.91**	**340**	*e*P		**P**	**04 16 28.2**	**-0.4**
KURK				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.8							
KURK	**Kurchatov**	**64.91**	**340**	*e*P		**P**	**04 16 28.2**	**-0.5**
	comp=Z,7.9nm,0.8s,mb4.8							
MAW	**Mawson**	**65.61**	**197**	P		**P**	**04 16 32.9**	**-0.3**
	comp=Z,3.4nm,0.7s,mb4.5,baz=49,slow=6.2,SNR=7.9							
ZAL	**Zalesovo**	**65.90**	**345**	P		**P**	**04 16 33.6**	**-1.4**
	comp=Z,2.0nm,0.5s,mb4.4,baz=50,slow=20,SNR=4.3							
BOD	**Bodaibo**	**66.94**	**3**	*e*P		**P**	**04 16 39.9**	**-1.8**
BVAR	**Borovoye Array**	**69.79**	**337**	P		**P**	**04 16 59.1**	**-0.4**
	comp=Z,4.7nm,0.7s,mb4.6,baz=124,slow=7.9,SNR=20							
CHKZ	**Chkalovo**	**70.20**	**337**	*e*P		**P**	**04 17 01.6**	**-0.5**
CHKZ				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.8							
CHKZ	**Chkalovo**	**70.20**	**337**	*e*P		**P**	**04 17 01.6**	**-0.5**
	comp=Z,7.1nm,0.6s,mb4.8							
ZRNK	**Zerenda**	**70.28**	**336**	*e*P		**P**	**04 17 01.7**	**-0.8**
ZRNK				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.6							
ZRNK	**Zerenda**	**70.28**	**336**	*e*P		**P**	**04 17 01.7**	**-0.8**
	comp=Z,5.2nm,0.6s,mb4.6							
AKTK	**Aktyubinsk**	**73.54**	**329**	P		**P**	**04 17 24.0**	**+1.9**
AKTO	**Aktyubinsk**	**73.54**	**329**	P		**P**	**04 17 24.0**	**+1.9**
	comp=Z,2.1nm,0.5s,mb4.3,baz=92,slow=5.6,SNR=7.3							
VNDA	**Vanda**	**73.64**	**169**	P		**P**	**04 17 22.3**	**-0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=314,slow=5.5,SNR=7.6							
ARU	**Arti**	**77.05**	**334**	*e*P		**P**	**04 17 39.4**	**-2.8**
ASF	**Jabal al Asfar**	**79.29**	**305**	P		**P**	**04 17 56.1**	**+1.4**
	comp=Z,1.1nm,0.5s,mb4.1,baz=360,slow=3.8,SNR=3.2							
QSPA	**South Pole Qui**	**80.82**	**180**	*e*P		**P**	**04 18 02.5**	**-0.4**
	comp=Z,5.4nm,1.0s,mb4.4							
BRTR	**Keskin Array B**	**84.08**	**312**	P		**P**	**04 18 19.9**	**0.0**
	comp=Z,2.1nm,1.0s,mb4.2,baz=125,slow=7.7,SNR=7.5							
TSUM	**Tsumeb**	**87.51**	**251**	PFAKE			04 18 50.0	+13
TSUM				LR		LR		
	comp=Z,759nm,21.0s,MS5.1							
ESK	**Eskdalemuir**	**109.58**	**326**	PFAKE			04 24 30.0	+10
ESK				LR		LR		
	comp=Z,466nm,19.0s,MS5.1							
ESLA	**Sonseca Array**	**112.77**	**309**	PFAKE			04 24 40.0	+14
ESLA				LR		LR		
	comp=Z,1μm,20.0s,MS5.6							
BORG	**Borgarnes**	**114.34**	**339**	PFAKE			04 24 40.0	+11
BORG				LR		LR		
	comp=Z,419nm,19.0s,MS5.1							
YKA	**Yellowknife Ar**	**118.51**	**21**	PKP		PKPdf	04 24 36.1	-0.6
	comp=Z,0.6nm,0.7s,baz=322,slow=1.1,SNR=5.2							
FFC	**Flin Flon**	**128.66**	**22**	PFAKE			04 25 10.0	+14
FFC				LR		LR		
	comp=Z,290nm,20.0s,MS5.0							
EGMT	**Eagleton**	**129.85**	**32**	PFAKE			04 25 10.0	+12
EGMT				LR		LR		
	comp=Z,217nm,21.0s,MS4.8							
BOZ	**Bozeman (W)**	**130.21**	**36**	PFAKE			04 25 10.0	+11
BOZ				LR		LR		
	comp=Z,284nm,20.0s,MS5.0							
TPNV	**Topopah Spring**	**131.34**	**48**	PFAKE			04 25 10.0	+8.7
TPNV				LR		LR		
	comp=Z,463nm,19.0s,MS5.2							
LKWY	**Lake**	**131.54**	**36**	PFAKE			04 25 10.0	+8.4
LKWY				LR		LR		
	comp=Z,366nm,19.0s,MS5.1							
AHID	**Auburn Hatcher**	**132.12**	**39**	PFAKE			04 25 20.0	+17
AHID				LR		LR		
	comp=Z,269nm,21.0s,MS4.9							
DUG	**Dugway**	**132.33**	**43**	PFAKE			04 25 20.0	+17
DUG				LR		LR		
	comp=Z,384nm,22.0s,MS5.1							
PFO	**Pinyon Flat Ob**	**132.41**	**52**	PFAKE			04 25 20.0	+17
PFO				LR		LR		
	comp=Z,509nm,19.0s,MS5.2							
SMCO	**Snowmass**	**136.70**	**41**	*e*PKPdf		PKPdf	04 25 13.8	+2.5
SDCO	**Great Sand Dun**	**138.47**	**41**	PFAKE			04 25 30.0	+15
SDCO				LR		LR		
	comp=Z,495nm,21.0s,MS5.2							
ANMO	**Albuquerque**	**139.32**	**46**	PFAKE			04 25 30.0	+14
ANMO				LR		LR		
	comp=Z,219nm,20.0s,MS4.9							
WMOK	**Wichita Mounta**	**144.61**	**40**	*e*PKIKP		PKPdf	04 25 25.7	+0.1
NCB	**Newcomb**	**145.28**	**3**	*e*PKPdf		PKPdf	04 25 27.1	+0.4
BDFB	**Brasilia**	**145.82**	**224**	PKPbc		PKPbc	04 25 30.5	+2.3
	comp=Z,3.9nm,0.8s,baz=87,slow=2.8,SNR=6.4							
CCM	**Cathedral Cave**	**146.38**	**28**	*e*PKP2		PKPab	04 25 30.0	-0.8
JCT	**Junction City**	**146.44**	**47**	*e*PKP2		PKPab	04 25 32.3	+1.3
BINY	**Binghamton**	**146.92**	**6**	*e*PKPdf		PKPdf	04 25 29.5	0.0
MIAR	**Mount Ida**	**147.87**	**35**	*e*PKP2		PKPab	04 25 34.8	-1.9
WVT	**Waverly**	**149.51**	**26**	*e*PKP2		PKPbc	04 25 39.4	+1.1
OXF	**Oxford**	**150.11**	**30**	*e*PKP2		PKPbc	04 25 40.7	+1.0
PLAL	**Pickwick Lake**	**150.36**	**28**	*e*PKPbc		PKPbc	04 25 41.0	+0.7
LPAZ	**La Paz**	**154.42**	**188**	PKPbc		PKPbc	04 25 52.3	+2.9
	comp=Z,0.8nm,0.8s,baz=143,slow=5.1,SNR=3.4							
LPAZ				PKPab		PKPab	04 26 03.2	-0.6
	comp=Z,0.9nm,0.7s,baz=45,slow=5.7,SNR=3.6							

MAN 18 04:07:10.5,1067N×12501E,h1km,mb2.3,ML3.9,MS2.2, 1D,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLP	**Palo**	**0.49**	**357**	*e*P		Pg	04 07 20.4	+0.5
PLP				*e*S		Sg	04 07 28.0	+1.8
OCLP	**Ormoc**	**0.54**	**314**	*e*P		Pg	04 07 20.7	-0.2
OCLP				*e*S		Sg	04 07 29.0	+1.1
MSLP	**Maasin**	**0.56**	**195**	*e*P		Pg	04 07 21.9	+0.8
MSLP				*e*S		Sg	04 07 32.4	+4.0
SCPH	**Surigao**	**1.00**	**152**	*e*P		Sg	04 07 30.5	+0.7
TBP	**Tagbilaran**	**1.49**	**229**	*e*P		Pn	04 07 37.6	-0.8
TBP				*e*S		Sb	04 07 59.6	+1.3

MEX 18 04:10:00.8±0.4,1677N×9962W,h6km±3km,MD3.5,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ACX	**Acapulco**	**0.30**	**288**	*i* P		Pg	04 10 06.5	-0.1
ACX				*i* S		Sg	04 10 10.5	0.0
CAIG	**El Cayaco**	**0.68**	**294**	*i* P		Pg	04 10 12.7	-1.1
CAIG				*i* S		Sg	04 10 22.4	-0.2
MEIG	**Mezcala**	**1.15**	**0**	*i* P		Pg	04 10 19.6	-3.1
MEIG				*i* S		Sg	04 10 34.4	-3.2

IDC 18 04:17:31.8±2.3,942S×10856E,h0km,mb4.0/5,mb1 4.1/5, mb1mx3.8/16,mbtmp4.0/5,1C,Error ellipse: s-maj=107.8km s-min=21.9km az=51.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BJII	**Banjamegara**	**2.37**	**29**	*i* P		Pn	04 18 32.0	+20
BJII				*i* S		Sn	04 18 56.0	+14
WRA	**Warramunga Arr**	**27.00**	**116**	P		P	04 23 15.8	+0.4
	1.0nm,0.6s,baz=286,slow=12,SNR=4.3							
STKA	**Stephens Creek**	**37.89**	**131**	P		P	04 24 50.7	+0.2
	2.5nm,0.6s,baz=320,slow=9.9,SNR=4.1							
SONM	**Songino Array**	**57.03**	**358**	P		P	04 27 19.7	+0.2
	0.8nm,0.5s,baz=178,slow=8.5,SNR=10							
MKAR	**Makanchi Array**	**60.68**	**340**	P		P	04 27 44.9	+0.1
	1.4nm,0.5s,baz=143,slow=7.8,SNR=20							
BVAR	**Borovoye Array**	**70.19**	**337**	P		P	04 28 46.1	-0.3
	1.0nm,0.6s,baz=135,slow=7.7,SNR=4.8							

IDC ***18*** *04:18:21.0±0.3,9.30S×108.73E,h0km,mb5.4/28, mb1 5.4/30,mb1mx5.4/31,mbtmp5.3/30,ML4.7/2,MS5.1/12, Ms1 5.1/12,ms1mx4.9/23,Error ellipse: s-maj=14.0km s-min=8.5km az=57.0*

BJI ***18*** *04:18:21.2,9.40S×108.80E,h13km,mB5.3,mb5.3,Ms5.6, Msz5.4*

ISCJB ***18*** *04:18:22.2±0.2,9.36S±003×108.77E±003,h18km, mb5.5/138,MS5.2/66,Error ellipse: s-maj=4.5km s-min=3.5km az=101.1*

HRVD ***18*** *04:18:23.3±0.1,9.67S×108.85E,h13km,MW5.5/97, Centroid moment Tensor Solution. LP body waves: s87,c158;Mantle waves: s97,c212; Half duration: 1§4 Moment tensor: Scale 10^17Nm; Mrr-1.98±.03; Mθθ 1.69±.03; Mϕϕ 0.28±.03; Mrθ-0.70±.06; Mϕθ-0.87±.02; Mϕr 0.21±.06; Best double couple: Mo2.17100×10^17 NP1:ϕs299.00000°,δ35.00000°,λ-85.00000°. NP2: ϕs112.00000°,δ55.00000°,λ-94.00000°. Principal axes: T 2.2330, Plg10.0000°, Azm205.0000°; N -0.1260, Plg3.0000°, Azm115.0000°; P -2.1100, Plg80.0000°, Azm7.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***18*** *04:18:23.3±2.5,9.36S×108.78E,h14km±14km,mb5.5/45, MS5.2/27,MW5.6 Error ellipse: s-maj=6.7km s-min=4.6km az=48.0,Moment Tensor Solution. s15 Moment tensor: Scale 10^17Nm; Mrr-2.56; Mθθ 2.75; Mϕϕ-0.20; Mrθ 1.51; Mθϕ-0.19; Mϕr-0.99; Best double couple: Mo3.20000×10^17 NP1:ϕs290.00000°,δ62.00000°,λ-74.00000°. NP2: ϕs78.00000°,δ32.00000°,λ-118.00000°. Principal axes: T 3.2100, Plg16.0000°, Azm8.0000°; N 0.0200, Plg14.0000°, Azm102.0000°; P -3.2300, Plg69.0000°, Azm232.0000°;*

NEIC Felt at Jakarta.

MOS ***18*** *04:18:25.4±1.5,9.12S×108.96E,h33km,mb5.6/60, MS5.1/19 Error ellipse: s-maj=9.5km s-min=5.0km az=118.7*

ISC 18 04:18:24.3±0.2,939S±003×10878E±003,h19km, h19km±1.8km:pP-P,n610,σ1§18/411,mb5.5/138,MS5.2/66, 85C-62D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSM	**Kuching**	**10.89**	**8**	*e*Pn		**Pn**	**04 21 01.5**	**+2.3**
COCO	**West Island**	**12.06**	**256**	*e*P		**Pn**	**04 21 15.3**	**+0.2**
PPI	**Padang Panjang**	**12.17**	**316**	P		**Pn**	**04 21 17.9**	**+1.3**
	69nm,1.1s							
KGM	**Kluang**	**12.56**	**334**	P		**Pn**	**04 21 24.3**	**+2.3**
PCI	**Palu**	**13.86**	**53**	P		**Pn**	**04 21 42.5**	**+2.8**
	287nm,2.1s							
PSI	**Prapat**	**15.59**	**321**	Pn		**Pn**	**04 21 57.8**	**-5.1**
	2.8nm,0.3s,baz=158,slow=11,SNR=10							
PSI				Sn		**Sn**	**04 24 56.4**	**+1.4**
	0.9nm,0.3s,baz=217,slow=19,SNR=2.7							
PSI	**Prapat**	**15.59**	**321**	P		**Pn**	**04 21 57.8**	**-5.1**
PSI							04 24 56.4	
PSI				pmax		pmax		
	comp=Z,3.0nm,0.3s							
PSI				smax				
	comp=E,1.0nm,0.3s							
MBWA	**Marble Bar**	**15.76**	**139**	*e*Pn		**Pn**	**04 22 00.8**	**-4.3**
MBWA				*e*Sn		**Sn**	**04 24 39.6**	**-20**
IPM	**Ipoh**	**15.79**	**330**	P		**Pn**	**04 22 06.9**	**+1.3**
TSM	**Tawau**	**16.34**	**34**	P		**Pn**	**04 22 18.5**	**+6.0**
KULM	**Kulim**	**16.68**	**331**	*e*Pn		**Pn**	**04 22 16.0**	**-0.9**
KKM	**Kota Kinabalu**	**17.03**	**26**	P		**Pn**	**04 22 22.9**	**+1.7**
KKM	**Kota Kinabalu**	**17.03**	**26**	*e*Pn		**Pn**	**04 22 20.8**	**-0.5**
SNG	**Songkhla**	**18.35**	**333**	P		**Pn**	**04 22 39.0**	**+1.3**
	comp=E,1μm,1.0s							
FITZ	**Fitzroy Crossi**	**18.52**	**120**	*e*P		**Pn**	**04 22 38.7**	**-1.0**
	comp=E,129nm,0.8s							
FITZ				*e*S		**Sn**	**04 25 48.8**	**-17**
FITZ	**Fitzroy Crossi**	**18.52**	**120**	P		**Pn**	**04 22 40.2**	**+0.5**
	comp=E,1.8nm,0.3s,baz=295,slow=7.5,SNR=57							
FITZ				S		**Sn**	**04 25 51.9**	**-14**
	comp=E,2.3nm,0.3s,baz=94,slow=21,SNR=7.1							
BSI	**Banda Aceh**	**19.98**	**317**	P		**Pn**	**04 22 57.7**	**+0.5**
	comp=E,136nm,1.3s							
AAI	**Ambon**	**20.10**	**75**	P		**P**	**04 22 56.1**	**-0.7**
	comp=E,1μm,1.2s							
PAGZ	**Pagadian**	**22.47**	**41**	*e*P		**P**	**04 23 24.8**	**+2.5**
DAV	**Davao City (W)**	**23.40**	**46**	*e*P		**P**	**04 23 34.0**	**+1.9**
DAV	**Davao City (W)**	**23.40**	**46**	*e*P		**P**	**04 23 33.2**	**+1.1**
	comp=E,384nm,0.8s,mb5.9							
KAKA	**Kakadu**	**23.46**	**100**	*e*P		**P**	**04 23 32.9**	**+0.2**
	comp=E,97nm,0.8s,mb5.3							
NNT	**Nongplab**	**23.61**	**337**	P		**P**	**04 23 33.6**	**-0.5**
BUKP	**Musuan**	**23.61**	**44**	*e*P		**P**	**04 23 34.5**	**+0.3**
KLBR	**Kellerberrin**	**23.62**	**161**	*e*P		**P**	**04 23 33.6**	**-0.6**
	comp=E,35nm,0.8s,mb4.8							
CGP	**Cagayan de Oro**	**23.78**	**42**	*e*P		**P**	**04 23 36.3**	**+0.6**
MATI	**Mati**	**23.80**	**48**	*e*P		**P**	**04 23 37.7**	**+1.8**
TBP	**Tagbilaran**	**24.18**	**39**	*e*P		**P**	**04 23 39.0**	**-0.4**
NWAO	**Narrogin (SRO)**	**24.70**	**163**	P		**P**	**04 23 44.1**	**0.0**
	comp=E,21nm,0.6s,mb4.8,baz=348,slow=9.7,SNR=16							
NWAO				S		**S**	**04 28 10.8**	**+5.9**
	comp=E,33nm,0.8s,baz=88,slow=24,SNR=6.9							
NWAO	**Narrogin (SRO)**	**24.70**	**163**	P		**P**	**04 23 44.1**	**0.0**
NWAO				S		**S**	**04 28 10.8**	**+5.9**
NWAO				pmax		pmax		
	comp=Z,21nm,0.6s							
NWAO				smax				
	comp=E,33nm,0.8s							
NWAO	**Narrogin (SRO)**	**24.70**	**163**	P		**P**	**04 23 44.1**	**0.0**
NWAO				S		**S**	**04 28 10.8**	**+5.9**
MSLP	**Maasin**	**25.14**	**40**	*e*P		**P**	**04 23 50.2**	**+2.0**
KKTK	**Khon Kaen**	**26.23**	**347**	P		**P**	**04 24 00.0**	**+2.0**
TGY	**Tagaytay City**	**26.27**	**28**	P		**P**	**04 23 58.9**	**+0.6**
	comp=E,84nm,0.3s,baz=218,slow=10,SNR=4.4							
TGY	**Tagaytay City**	**26.27**	**28**	P		**P**	**04 23 58.9**	**+0.6**
TGY				pmax		pmax		
	comp=E,84nm,0.3s							
NST	**Nakhon Sawan**	**26.33**	**341**	P		**P**	**04 24 00.0**	**+1.1**
	comp=Z,42nm,0.9s,mb5.0							
WRA	**Warramunga Arr**	**26.82**	**116**	P		**P**	**04 24 03.1**	**-0.2**
	comp=Z,122nm,0.9s,mb5.4,baz=288,slow=11,SNR=79							
WRA				PcP		PcP	04 27 27.5	+1.7
	comp=Z,6.2nm,0.7s,baz=299,slow=2.1,SNR=5.5							
WRA				S		S	04 28 58.8	+20

comp=N,5µm,14.8s,MS5.5
GYA LR LR
comp=E,4µm,14.9s,MS5.5
GYA LR LR
comp=Z,5µm,15.3s,MS5.4
YHNB Yeheng 36.01 20 *e*P **P** **04 25 25.0 +0.9**
MDRS Chennai 36.06 308 *ex* x 04 24 57.0
MDRS AMb AMB 04 24 57.5
comp=Z,112nm,0.2s,mb6.5
TATO Taipei 36.33 20 *e*P **P** **04 25 26.8 -0.1**
comp=Z,49nm,0.7s,mb5.5
VIS Vishakhapatnam 36.84 317 *e*P **P** **04 25 31.1 -0.1**
VIS AMb AMB 04 25 35.5
comp=Z,70nm,2.1s,mb5.1
CAL Calcutta 37.52 328 *e*P **P** **04 25 36.4 -0.6**
CAL *ex* x 04 31 10.8
CTA Charters Tower 37.69 111 *e*P **P** **04 25 39.4 +1.0**
comp=Z,40nm,1.0s,mb5.1
CTA *e* 04 25 52.4
CTA Charters Tower 37.69 111 P **P** **04 25 39.0 +0.6**
comp=Z,57nm,1.0s,mb5.3,baz=272,slow=12,SNR=24
CTA PcP PcP 04 27 58.0 +2.5
comp=Z,8.0nm,0.7s,baz=255,slow=12,SNR=4.1
CTA Charters Tower 37.69 111 P **P** **04 25 39.0 +0.6**
CTA 04 27 58.0
CTA pmax pmax
comp=Z,57nm,1.0s
CTA pmax pmax
comp=Z,8.0nm,0.7s
CTAO Charters Tower 37.69 111 *e*P **P** **04 25 39.5 +1.1**
CTAO pmax pmax
comp=Z,92nm,1.2s,mb5.4
CTAO Charters Tower 37.69 111 *e*P **P** **04 25 39.5 +1.1**
comp=Z,92nm,1.2s,mb5.4
STKA Stephens Creek 37.75 131 *e*P **P** **04 25 38.3 -0.6**
comp=Z,88nm,0.7s,mb5.6
STKA *e*pP pP 04 25 48.9 +4.1
STKA Stephens Creek 37.75 131 P **P** **04 25 38.7 -0.2**
comp=Z,116nm,0.7s,mb5.7,baz=304,slow=7.9,SNR=85
STKA PcP PcP 04 27 57.6 +2.0
comp=Z,15nm,0.7s,baz=283,slow=8.7,SNR=2.8
PMG Port Moresby 37.86 93 P **P** **04 25 41.0 +1.2**
comp=Z,19nm,0.5s,mb5.1,baz=109,slow=1.4,SNR=8.8
PMG Port Moresby 37.86 93⇑ *e*P **P** **04 25 41.1 +1.3**
SHL Shillong 38.44 335 *e*P **P** **04 25 44.6 -0.1**
SHL AMb AMB 04 25 53.7
comp=Z,1µm,0.9s
BOK Bokaro 39.85 326 *e*P **P** **04 25 56.3 -0.2**
BOK AMb AMB 04 26 00.1
comp=Z,62nm,0.7s,mb5.5
HYB Hyderabad 40.02 312 *i* P **P** **04 25 59.0 +1.1**
HYB *e* pP 04 26 05.0 +1.3
HYB Hyderabad 40.02 312 *e*P **P** **04 25 59.0 +1.1**
WHN Wuhan 40.06 7 ⇓P **P** **04 26 00.0 +1.8**
WHN LR LR
comp=Z,6µm,16.5s,MS5.5
CD2 Chengdu 40.35 353⇑ *i*P **P** **04 26 00.6 -0.1**
CD2 AP pP 04 26 05.3 -1.2
CD2 XP sP 04 26 07.8 -1.1
CD2 PP PP 04 27 37.9 +4.3
CD2 S **S** **04 32 09.5 +1.9**
CD2 XS sS 04 32 16.9 -0.4
CD2 SS SS 04 35 04.3 -2.3
CD2 AMB AMB
comp=Z,50nm,1.1s,mb5.2
CD2 AMB AMB
comp=Z,360nm,9.5s
CD2 LR LR
comp=E,2µm,15.6s
CD2 LR LR
comp=Z,4µm,13.2s,MS5.4
JOW Kunigami 40.67 27 P **P** **04 26 03.1 -0.2**
comp=Z,206nm,1.0s,mb5.7,baz=244,slow=6.2,SNR=26
JOW LR LR 04 45 43.7
comp=Z,2µm,18.4s,MS5.1,baz=43,slow=40
SSE Sheshan 41.97 16 P **P** **04 26 14.8 +0.8**
SSE XP sP 04 26 19.3 -2.9
SSE PP PP 04 27 50.0 -1.2
SSE PCP PcP 04 28 12.8 +3.7
SSE S **S** **04 32 29.8 -1.9**
SSE SS SS 04 35 34.3 -4.4
SSE SCS ScS 04 36 19.1 +3.3
SSE AMB AMB
comp=Z,37nm,0.9s,mb5.0
SSE AMB AMB
comp=Z,221nm,3.9s
SSE LR LR
comp=N,1µm,15.0s,MS5.1
SSE LR LR
comp=E,1µm,15.0s,MS5.1
SSE LR LR
comp=Z,1µm,14.7s,MS5.0
LATR Latur 42.12 311 *e*P **P** **04 26 15.8 +0.6**
NJ2 Nanjing 42.31 13 *e*P **P** **04 26 17.5 +0.7**
NJ2 AP pP 04 26 22.0 -0.7
NJ2 XP sP 04 26 24.5 -0.5
NJ2 PP PP 04 27 59.0 +4.1
NJ2 S **S** **04 32 38.0 +1.2**
NJ2 XS sS 04 32 45.0 -1.4
NJ2 AMB AMB
comp=Z,60nm,0.9s,mb5.2
NJ2 AMB AMB
comp=Z,160nm,4.7s
NJ2 LR LR
comp=N,6µm,14.4s,MS5.7
NJ2 LR LR
comp=E,4µm,16.8s,MS5.7
NJ2 LR LR
comp=Z,10µm,13.4s,MS5.9
JIRN Jiri 42.83 330 *e*P **P** **04 26 20.8 -0.2**
comp=Z,210nm,0.7s,mb6.0
PKI Pulchoki 43.15 329 *e*P **P** **04 26 23.3 -0.3**
comp=Z,120nm,1.0s,mb5.6
PKI Pulchoki 43.15 329 *e*P **P** **04 26 23.3 -0.3**
PKI pmax pmax
comp=Z,120nm,1.0s,mb5.6
XAN Xi'an 43.18 0 P **P** **04 26 23.0 -0.9**
XAN AP pP 04 26 33.1 +3.4
XAN S **S** **04 32 45.8 -3.7**
XAN AMB AMB
comp=Z,18nm,1.5s,mb4.6
XAN AMB AMB
comp=Z,447nm,10.8s
XAN LR LR
comp=N,3µm,14.6s
XAN LR LR
comp=Z,7µm,14.2s,MS5.7
GUN Gumba 43.19 330 *e*P **P** **04 26 23.6 -0.3**
comp=Z,254nm,0.7s,mb6.1
AKL Akola 43.23 314 *e*P **P** **04 26 24.9 +0.6**
AKL AMb AMB 04 26 28.6
comp=Z,65nm,1.2s,mb5.2
KAD Karad 43.27 308 *e*P **P** **04 26 24.9 +0.3**
KAD AMb AMB 04 26 29.8
comp=Z,62nm,1.3s,mb5.2
DMN Daman 43.34 329 *e*P **P** **04 26 24.6 -0.5**
comp=Z,251nm,0.9s,mb6.0
TOO Toolangi 43.37 136 *e*P **P** **04 26 27.8 +2.4**
comp=Z,16nm,1.0s,mb4.7
TOO *e*pP pP 04 26 39.6 +8.3
TOO Toolangi 43.37 136 *e*P **P** **04 26 27.8 +2.4**
TOO *e**PP pP 04 26 39.6 +8.3
TOO pmax pmax
comp=Z,16nm,1.0s,mb4.7
KKN Kakani 43.40 329 *e*P **P** **04 26 24.9 -0.7**
comp=Z,160nm,0.9s,mb5.8
KKN Kakani 43.40 329 *e*P **P** **04 26 24.9 -0.7**
KKN pmax pmax
comp=Z,160nm,0.9s,mb5.8
GKN Gorkha 43.90 329 *e*P **P** **04 26 28.9 -0.7**
comp=Z,243nm,0.7s,mb6.0
POO Poona 44.24 309⇑ *i*P **P** **04 26 32.0 -0.3**
comp=Z,70nm,1.0s,mb5.3
KOLN Koldanda 44.25 327 *e*P **P** **04 26 32.0 -0.5**
comp=Z,259nm,0.7s,mb6.1
BHPL Bhopal 44.64 317 *e*P **P** **04 26 34.9 -0.6**
BHPL AMb AMB 04 26 38.2
comp=Z,27nm,1.5s,mb4.9
ARMA Armidale 45.05 124 *e*P **P** **04 26 41.7 +2.9**
LZH Lanzhou 45.46 354 *e*P **P** **04 26 42.8 +0.7**
LZH AP pP 04 26 45.8 -2.2
LZH XP sP 04 26 50.8 +0.5
LZH PP PP 04 28 31.0 +2.4
LZH *e*S **S** **04 33 16.3 -6.4**
LZH XS sS 04 33 32.0 -0.4
LZH SS SS 04 36 42.1 -4.5
LZH AMB AMB
comp=Z,138nm,1.3s,mb5.6
LZH AMB AMB
comp=Z,672nm,8.5s
LZH LR LR
comp=N,6µm,13.6s
LZH LR LR
comp=Z,7µm,14.2s,MS5.7
TIA Tai'an 46.03 9 P **P** **04 26 44.9 -1.7**
TIA S **S** **04 33 38.0 +7.2**
TIA LR LR
comp=N,646nm,16.0s,MS5.0
TIA LR LR
comp=E,1µm,16.0s,MS5.0
AGRA Agra 47.10 321 *e*P **P** **04 26 53.4 -1.6**
AGRA AMb AMB 04 27 08.8
comp=Z,99nm,1.2s,mb5.6
LGTI Lohaghat 47.40 326 *e*P **P** **04 26 56.0 -1.3**
AYAN Aya Nagar 48.50 322 *e*P **P** **04 27 04.3 -1.5**
AYAN AMb AMB 04 27 08.1
comp=Z,26nm,0.6s,mb5.4
NDI New Delhi 48.59 322 *e*P **P** **04 27 04.0 -2.5**
NDI *ex* x 04 34 03.5
JOSI Joshimath 48.62 326 *ex* x 04 26 55.5
JOSI AMb AMB 04 26 57.8
comp=Z,667nm,0.8s
KUDL Kundal 48.65 321 *e*P **P** **04 27 05.4 -1.6**
KUDL AMb AMB 04 27 09.8
comp=Z,88nm,1.1s,mb5.7
AJM Ajmer 48.68 318 *e*P **P** **04 27 07.5 +0.3**
AJM AMb AMB 04 27 11.1
comp=Z,37nm,1.0s,mb5.3
KHET Khetri 49.02 320 *e*P **P** **04 27 09.2 -0.7**
KHET AMb AMB 04 27 13.6
comp=Z,78nm,0.8s,mb5.8
GTA Gaotai 49.25 351 *e*P **P** **04 27 11.5 -0.1**
GTA AP pP 04 27 20.0 +2.4
GTA XP sP 04 27 23.9 +4.0
GTA PCP PcP 04 28 37.1 +2.7
GTA PP PP 04 29 07.9 +2.4
GTA PPP 04 30 03.0
GTA S **S** **04 34 17.8 +1.1**
GTA SS SS 04 37 48.4 +0.3
GTA AMB AMB
comp=Z,44nm,1.3s,mb5.3
GTA AMB AMB
comp=Z,312nm,6.8s
GTA LR LR
comp=N,3µm,18.6s
GTA LR LR
comp=E,4µm,24.0s
GTA LR LR
comp=Z,2µm,19.4s,MS5.2
DL2 Dalian 49.51 13 P **P** **04 27 13.3 -0.3**
DL2 XP sP 04 27 28.8 +7.0
DL2 S **S** **04 34 20.8 +0.5**
DL2 AMB AMB
comp=Z,30nm,0.9s,mb5.3
DL2 AMB AMB
comp=Z,100nm,3.8s
DL2 LR LR
comp=N,1µm,15.2s,MS5.1
DL2 LR LR
comp=E,690nm,14.6s,MS5.1
DL2 LR LR
comp=Z,1µm,16.6s,MS4.9
BJI Beijing 49.65 7 P **P** **04 27 13.8 -0.8**
BJI S **S** **04 34 19.9 -2.3**
BJI AMB AMB
comp=Z,134nm,1.1s,mb5.9
BJI AMB AMB
comp=Z,300nm,3.4s
BJI LR LR
comp=N,2µm,20.2s,MS5.5
BJI LR LR
comp=E,3µm,15.8s,MS5.5
BJI LR LR
comp=Z,2µm,19.4s,MS5.0
BTO Baotou 49.75 1 *e*P **P** **04 27 14.3 -1.1**
HHC Hu-ho-hao-te 50.05 3 *e*P **P** **04 27 18.6 +0.9**
HHC AP pP 04 27 24.3 +0.7
HHC XP sP 04 27 28.0 +2.1
HHC PP PP 04 29 15.6 +2.9
HHC S **S** **04 34 27.3 -0.5**
HHC XS sS 04 34 36.8 -0.8
HHC SS SS 04 37 57.8 -3.0
HHC AMB AMB
comp=Z,38nm,1.0s,mb5.4
HHC AMB AMB
comp=Z,490nm,4.9s
HHC LR LR
comp=N,3µm,13.1s,MS5.7
HHC LR LR
comp=E,4µm,15.5s,MS5.7
HHC LR LR
comp=Z,4µm,13.1s,MS5.7
KLP Kalpa 50.09 326 *e*P **P** **04 27 17.6 -0.4**
KLP AMb AMB 04 27 20.6
comp=Z,78nm,1.3s,mb5.6
SMLA Simla 50.41 324 *e*P **P** **04 27 18.8 -1.6**
SMLA AMb AMB 04 27 22.7
comp=Z,172nm,0.5s,mb6.4
HNR Honiara 50.45 94 P **P** **04 27 21.8 +1.2**
comp=Z,442nm,1.0s,mb6.5,baz=273,slow=2.9,SNR=5.1
HNR Honiara 50.45 94 *e*P **P** **04 27 21.6 +0.9**
HNR pmax pmax
comp=Z,595nm,1.2s,mb6.5
HNR Honiara 50.45 94 *e*P **P** **04 27 21.6 +0.9**
comp=Z,595nm,1.2s,mb6.5
SDNR Sundarnagar 50.79 324 *e*P **P** **04 27 22.4 -0.9**
SDNR *ex* x 04 34 33.4
SNY Shenyang 52.74 14⇑ P **P** **04 27 35.5 -2.3**
SNY AP pP 04 27 44.3 +0.5
SNY XP sP 04 27 49.8 +3.7
SNY S **S** **04 34 56.1 -8.8**
SNY AMB AMB
comp=Z,43nm,1.2s,mb5.2
SNY AMB AMB
comp=Z,409nm,10.2s
SNY LR LR
comp=N,1µm,16.8s
SNY LR LR
comp=Z,2µm,15.0s,MS5.3
MAJO Matsushiro 53.41 30 *e*P **P** **04 27 41.6 -1.2**
MAJO pmax pmax
comp=Z,67nm,1.2s,mb5.5
MAJO Matsushiro 53.41 30 *e*P **P** **04 27 41.6 -1.1**
comp=Z,67nm,1.3s,mb5.4
MAT Matsushiro 53.41 30 P **P** **04 27 42.5 -0.3**
MAT S **S** **04 35 12.0 -2.0**
MAT Matsushiro 53.41 30 *e*P **P** **04 27 40.0 -2.8**
MAT *e*S **S** **04 35 12.0 -2.0**
MAT pmax pmax
comp=Z,45nm,1.2s,mb5.3
MAT Matsushiro 53.41 30 *e*P **P** **04 27 40.0 -2.8**
comp=Z,45nm,1.2s,mb5.3
MAT *e*S **S** **04 35 12.0 -2.0**
MJAR Matsushiro Arr 53.41 30 P **P** **04 27 41.3 -1.4**
comp=Z,52nm,1.1s,mb5.4,baz=203,slow=7.4,SNR=36
MJAR Matsushiro Arr 53.41 30 P **P** **04 27 41.3 -1.5**
MJAR pmax pmax
comp=Z,52nm,1.1s
CN2 Changchun 55.06 15⇑ P **P** **04 27 52.5 -2.3**
CN2 *e*S **S** **04 35 35.0 -1.3**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2µm,18.0s,MS5.4
CN2 LR LR
comp=E,2µm,18.0s,MS5.4
CN2 LR LR
comp=Z,2µm,19.0s,MS5.2
WMQ Urumqi 56.31 342 P **P** **04 28 05.8 +2.0**
WMQ AP pP 04 28 10.0 +0.2
WMQ XP sP 04 28 12.4 +0.3
WMQ PCP PcP 04 29 02.9 +1.9
WMQ PP PP 04 30 12.8 +3.6
WMQ SCP ScP 04 33 00.4 +1.1
WMQ S **S** **04 35 53.8 +0.8**
WMQ AMB AMB
comp=Z,134nm,1.5s,mb5.8
WMQ AMB AMB
comp=Z,692nm,4.9s
WMQ LR LR
comp=N,4µm,18.5s,MS5.6
WMQ LR LR
comp=E,3µm,17.4s,MS5.6
WMQ LR LR
comp=Z,4µm,19.0s,MS5.5
VLA Vladivostok 56.34 20⇑ *i*P **P** **04 28 04.0 0.0**
VLA *e* 04 28 12.8
VLA *i* 04 28 16.0
VLA *e* 04 28 55.9
VLA *e*S **S** **04 36 06.0 +13**
VLA pmax pmax
comp=Z,38nm,0.6s,mb5.6
VLA Vladivostok 56.34 20⇑ *e*P **P** **04 28 02.7 -1.3**
NOUC Port Laguerre 56.50 110 *e*P **P** **04 28 07.6 +2.5**
CASY Casey 56.83 179 PFAKE 04 28 20.0 +13
CASY LR LR
comp=Z,1µm,19.0s,MS5.0
MDJ Mudanjiang 56.95 18 P **P** **04 28 08.3 0.0**
MDJ AP pP 04 28 11.8 -2.5
MDJ XP sP 04 28 13.5 -3.1
MDJ PP PP 04 30 17.3 +2.4
MDJ SCP ScP 04 33 02.3 +0.2
MDJ S **S** **04 35 58.6 -2.9**
MDJ XS sS 04 36 10.4 -1.0
MDJ AMB AMB
comp=Z,30nm,0.8s,mb5.4
MDJ AMB AMB
comp=Z,142nm,3.9s
MDJ LR LR
comp=N,1µm,16.5s,MS5.2
MDJ LR LR
comp=E,1µm,18.6s,MS5.2
MDJ LR LR
comp=Z,2µm,13.6s
MDJ Mudanjiang 56.95 18 *e*P **P** **04 28 07.8 -0.5**
comp=Z,33nm,1.0s,mb5.3
SONM Songino Array 57.00 358 P **P** **04 28 08.5 -0.2**
comp=Z,40nm,0.8s,mb5.5,baz=177,slow=8.2,SNR=62
SONM LR LR 04 55 40.2
comp=Z,2µm,18.7s,MS5.1,baz=74,slow=39
SONM Songino Array 57.00 358 P **P** **04 28 08.5 -0.2**
SONM pmax pmax
comp=Z,40nm,0.8s
SONM MLR MLR
comp=Z,2µm,18.7s
ULN Ulaanbaatar 57.02 359 ⇓P **P** **04 28 08.0 -0.8**
SNR=29
ULN Ulaanbaatar 57.02 359⇓ *e*P **P** **04 28 07.8 -1.0**
ULN Ulaanbaatar 57.02 359 *e*P **P** **04 28 08.3 -0.4**
comp=Z,52nm,0.8s,mb5.6
KSH Kashi 57.39 330 *e*P **P** **04 28 10.8 -0.6**
KSH *e*AP pP 04 28 16.8 -0.6
KSH *e*XP sP 04 28 19.8 +0.1
KSH *e*PCP PcP 04 29 07.1 +1.9
KSH *e*PP PP 04 30 18.8 0.0
KSH *e*PPP 04 31 34.9
KSH *e*SCP ScP 04 33 05.5 +1.4
KSH *e*S **S** **04 36 04.3 -2.9**
KSH *e*XS sS 04 36 13.9 -3.2
KSH *e*PS 04 36 22.6
KSH *e*SCS ScS 04 37 56.0 -3.9
KSH LR LR
comp=N,2µm,22.2s,MS5.3
KSH LR LR
comp=E,2µm,22.6s,MS5.3
KSH LR LR
comp=Z,3µm,21.3s,MS5.3
WSAR Wadi Sarin 58.79 304 P **P** **04 28 21.7 +0.5**
comp=Z,23nm,0.7s,mb5.3,baz=130,slow=7.1,SNR=16
WSAR LR LR 04 55 12.5
comp=Z,2µm,18.8s,MS5.2,baz=105,slow=38
JMDO Jabal Madar 58.83 303⇑ P **P** **04 28 23.9 +2.4**
SNR=7.3
SMDO Samad 59.19 304⇑ P **P** **04 28 24.3 +0.3**
SNR=10
HIA Hailar 59.19 8 *e*P **P** **04 28 22.0 -2.0**
HIA Hailar 59.19 8 *e*P **P** **04 28 24.4 +0.4**
comp=Z,24nm,0.9s,mb5.2
BIDO Bidbid 59.33 304⇑ P **P** **04 28 25.6 +0.6**
SNR=10
ULHL Ulahol 59.39 332 P **P** **04 28 24.3 -1.1**
SNR=32
ZAK Zakamensk 59.71 356⇓ *i*P **P** **04 28 26.7 -0.9**
ZAK pmax pmax
comp=Z,17nm,1.1s,mb5.0
KZA Kyzart 59.72 332 P **P** **04 28 26.4 -1.2**
SNR=58
BSY Bisya 59.74 303 ⇓P **P** **04 28 25.2 -2.6**
SNR=7.0
HOQ Hoqain 60.03 304 ⇓P **P** **04 28 30.1 +0.3**
SNR=12
UCH Uchtor 60.18 331 P **P** **04 28 30.1 -0.7**
SNR=17
TKM2 Tokmak 2 60.21 332 P **P** **04 28 30.2 -0.8**
SNR=76
TKM2 Tokmak 2 60.21 332 *i* P **P** **04 28 30.0 -1.0**
TKM2 pmax pmax
comp=Z,57nm,0.6s,mb5.8
TKM2 Tokmak 2 60.21 332 *i* P **P** **04 28 30.1 -0.9**
OPO Ambohidratompo 60.22 254 P **P** **04 28 32.7 +1.6**
comp=Z,9.8nm,0.9s,mb4.8,baz=65,slow=4.3,SNR=6.4
KBK Karagaybulak 60.31 332 P **P** **04 28 31.4 -0.3**
SNR=9.5
AML Almayashu 60.50 331 P **P** **04 28 32.8 -0.2**
SNR=26
AAK Ala-Archa 60.50 331 P **P** **04 28 32.6 -0.4**
SNR=8.2
AAK Ala-Archa 60.50 331 P **P** **04 28 31.7 -1.3**
comp=Z,114nm,1.1s,mb5.9,SNR=7.7
AAK Ala-Archa 60.50 331⇑ P **P** **04 28 29.6 -3.5**
SNR=14
AAK Ala-Archa 60.50 331⇑ *e*P **P** **04 28 31.6 -1.4**
AAK pmax pmax
comp=Z,30nm,1.3s,mb5.3
AAK Ala-Archa 60.50 331 *e*P **P** **04 28 31.5 -1.5**
AAK LR LR
comp=Z,2µm,22.0s,MS5.2
FRU Bishkek 60.60 332 *e*P **P** **04 28 32.0 -1.7**
FRU *e* pP 04 28 38.0 -1.7
FRU *i* 04 28 48.0
FRU pmax pmax
comp=Z,60nm,1.2s,mb5.6
CHMS Chumysh 60.66 332 P **P** **04 28 33.2 -0.9**
SNR=5.3
MK31 Makanchi Array 60.72 339 P **P** **04 28 33.5 -1.0**
MK31 pmax pmax
comp=Z,38nm,0.6s,mb5.7
MKAR Makanchi Array 60.72 339 P **P** **04 28 33.6 -0.9**
comp=Z,63nm,0.6s,mb6.0,baz=145,slow=7.5,SNR=85
MKAR S **S** **04 36 51.3 +1.0**
comp=Z,2.6nm,1.1s,baz=155,slow=12,SNR=6.3
MKAR P4KPbc 05 05 32.1
comp=Z,0.4nm,0.5s,baz=148,slow=8.2,SNR=4.4
MKAR Makanchi Array 60.72 339 P **P** **04 28 33.6 -0.9**
MKAR S **S** **04 36 51.3 +1.0**
MKAR pmax pmax
comp=Z,63nm,0.6s
MKAR smax
comp=E,3.0nm,1.1s
MKAR Makanchi Array 60.72 339 P **P** **04 28 33.6 -0.9**
MKAR S **S** **04 36 51.3 +1.0**
EKS2 Erkin-Say 60.86 331 P **P** **04 28 34.9 -0.6**
SNR=39
TLY Talaya 60.98 356 P **P** **04 28 36.0 -0.2**
comp=E,121nm,0.9s,mb6.0,SNR=7.0
USP Ospenovka 60.99 332 P **P** **04 28 35.2 -1.1**
SNR=22
DRV Dumont d'Urvil 61.01 166 P **P** **04 28 35.0 -1.4**
DRV S **S** **04 36 59.0 +4.9**
MOY Mondy 61.17 354 *e*P **P** **04 28 37.4 -0.2**
MOY pmax pmax
comp=Z,86nm,1.7s,mb5.6
ASHO Ashiyiah 61.54 305⇑ P **P** **04 28 40.1 0.0**
SNR=20
KLR Kul'dur 61.76 17 *e*P **P** **04 28 35.9 -5.6**
KLR *e*S **S** **04 37 00.0 -3.6**
KLR *e*SS SS 04 40 56.5 -8.8
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,100nm,1.8s,mb5.6
HABR Khabarovsk 62.10 19 *e*P **P** **04 28 44.9 +1.1**
HABR *e*S **S** **04 37 10.4 +2.5**
HABR pmax pmax

comp=Z,59nm,1.3s,mb5.6
KK31 Karatay Array 62.80 329 *i* P **P** **04 28 48.6 +0.1**
KK31 pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
KKAR Karatay Array 62.80 329 *i* P **P** **04 28 48.6 +0.1**
KKAR pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
RPZ Rata Peaks 63.62 134 LR LR 04 56 33.6
comp=Z,4µm,18.8s,MS5.6,baz=277,slow=36
YSS Yuzh-Sakhalins 63.73 25⇑ *e*P **P** **04 28 53.0 -1.7**
YSS *e* 04 29 03.5
YSS *e* 04 29 12.0
YSS *e*S **S** **04 37 22.0 -6.4**
YSS *e*PS 04 37 35.0
YSS *e*PPS 04 37 52.0
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 63.73 25 *e*P **P** **04 28 55.0 +0.3**
comp=Z,58nm,1.0s,mb5.6
KURK Kurchatov 65.33 339 P **P** **04 29 04.7 -0.4**
comp=Z,497nm,0.8s,SNR=55
KURK Kurchatov 65.33 339⇓ P **P** **04 29 04.1 -1.1**
SNR=38
KURK Kurchatov 65.33 339*d* *i*P **P** **04 29 03.9 -1.2**
KURK Kurchatov 65.33 339 *e*P **P** **04 29 03.3 -1.8**
MAW Mawson 65.62 198 *e*P **P** **04 29 06.3 -0.7**
comp=Z,7.2nm,0.6s,mb4.9
MAW Mawson 65.62 198 P **P** **04 29 06.5 -0.5**
comp=Z,7.5nm,0.5s,mb4.9,baz=23,slow=6.0,SNR=24
MAW PKP2bc 04 57 49.9
comp=Z,7.7nm,1.1s,baz=273,slow=8.0,SNR=8.2
MAW Mawson 65.62 198 *e*P **P** **04 29 06.3 -0.7**
MAW pmax pmax
comp=Z,11nm,0.7s
MAW Mawson 65.62 198 *e*P **P** **04 29 06.3 -0.7**
comp=Z,12nm,0.7s,mb5.0
SNZO South Karori 65.81 131 *e*P **P** **04 29 08.9 +0.6**
comp=Z,49nm,0.8s,mb5.6
ZAL Zalesovo 66.27 345 P **P** **04 29 09.2 -2.0**
comp=Z,22nm,0.4s,mb5.5,baz=325,slow=3.7,SNR=38
ZAL PKP2bc 04 57 45.3
comp=Z,1.0nm,0.3s,baz=131,slow=11,SNR=4.7
ZAL Zalesovo 66.27 345 P **P** **04 29 09.2 -2.0**
ZAL ⇑*e* 04 57 45.3
ABKT Ailbek 66.70 318 P **P** **04 29 14.5 +0.6**
comp=Z,106nm,0.4s,mb6.2,SNR=5.5
BOD Bodaibo 67.10 3 *e*P **P** **04 29 14.2 -2.3**
BOD pmax pmax
comp=Z,34nm,1.4s,mb5.2
URZ Urewera 67.25 128 LR LR 04 57 45.4
comp=Z,1µm,20.0s,MS5.1,baz=149,slow=35
CLNS Chul'man 67.31 10 *e*P **P** **04 29 16.9 -0.9**
CLNS *e* 04 29 43.7
CLNS *e* 04 31 42.4
CLNS *e*PPP 04 33 19.7
CLNS *e*S S 04 38 12.2 0.0
CLNS *e*SS SS 04 42 20.9 -11
CLNS pmax pmax
comp=Z,32nm,0.8s,mb5.4
CLNS pmax pmax
comp=N,28nm,1.1s
CLNS pmax pmax
comp=E,16nm,0.7s
CLNS pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS smax
comp=N,496nm,12.5s
CLNS smax
comp=Z,210nm,12.0s
CLNS smax
comp=E,316nm,11.9s
CLNS MLR MLR
comp=Z,700nm,15.0s,MS5.0
CLNS MLR MLR
comp=N,700nm,16.0s,MS5.2
CLNS MLR MLR
comp=E,800nm,16.0s,MS5.2
NVS Novosibirsk 67.49 344 *i* P **P** **04 29 16.3 -2.6**
NVS *e*S S 04 38 14.1 -0.2
NVS pmax pmax
comp=Z,47nm,1.3s,mb5.4
NVS pmax pmax
comp=N,46nm,1.4s
NVS pmax pmax
comp=E,27nm,1.4s
NVS smax
comp=N,39nm,2.4s
NVS smax
comp=E,7.0nm,1.0s
VOSK Vostochnaya 69.78 337 P **P** **04 29 31.6 -1.6**
VOSK pmax pmax
comp=Z,105nm,1.6s,mb5.5
KBD Kabd 70.20 306 *e*P **P** **04 29 34.2 -1.6**
KBD AMb AMB 04 29 39.4
comp=Z,336nm,0.9s,mb6.2
RDF Al-Radifah 70.22 305 *e*P **P** **04 29 35.4 -0.6**
RDF AMb AMB 04 29 39.4
comp=Z,188nm,1.1s,mb5.9
BVA0 Borovoye Array 70.24 337 *i* P **P** **04 29 34.9 -1.2**
BVA0 pmax pmax
comp=Z,11nm,1.1s,mb4.7
BVAR Borovoye Array 70.24 337 P **P** **04 29 34.8 -1.2**
comp=Z,29nm,0.8s,mb5.3,baz=143,slow=8.5,SNR=47
BVAR LR LR 05 04 43.3
comp=Z,2µm,19.8s,MS5.4,baz=140,slow=40
BVAR Borovoye Array 70.24 337 P **P** **04 29 34.8 -1.3**
BVAR pmax pmax
comp=Z,29nm,0.8s
BVAR MLR MLR
comp=Z,2µm,19.8s
BRVK Borovoye 70.30 336 P **P** **04 29 35.9 -0.6**
comp=Z,325nm,1.2s,mb6.1,SNR=14
BRVK Borovoye 70.30 336⇓ P **P** **04 29 35.3 -1.2**
SNR=34
BRVK Borovoye 70.30 336 *e*P **P** **04 29 35.1 -1.4**
BRVK LR LR
comp=Z,1µm,20.0s,MS5.2
UMR Umm Al-Rimmam 70.33 306 *e*P **P** **04 29 35.9 -0.8**
UMR AMb AMB 04 29 40.2
comp=Z,220nm,0.7s,mb6.2
NAY Al-Naaiem 70.59 305 *e*P **P** **04 29 36.9 -1.4**
NAY AMb AMB 04 29 41.5
comp=Z,53nm,0.9s,mb5.5
CHKZ Chkalovo 70.65 337 P **P** **04 29 29.2 -9.4**
CHKZ *e* 04 29 38.4
CHKZ pmax pmax
comp=Z,62nm,0.8s,mb5.6
CHKZ Chkalovo 70.65 337 *e*P **P** **04 29 38.4 -0.2**
comp=Z,61nm,0.8s,mb5.6
MIB Mutribah 70.73 306 *e*P **P** **04 29 38.2 -0.9**
MIB AMb AMB 04 29 42.6
comp=Z,126nm,0.9s,mb5.8
ZRNK Zerenda 70.73 336 *i* P **P** **04 29 37.8 -1.3**
ZRNK pmax pmax
comp=Z,67nm,1.1s,mb5.5
ZRNK Zerenda 70.73 336 *e*P **P** **04 29 37.8 -1.3**
comp=Z,52nm,0.8s,mb5.5
KMBO Kilima Mbogo 71.59 272 P **P** **04 29 44.1 -0.1**
comp=Z,20nm,1.2s,mb4.9,baz=59,slow=5.5,SNR=14
KMBO LR LR 04 59 28.6
comp=Z,1µm,18.8s,MS5.2,baz=91,slow=34
KMBO Kilima Mbogo 71.59 272 *i* P **P** **04 29 47.0 +2.7**
KMBO pmax pmax
comp=Z,20nm,1.2s
SKR Severo-Kuril's 72.52 29 *e*P **P** **04 29 45.5 -4.3**
SKR *e* pP 04 29 52.0 -4.0
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
YAK Yakutsk 73.04 10 *e*P **P** **04 29 53.5 +0.6**
YAK *e**PP pP 04 30 03.3 +4.2
YAK *e* 04 30 09.9
YAK *e* 04 32 34.3
YAK *e*PPP 04 34 18.1
YAK *e*S S 04 39 16.1 -3.1
YAK *e* 04 39 59.5
YAK pmax pmax
comp=Z,100nm,0.9s,mb5.8
YAK pmax pmax
comp=N,42nm,1.1s
YAK pmax pmax
comp=E,27nm,1.4s
YAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,0.7s
YAK smax
comp=E,19nm,1.6s
YAK smax
comp=N,10.0nm,1.4s
YAK pmax pmax
comp=E,830nm,17.6s
YAK pmax pmax
comp=Z,318nm,24.6s
YAK pmax pmax
comp=N,554nm,16.3s
YAK Yakutsk 73.04 10 *e*P **P** **04 29 50.4 -2.5**
VNDA Vanda 73.32 170 P **P** **04 29 53.8 -0.8**
comp=N,15nm,0.8s,mb5.0,baz=301,slow=6.5,SNR=44
VNDA Vanda 73.32 170 P **P** **04 29 53.8 -0.8**
VNDA pmax pmax
comp=Z,15nm,0.8s
SYO Syowa Base 73.89 201⇑ *e*P **P** **04 29 56.0 -1.9**
AKTK Aktyubinsk 74.06 329 P **P** **04 29 57.8 -1.1**
AKTO Aktyubinsk 74.06 329 P **P** **04 29 57.8 -1.1**
comp=Z,12nm,1.0s,mb4.8,baz=147,slow=4.6,SNR=22
AKTO Aktyubinsk 74.06 329 *i* P **P** **04 29 58.3 -0.6**
AKTO pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
SBA Scott Base 74.39 169 *e*P **P** **04 30 00.3 -0.5**
BHD Baghdad 74.41 308 *ex* x 04 29 58.0
PET Petropavlovsk 75.22 29 *e*P **P** **04 30 02.1 -3.6**
PET *e*S S 04 39 48.1 +4.4
PET pmax pmax
comp=Z,67nm,1.4s,mb5.4
PET Petropavlovsk 75.22 29⇑ *e*P **P** **04 30 06.1 +0.4**
MAK Makhachkala 76.22 318 *i* P **P** **04 30 10.3 -1.1**
MAK *e* 04 30 27.4
MAK *e*PPP 04 34 45.8
MAK *e*S S 04 39 54.6 -0.1
MAK *e* 04 40 44.7
MAK pmax pmax
comp=Z,35nm,0.4s,mb5.6
MA2 Magadan 76.48 20 *e*P **P** **04 30 12.8 0.0**
MA2 *e* 04 30 24.6
MA2 *e*S S 04 39 53.5 -4.1
MA2 *e*PS 04 40 47.6
MA2 pmax pmax
comp=Z,200nm,1.1s,mb6.0
MA2 MLR MLR
comp=Z,800nm,21.6s,MS5.0
MA2 Magadan 76.48 20 *e*P **P** **04 30 11.7 -1.1**
CUKT Cukurca 76.52 312 *e*P **P** **04 30 14.8 +1.7**
HAKT HAKKARI 76.57 312 *i* P **P** **04 30 12.5 -0.9**
GNI Garni 76.87 315 *e*P **P** **04 30 13.7 -1.4**
GNI Garni 76.87 315 P **P** **04 30 14.6 -0.5**
comp=Z,8.6nm,0.5s,mb4.9,baz=315,slow=2.7,SNR=9.3
GNI LR LR 05 09 34.0
comp=Z,633nm,21.2s,MS4.9,baz=316,slow=40
GNI Garni 76.87 315 P **P** **04 30 15.5 +0.4**
SNR=8.7
GNI Garni 76.87 315*de*P **P** **04 30 14.9 -0.2**
GNI pmax pmax
comp=Z,43nm,1.3s
SVE Sverdlovsk 76.90 335⇑ *e*P **P** **04 30 14.8 -0.4**
SVE *e* 04 30 30.0
SVE *e* 04 33 16.0
SVE pmax pmax
comp=Z,80nm,1.7s,mb5.4
SVE MLR MLR
comp=N,900nm,16.0s,MS5.2
SVE MLR MLR
comp=E,500nm,16.0s,MS5.2
SVE MLR MLR
comp=Z,1µm,16.0s,MS5.4
DGRG David-gareji 76.98 316 P **P** **04 30 17.1 +1.4**
CLDR Caldiran 77.05 314 *e*P **P** **04 30 15.6 -0.4**
VANB Van 77.21 313 *e*P **P** **04 30 13.7 -3.3**
MTA Mtatsminda 77.48 316 P **P** **04 30 17.8 -0.6**
ARU Arti 77.52 334⇓ *i*P **P** **04 30 17.6 -1.1**
ARU *e* 04 30 28.4
ARU *e* 04 33 11.8
ARU *e*S S 04 40 08.9 0.0
ARU *e*SS SS 04 45 06.9 -1.1
ARU pmax pmax
comp=Z,35nm,1.2s,mb5.2
ARU MLR MLR
comp=Z,2µm,19.0s,MS5.4
ARU MLR MLR
comp=N,1µm,21.0s,MS5.3
ARU MLR MLR
comp=E,900nm,18.0s,MS5.3
ARU Arti 77.52 334 *e*P **P** **04 30 17.6 -1.1**
comp=E,59nm,1.4s,mb5.3
ARU LR LR
comp=Z,2µm,20.0s,MS5.4
TBLG Delisi 77.53 316 P **P** **04 30 19.9 +1.1**
MBAR Mbarara 78.10 271⇓ *e*P **P** **04 30 22.4 +0.5**
AKH Akhalkalaki 78.25 316 P **P** **04 30 23.7 +0.9**
BEST Besiri 78.48 312 *i* P **P** **04 30 23.9 -0.1**
ZEI Tsey 78.53 317 *e*P **P** **04 30 25.7 +1.4**
ZEI *e**PP pP 04 30 29.1 -1.4
ZEI pmax pmax
comp=Z,28nm,1.0s,mb5.2
LSZ Lusaka 78.57 256 P **P** **04 30 26.0 +1.4**
SNR=11
LSZ Lusaka 78.57 256 *e*P **P** **04 30 25.4 +0.9**
LSZ *e* 04 30 36.2
LSZ pmax pmax
comp=Z,80nm,1.3s,mb5.5
LSZ Lusaka 78.57 256 *e*P **P** **04 30 25.4 +0.9**
comp=Z,80nm,1.3s,mb5.5
LSZ *e*PcP PcP 04 30 36.2 +2.7
MARD Mardin 78.64 311 *i* P **P** **04 30 24.4 -0.6**
ONI Oni 78.75 317 P **P** **04 30 21.0 -4.5**
AMRG 78.94 317 P **P** **04 30 28.7 +2.2**
BNGL BINGOL 78.96 313 *i* P **P** **04 30 27.6 +0.9**
ERZM Erzurum 79.16 314 *i* P **P** **04 30 30.2 +2.4**
EZM Erzurum 79.16 314 *e*P **P** **04 30 29.3 +1.5**
KIV Kislovodsk 79.82 318 P **P** **04 30 33.8 +2.5**
comp=Z,315nm,0.9s,mb6.2,SNR=6.2
KIV Kislovodsk 79.82 318 P **P** **04 30 32.0 +0.7**
SNR=17
KIV Kislovodsk 79.82 318 *e*P **P** **04 30 30.8 -0.5**
KIV *e*S S 04 40 35.2 +1.7
KIV *e*SS SS 04 45 43.1 +0.5
KIV pmax pmax
comp=Z,66nm,1.0s,mb5.5
KIV pmax pmax
comp=Z,232nm,3.1s
KIV Kislovodsk 79.82 318 *e*P **P** **04 30 31.8 +0.4**
comp=Z,64nm,1.0s,mb5.5
LBTB Lobatse 79.95 246 *e*P **P** **04 30 32.7 +0.6**
LBTB *e* 04 30 43.6
LBTB pmax pmax
comp=Z,23nm,0.9s,mb5.1
LBTB Lobatse 79.95 246 *e*P **P** **04 30 32.7 +0.6**
comp=Z,23nm,0.9s,mb5.1
LBTB *e* 04 30 43.6
ASF Jabal al Asfar 79.95 305 P **P** **04 30 33.2 +1.1**
comp=Z,41nm,1.1s,mb5.3,baz=354,slow=2.7,SNR=29
ASF LR LR 05 08 22.7
comp=Z,688nm,18.9s,MS5.0,baz=312,slow=38
ASF Jabal al Asfar 79.95 305 P **P** **04 30 33.2 +1.1**
ASF pmax pmax
comp=Z,41nm,1.1s
ASF MLR MLR
comp=Z,688nm,18.9s
GOF Gofitskoye 80.03 319 *e*P **P** **04 30 32.2 -0.3**
URFA Urfa 80.14 311 *e*P **P** **04 30 34.6 +1.5**
EZC Erzincan 80.21 313 *e*P **P** **04 30 35.6 +2.1**
ELZG Elazig 80.38 312 *i* P **P** **04 30 35.3 +0.9**
QSPA South Pole Qui 80.62 180 *e*P **P** **04 30 34.6 -1.1**
comp=Z,48nm,1.0s,mb5.4
MALT Malatya 80.73 311⇓ P **P** **04 30 37.6 +1.3**
KELT Kelkit 80.76 313 *i* P **P** **04 30 40.4 +4.0**
EIL Elat 80.82 302 *e*P **P** **04 30 36.9 +0.1**
GZT Gaziantep 81.06 310 *i* P **P** **04 30 38.6 +0.6**
MMAI Mount Meron Ar 81.41 305 LR LR 05 09 31.9
comp=Z,861nm,19.9s,MS5.1,baz=120,slow=38
SOC Sochi 81.66 317 *i* P **P** **04 30 44.0 +2.8**
COBT Iskenderun 81.79 309 *i* P **P** **04 30 42.1 +0.2**
TIXI Tiksi 81.96 6 *e*P **P** **04 30 39.2 -3.6**
TIXI *e*S S 04 40 50.1 -5.7
TIXI *e*SSS 04 49 31.8
TIXI pmax pmax
comp=Z,88nm,0.8s,mb5.7
TIXI pmax pmax
comp=N,23nm,0.9s
TIXI pmax pmax
comp=E,10.0nm,0.7s
TIXI Tiksi 81.96 6 *e*P **P** **04 30 40.3 -2.5**
SVSK Karacayir 82.31 313 *e*P **P** **04 30 42.9 -1.7**
CEYT Ceyhan 82.33 309 *e*P **P** **04 30 46.3 +1.6**
KARA Karaisali 82.93 309 *e*P **P** **04 30 46.8 -1.0**
VRHR Novokhopersk 83.34 324 *e*P **P** **04 30 49.5 -0.5**
VRHR pmax pmax
comp=Z,30nm,0.5s,mb5.6
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
KVT Kavak 83.37 313 *e*P **P** **04 30 49.7 -0.4**
MEST Erdemli 83.43 309 *i* P **P** **04 30 50.6 +0.2**
NVL N'lazarevskaya 83.49 199⇓ *i*P **P** **04 30 50.8 0.0**
NVL *i*S S 04 41 10.2 -1.3
NVL *e*SS SS 04 46 47.4 +10
NVL pmax pmax
comp=Z,26nm,1.4s,mb5.1
NVL MLR MLR
comp=Z,1µm,16.9s,MS5.4
MAIT Maitri 83.52 199 *e*P **P** **04 30 50.6 -0.3**
CSS Prodhromos 83.61 307 *e*P **P** **04 30 51.9 +0.6**
comp=Z,103nm,1.1s,mb5.9
ANN Anapa 83.63 317 *e*P **P** **04 30 52.6 +1.1**
ANN *e*S S 04 41 15.1 +2.3
ANN pmax pmax
comp=Z,84nm,1.2s,mb5.8
IKL Isikli 83.69 308 *e*P **P** **04 30 47.8 -4.0**
CORM Corum 84.12 312 *e*P **P** **04 30 53.6 -0.3**
CDAG Cicekdag 84.14 312 *i* P **P** **04 30 53.8 -0.3**
BOYT Boyabat 84.30 313 *i* P **P** **04 30 55.2 +0.3**
ERMK Ermenek 84.40 308 *i* P **P** **04 30 58.0 +2.7**
KAMT Kaman 84.56 311 *e*P **P** **04 30 56.6 +0.4**
BR131 Keskin Array S 84.72 312 *e*P **P** **04 30 57.0 0.0**
comp=Z,47nm,1.0s,mb5.6
BR131 LR LR
comp=Z,1µm,21.0s,MS5.2
BRTR Keskin Array B 84.72 312 P **P** **04 30 56.8 -0.2**
comp=Z,74nm,1.1s,mb5.7,baz=136,slow=6.0,SNR=36
BRTR Keskin Array B 84.72 312⇑ *e*P **P** **04 30 56.7 -0.3**
VRSR Storozhevoye 84.81 324 *e*P **P** **04 30 56.3 -1.1**
VRSR pmax pmax
comp=Z,80nm,0.6s,mb6.0
VRSR pmax pmax
comp=N,40nm,1.1s
VRSR pmax pmax
comp=E,90nm,1.0s
VRSR MLR MLR
comp=Z,740nm,23.0s,MS5.0
VRSR MLR MLR
comp=N,850nm,19.0s,MS5.2
VRSR MLR MLR
comp=E,570nm,19.0s,MS5.2
TOS Tosya 84.81 313 *e*P **P** **04 30 57.5 +0.1**
VOR Voronezh 84.99 324 *e*P **P** **04 30 57.5 -0.9**
VOR pmax pmax
comp=N,60nm,1.6s
VOR pmax pmax
comp=Z,180nm,1.6s,mb6.0
VOR pmax pmax
comp=E,180nm,1.4s
ELDT Eldivan 85.09 312 *i* P **P** **04 30 59.3 +0.4**
ANTO Ankara 85.38 311 *e*P **P** **04 30 59.0 -1.3**
ANTO Ankara 85.38 311 P **P** **04 31 01.2 +0.9**
SNR=16
ANTO Ankara 85.38 311 P **P** **04 31 01.0 +0.7**
ANTO *e* 04 31 11.7
ANTO pmax pmax
comp=Z,85nm,1.3s,mb5.7
ANTO Ankara 85.38 311⇑ P **P** **04 31 03.7 +3.4**
ANTO LR LR
comp=Z,631nm,19.0s,MS5.0
BALT Daday 85.42 313 *i* P **P** **04 31 00.4 -0.1**
KDHN Kadinhani 85.52 310 *i* P **P** **04 31 00.1 -0.9**
KIZT Kizilcal 85.79 310 *e*P **P** **04 31 01.9 -0.4**
SAFT Safranbolu 85.84 313 *e*P **P** **04 31 03.4 +0.8**
SIM Simferopol' 85.91 317*d* *i*P **P** **04 31 04.0 +1.0**
SIM *e*S 04 41 37.0
SIM pmax pmax
comp=Z,58nm,1.2s,mb5.7
SIM MLR MLR
comp=Z,640nm,22.2s,MS5.0
SGKT Sivrigoynuk 86.12 312 *i* P **P** **04 31 03.0 -1.0**
MDU Mudurnu 86.71 312 *e*P **P** **04 31 06.8 -0.1**
TKTP Tekketepe 86.76 309 *i* P **P** **04 31 07.1 0.0**
HENT Hendek 87.03 312 *i* P **P** **04 31 08.3 -0.2**
BORA Eskisehir 87.12 311 *i* P **P** **04 31 11.9 +3.0**
BILL Bilibino 87.17 19 PFAKE 04 31 20.0 +11
BILL LR LR
comp=Z,7.0nm,21.0s
MOS Moscow 87.32 328 *e*P **P** **04 31 08.0 -1.9**
MOS *e* 04 31 23.3
MOS *e* 04 34 33.4
MOS *e* 04 41 25.5
MOS *e*S 04 41 53.1
MOS pmax pmax
comp=Z,110nm,1.0s,mb6.0
MOS pmax pmax
comp=Z,300nm,1.9s,mb6.2
GDZ Gediz 87.65 310 *i* P **P** **04 31 11.3 -0.1**
OBN Obninsk 87.67 327*de*P **P** **04 31 10.6 -0.9**
OBN *e* 04 34 35.8
OBN pmax pmax
comp=Z,172nm,1.2s,mb6.2
SNAA Sanae 87.78 197 *e*P **P** **04 31 11.8 -0.3**
SNAA *e* 04 31 13.8
SNAA *e* 04 31 15.2
SNAA *e* pP 04 31 16.2 -2.2
SNAA *e* 04 31 24.7
SNAA *e* 04 31 40.8
SNAA Sanae 87.78 197*c* *i*P **P** **04 31 11.9 -0.2**
SNAA Sanae 87.78 197 *e*P **P** **04 31 11.6 -0.5**
comp=Z,32nm,1.1s,mb5.5
ADVT Abdulvahap 87.79 311 *e*P **P** **04 31 09.7 -2.4**
HRT Hereke 87.94 312 *e*P **P** **04 31 11.7 -1.1**
TSUM Tsumeb 88.08 251 *e*P **P** **04 31 14.3 +0.9**
comp=Z,23nm,1.1s,mb5.3
YLV Yalova 88.09 311 *e*P **P** **04 31 10.2 -3.3**
ULDT Uludag 88.17 311 *i* P **P** **04 31 14.2 +0.3**
GEMT Gemlik 88.20 311 *e*P **P** **04 31 14.1 +0.1**
AYDN Tasoluk 88.55 308 *i* P **P** **04 31 16.9 +1.1**
KDAG Bornova 89.18 309 *i* P **P** **04 31 19.8 +1.1**
IZM Izmir 89.18 309 *e*P **P** **04 31 18.5 -0.2**
BLCB Balcova 89.35 309 *e*P **P** **04 31 19.5 0.0**
TIRR Tirgusor 89.70 315⇓ P **P** **04 31 22.0 +0.9**
VNA1 Neumayer--Stat 89.82 197 *e*P **P** **04 31 22.0 +0.3**
VNA1 *e* 04 31 23.3
VNA1 *e* 04 31 25.3
VNA1 *e* pP 04 31 26.6 -1.4
VNA1 *e* 04 31 34.7
VNA1 *e* 04 31 47.8
CFR Carcaliu 90.06 316⇑ P **P** **04 31 25.3 +2.5**
IDI Anoyia 90.41 306 P **P** **04 31 25.0 +0.5**
comp=Z,29nm,1.1s,mb5.5,baz=20,slow=10,SNR=2.9
AKASG Malin Array Be 90.64 321 P **P** **04 31 23.9 -1.6**
comp=Z,7.5nm,0.6s,mb5.2,baz=89,slow=4.3,SNR=29
AKASG PP PP 04 35 00.5 -0.2
comp=Z,3.6nm,0.8s,baz=89,slow=6.4,SNR=6.7
AKASG Malin Array Be 90.64 321 P **P** **04 31 23.9 -1.6**
AKASG 04 35 00.5
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 90.64 321 *e*P **P** **04 31 24.0 -1.5**
VRI Vrincioaia 91.17 316⇑ P **P** **04 31 31.0 +3.0**
PLOR Plostina 91.22 316⇑ P **P** **04 31 31.0 +2.8**
MLR Muntele Rosu 91.63 316 P **P** **04 31 30.0 -0.2**
comp=Z,32nm,1.1s,mb5.5,baz=76,slow=2.1,SNR=13
MLR Muntele Rosu 91.63 316⇑ P **P** **04 31 31.6 +1.5**
VOIR 92.24 316⇑ P **P** **04 31 35.3 +2.4**
MNK Minsk 92.35 325 *e*P **P** **04 31 31.0 -2.4**
BURAR Bucovina Array 92.54 318⇑ P **P** **04 31 35.0 +0.7**
JOF Joensuu 92.64 333 *ep* P **P** **04 31 34.5 -0.2**
comp=Z,18nm,0.7s,mb5.6
JOF Joensuu 92.64 333 *e*P **P** **04 31 34.5 -0.2**
JOF pmax pmax
comp=Z,18nm,0.7s,mb5.6

VTS	Vitosha	93.03 312	⇓P	P	04 31 39.0	+2.4			
APA	Apatity	93.09 338	⇓*i*P	P	04 31 36.2	-0.7			
APA			*i*		04 35 26.0				
APA			*i* S		04 42 42.0				
APA			pmax	pmax					
	comp=Z,36nm,1.2s,mb5.7								
LVV	L'vov	93.72 320	*e*P	P	04 31 40.8	+1.1			
LVV			*e*		04 31 52.6				
GZR	Gura Zlata	93.81 315	⇓P	P	04 31 42.7	+2.5			
DRGR		94.08 317	⇑P	P	04 31 41.3	-0.1			
BZS	Buzias	94.65 315	⇑P	P	04 31 45.4	+1.4			
FIA1	FINESS Array S	94.69 331	*e*P	P	04 31 44.9	+0.7			
FINES	FINESS Array B	94.69 331	P	P	04 31 42.8	-1.4			
	comp=Z,7.8nm,0.7s,mb5.2,baz=106,slow=6.2,SNR=14								
FINES			PP	PP	04 35 36.8	+4.3			
	comp=Z,1.8nm,0.7s,baz=126,slow=9.7,SNR=3.3								
FINES			LR	LR	05 22 29.7				
	comp=Z,748nm,19.1s,MS5.2,baz=300,slow=41								
FINES	FINESS Array B	94.69 331	P	P	04 31 42.8	-1.4			
FINES					04 35 36.8				
FINES			pmax	pmax					
	comp=Z,8.0nm,0.7s								
FINES			pmax	pmax					
	comp=Z,2.0nm,0.7s								
KOLS	Kolonicke sedl	94.71 319	*e*P	P	04 31 45.5	+1.2			
	comp=Z,12nm,1.3s,mb5.2								
KOLS			LR	LR					
	comp=Z,300nm,25.2s,MS4.7								
KAF	Kangasniemi	94.71 332	*e*p	P	04 31 42.9	-1.4			
	comp=Z,21nm,0.9s,mb5.6								
KAF	Kangasniemi	94.71 332	*e*P	P	04 31 42.9	-1.4			
KAF			pmax	pmax					
	comp=Z,21nm,0.9s,mb5.6								
SUW	Suwalki	94.94 324	*e*P	P	04 31 46.0	+0.7			
SUW			pmax	pmax					
	comp=Z,88nm,1.2s,mb6.1								
SUW	Suwalki	94.94 324	*e*P	P	04 31 46.0	+0.7			
	comp=Z,88nm,1.2s,mb6.1								
CRVS	Cervenica-Dubn	95.23 319	*e*P	P	04 31 48.1	+1.4			
CRVS			LR	LR					
	comp=Z,300nm,21.3s,MS4.7								
NIE	Niedzica	96.05 319	*e*P	P	04 31 50.8	+0.4			
ARCES	ARCESS Array B	96.37 339	P	P	04 31 51.6	-0.2			
	comp=Z,4.6nm,0.9s,mb4.9,baz=93,slow=6.1,SNR=9.3								
ARCES			LR	LR	05 21 57.3				
	comp=Z,1μm,20.0s,MS5.4,baz=194,slow=40								
OJC	Ojcow	96.48 320	*e*P	P	04 31 52.5	+0.1			
PKSM	Moragy	96.79 316	⇓P	P	04 31 53.9	+0.2			
VYHS	Vyhne	96.91 318	*e*P	P	04 31 53.4	-0.9			
VYHS			*e*PP	PP	04 35 47.8	-1.8			
VYHS	Vyhne	96.91 318	*e*P	P	04 31 53.4	-0.9			
	comp=Z,4.2nm,1.4s,mb4.7								
VYHS			*e*PP	PP	04 35 47.8	-1.8			
VYHS			LR	LR					
	comp=Z,300nm,19.6s,MS4.8								
TBI	Tubuai	96.95 115	*e*SS	SS	04 49 48.4	-3.7			
	comp=Z,641nm,26.0s								
TBI			eLR	LR	05 03 24.0				
	comp=Z,665nm,24.0s								
OKC	Ostrava-Krasne	97.50 319	*e*P	P	04 31 58.5	+1.5			
OKC			AMS	AMS	05 27 50.0				
	comp=Z,500nm,15.0s								
OKC	Ostrava-Krasne	97.50 319	*e*Pdif	P	04 31 58.5	+1.5			
MORC	Moravsky Berou	97.88 319	P	P	04 32 00.7	+2.0			
MORC			*e*		04 32 11.4				
MORC			pmax	pmax					
	comp=Z,12nm,1.2s,mb5.3								
MORC	Moravsky Berou	97.88 319	*e*P	P	04 31 58.3	-0.4			
	comp=Z,11nm,1.3s,mb5.2								
PPT	Papeete	98.13 109	*e*SS	SS	04 50 09.5	+0.8			
	comp=Z,417nm,23.5s								
PPT			eLQ		04 59 38.6				
	comp=Z,1μm,27.5s								
PPT			eLR	LR	05 03 55.9				
	comp=Z,1μm,24.2s								
DPC	Dobruska-Polom	98.71 320	*e*PDIF	P	04 32 04.2	+1.8			
DPC			*e*SS	SS	04 50 18.8	+2.0			
DPC			AMS	AMS	05 26 30.0				
	comp=Z,800nm,17.6s								
UPC	Upice	98.92 320	*e*PDIF	P	04 32 05.1	+1.8			
TREC	Trest	99.18 319	*e*PDIF	P	04 32 04.1	-0.4			
TREC			AMS	AMS	05 25 50.0				
	comp=Z,600nm,17.1s								
PRU	Pruhonice	99.83 319	*e*SS	SS	04 50 22.8	-10			
PRU			AMS	AMS	05 27 00.0				
	comp=Z,800nm,16.9s								
PVCC	Panska Ves	99.84 320	*e*SS	SS	04 50 38.3	+5.7			
PVCC			AMS	AMS	05 27 00.0				
BRG	Berggiesshubel	100.25 320	*e*Pdiff	Pdif	04 32 10.5	+1.2			
GEC2	GERESS Array S	100.33 318	*e*PP	PP	04 36 16.6	+0.8			
GEC2	GERESS Array S	100.33 318	*e*PP	PP	04 36 16.6	+0.8			
GERES	GERESS Array B	100.33 318	P	Pdif	04 32 09.8	+0.2			
	comp=Z,0.4nm,0.4s,baz=96,slow=2.7,SNR=8.8								
GERES			PP	PP	04 36 16.2	+0.5			
	comp=Z,1.6nm,0.9s,baz=81,slow=8.4,SNR=5.4								
GERES	GERESS Array B	100.33 318	P	Pdif	04 32 09.8	+0.2			
GERES					04 36 16.2				
GERES			pmax	pmax					
	comp=Z,2.0nm,0.9s								
KHC	Kasperske Hory	100.42 318	*e*PP	PP	04 35 44.5	-32			
KHC			*ex*	x	04 36 20.5				
KHC			*e*SS	SS	04 50 35.1	-5.6			
KHC			AMS	AMS	05 26 30.0				
	comp=Z,500nm,20.3s								
CLL	Collm	100.86 321	*e*Pdiff	Pdif	04 32 14.2	+2.2			
CLL	Collm	100.86 321	*i* PDIF	Pdif	04 32 13.9	+1.9			
CLL			*e*PP	PP	04 36 23.0	+3.2			
CLL			*e*SS	SS	04 50 42.0	-4.8			
CLL	Collm	100.86 321	*i* P	Pdif	04 32 13.9	+1.9			
CLL			*e*		04 36 23.0				
CLL			MLR	MLR					
	comp=Z,700nm,16.7s,MS5.2								
CLL	Collm	100.86 321	*i* Pdif	Pdif	04 32 13.9	+1.9			
CLL			*e*PP	PP	04 36 23.0	+3.2			
CLL			*e*Sdif	Sdif	04 44 05.0	+16			
CLL			LR	LR					
	comp=Z,700nm,16.7s,MS5.2								
WET	Wettzell	100.88 318	*e*Pdiff	Pdif	04 32 13.9	+1.8			
TANN	Tannenbergstha	101.18 320	*e*PP	PP	04 36 21.9	-0.3			
TANN	Tannenbergstha	101.18 320	*e*PP	PP	04 36 21.9	-0.3			
NKC	Novy Kostel	101.19 319	AMS	AMS	05 27 10.0				
GUNZ	Gunzen	101.27 320	*e*Pdiff	Pdif	04 32 16.5	+2.7			
GUNZ			*e*PP	PP	04 36 22.9	0.0			
WERD	Werda	101.28 320	*e*Pdiff	Pdif	04 32 15.9	+2.0			
WERD			*e*PP	PP	04 36 22.2	-0.8			
ROTZ	Rotzenmuhle	101.33 319	*e*Pdiff	Pdif	04 32 15.9	+1.8			
MANZ	Manzenberg	101.40 319	*e*Pdiff	Pdif	04 32 17.7	+3.3			
MANZ			*e*PP	PP	04 36 23.9	0.0			
NB2	NORSAR Subarra	101.81 330	Pdif	Pdif	04 32 15.4	-0.8			
	comp=Z,2.0nm,0.8s,baz=88,slow=4.4								
NOA	NORSAR Array B	101.81 330	P	Pdif	04 32 15.4	-0.8			
	comp=Z,1.5nm,0.7s,baz=88,slow=4.6,SNR=5.0								
NOA			PP	PP	04 36 30.5	+3.5			
	comp=Z,1.4nm,0.9s,baz=89,slow=7.1,SNR=3.4								
NOA	NORSAR Array B	101.81 330	P	Pdif	04 32 15.4	-0.8			
NOA					04 36 30.5				
NOA			pmax	pmax					
	comp=Z,2.0nm,0.7s								
NOA			pmax	pmax					
	comp=Z,1.0nm,0.9s								
GRA1	Grafenberg Arr	101.97 319	*e*Pdif	Pdif	04 32 18.2	+1.3			
GRA1			LR	LR					
	comp=Z,500nm,21.1s,MS5.0								
GRF	Grafenberg Arr	101.97 319	*e*Pdiff	Pdif	04 32 18.2	+1.3			
GRF			*ep*Pdiff		04 32 31.2				
GRF			*e*L		05 25 36.4				
	comp=Z,496nm,21.1s								
CLZ	Clausthal	102.50 321	*e*Pdiff	Pdif	04 32 21.3	+2.0			
CLZ			*e*PP	PP	04 36 30.4	-1.8			
DAVA	Damuels	102.86 316	⇑*i*P	Pdif	04 32 22.3	+1.4			
	comp=Z,4.8nm,0.9s								
DAVA			⇑*i*		04 36 26.3				
	comp=Z,12nm,1.4s								
TNS	Taunus Mts	103.76 319	*e*Pdiff	Pdif	04 32 26.1	+1.2			
WLF	Walferdange	105.26 319	*e*PP	PP	04 36 54.9	+2.1			
WLF	Walferdange	105.26 319	*e*PP	PP	04 36 54.9	+2.1			
TORD	Torodi Ar. Bea	108.60 281	PKiKP	PKiKP	04 36 53.0	+1.2			
	comp=Z,0.7nm,0.5s,baz=43,slow=1.7,SNR=17								
TORD			PKKPbc	PKKPbc	04 48 02.5	+1.5			
	comp=Z,1.1nm,0.6s,baz=307,slow=3.9,SNR=21								
TORD			PKKP	PKKPbc	04 48 13.8	+13			
	comp=Z,1.3nm,1.0s,baz=298,slow=3.7,SNR=3.6								
TAOE	Nuku Hiva Isla	109.02 103	*e*LR	LR	05 09 04.3				
	comp=Z,1μm,23.6s								
RKT	Rikitea	109.79 119	*e*LR	LR	05 09 11.7				
	comp=Z,1μm,26.5s								
BORG	Borgarnes	114.77 339	PFAKE		04 37 10.0	+6.5			
BORG			LR	LR					
	comp=Z,1μm,22.0s,MS5.4								
YKA	Yellowknife Ar	118.46 21	PKP	PKPdf	04 37 09.2	-1.4			
	comp=Z,2.8nm,0.6s,baz=329,slow=1.8,SNR=27								
YKA			PKKPbc	PKKPbc	04 47 27.6	+0.1			
	comp=Z,0.7nm,0.8s,baz=111,slow=4.8,SNR=5.2								
YKA			PKKP	PKKPbc	04 47 57.6	+30			
	comp=Z,0.3nm,0.6s,baz=123,slow=2.6,SNR=5.0								
YKA	Yellowknife Ar	118.46 21	PKP	PKPdf	04 37 09.2	-1.4			
YKA			PKKPbc	PKKPbc	04 47 27.6	+0.1			
YKA			PKKP	PKKPbc	04 47 57.6	+30			
ASCN	Ascension	120.80 255	PFAKE		04 37 30.0	+15			
ASCN			LR	LR					
	comp=Z,824nm,20.0s,MS5.4								
A05A	Maple Falls	122.15 37	⇑P	PKPdf	04 37 19.1	+1.4			
	baz=122								
E03A	Lebam	122.23 40	⇑P	PKPdf	04 37 19.2	+1.4			
	baz=122								
G03A	Yamhill	122.88 41	⇓P	PKPdf	04 37 21.2	+2.1			
	baz=123								
C05A	Tolt Reservoir	122.94 38	⇑P	PKPdf	04 37 20.4	+1.2			
	baz=123								
K01A	Sixes	122.97 45	⇑P	PKPdf	04 37 20.3	+1.1			
	baz=123								
H03A	Soap Creek Ran	123.11 42	⇑P	PKPdf	04 37 21.2	+1.7			
	baz=123								
F04A	Amboy	123.20 41	⇑P	PKPdf	04 37 21.7	+2.0			
	baz=123								
E05A	Randle	123.37 40	⇓P	PKPdf	04 37 22.1	+2.1			
	baz=123								
I03A	Eugene	123.38 43	⇑P	PKPdf	04 37 22.3	+2.3			
	baz=123								
M01C	Crescent City	123.53 46	⇓P	PKPdf	04 37 22.9	+2.6			
	baz=124								
K02A	Glendale	123.66 44	⇓P	PKPdf	04 37 22.9	+2.3			
	baz=124								
J03A	Ideyld Park	123.81 44	⇓P	PKPdf	04 37 23.2	+2.3			
	baz=124								
H04A	Detroit Lake	123.84 42	⇑P	PKPdf	04 37 23.4	+2.4			
	baz=124								
HUMO	Hull Mountain	124.09 44	*e*PKPdf	PKPdf	04 37 23.8	+2.4			
HUMO	Hull Mountain	124.09 44	⇑P	PKPdf	04 37 23.7	+2.3			
	baz=124								
N02C	Big Bar	124.45 47	⇓P	PKPdf	04 37 25.0	+2.9			
	baz=124								
YBH	Yreka Blue Hor	124.57 45	⇓P	PKPdf	04 37 24.0	+1.7			
	baz=124								
M02C	Callahan	124.59 46	⇑P	PKPdf	04 37 25.1	+2.7			
	baz=124								
EDM	Edmonton	124.72 29	*e*PKIKP	PKPdf	04 37 22.9	+0.3			
L04A	Klamath Falls	124.98 45	⇑P	PKPdf	04 37 25.7	+2.6			
	baz=125								
O02C	Red Bluff	125.03 47	⇑P	PKPdf	04 37 26.0	+2.7			
	baz=125								
WDC	Whiskeytown Da	125.08 47	*e*PKIKP	PKPdf	04 37 24.0	+0.7			
WDC	Whiskeytown Da	125.08 47	⇑P	PKPdf	04 37 25.9	+2.6			
	baz=125								
M04C	Macdoel	125.16 45	⇓P	PKPdf	04 37 26.0	+2.6			
	baz=125								
HOPS	Hopland	125.21 49	⇓P	PKPdf	04 37 26.6	+3.0			
	baz=125								
GASB	Alder Springs	125.26 48	⇑P	PKPdf	04 37 27.0	+3.3			
	baz=125								
MNRC	McLaughlin Nat	125.71 49	⇓P	PKPdf	04 37 28.2	+3.6			
	baz=126								
J06A	Christmas Vall	125.76 43	⇓P	PKPdf	04 37 27.1	+2.5			
	baz=126								
L05A	Lakeview	125.76 44	⇓P	PKPdf	04 37 27.2	+2.5			
	baz=126								
HATC	Hat Creek Radi	125.77 46	⇓P	PKPdf	04 37 28.0	+3.3			
	baz=126								
M05C	Lookout	125.79 45	⇓P	PKPdf	04 37 27.7	+3.0			
	baz=126								
K06A	Valley Falls	125.87 43	⇑P	PKPdf	04 37 27.5	+2.7			
	baz=126								
SUTB	Sutter Butte	126.08 48	⇓P	PKPdf	04 37 27.5	+2.3			
	baz=126								
ORV	Oroville	126.18 47	⇑P	PKPdf	04 37 27.1	+1.6			
	baz=126								
O04C	Chester	126.21 46	⇓P	PKPdf	04 37 28.0	+2.6			
	baz=126								
J07A	Hines	126.27 42	⇓P	PKPdf	04 37 28.4	+2.8			
	baz=126								
M06C	Likely Place G	126.32 45	⇑P	PKPdf	04 37 29.0	+3.3			
	baz=126								
ELFS	Eagle Lake Fie	126.36 46	⇑P	PKPdf	04 37 28.6	+2.9			
	baz=126								
BDM	Black Diamond	126.44 49	⇑P	PKPdf	04 37 28.9	+3.0			
	baz=126								
O05C	Quincy	126.46 47	⇓P	PKPdf	04 37 28.8	+2.9			
	baz=126								
L07A	Adell	126.80 44	⇓P	PKPdf	04 37 28.7	+2.1			
	baz=127								
WALA	Waterton Lakes	126.81 34	*e*PKPdf	PKPdf	04 37 26.8	+0.1			
P05C	Yuba Gap, Truc	126.92 47	⇓P	PKPdf	04 37 28.1	+1.3			
	baz=127								
BMO	Blue Mountains	126.92 40	*e*PKIKP	PKPdf	04 37 26.2	-0.6			
BMO			MLR	MLR					
	comp=Z,211nm,21.0s,MS4.8								
N06A	Buffalo Meadow	126.95 45	⇓P	PKPdf	04 37 28.6	+1.8			
	baz=127								
S04C	Ingram Canyon,	126.98 50	⇓P	PKPdf	04 37 27.8	+0.9			
	baz=127								
LAVA	Lava Cap Winer	127.01 48	⇑P	PKPdf	04 37 29.7	+2.7			
	baz=127								
HAST	UC Hastings Re	127.16 51	⇑P	PKPdf	04 37 27.7	+0.4			
	baz=127								
M07A	Soldier Meadow	127.16 45	⇓P	PKPdf	04 37 30.5	+3.2			
	baz=127								
O06A	Flanigan	127.17 46	⇑P	PKPdf	04 37 28.9	+1.6			
	baz=127								
PACP	Pacheco Peak	127.17 50	⇑P	PKPdf	04 37 30.2	+2.9			
	baz=127								
R05C	Kirkwood Meado	127.51 48	⇑P	PKPdf	04 37 30.6	+2.6			
	baz=128								
CMB	Columbia Colle	127.51 49	*e*PKIKP	PKPdf	04 37 29.1	+1.1			
CMB	Columbia Colle	127.51 49	⇓P	PKPdf	04 37 30.8	+2.8			
	baz=128								
WCN	Washoe City	127.53 47	⇑P	PKPdf	04 37 30.4	+2.4			
	baz=128								
M08A	Happy Creek Ra	127.68 44	⇑P	PKPdf	04 37 32.0	+3.7			
	baz=128								
U04C	Hernandez Rese	127.76 51	⇓P	PKPdf	04 37 31.6	+3.1			
	baz=128								
S05C	Merced	127.78 50	⇑P	PKPdf	04 37 31.9	+3.5			
	baz=128								
O07A	Toulon	127.84 46	⇑P	PKPdf	04 37 31.4	+2.8			
	baz=128								
V04C	Ramage Ranch,	127.91 52	⇑P	PKPdf	04 37 32.0	+3.3			
	baz=128								
L09A	Wilkinson Ranc	127.93 43	⇑P	PKPdf	04 37 32.2	+3.4			
	baz=128								
S06C	San Francisco	127.97 49	⇓P	PKPdf	04 37 31.2	+2.4			
	baz=128								
MSO	Missoula	128.00 36	*e*PKPdf	PKPdf	04 37 29.1	+0.2			
R06C	Coleville	128.04 48	⇓P	PKPdf	04 37 31.6	+2.7			
	baz=128								
PKD	Parkfield	128.07 51	⇑P	PKPdf	04 37 32.3	+3.3			
	baz=128								
M09A	Marrel Ranch,	128.33 44	⇓P	PKPdf	04 37 33.2	+3.7			
	baz=128								
CHMT	Chamberlain Mo	128.35 36	*e*PKPdf	PKPdf	04 37 29.1	-0.5			
T06C	Millerton Lake	128.36 50	⇑P	PKPdf	04 37 32.4	+2.8			
	baz=128								
R07C	Lee Vining	128.48 48	⇑P	PKPdf	04 37 31.9	+2.1			
	baz=128								
KCC	Kaiser Creek	128.55 49	⇑P	PKPdf	04 37 33.1	+3.1			
	baz=128								
BMN	Battle Mountai	128.90 45	PFAKE		04 37 40.0	+9.4			
BMN			LR	LR					
	comp=Z,360nm,20.0s,MS5.1								
NVAR	Mina Array Bea	128.91 48	PKP	PKPdf	04 37 31.4	+0.8			
	comp=Z,2.7nm,0.7s,baz=259,slow=1.0,SNR=18								
NVAR			PP	PP	04 39 41.5	+3.8			
	comp=Z,0.7nm,0.8s,baz=274,slow=5.4,SNR=3.5								
NVAR	Mina Array Bea	128.91 48	PKP	PKPdf	04 37 31.4	+0.8			
NVAR			PP	PP	04 39 41.5	+3.8			
Q08A	Gabbs	129.02 47	⇓P	PKPdf	04 37 33.6	+2.8			
	baz=129								
MTUM	Tungsten Hills	129.10 49	*e*PKPdf	PKPdf	04 37 33.4	+2.4			
HLID	Hailey	129.37 40	*e*PKPdf	PKPdf	04 37 32.3	+0.8			
M11A	Holland Ranch,	129.45 43	⇓P	PKPdf	04 37 35.5	+3.8			
	baz=129								
DLMT	Dillon	129.57 37	*e*PKPdf	PKPdf	04 37 33.0	+1.1			
EGMT	Eagleton	129.66 33	*e*PKPdf	PKPdf	04 37 32.7	+0.6			
MCMT	McKenzie Canyo	129.70 38	*e*PKPdf	PKPdf	04 37 33.8	+1.6			
ISA	Isabella	129.75 51	⇑P	PKPdf	04 37 36.0	+3.7			
	baz=130								
N11A	Elko Archery C	129.76 44	⇑P	PKPdf	04 37 35.9	+3.7			
	baz=130								
S09A	Goldfield	129.97 48	⇑P	PKPdf	04 37 35.1	+2.5			
	baz=130								
BOZ	Bozeman (W)	129.98 36	*e*PKIKP	PKPdf	04 37 33.2	+0.5			
BOZ			MLR	MLR					
	comp=Z,474nm,22.0s,MS5.1								
M12A	Wells	130.05 43	⇑P	PKPdf	04 37 35.4	+2.6			
	baz=130								
O11A	Cowboy Ranch,	130.11 45	⇑P	PKPdf	04 37 35.4	+2.5			
	baz=130								
ELK	Elko	130.13 44	*e*PKIKP	PKPdf	04 37 33.2	+0.2			
PLCA	Paso Flores	130.13 181	PKP	PKPdf	04 37 33.7	+0.7			
	comp=Z,2.1nm,0.7s,baz=340,slow=15,SNR=4.1								
PLCA	Paso Flores	130.13 181	PKIKP	PKPdf	04 37 33.7	+0.7			
PLCA			pmax	pmax					
	comp=Z,2.0nm,0.7s								
QLMT	Earthquake Lak	130.55 37	*e*PKPdf	PKPdf	04 37 35.0	+1.2			
M13A	Montello	130.57 42	⇓P	PKPdf	04 37 36.5	+2.8			
	baz=130								
Q11A	Duckwater	130.65 46	⇑P	PKPdf	04 37 36.9	+2.9			
	baz=131								
O12A	Currie	130.68 44	⇑P	PKPdf	04 37 36.4	+2.5			
	baz=131								
P12A	McGill	130.91 45	⇑P	PKPdf	04 37 37.2	+2.8			
	baz=131								
YMR	Madison River	130.91 37	*e*PKPdf	PKPdf	04 37 36.5	+2.1			
U10A	Ash Meadows, A	131.11 49	⇑P	PKPdf	04 37 37.7	+2.9			
	baz=131								
GSC	Goldstone	131.16 51	⇑P	PKPdf	04 37 38.3	+3.4			
	baz=131								
IMW	Indian Meadow	131.35 38	*e*PKPdf	PKPdf	04 37 37.3	+2.1			
BGU	Big Grassy Mou	131.54 42	*e*PKPdf	PKPdf	04 37 37.3	+1.7			
TUQ	Turquoise Mtn.	131.78 50	⇑P	PKPdf	04 37 40.4	+4.3			
	baz=132								
AHID	Auburn Hatcher	131.86 39	PFAKE		04 37 50.0	+14			
AHID			LR	LR					
	comp=Z,395nm,22.0s,MS5.1								
V11A	Goodsprings	132.00 50	⇑P	PKPdf	04 37 40.8	+4.3			
	baz=132								
PFO	Pinyon Flat Ob	132.01 53	⇓P	PKPdf	04 37 40.2	+3.7			
	baz=132								
DUG	Dugway	132.03 43	*e*PKIKP	PKPdf	04 37 37.6	+1.1			
HWUT	Hardware Ranch	132.16 41	*e*PKPdf	PKPdf	04 37 36.7	-0.1			
V12A	Nelson	132.48 50	⇓P	PKPdf	04 37 40.8	+3.4			
	baz=132								
BW06	Boulder Array	132.81 39	PFAKE		04 37 50.0	+12			
BW06			LR	LR					
	comp=Z,568nm,19.0s,MS5.3								
PDAR	Pinedale Array	132.81 39	PKP	PKPdf	04 37 39.1	+1.1			
	comp=Z,1.2nm,0.6s,baz=333,slow=1.7,SNR=11								
MVU	Marysvale	133.23 45	*e*PKPdf	PKPdf	04 37 36.5	-2.3			
MSU	Marysvale	133.25 45	*e*PKIKP	PKPdf	04 37 41.7	+2.9			
W13A	Hualapai Mount	133.45 50	⇑P	PKPdf	04 37 43.5	+4.3			
	baz=133								
GLA	Glamis	133.48 53	⇓P	PKPdf	04 37 43.4	+4.1			
	baz=133								
X13A	Yucca	133.69 51	⇓P	PKPdf	04 37 43.5	+3.8			
	baz=134								
Y13A	Salome	133.98 52	⇑P	PKPdf	04 37 44.5	+4.3			
	baz=134								
W14A	Seligman	134.01 49	⇑P	PKPdf	04 37 44.4	+4.1			
	baz=134								
ULM	Lac du Bonnet	134.43 22	PKP	PKPdf	04 37 40.9	-0.2			
	comp=Z,5.6nm,1.0s,baz=285,slow=1.8,SNR=8.1								
X14A	Yava	134.45 50	⇓P	PKPdf	04 37 45.4	+4.2			
	baz=134								
SCHQ	Schefferville	134.54 356	PKP	PKPdf	04 37 41.1	-0.2			
	comp=Z,3.3nm,0.7s,baz=331,slow=1.9,SNR=7.6								
Y14A	Wickenburg	134.57 51	⇑P	PKPdf	04 37 44.8	+3.5			
	baz=134								
RWWY	Rawlins	134.86 38	*e*PKPdf	PKPdf	04 37 41.8	0.0			
X15A	Humboldt	134.94 50	⇓P	PKPdf	04 37 46.1	+4.1			
	baz=135								
RSSD	Black Hills	135.21 34	*e*PKIKP	PKPdf	04 37 44.1	+1.6			
PV10	Paradox Valley	135.47 43	*e*PKPdf	PKPdf	04 37 46.4	+3.4			
115A	Sonoran Desert	135.64 52	⇑P	PKPdf	04 37 47.0	+3.6			
	baz=136								
PV01	Paradox Valley	135.91 43	*e*PKPdf	PKPdf	04 37 46.5	+2.7			
116A	Eloy	136.11 52	⇓P	PKPdf	04 37 47.8	+3.6			
	baz=136								
ISCO	Idaho Springs	136.94 40	*e*PKIKP	PKPdf	04 37 46.2	+0.5			
EYMN	Ely	137.93 20	*e*PKPdf	PKPdf	04 37 48.6	+1.0			

LRAL	**Lakeview Retre**	**152.33**	**29**	*e*PKPdf	PKPdf	04 38 12.9	+0.8
LRAL				*e*PKPbc	PKPbc	04 38 19.3	+0.4
LPAZ	**La Paz**	**154.31**	**187**	PKP	PKPdf	04 38 16.1	+1.1
	comp=Z,4.1nm,0.9s,baz=82,slow=1.5,SNR=9.0						
LPAZ				PKPbc	PKPbc	04 38 25.2	+2.0
	comp=Z,4.6nm,0.8s,baz=128,slow=5.4,SNR=8.0						
LPAZ				PKPab	PKPab	04 38 37.4	+0.2
	comp=Z,7.5nm,0.8s,baz=323,slow=3.2,SNR=6.7						
LPAZ	**La Paz**	**154.31**	**187**	PKIKP	PKPdf	04 38 16.1	+1.2
LPAZ						04 38 25.2	
LPAZ						04 38 37.4	
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LPAZ	**La Paz**	**154.31**	**187**	PKP	PKPdf	04 38 16.1	+1.1
LPAZ				PKPbc	PKPbc	04 38 25.2	+2.0
LPAZ				PKPab	PKPab	04 38 37.4	+0.2
BBSR	**BB Station**	**156.34**	**346**	PFAKE		04 38 30.0	+12
BBSR				LR	LR		
	comp=Z,441nm,20.0s,MS5.3						
SAML	**Samuel**	**160.10**	**204**	*e*PKPdf	PKPdf	04 38 21.7	-0.6
ATAH	**Atahualpa**	**162.22**	**156**	PKP	PKPdf	04 38 26.3	+1.8
	comp=Z,2.8nm,0.4s,baz=336,slow=8.7,SNR=5.8						
OTAV	**Otavalo**	**168.41**	**141**	*e*PKPdf	PKPdf	04 38 31.6	+2.0
ROSC	**El Rosal**	**174.55**	**145**	PKP	PKPdf	04 38 34.1	+1.4
	comp=Z,7.3nm,0.9s,baz=96,slow=23,SNR=5.4						
SDV	**Santo Domingo**	**179.23**	**230**	PKP	PKPdf	04 38 33.4	-0.1
	comp=Z,1.3nm,0.4s,baz=331,slow=10						

IDC ***18*** *04:29:41.4±1.5, 930S×10891E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/17, mbtmp4.0/7, ML3.4/1, Error ellipse: s-maj=74.8km s-min=19.4km az=47.0*
NEIC ***18*** *04:29:43.4±0.5, 920S×10906E, h10km, Error ellipse: s-maj=17.5km s-min=10.1km az=207.0*
ISCJB ***18*** *04:29:44.5±0.7, 93S±02×1090E±01, h33km, mb4.0/6, Error ellipse: s-maj=23.3km s-min=13.4km az=55.4*

ISC 18 04:29:47.0±0.7, 93S±01×1090E±01, h35km, n9, σ0°59/9, mb4.0/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCO	**West Island**	**12.32**	**255**	*e*Pn	**Pn**	**04 32 39.8**	**-0.1**
	189nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.37**	**120**	P	**Pn**	**04 33 57.8**	**-1.1**
	0.1nm,0.3s,baz=258,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**26.66**	**116**	P	**P**	**04 35 23.1**	**+0.6**
	1.6nm,0.7s,mb3.7,baz=288,slow=11,SNR=4.9						
STKA	**Stephens Creek**	**37.65**	**131**	P	**P**	**04 36 59.3**	**+0.6**
	3.0nm,0.6s,mb4.2,baz=318,slow=19,SNR=3.4						
SONM	**Songino Array**	**56.89**	**358**	P	**P**	**04 39 28.7**	**+0.4**
	0.8nm,0.5s,mb4.0,baz=176,slow=9.0,SNR=4.7						
MKAR	**Makanchi Array**	**60.69**	**339**	P	**P**	**04 39 54.7**	**0.0**
	2.2nm,0.5s,mb4.5,baz=146,slow=7.5,SNR=24						
MKAR	**Makanchi Array**	**60.69**	**339**	P	**P**	**04 39 54.7**	**0.0**
BVAR	**Borovoye Array**	**70.22**	**336**	P	**P**	**04 40 55.6**	**-0.8**
	0.6nm,0.5s,mb3.8,baz=100,slow=10,SNR=3.3						
BRTR	**Keskin Array B**	**84.82**	**311**	P	**P**	**04 42 18.2**	**+0.4**
	0.5nm,0.7s,mb3.8,baz=144,slow=6.2,SNR=3.5						

IDC 18 04:33:12.7±28.0, 2309S×17488W, h0km, mb4.6/4, mb1 4.7/4, mb1mx4.1/14, mbtmp4.6/4, Error ellipse: s-maj=505.6km s-min=149.2km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.19**	**267**	P	P	04 40 17.8	+0.8
	10nm,0.4s,baz=94,slow=11,SNR=17						
STKA	**Stephens Creek**	**39.38**	**247**	P	P	04 40 45.0	+1.1
	1.5nm,0.5s,baz=74,slow=7.4,SNR=3.2						
ASAR	**Alice Springs**	**46.80**	**259**	P	P	04 41 44.0	0.0
	4.9nm,0.8s,baz=95,slow=7.8,SNR=28						
ASPA	**Alice Springs**	**46.81**	**259**	*e*P	P	04 41 44.0	-0.1
WB2	**Warramunga Arr**	**47.15**	**264**	*e*P	P	04 41 46.3	-0.4
WRA	**Warramunga Arr**	**47.16**	**264**	P	P	04 41 46.5	-0.4
	6.3nm,0.7s,baz=104,slow=8.5,SNR=14						
FORT	**Forrest**	**50.99**	**248**	*e*P	P	04 42 16.5	+0.3
	20nm,0.6s						

IDC ***18*** *04:33:13.8±2.5, 943S×10800E, h0km, mb4.1/7, mb1 4.2/8, mb1mx3.9/18, mbtmp4.1/8, ML3.7/1, Error ellipse: s-maj=118.8km s-min=16.9km az=50.0*
NEIC ***18*** *04:33:14.3±2.0, 963S×10774E, h10km, mb4.5/1, Error ellipse: s-maj=97.7km s-min=13.4km az=48.0*
ISCJB ***18*** *04:33:16.0±2.0, 955S±05×1079E±05, h33km, mb4.1/8, Error ellipse: s-maj=98.0km s-min=13.6km az=96.6*

ISC 18 04:33:18.2±2.0, 965S±04×1078E±05, h35km, n9, σ0°91/9, mb4.1/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.24**	**118**	P	**Pn**	**04 37 40.6**	**0.0**
	0.2nm,0.3s,baz=328,slow=15,SNR=5.6						
WRA	**Warramunga Arr**	**27.58**	**115**	P	**P**	**04 39 01.8**	**-0.1**
	1.1nm,0.7s,mb3.6,baz=287,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**28.57**	**123**	P	**P**	**04 39 11.7**	**+0.9**
	0.7nm,0.5s,mb3.6,baz=298,slow=9.3,SNR=12						
STKA	**Stephens Creek**	**38.33**	**130**	P	**P**	**04 40 34.8**	**-0.8**
	1.3nm,0.5s,mb4.0,baz=318,slow=12,SNR=3.5						
SONM	**Songino Array**	**57.16**	**359**	P	**P**	**04 43 01.1**	**-0.3**
	1.2nm,0.6s,mb4.1,baz=176,slow=8.1,SNR=12						
MKAR	**Makanchi Array**	**60.57**	**340**	P	**P**	**04 43 24.3**	**-0.8**
	2.0nm,0.6s,mb4.5,baz=141,slow=8.0,SNR=15						
ZAL	**Zalesovo**	**66.20**	**345**	P	**P**	**04 44 02.9**	**+0.5**
	1.1nm,0.3s,mb4.4,baz=176,slow=3.0,SNR=3.3						
BVAR	**Borovoye Array**	**70.04**	**337**	P	**P**	**04 44 28.5**	**+2.1**
	1.8nm,0.6s,mb4.2,baz=133,slow=9.8,SNR=8.0						
CHKZ	**Chkalovo**	**70.46**	**338**	*e*P	**P**	**04 44 27.9**	**-1.1**
	2.3nm,0.6s,mb4.3						

IDC 18 04:38:20.8±1.4, 947S×10874E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, Error ellipse: s-maj=75.8km s-min=20.5km az=49.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.82**	**116**	P	P	04 44 03.1	+0.4
	1.3nm,0.9s,baz=289,slow=11,SNR=5.0						
STKA	**Stephens Creek**	**37.72**	**131**	P	P	04 45 38.3	+0.2
	1.9nm,0.6s,baz=308,slow=9.8,SNR=4.5						
SONM	**Songino Array**	**57.08**	**358**	P	P	04 48 08.8	0.0
	0.7nm,0.5s,baz=180,slow=8.4,SNR=7.9						
MKAR	**Makanchi Array**	**60.78**	**339**	P	P	04 48 34.9	+0.4
	1.8nm,0.5s,baz=144,slow=7.6,SNR=25						
BVAR	**Borovoye Array**	**70.30**	**337**	P	P	04 49 36.0	0.0
	1.0nm,0.5s,baz=134,slow=8.7,SNR=5.2						
BRTR	**Keskin Array B**	**84.75**	**312**	P	P	04 50 56.9	+0.1
	0.2nm,0.3s,baz=128,slow=4.0,SNR=2.2						

BJI ***18*** *04:44:12.1, 990S×108.10E, h10km, mB5.0, mb4.7*
IDC ***18*** *04:44:13.7±1.1, 984S×108.14E, h0km, mb4.3/8, mb1 4.4/9, mb1mx4.2/17, mbtmp4.3/9, ML3.4/1, Error ellipse: s-maj=64.4km s-min=15.6km az=47.0*
NEIC ***18*** *04:44:15.1±0.7, 993S×10808E, h10km, mb4.7/2, Error ellipse: s-maj=39.5km s-min=8.0km az=224.0*
ISCJB ***18*** *04:44:17.1±1.0, 985S±02×1083E±03, h33km, mb4.3/11, Error ellipse: s-maj=48.2km s-min=11.5km az=91.9*

ISC 18 04:44:19.2±1.0, 985S±02×1082E±03, h35km, (h44km±1.8km:pP-P), n17, σ0°31/14, mb4.3/11, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.79**	**118**	P	**Pn**	**04 48 36.0**	**-0.2**
	0.1nm,0.3s,baz=264,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**27.14**	**115**	P	**P**	**04 49 58.8**	**-0.2**
	3.8nm,0.8s,mb4.0,baz=287,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**28.12**	**123**	P	**P**	**04 50 07.8**	**+0.1**
	2.0nm,0.8s,mb3.8,baz=315,slow=9.7,SNR=11						
ASAR				PcP	PcP	04 53 22.4	+1.1
	0.7nm,0.9s,baz=286,slow=5.3,SNR=4.9						
STKA	**Stephens Creek**	**37.89**	**130**	P	**P**	**04 51 33.4**	**+0.6**
	9.6nm,0.8s,mb4.6,baz=304,slow=7.9,SNR=15						
STKA				PcP	PcP	04 53 49.2	+0.7
	1.0nm,0.6s,baz=359,slow=5.1,SNR=3.1						
STKA	**Stephens Creek**	**37.89**	**130**	*e*P	**P**	**04 51 32.9**	**+0.1**
STKA				*e*pP	pP	04 51 45.6	+2.6
STKA				PcP	PcP	04 53 49.2	+0.7
XAN	**Xi'an**	**43.63**	**1**	P	**P**	**04 52 20.1**	**0.0**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.2						
SONM	**Songino Array**	**57.42**	**359**	P	**P**	**04 54 04.6**	**+0.4**
	comp=Z,4.5nm,0.6s,mb4.7,baz=177,slow=8.2,SNR=42						
SONM	**Songino Array**	**57.42**	**359**	P	**P**	**04 54 04.6**	**+0.4**
MKAR	**Makanchi Array**	**60.93**	**340**	P	**P**	**04 54 28.4**	**-0.1**
	comp=Z,1.9nm,0.7s,mb4.4,baz=144,slow=7.7,SNR=17						
BVAR	**Borovoye Array**	**70.42**	**337**	P	**P**	**04 55 29.4**	**-0.3**
	comp=Z,3.4nm,0.7s,mb4.4,baz=134,slow=8.5,SNR=14						
CHKZ	**Chkalovo**	**70.83**	**337**	*e*P	**P**	**04 55 32.6**	**+0.3**
	comp=Z,8.9nm,1.0s,mb4.7						
CHKZ				*e*	pP	04 55 44.6	+1.5
ZRNK	**Zerenda**	**70.91**	**336**	*e*P	**P**	**04 55 32.6**	**-0.1**
	comp=Z,4.4nm,0.8s,mb4.4						
ZRNK				*e*	pP	04 55 44.7	+1.2
BRTR	**Keskin Array B**	**84.59**	**312**	P	**P**	**04 56 49.2**	**+0.4**
	comp=Z,1.6nm,0.6s,mb4.3,baz=143,slow=7.4,SNR=9.2						
AKASG	**Malin Array Be**	**90.64**	**321**	P	**P**	**04 57 17.4**	**-0.6**
	comp=Z,0.7nm,0.6s,mb4.2,baz=85,slow=5.2,SNR=4.2						
WMOK	**Wichita Mounta**	**145.02**	**41**	*e*PKPdf	PKPdf	05 03 53.7	+1.0
JCT	**Junction City**	**146.79**	**48**	*e*PKPbc	PKPbc	05 03 59.2	+1.8
MIAR	**Mount Ida**	**148.33**	**36**	*e*PKPbc	PKPbc	05 04 03.3	+1.6

IDC ***18*** *04:53:44.4±2.3, 938S×10876E, h0km, mb3.9/6, mb1 3.9/6, mb1mx3.8/16, mbtmp3.9/6, Error ellipse: s-maj=116.7km s-min=18.5km az=51.0*
NEIC ***18*** *04:53:45.7±0.5, 945S×10868E, h10km, mb4.7/1, Error ellipse: s-maj=17.0km s-min=10.4km az=202.0*
ISCJB ***18*** *04:53:46.6±0.7, 95S±02×1086E±01, h33km, mb3.9/7, Error ellipse: s-maj=22.9km s-min=14.0km az=44.8*

ISC 18 04:53:49.3±0.7, 95S±02×1086E±01, h35km, n9, σ0°37/9, mb3.9/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCO	**West Island**	**11.88**	**256**	*e*Pn	**Pn**	**04 56 36.0**	**-0.2**
	206nm,0.8s						
WRA	**Warramunga Arr**	**26.91**	**116**	P	**P**	**04 59 26.6**	**-0.4**
	1.2nm,0.7s,mb3.5,baz=287,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**27.96**	**123**	P	**P**	**04 59 36.5**	**+0.1**
	0.3nm,0.6s,mb3.1,baz=300,slow=9.4,SNR=3.5						
STKA	**Stephens Creek**	**37.80**	**131**	P	**P**	**05 01 02.7**	**+0.5**
	2.5nm,0.7s,mb4.0,baz=300,slow=12,SNR=7.2						
STKA	**Stephens Creek**	**37.80**	**131**	*e*P	**P**	**05 01 03.0**	**+0.9**
STKA				*e*pP	pP	05 01 17.1	+4.8
PMG	**Port Moresby**	**38.00**	**93**	*e*P	**P**	**05 01 03.5**	**-0.4**
	15nm,1.0s,mb4.7						
SONM	**Songino Array**	**57.11**	**358**	P	**P**	**05 03 32.3**	**+0.1**
	0.6nm,0.6s,mb3.8,baz=178,slow=7.4,SNR=5.7						
MKAR	**Makanchi Array**	**60.76**	**340**	P	**P**	**05 03 57.8**	**+0.3**
	1.5nm,0.5s,mb4.4,baz=144,slow=7.3,SNR=20						
BVAR	**Borovoye Array**	**70.28**	**337**	P	**P**	**05 04 58.8**	**-0.2**
	0.5nm,0.4s,mb3.8,baz=126,slow=7.3,SNR=3.6						

MEX 18 05:04:25.4±0.9, 1490N×9393W, h20km±41km, MD4.4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.21**	**51**	*i* P	Pn	05 04 57.8	-3.1
CCIG				*i* S	Sn	05 05 24.3	-3.4
SCX	**San Cristobal**	**2.21**	**34**	*i* P	Pn	05 04 59.5	-1.5
SCX				*i* S	Sn	05 05 25.0	-2.8
CMIG	**Matias Romero**	**2.37**	**337**	*i* P	Pn	05 05 00.8	-2.3
CMIG				*i* S	Sn	05 05 27.6	-3.9
TUIG	**Tuzandepetl**	**3.15**	**351**	*i* S	Sn	05 05 47.8	-3.1
OXX	**Oaxaca**	**3.45**	**309**	*e*P	Pn	05 05 19.5	+1.5
VHO	**Vista Hermosa**	**3.46**	**309**	*e*P	Pn	05 05 15.3	-2.7
VHO				*i* S	Sn	05 05 56.8	-1.6
UTMO	**Huajuapan**	**4.72**	**309**	*e*P	Pn	05 05 37.5	+2.0
UTMO				*i* S	Sn	05 06 27.2	-2.5
TPIG	**Tehuac#an**	**4.80**	**317**	*i* S	Sn	05 06 29.5	-2.1
PPM	**Popocatepetl**	**6.11**	**313**	*e*P	Pn	05 05 52.5	-2.1
PPM				*i* S	Sn	05 07 00.5	-3.4

IDC ***18*** *05:06:29.1±0.9, 974S×10855E, h0km, mb4.4/8, mb1 4.4/9, mb1mx4.3/16, mbtmp4.3/9, ML4.1/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/23, Error ellipse: s-maj=41.0km s-min=16.5km az=49.0*
NEIC ***18*** *05:06:30.5±0.4, 982S×10854E, h10km, mb5.1/17, Error ellipse: s-maj=17.8km s-min=6.0km az=49.0*
BJI ***18*** *05:06:30.4, 980S×10850E, h10km, mB5.1, mb4.8, Ms4.8, Ms4.7*
ISCJB ***18*** *05:06:31.8±0.5, 993S±008×10843E±009, h33km, mb4.8/40, MS4.1/2, Error ellipse: s-maj=15.2km s-min=7.5km az=105.1*
MOS ***18*** *05:06:33.0±0.8, 962S×10874E, h33km, mb5.1/12, Error ellipse: s-maj=22.6km s-min=10.1km az=114.0*

ISC 18 05:06:34.1±0.5, 994S±008×10840E±009, h35km, h35km±1.4km:pP-P, n76, σ0°90/63, mb4.8/40, MS4.1/2, 7C-3D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**2.90**	**27**	P	**Pn**	**05 07 17.0**	**-0.7**
	0.0nm,0.0s						
LEM	**Lembang**	**3.19**	**346**	P	**Pn**	**05 07 21.7**	**-0.1**
	0.0nm,0.0s						
KSI	**Kapahiang**	**8.51**	**317**	P	**Pn**	**05 08 32.7**	**-2.1**
	0.0nm,0.0s						
PSI	**Prapat**	**15.79**	**323**	Pn	**Pn**	**05 10 06.0**	**-7.8**
	0.2nm,0.3s,baz=130,slow=18,SNR=3.2						
FITZ	**Fitzroy Crossi**	**18.57**	**118**	P	**Pn**	**05 10 48.6**	**+0.1**
	0.4nm,0.3s,baz=270,slow=6.6,SNR=15						
FITZ				S	**Sn**	**05 13 56.4**	**-19**
	0.4nm,0.3s,baz=67,slow=19,SNR=4.3						
NWAO	**Narrogin (SRO)**	**24.28**	**162**	LR	LR	05 21 21.0	
	comp=Z,211nm,18.3s,MS3.7,baz=231,slow=36						
WRA	**Warramunga Arr**	**26.92**	**115**	P	**P**	**05 12 11.4**	**-0.5**
	4.1nm,0.8s,mb4.0,baz=286,slow=11,SNR=9.7						
WRAB	**Tennant Creek**	**26.93**	**115**	*e*P	**P**	**05 12 11.5**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.3						
WRAB	**Tennant Creek**	**26.93**	**115**	*e*P	**P**	**05 12 11.5**	**-0.5**
	comp=Z,9.1nm,0.9s,mb4.3						
ASAR	**Alice Springs**	**27.90**	**122**	P	**P**	**05 12 21.0**	**+0.3**
	comp=Z,2.1nm,0.8s,mb3.8,baz=298,slow=9.2,SNR=12						
ASAR				PcP	PcP	05 15 37.2	+1.4
	comp=Z,0.9nm,0.7s,baz=313,slow=0.7,SNR=6.2						
CM31	**Chiang Mai Arr**	**29.72**	**342**	*e*P	**P**	**05 12 37.3**	**+0.3**
	comp=Z,44nm,1.5s,mb5.0						
CHTO	**Chiang Mai**	**30.06**	**342**	*e*P	**P**	**05 12 40.4**	**+0.5**
CHTO				*e*	pP	05 12 50.0	+0.1
CHTO				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.7						
CHTO	**Chiang Mai**	**30.06**	**342**	*e*P	**P**	**05 12 40.4**	**+0.5**
	comp=Z,20nm,1.1s,mb4.8						
CHTO				*e*	pP	05 12 50.0	+0.1
KMI	**Kunming**	**35.29**	**351**	P	**P**	**05 13 27.3**	**+1.7**
KMI				AP	pP	05 13 32.6	-3.1
KMI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
GYA	**Guiyang**	**36.22**	**357**	*i* P	**P**	**05 13 34.4**	**+0.8**
GYA				AP	pP	05 13 38.8	-4.9
GYA				XP	sP	05 13 41.8	-6.1
GYA				PP	PP	05 14 53.4	-2.9
GYA				S	**S**	**05 19 06.4**	**-5.1**
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
GYA				AMB	AMB		
	comp=Z,130nm,6.2s						
GYA				LR	LR		
	comp=N,570nm,14.8s,MS4.6						
GYA				LR	LR		
	comp=E,640nm,15.4s,MS4.6						
GYA				LR	LR		
	comp=Z,580nm,15.6s,MS4.5						
STKA	**Stephens Creek**	**37.67**	**130**	P	**P**	**05 13 46.1**	**+0.2**
	comp=Z,5.6nm,0.8s,mb4.3,baz=293,slow=9.4,SNR=8.3						
WHN	**Wuhan**	**40.66**	**8**	P	**P**	**05 14 11.4**	**+0.5**
WHN				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
SSE	**Sheshan**	**42.61**	**16**	P	**P**	**05 14 28.6**	**+1.7**
SSE				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,97nm,4.4s						

NJ2	**Nanjing**	**42.94**	**13**	*e*P	**P**	**05 14 30.4**	**+0.9**
NJ2				AP	pP	05 14 40.3	+0.6
NJ2				XP	sP	05 14 44.3	+0.4
NJ2				PP	PP	05 16 11.0	+1.5
NJ2				S	**S**	**05 20 49.0**	**-3.2**
NJ2				XS	sS	05 21 06.0	-3.0
NJ2				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,160nm,4.7s						
NJ2				LR	LR		
	comp=N,200nm,10.6s						
NJ2				LR	LR		
	comp=E,212nm,16.1s						
NJ2				LR	LR		
	comp=Z,2μm,16.4s						
JIRN	**Jiri**	**43.13**	**331**	*e*P	**P**	**05 14 32.1**	**+1.0**
	comp=Z,81nm,0.8s,mb5.5						
PKI	**Pulchoki**	**43.44**	**330**	*e*P	**P**	**05 14 33.8**	**+0.2**
GUN	**Gumba**	**43.49**	**330**	*e*P	**P**	**05 14 34.7**	**+0.7**
	comp=Z,66nm,0.7s,mb5.5						
DMN	**Daman**	**43.62**	**329**	*e*P	**P**	**05 14 35.5**	**+0.4**
	comp=Z,60nm,0.9s,mb5.3						
KKN	**Kakani**	**43.69**	**330**	*e*P	**P**	**05 14 35.8**	**+0.2**
	comp=Z,55nm,0.9s,mb5.3						
KKN	**Kakani**	**43.69**	**330**	*e*P	**P**	**05 14 35.8**	**+0.2**
KKN				pmax	pmax		
	comp=Z,55nm,0.9s,mb5.3						
XAN	**Xi'an**	**43.74**	**1**	P	**P**	**05 14 35.5**	**-0.5**
XAN				AP	pP	05 14 45.5	-0.7
XAN				AMB	AMB		
	comp=Z,13nm,1.5s,mb4.4						
GKN	**Gorkha**	**44.18**	**329**	*e*P	**P**	**05 14 39.1**	**-0.5**
	comp=Z,70nm,1.1s,mb5.3						
KOLN	**Koldanda**	**44.52**	**328**	*e*P	**P**	**05 14 42.7**	**+0.4**
	comp=Z,43nm,1.0s,mb5.2						
LZH	**Lanzhou**	**45.98**	**355**	*e*P	**P**	**05 14 54.5**	**+0.6**
LZH				AP	pP	05 15 05.3	+1.2
LZH				AMB	AMB		
	comp=Z,37nm,1.6s,mb5.1						
LZH				AMB	AMB		
	comp=Z,211nm,5.1s						
GTA	**Gaotai**	**49.74**	**351**	*e*P	**P**	**05 15 23.6**	**+0.6**
GTA				AP	pP	05 15 32.0	-1.3
GTA				XP	sP	05 15 36.1	-1.3
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.5						
BJT	**Baijiatuau**	**50.22**	**8**	*e*P	**P**	**05 15 25.6**	**-1.0**
BJT				pmax	pmax		
	comp=Z,13nm,0.9s						
BJT	**Baijiatuau**	**50.22**	**8**	*e*P	**P**	**05 15 25.6**	**-1.1**
	comp=Z,14nm,0.9s,mb5.0						
MJAR	**Matsushiro Arr**	**54.07**	**30**	P	**P**	**05 15 52.4**	**-2.9**
	comp=Z,5.2nm,0.9s,mb4.5,baz=206,slow=8.0,SNR=9.6						
SONM	**Songino Array**	**57.55**	**358**	P	**P**	**05 16 20.2**	**+0.1**
	comp=Z,5.7nm,0.7s,mb4.7,baz=177,slow=7.9,SNR=57						
ULN	**Ulaanbaatar**	**57.56**	**359**	*d* *i*P	**P**	**05 16 20.3**	**+0.1**
ULN	**Ulaanbaatar**	**57.56**	**359**	*e*P	**P**	**05 16 20.1**	**-0.1**
	comp=Z,8.2nm,0.8s,mb4.8						
ZAK	**Zakamensk**	**60.24**	**356**	*e*P	**P**	**05 16 38.3**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
AAK	**Ala-Archa**	**60.81**	**332**	*e*P	**P**	**05 16 40.4**	**-2.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.5						
MKAR	**Makanchi Array**	**61.11**	**340**	P	**P**	**05 16 44.6**	**-0.1**
	comp=Z,8.1nm,0.7s,mb5.0,baz=142,slow=7.8,SNR=85						
MKAR	**Makanchi Array**	**61.11**	**340**	*e*P	**P**	**05 16 44.7**	**0.0**
MOY	**Mondy**	**61.69**	**355**	*e*P	**P**	**05 16 49.4**	**+0.7**
KLR	**Kul'dur**	**62.39**	**17**	*e*P	**P**	**05 16 48.0**	**-5.4**
YSS	**Yuzh-Sakhalins**	**64.39**	**25**	*e*P	**P**	**05 17 11.1**	**+4.5**
YSS				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.8						
KURK	**Kurchatov**	**65.72**	**340**	*e*P	**P**	**05 17 15.0**	**-0.2**
KURK				*e**PP	pP	05 17 25.8	-0.1
KURK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
KURK	**Kurchatov**	**65.72**	**340**	*e*P	**P**	**05 17 14.9**	**-0.3**
	comp=Z,9.7nm,0.9s,mb4.8						
KURK				*e*pP	pP	05 17 25.8	-0.1
BOD	**Bodaibo**	**67.68**	**3**	*e*P	**P**	**05 17 25.9**	**-1.8**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.4						
BRVK	**Borovoye**	**70.67**	**337**	*e*P	**P**	**05 17 45.7**	**-0.5**
BRVK				*e**PP	pP	05 17 56.7	-0.3
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
BRVK	**Borovoye**	**70.67**	**337**	*e*P	**P**	**05 17 45.7**	**-0.5**
	comp=Z,7.5nm,1.1s,mb4.5						
BRVK				*e*pP	pP	05 17 56.7	-0.3
CHKZ	**Chkalovo**	**71.02**	**337**	*e*P	**P**	**05 17 48.2**	**-0.1**
CHKZ				*e**PP	pP	05 17 58.8	-0.3
CHKZ				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
CHKZ	**Chkalovo**	**71.02**	**337**	*e*P	**P**	**05 17 48.2**	**-0.1**
	comp=Z,14nm,1.0s,mb4.8						
CHKZ				*e*pP	pP	05 17 58.8	-0.3
ZRNK	**Zerenda**	**71.09**	**336**	*e*P	**P**	**05 17 48.6**	**-0.2**

MEX.

MEX 18 05:11:09.4±1.4, 1695N×10166W, h26km±28km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.68**	**16**	*i* P		Pb	05 11 19.6	-3.1
ZIIG				*i* S		Sb	05 11 30.0	-1.7
ZIIG	**Zihuatanejo**	**0.68**	**16**	*i* P		Pb	05 11 19.6	-3.1
ZIIG				*i* S		Sb	05 11 29.8	-1.8
ZIIG	**Zihuatanejo**	**0.68**	**16**	*i* P		Pb	05 11 20.0	-2.6
ZIIG				*i* S		Sb	05 11 30.0	-1.7
CAIG	**El Cayaco**	**1.33**	**86**	*i* P		Pn	05 11 30.3	-2.0
CAIG				*i* S		Sn	05 11 45.9	-3.3
CAIG	**El Cayaco**	**1.33**	**86**	*i* P		Pn	05 11 30.3	-2.0
CAIG				*i* S		Sn	05 11 45.2	-4.0
ACX	**Acapulco**	**1.67**	**93**	*e*P		Pn	05 11 40.0	+3.1
ACX				*i* S		Sn	05 11 59.0	+1.6
ACX	**Acapulco**	**1.67**	**93**	*e*P		Pn	05 11 40.0	+3.1
ACX				*i* S		Sn	05 11 59.0	+1.6
MEIG	**Mezcala**	**2.17**	**63**	*i* P		Pn	05 11 43.2	-0.6
MEIG				*i* S		Sn	05 12 07.0	-2.9
MEIG	**Mezcala**	**2.17**	**63**	*i* P		Pn	05 11 43.2	-0.6
MEIG				*i* S		Sn	05 12 07.1	-2.8
PLIG	**Platanillo**	**2.51**	**55**	*i* P		Pn	05 11 46.8	-1.6
PLIG				*i* S		Sn	05 12 15.0	-3.1
PLIG	**Platanillo**	**2.51**	**55**	*i* P		Pn	05 11 46.8	-1.6
PLIG				*i* S		Sn	05 12 15.0	-3.1
MOIG	**Morelia**	**2.75**	**9**	*i* P		Pn	05 11 48.1	-3.7
MOIG				*i* S		Sn	05 12 20.5	-3.7
MOIG	**Morelia**	**2.75**	**9**	*i* P		Pn	05 11 48.1	-3.7
MOIG				*i* S		Sn	05 12 20.5	-3.7
MOIG	**Morelia**	**2.75**	**9**	*i* P		Pn	05 11 53.1	+1.3
MOIG				*i* S		Sn	05 12 20.5	-3.7
IIZ	**Mezontepec**	**3.20**	**46**	*i* P		Pn	05 11 55.7	-2.3
IIZ				*i* S		Sn	05 12 31.2	-4.0
IIZ	**Mezontepec**	**3.20**	**46**	*i* P		Pn	05 11 55.7	-2.3
IIZ				*i* S		Sn	05 12 31.2	-4.0
PPM	**Popocatepetl**	**3.57**	**53**	*i* P		Pn	05 12 01.6	-1.5
PPM				*e*P			05 12 30.5	
PPM				*i* S		Sn	05 12 42.5	-1.8
PPM	**Popocatepetl**	**3.57**	**53**	*i* P		Pn	05 12 01.6	-1.5
PPM				*e*P			05 12 30.5	
PPM				*i* S		Sn	05 12 42.4	-2.0
PPM	**Popocatepetl**	**3.57**	**53**	*i* P		Pn	05 12 04.4	+1.4
PPM				*i* S		Sn	05 12 42.5	-1.8

*IDC **18** 05:23:30.6±0.9, 997.5S×108.17E, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/16, mbtmp4.0/8, ML3.7/1, Error ellipse: s-maj=38.2km s-min=18.4km az=51.0*

*NEIC **18** 05:23:31.9±0.7, 994.5S×10822E, h10km, mb4.0/1, Error ellipse: s-maj=31.1km s-min=13.5km az=225.0*

*ISCJB **18** 05:23:33.7±0.8, 1005.5±02.4×1083.5E±02.2, h33km, mb4.0/8, Error ellipse: s-maj=32.3km s-min=14.4km az=86.3*

ISC 18 05:23:36.0±0.8, 1005.5±02.4×1083.5E±02.2, h35km, n12, σ0.6≥91/9, mb4.0/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.67**	**117**	P		**Pn**	**05 27 50.5**	**-1.1**
	0.2nm,0.3s,baz=312,slow=14,SNR=4.9							
WRA	**Warramunga Arr**	**27.03**	**114**	P		**P**	**05 29 14.4**	**-0.5**
	0.5nm,0.3s,mb3.5,baz=287,slow=11,SNR=4.8							
WRAB	**Tennant Creek**	**27.03**	**114**	P		**P**	**05 29 14.8**	**-0.1**
	2.6nm,0.8s,mb3.8							
ASAR	**Alice Springs**	**27.99**	**122**	P		**P**	**05 29 26.0**	**+2.5**
	1.3nm,0.6s,mb3.7,baz=295,slow=9.1,SNR=13							
STKA	**Stephens Creek**	**37.74**	**130**	P		**P**	**05 30 48.5**	**+0.1**
	4.1nm,0.7s,mb4.3,baz=305,slow=8.1,SNR=6.3							
SONM	**Songino Array**	**57.59**	**359**	P		**P**	**05 33 23.2**	**+0.9**
	0.9nm,0.5s,mb4.0,baz=175,slow=8.4,SNR=8.5							
MKAR	**Makanchi Array**	**61.10**	**340**	P		**P**	**05 33 45.8**	**-0.8**
	0.6nm,0.5s,mb4.0,baz=145,slow=6.6,SNR=7.2							
MAW	**Mawson**	**64.90**	**198**	P		**P**	**05 34 11.8**	**0.0**
	1.8nm,0.6s,mb4.3,baz=59,slow=11,SNR=5.2							
BRTR	**Keskin Array B**	**84.74**	**312**	P		**P**	**05 36 06.2**	**-0.3**
	0.9nm,0.7s,mb4.0,baz=146,slow=7.5,SNR=4.2							
YKA	**Yellowknife Ar**	**119.20**	**21**	PKP		PKPdf	05 42 19.7	-1.6
	0.2nm,0.6s,baz=315,slow=2.7,SNR=3.9							
YKA	**Yellowknife Ar**	**119.20**	**21**	PKP		PKPdf	05 42 19.7	-1.6
PLAL	**Pickwick Lake**	**150.99**	**28**	*e*PKPbc		PKPbc	05 43 24.8	-0.3

IDC 18 05:33:32.3±2.9, 938S×10877E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/15, mbtmp3.7/5, Error ellipse: s-maj=134.8km s-min=21.7km az=53.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.83**	**116**	P		P	05 39 14.8	+0.5
	1.2nm,0.7s,baz=290,slow=11,SNR=5.2							
ASAR	**Alice Springs**	**27.90**	**124**	P		P	05 39 24.3	+0.3
	0.2nm,0.4s,baz=306,slow=7.8,SNR=3.4							
STKA	**Stephens Creek**	**37.76**	**131**	P		P	05 40 50.1	+0.1
	3.0nm,0.8s,baz=320,slow=7.2,SNR=5.4							
SONM	**Songino Array**	**57.00**	**358**	P		P	05 43 20.6	+0.9
	0.2nm,0.3s,baz=166,slow=7.4,SNR=3.6							
MKAR	**Makanchi Array**	**60.71**	**339**	P		P	05 43 45.1	-0.4
	0.6nm,0.5s,baz=149,slow=7.5,SNR=8.3							

*BJI **18** 05:46:31.6, 1031S×108.13E, h20km, mB5.1, mb4.7, Ms5.0, Msz4.8*

*IDC **18** 05:46:33.0±0.7, 997S×10783E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.2/17, mbtmp4.2/11, ML3.7/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/26, Error ellipse: s-maj=27.2km s-min=15.9km az=61.0*

*NEIC **18** 05:46:34.0±0.4, 1010S×10762E, h10km, mb4.6/6, Error ellipse: s-maj=14.8km s-min=9.9km az=223.0*

*ISCJB **18** 05:46:36.2±0.4, 994.5±007×1079E±01.1, h33km, mb4.4/24, MS4.1/2, Error ellipse: s-maj=16.4km s-min=8.0km az=121.3*

*MOS **18** 05:46:36.2±0.8, 993S×10799E, h33km, mb4.9/8, Error ellipse: s-maj=20.9km s-min=10.8km az=109.1*

ISC 18 05:46:38.3±0.4, 1000S±007×1079E±01, h35km, h35km±1.2km:pP-P,n52, σ0.9≤67/45, mb4.4/24, MS4.1/2, 7C-3D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**11.04**	**258**	*e*Pn		**Pn**	**05 49 05.6**	**-8.0**
	290nm,0.7s							
PSI	**Prapat**	**15.52**	**325**	Pn		**Pn**	**05 50 07.5**	**-6.9**
	0.4nm,0.3s,baz=150,slow=18,SNR=2.7							
KKM	**Kota Kinabalu**	**17.98**	**28**	Pn		**Pn**	**05 50 52.3**	**+7.0**
FITZ	**Fitzroy Crossi**	**19.03**	**117**	P		**Pn**	**05 50 58.7**	**+0.6**
	0.2nm,0.3s,baz=301,slow=17,SNR=6.0							
FITZ				S		**S**	**05 54 14.8**	**-16**
	0.1nm,0.3s,baz=72,slow=22,SNR=2.7							
NWAO	**Narrogin (SRO)**	**24.40**	**161**	P		**P**	**05 51 52.0**	**-1.2**
	5.3nm,1.0s,mb3.9,baz=340,slow=9.7,SNR=3.6							
NWAO				LR		LR	06 01 45.2	
	comp=Z,128nm,18.7s,MS3.4,baz=186,slow=37							
NWAO	**Narrogin (SRO)**	**24.40**	**161**	P		**P**	**05 51 52.5**	**-0.8**
NWAO				pmax		pmax		
	comp=Z,11nm,0.8s							
NWAO	**Narrogin (SRO)**	**24.40**	**161**	P		**P**	**05 51 52.5**	**-0.8**
	comp=Z,11nm,0.8s,mb4.3							
NWAO				LR		LR	06 01 45.2	
WRA	**Warramunga Arr**	**27.39**	**114**	P		**P**	**05 52 20.4**	**+0.1**
	comp=Z,5.5nm,0.9s,mb4.1,baz=286,slow=11,SNR=11							
WRAB	**Tennant Creek**	**27.39**	**114**	*i* P		**P**	**05 52 20.3**	**-0.1**
WRAB	**Tennant Creek**	**27.39**	**114**	*e*P		**P**	**05 52 20.9**	**+0.5**
	comp=Z,6.7nm,0.8s,mb4.2							
WB2	**Warramunga Arr**	**27.40**	**114**	*e*P		**P**	**05 52 20.4**	**0.0**
ASAR	**Alice Springs**	**28.33**	**122**	P		**P**	**05 52 28.3**	**-0.4**
	comp=Z,2.6nm,0.7s,mb4.0,baz=300,slow=9.2,SNR=18							
GYA	**Guiyang**	**36.25**	**358**	*i* P		**P**	**05 53 38.5**	**+0.5**
GYA				AP		pP	05 53 48.8	+0.6
GYA				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.9							
STKA	**Stephens Creek**	**38.05**	**130**	P		**P**	**05 53 54.3**	**+1.1**
	comp=Z,19nm,1.0s,mb4.8,baz=292,slow=8.3,SNR=21							
STKA	**Stephens Creek**	**38.05**	**130**	*e*P		**P**	**05 53 53.8**	**+0.6**
STKA				*e*pP		pP	05 54 04.8	+1.4
SSE	**Sheshan**	**42.81**	**17**	P		**P**	**05 54 32.8**	**+0.2**
SSE				AMB		AMB		
	comp=Z,91nm,4.0s							
NJ2	**Nanjing**	**43.11**	**14**	*e*P		**P**	**05 54 34.3**	**-0.8**
NJ2				AP		pP	05 54 44.1	-1.3
NJ2				XP		sP	05 54 48.1	-1.5
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,120nm,4.2s							
NJ2				LR		LR		
	comp=N,1μm,17.0s,MS4.9							
NJ2				LR		LR		
	comp=E,310nm,18.7s,MS4.9							
NJ2				LR		LR		
	comp=Z,1μm,17.4s,MS4.8							
XAN	**Xi'an**	**43.80**	**1**	P		**P**	**05 54 40.8**	**+0.2**
XAN				AP		pP	05 54 50.1	-0.9
XAN				AMB		AMB		
	comp=Z,7.0nm,0.8s,mb4.4							
MJAR	**Matsushiro Arr**	**54.39**	**30**	P		**P**	**05 56 00.5**	**-1.2**
	comp=Z,1.2nm,0.5s,mb4.1,baz=193,slow=7.1,SNR=4.1							
SONM	**Songino Array**	**57.59**	**359**	P		**P**	**05 56 25.7**	**+1.2**
	comp=Z,3.3nm,0.7s,mb4.5,baz=174,slow=7.9,SNR=21							
ULN	**Ulaanbaatar**	**57.61**	**359**	*e*P		**P**	**05 56 25.2**	**+0.5**
ULN				*e*PP		pP	05 56 35.1	-0.2
ULN				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.7							
ULN	**Ulaanbaatar**	**57.61**	**359**	*e*P		**P**	**05 56 25.2**	**+0.6**
	comp=Z,5.6nm,0.8s,mb4.7							
ULN				*e*pP		pP	05 56 35.1	-0.2
ZAK	**Zakamensk**	**60.26**	**357**	*e*P		**P**	**05 56 43.2**	**+0.2**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.2s,mb4.0							
AAK	**Ala-Archa**	**60.61**	**332**	*i* P		**P**	**05 56 46.1**	**+0.6**
AAK				pmax		pmax		
	comp=Z,1.0nm,1.2s,mb3.8							
MKAR	**Makanchi Array**	**60.97**	**340**	P		**P**	**05 56 47.4**	**-0.5**
	comp=Z,1.3nm,0.6s,mb4.2,baz=141,slow=7.8,SNR=11							
MKAR	**Makanchi Array**	**60.97**	**340**	*e*P		**P**	**05 56 49.0**	**+1.1**
KLR	**Kul'dur**	**62.60**	**17**	*e*P		**P**	**05 56 54.6**	**-4.3**
YSS	**Yuzh-Sakhalins**	**64.67**	**26**	*i* P		**P**	**05 57 12.2**	**-0.3**
YSS				pmax		pmax		
	comp=Z,19nm,1.7s,mb4.8							
MAW	**Mawson**	**64.77**	**197**	P		**P**	**05 57 13.9**	**+0.7**
	comp=Z,3.1nm,0.9s,mb4.4,baz=57,slow=8.1,SNR=6.0							
KURK	**Kurchatov**	**65.59**	**340**	*i* P		**P**	**05 57 19.1**	**+0.6**
KURK	**Kurchatov**	**65.59**	**340**	*e*P		**P**	**05 57 18.3**	**-0.2**
	comp=Z,7.8nm,1.1s,mb4.7							
BOD	**Bodaibo**	**67.76**	**4**	*e*P		**P**	**05 57 30.3**	**-2.0**
CHKZ	**Chkalovo**	**70.86**	**338**	*e*P		**P**	**05 57 51.5**	**0.0**
CHKZ				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
CHKZ	**Chkalovo**	**70.86**	**338**	*e*P		**P**	**05 57 51.5**	**0.0**
	comp=Z,3.2nm,0.6s,mb4.4							
ZRNK	**Zerenda**	**70.92**	**336**	*e*P		**P**	**05 57 51.5**	**-0.4**
ZRNK				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.5							
ZRNK	**Zerenda**	**70.92**	**336**	*e*P		**P**	**05 57 51.5**	**-0.4**
	comp=Z,3.8nm,0.7s,mb4.4							
VNDA	**Vanda**	**72.89**	**169**	P		**P**	**05 58 03.5**	**-0.1**
	comp=Z,1.1nm,0.9s,mb3.8,baz=280,slow=5.7,SNR=5.9							
SVE	**Sverdlovsk**	**77.07**	**336**	*i* P		**P**	**05 58 28.2**	**+0.4**
ARU	**Arti**	**77.67**	**334**	*i* P		**P**	**05 58 31.1**	**-0.1**
ARU				*e*		pP	05 58 40.6	-1.6
ARU				*e*			06 01 26.6	
ARU				*e*S		S	06 08 22.0	+1.4
ARU				*e*SS		SS	06 13 22.0	+1.3
ARU				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.4							
TIXI	**Tiksi**	**82.66**	**7**	*e*P		**P**	**05 58 58.2**	**+0.1**
TIXI				pmax		pmax		
	comp=Z,16nm,1.2s,mb4.9							
BRTR	**Keskin Array B**	**84.44**	**312**	P		**P**	**05 59 07.2**	**-0.1**
	comp=Z,1.9nm,1.0s,mb4.2,baz=153,slow=3.6,SNR=6.3							
BRTR	**Keskin Array B**	**84.44**	**312**	*i* P		**P**	**05 59 07.1**	**-0.1**
SNAA	**Sanae**	**86.94**	**197**	*i* P		**P**	**05 59 18.8**	**-0.8**
OBN	**Obninsk**	**87.68**	**327**	*i* P		**P**	**05 59 23.0**	**-0.2**
OBN				*e*		pP	05 59 33.7	-0.6
OBN				*e*			06 02 58.0	
OBN				*e*S			06 09 47.4	
OBN				pmax		pmax		
	comp=Z,10.0nm,1.3s,mb4.9							
BDFB	**Brasilia**	**145.07**	**223**	PKPbc		PKPbc	06 06 11.7	+0.4
	comp=Z,3.5nm,0.8s,baz=264,slow=1.3,SNR=5.4							
WMOK	**Wichita Mounta**	**145.38**	**41**	*e*PKIKP		PKPdf	06 06 13.6	+1.2
WMOK				*e*			06 06 24.2	
JCT	**Junction City**	**147.16**	**48**	*e*PKPbc		PKPbc	06 06 19.3	+1.7
JCT				*e*pPKPdf		pPKPdf	06 06 30.2	+3.3
MIAR	**Mount Ida**	**148.67**	**35**	*e*PKPbc		PKPbc	06 06 23.1	+1.5
MIAR				*e*pPKPdf		pPKPdf	06 06 36.5	+7.1
WVT	**Waverly**	**150.34**	**26**	*e*PKIKP		PKPbc	06 06 26.8	+1.0
WVT				*e*			06 10 07.7	
PLAL	**Pickwick Lake**	**151.19**	**28**	*e*PKPbc		PKPbc	06 06 28.1	+0.3
LPAZ	**La Paz**	**153.59**	**189**	PKPbc		PKPbc	06 06 35.7	+2.5
	comp=Z,0.6nm,0.7s,baz=151,slow=1.9,SNR=5.3							
LPAZ	**La Paz**	**153.59**	**189**	PKPbc		PKPbc	06 06 35.7	+2.5

*IDC **18** 05:50:15.3±0.8, 992S×10766E, h0km, mb4.1/6, mb1 4.2/7, mb1mx4.0/17, mbtmp4.1/7, ML3.9/1, Error ellipse: s-maj=33.5km s-min=19.5km az=50.0*

*NEIC **18** 05:50:17.2±0.4, 998S×10776E, h10km, mb4.4/3, Error ellipse: s-maj=14.1km s-min=8.8km az=219.0*

*ISCJB **18** 05:50:18.6±2.8, 1005±01×1077E±01.1, h36km±29km, mb4.2/9, Error ellipse: s-maj=20.5km s-min=13.2km az=97.0*

ISC 18 05:50:21.1±1.9, 1005±01×1077E±01, h41km±21km, n17, σ0.5≥73/15, mb4.2/9, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**10.89**	**257**	*e*Pn		**Pn**	**05 52 54.6**	**+0.3**
	64nm,0.3s							
PSI	**Prapat**	**15.42**	**325**	Pn		**Pn**	**05 53 55.5**	**-0.2**
	0.3nm,0.3s,baz=119,slow=3.1,SNR=3.6							
PSI	**Prapat**	**15.42**	**325**	Pn		**Pn**	**05 53 55.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.17**	**117**	P		**Pn**	**05 54 41.3**	**-0.9**
	0.3nm,0.3s,baz=310,slow=17,SNR=4.9							
FITZ				S		**S**	**05 57 58.0**	**-18**
	0.1nm,0.3s,baz=100,slow=23,SNR=2.6							
NWAO	**Narrogin (SRO)**	**24.46**	**160**	*e*P		**P**	**05 55 36.1**	**0.0**
	6.1nm,0.8s,mb4.1							
WRA	**Warramunga Arr**	**27.53**	**114**	P		**P**	**05 56 05.5**	**+1.7**
	1.6nm,0.5s,mb3.9,baz=285,slow=11,SNR=7.5							
WRAB	**Tennant Creek**	**27.54**	**114**	*e*P		**P**	**05 56 03.0**	**-0.8**
	4.9nm,0.7s,mb4.2							
ASAR	**Alice Springs**	**28.46**	**122**	P		**P**	**05 56 13.4**	**+1.3**
	2.1nm,0.7s,mb3.9,baz=300,slow=9.3,SNR=11							
STKA	**Stephens Creek**	**38.17**	**130**	P		**P**	**05 57 36.0**	**-0.5**
	6.4nm,0.7s,mb4.5,baz=297,slow=7.0,SNR=13							
SONM	**Songino Array**	**57.57**	**359**	P		**P**	**06 00 06.1**	**-0.5**
	1.8nm,0.7s,mb4.2,baz=172,slow=6.2,SNR=8.5							
ULN	**Ulaanbaatar**	**57.60**	**359**	*e*P		**P**	**06 00 06.6**	**-0.2**
	3.2nm,0.8s,mb4.4							
MKAR	**Makanchi Array**	**60.91**	**340**	P		**P**	**06 00 30.3**	**+0.7**
	1.4nm,0.6s,mb4.3,baz=147,slow=8.5,SNR=7.1							
MAW	**Mawson**	**64.73**	**197**	P		**P**	**06 00 54.6**	**-0.5**
	1.1nm,0.6s,mb4.1,baz=32,slow=8.6,SNR=3.6							
SYO	**Syowa Base**	**72.96**	**200**	*e*P		**P**	**06 01 46.0**	**-0.2**
BDFB	**Brasilia**	**144.98**	**224**	PKPbc		PKPdf	06 09 55.0	+1.2
	2.2nm,0.6s,baz=169,slow=7.5,SNR=5.6							
SIV	**San Ignacio**	**151.90**	**203**	PKPbc		PKPbc	06 10 13.1	+1.6
	1.8nm,0.7s,baz=149,slow=3.9,SNR=11							
LPAZ	**La Paz**	**153.57**	**189**	PKPbc		PKPbc	06 10 18.0	+2.8
	0.8nm,0.7s,baz=190,slow=4.3,SNR=4.9							

*IDC **18** 05:53:36.0±0.9, 1005S×10724E, h0km, mb4.1/6, mb1 4.2/7, mb1mx4.0/17, mbtmp4.1/7, ML3.9/1, Error ellipse: s-maj=47.2km s-min=18.6km az=47.0*

*NEIC **18** 05:53:37.6±0.6, 1013S×10725E, h10km, mb4.7/3, Error ellipse: s-maj=32.4km s-min=9.0km az=46.0*

*ISCJB **18** 05:53:40.8±3.9, 985±03×1076E±03, h40km±34km, mb4.2/9, Error ellipse: s-maj=80.3km s-min=13.1km az=89.7*

ISC 18 05:53:41.9±6.1, 995±03×1075E±03, h35km±42km, n17, σ0.5≥54/13, mb4.2/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**15.22**	**326**	Pn		**Pn**	**05 57 14.5**	**+0.3**
	0.4nm,0.3s,baz=184,slow=15,SNR=4.4							
FITZ	**Fitzroy Crossi**	**19.42**	**117**	P		**Pn**	**05 58 05.6**	**-0.8**
	0.2nm,0.3s,baz=232,slow=13,SNR=7.2							
FITZ				S		**Sn**	**06 01 23.6**	**-20**
	0.2nm,0.3s,baz=115,slow=18,SNR=4.4							
WRA	**Warramunga Arr**	**27.78**	**114**	P		**P**	**05 59 28.5**	**+0.9**
	1.8nm,0.8s,mb3.7,baz=286,slow=11,SNR=7.5							
ASAR	**Alice Springs**	**28.71**	**122**	P		**P**	**05 59 36.7**	**+0.9**
	1.3nm,0.8s,mb3.7,baz=296,slow=9.7,SNR=6.4							
ASAR				PcP		PcP	06 02 45.9	+0.3
	0.6nm,0.6s,baz=295,slow=2.2,SNR=5.9							
STKA	**Stephens Creek**	**38.40**	**130**	P		**P**	**06 00 59.3**	**-0.7**
	2.8nm,0.7s,mb4.1,baz=302,slow=10,SNR=5.0							
SONM	**Songino Array**	**57.50**	**359**	P		**P**	**06 03 27.7**	**+0.1**
	1.4nm,0.6s,mb4.2,baz=175,slow=7.8,SNR=7.8							
MKAR	**Makanchi Array**	**60.76**	**340**	P		**P**	**06 03 49.9**	**-0.3**
	1.6nm,0.4s,mb4.5,baz=147,slow=7.5,SNR=11							
MKAR	**Makanchi Array**	**60.76**	**340**	P		**P**	**06 03 49.9**	**-0.3**
CHKZ	**Chkalovo**	**70.63**	**338**	*e*P		**P**	**06 04 53.8**	**-0.1**
	4.0nm,0.6s,mb4.5							
ZRNK	**Zerenda**	**70.69**	**337**	*e*P		**P**	**06 04 53.9**	**-0.3**
	2.2nm,0.6s,mb4.3							
ARU	**Arti**	**77.43**	**335**	*e*P		**P**	**06 05 33.2**	**-0.3**
	3.0nm,0.4s,mb4.6							
BRTR	**Keskin Array B**	**84.09**	**312**	P		**P**	**06 06 09.4**	**+0.3**
	1.0nm,0.7s,mb4.0,baz=148,slow=7.2,SNR=4.6							
WMOK	**Wichita Mounta**	**145.57**	**40**	*e*PKPdf		PKPdf	06 13 17.0	+0.5
MIAR	**Mount Ida**	**148.83**	**35**	*e*PKPbc		PKPbc	06 13 26.7	+0.9
MIAR				*e*PKPab		PKPab	06 13 30.5	+0.8
WVT	**Waverly**	**150.44**	**26**	*e*PKPbc		PKPbc	06 13 29.9	+0.1
SIV	**San Ignacio**	**151.87**	**204**	PKPbc		PKPbc	06 13 34.3	+1.2
	1.3nm,0.8s,baz=182,slow=1.7,SNR=7.5							
LPAZ	**La Paz**	**153.61**	**190**	PKPbc		PKPbc	06 13 36.6	-0.3
	0.5nm,0.4s,baz=280,slow=6.1,SNR=7.2							

*IDC **18** 05:57:31.4±0.9, 972S×10866E, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.9/15, mbtmp4.1/6, Error ellipse: s-maj=50.0km s-min=19.4km az=51.0*

*NEIC **18** 05:57:32.7±0.7, 974S×10864E, h10km, mb4.5/2, Error ellipse: s-maj=41.6km s-min=14.1km az=49.0*

*ISCJB **18** 05:57:34.4±1.3, 975±03×1087E±04, h33km, mb4.1/8, Error ellipse: s-maj=70.8km s-min=14.8km az=94.6*

ISC 18 05:57:36.4±1.3, 985±03×1086E±04, h35km, n11, σ0.8≥80/8, mb4.1/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.82**	**115**	P		**P**	**06 03 11.6**	**-1.6**
	2.3nm,0.8s,mb3.8,baz=286,slow=11,SNR=5.7							
ASAR	**Alice Springs**	**27.82**	**123**	P		**P**	**06 03 23.7**	**+1.4**
	0.9nm,0.7s,mb3.5,baz=297,slow=9.2,SNR=6.5							
STKA	**Stephens Creek**	**37.62**	**131**	P		**P**	**06 04 47.9**	**+0.1**
	2.0nm,0.7s,mb4.0,baz=267,slow=8.5,SNR=4.1							
SONM	**Songino Array**	**57.41**	**358**	P		**P**	**06 07 22.1**	**+0.7**
	1.8nm,0.7s,mb4.2,baz=176,slow=8.2,SNR=13							
MKAR	**Makanchi Array**	**61.04**	**340**	P		**P**	**06 07 46.4**	**-0.1**
	2.5nm,0.6s,mb4.5,baz=142,slow=7.8,SNR=16							
CHKZ	**Chkalovo**	**70.95**	**337**	*e*P		**P**	**06 08 50.1**	**-0.1**
	3.9nm,1.0s,mb4.3							
CHKZ				*e*pP		pP	06 09 00.2	-0.8
ZRNK	**Zerenda**	**71.03**	**336**	*e*P		**P**	**06 08 50.4**	**-0.3**
	3.4nm,0.9s,mb4.3							
ZRNK				*e*pP		pP	06 09 00.7	-0.8
BRTR	**Keskin Array B**	**84.85**	**312**	P		**P**	**06 10 07.3**	**-0.1**
	1.1nm,0.7s,mb4.1,baz=132,slow=7.7,SNR=5.3							
WMOK	**Wichita Mounta**	**144.76**	**41**	*e*PKPdf		PKPdf	06 17 09.8	+0.3
WMOK				*e*pPKPdf		pPKPdf	06 17 20.8	-0.1
LVC	**Limon Verde**	**147.70**	**184**	PKPbc		PKPbc	06 17 20.7	+3.5
	1.1nm,0.3s,baz=282,slow=23,SNR=12							
SIV	**San Ignacio**	**152.41**	**202**	PKPbc		PKPbc	06 17 29.3	+0.6
	0.9nm,0.8s,baz=48,slow=4.0,SNR=4.5							

*BJI **18** 05:59:21.7, 930S×10890E, h10km, mB5.1, mb4.6*

*IDC **18** 05:59:22.4±0.8, 927S×10891E, h0km, mb4.4/9, mb1 4.5/9, mb1mx4.4/15, mbtmp4.3/9, Error ellipse: s-maj=37.4km s-min=16.7km az=53.0*

*NEIC **18** 05:59:23.8±0.4, 929S×10890E, h10km, mb4.6/1, Error ellipse: s-maj=20.4km s-min=8.5km az=46.0*

*ISCJB **18** 05:59:26.0±1.0, 925±02×1091E±02, h33km, mb4.3/11, Error ellipse: s-

WRA	**Warramunga Arr**	**49.27**	**259**	P		**P**		**06 15 07.9**	**0.0**
	1.5nm,0.5s,mb4.3,baz=99,slow=6.2,SNR=9.3								
AS31	**Alice Springs**	**49.36**	**254**	*eP*		**P**		**06 15 06.7**	**-1.9**
ASAR	**Alice Springs**	**49.36**	**254**	P		**P**		**06 15 08.8**	**+0.2**
	6.0nm,0.7s,mb4.8,baz=89,slow=9.0,SNR=47								
ASAR				PcP		PcP		06 16 32.9	+2.1
	1.8nm,0.8s,baz=106,slow=3.9,SNR=5.3								
ASPA	**Alice Springs**	**49.36**	**254**	*eP*		**P**		**06 15 06.7**	**-1.9**
SBA	**Scott Base**	**61.03**	**185**	*eP*		**P**		**06 16 36.1**	**+3.4**
VNDA	**Vanda**	**61.16**	**186**	P		**P**		**06 16 35.2**	**+1.6**
	1.2nm,0.9s,mb4.0,baz=12,slow=7.7,SNR=5.4								
VNDA	**Vanda**	**61.16**	**186**	P		**P**		**06 16 35.2**	**+1.6**
MBWA	**Marble Bar**	**62.67**	**255**	*eP*		**P**		**06 16 46.5**	**+2.7**
	12nm,0.5s,mb5.3								
MJAR	**Matsushiro Arr**	**70.57**	**320**	P		**P**		**06 17 35.2**	**+1.1**
	2.5nm,0.8s,mb4.2,baz=160,slow=6.6,SNR=6.7								
TGY	**Tagaytay City**	**71.94**	**292**	LR		LR		06 46 33.1	
	comp=Z,3.8nm,20.0s,baz=1.3,slow=34								
QSPA	**South Pole Qui**	**72.43**	**180**	*eP*		**P**		**06 17 45.0**	**-0.3**
	5.4nm,1.0s,mb4.4								
NVAR	**Mina Array Bea**	**76.04**	**42**	P		**P**		**06 18 06.5**	**+0.1**
	1.7nm,0.9s,mb4.0,baz=217,slow=7.5,SNR=8.7								
NVAR	**Mina Array Bea**	**76.04**	**42**	P		**P**		**06 18 06.5**	**+0.1**
PV10	**Paradox Valley**	**82.12**	**46**	*eP*		**P**		**06 18 40.1**	**+0.5**
MCK	**McKinley**	**83.32**	**11**	*eP*		**P**		**06 18 45.2**	**-0.6**
	2.6nm,0.7s,mb4.4								
PDAR	**Pinedale Array**	**83.98**	**42**	P		**P**		**06 18 48.5**	**-0.8**
	2.4nm,0.8s,mb4.3,baz=244,slow=2.4,SNR=16								
COLA	**College**	**84.56**	**11**	*eP*		**P**		**06 18 51.6**	**-0.6**
	10nm,0.8s,mb5.0								
MAW	**Mawson**	**85.66**	**199**	P		**P**		**06 18 57.9**	**+0.2**
	0.8nm,0.7s,mb4.1,baz=153,slow=11,SNR=3.3								
MAW	**Mawson**	**85.66**	**199**	*eP*		**P**		**06 18 58.1**	**+0.4**
	2.2nm,0.8s,mb4.4								
YKA	**Yellowknife Ar**	**92.17**	**23**	LR		LR		06 56 19.1	
	comp=Z,52nm,18.4s,MS4.0,baz=90,slow=33								
ULM	**Lac du Bonnet**	**95.72**	**39**	LR		LR		06 56 31.8	
	comp=Z,53nm,20.9s,MS4.0,baz=327,slow=32								
LPAZ	**La Paz**	**99.14**	**110**	LR		LR		06 56 31.7	
	comp=Z,39nm,18.6s,MS3.9,baz=264,slow=30								
KMBO	**Kilima Mbogo**	**144.44**	**242**	PKP		PKPdf		06 25 56.0	+0.8
	4.1nm,0.9s,baz=69,slow=2.6,SNR=7.1								
MALT	**Malatya**	**145.34**	**313**	*e*PKPdf		PKPdf		06 25 59.7	+3.0
CLL	**Collm**	**146.00**	**353**	*i* PKPbc		PKPbc		06 25 59.4	+0.8
	comp=Z,12nm,0.9s								
CLL				*i* pPKPbc		pPKPbc		06 26 09.4	-0.6
CLL				*i* sPKiKP				06 26 18.8	
BRG	**Berggiesshubel**	**146.30**	**351**	*eP*		PKPbc		06 26 02.6	+3.0
	comp=Z,2.8nm,0.9s								
BRG				*e*				06 26 10.7	
	comp=Z,3.6nm,1.0s								
BRTR	**Keskin Array B**	**147.79**	**319**	PKPbc		PKPbc		06 26 02.5	-1.2
	comp=Z,2.5nm,0.9s,baz=146,slow=2.4,SNR=7.7								
KHC	**Kasperske Hory**	**148.06**	**351**	*e*PKPbc		PKPbc		06 26 06.0	+1.6
KHC				*e*pPKP		pPKPdf		06 26 20.5	+7.8
GERES	**GERESS Array B**	**148.31**	**351**	PKPbc		PKPbc		06 26 06.7	+1.6
	comp=Z,0.5nm,0.4s,baz=0.0,slow=2.7,SNR=9.4								
FLN	**La Foliniere**	**148.43**	**9**	*e*PKIKP		PKPbc		06 26 05.7	+0.3
	comp=Z,13nm,0.8s								
LDF	**La Druitiere**	**148.65**	**8**	*e*PKIKP		PKPbc		06 26 06.4	+0.4
GRR	**Gorron**	**148.74**	**9**	*e*PKIKP		PKPbc		06 26 06.4	+0.2
	comp=Z,11nm,0.7s								
CDF	**Champ du Feu**	**149.29**	**359**	*e*PKIKP		PKPbc		06 26 09.4	+1.8
HAU	**Haudompre**	**149.70**	**0**	*e*PKIKP		PKPbc		06 26 09.7	+1.1
	comp=Z,5.4nm,0.5s								
LOR	**Lormes**	**150.36**	**4**	*e*PKIKP		PKPbc		06 26 10.3	+0.1
	comp=Z,8.0nm,0.8s								
SSF	**Saint Saulge**	**150.54**	**4**	*e*PKIKP		PKPbc		06 26 10.4	-0.2
	comp=Z,12nm,0.8s								
DAVOX	**Davos**	**150.79**	**355**	PKPbc		PKPbc		06 26 12.8	+1.6
	comp=Z,2.4nm,0.4s,baz=315,slow=4.3,SNR=4.5								
AVF	**Avril sur Loir**	**150.80**	**4**	*e*PKIKP		PKPbc		06 26 10.8	-0.5
	comp=Z,7.2nm,0.9s								
SMF	**Signal de Mont**	**150.98**	**4**	*e*PKIKP		PKPbc		06 26 11.2	-0.5
BGF	**Bois d'Agland**	**150.99**	**5**	*e*PKIKP		PKPbc		06 26 11.0	-0.7
CABF	**La Chapelle**	**151.09**	**1**	*e*PKIKP		PKPbc		06 26 12.1	+0.2
	comp=Z,6.5nm,0.7s								
LPL	**La Plagne**	**152.19**	**360**	*e*PKIKP		PKPbc		06 26 14.1	-0.4
LPG	**La Plagne**	**152.21**	**360**	*e*PKIKP		PKPbc		06 26 14.2	-0.3
VIVF	**Saint-Julien-l**	**152.81**	**3**	*e*PKIKP		PKPbc		06 26 14.0	-1.8
LASF	**Ste Croix**	**153.54**	**4**	*e*PKIKP		PKPbc		06 26 15.0	-2.4

*ISCJB **18** 06:06:29.9±0.8,256N±0.1×453W±0.1,h10km,mb4.3/19, MS3.8/15,Error ellipse: s-maj=20.4km s-min=14.8km az=7.5*

*IDC **18** 06:06:30.2±1.0,2557N×4528W,h0km,mb4.0/9,mb1 4.2/9, mb1mx3.9/23,mbtmp4.0/9,MS3.9/15,Ms1 3.8/15, ms1mx3.7/27,Error ellipse: s-maj=28.6km s-min=21.5km az=8.0*

*NEIC **18** 06:06:31.5±0.5,2557N×4527W,h10km,mb4.6/10,Error ellipse: s-maj=14.5km s-min=10.4km az=184.0*

ISC 18 06:06:32.1±0.8,257N±01×453W±0.1,h10km,n32,σ0§69/22, mb4.3/19,MS3.8/15,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
SJG	**San Juan**	**20.77**	**253**	LR		LR	06 17 13.2		
	comp=Z,377nm,21.6s,MS3.7,baz=90,slow=31								
PCRV	**Puerto La Cruz**	**23.97**	**234**	LR		LR	06 19 29.6		
	comp=Z,151nm,18.2s,MS3.5,baz=351,slow=33								
SCHQ	**Schefferville**	**33.20**	**337**	LR		LR	06 24 17.3		
	comp=Z,115nm,20.9s,MS3.6,baz=115,slow=32								
ROSC	**El Rosal**	**34.69**	**238**	LR		LR	06 25 03.3		
	comp=Z,217nm,18.4s,MS3.9,baz=23,slow=32								
ESDC	**Sonseca Array**	**37.14**	**58**	LR		LR	06 24 12.2		
	comp=Z,75nm,21.6s,MS3.4,baz=275,slow=28								
BDFB	**Brasilia**	**41.13**	**184**	LR		LR	06 29 05.6		
	comp=Z,150nm,19.3s,MS3.9,baz=13,slow=33								
SFJD	**Kangerlussuaq**	**41.49**	**357**	LR		LR	06 30 10.2		
	comp=Z,91nm,19.5s,MS3.6,baz=242,slow=34								
DBIC	**Dimbokro**	**42.91**	**109**	LR		LR	06 29 18.6		
	comp=Z,169nm,19.5s,MS4.0,baz=261,slow=32								
ULM	**Lac du Bonnet**	**45.75**	**316**	P		**P**	**06 14 53.0**		**-0.6**
	3.8nm,0.9s,mb4.3,baz=102,slow=6.2,SNR=6.7								
ULM				LR		LR	06 30 22.4		
	comp=Z,135nm,20.1s,MS3.9,baz=60,slow=31								
TORD	**Torodi Ar. Bea**	**45.77**	**97**	P		**P**	**06 14 53.4**		**-0.3**
	0.7nm,0.6s,mb3.8,baz=298,slow=7.8,SNR=6.5								
TORD				LR		LR	06 32 06.2		
	comp=Z,229nm,19.7s,MS4.1,baz=290,slow=34								
WMOK	**Wichita Mounta**	**46.68**	**294**	*eP*		**P**	**06 15 00.6**		**-0.3**
	4.9nm,1.1s,mb4.3								
SUMG	**Summit**	**47.11**	**3**	*eP*		**P**	**06 15 04.8**		**+0.6**
	9.1nm,1.1s,mb4.6								
LPAZ	**La Paz**	**47.27**	**211**	P		**P**	**06 15 05.3**		**-0.2**
	2.9nm,1.0s,mb4.2,baz=19,slow=9.6,SNR=6.2								
AMTX	**Amarillo**	**49.04**	**295**	*eP*		**P**	**06 15 19.1**		**-0.1**
	8.5nm,1.0s,mb4.7								
GERES	**GERESS Array B**	**50.90**	**47**	LR		LR	06 34 28.9		
	comp=Z,81nm,19.1s,MS3.8,baz=99,slow=33								
NOA	**NORSAR Array B**	**51.77**	**31**	P		**P**	**06 15 40.8**		**+1.0**
	1.2nm,0.9s,mb3.8,baz=254,slow=7.6,SNR=2.7								
NOA				LR		LR	06 33 29.5		
	comp=Z,76nm,18.3s,MS3.8,baz=270,slow=31								
ANMO	**Albuquerque**	**52.94**	**296**	P		**P**	**06 15 50.1**		**+1.6**
	0.5nm,0.5s,mb3.7,baz=80,slow=12,SNR=4.0								
EGMT	**Eagleton**	**54.55**	**312**	*eP*		**P**	**06 16 00.5**		**+0.2**
	12nm,1.2s,mb4.8								
PDAR	**Pinedale Array**	**54.58**	**305**	P		**P**	**06 16 00.7**		**+0.1**
	2.6nm,1.0s,mb4.2,baz=80,slow=8.3,SNR=16								
PDAR				LR		LR	06 35 53.3		
	comp=Z,129nm,18.8s,MS4.0,baz=112,slow=32								
IMW	**Indian Meadow**	**55.52**	**307**	*eP*		**P**	**06 16 07.7**		**+0.4**
	13nm,1.4s,mb4.8								
TPAW	**Teton Pass**	**55.55**	**306**	*eP*		**P**	**06 16 08.0**		**+0.4**
	10.0nm,1.3s,mb4.7								
BOZ	**Bozeman (W)**	**55.90**	**309**	*eP*		**P**	**06 16 09.7**		**-0.4**
	4.3nm,1.3s,mb4.3								
EDM	**Edmonton**	**56.87**	**318**	*eP*		**P**	**06 16 16.8**		**-0.1**
DUG	**Dugway**	**57.27**	**303**	*eP*		**P**	**06 16 20.3**		**+0.5**
	5.8nm,1.1s,mb4.5								
YKA	**Yellowknife Ar**	**58.05**	**329**	P		**P**	**06 16 23.8**		**-1.4**
	1.4nm,0.8s,mb4.0,baz=94,slow=7.9,SNR=11								
YKA				LR		LR	06 39 12.7		
	comp=Z,98nm,20.6s,MS3.9,baz=90,slow=34								
YKA	**Yellowknife Ar**	**58.05**	**329**	P		**P**	**06 16 23.8**		**-1.5**
HLID	**Hailey**	**58.05**	**307**	*eP*		**P**	**06 16 25.3**		**0.0**
	2.7nm,1.2s,mb4.2								
NEW	**Newport**	**59.47**	**313**	P		**P**	**06 16 35.6**		**+0.4**
	7.8nm,1.0s,mb4.7,baz=105,slow=5.4,SNR=11								
AKASG	**Malin Array Be**	**60.93**	**45**	P		**P**	**06 16 45.4**		**+0.2**
	0.5nm,0.4s,mb4.0,baz=276,slow=5.9,SNR=5.0								
INK	**Inuvik**	**65.80**	**336**	*eP*		**P**	**06 17 15.9**		**-1.5**
	2.7nm,0.9s,mb4.3								
DAWY	**Dawson**	**69.02**	**332**	*eP*		**P**	**06 17 37.2**		**-0.6**
KMBO	**Kilima Mbogo**	**83.73**	**94**	LR		LR	06 56 07.3		
	comp=Z,120nm,18.7s,MS4.3,baz=94,slow=36								

*NEIC **18** 06:07:33.2,1592N×94.13W,h213km,MD4.3(MEX),After MEX.*

MEX 18 06:07:29.4±0.5,1469N×9430W,h20km,MD4.3,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
CMIG	**Matias Romero**	**2.45**	**347**	*i* P		Pn	06 08 05.5		-2.7
CMIG				*i* S		Sn	06 08 34.2		-3.4
CMIG	**Matias Romero**	**2.45**	**347**	*i* P		Pn	06 08 05.5		-2.7
CMIG				*i* S		Sn	06 08 31.0		-6.6
SCX	**San Cristobal**	**2.59**	**38**	*i* P		Pn	06 08 08.5		-1.7
OXX	**Oaxaca**	**3.33**	**316**	*e*P		Pn	06 08 22.0		+1.7
TUIG	**Tuzandepetl**	**3.33**	**358**	*i* P		Pn	06 08 18.6		-1.7
VHO	**Vista Hermosa**	**3.33**	**316**	*i* P		Pn	06 08 19.0		-1.3
VHO				*e*S		Sn	06 08 57.7		-1.5
VHO	**Vista Hermosa**	**3.33**	**316**	*i* P		Pn	06 08 20.8		+0.5
VHO				*i* S		Sn	06 08 53.6		-5.7
TPIG	**Tehuac#an**	**4.73**	**322**	*i* S		Sn	06 09 32.5		-1.3

IDC 18 06:08:25.4±3.9,999S×10799E,h0km,mb3.8/4,mb1 3.9/4, mb1mx3.7/14,mbtmp3.8/4,Error ellipse: s-maj=190.1km s-min=24.6km az=54.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
ASAR	**Alice Springs**	**28.22**	**122**	P		P	06 14 21.7		+1.8
	0.5nm,0.5s,baz=301,slow=9.4,SNR=8.8								
STKA	**Stephens Creek**	**37.95**	**130**	P		P	06 15 43.2		-1.5
	0.7nm,0.4s,baz=309,slow=13,SNR=3.5								
SONM	**Songino Array**	**57.59**	**359**	P		P	06 18 16.5		-0.5
	0.7nm,0.7s,baz=182,slow=7.0,SNR=4.8								
MKAR	**Makanchi Array**	**61.01**	**340**	P		P	06 18 41.3		+0.6
	0.4nm,0.7s,baz=141,slow=8.3,SNR=5.1								

*BJI **18** 06:10:23.5,997S×10848E,h27km,mB5.2,mb4.6,Ms4.5, Msz4.1*

*IDC **18** 06:10:24.8±0.7,948S×10831E,h0km,mb4.3/11, mb1 4.4/12,mb1mx4.4/17,mbtmp4.3/12,ML3.7/1,Error ellipse: s-maj=28.5km s-min=14.8km az=65.0*

*NEIC **18** 06:10:26.5±0.3,950S×10831E,h10km,mb4.8/13,Error ellipse: s-maj=14.3km s-min=6.0km az=56.0*

*ISCJB **18** 06:10:28.2±0.4,947S±009×1084E±0.1,h33km,mb4.5/25, Error ellipse: s-maj=19.5km s-min=7.8km az=113.6*

ISC 18 06:10:30.4±0.4,953S±009×1083E±01,h35km, (h30km±1.9km:pP-P),n36,σ0§68/31,mb4.5/25,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
BJII	**Banjamegara**	**2.58**	**32**	*eP*		**Pn**	**06 11 17.3**		**+7.6**
FITZ	**Fitzroy Crossi**	**18.84**	**119**	P		**Pn**	**06 14 48.5**		**+0.5**
	0.2nm,0.3s,baz=283,slow=10,SNR=5.6								
NWAO	**Narrogin (SRO)**	**24.70**	**162**	P		**P**	**06 15 49.1**		**+1.0**
	12nm,1.0s,mb4.4,baz=321,slow=9.2,SNR=4.1								
WRA	**Warramunga Arr**	**27.17**	**115**	P		**P**	**06 16 10.1**		**-0.4**
	3.1nm,0.8s,mb3.9,baz=286,slow=11,SNR=6.7								
WRAB	**Tennant Creek**	**27.18**	**115**	*eP*		**P**	**06 16 10.7**		**+0.1**
	13nm,0.9s,mb4.5								
ASAR	**Alice Springs**	**28.19**	**123**	P		**P**	**06 16 19.9**		**+0.3**
	2.4nm,1.1s,mb3.8,baz=305,slow=7.5,SNR=4.8								
ASAR				PcP		PcP	06 19 33.9		+1.2
	0.4nm,0.5s,baz=306,slow=2.2,SNR=3.3								
STKA	**Stephens Creek**	**38.00**	**131**	P		**P**	**06 17 45.3**		**+0.3**
	12nm,0.8s,mb4.6,baz=311,slow=8.2,SNR=16								
STKA	**Stephens Creek**	**38.00**	**131**	*eP*		**P**	**06 17 45.1**		**+0.1**
JIRN	**Jiri**	**42.73**	**331**	*eP*		**P**	**06 18 24.9**		**+0.7**
	50nm,1.1s,mb5.2								
GUN	**Gumba**	**43.09**	**330**	*eP*		**P**	**06 18 26.8**		**-0.3**
	71nm,1.0s,mb5.3								
DMN	**Daman**	**43.23**	**329**	*eP*		**P**	**06 18 28.4**		**+0.2**
	29nm,1.0s,mb5.0								
KKN	**Kakani**	**43.29**	**330**	*eP*		**P**	**06 18 29.0**		**+0.3**
	24nm,0.9s,mb4.9								
XAN	**Xi'an**	**43.33**	**1**	P		**P**	**06 18 28.6**		**-0.4**
XAN				AP		pP	06 18 37.9		-1.4
XAN				AMB		AMB			
	comp=Z,8.0nm,1.2s,mb4.3								
GKN	**Gorkha**	**43.79**	**329**	*eP*		**P**	**06 18 32.8**		**+0.1**
KOLN	**Koldanda**	**44.13**	**328**	*eP*		**P**	**06 18 35.7**		**+0.3**
	comp=Z,24nm,0.8s,mb5.0								
LZH	**Lanzhou**	**45.57**	**355**	*eP*		**P**	**06 18 47.5**		**+0.7**
LZH				AP		pP	06 18 55.5		-1.7
LZH				XP		sP	06 18 57.5		-3.9
LZH				AMB		AMB			
	comp=Z,28nm,1.5s,mb5.0								
GTA	**Gaotai**	**49.33**	**351**	*eP*		**P**	**06 19 17.3**		**+1.2**
GTA				AP		pP	06 19 26.5		0.0
GTA				XP		sP	06 19 30.6		-0.1
GTA				AMB		AMB			
	comp=Z,4.0nm,1.5s,mb4.2								
MJAR	**Matsushiro Arr**	**53.76**	**30**	P		**P**	**06 19 46.9**		**-2.3**
	comp=Z,0.7nm,0.4s,mb4.0,baz=202,slow=8.6,SNR=4.4								
SONM	**Songino Array**	**57.14**	**358**	P		**P**	**06 20 13.4**		**-0.1**
	comp=Z,2.1nm,0.8s,mb4.2,baz=174,slow=8.1,SNR=12								
ULN	**Ulaanbaatar**	**57.15**	**359**	*eP*		**P**	**06 20 14.4**		**+0.8**
	comp=Z,1.0nm,0.6s,mb4.0								
MKAR	**Makanchi Array**	**60.70**	**340**	P		**P**	**06 20 38.1**		**-0.1**
	comp=Z,3.7nm,0.6s,mb4.7,baz=143,slow=7.7,SNR=31								
KURK	**Kurchatov**	**65.31**	**340**	*eP*		**P**	**06 21 08.7**		**-0.1**
	comp=Z,6.8nm,1.0s,mb4.6								
MAW	**Mawson**	**65.35**	**197**	P		**P**	**06 21 08.6**		**-0.5**
	comp=Z,4.5nm,0.9s,mb4.5,baz=43,slow=8.2,SNR=7.1								
MAW	**Mawson**	**65.35**	**197**	*eP*		**P**	**06 21 08.4**		**-0.6**
	comp=Z,4.5nm,0.8s,mb4.5								
ZAL	**Zalesovo**	**66.29**	**345**	P		**P**	**06 21 14.4**		**-0.8**
	comp=Z,1.5nm,0.3s,mb4.5,baz=121,slow=2.9,SNR=5.8								
CHKZ	**Chkalovo**	**70.61**	**337**	*eP*		**P**	**06 21 41.4**		**-0.7**
	comp=Z,5.7nm,1.1s,mb4.4								
ZRNK	**Zerenda**	**70.68**	**336**	*eP*		**P**	**06 21 41.9**		**-0.7**
	comp=Z,2.0nm,0.6s,mb4.2								
VNDA	**Vanda**	**73.25**	**169**	P		**P**	**06 21 56.8**		**-1.2**
	comp=Z,3.1nm,1.1s,mb4.2,baz=291,slow=6.3,SNR=8.3								
VNDA	**Vanda**	**73.25**	**169**	*eP*		**P**	**06 21 57.0**		**-1.0**
	comp=Z,2.5nm,1.0s,mb4.1								
QSPA	**South Pole Qui**	**80.47**	**180**	*eP*		**P**	**06 22 38.5**		**-0.2**
	comp=Z,15nm,1.1s,mb4.8								
BRTR	**Keskin Array B**	**84.47**	**312**	P		**P**	**06 22 59.9**		**+0.4**
	comp=Z,1.8nm,1.0s,mb4.2,baz=131,slow=3.8,SNR=6.1								
WMOK	**Wichita Mounta**	**144.73**	**41**	*e*PKPdf		PKPdf	06 30 02.8		-0.6
LONY	**Lake Ozonia**	**144.95**	**4**	*e*PKPdf		PKPdf	06 30 03.4		-0.4
NCB	**Newcomb**	**145.62**	**3**	*e*PKPdf		PKPdf	06 30 06.0		+1.1
JCT	**Junction City**	**146.52**	**48**	*e*PKPbc		PKPbc	06 30 09.4		+1.5
LPAZ	**La Paz**	**154.11**	**188**	PKPab		PKPab	06 30 41.3		+1.2
	comp=Z,1.4nm,0.9s,baz=142,slow=9.0,SNR=4.5								

*ISCJB **18** 06:17:04.7±1.0,3356N±005×357E±0.1,h42km±12km, Error ellipse: s-maj=18.6km s-min=6.5km az=35.1*

*GRAL **18** 06:17:05.8±0.3,3360N×3575E,h41km±5km,MD2.9*

*GII **18** 06:17:06.6±1.0,3344N×3566E,h0km,ML1.8/3*

ISC 18 06:17:04.8±1.0,3356N±005×357E±01,h42km±12km,n10, σ0§92/18,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
RCY	**Rachaya**	**0.13**	**125**	*e*Pg		**Pn**	**06 17 12.4**		**+0.6**
RCY				*e*Sg		**Sn**	**06 17 17.5**		**+0.7**
HRI	**Mount Hermon**	**0.29**	**173**	Pg		**Pn**	**06 17 11.1**		**-2.1**
MATL	**Matirih**	**0.31**	**257**	*e*Pg		**Pn**	**06 17 14.4**		**+1.0**
KSHT	**Keshet**	**0.58**	**170**	Pg		**Pn**	**06 17 17.4**		**+0.7**
KSHT				Sg		**Sn**	**06 17 24.8**		**-0.5**
KSHT	**Keshet**	**0.58**	**170**	Pg		**Pn**	**06 17 17.4**		**+0.7**
KSHT				Sg		**Sn**	**06 17 24.7**		**-0.5**
MMB1	**Mount Meron ar**	**0.59**	**203**	Pg		**Pn**	**06 17 16.8**		**-0.1**
MMB1				Sg		**Sn**	**06 17 24.9**		**-0.5**
MMC7	**Mount Meron ar**	**0.59**	**205**	Pg		**Pn**	**06 17 17.0**		**+0.2**
MMC7				Sg		**Sn**	**06 17 24.6**		**-0.7**
MMA3	**Mount Meron ar**	**0.60**	**204**	Pg		**Pn**	**06 17 17.0**		**+0.1**
MMA3				Sg		**Sn**	**06 17 24.8**		**-0.7**
HWQ	**Hawqa**	**0.75**	**16**	*e*Pg		**Pn**	**06 17 18.8**		**-0.1**
HWQ				*e*Sg		**Sn**	**06 17 28.3**		**-0.9**
MMLI	**Mount Malkishu**	**1.14**	**191**	Pg		**Pn**	**06 17 26.2**		**+1.9**
MMLI				Sg		**Sn**	**06 17 42.6**		**+3.9**

*ISCJB **18** 06:42:19.4±4.7,57S±02×1508E±03,h77km±33km, mb3.9/6,Error ellipse: s-maj=61.4km s-min=28.8km az=45.2*

*NEIC **18** 06:42:23.2±4.4,573S×15056E,h85km±28km,mb4.4/2, Error ellipse: s-maj=60.3km s-min=26.7km az=102.0*

*IDC **18** 06:42:24.4±7.0,578S×15066E,h100km±47km,mb3.6/4, mb1 3.7/5,mb1mx3.5/14,mbtmp4.0/5,MS3.7/3,Ms1 3.7/3, ms1mx3.0/23,Error ellipse: s-maj=89.6km s-min=32.2km az=106.0*

ISC 18 06:42:22.2±4.8,58S±02×1507E±04,h78km±32km,n11, σ0§79/9,mb3.9/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
PMG	**Port Moresby**	**5.07**	**224**	P		**Pn**	**06 43 35.3**		**-0.3**
	3.8nm,0.3s,baz=13,slow=2.7,SNR=7.6								
PMG				S		**Sn**	**06 44 36.0**		**+3.3**
	1.7nm,0.3s,baz=214,slow=23,SNR=3.2								
CTA	**Charters Tower**	**14.88**	**197**	LR		LR	06 51 03.0		
	comp=Z,219nm,21.5s,baz=153,slow=35								
WRAB	**Tennant Creek**	**21.26**	**227**	*eP*		**P**	**06 47 01.9**		**-0.2**
	9.8nm,0.9s,mb4.1								
WB2	**Warramunga Arr**	**21.27**	**227**	*eP*		**P**	**06 47 01.4**		**-0.8**
WRA	**Warramunga Arr**	**21.28**	**227**	P		**P**	**06 47 01.4**		**-0.8**
	3.3nm,0.8s,mb3.7,baz=49,slow=11,SNR=7.6								
ASAR	**Alice Springs**	**24.07**	**221**	P		**P**	**06 47 30.1**		**-0.1**
	1.8nm,0.7s,mb3.5,baz=56,slow=8.0,SNR=23								
ASAR				LR		LR	06 57 04.9		
	comp=Z,175nm,19.7s,baz=220,slow=37								
STKA	**Stephens Creek**	**27.34**	**197**	LR		LR	06 59 06.3		
	comp=Z,242nm,21.2s,baz=24,slow=37								
FITZ	**Fitzroy Crossi**	**27.40**	**241**	P		**P**	**06 48 00.4**		**+0.1**
	2.2nm,0.5s,mb3.9,baz=356,slow=3.6,SNR=5.9								
SONM	**Songino Array**	**66.07**	**329**	P		**P**	**06 53 01.4**		**+0.5**
	1.0nm,0.7s,mb3.7,baz=138,slow=5.7,SNR=6.7								
CASY	**Casey**	**66.50**	**197**	*eP*		**P**	**06 53 04.5**		**+0.8**
	11nm,1.2s,mb4.6								
TORD	**Torodi Ar. Bea**	**148.63**	**286**	PKPbc		PKPbc	07 01 59.3		-1.0
	0.5nm,0.6s,baz=52,slow=3.6,SNR=7.3								

*ISCJB **18** 06:44:43.3±5.7,63S±04×150.1E±04,h132km±34km, mb4.0/3,Error ellipse: s-maj=69.3km s-min=53.3km az=104.5*

*IDC **18** 06:44:43.8±8.6,624S×150.12E,h121km±51km,mb3.7/4, mb1 3.9/5,mb1mx3.5/14,mbtmp4.2/5,MS3.7/2,Ms1 3.7/2, ms1mx3.1/21,Error ellipse: s-maj=67.7km s-min=61.1km az=30.0*

ISC 18 06:44:44.0±5.4,63S±04×1502E±04,h121km±31km,n9, σ1§09/8,mb3.9/3,New Britain region

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

ZAK pmax pmax
comp=Z,11nm,1.2s,mb4.8
AAK Ala-Archa 59.80 332 *i* P **P 07 00 45.0 -0.8**
AAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
MKAR Makanchi Array 60.13 340 P **P 07 00 47.8 -0.3**
comp=Z,8.6nm,0.4s,mb5.1,baz=145,slow=7.8,SNR=134
MKAR Makanchi Array 60.13 340 *i* P **P 07 00 47.7 -0.4**
MKAR pmax pmax
comp=Z,9.0nm,0.4s
KLR Kul'dur 61.82 18 *e*P **P 07 00 55.2 -4.4**
YSS Yuzh-Sakhalins 63.96 26⇓ *i*P **P 07 01 14.5 +0.8**
YSS pmax pmax
comp=Z,30nm,1.4s,mb5.1
KURK Kurchatov 64.74 340⇓ *i*P **P 07 01 18.8 -0.1**
KURK Kurchatov 64.74 340 *e*P **P 07 01 18.4 -0.4**
comp=Z,9.8nm,0.9s,mb4.8
MAW Mawson 65.55 197 P **P 07 01 23.6 -0.5**
comp=Z,4.4nm,0.7s,mb4.6,baz=53,slow=8.5,SNR=11
MAW Mawson 65.55 197 *e*P **P 07 01 23.2 -0.9**
MAW pmax pmax
comp=Z,6.0nm,0.7s
MAW Mawson 65.55 197 *e*P **P 07 01 23.2 -0.9**
comp=Z,5.8nm,0.7s,mb4.7
BOD Bodaibo 66.92 4 *e*P **P 07 01 31.6 -1.3**
CHKZ Chkalovo 70.02 338 *e*P **P 07 01 51.9 -0.4**
CHKZ pmax pmax
comp=Z,12nm,0.6s,mb5.0
CHKZ Chkalovo 70.02 338 *e*P **P 07 01 51.9 -0.4**
comp=Z,12nm,0.6s,mb5.0
ZRNK Zerenda 70.09 336 *e*P **P 07 01 52.1 -0.6**
ZRNK pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
ZRNK Zerenda 70.09 336 *e*P **P 07 01 52.1 -0.6**
comp=Z,4.7nm,0.4s,mb4.8
KMBO Kilima Mbogo 70.55 272 *i* P **P 07 01 58.0 +2.5**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
VNDA Vanda 73.75 169 P **P 07 02 14.5 -0.1**
comp=Z,2.0nm,0.9s,mb4.0,baz=297,slow=5.8,SNR=10
VNDA Vanda 73.75 169 P **P 07 02 14.5 -0.1**
SVE Sverdlovsk 76.24 336 *e*P **P 07 02 29.8 +0.8**
ARU Arti 76.85 334⇑ *e*P **P 07 02 32.5 0.0**
QSPA South Pole Qui 80.87 180 *e*P **P 07 02 53.7 -0.8**
comp=Z,8.2nm,1.1s,mb4.6
BRTR Keskin Array B 83.78 312 P **P 07 03 09.9 +0.2**
comp=Z,3.2nm,0.8s,mb4.5,baz=131,slow=7.2,SNR=17
BR131 Keskin Array S 83.78 312 *e*P **P 07 03 10.0 +0.3**
comp=Z,6.2nm,1.1s,mb4.7
SNAA Sanae 87.72 197 *e*P **P 07 03 29.4 +0.2**
SNAA pmax pmax
comp=Z,4.0nm,1.3s
SNAA Sanae 87.72 197 *e*P **P 07 03 29.4 +0.2**
comp=Z,3.7nm,1.3s,mb4.5
FINES FINESS Array B 93.98 332 P **P 07 03 57.5 -0.9**
comp=Z,1.3nm,0.8s,mb4.4,baz=265,slow=19,SNR=2.1
ARCES ARCESS Array B 95.78 339 P **P 07 04 06.2 -0.4**
comp=Z,5.2nm,1.0s,mb4.9,baz=33,slow=27,SNR=2.8
HFS Hagfors 99.87 330 LR LR 07 56 24.9
comp=Z,112nm,20.2s,MS4.4,baz=295,slow=40
WMOK Wichita Mounta 144.80 40 *e*PKIKP PKPdf 07 10 17.4 +0.1
NCB Newcomb 145.26 2 *e*PKPdf PKPdf 07 10 17.8 -0.2
BDFB Brasilia 145.60 224 PKPbc PKPbc 07 10 20.8 +1.8
comp=Z,2.8nm,0.6s,baz=25,slow=1.4,SNR=5.5
JCT Junction City 146.67 47 *e*PKP2 PKPab 07 10 23.7 +0.4
MIAR Mount Ida 148.04 35 *e*PKP2 PKPab 07 10 27.1 -1.6
SSPA Standing Stone 148.24 8 *e*PKPbc PKPbc 07 10 26.2 -0.2
LVC Limon Verde 148.28 186 *e*PKPbc PKPbc 07 10 29.4 +2.9
WVT Waverly 149.62 25 *e*PKP2 PKPbc 07 10 30.7 +0.8
HKT Hockley 149.76 44 *e*PKP2 PKPbc 07 10 32.0 +1.7
PLAL Pickwick Lake 150.48 27 *e*PKPbc PKPbc 07 10 32.5 +0.5

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*ISCJB **18** 06:51:42.3±1.3, 972.5±005.1×10796E±006, h9km±8km, mb5.1/76, MS4.5/18, Error ellipse: s-maj=9.6km s-min=7.1km az=130.5*
*IDC **18** 06:51:42.6±0.4, 968.5S×10791E, h0km, mb4.7/19, mb1 4.7/20, mb1mx4.7/22, mbtmp4.7/20, ML4.6/1, MS3.9/4, Ms1 3.9/4, ms1mx3.5/21, Error ellipse: s-maj=20.1km s-min=12.1km az=48.0*
*BJI **18** 06:51:45.8, 970.5S×10800E, h33km, mB5.2, mb5.2, Ms4.8, Msz4.7*
*MOS **18** 06:51:46.2±1.0, 959.5S×10801E, h33km, mb5.3/29, Error ellipse: s-maj=13.4km s-min=7.1km az=109.9*
*HRVD **18** 06:51:47.8±0.3, 996.5S×10796E, h12km, MW5.0/66, Centroid moment Tensor Solution. LP body waves: s38,c45;Mantle waves: s66,c99; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.34±.11; $M_{\theta\theta}$=2.85±.07; $M_{\phi\phi}$-0.50±.14; $M_{r\theta}$-0.70±.25; $M_{\theta\phi}$-1.05±.08; $M_{r\phi}$-1.48±.40; Best double couple: M_o3.26900×10^{16} NP1:$\phi_0$314.00000°,δ50.00000°,λ-46.00000°. NP2: ϕ_s78.00000°,δ56.00000°,λ-130.00000°. Principal axes: T 3.1660, Plg3.0000°, Azm195.0000°; N 0.2060, Plg32.0000°, Azm103.0000°; P -3.3710, Plg58.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **18** 06:51:47.8±2.5, 969S×10797E, h33km±17km, mb5.2/30 Error ellipse: s-maj=8.7km s-min=5.1km az=51.0*
ISC 18 06:51:46.6±1.3, 976S±004×10796E±005, h25km±9km, h31km±2.2km:pP-P, n194, σ1§07/166, mb5.1/76, MS4.5/18, 14C-7D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**8.07**	**318**	P	**Pn**	**06 53 40.1**	**-2.1**
	607nm,0.8s						
PCI	**Palu**	**14.72**	**54**	P	**Pn**	**06 55 14.9**	**+1.7**
	163nm,0.9s						
PSI	**Prapat**	**15.38**	**324**	Pn	**Pn**	**06 55 13.2**	**-8.7**
	0.8nm,0.3s,baz=147,slow=11,SNR=7.2						
PSI				LR	LR	07 02 32.4	
	comp=Z,1μm,18.6s,baz=143,slow=43						
PSI	**Prapat**	**15.38**	**324**	P	**Pn**	**06 55 13.2**	**-8.7**
PSI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PSI				MLR	MLR		
	comp=Z,1μm,18.6s						
MBWA	**Marble Bar**	**16.02**	**136**	*e*Pn	**Pn**	**06 55 24.9**	**-5.4**
	comp=Z,28nm,0.8s						
KULM	**Kulim**	**16.63**	**334**	*e*P	**Pn**	**06 55 40.3**	**+2.4**
KKM	**Kota Kinabalu**	**17.72**	**28**	*e*P	**Pn**	**06 55 50.4**	**-1.1**
SNG	**Songkhla**	**18.34**	**336**	P	**Pn**	**06 55 55.0**	**-4.2**
FITZ	**Fitzroy Crossi**	**19.04**	**118**	P	**Pn**	**06 56 06.5**	**-1.2**
	comp=Z,1.3nm,0.3s,baz=326,slow=4.0,SNR=6.2						
FITZ				S	**Sn**	**06 59 24.8**	**-15**
	comp=Z,0.7nm,0.3s,baz=148,slow=22,SNR=2.8						
BSI	**Banda Aceh**	**19.72**	**320**	P	**Pn**	**06 56 15.0**	**-0.8**
	comp=Z,653nm,1.1s						
NWAO	**Narrogin (SRO)**	**24.59**	**161**	P	**P**	**06 57 04.6**	**0.0**
	comp=Z,16nm,0.6s,mb4.7,baz=339,slow=8.4,SNR=9.2						
NWAO	**Narrogin (SRO)**	**24.59**	**161**	*e*P	**P**	**06 57 05.2**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,13nm,0.7s						
NWAO	**Narrogin (SRO)**	**24.59**	**161**	*e*P	**P**	**06 57 05.2**	**+0.5**
	comp=Z,13nm,0.7s,mb4.6						
KKTK	**Khon Kaen**	**26.42**	**349**	P	**P**	**06 57 21.5**	**+0.3**
	comp=Z,370nm,0.5s						
NST	**Nakhon Sawan**	**26.43**	**343**	P	**P**	**06 57 21.0**	**-0.3**
	comp=Z,58nm,1.0s,mb5.1						
WRA	**Warramunga Arr**	**27.39**	**115**	P	**P**	**06 57 29.8**	**-0.2**
	comp=Z,5.7nm,0.6s,mb4.3,baz=286,slow=11,SNR=6.4						
WRA				PcP	PcP	07 00 49.5	+1.0
	comp=Z,2.3nm,0.6s,baz=295,slow=2.1,SNR=6.5						
WRA	**Warramunga Arr**	**27.39**	**115**	P	**P**	**06 57 29.8**	**-0.2**
WRA						07 00 49.5	
WRA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**28.37**	**122**	P	**P**	**06 57 41.0**	**+2.3**
	comp=Z,5.0nm,0.7s,mb4.2,baz=297,slow=9.7,SNR=9.1						
ASAR				PcP	PcP	07 00 52.3	+1.4
	comp=Z,2.6nm,0.8s,baz=311,slow=1.8,SNR=7.2						
ASAR	**Alice Springs**	**28.37**	**122**	P	**P**	**06 57 41.0**	**+2.3**
ASAR						07 00 52.3	
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
QIZ	**Qiongzhong**	**28.66**	**4**	P	**P**	**06 57 41.6**	**+0.3**
QIZ				*e*S	**S**	**07 02 29.8**	**+1.2**
QIZ				LR	LR		
	comp=E,740nm,19.0s						
QIZ				LR	LR		
	comp=Z,710nm,15.0s,MS4.4						
NANT	**Nan**	**29.27**	**346**	⇓P	**P**	**06 57 45.0**	**-1.6**
	comp=Z,388nm,1.1s,mb6.0						
CM31	**Chiang Mai Arr**	**29.41**	**342**	*e*P	**P**	**06 57 48.4**	**+0.4**
	comp=Z,17nm,0.8s,mb4.8						
CHG	**Chiang Mai**	**29.75**	**343**	⇑P	**P**	**06 57 50.9**	**0.0**
	comp=Z,46nm,1.1s,mb5.1						
CHTO	**Chiang Mai**	**29.75**	**343**	P	**P**	**06 57 51.7**	**+0.7**
	SNR=9.6						
CHTO	**Chiang Mai**	**29.75**	**343**	*e*P	**P**	**06 57 50.7**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,47nm,1.1s,mb5.1						
CHTO	**Chiang Mai**	**29.75**	**343**	*e*P	**P**	**06 57 50.7**	**-0.2**
	comp=Z,47nm,1.1s,mb5.1						
GZH	**Guangzhou**	**33.06**	**9**	P	**P**	**06 58 22.3**	**+2.2**
GZH				S	**S**	**07 03 44.0**	**+6.6**
GZH				LR	LR		
	comp=N,513nm,12.8s,MS4.5						
GZH				LR	LR		
	comp=E,427nm,15.2s,MS4.5						
GZH				LR	LR		
	comp=Z,522nm,13.7s,MS4.4						
KMI	**Kunming**	**35.04**	**352**	P	**P**	**06 58 39.5**	**+2.3**
KMI				PP	PP	06 59 59.5	+2.6
KMI				PPP		07 00 18.4	
KMI				PCP	PcP	07 01 09.3	+0.4
KMI				S	**S**	**07 04 13.9**	**+5.9**
KMI				SCP	ScP	07 04 53.9	+1.2
KMI				PCS	PcS	07 04 55.1	-0.6
KMI				SCS	ScS	07 08 57.1	+0.6
KMI				AMB	AMB		
	comp=Z,62nm,1.1s,mb5.5						
KMI				AMB	AMB		
	comp=Z,163nm,6.5s						
KMI				LR	LR		
	comp=N,1μm,14.6s,MS4.9						
KMI				LR	LR		
	comp=E,541nm,12.9s,MS4.9						
KMI				LR	LR		
	comp=Z,1μm,13.8s,MS4.9						
GYA	**Guiyang**	**36.02**	**358**⇑	*i*P	**P**	**06 58 46.4**	**+0.7**
GYA				AP	pP	06 58 53.8	+0.5
GYA				XP	sP	06 58 57.5	+1.1
GYA				PP	PP	07 00 07.8	+0.1
GYA				PCP	PcP	07 01 14.0	+2.2
GYA				S	**S**	**07 04 21.6**	**-1.4**
GYA				SCP	ScP	07 04 57.3	+1.0
GYA				SS	SS	07 06 40.8	-20
GYA				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.6						
GYA				AMB	AMB		
	comp=Z,150nm,6.4s						
GYA				LR	LR		
	comp=N,850nm,13.4s,MS4.8						
GYA				LR	LR		
	comp=E,580nm,14.9s,MS4.8						
GYA				LR	LR		
	comp=Z,670nm,14.6s,MS4.5						
YHNB	**Yeheng**	**36.63**	**21**	*e*P	**P**	**06 58 51.0**	**+0.1**
STKA	**Stephens Creek**	**38.12**	**130**	P	**P**	**06 59 03.6**	**+0.1**
	comp=Z,13nm,0.7s,mb4.8,baz=296,slow=9.7,SNR=7.8						
STKA	**Stephens Creek**	**38.12**	**130**	*e*P	**P**	**06 59 03.6**	**+0.1**
CTA	**Charters Tower**	**38.31**	**110**	P	**P**	**06 59 07.0**	**+1.9**
	comp=Z,3.1nm,0.7s,mb4.2,baz=257,slow=11,SNR=5.2						
CTA	**Charters Tower**	**38.31**	**110**	P	**P**	**06 59 07.0**	**+1.9**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CTAO	**Charters Tower**	**38.31**	**110**	*e*P	**P**	**06 59 07.4**	**+2.3**
CTAO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
CTAO	**Charters Tower**	**38.31**	**110**	*e*P	**P**	**06 59 07.4**	**+2.2**
	comp=Z,1.9nm,0.5s,mb4.1						
HYB	**Hyderabad**	**39.67**	**313**	*i*P	**P**	**06 59 18.5**	**+2.0**
HYB	**Hyderabad**	**39.67**	**313**	*e*P	**P**	**06 59 16.5**	**0.0**
WHN	**Wuhan**	**40.53**	**8**	⇑P	**P**	**06 59 24.8**	**+1.1**
WHN				AP	pP	06 59 35.1	+3.8
CD2	**Chengdu**	**40.63**	**354**⇑	*i*P	**P**	**06 59 25.0**	**+0.5**
CD2				PP	PP	07 01 02.6	+4.3
CD2				S	**S**	**07 05 35.3**	**+2.6**
CD2				SS	SS	07 08 31.3	-2.0
CD2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.8						
CD2				AMB	AMB		
	comp=Z,120nm,5.6s						
CD2				LR	LR		
	comp=E,460nm,14.3s						
CD2				LR	LR		
	comp=Z,340nm,12.0s,MS4.4						
SSE	**Sheshan**	**42.55**	**17**	P	**P**	**06 59 41.1**	**+0.9**
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,123nm,4.7s						
JIRN	**Jiri**	**42.76**	**331**	*e*P	**P**	**06 59 42.3**	**+0.4**
	comp=Z,202nm,0.9s,mb5.8						
NJ2	**Nanjing**	**42.86**	**14**	*e*P	**P**	**06 59 41.8**	**-0.9**
NJ2				AP	pP	06 59 51.6	+1.2
NJ2				XP	sP	06 59 55.8	+2.4
NJ2				PP	PP	07 01 24.0	+1.7
NJ2				S	**S**	**07 06 02.0**	**-3.6**
NJ2				XS	sS	07 06 18.0	-0.3
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,360nm,4.5s						
NJ2				LR	LR		
	comp=N,3μm,10.0s						
NJ2				LR	LR		
	comp=E,610nm,18.1s						
NJ2				LR	LR		
	comp=Z,1μm,10.4s,MS5.0						
PKI	**Pulchoki**	**43.06**	**330**	*e*P	**P**	**06 59 44.3**	**0.0**
	comp=Z,95nm,1.1s,mb5.4						
PKI	**Pulchoki**	**43.06**	**330**	*e*P	**P**	**06 59 44.3**	**0.0**
PKI				pmax	pmax		
	comp=Z,95nm,1.1s,mb5.4						
GUN	**Gumba**	**43.12**	**331**	*e*P	**P**	**06 59 45.1**	**+0.3**
	comp=Z,156nm,0.8s,mb5.8						
DMN	**Daman**	**43.24**	**330**	*e*P	**P**	**06 59 45.8**	**0.0**
	comp=Z,124nm,0.9s,mb5.7						
KKN	**Kakani**	**43.31**	**330**	*e*P	**P**	**06 59 46.4**	**+0.1**
	comp=Z,137nm,0.9s,mb5.7						
KKN	**Kakani**	**43.31**	**330**	*e*P	**P**	**06 59 46.4**	**+0.1**
KKN				pmax	pmax		
	comp=Z,137nm,0.9s,mb5.7						
XAN	**Xi'an**	**43.56**	**1**	P	**P**	**06 59 48.3**	**-0.1**
XAN				AP	pP	06 59 59.1	+3.0
XAN				S	**S**	**07 06 16.8**	**+0.8**
XAN				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.1						
XAN				LR	LR		
	comp=N,436nm,16.0s						
XAN				LR	LR		
	comp=Z,813nm,16.0s,MS4.7						
GKN	**Gorkha**	**43.80**	**330**	*e*P	**P**	**06 59 50.4**	**+0.1**
	comp=Z,100nm,0.8s,mb5.6						
KOLN	**Koldanda**	**44.14**	**328**	*e*P	**P**	**06 59 53.2**	**+0.2**
	comp=Z,144nm,0.8s,mb5.8						
LZH	**Lanzhou**	**45.76**	**355**	*e*P	**P**	**07 00 07.3**	**+1.4**
LZH				AP	pP	07 00 18.9	+5.3
LZH				XP	sP	07 00 24.8	+8.1
LZH				AMB	AMB		
	comp=Z,29nm,1.6s,mb5.0						
LZH				AMB	AMB		
	comp=Z,101nm,4.1s						
LZH				LR	LR		
	comp=E,464nm,14.0s						
LZH				LR	LR		
	comp=Z,833nm,15.5s,MS4.8						
TIA	**Tai'an**	**46.53**	**10**	P	**P**	**07 00 11.0**	**-0.9**
GTA	**Gaotai**	**49.50**	**352**	P	**P**	**07 00 36.3**	**+1.4**
GTA				AP	pP	07 00 45.1	+2.4
GTA				XP	sP	07 00 49.3	+3.5
GTA				PP	PP	07 02 33.0	+3.8
GTA				PPP		07 03 29.6	
GTA				S	**S**	**07 07 45.9**	**+5.0**
GTA				PS		07 07 56.6	
GTA				XS	sS	07 08 00.4	+6.7
GTA				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.9						
GTA				AMB	AMB		
	comp=Z,280nm,5.3s						
GTA				LR	LR		
	comp=N,171nm,22.4s,MS4.5						
GTA				LR	LR		
	comp=E,492nm,17.5s,MS4.5						
GTA				LR	LR		
	comp=Z,221nm,21.3s,MS4.1						
BJT	**Baijiatuau**	**50.10**	**8**	*e*P	**P**	**07 00 39.5**	**0.0**
BJT				pmax	pmax		
	comp=Z,36nm,0.9s						
BJT	**Baijiatuau**	**50.10**	**8**	*e*P	**P**	**07 00 39.5**	**0.0**
	comp=Z,36nm,0.9s,mb5.4						
BJI	**Beijing**	**50.12**	**8**	P	**P**	**07 00 39.8**	**+0.1**
BJI				S	**S**	**07 07 52.3**	**+2.6**
BJI				AMB	AMB		
	comp=Z,43nm,0.9s,mb5.5						
BJI				AMB	AMB		
	comp=Z,209nm,3.9s						
BJI				LR	LR		
	comp=N,418nm,16.0s,MS4.7						
BJI				LR	LR		
	comp=E,499nm,16.0s,MS4.7						
BJI				LR	LR		
	comp=Z,287nm,41.5s						
BTO	**Baotou**	**50.14**	**2**	*e*P	**P**	**07 00 39.6**	**-0.2**
HHC	**Hu-ho-hao-te**	**50.46**	**4**	*e*P	**P**	**07 00 45.3**	**+3.1**
HHC				AP	pP	07 00 50.3	+0.3
HHC				PP	PP	07 02 40.5	+2.6
HHC				S	**S**	**07 07 53.3**	**-1.1**
HHC				XS	sS	07 08 07.6	+0.4
HHC				SCS	ScS	07 10 26.8	-4.8
HHC				SS	SS	07 11 26.3	-2.0
HHC				AMB	AMB		
	comp=Z,22nm,0.9s,mb5.2						
HHC				AMB	AMB		
	comp=Z,70nm,4.0s						
HHC				LR	LR		
	comp=N,619nm,11.9s,MS4.9						
HHC				LR	LR		
	comp=E,403nm,14.3s,MS4.9						
HHC				LR	LR		
	comp=Z,550nm,13.1s,MS4.8						
SNY	**Shenyang**	**53.30**	**15**⇑	P	**P**	**07 01 01.4**	**-2.0**
SNY				AMB	AMB		
	comp=Z,13nm,2.0s,mb4.5						
MAJO	**Matsushiro**	**54.13**	**30**	*e*P	**P**	**07 01 07.1**	**-2.4**
MAJO				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
MAJO	**Matsushiro**	**54.13**	**30**	*e*P	**P**	**07 01 07.1**	**-2.4**
	comp=Z,19nm,0.9s,mb5.0						
MAT	**Matsushiro**	**54.13**	**30**	P	**P**	**07 01 07.4**	**-2.1**
MAT	**Matsushiro**	**54.13**	**30**	*e*P	**P**	**07 01 07.0**	**-2.5**
MAT				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MAT	**Matsushiro**	**54.13**	**30**	*e*P	**P**	**07 01 07.0**	**-2.5**
	comp=Z,10nm,0.9s,mb4.8						
MJAR	**Matsushiro Arr**	**54.13**	**30**	P	**P**	**07 01 07.8**	**-1.7**
	comp=Z,13nm,0.8s,mb4.9,baz=209,slow=8.0,SNR=17						
MJAR				PcP	PcP	07 02 15.5	+1.6
	comp=Z,4.1nm,0.8s,baz=194,slow=4.5,SNR=4.1						
MJAR				LR	LR	07 22 02.8	
	comp=Z,104nm,21.8s,MS3.9,baz=225,slow=34						
MJAR	**Matsushiro Arr**	**54.13**	**30**	P	**P**	**07 01 07.8**	**-1.7**
MJAR						07 02 15.5	
MJAR				pmax	pmax		
	comp=Z,13nm,0.8s						
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MJAR	**Matsushiro Arr**	**54.13**	**30**	P	**P**	**07 01 07.8**	**-1.7**
MJAR				PcP	PcP	07 02 15.5	+1.6
MJAR				LR	LR	07 22 02.8	
WMQ	**Urumqi**	**56.41**	**342**	P	**P**	**07 01 28.1**	**+2.2**
WMQ				PCP	PcP	07 02 24.9	+2.1
WMQ				PP	PP	07 03 35.3	+3.7
WMQ				S	**S**	**07 09 16.6**	**+1.4**
WMQ				AMB	AMB		
	comp=Z,34nm,1.5s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,174nm,4.9s						
WMQ				LR	LR		
	comp=N,890nm,18.5s,MS5.0						
WMQ				LR	LR		
	comp=E,668nm,17.4s,MS5.0						
WMQ				LR	LR		
	comp=Z,893nm,19.0s,MS4.9						
DZM	**Mont Dzumac**	**57.26**	**110**	P	**P**	**07 01 33.4**	**+1.5**
	comp=Z,4.5nm,0.8s,mb4.6,baz=68,slow=2.2,SNR=3.8						
KSH	**Kashi**	**57.31**	**331**	*e*P	**P**	**07 01 32.6**	**+0.3**
KSH				*e*PCP	PcP	07 02 29.4	+3.1
KSH				*e*PP	PP	07 03 39.8	+0.2
KSH				*e*S	**S**	**07 09 25.8**	**-1.3**
KSH				*e*PS		07 09 42.3	
KSH				*e*SCS	ScS	07 11 18.1	-1.9
KSH				AMB	AMB		
	comp=Z,383nm,4.1s						
KSH				LR	LR		
	comp=N,250nm,5.4s						
KSH				LR	LR		
	comp=E,282nm,6.8s						
KSH				LR	LR		
	comp=Z,309nm,15.5s,MS4.5						
SONM	**Songino Array**	**57.35**	**359**	P	**P**	**07 01 32.6**	**0.0**
	comp=Z,23nm,0.8s,mb5.3,baz=173,slow=7.6,SNR=28						
SONM	**Songino Array**	**57.35**	**359**	P	**P**	**07 01 32.6**	**0.0**
SONM				pmax	pmax		
	comp=Z,23nm,0.8s						
ULN	**Ulaanbaatar**	**57.37**	**359**	P	**P**	**07 01 33.9**	**+1.2**
	SNR=8.8						
ULN	**Ulaanbaatar**	**57.37**	**359**⇓	*i*P	**P**	**07 01 33.0**	**+0.3**
ULN	**Ulaanbaatar**	**57.37**	**359**	*e*P	**P**	**07 01 33.1**	**+0.4**
	comp=Z,26nm,0.8s,mb5.3						
MDJ	**Mudanjiang**	**57.55**	**18**	P	**P**	**07 01 32.8**	**-1.2**
MDJ				S	**S**	**07 09 28.9**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,45nm,3.7s						
MDJ				LR	LR		
	comp=N,43nm,18.9s,MS4.0						
MDJ				LR	LR		
	comp=E,102nm,19.9s,MS4.0						
MDJ				LR	LR		
	comp=Z,114nm,18.9s,MS4.0						
WSAR	**Wadi Sarin**	**58.34**	**305**	P	**P**	**07 01 39.6**	**+0.1**
	comp=Z,13nm,0.9s,mb5.0,baz=141,slow=2.9,SNR=6.0						
TKM2	**Tokmak 2**	**60.17**	**333**	*i*P	**P**	**07 01 52.0**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.5						
TKM2	**Tokmak 2**	**60.17**	**333**	*i*P	**P**	**07 01 52.1**	**-0.1**
AAK	**Ala-Archa**	**60.45**	**332**⇑	*i*P	**P**	**07 01 53.5**	**-0.6**
AAK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
AAK	**Ala-Archa**	**60.45**	**332**	*e*P	**P**	**07 01 56.2**	**+2.2**
	comp=Z,11nm,1.0s,mb4.8						
FRU	**Bishkek**	**60.55**	**332**	*i*P	**P**	**07 01 58.0**	**+3.2**
FRU				*e*	pP	07 02 05.0	+2.3
MK31	**Makanchi Array**	**60.78**	**340**	P	**P**	**07 01 55.7**	**-0.7**
MK31				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.4						
MKAR	**Makanchi Array**	**60.78**	**340**	P	**P**	**07 01 55.2**	**-1.1**
	comp=Z,22nm,0.8s,mb5.4,baz=146,slow=7.4,SNR=14						
MKAR	**Makanchi Array**	**60.78**	**340**	P	**P**	**07 01 55.3**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,22nm,0.8s						
MOY	**Mondy**	**61.47**	**355**	*e*P	**P**	**07 02 02.0**	**+1.0**
MOY				pmax	pmax		
	comp=Z,42nm,1.9s,mb5.2						
KLR	**Kul'dur**	**62.34**	**17**	*e*P	**P**	**07 02 02.8**	**-4.1**
KLR				pmax	pmax		
	comp=E,20nm,1.0s						
KLR				pmax	pmax		
	comp=Z,56nm,1.0s,mb5.7						
HABR	**Khabarovsk**	**62.72**	**20**	*e*P	**P**	**07 02 08.9**	**-0.5**
HABR				pmax	pmax		
	comp=Z,61nm,1.2s,mb5.6						
YSS	**Yuzh-Sakhalins**	**64.41**	**26**⇑	*i*P	**P**	**07 02 20.0**	**-0.6**
YSS				*e*		07 02 31.0	
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.6						
YSS	**Yuzh-Sakhalins

KURK	Kurchatov	65.40	340	P		P	07 02 26.6	-0.4	
	SNR=7.1								
KURK	Kurchatov	65.40	340	*d* *i*P		P	07 02 26.6	-0.4	
KURK	Kurchatov	65.40	340	*e*P		P	07 02 25.9	-1.1	
	comp=Z,15nm,0.9s,mb5.0								
ZAL	Zalesovo	66.42	345	P		P	07 02 32.3	-1.3	
	comp=Z,3.4nm,0.4s,mb4.8,baz=335,slow=2.0,SNR=4.4								
ZAL	Zalesovo	66.42	345	P		P	07 02 32.3	-1.3	
ZAL				pmax	pmax				
	comp=Z,3.0nm,0.4s								
BOD	Bodaibo	67.52	3	*e*P		P	07 02 39.1	-1.5	
BOD				pmax	pmax				
	comp=Z,30nm,1.2s,mb5.2								
CLNS	Chul'man	67.81	10	*e*P		P	07 02 41.9	-0.5	
CLNS				pmax	pmax				
	comp=N,12nm,0.7s								
CLNS				pmax	pmax				
	comp=E,12nm,0.7s								
CLNS				pmax	pmax				
	comp=Z,34nm,0.7s,mb5.5								
ATD	Arta Tunnel	68.09	287	P		P	07 02 45.5	+1.3	
	comp=Z,9.4nm,0.7s,mb4.9,baz=301,slow=2.8,SNR=6.3								
ATD				LR	LR		07 29 14.5		
	comp=Z,58nm,19.2s,MS3.8,baz=220,slow=33								
VOSK	Vostochnaya	69.80	337	P		P	07 02 54.1	-0.7	
VOSK				pmax	pmax				
	comp=Z,33nm,1.6s,mb5.0								
BVA0	Borovoye Array	70.26	337	*i* P		P	07 02 57.0	-0.6	
BVA0				pmax	pmax				
	comp=Z,2.0nm,0.9s,mb4.0								
BRVK	Borovoye	70.33	337	P		P	07 02 58.3	+0.3	
	SNR=5.3								
BRVK	Borovoye	70.33	337	*e*P		P	07 02 57.6	-0.4	
BRVK				pmax	pmax				
	comp=Z,7.0nm,0.8s,mb4.6								
BRVK	Borovoye	70.33	337	*e*P		P	07 02 57.5	-0.5	
	comp=Z,6.9nm,0.8s,mb4.6								
CHKZ	Chkalovo	70.68	338	*i* P		P	07 02 59.9	-0.2	
CHKZ				pmax	pmax				
	comp=Z,18nm,0.8s,mb5.0								
CHKZ	Chkalovo	70.68	338	*e*P		P	07 03 00.0	-0.1	
ZRNK	Zerenda	70.75	336	*e*P		P	07 03 00.1	-0.5	
ZRNK				pmax	pmax				
	comp=Z,13nm,0.7s,mb5.0								
ZRNK	Zerenda	70.75	336	*e*P		P	07 03 00.1	-0.5	
	comp=Z,13nm,0.7s,mb5.0								
KMBO	Kilima Mbogo	70.80	272	P		P	07 03 01.4	+0.5	
	comp=Z,4.9nm,0.9s,mb4.4,baz=49,slow=6.7,SNR=8.8								
KMBO	Kilima Mbogo	70.80	272	P		P	07 03 01.4	+0.5	
KMBO				pmax	pmax				
	comp=Z,5.0nm,0.9s								
VNDA	Vanda	73.10	169	P		P	07 03 14.7	0.0	
	comp=Z,1.7nm,0.8s,mb4.0,baz=291,slow=6.3,SNR=5.0								
VNDA	Vanda	73.10	169	P		P	07 03 14.7	0.0	
VNDA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
SYO	Syowa Base	73.26	200⇑	*e*P		P	07 03 14.4	-1.3	
SYO	Syowa Base	73.26	200⇓	*e*pP		pP	07 03 17.7	-6.1	
YAK	Yakutsk	73.54	10	*e*P		P	07 03 16.1	-1.2	
YAK				*e*			07 03 27.2		
YAK				pmax	pmax				
	comp=Z,44nm,0.9s,mb5.4								
YAK				pmax	pmax				
	comp=N,18nm,1.1s								
YAK				pmax	pmax				
	comp=E,9.0nm,1.3s								
YAK				pmax	pmax				
	comp=Z,40nm,0.9s,mb5.3								
YAK				pmax	pmax				
	comp=N,24nm,1.3s								
YAK				pmax	pmax				
	comp=E,12nm,1.4s								
YAK	Yakutsk	73.54	10	*e*P		P	07 03 16.7	-0.6	
	comp=E,62nm,0.9s,mb5.5								
MSL	Mosul	76.17	311	*ex*		x	07 03 34.0		
GNI	Garni	76.57	315	LR		LR	07 40 21.5		
	comp=E,48nm,18.9s,MS3.8,baz=357,slow=38								
GNI	Garni	76.57	315⇓	*e*P		P	07 03 34.5	-0.2	
GNI				pmax	pmax				
	comp=Z,15nm,1.3s								
SVE	Sverdlovsk	76.90	335⇓	*e*P		P	07 03 37.2	+0.6	
SVE				*e*			07 03 48.4		
SVE				*e*			07 13 40.0		
SVE				*e*			07 14 12.0		
SVE				pmax	pmax				
	comp=Z,96nm,1.8s,mb5.4								
SVE				MLR	MLR				
	comp=N,200nm,19.0s,MS4.6								
SVE				MLR	MLR				
	comp=E,200nm,19.0s,MS4.6								
SVE				MLR	MLR				
	comp=Z,200nm,19.0s,MS4.5								
MA2	Magadan	77.11	21	*e*P		P	07 03 37.8	0.0	
MA2				*e*			07 03 49.3		
MA2				pmax	pmax				
	comp=Z,30nm,0.8s,mb5.3								
MA2	Magadan	77.11	21	*e*P		P	07 03 37.5	-0.2	
	comp=Z,11nm,0.8s,mb4.8								
ARU	Arti	77.50	334⇓	*i* P		P	07 03 39.7	-0.3	
ARU				*e*			07 03 50.4		
ARU				*e*			07 06 34.4		
ARU				*e*PPP			07 08 20.9		
ARU				*e*S		S	07 13 29.0	-0.5	
ARU				*e*SS		SS	07 18 26.0	-2.7	
ARU				pmax	pmax				
	comp=Z,45nm,1.1s,mb5.3								
ARU	Arti	77.50	334	*e*P		P	07 03 39.9	-0.1	
	comp=Z,48nm,1.1s,mb5.3								
LSZ	Lusaka	77.70	256	*e*P		P	07 03 41.6	+0.5	
LSZ				pmax	pmax				
	comp=Z,9.0nm,1.3s,mb4.5								
LSZ	Lusaka	77.70	256	*e*P		P	07 03 41.6	+0.5	
	comp=Z,8.7nm,1.3s,mb4.5								
ZEI	Tsey	78.25	317	*e*P		P	07 03 44.9	+0.7	
ZEI				pmax	pmax				
	comp=Z,19nm,0.8s,mb5.1								
KIV	Kislovodsk	79.55	318	*c* *i*P		P	07 03 52.0	+0.7	
KIV				pmax	pmax				
	comp=Z,19nm,1.1s,mb4.9								
EIL	Elat	80.34	302	*e*P		P	07 03 55.8	+0.2	
	comp=Z,201nm,1.1s,mb6.0								
MALT	Malatya	80.38	312	*e*P		P	07 03 56.1	+0.3	
MALT				pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.2								
MALT	Malatya	80.38	312	*e*P		P	07 03 56.1	+0.3	
	comp=Z,2.2nm,0.7s,mb4.2								
TIXI	Tiksi	82.42	7	*d* *i*P		P	07 04 05.5	-1.1	
TIXI				pmax	pmax				
	comp=Z,40nm,1.2s,mb5.2								
VRHR	Novokhopersk	83.18	324	*e*P		P	07 04 10.4	-0.1	
VRHR				pmax	pmax				
	comp=Z,70nm,1.0s,mb5.7								
VRHR				pmax	pmax				
	comp=N,10.0nm,0.6s								
VRHR				pmax	pmax				
	comp=E,30nm,1.2s								
ANN	Anapa	83.36	317	*e*P		P	07 04 14.6	+3.2	
ANN				pmax	pmax				
	comp=Z,52nm,5.2s								
BR131	Keskin Array S	84.36	312	*e*P		P	07 04 15.9	-0.7	
	comp=Z,7.0nm,0.8s,mb4.8								
BRTR	Keskin Array B	84.36	312	P		P	07 04 16.5	-0.1	
	comp=Z,7.2nm,0.8s,mb4.9,baz=139,slow=6.8,SNR=16								
BRTR	Keskin Array B	84.36	312	P		P	07 04 16.5	-0.1	
BRTR				pmax	pmax				
	comp=Z,7.0nm,0.8s								
SNAA	Sanae	87.19	197⇑	*i* P		P	07 04 30.7	+0.1	
SNAA				*e*			07 04 32.3		
SNAA				*e*			07 04 33.5		
SNAA				*e*			07 04 35.6		
SNAA				*e*			07 04 40.8		
SNAA				*e*			07 04 54.7		
SNAA	Sanae	87.19	197⇑	*e*P		P	07 04 30.6	0.0	
SNAA	Sanae	87.19	197	*e*P		P	07 04 30.1	-0.5	
	comp=Z,9.0nm,1.3s,mb4.8								
MOS	Moscow	87.21	328	*e*P		P	07 04 29.4	-1.3	
MOS				*e*		pP	07 04 37.6	-1.3	
MOS				pmax	pmax				
	comp=Z,76nm,1.2s,mb5.8								
OBN	Obninsk	87.54	327	*c* *i*P		P	07 04 32.1	-0.2	
OBN				*e*			07 07 58.1		
OBN				*e*S			07 14 51.7		
OBN				pmax	pmax				
	comp=Z,84nm,1.6s,mb5.7								
OBN	Obninsk	87.54	327⇑	*i*P		P	07 04 32.5	+0.2	

VNA1	Neumayer--Stat	89.22	197	*e*P		P	07 04 40.3	0.0	
VNA1				*e*			07 04 41.7		
VNA1				*e*			07 04 43.7		
VNA1				*e*		pP	07 04 49.1	+0.6	
VNA1				*e*			07 04 56.3		
VNA1				*e*			07 05 04.6		
AKASG	Malin Array Be	90.43	321	P		P	07 04 45.1	-0.8	
	comp=Z,1.5nm,0.7s,mb4.4,baz=93,slow=3.9,SNR=7.1								
AKASG				PP		PP	07 08 19.9	-0.5	
	comp=Z,1.2nm,0.7s,baz=92,slow=6.4,SNR=7.0								
AKASG	Malin Array Be	90.43	321	P		P	07 04 45.1	-0.8	
AKASG							07 08 19.9		
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.7s								
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.7s								
FINES	FINESS Array B	94.63	331	P		P	07 05 04.8	-0.5	
	comp=Z,2.9nm,0.9s,mb4.7,baz=152,slow=8.6,SNR=4.1								
FINES	FINESS Array B	94.63	331	P		P	07 05 04.8	-0.5	
FINES				pmax	pmax				
	comp=Z,3.0nm,0.9s								
FINES	FINESS Array B	94.63	331	P		P	07 05 04.8	-0.5	
ARCES	ARCESS Array B	96.44	339	P		P	07 05 12.4	-1.2	
	comp=Z,4.4nm,1.0s,mb4.9,baz=72,slow=4.0,SNR=5.3								
ARCES	ARCESS Array B	96.44	339	P		P	07 05 12.4	-1.1	
ARCES				pmax	pmax				
	comp=Z,4.0nm,1.0s								
TORD	Torodi Ar. Bea	107.88	281	PKiKP		PKiKP	07 10 12.3	+0.5	
	comp=Z,1.6nm,0.6s,baz=73,slow=1.3,SNR=17								
YKA	Yellowknife Ar	119.09	21	PKP		PKPdf	07 10 32.6	-0.6	
	comp=Z,1.6nm,0.7s,baz=321,slow=1.9,SNR=8.3								
YKA	Yellowknife Ar	119.09	21	PKiKP		PKPdf	07 10 32.6	-0.6	
YKA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
NVAR	Mina Array Bea	129.75	48	PKP		PKPdf	07 10 56.1	+2.5	
	comp=Z,1.0nm,0.7s,baz=233,slow=0.8,SNR=9.3								
EGMT	Eagleton	130.41	33	*e*PKPdf		PKPdf	07 10 55.8	+1.0	
PDAR	Pinedale Array	133.60	38	PKP		PKPdf	07 11 02.1	+1.2	
	comp=Z,0.4nm,0.6s,baz=188,slow=1.5,SNR=4.8								
MSU	Marysvale	134.07	45	*e*PKiKP		PKPdf	07 11 04.7	+3.0	
SCHQ	Schefferville	134.85	356	PKP		PKPdf	07 11 04.4	+1.2	
	comp=Z,4.0nm,0.8s,baz=60,slow=4.8,SNR=5.6								
CPUP	Villa Florida	141.39	201	PKP		PKPdf	07 11 14.2	-1.0	
	comp=Z,1.1nm,0.6s,baz=202,slow=3.2,SNR=4.6								
CPUP	Villa Florida	141.39	201	PKiKP		PKPdf	07 11 14.2	-1.0	
CPUP				pmax	pmax				
	comp=Z,1.0nm,0.6s								
LTX	Lajitas	144.58	52	*e*PKiKP		PKPdf	07 11 21.7	+0.9	
MSNY	Massena	144.80	3	*e*PKPdf		PKPdf	07 11 20.7	-0.6	
FRNY	Flat Rock	145.02	2	*e*PKPdf		PKPdf	07 11 20.3	-1.3	
LONY	Lake Ozonia	145.20	3	*e*PKPdf		PKPdf	07 11 21.5	-0.4	
BDFB	Brasilia	145.32	224	PKPbc		PKPbc	07 11 23.7	+1.7	
	comp=Z,13nm,0.8s,baz=158,slow=1.9,SNR=14								
BDFB	Brasilia	145.32	224	PKiKP		PKPdf	07 11 23.7	+1.6	
BDFB				pmax	pmax				
	comp=Z,13nm,0.8s								
LBNH	Lisbon	145.65	360	*e*PKiKP		PKPdf	07 11 23.1	+0.4	
MIV	Mineville/With	145.79	2	*e*PKPdf		PKPdf	07 11 23.3	+0.4	
NCB	Newcomb	145.86	3	*e*PKPdf		PKPdf	07 11 23.5	+0.5	
ACCN	Adirondack Com	146.47	2	*e*PKPbc		PKPbc	07 11 25.7	+0.2	
JCT	Junction City	146.93	47	*e*PKP2		PKPab	07 11 28.3	+0.1	
CCM	Cathedral Cave	146.95	28	*e*PKP2		PKPab	07 11 26.8	-1.5	
BINY	Binghamton	147.50	5	*e*PKPbc		PKPbc	07 11 28.6	+0.2	
LVC	Limon Verde	147.69	185	*e*PKPbc		PKPbc	07 11 30.5	+1.6	
BLO	Bloomington	147.97	22	*e*PKP2		PKPab	07 11 29.6	-2.7	
ACSO	Alum Creek Sta	148.13	16	*e*PKPbc		PKPbc	07 11 30.1	+0.1	
MIAR	Mount Ida	148.42	35	*e*PKP2		PKPab	07 11 31.8	-2.3	
PARMO	Parma	148.77	28	*e*PKPbc		PKPbc	07 11 32.7	+1.0	
WCI	Wyandotte Cave	148.89	22	*e*PKP2		PKPbc	07 11 32.4	+0.3	
MCWV	Mont Chateau	149.42	12	*e*PKPbc		PKPbc	07 11 34.2	+0.9	
HKT	Hockley	150.04	45	*e*PKP2		PKPbc	07 11 36.9	+2.0	
OXF	Oxford	150.67	30	*e*PKiKP		PKPbc	07 11 36.7	+0.3	
OXF				*e*			07 11 44.3		
PLAL	Pickwick Lake	150.93	28	*e*PKPbc		PKPbc	07 11 37.2	+0.2	
TZTN	Tazewell	151.36	20	*e*PKPbc		PKPbc	07 11 38.1	+0.1	
TZTN				*e*PKPab		PKPab	07 11 47.4	+1.2	
ELN	Prospectdale	151.54	15	*e*PKPbc		PKPbc	07 11 38.6	+0.2	
ELN				*e*PKPab		PKPab	07 11 47.2	+0.3	
BLA	Blacksburg	151.63	14	*e*PKiKP		PKPbc	07 11 39.3	+0.6	
CPCT	Cooper Cave	152.00	22	*e*PKPbc		PKPbc	07 11 40.8	+1.3	
LPAZ	La Paz	153.84	189	PKPbc		PKPbc	07 11 45.9	+2.3	
	comp=Z,1.7nm,0.6s,baz=231,slow=11,SNR=9.8								
LPAZ	La Paz	153.84	189	*e*PKPbc		PKPbc	07 11 45.6	+2.0	

ISCJB ***18*** *06:56:25.2±4.0, 31.14S±0.09×176.8W±0.5, h44km±17km, mb4.5/5, Error ellipse: s-maj=70.1km s-min=12.3km az=16.2*

IDC ***18*** *06:56:28.5±1.7, 3089S×17777W, h0km, mb4.5/4, mb1 4.5/5, mb1mx4.2/14, mbtmp4.3/5, ML3.2/1, Error ellipse: s-maj=44.3km s-min=22.4km az=121.0*

NEIC ***18*** *06:56:29.1±6.3, 3089S×17778W, h7km±39km, mb4.7/3, Error ellipse: s-maj=33.3km s-min=16.3km az=112.0*

ISC 18 06:56:26.6±4.0, 3106S±0.09×1767W±0.5, h42km±16km, n17, σ0°78/15, mb4.5/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.09	329	Pn	Pn	Pn	06 56 58.5	-0.6
	173nm,0.3s,baz=68,slow=20,SNR=8.8							
RAO				Sn	Sn	Sn	06 57 14.0	-10
	886nm,0.3s,baz=139,slow=22,SNR=15							
RAO	Raoul Island	2.09	329	Pn	Pn	Pn	06 56 58.5	-0.6
RAO				Sn	Sn	Sn	06 57 14.0	-10
URZ	Urewera	8.80	214	Pn	Pn	Pn	06 58 32.1	+0.8
	0.3nm,0.3s,baz=3.8,slow=15,SNR=4.6							
URZ				Sn	Sn	Sn	07 00 08.5	-0.7
	2.1nm,0.3s,baz=223,slow=23,SNR=19							
DZM	Mont Dzumac	17.52	297	Pn	Pn	Pn	07 00 28.7	+1.0
	0.1nm,0.3s,baz=191,slow=10,SNR=2.1							
CTA	Charters Tower	35.01	279	P	P	P	07 03 15.3	+0.3
	2.7nm,0.6s,mb4.4,baz=101,slow=12,SNR=5.0							
CTA	Charters Tower	35.01	279	P	P	P	07 03 15.3	+0.3
CTAO	Charters Tower	35.01	279	P	P	P	07 03 13.9	-1.1
	0.0nm,0.6s,mb4.5							
STKA	Stephens Creek	35.42	258	P	P	P	07 03 20.1	+1.5
	12nm,0.7s,mb4.9,baz=94,slow=8.3,SNR=10							
ASAR	Alice Springs	44.19	267	P	P	P	07 04 31.2	-0.1
	2.2nm,0.8s,mb3.9,baz=104,slow=7.4,SNR=6.3							
WB2	Warramunga Arr	45.23	272	*e*P	P	P	07 04 39.2	-0.5
WRAB	Tennant Creek	45.23	272	*e*P	P	P	07 04 39.0	-0.7
	7.3nm,0.6s,mb4.7							
WRA	Warramunga Arr	45.24	272	P	P	P	07 04 39.3	-0.5
	3.2nm,0.5s,mb4.4,baz=11,slow=8.1,SNR=11							
QSPA	South Pole Qui	59.05	180	*e*P	pP		07 06 34.7	+0.2
	7.5nm,0.9s							
FINES	FINESS Array B	146.14	340	PKPbc	PKPab		07 16 06.5	+3.6
	2.3nm,0.6s,baz=63,slow=4.2,SNR=14							
NOA	NORSAR Array B	149.56	352	PKPbc	PKPab		07 16 16.7	+0.2
	0.6nm,0.7s,baz=90,slow=15,SNR=2.3							
NOA	NORSAR Array B	149.56	352	PKPbc	PKPab		07 16 16.7	+0.2
AKASG	Malin Array Be	152.50	323	PKPbc	PKPab		07 16 27.0	-1.7
	0.8nm,0.4s,baz=52,slow=2.8,SNR=8.1							

IDC ***18*** *07:17:55.3±0.7, 1503S×17350W, h0km, mb4.1/11, mb1 4.4/11, mb1mx4.3/15, mbtmp4.1/11, MS4.0/12, Ms1 4.0/12, ms1mx3.7/26, Error ellipse: s-maj=30.3km s-min=17.6km az=129.0*

ISCJB ***18*** *07:17:59.2±0.4, 150S±0.1×1737W±0.1, h33km, mb4.3/20, MS4.1/11, Error ellipse: s-maj=18.9km s-min=9.2km az=88.6*

NEIC ***18*** *07:18:01.6±7.4, 1494S×17367W, h37km±67km, mb4.4/11, Error ellipse: s-maj=21.2km s-min=15.5km az=119.0*

ISC 18 07:18:01.1±0.4, 150S±01×1736W±01, h35km, n48, σ1°02/33, mb4.3/20, MS4.1/11, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.04	59	Pn	Pn	Pn	07 18 22.7	-10
	226nm,0.3s,baz=96,slow=0.8,SNR=128							
AFI				Sn	Sn	Sn	07 18 40.2	-17
	885nm,0.3s,baz=106,slow=11,SNR=16							
RAR	Rarotonga	14.51	117	LR	LR		07 25 09.6	
	comp=Z,601nm,20.2s,baz=280,slow=30							
DZM	Mont Dzumac	20.20	247	P	P		07 22 33.7	+0.8
	2.6nm,0.6s,baz=61,slow=18,SNR=4.5							
PPT	Papeete	23.18	100	*e*LQ			07 27 25.9	
	2µm,30.5s							
PPT				*e*LR	LR		07 28 26.7	
	667nm,25.0s,baz=261							
PPT	Papeete	23.18	100	LR	LR		07 29 16.2	
	comp=Z,343nm,20.0s,MS3.8,baz=270,slow=30							

TBI	Tubuai	24.23	114	*e*LQ			07 27 51.9		
	823nm,26.8s								
TBI				*e*LR	LR		07 28 49.1		
	707nm,26.0s,baz=286								
URZ	Urewera	24.61	198	P	P	P	07 23 18.6	+0.6	
	6.4nm,0.8s,mb4.2,baz=0.0,slow=4.0,SNR=3.9								
HNR	Honiara	26.45	279	LR	LR		07 32 23.7		
	comp=Z,346nm,18.7s,MS3.9,baz=178,slow=33								
TAOE	Nuku Hiva Isla	33.24	83	*e*LR	LR		07 33 05.7		
	1µm,24.4s								
RKT	Rikitea	37.29	109	*e*LR	LR		07 34 53.8		
	467nm,25.2s								
STKA	Stephens Creek	44.10	240	P	P		07 26 05.1	-0.8	
	3.6nm,0.7s,mb4.2,baz=86,slow=8.9,SNR=6.9								
STKA				LR	LR		07 43 37.0		
	comp=Z,146nm,19.5s,MS3.9,baz=205,slow=35								
STKA	Stephens Creek	44.10	240	*e*P	P		07 26 05.2	-0.7	
WB2	Warramunga Arr	49.76	256	*e*P	P		07 26 50.3	+0.2	
WRA	Warramunga Arr	49.77	256	P	P		07 26 49.7	-0.5	
	1.4nm,0.5s,mb4.3,baz=91,slow=7.1,SNR=15								
WRA				LR	LR		07 45 51.9		
	comp=Z,131nm,21.7s,MS3.9,baz=80,slow=34								
AS31	Alice Springs	50.08	252	*e*P	P		07 26 53.5	+1.0	
ASAR	Alice Springs	50.08	252	P	P		07 26 52.0	-0.5	
	4.7nm,0.7s,mb4.6,baz=87,slow=8.2,SNR=47								
ASAR				LR	LR		07 46 01.7		
	comp=Z,347nm,19.5s,MS4.4,baz=71,slow=34								
ASPA	Alice Springs	50.08	252	*e*P	P		07 26 53.5	+1.0	
FITZ	Fitzroy Crossi	58.13	258	LR	LR		07 50 38.8		
	comp=Z,182nm,20.8s,MS4.2,baz=97,slow=34								
SBA	Scott Base	63.65	185	*e*P	P		07 28 29.3	+0.5	
	2.9nm,0.8s,mb4.4								
VNDA	Vanda	63.77	186	P	P		07 28 28.4	-1.1	
	1.7nm,0.9s,mb4.1,baz=354,slow=6.8,SNR=7.8								
VNDA	Vanda	63.77	186	*e*P	P		07 28 29.2	-0.3	
	2.4nm,1.0s,mb4.2								
MJAR	Matsushiro Arr	68.51	320	P	P		07 28 59.8	-0.1	
	0.9nm,0.6s,mb3.9,baz=154,slow=5.5,SNR=4.9								
MJAR				LR	LR		07 52 55.2		
	comp=Z,197nm,20.9s,MS4.3,baz=180,slow=31								
JOW	Kunigami	70.10	306	LR	LR		07 54 26.3		
	comp=Z,93nm,20.1s,MS4.0,baz=144,slow=31								
NVAR	Mina Array Bea	74.13	42	P	P		07 29 32.6	-1.2	
	0.5nm,0.7s,mb3.6,baz=229,slow=11,SNR=5.7								
QSPA	South Pole Qui	75.06	180	*e*P	P		07 29 38.8	-0.5	
	11nm,1.2s,mb4.7								
DUG	Dugway	78.67	43	*e*P	P		07 30 04.1	+4.6	
	3.9nm,1.1s,mb4.2								
HLID	Hailey	79.41	39	*e*P	P		07 30 04.0	+0.4	
	2.5nm,0.8s,mb4.2								
PV01	Paradox Valley	80.56	46	*e*P	P		07 30 10.1	+0.3	
ANMO	Albuquerque	80.66	50	*e*P	P		07 30 12.6	+2.2	
	2.7nm,1.1s,mb4.1								
MCK	McKinley	80.74	11	*e*P	P		07 30 10.2	-0.7	
	3.8nm,0.8s,mb4.4								
MCMT	McKenzie Canyo	81.04	39	*e*P	P		07 30 11.1	-1.3	
TPAW	Teton Pass	81.53	41	*e*P	P		07 30 18.7	+3.7	
	7.7nm,1.3s,mb4.5								
IMW	Indian Meadow	81.74	40	*e*P	P		07 30 16.5	+0.4	
	4.9nm,1.2s,mb4.3								
COLA	College	81.98	11	*e*P	P		07 30 16.7	-0.7	
	11nm,0.8s,mb4.8								
PDAR	Pinedale Array	82.07	42	P	P		07 30 18.6	+0.8	
	1.1nm,0.9s,mb3.8,baz=222,slow=3.5,SNR=7.1								
PDAR				LR	LR		07 59 29.7		
	comp=Z,77nm,20.1s,MS4.1,baz=258,slow=30								
HRY	Holter Researc	82.62	38	*e*P	P		07 30 22.4	+1.7	
DAWY	Dawson	83.06	14	*e*P	P		07 30 22.6	-0.4	
GCMT	Greycliff	83.46	39	*e*P	P		07 30 26.9	+1.8	
INK	Inuvik	87.90	14	*e*P	P		07 30 46.3	-0.8	
	4.5nm,1.2s,mb4.6								
MAW	Mawson	88.14	199	P	P		07 30 46.2	-2.0	
	3.0nm,0.8s,mb4.6,baz=171,slow=4.2,SNR=5.2								
YKA	Yellowknife Ar	89.78	23	P	P		07 30 54.2	-1.7	
	0.9nm,0.8s,mb4.2,baz=243,slow=4.4,SNR=5.1								
ULM	Lac du Bonnet	93.71	39	LR	LR		08 09 43.9		
	comp=Z,54nm,19.1s,MS4.0,baz=17,slow=33								
SONM	Songino Array	94.42	318	LR	LR		08 06 47.0		
	comp=Z,80nm,21.2s,MS4.2,baz=0.7,slow=31								
MLR	Muntele Rosu	145.42	336	PKPbc	PKPbc		07 37 36.7	+1.4	
	6.5nm,1.0s,baz=160,slow=3.1,SNR

comp=Z,195nm,18.3s,MS4.2
GTA Gaotai 52.79 27 *e*P **P 07 34 14.3 +0.8**
GTA AP pP 07 34 22.3 +5.6
GTA XP sP 07 34 26.6 +8.7
GTA AMB AMB
comp=Z,7.0nm,0.9s,mb4.6
MKAR Makanchi Array 54.16 9 P **P 07 34 22.6 -1.0**
comp=Z,2.2nm,0.6s,mb4.3,baz=187,slow=7.6,SNR=23
KURK Kurchatov 57.57 5 *e*P **P 07 34 47.1 -0.9**
comp=Z,3.8nm,0.8s,mb4.5
BRTR Keskin Array B 58.14 326 P **P 07 34 52.4 +0.4**
comp=Z,0.7nm,0.8s,mb3.8,baz=163,slow=13,SNR=3.9
AKTK Aktyubinsk 58.22 350 P **P 07 34 51.6 -1.0**
AKTO Aktyubinsk 58.22 350 P **P 07 34 51.6 -1.0**
comp=Z,3.5nm,0.7s,mb4.5,baz=168,slow=7.3,SNR=14
ZRNK Zerenda 59.55 358 *e*P **P 07 35 00.9 -0.9**
comp=Z,4.3nm,0.8s,mb4.5
BVAR Borovoye Array 59.59 359 P **P 07 35 01.0 -1.0**
comp=Z,1.9nm,0.7s,mb4.3,baz=167,slow=9.1,SNR=13
HHC Hu-ho-hao-te 59.85 34 *e*P **P 07 35 06.4 +2.5**
HHC AP pP 07 35 11.8 +4.7
HHC XP sP 07 35 15.1 +6.8
HHC PP PP 07 37 24.1 +8.2
HHC PCS PcS 07 39 52.8 +0.2
HHC S **S 07 43 13.8 -1.7**
HHC SS SS 07 47 12.8 +1.2
HHC AMB AMB
comp=Z,13nm,0.7s,mb5.1
HHC LR LR
comp=N,138nm,13.1s,MS4.5
HHC LR LR
comp=E,206nm,14.3s,MS4.5
HHC LR LR
comp=Z,65nm,17.8s,MS3.8
CHKZ Chkalovo 60.24 359 *e*P **P 07 35 06.0 -0.6**
comp=Z,4.9nm,0.7s,mb4.7
MAW Mawson 61.03 184 P **P 07 35 11.9 -0.1**
comp=Z,1.3nm,0.8s,mb4.1,baz=13,slow=14,SNR=3.1
ZAL Zalesovo 61.48 9 P **P 07 35 13.4 -1.6**
comp=Z,1.4nm,0.4s,mb4.5,baz=290,slow=2.3,SNR=6.1
ASAR Alice Springs 61.82 113 P **P 07 35 18.7 +1.4**
comp=Z,2.5nm,0.7s,mb4.5,baz=280,slow=6.3,SNR=29
WRA Warramunga Arr 61.97 109 P **P 07 35 19.9 +1.6**
comp=Z,4.2nm,0.7s,mb4.7,baz=282,slow=6.8,SNR=17
WRAB Tennant Creek 61.98 109 *e*P **P 07 35 19.7 +1.3**
comp=Z,7.5nm,0.7s,mb4.9
SONM Songino Array 62.37 26 P **P 07 35 21.4 +0.5**
comp=Z,3.7nm,0.8s,mb4.6,baz=210,slow=7.3,SNR=25
ULN Ulaanbaatar 62.67 26 *e*P **P 07 35 23.3 +0.2**
comp=Z,2.9nm,0.8s,mb4.5
ARU Arti 63.92 352 *e*P **P 07 35 30.3 -1.0**
comp=Z,6.0nm,0.8s,mb4.7
AKASG Malin Array Be 67.99 332 P **P 07 35 55.9 -1.6**
comp=Z,0.9nm,0.6s,mb4.0,baz=135,slow=5.5,SNR=5.2
TORD Torodi Ar. Bea 72.34 286 P **P 07 36 24.1 0.0**
comp=Z,0.4nm,0.5s,mb3.6,baz=121,slow=6.1,SNR=7.7
MDJ Mudanjiang 72.82 39 P **P 07 36 27.0 0.0**
MDJ S S 07 45 53.4 +0.5
MDJ SS SS 07 50 35.5 +2.7
MDJ AMB AMB
comp=Z,5.0nm,0.9s,mb4.4
MDJ AMB AMB
comp=Z,106nm,5.1s
MDJ LR LR
comp=N,29nm,19.4s,MS3.6
MDJ LR LR
comp=E,18nm,18.5s,MS3.6
MDJ LR LR
comp=Z,43nm,18.9s,MS3.8
MJAR Matsushiro Arr 75.53 50 P **P 07 36 43.1 +0.3**
comp=Z,4.1nm,0.8s,mb4.4,baz=250,slow=5.8,SNR=7.1
DBIC Dimbokro 77.59 278 P **P 07 36 53.3 -1.2**
comp=Z,5.0nm,0.9s,mb4.5,baz=59,slow=3.8,SNR=3.6
QSPA South Pole Qui 83.24 180 *e*P **P 07 37 25.1 +0.3**
comp=Z,5.3nm,1.2s,mb4.5
ESDC Sonseca Array 83.43 311 P **P 07 37 26.1 +0.3**
comp=Z,0.5nm,0.4s,mb3.9,baz=93,slow=4.2,SNR=7.6
LPAZ La Paz 134.16 240 PKP PKPdf 07 44 16.6 +0.6
comp=Z,0.7nm,0.8s,baz=280,slow=6.0,SNR=3.6
PDAR Pinedale Array 144.15 2 PKP PKPdf 07 44 32.9 -1.3
comp=Z,0.8nm,0.5s,baz=75,slow=1.9,SNR=11
ELFS Eagle Lake Fie 144.50 16 ⇓P PKPdf 07 44 34.9 +0.1
baz=144
M09A Marrel Ranch, 144.55 12 ⇓P PKPdf 07 44 35.5 +0.6
baz=144
N06A Buffalo Meadow 144.63 15 ⇓P PKPdf 07 44 34.9 -0.1
baz=144
M10A I.L. Ranch, Tu 144.63 11 ⇓P PKPdf 07 44 34.9 -0.1
baz=144
O04C Chester 144.68 17 ⇑P PKPdf 07 44 34.4 -0.7
baz=144
M11A Holland Ranch, 144.85 10 ⇓P PKPdf 07 44 36.0 +0.6
baz=145
M12A Wells 145.00 9 ⇓P PKPbc 07 44 36.0 +1.1
baz=145,SNR=5.4
O05C Quincy 145.06 17 ⇓P PKPbc 07 44 36.4 +1.3
baz=145
N09A Rock Creek Ran 145.08 12 ⇓P PKPbc 07 44 36.7 +1.5
baz=145
M13A Montello 145.17 8 P PKPbc 07 44 37.0 +1.5
baz=145,SNR=9.3
O06A Flanigan 145.18 16 ⇑P PKPbc 07 44 37.1 +1.5
baz=145,SNR=5.5
HWUT Hardware Ranch 145.20 4 *e*PKPdf PKPdf 07 44 36.6 +0.6
HOPS Hopland 145.25 20 ⇑P PKPbc 07 44 36.2 +0.4
baz=145
ORV Oroville 145.26 18 ⇓P PKPbc 07 44 36.2 +0.4
baz=145
SPUT South Promonto 145.42 6 *e*PKPdf PKPdf 07 44 37.2 +0.8
O07A Toulon 145.43 14 ⇑P PKPbc 07 44 38.0 +1.6
baz=145,SNR=6.6
SUTB Sutter Butte 145.47 19 ⇑P PKPdf 07 44 37.4 +0.9
baz=145
N12A Clover Valley, 145.54 9 P PKPdf 07 44 38.6 +2.1
baz=145,SNR=8.0
BMN Battle Mountai 145.54 12 *e*PKPdf PKPdf 07 44 38.2 +1.7
MNRC McLaughlin Nat 145.57 20 ⇑P PKPdf 07 44 38.1 +1.5
baz=145
ELK Elko 145.61 9 *e*PKPdf PKPdf 07 44 38.5 +1.9
P06A Stead Airport, 145.61 16 ⇓P PKPdf 07 44 38.0 +1.3
baz=145
N13A Wendover, West 145.66 8 ⇑P PKPdf 07 44 39.2 +2.4
baz=145
TCUT Toone Canyon 145.69 4 *e*PKPdf PKPdf 07 44 38.5 +1.7
P05C Yuba Gap, Truc 145.76 17 P PKPdf 07 44 39.1 +2.1
baz=146,SNR=5.5
O09A Fish Creek Ran 145.80 12 P PKPdf 07 44 39.2 +2.2
baz=146,SNR=5.8
BEKR Beckwourth 145.89 343 ⇑P PKPdf 07 44 37.3
baz=145,SNR=9.1
Q03C Winters 145.94 19 ⇑P PKPbc 07 44 40.7 +2.8
baz=146
Q04C Lincoln 145.95 18 ⇓P PKPbc 07 44 40.4 +2.4
baz=146
WCN Washoe City 146.00 16 ⇑P PKPbc 07 44 39.6 +1.5
baz=146
P07A Fallon 146.01 15 ⇑P PKPbc 07 44 40.2 +2.1
baz=146
CVS Carmenet Viney 146.04 20 ⇓P PKPbc 07 44 39.6 +1.4
baz=146
O11A Cowboy Ranch, 146.14 10 ⇓P PKPbc 07 44 39.6 +1.0
baz=146
O12A Currie 146.15 9 ⇓P PKPbc 07 44 39.6 +1.0
baz=146
LAVA Lava Cap Winer 146.22 18 ⇓P PKPbc 07 44 40.5 +1.7
baz=146
P09A Austin 146.41 12 ⇓P PKPbc 07 44 40.2 +0.8
baz=146
R05C Kirkwood Meado 146.47 17 ⇑P PKPbc 07 44 41.1 +1.6
baz=146
DUG Dugway 146.48 6 *e*PKPbc PKPbc 07 44 41.0 +1.5
P10A Eureka 146.48 12 ⇓P PKPbc 07 44 41.1 +1.5
baz=146
P11A Circle Ranch, 146.69 11 ⇓P PKPbc 07 44 42.0 +1.8
baz=146
R06C Coleville 146.82 16 ⇑P PKPbc 07 44 42.3 +1.8
baz=147
Q08A Gabbs 146.89 14 ⇑P PKPbc 07 44 42.3 +1.5
baz=147
P12A McGill 146.91 9 ⇓P PKPbc 07 44 42.7 +1.9
baz=147
CMB Columbia Colle 147.00 18 *e*PKPbc PKPbc 07 44 42.1 +1.1
CMB Columbia Colle 147.00 18 ⇑P PKPbc 07 44 42.1 +1.1
baz=147
S04C Ingram Canyon, 147.19 19 ⇑P PKPbc 07 44 43.0 +1.4
baz=147
NVAR Mina Array Bea 147.21 15 PKPbc PKPbc 07 44 43.5 +1.8
comp=Z,5.3nm,1.0s,baz=19,slow=1.3,SNR=25
MNV Mina 147.24 14 *e*PKPab PKPab 07 44 43.4 -0.1
LRAL Lakeview Retre 147.26 326 *e*PKPbc PKPbc 07 44 42.7 +0.9
S06C San Francisco 147.30 17 ⇑P PKPbc 07 44 43.1 +1.2
baz=147
R08A Mina 147.33 14 ⇓P PKPbc 07 44 43.8 +1.8
baz=147
Q12A Willow Creek R 147.34 10 ⇑P PKPbc 07 44 45.2 +3.1
baz=147
Q11A Duckwater 147.38 11 ⇓P PKPbc 07 44 44.5 +2.3
baz=147
S05C Merced 147.65 18 ⇓P PKPbc 07 44 44.8 +2.0
baz=148
SMCO Snowmass 147.73 358 *e*PKPbc PKPbc 07 44 44.6 +1.5
SRU San Rafael 147.75 3 *e*PKPbc PKPbc 07 44 44.0 +0.9
R10A Warm Springs 147.80 12 ⇑P PKPbc 07 44 45.5 +2.3
baz=148
KCC Kaiser Creek 147.97 17 ⇑P PKPbc 07 44 45.7 +2.0
baz=148
S09A Goldfield 148.14 14 ⇓P PKPbc 07 44 46.0 +1.8
baz=148
T06C Millerton Lake 148.15 18 ⇑P PKPbc 07 44 46.1 +1.9
baz=148
MSU Marysvale 148.21 6 *e*PKPdf PKPdf 07 44 43.0 +2.0
MSU *e*PKPbc PKPbc 07 44 46.7 +2.3
PV10 Paradox Valley 148.54 1 *e*PKPdf PKPdf 07 44 43.0 +1.4
PV10 *e*PKPbc PKPbc 07 44 46.7 +1.5
PV01 Paradox Valley 148.79 0 *e*PKPbc PKPbc 07 44 46.9 +1.1
MIAR Mount Ida 149.23 336 *e*PKPbc PKPbc 07 44 47.9 +0.9
OTAV Otavalo 149.58 259 *e*PKPbc PKPbc 07 44 50.9 +3.1
OTAV *e*PKPab PKPab 07 44 57.2 +4.4
ISA Isabella 149.76 17 ⇑P PKPbc 07 44 49.9 +1.6
baz=150
U12A Valley of Fire 149.94 10 ⇓P PKPbc 07 44 51.2 +2.5
baz=150
SBC Santa Barbara 150.51 20 ⇑P PKPbc 07 44 51.2 +1.1
baz=150
GSC Goldstone 150.55 14 ⇓P PKPbc 07 44 52.2 +2.0
baz=150
V12A Nelson 150.56 11 ⇑P PKPbc 07 44 52.3 +2.0
baz=150
WMOK Wichita Mounta 150.84 344 *e*PKPbc PKPbc 07 44 51.0 +0.1
WMOK *e*PKPab PKPab 07 44 58.2 +0.1
W13A Hualapai Mount 151.34 10 ⇑P PKPbc 07 44 54.1 +2.1
baz=151
W14A Seligman 151.36 8 ⇑P PKPbc 07 44 54.4 +2.4
baz=151
X13A Yucca 151.85 10 ⇓P PKPbc 07 44 54.9 +1.6
baz=152
X14A Yava 152.12 8 ⇑P PKPbc 07 44 56.5 +2.7
baz=152
X15A Humboldt 152.18 7 ⇓P PKPbc 07 44 56.1 +2.2
baz=152
PFO Pinyon Flat Ob 152.24 15 ⇑P PKPbc 07 44 55.5 +1.4
baz=152
LAZ Ladron 152.50 358 *e*PKPdf PKPdf 07 44 49.7 +1.9
LAZ *e*PKPbc PKPbc 07 44 56.1 +1.5
Y14A Wickenburg 152.62 9 ⇓P PKPbc 07 44 55.4 +0.5
baz=152
109C Camp Elliot, M 152.75 16 ⇓P PKPbc 07 44 55.8 +0.5
baz=153
GLA Glamis 153.16 12 ⇑P PKPbc 07 44 57.9 +1.7
baz=153

IDC 18 07:25:58.5±3.1, 911S×10459E, h0km, mb4.0/5, mb1 4.0/5, mb1mx3.8/17, mbtmp4.0/5, Error ellipse: s-maj=129.7km s-min=22.5km az=48.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.69**	**114**	P	P	07 32 15.1	+0.2
	0.7nm,0.5s,baz=290,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**31.54**	**121**	P	P	07 32 22.8	+0.4
	0.4nm,0.6s,baz=300,slow=11,SNR=4.1						
SONM	**Songino Array**	**56.72**	**1**	P	P	07 35 45.5	+1.6
	2.1nm,0.5s,baz=179,slow=7.8,SNR=9.1						
MKAR	**Makanchi Array**	**59.10**	**342**	P	P	07 36 00.1	-0.5
	3.1nm,0.5s,baz=151,slow=7.9,SNR=24						
BVAR	**Borovoye Array**	**68.41**	**339**	P	P	07 37 01.5	-0.6
	1.6nm,0.6s,baz=141,slow=8.7,SNR=7.4						

*SKO **18** 07:41:26.7, 4092N×2273E, h15km, M1.1, ML2.7*
*CSEM **18** 07:41:27.7±0.1, 4099N×2271E, h5km, ML3.1, Error ellipse: s-maj=1.7km s-min=1.2km az=31.0*
*THE **18** 07:41:28.0, 4096N×2271E, h1km, ML3.1*
*ISCJB **18** 07:41:27.1±0.3, 4096N±002×2269E±003, h5km, Error ellipse: s-maj=3.8km s-min=2.9km az=67.3*
*NEIC **18** 07:41:28.4, 4100N×2276E, h8km, MD3.0(SOF), MD3.6(ATH), After ATH.*
*SOF **18** 07:41:28.0, 4113N×2264E, h5km, MD3.0*
*ATH **18** 07:41:28.4, 4100N×2276E, h8km±1km, MD3.6/3*
ISC 18 07:41:27.5±0.4, 4095N±002×2273E±003, h1km±7km, n33, σ1°93/45, 1C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.25**	**32**	*e*Pg	**Pg**	**07 41 32.9**	**+0.7**
THE	**Thessaloniki**	**0.37**	**150**	*e*Pg	**Pg**	**07 41 35.4**	**+0.9**
THE				*e*Sg	**Sg**	**07 41 40.5**	**+1.1**
VAY	**Valandovo**	**0.39**	**342**	*e*Pg	**Pg**	**07 41 34.8**	**0.0**
VAY	**Valandovo**	**0.39**	**342**	*i* Pg	**Pg**	**07 41 34.6**	**-0.3**
VAY				*i* Sg	**Sg**	**07 41 40.0**	**+0.1**
VAY				*e*Lg		07 41 40.0	
	comp=N,3μm,0.5s						
VAY				*e*Lg		07 41 40.2	
	comp=E,4μm,0.6s						
VAY	**Valandovo**	**0.39**	**342**	*i* Pg	**Pg**	**07 41 34.5**	**-0.4**
VAY				*i* Sg	**Sg**	**07 41 39.9**	**0.0**
HORT	**Hortiatis**	**0.46**	**141**	*e*Pg	**Pg**	**07 41 37.1**	**+0.9**
SOH	**Sokhos**	**0.49**	**105**	*e*Pg	**Pg**	**07 41 37.6**	**+0.6**
SRS	**Serrai**	**0.68**	**76**	*e*Pg	**Pg**	**07 41 40.4**	**-0.1**
PLG	**Polygyros**	**0.80**	**136**	*e*PB	**Pb**	**07 41 43.1**	**-1.1**
PLG				*e*SB	**Sb**	**07 41 54.5**	**-1.0**
LIT	**Litokhoron**	**0.87**	**192**	*e*Pg	**Pg**	**07 41 44.7**	**+0.5**
NVR	**Nevrokopi**	**0.95**	**65**	*e*PB	**Pb**	**07 41 45.5**	**-1.2**
NVR				*e*SB	**Sb**	**07 41 58.1**	**-1.6**
KKB	**Krupnik**	**0.95**	**16**	*i* Pg	**Pg**	**07 41 45.0**	**-0.7**
KZN	**Kozani**	**0.97**	**229**	*e*PB	**Pb**	**07 41 47.9**	**+0.8**
MMB	**Musomiste**	**0.99**	**50**	*i* Pg	**Pg**	**07 41 46.2**	**-0.2**
FNA	**Florina**	**1.04**	**261**	*e*Pg	**Pg**	**07 41 47.4**	**0.0**
BIA	**Bitola**	**1.06**	**274**	*e*Pg	**Pg**	**07 41 47.5**	**-0.4**
BIA				*e*Sg	**Sg**	**07 42 02.1**	**+0.5**
BIA	**Bitola**	**1.06**	**274**	⇓*i*Pg	**Pg**	**07 41 47.5**	**-0.4**
BIA				*i* Sg	**Sg**	**07 42 02.2**	**+0.6**
BIA				*e*Lg		07 42 02.9	
	comp=E,53nm,0.2s						
BIA				*e*Lg		07 42 02.9	
	comp=N,86nm,0.3s						
BIA	**Bitola**	**1.06**	**274**	*e*Pg	**Pg**	**07 41 47.5**	**-0.4**
BIA				*i* Sg	**Sg**	**07 42 02.2**	**+0.6**
OUR	**Ouranopolis**	**1.14**	**122**	*e*Pg	**Pg**	**07 41 49.3**	**0.0**
PAIG	**Paliouri**	**1.26**	**144**	*e*Pg	**Pg**	**07 41 51.3**	**-0.4**
SKO	**Skopje**	**1.40**	**317**	*i* Pg	**Pg**	**07 41 54.2**	**-0.2**
SKO				*i* Sg	**Sg**	**07 42 13.5**	**+0.9**
SKO				*e*Lg		07 42 13.7	
	comp=N,42nm,0.5s						
SKO				*e*Lg		07 42 14.7	
	comp=E,48nm,0.6s						
SKO	**Skopje**	**1.40**	**317**	*i* Pg	**Pg**	**07 41 54.2**	**-0.2**
SKO				*i* Sg	**Sg**	**07 42 13.5**	**+0.9**
OHR	**Ohrid**	**1.47**	**277**	*e*Pg	**Pg**	**07 41 54.7**	**-0.9**
OHR	**Ohrid**	**1.47**	**277**	⇑*i*Pg	**Pg**	**07 41 54.6**	**-0.9**
OHR				*i* Sg	**Sg**	**07 42 14.4**	**-0.2**
OHR				*e*Lg		07 42 18.5	
	comp=N,43nm,0.5s						
OHR				*e*Lg		07 42 19.6	
	comp=E,59nm,0.7s						
OHR	**Ohrid**	**1.47**	**277**	*e*Pg	**Pg**	**07 41 54.7**	**-0.9**
OHR				*i* Sg	**Sg**	**07 42 14.3**	**-0.3**
XOR	**Xorichti**	**1.63**	**167**	*e*Pb	**Pb**	**07 41 56.7**	**-1.6**
RZN	**Rozhen**	**1.67**	**63**	*i* P	**Pn**	**07 41 59.6**	**+1.7**
VTS	**Vitosha**	**1.68**	**12**	*i* Pg	**Pg**	**07 41 57.7**	**-1.9**
PGB	**Panagyurishte**	**1.93**	**34**	P	**Pn**	**07 42 03.0**	**+1.6**
AGG	**Agios Georgios**	**1.95**	**189**	*e*Pb	**Pb**	**07 42 01.7**	**-2.2**
RDO	**Rodhopi**	**2.14**	**84**	*e*PN	**Pn**	**07 42 06.2**	**+1.9**
KDZ	**Kurdzhali**	**2.14**	**70**	P	**Pn**	**07 42 05.7**	**+1.3**
DIM	**Dimitrovgrad**	**2.38**	**62**	P	**Pn**	**07 42 11.8**	**+4.2**

*ISCJB **18** 07:47:16.3±7.5, 5718S±008×258W±02, h9km±48km,*
mb4.6/20, MS3.9/6, Error ellipse: s-maj=16.3km s-min=11.4km az=89.5
*IDC **18** 07:47:24.4±4.8, 5727S×2581W, h61km±43km, mb4.2/12, mb1 4.2/13, mb1mx4.2/17, mbtmp4.5/13, ML4.5/1, MS3.8/7, Ms1 3.8/7, ms1mx3.7/15, Error ellipse: s-maj=18.5km s-min=14.9km az=53.0*
*BJI **18** 07:47:24.7, 5634S×2575W, h77km, mB5.0, Ms4.3*
*NEIC **18** 07:47:26.3±1.2, 5725S×2577W, h79km±10km, mb4.7/14, Error ellipse: s-maj=9.9km s-min=7.0km az=47.0*
ISC 18 07:47:20.6±5.6, 5725S±008×258W±02, h27km±40km, n74, σ0°83/35, mb4.6/20, MS3.9/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.71**	**292**	*e*Pn	**Pn**	**07 49 03.5**	**+6.2**
	137nm,0.8s						
HOPE				*e*Sn	**Sn**	**07 50 07.5**	**-5.4**
VNA1	**Neumayer--Stat**	**15.40**	**158**	*e*	**Pn**	**07 50 55.4**	**-0.5**
VNA1				*e*		07 50 59.4	
VNA1				*e*		07 51 01.7	
VNA1				*e*		07 51 06.6	
VNA1				*e*		07 51 16.4	
VNA1				*e*		07 51 21.6	
VNA1				*e*		07 51 23.7	
SNAA	**Sanae**	**17.34**	**156**	P	**Pn**	**07 51 21.1**	**+0.4**
	1.7nm,0.3s,baz=300,slow=7.8,SNR=301						
SNAA				LR	LR	07 56 35.3	
	comp=Z,120nm,20.6s,baz=326,slow=32						
SNAA	**Sanae**	**17.34**	**156**	*e*	**Pn**	**07 51 21.3**	**+0.7**
SNAA				*e*		07 51 25.1	
SNAA				*e*		07 51 26.8	
SNAA				*e*		07 51 31.3	
SNAA				*e*		07 51 41.7	
SNAA				*e*		07 51 47.0	
SNAA	**Sanae**	**17.34**	**156**	*e*P	**Pn**	**07 51 21.2**	**+0.6**
	11nm,0.4s						
MAIT	**Maitri**	**20.82**	**145**	*e*P	**P**	**07 52 00.4**	**+0.5**
MAIT				*e*pP		07 52 14.6	
TRQA	**Tornquist**	**30.49**	**293**	*e*P	**P**	**07 53 30.5**	**-0.7**
	5.3nm,1.0s,mb4.2						
PLCA	**Paso Flores**	**32.96**	**281**	P	**P**	**07 53 52.0**	**-0.9**
	3.3nm,1.1s,mb4.2,baz=98,slow=7.1,SNR=2.8						
QSPA	**South Pole Qui**	**33.00**	**180**	*e*P	**P**	**07 53 53.5**	**+0.2**
	10.0nm,0.6s,mb4.9						
CPUP	**Villa Florida**	**38.17**	**311**	P	**P**	**07 54 37.3**	**-0.3**
	0.9nm,0.4s,mb3.8,baz=133,slow=7.3,SNR=8.8						
CPUP				PcP	PcP	07 56 50.5	-1.5
	2.1nm,0.7s,baz=188,slow=1.1,SNR=5.4						
MAW	**Mawson**	**38.74**	**142**	P	**P**	**07 54 41.4**	**-1.0**
	1.2nm,0.7s,mb3.8,baz=243,slow=12,SNR=5.1						
MAW				PcP	PcP	07 56 52.6	-1.1
	2.7nm,0.9s,baz=264,slow=10,SNR=4.0						
MAW	**Mawson**	**38.74**	**142**	*e*P	**P**	**07 54 46.3**	**+3.9**
	15nm,1.3s,mb4.6						
MAW				*e*		07 54 57.0	
MAW				PcP	PcP	07 56 52.6	-1.1
BDFB	**Brasilia**	**44.78**	**329**	P	**P**	**07 55 33.5**	**+1.7**
	4.3nm,0.6s,mb4.5,baz=160,slow=1.8,SNR=9.6						
BDFB				LR	LR	08 10 34.5	
	comp=Z,130nm,21.3s,MS3.8,baz=26,slow=31						
SBA	**Scott Base**	**44.94**	**184**	*e*P	**P**	**07 55 33.9**	**+0.8**
	9.2nm,1.1s,mb4.5						
SBA				*e*		07 55 47.2	
VNDA	**Vanda**	**45.41**	**182**	P	**P**	**07 55 36.7**	**-0.1**
	3.6nm,0.7s,mb4.3,baz=180,slow=6.0,SNR=32						
VNDA				LR	LR	08 12 39.1	
	comp=Z,66nm,20.2s,MS3.6,baz=177,slow=33						
VNDA	**Vanda**	**45.41**	**182**	*e*P	**P**	**07 55 36.6**	**-0.2**
	9.6nm,0.9s,mb4.6						
VNDA				*e*		07 55 52.1	
LVC	**Limon Verde**	**46.55**	**300**	*e*P	**P**	**07 55 45.7**	**-0.2**
	3.2nm,0.5s,mb4.5						
LBTB	**Lobatse**	**48.66**	**71**	P	**P**	**07 56 01.7**	**-0.5**
	9.0nm,0.8s,mb4.9,baz=228,slow=7.5,SNR=14						
LBTB	**Lobatse**	**48.66**	**71**	*e*P	**P**	**07 56 01.6**	**-0.6**
	9.4nm,0.8s,mb4.9						
TSUM	**Tsumeb**	**49.64**	**58**	P	**P**	**07 56 09.7**	**0.0**
	2.8nm,0.8s,mb4.3,baz=180,slow=7.1,SNR=6.4						
TSUM	**Tsumeb**	**49.64**	**58**	*e*P	**P**	**07 56 09.5**	**-0.2**
	3.3nm,0.8s,mb4.4						
LPAZ	**La Paz**	**51.68**	**305**	P	**P**	**07 56 25.6**	**+0.5**
	8.4nm,0.5s,mb4.9,baz=138,slow=7.4,SNR=75						
LPAZ	**La Paz**	**51.68**	**305**	*e*P	**P**	**07 56 25.7**	**+0.6**
	8.1nm,0.5s,mb4.9						
SAML	**Samuel**	**56.18**	**314**	*e*P	**P**	**07 56 57.5**	**-0.4**
	14nm,0.6s,mb5.2						
LSZ	**Lusaka**	**58.12**	**67**	*e*P	**P**	**07 57 11.7**	**0.0**
	18nm,1.3s,mb4.9						
DBIC	**Dimbokro**	**65.96**	**23**	P	**P**	**07 58 03.6**	**-0.7**
	5.1nm,0.7s,mb4.7,baz=194,slow=8.7,SNR=6.3						
DBIC				LR	LR	08 19 10.4	
	comp=Z,130nm,21.7s,MS4.1,baz=178,slow=29						
OTAV	**Otavalo**	**70.94**	**303**	*e*P	**P**	**07 58 37.1**	**+1.7**
	5.3nm,1.2s,mb4.3						
TOA0	**Torodi Ar. Sit**	**73.74**	**28**	*e*P	**P**	**07 58 51.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**73.74**	**28**	P	**P**	**07 58 52.4**	**+0.2**
	16nm,0.7s,mb5.1,baz=196,slow=6.4,SNR=82						
TORD				pP	pP	07 59 09.2	+8.4
	13nm,0.9s,baz=200,slow=6.6,SNR=9.1						
TORD				LR	LR	08 24 10.5	
	comp=Z,67nm,19.2s,MS3.9,baz=170,slow=30						
TORD	**Torodi Ar. Bea**	**73.74**	**28**	P	**P**	**07 58 52.4**	**+0.2**
TORD				pP	pP	07 59 09.2	+8.4
KMBO	**Kilima Mbogo**	**74.78**	**67**	LR	LR	08 27 27.3	
	comp=Z,81nm,21.4s,MS4.0,baz=97,slow=32						
SDV	**Santo Domingo**	**75.39**	**314**	*e*P	**P**	**07 59 01.5**	**-0.2**
	13nm,0.8s,mb4.9						
URZ	**Urewera**	**82.91**	**198**	P	**P**	**07 59 42.5**	**-0.4**
	7.2nm,1.0s,mb4.6,baz=248,slow=2.8,SNR=3.8						
COCO	**West Island**	**96.36**	**124**	*e*P	**P**	**08 00 48.6**	**+1.7**
	116nm,0.6s						
ASAR	**Alice Springs**	**97.62**	**161**	P	**P**	**08 00 50.6**	**-2.0**
	0.4nm,0.8s,mb4.0,baz=185,slow=5.6,SNR=3.5						
ASAR				LR	LR	08 43 43.0	
	comp=Z,85nm,21.6s,MS4.2,baz=185,slow=35						
MSU	**Marysvale**	**119.56**	**296**	*e*PKPdf	PKPdf	08 06 06.7	-1.1
MVU	**Marysvale**	**119.57**	**296**	*e*PKPdf	PKPdf	08 06 01.6	-6.2
TPNV	**Topopah Spring**	**120.37**	**292**	*e*PKPdf	PKPdf	08 06 08.4	-0.9
DUG	**Dugway**	**121.18**	**297**	*e*PKPdf	PKPdf	08 06 09.4	-1.5
PDAR	**Pinedale Array**	**121.61**	**301**	PKP	PKPdf	08 06 09.4	-2.3
	0.7nm,0.8s,baz=123,slow=5.5,SNR=6.4						
ULM	**Lac du Bonnet**	**121.63**	**315**	PKP	PKPdf	08 06 08.6	-3.2
	1.7nm,0.6s,baz=27,slow=1.3,SNR=6.1						
ULM	**Lac du Bonnet**	**121.63**	**315**	PKP	PKPdf	08 06 08.6	-3.2
HWUT	**Hardware Ranch**	**121.67**	**299**	*e*PKPdf	PKPdf	08 06 09.9	-1.9
NVAR	**Mina Array Bea**	**122.55**	**291**	PKP	PKPdf	08 06 12.8	-0.7
	0.8nm,0.7s,baz=152,slow=2.7,SNR=8.3						
TPAW	**Teton Pass**	**122.82**	**300**	*e*PKPdf	PKPdf	08 06 12.3	-1.7
MOOW	**Moose Ponds**	**122.92**	**301**	*e*PKPdf	PKPdf	08 06 12.7	-1.5
IMW	**Indian Meadow**	**123.12**	**301**	*e*PKPdf	PKPdf	08 06 13.7	-0.9
FLWY	**Flagg Ranch**	**123.16**	**301**	*e*PKPdf	PKPdf	08 06 13.7	-1.0
GCMT	**Greycliff**	**123.98**	**303**	*e*PKPdf	PKPdf	08 06 14.4	-1.9
DLMT	**Dillon**	**125.01**	**301**	*e*PKPdf	PKPdf	08 06 15.9	-2.4
FINES	**FINESS Array B**	**125.09**	**28**	PKP	PKPdf	08 06 15.6	-2.8
	1.8nm,0.6s,baz=158,slow=2.1,SNR=5.6						
EGMT	**Eagleton**	**125.70**	**305**	*e*PKPdf	PKPdf	08 06 18.4	-1.1
KAF	**Kangasniemi**	**125.72**	**27**	*e*p	PKPdf	08 06 16.1	-3.5
WVOR	**Wild Horse Val**	**125.73**	**294**	*e*PKPdf	PKPdf	08 06 18.9	-0.7
CHMT	**Chamberlain Mo**	**126.47**	**302**	*e*PKPdf	PKPdf	08 06 19.2	-1.8
MSO

comp=Z,57nm,5.5s

EYAK	Cordova Ski Ar	149.74	302	*e*PKPbc	PKPbc	08 07 06.3	-1.5
SONM	Songino Array	150.04	88	PKPbc	PKPbc	08 07 06.7	-1.9
	comp=Z,9.3nm,0.8s,baz=222,slow=2.5,SNR=54						
ULN	Ulaanbaatar	150.41	88	*e*PKPbc	PKPbc	08 07 07.8	-1.7
SML	Sawmill	151.33	303	*e*PKPdf	PKPdf	08 07 01.4	-4.2
COLA	College	151.89	310	*e*PKPbc	PKPbc	08 07 10.0	-2.9
COLA				*e*PKPab	PKPab	08 07 20.3	-1.8
MCK	McKinley	152.10	307	*e*PKPbc	PKPbc	08 07 11.6	-1.8
IMA2	Indian Mountai	154.48	312	*e*PKPbc	PKPbc	08 07 16.7	-1.9
IMA2				*e*PKPab	PKPab	08 07 31.0	-2.1

MEX 18 07:52:06.4±0.9, 1629N×9461W, h65km±20km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.84	342	*i* P		Pn		07 52 21.4	-1.2
CMIG				*i* S		Sn		07 52 32.9	-1.7
HUIG	Huatulco	1.53	251	*i* P		Pn		07 52 29.8	-1.8
HUIG				*i* S		Sn		07 52 49.4	-1.3
OXX	Oaxaca	2.18	292	*e*P		Pn		07 52 40.0	-0.3
VHO	Vista Hermosa	2.18	291	*i* P		Pn		07 52 39.8	-0.6
VHO				*i* S		Sn		07 53 04.5	-1.8

IDC 18 08:00:50.8±8.1, 171N×12739E, h137km±69km, mb4.1/5, mb1 4.2/6, mb1mx3.8/16, mbtmp4.4/6, Error ellipse: s-maj=103.4km s-min=20.8km az=64.0
ISCJB 18 08:00:55.7±4.9, 16N±02×1273E±04, h200km±46km, mb4.4/8, Error ellipse: s-maj=62.3km s-min=27.3km az=136.7
NEIC 18 08:00:57.2±3.7, 162N×12737E, h198km±33km, mb4.5/6, Error ellipse: s-maj=41.9km s-min=18.1km az=66.0
ISC 18 08:00:57.4±4.8, 16N±02×1274E±03, h200km±45km, n16, σ0§55/15, mb4.4/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	15.11	161	*e*P		P	Pn	08 04 21.7	+0.8
	10nm,0.6s								
FITZ	Fitzroy Crossi	19.69	185	P		P	Pn	08 05 10.3	-1.0
	0.4nm,0.3s,baz=21,slow=19,SNR=11								
WRAB	Tennant Creek	22.50	163	*e*P		P	Pn	08 05 39.5	-0.5
	14nm,0.3s,mb5.0								
WRA	Warramunga Arr	22.50	163	P		P	Pn	08 05 39.3	-0.8
	20nm,0.6s,mb4.8,baz=343,slow=10,SNR=102								
WB2	Warramunga Arr	22.51	163	*e*P		P	Pn	08 05 39.5	-0.6
AS31	Alice Springs	25.94	166	*e*P		P	Pn	08 06 11.4	+0.2
ASPA	Alice Springs	25.94	166	*e*P		P	Pn	08 06 11.2	0.0
ASAR	Alice Springs	25.94	166	P		P	Pn	08 06 11.2	0.0
	5.6nm,0.3s,mb4.6,baz=344,slow=7.5,SNR=119								
ASAR				PcP		PcP		08 09 35.6	+1.4
	0.5nm,0.5s,baz=354,slow=2.4,SNR=4.3								
FORT	Forrest	32.24	179	*e*P		P	Pn	08 07 07.3	+0.4
	9.4nm,0.9s,mb4.3								
KLBR	Kellerberrin	34.29	195	*e*P		P	Pn	08 07 25.3	+0.7
	49nm,1.8s,mb4.7								
STKA	Stephens Creek	35.95	159	*e*P		P	Pn	08 07 39.2	+0.4
	5.4nm,0.8s,mb4.1								
STKA	Stephens Creek	35.95	159	P		P	Pn	08 07 39.0	+0.2
	4.0nm,0.3s,mb4.4,baz=328,slow=9.3,SNR=19								
STKA				PcP		PcP		08 10 02.3	+1.4
	0.8nm,0.5s,baz=14,slow=4.2,SNR=2.9								
MKAR	Makanchi Array	59.64	326	P		P	Pn	08 10 40.2	-0.1
	1.1nm,0.5s,mb3.8,baz=125,slow=7.8,SNR=9.2								
VNDA	Vanda	81.28	173	P		P	Pn	08 12 51.7	+0.5
	1.3nm,0.7s,mb3.7,baz=328,slow=7.1,SNR=11								
VNDA	Vanda	81.28	173	P		P	Pn	08 12 51.7	+0.5
TORD	Torodi Ar. Bea	124.17	287	PKP		PKPdf		08 19 33.7	+1.7
	0.2nm,0.4s,baz=75,slow=1.7,SNR=4.7								

IDC 18 08:03:20.5±2.9, 918S×10709E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/17, mbtmp3.9/6, Error ellipse: s-maj=158.2km s-min=20.7km az=53.0, South of Java

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	29.40	123	P		P		08 09 27.5	+2.1
	0.4nm,0.8s,baz=307,slow=9.2,SNR=3.3								
STKA	Stephens Creek	39.15	130	P		P		08 10 48.5	-1.3
	1.1nm,0.6s,baz=304,slow=14,SNR=3.1								
SONM	Songino Array	56.77	359	P		P		08 13 06.2	0.0
	0.5nm,0.5s,baz=176,slow=8.1,SNR=4.1								
MKAR	Makanchi Array	59.95	341	P		P		08 13 28.7	+0.2
	0.8nm,0.5s,baz=157,slow=7.7,SNR=9.5								
ZAL	Zalesovo	65.65	346	P		P		08 14 04.7	-1.8
	1.6nm,0.4s,baz=25,slow=8.8,SNR=3.4								
BVAR	Borovoye Array	69.40	337	P		P		08 14 31.7	+1.5
	1.1nm,0.6s,baz=148,slow=8.7,SNR=3.9								

IDC 18 08:06:53.8±1.1, 57.17S×25.68W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, Error ellipse: s-maj=43.5km s-min=31.8km az=87.0
ISCJB 18 08:06:54.2±1.1, 57.15S±0.2×25.88W±0.5, h10km, mb3.8/3, Error ellipse: s-maj=44.5km s-min=19.7km az=136.5
ISC 18 08:06:55.8±1.1, 572S±0.2×258W±0.5, h10km, n5, σ1§33/4, mb3.8/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNAA	Sanae	17.41	156	*e*		Pn		08 10 59.5	+0.7
SNAA				*e*				08 11 11.9	
SNAA				*e*				08 11 18.0	
VNDA	Vanda	45.49	182	P		P		08 15 14.3	-1.0
	0.6nm,0.6s,mb3.6,baz=191,slow=6.7,SNR=5.8								
LPAZ	La Paz	51.64	304	P		P		08 16 03.1	+0.5
	0.6nm,0.4s,mb3.9,baz=92,slow=7.1,SNR=9.5								
TORD	Torodi Ar. Bea	73.67	28	P		P		08 18 29.4	-0.3
	1.3nm,0.7s,mb4.0,baz=199,slow=6.5,SNR=16								
SONM	Songino Array	150.03	87	PKPbc		PKPbc		08 26 43.8	-2.8
	0.5nm,0.4s,baz=228,slow=3.3,SNR=4.7								

ISCJB 18 08:10:45.2±0.9, 93S±0.2×1077E±0.2, h10km, mb4.1/11, Error ellipse: s-maj=42.0km s-min=10.9km az=104.9
IDC 18 08:10:45.5±1.1, 929S×10779E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/17, mbtmp4.0/6, Error ellipse: s-maj=56.4km s-min=19.9km az=61.0
NEIC 18 08:10:47.2±0.9, 938S×10766E, h10km, mb4.3/6, Error ellipse: s-maj=45.6km s-min=11.7km az=52.0
ISC 18 08:10:47.1±0.9, 94S±0.2×1076E±0.2, h10km, n13, σ0§96/13, mb4.1/11, South of Java

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBWA	Marble Bar	16.51	136	*e*P		P	Pn	08 14 37.5	-1.2
	13nm,1.0s								
FITZ	Fitzroy Crossi	19.51	118	P		P	Pn	08 15 17.4	+1.7
	0.1nm,0.3s,baz=205,slow=20,SNR=9.8								
WRA	Warramunga Arr	27.85	115	P		P		08 16 36.4	-0.3
	0.5nm,0.4s,mb3.5,baz=287,slow=12,SNR=8.2								
WRAB	Tennant Creek	27.85	115	*e*P		P		08 16 36.7	-0.1
	9.1nm,1.0s,mb4.4								
STKA	Stephens Creek	38.60	130	P		P		08 18 10.6	+0.3
	1.6nm,0.8s,mb3.8,baz=312,slow=14,SNR=3.1								
SONM	Songino Array	57.01	359	P		P		08 20 31.8	-1.1
	1.4nm,0.5s,mb4.3,baz=178,slow=8.0,SNR=11								
ULN	Ulaanbaatar	57.03	360	*e*P		P		08 20 32.3	-0.8
	1.7nm,0.4s,mb4.4								
MKAR	Makanchi Array	60.35	340	P		P		08 20 55.6	-0.6
	1.1nm,0.4s,mb4.2,baz=145,slow=8.0,SNR=18								
KURK	Kurchatov	64.96	340	*e*P		P		08 21 26.5	-0.5
	1.0nm,0.6s,mb4.0								
BVAR	Borovoye Array	69.81	337	P		P		08 21 58.8	+1.1
	1.2nm,0.6s,mb4.0,baz=129,slow=12,SNR=4.7								
CHKZ	Chkalovo	70.23	338	*e*P		P		08 22 00.5	+0.2
	1.3nm,0.6s,mb4.0								
VNDA	Vanda	73.50	169	P		P		08 22 19.5	-0.4
	0.5nm,0.6s,mb3.6,baz=307,slow=6.1,SNR=7.4								
ARU	Arti	77.05	334	*e*P		P		08 22 42.4	+2.0
	11nm,1.8s,mb4.5								

HLW 18 08:20:06.9, 3144N×3537E, h20km, Mb3.5
GII 18 08:20:11.9±0.6, 3086N×3501E, h0km, ML2.6/8
ISCJB 18 08:20:12.8±0.4, 3085N±002×3502E±003, h7km±4km, Error ellipse: s-maj=4.9km s-min=3.3km az=16.9
ISC 18 08:20:13.4±0.4, 3086N±002×3501E±003, h9km±4km, n23, σ0§92/35, 3C-1D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MASH	Mash'abbe Sade	0.24	305	Pg		Pg		08 20 17.6	-0.7
ZFRI	Zfri	0.33	155	Pg		Pg		08 20 19.6	-0.4
RTMM	Retamin	0.34	305	Pg		Pg		08 20 19.8	-0.3
SVTA	Shivta	0.34	282	Pg		Pg		08 20 19.7	-0.5
SVTA				Sg		Sg		08 20 26.3	+1.5
PRNI	Paran	0.50	181	Pg		Pg		08 20 22.7	-0.4
PRNI				Sg		Sg		08 20 31.2	+1.4
KZIT	Kziot	0.53	275	Pg		Pg		08 20 23.1	-0.6
KZIT				Sg		Sg		08 20 31.5	+0.9
MZDA	Masada	0.54	34	Pg		Pg		08 20 23.2	-0.7
MZDA				Sg		Sg		08 20 31.7	+0.7
HRFI	Mount Harif	0.82	178	Pg		Pg		08 20 28.0	-1.1
HRFI				Sg		Sg		08 20 41.9	+2.0
MKRJ	Makawir	0.88	38	Pg		Pg		08 20 30.0	-0.3
MBH	Mount Berech	1.06	185	Pg		Pg		08 20 32.7	-1.2
MBH				Sg		Sg		08 20 50.0	+2.3
AQBJ	Aqaba	1.13	178	Pg		Pg		08 20 34.2	-0.8
EIL	Elat	1.18	183	Pg		Pg		08 20 35.4	-0.7
EIL				Sg		Sg		08 20 52.0	+0.5
HNKL	Nakhl	1.28	224	⇓P		Pn		08 20 36.6	-0.8
HNKL				S		Sb		08 20 54.1	-0.2
SLTI	Sal'it	1.38	1	Pn		Pn		08 20 38.9	+0.2
SLTI				Sn		Sn		08 20 58.3	+1.3
HMDT	Nahal Hemdat	1.46	17	Pn		Pn		08 20 39.4	-0.4
AMAG	Maghara	1.57	263	P		Pn		08 20 39.0	-2.3
AMAG				S		Sn		08 21 02.1	+0.4
MMLI	Mount Malkishu	1.61	12	Pn		Pn		08 20 41.8	-0.2
MMLI				Sn		Sn		08 21 04.3	+1.4
HBST	Basata	1.65	188	⇑P		Pn		08 20 42.7	+0.2
HBST				S		Sn		08 21 08.6	+4.8
OFRI	'Ofer	1.76	359	Pn		Pn		08 20 44.1	+0.1
SUZ		2.14	242	P		Pn		08 20 48.4	-0.8
HDHB	Dhahab	2.15	189	⇑P		Pn		08 20 49.1	-0.3
MMA1	Mount Meron ar	2.18	9	Pn		Pn		08 20 49.9	+0.1
HKAT	Jabal Katrina	2.49	201	⇑P		Pn		08 20 54.3	+0.3

NEIC 18 08:23:21.6, 5096N×17924W, h13km, ML3.5(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	1.01	295	P		Pb		08 23 39.4	-1.5
AMKA				S		Sb		08 23 52.8	-1.4
ATKA	Atka Island	3.38	66	P		Pn		08 24 13.4	-0.7
NIKO	Nikolski	6.73	69	P		Pn		08 24 59.9	-0.1
SPIA	Saint Paul Isl	8.17	37	P		Pn		08 25 21.8	+1.9

IDC 18 08:47:33.7±2.0, 271N×9540E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/19, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=65.0km s-min=20.8km az=52.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.52	88	Pn		Pn		08 48 30.4	+0.8
	5.6nm,0.3s,baz=278,slow=4.4,SNR=15								
WRA	Warramunga Arr	44.35	122	P		P		08 55 45.5	-0.1
	0.6nm,0.5s,baz=297,slow=8.8,SNR=4.7								
MKAR	Makanchi Array	45.37	347	P		P		08 55 54.2	+0.5
	3.9nm,0.6s,baz=162,slow=7.9,SNR=34								
ASAR	Alice Springs	45.73	127	P		P		08 55 57.2	+0.7
	0.3nm,0.5s,baz=300,slow=8.1,SNR=3.9								
SONM	Songino Array	45.94	10	P		P		08 55 57.9	-0.4
	1.6nm,0.6s,baz=195,slow=9.3,SNR=12								
BVAR	Borovoye Array	54.25	342	P		P		08 57 01.2	-0.1
	1.2nm,0.7s,baz=140,slow=7.8,SNR=5.4								

ISCJB 18 08:49:00.0±5.6, 74S±03×115.4E±04, h275km±60km, mb3.7/5, Error ellipse: s-maj=77.2km s-min=26.3km az=108.8
IDC 18 08:49:00.6±14.0, 777S×11492E, h280km±159km, mb3.2/4, mb1 3.3/5, mb1mx3.1/14, mbtmp3.7/5, Error ellipse: s-maj=103.0km s-min=30.9km az=54.0
NEIC 18 08:49:05.2±5.1, 746S×11544E, h317km±54km, mb4.4/2, Error ellipse: s-maj=50.4km s-min=16.8km az=60.0
ISC 18 08:49:01.7±5.1, 74S±03×1153E±04, h278km±52km, n10, σ0§77/11, mb3.7/5, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	14.64	138	P		P	Pn	08 52 16.1	-0.3
	0.2nm,0.3s,baz=0.0,slow=20,SNR=4.3								
FITZ				S		S		08 54 59.8	+2.8
	0.4nm,0.3s,baz=160,slow=19,SNR=5.7								
KAKA	Kakadu	17.66	109	*e*P		P		08 52 48.6	-0.2
	15nm,0.9s								
WRA	Warramunga Arr	22.26	126	P		P		08 53 35.0	-0.7
	4.1nm,0.5s,mb4.0,baz=297,slow=12,SNR=53								
WRAB	Tennant Creek	22.27	126	*e*P		P		08 53 35.4	-0.3
	7.3nm,0.3s,mb4.5								
WB2	Warramunga Arr	22.27	126	*e*P		P		08 53 35.4	-0.4
ASPA	Alice Springs	24.08	134	*e*P		P		08 53 51.8	-0.3
ASAR	Alice Springs	24.08	134	P		P		08 53 51.9	-0.3
	2.0nm,0.6s,mb3.6,baz=310,slow=8.5,SNR=40								
AS31	Alice Springs	24.08	134	*e*P		P		08 53 51.8	-0.4
SONM	Songino Array	55.55	353	P		P		08 58 09.1	+0.7
	1.1nm,0.7s,mb3.4,baz=175,slow=8.4,SNR=6.9								
MKAR	Makanchi Array	61.42	335	P		P		08 58 49.3	+0.5
	0.1nm,0.3s,mb2.6,baz=151,slow=6.6,SNR=3.9								

NEIC 18 08:56:38.3±1.0, 943S×10737E, h10km, mb4.6/9, Error ellipse: s-maj=61.3km s-min=8.3km az=49.0
IDC 18 08:56:38.4±3.3, 907S×10770E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/15, mbtmp3.7/4, Error ellipse: s-maj=141.1km s-min=23.0km az=50.0
ISCJB 18 08:56:39.9±1.4, 94S±04×1074E±04, h33km, mb4.2/12, Error ellipse: s-maj=79.4km s-min=10.7km az=95.9
ISC 18 08:56:41.7±1.4, 96S±04×1072E±04, h35km, n14, σ0§94/14, mb4.2/12, South of Java

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBWA	Marble Bar	16.68	135	*e*P		P	Pn	09 00 31.5	-1.2
	5.9nm,0.7s								
FITZ	Fitzroy Crossi	19.82	117	P		P	Pn	09 01 12.5	+1.5
	0.1nm,0.3s,baz=43,slow=12,SNR=3.1								
WRA	Warramunga Arr	28.18	114	P		P		09 02 30.0	-0.8
	0.6nm,0.8s,mb3.3,baz=287,slow=12,SNR=3.2								
ASAR	Alice Springs	29.12	122	P		P		09 02 40.3	+1.2
	0.2nm,0.7s,mb2.9,baz=297,slow=9.4,SNR=2.9								
JIRN	Jiri	42.26	332	*e*P		P		09 04 32.7	+1.1
	23nm,0.7s,mb4.9								
GUN	Gumba	42.61	332	*e*P		P		09 04 35.5	+1.0
	28nm,0.7s,mb5.1								
DMN	Daman	42.73	331	*e*P		P		09 04 36.0	+0.6
	15nm,0.8s,mb4.8								
KKN	Kakani	42.80	331	*e*P		P		09 04 36.3	+0.4
	14nm,0.8s,mb4.8								
KOLN	Koldanda	43.61	329	*e*P		P		09 04 43.0	+0.5
	16nm,0.8s,mb4.8								
SONM	Songino Array	57.20	359	P		P		09 06 24.3	-0.9
	0.4nm,0.3s,mb3.9,baz=174,slow=8.7,SNR=5.5								
MKAR	Makanchi Array	60.39	341	P		P		09 06 46.6	-0.7
	1.8nm,0.5s,mb4.4,baz=143,slow=7.8,SNR=20								
KURK	Kurchatov	65.00	340	*e*P		P		09 07 17.2	-0.9
	1.8nm,0.8s,mb4.2								
CHKZ	Chkalovo	70.25	338	*e*P		P		09 07 50.6	-0.6
	1.5nm,0.6s,mb4.1								
ZRNK	Zerenda	70.30	337	*e*P		P		09 07 50.6	-1.0
	0.9nm,0.5s,mb4.0								

CSEM 18 09:09:22.8, 3772N×2084E, h2km, MD3.6/3, After ATH
ATH 18 09:09:22.8, 3772N×2084E, h2km, MD3.6/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.50	337	*e*PG		Pg		09 09 32.6	+0.3
RLS	Riolos of Patr	0.60	56	*e*PG		Pg		09 09 33.8	-0.5
ITM	Ithomi	1.02	122	*e*PG		Pg		09 09 42.3	0.0
EVR	Evrytania	1.42	32	*e*PN		Pn		09 09 50.5	+0.9

IDC 18 09:24:30.8±2.2, 154N×9721E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=50.9km s-min=29.7km az=64.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.12	54	Pn		Pn		09 25 07.0	-0.4
	2.1nm,0.3s,baz=309,slow=13,SNR=11								
PSI				Sn		Sn		09 25 47.4	+13
	4.6nm,0.3s,baz=20,slow=9.6,SNR=5.8								
WRA	Warramunga Arr	42.21	122	P		P		09 32 25.3	-0.1
	0.6nm,0.6s,baz=301,slow=9.3,SNR=7.3								
ASAR	Alice Springs	43.59	127	P		P		09 32 37.4	+0.8
	0.4nm,0.6s,baz=300,slow=7.7,SNR=7.7								
MKAR	Makanchi Array	46.91	346	P		P		09 33 02.9	0.0
	0.7nm,0.7s,baz=150,slow=8.1,SNR=3.8								

ATH 18 09:30:53.5, 4008N×1987E, h8km±3km, MD3.5/4
NEIC 18 09:30:53.5, 4008N×1987E, h8km, MD3.5(ATH), After ATH.
CSEM 18 09:30:54.9±0.2, 4001N×1994E, h2km, MD3.5, Error ellipse: s-maj=5.0km s-min=2.6km az=95.0
ISCJB 18 09:30:55.8±0.8, 3994N±003×1990E±008, h10km, Error ellipse: s-maj=8.7km s-min=4.5km az=18.9
ISC 18 09:30:56.4±0.7, 3995N±003×1992E±007, h10km, n9, σ1§15/15, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRN	Sarande	0.09	138	*i* Pg		Pg		09 30 57.5	-1.3
SRN				*i* Sg		Sg		09 31 00.3	-0.2
KEK	Kerkira	0.25	202	*e*PG		Pg		09 31 00.6	-0.9
KEK				*e*SB		Sg		09 31 06.0	+1.0
TPE	Tepelena	0.35	11	*i* Pg		Pg		09 31 01.2	-2.2
TPE				*i* Sg		Sg		09 31 07.9	-0.3
JAN	Janina	0.77	112	*e*PB		Pg		09 31 09.9	-1.4
JAN				*e*SB		Sg		09 31 21.3	0.0
OHR	Ohrid	1.34	30	*i* Pn		Pn		09 31 21.1	0.0
OHR				*i* Sn		Sn		09 31 40.7	+1.7
BIA	Bitola	1.51	44	*i* Pn		Pn		09 31 23.2	-0.3
BIA				*i* Sn		Sn		09 31 44.8	+1.5
BIA	Bitola	1.51	44	*i* Pn		Pn		09 31 23.1	-0.4
EVR	Evrytania	1.79	125	*e*PN		Pn		09 31 27.7	+0.4
VLS	Valsamata	1.84	163	*e*PG		Pn		09 31 30.0	+2.0

BJI 18 09:44:36.1, 3856N×9056E, h16km, ML3.3, 3C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	5.68	339	P		Pn		09 46 04.0	+4.2
WMQ				S		Sn		09 47 07.4	+2.7
WMQ				SG		Sg		09 47 34.1	-4.4
WMQ				Smax					
	comp=N,50nm,0.5s								
WMQ				Smax					
	comp=E,76nm,0.5s								
GTA	Gaotai	7.26	80	PG		Pn		09 46 44.9	+23
GTA				SG		Sn		09 48 18.5	+35
GTA				Smax					
	comp=N,12nm,0.9s								
GTA				Smax					
	comp=E,5.0nm,0.8s								
MK09	Makanchi Array	10.22	326	⇑Pn		Pn		09 47 00.9	-1.2
	comp=E,1.6nm,0.7s,baz=138,slow=13								
MK09				⇑Sn		Sn		09 48 50.0	-6.4
	comp=E,2.5nm,0.8s,baz=137,slow=25								
MK09				⇑Lg				09 49 50.5	
	comp=E,3.0nm,0.8s,baz=128,slow=26								

NEIC 18 09:52:21.0, 1688N×9940W, h10km, MD4.1(MEX), After MEX.
MEX 18 09:52:21.7±0.7, 1687N×9940W, h30km±15km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.49	270	*i* P		Pb		09 52 30.5	-1.5
ACX				*i* S		Sb		09 52 37.0	-2.1
CAIG	El Cayaco	0.85	282	*i* P		Pn		09 52 35.7	-1.9
CAIG				*i* S		Sb		09 52 45.0	-4.0
MEIG	Mezcala	1.07	349	*i* P		Pn		09 52 38.4	-2.3
MEIG				*i* S		Sn		09 52 51.6	-3.0
PLIG	Platanillo	1.52	356	*i* P		Pn		09 52 44.9	-1.9
PLIG				*i* S		Sn		09 53 03.5	-2.1
UTMO	Huajuapan	1.80	58	*i* P		Pn		09 52 49.0	-1.7
UTMO				*i* S		Sn		09 53 10.1	-2.5
YAIG	Yautepec	2.01	9	*e*P		Pn		09 52 59.9	-2.7
YAIG				*i* S		Sn		09 53 15.5	-2.2
YAIG	Yautepec	2.01	9	*i* P		Pn		09 52 52.1	-1.5
YAIG				*i* S		Sn		09 53 17.8	+0.1
PPM	Popocatepetl	2.31	18	*e*P		Pn		09 52 55.7	-2.0
PPM				*i* P				09 52 56.0	
PPM				*i* S		Sn		09 53 22.6	-2.4
PPM	Popocatepetl	2.31	18	*e*P		Pn		09 52 52.0	-5.7
PPM				*i* S		Sn		09 53 31.3	+6.2
IIZ	Mezontepec	2.31	4	*i* P		Pn		09 52 55.9	-1.8
IIZ				*i* S		Sn		09 53 20.2	-5.0
UNM	Universidad Na	2.46	5	*i* P		Pn		09 52 57.2	-2.5
UNM				*i* P				09 52 57.9	
UNM				*e*P				09 53 08.5	
UNM				*i* S		Sn		09 53 27.6	-1.1
UNM				*i* S		Sn		09 53 28.8	+0.1
UNM	Universidad Na	2.46	5	*i* P		Pn		09 53 06.1	+6.3
UNM				*i* S		Sn		09 53 34.1	+5.3
TPIG	Tehuac#an	2.48	51	*i* P		Pn		09 52 57.7	-2.3
TPIG				*i* S		Sn		09 53 28.8	-0.6
VHO	Vista Hermosa	2.56	85	*i* P		Pn		09 53 00.0	-1.1
VHO				*i* S		Sn		09 53 27.7	-3.6
OXX	Oaxaca	2.57	85	*e*P		Pn		09 53 01.0	-0.3
MOIG	Morelia	3.27	329	*i* P		Pn		09 53 11.0	+0.1
MOIG				*i* S		Sn		09 53 47.2	-1.6
MOIG	Morelia	3.27	329	*i* P		Pn		09 53 13.9	+3.0
MOIG	

23nm,0.7s,mb5.0
DMN Daman 43.07 330 *e*P **P** 10 41 23.3 +0.3
16nm,0.7s,mb4.9
KKN Kakani 43.13 330 *e*P **P** 10 41 23.5 -0.1
18nm,0.8s,mb4.9
GKN Gorkha 43.63 330 *e*P **P** 10 41 27.6 +0.1
KOLN Koldanda 43.96 328 *e*P **P** 10 41 30.2 0.0
20nm,0.8s,mb4.9
SONM Songino Array 57.24 359 P **P** 10 43 10.6 +0.2
1.7nm,0.6s,mb4.3,baz=174,slow=8.4,SNR=16
ULN Ulaanbaatar 57.26 359 *e*P **P** 10 43 10.6 +0.1
4.3nm,1.0s,mb4.4
MKAR Makanchi Array 60.63 340 P **P** 10 43 33.2 -0.6
2.6nm,0.6s,mb4.5,baz=143,slow=7.6,SNR=24
BVAR Borovoye Array 70.10 337 P **P** 10 44 34.8 -0.4
1.4nm,0.5s,mb4.1,baz=144,slow=8.8,SNR=7.9
CHKZ Chkalovo 70.52 338 *e*P **P** 10 44 37.3 -0.4
2.7nm,0.4s,mb4.5
ELK Elko 130.98 43 *e*P Pdif PKPbc 10 49 22.4 -3.3
WMOK Wichita Mounta 145.15 40 *e*PKPbc PKPbc 10 53 01.1 +1.2
WMOK *e* 10 53 11.5
CCM Cathedral Cave 146.92 28 *e*PKPbc PKPbc 10 53 05.6 +0.3
JCT Junction City 146.96 47 *e*PKPbc PKPbc 10 53 07.0 +1.6
WVT Waverly 150.05 26 *e*PKPbc PKPbc 10 53 13.7 +0.3
WVT *e* 10 53 25.4

IDC ***18*** *10:42:24.6±0.8, 3270N×7738E, h0km, mb4.0/13, mb1 4.1/14, mb1mx4.0/23, mbtmp4.0/14, ML3.6/1, Error ellipse: s-maj=24.0km s-min=17.0km az=47.0*
NDI ***18*** *10:42:26.0±3.5, 3302N×7747E, h15km±32km, ML3.9*
MOS ***18*** *10:42:27.3±0.9, 3279N×7739E, h26km, mb4.2/14, Error ellipse: s-maj=24.4km s-min=9.7km az=98.9*
BJI ***18*** *10:42:28.6, 3295N×7763E, h8km, mb4.6, ML3.9*
NEIC ***18*** *10:42:29.5±6.7, 3278N×7738E, h31km±45km, mb4.2/3, Error ellipse: s-maj=21.7km s-min=12.9km az=197.0*
ISCJB ***18*** *10:42:30.4±0.6, 3279N±003×7741E±006, h58km±7km, mb3.9/15, Error ellipse: s-maj=8.0km s-min=5.1km az=143.0*
NNC ***18*** *10:42:36.6±7.3, 3321N×7728E, h68km±56km, mb3.4, Error ellipse: s-maj=57.1km s-min=53.5km az=39.0*

ISC 18 10:42:31.5±0.5, 3281N±003×7741E±005, h50km±8km, n63, σ1§23/77, mb3.9/15, 2C-5D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DLH	**Dalhousie**	**1.25**	**258**	*e*P		**Pn**	**10 42 50.0**	**-2.5**
DLH				*e*S		**Sn**	**10 43 10.0**	**+1.8**
SDNR	**Sundarnagar**	**1.36**	**196**	*e*P		**Pn**	**10 42 52.8**	**-1.3**
KLP	**Kalpa**	**1.46**	**151**	*e*P		**Pn**	**10 42 54.9**	**-0.6**
KLP				*ex*		x	10 43 14.2	
KLP				*e*S		**Sn**	**10 43 15.2**	**+1.8**
KLP				AML		AML	10 43 19.3	
	comp=E,5μm,0.7s							
KLP				AML		AML	10 43 21.1	
	comp=N,3μm,0.6s							
PONG	**Pong**	**1.50**	**236**	*e*P		**Pn**	**10 42 56.0**	**0.0**
PONG				*e*S		**Sn**	**10 43 17.0**	**+2.5**
BHK	**Bhakra**	**1.63**	**212**	*e*P		**Pn**	**10 43 02.8**	**+5.1**
BHK				*e*S		**Sn**	**10 43 27.2**	**+10**
SMLA	**Simla**	**1.69**	**187**	*e*P		**Pn**	**10 42 59.0**	**+0.4**
SMLA				*e*P			10 42 59.4	
SMLA				*e*S		**Sn**	**10 43 22.1**	**+3.0**
SMLA				*e*S		**Sn**	**10 43 22.1**	**+3.1**
SMLA				AML		AML	10 43 24.8	
	comp=E,5μm,0.3s							
SMLA				AML		AML	10 43 25.6	
	comp=N,3μm,0.4s							
DDI	**Dehra Dun**	**2.54**	**167**	*ex*		x	10 43 14.0	
DDI				*e*S		**Sn**	**10 43 40.5**	**+0.5**
JOSI	**Joshimath**	**2.90**	**140**	*e*P		**Pn**	**10 43 05.1**	**-10**
JOSI				*e*S		**Sn**	**10 43 41.4**	**-7.4**
JOSI				AML		AML	10 43 47.8	
	comp=E,929nm,0.6s							
JOSI				*ex*		x	10 43 47.9	
JOSI				AML		AML	10 43 48.8	
	comp=N,718nm,0.8s							
NDI	**New Delhi**	**4.12**	**182**	*e*P		**Pn**	**10 43 33.0**	**+1.1**
NDI				*ex*		x	10 44 30.0	
LGTI	**Lohaghat**	**4.14**	**143**	*e*P		**Pn**	**10 43 30.5**	**-1.7**
LGTI				*ex*		x	10 44 30.3	
SONA	**Sohna**	**4.56**	**184**	*e*P		**Pn**	**10 43 38.6**	**+0.8**
SONA				*e*S		**Sn**	**10 44 28.5**	**-1.0**
SONA				AML		AML	10 44 52.7	
	comp=N,167nm,0.4s							
SONA				AML		AML	10 44 52.8	
	comp=E,135nm,0.4s							
CEP	**Cherat**	**4.72**	**284**	P		**Pn**	**10 43 40.3**	**+0.3**
THW	**Thamme Wali**	**4.77**	**271**	P		**Pn**	**10 43 40.2**	**-0.6**
KHET	**Khetri**	**4.92**	**197**	*e*P		**Pn**	**10 43 41.6**	**-1.2**
KHET				*e*S		**Sn**	**10 44 36.7**	**-1.8**
KHET				AML		AML	10 45 07.0	
	comp=N,61nm,0.7s							
KHET				AML		AML	10 45 07.3	
	comp=E,71nm,0.4s							
AJM	**Ajmer**	**6.76**	**202**	*i* P		**Pn**	**10 44 07.0**	**-1.0**
AJM				*i* S		**Sn**	**10 45 21.0**	**-2.6**
KSH	**Kashi**	**6.79**	**351**	*e*PG		Pn	10 44 30.0	+22
KSH				S		**Sn**	**10 45 28.6**	**+4.2**
KSH				Smax				
	comp=N,79nm,0.4s							
KSH				Smax				
	comp=E,62nm,0.4s							
TKM2	**Tokmak 2**	**10.19**	**352**	⇓P		**Pn**	**10 44 56.5**	**+1.5**
TKM2				⇓S		**Sn**	**10 46 50.4**	**+2.5**
	comp=E,0.5nm,0.8s							
KK31	**Karatay Array**	**11.62**	**334**	P		**Pn**	**10 45 11.5**	**-3.1**
	comp=E,1.5nm,0.3s,baz=157,slow=12,SNR=31							
KK31				S		**Sn**	**10 47 15.5**	**-7.3**
	comp=E,11nm,0.6s,baz=235,slow=50,SNR=21							
MK09	**Makanchi Array**	**14.43**	**14**	⇑P		**Pn**	**10 45 54.2**	**+1.4**
	comp=E,2.4nm,0.7s,baz=195,slow=13							
MK09				⇓S		**Sn**	**10 48 20.8**	**-11**
	comp=E,5.5nm,1.1s,baz=198,slow=26							
MKAR	**Makanchi Array**	**14.45**	**14**	Pn		**Pn**	**10 45 52.6**	**-0.5**
	comp=E,0.2nm,0.3s,baz=202,slow=13,SNR=7.6							
MKAR				Sn		**Sn**	**10 48 26.5**	**-5.4**
	comp=E,0.5nm,0.3s,baz=187,slow=18,SNR=6.3							
MKAR	**Makanchi Array**	**14.45**	**14**	P		**Pn**	**10 45 52.6**	**-0.5**
MKAR							10 48 26.5	
MKAR				smax				
	comp=E,1.0nm,0.3s							
VOSK	**Vostochnaya**	**20.43**	**349**	⇓P		**P**	**10 47 04.2**	**-0.4**
	comp=E,3.9nm,0.5s							
BVA0	**Borovoye Array**	**20.83**	**348**	P		**P**	**10 47 08.7**	**-0.1**
	comp=E,1.0nm,0.8s,baz=161,slow=12,SNR=30							
BVAR	**Borovoye Array**	**20.83**	**348**	P		**P**	**10 47 08.8**	**0.0**
	comp=E,3.1nm,0.4s,baz=162,slow=11,SNR=25							
BVAR	**Borovoye Array**	**20.83**	**348**	P		**P**	**10 47 08.8**	**0.0**
BVAR				pmax		pmax		
	comp=Z,3.0nm,0.4s							
BRVK	**Borovoye**	**20.88**	**348**	*e*P		**P**	**10 47 09.5**	**+0.2**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.6s							
BRVK	**Borovoye**	**20.88**	**348**	*e*P		**P**	**10 47 09.5**	**+0.2**
	comp=Z,3.3nm,0.6s							
AB31	**Akbulak array**	**20.98**	**327**	P		**P**	**10 47 10.0**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=130,slow=12,SNR=27							
AB31				S		**S**	**10 50 57.3**	**-4.0**
	comp=Z,0.8nm,0.5s,baz=133,slow=24,SNR=2.9							
ZRNK	**Zerenda**	**21.02**	**346**	⇑P		**P**	**10 47 10.5**	**-0.3**
	comp=Z,7.0nm,0.7s,mb4.1							
ZRNK	**Zerenda**	**21.02**	**346**	*e*P		**P**	**10 47 10.7**	**-0.2**
ZRNK				pmax		pmax		
	comp=Z,9.0nm,0.6s,mb4.3							
ZRNK	**Zerenda**	**21.02**	**346**	*e*P		**P**	**10 47 10.7**	**-0.1**
	comp=Z,8.8nm,0.6s,mb4.3							
CHKZ	**Chkalovo**	**21.41**	**349**	P		**P**	**10 47 12.6**	**-2.5**
CHKZ	**Chkalovo**	**21.41**	**349**	*e*P		**P**	**10 47 14.1**	**-1.0**
CHKZ				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.1							
CHKZ	**Chkalovo**	**21.41**	**349**	*e*P		**P**	**10 47 14.1**	**-1.0**
	comp=Z,7.3nm,0.7s,mb4.1							
ZAL	**Zalesovo**	**21.76**	**12**	P		**P**	**10 47 17.3**	**-1.5**
	comp=Z,2.9nm,0.5s,mb4.0,baz=264,slow=4.0,SNR=8.9							
ZAL	**Zalesovo**	**21.76**	**12**	P		**P**	**10 47 17.3**	**-1.5**
ZAL				pmax		pmax		
	comp=Z,3.0nm,0.5s							
NVS	**Novosibirsk**	**22.40**	**9**	*i* P		**P**	**10 47 26.5**	**+0.9**
AKTK	**Aktyubinsk**	**22.69**	**327**	P		**P**	**10 47 27.8**	**-0.9**
AKTO	**Aktyubinsk**	**22.69**	**327**	⇓P		**P**	**10 47 28.1**	**-0.6**
	comp=Z,0.1nm,0.8s,mb2.3							
AKTO	**Aktyubinsk**	**22.69**	**327**	P		**P**	**10 47 27.8**	**-0.9**
	comp=Z,4.5nm,0.7s,mb4.0,baz=117,slow=12,SNR=17							
AKTO	**Aktyubinsk**	**22.69**	**327**	P		**P**	**10 47 27.8**	**-0.9**
AKTO				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.0							
SONM	**Songino Array**	**26.51**	**47**	P		**P**	**10 48 05.9**	**+1.7**
	comp=Z,0.7nm,0.8s,mb3.3,baz=243,slow=9.7,SNR=4.7							
SONM	**Songino Array**	**26.51**	**47**	P		**P**	**10 48 05.9**	**+1.7**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.8s							
BRTR	**Keskin Array B**	**35.68**	**294**	P		**P**	**10 49 26.1**	**+1.3**
	comp=Z,1.1nm,0.8s,mb3.9,baz=72,slow=7.9,SNR=5.1							
BRTR	**Keskin Array B**	**35.68**	**294**	P		**P**	**10 49 26.2**	**+1.3**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
JOF	**Joensuu**	**41.69**	**330**	*ep*		**P**	**10 50 14.2**	**-1.0**
	comp=Z,3.8nm,0.6s,mb4.2							
JOF	**Joensuu**	**41.69**	**330**	*e*P		**P**	**10 50 14.2**	**-1.0**
JOF				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.2							
FINES	**FINESS Array B**	**43.47**	**327**	P		**P**	**10 50 29.9**	**+0.3**
	comp=Z,1.6nm,0.7s,mb3.9,baz=125,slow=10.0,SNR=4.2							
FINES	**FINESS Array B**	**43.47**	**327**	P		**P**	**10 50 29.9**	**+0.3**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.7s							
FINES	**FINESS Array B**	**43.47**	**327**	P		**P**	**10 50 29.9**	**+0.3**
ARCES	**ARCESS Array B**	**46.56**	**338**	P		**P**	**10 50 55.5**	**+1.3**
	comp=Z,4.5nm,0.9s,mb4.4,baz=114,slow=11,SNR=6.8							
ARCES	**ARCESS Array B**	**46.56**	**338**	P		**P**	**10 50 55.5**	**+1.3**
ARCES				pmax		pmax		
	comp=Z,5.0nm,1.0s							
GERES	**GERESS Array B**	**49.36**	**309**	P		**P**	**10 51 16.8**	**+1.0**
	comp=Z,0.4nm,0.4s,mb3.8,baz=79,slow=6.9,SNR=4.8							
TORD	**Torodi Ar. Bea**	**71.08**	**274**	P		**P**	**10 53 44.1**	**-0.3**
	comp=Z,1.8nm,0.6s,mb4.2,baz=50,slow=5.3,SNR=16							
WRA	**Warramunga Arr**	**75.55**	**126**	P		**P**	**10 54 11.3**	**+0.5**
	comp=Z,0.5nm,0.4s,mb3.8,baz=319,slow=6.6,SNR=26							
WRA	**Warramunga Arr**	**75.55**	**126**	P		**P**	**10 54 11.3**	**+0.6**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.4s							
INK	**Inuvik**	**76.58**	**11**	P		**P**	**10 54 16.7**	**+0.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=78,slow=6.1,SNR=4.7							
INK	**Inuvik**	**76.58**	**11**	P		**P**	**10 54 16.7**	**+0.1**
INK				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**77.82**	**129**	P		**P**	**10 54 23.9**	**+0.4**
	comp=Z,0.9nm,0.7s,mb3.8,baz=312,slow=5.8,SNR=13							
ASAR	**Alice Springs**	**77.82**	**129**	P		**P**	**10 54 23.9**	**+0.4**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**84.53**	**6**	P		**P**	**10 54 58.6**	**-0.6**
	comp=Z,0.6nm,0.5s,mb4.0,baz=335,slow=5.1,SNR=5.5							
YKA	**Yellowknife Ar**	**84.53**	**6**	P		**P**	**10 54 58.6**	**-0.6**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
LRV	**Little Rabbit**	**109.00**	**16**	*e*P		PKiKP	11 00 56.4	+1.0

NEIC ***18*** *10:43:08.5, 1694N×10161W, h18km, MD4.0(MEX), After MEX.*

MEX 18 10:43:08.3±0.6, 1700N×10154W, h5km±31km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZIIG	**Zihuatanejo**	**0.61**	**7**	*i* P		Pg	10 43 19.3	-0.7
ZIIG				*i* S		Sg	10 43 28.2	+0.3
CAIG	**El Cayaco**	**1.22**	**88**	*e*P		Pg	10 43 27.8	-3.8
CAIG				*i* S		Sg	10 43 44.2	-3.3
ACX	**Acapulco**	**1.56**	**95**	*e*P		Pn	10 43 34.0	-2.7
ACX				*i* S		Sn	10 43 52.0	-5.2
MEIG	**Mezcala**	**2.05**	**63**	*i* P		Pn	10 43 41.3	-2.1
MEIG				*i* S		Sn	10 44 03.9	-5.4
PLIG	**Platanillo**	**2.38**	**54**	*i* P		Pn	10 43 46.7	-1.3
PLIG				*i* S		Sn	10 44 13.4	-4.2
PLIG	**Platanillo**	**2.38**	**54**	*i* P		Pn	10 43 46.7	-1.3
PLIG				*i* S		Sn	10 44 16.0	-1.6
MOIG	**Morelia**	**2.68**	**7**	*e*P		Pn	10 43 49.8	-2.3
MOIG				*i* S		Sn	10 44 22.2	-2.8
MOIG	**Morelia**	**2.68**	**7**	*e*P		Pn	10 43 49.8	-2.3
MOIG				*i* S		Sn	10 44 24.6	-0.4
MRX	**Morelia**	**2.71**	**7**	*e*P		Pn	10 43 55.0	+2.5
MRX				*e*S		Sn	10 44 25.0	-0.6
IIZ	**Mezontepec**	**3.08**	**45**	*i* P		Pn	10 43 57.1	-0.5
IIZ				*i* S		Sn	10 44 34.8	0.0
UNM	**Universidad Na**	**3.23**	**44**	*e*P		Pn	10 44 03.0	+3.4
PPM	**Popocatepetl**	**3.45**	**53**	*e*P		Pn	10 43 59.4	-3.3
PPM				*e*P			10 44 10.0	
PPM				*i* S		Sn	10 44 41.9	-2.0
PPM	**Popocatepetl**	**3.45**	**53**	*i* P		Pn	10 44 03.4	+0.8
PPM				*i* S		Sn	10 44 41.9	-2.0
UTMO	**Huajuapan**	**3.66**	**76**	*i* P		Pn	10 44 03.3	-2.3
UTMO				*i* S		Sn	10 44 45.2	-3.9
TPIG	**Tehuac#an**	**4.22**	**70**	*i* P		Pn	10 44 18.6	+5.3
TPIG				*i* S		Sn	10 44 59.9	-3.1

IDC 18 10:53:05.0±2.2, 129N×12745E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/13, mbtmp3.7/3, Error ellipse: s-maj=174.2km s-min=24.8km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**22.16**	**163**	P		P	10 58 01.5	-0.9
	1.0nm,0.3s,baz=341,slow=12,SNR=9.3							
ASAR	**Alice Springs**	**25.59**	**166**	P		P	10 58 36.9	+1.1
	0.7nm,0.4s,baz=348,slow=12,SNR=14							
MKAR	**Makanchi Array**	**59.96**	**326**	P		P	11 03 13.1	+0.1
	0.4nm,0.4s,baz=144,slow=7.7,SNR=7.5							

IDC 18 10:58:30.1±3.2, 848S×10832E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=156.1km s-min=29.2km az=52.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ASAR	**Alice Springs**	**28.77**	**125**	P		P	11 04 29.8	+0.3
	0.3nm,0.8s,baz=296,slow=9.1,SNR=4.8							
SONM	**Songino Array**	**56.09**	**358**	P		P	11 08 11.4	+0.3
	0.8nm,0.9s,baz=176,slow=5.8,SNR=3.3							
MKAR	**Makanchi Array**	**59.72**	**340**	P		P	11 08 35.3	-1.2
	1.0nm,0.7s,baz=158,slow=7.0,SNR=9.2							
BVAR	**Borovoye Array**	**69.23**	**337**	P		P	11 09 40.0	+1.3
	0.8nm,0.6s,baz=150,slow=6.0,SNR=4.5							

IDC 18 11:16:53.0±1.3, 3279N×9618E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=72.4km s-min=24.0km az=60.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SONM	**Songino Array**	**16.90**	**24**	Pn		Pn	11 20 50.5	-0.3
	0.4nm,0.3s,baz=207,slow=15,SNR=11							
MKAR	**Makanchi Array**	**17.55**	**327**	P		Pn	11 20 58.3	-0.6
	0.1nm,0.3s,baz=130,slow=13,SNR=15							
FINES	**FINESS Array B**	**52.38**	**325**	P		P	11 26 06.8	0.0
	1.2nm,0.8s,baz=133,slow=8.1,SNR=3.8							
WRA	**Warramunga Arr**	**63.88**	**140**	P		P	11 27 27.3	-0.1
	0.2nm,0.6s,baz=322,slow=9.5,SNR=5.0							
ASAR	**Alice Springs**	**66.69**	**142**	P		P	11 27 46.1	+0.5
	0.2nm,0.4s,baz=326,slow=6.3,SNR=10							

KRSC 18 11:19:11, 5462N×16295E, h22km, ML4.0, Near east coast of Kamchatka Peninsula

IDC 18 11:39:58.8±2.1, 965S×10852E, h37km±7km, mb3.5/5, mb1 3.6/6, mb1mx3.5/17, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=93.0km s-min=18.5km az=48.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**18.61**	**119**	P		Pn	11 44 13.2	-0.2
	0.1nm,0.3s,baz=180,slow=20,SNR=2.8							
FITZ				S		S	11 47 27.7	-15
	0.1nm,0.3s,baz=163,slow=19,SNR=2.5							
WRA	**Warramunga Arr**	**26.94**	**115**	P		P	11 45 36.6	0.0
	1.1nm,1.1s,baz=283,slow=11,SNR=3.7							
ASAR	**Alice Springs**	**27.96**	**123**	P		P	11 45 46.5	+0.8
	0.4nm,0.7s,baz=301,slow=9.0,SNR=9.1							
SONM	**Songino Array**	**57.26**	**358**	P		P	11 49 42.5	0.0
	0.8nm,0.6s,baz=177,slow=7.5,SNR=5.6							
SONM				pP		pP	11 49 52.8	-0.8
	1.4nm,0.5s,baz=177,slow=8.2,SNR=7.0							
MKAR	**Makanchi Array**	**60.88**	**340**	P		P	11 50 07.6	+0.1
	0.8nm,0.6s,baz=149,slow=7.1,SNR=8.4							
MKAR				pP		pP	11 50 18.2	-0.5
	0.6nm,0.5s,baz=151,slow=8.3,SNR=4.8							
BVAR	**Borovoye Array**	**70.38**	**337**	P		P	11 51 08.8	0.0
	0.8nm,0.7s,baz=123,slow=11,SNR=4.3							
BVAR				pP		pP	11 51 21.5	+1.4
	1.1nm,0.6s,baz=147,slow=8.8,SNR=5.3							

IDC ***18*** *11:51:24.0±7.6, 534S×15184E, h105km±52km, mb3.8/3, mb1 4.0/4, mb1mx3.5/14, mbtmp4.2/4, Error ellipse: s-maj=97.5km s-min=49.6km az=126.0*

NEIC 18 11:51:22.8±4.6, 519S×15183E, h102km±27km, mb4.4/1, 1D, Error ellipse: s-maj=63.6km s-min=41.5km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**6.25**	**228**	P		Pn	11 52 52.6	+0.2
	5.1nm,0.3s,baz=40,slow=12,SNR=16							
PMG				S		Sn	11 54 01.3	-1.1
	5.7nm,0.3s,baz=118,slow=19,SNR=7.1							
KAKA	**Kakadu**	**20.55**	**247**	⇓*i*P		P	11 55 53.8	+0.6
	13nm,0.6s							
WB2	**Warramunga Arr**	**22.46**	**228**	*e*P		P	11 56 13.3	-0.2
WRA	**Warramunga Arr**	**22.47**	**228**	P		P	11 56 14.0	+0.4
	3.0nm,0.4s,baz=54,slow=10.0,SNR=20							
ASAR	**Alice Springs**	**25.22**	**221**	P		P	11 56 39.6	+0.6
	1.9nm,0.3s,baz=58,slow=9.6,SNR=33							
FITZ	**Fitzroy Crossi**	**28.63**	**241**	P		P	11 57 10.3	+0.7
	1.1nm,0.4s,baz=27,slow=12,SNR=15							
TORD	**Torodi Ar. Bea**	**149.50**	**287**	PKPbc		PKPbc	12 11 01.6	+1.5
	1.4nm,0.7s,baz=96,slow=2.7,SNR=15							

ISCJB ***18*** *11:53:27.9±1.5, 5459N±004×163.15E±0.10, h30km±9km, mb4.0/8, MS3.5/2, Error ellipse: s-maj=10.0km s-min=5.6km az=52.0*
KRSC ***18*** *11:53:28, 5461N×16298E, h16km, ML4.6*
MOS ***18*** *11:53:29.3±1.7, 5467N×16292E, h32km, mb4.2/7, Error ellipse: s-maj=13.0km s-min=8.3km az=79.4*
IDC ***18*** *11:53:31.9±1.3, 5522N×16146E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.9/21, mbtmp4.0/9, ML3.6/1, MS3.3/1, Ms1 3.3/1, ms1mx2.1/24, Error ellipse: s-maj=33.5km s-min=25.5km az=151.0*
NEIC ***18*** *11:53:37.0±0.8, 55.12N×161.45E, h35km, Error ellipse: s-maj=22.2km s-min=13.9km az=125.0*

ISC 18 11:53:28.6±1.4, 5460N±004×16309E±009, h21km±9km, n37, σ1§13/47, mb4.0/8, MS3.5/2, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MKZ	**Mys Kozlova**	**0.80**	**267**	P		**Pb**	**11 53 42.6**	**-1.1**
MKZ				S		**Sb**	**11 53 52.9**	**-1.2**
KBTR	**Krutoberegovo**	**1.62**	**355**	P		Pn	**11 53 55.9**	**0.0**
KLY	**Klyuchi**	**2.21**	**322**	P		**Pn**	**11 54 03.6**	**-0.4**
KLY				S		**Sn**	**11 54 28.8**	**-1.9**
KII	**Karymskiy**	**2.21**	**257**	P		**Pn**	**11 54 05.0**	**+1.0**
KII				S		**Sn**	**11 54 31.4**	**+0.7**
KOZR	**Kozyr**	**2.34**	**310**	PN		**Pn**	**11 54 07.1**	**+1.2**
KOZR				S		**Sn**	**11 54 35.6**	**+1.6**
KOZ	**Kozyrevsk**	**2.35**	**310**	P		**Pn**	**11 54 07.1**	**+1.2**
KOZ				S		**Sn**	**11 54 35.6**	**+1.5**
SPN	**Mys Shipunski**	**2.36**	**232**	P		**Pn**	**11 54 06.2**	**0.0**
SPN				S		**Sn**	**11 54 34.0**	**-0.5**
NLC	**Nalytchevo**	**2.64**	**239**	P		**Pn**	**11 54 10.4**	**+0.4**
NLC				S		**Sn**	**11 54 41.0**	**-0.4**
PET	**Petropavlovsk**	**3.07**	**241**	P		**Pn**	**11 54 17.5**	**+1.6**
PET				S		**Sn**	**11 54 53.1**	**+1.1**
PET	**Petropavlovsk**	**3.07**	**241**	⇓*i*PN		**Pn**	**11 54 17.4**	**+1.5**
PET				*e*S		**Sn**	**11 54 51.7**	**-0.3**
PET				pmax		pmax		
	comp=Z,145nm,0.4s							
PET				smax				
	comp=E,537nm,0.6s							
PET				smax				
	comp=N,835nm,0.8s							
PET				MLR		MLR		
	comp=Z,300nm,16.0s							
PET	**Petropavlovsk**	**3.07**	**241**	*e*Pn		**Pn**	**11 54 17.2**	**+1.3**
PET				*e*Sn		**Sn**	**11 54 51.6**	**-0.4**
RUS	**Russkaya**	**3.49**	**233**	P		Pn	**11 54 22.8**	**+1.1**
RUS				S		**Sn**	**11 55 02.2**	**-0.2**
SKR	**Severo-Kuril's**	**5.78**	**230**	*e*PN		**Pn**	**11 54 52.5**	**-0.7**
SKR				*e*S		**Sn**	**11 56 04.2**	**+5.3**
SKR				pmax		pmax		
	comp=E,30nm,0.5s							
SKR				pmax		pmax		
	comp=Z,60nm,0.5s							
SKR				smax				
	comp=N,220nm,1.0s							
SKR				smax				
	comp=E,220nm,1.0s							
SKR				smax				
	comp=Z,220nm,1.0s							
BILL	**Bilibino**	**13.57**	**5**	*e*P		**Pn**	**11 56 40.8**	**+1.0**
ASAJ	**Asahikawa**	**16.92**	**240**	Pn		**Pn**	**11 57 24.6**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=106,slow=12,SNR=5.1							
MJAR	**Matsushiro Arr**	**24.88**	**234**	P		**P**	**11 58 52.4**	**+2.6**
	comp=Z,3.4nm,0.9s,mb3.9,baz=25,slow=10,SNR=6.6							
MJAR	**Matsushiro Arr**	**24.88**	**234**	P		**P**	**11 58 52

s-min=8.0km az=125.1
MOS ***18*** *11:54:10.2±1.0,937S×10830E,h33km,mb4.9/9,Error ellipse: s-maj=22.8km s-min=9.9km az=110.3*
NEIC ***18*** *11:54:12.2±0.5,944S×10809E,h35km,mb5.0/12,Error ellipse: s-maj=24.5km s-min=9.5km az=54.0*

ISC 18 11:54:11.9±0.4,945S±007×10825E±010,h31km, h31km±2.9km:pP-P,n64,σ092/54,mb4.6/35,MS4.1/6, 5C-2D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**15.31**	**322**	Pn	**Pn**	**11 57 38.1**	**-7.5**
	0.4nm,0.3s,baz=150,slow=18,SNR=3.2						
FITZ	**Fitzroy Crossi**	**18.94**	**119**	*e*P	**Pn**	**11 58 31.7**	**+0.7**
	17nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.94**	**119**	P	**Pn**	**11 58 31.7**	**+0.6**
	0.2nm,0.3s,baz=254,slow=6.9,SNR=9.9						
FITZ				S	**Sn**	**12 01 48.2**	**-14**
	0.2nm,0.3s,baz=162,slow=19,SNR=3.8						
NWAO	**Narrogin (SRO)**	**24.80**	**162**	P	**P**	**11 59 30.0**	**-0.9**
	6.8nm,0.9s,mb4.2,baz=324,slow=9.9,SNR=5.2						
WRA	**Warrunnga Arr**	**27.27**	**115**	P	**P**	**11 59 54.5**	**+1.2**
	2.2nm,0.7s,mb3.8,baz=287,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**28.30**	**123**	P	**P**	**12 00 03.2**	**+0.8**
	2.5nm,0.7s,mb3.9,baz=298,slow=8.8,SNR=17						
ASAR				PcP	PcP	12 03 15.1	+0.1
	0.7nm,0.8s,baz=299,slow=1.9,SNR=4.6						
ASAR				LR	LR	12 11 20.0	
	comp=Z,124nm,21.8s,MS3.5,baz=353,slow=36						
ASAR	**Alice Springs**	**28.30**	**123**	P	**P**	**12 00 03.3**	**+0.8**
ASAR						12 03 15.1	
CHTO	**Chiang Mai**	**29.54**	**342**	*e*P	**P**	**12 00 14.3**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
CHTO	**Chiang Mai**	**29.54**	**342**	*e*P	**P**	**12 00 14.3**	**+0.7**
	comp=Z,15nm,0.9s,mb4.7						
GYA	**Guiyang**	**35.73**	**358**	P	**P**	**12 01 09.5**	**+1.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
SSE	**Sheshan**	**42.18**	**17**	P	**P**	**12 02 00.8**	**-0.8**
SSE				AMB	AMB		
	comp=Z,22nm,0.6s,mb5.0						
SSE				AMB	AMB		
	comp=Z,63nm,3.6s						
NJ2	**Nanjing**	**42.49**	**13**	*e*P	**P**	**12 02 03.5**	**-0.6**
NJ2				AP	pP	12 02 13.4	0.0
NJ2				XP	sP	12 02 17.4	+0.2
NJ2				PP	PP	12 03 45.0	+2.1
NJ2				S	**S**	**12 08 22.0**	**-2.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,220nm,4.6s						
NJ2				LR	LR		
	comp=N,2μm,17.0s,MS5.2						
NJ2				LR	LR		
	comp=E,2μm,18.1s,MS5.2						
NJ2				LR	LR		
	comp=Z,1μm,18.4s,MS4.8						
JIRN	**Jiri**	**42.63**	**331**	*e*P	**P**	**12 02 06.1**	**+0.9**
	comp=Z,69nm,0.8s,mb5.4						
PKI	**Pulchoki**	**42.94**	**330**	*e*P	**P**	**12 02 07.0**	**-0.7**
	comp=Z,31nm,1.0s,mb5.0						
PKI	**Pulchoki**	**42.94**	**330**	*e*P	**P**	**12 02 07.0**	**-0.7**
PKI				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.0						
GUN	**Gumba**	**42.99**	**330**	*e*P	**P**	**12 02 09.1**	**+1.0**
	comp=Z,68nm,0.8s,mb5.4						
DMN	**Daman**	**43.12**	**329**	*e*P	**P**	**12 02 09.7**	**+0.5**
	comp=Z,52nm,0.8s,mb5.3						
KKN	**Kakani**	**43.18**	**330**	*e*P	**P**	**12 02 10.4**	**+0.7**
XAN	**Xi'an**	**43.25**	**1**	P	**P**	**12 02 10.9**	**+0.6**
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
GKN	**Gorkha**	**43.68**	**329**	*e*P	**P**	**12 02 14.0**	**+0.3**
	comp=Z,74nm,0.9s,mb5.4						
KOLN	**Koldanda**	**44.03**	**328**	*e*P	**P**	**12 02 16.8**	**+0.3**
	comp=Z,56nm,0.8s,mb5.3						
LZH	**Lanzhou**	**45.48**	**355**	*e*P	**P**	**12 02 29.5**	**+1.4**
LZH				AP	pP	12 02 35.5	-2.0
LZH				AMB	AMB		
	comp=Z,33nm,1.0s,mb5.1						
GTA	**Gaotai**	**49.24**	**351**	*e*P	**P**	**12 02 59.0**	**+1.7**
GTA				AP	pP	12 03 08.6	+1.8
GTA				XP	sP	12 03 12.8	+2.3
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.5						
MJAR	**Matsushiro Arr**	**53.73**	**30**	P	**P**	**12 03 29.3**	**-1.6**
	comp=Z,1.9nm,0.7s,mb4.1,baz=217,slow=8.0,SNR=4.3						
SONM	**Songino Array**	**57.05**	**359**	P	**P**	**12 03 55.7**	**+0.8**
	comp=Z,1.8nm,0.7s,mb4.2,baz=170,slow=7.6,SNR=12						
SONM				LR	LR	12 31 05.0	
	comp=Z,84nm,20.8s,MS3.8,baz=182,slow=39						
ULN	**Ulaanbaatar**	**57.07**	**359**	*e*P	**P**	**12 03 55.1**	**+0.1**
ULN	**Ulaanbaatar**	**57.07**	**359**	*e*P	**P**	**12 03 54.6**	**-0.4**
	comp=Z,4.0nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**60.59**	**340**	P	**P**	**12 04 19.5**	**+0.1**
	comp=Z,9.7nm,0.7s,mb5.0,baz=144,slow=7.7,SNR=79						
KLR	**Kul'dur**	**61.97**	**17**	*e*P	**P**	**12 04 25.2**	**-3.6**
YSS	**Yuzh-Sakhalins**	**64.02**	**26**	⇓*e*P	**P**	**12 04 42.5**	**+0.2**
YSS				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
KURK	**Kurchatov**	**65.21**	**340**	⇑*e*P	**P**	**12 04 50.0**	**-0.1**
KURK	**Kurchatov**	**65.21**	**340**	*e*P	**P**	**12 04 50.4**	**+0.3**
	comp=Z,9.8nm,0.9s,mb4.8						
MAW	**Mawson**	**65.40**	**197**	P	**P**	**12 04 51.0**	**-0.3**
	comp=Z,1.5nm,0.7s,mb4.2,baz=352,slow=3.2,SNR=8.2						
ZAL	**Zalesovo**	**66.19**	**345**	P	**P**	**12 04 54.5**	**-2.0**
	comp=Z,2.6nm,1.0s,mb4.2,baz=299,slow=13						
BOD	**Bodaibo**	**67.20**	**3**	*e*P	**P**	**12 05 00.4**	**-2.5**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
CHKZ	**Chkalovo**	**70.50**	**337**	*e*P	**P**	**12 05 23.1**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
CHKZ	**Chkalovo**	**70.50**	**337**	*e*P	**P**	**12 05 23.1**	**-0.4**
	comp=Z,6.7nm,0.9s,mb4.6						
ZRNK	**Zerenda**	**70.58**	**336**	*e*P	**P**	**12 05 23.6**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**70.58**	**336**	*e*P	**P**	**12 05 23.6**	**-0.3**
	comp=Z,4.0nm,0.8s,mb4.4						
YAK	**Yakutsk**	**73.19**	**10**	⇑*e*P	**P**	**12 05 39.4**	**-0.2**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
VNDA	**Vanda**	**73.35**	**169**	P	**P**	**12 05 40.6**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=296,slow=6.2,SNR=4.5						
AKTK	**Aktyubinsk**	**73.84**	**329**	P	**P**	**12 05 42.7**	**-0.7**
AKTO	**Aktyubinsk**	**73.84**	**329**	P	**P**	**12 05 42.7**	**-0.7**
	comp=Z,0.4nm,0.4s,mb3.7,baz=121,slow=12,SNR=3.2						
GNI	**Garni**	**76.55**	**315**	*i* P	**P**	**12 05 59.2**	**+0.2**
GNI				pmax	pmax		
	comp=Z,14nm,1.2s						
ARU	**Arti**	**77.35**	**334**	⇑*i*P	**P**	**12 06 02.8**	**-0.7**
ARU				*e*	pP	12 06 13.0	-0.4
ARU				*e*		12 08 56.8	
ARU				*e*PPP		12 10 46.3	
ARU				eS	S	12 15 50.8	-0.8
ARU				eSS	SS	12 20 47.3	-2.9
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
KIV	**Kislovodsk**	**79.51**	**318**	⇓*e*P	**P**	**12 06 15.9**	**+0.5**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
BRTR	**Keskin Array B**	**84.37**	**312**	P	**P**	**12 06 41.0**	**+0.1**
	comp=Z,3.5nm,0.9s,mb4.5,baz=134,slow=7.1,SNR=15						
BRTR				LR	LR	12 48 06.2	
	comp=Z,30nm,18.0s,MS3.7,baz=285,slow=38						
BRTR	**Keskin Array B**	**84.37**	**312**	P	**P**	**12 06 41.0**	**+0.1**
BRTR				LR	LR	12 48 06.2	
OBN	**Obninsk**	**87.44**	**327**	⇑*e*P	**P**	**12 06 56.1**	**0.0**
OBN				*e*		12 10 19.8	
OBN				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.4						
SNAA	**Sanae**	**87.57**	**197**	*e*P	**P**	**12 07 01.6**	**+4.8**
VNA1	**Neumayer--Stat**	**89.60**	**197**	*e*P	**P**	**12 07 05.8**	**-0.6**
VNA1				*e*		12 07 09.4	
AKASG	**Malin Array Be**	**90.37**	**321**	P	**P**	**12 07 09.4**	**-0.5**
	comp=Z,0.2nm,0.2s,mb4.0,baz=91,slow=4.5,SNR=4.6						
ARCES	**ARCESS Array B**	**96.25**	**339**	LR	LR	12 57 06.9	
	comp=Z,40nm,19.8s,MS3.9,baz=93,slow=39						
PPT	**Papeete**	**98.61**	**109**	LR	LR	12 51 00.4	
	comp=Z,129nm,18.3s,MS4.5,baz=356,slow=35						
MIV	**Mineville/With**	**145.47**	**2**	*e*PKPbc	PKPbc	12 13 47.8	+1.1
NCB	**Newcomb**	**145.54**	**3**	*e*PKPbc	PKPbc	12 13 47.7	+0.7
JCT	**Junction City**	**146.51**	**47**	*e*PKP2	PKPab	12 13 52.3	+1.4
CCM	**Cathedral Cave**	**146.55**	**29**	*e*PKPdf	PKPdf	12 13 48.7	+0.2
CCM				*e*PKPbc	PKPbc	12 13 51.2	+1.2
BINY	**Binghamton**	**147.17**	**6**	*e*PKPbc	PKPbc	12 13 52.9	+1.1
MIAR	**Mount Ida**	**148.01**	**35**	*e*PKPbc	PKPbc	12 13 56.0	+1.9
MIAR				*e*PKPab	PKPab	12 13 58.8	+2.0
SSPA	**Standing Stone**	**148.47**	**9**	*e*PKPdf	PKPdf	12 13 52.6	+0.9
SSPA				*e*PKPbc	PKPbc	12 13 56.5	+1.2
SSPA				*e*PKPab	PKPab	12 14 00.5	+1.8
WVT	**Waverly**	**149.68**	**26**	*e*PKHKP	PKPdf	12 13 53.7	0.0
WVT				*e*		12 13 59.5	
WVT	**Waverly**	**149.68**	**26**	*e*PKPdf	PKPdf	12 13 53.7	0.0
WVT				*e*PKPbc	PKPbc	12 13 59.5	+1.2
WVT				*e*PKPab	PKPab	12 14 02.6	-1.0
PLAL	**Pickwick Lake**	**150.53**	**28**	*e*PKPdf	PKPdf	12 13 53.8	-1.2
PLAL				*e*PKPbc	PKPbc	12 14 00.7	+0.4
PLAL				*e*PKPab	PKPab	12 14 06.7	-0.4

ISCJB ***18*** *12:35:31.7±1.1,4300N×006×079W±005,h15km±8km, Error ellipse: s-maj=11.3km s-min=5.1km az=39.5*
STR ***18*** *12:35:32.0±0.2,4299N×080W,h5km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***18*** *12:35:32.6±0.1,4299N×080W,h2km,Md2.0/2,Error ellipse: s-maj=2.6km s-min=1.3km az=23.0*
MDD ***18*** *12:35:33.2±0.4,4303N×078W,h0km,mbLg1.0/3,Error ellipse: s-maj=8.3km s-min=2.0km az=20.0,PRXIMO*

ISC 18 12:35:32.3±1.0,4300N±006×080W±005,h11km±9km,n11, σ028/15,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.11**	**38**	Pg	**Pg**	**12 35 35.1**	**-0.1**
ATE				Sg	**Sg**	**12 35 37.1**	**-0.2**
LARF	**Larrau**	**0.15**	**286**	Pg	**Pg**	**12 35 35.4**	**-0.3**
LARF				Sg	**Sg**	**12 35 37.8**	**-0.3**
ETSF	**Etsaut**	**0.20**	**119**	*e*Pg	**Pg**	**12 35 36.8**	**+0.2**
ETSF				*e*Sg	**Sg**	**12 35 40.0**	**+0.5**
	49nm,0.3s						
ETSF	**Etsaut**	**0.20**	**119**	Pg	**Pg**	**12 35 36.8**	**+0.2**
ETSF				Lg		12 35 40.0	
	24nm,0.3s						
ORDF	**Ordiarp**	**0.24**	**335**	Pg	**Pg**	**12 35 37.4**	**+0.1**
ORDF				Sg	**Sg**	**12 35 41.0**	**+0.4**
IUSE	**Utxeti**	**0.55**	**265**	Lg		12 35 51.4	
	0.8nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.56**	**288**	Pg	**Pg**	**12 35 43.6**	**+0.4**
	0.3nm,0.1s,SNR=7.9						
ELIZ				Lg		12 35 51.2	
	0.8nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.57**	**293**	Pg	**Pg**	**12 35 43.3**	**0.0**
	0.3nm,0.1s,SNR=7.9						
EALK				Lg		12 35 51.8	
	2.2nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.76**	**114**	Pg	**Pg**	**12 35 46.6**	**-0.4**
	0.1nm,0.1s,SNR=7.9						
EBIE				Lg		12 35 57.7	
	0.8nm,0.1s,SNR=6.7						
EPF	**Esparros**	**0.83**	**87**	*e*Pg	**Pg**	**12 35 48.1**	**-0.3**
EPF				*e*Sg	**Sg**	**12 35 59.4**	**+0.1**
	2.5nm,0.3s						
EPF	**Esparros**	**0.83**	**87**	Pg	**Pg**	**12 35 48.1**	**-0.3**
EPF				Lg		12 35 59.4	
	1.2nm,0.3s						

MAN 18 12:38:37.1,1548N×11980E,h12km,mb3.5,ML4.7,MS2.4, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.32**	**19**	*e*P	Pg	12 38 44.4	+0.9
SCZP				*e*S	Sg	12 38 50.3	+2.5
BOLP	**Bolinao**	**0.91**	**7**	*e*P	Pg	12 38 51.9	-2.7
BOLP				*e*S	Sg	12 39 04.5	-1.9
BCPH	**Baguio City Da**	**1.17**	**40**	⇓*i*P	Pb	12 38 56.7	-2.5
BCPH				*i* S	Sb	12 39 14.4	+0.1
PCPH	**Palayan**	**1.25**	**86**	⇑*e*P	Pn	12 38 59.0	-1.4
PCPH						12 39 15.3	
BALP	**Baler**	**1.73**	**81**	*e*P	Pn	12 39 06.6	-0.4
BALP				*e*S	Sn	12 39 29.7	+0.8
LUBP	**Lubang**	**1.79**	**166**	*e*P	Pn	12 39 07.7	0.0
ABRA	**Dolores**	**2.33**	**22**	*e*P	Pn	12 39 14.9	-0.4
ABRA				*e*S	Sn	12 39 42.9	-0.8
CAUP	**Cauayan**	**2.43**	**53**	*e*P	Pn	12 39 17.0	+0.4
CAUP				*e*S	Sn	12 39 50.6	+4.4
APYP	**Conner**	**2.74**	**30**	*e*P	Pn	12 39 22.4	+1.5
APYP				*e*S	Sn	12 39 53.8	-0.2
PVCP	**Virac**	**4.61**	**113**	*e*P	Pn	12 39 48.1	+1.6

ISCJB ***18*** *12:42:07.9±0.2,5341N±002×10851E±003,h10km, mb3.7/3,MS2.5/1,Error ellipse: s-maj=3.6km s-min=1.9km az=90.4*
MOS ***18*** *12:42:09.7±0.8,5340N×10853E,h21km,mb4.6/1,Error ellipse: s-maj=11.2km s-min=7.0km az=58.8*
MOS Felt (II) at Ongureny.
NEIC ***18*** *12:42:10.7±0.9,5340N×10853E,h14km±7km,Error ellipse: s-maj=7.0km s-min=4.1km az=153.0*
NEIC Felt [II] at Onguren.
IDC ***18*** *12:42:10.4±1.4,5314N×10945E,h0km,mb3.9/3, mb1 3.9/6,mb1mx3.6/22,mbtmp3.7/6,ML3.3/3,MS2.6/1, Ms1 2.6/1,ms1mx2.1/30,Error ellipse: s-maj=26.3km s-min=20.5km az=43.0*
BYKL ***18*** *12:42:10.7±0.2,5339N×10846E,h20km±3km,FELT I=II MSK at Onguren*

ISC 18 12:42:09.4±0.2,5341N±002×10852E±003,h10km,n83, σ1950/164,mb3.7/3,MS2.5/1,11C-6D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXMB	**Maximikha**	**0.20**	**138**	⇑*i*Pg	**Pg**	**12 42 15.6**	**+2.0**
MXMB				eSg	**Sg**	**12 42 18.8**	**+2.3**
OGRR	**Ongureny**	**0.60**	**293**	⇑*i*Pg	**Pg**	**12 42 22.3**	**+1.4**
	1μm,0.4s						
OGRR				⇓*i*Pg	**Pg**	**12 42 22.3**	**+1.4**
	2μm,0.4s						
OGRR				⇑*i*Pg	**Pg**	**12 42 22.3**	**+1.4**
	3μm,0.4s						
OGRR				Pmax		12 42 22.5	
	2μm,0.2s						
OGRR				*e*		12 42 26.5	
OGRR				*e*Sg	**Sg**	**12 42 29.4**	**+0.7**
OGRR				*e*		12 42 30.5	
OGRR				max		12 42 30.9	
	7μm,0.2s						
OGRR	**Ongureny**	**0.60**	**293**	*e*PG	**Pg**	**12 42 22.3**	**+1.4**
OGRR				*e*		12 42 30.7	
OGRR				pmax	pmax		
	comp=Z,2μm,0.3s						
OGRR				smax			
	comp=E,7μm,0.2s						
OGRR	**Ongureny**	**0.60**	**293**	*e*Pg	**Pg**	**12 42 22.3**	**+1.4**
OGRR				*e*		12 42 30.7	
KELR	**Kotokel**	**0.71**	**202**	*e*Pg	**Pg**	**12 42 23.5**	**+0.5**
KELR				*e*		12 42 25.6	
KELR				*e*		12 42 27.6	
KELR				max		12 42 28.4	
	comp=E,965nm,0.2s						
KELR				eSg	**Sg**	**12 42 32.9**	**+0.7**
KELR				Smax		12 42 34.8	
	comp=E,7μm,0.2s						
SYVR	**Suvo**	**0.92**	**74**	*e*Pg	**Pg**	**12 42 28.1**	**+1.1**
SYVR				*e*Pb	**Pb**	**12 42 28.8**	**+1.4**
SYVR				max		12 42 29.9	
	comp=E,162nm,0.1s						
SYVR				eSg	**Sg**	**12 42 40.9**	**+1.9**
SYVR				Smax		12 42 41.1	
	comp=E,1μm,0.3s						
SYVR	**Suvo**	**0.92**	**74**	*e*PG	**Pg**	**12 42 27.9**	**+0.9**
SYVR				*e*		12 42 40.2	
SYVR				pmax	pmax		
	comp=Z,113nm,0.1s						
SYVR				smax			
	comp=N,1μm,0.2s						
SYVR	**Suvo**	**0.92**	**74**	*e*Pg	**Pg**	**12 42 27.9**	**+0.9**
SYVR				*e*		12 42 40.2	
TRTB	**Turuntaevo**	**1.30**	**205**	⇑*i*Pg	**Pg**	**12 42 34.0**	**-0.4**
TRTB				Pmax		12 42 35.8	
	comp=N,254nm,0.3s						
TRTB				*e*		12 42 39.2	
TRTB				*e*Sg	**Sg**	**12 42 50.9**	**-0.4**
TRTB				*e*Sb	**Sb**	**12 42 52.1**	**+1.4**
TRTB				max		12 42 52.4	
	comp=N,2μm,0.5s						
TRG	**Tyrgan**	**1.46**	**244**	⇑*i*Pg	**Pn**	**12 42 36.2**	**+0.4**
TRG				*e*Pb	**Pb**	**12 42 37.1**	**+0.5**
TRG				max		12 42 43.0	
	comp=N,143nm,0.2s						
TRG				*e*Sg	**Sg**	**12 42 55.8**	**-0.6**
TRG				max		14 43 00.2	
	comp=N,2μm,0.3s						
TRG	**Tyrgan**	**1.46**	**244**	*e*PN	**Pn**	**12 42 36.2**	**+0.4**
TRG				*e*		12 42 55.9	
TRG				pmax	pmax		
	comp=Z,276nm,0.5s						
TRG				smax			
	comp=E,2μm,0.3s						
FFNB	**Fofonovo**	**1.73**	**219**	*e*	**Pn**	**12 42 39.9**	**+0.4**
FFNB				*e*Pg	**Pg**	**12 42 41.6**	**-1.0**
FFNB				*e*		12 42 43.1	
FFNB				max		12 42 43.3	
	comp=E,399nm,0.1s						
FFNB				eSg	**Sg**	**12 43 02.6**	**-2.5**
FFNB				*e*		12 43 05.5	
FFNB				max		12 43 11.7	
	comp=E,2μm,0.2s						
KAB	**Kabansk**	**1.77**	**220**	*e*Pg	**Pg**	**12 42 41.7**	**-1.7**
KAB				Pmax		12 42 50.1	
	comp=E,291nm,0.4s						
KAB				*e*		12 42 50.7	
KAB				eSg	**Sg**	**12 43 04.1**	**-2.3**
KAB				Smax		12 43 17.4	
	comp=E,2μm,0.6s						
KAB	**Kabansk**	**1.77**	**220**	*e*PN	**Pn**	**12 42 42.3**	**+2.2**
KAB				*e*		12 43 06.8	
KAB				pmax	pmax		
	comp=Z,129nm,0.6s						
KAB				smax			
	comp=N,2μm,0.6s						
KAB	**Kabansk**	**1.77**	**220**	*e*Pn	**Pn**	**12 42 42.3**	**+2.2**
KAB				*e*		12 43 06.8	
HRMR	**Khuramsha**	**2.03**	**209**	*e*Pn	**Pn**	**12 42 44.4**	**+0.8**
HRMR				*e*Pg	**Pg**	**12 42 46.8**	**-1.4**
HRMR				*e*		12 42 47.6	
HRMR				*e*		12 42 51.9	
HRMR				max		12 42 52.1	
	comp=N,738nm,0.4s						
HRMR				eSn	**Sn**	**12 43 10.4**	**+1.5**
HRMR				eSg	**Sg**	**12 43 13.5**	**-1.0**
HRMR				Smax		12 43 17.1	
	comp=N,5μm,0.3s						
YLYR	**Ulyunkhan**	**2.14**	**46**	⇓*i*Pn	**Pn**	**12 42 46.5**	**+1.4**
	comp=N,300nm,0.4s						
YLYR				⇓*i*Pn	**Pn**	**12 42 46.5**	**+1.4**
	comp=N,32nm,0.4s						
YLYR				⇓*i*Pn	**Pn**	**12 42 46.5**	**+1.4**
	comp=N,58nm,0.4s						
YLYR				*e*Pg	**Pg**	**12 42 48.9**	**-1.4**
YLYR				Pmax		12 42 49.1	
	comp=N,89nm,0.3s						
YLYR				*e*Sn	**Sn**	**12 43 14.3**	**+2.6**
YLYR				*e*Sg	**Sg**	**12 43 18.1**	**0.0**
YLYR				Smax		12 43 18.7	
	comp=N,1μm,0.9s						
YLYR	**Ulyunkhan**	**2.14**	**46**	*e*PN	**Pn**	**12 42 46.5**	**+1.4**
YLYR				*e*		12 42 48.9	
YLYR				*e*		12 43 17.3	
YLYR				pmax	pmax		
	comp=Z,91nm,0.4s						
YLYR				smax			
	comp=N,1μm,1.0s						
YLYR	**Ulyunkhan**	**2.14**	**46**	*e*Pn	**Pn**	**12 42 46.5**	**+1.4**
YLYR				*e*		12 42 48.9	
YLYR				*e*		12 43 17.3	
NIZ	**Nizh Angarsk**	**2.44**	**14**	*e*Pn	**Pn**	**12 42 50.6**	**+1.4**
NIZ				*e*Pg	**Pg**	**12 42 55.5**	**-0.6**
NIZ				Pmax		12 42 55.8	
	comp=N,59nm,0.3s						
NIZ				eSn	**Sn**	**12 43 21.1**	**+2.0**
NIZ				eSg	**Sg**	**12 43 26.8**	**-1.0**
NIZ				Smax		12 43 27.0	
	comp=N,294nm,0.4s						
NIZ	**Nizh Angarsk**	**2.44**	**14**	*e*PN	**Pg**	**12 42 54.4**	**-1.7**
NIZ				*e*		12 43 26.6	
NIZ				pmax	pmax		
	comp=Z,81nm,0.7s						
NIZ				smax			
	comp=N,504nm,0.8s						
NIZ	**Nizh Angarsk**	**2.44**	**14**	*e*Pn	**Pg**	**12 42 54.4**	**-1.7**
NIZ				*e*		12 43 26.6	
LSTR	**Listvyanka**	**2.73**	**237**	⇑*i*Pn	**Pn**	**12 42 53.7**	**+0.5**
LSTR				⇑*i*Pg	**Pg**	**12 42 58.9**	**-2.7**
LSTR				Pmax		12 43 09.6	
	comp=N,63nm,0.6s						
LSTR				eSn	**Sn**	**12 43 26.1**	**-0.1**
LSTR				eSg	**Sg**	**12 43 33.1**	**-3.8**
LSTR				Smax		12 43 44.3	
	comp=N,277nm,0.6s						
LSTR	**Listvyanka**	**2.73**	**237**	⇑*i*PN	**Pn**	**12 42 53.6**	**+0.4**
LSTR				*e*		12 42 58.8	
LSTR				eS	**Sn**	**12 43 26.1**	**-0.1**
LSTR				*e*		12 43 34.7	
LSTR				pmax	pmax		
	comp=Z,68nm,0.9s						
LSTR				smax			
	comp=N,367nm,1.2s						
LSTR	**Listvyanka**	**2.73**	**237**	⇑*i*Pn	**Pn**	**12 42 53.6**	**+0.4**
LSTR				*e*		12 42 58.8	
LSTR				eS	**Sn**	**12 43 26.1**	**-0.1**
LSTR				*e*		12 43 34.7	
IRK	**Irkutsk**	**2.83**	**247**	*e*Pn	**Pn**	**12 42 55.3**	**+0.7**
IRK				*e*Pg	**Pg**	**12 43 00.7**	**-2.9**
IRK				Pmax		12 43 10.9	
	comp=N,127nm,0.3s						
IRK				eSg	**Sg**	**12 43 36.2**	**-4.1**
IRK				*e*		12 43 44.9	
IRK				max		12 43 46.5	
	comp=N,2μm,0.4s						
IRK	**Irkutsk**	**2.83**	**247**	*e*PN	**Pg**	**12 43 01.2**	**-2.4**
IRK				*e*		12 43 36.2	
IRK				pmax	pmax		
	comp=Z,99nm,0.2s						
IRK				smax			
	comp=N,2μm,0.4s						
IRK	**Irkutsk**	**2.83**	**247**	*e*Pn	**Pg**	**12 43 01.2**	**-2.4**
IRK				*e*		12 43 36.2	
KMO	**Kumora**	**2.93**	**31**	*e*Pn	**Pn**	**12 42

CIT				*e*			12 43 09.8	
CIT				*e*S		**Sn**	**12 43 42.3**	**+0.3**
CIT				*e*			12 43 54.3	
CIT				pmax		pmax		
	comp=Z,109nm,1.2s							
CIT				smax				
	comp=N,901nm,1.0s							
CIT	**Chita**	**3.37**	**112**	*e*Pn		**Pn**	**12 43 02.2**	**+0.2**
CIT				*e*			12 43 09.8	
CIT				*e*S		**Sn**	**12 43 42.3**	**+0.3**
CIT				*e*			12 43 54.3	
TLY	**Talaya**	**3.44**	**242**⇑	*i*PN		**Pn**	**12 43 03.5**	**+0.5**
TLY				*e*			12 43 12.3	
TLY				*e*S		**Sn**	**12 43 43.0**	**-0.9**
TLY				*e*			12 43 56.2	
TLY				pmax		pmax		
	comp=Z,52nm,0.5s							
TLY				smax				
	comp=E,259nm,0.5s							
TLY	**Talaya**	**3.44**	**242**⇑	*i*Pn		**Pn**	**12 43 03.5**	**+0.5**
TLY				*e*			12 43 12.3	
TLY				*e*S		**Sn**	**12 43 43.0**	**-0.9**
TLY				*e*			12 43 56.2	
UKT	**Uakit**	**3.64**	**53**⇓	*i*Pn		**Pn**	**12 43 07.2**	**+1.5**
UKT				*e*Pg		**Pg**	**12 43 16.4**	**-2.6**
UKT				Pmax			12 43 17.9	
	comp=E,48nm,1.1s							
UKT				*e*Sn		**Sn**	**12 43 49.8**	**+1.2**
UKT				*e*Sg		**Sg**	**12 44 03.7**	**-2.5**
UKT				*e*			12 44 08.7	
UKT				max			12 44 14.4	
	comp=E,207nm,0.9s							
UKT	**Uakit**	**3.64**	**53**	*e*PN		**Pn**	**12 43 07.0**	**+1.3**
UKT				*e*			12 43 16.1	
UKT				*e*S		**Sn**	**12 43 51.2**	**+2.6**
UKT				*e*			12 44 04.7	
UKT				pmax		pmax		
	comp=Z,47nm,0.4s							
UKT				smax				
	comp=N,206nm,0.6s							
UKT	**Uakit**	**3.64**	**53**	*e*Pn		**Pn**	**12 43 07.0**	**+1.3**
UKT				*e*			12 43 16.1	
UKT				*e*S		**Sn**	**12 43 51.2**	**+2.6**
UKT				*e*			12 44 04.7	
ARS	**Arshan**	**4.00**	**250**	*e*Pn		**Pn**	**12 43 12.4**	**+1.7**
ARS				*e*Pg		**Pg**	**12 43 22.8**	**-3.2**
ARS				*e*			12 43 30.9	
ARS				max			12 43 32.1	
	comp=N,128nm,0.7s							
ARS				*e*Sn		**Sn**	**12 43 56.1**	**-1.5**
ARS				*e*			12 44 10.0	
ARS				*e*Sg		**Sg**	**12 44 13.5**	**-4.3**
ARS				*e*			12 44 14.6	
ARS				max			12 44 16.9	
	comp=N,1μm,0.5s							
ARS	**Arshan**	**4.00**	**250**	*e*PN		**Pn**	**12 43 12.8**	**+2.1**
ARS				*e*			12 43 23.0	
ARS				*e*			12 44 11.2	
ARS				pmax		pmax		
	comp=Z,78nm,0.2s							
ARS				smax				
	comp=E,957nm,0.4s							
ARS	**Arshan**	**4.00**	**250**	*e*Pn		**Pn**	**12 43 12.8**	**+2.1**
ARS				*e*			12 43 23.0	
ARS				*e*			12 44 11.2	
KPC	**Khapcheranga**	**4.43**	**145**	*e*Pn		**Pn**	**12 43 16.1**	**-0.5**
KPC				*e*Pg		**Pg**	**12 43 30.4**	**-3.8**
KPC				Pmax			12 43 35.4	
	comp=E,59nm,0.6s							
KPC				*e*Sn		**Sn**	**12 44 05.6**	**-2.6**
KPC				*e*Sg		**Sg**	**12 44 26.7**	**-4.8**
KPC				Smax			12 44 36.8	
	comp=E,312nm,1.0s							
KPC	**Khapcheranga**	**4.43**	**145**	*e*PN		**Pn**	**12 43 16.3**	**-0.3**
KPC				*e*			12 43 29.2	
KPC				*e*S		**Sn**	**12 44 06.1**	**-2.1**
KPC				*e*			12 44 26.9	
KPC				pmax		pmax		
	comp=Z,63nm,0.5s							
KPC				smax				
	comp=E,315nm,1.0s							
KPC	**Khapcheranga**	**4.43**	**145**	*e*Pn		**Pn**	**12 43 16.3**	**-0.3**
KPC				*e*			12 43 29.2	
KPC				*e*S		**Sn**	**12 44 06.1**	**-2.1**
KPC				*e*			12 44 26.9	
ZAK	**Zakamensk**	**4.44**	**229**	*e*Pn		**Pn**	**12 43 18.0**	**+1.2**
ZAK				*e*Pg		**Pg**	**12 43 30.1**	**-4.3**
ZAK				*e*			12 43 33.5	
ZAK				max			12 43 45.8	
	comp=E,18nm,0.6s							
ZAK				*e*Sn		**Sn**	**12 44 06.0**	**-2.5**
ZAK				*e*Sg		**Sg**	**12 44 28.3**	**-3.7**
ZAK				Smax			12 44 43.1	
	comp=E,128nm,1.0s							
ZAK	**Zakamensk**	**4.44**	**229**	*e*PN		**Pn**	**12 43 17.9**	**+1.1**
ZAK				*e*			12 43 29.9	
ZAK				*e*S		**Sn**	**12 44 08.1**	**-0.4**
ZAK				*e*			12 44 29.8	
ZAK				pmax		pmax		
	comp=Z,17nm,0.6s							
ZAK				smax				
	comp=N,127nm,1.0s							
ZAK	**Zakamensk**	**4.44**	**229**	*e*Pn		**Pn**	**12 43 17.9**	**+1.1**
ZAK				*e*			12 43 29.9	
ZAK				*e*S		**Sn**	**12 44 08.1**	**-0.4**
ZAK				*e*			12 44 29.8	
MOY	**Mondy**	**4.91**	**252**	*e*Pn		**Pn**	**12 43 23.2**	**0.0**
MOY				*e*			12 43 27.3	
MOY				max			12 43 34.4	
	comp=N,58nm,0.9s							
MOY				*e*			12 44 24.0	
MOY				*e*Sg		**Sg**	**12 44 40.7**	**-6.4**
MOY				Smax			12 44 53.5	
	comp=N,323nm,1.0s							
MOY	**Mondy**	**4.91**	**252**	*e*PN		**Pn**	**12 43 23.0**	**-0.2**
MOY				*e*			12 43 36.8	
MOY				*e*S		**Sn**	**12 44 20.7**	**+0.6**
MOY				*e*			12 44 40.9	
MOY				pmax		pmax		
	comp=Z,46nm,0.6s							
MOY				smax				
	comp=E,323nm,1.4s							
MOY	**Mondy**	**4.91**	**252**	*e*Pn		**Pn**	**12 43 23.0**	**-0.2**
MOY				*e*			12 43 36.8	
MOY				*e*S		**Sn**	**12 44 20.7**	**+0.6**
MOY				*e*			12 44 40.9	
NLYR	**Nelyaty**	**5.16**	**50**	*e*Pn		**Pn**	**12 43 27.9**	**+1.2**
NLYR				*e*Pg		**Pg**	**12 43 45.5**	**-2.8**
NLYR				Pmax			12 44 07.4	
	comp=E,18nm,0.6s							
NLYR				*e*Sg		**Sg**	**12 44 53.7**	**-1.4**
NLYR				Smax			12 45 02.5	
	comp=E,369nm,1.1s							
NLYR	**Nelyaty**	**5.16**	**50**	*e*PN		**Pn**	**12 43 27.7**	**+1.0**
NLYR				*e*			12 43 43.9	
NLYR				*e*			12 44 52.5	
NLYR				pmax		pmax		
	comp=Z,12nm,0.6s							
NLYR				smax				
	comp=N,368nm,1.2s							
NLYR	**Nelyaty**	**5.16**	**50**	*e*Pn		**Pn**	**12 43 27.7**	**+1.0**
	comp=N,12nm,0.6s							
NLYR				*e*			12 43 43.9	
NLYR				*e*			12 44 52.5	
BOD	**Bodaibo**	**5.40**	**33**	*e*Pn		**Pn**	**12 43 31.1**	**+1.2**
BOD				*e*Pg		**Pg**	**12 43 49.1**	**-3.7**
BOD				Pmax			12 44 01.3	
	comp=N,11nm,0.5s							
BOD				*e*Sn		**Sn**	**12 44 30.8**	**-1.3**
BOD				*e*Sg		**Sg**	**12 44 57.8**	**-4.9**
BOD				Smax			12 45 11.7	
	comp=N,92nm,1.0s							
ULN	**Ulaanbaatar**	**5.63**	**190**	*e*PN		**Pn**	**12 43 34.1**	**+1.0**
ULN	**Ulaanbaatar**	**5.63**	**190**	*e*Pn		**Pn**	**12 43 35.3**	**+2.1**
	comp=N,14nm,0.4s							
ULN				*e*Sn		**Sn**	**12 44 32.9**	**-5.0**
SONM	**Songino Array**	**5.75**	**194**	Pn		**Pn**	**12 43 35.7**	**+1.1**
	comp=N,1.3nm,0.3s,baz=5.8,slow=14,SNR=26							
SONM				Pg		**Pg**	**12 43 54.0**	**-5.4**
	comp=N,2.9nm,0.3s,baz=5.9,slow=16,SNR=16							
SONM				Sn		**Sn**	**12 44 43.0**	**+2.3**
	comp=N,3.6nm,0.3s,baz=4.7,slow=25,SNR=4.4							
SONM				Lg			12 45 10.0	
	comp=N,14nm,0.3s,baz=11,slow=32,SNR=9.5							
SONM	**Songino Array**	**5.75**	**194**	PN		**Pn**	**12 43 35.7**	**+1.0**
SONM							12 43 54.0	
SONM							12 44 43.0	
SONM				pmax		pmax		
	comp=Z,1.0nm,0.3s							
SONM				pmax		pmax		
	comp=Z,3.0nm,0.3s							
SONM				smax				
	comp=E,4.0nm,0.3s							
CRS	**Chara**	**6.59**	**54**	*e*Pn		**Pn**	**12 43 47.8**	**+1.5**
CRS				*e*			12 43 56.4	
CRS				*e*Pg		**Pg**	**12 44 11.1**	**-4.4**
CRS				Pmax			12 44 24.9	
	comp=E,19nm,1.2s							
CRS				*e*Sn		**Sn**	**12 44 59.0**	**-2.4**
CRS				*e*Sg		**Sg**	**12 45 37.2**	**-3.7**
CRS				Smax			12 45 42.8	
	comp=E,341nm,1.6s							
CRS	**Chara**	**6.59**	**54**	*e*PN		**Pn**	**12 43 48.3**	**+2.0**
CRS				*e*			12 44 10.5	
CRS				*e*			12 45 37.3	
CRS				pmax		pmax		
	comp=Z,18nm,1.4s							
CRS				smax				
	comp=E,342nm,2.1s							
CRS	**Chara**	**6.59**	**54**	*e*Pn		**Pn**	**12 43 48.3**	**+2.0**
CRS				*e*			12 44 10.5	
CRS				*e*			12 45 37.3	
TUP	**Tupik**	**6.83**	**77**⇓	*i*Pn		**Pn**	**12 43 50.0**	**+0.4**
TUP				*e*Pg		**Pg**	**12 44 13.3**	**-6.9**
TUP				Pmax			12 44 17.1	
	comp=E,10.0nm,0.7s							
TUP				*e*Sn		**Sn**	**12 45 05.8**	**-1.7**
TUP				*e*Sg		**Sg**	**12 45 42.2**	**-6.5**
TUP				Smax			12 45 44.9	
	comp=E,253nm,1.0s							
TUP	**Tupik**	**6.83**	**77**	*e*PN		**Pn**	**12 43 50.2**	**+0.6**
TUP				*e*			12 44 13.1	
TUP				*e*S		**Sn**	**12 45 07.4**	**-0.1**
TUP				*e*			12 45 41.8	
TUP				pmax		pmax		
	comp=Z,7.0nm,0.5s							
TUP				smax				
	comp=N,257nm,1.0s							
TUP	**Tupik**	**6.83**	**77**	*e*Pn		**Pn**	**12 43 50.2**	**+0.6**
	comp=N,7.0nm,0.5s							
TUP				*e*			12 44 13.1	
TUP				*e*S		**Sn**	**12 45 07.4**	**-0.1**
TUP				*e*			12 45 41.8	
TDJR	**Todzha**	**7.58**	**267**	*e*Pn		**Pn**	**12 44 02.1**	**+2.3**
TDJR				*e*Pg		**Pg**	**12 44 25.9**	**-8.5**
TDJR				*e*Sg		**Sg**	**12 46 03.3**	**-9.3**
KRAR	**Krasnoyarsk**	**9.42**	**292**	*e*P		**Pn**	**12 44 26.7**	**+1.6**
TNDR	**Tynda**	**9.64**	**73**	*e*Sg		Sx	12 47 12.0	
CLNS	**Chul'man**	**9.98**	**63**	*e*Sg		Sx	12 47 22.4	
ZAL	**Zalesovo**	**14.05**	**282**	Pn		**Pn**	**12 45 35.4**	**+6.9**
	comp=N,0.3nm,0.3s,baz=335,slow=6.1,SNR=4.0							
ZAL				Lg			12 49 27.6	
	comp=N,0.3nm,0.3s,baz=293,slow=9.4,SNR=5.4							
ZAL	**Zalesovo**	**14.05**	**282**	P		**Pn**	**12 45 35.4**	**+6.9**
YAK	**Yakutsk**	**14.16**	**44**	*e*P		**Pn**	**12 45 30.4**	**+0.4**
YAK				pmax		pmax		
	comp=Z,3.0nm,0.4s							
YAK	**Yakutsk**	**14.16**	**44**	*e*P		**Pn**	**12 45 30.4**	**+0.4**
	comp=Z,3.0nm,0.4s							
MKAR	**Makanchi Array**	**18.01**	**259**	P		**Pn**	**12 46 27.7**	**+7.9**
	comp=Z,0.1nm,0.3s,baz=66,slow=12,SNR=2.2							
MKAR	**Makanchi Array**	**18.01**	**259**	P		**Pn**	**12 46 27.7**	**+7.9**
BVAR	**Borovoye Array**	**22.66**	**284**	P		**P**	**12 47 18.9**	**+8.3**
	comp=Z,0.6nm,0.5s,mb3.2,baz=110,slow=11,SNR=3.8							
BVAR				LR		LR	12 56 56.5	
	comp=Z,16nm,21.6s,MS2.4,baz=141,slow=38							
BVAR	**Borovoye Array**	**22.66**	**284**	P		**P**	**12 47 18.9**	**+8.3**
BVAR				LR		LR		
	comp=Z,20nm,21.6s,MS2.5							
ARU	**Arti**	**28.36**	**296**	*e*P		**P**	**12 48 02.5**	**-1.0**
WRA	**Warramunga Arr**	**76.39**	**155**	P		**P**	**12 53 58.4**	**-0.4**
	comp=Z,1.4nm,0.8s,mb3.9,baz=348,slow=6.3,SNR=14							
WRA	**Warramunga Arr**	**76.39**	**155**	*i* P		**P**	**12 53 57.2**	**-1.7**
ASAR	**Alice Springs**	**79.86**	**156**	P		**P**	**12 54 18.2**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=353,slow=5.3,SNR=12							

*ISCJB **18** 12:42:42.8±0.9, 3819N±006×689E±0.1, h10km, Error ellipse: s-maj=12.5km s-min=8.9km az=6.7*
*NNC **18** 12:42:44.5±8.5, 3828N×6892E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=82.6km s-min=42.7km az=172.0*
ISC 18 12:42:44.8±0.9, 3817N±006×688E±01, h10km, n12, σ0°62/15, 4C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**5.01**	**149**	⇓P	**Pn**	**12 44 00.1**	**+0.1**
KK31	**Karatay Array**	**5.09**	**14**	Pn	**Pn**	**12 44 02.3**	**+1.2**
	1.1nm,0.2s,baz=184,slow=11,SNR=40						
KK31				Pg	**Pg**	**12 44 17.2**	**-5.1**
	13nm,0.6s,baz=181,slow=16,SNR=25						
KK31				Lg		12 45 26.3	
	50nm,0.6s,baz=180,slow=26,SNR=10						
AML	**Almayashu**	**5.43**	**42**	P	**Pn**	**12 44 06.1**	**+0.2**
	SNR=7.3						
EKS2	**Erkin-Say**	**5.86**	**39**	P	**Pn**	**12 44 12.7**	**+1.0**
	SNR=5.9						
THW	**Thamme Wali**	**5.87**	**155**	P	**Pn**	**12 44 11.5**	**-0.3**
UCH	**Uchtor**	**5.95**	**45**	P	**Pn**	**12 44 12.6**	**-0.3**
	SNR=23						
KZA	**Kyzart**	**6.28**	**50**	P	**Pn**	**12 44 17.6**	**+0.1**
	SNR=21						
KBK	**Karagaybulak**	**6.47**	**44**	P	**Pn**	**12 44 20.6**	**+0.5**
	SNR=13						
TKM2	**Tokmak 2**	**7.00**	**45**	P	**Pn**	**12 44 26.9**	**-0.5**
	SNR=18						
TKM2	**Tokmak 2**	**7.00**	**45**	⇑Pn	**Pn**	**12 44 26.9**	**-0.5**
	0.5nm,0.6s						
TKM2				⇑Sn	**Sn**	**12 45 46.1**	**-1.0**
	1.2nm,0.9s						
TKM2				⇑Lg		12 46 22.5	
	0.8nm,0.6s						
AB31	**Akbulak array**	**12.80**	**333**	Pn	**Pn**	**12 45 46.5**	**-0.2**
	0.7nm,0.5s,baz=152,slow=14,SNR=20						
AB31				⇑Sn	**Sn**	**12 48 01.7**	**-7.5**
	0.7nm,0.3s,baz=148,slow=23,SNR=3.6						
AKTO	**Aktyubinsk**	**14.48**	**331**	Pn	**Pn**	**12 46 09.0**	**-0.7**

*IDC **18** 12:52:11.7±0.5, 921S×10838E, h0km, mb4.6/15, mb1 4.6/16, mb1mx4.5/22, mbtmp4.5/16, ML3.9/1, MS3.8/6, Ms1 3.8/6, ms1mx3.4/23, Error ellipse: s-maj=20.4km s-min=13.1km az=72.0*
*BJI **18** 12:52:11.4, 930S×10830E, h10km, mB5.1, mb4.9, Ms4.4, Msz4.4*
*NEIC **18** 12:52:13.4±0.2, 927S×10832E, h10km, mb4.8/30, Error ellipse: s-maj=6.3km s-min=3.6km az=56.0*
*ISCJB **18** 12:52:15.2±0.2, 928S±004×10828E±004, h36km, mb4.8/58, MS4.0/8, Error ellipse: s-maj=6.1km s-min=4.8km az=114.8*
*MOS **18** 12:52:15.2±1.1, 9.19S×10842E, h33km, mb4.9/23, Error ellipse: s-maj=16.4km s-min=8.0km az=109.8*
ISC 18 12:52:17.4±0.2, 930S±004×10832E±004, h38km, h38km±1.7km; pP-P, n130, σ1°01/124, mb4.8/58, MS4.0/8, 5C-2D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**2.39**	**35**	P	**Pn**	**12 52 54.0**	**0.0**
	484nm,1.4s						
BJII	**Banjamegara**	**2.39**	**35**⇑	*i*P	**Pn**	**12 52 55.3**	**+1.3**
BJII				*i* S	**Sn**	**12 53 20.8**	**-1.2**
LEM	**Lembang**	**2.55**	**344**	P	**Pn**	**12 52 57.4**	**+1.2**
	2μm,0.9s						
JCJI	**Jatiwangi**	**2.79**	**359**	P	**Pn**	**12 52 57.7**	**-1.8**
	2μm,0.8s						
SBJI	**Serang**	**3.83**	**325**	P	**Pn**	**12 53 17.6**	**+3.8**
	282nm,0.7s						
KRKI	**Karangkates**	**4.24**	**75**	P	**Pn**	**12 53 20.5**	**+1.0**
	637nm,0.8s						
NBBI	**Negara**	**6.30**	**82**	P	**Pn**	**12 53 50.6**	**+2.9**
	526nm,0.7s						
DNP	**Denpasar**	**6.84**	**85**	P	**Pn**	**12 53 58.2**	**+3.1**
	617nm,0.4s						
KSI	**Kapahiang**	**7.99**	**314**	P	**Pn**	**12 54 10.3**	**-0.6**
	254nm,0.7s						

KSM	**Kuching**	**10.88**	**11**	*e*Pn		**Pn**	**12 54 52.8**	**+2.3**
PCI	**Palu**	**14.18**	**55**	P		**Pn**	**12 55 40.2**	**+4.7**
	67nm,1.2s							
PSI	**Prapat**	**15.23**	**322**	Pn		**Pn**	**12 55 52.2**	**+2.6**
	0.3nm,0.3s,baz=104,slow=17,SNR=2.6							
PSI	**Prapat**	**15.23**	**322**	Pn		**Pn**	**12 55 52.2**	**+2.6**
MBWA	**Marble Bar**	**16.12**	**138**	*e*Pn		**Pn**	**12 56 00.4**	**-0.8**
MBWA				*e*P			12 56 04.2	
MBWA				*e*Sn		**Sn**	**12 58 41.0**	**-18**
KULM	**Kulim**	**16.38**	**332**	*e*Pn		**Pn**	**12 56 03.4**	**-1.1**
KKM	**Kota Kinabalu**	**17.15**	**28**	*e*P		**Pn**	**12 56 14.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**18.96**	**119**	*e*P		**Pn**	**12 56 35.7**	**-0.5**
	14nm,0.9s							
FITZ	**Fitzroy Crossi**	**18.96**	**119**	P		**Pn**	**12 56 35.8**	**-0.4**
	0.3nm,0.3s,baz=263,slow=5.8,SNR=10.0							
KAKA	**Kakadu**	**23.92**	**100**	*e*P		**P**	**12 57 27.8**	**+0.1**
	9.2nm,0.7s,mb4.3							
NWAO	**Narrogin (SRO)**	**24.92**	**162**	P		**P**	**12 57 37.8**	**+1.0**
	9.5nm,0.7s,mb4.4,baz=324,slow=12,SNR=7.2							
NWAO				LR		LR	13 07 27.6	
	comp=Z,104nm,18.8s,MS3.4,baz=141,slow=37							
NWAO	**Narrogin (SRO)**	**24.92**	**162**	*e*P		**P**	**12 57 37.1**	**+0.2**
NWAO				pmax		pmax		
	comp=Z,13nm,0.8s							
NWAO	**Narrogin (SRO)**	**24.92**	**162**	*e*P		**P**	**12 57 37.1**	**+0.2**
	comp=Z,13nm,0.8s,mb4.5							
NWAO				P			12 57 37.8	
NWAO				LR		LR	13 07 27.6	
WRA	**Warramunga Arr**	**27.27**	**116**	P		**P**	**12 57 58.1**	**0.0**
	comp=Z,3.8nm,0.7s,mb4.0,baz=286,slow=11,SNR=29							
WRA				PcP		PcP	13 01 18.0	+0.9
	comp=Z,0.4nm,0.6s,baz=302,slow=1.8,SNR=4.8							
WRAB	**Tennant Creek**	**27.28**	**116**	*e*P		**P**	**12 57 58.7**	**+0.5**
WRAB				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.3							
WRAB	**Tennant Creek**	**27.28**	**116**	*e*P		**P**	**12 57 58.6**	**+0.5**
	comp=Z,7.0nm,0.7s,mb4.3							
WB2	**Warramunga Arr**	**27.28**	**116**	*e*P		**P**	**12 57 58.0**	**-0.2**
ASPA	**Alice Springs**	**28.32**	**123**	*e*P		**P**	**12 58 11.5**	**+4.0**
AS31	**Alice Springs**	**28.32**	**123**	*e*P		**P**	**12 58 07.5**	**0.0**
AS31				*e*P			12 58 11.5	
ASAR	**Alice Springs**	**28.32**	**123**	P		**P**	**12 58 07.0**	**-0.5**
	comp=Z,5.0nm,0.7s,mb4.3,baz=299,slow=7.9,SNR=51							
ASAR				PcP		PcP	13 01 21.2	+1.5
	comp=Z,2.0nm,0.6s,baz=303,slow=1.8,SNR=18							
CHTO	**Chiang Mai**	**29.42**	**342**	*e*P		**P**	**12 58 17.5**	**+0.2**
CHTO				*e**PP		pP	12 58 28.8	+1.0
CHTO				pmax		pmax		
	comp=Z,12nm,0.9s,mb4.6							
CHTO	**Chiang Mai**	**29.42**	**342**	*e*P		**P**	**12 58 17.5**	**+0.3**
	comp=Z,12nm,0.9s,mb4.6							
CHTO				*e*pP		pP	12 58 28.8	+1.0
YHNB	**Yeheng**	**36.08**	**20**	*e*P		**P**	**12 59 15.1**	**-0.3**
CTAO	**Charters Tower**	**38.14**	**111**	*e*P		**P**	**12 59 34.6**	**+1.7**
CTAO				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.3							
CTAO	**Charters Tower**	**38.14**	**111**	*e*P		**P**	**12 59 34.6**	**+1.6**
	comp=Z,4.9nm,0.7s,mb4.3							
PMG	**Port Moresby**	**38.31**	**93**	*e*P		**P**	**12 59 30.5**	**-3.9**
PMG				pmax		pmax		
	comp=Z,12nm,1.0s							
PMG	**Port Moresby**	**38.31**	**93**	*e*P		**P**	**12 59 30.5**	**-3.8**
	comp=Z,12nm,1.0s,mb4.6							
JOW	**Kunigami**	**40.80**	**28**	P		**P**	**12 59 54.9**	**-0.2**
	comp=Z,31nm,0.9s,mb4.9,baz=151,slow=8.2,SNR=4.7							
SSE	**Sheshan**	**42.01**	**17**	P		**P**	**13 00 03.3**	**-1.7**
SSE				AMB		AMB		
	comp=Z,39nm,0.7s,mb5.2							
SSE				AMB		AMB		
	comp=Z,82nm,3.4s							
NJ2	**Nanjing**	**42.33**	**13**	*e*P		**P**	**13 00 05.4**	**-2.2**
NJ2				AP		pP	13 00 15.3	-3.1
NJ2				XP		sP	13 00 19.3	-3.6
NJ2				PP		PP	13 01 45.0	-1.0
NJ2				S		**S**	**13 06 20.0**	**-6.0**
NJ2				XS		sS	13 06 37.0	-6.9
NJ2				AMB		AMB		
	comp=Z,30nm,1.2s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,360nm,4.3s							
NJ2				LR		LR		
	comp=N,200nm,14.0s,MS4.2							
NJ2				LR		LR		
	comp=E,210nm,18.4s,MS4.2							
NJ2				LR		LR		
	comp=Z,2μm,15.4s,MS5.0							
JIRN	**Jiri**	**42.53**	**330**	*e*P		**P**	**13 00 09.9**	**+0.7**
	comp=Z,64nm,0.8s,mb5.4							
PKI	**Pulchoki**	**42.84**	**329**	*e*P		**P**	**13 00 12.2**	**+0.4**
GUN	**Gumba**	**42.89**	**330**	*e*P		**P**	**13 00 12.3**	**+0.2**
	comp=Z,79nm,0.8s,mb5.5							
DMN	**Daman**	**43.03**	**329**	*e*P		**P**	**13 00 13.8**	**+0.6**
	comp=Z,68nm,0.8s,mb5.4							
KKN	**Kakani**	**43.09**	**330**	*e*P		**P**	**13 00 14.2**	**+0.5**
	comp=Z,59nm,0.9s,mb5.3							
KKN	**Kakani**	**43.09**	**330**	*e*P		**P**	**13 00 14.2**	**+0.5**
KKN				pmax		pmax		
	comp=Z,59nm,0.9s,mb5.3							
XAN	**Xi'an**	**43.10**	**1**	P		**P**	**13 00 14.1**	**+0.3**
XAN				AP		pP	13 00 19.3	-5.4
XAN				AMB		AMB		
	comp=Z,24nm,0.8s,mb5.0							
GKN	**Gorkha**	**43.59**	**329**	*e*P		**P**	**13 00 18.0**	**+0.2**
KOLN	**Koldanda**	**43.94**	**328**	*e*P		**P**	**13 00 21.2**	**+0.6**
	comp=Z,78nm,0.8s,mb5.5							
LZH	**Lanzhou**	**45.33**	**355**	*e*P		**P**	**13 00 32.6**	**+0.9**
LZH				AMB		AMB		
	comp=Z,31nm,1.2s,mb5.0							
GTA	**Gaotai**	**49.10**	**351**	*e*P		**P**	**13 01 02.3**	**+1.3**
GTA				AP		pP	13 01 13.0	+1.0
GTA				PP		PP	13 02 57.6	+2.8
GTA				S		**S**	**13 08 05.9**	**+2.5**
GTA				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.8							
GTA				AMB		AMB		
	comp=Z,280nm,5.3s							
GTA				LR		LR		
	comp=N,159nm,19.4s,MS4.1							
GTA				LR		LR		
	comp=E,112nm,17.5s,MS4.1							
GTA				LR		LR		
	comp=Z,226nm,19.4s,MS4.2							
BJT	**Baijiatuao**	**49.60**	**8**	*e*P		**P**	**13 01 05.0**	**+0.1**
BJT				pmax		pmax		
	comp=Z,25nm,1.1s							
BJT	**Baijiatuao**	**49.60**	**8**	*e*P		**P**

MAW	**Mawson**	**65.57**	**197**	P	**P**	**13 02 57.1**	**-0.1**
	comp=Z,3.3nm,0.7s,mb4.5,baz=44,slow=4.5,SNR=8.5						
MAW	**Mawson**	**65.57**	**197**	*eP*	**P**	**13 02 56.7**	**-0.5**
MAW				*e*	pP	13 03 07.0	-1.5
MAW				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MAW	**Mawson**	**65.57**	**197**	*eP*	**P**	**13 02 56.7**	**-0.5**
	comp=Z,2.7nm,0.9s,mb4.3						
MAW				*eP*		13 02 57.0	
MAW				*e*	pP	13 03 07.0	-1.5
ZAL	**Zalesovo**	**66.06**	**345**	P	**P**	**13 02 59.4**	**-1.1**
	comp=Z,1.5nm,0.4s,mb4.4,baz=343,slow=4.6,SNR=6.0						
ZAL				LR	LR	13 35 41.9	
	comp=Z,97nm,18.3s,MS4.0,baz=126,slow=40						
ZAL	**Zalesovo**	**66.06**	**345**	*i* P	**P**	**13 02 59.4**	**-1.0**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KRAR	**Krasnoyarsk**	**66.33**	**351**	*eP*	**P**	**13 03 04.4**	**+2.3**
KRAR				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.9						
BOD	**Bodaibo**	**67.04**	**3**	*eP*	**P**	**13 03 04.4**	**-2.2**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
QRN	**Al-Qurain**	**69.43**	**305**	*eP*	**P**	**13 03 20.9**	**-0.7**
QRN				AMb	AMB	13 03 23.0	
	comp=Z,29nm,0.8s,mb5.2						
RDF	**Al-Radifah**	**69.80**	**305**	*eP*	**P**	**13 03 23.0**	**-0.8**
RDF				AMb	AMB	13 03 24.6	
	comp=Z,20nm,0.8s,mb5.1						
UMR	**Umm Al-Rimmam**	**69.91**	**306**	*eP*	**P**	**13 03 24.5**	**-0.1**
UMR				AMb	AMB	13 03 26.1	
	comp=Z,31nm,0.7s,mb5.4						
BVAR	**Borovoye Array**	**69.98**	**337**	P	**P**	**13 03 24.2**	**-0.8**
	comp=Z,4.5nm,0.6s,mb4.6,baz=141,slow=8.7,SNR=27						
BRVK	**Borovoye**	**70.04**	**337**	*eP*	**P**	**13 03 25.4**	**0.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**70.04**	**337**	*eP*	**P**	**13 03 25.4**	**0.0**
	comp=Z,2.7nm,0.8s,mb4.2						
NAY	**Al-Naaiem**	**70.17**	**306**	*eP*	**P**	**13 03 25.4**	**-0.8**
NAY				AMb	AMB	13 03 27.5	
	comp=Z,9.6nm,0.7s,mb4.8						
MIB	**Mutribah**	**70.31**	**306**	*eP*	**P**	**13 03 26.7**	**-0.4**
MIB				AMb	AMB	13 03 27.8	
	comp=Z,15nm,0.6s,mb5.1						
CHKZ	**Chkalovo**	**70.39**	**337**	*eP*	**P**	**13 03 27.1**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,31nm,0.7s,mb5.3						
CHKZ	**Chkalovo**	**70.39**	**337**	*eP*	**P**	**13 03 27.1**	**-0.4**
	comp=Z,31nm,0.7s,mb5.3						
RST	**Umm Al-Ruwaisa**	**70.47**	**306**	*eP*	**P**	**13 03 27.2**	**-0.8**
ZRNK	**Zerenda**	**70.47**	**336**	*eP*	**P**	**13 03 27.8**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
ZRNK	**Zerenda**	**70.47**	**336**	*eP*	**P**	**13 03 27.8**	**-0.2**
	comp=Z,8.6nm,0.6s,mb4.9						
YAK	**Yakutsk**	**73.03**	**10**	*eP*	**P**	**13 03 43.4**	**0.0**
YAK				*e*	pP	13 03 53.5	-1.3
YAK				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.6s						
YAK	**Yakutsk**	**73.03**	**10**	*eP*	**P**	**13 03 42.8**	**-0.5**
	comp=E,38nm,0.6s,mb5.5						
VNDA	**Vanda**	**73.49**	**169**	P	**P**	**13 03 45.6**	**-0.5**
	comp=E,8.8nm,0.8s,mb4.7,baz=307,slow=6.3,SNR=63						
VNDA	**Vanda**	**73.49**	**169**	*eP*	**P**	**13 03 45.4**	**-0.7**
VNDA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VNDA	**Vanda**	**73.49**	**169**	*eP*	**P**	**13 03 45.4**	**-0.7**
	comp=Z,7.9nm,0.8s,mb4.7						
VNDA				P		13 03 45.6	
SYO	**Syowa Base**	**73.81**	**200**	⇓*eP*	**P**	**13 03 47.0**	**-1.0**
SBA	**Scott Base**	**74.56**	**169**	*eP*	**P**	**13 03 52.9**	**+0.6**
SBA				*e*	pP	13 04 03.4	-0.4
SBA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
SBA	**Scott Base**	**74.56**	**169**	*eP*	**P**	**13 03 52.9**	**+0.6**
	comp=Z,6.2nm,0.8s,mb4.6						
SBA				*e*	pP	13 04 03.4	-0.4
MA2	**Magadan**	**76.56**	**21**	*eP*	**P**	**13 04 03.6**	**-0.2**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
MA2	**Magadan**	**76.56**	**21**	*eP*	**P**	**13 04 03.6**	**-0.1**
	comp=Z,9.5nm,0.8s,mb4.8						
SVE	**Sverdlovsk**	**76.63**	**335**	*eP*	**P**	**13 04 05.0**	**+0.8**
SVE				*e*	pP	13 04 17.0	+1.3
ARU	**Arti**	**77.24**	**334**	⇑*iP*	**P**	**13 04 07.4**	**-0.2**
ARU				*e*	pP	13 04 17.8	-1.3
ARU				*e*		13 07 00.4	
ARU				*eS*	S	13 13 53.7	-0.9
ARU				*eSS*	SS	13 18 48.4	-4.5
ARU				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
ARU	**Arti**	**77.24**	**334**	*eP*	**P**	**13 04 07.5**	**-0.1**
	comp=Z,8.0nm,1.0s,mb4.6						
LSZ	**Lusaka**	**78.15**	**256**	*eP*	**P**	**13 04 13.8**	**+1.1**
LSZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
LSZ	**Lusaka**	**78.15**	**256**	*eP*	**P**	**13 04 13.8**	**+1.1**
	comp=Z,2.5nm,0.7s,mb4.2						
KIV	**Kislovodsk**	**79.45**	**318**	*eP*	**P**	**13 04 08.0**	**-12**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
MALT	**Malatya**	**80.33**	**311**	*eP*	**P**	**13 04 26.0**	**+1.4**
EIL	**Elat**	**80.39**	**302**	*eP*	**P**	**13 04 25.1**	**+0.2**
	comp=Z,28nm,0.4s,mb5.5						
QSPA	**South Pole Qui**	**80.71**	**180**	*eP*	**P**	**13 04 26.3**	**-0.3**
	comp=Z,11nm,1.0s,mb4.8						
QSPA				*eP*		13 04 26.4	
QSPA				*e*	pP	13 04 36.7	-1.5
BR131	**Keskin Array S**	**84.32**	**312**	*eP*	**P**	**13 04 46.0**	**+0.6**
	comp=Z,0.6nm,0.4s,mb4.1						
BRTR	**Keskin Array B**	**84.32**	**312**	P	**P**	**13 04 45.9**	**+0.5**
	comp=Z,2.6nm,0.7s,mb4.5,baz=136,slow=6.3,SNR=14						
BRTR				LR	LR	13 44 34.6	
	comp=Z,44nm,20.6s,MS3.8,baz=203,slow=37						
BRTR	**Keskin Array B**	**84.32**	**312**	*i* P	**P**	**13 04 46.4**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
OBN	**Obninsk**	**87.35**	**327**	⇓*iP*	**P**	**13 04 59.3**	**-1.1**
OBN				*eS*		13 15 22.1	
OBN				*eSS*	SS	13 21 23.7	+0.7
OBN				pmax	pmax		
	comp=Z,26nm,1.7s,mb5.2						
SNAA	**Sanae**	**87.73**	**197**	LR	LR	13 42 24.6	
	comp=Z,32nm,18.4s,MS3.8,baz=150,slow=34						
SNAA	**Sanae**	**87.73**	**197**	*eP*	**P**	**13 05 02.4**	**+0.1**
SNAA				*e*	pP	13 05 13.5	-0.5
SNAA	**Sanae**	**87.73**	**197**	*eP*	**P**	**13 05 02.3**	**0.0**
SNAA				*e*	pP	13 05 13.2	-0.8
SNAA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SNAA	**Sanae**	**87.73**	**197**	*eP*	**P**	**13 05 02.3**	**+0.1**
	comp=Z,4.9nm,1.1s,mb4.7						
SNAA				*e*	pP	13 05 13.2	-0.8
VNA2	**Neumayer--Watz**	**89.38**	**197**	*eP*	**P**	**13 05 10.1**	**0.0**
VNA2				*e*		13 05 10.8	
VNA2				*e*		13 05 13.9	
VNA2				*e*	pP	13 05 20.4	-1.4
VNA2				*e*	pP	13 05 23.6	+1.8
VNA1	**Neumayer--Stat**	**89.77**	**197**	*eP*	**P**	**13 05 11.4**	**-0.4**
VNA1				*e*		13 05 13.0	
VNA1				*e*	pP	13 05 24.3	+0.7
AKASG	**Malin Array Be**	**90.29**	**321**	P	**P**	**13 05 14.0**	**-0.3**
	comp=Z,0.8nm,0.4s,mb4.4,baz=90,slow=4.8,SNR=6.7						
AKASG	**Malin Array Be**	**90.29**	**321**	*i* P	**P**	**13 05 15.0**	**+0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**96.13**	**339**	LR	LR	13 56 18.9	
	comp=Z,51nm,18.5s,MS4.0,baz=259,slow=40						
NCB	**Newcomb**	**145.39**	**3**	*e*PKPbc	PKPbc	13 11 52.1	+1.0
BDFB	**Brasilia**	**145.89**	**224**	PKPbc	PKPbc	13 11 53.9	+1.1
	comp=Z,3.8nm,0.7s,baz=158,slow=5.3,SNR=4.8						
JCT	**Junction City**	**146.36**	**47**	*e*PKP2	PKPab	13 11 54.4	-0.6
CCM	**Cathedral Cave**	**146.38**	**29**	*e*PKP2	PKPab	13 11 55.0	-0.1
MIAR	**Mount Ida**	**147.84**	**35**	*e*PKPbc	PKPbc	13 11 59.7	+1.4
MIAR				*e*PKPab	PKPab	13 12 02.5	+1.6
WVT	**Waverly**	**149.51**	**26**	*e*PKP2	PKPab	13 12 03.9	-3.7
PLAL	**Pickwick Lake**	**150.36**	**28**	*e*PKPbc	PKPbc	13 12 05.3	+0.6
PLAL				*e*PKPab	PKPab	13 12 11.5	+0.4
LPAZ	**La Paz**	**154.34**	**188**	PKPbc	PKPbc	13 12 17.2	+3.7
	comp=Z,1.0nm,0.7s,baz=182,slow=5.2,SNR=5.8						
LPAZ				PKPab	PKPab	13 12 27.9	+0.2
	comp=Z,0.8nm,0.7s,baz=202,slow=9.1,SNR=5.5						

*THR **18** 13:08:11.4±0.3, 3139N×4746E, h17km±8km, ML3.1*
*CSEM **18** 13:08:11.4, 3139N×4746E, h17km, ML3.1, After THR*
*KISR **18** 13:08:20.0±0.9, 3221N×4780E, h34km, ML2.5*
*ISCJB **18** 13:08:21.7±0.9, 3215N±005×4766E±007, h10km, Error ellipse: s-maj=9.9km s-min=6.2km az=65.3*

ISC 18 13:08:22.7±0.9, 3215N±005×4765E±008, h10km, n12, σ0s98/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.98**	**92**	*e*PG	**Pg**	**13 08 36.2**	**-5.3**
SHGR				*e*SG	**Sg**	**13 08 54.4**	**+0.1**
SHGR				AML	AML	13 08 59.8	
	comp=N,240nm,0.4s						
SHGR				AML	AML	13 09 00.1	
	comp=E,193nm,0.4s						
SHGR	**Shooshtar-Gavs**	**0.98**	**92**	*e*Pg	**Pg**	**13 08 36.2**	**-5.3**
	SNR=92						
SHGR				*e*Sg	**Sg**	**13 08 54.3**	**0.0**
	comp=E,193nm,0.4s,SNR=92						
MIB	**Mutribah**	**2.35**	**187**	*eP*	**Pn**	**13 09 04.1**	**+2.7**
MIB				AMb	AMB	13 09 06.0	
	comp=Z,18nm,0.7s						
MIB	**Mutribah**	**2.35**	**187**	*eP*	**Pn**	**13 08 59.9**	**-1.5**
MIB				*eS*	**Sn**	**13 09 30.8**	**+0.4**
MIB				AML	AML	13 09 36.8	
	comp=Z,21nm,0.6s						
UMR	**Umm Al-Rimmam**	**2.59**	**179**	*eP*	**Pn**	**13 09 08.1**	**+3.4**
UMR				AMb	AMB	13 09 11.3	
	comp=Z,18nm,1.2s						
RST	**Umm Al-Ruwaisa**	**2.70**	**192**	*eP*	**Pn**	**13 09 05.9**	**-0.3**
RST				AMb	AMB	13 09 07.2	
	comp=Z,12nm,0.6s						
RST	**Umm Al-Ruwaisa**	**2.70**	**192**	*eP*	**Pn**	**13 09 05.5**	**-0.7**
RST				AML	AML	13 09 43.0	
	comp=Z,27nm,0.5s						
NAY	**Al-Naaiem**	**2.91**	**187**	*eP*	**Pn**	**13 09 09.1**	**0.0**
NAY				AMb	AMB	13 09 12.8	
	comp=Z,4.9nm,1.0s						
NAY	**Al-Naaiem**	**2.91**	**187**	*eP*	**Pn**	**13 09 08.9**	**-0.2**
NAY				*eS*	**Sn**	**13 09 44.6**	**+0.5**
NAY				AML	AML	13 09 51.6	
	comp=Z,11nm,0.7s						
SNGE	**Sanandaj**	**2.95**	**355**	*e*Pn	**Pn**	**13 09 10.0**	**+0.4**
SNGE				AML	AML	13 09 56.5	
	comp=E,48nm,0.4s						
SNGE				AML	AML	13 09 57.7	
	comp=N,57nm,0.3s						
ASAO	**Ashtian**	**3.11**	**39**	*e*Pn	**Pn**	**13 09 11.7**	**-0.1**
ASAO				AML	AML	13 10 00.5	
	comp=N,35nm,0.8s						
ASAO				AML	AML	13 10 00.7	
	comp=E,37nm,1.0s						
RDF	**Al-Radifah**	**3.21**	**182**	*eP*	**Pn**	**13 09 11.7**	**-1.5**
RDF				AMb	AMB	13 09 13.9	
	comp=Z,17nm,1.1s						

*ISCJB **18** 13:16:36.5±0.2, 4807N±001×948E±002, h7km±3km, Error ellipse: s-maj=2.4km s-min=2.1km az=27.2*
*LDG **18** 13:16:36.9±0.2, 4804N×957E, h10km, Ml2.9/11, Error ellipse: s-maj=4.3km s-min=3.8km az=164.0*
*LEDBW **18** 13:16:37.7±0.1, 48054N±0004×9500E±0005, h11km±1km, ML2.4, Error ellipse: s-maj=1.8km s-min=1.4km az=48.0*
*BGR **18** 13:16:37.2±0.3, 4809N×956E, h10km, ML2.3/6, Error ellipse: s-maj=4.4km s-min=2.2km az=158.0*
*ZUR **18** 13:16:37.4, 4805N×951E, h11km±1km, ML2.6/9*
*NEIC **18** 13:16:37.0, 4806N×950E, h11km, ML2.3(STR), ML2.4(SZGRF), ML2.5(LEDBW), ML2.9(LDG), After LEDBW.*
*CSEM **18** 13:16:37.3±0.1, 4804N×953E, h10km, ML2.9/12, Error ellipse: s-maj=1.4km s-min=1.0km az=167.0*
*STR **18** 13:16:41.8±0.5, 4808N×920E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 18 13:16:36.9±0.2, 4808N±001×950E±002, h18km±2km, n100, σ1s04/168, 23C-13D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUT	**Gutenstein**	**0.26**	**268**	⇑*iP**	**Pg**	**13 16 43.0**	**+0.2**
GUT				*i* S*	**Sg**	**13 16 46.8**	**+0.1**
GUT	**Gutenstein**	**0.26**	**268**	⇑*iP*	**Pg**	**13 16 43.0**	**+0.3**
GUT				*i* S	**Sg**	**13 16 46.8**	**+0.1**
GUT	**Gutenstein**	**0.26**	**268**	⇑*iPg*	**Pg**	**13 16 43.0**	**+0.2**
GUT				*i* Sg	**Sg**	**13 16 46.8**	**+0.1**
BHBD	**Braunhartsberg**	**0.37**	**297**	⇑*iPg*	**Pg**	**13 16 45.4**	**+0.7**
BHBD				Sg	**Sg**	**13 16 50.3**	**+0.4**
BUCH	**Bad Urach**	**0.38**	**345**	⇓*iP**	**Pg**	**13 16 45.6**	**+0.8**
BUCH				*i* S*	**Sg**	**13 16 51.5**	**+1.3**
BUCH	**Bad Urach**	**0.38**	**345**	⇓*iP*	**Pg**	**13 16 45.6**	**+0.8**
BUCH				*i* S	**Sg**	**13 16 51.5**	**+1.3**
SPAK	**Spaichingen-Ko**	**0.48**	**273**	⇑*iP**	**Pb**	**13 16 47.2**	**+0.3**
SPAK				S*	**Sb**	**13 16 53.7**	**+0.1**
SPAK	**Spaichingen-Ko**	**0.48**	**273**	⇑*iP*	**Pg**	**13 16 47.2**	**+0.6**
SPAK				S	**Sg**	**13 16 53.7**	**+0.6**
SPAK	**Spaichingen-Ko**	**0.48**	**273**	⇑*iPg*	**Pb**	**13 16 47.2**	**+0.3**
SPAK				Sg	**Sb**	**13 16 53.7**	**+0.1**
TUBL	**Tuebingen-Lenn**	**0.52**	**328**	⇓*Pg*	**Pg**	**13 16 48.9**	**+1.5**
TUBL	**Tuebingen-Lenn**	**0.52**	**328**	PmP		13 16 50.1	
TUBL				Sg	**Sg**	**13 16 56.2**	**+1.7**
TUBL				Sx	Sx	13 16 59.4	
SISB	**Singen-Schiene**	**0.54**	**223**	⇑*iP**	**Pb**	**13 16 47.8**	**0.0**
SISB				PmP		13 16 48.4	
SISB				*i* S*	**Sb**	**13 16 55.1**	**-0.1**
SISB	**Singen-Schiene**	**0.54**	**223**	⇑*iPg*	**Pb**	**13 16 47.8**	**0.0**
SISB				*i* Sg	**Sb**	**13 16 55.1**	**-0.1**
SISB	**Singen-Schiene**	**0.54**	**223**	Px	Px	13 16 48.4	
UBR	**Ueberruh**	**0.57**	**134**	⇑*iP**	**Pb**	**13 16 48.6**	**+0.2**
UBR				PmP		13 16 50.4	
UBR				*i* S*	**Sb**	**13 16 56.5**	**+0.3**
UBR				SmS		13 16 59.8	
UBR	**Ueberruh**	**0.57**	**134**	⇑*iP*	**Pg**	**13 16 48.6**	**+0.3**
UBR				*i* S	**Sg**	**13 16 56.5**	**+0.6**
UBR				S	**Sg**	**13 16 59.8**	**+3.9**
UBR	**Ueberruh**	**0.57**	**134**	⇑*iPg*	**Pb**	**13 16 48.6**	**+0.2**
UBR				*i* Sg	**Sb**	**13 16 56.5**	**+0.3**
UBR	**Ueberruh**	**0.57**	**134**	PmP		13 16 50.4	
UBR				SmS		13 16 59.8	
WEIN	**Weingarten**	**0.65**	**212**	*eSg*	**Pg**	**13 16 49.9**	**+0.1**
	504nm,0.2s						
WEIN	**Weingarten**	**0.65**	**212**	⇑*iPg*	**Sg**	**13 16 58.7**	**+0.2**
	504nm,0.2s						
WEIN	**Weingarten**	**0.65**	**212**	⇑*iP*	**Pg**	**13 16 49.9**	**+0.1**
WEIN				*eSg*	**Pg**	**13 16 49.9**	**+0.1**
	504nm,0.2s						
WEIN	**Weingarten**	**0.65**	**212**	⇑*iPg*	**Sg**	**13 16 58.7**	**+0.2**
	504nm,0.2s						
HDH	**Heidenheim-Cha**	**0.69**	**43**	Pg	**Pg**	**13 16 50.9**	**+0.5**
HDH				Sg	**Sg**	**13 17 00.2**	**+0.6**
TRULL	**Truellikon**	**0.70**	**232**	*eP*	**Pb**	**13 16 51.2**	**+0.6**
	397nm,0.2s						
STU	**Stuttgart**	**0.72**	**344**	*eSg*	**Sg**	**13 17 02.1**	**+1.4**
SLE	**Schleitheim**	**0.75**	**246**	⇑*iP*	**Pb**	**13 16 51.6**	**+0.2**
	781nm,0.3s						
WILA	**Wila**	**0.78**	**211**	*eP*	**Pb**	**13 16 52.2**	**+0.3**
	843nm,0.5s						
WILA				*eS*	**Sb**	**13 17 02.6**	**+0.4**
	843nm,0.5s						
WILA	**Wila**	**0.78**	**211**	*eP*	**Pb**	**13 16 52.0**	**+0.1**
LIENZ	**Alp Oberkamor**	**0.79**	**180**	⇑*iPn*	**Pn**	**13 16 52.6**	**-0.5**
	135nm,0.5s						
FLACH	**Flaach**	**0.81**	**231**	⇓*iP*	**Pb**	**13 16 53.0**	**+0.5**
BFO	**Black Forest**	**0.82**	**288**	⇑*iPn*	**Pn**	**13 16 53.4**	**-0.3**
BFO				S	**Sg**	**13 17 04.0**	**+0.1**
BFO	**Black Forest**	**0.82**	**288**	*ePg*	**Pg**	**13 16 53.3**	**+0.3**
BFO				*eSg*	**Sg**	**13 17 04.0**	**+0.1**
BFO	**Black Forest**	**0.82**	**288**	⇑*iPn*	**Pn**	**13 16 53.4**	**-0.3**
BFO				Sg	**Sg**	**13 17 04.0**	**+0.1**
DAVA	**Damuels**	**0.83**	**162**	⇓*iPg*	**Pg**	**13 16 53.5**	**+0.3**
DAVA				⇓*iSg*	**Sg**	**13 17 04.9**	**+0.7**
	10nm,0.2s						
OBER	**Oberstdorf**	**0.86**	**141**	⇓*iPg*	**Pg**	**13 16 54.5**	**+0.8**
ZUR	**Zurich**	**0.95**	**222**	*eS*	**Pg**	**13 16 55.3**	**0.0**
	1um,0.2s						
ZUR	**Zurich**	**0.95**	**222**	⇑*eP*	**Sg**	**13 17 07.9**	**+0.1**
	1um,0.2s						
NORI	**Noerdlinger Ri**	**0.98**	**49**	⇓*iPg*	**Pg**	**13 16 55.9**	**-0.1**
NORI				*eSg*	**Sg**	**13 17 09.9**	**+0.9**
FELD	**Feldberg im Sc**	**1.03**	**259**	⇓*iPg*	**Pg**	**13 16 57.2**	**+0.3**
FELD	**Feldberg im Sc**	**1.03**	**259**	⇓*iPg*	**Pg**	**13 16 57.2**	**+0.4**
KIZ	**Kirchzarten**	**1.07**	**264**	*ePn*	**Pn**	**13 16 57.6**	**+0.6**
KIZ				⇑Pg	**Pg**	**13 16 57.9**	**+0.3**
KIZ				Sg	**Sg**	**13 17 11.9**	**+0.1**
KIZ	**Kirchzarten**	**1.07**	**264**	*ePn*	**Pn**	**13 16 57.6**	**+0.5**
KIZ				⇑Pg	**Pg**	**13 16 57.9**	**+0.2**
KIZ				Sg	**Sg**	**13 17 11.9**	**+0.2**
KIZ	**Kirchzarten**	**1.07**	**264**	⇑*iPg*	**Pg**	**13 16 57.9**	**+0.2**
KIZ	**Kirchzarten**	**1.07**	**264**	⇑P	**Pg**	**13 16 57.9**	**+0.3**
SULZ	**Sulz-Cheisache**	**1.09**	**240**	*ePn*	**Pn**	**13 16 56.9**	**-0.4**
	303nm,0.3s						
FUR	**Furstenfeldbru**	**1.19**	**85**	*eSg*	**Sg**	**13 17 16.6**	**+1.1**
SIND	**Sindeldorf**	**1.27**	**3**	Pg	**Pg**	**13 17 02.2**	**+0.7**
SIND				Sg	**Sg**	**13 17 18.4**	**+0.3**
LIBD	**Limburg**	**1.27**	**274**	*ePg*	**Pg**	**13 17 02.3**	**+0.7**
	SNR=4.8						
MOTA	**Moosalm**	**1.31**	**124**	⇑*iPg*	**Pg**	**13 17 01.7**	**-0.4**
MOTA				⇓*iSg*	**Sg**	**13 17 19.6**	**+0.3**
	34nm,0.1s						
DAVOX	**Davos**	**1.33**	**169**	*ePn*	**Pn**	**13 17 01.4**	**+0.8**
	79nm,0.5s						
LANF	**Langenberg**	**1.44**	**309**	*ePg*	**Pg**	**13 17 05.9**	**+1.2**
	SNR=1.3						
LANF	**Langenberg**	**1.44**	**309**	Pn	**Pn**	**13 17 05.0**	**+2.8**
LANF				Sg	**Sg**	**13 17 24.3**	**+0.7**
WLS	**Welschbruch**	**1.48**	**284**	Pg	**Pg**	**13 17 05.9**	**+0.6**
WLS	**Welschbruch**	**1.48**	**284**	Pn	**Pn**	**13 17 05.6**	**+3.0**
BBS	**Basel-Blauen**	**1.48**	**246**	Pn	**Pn**	**13 17 05.0**	**+2.3**
BBS	**Basel-Blauen**	**1.48**	**246**	Pg	**Pg**	**13 17 05.5**	**+0.1**
BBS				Sg	**Sg**	**13 17 24.3**	**-0.4**
BBS	**Basel-Blauen**	**1.48**	**246**	P	**Pn**	**13 17 05.5**	**+2.8**
SWS	**Schriesheim-Wi**	**1.50**	**340**	Pg	**Pg**	**13 17 06.6**	**+0.8**
SWS				Sg	**Sg**	**13 17 26.7**	**+1.3**
CDF	**Champ du Feu**	**1.52**	**283**	*ePg*	**Pg**	**13 17 06.3**	**0.0**
CDF				*eSg*	**Sg**	**13 17 25.9**	**-0.2**
	24nm,0.2s						
CDF	**Champ du Feu**	**1.52**	**283**	*ePn*	**Pn**	**13 17 03.3**	**0.0**
CDF				*ePg*	**Pg**	**13 17 06.3**	**0.0**
CDF				*eSg*	**Sg**	**13 17 25.9**	**-0.2**
CDF	**Champ du Feu**	**1.52**	**283**	*ePg*	**Pg**	**13 17 06.3**	**0.0**
CDF				*eSg*	**Sg**	**13 17 25.9**	**-0.2**
	12nm,0.2s						
ECH	**Echery**	**1.58**	**276**	Pn	**Pn**	**13 17 07.1**	**+3.1**
ECH				Sg	**Sg**	**13 17 27.3**	**-0.5**
ECH	**Echery**	**1.58**	**276**	P	**Pn**	**13 17 07.6**	**+3.6**
TOD	**Tromm**	**1.59**	**343**	*ePg*	**Pg**	**13 17 08.1**	**+0.5**
	SNR=3.8						
MOF	**Molkenrain**	**1.61**	**263**	*ePg*	**Pg**	**13 17 08.1**	**+0.2**
	SNR=4.8						
MOF	**Molkenrain**	**1.61**	**263**	Pn	**Pn**	**13 17 07.8**	**+3.3**
WTTA	**Wattenberg**	**1.66**	**119**	⇑*iPn*	**Pn**	**13 17 07.6**	**+2.5**
WTTA				⇓*iPg*	**Pg**	**13 17 09.6**	**+0.8**
WTTA	**Wattenberg**	**1.66**	**119**	⇑*iPn*	**Pn**	**13 17 07.6**	**+2.5**
WTTA				⇑*iPg*	**Pg**	**13 17 08.6**	**-0.2**
WTTA				⇑*iSg*	**Sg**	**13 17 29.7**	**-0.6**
	7.7nm,0.2s						
WTTA	**Wattenberg**	**1.66**	**119**	⇑*iPn*	**Pn**	**13 17 07.6**	**+2.5**
WTTA				⇓*iPg*	**Pg**	**13 17 09.6**	**+0.8**
WTTA				*i* Sg	**Sg**	**13 17 29.7**	**-0.6**
WTTA	**Wattenberg**	**1.66**	**119**	Pg	**Pg**	**13 17 09.6**	**+0.8**
WTTA				Sg	**Sg**	**13 17 29.7**	**-0.7**
	7.7nm,0.2s						
HINF	**Hinteralfeld**	**1.80**	**263**	*ePg*	**Pg**	**13 17 11.1**	**-0.4**
HINF				*eSn*	**Sn**	**13 17 28.7**	**-0.8**
HINF				*eSg*	**Sg**	**13 17 35.2**	**+0.2**
	33nm,0.3s						
HINF	**Hinteralfeld**	**1.80**	**263**	*ePn*	**Pn**	**13 17 06.7**	**-0.4**
HINF				*ePg*	**Pg**	**13 17 11.1**	**-0.4**
HINF				*eSn*	**Sn**	**13 17 28.7**	**-0.8**
HINF				*eSg*	**Sg**	**13 17 35.2**	**+0.2**
HINF	**Hinteralfeld**	**1.80**	**263**	*ePg*	**Pg**	**13 17 11.1**	**-0.4**
HINF				*eSn*	**Sn**	**13 17 28.7**	**-0.8**
HINF				*eSg*	**Sg**	**13 17 35.2**	**+0.2**
	16nm,0.3s						
GRF	**Grafenberg Arr**	**1.97**	**34**

MEIG	**Mezcala**	**1.19**	**0**	*i* P		Pg	13 20 32.9	-4.0
MEIG				*i* S		Sg	13 20 47.9	-4.4
PLIG	**Platanillo**	**1.66**	**4**	*i* P		Pn	13 20 41.0	-2.7
PLIG				*i* S		Sn	13 21 02.6	-2.9
UTMO	**Huajuapan**	**2.06**	**58**	*i* P		Pn	13 20 44.8	-4.4
UTMO				*i* S		Sn	13 21 11.7	-3.6
IIZ	**Mezontepec**	**2.48**	**8**	*e*P		Pn	13 20 52.0	-2.9
IIZ				*i* S		Sn	13 21 22.2	-3.4
PPM	**Popocatepetl**	**2.52**	**22**	*e*P		Pn	13 20 53.0	-2.5
PPM				*e*P			13 20 53.4	
PPM				*i* S		Sn	13 21 23.2	-3.4
PPM	**Popocatepetl**	**2.52**	**22**	*i* P		Pn	13 20 57.9	+2.4
PPM				*i* S		Sn	13 21 25.7	-0.8
TPIG	**Tehuac#an**	**2.74**	**52**	*i* P		Pn	13 20 54.9	-3.7
TPIG				*i* S		Sn	13 21 27.9	-4.2
VHO	**Vista Hermosa**	**2.79**	**82**	*i* P		Pn	13 20 57.6	-1.7
VHO				*i* S		Sn	13 21 30.8	-2.5
VHO	**Vista Hermosa**	**2.79**	**82**	*i* P		Pn	13 20 58.9	-0.5
VHO				*i* S		Sn	13 21 25.6	-7.8
OXX	**Oaxaca**	**2.80**	**82**	*e*P		Pn	13 20 56.5	-3.0
OXX				*e*S		Sn	13 21 26.5	-7.1

IDC 18 13:22:57.8±1.9, 2462S×6678W, h124km±25km, mb3.5/2, mb1 3.7/6, mb1mx3.5/17, mbtmp4.0/6, Error ellipse: s-maj=34.7km s-min=18.5km az=120.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.79**	**315**	P	Pn	13 23 43.0	+1.5
	14nm,0.3s,baz=140,slow=6.0,SNR=318						
LVC				S	Sn	13 24 12.9	-2.2
	21nm,0.3s,baz=1.9,slow=21,SNR=60						
CFAA	**Coronel Fontan**	**7.08**	**190**	P	Pn	13 24 37.7	-1.1
	0.1nm,0.3s,baz=32,slow=16,SNR=7.4						
CFAA				S	Sn	13 26 05.2	+7.5
	0.1nm,0.3s,baz=150,slow=20,SNR=3.0						
LPAZ	**La Paz**	**8.38**	**351**	P	Pn	13 24 55.4	-1.0
	1.1nm,0.3s,baz=169,slow=10,SNR=32						
LPAZ				S	Sn	13 26 23.4	-6.0
	0.1nm,0.3s,baz=333,slow=16,SNR=3.4						
SIV	**San Ignacio**	**10.12**	**33**	P	Pn	13 25 20.2	+0.5
	0.7nm,0.3s,baz=232,slow=9.4,SNR=12						
SIV				S	Sn	13 27 11.0	-0.3
	0.1nm,0.3s,baz=288,slow=19,SNR=3.7						
BDFB	**Brasilia**	**19.74**	**67**	P	P	13 27 19.5	+1.7
	1.0nm,0.3s,baz=245,slow=10,SNR=11						
VNDA	**Vanda**	**74.13**	**190**	P	P	13 34 20.5	0.0
	0.9nm,1.0s,baz=109,slow=7.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.61**	**69**	P	P	13 34 34.6	-0.1
	0.9nm,0.6s,baz=260,slow=5.6,SNR=4.7						

IDC 18 13:23:49.2±3.5, 988S×10756E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/17, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=136.5km s-min=22.1km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.34**	**117**	P	Pn	13 28 15.0	-2.0
	0.1nm,0.3s,baz=283,slow=18,SNR=4.5						
WRA	**Warramunga Arr**	**27.70**	**114**	P	P	13 29 38.7	-0.3
	0.4nm,0.3s,baz=283,slow=11,SNR=21						
ASAR	**Alice Springs**	**28.64**	**122**	P	P	13 29 49.4	+2.0
	0.6nm,0.7s,baz=301,slow=9.5,SNR=8.0						
SONM	**Songino Array**	**57.47**	**359**	P	P	13 33 40.1	+0.2
	0.7nm,0.6s,baz=178,slow=7.1,SNR=6.5						
MKAR	**Makanchi Array**	**60.77**	**340**	P	P	13 34 02.7	-0.1
	0.3nm,0.5s,baz=167,slow=7.7,SNR=4.7						

IDC 18 13:25:38.0±3.3, 877S×10769E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.7/4, MS3.1/1, Ms1 3.1/1, ms1mx2.5/27, Error ellipse: s-maj=142.0km s-min=24.2km az=51.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**14.44**	**322**	LR	LR	13 35 11.7	
	comp=Z,73nm,18.5s,baz=319,slow=40						
WRA	**Warramunga Arr**	**28.05**	**116**	P	P	13 31 29.8	-1.3
	0.3nm,0.5s,baz=288,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**29.12**	**124**	P	P	13 31 42.8	+2.2
	0.5nm,0.6s,baz=297,slow=8.7,SNR=5.1						
SONM	**Songino Array**	**56.37**	**359**	P	P	13 35 21.8	+0.8
	0.6nm,0.6s,baz=177,slow=8.1,SNR=4.0						
MKAR	**Makanchi Array**	**59.77**	**340**	P	P	13 35 44.4	-0.4
	0.8nm,0.5s,baz=139,slow=8.2,SNR=8.2						

*IDC **18** 13:30:37.4±0.6, 893S×10800E, h0km, mb4.3/9, mb1 4.5/10, mb1mx4.3/17, mbtmp4.3/10, ML4.0/1, MS3.9/6, Ms1 3.9/6, ms1mx3.4/25, Error ellipse: s-maj=27.6km s-min=15.8km az=64.0*

*BJI **18** 13:30:39.4, 890S×10800E, h32km, mB5.0, mb4.7, Ms4.8, Msz4.5*

*MOS **18** 13:30:40.7±0.9, 886S×10811E, h33km, mb5.0/12, Error ellipse: s-maj=20.6km s-min=10.0km az=108.8*

*NEIC **18** 13:30:42.5±3.4, 895S×10803E, h33km±24km, mb4.8/15, Error ellipse: s-maj=11.2km s-min=4.6km az=61.0*

*ISCJB **18** 13:30:43.3±2.2, 892S±007×10811E±01, h58km±19km, mb4.6/33, MS4.0/7, Error ellipse: s-maj=20.0km s-min=8.2km az=123.7*

ISC 18 13:30:43.8±2.1, 896S±007×10811E±01, h44km±19km, h39km±3.0km:pP-P, n66, σ0§75/62, mb4.6/33, MS4.0/7, 3C-4D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.29**	**45**	*i*P	**Pn**	**13 31 19.1**	**0.0**
BJII				*i* S	**Sn**	**13 31 58.1**	**+12**
MBWA	**Marble Bar**	**16.55**	**138**	Pn	**Pn**	**13 34 32.1**	**-0.5**
	12nm,0.9s						
KKM	**Kota Kinabalu**	**16.97**	**29**	*e*P	**Pn**	**13 34 37.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.34**	**120**	*i*P	**Pn**	**13 35 06.2**	**-0.6**
	9.2nm,0.6s						
FITZ				*e*		13 35 18.1	
FITZ	**Fitzroy Crossi**	**19.34**	**120**	P	**Pn**	**13 35 06.5**	**-0.3**
	0.3nm,0.3s,baz=294,slow=9.7,SNR=9.4						
KAKA	**Kakadu**	**24.23**	**101**	*e*P	**P**	**13 35 57.4**	**+1.1**
	11nm,0.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**25.32**	**162**	LR	LR	13 45 49.8	
	comp=Z,163nm,21.6s,MS3.5,baz=108,slow=36						
WRA	**Warramunga Arr**	**27.65**	**116**	P	**P**	**13 36 27.9**	**+0.6**
	3.8nm,0.7s,mb4.1,baz=287,slow=12,SNR=23						
WRA				PcP	PcP	13 39 45.2	+1.6
	1.0nm,0.7s,baz=303,slow=2.5,SNR=5.7						
WRAB	**Tennant Creek**	**27.65**	**116**	*e*P	**P**	**13 36 27.6**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
WRAB	**Tennant Creek**	**27.65**	**116**	*e*P	**P**	**13 36 27.6**	**+0.3**
	comp=Z,3.4nm,0.5s,mb4.2						
WB2	**Warramunga Arr**	**27.66**	**116**	*e*P	**P**	**13 36 27.2**	**-0.1**
ASAR	**Alice Springs**	**28.72**	**124**	P	**P**	**13 36 37.2**	**+0.4**
	comp=Z,4.1nm,1.0s,mb4.1,baz=303,slow=9.0,SNR=19						
ASAR				PcP	PcP	13 39 48.0	+1.8
	comp=Z,0.4nm,0.5s,baz=341,slow=1.3,SNR=4.3						
ASAR				LR	LR	13 49 17.0	
	comp=Z,150nm,19.0s,MS3.6,baz=332,slow=39						
ASAR	**Alice Springs**	**28.72**	**124**	P	**P**	**13 36 37.2**	**+0.4**
ASAR						13 39 48.1	
AS31	**Alice Springs**	**28.72**	**124**	*e*P	**P**	**13 36 37.3**	**+0.5**
NJ2	**Nanjing**	**42.06**	**14**	*e*P	**P**	**13 38 29.1**	**-2.0**
NJ2				AP	pP	13 38 39.0	-4.3
NJ2				XP	sP	13 38 43.1	-5.4
NJ2				PP	PP	13 40 10.1	+1.1
NJ2				S	**S**	**13 44 39.0**	**-8.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,160nm,4.7s						
NJ2				LR	LR		
	comp=N,2μm,17.0s,MS5.0						
NJ2				LR	LR		
	comp=E,710nm,18.7s,MS5.0						
NJ2				LR	LR		
	comp=Z,2μm,17.4s,MS5.0						
JIRN	**Jiri**	**42.11**	**330**	*e*P	**P**	**13 38 31.8**	**+0.3**
	comp=Z,28nm,0.8s,mb4.9						
GUN	**Gumba**	**42.47**	**330**	*e*P	**P**	**13 38 35.2**	**+0.8**
DMN	**Daman**	**42.61**	**329**	*e*P	**P**	**13 38 36.1**	**+0.6**
	comp=Z,47nm,1.0s,mb5.2						
KKN	**Kakani**	**42.67**	**330**	*e*P	**P**	**13 38 36.1**	**+0.1**
	comp=Z,45nm,1.0s,mb5.2						

KKN	**Kakani**	**42.67**	**330**	*e*P		**P**	**13 38 36.1**	**+0.1**
KKN				pmax	pmax			
	comp=Z,45nm,1.0s,mb5.2							
GKN	**Gorkha**	**43.17**	**329**	*e*P		**P**	**13 38 40.2**	**+0.1**
KOLN	**Koldanda**	**43.51**	**328**	*e*P		**P**	**13 38 43.3**	**+0.4**
	comp=Z,66nm,0.9s,mb5.4							
LZH	**Lanzhou**	**44.97**	**355**	*e*P		**P**	**13 38 56.5**	**+1.9**
LZH				AP	pP		13 39 08.3	+1.5
LZH				XP	sP		13 39 11.8	-0.2
LZH				AMB	AMB			
	comp=Z,31nm,1.5s,mb4.9							
GTA	**Gaotai**	**48.72**	**351**	*e*P		**P**	**13 39 25.3**	**+1.5**
GTA				AP	pP		13 39 37.9	+1.7
GTA				AMB	AMB			
	comp=Z,7.0nm,0.9s,mb4.7							
MJAR	**Matsushiro Arr**	**53.39**	**30**	P		**P**	**13 39 57.8**	**-1.1**
	comp=Z,3.9nm,0.9s,mb4.3,baz=211,slow=8.3,SNR=7.2							
MJAR				LR	LR		14 03 31.0	
	comp=Z,61nm,20.9s,MS3.6,baz=195,slow=37							
VLA	**Vladivostok**	**56.19**	**21**	*e*P		**P**	**13 40 12.2**	**-7.0**
VLA				pmax	pmax			
	comp=Z,26nm,1.7s,mb5.0							
SONM	**Songino Array**	**56.56**	**359**	P		**P**	**13 40 22.4**	**+0.6**
	comp=Z,3.2nm,0.6s,mb4.5,baz=174,slow=8.5,SNR=22							
SONM				LR	LR		14 07 11.3	
	comp=Z,151nm,18.9s,MS4.1,baz=179,slow=39							
ULN	**Ulaanbaatar**	**56.58**	**359**⇑	*e*P		**P**	**13 40 22.0**	**+0.1**
ULN	**Ulaanbaatar**	**56.58**	**359**	*e*P		**P**	**13 40 22.4**	**+0.5**
	comp=Z,5.7nm,0.6s,mb4.8							
ZAK	**Zakamensk**	**59.23**	**356**	*e*P		**P**	**13 40 40.8**	**+0.3**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.7s,mb3.9							
AAK	**Ala-Archa**	**59.79**	**332**	*e*P		**P**	**13 40 43.1**	**-1.3**
AAK				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.1							
MKAR	**Makanchi Array**	**60.07**	**340**	P		**P**	**13 40 46.3**	**0.0**
	comp=Z,11nm,0.9s,mb4.9,baz=147,slow=7.6,SNR=65							
MKAR	**Makanchi Array**	**60.07**	**340**⇑	*e*P		**P**	**13 40 46.2**	**-0.1**
KLR	**Kul'dur**	**61.55**	**17**	*e*P		**P**	**13 40 52.2**	**-4.2**
YSS	**Yuzh-Sakhalins**	**63.65**	**26**	*e*P		**P**	**13 41 10.8**	**+0.5**
YSS				*e*		pP	13 41 21.8	-1.3
YSS				pmax	pmax			
	comp=Z,20nm,1.0s,mb5.1							
YSS	**Yuzh-Sakhalins**	**63.65**	**26**	*e*P		**P**	**13 41 10.7**	**+0.4**
	comp=Z,7.3nm,0.8s,mb4.8							
KURK	**Kurchatov**	**64.68**	**340**⇑	*e*P		**P**	**13 41 16.3**	**-0.8**
KURK	**Kurchatov**	**64.68**	**340**	*e*P		**P**	**13 41 16.9**	**-0.2**
	comp=Z,13nm,1.0s,mb4.9							
ZAL	**Zalesovo**	**65.67**	**345**	P		**P**	**13 41 22.6**	**-0.9**
	comp=Z,3.9nm,1.0s,mb4.4,baz=335,slow=4.6,SNR=17							
MAW	**Mawson**	**65.82**	**197**	P		**P**	**13 41 24.0**	**-0.4**
	comp=Z,1.9nm,0.7s,mb4.2,baz=56,slow=5.0,SNR=6.6							
MAW	**Mawson**	**65.82**	**197**	*e*P		**P**	**13 41 24.0**	**-0.4**
MAW				pmax	pmax			
	comp=Z,13nm,1.1s							
MAW	**Mawson**	**65.82**	**197**	*e*P		**P**	**13 41 24.0**	**-0.4**
	comp=Z,13nm,1.1s,mb4.9							
BOD	**Bodaibo**	**66.72**	**3**	*e*P		**P**	**13 41 28.6**	**-1.6**
BOD				*e*		pP	13 41 36.9	-6.2
BOD				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.5							
BOD				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.4							
NVS	**Novosibirsk**	**66.89**	**345**	*i* P		**P**	**13 41 30.3**	**-1.0**
BRVK	**Borovoye**	**69.63**	**337**	*e*P		**P**	**13 41 47.8**	**-0.7**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.2							
BRVK	**Borovoye**	**69.63**	**337**	*e*P		**P**	**13 41 47.8**	**-0.6**
	comp=Z,3.5nm,0.9s,mb4.3							
CHKZ	**Chkalovo**	**69.98**	**337**	*e*P		**P**	**13 41 50.7**	**+0.1**
CHKZ				pmax	pmax			
	comp=Z,12nm,0.8s,mb4.9							
CHKZ	**Chkalovo**	**69.98**	**337**	*e*P		**P**	**13 41 50.6**	**0.0**
	comp=Z,12nm,0.8s,mb4.9							
ZRNK	**Zerenda**	**70.06**	**336**	*e*P		**P**	**13 41 50.9**	**-0.2**
ZRNK				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.7							
ZRNK	**Zerenda**	**70.06**	**336**	*e*P		**P**	**13 41 50.9**	**-0.2**
	comp=Z,8.3nm,0.8s,mb4.7							
YAK	**Yakutsk**	**72.74**	**10**	*e*P		**P**	**13 42 06.6**	**-0.7**
YAK				pmax	pmax			
	comp=Z,26nm,1.7s,mb4.9							
VNDA	**Vanda**	**73.87**	**169**	P		**P**	**13 42 13.2**	**-0.7**
	comp=Z,1.1nm,0.8s,mb3.8,baz=313,slow=4.7,SNR=8.0							
VNDA	**Vanda**	**73.87**	**169**	*e*P		**P**	**13 42 13.4**	**-0.5**
SVE	**Sverdlovsk**	**76.21**	**335**	*e*P		**P**	**13 42 27.8**	**+0.4**
ARU	**Arti**	**76.83**	**334**⇓	*i*P		**P**	**13 42 30.8**	**-0.1**
ARU				*e*		pP	13 42 43.2	-0.8
ARU				*e*			13 45 21.8	
ARU				*e*S		S	13 52 13.2	-1.9
ARU				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.4							
BOSA	**Boshof**	**79.49**	**243**	LR		LR	14 12 48.9	
	comp=Z,70nm,18.9s,MS4.0,baz=22,slow=32							
TIXI	**Tiksi**	**81.61**	**7**	*e*P		**P**	**13 42 57.9**	**+0.9**
TIXI				pmax	pmax			
	comp=Z,14nm,1.3s,mb4.7							
BRTR	**Keskin Array B**	**83.90**	**312**	P		**P**	**13 43 09.5**	**+0.6**
	comp=Z,0.8nm,0.8s,mb3.9,baz=141,slow=10,SNR=5.5							
OBN	**Obninsk**	**86.93**	**327**⇓	*e*P		**P**	**13 43 24.2**	**+0.2**
OBN				pmax	pmax			
	comp=Z,6.0nm,0.4s,mb5.2							
SNAA	**Sanae**	**87.98**	**197**	*e*P		pP	13 43 40.4	-2.0
SNAA	**Sanae**	**87.98**	**197**	*e*P		**P**	**13 43 28.9**	**-0.2**
SNAA				pmax	pmax			
	comp=Z,5.0nm,1.3s							
SNAA	**Sanae**	**87.98**	**197**	*e*P		**P**	**13 43 28.9**	**-0.2**
	comp=Z,5.0nm,1.3s,mb4.6							
VNA2	**Neumayer--Watz**	**89.63**	**197**	*e*P		**P**	**13 43 37.0**	**+0.2**
VNA2				*e*			13 43 42.6	
ARCES	**ARCESS Array B**	**95.72**	**339**	LR		LR	14 33 02.8	
	comp=Z,97nm,18.8s,MS4.3,baz=92,slow=39							
BDFB	**Brasilia**	**145.96**	**224**	PKPbc		PKPbc	13 50 19.6	+1.1
	comp=Z,4.5nm,0.8s,baz=207,slow=2.7,SNR=4.3							
SIV	**San Ignacio**	**152.98**	**204**	PKPbc		PKPbc	13 50 38.2	+2.0
	comp=Z,1.6nm,0.9s,baz=144,slow=3.4,SNR=3.7							

IDC 18 13:39:07.7±1.0, 5102N×3489W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/24, mbtmp4.0/6, ML2.6/1, Error ellipse: s-maj=37.0km s-min=23.3km az=3.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**19.54**	**294**	P	Pn	13 43 36.1	-1.9
	0.2nm,0.3s,baz=97,slow=9.4,SNR=6.0						
FRB	**Frobisher Bay**	**21.84**	**319**	P	P	13 44 04.7	+2.9
	6.4nm,0.5s,baz=118,slow=12,SNR=4.4						
YKA	**Yellowknife Ar**	**42.35**	**317**	P	P	13 47 03.3	-0.2
	2.1nm,0.6s,baz=62,slow=8.3,SNR=12						
BRTR	**Keskin Array B**	**47.79**	**76**	P	P	13 47 47.7	+0.9
	0.7nm,0.7s,baz=312,slow=6.0,SNR=3.9						
PDAR	**Pinedale Array**	**49.65**	**291**	P	P	13 48 01.4	+0.4
	1.2nm,0.5s,baz=47,slow=6.5,SNR=6.9						
MKAR	**Makanchi Array**	**68.58**	**41**	P	P	13 50 11.7	-0.6
	1.0nm,0.5s,baz=332,slow=5.5,SNR=14						
SONM	**Songino Array**	**76.06**	**26**	P	P	13 50 57.3	+0.2
	1.4nm,0.7s,baz=328,slow=6.0,SNR=9.8						
WRA	**Warramunga Arr**	**147.84**	**19**	PKPbc	PKPbc	13 58 53.4	-1.2
	0.5nm,0.7s,baz=343,slow=2.8,SNR=9.2						
ASAR	**Alice Springs**	**151.34**	**22**	PKPbc	PKPbc	13 59 02.0	-1.3
	0.6nm,0.6s,baz=355,slow=2.3,SNR=9.5						
ASAR				PKPab	PKPab	13 59 10.8	-0.6
	1.3nm,0.7s,baz=355,slow=3.0,SNR=11						
VNDA	**Vanda**	**152.66**	**188**	PKPbc	PKPbc	13 59 04.7	-1.6
	0.9nm,0.9s,baz=84,slow=8.0,SNR=4.0						
VNDA				PKPab	PKPab	13 59 14.9	-2.0
	0.4nm,0.7s,baz=313,slow=3.3,SNR=3.6						

*ISCJB **18** 13:41:41.8±0.7, 1878S±005×6911W±008, h118km±8km, mb4.0/14, Error ellipse: s-maj=12.4km s-min=7.6km az=134.6*

*IDC **18** 13:41:44.2±0.6, 1890S×6914W, h125km±5km, mb3.9/13, mb1 4.1/16, mb1mx4.0/21, mbtmp4.3/16, Error ellipse: s-maj=15.8km s-min=7.9km az=95.0*

*NEIC **18** 13:41:44.1±0.3, 1880S×6909W, mb4.2/2, Error ellipse: s-maj=9.8km s-min=7.2km az=66.0*

ISC 18 13:41:43.9±0.6, 1886S±005×6917W±008, h123km±7km, h126km±3.4km:pP-P, n40, σ1§06/36, mb4.0/14, 2C, Northern Chile

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

LPAZ	**La Paz**	**2.74**	**21**	P		**Pn**	**13 42 29.1**	**+2.3**
	32nm,0.3s,baz=219,slow=7.0,SNR=492								
LPAZ				S		**Sn**	**13 43 03.4**	**+3.4**
	7.0nm,0.3s,baz=21,slow=14,SNR=7.3								
LPAZ	**La Paz**	**2.74**	**21**⇑	*i*P		**Pn**	**13 42 29.1**	**+2.2**
LPAZ				S		**Sn**	**13 43 03.4**	**+3.4**
LPAZ				*e*Sn		**Sn**	**13 43 04.2**	**+4.2**
ARE	**Arequipa**	**3.25**	**317**⇑	*i*P		**Pn**	**13 42 32.2**	**-1.3**
ARE				*i* S		**Sn**	**13 43 08.2**	**-3.7**
LVC	**Limon Verde**	**3.75**	**176**	P		**Pn**	**13 42 41.1**	**+1.0**
	5.3nm,0.3s,baz=343,slow=8.7,SNR=74								
LVC				S		**Sn**	**13 43 23.2**	**-0.4**
	24nm,0.3s,baz=138,slow=21,SNR=11								
LVC	**Limon Verde**	**3.75**	**176**	*e*Pn		**Pn**	**13 42 41.3**	**+1.2**
LVC				S		**Sn**	**13 43 23.2**	**-0.4**
SIV	**San Ignacio**	**8.24**	**71**	P		**Pn**	**13 43 39.2**	**-1.4**
	19nm,0.3s,baz=261,slow=11,SNR=244								
NNA	**Nana**	**10.06**	**312**	*e*Pn		**Pn**	**13 44 05.6**	**+0.5**
SAML	**Samuel**	**11.43**	**31**	*e*Pn		**Pn**	**13 44 20.1**	**-3.2**
CPUP	**Villa Florida**	**13.22**	**126**	P		**Pn**	**13 44 46.1**	**-0.6**
	0.3nm,0.3s,baz=293,slow=16,SNR=7.7								
TRQA	**Tornquist**	**20.14**	**163**	*e*P		**P**	**13 46 08.1**	**-0.1**
	9.9nm,0.9s								
BDFB	**Brasilia**	**20.46**	**84**	P		**P**	**13 46 12.3**	**+0.7**
	16nm,0.4s,baz=266,slow=7.7,SNR=22								
BDFB	**Brasilia**	**20.46**	**84**	*e*P		**P**	**13 46 11.4**	**-0.2**
PLCA	**Paso Flores**	**21.84**	**183**	P		**P**	**13 46 26.4**	**+0.1**
	6.4nm,1.0s,mb3.9,baz=359,slow=12,SNR=5.4								
PLCA	**Paso Flores**	**21.84**	**183**	P		**P**	**13 46 26.4**	**+0.1**
SDV	**Santo Domingo**	**27.60**	**357**	P		**P**	**13 47 18.0**	**-1.5**
	2.6nm,0.4s,mb4.1,baz=218,slow=6.5,SNR=5.1								
TEIG	**Tepich**	**43.12**	**333**	*e*P		**P**	**13 49 32.1**	**+0.3**
	4.2nm,0.8s,mb4.2								
CMIG	**Matias Romero**	**43.76**	**323**	P		**P**	**13 49 38.5**	**+1.4**
	0.9nm,0.4s,mb3.8,baz=116,slow=8.8,SNR=3.6								
SADO	**Sadowa**	**63.97**	**352**	P		**P**	**13 52 02.7**	**-1.2**
	2.8nm,0.5s,mb4.3,baz=170,slow=5.0,SNR=2.8								
SADO	**Sadowa**	**63.97**	**352**	P		**P**	**13 52 02.7**	**-1.2**
DBIC	**Dimbokro**	**68.25**	**75**	P		**P**	**13 52 31.9**	**+0.6**
	4.5nm,0.6s,mb4.5,baz=219,slow=8.7,SNR=8.8								
PDAR	**Pinedale Array**	**71.71**	**330**	P		**P**	**13 52 52.9**	**+0.5**
	0.6nm,0.5s,mb3.7,baz=129,slow=8.6,SNR=5.9								
ULM	**Lac du Bonnet**	**72.73**	**342**	P		**P**	**13 52 57.8**	**-0.7**
	3.4nm,0.6s,mb4.3,baz=160,slow=5.7,SNR=7.5								
NVAR	**Mina Array Bea**	**73.27**	**322**	P		**P**	**13 53 03.0**	**+1.3**
	1.2nm,0.9s,mb3.7,baz=140,slow=7.4,SNR=7.2								
NVAR	**Mina Array Bea**	**73.27**	**322**	P		**P**	**13 53 03.0**	**+1.3**
SCHQ	**Schefferville**	**73.42**	**1**	P		**P**	**13 53 01.9**	**-0.6**
	2.3nm,0.6s,mb4.2,baz=205,slow=4.7,SNR=6.4								
TORD	**Torodi Ar. Bea**	**76.72**	**71**	P		**P**	**13 53 21.4**	**0.0**
	1.5nm,0.4s,mb4.1,baz=251,slow=5.0,SNR=21								
TORD				pP		pP	13 53 54.0	+1.7
	1.5nm,0.7s,baz=248,slow=5.7,SNR=3.1								
VNDA	**Vanda**	**79.40**	**190**	P		**P**	**13 53 35.9**	**-0.4**
	0.6nm,0.9s,mb3.4,baz=62,slow=3.1,SNR=4.2								
ESDC	**Sonseca Array**	**84.13**	**45**	P		**P**	**13 54 01.9**	**+0.8**
	0.2nm,0.3s,mb3.5,baz=249,slow=4.7,SNR=4.5								
ESDC				pP		pP	13 54 34.1	+1.6
	0.2nm,0.2s,baz=255,slow=5.2,SNR=2.0								
YKA	**Yellowknife Ar**	**88.62**	**341**	P		**P**	**13 54 22.9**	**0.0**
	3.8nm,0.6s,mb4.6,baz=135,slow=4.7,SNR=26								
YKA				pP		pP	13 54 53.9	-0.8
	1.8nm,0.8s,baz=135,slow=4.6,SNR=3.8								
YKA	**Yellowknife Ar**	**88.62**	**341**	P		**P**	**13 54 22.9**	**0.0**
YKA				pP		pP	13 54 53.9	-0.8
AKTK	**Aktyubinsk**	**127.81**	**40**	PKP		PKPdf	14 00 36.2	+1.4
AKTO	**Aktyubinsk**	**127.81**	**40**	PKP		PKPdf	14 00 36.2	+1.4
	0.8nm,0.5s,baz=225,slow=14,SNR=5.1								
ASAR	**Alice Springs**	**132.11**	**209**	PKP		PKPdf	14 00 44.5	+1.5
	0.6nm,0.5s,baz=127,slow=1.7,SNR=9.6								
ASAR				pPKP		pPKPdf	14 01 16.6	+0.5
	0.3nm,0.8s,baz=122,slow=2.2,SNR=1.6								
WRA	**Warramunga Arr**	**135.07**	**212**	PKP		PKPdf

ellipse: s-maj=86.4km s-min=25.8km az=122.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**21.10**	**228**	*eP*	P	14 27 16.6	+0.5
	9.2nm,0.7s						
WB2	**Warramunga Arr**	**21.11**	**228**	*eP*	P	14 27 16.7	+0.4
WRA	**Warramunga Arr**	**21.12**	**228**	P	P	14 27 16.2	-0.1
	3.2nm,0.6s,baz=52,slow=10.0,SNR=29						
AS31	**Alice Springs**	**23.89**	**221**	*eP*	P	14 27 45.5	+0.4
ASAR	**Alice Springs**	**23.89**	**221**	P	P	14 27 45.5	+0.4
	1.9nm,0.7s,baz=58,slow=8.3,SNR=30						
FITZ	**Fitzroy Crossi**	**27.29**	**242**	P	P	14 28 16.3	+0.4
	1.5nm,0.6s,baz=180,slow=20,SNR=5.9						
URZ	**Urewera**	**40.02**	**147**	LR	LR	14 43 34.4	
	comp=Z,574nm,18.1s,baz=239,slow=31						
TORD	**Torodi Ar. Bea**	**148.70**	**285**	PKPbc	PKPbc	14 42 19.8	+1.5
	0.7nm,0.8s,baz=99,slow=2.6,SNR=6.0						

GRAL ***18*** *14:47:15.9±1.0,3309N×3509E,h0km±999km, MD2.8*
GII ***18*** *14:47:17.8±0.4,3334N×3527E,h0km±2km, ML2.1/3*
ISCJB ***18*** *14:47:18.6±0.9,3333N±003×35.18E±006,h10km,Error ellipse: s-maj=7.7km s-min=3.8km az=42.6*

ISC 18 14:47:18.8±1.2,3334N±004×3519E±007,h14km±15km, n13,σ0999/21,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATL	**Matirih**	**0.19**	**38**	*eP*g	**Pg**	**14 47 23.3**	**+0.2**
HNTI	**Hanita**	**0.26**	**183**	Pg	**Pg**	**14 47 24.2**	**-0.1**
HNTI				Sg	**Sg**	**14 47 28.9**	**+0.8**
MMC7	**Mount Meron ar**	**0.36**	**152**	Pg	**Pg**	**14 47 25.0**	**-1.1**
MMC7				Sg	**Sg**	**14 47 31.6**	**+0.5**
MMB4	**Mount Meron ar**	**0.37**	**151**	Pg	**Pg**	**14 47 25.1**	**-1.1**
MMA4	**Mount Meron ar**	**0.37**	**152**	Pg	**Pg**	**14 47 25.2**	**-1.1**
MMA0	**Mount Meron ar**	**0.37**	**151**	Pg	**Pg**	**14 47 25.2**	**-1.1**
MMA0				Sg	**Sg**	**14 47 31.2**	**-0.1**
MMC5	**Mount Meron ar**	**0.38**	**151**	Pg	**Pg**	**14 47 25.3**	**-1.2**
KSDI	**Kefar Szold**	**0.42**	**111**	Pg	**Pg**	**14 47 26.1**	**-1.1**
KSDI				Sg	**Sg**	**14 47 32.7**	**-0.2**
RCY	**Rachaya**	**0.55**	**75**	*eP*g	**Pg**	**14 47 29.0**	**-0.5**
RCY				*eS*g	**Sg**	**14 47 38.6**	**+1.9**
OFRI	**'Ofer**	**0.74**	**194**	Pg	**Pg**	**14 47 32.4**	**-0.8**
MMLI	**Mount Malkishu**	**0.92**	**168**	Pg	**Pg**	**14 47 36.9**	**+0.3**
MMLI				Sg	**Sg**	**14 47 50.5**	**+1.8**
SLTI	**Sal'it**	**1.10**	**187**	Pg	**Pg**	**14 47 40.6**	**+0.5**
SLTI				Sg	**Sg**	**14 47 56.1**	**+1.5**
HWQ	**Hawqa**	**1.13**	**34**	*eP*g	**Pg**	**14 47 41.4**	**+0.9**
HWQ				*eS*g	**Sg**	**14 47 59.2**	**+4.1**

IDC ***18*** *14:54:54.8±0.4,901S×10773E,h0km,mb5.0/25, mb1 5.0/26,mb1mx5.0/27,mbtmp5.0/26,MS4.2/15, Ms1 4.2/15,ms1mx3.9/30,Error ellipse: s-maj=15.9km s-min=11.0km az=54.0*
ISCJB ***18*** *14:54:55.6±0.2,907S±003×10771E±003,h18km, mb5.3/112,MS4.5/42,Error ellipse: s-maj=5.1km s-min=3.9km az=95.4*
BJI ***18*** *14:54:55.5,900S×10770E,h11km,mB5.1,mb5.3,Ms4.9, Msz4.8*
HRVD ***18*** *14:54:56.6±0.3,935S×10770E,h17km,MW5.0/67, Centroid moment Tensor Solution. LP body waves: s40,c54;Mantle waves: s67,c105; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-3.62±.15; Mθθ3.19±.10; Mϕϕ0.43±.12; Mrθ-0.81±.25; Mθϕ-0.85±.07; Mϕr1.24±.32; Best double couple: M○3.81300×10^16^ NP1:ϕs274.00000°,δ37.00000°,λ-111.00000°. NP2: ϕs119.00000°,δ55.00000°,λ-75.00000°. Principal axes: T 3.6130, Plg9.0000°, Azm198.0000°; N 0.3990, Plg12.0000°, Azm291.0000°; P -4.0120, Plg75.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***18*** *14:54:56.6±2.9,901S×10774E,h12km±17km,mb5.4/43, MS4.5/4 Error ellipse: s-maj=6.6km s-min=4.1km az=50.0*
MOS ***18*** *14:54:58.9±1.2,880S×10783E,h33km,mb5.5/42, MS4.2/9,Error ellipse: s-maj=10.4km s-min=5.9km az=117.0*

ISC 18 14:54:57.7±0.2,908S±003×10771E±003,h19km, h19km±2.1km:pP-P,n422,σ1.905/299,mb5.3/112,MS4.5/42, 57C-53D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.25**	**358**	P	**Pn**	**14 55 36.0**	**+2.1**
	5μm,0.8s						
BJII	**Banjamegara**	**2.63**	**49**	P	**Pn**	**14 55 39.1**	**-0.1**
	705nm,1.3s						
BJII	**Banjamegara**	**2.63**	**49**	⇓*i*P	**Pn**	**14 55 41.6**	**+2.4**
BJII				*i* S	**Sn**	**14 56 03.0**	**-7.6**
JCJI	**Jatiwangi**	**2.64**	**12**	P	**Pn**	**14 55 38.6**	**-0.6**
	4μm,0.9s						
CBJI	**Citeko**	**2.78**	**342**	P	**Pn**	**14 55 39.2**	**-2.0**
	8μm,0.8s						
TNG	**Tangerang**	**3.08**	**340**	P	**Pn**	**14 55 47.6**	**+2.2**
	2μm,0.9s						
SBJI	**Serang**	**3.34**	**332**	P	**Pn**	**14 55 49.6**	**+0.7**
	1μm,0.9s						
KLI	**Kotabumi**	**5.06**	**326**	P	**Pn**	**14 56 14.2**	**+1.6**
	385nm,0.9s						
KMMI	**Kalianget**	**6.51**	**72**	P	**Pn**	**14 56 37.9**	**+5.4**
	134nm,0.9s						
NBBI	**Negara**	**6.87**	**85**	P	**Pn**	**14 56 40.7**	**+3.3**
	1μm,0.9s						
KSI	**Kapahiang**	**7.42**	**316**	P	**Pn**	**14 56 44.7**	**-0.2**
	391nm,1.0s						
DNP	**Denpasar**	**7.42**	**87**	P	**Pn**	**14 56 46.9**	**+1.9**
	823nm,0.7s						
KSM	**Kuching**	**10.80**	**14**	*eP*	**Pn**	**14 57 34.0**	**+2.7**
PPI	**Padang Panjang**	**11.25**	**319**	P	**Pn**	**14 57 36.4**	**-1.0**
	52nm,1.2s						
KGM	**Kluang**	**11.86**	**338**	P	**Pn**	**14 57 38.7**	**-7.2**
PCI	**Palu**	**14.55**	**57**	P	**Pn**	**14 58 24.6**	**+2.1**
	180nm,1.8s						
PSI	**Prapat**	**14.70**	**323**	Pn	**Pn**	**14 58 17.9**	**-6.7**
	0.5nm,0.3s,baz=163,slow=12,SNR=10						
PSI	**Prapat**	**14.70**	**323**	P	**Pn**	**14 58 17.9**	**-6.7**
PSI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PSI	**Prapat**	**14.70**	**323**	Pn	**Pn**	**14 58 17.9**	**-6.7**
IPM	**Ipoh**	**15.03**	**333**	P	**Pn**	**14 58 24.0**	**-5.1**
KULM	**Kulim**	**15.92**	**333**	*eP*	**Pn**	**14 58 37.0**	**-3.6**
MBWA	**Marble Bar**	**16.68**	**137**	*eP*	**Pn**	**14 58 46.4**	**-4.0**
	comp=Z,44nm,1.0s						
TSM	**Tawau**	**16.71**	**38**	P	**Pn**	**14 58 51.9**	**+1.2**
KKM	**Kota Kinabalu**	**17.25**	**30**	P	**Pn**	**14 58 58.7**	**+1.1**
KKM	**Kota Kinabalu**	**17.25**	**30**	*eP*	**Pn**	**14 58 58.0**	**+0.4**
BSI	**Banda Aceh**	**19.05**	**319**	P	**Pn**	**14 59 21.0**	**+1.4**
	comp=Z,635nm,1.0s						
FITZ	**Fitzroy Crossi**	**19.58**	**119**	⇓*i*P	**Pn**	**14 59 25.6**	**-0.3**
	comp=Z,73nm,0.8s						
FITZ				*e*S	Sn	15 02 44.8	-20
FITZ	**Fitzroy Crossi**	**19.58**	**119**	P	**Pn**	**14 59 25.7**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=302,slow=9.4,SNR=48						
FITZ				S	**Sn**	**15 02 49.6**	**-16**
	comp=Z,1.2nm,0.3s,baz=142,slow=13,SNR=7.3						
AAI	**Ambon**	**21.04**	**77**	P	**P**	**14 59 39.8**	**-0.7**
	comp=Z,401nm,1.0s,mb5.7						
DAV	**Davao City (W)**	**23.97**	**49**	⇓P	**P**	**15 00 13.3**	**+2.4**
	SNR=5.4						
DAV	**Davao City (W)**	**23.97**	**49**	*eP*	**P**	**15 00 12.1**	**+1.2**
	comp=Z,94nm,0.3s,mb5.7						
BUKP	**Musuan**	**24.14**	**46**	*eP*	**P**	**15 00 13.1**	**+0.6**
KLBR	**Kellerberrin**	**24.26**	**159**	*eP*	**P**	**15 00 13.1**	**-0.5**
	comp=Z,36nm,1.1s,mb4.7						
KAKA	**Kakadu**	**24.54**	**101**	*eP*	**P**	**15 00 16.1**	**0.0**
	comp=Z,78nm,0.8s,mb5.3						
NWAO	**Narrogin (SRO)**	**25.31**	**161**	P	**P**	**15 00 22.4**	**-0.6**
	comp=Z,8.5nm,0.6s,mb4.4,baz=320,slow=10.0,SNR=11						
NWAO				PcP	PcP	15 03 56.1	+0.4
	comp=Z,4.8nm,0.7s,baz=327,slow=1.4,SNR=3.6						
NWAO				S	**S**	**15 04 59.8**	**+12**
	comp=Z,2.6nm,0.5s,baz=270,slow=20,SNR=3.0						
NWAO				LR	LR	15 10 22.9	
	comp=Z,414nm,19.9s,MS4.0,baz=331,slow=37						
NWAO	**Narrogin (SRO)**	**25.31**	**161**	P	**P**	**15 00 22.5**	**-0.6**
NWAO						15 03 56.1	
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NWAO				MLR	MLR		
	comp=Z,414nm,19.9s						
PBA	**Port Blair**	**25.42**	**324**	*ex*	x	15 01 24.7	
PBA				*ex*	x	15 01 42.2	
KKTK	**Khon Kaen**	**25.72**	**349**	P	**P**	**15 00 27.5**	**+0.7**
NST	**Nakhon Sawan**	**25.72**	**343**	P	**P**	**15 00 28.0**	**+1.2**
WRA	**Warramunga Arr**	**27.90**	**116**	P	**P**	**15 00 46.3**	**-0.1**
	comp=Z,9.6nm,0.7s,mb4.5,baz=284,slow=11,SNR=50						
WRA				PcP	PcP	15 04 02.9	+1.1
	comp=Z,7.2nm,0.7s,baz=295,slow=2.1,SNR=14						
WRA				Sn	S	15 06 07.0	+38
	comp=Z,1.3nm,0.8s,baz=292,slow=22,SNR=3.7						
WRA	**Warramunga Arr**	**27.90**	**116**	P	**P**	**15 00 46.3**	**-0.2**
WRA						15 04 02.9	
WRA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WRAB	**Tennant Creek**	**27.91**	**116**	P	**P**	**15 00 46.6**	**+0.1**
	comp=Z,107nm,0.7s,mb5.6,SNR=9.4						
WRAB	**Tennant Creek**	**27.91**	**116**	*eP*	**P**	**15 00 46.5**	**0.0**
WRAB	**Tennant Creek**	**27.91**	**116**	*eP*	**P**	**15 00 46.8**	**+0.2**
	comp=Z,40nm,1.1s,mb5.0						
WRAB				LR	LR		
	comp=Z,581nm,20.0s,MS4.2						
WB2	**Warramunga Arr**	**27.91**	**116**	⇓*i*P	**P**	**15 00 46.3**	**-0.3**
WB2				*e*PcP	PcP	15 04 03.0	+1.2
QIZ	**Qiongzhong**	**28.01**	**4**	*eP*	**P**	**15 00 48.0**	**+0.5**
QIZ				S	**S**	**15 05 30.8**	**-0.1**
QIZ				XS	sS	15 05 38.3	-2.1
QIZ				SS		15 06 49.0	
QIZ				LR	LR		
	comp=E,890nm,16.7s						
QIZ				LR	LR		
	comp=Z,1μm,15.6s,MS4.7						
NANT	**Nan**	**28.56**	**346**	⇑P	**P**	**15 00 49.0**	**-3.3**
	comp=Z,94nm,1.0s,mb5.5						
ASPA	**Alice Springs**	**28.93**	**123**	*eP*	**P**	**15 00 55.4**	**-0.3**
AS31	**Alice Springs**	**28.94**	**123**	*eP*	**P**	**15 00 55.4**	**-0.3**
ASAR	**Alice Springs**	**28.94**	**123**	P	**P**	**15 00 55.5**	**-0.1**
	comp=Z,9.6nm,0.9s,mb4.5,baz=299,slow=7.7,SNR=72						
ASAR				PcP	PcP	15 04 05.4	+1.0
	comp=Z,8.2nm,0.8s,baz=306,slow=2.3,SNR=16						
ASAR				Sn	S	15 06 32.6	+47
	comp=Z,2.4nm,0.8s,baz=288,slow=24,SNR=5.4						
ASAR				LR	LR	15 13 34.2	
	comp=Z,288nm,18.2s,MS3.9,baz=37,slow=39						
ASAR	**Alice Springs**	**28.94**	**123**	P	**P**	**15 00 55.6**	**-0.1**
ASAR						15 04 05.4	
ASAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ASAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ASAR				MLR	MLR		
	comp=Z,288nm,18.3s						
CHG	**Chiang Mai**	**29.04**	**343**	⇑P	pP	15 01 08.1	+5.7
	comp=Z,13nm,0.9s						
CHTO	**Chiang Mai**	**29.04**	**343**	*eP*	**P**	**15 00 56.6**	**0.0**
CHTO				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.8						
CHTO	**Chiang Mai**	**29.04**	**343**	*eP*	**P**	**15 00 56.6**	**+0.1**
	comp=Z,22nm,1.3s,mb4.7						
PALK	**Pallekele**	**31.44**	**300**	⇑P	**P**	**15 01 20.9**	**+3.1**
	SNR=6.8						
GZH	**Guangzhou**	**32.44**	**10**	P	**P**	**15 01 32.0**	**+5.4**
GZH				LR	LR		
	comp=N,592nm,18.7s,MS4.5						
GZH				LR	LR		
	comp=E,596nm,14.3s,MS4.5						
GZH				LR	LR		
	comp=Z,903nm,16.8s,MS4.5						
JAY	**Jayapura**	**33.45**	**81**	P	**P**	**15 01 32.9**	**-2.5**
	comp=Z,15nm,0.9s,mb4.9						
KMI	**Kunming**	**34.34**	**352**	P	**P**	**15 01 45.3**	**+2.1**
KMI				AP	pP	15 01 48.1	-0.9
KMI				XP	sP	15 01 49.3	-2.1
KMI				PP	PP	15 03 02.3	+1.2
KMI				PPP		15 03 20.3	
KMI				PCP	PcP	15 04 19.1	+0.2
KMI				S	**S**	**15 07 14.6**	**+4.8**
KMI				XS	sS	15 07 19.4	0.0
KMI				SCP	ScP	15 08 03.3	+0.3
KMI				SCS	ScS	15 12 05.3	-0.2
KMI				AMB	AMB		
	comp=Z,24nm,1.1s,mb5.0						
KMI				AMB	AMB		
	comp=Z,126nm,4.7s						
KMI				LR	LR		
	comp=N,2μm,15.2s,MS5.0						
KMI				LR	LR		
	comp=E,1μm,15.8s,MS5.0						
KMI				LR	LR		
	comp=Z,2μm,15.2s,MS5.0						
MDRS	**Chennai**	**35.05**	**309**	*eP*	**P**	**15 01 48.2**	**-1.1**
TRD	**Trivandrum**	**35.27**	**299**	*eP*	**P**	**15 01 51.7**	**+0.5**
TRD				AMb	AMB	15 01 54.9	
	comp=Z,56nm,1.0s,mb5.4						
GYA	**Guiyang**	**35.34**	**358**	⇑*i*P	**P**	**15 01 52.3**	**+0.5**
GYA				AP	pP	15 01 56.8	-0.9
GYA				XP	sP	15 01 58.4	-1.7
GYA				PP	PP	15 03 11.3	-0.8
GYA				PCP	PcP	15 04 23.3	+1.5
GYA				S	**S**	**15 07 24.6**	**-0.6**
GYA				SCP	ScP	15 08 07.3	+0.7
GYA				SS	SS	15 09 40.5	-19
GYA				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.5						
GYA				AMB	AMB		
	comp=Z,230nm,5.7s						
GYA				LR	LR		
	comp=N,730nm,13.8s,MS4.7						
GYA				LR	LR		
	comp=E,600nm,16.7s,MS4.7						
GYA				LR	LR		
	comp=Z,940nm,14.1s,MS4.7						
QZH	**Quanzhou**	**35.45**	**17**	*eP*	**P**	**15 01 56.4**	**+3.7**
QZH				S	**S**	**15 07 32.0**	**+5.3**
QZH				LR	LR		
	comp=N,1μm,17.1s						
QZH				LR	LR		
	comp=E,690nm,11.0s						
QZH				LR	LR		
	comp=Z,870nm,18.2s,MS4.5						
VIS	**Vishakhapatnam**	**35.91**	**318**	*eP*	**P**	**15 01 57.1**	**+0.4**
VIS				AMb	AMB	15 02 00.6	
	comp=Z,52nm,0.7s,mb5.6						
SHL	**Shillong**	**37.73**	**336**	*eP*	**P**	**15 02 12.5**	**+0.3**
ADE	**Adelaide**	**38.30**	**137**	*eP*	**P**	**15 02 18.6**	**+1.6**
CTA	**Charters Tower**	**38.78**	**111**	*eP*	**P**	**15 02 22.5**	**+1.5**
	comp=Z,20nm,1.2s,mb4.7						
CTA				*e*PCP	PcP	15 04 33.7	+1.4
CTA	**Charters Tower**	**38.78**	**111**	*eP*	**P**	**15 02 22.5**	**+1.5**
CTA				*e*		15 04 33.7	
CTA				pmax	pmax		
	comp=Z,20nm,1.2s						
PMG	**Port Moresby**	**38.92**	**94**	⇑*e*P	**P**	**15 02 23.5**	**+1.3**
PMG	**Port Moresby**	**38.92**	**94**	*eP*	**P**	**15 02 23.7**	**+1.5**
	comp=Z,23nm,0.9s,mb4.9						
BOK	**Bokaro**	**39.02**	**327**	*eP*	**P**	**15 02 23.5**	**+0.4**
HYB	**Hyderabad**	**39.04**	**312**	⇑*i*P	**P**	**15 02 24.0**	**+0.8**
HYB	**Hyderabad**	**39.04**	**312**	*eP*	**P**	**15 02 24.0**	**+0.8**
WHN	**Wuhan**	**39.91**	**9**	P	**P**	**15 02 31.5**	**+1.0**
CD2	**Chengdu**	**39.95**	**355**	P	**P**	**15 02 30.5**	**-0.3**
CD2				AP	pP	15 02 35.0	-1.7
CD2				XP	sP	15 02 37.8	-1.2
CD2				PP	PP	15 04 07.1	+4.5
CD2				S	**S**	**15 08 36.8**	**+1.8**
CD2				XS	sS	15 08 44.1	-0.6
CD2				SS	SS	15 11 28.6	-3.3
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,50nm,9.6s						
CD2				LR	LR		
	comp=N,480nm,15.6s						
CD2				LR	LR		
	comp=Z,480nm,14.4s,MS4.5						
JOW	**Kunigami**	**40.90**	**29**	P	**P**	**15 02 38.6**	**-0.1**
	comp=Z,81nm,0.9s,mb5.3,baz=223,slow=7.4,SNR=14						
JOW				LR	LR	15 22 32.5	
	comp=Z,408nm,18.2s,MS4.3,baz=263,slow=41						
NGP	**Nagpur**	**41.18**	**317**	*eP*	**P**	**15 02 40.8**	**-0.1**
NGP				AMb	AMB	15 02 42.7	
	comp=Z,82nm,0.8s,mb5.4						
SSE	**Sheshan**	**41.99**	**17**	P	**P**	**15 02 48.5**	**+0.9**
SSE				XP	sP	15 02 52.9	-3.0
SSE				PP	PP	15 04 26.8	+2.0
SSE				S	**S**	**15 09 11.8**	**+6.4**
SSE				XS	sS	15 09 16.9	+1.8
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,79nm,3.4s						
SSE				LR	LR		
	comp=N,127nm,18.6s,MS3.9						
SSE				LR	LR		
	comp=E,93nm,18.4s,MS3.9						
SSE				LR	LR		
	comp=Z,158nm,18.6s,MS3.9						
JIRN	**Jiri**	**42.05**	**331**	*eP*	**P**	**15 02 48.8**	**+0.7**
	comp=Z,450nm,0.8s,mb6.2						
KAD	**Karad**	**42.26**	**308**	*eP*	**P**	**15 02 50.8**	**+1.0**
KAD				AMb	AMB	15 02 52.1	
	comp=Z,59nm,1.1s,mb5.1						
NJ2	**Nanjing**	**42.27**	**14**	*eP*	**P**	**15 02 50.3**	**+0.4**
NJ2				PP	PP	15 04 30.0	+2.2
NJ2				S	**S**	**15 09 02.0**	**-7.5**
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,160nm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,14.1s,MS4.9						
NJ2				LR	LR		
	comp=E,760nm,19.0s,MS4.9						
NJ2				LR	LR		
	comp=Z,2μm,18.0s,MS5.0						
PKI	**Pulchoki**	**42.36**	**330**	*eP*	**P**	**15 02 50.6**	**0.0**
	comp=Z,202nm,0.9s,mb5.8						
PKI	**Pulchoki**	**42.36**	**330**	*eP*	**P**	**15 02 50.6**	**0.0**
PKI				pmax	pmax		
	comp=Z,202nm,0.9s,mb5.8						
GUN	**Gumba**	**42.41**	**331**	*eP*	**P**	**15 02 51.8**	**+0.7**
	comp=Z,466nm,0.8s,mb6.2						
DMN	**Daman**	**42.54**	**330**	*eP*	**P**	**15 02 52.6**	**+0.5**
	comp=Z,510nm,0.9s,mb6.3						
KKN	**Kakani**	**42.60**	**330**	*eP*	**P**	**15 02 52.9**	**+0.3**
	comp=Z,398nm,0.9s,mb6.2						
KKN	**Kakani**	**42.60**	**330**	*eP*	**P**	**15 02 52.9**	**+0.3**
KKN				pmax	pmax		
	comp=Z,398nm,0.9s,mb6.2						
XAN	**Xi'an**	**42.90**	**1**	P	**P**	**15 02 54.3**	**-0.7**
XAN				AP	pP	15 03 02.8	+1.9
XAN				S	**S**	**15 09 17.0**	**-1.8**
XAN				AMB	AMB		
	comp=Z,99nm,0.8s,mb5.6						
XAN				LR	LR		
	comp=N,651nm,16.9s,MS4.8						
XAN				LR	LR		
	comp=E,813nm,15.8s,MS4.8						
XAN				LR	LR		
	comp=Z,1μm,17.2s,MS4.9						
GKN	**Gorkha**	**43.10**	**330**	*eP*	**P**	**15 02 56.9**	**+0.3**
POO	**Poona**	**43.23**	**309**	⇓*i*P	**P**	**15 02 56.0**	**-1.7**
	comp=Z,120nm,1.0s,mb5.6						
POO				*ex*	x	15 03 43.4	
KOLN	**Koldanda**	**43.44**	**328**	*eP*	**P**	**15 02 59.3**	**-0.1**
	comp=Z,606nm,0.8s,mb6.4						
BHPL	**Bhopal**	**43.71**	**318**	*eP*	**P**	**15 03 01.6**	**+0.1**
BHPL				AMb	AMB	15 03 02.7	
	comp=Z,66nm,0.8s,mb5.4						
LZH	**Lanzhou**	**45.08**	**356**	*eP*	**P**	**15 03 13.8**	**+1.3**
LZH				AP	pP	15 03 16.8	-1.6
LZH				XP	sP	15 03 18.9	-1.9
LZH				PP	PP	15 05 02.0	+4.1
LZH				*e*S	**S**	**15 09 43.0**	**-7.5**
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,89nm,4.2s						
LZH				LR	LR		
	comp=N,784nm,14.3s						
LZH				LR	LR		
	comp=Z,852nm,16.4s,MS4.8						
TIA	**Tai'an**	**45.92**	**11**	P	**P**	**15 03 18.1**	**-1.0**
TIA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
LGTI	**Lohaghat**	**46.56**	**326**	*i* P	**P**	**15 03 23.0**	**-1.2**
NDI	**New Delhi**	**47.71**	**323**	*eP*	**P**	**15 03 31.0**	**-2.2**
NDI				*eP*		15 03 32.1	
NDI				AMb	AMB	15 03 33.8	
	comp=Z,111nm,1.0s,mb5.8						
NDI				*ex*	x	15 10 24.0	
AJM	**Ajmer**	**47.76**	**319**	*eP*	**P**	**15 03 33.3**	**-0.2**
AJM				AMb	AMB	15 03 34.5	
	comp=Z,35nm,1.1s,mb5.3						
GTA	**Gaotai**	**48.80**	**352**	⇓*i*P	**P**	**15 03 42.3**	**+0.7**
GTA				AP	pP	15 03 48.9	+1.3
GTA				XP	sP	15 03 52.3	+2.4
GTA				PCP	PcP	15 05 07.5	+1.3
GTA				PP	PP	15 05 36.3	+1.5
GTA				PPP		15 06 31.4	
GTA				S	**S**	**15 10 45.4**	**+1.7**
GTA				SS	SS	15 14 12.3	-1.9
GTA				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.7						
GTA				AMB	AMB		
	comp=Z,83nm,3.8s						
GTA				LR	LR		
	comp=N,532nm,17.1s,MS4.8						
GTA				LR	LR		
	comp=E,578nm,15.6s,MS4.8						
GTA				LR	LR		
	comp=Z,550nm,15.2s,MS4.7						
BHJ	**Bhuj**	**49.18**	**311**	*eP*	**P**	**15 03 44.6**	**+0.1**
DL2	**Dalian**	**49.47**	**14**	P	**P**	**15 03 45.9**	**-0.8**
DL2				*e*S	**S**	**15 10 53.5**	**+0.4**
DL2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.4						
DL2				LR	LR		
	comp=N,190nm,12.5s,MS4.4						
DL2				LR	LR		
	comp=E,140nm,13.6s,MS4.4						
DL2				LR	LR		
	comp=Z,240nm,14.9s,MS4.3						
BJT	**Baijiatuau**	**49.48**	**9**	*eP*	**P**	**15 03 46.3**	**-0.5**
BJT				*e*		15 05 09.7	
BJT				pmax	pmax		
	comp=Z,131nm,1.1s						
BJT				MLR	MLR		
	comp=Z,794nm,19.0s						
BJT	**Baijiatuau**	**49.48**	**9**	*eP*	**P**	**15 03 46.3**	**-0.4**
	comp=Z,131nm,1.1s,mb5.9						
BJT				*e*PcP	PcP	15 05 09.7	+1.1
BJT				LR	LR		
	comp=Z,794nm,19.0s,MS4.7						
BTO	**Baotou**	**49.48**	**2**	*eP*	**P**	**15 03 46.4**	**-0.4**
BJI	**Beijing**	**49.50**	**9**	P	**P**	**15 03 46.3**	**-0.6**
BJI				AMB	AMB		
	comp=Z,96nm,0.8s,mb5.9						
BJI				LR	LR		
	comp=N,888nm,15.6s,MS5.0						
BJI				LR	LR		
	comp=E,768nm,16.2s,

HNR Honiara 51.52 95 *e*P **P 15 04 02.8 +0.6**
HNR *e* 15 05 17.6
HNR pmax pmax
comp=Z,147nm,1.3s,mb5.8
HNR Honiara 51.52 95 *e*P **P 15 04 02.8 +0.7**
comp=Z,147nm,1.3s,mb5.8
HNR *e*PcP PcP 15 05 17.6 +1.4
SNY Shenyang 52.71 15 ⇓P **P 15 04 09.5 -1.6**
SNY AP pP 15 04 18.8 +1.7
SNY XP sP 15 04 23.1 +3.7
SNY PP PP 15 06 11.5 +1.2
SNY S **S 15 11 39.1 +1.1**
SNY XS sS 15 11 52.4 +4.5
SNY SS SS 15 15 10.1 -6.4
SNY AMB AMB
comp=Z,29nm,1.2s,mb5.1
SNY AMB AMB
comp=Z,90nm,4.7s
SNY LR LR
comp=N,286nm,16.2s,MS4.7
SNY LR LR
comp=E,475nm,14.4s,MS4.7
SNY LR LR
comp=Z,554nm,15.0s,MS4.7
MAJO Matsushiro 53.68 30 *e*P **P 15 04 16.1 -2.1**
MAJO pmax pmax
comp=Z,27nm,1.0s,mb5.1
MAJO Matsushiro 53.68 30 *e*P **P 15 04 16.1 -2.1**
comp=Z,27nm,1.0s,mb5.1
MAT Matsushiro 53.68 30 P **P 15 04 15.5 -2.7**
MAT Matsushiro 53.68 30 *e*P **P 15 04 16.0 -2.2**
MAT pmax pmax
comp=Z,20nm,1.0s,mb5.0
MAT Matsushiro 53.68 30 *e*P **P 15 04 16.0 -2.2**
comp=Z,20nm,1.0s,mb5.0
MJAR Matsushiro Arr 53.68 30 P **P 15 04 16.1 -2.0**
comp=Z,24nm,1.0s,mb5.1,baz=207,slow=8.0,SNR=36
MJAR PcP PcP 15 05 25.6 +1.3
comp=Z,5.5nm,0.8s,baz=205,slow=4.5,SNR=4.9
MJAR LR LR 15 28 28.2
comp=Z,220nm,18.7s,MS4.2,baz=220,slow=38
MJAR Matsushiro Arr 53.68 30 P **P 15 04 16.1 -2.1**
MJAR 15 05 25.6
MJAR pmax pmax
comp=Z,24nm,1.0s
MJAR pmax pmax
comp=Z,6.0nm,0.8s
MJAR MLR MLR
comp=Z,220nm,18.7s
CN2 Changchun 55.05 16 ⇓P **P 15 04 26.3 -1.8**
CN2 *e*S **S 15 12 08.6 -0.9**
CN2 AMB AMB
comp=Z,30nm,1.3s,mb5.2
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,500nm,16.0s,MS4.9
CN2 LR LR
comp=E,600nm,16.0s,MS4.9
CN2 LR LR
comp=Z,700nm,17.0s,MS4.8
WMQ Urumqi 55.70 343 P **P 15 04 34.4 +1.5**
WMQ AP pP 15 04 39.0 +0.1
WMQ XP sP 15 04 41.4 +0.1
WMQ PP PP 15 06 40.1 +2.9
WMQ S **S 15 12 18.0 -0.3**
WMQ AMB AMB
comp=Z,101nm,1.8s,mb5.5
WMQ AMB AMB
comp=Z,428nm,4.8s
WMQ LR LR
comp=N,2μm,17.6s,MS5.4
WMQ LR LR
comp=E,2μm,16.5s,MS5.4
WMQ LR LR
comp=Z,2μm,18.1s,MS5.3
VLA Vladivostok 56.44 21*c i*P **P 15 04 35.9 -2.2**
VLA pmax pmax
comp=Z,38nm,1.0s,mb5.4
VLA MLR MLR
comp=Z,200nm,20.0s,MS4.2
VLA Vladivostok 56.44 21⇑*i*P **P 15 04 35.0 -3.1**
KSH Kashi 56.61 331 P **P 15 04 39.9 +0.6**
KSH *e*AP pP 15 04 45.0 -0.4
KSH *e*XP sP 15 04 48.9 +1.2
KSH *e*PCP PcP 15 05 36.9 +1.3
KSH *e*PP PP 15 06 47.6 +2.3
KSH *e*PPP 15 08 04.1
KSH *e*SCP ScP 15 09 34.1 +0.1
KSH *e*S **S 15 12 28.0 -2.4**
KSH *e*XS sS 15 12 36.8 -3.6
KSH *e*PS 15 12 45.5
KSH *e*SCS ScS 15 14 25.0 -2.7
KSH *e*SS SS 15 16 16.1 -1.9
KSH LR LR
comp=N,2μm,18.5s
KSH LR LR
comp=E,2μm,24.4s
KSH LR LR
comp=Z,533nm,22.6s,MS4.6
SONM Songino Array 56.68 359 P **P 15 04 40.0 +0.1**
comp=Z,38nm,0.9s,mb5.4,baz=174,slow=8.5,SNR=162
SONM PcP PcP 15 05 36.2 +0.3
comp=Z,10nm,0.8s,baz=181,slow=6.1,SNR=7.3
SONM LR LR 15 31 35.6
comp=Z,549nm,19.0s,MS4.7,baz=174,slow=39
SONM Songino Array 56.68 359 P **P 15 04 40.0 +0.2**
SONM 15 05 36.2
SONM pmax pmax
comp=Z,38nm,1.0s
SONM pmax pmax
comp=Z,10.0nm,0.8s
SONM MLR MLR
comp=Z,549nm,19.0s
ULN Ulaanbaatar 56.70 359 ⇑P **P 15 04 40.5 +0.6**
SNR=27
ULN Ulaanbaatar 56.70 359*d i*P **P 15 04 39.9 -0.1**
ULN Ulaanbaatar 56.70 359 *e*P **P 15 04 40.1 +0.1**
comp=Z,49nm,0.8s,mb5.6
ULN LR LR
comp=Z,419nm,20.0s,MS4.5
MDJ Mudanjiang 56.99 19 P **P 15 04 41.0 -1.1**
MDJ AP pP 15 04 44.5 -3.6
MDJ PP PP 15 06 49.3 +0.6
MDJ SCP ScP 15 09 31.9 -3.8
MDJ S **S 15 12 38.5 +3.1**
MDJ XS sS 15 12 45.4 0.0
MDJ AMB AMB
comp=Z,23nm,1.0s,mb5.2
MDJ AMB AMB
comp=Z,75nm,3.9s
MDJ LR LR
comp=N,113nm,15.9s,MS4.1
MDJ LR LR
comp=E,41nm,16.7s,MS4.1
MDJ LR LR
comp=Z,138nm,14.5s,MS4.2
MDJ Mudanjiang 56.99 19 *e*P **P 15 04 40.7 -1.3**
comp=Z,10nm,0.8s,mb4.9
DZM Mont Dzumac 57.72 110 P **P 15 04 49.4 +2.3**
comp=Z,7.5nm,0.8s,mb4.8,baz=306,slow=13,SNR=5.1
WSAR Wadi Sarin 57.76 305 P **P 15 04 48.5 +1.1**
comp=Z,14nm,0.7s,mb5.1,baz=120,slow=6.5,SNR=15
KZA Kyzart 58.96 332 P **P 15 04 56.2 +0.4**
SNR=24
HIA Hailar 59.05 9 *e*P **P 15 04 55.5 -1.0**
HIA pmax pmax
comp=Z,7.0nm,0.3s
HIA Hailar 59.05 9 *e*P **P 15 04 55.5 -1.0**
comp=Z,7.1nm,0.3s,mb5.2
ZAK Zakamensk 59.34 357⇓*e*P **P 15 04 58.5 0.0**
ZAK *e* 15 05 46.1
ZAK pmax pmax
comp=Z,15nm,1.4s,mb4.8
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
UCH Uchtor 59.42 332 P **P 15 04 59.2 +0.2**
SNR=15
TKM2 Tokmak 2 59.47 333 P **P 15 04 59.2 -0.1**
SNR=50
KBK Karagaybulak 59.55 332 P **P 15 05 00.2 +0.3**
SNR=26
AML Almayashu 59.73 331 P **P 15 05 01.3 +0.1**
SNR=27
AAK Ala-Archa 59.74 332 P **P 15 05 01.7 +0.5**
SNR=9.6
AAK Ala-Archa 59.74 332 P **P 15 05 00.8 -0.5**
comp=Z,93nm,1.1s,mb5.7,SNR=7.4
AAK Ala-Archa 59.74 332 P **P 15 05 00.6 -0.7**
SNR=12
AAK Ala-Archa 59.74 332⇑*e*P **P 15 05 00.1 -1.2**
AAK pmax pmax
comp=Z,25nm,1.3s,mb5.1
AAK MLR MLR
comp=Z,300nm,24.0s,MS4.3
AAK Ala-Archa 59.74 332 *e*P **P 15 05 00.1 -1.1**
comp=Z,19nm,1.0s,mb5.1
FRU Bishkek 59.84 332 *i*P **P 15 05 01.5 -0.4**
FRU pmax pmax
comp=Z,50nm,1.5s,mb5.3
CHMS Chumysh 59.91 333 P **P 15 05 01.7 -0.7**
SNR=8.5
MKAR Makanchi Array 60.07 340 P **P 15 05 03.2 -0.3**
comp=Z,66nm,0.6s,mb5.8,baz=144,slow=7.9,SNR=631
MKAR PKPPKP 15 34 26.9
comp=Z,0.6nm,1.1s,baz=253,slow=1.5,SNR=3.0
MKAR PKP2bc 15 34 35.2
comp=Z,0.2nm,0.7s,baz=336,slow=2.7,SNR=4.2
MKAR Makanchi Array 60.07 340 *i*P **P 15 05 03.2 -0.3**
MKAR pmax pmax
comp=Z,67nm,0.6s
MKAR Makanchi Array 60.07 340 P **P 15 05 03.2 -0.3**
MKAR P'P' 15 34 26.9
MKAR ⇑*e* 15 34 35.2
EKS2 Erkin-Say 60.10 332 P **P 15 05 03.8 +0.1**
SNR=53
USP Ospenovka 60.23 333 P **P 15 05 04.5 -0.1**
SNR=8.6
TLY Talaya 60.62 357 P **P 15 05 08.8 +1.5**
comp=Z,108nm,1.5s,mb5.8,SNR=6.1
MOY Mondy 60.78 355 *e*P **P 15 05 08.8 +0.4**
MOY pmax pmax
comp=Z,92nm,2.0s,mb5.6
IRK Irkutsk 61.15 358 *e*P **P 15 05 10.2 -0.7**
IRK pmax pmax
comp=Z,56nm,1.4s,mb5.5
KLR Kul'dur 61.78 18 *e*P **P 15 05 11.0 -4.1**
KLR pmax pmax
comp=E,20nm,1.0s
KLR pmax pmax
comp=Z,60nm,1.0s,mb5.7
KK31 Karatay Array 62.01 330 *i*P **P 15 05 15.6 -1.1**
KK31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.8
YSS Yuzh-Sakhalins 63.92 26⇓*e*P **P 15 05 28.0 -1.4**
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 63.92 26 *e*P **P 15 05 28.3 -1.1**
comp=Z,59nm,1.1s,mb5.5
KURK Kurchatov 64.69 340 P **P 15 05 34.1 -0.3**
comp=Z,885nm,0.9s
KURK Kurchatov 64.69 340 P **P 15 05 34.4 0.0**
SNR=70
KURK Kurchatov 64.69 340⇑*e*P **P 15 05 34.0 -0.4**
KURK Kurchatov 64.69 340 *e*P **P 15 05 34.1 -0.3**
comp=Z,127nm,0.9s,mb6.0
KURK LR LR
comp=Z,363nm,20.0s,MS4.6
MAW Mawson 65.59 197 *e*P **P 15 05 39.9 -0.4**
comp=Z,8.0nm,0.6s,mb4.9
MAW Mawson 65.59 197 P **P 15 05 40.4 +0.2**
comp=Z,8.9nm,0.7s,mb4.9,baz=43,slow=6.3,SNR=45
MAW LR LR 15 26 41.4
comp=Z,158nm,21.2s,MS4.2,baz=185,slow=29
MAW PKPPKP 15 34 19.4
comp=Z,4.1nm,1.0s,baz=283,slow=4.8,SNR=4.0
MAW Mawson 65.59 197 *e*P **P 15 05 39.9 -0.4**
MAW pmax pmax
comp=Z,8.0nm,0.6s
ZAL Zalesovo 65.71 345 P **P 15 05 39.8 -1.3**
comp=Z,15nm,0.7s,mb5.1,baz=323,slow=4.0,SNR=89
ZAL LR LR 15 40 23.0
comp=Z,305nm,18.3s,MS4.5,baz=55,slow=42
ABKT Ailbek 65.78 319 P **P 15 05 41.0 -0.5**
comp=Z,143nm,0.8s,mb6.0,SNR=10
KRAR Krasnoyarsk 66.02 351 *e*P **P 15 05 39.9 -3.1**
KRAR pmax pmax
comp=Z,122nm,0.8s,mb6.0
BOD Bodaibo 66.87 4⇑*i*P **P 15 05 46.8 -1.7**
BOD pmax pmax
comp=Z,28nm,1.0s,mb5.2
NVS Novosibirsk 66.92 345 *i*P **P 15 05 46.5 -2.3**
NVS *i*S S 15 14 38.2 -2.7
NVS pmax pmax
comp=N,34nm,1.8s
NVS pmax pmax
comp=Z,44nm,1.8s,mb5.2
NVS pmax pmax
comp=E,16nm,1.4s
NVS smax
comp=N,21nm,1.8s
NVS smax
comp=E,11nm,1.2s
ATD Arta Tunnel 67.67 286 P **P 15 05 55.2 +1.7**
comp=Z,7.2nm,0.6s,mb4.9,baz=328,slow=15,SNR=3.9
ATD Arta Tunnel 67.67 286 P **P 15 05 55.2 +1.7**
BVAR Borovoye Array 69.55 337 P **P 15 06 04.8 -0.5**
comp=E,48nm,0.6s,mb5.6,baz=144,slow=8.3,SNR=279
BVAR Borovoye Array 69.55 337 P **P 15 06 04.8 -0.5**
BVAR pmax pmax
comp=Z,48nm,0.6s
BRVK Borovoye 69.61 337 P **P 15 06 05.9 +0.2**
comp=Z,392nm,0.9s,mb6.3,SNR=33
BRVK Borovoye 69.61 337 P **P 15 06 05.6 -0.1**
SNR=29
BRVK Borovoye 69.61 337 *e*P **P 15 06 05.2 -0.5**
BRVK pmax pmax
comp=Z,34nm,0.8s,mb5.3
BRVK Borovoye 69.61 337 *e*P **P 15 06 05.2 -0.5**
comp=Z,34nm,0.8s,mb5.3
CHKZ Chkalovo 69.97 338 *e*P **P 15 06 07.6 -0.2**
CHKZ pmax pmax
comp=Z,88nm,0.8s,mb5.7
CHKZ Chkalovo 69.97 338 *e*P **P 15 06 07.6 -0.2**
comp=Z,88nm,0.8s,mb5.7
ZRNK Zerenda 70.03 336 *e*P **P 15 06 07.6 -0.7**
ZRNK pmax pmax
comp=Z,58nm,0.8s,mb5.6
ZRNK Zerenda 70.03 336 *e*P **P 15 06 07.6 -0.7**
comp=Z,58nm,0.8s,mb5.6
KMBO Kilima Mbogo 70.53 272 P **P 15 06 12.7 +1.4**
comp=Z,8.8nm,0.9s,mb4.7,baz=59,slow=7.2,SNR=19
KMBO LR LR 15 34 07.9
comp=Z,140nm,18.5s,MS4.2,baz=94,slow=33
KMBO Kilima Mbogo 70.53 272 *i*P **P 15 06 12.1 +0.8**
KMBO pmax pmax
comp=Z,9.0nm,0.9s
SKR Severo-Kuril's 72.78 30 *e*P **P 15 06 20.5 -4.3**
SKR pmax pmax
comp=N,130nm,1.0s
SKR pmax pmax
comp=E,130nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
YAK Yakutsk 72.93 11 *e*P **P 15 06 24.2 -1.5**
YAK *e*PP pP 15 06 33.3 +1.3
YAK *e* 15 06 40.4
YAK *e* 15 09 03.3
YAK *e*PPP 15 10 48.4
YAK *e*S S 15 15 45.4 -6.0
YAK *e* 15 16 32.3
YAK pmax pmax
comp=Z,72nm,1.0s,mb5.6
YAK pmax pmax
comp=N,243nm,16.4s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=Z,3.0nm,0.9s
YAK pmax pmax
comp=E,1.0nm,1.0s
YAK smax
comp=E,4.0nm,1.4s
YAK smax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,100nm,20.5s
YAK pmax pmax
comp=N,100nm,19.2s
YAK Yakutsk 72.93 11 *e*P **P 15 06 24.5 -1.3**
comp=N,119nm,0.8s,mb5.9
AKTK Aktyubinsk 73.26 329 P **P 15 06 27.4 -0.3**
AKTO Aktyubinsk 73.26 329 P **P 15 06 27.4 -0.3**
comp=N,17nm,0.9s,mb5.0,baz=114,slow=10,SNR=22
AKTO Aktyubinsk 73.26 329 *i*P **P 15 06 26.9 -0.8**
AKTO pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BHD Baghdad 73.40 309 *ex* x 15 06 26.0
VNDA Vanda 73.80 169 P **P 15 06 30.6 -0.3**
comp=Z,6.9nm,0.8s,mb4.7,baz=304,slow=6.1,SNR=53
VNDA LR LR 15 35 22.7
comp=Z,58nm,20.2s,MS3.9,baz=317,slow=33
VNDA Vanda 73.80 169 *e*P **P 15 06 30.1 -0.8**
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA Vanda 73.80 169 *e*P **P 15 06 30.1 -0.7**
comp=Z,6.4nm,0.9s,mb4.5
SYO Syowa Base 73.80 200⇑*e*P **P 15 06 29.8 -1.1**
SYO Syowa Base 73.80 200⇑*e*pP pP 15 06 33.8 -3.3
SBA Scott Base 74.88 169 *e*P **P 15 06 37.4 +0.3**
SBA pmax pmax
comp=Z,11nm,1.0s,mb4.7
SBA Scott Base 74.88 169 *e*P **P 15 06 37.4 +0.3**
comp=Z,11nm,1.0s,mb4.7
PET Petropavlovsk 75.47 29⇑*e*P **P 15 06 39.6 -0.9**
PET pmax pmax
comp=Z,74nm,1.3s,mb5.5
PET Petropavlovsk 75.47 29 *e*P **P 15 06 39.6 -0.9**
MSL Mosul 75.55 311 *ex* x 15 06 42.0
GNI Garni 75.92 315 P **P 15 06 43.5 +0.4**
comp=Z,5.4nm,0.6s,mb4.7,baz=186,slow=21,SNR=3.9
GNI Garni 75.92 315 P **P 15 06 43.5 +0.4**
GNI pmax pmax
comp=Z,5.0nm,0.6s
MA2 Magadan 76.57 21⇑*e*P **P 15 06 46.2 -0.6**
MA2 pmax pmax
comp=Z,62nm,1.1s,mb5.5
ARU Arti 76.79 334 P **P 15 06 47.6 -0.5**
comp=Z,258nm,1.0s,mb6.1,SNR=12
ARU Arti 76.79 334⇓*i*P **P 15 06 47.4 -0.7**
ARU *e* 15 06 59.2
ARU *e* 15 09 40.3
ARU *e*PPP 15 11 23.8
ARU *e*S S 15 16 33.4 -1.0
ARU *e*SS SS 15 21 26.5 -4.0
ARU pmax pmax
comp=Z,46nm,1.0s,mb5.4
ARU Arti 76.79 334 *e*P **P 15 06 47.4 -0.7**
comp=Z,40nm,0.9s,mb5.3
MBAR Mbarara 77.04 271 *e*P **P 15 06 50.4 +0.9**
BEST Besiri 77.50 312 *i*P **P 15 06 49.9 -2.2**
ZEI Tsey 77.60 317 *e*P **P 15 06 52.6 0.0**
ZEI *e**PP pP 15 07 00.3 +1.5
ZEI pmax pmax
comp=Z,31nm,0.8s,mb5.3
LSZ Lusaka 77.62 256 *e*P **P 15 06 53.7 +1.0**
LSZ pmax pmax
comp=Z,16nm,0.8s,mb5.0
LSZ Lusaka 77.62 256 *e*P **P 15 06 53.7 +1.0**
comp=Z,16nm,0.8s,mb5.0
MARD Mardin 77.65 311 *i*P **P 15 06 52.9 0.0**
KIV Kislovodsk 78.89 318 P **P 15 07 00.6 +0.9**
SNR=7.5
KIV Kislovodsk 78.89 318⇑*e*P **P 15 06 59.8 +0.1**
KIV pmax pmax
comp=Z,33nm,1.1s,mb5.2
KIV Kislovodsk 78.89 318 *e*P **P 15 07 00.0 +0.3**
comp=Z,20nm,0.8s,mb5.1
LBTB Lobatse 79.11 246 *e*P **P 15 07 02.0 +1.0**
LBTB pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LBTB Lobatse 79.11 246 *e*P **P 15 07 02.0 +1.0**
comp=Z,6.6nm,0.8s,mb4.6
BOSA Boshof 79.12 243 P **P 15 07 02.0 +1.0**
comp=Z,2.7nm,0.7s,mb4.3,baz=104,slow=7.5,SNR=5.1
BOSA Boshof 79.12 243 P **P 15 07 02.0 +1.0**
BOSA pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MALT Malatya 79.75 312 *e*P **P 15 07 05.1 +0.7**
MALT pmax pmax
comp=Z,29nm,1.3s,mb5.0
MALT Malatya 79.75 312 *e*P **P 15 07 05.1 +0.7**
comp=Z,29nm,1.3s,mb5.0
EIL Elat 79.78 302 *e*P **P 15 07 05.2 +0.6**
comp=Z,509nm,0.8s
GZT Gaziantep 80.07 310 *i*P **P 15 07 07.0 +0.8**
SOC Sochi 80.73 317 *i*P **P 15 07 10.0 +0.3**
QSPA South Pole Qui 80.92 180 *e*P **P 15 07 09.7 -1.0**
comp=Z,13nm,0.7s,mb5.0
TIXI Tiksi 81.78 7*d i*P **P 15 07 13.6 -1.7**
TIXI pmax pmax
comp=Z,54nm,0.7s,mb5.6
TIXI Tiksi 81.78 7 *i*P **P 15 07 13.7 -1.6**
MEST Erdemli 82.43 309 *i*P **P 15 07 18.9 +0.2**
CSS Prodhromos 82.59 307 *e*P **P 15 07 20.2 +0.7**
comp=Z,68nm,0.8s,mb5.7
ANN Anapa 82.70 317 *e*P **P 15 07 19.4 -0.7**
ANN *e* 15 07 33.5
ANN pmax pmax
comp=Z,60nm,1.6s,mb5.4
CDAG Cicekdag 83.16 312 *i*P **P 15 07 21.9 -0.6**
BOYT Boyabat 83.33 314 *i*P **P 15 07 23.3 0.0**
BR131 Keskin Array S 83.73 312 *e*P **P 15 07 25.4 0.0**
comp=Z,26nm,0.9s,mb5.3
BRTR Keskin Array B 83.73 312 P **P 15 07 25.2 -0.2**
comp=Z,26nm,0.9s,mb5.4,baz=131,slow=7.0,SNR=107
BRTR LR LR 15 47 46.8
comp=Z,155nm,19.1s,MS4.4,baz=94,slow=38
BRTR Keskin Array B 83.73 312 P **P 15 07 25.3 -0.1**
BRTR pmax pmax
comp=Z,26nm,0.9s
BRTR MLR MLR
comp=Z,155nm,19.1s
VRSR Storozhevoye 83.94 324 *e*P **P 15 07 25.7 -0.8**
VRSR pmax pmax
comp=Z,40nm,0.7s,mb5.7
VRSR pmax pmax
comp=N,4.0nm,0.4s
VRSR pmax pmax
comp=E,20nm,0.8s
VOR Voronezh 84.14 324 *e*P **P 15 07 26.5 -1.0**
VOR pmax pmax
comp=Z,100nm,1.5s,mb5.7
ANTO Ankara 84.40 312 P **P 15 07 30.0 +1.2**
SNR=8.8
ANTO Ankara 84.40 312 *e*P **P 15 07 29.5 +0.7**
ANTO pmax pmax
comp=Z,72nm,1.4s,mb5.6
ANTO Ankara 84.40 312 *e*P **P 15 07 29.5 +0.7**
comp=Z,72nm,1.4s,mb5.6
BALT Daday 84.45 313 *i*P **P 15 07 29.6 +0.6**
SIM Simferopol' 84.97 317*d i*P **P 15 07 32.0 +0.3**
ESKT Eskisehir 85.74 311 *i*P **P 15 07 35.6 0.0**
MOS Moscow 86.51 328 *e*P **P 15 07 37.9 -1.5**
MOS *e* 15 11 03.7
MOS pmax pmax
comp=Z,61nm,1.0s,mb5.8
MOS MLR MLR
comp=Z,600nm,20.5s,MS5.0
OBN Obninsk 86.85 327*d i*P **P 15 07 40.6 -0.4**
OBN *e* 15 11 04.3
OBN pmax pmax
comp=Z,51nm,0.6s,mb5.9
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.2
OBN Obninsk 86.85 327 *e*P **P 15 07 40.8 -0.2**
comp=Z,44nm,0.7s,mb5.8
ULDT Uludag 87.18 311 *i*P **P 15 07 43.1 +0.5**
KLMR Klimovskoe 87.55 333 *e*P **P 15 07 43.8 -0.6**
KLMR pmax pmax
comp=Z,110nm,1.6s,mb5.8
SNAA Sanae 87.76 197 *e*P **P 15 07 45.0 -0.4**
SNAA *e* 15 07 47.6
SNAA *e* pP 15 07 49.2 -2.6
SNAA *e* pP 15 07 50.7 -1.1
SNAA *e* 15 07 56.6
SNAA *e* 15 08 01.6
TIRR Tirgusor 88.75 315⇑*i*P **P 15 07 50.9 +0.8**
CFR Carcaliu 89.11 316⇑*i*P **P 15 07 53.2 +1.4**
CFR Carcaliu 89.11 316 ⇑P **P 15 07 53.2 +1.4**
HARR Harsova 89.14 315⇑*i*P **P 15 07 53.0 +1.1**
HARR Harsova 89.14 315 ⇑P **P 15 07 53.0 +1.0**
IDI Anoyia 89.38 306 P **P 15 07 54.8 +1.7**
comp=Z,35nm,0.9s,mb5.7,baz=103,slow=6.5,SNR=8.3
AKASG Malin Array Be 89.75 321 P **P 15 07 53.7 -1.1**
comp=Z,2.7nm,0.7s,mb4.7,baz=89,slow=4.4,SNR=19
AKASG PP PP 15 11 26.1 -0.9
comp=Z,9.1nm,1.0s,baz=89,slow=6.2,SNR=18

AKASG					LR	LR	15 58 10.6		
	comp=Z,71nm,18.3s,MS4.1,baz=105,slow=42								
AKASG	**Malin Array Be**	**89.75**	**321**		P	**P**	**15 07 53.7**	**-1.1**	
AKASG							15 11 26.1		
AKASG					pmax	pmax			
	comp=Z,3.0nm,0.7s								
AKASG					pmax	pmax			
	comp=Z,9.0nm,1.0s								
AKASG	**Malin Array Be**	**89.75**	**321**		P	**P**	**15 07 53.7**	**-1.1**	
AKASG					PP	PP	15 11 26.1	-0.9	
AKASG					LR	LR	15 58 10.6		
AKBB	**Malin Array Si**	**89.75**	**321**		*e*P	**P**	**15 07 53.9**	**-0.9**	
VNA1	**Neumayer--Stat**	**89.79**	**197**		*e*P	**P**	**15 07 55.0**	**0.0**	
VNA1					*e*		15 07 56.2		
VNA1					*e*		15 07 57.3		
VNA1					*e*		15 07 58.0		
VNA1					*e*		15 08 06.3		
VRI	**Vrincioaia**	**90.23**	**316**	⇑	*i*P	**P**	**15 07 58.2**	**+1.1**	
VRI	**Vrincioaia**	**90.23**	**316**	⇑	P	**P**	**15 07 58.2**	**+1.1**	
PLOR	**Plostina**	**90.28**	**316**	⇑	*i*P	**P**	**15 07 58.3**	**+1.0**	
MLR	**Muntele Rosu**	**90.69**	**316**	⇑	*i*P	**P**	**15 08 00.3**	**+1.1**	
MLR	**Muntele Rosu**	**90.69**	**316**	⇑	P	**P**	**15 08 00.3**	**+1.1**	
VOIR		**91.29**	**316**	⇑	*i*P	**P**	**15 08 01.1**	**-0.9**	
VOIR		**91.29**	**316**	⇑	P	**P**	**15 08 01.1**	**-0.9**	
BURAR	**Bucovina Array**	**91.62**	**318**	⇑	*i*P	**P**	**15 08 05.0**	**+1.5**	
BURAR	**Bucovina Array**	**91.62**	**318**	⇑	P	**P**	**15 08 05.0**	**+1.5**	
JOF	**Joensuu**	**91.90**	**334**		*e*p	**P**	**15 08 03.9**	**-0.9**	
	comp=Z,14nm,0.9s,mb5.3								
JOF	**Joensuu**	**91.90**	**334**		*e*P	**P**	**15 08 03.9**	**-0.9**	
JOF					pmax	pmax			
	comp=Z,14nm,0.9s,mb5.3								
BZS	**Buzias**	**93.70**	**315**	⇓	*i*P	**P**	**15 08 13.3**	**+0.2**	
BZS	**Buzias**	**93.70**	**315**	⇓	P	**P**	**15 08 13.3**	**+0.2**	
KOLS	**Kolonicke sedl**	**93.79**	**319**		*e*P	**P**	**15 08 14.2**	**+0.7**	
FINES	**FINESS Array B**	**93.93**	**332**		P	**P**	**15 08 13.7**	**-0.4**	
	comp=Z,3.8nm,0.8s,mb4.9,baz=128,slow=12,SNR=7.4								
FINES					LR	LR	15 56 56.7		
	comp=Z,124nm,18.1s,MS4.4,baz=166,slow=40								
KAF	**Kangasniemi**	**93.96**	**332**		*e*p	**P**	**15 08 12.4**	**-1.9**	
	comp=Z,11nm,0.8s,mb5.3								
KAF	**Kangasniemi**	**93.96**	**332**		*e*P	**P**	**15 08 12.4**	**-1.9**	
KAF					pmax	pmax			
	comp=Z,11nm,0.8s,mb5.3								
ARCES	**ARCESS Array B**	**95.72**	**340**		P	**P**	**15 08 21.3**	**-1.1**	
	comp=Z,3.9nm,0.8s,mb4.9,baz=96,slow=6.5,SNR=9.8								
ARCES					LR	LR	15 57 33.5		
	comp=Z,353nm,18.6s,MS4.9,baz=76,slow=39								
ARCES	**ARCESS Array B**	**95.72**	**340**		P	**P**	**15 08 21.3**	**-1.1**	
ARCES					LR	LR	15 57 33.5		
VYHS	**Vyhne**	**95.98**	**318**		*e*P	**P**	**15 08 23.2**	**-0.3**	
VYHS					pmax	pmax			
	comp=Z,3.0nm,1.3s,mb4.6								
VYHS	**Vyhne**	**95.98**	**318**		*e*P	**P**	**15 08 23.2**	**-0.3**	
	comp=Z,3.2nm,1.3s,mb4.6								
VYHS					*e*PP	PP	15 12 15.0	-0.9	
GERES	**GERESS Array B**	**99.40**	**318**		P	**P**	**15 08 38.8**	**-0.2**	
	comp=Z,0.7nm,0.7s,mb4.3,baz=69,slow=4.9,SNR=6.6								
GERES					PP	PP	15 12 39.5	-2.7	
	comp=Z,1.4nm,0.8s,baz=90,slow=6.8,SNR=5.4								
GERES	**GERESS Array B**	**99.40**	**318**		P	**P**	**15 08 38.8**	**-0.1**	
GERES							15 12 39.5		
GERES					pmax	pmax			
	comp=Z,1.0nm,0.7s								
GERES					pmax	pmax			
	comp=Z,1.0nm,0.9s								
HFS	**Hagfors**	**99.81**	**330**		LR	LR	16 01 34.5		
	comp=Z,136nm,19.0s,MS4.5,baz=88,slow=40								
NB2	**NORSAR Subarra**	**101.03**	**330**		PP	PP	15 12 46.3	-8.3	
	comp=Z,5.8nm,1.2s,baz=89,slow=7.9								
NB2	**NORSAR Subarra**	**101.03**	**330**		PP	PP	15 12 46.3	-8.3	
	baz=89,slow=7.9								
NOA	**NORSAR Array B**	**101.03**	**330**		PP	PP	15 12 46.1	-8.5	
	comp=Z,0.8nm,0.8s,baz=96,slow=9.9,SNR=3.3								
GRA1	**Grafenberg Arr**	**101.06**	**319**		*e*Pdif	Pdif	15 08 44.9	-1.4	
GRF	**Grafenberg Arr**	**101.06**	**319**		*e*Pdiff	Pdif	15 08 44.9	-1.4	
TORD	**Torodi Ar. Bea**	**107.51**	**281**		PKiKP	PKiKP	15 13 23.6	+0.4	
	comp=Z,0.9nm,0.5s,baz=69,slow=1.3,SNR=6.3								
TORD					PP	PP	15 13 44.9	+2.1	
	comp=Z,1.0nm,0.9s,baz=90,slow=5.7,SNR=2.8								
TORD					PKKPbc	PKKPbc	15 24 39.2	+1.4	
	comp=Z,1.3nm,0.7s,baz=306,slow=3.6,SNR=6.8								
TORD	**Torodi Ar. Bea**	**107.51**	**281**		PKPdf	PKiKP	15 13 23.6	+0.4	
TORD					PP	PP	15 13 44.9	+2.1	
TORD					PKKPbc	PKKPbc	15 24 39.2	+1.4	
INK	**Inuvik**	**108.80**	**20**		PP	PP	15 13 50.2	-2.0	
	comp=Z,1.6nm,0.8s,baz=139,slow=1.9,SNR=4.1								
BBB	**Bella Bella**	**117.72**	**35**		PKP	PKPdf	15 13 43.2	+0.6	
	comp=Z,5.7nm,0.9s,baz=315,slow=4.3,SNR=4.1								
YKA	**Yellowknife Ar**	**118.55**	**21**		PKP	PKPdf	15 13 43.5	-0.7	
	comp=Z,0.9nm,0.6s,baz=330,slow=1.9,SNR=5.3								
YKA	**Yellowknife Ar**	**118.55**	**21**		PKIKP	PKPdf	15 13 43.5	-0.7	
YKA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
YKA	**Yellowknife Ar**	**118.55**	**21**		PKP	PKPdf	15 13 43.5	-0.7	
B05A	**Bryant**	**122.86**	**37**	⇓	P	PKPdf	15 13 53.9	+1.4	
	baz=123								
C05A	**Tolt Reservoir**	**123.36**	**38**	⇓	P	PKPdf	15 13 54.6	+1.2	
	baz=123								
D05A	**Enumclaw**	**123.39**	**39**	⇓	P	PKPdf	15 13 54.8	+1.3	
	baz=123								
F04A	**Amboy**	**123.66**	**40**	⇓	P	PKPdf	15 13 55.0	+1.0	
	baz=124								
E05A	**Randle**	**123.81**	**39**	⇓	P	PKPdf	15 13 55.3	+1.0	
	baz=124								
I03A	**Eugene**	**123.87**	**43**	⇓	P	PKPdf	15 13 55.5	+1.0	
	baz=124								
J02A	**Umpqua**	**123.90**	**43**	⇓	P	PKPdf	15 13 55.6	+1.1	
	baz=124								
K02A	**Glendale**	**124.18**	**44**	⇓	P	PKPdf	15 13 56.9	+1.9	
	baz=124								
H04A	**Detroit Lake**	**124.31**	**41**	⇓	P	PKPdf	15 13 56.4	+1.1	
	baz=124								
HUMO	**Hull Mountain**	**124.61**	**44**	⇑	P	PKPdf	15 13 57.3	+1.5	
	baz=124								
H05A	**Madras**	**124.95**	**41**	⇓	P	PKPdf	15 13 58.2	+1.7	
	baz=125								
EDM	**Edmonton**	**124.97**	**29**		*e*PKIKP	PKPdf	15 13 56.4	-0.1	
N02C	**Big Bar**	**125.00**	**46**	⇑	P	PKPdf	15 13 58.2	+1.6	
	baz=125								
M02C	**Callahan**	**125.12**	**45**	⇓	P	PKPdf	15 13 58.5	+1.7	
	baz=125								
J05A	**Fort Rock**	**125.51**	**43**	⇓	P	PKPdf	15 13 59.4	+1.9	
	baz=125								
O02C	**Red Bluff**	**125.60**	**47**	⇓	P	PKPdf	15 13 59.5	+1.7	
	baz=126								
M04C	**Macdoel**	**125.69**	**44**	⇓	P	PKPdf	15 13 59.6	+1.7	
	baz=126								
NEW	**Newport**	**125.78**	**36**		PKP	PKPdf	15 13 59.8	+1.7	
	comp=Z,2.7nm,0.4s,baz=276,slow=9.2,SNR=3.6								
NEW	**Newport**	**125.78**	**36**		PKIKP	PKPdf	15 13 59.8	+1.7	
NEW					pmax	pmax			
	comp=Z,3.0nm,0.4s								
J06A	**Christmas Vall**	**126.24**	**42**	⇑	P	PKPdf	15 14 00.1	+1.2	
	baz=126								
MNRC	**McLaughlin Nat**	**126.30**	**48**	⇑	P	PKPdf	15 14 01.8	+2.7	
	baz=126								
HATC	**Hat Creek Radi**	**126.31**	**45**	⇑	P	PKPdf	15 14 00.2	+1.1	
	baz=126								
K06A	**Valley Falls**	**126.36**	**43**	⇑	P	PKPdf	15 14 00.9	+1.7	
	baz=126								
ORV	**Oroville**	**126.75**	**47**	⇓	P	PKPdf	15 14 00.7	+0.8	
	baz=127								
O04C	**Chester**	**126.76**	**46**	⇓	P	PKPdf	15 14 01.8	+1.9	
	baz=127								
O05C	**Quincy**	**127.02**	**46**	⇑	P	PKPdf	15 14 02.4	+1.9	
	baz=127								
N06A	**Buffalo Meadow**	**127.48**	**45**	⇓	P	PKPdf	15 14 03.0	+1.6	
	baz=127								
P05C	**Yuba Gap, Truc**	**127.48**	**47**	⇑	P	PKPdf	15 14 03.0	+1.7	
	baz=127								
LAVA	**Lava Cap Winer**	**127.59**	**48**	⇑	P	PKPdf	15 14 03.1	+1.6	
	baz=128								
S04C	**Ingram Canyon,**	**127.59**	**49**	⇓	P	PKPdf	15 14 02.9	+1.4	
	baz=128								
WVOR	**Wild Horse Val**	**127.60**	**43**		*e*PKIKP	PKPdf	15 14 03.2	+1.6	
M07A	**Soldier Meadow**	**127.68**	**44**	⇑	P	PKPdf	15 14 04.1	+2.3	
	baz=128								
O06A	**Flanigan**	**127.71**	**46**	⇓	P	PKPdf	15 14 03.6	+1.8	
	baz=128								
HAST	**UC Hastings Re**	**127.79**	**51**	⇑	P	PKPdf	15 14 04.3	+2.4	
	baz=128								
R05C	**Kirkwood Meado**	**128.09**	**47**	⇓	P	PKPdf	15 14 04.6	+2.0	
	baz=128								
CMB	**Columbia Colle**	**128.10**	**48**	⇑	P	PKPdf	15 14 04.0	+1.5	
	baz=128								
M08A	**Happy Creek Ra**	**128.19**	**44**	⇑	P	PKPdf	15 14 05.2	+2.5	
	baz=128								
MSO	**Missoula**	**128.37**	**36**		*e*PKPdf	PKPdf	15 14 03.3	+0.3	
U04C	**Hernandez Rese**	**128.38**	**50**	⇓	P	PKPdf	15 14 06.0	+3.0	
	baz=128								
O07A	**Toulon**	**128.38**	**45**	⇑	P	PKPdf	15 14 05.3	+2.2	
	baz=128								
L09A	**Wilkinson Ranc**	**128.43**	**43**	⇑	P	PKPdf	15 14 05.2	+2.0	
	baz=128								
S06C	**San Francisco**	**128.56**	**48**	⇑	P	PKPdf	15 14 05.5	+2.1	
	baz=128								
PKD	**Parkfield**	**128.70**	**51**	⇑	P	PKPdf	15 14 05.9	+2.3	
	baz=129								
CHMT	**Chamberlain Mo**	**128.72**	**35**		*e*PKPdf	PKPdf	15 14 04.3	+0.6	
N09A	**Rock Creek Ran**	**129.03**	**44**	⇑	P	PKPdf	15 14 06.9	+2.6	
	baz=129								
KCC	**Kaiser Creek**	**129.15**	**49**	⇑	P	PKPdf	15 14 06.9	+2.3	
	baz=129								
NVAR	**Mina Array Bea**	**129.48**	**47**		PKP	PKPdf	15 14 07.0	+1.9	
	comp=Z,1.9nm,0.8s,baz=241,slow=6.9,SNR=3.9								
MTUM	**Tungsten Hills**	**129.70**	**48**		*e*P	PKPdf	15 14 07.7	+2.1	
HLID	**Hailey**	**129.81**	**39**		*e*PKPdf	PKPdf	15 14 07.6	+1.8	
M11A	**Holland Ranch,**	**129.95**	**42**	⇓	P	PKPdf	15 14 08.8	+2.8	
	baz=130								
MCMT	**McKenzie Canyo**	**130.10**	**37**		*e*PKPdf	PKPdf	15 14 07.8	+1.4	
BOZ	**Bozeman (W)**	**130.36**	**36**		*e*PKIKP	PKPdf	15 14 08.0	+1.2	
ISA	**Isabella**	**130.38**	**50**	⇑	P	PKPdf	15 14 09.5	+2.6	
	baz=130								
PLCA	**Paso Flores**	**130.41**	**182**		PKP	PKPdf	15 14 08.9	+2.0	
	comp=Z,2.4nm,0.8s,baz=12,slow=12,SNR=6.0								
PLCA	**Paso Flores**	**130.41**	**182**		PKIKP	PKPdf	15 14 09.0	+2.1	
PLCA					pmax	pmax			
	comp=Z,2.0nm,0.8s								
S09A	**Goldfield**	**130.54**	**47**	⇑	P	PKPdf	15 14 10.0	+2.8	
	baz=130								
O11A	**Cowboy Ranch,**	**130.63**	**44**	⇓	P	PKPdf	15 14 09.8	+2.5	
	baz=130								
ELK	**Elko**	**130.63**	**43**		*e*PKIKP	PKPdf	15 14 09.1	+1.7	
N12A	**Clover Valley,**	**130.72**	**43**	⇓	P	PKPdf	15 14 10.3	+2.8	
	baz=131								
M13A	**Montello**	**131.06**	**42**	⇓	P	PKPdf	15 14 10.1	+2.0	
	baz=131								
O12A	**Currie**	**131.19**	**43**	⇑	P	PKPdf	15 14 10.6	+2.2	
	baz=131								
Q11A	**Duckwater**	**131.20**	**45**	⇓	P	PKPdf	15 14 10.2	+1.8	
	baz=131								
U10A	**Ash Meadows, A**	**131.71**	**49**	⇓	P	PKPdf	15 14 12.8	+3.4	
	baz=132								
HVU	**Hansel Valley**	**131.75**	**41**		*e*PKIKP	PKPdf	15 14 10.8	+1.3	
GSC	**Goldstone**	**131.78**	**50**	⇓	P	PKPdf	15 14 12.0	+2.5	
	baz=132								
TUQ	**Turquoise Mtn.**	**132.39**	**50**	⇓	P	PKPdf	15 14 14.0	+3.3	
	baz=132								
DUG	**Dugway**	**132.52**	**42**		*e*PKIKP	PKPdf	15 14 12.8	+1.9	
HWUT	**Hardware Ranch**	**132.62**	**40**		*e*PKPdf	PKPdf	15 14 11.9	+0.8	
PFO	**Pinyon Flat Ob**	**132.66**	**52**	⇓	P	PKPdf	15 14 13.4	+2.2	
	baz=133								
V12A	**Nelson**	**133.08**	**49**	⇓	P	PKPdf	15 14 15.0	+3.1	
	baz=133								
PDAR	**Pinedale Array**	**133.23**	**38**		PKP	PKPdf	15 14 12.8	+0.6	
	comp=Z,1.2nm,0.7s,baz=6.9,slow=0.4,SNR=11								
PDAR					SKP		15 17 48.6		
	comp=Z,0.9nm,0.9s,baz=332,slow=5.1,SNR=2.1								
MSU	**Marysvale**	**133.77**	**44**		*e*PKIKP	PKPdf	15 14 11.9	-1.4	
GLA	**Glamis**	**134.13**	**52**	⇓	P	PKPdf	15 14 17.0	+3.1	
	baz=134								
X13A	**Yucca**	**134.31**	**50**	⇑	P	PKPdf	15 14 16.9	+2.6	
	baz=134								
ULM	**Lac du Bonnet**	**134.53**	**21**		SKPbc	SKPbc	15 17 45.6	+2.0	
	comp=Z,0.7nm,0.4s,baz=135,slow=1.4,SNR=3.0								
SRU	**San Rafael**	**134.59**	**43**		*e*PKIKP	PKPdf	15 14 16.2	+1.4	
W14A	**Seligman**	**134.61**	**49**	⇓	P	PKPdf	15 14 17.5	+2.6	
	baz=134								
X14A	**Yava**	**135.06**	**50**	⇑	P	PKPdf	15 14 18.8	+3.1	
	baz=135								
Y14A	**Wickenburg**	**135.19**	**50**	⇓	P	PKPdf	15 14 18.7	+2.7	
	baz=135								
W15A	**Williams**	**135.23**	**48**	⇓	P	PKPdf	15 14 19.4	+3.4	
	baz=135								
RSSD	**Black Hills**	**135.54**	**33**		*e*PKIKP	PKPdf	15 14 17.4	+0.8	
X15A	**Humboldt**	**135.55**	**49**	⇓	P	PKPdf	15 14 19.8	+3.2	
	baz=135								
PV01	**Paradox Valley**	**136.41**	**43**		PKPdf	PKPdf	15 14 20.2	+2.0	
SMCO	**Snowmass**	**136.88**	**40**		*e*PKPdf	PKPdf	15 14 21.1	+2.0	
PKME	**Peaks-Kenny Pk**	**143.86**	**356**		*e*PKPpre		15 14 29.3		
LTX	**Lajitas**	**144.36**	**51**		*e*PKIKP	PKPdf	15 14 32.6	0.0	
FRNY	**Flat Rock**	**144.37**	**2**		*e*PKPdf	PKPdf	15 14 30.4	-2.2	
LONY	**Lake Ozonia**	**144.54**	**3**		*e*PKPdf	PKPdf	15 14 31.5	-1.3	
LBNH	**Lisbon**	**144.98**	**360**		*e*PKIKP	PKPdf	15 14 33.4	-0.2	
MIV	**Mineville/With**	**145.13**	**2**		*e*PKP	PKPdf	15 14 33.5	-0.4	
NCB	**Newcomb**	**145.21**	**2**		*e*PKP	PKPdf	15 14 34.0	-0.1	
AAM	**Ann Arbor**	**145.44**	**15**		*e*PKIKP	PKPdf	15 14 34.8	+0.4	
HNH	**Hanover**	**145.51**	**360**		*e*PKP	PKPdf	15 14 35.2	+0.7	
BDFB	**Brasilia**	**145.63**	**225**		PKPbc	PKPbc	15 14 37.1	+2.1	
	comp=Z,12nm,0.6s,baz=144,slow=1.8,SNR=16								
BDFB	**Brasilia**	**145.63**	**225**		PKP2	PKPab	15 14 37.1	+1.8	
BDFB					pmax	pmax			
	comp=Z,12nm,0.6s								
ACCN	**Adirondack Com**	**145.81**	**2**		*e*PKPbc	PKPbc	15 14 35.6	0.0	
ERPA	**Erie**	**146.41**	**10**		*e*PKPbc	PKPbc	15 14 37.5	+0.1	
SLM	**Saint Louis**	**146.45**	**26**		*e*PKP2	PKPab	15 14 37.5	-0.9	
CCM	**Cathedral Cave**	**146.48**	**28**		*e*PKIKP	PKPdf	15 14 35.6	-0.6	
CCM					*e*		15 14 37.1		
JCT	**Junction City**	**146.65**	**47**		*e*PKPdf	PKPdf	15 14 37.3	+0.8	
JCT					*e*PKPbc	PKPbc	15 14 39.9	+1.8	
WES	**Weston**	**146.82**	**359**		*e*PKP2	PKPab	15 14 38.9	-1.0	
ALLY	**Alegheny Colle**	**146.83**	**11**		*e*PKPbc	PKPbc	15 14 38.7	+0.1	
BINY	**Binghamton**	**146.86**	**5**		*e*PKPbc	PKPbc	15 14 39.2	+0.5	
FVM	**French Village**	**146.90**	**27**		*e*PKIKP	PKPdf	15 14 36.9	0.0	
FVM					*e*		15 14 38.6		
QUA2	**Belchertown**	**146.94**	**0**		*e*PKPbc	PKPbc	15 14 39.5	+0.5	
ACSO	**Alum Creek Sta**	**147.55**	**15**		*e*PKPbc	PKPbc	15 14 40.8	+0.2	
SIUC	**Southern Illin**	**147.66**	**26**		*e*PKPbc	PKPbc	15 14 41.8	+0.9	
MIAR	**Mount Ida**	**148.01**	**34**		*e*PKIKP	PKPdf	15 14 39.6	+0.8	
MIAR					*e*		15 14 42.9		
USIN	**University of**	**148.08**	**23**		PKPbc	PKPbc	15 14 42.7	+0.7	
PAL	**Palisades**	**148.18**	**2**		*e*PKP2	PKPbc	15 14 42.7	+0.4	
SSPA	**Standing Stone**	**148.19**	**8**		*e*PKPbc	PKPbc	15 14 42.5	+0.2	
LVC	**Limon Verde**	**148.33**	**186**		*e*PKPdf	PKPdf	15 14 40.8	+1.6	
LVC					*e*PKPbc	PKPbc	15 14 45.2	+2.5	
WCI	**Wyandotte Cave**	**148.36**	**21**		*e*PKP2	PKPbc	15 14 43.4	+0.6	
UALR	**University of**	**148.51**	**33**		*e*PKPbc	PKPbc	15 14 44.1	+1.0	
WVT	**Waverly**	**149.59**	**25**		*e*PKIKP	PKPdf	15 14 39.7	-1.6	
WVT					*e*		15 14 46.8		
HKT	**Hockley**	**149.74**	**43**		*e*PKP2	PKPbc	15 14 48.3	+2.0	
OXF	**Oxford**	**150.21**	**29**		*e*PKPbc	PKPbc	15 14 48.1	+0.7	
OXF					*e*PKPab	PKPab	15 14 54.3	+0.8	
PLAL	**Pickwick Lake**	**150.45**	**27**		*e*PKPdf	PKPdf	15 14 42.7	0.0	
PLAL					*e*PKPbc	PKPbc	15 14 47.9	-0.1	
FWV	**Forest Hill**	**150.60**	**14**		*e*PKPbc	PKPbc	15 14 48.5	+0.2	
TZTN	**Tazewell**	**150.81**	**19**		*e*PKPbc	PKPbc	15 14 49.5	+0.6	
TZTN					*e*PKPab	PKPab	15 14 56.3	+0.3	
BLA	**Blacksburg**	**151.05**	**13**		*e*PKIKP	PKPbc	15 14 49.8	+0.4	
CPCT	**Cooper Cave**	**151.48**	**21**		*e*PKPbc	PKPbc	15 14 50.9	+0.5	
CPCT					*e*PKPab	PKPab	15 14 58.8	0.0	
LRAL	**Lakeview Retre**	**152.56**	**28**		*e*PKPdf	PKPdf	15 14 46.8	+0.9	
LRAL					*e*PKPbc	PKPbc	15 14 53.5	+0.6	
LPAZ	**La Paz**	**154.46**	**189**		PKP	PKPdf	15 14 51.4	+2.8	
	comp=Z,2.2nm,0.9s,baz=193,slow=2.5,SNR=8.4								
LPAZ					PKPab	PKPab	15 15 12.8	+1.5	
	comp=Z,5.5nm,0.7s,baz=240,slow=5.8,SNR=8.4								
LPAZ	**La Paz**	**154.46**	**189**		*e*PKPdf	PKPdf	15 14 51.1	+2.5	
LPAZ					*e*PKPbc	PKPbc	15 14 59.6	+2.6	

*ISCJB **18** 14:55:34.7±0.7, 4192N×006×2335E×007, h10km, Error ellipse: s-maj=10.2km s-min=6.0km az=109.5*
*CSEM **18** 14:55:34.7±0.1, 4191N×2330E, h20km, MD2.6, Error ellipse: s-maj=3.4km s-min=2.9km az=25.0*
*NEIC **18** 14:55:35.0, 4192N×2339E, h10km, MD2.6(SOF), After SOF.*
*SOF **18** 14:55:35.0, 4192N×2339E, h10km, MD2.6*
*SKO **18** 14:55:36.7, 4191N×2329E, h0km, M0.8, ML2.3*

ISC 18 14:55:35.0±1.6, 4192N±006×2334E±008, h18km±31km, n7, σ0°42/8, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKB	**Krupnik**	**0.20**	**255**	*i* Pg	**Pg**	**14 55 39.6**	**-0.2**
MMB	**Musomiste**	**0.44**	**138**	*i* Pg	**Pg**	**14 55 44.5**	**+0.5**
VTS	**Vitosha**	**0.68**	**352**	Pg	**Pg**	**14 55 48.8**	**+0.4**
VAY	**Valandovo**	**0.83**	**224**	*i* Pg	**Pg**	**14 55 51.1**	**0.0**
VAY				*i* Sg	**Sg**	**14 56 02.0**	**-0.1**
VAY				*e*Lg		14 56 02.2	
	comp=N,110nm,0.6s						
VAY				*e*Lg		14 56 02.7	
	comp=E,68nm,0.5s						
PGB	**Panagyurishte**	**0.88**	**44**	*i* Pg	**Pg**	**14 55 52.0**	**-0.2**
PLD	**Plovdiv**	**1.04**	**79**	Pg	**Pg**	**14 55 54.7**	**-0.4**
RZN	**Rozhen**	**1.06**	**102**	*i* Pg	**Pg**	**14 55 55.5**	**0.0**

MAN 18 14:59:38.0, 667N×12423E, h173km, mb4.7, ML5.4, MS1.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.55**	**2**	⇑ *e*P	Pn	15 00 03.5	+1.3
CTBH				*i* S	Sn	15 00 22.7	+2.0
MATI	**Mati**	**2.03**	**82**	*e*P	Pn	15 00 15.4	+0.4
BUTP	**Butuan**	**2.67**	**31**	*e*P	Pn	15 00 22.9	+0.7

MOS 18 15:02:48.9±1.7, 5212N×15963E, h79km, mb4.3/1, 1C-1D, Error ellipse: s-maj=47.2km s-min=22.7km az=113.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**1.08**	**327**	*d* iPN	Pn	15 03 09.5	+0.6
PET				*e*S	Sn	15 03 26.7	+2.9
YSS	**Yuzh-Sakhalins**	**12.11**	**251**	*e*PN	Pn	15 05 39.7	+1.4
YAK	**Yakutsk**	**18.88**	**313**	*e*P	Pn	15 07 05.0	+0.7
YAK				pmax	pmax		
	comp=Z,14nm,0.8s						
TIXI	**Tiksi**	**23.86**	**336**	*e*P	P	15 07 56.6	+1.8
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KURK	**Kurchatov**	**48.01**	**302**	*e*P	P	15 11 22.7	+2.8
OBN	**Obninsk**	**63.18**	**327**	⇑ *e*P	P	15 13 07.5	-1.1
KMBO	**Kilima Mbogo**	**110.21**	**296**	*i* PKIKP	PKiKP	15 21 12.3	+0.8
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*ISCJB **18** 15:09:25.8±0.7, 1117N±004×6187W±003, h80km±8km, Error ellipse: s-maj=7.5km s-min=5.6km az=152.9*
*FUNV **18** 15:09:27.2, 1123N×6176W, h35km, MW2.9*
*NEIC **18** 15:09:28.7, 1120N×6178W, h78km, MD3.3(TRN), After TRN.*
*TRN **18** 15:09:28.7, 1120N×6178W, h78km, MD3.3*

ISC 18 15:09:27.1±0.7, 1118N±004×6187W±003, h70km±10km, n21, σ0°69/31, 1C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.64**	**214**	*e*P	**Pn**	**15 09

ellipse: s-maj=17.4km s-min=7.5km az=112.3
ISC 18 15:48:34.7±0.3,**930S**±004×**10707E**±005,**h28**km,
h28km±3.1km:**pP-P,n129,**σ1§**12**/121,**mb4.8**/52,**MS4.3**/10,
9C-4D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.52**	**12**	P	**Pn**	**15 49 14.1**	**+0.3**
	2μm,0.8s						
CBJI	**Citeko**	**2.87**	**356**	P	**Pn**	**15 49 15.2**	**-3.4**
	4μm,0.7s						
JCJI	**Jatiwangi**	**3.03**	**23**	P	**Pn**	**15 49 18.5**	**-2.4**
	2μm,0.8s						
TNG	**Tangerang**	**3.14**	**352**	P	**Pn**	**15 49 23.3**	**+1.0**
	1μm,0.9s						
BJII	**Banjamegara**	**3.26**	**53**	P	**Pn**	**15 49 24.1**	**+0.1**
	373nm,0.8s						
SBJI	**Serang**	**3.29**	**344**	P	**Pn**	**15 49 24.5**	**0.0**
	1μm,1.1s						
KSI	**Kapahiang**	**7.16**	**321**	P	**Pn**	**15 50 15.7**	**-1.9**
	227nm,0.7s						
NBBI	**Negara**	**7.52**	**84**	P	**Pn**	**15 50 28.2**	**+5.7**
	757nm,1.0s						
KSM	**Kuching**	**11.18**	**17**	P	**Pn**	**15 51 13.0**	**+0.4**
PSI	**Prapat**	**14.51**	**326**	Pn	**Pn**	**15 51 58.8**	**+0.7**
	0.5nm,0.3s,baz=232,slow=14,SNR=2.5						
PSI				LR	LR	15 58 55.0	
	comp=Z,320nm,19.5s,baz=301,slow=43						
IPM	**Ipoh**	**14.96**	**336**	P	**Pn**	**15 52 02.2**	**-2.0**
PCI	**Palu**	**15.20**	**57**	P	**Pn**	**15 52 07.8**	**+0.4**
	55nm,1.2s						
KULM	**Kulim**	**15.84**	**336**	*e*P	**Pn**	**15 52 11.0**	**-4.7**
MBWA	**Marble Bar**	**16.96**	**135**	*e*P	**Pn**	**15 52 26.1**	**-3.9**
	11nm,0.6s						
TSM	**Tawau**	**17.27**	**39**	P	**Pn**	**15 52 36.2**	**+2.4**
KKM	**Kota Kinabalu**	**17.76**	**31**	*e*P	**Pn**	**15 52 39.0**	**-0.9**
BSI	**Banda Aceh**	**18.81**	**321**	P	**Pn**	**15 52 51.9**	**-0.8**
	79nm,1.2s						
FITZ	**Fitzroy Crossi**	**20.03**	**118**	*e*P	**P**	**15 53 05.5**	**0.0**
	17nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.03**	**118**	P	**P**	**15 53 06.0**	**+0.5**
	0.2nm,0.3s,baz=280,slow=7.5,SNR=7.3						
FITZ				S	**S**	**15 56 34.9**	**-14**
	0.1nm,0.3s,baz=168,slow=20,SNR=3.4						
FITZ				LR	LR	16 00 17.4	
	comp=Z,151nm,18.1s,MS3.4,baz=63,slow=35						
BATP	**Bataraza**	**20.91**	**31**	*e*P	**P**	**15 53 14.8**	**-0.2**
AAI	**Ambon**	**21.71**	**76**	P	**P**	**15 53 29.8**	**+6.2**
	151nm,1.1s,mb5.3						
PAGZ	**Pagadian**	**23.54**	**44**	*e*P	**P**	**15 53 43.5**	**+0.7**
DAV	**Davao City (W)**	**24.59**	**49**	*e*P	**P**	**15 53 50.8**	**-1.6**
BUKP	**Musuan**	**24.75**	**47**	*e*P	**P**	**15 53 55.2**	**+1.4**
GUIM	**Jordan**	**25.11**	**38**	*e*P	**P**	**15 53 57.0**	**0.0**
KAKA	**Kakadu**	**25.13**	**100**	*e*P	**P**	**15 53 59.7**	**+2.4**
	18nm,0.8s,mb4.7						
NWAO	**Narrogin (SRO)**	**25.32**	**160**	P	**P**	**15 53 58.1**	**-0.9**
	5.5nm,1.0s,mb4.0,baz=328,slow=9.6,SNR=4.6						
NWAO	**Narrogin (SRO)**	**25.32**	**160**	*e*P	**P**	**15 53 58.4**	**-0.6**
NST	**Nakhon Sawan**	**25.75**	**344**	P	**P**	**15 54 00.0**	**-2.9**
QIZ	**Qiongzhong**	**28.28**	**6**	*e*P	**P**	**15 54 26.4**	**+0.7**
QIZ				*e*S	**S**	**15 59 12.1**	**+1.9**
QIZ				LR	LR		
	comp=N,359nm,14.9s,MS4.2						
QIZ				LR	LR		
	comp=E,295nm,15.4s,MS4.2						
QIZ				LR	LR		
	comp=Z,407nm,15.8s,MS4.1						
WRA	**Warramunga Arr**	**28.38**	**115**	P	**P**	**15 54 26.5**	**-0.1**
	comp=Z,3.8nm,0.8s,mb4.1,baz=289,slow=10,SNR=12						
WRAB	**Tennant Creek**	**28.39**	**115**	*e*P	**P**	**15 54 26.6**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,32nm,1.3s,mb4.8						
WRAB	**Tennant Creek**	**28.39**	**115**	*e*P	**P**	**15 54 26.6**	**0.0**
	comp=Z,32nm,1.3s,mb4.8						
WB2	**Warramunga Arr**	**28.39**	**115**	*e*P	**P**	**15 54 26.4**	**-0.3**
NANT	**Nan**	**28.62**	**347**	⇑P	**P**	**15 54 27.0**	**-1.7**
	comp=Z,156nm,0.9s,mb5.7						
CHG	**Chiang Mai**	**29.06**	**344**	⇓P	**P**	**15 54 32.7**	**+0.1**
	comp=Z,32nm,0.9s,mb5.0						
CHTO	**Chiang Mai**	**29.06**	**344**	⇑P	**P**	**15 54 31.2**	**-1.4**
	SNR=6.4						
CHTO	**Chiang Mai**	**29.06**	**344**	*e*P	**P**	**15 54 30.7**	**-1.9**
CHTO				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.0						
CHTO	**Chiang Mai**	**29.06**	**344**	*e*P	**P**	**15 54 30.7**	**-1.9**
	comp=Z,36nm,1.1s,mb5.0						
ASPA	**Alice Springs**	**29.35**	**122**	*e*P	**P**	**15 54 35.7**	**+0.5**
ASAR	**Alice Springs**	**29.35**	**122**	P	**P**	**15 54 35.2**	**0.0**
	comp=Z,3.9nm,1.0s,mb4.0,baz=303,slow=9.1,SNR=19						
AS31	**Alice Springs**	**29.35**	**122**	*e*P	**P**	**15 54 35.7**	**+0.5**
KMI	**Kunming**	**34.47**	**353**	P	**P**	**15 55 22.5**	**+2.4**
KMI				AP	pP	15 55 25.4	-2.9
KMI				PP	PP	15 56 38.3	-0.2
KMI				PPP		15 56 56.3	
KMI				PCP	PcP	15 57 58.1	+3.1
KMI				S	**S**	**16 00 49.6**	**+2.8**
KMI				XS	sS	16 00 54.6	-5.8
KMI				SCP	ScP	16 01 41.8	+3.6
KMI				PCS	PcS	16 01 43.0	+1.6
KMI				SS	SS	16 02 59.8	-17
KMI				SSS		16 03 26.0	
KMI				SCS	ScS	16 05 43.4	+2.5
KMI				AMB	AMB		
	comp=Z,34nm,1.2s,mb5.2						
KMI				AMB	AMB		
	comp=Z,109nm,5.1s						
KMI				LR	LR		
	comp=N,704nm,11.3s,MS4.7						
KMI				LR	LR		
	comp=E,319nm,11.8s,MS4.7						
KMI				LR	LR		
	comp=Z,755nm,11.3s,MS4.7						
GYA	**Guiyang**	**35.55**	**359**	⇑*i*P	**P**	**15 55 30.8**	**+1.4**
GYA				AP	pP	15 55 34.8	-2.8
GYA				XP	sP	15 55 37.9	-3.1
GYA				PP	PP	15 56 49.8	-0.5
GYA				PCP	PcP	15 58 01.9	+3.8
GYA				S	**S**	**16 01 02.8**	**-0.5**
GYA				SCP	ScP	16 01 45.8	+3.7
GYA				SS	SS	16 03 19.0	-19
GYA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
GYA				AMB	AMB		
	comp=Z,140nm,4.8s						
GYA				LR	LR		
	comp=N,480nm,14.3s,MS4.5						
GYA				LR	LR		
	comp=E,510nm,16.4s,MS4.5						
GYA				LR	LR		
	comp=Z,540nm,14.3s,MS4.5						
HYB	**Hyderabad**	**38.72**	**313**	*i* P	**P**	**15 55 57.0**	**+0.7**
HYB	**Hyderabad**	**38.72**	**313**	*e*P	**P**	**15 55 57.0**	**+0.7**
JIRN	**Jiri**	**41.94**	**332**	*e*P	**P**	**15 56 24.6**	**+1.6**
GUN	**Gumba**	**42.30**	**332**	*e*P	**P**	**15 56 27.1**	**+1.2**
	comp=Z,61nm,0.7s,mb5.3						
SSE	**Sheshan**	**42.38**	**18**	P	**P**	**15 56 23.8**	**-2.8**
SSE				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,46nm,3.3s						
DMN	**Daman**	**42.41**	**331**	*e*P	**P**	**15 56 27.8**	**+1.0**
	comp=Z,44nm,0.8s,mb5.2						
KKN	**Kakani**	**42.48**	**331**	*e*P	**P**	**15 56 28.2**	**+0.8**
	comp=Z,30nm,0.9s,mb4.9						
KKN	**Kakani**	**42.48**	**331**	*e*P	**P**	**15 56 28.2**	**+0.8**
KKN				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.9						
NJ2	**Nanjing**	**42.63**	**15**	*e*P	**P**	**15 56 27.9**	**-0.7**
NJ2				AP	pP	15 56 37.8	+0.8
NJ2				XP	sP	15 56 41.8	+1.5
NJ2				PP	PP	15 58 09.0	+1.3
NJ2				S	**S**	**16 02 43.0**	**-6.9**
NJ2				XS	sS	16 02 59.0	-4.6
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,150nm,4.4s						
NJ2				LR	LR		
	comp=N,2μm,16.0s,MS5.1						
NJ2				LR	LR		
	comp=E,620nm,18.6s,MS5.1						
GKN	**Gorkha**	**42.97**	**330**	*e*P	**P**	**15 56 32.0**	**+0.6**
	comp=E,46nm,0.8s,mb5.3						
XAN	**Xi'an**	**43.13**	**2**	P	**P**	**15 56 32.5**	**-0.2**
XAN				AMB	AMB		
	comp=Z,36nm,1.1s,mb5.0						
XAN				LR	LR		
	comp=N,174nm,11.0s						
XAN				LR	LR		
	comp=Z,372nm,12.6s,MS4.5						
KOLN	**Koldanda**	**43.29**	**329**	*e*P	**P**	**15 56 35.1**	**+1.1**
	comp=Z,50nm,0.6s,mb5.4						
LZH	**Lanzhou**	**45.24**	**356**	*e*P	**P**	**15 56 51.3**	**+1.7**
LZH				AP	pP	15 56 56.8	-1.2
LZH				XP	sP	15 57 00.0	-1.3
LZH				AMB	AMB		
	comp=Z,21nm,1.6s,mb4.7						
LZH				AMB	AMB		
	comp=Z,133nm,7.7s						
LZH				LR	LR		
	comp=N,371nm,11.2s						
LZH				LR	LR		
	comp=Z,484nm,13.9s,MS4.6						
NDI	**New Delhi**	**47.51**	**324**	*e*P	**P**	**15 57 06.0**	**-1.4**
GTA	**Gaotai**	**48.93**	**353**	*e*P	**P**	**15 57 19.8**	**+1.5**
GTA				AP	pP	15 57 29.8	+3.0
GTA				PP	PP	15 59 13.9	+2.1
GTA				PPP		16 00 07.1	
GTA				S	**S**	**16 04 23.0**	**+2.5**
GTA				XS	sS	16 04 37.9	+3.5
GTA				SS	SS	16 07 49.5	-1.8
GTA				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
GTA				AMB	AMB		
	comp=Z,123nm,4.6s						
GTA				LR	LR		
	comp=N,125nm,17.9s,MS4.2						
GTA				LR	LR		
	comp=E,192nm,21.7s,MS4.2						
GTA				LR	LR		
	comp=Z,112nm,17.5s,MS3.9						
BJT	**Baijiatuan**	**49.79**	**9**	P	**P**	**15 57 24.9**	**0.0**
BJT				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BJT	**Baijiatuan**	**49.79**	**9**	P	**P**	**15 57 24.9**	**0.0**
	comp=Z,6.4nm,0.7s,mb4.8						
MJAR	**Matsushiro Arr**	**54.18**	**31**	P	**P**	**15 57 56.0**	**-1.6**
	comp=Z,1.5nm,0.5s,mb4.1,baz=273,slow=6.7,SNR=4.6						
CN2	**Changchun**	**55.42**	**16**	*e*P	**P**	**15 58 04.6**	**-2.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
SONM	**Songino Array**	**56.88**	**359**	P	**P**	**15 58 17.6**	**+0.5**
	comp=Z,6.2nm,0.9s,mb4.6,baz=176,slow=7.7,SNR=36						
ULN	**Ulaanbaatar**	**56.91**	**360**	⇑*e*P	**P**	**15 58 17.0**	**-0.2**
ULN	**Ulaanbaatar**	**56.91**	**360**	*e*P	**P**	**15 58 17.5**	**+0.3**
	comp=Z,9.2nm,0.7s,mb4.9						
ZAK	**Zakamensk**	**59.52**	**357**	*e*P	**P**	**15 58 35.7**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
AAK	**Ala-Archa**	**59.64**	**333**	⇑*e*P	**P**	**15 58 34.9**	**-1.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.1						
FRU	**Bishkek**	**59.74**	**333**	*e*P	**P**	**15 58 37.0**	**0.0**
MKAR	**Makanchi Array**	**60.06**	**341**	P	**P**	**15 58 39.3**	**+0.1**
	comp=Z,15nm,0.7s,mb5.1,baz=141,slow=7.9,SNR=154						
MKAR	**Makanchi Array**	**60.06**	**341**	*i* P	**P**	**15 58 39.2**	**0.0**
MKAR				pmax	pmax		
	comp=Z,15nm,0.7s						
MOY	**Mondy**	**60.94**	**356**	*e*P	**P**	**15 58 45.2**	**0.0**
KK31	**Karatay Array**	**61.88**	**330**	*i* P	**P**	**15 58 50.6**	**-0.9**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
KLR	**Kul'dur**	**62.18**	**18**	*e*P	**P**	**15 58 48.6**	**-5.0**
YSS	**Yuzh-Sakhalins**	**64.39**	**26**	*e*P	**P**	**15 59 07.0**	**-1.2**
YSS				*e*	pP	15 59 16.0	-0.9
YSS				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.2						
YSS	**Yuzh-Sakhalins**	**64.39**	**26**	*e*P	**P**	**15 59 07.2**	**-1.0**
	comp=Z,23nm,1.1s,mb5.1						
KURK	**Kurchatov**	**64.67**	**340**	P	**P**	**15 59 10.6**	**+0.5**
	SNR=12						
KURK	**Kurchatov**	**64.67**	**340**	⇑*e*P	**P**	**15 59 10.4**	**+0.3**
KURK	**Kurchatov**	**64.67**	**340**	*e*P	**P**	**15 59 10.1**	**+0.1**
	comp=Z,19nm,0.8s,mb5.2						
MAW	**Mawson**	**65.20**	**197**	*e*P	**P**	**15 59 13.2**	**-0.3**
	comp=Z,4.0nm,0.6s,mb4.6						
MAW	**Mawson**	**65.20**	**197**	P	**P**	**15 59 13.9**	**+0.4**
	comp=Z,2.7nm,0.6s,mb4.5,baz=45,slow=5.8,SNR=20						
MAW	**Mawson**	**65.20**	**197**	*e*P	**P**	**15 59 13.2**	**-0.3**
MAW				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZAL	**Zalesovo**	**65.76**	**346**	P	**P**	**15 59 16.1**	**-1.0**
	comp=Z,2.3nm,0.9s,mb4.2,baz=217,slow=1.0,SNR=8.5						
NVS	**Novosibirsk**	**66.97**	**345**	*i* P	**P**	**15 59 29.1**	**+4.3**
BOD	**Bodaibo**	**67.12**	**4**	⇓*i*P	**P**	**15 59 24.6**	**-1.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
BVAR	**Borovoye Array**	**69.50**	**337**	P	**P**	**15 59 40.7**	**0.0**
	comp=Z,6.4nm,0.7s,mb4.7,baz=145,slow=8.6,SNR=41						
BRVK	**Borovoye**	**69.57**	**337**	⇓P	**P**	**15 59 41.0**	**-0.1**
	SNR=7.4						
BRVK	**Borovoye**	**69.57**	**337**	*e*P	**P**	**15 59 40.4**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
BRVK	**Borovoye**	**69.57**	**337**	*e*P	**P**	**15 59 40.4**	**-0.7**
	comp=Z,7.2nm,1.0s,mb4.6						
CHKZ	**Chkalovo**	**69.92**	**338**	*i* P	**P**	**15 59 43.5**	**+0.2**
CHKZ				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**69.92**	**338**	*e*P	**P**	**15 59 43.4**	**0.0**
	comp=Z,20nm,0.8s,mb5.1						
ZRNK	**Zerenda**	**69.98**	**337**	*i* P	**P**	**15 59 43.6**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
ZRNK	**Zerenda**	**69.98**	**337**	*e*P	**P**	**15 59 43.5**	**-0.1**
	comp=Z,10nm,0.7s,mb4.9						
AKTK	**Aktyubinsk**	**73.13**	**330**	P	**P**	**16 00 02.8**	**+0.2**
AKTO	**Aktyubinsk**	**73.13**	**330**	P	**P**	**16 00 02.8**	**+0.2**
	comp=Z,1.7nm,0.9s,mb4.0,baz=104,slow=11						
YAK	**Yakutsk**	**73.26**	**11**	⇑*e*P	**P**	**16 00 01.8**	**-1.6**
YAK				pmax	pmax		
	comp=Z,46nm,1.4s,mb5.2						
YAK	**Yakutsk**	**73.26**	**11**	*e*P	**P**	**16 00 02.2**	**-1.2**
	comp=Z,11nm,0.6s,mb5.0						
VNDA	**Vanda**	**73.71**	**169**	P	**P**	**16 00 05.5**	**-0.5**
	comp=Z,1.3nm,1.0s,mb3.8,baz=279,slow=7.2,SNR=4.2						
VNDA				LR	LR	16 27 44.8	
	comp=Z,92nm,20.4s,MS4.1,baz=198,slow=32						
VNDA	**Vanda**	**73.71**	**169**	*e*P	**P**	**16 00 05.5**	**-0.5**
VNDA				LR	LR	16 27 44.8	
PET	**Petropavlovsk**	**75.96**	**29**	⇑*e*P	**P**	**16 00 18.5**	**-0.6**
PET				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
PET	**Petropavlovsk**	**75.96**	**29**	*e*P	**P**	**16 00 18.3**	**-0.8**
	comp=Z,23nm,1.3s,mb4.9						
SVE	**Sverdlovsk**	**76.12**	**336**	*e*P	**P**	**16 00 20.0**	**0.0**
ARU	**Arti**	**76.72**	**335**	⇓*i*P	**P**	**16 00 22.9**	**-0.4**
ARU				*e*	pP	16 00 31.8	-0.4
ARU				*e*		16 03 13.4	
ARU				*e*PPP		16 04 59.2	
ARU				*e*S	S	16 10 04.0	-4.5
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ARU	**Arti**	**76.72**	**335**	*e*P	**P**	**16 00 23.1**	**-0.3**
	comp=Z,7.9nm,1.0s,mb4.6						
ZEI	**Tsey**	**77.33**	**318**	*e*P	**P**	**16 00 28.1**	**+1.3**
ZEI				*e*PP	pP	16 00 37.6	+2.0
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb5.1						
ASF	**Jabal al Asfar**	**78.53**	**306**	P	**P**	**16 00 35.4**	**+1.9**
	comp=Z,3.6nm,0.8s,mb4.3,baz=11,slow=4.0						
KIV	**Kislovodsk**	**78.63**	**318**	⇑*e*P	**P**	**16 00 35.6**	**+1.6**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
MMAI	**Mount Meron Ar**	**79.99**	**306**	P	**P**	**16 00 43.2**	**+1.7**
	comp=Z,2.8nm,0.6s,mb4.3,baz=166,slow=18,SNR=3.8						
QSPA	**South Pole Qui**	**80.70**	**180**	*e*P	**P**	**16 00 45.1**	**-0.2**
	comp=Z,8.6nm,1.2s,mb4.6						
SUR	**Sutherland**	**81.95**	**239**	LR	LR	16 28 45.4	
	comp=Z,99nm,20.1s,MS4.2,baz=27,slow=29						
TIXI	**Tiksi**	**82.07**	**7**	*e*P	**P**	**16 00 52.9**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
SNAA	**Sanae**	**87.37**	**197**	*e*P	**P**	**16 01 26.7**	**+7.5**
SNAA				*e*		16 01 29.0	
SNAA				*e*		16 01 37.2	
SNAA				*e*		16 01 40.8	
KLMR	**Klimovskoe**	**87.45**	**333**	*e*P	**P**	**16 01 19.1**	**-0.5**
KLMR				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.3						
AKASG	**Malin Array Be**	**89.53**	**322**	P	**P**	**16 01 28.5**	**-0.9**
	comp=Z,0.4nm,0.4s,mb4.1,baz=85,slow=5.6,SNR=5.8						
AKASG	**Malin Array Be**	**89.53**	**322**	P	**P**	**16 01 28.5**	**-0.9**
MLR	**Muntele Rosu**	**90.40**	**316**	P	**P**	**16 01 32.2**	**-1.3**
	comp=Z,1.4nm,0.4s,mb4.6,baz=146,slow=11,SNR=2.8						
LBNH	**Lisbon**	**145.18**	**359**	*e*PKIKP	PKPdf	16 08 09.5	-0.1
WMOK	**Wichita Mounta**	**145.35**	**39**	*e*PKIKP	PKPdf	16 08 10.7	+0.8
WMOK				*e*		16 08 20.2	
MIV	**Mineville/With**	**145.35**	**1**	*e*PKP	PKPdf	16 08 10.3	+0.4
NCB	**Newcomb**	**145.44**	**2**	*e*PKP	PKPdf	16 08 11.2	+1.1
NCB				*e*		16 08 19.5	
CCM	**Cathedral Cave**	**146.96**	**27**	*e*PKP2	PKPbc	16 08 14.2	-0.4
BINY	**Binghamton**	**147.12**	**4**	*e*PKPbc	PKPbc	16 08 16.2	+1.1
BINY				*e*		16 08 24.8	
QUA2	**Belchertown**	**147.15**	**359**	*e*PKPbc	PKPbc	16 08 16.2	+1.0
JCT	**Junction City**	**147.26**	**46**	*e*PKP2	PKPab	16 08 16.4	-0.9
ACSO	**Alum Creek Sta**	**147.92**	**15**	*e*PKPbc	PKPbc	16 08 18.4	+1.2
ACSO				*e*		16 08 27.4	
SSPA	**Standing Stone**	**148.48**	**7**	*e*PKPbc	PKPbc	16 08 19.4	+0.7
MIAR	**Mount Ida**	**148.55**	**34**	*e*PKPbc	PKPbc	16 08 20.1	+1.1
MIAR				*e*PKPab	PKPab	16 08 23.6	+1.2
WVT	**Waverly**	**150.05**	**25**	*e*PKP2	PKPbc	16 08 23.2	+0.5
CPCT	**Cooper Cave**	**151.90**	**20**	PKPbc	PKPbc	16 08 27.4	+0.4

NEIC ***18*** *15:59:13.0±0.6,978S×108.15E,h10km,mb4.7/9, Error ellipse: s-maj=25.5km s-min=7.9km az=225.0*
BJI ***18*** *15:59:13.0,980S×108.10E,h10km,mB5.0,mb4.4,Ms4.6, Msz4.4*
ISCJB ***18*** *15:59:15.1±0.7,97S±0.1×1083E±0.1,h34km,mb4.3/20, MS4.4/1,Error ellipse: s-maj=26.0km s-min=10.8km az=95.6*
IDC ***18*** *15:59:17.1±1.1,974S×108.23E,h36km±5km,mb3.9/9, mb1 3.9/10,mb1mx3.8/18,mbtmp4.0/10,ML3.6/1,Error ellipse: s-maj=41.4km s-min=14.1km az=45.0*
ISC 18 15:59:17.0±0.8,**99S**±01×**1082E**±02,**h36**km,
h36km±1.2km:**pP-P,n27,**σ0§**85**/27,**mb4.3**/20,**MS4.4**/1,**1C,**
South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.82**	**118**	P	**Pn**	**16 03 34.9**	**+0.7**
	0.1nm,0.3s,baz=281,slow=19,SNR=4.4						
FITZ				S	**S**	**16 06 50.8**	**-14**
	0.1nm,0.3s,baz=139,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**27.17**	**115**	P	**P**	**16 04 55.9**	**-1.0**
	0.9nm,0.8s,mb3.4,baz=285,slow=11,SNR=4.5						
WRA				pP	pP	16 05 06.8	-0.4
	2.3nm,0.8s,baz=286,slow=11,SNR=12						
ASAR	**Alice Springs**	**28.15**	**122**	P	**P**	**16 05 06.5**	**+0.9**
	0.6nm,0.8s,mb3.3,baz=296,slow=8.4,SNR=5.6						
ASAR				pP	pP	16 05 17.9	+2.0
	2.0nm,0.7s,baz=299,slow=9.2,SNR=11						
CHTO	**Chiang Mai**	**29.89**	**342**	*e*P	**P**	**16 05 21.0**	**-0.2**
	15nm,1.1s,mb4.6						
KMI	**Kunming**	**35.16**	**351**	P	**P**	**16 06 08.6**	**+1.4**
KMI				AP	pP	16 06 18.6	+1.0
KMI				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.5						
GYA	**Guiyang**	**36.12**	**358**	⇑*i*P	**P**	**16 06 16.5**	**+1.1**
GYA				AP	pP	16 06 20.8	-5.0
GYA				XP	sP	16 06 21.6	-8.6
GYA				PP	PP	16 07 35.5	-2.4
GYA				S	**S**	**16 11 48.5**	**-4.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
GYA				AMB	AMB		
	comp=Z,90nm,4.0s						
GYA				LR	LR		
	comp=N,380nm,14.5s,MS4.5						
GYA				LR	LR		
	comp=E,420nm,14.8s,MS4.5						
GYA				LR	LR		
	comp=Z,410nm,14.0s,MS4.3						
XAN	**Xi'an**	**43.65**	**1**	P	**P**	**16 07 18.3**	**+0.3**
XAN				XP	sP	16 07 27.8	-5.1
GTA	**Gaotai**	**49.61**	**352**	*e*P	**P**	**16 08 06.1**	**+1.4**
GTA				AP	pP	16 08 16.4	+1.0
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.3						
MJAR	**Matsushiro Arr**	**54.10**	**30**	P	**P**	**16 08 37.2**	**-1.0**
	comp=Z,1.3nm,0.5s,mb4.1,baz=209,slow=8.5,SNR=3.9						
SONM	**Songino Array**	**57.45**	**359**	P	**P**	**16 09 02.3**	**+0.2**
	comp=Z,2.3nm,0.8s,mb4.3,baz=170,slow=8.2,SNR=15						
SONM				pP	pP	16 09 12.5	-0.5
	comp=Z,2.6nm,0.9s,baz=180,slow=6.3,SNR=8.7						
ULN	**Ulaanbaatar**	**57.46**	**359**	*e*P	**P**	**16 09 02.2**	**0.0**
	comp=Z,3.4nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**60.94**	**340**	P	**P**	**16 09 26.2**	**-0.1**
	comp=Z,2.6nm,0.6s,mb4.5,baz=142,slow=7.7,SNR=43						
MKAR				pP	pP	16 09 36.5	-0.7
	comp=Z,6.2nm,0.8s,baz=143,slow=8.1,SNR=16						
MKAR	**Makanchi Array**	**60.94**	**340**	P	**P**	**16 09 26.2**	**-0.1**
MKAR				pP	pP	16 09 36.5	-0.7
KURK	**Kurchatov**	**65.55**	**340**	*e*P	**P**	**16 09 56.5**	**-0.3**
	comp=Z,5.1nm,0.9s,mb4.5						
KURK				*e*	pP	16 10 06.8	-1.0
BRVK	**Borovoye**	**70.49**	**337**	*e*P	**P**	**16 10 27.5**	**-0.3**
	comp=Z,1.9nm,1.0s,mb4.0						
BRVK				*e*	pP	16 10

ISC 18 16:02:15.5±0.6, 2011S±004×17838W±003, h565km±7km, h587km±3.0km; pP-P, n1065, σ0°86/473, mb5.2/123, 132C-153D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.83**	**47**	P	**P**	**16 04 19.7**	**-2.1**
	32nm,0.3s,baz=77,slow=1.9,SNR=36						
AFI				S	**S**	**16 05 58.1**	**-7.3**
	34nm,0.3s,baz=40,slow=23,SNR=19						
AFI	**Afiamalu**	**8.83**	**47**	P	**P**	**16 04 19.7**	**-2.1**
AFI				S	**S**	**16 05 58.1**	**-7.3**
AFI				pmax	pmax		
	comp=Z,32nm,0.3s						
AFI				smax			
	comp=E,34nm,0.3s						
RAO	**Raoul Island**	**9.11**	**177**	P	**P**	**16 04 24.8**	**+0.2**
	comp=E,199nm,0.3s,baz=221,slow=22,SNR=7.5						
RAO				S	**S**	**16 06 10.2**	**-0.3**
	comp=E,179nm,0.3s,baz=248,slow=23,SNR=10						
RAO	**Raoul Island**	**9.11**	**177**	P	**P**	**16 04 24.8**	**+0.2**
RAO				S	**S**	**16 06 10.2**	**-0.4**
RAO				pmax	pmax		
	comp=Z,199nm,0.3s						
RAO				smax			
	comp=E,179nm,0.3s						
FUNA	**Funafuti**	**11.76**	**348**	*e*P	**P**	**16 04 51.5**	**0.0**
DZM	**Mont Dzumac**	**14.30**	**259**	*e*P	**P**	**16 05 20.3**	**+2.7**
DZM	**Mont Dzumac**	**14.30**	**259**	P	**P**	**16 05 18.9**	**+1.4**
	comp=E,7.0nm,0.3s,baz=83,slow=16,SNR=106						
DZM				S	**S**	**16 07 52.5**	**+5.1**
	baz=98,slow=24,SNR=3.5						
DZM				ScP	ScP	16 12 33.0	+1.7
	comp=E,0.3nm,0.3s,baz=92,slow=9.6,SNR=8.2						
DZM				ScS	ScS	16 16 12.5	+3.4
	comp=E,0.1nm,0.3s,baz=332,slow=24,SNR=5.9						
NOUC	**Port Laguerre**	**14.43**	**259**	*e*P	**P**	**16 05 20.5**	**+1.6**
OUZ	**Omahuta**	**16.63**	**204**	PN	**P**	**16 05 42.9**	**+2.8**
OUZ				pP		16 07 08.7	
WCZ	**Waipu Caves**	**17.02**	**201**	PN	**P**	**16 05 46.4**	**+2.9**
WCZ				pP		16 07 12.2	
RAR	**Rarotonga**	**17.45**	**97**	P	**P**	**16 05 46.3**	**-1.2**
	comp=E,9.9nm,0.3s,baz=244,slow=7.1,SNR=10.0						
RAR	**Rarotonga**	**17.45**	**97**	P	**P**	**16 05 46.3**	**-1.2**
RAR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
MTAZ	**Motutapu**	**17.62**	**198**	PN	**P**	**16 05 51.9**	**+2.8**
OTAZ	**Otara**	**17.77**	**198**	PN	**P**	**16 05 52.8**	**+2.4**
WTAZ	**Waiatarua**	**17.86**	**199**	PN	**P**	**16 05 53.2**	**+2.0**
URZ	**Urewera**	**18.50**	**191**	P	**P**	**16 05 54.6**	**-2.5**
	comp=Z,49nm,0.3s,baz=344,slow=3.3,SNR=206						
URZ				S	**S**	**16 08 51.2**	**-6.0**
	comp=Z,2.2nm,0.3s,baz=154,slow=23,SNR=5.7						
URZ				ScP	ScP	16 12 37.3	-2.4
	comp=Z,2.8nm,0.3s,baz=320,slow=5.5,SNR=10						
URZ	**Urewera**	**18.50**	**191**	PN	**P**	**16 05 54.6**	**-2.5**
BKZ	**Black Stump Fm**	**19.50**	**192**	PN	**P**	**16 06 03.9**	**-2.3**
BKZ				pP		16 07 43.4	
BFZ	**Birch Farm**	**21.01**	**191**	PN	**P**	**16 06 18.7**	**-1.2**
BFZ				pP		16 07 45.8	
MRZ	**Mangatainoka R**	**21.12**	**193**	PN	**P**	**16 06 18.6**	**-2.3**
SNZO	**South Karori**	**21.93**	**194**	*e*P	**P**	**16 06 27.1**	**-1.0**
	comp=Z,155nm,0.9s,mb5.6						
TCW	**Tory Channel**	**21.94**	**195**	PN	**P**	**16 06 26.7**	**-1.5**
NNZ	**Nelson**	**22.18**	**197**	PN	**P**	**16 06 29.2**	**-1.1**
NNZ				*e*SN	**S**	**16 09 50.9**	**-4.7**
THZ	**Tophouse**	**22.81**	**197**	PN	**P**	**16 06 35.0**	**-0.9**
DSZ	**Denniston Nort**	**23.12**	**199**	PN	**P**	**16 06 38.7**	**0.0**
KHZ	**Kahutara**	**23.26**	**195**	PN	**P**	**16 06 38.7**	**-1.2**
HNR	**Honiara**	**23.46**	**294**	P	**P**	**16 06 41.2**	**-0.6**
	comp=Z,69nm,0.7s,mb5.4,baz=98,slow=1.0,SNR=8.7						
HNR				ScP	ScP	16 12 50.2	-1.9
	comp=Z,45nm,0.8s,baz=264,slow=2.0,SNR=3.8						
HNR	**Honiara**	**23.46**	**294**	P	**P**	**16 06 41.2**	**-0.5**
HNR				pmax	pmax		
	comp=Z,69nm,0.7s,mb5.4						
HNR				pmax	pmax		
	comp=E,45nm,0.9s						
HNR	**Honiara**	**23.46**	**294**	*e*P	**P**	**16 06 41.9**	**+0.2**
	comp=E,109nm,0.9s,mb5.5						
LTZ	**Lake Taylor**	**23.93**	**197**	PN	**P**	**16 06 44.2**	**-1.7**
WVZ	**Waitaha Valley**	**24.66**	**199**	PN	**P**	**16 06 51.6**	**-0.7**
RPZ	**Rata Peaks**	**25.14**	**198**	P	**P**	**16 06 56.5**	**-0.1**
	comp=E,22nm,0.4s,mb5.1,baz=31,slow=3.4,SNR=23						
FOZ	**Fox Glacier**	**25.43**	**200**	*e*PN	**P**	**16 06 58.0**	**-1.2**
EAZ	**Earnscleugh**	**27.04**	**199**	PN	**P**	**16 07 13.4**	**+0.1**
PPT	**Papeete**	**27.36**	**90**	P	**P**	**16 07 14.7**	**-1.3**
	comp=E,167nm,0.7s,mb5.8,baz=237,slow=3.1,SNR=14						
PPT	**Papeete**	**27.36**	**90**	P	**P**	**16 07 14.7**	**-1.4**
PPT				pmax	pmax		
	comp=Z,167nm,0.7s						
ARMA	**Armidale**	**28.92**	**243**	⇑*i*P	**P**	**16 07 31.8**	**+2.2**
ARMA				*e*SCP	ScP	16 13 10.5	+2.1
PMOR	**Pomariorio Ree**	**29.48**	**85**	*e*P	**P**	**16 07 33.9**	**-0.6**
	comp=Z,396nm,1.1s,mb6.0						
PMOR				*e*pP		16 09 08.9	
	comp=Z,86nm,1.1s						
VAH	**Vaihoa**	**29.67**	**86**	*e*P	**P**	**16 07 35.2**	**-0.9**
	comp=Z,336nm,1.0s,mb5.8						
CNB	**Canberra Magne**	**32.15**	**235**	*e*P	**P**	**16 07 59.6**	**+2.3**
	comp=Z,40nm,0.8s,mb5.0						
CTA	**Charters Tower**	**33.18**	**264**	⇓*i*P	**P**	**16 08 07.2**	**+1.2**
	comp=Z,606nm,1.5s,mb5.9						
CTA				*e*SCP	ScP	16 13 23.3	+0.5
CTA				*e*		16 15 57.0	
CTA				*e*SCS	ScS	16 17 25.1	0.0
CTA	**Charters Tower**	**33.18**	**264**	P	**P**	**16 08 07.3**	**+1.3**
	comp=Z,213nm,0.6s,mb5.8,baz=93,slow=10,SNR=309						
CTA				ScP	ScP	16 13 23.7	+1.0
	comp=Z,49nm,0.9s,baz=82,slow=3.7,SNR=12						
CTA	**Charters Tower**	**33.18**	**264**	⇓*i*P	**P**	**16 08 07.2**	**+1.2**
CTA				*e*		16 17 25.1	
CTA				pmax	pmax		
	comp=Z,606nm,1.5s						
CTAO	**Charters Tower**	**33.18**	**264**	*e*P	**P**	**16 08 07.2**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,470nm,1.0s,mb6.0						
CTAO	**Charters Tower**	**33.18**	**264**	*e*P	**P**	**16 08 07.2**	**+1.2**
	comp=Z,474nm,0.9s,mb6.0						
CTAO				*e*ScP	ScP	16 13 22.9	+0.2
PMG	**Port Moresby**	**34.91**	**283**	P	**P**	**16 08 21.4**	**+0.9**
	comp=Z,460nm,0.9s,mb6.0,baz=92,slow=4.8,SNR=65						
PMG				S	**S**	**16 13 12.2**	**-0.1**
	comp=Z,20nm,1.0s,baz=180,slow=20,SNR=3.9						
PMG				ScP	ScP	16 13 29.7	+0.7
	comp=Z,33nm,0.9s,baz=52,slow=9.2,SNR=7.1						
PMG	**Port Moresby**	**34.91**	**283**	P	**P**	**16 08 21.4**	**+0.9**
PMG				S	**S**	**16 13 12.2**	**-0.1**
PMG				pmax	pmax		
	comp=Z,460nm,0.9s						
PMG				smax			
	comp=E,20nm,1.0s						
PMG				pmax	pmax		
	comp=E,33nm,0.9s						
PMG	**Port Moresby**	**34.91**	**283**	*e*P	**P**	**16 08 21.2**	**+0.7**
TOO	**Toolangi**	**35.84**	**233**	*e*P	**P**	**16 08 29.8**	**+1.6**
	comp=E,25nm,0.7s,mb4.8						
TOO	**Toolangi**	**35.84**	**233**	*e*P	**P**	**16 08 29.8**	**+1.6**
TOO				pmax	pmax		
	comp=Z,25nm,0.7s,mb4.8						
TAOE	**Nuku Hiva Isla**	**38.57**	**79**	*e*P	**P**	**16 08 49.3**	**-1.2**
	comp=Z,1μm,1.0s						
RKT	**Rikitea**	**40.36**	**102**	*e*P	**P**	**16 09 04.9**	**+0.1**
	comp=Z,391nm,1.1s,mb5.8						
AS31	**Alice Springs**	**44.26**	**256**	⇓*i*P	**P**	**16 09 36.0**	**+0.6**
AS31				*e*ScP	ScP	16 14 05.7	+0.1
AS31				*e*S	**S**	**16 15 27.0**	**-1.4**
AS31				*e*ScS	ScS	16 18 31.0	+0.3
ASAR	**Alice Springs**	**44.26**	**256**	P	**P**	**16 09 36.1**	**+0.7**
	comp=Z,314nm,0.8s,mb5.9,baz=86,slow=8.6,SNR=551						
ASAR				PcP	PcP	16 11 07.2	-0.1
	comp=Z,36nm,0.8s,baz=105,slow=3.3,SNR=10						
ASAR				ScP	ScP	16 14 05.9	+0.3
	comp=Z,20nm,0.7s,baz=99,slow=4.2,SNR=13						
ASAR				S	**S**	**16 15 27.6**	**-0.9**
	comp=Z,28nm,0.9s,baz=92,slow=16,SNR=26						
ASAR				ScS	ScS	16 18 31.8	+1.0
	comp=Z,5.3nm,0.9s,baz=97,slow=7.1,SNR=8.2						
ASAR	**Alice Springs**	**44.26**	**256**	P	**P**	**16 09 36.1**	**+0.7**
ASAR						16 11 07.2	
ASAR				S	**S**	**16 15 27.6**	**-0.8**
ASAR						16 18 31.8	
ASAR				pmax	pmax		
	comp=Z,315nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,36nm,0.8s						
ASAR				pmax	pmax		
	comp=E,20nm,0.7s						
ASAR				smax			
	comp=E,28nm,0.9s						
ASAR				pmax	pmax		
	comp=E,5.0nm,0.9s						
ASPA	**Alice Springs**	**44.27**	**256**	⇓*i*P	**P**	**16 09 36.0**	**+0.6**
ASPA				*e*SCP	ScP	16 14 05.7	+0.1
ASPA				*e*S	**S**	**16 15 27.0**	**-1.5**
ASPA				*e*SCS	ScS	16 18 31.0	+0.2
WB2	**Warramunga Arr**	**44.29**	**262**	⇓*i*P	**P**	**16 09 35.7**	**+0.1**
WB2				*e*S	**S**	**16 15 25.4**	**-3.5**
WB2				*e*SCS	ScS	16 18 31.1	+0.2
WRAB	**Tennant Creek**	**44.30**	**262**	*e*P	**P**	**16 09 35.8**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,410nm,0.9s,mb6.0						
WRAB	**Tennant Creek**	**44.30**	**262**	*e*P	**P**	**16 09 35.8**	**+0.1**
	comp=Z,412nm,0.9s,mb6.0						
WRA	**Warramunga Arr**	**44.30**	**262**	P	**P**	**16 09 35.8**	**+0.1**
	comp=Z,108nm,0.5s,mb5.6,baz=97,slow=7.7,SNR=237						
WRA				PcP	PcP	16 11 07.4	0.0
	comp=Z,27nm,0.9s,baz=91,slow=4.0,SNR=7.2						
WRA				ScP	ScP	16 14 05.0	-0.7
	comp=Z,16nm,0.9s,baz=95,slow=3.7,SNR=11						
WRA				S	**S**	**16 15 26.0**	**-3.0**
	comp=Z,14nm,0.9s,baz=94,slow=13,SNR=12						
WRA				ScS	ScS	16 18 31.4	+0.4
	comp=Z,3.7nm,1.0s,baz=95,slow=9.4,SNR=7.9						
WRA	**Warramunga Arr**	**44.30**	**262**	P	**P**	**16 09 35.8**	**+0.1**
WRA						16 11 07.4	
WRA				S	**S**	**16 15 26.0**	**-3.0**
WRA						16 18 31.4	
WRA				pmax	pmax		
	comp=Z,108nm,0.5s						
WRA				pmax	pmax		
	comp=Z,27nm,0.9s						
WRA				pmax	pmax		
	comp=E,16nm,0.9s						
WRA				smax			
	comp=E,14nm,0.9s						
WRA				pmax	pmax		
	comp=E,4.0nm,1.0s						
KAKA	**Kakadu**	**47.61**	**271**	⇓*i*P	**P**	**16 10 00.8**	**0.0**
	comp=E,193nm,0.6s,mb5.8						
FORT	**Forrest**	**49.12**	**246**	⇓*i*P	**P**	**16 10 11.6**	**-0.4**
	comp=E,128nm,0.7s,mb5.6						
FORT				*e*S	**S**	**16 16 33.6**	**-2.2**
FORT				*e*		16 19 03.9	
FITZ	**Fitzroy Crossi**	**52.73**	**262**	⇓*i*P	**P**	**16 10 38.7**	**+0.6**
	comp=E,68nm,0.4s,mb5.3						
FITZ	**Fitzroy Crossi**	**52.73**	**262**	P	**P**	**16 10 38.7**	**+0.6**
	comp=E,39nm,0.5s,mb5.0,baz=120,slow=4.6,SNR=91						
MBWA	**Marble Bar**	**57.59**	**257**	P	**P**	**16 11 12.0**	**+0.1**
	SNR=6.3						
MBWA	**Marble Bar**	**57.59**	**257**	*e*P	**P**	**16 11 11.8**	**-0.1**
	comp=E,116nm,0.9s,mb5.1						
MBWA				*e*PcP	PcP	16 11 57.1	-0.2
KLBR	**Kellerberrin**	**57.90**	**245**	⇓*i*P	**P**	**16 11 13.8**	**-0.2**
	comp=E,70nm,0.8s,mb4.9						
NWAO	**Narrogin (SRO)**	**58.23**	**243**	P	**P**	**16 11 16.5**	**+0.3**
	comp=E,33nm,0.8s,mb4.6,baz=94,slow=6.6,SNR=16						
NWAO	**Narrogin (SRO)**	**58.23**	**243**	P	**P**	**16 11 16.5**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,33nm,0.8s						
NWAO	**Narrogin (SRO)**	**58.23**	**243**	*e*P	**P**	**16 11 16.5**	**+0.3**
	comp=Z,32nm,0.9s,mb4.5						
SBA	**Scott Base**	**58.23**	**184**	*e*P	**P**	**16 11 17.7**	**+1.5**
SBA				pmax	pmax		
	comp=Z,150nm,1.0s,mb5.2						
SBA	**Scott Base**	**58.23**	**184**	*e*P	**P**	**16 11 17.7**	**+1.5**
	comp=Z,150nm,1.0s,mb5.2						
VNDA	**Vanda**	**58.26**	**185**	P	**P**	**16 11 16.8**	**+0.4**
	comp=E,28nm,0.7s,mb4.6,baz=356,slow=7.3,SNR=145						
VNDA				ScP	ScP	16 15 04.4	-1.7
	comp=Z,7.1nm,1.0s,baz=353,slow=3.6,SNR=8.0						
VNDA	**Vanda**	**58.26**	**185**	P	**P**	**16 11 16.8**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,28nm,0.7s						
VNDA				pmax	pmax		
	comp=E,7.0nm,1.0s						
VNDA	**Vanda**	**58.26**	**185**	*e*P	**P**	**16 11 17.2**	**+0.8**
	comp=E,34nm,0.8s,mb4.6						
CBIJ	**Chichi jima**	**60.52**	**319**	P	**P**	**16 11 30.7**	**-0.8**
	comp=E,129nm,0.7s,mb5.4,baz=226,slow=2.8,SNR=13						
MATI	**Mati**	**60.71**	**291**	*e*P	**P**	**16 11 31.6**	**-1.2**
BUKP	**Musuan**	**62.19**	**291**	*e*P	**P**	**16 11 43.1**	**+0.7**
CTBH	**Cotabato--PC H**	**62.61**	**290**	⇓*i*P	**P**	**16 11 45.7**	**+0.6**
CTBH				*i* S	PcP	16 12 09.6	-8.0
SCPH	**Surigao**	**62.71**	**293**	⇑*e*P	**P**	**16 11 46.0**	**+0.2**
MSLP	**Maasin**	**63.42**	**293**	*e*P	**P**	**16 11 50.2**	**-0.1**
PAGZ	**Pagadian**	**63.66**	**290**	*e*P	**P**	**16 11 52.4**	**+0.5**
OCLP	**Ormoc**	**64.08**	**294**	*e*P	**P**	**16 11 54.2**	**-0.2**
CASY	**Casey**	**64.16**	**205**	*e*P	**P**	**16 11 54.8**	**-0.2**
	comp=E,59nm,0.8s,mb5.1						
IPIL	**Ipil**	**64.35**	**289**	*e*P	**P**	**16 11 56.4**	**+0.2**
GUIM	**Jordan**	**65.62**	**292**	*e*P	**P**	**16 12 02.9**	**-1.3**
CUYO	**Cuyo Island**	**67.09**	**292**	*e*P	**P**	**16 12 13.3**	**0.0**
TSM	**Tawau**	**67.10**	**284**	P	**P**	**16 12 14.7**	**+1.3**
ENPP	**El Nido**	**68.65**	**291**	*e*P	**P**	**16 12 22.9**	**+0.2**
TGY	**Tagaytay City**	**68.67**	**295**	P	**P**	**16 12 23.4**	**+0.5**
	comp=E,180nm,0.4s,baz=210,slow=8.0,SNR=7.6						
TGY	**Tagaytay City**	**68.67**	**295**	P	**P**	**16 12 23.4**	**+0.5**
TGY				pmax	pmax		
	comp=Z,180nm,0.4s						
BATP	**Bataraza**	**69.03**	**288**	*e*P	**P**	**16 12 25.5**	**+0.5**
KKM	**Kota Kinabalu**	**69.32**	**285**	P	**P**	**16 12 27.7**	**+1.0**
KKM	**Kota Kinabalu**	**69.32**	**285**	*e*P	**P**	**16 12 27.4**	**+0.6**
JOW	**Kunigami**	**69.65**	**310**	P	**P**	**16 12 28.6**	**-0.1**
	comp=Z,102nm,0.7s,mb5.5,baz=140,slow=4.8,SNR=29						
MJAR	**Matsushiro Arr**	**69.69**	**324**	P	**P**	**16 12 28.0**	**-0.9**
	comp=Z,91nm,0.6s,mb5.5,baz=157,slow=5.8,SNR=186						
MJAR	**Matsushiro Arr**	**69.69**	**324**	P	**P**	**16 12 28.0**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,91nm,0.6s						
MAJO	**Matsushiro**	**69.69**	**324**	P	**P**	**16 12 28.3**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,98nm,0.7s,mb5.5						
MAJO	**Matsushiro**	**69.69**	**324**	*e*P	**P**	**16 12 28.2**	**-0.7**
	comp=Z,98nm,0.6s,mb5.5						
MAT	**Matsushiro**	**69.69**	**324**	P	**P**	**16 12 28.1**	**-0.9**
MAT	**Matsushiro**	**69.69**	**324**	*e*P	**P**	**16 12 28.0**	**-1.0**
MAT				pmax	pmax		
	comp=Z,92nm,0.7s,mb5.4						
MAT	**Matsushiro**	**69.69**	**324**	*e*P	**P**	**16 12 28.0**	**-1.0**
	comp=Z,92nm,0.7s,mb5.4						
QSPA	**South Pole Qui**	**69.95**	**180**	⇑*i*P	**P**	**16 12 30.9**	**+0.4**
	comp=Z,214nm,0.9s,mb5.7						
MIR	**Mirnyy**	**71.19**	**205**	*c i*P	**P**	**16 12 39.0**	**+1.2**
MIR				pmax	pmax		
	comp=Z,280nm,1.0s,mb5.8						
MIR				MLR	MLR		
	comp=N,1μm,17.0s						
MIR				MLR	MLR		
	comp=Z,2μm,17.0s						
AMKA	**Amchitka**	**71.21**	**358**	*e*P	**P**	**16 12 35.9**	**-2.0**
ERM	**Erimo**	**71.31**	**331**	P	**P**	**16 12 39.9**	**+1.4**
	comp=Z,520nm,1.3s,mb5.9,SNR=5.3						
YUK	**Yuzh-Kuril'sk**	**71.75**	**334**	⇓*i*P	**P**	**16 12 40.0**	**-1.0**
YUK				pmax	pmax		
	comp=Z,3μm,2.0s						
YUK				pmax	pmax		
	comp=N,2μm,3.5s						
YUK				pmax	pmax		
	comp=N,130nm,0.5s						
YUK				pmax	pmax		
	comp=E,90nm,0.5s						
YUK				pmax	pmax		
	comp=Z,110nm,0.5s,mb5.5						
SMY	**Shemya**	**72.83**	**355**	P	**P**	**16 12 45.4**	**-1.9**
SMY				pmax	pmax		
	comp=Z,250nm,0.9s,mb5.6						
SMY	**Shemya**	**72.83**	**355**	*e*P	**P**	**16 12 45.4**	**-1.9**
	comp=Z,284nm,1.0s,mb5.7						
KSM	**Kuching**	**73.01**	**278**	*e*P	**P**	**16 12 49.1**	**+0.8**
NACB	**Ninganchiao**	**73.17**	**304**	*e*P	**P**	**16 12 48.2**	**-1.0**
NIKO	**Nikolski**	**73.25**	**6**	*e*P	**P**	**16 12 47.4**	**-2.2**
YHNB	**Yeheng**	**73.60**	**305**	*e*P	**P**	**16 12 51.0**	**-0.6**
TATO	**Taipei**	**73.67**	**305**	⇓P	**P**	**16 12 51.9**	**-0.2**
	SNR=9.4						
TATO	**Taipei**	**73.67**	**305**	*e*P	**P**	**16 12 51.2**	**-0.9**
	comp=Z,185nm,0.8s,mb5.6						
SKR	**Severo-Kuril's**	**73.99**	**343**	*e*P	**P**	**16 12 48.5**	**-5.4**
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s,mb5.5						
AKUT	**Akutan**	**74.73**	**8**	*e*P	**P**	**16 12 55.8**	**-2.3**
	comp=Z,201nm,0.9s,mb5.5						
YSS	**Yuzh-Sakhalins**	**75.39**	**334**	*κ i*P	**P**	**16 13 01.9**	**+0.2**
YSS				*e**SP	sP	16 16 00.0	+2.3
YSS				*e*S	S	16 21 56.0	-0.3
YSS				*e*		16 22 17.0	
YSS				pmax	pmax		
	comp=Z,330nm,0.9s,mb5.8						
YSS				pmax	pmax		
	comp=Z,1μm,4.0s						
YSS	**Yuzh-Sakhalins**	**75.39**	**334**	*e*P	**P**	**16 13 01.6**	**-0.1**
	comp=Z,353nm,1.0s,mb5.8						
PET	**Petropavlovsk**	**75.51**	**346**	*κ i*P	**P**	**16 13 00.6**	**-1.8**
PET				*e**PP	pP	16 15 03.1	+2.8
PET				*e**SP	sP	16 16 02.5	+4.1
PET				*i* S	S	16 21 54.0	-3.5
PET				*e*SS	SS	16 27 06.3	+2.1
PET				*e*SSS		16 30 25.5	
PET				pmax	pmax		
	comp=Z,135nm,0.7s,mb5.5						
PET				pmax	pmax		
	comp=N,58nm,0.7s						
PET				pmax	pmax		
	comp=Z,600nm,2.7s,mb5.5						
PET				pmax	pmax		
	comp=E,45nm,0.5s						
PET				pmax	pmax		
	comp=Z,300nm,10.5s						
PET				pmax	pmax		
	comp=Z,200nm,14.1s						
PET				pmax	pmax		
	comp=Z,300nm,9.5s						
PET				smax			
	comp=E,300nm,17.1s						
PET	**Petropavlovsk**	**75.51**	**346**	*e*P	**P**	**16 13 00.5**	**-1.9**
	comp=E,64nm,0.6s,mb5.2						
QZH	**Quanzhou**	**75.90**	**303**	⇓*i*P	**P**	**16 13 04.8**	**+0.2**
QZH				S	S	16 22 01.0	-0.8
QZH				AMB	AMB		
	comp=Z,260nm,0.9s,mb5.7						
QZH				AMB	AMB		
	comp=Z,1μm,3.5s						
SDPT	**Sand Point**	**76.69**	**10**	*e*P	**P**	**16 13 06.5**	**-2.4**
	comp=Z,280nm,0.6s,mb5.9						
SSE	**Sheshan**	**77.17**	**310**	P	**P**	**16 13 11.8**	**+0.3**
SSE				AP	pP	16 15 13.3	+3.2
SSE				XP	sP	16 16 12.6	+4.6
SSE				AMB	AMB		
	comp=Z,31nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,268nm,5.3s						
INCN	**Inchon**	**77.19**	**318**	⇑P	**P**	**16 13 12.2**	**+0.6**
	SNR=10						
INCN	**Inchon**	**77.19**	**318**	*e*P	**P**	**16 13 11.3**	**-0.3**
	comp=Z,201nm,1.3s,mb5.4						
SNCC	**San Nicolas Is**	**77.25**	**47**	⇑P	**P**	**16 13 12.7**	**+0.8**
	baz=77						
V03C	**Hunter Liggett**	**77.69**	**44**	⇓P	**P**	**16 13 15.2**	**+0.9**
	baz=78,SNR=6.8						
HAST	**UC Hastings Re**	**77.70**	**44**	⇓P	**P**	**16 13 15.0**	**+0.6**
	baz=78,SNR=24						
V04C	**Ramage Ranch,**	**77.70**	**45**	⇓P	**P**	**16 13 15.3**	**+0.9**
	baz=78						
BNLO	**Ben Lomond (Sa**	**77.74**	**43**	⇑P	**P**	**16 13 14.9**	**+0.3**
	baz=78						
VLA	**Vladivostok**	**77.76**	**325**	*c i*P	**P**	**16 13 14.5**	**-0.2**
VLA				*e*		16 13 23.0	
VLA				*e*		16 16 21.7	
VLA				*e*S	S	16 22 18.0	-3.4
VLA				pmax	pmax		
	comp=Z,117nm,1.0s,mb5.2						
VLA	**Vladivostok**	**77.76**	**325**	⇑*i*P	**P**	**16 13 14.1**	**-0.6**
JRSC	**Jasper Ridge**	**77.86**	**43**	⇑P	**P**	**16 13 15.3**	**0.0**
	baz=78						
SAO	**San Andreas Ge**	**77.99**	**43**	*e*P	**P**	**16 13 16.6**	**+0.7**
SAO				pmax	pmax		
	comp=Z,55nm,1.1s,mb4.8						
SAO	**San Andreas Ge**	**77.99**	**43**	*e*P	**P**	**16 13 16.6**	**+0.6**
	comp=Z,55nm,1.1s,mb4.8						
LRV	**Little Rabbit**	**78.07**	**44**	*e*P	**P**	**16 13 17.2**	**+0.8**
PKD	**Parkfield**	**78.10**	**45**	⇓P	**P**	**16 13 16.7**	**+0.2**
	baz=78,SNR=9.6						
PTRM	**Twissleman Ran**	**78.15**	**45**	*e*P	**P**	**16 13 17.7**	**+0.9**
U04C	**Hernandez Rese**	**78.19**	**44**	⇓P	**P**	**16 13 17.8**	**+0.8**
	baz=78,SNR=6.5						
CVS	**Carmenet Viney**	**78.30**	**42**	⇓P	**P**	**16 13 17.7**	**+0.1**
	baz=78						
WENL	**Wente Brothers**	**78.30**	**43**	⇓P	**P**	**16 13 17.7**	**+0.1**
	baz=78						
NSHM	**Saint Helena R**	**78.31**	**41**	*e*P	**P**	**16 13 18.2**	**+0.6**
HOPS	**Hopland**	**78.31**	**41**	⇑P	**P**	**16 13 17.7**	**+0.1**
	baz=78						
BDM	**Black Diamond**	**78.43**	**42**	⇑P	**P**	**16 13 18.9**	**+0.7**
	baz=79						
P01C	**Double 8 Ranch**	**78.44**	**40**	⇓P	**P**	**16 13 18.6**	**+0.3**
	baz=79						
V05C	**Boulder Hill,**	**78.48**	**45**	⇑P	**P**	**16 13 19.4**	**+0.9**
	baz=79						
S04C	**Ingram Canyon,**	**78.51**	**43**

baz=80,SNR=9.6
KGM Kluang 79.72 276 P **P** **16 13 25.9 +0.9**
K01A Sixes 79.87 37 ⇓P **P** **16 13 26.5 +0.7**
baz=80
M02C Callahan 79.92 39 ⇑P **P** **16 13 26.8 +0.7**
baz=80,SNR=14
L02A Cave Junction 79.95 38 P **P** **16 13 27.1 +0.8**
baz=80,SNR=5.5
MDJ Mudanjiang 80.00 325 P **P** **16 13 26.3 -0.3**
MDJ AP pP 16 15 34.0 +7.7
MDJ PP PP 16 16 42.0 +3.2
MDJ S S 16 22 43.5 -1.1
MDJ SCS ScS 16 22 57.3 -2.8
MDJ SS SS 16 28 15.3 +4.4
MDJ AMB AMB
comp=Z,172nm,1.0s,mb5.3
MDJ AMB AMB
comp=Z,484nm,4.7s
R05C Kirkwood Meado 80.01 43 P **P** **16 13 26.9 +0.3**
baz=80,SNR=25
CWC Cottonwood Cre 80.02 45 ⇓P **P** **16 13 26.9 +0.2**
baz=80
P05C Yuba Gap, Truc 80.03 42 P **P** **16 13 27.1 +0.4**
baz=80,SNR=25
MLAC Mammoth Lakes 80.19 44 ⇑P **P** **16 13 28.3 +0.7**
baz=80
MTUM Tungsten Hills 80.21 44 *e*P **P** **16 13 28.3 +0.6**
YBH Yreka Blue Hor 80.21 39 P **P** **16 13 27.5 -0.1**
comp=Z,33nm,0.6s,mb4.9,baz=196,slow=2.9,SNR=74
YBH Yreka Blue Hor 80.21 39 P **P** **16 13 27.5 -0.2**
YBH pmax pmax
comp=Z,33nm,0.6s
YBH Yreka Blue Hor 80.21 39 *e*P **P** **16 13 27.9 +0.2**
comp=Z,53nm,0.9s,mb4.9
YBH Yreka Blue Hor 80.21 39 ⇓P **P** **16 13 28.0 +0.4**
baz=80,SNR=20
O05C Quincy 80.22 41 ⇓P **P** **16 13 27.8 +0.1**
baz=80,SNR=6.0
DAC Darwin (Calif) 80.25 46 *e*P **P** **16 13 28.5 +0.6**
DAC pmax pmax
comp=Z,4.0nm,0.8s
DAC Darwin (Calif) 80.25 46 *e*P **P** **16 13 28.5 +0.6**
comp=Z,4.3nm,0.8s
GSC Goldstone 80.25 47 ⇓P **P** **16 13 28.3 +0.4**
baz=80
TIN Tinemaha 80.27 45 ⇓P **P** **16 13 27.9 -0.1**
baz=80
R06C Coleville 80.30 43 ⇑P **P** **16 13 28.4 +0.3**
baz=80,SNR=15
R07C Lee Vining 80.31 44 ⇓P **P** **16 13 28.5 +0.3**
baz=80
O04C Chester 80.33 41 ⇓P **P** **16 13 28.3 0.0**
baz=81,SNR=9.8
QIZ Qiongzhong 80.38 294 P **P** **16 13 29.4 +0.9**
QIZ S S 16 22 42.3 -6.1
QIZ AMB AMB
comp=Z,37nm,1.0s,mb4.7
HATC Hat Creek Radi 80.40 40 ⇓P **P** **16 13 28.7 0.0**
baz=81,SNR=18
K02A Glendale 80.40 38 ⇑P **P** **16 13 28.5 -0.2**
baz=81,SNR=8.1
GLA Glamis 80.45 50 *e*P **P** **16 13 30.1 +1.2**
GLA Glamis 80.45 50 ⇓P **P** **16 13 29.7 +0.9**
baz=81,SNR=14
KDAK Kodiak Island 80.53 14 P **P** **16 13 27.3 -2.0**
comp=Z,818nm,0.7s,mb6.3,SNR=21
KDAK Kodiak Island 80.53 14 P **P** **16 13 27.4 -1.8**
comp=Z,96nm,0.8s,mb5.3,baz=226,slow=3.6,SNR=32
KDAK Kodiak Island 80.53 14 *e*P **P** **16 13 28.1 -1.2**
comp=Z,392nm,1.4s,mb5.7
WCN Washoe City 80.56 42 ⇓P **P** **16 13 29.8 +0.3**
baz=81,SNR=11
HUMO Hull Mountain 80.61 38 *e*P **P** **16 13 30.2 +0.5**
comp=Z,58nm,1.1s,mb4.9
HUMO Hull Mountain 80.61 38 P **P** **16 13 30.4 +0.7**
baz=81,SNR=18
P06A Stead Airport, 80.69 42 ⇑P **P** **16 13 30.5 +0.4**
baz=81
J02A Umpqua 80.73 37 ⇑P **P** **16 13 30.4 +0.1**
baz=81,SNR=11
ELFS Eagle Lake Fie 80.73 41 ⇑P **P** **16 13 30.7 +0.4**
baz=81,SNR=17
M04C Macdoel 80.76 39 P **P** **16 13 30.9 +0.4**
baz=81,SNR=18
BUOR Burton Butte 80.82 39 P **P** **16 13 31.0 +0.2**
M05C Lookout 80.92 40 P **P** **16 13 31.6 +0.3**
baz=81,SNR=36
TUQ Turquoise Mtn. 80.93 47 ⇓P **P** **16 13 31.7 +0.4**
baz=81,SNR=15
Q07A Schurz 80.95 43 ⇑P **P** **16 13 31.5 0.0**
baz=81
L04A Klamath Falls 80.97 39 ⇓P **P** **16 13 31.2 -0.3**
baz=81,SNR=13
I02A Mapleton 80.98 37 ⇓P **P** **16 13 31.3 -0.3**
baz=81,SNR=7.0
NVAR Mina Array Bea 80.99 44 P **P** **16 13 31.9 +0.2**
comp=Z,16nm,0.7s,mb4.6,baz=215,slow=7.4,SNR=112
NVAR PKKP PKKPbc 16 32 05.0 +1.4
comp=Z,0.6nm,0.7s,baz=93,slow=3.7,SNR=5.1
NVAR PKPPKP 16 40 12.6
comp=Z,0.5nm,0.7s,baz=109,slow=3.0,SNR=4.8
NVAR Mina Array Bea 80.99 44 P **P** **16 13 31.9 +0.2**
NVAR PKKP PKKPbc 16 32 05.0 +1.4
NVAR P'P' 16 40 12.6
O06A Flanigan 81.02 41 ⇓P **P** **16 13 31.6 -0.2**
baz=81,SNR=51
Y12C Blythe 81.03 49 ⇑P **P** **16 13 32.1 +0.3**
baz=81
PAHR Pah Rah Range 81.03 42 *e*P **P** **16 13 31.1 -0.8**
comp=Z,43nm,1.0s,mb4.8
R08A Mina 81.07 44 ⇑P **P** **16 13 32.2 +0.1**
baz=81
J03A Ideyld Park 81.08 37 ⇓P **P** **16 13 32.8 +0.7**
baz=81,SNR=7.7
MNV Mina 81.09 44 *e*P **P** **16 13 32.2 0.0**
MNV pmax pmax
comp=Z,38nm,1.0s,mb4.8
MNV Mina 81.09 44 *e*P **P** **16 13 32.2 0.0**
comp=Z,38nm,1.0s,mb4.8
U10A Ash Meadows, A 81.19 46 ⇑P **P** **16 13 33.0 +0.3**
baz=81,SNR=6.6
DL2 Dalian 81.21 317 *i*P **P** **16 13 32.6 -0.2**
DL2 AP pP 16 15 38.9 +5.9
DL2 XP sP 16 16 38.8 +8.3
DL2 PP PP 16 16 47.6 -1.0
DL2 S S 16 22 54.3 -2.5
DL2 AMB AMB
comp=Z,60nm,1.0s,mb5.0
DL2 AMB AMB
comp=Z,250nm,3.7s
M06C Likely Place G 81.23 40 P **P** **16 13 33.4 +0.5**
baz=81,SNR=17
P07A Fallon 81.25 42 ⇓P **P** **16 13 33.0 0.0**
baz=82
I03A Eugene 81.28 37 ⇓P **P** **16 13 32.9 -0.2**
baz=82
S09A Goldfield 81.30 45 ⇑P **P** **16 13 33.3 0.0**
baz=82,SNR=12
H02A Toledo 81.32 36 ⇑P **P** **16 13 33.8 +0.4**
baz=82
K04A Chilquin 81.33 39 ⇓P **P** **16 13 33.5 +0.1**
baz=82
N06A Buffalo Meadow 81.35 41 P **P** **16 13 33.6 0.0**
baz=82,SNR=24
Q08A Gabbs 81.47 43 P **P** **16 13 34.2 +0.1**
baz=82,SNR=19
V11A Goodsprings 81.49 47 ⇑P **P** **16 13 34.3 +0.1**
baz=82
TPH Tonopah 81.50 44 *e*P **P** **16 13 34.6 +0.3**
TPH pmax pmax
comp=Z,83nm,1.4s,mb5.0
TPH Tonopah 81.50 44 *e*P **P** **16 13 34.6 +0.3**
comp=Z,83nm,1.4s,mb5.0
L05A Lakeview 81.52 39 P **P** **16 13 34.8 +0.4**
baz=82,SNR=37
TPNV Topopah Spring 81.53 46 P **P** **16 13 34.7 +0.3**
TPNV pmax pmax
comp=Z,26nm,1.0s,mb4.6
TPNV Topopah Spring 81.53 46 *e*P **P** **16 13 34.7 +0.2**
comp=Z,26nm,1.0s,mb4.6
Y13A Salome 81.55 49 ⇓P **P** **16 13 35.2 +0.7**
baz=82
W12A Cal Nev Ari 81.59 48 ⇓P **P** **16 13 35.1 +0.3**
baz=82
O07A Toulon 81.61 42 P **P** **16 13 35.1 +0.2**
baz=82,SNR=53
SNY Shenyang 81.69 320 ⇓P **P** **16 13 34.9 -0.3**
SNY AP pP 16 15 37.9 +2.3
SNY XP sP 16 16 36.8 +3.7
SNY S S 16 22 52.3 -9.3
SNY SKS 16 22 59.8
SNY AMB AMB
comp=Z,73nm,0.7s,mb5.2
SNY AMB AMB
comp=Z,466nm,7.8s
H03A Soap Creek Ran 81.71 36 ⇓P **P** **16 13 35.5 +0.2**
baz=82,SNR=12
CN2 Changchun 81.78 323 ⇓P **P** **16 13 35.4 -0.3**
CN2 *e*AP pP 16 15 37.0 +0.8
CN2 *e*S S 16 22 59.5 -3.0
CN2 AMB AMB
comp=Z,200nm,5.0s
PMSA Palmer Station 81.78 157 *e*P **P** **16 13 35.4 -0.3**
comp=Z,78nm,0.8s,mb5.2
MAW Mawson 81.81 200 *e*P **P** **16 13 35.2 -0.7**
comp=Z,9.4nm,0.7s,mb4.3
MAW Mawson 81.81 200 P **P** **16 13 35.3 -0.6**
comp=Z,12nm,0.7s,mb4.4,baz=125,slow=6.8,SNR=43
MAW Mawson 81.81 200 *e*P **P** **16 13 35.2 -0.7**
MAW pmax pmax
comp=Z,9.0nm,0.7s
V12A Nelson 81.83 47 ⇑P **P** **16 13 36.3 +0.3**
baz=82,SNR=6.3
U11A Corn Creek 81.83 47 ⇓P **P** **16 13 36.2 +0.2**
baz=82
P08A Dixie Valley 81.85 43 ⇓P **P** **16 13 36.4 +0.3**
baz=82
WHN Wuhan 81.93 307 ⇓P **P** **16 13 36.8 +0.3**
X13A Yucca 81.95 49 P **P** **16 13 37.1 +0.5**
baz=82,SNR=16
Z14A Wintersburg 81.96 50 ⇓P **P** **16 13 37.4 +0.7**
baz=82,SNR=8.9
KLR Kul'dur 82.02 330 *α i*P **P** **16 13 33.8 -3.1**
KLR *e* pP 16 15 38.5 +1.0
KLR *e*S S 16 22 58.0 -6.9
KLR *e* 16 28 42.0
KLR pmax pmax
comp=E,62nm,1.4s
KLR pmax pmax
comp=Z,120nm,1.4s,mb5.1
KLR pmax pmax
comp=Z,1μm,7.5s
J05A Fort Rock 82.02 38 ⇑P **P** **16 13 37.5 +0.6**
baz=82
G03A Yamhill 82.11 36 ⇑P **P** **16 13 37.4 0.0**
baz=82
M07A Soldier Meadow 82.13 41 P **P** **16 13 37.9 +0.4**
baz=82,SNR=37
O08A Rochester Mine 82.14 42 ⇓P **P** **16 13 38.0 +0.5**
baz=82
W13A Hualapai Mount 82.17 48 ⇑P **P** **16 13 38.3 +0.6**
baz=82,SNR=6.2
Y14A Wickenburg 82.21 50 ⇑P **P** **16 13 38.1 +0.2**
baz=82
R10A Warm Springs 82.22 45 P **P** **16 13 38.5 +0.6**
baz=82,SNR=37
K06A Valley Falls 82.31 39 P **P** **16 13 38.7 +0.3**
baz=82,SNR=49
H04A Detroit Lake 82.33 37 P **P** **16 13 38.1 -0.4**
baz=83,SNR=36
F03A Seaside 82.35 35 ⇑P **P** **16 13 38.4 -0.2**
baz=83
P09A Austin 82.37 43 ⇑P **P** **16 13 38.6 -0.1**
baz=83,SNR=8.9
L07A Adell 82.40 40 P **P** **16 13 39.4 +0.5**
baz=83,SNR=43
U12A Valley of Fire 82.41 47 ⇑P **P** **16 13 39.4 +0.5**
baz=83,SNR=7.7
116A Eloy 82.47 51 ⇓P **P** **16 13 40.1 +0.9**
baz=83,SNR=7.5
G04A Mulino 82.49 36 ⇑P **P** **16 13 39.1 -0.2**
baz=83
I05A Bend 82.53 38 ⇑P **P** **16 13 39.6 0.0**
baz=83,SNR=5.5
PINOR Pine Mountain 82.55 38 P **P** **16 13 40.0 +0.4**
X14A Yava 82.56 49 ⇓P **P** **16 13 39.9 +0.3**
baz=83,SNR=17
J06A Christmas Vall 82.64 39 P **P** **16 13 39.9 -0.1**
baz=83,SNR=48
M08A Happy Creek Ra 82.66 41 P **P** **16 13 40.6 +0.4**
baz=83,SNR=28
O09A Fish Creek Ran 82.68 43 ⇓P **P** **16 13 40.7 +0.4**
baz=83,SNR=21
IPM Ipoh 82.73 277 P **P** **16 13 41.5 +1.0**
E03A Lebam 82.74 35 P **P** **16 13 40.7 +0.1**
baz=83,SNR=13
TIA Tai'an 82.75 313 P **P** **16 13 40.0 -0.6**
TIA AMB AMB
comp=Z,56nm,0.9s,mb5.1
W14A Seligman 82.80 49 ⇓P **P** **16 13 41.7 +0.9**
baz=83,SNR=24
BMN Battle Mountai 82.81 42 *e*P **P** **16 13 40.9 0.0**
BMN pmax pmax
comp=Z,74nm,1.2s,mb5.1
BMN Battle Mountai 82.81 42 *e*P **P** **16 13 40.9 0.0**
comp=Z,74nm,1.2s,mb5.1
P10A Eureka 82.84 43 ⇓P **P** **16 13 41.0 -0.1**
baz=83,SNR=8.2
H05A Madras 82.85 37 P **P** **16 13 41.1 0.0**
baz=83,SNR=7.4
N09A Rock Creek Ran 82.85 42 P **P** **16 13 41.5 +0.3**
baz=83,SNR=18
Q11A Duckwater 82.95 44 ⇓P **P** **16 13 41.3 -0.3**
baz=83,SNR=25
F04A Amboy 82.97 36 P **P** **16 13 41.5 -0.2**
baz=83,SNR=13
SVW2 Sparrevohn 82.99 11 *e*P **P** **16 13 40.0 -1.8**
D03A Wishkah Elem. 82.99 34 P **P** **16 13 42.2 +0.4**
baz=83,SNR=5.7
TUC Tucson 83.02 52 P **P** **16 13 43.1 +1.1**
TUC pmax pmax
comp=Z,53nm,1.7s,mb4.8
TUC Tucson 83.02 52 *e*P **P** **16 13 43.0 +1.1**
comp=Z,53nm,1.8s,mb4.8
X15A Humboldt 83.03 50 ⇑P **P** **16 13 42.7 +0.7**
baz=83,SNR=14
UBT Ubonrachathani 83.06 289 ⇓P **P** **16 13 43.5 +1.3**
comp=Z,368nm,0.7s,mb6.0
LVP Lakeview Peak 83.06 36 P **P** **16 13 42.0 -0.2**
WVOR Wild Horse Val 83.06 40 *e*P **P** **16 13 42.3 +0.1**
WVOR pmax pmax
comp=Z,50nm,1.0s,mb5.0
WVOR Wild Horse Val 83.06 40 *e*P **P** **16 13 42.3 +0.1**
comp=Z,50nm,1.0s,mb5.0
C03A Quillayute Air 83.11 33 ⇑P **P** **16 13 42.6 +0.2**
baz=83
VIPM Ingram Point 83.11 38 P **P** **16 13 42.5 +0.1**
G05A Wamic 83.16 37 ⇓P **P** **16 13 42.1 -0.6**
baz=83,SNR=7.3
OOW Octopus West 83.17 33 P **P** **16 13 43.1 +0.4**
J07A Hines 83.20 39 ⇑P **P** **16 13 42.8 -0.1**
baz=83,SNR=18
M09A Marrel Ranch, 83.22 41 ⇑P **P** **16 13 42.9 -0.1**
baz=83,SNR=13
E04A Onalaska 83.22 35 ⇑P **P** **16 13 43.2 +0.2**
baz=83
P11A Circle Ranch, 83.27 44 ⇑P **P** **16 13 43.2 0.0**
baz=84
OTR Olympics--Tyee 83.31 33 P **P** **16 13 43.7 +0.3**
MA2 Magadan 83.32 345 ⇑*e*P **P** **16 13 41.2 -2.3**
MA2 pmax pmax
comp=Z,83nm,1.2s,mb5.1
MA2 Magadan 83.32 345 *e*P **P** **16 13 41.4 -2.1**
comp=Z,101nm,0.8s,mb5.4
W15A Williams 83.36 49 ⇓P **P** **16 13 44.3 +0.7**
baz=84
KULM Kulim 83.37 278 *e*P **P** **16 13 44.6 +0.9**
KULM *e*PP PP 16 17 01.1 -4.9
N10A Dunphy 83.42 42 ⇑P **P** **16 13 43.8 -0.2**
baz=84
L09A Wilkinson Ranc 83.42 41 P **P** **16 13 44.2 +0.3**
baz=84,SNR=22
F05A White Salmon 83.47 36 ⇓P **P** **16 13 44.1 -0.2**
baz=84,SNR=12
MID Middleton Isla 83.49 16 *e*P **P** **16 13 42.6 -1.7**
D04A Dobbs Creek Ra 83.50 35 ⇓P **P** **16 13 44.4 0.0**
baz=84
SLKM Skilak Lake 83.52 14 *e*P **P** **16 13 42.6 -1.8**
Q12A Willow Creek R 83.59 45 ⇑P **P** **16 13 44.7 -0.2**
baz=84,SNR=7.6
O11A Cowboy Ranch, 83.64 43 ⇓P **P** **16 13 45.2 +0.2**
baz=84,SNR=21
E05A Randle 83.72 35 P **P** **16 13 45.0 -0.5**
baz=84,SNR=17
B04A Port Angeles 83.73 34 P **P** **16 13 45.0 -0.5**
baz=84,SNR=7.7
P12A McGill 83.77 44 ⇓P **P** **16 13 45.7 0.0**
baz=84
CCUT Cedar City 83.80 46 *e*P **P** **16 13 46.3 +0.5**
M10A I.L. Ranch, Tu 83.84 42 ⇓P **P** **16 13 46.6 +0.5**
baz=84,SNR=9.1
N11A Elko Archery C 83.96 43 ⇑P **P** **16 13 46.7 +0.1**
baz=84
D05A Enumclaw 83.98 35 ⇑P **P** **16 13 46.8 +0.1**
baz=84,SNR=9.8
SNG Songkhla 84.07 280 P **P** **16 13 48.5 +1.3**
comp=Z,606nm,0.8s,mb6.2
PSI Prapat 84.11 275 P **P** **16 13 46.8 -0.6**
comp=Z,88nm,0.9s,mb5.3,baz=116,slow=2.8,SNR=72
PSI PP PP 16 17 08.5 -3.4
comp=Z,8.7nm,0.8s,baz=146,slow=4.0,SNR=6.5
PSI Prapat 84.11 275 P **P** **16 13 46.8 -0.6**
PSI 16 17 08.5
PSI pmax pmax
comp=Z,88nm,0.9s,mb5.3
PSI pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
PGC Sidney 84.13 33 *e*P **P** **16 13 46.7 -0.7**
comp=Z,208nm,1.0s,mb5.6
ELK Elko 84.24 43 *e*P **P** **16 13 47.7 -0.3**
ELK pmax pmax
comp=Z,47nm,1.8s
ELK Elko 84.24 43 *e*P **P** **16 13 47.7 -0.3**
comp=Z,47nm,1.8s,mb4.7
M11A Holland Ranch, 84.26 42 ⇑P **P** **16 13 48.4 +0.2**
baz=84
O12A Currie 84.30 44 ⇓P **P** **16 13 48.0 -0.4**
baz=84,SNR=11
N12A Clover Valley, 84.43 43 ⇓P **P** **16 13 48.7 -0.2**
baz=85,SNR=12
C05A Tolt Reservoir 84.46 35 P **P** **16 13 48.5 -0.5**
baz=85,SNR=17
CRAG Craig 84.51 24 *e*P **P** **16 13 48.4 -0.9**
comp=Z,84nm,1.2s,mb5.2
A04A Legoe Bay, Lum 84.56 33 ⇓P **P** **16 13 49.2 -0.4**
baz=85,SNR=8.4
B05A Bryant 84.59 34 P **P** **16 13 49.4 -0.3**
baz=85,SNR=13
EYAK Cordova Ski Ar 84.61 16 *e*P **P** **16 13 47.2 -2.7**
TTA Tatalina 84.63 10 *e*P **P** **16 13 49.1 -0.8**
PMR Palmer 84.73 14 *e*P **P** **16 13 48.1 -2.3**
PMR pmax pmax
comp=Z,113nm,0.8s,mb5.5
PMR Palmer 84.73 14 *e*P **P** **16 13 48.1 -2.3**
comp=Z,113nm,0.8s,mb5.5
M12A Wells 84.81 43 ⇑P **P** **16 13 50.7 0.0**
baz=85
HAWA Hanford 84.85 36 *e*P **P** **16 13 50.6 -0.4**
comp=Z,7.0nm,1.2s,mb4.1
SIT Sitka 84.90 22 P **P** **16 13 50.4 -0.8**
SIT pmax pmax
comp=Z,75nm,1.2s,mb5.1
SIT Sitka 84.90 22 *e*P **P** **16 13 50.5 -0.7**
comp=Z,54nm,1.5s,mb4.9
N13A Wendover, West 84.96 43 ⇓P **P** **16 13 51.2 -0.4**
baz=85
A05A Maple Falls 85.05 33 ⇓P **P** **16 13 51.3 -0.7**
baz=85
MSU Marysvale 85.09 46 *e*P **P** **16 13 52.9 +0.7**
BMO Blue Mountains 85.24 39 *e*P **P** **16 13 52.2 -0.7**
comp=Z,28nm,0.9s,mb4.8
M13A Montello 85.25 43 ⇑P **P** **16 13 53.1 +0.1**
baz=86
BJI Beijing 85.37 316 P **P** **16 13 53.3 -0.2**
BJI AMB AMB
comp=Z,144nm,0.7s,mb5.6
WTV Waterville 85.39 35 P **P** **16 13 53.5 -0.1**
KKTK Khon Kaen 85.43 289 ⇓P **P** **16 13 55.0 +1.2**
comp=Z,864nm,0.5s
TMUT Trail Mountain 86.14 46 *e*P **P** **16 13 58.4 +1.2**
GYA Guiyang 86.15 300 ⇓*i*P **P** **16 13 57.8 +0.6**
GYA AP pP 16 16 06.3 +7.0
GYA XP sP 16 17 05.6 +9.3
GYA PP PP 16 17 29.0 +0.8
GYA AMB AMB
comp=Z,80nm,0.8s,mb5.4
GYA AMB AMB
comp=Z,570nm,5.2s
HLID Hailey 86.27 41 *e*P **P** **16 13 57.9 +0.1**
comp=Z,26nm,0.9s,mb4.9
SPUT South Promonto 86.33 44 *e*P **P** **16 13 58.1 0.0**
HVU Hansel Valley 86.36 43 *e*P **P** **16 13 58.1 -0.1**
HVU pmax pmax
comp=Z,30nm,1.3s,mb4.8
HVU Hansel Valley 86.36 43 *e*P **P** **16 13 58.0 -0.2**
comp=Z,30nm,1.3s,mb4.8
CTU Camp Tracy 86.48 44 *e*P **P** **16 13 58.9 +0.2**
comp=Z,5.5nm,0.4s,mb4.5
SRU San Rafael 86.51 46 *e*P **P** **16 13 58.4 -0.5**
SRU pmax pmax
comp=Z,14nm,0.8s,mb4.6
SRU San Rafael 86.51 46 *e*P **P** **16 13 58.4 -0.6**
comp=Z,14nm,0.8s,mb4.6
DAU Daniels Canyon 86.66 45 *e*P **P** **16 14 00.5 +0.9**
MCK McKinley 86.67 13 *e*P **P** **16 13 57.3 -2.4**
MCK pmax pmax
comp=Z,110nm,1.1s,mb5.4
MCK McKinley 86.67 13 *e*P **P** **16 13 57.3 -2.4**
comp=Z,110nm,1.1s,mb5.4
LAZ Ladron 86.69 52 *e*P **P** **16 14 00.4 +0.7**
SKAG Skagway 86.74 20 *e*P **P** **16 13 59.5 -0.5**
comp=Z,345nm,2.0s,mb5.6
NNT Nongplab 86.82 285 P **P** **16 14 02.7 +2.3**
TCUT Toone Canyon 86.91 44 *e*P **P** **16 14 01.4 +0.6**
BNM Barren Site 86.96 52 *e*P **P** **16 14 01.6 +0.6**
SYO Syowa Base 87.02 193 ⇓*e*pP pP 16 16 12.0 +8.2
LPM Los Pinos Moun 87.03 52 *e*P **P** **16 14 01.8 +0.4**
HWUT Hardware Ranch 87.06 44 *e*P **P** **16 14 01.3 -0.1**
comp=Z,9.3nm,1.1s,mb4.3
LTX Lajitas 87.15 57 *e*P **P** **16 14 02.6 +0.7**
LTX pmax pmax
comp=Z,11nm,0.8s,mb4.5
LTX Lajitas 87.15 57 *e*P **P** **16 14 02.6 +0.7**
comp=Z,11nm,0.8s,mb4.5
MENT Mentasta 87.16 15 *e*P **P** **16 14 00.6 -1.4**
NEW Newport 87.27 36 P **P** **16 14 00.9 -1.5**
comp=Z,11nm,0.7s,mb4.6,baz=223,slow=4.0,SNR=18
NEW Newport 87.27 36 *e*P **P** **16 14 01.4 -1.1**
NEW pmax pmax
comp=Z,28nm,1.1s
NEW Newport 87.27 36 *e*P **P** **16 14 01.4 -1.1**
comp=Z,28nm,1.1s,mb4.8
PV01 Paradox Valley 87.39 48 *e*P **P** **16 14 03.2 +0.2**
ANMO Albuquerque 87.44 51 ⇑*e*P **P** **16 14 02.8 -0.5**
ANMO Albuquerque 87.44 51 *e*P **P** **16 14 03.5 +0.2**
comp=Z,2.9nm,0.6s
XAN Xi'an 87.62 307 P **P** **16 14 04.5 +0.4**
XAN AMB AMB
comp=Z,203nm,0.9s,mb5.8
DLBC Dease Lake 87.84 23 *e*P **P** **16 14 04.4 -0.7**
MCMT McKenzie Canyo 87.89 40 *e*P **P** **16 14 05.8 +0.5**
COLA College 87.91 13 *d i*P **P** **16 14 02.8 -2.7**
COLA College 87.91 13 *e*P **P** **16 14 03.0 -2.4**
comp=Z,176nm,0.7s,mb5.9
IMA2 Indian Mountai 87.93 10 *e*P **P** **16 14 03.9 -1.6**
AHID Auburn Hatcher 87.93 43 *e*P **P** **16 14 05.8 +0.2**
comp=Z,12nm,0.8s,mb4.7
RRI2 Red Ridge 88.08 42 *e*P **P** **16 14 06.5 +0.2**
comp=Z,45nm,0.9s,mb5.2
NANT Nan 88.23 291 ⇓P **P** **16 14 06.0 -0.9**
comp=Z,548nm,1.0s,mb6.2
MSO Missoula 88.29 38 *e*P **P** **16 14 06.2 -1.1**
comp=Z,6.7nm,0.7s,mb4.5
TPAW Teton Pass 88.39 42 *e*P **P** **16 14 07.9 +0.2**
comp=Z,58nm,1.3s,mb5.2
SNAA Sanae 88.40 179 S S 16 23 38.6 -27
baz=17,slow=20
SNAA PKKPbc PKKPbc 16 31 44.0 -2.5
comp=Z,0.6nm,0.6s,baz=252,slow=2.1,SNR=16
SNAA Sanae 88.40 179 ⇑*i*P **P** **16 14 06.1 -1.7**
SNAA *e* 16 14 08.8
SNAA *e* 16 14 13.6
SNAA *e* pP 16 16 13.4 +2.7
SNAA *e* 16 16 14.7
SNAA *e* 16 17 34.6
SNAA *e* 16 17 46.3
SNAA *e* 16 23 39.9
IMW Indian Meadow 88.60 42 *e*P **P** **16 14 08.8 +0.1**
comp=Z,72nm,1.2s,mb5.4
MOOW Moose Ponds 88.65 42 *e*P **P** **16 14 09.3 +0.4**

comp=Z,34nm,1.4s,mb5.0
CHMT Chamberlain Mo 88.73 38 *e*P P **16 14 08.3 -1.0**
QLMT Earthquake Lak 88.76 41 *e*P P **16 14 10.2 +0.7**
HHC Hu-ho-hao-te 88.83 314 *e*P P **16 14 10.1 +0.3**
HHC AP pP 16 16 17.8 +5.0
HHC XP sP 16 17 14.9 +5.4
HHC PP PP 16 17 53.0 +3.6
HHC S S 16 24 00.5 -9.4
HHC SS SS 16 30 19.9 +0.7
HHC AMB AMB
comp=Z,80nm,0.9s,mb5.5
HHC AMB AMB
comp=Z,291nm,5.4s
FLWY Flagg Ranch 88.84 42 *e*P P **16 14 10.1 +0.3**
comp=Z,100nm,1.4s,mb5.5
KMI Kunming 88.86 297 P P **16 14 11.3 +1.4**
KMI AP pP 16 16 20.0 +7.1
KMI PP PP 16 17 52.4 +2.8
KMI AMB AMB
comp=Z,125nm,0.8s,mb5.8
PDAR Pinedale Array 88.92 43 P P **16 14 09.9 -0.3**
comp=Z,12nm,0.6s,mb4.9,baz=207,slow=3.2,SNR=120
PDAR PKKPbc PKKPbc 16 31 45.4 +0.2
comp=Z,0.9nm,0.7s,baz=98,slow=3.0,SNR=8.9
YFT Old Faithful 88.94 41 *e*P P **16 14 12.2 +1.9**
YMR Madison River 88.97 41 *e*P P **16 14 11.6 +1.2**
comp=Z,92nm,1.5s,mb5.4
SMCO Snowmass 88.98 47 *e*P P **16 14 10.9 +0.5**
comp=Z,11nm,0.9s,mb4.7
BOZ Bozeman (W) 89.05 40 *e*P P **16 14 10.5 -0.3**
BOZ pmax pmax
comp=Z,54nm,1.3s,mb5.2
BOZ Bozeman (W) 89.05 40 *e*P P **16 14 10.4 -0.3**
comp=Z,54nm,1.3s,mb5.2
MAIT Maitri 89.08 183 *e*P P **16 14 09.0 -1.9**
MAIT *e*SKSac SKSac 16 23 41.4 -5.5
NVL N'lazarevskaya 89.08 183 *c i*P P **16 14 08.9 -2.0**
NVL *e*S S 16 23 53.9 -18
NVL pmax pmax
comp=Z,83nm,0.9s,mb5.6
DAWY Dawson 89.19 16 *e*P P **16 14 10.1 -1.3**
VNA1 Neumayer--Stat 89.22 177 ⇑ *i*P P **16 14 10.9 -0.6**
VNA1 *e* 16 14 11.5
VNA1 *e* 16 14 13.5
VNA1 *e* 16 14 18.2
VNA1 *e* pP 16 16 18.6 +3.9
VNA1 *e* 16 16 20.9
VNA1 *e* 16 16 25.7
LKWY Lake 89.27 42 *e*P P **16 14 13.7 +1.9**
LKWY pmax pmax
comp=Z,26nm,1.1s,mb5.0
LKWY Lake 89.27 42 *e*P P **16 14 13.7 +1.9**
comp=Z,26nm,1.1s,mb5.0
HRY Holter Researc 89.47 39 *e*P P **16 14 12.8 +0.1**
WALA Waterton Lakes 89.48 36 *e*P P **16 14 12.1 -0.7**
comp=Z,23nm,0.9s,mb5.0
BTO Baotou 89.76 314 *e*P P **16 14 13.4 -0.7**
CHG Chiang Mai 89.78 290 ⇓ P P **16 14 15.7 +1.5**
comp=Z,134nm,0.8s,mb5.8
CHTO Chiang Mai 89.78 290 ⇓ P P **16 14 15.4 +1.3**
SNR=23
CHTO Chiang Mai 89.78 290 *e*P P **16 14 14.7 +0.5**
CHTO pmax pmax
comp=Z,114nm,0.8s,mb5.8
CHTO Chiang Mai 89.78 290 *e*P P **16 14 14.7 +0.5**
comp=Z,114nm,0.8s,mb5.8
PLCA Paso Flores 89.80 134 P P **16 14 14.5 +0.3**
comp=Z,16nm,0.7s,mb5.0,baz=222,slow=4.7,SNR=26
PLCA PKKPbc PKKPbc 16 31 42.7 -0.4
comp=Z,4.3nm,1.0s,baz=25,slow=14,SNR=4.7
PLCA Paso Flores 89.80 134 P P **16 14 14.5 +0.3**
PLCA pmax pmax
comp=Z,16nm,0.7s
PLCA pmax pmax
comp=Z,4.0nm,1.0s
PLCA Paso Flores 89.80 134 P P **16 14 14.5 +0.3**
PLCA PKKPbc PKKPbc 16 31 42.7 -0.4
RWWY Rawlins 89.96 45 *e*P P **16 14 14.4 -0.6**
comp=Z,91nm,1.7s,mb5.3
CLNS Chul'man 90.13 333 *e*P P **16 14 14.9 -0.9**
CLNS pmax pmax
comp=Z,31nm,0.9s,mb5.1
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=E,15nm,0.8s
CD2 Chengdu 90.28 303 ⇓ *i*P P **16 14 17.5 +1.0**
CD2 AP pP 16 16 24.1 +4.3
CD2 PP PP 16 18 04.0 +3.3
CD2 SKS 16 23 53.5
CD2 S S 16 24 21.3 -1.7
CD2 XS sS 16 28 05.5 +2.2
CD2 SS SS 16 30 42.5 +2.6
CD2 AMB AMB
comp=Z,20nm,1.2s,mb4.8
CD2 AMB AMB
comp=Z,60nm,9.6s
GCMT Greycliff 90.31 41 *e*P P **16 14 17.2 +0.6**
JCT Junction City 90.68 58 *e*P P **16 14 17.7 -0.6**
JCT pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
JCT Junction City 90.68 58 *e*P P **16 14 17.7 -0.6**
comp=Z,6.0nm,0.7s,mb4.6
PHWY Pilot Hill 90.96 46 *e*P P **16 14 19.7 +0.1**
EGMT Eagleton 91.34 39 *e*P P **16 14 21.2 -0.1**
comp=Z,4.9nm,0.7s,mb4.5
YAK Yakutsk 91.62 338 *e*P P **16 14 20.2 -2.5**
YAK *e**PP pP 16 16 24.2 -1.9
YAK *e* 16 18 06.6
YAK *e*PPP 16 20 09.9
YAK *e*S S 16 23 55.5 -39
YAK *e* 16 24 30.3
YAK *e*SSS 16 34 40.4
YAK pmax pmax
comp=Z,79nm,1.0s,mb5.7
YAK pmax pmax
comp=N,16nm,1.4s
YAK pmax pmax
comp=E,22nm,1.5s
YAK pmax pmax
comp=Z,8.0nm,1.5s,mb4.5
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax
comp=E,10.0nm,1.5s
YAK smax
comp=Z,2.0nm,1.1s
YAK smax
comp=N,15nm,1.4s
YAK Yakutsk 91.62 338 *e*P P **16 14 20.3 -2.3**
comp=N,124nm,0.8s,mb6.0
EDM Edmonton 91.98 33 *e*P P **16 14 22.9 -1.4**
LZH Lanzhou 92.25 308 *e*P P **16 14 26.3 +0.7**
LZH *e*S S 16 24 41.3 +1.0
LZH SS SS 16 31 14.1 +6.2
LZH AMB AMB
comp=Z,131nm,1.6s,mb5.7
LZH AMB AMB
comp=Z,342nm,4.3s
RSSD Black Hills 93.12 44 *e*P P **16 14 28.4 -1.1**
RSSD pmax pmax
comp=Z,26nm,1.5s,mb5.0
RSSD Black Hills 93.12 44 *e*P P **16 14 28.4 -1.1**
comp=Z,26nm,1.5s,mb5.0
ULN Ulaanbaatar 94.84 319 ⇑ P P **16 14 36.5 -0.9**
SNR=12
ULN Ulaanbaatar 94.84 319 ⇑ *e*P P **16 14 35.4 -1.9**
ULN Ulaanbaatar 94.84 319 *e*P P **16 14 36.1 -1.2**
comp=Z,16nm,0.8s,mb5.2
SONM Songino Array 95.23 319 P P **16 14 37.4 -1.7**
comp=Z,6.2nm,0.7s,mb4.8,baz=136,slow=5.0,SNR=40
SONM PP PP 16 18 27.6 -11
comp=Z,1.9nm,0.9s,baz=127,slow=5.3,SNR=4.6
SONM S S 16 24 17.5 -49
comp=Z,1.1nm,1.0s,baz=107,slow=1.5,SNR=9.9
SONM PKKPbc PKKPbc 16 31 28.9 -0.4
SONM Songino Array 95.23 319 P P **16 14 37.4 -1.7**
SONM S S 16 24 17.5 -49
SONM pmax pmax
comp=Z,6.0nm,0.7s
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM smax
comp=E,1.0nm,1.0s
SONM pmax pmax
comp=Z,1.0nm,0.8s
BOD Bodaibo 95.58 330 *e*P P **16 14 36.7 -4.0**
BOD *e*S PP 16 18 41.3 -0.2
BOD *e* 16 24 15.5
BOD pmax pmax
comp=Z,10.0nm,1.4s,mb4.8
CFAA Coronel Fontan 95.61 126 PP PP 16 18 36.9 -4.9
comp=Z,1.2nm,1.1s,baz=244,slow=9.0,SNR=3.3
CFAA PKKPbc PKKPbc 16 31 27.8 -0.5
comp=Z,0.2nm,0.5s,baz=47,slow=2.4,SNR=3.9
YKA Yellowknife Ar 96.31 25 P P **16 14 41.2 -2.8**
comp=Z,5.4nm,0.6s,mb5.0,baz=241,slow=4.6,SNR=30
YKA PP PP 16 18 42.0 -5.0
comp=Z,0.8nm,0.7s,baz=236,slow=6.6,SNR=4.8
YKA Yellowknife Ar 96.31 25 P P **16 14 41.2 -2.8**
YKA 16 18 42.0
YKA pmax pmax
comp=Z,5.0nm,0.6s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 96.31 25 P P **16 14 41.2 -2.8**
YKA PP PP 16 18 42.0 -5.0
GTA Gaotai 96.45 309 *e*P P **16 14 44.3 -0.3**
GTA AP pP 16 16 54.4 +5.9
GTA XP sP 16 17 54.3 +9.3
GTA SKS 16 24 23.1
GTA S S 16 25 16.0 -0.5
GTA AMB AMB
comp=Z,21nm,1.4s,mb5.2
GTA AMB AMB
comp=Z,141nm,6.5s
TIXI Tiksi 98.28 345 *e*P Pdif 16 14 49.7 -3.1
TIXI pmax pmax
comp=Z,18nm,1.3s,mb5.2
TIXI Tiksi 98.28 345 *e*P Pdif 16 14 49.8 -3.0
LPAZ La Paz 102.54 113 P Pdif 16 15 14.0 +2.3
comp=Z,3.6nm,0.7s,baz=243,slow=3.5,SNR=23
LPAZ PKKPbc PKKPbc 16 31 08.9 -0.2
comp=Z,2.2nm,0.7s,baz=292,slow=1.6,SNR=5.4
LPAZ La Paz 102.54 113 P Pdif 16 15 14.0 +2.3
LPAZ pmax pmax
comp=Z,4.0nm,0.7s
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
JIRN Jiri 103.70 295 *e*P PKiKP 16 19 30.4 -0.9
comp=Z,19nm,0.6s
GUN Gumba 104.03 295 *e*P PKiKP 16 19 30.3 -1.6
PKI Pulchoki 104.34 294 *e*P PKiKP 16 19 31.3 -1.2
comp=Z,16nm,0.6s
KKN Kakani 104.51 295 *e*P PKiKP 16 19 31.7 -1.1
comp=Z,17nm,0.6s
DMN Daman 104.61 294 *e*P PKiKP 16 19 32.1 -0.9
GKN Gorkha 105.11 295 *e*P PKiKP 16 19 32.3 -1.6
comp=Z,9.1nm,0.4s
KOLN Koldanda 105.94 294 *e*P PKiKP 16 19 34.1 -1.4
comp=Z,12nm,0.6s
SIV San Ignacio 108.73 116 PKKPbc PKKPbc 16 30 49.9 -0.7
comp=Z,3.1nm,0.7s,baz=95,slow=6.1,SNR=15
ZAL Zalesovo 109.98 321 PKiKP PKiKP 16 19 39.5 -3.6
comp=Z,7.3nm,0.6s,baz=339,slow=2.3,SNR=33
ZAL SKP 16 22 22.1
comp=Z,2.3nm,0.3s,baz=347,slow=2.3,SNR=4.9
ZAL SKSac SKSac 16 25 23.4 -5.6
comp=Z,0.9nm,0.4s,baz=222,slow=23,SNR=16
ZAL PKKPbc PKKPbc 16 30 45.1 -1.5
comp=Z,1.4nm,0.3s,baz=69,slow=4.5,SNR=3.4
MKAR Makanchi Array 110.68 314 Pdiff Pdif 16 15 47.4 -0.5
comp=Z,1.7nm,0.6s,baz=95,slow=5.6,SNR=17
MKAR PKiKP PKiKP 16 19 42.1 -2.3
comp=Z,14nm,0.6s,baz=96,slow=0.4,SNR=66
MKAR SKP 16 22 24.7
comp=Z,3.1nm,0.7s,baz=80,slow=1.4,SNR=6.4
MKAR PKKPbc PKKPbc 16 30 43.0 -1.5
comp=Z,2.6nm,0.8s,baz=280,slow=2.4,SNR=14
MKAR PKKPab PKKPab 16 30 56.0 -1.0
comp=Z,1.5nm,0.6s,baz=283,slow=2.7,SNR=7.4
MKAR Makanchi Array 110.68 314 P Pdif 16 15 47.4 -0.5
MKAR *i* 16 19 42.1
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR pmax pmax
comp=Z,14nm,0.6s
MKAR pmax pmax
comp=E,3.0nm,0.7s
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR pmax pmax
comp=Z,2.0nm,0.6s
NVS Novosibirsk 110.99 322 *i* PKiKP PKiKP 16 19 42.2 -2.8
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=E,6.0nm,0.9s
NVS pmax pmax
comp=Z,12nm,0.9s
NDI New Delhi 111.63 294 *e*P PKiKP 16 19 41.0 -5.2
KURK Kurchatov 113.47 318 ⇓ P PKiKP 16 19 47.4 -2.3
SNR=3.1
KURK Kurchatov 113.47 318 *d i*PKiKP PKiKP 16 19 47.0 -2.7
KURK Kurchatov 113.47 318 *e*PKiKP PKiKP 16 19 47.2 -2.5
KURK *e*SKPdf SKPdf 16 22 29.3 -2.5
KSH Kashi 114.38 305 *e*PKP PKiKP 16 19 50.9 -0.5
KSH *e*PPP 16 23 00.1
KSH *e*PKS 16 23 26.3
KSH *e*SKS SKSdf 16 26 07.5 -2.7
KSH PP PP
comp=Z,388nm,4.8s
TKM2 Tokmak 2 114.99 309 P PKPdf 16 19 51.2 -1.5
SNR=11
KBK Karagaybulak 115.45 308 P PKPdf 16 19 52.3 -1.2
SNR=7.1
CHMS Chumysh 115.62 309 P PKPdf 16 19 52.5 -1.4
SNR=8.4
FRU Bishkek 115.71 309 *e*PKIKP PKPdf 16 19 52.0 -2.0
FRU *e* 16 21 06.0
FRU *e* 16 25 48.0
UCH Uchtor 115.74 308 P PKPdf 16 19 53.5 -0.5
SNR=12
AAK Ala-Archa 115.78 308 *i* PKIKP PKPdf 16 19 51.8 -2.3
AAK Ala-Archa 115.78 308 *e*PKPdf PKPdf 16 19 51.4 -2.7
AAK *e*SKPdf SKPdf 16 22 34.0 -2.3
USP Ospenovka 115.82 309 P PKPdf 16 19 52.6 -1.6
SNR=17
EKS2 Erkin-Say 116.31 308 P PKPdf 16 19 54.0 -1.1
SNR=8.5
AML Almayashu 116.34 308 P PKPdf 16 19 54.6 -0.6
SNR=15
CHKZ Chkalovo 118.37 321 *e*PKPdf PKPdf 16 19 56.5 -2.6
CHKZ *e*SKPdf SKPdf 16 22 38.9 -2.3
SCHQ Schefferville 118.59 38 PKP PKPdf 16 19 57.1 -2.4
comp=Z,2.1nm,0.6s,baz=343,slow=4.1,SNR=4.1
BRVK Borovoye 118.62 320 ⇓ P PKPdf 16 19 57.6 -2.0
SNR=16
BRVK Borovoye 118.62 320 *e*PKPdf PKPdf 16 19 57.5 -2.1
BRVK *e*SKPdf SKPdf 16 22 39.7 -1.9
ZRNK Zerenda 119.40 320 *e*PKPdf PKPdf 16 19 58.9 -2.2
ZRNK *e*SKPdf SKPdf 16 22 41.5 -1.6
BDFB Brasilia 119.66 122 PKP PKPdf 16 20 00.8 -0.8
comp=Z,1.4nm,0.3s,baz=266,slow=5.1,SNR=3.7
BDFB SKP 16 22 42.2
comp=Z,9.3nm,0.9s,baz=344,slow=1.7,SNR=7.7
BDFB PKKPbc PKKPbc 16 30 14.8 +0.8
comp=Z,10nm,0.7s,baz=86,slow=1.9,SNR=13
BDFB Brasilia 119.66 122 PKiKP PKPdf 16 20 00.8 -0.8
BDFB pmax pmax
comp=Z,1.0nm,0.4s
BDFB pmax pmax
comp=E,9.0nm,0.9s
BDFB pmax pmax
comp=Z,11nm,0.7s
OPO Ambohidratompo 121.06 232 PKP PKPdf 16 20 03.9 -0.3
comp=Z,4.1nm,0.7s,baz=347,slow=4.5,SNR=8.2
SPB4 Spitsbergen Ar 121.46 356 *e*PKPdf PKPdf 16 20 02.5 -2.5
SPB4 *e*SKPdf SKPdf 16 22 45.5 -1.6
DAG Danmarks Havn 122.39 5 ⇓ *i*P PKPdf 16 20 03.7 -3.1
comp=Z,6.8nm,0.4s
DAG Danmarks Havn 122.39 5 ⇓ *i*PKIKP PKPdf 16 20 03.7 -3.1
DAG pmax pmax
comp=Z,7.0nm,0.4s
SUMG Summit 122.86 13 *e*PKPdf PKPdf 16 20 06.5 -1.3
SVE Sverdlovsk 123.47 326 *e*PKIKP PKPdf 16 20 07.7 -1.2
SVE pmax pmax
comp=Z,68nm,1.5s
SUR Sutherland 124.67 200 PKP PKPdf 16 20 11.4 +0.2
comp=Z,4.5nm,0.5s,baz=24,slow=1.4,SNR=11
SUR PKKPbc PKKPbc 16 29 55.0 -0.3
comp=Z,2.9nm,0.8s,baz=250,slow=2.1,SNR=5.1
SUR Sutherland 124.67 200 P PKPdf 16 20 11.6 +0.4
SNR=7.7
ARU Arti 124.68 326 *d i*PKIKP PKPdf 16 20 09.5 -1.7
ARU Arti 124.68 326 *e*PKPdf PKPdf 16 20 09.5 -1.7
BOSA Boshof 126.45 206 PKP PKPdf 16 20 14.3 -0.3
comp=Z,1.4nm,0.5s,baz=107,slow=1.9,SNR=5.3
BOSA PKKPab 16 29 48.3
comp=Z,3.3nm,0.8s,baz=1.3,slow=8.5,SNR=4.4
BOSA Boshof 126.45 206 PKIKP PKPdf 16 20 14.3 -0.3
BOSA pmax pmax
comp=Z,1.0nm,0.5s
BOSA pmax pmax
comp=Z,3.0nm,0.8s
BOSA Boshof 126.45 206 PKP PKPdf 16 20 14.3 -0.3
BOSA PKKPab 16 29 48.3
AKTK Aktyubinsk 126.54 318 PKP PKPdf 16 20 13.2 -1.6
AKTO Aktyubinsk 126.54 318 PKP PKPdf 16 20 13.2 -1.6
comp=Z,23nm,0.7s,baz=88,slow=5.0,SNR=89
AKTO Aktyubinsk 126.54 318 PKIKP PKPdf 16 20 13.2 -1.6
AKTO pmax pmax
comp=Z,23nm,0.7s
WSAR Wadi Sarin 127.22 284 PKP PKPdf 16 20 14.7 -1.4
comp=Z,7.2nm,0.9s,baz=217,slow=4.2,SNR=5.6
JMDO Jabal Madar 127.57 283 P PKPdf 16 20 16.6 -0.1
SNR=9.6
BIDO Bidbid 127.71 285 ⇓ P PKPdf 16 20 15.0 -2.0
SNR=7.6
SMDO Samad 127.72 284 ⇑ P PKPdf 16 20 17.5 +0.5
SNR=7.8
KEV Kevo 128.03 349 *e*PKIKP PKPdf 16 20 15.3 -2.3
BSY Bisya 128.45 284 ⇑ P PKPdf 16 20 18.3 -0.1
SNR=10
ARCES ARCESS Array B 128.48 350 PKhKP 16 20 02.2
comp=Z,3.4nm,0.8s,baz=217,slow=0.6,SNR=7.0
ARCES PKP PKPdf 16 20 16.1 -2.3
comp=Z,25nm,0.7s,baz=10,slow=1.0,SNR=47
ARCES SKPbc 16 22 44.5
comp=Z,49nm,0.9s,baz=22,slow=4.3,SNR=25
ARCES SKP 16 22 59.0
comp=Z,15nm,0.8s,baz=28,slow=0.8,SNR=5.5
ARCES PKKPbc 16 29 40.0
comp=Z,2.8nm,0.8s,baz=241,slow=2.2,SNR=4.4
ARCES ARCESS Array B 128.48 350 PKHKP 16 20 02.2
ARCES 16 20 16.2
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES pmax pmax
comp=Z,25nm,0.7s
ARCES pmax pmax
comp=E,49nm,0.9s
ARCES pmax pmax
comp=E,15nm,0.8s
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 128.48 350 PKP 16 20 02.2
ARCES PKP PKPdf 16 20 16.1 -2.3
ARCES SKPbc 16 22 44.5
ARCES SKP 16 22 59.0
ARCES PKKPbc 16 29 40.0
ARE0 ARCESS Array S 128.48 350 *e*PKPdf PKPdf 16 20 16.1 -2.3
LBTB Lobatse 129.44 209 PKP PKPdf 16 20 20.7 +0.4
comp=Z,1.5nm,0.6s,baz=192,slow=11,SNR=4.6
LBTB SKPbc SKPbc 16 22 49.5 -0.2
comp=Z,9.3nm,0.8s,baz=137,slow=4.0,SNR=11
LBTB Lobatse 129.44 209 PKIKP PKPdf 16 20 20.7 +0.4
LBTB 16 22 49.5
LBTB pmax pmax
comp=Z,2.0nm,0.6s
LBTB pmax pmax
comp=E,9.0nm,0.8s
ASHO Ashiyiah 129.73 286 ⇑ P PKPdf 16 20 20.6 -0.3
SNR=11
WHFO Wadi Hawf 130.81 277 ⇓ P PKPdf 16 20 23.3 +0.4
KLMR Klimovskoe 131.39 336 *i* PKHKP 16 20 13.3
KLMR pmax pmax
comp=Z,60nm,1.6s
BORG Borgarnes 132.84 13 PKP PKPdf 16 20 25.0 -1.7
comp=Z,10nm,0.7s,baz=22,slow=2.7,SNR=6.6
FIA1 FINESS Array S 135.30 344 *e*PKPpre 16 20 17.7
FINES FINESS Array B 135.30 344 PKhKP 16 20 15.8
comp=Z,2.4nm,0.6s,baz=46,slow=4.1,SNR=10
FINES PKP PKPdf 16 20 29.4 -1.9
comp=Z,17nm,0.7s,baz=64,slow=3.2,SNR=21
FINES SKPbc SKPbc 16 23 07.0 -2.6
comp=Z,21nm,0.9s,baz=52,slow=3.1,SNR=18
FINES FINESS Array B 135.30 344 PKHKP 16 20 15.8
FINES 16 20 29.5
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES pmax pmax
comp=Z,17nm,0.7s
FINES pmax pmax
comp=E,21nm,0.9s
FINES FINESS Array B 135.30 344 PKP 16 20 15.8
FINES PKP PKPdf 16 20 29.4 -1.9
FINES SKPbc SKPbc 16 23 07.0 -2.6
LSZ Lusaka 136.20 219 PKhKP 16 20 25.4
comp=E,2.1nm,0.5s,baz=86,slow=2.9,SNR=7.2
LSZ PKP PKPdf 16 20 34.4 +1.4
comp=E,6.1nm,0.7s,baz=243,slow=1.9,SNR=4.2
LSZ SKPbc SKPbc 16 23 12.2 -0.1
comp=E,5.0nm,0.7s,baz=129,slow=2.5,SNR=6.4
LSZ Lusaka 136.20 219 PKHKP 16 20 25.4
LSZ 16 20 34.4
LSZ pmax pmax
comp=Z,2.0nm,0.5s
LSZ pmax pmax
comp=Z,6.0nm,0.7s
LSZ pmax pmax
comp=E,5.0nm,0.7s
LSZ Lusaka 136.20 219 PKPpre 16 20 20.6
LSZ PKP PKPdf 16 20 25.4 -7.6
LSZ *e*PKPdf PKPdf 16 20 34.5 +1.5
LSZ SKPbc SKPbc 16 23 12.2 -0.1
OBN Obninsk 136.25 332 *d i*PKIKP PKPdf 16 20 31.5 -1.6
OBN *e* 16 26 51.3
OBN pmax pmax
comp=Z,35nm,0.7s
OBN Obninsk 136.25 332 *e*PKPdf PKPdf 16 20 31.0 -2.1
VOR Voronezh 136.96 326 PKIKP PKPdf 16 20 33.0 -1.4
VOR pmax pmax
comp=Z,90nm,1.4s
TSUM Tsumeb 137.91 203 PKhKP 16 20 28.2
comp=Z,1.1nm,0.6s,baz=167,slow=5.8,SNR=6.7
TSUM PKP PKPdf 16 20 38.5 +2.3
comp=Z,2.8nm,0.6s,baz=146,slow=8.2,SNR=10
TSUM SKPbc SKPbc 16 23 17.2 0.0
comp=Z,14nm,1.0s,baz=138,slow=4.5,SNR=11
TSUM SKPab 16 23 26.5
comp=Z,4.6nm,0.8s,baz=153,slow=6.1,SNR=5.6
ZEI Tsey 138.01 312 *i* P Pdif 16 17 47.1 -2.3
ZEI *e* 16 20 36.7
GNI Garni 138.19 308 *e*P PKPdf 16 20 28.7 -8.0
KIV Kislovodsk 138.43 314 P PKPdf 16 20 37.1 0.0
SNR=8.7
KIV Kislovodsk 138.43 314 *e*PKIKP PKPdf 16 20 33.3 -3.8
KIV pmax pmax
comp=Z,24nm,1.1s
KIV Kislovodsk 138.43 314 *e*PKPdf PKPdf 16 20 36.5 -0.6
KIV *e*SKP 16 23 18.4
NB2 NORSAR Subarra 138.56 353 PKP 16 20 25.9
comp=Z,16nm,0.7s,baz=19,slow=3.1
NOA NORSAR Array B 138.56 353 PKhKP 16 20 26.0
comp=Z,15nm,0.7s,baz=16,slow=4.7,SNR=34
NOA PKP PKPdf 16 20 36.9 -0.4
comp=Z,6.1nm,0.6s,baz=14,slow=4.0,SNR=13
NOA SKPbc SKPbc 16 23 17.4 -1.7
comp=Z,26nm,1.0s,baz=14,slow=4.4,SNR=13
NOA SKPab 16 23 27.6
comp=Z,4.9nm,0.8s,baz=14,slow=3.2,SNR=3.6
NOA SKPbc 16 32 02.1
comp=Z,4.2nm,0.9s,baz=189,slow=4.2,SNR=5.0
NOA NORSAR Array B 138.56 353 PKHKP 16 20 26.0
NOA 16 20 36.9
NOA pmax pmax
comp=Z,15nm,0.7s
NOA pmax pmax
comp=Z,6.0nm,0.6s
NOA pmax pmax
comp=E,26nm,1.0s
NOA pmax pmax
comp=E,5.0nm,0.9s

NOA	**NORSAR Array B**	**138.56**	**353**		PKP		16 20 26.0	
NOA					PKP	PKPdf	16 20 36.9	-0.4
NOA					SKPbc	SKPbc	16 23 17.4	-1.7
NOA					SKPab		16 23 27.6	
NOA					SKKPbc		16 32 02.1	
NAO01	**NORSAR Array S**	**138.78**	**353**	*e*	PKPpre		16 20 26.0	
NAO01				*e*	SKPdf	SKPdf	16 23 18.2	-1.0
KMBO	**Kilima Mbogo**	**139.20**	**243**		SKPbc	SKPbc	16 23 21.1	+0.2
	comp=E,12nm,1.0s,baz=60,slow=2.7,SNR=10							
KMBO					SKKPbc		16 32 03.1	
	comp=E,2.8nm,1.0s,baz=12,slow=6.4,SNR=4.8							
KARS	**Kars**	**139.26**	**309**	*e*	P	PKPdf	16 20 48.9	+10
ATD	**Arta Tunnel**	**139.52**	**264**		PKhKP		16 20 35.1	
	comp=E,7.3nm,0.8s,baz=104,slow=21,SNR=3.6							
ATD					SKPbc	SKPbc	16 23 23.4	+1.7
	comp=E,18nm,0.9s,baz=337,slow=4.3,SNR=6.4							
ATD	**Arta Tunnel**	**139.52**	**264**		PKP	PKPdf	16 20 35.1	-4.0
ATD					SKPbc	SKPbc	16 23 23.4	+1.7
VANT	**Van**	**139.65**	**306**	*e*	P	PKPdf	16 20 32.5	-6.8
CUKT	**Cukurca**	**139.77**	**304**	*e*	P	PKPdf	16 20 31.1	-8.4
BHD	**Baghdad**	**139.88**	**298**	*ex*		x	16 20 30.0	
BHD				*ex*		x	16 23 19.0	
BHD				*ex*		x	16 24 15.0	
KONO	**Kongsberg**	**140.09**	**354**		PKPpre		16 20 30.4	
KONO					SKP		16 23 21.8	
MSL	**Mosul**	**140.39**	**303**	*ex*		x	16 20 36.5	
MSL				*ex*		x	16 23 22.0	
EZM	**Erzurum**	**140.74**	**309**	*e*	P	PKPdf	16 20 36.5	-4.8
ORE	**Reay**	**141.41**	**5**	*e*	P	PKPdf	16 20 34.9	-7.6
ORE	**Reay**	**141.41**	**5**	*e*	P	PKPdf	16 20 34.9	-7.6
ANN	**Anapa**	**141.50**	**318**	*i*	PKHKP		16 20 37.1	
ANN				*e*			16 23 51.1	
ANN					pmax	pmax		
	comp=Z,29nm,0.7s							
MLA1	**Latheron**	**141.68**	**4**	*e*	P	PKPdf	16 20 35.1	-7.8
MLA1	**Latheron**	**141.68**	**4**	*e*	P	PKPdf	16 20 35.1	-7.8
BINT	**Bingol**	**141.70**	**308**	*e*	P	PKPdf	16 20 39.8	-3.2
EZC	**Erzincan**	**141.92**	**309**	*e*	P	PKPdf	16 20 40.8	-2.6
MARD	**Mardin**	**141.94**	**305**	*i*	P	PKPdf	16 20 39.4	-4.0
KELT	**Kelkit**	**142.19**	**315**	*i*	P	PKPdf	16 20 40.0	-3.9
KSK	**Scoval**	**142.20**	**7**	*e*	P	PKPdf	16 20 36.5	-7.4
KSK	**Scoval**	**142.20**	**7**	*e*	P	PKPdf	16 20 36.5	-7.4
KBSD	**Kabsdagh**	**142.20**	**305**	⇓	P	PKPdf	16 20 40.1	-3.7
KAC	**Achnashellach**	**142.32**	**6**	*e*	P	PKPdf	16 20 37.8	-6.3
KAC	**Achnashellach**	**142.32**	**6**	*e*	P	PKPdf	16 20 37.8	-6.3
SUW	**Suwalki**	**142.35**	**339**	*e*	PKP	PKPdf	16 20 40.1	-4.0
SUW				*e*			16 23 27.7	
SUW				*e*	SKS	SKSdf	16 27 05.2	+4.6
MCD	**Coleburn Disti**	**142.41**	**4**	*e*	P	PKPdf	16 20 37.2	-7.0
MCD	**Coleburn Disti**	**142.41**	**4**	*e*	P	PKPdf	16 20 37.2	-7.0
MZRK	**Al-Mazaregh**	**142.42**	**303**	⇓	P	PKPdf	16 20 41.2	-3.0
AKASG	**Malin Array Be**	**142.51**	**331**		PKhKP		16 20 39.1	
	comp=Z,118nm,0.6s,baz=43,slow=4.4,SNR=698							
AKASG					SKPbc	SKPbc	16 23 27.7	-1.5
	comp=Z,35nm,0.8s,baz=36,slow=2.9,SNR=27							
AKASG					SKKPbc		16 31 42.0	
	comp=Z,1.2nm,0.6s,baz=242,slow=3.9,SNR=9.8							
AKBB	**Malin Array Si**	**142.51**	**331**	*e*	PKHKP		16 20 39.2	
SFNV	**Sufian**	**142.69**	**304**	⇓	P	PKPdf	16 20 42.0	-2.7
DRBT	**Darb Altahta**	**142.81**	**305**	⇓	P	PKPdf	16 20 46.0	+1.1
KAR1	**Arisaig**	**142.83**	**7**	*e*	P	PKPdf	16 20 38.8	-6.1
KAR1	**Arisaig**	**142.83**	**7**	*e*	P	PKPdf	16 20 38.8	-6.1
ELZG	**Elazig**	**142.94**	**308**	*i*	P	PKPdf	16 20 43.5	-1.6
MUD	**Monsted U'grnd**	**143.28**	**353**	⇓	*i*P	PKPdf	16 20 42.1	-3.7
	comp=Z,301nm,1.1s							
MUD					*i*		16 23 30.0	
MUD	**Monsted U'grnd**	**143.28**	**353**	⇓	*i*PKHKP		16 20 42.1	
MUD					pmax	pmax		
	comp=Z,300nm,1.1s							
SIM					pmax	pmax		
	comp=Z,120nm,18.4s							
COP	**Copenhagen**	**143.56**	**350**	⇓	*i*P	PKPdf	16 20 43.3	-3.0
	comp=Z,114nm,0.6s							
COP					*i*		16 23 31.0	
COP	**Copenhagen**	**143.56**	**350**	⇓	*i*PKIKP	PKPdf	16 20 43.3	-3.0
COP					pmax	pmax		
	comp=Z,110nm,0.6s							
BSD	**Bornholm Skovb**	**143.63**	**347**	⇓	*i*P	PKPdf	16 20 43.2	-3.2
	comp=Z,343nm,0.8s							
BSD					*i*		16 23 30.5	
BSD	**Bornholm Skovb**	**143.63**	**347**	⇓	*i*PKIKP	PKPdf	16 20 43.2	-3.2
BSD					pmax	pmax		
	comp=Z,340nm,0.8s							
EAB	**Aberfoyle**	**143.70**	**6**	*e*	P	PKPdf	16 20 42.2	-4.3
EAB	**Aberfoyle**	**143.70**	**6**	*e*	P	PKPdf	16 20 42.2	-4.3
ATAB	**Bozova**	**143.78**	**306**	*i*	P	PKPdf	16 20 45.9	-0.8
SVSK	**Karacayir**	**143.88**	**311**	*e*	P	PKPdf	16 20 45.5	-1.3
PGBU	**Glenifferbraes**	**144.06**	**6**	*e*	P	PKPdf	16 20 42.3	-4.8
PGBU	**Glenifferbraes**	**144.06**	**6**	*e*	P	PKPdf	16 20 42.3	-4.8
EDI	**Edinburgh**	**144.06**	**5**	*e*	P	PKPdf	16 20 43.4	-3.8
EDI	**Edinburgh**	**144.06**	**5**	*e*	P	PKPdf	16 20 43.4	-3.8
KVT	**Kavak**	**144.08**	**313**	*e*	P	PKPdf	16 20 46.0	-1.2
ESY	**Stoneypath**	**144.11**	**4**	*e*	P	PKPdf	16 20 41.8	-5.4
ESY	**Stoneypath**	**144.11**	**4**	*e*	P	PKPdf	16 20 41.8	-5.4
EAU	**Auchinoon**	**144.12**	**5**	*e*	P	PKPdf	16 20 43.8	-3.4
EAU	**Auchinoon**	**144.12**	**5**	*e*	P	PKPdf	16 20 43.8	-3.4
JHLN	**Al Jahlan**	**144.19**	**303**	⇓	P	PKPdf	16 20 47.0	-0.3
EBL	**Broad Law**	**144.22**	**5**	*e*	P	PKPdf	16 20 42.5	-4.9
EBL	**Broad Law**	**144.22**	**5**	*e*	P	PKPdf	16 20 42.5	-4.9
DIKM	**Dikmen**	**144.36**	**315**	*e*	P	PKPdf	16 20 44.7	-3.1
GZT	**Gaziantep**	**144.37**	**307**	*i*	P	PKPdf	16 20 47.7	0.0
RGN	**Rugen**	**144.49**	**348**	*e*	PKP	PKPdf	16 20 46.6	-1.2
WAR	**Warsaw**	**144.55**	**339**	*e*	PKP	PKPdf	16 20 47.2	-0.8
WAR				*e*			16 23 34.7	
ESK	**Eskdalemuir**	**144.66**	**5**	*e*	P	PKPdf	16 20 44.0	-4.2
ESK	**Eskdalemuir**	**144.66**	**5**	*e*	P	PKPdf	16 20 44.0	-4.2
ESK	**Eskdalemuir**	**144.66**	**5**	*e*	PKP	PKPdf	16 20 46.3	-1.9
ESK				*e*	SKP		16 23 31.9	
GAZ	**Gaziantep**	**144.70**	**306**	*e*	P	PKPdf	16 20 48.4	+0.2
BOYT	**Boyabat**	**144.70**	**314**	*i*	P	PKPdf	16 20 48.8	+0.5
BWH	**Wardlaw**	**144.77**	**5**	*e*	P	PKPdf	16 20 45.1	-3.2
BWH	**Wardlaw**	**144.77**	**5**	*e*	P	PKPdf	16 20 45.1	-3.2
BYBT	**Boyabat**	**144.77**	**315**	*e*	P	PKPdf	16 20 47.5	-0.9
GKP	**Gorka Klasztor**	**144.78**	**344**	*e*	PKP	PKPdf	16 20 47.7	-0.7
GKP				*e*			16 23 34.1	
BHH	**Howats Hill**	**144.89**	**5**	*e*	P	PKPdf	16 20 46.1	-2.4
BHH	**Howats Hill**	**144.89**	**5**	*e*	P	PKPdf	16 20 46.1	-2.4
BNN	**Bunyan**	**145.12**	**310**	*e*	P	PKPdf	16 20 49.9	+0.9
CTKT	**Corum**	**145.13**	**313**	*i*	P	PKPdf	16 20 49.7	+0.7
YOZ	**Yozgat**	**145.18**	**311**	*e*	P	PKPdf	16 20 44.1	-5.0
BBO1	**Bothel**	**145.24**	**5**	*e*	P	PKPdf	16 20 47.5	-1.7
BBO1	**Bothel**	**145.24**	**5**	*e*	P	PKPdf	16 20 47.5	-1.7
CKE	**Keswick**	**145.40**	**5**	*e*	P	PKPdf	16 20 47.2	-2.2
CKE	**Keswick**	**145.40**	**5**	*e*	P	PKPdf	16 20 47.2	-2.2
LVV	**L'vov**	**145.41**	**334**	*e*	PKIKP	PKPdf	16 20 49.0	-0.4
CORM	**Corum**	**145.44**	**313**	*e*	P	PKPdf	16 20 48.0	-1.5
XDE	**Dent Fell**	**145.45**	**5**	*e*	P	PKPdf	16 20 47.9	-1.6
XDE	**Dent Fell**	**145.45**	**5**	*e*	P	PKPdf	16 20 47.9	-1.6
TOS	**Tosya**	**145.47**	**314**	*e*	P	PKPdf	16 20 51.0	+1.5
ROOS	**tl_alroos**	**145.50**	**301**	⇓	P	PKPdf	16 20 51.0	+1.4
BSEG	**Bad Segeberg**	**145.59**	**351**	*e*	PKPdf	PKPdf	16 20 49.4	-0.3
KOZT	**Kozan**	**145.63**	**308**	*e*	P	PKPdf	16 20 48.9	-1.0
COBT	**Iskenderun**	**145.63**	**306**	*i*	P	PKPdf	16 20 51.3	+1.5
CDU1	**Dunnerdale**	**145.64**	**5**	*e*	P	PKPdf	16 20 47.9	-2.0
CDU1	**Dunnerdale**	**145.64**	**5**	*e*	P	PKPdf	16 20 47.9	-2.0
BALT	**Daday**	**145.66**	**316**	*i*	P	PKPdf	16 20 50.8	+0.9
WIM	**Isle of Man**	**145.69**	**7**	*e*	P	PKPdf	16 20 48.4	-1.5
WIM	**Isle of Man**	**145.69**	**7**	*e*	P	PKPdf	16 20 48.4	-1.5
CRA	**Chernovtsy**	**145.74**	**331**		P	PKiKP	16 21 02.3	+8.0
ZALF	**Zalf**	**145.76**	**299**	⇓	P	PKPdf	16 20 51.7	+1.7
LWH	**Whinny Nab**	**145.79**	**2**	*e*	P	PKPdf	16 20 49.4	-0.7
LWH	**Whinny Nab**	**145.79**	**2**	*e*	P	PKPdf	16 20 49.4	-0.7
WRDH	**Warideh**	**145.83**	**304**	⇓	P	PKPdf	16 20 51.1	+1.0
CDAG	**Cicekdag**	**145.85**	**312**	*i*	P	PKPdf	16 20 50.8	+0.6
CEYT	**Ceyhan**	**145.85**	**307**	*e*	P	PKPdf	16 20 47.5	-2.7
CANT	**Cankiri**	**145.94**	**314**	*e*	P	PKPdf	16 20 48.4	-1.9
BIDA	**Albida**	**146.04**	**303**	⇓	P	PKPdf	16 20 52.4	+1.9
KWP	**Kalwaria**	**146.09**	**335**	*e*	PKP	PKPdf	16 20 51.6	+1.0
KWP				*e*			16 23 37.3	
ELDT	**Eldivan**	**146.12**	**314**	*i*	P	PKPdf	16 20 52.1	+1.5
FKH	**Fakeheh**	**146.19**	**302**	*e*	P	PKPdf	16 20 53.1	+2.4
SAFT	**Safranbolu**	**146.26**	**316**	*e*	P	PKPdf	16 20 49.9	-1.0
ASF	**Jabal al Asfar**	**146.28**	**298**		PKP	PKPdf	16 20 51.1	+0.2
	comp=Z,69nm,0.7s,baz=344,slow=2.7,SNR=86							
ASF					PKPbc	PKPbc	16 20 53.1	-0.1
	comp=Z,69nm,0.7s,baz=341,slow=3.5,SNR=99							
ASF					SKPbc	SKPbc	16 23 37.8	-0.2
	comp=Z,8.2nm,0.8s,baz=13,slow=1.0,SNR=4.0							
ASF					SKKPbc		16 31 29.4	
	comp=Z,1.7nm,0.6s,baz=62,slow=3.6,SNR=6.5							
ASF	**Jabal al Asfar**	**146.28**	**298**		PKIKP	PKPdf	16 20 51.1	+0.2
ASF							16 20 53.1	
ASF					pmax	pmax		
	comp=Z,69nm,0.7s							
ASF					pmax	pmax		
	comp=Z,69nm,0.7s							
ASF					pmax	pmax		
	comp=E,8.0nm,0.8s							
KARA	**Karaisali**	**146.28**	**308**	*e*	P	PKPdf	16 20 49.9	-1.0
SALA	**Sala**	**146.30**	**299**	⇓	P	PKPdf	16 20 53.6	+2.7
BR131	**Keskin Array S**	**146.32**	**312**	*e*	PKPdf	PKPdf	16 20 49.8	-1.2
BR131				*e*	PKPbc	PKPbc	16 20 52.6	-0.7
BR131				*e*	SKPbc	SKPbc	16 23 37.0	-1.1
BRTR	**Keskin Array B**	**146.32**	**312**		PKP	PKPdf	16 20 50.1	-0.9
	comp=E,56nm,0.6s,baz=122,slow=2.8,SNR=145							
BRTR					PKPbc	PKPbc	16 20 52.4	-1.0
	comp=E,56nm,0.6s,baz=133,slow=3.8,SNR=195							
BRTR					SKPbc	SKPbc	16 23 37.5	-0.6
	comp=E,12nm,0.9s,baz=115,slow=1.8,SNR=7.1							
BRTR					SKPab		16 24 02.5	
	comp=E,12nm,0.8s,baz=77,slow=3.3,SNR=6.8							
BRTR					SKKPbc		16 31 28.8	
	comp=E,4.2nm,0.9s,baz=213,slow=4.3,SNR=15							
RUE	**Ruedersdorf**	**146.34**	**347**	*e*	PKPdf	PKPdf	16 20 50.6	-0.4
RUE	**Ruedersdorf**	**146.34**	**347**	*e*	PKPbc	PKPbc	16 20 52.0	-1.4
DSB	**Dublin**	**146.36**	**9**	*e*	PKPdf	PKPdf	16 20 49.8	-1.3
DSB				*e*	PKPbc	PKPbc	16 20 51.8	-1.6
DSB				*e*	PKPab	PKPab	16 20 54.8	-1.1
TOTH	**TOTAH**	**146.40**	**300**	⇓	P	PKPdf	16 20 53.6	+2.5
KAMT	**Kaman**	**146.42**	**312**	*e*	P	PKPdf	16 20 49.7	-1.4
WCB1	**Church Bay**	**146.46**	**7**	*e*	P	PKPdf	16 20 48.6	-2.6
WCB1	**Church Bay**	**146.46**	**7**	*e*	P	PKPdf	16 20 48.6	-2.6
WME	**Myndd Eilian**	**146.47**	**6**	*e*	P	PKPdf	16 20 50.0	-1.2
WME	**Myndd Eilian**	**146.47**	**6**	*e*	P	PKPdf	16 20 50.0	-1.2
QASN	**Qassioun**	**146.48**	**301**	⇓	P	PKPdf	16 20 54.0	+2.8
LHO	**Holmfirth**	**146.52**	**4**	*e*	P	PKPdf	16 20 49.9	-1.4
LHO	**Holmfirth**	**146.52**	**4**	*e*	P	PKPdf	16 20 49.9	-1.4
BURAR	**Bucovina Array**	**146.55**	**331**	⇑	*i*P	PKPdf	16 20 53.2	+2.5
WLF1	**Llynfaes**	**146.56**	**7**	*e*	P	PKPdf	16 20 49.7	-1.7
WLF1	**Llynfaes**	**146.56**	**7**	*e*	P	PKPdf	16 20 49.7	-1.7
YRC	**Rhoscolyn**	**146.58**	**7**	*e*	P	PKPdf	16 20 49.7	-1.7
YRC	**Rhoscolyn**	**146.58**	**7**	*e*	P	PKPdf	16 20 49.7	-1.7
WPM1	**Penmaenmawr**	**146.64**	**6**	*e*	P	PKPdf	16 20 49.8	-1.7
WPM1	**Penmaenmawr**	**146.64**	**6**	*e*	P	PKPdf	16 20 49.8	-1.7
OJC	**Ojcow**	**146.67**	**339**	*e*	PKPdf	PKPdf	16 20 49.8	-1.8
OJC				*e*	PKPbc	PKPbc	16 20 53.2	-1.1
OJC				*e*	PKPab	PKPab	16 20 57.0	-0.2
CFR	**Carcaliu**	**146.77**	**325**	⇑	*i*P	PKPdf	16 20 53.8	+2.1
CFR	**Carcaliu**	**146.77**	**325**	⇑	P	PKPdf	16 20 53.8	+2.1
BRBR	**Barbar**	**146.77**	**301**	⇑	P	PKPdf	16 20 54.8	+3.1
KOLS	**Kolonicke sedl**	**146.81**	**335**	*e*	PKP	PKPdf	16 20 51.8	0.0
KOLS				*e*			16 20 54.1	
KOLS	**Kolonicke sedl**	**146.81**	**335**	*e*	PKP	PKPdf	16 20 51.8	0.0
KOLS				*e*			16 20 54.1	
KOLS				*e*			16 23 37.7	
MERS	**Mersin**	**146.82**	**307**	*e*	P	PKPdf	16 20 53.5	+1.7
ANTO	**Ankara**	**146.84**	**313**		PKPdf	PKPdf	16 20 51.8	0.0
ANTO					PKPbc	PKPbc	16 20 54.3	-0.4
ANTO					SKiKP		16 23 38.8	
ANTO	**Ankara**	**146.84**	**313**	⇑	*i*P	PKPdf	16 20 52.7	+0.9
ANTO	**Ankara**	**146.84**	**313**		P	PKPdf	16 20 51.9	+0.1
SNR=29								
ANTO	**Ankara**	**146.84**	**313**	*e*	PKPdf	PKPdf	16 20 51.1	-0.7
ANTO				*e*	PKPbc	PKPbc	16 20 54.3	-0.4
ANTO					P		16 20 54.4	
ANTO				*e*	SKP		16 23 38.6	
LOD	**Lodumlu**	**146.85**	**313**	*e*	P	PKPdf	16 20 53.9	+2.0
RCY	**Rachaya**	**146.86**	**301**	*e*	P	PKPdf	16 20 55.0	+3.1
YRE	**Yr Eifl**	**146.86**	**7**	*e*	P	PKPdf	16 20 49.6	-2.3
YRE	**Yr Eifl**	**146.86**	**7**	*e*	P	PKPdf	16 20 49.6	-2.3
BHL	**Bhannes**	**146.88**	**302**	*e*	P	PKPdf	16 20 54.5	+2.6
TCBB	**Talchebab**	**146.94**	**299**	⇓	P	PKPdf	16 20 54.7	+2.5
SGKT	**Sivrigoymuk**	**147.00**	**315**	*i*	P	PKPdf	16 20 53.7	+1.6
NRDL	**Niedersach Rie**	**147.01**	**350**	*e*	PKPdf	PKPdf	16 20 51.6	-0.5
NRDL				*e*	PKPbc	PKPbc	16 20 54.0	-1.2
KDZE	**Karadeniz Ereo**	**147.04**	**316**	*e*	P	PKPdf	16 20 45.1	-7.1
SBD1	**Bryn Du**	**147.05**	**5**	*e*	P	PKPdf	16 20 50.7	-1.5
SBD1	**Bryn Du**	**147.05**	**5**	*e*	P	PKPdf	16 20 50.7	-1.5
VRI	**Vrincioaia**	**147.05**	**327**	⇑	*i*P	PKPdf	16 20 54.5	+2.3
VRI	**Vrincioaia**	**147.05**	**327**		P	PKPdf	16 20 54.4	+2.2
TIRR	**Tirgusor**	**147.07**	**324**	⇑	*i*P	PKPdf	16 20 54.7	+2.5
TIRR	**Tirgusor**	**147.07**	**324**	*e*	PKPbc	PKPbc	16 20 54.2	-1.1
PLOR	**Plostina**	**147.10**	**327**	⇑	*i*P	PKPdf	16 20 54.5	+2.2
CRVS	**Cervenica-Dubn**	**147.16**	**336**	*e*	PKP	PKPdf	16 20 52.1	-0.3
CRVS				*e*			16 20 54.5	
CRVS				*e*			16 23 10.2	
CRVS	**Cervenica-Dubn**	**147.16**	**336**	*e*	PKP	PKPdf	16 20 52.1	-0.3
CRVS				*e*			16 20 54.5	
CRVS				*e*			16 23 10.2	
CRVS				*e*			16 23 39.1	
NIE	**Niedzica**	**147.16**	**337**	*e*	PKP	PKPdf	16 20 52.5	+0.1
NIE				*i*			16 20 55.1	
NIE	**Niedzica**	**147.16**	**337**	*e*	PKPdf	PKPdf	16 20 52.5	+0.1
NIE				*e*	PKPbc	PKPbc	16 20 55.1	-0.5
HARR	**Harsova**	**147.19**	**324**	⇑	*i*P	PKPbc	16 20 55.3	-0.3
HARR	**Harsova**	**147.19**	**324**	⇑	P	PKPbc	16 20 55.3	-0.3
MEST	**Erdemli**	**147.21**	**307**	*i*	P	PKPdf	16 20 51.6	-0.8
KSP	**Ksiaz**	**147.22**	**343**	*e*	PKP	PKPbc	16 20 55.1	-0.6
KSP				*e*			16 23 39.9	
KSP	**Ksiaz**	**147.22**	**343**	*i*	PKP2	PKPbc	16 20 55.0	-0.7
KSP	**Ksiaz**	**147.22**	**343**	*e*	PKPdf	PKPdf	16 20 51.8	-0.7
KSP				*i*	PKPdf	PKPdf	16 20 55.0	+2.5
KSP				*e*			16 20 58.6	
KSP				*e*	PKP	SKPbc	16 23 39.5	-0.6
KSP				*e*			16 24 01.5	
ABA1	**Baconsthorpe**	**147.28**	**1**	*e*	P	PKPdf	16 20 52.6	+0.1
ABA1	**Baconsthorpe**	**147.28**	**1**	*e*	P	PKPdf	16 20 52.6	+0.1
MMAI	**Mount Meron Ar**	**147.31**	**300**		SKPbc	SKPbc	16 23 39.9	-0.4
	comp=E,10nm,0.8s,baz=54,slow=4.3,SNR=4.0							
HLM1	**Long Mynd**	**147.47**	**5**	*e*	P	PKPdf	16 20 51.5	-1.4
HLM1	**Long Mynd**	**147.47**	**5**	*e*	P	PKPdf	16 20 51.5	-1.4
IBBN	**Ibbenburen**	**147.51**	**353**	*e*	PKPdf	PKPdf	16 20 52.5	-0.5
IBBN				*e*	PKPbc	PKPbc	16 20 55.2	-1.3
OKC	**Ostrava-Krasne**	**147.55**	**340**	*e*	PKPDF	PKPdf	16 20 52.5	-0.5
OKC				⇑	*e*PKP	PKPdf	16 20 55.5	+2.5
OKC				*e*	PKPAB	PKPab	16 21 00.3	-0.4
OKC				*e*	pPKP	pPKPdf	16 23 11.6	+6.6
OKC				*ex*		x	16 24 00.3	
OKC	**Ostrava-Krasne**	**147.55**	**340**	*e*	PKIKP	PKPdf	16 20 52.5	-0.5
OKC				*e*			16 21 00.3	
OKC				*e*			16 24 00.3	
AEU	**East Anglia Un**	**147.56**	**0**	*e*	P	PKPdf	16 20 52.8	-0.2
AEU	**East Anglia Un**	**147.56**	**0**	*e*	P	PKPdf	16 20 52.8	-0.2
UPC	**Upice**	**147.60**	**343**	*e*	PKPDF	PKPdf	16 20 52.7	-0.4
UPC				⇑	*e*PKP	PKPdf	16 20 55.9	+2.8
UPC				*e*	PKPAB	PKPab	16 21 00.7	-0.2
CLZ	**Clausthal**	**147.60**	**350**	*e*	PKPdf	PKPdf	16 20 52.8	-0.3
CLZ				*e*	PKPbc	PKPbc	16 20 55.4	-1.3
CLZ				*e*	PKPab	PKPab	16 21 00.0	-0.9
CLL	**Collm**	**147.61**	**347**	*e*	PKPdf	PKPdf	16 20 52.3	-0.8
CLL				*e*	PKPbc	PKPbc	16 20 55.5	-1.2
CLL				*e*	PKPab	PKPab	16 20 59.7	-1.3
CLL	**Collm**	**147.61**	**347**	*e*	PKPdf	PKPdf	16 20 53.0	-0.1
CLL				⇓	*i*PKPbc	PKPbc	16 20 55.7	-1.0
	comp=Z,291nm,0.7s							
CLL				⇓	*i*PKPab	PKPab	16 20 59.8	-1.2
	comp=Z,213nm,0.8s							
CLL				⇓	*i*SKPbc	SKPbc	16 23 40.5	-0.4
	comp=Z,53nm,1.2s							
CLL				*e*	PP	PP	16 24 31.0	+1.8
CLL	**Collm**	**147.61**	**347**	⇓	*e*PKIKP	PKPdf	16 20 53.0	-0.1
CLL				*i*			16 20 59.8	
CLL					pmax	pmax		
	comp=Z,291nm,0.7s							
CLL					pmax	pmax		
	comp=Z,213nm,0.8s							
CLL	**Collm**	**147.61**	**347**	*e*	PKP	PKPdf	16 20 53.0	-0.1
CLL				⇓	*i*PKP	PKPbc	16 20 55.7	-1.0
CLL				⇓	*i*PKP	PKPab	16 20 59.8	-1.2
MDU	**Mudurnu**	**147.61**	**315**	*e*	P	PKPbc	16 20 56.3	-0.5
HENT	**Hendek**	**147.64**	**316**	*i*	P	PKPbc	16 20 55.9	-0.9
DPC	**Dobruska-Polom**	**147.65**	**342**	*e*	PKPDF	PKPdf	16 20 52.8	-0.4
DPC				⇑	*e*PKP	PKPdf	16 20 56.3	+3.1
DPC				*e*	PKPAB	PKPab	16 21 00.8	-0.3
DPC				*e*	pPKP	pPKPdf	16 23 12.5	+7.3
DPC				*es*	PKP		16 24 06.3	
DPC	**Dobruska-Polom**	**147.65**	**342**	*e*	PKIKP	PKPdf	16 20 52.8	-0.4
DPC				*e*			16 21 00.8	
ISR	**Istrita**	**147.65**	**326**	⇑	*i*P	PKPbc	16 20 57.2	+0.4
ISR	**Istrita**	**147.65**	**326**	⇑	P	PKPbc	16 20 57.1	+0.3
IKL	**Isikli**	**147.68**	**307**	*e*	P	PKPbc	16 20 55.7	-1.2
MLR	**Muntele Rosu**	**147.71**	**327**		PKP	PKPdf	16 20 52.1	-1.1
	comp=E,20nm,0.4s,baz=342,slow=3.9,SNR=11							
MLR					PKPbc	PKPbc	16 20 55.9	-1.1
	comp=E,78nm,0.7s,baz=20,slow=2.5,SNR=76							
MLR					SKPbc	SKPbc	16 23 39.8	-1.3
	comp=E,12nm,1.0s,baz=69,slow=3.5,SNR=4.3							
MLR					SKKPbc		16 31 21.1	
	comp=Z,1.9nm,0.4s,baz=198,slow=12,SNR=4.6							
MLR	**Muntele Rosu**	**147.71**	**327**	⇑	*i*P	PKPbc	16 20 56.2	-0.8
MLR	**Muntele Rosu**	**147.71**	**327**		PKP	PKPdf	16 20 52.1	-1.1
MLR					PKPbc	PKPbc	16 20 55.9	-1.1
MLR				⇑	P		16 20 56.2	
MLR					SKPbc	SKPbc	16 23 39.8	-1.3
MLR					SKKPbc		16 31 21.1	
MORC	**Moravsky Berou**	**147.80**	**341**	⇑	*i*P	PKPbc	16 20 56.7	-0.5
MORC	**Moravsky Berou**	**147.80**	**341**	*e*	PKPdf	PKPdf	16 20 51.1	-2.4
MORC				*e*	PKPbc	PKPbc	16 20 56.3	-0.9
BRG	**Berggiesshubel**	**147.80**	**345**	*e*	PKPdf	PKPdf	16 20 52.9	-0.5
BRG				*e*	PKPbc	PKPbc	16 20 56.2	-1.0
BRG				*e*	PKPab	PKP

YLV	Yalova	148.76	317	eP		PKPdf	16 20 52.3	-2.7
SZAC	Souni-Zanaja	148.81	304	P		PKPbc	16 20 59.2	-0.5
TREC	Trest	148.84	342	ePKPDF		PKPdf	16 20 54.4	-0.7
TREC			⇑	ePKP		PKPbc	16 20 58.8	-1.0
TREC				ePKPAB		PKPab	16 21 05.3	-0.7
TREC				epPKP		pPKPdf	16 23 13.1	+6.0
TREC				esPKP			16 24 13.6	
ALFC	Alevga	148.89	305	P		PKPbc	16 20 58.5	-1.4
	comp=Z,4.8nm,0.7s							
SMOL	Smolenice	148.94	339	ePKP		PKPbc	16 20 59.8	-0.2
SMOL				e			16 21 06.8	
GEMT	Gemlik	148.95	317	eP		PKPdf	16 20 53.7	-1.5
CTT	Catalca	149.04	319	eP		PKPdf	16 20 54.7	-0.7
MANZ	Manzenberg	149.05	347	ePKPdf		PKPdf	16 20 54.8	-0.6
MANZ				ePKPbc		PKPbc	16 20 59.7	-0.6
MANZ				ePKPab		PKPab	16 21 06.7	-0.2
MANZ				epPKPbc		pPKPbc	16 23 21.9	+11
ULDT	Uludag	149.14	316	iP		PKPdf	16 20 55.2	-0.4
PPCY	Paphos	149.18	305	P		PKPbc	16 20 59.5	-1.1
BEBN	Eben Emael	149.22	355	PKP		PKPdf	16 20 55.1	-0.6
BEBN				PKPbc		PKPbc	16 20 59.3	-1.4
BEBN				PKPab		PKPab	16 21 05.8	-1.8
HGN	Heimansgroeve	149.22	355	ePKiKP		PKPdf	16 20 54.8	-0.9
	comp=Z,20nm,0.9s							
HGN				ePKPpre		PKPbc	16 20 59.5	-1.2
	comp=Z,124nm,1.1s							
HGN				ePKPab		PKPab	16 21 06.4	-1.2
	comp=Z,121nm,1.2s							
ROTZ	Rotzenmuhle	149.23	347	ePKPdf		PKPdf	16 20 55.1	-0.6
ROTZ				ePKPbc		PKPbc	16 21 00.0	-0.7
ROTZ				ePKPab		PKPab	16 21 07.0	-0.6
BUD	Budapest	149.25	337	⇓ePKP		PKPbc	16 21 00.0	-0.8
BUD	Budapest	149.25	337	⇓eP		PKPbc	16 21 00.2	-0.6
UCC	Uccle	149.30	357	PKP		PKPdf	16 20 55.4	-0.4
UCC				PKPbc		PKPbc	16 20 59.4	-1.5
UCC				PKPab		PKPab	16 21 06.5	-1.4
SRO1	Iza	149.31	338	ePKP		PKPbc	16 21 00.0	-0.9
SRO1				e			16 21 06.9	
ZST	Bratislava	149.32	340	ePKP		PKPbc	16 21 00.5	-0.4
ZST				e			16 21 08.1	
GZR	Gura Zlata	149.33	330	⇑iP		PKPbc	16 21 00.1	-0.9
GZR	Gura Zlata	149.33	330	⇑P		PKPbc	16 21 00.1	-0.8
ISP	Isparta	149.35	311	eP		PKPdf	16 20 54.7	-1.2
ISP	Isparta	149.35	311	ePKPbc		PKPbc	16 20 59.5	-1.5
JMB	Yambol	149.36	322	P		PKPbc	16 21 01.5	+0.5
MEM	Membach	149.37	355	PKP		PKPdf	16 20 55.4	-0.5
MEM				PKPbc		PKPbc	16 20 59.9	-1.2
MEM				PKPab		PKPab	16 21 06.2	-2.0
CSA1	St Austell	149.39	8	eP		PKPdf	16 20 55.8	-0.2
CSA1	St Austell	149.39	8	eP		PKPdf	16 20 55.8	-0.2
TKTP	Tekketepe	149.39	312	iP		PKPbc	16 20 59.9	-1.2
GDZ	Gediz	149.46	314	iP		PKPbc	16 21 00.0	-1.3
TNS	Taunus Mts	149.47	351	ePKPdf		PKPdf	16 20 55.6	-0.5
TNS				ePKPbc		PKPbc	16 21 00.4	-0.9
TNS				ePKPab		PKPab	16 21 08.0	-0.6
TNS	Taunus Mts	149.47	351	ePKHKP		PKPbc	16 21 00.4	-0.9
KHC	Kasperske Hory	149.50	344	ePKPDF		PKPdf	16 20 55.5	-0.6
KHC			⇑	ePKP		PKPbc	16 21 00.5	-0.9
KHC				ePKPAB		PKPab	16 21 08.5	-0.3
GRA1	Grafenberg Arr	149.51	348	ePKPdf		PKPdf	16 20 55.7	-0.5
GRA1				ePKPbc		PKPbc	16 21 00.6	-0.8
GRA1				ePKPab		PKPab	16 21 07.9	-0.9
GRA1				epPKPbc		pPKPbc	16 23 23.6	+12
GRA1				ePP		PP	16 24 35.4	-4.7
GRA1				esSS		SS	16 43 04.2	-4.8
GRF	Grafenberg Arr	149.51	348	ePKPdf		PKPdf	16 20 55.7	-0.5
GRF				ePKPbc		PKPbc	16 21 00.6	-0.8
GRF				ePKPab		PKPab	16 21 07.9	-0.9
GRF				epPKPbc		pPKPbc	16 23 23.6	+12
GRF				ePP		PP	16 24 35.4	-4.7
GRF				esSS		SS	16 43 04.2	-4.8
GRF	Grafenberg Arr	149.51	348	ePKIKP		PKPdf	16 20 55.7	-0.5
GRF				e			16 21 07.9	
CRQ2	Rosemanowes 2	149.53	9	eP		PKPdf	16 20 55.1	-1.1
CRQ2	Rosemanowes 2	149.53	9	eP		PKPdf	16 20 55.1	-1.1
PKSG		149.56	337	⇓eP		PKPbc	16 21 00.6	-0.9
PVL	Pavlikeni	149.57	325	P		PKPbc	16 21 01.8	+0.3
CGW	Gweek	149.59	9	eP		PKPdf	16 20 54.9	-1.4
CGW	Gweek	149.59	9	eP		PKPdf	16 20 54.9	-1.4
SNF	Seneffe	149.60	357	PKP		PKPdf	16 20 55.7	-0.6
SNF				PKPbc		PKPbc	16 21 00.5	-1.1
SNF				PKPab		PKPab	16 21 07.6	-1.5
CRAR	CRAIOVA	149.61	328	PKP2		PKPbc	16 21 02.3	+0.7
MENF	Mencas	149.62	359	PKP		PKPbc	16 20 59.2	-2.5
BCLA	Clavier	149.62	355	PKPbc		PKPbc	16 20 59.4	-2.3
BCLA				PKPab		PKPab	16 21 07.7	-1.6
CMA1	Manaccan	149.62	9	eP		PKPdf	16 20 55.5	-0.8
CMA1	Manaccan	149.62	9	eP		PKPdf	16 20 55.5	-0.8
CGH1	Goonhilly	149.64	9	eP		PKPdf	16 20 55.6	-0.8
CGH1	Goonhilly	149.64	9	eP		PKPdf	16 20 55.6	-0.8
EDRB	Edirne	149.65	321	eP		PKPdf	16 20 56.1	-0.2
WET	Wettzell	149.66	345	ePKPdf		PKPdf	16 20 55.3	-1.1
WET				ePKPbc		PKPbc	16 21 00.8	-1.0
WET				ePKPab		PKPab	16 21 08.8	-0.6
BZS	Buzias	149.69	332	⇑iP		PKPbc	16 21 01.0	-0.8
BZS	Buzias	149.69	332	⇑P		PKPbc	16 21 01.0	-0.8
GEC2	GERESS Array S	149.74	344	ePKPdf		PKPdf	16 20 55.9	-0.6
GEC2				ePKPbc		PKPbc	16 21 00.9	-1.0
GEC2				ePKPab		PKPab	16 21 09.2	-0.5
GERES	GERESS Array B	149.74	344	PKP		PKPdf	16 20 55.0	-1.5
	comp=Z,6.3nm,0.9s,baz=70,slow=1.1,SNR=44							
GERES				PKPbc		PKPbc	16 21 00.9	-1.0
	comp=Z,62nm,0.7s,baz=42,slow=2.2,SNR=59							
GERES				PKPab		PKPab	16 21 08.5	-1.2
	comp=Z,12nm,0.6s,baz=27,slow=4.6,SNR=15							
GERES	GERESS Array B	149.74	344	PKIKP		PKPdf	16 20 55.0	-1.5
GERES							16 21 08.5	
GERES				pmax		pmax		
	comp=Z,6.0nm,0.9s							
GERES				pmax		pmax		
	comp=Z,62nm,0.7s							
GERES				pmax		pmax		
	comp=Z,12nm,0.6s							
DST	Dursunbey	149.76	316	eP			16 20 43.6	
MRMT	Marmara Adasi	149.87	318	eP		PKPdf	16 20 53.2	-3.5
CONA	Conrad Observa	149.95	341	⇑iPKPdf		PKPdf	16 20 54.4	-2.5
	comp=Z,73nm,2.1s,SNR=42							
CONA				⇓iPKPbc		PKPbc	16 20 59.9	-2.6
	comp=Z,280nm,1.6s							
CONA				⇑iPKPab		PKPab	16 21 09.3	-1.4
	comp=Z,204nm,1.6s							
GIVF	Givet	149.97	356	ePKIKP		PKPdf	16 20 56.2	-0.7
DOU	Dourbes	149.99	356	PKP		PKPdf	16 20 56.2	-0.7
DOU				PKPbc		PKPbc	16 21 00.9	-1.6
DOU				PKPab		PKPab	16 21 09.2	-1.6
BAIF	Baives	150.05	357	ePKIKP		PKPdf	16 20 56.5	-0.5
ELL	Elmali	150.26	310	eP		PKPdf	16 20 59.5	+2.2
PKS9	Tamasi	150.28	336	⇓eP		PKPbc	16 21 01.8	-1.4
WLF	Walferdange	150.29	354	ePKPdf		PKPdf	16 20 57.2	-0.2
WLF				ePKPbc		PKPbc	16 21 02.6	-0.6
WLF				ePKPab		PKPab	16 21 11.2	-0.9
WLF	Walferdange	150.29	354	PKP		PKPdf	16 20 57.1	-0.2
WLF				PKPbc		PKPbc	16 21 02.5	-0.7
WLF				PKPab		PKPab	16 21 10.6	-1.5
WLF	Walferdange	150.29	354	ePKPdf		PKPdf	16 20 56.5	-0.8
WLF				ePKPbc		PKPbc	16 21 02.7	-0.5
WLF				ePKPab		PKPab	16 21 11.2	-0.8
DENT	Denizli	150.42	312	eP		PKPdf	16 20 59.0	+1.5
PKSM	Moragy	150.46	336	⇑iP		PKPbc	16 21 02.7	-0.9
PKSM	Moragy	150.46	336	⇓eP		PKPbc	16 21 02.2	-1.4
MOA	Molln	150.49	343	⇓i		PKPbc	16 21 02.4	-1.3
	comp=Z,113nm,1.9s							
MOA	Molln	150.49	343	⇑i		PKPab	16 21 13.1	+0.1
	comp=Z,184nm,1.6s							
MOA	Molln	150.49	343	⇑iPKPdf		PKPdf	16 20 56.4	-1.2
	comp=Z,29nm,1.9s,SNR=18							
MOA				⇓iPKPbc		PKPbc	16 21 02.4	-1.3
	comp=Z,113nm,1.9s							
MOA				⇓iPKPab		PKPab	16 21 12.5	-0.4
	comp=Z,184nm,1.6s							
MOA	Molln	150.49	343	⇑iP		PKPdf	16 20 56.4	-1.3
MOA				i			16 21 02.4	
MOA				i			16 21 13.1	
ALN	Alexandroupoli	150.64	320	eP		PKPbc	16 21 02.3	-1.7
ARSA	Arzberg	150.66	340	⇑i		PKPbc	16 21 02.9	-1.2
	comp=Z,154nm,2.2s							
ARSA	Arzberg	150.66	340	⇓i		PKPab	16 21 14.3	+0.7
	comp=Z,143nm,1.9s							
ARSA	Arzberg	150.66	340	⇑iPKPdf		PKPdf	16 20 56.9	-1.0
	comp=Z,92nm,2.8s,SNR=9.6							
ARSA				⇑iPKPbc		PKPbc	16 21 02.9	-1.2
	comp=Z,154nm,2.2s							
ARSA				⇓iPKPab		PKPab	16 21 14.3	+0.7
	comp=Z,143nm,1.9s							
ENEZ	Enez	150.68	320	eP		PKPbc	16 21 03.9	-0.3
AKHS	Akhisar	150.68	315	iP		PKPbc	16 21 02.8	-1.3
AKS	Akhisar	150.68	315	eP		PKPdf	16 20 59.0	+1.1
STU	Stuttgart	150.77	350	ePKPdf		PKPdf	16 20 57.8	-0.3
STU				ePKPbc		PKPbc	16 21 03.4	-0.9
STU				ePKPab		PKPab	16 21 12.8	-1.3
STU	Stuttgart	150.77	350	ePKPdf		PKPdf	16 20 56.1	-2.0
STU				ePKPbc		PKPbc	16 21 03.2	-1.2
STU				ePKPab		PKPab	16 21 12.8	-1.3
LANF	Langenberg	150.78	352	PKP		PKPdf	16 20 57.7	-0.4
BEO	Belgrade	150.83	332	iP		PKPbc	16 21 03.3	-1.1
FETY	Fethiye	150.91	310	eP		PKPdf	16 20 51.3	-7.6
RZN	Rozhen	150.92	323	iP		PKPbc	16 21 03.7	-1.0
FUR	Furstenfeldbru	150.95	347	ePKPdf		PKPdf	16 20 57.7	-0.7
FUR				ePKPbc		PKPbc	16 21 03.7	-1.0
FUR				ePKPab		PKPab	16 21 14.0	-0.8
EZN	Ezine	151.11	318	eP		PKPbc	16 21 03.2	-1.9
VTS	Vitosha	151.14	326	iP		PKPbc	16 21 03.7	-1.5
STR	Strasbourg	151.17	352	PKP		PKPbc	16 21 05.0	-0.2
YER	Yerkesik	151.24	312	eP			16 20 43.1	
KDAG	Bornova	151.29	315	iP		PKPbc	16 21 04.1	-1.4
IZM	Izmir	151.30	315	eP		PKPbc	16 21 02.0	-3.5
PERS	Pernice	151.33	340	ePKPdf		PKPdf	16 20 57.6	-1.3
PERS				iPKPbc		PKPbc	16 21 03.9	-1.7
PERS				ePKPab		PKPab	16 21 15.7	-0.8
PERS				epPKPbc		PP	16 24 46.9	-3.5
BFO	Black Forest	151.33	351	ePKPdf		PKPdf	16 20 57.8	-1.2
BFO				ePKPbc		PKPbc	16 21 04.5	-1.1
BFO				ePKPab		PKPab	16 21 15.2	-1.3
GROS	Grobnik	151.36	340	ePKPdf		PKPdf	16 20 57.6	-1.4
GROS				ePKPbc		PKPbc	16 21 04.4	-1.3
GROS				ePKPab		PKPab	16 21 15.9	-0.7
FLN	La Foliniere	151.37	3	ePKIKP		PKPdf	16 20 57.9	-1.1
	comp=Z,68nm,0.9s							
CDF	Champ du Feu	151.40	352	ePKIKP		PKPdf	16 20 58.5	-0.6
GRUS	Gruza	151.43	330	iP		PKPbc	16 21 04.4	-1.4
BLCB	Balcova	151.45	315	eP			16 20 48.9	
KBA	Koelnbreinsper	151.45	343	⇓i		PKPbc	16 21 04.1	-1.8
	comp=Z,64nm,1.1s							
KBA	Koelnbreinsper	151.45	343	⇑i		PKPab	16 21 16.4	-0.5
	comp=Z,228nm,2.2s							
KBA	Koelnbreinsper	151.45	343	⇓iPKPdf		PKPdf	16 20 57.5	-1.7
	comp=Z,54nm,2.0s,SNR=23							
KBA				⇓iPKPbc		PKPbc	16 21 04.1	-1.8
	comp=Z,64nm,1.1s							
KBA				⇑iPKPab		PKPab	16 21 16.4	-0.5
	comp=Z,228nm,2.2s							
MMB	Musomiste	151.54	324	iP		PKPbc	16 21 04.7	-1.4
MEZF	Maizieres J'vi	151.54	355	ePKIKP		PKPdf	16 20 59.1	-0.2
LDF	La Druitiere	151.55	2	ePKIKP		PKPdf	16 20 58.0	-1.3
	comp=Z,49nm,1.0s							
ROSF	Rostrenen	151.57	7	ePKIKP		PKPdf	16 20 58.0	-1.3
	comp=Z,11nm,0.6s							
DIVS	Divcibare	151.60	331	iP		PKPbc	16 21 05.0	-1.2
DIVS	Divcibare	151.60	331	eP		PKPbc	16 21 05.6	-0.6
ECH	Echery	151.61	352	PKP		PKPdf	16 20 58.6	-0.8
WATA	Walderalm	151.66	346	⇓i		PKPbc	16 21 05.0	-1.3
	comp=Z,38nm,1.1s							
WATA	Walderalm	151.66	346	⇑i		PKPab	16 21 17.6	-0.3
	comp=Z,185nm,1.7s							
WATA	Walderalm	151.66	346	⇑iPKPdf		PKPdf	16 20 58.5	-1.0
	comp=Z,11nm,1.1s,SNR=13							
WATA				⇓iPKPbc		PKPbc	16 21 05.0	-1.3
	comp=Z,38nm,1.1s							
WATA				⇑iPKPab		PKPab	16 21 17.6	-0.3
	comp=Z,185nm,1.7s							
WTTA	Wattenberg	151.72	346	⇓i		PKPbc	16 21 05.4	-1.1
	comp=Z,172nm,1.5s							
WTTA	Wattenberg	151.72	346	⇑i		PKPab	16 21 17.6	-0.5
	comp=Z,211nm,1.6s							
WTTA	Wattenberg	151.72	346	⇓iPKPdf		PKPdf	16 20 58.3	-1.2
	comp=Z,76nm,1.8s,SNR=18							
WTTA				⇓iPKPbc		PKPbc	16 21 05.4	-1.1
	comp=Z,172nm,1.5s							
WTTA				⇑iPKPab		PKPab	16 21 17.6	-0.5
	comp=Z,211nm,1.6s							
WTTA	Wattenberg	151.72	346	⇓iP		PKPdf	16 20 58.3	-1.2
WTTA				i			16 21 05.4	
WTTA				i			16 21 17.6	
GRR	Gorron	151.72	3	ePKIKP		PKPdf	16 20 58.5	-1.0
	comp=Z,46nm,1.0s							
SGMF	Saint Gilles	151.72	6	ePKIKP		PKPdf	16 20 58.6	-0.9
THEF	They Montfort	151.73	354	PKP		PKPdf	16 20 59.1	-0.5
MOTA	Moosalm	151.76	346	⇑i		PKPab	16 21 05.3	-1.3
	comp=Z,60nm,1.2s							
MOTA	Moosalm	151.76	346	⇑i		PKPab	16 21 17.8	-0.5
	comp=Z,80nm,1.1s							
MOTA	Moosalm	151.76	346	⇓iPKPdf		PKPdf	16 20 58.7	-0.8
	comp=Z,20nm,1.2s							
MOTA				⇑iPKPbc		PKPbc	16 21 05.3	-1.3
	comp=Z,60nm,1.2s							
MOTA				⇓iPKPab		PKPab	16 21 17.8	-0.5
	comp=Z,80nm,1.1s							
MOTA	Moosalm	151.76	346	⇓iP		PKPdf	16 20 58.8	-0.8
MOTA				i			16 21 05.3	
MOTA				i			16 21 17.8	
FELD	Feldberg im Sc	151.83	351	eP		PKPbc	16 21 05.3	-1.4
SQTA	Sankt Quirin	151.85	346	⇓i		PKPbc	16 21 05.6	-1.2
	comp=Z,75nm,1.4s							
SQTA	Sankt Quirin	151.85	346	⇑i		PKPab	16 21 18.4	-0.2
	comp=Z,176nm,1.8s							
SQTA	Sankt Quirin	151.85	346	⇑iPKPdf		PKPdf	16 20 58.5	-1.2
	comp=Z,17nm,1.1s,SNR=10							
SQTA				⇓iPKPbc		PKPbc	16 21 05.6	-1.2
	comp=Z,75nm,1.4s							
SQTA				⇑iPKPab		PKPab	16 21 18.4	-0.2
	comp=Z,176nm,1.8s							
HAU	Haudompre	151.91	353	ePKIKP		PKPdf	16 20 59.4	-0.4
HAU				eR				
	comp=Z,52nm,20.4s							
HAU	Haudompre	151.91	353	ePKPdf		PKPdf	16 20 59.4	-0.4
HAU				LR		LR		
	comp=Z,50nm,20.4s							
MOF	Molkenrain	151.97	352	PKP		PKPdf	16 20 59.3	-0.6
QUIF	Quistinic	152.00	7	ePKIKP		PKPdf	16 20 59.0	-0.9
BBLS	Bajina Basta -	152.04	332	iP		PKPbc	16 21 06.9	-0.2
HINF	Hinteralfeld	152.04	352	ePKIKP		PKPdf	16 20 59.5	-0.5
	comp=Z,17nm,0.8s							
DAVA	Damuels	152.07	348	⇑i		PKPbc	16 21 06.5	-0.7
	comp=Z,164nm,1.7s							
DAVA	Damuels	152.07	348	⇑i		PKPab	16 21 19.1	-0.5
	comp=Z,182nm,2.0s							
DAVA	Damuels	152.07	348	⇓iPKPdf		PKPdf	16 20 59.0	-1.0
	comp=Z,110nm,2.5s,SNR=12							
DAVA				⇑iPKiKP		PKiKP	16 21 06.5	-0.9
	comp=Z,164nm,1.7s							
DAVA				⇑iPKPab		PKPab	16 21 19.1	-0.5
	comp=Z,182nm,2.0s							
CHOS	Chios island	152.10	316	eP		PKPbc	16 21 06.4	-0.9
VOY	Vojsko	152.25	341	ePKPdf		PKPdf	16 20 58.5	-1.8
VOY				ePKPbc		PKPbc	16 21 05.9	-1.7
VOY				ePKPab		PKPab	16 21 18.5	-1.8
BOJS	Bojanci	152.29	339	ePKPdf		PKPdf	16 20 59.2	-1.2
BOJS				iPKPbc		PKPbc	16 21 06.8	-0.9
BOJS				iPKPab		PKPab	16 21 20.1	-0.4
KNT	Kendrikon	152.29	324	eP		PKPbc	16 21 05.7	-2.0
VAY	Valandovo	152.37	325	eP		PKPbc	16 21 05.6	-2.3
VAY	Valandovo	152.37	325	iPKP		PKPdf	16 20 58.2	-2.2
VAY				i			16 21 20.4	
PLE	Pljevlja	152.47	331	ePKP		PKPbc	16 21 07.1	-1.0
LOMF	Lomont	152.50	352	PKP		PKPdf	16 21 00.3	-0.4
SKO	Skopje	152.50	327	eP		PKPbc	16 21 07.5	-0.7
SKO	Skopje	152.50	327	iPKP		PKPdf	16 20 59.9	-0.7
SKO				i			16 21 22.1	
HORT	Hortiatis	152.56	323	eP		PKPbc	16 21 06.2	-2.1
IVA	Berane	152.59	330	ePKP		PKPbc	16 21 07.2	-1.2
THE	Thessaloniki	152.61	323	eP		PKPbc	16 21 06.2	-2.2
PAIG	Paliouri	152.66	321	eP		PKPbc	16 21 06.3	-2.3
PVY	Plav	152.77	329	ePKP		PKPbc	16 21 07.4	-1.4
UPM	Unac-Piva	152.79	332	ePKP		PKPbc	16 21 07.1	-1.7
LOR	Lormes	152.85	357	ePKIKP		PKPdf	16 21 00.1	-1.1
	comp=Z,9.7nm,0.7s							
LOR				eR				
	comp=Z,70nm,21.2s							
LOR	Lormes	152.85	357	ePKPdf		PKPdf	16 21 00.1	-1.1
LOR				LR		LR		
	comp=Z,70nm,21.3s							
NKY	Niksic	153.06	331	ePKP		PKPbc	16 21 07.9	-1.5
SSF	Saint Saulge	153.08	357	ePKIKP		PKPdf	16 21 00.2	-1.3
	comp=Z,21nm,0.9s							
BRY	Bratogost	153.19	332	ePKP		PKPbc	16 21 07.9	-1.8
TTG	Podgorica	153.23	330	ePKP		PKPbc	16 21 08.2	-1.6
LIT	Litokhoron	153.24	323	eP		PKPbc	16 21 08.0	-1.8
BIA	Bitola	153.25	325	iPKP		PKPdf	16 20 59.4	-2.3
BIA				i			16 21 23.9	
CABF	La Chapelle	153.32	353	ePKIKP		PKPdf	16 21 02.1	+0.3
	comp=Z,39nm,0.9s							
AVF	Avril sur Loir	153.35	357	ePKIKP		PKPdf	16 21 00.8	-1.1
FNA	Florina	153.39	325	eP		PKPbc	16 21 08.6	-1.5
OHR	Ohrid	153.46	326	iPKP		PKPbc	16 21 09.2	-1.0
OHR				i			16 21 24.5	
SMF	Signal de Mont	153.47	357	ePKIKP		PKPdf	16 21 00.4	-1.7
LRYF	La Roche-sur-Y	153.48	5	PKP		PKPbc	16 21 09.4	-0.9
BUM	Brajici-Budva	153.50	330	ePKP		PKPbc	16 21 08.5	-1.9
MFF	Saint Martin d	153.54	3	ePKIKP		PKPdf	16 21 03.1	-0.9
HCY	Herceg Novi	153.57	331	ePKP		PKPbc	16 21 08.4	-2.1
ULC	Ulcinj	153.60	329	ePKP		PKPbc	16 21 08.8	-1.8
BGF	Bois d'Agland	153.61	358	ePKIKP		PKPdf	16 21 01.9	-0.4
TCF	Toulx Ste Croi	153.89	359	ePKIKP		PKPdf	16 21 01.8	-0.9
	comp=Z,23nm,0.8s							
OG05	Jujurieux	153.95	354	PKP		PKPbc	16 21 10.6	-0.7
AGG	Agios Georgios	154.04	321	eP		PKPbc	16 21 09.5	-2.0
PLDF	La Plantade	154.16	357	PKP		PKPdf	16 21 02.7	-0.3
LPL	La Plagne	154.32	352	ePKIKP		PKPdf	16 21 03.4	+0.2
LPG	La Plagne	154.33	352	ePKIKP		PKPdf	16 21 03.5	+0.2
COLF	Collangettes	154.61	357	PKP		PKPdf	16 21 12.7	+9.1
BNI	Bardonecchia	154.78	352	ePKPdf		PKPdf	16 21 03.4	-0.5
BNI				e			16 21 12.8	
BNI				ePKPab		PKPab	16 21 30.6	-0.5
RJF	Les Rejaudoux	154.88	0	ePKIKP		PKPdf	16 21 03.5	-0.5
	comp=Z,34nm,0.9s							
RJF				eR				
	comp=Z,62nm,17.8s							
RJF	Les Rejaudoux	154.88	0	ePKPdf		PKPdf	16 21 03.5	-0.5
RJF				LR		LR		
	comp=Z,60nm,17.8s							
VLC	Villacollemand	154.93	345	ePKPab		PKPab	16 21 30.6	-1.2
ORIF	Oris-en-Rattie	155.01	353	ePKIKP		PKPdf	16 21 03.7	-0.5
ORIF				eR				
	comp=Z,105nm,22.5s							
MBDF	Montbardon	155.09	351	ePKIKP		PKPdf	16 21 03.6	-0.7
VIVF	Saint-Julien-l	155.20	355	ePKIKP		PKPdf	16 21 04.0	-0.4
LKD	Levkas	155.23	322	eP		PKPdf	16 21 13.3	+8.8
LFF	La Frestale	155.23	1	ePKIKP		PKPdf	16 21 03.7	-0.8
CAF	Calviac	155.25	359	ePKIKP		PKPdf	16 21 03.8	-0.7
AQU	L'Aquila	155.70	338	ePKP2		PKPab	16 21 35.2	+0.1
EPON	Pontenova	155.71	16	PKP		PKPdf	16 21 03.4	-1.7
STS	Santiago	155.74	18	PKIKP		PKPdf	16 21 04.4	-0.7
SBF	Sospel	155.83	350	ePKIKP		PKPdf	16 21 04.5	-0.8
STOF	St-Etienne Org	155.92	352	PKP		PKPdf	16 21 05.7	+0.3
SMRF	Simiane la Rot	155.98	353	ePKIKP		PKPdf	16 21 05.4	-0.1
	comp=Z,22nm,0.9s							
LASF	Ste Croix	156.03	356	ePKIKP		PKPdf	16 21 04.8	-0.7
	comp=Z,35nm,1.0s							
EARI	Arriondas	156.18	12	PKP		PKPdf	16 21 04.2	-1.5
PRAF	Pradon	156.19	354	PKP		PKPdf	16 21 06.2	+0.5
FRF	La Foret Royal	156.25	351	ePKIKP		PKPdf	16 21 04.

CHKZ	**Chkalovo**	**70.60**	**337**	*e*P		**P**		**16 26 46.8**	**-0.1**
	1.7nm,0.6s,mb4.2								

*ISCJB **18** 16:24:45.4±1.0, 97S±02×1083E±02, h10km, mb3.9/6, Error ellipse: s-maj=37.0km s-min=13.9km az=106.7*
*IDC **18** 16:24:47.0±3.5, 948S×10857E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=140.0km s-min=21.8km az=51.0*
*NEIC **18** 16:24:47.8±0.7, 965S×10836E, h10km, mb4.3/2, Error ellipse: s-maj=30.3km s-min=11.5km az=54.0*
ISC 18 16:24:47.7±1.0, **97S**±02×**1083E**±02, **h10**km, **n11**, σ**0**§**62**/10, **mb3.9**/6, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBWA	**Marble Bar**	**15.84**	**137**	*e*P		**Pn**	**16 28 26.6**	**-4.1**
FITZ	**Fitzroy Crossi**	**18.77**	**118**	P		**Pn**	**16 29 07.6**	**+0.2**
	0.1nm,0.3s,baz=248,slow=16,SNR=3.1							
WRA	**Warramunga Arr**	**27.11**	**115**	P		**P**	**16 30 29.9**	**-0.8**
	1.4nm,0.9s,mb3.5,baz=288,slow=11,SNR=4.8							
ASAR	**Alice Springs**	**28.11**	**123**	P		**P**	**16 30 40.0**	**+0.4**
	0.5nm,0.7s,mb3.3,baz=294,slow=9.0,SNR=3.9							
CASY	**Casey**	**56.54**	**179**	P		**P**	**16 34 30.6**	**+0.4**
SONM	**Songino Array**	**57.28**	**358**	P		**P**	**16 34 36.1**	**+0.6**
	1.2nm,0.6s,mb4.1,baz=178,slow=8.0,SNR=9.8							
ULN	**Ulaanbaatar**	**57.30**	**359**	*e*P		**P**	**16 34 36.3**	**+0.7**
	2.1nm,0.8s,mb4.2							
MKAR	**Makanchi Array**	**60.83**	**340**	P		**P**	**16 34 59.4**	**-0.7**
	0.9nm,0.9s,mb3.9,baz=146,slow=7.8,SNR=4.7							
MKAR	**Makanchi Array**	**60.83**	**340**	P		**P**	**16 34 59.4**	**-0.7**
CHKZ	**Chkalovo**	**70.74**	**337**	*e*P		**P**	**16 36 03.4**	**-0.6**
	2.0nm,0.8s,mb4.1							
MCMT	**McKenzie Canyo**	**130.21**	**38**	*e*PKPdf		PKPdf	16 43 59.3	+1.3

*NEIC **18** 16:41:53.6±0.4, 2221S×17944W, h600km, mb3.9/4, Error ellipse: s-maj=19.1km s-min=10.8km az=157.0*
*ISCJB **18** 16:41:57.1±1.8, 226S±0.1×1796W±0.1, h665km±24km, mb3.6/9, Error ellipse: s-maj=18.1km s-min=15.0km az=164.0*
*IDC **18** 16:41:58.0±2.4, 2259S×17953W, h657km±30km, mb3.0/6, mb1 3.3/8, mb1mx3.2/15, mbtmp4.1/8, Error ellipse: s-maj=41.3km s-min=14.9km az=164.0*
ISC 18 16:41:57.5±2.1, **226S**±01×**1795W**±01, **h651**km±27km, **n29**, σ**0**§**53**/18, **mb3.6**/9, **1D**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.04**	**270**	P		**P**	**16 44 45.5**	**-0.2**
	0.9nm,0.3s,baz=110,slow=21,SNR=14							
URZ	**Urewera**	**15.91**	**190**	P		**P**	**16 45 11.9**	**-0.1**
	1.4nm,0.3s,baz=322,slow=5.6,SNR=19							
URZ				S		**S**	**16 47 49.8**	**-0.2**
	0.4nm,0.3s,baz=200,slow=23,SNR=6.2							
CTA	**Charters Tower**	**31.98**	**268**	P		**P**	**16 47 33.2**	**-0.1**
	2.4nm,0.4s,mb4.1,baz=109,slow=12,SNR=6.3							
CTAO	**Charters Tower**	**31.98**	**268**	*e*P		**P**	**16 47 33.2**	**-0.1**
	2.6nm,0.5s,mb4.0							
AS31	**Alice Springs**	**42.74**	**259**	*e*P		**P**	**16 49 00.6**	**+0.4**
ASAR	**Alice Springs**	**42.74**	**259**	P		**P**	**16 49 00.8**	**+0.5**
	0.9nm,0.5s,mb3.5,baz=92,slow=9.3,SNR=27							
ASAR				S		**S**	**16 54 40.0**	**+0.9**
	0.8nm,0.8s,baz=94,slow=15,SNR=5.3							
WB2	**Warramunga Arr**	**42.98**	**265**	*e*P		**P**	**16 49 01.5**	**-0.6**
WRAB	**Tennant Creek**	**42.99**	**265**	*e*P		**P**	**16 49 01.9**	**-0.3**
WRA	**Warramunga Arr**	**42.99**	**265**	P		**P**	**16 49 02.0**	**-0.2**
	0.9nm,0.3s,mb3.7,baz=96,slow=8.3,SNR=107							
WRA				S		**S**	**16 54 41.5**	**-1.2**
	0.6nm,0.9s,baz=98,slow=15,SNR=3.3							
FITZ	**Fitzroy Crossi**	**51.42**	**264**	P		**P**	**16 50 05.8**	**+0.9**
	3.0nm,0.7s,mb3.6,baz=303,slow=11,SNR=7.3							
QSPA	**South Pole Qui**	**67.50**	**180**	*e*P		**P**	**16 51 55.1**	**+4.1**
	2.7nm,0.8s,mb3.6							
NVAR	**Mina Array Bea**	**83.47**	**44**	P		**P**	**16 53 18.6**	**-0.2**
	1.0nm,0.8s,mb3.4,baz=218,slow=7.5,SNR=6.6							
HLID	**Hailey**	**88.79**	**41**	*e*P		**P**	**16 53 43.6**	**-0.4**
	1.1nm,0.6s,mb3.8							
BW06	**Boulder Array**	**91.41**	**44**	*e*P		**P**	**16 53 55.9**	**-0.2**
	0.8nm,0.8s,mb3.6							
PDAR	**Pinedale Array**	**91.41**	**44**	P		**P**	**16 53 56.8**	**+0.6**
	0.5nm,0.8s,mb3.4,baz=259,slow=0.9,SNR=5.0							
ARCES	**ARCESS Array B**	**130.69**	**349**	PKP		PKPdf	16 59 55.5	-0.8
	4.2nm,0.9s,baz=35,slow=3.0,SNR=7.2							
FINES	**FINESS Array B**	**137.34**	**342**	PKP		PKPdf	17 00 08.9	+0.1
	1.1nm,0.6s,baz=80,slow=2.3,SNR=4.8							
AKASG	**Malin Array Be**	**144.11**	**329**	PKP		PKPdf	17 00 19.6	-1.2
	2.0nm,0.4s,baz=43,slow=4.0,SNR=28							
BR131	**Keskin Array S**	**147.14**	**309**	*e*PKPbc		PKPbc	17 00 29.1	-0.2
BRTR	**Keskin Array B**	**147.14**	**309**	PKPbc		PKPbc	17 00 29.1	-0.2
	1.4nm,0.6s,baz=140,slow=5.6,SNR=7.8							
KWP	**Kalwaria**	**147.83**	**333**	*e*PKPbc		PKPbc	17 00 31.3	+0.2
UPC	**Upice**	**149.60**	**340**	*e*PKPbc		PKPbc	17 00 35.8	+0.4
DPC	**Dobruska-Polom**	**149.64**	**340**	*e*PKPbc		PKPbc	17 00 36.2	+0.7
CLL	**Collm**	**149.72**	**344**	↓*i* PKPbc		PKPbc	17 00 35.7	0.0
	comp=Z,9.0nm,0.7s							
BRG	**Berggiesshubel**	**149.88**	**343**	*i* PKP		PKPbc	17 00 36.3	+0.3
	comp=Z,4.4nm,0.6s							
PVCC	**Panska Ves**	**150.01**	**342**	*e*PKPbc		PKPbc	17 00 37.1	+0.8
PRU	**Pruhonice**	**150.50**	**341**	*e*PKPbc		PKPbc	17 00 37.8	+0.3
KHC	**Kasperske Hory**	**151.55**	**342**	*e*PKPbc		PKPbc	17 00 40.2	+0.4
GERES	**GERESS Array B**	**151.77**	**341**	PKPbc		PKPbc	17 00 40.4	+0.1
	comp=Z,0.7nm,0.4s,baz=42,slow=2.2,SNR=9.6							

*IDC **18** 16:44:26.5±0.7, 943S×10764E, h0km, mb4.0/7, mb1 4.1/8, mb1mx4.0/17, mbtmp4.0/8, ML3.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/24, Error ellipse: s-maj=28.5km s-min=18.8km az=55.0*
*ISCJB **18** 16:44:29.1±6.9, 941S±0.1×1077E±02, h33km±61km, mb4.4/24, Error ellipse: s-maj=27.2km s-min=13.1km az=134.0*
*MOS **18** 16:44:29.8±0.9, 939S×10773E, h33km, mb4.8/10, Error ellipse: s-maj=20.4km s-min=11.2km az=115.1*
*NEIC **18** 16:44:30.3±5.1, 944S×10766E, h24km±35km, mb4.4/7, Error ellipse: s-maj=14.6km s-min=6.7km az=60.0*
*BJI **18** 16:44:30.0, 940S×10770E, h14km, mB4.9, mb4.5*
ISC 18 16:44:31.7±5.5, **944S**±010×**1077E**±02, **h36**km±50km, **h26**km±4.2km**:pP-P**, **n45**, σ**0**§**62**/39, **mb4.4**/24, **5C-1D**, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBWA	**Marble Bar**	**16.46**	**136**	*e*P		**Pn**	**16 48 15.3**	**-4.5**
FITZ	**Fitzroy Crossi**	**19.46**	**118**	P		**Pn**	**16 48 56.3**	**-0.3**
	0.1nm,0.3s,baz=64,slow=8.9,SNR=2.7							
FITZ				LR		LR	16 55 58.6	
	comp=Z,91nm,20.5s,baz=170,slow=36							
WRA	**Warramunga Arr**	**27.80**	**115**	P		**P**	**16 50 17.1**	**-0.3**
	2.8nm,0.9s,mb3.9,baz=286,slow=11,SNR=7.4							
WRAB	**Tennant Creek**	**27.80**	**115**	*e*P		**P**	**16 50 17.2**	**-0.2**
WB2	**Warramunga Arr**	**27.81**	**115**	*e*P		**P**	**16 50 17.8**	**+0.4**
ASAR	**Alice Springs**	**28.79**	**123**	P		**P**	**16 50 26.5**	**+0.3**
	1.3nm,0.9s,mb3.7,baz=295,slow=9.1,SNR=4.3							
ASAR				PcP		PcP	16 53 37.1	+1.7
	0.8nm,0.7s,baz=291,slow=1.8,SNR=7.3							
CHTO	**Chiang Mai**	**29.36**	**343**	*e*P		**P**	**16 50 31.9**	**+0.7**
CHTO				pmax		pmax		
	comp=Z,7.0nm,1.3s,mb4.2							
CHTO	**Chiang Mai**	**29.36**	**343**	*e*P		**P**	**16 50 31.9**	**+0.7**
	comp=Z,7.1nm,1.3s,mb4.2							
SSE	**Sheshan**	**42.34**	**17**	P		**P**	**16 52 21.4**	**-0.8**
SSE				AMB		AMB		
	comp=Z,25nm,0.7s,mb5.0							
SSE				AMB		AMB		
	comp=Z,46nm,4.4s							
NJ2	**Nanjing**	**42.62**	**14**	*e*P		**P**	**16 52 23.1**	**-1.3**
NJ2				AP		pP	16 52 33.0	-1.9
NJ2				XP		sP	16 52 37.0	-2.2
NJ2				PP		PP	16 54 04.0	+0.4
NJ2				S		**S**	**16 58 40.0**	**-4.9**
NJ2				XS		sS	16 58 56.0	-6.2
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.6							
NJ2				AMB		AMB		
	comp=Z,260nm,4.8s							
XAN	**Xi'an**	**43.25**	**2**	P		**P**	**16 52 29.9**	**+0.3**
XAN				AP		pP	16 52 36.5	-3.6
XAN				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.5							
HNR	**Honiara**	**51.54**	**95**	P		**P**	**16 53 35.2**	**+1.2**
	comp=Z,41nm,0.9s,mb5.4,baz=268,slow=8.0,SNR=3.6							

SONM	**Songino Array**	**57.03**	**359**	P		**P**		**16 54 13.9**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.9,baz=170,slow=6.1,SNR=8.1								
ULN	**Ulaanbaatar**	**57.05**	**360**	↑*e*P		**P**		**16 54 14.1**	**0.0**
ULN	**Ulaanbaatar**	**57.05**	**360**	*e*P		**P**		**16 54 14.8**	**+0.7**
	comp=Z,2.7nm,0.8s,mb4.3								
MKAR	**Makanchi Array**	**60.38**	**340**	P		**P**		**16 54 37.6**	**+0.3**
	comp=Z,2.5nm,0.8s,mb4.3,baz=143,slow=7.1,SNR=17								
MKAR	**Makanchi Array**	**60.38**	**340**	*e*P		**P**		**16 54 37.7**	**+0.4**
YSS	**Yuzh-Sakhalins**	**64.26**	**26**	*e*P		**P**		**16 55 04.7**	**+1.5**
YSS				pmax		pmax			
	comp=Z,10.0nm,1.3s,mb4.7								
KURK	**Kurchatov**	**65.00**	**340**	*e*P		**P**		**16 55 08.1**	**+0.1**
KURK	**Kurchatov**	**65.00**	**340**	*e*P		**P**		**16 55 08.4**	**+0.4**
	comp=Z,5.3nm,0.9s,mb4.6								
MAW	**Mawson**	**65.24**	**197**	P		**P**		**16 55 09.6**	**0.0**
	comp=Z,3.5nm,0.7s,mb4.5,baz=48,slow=8.8,SNR=12								
BOD	**Bodaibo**	**67.22**	**4**	*e*P		**P**		**16 55 21.8**	**-0.5**
BOD				pmax		pmax			
	comp=Z,4.0nm,1.0s,mb4.4								
BRVK	**Borovoye**	**69.92**	**337**	P		**P**		**16 55 39.3**	**+0.2**
BRVK				pmax		pmax			
	comp=Z,1.0nm,0.8s,mb3.8								
BRVK	**Borovoye**	**69.92**	**337**	P		**P**		**16 55 39.3**	**+0.2**
	comp=Z,1.1nm,0.8s,mb3.8								
CHKZ	**Chkalovo**	**70.27**	**338**	*e*P		**P**		**16 55 41.6**	**+0.3**
CHKZ				pmax		pmax			
	comp=Z,5.0nm,1.0s,mb4.4								
CHKZ	**Chkalovo**	**70.27**	**338**	*e*P		**P**		**16 55 41.6**	**+0.4**
	comp=Z,5.0nm,1.0s,mb4.4								
ZRNK	**Zerenda**	**70.33**	**336**	*e*P		**P**		**16 55 41.5**	**-0.2**
ZRNK				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb4.1								
ZRNK	**Zerenda**	**70.33**	**336**	*e*P		**P**		**16 55 41.5**	**-0.2**
	comp=Z,2.3nm,0.8s,mb4.2								
YAK	**Yakutsk**	**73.29**	**11**	*e*P		**P**		**16 55 58.8**	**-0.6**
YAK				*e*		pP		16 56 06.8	-3.7
YAK				pmax		pmax			
	comp=Z,8.0nm,0.9s,mb4.7								
YAK	**Yakutsk**	**73.29**	**11**	*e*P		**P**		**16 55 58.8**	**-0.6**
	comp=Z,7.6nm,0.9s,mb4.6								
YAK				*e*		pP		16 56 06.8	-3.7
VNDA	**Vanda**	**73.47**	**169**	P		**P**		**16 55 59.8**	**-0.7**
	comp=Z,0.6nm,0.8s,mb3.6,baz=292,slow=6.8,SNR=3.9								
SVE	**Sverdlovsk**	**76.48**	**336**	*e*P		**P**		**16 56 25.0**	**+7.1**
KIV	**Kislovodsk**	**79.12**	**318**	*e*P		**P**		**16 56 32.4**	**-0.1**
KIV				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
TIXI	**Tiksi**	**82.14**	**7**	*e*P		**P**		**16 56 47.5**	**-1.2**
TIXI				pmax		pmax			
	comp=Z,12nm,1.3s,mb4.7								
BRTR	**Keskin Array B**	**83.93**	**312**	P		**P**		**16 56 58.2**	**+0.3**
	comp=Z,0.4nm,0.5s,mb3.8,baz=126,slow=7.3,SNR=4.2								
BRTR	**Keskin Array B**	**83.93**	**312**	↑*e*P		**P**		**16 56 58.5**	**+0.6**
VRSR	**Storozhevoye**	**84.20**	**324**	*e*P		**P**		**16 56 59.4**	**+0.1**
VRSR				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.8								
VRSR				pmax		pmax			
	comp=N,8.0nm,0.7s								
VRSR				pmax		pmax			
	comp=E,7.0nm,0.7s								
OBN	**Obninsk**	**87.11**	**327**	↓*e*P		**P**		**16 57 13.4**	**-0.4**
OBN				*e*S				17 07 29.3	
OBN				pmax		pmax			
	comp=Z,7.0nm,1.0s,mb4.8								
KBS	**Kingsbay**	**100.30**	**349**	↑*e*P		Pdif		16 58 14.6	+0.2
WMOK	**Wichita Mounta**	**145.08**	**40**	*e*PKIKP		PKPdf		17 04 06.6	+1.4
WMOK				*e*				17 04 15.2	
BDFB	**Brasilia**	**145.34**	**224**	PKPbc		PKPbc		17 04 07.5	+1.9
	comp=Z,1.1nm,0.4s,baz=149,slow=1.4,SNR=3.7								
JCT	**Junction City**	**146.93**	**47**	*e*PKP2		PKPab		17 04 11.9	+0.1
WVT	**Waverly**	**149.93**	**26**	*e*PKP2		PKPbc		17 04 19.0	+0.9
PLAL	**Pickwick Lake**	**150.78**	**27**	*e*PKPbc		PKPbc		17 04 20.8	+0.7
SIV	**San Ignacio**	**152.38**	**204**	PKPbc		PKPbc		17 04 25.7	+1.9
	comp=Z,1.8nm,0.6s,baz=196,slow=2.7,SNR=7.9								

*ISCJB **18** 16:55:46.2±0.2, 4621N±002×122.19W±003, h1km, Error ellipse: s-maj=2.8km s-min=2.2km az=3.6*
*NEIC **18** 16:55:46.5, 4620N×122.19W, h1km, MD3.6(SEA), After SEA.*
ISC 18 16:55:46.5±0.2, **4620N**±001×**12218W**±003, **h1**km, **n60**, σ**0**§**91**/75, **26C-30D**, **Washington**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YEL	**Yellow Rock**	**0.01**	**326**	↓P		**Pg**	**16 55 46.9**	**+0.2**
ESD	**East Dome**	**0.02**	**107**	↓P		**Pg**	**16 55 47.3**	**+0.3**
HSR	**South Ridge**	**0.03**	**180**	↓P		**Pg**	**16 55 47.3**	**+0.2**
SHW	**Mount Saint He**	**0.04**	**253**	↓P		**Pg**	**16 55 47.5**	**+0.2**
STD	**Studebaker Rid**	**0.04**	**320**	↑P		**Pg**	**16 55 47.7**	**+0.4**
SOSW	**Source of Smit**	**0.05**	**39**	↑P		**Pg**	**16 55 48.0**	**+0.5**
JLK	**June Lake**	**0.06**	**160**	↓P		**Pg**	**16 55 47.9**	**+0.2**
FL2	**Flat Top 2**	**0.12**	**266**	↑P		**Pg**	**16 55 49.2**	**+0.4**
CDFW	**Cedar Flats**	**0.13**	**133**	↑P		**Pg**	**16 55 49.6**	**+0.6**
TDL	**Tradedollar La**	**0.15**	**351**	↓P		**Pg**	**16 55 49.9**	**+0.5**
ERK	**Elk Rock**	**0.15**	**313**	↓P		**Pg**	**16 55 49.8**	**+0.4**
MTMW	**Mount Mitchell**	**0.18**	**186**	↓P		**Pg**	**16 55 50.3**	**+0.4**
LVP	**Lakeview Peak**	**0.21**	**229**	↓P		**Pg**	**16 55 50.7**	**+0.2**
KOSW	**Kosmos**	**0.26**	**359**	↑P		**Pg**	**16 55 52.0**	**+0.5**
F04A	**Amboy**	**0.32**	**211**	↑P		**Pg**	**16 55 52.9**	**+0.3**
	baz=0.3,SNR=34							
F04A				↓S		**Sg**	**16 55 58.4**	**+1.7**
	baz=0.3							
RVW	**Rose Valley**	**0.39**	**262**	P		**Pg**	**16 55 54.3**	**+0.3**
ASR	**Mount Adams--S**	**0.41**	**97**	↓P		**Pg**	**16 55 54.7**	**+0.3**
E05A	**Randle**	**0.46**	**39**	P		**Pg**	**16 55 55.4**	**+0.1**
	baz=0.5,SNR=13							
E05A				↑S		**Sg**	**16 56 02.0**	**+0.7**
	baz=0.5							
LMW	**Ladd Mountain**	**0.47**	**351**	P		**Pg**	**16 55 56.4**	**+0.9**
E04A	**Onalaska**	**0.54**	**316**	↓P		**Pg**	**16 55 57.3**	**+0.6**
	baz=0.5,SNR=13							
E04A				↓S		**Sg**	**16 56 04.8**	**+1.1**
	baz=0.5							
F05A	**White Salmon**	**0.60**	**123**	↓P		**Pg**	**16 55 58.0**	**+0.1**
	baz=0.6,SNR=11							
F05A				↓S		**Sg**	**16 56 06.6**	**+0.9**
	baz=0.6							
LON	**Longmire**	**0.60**	**25**	↓P		**Pg**	**16 55 58.4**	**+0.3**
REMR	**Mount Rainier-**	**0.66**	**21**	↓P		**Pg**	**16 55 59.4**	**+0.3**
WPW	**White Pass**	**0.66**	**41**	↑P		**Pg**	**16 55 59.3**	**+0.1**
RCM	**Mount Rainier-**	**0.70**	**26**	↓P		**Pg**	**16 56 00.3**	**+0.3**
FMW	**Mount Fremont**	**0.81**	**26**	↓P		**Pg**	**16 56 02.1**	**+0.1**
TDH	**Tom, Dick, Har**	**0.95**	**163**	↑P		**Pg**	**16 56 04.4**	**-0.4**
GL2	**New Goldendale**	**0.98**	**104**	P		**Pg**	**16 56 05.2**	**-0.1**
D05A	**Enumclaw**	**0.99**	**8**	↑P		**Pg**	**16 56 05.1**	**-0.5**
D05A	baz=1.0			↑S		**Sg**	**16 56 17.0**	**-1.5**
	baz=1.0							
F03A	**Seaside**	**1.00**	**255**	↓P		**Pg**	**16 56 05.0**	**-0.7**
	baz=1.0							
F03A				↓S		**Sg**	**16 56 16.9**	**-1.7**
	baz=1.0							
D04A	**Dobbs Creek Ra**	**1.00**	**335**	↓P		**Pg**	**16 56 04.7**	**-0.9**
	baz=1.0							
D04A				↑S		**Sg**	**16 56 17.0**	**-1.6**
	baz=1.0							
E03A	**Lebam**	**1.01**	**290**	↑P		**Pg**	**16 56 05.2**	**-0.7**
	baz=1.0							
E03A				↑S		**Sg**	**16 56 18.9**	**-0.1**
	baz=1.0							
G04A	**Mulino**	**1.02**	**192**	↓P		**Pg**	**16 56 05.4**	**-0.6**
	baz=1.0							
G04A				↑S		**Sg**	**16 56 18.7**	**-0.5**
	baz=1.0							
GSM	**Grass Mountain**	**1.03**	**15**	↑P		**Pg**	**16 56 05.8**	**-0.5**
G05A	**Wamic**	**1.14**	**148**	↓P		**Pg**	**16 56 07.4**	**-0.9**
	baz=1.1,SNR=17							
G05A				↑S		**Sg**	**16 56 22.6**	**-0.5**
	baz=1.1							
EBG	**Ellensburg**	**1.32**	**57**	↑P		**Pg**	**16 56 12.1**	**+0.3**
D03A	**Wishkah Elem.**	**1.43**	**311**	↓P		**Pn**	**16 56 10.6**	**-3.0**
	baz=1.4							
C05A	**Tolt Reservoir**	**1.52**	**13**	↓P		**Pn**	**16 56 14.0**	**-0.9**
	baz=1.5							
H04A	**Detroit Lake**	**1.52**	**180**	↓P		**Pn**	**16 56 13.5**	**-1.4**
	baz=1.5							
HDW	**Hoodsport**	**1.56**	**338**	↑P		**Pn**	**16 56 14.2**	**-1.2**
H05A	**Madras**	**1.69**	**156**	↑P		**Pn**	**16 56 16.5**	**-0.7**
	baz=1.7,SNR=10							
H05A				↑S		**Sn**	**16 56 35.3**	**-4.2**
	baz=1.7							
H03A	**Soap Creek Ran**	**1.71**	**207**	↓P		**Pn**	**16 56 16.9**	**-0.6**
	baz=1.7							
COR	**Corvallis**	**1.80**	**206**	*e*Pn		**Pn**	**16 56 18.1**	**-0.6**

COR				*e*S		**Sn**		**16 56 43.4**	**+1.2**
HAWA	**Hanford**	**1.85**	**83**	*e*Pn		**Pn**		**16 56 19.6**	**+0.3**
H02A	**Toledo**	**1.99**	**221**	↑P		**Pn**		**16 56 21.7**	**+0.4**
	baz=2.0								
B05A	**Bryant**	**2.06**	**2**	↓P		**Pn**		**16 56 22.6**	**+0.4**
	baz=2.1,SNR=6.8								
I03A	**Eugene**	**2.37**	**200**	↑P		**Pn**		**16 56 26.9**	**+0.4**
	baz=2.4								
I02A	**Mapleton**	**2.49**	**208**	↑P		**Pn**		**16 56 29.5**	**+1.3**
	baz=2.5								
PGC	**Sidney**	**2.59**	**341**	*e*Pn		**Pn**		**16 56 30.3**	**+0.7**
A05A	**Maple Falls**	**2.80**	**1**	↓P		**Pn**		**16 56 34.9**	**+2.5**
	baz=2.8								
K02A	**Glendale**	**3.56**	**196**	↑P		**Pn**		**16 56 47.6**	**+4.7**
	baz=3.6								
HUMO	**Hull Mountain**	**3.64**	**189**	*e*P		**Pn**		**16 56 46.8**	**+2.8**
HUMO				*e*S		**Sn**		**16 57 36.0**	**+8.5**
HUMO	**Hull Mountain**	**3.64**	**189**	↑P		**Pn**		**16 56 47.1**	**+3.1**
	baz=3.6								
KEBM	**Edson Butte**	**3.67**	**206**	Pn		**Pn**		**16 56 49.9**	**+5.5**
BMO	**Blue Mountains**	**3.68**	**110**	*e*Pn		**Pn**		**16 56 41.1**	**-3.5**
BMO				*e*Pg		**Pg**		**16 56 54.9**	**-2.2**
NEW	**Newport**	**4.02**	**57**	*e*Pg		**Pg**		**16 56 56.0**	**-7.4**
YBH	**Yreka Blue Hor**	**4.49**	**185**	*e*P		**Pn**		**16 56 59.5**	**+3.9**
WVOR	**Wild Horse Val**	**4.55**	**145**	*e*Pn		**Pn**		**16 57 04.4**	**+8.0**
WVOR				*e*Pg		**Pg**		**16 57 11.4**	**-2.2**
WALA	**Waterton Lakes**	**6.28**	**60**	Pn		**Pn**		**16 57 26.4**	**+6.2**
	4.7nm,1.0s								
DLMT	**Dillon**	**6.76**	**94**	*e*Pn		**Pn**		**16 57 26.9**	**+0.1**
	4.0nm,0.8s								

*ISCJB **18** 16:57:55.0±0.9, 681N±008×7294W±0.10, h179km±8km, mb3.8/9, Error ellipse: s-maj=17.1km s-min=11.5km az=61.1*
*IDC **18** 16:57:55.6±1.1, 678N×7288W, h170km±10km, mb3.5/8, mb1 3.7/11, mb1mx3.6/22, mbtmp4.0/11, MS3.4/1, Ms1 3.4/1, ms1mx2.5/25, Error ellipse: s-maj=17.4km s-min=12.3km az=124.0*
*NEIC **18** 16:57:55.5±0.9, 680N×7302W, h171km±8km, mb4.4/2, Error ellipse: s-maj=13.8km s-min=11.6km az=104.0*
ISC 18 16:57:55.0±0.7, **681N**±007×**7306W**±008, **h161**km±7km, **n25**, σ**1**§**21**/22, **mb3.8**/9, **1D**, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ROSC	**El Rosal**	**2.32**	**213**	P		**Pn**	**16 58 36.8**	**+2.3**
	90nm,0.3s,baz=341,slow=3.0,SNR=111							
ROSC				S		**Sn**	**16 59 03.3**	**-1.7**
	54nm,0.3s,baz=98,slow=17,SNR=3.9							
ROSC	**El Rosal**	**2.32**	**213**	↓*e*Pn		**Pn**	**16 58 35.9**	**+1.5**
ROSC				*e*Sn		**Sn**	**16 59 02.9**	**-2.0**
SDV	**Santo Domingo**	**3.17**	**49**	P		**Pn**	**16 58 45.6**	**+0.7**
	25nm,0.3s,baz=253,slow=1.9,SNR=61							
SDV				S		**Sn**	**16 59 22.6**	**-0.9**
	61nm,0.3s,baz=290,slow=21,SNR=41							
SDV	**Santo Domingo**	**3.17**	**49**	*e*Pn		**Pn**	**16 58 45.8**	**+0.9**
SDV				*e*Sn		**Sn**	**16 59 22.9**	**-0.6**
PCRV	**Puerto La Cruz**	**8.98**	**68**	P		**Pn**	**17 00 01.9**	**+0.7**
	0.7nm,0.3s,baz=56,slow=3.2,SNR=5.4							
SAML	**Samuel**	**18.49**	**148**	*e*P		**P**	**17 01 58.4**	**-0.4**
LPAZ	**La Paz**	**23.46**	**168**	P		**P**	**

KLBR Kellerberrin 24.06 159 *e*P **P 17 33 10.4 -0.3**
51nm,1.3s,mb4.8
DAV Davao City (W) 24.08 48 *e*P **P 17 33 13.2 +2.3**
KAKA Kakadu 24.47 100 *e*P **P 17 33 15.2 +0.8**
32nm,0.8s,mb4.8
NWAO Narrogin (SRO) 25.10 161 P **P 17 33 19.5 -0.7**
20nm,1.1s,mb4.6,baz=327,slow=10,SNR=5.9
NST Nakhon Sawan 25.92 343 P **P 17 33 28.0 +0.3**
WRA Warramunga Arr 27.78 115 P **P 17 33 44.6 +0.3**
7.1nm,0.5s,mb4.6,baz=289,slow=10,SNR=86
WRAB Tennant Creek 27.78 115 P **P 17 33 45.0 +0.6**
135nm,0.5s,mb5.8,SNR=21
WRAB Tennant Creek 27.78 115 *e*P **P 17 33 43.6 -0.8**
WRAB Tennant Creek 27.78 115 *e*P **P 17 33 44.7 +0.2**
16nm,0.5s,mb4.9
WB2 Warramunga Arr 27.79 115⇓ *i*P **P 17 33 44.6 +0.1**
QIZ Qiongzhong 28.21 4 P **P 17 33 50.4 +2.2**
QIZ S **S 17 38 32.6 -0.3**
QIZ LR LR
comp=N,1μm,14.6s,MS4.8
QIZ LR LR
comp=E,995nm,15.4s,MS4.8
QIZ LR LR
comp=Z,2μm,15.0s,MS4.9
NANT Nan 28.76 346 P **P 17 33 52.0 -1.1**
ASPA Alice Springs 28.79 123 *e*P **P 17 33 53.3 -0.1**
ASAR Alice Springs 28.79 123 P **P 17 33 53.5 +0.1**
comp=Z,6.6nm,1.0s,mb4.3,baz=308,slow=9.6,SNR=74
ASAR PcP PcP 17 37 04.0 +1.0
comp=Z,1.8nm,0.8s,baz=308,slow=1.6,SNR=5.7
ASAR LR LR 17 44 13.4
comp=Z,403nm,20.6s,MS4.0,baz=308,slow=34
ASAR Alice Springs 28.79 123 P **P 17 33 53.5 +0.1**
ASAR 17 37 04.0
AS31 Alice Springs 28.79 123 *e*P **P 17 33 53.3 -0.1**
CHG Chiang Mai 29.24 343⇑ P **P 17 33 56.9 -0.5**
comp=Z,18nm,1.3s,mb4.7
CHTO Chiang Mai 29.24 343⇓ P **P 17 33 57.8 +0.4**
SNR=7.2
CHTO Chiang Mai 29.24 343 *e*P **P 17 33 57.5 +0.1**
CHTO pmax pmax
comp=Z,24nm,1.3s,mb4.8
CHTO Chiang Mai 29.24 343 *e*P **P 17 33 57.5 +0.1**
comp=Z,24nm,1.3s,mb4.8
GZH Guangzhou 32.64 10 P **P 17 34 29.3 +2.0**
GZH S **S 17 39 48.8 +6.6**
GZH LR LR
comp=N,765nm,13.7s,MS4.7
GZH LR LR
comp=E,701nm,11.5s,MS4.7
GZH LR LR
comp=Z,1μm,14.0s,MS4.7
KMI Kunming 34.55 352 P **P 17 34 43.8 -0.2**
KMI PP PP 17 36 00.3 -2.1
KMI PPP 17 36 18.3
KMI PCP PcP 17 37 18.4 -0.1
KMI S **S 17 40 12.3 +0.5**
KMI SCP ScP 17 41 02.3 -0.3
KMI SS SS 17 42 23.5 -18
KMI SSS 17 42 50.1
KMI SCS ScS 17 45 04.1 -1.3
KMI AMB AMB
comp=Z,19nm,1.3s,mb4.9
KMI AMB AMB
comp=Z,146nm,6.0s
KMI LR LR
comp=N,3μm,13.4s,MS5.3
KMI LR LR
comp=E,1μm,13.2s,MS5.3
KMI LR LR
comp=Z,4μm,12.8s,MS5.3
GYA Guiyang 35.55 358⇑ *i*P **P 17 34 52.8 +0.2**
GYA AP pP 17 34 56.9 -1.9
GYA XP sP 17 34 59.9 -1.5
GYA PP PP 17 36 11.8 -1.6
GYA PCP PcP 17 37 21.6 +0.2
GYA S **S 17 40 27.5 +0.3**
GYA SCP ScP 17 41 05.9 -0.3
GYA SS SS 17 42 46.8 -15
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,120nm,4.2s
GYA LR LR
comp=N,490nm,14.2s,MS4.6
GYA LR LR
comp=E,540nm,14.9s,MS4.6
GYA LR LR
comp=Z,570nm,14.6s,MS4.5
QZH Quanzhou 35.63 17 P **P 17 34 54.6 +1.3**
QZH *e*S **S 17 40 32.3 +3.9**
QZH LR LR
comp=N,1μm,19.2s
QZH LR LR
comp=E,900nm,11.9s
QZH LR LR
comp=Z,1μm,14.1s
CTAO Charters Tower 38.67 111 *e*P **P 17 35 21.0 +1.9**
CTAO pmax pmax
comp=Z,67nm,1.7s,mb5.1
CTAO Charters Tower 38.67 111 *e*P **P 17 35 21.0 +2.0**
comp=Z,66nm,1.7s,mb5.1
HYB Hyderabad 39.20 313 *i* P **P 17 35 26.5 +3.0**
HYB Hyderabad 39.20 313 *e*P **P 17 35 26.0 +2.5**
WHN Wuhan 40.11 9 P **P 17 35 31.0 -0.1**
CD2 Chengdu 40.15 355⇓ *i*P **P 17 35 31.1 -0.3**
CD2 AP pP 17 35 35.6 -2.2
CD2 XP sP 17 35 38.3 -2.0
CD2 PP PP 17 37 08.1 +4.2
CD2 S **S 17 41 38.8 +1.9**
CD2 XS sS 17 41 46.1 -1.2
CD2 SS SS 17 44 31.9 -3.0
CD2 AMB AMB
comp=Z,10.0nm,1.4s,mb4.3
CD2 AMB AMB
comp=Z,90nm,10.5s
CD2 LR LR
comp=E,680nm,12.5s
CD2 LR LR
comp=Z,830nm,13.2s,MS4.8
JOW Kunigami 41.06 28 P **P 17 35 39.4 +0.4**
comp=Z,51nm,1.1s,mb5.1,baz=243,slow=6.1,SNR=7.3
SSE Sheshan 42.17 17 P **P 17 35 49.1 +1.0**
SSE PCP PcP 17 37 40.8 -1.4
SSE SCP ScP 17 41 33.1 +1.6
SSE S **S 17 42 13.4 +6.5**
SSE XS sS 17 42 18.3 +1.0
SSE AMB AMB
comp=Z,26nm,0.8s,mb4.9
SSE AMB AMB
comp=Z,83nm,5.0s
SSE LR LR
comp=N,133nm,15.9s,MS4.1
SSE LR LR
comp=E,174nm,16.2s,MS4.1
SSE LR LR
comp=Z,190nm,16.0s,MS4.1
JIRN Jiri 42.25 331 *e*P **P 17 35 49.5 +0.8**
comp=Z,148nm,0.9s,mb5.6
NJ2 Nanjing 42.45 14 *e*P **P 17 35 48.0 -2.4**
NJ2 AP pP 17 35 58.1 +1.4
NJ2 XP sP 17 36 02.1 +2.9
NJ2 S **S 17 42 03.0 -8.1**
NJ2 AMB AMB
comp=Z,70nm,1.2s,mb5.2
NJ2 AMB AMB
comp=Z,110nm,4.2s
NJ2 LR LR
comp=N,2μm,14.6s
NJ2 LR LR
comp=E,890nm,19.8s
NJ2 LR LR
comp=Z,7μm,12.6s,MS5.7
PKI Pulchoki 42.56 330 *e*P **P 17 35 51.3 +0.1**
comp=Z,122nm,1.3s,mb5.5
PKI Pulchoki 42.56 330 *e*P **P 17 35 51.3 +0.1**
PKI pmax pmax
comp=Z,122nm,1.3s,mb5.5
GUN Gumba 42.61 331 *e*P **P 17 35 52.4 +0.8**
comp=Z,473nm,1.5s,mb6.0
DMN Daman 42.74 330 *e*P **P 17 35 53.0 +0.3**
comp=Z,109nm,0.9s,mb5.6
KKN Kakani 42.80 330 *e*P **P 17 35 53.3 +0.1**
comp=Z,172nm,1.0s,mb5.7
KKN Kakani 42.80 330 *e*P **P 17 35 53.3 +0.1**
comp=Z,173nm,1.0s,mb5.7
XAN Xi'an 43.10 1 P **P 17 35 55.0 -0.6**
XAN S **S 17 42 17.6 -3.0**
XAN AMB AMB
comp=Z,47nm,1.3s,mb5.1
XAN LR LR
comp=N,888nm,16.9s,MS5.0
XAN LR LR
comp=E,1μm,15.9s,MS5.0
GKN Gorkha 43.30 330 *e*P **P 17 35 57.3 +0.1**
KOLN Koldanda 43.63 328 *e*P **P 17 35 59.7 -0.2**
comp=E,133nm,0.9s,mb5.7
LZH Lanzhou 45.28 356 *e*P **P 17 36 14.0 +0.9**
LZH AP pP 17 36 19.3 -0.1
LZH XP sP 17 36 22.8 +0.8
LZH PP PP 17 38 00.6 +1.5
LZH *e*S **S 17 42 42.0 -10**
LZH AMB AMB
comp=Z,125nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,243nm,4.6s
LZH LR LR
comp=E,654nm,13.6s
LZH LR LR
comp=Z,1μm,13.7s,MS5.1
TIA Tai'an 46.11 11 P **P 17 36 18.5 -1.1**
LGTI Lohaghat 46.75 326 *e*P **P 17 36 26.0 +1.3**
GTA Gaotai 49.01 352 *e*P **P 17 36 42.9 +0.8**
GTA AP pP 17 36 49.4 +0.8
GTA XP sP 17 36 52.5 +1.4
GTA PP PP 17 38 36.9 +1.2
GTA PPP 17 39 30.9
GTA S **S 17 43 48.8 +3.3**
GTA XS sS 17 43 59.3 +3.3
GTA AMB AMB
comp=Z,51nm,1.2s,mb5.4
GTA AMB AMB
comp=Z,214nm,5.7s
GTA LR LR
comp=N,248nm,17.5s,MS4.6
GTA LR LR
comp=E,541nm,22.1s,MS4.6
GTA LR LR
comp=Z,424nm,14.4s
BJT Baijiatuau 49.67 8 *e*P **P 17 36 46.6 -0.6**
BJT pmax pmax
comp=Z,72nm,1.2s
BJT Baijiatuau 49.67 8 *e*P **P 17 36 46.6 -0.6**
comp=Z,72nm,1.2s,mb5.6
BTO Baotou 49.69 2 *e*P **P 17 36 46.6 -0.7**
BJI Beijing 49.69 8 P **P 17 36 46.8 -0.6**
BJI AMB AMB
comp=Z,46nm,1.1s,mb5.4
BJI LR LR
comp=N,1μm,14.0s,MS5.1
BJI LR LR
comp=E,1μm,16.6s,MS5.1
BJI LR LR
comp=Z,718nm,15.8s,MS4.8
HHC Hu-ho-hao-te 50.01 4 *e*P **P 17 36 49.6 -0.2**
HHC AP pP 17 36 55.1 -1.1
HHC XP sP 17 36 59.5 +0.8
HHC PP PP 17 38 44.1 -0.7
HHC PCS PcS 17 42 05.1 -1.4
HHC S **S 17 43 56.9 -2.6**
HHC SCS ScS 17 46 33.9 -6.1
HHC SS SS 17 47 28.6 -3.9
HHC AMB AMB
comp=Z,40nm,1.1s,mb5.4
HHC AMB AMB
comp=Z,133nm,5.0s
HHC LR LR
comp=N,2μm,15.5s,MS5.2
HHC LR LR
comp=E,693nm,14.3s,MS5.2
HHC LR LR
comp=Z,2μm,13.1s,MS5.2
SNY Shenyang 52.90 15⇓ P **P 17 37 10.1 -1.3**
SNY AMB AMB
comp=Z,20nm,1.2s,mb4.9
MJAR Matsushiro Arr 53.83 30 P **P 17 37 16.3 -2.0**
comp=Z,4.4nm,0.7s,mb4.5,baz=202,slow=7.7,SNR=9.0
MJAR LR LR 18 01 24.6
comp=Z,369nm,18.7s,MS4.5,baz=230,slow=37
CN2 Changchun 55.23 16 *e*P **P 17 37 25.8 -2.6**
CN2 *e*S **S 17 45 08.8 -2.1**
CN2 AMB AMB
comp=Z,20nm,1.2s,mb5.0
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,600nm,16.0s,MS5.0
CN2 LR LR
comp=E,700nm,16.0s,MS5.0
CN2 LR LR
comp=Z,900nm,18.0s,MS4.9
WMQ Urumqi 55.91 343 P **P 17 37 35.4 +2.1**
WMQ AP pP 17 37 40.0 +0.2
WMQ XP sP 17 37 42.4 +0.1
WMQ PP PP 17 39 41.6 +3.6
WMQ S **S 17 45 20.9 +1.0**
WMQ AMB AMB
comp=Z,48nm,1.7s,mb5.2
WMQ AMB AMB
comp=Z,219nm,4.9s
WMQ LR LR
comp=N,1μm,17.7s,MS5.1
WMQ LR LR
comp=E,815nm,16.6s,MS5.1
WMQ LR LR
comp=Z,1μm,18.2s,MS5.0
VLA Vladivostok 56.61 21 P **P 17 37 37.0 -1.3**
VLA *e* 17 39 41.8
VLA pmax pmax
comp=Z,30nm,1.9s,mb5.0
VLA MLR MLR
comp=Z,400nm,12.5s,MS4.7
KSH Kashi 56.81 331 P **P 17 37 39.8 +0.1**
KSH *e*AP pP 17 37 45.3 -0.9
KSH *e*XP sP 17 37 48.8 +0.1
KSH *e*PCP PcP 17 38 36.3 +1.0
KSH *e*PP PP 17 39 47.0 +1.0
KSH *e*PPP 17 41 04.9
KSH *e*SCP ScP 17 42 34.9 +1.2
KSH *e*S **S 17 45 28.6 -3.2**
KSH *e*PS 17 45 45.0
KSH *e*SCS ScS 17 47 25.0 -2.9
KSH *e*SS SS 17 49 16.1 -3.8
KSH AMB AMB
comp=Z,383nm,4.1s
KSH LR LR
comp=N,237nm,4.3s
KSH LR LR
comp=E,307nm,7.3s
KSH LR LR
comp=Z,691nm,18.7s,MS4.8
SONM Songino Array 56.88 359 P **P 17 37 40.2 -0.1**
comp=Z,8.7nm,0.5s,mb5.0,baz=176,slow=7.7,SNR=89
SONM LR LR 18 04 51.5
comp=Z,674nm,18.1s,MS4.8,baz=186,slow=39
ULN Ulaanbaatar 56.90 359 P **P 17 37 40.7 +0.3**
SNR=14
ULN Ulaanbaatar 56.90 359⇑ *e*P **P 17 37 40.0 -0.4**
ULN Ulaanbaatar 56.90 359 *e*P **P 17 37 40.1 -0.3**
comp=Z,14nm,0.6s,mb5.2
MDJ Mudanjiang 57.17 18 P **P 17 37 41.8 -0.5**
MDJ AP pP 17 37 46.8 -2.0
MDJ S **S 17 45 35.5 -1.2**
MDJ AMB AMB
comp=Z,6.0nm,0.6s,mb4.8
MDJ AMB AMB
comp=Z,73nm,3.9s
MDJ LR LR
comp=N,90nm,15.7s,MS4.3
MDJ LR LR
comp=E,167nm,16.9s,MS4.3
MDJ LR LR
comp=Z,202nm,14.1s,MS4.4
ZAK Zakamensk 59.55 357 *e*P **P 17 37 58.5 -0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
AAK Ala-Archa 59.94 332⇓ P **P 17 38 00.9 -0.6**
SNR=7.7
AAK Ala-Archa 59.94 332⇑ *e*P **P 17 37 59.8 -1.8**
AAK pmax pmax
comp=Z,5.0nm,1.6s,mb4.3
AAK Ala-Archa 59.94 332 *e*P **P 17 37 59.0 -2.6**
comp=Z,11nm,1.1s,mb4.8
FRU Bishkek 60.04 332 *e*P **P 17 38 02.0 -0.3**
MKAR Makanchi Array 60.28 340 P **P 17 38 03.5 -0.4**
comp=Z,24nm,0.6s,mb5.4,baz=150,slow=8.2,SNR=251
MKAR Makanchi Array 60.28 340 *i* P **P 17 38 03.5 -0.4**
MKAR pmax pmax
comp=Z,25nm,0.6s
MOY Mondy 60.99 355 *e*P **P 17 38 09.5 +0.8**
MOY pmax pmax
comp=Z,35nm,1.7s,mb5.2
IRK Irkutsk 61.36 358 *e*P **P 17 38 10.5 -0.7**
IRK pmax pmax
comp=Z,31nm,2.2s,mb5.0
KLR Kul'dur 61.96 18 *e*P **P 17 38 11.4 -3.9**
KLR MLR MLR
comp=Z,500nm,13.0s,MS4.9
YSS Yuzh-Sakhalins 64.08 26⇓ *e*P **P 17 38 28.5 -0.9**
YSS *e* 17 38 39.0
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 64.08 26 *e*P **P 17 38 28.2 -1.2**
comp=Z,52nm,1.1s,mb5.5
KURK Kurchatov 64.89 340 P **P 17 38 34.7 0.0**
comp=Z,350nm,1.0s,SNR=7.6
KURK Kurchatov 64.89 340 P **P 17 38 34.7 0.0**
SNR=31
KURK Kurchatov 64.89 340⇑ *e*P **P 17 38 34.5 -0.2**
KURK Kurchatov 64.89 340 *e*P **P 17 38 34.8 +0.1**
comp=Z,73nm,1.1s,mb5.6
MAW Mawson 65.41 197 P **P 17 38 37.8 -0.3**
comp=Z,22nm,1.0s,mb5.1,baz=43,slow=6.3,SNR=33
MAW Mawson 65.41 197 *e*P **P 17 38 37.8 -0.3**
MAW pmax pmax
comp=Z,33nm,1.0s
MAW Mawson 65.41 197 *e*P **P 17 38 37.8 -0.3**
comp=Z,33nm,1.0s,mb5.3
ZAL Zalesovo 65.92 345 P **P 17 38 40.0 -1.4**
comp=Z,4.6nm,0.5s,mb4.8,baz=336,slow=4.3,SNR=39
ZAL LR LR 18 13 38.8
comp=Z,343nm,18.3s,MS4.6,baz=306,slow=42
ZAL Zalesovo 65.92 345 P **P 17 38 40.0 -1.4**
ZAL LR LR 18 13 38.8
ABKT Ailbek 65.96 319 P **P 17 38 42.6 +1.0**
comp=Z,113nm,1.0s,mb5.8,SNR=5.1
KRAR Krasnoyarsk 66.23 351 *e*P **P 17 38 39.7 -3.6**
KRAR pmax pmax
comp=Z,44nm,1.3s,mb5.3
BOD Bodaibo 67.07 4 *e*P **P 17 38 47.0 -1.7**
BOD pmax pmax
comp=Z,14nm,1.4s,mb4.8
NVS Novosibirsk 67.13 345 *i* P **P 17 38 46.7 -2.4**
NVS *i* S S 17 47 34.0 -8.2
NVS pmax pmax
comp=Z,14nm,1.3s,mb4.8
NVS pmax pmax
comp=N,13nm,1.2s
NVS pmax pmax
comp=E,11nm,1.2s
NVS smax
comp=N,27nm,1.8s
NVS smax
comp=E,20nm,1.8s
NAY Al-Naaiem 69.72 306 *e*P **P 17 39 04.7 -0.6**
NAY AMb AMB 17 39 07.7
comp=Z,6.0nm,1.3s,mb4.4
BRVK Borovoye 69.82 337 P **P 17 39 05.8 -0.1**
comp=Z,129nm,0.5s,mb6.1,SNR=9.6
BRVK Borovoye 69.82 337 P **P 17 39 05.6 -0.3**
SNR=25
BRVK Borovoye 69.82 337 *e*P **P 17 39 05.1 -0.8**
BRVK pmax pmax
comp=Z,13nm,0.8s,mb4.9
BRVK Borovoye 69.82 337 *e*P **P 17 39 05.1 -0.8**
comp=Z,13nm,0.8s,mb4.9
MIB Mutribah 69.86 306 *e*P **P 17 39 05.5 -0.6**
MIB AMb AMB 17 39 09.5
comp=Z,15nm,1.3s,mb4.8
RST Umm Al-Ruwaisa 70.01 306 *e*P **P 17 39 05.9 -1.2**
RST AMb AMB 17 39 09.5
comp=Z,18nm,0.8s,mb5.0
CHKZ Chkalovo 70.17 338 *e*P **P 17 39 07.4 -0.7**
CHKZ pmax pmax
comp=Z,27nm,0.8s,mb5.2
CHKZ Chkalovo 70.17 338 *e*P **P 17 39 07.4 -0.6**
comp=Z,27nm,0.8s,mb5.2
ZRNK Zerenda 70.24 336 *e*P **P 17 39 07.7 -0.8**
ZRNK pmax pmax
comp=Z,41nm,1.0s,mb5.3
ZRNK Zerenda 70.24 336 *e*P **P 17 39 07.7 -0.8**
comp=Z,41nm,1.0s,mb5.3
KMBO Kilima Mbogo 70.58 272 P **P 17 39 11.1 +0.5**
comp=Z,2.8nm,0.8s,mb4.2,baz=50,slow=10,SNR=7.5
KMBO LR LR 18 04 03.7
comp=Z,229nm,19.3s,MS4.4,baz=93,slow=31
KMBO Kilima Mbogo 70.58 272 P **P 17 39 11.1 +0.5**
KMBO LR LR 18 04 03.7
YAK Yakutsk 73.12 11 *c i*P **P 17 39 24.2 -1.7**
YAK *e*PP pP 17 39 34.3 +1.8
YAK *e* 17 39 41.4
YAK *e* 17 42 05.5
YAK *e*PPP 17 43 50.5
YAK *e*S S 17 48 47.4 -5.0
YAK *e* 17 49 30.3
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=Z,28nm,1.1s,mb5.1
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK pmax pmax
comp=N,1.0nm,1.2s
YAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
YAK pmax pmax
comp=E,1.0nm,0.8s
YAK smax
comp=N,7.0nm,1.3s
YAK smax
comp=E,6.0nm,1.4s
YAK Yakutsk 73.12 11 *e*P **P 17 39 24.1 -1.8**
comp=E,36nm,0.8s,mb5.3
VNDA Vanda 73.60 169 P **P 17 39 28.1 -0.5**
comp=E,8.7nm,0.9s,mb4.7,baz=297,slow=6.5,SNR=42
VNDA Vanda 73.60 169 *e*P **P 17 39 28.0 -0.6**
VNDA pmax pmax
comp=Z,14nm,1.1s
VNDA Vanda 73.60 169 *e*P **P 17 39 28.0 -0.7**
comp=Z,14nm,1.1s,mb4.8
SYO Syowa Base 73.63 200⇑ *e*P **P 17 39 27.7 -1.1**
SYO Syowa Base 73.63 200⇑ *e*pP pP 17 39 30.5 -5.0
SBA Scott Base 74.67 169 *e*P **P 17 39 35.3 +0.4**
SBA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
SBA Scott Base 74.67 169 *e*P **P 17 39 35.3 +0.4**
comp=Z,8.4nm,0.9s,mb4.7
MAK Makhachkala 75.48 319 *e*P **P 17 39 37.9 -1.7**
MAK *e*S S 17 49 15.1 -3.7
MAK pmax pmax
comp=Z,116nm,1.3s,mb5.7
PET Petropavlovsk 75.63 29 *e*P **P 17 39 39.6 -0.8**
PET *e*S S 17 49 17.5 -2.9
PET pmax pmax
comp=Z,24nm,1.5s,mb4.9
PET pmax pmax
comp=Z,100nm,16.0s
PET MLR MLR
comp=Z,100nm,20.0s,MS4.1
SVE Sverdlovsk 76.39 336 *e*P **P 17 39 45.0 +0.2**
SVE *e* 17 40 00.0
SVE MLR MLR
comp=N,300nm,15.0s,MS4.8
SVE MLR MLR
comp=E,200nm,15.0s,MS4.8
SVE MLR MLR
comp=Z,300nm,15.0s,MS4.7
MTA Mtatsminda 76.71 317 P **P 17 39 48.4 +1.8**
TBLG Delisi 76.77 317 P **P 17 39 49.4 +2.5**
ARU Arti 76.99 334 *e*P **P 17 39 48.1 -0.1**
ARU *e* 17 40 00.4
ARU *e* 17 42 41.6
ARU *e*PPP 17 44 34.3
ARU *e*S S 17 49 35.1 -0.4
ARU *e* 17 50 01.8

ARU				*e*SS	SS	17 54 35.0	+2.6		
ARU				MLR	MLR				
	comp=Z,200nm,19.0s,MS4.5								
ARU				MLR	MLR				
	comp=N,60nm,16.0s,MS4.5								
ARU				MLR	MLR				
	comp=E,200nm,20.0s,MS4.5								
ARU	**Arti**	**76.99**	**334**	*e*P	**P**	**17 39 47.8**	**-0.4**		
	comp=E,30nm,1.3s,mb5.1								
MBAR	**Mbarara**	**77.09**	**272**	*j*P	**P**	**17 39 49.4**	**+0.7**		
GOR	**Gori**	**77.30**	**317**	P	**P**	**17 39 51.1**	**+1.2**		
AKH	**Akhalkalaki**	**77.48**	**316**	P	**P**	**17 39 53.1**	**+2.2**		
LSZ	**Lusaka**	**77.61**	**256**	P	**P**	**17 39 52.6**	**+1.0**		
	comp=E,5.6nm,0.9s,mb4.5,baz=99,slow=4.9,SNR=9.7								
ZEI	**Tsey**	**77.77**	**317**	*e*P	**P**	**17 39 52.4**	**-0.1**		
ZEI				*e**PP	pP	17 40 01.4	+2.2		
ZEI				pmax	pmax				
	comp=Z,10.0nm,0.5s,mb5.0								
ONI	**Oni**	**77.99**	**317**	P	**P**	**17 39 50.1**	**-3.7**		
AMRG		**78.18**	**317**	P	pP	17 40 04.6	+3.1		
BOSA	**Boshof**	**79.06**	**243**	P	**P**	**17 40 00.2**	**+0.6**		
	comp=Z,6.0nm,1.1s,mb4.4,baz=81,slow=11,SNR=3.4								
KIV	**Kislovodsk**	**79.07**	**318**	*e*P	**P**	**17 40 01.5**	**+1.8**		
KIV				pmax	pmax				
	comp=Z,10.0nm,1.3s,mb4.6								
KIV	**Kislovodsk**	**79.07**	**318**	*e*P	**P**	**17 40 01.5**	**+1.8**		
	comp=Z,11nm,0.8s,mb4.8								
MALT	**Malatya**	**79.91**	**312**	*e*P	**P**	**17 40 06.4**	**+2.1**		
MALT				pmax	pmax				
	comp=Z,9.0nm,1.3s,mb4.5								
MALT	**Malatya**	**79.91**	**312**	*e*P	**P**	**17 40 06.4**	**+2.1**		
	comp=Z,9.2nm,1.3s,mb4.5								
QSPA	**South Pole Qui**	**80.72**	**180**	*e*P	**P**	**17 40 08.3**	**-0.3**		
	comp=Z,29nm,1.2s,mb5.1								
TIXI	**Tiksi**	**81.98**	**7**	*i*eP	**P**	**17 40 13.7**	**-1.6**		
TIXI				pmax	pmax				
	comp=Z,23nm,1.3s,mb5.0								
BR131	**Keskin Array S**	**83.90**	**312**	*e*P	**P**	**17 40 24.3**	**-1.0**		
	comp=Z,4.3nm,0.8s,mb4.6								
BRTR	**Keskin Array B**	**83.90**	**312**	P	**P**	**17 40 25.6**	**+0.4**		
	comp=Z,4.0nm,1.0s,mb4.5,baz=140,slow=4.8,SNR=17								
BRTR				LR	LR	18 21 43.3			
	comp=Z,130nm,18.9s,MS4.3,baz=95,slow=38								
BRTR	**Keskin Array B**	**83.90**	**312**	*i* P	**P**	**17 40 25.7**	**+0.5**		
BRTR				pmax	pmax				
	comp=Z,4.0nm,1.0s								
VRSR	**Storozhevoye**	**84.13**	**324**	*e*P	**P**	**17 40 26.2**	**-0.2**		
VRSR				pmax	pmax				
	comp=Z,20nm,1.2s,mb5.1								
VRSR				pmax	pmax				
	comp=N,10.0nm,1.0s								
VRSR				pmax	pmax				
	comp=E,10.0nm,0.9s								
OBN	**Obninsk**	**87.04**	**327**	*j*eP	**P**	**17 40 40.9**	**0.0**		
OBN				*e*		17 44 02.1			
OBN				*i* S		17 51 10.2			
OBN				pmax	pmax				
	comp=Z,27nm,1.5s,mb5.3								
SNAA	**Sanae**	**87.58**	**197**	*j*P	**P**	**17 40 43.4**	**-0.1**		
SNAA				*e*		17 40 45.0			
SNAA				*e*	pP	17 40 47.7	-2.6		
KLMR	**Klimovskoe**	**87.74**	**333**	*e*P	**P**	**17 40 43.1**	**-1.2**		
KLMR				pmax	pmax				
	comp=Z,50nm,1.4s,mb5.5								
VNA1	**Neumayer--Stat**	**89.61**	**197**	*j*P	**P**	**17 40 53.7**	**+0.6**		
VNA1				*e*		17 40 54.8			
VNA1				*e*		17 40 57.0			
AKASG	**Malin Array Be**	**89.94**	**321**	P	**P**	**17 40 54.0**	**-0.7**		
	comp=Z,0.1nm,0.2s,baz=97,slow=3.5,SNR=8.4								
AKASG				PP	PP	17 44 27.4	-0.1		
	comp=Z,0.6nm,0.6s,baz=92,slow=6.5,SNR=10								
AKASG				LR	LR	18 30 41.0			
	comp=Z,101nm,18.7s,MS4.3,baz=80,slow=42								
AKASG	**Malin Array Be**	**89.94**	**321**	*i* P	**P**	**17 40 54.0**	**-0.6**		
AKASG	**Malin Array Be**	**89.94**	**321**	P	**P**	**17 40 54.0**	**-0.7**		
AKASG				PP	PP	17 44 27.4	-0.1		
AKASG				LR	LR	18 30 41.0			
JOF	**Joensuu**	**92.10**	**334**	*e*p	**P**	**17 41 02.4**	**-2.3**		
FINES	**FINESS Array B**	**94.13**	**332**	P	**P**	**17 41 15.3**	**+1.3**		
	comp=Z,1.6nm,0.8s,mb4.5,baz=315,slow=21,SNR=2.7								
FINES	**FINESS Array B**	**94.13**	**332**	P	**P**	**17 41 15.3**	**+1.2**		
ARCES	**ARCESS Array B**	**95.93**	**339**	P	**P**	**17 41 26.2**	**+3.9**		
	comp=Z,2.9nm,0.9s,mb4.7,baz=90,slow=5.0,SNR=6.4								
ARCES				LR	LR	18 30 48.9			
	comp=Z,368nm,18.5s,MS4.9,baz=60,slow=39								
ARCES	**ARCESS Array B**	**95.93**	**339**	P	**P**	**17 41 26.2**	**+3.9**		
ARCES				LR	LR	18 30 48.9			
OKC	**Ostrava-Krasne**	**96.76**	**319**	*e*SS	SS	17 59 15.7	-6.0		
OKC				AMS	AMS	18 34 00.0			
	comp=Z,200nm,11.0s								
DPC	**Dobruska-Polom**	**97.98**	**320**	*e*SS	SS	17 59 37.3	-1.6		
DPC				AMS	AMS	18 34 00.0			
	comp=Z,200nm,20.5s								
TREC	**Trest**	**98.44**	**319**	*e*SS	SS	17 59 55.5	+10		
TREC				AMS	AMS	18 35 10.0			
	comp=Z,200nm,13.2s								
PRU	**Pruhonice**	**99.10**	**319**	*e*SS	SS	17 59 51.2	-3.3		
PRU				AMS	AMS	18 34 50.0			
	comp=Z,200nm,19.8s								
PVCC	**Panska Ves**	**99.11**	**320**	AMS	AMS	18 34 40.0			
GERES	**GERESS Array B**	**99.58**	**318**	LR	LR	18 36 38.3			
	comp=Z,200nm,18.9s,MS4.6,baz=91,slow=41								
KHC	**Kasperske Hory**	**99.68**	**318**	*e*SS	SS	17 59 59.0	-3.6		
KHC				AMS	AMS	18 35 00.0			
	comp=Z,200nm,12.7s								
NKC	**Novy Kostel**	**100.46**	**319**	AMS	AMS	18 37 30.0			
NVAR	**Mina Array Bea**	**129.59**	**47**	SKPbc		17 50 27.6			
	comp=Z,1.3nm,0.9s,baz=250,slow=3.0,SNR=6.0								
PDAR	**Pinedale Array**	**133.36**	**38**	PKP	PKPdf	17 47 13.3	+1.8		
	comp=Z,0.1nm,0.4s,baz=312,slow=2.1,SNR=2.3								
LTX	**Lajitas**	**144.46**	**52**	*e*PKIKP	PKPdf	17 47 33.0	+1.3		
WMOK	**Wichita Mounta**	**144.91**	**40**	*e*PKIKP	PKPdf	17 47 33.1	+0.6		
BDFB	**Brasilia**	**145.51**	**224**	PKPbc	PKPbc	17 47 35.3	+1.7		
	comp=Z,17nm,1.1s,baz=114,slow=2.6,SNR=12								
CCM	**Cathedral Cave**	**146.64**	**28**	*e*PKP2	PKPab	17 47 37.8	-0.3		
JCT	**Junction City**	**146.76**	**47**	*e*PKP2	PKPab	17 47 38.4	-0.2		
LVC	**Limon Verde**	**148.13**	**186**	*e*PKPdf	PKPdf	17 47 38.4	+0.5		
LVC				*e*PKPbc	PKPbc	17 47 43.4	+2.3		
MIAR	**Mount Ida**	**148.16**	**35**	*e*PKP2	PKPab	17 47 42.4	-1.7		
OXF	**Oxford**	**150.37**	**30**	PKIKP	PKPbc	17 47 48.3	+1.5		
PLAL	**Pickwick Lake**	**150.61**	**27**	*e*PKPdf	PKPdf	17 47 42.9	+1.1		
PLAL				*e*PKPbc	PKPbc	17 47 47.8	+0.4		
SIV	**San Ignacio**	**152.55**	**204**	PKP	PKPdf	17 47 46.7	+1.8		
	comp=Z,1.5nm,0.9s,baz=160,slow=1.6,SNR=7.6								
SIV				PKPbc	PKPbc	17 47 53.5	+1.7		
	comp=Z,6.8nm,0.8s,baz=162,slow=2.4,SNR=28								
LPAZ	**La Paz**	**154.26**	**189**	PKP	PKPdf	17 47 50.1	+2.9		
	comp=Z,1.0nm,0.9s,baz=340,slow=2.4,SNR=3.8								
LPAZ				PKPbc	PKPbc	17 47 58.2	+2.7		
	comp=Z,3.5nm,1.0s,baz=154,slow=3.2,SNR=9.8								
LPAZ				PKPab	PKPab	17 48 11.5	+2.0		
	comp=Z,2.4nm,0.8s,baz=150,slow=4.7,SNR=6.5								
LPAZ	**La Paz**	**154.26**	**189**	PKPdf	PKPdf	17 47 48.2	+1.0		
LPAZ				*e*PKPbc	PKPbc	17 47 57.8	+2.3		

*IDC **18** 18:03:49.8≈3.5, 901S×10758E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, ML3.2/1, Error ellipse: s-maj=144.3km s-min=21.8km az=50.0*
*NEIC **18** 18:03:49.7≈1.6, 926S×10724E, h10km, mb4.4/4, Error ellipse: s-maj=72.5km s-min=10.5km az=47.0*
*ISCJB **18** 18:03:51.2≈2.1, 92S≈04×1074E≈05, h33km, mb3.9/8, Error ellipse: s-maj=93.1km s-min=13.8km az=95.1*
ISC 18 18:03:53.4≈2.2, 92S≈05×1073E≈05, h35km, n9, ∘0s42/9, mb3.9/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.84**	**118**	P	**Pn**	**18 08 22.4**	**-0.5**
	0.1nm,0.3s,baz=128,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**28.18**	**115**	P	**P**	**18 09 42.5**	**-0.1**
	0.1nm,0.4s,mb2.8,baz=289,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**29.17**	**123**	P	**P**	**18 09 52.0**	**+0.7**
	0.3nm,0.6s,mb3.2,baz=303,slow=9.0,SNR=4.6						
SONM	**Songino Array**	**56.83**	**359**	P	**P**	**18 13 34.8**	**+0.5**
	1.6nm,0.5s,mb4.3,baz=176,slow=8.0,SNR=20						
ULN	**Ulaanbaatar**	**56.86**	**360**	*e*P	**P**	**18 13 34.4**	**-0.1**
	2.4nm,0.8s,mb4.3						
ULN				*e*	pP	18 13 46.1	+1.0
MKAR	**Makanchi Array**	**60.09**	**340**	P	**P**	**18 13 57.5**	**+0.5**
	1.5nm,0.5s,mb4.2,baz=143,slow=7.9,SNR=29						
KURK	**Kurchatov**	**64.70**	**340**	*e*P	**P**	**18 14 27.3**	**-0.6**
	3.0nm,0.9s,mb4.3						
KURK				*e*	pP	18 14 39.3	+0.7

CHKZ	**Chkalovo**	**69.97**	**338**	*e*P	**P**	**18 15 01.1**	**-0.1**
	2.7nm,0.7s,mb4.3						
ZRNK	**Zerenda**	**70.03**	**336**	*e*P	**P**	**18 15 01.4**	**-0.2**
	1.7nm,0.8s,mb4.0						

*IDC **18** 18:24:33.6≈4.0, 836N×12533E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=373.8km s-min=28.2km az=65.0*
*ISCJB **18** 18:24:34.8≈0.6, 8.11N≈003×12485E≈004, h10km≈5km, mb3.4/3, Error ellipse: s-maj=6.8km s-min=3.8km az=143.0*
*MAN **18** 18:24:34.2, 808N×12482E, h4km, mb3.9, ML4.9, MS1.6*
ISC 18 18:24:35.0≈0.6, 811N≈003×12485E≈003, h4km≈5km, n23, ∘0s84/37, mb3.4/3, 5C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.31**	**137**	*e*P	**Pg**	**18 24 40.5**	**-0.5**
BUKP				*e*S	**Sg**	**18 24 46.0**	**+1.0**
CGP	**Cagayan de Oro**	**0.38**	**336**	*i*eP	**Pg**	**18 24 42.4**	**+0.1**
CGP				*e*S	**Sg**	**18 24 48.2**	**+1.0**
CTBH	**Cotabato--PC H**	**1.07**	**214**	*i*P	**Pg**	**18 24 54.5**	**-1.0**
CTBH				*i* S	**Sg**	**18 25 09.2**	**-0.1**
KCP	**Kidapawan**	**1.12**	**168**	*j*iP	**Pg**	**18 24 56.0**	**-0.4**
KCP				*i* S	**Sg**	**18 25 11.4**	**+0.5**
BUTP	**Butuan**	**1.15**	**42**	*e*P	**Pg**	**18 24 56.9**	**-0.1**
BUTP				*e*S	**Sg**	**18 25 17.6**	**+5.8**
PAGZ	**Pagadian**	**1.48**	**260**	*e*P	**Pn**	**18 25 01.4**	**-0.9**
PAGZ				*e*S	**Sb**	**18 25 23.8**	**+1.6**
DCPH	**Dipolog City**	**1.56**	**288**	*j*eP	**Pn**	**18 25 02.1**	**-1.3**
SCPH	**Surigao**	**1.78**	**21**	*j*eP	**Pn**	**18 25 05.5**	**-1.0**
MATI	**Mati**	**1.81**	**130**	*e*P	**Pn**	**18 25 06.7**	**-0.3**
TBP	**Tagbilaran**	**1.85**	**328**	*e*P	**Pn**	**18 25 06.2**	**-1.4**
TBP				*e*S	**Sn**	**18 25 29.9**	**-1.4**
MSLP	**Maasin**	**2.01**	**0**	*e*P	**Pn**	**18 25 09.5**	**-0.3**
SNPH	**Sibulan**	**2.01**	**308**	*e*P	**Pn**	**18 25 09.5**	**-0.2**
SNPH				*e*S	**Sn**	**18 25 37.0**	**+1.6**
IPIL	**Ipil**	**2.28**	**262**	*i*P	**Pn**	**18 25 14.8**	**+1.4**
IPIL				*i* S	**Sn**	**18 25 46.5**	**+4.6**
IPIL	**Ipil**	**2.28**	**262**	*e*P	**Pn**	**18 25 13.8**	**+0.4**
IPIL				*e*S	**Sn**	**18 25 45.9**	**+3.9**
LLP	**Lapu-Lapu**	**2.36**	**338**	*i*eP	**Pn**	**18 25 14.2**	**-0.4**
LLP				*i* S	**Sn**	**18 25 44.0**	**0.0**
OCLP	**Ormoc**	**2.93**	**355**	*e*P	**Pn**	**18 25 22.8**	**+0.4**
PLP	**Palo**	**3.04**	**2**	*e*P	**Pn**	**18 25 23.9**	**0.0**
PLP				*e*S	**Sn**	**18 26 02.8**	**+2.1**
GUIM	**Jordan**	**3.35**	**318**	*e*P	**Pn**	**18 25 27.9**	**-0.2**
GUIM				*e*S	**Sn**	**18 26 08.2**	**-0.2**
CUYO	**Cuyo Island**	**4.66**	**306**	*e*P	**Pn**	**18 25 46.3**	**+0.1**
CUYO				*e*S	**Sn**	**18 26 39.8**	**-0.9**
ENPP	**El Nido**	**6.17**	**300**	*e*P	**Pn**	**18 26 07.3**	**+0.4**
WRA	**Warramunga Arr**	**29.40**	**162**	P	**P**	**18 30 39.6**	**+0.2**
	0.4nm,0.8s,mb3.2,baz=343,slow=8.7,SNR=6.0						
ASAR	**Alice Springs**	**32.80**	**165**	P	**P**	**18 31 10.1**	**+0.8**
	0.3nm,0.5s,mb3.5,baz=342,slow=6.9,SNR=11						
MKAR	**Makanchi Array**	**52.92**	**324**	P	**P**	**18 33 52.2**	**-0.1**
	0.5nm,0.8s,mb3.5,baz=124,slow=7.9,SNR=3.9						

IDC 18 18:27:59.8≈2.2, 935S×10878E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/15, mbtmp3.7/4, Error ellipse: s-maj=98.7km s-min=23.1km az=52.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.84**	**116**	P	P	18 33 42.5	+0.6
	1.5nm,0.7s,baz=288,slow=11,SNR=9.6						
ASAR	**Alice Springs**	**27.91**	**124**	P	P	18 33 51.6	+0.1
	0.4nm,0.7s,baz=298,slow=9.3,SNR=8.2						
ASAR				PcP	PcP	18 37 07.7	+0.5
	0.5nm,0.8s,baz=307,slow=2.0,SNR=6.4						
SONM	**Songino Array**	**56.97**	**358**	P	P	18 37 47.4	+0.4
	0.4nm,0.5s,baz=180,slow=8.9,SNR=6.6						
MKAR	**Makanchi Array**	**60.68**	**339**	P	P	18 38 12.6	-0.2
	0.5nm,0.5s,baz=150,slow=7.6,SNR=6.9						

*IDC **18** 18:38:17.1≈0.7, 979S×10783E, h0km, mb4.3/9, mb1 4.3/11, mb1mx4.2/19, mbtmp4.3/11, ML4.0/2, MS3.8/6, Ms1 3.8/6, ms1mx3.3/26, Error ellipse: s-maj=30.1km s-min=15.6km az=54.0*
*BJI **18** 18:38:17.3, 980S×10780E, h10km, mB5.0, mb4.8, Ms4.6, Msz4.4*
*NEIC **18** 18:38:18.3≈0.2, 983S×10777E, h10km, mb4.9/22, Error ellipse: s-maj=8.6km s-min=5.1km az=59.0*
*ISCJB **18** 18:38:20.7≈0.3, 979S≈006×10786E≈007, h38km, mb4.7/49, MS4.1/9, Error ellipse: s-maj=11.1km s-min=6.9km az=122.2*
*MOS **18** 18:38:20.3≈1.1, 977S×10787E, h33km, mb4.8/16, Error ellipse: s-maj=18.0km s-min=8.7km az=113.5*
ISC 18 18:38:22.8≈0.3, 983S≈006×10782E≈007, h40km, h40km≈2.3km:pP-P, n92, ∘1s11/84, mb4.7/49, MS4.1/9, 7C-1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**3.11**	**37**	*e*P	**Pn**	**18 38 57.0**	**-12**
BJII				*e*S	**Sn**	**18 39 28.5**	**-17**
KSM	**Kuching**	**11.50**	**13**	Pn	**Pn**	**18 41 03.9**	**-0.5**
KSM				*e*		18 41 14.0	
PSI	**Prapat**	**15.36**	**324**	Pn	**Pn**	**18 41 54.7**	**-1.9**
	1.4nm,0.3s,baz=146,slow=11,SNR=2.5						
PSI	**Prapat**	**15.36**	**324**	Pn	**Pn**	**18 41 54.7**	**-1.9**
MBWA	**Marble Bar**	**16.07**	**136**	*e*Pn	**Pn**	**18 41 59.5**	**-6.2**
	28nm,1.2s						
KULM	**Kulim**	**16.63**	**334**	*e*Pn	**Pn**	**18 42 07.6**	**-5.3**
KKM	**Kota Kinabalu**	**17.85**	**28**	*e*Pn	**Pn**	**18 42 27.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**19.14**	**117**	P	**Pn**	**18 42 43.4**	**-0.2**
	0.2nm,0.3s,baz=300,slow=16,SNR=5.5						
FITZ				S	**S**	**18 46 03.3**	**-14**
	0.6nm,0.3s,baz=184,slow=21,SNR=4.0						
NWAO	**Narrogin (SRO)**	**24.57**	**161**	P	**P**	**18 43 39.7**	**+0.9**
	4.8nm,0.6s,mb4.2,baz=356,slow=6.5,SNR=4.4						
NWAO				LR	LR	18 50 54.4	
	comp=Z,203nm,21.8s,MS3.6,baz=329,slow=31						
NWAO	**Narrogin (SRO)**	**24.57**	**161**	P	**P**	**18 43 39.7**	**+0.9**
NWAO				*e*		18 43 50.2	
NWAO	**Narrogin (SRO)**	**24.57**	**161**	P	**P**	**18 43 39.7**	**+0.9**
NWAO				*e*		18 43 50.2	
NWAO				LR	LR	18 50 54.4	
WRA	**Warramunga Arr**	**27.49**	**114**	P	**P**	**18 44 05.1**	**-0.1**
	2.3nm,0.6s,mb3.9,baz=286,slow=11,SNR=10.0						
WRAB	**Tennant Creek**	**27.50**	**114**	*e*P	**P**	**18 44 04.9**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
WRAB	**Tennant Creek**	**27.50**	**114**	*e*P	**P**	**18 44 04.9**	**-0.4**
	comp=Z,14nm,1.0s,mb4.4						
AS31	**Alice Springs**	**28.45**	**122**	*e*Pn	**P**	**18 44 15.1**	**+1.3**
ASAR	**Alice Springs**	**28.45**	**122**	P	**P**	**18 44 14.8**	**+1.0**
	comp=Z,0.8nm,0.6s,mb3.5,baz=300,slow=8.2,SNR=10						
ASAR				LR	LR	18 55 41.5	
	comp=Z,146nm,21.2s,MS3.5,baz=62,slow=37						
KMI	**Kunming**	**35.09**	**352**	P	**P**	**18 45 14.6**	**+2.5**
KMI				AP	pP	18 45 17.5	-5.7
KMI				PP	PP	18 46 30.4	-1.7
KMI				PPP		18 46 48.3	
KMI				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,117nm,3.9s						
KMI				LR	LR		
	comp=N,384nm,16.4s,MS4.3						
KMI				LR	LR		
	comp=E,177nm,15.8s,MS4.3						
KMI				LR	LR		
	comp=Z,399nm,15.2s,MS4.3						
GYA	**Guiyang**	**36.09**	**358**	*i*P	**P**	**18 45 22.3**	**+1.7**
GYA				AP	pP	18 45 26.8	-5.0
GYA				XP	sP	18 45 29.6	-7.0
GYA				PP	PP	18 46 42.6	-0.5
GYA				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
GYA				AMB	AMB		
	comp=Z,130nm,4.6s						
GYA				LR	LR		
	comp=N,490nm,14.0s,MS4.6						
GYA				LR	LR		
	comp=E,530nm,14.6s,MS4.6						
GYA				LR	LR		
	comp=Z,540nm,15.0s,MS4.4						
SSE	**Sheshan**	**42.67**	**17**	P	**P**	**18 46 15.3**	**-0.1**
SSE				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,89nm,3.7s						
JIRN	**Jiri**	**42.75**	**331**	*e*P	**P**	**18 46 17.3**	**+1.2**
	comp=Z,49nm,0.7s,mb5.3						
NJ2	**Nanjing**	**42.96**	**14**	*e*P	**P**	**18 46 16.1**	**-1.7**
NJ2				AP	pP	18 46 26.0	-3.2
NJ2				XP	sP	18 46 30.1	-3.9
NJ2				PP	PP	18 47 58.0	0.0
NJ2				S	**S**	**18 52 37.0**	**-3.2**
NJ2				XS	sS	18 52 54.0	-5.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,160nm,4.7s						
NJ2				LR	LR		
	comp=N,3μm,17.0s,MS5.2						
NJ2				LR	LR		
	comp=E,660nm,18.7s,MS5.2						
NJ2				LR	LR		
	comp=Z,2μm,17.4s,MS5.0						
GUN	**Gumba**	**43.11**	**331**	*e*P	**P**	**18 46 19.7**	**+0.7**
	comp=Z,51nm,0.7s,mb5.4						
DMN	**Daman**	**43.24**	**330**	*e*P	**P**	**18 46 20.0**	**0.0**
	comp=Z,25nm,0.7s,mb5.1						
KKN	**Kakani**	**43.30**	**330**	*e*P	**P**	**18 46 20.8**	**+0.2**
XAN	**Xi'an**	**43.64**	**1**	P	**P**	**18 46 23.8**	**+0.5**
XAN				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.8						
GKN	**Gorkha**	**43.79**	**330**	*e*P	**P**	**18 46 24.5**	**0.0**
	comp=Z,23nm,0.8s,mb5.0						
KOLN	**Koldanda**	**44.13**	**329**	*e*P	**P**	**18 46 27.4**	**+0.2**
	comp=Z,29nm,0.8s,mb5.1						
LZH	**Lanzhou**	**45.82**	**356**	*e*P	**P**	**18 46 42.5**	**+1.8**
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb5.0						
GTA	**Gaotai**	**49.55**	**352**	*e*P	**P**	**18 47 11.3**	**+1.7**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.5						
BJT	**Baijiatuan**	**50.20**	**8**	*e*P	**P**	**18 47 13.6**	**-0.9**
BJT				*e*	pP	18 47 26.1	0.0
BJT				pmax	pmax		
	comp=Z,18nm,1.1s						
BJT	**Baijiatuan**	**50.20**	**8**	*e*P	**P**	**18 47 13.6**	**-0.9**
	comp=Z,18nm,1.1s,mb5.0						
BJT				*e*	pP	18 47 26.1	+0.1
MJAR	**Matsushiro Arr**	**54.27**	**30**	P	**P**	**18 47 43.5**	**-1.2**
	comp=Z,2.6nm,0.7s,mb4.3,baz=206,slow=7.5,SNR=6.8						
MJAR				LR	LR	19 09 25.3	
	comp=Z,95nm,21.7s,MS3.8,baz=290,slow=34						
MJAR	**Matsushiro Arr**	**54.27**	**30**	P	**P**	**18 47 43.5**	**-1.2**
MJAR				LR	LR	19 09 25.3	
SONM	**Songino Array**	**57.42**	**359**	P	**P**	**18 48 08.3**	**+1.0**
	comp=Z,8.4nm,0.5s,mb5.0,baz=177,slow=7.9,SNR=90						
SONM				LR	LR	19 16 28.3	
	comp=Z,166nm,18.7s,MS4.2,baz=166,slow=40						
ULN	**Ulaanbaatar**	**57.45**	**359**	*e*P	**P**	**18 48 08.2**	**+0.7**
ULN	**Ulaanbaatar**	**57.45**	**359**	*e*P	**P**	**18 48 08.0**	**+0.6**
	comp=Z,9.0nm,0.7s,mb4.9						
WSAR	**Wadi Sarin**	**58.27**	**305**	P	**P**	**18 48 14.5**	**+1.3**
	comp=Z,4.3nm,0.6s,mb4.7,baz=134,slow=8.9,SNR=6.2						
ZAK	**Zakamensk**	**60.09**	**357**	*e*P	**P**	**18 48 26.3**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.1						
AAK	**Ala-Archa**	**60.45**	**332**	*j*eP	**P**	**18 48 30.0**	**+1.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.2						
MKAR	**Makanchi Array**	**60.81**	**340**	P	**P**	**18 48 30.7**	**0.0**
	comp=Z,5.1nm,0.6s,mb4.8,baz=142,slow=7.6,SNR=31						
MKAR	**Makanchi Array**	**60.81**	**340**	*i* P	**P**	**18 48 30.7**	**0.0**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MOY	**Mondy**	**61.53**	**355**	*e*P	**P**	**18 48 36.7**	**+1.1**
MOY				pmax	pmax		
	comp=Z,18nm,1.8s,mb4.9						
KLR	**Kul'dur**	**62.46**	**17**	*e*P	**P**	**18 48 38.0**	**-3.9**
YSS	**Yuzh-Sakhalins**	**64.54**	**26**	*j*eP	**P**	**18 48 55.0**	**-0.6**
YSS				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.9						
YSS	**Yuzh-Sakhalins**	**64.54**	**26**	*e*P	**P**	**18 48 54.9**	**-0.7**
	comp=Z,15nm,1.0s,mb5.0						
MAW	**Mawson**	**64.91**	**197**	LR	LR	19 10 23.1

MALT Malatya 80.32 312 P **P** 18 50 30.6 +1.0
comp=Z,2.5nm,1.0s,mb4.1

TIXI Tiksi 82.51 7 *i* P **P** 18 50 40.2 -1.0
TIXI pmax pmax
comp=Z,4.0nm,0.7s,mb4.6

ANN Anapa 83.31 318 *e*P **P** 18 50 40.7 -4.6
ANN *e* 18 50 56.7

BR131 Keskin Array S 84.30 312 *e*P **P** 18 50 49.6 -0.7
comp=Z,1.7nm,0.8s,mb4.2

BR131 *e* pP 18 51 03.2 +0.5

BRTR Keskin Array B 84.30 312 P **P** 18 50 50.8 +0.4
comp=Z,1.9nm,0.7s,mb4.3,baz=136,slow=6.7,SNR=9.8

BRTR Keskin Array B 84.30 312 *i* P **P** 18 50 50.7 +0.3
BRTR pmax pmax
comp=Z,2.0nm,0.7s

OBN Obninsk 87.53 327 *ce*P **P** 18 51 06.9 +0.6
OBN *e* 18 54 30.8
OBN *eS* 19 01 24.7
OBN pmax pmax
comp=Z,15nm,0.6s,mb5.4

KLMR Klimovskoe 88.25 333 *e*P **P** 18 51 10.3 +0.5
KLMR pmax pmax
comp=Z,30nm,1.5s,mb5.3

LTX Lajitas 144.74 52 *e*PKIKP PKPdf 18 57 56.2 +1.1
LTX *e* 18 58 08.3

BDFB Brasilia 145.16 224 PKPbc PKPbc 18 57 56.7 +1.2
comp=Z,5.1nm,0.9s,baz=237,slow=2.3,SNR=3.6

LONY Lake Ozonia 145.28 3 *e*PKPdf PKPdf 18 57 56.1 0.0
LONY *e* 18 58 08.3

WMOK Wichita Mounta 145.28 40 *e*PKIKP PKPdf 18 57 57.4 +1.3

NCB Newcomb 145.94 3 *e*PKPdf PKPdf 18 57 58.2 +1.0
NCB *e* 18 58 10.1

JCT Junction City 147.09 47 *e*PKPdf PKPdf 18 58 01.0 +1.8
JCT *e* 18 58 15.0

MIAR Mount Ida 148.56 35 *e*PKP2 PKPab 18 58 06.1 -2.7

PLAL Pickwick Lake 151.06 28 *e*PKPbc PKPbc 18 58 11.5 +0.2

LPAZ La Paz 153.74 189 PKPbc PKPbc 18 58 19.9 +2.6
comp=Z,0.7nm,0.6s,baz=187,slow=4.5,SNR=5.0

BJI ***18*** *18:40:35.8, 1067S×10834E, h10km, mB4.9, mb4.8, Ms4.3, Msz4.3*
IDC ***18*** *18:40:41.9±0.6, 993S×10782E, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.4/17, mbtmp4.4/11, ML3.6/1, Error ellipse: s-maj=26.4km s-min=15.8km az=63.0*
NEIC ***18*** *18:40:43.0±0.3, 983S×10791E, h10km, mb4.7/17, Error ellipse: s-maj=10.7km s-min=6.5km az=79.0*
ISCJB ***18*** *18:40:43.1±0.4, 982S±006×10797E±009, h22km, mb4.5/27, MS4.3/3, Error ellipse: s-maj=13.2km s-min=7.4km az=149.6*
ISC 18 18:40:47.3±0.4, 986S±006×10795E±009, h40km, h40km±2.5km:pP-P, n40, σ1s13/40, mb4.5/27, MS4.3/3, 2C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**11.50**	**12**			Pn	**Pn**	**18 43 25.9**	**-3.0**
PSI	**Prapat**	**15.46**	**324**			Pn	**Pn**	**18 44 17.1**	**-5.3**
	0.3nm,0.3s,baz=119,slow=19,SNR=2.3								
MBWA	**Marble Bar**	**15.96**	**136**	*e*	Pn		**Pn**	**18 44 25.1**	**-3.8**
	18nm,0.8s								
KULM	**Kulim**	**16.71**	**334**	*e*	P		**Pn**	**18 44 32.7**	**-5.8**
KKM	**Kota Kinabalu**	**17.82**	**28**	*e*	P		**Pn**	**18 44 50.0**	**-2.1**
FITZ	**Fitzroy Crossi**	**19.01**	**117**		P		**Pn**	**18 45 05.1**	**-1.6**
	0.1nm,0.3s,baz=296,slow=12,SNR=2.0								
FITZ					S		**S**	**18 48 22.1**	**-17**
	0.2nm,0.3s,baz=87,slow=22,SNR=3.0								
NWAO	**Narrogin (SRO)**	**24.50**	**161**		P		**P**	**18 46 02.9**	**+0.1**
	11nm,0.6s,mb4.6,baz=336,slow=8.3,SNR=11								
NWAO	**Narrogin (SRO)**	**24.50**	**161**	*e*	P		**P**	**18 46 02.7**	**-0.2**
	12nm,0.7s,mb4.5								
WRA	**Warramunga Arr**	**27.36**	**115**		P		**P**	**18 46 29.5**	**+0.8**
	7.6nm,0.8s,mb4.3,baz=285,slow=11,SNR=10								
WRA					PcP		PcP	18 49 48.6	+1.5
	1.2nm,0.7s,baz=295,slow=1.7,SNR=5.4								
WRAB	**Tennant Creek**	**27.37**	**114**	*e*	P		**P**	**18 46 29.0**	**+0.3**
	13nm,0.7s,mb4.6								
ASAR	**Alice Springs**	**28.32**	**122**		P		**P**	**18 46 38.5**	**+1.2**
	4.9nm,0.7s,mb4.2,baz=301,slow=9.1,SNR=12								
ASAR					PcP		PcP	18 49 51.4	+2.0
	1.2nm,0.7s,baz=294,slow=2.4,SNR=6.6								
KMI	**Kunming**	**35.14**	**352**		P		**P**	**18 47 39.9**	**+2.8**
KMI					AP		pP	18 47 42.8	-5.3
KMI					XP		sP	18 47 44.0	-8.8
KMI					AMB		AMB		
	comp=Z,11nm,1.2s,mb4.7								
KMI					LR		LR		
	comp=N,382nm,16.6s,MS4.3								
KMI					LR		LR		
	comp=E,177nm,15.6s,MS4.3								
KMI					LR		LR		
	comp=Z,398nm,16.2s,MS4.3								
GYA	**Guiyang**	**36.12**	**358**	⇑ *i*	P		**P**	**18 47 46.8**	**+1.3**
GYA					AP		pP	18 47 50.9	-5.6
GYA					XP		sP	18 47 53.8	-7.5
GYA					S		**S**	**18 53 21.5**	**-0.8**
GYA					AMB		AMB		
	comp=Z,20nm,0.8s,mb5.1								
GYA					AMB		AMB		
	comp=Z,120nm,4.4s								
GYA					LR		LR		
	comp=N,420nm,14.3s,MS4.5								
GYA					LR		LR		
	comp=E,480nm,14.8s,MS4.5								
GYA					LR		LR		
	comp=Z,490nm,14.9s,MS4.4								
CTAO	**Charters Tower**	**38.29**	**110**		P		**P**	**18 48 06.8**	**+2.9**
XAN	**Xi'an**	**43.66**	**1**		P		**P**	**18 48 48.5**	**+0.4**
XAN					AP		pP	18 48 58.4	-1.0
XAN					AMB		AMB		
	comp=Z,14nm,0.8s,mb4.7								
XAN					LR		LR		
	comp=N,142nm,18.6s,MS4.1								
XAN					LR		LR		
	comp=E,111nm,14.1s,MS4.1								
XAN					LR		LR		
	comp=Z,303nm,17.7s,MS4.3								
LZH	**Lanzhou**	**45.86**	**355**	*e*	P		**P**	**18 49 10.0**	**+4.4**
LZH					AP		pP	18 49 19.0	+2.1
LZH					AMB		AMB		
	comp=Z,26nm,1.1s,mb5.1								
BJT	**Baijiatuan**	**50.20**	**8**		P		**P**	**18 49 37.9**	**-1.2**
MAJO	**Matsushiro**	**54.22**	**30**	*e*	P		**P**	**18 50 09.9**	**+0.9**
SONM	**Songino Array**	**57.45**	**359**		P		**P**	**18 50 33.3**	**+1.2**
	comp=Z,4.5nm,0.6s,mb4.7,baz=174,slow=7.9,SNR=15								
ULN	**Ulaanbaatar**	**57.47**	**359**	*e*	P		**P**	**18 50 32.2**	**-0.1**
	comp=Z,6.5nm,0.6s,mb4.8								
ULN					*e*		pP	18 50 44.3	+0.4
MKAR	**Makanchi Array**	**60.88**	**340**		P		**P**	**18 50 55.9**	**0.0**
	comp=Z,3.7nm,0.5s,mb4.8,baz=152,slow=5.1,SNR=23								
YSS	**Yuzh-Sakhalins**	**64.51**	**26**	*e*	P		**P**	**18 51 20.5**	**+0.5**
	comp=Z,14nm,1.1s,mb4.9								
MAW	**Mawson**	**64.93**	**197**		P		**P**	**18 51 22.7**	**0.0**
	comp=Z,2.5nm,0.5s,mb4.5,baz=71,slow=6.9,SNR=14								
KURK	**Kurchatov**	**65.49**	**340**	*e*	P		**P**	**18 51 29.1**	**+2.7**
	comp=Z,6.0nm,0.9s,mb4.6								
KURK					*e*		pP	18 51 42.0	+3.8
ZAL	**Zalesovo**	**66.51**	**345**		P		**P**	**18 51 34.2**	**+1.2**
	comp=Z,0.9nm,0.5s,mb4.1,baz=350,slow=3.7,SNR=4.3								
BRVK	**Borovoye**	**70.41**	**337**	*e*	P		**P**	**18 51 56.0**	**-1.3**
	comp=Z,1.5nm,0.6s,mb4.1								
CHKZ	**Chkalovo**	**70.77**	**338**	*e*	P		**P**	**18 51 59.1**	**-0.4**
	comp=Z,5.0nm,0.7s,mb4.5								
ZRNK	**Zerenda**	**70.83**	**336**	*e*	P		**P**	**18 51 59.4**	**-0.5**
	comp=Z,4.8nm,0.7s,mb4.5								
VNDA	**Vanda**	**73.00**	**169**		P		**P**	**18 52 12.6**	**-0.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=301,slow=6.7,SNR=7.4								
SYO	**Syowa Base**	**73.16**	**200**	⇑ *e*	P		**P**	**18 52 13.0**	**-0.9**
YAK	**Yakutsk**	**73.65**	**10**	*e*	P		**P**	**18 52 16.1**	**-0.6**
	comp=Z,13nm,0.7s,mb5.0								
YAK					*e*		pP	18 52 27.6	-1.0
SBA	**Scott Base**	**74.08**	**169**	*e*	P		**P**	**18 52 19.6**	**+0.4**
	comp=Z,1.7nm,0.8s,mb4.0								
ARU	**Arti**	**77.59**	**334**	*e*	P		**P**	**18 52 38.8**	**-0.5**
	comp=Z,9.1nm,1.0s,mb4.7								
ARU					*e*		pP	18 52 50.4	-0.9
BOSA	**Boshof**	**78.97**	**243**		P		**P**	**18 52 46.0**	**-0.9**
	comp=Z,4.6nm,1.0s,mb4.4,baz=68,slow=5.4,SNR=3.9								
LBTB	**Lobatse**	**79.02**	**246**		P		**P**	**18 52 42.3**	**-4.9**
	comp=Z,14nm,1.4s,mb4.7								
QSPA	**South Pole Qui**	**80.15**	**180**	*e*	P		**P**	**18 52 52.7**	**-0.6**
	comp=Z,5.0nm,0.8s,mb4.5								
BRTR	**Keskin Array B**	**84.42**	**312**		P		**P**	**18 53 16.4**	**+0.8**
	comp=Z,1.0nm,0.8s,mb4.0,baz=140,slow=8.1,SNR=4.2								
SNAA	**Sanae**	**87.09**	**197**	*e*	P		**P**	**18 53 28.6**	**-0.3**
	comp=Z,5.7nm,1.1s,mb4.7								
BDFB	**Brasilia**	**145.23**	**223**		PKPbc		PKPbc	19 00 22.4	+2.0
	comp=Z,5.9nm,0.5s,baz=149,slow=2.3,SNR=6.4								
LPAZ	**La Paz**	**153.73**	**189**		PKPbc		PKPbc	19 00 43.6	+1.7
	comp=Z,1.0nm,0.7s,baz=214,slow=6.2,SNR=6.0								

NIED ***18*** *18:49:00, 40.40N×139.40E, h8km, Mw3.4 Best double couple: M0 1.22000×10^14 NP1:φs206.00000°, δ82.00000°, λ144.00000°. NP2:φs301.00000°, δ55.00000°, λ9.00000°.*
JMA 18 18:49:09.2±0.1, 4039N×13940E, h17km±1km, M3.9, 1C-2D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIW	**Iwasaki**	**0.51**	**66**	⇓	P		Pg	18 49 19.0	-0.3
JIW					S		Sg	18 49 26.1	0.0
JOG2	**Oga 2**	**0.56**	**148**	⇑	P		Pg	18 49 20.2	-0.2
JOG2					S		Sg	18 49 28.2	+0.3
JAH	**Hinai**	**0.97**	**102**	⇓	P		Pb	18 49 27.0	-0.5
JAH					S		Sb	18 49 39.6	-0.4
JTM	**Tenmabayashi**	**1.33**	**72**		P		Pn	18 49 33.1	+0.1
JTM					S		Sn	18 49 50.8	+0.5

IDC ***18*** *19:09:52.2±0.7, 949S×108.17E, h0km, mb4.0/9, mb1 4.1/10, mb1mx4.0/17, mbtmp4.0/10, ML3.6/1, Error ellipse: s-maj=33.3km s-min=16.1km az=58.0*
NEIC ***18*** *19:09:53.5±0.4, 949S×108.20E, h10km, mb4.3/10, Error ellipse: s-maj=13.1km s-min=7.6km az=56.0*
ISCJB ***18*** *19:09:55.1±0.5, 943S±008×1083E±0.1, h33km, mb4.1/18, Error ellipse: s-maj=15.9km s-min=9.8km az=111.8*
ISC 18 19:09:57.5±0.5, 944S±008×1082E±0.1, h35km, n22, σ0s63/22, mb4.1/18, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**16.07**	**138**	*e*	Pn		**Pn**	**19 13 37.1**	**-3.6**
	8.5nm,0.8s								
KKM	**Kota Kinabalu**	**17.32**	**28**	*e*	Pn		**Pn**	**19 13 56.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**18.95**	**119**		P		**Pn**	**19 14 16.7**	**+0.3**
	0.2nm,0.3s,baz=224,slow=4.3,SNR=9.9								
WRA	**Warramunga Arr**	**27.28**	**115**		P		**P**	**19 15 39.1**	**+0.6**
	2.8nm,0.8s,mb3.8,baz=285,slow=12,SNR=11								
WRAB	**Tennant Creek**	**27.28**	**115**	*e*	P		**P**	**19 15 39.0**	**+0.4**
	8.9nm,0.9s,mb4.3								
ASAR	**Alice Springs**	**28.30**	**123**		P		**P**	**19 15 47.5**	**-0.2**
	2.7nm,0.8s,mb3.9,baz=300,slow=8.1,SNR=14								
SONM	**Songino Array**	**57.05**	**359**		P		**P**	**19 19 40.8**	**+0.9**
	0.8nm,0.6s,mb3.9,baz=179,slow=8.6,SNR=8.4								
ULN	**Ulaanbaatar**	**57.06**	**359**	*e*	P		**P**	**19 19 39.8**	**-0.3**
	2.5nm,0.9s,mb4.2								
MKAR	**Makanchi Array**	**60.59**	**340**		P		**P**	**19 20 04.8**	**+0.3**
	1.8nm,0.5s,mb4.5,baz=140,slow=7.3,SNR=19								
MKAR	**Makanchi Array**	**60.59**	**340**		P		**P**	**19 20 04.8**	**+0.3**
KURK	**Kurchatov**	**65.20**	**340**	*e*	P		**P**	**19 20 34.8**	**-0.4**
	4.6nm,0.9s,mb4.5								
KURK				*e*			pP	19 20 45.9	0.0
MAW	**Mawson**	**65.41**	**197**		P		**P**	**19 20 36.2**	**-0.4**
	1.5nm,0.9s,mb4.0,baz=67,slow=9.1,SNR=6.0								
ZAL	**Zalesovo**	**66.19**	**345**		P		**P**	**19 20 41.1**	**-0.4**
	0.7nm,0.5s,mb4.0,baz=322,slow=11,SNR=5.6								
BVAR	**Borovoye Array**	**70.08**	**337**		P		**P**	**19 21 06.0**	**0.0**
	0.7nm,0.4s,mb3.9,baz=140,slow=8.2,SNR=7.7								
CHKZ	**Chkalovo**	**70.49**	**337**	*e*	P		**P**	**19 21 07.7**	**-0.8**
	2.0nm,0.4s,mb4.4								
CHKZ				*e*			pP	19 21 18.7	-0.7
ZRNK	**Zerenda**	**70.57**	**336**	*e*	P		**P**	**19 21 08.1**	**-0.9**
	1.0nm,0.6s,mb3.9								
VNDA	**Vanda**	**73.36**	**169**		P		**P**	**19 21 25.1**	**-0.6**
	0.2nm,0.8s,mb3.6,baz=311,slow=8.7,SNR=4.7								
SBA	**Scott Base**	**74.43**	**169**		P		**P**	**19 21 32.2**	**+0.2**
	1.8nm,0.9s,mb4.0								
GNI	**Garni**	**76.54**	**315**		P		**P**	**19 21 44.8**	**+0.7**
	16nm,1.1s,mb4.9								
LSZ	**Lusaka**	**78.04**	**256**		P		**P**	**19 21 53.0**	**+0.5**
	2.3nm,1.0s,mb4.1								
BRTR	**Keskin Array B**	**84.36**	**312**		P		**P**	**19 22 27.1**	**+1.1**
	1.4nm,1.0s,mb4.1,baz=146,slow=9.0,SNR=6.7								
TSUM	**Tsumeb**	**87.56**	**251**		P		**P**	**19 22 41.6**	**-0.2**
	2.1nm,0.9s,mb4.4								

IDC ***18*** *19:11:08.2±0.4, 951S×108.58E, h0km, mb4.6/25, mb1 4.6/26, mb1mx4.6/27, mbtmp4.6/26, ML4.5/1, MS4.2/3, Ms1 4.1/3, ms1mx3.6/25, Error ellipse: s-maj=15.6km s-min=12.1km az=55.0*
ISCJB ***18*** *19:11:11.2±0.2, 952S±004×108.61E±005, h33km, mb5.0/92, MS4.7/22, Error ellipse: s-maj=6.9km s-min=5.1km az=150.2*
MOS ***18*** *19:11:11.4±1.1, 943S×108.70E, h33km, mb5.1/35, MS4.5/4, Error ellipse: s-maj=12.4km s-min=6.9km az=116.7*
HRVD ***18*** *19:11:13.3±0.4, 955S×108.65E, h18km±1km, MW5.0/60, Centroid moment Tensor Solution. LP body waves: s34,c51;Mantle waves: s60,c93; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.53±.17; Mθθ2.15±.10; Mφφ0.37±.15; Mrθ2.80±.28; Mrφ-1.23±.08; Mθr-1.92±.33; Best double couple: M0 4.31100×10^16 NP1:φs110.00000°, δ19.00000°, λ-102.00000°. NP2: φs303.00000°, δ71.00000°, λ-86.00000°. Principal axes: T 4.4200, Plg26.0000°, Azm30.0000°; N -0.2240, Plg4.0000°, Azm122.0000°; P -4.2020, Plg64.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***18*** *19:11:13.2, 950S×108.60E, h34km, mB5.2, mb4.9, Ms5.1, Msz4.8*
NEIC ***18*** *19:11:13.3±2.6, 947S×108.62E, h35km±18km, mb5.2/35, Error ellipse: s-maj=8.2km s-min=5.0km az=57.0*
ISC 18 19:11:13.4±0.2, 953S±004×10864E±005, h35km, h35km±.7km:pP-P, n228, σ1s03/204, mb5.0/92, MS4.7/22, 8C-6D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BJI	**Banjamegara**	**2.42**	**26**	⇑ *i*	P		**Pn**	**19 11 52.3**	**+1.7**
BJI				*i*	S		**Sn**	**19 12 24.6**	**+5.6**
KMMI	**Kalianget**	**5.82**	**65**		P			19 12 51.8	
	211nm,1.5s								
KLI	**Kotabumi**	**5.97**	**321**		P			19 12 52.9	
	445nm,0.9s								
NBBI	**Negara**	**6.02**	**79**		P		**Pn**	**19 12 44.4**	**+4.5**
	1μm,0.5s								
DNP	**Denpasar**	**6.54**	**83**		P		**Pn**	**19 12 53.7**	**+6.6**
	1μm,0.7s								
KSM	**Kuching**	**11.05**	**9**		Pn		**Pn**	**19 13 47.5**	**-1.5**
PPI	**Padang Panjang**	**12.19**	**317**		P			19 14 15.4	
	49nm,0.9s								
PSI	**Prapat**	**15.61**	**321**		Pn		**Pn**	**19 14 45.6**	**-5.2**
	1.6nm,0.3s,baz=163,slow=14,SNR=2.7								
PSI	**Prapat**	**15.61**	**321**		P		**Pn**	**19 14 45.6**	**-5.2**
PSI					pmax		pmax		
	comp=Z,2.0nm,0.3s								
MBWA	**Marble Bar**	**15.74**	**139**	*e*	Pn		**Pn**	**19 14 43.5**	**-8.8**
MBWA				*e*	Sn		**Sn**	**19 17 27.0**	**-19**
KULM	**Kulim**	**16.74**	**331**	*e*	Pn		**Pn**	**19 14 59.5**	**-5.7**
KKM	**Kota Kinabalu**	**17.21**	**26**	*e*	Pn		**Pn**	**19 15 11.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**18.56**	**119**	*e*	P		**Pn**	**19 15 28.9**	**+1.3**
	comp=Z,21nm,0.6s								
FITZ				*e*	S		**Sn**	**19 18 37.5**	**-17**
FITZ	**Fitzroy Crossi**	**18.56**	**119**		P		**Pn**	**19 15 27.3**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=242,slow=4.0,SNR=10								
FITZ					S		**Sn**	**19 18 40.2**	**-14**
	comp=Z,0.6nm,0.3s,baz=69,slow=22,SNR=6.2								
FITZ					LR		LR	19 22 31.0	
	comp=Z,975nm,18.9s,baz=306,slow=37								
BSI	**Banda Aceh**	**19.99**	**318**		P		**Pn**	**19 15 53.3**	**+8.5**
	comp=Z,108nm,0.9s								
AAI	**Ambon**	**20.26**	**75**		P		**P**	**19 15 53.7**	**+7.9**
	comp=Z,268nm,1.2s								
NWAO	**Narrogin (SRO)**	**24.60**	**162**		P		**P**	**19 16 29.8**	**-0.4**
	comp=Z,5.5nm,0.5s,mb4.3,baz=344,slow=9.0,SNR=12								
NWAO	**Narrogin (SRO)**	**24.60**	**162**	*e*	P		**P**	**19 16 28.8**	**-1.5**
NWAO					pmax		pmax		
	comp=Z,39nm,1.4s								
NWAO	**Narrogin (SRO)**	**24.60**	**162**	*e*	P		**P**	**19 16 28.8**	**-1.5**
	comp=Z,39nm,1.4s,mb4.7								
NST	**Nakhon Sawan**	**26.42**	**341**		P		**P**	**19 16 48.0**	**+1.2**
	comp=Z,50nm,0.8s,mb5.1								
WRA	**Warramunga Arr**	**26.88**	**116**		P		**P**	**19 16 51.3**	**+0.3**
	comp=Z,6.0nm,0.9s,mb4.1,baz=285,slow=11,SNR=11								
WRA					Sn		S	19 22 08.8	+44
	comp=Z,3.5nm,0.9s,baz=285,slow=25,SNR=4.0								
WRAB	**Tennant Creek**	**26.89**	**116**	*e*	P		**P**	**19 16 49.3**	**-1.7**
WRAB					pmax		pmax		
	comp=Z,14nm,0.7s,mb4.6								
WRAB	**Tennant Creek**	**26.89**	**116**	*e*	P		**P**	**19 16 49.2**	**-1.7**
	comp=Z,14nm,0.7s,mb4.6								
AS31	**Alice Springs**	**27.93**	**123**		P		**P**	**19 16 57.1**	**-3.2**
ASAR	**Alice Springs**	**27.93**	**123**		P		**P**	**19 17 01.3**	**+1.0**
	comp=Z,1.5nm,0.5s,mb3.9,baz=300,slow=9.6,SNR=11								
ASAR					Sn		S	19 22 27.2	+46
	comp=Z,11nm,1.0s,baz=304,slow=23,SNR=7.1								
QIZ	**Qiongzhong**	**28.40**	**2**		P		**P**	**19 17 06.8**	**+2.3**
QIZ					S		**S**	**19 21 49.8**	**+0.6**
QIZ					SS		SS	19 23 15.3	-35
QIZ					LR		LR		
	comp=N,1μm,15.2s,MS4.8								
QIZ					LR		LR		
	comp=E,2μm,16.3s,MS4.8								
QIZ					LR		LR		
	comp=Z,2μm,16.0s,MS4.8								
NANT	**Nan**	**29.22**	**344**		P		**P**	**19 17 17.0**	**+5.2**
CM31	**Chiang Mai Arr**	**29.41**	**341**	*e*	P		**P**	**19 17 13.7**	**+0.2**
	comp=Z,24nm,0.8s,mb5.0								
CM31				*e*			pP	19 17 23.5	0.0
CHG	**Chiang Mai**	**29.74**	**341**	⇑	P		**P**	**19 17 25.8**	**+9.4**
	comp=Z,28nm,0.9s,mb5.0								
CHTO	**Chiang Mai**	**29.74**	**341**	*e*	P		**P**	**19 17 15.4**	**-1.0**
CHTO				*e*	pP			19 17 26.0	-0.4
CHTO					pmax		pmax		
	comp=Z,20nm,0.7s,mb5.0								
CHTO	**Chiang Mai**	**29.74**	**341**	*e*	P		**P**	**19 17 15.4**	**-1.1**
	comp=Z,20nm,0.7s,mb5.0								
CHTO				*e*	pP			19 17 25.9	-0.5
KMI	**Kunming**	**34.92**	**351**		P		**P**	**19 18 04.3**	**+2.5**
KMI					AP		pP	19 18 13.8	+2.0
KMI					XP		sP	19 18 17.8	+1.8
KMI					PP		PP	19 19 21.8	+0.5
KMI					PPP			19 19 40.3	
KMI					PCP		PcP	19 20 35.6	+1.7
KMI					S		**S**	**19 23 31.1**	**+0.2**
KMI					SS		sS	19 23 47.5	0.0
KMI					SCP		ScP	19 24 19.3	+2.6
KMI					PCS		PcS	19 24 23.0	+2.4
KMI					SS		SS	19 25 44.6	-19
KMI					SSS			19 26 11.8	
KMI					SCS		ScS	19 28 21.3	+1.1
KMI					AMB		AMB		
	comp=Z,10.0nm,1.6s,mb4.5								
KMI					AMB		AMB		
	comp=Z,217nm,9.2s								
KMI					LR		LR		
	comp=N,2μm,14.3s,MS5.2								
KMI					LR		LR		
	comp=E,2μm,12.8s,MS5.2								
KMI					LR		LR		
	comp=Z,2μm,14.3s,MS5.1								
QZH	**Quanzhou**	**35.61**	**16**		P		**P**	**19 18 11.0**	**+3.3**
QZH					S		**S**	**19 23 45.0**	**+3.5**
QZH					LR		LR		
	comp=N,2μm,21.9s,MS5.0								
QZH					LR		LR		
	comp=E,2μm,19.0s,MS5.0								
QZH					LR		LR		
	comp=Z,2μm,18.2s,MS4.8								
GYA	**Guiyang**	**35.82**	**357**	⇑ *i*	P		**P**	**19 18 10.5**	**+1.0**
GYA					PP		PP	19 19 30.8	-0.4
GYA					PCP		PcP	19 20 39.4	+2.9
GYA					S		**S**	**19 23 45.3**	**+0.6**
GYA					SCP		ScP	19 24 23.8	+5.8
GYA					SS		SS	19 26 04.6	-17
GYA					AMB		AMB		
	comp=Z,30nm,0.8s,mb5.3								
GYA					AMB		AMB		
	comp=Z,140nm,4.6s								
GYA					LR		LR		
	comp=N,540nm,14.9s,MS4.6								
GYA					LR		LR		
	comp=E,470nm,14.6s,MS4.6								
GYA					LR		LR		
	comp=Z,460nm,15.0s,MS4.4								
VIS	**Vishakhapatnam**	**36.86**	**317**	*e*	P		**P**	**19 18 18.7**	**+0.4**
VIS					AMb		AMB	19 18 29.4	
	comp=Z,37nm,0.8s,mb5.2								
CTA	**Charters Tower**	**37.76**	**110**		P		**P**	**19 18 27.7**	**+1.7**
	comp=Z,5.0nm,0.8s,mb4.3,baz=256,slow=10,SNR=4.5								
CTA	**Charters Tower**	**37.76**	**110**		P		**P**	**19 18 27.7**	**+1.7**
CTA					pmax		pmax		
	comp=Z,5.0nm,0.8s								
CTA	**Charters Tower**	**37.76**	**110**		P		**P**	**19 18 27.7**	**+1.7**
CTAO	**Charters Tower**	**37.76**	**110**		P		**P**	**19 18 27.6**	**+1.6**
CTAO					pmax		pmax		
	comp=Z,35nm,1.3s,mb4.9								
CTAO	**Charters Tower**	**37.76**	**110**		P		**P**	**19 18 27.6**	**+1.6**
	comp=Z,35nm,1.3s,mb4.9								
SHL	**Shillong**	**38.51**	**335**	*ex*			x	19 16 13.2	
BOK	**Bokaro**	**39.90**	**326**	*e*	P		**P**	**19 18 44.9**	**+1.0**
BOK					AMb		AMB	19 18 55.4	
	comp=Z,64nm,0.7s,mb5.5								
HYB	**Hyderabad**	**40.01**	**312**	*i*	P		**P**	**19 18 47.0**	**+2.1**
HYB	**Hyderabad**	**40.01**	**312**	*e*	P		**P**	**19 18 46.0**	**+1.1**
CD2	**Chengdu**	**40.48**	**354**	⇑ *i*

XAN S **S** **19 25 32.3 -4.9**
XAN AMB AMB
comp=Z,14nm,0.8s,mb4.7
XAN LR LR
comp=N,439nm,13.2s,MS4.8
XAN LR LR
comp=E,724nm,15.7s,MS4.8
XAN LR LR
comp=Z,2μm,14.9s,MS5.1
DMN Daman 43.39 329 *e*P **P** **19 19 12.5 0.0**
comp=Z,68nm,0.9s,mb5.4
KKN Kakani 43.45 329 *e*P **P** **19 19 13.6 +0.6**
GKN Gorkha 43.95 329 *e*P **P** **19 19 16.9 -0.1**
comp=Z,75nm,0.9s,mb5.4
POO Poona 44.23 309 *ex* x 19 19 27.0
KOLN Koldanda 44.30 328 *e*P **P** **19 19 19.7 -0.1**
comp=Z,176nm,1.2s,mb5.7
BHPL Bhopal 44.65 317 *e*P **P** **19 19 22.5 -0.1**
BHPL AMb AMB 19 19 35.0
comp=Z,45nm,0.8s,mb5.3
LZH Lanzhou 45.59 355 *e*P **P** **19 19 32.3 +2.2**
LZH AP pP 19 19 41.4 +1.0
LZH XP sP 19 19 46.5 +2.0
LZH PP PP 19 21 20.0 +2.8
LZH AMB AMB
comp=Z,57nm,1.6s,mb5.2
LZH AMB AMB
comp=Z,182nm,4.1s
LZH LR LR
comp=N,1μm,13.1s
LZH LR LR
comp=Z,2μm,14.8s,MS5.1
TAU Tasmania Unive 47.36 141 P **P** **19 19 45.8 +1.8**
TAU pmax pmax
comp=Z,113nm,1.5s,mb5.6
TAU Tasmania Unive 47.36 141 P **P** **19 19 45.8 +1.8**
comp=Z,113nm,1.5s,mb5.6
LGTI Lohaghat 47.44 326 *e*P **P** **19 19 43.5 -1.1**
NDI New Delhi 48.62 322 *e*P **P** **19 19 52.0 -1.7**
NDI *e*P 19 19 52.7
AJM Ajmer 48.70 318 *e*P **P** **19 19 54.2 -0.1**
AJM AMb AMB 19 20 06.4
comp=Z,25nm,0.4s,mb5.6
GTA Gaotai 49.38 351 *e*P **P** **19 20 00.6 +1.1**
GTA AP pP 19 20 09.5 -0.4
GTA XP sP 19 20 13.8 -0.2
GTA PP PP 19 21 56.4 +2.8
GTA AMB AMB
comp=Z,14nm,1.4s,mb4.8
GTA AMB AMB
comp=Z,205nm,5.7s
GTA LR LR
comp=N,867nm,17.9s,MS4.9
GTA LR LR
comp=E,772nm,16.7s,MS4.9
GTA LR LR
comp=Z,1μm,18.6s,MS4.9
BJT Baijiatuan 49.79 8 *e*P **P** **19 20 01.3 -1.3**
BJT *e* pP 19 20 12.6 -0.4
BJT pmax pmax
comp=Z,17nm,0.6s
BJT Baijiatuan 49.79 8 *e*Pn **P** **19 20 01.3 -1.4**
comp=Z,17nm,0.6s,mb5.2
BJT *e* pP 19 20 12.6 -0.4
BJI Beijing 49.81 8 P **P** **19 20 02.3 -0.5**
BJI AMB AMB
comp=Z,121nm,2.3s,mb5.5
BJI LR LR
comp=N,970nm,16.2s,MS5.0
BJI LR LR
comp=E,715nm,15.8s,MS5.0
BJI LR LR
comp=Z,466nm,16.9s,MS4.6
BTO Baotou 49.90 1 *e*P **P** **19 20 03.1 -0.4**
HHC Hu-ho-hao-te 50.20 3 *e*P **P** **19 20 06.3 +0.6**
HHC PP PP 19 22 00.3 -0.8
HHC PCS PcS 19 25 22.5 +0.8
HHC S **S** **19 27 16.8 +1.4**
HHC AMB AMB
comp=Z,25nm,0.8s,mb5.3
HHC AMB AMB
comp=Z,159nm,4.4s
HHC LR LR
comp=N,899nm,14.3s,MS5.0
HHC LR LR
comp=E,469nm,13.1s,MS5.0
HHC LR LR
comp=Z,907nm,16.7s,MS4.9
SMLA Simla 50.45 324 *e*P **P** **19 20 06.6 -1.0**
SMLA AMb AMB 19 20 29.1
comp=Z,81nm,0.9s,mb5.7
HNR Honiara 50.56 94 P **P** **19 20 09.9 +1.4**
comp=Z,10nm,0.3s,mb5.2,baz=277,slow=2.8,SNR=3.6
HNR Honiara 50.56 94 *e*P **P** **19 20 09.4 +0.9**
HNR pmax pmax
comp=Z,116nm,1.3s,mb5.7
HNR Honiara 50.56 94 *e*P **P** **19 20 09.4 +0.9**
comp=Z,116nm,1.3s,mb5.7
SDNR Sundarnagar 50.84 325 *e*P **P** **19 20 10.0 -0.5**
MJAR Matsushiro Arr 53.60 30 P **P** **19 20 31.4 +0.3**
comp=Z,1.6nm,0.6s,mb4.2,baz=198,slow=7.2,SNR=3.6
MJAR Matsushiro Arr 53.60 30 P **P** **19 20 31.4 +0.3**
MJAR pmax pmax
comp=Z,2.0nm,0.6s
CN2 Changchun 55.23 15 *e*P **P** **19 20 41.3 -1.6**
CN2 *e*AP pP 19 20 51.0 -2.4
CN2 *e*S **S** **19 28 22.3 -1.8**
CN2 AMB AMB
comp=Z,10.0nm,1.4s,mb4.7
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,400nm,17.0s,MS4.8
CN2 LR LR
comp=E,500nm,17.0s,MS4.8
CN2 LR LR
comp=Z,700nm,18.0s,MS4.8
WMQ Urumqi 56.41 342 P **P** **19 20 52.5 +1.1**
WMQ AP pP 19 21 02.6 +0.7
WMQ XP sP 19 21 06.5 +0.5
WMQ PCP PcP 19 21 49.5 +1.4
WMQ PP PP 19 22 59.4 +2.3
WMQ S **S** **19 28 38.6 -1.1**
WMQ AMB AMB
comp=Z,33nm,1.2s,mb5.2
WMQ AMB AMB
comp=Z,206nm,4.8s
WMQ LR LR
comp=N,1μm,17.6s,MS5.1
WMQ LR LR
comp=E,800nm,16.5s,MS5.1
WMQ LR LR
comp=Z,1μm,18.1s,MS5.0
MDJ Mudanjiang 57.13 18 P **P** **19 20 55.8 -0.7**
MDJ AP pP 19 21 06.0 -1.0
MDJ XP sP 19 21 09.8 -1.3
MDJ PP PP 19 23 01.8 -1.7
MDJ S **S** **19 28 49.0 -0.2**
MDJ XS sS 19 29 03.1 -3.5
MDJ SS SS 19 32 43.3 +5.0
MDJ AMB AMB
comp=Z,5.0nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,76nm,4.7s
MDJ LR LR
comp=N,429nm,17.6s,MS4.7
MDJ LR LR
comp=E,261nm,14.7s,MS4.7
MDJ LR LR
comp=Z,480nm,13.2s,MS4.8
SONM Songino Array 57.14 358 P **P** **19 20 57.1 +0.5**
comp=Z,7.1nm,0.5s,mb4.9,baz=178,slow=8.1,SNR=48
SONM Songino Array 57.14 358 P **P** **19 20 57.1 +0.5**
SONM pmax pmax
comp=Z,7.0nm,0.5s
ULN Ulaanbaatar 57.16 359 ⇓P **P** **19 20 57.4 +0.7**
SNR=14
ULN Ulaanbaatar 57.16 359 *e*P **P** **19 20 56.2 -0.5**
ULN *e* pP 19 21 06.4 -0.8
ULN pmax pmax
comp=Z,17nm,0.6s,mb5.2
ULN Ulaanbaatar 57.16 359 *e*P **P** **19 20 56.2 -0.5**
comp=Z,17nm,0.6s,mb5.3
ULN *e* pP 19 21 06.4 -0.8
KSH Kashi 57.45 330 *e*P **P** **19 20 59.9 +1.2**

KSH *e*AP pP 19 21 10.1 +0.8
KSH *e*XP sP 19 21 14.3 +0.9
KSH *e*PCP PcP 19 21 54.0 +1.8
KSH *e*PP PP 19 23 07.8 +1.4
KSH *e*PPP 19 23 28.3
KSH *e*SCP ScP 19 25 49.5 +0.1
KSH *e*PCS PcS 19 25 57.5 +4.2
KSH *e*S **S** **19 28 53.8 +0.3**
KSH *e*PS 19 29 14.8
KSH *e*SCS ScS 19 30 43.3 -2.2
KSH *e*SS SS 19 32 42.5 -0.9
KSH AMB AMB
comp=Z,383nm,4.1s
KSH LR LR
comp=N,347nm,6.0s
KSH LR LR
comp=E,373nm,7.0s
KSH LR LR
comp=Z,533nm,12.0s,MS4.9
WSAR Wadi Sarin 58.77 304 P **P** **19 21 08.3 +0.3**
comp=Z,4.8nm,0.8s,mb4.6,baz=187,slow=6.0,SNR=6.2
WSAR Wadi Sarin 58.77 304 P **P** **19 21 08.3 +0.3**
ZAK Zakamensk 59.84 356 *e*P **P** **19 21 14.6 -0.8**
ZAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.1
OPO Ambohidratompo 60.05 254 P **P** **19 21 18.2 +1.3**
comp=Z,3.9nm,0.9s,mb4.4,baz=125,slow=15,SNR=4.6
AAK Ala-Archa 60.56 332⇓ *e*P **P** **19 21 19.5 -0.8**
AAK pmax pmax
comp=Z,7.0nm,1.5s,mb4.6
AAK Ala-Archa 60.56 332 *e*P **P** **19 21 18.9 -1.5**
comp=Z,8.2nm,0.9s,mb4.9
MKAR Makanchi Array 60.80 340 P **P** **19 21 21.8 -0.2**
comp=Z,20nm,0.6s,mb5.4,baz=144,slow=7.7,SNR=65
MKAR Makanchi Array 60.80 340 P **P** **19 21 21.8 -0.2**
MKAR pmax pmax
comp=Z,20nm,0.6s
MKAR Makanchi Array 60.80 340 P **P** **19 21 21.8 -0.2**
MOY Mondy 61.30 355 *e*P **P** **19 21 26.8 +1.4**
MOY pmax pmax
comp=Z,52nm,2.8s,mb5.2
IRK Irkutsk 61.64 357 *e*P **P** **19 21 27.8 +0.2**
IRK pmax pmax
comp=Z,46nm,2.3s,mb5.2
KLR Kul'dur 61.93 17 *e*P **P** **19 21 25.0 -4.6**
KLR pmax pmax
comp=Z,42nm,1.8s,mb5.3
YSS Yuzh-Sakhalins 63.92 25 *e*P **P** **19 21 40.0 -2.8**
YSS *e* pP 19 21 51.0 -2.5
YSS Yuzh-Sakhalins 63.92 25 P **P** **19 21 39.9 -2.9**
comp=Z,7.8nm,0.6s,mb4.9
YSS *e* pP 19 21 51.7 -1.8
KURK Kurchatov 65.42 340 P **P** **19 21 52.9 +0.3**
comp=Z,337nm,0.7s,SNR=19
KURK Kurchatov 65.42 340 ⇑P **P** **19 21 52.2 -0.4**
SNR=18
KURK Kurchatov 65.42 340 *e*P **P** **19 21 51.7 -0.9**
KURK *e* pP 19 22 01.8 -1.5
KURK pmax pmax
comp=Z,47nm,0.8s,mb5.6
KURK Kurchatov 65.42 340 *e*P **P** **19 21 51.7 -0.9**
comp=Z,47nm,0.8s,mb5.6
KURK *e* pP 19 22 01.8 -1.4
MAW Mawson 65.44 198⇓ *i*P **P** **19 21 51.9 -0.9**
comp=Z,2.6nm,0.6s,mb4.4
MAW Mawson 65.44 198 P **P** **19 21 52.1 -0.6**
comp=Z,3.3nm,0.6s,mb4.6,baz=62,slow=4.5,SNR=19
MAW LR LR 19 46 54.0
comp=Z,154nm,18.9s,MS4.2,baz=65,slow=33
MAW Mawson 65.44 198⇓ *i*P **P** **19 21 51.9 -0.9**
MAW pmax pmax
comp=Z,3.0nm,0.6s
ZAL Zalesovo 66.37 345 P **P** **19 21 58.1 -0.6**
comp=Z,4.3nm,0.9s,mb4.5,baz=332,slow=3.1,SNR=22
ZAL Zalesovo 66.37 345 P **P** **19 21 58.1 -0.6**
ZAL pmax pmax
comp=Z,4.0nm,0.9s
BOD Bodaibo 67.25 3 *e*P **P** **19 22 02.8 -1.5**
BOD *e* pP 19 22 12.8 -2.2
BOD pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
BOD pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CLNS Chul'man 67.48 10 *e*P pP 19 22 16.4 -0.1
CLNS *e* 19 24 36.7
CLNS *e*PPP 19 26 10.7
CLNS *e*S S 19 31 01.1 +1.6
CLNS pmax pmax
comp=Z,16nm,0.7s,mb5.2
CLNS pmax pmax
comp=N,17nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,0.7s
CLNS pmax pmax
comp=Z,24nm,1.0s,mb5.2
CLNS pmax pmax
comp=N,16nm,1.1s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS smax
comp=N,157nm,13.3s
CLNS smax
comp=Z,63nm,13.5s
CLNS smax
comp=E,143nm,15.4s
CLNS MLR MLR
comp=Z,600nm,16.0s,MS4.9
CLNS MLR MLR
comp=N,600nm,15.0s,MS5.1
CLNS MLR MLR
comp=E,500nm,14.0s,MS5.1
NVS Novosibirsk 67.59 344 *i*P **P** **19 22 05.3 -1.2**
QRN Al-Qurain 69.83 305 *e*P **P** **19 22 19.6 -0.8**
QRN AMb AMB 19 22 22.0
comp=Z,32nm,0.7s,mb5.3
RDF Al-Radifah 70.19 305 *e*P **P** **19 22 22.8 +0.1**
RDF AMb AMB 19 22 24.3
comp=Z,42nm,1.0s,mb5.3
UMR Umm Al-Rimmam 70.31 306 *e*P **P** **19 22 23.1 -0.3**
UMR AMb AMB 19 22 24.9
comp=Z,52nm,0.7s,mb5.6
BVAR Borovoye Array 70.32 337 P **P** **19 22 23.0 -0.4**
comp=Z,6.7nm,0.7s,mb4.7,baz=144,slow=8.6,SNR=28
BVAR Borovoye Array 70.32 337 P **P** **19 22 23.0 -0.4**
BVAR pmax pmax
comp=Z,7.0nm,0.7s
BRVK Borovoye 70.38 337 P **P** **19 22 23.0 -0.8**
comp=Z,61nm,1.1s,mb5.4,SNR=8.5
BRVK Borovoye 70.38 337 ⇓P **P** **19 22 24.1 +0.3**
SNR=9.3
BRVK Borovoye 70.38 337 *e*P **P** **19 22 23.3 -0.5**
BRVK *e* pP 19 22 33.0 -1.6
BRVK pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
BRVK Borovoye 70.38 337 *e*P **P** **19 22 23.3 -0.5**
comp=Z,9.3nm,0.7s,mb4.8
BRVK *e* pP 19 22 33.0 -1.6
NAY Al-Naaiem 70.57 306 *e*P **P** **19 22 24.2 -0.7**
NAY AMb AMB 19 22 26.8
comp=Z,16nm,0.8s,mb5.0
MIB Mutribah 70.71 306 *e*P **P** **19 22 25.2 -0.6**
MIB AMb AMB 19 22 30.2
comp=Z,24nm,1.0s,mb5.1
CHKZ Chkalovo 70.73 337 *e*P **P** **19 22 25.5 -0.4**
CHKZ *e* pP 19 22 35.1 -1.6
CHKZ pmax pmax
comp=Z,41nm,0.8s,mb5.4
CHKZ Chkalovo 70.73 337 *e*P **P** **19 22 25.5 -0.4**
comp=Z,40nm,0.8s,mb5.4
CHKZ *e* pP 19 22 35.1 -1.5
ZRNK Zerenda 70.81 336 *e*P **P** **19 22 25.7 -0.7**
ZRNK *e* pP 19 22 35.3 -1.9
ZRNK pmax pmax
comp=Z,25nm,0.8s,mb5.2
ZRNK Zerenda 70.81 336 *e*P **P** **19 22 25.7 -0.7**
comp=Z,25nm,0.8s,mb5.2
ZRNK *e* pP 19 22 35.2 -1.9
RST Umm Al-Ruwaisa 70.86 306 *e*P **P** **19 22 25.6 -1.2**
RST AMb AMB 19 22 28.0
comp=Z,39nm,0.9s,mb5.3
KMBO Kilima Mbogo 71.46 272 P **P** **19 22 31.0 +0.7**
comp=Z,2.6nm,0.8s,mb4.2,baz=44,slow=10,SNR=7.2
KMBO Kilima Mbogo 71.46 272 P **P** **19 22 31.0 +0.6**

KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 71.46 272 P **P** **19 22 31.0 +0.7**
VNDA Vanda 73.20 170 P **P** **19 22 40.4 -0.3**
comp=Z,2.3nm,0.8s,mb4.2,baz=307,slow=6.0,SNR=14
VNDA Vanda 73.20 170 *e*P **P** **19 22 40.1 -0.6**
VNDA pmax pmax
comp=Z,5.0nm,1.1s
VNDA Vanda 73.20 170 *e*P **P** **19 22 40.1 -0.6**
comp=Z,5.0nm,1.1s,mb4.4
YAK Yakutsk 73.20 10 *e*P **P** **19 22 39.0 -1.7**
YAK *e* pP 19 22 48.7 -2.8
YAK pmax pmax
comp=Z,68nm,0.7s,mb5.7
YAK Yakutsk 73.20 10 *e*P **P** **19 22 39.0 -1.7**
comp=Z,68nm,0.7s,mb5.7
YAK *e* pP 19 22 48.7 -2.8
SYO Syowa Base 73.71 201⇓ *e*P **P** **19 22 43.0 -0.7**
AKTK Aktyubinsk 74.11 329 P **P** **19 22 46.2 +0.1**
AKTO Aktyubinsk 74.11 329 P **P** **19 22 46.2 +0.1**
comp=Z,2.1nm,0.7s,mb4.2,baz=113,slow=6.8,SNR=6.9
AKTO Aktyubinsk 74.11 329 P **P** **19 22 46.2 +0.1**
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
SBA Scott Base 74.27 169 *e*P **P** **19 22 47.6 +0.6**
SBA pmax pmax
comp=Z,66nm,2.1s,mb5.2
SBA Scott Base 74.27 169 *e*P **P** **19 22 47.6 +0.6**
comp=Z,66nm,2.1s,mb5.2
PET Petropavlovsk 75.41 29 *e*P **P** **19 22 53.9 +0.3**
PET *e*S S 19 32 31.3 +0.2
PET pmax pmax
comp=Z,100nm,9.8s
PET MLR MLR
comp=Z,100nm,19.0s,MS4.1
MAK Makhachkala 76.24 319 *i*P **P** **19 22 59.9 +1.6**
MAK *e* 19 25 46.7
MAK *e*S S 19 32 44.3 +4.0
MAK *e*SS SS 19 37 37.7 +3.4
MAK pmax pmax
comp=Z,107nm,1.5s,mb5.5
MAK MLR MLR
comp=Z,179nm,17.0s,MS4.5
MA2 Magadan 76.66 21 *e*P **P** **19 22 58.9 -1.8**
MA2 *e* pP 19 23 09.7 -1.9
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
MA2 Magadan 76.66 21 *e*P **P** **19 22 58.9 -1.8**
comp=Z,20nm,0.9s,mb5.0
MA2 *e* pP 19 23 09.7 -1.8
SVE Sverdlovsk 76.97 335 *e*P **P** **19 23 00.0 -2.5**
SVE *e* pP 19 23 12.0 -1.3
SVE MLR MLR
comp=N,300nm,18.0s,MS4.7
SVE MLR MLR
comp=E,200nm,18.0s,MS4.7
SVE MLR MLR
comp=Z,300nm,18.0s,MS4.7
MTA Mtatsminda 77.49 316 P **P** **19 23 06.6 +1.2**
TBLG Delisi 77.54 316 P **P** **19 23 06.8 +1.2**
ARU Arti 77.59 334⇓ *i*P **P** **19 23 05.9 0.0**
ARU *i* pP 19 23 15.0 -1.8
ARU *e* 19 26 01.7
ARU *e*PPP 19 27 53.0
ARU *e*S S 19 32 55.3 +0.3
ARU *e*SS SS 19 37 54.6 -0.1
ARU pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ARU Arti 77.59 334 *e*P **P** **19 23 05.4 -0.5**
comp=Z,21nm,0.9s,mb5.1
ARU *e* pP 19 23 15.0 -1.8
MBAR Mbarara 77.97 271 *e*P **P** **19 23 08.4 +0.3**
GOR Gori 78.08 317 P **P** **19 23 09.4 +0.7**
AKH Akhalkalaki 78.26 316 P **P** **19 23 09.5 -0.1**
LSZ Lusaka 78.41 256 P **P** **19 23 11.5 +1.0**
comp=Z,3.4nm,0.6s,mb4.5,baz=86,slow=5.6,SNR=12
LSZ Lusaka 78.41 256 *e*P **P** **19 23 10.7 +0.2**
LSZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
LSZ Lusaka 78.41 256 *e*P **P** **19 23 10.7 +0.2**
comp=Z,5.0nm,0.9s,mb4.4
ZEI Tsey 78.54 317 *e*P **P** **19 23 12.5 +1.3**
ZEI *e**PP pP 19 23 21.9 -0.2
ZEI pmax pmax
comp=Z,15nm,0.5s,mb5.2
ONI Oni 78.77 317 P **P** **19 23 09.3 -3.1**
AMRG 78.95 317 P **P** **19 23 10.3 -3.1**
BOSA Boshof 79.73 243 P **P** **19 23 18.8 +1.1**
comp=Z,7.4nm,1.3s,mb4.5,baz=65,slow=17,SNR=4.2
BOSA Boshof 79.73 243 P **P** **19 23 18.8 +1.1**
BOSA pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
LBTB Lobatse 79.78 246 P **P** **19 23 18.4 +0.4**
comp=Z,3.7nm,1.0s,mb4.3,baz=128,slow=5.0,SNR=5.6
LBTB LR LR 19 50 12.0
comp=Z,79nm,19.4s,MS4.1,baz=327,slow=29
LBTB Lobatse 79.78 246 *e*P **P** **19 23 18.1 +0.1**
KIV Kislovodsk 79.83 318 *e*P **P** **19 23 19.0 +0.7**
KIV *e*S S 19 33 16.5 -2.5
KIV *e*SS SS 19 38 29.5 +1.1
KIV pmax pmax
comp=Z,11nm,0.6s,mb5.0
KIV Kislovodsk 79.83 318 *e*P **P** **19 23 18.2 -0.1**
comp=Z,14nm,0.8s,mb5.0
KIV *e* pP 19 23 29.3 +0.1
QSPA South Pole Qui 80.47 180 *e*P **P** **19 23 21.4 -0.3**
comp=Z,31nm,1.2s,mb5.1
MALT Malatya 80.73 311 *e*P **P** **19 23 21.5 -1.6**
EIL Elat 80.79 302 *e*P **P** **19 23 22.4 -1.0**
comp=Z,89nm,0.8s,mb5.8
TIXI Tiksi 82.12 6*c i*P **P** **19 23 28.8 -1.6**
TIXI pmax pmax
comp=Z,13nm,0.9s,mb4.9
SUR Sutherland 83.15 238 P **P** **19 23 36.5 +0.7**
comp=Z,16nm,1.1s,mb5.0
VRHR Novokhopersk 83.39 324 *e*P **P** **19 23 37.6 +0.6**
VRHR pmax pmax
comp=Z,30nm,0.6s,mb5.5
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.5s
BR131 Keskin Array S 84.71 312 *e*P **P** **19 23 43.4 -0.4**
comp=E,2.5nm,0.6s,mb4.5
BR131 *e* pP 19 23 53.8 -1.0
BRTR Keskin Array B 84.71 312 P **P** **19 23 44.5 +0.7**
comp=E,3.3nm,0.6s,mb4.6,baz=139,slow=5.9,SNR=16
BRTR Keskin Array B 84.71 312 P **P** **19 23 44.5 +0.7**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
VRSR Storozhevoye 84.84 324 *e*P **P** **19 23 44.6 +0.2**
VRSR pmax pmax
comp=Z,20nm,0.7s,mb5.4
VRSR pmax pmax
comp=N,6.0nm,1.0s
VRSR pmax pmax
comp=E,9.0nm,0.7s
MOS Moscow 87.37 328 *e*P **P** **19 24 05.3 +8.4**
MOS pmax pmax
comp=Z,56nm,0.8s,mb5.8
SNAA Sanae 87.61 197 *e*P **P** **19 23 57.4 -0.6**
SNAA *e* 19 24 00.5
SNAA *e* pP 19 24 08.7 -0.4
SNAA *e* 19 24 11.9
OBN Obninsk 87.72 327*ce*P **P** **19 23 59.0 +0.4**
OBN *e* 19 27 22.0
OBN pmax pmax
comp=Z,34nm,1.9s,mb5.2
OBN Obninsk 87.72 327 *e*P **P** **19 23 59.1 +0.6**
comp=Z,21nm,0.7s,mb5.5
OBN *e* pP 19 24 08.5 -1.1
TSUM Tsumeb 87.91 251 P **P** **19 24 00.9 +1.5**
comp=Z,1.7nm,0.6s,mb4.5,baz=121,slow=5.9,SNR=7.7
TSUM Tsumeb 87.91 251 *e*P **P** **19 24 00.2 +0.8**
comp=Z,5.7nm,1.1s,mb4.7
KLMR Klimovskoe 88.36 333 *e*P **P** **19 24 01.5 -0.1**
KLMR pmax pmax
comp=Z,80nm,1.6s,mb5.7
VNA1 Neumayer--Stat 89.64 197 *e*P **P** **19 24 08.2 +0.6**
VNA1 *e* 19 24 09.8
VNA1 *e* pP 19 24 18.2 -0.5
VNA1 *e* pP 19 24 21.7 +3.0
AKASG Malin Array Be 90.67 321 P **P** **19 24 11.2 -1.3**
comp=Z,1.2nm,0.6s,mb4.4,baz=85,slow=5.0,SNR=7.8
AKASG PP PP 19 27 46.9 -1.0

comp=Z,0.2nm,0.4s,baz=92,slow=5.4,SNR=4.7
AKASG Malin Array Be 90.67 321 P **P** 19 24 11.2 -1.2
AKASG 19 27 46.9
AKASG pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 94.76 331 P **P** 19 24 31.0 -0.3
comp=Z,2.3nm,0.9s,mb4.6,baz=114,slow=4.6,SNR=5.4
FINES FINESS Array B 94.76 331 *i* P **P** 19 24 31.7 +0.4
FINES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 96.46 339 P **P** 19 24 38.5 -0.6
comp=Z,3.1nm,0.9s,mb4.7,baz=76,slow=4.7,SNR=3.6
ARCES ARCESS Array B 96.46 339 P **P** 19 24 38.5 -0.5
ARCES pmax pmax
comp=Z,3.0nm,0.9s
OKC Ostrava-Krasne 97.52 319 *e*SS SS 19 42 34.7 -11
OKC AMS AMS 20 15 40.0
comp=Z,200nm,19.2s
DPC Dobruska-Polom 98.74 320 *e*SKS 19 35 27.1
DPC *e*S 19 36 13.6
DPC *e*SS SS 19 42 56.5 -6.2
DPC AMS AMS 20 17 00.0
comp=Z,300nm,16.8s
TREC Trest 99.20 319 AMS AMS 20 20 40.0
comp=Z,300nm,20.5s
PRU Pruhonice 99.86 319 *e*SKS 19 35 23.7
PRU *e*SDIF 19 36 20.9
PRU *e*SS SS 19 43 15.2 -3.1
PRU AMS AMS 20 18 00.0
comp=Z,300nm,20.1s
PVCC Panska Ves 99.87 320 AMS AMS 20 18 00.0
BRG Berggiesshubel 100.28 320 *e*(P) PP 19 29 10.4 +8.1
comp=Z,1.0nm,0.6s
BRG SKS 19 35 35.0
BRG S Sdif 19 36 36.0 +6.6
BRG SS SS 19 43 17.0 -7.3
KHC Kasperske Hory 100.44 318 *e*SKS 19 35 40.0
KHC *e*SDIF Sdif 19 36 31.8 +1.1
KHC *e*SS SS 19 43 23.8 -2.7
KHC AMS AMS 20 18 30.0
comp=Z,200nm,16.8s
NKC Novy Kostel 101.21 319 AMS AMS 20 19 00.0
TORD Torodi Ar. Bea 108.50 281 PKiKP PKiKP 19 29 39.0 +0.6
comp=Z,0.5nm,0.6s,baz=51,slow=1.6,SNR=5.0
YKA Yellowknife Ar 118.64 21 PKP PKPdf 19 29 57.5 -0.2
comp=Z,0.4nm,0.5s,baz=352,slow=2.3,SNR=3.8
YKA Yellowknife Ar 118.64 21 PKP PKPdf 19 29 57.5 -0.2
NVAR Mina Array Bea 129.10 48 PKP PKPdf 19 30 19.0 +1.3
comp=Z,0.7nm,0.7s,baz=247,slow=1.4,SNR=5.0
YFT Old Faithful 131.31 37 *e*PKPdf PKPdf 19 30 23.7 +1.8
PDAR Pinedale Array 133.01 39 PKP PKPdf 19 30 27.4 +2.3
comp=Z,0.3nm,0.7s,baz=325,slow=1.1,SNR=2.7
WMOK Wichita Mounta 144.52 41 *e*PKIKP PKPdf 19 30 45.2 -0.9
WMOK *e* 19 30 56.0
FRNY Flat Rock 144.77 3 *e*PKPdf PKPdf 19 30 46.3 -0.2
LONY Lake Ozonia 144.93 4 *e*PKPdf PKPdf 19 30 46.9 -0.9
LONY *e*pPKPdf pPKPdf 19 30 56.3 -1.9
MIV Mineville/With 145.53 3 *e*PKPdf PKPdf 19 30 46.5 -1.4
NCB Newcomb 145.60 4 *e*PKPdf PKPdf 19 30 48.8 +0.8
BDFB Brasilia 145.94 223 PKPbc PKPbc 19 30 50.8 +1.5
comp=Z,5.3nm,0.5s,baz=178,slow=2.7,SNR=6.4
BDFB Brasilia 145.94 223 PKP2 PKPab 19 30 50.8 +1.0
BDFB pmax pmax
comp=Z,5.0nm,0.5s
JCT Junction City 146.28 48 *e*PKPdf PKPdf 19 30 52.1 +3.0
JCT *e*pPKPdf pPKPdf 19 31 02.2 +1.7
BINY Binghamton 147.21 6 *e*PKPbc PKPbc 19 30 53.0 0.0
ACSO Alum Creek Sta 147.72 17 *e*PKPbc PKPbc 19 30 54.4 0.0
MIAR Mount Ida 147.84 36 *e*PKP2 PKPab 19 30 56.3 -0.9
LVC Limon Verde 147.97 184 *e*PKPbc PKPbc 19 30 57.9 +2.9
WCI Wyandotte Cave 148.42 23 *e*PKIKP PKPdf 19 30 52.6 -0.1
SSPA Standing Stone 148.48 10 *e*PKPbc PKPbc 19 30 56.1 -0.3
MVL Millersville 149.33 8 *e*PKPbc PKPbc 19 30 58.8 +0.2
WVT Waverly 149.58 27 *e*PKPbc PKPbc 19 30 60.0 +0.9
WVT *e*pPKPbc pPKPbc 19 31 09.8 -0.7
OXF Oxford 150.14 31 *e*PKIKP PKPbc 19 31 01.8 +1.3
PLAL Pickwick Lake 150.41 29 *e*PKPbc PKPbc 19 31 01.1 0.0
LPAZ La Paz 154.15 187 PKPbc PKPbc 19 31 12.7 +3.1
comp=Z,1.4nm,0.7s,baz=133,slow=2.8,SNR=6.4
LPAZ La Paz 154.15 187 *e*PKP PKPdf 19 31 09.0 +7.6
LPAZ PKPbc PKPbc 19 31 12.7 +3.1

IDC ***18*** *19:13:39.4±0.6, 9.48S×108.71E, h0km, mb4.6/11, mb1 4.7/12, mb1mx4.5/18, mbtmp4.6/12, ML3.8/1, MS4.5/1, Ms1 4.5/1, ms1mx3.4/27, Error ellipse: s-maj=25.9km s-min=16.1km az=63.0*
BJI ***18*** *19:13:40.1, 9.50S×108.70E, h7km, mB5.2, mb5.0, Ms5.1, Msz4.7*
NEIC ***18*** *19:13:40.2±3.8, 9.52S×108.69E, h8km±23km, mb5.0/30, Error ellipse: s-maj=7.3km s-min=4.3km az=60.0*
ISCJB ***18*** *19:13:42.0±0.3, 9.49S±0.06×108.75E±0.07, h32km, mb4.9/50, MS4.8/5, Error ellipse: s-maj=10.7km s-min=6.9km az=121.4*
MOS ***18*** *19:13:42.3±0.8, 9.46S×108.74E, h33km, mb5.2/19, Error ellipse: s-maj=14.4km s-min=8.0km az=110.2*
ISC 18 19:13:44.3±0.3, 9.52S±0.06×108.72E±0.07, h34km±.8km: pP-P, n107, σ0≥86/95, mb4.9/50, MS4.8/5, 10C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**16.77**	**331**	P	**Pn**	**19 17 28.7**	**-7.8**
FITZ	**Fitzroy Crossi**	**18.50**	**119**	P	**Pn**	**19 17 56.4**	**-1.4**
	0.2nm,0.3s,baz=278,slow=7.1,SNR=3.3						
NWAO	**Narrogin (SRO)**	**24.58**	**163**	*e*P	**P**	**19 19 00.3**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,11nm,0.9s						
NWAO	**Narrogin (SRO)**	**24.58**	**163**	*e*P	**P**	**19 19 00.3**	**-0.8**
	comp=Z,11nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**26.81**	**116**	P	**P**	**19 19 21.6**	**+0.3**
	comp=Z,6.7nm,0.8s,mb4.2,baz=288,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**26.81**	**116**	P	**P**	**19 19 21.6**	**+0.3**
WRAB	**Tennant Creek**	**26.82**	**116**	*e*P	**P**	**19 19 22.0**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**26.82**	**116**	*e*P	**P**	**19 19 22.0**	**+0.6**
	comp=Z,12nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**27.86**	**123**	P	**P**	**19 19 32.0**	**+1.3**
	comp=Z,4.2nm,0.9s,mb4.1,baz=292,slow=8.7,SNR=3.9						
CHTO	**Chiang Mai**	**29.76**	**341**	*e*P	**P**	**19 19 46.8**	**-0.8**
CHTO				*e*	pP	19 19 56.6	-0.7
CHTO				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
CHTO	**Chiang Mai**	**29.76**	**341**	*e*P	**P**	**19 19 46.8**	**-0.8**
	comp=Z,14nm,1.0s,mb4.7						
CHTO				*e*	pP	19 19 56.6	-0.6
PMG	**Port Moresby**	**37.90**	**93**	LR	LR	19 37 60.0	
	comp=Z,721nm,19.2s,MS4.5,baz=271,slow=38						
HYB	**Hyderabad**	**40.07**	**312**	*i* P	**P**	**19 21 18.0**	**+1.7**
HYB	**Hyderabad**	**40.07**	**312**	*e*P	**P**	**19 21 16.0**	**-0.3**
WHN	**Wuhan**	**40.20**	**8**	P	**P**	**19 21 19.5**	**+2.1**
NJ2	**Nanjing**	**42.46**	**13**	*e*P	**P**	**19 21 35.8**	**-0.1**
NJ2				AP	pP	19 21 45.6	-0.3
NJ2				XP	sP	19 21 48.6	-1.3
NJ2				PP	PP	19 23 15.4	+0.8
NJ2				S	**S**	**19 27 49.0**	**-6.5**
NJ2				XS	sS	19 28 05.0	-6.9
NJ2				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,140nm,5.2s						
NJ2				LR	LR		
	comp=N,2μm,16.0s,MS5.2						
NJ2				LR	LR		
	comp=E,1μm,13.6s,MS5.2						
NJ2				LR	LR		
	comp=Z,3μm,16.0s,MS5.3						
JIRN	**Jiri**	**42.92**	**330**	*e*P	**P**	**19 21 40.8**	**+1.1**
	comp=Z,99nm,0.9s,mb5.5						
PKI	**Pulchoki**	**43.24**	**329**	*e*P	**P**	**19 21 42.5**	**+0.2**
GUN	**Gumba**	**43.28**	**330**	*e*P	**P**	**19 21 43.2**	**+0.6**
	comp=Z,94nm,0.8s,mb5.5						
DMN	**Daman**	**43.43**	**329**	*e*P	**P**	**19 21 44.0**	**+0.2**
	comp=Z,99nm,1.0s,mb5.5						
KKN	**Kakani**	**43.49**	**329**	*e*P	**P**	**19 21 44.7**	**+0.5**
GKN	**Gorkha**	**43.99**	**329**	*e*P	**P**	**19 21 48.6**	**+0.3**
	comp=Z,101nm,1.1s,mb5.5						
KOLN	**Koldanda**	**44.34**	**327**	*e*P	**P**	**19 21 51.5**	**+0.4**
	comp=Z,92nm,0.9s,mb5.5						
LZH	**Lanzhou**	**45.60**	**354**	⇑P	**P**	**19 22 02.1**	**+1.0**
LZH				AP	pP	19 22 12.1	+1.0
LZH				XP	sP	19 22 15.0	-0.1
LZH				AMB	AMB		
	comp=Z,51nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,253nm,5.1s						
GTA	**Gaotai**	**49.38**	**351**	*e*P	**P**	**19 22 32.3**	**+1.8**
GTA				AP	pP	19 22 40.9	+0.3
GTA				XP	sP	19 22 45.9	+1.3
GTA				AMB	AMB		
	comp=Z,17nm,1.2s,mb5.0						
BJT	**Baijiatuau**	**49.77**	**7**	*e*P	**P**	**19 22 33.4**	**-0.1**
BJT				*e*	pP	19 22 43.5	0.0
BJT				pmax	pmax		
	comp=Z,43nm,1.1s						
BJT	**Baijiatuau**	**49.77**	**7**	*e*P	**P**	**19 22 33.4**	**-0.1**
	comp=Z,43nm,1.1s,mb5.4						
BJT				*e*	pP	19 22 43.5	0.0
BJI	**Beijing**	**49.79**	**7**	P	**P**	**19 22 33.9**	**+0.3**
BJI				AMB	AMB		
	comp=Z,29nm,1.2s,mb5.2						
BJI				LR	LR		
	comp=N,970nm,16.2s,MS5.0						
BJI				LR	LR		
	comp=E,715nm,15.8s,MS5.0						
BJI				LR	LR		
	comp=Z,466nm,16.9s,MS4.6						
HNR	**Honiara**	**50.49**	**94**	*e*P	**P**	**19 22 40.1**	**+1.2**
HNR				pmax	pmax		
	comp=Z,92nm,1.3s,mb5.7						
HNR	**Honiara**	**50.49**	**94**	*e*P	**P**	**19 22 40.1**	**+1.2**
	comp=Z,92nm,1.3s,mb5.7						
MAJO	**Matsushiro**	**53.55**	**30**	*e*P	**P**	**19 23 00.5**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
MAJO	**Matsushiro**	**53.55**	**30**	*e*P	**P**	**19 23 00.5**	**-1.2**
	comp=Z,14nm,1.0s,mb4.9						
MJAR	**Matsushiro Arr**	**53.55**	**30**	P	**P**	**19 23 01.1**	**-0.6**
	comp=Z,4.7nm,1.0s,mb4.4,baz=205,slow=8.4,SNR=5.2						
SONM	**Songino Array**	**57.14**	**358**	P	**P**	**19 23 28.3**	**+0.8**
	comp=Z,6.5nm,0.6s,mb4.9,baz=178,slow=8.3,SNR=12						
ULN	**Ulaanbaatar**	**57.15**	**359**	*e*P	**P**	**19 23 28.0**	**+0.4**
ULN				*e*	pP	19 23 38.3	+0.5
ULN				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
ULN	**Ulaanbaatar**	**57.15**	**359**	*e*P	**P**	**19 23 28.0**	**+0.3**
	comp=Z,12nm,0.8s,mb5.0						
ULN				*e*	pP	19 23 38.3	+0.4
AAK	**Ala-Archa**	**60.60**	**332**	⇑*e*P	**P**	**19 23 50.5**	**-1.0**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.5						
AAK	**Ala-Archa**	**60.60**	**332**	P	**P**	**19 23 48.0**	**-3.5**
	comp=Z,4.9nm,0.9s,mb4.6						
MKAR	**Makanchi Array**	**60.83**	**339**	P	**P**	**19 23 53.4**	**+0.3**
	comp=Z,19nm,0.6s,mb5.4,baz=144,slow=7.8,SNR=19						
MKAR	**Makanchi Array**	**60.83**	**339**	⇑*e*P	**P**	**19 23 53.4**	**+0.3**
KLR	**Kul'dur**	**61.90**	**17**	*e*P	**P**	**19 23 57.0**	**-3.4**
YSS	**Yuzh-Sakhalins**	**63.88**	**25**	⇑*e*P	**P**	**19 24 13.1**	**-0.4**
YSS				pmax	pmax		
	comp=Z,19nm,1.3s,mb5.0						
YSS	**Yuzh-Sakhalins**	**63.88**	**25**	*e*P	**P**	**19 24 13.1**	**-0.4**
	comp=Z,18nm,1.0s,mb5.0						
KURK	**Kurchatov**	**65.44**	**339**	*e*P	**P**	**19 24 23.5**	**-0.2**
KURK				*e*	pP	19 24 33.0	-1.1
MAW	**Mawson**	**65.47**	**198**	*e*P	**P**	**19 24 23.4**	**-0.5**
	comp=Z,3.2nm,1.0s,mb4.3						
MAW	**Mawson**	**65.47**	**198**	P	**P**	**19 24 23.7**	**-0.2**
	comp=Z,2.8nm,0.6s,mb4.5,baz=42,slow=9.5,SNR=4.6						
MAW	**Mawson**	**65.47**	**198**	*e*P	**P**	**19 24 23.4**	**-0.5**
MAW				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZAL	**Zalesovo**	**66.39**	**345**	P	**P**	**19 24 29.5**	**-0.3**
	comp=Z,11nm,1.0s,mb4.8,baz=350,slow=3.5,SNR=10						
KRAR	**Krasnoyarsk**	**66.61**	**350**	*e*P	**P**	**19 24 27.1**	**-4.1**
KRAR				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
BOD	**Bodaibo**	**67.24**	**3**	*e*P	**P**	**19 24 33.9**	**-1.4**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
NVS	**Novosibirsk**	**67.61**	**344**	*i* P	**P**	**19 24 36.1**	**-1.4**
QRN	**Al-Qurain**	**69.89**	**305**	*e*P	**P**	**19 24 50.0**	**-0.9**
QRN				AMb	AMB	19 24 52.4	
	comp=Z,30nm,0.8s,mb5.2						
BVAR	**Borovoye Array**	**70.34**	**337**	P	**P**	**19 24 54.6**	**+0.1**
	comp=Z,6.4nm,0.7s,mb4.7,baz=140,slow=8.5,SNR=7.1						
BRVK	**Borovoye**	**70.41**	**337**	*e*P	**P**	**19 24 54.5**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BRVK	**Borovoye**	**70.41**	**337**	*e*P	**P**	**19 24 54.5**	**-0.4**
	comp=Z,8.8nm,1.0s,mb4.6						
NAY	**Al-Naaiem**	**70.63**	**306**	*e*P	**P**	**19 24 54.3**	**-1.9**
NAY				AMb	AMB	19 24 57.7	
	comp=Z,12nm,0.9s,mb4.8						
CHKZ	**Chkalovo**	**70.75**	**337**	*e*P	**P**	**19 24 57.2**	**+0.2**
CHKZ				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
CHKZ	**Chkalovo**	**70.75**	**337**	*e*P	**P**	**19 24 57.2**	**+0.2**
	comp=Z,21nm,0.9s,mb5.1						
MIB	**Mutribah**	**70.77**	**306**	*e*P	**P**	**19 24 56.5**	**-0.7**
MIB				AMb	AMB	19 24 58.8	
	comp=Z,18nm,1.0s,mb4.9						
ZRNK	**Zerenda**	**70.84**	**336**	*e*P	**P**	**19 24 57.2**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
ZRNK	**Zerenda**	**70.84**	**336**	*e*P	**P**	**19 24 57.2**	**-0.4**
	comp=Z,12nm,0.8s,mb4.9						
RST	**Umm Al-Ruwaisa**	**70.92**	**306**	*e*P	**P**	**19 24 57.2**	**-0.9**
RST				AMb	AMB	19 24 59.3	
	comp=Z,26nm,0.8s,mb5.2						
YAK	**Yakutsk**	**73.18**	**10**	*e*P	**P**	**19 25 11.0**	**-0.6**
YAK				*e*	pP	19 25 20.2	-1.9
YAK				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.4						
YAK	**Yakutsk**	**73.18**	**10**	*e*P	**P**	**19 25 11.0**	**-0.6**
	comp=Z,43nm,0.9s,mb5.4						
YAK				*e*	pP	19 25 20.2	-1.9
VNDA	**Vanda**	**73.19**	**170**	P	**P**	**19 25 11.6**	**-0.1**
	comp=Z,1.5nm,0.7s,mb4.0,baz=304,slow=4.6,SNR=4.2						
VNDA	**Vanda**	**73.19**	**170**	*e*P	**P**	**19 25 11.1**	**-0.6**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	**73.19**	**170**	*e*P	**P**	**19 25 11.1**	**-0.5**
	comp=Z,2.0nm,0.8s,mb4.1						
MA2	**Magadan**	**76.62**	**21**	⇑*e*P	**P**	**19 25 31.6**	**+0.1**
MA2				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
MA2	**Magadan**	**76.62**	**21**	*e*P	**P**	**19 25 31.7**	**+0.2**
	comp=Z,19nm,0.9s,mb5.0						
SVE	**Sverdlovsk**	**77.00**	**335**	*e*P	**P**	**19 25 33.0**	**-0.6**
SVE				*e*		19 25 50.0	
SVE				MLR	MLR		
	comp=N,200nm,18.0s,MS4.7						
SVE				MLR	MLR		
	comp=E,300nm,18.0s,MS4.7						
SVE				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.7						
ARU	**Arti**	**77.62**	**334**	⇑*i*P	**P**	**19 25 37.2**	**+0.1**
ARU				*e*	pP	19 25 46.8	-0.8
ARU				*e*		19 28 30.6	
ARU				*e*PPP		19 30 15.2	
ARU				*e*S	S	19 35 22.8	-3.6
ARU				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
ARU				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.6						
ARU				MLR	MLR		
	comp=N,200nm,18.5s,MS4.6						
ARU				MLR	MLR		
	comp=E,200nm,18.0s,MS4.6						
ARU	**Arti**	**77.62**	**334**	*e*P	**P**	**19 25 36.5**	**-0.6**
	comp=E,8.8nm,0.9s,mb4.7						
LSZ	**Lusaka**	**78.49**	**256**	P	**P**	**19 25 42.1**	**+0.2**
	comp=E,2.4nm,0.8s,mb4.2,baz=155,slow=2.6,SNR=3.7						
LSZ	**Lusaka**	**78.49**	**256**	P	**P**	**19 25 42.1**	**+0.2**
LSZ				*e*	pP	19 25 52.6	+0.2
BOSA	**Boshof**	**79.81**	**243**	*e*P	**P**	**19 25 49.2**	**+0.1**
BOSA				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.8						
BOSA	**Boshof**	**79.81**	**243**	*e*P	**P**	**19 25 49.2**	**+0.1**
	comp=Z,16nm,1.4s,mb4.8						
LBTB	**Lobatse**	**79.85**	**246**	P	**P**	**19 25 49.4**	**+0.1**
LBTB				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
LBTB	**Lobatse**	**79.85**	**246**	P	**P**	**19 25 49.4**	**+0.1**
	comp=Z,2.8nm,0.9s,mb4.2						
KIV	**Kislovodsk**	**79.88**	**318**	⇑*e*P	**P**	**19 25 51.0**	**+1.5**
KIV				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
KIV	**Kislovodsk**	**79.88**	**318**	*e*P	**P**	**19 25 48.5**	**-1.0**
	comp=Z,8.2nm,0.8s,mb4.7						
GOF	**Gofitskoye**	**80.10**	**319**	*e*P	**P**	**19 25 43.9**	**-6.8**
QSPA	**South Pole Qui**	**80.48**	**180**	*e*P	**P**	**19 25 52.5**	**-0.2**
	comp=Z,19nm,1.1s,mb4.9						
TIXI	**Tiksi**	**82.10**	**6**	⇑*e*P	**P**	**19 26 01.0**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
VRHR	**Novokhopersk**	**83.42**	**324**	*e*P	**P**	**19 26 08.3**	**+0.1**
VRHR				pmax	pmax		
	comp=Z,70nm,0.4s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.3s						
VRHR				pmax	pmax		
	comp=E,6.0nm,0.2s						
BR131	**Keskin Array S**	**84.77**	**312**	*e*P	**P**	**19 26 15.6**	**+0.6**
	comp=E,4.8nm,0.9s,mb4.6						
BRTR	**Keskin Array B**	**84.77**	**312**	P	**P**	**19 26 15.4**	**+0.4**
	comp=E,3.2nm,0.9s,mb4.5,baz=131,slow=5.1,SNR=4.7						
BRTR	**Keskin Array B**	**84.77**	**312**	⇑*e*P	**P**	**19 26 17.6**	**+2.6**
VRSR	**Storozhevoye**	**84.88**	**324**	*e*P	**P**	**19 26 15.7**	**+0.1**
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.1						
VRSR				pmax	pmax		
	comp=N,3.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.8s						
SNAA	**Sanae**	**87.64**	**197**	*e*	**P**	**19 26 28.7**	**-0.5**
SNAA				*e*		19 26 30.1	
SNAA				*e*		20 06 02.5	
SNAA	**Sanae**	**87.64**	**197**	*e*P	**P**	**19 26 29.4**	**+0.2**
SNAA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SNAA	**Sanae**	**87.64**	**197**	*e*P	**P**	**19 26 29.4**	**+0.2**
	comp=Z,5.2nm,1.0s,mb4.7						
OBN	**Obninsk**	**87.76**	**327**	*c*e*P	**P**	**19 26 30.3**	**+0.6**
OBN				*e*		19 29 52.6	
OBN				*e*S		19 37 08.9	
OBN				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.4						
OBN	**Obninsk**	**87.76**	**327**	*e*P	**P**	**19 26 29.6**	**-0.1**
	comp=Z,30nm,1.2s,mb5.4						
TSUM	**Tsumeb**	**87.98**	**251**	*e*P	**P**	**19 26 31.8**	**+1.0**
	comp=Z,4.0nm,1.0s,mb4.6						
VNA1	**Neumayer--Stat**	**89.67**	**197**	*e*	**P**	**19 26 40.2**	**+1.4**
VNA1				*e*		19 26 41.4	
YKA	**Yellowknife Ar**	**118.60**	**21**	PKP	PKPdf	19 32 27.5	-1.1
	comp=Z,1.0nm,0.8s,baz=253,slow=1.3,SNR=3.7						
WMOK	**Wichita Mounta**	**144.47**	**41**	*e*PKIKP	PKPdf	19 33 17.1	+0.1
WMOK				*e*		19 33 27.0	
LONY	**Lake Ozonia**	**144.92**	**4**	*e*PKPdf	PKPdf	19 33 17.7	-0.1
LONY				*e*		19 33 26.3	
NCB	**Newcomb**	**145.59**	**4**	*e*PKPdf	PKPdf	19 33 20.1	+1.2
NCB				*e*		19 33 30.2	
BDFB	**Brasilia**	**146.00**	**223**	PKPbc	PKPbc	19 33 22.8	+2.4
	comp=Z,2.5nm,0.5s,baz=0.0,slow=3.0,SNR=3.4						
LVC	**Limon Verde**	**147.98**	**184**	*e*PKPdf	PKPdf	19 33 24.4	+1.4
SSPA	**Standing Stone**	**148.46**	**10**	*e*PKPdf	PKPdf	19 33 23.7	0.0
SSPA				*e*PKPbc	PKPbc	19 33 28.0	+0.7
SSPA				*e*		19 33 37.2	
WVT	**Waverly**	**149.54**	**27**	*e*PKP2	PKPab	19 33 31.6	-3.5
PLAL	**Pickwick Lake**	**150.37**	**29**	*e*PKPbc	PKPbc	19 33 32.8	+0.8
PLAL				*e*		19 33 41.2	
TZTN	**Tazewell**	**150.89**	**21**	*e*PKPbc	PKPbc	19 33 34.0	+0.8
TZTN				*e*PKPab	PKPab	19 33 42.6	+2.0
LPAZ	**La Paz**	**154.17**	**187**	PKPbc	PKPbc	19 33 44.8	+4.2
	comp=Z,0.7nm,0.7s,baz=249,slow=8.6,SNR=3.1						
LPAZ	**La Paz**	**154.17**	**187**	*e*PKPbc	PKPbc	19 33 43.5	+2.9
LPAZ				*e*PKPab	PKPab	19 33 56.1	+1.7

IDC ***18*** *19:24:37.6±1.2, 9.56S×108.54E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.8/17, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=55.0km s-min=19.2km az=54.0*
NEIC ***18*** *19:24:38.5±0.7, 9.49S×108.51E, h10km, mb4.4/6, Error ellipse: s-maj=32.1km s-min=11.4km az=52.0*
ISCJB ***18*** *19:24:40.2±0.7, 9.4S±02×108.6E±02, h33km, mb3.9/12, Error ellipse: s-maj=32.6km s-min=11.6km az=102.3*
ISC 18 19:24:42.3±0.7, 95S±02×108.5E±02, h35km, n13, σ0≥89/13, mb3.9/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.68**	**119**	P	**Pn**	**19 28 58.3**	**+0.4**
	0.1nm,0.3s,baz=180,slow=20,SNR=6.0						
WRA	**Warramunga Arr**	**27.00**	**116**	P	**P**	**19 30 20.9**	**0.0**
	1.3nm,0.9s,mb3.5,baz=286,slow=11,SNR=5.8						
WRAB	**Tennant Creek**	**27.01**	**115**	P	**P**	**19 30 20.9**	**0.0**
	11nm,1.1s,mb4.3						
ASAR	**Alice Springs**	**28.04**	**123**	P	**P**	**19 30 29.6**	**-0.6**
	0.5nm,0.8s,mb3.2,baz=296,slow=8.8,SNR=4.2						
ASAR				PcP	PcP	19 33 45.9	+1.6
	0.3nm,0.9s,baz=294,slow=1.1,SNR=4.4						
SONM	**Songino Array**	**57.12**	**358**	P	**P**	**19 34 26.7**	**+1.5**
	0.7nm,0.6s,mb3.9,baz=176,slow=7.3,SNR=7.6						
ULN	**Ulaanbaatar**	**57.13**	**359**	*e*P	**P**	**19 34 24.1**	**-1.2**
	0.9nm,0.5s,mb4.1						
MKAR	**Makanchi Array**	**60.74**	**340**	P	**P**	**19 34 51.3**	**+0.9**
	1.2nm,0.6s,mb4.2,baz=143,slow=7.4,SNR=14						
KURK	**Kurchatov**	**65.35**	**340**	P	**P**	**19 35 18.4**	**-2.6**
	3.6nm,0.9s,mb4.4						
BVAR	**Borovoye Array**	**70.25**	**337**	P	**P**	**19 35 52.6**	**+0.8**
	0.3nm,0.5s,mb3.5,baz=148,slow=8.7,SNR=4.0						
CHKZ	**Chkalovo**	**70.66**	**337**	*e*P	**P**	**19 35 54.5**	**+0.2**
	1.7nm,0.6s,mb4.2						
CHKZ				*e*	pP	19 36 04.7	-0.5
ZRNK	**Zerenda**	**70.74**	**336**	P	**P**	**19 35 54.4**	**-0.5**
	1.4nm,0.7s,mb4.

s-maj=5.2km s-min=3.7km az=98.0
MOS ***18*** *19:48:31.3±1.0, 384S×15429E, h476km, mb5.1/41, Error ellipse: s-maj=10.0km s-min=6.3km az=96.7*
HRVD ***18*** *19:48:31.4±0.3, 394S×15444E, h473km±1km, MW5.6/72, Centroid moment Tensor Solution. LP body waves: s72,c122; Half duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr=0.10±.05; Mθθ=0.50±.07; Mφφ=0.39±.08; Mrθ=2.58±.07; Mθφ=1.06±.07; Mφr=-0.35±.07; Best double couple: M=2.84700×10^17 NP1:φs=12.00000°, δ=24.00000°, λ=-176.00000°. NP2:φs=278.00000°, δ=89.00000°, λ=-66.00000°. Principal axes: T 2.8940, Plg39.0000°, Azm347.0000°; N -0.0930, Plg24.0000°, Azm98.0000°; P -2.8000, Plg42.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s.*
IDC ***18*** *19:48:32.3±0.4, 395S×15428E, h482km±4km, mb4.7/22, mb1 4.8/25, mb1mx4.8/26, mbtmp5.6/25 Error ellipse: s-maj=8.8km s-min=6.9km az=86.0*

ISC 18 19:48:31.7±0.6, 397S±003×15441E±003, h475km±7km, h475km±1.8km: pP-P, n391, σ1s02/287, mb5.1/99, 63C-29D, North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**7.73**	**135**	P		**P**	**19 50 25.5**	**+0.8**
	291nm,0.3s,baz=258,slow=2.0,SNR=241							
HNR				S		**S**	**19 51 56.4**	**-1.0**
	18nm,0.3s,baz=268,slow=9.2,SNR=3.4							
HNR	**Honiara**	**7.73**	**135**	*e*P		**P**	**19 50 25.2**	**+0.5**
HNR				*e*S		**S**	**19 51 55.0**	**-2.4**
PMG	**Port Moresby**	**9.00**	**233**	P		**P**	**19 50 39.8**	**+1.7**
	39nm,0.3s,baz=52,slow=6.0,SNR=158							
PMG				S		**S**	**19 52 18.6**	**-3.4**
	16nm,0.3s,baz=27,slow=5.4,SNR=4.4							
PMG	**Port Moresby**	**9.00**	**233**	P		**P**	**19 50 39.8**	**+1.7**
PMG				S		**S**	**19 52 18.6**	**-3.4**
PMG				pmax	pmax			
	comp=Z,39nm,0.3s							
PMG				smax				
	comp=E,16nm,0.3s							
PMG	**Port Moresby**	**9.00**	**233**	*e*P		**P**	**19 50 40.5**	**+2.3**
	comp=E,532nm,0.8s							
CTA	**Charters Tower**	**17.89**	**206**	*e*P		**P**	**19 52 12.2**	**-0.1**
	comp=E,574nm,0.6s							
CTA				*e*S		**S**	**19 55 15.1**	**+2.6**
CTA				*e*			19 59 13.3	
CTA	**Charters Tower**	**17.89**	**206**	P		**P**	**19 52 12.6**	**+0.3**
	comp=E,84nm,0.3s,baz=28,slow=11,SNR=293							
CTA	**Charters Tower**	**17.89**	**206**	*e*P		**P**	**19 52 12.2**	**-0.1**
CTA				*e*S		**S**	**19 55 15.1**	**+2.6**
CTA				pmax	pmax			
	comp=Z,574nm,0.6s							
CTAO	**Charters Tower**	**17.89**	**206**	*e*P		**P**	**19 52 12.4**	**+0.1**
CTAO				*e*S		**S**	**19 55 16.0**	**+3.5**
CTAO				pmax	pmax			
	comp=Z,817nm,0.8s							
CTAO	**Charters Tower**	**17.89**	**206**	*e*P		**P**	**19 52 12.4**	**+0.1**
	comp=E,817nm,0.8s							
CTAO				*e*S		**S**	**19 55 16.0**	**+3.5**
NOUC	**Port Laguerre**	**21.40**	**148**	*e*P		**P**	**19 52 44.7**	**+0.3**
DZM	**Mont Dzumac**	**21.45**	**148**	*e*P		**P**	**19 52 45.1**	**+0.2**
DZM	**Mont Dzumac**	**21.45**	**148**	P		**P**	**19 52 45.2**	**+0.4**
	comp=Z,80nm,0.5s,mb5.5,baz=337,slow=7.7,SNR=174							
DZM				ScP		ScP	19 59 23.7	+3.7
	comp=Z,6.9nm,0.6s,baz=64,slow=7.7,SNR=6.9							
KAKA	**Kakadu**	**23.39**	**247**	*i*P		**P**	**19 53 01.6**	**-0.6**
	comp=Z,139nm,0.5s,mb5.6							
WRAB	**Tennant Creek**	**25.18**	**229**	P		**P**	**19 53 18.0**	**-0.2**
	comp=Z,3μm,0.6s							
WRAB	**Tennant Creek**	**25.18**	**229**	*i*P		**P**	**19 53 18.1**	**-0.1**
WRAB				*e*S		**S**	**19 57 07.5**	**-1.4**
WRAB				pmax	pmax			
	comp=Z,359nm,0.6s,mb6.0							
WRAB	**Tennant Creek**	**25.18**	**229**	*i*P		**P**	**19 53 18.1**	**-0.1**
	comp=E,359nm,0.6s,mb6.0							
WRAB				*e*S		**S**	**19 57 07.5**	**-1.4**
WB2	**Warramunga Arr**	**25.18**	**229**	*e*P		**P**	**19 53 18.2**	**0.0**
WB2				*e*S		**S**	**19 57 07.6**	**-1.4**
WRA	**Warramunga Arr**	**25.19**	**229**	P		**P**	**19 53 18.8**	**+0.5**
	comp=Z,212nm,0.5s,mb5.8,baz=53,slow=9.2,SNR=431							
WRA				S		**S**	**19 57 08.4**	**-0.7**
	comp=Z,25nm,0.8s,baz=53,slow=16,SNR=6.4							
WRA				ScP		ScP	19 59 31.1	+1.0
	comp=Z,7.0nm,0.9s,baz=46,slow=2.9,SNR=4.6							
WRA				PKiKP		PKiKP	20 04 15.8	-0.6
	comp=Z,1.0nm,0.5s,baz=324,slow=1.2,SNR=12							
WRA	**Warramunga Arr**	**25.19**	**229**	P		**P**	**19 53 18.8**	**+0.5**
WRA				S		**S**	**19 57 08.4**	**-0.7**
WRA				pmax	pmax			
	comp=Z,212nm,0.5s							
WRA				smax				
	comp=E,25nm,0.8s							
WRA				pmax	pmax			
	comp=E,7.0nm,0.9s							
WRA	**Warramunga Arr**	**25.19**	**229**	P		**P**	**19 53 18.8**	**+0.5**
WRA				S		**S**	**19 57 08.4**	**-0.7**
WRA				ScP		ScP	19 59 31.1	+1.0
ARMA	**Armidale**	**26.44**	**185**	*e*P		**P**	**19 53 30.2**	**+0.9**
AS31	**Alice Springs**	**27.84**	**223**	*e*P		**P**	**19 53 41.2**	**-0.5**
AS31				*e*S		**S**	**19 57 48.5**	**-2.1**
AS31				*e*ScS		ScS	20 03 33.0	+1.7
ASAR	**Alice Springs**	**27.84**	**223**	P		**P**	**19 53 41.9**	**+0.2**
	comp=E,201nm,0.6s,mb5.7,baz=55,slow=8.5,SNR=1729							
ASAR				pP			19 55 03.6	
	comp=E,35nm,1.0s,baz=49,slow=9.6,SNR=2.3							
ASAR				S		**S**	**19 57 48.6**	**-2.0**
	comp=E,17nm,0.7s,baz=53,slow=14,SNR=5.2							
ASAR	**Alice Springs**	**27.84**	**223**	P		**P**	**19 53 41.9**	**+0.2**
ASAR				S		**S**	**19 57 48.6**	**-2.0**
ASAR				pmax	pmax			
	comp=Z,201nm,0.6s							
ASAR				pmax	pmax			
	comp=Z,35nm,1.0s							
ASAR				smax				
	comp=E,17nm,0.7s							
ASPA	**Alice Springs**	**27.85**	**223**	*e*P		**P**	**19 53 41.2**	**-0.5**
ASPA				*e*S		**S**	**19 57 48.5**	**-2.2**
ASPA				*e*ScS		ScS	20 03 33.0	+1.7
RIV	**Riverview**	**29.86**	**185**	*e*P		**P**	**19 54 00.5**	**+1.2**
FITZ	**Fitzroy Crossi**	**31.46**	**241**	*i*P		**P**	**19 54 12.1**	**-1.0**
	comp=E,344nm,0.6s,mb6.0							
FITZ	**Fitzroy Crossi**	**31.46**	**241**	P		**P**	**19 54 12.3**	**-0.9**
	comp=E,148nm,0.6s,mb5.6,baz=73,slow=9.4,SNR=387							
FITZ				PcP		PcP	19 56 54.0	+1.7
	comp=E,24nm,0.9s,baz=346,slow=0.1,SNR=3.1							
CNB	**Canberra Magne**	**31.54**	**188**	*e*P		**P**	**19 54 14.6**	**+0.8**
	comp=E,116nm,0.6s,mb5.5							
CBIJ	**Chichi jima**	**33.06**	**340**	P		**P**	**19 54 24.4**	**-2.3**
	comp=E,193nm,0.6s,mb5.7,baz=176,slow=0.3,SNR=15							
ADE	**Adelaide**	**34.11**	**203**	*e*P		**P**	**19 54 36.1**	**+0.5**
TOO	**Toolangi**	**34.43**	**193**	*e*P		**P**	**19 54 39.4**	**+1.1**
	comp=E,30nm,0.9s,mb4.7							
TOO	**Toolangi**	**34.43**	**193**	*e*P		**P**	**19 54 39.4**	**+1.1**
TOO				pmax	pmax			
	comp=Z,30nm,0.9s,mb4.7							
FORT	**Forrest**	**36.45**	**220**	*i*P		**P**	**19 54 54.7**	**-0.5**
	comp=E,782nm,0.5s							
TGY	**Tagaytay City**	**37.74**	**299**	P		**P**	**19 55 03.5**	**-2.3**
	comp=Z,205nm,0.3s,baz=150,slow=12,SNR=2.9							
TGY	**Tagaytay City**	**37.74**	**299**	P		**P**	**19 55 03.5**	**-2.3**
TGY				pmax	pmax			
	comp=Z,205nm,0.3s							
MBWA	**Marble Bar**	**37.77**	**240**	*e*P		**P**	**19 55 04.6**	**-1.5**
	comp=E,78nm,0.8s,mb5.2							
TAU	**Tasmania Unive**	**39.29**	**188**	P		**P**	**19 55 20.8**	**+2.3**
	comp=E,862nm,0.6s,SNR=36							
TAU	**Tasmania Unive**	**39.29**	**188**	*e*P		**P**	**19 55 19.5**	**+1.0**
TAU				*e**PP		pP	19 56 45.2	+0.3
TAU				pmax	pmax			
	comp=Z,85nm,0.6s,mb5.3							
TAU	**Tasmania Unive**	**39.29**	**188**	*e*P		**P**	**19 55 19.5**	**+1.0**
	comp=Z,85nm,0.6s,mb5.3							
TAU				*e*pP		pP	19 56 45.2	+0.3
KKM	**Kota Kinabalu**	**39.41**	**284**	*e*P		**P**	**19 55 20.4**	**+0.9**
URZ	**Urewera**	**39.92**	**152**	P		**P**	**19 55 24.6**	**+1.0**
	comp=Z,32nm,0.3s,mb5.2,baz=283,slow=2.5,SNR=57							
URZ				S		**S**	**20 00 51.3**	**-2.4**
	comp=Z,9.9nm,1.0s,baz=343,slow=22,SNR=4.7							
URZ	**Urewera**	**39.92**	**152**	PN		**P**	**19 55 24.4**	**+0.8**
MWZ	**Matawai**	**40.18**	**151**	PN		**P**	**19 55 26.3**	**+0.6**
BKZ	**Black Stump Fm**	**40.37**	**153**	PN		**P**	**19 55 27.5**	**+0.3**
KNZ	**Kokohu**	**40.80**	**152**	PN		**P**	**19 55 30.5**	**-0.2**
NNZ	**Nelson**	**40.81**	**158**	*e*PN		**P**	**19 55 31.1**	**+0.3**
TSZ	**Takapari Road**	**40.87**	**154**	PN		**P**	**19 55 31.5**	**+0.2**
KIW	**Kapiti Island**	**41.10**	**156**	*e*PN		**P**	**19 55 33.7**	**+0.6**
THZ	**Tophouse**	**41.12**	**159**	PN		**P**	**19 55 33.2**	**0.0**
TCW	**Tory Channel**	**41.15**	**157**	*e*PN		**P**	**19 55 33.8**	**+0.4**
TUWZ	**Tuamarina**	**41.21**	**158**	*e*PN		**P**	**19 55 34.1**	**+0.2**
MRW	**Makara Radio**	**41.33**	**157**	*e*PN		**P**	**19 55 34.8**	**-0.1**
CAW	**Cannon Point**	**41.38**	**156**	PN		**P**	**19 55 35.2**	**0.0**
SNZO	**South Karori**	**41.40**	**157**	*e*PN		**P**	**19 55 35.0**	**-0.5**
BFZ	**Birch Farm**	**41.51**	**155**	PN		**P**	**19 55 36.2**	**-0.1**
LTZ	**Lake Taylor**	**41.79**	**160**	*e*PN		**P**	**19 55 38.7**	**+0.1**
KHZ	**Kahutara**	**41.92**	**159**	PN		**P**	**19 55 38.7**	**-0.9**
RPZ	**Rata Peaks**	**42.24**	**162**	P		**P**	**19 55 42.2**	**+0.1**
	comp=Z,36nm,0.4s,mb5.1,baz=282,slow=0.5,SNR=38							
NACB	**Ninganchiao**	**42.45**	**313**	*e*P		**P**	**19 55 44.2**	**+0.4**
YHNB	**Yeheng**	**42.91**	**313**	*e*P		**P**	**19 55 48.2**	**+0.8**
TATO	**Taipei**	**43.01**	**314**	*e*P		**P**	**19 55 48.3**	**+0.2**
	comp=Z,72nm,0.6s,mb5.3							
MJAR	**Matsushiro Arr**	**43.05**	**341**	P		**P**	**19 55 47.3**	**-1.1**
	comp=Z,73nm,0.7s,mb5.2,baz=165,slow=7.6,SNR=76							
MJAR				ScP		ScP	20 00 34.9	+1.3
	comp=E,5.2nm,0.9s,baz=169,slow=4.5,SNR=6.7							
MJAR	**Matsushiro Arr**	**43.05**	**341**	P		**P**	**19 55 47.3**	**-1.1**
MJAR				pmax	pmax			
	comp=Z,73nm,0.7s							
MJAR				pmax	pmax			
	comp=E,5.0nm,0.9s							
MAJO	**Matsushiro**	**43.05**	**341**	*i*P		**P**	**19 55 47.4**	**-1.1**
MAJO				*e*			19 57 28.7	
MAJO				pmax	pmax			
	comp=Z,106nm,0.5s,mb5.5							
MAJO	**Matsushiro**	**43.05**	**341**	*i*P		**P**	**19 55 47.4**	**-1.1**
	comp=Z,106nm,0.5s,mb5.5							
MAJO				*e*PcP		PcP	19 57 28.7	+0.6
MAT	**Matsushiro**	**43.05**	**341**	P		**P**	**19 55 47.5**	**-1.0**
MAT	**Matsushiro**	**43.05**	**341**	*e*P		**P**	**19 55 48.0**	**-0.5**
MAT				pmax	pmax			
	comp=Z,103nm,0.7s,mb5.4							
MAT	**Matsushiro**	**43.05**	**341**	*e*P		**P**	**19 55 48.0**	**-0.5**
	comp=Z,103nm,0.7s,mb5.4							
KLBR	**Kellerberrin**	**44.04**	**227**	*i*P		**P**	**19 55 54.5**	**-1.7**
	comp=Z,55nm,0.4s,mb5.3							
KSM	**Kuching**	**44.40**	**276**	*i*P		**P**	**19 55 59.5**	**+0.5**
NWAO	**Narrogin (SRO)**	**45.11**	**226**	P		**P**	**19 56 04.0**	**-0.5**
	comp=Z,26nm,0.8s,mb4.7,baz=55,slow=7.7,SNR=21							
NWAO	**Narrogin (SRO)**	**45.11**	**226**	*e*P		**P**	**19 56 03.8**	**-0.7**
NWAO				pmax	pmax			
	comp=E,28nm,0.9s							
NWAO	**Narrogin (SRO)**	**45.11**	**226**	*e*P		**P**	**19 56 03.8**	**-0.7**
	comp=E,28nm,0.9s,mb4.7							
QZH	**Quanzhou**	**45.12**	**311**	*i*P		**P**	**19 56 05.8**	**+1.2**
QZH				S		**S**	**20 02 10.0**	**+1.6**
QZH				AMB	AMB			
	comp=Z,170nm,0.7s,mb5.6							
QZH				AMB	AMB			
	comp=Z,780nm,3.4s							
SSE	**Sheshan**	**47.10**	**320**	P		**P**	**19 56 19.9**	**+0.2**
SSE				AP	pP		19 57 49.9	-0.4
SSE				XP	sP		19 58 42.1	-1.0
SSE				S	S		**20 02 36.9**	**+0.7**
SSE				XS	sS		20 05 17.6	-2.1
SSE				SS	SS		20 06 11.9	+1.1
SSE				AMB	AMB			
	comp=Z,31nm,0.7s,mb4.8							
SSE				AMB	AMB			
	comp=Z,372nm,5.1s							
GZH	**Guangzhou**	**48.25**	**306**	P		**P**	**19 56 29.0**	**+0.7**
GZH				S		**S**	**20 02 53.1**	**+1.1**
INCN	**Inchon**	**48.66**	**330**	*e*P		**P**	**19 56 31.9**	**+0.5**
	comp=Z,139nm,0.6s,mb5.5							
QIZ	**Qiongzhong**	**49.45**	**299**	P		**P**	**19 56 38.6**	**+1.4**
QIZ				S		**S**	**20 03 10.8**	**+2.4**
QIZ				AMB	AMB			
	comp=Z,26nm,1.3s,mb4.4							
VLA	**Vladivostok**	**51.09**	**339**	*e*P		**P**	**19 56 49.7**	**+0.3**
VLA				*i* *PP		pP	19 58 25.4	+3.5
VLA				*i* S		**S**	**20 03 32.7**	**+1.9**
VLA				*e*			20 06 16.0	
VLA				pmax	pmax			
	comp=Z,112nm,1.0s,mb5.2							
WHN	**Wuhan**	**51.39**	**315**	P		**P**	**19 56 52.0**	**+0.5**
WHN				AMB	AMB			
	comp=Z,90nm,0.7s,mb5.2							
YSS	**Yuzh-Sakhalins**	**51.74**	**350**	*e*P		**P**	**19 56 53.8**	**-0.2**
YSS				*e**PP		pP	19 58 26.0	-0.8
YSS				*e*S		**S**	**20 03 38.0**	**-1.5**
YSS				*e*			20 05 56.0	
YSS				*e*			20 06 28.0	
YSS				pmax	pmax			
	comp=Z,60nm,1.0s,mb4.9							
YSS				pmax	pmax			
	comp=Z,500nm,5.0s							
YSS	**Yuzh-Sakhalins**	**51.74**	**350**	*e*P		**P**	**19 56 53.9**	**-0.2**
	comp=Z,68nm,0.7s,mb5.1							
YSS				*e*pP		pP	19 58 26.0	-0.9
TIA	**Tai'an**	**53.02**	**322**	P		**P**	**19 57 02.8**	**-0.5**
TIA				AMB	AMB			
	comp=Z,26nm,0.6s,mb4.7							
MDJ	**Mudanjiang**	**53.23**	**338**	P		**P**	**19 57 04.9**	**+0.1**
MDJ				AP	pP		19 58 37.3	-1.0
MDJ				PP	PP		19 59 10.3	-0.8
MDJ				XP	sP		19 59 29.9	-0.3
MDJ				S	S		**20 03 58.8**	**-0.6**
MDJ				XS	sS		20 06 45.5	-1.9
MDJ				AMB	AMB			
	comp=Z,76nm,1.1s,mb4.9							
MDJ				AMB	AMB			
	comp=Z,279nm,4.4s							
MDJ	**Mudanjiang**	**53.23**	**338**	*i*P		**P**	**19 57 04.5**	**-0.2**
	comp=Z,96nm,1.1s,mb5.0							
MDJ				*e*pP		pP	19 58 36.5	-1.8
SNY	**Shenyang**	**53.51**	**332**	P		**P**	**19 57 06.5**	**-0.3**
SNY				AMB	AMB			
	comp=Z,27nm,1.1s,mb4.5							
CN2	**Changchun**	**54.22**	**334**	P		**P**	**19 57 11.9**	**+0.1**
CN2				*e*AP	pP		19 58 45.0	-0.8
CN2				*e*S	S		**20 04 12.0**	**-0.5**
CN2				AMB	AMB			
	comp=Z,50nm,0.9s,mb4.8							
CN2				AMB	AMB			
	comp=Z,200nm,5.0s							
SKR	**Severo-Kuril's**	**54.45**	**1**	*e*P		**P**	**19 57 11.5**	**-2.0**
KULM	**Kulim**	**54.47**	**279**	*e*P		**P**	**19 57 13.6**	**0.0**
KKTK	**Khon Kaen**	**54.83**	**293**	P		**P**	**19 57 17.0**	**+0.9**
GYA	**Guiyang**	**55.18**	**306**	*i*P		**P**	**19 57 20.1**	**+1.5**
GYA				AP	pP		19 58 55.8	+2.8
GYA				XP	sP		19 59 46.8	+2.1
GYA				S	S		**20 04 26.0**	**+0.9**
GYA				XS	sS		20 07 15.3	+0.8
GYA				AMB	AMB			
	comp=Z,30nm,0.8s,mb4.7							
GYA				AMB	AMB			
	comp=Z,120nm,4.0s							
PSI	**Prapat**	**55.85**	**276**	P		**P**	**19 57 22.9**	**-0.3**
	comp=Z,9.2nm,0.6s,mb4.3,baz=33,slow=14,SNR=9.3							
PSI	**Prapat**	**55.85**	**276**	P		**P**	**19 57 22.9**	**-0.4**
PSI				pmax	pmax			
	comp=Z,9.0nm,0.6s,mb4.3							
PSI	**Prapat**	**55.85**	**276**	P		**P**	**19 57 22.9**	**-0.3**
BJT	**Baijiatuau**	**56.10**	**325**	*i*P		**P**	**19 57 24.5**	**-0.5**
BJT				pmax	pmax			
	comp=Z,36nm,0.6s							
BJT	**Baijiatuau**	**56.10**	**325**	*i*P		**P**	**19 57 24.5**	**-0.4**
	comp=Z,36nm,0.6s,mb4.9							
BJI	**Beijing**	**56.11**	**325**	P		**P**	**19 57 24.5**	**-0.5**
BJI				AMB	AMB			
	comp=Z,57nm,1.4s,mb4.7							
KLR	**Kul'dur**	**56.52**	**342**	*i*P		**P**	**19 57 25.1**	**-2.8**
KLR				*e*	pP		19 58 58.5	-4.4
KLR				*e*S	S		**20 04 37.0**	**-5.5**
KLR				pmax	pmax			
	comp=E,120nm,2.2s							
KLR				pmax	pmax			
	comp=Z,350nm,2.2s,mb5.3							
PET	**Petropavlovsk**	**56.89**	**3**	*i*P		**P**	**19 57 30.0**	**-0.5**
PET				*i*			19 58 18.9	
PET				*e**PP		pP	19 59 05.2	-0.4
PET				*e*S		**S**	**20 04 48.3**	**+1.0**
PET				pmax	pmax			
	comp=Z,165nm,0.6s,mb5.5							
PET				pmax	pmax			
	comp=Z,400nm,16.1s							
PET				pmax	pmax			
	comp=Z,23nm,0.6s,mb4.7							
PET				pmax	pmax			
	comp=Z,30nm,1.8s,mb4.3							
PET				MLR	MLR			
	comp=Z,200nm,20.0s							
PET				smax				
	comp=E,70nm,0.6s							
PET				smax				
	comp=N,108nm,0.4s							
PET	**Petropavlovsk**	**56.89**	**3**	*i*P		**P**	**19 57 29.9**	**-0.6**
	comp=N,102nm,0.5s,mb5.4							
PET				*e*pP		pP	19 59 04.8	-0.8
NST	**Nakhon Sawan**	**57.13**	**291**	P		**P**	**19 57 33.0**	**+0.9**
XAN	**Xi'an**	**57.14**	**315**	P		**P**	**19 57 32.3**	**+0.1**
XAN				AMB	AMB			
	comp=Z,48nm,0.5s,mb5.1							
NANT	**Nan**	**57.49**	**295**	P		**P**	**19 57 33.0**	**-1.6**
KMI	**Kunming**	**57.87**	**303**	P		**P**	**19 57 39.3**	**+2.2**
KMI				PCP	PcP		19 58 22.6	-0.7
KMI				AP	pP		19 59 14.3	+1.6
KMI				PP	PP		19 59 54.4	+2.2
KMI				AMB	AMB			
	comp=Z,30nm,0.9s,mb4.6							
SMY	**Shemya**	**58.89**	**14**	*e*P		**P**	**19 57 43.5**	**-0.6**
SMY				pmax	pmax			
	comp=Z,105nm,0.5s,mb5.4							
SMY	**Shemya**	**58.89**	**14**	*e*P		**P**	**19 57 43.5**	**-0.6**
	comp=Z,105nm,0.5s,mb5.4							
CHTO	**Chiang Mai**	**59.09**	**295**	*e*P		**P**	**19 57 46.1**	**+0.7**
CHTO				*e*			19 58 28.7	
CHTO				*e**PP		pP	19 59 19.6	-1.9
CHTO				pmax	pmax			
	comp=Z,9.0nm,1.0s							
CHTO	**Chiang Mai**	**59.09**	**295**	*e*P		**P**	**19 57 46.1**	**+0.7**
	comp=Z,9.2nm,1.0s,mb4.1							
CHTO				*e*PcP		PcP	19 58 28.7	+0.6
CHTO				*e*pP		pP	19 59 19.6	-2.0
HHC	**Hu-ho-hao-te**	**59.33**	**323**	P		**P**	**19 57 47.8**	**+0.8**
HHC				PCP	PcP		19 58 31.3	+2.2
HHC				AP	pP		19 59 25.9	+2.7
HHC				XP	sP		20 00 17.0	+2.6
HHC				S	S		**20 05 19.1**	**+0.8**
HHC				XS	sS		20 08 11.5	+1.0
HHC				SS	SS		20 09 25.8	+2.8
HHC				AMB	AMB			
	comp=Z,24nm,0.9s,mb4.5							
HHC				AMB	AMB			
	comp=Z,263nm,5.6s							
CD2	**Chengdu**	**59.43**	**309**	*i*P		**P**	**19 57 48.5**	**+0.8**
CD2				AP	pP		19 59 26.5	+2.5
CD2				PP	PP		20 00 09.0	+3.0
CD2				XP	sP		20 00 16.8	+1.7
CD2				S	S		**20 05 20.5**	**+0.9**
CD2				XS	sS		20 08 10.5	-1.4
CD2				SS	SS		20 09 26.5	+1.9
CD2				AMB	AMB			
	comp=Z,110nm,0.5s,mb5.4							
CD2				AMB	AMB			
	comp=Z,380nm,6.4s							
BTO	**Baotou**	**60.11**	**322**	*e*P		**P**	**19 57 52.5**	**+0.2**
HIA	**Hailar**	**60.95**	**335**	*i*P		**P**	**19 57 57.9**	**+0.1**
HIA				*e**PP		pP	19 59 34.1	-0.6
HIA				pmax	pmax			
	comp=Z,65nm,0.8s							
HIA	**Hailar**	**60.95**	**335**	*i*P		**P**	**19 57 57.9**	**+0.1**
	comp=Z,65nm,0.8s,mb5.1							
HIA				*e*pP		pP	19 59 34.1	-0.6
LZH	**Lanzhou**	**61.77**	**315**	*e*P		**P**	**19 58 04.9**	**+1.7**
LZH				PP	PP		20 00 32.1	+5.6
LZH				*e*S	S		**20 05 45.3**	**-3.5**
LZH				AMB	AMB			
	comp=Z,31nm,1.6s,mb4.5							
LZH				AMB	AMB			
	comp=Z,400nm,5.4s							
MA2	**Magadan**	**63.41**	**358**	*i*P		**P**	**19 58 12.7**	**-1.2**
MA2				*e**PP		pP	19 59 49.6	-2.2
MA2				pmax	pmax			
	comp=Z,76nm,0.8s,mb5.3							
MA2	**Magadan**	**63.41**	**358**	*i*P		**P**	**19 58 12.7**	**-1.2**
	comp=Z,76nm,0.8s,mb5.3							
MA2				*e*pP		pP	19 59 49.6	-2.2
MA2				*e*		pP	19 59 55.4	+3.6
NIKO	**Nikolski**	**64.61**	**24**	*e*P		**P**	**19 58 19.8**	**-1.7**
NIKO				*e*pP		pP	19 59 55.8	-4.1
NIKO				*e*		pP	20 00 03.1	+3.2
CLNS	**Chul'man**	**65.18**	**343**	*e*P		**P**	**19 58 25.7**	**+0.6**
CLNS				pmax	pmax			
	comp=N,18nm,0.8s							
CLNS				pmax	pmax			
	comp=Z,48nm,0.8s,mb5.2							
CLNS				pmax	pmax			
	comp=E,24nm,1.0s							
GTA	**Gaotai**	**66.15**	**316**	*i*P		**P**	**19 58 32.8**	**+1.6**
GTA				PCP	PcP		19 58 58.5	+1.4
GTA				AP	pP		20 00 13.8	+3.6
GTA				XP	sP		20 01 01.9	+1.3
GTA				PP	PP		20 01 08.5	+4.0
GTA				PPP			20 02 51.3	
GTA				S	S		20 06 44.4	+2.6
GTA				AMB	AMB			
	comp=Z,55nm,1.0s,mb5.1							
GTA				AMB	AMB			
	comp=Z,352nm,6.8s							
ULN	**Ulaanbaatar**	**66.15**	**327**	*e*P		**P**	**19 58 32.2**	**+1.0**
ULN	**Ulaanbaatar**	**66.15**	**327**	*i*P		**P**	**19 58 32.2**	**+0.9**
	comp=Z,56nm,0.8s,mb5.2							
ULN				*e*pP		pP	20 00 10.8	+0.6
SONM	**Songino Array**	**66.49**	**327**	P		**P**	**19 58 34.2**	**+0.8**
	comp=Z,54nm,0.7s,mb5.3,baz=148,sl

IRK *e* pP 20 00 35.5 -0.8
IRK pmax pmax
comp=Z,70nm,1.0s,mb5.2
MOY Mondy 71.54 328 *e*P **P** **19 59 04.3 +0.4**
MOY pmax pmax
comp=Z,82nm,2.8s,mb4.8
BOK Bokaro 72.12 296 *e*P **P** **19 59 06.8 -0.4**
JIRN Jiri 72.74 300 *e*P **P** **19 59 12.5 +1.7**
comp=Z,51nm,0.5s,mb5.3
GUN Gumba 73.07 301 *e*P **P** **19 59 14.3 +1.6**
comp=Z,125nm,0.7s,mb5.5
PKI Pulchoki 73.39 300 *e*P **P** **19 59 15.6 +1.0**
comp=Z,59nm,0.8s,mb5.2
PKI Pulchoki 73.39 300 *e*P **P** **19 59 15.6 +1.0**
PKI pmax pmax
comp=Z,59nm,0.8s,mb5.2
KKN Kakani 73.56 300 *e*P **P** **19 59 16.7 +1.2**
comp=Z,54nm,0.5s,mb5.3
KKN Kakani 73.56 300 *e*P **P** **19 59 16.7 +1.2**
KKN pmax pmax
comp=Z,54nm,0.5s,mb5.3
VNDA Vanda 73.60 178 P **P** **19 59 16.0 +0.2**
comp=Z,30nm,0.6s,mb5.0,baz=332,slow=6.5,SNR=285
VNDA Vanda 73.60 178 P **P** **19 59 16.0 +0.2**
VNDA pmax pmax
comp=Z,30nm,0.6s
DMN Daman 73.66 300 *e*P **P** **19 59 17.5 +1.4**
comp=Z,122nm,0.9s,mb5.4
SBA Scott Base 74.12 177 *e*P **P** **19 59 19.1 +0.4**
SBA *e**PP pP 20 01 03.4 +2.8
SBA pmax pmax
comp=Z,33nm,0.9s,mb4.9
SBA Scott Base 74.12 177 *e*P **P** **19 59 19.1 +0.3**
comp=Z,33nm,0.9s,mb4.9
SBA *e*pP pP 20 01 03.4 +2.9
GKN Gorkha 74.16 300 *e*P **P** **19 59 19.9 +1.0**
comp=Z,109nm,0.9s,mb5.4
PALK Pallekele 74.39 279 *e*P **P** **19 59 21.2 +1.0**
comp=Z,37nm,1.0s,mb4.9
KDAK Kodiak Island 74.72 26 P **P** **19 59 21.9 -0.2**
comp=Z,188nm,0.7s,mb5.7,SNR=6.6
KDAK Kodiak Island 74.72 26 P **P** **19 59 22.0 -0.1**
comp=Z,23nm,0.7s,mb4.8,baz=224,slow=2.2,SNR=12
KOLN Koldanda 75.00 300 *e*P **P** **19 59 24.6 +0.9**
comp=Z,47nm,0.6s,mb5.2
MIR Mirnyy 75.28 201*c i*P **P** **19 59 22.0 -3.2**
MIR pmax pmax
comp=Z,800nm,1.0s,mb6.2
SVW2 Sparrevohn 75.44 23 *e*P **P** **19 59 25.8 -0.4**
MDRS Chennai 75.53 284 *ex* x 19 59 19.8
TTA Tatalina 76.42 21 *e*P **P** **19 59 30.8 -0.8**
SLKM Skilak Lake 77.25 25 *e*P **P** **19 59 34.9 -1.2**
SLKM *e**PP pP 20 01 18.3 -0.7
TIXI Tiksi 77.29 352 *e*P **P** **19 59 34.0 -2.4**
TIXI *e* 19 59 51.7
TIXI pmax pmax
comp=Z,12nm,1.1s,mb4.3
HYB Hyderabad 77.74 289 *i* P **P** **19 59 39.0 +0.2**
HYB Hyderabad 77.74 289 *e*P **P** **19 59 39.0 +0.2**
NGP Nagpur 77.83 292 *e*P **P** **19 59 39.2 -0.1**
TRD Trivandrum 78.21 279 *e*P **P** **19 59 41.3 -0.1**
LGTI Lohaghat 78.23 301 *i* P **P** **19 59 41.0 -0.5**
PMR Palmer 78.27 24 *e*P **P** **19 59 40.1 -1.6**
PMR pmax pmax
comp=Z,22nm,0.6s,mb4.8
PMR Palmer 78.27 24 *e*P **P** **19 59 40.1 -1.6**
comp=Z,22nm,0.6s,mb4.8
SML Sawmill 78.71 24 *e*P **P** **19 59 34.9 -9.2**
SML *e*pP pP 20 01 18.7 -8.7
IMA2 Indian Mountai 79.14 19 *e*P **P** **19 59 45.6 -0.8**
MCK McKinley 79.49 22 *e*P **P** **19 59 46.6 -1.6**
MCK *e**PP pP 20 01 30.6 -1.2
MCK pmax pmax
comp=Z,37nm,0.9s,mb4.9
MCK McKinley 79.49 22 *e*P **P** **19 59 46.5 -1.6**
comp=Z,37nm,0.9s,mb4.9
MCK *e*pP pP 20 01 30.6 -1.2
BHPL Bhopal 79.64 294 *e*P **P** **19 59 48.9 -0.1**
AKL Akola 79.64 292 *e*P **P** **19 59 49.1 +0.1**
AKL AMb AMB 19 59 50.3
comp=Z,50nm,1.2s,mb4.9
COLA College 80.49 21 *e*P **P** **19 59 50.8 -2.7**
COLA *e**PP pP 20 01 37.0 -0.4
COLA pmax pmax
comp=Z,29nm,0.6s,mb5.0
COLA College 80.49 21 *e*P **P** **19 59 50.8 -2.6**
comp=Z,29nm,0.6s,mb5.0
COLA *e*pP pP 20 01 37.0 -0.4
MKAR Makanchi Array 80.76 319 P **P** **19 59 55.0 +0.1**
comp=Z,22nm,0.5s,mb5.0,baz=96,slow=7.6,SNR=295
MKAR pP pP 20 01 40.1 +1.2
comp=Z,2.5nm,0.7s,baz=110,slow=6.9,SNR=2.9
MKAR S S 20 09 16.8 -6.2
comp=Z,0.2nm,0.8s,baz=102,slow=29,SNR=2.0
MKAR PKPPKP 20 26 37.3
comp=Z,0.5nm,0.8s,baz=344,slow=4.7,SNR=4.1
MKAR Makanchi Array 80.76 319 P **P** **19 59 55.0 +0.1**
MKAR *PP pP 20 01 40.1 +1.2
MKAR S S 20 09 16.8 -6.2
MKAR pmax pmax
comp=Z,22nm,0.5s
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 80.76 319 P **P** **19 59 55.0 +0.1**
MKAR pP pP 20 01 40.1 +1.2
MKAR S S 20 09 16.8 -6.2
MKAR P'P' 20 26 37.3
MENT Mentasta 81.14 24 *e*P **P** **19 59 56.2 -0.6**
SMLA Simla 81.16 302 *e*P **P** **19 59 57.5 +0.5**
SMLA AMb AMB 19 59 58.5
comp=Z,52nm,1.2s,mb4.9
ZAL Zalesovo 81.36 326 P **P** **19 59 56.8 -1.2**
comp=Z,20nm,0.4s,mb5.0
ZAL pP pP 20 01 42.7 +0.5
comp=Z,2.2nm,0.8s,baz=25,slow=2.9,SNR=2.6
ZAL S S 20 09 25.2 -4.0
comp=Z,0.6nm,0.3s,baz=216,slow=22,SNR=3.8
ZAL Zalesovo 81.36 326 P **P** **19 59 56.8 -1.2**
ZAL *PP pP 20 01 42.7 +0.5
ZAL S S 20 09 25.2 -4.0
ZAL pmax pmax
comp=Z,21nm,0.4s
ZAL pmax pmax
comp=Z,2.0nm,0.8s
ZAL smax
comp=E,1.0nm,0.3s
KAD Karad 81.86 288 *e*P **P** **20 00 00.3 -0.2**
KAD AMb AMB 20 00 02.5
comp=Z,100nm,1.0s,mb5.3
NVS Novosibirsk 82.52 326 *i* P **P** **20 00 03.1 -0.8**
NVS *i* *PP pP 20 01 47.2 -1.2
NVS *i* S S 20 09 35.4 -5.4
NVS pmax pmax
comp=N,33nm,1.9s
NVS pmax pmax
comp=E,80nm,1.9s
NVS pmax pmax
comp=Z,98nm,1.9s,mb5.0
NVS smax
comp=N,21nm,1.9s
NVS smax
comp=E,45nm,1.9s
AJM Ajmer 82.62 297 *e*P **P** **20 00 04.4 0.0**
AJM AMb AMB 20 00 06.3
comp=Z,76nm,0.8s,mb5.3
DAWY Dawson 83.38 24 *e*P **P** **20 00 07.7 -0.6**
DAWY *e*pP pP 20 01 53.1 +0.1
SKAG Skagway 83.52 29 *e*P **P** **20 00 08.5 -0.4**
comp=Z,16nm,0.6s,mb4.7
KSH Kashi 83.61 310 *e*P **P** **20 00 11.9 +2.5**
KSH *e*AP pP 20 01 57.6 +3.3
KSH *e*XP sP 20 02 46.3 +3.2
KSH *e*PP PP 20 03 35.0 +4.8
KSH *e*PPP 20 05 33.9
KSH *e*SKS 20 09 47.1
KSH eS S 20 09 55.1 +3.5
KSH *e*XS sS 20 13 02.3 +3.8
KSH AMB AMB
comp=Z,383nm,4.1s
KURK Kurchatov 84.11 322 P **P** **20 00 11.5 -0.3**
comp=Z,207nm,0.6s,mb5.8,SNR=36
KURK Kurchatov 84.11 322⇑*i*P **P** **20 00 10.7 -1.1**
KURK *e**PP pP 20 01 56.7 -0.2
KURK pmax pmax
comp=Z,47nm,0.9s,mb5.0
KURK Kurchatov 84.11 322⇑*i*P **P** **20 00 10.7 -1.1**
comp=Z,47nm,0.9s,mb5.0
KURK *e*pP pP 20 01 56.7 -0.1
TKM2 Tokmak 2 84.51 314 P **P** **20 00 14.8 +0.9**
SNR=7.9
TKM2 Tokmak 2 84.51 314 *i* P **P** **20 00 14.3 +0.5**
TKM2 pmax pmax
comp=Z,17nm,0.5s,mb4.9
FRU Bishkek 85.21 313 *e*P **P** **20 00 17.0 -0.2**
AAK Ala-Archa 85.26 313 P **P** **20 00 18.1 +0.6**
SNR=11
AAK Ala-Archa 85.26 313 P **P** **20 00 17.4 -0.1**
comp=Z,133nm,0.6s,mb5.7,SNR=7.2
AAK Ala-Archa 85.26 313⇑*e*P **P** **20 00 16.0 -1.5**
AAK *e**PP pP 20 02 01.2 -1.7
AAK pmax pmax
comp=Z,6.0nm,0.4s,mb4.6
AAK Ala-Archa 85.26 313⇑*e*P **P** **20 00 16.0 -1.5**
comp=Z,6.1nm,0.4s,mb4.6
AAK *e*pP pP 20 02 01.2 -1.7
DLBC Dease Lake 85.85 31⇑*i*P **P** **20 00 20.5 +0.1**
DLBC *e*pP pP 20 02 06.9 +1.0
QSPA South Pole Qui 85.99 180 *e*P **P** **20 00 20.7 -0.3**
comp=Z,97nm,0.8s,mb5.5
I02A Mapleton 86.82 46⇑P **P** **20 00 25.7 +0.8**
baz=87
K02A Glendale 86.88 47⇑P **P** **20 00 26.1 +0.9**
baz=87
J02A Umpqua 86.91 46⇑P **P** **20 00 26.0 +0.7**
baz=87
MAW Mawson 86.95 203 P **P** **20 00 24.6 -1.0**
comp=Z,27nm,0.7s,mb5.1,baz=89,slow=6.8,SNR=92
MAW Mawson 86.95 203 P **P** **20 00 24.6 -1.0**
MAW pmax pmax
comp=Z,27nm,0.7s
INK Inuvik 87.11 21 PKKPbc PKKPbc 20 18 15.8 +1.0
comp=Z,2.9nm,0.9s,baz=58,slow=4.8,SNR=4.8
INK Inuvik 87.11 21⇑*e*P **P** **20 00 24.5 -1.8**
INK *e**PP pP 20 02 10.6 -1.7
INK pmax pmax
comp=Z,17nm,0.6s
INK Inuvik 87.11 21⇑*e*P **P** **20 00 24.5 -1.8**
comp=Z,17nm,0.6s,mb5.0
INK *e*pP pP 20 02 10.6 -1.7
HUMO Hull Mountain 87.25 47⇓P **P** **20 00 27.8 +0.9**
baz=87
H03A Soap Creek Ran 87.30 45⇓P **P** **20 00 27.9 +0.6**
baz=87
KK31 Karatay Array 88.23 313 *i* P **P** **20 00 30.9 -0.7**
KK31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
PKD Parkfield 88.30 54⇓P **P** **20 00 32.8 +0.9**
baz=88
J05A Fort Rock 88.58 47⇓P **P** **20 00 33.3 +0.1**
baz=89
P05C Yuba Gap, Truc 88.61 51⇑P **P** **20 00 33.9 +0.5**
baz=89
E05A Randle 88.61 43⇓P **P** **20 00 33.6 +0.3**
baz=89
S06C San Francisco 89.05 52⇑P **P** **20 00 35.4 0.0**
baz=89
N06A Buffalo Meadow 89.35 49⇓P **P** **20 00 37.3 +0.5**
baz=89
J06A Christmas Vall 89.37 47⇑P **P** **20 00 37.3 +0.4**
baz=89
CHKZ Chkalovo 89.49 324⇑*i*P **P** **20 00 35.4 -2.0**
CHKZ *e**PP pP 20 02 23.3 -0.7
CHKZ pmax pmax
comp=Z,21nm,0.6s,mb5.1
CHKZ Chkalovo 89.49 324⇑*i*P **P** **20 00 35.4 -2.0**
comp=Z,21nm,0.6s,mb5.2
CHKZ *e*pP pP 20 02 23.3 -0.7
BVAR Borovoye Array 89.54 323 P **P** **20 00 36.0 -1.6**
comp=Z,19nm,0.5s,mb5.2,baz=106,slow=5.1,SNR=46
BVAR pP pP 20 02 24.5 +0.3
comp=Z,4.6nm,0.6s,baz=79,slow=7.7,SNR=3.8
BVAR Borovoye Array 89.54 323 P **P** **20 00 36.0 -1.7**
BVAR *PP pP 20 02 24.5 +0.3
BVAR pmax pmax
comp=Z,19nm,0.5s
BVAR pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 89.61 323 P **P** **20 00 36.8 -1.2**
comp=Z,171nm,0.6s,mb6.0,SNR=9.2
BRVK Borovoye 89.61 323⇑*i*P **P** **20 00 36.3 -1.7**
BRVK *e**PP pP 20 02 25.3 +0.8
BRVK *e* 20 04 15.1
BRVK pmax pmax
comp=Z,28nm,1.0s,mb5.0
BRVK Borovoye 89.61 323⇑*i*P **P** **20 00 36.3 -1.6**
comp=Z,28nm,1.0s,mb5.0
BRVK *e*pP pP 20 02 25.3 +0.8
BRVK *e*PP PP 20 04 15.1 -2.8
L07A Adell 89.84 48⇑P **P** **20 00 39.9 +0.8**
baz=90
M07A Soldier Meadow 89.91 49⇓P **P** **20 00 40.2 +0.8**
baz=90
O07A Toulon 90.02 50⇑P **P** **20 00 39.5 -0.4**
baz=90
NVAR Mina Array Bea 90.32 52 P **P** **20 00 42.1 +0.8**
comp=Z,2.8nm,0.8s,mb4.2,baz=266,slow=3.7,SNR=18
NVAR pP pP 20 02 30.5 +2.6
comp=Z,0.8nm,0.7s,baz=258,slow=4.5,SNR=3.6
CWC Cottonwood Cre 90.33 54⇑P **P** **20 00 42.4 +1.1**
baz=90
ZRNK Zerenda 90.36 323⇑*i*P **P** **20 00 39.4 -2.1**
ZRNK *e**PP pP 20 02 27.9 -0.2
ZRNK pmax pmax
comp=Z,16nm,0.6s,mb5.0
ZRNK Zerenda 90.36 323⇑*i*P **P** **20 00 39.4 -2.1**
comp=Z,16nm,0.6s,mb5.0
ZRNK *e*pP pP 20 02 27.9 -0.2
ZRNK *e*PP PP 20 04 16.8 -7.0
ZRNK *e*PKPdf PKiKP 20 05 15.5 -18
M08A Happy Creek Ra 90.51 49⇓P **P** **20 00 42.5 +0.4**
baz=90
DAC Darwin (Calif) 90.71 54 *e*P **P** **20 00 43.6 +0.5**
DAC *e**PP pP 20 02 31.0 +1.3
DAC pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
DAC Darwin (Calif) 90.71 54 *e*P **P** **20 00 43.6 +0.5**
comp=Z,9.6nm,1.1s,mb4.6
DAC *e*pP pP 20 02 31.0 +1.3
S09A Goldfield 91.11 52⇑P **P** **20 00 45.7 +0.8**
baz=91
O09A Fish Creek Ran 91.31 50⇑P **P** **20 00 46.9 +1.0**
baz=91
PFO Pinyon Flat Ob 91.45 57⇓P **P** **20 00 47.6 +1.1**
baz=92
TUQ Turquoise Mtn. 92.00 55⇓P **P** **20 00 50.4 +1.4**
baz=92
Q11A Duckwater 92.42 51⇓P **P** **20 00 51.5 +0.5**
baz=92
M11A Holland Ranch, 92.45 49⇑P **P** **20 00 53.0 +1.9**
baz=92
O11A Cowboy Ranch, 92.48 50⇓P **P** **20 00 51.8 +0.5**
baz=92
N12A Clover Valley, 92.99 49⇓P **P** **20 00 54.4 +0.9**
baz=93
O12A Currie 93.18 50⇑P **P** **20 00 54.9 +0.4**
baz=93
W13A Hualapai Mount 93.65 55⇑P **P** **20 00 57.9 +1.3**
baz=94
YKA Yellowknife Ar 93.95 28 P **P** **20 00 57.7 -0.2**
comp=Z,4.2nm,0.7s,mb4.6,baz=273,slow=4.8,SNR=21
YKA pP pP 20 02 45.4 +0.6
comp=Z,3.1nm,0.8s,baz=268,slow=4.7,SNR=9.8
YKA PKKPbc PKKPbc 20 17 57.3 -0.6
comp=Z,1.5nm,0.7s,baz=95,slow=2.3,SNR=7.9
YKA Yellowknife Ar 93.95 28 P **P** **20 00 57.7 -0.3**
YKA *PP pP 20 02 45.4 +0.6
YKA 20 17 57.3
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 93.95 28 P **P** **20 00 57.7 -0.2**
YKA pP pP 20 02 45.4 +0.6
YKA PKKPbc PKKPbc 20 17 57.3 -0.6
WALA Waterton Lakes 94.07 41⇑*i*P **P** **20 00 58.0 -0.6**
comp=Z,11nm,1.1s,mb4.8
WALA *e*pP pP 20 02 45.5 +0.1
EDM Edmonton 94.50 37 *e*P **P** **20 00 59.5 -1.0**
SYO Syowa Base 94.98 199⇑*e*P **P** **20 01 01.0 -1.6**
ARU Arti 96.52 326⇑*i*P **P** **20 01 07.2 -2.4**
ARU *e* 20 05 09.4
ARU *e*PPP 20 07 16.9
ARU *e*S 20 10 55.0
ARU *e*SP SP 20 13 10.7 -2.3
ARU *e*SS SS 20 18 41.9 +6.1
ARU pmax pmax
comp=Z,7.0nm,1.4s,mb4.7
ARU Arti 96.52 326⇑*e*P **P** **20 01 07.2 -2.4**
comp=Z,5.4nm,0.5s,mb5.0
PDAR Pinedale Array 97.11 48 P **P** **20 01 11.9 -0.3**
comp=Z,0.6nm,0.5s,mb4.1,baz=279,slow=2.9,SNR=7.6
AKTK Aktyubinsk 97.11 320 P **P** **20 01 10.2 -2.0**
AKTK pP pP 20 03 00.8 +1.4
AKTO Aktyubinsk 97.11 320 P **P** **20 01 10.2 -2.0**
comp=Z,3.1nm,0.7s,mb4.7,baz=97,slow=6.0,SNR=13
AKTO pP pP 20 03 00.8 +1.4
comp=Z,0.5nm,0.3s,baz=41,slow=8.5,SNR=2.6
AKTO Aktyubinsk 97.11 320 P **P** **20 01 10.2 -2.0**
AKTO *PP pP 20 03 00.8 +1.4
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
AKTO pmax pmax
comp=Z,1.0nm,0.3s,mb4.5
SNAA Sanae 103.06 187 Pdiff Pdif 20 01 36.8 -1.9
comp=Z,0.2nm,0.5s,baz=183,slow=6.1,SNR=10
ARCES ARCESS Array B 106.54 343 Pdiff Pdif 20 01 55.5 +1.3
comp=Z,1.1nm,0.6s,baz=77,slow=12,SNR=4.4
ARCES PKiKP PKiKP 20 06 00.3 -1.7
comp=Z,2.3nm,0.8s,baz=122,slow=1.1,SNR=9.4
ARCES PKKPbc PKKPbc 20 17 20.2 -2.3
comp=Z,2.1nm,0.8s,baz=252,slow=2.2,SNR=6.1
ARCES ARCESS Array B 106.54 343 P Pdif 20 01 55.5 +1.3
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 106.54 343 Pdif Pdif 20 01 55.5 +1.3
ARCES PKPdf PKiKP 20 06 00.3 -1.7
ARCES PKKPbc PKKPbc 20 17 20.2 -2.3
JOF Joensuu 108.08 336 *ep* Pdif 20 01 58.6 -2.4
comp=Z,3.7nm,0.5s
JOF Joensuu 108.08 336 *e*P Pdif 20 01 58.6 -2.4
JOF pmax pmax
comp=Z,4.0nm,0.5s
OBN Obninsk 108.90 328⇑*e*P Pdif 20 02 02.9 -1.8
OBN *e* 20 06 42.3
OBN *e*S SKSac 20 11 50.2 -7.2
KAF Kangasniemi 110.49 337 *ep* Pdif 20 02 08.8 -2.9
comp=Z,1.7nm,0.5s
KAF Kangasniemi 110.49 337 *e*P Pdif 20 02 08.8 -2.9
KAF pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 110.95 336 Pdiff Pdif 20 02 12.7 -1.1
comp=Z,0.7nm,0.3s,baz=69,slow=4.6,SNR=18
FINES PKiKP PKiKP 20 06 09.7 -0.6
comp=Z,0.5nm,0.5s,baz=29,slow=4.4,SNR=4.3
FINES PKKPbc PKKPbc 20 17 08.2 -0.4
comp=Z,2.2nm,0.7s,baz=210,slow=2.1,SNR=9.6
FINES FINESS Array B 110.95 336 P Pdif 20 02 12.7 -1.1
FINES *i* 20 06 09.7
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 114.74 325 PKP PKPdf 20 06 16.7 -0.9
comp=Z,2.9nm,0.5s,baz=43,slow=2.3,SNR=7.1
AKASG PKKPbc PKKPbc 20 16 55.8 -0.3
comp=Z,1.2nm,0.6s,baz=262,slow=3.7,SNR=9.4
AKASG Malin Array Be 114.74 325 PKIKP PKPdf 20 06 16.7 -0.9
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 115.93 313 PKP PKPdf 20 06 19.5 -0.3
comp=Z,1.5nm,0.6s,baz=146,slow=2.9,SNR=6.8
BRTR PP PP 20 07 32.3 +0.1
comp=Z,2.8nm,0.9s,baz=100,slow=5.4,SNR=5.5
BRTR PKKPbc PKKPbc 20 16 53.5 +1.4
comp=Z,0.9nm,0.8s,baz=225,slow=4.3,SNR=4.2
BRTR Keskin Array B 115.93 313 PKIKP PKPdf 20 06 19.5 -0.3
BRTR 20 07 32.3
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR pmax pmax
comp=Z,1.0nm,0.8s
NB2 NORSAR Subarra 116.67 341 PKPdf PKPdf 20 06 19.8 -1.5
comp=Z,2.2nm,0.5s,baz=42,slow=2.0
NOA NORSAR Array B 116.67 341 PKP PKPdf 20 06 20.4 -0.9
comp=Z,2.2nm,0.5s,baz=46,slow=1.9,SNR=15
NOA NORSAR Array B 116.67 341 PKIKP PKPdf 20 06 20.4 -0.9
NOA pmax pmax
comp=Z,2.0nm,0.5s
SCHQ Schefferville 119.35 26 PKP PKPdf 20 06 25.9 -0.6
comp=Z,1.5nm,0.5s,baz=213,slow=17,SNR=3.7
PLCA Paso Flores 119.46 142 PKP PKPdf 20 06 27.2 +0.6
comp=Z,5.6nm,0.6s,baz=244,slow=1.9,SNR=26
PLCA Paso Flores 119.46 142 PKIKP PKPdf 20 06 27.2 +0.6
PLCA pmax pmax
comp=Z,6.0nm,0.6s
BOSA Boshof 121.40 233 PKP PKPdf 20 06 31.1 +0.7
comp=Z,3.9nm,0.5s,baz=121,slow=2.1,SNR=18
BOSA Boshof 121.40 233 PKIKP PKPdf 20 06 31.1 +0.7
BOSA pmax pmax
comp=Z,4.0nm,0.5s
BSEG Bad Segeberg 122.22 336 *e*PKPdf PKPdf 20 06 32.0 +0.1
PVCC Panska Ves 122.65 331 *e*PKPdf PKPdf 20 06 33.2 +0.4
BRG Berggiesshubel 122.73 331 *e*PKPdf PKPdf 20 06 32.8 -0.1
BRG *e*PP PP 20 08 20.0 +1.7
CLL Collm 122.88 332 *e*PKPdf PKPdf 20 06 33.0 -0.2
CLL Collm 122.88 332⇓*i*PKIKP PKPdf 20 06 33.3 +0.1
comp=Z,logA/T=1.1
CLL Collm 122.88 332⇓*i*PKPdf PKPdf 20 06 33.3 +0.1
comp=Z,8.0nm,0.6s
CLL Collm 122.88 332⇓*i*PKIKP PKPdf 20 06 33.3 +0.1
CLL pmax pmax
comp=Z,8.0nm,0.6s
TREC Trest 122.97 329 *e*PKPdf PKPdf 20 06 30.9 -2.5
FBE Freiberg 122.98 332 *e*PKPdf PKPdf 20 06 33.6 +0.2
PRU Pruhonice 123.01 330 *e*PKPdf PKPdf 20 06 31.7 -1.7
NRDL Niedersach Rie 123.35 335 *e*PKPdf PKPdf 20 06 34.0 -0.1
LSZ Lusaka 123.43 249 PKP PKPdf 20 06 35.7 +1.4
comp=Z,5.6nm,0.8s,baz=62,slow=2.5,SNR=8.7
LSZ PP PP 20 08 22.1 -0.9
comp=Z,2.0nm,0.4s,baz=82,slow=7.3,SNR=3.6
LSZ Lusaka 123.43 249 PKIKP PKPdf 20 06 35.7 +1.5
LSZ 20 08 22.1
LSZ pmax pmax
comp=Z,6.0nm,0.8s
LSZ pmax pmax
comp=Z,1.0nm,0.4s
LSZ Lusaka 123.43 249 *e*PKPdf PKPdf 20 06 35.1 +0.9
CLZ Clausthal 123.70 334 *e*PKPdf PKPdf 20 06 35.1 +0.3
CLZ *e*PP PP 20 08 26.9 +2.1
CLZ *e*SKPdf SKPdf 20 09 25.3 +0.7
CLZ Clausthal 123.70 334 *e*PKIKP PKPdf 20 06 35.1 +0.3
CLZ *e* 20 08 26.9
TANN Tannenbergstha 123.74 332 *e*PKPdf PKPdf 20 06 34.9 +0.1
TANN *e*PP PP 20 08 25.8 +0.8
WERD Werda 123.79 332 *e*PKPdf PKPdf 20 06 35.2 +0.3
WERD *e*PP PP 20 08 27.8 +2.4
WERD *e*SKPdf SKPdf 20 09 26.7 +1.9
GUNZ Gunzen 123.83 332 *e*PKPdf PKPdf 20 06 35.3 +0.3
GUNZ *e*PP PP 20 08 28.3 +2.6
NKC Novy Kostel 123.87 332 *e*PKPdf PKPdf 20 06 33.9 -1.2
KHC Kasperske Hory 124.04 330 *e*PKPdf PKPdf 20 06 35.9 +0.5
GEC2 GERESS Array S 124.17 330 *e*PKPdf PKPdf 20 06 35.9 +0.2
GERES GERESS Array B 124.17 330 PKP PKPdf 20 06 36.0 +0.4
comp=Z,2.7nm,0.5s,baz=62,slow=1.5,SNR=23
GERES pPKP pPKPdf 20 08 31.6 +2.7
comp=Z,0.8nm,0.6s,baz=101,slow=1.4,SNR=3.5
GERES PKKPbc PKKPbc 20 16 22.5 +0.4
comp=Z,0.8nm,0.7s,baz=230,slow=2.4,SNR=8.7
GERES GERESS Array B 124.17 330 PKIKP PKPdf 20 06 36.0 +0.3
GERES 20 08 31.6
GERES pmax pmax
comp=Z,3.0nm,0.5s
GERES pmax pmax
comp=Z,1.0nm,0.6s

GERES pmax pmax
comp=Z,1.0nm,0.7s
MANZ Manzenberg 124.19 331 *e*PKPdf PKPdf 20 06 36.1 +0.4
MANZ *e*SKPdf SKPdf 20 09 28.2 +2.6
ROTZ Rotzenmuhle 124.30 331 *e*PKPdf PKPdf 20 06 36.2 +0.3
ROTZ *e*PP PP 20 08 29.7 +1.0
WET Wettzell 124.38 330 *e*PKPdf PKPdf 20 06 35.8 -0.3
WET *e*PP PP 20 08 30.4 +1.1
GRF Grafenberg Arr 124.81 332 *e*PP PP 20 08 32.8 +0.6
GRF Grafenberg Arr 124.81 332 *e*PP PP 20 08 32.8 +0.6
BUG Bochum--Univer 125.31 335 *e*PKPdf PKPdf 20 06 37.7 -0.2
BOJS Bojanci 125.42 326 *e* PKPdf 20 06 38.1 0.0
TNS Taunus Mts 125.71 334 *e*PKPdf PKPdf 20 06 38.6 0.0
CEY Cerknica 125.74 326 *e* PKPdf 20 06 39.0 +0.3
FUR Furstenfeldbru 125.83 330 *e*PKPdf PKPdf 20 06 38.8 0.0
CFAA Coronel Fontan 126.18 134 PKP PKPdf 20 06 39.8 +0.3
comp=Z,1.3nm,0.6s,baz=247,slow=2.0,SNR=21
ATAH Atahualpa 126.19 102 PKP PKPdf 20 06 41.8 +2.3
comp=Z,5.8nm,0.6s,baz=152,slow=10.0,SNR=5.0
ABH Alteburg 126.36 334 *e*P PKPdf 20 06 39.7 -0.1
STU Stuttgart 126.41 332 *e*PKPdf PKPdf 20 06 40.2 +0.2
MEM Membach 126.47 335 PKP PKPdf 20 06 40.1 0.0
BCLA Clavier 126.90 336 PKP PKPdf 20 06 40.8 -0.1
WLF Walferdange 127.12 335 *e*PKPdf PKPdf 20 06 42.1 +0.8
WLF Walferdange 127.12 335 PKP PKPdf 20 06 41.4 0.0
WLF Walferdange 127.12 335 *e*PKPdf PKPdf 20 06 41.1 -0.2
BFO Black Forest 127.13 332 *e*PKPdf PKPdf 20 06 41.7 +0.4
GIVF Givet 127.34 336 *e*PKIKP PKPdf 20 06 42.1 +0.4
DOU Dourbes 127.44 336 PKP PKPdf 20 06 42.0 +0.1
CDF Champ du Feu 127.55 333 *e*PKIKP PKPdf 20 06 42.4 +0.3
comp=Z,4.2nm,0.6s
FELD Feldberg im Sc 127.61 332 *e*P PKPdf 20 06 41.7 -0.5
BAIF Baives 127.63 336 *e*PKIKP PKPdf 20 06 42.5 +0.2
ECH Echery 127.75 333 PKP PKPdf 20 06 41.5 -1.0
ECH Echery 127.75 333 *e*P PKPdf 20 06 41.5 -1.0
MOF Molkenrain 128.03 332 PKP PKPdf 20 06 42.5 -0.5
MOF Molkenrain 128.03 332 *e*P PKPdf 20 06 42.5 -0.5
HINF Hinteralfeld 128.18 333 *e*PKIKP PKPdf 20 06 43.5 +0.2
THEF They Montfort 128.27 334 PKP PKPdf 20 06 43.6 +0.1
THEF They Montfort 128.27 334 *e*P PKPdf 20 06 43.6 +0.1
HAU Haudompre 128.27 333 *e*PKIKP PKPdf 20 06 43.7 +0.2
LOMF Lomont 128.54 332 PKP PKPdf 20 06 43.6 -0.4
LOMF Lomont 128.54 332 *e*P PKPdf 20 06 43.6 -0.4
CABF La Chapelle 129.42 332 *e*PKIKP PKPdf 20 06 46.6 +0.9
comp=Z,20nm,0.8s
LPL La Plagne 129.91 331 *e*PKIKP PKPdf 20 06 48.0 +1.4
comp=Z,5.4nm,0.6s
LPG La Plagne 129.91 331 *e*PKIKP PKPdf 20 06 47.6 +1.0
comp=Z,6.3nm,0.6s
LOR Lormes 129.94 334 *e*PKIKP PKPdf 20 06 47.2 +0.5
comp=Z,7.5nm,0.6s
LVC Limon Verde 130.12 124 PKP PKPdf 20 06 48.9 +1.9
comp=Z,4.2nm,0.6s,baz=334,slow=3.8,SNR=3.9
LVC SKPbc SKPbc 20 09 27.8 +2.6
comp=Z,4.6nm,0.7s,baz=231,slow=6.7,SNR=4.4
SSF Saint Saulge 130.25 334 *e*PKIKP PKPdf 20 06 47.8 +0.5
comp=Z,9.8nm,0.7s
BNI Bardonecchia 130.27 330 *e*PKIKP PKPdf 20 06 46.8 -0.5
BNI *e* 20 09 26.2
SMF Signal de Mont 130.42 334 *e*PKIKP PKPdf 20 06 48.3 +0.7
MBDF Montbardon 130.46 330 *e*PKIKP PKPdf 20 06 48.3 +0.7
comp=Z,4.8nm,0.6s
FLN La Foliniere 130.49 338 *e*PKIKP PKPdf 20 06 47.5 -0.2
comp=Z,11nm,0.6s
LDF La Druitiere 130.49 338 *e*PKIKP PKPdf 20 06 47.8 +0.1
comp=Z,6.6nm,0.6s
AVF Avril sur Loir 130.52 334 *e*PKIKP PKPdf 20 06 48.0 +0.2
SBF Sospel 130.73 329 *e*PKIKP PKPdf 20 06 48.5 +0.3
ORIF Oris-en-Rattie 130.76 331 *e*PKIKP PKPdf 20 06 48.9 +0.7
comp=Z,10.0nm,0.6s
PGF Pioggiola 130.78 326 *e*PKIKP PKPdf 20 06 48.8 +0.5
comp=Z,11nm,0.5s
GRR Gorron 130.94 338 *e*PKIKP PKPdf 20 06 49.3 +0.7
comp=Z,9.8nm,0.5s
PLDF La Plantade 131.04 333 PKP PKPdf 20 06 50.4 +1.7
AGO Saint Agoulin 131.19 334 PKP PKPdf 20 06 50.5 +1.5
FRF La Foret Royal 131.34 329 *e*PKIKP PKPdf 20 06 49.5 +0.2
VIVF Saint-Julien-l 131.39 331 *e*PKIKP PKPdf 20 06 50.0 +0.6
comp=Z,5.8nm,0.8s
ROSC El Rosal 131.41 87 PKP PKPdf 20 06 51.0 +1.5
comp=Z,6.2nm,0.5s,baz=96,slow=17,SNR=4.4
TCF Toulx Ste Croi 131.41 334 *e*PKIKP PKPdf 20 06 50.0 +0.5
comp=Z,6.5nm,0.7s
PYM Petit Puy Mans 131.48 333 PKP PKPdf 20 06 50.9 +1.3
LMR La Mourre 131.58 329 *e*PKIKP PKPdf 20 06 50.4 +0.6
comp=Z,5.2nm,0.6s
SMRF Simiane la Rot 131.59 330 *e*PKIKP PKPdf 20 06 50.3 +0.5
comp=Z,10nm,1.0s
SGMF Saint Gilles 131.66 340 *e*PKIKP PKPdf 20 06 50.4 +0.5
comp=Z,7.2nm,0.5s
ROSF Rostrenen 131.83 340 *e*PKIKP PKPdf 20 06 50.6 +0.3
comp=Z,9.2nm,0.8s
MFF Saint Martin d 132.14 336 *e*PKIKP PKPdf 20 06 51.1 +0.3
QUIF Quistinic 132.16 340 *e*PKIKP PKPdf 20 06 51.5 +0.6
comp=Z,6.1nm,0.6s
LASF Ste Croix 132.36 331 *e*PKIKP PKPdf 20 06 52.1 +0.9
comp=Z,2.6nm,0.5s
RJF Les Rejaudoux 132.48 334 *e*PKIKP PKPdf 20 06 51.9 +0.4
VSL Villasalto 132.54 323 *e*PKPpre 20 06 41.9
CAF Calviac 132.54 333 *e*PKIKP PKPdf 20 06 52.5 +0.9
LPAZ La Paz 133.38 117 PKP PKPdf 20 06 55.6 +2.5
comp=Z,8.1nm,0.6s,baz=261,slow=4.7,SNR=39
LPAZ pPKP pPKPdf 20 08 50.4 +4.0
comp=Z,2.8nm,1.0s,baz=25,slow=9.1,SNR=3.8
LPAZ SKPbc SKPbc 20 09 41.4 +4.8
comp=Z,8.4nm,0.6s,baz=300,slow=2.6,SNR=14
LPAZ La Paz 133.38 117 PKIKP PKPdf 20 06 55.6 +2.4
LPAZ 20 08 50.4
LPAZ pmax pmax
comp=Z,8.0nm,0.6s
LPAZ pmax pmax
comp=Z,3.0nm,1.0s
LPAZ pmax pmax
comp=E,8.0nm,0.6s
MTLF Montolieu 133.69 332 *e*PKIKP PKPdf 20 06 54.2 +0.5
SDV Santo Domingo 135.00 81 PKP PKPdf 20 06 57.4 +1.2
comp=E,19nm,0.7s,baz=278,slow=3.9,SNR=20
SDV pPKP pPKPdf 20 08 51.8 +2.3
comp=E,4.0nm,0.6s,baz=65,slow=3.1,SNR=1.6
SDV SKPbc SKPbc 20 09 45.5 +3.7
comp=E,5.7nm,0.5s,baz=226,slow=3.7,SNR=5.6
SDV Santo Domingo 135.00 81 *e*PKPdf PKPdf 20 06 57.4 +1.2
SDV *ep*PKPdf pPKPdf 20 08 50.9 +1.4
SDV *e*SKP 20 09 43.8
SJG San Juan 137.91 67 PKP PKPdf 20 07 03.3 +1.7
comp=E,14nm,0.4s,baz=1.7,slow=5.3,SNR=6.3
SJG SKPbc SKPbc 20 09 52.7 +2.2
comp=E,9.2nm,0.3s,baz=38,slow=23,SNR=7.9
SJG San Juan 137.91 67 PKIKP PKPdf 20 07 03.3 +1.7
SJG 20 09 52.7
SJG pmax pmax
comp=Z,14nm,0.4s
SJG pmax pmax
comp=E,9.0nm,0.3s
ESDC Sonseca Array 139.41 334 PKhKP 20 06 57.4
comp=E,0.2nm,0.3s,baz=12,slow=3.6,SNR=4.5
ESDC PP PP 20 09 59.5 -5.2
comp=E,1.5nm,0.7s,baz=18,slow=7.0,SNR=4.1
PVRL Vila Real 139.53 339 *e*PKPdf PKPdf 20 07 07.0 +2.5
SIV San Ignacio 139.69 120 PKhKP 20 06 56.6
comp=E,2.6nm,0.6s,baz=240,slow=5.1,SNR=17
SIV SKPbc SKPbc 20 09 58.6 +3.3
comp=E,9.9nm,0.9s,baz=271,slow=2.1,SNR=12
MTE Manteigas 140.24 338 *e*PKPdf PKPdf 20 07 08.1 +2.3
SAML Samuel 140.39 109 *e*PKPpre 20 06 59.5
SAML *e*SKP 20 09 59.6
PCBR Castelo Branco 140.71 338 *e*PKPdf PKPdf 20 08 08.1 +1.5
PTOM Tomar 141.25 339 *e*PKPdf PKPdf 20 07 07.0 -0.6
PBEJ Beja 142.43 337 *e*PKPdf PKPdf 20 07 07.2 -2.5
PTEO Sao Teotonio 143.18 337 *e*PKPdf PKPdf 20 07 09.9 -1.1
BDFB Brasilia 150.47 132 PKP PKPdf 20 07 24.1 +1.0
comp=E,5.8nm,0.8s,baz=226,slow=4.4,SNR=7.3
BDFB PKPbc PKPbc 20 07 29.6 +0.6
comp=E,41nm,0.7s,baz=307,slow=1.3,SNR=42
BDFB Brasilia 150.47 132 PKIKP PKPdf 20 07 24.1 +1.0
BDFB pmax pmax
comp=Z,6.0nm,0.8s
BDFB pmax pmax
comp=Z,41nm,0.7s
TORD Torodi Ar. Bea 151.54 290 PKP PKPdf 20 07 24.9 +0.2
comp=Z,2.4nm,1.0s,baz=29,slow=1.3,SNR=8.2
TORD PKPbc PKPbc 20 07 31.9 +0.4
comp=Z,16nm,0.5s,baz=23,slow=0.8,SNR=8.2
TORD pPKPbc pPKPbc 20 09 27.4 +3.3
comp=Z,4.9nm,0.8s,baz=42,slow=2.6,SNR=2.8

DBIC Dimbokro 159.18 278 PKPab PKPab 20 08 16.4 +1.4
comp=Z,8.1nm,0.6s,baz=87,slow=6.4,SNR=9.4

*IDC **18** 19:59:46.9±0.6,31.11N×51.12E, h0km, mb4.3/20, mb1 4.4/21, mb1mx4.3/25, mbtmp4.3/21, MS3.7/5, Ms1 3.7/5, ms1mx3.2/43, Error ellipse: s-maj=16.4km s-min=13.1km az=129.0*
*THR **18** 19:59:47.7±0.5, 3099N×5144E, h17km, 8km, ML4.4*
*ISCJB **18** 19:59:48.5±0.2, 3087N±002×5125E±002, h33km, mb4.5/86, MS3.7/7, Error ellipse: s-maj=3.2km s-min=2.8km az=95.1*
*MOS **18** 19:59:49.9±1.2, 3101N×5109E, h33km, mb4.7/39, Error ellipse: s-maj=8.8km s-min=4.1km az=126.5*
*CSEM **18** 19:59:49.0±0.0, 3097N×5115E, h35km, mb4.6/69, Ms3.6, Error ellipse: s-maj=1.5km s-min=1.1km az=25.0*
*BJI **18** 19:59:50.4, 3069N×5114E, h43km, mB4.8, mb4.6, Ms5.0, Msz4.6*
*NEIC **18** 19:59:50.8±1.1, 3098N×5123E, h33km±9km, mb4.6/44, ML4.4(THR), MN4.3(TEH), Error ellipse: s-maj=4.5km s-min=3.6km az=219.0*
*TEH **18** 19:59:51.5, 3095N×5120E, h29km, Mn4.3*
ISC 18 19:59:50.7±0.2, 3089N±002×5125E±002, h35km, n355, σ1§17/360, mb4.5/86, MS3.7/7, 28C-6D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SHI	**Shiraz**	**1.66**	**138**	*e*Pn		**Pn**	**20 00 19.8**	**+2.5**
SHI	**Shiraz**	**1.66**	**138**	Pn		**Pn**	**20 00 19.7**	**+2.4**
IPIR	**Pirpir**	**1.81**	**351**	*e*Pn		**Pn**	**20 00 18.3**	**-1.1**
IPIR	**Pirpir**	**1.81**	**351**	Pn		**Pn**	**20 00 18.2**	**-1.2**
IZEF	**Zefreh**	**2.20**	**25**	*e*Pn		**Pn**	**20 00 25.1**	**+0.4**
IZEF	**Zefreh**	**2.20**	**25**	Pn		**Pn**	**20 00 25.0**	**+0.3**
ISRV	**Sarvestan**	**2.21**	**132**	*e*Pn		**Pn**	**20 00 27.0**	**+2.1**
IMOK	**Mook**	**2.24**	**145**	*e*Pn		**Pn**	**20 00 27.2**	**+1.9**
IMOK	**Mook**	**2.24**	**145**	Pn		**Pn**	**20 00 27.1**	**+1.8**
NASN	**Na'in**	**2.32**	**35**	*e*PG		**Pn**	**20 00 26.7**	**+0.3**
NASN				*e*Sg		**Sn**	**20 00 55.6**	**+2.0**
NASN				AML	AML		20 01 01.5	
	comp=E,1μm,0.8s							
NASN	**Na'in**	**2.32**	**35**	Pg		**Pn**	**20 00 26.0**	**-0.4**
NASN				*e*Sg		**Sn**	**20 00 55.7**	**+2.0**
	comp=E,1μm,0.8s,SNR=91							
ISAD	**Sadrabad**	**2.32**	**63**	*e*Pn		**Pn**	**20 00 27.5**	**+1.1**
SHGR	**Shooshtar-Gavs**	**2.41**	**301**	*e*Pn		**Pn**	**20 00 29.9**	**+2.2**
SHGR				AML	AML		20 01 24.9	
	comp=N,1μm,0.4s							
IKLH	**Kalahroud**	**2.44**	**7**	*e*Pn		**Pn**	**20 00 28.3**	**+0.3**
IKLH				Sn		**Sn**	**20 00 55.4**	**-1.1**
IMEH	**Mehriz**	**2.93**	**79**	*e*Pn		**Pn**	**20 00 36.5**	**+1.7**
IMEH	**Mehriz**	**2.93**	**79**	Pn		**Pn**	**20 00 36.4**	**+1.6**
GHIR	**Ghir-Karzin**	**3.01**	**149**	*e*PN		**Pn**	**20 00 37.0**	**+1.1**
GHIR				AML	AML		20 01 34.6	
	comp=E,2μm,0.7s							
GHIR				AML	AML		20 01 43.0	
	comp=N,1μm,0.7s							
GHIR	**Ghir-Karzin**	**3.01**	**149**	Pn		**Pn**	**20 00 36.0**	**+0.1**
ICHK	**Chekchek**	**3.02**	**63**	*e*Pn		**Pn**	**20 00 36.3**	**+0.3**
ICHK				*e*Sn		**Sn**	**20 01 11.0**	**+0.1**
ICHK	**Chekchek**	**3.02**	**63**	Pn		**Pn**	**20 00 36.2**	**+0.2**
UMR	**Umm Al-Rimmam**	**3.33**	**247**	*e*P		**Pn**	**20 00 44.6**	**+4.2**
KBD	**Kabd**	**3.52**	**242**	*e*P		**Pn**	**20 00 47.2**	**+4.3**
KBD				AML	AML		20 01 33.5	
	comp=Z,2μm,0.5s							
MIB	**Mutribah**	**3.55**	**253**	*e*P		**Pn**	**20 00 47.9**	**+4.6**
QRN	**Al-Qurain**	**3.60**	**234**	*e*P		**Pn**	**20 00 48.1**	**+4.1**
QRN				AML	AML		20 01 35.4	
	comp=Z,661nm,0.5s							
RDF	**Al-Radifah**	**3.76**	**240**	*e*P		**Pn**	**20 00 50.4**	**+4.2**
RDF				AML	AML		20 01 40.1	
	comp=Z,728nm,0.5s							
IBAF	**Bafgh**	**3.77**	**78**	*e*Pn		**Pn**	**20 00 47.2**	**+0.9**
ASAO	**Ashtian**	**3.79**	**345**	*e*Pn		**Pn**	**20 00 46.8**	**+0.3**
ASAO	**Ashtian**	**3.79**	**345**	Pn		**Pn**	**20 00 46.0**	**-0.6**
NAY	**Al-Naaiem**	**3.84**	**246**	*e*P		**Pn**	**20 00 51.7**	**+4.4**
NAY				AML	AML		20 01 48.5	
	comp=Z,190nm,0.6s							
RST	**Umm Al-Ruwaisa**	**3.93**	**250**	*e*P		**Pn**	**20 00 52.5**	**+4.0**
IVRN	**Varamin**	**4.11**	**6**	*e*Pn		**Pn**	**20 00 48.9**	**-2.1**
ILAS	**Lasjerd**	**4.70**	**17**	*e*Pn		**Pn**	**20 00 59.2**	**+0.1**
IDMV	**Damavand**	**4.72**	**8**	*e*Pn		**Pn**	**20 00 59.0**	**-0.4**
DAMV	**Damavand**	**4.76**	**7**	*e*PN		**Pn**	**20 00 59.6**	**-0.4**
DAMV	**Damavand**	**4.76**	**7**	Pn		**Pn**	**20 00 59.0**	**-1.0**
IFIR	**Firoozkooh**	**4.90**	**15**	*e*Pn		**Pn**	**20 01 02.4**	**+0.5**
IFIR	**Firoozkooh**	**4.90**	**15**	Pn		**Pn**	**20 01 02.3**	**+0.4**
IAFJ	**Afjeh**	**4.96**	**4**	*e*Pn		**Pn**	**20 01 01.9**	**-0.9**
IAFJ	**Afjeh**	**4.96**	**4**	Pn		**Pn**	**20 01 01.8**	**-1.0**
CHTH	**Charan**	**5.00**	**359**	*e*Pn		**Pn**	**20 01 03.0**	**-0.2**
IANJ	**Anjiloo**	**5.08**	**25**	*e*Pn		**Pn**	**20 01 02.4**	**-2.0**
IANJ	**Anjiloo**	**5.08**	**25**	Pn		**Pn**	**20 01 02.3**	**-2.1**
IVIS	**Veys**	**5.18**	**316**	*e*Pn		**Pn**	**20 01 05.3**	**-0.4**
IVIS	**Veys**	**5.18**	**316**	Pn		**Pn**	**20 01 05.2**	**-0.5**
ISHM	**Shahmirzad**	**5.19**	**19**	*e*Pn		**Pn**	**20 01 06.0**	**+0.1**
ISHM	**Shahmirzad**	**5.19**	**19**	Pn		**Pn**	**20 01 05.9**	**0.0**
IGHG	**Ghaleghazi**	**5.23**	**312**	*e*Pn		**Pn**	**20 01 06.1**	**-0.3**
IGHG	**Ghaleghazi**	**5.23**	**312**	Pn		**Pn**	**20 01 06.0**	**-0.4**
ILIN	**Laeen**	**5.39**	**319**	*e*Pn		**Pn**	**20 01 08.9**	**+0.3**
ILIN	**Laeen**	**5.39**	**319**	Pn		**Pn**	**20 01 08.8**	**+0.2**
IPRN	**Paran-Amol**	**5.40**	**9**	*e*Pn		**Pn**	**20 01 09.6**	**+0.9**
BNDS	**Bandar-Abbas**	**5.54**	**128**	*e*Pn		**Pn**	**20 01 10.8**	**+0.1**
BNDS				AML	AML		20 02 19.6	
	comp=N,284nm,0.4s							
BNDS	**Bandar-Abbas**	**5.54**	**128**	Pn		**Pn**	**20 01 10.0**	**-0.6**
IGZV	**Gazvin**	**5.54**	**351**	*e*Pn		**Pn**	**20 01 10.1**	**-0.6**
IGZV	**Gazvin**	**5.54**	**351**	Pn		**Pn**	**20 01 10.0**	**-0.7**
IKIA	**Kiasar**	**5.68**	**20**	*e*Pn		**Pn**	**20 01 14.3**	**+1.8**
IGLO	**Galoogah**	**5.72**	**19**	*e*Pn		**Pn**	**20 01 17.8**	**+4.7**
BHD	**Baghdad**	**6.29**	**294**	*ex*	x		20 01 18.0	
BHD				*ex*	x		20 01 35.5	
BHD				*ex*	x		20 01 48.0	
BHD				*ex*	x		20 02 35.0	
BHD				*ex*	x		20 02 56.0	
BHD				*ex*	x		20 03 22.0	
BANOM	**Banah**	**6.66**	**137**	P		**Pn**	**20 01 25.6**	**-0.4**
	SNR=168							
BANOM				⇓S		**Sn**	**20 02 39.4**	**-1.2**
ASHO	**Ashiyiah**	**7.51**	**144**	P		**Pn**	**20 01 37.4**	**-0.4**
	SNR=137							
IKRD	**Kardeh**	**8.42**	**44**	*e*Pn		**Pn**	**20 01 59.7**	**+9.5**
IMOG	**Moghan**	**8.53**	**50**	*e*Pn		**Pn**	**20 01 52.4**	**+0.7**
MSL	**Mosul**	**8.67**	**311**	*ex*	x		20 01 57.0	
MSL				*ex*	x		20 02 39.0	
MSL				*ex*	x		20 03 33.0	
ARQ	**Araqi**	**8.87**	**147**	⇑P		**Pn**	**20 01 55.8**	**-0.6**
	SNR=35							
HOQ	**Hoqain**	**9.06**	**142**	⇓P		**Pn**	**20 01 58.8**	**-0.2**
	SNR=12							
IMYA	**Miamay**	**9.17**	**51**	*e*Pn		**Pn**	**20 02 00.9**	**+0.5**
IMYA	**Miamay**	**9.17**	**51**	Pn		**Pn**	**20 02 00.8**	**+0.4**
BIDO	**Bidbid**	**9.56**	**139**	⇓P		**Pn**	**20 02 04.3**	**-1.6**
	SNR=19							
BSY	**Bisya**	**9.70**	**145**	P		**Pn**	**20 02 06.9**	**-0.9**
	SNR=34							
SMDO	**Samad**	**9.88**	**141**	⇑P		**Pn**	**20 02 09.0**	**-1.3**
	SNR=40							
SMDO				⇓S		**Sn**	**20 03 57.1**	**-2.8**
WSAR	**Wadi Sarin**	**10.07**	**137**	Pn		**Pn**	**20 02 11.2**	**-1.6**
	comp=N,8.7nm,0.3s,baz=318,slow=9.3,SNR=105							
WSAR				Sn		**Sn**	**20 03 58.0**	**-6.5**
	comp=N,4.2nm,0.3s,baz=182,slow=21,SNR=5.7							
WSAR				LR	LR		20 06 39.2	
	comp=N,422nm,20.8s,baz=302,slow=40							
WSAR	**Wadi Sarin**	**10.07**	**137**	Pn		**Pn**	**20 02 11.2**	**-1.6**
WSAR				Sn		**Sn**	**20 03 58.0**	**-6.5**
JMDO	**Jabal Madar**	**10.47**	**143**	⇑P		**Pn**	**20 02 17.1**	**-1.2**
	SNR=21							
GNI	**Garni**	**10.64**	**332**	LR	LR		20 07 01.5	
	comp=N,543nm,22.0s,baz=145,slow=42							
WBK	**Wadi Bani Khal**	**10.75**	**138**	⇑P		**Pn**	**20 02 20.3**	**-1.9**
	SNR=19							
MAK	**Makhachkala**	**12.41**	**347**	*e*P		**Pn**	**20 02 50.6**	**+5.8**
MAK				MLR	MLR			
	comp=Z,482nm,14.0s							
MALT	**Malatya**	**12.89**	**309**	*e*P		**Pn**	**20 02 48.5**	**-2.8**
MALT				pmax	pmax			
	comp=Z,7.0nm,0.9s							
MALT	**Malatya**	**12.89**	**309**	*e*Pn		**Pn**	**20 02 48.5**	**-2.8**
	comp=Z,7.0nm,0.9s							
WHFO	**Wadi Hawf**	**13.12**	**169**	P		**Pn**	**20 02 53.4**	**-1.2**
	SNR=13							

ZEI Tsey 13.23 336 *e*P **Pn** **20 02 58.5 +2.5**
SHAO Shalim 13.42 162 ⇑P **Pn** **20 02 56.9 -1.7**
SNR=20
ABTO Aybut 13.61 172 P **Pn** **20 03 00.8 -0.3**
SNR=12
MMAI Mount Meron Ar 13.62 283 Pn **Pn** **20 03 02.2 +0.9**
comp=Z,0.6nm,0.3s,baz=78,slow=15,SNR=3.5
EIL Elat 14.13 269 *e*Pn **Pn** **20 03 07.2 -1.2**
comp=Z,195nm,0.8s
KIV Kislovodsk 14.69 335 *c*P **Pn** **20 03 17.6 +1.6**
KIV *e*S **Sn** **20 05 51.1 -6.4**
KIV pmax pmax
comp=Z,74nm,1.1s
KIV MLR MLR
comp=Z,101nm,8.0s
KIV Kislovodsk 14.69 335 *e*Pn **Pn** **20 03 16.6 +0.6**
comp=Z,75nm,1.1s
KIV Kislovodsk 14.69 335 *i*P **Pn** **20 03 17.6 +1.6**
comp=Z,74nm,1.1s
CSS Prodhromos 15.58 290 *e*Pn **Pn** **20 03 27.9 +0.3**
comp=Z,56nm,1.1s
CSS Prodhromos 15.58 290 *e*Pn **Pn** **20 03 27.9 +0.3**
comp=Z,56nm,1.1s
MUKL Al Mukalla 16.47 188 *e*P **Pn** **20 03 38.1 -0.8**
BR131 Keskin Array S 16.84 306 *e*Pn **Pn** **20 03 41.7 -2.0**
comp=Z,3.2nm,0.7s
BRTR Keskin Array B 16.84 306 Pn **Pn** **20 03 43.8 +0.2**
comp=Z,0.2nm,0.3s,baz=125,slow=11,SNR=13
BRTR Keskin Array B 16.84 306 Pn **Pn** **20 03 43.8 +0.2**
BRTR Keskin Array B 16.84 306 *e*P **Pn** **20 03 44.7 +1.1**
DHBB Dhamar BB 17.42 203 *e*P **Pn** **20 03 51.6 +0.6**
LBOS 17.82 199 *e*P **Pn** **20 03 56.1 +0.3**
LBOS AMb AMB 20 03 57.5
comp=Z,131nm,1.5s
TRBA At Turbah 18.77 202 *e*P **Pn** **20 04 07.0 -0.4**
TRBA AMb AMB 20 04 09.1
comp=Z,121nm,2.3s
SIM Simferopol' 19.43 321 *e*P **Pn** **20 04 15.0 -0.3**
SIM pmax pmax
comp=Z,14nm,0.7s
SIM MLR MLR
comp=Z,190nm,19.0s
SIM Simferopol' 19.43 321 *e*P **Pn** **20 04 15.0 -0.3**
comp=Z,190nm,19.0s
ANR Andizhan 19.70 54 *e*P **Pn** **20 04 19.0 +0.4**
AKTK Aktyubinsk 20.17 13 P **P** **20 04 22.3 +0.2**
AKTK Aktyubinsk 20.17 13 P **P** **20 04 22.3 +0.2**
AKTO Aktyubinsk 20.17 13 P **P** **20 04 22.3 +0.2**
comp=Z,0.4nm,0.3s,baz=188,slow=11,SNR=12
ATD Arta Tunnel 20.78 204 P **P** **20 04 31.5 +2.8**
comp=Z,19nm,0.8s,baz=325,slow=12,SNR=6.4
ATD LR LR 20 13 24.0
comp=Z,204nm,18.6s,MS3.5,baz=24,slow=39
VRHR Novokhopersk 21.41 343 *e*P **P** **20 04 33.4 -2.1**
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=Z,30nm,0.7s,mb4.7
VRHR pmax pmax
comp=E,10.0nm,1.1s
AAK Ala-Archa 21.93 51 *i*P **P** **20 04 45.0 +4.0**
AAK pmax pmax
comp=Z,10.0nm,1.3s,mb4.1
AAK Ala-Archa 21.93 51 *e*P **P** **20 04 41.7 +0.7**
comp=Z,22nm,1.2s,mb4.5
VRSR Storozhevoye 22.19 340 *e*P **P** **20 04 41.6 -2.2**
VRSR pmax pmax
comp=Z,4.0nm,0.5s,mb4.1
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,0.7s
VRSR Storozhevoye 22.19 340 *e*P **P** **20 04 41.6 -2.2**
comp=E,4.0nm,0.5s,mb4.1
IDI Anoyia 22.48 288 P **P** **20 04 47.0 0.0**
comp=E,23nm,0.8s,mb4.7,baz=99,slow=13,SNR=12
VOR Voronezh 22.64 340 *e*P **P** **20 04 46.5 -2.1**
VOR pmax pmax
comp=N,130nm,1.2s
VOR pmax pmax
comp=E,80nm,1.2s
VOR pmax pmax
comp=Z,80nm,1.2s,mb5.0
VRI Vrincioaia 24.22 315 ⇓*i*P **P** **20 05 07.6 +3.5**
PLOR Plostina 24.26 315 ⇑*i*P **P** **20 05 05.7 +1.3**
MLR Muntele Rosu 24.52 314 P **P** **20 05 05.9 -0.9**
comp=Z,9.6nm,0.8s,mb4.4,baz=114,slow=1.1,SNR=15
MLR Muntele Rosu 24.52 314 ⇑*i*P **P** **20 05 10.6 +3.8**
MLR Muntele Rosu 24.52 314 P **P** **20 05 05.9 -0.9**
MLR pmax pmax
comp=Z,10.0nm,0.8s
VOIR 25.06 313 ⇑*i*P **P** **20 05 13.4 +1.7**
VOIR 25.06 313 ⇑P **P** **20 05 13.4 +1.7**
VTS Vitosha 25.20 305 ⇑*i*P **P** **20 05 14.8 +1.8**
VTS Vitosha 25.20 305 ⇑P **P** **20 05 14.8 +1.8**
VAY Valandovo 25.29 302 *i*P **P** **20 05 14.3 +0.5**
VAY Valandovo 25.29 302 *i*P **P** **20 05 14.3 +0.5**
AKASG Malin Array Be 25.70 327 P **P** **20 05 16.4 -1.1**
comp=Z,4.7nm,0.4s,mb4.4,baz=134,slow=8.7,SNR=58
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKBB Malin Array Si 25.70 327 *e*P **P** **20 05 15.9 -1.6**
BURAR Bucovina Array 26.00 317 ⇑*i*P **P** **20 05 21.3 +1.1**
BURAR Bucovina Array 26.00 317 ⇑P **P** **20 05 21.3 +1.1**
BRVK Borovoye 26.13 27 *e*P **P** **20 05 20.7 -0.7**
BRVK pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
BRVK Borovoye 26.13 27 *e*P **P** **20 05 20.6 -0.7**
comp=Z,7.3nm,1.0s,mb4.2
BRVK Borovoye 26.13 27 *e*P **P** **20 05 20.7 -0.7**
comp=Z,7.0nm,1.0s,mb4.2
BIA Bitola 26.13 301 *i*P **P** **20 05 19.9 -1.5**
BVAR Borovoye Array 26.14 27 P **P** **20 05 21.5 -0.1**
comp=Z,10nm,0.8s,mb4.4,baz=224,slow=8.3,SNR=15
BVAR LR LR 20 17 06.5
comp=Z,135nm,19.1s,MS3.5,baz=326,slow=40
BVAR Borovoye Array 26.14 27 P **P** **20 05 21.5 0.0**
BVAR pmax pmax
comp=Z,10.0nm,0.8s
BVAR MLR MLR
comp=Z,135nm,19.1s
SKO Skopje 26.28 303 *i*P **P** **20 05 24.1 +1.3**
SKO Skopje 26.28 303 *i*P **P** **20 05 24.0 +1.2**
OBN Obninsk 26.37 341 ⇑*e*P **P** **20 05 23.4 -0.2**
OBN *e*PP pP 20 05 40.8 +7.2
OBN pmax pmax
comp=Z,13nm,0.7s,mb4.6
OBN MLR MLR
comp=Z,100nm,13.0s,MS3.5
OBN Obninsk 26.37 341 *e*P **P** **20 05 24.2 +0.6**
comp=Z,17nm,0.8s,mb4.6
OBN Obninsk 26.37 341 *e*P **P** **20 05 23.4 -0.2**
comp=Z,13nm,0.7s,mb4.6
GZR Gura Zlata 26.49 311 ⇑*i*P **P** **20 05 26.1 +1.

PKSM **Moragy** 29.48 311 ⇓ *e*P P 20 05 52.3 +0.9
VYHS **Vyhne** 30.20 315 *e*P P 20 05 59.9 +2.1
SMOL **Smolenice** 31.07 314 *e*P P 20 06 05.0 -0.5
SMOL **Smolenice** 31.07 314 *e*P P 20 06 05.1 -0.4
MORC **Moravsky Berou** 31.50 316 *e*P P 20 06 08.1 -1.1
MORC pmax pmax
comp=Z,6.0nm,1.2s,mb4.3
MORC Moravsky Berou 31.50 316 *e*P P 20 06 08.1 -1.1
comp=Z,5.9nm,1.2s,mb4.3
MORC Moravsky Berou 31.50 316 *e*P P 20 06 08.1 -1.1
comp=Z,6.0nm,1.2s,mb4.3
BOJS Bojanci 31.53 308 *e*PKPdf P 20 06 09.3 -0.2
CEY Cerknica 32.15 308 *e*PKPbc P 20 06 15.9 +1.0
AQU L'Aquila 32.21 301 *e*P P 20 06 15.6 +0.2
AQU pmax pmax
comp=Z,21nm,1.0s,mb4.9
AQU L'Aquila 32.21 301 *e*P P 20 06 15.6 +0.1
comp=Z,21nm,1.0s,mb4.9
AQU L'Aquila 32.21 301 *e*P P 20 06 15.6 +0.2
comp=Z,21nm,1.0s,mb4.9
JAVS Javornik 32.44 308 *e*PKPbc P 20 06 18.1 +0.6
DPC Dobruska-Polom 32.45 317 *e*P P 20 06 17.9 +0.3
VOY Vojsko 32.59 308 *e*PKPbc P 20 06 19.3 +0.5
VOY *e* 20 06 23.2
UPC Upice 32.70 317 *e*P P 20 06 19.9 +0.2
MOA Molln 32.84 312 ⇑ *i*P P 20 06 20.9 -0.1
comp=Z,5.0nm,0.7s,mb4.5
KBA Koelnbreinsper 33.22 310 ⇑ *i*P P 20 06 24.4 +0.1
comp=Z,33nm,1.0s,mb5.2,SNR=11
KBA Koelnbreinsper 33.22 310 ⇑ *i*P P 20 06 24.4 +0.1
KBA pmax pmax
comp=Z,33nm,1.0s,mb5.2
ZAL Zalesovo 33.32 37 P P 20 06 24.7 -0.5
comp=Z,2.7nm,0.6s,mb4.4,baz=222,slow=9.0,SNR=9.2
ZAL Zalesovo 33.32 37 *i*P P 20 06 27.2 +2.0
ZAL pmax pmax
comp=Z,3.0nm,0.6s
ZAL Zalesovo 33.32 37 P P 20 06 24.7 -0.5
ZAL Zalesovo 33.32 37 *i*P P 20 06 27.2 +2.0
comp=Z,3.0nm,0.6s,mb4.4
GEC2 GERESS Array S 33.51 313 *e*P P 20 06 25.5 -1.3
GEC2 *e* pP 20 06 35.6 -1.3
GERES GERESS Array B 33.51 313 P P 20 06 26.4 -0.4
comp=Z,0.9nm,0.4s,mb4.0,baz=111,slow=8.5,SNR=17
GERES ScP ScP 20 12 51.4 +2.5
comp=Z,1.4nm,0.9s,baz=134,slow=4.2,SNR=9.3
GERES GERESS Array B 33.51 313 P P 20 06 26.4 -0.4
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES pmax pmax
comp=E,1.0nm,0.9s
KHC Kasperske Hory 33.67 314 *e*P P 20 06 27.4 -0.9
KHC Kasperske Hory 33.67 314 *e*P P 20 06 27.4 -0.9
WTTA Wattenberg 34.40 310 ⇑ *i*P P 20 06 34.3 -0.2
comp=E,30nm,1.1s,mb5.2,SNR=8.1
WTTA Wattenberg 34.40 310 ⇑ *i*P P 20 06 34.3 -0.2
WTTA pmax pmax
comp=Z,30nm,1.1s,mb5.1
WATA Walderalm 34.45 310 ⇑ *i*P P 20 06 34.5 -0.5
comp=Z,23nm,1.0s,mb5.1
WATA Walderalm 34.45 310 ⇑ *i*P P 20 06 34.5 -0.5
WATA pmax pmax
comp=Z,23nm,1.0s,mb5.1
JOF Joensuu 34.50 344 *e*p P 20 06 34.4 -1.0
KMBO Kilima Mbogo 34.51 205 LR LR 20 21 27.8
comp=Z,128nm,19.4s,MS3.7,baz=93,slow=38
SQTA Sankt Quirin 34.67 310 ⇑ *i*P P 20 06 36.4 -0.4
comp=Z,18nm,1.1s,mb4.9,SNR=11
FINES FINESS Array B 34.73 339 P P 20 06 34.9 -2.5
comp=Z,1.0nm,0.4s,mb4.1,baz=141,slow=9.5,SNR=14
FINES FINESS Array B 34.73 339 *i*P P 20 06 36.7 -0.7
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 34.73 339 *i*P P 20 06 36.7 -0.7
comp=Z,1.0nm,0.4s,mb4.1
CLL Collm 34.76 317 P P 20 06 39.0 +1.3
CLL *e**PP pP 20 06 46.0 -1.8
CLL Collm 34.76 317 *e*P P 20 06 39.0 +1.3
CLL *e*pP pP 20 06 46.0 -1.8
MOTA Moosalm 34.77 310 ⇑ *i*P P 20 06 37.1 -0.7
comp=Z,27nm,1.2s,mb5.0,SNR=7.6
KAF Kangasniemi 35.17 340 *e*p P 20 06 38.8 -2.4
comp=Z,1.4nm,0.4s,mb4.2
KAF Kangasniemi 35.17 340 *e*P P 20 06 38.8 -2.4
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
PGF Pioggiola 35.47 301 *e*P P 20 06 43.3 -0.4
PGF Pioggiola 35.47 301 *e*P P 20 06 43.3 -0.4
PGF Pioggiola 35.47 301 *e*P P 20 06 43.3 -0.4
PGF Pioggiola 35.47 301 *e*P P 20 06 43.3 -0.4
DAVA Damuels 35.57 309 ⇑ *i*P P 20 06 43.9 -0.6
comp=Z,24nm,0.5s,mb5.3,SNR=19
DAVA Damuels 35.57 309 P P 20 06 43.9 -0.7
comp=Z,24nm,0.5s,mb5.3,SNR=19
SBF Sospel 36.73 303 *e*P P 20 06 53.9 -0.6
SBF Sospel 36.73 303 *e*P P 20 06 53.9 -0.6
SBF Sospel 36.73 303 *e*P P 20 06 53.9 -0.6
FRF La Foret Royal 37.27 303 *e*P P 20 06 57.9 -1.2
FRF La Foret Royal 37.27 303 *e*P P 20 06 57.9 -1.2
FRF La Foret Royal 37.27 303 *e*P P 20 06 57.9 -1.2
FRF La Foret Royal 37.27 303 *e*P P 20 06 57.9 -1.2
MBDF Montbardon 37.29 304 *e*P P 20 06 58.8 -0.5
LPG La Plagne 37.40 306 *e*P P 20 06 59.9 -0.3
comp=Z,22nm,0.6s,mb4.9
LPG La Plagne 37.40 306 *e*P P 20 06 59.9 -0.3
LPG pmax pmax
comp=Z,11nm,0.6s,mb4.9
LPG La Plagne 37.40 306 *e*P P 20 06 59.9 -0.3
comp=Z,11nm,0.6s,mb4.9
LPL La Plagne 37.41 306 *e*P P 20 07 00.1 -0.2
comp=Z,17nm,0.5s,mb4.8
LPL La Plagne 37.41 306 *e*P P 20 07 00.1 -0.2
LPL pmax pmax
comp=Z,9.0nm,0.5s,mb4.9
LPL La Plagne 37.41 306 *e*P P 20 07 00.1 -0.2
comp=Z,8.6nm,0.5s,mb4.8
RSL Roselend 37.51 306 *e*P P 20 07 00.6 -0.5
CDF Champ du Feu 37.52 311 *e*P P 20 06 59.7 -1.5
comp=Z,2.5nm,0.4s,mb4.0
CDF Champ du Feu 37.52 311 *e*P P 20 06 59.7 -1.5
comp=Z,1.2nm,0.4s,mb4.0
HINF Hinteralfeld 37.68 310 *e*P P 20 07 01.4 -1.2
CABF La Chapelle 38.00 307 *e*P P 20 07 05.0 -0.3
comp=Z,63nm,0.9s,mb5.1
CABF La Chapelle 38.00 307 *e*P P 20 07 05.0 -0.3
CABF pmax pmax
comp=Z,32nm,0.9s,mb5.0
CABF La Chapelle 38.00 307 *e*P P 20 07 05.0 -0.3
comp=Z,32nm,0.9s,mb5.1
HAU Haudompre 38.05 310 *e*P P 20 07 04.4 -1.3
HAU *e*R
comp=Z,204nm,22.5s
HAU Haudompre 38.05 310 *e*P P 20 07 04.4 -1.3
HAU LR LR
comp=Z,200nm,22.5s,MS3.9
SMRF Simiane la Rot 38.08 303 *e*P P 20 07 05.2 -0.8
KRAR Krasnoyarsk 38.41 37 *e*P P 20 07 09.7 +0.9
KRAR pmax pmax
comp=Z,14nm,1.0s,mb4.7
KRAR Krasnoyarsk 38.41 37 *e*P P 20 07 09.7 +0.9
comp=Z,14nm,1.0s,mb4.7
VIVF Saint-Julien-l 38.79 304 *e*P P 20 07 11.0 -1.0
comp=Z,7.4nm,0.7s,mb4.2
VIVF Saint-Julien-l 38.79 304 *e*P P 20 07 11.0 -1.0
VIVF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
VIVF Saint-Julien-l 38.79 304 *e*P P 20 07 11.0 -1.0
comp=Z,3.7nm,0.7s,mb4.2
MEZF Maizieres J'vi 38.99 310 *e*P P 20 07 12.9 -0.7
LASF Ste Croix 39.32 303 *e*P P 20 07 15.6 -0.8
GIVF Givet 39.42 313 *e*P P 20 07 16.2 -1.0
SMF Signal de Mont 39.54 307 *e*P P 20 07 17.4 -0.8
comp=Z,33nm,0.6s,mb5.0
SMF Signal de Mont 39.54 307 *e*P P 20 07 17.4 -0.8
SMF pmax pmax
comp=Z,17nm,0.6s,mb5.0
SMF Signal de Mont 39.54 307 *e*P P 20 07 17.4 -0.8
comp=Z,17nm,0.6s,mb5.0
LOR Lormes 39.60 308 *e*P P 20 07 17.6 -1.1
comp=Z,6.4nm,0.5s,mb4.3
LOR *e*R
comp=Z,185nm,21.0s
LOR Lormes 39.60 308 *e*P P 20 07 17.6 -1.1
LOR pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
LOR MLR MLR
comp=Z,190nm,21.0s,MS3.9
LOR Lormes 39.60 308 *e*P P 20 07 17.6 -1.1
comp=Z,3.2nm,0.5s,mb4.3
LOR LR LR
comp=Z,190nm,21.0s,MS3.9
PLDF La Plantade 39.63 306 *e*P P 20 07 18.3 -0.6
BAIF Baives 39.80 313 *e*P P 20 07 19.7 -0.7
comp=Z,8.2nm,0.6s,mb4.4
BAIF Baives 39.80 313 *e*P P 20 07 19.7 -0.7
BAIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
BAIF Baives 39.80 313 *e*P P 20 07 19.7 -0.7
comp=Z,4.1nm,0.6s,mb4.4
SSF Saint Saulge 39.82 308 *e*P P 20 07 19.7 -0.8
comp=Z,20nm,0.8s,mb4.6
SSF Saint Saulge 39.82 308 *e*P P 20 07 19.7 -0.8
SSF pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
SSF Saint Saulge 39.82 308 *e*P P 20 07 19.7 -0.8
comp=Z,10nm,0.8s,mb4.6
AVF Avril sur Loir 39.89 307 *e*P P 20 07 20.2 -0.9
NB2 NORSAR Subarra 39.95 331 P P 20 07 19.6 -2.0
comp=Z,0.8nm,0.5s,mb3.7,baz=122,slow=8.6
NOA NORSAR Array B 39.95 331 P P 20 07 19.6 -1.9
comp=Z,1.2nm,0.6s,mb3.8,baz=122,slow=8.3,SNR=5.8
NOA NORSAR Array B 39.95 331 P P 20 07 19.7 -1.9
NOA pmax pmax
comp=Z,1.0nm,0.6s
AGO Saint Agoulin 39.97 306 *e*P P 20 07 21.5 -0.3
GTA Gaotai 40.21 64 *e*P P 20 07 24.9 +1.2
GTA AMB AMB
comp=Z,3.0nm,1.0s,mb4.0
BGF Bois d'Agland 40.22 307 *e*P P 20 07 22.9 -0.9
MTLF Montolieu 40.48 302 *e*P P 20 07 25.1 -0.9
TCF Toulx Ste Croi 40.63 306 *e*P P 20 07 26.7 -0.6
CAF Calviac 40.65 304 *e*P P 20 07 26.4 -1.0
RJF Les Rejaudoux 41.05 305 *e*P P 20 07 30.5 -0.2
comp=Z,5.6nm,0.6s,mb4.1
RJF *e*R
comp=Z,129nm,22.0s
RJF Les Rejaudoux 41.05 305 *e*P P 20 07 30.5 -0.2
RJF pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
RJF MLR MLR
comp=Z,130nm,22.0s,MS3.8
RJF Les Rejaudoux 41.05 305 *e*P P 20 07 30.5 -0.2
comp=Z,2.8nm,0.6s,mb4.1
RJF LR LR
comp=Z,130nm,22.0s,MS3.8
KEV Kevo 41.25 347 *e*p P 20 07 31.1 -1.3
comp=Z,5.9nm,0.8s,mb4.3
KEV Kevo 41.25 347 *e*P P 20 07 31.1 -1.3
KEV pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
EPOB Poblet 41.34 299 P P 20 07 34.2 +1.1
comp=Z,7.1nm,0.8s,mb4.3
EPOB Poblet 41.34 299 P P 20 07 34.2 +1.1
comp=Z,7.1nm,0.8s,mb4.3
ARCES ARCESS Array B 41.36 347 P P 20 07 32.4 -0.9
comp=Z,1.9nm,0.8s,mb3.8,baz=161,slow=5.7,SNR=4.3
ARCES ARCESS Array B 41.36 347 P P 20 07 32.4 -0.8
ARCES pmax pmax
comp=Z,2.0nm,0.8s
LFF La Frestale 41.59 304 *e*P P 20 07 34.4 -0.7
ERTA Horta de San J 41.92 298 P P 20 07 39.3 +1.5
comp=Z,21nm,0.6s,mb5.0
ERTA Horta de San J 41.92 298 P P 20 07 39.3 +1.5
comp=Z,21nm,0.6s,mb5.0
MFF Saint Martin d 42.28 307 *e*P P 20 07 39.8 -1.0
comp=Z,16nm,0.9s,mb4.4
MFF Saint Martin d 42.28 307 *e*P P 20 07 39.8 -1.0
MFF pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
MFF Saint Martin d 42.28 307 *e*P P 20 07 39.8 -1.0
comp=Z,7.9nm,0.9s,mb4.4
LDF La Druitiere 42.41 310 *e*P P 20 07 40.5 -1.3
comp=Z,8.4nm,0.4s,mb4.5
LDF La Druitiere 42.41 310 *e*P P 20 07 40.5 -1.3
comp=Z,4.2nm,0.4s,mb4.5
ETSF Etsaut 42.51 301 *e*P P 20 07 41.9 -0.8
comp=Z,4.7nm,0.7s,mb4.0
ETSF Etsaut 42.51 301 *e*P P 20 07 41.9 -0.8
ETSF pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
ETSF Etsaut 42.51 301 *e*P P 20 07 41.9 -0.8
comp=Z,2.3nm,0.7s,mb4.0
EMOS Mosqueruela 42.56 298 P P 20 07 45.5 +2.4
comp=Z,17nm,0.7s,mb4.9
FLN La Foliniere 42.66 310 *e*P P 20 07 42.6 -1.3
comp=Z,9.8nm,0.4s,mb4.6
FLN La Foliniere 42.66 310 *e*P P 20 07 42.6 -1.3
comp=Z,4.9nm,0.4s,mb4.6
GRR Gorron 42.88 309 *e*P P 20 07 44.6 -1.0
comp=Z,14nm,0.6s,mb4.6
GRR Gorron 42.88 309 *e*P P 20 07 44.6 -1.0
GRR pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
GRR Gorron 42.88 309 *e*P P 20 07 44.6 -1.0
comp=Z,6.8nm,0.6s,mb4.6
ZAK Zakamensk 43.03 48 *e*P P 20 07 49.7 +2.9
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
ETOB Tobarra 43.55 295 P P 20 07 52.6 +1.6
comp=Z,13nm,0.8s,mb4.7
ETOB Tobarra 43.55 295 P P 20 07 52.6 +1.6
comp=Z,13nm,0.8s,mb4.7
SGMF Saint Gilles 44.00 309 *e*P P 20 07 53.8 -0.9
comp=Z,20nm,0.5s,mb4.8
SGMF Saint Gilles 44.00 309 *e*P P 20 07 53.8 -0.9
SGMF pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
SGMF Saint Gilles 44.00 309 *e*P P 20 07 53.8 -0.9
comp=Z,10nm,0.5s,mb4.8
EVIA Vianos 44.29 295 P P 20 07 58.7 +1.7
EVIA pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
EVIA Vianos 44.29 295 P P 20 07 58.7 +1.7
comp=Z,10.0nm,0.7s,mb4.7
EVIA Vianos 44.29 295 P P 20 07 58.7 +1.7
comp=Z,10.0nm,0.7s,mb4.7
QUIF Quistinic 44.39 309 *e*P P 20 07 56.8 -1.0
comp=Z,23nm,0.5s,mb4.9
QUIF Quistinic 44.39 309 *e*P P 20 07 56.8 -1.0
QUIF pmax pmax
comp=Z,12nm,0.5s,mb4.9
QUIF Quistinic 44.39 309 *e*P P 20 07 56.8 -1.0
comp=Z,12nm,0.5s,mb4.9
ROSF Rostrenen 44.48 309 *e*P P 20 07 57.5 -1.0
comp=Z,7.0nm,0.5s,mb4.3
ROSF Rostrenen 44.48 309 *e*P P 20 07 57.5 -1.0
ROSF pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
ROSF Rostrenen 44.48 309 *e*P P 20 07 57.5 -1.0
comp=Z,3.5nm,0.5s,mb4.3
ELAN Lanestosa 44.61 302 P P 20 07 59.4 -0.2
comp=Z,24nm,1.2s,mb4.9
ELAN Lanestosa 44.61 302 P P 20 07 59.4 -0.1
comp=Z,24nm,1.2s,mb4.9
SONM Songino Array 44.89 52 P P 20 08 02.2 +0.5
comp=Z,3.7nm,0.9s,mb4.2,baz=269,slow=7.1,SNR=19
SONM PcP PcP 20 09 46.4 +3.5
comp=Z,0.6nm,0.9s,baz=222,slow=2.0,SNR=3.7
SONM Songino Array 44.89 52 P P 20 08 02.2 +0.4
SONM 20 09 46.4
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM pmax pmax
comp=Z,1.0nm,0.9s
ESDC Sonseca Array 45.30 297 P P 20 08 06.0 +1.0
comp=Z,2.7nm,0.8s,mb4.1,baz=71,slow=7.7,SNR=12
ESDC Sonseca Array 45.30 297 P P 20 08 05.9 +0.9
comp=Z,1.9nm,0.7s,mb4.0
ESDC Sonseca Array 45.30 297 P P 20 08 05.9 +0.9
comp=Z,1.9nm,0.7s,mb4.0
ESLA Sonseca Array 45.30 297 *e*P P 20 08 04.0 -1.1
comp=Z,4.4nm,1.3s,mb4.1
ESLA Sonseca Array 45.30 297 *e*P P 20 08 04.0 -1.0
comp=Z,4.4nm,1.3s,mb4.1
ULN Ulaanbaatar 45.33 52 *e*P P 20 08 03.5 -1.8
comp=Z,7.0nm,0.8s,mb4.5
ULN Ulaanbaatar 45.33 52 *e*P P 20 08 06.5 +1.2
GUD Guadarrama 45.34 298 P P 20 08 06.6 +1.3
GUD pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
GUD Guadarrama 45.34 298 P P 20 08 06.6 +1.2
comp=Z,2.8nm,0.5s,mb4.3
GUD Guadarrama 45.34 298 P P 20 08 06.6 +1.3
comp=Z,3.0nm,0.5s,mb4.4
EBAN Banos Encina 45.35 295 P P 20 08 06.3 +0.8
KMI Kunming 45.50 84 P P 20 08 09.3 +2.6
KMI AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
EARI Arriondas 45.90 302 P P 20 08 10.5 +0.7
comp=Z,4.3nm,0.6s,mb4.6
EADA Adamuz 45.97 295 P P 20 08 11.8 +1.5
comp=Z,7.0nm,0.9s,mb4.6
EADA Adamuz 45.97 295 P P 20 08 11.9 +1.6
comp=Z,7.0nm,0.9s,mb4.6
EMIJ Mijas 46.38 293 P P 20 08 13.3 -0.2
EMIJ Mijas 46.38 293 P P 20 08 13.3 -0.3
ECAL Calabor 47.14 300 P P 20 08 20.9 +1.4
comp=Z,7.7nm,0.9s,mb4.6
ECAL Calabor 47.14 300 P P 20 08 20.9 +1.4
comp=Z,7.7nm,0.9s,mb4.6
PBRG Braganca 47.16 300 *e*P P 20 08 20.4 +0.8
comp=Z,27nm,1.8s,mb4.9
ESPR Espera 47.18 293 P P 20 08 20.4 +0.5
ESPR Espera 47.18 293 P P 20 08 20.4 +0.5
EPON Pontenova 47.31 302 P P 20 08 22.9 +2.1
comp=Z,4.9nm,0.8s,mb4.5
MTE Manteigas 47.93 298 *e*P P 20 08 27.0 +1.3
comp=Z,29nm,1.2s,mb5.2
PVRL Vila Real 47.95 300 *e*P P 20 08 27.1 +1.3
comp=Z,19nm,1.4s,mb4.9
PCBR Castelo Branco 47.96 298 *e*P P 20 08 27.4 +1.5
comp=Z,36nm,1.3s,mb5.2
PVIS Viseu 48.15 299 *e*P P 20 08 29.0 +1.6
comp=Z,19nm,1.0s,mb5.1
PBEJ Beja 48.55 295 *e*P P 20 08 31.1 +0.6
comp=Z,33nm,1.7s,mb5.1
PTOM Tomar 48.71 297 *e*P P 20 08 33.2 +1.6
comp=Z,18nm,1.2s,mb5.0
TOA0 Torodi Ar. Sit 48.80 260 *e*P P 20 08 32.5 +0.2
TOA0 Torodi Ar. Sit 48.80 260 *e*P P 20 08 32.5 +0.2
TORD Torodi Ar. Bea 48.80 260 P P 20 08 34.1 +1.8
comp=Z,6.8nm,1.0s,mb4.6,baz=54,slow=6.8,SNR=4.7
OPO Ambohidratompo 49.33 185 P P 20 08 39.2 +2.8
comp=Z,1.7nm,0.7s,mb4.2,baz=255,slow=12,SNR=3.6
BOD Bodaibo 50.05 38 *e*P P 20 08 41.0 -0.9
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
BOD Bodaibo 50.05 38 *e*P P 20 08 41.0 -0.9
comp=Z,5.0nm,1.1s,mb4.5
LSZ Lusaka 50.98 209 P P 20 08 52.2 +3.3
comp=Z,2.8nm,0.8s,mb4.2,baz=51,slow=9.8,SNR=3.7
LSZ Lusaka 50.98 209 P P 20 08 52.2 +3.3
LSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
DBIC Dimbokro 57.64 257 P P 20 09 38.2 +0.9
comp=Z,4.0nm,0.6s,mb4.6,baz=42,slow=6.1,SNR=3.7
DBIC Dimbokro 57.64 257 P P 20 09 38.3 +0.9
DBIC pmax pmax
comp=Z,4.0nm,0.6s
LIC Lamto 58.02 257 *e*P P 20 09 41.6 +1.5
comp=Z,18nm,0.7s,mb4.9
LIC Lamto 58.02 257 *e*P P 20 09 41.6 +1.5
comp=Z,8.8nm,0.7s,mb4.9
SSE Sheshan 58.97 70 P P 20 09 45.9 -0.7
SSE AMB AMB
comp=Z,25nm,0.6s,mb5.4
SSE AMB AMB
comp=Z,84nm,6.9s
BOSA Boshof 64.15 205 P P 20 10 23.4 +1.8
comp=Z,3.8nm,0.7s,mb4.5,baz=32,slow=5.7,SNR=7.0
BOSA Boshof 64.15 205 P P 20 10 23.4 +1.8
BOSA pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
MJAR Matsushiro Arr 70.15 59 P P 20 11 03.0 +3.3
comp=Z,2.0nm,0.9s,mb4.0,baz=307,slow=11,SNR=4.0
MJAR Matsushiro Arr 70.15 59 P P 20 11 03.0 +3.3
MJAR pmax pmax
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 86.25 353 P P 20 12 28.2 -0.5
comp=Z,0.4nm,0.4s,mb4.0,baz=344,slow=5.8,SNR=4.3
YKA Yellowknife Ar 86.25 353 *i*P P 20 12 31.3 +2.6
YKA Yellowknife Ar 86.25 353 P P 20 12 28.2 -0.5
WRA Warramunga Arr 94.36 111 P P 20 13 06.5 -0.2
comp=Z,0.8nm,0.7s,mb4.3,baz=311,slow=3.9,SNR=7.8
WRA Warramunga Arr 94.36 111 *i*P P 20 13 09.6 +2.9
WRA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 95.92 114 P P 20 13 13.6 -0.3
comp=Z,0.3nm,0.6s,mb3.9,baz=308,slow=4.9,SNR=6.3

IDC ***18*** *20:07:39.2± 1.9, 42.02N×6723E, h0km, mb3.8/2, mb1 3.7/5, mb1mx3.4/23, mbtmp3.7/5, ML3.4/3, Error ellipse: s-maj=22.0km s-min=15.7km az=8.0*
ISCJB ***18*** *20:07:40.4± 0.8, 42.54N±0.006×6732E±0.006, h10km, mb4.1/3, Error ellipse: s-maj=9.5km s-min=5.9km az=48.2*
NEIC ***18*** *20:07:40.0± 1.1, 42.18N×6727E, h10km, mb4. 1/2, Error ellipse: s-maj=17.4km s-min=9.3km az=179.0*
MOS ***18*** *20:07:43.9± 1.8, 42.53N×6722E, h33km, mb4. 1/2, Error ellipse: s-maj=16.0km s-min=11.2km az=82.3*
NNC ***18*** *20:07:46.2± 3.1, 42.73N×6745E, h14km±20km, mb3.5, mpv2.9, Error ellipse: s-maj=27.3km s-min=15.8km az=22.0*

ISC 18 20:07:41.3±0.8, 4235N±0.006×6728E±0.006, h10km, n31, σ1§45/45, mb4.1/3, 9C-10D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**2.50**	**71**	Pn	**Pn**	**20 08 22.8**	**+0.9**
	0.5nm,0.3s,baz=204,slow=3.8,SNR=242						
KK31				⇓Pg	**Pg**	**20 08 27.5**	**-1.7**
	3.0nm,0.2s,baz=244,slow=22,SNR=21						
KK31				⇓Lg		20 08 59.1	
	108nm,0.7s,baz=251,slow=33,SNR=14						
KK31	**Karatay Array**	**2.50**	**71**	Pn	**Pn**	**20 08 22.8**	**+0.9**
KK31				Pg	**Pg**	**20 08 27.5**	**-1.7**
KK31				Lg		20 08 59.1	
AAK	**Ala-Archa**	**5.34**	**84**	PN	**Pn**	**20 09 00.8**	**-0.3**
AAK				*e*		20 09 19.6	
TKM2	**Tokmak 2**	**6.16**	**82**	⇑Pn	**Pn**	**20 09 19.0**	**+6.7**
	0.4nm,0.6s						
TKM2				⇑Lg		20 10 52.7	
	1.9nm,0.6s						
TKM2	**Tokmak 2**	**6.16**	**82**	Pn	**Pn**	**20 09 19.0**	**+6.7**
TKM2				Lg		20 10 52.7	
AB31	**Akbulak array**	**8.60**	**326**	⇓Pn	**Pn**	**20 09 46.2**	**+0.4**
	0.9nm,0.3s,baz=147,slow=14,SNR=21						
AB31				⇓Sn	**Sn**	**20 11 20.3**	**-2.5**
	2.7nm,0.4s,baz=152,slow=22,SNR=4.2						
AB31	**Akbulak array**	**8.60**	**326**	Pn	**Pn**	**20 09 46.2**	**+0.4**
AB31				Sn	**Sn**	**20 11 20.3**	**-2.5**
AKTK	**Aktyubinsk**	**10.31**	**325**	Pn	**Pn**	**20 10 10.5**	**+1.3**
AKTK				Sn	**Sn**	**20 12 04.5**	**-0.2**
AKTK				Lg		20 13 18.9	
AKTO	**Aktyubinsk**	**10.31**	**325**	⇑Pn	**Pn**	**20 10 10.7**	**+1.6**
AKTO				⇑Sn	**Sn**	**20 12 01.7**	**-3.0**
AKTO	**Aktyubinsk**	**10.31**	**325**	Pn	**Pn**	**20 10 10.5**	**+1.3**
	0.2nm,0.3s,baz=145,slow=8.7,SNR=5.1						
AKTO				Sn	**Sn**	**20 12 04.5**	**-0.2**
	0.6nm,0.3s,baz=185,slow=22,SNR=6.4						
AKTO				Lg		20 13 18.9	
	0.2nm,0.3s,baz=229,slow=23,SNR=3.1						
ZRNK	**Zerenda**	**10.68**	**6**	⇓Pn	**Pn**	**20 10 15.1**	**+0.9**
	4.8nm,0.7s						
ZRNK				⇑Sn	**Sn**	**20 12 11.1**	**-2.7**
	3.6nm,0.6s						
ZRNK				⇑Lg		20 13 23.1	
	15nm,1.1s						
ZRNK	**Zerenda**	**10.68**	**6**	*e*P	**Pn**	**20 10 14.4**	**+0.2**
ZRNK						20 12 11.1	
ZRNK	**Zerenda**	**10.68**	**6**	*e*Pn	**Pn**	**20 10 14.4**	**+0.2**
ZRNK				Sn	**Sn**	**20 12 11.1**	**-2.7**
ZRNK				Lg		20 13 23.1	
VOSK	**Vostochnaya**	**10.68**	**12**	⇑Pn	**Pn**	**20 10 14.2**	**-0.1**
	1.0nm,0.2s						
VOSK				⇓Sn	**Sn**	**20 12 08.1**	**-5.7**
	0.8nm,0.2s						
VOSK				Lg		20 13 25.1	
VOSK	**Vostochnaya**	**10.68**	**12**	Pn	**Pn**	**20 10 14.2**	**-0.1**
VOSK				Sn	**Sn**	**20 12 08.1**	**-5.7**
BVA0	**Borovoye Array**	**10.89**	**10**	⇓Pn	**Pn**	**20 10 18.0**	**+0.9**
	0.2nm,0.2s,baz=186,slow=11,SNR=7.7						
BVA0				⇑Sn	**Sn**	**20 12 09.4**	**-10**
	0.3nm,0.8s,baz=204,slow=14,SNR=3.8						
BVAR	**Borovoye Array**	**10.89**	**10**	Pn	**Pn**	**20 10 18.0**	**+0.8**
	0.4nm,0.3s,baz=174,slow=14,SNR=4.6						

BVAR				Sn	Sn	20 12 20.6	+1.6	
	0.9nm,0.3s,baz=167,slow=27,SNR=4.2							
BVAR	**Borovoye Array**	**10.89**	**10**	P	Pn	**20 10 18.0**	**+0.9**	
BVAR						20 12 20.6		
BVAR				smax				
	comp=E,1.0nm,0.3s							
BRVK	**Borovoye**	**10.91**	**10**	*e*Pn	Pn	**20 10 19.8**	**+2.5**	
BRVK				*e*Sn	Sn	**20 12 11.2**	**-8.2**	
CHKZ	**Chkalovo**	**11.55**	**10**	⇓Pn	Pn	**20 10 27.7**	**+1.5**	
	comp=E,0.8nm,0.3s							
CHKZ				⇓Sn	Sn	**20 12 31.3**	**-4.0**	
	comp=E,0.7nm,0.2s							
CHKZ				⇑Lg		20 13 54.5		
	comp=E,7.7nm,0.7s							
MKAR	**Makanchi Array**	**11.59**	**62**	Pn	Pn	**20 10 25.8**	**-0.9**	
	comp=E,0.2nm,0.3s,baz=248,slow=16,SNR=6.9							
MKAR				Lg		20 13 54.8		
	comp=E,0.3nm,0.3s,baz=260,slow=27,SNR=6.1							
MK06	**Makanchi Array**	**11.60**	**62**	Pn	Pn	**20 10 25.6**	**-1.3**	
MK06				⇓Lg		20 13 54.8		
	comp=E,6.6nm,1.1s							
MK06	**Makanchi Array**	**11.60**	**62**	Pn	Pn	**20 10 25.6**	**-1.3**	
ZAL	**Zalesovo**	**16.41**	**39**	Lg		20 16 25.8		
	comp=E,0.3nm,0.3s,baz=297,slow=2.3,SNR=1.9							
KIV	**Kislovodsk**	**18.00**	**283**	P	Pn	**20 11 48.8**	**-2.7**	
KIV				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KIV	**Kislovodsk**	**18.00**	**283**	P	Pn	**20 11 48.8**	**-2.7**	
	comp=Z,6.3nm,0.8s							
BRTR	**Keskin Array B**	**25.42**	**275**	P	P	**20 13 09.2**	**+0.3**	
	comp=Z,0.9nm,0.7s,mb3.4,baz=92,slow=9.8,SNR=4.7							
BRTR	**Keskin Array B**	**25.42**	**275**	P	P	**20 13 09.3**	**+0.4**	
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ARCES	**ARCESS Array B**	**34.65**	**336**	P	P	**20 14 32.5**	**+1.8**	
	comp=Z,5.6nm,1.2s,mb4.4,baz=97,slow=7.4,SNR=4.1							
ARCES	**ARCESS Array B**	**34.65**	**336**	P	P	**20 14 32.6**	**+1.9**	
ARCES				pmax	pmax			
	comp=Z,6.0nm,1.2s							
VSL	**Villasalto**	**43.12**	**286**	P	P	**20 15 40.0**	**-1.7**	
	comp=Z,9.1nm,1.1s,mb4.4							

IDC 18 20:12:59.6±2.1,2386N×9413E,h0km,mb3.5/4,mb1 3.7/4, mb1mx3.4/20,mbtmp3.5/4,Error ellipse: s-maj=95.3km s-min=23.6km az=69.0,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MKAR	**Makanchi Array**	**24.78**	**340**	P	P	20 18 23.1		+0.1
	0.4nm,0.4s,baz=154,slow=9.7,SNR=6.5							
SONM	**Songino Array**	**25.84**	**19**	P	P	20 18 32.9		+0.2
	0.5nm,0.9s,baz=201,slow=10,SNR=4.2							
WRA	**Warramunga Arr**	**58.58**	**135**	P	P	20 22 58.4		+0.3
	0.3nm,0.3s,baz=318,slow=7.7,SNR=12							
ASAR	**Alice Springs**	**61.02**	**138**	P	P	20 23 15.3		+0.4
	0.4nm,0.5s,baz=318,slow=6.6,SNR=10							

IDC 18 20:14:56.0±1.1,5142N×17872W,h0km,mb3.8/6, mb1 4.1/7,mb1mx3.7/21,mbtmp3.9/7,ML4.1/1,Error ellipse: s-maj=38.6km s-min=23.2km az=175.0
BJI 18 20:14:58.1,5120N×17850W,h18km,mB4.9,mb4.7,Ms4.2, Msz4.0
NEIC 18 20:15:00.2,5116N×17850W,h19km,ML4.0(AEIC),After AEIC.
ISCJB 18 20:15:01.4±0.9,515N±02×17857W±008,h48km±9km, mb4.2/11,Error ellipse: s-maj=29.3km s-min=6.8km az=157.5

ISC 18 20:15:02.5±1.0,515N±02×17859W±009,h44km±9km,n18, σ1§19/18,mb4.2/11,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AMKA	**Amchitka**	**1.33**	**266**	P	**Pn**	**20 15 24.0**		**-0.6**
AMKA				S	**Sn**	**20 15 41.0**		**0.0**
ATKA	**Atka Island**	**2.81**	**74**	P	**Pn**	**20 15 44.5**		**-0.5**
ATKA				S	**Sn**	**20 16 17.2**		**-0.4**
NIKO	**Nikolski**	**6.16**	**72**	P	**Pn**	**20 16 32.2**		**+1.2**
SPIA	**Saint Paul Isl**	**7.49**	**37**	P	**Pn**	**20 16 52.4**		**+3.2**
KDAK	**Kodiak Island**	**16.25**	**57**	Pn	**Pn**	**20 18 46.0**		**-1.6**
	0.7nm,0.3s,baz=274,slow=8.7,SNR=4.9							
MDJ	**Mudanjiang**	**34.69**	**279**	P	**P**	**20 21 46.4**		**-1.6**
MDJ				AMB	AMB			
	comp=Z,4.0nm,1.0s,mb4.3							
MDJ				AMB	AMB			
	comp=Z,36nm,3.2s							
NVAR	**Mina Array Bea**	**43.40**	**83**	P	**P**	**20 23 02.1**		**+1.4**
	comp=Z,0.3nm,0.5s,mb3.2,baz=312,slow=9.5,SNR=3.4							
PDAR	**Pinedale Array**	**46.15**	**72**	P	**P**	**20 23 22.3**		**-0.3**
	comp=Z,2.2nm,0.8s,mb4.1,baz=316,slow=4.1,SNR=12							
SONM	**Songino Array**	**46.72**	**297**	P	**P**	**20 23 27.2**		**+0.1**
	comp=Z,1.5nm,1.2s,mb3.8,baz=81,slow=9.1,SNR=4.4							
NJ2	**Nanjing**	**48.94**	**272**	*e*P	**P**	**20 23 46.3**		**+2.0**
NJ2				AMB	AMB			
	comp=Z,20nm,1.1s,mb5.1							
LZH	**Lanzhou**	**55.48**	**286**	*e*P	**P**	**20 24 34.5**		**+1.6**
LZH				AP	pP	20 24 42.3		-3.0
LZH				XP	sP	20 24 45.5		-4.9
LZH				PP	PP	20 26 40.1		+3.1
LZH				AMB	AMB			
	comp=Z,22nm,1.4s,mb5.0							
GTA	**Gaotai**	**55.65**	**292**	*e*P	**P**	**20 24 34.8**		**+0.7**
GTA				AP	pP	20 24 44.9		-1.6
GTA				XP	sP	20 24 49.4		-2.2
GTA				AMB	AMB			
	comp=Z,4.0nm,1.1s,mb4.4							
ARCES	**ARCESS Array B**	**58.00**	**350**	P	**P**	**20 24 49.5**		**-1.2**
	comp=Z,3.4nm,0.8s,mb4.4,baz=24,slow=9.3,SNR=3.8							
KMI	**Kunming**	**63.84**	**278**	P	**P**	**20 25 35.3**		**+4.9**
KMI				AMB	AMB			
	comp=Z,3.0nm,1.3s,mb4.2							
FINES	**FINESS Array B**	**65.70**	**347**	P	**P**	**20 25 41.8**		**-0.7**
	comp=Z,1.6nm,0.9s,mb4.0,baz=15,slow=5.8,SNR=4.4							
ASAR	**Alice Springs**	**85.66**	**223**	P	**P**	**20 27 35.4**		**-1.2**
	comp=Z,0.5nm,0.8s,mb3.8,baz=30,slow=7.1,SNR=5.2							
LBTB	**Lobatse**	**147.74**	**316**	PKPbc	PKPbc	20 34 41.9		-0.5
	comp=Z,2.4nm,0.5s,baz=19,slow=3.0,SNR=6.0							
BOSA	**Boshof**	**151.00**	**313**	PKPbc	PKPbc	20 34 50.2		-0.3
	comp=Z,2.3nm,0.9s,baz=45,slow=2.7,SNR=3.2							

ISCJB 18 20:29:13.9±1.2,1414N±009×9220W±006,h59km±16km, Error ellipse: s-maj=17.1km s-min=7.7km az=53.7
CASC 18 20:29:15.3±2.6,1426N×9212W,h54km±21km,MD3.9
MEX 18 20:29:17.5±0.4,1441N×9209W,h131km±27km,MD4.3
NEIC 18 20:29:17.5,1441N×9208W,h131km,MD4.4(MEX),After MEX.

ISC 18 20:29:15.1±1.2,1416N±010×9216W±006,h56km±18km, n18,σ0§93/18,3C-5D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JAT	**Jato**	**0.53**	**72**	⇑*e*P	**Pn**	**20 29 28.2**		**+1.1**
JAT				*e*S	**Sn**	**20 29 34.9**		**-0.9**
TP2	**Tecpan 2**	**1.27**	**60**	*e*P	**Pn**	**20 29 36.1**		**-0.5**
TP2				*e*S	**Sn**	**20 29 52.6**		**+0.1**
TER	**Terranova**	**1.44**	**84**	⇓*e*P	**Pn**	**20 29 38.5**		**-0.4**
PCG	**Pacaya**	**1.52**	**81**	⇓*e*P	**Pn**	**20 29 40.3**		**+0.3**
PCG				*e*S	**Sn**	**20 29 58.8**		**+0.1**
IXG	**Ixpaco**	**1.66**	**89**	⇓*e*P	**Pn**	**20 29 41.4**		**-0.3**
IXG				*e*S	**Sn**	**20 30 02.5**		**+0.6**
CCIG	**Comitan**	**2.12**	**1**	*i* P	**Pn**	**20 29 48.8**		**+0.8**
CCIG				*i* S	**Sn**	**20 30 13.3**		**+0.2**
RBDL	**Robledal**	**2.40**	**91**	⇓*e*P	x	20 29 59.0		
RBDL				*e*S	x	20 30 27.9		
RTR	**El Retiro**	**2.46**	**96**	⇑*e*P	x	20 30 00.1		
RTR				*e*S	x	20 30 29.1		
SCX	**San Cristobal**	**2.61**	**350**	*e*P	**Pn**	**20 29 56.5**		**+1.8**
BOQS	**Boqueron**	**2.83**	**98**	⇑*e*P	x	20 30 05.2		
BOQS				*e*S	x	20 30 40.5		
LBRS	**Las Brisas**	**3.06**	**97**	*e*P	x	20 30 08.3		
LBRS				*e*S	x	20 30 46.0		
LCBS	**La Ceiba**	**3.13**	**99**	*e*P	x	20 30 09.8		
LCBS				*e*S	x	20 30 45.5		
VSM	**San Miguel**	**3.84**	**100**	*e*P	x	20 30 18.8		
VSM				*e*S	x	20 31 03.9		
CMIG	**Matias Romero**	**3.92**	**318**	*e*P	**Pn**	**20 30 13.4**		**+0.6**
CMIG				*i* S	**Sn**	**20 30 56.9**		**-0.7**
CNCH	**Conchagua**	**4.30**	**101**	⇓*e*P	x	20 30 25.0		
CNCH				*e*S	x	20 31 16.3		
OXX	**Oaxaca**	**5.27**	**304**	*e*P	**Pn**	**20 30 31.5**		**+0.3**
OXX	**Oaxaca**	**5.27**	**304**	*e*P	**Pn**	**20 30 29.0**		**-2.2**
TEIG	**Tepich**	**7.09**	**31**	*i* P	**Pn**	**20 30 53.9**		**-2.3**
TEIG				*i* S	**Sn**	**20 32 09.9**		**-5.3**

NDI 18 20:33:48.0±2.1,3480N×7259E,h10km,ML3.4
ISCJB 18 20:33:50.8±0.6,3500N±005×7309E±007,h33km,Error ellipse: s-maj=9.5km s-min=5.1km az=110.7
NNC 18 20:33:55.4±13.0,4131N±8100E,h0km,mb3.5,mpv3.3, Error ellipse: s-maj=333.7km s-min=80.1km az=1.0

ISC 18 20:33:53.1±0.8,3492N±006×7299E±008,h39km±36km, n13,σ1§10/17,3C,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CEP	**Cherat**	**1.42**	**220**	⇑P	**Pn**	**20 34 15.0**		**-1.3**
SARP	**Sargodha**	**3.01**	**185**	P	**Pn**	**20 34 37.4**		**-0.8**
SBDP	**Sheikh Budin**	**3.19**	**215**	P	**Pn**	**20 34 41.1**		**+0.4**
DLH	**Dalhousie**	**3.43**	**133**	*e*P	**Pn**	**20 34 45.0**		**+0.9**
DLH				*e*S	**Sn**	**20 35 25.0**		**+1.5**
DRP	**Derazinda**	**3.94**	**217**	P	**Pn**	**20 34 53.4**		**+2.4**
SDNR	**Sundarnagar**	**4.77**	**135**	*e*P	**Pn**	**20 35 01.4**		**-1.1**
SDNR				*ex*	x	20 35 53.0		
SMLA	**Simla**	**5.16**	**136**	*e*P	**Pn**	**20 35 06.6**		**-1.2**
SMLA				*e*S	**Sn**	**20 36 04.6**		**-1.4**
	236nm,0.3s							
KLP	**Kalpa**	**5.55**	**126**	*e*P	**Pn**	**20 35 14.1**		**+0.9**
KLP				*e*S	**Sn**	**20 36 15.9**		**+0.2**
KLP				AML	AML	20 36 49.2		
	comp=E,94nm,0.8s							
KLP				AML	AML	20 36 49.4		
	comp=N,90nm,0.6s							
KHET	**Khetri**	**7.24**	**160**	*e*S	**Sn**	**20 36 50.0**		**-7.2**
KHET				AML	AML	20 37 42.7		
	comp=N,8.2nm,0.3s							
KHET				AML	AML	20 37 43.0		
	comp=E,13nm,0.8s							
SONA	**Sohna**	**7.51**	**151**	*e*S	**Sn**	**20 36 59.1**		**-4.8**
SONA				AML	AML	20 37 43.9		
	comp=N,25nm,0.8s							
SONA				AML	AML	20 37 45.2		
	comp=E,13nm,0.4s							
KK31	**Karatay Array**	**8.39**	**347**	P	**Pn**	**20 35 52.7**		**+0.5**
	comp=E,0.5nm,0.3s,baz=144,slow=11,SNR=30							
KK31				⇑S	**Sn**	**20 37 24.9**		**-0.6**
	comp=E,0.4nm,0.3s,baz=167,slow=24,SNR=5.9							
AB31	**Akbulak array**	**17.25**	**330**	P	**Pn**	**20 37 52.2**		**+1.2**
	comp=E,0.2nm,0.3s,baz=146,slow=13,SNR=5.1							
AKTO	**Aktyubinsk**	**18.95**	**329**	⇑P	**Pn**	**20 38 10.9**		**-0.9**

ISCJB 18 21:04:17.2±2.4,2265±01×1783W±02,h344km±18km, mb4.0/13,Error ellipse: s-maj=36.2km s-min=13.9km az=125.8
NEIC 18 21:04:18.8±6.4,2265S×17838W,h337km±54km,mb4.2/11, Error ellipse: s-maj=50.4km s-min=14.8km az=47.0
IDC 18 21:04:21.7±10.0,2273S×17855W,h350km±91km,mb3.7/5, mb1 3.8/6,mb1mx3.6/14,mbtmp4.5/6,Error ellipse: s-maj=66.1km s-min=21.4km az=51.0

ISC 18 21:04:19.6±2.3,2275±01×1783W±02,h343km±17km,n27, σ0§88/26,mb4.0/13,1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
RAO	**Raoul Island**	**6.51**	**177**	S	**S**	**21 07 14.2**		**0.0**
	56nm,0.3s,baz=90,slow=20,SNR=4.4							
DZM	**Mont Dzumac**	**14.09**	**270**	*e*P	**P**	**21 07 31.9**		**+7.4**
DZM	**Mont Dzumac**	**14.09**	**270**	P	**P**	**21 07 31.0**		**+6.5**
	1.1nm,0.3s,baz=82,slow=18,SNR=20							
URZ	**Urewera**	**15.96**	**193**	P	**P**	**21 07 44.2**		**-0.7**
	2.4nm,0.3s,baz=332,slow=2.3,SNR=11							
URZ				S	**S**	**21 10 35.3**		**+0.1**
	1.4nm,0.3s,baz=257,slow=23,SNR=14							
CTA	**Charters Tower**	**33.02**	**268**	*e*P	**P**	**21 10 24.6**		**+0.9**
	11nm,0.6s,mb4.3							
CTA	**Charters Tower**	**33.02**	**268**	P	**P**	**21 10 24.6**		**+0.9**
	13nm,0.5s,mb4.4,baz=96,slow=10,SNR=25							
CTAO	**Charters Tower**	**33.02**	**268**	*e*P	**P**	**21 10 24.3**		**+0.6**
	15nm,0.6s,mb4.4							
PMG	**Port Moresby**	**35.60**	**286**	P	**P**	**21 10 47.2**		**+1.6**
	18nm,0.7s,mb4.4,baz=104,slow=4.7,SNR=3.9							
PMG	**Port Moresby**	**35.60**	**286**	*e*P	**P**	**21 10 45.4**		**-0.2**
	19nm,0.8s,mb4.4							
AS31	**Alice Springs**	**43.74**	**259**	*e*P	**P**	**21 11 52.0**		**0.0**
ASAR	**Alice Springs**	**43.74**	**259**	P	**P**	**21 11 52.0**		**-0.1**
	3.3nm,0.7s,mb3.6,baz=94,slow=6.3,SNR=35							
ASPA	**Alice Springs**	**43.75**	**259**	*e*P	**P**	**21 11 52.0**		**-0.1**
WB2	**Warramunga Arr**	**44.01**	**264**	⇓*i* P	**P**	**21 11 53.5**		**-0.7**
WB2	**Warramunga Arr**	**44.01**	**264**	*e*P	**P**	**21 11 53.4**		**-0.8**
WRAB	**Tennant Creek**	**44.02**	**264**	*e*P	**P**	**21 11 54.0**		**-0.2**
	13nm,0.9s,mb4.0							
WRA	**Warramunga Arr**	**44.02**	**264**	P	**P**	**21 11 53.7**		**-0.6**
	2.0nm,0.4s,mb3.6,baz=96,slow=8.2,SNR=53							
KAKA	**Kakadu**	**47.75**	**273**	*e*P	**P**	**21 12 22.7**		**-0.3**
	8.9nm,0.7s,mb4.1							
FORT	**Forrest**	**48.16**	**248**	*e*P	**P**	**21 12 26.3**		**+0.2**
	19nm,0.7s,mb4.4							
FITZ	**Fitzroy Crossi**	**52.45**	**264**	*e*P	**P**	**21 12 58.7**		**+0.7**
	4.5nm,0.6s,mb4.0							
SBA	**Scott Base**	**55.64**	**184**	P	**P**	**21 13 22.8**		**+2.0**
	7.7nm,1.3s,mb3.9							
VNDA	**Vanda**	**55.67**	**185**	P	**P**	**21 13 22.6**		**+1.6**
	0.5nm,0.8s,mb2.9,baz=3.4,slow=7.5,SNR=4.3							
KLBR	**Kellerberrin**	**56.85**	**246**	*e*P	**P**	**21 13 30.0**		**+0.7**
	6.4nm,0.8s,mb4.0							
MBWA	**Marble Bar**	**57.09**	**259**	P	**P**	**21 13 30.4**		**-0.5**
QSPA	**South Pole Qui**	**67.35**	**180**	*e*P	**P**	**21 14 37.2**		**-1.3**
	11nm,1.3s,mb4.4							
MAW	**Mawson**	**79.37**	**200**	*e*P	**P**	**21 15 46.1**		**-1.9**
	2.3nm,0.9s,mb3.9							
AKASG	**Malin Array Be**	**144.78**	**329**	PKP	PKPdf	21 23 15.2		-0.6
	0.7nm,0.5s,baz=44,slow=4.4,SNR=9.7							
CLL	**Collm**	**150.14**	**346**	*e*PKP1	PKPbc	21 23 31.0		+1.0

IDC 18 21:16:45.4±2.2,936S×10877E,h0km,mb3.6/4,mb1 3.7/4, mb1mx3.6/15,mbtmp3.6/4,Error ellipse: s-maj=100.2km s-min=23.1km az=52.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
BJII	**Banjamegara**	**2.22**	**25**	*e*P	Pn	21 17 21.0		-2.5
BJII				*e*S	Sn	21 17 35.0		-17
WRA	**Warramunga Arr**	**26.84**	**116**	P	P	21 22 27.4		-0.1
	0.8nm,0.7s,baz=288,slow=12,SNR=4.9							
ASAR	**Alice Springs**	**27.92**	**124**	P	P	21 22 38.0		+0.8
	0.3nm,0.8s,baz=316,slow=9.0,SNR=3.2							
ASAR				PcP	PcP	21 25 53.2		+0.5
	0.4nm,0.7s,baz=282,slow=1.8,SNR=4.3							
SONM	**Songino Array**	**56.98**	**358**	P	P	21 26 33.1		+0.4
	0.3nm,0.3s,baz=183,slow=8.2,SNR=3.2							
MKAR	**Makanchi Array**	**60.69**	**339**	P	P	21 26 58.2		-0.3
	0.7nm,0.5s,baz=143,slow=7.7,SNR=10							

CRAAG 18 21:50:17.1,3686N×529E,Ml3.3
NEIC 18 21:50:19.5±7.1,3653N×571E,h10km,MG3.8(MDD), Error ellipse: s-maj=82.5km s-min=15.2km az=164.0
MDD 18 21:50:22.3±0.6,3666N×539E,h0km,mb3.9/1,Error ellipse: s-maj=8.0km s-min=6.0km az=38.0,PRXIMO
LDG 18 21:50:24.0±0.7,3674N×580E,h2km,Ml2.9/10,Error ellipse: s-maj=12.6km s-min=10.1km az=159.0

CSEM 18 21:50:21.3±0.3,3660N×540E,h8km,ML2.8/4,Error ellipse: s-maj=9.8km s-min=5.2km az=52.0,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
DFRA	**Djebel Bou Aff**	**0.39**	**98**	P	Pg	21 50 29.0		+0.1
SET	**Setif**	**0.40**	**179**	P	Pg	21 50 31.0		+2.0
CKHR	**Kef el Ahmar**	**0.59**	**171**	P	Pg	21 50 31.0		-1.6
CASM	**Ain Smara**	**0.94**	**111**	P	Pg	21 50 40.0		+0.6
CTEI	**Djebel Teioual**	**0.97**	**123**	P	Pg	21 50 41.0		+1.0
CMER	**Merouana**	**1.06**	**157**	P	Pg	21 50 43.0		+1.4
CKFL	**Kef-Lekhel**	**1.08**	**100**	P	Pg	21 50 43.0		+0.9
CAEH	**'Ain El Ouahch**	**1.18**	**81**	P	Pb	21 50 44.0		0.0
CMAH	**Djebel Manchou**	**1.63**	**88**	P	Pn	21 50 52.0		+1.7
EMHD	**Djebel Mahouad**	**2.01**	**259**	P	Sn	21 51 14.0		-6.8
ETOS	**Mallorca**	**3.76**	**328**	P	Pn	21 51 20.0		+0.4
	1.4nm,0.1s,SNR=12							
ETOS				S	Sn	21 52 00.1		-4.0
	1.6nm,0.2s,SNR=5.2							
ETOS	**Mallorca**	**3.76**	**328**	P	Pn	21 51 20.0		+0.4
ETOS				S	Sn	21 51 54.9		-9.1
ETOS	**Mallorca**	**3.76**	**328**	P	Pn	21 51 20.0		+0.4
	1.4nm,0.1s,SNR=12							
EIBI	**Ibiza**	**4.02**	**308**	P	Pn	21 51 23.6		+0.4
	0.4nm,0.1s,SNR=6.8							
EIBI				S	Sn	21 52 08.6		-1.9
	1.2nm,0.1s,SNR=7.9							
EIBI	**Ibiza**	**4.02**	**308**	P	Pn	21 51 23.6		+0.4
	0.4nm,0.1s,SNR=6.8							
EIBI				S	Sn	21 52 08.6		-1.9
	1.2nm,0.1s,SNR=7.9							
EPOB	**Poblet**	**5.82**	**326**	P	Pn	21 51 47.7		-0.1
	0.4nm,0.2s,SNR=7.9							
EPOB				S	Sn	21 52 48.6		-6.2
	0.7nm,0.1s,SNR=7.9							
EPOB	**Poblet**	**5.82**	**326**	P	Pn	21 51 47.7		-0.2
	0.4nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**5.94**	**311**	P	Pn	21 51 51.3		+1.7
	0.1nm,0.1s,SNR=4.0							
EMOS	**Mosqueruela**	**5.94**	**311**	P	Pn	21 51 51.3		+1.7
PGF	**Pioggiola**	**6.56**	**24**	*e*Pn	Pn	21 51 56.2		-1.9
PGF				*e*Sn	Sn	21 53 05.1		-8.0
	1.4nm,0.2s							
PGF	**Pioggiola**	**6.56**	**24**	*e*Pn	Pn	21 51 56.2		-1.9
PGF				*e*Sn	Sn	21 53 05.1		-8.0
	0.7nm,0.2s							
LMR	**La Mourre**	**6.78**	**7**	*e*Pn	Pn	21 51 58.8		-2.3
LMR				*e*Sn	Sn	21 53 10.7		-7.8
	1.2nm,0.2s							
FRF	**La Foret Royal**	**7.02**	**7**	*e*Pn	Pn	21 52 03.3		-1.1
FRF				*e*Sn	Sn	21 53 16.3		-8.1
	1.2nm,0.3s							
MTLF	**Montolieu**	**7.16**	**341**	*e*Pn	Pn	21 52 06.2		-0.1
MTLF				*e*Sn	Sn	21 53 24.5		-3.4
	1.4nm,0.4s							
SBF	**Sospel**	**7.42**	**11**	*e*Sn	Sn	21 53 26.2		-8.1
	2.6nm,0.3s							
EPF	**Esparros**	**7.51**	**330**	*e*Pn	Pn	21 52 12.8		+1.7
EPF				*e*Sn	Sn	21 53 34.9		-1.5
	1.0nm,0.3s							
EPF	**Esparros**	**7.51**	**330**	*e*Pn	Pn	21 52 12.8		+1.7
EPF				*e*Sn	Sn	21 53 34.9		-1.5
	0.5nm,0.3s							
LASF	**Ste Croix**	**7.56**	**352**	*e*Pn	Pn	21 52 10.5		-1.3
LASF				*e*Sn	Sn	21 53 32.4		-5.3
	0.9nm,0.3s							
LASF	**Ste Croix**	**7.56**	**352**	*e*Pn	Pn	21 52 10.5		-1.3
LASF				*e*Sn	Sn	21 53 32.4		-5.3
	0.4nm,0.3s							
ETSF	**Etsaut**	**7.79**	**326**	*e*Pn	Pn	21 52 17.7		+2.8
ETSF				*e*Sn	Sn	21 53 39.6		-3.6
	1.3nm,0.5s							
ETSF	**Etsaut**	**7.79**	**326**	*e*Pn	Pn	21 52 17.7		+2.8
ETSF				*e*Sn	Sn	21 53 39.6		-3.6
	0.6nm,0.5s							
VIVF	**Saint-Julien-l**	**8.27**	**356**	*e*Sn	Sn	21 53 49.5		-5.6
	1.3nm,0.3s							
ORIF	**Oris-en-Rattie**	**8.32**	**2**	*e*Sn	Sn	21 53 48.4		-8.0
	0.6nm,0.3s							

IDC 18 21:52:49.2±0.8,9415S×10833E,h0km,mb4.0/7,mb1 4.1/8, mb1mx4.0/16,mbtmp4.0/8,ML3.5/1,Error ellipse: s-maj=33.6km s-min=18.4km az=61.0
NEIC 18 21:52:50.2±0.5,9415S×10833E,h10km,mb4.4/9,Error ellipse: s-maj=19.1km s-min=10.2km az=54.0
ISCJB 18 21:52:52.0±0.5,9305±01×1085E±01,h33km,mb4.1/15, Error ellipse: s-maj=22.0km s-min=11.1km az=103.0

ISC 18 21:52:54.3±0.5,945S±01×1084E±01,h35km,n17,σ0§77/17, mb4.1/15,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
FITZ	**Fitzroy Crossi**	**18.83**	**119**	P	**Pn**	**21 57 12.0**		**+0.2**
	0.1nm,0.3s,baz=264,slow=7.0,SNR=5.6							
WRA	**Warramunga Arr**	**27.15**	**116**	P	**P**	**21 58 34.6**		**+0.5**
	1.4nm,0.7s,mb3.6,baz=290,slow=11,SNR=7.3							
WRAB	**Tennant Creek**	**27.15**	**116**	*e*P	**P**	**21 58 33.3**		**-0.9**
	11nm,0.9s,mb4.4							
ASAR	**Alice Springs**	**28.20**	**123**	P	**P**	**21 58 44.0**		**+0.5**
	1.7nm,0.7s,mb3.8,baz=296,slow=7.9,SNR=5.8							
ASAR				PcP	PcP	22 01 58.5		+1.9
	1.0nm,0.7s,baz=315,slow=1.8,SNR=10							
SONM	**Songino Array**	**56.96**	**358**	P	**P**	**22 02 37.0**		**+0.9**
	1.1nm,0.6s,mb4.1,baz=177,slow=8.0,SNR=12							
ULN	**Ulaanbaatar**	**56.98**	**359**	*e*P	**P**	**22 02 36.5**		**+0.3**
	1.6nm,0.6s,mb4.2							
MKAR	**Makanchi Array**	**60.57**	**340**	P	**P**	**22 03 01.4**		**+0.2**
	1.5nm,0.7s,mb4.2,baz=145,slow=7.8,SNR=17							
KURK	**Kurchatov**	**65.18**	**340**	*e*P	**P**	**22 03 30.4**		**-1.4**
	1.9nm,0.7s,mb4.

comp=Z,47nm,18.7s,MS3.1,baz=309,slow=36
QIZ Qiongzhong 28.70 3 P P 22 24 43.5 -0.2
CHG Chiang Mai 29.87 342 ⇑P pP 22 25 05.4 +0.7
16nm,0.9s
CHTO Chiang Mai 29.87 342 eP P 22 24 54.9 +0.8
5.5nm,1.0s,mb4.2
CHTO e pP 22 25 05.1 +0.4
KMI Kunming 35.12 351 P P 22 25 42.1 +2.1
KMI AMB AMB
comp=Z,6.0nm,1.1s,mb4.4
GYA Guiyang 36.08 358⇑ iP P 22 25 49.8 +1.6
GYA AP pP 22 26 00.5 +1.5
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CTAO Charters Tower 38.07 110 P P 22 26 05.2 +0.1
LZH Lanzhou 45.83 355 eP P 22 27 12.6 +4.2
LZH AP pP 22 27 21.5 +2.0
LZH XP sP 22 27 24.6 +0.6
LZH AMB AMB
comp=Z,22nm,1.4s,mb4.9
HNR Honiara 50.97 94 eP P 22 27 48.8 +0.7
comp=Z,9.8nm,0.3s,mb5.2
SONM Songino Array 57.41 359 P P 22 28 35.3 +0.4
comp=Z,3.2nm,0.7s,mb4.5,baz=176,slow=8.0,SNR=31
SONM LR LR 22 54 53.3
comp=Z,54nm,20.6s,MS3.6,baz=329,slow=38
ULN Ulaanbaatar 57.42 359 eP P 22 28 35.2 +0.2
comp=Z,4.4nm,0.8s,mb4.5
ULN e pP 22 28 46.4 +0.1
MKAR Makanchi Array 60.91 340 P P 22 28 59.2 0.0
comp=Z,2.1nm,0.7s,mb4.4,baz=141,slow=7.5,SNR=28
MKAR Makanchi Array 60.91 340 P P 22 28 59.2 0.0
MAW Mawson 65.05 197 P P 22 29 27.1 +0.4
KURK Kurchatov 65.53 340 eP P 22 29 29.4 -0.3
comp=Z,4.9nm,0.9s,mb4.5
KURK e pP 22 29 41.0 -0.2
ZAL Zalesovo 66.53 345 P P 22 29 33.8 -2.3
comp=Z,0.9nm,0.2s,mb4.4,baz=349,slow=12,SNR=3.4
BRVK Borovoye 70.47 337 eP P 22 30 00.6 -0.1
comp=Z,3.0nm,1.1s,mb4.1
BRVK e pP 22 30 11.0 -1.3
CHKZ Chkalovo 70.82 337 eP P 22 30 02.8 -0.1
comp=Z,7.5nm,1.0s,mb4.6
CHKZ e pP 22 30 14.1 -0.3
ZRNK Zerenda 70.89 336 eP P 22 30 02.8 -0.5
comp=Z,4.3nm,0.8s,mb4.4
ZRNK e pP 22 30 14.6 -0.3
ARU Arti 77.65 334 eP P 22 30 42.4 -0.3
comp=Z,1.3nm,0.6s,mb4.0
BRTR Keskin Array B 84.58 312 P P 22 31 19.6 +0.1
comp=Z,1.4nm,0.7s,mb4.2,baz=123,slow=5.3,SNR=9.2
SNAA Sanae 87.22 197 eP P 22 31 32.8 +0.3
comp=Z,0.6nm,0.8s,mb3.9
DLBC Dease Lake 114.64 29 ePdif Pdif 22 33 37.0 +0.6
LAO LASA Array 133.03 32 ePKPdf PKPdf 22 37 54.2 -7.3
WMOK Wichita Mounta 145.01 41 ePKP PKPdf 22 38 23.9 +0.5
BDFB Brasilia 145.45 223 PKPbc PKPbc 22 38 24.9 +0.7
comp=Z,1.4nm,0.5s,baz=220,slow=14,SNR=3.8
JCT Junction City 146.78 48 ePKPdf PKPdf 22 38 26.9 +0.5
WVT Waverly 150.02 27 ePKPdf PKPdf 22 38 33.0 +1.4
WVT ePKPbc PKPbc 22 38 37.6 +1.0

*NEIC **18** 22:25:17.7±1.2,1024S×10784E,h10km,mb4.0/4,Error ellipse: s-maj=59.4km s-min=8.6km az=47.0*
*ISCJB **18** 22:25:19.1±1.6,102S±0.4×1079E±0.4,h33km,mb3.8/7, Error ellipse: s-maj=77.6km s-min=11.6km az=93.3*
*IDC **18** 22:25:20.3±3.2,940S×10855E,h0km,mb3.8/4,mb1 3.9/5, mb1mx3.7/16,mbtmp3.8/5,ML3.0/1, Error ellipse: s-maj=132.7km s-min=21.0km az=50.0*

ISC 18 22:25:21.1±1.6,103S±04×1078E±04,h35km,n11, σ0§51/11,mb3.8/7,South of Jawa

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MBWA Marble Bar 15.73 135 ePn Pn 22 28 59.4 -0.6
1.6nm,0.6s
FITZ Fitzroy Crossi 18.92 116 P Pn 22 29 39.4 -0.2
0.0nm,0.3s,baz=180,slow=20,SNR=6.7
WRA Warramunga Arr 27.30 114 P P 22 31 03.5 +1.1
1.0nm,0.8s,mb3.4,baz=288,slow=11,SNR=4.1
WRAB Tennant Creek 27.31 114 P P 22 31 02.4 0.0
ASAR Alice Springs 28.20 121 P P 22 31 15.4 +5.0
0.7nm,0.7s,mb3.4,baz=304,slow=9.0,SNR=6.4
SONM Songino Array 57.90 359 P P 22 35 08.8 -0.8
1.2nm,0.7s,mb4.0,baz=179,slow=7.6,SNR=12
MKAR Makanchi Array 61.25 340 P P 22 35 32.4 -0.3
0.8nm,0.7s,mb4.0,baz=143,slow=7.8,SNR=10.0
KURK Kurchatov 65.87 340 eP P 22 36 03.6 +0.5
1.0nm,0.8s,mb3.9
KURK e pP 22 36 13.4 -0.5
BRVK Borovoye 70.78 337 eP P 22 36 34.0 +0.2
0.5nm,0.4s,mb3.8
CHKZ Chkalovo 71.13 338 eP P 22 36 36.1 +0.1
3.5nm,1.0s,mb4.2
ZRNK Zerenda 71.19 336 eP P 22 36 36.4 +0.1

*IDC **18** 22:31:17.8±1.7,546S×15107E,h0km,mb3.9/5,mb1 4.1/6, mb1mx4.0/13,mbtmp4.0/6,ML3.2/1,MS3.1/3,Ms1 3.1/3, ms1mx2.6/22,Error ellipse: s-maj=47.8km s-min=26.2km az=112.0*
*ISCJB **18** 22:31:21.8±4.0,55S±01×1511E±02,h41km±32km, mb3.9/8,Error ellipse: s-maj=34.4km s-min=22.0km az=0.3*
*NEIC **18** 22:31:24.7±2.7,553S×15093E,h48km±21km,mb4.2/4, Error ellipse: s-maj=25.5km s-min=14.6km az=85.0*

ISC 18 22:31:24.2±3.7,55S±01×1510E±02,h44km±29km,n19, σ0§66/16,mb3.9/8,New Britain region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 5.43 224 Pn Pn 22 32 43.2 +0.7
5.3nm,0.3s,baz=355,slow=4.3,SNR=13
PMG Sn Sn 22 33 48.3 +4.6
1.7nm,0.3s,baz=82,slow=19,SNR=4.6
HNR Honiara 9.68 114 LR LR 22 36 58.6
comp=Z,158nm,19.1s,baz=358,slow=35
CTA Charters Tower 15.20 197 LR LR 22 39 17.5
comp=Z,59nm,18.1s,baz=233,slow=31
CTAO Charters Tower 15.20 197 P Pn 22 34 54.6 -1.1
GUMO Guam 19.94 342 LR LR 22 42 20.5
comp=Z,35nm,20.9s,baz=59,slow=33
WRAB Tennant Creek 21.63 227 eP P 22 36 10.3 -0.2
3.9nm,0.4s,mb4.2
WB2 Warramunga Arr 21.63 227 eP P 22 36 10.2 -0.4
WRA Warramunga Arr 21.64 227 P P 22 36 10.0 -0.6
2.1nm,0.6s,mb3.8,baz=53,slow=11,SNR=19
ASAR Alice Springs 24.43 221 P P 22 36 39.5 +0.9
2.9nm,0.9s,mb3.7,baz=57,slow=8.5,SNR=17
FITZ Fitzroy Crossi 27.75 241 eP P 22 37 08.1 -0.5
8.3nm,0.7s,mb4.5
FITZ Fitzroy Crossi 27.75 241 P P 22 37 08.3 -0.3
4.3nm,0.7s,mb4.2,baz=64,slow=9.0,SNR=7.8
TAU Tasmania Unive 37.38 184 P P 22 38 33.2 +0.7
NWAO Narrogin (SRO) 41.62 225 P P 22 39 08.3 +0.5
SONM Songino Array 65.99 329 P P 22 42 06.9 +0.9
0.2nm,0.3s,mb3.6,baz=142,slow=7.5,SNR=3.8
VNDA Vanda 72.19 178 P P 22 42 44.5 +0.2
0.5nm,0.8s,mb3.5,baz=302,slow=6.4,SNR=3.9
KURK Kurchatov 83.24 322 eP P 22 43 45.1 -0.8
0.3nm,0.4s,mb3.7
BRVK Borovoye 88.81 323 eP P 22 44 13.2 -0.2
0.3nm,0.2s,mb4.3
ZRNK Zerenda 89.56 323 eP P 22 44 16.6 -0.2
TORD Torodi Ar. Bea 148.81 286 PKPbc PKPbc 22 51 07.7 +0.9
0.4nm,0.8s,baz=94,slow=2.1,SNR=6.1

NEIC 18 22:32:29.3,1654S×7166W,h22km,ML4.0(LIM),1D, After LIM.,Southern Peru

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ARE Arequipa 0.18 64 i/iP Pb 22 32 34.1 -0.3
ARE i S Sb 22 32 37.1 -0.7
LPAZ La Paz 3.40 86 ePn Pn 22 33 29.9 +8.9
LVC Limon Verde 6.57 157 ePn Pn 22 34 08.6 +4.0
7.9nm,0.6s
LVC eSn Sn 22 35 22.0 +3.2
NNA Nana 6.76 311 ePn Pn 22 34 07.0 -0.1
NNA eSn Sn 22 35 26.5 +3.0
SAML Samuel 11.19 49 ePn Pn 22 35 08.7 +0.8
PLCA Paso Flores 24.13 178 eP P 22 37 42.7 -0.7
PAYG Puerto Ayora 24.20 309 P P 22 37 43.6 -0.5

IDC 18 22:43:00.6±3.9,386N×9622E,h0km,mb3.5/3,mb1 3.6/4, mb1mx3.4/19,mbtmp3.4/4,Error ellipse: s-maj=115.9km s-min=32.5km az=61.0,Northern Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PSI Prapat 2.90 111 Pn Pn 22 43 48.5 +0.5
3.7nm,0.3s,baz=313,slow=14,SNR=14
PSI Sn Sn 22 44 20.2 -3.4
baz=191,slow=16
WRA Warramunga Arr 44.30 124 P P 22 51 12.4 +0.3
0.4nm,0.5s,baz=301,slow=8.9,SNR=4.9
SONM Songino Array 44.67 10 P P 22 51 15.2 +0.1
0.2nm,0.4s,baz=200,slow=8.9,SNR=2.1
ASAR Alice Springs 45.79 129 P P 22 51 24.6 +0.6
0.3nm,0.5s,baz=302,slow=8.0,SNR=4.3

IDC 18 22:52:21.0±3.3,971S×10880E,h0km,mb3.6/4,mb1 3.8/5, mb1mx3.6/16,mbtmp3.6/5,ML3.7/1,Error ellipse: s-maj=133.6km s-min=21.8km az=50.0,South of Jawa

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FITZ Fitzroy Crossi 18.34 119 P Pn 22 56 37.5 +0.8
0.2nm,0.3s,baz=266,slow=19,SNR=8.5
WRA Warramunga Arr 26.66 115 P P 22 58 01.5 0.0
0.5nm,0.6s,baz=286,slow=11,SNR=2.6
ASAR Alice Springs 27.70 123 P P 22 58 11.2 +0.5
0.3nm,0.6s,baz=302,slow=8.7,SNR=3.7
SONM Songino Array 57.33 358 P P 23 02 11.4 +0.7
0.8nm,0.6s,baz=181,slow=8.0,SNR=8.1
MKAR Makanchi Array 61.03 339 P P 23 02 35.9 -0.4
0.4nm,0.6s,baz=147,slow=7.5,SNR=5.9

KRSC 18 23:01:55,5469N×16271E,h23km,ML3.5,Near east coast of Kamchatka Peninsula

*IDC **18** 23:12:04.5±0.9,973S×10833E,h0km,mb4.4/7,mb1 4.5/8, mb1mx4.2/16,mbtmp4.4/8,ML3.8/1,MS3.7/4,Ms1 3.7/4, ms1mx3.0/29,Error ellipse: s-maj=38.7km s-min=17.8km az=49.0*
*BJI **18** 23:12:06.0,980S×10830E,h10km,mB5.0,mb4.7,Ms4.4, Msz4.2*
*NEIC **18** 23:12:06.0±0.4,978S×10834E,h10km,mb4.7/10,Error ellipse: s-maj=18.5km s-min=6.5km az=47.0*
*ISCJB **18** 23:12:07.5±0.8,99S±0.1×1083E±02,h36km,mb4.5/23, MS3.8/6,Error ellipse: s-maj=29.1km s-min=7.7km az=100.2*
*MOS **18** 23:12:08.4±1.1,952S×10860E,h33km,mb4.9/10,Error ellipse: s-maj=21.1km s-min=11.2km az=114.0*

ISC 18 23:12:10.0±0.8,99S±01×1083E±02,h38km, h38km±1.5km:pP-P,n54,σ1§10/45,mb4.5/23,MS3.8/6,1C, South of Jawa

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MBWA Marble Bar 15.71 137 ePn Pn 23 15 44.2 -4.1
MBWA eSn Sn 23 18 25.2 -16
KULM Kulim 16.89 333 Pn Pn 23 16 03.6 +0.3
FITZ Fitzroy Crossi 18.69 118 eP Pn 23 16 25.9 +0.4
9.4nm,0.8s
FITZ Fitzroy Crossi 18.69 118 P Pn 23 16 25.9 +0.3
0.2nm,0.3s,baz=307,slow=13,SNR=15
NWAO Narrogin (SRO) 24.37 162 LR LR 23 26 07.4
comp=Z,104nm,21.8s,MS3.3,baz=149,slow=34
WRA Warramunga Arr 27.04 115 P P 23 17 49.2 +0.7
5.6nm,1.0s,mb4.0,baz=286,slow=10,SNR=10
WRAB Tennant Creek 27.05 115 eP P 23 17 49.1 +0.5
WRAB pmax pmax
comp=Z,4.0nm,0.6s,mb4.1
WRAB Tennant Creek 27.05 115 eP P 23 17 49.1 +0.5
comp=Z,3.8nm,0.6s,mb4.1
WB2 Warramunga Arr 27.05 115 eP P 23 17 48.6 0.0
ASAR Alice Springs 28.02 122 P P 23 17 57.5 +0.2
comp=Z,2.4nm,0.8s,mb3.9,baz=299,slow=9.3,SNR=15
ASAR PcP PcP 23 21 12.8 +1.3
comp=Z,0.9nm,0.8s,baz=297,slow=3.1,SNR=4.9
ASAR LR LR 23 29 29.1
comp=Z,129nm,20.9s,MS3.5,baz=174,slow=37
ASAR Alice Springs 28.02 122 P P 23 17 57.6 +0.3
ASAR 23 21 12.8
QIZ Qiongzhong 28.77 3 P P 23 18 01.9 -2.1
CHTO Chiang Mai 29.97 342 eP P 23 18 15.4 +0.8
CHTO e pP 23 18 25.8 +0.5
CHTO pmax pmax
comp=Z,14nm,1.0s,mb4.7
CHTO Chiang Mai 29.97 342 eP P 23 18 15.4 +0.8
comp=Z,14nm,1.0s,mb4.6
CHTO e pP 23 18 25.8 +0.5
KMI Kunming 35.21 351 P P 23 19 02.3 +1.9
KMI AP pP 23 19 11.8 +0.6
KMI XP sP 23 19 15.8 0.0
KMI S S 23 24 42.9 +12
KMI SSS 23 27 41.1
KMI AMB AMB
comp=Z,8.0nm,1.1s,mb4.6
KMI AMB AMB
comp=Z,110nm,4.1s
KMI LR LR
comp=N,217nm,16.1s,MS4.1
KMI LR LR
comp=E,137nm,13.9s,MS4.1
KMI LR LR
comp=Z,188nm,15.0s,MS4.0
GYA Guiyang 36.16 358⇑ iP P 23 19 10.3 +1.8
GYA AP pP 23 19 14.8 -4.5
GYA XP sP 23 19 17.6 -6.3
GYA PP PP 23 20 30.4 -0.7
GYA PCP PcP 23 21 39.3 +5.7
GYA S S 23 24 45.1 -0.6
GYA SCP ScP 23 25 23.5 +6.6
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
GYA AMB AMB
comp=Z,110nm,4.3s
GYA LR LR
comp=N,430nm,14.8s,MS4.5
GYA LR LR
comp=E,420nm,14.2s,MS4.5
GYA LR LR
comp=Z,450nm,15.0s,MS4.4
CTAO Charters Tower 37.96 110 P P 23 19 23.9 +0.1
JOW Kunigami 41.33 28 LR LR 23 38 26.0
comp=Z,79nm,19.1s,MS3.6,baz=336,slow=38
XAN Xi'an 43.68 1 P P 23 20 11.5 +0.5
XAN AP pP 23 20 22.3 +0.3
XAN AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
LZH Lanzhou 45.91 355 eP P 23 20 30.3 +1.6
LZH AP pP 23 20 41.1 +1.3
LZH AMB AMB
comp=Z,27nm,1.4s,mb5.0
GTA Gaotai 49.67 351 eP P 23 20 58.5 +0.7
GTA AP pP 23 21 09.8 +0.8
GTA AMB AMB
comp=Z,5.0nm,1.3s,mb4.4
MJAR Matsushiro Arr 54.07 30 P P 23 21 28.9 -1.8
comp=Z,2.3nm,0.7s,mb4.2,baz=211,slow=7.4,SNR=4.8
DZM Mont Dzumac 56.90 110 LR LR 23 46 47.6
comp=Z,117nm,19.1s,MS4.0,baz=236,slow=37
SONM Songino Array 57.48 358 P P 23 21 55.8 +0.7
comp=Z,6.0nm,0.6s,mb4.8,baz=178,slow=8.0,SNR=64
ULN Ulaanbaatar 57.50 359 eP P 23 21 55.5 +0.3
ULN e pP 23 22 06.9 +0.3
ULN pmax pmax
comp=Z,13nm,1.0s,mb4.9
ULN Ulaanbaatar 57.50 359 eP P 23 21 55.5 +0.3
comp=Z,13nm,1.0s,mb4.9
ULN e pP 23 22 06.9 +0.3
ZAK Zakamensk 60.17 356 eP P 23 22 14.0 +0.3
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.1
MKAR Makanchi Array 61.01 340 P P 23 22 18.8 -0.7
comp=Z,3.8nm,0.6s,mb4.7,baz=144,slow=7.7,SNR=40
MOY Mondy 61.62 355 eP P 23 22 24.5 +0.9
KLR Kul'dur 62.36 17 eP P 23 22 25.8 -2.8
KURK Kurchatov 65.63 340 eP P 23 22 49.6 -0.4
KURK e pP 23 23 00.9 -0.7
KURK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
KURK Kurchatov 65.63 340 eP P 23 22 49.5 -0.5
comp=Z,9.9nm,1.0s,mb4.8
KURK e pP 23 23 00.9 -0.7
ZAL Zalesovo 66.62 345 P P 23 22 55.3 -1.1
comp=Z,0.9nm,0.3s,mb4.3,baz=331,slow=14,SNR=5.3
BOD Bodaibo 67.62 3 eP P 23 22 59.6 -3.2
BOD pmax pmax
comp=Z,5.0nm,1.6s,mb4.3
BRVK Borovoye 70.57 337 eP P 23 23 20.5 -0.5
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BRVK Borovoye 70.57 337 eP P 23 23 20.5 -0.5
comp=Z,1.6nm,0.6s,mb4.1
CHKZ Chkalovo 70.92 337 eP P 23 23 22.9 -0.3
CHKZ pmax pmax
comp=Z,11nm,0.6s,mb5.0
CHKZ Chkalovo 70.92 337 eP P 23 23 22.9 -0.3
comp=Z,11nm,0.6s,mb5.0
ZRNK Zerenda 70.99 336 eP P 23 23 23.0 -0.6
ZRNK pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
ZRNK Zerenda 70.99 336 eP P 23 23 23.0 -0.6
comp=Z,8.1nm,0.7s,mb4.8
ARU Arti 77.76 334 eP P 23 24 03.0 +0.1
ARU e pP 23 24 13.8 -0.9
ARU pmax pmax
comp=Z,17nm,1.4s,mb4.8
ARU Arti 77.76 334 eP P 23 24 03.0 0.0
comp=Z,17nm,1.4s,mb4.8
ARU ePcP PcP 23 24 13.8 +0.9
TIXI Tiksi 82.50 6 eP P 23 24 25.7 -2.8
TIXI pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
BR131 Keskin Array S 84.69 312 eP P 23 24 39.8 +0.1
comp=Z,0.8nm,0.6s,mb4.0
BRTR Keskin Array B 84.69 312 P P 23 24 39.8 0.0
comp=Z,2.1nm,0.7s,mb4.4,baz=145,slow=6.4,SNR=15
WMOK Wichita Mounta 145.01 41 ePKIKP PKPdf 23 31 43.8 +0.8
LONY Lake Ozonia 145.30 4 ePKP PKPdf 23 31 43.8 +0.3
BDFB Brasilia 145.45 223 PKPbc PKPbc 23 31 45.6 +1.8
comp=Z,3.4nm,1.0s,baz=290,slow=8.4,SNR=4.1
JCT Junction City 146.76 48 ePKP2 PKPab 23 31 50.1 +1.1
MIAR Mount Ida 148.33 36 ePKP2 PKPab 23 31 53.7 -1.5
WVT Waverly 150.04 27 ePKP2 PKPab 23 31 57.7 -4.5
PLAL Pickwick Lake 150.88 28 ePKPbc PKPbc 23 31 58.6 +0.3
TZTN Tazewell 151.37 20 ePKPbc PKPbc 23 31 59.3 -0.1
LPAZ La Paz 153.76 188 PKPbc PKPbc 23 32 08.1 +3.3
comp=Z,0.7nm,0.7s,baz=151,slow=3.5,SNR=4.0

IDC 18 23:22:26.9±10.0,128N×12752E,h128km±106km,mb3.4/4, mb1 3.5/4,mb1mx3.4/14,mbtmp3.8/4,Error ellipse: s-maj=174.2km s-min=23.2km az=72.0,Halmahera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 22.12 163 P P 23 27 11.2 -0.8
0.9nm,0.4s,baz=338,slow=11,SNR=4.6
ASAR Alice Springs 25.56 166 P P 23 27 45.0 +1.2
0.6nm,0.6s,baz=346,slow=9.6,SNR=3.6
SONM Songino Array 49.86 341 P P 23 31 06.5 -0.5
0.5nm,0.6s,baz=156,slow=9.1,SNR=5.9
MKAR Makanchi Array 60.01 326 P P 23 32 20.6 +0.7
2.2nm,0.4s,baz=116,slow=8.1,SNR=68
TORD Torodi Ar. Bea 124.40 287 PKP PKPdf 23 41 10.9 +0.2
0.7nm,0.9s,baz=74,slow=1.8,SNR=5.8

*CSEM **18** 23:27:02.1±0.1,2622N×6120E,h30km,mb5.1/99,Ms4.1, Error ellipse: s-maj=1.9km s-min=1.6km az=124.0*
*MOS **18** 23:27:03.3±0.9,2631N×6117E,h33km,mb5.3/93, MS4.1/20,Error ellipse: s-maj=5.9km s-min=2.6km az=130.5*
*CRAAG **18** 23:27:03.0,2634N×6117E,Mb5.2*
*TEH **18** 23:27:04.9,2611N×6125E,h33km,Mn5.0*
*BJI **18** 23:27:04.4,2632N×6098E,h51km,mB5.1,mb5.3,Ms4.7, Msz4.4*
*ISCJB **18** 23:27:04.1±0.1,2628N±002×6121E±001,h44km, mb5.1/211,MS4.3/46, Error ellipse: s-maj=3.0km s-min=1.8km az=15.7*
*BGS **18** 23:27:04.8±1.4,2602N×6109E,h44km,mb4.8*
*IDC **18** 23:27:06.0±0.4,2628N×6118E,h40km±3km,mb4.6/29, mb1 4.6/30,mb1mx4.6/31,mbtmp4.8/30,ML2.4/1,MS4.2/20, Ms1 4.2/20,ms1mx4.2/28,Error ellipse: s-maj=9.3km s-min=8.1km az=27.0*
*SZGRF **18** 23:27:05.3,2550N×6047E,h33km,mb5.1,MS4.0, Southern Iran*
*THR **18** 23:27:05.5±0.8,2623N×6119E,h46km±8km,ML5.0, MW4.8*
*HRVD **18** 23:27:06.5±0.2,2607N×6123E,h31km,MW5.3/91, Centroid moment Tensor Solution. LP body waves: s59,c97;Mantle waves: s91,c161; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.12±.02; $M_{\theta\theta}$0.68±.02; $M_{\phi\phi}$-0.56±.02; $M_{r\theta}$-0.06±.03; $M_{\theta\phi}$0.77±.01; $M_{\phi r}$0.47±.03; Best double couple: $M_0$1.09900×10^{17} NP1:ϕ_s107.00000°,δ67.00000°,λ-12.00000°. NP2: ϕ_s201.00000°,δ79.00000°,λ-157.00000°. Principal axes: T 1.0690, Plg8.0000°, Azm333.0000°; N 0.0590, Plg65.0000°, Azm225.0000°; P -1.1290, Plg24.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **18** 23:27:06.5±0.1,2630N×6112E,mb5.1/103,MS4.2/4 Error ellipse: s-maj=3.6km s-min=2.3km az=199.0*

ISC 18 23:27:06.2±0.1,2628N±002×6122E±001,h46km, h46km±.5km:pP-P,n1030,σ1§05/1111,mb5.1/211,MS4.3/46, 94C-45D,Southern Iran

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ZHSF Zahedan 3.34 353 iP Pn 23 27 56.5 +0.6
ZHSF ePG Pn 23 28 05.4 +10
ZHSF eS Sn 23 28 33.9 -0.3
WSAR Wadi Sarin 3.84 218 Pn Pn 23 27 59.5 -3.3
89nm,0.3s,baz=58,slow=11,SNR=626
WSAR Sn Sn 23 28 38.1 -8.4
288nm,0.3s,baz=343,slow=18,SNR=23
WSAR LR LR 23 29 42.2
comp=Z,5μm,19.7s,baz=39,slow=41
WSAR Wadi Sarin 3.84 218 Pn Pn 23 27 59.5 -3.2
WSAR Sn Sn 23 28 38.1 -8.4
WBK Wadi Bani Khal 4.19 210 ⇑P Pn 23 28 04.1 -3.5
SNR=55
SMDO Samad 4.31 223 ⇓P Pn 23 28 06.7 -2.6
SNR=132
BANOM Banah 4.44 266 ⇓P Pn 23 28 09.1 -1.9
SNR=920
BNDS Bandar-Abbas 4.64 285 ePN Pn 23 28 14.2 +0.4
BNDS Bandar-Abbas 4.64 285 ePn Pn 23 28 14.2 +0.4
SNR=54
JMDO Jabal Madar 4.82 217 ⇑P Pn 23 28 14.0 -2.2
SNR=98
JMDO Jabal Madar 4.82 217 P Pn 23 28 14.0 -2.3
SNR=98
ASHO Ashiyiah 4.93 252 ⇓P Pn 23 28 16.5 -1.2
SNR=324
BSYO Bisya 5.06 227 P Pn 23 28 18.7 -0.9
SNR=261
BSY Bisya 5.08 227 ⇑P Pn 23 28 18.7 -1.1
SNR=261
ARQ Araqi 5.18 236 ⇓P Pn 23 28 21.9 +0.7
SNR=340
KRBR Kerman 5.39 314 i PN Pn 23 28 24.9 +0.9
KRBR AML AML 23 28 28.4
comp=Z,653nm,0.7s
IBAF Bafgh 7.24 318 ePn Pn 23 28 49.6 +0.1
GHIR Ghir-Karzin 7.59 287 i PN Pn 23 28 53.7 -0.6
IMEH Mehriz 7.71 313 ePn Pn 23 28 54.8 -1.1
IMEH Mehriz 7.71 313 Pn Pn 23 28 54.7 -1.1
ISRV Sarvestan 7.81 295 ePn Pn 23 28 55.8 -1.4
ISRV eSn Sn 23 30 19.2 -5.1
ISRV Sarvestan 7.81 295 Pn Pn 23 28 55.7 -1.5
ISRV Sn Sn 23 30 19.2 -5.1
IMOK Mook 8.03 292 ePn Pn 23 28 58.5 -1.7
IMOK ePn Pn 23 28 59.6 -0.6
IMOK eSn Sn 23 30 24.3 -5.3
IMOK Mook 8.03 292 Pn Pn 23 28 58.5 -1.7

IMOK Pn Pn 23 28 59.6 -0.6
IMOK Sn Sn 23 30 24.2 -5.4
IMOK Mook 8.03 292 *e*Pn Pn 23 28 59.6 -0.6
IMOK *e*Sn Sn 23 30 24.3 -5.3
BHJ Bhuj 8.24 110 *e*P Pn 23 29 01.6 -1.6
BHJ *ex* Sn 23 30 25.9 -8.9
SHI Shiraz 8.39 295 *e*Pn Pn 23 29 04.9 -0.3
SHI Shiraz 8.39 295 Pn Pn 23 29 04.8 -0.4
ICHK Chekchek 8.40 317 *e*Pn Pn 23 29 05.4 0.0
ICHK Chekchek 8.40 317 Pn Pn 23 29 05.3 -0.1
ISAD Sadrabad 8.65 312 *e*Pn Pn 23 29 07.9 -0.9
JASL Jaisalmer 8.69 84 *e*P Pn 23 29 07.6 -1.8
DRP Derazinda 9.56 53 P Pn 23 29 20.2 -1.1
DRP S Sn 23 31 01.0 -6.3
NASN Na'in 9.78 314 *e*PN Pn 23 29 24.5 +0.2
IMOG Moghan 9.92 351 *e*Pn Pn 23 29 26.4 +0.2
IMOG Moghan 9.92 351 Pn Pn 23 29 26.3 +0.1
IMYA Miamay 10.07 355 *e*Pn Pn 23 29 28.1 -0.1
IMYA Miamay 10.07 355 Pn Pn 23 29 28.0 -0.2
IZEF Zefreh 10.16 313 *e*Pn Pn 23 29 28.0 -1.4
SBDP Sheikh Budin 10.29 52 ⇑P Pn 23 29 30.2 -1.1
IKRD Kardeh 10.71 348 *e*Pn Pn 23 29 34.6 -2.3
WHFO Wadi Hawf 10.81 221 ⇑P Pn 23 29 35.4 -3.0
SNR=13
IKLH Kalahroud 10.91 312 *e*Pn Pn 23 29 38.5 -1.3
IKLH Kalahroud 10.91 312 Pn Pn 23 29 38.4 -1.4
BHV Bhavnagar 10.96 112 *e*P Pn 23 29 38.0 -2.3
BHV *ex* x 23 32 00.0
IPIR Pirpir 11.02 308 *e*Pn Pn 23 29 38.8 -2.4
IANJ Anjiloo 11.09 327 *e*Pn Pn 23 29 42.3 +0.1
IANJ Anjiloo 11.09 327 Pn Pn 23 29 42.2 0.0
THW Thamme Wali 11.22 52 ⇑P Pn 23 29 41.4 -2.6
SARP Sargodha 11.48 58 P Pn 23 29 44.8 -2.7
ILAS Lasjerd 11.51 324 *e*Pn Pn 23 29 43.5 -4.4
ILAS Lasjerd 11.51 324 Pn Pn 23 29 43.4 -4.5
ABTO Aybut 11.53 221 ⇑P Pn 23 29 44.4 -3.8
SNR=12
ISHM Shahmirzad 11.67 326 *e*Pn Pn 23 29 49.9 -0.1
ISHM Shahmirzad 11.67 326 Pn Pn 23 29 49.8 -0.2
IFIR Firoozkooh 11.81 324 *e*Pn Pn 23 29 51.5 -0.6
IFIR Firoozkooh 11.81 324 Pn Pn 23 29 51.4 -0.7
ABKT Ailbek 11.90 348 Pn Pn 23 29 52.7 -0.6
comp=Z,207nm,0.8s,SNR=15
CEP Cherat 11.92 48 P Pn 23 29 51.9 -1.6
VAN Vannovskaya 11.92 348 *e*P Pn 23 29 54.0 +0.5
AJM Ajmer 12.04 86 *e*P Pn 23 29 53.5 -1.6
AJM *e*S Sn 23 31 50.1 -18
QRN Al-Qurain 12.06 285 *e*P Pn 23 29 52.2 -3.1
IDMV Damavand 12.16 322 *e*Pn Pn 23 29 56.4 -0.3
KBD Kabd 12.32 287 *e*P Pn 23 29 56.1 -2.9
KBD AML AML 23 32 05.2
comp=Z,305nm,0.3s
UMR Umm Al-Rimmam 12.37 288 *e*P Pn 23 29 56.8 -2.9
UMR AML AML 23 32 04.1
comp=Z,89nm,0.6s
RDF Al-Radifah 12.40 285 *e*P Pn 23 29 56.9 -3.2
RDF AML AML 23 32 03.3
comp=Z,61nm,0.5s
IAFJ Afjeh 12.54 322 *e*Pn Pn 23 30 01.8 -0.1
IAFJ Afjeh 12.54 322 Pn Pn 23 30 01.7 -0.2
NAY Al-Naaiem 12.72 287 *e*P Pn 23 30 01.8 -2.7
NAY AML AML 23 32 09.5
comp=Z,27nm,0.6s
MIB Mutribah 12.75 289 *e*P Pn 23 30 01.9 -2.9
MIB AML AML 23 32 04.3
comp=Z,64nm,0.6s
NIL Nilore 12.75 52 Pn Pn 23 30 04.5 -0.3
comp=Z,456nm,0.5s,SNR=14
RST Umm Al-Ruwaisa 12.98 288 *e*P Pn 23 30 04.3 -3.6
RST AML AML 23 32 10.8
comp=Z,18nm,0.4s
BOM Bombay 12.98 122 *e*P Pn 23 30 05.2 -2.8
BOM *e*S Sn 23 32 12.3 -19
KHET Khetri 13.11 79 *e*P Pn 23 30 07.5 -2.2
IRAZ Razeghan 13.28 316 *e*Pn Pn 23 30 11.4 -0.7
KUDL Kundal 13.72 79 *e*P Pn 23 30 15.7 -2.4
POO Poona 13.99 121 *ex* Pn 23 30 18.0 -3.8
POO *i* PP 23 30 28.0
POO *i* x x 23 32 43.0
POO *i* x Sn 23 32 57.0 +1.4
POO *i* x x 23 33 09.0
PONG Pong 14.06 63 *e*P Pn 23 30 21.0 -1.7
PONG *ex* x 23 30 53.0
BHGR Bahadurgarh 14.16 77 *e*P Pn 23 30 21.8 -2.2
KKR Kurukshetra 14.25 72 *e*P Pn 23 30 22.4 -2.8
BHK Bhakra 14.27 65 *e*P Pn 23 30 26.0 +0.5
DLH Dalhousie 14.28 61 *e*P Pn 23 30 25.0 -0.7
DLH *ex* Sn 23 32 58.0 -4.6
NDI New Delhi 14.40 77 *e*P Pn 23 30 24.0 -3.3
NDI *e*P 23 30 24.3
NDI *e*S Sn 23 32 57.0 -8.5
SDNR Sundarnagar 14.74 66 *e*P Pn 23 30 29.4 -2.4
SDNR *ex* Sn 23 33 01.5 -12
SMLA Simla 14.80 67 *e*P Pn 23 30 31.4 -1.1
SMLA *e*S Sn 23 33 06.9 -8.4
AGRA Agra 14.97 83 *e*P Pn 23 30 31.8 -3.1
AGRA AMb AMB 23 30 43.2
comp=Z,152nm,0.8s
KAD Karad 14.98 124 *e*P Pn 23 30 34.6 -0.3
KAD *e*S Sn 23 33 14.3 -5.4
BHPL Bhopal 15.03 98 *e*P Pn 23 30 34.2 -1.4
BHPL AMb AMB 23 30 38.4
comp=Z,131nm,1.1s
BHPL *e*S S 23 33 16.4 -20
DDI Dehra Dun 15.37 71 *e*P Pn 23 30 39.0 -0.9
DDI *ex* x 23 32 51.5
AKL Akola 15.52 108 *ex* Pn 23 30 42.2 +0.3
AKL AMb AMB 23 30 49.6
comp=Z,70nm,1.1s
KLP Kalpa 15.80 67 *e*P Pn 23 30 44.7 -0.8
BHD Baghdad 16.18 299 *ex* x 23 30 43.0
BHD *i* x 23 30 50.5
BHD *ex* x 23 31 02.0
BHD *ex* x 23 33 28.0
BHD *i* x 23 33 52.0
LATR Latur 16.20 116 *e*P Pn 23 30 48.8 -1.8
LATR *ex* x 23 33 39.2
JOSI Joshimath 16.68 71 *ex* Pn 23 30 43.6 -13
PTH Pithoragarh 17.11 75 *e*P Pn 23 31 02.3 +0.4
PTH *ex* x 23 34 04.3
NGP Nagpur 17.11 104 *e*P Pn 23 31 01.6 -0.4
NGP AMb AMB 23 31 05.0
comp=Z,58nm,1.0s
LGTI Lohaghat 17.12 75 *i* x Pn 23 30 56.5 -5.6
LGTI *ex* S 23 33 53.5 -26
JBP Jabalpur 17.33 96 *e*P Pn 23 31 04.3 -0.4
JBP *ex* x 23 31 08.3
comp=Z,157nm,1.0s
JBP *e*S S 23 34 11.0 -12
KSH Kashi 18.07 39 *i* P Pn 23 31 14.0 +0.2
KSH *e*AP pP 23 31 23.3 -1.2
KSH *e*XP sP 23 31 30.1 -0.2
KSH *e*PP 23 31 34.1
KSH *e*S S 23 34 28.5 -10
KSH *e*PS 23 34 36.3
KSH *e*XS sS 23 34 44.5 -11
KSH *e*PCP PcP 23 35 50.3 +4.1
KSH *e*SCP ScP 23 39 19.6 +1.9
KSH AMB AMB
comp=Z,383nm,4.1s
KSH LR LR
comp=N,3μm,9.0s
KSH LR LR
comp=E,2μm,9.1s
KSH LR LR
comp=Z,691nm,18.7s
HYB Hyderabad 18.34 115 *i* P Pn 23 31 16.0 -1.1
HYB *e*S S 23 34 40.0 -3.9
HYB Hyderabad 18.34 115 *e*P Pn 23 31 16.0 -1.1
HYB *e*S S 23 34 40.0 -3.9
MSL Mosul 18.40 307 *ex* x 23 31 17.5
MSL *ex* x 23 34 27.5
KK31 Karatay Array 18.42 22 *i* P Pn 23 31 16.4 -1.6
KK31 pmax pmax
comp=Z,5.0nm,0.4s
KK31 Karatay Array 18.42 22 *i* P Pn 23 31 16.4 -1.6
comp=Z,5.0nm,0.4s
MNGI Mangalore 18.43 133 *ex* Pn 23 31 10.5 -7.7
MNGI AMb AMB 23 31 26.2
comp=Z,235nm,1.2s
CUKT Cukurca 18.51 310 *e*P Pn 23 31 16.0 -3.1
AML Almayashu 18.84 30 P Pn 23 31 21.9 -1.2
SNR=173
BDHA Al Bayda' 19.10 233⇑ *e*P Pn 23 31 24.9 -1.4
BDHA AMb AMB 23 31 25.6
comp=Z,164nm,1.1s
UCH Uchtor 19.29 31 P Pn 23 31 27.8 -0.8
SNR=136
VANT Van 19.29 313 *e*P Pn 23 31 27.6 -1.0
EKS2 Erkin-Say 19.31 29 P Pn 23 31 29.2 +0.5
SNR=7.9
CLDR Caldiran 19.36 316 *e*P Pn 23 31 27.4 -2.0
VANB Van 19.38 314 *e*P Pn 23 31 29.3 -0.3
VANB Van 19.38 314 P Pn 23 31 27.4 -2.2
LBOS 19.40 234 *e*P Pn 23 31 28.3 -1.6
GNI Garni 19.48 319 *e*P Pn 23 31 30.3 -0.5
GNI Garni 19.48 319 P Pn 23 31 30.4 -0.4
comp=Z,2.7nm,0.3s,baz=140,slow=0.6,SNR=82
GNI LR LR 23 39 46.8
comp=Z,1μm,19.9s,baz=324,slow=39
GNI Garni 19.48 319 P Pn 23 31 30.4 -0.4
GNI pmax pmax
comp=Z,3.0nm,0.3s
GNI MLR MLR
comp=Z,1μm,19.9s
GNI Garni 19.48 319 *e*Pn Pn 23 31 30.4 -0.4
comp=Z,298nm,1.3s
HAJJ Hajjah 19.51 241 *e*P Pn 23 31 29.2 -1.9
BLSP Bilaspur 19.52 98 *e*P Pn 23 31 30.5 -0.7
KZA Kyzart 19.53 33 P Pn 23 31 30.9 -0.4
SNR=106
DHBB Dhamar BB 19.58 237⇑ *e*P Pn 23 31 30.2 -1.8
DHBB AMb AMB 23 31 31.9
comp=Z,262nm,1.4s
DHBB Dhamar BB 19.58 237⇑ *e*P Pn 23 31 30.2 -1.8
comp=Z,131nm,1.4s
AAK Ala-Archa 19.60 30 P Pn 23 31 32.3 +0.1
SNR=45
AAK Ala-Archa 19.60 30 P Pn 23 31 30.9 -1.3
comp=Z,375nm,0.8s,SNR=31
AAK Ala-Archa 19.60 30⇑ *e*P Pn 23 31 30.4 -1.8
AAK pmax pmax
comp=Z,38nm,0.9s
AAK Ala-Archa 19.60 30 *e*Pn Pn 23 31 31.6 -0.6
AAK Ala-Archa 19.60 30 *e*P Pn 23 31 30.4 -1.8
comp=Z,38nm,0.9s
AAK Ala-Archa 19.60 30 *e*Pn Pn 23 31 31.6 -0.6
FRU Bishkek 19.82 30 *i* P Pn 23 31 33.0 -1.8
FRU *e*S S 23 35 12.0 -1.6
FRU pmax pmax
comp=Z,180nm,1.5s
FRU Bishkek 19.82 30 *i* P Pn 23 31 33.0 -1.8
comp=Z,180nm,1.5s
FRU *e*S S 23 35 12.0 -1.6
KBK Karagaybulak 19.83 31 P Pn 23 31 35.3 +0.3
SNR=82
MZRK Al-Mazaregh 19.99 303⇑ P Pn 23 31 36.4 -0.4
MZRK Al-Mazaregh 19.99 303⇑ *i* P Pn 23 31 36.4 -0.4
KOLN Koldanda 19.99 81 *e*P Pn 23 31 36.6 -0.3
comp=Z,1μm,1.3s
CHMS Chumysh 20.01 30 P P 23 31 34.9 -0.1
SNR=74
MAK Makhachkala 20.06 330 *i* P P 23 31 35.9 +0.4
MAK *i* S S 23 35 22.4 +4.0
MAK pmax pmax
comp=Z,507nm,1.4s
MAK MLR MLR
comp=Z,2μm,22.0s,MS4.3
MAK Makhachkala 20.06 330 *i* P P 23 31 35.9 +0.4
comp=Z,507nm,1.4s
USP Ospenovka 20.11 29 P P 23 31 36.2 +0.1
SNR=89
ULHL Ulahol 20.14 34 P P 23 31 38.5 +2.1
SNR=16
TKM2 Tokmak 2 20.34 32 P P 23 31 39.4 +0.8
SNR=151
TKM2 Tokmak 2 20.34 32 *i* P P 23 31 39.2 +0.6
TKM2 pmax pmax
comp=Z,162nm,0.9s
TKM2 Tokmak 2 20.34 32 *i* P P 23 31 39.2 +0.6
comp=Z,162nm,0.9s
BTMT Batman 20.43 310 *e*P P 23 31 39.5 -0.1
MTA Mtatsminda 20.48 323 P P 23 31 39.8 -0.3
MARD Mardin 20.52 307 *i* P P 23 31 39.9 -0.6
TBLG Delisi 20.54 323 P P 23 31 40.8 +0.1
TRBA At Turbah 20.65 234⇓ *e*P P 23 31 41.7 -0.2
KARS Kars 20.75 318 *e*P P 23 31 44.5 +1.4
GKN Gorkha 20.91 80 *e*P P 23 31 46.2 +1.4
comp=Z,693nm,1.0s
AKH Akhalkalaki 21.02 320 P P 23 31 47.0 +1.1
DRBT Darb Altahta 21.02 305⇑ P pP 23 31 56.5 -0.3
BNGL BINGOL 21.05 312 *i* P P 23 31 46.7 +0.5
GOR Gori 21.05 322 P P 23 31 47.1 +0.8
DIY Diyarbakir 21.17 308 *e*P P 23 31 48.0 +0.4
DMN Daman 21.33 81 *e*P P 23 31 51.0 +1.7
comp=Z,304nm,0.7s,mb5.7
ERZM Erzurum 21.41 314 *i* P P 23 31 51.6 +1.4
EZM Erzurum 21.41 314 *e*P P 23 31 51.4 +1.2
BINT Bingol 21.41 311 *e*P P 23 31 51.4 +0.8
KKN Kakani 21.48 81 *e*P P 23 31 52.7 +1.8
comp=Z,378nm,0.7s,mb5.8
KKN Kakani 21.48 81 *e*P P 23 31 52.7 +1.8
KKN pmax pmax
comp=Z,378nm,0.7s,mb5.8
PKI Pulchoki 21.60 81 *e*P P 23 31 53.7 +1.5
comp=Z,817nm,1.2s,mb6.0
PKI Pulchoki 21.60 81 *e*P P 23 31 53.7 +1.5
PKI pmax pmax
comp=Z,817nm,1.2s,mb6.0
JHLN Al Jahlan 21.61 301⇑ P P 23 31 54.1 +1.8
JHLN Al Jahlan 21.61 301⇑ *i* P P 23 31 54.1 +1.8
ZEI Tsey 21.70 324 *e*P P 23 31 55.2 +1.9
ZEI pmax pmax
comp=Z,237nm,1.0s,mb5.6
ZEI Tsey 21.70 324 *e*P P 23 31 55.2 +1.9
comp=Z,237nm,1.0s,mb5.6
ZALF Zalf 21.77 293⇑ P P 23 31 56.4 +2.4
ONI Oni 21.82 323 P P 23 31 55.3 +0.9
URFA Urfa 21.98 306 *e*P P 23 31 56.7 +0.4
ASF Jabal al Asfar 22.00 291 P P 23 31 57.4 +1.0
comp=Z,75nm,0.9s,mb5.1,baz=328,slow=14
ASF S S 23 35 51.4 -5.2
baz=38,slow=18
ASF LR LR 23 42 01.6
comp=Z,740nm,18.3s,MS4.1,baz=158,slow=41
ASF Jabal al Asfar 22.00 291 P P 23 31 57.4 +1.0
ASF S S 23 35 51.4 -5.2
ASF pmax pmax
comp=Z,75nm,1.0s
ASF MLR MLR
comp=Z,740nm,18.3s
ASF Jabal al Asfar 22.00 291 P P 23 31 57.4 +1.0
comp=Z,75nm,1.0s,mb5.1
ASF S S 23 35 51.4 -5.2
comp=Z,740nm,18.3s
GUN Gumba 22.01 80 *e*P P 23 31 58.9 +2.4
comp=Z,2μm,1.0s
ROOS tl_alroos 22.08 297⇑ P P 23 31 59.4 +2.1
BCA Borcka 22.14 318 *e*P P 23 31 56.8 -1.1
VIS Vishakhapatnam 22.18 108 *e*P P 23 31 59.1 +0.7
VIS AMb AMB 23 32 04.1
comp=Z,54nm,2.0s,mb4.6
MDRS Chennai 22.18 123 *e*P P 23 32 00.1 +1.7
MDRS AMb AMB 23 32 02.2
comp=Z,132nm,1.0s,mb5.3
SLMH Al Salmeh 22.19 302⇑ *i*P P 23 31 59.9 +1.5
RABH Abou Rabah 22.22 297⇑ P P 23 32 05.9 +7.1
SALA Sala 22.23 293⇑ P P 23 32 01.2 +2.3
JIRN Jiri 22.29 81 *e*P P 23 32 01.4 +1.8
comp=Z,864nm,0.9s,mb6.2
ELZG Elazig 22.31 309 *i* P P 23 32 00.2 +0.5
EZC Erzincan 22.34 312 *e*P P 23 32 03.1 +3.1
ATAB Bozova 22.38 306 *i* P P 23 32 00.8 +0.4
BOK Bokaro 22.48 91 *e*P P 23 32 02.2 +0.6
BOK AMb AMB 23 32 06.1
comp=Z,145nm,0.9s,mb5.4
TOTH TOTAH 22.60 294⇑ P P 23 32 06.0 +3.2
MALT Malatya 22.63 308 *e*P P 23 32 03.3 +0.2
MALT pmax pmax
comp=Z,147nm,1.3s,mb5.2
MALT Malatya 22.63 308 *e*P P 23 32 03.3 +0.2
comp=Z,147nm,1.3s,mb5.2
MYA Malatya 22.63 308 *e*P P 23 32 03.5 +0.3
ATD Arta Tunnel 22.70 233 P P 23 32 04.9 +1.0
comp=Z,104nm,1.2s,mb5.1,baz=30,slow=6.7,SNR=10
ATD LR LR 23 41 53.4
comp=Z,1μm,20.9s,MS4.3,baz=259,slow=39
KFRA Kufra 22.75 299⇑ P P 23 32 06.9 +2.5
FKH Fakeheh 22.81 296 *e*P P 23 32 06.8 +1.7
TCHB Talchebab 22.85 292⇑ P P 23 32 09.8 +4.3
GZT Gaziantep 22.87 305 *i* P P 23 32 06.3 +0.6
KELT Kelkit 22.91 313 *i* P P 23 32 06.2 0.0
BRBR Barbar 23.00 294⇑ P P 23 32 09.8 +2.8
GAZ Gaziantep 23.06 304 *e*P P 23 32 08.7 +1.0
BIDA Albida 23.07 298⇑ P P 23 32 10.2 +2.4
WRDH Warideh 23.14 299⇑ P P 23 32 09.8 +1.3
TRD Trivandrum 23.15 137 *e*P P 23 32 10.3 +1.7
TRD AMb AMB 23 32 23.1
comp=Z,82nm,0.9s,mb5.2
KIV Kislovodsk 23.16 324 P P 23 32 09.4 +0.7
comp=Z,5μm,0.9s
KIV Kislovodsk 23.16 324 *e*P P 23 32 09.3 +0.6
KIV *e*S S 23 36 20.7 +3.9
KIV pmax pmax
comp=Z,1μm,1.0s
KIV pmax pmax
comp=Z,2μm,1.3s
KIV MLR MLR
comp=Z,242nm,12.0s,MS3.9
KIV Kislovodsk 23.16 324 *e*P P 23 32 09.5 +0.8
KIV Kislovodsk 23.16 324 *e*P P 23 32 09.3 +0.6
comp=Z,242nm,12.0s
BTCH Batrach 23.25 301⇑ P P 23 32 10.8 +1.1
DRWC Darouich 23.28 302⇑ P P 23 32 11.0 +1.0
DRWC Darouich 23.28 302⇑ *i* P P 23 32 11.0 +1.0
SLNF Slenfeh 23.31 300⇑ P P 23 32 13.1 +2.8
BHL Bhannes 23.35 295 *e*P P 23 32 11.2 +0.7
BHL Bhannes 23.35 295 *e*P P 23 32 11.2 +0.6
MMAI Mount Meron Ar 23.38 293 P P 23 32 12.6 +1.7
comp=Z,68nm,1.0s,mb5.0,baz=276,slow=8.3,SNR=12
MMAI S S 23 36 23.5 +3.2
comp=Z,0.4nm,0.3s,baz=119,slow=14,SNR=3.3
EIL Elat 23.42 284 *e*P P 23 32 11.2 -0.1
EIL Elat 23.42 284 *e*P P 23 32 11.2 -0.1
HTY Hatay 23.53 301 *e*P P 23 32 14.4 +2.2
COBT Iskenderun 23.56 302 *i* P P 23 32 14.4 +1.8
ARNB Al Arnab 23.58 300⇑ P P 23 32 16.2 +3.4
GOF Gofitskoye 23.76 327 *e*P P 23 32 13.5 -0.9
GOF pmax pmax
comp=Z,156nm,1.3s,mb5.3
GOF Gofitskoye 23.76 327 *e*P P 23 32 13.5 -0.9
comp=Z,156nm,1.3s,mb5.3
GRSN GIRESUNGRSN 23.96 313 *i* P P 23 32 16.4 +0.2
CEYT Ceyhan 24.11 303 *e*P P 23 32 18.5 +1.0
KOZT Kozan 24.20 304 *e*P P 23 32 19.7 +1.2
AKTK Aktyubinsk 24.24 355 P P 23 32 18.6 -0.2
AKTK S S 23 36 35.3 +1.1
AKTK Aktyubinsk 24.24 355 P P 23 32 18.6 -0.2
comp=Z,52nm,0.8s,mb5.0
AKTO Aktyubinsk 24.24 355 P P 23 32 18.6 -0.2
comp=Z,52nm,0.8s,mb5.0,baz=173,slow=9.1,SNR=139
AKTO S S 23 36 35.3 +1.1
comp=Z,4.6nm,1.0s,baz=95,slow=13,SNR=2.1
AKTO Aktyubinsk 24.24 355 P P 23 32 18.6 -0.2
AKTO S S 23 36 35.3 +1.1
AKTO pmax pmax
comp=Z,52nm,0.8s,mb5.0
AKTO smax
comp=E,5.0nm,1.0s
SVSK Karacayir 24.33 310 *e*P P 23 32 19.5 -0.1
BNN Bunyan 24.69 307 *e*P P 23 32 24.3 +1.4
KARA Karaisali 24.71 303 *e*P P 23 32 24.4 +1.3
TOKT Tokat 24.82 311 *e*P P 23 32 22.3 -1.7
CAL Calcutta 24.95 93 *e*P P 23 32 26.0 +0.7
CAL *e*S S 23 36 46.4 +0.8
MERS Mersin 24.99 301 *e*P P 23 32 26.2 +0.6
CSS Prodhromos 25.45 297 *e*P P 23 32 31.2 +1.5
CSS Prodhromos 25.45 297 *e*P P 23 32 31.5 +1.8
comp=E,153nm,1.1s,mb5.4
CSS *e* pP 23 32 43.0 +1.2
IKL Isikli 25.47 300 *e*P P 23 32 25.8 -4.1
CDAG Cicekdag 26.05 307 *i* P P 23 32 35.5 +0.3
CORM Corum 26.08 309 *e*P P 23 32 28.5 -7.0
CTKT Corum 26.16 310 *i* P P 23 32 32.8 -3.4
ERMK Ermenek 26.17 300 *i* P P 23 32 38.3 +2.0
DIKM Dikmen 26.29 312 *e*P P 23 32 35.3 -2.1
MKAR Makanchi Array 26.41 34 P P 23 32 39.7 +1.2
comp=E,20nm,0.8s,mb4.7,baz=221,slow=8.9,SNR=126
MKAR Makanchi Array 26.41 34 P P 23 32 39.7 +1.2
MKAR pmax pmax
comp=Z,20nm,0.8s
MKAR Makanchi Array 26.41 34 P P 23 32 39.7 +1.2
KAMT Kaman 26.42 306 *e*P P 23 32 38.3 -0.3
BOYT Boyabat 26.43 311 *i* P P 23 32 38.9 +0.3
PALK Pallekele 26.49 132 *e*pP pP 23 32 51.8 +0.6
BYBT Boyabat 26.54 311 *e*P P 23 32 39.8 +0.2
ANN Anapa 26.60 320*c* *i*P P 23 32 40.0 -0.1
ANN *i* *PP pP 23 32 56.7 +4.5
ANN *i* 23 33 22.5
ANN *e*PPP 23 33 30.9
ANN *e*S S 23 37 14.4 +2.7
ANN pmax pmax
comp=Z,125nm,0.9s,mb5.4
ANN Anapa 26.60 320 *i* P P 23 32 40.0 -0.1
comp=Z,125nm,0.9s,mb5.4
BR131 Keskin Array S 26.61 307 *e*P P 23 32 40.6 +0.3
comp=Z,84nm,1.1s,mb5.2
BR131 *e* pP 23 32 52.3 0.0
BR131 Keskin Array S 26.61 307 *e*P P 23 32 40.6 +0.4
BRTR Keskin Array B 26.61 307 P P 23 32 40.5 +0.2
comp=Z,65nm,1.0s,mb5.1,baz=128,slow=9.5,SNR=74
BRTR S S 23 37 13.0 +1.2
comp=Z,0.3nm,0.7s,baz=120,slow=22,SNR=1.1
BRTR LR LR 23 44 41.3
comp=Z,687nm,21.9s,MS4.2,baz=293,slow=40
BRTR Keskin Array B 26.61 307 P P 23 32 40.5 +0.3
BRTR S S 23 37 13.0 +1.1
BRTR pmax pmax
comp=Z,65nm,1.0s
BRTR MLR MLR
comp=Z,687nm,21.9s
TOS Tosya 26.86 310 *e*P P 23 32 42.3 -0.1
KONT Konya--Tatoy 26.96 303 *e*P P 23 32 44.6 +1.2
CANT Cankiri 26.96 309 *e*P P 23 32 43.0 -0.5
ELDT Eldivan 27.05 309 *i* P P 23 32 44.0 -0.2
ANTO Ankara 27.27 307 *e*P P 23 32 45.7 -0.5
ANTO Ankara 27.27 307 *e*P P 23 32 46.1 -0.1
ANTO *e**PP pP 23 32 58.7 +0.5
ANTO pmax pmax
comp=Z,74nm,1.2s,mb5.1
ANTO Ankara 27.27 307 *e*P P 23 32 46.1 -0.1
comp=Z,74nm,1.2s,mb5.1
ANTO *e*pP pP 23 32 58.7 +0.5
ZRNK Zerenda 27.27 10 *e*P P 23 32 47.4 +1.2
ZRNK *e* pP 23 32 58.4 +0.2
ZRNK pmax pmax
comp=Z,50nm,0.9s,mb5.0
ZRNK Zerenda 27.27 10 *e*P P 23 32 47.4 +1.2
comp=Z,50nm,0.9s,mb5.0
ZRNK *e* pP 23 32 58.4 +0.2
ZRNK Zerenda 27.27 10 *e*P P 23 32 47.4 +1.2
comp=Z,50nm,0.9s,mb5.0
LOD Lodumlu 27.30 307 *e*P P 23 32 40.4 -6.0
KDHN Kadinhani 27.31 304 *i* P P 23 32 47.3 +0.7
BALT Daday 27.50 311 *i* P P 23 32 47.8 -0.5
BVAR Borovoye Array 27.58 12 P P 23 32 50.1 +1.1
comp=Z,41nm,0.8s,mb5.1,baz=188,slow=9.0,SNR=134
BVAR LR LR 23 44 16.6
comp=Z,868nm,21.4s,MS4.3,baz=140,slow=37
BVAR Borovoye Array 27.58 12 P P 23 32 50.1 +1.1
BVAR pmax pmax
comp=Z,41nm,0.8s
BVAR MLR MLR
comp=Z,868nm,21.5s
BRVK Borovoye 27.59 12 P P 23 32 50.5 +1.4
comp=Z,263nm,0.7s,mb6.0,SNR=42
KIZT Kizilcal 27.60 304 *e*P P 23 32 49.6 +0.4
WMQ Urumqi 27.68 44 P P 23 32 53.8 +3.9
WMQ S S 23 37 24.0 -4.7
WMQ AMB AMB
comp=Z,48nm,0.8s,mb5.2
WMQ AMB AMB
comp=Z,363nm,3.8s
KURK Kurchatov 27.80 24 P P 23 32 48.7 -2.2
comp=Z,161nm,1.1s,mb5.6,SNR=5.5
KURK Kurchatov 27.80 24 *i* P P 23 32 47.9 -3.0
KURK pmax pmax
comp=Z,17nm,1.1s,mb4.6
KURK Kurchatov 27.80 24 *e*P P 23 32 48.1 -2.8
SAFT Safranbolu 27.86 310 *e*P P 23 32 51.4 -0.1
SGKT Sivrigoynuk 28.05 308 *i* P P 23 32 52.7 -0.5

CHKZ Chkalovo 28.24 12 *i* P P 23 32 55.7 +0.8
CHKZ pmax pmax
comp=Z,45nm,1.0s,mb5.0
CHKZ Chkalovo 28.24 12 *e* P P 23 32 56.1 +1.2
comp=Z,51nm,1.0s,mb5.1
CHKZ Chkalovo 28.24 12 *i* P P 23 32 55.7 +0.8
comp=Z,45nm,1.0s,mb5.0
ISP Isparta 28.34 302 *e* P P 23 32 53.4 -2.4
ISP Isparta 28.34 302 *e* P P 23 32 56.7 +1.0
ISP *e* *PP pP 23 33 09.0 +1.2
ISP pmax pmax
comp=Z,102nm,1.1s,mb5.4
ISP Isparta 28.34 302 *e* P P 23 32 56.6 +0.9
comp=Z,102nm,1.1s,mb5.4
ISP *e* pP pP 23 33 09.0 +1.2
TKTP Tekketepe 28.53 302 *i* P P 23 32 58.0 +0.5
ELL Elmali 28.54 299 *e* P P 23 32 58.6 +1.0
ESKT Eskisehir 28.56 305 *i* P P 23 32 58.0 +0.2
SEYT Eskypehyr 28.56 305 *i* P P 23 32 58.0 +0.3
MDU Mudurnu 28.61 307 *e* P P 23 32 57.0 -1.2
ULDT Uludag 30.01 306 *i* P P 23 33 10.2 -0.3
VRSR Storozhevoye 30.02 332 *e* P P 23 33 10.5 -0.1
VRSR pmax pmax
comp=Z,90nm,0.6s,mb5.7
VRSR pmax pmax
comp=N,150nm,0.9s
VRSR pmax pmax
comp=E,140nm,1.1s
VRSR Storozhevoye 30.02 332 *e* P P 23 33 10.5 -0.1
comp=E,150nm,0.9s,mb5.7
ARU Arti 30.18 357 P P 23 33 12.9 +0.8
comp=E,169nm,1.3s,mb5.6,SNR=12
ARU Arti 30.18 357⇑ *i* P P 23 33 12.7 +0.6
ARU *e* 23 34 10.8
ARU *e* PPP 23 34 20.8
ARU *e* 23 36 13.2
ARU *e* S S 23 38 11.8 +3.7
ARU *e* SS SS 23 39 39.8 -38
ARU *e* SSS 23 40 01.5
ARU pmax pmax
comp=Z,29nm,1.1s,mb4.9
ARU MLR MLR
comp=N,300nm,20.0s
ARU MLR MLR
comp=Z,300nm,20.0s,MS3.9
ARU Arti 30.18 357 *e* P P 23 33 12.3 +0.3
comp=Z,39nm,1.1s,mb5.0
ARU *e* pP pP 23 33 24.2 +0.1
ARU Arti 30.18 357 *e* P P 23 33 12.3 +0.2
comp=Z,39nm,1.1s,mb5.0
ARU *e* pP pP 23 33 24.2 0.0
VOR Voronezh 30.40 333 *e* P P 23 33 14.0 0.0
VOR pmax pmax
comp=N,170nm,1.4s
VOR pmax pmax
comp=E,110nm,1.4s
VOR pmax pmax
comp=Z,200nm,1.4s,mb5.7
SVE Sverdlovsk 30.52 359⇑ *e* P P 23 33 16.0 +0.9
SVE *e* pP 23 33 27.0 -0.2
SVE *e* PPP 23 34 35.0
SVE *e* S S 23 38 14.0 +0.6
SVE pmax pmax
comp=Z,100nm,1.8s,mb5.3
SVE MLR MLR
comp=N,500nm,12.0s,MS4.5
SVE MLR MLR
comp=E,500nm,12.0s,MS4.5
SVE MLR MLR
comp=Z,600nm,12.0s,MS4.5
SVE Sverdlovsk 30.52 359 *e* P P 23 33 16.0 +0.9
comp=Z,100nm,1.8s,mb5.3
SVE *e* S S 23 38 14.0 +0.6
KDAG Bornova 30.95 301 *i* P P 23 33 19.5 +0.7
IZM Izmir 30.95 301 *e* P P 23 33 19.3 +0.4
SANT Santorini 32.00 297 *e* P P 23 33 28.4 +0.3
SANT *e* pP pP 23 33 40.4 +0.1
SANT Santorini 32.00 297 *e* P P 23 33 28.4 +0.3
TIRR Tirgusor 32.03 313 ⇓ *i* P pP 23 33 39.0 -1.5
TIRR Tirgusor 32.03 313 ⇓ P pP 23 33 39.0 -1.4
HARR Harsova 32.44 313 ⇓ *i* P P 23 33 32.5 +0.6
HARR Harsova 32.44 313 ⇓ P P 23 33 32.5 +0.5
ALN Alexandroupoli 32.48 306 *e* P P 23 33 32.1 -0.2
CFR Carcaliu 32.50 314 ⇓ *i* P P 23 33 31.9 -0.6
CFR Carcaliu 32.50 314 ⇓ P P 23 33 31.9 -0.6
JMB Yambol 32.56 309 *e* P P 23 33 32.8 -0.2
JMB Yambol 32.56 309 P P 23 33 32.7 -0.3
ZAL Zalesovo 32.68 26 P P 23 33 34.1 0.0
comp=Z,6.3nm,0.5s,mb4.8,baz=252,slow=5.7,SNR=27
ZAL S S 23 38 46.6 -0.5
comp=Z,0.5nm,0.3s,baz=184,slow=21,SNR=0.9
ZAL Zalesovo 32.68 26 P P 23 33 34.1 0.0
ZAL S S 23 38 46.6 -0.5
ZAL pmax pmax
comp=Z,6.0nm,0.5s
ZAL smax
comp=E,1.0nm,0.3s
NVS Novosibirsk 32.78 24 *i* P P 23 33 35.6 +0.6
NVS *i* S S 23 38 51.5 +2.8
NVS pmax pmax
comp=Z,30nm,1.5s,mb5.0
NVS pmax pmax
comp=N,27nm,1.2s
NVS pmax pmax
comp=E,4.0nm,0.8s
NVS smax
comp=N,24nm,1.5s
NVS smax
comp=E,6.0nm,1.2s
NVS Novosibirsk 32.78 24 *i* P P 23 33 35.6 +0.6
comp=E,27nm,1.2s,mb5.0
NVS *i* S S 23 38 51.5 +2.8
comp=E,24nm,1.5s
RDO Rodhopi 32.92 306 P P 23 33 35.7 -0.4
KDZ Kurdzhali 33.14 307 *i* P P 23 33 38.3 +0.2
DIM Dimitrovgrad 33.17 307 P P 23 33 38.1 -0.3
SZH Strazhica 33.27 310 *i* P P 23 33 40.0 +0.8
RZN Rozhen 33.66 306 *i* P P 23 33 42.7 +0.1
VRI Vrincioaia 33.68 314 ⇓ *i* P P 23 33 43.7 +0.9
VRI Vrincioaia 33.68 314 P P 23 33 43.4 +0.6
VRI Vrincioaia 33.68 314 P P 23 33 43.4 +0.6
IAS Iasi 33.72 317 ⇓ *i* P P 23 33 43.4 +0.3
IAS Iasi 33.72 317 P P 23 33 43.1 0.0
IAS Iasi 33.72 317 P P 23 33 43.2 +0.1
PLOR Plostina 33.73 314 ⇓ *i* P P 23 33 44.5 +1.3
OBN Obninsk 33.97 335 P P 23 33 45.1 -0.2
comp=E,892nm,1.4s,SNR=13
OBN Obninsk 33.97 335 *c* *i* P P 23 33 45.7 +0.4
OBN *e* 23 34 56.6
OBN *i* S S 23 39 03.6 -3.5
OBN *e* SS SS 23 41 08.5 -27
OBN pmax pmax
comp=Z,321nm,1.6s,mb6.0
OBN MLR MLR
comp=Z,300nm,24.0s,MS3.9
OBN Obninsk 33.97 335 *e* P P 23 33 45.9 +0.6
OBN *e* pP pP 23 33 57.8 +0.3
OBN Obninsk 33.97 335 *i* P P 23 33 45.7 +0.4
comp=Z,321nm,1.6s,mb6.0
PAIG Paliouri 34.00 303 *e* P P 23 33 45.7 +0.1
MLR Muntele Rosu 34.04 313 ⇓ *i* P P 23 33 47.6 +1.7
MLR Muntele Rosu 34.04 313 P P 23 33 47.2 +1.3
MLR Muntele Rosu 34.04 313 P P 23 33 47.2 +1.3
MOS Moscow 34.05 336 *e* P P 23 33 44.3 -1.7
MOS *e* *PP pP 23 33 57.5 -0.7
MOS *e* 23 35 02.9
MOS *e* S S 23 39 02.4 -5.9
MOS pmax pmax
comp=Z,600nm,1.9s,mb6.2
MOS pmax pmax
comp=Z,290nm,1.7s,mb5.9
MOS Moscow 34.05 336 *e* P P 23 33 44.3 -1.7
comp=Z,290nm,1.7s,mb5.9
XOR Xorichti 34.26 302 *e* P P 23 33 47.8 -0.1
PGB Panagyurishte 34.29 308 P P 23 33 48.3 +0.3
SRS Serrai 34.33 305 *e* P P 23 33 48.5 0.0
MMB Musomiste 34.35 306 *i* P P 23 33 48.7 +0.1
SOH Sokhos 34.44 305 *e* P P 23 33 49.6 +0.2
AKASG Malin Array Be 34.50 324 P P 23 33 49.9 0.0
comp=Z,69nm,0.8s,mb5.7,baz=122,slow=7.9,SNR=289
AKASG pP pP 23 34 01.0 -1.1
comp=Z,89nm,0.8s,baz=129,slow=8.2,SNR=28
AKASG S S 23 39 14.7 -0.6
comp=Z,0.4nm,0.4s,baz=145,slow=18,SNR=1.6
AKASG Malin Array Be 34.50 324 P P 23 33 49.9 0.0
AKASG *PP pP 23 34 01.0 -1.1
AKASG S S 23 39 14.7 -0.6
AKASG pmax pmax
comp=Z,69nm,0.8s
AKASG pmax pmax
comp=Z,89nm,0.8s
AKASG Malin Array Be 34.50 324 P P 23 33 49.8 -0.1
AKASG pP pP 23 34 01.0 -1.1
AKASG S S 23 39 14.7 -0.6
AKBB Malin Array Si 34.50 324 *e* P P 23 33 49.7 -0.2
AKBB *e* pP pP 23 34 01.9 -0.2
HORT Hortiatis 34.58 304 *e* P P 23 33 50.6 0.0
VOIR 34.61 313 ⇓ *i* P P 23 33 51.8 +1.0
VOIR 34.61 313 ⇓ P P 23 33 51.8 +1.0
THE Thessaloniki 34.69 304 *e* P P 23 33 51.0 -0.5
GTA Gaotai 34.71 58 ⇓ *i* P P 23 33 54.3 +2.6
GTA AP pP 23 34 06.3 +2.4
GTA XP sP 23 34 11.9 +2.6
GTA PP PP 23 35 12.8 +1.9
GTA PPP 23 35 31.8
GTA PCP PcP 23 36 27.8 +3.1
GTA S S 23 39 21.4 +2.9
GTA XS sS 23 39 41.3 +2.4
GTA SCP ScP 23 40 08.3 +2.0
GTA PCS PcS 23 40 10.3 -1.0
GTA SS SS 23 41 36.8 -13
GTA AMB AMB
comp=Z,50nm,0.7s,mb5.5
GTA AMB AMB
comp=Z,156nm,5.7s
GTA LR LR
comp=N,953nm,16.4s,MS4.6
GTA LR LR
comp=E,474nm,19.0s,MS4.6
GTA LR LR
comp=Z,623nm,20.9s,MS4.3
KNT Kendrikon 34.85 305 *e* P P 23 33 52.7 -0.2
KKB Krupnik 34.88 306 *i* P P 23 33 52.9 -0.3
ITM Ithomi 34.92 298 P P 23 33 52.4 -1.1
LIT Litokhoron 34.93 303 *e* P pP 23 34 06.5 +0.6
LIT Litokhoron 34.93 303 P P 23 33 54.4 +0.8
LIT pP 23 34 06.5 +0.7
VTS Vitosha 34.98 308 *e* P P 23 33 53.9 -0.1
VTS Vitosha 34.98 308 *i* P P 23 33 54.3 +0.3
VTS Vitosha 34.98 308 ⇓ *i* P P 23 33 54.8 +0.8
CRAR CRAIOVA 35.07 311 P P 23 33 56.2 +1.4
VAY Valandovo 35.13 305 *i* P P 23 33 55.0 -0.3
VAY *i* pP 23 34 06.9 -0.6
VAY Valandovo 35.13 305 *e* P P 23 33 54.0 -1.3
CRA Chernovtsy 35.19 318 P P 23 33 56.2 +0.4
BURAR Bucovina Array 35.34 317 ⇓ *i* P P 23 33 58.1 +1.0
BURAR Bucovina Array 35.34 317 ⇓ P P 23 33 58.1 +1.0
CHG Chiang Mai 35.53 94 ⇑ P P 23 33 59.8 +1.0
comp=Z,26nm,0.9s,mb5.2
CHTO Chiang Mai 35.53 94 *e* P P 23 33 59.7 +0.9
CHTO *e* S S 23 39 28.8 -2.3
CHTO pmax pmax
comp=Z,50nm,1.4s,mb5.2
CHTO Chiang Mai 35.53 94 *e* P P 23 33 59.7 +0.9
comp=Z,50nm,1.4s,mb5.2
CHTO *e* S S 23 39 28.8 -2.3
CHTO Chiang Mai 35.53 94 *e* P P 23 33 59.7 +0.9
comp=Z,50nm,1.4s,mb5.2
CHTO *e* S S 23 39 28.8 -2.3
KMBO Kilima Mbogo 35.74 224 P P 23 34 01.6 +1.0
comp=Z,3.1nm,0.8s,mb4.3,baz=41,slow=13,SNR=11
KMBO Kilima Mbogo 35.74 224⇑ *e* P P 23 34 02.5 +1.9
KMBO Kilima Mbogo 35.74 224 P P 23 34 01.5 +0.9
FNA Florina 35.90 304 *e* P P 23 34 01.9 0.0
BIA Bitola 35.99 304 *i* P P 23 34 02.4 -0.3
BIA *i* pP 23 34 14.7 -0.2
BIA Bitola 35.99 304 *e* P P 23 34 02.0 -0.7
GZR Gura Zlata 36.10 312 ⇓ *i* P P 23 34 04.2 +0.6
GZR Gura Zlata 36.10 312 ⇓ P P 23 34 04.2 +0.6
SKO Skopje 36.10 306 *e* P P 23 34 03.4 -0.3
SKO Skopje 36.10 306 *i* P P 23 34 04.0 +0.3
SKO *i* pP 23 34 16.3 +0.4
SKO Skopje 36.10 306 *e* P P 23 34 03.3 -0.3
LKD Levkas 36.11 300 *e* P P 23 34 04.1 +0.4
OHR Ohrid 36.39 304 *i* P P 23 34 05.5 -0.6
OHR *i* pP 23 34 17.9 -0.4
OHR Ohrid 36.39 304 *e* P P 23 34 05.4 -0.7
BZS Buzias 36.94 312 ⇓ *i* P P 23 34 10.4 -0.4
BZS Buzias 36.94 312 P P 23 34 11.1 +0.3
LVV L'vov 36.98 319 *e* P pP 23 34 22.1 -1.3
GRUS Gruza 37.08 309 *i* P P 23 34 11.0 -1.0
NANT Nan 37.11 93 P P 23 34 11.5 -0.7
KMI Kunming 37.32 82 P P 23 34 15.3 +1.3
KMI AP pP 23 34 27.3 +1.0
KMI XP sP 23 34 32.3 +0.6
KMI PP PP 23 35 43.1 +3.4
KMI PPP 23 36 04.5
KMI S S 23 39 59.0 +0.6
KMI XS sS 23 40 19.6 +0.6
KMI SS SS 23 42 31.8 -11
KMI SSS 23 43 03.6
KMI AMB AMB
comp=Z,56nm,1.4s,mb5.2
KMI LR LR
comp=N,193nm,21.9s,MS4.1
KMI LR LR
comp=E,267nm,16.9s,MS4.1
KMI LR LR
comp=Z,270nm,21.9s,MS4.0
MNK Minsk 37.34 328 *e* P P 23 34 12.0 -2.2
MNK pmax pmax
comp=Z,220nm,1.0s,mb5.9
MNK Minsk 37.34 328 *e* P P 23 34 12.0 -2.2
comp=Z,220nm,1.0s,mb5.9
CD2 Chengdu 37.47 73 *e* P P 23 34 16.3 +1.0
CD2 AP pP 23 34 28.5 +0.9
CD2 XP sP 23 34 33.8 +0.8
CD2 PP PP 23 35 45.0 +3.6
CD2 S S 23 40 00.9 +0.2
CD2 XS sS 23 40 21.3 0.0
CD2 SS SS 23 42 34.8 -11
CD2 AMB AMB
comp=Z,20nm,0.7s,mb5.1
CD2 AMB AMB
comp=Z,60nm,5.6s
CD2 LR LR
comp=E,580nm,25.2s
CD2 LR LR
comp=Z,120nm,14.4s
SJES Sjenica 37.47 308 P P 23 34 14.7 -0.6
KRAR Krasnoyarsk 37.48 29 *e* P P 23 34 13.3 -2.0
KRAR pmax pmax
comp=Z,26nm,1.3s,mb4.9
KRAR Krasnoyarsk 37.48 29 *e* P P 23 34 13.3 -2.0
comp=Z,26nm,1.3s,mb4.9
LZH Lanzhou 37.50 64 *e* P P 23 34 18.4 +2.9
LZH AP pP 23 34 27.3 -0.5
LZH XP sP 23 34 30.6 -2.6
LZH PP PP 23 35 50.0 +8.3
LZH *e* S S 23 40 08.5 +7.3
LZH XS sS 23 40 23.3 +1.5
LZH AMB AMB
comp=Z,139nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,491nm,4.6s
LZH LR LR
comp=N,2μm,11.3s
LZH LR LR
comp=Z,3μm,14.9s,MS5.2
DIVS Divcibare 37.63 309 *i* P P 23 34 16.1 -0.6
DIVS Divcibare 37.63 309 *e* P P 23 34 16.2 -0.5
KOLS Kolonicke sedl 37.67 317 *e* P P 23 34 18.1 +1.1
KOLS pmax pmax
comp=Z,26nm,1.0s,mb4.9
KOLS Kolonicke sedl 37.67 317 *e* P P 23 34 18.1 +1.1
comp=Z,26nm,1.0s,mb4.9
KWP Kalwaria 37.68 319 *e* P P 23 34 17.5 +0.4
KWP *e* pP pP 23 34 29.3 -0.1
NST Nakhon Sawan 37.71 98 P P 23 34 19.0 +1.7
comp=Z,42nm,0.6s,mb5.3
BBLS Bajina Basta - 37.99 308 *i* P P 23 34 19.9 +0.3
CRVS Cervenica-Dubn 38.15 317 *e* P P 23 34 21.4 +0.4
CRVS pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
CRVS Cervenica-Dubn 38.15 317 *e* P P 23 34 21.4 +0.4
comp=Z,9.0nm,0.9s,mb4.5
PSZ Piszkesteto 38.79 315⇑ *e* P P 23 34 26.5 +0.1
NIE Niedzica 39.04 317 *e* P P 23 34 29.0 +0.5
PKSM Moragy 39.10 312 ⇓ *i* P P 23 34 28.7 -0.3
PKSM Moragy 39.10 312⇑ *e* P P 23 34 28.9 -0.1
TIP Timpagrande 39.18 300 *e* P P 23 34 29.1 -0.5
BUD Budapest 39.21 314⇑ *e* P P 23 34 29.9 0.0
MOY Mondy 39.26 39 *e* P P 23 34 32.7 +2.4
MOY pmax pmax
comp=Z,63nm,1.5s,mb5.1
MOY Mondy 39.26 39 *e* P P 23 34 32.7 +2.4
comp=Z,63nm,1.5s,mb5.1
SUW Suwalki 39.39 325 *e* P P 23 34 31.5 +0.1
SUW *e* pP pP 23 34 42.4 -1.3
ORI Oriolo Calabro 39.51 302 P P P 23 34 33.7 +1.3
OJC Ojcow 39.64 318 *i* P P 23 34 33.7 +0.2
OJC *i* pP pP 23 34 45.8 -0.1
OJC *e* PP PP 23 36 05.5 +0.4
OJC *e* S S 23 40 15.9 -18
OJC L 23 56 11.3
comp=Z,1.4nm,21.6s
OJC Ojcow 39.64 318⇑ *i* P P 23 34 33.7 +0.2
OJC *i* *PP pP 23 34 45.8 -0.1
OJC *e* 23 36 05.5
OJC MLR MLR
comp=Z,1μm,21.6s,MS4.8
VYHS Vyhne 39.65 315 *i* P P 23 34 33.8 +0.3
VYHS pmax pmax
comp=Z,17nm,0.9s,mb4.8
VYHS Vyhne 39.65 315 *i* P P 23 34 33.8 +0.3
comp=Z,17nm,0.9s,mb4.8
VYHS *e* PP PP 23 36 06.0 +0.8
LIKS Likavka 39.66 316 *e* P P 23 34 33.2 -0.4
LIKS pmax pmax
comp=Z,35nm,0.9s,mb5.1
LIKS Likavka 39.66 316 *e* P P 23 34 33.2 -0.4
comp=Z,35nm,0.9s,mb5.1
WAR Warsaw 39.73 322 *e* P P 23 34 35.2 +0.9
WAR *e* pP pP 23 34 47.0 +0.4
SRO1 Iza 39.81 314 *e* P P 23 34 35.8 +0.9
SRO1 pmax pmax
comp=Z,35nm,0.9s,mb5.1
SRO1 Iza 39.81 314 *e* P P 23 34 35.8 +0.9
comp=Z,35nm,0.9s,mb5.1
CUC Castrocucco 39.98 302 P P P 23 34 36.8 +0.5
ZAK Zakamensk 40.09 42 *e* P P 23 34 39.0 +1.8
ZAK *e* 23 36 13.5
ZAK pmax pmax
comp=Z,14nm,1.1s,mb4.6
ZAK pmax pmax
comp=Z,7.0nm,1.8s,mb4.1
ZAK Zakamensk 40.09 42 *e* P P 23 34 39.0 +1.8
comp=Z,14nm,1.1s,mb4.6
SLCN Sala Consilina 40.16 302 P P P 23 34 39.2 +1.4
VSU Vasula 40.21 333 *c* *i* P P P 23 34 37.9 -0.3
VSU Vasula 40.21 333 P P P 23 34 38.1 -0.1
VSU Vasula 40.21 333 *i* P P P 23 34 37.9 -0.3
MRLC Muro Lucano 40.31 303 P P P 23 34 40.0 +0.9
FG4 Candela 40.34 303 P P P 23 34 40.0 +0.7
SGO Sicignano 40.43 302 P P P 23 34 41.1 +1.1
OKC Ostrava-Krasne 40.51 317 *e* P P 23 34 40.6 -0.1
OKC *e* pP pP 23 34 52.1 -1.0
OKC AMS AMS 23 57 10.0
OKC Ostrava-Krasne 40.51 317 *e* P P 23 34 40.6 -0.1
OKC *e* pP pP 23 34 52.1 -1.0
FG5 Orsara di Pugl 40.54 304 P P P 23 34 42.3 +1.3
GYA Guiyang 40.55 79 ⇓ *i* P P P 23 34 41.8 +0.7
GYA AP pP 23 34 54.0 +0.6
GYA XP sP 23 34 59.4 +0.6
GYA PP PP 23 36 19.3 +4.3
GYA PCP PcP 23 36 44.8 +2.1
GYA S S 23 40 46.6 -0.5
GYA XS sS 23 41 08.5 +0.7
GYA SS SS 23 43 44.1 -4.0
GYA AMB AMB
comp=Z,50nm,0.9s,mb5.1
GYA AMB AMB
comp=Z,160nm,5.0s
GYA LR LR
comp=N,680nm,17.8s,MS4.7
GYA LR LR
comp=E,740nm,18.0s,MS4.7
GYA LR LR
comp=Z,710nm,17.6s,MS4.6
ZST Bratislava 40.66 314 *i* P P 23 34 41.4 -0.5
ZST pmax pmax
comp=Z,15nm,0.9s,mb4.6
ZST Bratislava 40.66 314 *i* P P 23 34 41.4 -0.5
comp=Z,15nm,0.9s,mb4.6
ZST *e* PP PP 23 36 23.7 +7.5
TLY Talaya 40.78 40 P P P 23 34 45.7 +2.8
comp=Z,162nm,0.9s,mb5.7,SNR=5.3
CIGN Sant'Elia a Pi 40.86 304 P P P 23 34 44.9 +1.3
MORC Moravsky Berou 40.86 317 ⇓ *i* P P P 23 34 43.8 +0.2
MORC Moravsky Berou 40.86 317 *e* P P P 23 34 43.4 -0.2
MORC *e* pP pP 23 34 55.4 -0.6
MORC Moravsky Berou 40.86 317 *e* P P P 23 34 43.3 -0.3
MORC *e* pP pP 23 34 55.4 -0.6
PSB1 Pescosannita 40.88 303 P P P 23 34 44.5 +0.8
CRES Cresnjev 41.16 310 P P P 23 34 46.7 +0.6
BOJS Bojanci 41.24 310 *e* P P P 23 34 46.1 -0.6
SONM Songino Array 41.25 46 P P P 23 34 49.2 +2.4
comp=Z,8.5nm,0.7s,mb4.5,baz=251,slow=8.3,SNR=84
SONM PP PP 23 36 25.9 +3.3
comp=Z,5.4nm,0.9s,baz=258,slow=11,SNR=3.9
SONM LR LR 23 51 57.2
comp=Z,294nm,21.5s,MS4.1,baz=256,slow=36
SONM Songino Array 41.25 46 P P P 23 34 49.2 +2.4
SONM 23 36 25.9
SONM pmax pmax
comp=Z,9.0nm,0.7s
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM MLR MLR
comp=Z,294nm,21.5s
VRAC Vranov 41.30 316 ⇓ *i* P P 23 34 47.7 +0.5
VRAC Vranov 41.30 316 P P P 23 34 47.3 +0.1
VRAC Vranov 41.30 316 *e* P P P 23 34 47.0 -0.2
MIDA Miranda 41.34 304 P P P 23 34 48.2 +0.7
KRUC Moravsky 41.36 315 P P P 23 34 47.1 -0.6
CONA Conrad Observa 41.39 314 P P P 23 34 45.6 -2.3
comp=Z,54nm,1.7s,mb4.9,SNR=11
RNI2 Rionero Sannit 41.42 304 P P P 23 34 49.3 +1.1
ARSA Arzberg 41.44 313 *i* P P P 23 34 48.3 0.0
comp=Z,60nm,1.7s,mb5.0,SNR=13
RFI Roccamonfina 41.50 303 P P P 23 34 49.9 +1.0
PERS Pernice 41.57 312 *e* P P P 23 34 48.9 -0.6
PERS *e* pP pP 23 34 58.5 -3.3
VISS Visnje 41.58 310 *e* P P P 23 34 49.3 -0.2
JOF Joensuu 41.60 340 *ep* P P 23 34 49.2 -0.5
comp=Z,13nm,0.4s,mb4.9
JOF Joensuu 41.60 340 *e* P P P 23 34 49.2 -0.5
JOF pmax pmax
comp=Z,13nm,0.4s,mb4.9
INTR Introdacqua 41.64 304 P P P 23 34 50.2 +0.2
XAN Xi'an 41.66 68 P P P 23 34 51.8 +1.6
XAN AMB AMB
comp=Z,83nm,1.2s,mb5.2
XAN LR LR
comp=N,480nm,30.8s,MS4.3
XAN LR LR
comp=E,281nm,26.5s,MS4.3
XAN LR LR
comp=Z,432nm,18.3s
SDI San Donato 41.68 304 P P P 23 34 50.2 -0.1
ULN Ulaanbaatar 41.69 47 *e* P P P 23 34 52.4 +2.0
ULN Ulaanbaatar 41.69 47 *e* P P P 23 34 48.7 -1.7
DPC Dobruska-Polom 41.79 317 *e* P P P 23 34 51.2 0.0
DPC *ep* pP pP 23 35 03.3 -0.3
DPC AMS AMS 23 52 30.0
comp=Z,400nm,29.3s
DPC Dobruska-Polom 41.79 317 *e* P P 23 34 51.2 0.0
DPC *ep* pP 23 35 03.3 -0.3
OBKA Obir 41.92 311 ⇓ *i* P P P 23 34 52.4 0.0
comp=Z,49nm,1.5s,mb4.9,SNR=9.5
OBKA Obir 41.92 311 P P P 23 34 51.6 -0.7
OBKA ⇓ *i* P 23 34 52.4
TERO Teramo 41.94 305 P P P 23 34 52.9 +0.5
KSP Ksiaz 41.96 318 *e* P P P 23 34 53.0 +0.4
KSP *ep* pP 23 35 05.1 +0.1
KSP Ksiaz 41.96 318⇑ *e* P P 23 34 52.9 +0.3
KSP *ep* pP 23 35 04.9 -0.1
TREC Trest 41.99 316 AMS AMS 23 53 20.0
comp=Z,400nm,22.5s
UPC Upice 42.02 317 *e* P P 23 34 53.2 +0.1

UPC epP pP 23 35 05.5 -0.1
AQU L'Aquila 42.05 305 ⇓*i*P **P** **23 34 54.8 +1.4**
AQU L'Aquila 42.05 305 *e*P **P** **23 34 54.6 +1.2**
comp=Z,92nm,0.9s,mb5.4
AQU L'Aquila 42.05 305 *e*P **P** **23 34 54.6 +1.2**
comp=Z,92nm,0.9s,mb5.4
AOI Ancona 42.06 307 P **P** **23 34 53.6 +0.2**
MEF Metsahovi 42.23 334 P **P** **23 34 55.0 +0.2**
FIAM Fiamignano 42.25 305 P **P** **23 34 55.8 +0.8**
GKP Gorka Klasztor 42.26 322 *e*P **P** **23 34 55.4 +0.4**
GKP epP pP 23 35 07.3 -0.2
VOY Vojsko 42.27 310 *e*P **P** **23 34 54.7 -0.5**
VOY *e* pP 23 35 07.5 -0.1
CERT Cerreto 42.32 304 P **P** **23 34 56.1 +0.6**
NRCA Norcia 42.32 306 P **P** **23 34 56.0 +0.5**
CING Cingoli 42.33 306 P **P** **23 34 55.8 +0.2**
FIA1 FINESS Array S 42.35 336 *e*P **P** **23 34 55.6 -0.2**
FIA1 *e* pP 23 35 07.7 -0.5
FIA1 FINESS Array S 42.35 336 *e*P **P** **23 34 55.6 -0.2**
FINES FINESS Array B 42.35 336 P **P** **23 34 55.7 -0.1**
comp=Z,17nm,0.5s,mb4.9,baz=130,slow=8.2,SNR=112
FINES pP pP 23 35 07.4 -0.8
comp=Z,15nm,0.7s,baz=135,slow=7.7,SNR=9.0
FINES PP PP 23 36 37.4 +2.9
comp=Z,24nm,0.9s,baz=133,slow=13,SNR=7.3
FINES FINESS Array B 42.35 336 P **P** **23 34 55.7 -0.1**
FINES *PP pP 23 35 07.4 -0.8
FINES 23 36 37.4
FINES pmax pmax
comp=Z,17nm,0.5s
FINES pmax pmax
comp=Z,15nm,0.7s
FINES pmax pmax
comp=Z,24nm,0.9s
FINES FINESS Array B 42.35 336 P **P** **23 34 55.7 -0.1**
FINES pP pP 23 35 07.4 -0.8
FINES PP PP 23 36 37.4 +2.9
FINES FINESS Array B 42.35 336 P **P** **23 34 55.7 -0.1**
comp=Z,17nm,0.5s,mb4.9
FINES pP pP 23 35 07.4 -0.8
MOA Molln 42.41 313 ⇓*i*P **P** **23 34 55.9 -0.4**
comp=Z,41nm,1.2s,mb4.9,SNR=22
MOA ⇑*i*P pP 23 35 08.3 -0.4
comp=Z,35nm,0.9s
RDP Rocca di Papa 42.50 304 P **P** **23 34 57.0 0.0**
SNTG Esanatoglia 42.50 306 P **P** **23 34 57.3 +0.3**
MTCE Montecelio 42.51 304 P **P** **23 34 56.9 -0.1**
ARV Arcevia 42.53 307 P **P** **23 34 57.7 +0.4**
ROBS Robic 42.58 311 *e*P **P** **23 34 56.7 -1.0**
ROBS *e* pP 23 35 08.3 -1.8
MNS Montasola 42.59 305 P **P** **23 34 57.6 -0.1**
BTO Baotou 42.63 58 *e*P **P** **23 34 59.4 +1.3**
FSSB Fossombrone 42.67 307 P **P** **23 34 59.0 +0.6**
KAF Kangasniemi 42.70 337 *e*p **P** **23 34 58.6 0.0**
comp=Z,13nm,0.5s,mb4.9
KAF Kangasniemi 42.70 337 *e*P **P** **23 34 58.6 0.0**
KAF pmax pmax
comp=Z,13nm,0.5s,mb4.9
PTCC Patocco-Chiusa 42.71 311 P **P** **23 34 58.5 -0.2**
GMNA Gemona 42.77 311 P **P** **23 34 59.2 0.0**
PRU Pruhonice 42.78 316 *e*P **P** **23 34 58.8 -0.4**
PRU epP pP 23 35 11.3 -0.4
PRU *e*S **S** **23 41 18.6 -1.4**
PRU AMS AMS 23 53 10.0
comp=Z,300nm,21.5s
PRU Pruhonice 42.78 316 *e*P **P** **23 34 58.8 -0.4**
PRU epP pP 23 35 11.3 -0.4
PRU *e*S **S** **23 41 18.6 -1.4**
MURB Monte Urbino 42.80 306 P **P** **23 35 00.7 +1.2**
KBA Koelnbreinsper 42.85 312 *i* P **P** **23 34 59.6 -0.2**
comp=Z,38nm,1.5s,mb4.9,SNR=11
KBA ⇓*i*P pP 23 35 12.1 -0.2
comp=Z,18nm,0.9s
PVCC Panska Ves 42.91 317 *e*P **P** **23 35 00.2 -0.1**
PVCC *e*pP pP 23 35 12.7 -0.1
PVCC AMS AMS 23 54 20.0
PVCC Panska Ves 42.91 317 *e*P **P** **23 35 00.2 -0.1**
PVCC *e*pP pP 23 35 12.7 -0.1
RSM Repubblica di 42.94 307 P **P** **23 35 01.6 +1.0**
GEC2 GERESS Array S 43.01 314 *e*P **P** **23 35 00.8 -0.3**
GERES GERESS Array B 43.01 314 P **P** **23 35 00.9 -0.2**
comp=Z,12nm,0.8s,mb4.7,baz=107,slow=8.5,SNR=118
GERES LR LR 23 56 24.4
comp=Z,233nm,21.1s,MS4.1,baz=113,slow=41
GERES GERESS Array B 43.01 314 P **P** **23 35 00.9 -0.2**
GERES pmax pmax
comp=Z,12nm,0.8s
GERES MLR MLR
comp=Z,233nm,21.1s
BADI Badiali 43.04 306 P **P** **23 35 02.2 +0.9**
KULM Kulim 43.04 112 *e*P **P** **23 35 04.7 +3.3**
KULM *e* pP 23 35 15.9 +2.1
PSI Prapat 43.04 116 P **P** **23 35 03.4 +1.9**
comp=Z,6.9nm,0.6s,mb4.6,baz=285,slow=8.9,SNR=8.6
PSI Prapat 43.04 116 P **P** **23 35 03.4 +2.0**
PSI pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
FVI Forni Avoltri 43.14 311 P **P** **23 35 02.5 +0.3**
KHC Kasperske Hory 43.16 315 *e*P **P** **23 35 02.1 -0.2**
KHC epP pP 23 35 14.6 -0.2
KHC *e*S **S** **23 41 19.2 -6.4**
KHC AMS AMS 23 51 10.0
comp=Z,400nm,33.8s
CRE Caprese Michel 43.26 307 P **P** **23 35 03.4 +0.2**
SFI Santa Sofia 43.37 307 P **P** **23 35 05.3 +1.3**
BRG Berggiesshubel 43.39 317 *e*P **P** **23 35 04.1 -0.1**
comp=Z,11nm,1.1s,mb4.5
BRG Berggiesshubel 43.39 317 *e*P **P** **23 35 04.3 +0.1**
comp=Z,6.6nm,1.1s,mb4.3
BRG *i* pP 23 35 16.6 -0.1
comp=Z,7.1nm,0.8s
BRG PP PP 23 36 53.0 +7.4
BRG S **S** **23 41 31.0 +2.0**
BRG SS SS 23 44 52.0 +8.0
BRG Berggiesshubel 43.39 317 *e*P **P** **23 35 04.3 +0.1**
BRG *i* pP 23 35 16.5 -0.2
BRG 23 36 53.0
BRG S **S** **23 41 31.0 +2.0**
BRG SS SS 23 44 52.0 +8.0
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
BRG pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
BRG Berggiesshubel 43.39 317 *e*P **P** **23 35 04.3 +0.1**
comp=Z,7.0nm,1.1s,mb4.3
BRG S **S** **23 41 31.0 +2.0**
SEST Monte Rota 43.55 311 P **P** **23 35 03.9 -1.6**
VMG Vicchio 43.59 307 P **P** **23 35 07.1 +1.2**
WET Wettzell 43.61 315 *e*P **P** **23 35 05.0 -1.0**
comp=Z,49nm,1.9s,mb4.9
WET *e*S **S** **23 41 35.7 +3.5**
WET Wettzell 43.61 315 *e*P **P** **23 35 05.0 -1.0**
WET *e*S **S** **23 41 35.7 +3.5**
WET pmax pmax
comp=Z,49nm,1.9s,mb4.9
CSNT Castellina Chi 43.72 306 P **P** **23 35 08.1 +1.2**
SEI Scarperia 43.74 307 P **P** **23 35 08.2 +1.2**
FBE Freiberg 43.76 317 *e*P **P** **23 35 07.3 +0.1**
comp=Z,10.0nm,1.1s,mb4.5
CTI Castel Tesino 43.81 310 P **P** **23 35 07.2 -0.4**
HHC Hu-ho-hao-te 43.82 58 *e*P **P** **23 35 10.3 +2.7**
HHC PP PP 23 36 52.6 +2.4
HHC PCS PcS 23 40 45.8 -0.6
HHC S **S** **23 41 30.9 -4.3**
HHC SS SS 23 44 41.3 -11
HHC AMB AMB
comp=Z,35nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,174nm,5.7s
HHC LR LR
comp=N,390nm,20.2s,MS4.5
HHC LR LR
comp=E,356nm,16.6s,MS4.5
HHC LR LR
comp=Z,367nm,23.8s
FNVD Fontana Vidola 43.92 307 P **P** **23 35 09.6 +1.1**
RUE Ruedersdorf 43.96 320 *e*P **P** **23 35 08.9 +0.1**
comp=Z,40nm,1.1s,mb5.1
RUE *e*S **S** **23 41 38.3 +1.1**
RUE Ruedersdorf 43.96 320 *e*P **P** **23 35 08.8 +0.1**
RUE *e* pP 23 35 21.2 0.0
RUE Ruedersdorf 43.96 320 *e*P **P** **23 35 08.8 0.0**
RAVA Ravarino 44.00 308 P **P** **23 35 10.2 +1.1**

WTTA Wattenberg 44.03 312 ⇑*i*P **P** **23 35 08.6 -0.7**
comp=Z,100nm,1.5s,mb5.3,SNR=27
WTTA ⇑*i*P pP 23 35 21.2 -0.7
comp=Z,50nm,0.8s
WTTA Wattenberg 44.03 312 P **P** **23 35 08.7 -0.7**
ZCCA Zocca 44.05 308 P **P** **23 35 10.9 +1.4**
CLL Collm 44.08 318 ⇑*i*P **P** **23 35 09.2 -0.5**
comp=Z,161nm,1.8s,mb5.5
CLL *e* pP 23 35 22.3 +0.1
CLL *e*PP PP 23 36 59.3 +6.3
CLL *e*PPP 23 37 34.0
CLL *e*S **S** **23 41 34.3 -4.7**
CLL *e*SS SS 23 45 11.0 +14
CLL *e*SSS 23 46 11.4
CLL *e*LR LR 23 48 39.0
CLL *e*L 23 55 25.8
comp=Z,304nm,22.0s
CLL Collm 44.08 318 ⇑P **P** **23 35 10.2 +0.5**
comp=Z,logA/T=1.8,mb5.3
CLL *i* *PP pP 23 35 22.5 +0.3
CLL *i* *SP sP 23 35 28.8 +1.2
CLL *e*PP PP 23 36 57.0 +4.0
CLL *e*PPP 23 37 33.0
CLL *e*S **S** **23 41 34.0 -5.0**
CLL *e**SS sS 23 41 54.0 -5.9
CLL *e*SS SS 23 45 00.0 +2.5
CLL *e**SSS 23 45 12.0
CLL Collm 44.08 318 ⇑*i*P **P** **23 35 10.2 +0.5**
comp=Z,94nm,1.4s,mb5.3
CLL *i* *PP pP 23 35 22.5 +0.3
comp=Z,56nm,0.9s
CLL *i* sP sP 23 35 28.8 +1.2
CLL *e*PP PP 23 36 57.0 +4.0
CLL *e*PPP 23 37 33.0
CLL *e*S **S** **23 41 34.0 -5.0**
CLL *e*SS sS 23 41 54.0 -5.9
CLL *e*SS SS 23 45 00.0 +2.5
CLL *e*SSS 23 45 12.0
CLL *ex* x 23 46 18.0
CLL Lm 23 53 00.0
comp=N,300nm,20.8s
CLL Lm 23 53 00.0
comp=E,300nm,20.3s
CLL LmV 00 01 00.0
comp=Z,300nm,18.2s
CLL Collm 44.08 318 ⇑*i*P **P** **23 35 10.2 +0.5**
CLL *i* *PP pP 23 35 22.5 +0.3
CLL *e*S **S** **23 41 34.0 -5.0**
CLL *e**SS sS 23 41 54.0 -5.9
CLL pmax pmax
comp=Z,94nm,1.4s,mb5.3
CLL MLR MLR
comp=Z,300nm,18.2s,MS4.2
CLL Collm 44.08 318 ⇑*i*P **P** **23 35 10.2 +0.5**
comp=Z,94nm,1.4s,mb5.3
CLL *i* pP pP 23 35 22.5 +0.3
CLL *e*S **S** **23 41 34.0 -5.0**
CLL *e*SS sS 23 41 54.0 -5.9
CLL LR LR
comp=Z,300nm,18.2s,MS4.2
WATA Walderalm 44.09 312 ⇓*i*P **P** **23 35 08.6 -1.2**
comp=Z,58nm,1.4s,mb5.1,SNR=18
WATA ⇓*i*P pP 23 35 21.4 -0.9
WATA Walderalm 44.09 312 ⇓*i*P **P** **23 35 08.6 -1.2**
WATA pmax pmax
comp=Z,58nm,1.4s,mb5.1
WATA Walderalm 44.09 312 ⇓*i*P **P** **23 35 08.6 -1.2**
comp=Z,58nm,1.4s,mb5.1
WATA P 23 35 08.8
BERN Bernov 44.10 316 ⇑P **P** **23 35 17.1 +7.2**
NKC Novy Kostel 44.14 316 *e*P **P** **23 35 10.6 +0.4**
NKC epP pP 23 35 22.8 +0.1
NKC AMS AMS 23 54 50.0
comp=Z,300nm,22.2s
NKC Novy Kostel 44.14 316 *e*P **P** **23 35 10.6 +0.4**
NKC epP pP 23 35 22.8 +0.1
TANN Tannenbergstha 44.18 316 *e*P **P** **23 35 10.1 -0.4**
comp=Z,14nm,2.0s,mb4.3
ROTZ Rotzenmuhle 44.18 315 *e*P **P** **23 35 10.6 0.0**
comp=Z,27nm,1.3s,mb4.8
ROTZ *e*S **S** **23 41 40.4 -0.1**
BSD Bornholm Skovb 44.21 323 ⇑*i*P **P** **23 35 09.6 -1.2**
comp=Z,108nm,0.9s,mb5.6
BSD *e* pP 23 35 20.7 -2.6
BSD
comp=Z,170nm,22.0s
BSD Bornholm Skovb 44.21 323 ⇑*i*P **P** **23 35 09.6 -1.2**
BSD *e* pP 23 35 20.7 -2.6
BSD pmax pmax
comp=Z,110nm,0.9s,mb5.6
BSD MLR MLR
comp=Z,170nm,22.0s,MS3.9
BSD Bornholm Skovb 44.21 323 ⇑*i*P **P** **23 35 09.6 -1.2**
comp=Z,108nm,0.9s,mb5.6
BSD *e* pP 23 35 20.7 -2.6
WERD Werda 44.28 316 *e*P **P** **23 35 11.0 -0.4**
comp=Z,14nm,1.9s,mb4.4
BDI Bagni Di Lucca 44.29 307 P **P** **23 35 10.7 -0.7**
MANZ Manzenberg 44.30 316 *e*P **P** **23 35 11.4 -0.1**
comp=Z,16nm,1.4s,mb4.6
SQTA Sankt Quirin 44.31 312 ⇓*i*P **P** **23 35 10.6 -1.0**
comp=Z,30nm,1.2s,mb4.9,SNR=12
SQTA ⇑*i*P pP 23 35 23.3 -0.8
comp=Z,19nm,0.7s
SQTA Sankt Quirin 44.31 312 ⇓*i*P **P** **23 35 10.6 -1.0**
comp=Z,30nm,1.2s,mb4.9
SQTA P 23 35 10.8
GSCL Gusciola 44.33 307 P **P** **23 35 12.6 +0.9**
MOTA Moosalm 44.40 312 ⇑*i*P **P** **23 35 11.1 -1.2**
comp=Z,36nm,1.3s,mb4.9,SNR=10
MOTA ⇑*i*P pP 23 35 23.9 -0.9
comp=Z,16nm,0.7s
MOTA Moosalm 44.40 312 ⇑*i*P **P** **23 35 11.1 -1.2**
comp=Z,36nm,1.3s,mb4.9
MOTA P 23 35 12.1
SARO Sassorosso 44.44 307 P **P** **23 35 12.6 0.0**
FUR Furstenfeldbru 44.44 313 *e*P **P** **23 35 12.0 -0.6**
comp=Z,22nm,1.1s,mb4.8
FUR Furstenfeldbru 44.44 313 *e*P **P** **23 35 12.0 -0.6**
FUR pmax pmax
comp=Z,22nm,1.1s,mb4.8
VLC Villacollemand 44.45 307 *e*P **P** **23 35 12.5 -0.2**
comp=Z,80nm,1.0s,mb5.4
VLC *e*pP pP 23 35 22.4 -2.8
VLC Villacollemand 44.45 307 *e*P **P** **23 35 12.5 -0.2**
comp=Z,80nm,1.0s,mb5.4
VLC *e*pP pP 23 35 22.4 -2.8
ERBM Eremo 44.46 308 P **P** **23 35 13.8 +1.0**
VALM 44.57 307 P **P** **23 35 13.4 -0.2**
VINC Vinca 44.61 307 P **P** **23 35 13.6 -0.4**
APA Apatity 44.65 345 ⇓*i*P **P** **23 35 15.6 +1.3**
APA *i* pP 23 35 25.5 -1.3
APA *i* 23 36 53.5
APA pmax pmax
comp=Z,65nm,1.2s,mb5.3
APA MLR MLR
comp=Z,1μm,20.0s,MS4.9
APA Apatity 44.65 345 *i* P **P** **23 35 15.6 +1.3**
comp=Z,65nm,1.2s,mb5.3
APA Apatity 44.65 345 *i* PcP PcP 23 36 53.5 -2.8
BACM 44.69 307 P **P** **23 35 14.1 -0.5**
BRMO Bormio 44.76 310 P **P** **23 35 15.2 +0.1**
MOX Moxa 44.76 316 *e*P **P** **23 35 15.0 -0.2**
comp=Z,21nm,1.5s,mb4.8
MOX *e*S **S** **23 41 49.6 +0.7**
MOX Moxa 44.76 316 *e*P **P** **23 35 14.7 -0.5**
comp=Z,23nm,1.6s,mb4.8
MOX *e* pP 23 35 27.6 -0.1
MOX Moxa 44.76 316 *e*P **P** **23 35 14.7 -0.5**
MOX *e* pP 23 35 27.6 -0.1
MOX pmax pmax
comp=Z,23nm,1.6s,mb4.8
GRA1 Grafenberg Arr 44.79 315 *e*P **P** **23 35 15.6 +0.2**
comp=Z,123nm,1.7s,mb5.5
GRA1 *e*pP pP 23 35 27.7 -0.2
GRA1 LR LR
comp=Z,300nm,31.8s,MS4.0
GRF Grafenberg Arr 44.79 315 *e*P **P** **23 35 15.6 +0.2**
comp=Z,123nm,1.7s,mb5.5
GRF *e* pP 23 35 27.7 -0.2
GRF *e*L 23 50 37.7
comp=Z,314nm,31.8s
GRF Grafenberg Arr 44.79 315 *e*P **P** **23 35 15.6 +0.2**
GRF *e**PP pP 23 35 27.7 -0.2
GRF pmax pmax
comp=Z,123nm,1.7s,mb5.5
GRF MLR MLR
comp=Z,300nm,31.8s,MS4.0
CODM 44.85 307 P **P** **23 35 13.9 -2.0**
RGN Rugen 44.87 322 *e*P **P** **23 35 17.0 +0.9**
comp=Z,222nm,1.3s,mb5.8
RGN Rugen 44.87 322 *e*P **P** **23 35 17.1 +1.1**
comp=Z,119nm,0.9s,mb5.7
RGN *e* pP 23 35 29.6 +1.0
RGN Rugen 44.87 322 *e*P **P** **23 35 17.1 +1.0**
VSL Villasalto 44.91 300 *e*P **P** **23 35 17.4 +1.0**
VSL Villasalto 44.91 300 *e*P **P** **23 35 17.4 +1.0**
SC2M Scurtabr 45.08 307 P **P** **23 35 15.9 -1.8**
BOB Bobbio (Coli) 45.18 308 P **P** **23 35 17.8 -0.7**
DAVA Damuels 45.22 311 *i* P **P** **23 35 17.9 -0.9**
comp=Z,62nm,1.3s,mb5.3,SNR=28
DAVA ⇑*i*P pP 23 35 31.0 -0.3
comp=Z,47nm,0.7s
DAVA Damuels 45.22 311 P **P** **23 35 17.8 -1.0**
QIZ Qiongzhong 45.24 89 P **P** **23 35 20.9 +1.9**
QIZ PP PP 23 37 04.3 -1.1
QIZ S **S** **23 41 52.9 -3.0**
QIZ SS SS 23 45 10.8 -8.8
QIZ AMB AMB
comp=Z,26nm,1.2s,mb4.9
QIZ LR LR
comp=N,521nm,32.6s
PGF Pioggiola 45.32 305 *e*P **P** **23 35 18.7 -0.9**
VDL Val di Lei 45.38 310 P **P** **23 35 19.8 -0.3**
TUE Stuetta 45.46 310 P **P** **23 35 20.4 -0.3**
COP Copenhagen 45.73 323 ⇑*i*P **P** **23 35 23.8 +0.9**
comp=N,46nm,1.1s,mb5.3
COP *i* 23 36 59.4
COP *i* S **S** **23 42 03.3 +0.3**
COP Copenhagen 45.73 323 ⇑*i*P **P** **23 35 23.8 +0.9**
COP *i* 23 36 59.4
COP *i* S **S** **23 42 03.3 +0.3**
COP pmax pmax
comp=Z,46nm,1.1s,mb5.3
COP Copenhagen 45.73 323 *i* PcP PcP 23 36 59.4 -0.7
COP *i* S **S** **23 42 03.3 +0.3**
LLS Linth-Limmern 45.74 311 ⇑P **P** **23 35 22.3 -0.6**
VAI Varese 45.78 309 P **P** **23 35 22.2 -1.1**
PCP Pian Castagno 45.80 308 P **P** **23 35 21.3 -2.1**
CLZ Clausthal 45.80 318 *e*P **P** **23 35 24.0 +0.6**
comp=Z,89nm,1.5s,mb5.5
CLZ Clausthal 45.80 318 *e*P **P** **23 35 24.0 +0.6**
CLZ pmax pmax
comp=Z,89nm,1.5s,mb5.5
WILA Wila 45.89 312 ⇑P **P** **23 35 23.4 -0.7**
STU Stuttgart 45.91 313 *e*P **P** **23 35 23.1 -1.2**
comp=Z,29nm,1.2s,mb5.1
STU Stuttgart 45.91 313 *e*P **P** **23 35 23.5 -0.8**
STU *e* pP 23 35 36.3 -0.6
MUO Muotathal 46.01 311 ⇑P **P** **23 35 24.5 -0.6**
FIN Finale Ligure 46.01 307 P **P** **23 35 23.1 -2.0**
ZUR Zurich 46.10 311 P **P** **23 35 25.1 -0.7**
RORO 46.11 307 P **P** **23 35 25.3 -0.5**
SLE Schleitheim 46.22 312 P **P** **23 35 25.6 -1.1**
IMI Imperia 46.22 307 P **P** **23 35 26.5 -0.2**
RDB Robaurent 46.26 307 P **P** **23 35 25.4 -1.6**
TOD Tromm 46.31 315 *e*P **P** **23 35 27.8 +0.4**
MCGN Macugnaga 46.33 309 P **P** **23 35 26.9 -0.7**
NEGI Negi 46.35 306 P **P** **23 35 27.0 -0.7**
MMK Mattmark 46.36 310 P **P** **23 35 27.4 -0.4**
BSEG Bad Segeberg 46.37 321 *e*P **P** **23 35 28.3 +0.4**
comp=Z,52nm,1.3s,mb5.3
BSEG Bad Segeberg 46.37 321 *e*P **P** **23 35 28.3 +0.4**
BSEG pmax pmax
comp=Z,52nm,1.3s,mb5.3
BFO Black Forest 46.41 313 *e*P **P** **23 35 26.7 -1.5**
comp=Z,58nm,2.3s,mb5.1
BFO Black Forest 46.41 313 *e*P **P** **23 35 26.7 -1.5**
BFO pmax pmax
comp=Z,58nm,2.3s,mb5.1
TRAV 46.45 309 P **P** **23 35 26.3 -2.3**
CMAH Djebel Manchou 46.51 297 P **P** **23 35 31.0 +2.0**
SBF Sospel 46.54 306 *e*P **P** **23 35 28.7 -0.5**
comp=Z,47nm,0.8s,mb5.2
SBF Sospel 46.54 306 *e*P **P** **23 35 28.7 -0.5**
SBF pmax pmax
comp=Z,23nm,0.8s,mb5.2
SBF Sospel 46.54 306 *e*P **P** **23 35 28.7 -0.5**
comp=Z,24nm,0.8s,mb5.2
AUTN L'Aution 46.56 307 *e*P **P** **23 35 29.1 -0.3**
FELD Feldberg im Sc 46.56 312 *e*P **P** **23 35 29.0 -0.4**
WHN Wuhan 46.58 72 ⇓P **P** **23 35 31.5 +2.0**
ENR Entracque 46.58 307 P **P** **23 35 28.0 -1.5**
REVF Revere 46.58 306 *e*P **P** **23 35 29.0 -0.6**
LUCF Luceram 46.61 307 *e*P **P** **23 35 29.3 -0.5**
OPO Ambohidratompo 46.62 198 P **P** **23 35 30.5 +0.6**
comp=Z,3.6nm,1.0s,mb4.3,baz=307,slow=20,SNR=3.5
LKBD Leukerbad 46.63 310 ⇑P **P** **23 35 28.9 -1.0**
LKBD ⇓P 23 35 29.6
STV Sta Anna Valdi 46.65 307 P **P** **23 35 28.3 -1.8**
TNS Taunus Mts 46.65 315 *e*P **P** **23 35 30.5 +0.4**
comp=Z,76nm,1.5s,mb5.4
TNS Taunus Mts 46.65 315 *e*P **P** **23 35 30.5 +0.4**
TNS pmax pmax
comp=Z,76nm,1.5s,mb5.4
TOUF Mont Tournerai 46.69 307 *e*P **P** **23 35 30.3 -0.1**
KTD Kalmit 46.73 314 *e*P **P** **23 35 31.3 +0.6**
DIX Grande Dixence 46.74 310 P **P** **23 35 30.3 -0.5**
MVIF Mont Vial 46.75 307 *e*P **P** **23 35 30.7 -0.2**
HFA0 Hagfors New Ar 46.79 330 P **P** **23 35 30.7 -0.5**
BBS Basel-Blauen 46.84 311 *e*P **P** **23 35 31.3 -0.2**
LANF Langenberg 46.85 314 *e*P **P** **23 35 31.8 +0.1**
MBDF Montbardon 47.08 308 *e*P **P** **23 35 32.6 -0.8**
RRL Cesana Torines 47.08 308 P **P** **23 35 31.8 -1.7**
CKFL Kef-Lekhel 47.09 296 P **P** **23 35 36.0 +2.5**
FRF La Foret Royal 47.09 306 *e*P **P** **23 35 32.8 -0.8**
EMV Vieux Emosson 47.10 309 ⇑P **P** **23 35 33.2 -0.4**
CDF Champ du Feu 47.12 313 *e*P **P** **23 35 32.5 -1.2**
MOF Molkenrain 47.14 312 *e*P **P** **23 35 34.0 +0.1**
LPG La Plagne 47.15 309 *e*P **P** **23 35 33.4 -0.6**
comp=Z,22nm,0.8s,mb4.8
LPG La Plagne 47.15 309 *e*P **P** **23 35 33.4 -0.6**
LPG pmax pmax
comp=Z,11nm,0.8s,mb4.8
LPG La Plagne 47.15 309 *e*P **P** **23 35 33.4 -0.6**
comp=Z,11nm,0.8s,mb4.8
LPL La Plagne 47.17 309 *e*P **P** **23 35 33.4 -0.7**
BNI Bardonecchia 47.17 308 *e*P **P** **23 35 33.3 -0.8**
BNI *e**PP pP 23 35 45.9 -0.8
BNI Bardonecchia 47.17 308 *e*P **P** **23 35 33.2 -0.9**
BNI epP pP 23 35 45.9 -0.8
ECH Echery 47.17 312 *e*P **P** **23 35 34.3 +0.2**
LMR La Mourre 47.19 306 *e*P **P** **23 35 33.2 -1.1**
GZH Guangzhou 47.21 82 P **P** **23 35 37.0 +2.5**
GZH S **S** **23 42 30.8 +6.6**
GZH LR LR
comp=N,237nm,16.2s,MS4.4
GZH LR LR
comp=E,221nm,12.4s,MS4.4
GZH LR LR
comp=Z,501nm,18.0s
RSL Roselend 47.26 309 *e*P **P** **23 35 34.1 -0.7**
RSL Roselend 47.26 309 *e*P **P** **23 35 33.7 -1.1**
RSL Roselend 47.26 309 *e*P **P** **23 35 33.7 -1.1**
RSL *e*P 23 35 34.1
LOMF Lomont 47.28 311 *e*P **P** **23 35 35.3 +0.3**
BJT Baijiatuau 47.31 59 *e*P **P** **23 35 37.1 +1.9**
BJT pmax pmax
comp=Z,32nm,1.3s
BJT Baijiatuau 47.31 59 *e*P **P** **23 35 37.1 +1.9**
comp=Z,32nm,1.3s,mb5.1
BJI Beijing 47.31 59 P **P** **23 35 37.3 +2.0**
BJI AMB AMB
comp=Z,28nm,0.9s,mb5.2
BJI AMB AMB
comp=Z,227nm,5.3s
BJI LR LR
comp=N,651nm,22.4s,MS4.6
BJI LR LR
comp=E,360nm,23.4s,MS4.6
BJI LR LR
comp=Z,530nm,27.3s,MS4.4
HINF Hinteralfeld 47.32 312 *e*P **P** **23 35 34.2 -1.1**
IBBN Ibbenburen 47.48 318 *e*P **P** **23 35 37.2 +0.6**
comp=Z,76nm,1.2s,mb5.5
TAVF Tavernes 47.53 306 *e*P **P** **23 35 36.5 -0.4**
BUG Bochum--Univer 47.61 317 *e*P **P** **23 35 38.2 +0.6**

comp=Z,46nm,1.1s,mb5.4
HAU Haudompre 47.68 312 *e*P **P 23 35 37.1 -1.0**
comp=Z,11nm,0.6s,mb4.7
HAU *e*R
comp=Z,174nm,21.5s
HAU Haudompre 47.68 312 *e*P **P 23 35 37.1 -1.0**
HAU pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
HAU MLR MLR
comp=Z,170nm,21.5s,MS4.0
HAU Haudompre 47.68 312 *e*P **P 23 35 37.1 -1.0**
comp=Z,5.3nm,0.6s,mb4.8
HAU LR LR
comp=Z,170nm,21.5s,MS4.0
CABF La Chapelle 47.71 310 *e*P **P 23 35 38.2 -0.1**
MUD Monsted U'grnd 47.71 324 *i* P **P 23 35 39.2 +0.9**
comp=Z,30nm,1.2s,mb5.2
MUD *i* pP 23 35 51.0 0.0
MUD *e*S **S 23 42 35.6 +4.4**
MUD
comp=Z,150nm,19.0s
MUD Monsted U'grnd 47.71 324 *i* P **P 23 35 39.2 +0.9**
MUD *i* pP 23 35 51.0 0.0
MUD *e*S **S 23 42 35.6 +4.4**
MUD pmax pmax
comp=Z,30nm,1.2s,mb5.2
MUD MLR MLR
comp=Z,160nm,19.0s,MS4.0
MUD Monsted U'grnd 47.71 324 *i* P **P 23 35 39.2 +0.9**
comp=Z,30nm,1.2s,mb5.2
MUD *i* pP 23 35 51.0 0.0
MUD *e*S **S 23 42 35.6 +4.4**
ORIF Oris-en-Rattie 47.72 308 *e*P **P 23 35 36.6 -1.8**
comp=Z,7.9nm,0.5s,mb4.7
ORIF *e*R
comp=Z,318nm,22.5s
ORIF Oris-en-Rattie 47.72 308 *e*P **P 23 35 36.6 -1.8**
ORIF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
ORIF Oris-en-Rattie 47.72 308 *e*P **P 23 35 36.6 -1.8**
comp=Z,4.0nm,0.5s,mb4.7
DFRA Djebel Bou Aff 47.76 297 P **P 23 35 40.0 +1.3**
BERF Bertagne 47.78 306 *e*P **P 23 35 38.8 -0.1**
PUYF Puyloubier 47.78 306 *e*P **P 23 35 38.1 -0.8**
VILF Villemus 47.78 306 *e*P **P 23 35 38.1 -0.8**
KEV Kevo 47.83 345 *e*p **P 23 35 38.5 -0.8**
comp=Z,31nm,0.8s,mb5.4
KEV Kevo 47.83 345 *e*P **P 23 35 38.5 -0.8**
KEV pmax pmax
comp=Z,31nm,0.8s,mb5.4
SMRF Simiane la Rot 47.89 307 *e*P **P 23 35 39.0 -0.7**
THEF They Montfort 47.95 312 *e*P **P 23 35 40.2 0.0**
GELF Grande-Etoile 47.98 306 *e*P **P 23 35 41.2 +0.8**
WTSB Winterswijk 47.99 317⇑ *e*P **P 23 35 40.9 +0.4**
comp=Z,49nm,1.6s,mb5.3
WTSB *ex* x 23 35 52.9
TREF Trevaresse 48.02 306 *e*P **P 23 35 39.8 -0.9**
WLF Walferdange 48.02 314 *e*P **P 23 35 40.7 -0.1**
comp=Z,21nm,1.1s,mb5.1
WLF Walferdange 48.02 314 P **P 23 35 40.7 0.0**
WLF E pP 23 35 52.9 -0.4
WLF Walferdange 48.02 314 *e*P **P 23 35 40.9 +0.1**
WLF pmax pmax
comp=Z,33nm,1.0s,mb5.3
WLF Walferdange 48.02 314 *e*P **P 23 35 40.9 +0.1**
comp=Z,33nm,1.0s,mb5.3
ARCES ARCESS Array B 48.03 344 P **P 23 35 40.1 -0.7**
comp=Z,21nm,0.7s,mb5.3,baz=142,slow=9.0,SNR=59
ARCES pP pP 23 35 51.7 -1.8
comp=Z,37nm,0.8s,baz=148,slow=7.1,SNR=12
ARCES PP PP 23 37 34.8 +1.6
comp=Z,16nm,0.9s,baz=134,slow=7.0,SNR=4.1
ARCES LR LR 23 59 07.6
comp=Z,896nm,18.8s,MS4.8,baz=169,slow=40
ARCES ARCESS Array B 48.03 344 P **P 23 35 40.2 -0.7**
ARCES *PP pP 23 35 51.7 -1.8
ARCES 23 37 34.8
ARCES pmax pmax
comp=Z,21nm,0.7s
ARCES pmax pmax
comp=Z,37nm,0.8s
ARCES pmax pmax
comp=Z,17nm,0.9s
ARCES MLR MLR
comp=Z,896nm,18.8s
ARCES ARCESS Array B 48.03 344 P **P 23 35 40.1 -0.7**
ARCES pP pP 23 35 51.7 -1.8
ARCES PP PP 23 37 34.8 +1.6
ARCES LR LR 23 59 07.6
ARCES ARCESS Array B 48.03 344 P **P 23 35 40.2 -0.7**
comp=Z,21nm,0.7s,mb5.3
ARCES pP pP 23 35 51.7 -1.8
ARE0 ARCESS Array S 48.03 344 *e*P **P 23 35 41.8 +0.9**
ARE0 *e* pP 23 35 53.7 +0.2
ARE0 ARCESS Array S 48.03 344 *e*P **P 23 35 41.8 +0.9**
CKHR Kef el Ahmar 48.09 296 P **P 23 35 43.0 +1.7**
SET Setif 48.17 296 P **P 23 35 44.0 +2.1**
PRAF Pradon 48.18 306 *e*P **P 23 35 41.4 -0.6**
TIA Tai'an 48.24 64 *e*P **P 23 35 43.8 +1.4**
TIA AMB AMB
comp=Z,51nm,1.0s,mb5.5
MEM Membach 48.25 315 P **P 23 35 43.1 +0.5**
MEM E pP 23 35 54.8 -0.3
MEM Membach 48.25 315 P **P 23 35 43.0 +0.5**
NB2 NORSAR Subarra 48.27 330 P **P 23 35 42.0 -0.7**
comp=Z,36nm,0.8s,mb5.5,baz=109,slow=8.6
NB2 NORSAR Subarra 48.27 330 P **P 23 35 42.0 -0.7**
NB2 P 23 35 44.4
NOA NORSAR Array B 48.27 330 P **P 23 35 42.0 -0.7**
comp=Z,30nm,0.8s,mb5.3,baz=111,slow=7.8,SNR=46
NOA pP pP 23 35 54.1 -1.2
comp=Z,12nm,1.0s,baz=118,slow=7.4,SNR=7.0
NOA PP PP 23 37 36.4 +1.1
comp=Z,15nm,0.9s,baz=110,slow=9.4,SNR=5.6
NOA LR LR 23 59 50.8
comp=Z,277nm,21.1s,MS4.2,baz=115,slow=41
NOA NORSAR Array B 48.27 330 P **P 23 35 42.0 -0.7**
NOA *PP pP 23 35 54.1 -1.2
NOA 23 37 36.4
NOA pmax pmax
comp=Z,30nm,0.9s
NOA pmax pmax
comp=Z,12nm,1.0s
NOA pmax pmax
comp=Z,15nm,0.9s
NOA MLR MLR
comp=Z,277nm,21.1s
NOA NORSAR Array B 48.27 330 P **P 23 35 42.0 -0.7**
NOA pP pP 23 35 54.1 -1.2
NOA PP PP 23 37 36.4 +1.1
NOA LR LR 23 59 50.8
NOA NORSAR Array B 48.27 330 P **P 23 35 42.0 -0.7**
comp=Z,30nm,0.9s,mb5.3
NOA pP pP 23 35 54.1 -1.2
HGN Heimansgroeve 48.33 316⇑ *e*P **P 23 35 43.6 +0.5**
comp=Z,26nm,1.9s,mb5.0
HGN *ex* x 23 35 56.2
HGN *e*PP PP 23 37 40.4 +4.6
HGN *e*S **S 23 42 33.7 -6.2**
HGN *e*SS SS 23 46 22.2 +12
NAO01 NORSAR Array S 48.34 330 *e*P **P 23 35 42.9 -0.3**
NAO01 *e* 23 36 00.1
BEBN Eben Emael 48.49 316 P **P 23 35 44.9 +0.6**
BEBN E pP 23 35 57.6 +0.6
BOD Bodaibo 48.50 35⇑ *i*P **P 23 35 44.8 +0.4**
BOD pmax pmax
comp=Z,30nm,1.1s,mb5.2
BOD Bodaibo 48.50 35 *i* P **P 23 35 44.8 +0.4**
comp=Z,30nm,1.1s,mb5.2
KONO Kongsberg 48.51 328 *e*P **P 23 35 44.5 0.0**
KONO pmax pmax
comp=Z,27nm,0.9s,mb5.3
KONO Kongsberg 48.51 328 *e*P **P 23 35 44.5 0.0**
comp=Z,28nm,0.9s,mb5.3
KONO Kongsberg 48.51 328 *e*P **P 23 35 44.5 0.0**
comp=Z,27nm,0.9s,mb5.3
VIVF Saint-Julien-l 48.58 308 *e*P **P 23 35 44.1 -0.9**
comp=Z,32nm,0.9s,mb5.0
VIVF Saint-Julien-l 48.58 308 *e*P **P 23 35 44.1 -0.9**
VIVF pmax pmax
comp=Z,16nm,0.9s,mb5.0
VIVF Saint-Julien-l 48.58 308 *e*P **P 23 35 44.1 -0.9**
comp=Z,16nm,0.9s,mb5.0
BCLA Clavier 48.67 315 P **P 23 35 46.3 +0.6**
BCLA E pP 23 35 57.4 -1.0

GIVF Givet 48.93 315 *e*P **P 23 35 48.3 +0.5**
DOU Dourbes 49.08 315 P **P 23 35 47.7 -1.2**
DOU E pP 23 36 00.9 -0.6
DOU Dourbes 49.08 315 P **P 23 35 47.6 -1.3**
LASF Ste Croix 49.13 307 *e*P **P 23 35 48.8 -0.5**
SMF Signal de Mont 49.26 310 *e*P **P 23 35 49.6 -0.6**
comp=Z,29nm,0.5s,mb5.3
SMF Signal de Mont 49.26 310 *e*P **P 23 35 49.6 -0.6**
SMF pmax pmax
comp=Z,14nm,0.5s,mb5.2
SMF Signal de Mont 49.26 310 *e*P **P 23 35 49.6 -0.6**
comp=Z,14nm,0.5s,mb5.3
LOR Lormes 49.28 311 *e*P **P 23 35 49.5 -1.0**
comp=Z,17nm,0.8s,mb4.8
LOR *e*R
comp=Z,176nm,22.2s
LOR Lormes 49.28 311 *e*P **P 23 35 49.5 -1.0**
LOR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LOR MLR MLR
comp=Z,180nm,22.3s,MS4.0
LOR Lormes 49.28 311 *e*P **P 23 35 49.5 -1.0**
comp=Z,8.6nm,0.8s,mb4.8
LOR LR LR
comp=Z,180nm,22.3s,MS4.0
COLF Collangettes 49.30 309 *e*P **P 23 35 49.6 -1.0**
UCC Uccle 49.32 316 P **P 23 35 50.7 0.0**
UCC E pP 23 36 02.4 -1.0
BAIF Baives 49.32 315 *e*P **P 23 35 51.1 +0.4**
PLDF La Plantade 49.37 309 *e*P **P 23 35 50.5 -0.6**
NSS Namsos 49.42 334 *e*P **P 23 35 50.0 -1.5**
SSF Saint Saulge 49.51 311 *e*P **P 23 35 51.6 -0.6**
comp=Z,25nm,0.8s,mb5.0
SSF Saint Saulge 49.51 311 *e*P **P 23 35 51.6 -0.6**
SSF pmax pmax
comp=Z,12nm,0.8s,mb5.0
SSF Saint Saulge 49.51 311 *e*P **P 23 35 51.6 -0.6**
comp=Z,12nm,0.8s,mb5.0
AVF Avril sur Loir 49.60 310 *e*P **P 23 35 52.0 -0.9**
AGO Saint Agoulin 49.72 309 *e*P **P 23 35 53.3 -0.4**
PYM Petit Puy Mans 49.79 309 *e*P **P 23 35 54.2 -0.1**
TRO Tromso 49.83 342 *e*P **P 23 35 53.2 -1.4**
TRO AMb AMB 23 35 59.2
comp=Z,69nm,2.0s,mb5.3
TRO *ep*P pP 23 36 06.4 -0.9
TRO Tromso 49.83 342 *e*P **P 23 35 53.2 -1.4**
comp=Z,69nm,2.0s,mb5.3,SNR=35
TRO *ep*P pP 23 36 06.4 -0.9
SNR=145
BGF Bois d'Agland 49.94 310 *e*P **P 23 35 54.7 -0.7**
BLS5 Blasjo 49.96 327 *e*P **P 23 35 57.0 +1.4**
BLS5 AMb AMB 23 36 01.1
comp=Z,36nm,1.1s,mb5.3
BLS5 *ep*P pP 23 36 08.6 +0.4
BLS5 Blasjo 49.96 327 *e*P **P 23 35 57.0 +1.4**
comp=Z,36nm,1.1s,mb5.3
BLS5 Blasjo 49.96 327 *e*P **P 23 35 57.0 +1.4**
comp=Z,36nm,1.1s,mb5.3,SNR=34
ETOS Mallorca 49.97 301 P **P 23 35 56.4 +0.7**
comp=Z,41nm,0.9s,mb5.5
ETOS Mallorca 49.97 301 P **P 23 35 56.4 +0.7**
comp=Z,41nm,0.9s,mb5.5
ODD1 Odda 50.02 328 *e*P **P 23 35 55.6 -0.4**
ODD1 AMb AMB 23 36 00.8
comp=Z,42nm,1.2s,mb5.4
ODD1 *ep*P pP 23 36 08.3 -0.4
ODD1 Odda 50.02 328 *e*P **P 23 35 55.6 -0.4**
comp=Z,42nm,1.2s,mb5.3
ODD1 Odda 50.02 328 *e*P **P 23 35 55.6 -0.4**
comp=Z,42nm,1.2s,mb5.4,SNR=34
ODD1 *ep*P pP 23 36 08.3 -0.4
SNR=145
LRDF Laroque-de-Fa 50.08 305 *e*P **P 23 35 56.2 -0.3**
HYF Humbligny 50.11 311 *e*P **P 23 35 56.7 -0.1**
EMHD Djebel Mahouad 50.14 296 P **P 23 36 05.3 +8.4**
NJ2 Nanjing 50.16 69 *e*P **P 23 35 57.9 +0.8**
NJ2 AP pP 23 36 08.3 -1.5
NJ2 XP sP 23 36 12.3 -2.8
NJ2 PP PP 23 37 53.9 +1.4
NJ2 S **S 23 43 06.0 +0.4**
NJ2 AMB AMB
comp=Z,50nm,0.8s,mb5.6
NJ2 AMB AMB
comp=Z,160nm,4.4s
NJ2 LR LR
comp=N,2μm,16.3s
NJ2 LR LR
comp=E,460nm,25.2s
NJ2 LR LR
comp=Z,2μm,24.4s
HIA Hailar 50.22 47 *e*P **P 23 35 59.5 +1.9**
HIA *e* pP 23 36 12.7 +2.4
HIA pmax pmax
comp=Z,6.0nm,0.6s
HIA Hailar 50.22 47 *e*P **P 23 35 59.5 +1.9**
comp=Z,5.8nm,0.6s,mb4.8
HIA *e* pP 23 36 12.7 +2.4
HIA Hailar 50.22 47 *e*P **P 23 35 59.5 +1.9**
comp=Z,6.0nm,0.6s,mb4.8
MTLF Montolieu 50.31 306 *e*P **P 23 35 58.2 -0.1**
comp=Z,16nm,0.7s,mb4.9
MTLF Montolieu 50.31 306 *e*P **P 23 35 58.2 -0.1**
MTLF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
MTLF Montolieu 50.31 306 *e*P **P 23 35 58.2 -0.1**
comp=Z,8.1nm,0.7s,mb4.9
TCF Toulx Ste Croi 50.36 309 *e*P **P 23 35 58.2 -0.5**
comp=Z,18nm,0.8s,mb4.9
TCF Toulx Ste Croi 50.36 309 *e*P **P 23 35 58.2 -0.5**
TCF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TCF Toulx Ste Croi 50.36 309 *e*P **P 23 35 58.2 -0.5**
comp=Z,9.1nm,0.8s,mb4.9
CAF Calviac 50.43 308 *e*P **P 23 35 58.9 -0.3**
comp=Z,27nm,0.9s,mb5.0
CAF Calviac 50.43 308 *e*P **P 23 35 58.9 -0.3**
CAF pmax pmax
comp=Z,13nm,0.9s,mb5.0
CAF Calviac 50.43 308 *e*P **P 23 35 58.9 -0.3**
comp=Z,13nm,0.9s,mb5.0
VALF Valcebollere 50.48 304 *e*P **P 23 36 00.1 +0.6**
KMY Karmoy 50.50 326 *ep*P pP 23 36 11.6 -0.7
KMY Karmoy 50.50 326 *e*P pP 23 36 11.6 -0.8
KMY Karmoy 50.50 326 *ep*P pP 23 36 11.6 -0.8
SNR=146
RJF Les Rejaudoux 50.83 308 *e*P **P 23 36 02.0 -0.1**
comp=Z,35nm,0.8s,mb5.0
RJF *e*R
comp=Z,414nm,23.0s
RJF Les Rejaudoux 50.83 308 *e*P **P 23 36 02.0 -0.1**
RJF pmax pmax
comp=Z,17nm,0.8s,mb5.0
RJF MLR MLR
comp=Z,410nm,23.0s,MS4.4
RJF Les Rejaudoux 50.83 308 *e*P **P 23 36 02.0 -0.1**
comp=Z,17nm,0.8s,mb5.0
RJF LR LR
comp=Z,410nm,23.0s,MS4.4
EIBI Ibiza 51.16 300 P **P 23 36 05.2 +0.5**
comp=Z,41nm,0.9s,mb5.4
EIBI Ibiza 51.16 300 P **P 23 36 05.2 +0.6**
comp=Z,41nm,0.9s,mb5.4
EPOB Poblet 51.21 303 P **P 23 36 05.2 +0.2**
comp=Z,68nm,1.4s,mb5.4
EPOB Poblet 51.21 303 P **P 23 36 05.2 +0.2**
comp=Z,68nm,1.4s,mb5.4
EBNR Beni Rached 51.27 297 P **P 23 36 07.6 +2.1**
LFF La Frestale 51.37 308 *e*P **P 23 36 06.1 -0.1**
comp=Z,35nm,0.7s,mb5.1
LFF La Frestale 51.37 308 *e*P **P 23 36 06.1 -0.1**
LFF pmax pmax
comp=Z,18nm,0.7s,mb5.1
LFF La Frestale 51.37 308 *e*P **P 23 36 06.1 -0.1**
comp=Z,18nm,0.7s,mb5.1
ECHA Ech Chlef 51.42 296 P **P 23 36 08.0 +1.4**
ETRT Tiaret 51.56 296 P **P 23 36 09.2 +1.5**
DL2 Dalian 51.59 60 P **P 23 36 09.8 +2.0**
DL2 S **S 23 43 30.1 +4.8**
DL2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
DL2 LR LR
comp=N,250nm,19.4s,MS4.3
DL2 LR LR
comp=E,160nm,17.2s,MS4.3
DL2 LR LR
comp=Z,340nm,18.9s,MS4.4

EANR 'Ain N'Sour 51.66 296 P **P 23 36 08.2 -0.2**
ERTA Horta de San J 51.80 303 P **P 23 36 09.8 +0.3**
comp=Z,24nm,0.8s,mb5.2
ERTA Horta de San J 51.80 303 P **P 23 36 09.8 +0.4**
comp=Z,24nm,0.8s,mb5.2
EBIE Bielsa 51.85 305 P **P 23 36 10.7 +0.9**
comp=Z,2.3nm,0.6s,mb4.3
EBIE Bielsa 51.85 305 P **P 23 36 10.7 +0.9**
comp=Z,2.3nm,0.6s,mb4.3
MFF Saint Martin d 52.00 310 *e*P **P 23 36 10.0 -0.9**
LDF La Druitiere 52.03 312 *e*P **P 23 36 10.3 -0.9**
comp=Z,30nm,0.5s,mb5.2
LDF La Druitiere 52.03 312 *e*P **P 23 36 10.3 -0.9**
LDF pmax pmax
comp=Z,15nm,0.5s,mb5.2
LDF La Druitiere 52.03 312 *e*P **P 23 36 10.3 -0.9**
comp=Z,15nm,0.5s,mb5.2
SSE Sheshan 52.28 70 P **P 23 36 11.5 -1.5**
SSE PCP PcP 23 37 22.8 -1.0
SSE PP PP 23 38 10.0 -1.8
SSE S **S 23 43 34.3 -0.6**
SSE SS SS 23 47 11.3 -1.6
SSE AMB AMB
comp=Z,23nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,78nm,3.3s
SSE LR LR
comp=N,250nm,30.6s,MS4.1
SSE LR LR
comp=E,66nm,30.6s,MS4.1
SSE LR LR
comp=Z,101nm,29.9s,MS3.7
LSZ Lusaka 52.33 222 *e*P **P 23 36 15.8 +2.4**
ESAC San Caprasio 52.35 304 P **P 23 36 13.8 +0.2**
comp=Z,27nm,0.5s,mb5.4
ESAC San Caprasio 52.35 304 P **P 23 36 13.8 +0.3**
comp=Z,27nm,0.5s,mb5.4
ETSF Etsaut 52.36 305 *e*P **P 23 36 13.6 0.0**
EBEN Beniarda 52.41 300 P **P 23 36 14.2 +0.2**
comp=Z,77nm,1.8s,mb5.3
EBEN Beniarda 52.41 300 P **P 23 36 14.1 +0.2**
comp=Z,77nm,1.8s,mb5.3
EMOS Mosqueruela 52.45 302 P **P 23 36 15.5 +1.3**
comp=Z,89nm,1.3s,mb5.5
EMOS Mosqueruela 52.45 302 P **P 23 36 15.5 +1.2**
comp=Z,89nm,1.3s,mb5.5
ATE Arette 52.45 305 *e*P **P 23 36 14.6 +0.3**
GRR Gorron 52.51 312 *e*P **P 23 36 14.1 -0.6**
SKP1 Kophill 52.64 316⇑ *e*P **P 23 36 15.3 -0.4**
SKP1 Kophill 52.64 316⇑ *e*P **P 23 36 15.3 -0.4**
ECHE Chera 52.90 301 P **P 23 36 18.6 +1.0**
ECHE pmax pmax
comp=Z,21nm,0.8s,mb5.1
ECHE Chera 52.90 301 P **P 23 36 18.6 +1.1**
comp=Z,21nm,0.8s,mb5.1
ECHE Chera 52.90 301 P **P 23 36 18.6 +1.0**
comp=Z,21nm,0.8s,mb5.1
SWN1 Swindon 53.24 316 *e*P **P 23 36 20.2 +0.1**
SWN1 Swindon 53.24 316 *e*P **P 23 36 20.2 +0.1**
EMUR La Murta 53.29 299 P **P 23 36 20.5 0.0**
comp=Z,13nm,1.0s,mb4.8
LHO Holmfirth 53.41 318 *e*P **P 23 36 20.1 -1.3**
LHO Holmfirth 53.41 318 *e*P **P 23 36 20.1 -1.3**
ETOB Tobarra 53.44 300 P **P 23 36 22.4 +0.8**
comp=Z,118nm,1.8s,mb5.5
ETOB Tobarra 53.44 300 P **P 23 36 22.4 +0.8**
comp=Z,118nm,1.8s,mb5.5
SWK Warminster 53.51 315 *e*P **P 23 36 21.9 -0.1**
SWK Warminster 53.51 315 *e*P **P 23 36 21.9 -0.1**
SGMF Saint Gilles 53.65 312 *e*P **P 23 36 22.4 -0.7**
HAE Alders End 53.74 317⇑ *e*P **P 23 36 22.9 -0.9**
HAE AMb AMB 23 36 29.7
comp=Z,30nm,1.2s,mb5.1
HAE Alders End 53.74 317⇑ *e*P **P 23 36 22.9 -0.9**
HAE AMb AMB 23 36 29.7
comp=Z,30nm,1.2s,mb5.1
HGH Gray Hill 53.88 316⇑ *e*P **P 23 36 23.8 -1.0**
HGH AMb AMB 23 36 25.2
comp=Z,56nm,1.9s,mb5.2
HGH Gray Hill 53.88 316⇑ *e*P **P 23 36 23.8 -1.0**
HGH AMb AMB 23 36 25.2
comp=Z,56nm,1.9s,mb5.2
YHNB Yeheng 53.90 78 *e*P **P 23 36 27.5 +2.6**
YHNB *e* pP 23 36 39.6 +1.9
YHNB Yeheng 53.90 78 *e*P **P 23 36 27.5 +2.6**
HLM1 Long Mynd 53.97 317⇑ *e*P **P 23 36 25.0 -0.4**
HLM1 AMb AMB 23 36 33.2
comp=Z,19nm,1.4s,mb4.8
HLM1 Long Mynd 53.97 317⇑ *e*P **P 23 36 25.0 -0.4**
HLM1 AMb AMB 23 36 33.2
comp=Z,19nm,1.4s,mb4.8
MCH1 Michaelchurch 54.01 317 *e*P **P 23 36 24.9 -0.8**
MCH1 ⇑*e*P 23 36 24.9
MCH1 Michaelchurch 54.01 317 *e*P **P 23 36 24.9 -0.8**
MCH1 ⇑*e*P 23 36 24.9
QUIF Quistinic 54.06 311 *e*P **P 23 36 25.0 -1.1**
comp=Z,26nm,0.8s,mb4.9
QUIF Quistinic 54.06 311 *e*P **P 23 36 25.0 -1.1**
QUIF pmax pmax
comp=Z,13nm,0.8s,mb4.9
QUIF Quistinic 54.06 311 *e*P **P 23 36 25.0 -1.1**
comp=Z,13nm,0.8s,mb4.9
ESY Stoneypath 54.06 321⇑ *e*P **P 23 36 25.8 -0.3**
ESY Stoneypath 54.06 321⇑ *e*P **P 23 36 25.8 -0.3**
CLNS Chul'man 54.07 37 *e*P **P 23 36 25.8 -0.4**
CLNS *e* 23 37 32.7
CLNS *e*SS SS 23 47 34.9 -6.2
CLNS pmax pmax
comp=N,9.0nm,0.7s
CLNS pmax pmax
comp=E,19nm,0.7s
CLNS pmax pmax
comp=Z,42nm,0.7s,mb5.5
CLNS pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
CLNS MLR MLR
comp=Z,300nm,13.0s,MS4.5
CLNS MLR MLR
comp=N,500nm,16.0s
CLNS MLR MLR
comp=E,100nm,10.0s
CN2 Changchun 54.10 54 *e*P **P 23 36 26.4 0.0**
CN2 *e*AP pP 23 36 38.5 -0.7
CN2 *e*S **S 23 43 57.4 -2.2**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,1μm,16.0s,MS5.1
CN2 LR LR
comp=E,900nm,16.0s,MS5.1
CN2 LR LR
comp=Z,1μm,17.0s,MS5.1
ROSF Rostrenen 54.12 312 *e*P **P 23 36 25.8 -0.8**
comp=Z,30nm,0.9s,mb4.9
ROSF Rostrenen 54.12 312 *e*P **P 23 36 25.8 -0.8**
ROSF pmax pmax
comp=Z,15nm,0.9s,mb4.9
ROSF Rostrenen 54.12 312 *e*P **P 23 36 25.8 -0.8**
comp=Z,15nm,0.9s,mb4.9
HTR Trewern Hill 54.18 317⇑ *e*P **P 23 36 26.1 -0.9**
HTR AMb AMB 23 36 26.9
comp=Z,15nm,0.7s,mb5.1
HTR Trewern Hill 54.18 317⇑ *e*P **P 23 36 26.1 -0.9**
HTR AMb AMB 23 36 26.9
comp=Z,15nm,0.7s,mb5.1
EVIA Vianos 54.18 300 P **P 23 36 27.5 +0.5**
EVIA pmax pmax
comp=Z,15nm,0.6s,mb5.1
EVIA Vianos 54.18 300 P **P 23 36 27.5 +0.5**
comp=Z,15nm,0.6s,mb5.1
EVIA Vianos 54.18 300 P **P 23 36 27.5 +0.5**
comp=Z,15nm,0.6s,mb5.1
SBD1 Bryn Du 54.21 318⇑ *e*P **P 23 36 27.1 -0.1**
SBD1 Bryn Du 54.21 318⇑ *e*P **P 23 36 27.1 -0.1**
EBL Broad Law 54.29 321⇑ *e*P **P 23 36 27.5 -0.3**
EBL Broad Law 54.29 321⇑ *e*P **P 23 36 27.5 -0.3**
BBO1 Bothel 54.32 320⇑ *e*P **P 23 36 28.0 0.0**
BBO1 Bothel 54.32 320⇑ *e*P **P 23 36 28.0 0.0**
ESK Eskdalemuir 54.34 321⇑ *e*P **P 23 36 27.1 -1.0**
ESK Eskdalemuir 54.34 321⇑ *e*P **P 23 36 27.1 -1.0**
ESK Eskdalemuir 54.34 321 *e*P **P 23 36 27.7 -0.4**
ESK *e*PP pP 23 36 40.6 -0.4
ESK pmax pmax

comp=Z,22nm,1.0s,mb5.0
ESK Eskdalemuir 54.34 321 *e*P **P 23 36 27.7 -0.5**
comp=Z,22nm,1.0s,mb5.0
ESK *e*pP pP 23 36 40.6 -0.4
ESK Eskdalemuir 54.34 321 *e*P **P 23 36 27.7 -0.4**
comp=Z,22nm,1.0s,mb5.0
ESK *e*pP pP 23 36 40.6 -0.4
ELAN Lanestosa 54.44 306 P **P 23 36 28.8 -0.1**
comp=Z,29nm,1.1s,mb5.1
ELAN Lanestosa 54.44 306 P **P 23 36 28.8 -0.1**
comp=Z,29nm,1.1s,mb5.1
BWH Wardlaw 54.59 320 *e*P **P 23 36 29.1 -0.8**
BWH Wardlaw 54.59 320 *e*P **P 23 36 29.1 -0.8**
EBER Berja 54.72 298 P **P 23 36 31.0 +0.1**
comp=Z,66nm,1.0s,mb5.6
EBER Berja 54.72 298 P **P 23 36 31.0 +0.1**
comp=Z,66nm,1.0s,mb5.6
MLA1 Latheron 54.73 324 *e*P **P 23 36 30.6 -0.3**
MLA1 Latheron 54.73 324 *e*P **P 23 36 30.6 -0.3**
EQES Quesada 54.73 299 P **P 23 36 30.9 -0.1**
comp=Z,14nm,0.7s,mb5.1
EQES Quesada 54.73 299 P **P 23 36 30.9 -0.1**
comp=Z,14nm,0.7s,mb5.1
PCOU Corrie 54.90 321 *e*P **P 23 36 31.9 -0.3**
PCOU Corrie 54.90 321 *e*P **P 23 36 31.9 -0.3**
WLF1 Llynfaes 54.92 318 *e*P **P 23 36 31.7 -0.6**
WLF1 Llynfaes 54.92 318 *e*P **P 23 36 31.7 -0.6**
YRE Yr Eifl 54.92 318⇑*e*P **P 23 36 31.8 -0.6**
YRE AMb AMB 23 36 34.2
comp=Z,23nm,1.7s,mb4.9
YRE Yr Eifl 54.92 318⇑*e*P **P 23 36 31.8 -0.6**
YRE AMb AMB 23 36 34.2
comp=Z,23nm,1.7s,mb4.9
ORE Reay 54.96 325⇑*e*P **P 23 36 32.0 -0.7**
ORE Reay 54.96 325⇑*e*P **P 23 36 32.0 -0.7**
WCB1 Church Bay 55.01 318⇑*e*P **P 23 36 32.2 -0.8**
WCB1 AMb AMB 23 36 34.8
comp=Z,25nm,1.4s,mb5.0
WCB1 Church Bay 55.01 318⇑*e*P **P 23 36 32.2 -0.8**
WCB1 AMb AMB 23 36 34.8
comp=Z,25nm,1.4s,mb5.0
YRC Rhoscolyn 55.02 318⇑*e*P **P 23 36 32.8 -0.3**
YRC AMb AMB 23 36 35.0
comp=Z,22nm,1.3s,mb5.0
YRC Rhoscolyn 55.02 318⇑*e*P **P 23 36 32.8 -0.3**
YRC AMb AMB 23 36 35.0
comp=Z,22nm,1.3s,mb5.0
EAB Aberfoyle 55.05 322⇑*e*P **P 23 36 32.8 -0.5**
EAB Aberfoyle 55.05 322⇑*e*P **P 23 36 32.8 -0.5**
PGBU Glenifferbraes 55.10 321⇑*e*P **P 23 36 33.2 -0.4**
PGBU Glenifferbraes 55.10 321⇑*e*P **P 23 36 33.2 -0.4**
MVH1 Achvaich 55.12 324 *e*P **P 23 36 33.1 -0.6**
MVH1 Achvaich 55.12 324 *e*P **P 23 36 33.1 -0.6**
WIM Isle of Man 55.12 319 *e*P **P 23 36 33.1 -0.7**
WIM Isle of Man 55.12 319 *e*P **P 23 36 33.1 -0.7**
ESDC Sonseca Array 55.19 301 P **P 23 36 33.8 -0.4**
comp=Z,5.1nm,0.6s,mb4.8,baz=69,slow=7.1,SNR=41
ESDC pP pP 23 36 45.7 -1.4
comp=Z,5.8nm,0.6s,baz=69,slow=6.9,SNR=9.8
ESDC LR LR 00 05 21.4
comp=Z,94nm,18.7s,MS3.9,baz=105,slow=42
ESDC Sonseca Array 55.19 301 P **P 23 36 34.2 -0.1**
comp=Z,11nm,1.4s,mb4.7
ESDC Sonseca Array 55.19 301 P **P 23 36 34.2 -0.1**
comp=Z,11nm,1.4s,mb4.7
ESLA Sonseca Array 55.19 301 *e*P **P 23 36 34.2 -0.1**
ESLA *e* pP 23 36 47.1 0.0
ESLA Sonseca Array 55.19 301 *e*P **P 23 36 34.2 -0.1**
ECOG Cogollos-Vega 55.20 298 P **P 23 36 33.7 -0.6**
ECOG pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ECOG Cogollos-Vega 55.20 298 P **P 23 36 33.7 -0.7**
comp=Z,7.4nm,0.8s,mb4.8
ECOG Cogollos-Vega 55.20 298 P **P 23 36 33.7 -0.6**
comp=Z,7.0nm,0.8s,mb4.7
GUD Guadarrama 55.22 303 P **P 23 36 34.7 +0.2**
GUD pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
GUD Guadarrama 55.22 303 P **P 23 36 34.7 +0.2**
comp=Z,10.0nm,0.6s,mb5.0
EBAN Banos Encina 55.24 300 P **P 23 36 34.6 -0.1**
EBAN pmax pmax
comp=Z,16nm,0.6s,mb5.2
EBAN Banos Encina 55.24 300 P **P 23 36 34.6 -0.1**
comp=Z,16nm,0.6s,mb5.2
EBAN Banos Encina 55.24 300 P **P 23 36 34.6 -0.1**
comp=Z,16nm,0.6s,mb5.2
PMSU Muirshiel 55.25 321 *e*P **P 23 36 34.6 -0.1**
PMSU Muirshiel 55.25 321 *e*P **P 23 36 34.6 -0.1**
CRQ2 Rosemanowes 2 55.35 314⇑*e*P **P 23 36 34.7 -0.7**
CRQ2 AMb AMB 23 36 44.2
comp=Z,43nm,1.4s,mb5.3
CRQ2 Rosemanowes 2 55.35 314⇑*e*P **P 23 36 34.7 -0.7**
CRQ2 AMb AMB 23 36 44.2
comp=Z,43nm,1.4s,mb5.3
ERON Agron 55.43 298 P **P 23 36 35.8 -0.1**
comp=Z,7.4nm,0.7s,mb4.8
ERON Agron 55.43 298 P **P 23 36 35.8 -0.2**
comp=Z,7.4nm,0.7s,mb4.8
KAC Achnashellach 55.68 323⇑*e*P **P 23 36 37.1 -0.7**
KAC Achnashellach 55.68 323⇑*e*P **P 23 36 37.1 -0.7**
ELOJ Sierra Loja 55.68 298 P **P 23 36 37.2 -0.6**
ELOJ pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ELOJ Sierra Loja 55.68 298 P **P 23 36 37.2 -0.6**
comp=Z,9.2nm,1.0s,mb4.8
ELOJ Sierra Loja 55.68 298 P **P 23 36 37.2 -0.6**
comp=Z,9.0nm,1.0s,mb4.8
EARI Arriondas 55.73 306 P **P 23 36 38.5 +0.4**
comp=Z,15nm,1.7s,mb4.7
EARI Arriondas 55.73 306 P **P 23 36 38.5 +0.3**
comp=Z,15nm,1.7s,mb4.7
KPL Plockton 55.85 323⇑*e*P **P 23 36 38.7 -0.3**
KPL Plockton 55.85 323⇑*e*P **P 23 36 38.7 -0.3**
EADA Adamuz 55.86 300 P **P 23 36 38.7 -0.4**
comp=Z,23nm,1.1s,mb5.1
EADA Adamuz 55.86 300 P **P 23 36 38.7 -0.4**
comp=Z,23nm,1.1s,mb5.1
KAR1 Arisaig 55.92 322⇑*e*P **P 23 36 39.4 -0.1**
KAR1 Arisaig 55.92 322⇑*e*P **P 23 36 39.4 -0.1**
DSB Dublin 56.10 318 *e*P **P 23 36 40.3 -0.5**
comp=Z,18nm,1.1s,mb5.0
DSB *e* pP 23 36 53.0 -0.7
DSB Dublin 56.10 318 *e*P **P 23 36 40.3 -0.5**
TZK Tazeka 56.23 295 *i*P **P 23 36 42.0 +0.3**
EMIJ Mijas 56.27 298 P **P 23 36 40.9 -1.1**
comp=Z,15nm,0.6s,mb5.2
EMIJ Mijas 56.27 298 P **P 23 36 40.8 -1.2**
comp=Z,15nm,0.6s,mb5.2
DCN Croghan 56.65 318 *e*P **P 23 36 44.0 -0.7**
ZFT Errachidia 56.78 292 *i*P **P 23 36 47.0 +1.4**
EJIF Jimena Fronter 56.84 298 P **P 23 36 46.0 -0.1**
EJIF pmax pmax
comp=Z,15nm,1.4s,mb4.8
EJIF Jimena Fronter 56.84 298 P **P 23 36 46.0 -0.1**
comp=Z,15nm,1.4s,mb4.8
EJIF Jimena Fronter 56.84 298 P **P 23 36 46.0 -0.1**
comp=Z,15nm,1.4s,mb4.8
KBS Kingsbay 56.95 350 *e*P **P 23 36 46.7 -0.2**
KBS *e*pP pP 23 37 00.8 +1.0
ECAL Calabor 57.00 304 P **P 23 36 47.1 -0.1**
comp=Z,19nm,1.2s,mb5.0
ECAL Calabor 57.00 304 P **P 23 36 47.1 -0.1**
comp=Z,19nm,1.2s,mb5.0
MDJ Mudanjiang 57.01 52 P **P 23 36 48.0 +0.8**
MDJ S **S 23 44 31.8 -6.5**
MDJ AMB AMB
comp=Z,11nm,0.9s,mb4.9
MDJ AMB AMB
comp=Z,53nm,4.0s
MDJ LR LR
comp=N,342nm,26.0s
MDJ LR LR
comp=Z,356nm,21.7s,MS4.4
PBRG Braganca 57.02 304 *e*P **P 23 36 47.1 -0.2**
comp=Z,26nm,1.6s,mb5.0
YAK Yakutsk 57.06 32 *e*P **P 23 36 47.9 +0.3**
YAK *e* pP 23 37 04.4 +3.9
YAK pmax pmax
comp=Z,17nm,0.8s,mb5.1
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,11nm,1.6s
YAK pmax pmax
comp=Z,23nm,1.0s,mb5.2
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,11nm,1.2s
YAK pmax pmax
comp=N,886nm,23.6s
YAK pmax pmax
comp=Z,238nm,18.6s
YAK pmax pmax
comp=E,214nm,24.5s
YAK Yakutsk 57.06 32 *e*P **P 23 36 47.9 +0.3**
YAK Yakutsk 57.06 32 *e*P **P 23 36 47.9 +0.3**
comp=E,5.0nm,1.1s,mb4.5
ESPR Espera 57.07 298 P **P 23 36 47.2 -0.6**
comp=E,14nm,1.1s,mb4.9
ESPR Espera 57.07 298 P **P 23 36 47.2 -0.5**
comp=E,14nm,1.1s,mb4.9
TOA0 Torodi Ar. Sit 57.10 269 *e*P **P 23 36 47.4 -0.5**
TOA0 *e* pP 23 36 58.8 -2.0
TOA0 Torodi Ar. Sit 57.10 269 *e*P **P 23 36 47.4 -0.5**
TORD Torodi Ar. Bea 57.10 269 P **P 23 36 47.4 -0.5**
comp=E,3.2nm,0.6s,mb4.5,baz=62,slow=7.0,SNR=50
TORD pP pP 23 37 00.2 -0.6
comp=E,17nm,0.7s,baz=63,slow=6.3,SNR=34
TORD LR LR 00 04 36.0
comp=E,217nm,18.4s,MS4.3,baz=55,slow=39
TORD Torodi Ar. Bea 57.10 269 P **P 23 36 47.4 -0.5**
TORD pP pP 23 37 00.2 -0.6
TORD LR LR 00 04 36.0
CZD Col de Zad 57.14 294 *i*P **P 23 36 50.0 +1.8**
MIF Mishlifen 57.22 294 *i*P **P 23 36 49.0 +0.3**
EMIN Mina Concepcio 57.56 300 P **P 23 36 50.4 -0.7**
comp=E,7.3nm,1.2s,mb4.6
EMIN Mina Concepcio 57.56 300 P **P 23 36 50.4 -0.8**
comp=E,7.3nm,1.2s,mb4.6
EBAD Badajoz 57.66 301 P **P 23 36 51.3 -0.6**
comp=E,12nm,0.7s,mb5.0
EBAD Badajoz 57.66 301 P **P 23 36 51.3 -0.6**
comp=E,12nm,0.7s,mb5.0
MTE Manteigas 57.81 303 *e*P **P 23 36 53.3 +0.4**
comp=E,20nm,1.0s,mb5.1
MTE *e*S **S 23 44 34.7 -14**
MTE Manteigas 57.81 303 *e*P **P 23 36 53.4 +0.5**
MTE *e* pP 23 37 06.6 +0.8
PVRL Vila Real 57.81 304 *e*P **P 23 36 53.0 +0.1**
comp=E,26nm,1.1s,mb5.2
PCBR Castelo Branco 57.85 302 *e*P **P 23 36 53.5 +0.3**
comp=E,51nm,1.6s,mb5.3
PCBR Castelo Branco 57.85 302 *e*P **P 23 36 53.2 0.0**
ELOB Lobios 57.99 305 P **P 23 36 53.7 -0.5**
comp=E,8.1nm,0.9s,mb4.8
ELOB Lobios 57.99 305 P **P 23 36 53.7 -0.4**
comp=E,8.1nm,0.9s,mb4.8
PVIS Viseu 58.03 303 *e*P **P 23 36 54.8 +0.4**
comp=E,37nm,1.4s,mb5.2
PVIS Viseu 58.03 303 *e*P **P 23 36 55.1 +0.7**
KLR Kul'dur 58.08 47⇑*i*P **P 23 36 53.0 -1.8**
KLR *e*S **S 23 44 50.0 -2.5**
KLR pmax pmax
comp=E,32nm,1.0s
KLR pmax pmax
comp=Z,48nm,1.0s,mb5.5
KLR Kul'dur 58.08 47 *i*P **P 23 36 53.0 -1.8**
KLR *e*S **S 23 44 50.0 -2.5**
STS Santiago 58.21 306 P **P 23 36 55.8 +0.1**
STS pmax pmax
comp=Z,11nm,0.8s,mb4.9
STS Santiago 58.21 306 P **P 23 36 55.8 +0.1**
comp=Z,11nm,0.8s,mb4.9
STS Santiago 58.21 306 P **P 23 36 55.8 +0.1**
comp=Z,11nm,0.8s,mb4.9
TIXI Tiksi 58.27 20 *e*P **P 23 36 54.3 -1.8**
TIXI *e*S **S 23 44 49.3 -5.7**
TIXI *e*SS SS 23 48 45.3 -1.9
TIXI pmax pmax
comp=Z,15nm,1.2s,mb4.9
TIXI Tiksi 58.27 20 *e*P **P 23 36 56.5 +0.4**
PBEJ Beja 58.45 300 *e*P **P 23 36 57.0 -0.4**
comp=Z,40nm,1.7s,mb5.2
PBEJ Beja 58.45 300 *e*P **P 23 36 57.2 -0.2**
EVO Evora 58.47 301 *e*P **P 23 36 57.9 +0.4**
comp=Z,37nm,0.8s,mb5.2
EMAZ Mazaricos 58.51 306 P **P 23 36 57.4 -0.4**
comp=Z,14nm,1.0s,mb5.0
PTOM Tomar 58.59 302 *e*P **P 23 36 58.7 +0.3**
comp=Z,82nm,1.6s,mb5.5
PTOM Tomar 58.59 302 *e*P **P 23 36 58.8 +0.4**
VLA Vladivostok 58.84 54 *i*P **P 23 37 00.0 -0.1**
VLA *e**PP pP 23 37 13.9 +0.9
VLA pmax pmax
comp=Z,51nm,1.1s,mb5.5
VLA MLR MLR
comp=Z,500nm,20.7s,MS4.6
VLA Vladivostok 58.84 54 *i*P **P 23 37 00.0 -0.1**
comp=Z,51nm,1.1s,mb5.5
JOW Kunigami 59.31 73 P **P 23 37 04.3 +1.0**
comp=Z,18nm,0.5s,mb5.3,baz=279,slow=10,SNR=11
OUK Oukaimeden 59.89 292 *i*P **P 23 37 08.0 +0.7**
LBTB Lobatse 61.51 217 *e*P **P 23 37 19.9 +1.5**
LBTB *e* pP 23 37 30.8 -0.6
TSUM Tsumeb 61.96 228 *e*P **P 23 37 24.3 +2.9**
DAG Danmarks Havn 62.29 345⇓*i*P **P 23 37 22.9 -0.7**
comp=Z,4.7nm,0.6s,mb4.8
DAG Danmarks Havn 62.29 345⇓*i*P **P 23 37 22.9 -0.7**
DAG pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
BORG Borgarnes 63.40 332 P **P 23 37 29.8 -1.1**
BOSA Boshof 64.59 215 P **P 23 37 39.3 +0.5**
comp=Z,4.4nm,0.8s,mb4.5,baz=42,slow=11,SNR=6.6
BOSA pP pP 23 37 50.6 -1.3
comp=Z,29nm,0.8s,baz=38,slow=7.0,SNR=23
BOSA Boshof 64.59 215 P **P 23 37 39.3 +0.5**
BOSA *PP pP 23 37 50.6 -1.3
BOSA pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
BOSA pmax pmax
comp=Z,29nm,0.8s,mb5.4
MAJO Matsushiro 64.92 60 *e*P **P 23 37 41.5 +0.5**
MAJO pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
MAJO Matsushiro 64.92 60 *e*P **P 23 37 41.5 +0.5**
comp=Z,9.5nm,0.6s,mb5.0
MAJO Matsushiro 64.92 60 *e*P **P 23 37 41.5 +0.5**
comp=Z,9.0nm,0.6s,mb5.0
MJAR Matsushiro Arr 64.92 60 P **P 23 37 42.2 +1.2**
comp=Z,13nm,1.1s,mb4.9,baz=282,slow=9.0,SNR=16
MJAR pP pP 23 37 55.2 +1.1
comp=Z,12nm,1.2s,baz=290,slow=11,SNR=3.5
MJAR LR LR 00 09 29.6
comp=Z,216nm,21.1s,MS4.3,baz=220,slow=39
MJAR Matsushiro Arr 64.92 60 P **P 23 37 42.2 +1.2**
MJAR *PP pP 23 37 55.2 +1.1
MJAR pmax pmax
comp=Z,13nm,1.1s
MJAR pmax pmax
comp=Z,12nm,1.2s
MJAR MLR MLR
comp=Z,216nm,21.1s
MJAR Matsushiro Arr 64.92 60 P **P 23 37 42.2 +1.2**
MJAR pP pP 23 37 55.2 +1.1
MJAR LR LR 00 09 29.6
DBIC Dimbokro 65.64 265 P **P 23 37 46.3 +0.7**
comp=Z,4.3nm,0.9s,mb4.5,baz=49,slow=11,SNR=2.9
DBIC LR LR 00 04 36.1
comp=Z,161nm,21.6s,MS4.2,baz=42,slow=34
DBIC Dimbokro 65.64 265 *e*P **P 23 37 46.5 +0.9**
DBIC Dimbokro 65.64 265 *e*P **P 23 37 46.5 +0.9**
YSS Yuzh-Sakhalins 65.71 48⇑*e*P **P 23 37 46.4 +0.3**
YSS pmax pmax
comp=Z,37nm,1.1s,mb5.3
YSS Yuzh-Sakhalins 65.71 48 *e*P **P 23 37 46.7 +0.6**
comp=Z,44nm,0.9s,mb5.5
YSS Yuzh-Sakhalins 65.71 48 *e*P **P 23 37 46.4 +0.3**
comp=Z,37nm,1.1s,mb5.3
LIC Lamto 65.98 265 *e*P **P 23 37 47.7 -0.1**
ASAJ Asahikawa 66.27 51 P **P 23 37 50.2 +0.6**
comp=Z,2.6nm,0.4s,mb4.7,baz=238,slow=19,SNR=3.5
ASAJ Asahikawa 66.27 51 P **P 23 37 50.2 +0.5**
ASAJ pmax pmax
comp=Z,3.0nm,0.4s
SUMG Summit 68.00 341 *e*P **P 23 38 01.1 +0.4**
comp=Z,12nm,0.7s,mb5.0
ALE Alert 68.20 353 P **P 23 38 02.0 +0.1**
comp=Z,65nm,0.7s,mb5.8,SNR=5.2
FITZ Fitzroy Crossi 76.55 118 P **P 23 38 52.6 +1.0**
comp=Z,1.5nm,0.6s,mb4.1,baz=292,slow=5.6,SNR=3.1
FITZ pP pP 23 39 04.9 -0.1
comp=Z,4.0nm,0.8s,baz=245,slow=17,SNR=2.9
FITZ LR LR 00 16 16.7
comp=Z,76nm,20.1s,MS4.0,baz=170,slow=38
FITZ Fitzroy Crossi 76.55 118 P **P 23 38 52.6 +1.0**
FITZ pP pP 23 39 04.9 -0.1
FITZ LR LR 00 16 16.7
WRA Warramunga Arr 84.50 115 P **P 23 39 34.9 +0.6**
comp=Z,3.9nm,1.0s,mb4.5,baz=312,slow=4.4,SNR=8.9
WRA pP pP 23 39 47.1 -0.7
comp=Z,8.4nm,1.0s,baz=309,slow=4.3,SNR=9.3
WRA LR LR 00 19 08.0
comp=Z,97nm,19.4s,MS4.2,baz=240,slow=37
WRA Warramunga Arr 84.50 115 P **P 23 39 34.9 +0.7**
WRA *PP pP 23 39 47.1 -0.7
WRA pmax pmax
comp=Z,4.0nm,1.0s
WRA pmax pmax
comp=Z,8.0nm,1.0s
WRA MLR MLR
comp=Z,97nm,19.5s
WRAB Tennant Creek 84.50 115 *e*P **P 23 39 35.2 +1.0**
WRAB *e* pP 23 39 47.7 -0.1
WRAB pmax pmax
comp=Z,29nm,1.1s,mb5.3
WRAB Tennant Creek 84.50 115 *e*P **P 23 39 35.2 +1.0**
comp=Z,30nm,1.1s,mb5.3
WRAB *e* pP 23 39 47.7 -0.1
INK Inuvik 85.06 5 *e*P **P 23 39 39.3 +2.2**
ASAR Alice Springs 86.03 119 P **P 23 39 41.7 -0.2**
comp=Z,1.8nm,0.7s,mb4.4,baz=308,slow=5.0,SNR=12
ASAR pP pP 23 39 54.5 -1.0
comp=Z,3.5nm,0.7s,baz=304,slow=5.2,SNR=8.9
ASAR Alice Springs 86.03 119 P **P 23 39 41.7 -0.2**
ASAR *PP pP 23 39 54.5 -1.0
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR pmax pmax
comp=Z,4.0nm,0.7s
MCK McKinley 87.19 13 *e*P **P 23 39 51.7 +4.1**
MCK pmax pmax
comp=Z,13nm,1.1s,mb5.1
MCK McKinley 87.19 13 *e*P **P 23 39 51.7 +4.1**
comp=Z,13nm,1.1s,mb5.1
SCHQ Schefferville 87.76 333 LR LR 00 22 19.2
comp=Z,120nm,18.7s,MS4.3,baz=4.4,slow=38
DAWY Dawson 88.51 9 *e*P **P 23 39 55.3 +1.5**
YKA Yellowknife Ar 91.47 358 P **P 23 40 08.2 +0.5**
comp=Z,1.0nm,0.8s,mb4.2,baz=352,slow=5.0,SNR=3.4
YKA LR LR 00 26 59.2
comp=Z,159nm,20.6s,MS4.4,baz=0.0,slow=39
YKA Yellowknife Ar 91.47 358 P **P 23 40 08.2 +0.5**
YKA LR LR 00 26 59.2
MAW Mawson 93.61 179 P **P 23 40 16.7 -0.8**
comp=Z,1.5nm,1.0s,mb4.4,baz=11,slow=13,SNR=4.5
MAW LR LR 00 13 43.9
comp=Z,147nm,21.2s,MS4.4,baz=48,slow=30
CTA Charters Tower 94.44 110 LR LR 00 22 42.2
comp=Z,103nm,21.8s,MS4.2,baz=62,slow=35
TAU Tasmania Unive 104.71 131 P Pdif 23 41 10.0 +2.6

*ATH **18** 23:58:24.5, 3387N×2561E, h10km, MD3.6/3*
*ISCJB **18** 23:58:30.4±0.8, 34.16N±005×259E±0.1, h33km, Error ellipse: s-maj=16.6km s-min=6.8km az=167.1*
*CSEM **18** 23:58:30.2±0.1, 3423N×2595E, h40km, ML3.4, Error ellipse: s-maj=5.3km s-min=3.2km az=55.0*
*HLW **18** 23:58:31.8, 3422N×2591E, h33km, Mb3.4*
ISC 18 23:58:31.6±0.7, 3420N±005×258E±01, h35km, n9, σ1°01/11, 3C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
XRY	**Khrisi**	**0.68**	**354**	*e*PG		**Pn**	**23 58 43.0**	**-1.7**
NPS	**Neapolis**	**1.07**	**353**	*e*PG		**Pn**	**23 58 50.9**	**+0.8**
VAM	**Vamos**	**1.77**	**313**	*e*PN		**Pn**	**23 58 59.7**	**0.0**
SLUM		**2.74**	**190**	⇑P		**Pn**	**23 59 13.7**	**+0.7**
SLUM				S		**Sn**	**23 59 44.3**	**-0.6**
HMAT	**Matruh**	**3.29**	**160**	⇑P		**Pn**	**23 59 20.6**	**+0.1**
SWA1		**4.92**	**181**	⇑P		**Pn**	**23 59 44.4**	**+1.4**
SWA1				S		**Sn**	**00 00 36.9**	**-1.7**
SWA2		**4.95**	**183**	⇓P		**Pn**	**23 59 44.4**	**+1.1**
AMAG	**Maghara**	**7.21**	**117**	P		**Pn**	**00 00 14.3**	**-0.2**
AMAG	**Maghara**	**7.21**	**117**	P		**Pn**	**00 00 14.3**	**-0.1**

*NEIC **19** 00:05:23.4, 31.18S×68.40W, h128km, MG3.5(GUC), After GUC.*
GUC 19 00:05:23.4±0.5, 3118S×6840W, h128km±45km, MD3.3, ML3.5, 2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMCH	**Combarbala**	**2.23**	**270**	*e*P		Pn	00 06 00.8	+0.6
CMCH				*i* S		Sn	00 06 29.3	+1.0
CMCH				AML	AML		00 06 31.9	
	comp=E,847nm,0.8s							
CMCH	**Combarbala**	**2.23**	**270**	*e*P		Pn	00 06 00.8	+0.6
CMCH				*i* S		Sn	00 06 29.3	+1.0
TLL	**Tololo Astrono**	**2.31**	**295**	*e*P		Pn	00 06 02.5	+1.4
TLL				*i* S		Sn	00 06 31.5	+1.5
TLL				AML	AML		00 06 37.4	
	comp=N,275nm,0.5s							
TLL	**Tololo Astrono**	**2.31**	**295**	*e*P		Pn	00 06 02.5	+1.4
TLL				*i* S		Sn	00 06 31.5	+1.5
FCH	**Farellones**	**2.67**	**216**	⇓*i*P		Pn	00 06 07.3	+1.6
FCH				*e*S		Sn	00 06 40.0	+1.7
FCH				AML	AML		00 06 50.4	
	comp=N,33nm,0.3s							
LCO	**Las Campanas**	**2.94**	**317**	⇓*i*P		Pn	00 06 10.3	+1.1
LCO				*i* S		Sn	00 06 45.8	+1.3
RCDM	**Rinconada Maip**	**3.08**	**221**	*e*P		Pn	00 06 11.4	+0.5
RCDM				*i* S		Sn	00 06 48.3	+0.8
RCDM				AML	AML		00 06 49.6	
	comp=E,84nm,0.1s							
RCDM	**Rinconada Maip**	**3.08**	**221**	*e*P		Pn	00 06 11.4	+0.5
RCDM				*i* S		Sn	00 06 48.3	+0.8

IDC 19 00:05:52.1±4.4, 981S×10720E, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/16, mbtmp4.0/3, Error ellipse: s-maj=194.5km s-min=28.3km az=52.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**28.98**	**122**	P		P	00 11 53.6	+0.4
	0.8nm,0.5s,baz=296,slow=9.1,SNR=9.3							
SONM	**Songino Array**	**57.39**	**359**	P		P	00 15 42.5	+0.2
	1.2nm,0.6s,baz=173,slow=7.5,SNR=7.4							
MKAR	**Makanchi Array**	**60.58**	**341**	P		P	00 16 04.3	0.0
	1.8nm,0.6s,baz=134,slow=6.9,SNR=15							

IDC 19 00:06:01.1±5.1, 1034S×10649E, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.9/3, Error ellipse: s-maj=224.1km s-min=30.7km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**29.30**	**120**	P		P	00 12 05.6	+0.4
	0.7nm,0.6s,baz=297,slow=9.0,SNR=6.3							
SONM	**Songino Array**	**57.91**	**360**	P		P	00 15 55.3	+0.4
	0.4nm,0.5s,baz=173,slow=8.1,SNR=3.6							
MKAR	**Makanchi Array**	**60.85**	**341**	P		P	00 16 15.1	-0.1
	1.7nm,0.6s,baz=139,slow=5.8,SNR=6.9							

*IDC **19** 00:13:08.6±1.6, 999S×10848E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/16, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=74.5km s-min=20.4km az=46.0*
*NEIC **19** 00:13:09.9±0.5, 999S×10847E, h10km, mb4.0/6, Error ellipse: s-maj=16.3km s-min=6.6km az=52.0*
*ISCJB **19** 00:13:11.6±0.7, 999S±0.1×1085E±0.1, h33km, mb3.9/10, Error ellipse: s-maj=23.6km s-min=9.5km az=102.6*
ISC 19 00:13:13.8±0.7, 100S±01×1085E±01, h35km, n17, σ0°62/16, mb3.9/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBWA	**Marble Bar**	**15.51**	**137**	*e*Pn		**Pn**	**00 16 44.0**	**-5.8**
	3.2nm,0.5s							
KULM	**Kulim**	**17.05**	**332**	Pn		**Pn**	**00 17 08.0**	**-1.4**
KKM	**Kota Kinabalu**	**17.66**	**26**	Pn		**Pn**	**00 17 16.6**	**-0.3**

FITZ	**Fitzroy Crossi**	**18.48**	**118**	P		**Pn**	**00**	**17**	**26.9**	**0.0**
	0.2nm,0.3s,baz=75,slow=21,SNR=8.1									
NWAO	**Narrogin (SRO)**	**24.23**	**162**	P		**P**	**00**	**18**	**26.3**	**-1.0**
WRA	**Warramunga Arr**	**26.82**	**115**	P		**P**	**00**	**18**	**50.2**	**-0.5**
	1.2nm,0.8s,mb3.5,baz=285,slow=11,SNR=3.3									
WRAB	**Tennant Creek**	**26.83**	**115**	*eP*		**P**	**00**	**18**	**50.6**	**-0.2**
	1.6nm,0.5s,mb3.8									
ASAR	**Alice Springs**	**27.81**	**123**	P		**P**	**00**	**19**	**00.7**	**+1.2**
	0.6nm,0.6s,mb3.4,baz=298,slow=9.3,SNR=5.7									
ASAR				PcP		PcP	00	22	15.6	+0.4
	0.3nm,0.5s,baz=290,slow=2.3,SNR=4.2									
CTAO	**Charters Tower**	**37.74**	**110**	*eP*		**P**	**00**	**20**	**26.1**	**-0.1**
	0.5nm,0.3s,mb3.7									
SONM	**Songino Array**	**57.57**	**358**	P		**P**	**00**	**23**	**00.5**	**+0.7**
	1.1nm,0.5s,mb4.1,baz=174,slow=8.1,SNR=9.5									
MKAR	**Makanchi Array**	**61.16**	**340**	P		**P**	**00**	**23**	**25.1**	**+0.5**
	0.7nm,0.6s,mb4.0,baz=134,slow=7.5,SNR=9.1									
KURK	**Kurchatov**	**65.77**	**340**	*eP*		**P**	**00**	**23**	**55.4**	**+0.3**
	1.8nm,0.9s,mb4.1									
BRVK	**Borovoye**	**70.72**	**337**	*eP*		**P**	**00**	**24**	**25.9**	**-0.2**
	0.5nm,0.3s,mb3.9									
CHKZ	**Chkalovo**	**71.07**	**337**	*eP*		**P**	**00**	**24**	**28.5**	**+0.2**
	1.6nm,0.4s,mb4.3									
ZRNK	**Zerenda**	**71.15**	**336**	*eP*		**P**	**00**	**24**	**28.9**	**+0.2**
BRTR	**Keskin Array B**	**84.89**	**312**	P		**P**	**00**	**25**	**45.7**	**+0.7**
	0.4nm,0.5s,mb3.8,baz=147,slow=8.8,SNR=3.6									
WMOK	**Wichita Mounta**	**144.94**	**41**	*e*PKPdf		PKPdf	00	32	47.6	+0.5

ISCJB ***19*** *00:15:15.6±1.6, 95S±03×1084E±03, h10km, mb3.9/8, Error ellipse: s-maj=65.8km s-min=14.2km az=95.3*
NEIC ***19*** *00:15:17.3±1.3, 962S×1084 3E, h10km, mb4.1/6, Error ellipse: s-maj=55.9km s-min=14.1km az=46.0*
IDC ***19*** *00:15:17.3±4.6, 942S×1085 1E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/15, mbtmp3.8/3, Error ellipse: s-maj=207.6km s-min=30.7km az=53.0*

ISC 19 00:15:17.6±1.6, 96S±03×1084E±04, h10km, n12, σ0$ 88/11, mb3.9/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time			Res
					Op		h	m	s	ISC
MBWA	**Marble Bar**	**15.88**	**138**	*e*Pn		**Pn**	**00**	**18**	**54.6**	**-6.6**
	3.0nm,0.5s									
WRAB	**Tennant Creek**	**27.12**	**115**	*e*P		**P**	**00**	**20**	**58.9**	**-1.8**
	2.0nm,0.6s,mb3.8									
ASAR	**Alice Springs**	**28.14**	**123**	P		**P**	**00**	**21**	**11.1**	**+1.3**
	0.3nm,0.6s,mb3.1,baz=296,slow=9.4,SNR=4.8									
QIZ	**Qiongzhong**	**28.48**	**3**	P		**P**	**00**	**21**	**12.9**	**0.0**
CTAO	**Charters Tower**	**38.01**	**110**	*e*P		**P**	**00**	**22**	**36.3**	**+0.5**
	2.5nm,0.6s,mb4.1									
SONM	**Songino Array**	**57.20**	**358**	P		**P**	**00**	**25**	**05.0**	**+0.2**
	1.0nm,0.6s,mb4.0,baz=176,slow=7.5,SNR=6.3									
MKAR	**Makanchi Array**	**60.76**	**340**	P		**P**	**00**	**25**	**30.1**	**+0.6**
	0.7nm,0.6s,mb4.0,baz=141,slow=7.8,SNR=6.3									
KURK	**Kurchatov**	**65.38**	**340**	*e*P		**P**	**00**	**26**	**00.9**	**+0.7**
	0.8nm,0.7s,mb3.9									
BRVK	**Borovoye**	**70.33**	**337**	P		**P**	**00**	**26**	**31.8**	**+0.5**
CHKZ	**Chkalovo**	**70.67**	**337**	*e*P		**P**	**00**	**26**	**32.5**	**-1.0**
	2.2nm,0.8s,mb4.1									
CHKZ				*e*			00	26	43.5	
ZRNK	**Zerenda**	**70.75**	**336**	*e*P		**P**	**00**	**26**	**33.0**	**-1.0**
	1.5nm,1.0s,mb3.9									
ZRNK				*e*			00	26	43.6	
HRY	**Holter Researc**	**129.69**	**35**	PKPdf		PKPdf	00	34	27.8	+0.8

CASC 19 00:36:10.6±2.7, 1332N×9043W, h23km±16km, MD3.9, 2C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time			Res
					Op		h	m	s	ISC
IXG	**Ixpaco**	**0.85**	**358**	⇓*e*P		Pb	00	36	26.2	-0.5
SBLS	**San Blas**	**0.94**	**56**	⇑*e*P		x	00	36	35.3	
SBLS				*e*S		x	00	36	50.8	
RTR	**El Retiro**	**0.96**	**53**	⇓*e*P		x	00	36	35.7	
RTR				*e*S		x	00	36	49.1	
SNJE	**San Jose**	**0.97**	**55**	*e*P		x	00	36	35.7	
SNJE				*e*S		x	00	36	48.9	
TER	**Terranova**	**1.01**	**346**	*e*P		Pn	00	36	30.7	+1.4
TER				*e*S		Sb	00	36	42.8	+0.5
FUG	**Fuego 3**	**1.20**	**340**	*e*P		Pn	00	36	32.5	+0.6
LFRS	**El Faro**	**1.36**	**77**	*e*P		x	00	36	40.3	
TP2	**Tecpan 2**	**1.57**	**339**	⇑*e*P		Pn	00	36	37.8	+0.8
TP2				*e*S		Sn	00	36	59.6	+2.9

NIED ***19*** *00:47:00, 4580N×143.10E, h320km, Mw4.0 Best double couple: M0 1.06000×10^15 NP1:φs278.00000°, δ87.00000°, λ-154.00000°. NP2:φs187.00000°, δ64.00000°, λ-3.00000°.*
ISCJB ***19*** *00:47:55.3±0.4, 4588N±005×14309E±0.10, h339km±3km, mb3.5/14, Error ellipse: s-maj=10.7km s-min=8.1km az=152.8*
MOS ***19*** *00:47:55.4±0.6, 4598N×143.10E, h341km, mb3.5/10, Error ellipse: s-maj=19.7km s-min=11.4km az=90.0*
IDC ***19*** *00:47:56.1±0.9, 4613N×14296E, h317km±20km, mb3.3/9, mb1 3.6/11, mb1mx3.3/22, mbtmp4.0/11, Error ellipse: s-maj=37.1km s-min=14.0km az=176.0*
JMA ***19*** *00:47:56.4±0.2, 4583N×143.14E, h336km±2km, M3.9*
NEIC ***19*** *00:47:56.7±0.6, 4592N×14298E, h335km±6km, mb3.5/6, Error ellipse: s-maj=9.8km s-min=8.9km az=128.0*

ISC 19 00:47:56.1±0.4, 4588N±005×14308E±010, h334km±3km, n56, σ0$ 79/70, mb3.5/14, 6C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time			Res
					Op		h	m	s	ISC
JSE	**Soyaes**	**0.98**	**201**	⇑P		**Pn**	**00**	**48**	**40.5**	**+0.5**
JSE				*e*S		**S**	**00**	**49**	**14.2**	**-0.9**
JWK2	**Keihoku**	**1.00**	**236**	⇑P		**Pn**	**00**	**48**	**40.9**	**+0.8**
JWK2				*e*S		**S**	**00**	**49**	**15.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**1.10**	**348**	*e*PN		**Pn**	**00**	**48**	**40.9**	**+0.4**
YSS				*e*S		**S**	**00**	**49**	**15.2**	**-0.8**
JRR	**Rishiri**	**1.45**	**240**	P		**Pn**	**00**	**48**	**42.9**	**+0.6**
JSS	**Shosan**	**1.71**	**211**	⇑P		**Pn**	**00**	**48**	**44.7**	**+0.8**
ASAJ	**Asahikawa**	**1.79**	**191**	P		**Pn**	**00**	**48**	**45.3**	**+0.9**
	11nm,0.3s,baz=9.3,slow=5.9,SNR=90									
ASAJ				S		**S**	**00**	**49**	**23.9**	**+0.8**
	1.3nm,0.3s,baz=89,slow=33,SNR=8.2									
ASAJ	**Asahikawa**	**1.79**	**191**	PN		**Pn**	**00**	**48**	**45.3**	**+0.9**
ASAJ				S		**S**	**00**	**49**	**24.0**	**+0.9**
ASAJ				pmax		pmax				
	comp=Z,11nm,0.3s									
ASAJ				smax						
	comp=E,1.0nm,0.3s									
JYG	**Yagishiri**	**1.86**	**219**	⇑P		**Pn**	**00**	**48**	**45.4**	**+0.5**
JYG				*e*S		**S**	**00**	**49**	**23.7**	**-0.3**
JTKR	**Abashiri--Toko**	**2.00**	**162**	P		**Pn**	**00**	**48**	**46.0**	**+0.2**
JKK2	**Kamakawa 2**	**2.02**	**187**	⇑P		**Pn**	**00**	**48**	**46.8**	**+0.8**
JKK2				*e*S		**S**	**00**	**49**	**26.4**	**+0.4**
JHR	**Hokuryu**	**2.34**	**205**	P		**Pn**	**00**	**48**	**49.2**	**+0.7**
JRA	**Rausu**	**2.42**	**142**	P		**Pn**	**00**	**48**	**50.0**	**+0.8**
JAR	**Ashorobuto**	**2.63**	**169**	⇑P		**Pn**	**00**	**48**	**51.6**	**+0.7**
JAR				*e*S		**S**	**00**	**49**	**34.1**	**-0.7**
JFR	**Furan**	**2.74**	**187**	P		**Pn**	**00**	**48**	**52.4**	**+0.6**
JFR				*e*S		**S**	**00**	**49**	**36.0**	**-0.5**
JAK	**Akkeshi**	**3.11**	**157**	P		**Pn**	**00**	**48**	**54.5**	**-0.7**
JAK				*e*S		**S**	**00**	**49**	**40.0**	**-2.7**
JSK	**Shakotan**	**3.13**	**217**	P		**Pn**	**00**	**48**	**56.3**	**+0.8**
NEM2	**Nemuro 2**	**3.15**	**142**	P		**Pn**	**00**	**48**	**55.2**	**-0.4**
NEM2				*e*S		**S**	**00**	**49**	**39.4**	**-4.1**
JEW	**Eniwo**	**3.25**	**202**	*e*S		**S**	**00**	**49**	**44.4**	**-0.8**
JCH	**Churui**	**3.27**	**176**	P		**Pn**	**00**	**48**	**55.8**	**-1.0**
JCH				*e*S		**S**	**00**	**49**	**41.0**	**-4.5**
JNBK	**Urakawa-nobuka**	**3.60**	**184**	P		**Pn**	**00**	**49**	**00.4**	**+0.3**
JKB	**Kayabe**	**4.25**	**201**	P		**Pn**	**00**	**49**	**06.2**	**-0.6**
JKB				*e*S		**S**	**00**	**49**	**58.6**	**-5.1**
JOSM	**Okushiri--Mats**	**4.60**	**216**	P		**Pn**	**00**	**49**	**10.4**	**-0.1**
JOT	**Ohata**	**4.73**	**199**	P		**Pn**	**00**	**49**	**11.1**	**-0.9**
JOT				*e*S		**S**	**00**	**50**	**07.4**	**-5.7**
MJAR	**Matsushiro Arr**	**10.02**	**203**	P		**Pn**	**00**	**50**	**15.1**	**+0.8**
	comp=E,1.7nm,0.3s,baz=4.8,slow=12,SNR=8.9									
MJAR	**Matsushiro Arr**	**10.02**	**203**	PN		**Pn**	**00**	**50**	**15.1**	**+0.8**
MJAR				pmax		pmax				
	comp=Z,2.0nm,0.3s									
ULN	**Ulaanbaatar**	**24.57**	**288**	*e*P		**P**	**00**	**52**	**46.9**	**+0.2**
ULN				pmax		pmax				
	comp=Z,3.0nm,0.8s,mb3.6									
ULN	**Ulaanbaatar**	**24.57**	**288**	*e*P		**P**	**00**	**52**	**46.9**	**+0.2**
	comp=Z,2.7nm,0.8s,mb3.5									
SONM	**Songino Array**	**25.01**	**288**	P		**P**	**00**	**52**	**50.9**	**+0.3**
	comp=Z,1.3nm,0.5s,mb3.5,baz=86,slow=8.8,SNR=11									
SONM	**Songino Array**	**25.01**	**288**	P		**P**	**00**	**52**	**50.9**	**+0.2**
SONM				pmax		pmax				
	comp=Z,1.0nm,0.5s									
MKAR	**Makanchi Array**	**41.05**	**294**	P		**P**	**00**	**55**	**07.8**	**-0.1**
	comp=Z,0.8nm,0.5s,mb3.2,baz=79,slow=8.8,SNR=9.8									
MKAR				pP		pP	00	56	04.9	-9.2
	comp=Z,0.6nm,0.6s,baz=147,slow=7.3,SNR=4.7									
MKAR	**Makanchi Array**	**41.05**	**294**	P		**P**	**00**	**55**	**07.9**	**0.0**
MKAR				pmax		pmax				
	comp=Z,1.0nm,0.5s									
MKAR				pmax		pmax				
	comp=Z,1.0nm,0.6s									
KURK	**Kurchatov**	**41.94**	**301**	*e*P		**P**	**00**	**55**	**14.1**	**-1.0**
KURK				pmax		pmax				
	comp=Z,2.0nm,0.4s,mb3.6									
KURK	**Kurchatov**	**41.94**	**301**	*e*P		**P**	**00**	**55**	**14.1**	**-1.1**
	comp=Z,1.7nm,0.4s,mb3.5									
CHKZ	**Chkalovo**	**45.54**	**307**	*e*P		**P**	**00**	**55**	**42.9**	**-0.6**
CHKZ				pmax		pmax				
	comp=Z,1.0nm,0.5s,mb3.2									
CHKZ	**Chkalovo**	**45.54**	**307**	*e*P		**P**	**00**	**55**	**42.9**	**-0.6**
	comp=Z,1.1nm,0.5s,mb3.2									
BVAR	**Borovoye Array**	**45.91**	**307**	P		**P**	**00**	**55**	**45.8**	**-0.5**
	comp=Z,0.4nm,0.4s,mb2.9,baz=67,slow=8.2,SNR=4.0									
BRVK	**Borovoye**	**45.96**	**307**	*e*P		**P**	**00**	**55**	**47.3**	**+0.6**
BRVK				pmax		pmax				
	comp=Z,1.0nm,0.4s,mb3.3									
BRVK	**Borovoye**	**45.96**	**307**	*e*P		**P**	**00**	**55**	**47.3**	**+0.6**
	comp=Z,0.5nm,0.4s,mb3.0									
INK	**Inuvik**	**46.05**	**31**	P		**P**	**00**	**55**	**46.2**	**-1.2**
	comp=Z,1.5nm,0.4s,mb3.5,baz=320,slow=6.2,SNR=10									
INK	**Inuvik**	**46.05**	**31**	*e*P		**P**	**00**	**55**	**46.4**	**-1.0**
INK				pmax		pmax				
	comp=Z,1.0nm,0.4s									
INK	**Inuvik**	**46.05**	**31**	*e*P		**P**	**00**	**55**	**46.4**	**-1.0**
	comp=Z,1.5nm,0.4s,mb3.5									
ZRNK	**Zerenda**	**46.71**	**307**	*e*P		**P**	**00**	**55**	**51.4**	**-1.1**
ZRNK				pmax		pmax				
	comp=Z,1.0nm,0.4s,mb3.4									
ZRNK	**Zerenda**	**46.71**	**307**	*e*P		**P**	**00**	**55**	**51.4**	**-1.1**
	comp=Z,0.9nm,0.4s,mb3.4									
AAK	**Ala-Archa**	**47.85**	**292**	P		**P**	**00**	**56**	**01.0**	**-0.2**
YKA	**Yellowknife Ar**	**55.63**	**33**	P		**P**	**00**	**56**	**57.7**	**-0.5**
	comp=Z,1.9nm,0.6s,mb3.6,baz=308,slow=7.5,SNR=11									
YKA	**Yellowknife Ar**	**55.63**	**33**	P		**P**	**00**	**56**	**57.7**	**-0.5**
YKA				pmax		pmax				
	comp=Z,2.0nm,0.6s									
YKA	**Yellowknife Ar**	**55.63**	**33**	P		**P**	**00**	**56**	**57.7**	**-0.5**
FINES	**FINESS Array B**	**61.63**	**331**	P		**P**	**00**	**57**	**38.3**	**-1.0**
	comp=Z,1.0nm,0.6s,mb3.5,baz=73,slow=8.1,SNR=12									
FINES	**FINESS Array B**	**61.63**	**331**	P		**P**	**00**	**57**	**38.3**	**-1.0**
FINES				pmax		pmax				
	comp=Z,1.0nm,0.6s									
WRAB	**Tennant Creek**	**65.97**	**189**	P		**P**	**00**	**58**	**07.5**	**+0.2**
NVAR	**Mina Array Bea**	**68.86**	**56**	P		**P**	**00**	**58**	**27.7**	**+2.4**
	comp=Z,1.3nm,0.7s,mb3.8,baz=315,slow=4.7,SNR=11									
NVAR	**Mina Array Bea**	**68.86**	**56**	P		**P**	**00**	**58**	**27.7**	**+2.4**
MBWA	**Marble Bar**	**70.00**	**203**	P		**P**	**00**	**58**	**32.8**	**+0.6**
PDAR	**Pinedale Array**	**70.70**	**48**	P		**P**	**00**	**58**	**37.5**	**+1.1**
	comp=Z,1.1nm,0.5s,mb3.8,baz=306,slow=2.6,SNR=16									
ULM	**Lac du Bonnet**	**71.50**	**35**	P		**P**	**00**	**58**	**41.1**	**0.0**
	comp=Z,1.3nm,0.5s,mb3.9,baz=329,slow=5.9,SNR=3.2									
NWAO	**Narrogin (SRO)**	**81.85**	**202**	P		**P**	**00**	**59**	**38.5**	**-0.1**

MAN 19 00:53:51.6, 1661N×12005E, h25km, mb1.6, ML3.5, MS2.5, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time			Res
					Op		h	m	s	ISC
APYP	**Conner**	**1.69**	**42**	*e*P		Pn	00	54	19.6	+0.1
APYP				*e*S		Sn	00	54	39.7	-0.5

GUC 19 01:03:01.3±0.8, 3208S×7180W, h35km±4km, MD3.5, ML2.3, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time			Res
					Op		h	m	s	ISC
CHNG	**Los Chungos**	**0.32**	**52**	⇓*i*P		Pn	01	03	09.0	-0.5
CHNG				*i* S		Sn	01	03	14.9	-0.1
CHNG				AML		AML	01	03	15.2	
	comp=N,184nm,0.4s									
CMCH	**Combarbala**	**1.13**	**37**	⇓*i*P		Pn	01	03	21.4	+0.7
CMCH				*i* S		Sn	01	03	37.2	+2.2
CMCH				AML		AML	01	03	42.4	
	comp=E,277nm,0.4s									
PEL	**Peldehue**	**1.41**	**139**	⇓*i*P		Pn	01	03	26.3	+1.8
PEL				*i* S		Sn	01	03	44.5	+2.6
PEL				AML		AML	01	03	46.3	
	comp=N,144nm,0.5s									
RCDM	**Rinconada Maip**	**1.63**	**150**	⇑*i*P		Pn	01	03	28.9	+1.5
RCDM				*i* S		Sn	01	03	49.8	+2.6
RCDM				AML		AML	01	03	51.3	
	comp=E,78nm,0.1s									
FCH	**Farellones**	**1.77**	**135**	⇑*i*P		Pn	01	03	31.6	+2.1
FCH				*i* S		Sn	01	03	54.6	+3.8
FCH				AML		AML	01	03	57.6	
	comp=N,42nm,0.3s									

ISCJB ***19*** *01:05:44.6±2.2, 1829N±006×1465E±02, h91km±18km, mb4.0/16, Error ellipse: s-maj=30.9km s-min=9.5km az=175.4*
NEIC ***19*** *01:05:45.9±1.5, 1825N×14647E, h85km±13km, mb4.0/7, Error ellipse: s-maj=18.1km s-min=6.3km az=86.0*
IDC ***19*** *01:05:47.4±3.5, 1824N×14643E, h96km±31km, mb3.8/9, mb1 3.9/11, mb1mx3.8/19, mbtmp4.1/11, MS3.5/5, Ms1 3.5/5, ms1mx3.0/35, Error ellipse: s-maj=37.2km s-min=15.6km az=81.0*

ISC 19 01:05:44.8±1.9, 1834N±005×1466E±02, h78km±15km, n32, σ0$ 80/28, mb4.0/16, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time			Res
					Op		h	m	s	ISC
GUMO	**Guam**	**5.01**	**200**	P		**Pn**	**01**	**06**	**57.1**	**-0.4**
	11nm,0.3s,baz=113,slow=9.3,SNR=6.2									
GUMO				S		**Sn**	**01**	**07**	**55.4**	**+1.3**
	8.1nm,0.3s,baz=334,slow=21,SNR=2.2									
GUMO				LR		LR	01	08	50.6	
	comp=Z,302nm,18.7s,baz=123,slow=38									
JOW	**Kunigami**	**18.92**	**300**	LR		LR	01	16	11.2	
	comp=Z,83nm,19.9s,baz=147,slow=33									
MJAR	**Matsushiro Arr**	**19.59**	**339**	P		**Pn**	**01**	**10**	**07.2**	**-1.5**
	0.4nm,0.3s,baz=103,slow=12,SNR=3.1									
MAJO	**Matsushiro**	**19.59**	**339**	*e*P		**Pn**	**01**	**10**	**08.2**	**-0.5**
	3.9nm,0.3s									
ASAJ	**Asahikawa**	**25.92**	**353**	LR		LR	01	21	39.7	
	comp=Z,32nm,19.9s,baz=172,slow=37									
CTAO	**Charters Tower**	**38.19**	**181**	P		**P**	**01**	**12**	**57.0**	**+0.2**
WRAB	**Tennant Creek**	**39.89**	**198**	*e*P		**P**	**01**	**13**	**10.6**	**-0.4**
WB2	**Warramunga Arr**	**39.90**	**198**	*e*P		**P**	**01**	**13**	**09.7**	**-1.3**
WRA	**Warramunga Arr**	**39.91**	**198**	P		**P**	**01**	**13**	**09.8**	**-1.3**
	2.6nm,0.7s,mb4.2,baz=19,slow=9.3,SNR=9.5									
FITZ	**Fitzroy Crossi**	**41.67**	**211**	*e*P		**P**	**01**	**13**	**25.7**	**+0.1**
	9.7nm,1.5s,mb4.3									
AS31	**Alice Springs**	**43.55**	**197**	*e*P		**P**	**01**	**13**	**41.1**	**+0.3**
ASAR	**Alice Springs**	**43.55**	**197**	P		**P**	**01**	**13**	**40.2**	**-0.6**
	1.1nm,0.5s,mb3.8,baz=15,slow=8.2,SNR=16									
ASPA	**Alice Springs**	**43.55**	**197**	*e*P		**P**	**01**	**13**	**41.2**	**+0.3**
ULN	**Ulaanbaatar**	**43.60**	**322**	*e*P		**P**	**01**	**13**	**41.7**	**+0.5**
SONM	**Songino Array**	**43.97**	**321**	P		**P**	**01**	**13**	**45.4**	**+1.2**
	0.5nm,0.6s,mb3.4,baz=143,slow=11,SNR=4.6									
MBWA	**Marble Bar**	**47.27**	**215**	*e*P		**P**	**01**	**14**	**09.7**	**-0.6**
PSI	**Prapat**	**49.18**	**257**	LR		LR	01	34	07.0	
	comp=Z,112nm,20.4s,baz=262,slow=35									
AFI	**Afiamalu**	**52.05**	**125**	LR		LR	01	37	21.7	
	comp=Z,110nm,18.1s,baz=142,slow=36									
NWAO	**Narrogin (SRO)**	**58.20**	**209**	P		**P**	**01**	**15**	**30.9**	**+0.1**
ZAL	**Zalesovo**	**58.84**	**322**	P		**P**	**01**	**15**	**35.4**	**+0.1**
	0.7nm,0.4s,mb4.0,baz=14,slow=7.1,SNR=4.6									
MKAR	**Makanchi Array**	**59.34**	**314**	P		**P**	**01**	**15**	**39.5**	**+0.7**
	1.0nm,0.6s,mb4.0,baz=90,slow=8.6,SNR=11									
KURK	**Kurchatov**	**62.12**	**318**	*e*P		**P**	**01**	**15**	**57.5**	**0.0**
	1.5nm,0.4s,mb4.4									
CHKZ	**Chkalovo**	**67.17**	**321**	*e*P		**P**	**01**	**16**	**30.5**	**+0.1**
	0.6nm,0.5s,mb3.7									
BVAR	**Borovoye Array**	**67.31**	**321**	P		**P**	**01**	**16**	**31.8**	**+0.5**
	2.0nm,0.6s,mb4.2,baz=96,slow=7.7,SNR=14									
BRVK	**Borovoye**	**67.37**	**321**	*e*P		**P**	**01**	**16**	**32.0**	**+0.3**
	1.0nm,0.5s,mb3.9									
ZRNK	**Zerenda**	**68.15**	**320**	*e*P		**P**	**01**	**16**	**37.3**	**+0.7**
	0.5nm,0.3s,mb3.8									
INK	**Inuvik**	**69.36**	**23**	*e*P		**P**	**01**	**16**	**44.2**	**+0.1**
	0.9nm,0.7s,mb3.7									
NVAR	**Mina Array Bea**	**82.67**	**52**	P		**P**	**01**	**18**	**01.4**	**+1.6**
	0.9nm,0.8s,mb3.6,baz=289,slow=10,SNR=4.2									
ARCES	**ARCESS Array B**	**83.10**	**342**	P		**P**	**01**	**18**	**02.9**	**+0.9**
	5.2nm,0.9s,mb4.4,baz=60,slow=7.2,SNR=8.2									
JOF	**Joensuu**	**84.71**	**335**	*e*p		**P**	**01**	**18**	**08.7**	**-1.5**
	3.8nm,0.5s,mb4.6									
FINES	**FINESS Array B**	**87.58**	**336**	P		**P**	**01**	**18**	**23.2**	**-1.0**
	2.0nm,0.6s,mb4.3,baz=90,slow=6.9,SNR=8.8									
LPAZ	**La Paz**	**146.79**	**92**	PKPbc		PKPbc	01	25	22.2	+4.3
	0.4nm,0.4s,baz=286,slow=3.0,SNR=3.7									

MEX 19 01:09:08.1±0.6, 1792N×9972W, h5km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time			Res
					Op		h	m	s	ISC
MEIG	**Mezcala**	**0.09**	**85**	*i* P		Pg	01	09	09.8	-0.3
MEIG				*i* S		Sg	01	09	11.1	-0.3
PLIG	**Platanillo**	**0.51**	**23**	*i* P		Pg	01	09	16.1	-1.8
PLIG				*i* S		Sg	01	09	26.3	+1.6
UTMO	**Huajupan**	**1.82**	**92**	*i* P		Pn	01	09	38.4	-1.7
UTMO				*i* S		Sn	01	10	00.8	-2.8

IDC ***19*** *01:15:27.8±0.7, 967S×10770E, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/17, mbtmp4.0/8, ML3.6/1, Error ellipse: s-maj=30.5km s-min=18.4km az=58.0*
NEIC ***19*** *01:15:29.2±0.4, 968S×10767E, h10km, mb4.2/7, Error ellipse: s-maj=17.0km s-min=7.4km az=57.0*
ISCJB ***19*** *01:15:30.2±0.5, 97S±0.1×1077E±0.1, h33km, mb4.1/13, Error ellipse: s-maj=24.3km s-min=9.0km az=111.6*

ISC 19 01:15:32.5±0.5, 97S±01×1077E±01, h35km, n22, σ0$ 89/18, mb4.1/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time			Res
					Op		h	m	s	ISC
MBWA	**Marble Bar**	**16.24**	**136**	*e*Pn		**Pn**	**01**	**19**	**14.4**	**-3.5**
	3.1nm,0.5s									
KULM	**Kulim**	**16.49**	**335**	Pn		**Pn**	**01**	**19**	**19.5**	**-1.5**
FITZ	**Fitzroy Crossi**	**19.31**	**117**	P		**Pn**	**01**	**19**	**56.5**	**+0.8**
	0.1nm,0.3s,baz=315,slow=14,SNR=4.5									
NWAO	**Narrogin (SRO)**	**24.70**	**160**	*e*P		**P**	**01**	**20**	**50.1**	**-0.2**
	3.5nm,0.6s,mb4.1									
WRA	**Warramunga Arr**	**27.66**	**115**	P		**P**	**01**	**21**	**16.6**	**-0.4**
	2.0nm,0.7s,mb3.9,baz=291,slow=12,SNR=7.1									
WRAB	**Tennant Creek**	**27.67**	**115**	*e*P		**P**	**01**	**21**	**17.3**	**+0.2**
	3.4nm,0.6s,mb4.2									
ASAR	**Alice Springs**	**28.62**	**122**	P		**P**	**01**	**21**	**26.3**	**+0.8**
	1.8nm,0.8s,mb3.9,baz=300,slow=9.8,SNR=13									
ASAR				PcP		PcP	01	24	37.6	+1.7
	0.6nm,0.7s,baz=296,slow

DZM LR LR 01 42 11.7
comp=Z,1μm,20.5s,MS4.4,baz=196,slow=32
AS31 Alice Springs 24.07 218 *e*P **P** **01 34 47.0 +0.3**
ASAR Alice Springs 24.08 218 P **P** **01 34 47.0 +0.3**
comp=Z,24nm,0.6s,mb4.8,baz=52,slow=9.1,SNR=166
ASAR S **S** **01 39 05.9 +5.2**
comp=Z,2.0nm,1.0s,baz=29,slow=21,SNR=2.9
ASAR LR LR 01 44 58.7
comp=Z,850nm,18.4s,MS4.3,baz=316,slow=39
ASAR Alice Springs 24.08 218 P **P** **01 34 47.1 +0.4**
ASAR S **S** **01 39 05.9 +5.3**
ASAR pmax pmax
comp=Z,24nm,0.6s
ASAR smax
comp=E,2.0nm,1.0s
ASAR MLR MLR
comp=Z,850nm,18.4s
ASPA Alice Springs 24.08 218 *e*P **P** **01 34 47.3 +0.5**
ARMA Armidale 25.38 176 *e*P **P** **01 34 58.9 +0.3**
FITZ Fitzroy Crossi 26.95 239 *e*P **P** **01 35 11.9 -0.9**
comp=Z,198nm,0.6s,mb5.8
FITZ Fitzroy Crossi 26.95 239 P **P** **01 35 12.0 -0.8**
comp=Z,166nm,0.9s,mb5.5,baz=72,slow=9.7,SNR=40
FITZ LR LR 01 47 36.9
comp=Z,358nm,18.3s,MS4.0,baz=67,slow=40
FORT Forrest 32.82 216 *e*P **P** **01 36 04.5 -0.2**
comp=Z,51nm,0.7s,mb5.6
MBWA Marble Bar 33.29 238 *e*P **P** **01 36 08.0 -0.9**
comp=Z,24nm,0.7s,mb5.2
TAU Tasmania Unive 37.85 183 P **P** **01 36 51.1 +3.1**
NACB Ninganchiao 39.90 318 P **P** **01 37 03.8 -1.3**
KSM Kuching 39.93 278 *e*P **P** **01 37 05.2 -0.1**
KLBR Kellerberrin 40.03 225⇓ *i*P **P** **01 37 05.0 -1.1**
comp=Z,13nm,0.7s,mb4.8
YHNB Yeheng 40.38 318 *e*P **P** **01 37 08.9 -0.1**
NWAO Narrogin (SRO) 41.16 223 P **P** **01 37 14.9 -0.5**
URZ Urewera 41.44 147 P **P** **01 37 24.0 +6.2**
comp=Z,9.0nm,0.8s,mb4.5,baz=355,slow=9.7,SNR=4.0
QZH Quanzhou 42.45 316 P **P** **01 37 27.4 +1.4**
QZH S **S** **01 43 40.0 -4.2**
QZH LR LR
comp=Z,460nm,22.0s,MS4.3
MJAR Matsushiro Arr 42.68 346 LR LR 01 52 26.7
comp=Z,160nm,21.4s,MS3.9,baz=200,slow=32
MAT Matsushiro 42.68 346 P **P** **01 37 27.5 -0.4**
MAT S **S** **01 43 51.0 +3.5**
MAT Matsushiro 42.68 346 P **P** **01 37 28.0 +0.1**
MAT *e*S **S** **01 43 51.0 +3.5**
SSE Sheshan 45.06 325 P **P** **01 37 47.8 +0.9**
SSE AP pP 01 38 01.3 +0.7
SSE PP PP 01 39 32.8 -0.1
SSE S **S** **01 44 22.0 -0.2**
SSE AMB AMB
comp=Z,16nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,93nm,5.7s
SSE LR LR
comp=N,148nm,23.2s,MS4.0
SSE LR LR
comp=E,148nm,23.2s,MS4.0
SSE LR LR
comp=Z,254nm,19.8s,MS4.2
QIZ Qiongzhong 45.97 302 P **P** **01 37 53.9 -0.3**
QIZ S **S** **01 44 36.6 +1.3**
QIZ SS SS 01 47 50.4 -10
QIZ AMB AMB
comp=Z,19nm,0.9s,mb5.0
QIZ AMB AMB
comp=Z,169nm,2.3s,mb5.6
QIZ LR LR
comp=N,1μm,15.6s,MS5.0
QIZ LR LR
comp=E,1μm,17.2s,MS5.0
QIZ LR LR
comp=Z,1μm,14.7s,MS5.0
QIZ Qiongzhong 45.97 302 *e*P **P** **01 37 54.4 +0.2**
comp=Z,9.1nm,0.6s,mb4.9
NJ2 Nanjing 47.12 323 *e*P **P** **01 38 02.5 -0.6**
NJ2 PP PP 01 39 55.0 +0.7
NJ2 XS sS 01 45 19.0 +4.2
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,480nm,5.7s
NJ2 LR LR
comp=N,2μm,23.6s,MS5.0
NJ2 LR LR
comp=E,1μm,23.0s,MS5.0
KULM Kulim 50.09 281 *e*P **P** **01 38 25.6 -0.4**
DL2 Dalian 50.82 332 P **P** **01 38 31.4 -0.1**
DL2 S **S** **01 45 45.0 +1.3**
DL2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
DL2 AMB AMB
comp=Z,120nm,4.1s
DL2 LR LR
comp=N,100nm,14.0s,MS4.2
DL2 LR LR
comp=E,120nm,14.8s,MS4.2
DL2 LR LR
comp=Z,210nm,17.5s,MS4.2
TIA Tai'an 51.10 326 *e*P **P** **01 38 39.0 +5.4**
YSS Yuzh-Sakhalins 52.06 354⇈ *e*P **P** **01 38 43.3 +2.5**
YSS pmax pmax
comp=Z,12nm,1.3s,mb4.7
GYA Guiyang 52.12 309⇓ *i*P **P** **01 38 41.1 -0.1**
GYA PCP PcP 01 39 53.9 +1.4
GYA PP PP 01 40 39.8 0.0
GYA PPP 01 41 43.3
GYA SCP ScP 01 43 45.4 +0.3
GYA S **S** **01 45 58.5 -3.1**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,110nm,5.0s
GYA LR LR
comp=N,420nm,17.9s,MS4.7
GYA LR LR
comp=E,480nm,18.0s,MS4.7
GYA LR LR
comp=Z,460nm,18.2s,MS4.5
SNY Shenyang 52.33 335⇑ P **P** **01 38 50.0 +7.2**
SNY AP pP 01 39 02.1 +5.4
SNY XP sP 01 39 08.8 +6.2
SNY S **S** **01 46 08.8 +4.3**
SNY XS sS 01 46 40.1 +12
SNY SS SS 01 49 43.0 +0.4
SNY AMB AMB
comp=Z,8.0nm,1.9s,mb4.3
SNY AMB AMB
comp=Z,196nm,3.9s
SNY LR LR
comp=N,190nm,25.5s
SNY LR LR
comp=Z,280nm,29.4s,MS4.1
MDJ Mudanjiang 52.57 342 P **P** **01 38 45.0 +0.5**
MDJ PCP PcP 01 39 51.8 -2.4
MDJ PP PP 01 40 45.6 +1.7
MDJ PCS PcS 01 43 50.4 -2.4
MDJ S **S** **01 46 09.5 +1.7**
MDJ SCS ScS 01 48 29.8 0.0
MDJ AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
MDJ AMB AMB
comp=Z,56nm,7.0s
MDJ LR LR
comp=N,251nm,29.9s,MS4.2
MDJ LR LR
comp=E,164nm,25.6s,MS4.2
MDJ LR LR
comp=Z,344nm,29.4s,MS4.2
MDJ Mudanjiang 52.57 342 *e*P **P** **01 38 42.8 -1.8**
comp=Z,5.5nm,0.6s,mb4.7
NST Nakhon Sawan 53.23 294 P **P** **01 38 50.0 +0.6**
comp=Z,66nm,1.0s,mb5.5
CN2 Changchun 53.26 338 *e*P **P** **01 38 52.0 +2.4**
CN2 *e*S **S** **01 46 18.0 +0.8**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,16.0s,MS4.4
CN2 LR LR
comp=E,200nm,16.0s,MS4.4
CN2 LR LR
comp=Z,200nm,18.0s,MS4.2
BJI Beijing 54.40 329 P **P** **01 39 03.6 +5.6**
BJI S **S** **01 46 36.0 +3.4**
BJI AMB AMB
comp=Z,9.0nm,0.9s,mb4.7
BJI LR LR
comp=N,171nm,18.9s,MS4.3
BJI LR LR
comp=E,196nm,19.0s,MS4.3
BJI LR LR
comp=Z,252nm,25.1s
KMI Kunming 54.59 306 P **P** **01 39 00.3 +1.0**
KMI PP PP 01 41 04.8 +2.7
KMI PPP 01 42 11.1
KMI S **S** **01 46 34.1 -1.1**
KMI SS SS 01 50 16.8 -1.5
KMI AMB AMB
comp=Z,17nm,1.2s,mb5.0
KMI AMB AMB
comp=Z,247nm,5.7s
KMI LR LR
comp=N,274nm,25.8s
KMI LR LR
comp=E,186nm,20.2s
KMI LR LR
comp=Z,194nm,23.4s,MS4.1
XAN Xi'an 54.69 318 P **P** **01 38 59.1 -0.9**
XAN S **S** **01 46 36.9 +0.4**
XAN SS SS 01 50 18.5 -1.3
XAN AMB AMB
comp=Z,15nm,1.3s,mb4.9
XAN LR LR
comp=E,139nm,25.7s
XAN LR LR
comp=Z,170nm,26.9s,MS4.0
CM31 Chiang Mai Arr 55.22 296 *e*P **P** **01 39 05.4 +1.5**
comp=Z,24nm,1.0s,mb5.2
CHG Chiang Mai 55.34 297⇓ P **P** **01 39 05.3 +0.5**
comp=Z,24nm,1.0s,mb5.2
CHTO Chiang Mai 55.34 297⇑ P **P** **01 39 05.7 +0.9**
SNR=9.2
CHTO Chiang Mai 55.34 297 *e*P **P** **01 39 05.9 +1.1**
CHTO pmax pmax
comp=Z,70nm,1.6s,mb5.4
CHTO Chiang Mai 55.34 297 *e*P **P** **01 39 05.9 +1.1**
comp=Z,70nm,1.6s,mb5.4
CD2 Chengdu 56.57 312⇓ *i*P **P** **01 39 13.3 -0.3**
CD2 PP PP 01 41 20.5 +0.7
CD2 S **S** **01 46 58.9 -2.7**
CD2 SS SS 01 50 46.8 -2.7
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
CD2 AMB AMB
comp=Z,80nm,5.9s
CD2 LR LR
comp=E,130nm,19.2s
CD2 LR LR
comp=Z,180nm,20.4s,MS4.2
HHC Hu-ho-hao-te 57.45 326 *e*P **P** **01 39 21.4 +1.6**
HHC PP PP 01 41 28.5 +0.9
HHC S **S** **01 47 07.4 -5.8**
HHC SS SS 01 51 06.1 +2.7
HHC AMB AMB
comp=Z,13nm,0.5s,mb5.2
HHC AMB AMB
comp=Z,127nm,4.9s
HHC LR LR
comp=N,175nm,19.0s,MS4.3
HHC LR LR
comp=E,144nm,17.8s,MS4.3
HHC LR LR
comp=Z,221nm,23.8s
PET Petropavlovsk 58.25 6⇈ *e*P **P** **01 39 27.2 +1.8**
PET pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
LZH Lanzhou 59.27 317 *e*P **P** **01 39 33.5 +1.1**
LZH AP pP 01 39 53.0 +6.4
LZH XP sP 01 40 01.0 +8.5
LZH PP PP 01 41 42.5 -1.2
LZH *e*S **S** **01 47 43.0 +6.2**
LZH SS SS 01 51 30.0 -1.9
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,132nm,5.6s
LZH LR LR
comp=E,911nm,14.7s
LZH LR LR
comp=Z,2μm,15.1s,MS5.3
HIA Hailar 59.99 338 P **P** **01 39 35.5 -1.9**
HIA pmax pmax
comp=Z,17nm,1.0s
HIA Hailar 59.99 338 P **P** **01 39 35.5 -1.9**
comp=Z,17nm,1.0s,mb5.0
PPT Papeete 60.56 107 *e*LQ 01 55 06.5
comp=Z,488nm,24.5s
PPT *e*LR LR 01 57 53.5
comp=Z,128nm,23.2s
PPT Papeete 60.56 107 LR LR 02 01 40.5
comp=Z,119nm,19.2s,MS4.0,baz=307,slow=32
TBI Tubuai 61.26 114 *e*LQ 01 55 49.2
comp=Z,664nm,33.8s
TBI *e*LR LR 01 58 07.6
comp=Z,397nm,32.5s
GTA Gaotai 63.75 319 *e*P **P** **01 40 03.0 +0.4**
GTA PP PP 01 42 26.3 +3.1
GTA PPP 01 43 59.8
GTA S **S** **01 48 35.1 +1.6**
GTA PS 01 49 01.4
GTA SS SS 01 52 46.1 +4.1
GTA AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
GTA AMB AMB
comp=Z,171nm,7.2s
GTA LR LR
comp=N,97nm,16.7s,MS4.2
GTA LR LR
comp=E,90nm,19.4s,MS4.2
GTA LR LR
comp=Z,187nm,16.7s,MS4.3
MA2 Magadan 64.34 1 *e*P **P** **01 40 05.3 -1.2**
ULN Ulaanbaatar 64.57 330 P **P** **01 40 09.3 +1.2**
SNR=10
ULN Ulaanbaatar 64.57 330⇈ *e*P **P** **01 40 07.6 -0.4**
ULN Ulaanbaatar 64.57 330 *e*P **P** **01 40 07.8 -0.2**
comp=Z,16nm,1.1s,mb5.0
SONM Songino Array 64.88 329 P **P** **01 40 09.9 -0.2**
comp=Z,4.9nm,1.0s,mb4.5,baz=142,slow=5.3,SNR=18
SONM LR LR 02 09 14.3
comp=Z,192nm,19.6s,MS4.3,baz=270,slow=37
SONM Songino Array 64.88 329 P **P** **01 40 09.9 -0.2**
SONM pmax pmax
comp=Z,5.0nm,1.0s
SONM MLR MLR
comp=Z,192nm,19.6s
CASY Casey 67.00 196 P **P** **01 40 23.1 -0.5**
ZAK Zakamensk 68.08 330⇓ *i*P **P** **01 40 30.6 +0.1**
ZAK pmax pmax
comp=Z,11nm,0.9s,mb4.9
BOK Bokaro 68.45 298 *e*P **P** **01 40 33.1 +0.3**
BOK AMb AMB 01 40 36.3
comp=Z,42nm,1.2s,mb5.4
YAK Yakutsk 68.57 350⇈ *e*P **P** **01 40 32.7 -0.8**
YAK pmax pmax
comp=Z,18nm,1.3s,mb4.8
BOD Bodaibo 68.89 340 *e*P **P** **01 40 33.8 -1.8**
BOD pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
JIRN Jiri 69.29 302 *e*P **P** **01 40 38.7 +0.7**
comp=Z,69nm,0.8s,mb5.6
GUN Gumba 69.63 302 *e*P **P** **01 40 40.8 +0.7**
comp=Z,144nm,0.8s,mb5.9
PKI Pulchoki 69.93 302 *e*P **P** **01 40 42.0 +0.1**
comp=Z,144nm,1.2s,mb5.8
PKI Pulchoki 69.93 302 *e*P **P** **01 40 42.0 +0.1**
PKI pmax pmax
comp=Z,144nm,1.2s,mb5.8
PALK Pallekele 69.98 280 *e*P **P** **01 40 41.7 -0.6**
comp=Z,10nm,0.9s,mb4.8
MOY Mondy 70.02 330 *e*P **P** **01 40 42.7 +0.2**
KKN Kakani 70.10 302 *e*P **P** **01 40 43.5 +0.5**
comp=Z,111nm,0.9s,mb5.8
KKN Kakani 70.10 302 *e*P **P** **01 40 43.5 +0.5**
KKN pmax pmax
comp=Z,111nm,0.9s,mb5.8
DMN Daman 70.19 302 *e*P **P** **01 40 44.1 +0.5**
comp=Z,419nm,1.5s,mb6.2
GKN Gorkha 70.70 302 *e*P **P** **01 40 46.0 -0.7**
comp=Z,212nm,1.1s,mb6.0
MDRS Chennai 71.31 285 *ex* x 01 41 42.4
KOLN Koldanda 71.52 301 *e*P **P** **01 40 51.8 +0.2**
comp=Z,158nm,1.0s,mb5.9
MIR Mirnyy 72.70 201 *d i*P **P** **01 41 06.5 +7.8**
MIR pmax pmax
comp=Z,280nm,1.5s,mb6.0
VNDA Vanda 72.80 177 P **P** **01 40 59.7 +0.4**
comp=Z,8.3nm,0.9s,mb4.7,baz=330,slow=6.2,SNR=39
VNDA LR LR 02 08 51.9
comp=Z,141nm,21.0s,MS4.2,baz=312,slow=32
SBA Scott Base 73.40 176 *e*P **P** **01 41 04.3 +1.5**
SBA pmax pmax
comp=Z,21nm,1.3s,mb4.9
SBA Scott Base 73.40 176 *e*P **P** **01 41 04.3 +1.5**
comp=Z,21nm,1.3s,mb4.9
BILL Bilibino 73.75 6 *e*P **P** **01 41 02.3 -2.6**
BILL Bilibino 73.75 6 *e*P **P** **01 41 02.3 -2.6**
TRD Trivandrum 73.82 280 *e*P **P** **01 41 04.7 -0.6**
TRD AMb AMB 01 41 08.1
comp=Z,52nm,1.6s,mb5.2
WMQ Urumqi 73.83 318 P **P** **01 41 06.3 +1.0**
NGP Nagpur 73.96 294 *e*P **P** **01 41 05.4 -0.7**
NGP AMb AMB 01 41 09.2
comp=Z,22nm,0.7s,mb5.2
LGTI Lohaghat 74.81 302 *e*P **P** **01 41 11.0 0.0**
AKL Akola 75.73 293 *e*P **P** **01 41 16.2 -0.1**
AKL AMb AMB 01 41 19.9
comp=Z,76nm,1.6s,mb5.4
BHPL Bhopal 75.86 295 *e*P **P** **01 41 16.9 -0.2**
BHPL AMb AMB 01 41 18.0
comp=Z,28nm,0.7s,mb5.3
DGAR Diego Garcia 76.82 264 P **P** **01 41 23.5 +1.0**
NDI New Delhi 77.20 301 *e*P **P** **01 41 23.4 -1.3**
NDI AMb AMB 01 41 25.5
comp=Z,57nm,1.4s,mb5.3
TIXI Tiksi 77.68 353⇈ *e*P **P** **01 41 27.3 0.0**
TIXI pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TIXI Tiksi 77.68 353 *e*P **P** **01 41 29.9 +2.6**
KAD Karad 77.78 289 *e*P **P** **01 41 28.3 +0.4**
KAD AMb AMB 01 41 30.0
comp=Z,50nm,1.3s,mb5.3
SMLA Simla 77.80 303 *e*P **P** **01 41 27.7 -0.3**
SVW2 Sparrevohn 78.17 24 *e*P **P** **01 41 30.0 -0.1**
MKAR Makanchi Array 78.47 320 P **P** **01 41 30.1 -1.6**
comp=Z,4.7nm,1.0s,mb4.4,baz=99,slow=7.5,SNR=13
MKAR Makanchi Array 78.47 320⇈ *e*P **P** **01 41 31.5 -0.2**
AJM Ajmer 78.98 298 *e*P **P** **01 41 34.2 -0.3**
AJM AMb AMB 01 41 37.0
comp=Z,51nm,1.1s,mb5.3
TTA Tatalina 79.04 22 *e*P **P** **01 41 34.8 0.0**
ZAL Zalesovo 79.63 327 P **P** **01 41 35.7 -2.4**
comp=Z,3.4nm,0.8s,mb4.3,baz=354,slow=3.6,SNR=6.0
ZAL Zalesovo 79.63 327 *i* P **P** **01 41 36.5 -1.5**
ZAL pmax pmax
comp=Z,3.0nm,0.8s
ZAL Zalesovo 79.63 327 P **P** **01 41 35.7 -2.4**
SLKM Skilak Lake 80.11 26 *e*P **P** **01 41 39.6 -1.0**
KSH Kashi 80.75 311 P **P** **01 41 45.5 +1.4**
KSH *e*S S 01 51 47.3 -0.7
KSH AMB AMB
comp=Z,38nm,1.1s,mb5.2
KSH LR LR
comp=Z,275nm,12.6s,MS4.8
NVS Novosibirsk 80.82 327 *i* P **P** **01 41 41.9 -2.6**
NVS pmax pmax
comp=N,12nm,1.4s
NVS pmax pmax
comp=E,16nm,1.4s
NVS pmax pmax
comp=Z,15nm,1.4s,mb4.7
PMR Palmer 81.09 25 *e*P **P** **01 41 46.7 +0.8**
SML Sawmill 81.53 25 *e*P **P** **01 41 38.8 -9.4**
IMA2 Indian Mountai 81.63 20 *e*P **P** **01 41 48.3 -0.4**
KZA Kyzart 81.91 314 P **P** **01 41 51.9 +1.7**
SNR=18
KURK Kurchatov 82.04 323 P **P** **01 41 48.8 -2.1**
comp=Z,84nm,1.0s,mb5.6,SNR=9.7
KURK Kurchatov 82.04 323 P **P** **01 41 50.6 -0.3**
SNR=10.0
KURK Kurchatov 82.04 323⇈ *e*P **P** **01 41 49.9 -1.0**
KURK Kurchatov 82.04 323 *e*P **P** **01 41 48.6 -2.3**
comp=Z,18nm,1.1s,mb4.9
MCK McKinley 82.19 23 *e*P **P** **01 41 50.4 -1.3**
UCH Uchtor 82.48 314 P **P** **01 41 54.6 +1.4**
SNR=8.6
FRU Bishkek 82.55 314 *e*P **P** **01 41 54.5 +0.9**
FRU pmax pmax
comp=Z,40nm,1.9s,mb5.1
AAK Ala-Archa 82.59 314 P **P** **01 41 54.2 +0.4**
SNR=6.3
AAK Ala-Archa 82.59 314⇈ *e*P **P** **01 41 52.0 -1.8**
AAK pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
AAK Ala-Archa 82.59 314 *e*P **P** **01 41 53.4 -0.4**
USP Ospenovka 82.73 315 P **P** **01 41 54.7 +0.2**
SNR=8.8
AML Almayashu 83.05 313 P **P** **01 41 57.5 +1.4**
SNR=15
EKS2 Erkin-Say 83.11 314 P **P** **01 41 57.7 +1.3**
SNR=9.8
COLA College 83.14 22 *e*P **P** **01 41 54.7 -1.9**
COLA pmax pmax
comp=Z,38nm,0.8s,mb5.5
COLA College 83.14 22 *e*P **P** **01 41 54.7 -1.9**
comp=Z,38nm,0.8s,mb5.5
MAW Mawson 84.26 203⇓ *i*P **P** **01 42 01.5 -0.9**
comp=Z,7.3nm,0.8s,mb4.9
MAW Mawson 84.26 203 P **P** **01 42 01.6 -0.7**
comp=Z,12nm,1.0s,mb5.0,baz=74,slow=6.2,SNR=17
MAW LR LR 02 17 53.8
comp=Z,203nm,20.3s,MS4.5,baz=75,slow=34
MAW Mawson 84.26 203⇓ *i*P **P** **01 42 01.5 -0.9**
MAW pmax pmax
comp=Z,7.0nm,0.8s
QSPA South Pole Qui 85.00 180 *e*P **P** **01 42 05.9 -0.2**
comp=Z,24nm,1.1s,mb5.2
SIT Sitka 86.00 32 *e*P **P** **01 42 11.3 +0.2**
SIT pmax pmax
comp=Z,21nm,1.2s,mb5.2
SIT Sitka 86.00 32 *e*P **P** **01 42 11.3 +0.3**
comp=Z,21nm,1.2s,mb5.2
DAWY Dawson 86.18 25 *e*P **P** **01 42 11.8 -0.2**
CHKZ Chkalovo 87.56 324 *e*P **P** **01 42 16.7 -2.0**
CHKZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
CHKZ Chkalovo 87.56 324 *e*P **P** **01 42 16.7 -2.0**
comp=Z,6.1nm,0.9s,mb4.8
BRVK Borovoye 87.63 324 P **P** **01 42 18.7 -0.3**
comp=Z,44nm,0.8s,mb5.7,SNR=5.5
BRVK Borovoye 87.63 324 P **P** **01 42 18.3 -0.7**
SNR=5.3
BRVK Borovoye 87.63 324 *e*P **P** **01 42 18.0 -1.0**
ZRNK Zerenda 88.37 323 *e*P **P** **01 42 20.7 -1.8**
ZRNK pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
ZRNK Zerenda 88.37 323 *e*P **P** **01 42 20.6 -1.9**
comp=Z,3.9nm,0.9s,mb4.6
DLBC Dease Lake 89.08 31 *e*P **P** **01 42 27.0 +1.2**
INK Inuvik 89.69 21 *e*P **P** **01 42 27.5 -1.2**
INK pmax pmax
comp=Z,18nm,1.1s
INK Inuvik 89.69 21 *e*P **P** **01 42 27.5 -1.2**
comp=Z,18nm,1.1s,mb5.3
HUMO Hull Mountain 91.32 48 *e*P **P** **01 42 43.4 +7.1**
ISA Isabella 94.29 55 *e*P **P** **01 42 56.6 +6.6**
NVAR Mina Array Bea 94.56 52 P **P** **01 42 52.5 +1.3**
comp=Z,0.4nm,0.7s,baz=254,slow=6.0,SNR=4.0
ARU Arti 94.76 326 *e*P **P** **01 42 42.6 -10**
ARU MLR MLR
comp=Z,200nm,22.5s,MS4.5
ARU MLR MLR
comp=N,60nm,20.5s,MS4.3
ARU MLR MLR
comp=E,100nm,22.0s,MS4.3
DAC Darwin (Calif) 95.03 54 *e*P **P** **01 43 00.1 +6.7**
DAC pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
DAC Darwin (Calif) 95.03 54 *e*P **P** **01 43 00.1 +6.7**
comp=Z,4.5nm,0.9s,mb4.9
BMO Blue Mountains 95.54 46 *e*P **P** **01 43 02.0 +6.3**
TPNV Topopah Spring 96.14 53 *e*P **P** **01 42 59.1 +0.7**

YKA	**Yellowknife Ar**		**96.98**	**28**	P		**P**		**01 43 01.4**	**-0.8**
	comp=Z,1.3nm,0.9s,mb4.4,baz=284,slow=4.9,SNR=5.3									
YKA	**Yellowknife Ar**		**96.98**	**28**	*i* P		**P**		**01 43 01.3**	**-0.9**
YKA					pmax		pmax			
	comp=Z,1.0nm,0.9s									
RPN	**Rapa Nui**		**97.41**	**118**	LR		LR		02 17 09.9	
	comp=Z,123nm,21.1s,MS4.4,baz=124,slow=29									
PDAR	**Pinedale Array**		**101.19**	**48**	P		Pdif		01 43 20.6	-0.4
	comp=Z,0.4nm,0.8s,baz=310,slow=1.2,SNR=3.8									
PHWY	**Pilot Hill**		**104.36**	**49**	*e*Pdif		Pdif		01 43 34.1	-1.0
GDL2	**Guadalupe Moun**		**106.06**	**58**	*e*Pdif		Pdif		01 43 40.0	-2.7
BRG	**Berggiesshubel**		**121.28**	**329**	*e*PKPdf		PKPdf		01 48 23.7	+0.2
BRG	**Berggiesshubel**		**121.28**	**329**	*e*(P)		PKPdf		01 48 24.1	+0.6
	comp=Z,2.0nm,1.0s									
BRG	**Berggiesshubel**		**121.28**	**329**	*e*PKIKP		PKPdf		01 48 24.1	+0.6
BRG					pmax		pmax			
	comp=Z,2.0nm,1.0s									
BRG	**Berggiesshubel**		**121.28**	**329**	P		PKPdf		01 48 24.1	+0.6
WERD	**Werda**		**122.37**	**329**	*e*PKPdf		PKPdf		01 48 25.0	-0.6
KHC	**Kasperske Hory**		**122.48**	**327**	*e*PKPDF		PKPdf		01 48 26.5	+0.7
KHC					*ex*		x		01 48 32.0	
GEC2	**GERESS Array S**		**122.58**	**327**	*e*PKPdf		PKPdf		01 48 25.2	-0.8
GERES	**GERESS Array B**		**122.58**	**327**	PKP		PKPdf		01 48 25.0	-0.9
	comp=Z,1.2nm,0.6s,baz=70,slow=1.6,SNR=13									
GERES	**GERESS Array B**		**122.58**	**327**	PKIKP		PKPdf		01 48 25.0	-1.0
GERES					pmax		pmax			
	comp=Z,1.0nm,0.6s									
WET	**Wettzell**		**122.84**	**328**	*e*PKPdf		PKPdf		01 48 26.6	+0.1
GRA1	**Grafenberg Arr**		**123.38**	**329**	*e*PKPdf		PKPdf		01 48 27.1	-0.4
GRF	**Grafenberg Arr**		**123.38**	**329**	*e*PKP		PKPdf		01 48 27.1	-0.4
HINF	**Hinteralfeld**		**126.81**	**329**	*e*PKIKP		PKPdf		01 48 33.2	-0.9
HAU	**Haudompre**		**126.93**	**330**	*e*PKIKP		PKPdf		01 48 33.3	-1.0
HAU					*eR*					
	comp=Z,99nm,22.5s									
HAU	**Haudompre**		**126.93**	**330**	*e*PKPdf		PKPdf		01 48 33.3	-1.0
HAU					LR		LR			
	comp=Z,100nm,22.5s,MS4.4									
CABF	**La Chapelle**		**128.00**	**329**	*e*PKIKP		PKPdf		01 48 36.3	0.0
LPL	**La Plagne**		**128.37**	**327**	*e*PKIKP		PKPdf		01 48 36.1	-1.0
LPG	**La Plagne**		**128.37**	**327**	*e*PKIKP		PKPdf		01 48 36.5	-0.6
LOR	**Lormes**		**128.66**	**331**	*e*PKIKP		PKPdf		01 48 37.0	-0.6
LOR					*eR*					
	comp=Z,147nm,21.5s									
LOR	**Lormes**		**128.66**	**331**	*e*PKPdf		PKPdf		01 48 37.0	-0.6
LOR					LR		LR			
	comp=Z,150nm,21.5s,MS4.7									
MBDF	**Montbardon**		**128.86**	**327**	*e*PKIKP		PKPdf		01 48 37.4	-0.6
PGF	**Pioggiola**		**128.91**	**323**	*e*PKIKP		PKPdf		01 48 37.4	-0.7
	comp=Z,30nm,1.3s									
SSF	**Saint Saulge**		**128.98**	**331**	*e*PKIKP		PKPdf		01 48 36.9	-1.3
SBF	**Sospel**		**129.03**	**325**	*e*PKIKP		PKPdf		01 48 37.3	-1.0
SMF	**Signal de Mont**		**129.11**	**330**	*e*PKIKP		PKPdf		01 48 37.4	-1.1
AVF	**Avril sur Loir**		**129.25**	**331**	*e*PKIKP		PKPdf		01 48 37.7	-1.0
	comp=Z,11nm,1.2s									
FLN	**La Foliniere**		**129.55**	**335**	*e*PKIKP		PKPdf		01 48 37.7	-1.6
FRF	**La Foret Royal**		**129.66**	**325**	*e*PKIKP		PKPdf		01 48 38.6	-0.9
	comp=Z,32nm,1.5s									
LMR	**La Mourre**		**129.88**	**325**	*e*PKIKP		PKPdf		01 48 39.2	-0.7
VIVF	**Saint-Julien-l**		**129.90**	**328**	*e*PKIKP		PKPdf		01 48 38.5	-1.5
TCF	**Toulx Ste Croi**		**130.16**	**331**	*e*PKIKP		PKPdf		01 48 40.1	-0.4
	comp=Z,13nm,1.2s									
SGMF	**Saint Gilles**		**130.81**	**336**	*e*PKIKP		PKPdf		01 48 40.8	-0.9
LASF	**Ste Croix**		**130.86**	**328**	*e*PKIKP		PKPdf		01 48 40.5	-1.3
ROSF	**Rostrenen**		**131.03**	**336**	*e*PKIKP		PKPdf		01 48 41.1	-1.0
	comp=Z,32nm,1.3s									
MFF	**Saint Martin d**		**131.04**	**333**	*e*PKIKP		PKPdf		01 48 40.4	-1.7
EPF	**Esparros**		**133.42**	**329**	*e*PKIKP		PKPdf		01 48 45.6	-1.0
ETSF	**Etsaut**		**133.97**	**330**	*e*PKIKP		PKPdf		01 48 46.5	-1.2
	comp=Z,25nm,1.5s									
LPAZ	**La Paz**		**136.98**	**120**	PKP		PKPdf		01 48 55.1	+1.8
	comp=Z,2.9nm,1.0s,baz=242,slow=2.5,SNR=9.9									
LPAZ	**La Paz**		**136.98**	**120**	PKIKP		PKPdf		01 48 55.1	+1.8
LPAZ					pmax		pmax			
	comp=Z,3.0nm,1.0s									
SDV	**Santo Domingo**		**139.72**	**82**	*e*PKPdf		PKPdf		01 48 59.1	+0.8
SDV					*e*				01 49 05.4	
EVO	**Evora**		**140.95**	**332**	*e*PKIKP		PKPdf		01 48 58.8	-1.7
EVO					*eR*					
	comp=Z,155nm,23.0s									
SAML	**Samuel**		**144.37**	**113**	*e*PKPdf		PKPdf		01 49 05.1	-1.5
TOA0	**Torodi Ar. Sit**		**147.47**	**287**	*e*PKPdf		PKPdf		01 49 14.0	+2.2
TORD	**Torodi Ar. Bea**		**147.47**	**287**	PKPbc		PKPbc		01 49 14.4	0.0
	comp=Z,15nm,1.0s,baz=43,slow=2.5,SNR=49									
TORD					PP		PP		01 52 42.8	+2.2
	comp=Z,3.9nm,1.2s,baz=56,slow=4.9,SNR=4.2									
BDFB	**Brasilia**		**153.00**	**140**	PKP		PKPdf		01 49 21.9	+1.4
	comp=Z,1.4nm,0.6s,baz=114,slow=2.1,SNR=4.1									
BDFB					PKPbc		PKPbc		01 49 28.3	+0.4
	comp=Z,2.8nm,0.8s,baz=154,slow=1.7,SNR=5.1									
BDFB	**Brasilia**		**153.00**	**140**	PKIKP		PKPdf		01 49 21.9	+1.4
BDFB									01 49 28.3	
BDFB					pmax		pmax			
	comp=Z,1.0nm,0.6s									
BDFB					pmax		pmax			
	comp=Z,3.0nm,0.8s									

*ISCJB **19** 01:32:53.5±0.3, 3753N±002×238W±002, h6km±2km, Error ellipse: s-maj=3.5km s-min=2.2km az=154.0*
*CSEM **19** 01:32:55.0±0.1, 37.39N×2.28W, h2km, ML3.4/17, Error ellipse: s-maj=2.2km s-min=1.3km az=148.0*
*INMG **19** 01:32:55.4±1.0, 3740N×230W, h6km×2km, ML3.1, Error ellipse: s-maj=1.7km s-min=1.2km az=109.0*
*IGIL **19** 01:32:55.5, 3740N×231W, h2km, ML2.8*
*MDD **19** 01:32:55.2±0.2, 3741N×229W, h0km, mbLg2.8/43, Error ellipse: s-maj=2.1km s-min=1.4km az=81.0, PRXIMO III NCHEZ ALBOX CANTORIA III CHERCOS LAROYA MACAEL III OLULA DEL O S JOLA III CAL II TABERNAS. AL I ARBOLEAS BACARES JAR I CAR N TABERNO*
MDD EMS: III-IV ORIA PARTALOA N.
*NEIC **19** 01:32:55.4, 3741N×230W, h3km, MN2.7(MDD), After MDD.*
NEIC Felt [IV] at Oria, Partaloa and Somontin; [III] at Albanchez, Albox, Cantoria, Chercos, Laroya, Macael, Olula del Rio, Senes, Tijola and Urracal; [II] at Tabernas. Also felt at Arboleas, Bacares, Lijar, Lucar, Seron and Taberno.
*SFS **19** 01:32:55.0, 3740N×231W, h0km, ML2.9*
*LDG **19** 01:32:56.5±0.2, 3738N×232W, h5km, Ml3.4/7, Error ellipse: s-maj=4.3km s-min=2.7km az=146.0*

ISC 19 01:32:54.7±0.3**, 3747N**±002×**231W**±002**, h8**km±2km**, n141,** σ1§**19**/261**, 2C-6D, Spain**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EXOR	**Olula del Rio**	**0.11**	**175**	Op Pg		**Pg**	**01 32 56.6**	**-0.7**
EXOR				Lg			01 32 57.6	
EHUE	**Huescar**	**0.41**	**327**	Pg		**Pg**	**01 33 03.0**	**+0.2**
	29nm,0.2s,SNR=7.9							
EHUE				Lg			01 33 11.1	
	179nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**0.50**	**171**	⇓Pg		**Pg**	**01 33 03.7**	**-0.7**
	196nm,0.2s,SNR=18							
ENIJ				Lg			01 33 09.1	
	347nm,0.3s,SNR=16							
EQES	**Quesada**	**0.69**	**299**	Pg		**Pg**	**01 33 08.6**	**+0.5**
	3.2nm,0.1s,SNR=76							
EQES				Lg			01 33 18.3	
	69nm,0.2s							
EQES	**Quesada**	**0.69**	**299**	Pg		**Pg**	**01 33 08.6**	**+0.6**
	3.2nm,0.1s,SNR=76							
EBER	**Berja**	**0.73**	**219**	⇑Pg		**Pg**	**01 33 08.3**	**-0.5**
	308nm,0.3s,SNR=18							
EBER				Lg			01 33 16.8	
	312nm,0.3s,SNR=16							
EBER	**Berja**	**0.73**	**219**	Pg		**Pg**	**01 33 08.3**	**-0.5**
	308nm,0.3s,SNR=18							
EMUR	**La Murta**	**0.93**	**66**	Pg		**Pg**	**01 33 12.0**	**-0.5**
	43nm,0.3s,SNR=590							
EMUR				Lg			01 33 25.6	
	77nm,0.3s,SNR=12							
EMUR	**La Murta**	**0.93**	**66**	Pg		**Pg**	**01 33 12.0**	**-0.6**
	43nm,0.3s,SNR=590							
EQUE	**Quentar**	**0.94**	**254**	⇑Pg		**Pg**	**01 33 12.1**	**-0.6**
	21nm,0.2s,SNR=18							
EQUE				Lg			01 33 25.8	
	86nm,0.3s,SNR=14							
ECOG	**Cogollos-Vega**	**1.02**	**260**	Pg		**Pg**	**01 33 13.8**	**-0.4**
	10nm,0.3s,SNR=23							
ECOG				Lg			01 33 29.0	
	45nm,0.2s,SNR=16							
CART	**Cartagena**	**1.05**	**83**	⇓P		**Pg**	**01 33 14.0**	**-0.8**
CART				S		**Sg**	**01 33 27.0**	**-1.5**
CART	**Cartagena**	**1.05**	**83**	*e*Pg		**Pg**	**01 33 13.7**	**-1.1**
CART				*e*Sg		**Sg**	**01 33 28.8**	**+0.4**
CART	**Cartagena**	**1.05**	**83**	*e*Pg		**Pg**	**01 33 13.7**	**-1.1**
CART	**Cartagena**	**1.05**	**83**	*i* P		**Pg**	**01 33 14.0**	**-0.8**
CART				*e*S		**Sg**	**01 33 27.0**	**-1.4**
CART				*e*Sg		**Sg**	**01 33 28.8**	**+0.4**
EVIA	**Vianos**	**1.18**	**353**	Pg		**Pg**	**01 33 17.5**	**+0.1**
	50nm,0.3s,SNR=74							
EVIA				Lg			01 33 35.3	
	110nm,0.2s,SNR=118							
EGUA	**Guajares**	**1.19**	**238**	Pg		**Pg**	**01 33 16.3**	**-1.1**
	17nm,0.3s,SNR=7.9							
EGUA				Lg			01 33 31.1	
	7.8nm,0.2s,SNR=7.9							
ERON	**Agron**	**1.27**	**250**	Pg		**Pg**	**01 33 18.3**	**-0.9**
	31nm,0.3s,SNR=45							
ERON				Lg			01 33 36.3	
	101nm,0.5s,SNR=6.5							
ETOB	**Tobarra**	**1.32**	**27**	Pg		**Pg**	**01 33 20.2**	**+0.1**
	103nm,0.4s,SNR=229							
ETOB				Lg			01 33 39.4	
	137nm,0.3s,SNR=16							
ETOB	**Tobarra**	**1.32**	**27**	Pg		**Pg**	**01 33 20.2**	**+0.1**
	103nm,0.4s,SNR=229							
EBAN	**Banos Encina**	**1.36**	**301**	Pg		**Pg**	**01 33 20.4**	**-0.4**
	115nm,0.3s,SNR=158							
EBAN				Lg			01 33 40.2	
	130nm,0.2s,SNR=41							
ELOJ	**Sierra Loja**	**1.50**	**258**	Pg		**Pg**	**01 33 24.3**	**+0.7**
	5.6nm,0.2s,SNR=34							
ELOJ				Lg			01 33 45.8	
	5.9nm,0.2s,SNR=15							
EALB	**Alboran**	**1.63**	**201**	Pn		**Pn**	**01 33 23.6**	**-0.1**
	25nm,0.4s,SNR=7.9							
EALB				Sn		**Sn**	**01 33 43.0**	**-1.8**
	82nm,0.4s,SNR=7.9							
EALB	**Alboran**	**1.63**	**201**	Pn		**Pn**	**01 33 23.6**	**-0.1**
	25nm,0.4s,SNR=7.9							
EALB				Sn		**Sn**	**01 33 43.0**	**-1.8**
	82nm,0.4s,SNR=7.9							
MAL	**Malaga**	**1.83**	**247**	*i* P		**Pn**	**01 33 27.4**	**+0.9**
MAL				*e*S		**Sn**	**01 33 54.1**	**+4.2**
EADA	**Adamuz**	**1.93**	**292**	⇓Pn		**Pn**	**01 33 28.1**	**+0.3**
	6.8nm,0.3s,SNR=18							
EADA				Sn		**Sn**	**01 33 52.2**	**0.0**
	12nm,0.3s,SNR=9.0							
EADA				Lg			01 33 57.1	
	40nm,0.2s,SNR=16							
EADA	**Adamuz**	**1.93**	**292**	⇓Pn		**Pn**	**01 33 28.1**	**+0.4**
EADA				Sn		**Sn**	**01 33 52.2**	**0.0**
EADA				Lg			01 33 57.1	
EADA	**Adamuz**	**1.93**	**292**	Pn		**Pn**	**01 33 28.1**	**+0.3**
	6.8nm,0.3s,SNR=18							
EADA				Sn		**Sn**	**01 33 52.2**	**0.0**
	12nm,0.3s,SNR=9.0							
EBEN	**Beniarda**	**2.06**	**52**	Pn		**Pn**	**01 33 28.5**	**-1.1**
	6.0nm,0.3s,SNR=17							
EBEN				Pg		**Pg**	**01 33 31.1**	**-3.0**
	7.7nm,0.3s,SNR=15							
EBEN				Lg			01 34 02.1	
	14nm,0.4s,SNR=7.6							
EBEN	**Beniarda**	**2.06**	**52**	Pn		**Pn**	**01 33 28.5**	**-1.1**
EBEN				Pg		**Pg**	**01 33 34.9**	**+0.7**
EBEN				Lg			01 34 02.1	
EBEN	**Beniarda**	**2.06**	**52**	Pn		**Pn**	**01 33 28.5**	**-1.1**
	6.0nm,0.3s,SNR=17							
EBEN	**Beniarda**	**2.06**	**52**	Pg		**Pg**	**01 33 34.9**	**+0.7**
	7.7nm,0.3s,SNR=15							
EMIJ	**Mijas**	**2.17**	**246**	Pn		**Pn**	**01 33 32.2**	**+1.2**
	10.0nm,0.5s,SNR=9.4							
EMIJ				Lg			01 34 03.9	
	30nm,0.5s,SNR=5.4							
ECHE	**Chera**	**2.37**	**26**	Pn		**Pn**	**01 33 34.5**	**+0.7**
	1.3nm,0.3s,SNR=25							
ECHE				Pg		**Pg**	**01 33 40.7**	**+0.6**
	5.6nm,0.3s,SNR=10.0							
ECHE				Sn		**Sn**	**01 34 03.8**	**+0.7**
	17nm,0.5s,SNR=5.2							
ECHE				Lg			01 34 12.4	
	28nm,0.4s,SNR=8.8							
ECHE	**Chera**	**2.37**	**26**	Pg		**Pg**	**01 33 40.7**	**+0.6**
	5.6nm,0.3s,SNR=10.0							
ECHE				Sn		**Sn**	**01 34 03.8**	**+0.7**
	17nm,0.5s,SNR=5.2							
LIJA	**Lijar**	**2.53**	**258**	*i* P		**Pn**	**01 33 40.0**	**+3.9**
ESDC	**Sonseca Array**	**2.56**	**330**	Pn		**Pn**	**01 33 37.0**	**+0.6**
	0.7nm,0.3s,baz=148,slow=13,SNR=32							
ESDC				Pg		**Pg**	**01 33 43.5**	**-0.3**
	1.8nm,0.3s,baz=148,slow=17,SNR=8.1							
ESDC				Sn		**Sn**	**01 34 07.7**	**-0.1**
	6.7nm,0.3s,baz=148,slow=23,SNR=8.6							
ESDC				Lg			01 34 18.3	
	12nm,0.3s,baz=142,slow=29,SNR=7.3							
ESDC	**Sonseca Array**	**2.56**	**330**	Pn		**Pn**	**01 33 37.0**	**+0.6**
	0.7nm,0.3s,SNR=32							
ESDC	**Sonseca Array**	**2.56**	**330**	Pg		**Pg**	**01 33 43.5**	**-0.2**
	1.8nm,0.3s,SNR=8.1							
ESDC				Sn		**Sn**	**01 34 07.7**	**0.0**
	6.7nm,0.3s,SNR=8.6							
ESLA	**Sonseca Array**	**2.56**	**330**	*e*Pn		**Pn**	**01 33 36.2**	**-0.2**
ESLA				*e*Pg		**Pg**	**01 33 43.5**	**-0.2**
ESLA				*e*Sn		**Sn**	**01 34 11.3**	**+3.5**
ESLA				*e*Sg		**Sg**	**01 34 18.9**	**+2.0**
ESLA	**Sonseca Array**	**2.56**	**330**	*e*Pn		**Pn**	**01 33 36.2**	**-0.2**
ESLA	**Sonseca Array**	**2.56**	**330**	*e*Pg		**Pg**	**01 33 43.5**	**-0.2**
EJIF	**Jimena Fronter**	**2.73**	**249**	Pn		**Pn**	**01 33 38.1**	**-0.6**
	0.3nm,0.1s,SNR=4.0							
EJIF				Pg		**Pg**	**01 33 45.6**	**-1.3**
	20nm,0.6s,SNR=13							
EJIF	**Jimena Fronter**	**2.73**	**249**	Pn		**Pn**	**01 33 38.1**	**-0.6**
EJIF				Pg		**Pg**	**01 33 45.6**	**-1.3**
EJIF				Pn		**Pg**	**01 33 47.3**	**+0.4**
ESPR	**Espera**	**2.90**	**259**	Pn		**Pn**	**01 33 43.5**	**+2.4**
	2.2nm,0.3s,SNR=4.0							
ESPR				Pg		**Pg**	**01 33 46.9**	**-3.3**
	3.3nm,0.2s,SNR=4.0							
ESPR				Sn		**Sn**	**01 34 17.6**	**+1.6**
	10nm,0.2s,SNR=7.9							
ESPR	**Espera**	**2.90**	**259**	Pn		**Pn**	**01 33 43.9**	**+2.8**
ESPR				Pg		**Pg**	**01 33 50.4**	**+0.2**
ESPR				Sn		**Sn**	**01 34 17.6**	**+1.6**
ESPR	**Espera**	**2.90**	**259**	Pn		**Pn**	**01 33 43.9**	**+2.8**
	2.2nm,0.3s,SNR=4.9							
ESPR	**Espera**	**2.90**	**259**	Pg		**Pg**	**01 33 50.4**	**+0.2**
	2.9nm,0.2s,SNR=15							
ESPR				Sn		**Sn**	**01 34 17.6**	**+1.6**
	10nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**3.23**	**26**	Pn		**Pn**	**01 33 46.7**	**+1.0**
	0.8nm,0.4s,SNR=5.8							
EMOS				Pg		**Pg**	**01 33 56.0**	**-0.6**
	7.2nm,0.4s,SNR=16							
EMOS				Sn		**Sn**	**01 34 25.6**	**+1.3**
	6.3nm,0.4s,SNR=8.8							
EMOS				Lg			01 34 36.1	
	16nm,0.5s,SNR=5.6							
EMOS	**Mosqueruela**	**3.23**	**26**	Pn		**Pn**	**01 33 46.7**	**+1.0**
EMOS				Pg		**Pg**	**01 33 56.0**	**-0.6**
EMOS				Sn		**Sn**	**01 34 25.6**	**+1.3**
EMOS				Lg			01 34 35.7	
EMOS	**Mosqueruela**	**3.23**	**26**	Pn		**Pn**	**01 33 46.7**	**+1.0**
	0.8nm,0.4s,SNR=5.8							
EMOS	**Mosqueruela**	**3.23**	**26**	Pg		**Pg**	**01 33 56.0**	**-0.6**
	7.2nm,0.4s,SNR=16							
EMOS				Sn		**Sn**	**01 34 25.6**	**+1.3**
	6.3nm,0.4s,SNR=8.8							
EIBI	**Ibiza**	**3.27**	**60**	Pn		**Pn**	**01 33 45.5**	**-0.7**
	2.1nm,0.1s,SNR=15							
EIBI				Sn		**Sn**	**01 34 23.3**	**-2.1**
	8.6nm,0.3s,SNR=8.1							
EIBI	**Ibiza**	**3.27**	**60**	Pn		**Pn**	**01 33 45.5**	**-0.7**
EIBI				Sn		**Sn**	**01 34 23.4**	**-1.9**
EIBI	**Ibiza**	**3.27**	**60**	Pn		**Pn**	**01 33 45.5**	**-0.7**
	2.1nm,0.1s,SNR=15							
EIBI				Sn		**Sn**	**01 34 23.4**	**-1.9**
	8.6nm,0.3s,SNR=8.1							
EMIN	**Mina Concepcio**	**3.48**	**276**	⇓Pn		**Pn**	**01 33 49.0**	**-0.1**
	2.2nm,0.1s,SNR=18							
EMIN				Sn		**Sn**	**01 34 30.4**	**0.0**
	12nm,0.2s,SNR=6.1							
EMIN				Lg			01 34 46.9	
	17nm,0.3s,SNR=7.4							
EMIN	**Mina Concepcio**	**3.48**	**276**	⇓Pn		**Pn**	**01 33 49.0**	**-0.1**
EMIN				Sn		**Sn**	**01 34 29.9**	**-0.5**
EMIN				Lg			01 34 46.9	
EMIN	**Mina Concepcio**	**3.48**	**276**	Pn		**Pn**	**01 33 49.0**	**-0.1**
	2.2nm,0.1s,SNR=18							
EMIN				Sn		**Sn**	**01 34 29.9**	**-0.5**
	12nm,0.2s,SNR=6.1							
GUD	**Guadarrama**	**3.48**	**336**	Pn		**Pn**	**01 33 51.1**	**+2.0**
	1.3nm,0.2s,SNR=6.3							
GUD				Pg		**Pg**	**01 34 00.8**	**-0.7**
	1.8nm,0.2s,SNR=15							
GUD				Lg			01 34 46.1	
	16nm,0.4s,SNR=12							
GUD	**Guadarrama**	**3.48**	**336**	Pn		**Pn**	**01 33 51.1**	**+2.0**
GUD				Pg		**Pg**	**01 34 01.5**	**+0.1**
GUD				Lg			01 34 46.1	
GUD	**Guadarrama**	**3.48**	**336**	Pg		**Pg**	**01 34 01.5**	**+0.1**
	1.8nm,0.2s,SNR=15							
EBAD	**Badajoz**	**3.93**	**291**	Pn		**Pn**	**01 33 55.1**	**-0.2**
	1.3nm,0.1s,SNR=12							
EBAD				Sn		**Sn**	**01 34 41.5**	**0.0**
	20nm,0.2s,SNR=5.0							
EBAD				Lg			01 35 01.9	
	44nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**3.93**	**291**	Pn		**Pn**	**01 33 55.1**	**-0.2**
EBAD				Sn		**Sn**	**01 34 41.5**	**0.0**
EBAD				Lg			01 35 01.9	
EBAD	**Badajoz**	**3.93**	**291**	Pn		**Pn**	**01 33 55.1**	**-0.2**
	1.3nm,0.1s,SNR=12							
EBAD				Sn		**Sn**	**01 34 41.5**	**0.0**
	20nm,0.2s,SNR=5.0							
ERTA	**Horta de San J**	**4.05**	**30**	Pn		**Pn**	**01 33 58.4**	**+1.5**
	5.0nm,0.5s,SNR=17							
ERTA				Sn		**Sn**	**01 34 45.4**	**+0.9**
	2.1nm,0.2s,SNR=5.0							
ERTA				Lg			01 35 04.5	
	7.0nm,0.4s,SNR=7.8							
ERTA	**Horta de San J**	**4.05**	**30**	Pn		**Pn**	**01 33 58.4**	**+1.5**
ERTA				Sn		**Sn**	**01 34 45.4**	**+0.9**
ERTA				Lg			01 35 02.1	
ERTA	**Horta de San J**	**4.05**	**30**	Pn		**Pn**	**01 33 58.3**	**+1.4**
ERTA				Sn		**Sn**	**01 34 45.3**	**+0.9**
EGRO	**El Granado**	**4.12**	**273**	Pn		**Pn**	**01 33 58.3**	**+0.5**
	1.4nm,0.1s,SNR=5.7							
EGRO				Sn		**Sn**	**01 34 45.7**	**-0.5**
	15nm,0.4s,SNR=7.9							
EGRO				Lg			01 35 04.9	
	5.9nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**4.12**	**273**	Pn		**Pn**	**01 33 58.3**	**+0.5**
EGRO				Sn		**Sn**	**01 34 45.0**	**-1.1**
EGRO				Lg			01 35 04.9	
EGRO	**El Granado**	**4.12**	**273**	Pn		**Pn**	**01 33 58.3**	**+0.5**
	1.4nm,0.1s,SNR=5.7							
EGRO				Sn		**Sn**	**01 34 45.0**	**-1.1**
	15nm,0.4s,SNR=7.9							
PBEJ	**Beja**	**4.44**	**279**	*e*Pn		**Pn**	**01 34 02.7**	**+0.4**
PBEJ				*e*Sn		**Sn**	**01 34 53.0**	**-1.1**
PBEJ								
	11nm,0.6s							
PBEJ	**Beja**	**4.44**	**279**	Pn		**Pn**	**01 34 02.0**	**-0.3**
PBEJ				Sn		**Sn**	**01 34 52.6**	**-1.5**
ESAC	**San Caprasio**	**4.48**	**18**	Pg		**Pg**	**01 34 18.8**	**-1.8**
	5.4nm,0.3s,SNR=7.9							
ESAC				Lg			01 35 17.8	
	42nm,0.3s,SNR=6.1							
ESAC	**San Caprasio**	**4.48**	**18**	Pg		**Pg**	**01 34 18.8**	**-1.8**
	5.4nm,0.3s,SNR=7.9							
ETOS	**Mallorca**	**4.62**	**59**	Pn		**Pn**	**01 34 04.7**	**-0.1**
	1.9nm,0.3s,SNR=6.0							
ETOS				Sn		**Sn**	**01 34 55.0**	**-3.7**
	2.8nm,0.7s,SNR=5.0							
ETOS	**Mallorca**	**4.62**	**59**	Pn		**Pn**	**01 34 04.7**	**-0.1**
	1.9nm,0.3s,SNR=6.0							
EVO	**Evora**	**4.63**	**285**	*e*Pn		**Pn**	**01 34 07.2**	**+2.3**
EVO				*e*Sn		**Sn**	**01 34 57.2**	**-1.6**
EVO				*e*Sg		**Sg**	**01 35 24.3**	**+0.9**
	66nm,0.6s							
PCBR	**Castelo Branco**	**4.69**	**302**	*e*Pn		**Pn**	**01 34 06.9**	**+1.2**
PCBR				*e*Sn		**Sn**	**01 34 59.5**	**-0.8**
PCBR				*e*Sg		**Sg**	**01 35 25.8**	**+0.5**
PCBR				

comp=E,2.2nm,0.5s
ETSF Etsaut 5.59 13 *e*Pn **Pn 01 34 20.5 +2.4**
ETSF *e*Pg **Pg 01 34 41.3 -0.5**
ETSF *e*Sg **Sg 01 35 53.4 -0.8**
ECAL Calabor 5.62 324 Pn **Pn 01 34 18.8 +0.2**
comp=E,1.7nm,0.2s,SNR=5.8
ECAL Sn **Sn 01 35 23.7 +0.4**
comp=E,8.6nm,0.4s,SNR=6.0
ECAL Lg 01 35 56.2
comp=E,19nm,0.5s,SNR=5.6
ECAL Calabor 5.62 324 Pn **Pn 01 34 18.8 +0.2**
ECAL Sn **Sn 01 35 21.3 -2.0**
ECAL Lg 01 35 56.2
ECAL Calabor 5.62 324 Pn **Pn 01 34 18.8 +0.2**
comp=E,1.7nm,0.2s,SNR=5.8
ELIZ Elizondo 5.72 6 Pn **Pn 01 34 21.9 +1.9**
comp=E,4.4nm,0.5s,SNR=7.9
ELIZ Sn **Sn 01 35 27.6 +1.8**
comp=E,1.4nm,0.2s,SNR=4.0
ELIZ Elizondo 5.72 6 Pn **Pn 01 34 21.9 +1.9**
ELIZ Sn **Sn 01 35 24.6 -1.2**
ELIZ Elizondo 5.72 6 Pn **Pn 01 34 21.9 +2.0**
SNR=7.9
ELIZ Sn **Sn 01 35 24.6 -1.2**
SNR=7.9
EALK Alkurruntz 5.78 6 Pn **Pn 01 34 22.9 +2.2**
comp=E,1.5nm,0.1s
EALK Sn **Sn 01 35 28.1 +0.9**
comp=E,5.4nm,0.3s,SNR=4.9
EALK Alkurruntz 5.78 6 Pn **Pn 01 34 22.9 +2.2**
EALK Sn **Sn 01 35 26.5 -0.7**
EALK Alkurruntz 5.78 6 Pn **Pn 01 34 22.9 +2.2**
comp=E,1.5nm,0.1s
EALK Sn **Sn 01 35 26.5 -0.7**
comp=E,6.2nm,0.4s,SNR=4.9
ELAN Lanestosa 5.82 352 Pn **Pn 01 34 22.7 +1.4**
comp=E,1.6nm,0.2s,SNR=12
ELAN Sn **Sn 01 35 26.9 -1.4**
comp=E,3.2nm,0.3s,SNR=8.3
ELAN Lg 01 36 01.3
comp=E,5.2nm,0.4s,SNR=5.0
ELAN Lanestosa 5.82 352 Pn **Pn 01 34 22.8 +1.4**
ELAN Sn **Sn 01 35 25.4 -2.8**
ELAN Lg 01 36 02.9
ELAN Lanestosa 5.82 352 Pn **Pn 01 34 22.8 +1.5**
EPF Esparros 5.92 19 *e*Pn **Pn 01 34 24.9 +2.3**
EPF *e*Sn **Sn 01 35 28.8 -1.8**
EPF *e*Sg **Sg 01 36 03.0 -1.7**
comp=E,16nm,0.7s
EPF Esparros 5.92 19 Pn **Pn 01 34 24.9 +2.3**
EPF Sn **Sn 01 35 28.8 -1.8**
EPF Lg 01 36 03.0
comp=E,7.9nm,0.7s
EPF Esparros 5.92 19 *e*Pn **Pn 01 34 24.9 +2.3**
EPF *e*Sn **Sn 01 35 28.8 -1.8**
PCAB Cabril 6.12 316 *e*Pn **Pn 01 34 26.4 +1.0**
PCAB *e*Sn **Sn 01 35 32.8 -2.8**
PCAB *e*Sg **Sg 01 36 12.1 +0.9**
PCAB
comp=E,14nm,0.7s
PCAB Cabril 6.12 316 Pn **Pn 01 34 25.3 -0.1**
PCAB Sn **Sn 01 35 33.3 -2.3**
PCAB Lg 01 36 12.1
comp=E,7.1nm,0.7s
PCAB Cabril 6.12 316 Pn **Pn 01 34 25.3 -0.1**
PCAB Sn **Sn 01 35 33.3 -2.3**
EARI Arriondas 6.24 340 Pn **Pn 01 34 28.4 +1.5**
comp=E,2.8nm,0.6s,SNR=5.5
EARI Sn **Sn 01 35 35.0 -3.4**
comp=E,3.7nm,0.4s,SNR=4.7
EARI Lg 01 36 14.1
comp=E,5.4nm,0.5s,SNR=5.0
EARI Arriondas 6.24 340 Pn **Pn 01 34 28.4 +1.4**
ELOB Lobios 6.25 317 Pn **Pn 01 34 28.2 +1.1**
comp=E,0.6nm,0.2s,SNR=7.0
ELOB Sn **Sn 01 35 36.8 -1.8**
comp=E,3.7nm,0.3s,SNR=4.7
ELOB Lg 01 36 16.6
comp=E,24nm,0.6s,SNR=5.0
ELOB Lobios 6.25 317 Pn **Pn 01 34 28.2 +1.1**
ELOB Sn **Sn 01 35 36.8 -1.8**
MTLF Montolieu 6.81 29 *e*Pg **Pg 01 35 03.7 -1.4**
MTLF *e*Sn **Sn 01 35 49.7 -2.8**
MTLF *e*Sg **Sg 01 36 30.1 -3.2**
comp=E,13nm,1.1s
MTLF Montolieu 6.81 29 Pn **Pn 01 34 35.9 +1.0**
MTLF Pg **Pg 01 35 03.7 -1.4**
MTLF Sn **Sn 01 35 49.7 -2.8**
MTLF Lg 01 36 30.1
comp=E,6.7nm,1.1s
MTLF Montolieu 6.81 29 *e*Pn **Pn 01 34 35.9 +1.0**
MTLF *e*Pg **Pg 01 35 03.7 -1.4**
MTLF *e*Sn **Sn 01 35 49.7 -2.8**
MTLF *e*Sg **Sg 01 36 30.1 -3.2**
MTLF Montolieu 6.81 29 *e*Pg **Pg 01 35 03.7 -1.4**
MTLF *e*Sn **Sn 01 35 49.7 -2.8**
MTLF *e*Sg **Sg 01 36 30.1 -3.2**
comp=E,6.7nm,1.1s
EPON Pontenova 6.92 329 Lg 01 36 34.6
comp=E,3.1nm,0.5s,SNR=7.9
CAF Calviac 8.15 22 *e*Pn **Pn 01 34 54.4 +1.2**
PGF Pioggiola 10.05 56 *e*Pn **Pn 01 35 20.9 +1.6**
QUIF Quistinic 10.46 357 *e*Pn **Pn 01 35 25.2 +0.2**
QUIF *e*Sn **Sn 01 37 15.6 -6.8**
comp=E,4.5nm,0.5s
QUIF Quistinic 10.46 357 *e*Pn **Pn 01 35 25.2 +0.2**
QUIF *e*Sn **Sn 01 37 15.6 -6.8**
comp=E,2.2nm,0.5s
SGMF Saint Gilles 10.79 359 *e*Pn **Pn 01 35 30.3 +0.9**
SGMF *e*Sn **Sn 01 37 25.1 -5.1**
comp=E,0.2nm,0.2s
SGMF Saint Gilles 10.79 359 *e*Pn **Pn 01 35 30.3 +0.9**
SGMF *e*Sn **Sn 01 37 25.1 -5.1**
comp=E,0.1nm,0.2s
ROSF Rostrenen 10.89 357 *e*Pn **Pn 01 35 30.6 -0.2**
ROSF *e*Sn **Sn 01 37 25.2 -7.6**
comp=E,1.2nm,0.3s
ROSF Rostrenen 10.89 357 *e*Pn **Pn 01 35 30.6 -0.2**
ROSF *e*Sn **Sn 01 37 25.2 -7.6**
comp=E,0.6nm,0.3s

IDC 19 01:42:54.7±3.3, 1574S×17311W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.8/16, mbtmp3.8/4, Error ellipse: s-maj=175.4km s-min=24.5km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.23**	**35**	Pn	Pn	01 43 31.6	-1.3
	35nm,0.3s,baz=232,slow=0.5,SNR=13						
AFI				Sn	Sn	01 43 53.9	-7.2
	128nm,0.3s,baz=217,slow=22,SNR=7.8						
WRA	**Warramunga Arr**	**50.04**	**257**	P	P	01 51 52.4	+1.4
	0.7nm,0.3s,baz=96,slow=7.0,SNR=4.6						
ASAR	**Alice Springs**	**50.27**	**252**	P	P	01 51 51.7	-1.1
	1.4nm,0.8s,baz=93,slow=8.3,SNR=11						
PDAR	**Pinedale Array**	**82.33**	**42**	P	P	01 55 19.1	+0.8
	0.4nm,0.7s,baz=181,slow=3.3,SNR=4.2						
BRTR	**Keskin Array B**	**146.60**	**321**	PKPbc	PKPbc	02 02 39.4	+1.2
	0.3nm,0.6s,baz=65,slow=6.8,SNR=3.7						

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*CSEM **19** 01:51:27.9, 3739N×2061E, h37km, MD3.5/3, After ATH*
*NEIC **19** 01:51:27.9, 3739N×2061E, h37km, MD3.5(ATH), After ATH.*

ATH 19 01:51:27.9, 3739N×2061E, h37km±7km, MD3.5/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.79**	**359**	*e*PN	Pn	01 51 43.5	+1.0
VLS				*e*SN	Sn	01 51 55.7	+2.7
RLS	**Riolos of Patr**	**0.95**	**45**	*e*PN	Pn	01 51 45.9	+1.2
ITM	**Ithomi**	**1.07**	**101**	*e*PN	Pn	01 51 48.2	+1.8
EVR	**Evrytania**	**1.79**	**31**	*e*PN	Pn	01 51 57.9	+1.6

IDC 19 01:58:12.0±2.9, 862S×10731E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.9/4, Error ellipse: s-maj=120.2km s-min=28.1km az=47.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.46**	**116**	P	P	02 04 09.0	+0.4
	0.7nm,0.4s,baz=286,slow=12,SNR=3.2						
SONM	**Songino Array**	**56.21**	**359**	P	P	02 07 54.1	+0.3
	0.6nm,0.5s,baz=179,slow=9.2,SNR=5.0						
MKAR	**Makanchi Array**	**59.50**	**340**	P	P	02 08 17.0	+0.1
	1.1nm,0.4s,baz=150,slow=8.5,SNR=19						
BVAR	**Borovoye Array**	**68.97**	**337**	P	P	02 09 18.9	-0.2
	1.3nm,0.7s,baz=141,slow=9.3,SNR=5.0						

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*IDC **19** 01:58:53.6±0.4, 923S×10836E, h0km, mb5.1/27, mb1 5.1/28, mb1mx5.1/29, mbtmp5.1/28, ML4.4/1, MS4.7/7, Ms1 4.6/7, ms1mx3.9/36, Error ellipse: s-maj=15.1km s-min=10.4km az=53.0*
*ISCJB **19** 01:58:55.4±0.2, 926S±003×10837E±003, h23km, mb5.4/126, MS4.8/133, Error ellipse: s-maj=4.5km s-min=4.0km az=108.7*
*NEIC **19** 01:58:55.2±0.2, 922S×10837E, h10km, mb5.5/37, Error ellipse: s-maj=7.6km s-min=5.1km az=51.0*
*BJI **19** 01:58:55.1, 920S×10840E, h10km, mB5.3, mb5.4, Ms5.0, Msz4.8*
*MOS **19** 01:58:57.4±1.2, 9.10S×10848E, h33km, mb5.7/45, MS4.7/32, Error ellipse: s-maj=10.9km s-min=5.8km az=113.9*

ISC 19 01:58:57.6±0.2, 928S±003×10836E±003, h24km, h24km±1.9km: pP-P, n501, σ0.97/325, mb5.4/125, MS4.8/133, 42C-45D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**2.35**	**35**	⇑*i*P	**Pn**	**01 59 36.4**	**+1.7**
BJII				*i* S	**Sn**	**02 00 00.9**	**-1.9**
JCJI	**Jatiwangi**	**2.78**	**358**	P	**Pn**	**01 59 39.5**	**-1.0**
	9μm,1.1s						
TNG	**Tangerang**	**3.53**	**331**	P	**Pn**	**01 59 53.3**	**+2.4**
	1μm,1.0s						
SBJI	**Serang**	**3.84**	**325**	P	**Pn**	**01 59 56.2**	**+1.0**
	993nm,0.9s						
KLI	**Kotabumi**	**5.60**	**321**	P	**Pn**	**02 00 22.2**	**+2.8**
	352nm,0.7s						
KMMI	**Kalianget**	**5.98**	**69**	P	**Pn**	**02 00 30.9**	**+6.4**
	322nm,0.9s						
NBBI	**Negara**	**6.25**	**82**	P	**Pn**	**02 00 30.6**	**+2.3**
	3μm,0.7s						
DNP	**Denpasar**	**6.79**	**85**	P	**Pn**	**02 00 37.4**	**+1.7**
	3μm,0.7s						
KSI	**Kapahiang**	**8.01**	**314**	P	**Pn**	**02 00 51.3**	**-1.1**
	1μm,0.7s						
KSM	**Kuching**	**10.86**	**10**	*e*P	**Pn**	**02 01 34.7**	**+3.2**
PCI	**Palu**	**14.13**	**55**	P	**Pn**	**02 02 18.9**	**+2.7**
	354nm,1.1s						
PSI	**Prapat**	**15.25**	**321**	Pn	**Pn**	**02 02 24.2**	**-7.1**
	1.3nm,0.3s,baz=147,slow=9.3,SNR=7.3						
PSI				Sn	**Sn**	**02 05 14.8**	**-4.6**
	0.4nm,0.3s,baz=356,slow=21,SNR=8.2						
PSI	**Prapat**	**15.25**	**321**	Pn	**Pn**	**02 02 24.2**	**-7.1**
PSI				Sn	**Sn**	**02 05 14.8**	**-4.6**
MBWA	**Marble Bar**	**16.10**	**138**	*e*Pn	**Pn**	**02 02 37.5**	**-4.8**
	49nm,1.0s						
MBWA				*e*Sn	Sn	02 05 19.4	-21
KULM	**Kulim**	**16.39**	**332**	*e*Pn	**Pn**	**02 02 42.9**	**-3.1**
KKM	**Kota Kinabalu**	**17.12**	**27**	*e*Pn	**Pn**	**02 02 55.6**	**+0.4**
SNG	**Songkhla**	**18.08**	**334**	P	**Pn**	**02 03 11.0**	**+3.9**
FITZ	**Fitzroy Crossi**	**18.92**	**119**	*e*P	**Pn**	**02 03 17.7**	**+0.4**
	77nm,1.0s						
FITZ				*e*S	**Sn**	**02 06 31.2**	**-17**
FITZ	**Fitzroy Crossi**	**18.92**	**119**	P	**Pn**	**02 03 17.7**	**+0.4**
	0.8nm,0.3s,baz=289,slow=8.0,SNR=25						
FITZ				Sn	**Sn**	**02 06 30.8**	**-18**
	0.7nm,0.3s,baz=198,slow=23,SNR=3.5						
BSI	**Banda Aceh**	**19.62**	**318**	P	**Pn**	**02 03 25.3**	**-0.4**
	117nm,1.2s						
BATP	**Bataraza**	**20.27**	**28**	*e*P	**P**	**02 03 32.3**	**+1.0**
AAI	**Ambon**	**20.47**	**76**	P	**P**	**02 03 33.4**	**0.0**
	334nm,0.7s						
PAGZ	**Pagadian**	**22.66**	**42**	*e*P	**P**	**02 04 00.6**	**+3.6**
NNT	**Nongplab**	**23.36**	**338**	P	**P**	**02 04 05.9**	**+1.6**
DAV	**Davao City (W)**	**23.63**	**47**	PFAKE		02 04 20.0	+13
DAV				LR	LR		
	comp=Z,1μm,20.0s,MS4.3						
SNPH	**Sibulan**	**23.70**	**39**	⇑*i*P	**P**	**02 04 09.5**	**+1.9**
BUKP	**Musuan**	**23.82**	**45**	*e*P	**P**	**02 04 09.3**	**+0.6**
KLBR	**Kellerberrin**	**23.85**	**160**	⇑*i*P	**P**	**02 04 08.4**	**-0.6**
	comp=Z,60nm,1.3s,mb4.9						
KAKA	**Kakadu**	**23.88**	**100**	*e*P	**P**	**02 04 09.4**	**+0.2**
	comp=Z,62nm,0.7s,mb5.1						
TBP	**Tagbilaran**	**24.36**	**40**	*e*P	**P**	**02 04 14.2**	**+0.6**
NWAO	**Narrogin (SRO)**	**24.92**	**162**	P	**P**	**02 04 18.7**	**0.0**
	comp=Z,44nm,0.7s,mb5.1,baz=334,slow=10,SNR=25						
NWAO				LR	LR	02 13 12.9	
	comp=Z,1μm,19.0s,MS4.4,baz=333,slow=34						
NST	**Nakhon Sawan**	**26.10**	**342**	P	**P**	**02 04 29.4**	**0.0**
	comp=Z,76nm,0.8s,mb5.3						
WRA	**Warramunga Arr**	**27.24**	**116**	P	**P**	**02 04 39.8**	**+0.2**
	comp=Z,17nm,0.8s,mb4.6,baz=287,slow=11,SNR=36						
WRAB	**Tennant Creek**	**27.24**	**116**	P	**P**	**02 04 40.3**	**+0.6**
	comp=Z,144nm,0.7s,mb5.6,SNR=9.6						
WRAB	**Tennant Creek**	**27.24**	**116**	*e*P	**P**	**02 04 39.9**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,27nm,0.8s,mb4.8						
WRAB				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.5						
WRAB	**Tennant Creek**	**27.24**	**116**	*e*Pn	**P**	**02 04 39.9**	**+0.2**
	comp=Z,27nm,0.8s,mb4.8						
WRAB				LR	LR		
	comp=Z,1μm,19.0s,MS4.5						
WB2	**Warramunga Arr**	**27.25**	**116**	*e*P	**P**	**02 04 39.7**	**-0.1**
QIZ	**Qiongzhong**	**28.17**	**3**	P	**P**	**02 04 49.5**	**+1.5**
QIZ				PP	PP	02 05 37.6	-14
QIZ				PPP		02 05 50.5	
QIZ				S	**S**	**02 09 30.0**	**-2.0**
QIZ				XS	sS	02 09 40.3	-3.6
QIZ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.5						
QIZ				LR	LR		
	comp=N,1μm,16.1s						
QIZ				LR	LR		
	comp=Z,1μm,15.4s,MS4.7						
QIZ	**Qiongzhong**	**28.17**	**3**	PFAKE		02 05 00.0	+12
QIZ				LR	LR		
	comp=Z,860nm,20.0s,MS4.3						
ASPA	**Alice Springs**	**28.29**	**123**	*e*P	**P**	**02 04 49.0**	**-0.1**
AS31	**Alice Springs**	**28.29**	**123**	*e*P	**P**	**02 04 49.0**	**-0.1**
ASAR	**Alice Springs**	**28.29**	**123**	P	**P**	**02 04 47.8**	**-1.3**
	comp=Z,6.7nm,0.9s,mb4.3,baz=294,slow=8.2,SNR=35						
BAKI	**Biak**	**28.75**	**75**	P	**P**	**02 04 52.8**	**-0.4**
	comp=Z,84nm,1.4s,mb5.3						
NANT	**Nan**	**28.91**	**345**	⇑P	**P**	**02 04 56.5**	**+1.9**
	comp=Z,162nm,0.5s,mb6.0						
CM31	**Chiang Mai Arr**	**29.09**	**341**	*e*P	**P**	**02 04 56.9**	**+0.7**
CM31				LR	LR		
	comp=Z,994nm,21.0s,MS4.4						
CHG	**Chiang Mai**	**29.42**	**342**	⇓P	**P**	**02 04 59.2**	**0.0**
	comp=Z,62nm,0.8s,mb5.4						
CHTO	**Chiang Mai**	**29.42**	**342**	P	**P**	**02 04 59.4**	**+0.2**
	SNR=22						
CHTO	**Chiang Mai**	**29.42**	**342**	P	**P**	**02 04 60.0**	**+0.8**
	SNR=10						
CHTO	**Chiang Mai**	**29.42**	**342**	P	**P**	**02 04 60.0**	**+0.8**
	SNR=10						
CHTO	**Chiang Mai**	**29.42**	**342**	P	**P**	**02 04 59.4**	**+0.2**
	SNR=22						
CHTO	**Chiang Mai**	**29.42**	**342**	*e*P	**P**	**02 04 59.3**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,55nm,0.9s,mb5.3						
CHTO				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.5						
CHTO	**Chiang Mai**	**29.42**	**342**	*e*P	**P**	**02 04 59.3**	**+0.1**
	comp=Z,55nm,0.9s,mb5.3						
CHTO				LR	LR		
	comp=Z,1μm,20.0s,MS4.5						
PALK	**Pallekele**	**32.09**	**300**	PFAKE		02 05 30.0	+7.3
PALK				LR	LR		
	comp=Z,1μm,20.0s,MS4.5						
GZH	**Guangzhou**	**32.54**	**9**	P	**P**	**02 05 31.3**	**+4.7**
GZH				S	**S**	**02 10 49.8**	**+9.3**
GZH				LR	LR		
	comp=N,1μm,14.3s,MS4.8						
GZH				LR	LR		
	comp=E,614nm,14.3s,MS4.8						
GZH				LR	LR		
	comp=Z,1μm,13.7s,MS4.8						
KMI	**Kunming**	**34.63**	**351**	P	**P**	**02 05 46.1**	**+1.2**
KMI				AP	pP	02 05 57.1	+5.0
KMI				XP	sP	02 06 00.9	+5.8
KMI				PP	PP	02 07 02.9	-0.6
KMI				PPP		02 07 18.5	
KMI				S	**S**	**02 11 10.4**	**-2.5**
KMI				XS	sS	02 11 29.3	+4.4
KMI				AMB	AMB		
	comp=Z,36nm,1.3s,mb5.1						
KMI				AMB	AMB		
	comp=Z,167nm,3.4s						
KMI				LR	LR		
	comp=N,2μm,15.5s,MS5.1						
KMI				LR	LR		
	comp=E,2μm,16.7s,MS5.1						
KMI				LR	LR		
	comp=Z,2μm,13.8s,MS5.1						
QZH	**Quanzhou**	**35.45**	**16**	P	**P**	**02 05 53.0**	**+1.1**
QZH				S	**S**	**02 11 25.0**	**-0.5**
QZH				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
QZH				AMB	AMB		
	comp=Z,380nm,4.6s						
QZH				LR	LR		
	comp=N,3μm,19.0s,MS5.1						
QZH				LR	LR		
	comp=E,1μm,19.4s,MS5.1						
QZH				LR	LR		
	comp=Z,1μm,17.2s,MS4.7						
GYA	**Guiyang**	**35.56**	**357**	⇑*i*P	**P**	**02 05 54.0**	**+1.1**
GYA				AP	pP	02 05 58.9	-1.2
GYA				XP	sP	02 06 02.1	-1.0
GYA				PP	PP	02 07 14.4	+0.6
GYA				PCP	PcP	02 08 22.9	+1.4
GYA				S	**S**	**02 11 28.8**	**+1.5**
GYA				SCP	ScP	02 12 07.3	+1.4
GYA				SS	SS	02 13 48.1	-14
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
GYA				AMB	AMB		
	comp=Z,150nm,4.2s						
GYA				LR	LR		
	comp=N,870nm,14.3s,MS4.8						
GYA				LR	LR		
	comp=E,740nm,14.8s,MS4.8						
GYA				LR	LR		
	comp=Z,670nm,14.0s,MS4.5						
MDRS	**Chennai**	**35.67**	**308**	*ex*	x	02 06 51.5	
YHNB	**Yeheng**	**36.05**	**20**	*e*P	**P**	**02 05 56.8**	**-0.3**
TATO	**Taipei**	**36.38**	**20**	PFAKE		02 06 10.0	+10
TATO				LR	LR		
	comp=Z,1μm,20.0s,MS4.6						
CTA	**Charters Tower**	**38.11**	**111**	*e*P	**P**	**02 06 16.1**	**+1.6**
	comp=Z,17nm,0.7s,mb4.9						
CTA	**Charters Tower**	**38.11**	**111**	P	**P**	**02 06 16.2**	**+1.8**
	comp=Z,33nm,0.9s,mb5.0,baz=269,slow=11,SNR=12						
CTA	**Charters Tower**	**38.11**	**111**	*e*P	**P**	**02 06 16.1**	**+1.6**
CTA				pmax	pmax		
	comp=Z,17nm,0.7s						
CTAO	**Charters Tower**	**38.11**	**111**	*e*P	**P**	**02 06 16.2**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,56nm,1.3s,mb5.1						
CTAO				MLR	MLR		
	comp=Z,934nm,19.0s,MS4.6						
CTAO	**Charters Tower**	**38.11**	**111**	*e*P	**P**	**02 06 16.2**	**+1.7**
	comp=Z,56nm,1.3s,mb5.1						
CTAO				LR	LR		
	comp=Z,934nm,19.0s,MS4.6						
STKA	**Stephens Creek**	**38.13**	**131**	*e*P	**P**	**02 06 14.7**	**0.0**
	comp=Z,56nm,0.8s,mb5.3						
STKA				*e*		02 06 25.0	
STKA	**Stephens Creek**	**38.13**	**131**	P	**P**	**02 06 14.8**	**+0.2**
	comp=Z,64nm,0.8s,mb5.4,baz=304,slow=8.2,SNR=95						
PMG	**Port Moresby**	**38.27**	**93**	PFAKE		02 06 30.0	+14
PMG				LR	LR		
	comp=Z,858nm,20.0s,MS4.6						
BOK	**Bokaro**	**39.54**	**327**	*e*P	**P**	**02 06 25.5**	**-1.0**
BOK				AMb	AMB	02 06 28.4	
	comp=Z,131nm,0.7s,mb5.8						
HYB	**Hyderabad**	**39.64**	**312**	*i* P	**P**	**02 06 27.5**	**+0.1**
HYB	**Hyderabad**	**39.64**	**312**	*e*P	**P**	**02 06 27.5**	**+0.1**
WHN	**Wuhan**	**40.01**	**8**	P	**P**	**02 06 31.9**	**+1.4**
CD2	**Chengdu**	**40.21**	**354**	⇑*i*P	**P**	**02 06 31.9**	**-0.2**
CD2				AP	pP	02 06 36.4	-3.0
CD2				XP	sP	02 06 38.9	-3.4
CD2				PP	PP	02 08 08.9	+4.2
CD2				PCP	PcP	02 08 36.5	+0.7
CD2				SCP	ScP	02 12 23.9	+0.5
CD2				S	**S**	**02 12 38.9**	**+1.3**
CD2				XS	sS	02 12 46.4	-3.2
CD2				SS	SS	02 15 31.4	-4.5
CD2				SCS	ScS	02 16 36.0	-1.1
CD2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
CD2				AMB	AMB		
	comp=Z,180nm,9.2s						
CD2				LR	LR		
	comp=E,770nm,16.8s						
CD2				LR	LR		
	comp=Z,520nm,14.4s,MS4.5						
JOW	**Kunigami**	**40.77**	**28**	P	**P**	**02 06 36.6**	**-0.1**
	comp=Z,144nm,0.8s,mb5.6,baz=237,slow=6.7,SNR=33						
JOW				LR	LR	02 25 15.8	
	comp=Z,824nm,20.3s,MS4.6,baz=332,slow=39						
NGP	**Nagpur**	**41.76**	**317**	*e*P	**P**	**02 06 44.9**	**0.0**
NGP				AMb	AMB	02 06 47.8	
	comp=Z,109nm,0.9s,mb5.5						
NGP				*ex*	x	02 06 55.2	
NGP				*ex*	x	02 06 56.9	
	comp=E,9.6nm,0.6s						
SSE	**Sheshan**	**41.99**	**17**	P	**P**	**02 06 47.4**	**+0.7**
SSE				AP	pP	02 06 50.5	-3.6
SSE				XP	sP	02 06 51.8	-5.2
SSE				PP	PP	02 08 24.5	+0.5
SSE				S	**S**	**02 13 06.4**	**+2.3**
SSE				XS	sS	02 13 11.3	-4.9
SSE				SCS	ScS	02 16 50.3	+2.5
SSE				AMB	AMB		
	comp=Z,97nm,1.0s,mb5.4						
SSE				AMB	AMB		
	comp=Z,144nm,5.4s						
SSE				LR	LR		
	comp=N,508nm,18.1s,MS4.5						
SSE				LR	LR		
	comp=E,314nm,18.1s,MS4.5						
SSE				LR	LR		
	comp=Z,517nm,20.6s,MS4.4						
NJ2	**Nanjing**	**42.31**	**13**	*e*P	**P**	**02 06 47.3**	**-2.0**
NJ2				AP	pP	02 06 57.1	+0.4
NJ2				XP	sP	02 07 01.1	+1.5
NJ2				PP	PP	02 08 28.0	+0.5
NJ2				S	**S**	**02 13 04.0**	**-4.8**
NJ2				XS	sS	02 13 21.0	+0.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,480nm,5.7s						
NJ2				LR	LR		
	comp=N,1μm,21.6s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,22.0s,MS4.9						
NJ2				LR	LR		
	comp=Z,6μm,22.0s,MS5.4						
JIRN	**Jiri**	**42.54**	**330**	*e*P	**P**	**02 06 51.8**	**+0.6**
	comp=Z,317nm,0.8s,mb6.1						
PKI	**Pulchoki**	**42.85**	**329**	*e*P	**P**	**02 06 54.2**	**+0.4**
	comp=Z,170nm,0.9s,mb5.8						
PKI	**Pulchoki**	**42.85**	**329**	*e*P	**P**	**02 06 54.2**	**+0.4**
PKI				pmax	pmax		
	comp=Z,170nm,0.9s,mb5.8						
AKL	**Akola**	**42.87**	**314**	*e*P	**P**	**02 06 54.1**	**+0.2**
AKL				AMb	AMB	02 06 58.5	
	comp=Z,98nm,3.0s,mb5.0						
KAD	**Karad**	**42.89**	**308**	*e*P	**P**	**02 06 54.1**	**+0.1**
KAD				AMb	AMB	02 07 05.4	
	comp=Z,63nm,1.0s,mb5.3						
GUN	**Gumba**	**42.90**	**330**	*e*P	**P**	**02 06 54.6**	**+0.5**
	comp=Z,375nm,0.8s,mb6.2						
DMN	**Daman**	**43.04**	**329**	*e*P	**P**	**02 06 55.3**	**0.0**
	comp=Z,337nm,0.8s,mb6.1						
XAN	**Xi'an**	**43.09**	**1**	P	**P**	**02 06 55.4**	**-0.2**
XAN				AP	pP	02 07 03.8	+0.8
XAN				XP	sP	02 07 07.8	+1.9
XAN				AMB	AMB		
	comp=Z,132nm,0.9s,mb5.7						
XAN				LR	LR		
	comp=N,664nm,16.1s,MS4.8						
XAN				LR	LR		
	comp=E,867nm,18.9s,MS

XAN LR LR
comp=Z,1μm,16.1s,MS4.9
KKN Kakani 43.10 329 *e*P **P 02 06 56.3 +0.6**
comp=Z,298nm,0.9s,mb6.0
KKN Kakani 43.10 329 *e*P **P 02 06 56.3 +0.6**
KKN pmax pmax
comp=Z,298nm,0.9s,mb6.0
GKN Gorkha 43.60 329 *e*P **P 02 06 59.5 -0.3**
comp=Z,336nm,0.9s,mb6.1
POO Poona 43.86 309 ⇓ *i*P **P 02 07 00.0 -1.8**
comp=Z,50nm,1.0s,mb5.2
KOLN Koldanda 43.95 328 *e*P **P 02 07 02.9 +0.3**
comp=Z,462nm,0.8s,mb6.2
BHPL Bhopal 44.28 317 *e*P **P 02 07 05.2 0.0**
BHPL AMb AMB 02 07 08.4
comp=Z,95nm,0.8s,mb5.6
LZH Lanzhou 45.33 355 *e*P **P 02 07 14.4 +0.8**
LZH AP pP 02 07 20.0 -1.0
LZH XP sP 02 07 23.0 -0.9
LZH PP PP 02 09 02.6 +2.8
LZH AMB AMB
comp=Z,102nm,1.3s,mb5.5
LZH AMB AMB
comp=Z,211nm,4.5s
LZH LR LR
comp=E,2μm,14.7s
LZH LR LR
comp=Z,3μm,16.2s,MS5.3
TIA Tai'an 46.00 10 P **P 02 07 17.8 -1.1**
TIA AMB AMB
comp=Z,92nm,0.8s,mb5.8
LGTI Lohaghat 47.08 326 *i* P **P 02 07 25.5 -1.9**
PTH Pithoragarh 47.18 326 *ex* x 02 07 31.2
NDI New Delhi 48.26 322 *e*P **P 02 07 35.2 -1.3**
NDI AMb AMB 02 07 37.7
comp=Z,117nm,0.9s,mb5.9
AJM Ajmer 48.33 318 *e*P **P 02 07 37.2 +0.1**
AJM AMb AMB 02 07 40.2
comp=Z,68nm,0.5s,mb5.9
GTA Gaotai 49.09 351 *e*P **P 02 07 43.6 +0.7**
GTA AP pP 02 07 51.6 +1.2
GTA XP sP 02 07 54.8 +1.5
GTA PCP PcP 02 09 03.4 -2.9
GTA PP PP 02 09 39.1 +2.5
GTA PPP 02 10 31.9
GTA AMB AMB
comp=Z,50nm,1.0s,mb5.5
GTA AMB AMB
comp=Z,283nm,6.9s
GTA LR LR
comp=N,887nm,19.8s,MS4.9
GTA LR LR
comp=E,749nm,18.3s,MS4.9
GTA LR LR
comp=Z,187nm,16.7s,MS4.2
DL2 Dalian 49.51 14 P **P 02 07 45.1 -1.0**
DL2 *e*S **S 02 14 51.8 -0.5**
DL2 AMB AMB
comp=Z,40nm,0.8s,mb5.5
DL2 LR LR
comp=N,410nm,18.8s,MS4.5
DL2 LR LR
comp=E,150nm,18.5s,MS4.5
DL2 LR LR
comp=Z,440nm,18.7s,MS4.5
INCN Inchon 49.57 19 PFAKE 02 08 00.0 +13
INCN LR LR
comp=Z,411nm,20.0s,MS4.4
BJT Baijiatuau 49.58 8 *e*P **P 02 07 46.1 -0.6**
BJT pmax pmax
comp=Z,102nm,0.8s
BJT MLR MLR
comp=Z,915nm,19.0s
BJT Baijiatuau 49.58 8 *e*P **P 02 07 46.1 -0.6**
comp=Z,102nm,0.8s,mb5.9
BJT LR LR
comp=Z,915nm,19.0s,MS4.8
BJI Beijing 49.60 8 P **P 02 07 45.9 -0.9**
BJI S **S 02 15 01.8 +8.2**
BJI AMB AMB
comp=Z,153nm,0.8s,mb6.1
BJI AMB AMB
comp=Z,365nm,3.7s
BJI LR LR
comp=N,730nm,17.2s,MS4.9
BJI LR LR
comp=E,706nm,17.2s,MS4.9
BJI LR LR
comp=Z,601nm,18.0s,MS4.6
BTO Baotou 49.66 2 *e*P **P 02 07 46.6 -0.7**
HHC Hu-ho-hao-te 49.97 3 *e*P **P 02 07 49.4 -0.2**
HHC AP pP 02 07 54.3 -2.8
HHC XP sP 02 07 56.8 -3.2
HHC PCP PcP 02 09 08.8 -0.7
HHC PP PP 02 09 44.4 -0.2
HHC AMB AMB
comp=Z,54nm,1.0s,mb5.5
HHC AMB AMB
comp=Z,93nm,4.2s
HHC LR LR
comp=N,758nm,15.5s,MS4.9
HHC LR LR
comp=E,356nm,13.1s,MS4.9
HHC LR LR
comp=Z,730nm,15.5s,MS4.8
SMLA Simla 50.09 325 *e*P **P 02 07 49.7 -0.8**
SMLA AMb AMB 02 07 51.8
comp=Z,150nm,0.9s,mb6.0
SDNR Sundarnagar 50.48 325 *e*P **P 02 07 53.8 +0.4**
SNY Shenyang 52.74 14 ⇑P **P 02 08 08.9 -1.5**
SNY XP sP 02 08 15.8 -5.0
SNY S **S 02 15 33.3 -3.7**
SNY XS sS 02 15 43.8 -5.6
SNY AMB AMB
comp=Z,42nm,1.4s,mb5.2
SNY LR LR
comp=E,379nm,14.1s
SNY LR LR
comp=Z,726nm,14.3s,MS4.9
MAJO Matsushiro 53.52 30 *e*P **P 02 08 14.3 -1.9**
MAJO MLR MLR
comp=Z,356nm,19.0s,MS4.4
MAT Matsushiro 53.52 30 P **P 02 08 13.9 -2.3**
MAT S **S 02 15 51.8 +4.1**
MAT Matsushiro 53.52 30 *e*P **P 02 08 14.0 -2.2**
MAT *e*S S 02 15 23.0 -25
MAT LR LR
comp=Z,350nm,19.0s,MS4.4
MJAR Matsushiro Arr 53.52 30 P **P 02 08 14.3 -1.8**
comp=Z,14nm,0.8s,mb4.9,baz=211,slow=8.0,SNR=19
MJAR Matsushiro Arr 53.52 30 P **P 02 08 14.3 -1.8**
CN2 Changchun 55.07 15 *e*P **P 02 08 29.3 +1.9**
CN2 *e*AP pP 02 08 36.3 +1.4
CN2 *e*S **S 02 16 10.3 +1.9**
CN2 AMB AMB
comp=Z,40nm,1.5s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,500nm,18.0s,MS4.7
CN2 LR LR
comp=E,400nm,18.0s,MS4.7
CN2 LR LR
comp=Z,500nm,16.0s,MS4.7
WMQ Urumqi 56.09 342 P **P 02 08 36.3 +1.6**
WMQ AP pP 02 08 40.8 -1.5
WMQ XP sP 02 08 43.3 -1.9
WMQ PCP PcP 02 09 34.4 +1.8
WMQ PP PP 02 10 42.6 +2.8
WMQ SCP ScP 02 13 31.5 +1.3
WMQ AMB AMB
comp=Z,96nm,1.7s,mb5.5
WMQ AMB AMB
comp=Z,455nm,5.1s
WMQ LR LR
comp=N,2μm,17.8s,MS5.4
WMQ LR LR
comp=E,2μm,16.7s,MS5.4
WMQ LR LR
comp=Z,2μm,18.3s,MS5.3
VLA Vladivostok 56.39 21 *de*P **P 02 08 35.6 -1.3**
VLA pmax pmax
comp=Z,51nm,0.9s,mb5.5
VLA Vladivostok 56.39 21 *i* P **P 02 08 37.5 +0.6**
SONM Songino Array 56.89 358 P **P 02 08 40.4 0.0**
comp=Z,37nm,0.8s,mb5.5,baz=172,slow=8.6,SNR=209
ULN Ulaanbaatar 56.91 359 P **P 02 08 41.2 +0.7**
SNR=31
ULN Ulaanbaatar 56.91 359 ⇑ *e*P **P 02 08 40.7 +0.1**
ULN Ulaanbaatar 56.91 359 *e*P **P 02 08 40.5 0.0**
comp=Z,71nm,0.9s,mb5.7
ULN LR LR
comp=Z,539nm,21.0s,MS4.6
MDJ Mudanjiang 56.98 18 P **P 02 08 40.6 -0.5**
MDJ PCP PcP 02 09 35.9 -0.2
MDJ PP PP 02 10 47.4 -0.3
MDJ AMB AMB
comp=Z,31nm,1.0s,mb5.3
MDJ AMB AMB
comp=Z,69nm,5.2s
MDJ LR LR
comp=N,340nm,17.8s,MS4.6
MDJ LR LR
comp=E,274nm,18.7s,MS4.6
MDJ LR LR
comp=Z,359nm,18.7s,MS4.5
MDJ Mudanjiang 56.98 18 *e*P **P 02 08 40.5 -0.6**
comp=Z,22nm,1.0s,mb5.1
MDJ LR LR
comp=Z,409nm,20.0s,MS4.5
KSH Kashi 57.10 330 P **P 02 08 41.6 -0.3**
KSH *e*AP pP 02 08 49.4 -0.1
KSH *e*XP sP 02 08 51.3 -1.1
KSH *e*PCP PcP 02 09 37.8 +1.2
KSH *e*PP PP 02 10 49.6 +0.8
KSH *e*PPP 02 12 05.1
KSH *e*SCP ScP 02 13 36.0 +1.3
KSH *e*S **S 02 16 33.5 -2.0**
KSH *e*XS sS 02 16 44.1 -3.8
KSH *e*PS 02 16 53.4
KSH *e*SCS ScS 02 18 25.3 -4.4
KSH AMB AMB
comp=Z,383nm,4.1s
KSH LR LR
comp=N,273nm,4.4s
KSH LR LR
comp=E,251nm,6.4s
KSH LR LR
comp=Z,1μm,19.7s,MS4.9
MIR Mirnyy 58.14 187 *e*P **P 02 08 49.5 +0.2**
MIR pmax pmax
comp=Z,310nm,1.0s,mb6.3
WSAR Wadi Sarin 58.40 305 P **P 02 08 51.8 +0.7**
comp=Z,7.2nm,0.7s,mb4.8,baz=141,slow=7.5,SNR=9.5
WSAR LR LR 02 32 34.1
comp=Z,910nm,20.2s,MS4.9,baz=54,slow=35
SMDO Samad 58.79 304 P **P 02 08 54.5 +0.8**
SNR=9.4
SMDO Samad 58.79 304 P **P 02 08 54.5 +0.8**
SNR=9.4
HIA Hailar 59.15 9 *e*P **P 02 08 55.4 -0.9**
HIA *e* 02 09 06.5
HIA pmax pmax
comp=Z,6.0nm,0.6s
HIA MLR MLR
comp=Z,633nm,19.0s
HIA Hailar 59.15 9 *e*P **P 02 08 55.4 -0.9**
comp=Z,6.5nm,0.6s,mb4.8
HIA *e* 02 09 06.5
HIA LR LR
comp=Z,633nm,19.0s,MS4.8
BSY Bisya 59.35 303 P **P 02 08 58.3 +0.6**
SNR=7.0
BSY Bisya 59.35 303 P **P 02 08 58.3 +0.6**
SNR=7.0
BSY Bisya 59.35 303 P **P 02 08 58.3 +0.6**
SNR=7.0
KZA Kyzart 59.44 332 P **P 02 08 58.4 +0.2**
SNR=20
ZAK Zakamensk 59.58 356 *e*P **P 02 08 58.6 -0.6**
ZAK *e* 02 09 46.5
ZAK pmax pmax
comp=Z,16nm,1.4s,mb4.9
ZAK pmax pmax
comp=Z,8.0nm,1.6s,mb4.5
HOQ Hoqain 59.63 304 P **P 02 09 00.3 +0.7**
SNR=8.9
HOQ Hoqain 59.63 304 P **P 02 09 00.3 +0.7**
SNR=8.9
HOQ Hoqain 59.63 304 P **P 02 09 00.3 +0.7**
SNR=8.9
OPO Ambohidratompo 59.86 254 P **P 02 09 02.7 +1.6**
comp=Z,20nm,0.8s,mb5.2,baz=84,slow=4.9,SNR=24
UCH Uchtor 59.90 331 P **P 02 09 01.7 +0.3**
SNR=12
TKM2 Tokmak 2 59.94 333 P **P 02 09 01.7 0.0**
SNR=60
TKM2 Tokmak 2 59.94 333 *i* P **P 02 09 00.4 -1.3**
TKM2 pmax pmax
comp=Z,49nm,0.7s,mb5.7
KBK Karagaybulak 60.02 332 P **P 02 09 02.7 +0.4**
SNR=22
AML Almayashu 60.21 331 P **P 02 09 03.8 +0.2**
SNR=18
AAK Ala-Archa 60.22 332 P **P 02 09 03.8 +0.1**
SNR=6.7
AAK Ala-Archa 60.22 332 P **P 02 09 02.2 -1.4**
comp=Z,55nm,0.8s,mb5.6,SNR=5.4
AAK Ala-Archa 60.22 332 P **P 02 09 03.4 -0.2**
SNR=13
AAK Ala-Archa 60.22 332 P **P 02 09 03.4 -0.2**
SNR=13
AAK Ala-Archa 60.22 332 P **P 02 09 03.4 -0.2**
SNR=13
AAK Ala-Archa 60.22 332 P **P 02 09 03.4 -0.2**
SNR=13
AAK Ala-Archa 60.22 332 ⇑ *e*P **P 02 09 01.6 -2.0**
AAK pmax pmax
comp=Z,11nm,1.3s,mb4.7
AAK Ala-Archa 60.22 332 *e*P **P 02 09 02.7 -0.9**
AAK LR LR
comp=Z,464nm,21.0s,MS4.6
FRU Bishkek 60.32 332 *e*P **P 02 09 03.0 -1.3**
FRU *i* 02 09 16.0
FRU pmax pmax
comp=Z,80nm,2.1s,mb5.4
MKAR Makanchi Array 60.48 340 P **P 02 09 04.5 -0.9**
comp=Z,36nm,0.6s,mb5.6,baz=144,slow=7.9,SNR=216
EKS2 Erkin-Say 60.58 331 P **P 02 09 06.3 +0.2**
SNR=18
TLY Talaya 60.85 357 P **P 02 09 08.5 +0.6**
comp=Z,92nm,0.9s,mb5.9,SNR=6.0
MOY Mondy 61.03 355 *e*P **P 02 09 10.0 +0.8**
MOY pmax pmax
comp=Z,88nm,2.1s,mb5.5
ASHO Ashiyiah 61.15 305 P **P 02 09 10.5 +0.5**
SNR=7.2
ASHO Ashiyiah 61.15 305 P **P 02 09 10.5 +0.5**
SNR=7.2
ASHO Ashiyiah 61.15 305 P **P 02 09 10.5 +0.5**
SNR=7.2
IRK Irkutsk 61.38 357 ⇓ *i*P **P 02 09 11.6 +0.1**
IRK pmax pmax
comp=Z,90nm,1.7s,mb5.6
KLR Kul'dur 61.78 17 *e*P **P 02 09 08.7 -5.5**
KLR pmax pmax
comp=E,40nm,1.6s
KLR pmax pmax
comp=Z,110nm,1.6s,mb5.7
YSS Yuzh-Sakhalins 63.82 26 ⇓ *e*P **P 02 09 26.8 -1.0**
YSS *e* 02 09 39.0
YSS pmax pmax
comp=Z,80nm,1.0s,mb5.7
YSS pmax pmax
comp=E,30nm,0.9s
YSS MLR MLR
comp=Z,500nm,20.0s,MS4.7
YSS MLR MLR
comp=N,500nm,18.0s
YSS Yuzh-Sakhalins 63.82 26 *e*P **P 02 09 26.3 -1.5**
comp=N,44nm,0.8s,mb5.5
YSS LR LR
comp=Z,386nm,21.0s,MS4.6
KURK Kurchatov 65.09 340 P **P 02 09 36.0 -0.1**
comp=Z,391nm,0.8s,SNR=6.3
KURK Kurchatov 65.09 340 P **P 02 09 36.3 +0.2**
SNR=24
KURK Kurchatov 65.09 340 P **P 02 09 36.3 +0.2**
SNR=24
KURK Kurchatov 65.09 340 P **P 02 09 36.3 +0.2**
SNR=24
KURK Kurchatov 65.09 340 ⇑ *e*P **P 02 09 35.9 -0.2**
KURK Kurchatov 65.09 340 *e*P **P 02 09 35.4 -0.8**
comp=Z,53nm,0.8s,mb5.6
KURK LR LR
comp=Z,340nm,19.0s,MS4.6
MAW Mawson 65.59 197 *e*P **P 02 09 37.8 -1.6**
comp=Z,18nm,0.9s,mb5.1
MAW *e* 02 09 48.8
MAW Mawson 65.59 197 P **P 02 09 38.2 -1.2**
comp=Z,21nm,0.8s,mb5.2,baz=44,slow=7.0,SNR=45
MAW Mawson 65.59 197 *e*P **P 02 09 37.8 -1.6**
MAW *e* 02 09 48.8
MAW pmax pmax
comp=Z,19nm,0.9s
KRAR Krasnoyarsk 66.32 351 *e*P **P 02 09 41.6 -2.4**
KRAR pmax pmax
comp=Z,73nm,1.3s,mb5.5
ABKT Ailbek 66.35 318 P **P 02 09 44.0 -0.3**
comp=Z,224nm,0.7s,mb6.3,SNR=6.1
BOD Bodaibo 67.03 3 *e*P **P 02 09 47.2 -1.4**
BOD pmax pmax
comp=Z,40nm,1.1s,mb5.4
NVS Novosibirsk 67.28 345 *i* P **P 02 09 48.8 -1.4**
NVS *e*S S 02 18 31.7 -12
NVS pmax pmax
comp=Z,37nm,1.6s,mb5.2
NVS pmax pmax
comp=N,30nm,1.5s
NVS pmax pmax
comp=E,22nm,1.4s
NVS smax
comp=N,21nm,2.0s
NVS smax
comp=E,15nm,1.9s
CLNS Chul'man 67.28 10 *e*P **P 02 09 48.3 -1.9**
CLNS *e**PP pP 02 09 57.4 -0.5
CLNS *e* 02 10 13.3
CLNS *e* 02 12 26.1
CLNS *e*PPP 02 14 03.0
CLNS *e* 02 19 40.9
CLNS pmax pmax
comp=Z,43nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,27nm,0.8s
CLNS pmax pmax
comp=E,17nm,0.8s
CLNS pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ATD Arta Tunnel 68.34 286 P **P 02 09 58.4 +1.6**
comp=Z,11nm,0.6s,mb5.0,baz=87,slow=8.4,SNR=8.8
QRN Al-Qurain 69.46 305 *e*P **P 02 10 03.5 -0.3**
QRN AMb AMB 02 10 04.3
comp=Z,110nm,0.7s,mb5.9
KBD Kabd 69.81 306 *e*P **P 02 10 05.8 -0.1**
KBD AMb AMB 02 10 06.6
comp=Z,210nm,0.7s,mb6.2
RDF Al-Radifah 69.83 305 *e*P **P 02 10 05.0 -1.0**
RDF AMb AMB 02 10 06.7
comp=Z,93nm,0.8s,mb5.8
FUNA Funafuti 69.87 96 PFAKE 02 10 20.0 +14
FUNA LR LR
comp=Z,8μm,19.0s
BVAR Borovoye Array 69.98 337 P **P 02 10 06.2 -0.8**
comp=Z,22nm,0.6s,mb5.2,baz=143,slow=8.6,SNR=93
BVAR LR LR 02 45 38.6
comp=Z,455nm,18.3s,MS4.8,baz=319,slow=40
BRVK Borovoye 70.05 337 P **P 02 10 07.3 -0.1**
comp=Z,208nm,0.7s,mb6.2,SNR=13
BRVK Borovoye 70.05 337 P **P 02 10 07.6 +0.1**
SNR=14
BRVK Borovoye 70.05 337 P **P 02 10 07.6 +0.1**
SNR=14
BRVK Borovoye 70.05 337 P **P 02 10 07.6 +0.1**
SNR=14
BRVK Borovoye 70.05 337 P **P 02 10 07.6 +0.1**
SNR=14
BRVK Borovoye 70.05 337 *e*P **P 02 10 06.4 -1.0**
BRVK LR LR
comp=Z,275nm,20.0s,MS4.5
NAY Al-Naaiem 70.20 306 *e*P **P 02 10 07.3 -1.0**
NAY AMb AMB 02 10 08.8
comp=Z,50nm,0.7s,mb5.6
MIB Mutribah 70.34 306 *e*P **P 02 10 08.5 -0.8**
MIB AMb AMB 02 10 09.8
comp=Z,60nm,0.6s,mb5.7
CHKZ Chkalovo 70.39 337 *e*P **P 02 10 08.8 -0.8**
CHKZ pmax pmax
comp=Z,49nm,0.7s,mb5.5
CHKZ Chkalovo 70.39 337 *e*P **P 02 10 08.8 -0.8**
comp=Z,49nm,0.7s,mb5.5
ZRNK Zerenda 70.47 336 *i* P **P 02 10 08.9 -1.1**
ZRNK pmax pmax
comp=Z,30nm,0.7s,mb5.3
ZRNK Zerenda 70.47 336 *e*P **P 02 10 08.9 -1.1**
comp=Z,38nm,0.7s,mb5.4
RST Umm Al-Ruwaisa 70.50 306 *e*P **P 02 10 09.1 -1.1**
RST AMb AMB 02 10 10.5
comp=Z,153nm,0.6s,mb6.1
KMBO Kilima Mbogo 71.18 272 P **P 02 10 14.4 +0.1**
comp=Z,4.9nm,0.8s,mb4.5,baz=65,slow=9.2,SNR=15
AB31 Akbulak array 72.05 329 ⇑ *e*P **P 02 10 18.8 -0.8**
SKR Severo-Kuril's 72.63 30 *e*P **P 02 10 19.5 -3.5**
SKR pmax pmax
comp=Z,90nm,0.7s,mb5.8
YAK Yakutsk 73.01 10 *c i*P **P 02 10 24.2 -1.1**
YAK *e**PP pP 02 10 30.3 -2.7
YAK *e* 02 10 37.3
YAK *e* 02 13 13.1
YAK *e*S S 02 19 48.4 -2.5
YAK *e* 02 20 30.3
YAK *e*SS SS 02 24 33.3 +1.6
YAK pmax pmax
comp=N,19nm,0.9s
YAK pmax pmax
comp=Z,113nm,0.9s,mb5.8
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK smax
comp=N,9.0nm,1.2s
YAK smax
comp=Z,5.0nm,0.7s
YAK smax
comp=E,6.0nm,1.7s
YAK MLR MLR
comp=Z,316nm,18.0s,MS4.6
YAK MLR MLR
comp=N,228nm,20.0s,MS4.6
YAK MLR MLR
comp=E,156nm,17.0s,MS4.6
YAK smax
comp=E,4.0nm,1.4s
YAK smax
comp=Z,3.0nm,0.7s
YAK smax
comp=N,3.0nm,1.1s
YAK smax
comp=E,11nm,0.8s
YAK smax
comp=Z,9.0nm,1.0s
YAK smax
comp=N,9.0nm,0.8s
YAK Yakutsk 73.01 10 *e*P **P 02 10 24.1 -1.2**
YAK LR LR
comp=Z,409nm,19.0s,MS4.7
VNDA Vanda 73.49 169 P **P 02 10 26.7 -1.4**
comp=Z,36nm,0.7s,mb5.4,baz=309,slow=5.7,SNR=165
AKTK Aktyubinsk 73.76 329 P **P 02 10 29.1 -0.6**
AKTO Aktyubinsk 73.76 329 P **P 02 10 29.1 -0.6**
comp=Z,4.4nm,0.6s,mb4.6,baz=343,slow=4.2,SNR=16
SYO Syowa Base 73.84 200 ⇓ *e*P **P 02 10 31.5 +1.3**
SYO Syowa Base 73.84 200 ⇑ *e*P **P 02 10 39.5 +9.3**
BHD Baghdad 74.02 308 *ex* x 02 10 24.0
SBA Scott Base 74.56 169 *e*P **P 02 10 33.9 -0.5**
SBA *e* 02 10 44.8
SBA pmax pmax
comp=Z,40nm,0.8s,mb5.4
SBA Scott Base 74.56 169 *e*P **P 02 10 33.9 -0.5**
comp=Z,40nm,0.8s,mb5.4
SBA *e* 02 10 44.8

PET Petropavlovsk 75.33 29 *e*P P **02 10 38.0 -0.9**
comp=Z,43nm,0.6s,mb5.5
PET LR LR
comp=Z,210nm,19.0s,MS4.5
GNI Garni 76.51 315 P P **02 10 45.3 -0.2**
comp=Z,2.5nm,0.4s,mb4.5,baz=322,slow=16,SNR=5.1
GNI Garni 76.51 315⇑ *e*P P **02 10 46.4 +0.8**
GNI pmax pmax
comp=Z,20nm,1.3s
GNI Garni 76.51 315 P P **02 10 45.3 -0.2**
GNI LR LR
comp=Z,181nm,20.0s,MS4.4
MA2 Magadan 76.53 21 *e*P P **02 10 44.9 -0.7**
MA2 pmax pmax
comp=Z,56nm,1.0s,mb5.5
DGRG David-gareji 76.62 316 P P **02 10 47.3 +1.1**
SVE Sverdlovsk 76.63 335⇑ *e*P P **02 10 46.8 +0.5**
SVE *e* 02 20 32.0
SVE pmax pmax
comp=Z,76nm,2.3s,mb5.2
SVE MLR MLR
comp=N,200nm,18.0s,MS4.5
SVE MLR MLR
comp=E,100nm,18.0s,MS4.5
SVE MLR MLR
comp=Z,300nm,18.0s,MS4.7
MTA Mtatsminda 77.12 317 P P **02 10 49.5 +0.5**
TBLG Delisi 77.17 317 P P **02 10 49.9 +0.6**
ARU Arti 77.25 334 P P **02 10 49.6 -0.1**
comp=Z,152nm,1.2s,mb5.8,SNR=9.2
ARU Arti 77.25 334 ⇓ *i*P P **02 10 49.2 -0.5**
ARU *e* 02 11 00.2
ARU *e* 02 13 43.9
ARU *e*PPP 02 15 27.1
ARU *e*S S 02 20 37.8 -0.2
ARU *e*SS SS 02 25 31.4 -4.7
ARU pmax pmax
comp=Z,29nm,1.0s,mb5.2
ARU MLR MLR
comp=Z,400nm,22.0s,MS4.7
ARU MLR MLR
comp=N,300nm,23.0s,MS4.6
ARU MLR MLR
comp=E,200nm,22.0s,MS4.6
ARU Arti 77.25 334 *e*P P **02 10 49.0 -0.7**
comp=E,31nm,1.0s,mb5.2
ARU LR LR
comp=Z,437nm,21.0s,MS4.8
GOR Gori 77.71 317 P P **02 10 53.0 +0.7**
AKH Akhalkalaki 77.89 316 P P **02 10 53.9 +0.6**
ZEI Tsey 78.18 317 *e*P P **02 10 55.0 +0.1**
ZEI *e**PP pP 02 11 02.9 +0.2
ZEI pmax pmax
comp=Z,15nm,0.6s,mb5.1
LSZ Lusaka 78.20 256 P P **02 10 56.1 +1.1**
SNR=7.1
LSZ Lusaka 78.20 256 P P **02 10 56.1 +1.1**
SNR=7.1
LSZ Lusaka 78.20 256 P P **02 10 56.1 +1.1**
SNR=7.1
LSZ Lusaka 78.20 256 *e*P P **02 10 55.3 +0.3**
LSZ *e* 02 11 06.3
LSZ pmax pmax
comp=Z,20nm,0.7s,mb5.2
LSZ MLR MLR
comp=Z,459nm,20.0s,MS4.8
LSZ Lusaka 78.20 256 *e*P P **02 10 55.2 +0.3**
comp=Z,20nm,0.7s,mb5.2
LSZ *e*PcP PcP 02 11 06.3 +1.8
LSZ LR LR
comp=Z,459nm,20.0s,MS4.8
ONI Oni 78.40 317 P P **02 10 56.6 +0.5**
AMRG 78.58 317 P P **02 11 00.5 +3.4**
KIV Kislovodsk 79.47 318 *e*P P **02 11 02.5 +0.5**
KIV *e*S S 02 20 57.7 -4.1
KIV pmax pmax
comp=Z,20nm,1.0s,mb5.0
KIV Kislovodsk 79.47 318 *e*P P **02 11 01.9 0.0**
KIV LR LR
comp=Z,139nm,20.0s,MS4.3
ASF Jabal al Asfar 79.56 305 P P **02 11 03.3 +0.8**
comp=Z,17nm,0.8s,mb5.1,baz=350,slow=4.1,SNR=34
BOSA Boshof 79.60 243 P P **02 11 03.0 +0.3**
comp=Z,13nm,1.0s,mb4.8,baz=105,slow=5.9,SNR=12
BOSA LR LR 02 40 29.2
comp=Z,341nm,18.5s,MS4.7,baz=116,slow=31
LBTB Lobatse 79.62 246 *e*P P **02 11 02.9 +0.1**
LBTB *e* 02 11 14.0
LBTB *e* 02 14 05.6
LBTB pmax pmax
comp=Z,20nm,0.8s,mb5.1
LBTB MLR MLR
comp=Z,191nm,20.0s,MS4.4
LBTB Lobatse 79.62 246 *e*P P **02 11 02.9 +0.1**
comp=Z,20nm,0.8s,mb5.1
LBTB *e* 02 11 14.0
LBTB *e*PP PP 02 14 05.6 +2.0
LBTB LR LR
comp=Z,191nm,20.0s,MS4.4
GOF Gofitskoye 79.69 319 *e*P P **02 11 02.7 -0.5**
MALT Malatya 80.36 311 ⇓ *i*P P **02 11 07.0 +0.2**
MALT Malatya 80.36 311 *e*P P **02 11 06.1 -0.7**
MALT pmax pmax
comp=Z,14nm,1.0s,mb4.8
MALT Malatya 80.36 311 *e*P P **02 11 06.1 -0.7**
comp=Z,14nm,1.0s,mb4.8
EIL Elat 80.42 302 *e*P P **02 11 07.8 +0.6**
GZT Gaziantep 80.68 310 *i*P P **02 11 08.6 +0.1**
QSPA South Pole Qui 80.72 180 *e*P P **02 11 07.4 -1.3**
comp=Z,62nm,1.2s,mb5.4
QSPA LR LR
comp=Z,496nm,20.0s,MS4.9
MMAI Mount Meron Ar 81.02 306 P P **02 11 10.9 +0.6**
comp=Z,18nm,0.6s,mb5.2,baz=70,slow=9.8,SNR=17
MMAI LR LR 02 47 42.0
comp=Z,354nm,21.3s,MS4.7,baz=65,slow=36
SOC Sochi 81.31 317 *e*P pP 02 11 22.8 +3.1
SOC pmax pmax
comp=Z,33nm,1.0s,mb5.2
SOC MLR MLR
comp=Z,277nm,22.0s,MS4.6
COBT Iskenderun 81.41 309 *i*P P **02 11 12.8 +0.4**
TIXI Tiksi 81.90 6⇑ *e*P P **02 11 13.5 -1.5**
TIXI pmax pmax
comp=Z,100nm,1.6s,mb5.5
VRHR Novokhopersk 83.02 324 *e*P P **02 11 20.3 -0.6**
VRHR pmax pmax
comp=Z,40nm,0.5s,mb5.7
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.5s
SUR Sutherland 83.04 238 P P **02 11 22.1 +1.1**
comp=E,172nm,0.8s,mb6.1,SNR=5.3
CSS Prodhromos 83.22 307 *e*P P **02 11 22.1 +0.2**
comp=E,36nm,0.8s,mb5.5
CSS *e* 02 11 33.4
ANN Anapa 83.28 317 *e*P P **02 11 21.5 -0.7**
ANN *e*S S 02 21 41.5 +0.2
ANN pmax pmax
comp=Z,62nm,1.2s,mb5.5
NVL N'lazarevskaya 83.45 199 *e*P P **02 11 22.9 -0.2**
NVL pmax pmax
comp=Z,15nm,1.0s,mb5.0
CTKT Corum 83.77 313 *i*P P **02 11 25.7 +1.0**
CDAG Cicekdag 83.77 312 *i*P P **02 11 25.2 +0.5**
BOYT Boyabat 83.93 314 *i*P P **02 11 25.6 +0.1**
BR131 Keskin Array S 84.34 312 *e*P P **02 11 27.0 -0.6**
comp=Z,12nm,0.6s,mb5.2
BR131 *e* 02 11 39.4
BR131 LR LR
comp=Z,271nm,19.0s,MS4.7
BRTR Keskin Array B 84.34 312 P P **02 11 27.4 -0.3**
comp=Z,16nm,0.7s,mb5.3,baz=139,slow=6.9,SNR=103
VRSR Storozhevoye 84.48 324 *e*P P **02 11 27.8 -0.5**
VRSR pmax pmax
comp=Z,40nm,0.6s,mb5.7
VRSR pmax pmax
comp=N,1.0nm,0.4s
VRSR pmax pmax
comp=E,20nm,0.7s
VOR Voronezh 84.67 324 *e*P P **02 11 28.7 -0.6**
VOR pmax pmax
comp=Z,70nm,1.4s,mb5.6
ELDT Eldivan 84.72 312 *i*P P **02 11 29.8 +0.3**

ANTO Ankara 85.01 312 ⇓ *i*P P **02 11 31.7 +0.7**
ANTO Ankara 85.01 312 P P **02 11 31.6 +0.6**
SNR=12
ANTO Ankara 85.01 312 P P **02 11 32.3 +1.3**
SNR=5.9
ANTO Ankara 85.01 312 P P **02 11 31.6 +0.6**
SNR=12
ANTO Ankara 85.01 312 ⇓ P P **02 11 31.7 +0.7**
ANTO LR LR
comp=Z,270nm,21.0s,MS4.6
BALT Daday 85.05 313 *i*P P **02 11 31.6 +0.4**
SIM Simferopol' 85.56 317 *c*P P **02 11 34.0 +0.3**
SIM *e*S 02 22 07.0
SIM pmax pmax
comp=Z,37nm,0.7s,mb5.7
ESKT Eskisehir 86.36 311 *i*P P **02 11 37.7 0.0**
TKTP Tekketepe 86.38 309 *i*P P **02 11 37.7 -0.1**
HENT Hendek 86.66 312 *i*P P **02 11 39.1 -0.1**
MOS Moscow 87.02 328 *e*P P **02 11 40.0 -0.9**
MOS *e**PP pP 02 11 49.5 +0.7
MOS *e* 02 11 58.8
MOS *e* 02 15 02.9
MOS *e*S 02 22 11.0
MOS pmax pmax
comp=Z,71nm,1.4s,mb5.7
MOS MLR MLR
comp=Z,900nm,21.5s,MS5.1
OBN Obninsk 87.36 327 *d*P P **02 11 42.4 -0.2**
OBN *i* 02 11 56.5
OBN *e* 02 15 05.7
OBN *e*S 02 22 18.0
OBN pmax pmax
comp=Z,48nm,0.7s,mb5.8
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.2
OBN Obninsk 87.36 327 *e*P P **02 11 42.1 -0.4**
OBN LR LR
comp=Z,397nm,21.0s,MS4.8
TSUM Tsumeb 87.72 251 *e*P P **02 11 44.8 +0.5**
comp=Z,22nm,0.9s,mb5.4
TSUM LR LR
comp=Z,410nm,21.0s,MS4.8
SNAA Sanae 87.76 197 *e*P P **02 11 44.0 -0.5**
SNAA *e* 02 11 44.9
SNAA *e* 02 11 55.1
SNAA *e* 02 12 00.2
SNAA Sanae 87.76 197 *e*P P **02 11 44.0 -0.5**
SNAA *e* 02 11 54.4
SNAA pmax pmax
comp=Z,28nm,1.3s
SNAA Sanae 87.76 197 *e*P P **02 11 44.0 -0.5**
comp=Z,28nm,1.3s,mb5.3
SNAA *e* 02 11 54.4
ULDT Uludag 87.79 311 *i*P P **02 11 45.2 +0.6**
BDRM Kayabasi 88.37 308 *i*P P **02 11 47.3 -0.1**
TIRR Tirgusor 89.34 315 ⇓ *i*P P **02 11 52.6 +0.7**
TIRR Tirgusor 89.34 315 ⇓ P P **02 11 52.6 +0.7**
CFR Carcaliu 89.70 316 ⇓ *i*P P **02 11 54.5 +0.9**
CFR Carcaliu 89.70 316 ⇓ P P **02 11 54.5 +0.8**
HARR Harsova 89.73 315 ⇑ *i*P P **02 11 53.7 -0.1**
HARR Harsova 89.73 315 ⇑ P P **02 11 53.7 0.0**
VNA1 Neumayer--Stat 89.79 197 *e*P P **02 11 54.5 +0.4**
VNA1 *e* 02 11 55.2
VNA1 *e* 02 12 05.5
VNA1 *e* 02 12 10.5
AKASG Malin Array Be 90.31 321 P P **02 11 55.3 -1.2**
comp=Z,5.3nm,0.7s,mb5.0,baz=88,slow=4.6,SNR=30
AKASG PP PP 02 15 30.3 -0.2
comp=Z,7.1nm,1.1s,baz=98,slow=6.1,SNR=15
AKBB Malin Array Si 90.31 321 *e*P P **02 11 55.4 -1.1**
VRI Vrincioaia 90.82 316 ⇓ *i*P P **02 11 59.2 +0.4**
PLOR Plostina 90.87 316 ⇓ *i*P P **02 11 59.9 +0.8**
MLR Muntele Rosu 91.28 316 P P **02 12 01.3 +0.4**
comp=Z,7.5nm,0.7s,mb5.1,baz=192,slow=2.1,SNR=12
MLR Muntele Rosu 91.28 316 ⇑ *i*P P **02 12 01.9 +0.9**
MLR Muntele Rosu 91.28 316 ⇑ P P **02 12 01.9 +0.9**
BURAR Bucovina Array 92.19 318 ⇑ *i*P P **02 12 06.4 +1.2**
BURAR Bucovina Array 92.19 318 ⇑ P P **02 12 06.4 +1.2**
JOF Joensuu 92.36 333 *e*p P **02 12 05.1 -0.9**
comp=Z,13nm,0.7s,mb5.4
JOF Joensuu 92.36 333 *e*P P **02 12 05.1 -0.9**
JOF pmax pmax
comp=Z,13nm,0.7s,mb5.4
LVZ Lovozero 92.50 339 PFAKE 02 12 20.0 +13
LVZ LR LR
comp=Z,766nm,19.0s,MS5.2
VTS Vitosha 92.66 313 ⇑ *i*P P **02 12 08.0 +0.6**
VTS Vitosha 92.66 313 ⇑ P P **02 12 08.0 +0.6**
GZR Gura Zlata 93.45 315 ⇑ *i*P P **02 12 13.1 +2.1**
GZR Gura Zlata 93.45 315 ⇑ P P **02 12 13.1 +2.1**
BZS Buzias 94.29 315 ⇑ *i*P P **02 12 13.8 -1.1**
KOLS Kolonicke sedl 94.36 319 *e*P P **02 12 15.8 +0.6**
FINES FINESS Array B 94.41 331 P P **02 12 15.1 -0.4**
comp=Z,3.9nm,0.7s,mb4.9,baz=108,slow=6.2,SNR=12
KAF Kangasniemi 94.43 332 *e*p P **02 12 14.9 -0.6**
comp=Z,14nm,0.9s,mb5.4
KAF Kangasniemi 94.43 332 *e*P P **02 12 14.9 -0.6**
KAF pmax pmax
comp=Z,14nm,0.9s,mb5.4
SUW Suwalki 94.61 324 *e*P P **02 12 16.1 -0.3**
KEV Kevo 95.66 340 PFAKE 02 12 30.0 +8.9
KEV LR LR
comp=Z,392nm,20.0s,MS4.9
TNA Tin City 95.78 25 PFAKE 02 12 30.0 +8.3
TNA LR LR
comp=Z,80nm,21.0s,MS4.2
ARCES ARCESS Array B 96.13 339 P P **02 12 22.4 -0.8**
comp=Z,3.6nm,0.7s,mb4.9,baz=101,slow=6.3,SNR=9.9
ARCES LR LR 03 01 19.2
comp=Z,381nm,19.9s,MS4.9,baz=35,slow=39
PKSM Moragy 96.43 316 ⇓ *i*P P **02 12 24.3 -0.3**
PKSM Moragy 96.43 316 ⇓ P P **02 12 24.2 -0.4**
VYHS Vyhne 96.56 318 *e*P P **02 12 25.8 +0.6**
MORC Moravsky Berou 97.54 319 ⇓ *i*P P **02 12 30.1 +0.5**
PDKS Podkum 98.94 315 *e*Pdiff P **02 12 36.0 +0.1**
LJU Ljubljana 99.26 315 *e*Pdiff P **02 12 37.5 +0.1**
LJU *e*PP PP 02 16 42.3 +2.1
BRG Berggiesshubel 99.91 320 *e*(P) PP 02 16 47.0 +1.8
comp=Z,3.3nm,1.2s
GERES GERESS Array B 99.98 318 P Pdif 02 12 40.3 -0.3
comp=Z,0.5nm,0.7s,baz=64,slow=3.1,SNR=4.9
KBS Kingsbay 100.29 349 PFAKE 02 12 50.0 +8.1
KBS LR LR
comp=Z,381nm,20.0s,MS4.9
CLL Collm 100.52 321 *e*PP PP 02 16 51.0 +1.2
CLL *e* 02 17 01.0
CLL Collm 100.52 321 *e*PP PP 02 16 51.0 +1.2
CLL LmV 02 09 00.0
comp=Z,300nm,19.4s
CLL *ex* x 02 17 01.0
NB2 NORSAR Subarra 101.52 330 PP PP 02 16 45.6 -12
comp=Z,1.9nm,1.0s,baz=88,slow=7.9
GRF Grafenberg Arr 101.63 319 *e*PP PP 02 16 57.6 -0.6
GRF Grafenberg Arr 101.63 319 *e*PP PP 02 16 57.6 -0.6
KONO Kongsberg 102.38 329 PFAKE 02 13 00.0 +8.7
KONO LR LR
comp=Z,264nm,20.0s,MS4.8
MCK McKinley 103.89 27 PFAKE 02 13 10.0 +12
MCK LR LR
comp=Z,94nm,20.0s,MS4.3
PMR Palmer 104.06 29 PFAKE 02 13 10.0 +11
PMR LR LR
comp=Z,168nm,19.0s,MS4.6
COLA College 104.20 25 PFAKE 02 13 10.0 +11
COLA LR LR
comp=Z,166nm,19.0s,MS4.6
CDF Champ du Feu 104.24 318 *e*PKIKP PKiKP 02 17 12.9 -3.3
HINF Hinteralfeld 104.54 317 *e*PKIKP PKiKP 02 17 13.4 -3.4
LPG La Plagne 104.69 315 *e*PKIKP PKiKP 02 17 13.9 -3.1
LPL La Plagne 104.71 315 *e*PKIKP PKiKP 02 17 13.9 -3.2
FRF La Foret Royal 104.82 313 *e*PKIKP PKiKP 02 17 14.0 -3.3
ORIF Oris-en-Rattie 105.33 314 *e*PKIKP PKiKP 02 17 15.0 -3.2
comp=Z,3.0nm,0.7s
ORIF *e*R
comp=Z,319nm,22.0s
MEZF Maizieres J'vi 105.71 318 *e*PKIKP PKiKP 02 17 15.6 -3.3
LOR Lormes 106.60 317 *e*PKIKP PKiKP 02 17 17.5 -3.1
comp=Z,0.9nm,0.4s
LOR *e*R
comp=Z,163nm,19.5s
LOR Lormes 106.60 317 *e*PKPdf PKiKP 02 17 17.5 -3.1
LOR LR LR
comp=Z,160nm,19.5s,MS4.6
AVF Avril sur Loir 106.98 316 *e*PKIKP PKiKP 02 17 18.2 -3.1

BGF Bois d'Agland 107.35 316 *e*PKIKP PKiKP 02 17 18.9 -3.1
CAF Calviac 108.03 314 *e*PKIKP PKiKP 02 17 20.4 -2.8
RJF Les Rejaudoux 108.39 315 *e*PKIKP PKiKP 02 17 20.9 -3.0
RJF *e*R
comp=Z,163nm,20.0s
RJF Les Rejaudoux 108.39 315 *e*PKPdf PKiKP 02 17 20.9 -3.0
RJF LR LR
comp=Z,160nm,20.0s,MS4.6
LFF La Frestale 108.97 314 *e*PKIKP PKiKP 02 17 22.1 -2.9
comp=Z,11nm,0.8s
LDF La Druitiere 109.12 318 *e*PKIKP PKiKP 02 17 22.5 -2.8
comp=Z,36nm,1.4s
MFF Saint Martin d 109.40 316 *e*PKIKP PKiKP 02 17 22.6 -3.2
comp=Z,11nm,1.1s
ESK Eskdalemuir 109.81 326 PFAKE 02 17 40.0 +13
ESK LR LR
comp=Z,272nm,19.0s,MS4.8
SIT Sitka 111.92 32 PFAKE 02 17 40.0 +9.4
SIT LR LR
comp=Z,272nm,21.0s,MS4.8
ESLA Sonseca Array 113.03 309 PFAKE 02 17 40.0 +7.3
ESLA LR LR
comp=Z,885nm,19.0s,MS5.4
DBIC Dimbokro 113.89 273 PFAKE 02 17 50.0 +16
DBIC LR LR
comp=Z,214nm,19.0s,MS4.8
YKA Yellowknife Ar 118.51 21 ⇑ *i*PKIKP PKPdf 02 17 42.6 -0.6
comp=Z,3.2nm,0.7s,baz=331,slow=1.9,SNR=16
YKA Yellowknife Ar 118.51 21 ⇑ *i*PKIKP PKPdf 02 17 42.5 -0.7
B05A Bryant 122.62 38 ⇓ P PKPdf 02 17 52.2 +1.1
baz=122
COR Corvallis 123.34 42 PFAKE 02 18 00.0 +7.5
COR LR LR
comp=Z,136nm,22.0s,MS4.6
F04A Amboy 123.39 40 ⇓ P PKPdf 02 17 53.9 +1.3
baz=123
I03A Eugene 123.58 43 ⇓ P PKPdf 02 17 54.3 +1.4
baz=124
H04A Detroit Lake 124.04 42 ⇓ P PKPdf 02 17 54.5 +0.7
baz=124
HUMO Hull Mountain 124.30 44 PFAKE 02 18 10.0 +16
HUMO LR LR
comp=Z,159nm,21.0s,MS4.7
HUMO Hull Mountain 124.30 44 ⇑ P PKPdf 02 17 56.0 +1.7
baz=124
YBH Yreka Blue Hor 124.79 45 PFAKE 02 18 10.0 +15
YBH LR LR
comp=Z,102nm,19.0s,MS4.5
HAWA Hanford 125.01 39 PFAKE 02 18 10.0 +14
HAWA LR LR
comp=Z,13nm,20.0s
NEW Newport 125.57 36 PFAKE 02 18 10.0 +13
NEW LR LR
comp=Z,191nm,19.0s,MS4.8
MNRC McLaughlin Nat 125.95 48 ⇓ P PKPdf 02 17 60.0 +2.5
baz=126
J06A Christmas Vall 125.96 43 ⇓ P PKPdf 02 17 59.1 +1.6
baz=126
HATC Hat Creek Radi 125.99 46 ⇓ P PKPdf 02 17 59.3 +1.8
baz=126
M05C Lookout 126.01 45 ⇓ P PKPdf 02 17 58.6 +1.0
baz=126
K06A Valley Falls 126.07 43 ⇑ P PKPdf 02 17 58.9 +1.2
baz=126
CVS Carmenet Viney 126.11 49 ⇓ P PKPdf 02 17 60.0 +2.2
baz=126
BMO Blue Mountains 127.11 40 PFAKE 02 18 10.0 +10
BMO LR LR
comp=Z,140nm,20.0s,MS4.6
BSMT Bassoo Peak 127.12 35 *e*PKPdf PKPdf 02 18 01.3 +1.6
P05C Yuba Gap, Truc 127.15 47 ⇓ P PKPdf 02 18 01.4 +1.6
baz=127
N06A Buffalo Meadow 127.17 45 ⇑ P PKPdf 02 18 01.7 +1.9
baz=127
WVOR Wild Horse Val 127.31 43 PFAKE 02 18 10.0 +10
WVOR LR LR
comp=Z,213nm,19.0s,MS4.8
M07A Soldier Meadow 127.38 44 ⇑ P PKPdf 02 18 02.4 +2.2
baz=127
O06A Flanigan 127.39 46 ⇑ P PKPdf 02 18 02.4 +2.2
baz=127
HAST UC Hastings Re 127.41 51 ⇓ P PKPdf 02 18 02.3 +2.1
baz=127
CMB Columbia Colle 127.75 49 PKIKP PKPdf 02 18 01.8 +0.9
L09A Wilkinson Ranc 128.13 43 ⇑ P PKPdf 02 18 04.5 +2.8
baz=128
MSO Missoula 128.15 36 *e*PKPdf PKPdf 02 18 03.0 +1.3
MSO LR LR
comp=Z,106nm,19.0s,MS4.5
V04C Ramage Ranch, 128.17 52 ⇓ P PKPdf 02 18 04.5 +2.7
baz=128
PKD Parkfield 128.33 51 ⇑ P PKPdf 02 18 04.5 +2.5
baz=128
CHMT Chamberlain Mo 128.51 36 *e*PKPdf PKPdf 02 18 03.6 +1.2
RPN Rapa Nui 128.57 136 PKP PKPdf 02 18 04.4 +1.9
comp=Z,35nm,0.3s,baz=59,slow=2.5,SNR=8.1
FFC Flin Flon 128.66 22 PFAKE 02 18 10.0 +7.4
FFC LR LR
comp=Z,156nm,19.0s,MS4.7
R07C Lee Vining 128.72 48 ⇓ P PKPdf 02 18 04.9 +2.2
baz=129
BMN Battle Mountai 129.11 45 PFAKE 02 18 20.0 +16
BMN LR LR
comp=Z,142nm,19.0s,MS4.7
O09A Fish Creek Ran 129.24 45 ⇓ P PKPdf 02 18 06.3 +2.5
baz=129
MNV Mina 129.25 47 PFAKE 02 18 20.0 +16
MNV LR LR
comp=Z,148nm,20.0s,MS4.7
HLID Hailey 129.55 40 *e*PKPdf PKPdf 02 18 06.7 +2.3
HLID LR LR
comp=Z,172nm,19.0s,MS4.8
DLMT Dillon 129.73 37 *e*PKPdf PKPdf 02 18 07.5 +2.8
EGMT Eagleton 129.80 33 PFAKE 02 18 20.0 +15
EGMT LR LR
comp=Z,132nm,20.0s,MS4.6
ISA Isabella 130.01 51 PFAKE 02 18 20.0 +15
ISA LR LR
comp=Z,40nm,20.0s,MS4.1
TPH Tonopah 130.06 47 PFAKE 02 18 20.0 +15
TPH LR LR
comp=Z,234nm,21.0s,MS4.9
BOZ Bozeman (W) 130.14 36 *e*PKIKP PKPdf 02 18 07.9 +2.4
BOZ MLR MLR
comp=Z,130nm,19.0s,MS4.7
S09A Goldfield 130.20 48 ⇓ P PKPdf 02 18 07.6 +2.0
baz=130
PLCA Paso Flores 130.23 181 PKP PKPdf 02 18 07.8 +2.2
comp=Z,1.3nm,0.7s,baz=198,slow=2.0,SNR=3.6
M12A Wells 130.25 42 ⇓ P PKPdf 02 18 07.2 +1.6
baz=130
O11A Cowboy Ranch, 130.32 44 ⇓ P PKPdf 02 18 07.9 +2.1
baz=130
ELK Elko 130.34 43 *e*PKIKP PKPdf 02 18 08.1 +2.3
ELK MLR MLR
comp=Z,164nm,20.0s
N12A Clover Valley, 130.43 43 ⇓ P PKPdf 02 18 08.4 +2.4
baz=130
DAC Darwin (Calif) 130.46 50 *e*PKIKP PKPdf 02 18 00.1 -6.0
DAC MLR MLR
comp=Z,251nm,20.0s,MS4.9
M13A Montello 130.78 42 ⇓ P PKPdf 02 18 08.8 +2.1
baz=131
Q11A Duckwater 130.88 46 ⇓ P PKPdf 02 18 09.4 +2.5
baz=131
O12A Currie 130.88 44 ⇑ P PKPdf 02 18 09.3 +2.4
baz=131
P12A McGill 131.13 45 ⇓ P PKPdf 02 18 10.0 +2.6
baz=131
TPNV Topopah Spring 131.21 48 PFAKE 02 18 20.0 +13
TPNV LR LR
comp=Z,223nm,19.0s,MS4.9
U10A Ash Meadows, A 131.36 49 ⇓ P PKPdf 02 18 11.1 +3.3
baz=131
GSC Goldstone 131.41 51 ⇑ P PKPdf 02 18 11.2 +3.4
baz=131
LKWY Lake 131.47 37 PFAKE 02 18 20.0 +12
LKWY LR LR
comp=Z,228nm,19.0s,MS4.9
AHID Auburn Hatcher 132.04 39 PFAKE 02 18 20.0 +11
AHID LR LR
comp=Z,134nm,19.0s,MS4.7
DUG Dugway 132.23 43 *e*PKIKP PKPdf 02 18 12.5 +3.1
DUG MLR MLR
comp=Z,149nm,19.0s,MS4.7
PFO Pinyon Flat Ob 132.27 53 PFAKE 02 18 20.0 +11

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PFO				LR	LR		
	comp=Z,289nm,20.0s,MS5.0						
HWUT	**Hardware Ranch**	**132.35**	**41**	*e*PKPdf	PKPdf	02 18 11.4	+1.8
HWUT				LR	LR		
	comp=Z,192nm,19.0s,MS4.8						
LAO	**LASA Array**	**132.51**	**32**	PFAKE		02 18 20.0	+10
LAO				LR	LR		
	comp=Z,231nm,19.0s,MS4.9						
V12A	**Nelson**	**132.73**	**49**	⇓P	PKPdf	02 18 13.7	+3.3
	baz=133						
BW06	**Boulder Array**	**132.99**	**38**	PFAKE		02 18 20.0	+9.2
BW06				LR	LR		
	comp=Z,157nm,20.0s,MS4.7						
PDAR	**Pinedale Array**	**132.99**	**38**	PKP	PKPdf	02 18 12.0	+1.2
	comp=Z,0.8nm,0.7s,baz=151,slow=3.4,SNR=7.2						
MPU	**Maple Canyon**	**133.11**	**43**	PFAKE		02 18 20.0	+8.9
MPU				LR	LR		
	comp=Z,664nm,20.0s,MS5.3						
MVU	**Marysvale**	**133.44**	**45**	*e*PKPdf	PKPdf	02 18 09.5	-2.2
MVU				LR	LR		
	comp=Z,205nm,20.0s,MS4.8						
MSU	**Marysvale**	**133.46**	**45**	*e*PKIKP	PKPdf	02 18 15.6	+3.9
W13A	**Hualapai Mount**	**133.70**	**50**	⇓P	PKPdf	02 18 15.6	+3.4
	baz=134						
W14A	**Seligman**	**134.26**	**49**	⇓P	PKPdf	02 18 16.9	+3.7
	baz=134						
SRU	**San Rafael**	**134.30**	**43**	*e*PKIKP	PKPdf	02 18 15.9	+2.6
SCHQ	**Schefferville**	**134.41**	**356**	PKP	PKPdf	02 18 14.0	+0.5
	comp=Z,2.8nm,0.6s,baz=309,slow=5.9,SNR=4.3						
SCHQ	**Schefferville**	**134.41**	**356**	PKP	PKPdf	02 18 14.0	+0.5
SCHQ				LR	LR		
	comp=Z,417nm,21.0s,MS5.1						
ULM	**Lac du Bonnet**	**134.48**	**22**	PKP	PKPdf	02 18 14.6	+0.9
	comp=Z,2.5nm,0.7s,baz=325,slow=1.4,SNR=4.6						
ULM	**Lac du Bonnet**	**134.48**	**22**	PKP	PKPdf	02 18 14.6	+0.9
ULM				LR	LR		
	comp=Z,334nm,20.0s,MS5.1						
X14A	**Yava**	**134.70**	**50**	⇑P	PKPdf	02 18 18.2	+4.1
	baz=135						
Z14A	**Wintersburg**	**135.09**	**51**	⇑P	PKPdf	02 18 18.6	+3.8
	baz=135						
X15A	**Humboldt**	**135.18**	**50**	⇑P	PKPdf	02 18 17.8	+2.9
	baz=135						
RSSD	**Black Hills**	**135.35**	**33**	*e*PKIKP	PKPdf	02 18 16.0	+0.7
WUAZ	**Wupatki**	**135.39**	**48**	*e*PKPdf	PKPdf	02 18 16.9	+1.6
WUAZ				LR	LR		
	comp=Z,224nm,21.0s,MS4.9						
ISCO	**Idaho Springs**	**137.12**	**39**	PFAKE		02 18 30.0	+11
ISCO				LR	LR		
	comp=Z,181nm,20.0s,MS4.8						
TUC	**Tucson**	**137.18**	**52**	PFAKE		02 18 30.0	+11
TUC				LR	LR		
	comp=Z,140nm,19.0s,MS4.7						
EYMN	**Ely**	**137.97**	**20**	PFAKE		02 18 30.0	+10
EYMN				LR	LR		
	comp=Z,283nm,20.0s,MS5.0						
ANMO	**Albuquerque**	**139.20**	**46**	⇑*i*PKIKP	PKPdf	02 18 24.9	+2.5
ANMO	**Albuquerque**	**139.20**	**46**	PFAKE		02 18 30.0	+7.6
ANMO				LR	LR		
	comp=Z,212nm,21.0s,MS4.9						
BNM	**Barren Site**	**139.48**	**47**	*e*PKPdf	PKPdf	02 18 27.0	+4.1
RCBR	**Riachuelo**	**141.35**	**248**	PFAKE		02 18 40.0	+14
RCBR				LR	LR		
	comp=Z,358nm,19.0s,MS5.1						
AMTX	**Amarillo**	**142.53**	**43**	PFAKE		02 18 40.0	+12
AMTX				LR	LR		
	comp=Z,197nm,20.0s,MS4.9						
LTX	**Lajitas**	**143.98**	**52**	*e*PKIKP	PKPdf	02 18 30.8	-0.1
LTX				MLR	MLR		
	comp=Z,235nm,19.0s,MS5.0						
PKME	**Peaks-Kenny Pk**	**144.09**	**357**	*e*PKPdf	PKPdf	02 18 29.9	-1.2
WMOK	**Wichita Mounta**	**144.52**	**40**	*e*PKIKP	PKPdf	02 18 31.3	-0.6
WMOK				MLR	MLR		
	comp=Z,187nm,19.0s,MS4.9						
FRNY	**Flat Rock**	**144.54**	**2**	*e*PKPdf	PKPdf	02 18 30.4	-1.5
LONY	**Lake Ozonia**	**144.70**	**4**	*e*PKPdf	PKPdf	02 18 31.3	-0.9
WVL	**Waterville**	**144.81**	**358**	*e*PKPdf	PKPdf	02 18 31.7	-0.7
LBNH	**Lisbon**	**145.17**	**0**	*e*PKIKP	PKPdf	02 18 33.5	+0.5
LBNH				MLR	MLR		
	comp=Z,257nm,19.0s,MS5.0						
MIV	**Mineville/With**	**145.30**	**2**	*e*PKPdf	PKPdf	02 18 33.5	+0.3
NCB	**Newcomb**	**145.37**	**3**	*e*PKPdf	PKPdf	02 18 33.5	+0.1
NCB				LR	LR		
	comp=Z,196nm,20.0s,MS4.9						
AAM	**Ann Arbor**	**145.46**	**16**	*e*PKIKP	PKPdf	02 18 34.3	+0.8
AAM				MLR	MLR		
	comp=Z,207nm,19.0s,MS4.9						
HNH	**Hanover**	**145.71**	**1**	*e*PKPdf	PKPdf	02 18 35.2	+1.3
BDFB	**Brasilia**	**145.93**	**224**	PKPbc	PKPbc	02 18 36.4	+1.4
	comp=Z,20nm,0.8s,baz=167,slow=2.4,SNR=12						
BDFB	**Brasilia**	**145.93**	**224**	PKPbc	PKPbc	02 18 36.4	+1.4
BDFB				LR	LR		
	comp=Z,317nm,19.0s,MS5.1						
ACCN	**Adirondack Com**	**145.98**	**3**	*e*PKPdf	PKPdf	02 18 35.3	+0.9
JCT	**Junction City**	**146.32**	**47**	*e*PKP2	PKPab	02 18 37.1	+0.1
JCT				MLR	MLR		
	comp=Z,168nm,19.0s,MS4.8						
SLM	**Saint Louis**	**146.34**	**27**	*e*PKP2	PKPab	02 18 36.7	-0.4
CCM	**Cathedral Cave**	**146.35**	**29**	*e*PKP2	PKPab	02 18 36.0	-1.1
CCM				MLR	MLR		
	comp=Z,203nm,19.0s,MS4.9						
ERPA	**Erie**	**146.48**	**11**	*e*PKPdf	PKPdf	02 18 37.3	+2.1
ERPA				LR	LR		
	comp=Z,185nm,20.0s,MS4.9						
FVM	**French Village**	**146.79**	**28**	*e*PKP2	PKPab	02 18 37.2	-1.6
ALLY	**Alegheny Colle**	**146.90**	**12**	*e*PKPab	PKPab	02 18 38.6	-0.7
HRV	**Harvard--Oak R**	**146.91**	**360**	*e*PKP2	PKPab	02 18 38.5	-0.8
HRV				MLR	MLR		
	comp=Z,222nm,20.0s,MS4.9						
BINY	**Binghamton**	**146.99**	**6**	*e*PKPab	PKPab	02 18 39.0	-0.6
BINY				LR	LR		
	comp=Z,277nm,19.0s,MS5.1						
WES	**Weston**	**147.03**	**360**	PFAKE		02 18 50.0	+14
WES				LR	LR		
	comp=Z,404nm,22.0s,MS5.2						
QUA2	**Belchertown**	**147.13**	**1**	*e*PKP	PKPdf	02 18 38.9	+2.6
BLO	**Bloomington**	**147.39**	**22**	*e*PKP2	PKPab	02 18 39.5	-1.7
SIUC	**Southern Illin**	**147.55**	**27**	*e*PKPab	PKPab	02 18 40.9	-0.9
ACSO	**Alum Creek Sta**	**147.57**	**16**	PFAKE		02 18 50.0	+13
ACSO				LR	LR		
	comp=Z,105nm,21.0s,MS4.6						
MIAR	**Mount Ida**	**147.81**	**35**	*e*PKP2	PKPab	02 18 40.5	-2.3
MIAR				MLR	MLR		
	comp=Z,167nm,20.0s,MS4.8						
PARMO	**Parma**	**148.17**	**28**	*e*PKPdf	PKPdf	02 18 39.3	+1.2
LVC	**Limon Verde**	**148.19**	**185**	PKPbc	PKPbc	02 18 43.9	+2.6
	comp=Z,20nm,0.7s,baz=256,slow=1.4,SNR=4.2						
LVC	**Limon Verde**	**148.19**	**185**	*e*PKPdf	PKPbc	02 18 43.0	+1.6
SSPA	**Standing Stone**	**148.29**	**9**	*e*PKPab	PKPab	02 18 41.7	-3.0
SSPA				LR	LR		
	comp=Z,203nm,20.0s,MS4.9						
WCI	**Wyandotte Cave**	**148.31**	**22**	*e*PKIKP	PKPdf	02 18 39.6	+1.3
WCI				MLR	MLR		
	comp=Z,165nm,20.0s,MS4.8						
UALR	**University of**	**148.33**	**34**	*e*PKPdf	PKPdf	02 18 40.8	+2.4
PAL	**Palisades**	**148.34**	**3**	*e*PKP2	PKPab	02 18 42.6	-2.4
MCWV	**Mont Chateau**	**148.88**	**12**	*e*PKPab	PKPab	02 18 44.2	-2.9
MCWV				LR	LR		
	comp=Z,246nm,20.0s,MS5.0						
NATX	**Nacogdoches**	**149.07**	**40**	*e*PKPab	PKPab	02 18 46.0	-1.9
MVL	**Millersville**	**149.13**	**7**	*e*PKPab	PKPab	02 18 44.8	-3.3
HKT	**Hockley**	**149.43**	**44**	*e*PKP2	PKPab	02 18 48.5	-0.9
HKT				MLR	MLR		
	comp=Z,9μm,20.0s						
WVT	**Waverly**	**149.48**	**26**	*e*PKP2	PKPbc	02 18 45.0	+0.3
WVT				MLR	MLR		
	comp=Z,188nm,19.0s,MS4.9						
OXF	**Oxford**	**150.07**	**30**	PFAKE		02 18 50.0	+8.9
OXF				LR	LR		
	comp=Z,146nm,20.0s,MS4.8						
PLAL	**Pickwick Lake**	**150.33**	**28**	*e*PKPdf	PKPdf	02 18 42.0	+0.5
PLAL				LR	LR		
	comp=Z,235nm,22.0s,MS4.9						
FWV	**Forest Hill**	**150.63**	**15**	*e*PKPbc	PKPbc	02 18 47.7	+0.2
CBN	**Corbin**	**150.75**	**9**	PFAKE		02 18 50.0	+7.8
CBN				LR	LR		
	comp=Z,313nm,20.0s,MS5.1						
TZTN	**Tazewell**	**150.79**	**20**	*e*PKPab	PKPbc	02 18 48.6	+0.8
ELN	**Prospectdale**	**150.98**	**15**	*e*PKPbc	PKPbc	02 18 48.4	+0.1
BLA	**Blacksburg**	**151.08**	**15**	*e*PKIKP	PKPbc	02 18 48.9	+0.4
BLA				MLR	MLR		
	comp=Z,15nm,21.0s,MS3.8						
CPCT	**Cooper Cave**	**151.42**	**22**	*e*PKPab	PKPbc	02 18 50.4	+1.1
LRAL	**Lakeview Retre**	**152.44**	**29**	PFAKE		02 19 00.0	+15
LRAL				LR	LR		
	comp=Z,196nm,20.0s,MS4.9						
SIV	**San Ignacio**	**152.80**	**203**	PKP	PKPdf	02 18 47.1	+1.8
	comp=Z,4.1nm,0.8s,baz=185,slow=0.7,SNR=6.7						
SIV				PKPbc	PKPbc	02 18 53.5	+1.1
	comp=Z,21nm,0.7s,baz=124,slow=2.1,SNR=29						
SIV				PKPab	PKPab	02 19 04.2	+0.9
	comp=Z,21nm,0.9s,baz=143,slow=5.1,SNR=14						
LPAZ	**La Paz**	**154.36**	**188**	PKP	PKPdf	02 18 50.0	+2.6
	comp=Z,1.6nm,0.8s,baz=96,slow=3.7,SNR=4.1						
LPAZ				PKPbc	PKPbc	02 18 58.9	+3.1
	comp=Z,5.3nm,0.7s,baz=132,slow=5.1,SNR=8.8						
LPAZ				PKPab	PKPab	02 19 11.1	+1.1
	comp=Z,7.3nm,0.8s,baz=232,slow=18,SNR=7.1						
LPAZ	**La Paz**	**154.36**	**188**	PKP	PKPdf	02 18 50.0	+2.6
LPAZ				PKPbc	PKPbc	02 18 58.9	+3.1
LPAZ				PKPab	PKPab	02 19 11.1	+1.1
LPAZ				LR	LR		
	comp=Z,154nm,20.0s,MS4.8						
DWPF	**Disney**	**159.12**	**25**	PFAKE		02 19 10.0	+16
DWPF				LR	LR		
	comp=Z,222nm,21.0s,MS5.0						
SAML	**Samuel**	**160.03**	**205**	PFAKE		02 19 10.0	+15
SAML				LR	LR		
	comp=Z,221nm,21.0s						
TEIG	**Tepich**	**160.60**	**54**	PFAKE		02 19 10.0	+15
TEIG				LR	LR		
	comp=Z,146nm,20.0s						
OTAV	**Otavalo**	**168.74**	**143**	*e*PKPdf	PKPdf	02 19 05.2	+2.8
OTAV				LR	LR		
	comp=Z,131nm,19.0s						
CPD	**Cerro la Pandu**	**169.67**	**328**	*e*PKP2	PKPab	02 20 18.1	+1.3
SDV	**Santo Domingo**	**178.93**	**248**	PFAKE		02 19 20.0	+14
SDV				LR	LR		
	comp=Z,130nm,21.0s						

IDC ***19*** *02:02:03.0±0.8, 485S×14969E, h0km, mb4.4/11, mb1 4.6/11, mb1mx4.5/15, mbtmp4.4/11, MS4.3/11, Ms1 4.3/11, ms1mx3.8/24, Error ellipse: s-maj=25.7km s-min=19.6km az=86.0*

MOS ***19*** *02:02:07.2±1.4, 465S×14948E, h33km, mb5.4/7, Error ellipse: s-maj=17.9km s-min=9.9km az=73.8*

NEIC ***19*** *02:02:11.7±1.9, 493S×14968E, h66km±17km, mb5.1/17, Error ellipse: s-maj=11.7km s-min=10.3km az=108.0*

BJI ***19*** *02:02:11.6, 490S×14970E, h66km, mB5.1, mb4.7, Ms4.8, Msz4.6*

ISCJB ***19*** *02:02:11.5±2.0, 493S±007×14963E±009, h76km±18km, mb4.6/34, Error ellipse: s-maj=14.6km s-min=12.0km az=22.8*

HRVD ***19*** *02:02:11.7±0.2, 475S×14983E, h17km±1km, MW5.1/84, Centroid moment Tensor Solution. LP body waves: s43,c58;Mantle waves: s84,c146; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.18±.21; $M_{\theta\theta}$4.21±.14; $M_{\phi\phi}$-2.03±.13; $M_{r\theta}$0.67±.34; $M_{\theta\phi}$3.03±.11; $M_{\phi r}$-1.21±.41; Best double couple: $M_0$4.81900×10^{16} NP1:ϕ_s28.00000°,δ66.00000°,λ-155.00000°. NP2: ϕ_s287.00000°,δ67.00000°,λ-27.00000°. Principal axes: T 5.4430, Plg1.0000°, Azm338.0000°; N -1.2480, Plg56.0000°, Azm70.0000°; P -4.1950, Plg34.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 19 02:02:13.1±2.0**, 500S**±008×**14979E**±009**, h79**km±18km**, h75**km±1.6km**:pP-P, n73,** σ**0.94**/66**, mb4.6**/34**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.10**	**211**	Pn	**Pn**	**02 03 26.0**	**-0.9**
	14nm,0.3s,baz=14,slow=5.9,SNR=31						
PMG				Sn	**Sn**	**02 04 24.2**	**-0.2**
	20nm,0.3s,baz=51,slow=13,SNR=2.7						
PMG				LR	LR	02 05 18.4	
	comp=Z,651nm,20.4s,baz=28,slow=38						
PMG	**Port Moresby**	**5.10**	**211**	*e*P	**Pn**	**02 03 25.9**	**-1.1**
PMG				*e*		02 04 26.3	
PMG				pmax	pmax		
	comp=Z,339nm,0.6s						
PMG	**Port Moresby**	**5.10**	**211**	*e*Pn	**Pn**	**02 03 25.9**	**-1.1**
	comp=Z,339nm,0.6s						
PMG				*e*Sn	**Sn**	**02 04 26.3**	**+1.8**
HNR	**Honiara**	**11.00**	**114**	LR	LR	02 08 31.9	
	comp=Z,1μm,19.1s,baz=353,slow=35						
CTA	**Charters Tower**	**15.39**	**193**	Pn	**Pn**	**02 05 49.2**	**+3.6**
	comp=Z,0.2nm,0.3s,baz=18,slow=13,SNR=2.6						
CTA				LR	LR	02 11 01.1	
	comp=Z,849nm,19.3s,baz=14,slow=35						
CTAO	**Charters Tower**	**15.39**	**193**	*e*P	**Pn**	**02 05 50.3**	**+4.7**
CTAO				pmax	pmax		
	comp=Z,48nm,1.4s						
CTAO	**Charters Tower**	**15.39**	**193**	*e*P	**Pn**	**02 05 50.3**	**+4.7**
	comp=Z,48nm,1.4s						
GUMO	**Guam**	**19.10**	**345**	LR	LR	02 12 08.3	
	comp=Z,948nm,20.8s,baz=135,slow=32						
WRAB	**Tennant Creek**	**21.12**	**224**	*e*P	**P**	**02 06 49.3**	**-2.1**
WRAB				pmax	pmax		
	comp=Z,183nm,1.0s,mb5.4						
WRAB	**Tennant Creek**	**21.12**	**224**	*e*P	**P**	**02 06 49.3**	**-2.1**
	comp=Z,183nm,1.0s,mb5.4						
WB2	**Warramunga Arr**	**21.13**	**224**	*e*P	**P**	**02 06 50.8**	**-0.6**
WRA	**Warramunga Arr**	**21.14**	**224**	P	**P**	**02 06 50.7**	**-0.8**
	comp=Z,42nm,0.8s,mb4.8,baz=48,slow=11,SNR=44						
DZM	**Mont Dzumac**	**23.41**	**138**	P	**P**	**02 07 16.1**	**+1.1**
	comp=Z,5.1nm,0.5s,mb4.1,baz=246,slow=8.9,SNR=15						
DZM				LR	LR	02 14 44.5	
	comp=Z,2μm,20.4s,baz=106,slow=32						
AS31	**Alice Springs**	**24.06**	**218**	*e*P	**P**	**02 07 21.3**	**+0.4**
ASAR	**Alice Springs**	**24.06**	**218**	P	**P**	**02 07 21.2**	**+0.3**
	comp=Z,10nm,0.7s,mb4.3,baz=48,slow=9.7,SNR=18						
ASPA	**Alice Springs**	**24.06**	**218**	*e*P	**P**	**02 07 21.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**26.96**	**239**	*e*P	**P**	**02 07 48.9**	**+1.8**
	comp=Z,95nm,0.9s,mb5.3						
FITZ	**Fitzroy Crossi**	**26.96**	**239**	P	**P**	**02 07 46.8**	**-0.3**
	comp=Z,26nm,0.6s,mb4.9,baz=59,slow=10,SNR=8.1						
FITZ				LR	LR	02 17 33.9	
	comp=Z,953nm,21.3s,baz=169,slow=34						
STKA	**Stephens Creek**	**27.82**	**195**	LR	LR	02 18 55.0	
	comp=Z,656nm,18.5s,baz=354,slow=36						
MBWA	**Marble Bar**	**33.29**	**238**	*e*P	**P**	**02 08 41.6**	**-1.4**
	comp=Z,12nm,0.8s,mb4.8						
NWAO	**Narrogin (SRO)**	**41.15**	**223**	LR	LR	02 27 13.7	
	comp=Z,365nm,19.5s,baz=53,slow=37						
MJAR	**Matsushiro Arr**	**42.72**	**346**	LR	LR	02 25 11.8	
	comp=Z,255nm,20.7s,baz=175,slow=33						
PSI	**Prapat**	**51.40**	**278**	P	**P**	**02 11 09.2**	**-0.6**
	comp=Z,5.4nm,0.8s,mb4.6,baz=96,slow=3.9,SNR=6.3						
MDJ	**Mudanjiang**	**52.61**	**342**	P	**P**	**02 11 19.3**	**+0.5**
MDJ				AP	pP	02 11 36.9	-1.7
MDJ				XP	sP	02 11 45.0	-2.5
MDJ				PCP	PcP	02 12 28.4	+0.5
MDJ				PP	PP	02 13 18.8	+0.3
MDJ				PCS	PcS	02 16 26.9	+0.4
MDJ				S	**S**	**02 18 39.0**	**-1.1**
MDJ				SCS	ScS	02 20 59.8	-1.2
MDJ				SS	SS	02 22 20.0	+0.8
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,61nm,4.7s						
MDJ				LR	LR		
	comp=N,340nm,17.6s						
MDJ				LR	LR		
	comp=E,263nm,18.2s						
MDJ				LR	LR		
	comp=Z,359nm,18.2s						
NST	**Nakhon Sawan**	**53.27**	**294**	P	**P**	**02 11 24.6**	**+1.0**
NANT	**Nan**	**53.82**	**298**	P	**P**	**02 11 29.0**	**+1.3**
KMI	**Kunming**	**54.63**	**306**	P	**P**	**02 11 34.8**	**+1.2**
KMI				AP	pP	02 11 53.6	+0.1
KMI				XP	sP	02 12 01.3	-1.0
KMI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
XAN	**Xi'an**	**54.73**	**318**	P	**P**	**02 11 38.5**	**+4.2**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.6						
HHC	**Hu-ho-hao-te**	**57.49**	**326**	*e*P	**P**	**02 11 55.1**	**+1.1**
HHC				AP	pP	02 12 14.3	+0.3
HHC				XP	sP	02 12 22.3	-0.6
HHC				PCP	PcP	02 12 48.4	+1.6
HHC				PP	PP	02 14 04.5	+2.3
HHC				PCS	PcS	02 16 48.6	+0.6
HHC				S	**S**	**02 19 41.0**	**-4.3**
HHC				XS	sS	02 20 14.3	-5.2
HHC				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
HHC				AMB	AMB		
	comp=Z,91nm,3.3s						
HHC				LR	LR		
	comp=N,509nm,19.0s						
HHC				LR	LR		
	comp=E,363nm,14.3s						
HHC				LR	LR		
	comp=Z,773nm,19.0s						
LZH	**Lanzhou**	**59.31**	**317**	*e*P	**P**	**02 12 07.5**	**+0.9**
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.2						
PPT	**Papeete**	**60.53**	**107**	*e*LQ		02 27 41.2	
	comp=Z,310nm,23.2s						
PPT				*e*LR	LR	02 30 09.8	
	comp=Z,135nm,24.2s						
TBI	**Tubuai**	**61.22**	**114**	*e*LQ		02 27 59.2	
	comp=Z,658nm,31.8s						
TBI				*e*LR	LR	02 30 35.3	
	comp=Z,451nm,34.0s						
GTA	**Gaotai**	**63.79**	**319**	*e*P	**P**	**02 12 37.6**	**+0.8**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**64.61**	**330**	*e*P	**P**	**02 12 42.0**	**-0.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**64.61**	**330**	*e*P	**P**	**02 12 42.0**	**-0.1**
	comp=Z,4.4nm,1.0s,mb4.2						
SONM	**Songino Array**	**64.92**	**329**	P	**P**	**02 12 44.2**	**0.0**
	comp=Z,1.5nm,0.8s,mb3.9,baz=162,slow=6.1,SNR=4.4						
ZAK	**Zakamensk**	**68.13**	**330**	*e*P	**P**	**02 13 03.3**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.0						
JIRN	**Jiri**	**69.33**	**302**	*e*P	**P**	**02 13 13.2**	**+1.1**
	comp=Z,39nm,0.9s,mb5.2						
GUN	**Gumba**	**69.67**	**302**	*e*P	**P**	**02 13 14.6**	**+0.5**
	comp=Z,48nm,0.8s,mb5.4						
PKI	**Pulchoki**	**69.96**	**302**	*e*P	**P**	**02 13 15.8**	**-0.2**
	comp=Z,33nm,1.0s,mb5.1						
PKI	**Pulchoki**	**69.96**	**302**	*e*P	**P**	**02 13 15.8**	**-0.2**
PKI				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.1						
KKN	**Kakani**	**70.14**	**302**	*e*P	**P**	**02 13 17.3**	**+0.3**
	comp=Z,33nm,0.8s,mb5.2						
KKN	**Kakani**	**70.14**	**302**	*e*P	**P**	**02 13 17.3**	**+0.3**
KKN				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.2						
DMN	**Daman**	**70.23**	**302**	*e*P	**P**	**02 13 18.3**	**+0.7**
	comp=Z,43nm,0.9s,mb5.3						
GKN	**Gorkha**	**70.74**	**302**	*e*P	**P**	**02 13 21.1**	**+0.4**
	comp=Z,38nm,0.8s,mb5.3						
VNDA	**Vanda**	**72.76**	**177**	P	**P**	**02 13 33.7**	**+0.9**
	comp=Z,3.5nm,0.9s,mb4.2,baz=324,slow=4.7,SNR=4.1						
VNDA				LR	LR	02 40 37.9	
	comp=Z,226nm,21.1s,baz=330,slow=32						
VNDA	**Vanda**	**72.76**	**177**	*e*P	**P**	**02 13 33.6**	**+0.8**
WMQ	**Urumqi**	**73.87**	**318**	P	**P**	**02 13 39.0**	**-0.3**
WMQ				AP	pP	02 13 59.5	-0.7
WMQ				XP	sP	02 14 07.6	-1.2
WMQ				PP	PP	02 16 25.8	+0.8
WMQ				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,283nm,6.2s						
WMQ				LR	LR		
	comp=N,144nm,18.5s						
WMQ				LR	LR		
	comp=E,108nm,17.4s						
WMQ				LR	LR		
	comp=Z,137nm,19.0s						
MKAR	**Makanchi Array**	**78.51**	**320**	P	**P**	**02 14 05.3**	**-0.3**
	comp=Z,0.7nm,0.6s,mb3.7,baz=112,slow=8.5,SNR=4.1						
TTA	**Tatalina**	**79.06**	**22**	*e*P	**P**	**02 14 08.1**	**-0.6**
TTA				*e*		02 14 14.3	
TTA				pmax	pmax		
	comp=Z,31nm,1.5s,mb4.9						
TTA	**Tatalina**	**79.06**	**22**	*e*P	**P**	**02 14 08.1**	**-0.5**
	comp=Z,31nm,1.5s,mb4.9						
TTA				*e*PcP	PcP	02 14 14.3	-2.6
IMA2	**Indian Mountai**	**81.65**	**20**	*e*P	**P**	**02 14 22.5**	**-0.1**
IMA2				*e*PcP	PcP	02 14 28.6	+0.4
KURK	**Kurchatov**	**82.09**	**323**	*e*P	**P**	**02 14 22.2**	**-2.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
KURK	**Kurchatov**	**82.09**	**323**	*e*P	**P**	**02 14 22.2**	**-2.6**
	comp=Z,2.4nm,0.5s,mb4.3						
MCK	**McKinley**	**82.21**	**23**	*e*P	**P**	**02 14 24.5**	**-1.0**
MCK				*e*		02 14 30.3	
MCK				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.8						
MCK	**McKinley**	**82.21**	**23**	*e*P	**P**	**02 14 24.5**	**-1.0**
	comp=Z,20nm,1.2s,mb4.8						
MCK				*e*PcP	PcP	02 14 30.3	-0.4
COLA	**College**	**83.16**	**22**	*e*P	**P**	**02 14 29.0**	**-1.4**
COLA				*e*		02 14 35.1	
COLA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
COLA	**College**	**83.16**	**22**	*e*P	**P**	**02 14 29.0**	**-1.4**
	comp=Z,5.9nm,0.8s,mb4.5						
COLA				*e*PcP	PcP	02 14 35.1	+0.3
MAW	**Mawson**	**84.24**	**203**	P	**P**	**02 14 35.6**	**-0.3**
	comp=Z,1.8nm,0.3s,mb4.3,baz=59,slow=9.5,SNR=3.8						
MAW				LR	LR	02 49 55.7	
	comp=Z,294nm,19.1s,baz=69,slow=34						
MAW	**Mawson**	**84.24**	**203**	*e*P	**P**	**02 14 35.6**	**-0.3**
MAW				*e*PcP	PcP	02 14 41.7	+2.2
QSPA	**South Pole Qui**	**84.97**	**180**	*e*P	**P**	**02 14 39.8**	**+0.2**
QSPA				*e*		02 14 45.4	
DAWY	**Dawson**	**86.20**	**25**	*e*P	**P**	**02 14 46.4**	**+0.7**
DAWY				*e*		02 14 51.3	
CHKZ	**Chkalovo**	**87.60**	**324**	*e*P	**P**	**02 14 51.0**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
CHKZ	**Chkalovo**	**87.60**	**324**	*e*P	**P**	**02 14 51.0**	**-1.5**
	comp=Z,3.1nm,1.0s,mb4.3						
BVAR	**Borovoye Array**	**87.61**	**324**	P	**P**	**02 14 51.7**	**-0.8**
	comp=Z,2.4nm,0.9s,mb4.2,baz=47,slow=3.0,SNR=4.7						
INK	**Inuvik**	**89.72**	**21**	*e*P	**P**	**02 15 02.4**	**-0.1**
INK				pmax	pmax		
	comp=Z,14nm,1.3s						
INK	**Inuvik**	**89.72**	**21**	*e*P	**P**	**02 15 02.4**	**-0.1**
	comp=Z,14nm,1.3s,mb4.9						
YKA	**Yellowknife Ar**	**97.00**	**28**	P	**P**	**02 15 36.7**	**+0.8**
	comp=Z,0.9nm,0.8s,mb4.2,baz=293,slow=6.8,SNR=2.6						
YKA	**Yellowknife Ar**	**97.00**	**28**	P	**P**	**02 15 36.7**	**+0.8**
NOA	**NORSAR Array B**	**116.05**	**339**	PKP	PKPdf	02 20 48.0	+1.2
	comp=Z,0.3nm,0.6s,baz=117,slow=9.0,SNR=3.3						
GERES	**GERESS Array B**	**122.62**	**327**	PKP	PKPdf	02 20 58.6	-0.9
	comp=Z,0.2nm,0.5s,baz=292,slow=5.2,SNR=3.4						
TORD	**Torodi Ar. Bea**	**147.50**	**287**	PKPbc	PKPbc	02 21 49.0	+1.0
	comp=Z,3.4nm,0.9s,baz=51,slow=2.6,SNR=17						
TORD	**Torodi Ar. Bea**	**147.50**	**287**	PKPbc	PKPbc	02 21 49.0	+1.0

ISCJB ***19*** *02:12:38.5±0.6, 2386S±004×6669W±006, h200km±5km, mb4.0/37, Error ellipse: s-maj=8.5km s-min=7.0km az=169.1*

IDC ***19*** *02:12:39.6±1.0, 2384S×6661W, h197km±9km, mb3.8/11, mb1 4.0/14, mb1mx3.9/16, mbtmp4.3/14, Error ellipse: s-maj=14.0km s-min=13.1km az=65.0*

NEIC ***19*** *02:12:39.1±0.5, 2389S×6664W, h194km±4km, mb4.2/31, Error ellipse: s-maj=7.5km s-min=6.0km az=81.0*

BJI ***19*** *02:12:39.1, 2390S×6660W, h193km, mB4.9*

GUC ***19*** *02:12:41.3±0.6, 2405S×6691W, h195km, ML5.1*

ISC 19 02:12:39.4±0.6**, 2389S**±004×**6668W**±006**, h194**km±5km**, n70,** σ**1.05**/74**, mb4.0**/37**, 4C-2D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.41**	**301**	P	**Pn**	**02 13 23.9**	**+2.0**
	323nm,0.3s,baz=129,slow=6.5,SNR=3513						
LVC				S	**Sn**	**02 13 56.8**	**+1.9**
	47nm,0.3s,baz=248,slow=21,SNR=3.2						
LVC	**Limon Verde**	**2.41**	**301**	⇑*i*Pn	**Pn**	**02 13 23.8**	**+1.9**
LVC				*e*Sn	**Sn**	**02 13 56.4**	**+1.4**
CEN1	**Los Morros**	**3.27**	**278**	⇓*i*P	**Pn**	**02 13 33.8**	**+1.9**
CEN1				*i* S	**Sn**	**02 14 13.2**	**+0.3**
CEN1				AML	AML	02 14 16.6	
	comp=N,1μm,0.5s						
ANCH	**Antofagasta**	**3.42**	**273**	⇑*i*P	**Pn**	**02 13 34.5**	**+0.7**
ANCH				*i* S	**Sn**	**02 14 14.4**	**-2.0**
ANCH				AML	AML	02 14 17.1	
	comp=N,3μm,0.6s						
ANCH	**Antofagasta**	**3.42**	**273**	⇑*i*P	**Pn**	**02 13 34.5**	**+0.7**

ANCH				*i* S		Sn	02 14 14.4	-2.0	
CPN1	**Cerro Paranal**	**3.48**	**257**	⇑*i* P		Pn	02 13 35.0	+0.5	
CPN1				*i* S		Sn	02 14 16.3	-1.3	
CPN1				AML		AML	02 14 18.0		
	comp=E,3µm,0.5s								
CPCH	**Copiapo**	**4.79**	**223**	*i* S		Sn	02 14 43.7	-3.5	
CDCH	**Caldera**	**4.91**	**229**	⇓*i* P		Pn	02 13 50.6	-1.9	
CDCH				*i* S		Sn	02 14 45.0	-5.1	
LPAZ	**La Paz**	**7.68**	**350**	P		Pn	02 14 29.9	+1.5	
	comp=E,3.9nm,0.3s,baz=160,slow=6.0,SNR=65								
LPAZ				S		Sn	02 15 51.8	-3.2	
	baz=261,slow=24,SNR=2.6								
LPAZ	**La Paz**	**7.68**	**350**	*e*Pn		Pn	02 14 29.6	+1.2	
	comp=E,9.6nm,0.4s								
LPAZ				*e*Sn		Sn	02 15 53.8	-1.2	
CFAA	**Coronel Fontan**	**7.81**	**190**	P		Pn	02 14 30.7	+0.6	
	comp=E,0.5nm,0.3s,baz=18,slow=12,SNR=8.5								
ARE	**Arequipa**	**8.66**	**328**	*e*P		Pn	02 14 40.0	-1.2	
ARE				*e*S		Sn	02 16 13.0	-5.2	
SIV	**San Ignacio**	**9.46**	**35**	P		Pn	02 14 51.3	-0.3	
	comp=E,0.6nm,0.3s,baz=218,slow=13,SNR=32								
TRQA	**Tornquist**	**14.69**	**165**	*e*Pn		Pn	02 15 57.0	-0.9	
	comp=E,7.5nm,0.4s								
TRQA				*e*P			02 15 59.4		
SAML	**Samuel**	**15.22**	**13**	*e*Pn		Pn	02 16 03.7	-0.8	
	comp=E,7.0nm,0.8s								
PLCA	**Paso Flores**	**17.11**	**190**	P		Pn	02 16 32.6	+5.4	
	comp=E,0.7nm,0.3s,baz=340,slow=8.9,SNR=16								
BDFB	**Brasilia**	**19.37**	**68**	P		P	02 16 51.1	+0.8	
	comp=E,4.2nm,0.3s,baz=247,slow=9.6,SNR=84								
BAO	**Brasilia Array**	**19.39**	**68**	P		P	02 16 51.0	+0.4	
CAM4	**Nova Friburgo**	**22.23**	**91**	*e*P		P	02 17 19.3	-0.7	
CAM4				*i*			02 17 20.9		
CAM4				*i*			02 17 28.7		
CAM4				*i*			02 17 44.2		
SDV	**Santo Domingo**	**32.80**	**353**	*e*P		P	02 18 53.0	-1.3	
	comp=E,5.6nm,0.9s,mb4.1								
TEIG	**Tepich**	**48.63**	**333**	*e*P		P	02 21 03.3	-0.3	
	comp=E,4.7nm,0.5s,mb4.1								
VNA1	**Neumayer--Stat**	**57.36**	**160**	*e*P		P	02 22 10.6	+3.3	
VNA1				*e*			02 22 13.0		
VNA1				*e*			02 22 16.3		
VNA1				*e*		pP	02 22 58.5	+7.2	
SNAA	**Sanae**	**59.36**	**161**	*e*P		P	02 22 22.9	+1.8	
SNAA				*e*			02 22 25.7		
SNAA				*e*			02 22 28.6		
SNAA				*e*		pP	02 23 06.9	+1.4	
HKT	**Hockley**	**60.41**	**331**	*e*P		P	02 22 28.5	+0.3	
	comp=E,2.3nm,0.8s,mb3.9								
PLAL	**Pickwick Lake**	**61.96**	**340**	*e*P		P	02 22 36.8	-1.9	
	comp=E,4.8nm,0.5s,mb4.4								
JCT	**Junction City**	**62.70**	**328**	*e*P		P	02 22 43.4	-0.2	
	comp=E,9.0nm,0.8s,mb4.5								
WVT	**Waverly**	**62.95**	**341**	*e*P		P	02 22 43.8	-1.4	
	comp=E,14nm,0.7s,mb4.7								
WCI	**Wyandotte Cave**	**64.47**	**343**	*e*P		P	02 22 54.0	-1.1	
	comp=E,6.8nm,0.6s,mb4.5								
FVM	**French Village**	**65.46**	**340**	*e*P		P	02 23 00.6	-0.9	
	comp=E,7.6nm,0.5s,mb4.6								
CCM	**Cathedral Cave**	**65.79**	**339**	*e*P		P	02 23 02.5	-1.1	
	comp=E,14nm,0.6s,mb4.8								
FFD	**Franklin Falls**	**67.17**	**356**	*e*P		P	02 23 11.1	-1.3	
	comp=E,26nm,0.9s,mb4.9								
DBIC	**Dimbokro**	**67.49**	**71**	P		P	02 23 13.8	-0.6	
	comp=E,5.7nm,1.1s,mb4.1,baz=277,slow=10,SNR=7.9								
ANMO	**Albuquerque**	**69.62**	**326**	*e*P		P	02 23 28.4	+0.9	
	comp=E,1.6nm,0.6s,mb3.8								
TUC	**Tucson**	**69.97**	**321**	*e*P		P	02 23 30.4	+0.7	
	comp=E,2.2nm,1.0s,mb3.7								
ISCO	**Idaho Springs**	**73.03**	**330**	*e*P		P	02 23 49.1	+1.1	
	comp=E,1.1nm,0.8s,mb3.5								
SMCO	**Snowmass**	**73.18**	**328**	*e*P		P	02 23 48.2	-0.7	
	comp=E,5.5nm,0.9s,mb4.2								
VNDA	**Vanda**	**74.86**	**190**	P		P	02 23 57.3	-1.3	
	comp=E,1.1nm,1.0s,mb3.5,baz=101,slow=6.4,SNR=4.0								
RSSD	**Black Hills**	**75.83**	**333**	*e*P		P	02 24 04.9	+0.8	
	comp=E,2.4nm,0.7s,mb3.9								
TORD	**Torodi Ar. Bea**	**76.25**	**69**	P		P	02 24 06.2	-0.3	
	comp=E,3.8nm,0.7s,mb4.2,baz=237,slow=4.6,SNR=55								
DUG	**Dugway**	**76.88**	**325**	*e*P		P	02 24 11.3	+1.3	
	comp=E,2.0nm,0.9s,mb3.8								
BW06	**Boulder Array**	**77.20**	**329**	*e*P		P	02 24 11.8	0.0	
	comp=E,1.0nm,0.5s,mb3.7								
PDAR	**Pinedale Array**	**77.20**	**329**	P		P	02 24 12.2	+0.4	
	comp=E,1.1nm,0.6s,mb3.6,baz=133,slow=7.2,SNR=12								
HWUT	**Hardware Ranch**	**77.29**	**327**	*e*P		P	02 24 12.9	+0.6	
	comp=E,3.0nm,0.6s,mb4.1								
ULM	**Lac du Bonnet**	**78.21**	**341**	P		P	02 24 16.8	-0.6	
	comp=E,5.1nm,0.6s,mb4.3,baz=148,slow=6.4,SNR=13								
ULM	**Lac du Bonnet**	**78.21**	**341**	*e*P		P	02 24 16.4	-1.0	
	comp=E,4.4nm,0.5s,mb4.3								
SCHQ	**Schefferville**	**78.39**	**360**	P		P	02 24 17.7	-0.7	
	comp=E,7.7nm,0.6s,mb3.9,baz=159,slow=12,SNR=4.3								
SCHQ	**Schefferville**	**78.39**	**360**	P		P	02 24 17.7	-0.7	
TPAW	**Teton Pass**	**78.41**	**329**	*e*P		P	02 24 19.5	+1.0	
	comp=E,4.3nm,0.8s,mb4.1								
MOOW	**Moose Ponds**	**78.51**	**329**	*e*P		P	02 24 19.4	+0.4	
	comp=E,0.9nm,0.6s,mb3.6								
ELK	**Elko**	**78.55**	**324**	*e*P		P	02 24 19.8	+0.6	
	comp=E,1.6nm,0.7s,mb3.8								
NVAR	**Mina Array Bea**	**78.63**	**321**	P		P	02 24 20.1	+0.4	
	comp=E,0.7nm,0.6s,mb3.5,baz=141,slow=6.6,SNR=4.6								
IMW	**Indian Meadow**	**78.71**	**329**	*e*P		P	02 24 21.0	+0.9	
	comp=E,6.8nm,0.9s,mb4.3								
HLID	**Hailey**	**80.15**	**327**	*e*P		P	02 24 29.0	+1.1	
	comp=E,9.4nm,1.2s,mb4.3								
MCMT	**McKenzie Canyo**	**80.32**	**329**	*e*P		P	02 24 30.0	+1.3	
BOZ	**Bozeman (W)**	**80.36**	**330**	*e*P		P	02 24 29.1	+0.1	
	comp=E,1.0nm,0.8s,mb3.5								
BOSA	**Boshof**	**80.52**	**117**	P		P	02 24 30.0	+0.1	
	comp=E,0.5nm,0.3s,mb3.6,baz=262,slow=6.4,SNR=6.6								
BOSA	**Boshof**	**80.52**	**117**	P		P	02 24 30.0	+0.1	
DLMT	**Dillon**	**80.59**	**329**	*e*P		P	02 24 31.1	+0.8	
	comp=E,11nm,1.4s,mb4.3								
MAW	**Mawson**	**81.46**	**163**	P		P	02 24 35.1	+0.3	
	comp=E,3.2nm,0.7s,mb4.0,baz=311,slow=4.8,SNR=6.0								
MAW	**Mawson**	**81.46**	**163**	*e*P		P	02 24 34.6	-0.2	
	comp=E,4.0nm,0.8s,mb4.1								
BMO	**Blue Mountains**	**82.53**	**326**	*e*P		P	02 24 40.5	+0.2	
	comp=E,1.4nm,0.8s,mb3.7								
ESDC	**Sonseca Array**	**86.11**	**43**	P		P	02 24 58.3	-0.1	
	comp=E,1.1nm,0.8s,mb3.7,baz=236,slow=4.7,SNR=5.2								
YKA	**Yellowknife Ar**	**94.12**	**340**	P		P	02 25 35.0	-0.8	
	comp=E,1.6nm,0.6s,mb4.3,baz=140,slow=4.7,SNR=13								
YKA	**Yellowknife Ar**	**94.12**	**340**	P		P	02 25 35.0	-0.8	
ASAR	**Alice Springs**	**128.68**	**204**	PKP		PKPdf	02 31 23.9	+0.5	
	comp=E,1.7nm,0.7s,baz=133,slow=2.6,SNR=13								
WRA	**Warramunga Arr**	**131.86**	**207**	PKP		PKPdf	02 31 30.4	+0.9	
	comp=E,0.7nm,0.4s,baz=165,slow=1.9,SNR=8.4								
WRA				SKPbc		SKPbc	02 34 36.9	-0.2	
	comp=E,0.9nm,0.5s,baz=157,slow=3.4,SNR=5.7								
MKAR	**Makanchi Array**	**146.25**	**40**	PKPbc		PKPbc	02 31 55.9	-1.1	
	comp=E,4.5nm,0.6s,baz=327,slow=2.3,SNR=36								
SONM	**Songino Array**	**155.47**	**11**	PKP		PKPdf	02 32 10.4	+0.8	
	comp=E,0.8nm,0.9s,baz=220,slow=0.9,SNR=4.8								
SONM				PKPab		PKPab	02 32 36.7	+0.4	
	comp=E,1.1nm,0.7s,baz=330,slow=4.3,SNR=8.7								
CN2	**Changchun**	**157.77**	**336**	*e*PKP		PKPdf	02 32 08.3	-4.3	
SNY	**Shenyang**	**160.17**	**337**	*e*PKP		PKPdf	02 32 18.8	+3.4	

ISCJB ***19*** *02:16:49.1±1.7, 93S±04×1089E±05, h10km, mb4.1/9, Error ellipse: s-maj=83.0km s-min=16.6km az=100.9*

IDC ***19*** *02:16:50.5±2.1, 9.15S×109.13E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/16, mbtmp4.0/5, Error ellipse: s-maj=103.4km s-min=21.7km az=51.0*

NEIC ***19*** *02:16:50.9±1.3, 9.33S×108.86E, h10km, mb4.3/4, Error ellipse: s-maj=70.1km s-min=13.6km az=50.0*

ISC 19 02:16:50.9±1.7,94S±04×1088E±05,h10km,n10,σ0§77/9, mb4.1/9,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.83**	**116**	P		P	**02 22 30.5**	**-0.9**
	0.5nm,0.3s,mb3.5,baz=287,slow=12,SNR=3.8							
STKA	**Stephens Creek**	**37.77**	**131**	P		P	**02 24 07.9**	**+0.9**
	1.0nm,0.4s,mb3.9,baz=315,slow=10.0,SNR=3.5							
SONM	**Songino Array**	**56.98**	**358**	P		P	**02 26 37.2**	**+0.6**
	1.4nm,0.6s,mb4.2,baz=174,slow=8.7,SNR=11							
ULN	**Ulaanbaatar**	**56.99**	**359**	*e*P		P	**02 26 36.7**	**+0.1**
	2.1nm,0.8s,mb4.2							
MKAR	**Makanchi Array**	**60.69**	**339**	P		P	**02 27 02.5**	**+0.2**
	2.9nm,0.5s,mb4.7,baz=145,slow=7.6,SNR=44							
KURK	**Kurchatov**	**65.31**	**339**	*e*P		P	**02 27 32.7**	**-0.3**
	1.1nm,0.5s,mb4.1							
BVAR	**Borovoye Array**	**70.21**	**337**	P		P	**02 28 05.2**	**+1.2**
	1.6nm,0.6s,mb4.2,baz=143,slow=9.6,SNR=8.7							
CHKZ	**Chkalovo**	**70.62**	**337**	*e*P		P	**02 28 05.8**	**-0.7**
	3.6nm,0.9s,mb4.3							
ZRNK	**Zerenda**	**70.71**	**336**	*e*P		P	**02 28 05.9**	**-1.1**
	1.2nm,0.6s,mb4.0							
WVT	**Waverly**	**149.36**	**27**	*e*PKPbc		PKPbc	02 36 40.2	+0.1

NEIC ***19*** *02:26:35.9±1.9, 896S×10757E, h10km, mb4.3/3, Error ellipse: s-maj=84.1km s-min=18.9km az=47.0*

IDC ***19*** *02:26:36.7±4.3, 857S×10800E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.8/3, Error ellipse: s-maj=168.5km s-min=30.6km az=49.0*

ISCJB ***19*** *02:26:38.2±2.5, 88S±05×1078E±05, h33km, mb4.1/6, Error ellipse: s-maj=103.0km s-min=23.0km az=94.1*

ISC 19 02:26:40.4±2.6,89S±05×1076E±06,h35km,n7,σ0§31/6, mb4.1/6,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.07**	**116**	P		P	**02 32 28.5**	**0.0**
	0.7nm,0.3s,mb3.7,baz=291,slow=10,SNR=4.8							
SONM	**Songino Array**	**56.46**	**359**	P		P	**02 36 18.8**	**+0.2**
	1.0nm,0.5s,mb4.2,baz=178,slow=7.7,SNR=13							
ULN	**Ulaanbaatar**	**56.48**	**360**	*e*P		P	**02 36 18.5**	**-0.2**
	1.2nm,0.5s,mb4.2							
MKAR	**Makanchi Array**	**59.84**	**340**	P		P	**02 36 42.6**	**+0.4**
	1.0nm,0.5s,mb4.1,baz=155,slow=7.6,SNR=13							
CHKZ	**Chkalovo**	**69.73**	**338**	*e*P		P	**02 37 46.7**	**0.0**
	1.8nm,0.5s,mb4.3							
CHKZ				*e*		pP	02 37 59.2	+1.6
ZRNK	**Zerenda**	**69.80**	**336**	*e*P		P	**02 37 46.9**	**-0.3**
	1.2nm,0.6s,mb4.0							
WVT	**Waverly**	**149.42**	**25**	*e*PKPbc		PKPbc	02 46 24.8	-0.9
WVT				*e*			02 46 37.1	

IDC ***19*** *02:34:04.4±1.3, 4571N×1583E, h0km, mb3.6/3, mb1 3.8/8, mb1mx3.6/21, mbtmp3.7/8, ML3.8/5, MS2.9/2, Ms1 2.9/2, ms1mx2.5/34, Error ellipse: s-maj=16.3km s-min=13.2km az=89.0*

IPEC ***19*** *02:34:05.0±0.2, 4568N×1575E, h0km, ML2.9/2, Error ellipse: s-maj=1.9km s-min=0.9km az=176.0*

PRU ***19*** *02:34:05.3, 4567N×1543E, h0km*

SZGRF ***19*** *02:34:05.2, 4569N×1594E, h10km, mb4.1, Northwestern Balkan Peninsula*

LJU ***19*** *02:34:06.0, 4570N×1561E, h13km, ML3.4*

PDG ***19*** *02:34:06.9±2.6, 4573N×1569E, h16km±5km*

ROM ***19*** *02:34:06.7±0.5, 4570N×1565E, h10km, Ml3.7/25, Error ellipse: s-maj=9.9km s-min=2.6km az=123.0*

LDG ***19*** *02:34:06.7±0.1, 4580N×1563E, h10km, Ml3.4/11, Error ellipse: s-maj=2.9km s-min=2.6km az=155.0*

NEIC ***19*** *02:34:06.5±0.3, 4571N×1560E, h10km, ML3.1(BRA), ML3.2(LJU), Error ellipse: s-maj=3.8km s-min=3.1km az=5.0*

NEIC Felt [IV] at Krsko, Slovenia.

ISCJB ***19*** *02:34:06.3±0.3, 4575N±001×1570E±002, h17km±2km, mb3.5/3, Error ellipse: s-maj=2.2km s-min=1.7km az=107.2*

MOS ***19*** *02:34:07.0±1.0, 4568N×1552E, h33km, mb3.9/2, Error ellipse: s-maj=4.8km s-min=3.7km az=112.1*

CSEM ***19*** *02:34:08.2±0.0, 4574N×1548E, h12km, ML3.5/13, Error ellipse: s-maj=0.9km s-min=0.9km az=78.0*

STR ***19*** *02:34:13.5±2.7, 4582N×1491E, h10km±1km, Ml3.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 19 02:34:06.7±0.2,45741N±0010×1562E±002,h10km±1km, n285,σ1§21/443,mb3.5/3,38C-52D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GCIS	**Gornji Cirnik**	**0.13**	**1**	⇓*i* P		Pg	**02 34 09.9**	**+0.2**
GCIS				*i* S		Sg	02 34 12.3	+0.4
GCIS								
	comp=Z,31µm,0.2s							
GCIS	**Gornji Cirnik**	**0.13**	**1**	⇓*i* P		Pg	**02 34 09.9**	**+0.2**
GCIS				*i* S		Sg	02 34 12.3	+0.5
	comp=Z,31µm,0.2s							
CRES	**Cresnjev**	**0.14**	**306**	⇓*i* P		Pg	**02 34 10.1**	**+0.1**
CRES				*i* S		Sg	02 34 12.4	+0.2
CRES								
	comp=Z,10µm,0.3s							
CRES	**Cresnjev**	**0.14**	**306**	⇓*i* P		Pg	**02 34 10.1**	**+0.1**
CRES				*i* S		Sg	02 34 12.4	+0.2
CRES	**Cresnjev**	**0.14**	**306**	⇓*i* P		Pg	**02 34 10.1**	**+0.1**
CRES				*i* S		Sg	02 34 12.4	+0.1
	comp=Z,10µm,0.3s							
CESS	**Cesta pri Krsk**	**0.26**	**334**	⇓*i* P		Pg	**02 34 12.2**	**+0.3**
CESS				*e*Sg		Sg	02 34 16.7	+1.3
GOLS	**Golise**	**0.27**	**0**	⇓*i* P		Pg	**02 34 12.4**	**+0.2**
GOLS								
	comp=Z,4µm,0.3s							
GOLS	**Golise**	**0.27**	**0**	⇓*i* P		Pg	**02 34 12.4**	**+0.2**
	comp=Z,4µm,0.3s							
LEGS	**Legarje**	**0.30**	**314**	⇓*i* P		Pg	**02 34 12.8**	**+0.2**
LEGS				*e*Sg		Sg	02 34 17.5	+0.8
BOJS	**Bojanci**	**0.35**	**228**	⇑*i* P		Pg	**02 34 12.9**	**-0.8**
BOJS				*e*Sg		Sg	02 34 17.5	-0.9
BOJS								
	comp=Z,1µm,0.1s							
BOJS	**Bojanci**	**0.35**	**228**	⇑*i* P		Pg	**02 34 12.9**	**-0.8**
BOJS				*e*Sg		Sg	02 34 17.5	-0.9
	comp=Z,1µm,0.1s							
DOBS	**Dobrina**	**0.42**	**345**	⇓*i* P		Pg	**02 34 15.6**	**+0.6**
PDKS	**Podkum**	**0.54**	**306**	⇓*i* P		Pg	**02 34 17.6**	**+0.4**
PDKS				*i* Sg		Sg	02 34 24.9	+0.6
PDKS								
	comp=Z,2µm,0.5s							
PDKS	**Podkum**	**0.54**	**306**	⇓*i* P		Pg	**02 34 17.6**	**+0.4**
PDKS				*i* Sg		Sg	02 34 24.9	+0.6
VISS	**Visnje**	**0.55**	**277**	⇓*i* P		Pg	**02 34 17.6**	**+0.2**
VISS				*i* Sg		Sg	02 34 24.7	0.0
VISS								
	comp=Z,497nm,0.1s							
VISS	**Visnje**	**0.55**	**277**	⇓*i* P		Pg	**02 34 17.6**	**+0.2**
VISS				*i* Sg		Sg	02 34 24.7	0.0
	comp=Z,497nm,0.1s							
SISC	**Sisak**	**0.59**	**117**	⇓*i* P		Pg	**02 34 17.4**	**-0.8**
SISC				Sg		Sg	02 34 25.9	0.0
GROS	**Grobnik**	**0.72**	**353**	⇓*i* P		Pg	**02 34 21.1**	**+0.4**
GROS				*e*Sg		Sg	02 34 33.1	+3.0
GROS								
	comp=Z,4µm,0.3s							
GROS	**Grobnik**	**0.72**	**353**	⇓*i* P		Pg	**02 34 21.1**	**+0.4**
GROS				*e*Sg		Sg	02 34 33.1	+3.0
LJU	**Ljubljana**	**0.82**	**292**	⇓*i* P		Pg	**02 34 22.7**	**+0.1**
LJU				*e*Sg		Sg	02 34 35.1	+1.8
LJU								
	comp=Z,813nm,0.2s							
LJU	**Ljubljana**	**0.82**	**292**	⇓*i* P		Pg	**02 34 22.7**	**+0.1**
LJU				*e*Sg		Sg	02 34 35.1	+1.8
LJU	**Ljubljana**	**0.82**	**292**	*e*P		Pg	**02 34 22.6**	**+0.1**
CEY	**Cerknica**	**0.84**	**270**	*i* P		Pg	**02 34 22.5**	**-0.3**
KNDS	**Knezji Dol**	**0.90**	**257**	*i* P		Pg	**02 34 23.3**	**-0.7**
KNDS				*e*Sg		Sg	02 34 35.7	0.0
KNDS								
	comp=Z,428nm,0.3s							
KNDS	**Knezji Dol**	**0.90**	**257**	*i* Pg		Pg	**02 34 23.3**	**-0.7**
KNDS				*e*Sg		Sg	02 34 35.7	0.0
	comp=Z,428nm,0.3s							
PERS	**Pernice**	**0.96**	**339**	⇓*i* P		Pg	**02 34 25.4**	**+0.2**
PERS				*e*Sg		Sg	02 34 40.3	+2.6
PERS								
	comp=Z,2µm,0.5s							
PERS	**Pernice**	**0.96**	**339**	⇓*i* P		Pg	**02 34 25.4**	**+0.2**
PERS				*e*Sg		Sg	02 34 40.3	+2.6
BISS	**Bistriski jare**	**0.97**	**339**	⇓*i* P		Pg	**02 34 25.5**	**+0.2**
OBKA	**Obir**	**1.07**	**316**	*e*Pg		Pg	**02 34 27.4**	**+0.1**
	SNR=2156							
OBKA				⇑*i* Sg		Sg	02 34 42.3	+1.1
	comp=Z,3µm,0.4s							
OBKA	**Obir**	**1.07**	**316**	*e*Pg		Pg	**02 34 27.4**	**+0.1**
OBKA				*i* Sg		Sg	02 34 42.3	+1.1
JAVS	**Javornik**	**1.10**	**279**	*i* Pg		Pg	**02 34 27.5**	**-0.4**
JAVS				*e*Sg		Sg	02 34 43.5	+1.4
JAVS								
	comp=Z,271nm,0.2s							
VOJS	**Vojsko**	**1.25**	**284**	*i* Pg		Pg	**02 34 29.8**	**-0.8**
VOJS				*e*Sg		Sg	02 34 48.0	+1.1

GORS	**Gorjuse**	**1.27**	**298**	*e*Pg		Pg	**02 34 30.4**	**-0.7**	
GORS				*e*Sg		Sg	02 34 48.8	+1.1	
TRI	**Trieste**	**1.30**	**269**	*e*Pn		Pn	02 34 30.8	-0.1	
TRI				*e*Sg		Sg	02 34 49.1	+0.5	
CADS	**Cadrg**	**1.40**	**291**	*i* Pg		Pg	02 34 31.9	-1.7	
CADS				*i* Sg		Sg	02 34 53.0	+1.1	
CADS									
	comp=Z,483nm,0.3s								
CADS	**Cadrg**	**1.40**	**291**	*i* Pg		Pg	02 34 31.9	-1.7	
	comp=Z,483nm,0.3s								
DRE	**Drenchia**	**1.45**	**288**	⇑*e*Pg		Pg	02 34 32.5	-1.9	
DRE				*e*Sg		Sg	02 34 54.3	+1.1	
BLY	**Banja Luka**	**1.48**	**131**	P		Pn	02 34 32.0	-1.3	
BLY				S		Sn	02 34 52.9	+0.2	
ARSA	**Arzberg**	**1.51**	**357**	⇓*e*Pn		Pn	02 34 33.7	0.0	
	SNR=272								
ARSA				⇓*i* Pg		Pg	02 34 35.9	+0.2	
ARSA	**Arzberg**	**1.51**	**357**	⇓*e*Pn		Pn	02 34 33.7	0.0	
	SNR=272								
ARSA				⇓*i* Pg		Pg	02 34 35.9	+0.2	
ARSA				⇑*i* Sg		Sg	02 34 56.6	+1.3	
	comp=Z,204nm,0.4s								
ROBS	**Robic**	**1.56**	**290**	*e*Pg		Pg	02 34 34.0	-2.6	
ROBS				*e*Sg		Sg	02 34 56.5	-0.2	
COLI	**Coloredo**	**1.61**	**285**	⇑*e*Pg		Pg	02 34 35.2	-2.4	
COLI				*e*Sg		Sg	02 34 59.2	+0.5	
LSR	**Lussari**	**1.63**	**298**	⇑*i* Pg		Pg	02 34 36.4	-1.6	
LSR				*i* Sg		Sg	02 34 59.8	+0.6	
PTCC	**Patocco-Chiusa**	**1.71**	**294**	Pn		Pn	02 34 36.7	+0.2	
BAD	**Bernadia**	**1.73**	**287**	⇓*e*Pg		Pg	02 34 37.1	-2.8	
BAD				*e*Sg		Sg	02 35 02.3	-0.1	
GMNA	**Gemona**	**1.75**	**289**	Pn		Pn	02 34 39.4	+2.4	
TLI	**Talmassons**	**1.77**	**277**	⇓*e*Pg		Pg	02 34 38.1	-2.5	
BUA	**Buia**	**1.81**	**286**	⇑*i* Pg		Pg	02 34 39.7	-1.7	
BUA				*i* Sg		Sg	02 35 03.6	-1.2	
RHK3	**Tenkes**	**1.84**	**84**	⇑*i* P		Pn	02 34 36.4	-1.9	
BOO	**Bordano**	**1.85**	**289**	⇓*e*Pg		Pg	02 34 39.6	-2.6	
PLRO	**Paularo**	**1.90**	**296**	⇑*e*Pg		Pg	02 34 40.4	-2.7	
PLRO				*e*Sg		Sg	02 35 07.7	-0.1	
MPRI	**Monte Prat**	**1.90**	**286**	⇑*e*Pg		Pg	02 34 40.0	-3.1	
MPRI				*e*Sg		Sg	02 35 07.7	-0.2	
MPRI	**Monte Prat**	**1.90**	**286**	*e*Pg		Pg	02 34 40.0	-3.2	
MPRI				*e*Sg		Sg	02 35 07.7	-0.2	
ZOU	**Zoufplan**	**2.02**	**295**	⇓*e*Pg		Pg	02 34 42.3	-3.0	
ZOU				*e*Sg		Sg	02 35 11.2	-0.2	
KBA	**Koelnbreinsper**	**2.07**	**311**	⇑*e*Pn		Pn	02 34 41.1	-0.3	
	SNR=176								
KBA				⇑*i* Pg		Pg	02 34 45.7	-0.6	
KBA				⇑*i* Sg		Sg	02 35 13.8	+0.6	
	comp=Z,194nm,0.5s								
KBA	**Koelnbreinsper**	**2.07**	**311**	*e*Pn		Pn	02 34 42.8	+1.4	
KBA	**Koelnbreinsper**	**2.07**	**311**	⇑*i* Pg		Pg	02 34 45.7	-0.6	
KBA				*e*Sg		Sg	02 35 12.0	-1.1	
MLNI	**Malnisio**	**2.14**	**282**	⇑*i* Pg		Pg	02 34 43.6	-4.1	
MLNI				*i* Sg		Sg	02 35 13.8	-1.7	
FVI	**Forni Avoltri**	**2.15**	**294**	Pn		Pn	02 34 43.5	+1.0	
PKSM	**Moragy**	**2.16**	**76**	⇑*i* Pn		Pn	02 34 40.5	-2.1	
PKSM				*e*Sn		Sn	02 35 15.4	+6.0	
CONA	**Conrad Observa**	**2.19**	**4**	*e*Pn		Pn	02 34 41.5	-1.6	
	SNR=71								
CONA				⇑*i* Sn		Sn	02 35 08.2	-2.1	
CSMI	**Casera Mimoias**	**2.21**	**292**	⇑*e*Pg		Pg	02 34

PLE eSn Sn 02 35 45.1 -0.2
VRAC Vranov 3.63 10 Pn Pn 02 35 02.8 -0.1
comp=E,7.5nm,0.3s,baz=198,slow=14,SNR=68
VRAC Sn Sn 02 35 43.8 -1.9
comp=E,4.9nm,0.3s,baz=278,slow=19,SNR=4.5
VRAC Lg 02 36 03.6
comp=E,5.6nm,0.3s,baz=292,slow=20,SNR=4.1
VRAC LR LR 02 36 26.4
comp=E,136nm,21.6s,baz=319,slow=39
VRAC Vranov 3.63 10⇓*i*P Pn 02 35 02.8 -0.1
VRAC Vranov 3.63 10 P Pn 02 35 02.8 -0.1
VRAC 02 35 43.8
VRAC pmax pmax
comp=Z,8.0nm,0.3s
VRAC smax
comp=E,5.0nm,0.3s
VRAC MLR MLR
comp=Z,136nm,21.6s
VRAC Vranov 3.63 10 *e*Pn Pn 02 35 02.7 -0.1
VRAC *e*Sn Sn 02 35 42.9 -2.8
comp=Z,16nm,0.3s
PSZ Piszkesteto 3.65 52⇑*i*Pn Pn 02 35 03.0 -0.2
KHC Kasperske Hory 3.67 338 *e*PN Pn 02 35 03.8 +0.5
KHC *ex* x 02 35 10.0
KHC *e*PG Pg 02 35 18.5 +1.6
KHC *e*SN Sn 02 35 46.0 -0.6
KHC *e*SG Sg 02 36 04.1 -0.3
KHC Kasperske Hory 3.67 338 *e*P Pn 02 35 03.8 +0.5
KHC *e* 02 35 46.0
BRMO Bormio 3.73 283 Pn Pn 02 35 06.7 +2.5
comp=Z,174nm,1.2s
PZZT Monte Pizzetto 3.74 246 Pn Pn 02 35 05.0 +0.6
comp=Z,60nm,0.7s
AQU L'Aquila 3.75 206⇑*i*P Pn 02 35 12.0 +7.6
AQU L'Aquila 3.75 206⇑P Pn 02 35 12.0 +7.6
FAGN Fagnano 3.77 204 Pn Pn 02 35 05.7 +0.9
comp=Z,226nm,0.5s
NKY Niksic 3.80 139⇓*i*Pn Pn 02 35 05.6 +0.4
NKY *e*Sn Sn 02 35 50.4 +0.5
CSNT Castellina Chi 3.84 235 Pn Pn 02 35 07.5 +1.8
comp=Z,28nm,0.4s
FUR Furstenfeldbru 3.84 311 *e*Pn Pn 02 35 06.8 +1.1
WET Wettzell 3.88 332 *e*Pn Pn 02 35 06.6 +0.3
WET *e*Sg Sg 02 36 17.8 +6.5
WET Wettzell 3.88 332 *e*Pn Pn 02 35 06.5 +0.2
HCY Herceg Novi 3.89 147⇓*i*Pn Pn 02 35 07.5 +1.1
HCY *e*Sn Sn 02 35 53.0 +0.8
FIAM Fiamignano 3.91 208 Pn Pn 02 35 09.8 +3.0
INTR Introdacqua 3.93 199 Pn Pn 02 35 06.2 -0.8
comp=Z,212nm,0.7s
SACS San Casciano d 3.93 224 Pn Pn 02 35 08.9 +1.9
SJES Sjenica 3.96 127 Pn Pn 02 35 06.8 -0.5
MNS Montasola 3.97 213 Pn Pn 02 35 07.5 0.0
comp=Z,88nm,0.9s
SGRT San Giovanni R 3.99 179 Pn Pn 02 35 07.3 -0.5
comp=Z,256nm,1.2s
MSAG Monte S. Angel 4.03 177 Pn Pn 02 35 07.8 -0.6
FGMS Monte Sant'Ang 4.04 176 Pn Pn 02 35 09.0 +0.5
comp=Z,79nm,0.7s
TRIV Trivento 4.05 191 Pn Pn 02 35 08.6 0.0
RGNG Rignano Grg 4.07 180⇑*i*Pn Pn 02 35 08.0 -0.8
GRUS Gruza 4.07 115 *i* Pn Pn 02 35 08.0 -0.9
DAVOX Davos 4.12 287 Pn Pn 02 35 12.2 +2.6
comp=Z,1.7nm,0.3s,baz=116,slow=14,SNR=22
DAVOX Sn Sn 02 35 53.7 -4.1
comp=Z,2.3nm,0.3s,baz=42,slow=3.0,SNR=4.6
DAVOX Lg 02 36 17.2
comp=Z,2.8nm,0.3s,baz=350,slow=23,SNR=7.1
DAVOX LR LR 02 37 03.9
comp=Z,161nm,19.1s,baz=195,slow=42
DAVOX Davos 4.12 287 Pn Pn 02 35 12.2 +2.6
DAVOX Sn Sn 02 35 53.7 -4.1
DAVOX Lg 02 36 17.2
DAVOX LR LR 02 37 03.9
DAVOX Davos 4.12 287 Pn Pn 02 35 12.0 +2.4
DAVOX Sn Sn 02 35 53.7 -4.0
CIGN Sant'Elia a Pi 4.12 188 Pn Pn 02 35 11.2 +1.6
VVLD Villa Vallelon 4.13 201 Pn Pn 02 35 09.8 +0.1
comp=Z,134nm,0.7s
PII Pisa 4.16 243 Pn Pn 02 35 11.4 +1.3
comp=Z,36nm,0.7s
BUM Brajici-Budva 4.17 144 *e*Pn Pn 02 35 11.9 +1.6
IVA Berane 4.20 132⇓*i*Pn Pn 02 35 10.9 +0.2
IVA *e*Sn Sn 02 35 60.0 +0.2
BZS Buzias 4.20 90⇑*i*P Pn 02 35 09.7 -1.0
BZS Buzias 4.20 90 ⇑P Pn 02 35 09.7 -1.1
MIDA Miranda 4.22 194 Pn Pn 02 35 10.3 -0.6
comp=Z,91nm,0.8s
TTG Podgorica 4.22 140⇓*i*Pn Pn 02 35 12.2 +1.2
TTG *e*Sn Sn 02 36 00.3 0.0
SDI San Donato 4.24 199 Pn Pn 02 35 12.6 +1.4
comp=Z,26nm,0.4s
MORC Moravsky Berou 4.24 17⇓*i*P Pn 02 35 11.7 +0.4
MORC Moravsky Berou 4.24 17 *e*Pn Pn 02 35 11.4 +0.1
DAVA Damuels 4.26 293⇑*i*Sn Sn 02 36 03.4 +2.2
DAVA ⇑*i*Sg Sg 02 36 26.9 +3.6
comp=Z,30nm,0.6s
DAVA Damuels 4.26 293⇓*i*Pn Pn 02 35 13.2 +1.7
SNR=9.5
DAVA ⇑*i*Sn Sn 02 36 03.4 +2.2
DAVA ⇑*i*Sg Sg 02 36 26.9 +3.6
comp=Z,30nm,0.6s
DAVA Damuels 4.26 293⇓*i*Pn Pn 02 35 13.2 +1.7
DAVA *i* Sn Sn 02 36 03.4 +2.2
DAVA *i* Sg Sg 02 36 26.9 +3.6
DAVA Damuels 4.26 293⇓*i*Pn Pn 02 35 13.2 +1.7
DAVA *i* Sn Sn 02 36 03.4 +2.3
BSSO Busso 4.26 190 Pn Pn 02 35 12.7 +1.2
comp=Z,135nm,0.9s
PRU Pruhonice 4.31 351 *e*PN Pn 02 35 12.4 +0.2
PRU *e*SN Sn 02 36 01.1 -1.4
SACR S. Croce Del S 4.39 189 Pn Pn 02 35 14.5 +1.2
comp=Z,89nm,0.9s
PVY Plav 4.44 134⇓*i*Pn Pn 02 35 14.7 +0.7
PVY *e*Sn Sn 02 36 06.0 +0.4
OKC Ostrava-Krasne 4.44 22 *e*PN Pn 02 35 13.9 -0.1
OKC *e*SN Sn 02 36 03.8 -1.8
VAGA Valle Agricola 4.44 194 Pn Pn 02 35 15.0 +1.0
comp=Z,42nm,0.5s
FG5 Orsara di Pugl 4.46 183 Pn Pn 02 35 15.5 +1.2
comp=Z,136nm,0.9s
BOB Bobbio (Coli) 4.47 260 Pn Pn 02 35 15.2 +0.8
comp=Z,136nm,1.4s
FG4 Candela 4.61 181 Pn Pn 02 35 17.1 +0.8
comp=Z,60nm,0.4s
SGTA Sant Agata di 4.61 182 Pn Pn 02 35 16.3 0.0
comp=Z,182nm,1.1s
DPC Dobruska-Polom 4.64 6 *e*PN Pn 02 35 17.1 +0.4
DPC *e*SG Sg 02 36 36.3 +0.8
ROTZ Rotzenmuhle 4.64 331 *e*Pn Pn 02 35 16.1 -0.6
ROTZ *e*Sg Sg 02 36 39.0 +3.3
CDT Castel del Mon 4.68 174 *e*Pn Pn 02 35 16.1 -1.2
VULT Monte Vulture 4.78 180 Pn Pn 02 35 19.8 +1.1
comp=Z,110nm,0.6s
VAI Varese 4.79 274 Pn Pn 02 35 19.3 +0.4
NIE Niedzica 4.86 39 *e*Pn Pn 02 35 21.0 +1.3
NIE *e*Sn Sn 02 36 16.1 +0.1
MANZ Manzenberg 4.86 332 *e*Pn Pn 02 35 19.5 -0.3
MANZ *e*Sg Sg 02 36 43.5 +0.7
GRA1 Grafenberg Arr 4.94 325 *e*Pn Pn 02 35 23.2 +2.3
GRA1 *e*S Sn 02 36 19.2 +1.1
GRF Grafenberg Arr 4.94 325 *e*Pn Pn 02 35 23.2 +2.3
GRF *e*Sn Sn 02 36 19.2 +1.1
SG1 Sgolgore (BA) 4.96 171 *e*Pn Pn 02 35 20.1 -1.0
MCRV Calabrutti - M 4.97 184 Pn Pn 02 35 22.6 +1.4
comp=Z,35nm,0.5s
NKC Novy Kostel 4.97 336 *e*PN Pn 02 35 21.1 -0.2
MRLC Muro Lucano 4.98 181 Pn Pn 02 35 21.3 -0.2
comp=Z,74nm,1.0s
GZR Gura Zlata 5.04 91⇑*i*P Pn 02 35 21.4 -0.8
CRVS Cervenica-Dubn 5.08 49 *e*PN Pn 02 35 23.4 +0.7
CRVS Cervenica-Dubn 5.08 49 *e*Pn Pn 02 35 23.5 +0.8
PE1 Pezze di Greco 5.11 164 *e*Pn Pn 02 35 22.5 -0.6
GUNZ Gunzen 5.12 336 *e*Pn Pn 02 35 23.1 -0.3
GUNZ *e*Sn Sn 02 36 23.6 +1.0
KSP Ksiaz 5.12 5 *e*Pn Pn 02 35 24.5 +1.1
KSP *e*Sn Sn 02 36 23.4 +0.8
KSP Ksiaz 5.12 5 *e*Pn Pn 02 35 24.5 +1.1
KSP *e*Pg Pg 02 35 41.0 -3.8
KSP *e*Sn Sn 02 36 23.2 +0.6
KSP Ksiaz 5.12 5 *e*Pg Pg 02 35 41.0 -3.8
KSP *e*Sn Sn 02 36 23.2 +0.6
TANN Tannenbergstha 5.13 337 *e*Pn Pn 02 35 24.1 +0.6
WERD Werda 5.21 336 *e*Pn Pn 02 35 24.1 -0.4
WERD *e*Sg Sg 02 36 57.1 +3.3
CDRU Civita di Ruta 5.25 183 Pn Pn 02 35 25.6 +0.4
comp=Z,19nm,0.7s
BRG Berggiesshubel 5.26 348 *e*Pn Pn 02 35 24.9 -0.3
BRG *e*Sn Sn 02 36 22.9 -2.9
BRG Berggiesshubel 5.26 348 PN Pn 02 35 24.9 -0.3
BRG PG Pg 02 35 45.5 -1.9
BRG SN Sn 02 36 22.0 -3.8
BRG SG Sg 02 36 52.0 -3.4
comp=Z,24nm,0.9s
BRG Berggiesshubel 5.26 348 Pn Pn 02 35 24.9 -0.3
comp=Z,24nm,0.9s
BRG Pg Pg 02 35 45.5 -1.9
BRG Sn Sn 02 36 22.0 -3.8
BRG Sg Sg 02 36 52.0 -3.4
BRG Berggiesshubel 5.26 348 Pn Pn 02 35 24.9 -0.3
comp=Z,24nm,0.9s
SLCN Sala Consilina 5.35 180 Pn Pn 02 35 26.1 -0.4
comp=Z,64nm,0.5s
FBE Freiberg 5.40 345 *e*Pn Pn 02 35 26.8 -0.4
FBE *e*Sn Sn 02 36 26.7 -2.7
CMPR Campora 5.42 183 Pn Pn 02 35 28.0 +0.5
comp=Z,21nm,0.5s
MOX Moxa 5.59 333 *e*Pn Pn 02 35 29.8 0.0
MOX *e*Sg Sg 02 37 05.6 -0.5
MOX Moxa 5.59 333 *e*PN Pn 02 35 29.9 +0.1
MOX *e*SN Sn 02 36 31.4 -2.6
MOX *e*SG Sg 02 37 06.3 +0.2
MOX Moxa 5.59 333 *e*P Pn 02 35 29.9 +0.1
MOX *e* 02 36 31.4
BFO Black Forest 5.62 300 *e*Pn Pn 02 35 29.8 -0.4
BFO *e*Pg Pg 02 35 52.0 -2.2
BFO *e*Sg Sg 02 37 06.1 -1.0
BFO Black Forest 5.62 300 *e*Pn Pn 02 35 29.8 -0.4
BFO Black Forest 5.62 300 *e*Pg Pg 02 35 52.0 -2.3
FELD Feldberg im Sc 5.65 295 P Pn 02 35 30.8 +0.2
PGF Pioggiola 5.74 239 *e*Pn Pn 02 35 30.7 -1.1
PGF *e*Sn Sn 02 36 32.9 -4.7
comp=Z,18nm,1.0s
PGF Pioggiola 5.74 239 *e*Pn Pn 02 35 30.7 -1.1
PGF *e*Sn Sn 02 36 32.9 -4.7
comp=Z,8.9nm,1.0s
CLL Collm 5.84 344 *e*Pn Pn 02 35 32.8 -0.4
CLL *e*Sg Sg 02 37 13.3 -0.7
CLL Collm 5.84 344 *i* Pn Pn 02 35 32.9 -0.3
CLL *ex* x 02 35 36.0
CLL *e*Pg Pg 02 35 58.0 -0.4
CLL *e*Sn Sn 02 36 37.0 -3.1
CLL *e*Sb Sb 02 37 03.0 +4.6
CLL *e*Sg Sg 02 37 15.0 +1.0
comp=Z,106nm,1.0s
CLL Collm 5.84 344 *i* P Pn 02 35 32.9 -0.3
CLL *e* 02 36 37.0
CLL Collm 5.84 344 *i* Pn Pn 02 35 32.9 -0.3
CLL *e*Pg Pg 02 35 58.0 -0.4
CLL *e*Sn Sn 02 36 37.0 -3.1
CLL *e*Sg Sg 02 37 15.0 +1.0
BBS Basel-Blauen 5.85 290 P Pn 02 35 33.9 +0.5
TOD Tromm 6.01 312 P Pn 02 35 36.7 +1.1
NEUB Neuenburg 6.04 336 *e*Sg Sg 02 37 21.4 +0.9
AUTN L'Aution 6.08 256 P Pn 02 35 37.2 +0.7
SBF Sospel 6.12 255 *e*Pg Pg 02 35 59.9 -4.0
SBF *e*Sn Sn 02 36 42.5 -4.6
SBF *e*Sg Sg 02 37 18.3 -4.8
comp=Z,13nm,0.6s
SBF Sospel 6.12 255 *e*P Pn 02 35 35.2 -1.9
SBF *e* 02 36 42.5
SBF Sospel 6.12 255 *e*Pn Pn 02 35 35.2 -1.9
SBF *e*Pg Pg 02 35 59.9 -4.0
SBF *e*Sn Sn 02 36 42.5 -4.6
SBF *e*Sg Sg 02 37 18.3 -4.8
SBF Sospel 6.12 255 *e*Pg Pg 02 35 59.9 -4.0
SBF *e*Sn Sn 02 36 42.5 -4.6
SBF *e*Sg Sg 02 37 18.3 -4.8
comp=Z,6.7nm,0.6s
TOUF Mont Tournerai 6.20 257 P Pn 02 35 38.2 +0.1
TOUF Mont Tournerai 6.20 257 P Pn 02 35 39.0 +0.9
MOF Molkenrain 6.20 293 P Pn 02 35 38.4 +0.2
MOF Molkenrain 6.20 293 P Pn 02 35 40.5 +2.3
LPG La Plagne 6.23 271 *e*Pg Pg 02 36 01.5 -4.4
LPG *e*Sn Sn 02 36 44.9 -4.9
comp=Z,13nm,0.7s
LPG La Plagne 6.23 271 *e*Pn Pn 02 35 37.8 -0.8
LPG *e*Pg Pg 02 36 01.5 -4.4
LPG *e*Sn Sn 02 36 44.9 -4.9
LPG La Plagne 6.23 271 *e*Pg Pg 02 36 01.5 -4.4
LPG *e*Sn Sn 02 36 44.9 -4.9
comp=Z,6.6nm,0.7s
LPL La Plagne 6.24 271 *e*Pn Pn 02 35 38.1 -0.6
WLS Welschbruch 6.25 298 P Pn 02 35 38.6 -0.2
LOMF Lomont 6.28 288 P Pn 02 35 38.5 -0.7
LOMF Lomont 6.28 288 P Pn 02 35 38.1 -1.1
CDF Champ du Feu 6.29 298 *e*Pn Pn 02 35 36.9 -2.6
ECH Echery 6.30 296 P Pn 02 35 39.7 +0.2
ECH Echery 6.30 296 P Pn 02 35 42.8 +3.3
VTS Vitosha 6.30 117⇓*i*P Pn 02 35 40.0 +9.5
MBDF Montbardon 6.33 264 *e*Pn Pn 02 35 39.3 -0.7
MBDF *e*Sn Sn 02 36 48.2 -4.1
comp=Z,6.3nm,0.5s
MBDF Montbardon 6.33 264 *e*Pn Pn 02 35 39.3 -0.7
MBDF *e*Sn Sn 02 36 48.2 -4.1
comp=Z,3.2nm,0.5s
BNI Bardonecchia 6.34 267 *e*P Pn 02 35 40.9 +0.9
BNI pmax pmax
comp=Z,5.0nm,0.8s
BNI Bardonecchia 6.34 267 *e*Pn Pn 02 35 40.9 +0.9
comp=Z,5.0nm,0.8s
HINF Hinteralfeld 6.37 292 *e*Pg Pg 02 36 03.5 -5.2
HINF *e*Sn Sn 02 36 47.1 -6.2
comp=Z,23nm,0.6s
HINF Hinteralfeld 6.37 292 *e*Pn Pn 02 35 38.3 -2.2
HINF *e*Pg Pg 02 36 03.5 -5.2
HINF *e*Sn Sn 02 36 47.1 -6.2
HINF Hinteralfeld 6.37 292 *e*Pg Pg 02 36 03.5 -5.2
HINF *e*Sn Sn 02 36 47.1 -6.2
comp=Z,12nm,0.6s
VOIR 6.62 89⇓*i*P Pn 02 35 44.5 +0.5
VOIR 6.62 89 ⇓P Pn 02 35 44.5 +0.5
CABF La Chapelle 6.68 281 *e*Pn Pn 02 35 43.0 -1.8
HAU Haudompre 6.75 293 *e*Pg Pg 02 36 10.0 -5.9
HAU *e*Sn Sn 02 37 00.4 -2.2
comp=Z,13nm,0.5s
HAU Haudompre 6.75 293 *e*Pn Pn 02 35 42.9 -2.8
HAU *e*Pg Pg 02 36 10.0 -5.9
HAU *e*Sn Sn 02 37 00.4 -2.2
FRF La Foret Royal 6.76 254 *e*Pn Pn 02 35 45.5 -0.4
FRF *e*Sn Sn 02 36 58.1 -4.8
comp=Z,15nm,0.9s
FRF La Foret Royal 6.76 254 *e*Pn Pn 02 35 45.5 -0.4
FRF *e*Sn Sn 02 36 58.1 -4.8
comp=Z,7.7nm,0.9s
ORIF Oris-en-Rattie 6.92 267 *e*Pn Pn 02 35 47.7 -0.3
ORIF *e*Sn Sn 02 37 00.8 -5.9
comp=Z,5.7nm,0.6s
ORIF *e*Sg Sg 02 37 42.7 -6.0
ORIF Oris-en-Rattie 6.92 267 *e*P Pn 02 35 47.7 -0.3
ORIF *e* 02 37 00.8
ORIF Oris-en-Rattie 6.92 267 *e*Pn Pn 02 35 47.7 -0.3
ORIF *e*Sn Sn 02 37 00.8 -5.9
comp=Z,2.8nm,0.6s
ORIF *e*Sg Sg 02 37 42.7 -6.0
LMR La Mourre 6.94 253 *e*Pn Pn 02 35 47.7 -0.7
LMR *e*Sn Sn 02 37 00.6 -6.8
comp=Z,3.7nm,0.4s
LMR La Mourre 6.94 253 *e*Pn Pn 02 35 47.7 -0.7
LMR *e*Sn Sn 02 37 00.6 -6.8
comp=Z,1.9nm,0.4s
SMRF Simiane la Rot 7.36 260 *e*Pn Pn 02 35 53.4 -0.6
SMRF *e*Pg Pg 02 36 22.2 -5.3
VIVF Saint-Julien-l 7.77 267 *e*Pn Pn 02 35 59.0 -0.8
SMF Signal de Mont 8.23 281 *e*Pn Pn 02 36 03.6 -2.4
LOR Lormes 8.26 285 *e*Pn Pn 02 36 04.5 -2.0
LOR *e*Sn Sn 02 37 35.4 -4.4
comp=Z,8.7nm,0.8s
SSF Saint Saulge 8.48 283 *e*Pn Pn 02 36 09.6 +0.1
LASF Ste Croix 8.52 263 *e*Pn Pn 02 36 08.0 -2.0
AVF Avril sur Loir 8.57 281 *e*Pn Pn 02 36 08.6 -2.1
BGF Bois d'Agland 8.91 280 *e*Pn Pn 02 36 13.2 -2.2
BGF *e*Sg Sn 02 38 45.0 +49
comp=Z,3.0nm,0.3s
BGF Bois d'Agland 8.91 280 *e*Pn Pn 02 36 13.2 -2.2
BGF *e*Sg Sn 02 38 45.0 +49
comp=Z,1.5nm,0.3s
HYF Humbligny 9.09 284 *e*Pn Pn 02 36 16.0 -1.8
HYF *e*Pg Pn 02 36 53.8 +36
HYF *e*Sn Sn 02 37 52.0 -8.1
HYF *e*Sg Sn 02 38 51.7 +52
TCF Toulx Ste Croi 9.35 278 *e*Pn Pn 02 36 20.6 -0.8
CAF Calviac 9.59 270 *e*Pn Pn 02 36 21.9 -2.7
CAF *e*Pg Pn 02 37 03.4 +39
GRR Gorron 11.55 289 *e*Pn Pn 02 36 49.5 -2.0
ETSF Etsaut 11.94 262 *e*Pn Pn 02 36 54.6 -2.2
ETSF *e*Pg Pn 02 37 47.0 +50
HFS Hagfors 14.46 356 Pn Pn 02 37 33.5 +2.1
comp=Z,0.1nm,0.3s,baz=91,slow=15,SNR=3.6
EKA Eskdalemuir Ar 15.28 316 Pn Pn 02 37 44.8 +2.5
comp=Z,0.1nm,0.3s,baz=121,slow=14,SNR=4.5
NB2 NORSAR Subarra 15.54 352 P Pn 02 37 51.2 +5.4
comp=Z,0.6nm,0.6s,baz=166,slow=12
NOA NORSAR Array B 15.54 352 Pn Pn 02 37 48.5 +2.7
comp=Z,0.2nm,0.3s,baz=167,slow=11,SNR=4.4
ESDC Sonseca Array 15.61 254 Pn Pn 02 37 48.6 +2.0
comp=Z,0.1nm,0.3s,baz=50,slow=12,SNR=4.6
FINES FINESS Array B 16.87 17 Pn Pn 02 38 01.9 -1.0
comp=Z,0.2nm,0.3s,baz=184,slow=12,SNR=9.8
JOF Joensuu 19.39 22 *ep* Pn 02 38 37.5 +3.7
ARCES ARCESS Array B 24.37 8 P P 02 39 24.6 -0.2
comp=Z,2.6nm,0.8s,mb3.7,baz=186,slow=8.1,SNR=6.1
ARCES ARCESS Array B 24.37 8 P P 02 39 24.6 -0.2
ARCES pmax pmax
comp=Z,3.0nm,0.8s
TORD Torodi Ar. Bea 34.57 204 P P 02 40 53.6 -1.7
comp=Z,0.3nm,0.5s,mb3.4,baz=13,slow=9.2,SNR=5.9
MKAR Makanchi Array 44.83 63 P P 02 42 18.8 -2.0
comp=Z,0.5nm,0.7s,mb3.4,baz=304,slow=6.6,SNR=4.5
MKAR Makanchi Array 44.83 63 P P 02 42 18.8 -2.0
MKAR pmax pmax
comp=Z,1.0nm,0.7s

BJI ***19*** *02:35:17.8, 1063S× 108.12E, h22km, mB5.1, mb4.8, Ms5.0, Msz4.6*
IDC ***19*** *02:35:23.6± 0.5, 957S× 10791E, h0km, mb4.3/14, mb1 4.3/15, mb1mx4.3/20, mbtmp4.3/15, ML4.0/1, MS3.7/3, Ms1 3.7/3, ms1mx2.9/28, Error ellipse: s-maj=24.0km s-min=13.7km az=52.0*
ISCJB ***19*** *02:35:27.2± 0.3, 965S± 005× 10793E± 006, h35km, mb4.8/55, MS4.1/8, Error ellipse: s-maj=9.1km s-min=5.9km az=97.1*
MOS ***19*** *02:35:27.1± 1.1, 956S× 10805E, h33km, mb5.1/15, Error ellipse: s-maj=15.5km s-min=8.2km az=112.2*
NEIC ***19*** *02:35:27.4± 2.8, 966S× 10793E, h22km± 19km, mb4.9/24, Error ellipse: s-maj=12.4km s-min=5.8km az=49.0*
ISC 19 02:35:29.6±0.3, 963S±005× 10793E±005, h37km, h37km±2.7km; pP-P, n116, σ1°13/95, mb4.8/55, MS4.1/8, 9C-3D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang** 1μm,0.9s	**2.80**	**354**	P	**Pn**	**Pn**	**02 36 11.6**	**-0.3**
BJII	**Banjamegara** 137nm,1.4s	**2.88**	**38**	P	**Pn**	**Pn**	**02 36 13.5**	**+0.5**
BJII	**Banjamegara**	**2.88**	**38**	⇑*i*P	**Pn**	**Pn**	**02 36 15.1**	**+2.1**
JCJI	**Jatiwangi** 1μm,0.8s	**3.14**	**6**	P	**Pn**	**Pn**	**02 36 14.3**	**-2.2**
SBJI	**Serang** 320nm,0.8s	**3.91**	**333**	P	**Pn**	**Pn**	**02 36 27.1**	**-0.1**
NBBI	**Negara** 526nm,0.6s	**6.73**	**80**	P	**Pn**	**Pn**	**02 37 07.7**	**+1.8**
PCI	**Palu** 91nm,1.1s	**14.68**	**55**	P	**Pn**	**Pn**	**02 38 56.2**	**+1.6**
PSI	**Prapat** 0.5nm,0.3s,baz=145,slow=9.6,SNR=7.3	**15.26**	**324**	Pn	**Pn**	**Pn**	**02 39 03.5**	**+1.2**
MBWA	**Marble Bar**	**16.14**	**137**	*e*Pn	**Pn**	**Pn**	**02 39 09.8**	**-3.9**
FITZ	**Fitzroy Crossi** 18nm,1.1s	**19.14**	**118**	*e*P	**Pn**	**Pn**	**02 39 51.1**	**+0.5**
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=235,slow=10,SNR=7.8	**19.14**	**118**	P	**Pn**	**Pn**	**02 39 50.1**	**-0.5**
FITZ	0.5nm,0.3s,baz=77,slow=20,SNR=5.9			Sn	**Sn**	**Sn**	**02 43 08.9**	**-15**
BSI	**Banda Aceh** 171nm,1.1s	**19.60**	**320**	P	**Pn**	**Pn**	**02 39 55.9**	**-0.2**
KAKA	**Kakadu** 15nm,0.6s,mb4.6	**24.24**	**100**	*e*P	**P**	**P**	**02 40 43.4**	**+0.5**
NWAO	**Narrogin (SRO)** comp=Z,212nm,20.1s,MS3.6,baz=173,slow=32	**24.73**	**161**	LR	LR	LR	02 48 37.0	
WRA	**Warramunga Arr** 2.8nm,0.6s,mb4.0,baz=286,slow=11,SNR=7.4	**27.48**	**115**	P	**P**	**P**	**02 41 12.4**	**+0.2**
WRA	0.5nm,0.4s,baz=295,slow=2.2,SNR=4.9			PcP	PcP	PcP	02 44 31.2	+1.3
WRAB	**Tennant Creek** comp=Z,5.0nm,0.6s,mb4.2	**27.49**	**115**	*e*P	**P**	**P**	**02 41 12.6**	**+0.3**
WRAB				pmax	pmax			
WRAB	**Tennant Creek** comp=Z,5.4nm,0.6s,mb4.2	**27.49**	**115**	*e*P	**P**	**P**	**02 41 12.6**	**+0.3**
WB2	**Warramunga Arr**	**27.49**	**115**	*e*P	**P**	**P**	**02 41 12.3**	**0.0**
ASAR	**Alice Springs** comp=Z,1.1nm,0.7s,baz=302,slow=8.7,SNR=9.6	**28.46**	**123**	P	**P**	**P**	**02 41 19.7**	**-1.3**
ASAR	comp=Z,1.4nm,0.6s,baz=304,slow=2.4,SNR=7.2			PcP	PcP	PcP	02 44 33.7	+1.4
ASAR	comp=Z,1.6nm,0.9s,baz=304,slow=26,SNR=5.6			Sn	S		02 46 56.5	+51
ASAR	**Alice Springs**	**28.46**	**123**	P	**P**	**P**	**02 41 19.7**	**-1.3**
ASAR							02 44 33.7	
NANT	**Nan** comp=Z,112nm,0.6s,mb5.8	**29.13**	**346**	⇑P	**P**	**P**	**02 41 29.0**	**+2.0**
CHG	**Chiang Mai** comp=Z,16nm,1.0s,mb4.7	**29.62**	**343**	⇓P	**P**	**P**	**02 41 31.7**	**+0.5**
CHTO	**Chiang Mai**	**29.62**	**343**	*e*P	**P**	**P**	**02 41 31.5**	**+0.3**
CHTO	comp=Z,21nm,1.0s,mb4.8			pmax	pmax			
CHTO	**Chiang Mai** comp=Z,21nm,1.0s,mb4.8	**29.62**	**343**	*e*P	**P**	**P**	**02 41 31.5**	**+0.2**
JAY	**Jayapura** comp=Z,78nm,0.6s,mb5.8	**33.33**	**80**	P	**P**	**P**	**02 42 10.4**	**+6.5**
KMI	**Kunming**	**34.91**	**352**	P	**P**	**P**	**02 42 20.4**	**+2.8**
KMI				AP	pP	pP	02 42 30.3	+2.1
KMI	comp=Z,20nm,1.2s,mb4.9			AMB	AMB			
KMI	comp=Z,98nm,6.1s			AMB	AMB			
KMI	comp=N,160nm,19.1s,MS4.1			LR	LR			
KMI	comp=E,297nm,17.5s,MS4.1			LR	LR			
KMI	comp=Z,240nm,12.7s,MS4.1			LR	LR			
STKA	**Stephens Creek** comp=Z,1.0nm,0.9s,mb4.5	**38.23**	**130**⇓*i*P		**P**	**P**	**02 42 46.2**	**+0.3**
STKA	**Stephens Creek** comp=Z,5.4nm,0.5s,mb4.5,baz=301,slow=8.8,SNR=19	**38.23**	**130**	P	**P**	**P**	**02 42 46.3**	**+0.4**
JOW	**Kunigami** comp=Z,73nm,19.9s,MS3.5,baz=151,slow=36	**41.28**	**28**	LR	LR	LR	03 00 23.8	
SSE	**Sheshan**	**42.44**	**17**	P	**P**	**P**	**02 43 20.3**	**-0.4**
SSE	comp=Z,45nm,0.8s,mb5.2			AMB	AMB			
SSE	comp=Z,96nm,7.0s			AMB	AMB			
JIRN	**Jiri** comp=Z,67nm,0.7s,mb5.5	**42.63**	**331**	*e*P	**P**	**P**	**02 43 23.1**	**+0.8**
NJ2	**Nanjing**	**42.74**	**14**	*e*P	**P**	**P**	**02 43 21.8**	**-1.4**
NJ2				AP	pP	pP	02 43 31.6	-2.3
NJ2				XP	sP	sP	02 43 35.6	-2.8
NJ2				PP	PP	PP	02 45 03.9	+1.2
NJ2				S	**S**	**P**	**02 49 42.0**	**-2.3**
NJ2	comp=Z,10.0nm,0.8s,mb4.6			AMB	AMB			
NJ2	comp=Z,480nm,5.7s			AMB	AMB			
NJ2	comp=N,2μm,21.6s,MS5.1			LR	LR			
NJ2	comp=E,1μm,22.0s,MS5.1			LR	LR			
NJ2	comp=Z,2μm,22.0s,MS4.9			LR	LR			
GUN	**Gumba** comp=Z,57nm,0.7s,mb5.4	**42.99**	**331**	*e*P	**P**	**P**	**02 43 26.0**	**+0.8**
DMN	**Daman** comp=Z,49nm,0.9s,mb5.2	**43.12**	**330**	*e*P	**P**	**P**	**02 43 26.7**	**+0.5**
KKN	**Kakani** comp=Z,50nm,0.9s,mb5.2	**43.18**	**330**	*e*P	**P**	**P**	**02 43 27.2**	**+0.5**
KKN	comp=Z,50nm,0.9s,mb5.2	**43.18**	**330**	*e*P	**P**	**P**	**02 43 27.2**	**+0.5**
KKN				pmax	pmax			

XAN	**Xi'an**	**43.44**	**1**	P	**P**	**02 43 28.6**	**-0.2**
XAN				AP	pP	02 43 38.3	-1.3
XAN				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.6						
GKN	**Gorkha**	**43.67**	**330**	*e*P	**P**	**02 43 30.8**	**+0.1**
	comp=Z,330nm,0.9s,mb5.0						
KOLN	**Koldanda**	**44.01**	**328**	*e*P	**P**	**02 43 33.6**	**+0.2**
	comp=Z,65nm,0.8s,mb5.4						
LZH	**Lanzhou**	**45.63**	**355**	*e*P	**P**	**02 43 45.1**	**-1.2**
LZH				AP	pP	02 43 58.0	+0.9
LZH				XP	sP	02 44 03.5	+1.9
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,172nm,4.2s						
GTA	**Gaotai**	**49.37**	**352**	*e*P	**P**	**02 44 16.4**	**+1.1**
GTA				AP	pP	02 44 26.8	+0.6
GTA				XP	sP	02 44 31.8	+1.1
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.5						
BJT	**Baijiatuau**	**49.98**	**8**	*e*P	**P**	**02 44 20.3**	**+0.3**
BJT				*e**PP	pP	02 44 30.2	-0.7
BJT				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BJT	**Baijiatuau**	**49.98**	**8**	*e*P	**P**	**02 44 20.3**	**+0.3**
	comp=Z,6.3nm,0.5s,mb4.9						
BJT				*e*pP	pP	02 44 30.2	-0.8
BJI	**Beijing**	**50.01**	**8**	P	**P**	**02 44 20.0**	**-0.2**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
BJI				LR	LR		
	comp=Z,68nm,20.2s,MS3.6						
HHC	**Hu-ho-hao-te**	**50.34**	**4**	*e*P	**P**	**02 44 25.8**	**+3.1**
HHC				AP	pP	02 44 30.0	-3.6
HHC				XP	sP	02 44 33.8	-4.2
HHC				PP	PP	02 46 22.5	+4.2
HHC				S	**S**	**02 51 35.3**	**+2.3**
HHC				SCS	ScS	02 54 05.1	-5.6
HHC				SS	SS	02 55 07.0	+0.1
HHC				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
HHC				AMB	AMB		
	comp=Z,166nm,6.5s						
HHC				LR	LR		
	comp=N,171nm,14.3s,MS4.3						
HHC				LR	LR		
	comp=E,98nm,14.3s,MS4.3						
HHC				LR	LR		
	comp=Z,113nm,14.3s,MS4.0						
MAJO	**Matsushiro**	**54.04**	**30**	*e*P	**P**	**02 44 49.4**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
MAJO	**Matsushiro**	**54.04**	**30**	*e*P	**P**	**02 44 49.4**	**-0.7**
	comp=Z,14nm,0.8s,mb4.9						
MJAR	**Matsushiro Arr**	**54.04**	**30**	P	**P**	**02 44 48.3**	**-1.9**
	comp=Z,4.8nm,0.7s,mb4.5,baz=207,slow=8.0,SNR=7.9						
WMQ	**Urumqi**	**56.28**	**342**	P	**P**	**02 45 08.3**	**+1.9**
WMQ				AP	pP	02 45 12.4	-5.1
WMQ				XP	sP	02 45 14.8	-7.0
WMQ				S	**S**	**02 52 56.3**	**+2.5**
WMQ				AMB	AMB		
	comp=Z,13nm,1.5s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,114nm,5.1s						
WMQ				LR	LR		
	comp=N,472nm,15.6s,MS4.8						
WMQ				LR	LR		
	comp=E,354nm,14.5s,MS4.8						
WMQ				LR	LR		
	comp=Z,464nm,16.1s,MS4.7						
SONM	**Songino Array**	**57.22**	**359**	P	**P**	**02 45 13.6**	**+0.5**
	comp=Z,6.3nm,0.7s,mb4.8,baz=175,slow=8.2,SNR=54						
ULN	**Ulaanbaatar**	**57.24**	**359**⇑	*e*P	**P**	**02 45 12.9**	**-0.3**
ULN	**Ulaanbaatar**	**57.24**	**359**	*e*P	**P**	**02 45 13.0**	**-0.2**
	comp=Z,11nm,0.8s,mb4.9						
ZAK	**Zakamensk**	**59.90**	**357**	*e*P	**P**	**02 45 31.4**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.2						
AAK	**Ala-Archa**	**60.32**	**332**⇑	*e*P	**P**	**02 45 32.6**	**-1.9**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.2						
AAK	**Ala-Archa**	**60.32**	**332**	*e*P	**P**	**02 45 36.8**	**+2.2**
	comp=Z,3.6nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**60.65**	**340**	P	**P**	**02 45 36.7**	**-0.2**
	comp=Z,6.5nm,0.5s,mb5.0,baz=144,slow=7.7,SNR=86						
MKAR	**Makanchi Array**	**60.65**	**340**	P	**P**	**02 45 36.7**	**-0.2**
KLR	**Kul'dur**	**62.23**	**17**	*e*P	**P**	**02 45 43.0**	**-4.5**
YSS	**Yuzh-Sakhalins**	**64.31**	**26**⇑	*e*P	**P**	**02 46 01.0**	**-0.3**
YSS				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
MAW	**Mawson**	**65.14**	**197**	P	**P**	**02 46 05.6**	**-1.0**
	comp=Z,2.2nm,0.8s,mb4.3,baz=61,slow=8.1,SNR=4.2						
MAW				LR	LR	03 09 07.9	
	comp=Z,64nm,19.1s,MS3.8,baz=246,slow=31						
KURK	**Kurchatov**	**65.27**	**340**	*e*P	**P**	**02 46 06.9**	**-0.6**
KURK				*e**PP	pP	02 46 19.5	+0.7
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
KURK	**Kurchatov**	**65.27**	**340**	*e*P	**P**	**02 46 06.9**	**-0.6**
	comp=Z,6.8nm,0.9s,mb4.7						
KURK				*e*pP	pP	02 46 19.5	+0.7
BOD	**Bodaibo**	**67.39**	**4**	*e*P	**P**	**02 46 19.6**	**-1.5**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
QRN	**Al-Qurain**	**69.31**	**306**	*e*P	pP	02 46 42.5	-1.9
QRN				AMb	AMB	02 46 44.0	
	comp=Z,35nm,0.6s,mb5.5						
KBD	**Kabd**	**69.66**	**306**	*e*P	pP	02 46 45.5	-1.1
KBD				AMb	AMB	02 46 46.3	
	comp=Z,56nm,0.6s,mb5.7						
NAY	**Al-Naaiem**	**70.05**	**306**	*e*P	pP	02 46 47.4	-1.7
NAY				AMb	AMB	02 46 48.8	
	comp=Z,13nm,0.6s,mb5.0						
BVAR	**Borovoye Array**	**70.13**	**337**	P	**P**	**02 46 37.9**	**-0.3**
	comp=Z,3.6nm,0.8s,mb4.4,baz=145,slow=7.6,SNR=12						
BRVK	**Borovoye**	**70.20**	**337**	*e*P	**P**	**02 46 37.9**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**70.20**	**337**	*e*P	**P**	**02 46 37.9**	**-0.7**
	comp=Z,2.0nm,0.7s,mb4.2						
RST	**Umm Al-Ruwaisa**	**70.35**	**306**	*e*P	pP	02 46 48.5	-2.3
RST				AMb	AMB	02 46 50.5	
	comp=Z,28nm,0.6s,mb5.3						
CHKZ	**Chkalovo**	**70.55**	**338**	*e*P	**P**	**02 46 40.4**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
CHKZ	**Chkalovo**	**70.55**	**338**	*e*P	**P**	**02 46 40.4**	**-0.3**
	comp=Z,4.5nm,0.5s,mb4.7						
ZRNK	**Zerenda**	**70.61**	**336**	*e*P	**P**	**02 46 40.7**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**70.61**	**336**	*e*P	**P**	**02 46 40.7**	**-0.4**
	comp=Z,3.7nm,0.6s,mb4.5						
KMBO	**Kilima Mbogo**	**70.76**	**272**	P	**P**	**02 46 42.9**	**+0.9**
	comp=Z,0.9nm,0.7s,mb3.8,baz=45,slow=23,SNR=2.9						
VNDA	**Vanda**	**73.23**	**169**	P	**P**	**02 46 56.1**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=52,slow=1.9,SNR=3.5						
SYO	**Syowa Base**	**73.37**	**200**⇑	*e*P	pP	02 47 07.8	-1.2
YAK	**Yakutsk**	**73.43**	**11**⇑	*e*P	**P**	**02 46 56.5**	**-1.4**
YAK				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.2						
YAK	**Yakutsk**	**73.43**	**11**	*e*P	**P**	**02 46 57.2**	**-0.7**
	comp=Z,28nm,0.6s,mb5.4						
AKTK	**Aktyubinsk**	**73.84**	**329**	P	**P**	**02 46 57.9**	**-2.4**
AKTO	**Aktyubinsk**	**73.84**	**329**	P	**P**	**02 46 57.9**	**-2.4**
	comp=Z,2.1nm,1.0s,mb4.0,baz=131,slow=6.8,SNR=4.0						
SVE	**Sverdlovsk**	**76.77**	**335**	*e*P	**P**	**02 47 18.0**	**+0.8**
SVE				*e*		02 47 35.7	
MA2	**Magadan**	**77.00**	**21**	*e*P	**P**	**02 47 18.7**	**+0.2**
MA2				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
MA2	**Magadan**	**77.00**	**21**	*e*P	**P**	**02 47 18.7**	**+0.2**
	comp=Z,11nm,0.7s,mb4.9						
ARU	**Arti**	**77.37**	**334**⇑	*i*P	**P**	**02 47 19.8**	**-0.8**
ARU				*e*		02 50 13.7	
ARU				*e*PPP		02 51 59.8	
ARU				*e*S	S	02 57 07.6	-0.7
ARU				*e*SS	SS	03 02 02.7	-4.4
ARU				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
ARU	**Arti**	**77.37**	**334**	*e*P	**P**	**02 47 20.0**	**-0.5**
	comp=Z,18nm,1.4s,mb4.8						
LSZ	**Lusaka**	**77.70**	**256**	*e*P	**P**	**02 47 23.4**	**+1.0**
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
LSZ	**Lusaka**	**77.70**	**256**	*e*P	**P**	**02 47 23.4**	**+1.0**
	comp=Z,2.0nm,0.7s,mb4.2						
ASF	**Jabal al Asfar**	**79.41**	**305**	P	**P**	**02 47 31.7**	**-0.1**
	comp=Z,1.0nm,0.4s,mb4.1,baz=304,slow=4.3,SNR=4.6						
TIXI	**Tiksi**	**82.29**	**7**⇓	*i*P	**P**	**02 47 45.3**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
VRHR	**Novokhopersk**	**83.05**	**324**	*e*P	**P**	**02 47 51.4**	**+0.2**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
VRHR				pmax	pmax		
	comp=N,7.0nm,0.4s						
VRHR				pmax	pmax		
	comp=E,2.0nm,0.5s						
BR131	**Keskin Array S**	**84.25**	**312**	*e*P	**P**	**02 47 57.2**	**-0.1**
	comp=E,1.6nm,0.7s,mb4.3						
BR131				*e*	pP	02 48 07.2	-1.6
BRTR	**Keskin Array B**	**84.25**	**312**	P	**P**	**02 47 57.5**	**+0.2**
	comp=E,2.3nm,0.7s,mb4.4,baz=140,slow=6.2,SNR=15						
VRSR	**Storozhevoye**	**84.50**	**324**	*e*P	**P**	**02 47 57.9**	**-0.7**
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.1						
VRSR				pmax	pmax		
	comp=N,4.0nm,0.7s						
VRSR				pmax	pmax		
	comp=E,4.0nm,0.4s						
SNAA	**Sanae**	**87.30**	**197**	*e*	**P**	**02 48 13.5**	**+1.1**
SNAA				*e*		02 48 21.3	
OBN	**Obninsk**	**87.42**	**327**⇑	*e*P	**P**	**02 48 13.4**	**+0.4**
OBN				pmax	pmax		
	comp=Z,12nm,1.2s,mb5.0						
VNA1	**Neumayer--Stat**	**89.33**	**197**	*e*	**P**	**02 48 24.7**	**+2.6**
VNA1				*e*		02 48 32.4	
AKASG	**Malin Array Be**	**90.31**	**321**	P	**P**	**02 48 24.9**	**-1.7**
	comp=Z,0.3nm,0.4s,mb4.0,baz=96,slow=3.3,SNR=4.9						
LTX	**Lajitas**	**144.53**	**52**	*e*PKIKP	PKPdf	02 55 02.7	+0.7
WMOK	**Wichita Mounta**	**145.06**	**40**	*e*PKIKP	PKPdf	02 55 03.7	+0.8
LONY	**Lake Ozonia**	**145.07**	**3**	*e*PKPdf	PKPdf	02 55 03.0	+0.1
BDFB	**Brasilia**	**145.38**	**224**	PKPbc	PKPbc	02 55 05.6	+2.3
	comp=Z,4.5nm,0.9s,baz=63,slow=3.9,SNR=6.2						
NCB	**Newcomb**	**145.74**	**3**	*e*PKPbc	PKPbc	02 55 05.2	+0.7
JCT	**Junction City**	**146.87**	**47**	*e*PKP2	PKPab	02 55 09.9	+0.7
LVC	**Limon Verde**	**147.81**	**185**	*e*PKPbc	PKPbc	02 55 12.7	+2.2
ACSO	**Alum Creek Sta**	**148.02**	**16**	*e*PKPbc	PKPbc	02 55 11.8	+0.8
MIAR	**Mount Ida**	**148.34**	**35**	*e*PKPbc	PKPbc	02 55 13.1	+1.3
MIAR				*e*PKPab	PKPab	02 55 17.0	+2.0
WCI	**Wyandotte Cave**	**148.78**	**22**	*e*PKP2	PKPbc	02 55 13.9	+0.9
UALR	**University of**	**148.85**	**33**	*e*PKPbc	PKPbc	02 55 13.7	+0.5
UALR				*e*PKPab	PKPab	02 55 18.4	+1.3
HKT	**Hockley**	**149.98**	**44**	*e*PKP2	PKPbc	02 55 18.2	+2.2
WVT	**Waverly**	**149.98**	**26**	*e*PKP2	PKPbc	02 55 17.2	+1.2
OXF	**Oxford**	**150.58**	**30**	*e*PKIKP	PKPbc	02 55 18.3	+0.9
OXF				*e*		02 55 25.7	
PLAL	**Pickwick Lake**	**150.83**	**28**	*e*PKPbc	PKPbc	02 55 18.4	+0.4
PLAL				*e*PKPab	PKPab	02 55 29.8	+4.5
TZTN	**Tazewell**	**151.25**	**19**	*e*PKPbc	PKPbc	02 55 20.1	+1.1
CPCT	**Cooper Cave**	**151.90**	**22**	*e*PKPbc	PKPbc	02 55 22.2	+1.7
CPCT				*e*PKPab	PKPab	02 55 31.1	+1.3
LPAZ	**La Paz**	**153.96**	**189**	PKPbc	PKPbc	02 55 27.3	+2.3
	comp=Z,0.3nm,0.5s,baz=157,slow=13,SNR=4.2						

MAN ***19*** *02:44:02.8, 964N×12640E, h2km, mb3.1, ML4.4, MS2.2*
IDC ***19*** *02:44:03.4±1.8, 1087N×12679E, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.8/18, mbtmp4.2/5, Error ellipse: s-maj=193.4km s-min=37.2km az=69.0*
ISCJB ***19*** *02:44:05.6±1.4, 963N±006×1263E±0.1, h57km±12km, mb4.4/5, Error ellipse: s-maj=18.1km s-min=10.2km az=5.5*

ISC 19 02:44:06.2±1.5, 956N±006×1264E±01, h55km±12km, n20, σ1§24/23, mb4.4/5, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.90**	**284**⇑	*e*P		**Pn**		**02 44 20.2**	**-2.5**
SCPH				*e*S		**Sn**		**02 44 31.8**	**-2.9**
BUTP	**Butuan**	**0.94**	**232**	*e*P		**Pn**		**02 44 22.1**	**-1.2**
BUTP				*e*S		**Sn**		**02 44 35.1**	**-0.8**
MSLP	**Maasin**	**1.60**	**291**	*e*P		**Pn**		**02 44 32.4**	**+0.4**
CGP	**Cagayan de Oro**	**1.99**	**237**⇓	*e*P		**Pn**		**02 44 37.0**	**-0.4**
CGP				*i* S		**Sn**		**02 45 00.7**	**-0.3**
BUKP	**Musuan**	**2.11**	**218**	*e*P		**Pn**		**02 44 41.5**	**+2.5**
TBP	**Tagbilaran**	**2.48**	**273**	*e*P		**Pn**		**02 44 44.9**	**+0.8**
TBP				*e*S		**Sn**		**02 45 12.4**	**-0.7**
LLP	**Lapu-Lapu**	**2.49**	**288**⇓	*e*P		**Pn**		**02 44 44.7**	**+0.5**
LLP				*e*S		**Sn**		**02 45 16.4**	**+3.0**
SNPH	**Sibulan**	**3.10**	**266**	*e*P		**Pn**		**02 44 54.5**	**+1.9**
PAGZ	**Pagadian**	**3.41**	**240**	*e*P		**Pn**		**02 44 58.1**	**+1.3**
GUIM	**Jordan**	**3.87**	**286**	*e*P		**Pn**		**02 45 01.5**	**-1.7**
RCP	**Roxas**	**4.08**	**299**⇑	*e*P		**Pn**		**02 45 07.5**	**+1.5**
PVCP	**Virac**	**4.56**	**332**	*e*P		**Pn**		**02 45 13.3**	**+0.7**
CAUP	**Cauayan**	**8.57**	**329**	*e*P		**Pn**		**02 46 06.9**	**-0.7**
MKAR	**Makanchi Array**	**52.65**	**323**	P		**P**		**02 53 14.2**	**-0.5**
	0.7nm,0.6s,mb3.6,baz=122,slow=8.7,SNR=7.2								
JOF	**Joensuu**	**83.87**	**333**	*e*p		**P**		**02 56 28.8**	**-1.1**
	1.3nm,0.4s,mb4.4								
ARCES	**ARCESS Array B**	**84.89**	**340**	P		**P**		**02 56 35.4**	**+0.3**
	6.5nm,1.1s,mb4.7,baz=55,slow=6.4,SNR=6.2								
FINES	**FINESS Array B**	**86.56**	**332**	P		**P**		**02 56 43.3**	**-0.1**
	1.9nm,0.8s,mb4.4,baz=80,slow=5.6,SNR=10								
VNDA	**Vanda**	**89.22**	**173**	P		pP		02 57 07.2	-4.5
	0.8nm,0.7s,baz=326,slow=3.9,SNR=5.7								
HFS	**Hagfors**	**92.72**	**332**	P		**P**		**02 57 12.1**	**-0.2**
	3.3nm,1.1s,mb4.7,baz=64,slow=3.4,SNR=5.2								
TORD	**Torodi Ar. Bea**	**120.62**	**291**	PKP		PKPdf		03 02 56.2	+4.5
	0.3nm,0.8s,baz=40,slow=1.6,SNR=5.9								

BJI ***19*** *02:45:45.0, 1002S×10854E, h39km, mB5.0, mb4.7*
IDC ***19*** *02:45:46.8±0.7, 934S×10833E, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.3/19, mbtmp4.3/11, ML3.8/1, Error ellipse: s-maj=31.7km s-min=14.8km az=58.0*
NEIC ***19*** *02:45:48.0±0.3, 934S×10831E, h10km, mb4.5/11, Error ellipse: s-maj=13.0km s-min=5.9km az=52.0*
ISCJB ***19*** *02:45:49.3±0.5, 933S±009×1083E±0.1, h32km, mb4.3/22, Error ellipse: s-maj=19.2km s-min=8.0km az=111.8*
MOS ***19*** *02:45:49.6±0.9, 931S×10834E, h33km, mb4.6/8, Error ellipse: s-maj=26.5km s-min=13.0km az=122.6*

ISC 19 02:45:51.7±6.6, 939S±009×1083E±02, h35km±60km, h34km±5.0km:pP-P, n40, σ0§62/35, mb4.3/22, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.95**	**119**	P		**Pn**		**02 50 10.7**	**+0.2**
	0.2nm,0.3s,baz=273,slow=8.2,SNR=6.1								
NWAO	**Narrogin (SRO)**	**24.84**	**162**	P		**P**		**02 51 10.7**	**0.0**
	9.7nm,1.1s,mb4.3,baz=308,slow=9.9,SNR=3.5								
WRA	**Warramunga Arr**	**27.27**	**116**	P		**P**		**02 51 32.0**	**-0.6**
	2.5nm,0.7s,mb3.9,baz=286,slow=11,SNR=7.7								
WRAB	**Tennant Creek**	**27.27**	**116**	*e*P		**P**		**02 51 32.5**	**-0.1**
WRAB				pmax	pmax				
	comp=Z,5.0nm,0.8s,mb4.1								
WRAB	**Tennant Creek**	**27.27**	**116**	*e*P		**P**		**02 51 32.5**	**-0.2**
	comp=Z,5.1nm,0.8s,mb4.1								
WB2	**Warramunga Arr**	**27.28**	**116**	*e*P		**P**		**02 51 32.5**	**-0.2**
FORT	**Forrest**	**28.16**	**142**	*e*P		**P**		**02 51 37.2**	**-3.3**
	comp=Z,8.8nm,0.6s,mb4.6								
ASAR	**Alice Springs**	**28.30**	**123**	P		**P**		**02 51 41.9**	**0.0**
	comp=Z,3.4nm,0.7s,mb4.1,baz=298,slow=7.5,SNR=16								
ASAR				PcP		PcP		02 54 55.9	+1.7
	comp=Z,0.9nm,0.6s,baz=303,slow=2.1,SNR=9.0								
AS31	**Alice Springs**	**28.30**	**123**	*e*P		**P**		**02 51 41.8**	**-0.1**
AS31				*e*pP		pP		02 51 46.2	-5.7
STKA	**Stephens Creek**	**38.12**	**131**	*e*P		**P**		**02 53 07.9**	**+0.7**
	comp=Z,9.2nm,0.8s,mb4.6								
STKA	**Stephens Creek**	**38.12**	**131**	P		**P**		**02 53 08.0**	**+0.8**
	comp=Z,10nm,0.8s,mb4.6,baz=301,slow=8.7,SNR=19								
CTA	**Charters Tower**	**38.15**	**111**	*e*P		**P**		**02 53 08.6**	**+1.2**
	comp=Z,7.6nm,1.2s,mb4.3								
CTA	**Charters Tower**	**38.15**	**111**	*e*P		**P**		**02 53 08.6**	**+1.2**
CTA				pmax	pmax				
	comp=Z,8.0nm,1.2s								
XAN	**Xi'an**	**43.19**	**1**	P		**P**		**02 53 48.1**	**-0.9**
XAN				AMB	AMB				
	comp=Z,10.0nm,0.8s,mb4.6								
GTA	**Gaotai**	**49.18**	**351**	*e*P		**P**		**02 54 37.3**	**+1.2**
GTA				AP	pP			02 54 44.3	-2.4
GTA				XP	sP			02 54 48.8	-2.1
GTA				AMB	AMB				
	comp=Z,4.0nm,1.2s,mb4.3								
BJI	**Beijing**	**49.72**	**8**	P		**P**		**02 54 39.9**	**-0.3**
BJI				AMB	AMB				
	comp=Z,9.0nm,0.7s,mb4.9								
SONM	**Songino Array**	**56.99**	**358**	P		**P**		**02 55 34.0**	**+0.4**
	comp=Z,2.2nm,0.6s,mb4.4,baz=173,slow=8.3,SNR=22								
ULN	**Ulaanbaatar**	**57.01**	**359**	*e*P		**P**		**02 55 33.4**	**-0.4**
ULN				*e**PP		pP		02 55 44.3	-0.2
ULN				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.5								
ULN	**Ulaanbaatar**	**57.01**	**359**	*e*P		**P**		**02 55 33.4**	**-0.4**
	comp=Z,3.7nm,0.8s,mb4.5								
ULN				*e*pP		pP		02 55 44.3	-0.1
MKAR	**Makanchi Array**	**60.55**	**340**	P		**P**		**02 55 58.6**	**+0.2**
	comp=Z,3.2nm,0.5s,mb4.7,baz=146,slow=8.0,SNR=37								
KURK	**Kurchatov**	**65.16**	**340**	*e*P		**P**		**02 56 28.8**	**-0.3**
KURK				*e**PP		pP		02 56 38.9	-1.0
KURK				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.4								
KURK	**Kurchatov**	**65.16**	**340**	*e*P		**P**		**02 56 28.8**	**-0.3**
	comp=Z,3.1nm,0.8s,mb4.4								
KURK				*e*pP		pP		02 56 38.9	-1.0
MAW	**Mawson**	**65.47**	**197**	P		**P**		**02 56 31.2**	**+0.1**
	comp=Z,2.0nm,0.9s,mb4.2,baz=41,slow=8.2,SNR=4.3								
BVAR	**Borovoye Array**	**70.04**	**337**	P		**P**		**02 56 60.0**	**+0.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=141,slow=9.6,SNR=7.9								
BRVK	**Borovoye**	**70.11**	**337**	*e*P		**P**		**02 56 59.9**	**-0.4**
BRVK				pmax	pmax				
	comp=Z,2.0nm,0.8s,mb4.1								
BRVK	**Borovoye**	**70.11**	**337**	*e*P		**P**		**02 56 59.9**	**-0.4**
	comp=Z,1.8nm,0.8s,mb4.0								
CHKZ	**Chkalovo**	**70.46**	**337**	*e*P		**P**		**02 57 02.0**	**-0.4**
CHKZ				*e**PP		pP		02 57 12.9	-0.4
CHKZ				pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.2								
CHKZ	**Chkalovo**	**70.46**	**337**	*e*P		**P**		**02 57 02.0**	**-0.4**
	comp=Z,2.3nm,0.7s,mb4.2								
CHKZ				*e*pP		pP		02 57 12.9	-0.4
ZRNK	**Zerenda**	**70.53**	**336**	*e*P		**P**		**02 57 02.9**	**0.0**
ZRNK				*e**PP		pP		02 57 15.2	+1.4
ZRNK				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.3								
ZRNK	**Zerenda**	**70.53**	**336**	*e*P		**P**		**02 57 02.9**	**0.0**
	comp=Z,2.9nm,0.7s,mb4.3								
ZRNK				*e*pP		pP		02 57 15.2	+1.3
VNDA	**Vanda**	**73.41**	**169**	P		**P**		**02 57 20.6**	**+0.5**
	comp=Z,4.0nm,0.8s,mb4.4,baz=309,slow=6.2,SNR=21								
VNDA	**Vanda**	**73.41**	**169**	*e*P		**P**		**02 57 20.1**	**0.0**
VNDA				pmax	pmax				
	comp=Z,4.0nm,0.9s								
VNDA	**Vanda**	**73.41**	**169**	*e*P		**P**		**02 57 20.1**	**0.0**
	comp=Z,4.2nm,0.9s,mb4.4								
QSPA	**South Pole Qui**	**80.62**	**180**	*e*P		**P**		**02 58 00.0**	**-0.6**
	comp=Z,1.1nm,0.9s,mb4.8								
BRTR	**Keskin Array B**	**84.35**	**312**	P		**P**		**02 58 21.0**	**+0.9**
	comp=Z,0.7nm,0.6s,mb4.0,baz=147,slow=9.2,SNR=4.8								
WMOK	**Wichita Mounta**	**144.65**	**40**	*e*PKIKP	PKPdf			03 05 24.8	+0.3
BDFB	**Brasilia**	**145.80**	**224**	PKPbc	PKPbc			03 05 30.1	+3.1
	comp=Z,1.0nm,0.5s,baz=74,slow=6.3,SNR=3.1								
JCT	**Junction City**	**146.45**	**47**	*e*PKP2	PKPab			03 05 28.9	-1.0
WVT	**Waverly**	**149.61**	**26**	*e*PKPbc	PKPbc			03 05 38.4	+1.1
WVT				*e*				03 05 45.4	
LPAZ	**La Paz**	**154.25**	**188**	*e*PKIKP	PKPbc			03 05 50.6	+2.7
LPAZ				*e*				03 06 04.9	

IDC ***19*** *02:46:12.2±1.1, 4221N×4787E, h0km, mb3.8/7, mb1 3.8/9, mb1mx3.7/20, mbtmp3.8/9, ML3.7/1, Error ellipse: s-maj=27.8km s-min=11.2km az=138.0*
ISCJB ***19*** *02:46:13.3±0.8, 4241N±005×4816E±003, h10km±5km, mb3.7/9, Error ellipse: s-maj=8.1km s-min=4.0km az=161.1*
TIF ***19*** *02:46:16.6, 4192N×4785E, h10km±9km*
NEIC ***19*** *02:46:16.9±1.0, 4211N×4826E, h57km±11km, mb3.5/3, Error ellipse: s-maj=14.2km s-min=7.6km az=153.0*
MOS ***19

AKTK	**Aktyubinsk**	**10.52**	**37**	Pn	**Pn**	**02 48 47.7**	**+1.9**
AKTK				Sn	**Sn**	**02 50 42.8**	**-0.8**
AKTO	**Aktyubinsk**	**10.52**	**37**	Pn	**Pn**	**02 48 47.7**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=212,slow=12,SNR=16						
AKTO				Sn	**Sn**	**02 50 42.8**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=188,slow=23,SNR=4.6						
AKASG	**Malin Array Be**	**15.34**	**309**	Pn	**Pn**	**02 49 55.0**	**+3.5**
	comp=Z,2.7nm,0.3s,baz=114,slow=11,SNR=7.5						
AKASG	**Malin Array Be**	**15.34**	**309**	*i* P	**Pn**	**02 49 56.0**	**+4.5**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZRNK	**Zerenda**	**17.50**	**46**	*e*P	**Pn**	**02 50 17.8**	**-1.3**
	comp=Z,1.7nm,0.7s						
CHKZ	**Chkalovo**	**18.70**	**45**	*e*P	**Pn**	**02 50 32.1**	**-1.7**
	comp=Z,2.8nm,0.9s						
KURK	**Kurchatov**	**22.43**	**58**	*e*P	**P**	**02 51 11.6**	**-2.2**
	comp=Z,2.2nm,0.9s,mb3.6						
JOF	**Joensuu**	**22.75**	**340**	*e*p	**P**	**02 51 17.9**	**+0.7**
	comp=Z,0.8nm,0.3s,mb3.6						
FINES	**FINESS Array B**	**23.15**	**333**	P	**P**	**02 51 21.8**	**+0.3**
	comp=Z,1.6nm,0.6s,mb3.6,baz=139,slow=11,SNR=16						
KAF	**Kangasniemi**	**23.56**	**334**	*e*p	**P**	**02 51 29.8**	**+4.1**
MKAR	**Makanchi Array**	**24.61**	**68**	P	**P**	**02 51 35.9**	**+0.6**
	comp=Z,1.2nm,0.8s,mb3.5,baz=280,slow=7.3,SNR=10						
GERES	**GERESS Array B**	**24.72**	**297**	P	**P**	**02 51 34.5**	**-1.9**
	comp=Z,0.3nm,0.5s,mb3.1,baz=93,slow=11,SNR=3.7						
HFS	**Hagfors**	**27.39**	**322**	P	**P**	**02 52 00.2**	**-0.3**
	comp=Z,1.2nm,0.3s,mb3.9,baz=122,slow=9.8,SNR=32						
NB2	**NORSAR Subarra**	**28.88**	**323**	P	**P**	**02 52 13.0**	**-0.8**
	comp=Z,0.6nm,0.4s,mb3.7,baz=114,slow=8.6						
NOA	**NORSAR Array B**	**28.88**	**323**	P	**P**	**02 52 13.1**	**-0.7**
	comp=Z,1.0nm,0.6s,mb3.7,baz=118,slow=8.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**49.51**	**248**	P	**P**	**02 55 02.1**	**-3.5**
	comp=Z,0.7nm,0.5s,mb4.0,baz=29,slow=7.8,SNR=22						
DBIC	**Dimbokro**	**58.62**	**248**	P	**P**	**02 56 07.6**	**-4.6**
	comp=Z,2.0nm,0.6s,mb4.3,baz=0.0,slow=6.1,SNR=4.8						
DBIC	**Dimbokro**	**58.62**	**248**	P	**P**	**02 56 07.6**	**-4.6**

*IDC **19** 03:07:04.4±1.6,981S×10742E,h0km,mb4.0/7,mb1 4.1/7, mb1mx3.9/17,mbtmp4.0/7,MS3.4/1,Ms1 3.4/1, ms1mx2.5/25,Error ellipse: s-maj=79.0km s-min=18.8km az=48.0*

*ISCJB **19** 03:07:07.7±1.1,97S±02×1075E±03,h33km,mb4.2/13, MS3.2/1,Error ellipse: s-maj=52.1km s-min=12.6km az=99.4*

*BJI **19** 03:07:07.1,969S×10754E,h26km,mB5.1,mb4.7*

*NEIC **19** 03:07:09.2±6.7,983S×10743E,h32km±45km,mb4.4/5, Error ellipse: s-maj=45.4km s-min=9.3km az=49.0*

ISC 19 03:07:09.8±1.1,98S±02×1074E±03,h35km,n22,σ0$61/15, mb4.2/13,MS3.2/1,1C,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**24.71**	**160**	LR	LR	03 21 55.0	
	comp=Z,85nm,21.1s,MS3.2,baz=154,slow=36						
WRA	**Warramunga Arr**	**27.85**	**114**	P	**P**	**03 12 55.6**	**-0.4**
	0.8nm,0.9s,mb3.4,baz=287,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**28.79**	**122**	P	**P**	**03 13 05.8**	**+1.5**
	0.7nm,0.6s,mb3.5,baz=300,slow=9.6,SNR=6.0						
CHTO	**Chiang Mai**	**29.66**	**344**	*e*P	**P**	**03 13 12.0**	**0.0**
	5.4nm,1.0s,mb4.2						
CHTO				*e*pP	pP	03 13 22.8	+0.7
GYA	**Guiyang**	**36.07**	**359⇑**	*i*P	**P**	**03 14 08.3**	**+0.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**38.49**	**130**	P	**P**	**03 14 27.4**	**-1.1**
	comp=Z,1.0nm,0.5s,mb3.9,baz=297,slow=6.4,SNR=3.4						
STKA	**Stephens Creek**	**38.49**	**130**	*e*P	**P**	**03 14 27.4**	**-1.1**
STKA				*e*pP	pP	03 14 38.2	-0.5
SONM	**Songino Array**	**57.41**	**359**	P	**P**	**03 16 54.6**	**-0.2**
	comp=Z,2.4nm,0.7s,mb4.3,baz=171,slow=8.1,SNR=22						
MKAR	**Makanchi Array**	**60.66**	**340**	P	**P**	**03 17 17.7**	**+0.3**
	comp=Z,3.0nm,0.7s,mb4.6,baz=144,slow=7.4,SNR=20						
MKAR	**Makanchi Array**	**60.66**	**340**	P	**P**	**03 17 17.7**	**+0.3**
KURK	**Kurchatov**	**65.28**	**340**	*e*P	**P**	**03 17 48.2**	**+0.2**
	comp=Z,3.1nm,0.3s,mb4.8						
BVAR	**Borovoye Array**	**70.11**	**337**	P	**P**	**03 18 18.0**	**-0.5**
	comp=Z,1.1nm,0.6s,mb3.9,baz=141,slow=9.3,SNR=4.7						
BRVK	**Borovoye**	**70.18**	**337**	*e*P	**P**	**03 18 18.3**	**-0.6**
	comp=Z,1.4nm,0.6s,mb4.1						
CHKZ	**Chkalovo**	**70.53**	**338**	*e*P	**P**	**03 18 21.1**	**+0.1**
	comp=Z,3.2nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**70.59**	**337**	*e*P	**P**	**03 18 21.1**	**-0.3**
	comp=Z,2.0nm,0.6s,mb4.2						
BRTR	**Keskin Array B**	**84.00**	**312**	P	**P**	**03 19 37.2**	**+0.7**
	comp=Z,1.4nm,1.0s,mb4.0,baz=112,slow=5.5,SNR=5.7						
WMOK	**Wichita Mounta**	**145.53**	**40**	*e*PKPbc	PKPbc	03 26 45.0	+0.7
WMOK				*e*		03 26 55.6	
JCT	**Junction City**	**147.36**	**47**	*e*PKPbc	PKPbc	03 26 51.1	+1.4
JCT				*e*		03 27 02.0	
MIAR	**Mount Ida**	**148.78**	**35**	*e*PKPbc	PKPbc	03 26 54.2	+0.8
WVT	**Waverly**	**150.37**	**26**	*e*PKPbc	PKPbc	03 26 57.9	+0.5
WVT				*e*		03 27 08.7	
HKT	**Hockley**	**150.47**	**44**	*e*PKPbc	PKPbc	03 26 57.7	+0.1
HKT				*e*		03 27 10.8	
PLAL	**Pickwick Lake**	**151.23**	**27**	*e*PKPbc	PKPbc	03 26 59.3	-0.1
PLAL				*e*		03 27 09.7	

*ISCJB **19** 03:23:45.3±2.5,798N±02×207E±04,h15km,Error ellipse: s-maj=23.1km s-min=8.3km az=31.2*

*BER **19** 03:23:46.9±3.9,7990N×2141E,h15km,MD2.9,ML3.0, ML2.2(NAO)*

*CSEM **19** 03:23:46.9,7990N×2141E,h15km,ML3.0,After BER*

*NAO **19** 03:23:47.4±3.5,7989N×2054E,h22km±17km,ML2.2*

ISC 19 03:23:46.0±3.6,799N±02×208E±07,h17km±16km,n9, σ0$48/17,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.88**	**245**	Pn	**Pn**	**03 24 17.1**	**-0.3**
KBS				Pg	**Pg**	**03 24 21.7**	**-0.4**
KBS				Lg		03 24 46.7	
KBS	**Kingsbay**	**1.88**	**245**	*e*P	**Pn**	**03 24 17.4**	**0.0**
KBS				*e*Pg	**Pg**	**03 24 21.8**	**-0.3**
KBS				*e*Sg	**Sg**	**03 24 47.0**	**+0.4**
KBS				AML	AML	03 24 52.0	
	comp=Z,151nm,0.6s						
KBS	**Kingsbay**	**1.88**	**245**	*e*Pg	**Pg**	**03 24 21.8**	**-0.3**
	SNR=91						
KBS				*e*Sg	**Sg**	**03 24 47.0**	**+0.4**
	comp=Z,151nm,0.6s,SNR=91						
SPA0	**Spitsbergen Ar**	**1.89**	**209**	Pn	**Pn**	**03 24 17.4**	**0.0**
	baz=36,slow=12						
SPA0				Pg	**Pg**	**03 24 22.0**	**-0.2**
	baz=30,slow=16						
SPA0				Lg		03 24 47.7	
	baz=48,slow=28						
SPA0	**Spitsbergen Ar**	**1.89**	**209**	Pn	**Pn**	**03 24 17.4**	**0.0**
	baz=36,slow=11,SNR=55						
SPA0	**Spitsbergen Ar**	**1.89**	**209**	Pg	**Pg**	**03 24 22.0**	**-0.2**
	baz=30,slow=15,SNR=91						
SPA0				Lg		03 24 47.7	
	baz=48,slow=23,SNR=90						
HOPEN	**Hopen**	**3.47**	**163**	*e*P	**Pn**	**03 24 40.4**	**+1.1**
HOPEN				*e*S	**Sn**	**03 25 19.8**	**-0.2**
HOPEN				AML	AML	03 25 45.7	
	comp=N,153nm,0.4s						
ARA0	**ARCESS Array S**	**10.45**	**171**	Pn	**Pn**	**03 26 14.5**	**-0.5**
	baz=358,slow=10						
ARA0				Sn	**Sn**	**03 28 03.4**	**-8.2**
	baz=2.7,slow=22						
ARA0	**ARCESS Array S**	**10.45**	**171**	Pn	**Pn**	**03 26 14.5**	**-0.5**
	baz=358,slow=10,SNR=55						
ARA0				Sn	**Sn**	**03 28 03.4**	**-8.2**
	baz=2.7,slow=19,SNR=55						

MAN 19 03:35:46.9,966N×12158E,h13km,mb3.1,ML4.4,MS10.0, 1D,Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**1.67**	**101**	*i*P	Pn	03 36 14.1	-1.7
SNPH				*i* S	Sn	03 36 20.1	-17
TBP	**Tagbilaran**	**2.25**	**89**	*e*P	Pn	03 36 25.0	+1.1
TBP				*e*S	Sn	03 36 37.8	-14
PAGZ	**Pagadian**	**2.54**	**135**	*e*P	Pn	03 36 28.6	+0.8
ENPP	**El Nido**	**2.62**	**306**	*e*P	Pn	03 36 29.4	+0.5

*ISCJB **19** 03:38:31.9±4.2,56S±02×1542E±02,h220km±32km, mb4.0/7,Error ellipse: s-maj=36.4km s-min=28.7km az=163.6*

*IDC **19** 03:38:32.9±5.8,553S×154.12E,h210km±45km,mb3.7/6, mb1 3.9/8,mb1mx3.7/16,mbtmp4.3/8,Error ellipse: s-maj=47.9km s-min=22.5km az=85.0*

*NEIC **19** 03:38:33.7±3.0,548S×15404E,h218km±22km,mb4.1/5, Error ellipse: s-maj=30.3km s-min=16.1km az=82.0*

ISC 19 03:38:32.9±4.4,55S±02×1541E±03,h208km±32km,n19, σ0$42/18,mb4.0/7,1C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.90**	**240**	P	**Pn**	**03 40 24.8**	**0.0**
	19nm,0.3s,baz=42,slow=10.0,SNR=34						
PMG	**Port Moresby**	**7.90**	**240**	P	**Pn**	**03 40 24.8**	**0.0**
PMG				*e*S	**Sn**	**03 41 53.7**	**-0.3**
CTA	**Charters Tower**	**16.37**	**207**	*e*P	**P**	**03 42 11.4**	**+1.1**
	9.1nm,0.9s						
CTA	**Charters Tower**	**16.37**	**207**	P	**P**	**03 42 11.1**	**+0.7**
	0.5nm,0.3s,baz=30,slow=14,SNR=8.1						
CTAO	**Charters Tower**	**16.37**	**207**	*e*P	**P**	**03 42 11.4**	**+1.0**
	5.2nm,0.8s						
WRAB	**Tennant Creek**	**23.97**	**232**	*e*P	**P**	**03 43 28.5**	**+0.2**
	4.0nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**23.98**	**232⇑**	*i*P	**P**	**03 43 28.6**	**+0.3**
WRA	**Warramunga Arr**	**23.98**	**232**	P	**P**	**03 43 28.8**	**+0.4**
	7.9nm,0.6s,mb4.5,baz=57,slow=10.0,SNR=41						
AS31	**Alice Springs**	**26.53**	**225**	*e*P	**P**	**03 43 51.4**	**0.0**
ASAR	**Alice Springs**	**26.54**	**225**	P	**P**	**03 43 51.4**	**0.0**
	1.0nm,0.3s,mb4.0,baz=58,slow=9.3,SNR=20						
ASPA	**Alice Springs**	**26.54**	**225**	*e*P	**P**	**03 43 51.4**	**0.0**
STKA	**Stephens Creek**	**28.72**	**203**	*e*P	**P**	**03 44 10.1**	**-0.7**
	2.0nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**28.72**	**203**	P	**P**	**03 44 10.4**	**-0.3**
	1.9nm,0.5s,mb4.0,baz=30,slow=7.7,SNR=10.0						
FITZ	**Fitzroy Crossi**	**30.48**	**243**	*e*P	**P**	**03 44 25.7**	**-0.6**
	3.8nm,0.3s,mb4.5						
FITZ	**Fitzroy Crossi**	**30.48**	**243**	P	**P**	**03 44 26.2**	**-0.1**
	3.5nm,0.5s,mb4.2,baz=64,slow=10,SNR=7.2						
SONM	**Songino Array**	**67.62**	**327**	P	**P**	**03 49 07.4**	**+0.1**
	0.9nm,0.5s,mb3.7,baz=148,slow=6.7,SNR=7.3						
VNDA	**Vanda**	**72.07**	**178**	P	**P**	**03 49 33.6**	**-0.7**
	0.8nm,0.9s,mb3.3,baz=316,slow=5.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**151.77**	**288**	PKPbc	PKPbc	03 58 03.5	+0.7
	0.5nm,1.0s,baz=65,slow=2.2,SNR=5.5						
TORD	**Torodi Ar. Bea**	**151.77**	**288**	PKPbc	PKPbc	03 58 03.5	+0.7

*IDC **19** 03:39:18.1±1.5,4787S×16541E,h0km,mb4.4/4, mb1 4.6/6,mb1mx4.3/12,mbtmp4.4/6,ML4.1/2,MS3.8/4, Ms1 3.7/4,ms1mx3.2/23,Error ellipse: s-maj=43.5km s-min=22.6km az=164.0*

*NEIC **19** 03:39:19.2±0.6,4803S×16526E,h10km,mb4.5/2,Error ellipse: s-maj=15.6km s-min=6.0km az=155.0*

*ISCJB **19** 03:39:23.4±1.3,4790S±009×1654E±0.1,h64km±14km, mb4.3/6,Error ellipse: s-maj=15.1km s-min=11.0km az=141.8*

ISC 19 03:39:22.3±1.9,4795S±008×16526E±007,h30km±15km, n50,σ1$10/48,mb4.4/6,MS3.7/4,1D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**2.16**	**60**	PN	**Pn**	**03 39 56.7**	**+0.5**
APZ				SN	**Sn**	**03 40 22.0**	**0.0**
WHZ	**Wether Hill Ro**	**2.76**	**43**	PN	**Pn**	**03 40 05.0**	**+0.6**
WHZ				SN	**Sn**	**03 40 37.0**	**+0.3**
WHZ	**Wether Hill Ro**	**2.76**	**43**	*e*P	**Pn**	**03 40 05.0**	**+0.6**
WHZ				S	**Sn**	**03 40 37.0**	**+0.3**
DCZ	**Deep Cove**	**2.80**	**28**	PN	**Pn**	**03 40 05.1**	**+0.1**
DCZ	**Deep Cove**	**2.80**	**28**	*e*P	**Pn**	**03 40 05.0**	**+0.1**
SYZ	**Scrubby Hill**	**3.00**	**63**	PN	**Pn**	**03 40 08.8**	**+1.2**
SYZ				SN	**Sn**	**03 40 42.6**	**0.0**
MLZ	**Mavora Lakes**	**3.29**	**39**	PN	**Pn**	**03 40 12.2**	**+0.5**
MLZ				SN	**Sn**	**03 40 49.7**	**0.0**
MLZ	**Mavora Lakes**	**3.29**	**39**	P	**Pn**	**03 40 12.2**	**+0.5**
TUZ	**Tuapeka**	**3.60**	**58**	PN	**Pn**	**03 40 16.8**	**+0.9**
TUZ				SN	**Sn**	**03 40 57.9**	**+0.5**
TUZ	**Tuapeka**	**3.60**	**58**	P	**Pn**	**03 40 16.8**	**+0.9**
TUZ				S	**Sn**	**03 40 58.9**	**+1.5**
MSZ	**Milford Sound**	**3.76**	**30**	PN	**Pn**	**03 40 19.4**	**+1.1**
EAZ	**Earnscleugh**	**3.90**	**47**	PN	**Pn**	**03 40 20.2**	**+0.2**
EAZ	**Earnscleugh**	**3.90**	**47**	P	**Pn**	**03 40 20.2**	**+0.2**
WKZ	**Wanaka**	**4.06**	**41**	PN	**Pn**	**03 40 23.6**	**+1.3**
WKZ	**Wanaka**	**4.06**	**41**	P	**Pn**	**03 40 23.6**	**+1.3**
HHSZ	**Highcliff Hill**	**4.20**	**62**	PN	**Pn**	**03 40 25.5**	**+1.3**
HHSZ				SN	**Sn**	**03 41 14.7**	**+0.1**
ODZ	**Otahua Downs**	**4.72**	**54**	PN	**Pn**	**03 40 30.5**	**-0.8**
LBZ	**Lake Benmore**	**4.94**	**46**	PN	**Pn**	**03 40 32.9**	**-1.5**
FOZ	**Fox Glacier**	**5.37**	**37**	PN	**Pn**	**03 40 42.2**	**+1.9**
RPZ	**Rata Peaks**	**5.86**	**46**	Pn	**Pn**	**03 40 44.7**	**-2.3**
	6.3nm,0.3s,baz=213,slow=4.4,SNR=13						
RPZ				Sn	**Sn**	**03 41 49.8**	**-3.3**
	22nm,0.3s,baz=244,slow=13,SNR=7.5						
RPZ	**Rata Peaks**	**5.86**	**46**	*e*P	**Pn**	**03 40 44.6**	**-2.4**
WVZ	**Waitaha Valley**	**6.21**	**40**	*e*P	**Pn**	**03 40 52.9**	**+1.1**
MQZ	**McQueen's Vall**	**6.68**	**53**	PN	**Pn**	**03 40 57.0**	**-1.3**
MQZ	**McQueen's Vall**	**6.68**	**53**	*e*P	**Pn**	**03 40 57.2**	**-1.1**
LTZ	**Lake Taylor**	**7.14**	**46**	*e*P	**Pn**	**03 41 02.5**	**-2.2**
DSZ	**Denniston Nort**	**7.75**	**39**	PN	**Pn**	**03 41 11.7**	**-1.3**
DSZ	**Denniston Nort**	**7.75**	**39**	*e*P	**Pn**	**03 41 13.0**	**0.0**
URZ	**Urewera**	**12.97**	**46**	Pn	**Pn**	**03 42 22.9**	**-1.6**
	1.0nm,0.3s,baz=339,slow=23,SNR=5.1						
URZ				Sn	**Sn**	**03 44 44.8**	**-3.0**
	0.5nm,0.3s,baz=92,slow=15,SNR=3.5						
TAU	**Tasmania Unive**	**13.56**	**285**	*e*Pn	**Pn**	**03 42 30.8**	**-1.7**
RAO	**Raoul Island**	**22.75**	**41**	LR	LR	03 52 59.8	
	comp=Z,207nm,20.0s,MS3.6,baz=47,slow=36						
STKA	**Stephens Creek**	**24.09**	**303**	P	**P**	**03 44 36.2**	**+1.1**
	8.5nm,1.0s,mb4.1,baz=130,slow=11,SNR=10						
STKA				LR	LR	03 52 10.9	
	comp=Z,132nm,21.4s,MS3.4,baz=22,slow=32						
STKA	**Stephens Creek**	**24.09**	**303**	*e*P	**P**	**03 44 36.2**	**+1.2**
AS31	**Alice Springs**	**34.73**	**303**	*e*P	**P**	**03 46 10.0**	**+0.4**
ASAR	**Alice Springs**	**34.73**	**303**	P	**P**	**03 46 10.0**	**+0.4**
	4.1nm,0.6s,mb4.5,baz=133,slow=6.6,SNR=35						
ASAR				LR	LR	03 59 47.3	
	comp=Z,117nm,20.8s,MS3.6,baz=62,slow=35						
WRA	**Warramunga Arr**	**37.48**	**307**	P	**P**	**03 46 33.2**	**+0.1**
	4.6nm,0.5s,mb4.6,baz=149,slow=9.7,SNR=29						
WRAB	**Tennant Creek**	**37.48**	**307**	*e*P	**P**	**03 46 32.7**	**-0.5**
	7.4nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**43.85**	**299**	P	**P**	**03 47 26.5**	**+0.8**
	2.5nm,0.6s,mb4.2,baz=146,slow=7.3,SNR=4.3						
PPT	**Papeete**	**47.60**	**66**	LR	LR	04 06 28.9	
	comp=Z,210nm,18.0s,MS4.2,baz=87,slow=34						
SYO	**Syowa Base**	**56.68**	**201**	*i*P	**P**	**03 49 02.5**	**-0.3**
SNAA	**Sanae**	**60.38**	**184**	*e*P	**P**	**03 49 28.0**	**-0.6**
	1.6nm,0.8s,mb4.1						
TORD	**Torodi Ar. Bea**	**142.69**	**207**	PKhKP		03 58 48.0	
	1.1nm,0.9s,baz=148,slow=2.5,SNR=5.2						
TORD	**Torodi Ar. Bea**	**142.69**	**207**	PKP	PKPdf	03 58 48.0	-4.5
BR131	**Keskin Array S**	**144.65**	**275**	*e*PKPdf	PKPdf	03 58 54.6	-1.3
BRTR	**Keskin Array B**	**144.65**	**275**	PKP	PKPdf	03 58 54.9	-1.0
	3.0nm,0.8s,baz=130,slow=4.3,SNR=16						
JOF	**Joensuu**	**150.67**	**318**	*e*p	PKPdf	03 59 08.9	+3.1
	5.3nm,0.7s						
ARCES	**ARCESS Array B**	**150.87**	**332**	PKPbc	PKPbc	03 59 11.7	-0.1
	5.4nm,0.8s,baz=345,slow=3.8,SNR=8.3						
AKASG	**Malin Array Be**	**151.53**	**292**	PKPbc	PKPbc	03 59 13.0	-0.3
	4.3nm,0.7s,baz=82,slow=2.5,SNR=17						
KAF	**Kangasniemi**	**153.10**	**317**	*e*p	PKPbc	03 59 15.3	-1.5
	2.3nm,0.6s						
FINES	**FINESS Array B**	**153.35**	**316**	PKPbc	PKPbc	03 59 16.9	-0.4
	2.5nm,0.6s,baz=90,slow=3.8,SNR=10						
GERES	**GERESS Array B**	**161.13**	**283**	PKPab	PKPab	04 00 02.8	-0.3
	0.6nm,0.7s,baz=102,slow=4.6,SNR=6.0						

*NEIC **19** 03:53:02.2, 1673N×9487W,h104km,MD3.9(MEX),After MEX.*

MEX 19 03:53:02.9±1.4,1670N×9487W,h98km±14km,MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.39**	**358**	*i*P	Pn	03 53 16.4	-1.3
CMIG				*i* S	Sn	03 53 27.3	-1.5
HUIG	**Huatulco**	**1.50**	**232**	*i*P	Pn	03 53 27.1	-2.0
HUIG				*i* S	Sn	03 53 48.3	-0.6
OXX	**Oaxaca**	**1.81**	**282**	*i*P	Pn	03 53 33.0	0.0
OXX				*i* S	Sn	03 53 54.0	-1.9
VHO	**Vista Hermosa**	**1.82**	**282**	*i*P	Pn	03 53 32.2	-0.8
VHO				*i* S	Sn	03 53 53.8	-2.2
CCIG	**Comitan**	**2.66**	**99**	*e*P	Pn	03 53 43.1	-0.9
CCIG				*i* S	Sn	03 54 13.8	-1.8
UTMO	**Huajuapan**	**3.02**	**292**	*i*P	Pn	03 53 47.7	-1.1

*ISCJB **19** 03:53:12.8±1.1,328N±007×744W±01,h68km±15km, mb3.5/3,Error ellipse: s-maj=17.9km s-min=10.8km az=43.7*

*IDC **19** 03:53:12.4±1.2,363N×7373W,h0km,mb3.2/3,mb1 3.5/3, mb1mx3.4/18,mbtmp3.2/3,Error ellipse: s-maj=49.8km s-min=19.7km az=63.0*

*NEIC **19** 03:53:13.8±1.0,332N×7437W,h66km±14km,mb3.3/3, Error ellipse: s-maj=16.1km s-min=10.9km az=92.0*

ISC 19 03:53:14.4±1.1,329N±007×745W±01,h60km±14km,n11, σ1$30/12,mb3.6/3,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.56**	**4**	Pn	**Pn**	**03 53 38.5**	**-1.5**
ROSC				Sn	**Sn**	**03 53 59.6**	**+0.5**
	491nm,0.3s,baz=262,slow=23,SNR=31						
OTAV	**Otavalo**	**5.02**	**233**	*e*Pn	**Pn**	**03 54 28.5**	**+1.4**
	16nm,0.6s						
SDV	**Santo Domingo**	**6.73**	**34**	*e*Pn	**Pn**	**03 54 50.5**	**-0.1**
	47nm,0.4s						
SDV				*e*Sn	**Sn**	**03 56 06.7**	**+0.9**
SAML	**Samuel**	**16.55**	**137**	*e*Pn	**Pn**	**03 57 00.6**	**-1.9**
	1.4nm,0.9s						
LPAZ	**La Paz**	**20.43**	**162**	P	**P**	**03 57 53.8**	**+7.1**
	0.2nm,0.4s,baz=328,slow=9.5,SNR=4.2						
LPAZ	**La Paz**	**20.43**	**162**	*e*P	**P**	**03 57 47.1**	**+0.5**
	0.4nm,0.6s						
WVT	**Waverly**	**34.94**	**341**	*e*P	**P**	**03 59 59.1**	**-1.4**
	2.6nm,0.8s,mb4.2						
PV10	**Paradox Valley**	**47.06**	**322**	*e*P	**P**	**04 01 39.7**	**-0.4**
YKA	**Yellowknife Ar**	**66.12**	**341**	P	**P**	**04 04 00.7**	**+5.4**
	0.2nm,0.4s,mb3.5,baz=134,slow=6.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**75.77**	**77**	P	**P**	**04 04 56.4**	**+2.6**
	0.2nm,0.7s,mb3.2,baz=274,slow=7.3,SNR=2.7						
ASAR	**Alice Springs**	**145.93**	**231**	PKPbc	PKPbc	04 12 56.1	+8.9
	0.5nm,0.7s,baz=121,slow=3.3,SNR=5.3						

*ISCJB **19** 03:53:23.8±0.2,4834N±001×661E±001,h6km±2km,Error ellipse: s-maj=2.3km s-min=1.6km az=146.3*

*CSEM **19** 03:53:26.3±0.0,4833N×667E,h10km,ML2.8/15,Error ellipse: s-maj=1.0km s-min=0.7km az=166.0*

*NEIC **19** 03:53:26.2,4834N×668E,h5km,ML2.2(SZGRF), ML2.5(STR),ML2.8(LDG),After STR.*

*STR **19** 03:53:26.2±0.1,4834N×668E,h5km±1km,Ml2.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*BGR **19** 03:53:26.3±0.3,4837N×673E,h10km,ML2.2/4,Error ellipse: s-maj=3.3km s-min=3.3km az=150.0*

*LDG **19** 03:53:26.5±0.1,4833N×666E,h8km,Md2.7/5,Ml2.8/17, Error ellipse: s-maj=1.4km s-min=1.0km az=161.0*

ISC 19 03:53:25.2±0.2,4833N±001×664E±001,h15km±2km,n94, σ0$90/197,2C-3D,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.36**	**108**	*i*P*	**Pg**	**03 53 33.4**	**+0.7**
ECH				S*	**Sg**	**03 53 37.9**	**+0.2**
ECH	**Echery**	**0.36**	**108**	Pg	**Pg**	**03 53 33.3**	**+0.6**
ECH				Sg	**Sg**	**03 53 37.8**	**+0.1**
HAU	**Haudompre**	**0.38**	**211**	*e*Pg	**Pg**	**03 53 34.0**	**+1.0**
HAU				*e*Sg	**Sg**	**03 53 38.1**	**-0.1**
	42nm,0.2s						
HAU	**Haudompre**	**0.38**	**211**	*e*Pg	**Pg**	**03 53 34.0**	**+1.0**
HAU				*e*Sg	**Sg**	**03 53 38.1**	**-0.1**
	21nm,0.2s						
CDF	**Champ du Feu**	**0.43**	**79**	*e*Pg	**Pg**	**03 53 34.5**	**+0.6**
CDF				*e*Sg	**Sg**	**03 53 40.1**	**+0.4**
	149nm,0.2s						
CDF	**Champ du Feu**	**0.43**	**79**	*e*Pg	**Pg**	**03 53 34.5**	**+0.6**
CDF				*e*Sg	**Sg**	**03 53 40.1**	**+0.4**
	75nm,0.2s						
THEF	**They Montfort**	**0.45**	**257⇑**	*i*P*	**Pb**	**03 53 35.3**	**+0.4**
THEF				S*	**Sb**	**03 53 41.8**	**+0.4**
THEF				SmS		03 53 42.3	
THEF	**They Montfort**	**0.45**	**257**

STU	**Stuttgart**	**1.75**	**74**	*e*Sg		**Sg**	**03 54 20.2**	**-1.4**
	SNR=2.6								
CABF	**La Chapelle**	**1.76**	**193**	*e*Pg		**Pg**	**03 53 59.5**	**+0.4**
CABF				*e*Sg		**Sg**	**03 54 21.8**	**-0.2**
	10nm,0.2s								
CABF	**La Chapelle**	**1.76**	**193**	*e*Pn		**Pn**	**03 53 55.7**	**+0.6**
CABF				*e*Pg		**Pg**	**03 53 59.5**	**+0.4**
CABF				*e*Sg		**Sg**	**03 54 21.8**	**-0.2**
CABF	**La Chapelle**	**1.76**	**193**	*e*Pg		**Pg**	**03 53 59.5**	**+0.4**
CABF				*e*Sg		**Sg**	**03 54 21.8**	**-0.2**
	5.2nm,0.2s								
SWS	**Schriesheim-Wi**	**1.78**	**49**	Pg		**Pg**	**03 53 59.6**	**+0.1**
SWS				Sg		**Sg**	**03 54 22.9**	**+0.3**
BUCH	**Bad Urach**	**1.81**	**85**	Pg		**Pg**	**03 54 00.4**	**+0.4**
BUCH				Sg		**Sg**	**03 54 22.7**	**-0.8**
TOD	**Tromm**	**1.91**	**47**	*e*Pg		**Pg**	**03 54 01.9**	**0.0**
	SNR=3.6								
TOD				Sg		**Sg**	**03 54 27.2**	**+0.5**
GIVF	**Givet**	**2.14**	**327**	*e*Pg		**Pg**	**03 54 06.1**	**-0.1**
GIVF				*e*Sn		**Sn**	**03 54 27.6**	**+1.1**
GIVF				*e*Sg		**Sg**	**03 54 34.8**	**+0.8**
	4.5nm,0.2s								
GIVF	**Givet**	**2.14**	**327**	*e*Pg		**Pg**	**03 54 06.1**	**-0.1**
GIVF				*e*Sn		**Sn**	**03 54 27.6**	**+1.1**
GIVF				*e*Sg		**Sg**	**03 54 34.8**	**+0.8**
	2.2nm,0.2s								
LOR	**Lormes**	**2.16**	**242**	*e*Pg		**Pg**	**03 54 06.6**	**0.0**
LOR				*e*Sg		**Sg**	**03 54 34.1**	**-0.5**
	9.8nm,0.2s								
LOR	**Lormes**	**2.16**	**242**	*e*Pn		**Pn**	**03 54 00.7**	**+0.1**
LOR				*e*Pg		**Pg**	**03 54 06.6**	**0.0**
LOR				*e*Sg		**Sg**	**03 54 34.1**	**-0.5**
LOR	**Lormes**	**2.16**	**242**	*e*Pg		**Pg**	**03 54 06.6**	**0.0**
LOR				*e*Sg		**Sg**	**03 54 34.1**	**-0.5**
	4.9nm,0.2s								
SIND	**Sindeldorf**	**2.21**	**61**	Pg		**Pg**	**03 54 07.7**	**+0.1**
SIND				Sg		**Sg**	**03 54 37.5**	**+1.3**
TNS	**Taunus Mts**	**2.23**	**31**	*e*Sg		**Sg**	**03 54 34.9**	**-2.1**
	SNR=3.9								
BAIF	**Baives**	**2.35**	**318**	*e*Pg		**Pg**	**03 54 10.5**	**+0.1**
BAIF				*e*Sg		**Sg**	**03 54 39.2**	**-1.7**
	4.3nm,0.3s								
BAIF	**Baives**	**2.35**	**318**	*e*Pg		**Pg**	**03 54 10.5**	**+0.1**
BAIF				*e*Sg		**Sg**	**03 54 39.2**	**-1.7**
	2.2nm,0.3s								
HDH	**Heidenheim-Cha**	**2.38**	**83**	Pg		**Pg**	**03 54 11.3**	**+0.3**
HDH				Sg		**Sg**	**03 54 40.8**	**-1.1**
UBR	**Ueberruh**	**2.42**	**104**	Pg		**Pg**	**03 54 12.1**	**+0.6**
UBR				S		**Sn**	**03 54 33.2**	**-0.2**
UBR				Sg		**Sg**	**03 54 43.1**	**+0.2**
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pg		**Pg**	**03 54 12.0**	**-0.6**
SSF				*e*Sg		**Sg**	**03 54 43.8**	**-0.9**
	10.0nm,0.2s								
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pn		**Pn**	**03 54 05.0**	**+0.1**
SSF				*e*Pg		**Pg**	**03 54 12.0**	**-0.6**
SSF				*e*Sg		**Sg**	**03 54 43.8**	**-0.9**
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pg		**Pg**	**03 54 12.0**	**-0.6**
SSF				*e*Sg		**Sg**	**03 54 43.8**	**-0.9**
	5.0nm,0.2s								
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pg		**Pg**	**03 54 14.0**	**0.0**
SMF				*e*Sn		**Sn**	**03 54 37.0**	**+0.5**
SMF				*e*Sg		**Sg**	**03 54 46.6**	**-0.3**
	10nm,0.3s								
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pn		**Pn**	**03 54 05.6**	**-0.3**
SMF				*e*Pg		**Pg**	**03 54 14.0**	**0.0**
SMF				*e*Sn		**Sn**	**03 54 37.0**	**+0.5**
SMF				*e*Sg		**Sg**	**03 54 46.6**	**-0.3**
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pg		**Pg**	**03 54 14.0**	**0.0**
SMF				*e*Sn		**Sn**	**03 54 37.0**	**+0.5**
SMF				*e*Sg		**Sg**	**03 54 46.6**	**-0.3**
	5.1nm,0.3s								
AVF	**Avril sur Loir**	**2.71**	**237**	*e*Pg		**Pg**	**03 54 17.0**	**-0.2**
AVF				*e*Sn		**Sn**	**03 54 39.9**	**-0.8**
AVF				*e*Sg		**Sg**	**03 54 52.2**	**-0.1**
	2.5nm,0.2s								
AVF	**Avril sur Loir**	**2.71**	**237**	*e*Pn		**Pn**	**03 54 08.1**	**-0.1**
AVF				*e*Pg		**Pg**	**03 54 17.0**	**-0.2**
AVF				*e*Sn		**Sn**	**03 54 39.9**	**-0.8**
AVF				*e*Sg		**Sg**	**03 54 52.2**	**-0.1**
AVF	**Avril sur Loir**	**2.71**	**237**	*e*Pg		**Pg**	**03 54 17.0**	**-0.2**
AVF				*e*Sn		**Sn**	**03 54 39.9**	**-0.8**
AVF				*e*Sg		**Sg**	**03 54 52.2**	**-0.1**
	1.2nm,0.2s								
LPL	**La Plagne**	**2.82**	**179**	*e*Sg		**Sg**	**03 54 55.8**	**+0.1**
LPG	**La Plagne**	**2.84**	**178**	*e*Pg		**Pg**	**03 54 19.9**	**+0.3**
LPG				*e*Sg		**Sg**	**03 54 56.3**	**-0.1**
HYF	**Humbligny**	**2.90**	**250**	*e*Pg		**Pg**	**03 54 20.3**	**-0.6**
HYF				*e*Sn		**Sn**	**03 54 44.9**	**-0.5**
HYF				*e*Sg		**Sg**	**03 54 57.2**	**-1.3**
HYF	**Humbligny**	**2.90**	**250**	*e*Pn		**Pn**	**03 54 12.4**	**+1.6**
HYF				*e*Pg		**Pg**	**03 54 20.3**	**-0.6**
HYF				*e*Sn		**Sn**	**03 54 44.9**	**-0.5**
HYF				*e*Sg		**Sg**	**03 54 57.2**	**-1.3**
HYF	**Humbligny**	**2.90**	**250**	*e*Pg		**Pg**	**03 54 20.3**	**-0.6**
HYF				*e*Sn		**Sn**	**03 54 44.9**	**-0.5**
HYF				*e*Sg		**Sg**	**03 54 57.2**	**-1.3**
BGF	**Bois d'Agland**	**3.13**	**237**	*e*Pg		**Pg**	**03 54 25.0**	**-0.2**
BGF				*e*Sg		**Sg**	**03 55 05.7**	**-0.1**
	15nm,0.4s								
BGF	**Bois d'Agland**	**3.13**	**237**	*e*Pn		**Pn**	**03 54 13.7**	**-0.2**
BGF				*e*Pg		**Pg**	**03 54 25.0**	**-0.2**
BGF				*e*Sg		**Sg**	**03 55 05.7**	**-0.1**
BGF	**Bois d'Agland**	**3.13**	**237**	*e*Pg		**Pg**	**03 54 25.0**	**-0.2**
BGF				*e*Sg		**Sg**	**03 55 05.7**	**-0.1**
	7.3nm,0.4s								
GRF	**Grafenberg Arr**	**3.31**	**64**	*e*Sg		**Sg**	**03 55 08.4**	**-3.1**
	SNR=2.0								
ORIF	**Oris-en-Rattie**	**3.45**	**189**	*e*Pg		**Pg**	**03 54 31.1**	**-0.3**
ORIF				*e*Sg		**Sg**	**03 55 14.2**	**-2.0**
	5.3nm,0.4s								
ORIF	**Oris-en-Rattie**	**3.45**	**189**	*e*Pg		**Pg**	**03 54 31.1**	**-0.3**
ORIF				*e*Sg		**Sg**	**03 55 14.2**	**-2.0**
	2.7nm,0.4s								
TCF	**Toulx Ste Croi**	**3.64**	**238**	*e*Pg		**Pg**	**03 54 34.3**	**-0.7**
TCF				*e*Sg		**Sg**	**03 55 19.4**	**-2.9**
	2.9nm,0.2s								
TCF	**Toulx Ste Croi**	**3.64**	**238**	*e*Pn		**Pn**	**03 54 20.7**	**-0.3**
TCF				*e*Pg		**Pg**	**03 54 34.3**	**-0.7**
TCF				*e*Sg		**Sg**	**03 55 19.4**	**-2.9**
TCF	**Toulx Ste Croi**	**3.64**	**238**	*e*Pg		**Pg**	**03 54 34.3**	**-0.7**
TCF				*e*Sg		**Sg**	**03 55 19.4**	**-2.9**
	1.5nm,0.2s								
VIVF	**Saint-Julien-l**	**3.73**	**202**	*e*Pg		**Pg**	**03 54 35.6**	**-1.1**
VIVF				*e*Sg		**Sg**	**03 55 23.7**	**-1.4**
	2.9nm,0.3s								
VIVF	**Saint-Julien-l**	**3.73**	**202**	*e*Pg		**Pg**	**03 54 35.6**	**-1.1**
VIVF				*e*Sg		**Sg**	**03 55 23.7**	**-1.4**
	1.5nm,0.3s								
WET	**Wettzell**	**4.21**	**77**	*e*Sg		**Sg**	**03 55 36.8**	**-3.5**
	SNR=2.5								
GUNZ	**Gunzen**	**4.24**	**59**	*e*Sg		**Sg**	**03 55 39.6**	**-1.7**
	SNR=1.8								
TANN	**Tannenbergstha**	**4.33**	**59**	*e*Sg		**Sg**	**03 55 41.9**	**-2.5**
	SNR=2.3								
CAF	**Calviac**	**4.64**	**224**	*e*Pg		**Pg**	**03 54 53.1**	**-1.0**
CAF				*e*Sg		**Sg**	**03 55 52.4**	**-1.9**
	1.2nm,0.2s								
CAF	**Calviac**	**4.64**	**224**	*e*Pg		**Pg**	**03 54 53.1**	**-1.0**
CAF				*e*Sg		**Sg**	**03 55 52.4**	**-1.9**
	0.6nm,0.2s								
KHC	**Kasperske Hory**	**4.66**	**78**	*e*P		**Pg**	**03 54 54.0**	**-0.5**
LASF	**Ste Croix**	**4.67**	**205**	*e*Pg		**Pg**	**03 54 52.6**	**-2.2**
LASF				*e*Sg		**Sg**	**03 55 53.6**	**-1.7**
	2.1nm,0.4s								
LASF	**Ste Croix**	**4.67**	**205**	*e*Pg		**Pg**	**03 54 52.6**	**-2.2**
LASF				*e*Sg		**Sg**	**03 55 53.6**	**-1.7**
	1.0nm,0.4s								
GEC2	**GERESS Array S**	**4.71**	**81**	*e*Sg		**Sg**	**03 55 52.8**	**-3.7**
	SNR=2.0								

*BJI **19** 03:53:38.6,930S×10720E,h10km,mB4.9,mb4.8,Ms4.7, Msz4.4*
*IDC **19** 03:53:39.6±0.5,932S×10721E,h0km,mb4.5/15, mb1 4.6/16,mb1mx4.6/19,mbtmp4.5/16,ML4.2/1,MS3.7/8, Ms1 3.7/8,ms1mx3.3/23,Error ellipse: s-maj=21.1km s-min=13.2km az=59.0*
*NEIC **19** 03:53:40.7±0.2,932S×10720E,h10km,mb4.9/26,Error ellipse: s-maj=7.6km s-min=4.9km az=59.0*
*ISCJB **19** 03:53:41.9±0.2,930S±004×10730E±005,h29km, mb4.8/62,MS4.2/18,Error ellipse: s-maj=7.9km s-min=4.8km az=133.4*
*MOS **19** 03:53:42.5±1.4,927S×10726E,h32km,mb5.0/23,Error ellipse: s-maj=15.4km s-min=8.1km az=115.2*
ISC 19 03:53:44.2±0.2,933S±004×10726E±005,h30km, h30km±1.4km:pP-P,n148,σ1s10/131,mb4.8/62,MS4.2/18, 8C-6D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LEM	**Lembang**	**2.51**	**8**	P		**Pn**	**03 54 22.5**	**-0.4**
	2μm,0.8s							
JCJI	**Jatiwangi**	**2.99**	**20**	P		**Pn**	**03 54 27.0**	**-2.5**
	1μm,1.0s							
BJII	**Banjamegara**	**3.13**	**51**	P		**Pn**	**03 54 33.7**	**+2.3**
	367nm,0.9s							
BJII	**Banjamegara**	**3.13**	**51**	⇑*i*P		**Pn**	**03 54 33.8**	**+2.4**
BJII				*i* S		**Sn**	**03 54 51.7**	**-16**
SBJI	**Serang**	**3.38**	**341**	P		**Pn**	**03 54 33.2**	**-1.6**
	2μm,1.4s							
KLI	**Kotabumi**	**5.03**	**332**	P		**Pn**	**03 55 01.3**	**+3.7**
	192nm,1.2s							
KSI	**Kapahiang**	**7.30**	**320**	P		**Pn**	**03 55 25.7**	**-3.0**
	232nm,0.6s							
NBBI	**Negara**	**7.34**	**83**	P		**Pn**	**03 55 36.6**	**+7.4**
	612nm,0.9s							
KSM	**Kuching**	**11.15**	**16**	*e*Pn		**Pn**	**03 56 21.1**	**-0.4**
PSI	**Prapat**	**14.63**	**325**	Pn		**Pn**	**03 57 10.6**	**+1.6**
	0.3nm,0.3s,baz=192,slow=9.5,SNR=3.6							
PSI				LR		LR	04 03 35.1	
	comp=Z,247nm,18.1s,baz=138,slow=41							
KULM	**Kulim**	**15.94**	**335**	*e*Pn		**Pn**	**03 57 20.8**	**-5.4**
MBWA	**Marble Bar**	**16.81**	**136**	*e*Pn		**Pn**	**03 57 33.1**	**-4.2**
	13nm,0.6s							
KKM	**Kota Kinabalu**	**17.68**	**31**	*e*Pn		**Pn**	**03 57 47.6**	**-0.6**
BSI	**Banda Aceh**	**18.95**	**321**	P		**Pn**	**03 58 03.9**	**+0.4**
	100nm,0.9s							
FITZ	**Fitzroy Crossi**	**19.86**	**118**	⇓*i*P		**Pn**	**03 58 13.7**	**-0.7**
	36nm,1.0s							
FITZ				*e*S		**Sn**	**04 01 39.2**	**-18**
FITZ	**Fitzroy Crossi**	**19.86**	**118**	P		**Pn**	**03 58 13.8**	**-0.6**
	0.5nm,0.3s,baz=290,slow=7.9,SNR=21							
KAKA	**Kakadu**	**24.94**	**100**	*e*P		**P**	**03 59 05.3**	**+0.6**
	11nm,0.6s,mb4.6							
NWAO	**Narrogin (SRO)**	**25.23**	**160**	P		**P**	**03 59 06.8**	**-0.6**
	6.9nm,0.8s,mb4.2,baz=322,slow=12,SNR=6.3							
NST	**Nakhon Sawan**	**25.82**	**344**	P		**P**	**03 59 10.7**	**-2.0**
	39nm,0.5s,mb5.2							
WRA	**Warramunga Arr**	**28.20**	**115**	P		**P**	**03 59 34.1**	**0.0**
	4.1nm,0.7s,mb4.2,baz=288,slow=11,SNR=18							
WRA				PcP		PcP	04 02 48.5	+1.3
	1.4nm,0.5s,baz=294,slow=2.3,SNR=9.8							
WRAB	**Tennant Creek**	**28.21**	**115**	*e*P		**P**	**03 59 33.9**	**-0.3**
WRAB				pmax		pmax		
	comp=Z,12nm,0.8s,mb4.6							
WRAB	**Tennant Creek**	**28.21**	**115**	*e*P		**P**	**03 59 33.9**	**-0.3**
	comp=Z,12nm,0.8s,mb4.6							
WB2	**Warramunga Arr**	**28.21**	**115**	⇓*i*P		**P**	**03 59 34.0**	**-0.2**
QIZ	**Qiongzhong**	**28.29**	**5**	P		**P**	**03 59 31.4**	**-3.5**
QIZ				S		**S**	**04 04 15.0**	**-4.2**
QIZ				LR		LR		
	comp=N,259nm,9.9s							
QIZ				LR		LR		
	comp=Z,329nm,13.1s,MS4.1							
NANT	**Nan**	**28.68**	**347**	⇓P		**P**	**03 59 39.0**	**+0.6**
	comp=Z,75nm,0.6s,mb5.6							
CM31	**Chiang Mai Arr**	**28.80**	**343**	*e*P		**P**	**03 59 39.3**	**-0.1**
CHG	**Chiang Mai**	**29.14**	**344**	⇑P		**P**	**03 59 41.0**	**-1.4**
	comp=Z,22nm,0.9s,mb4.9							
CHTO	**Chiang Mai**	**29.14**	**344**	*e*P		**P**	**03 59 41.4**	**-1.0**
CHTO				*e*PP		pP	03 59 51.6	+0.4
CHTO				pmax		pmax		
	comp=Z,32nm,1.0s,mb5.0							
CHTO	**Chiang Mai**	**29.14**	**344**	*e*P		**P**	**03 59 41.4**	**-1.0**
	comp=Z,32nm,1.0s,mb5.0							
CHTO				*e*pP		pP	03 59 51.5	+0.3
ASPA	**Alice Springs**	**29.18**	**123**	*e*P		**P**	**03 59 43.1**	**+0.3**
ASAR	**Alice Springs**	**29.18**	**123**	P		**P**	**03 59 42.9**	**0.0**
	comp=Z,2.8nm,0.7s,mb4.1,baz=300,slow=8.5,SNR=26							
ASAR				PcP		PcP	04 02 50.9	+1.1
	comp=Z,1.7nm,0.8s,baz=317,slow=2.4,SNR=5.6							
AS31	**Alice Springs**	**29.18**	**123**	*e*P		**P**	**03 59 43.1**	**+0.3**
KMI	**Kunming**	**34.52**	**353**	P		**P**	**04 00 31.4**	**+1.7**
KMI				AP		pP	04 00 38.9	+0.3
KMI				XP		sP	04 00 40.9	-1.3
KMI				PPP			04 02 04.3	
KMI				S		**S**	**04 06 00.3**	**+3.8**
KMI				XS		sS	04 06 13.1	+2.0
KMI				SSS			04 08 42.6	
KMI				AMB		AMB		
	comp=Z,21nm,1.1s,mb5.0							
KMI				AMB		AMB		
	comp=Z,136nm,3.8s							
KMI				LR		LR		
	comp=N,477nm,12.7s,MS4.4							
KMI				LR		LR		
	comp=E,198nm,14.0s,MS4.4							
KMI				LR		LR		
	comp=Z,542nm,12.1s,MS4.5							
GYA	**Guiyang**	**35.57**	**359**	⇑*i*P		**P**	**04 00 39.3**	**+0.6**
GYA				AP		pP	04 00 48.6	+1.0
GYA				XP		sP	04 00 52.8	+1.5
GYA				PP		PP	04 01 59.8	0.0
GYA				S		**S**	**04 06 12.3**	**-0.3**
GYA				SCP		ScP	04 06 50.0	-1.0
GYA				SS		SS	04 08 31.8	-16
GYA				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.1							
GYA				AMB		AMB		
	comp=Z,120nm,4.6s							
GYA				LR		LR		
	comp=N,540nm,14.3s,MS4.6							
GYA				LR		LR		
	comp=E,460nm,14.5s,MS4.6							
GYA				LR		LR		
	comp=Z,480nm,14.8s,MS4.4							
HYB	**Hyderabad**	**38.87**	**313**	*i* P		**P**	**04 01 08.5**	**+1.8**
HYB	**Hyderabad**	**38.87**	**313**	*e*P		pP	04 01 16.5	+0.8
STKA	**Stephens Creek**	**38.93**	**130**	⇓*i*P		**P**	**04 01 07.6**	**+0.4**
	comp=Z,29nm,0.8s,mb5.0							
STKA	**Stephens Creek**	**38.93**	**130**	P		**P**	**04 01 07.9**	**+0.7**
	comp=Z,33nm,0.8s,mb5.1,baz=300,slow=8.3,SNR=62							
STKA				PcP		PcP	04 03 19.7	+2.2
	comp=Z,5.1nm,1.0s,baz=23,slow=6.1,SNR=3.0							
STKA				LR		LR	04 18 03.5	
	comp=Z,170nm,18.9s,MS3.9,baz=26,slow=38							
CTAO	**Charters Tower**	**39.11**	**110**	*e*P		**P**	**04 01 09.8**	**+1.1**
CTAO				pmax		pmax		
	comp=Z,19nm,1.1s,mb4.7							
CTAO	**Charters Tower**	**39.11**	**110**	*e*P		**P**	**04 01 09.8**	**+1.1**
	comp=Z,19nm,1.1s,mb4.7							
CD2	**Chengdu**	**40.14**	**355**	P		**P**	**04 01 16.5**	**-0.8**
CD2				AP		pP	04 01 26.3	0.0
CD2				XP		sP	04 01 30.3	+0.3
CD2				S		**S**	**04 07 21.5**	**-0.4**
CD2				XS		sS	04 07 38.0	+1.3
CD2				SS		SS	04 10 16.0	-4.2
CD2				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.8							
CD2				AMB		AMB		
	comp=Z,80nm,6.2s							
CD2				LR		LR		
	comp=N,220nm,12.0s							
CD2				LR		LR		
	comp=Z,290nm,14.4s,MS4.3							
JIRN	**Jiri**	**42.05**	**332**	*e*P		**P**	**04 01 32.9**	**-0.1**
PKI	**Pulchoki**	**42.35**	**331**	*e*P		**P**	**04 01 34.6**	**-0.8**
SSE	**Sheshan**	**42.35**	**18**	P		**P**	**04 01 37.0**	**+1.6**
SSE				AMB		AMB		
	comp=Z,36nm,0.7s,mb5.1							
SSE				AMB		AMB		
	comp=Z,70nm,5.2s							
GUN	**Gumba**	**42.41**	**331**	*e*P		**P**	**04 01 36.1**	**+0.2**
DMN	**Daman**	**42.52**	**330**	*e*P		**P**	**04 01 37.3**	**+0.4**
	comp=Z,58nm,0.7s,mb5.4							
KKN	**Kakani**	**42.59**	**331**	*e*P		**P**	**04 01 36.8**	**-0.6**
	comp=Z,119nm,1.1s,mb5.5							
KKN	**Kakani**	**42.59**	**331**	*e*P		**P**	**04 01 36.8**	**-0.6**
KKN				pmax		pmax		
	comp=Z,119nm,1.1s,mb5.5							
GKN	**Gorkha**	**43.08**	**330**	*e*P		**P**	**04 01 41.4**	**0.0**
	comp=Z,18nm,0.4s,mb5.2							
XAN	**Xi'an**	**43.15**	**2**	P		**P**	**04 01 41.1**	**-0.9**
XAN				AP		pP	04 01 49.6	-1.4
XAN				AMB		AMB		
	comp=Z,22nm,0.9s,mb4.9							
XAN				LR		LR		
	comp=N,140nm,14.5s,MS4.2							
XAN				LR		LR		
	comp=E,152nm,13.5s,MS4.2							
XAN				LR		LR		
	comp=Z,318nm,11.4s,MS4.5							
KOLN	**Koldanda**	**43.41**	**329**	*e*P		**P**	**04 01 44.1**	**+0.1**
	comp=Z,55nm,0.7s,mb5.4							
LZH	**Lanzhou**	**45.28**	**356**	*e*P		**P**	**04 01 58.8**	**-0.2**
LZH				AP		pP	04 02 08.1	0.0
LZH				XP		sP	04 02 12.5	+0.8
LZH				PP		PP	04 03 49.0	+3.8
LZH				AMB		AMB		
	comp=Z,42nm,1.5s,mb5.0							
LZH				AMB		AMB		
	comp=Z,151nm,8.0s							
NDI	**New Delhi**	**47.64**	**323**	*e*P		**P**	**04 02 13.0**	**-4.5**
GTA	**Gaotai**	**48.98**	**352**	*e*P		**P**	**04 02 27.8**	**0.0**
GTA				AP		pP	04 02 32.8	-4.2
GTA				XP		sP	04 02 36.0	-4.6
GTA				PCP		PcP	04 03 49.9	-1.7
GTA				PP		PP	04 04 22.8	+1.4
GTA				PPP			04 05 17.1	
GTA				S		**S**	**04 09 33.0**	**+2.9**
GTA				XS		sS	04 09 42.9	-2.2
GTA				SS		SS	04 12 59.5	-1.5
GTA				AMB		AMB		
	comp=Z,12nm,1.4s,mb4.7							
GTA				AMB		AMB		
	comp=Z,108nm,5.3s							
GTA				LR		LR		
	comp=N,160nm,12.9s,MS4.3							
GTA				LR		LR		
	comp=E,151nm,15.2s,MS4.3							
GTA				LR		LR		
	comp=Z,224nm,12.2s,MS4.4							
BTO	**Baotou**	**49.74**	**3**	*e*P		**P**	**04 02 33.3**	**-0.4**
BJT	**Baijiatuau**	**49.78**	**9**	*e*P		**P**	**04 02 34.1**	**+0.1**
BJT				*e**PP		pP	04 02 42.7	-0.4
BJT				pmax		pmax		
	comp=Z,47nm,1.4s							
BJT	**Baijiatuau**	**49.78**	**9**	*e*P		**P**	**04 02 34.1**	**+0.2**
	comp=Z,47nm,1.4s,mb5.3							
BJT				*e*pP		pP	04 02 42.7	-0.4
BJI	**Beijing**	**49.80**	**9**	P		**P**	**04 02 33.9**	**-0.2**
BJI				S		**S**	**04 09 51.1**	**+9.5**
BJI				AMB		AMB		
	comp=Z,14nm,1.2s,mb4.9							
BJI				AMB		AMB		
	comp=Z,34μm,3.0s							
BJI				LR		LR		
	comp=N,76nm,14.0s,MS4.2							
BJI				LR		LR		
	comp=E,143nm,14.0s,MS4.2							
BJI				LR		LR		
	comp=Z,83nm,19.0s,MS3.8							
HHC	**Hu-ho-hao-te**	**50.08**	**4**	*e*P		**P**	**04 02 36.3**	**+0.1**
HHC				AMB		AMB		
	comp=Z,16nm,0.8s,mb5.1							
HHC				AMB		AMB		
	comp=Z,118nm,4.9s							
HHC				LR		LR		
	comp=N,324nm,11.9s,MS4.5							
HHC				LR		LR		
	comp=E,207nm,16.7s,MS4.5							
HHC				LR		LR		
	comp=Z,217nm,13.1s,MS4.3							
SNY	**Shenyang**	**53.06**	**15**	⇑P		**P**	**04 03 02.1**	**+3.6**
SNY				AMB		AMB		
	comp=Z,16nm,3.0s							
MJAR	**Matsushiro Arr**	**54.11**	**31**	P		**P**	**04 03 07.2**	**+1.0**
	comp=Z,1.9nm,0.6s,mb4.2,baz=196,slow=7.6,SNR=4.0							
CN2	**Changchun**	**55.40**	**16**	*e*P		**P**	**04 03 17.4**	**+1.9**
CN2				*e*XP		sP	04 03 24.4	-4.0
CN2				*e*S		**S**	**04 11 01.0**	**+2.9**
CN2				*e*SS		SS	04 14 42.1	-0.7
CN2				AMB		AMB		
	comp=Z,10.0nm,1.4s,mb4.7							
CN2				AMB		AMB		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=N,200nm,16.0s,MS4.4							
CN2				LR		LR		
	comp=E,200nm,16.0s,MS4.4							
CN2				LR		LR		
	comp=Z,200nm,17.0s,MS4.3							
WMQ	**Urumqi**	**55.80**	**343**	P		**P**	**04 03 20.1**	**+1.7**
WMQ				AP		pP	04 03 24.8	-2.9
WMQ				XP		sP	04 03 27.1	-4.2
WMQ				PP		PP	04 05 26.1	+3.1
WMQ				S		**S**	**04 11 05.0**	**+1.6**
WMQ				AMB		AMB		
	comp=Z,19nm,1.7s,mb4.8							
WMQ				AMB		AMB		
	comp=Z,138nm,4.9s							
WMQ				LR		LR		
	comp=N,688nm,17.7s,MS4.9							
WMQ				LR		LR		
	comp=E,516nm,16.6s,MS4.9							
WMQ				LR		LR		
	comp=Z,690nm,18.2s,MS4.8							
KSH	**Kashi**	**56.60**	**331**	*e*P		**P**	**04 03 25.1**	**+0.9**
KSH				*e*AP		pP	04 03 30.3	-3.1
KSH				*e*XP		sP	04 03 33.8	-3.2
KSH				*e*PCP		PcP	04 04 21.1	+0.8
K

comp=Z,54nm,18.6s,MS3.8,baz=246,slow=30
MAW Mawson 65.23 197 *e*P **P** 04 04 22.3 -0.5
MAW pmax pmax
comp=Z,15nm,1.2s
MAW Mawson 65.23 197 *e*P **P** 04 04 22.3 -0.5
comp=Z,14nm,1.2s,mb4.9
ZAL Zalesovo 65.83 346 P **P** 04 04 26.1 -0.6
comp=Z,27nm,0.3s,mb4.7,baz=317,slow=4.2,SNR=9.3
NVS Novosibirsk 67.04 345 *e*P **P** 04 04 35.2 +0.8
BOD Bodaibo 67.14 4 *e*P **P** 04 04 33.2 -1.8
BOD pmax pmax
comp=Z,13nm,1.2s,mb4.8
BVAR Borovoye Array 69.59 337 LR LR 04 38 04.2
comp=Z,49nm,20.3s,MS3.7,baz=319,slow=38
BRVK Borovoye 69.66 337 *e*P **P** 04 04 49.8 -1.0
BRVK *e**PP pP 04 04 59.4 -0.9
BRVK pmax pmax
comp=Z,13nm,1.0s,mb4.8
BRVK Borovoye 69.66 337 *e*P **P** 04 04 49.8 -0.9
comp=Z,13nm,1.0s,mb4.8
BRVK *ep*P pP 04 04 59.4 -0.8
CHKZ Chkalovo 70.02 338 *i* P **P** 04 04 52.1 -0.9
CHKZ pmax pmax
comp=Z,16nm,0.8s,mb5.0
CHKZ Chkalovo 70.02 338 *e*P **P** 04 04 52.1 -0.8
comp=Z,18nm,0.6s,mb5.2
CHKZ *ep*P pP 04 05 02.0 -0.5
ZRNK Zerenda 70.07 337 *i* P **P** 04 04 52.3 -1.0
ZRNK pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ZRNK Zerenda 70.07 337 *e*P **P** 04 04 52.3 -1.1
comp=Z,18nm,0.9s,mb5.0
ZRNK *ep*P pP 04 05 02.0 -0.8
KMBO Kilima Mbogo 70.09 272 P **P** 04 04 54.0 +0.6
comp=Z,0.8nm,0.5s,mb3.9,baz=41,slow=16,SNR=4.0
AKTO Aktyubinsk 73.24 330 LR LR 04 40 19.6
comp=Z,22nm,19.1s,MS3.5,baz=9.3,slow=38
YAK Yakutsk 73.25 11 *e*P **P** 04 05 06.7 -5.7
YAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
SYO Syowa Base 73.42 200⇑ *e*P **P** 04 05 12.5 -1.0
VNDA Vanda 73.65 169 P **P** 04 05 14.2 -0.6
comp=Z,3.3nm,0.9s,mb4.2,baz=294,slow=6.7,SNR=13
VNDA Vanda 73.65 169 *e*P **P** 04 05 14.2 -0.6
VNDA pmax pmax
comp=Z,6.0nm,1.2s
VNDA Vanda 73.65 169 *e*P **P** 04 05 14.2 -0.6
comp=Z,5.8nm,1.2s,mb4.4
SVE Sverdlovsk 76.22 336 *e*P **P** 04 05 31.2 +1.6
SVE pmax pmax
comp=Z,36nm,2.0s,mb5.0
ARU Arti 76.82 335⇓ *i*P **P** 04 05 34.9 +1.9
ARU *e* 04 05 41.2
ARU *e* 04 08 31.2
ARU pmax pmax
comp=Z,11nm,1.2s,mb4.7
LSZ Lusaka 77.13 256 *e*P **P** 04 05 35.1 +0.3
LSZ *e* pP 04 05 45.1 +0.8
LSZ pmax pmax
comp=Z,13nm,1.4s,mb4.7
LSZ Lusaka 77.13 256 *e*P **P** 04 05 35.0 +0.3
comp=Z,13nm,1.4s,mb4.7
LSZ *e*PcP PcP 04 05 45.1 -0.4
ZEI Tsey 77.47 318 *e*P **P** 04 05 38.6 +1.9
ZEI *e**PP pP 04 05 46.6 +0.3
ZEI pmax pmax
comp=Z,11nm,0.5s,mb5.0
LBTB Lobatse 78.61 246 *e*P **P** 04 05 43.3 +0.3
LBTB pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LBTB Lobatse 78.61 246 *e*P **P** 04 05 43.3 +0.3
comp=Z,2.7nm,0.6s,mb4.3
BOSA Boshof 78.61 243 P **P** 04 05 44.1 +1.1
comp=Z,3.7nm,0.9s,mb4.3,baz=84,slow=6.0,SNR=3.9
KIV Kislovodsk 78.77 318 *e*P **P** 04 05 41.1 -2.8
KIV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
EIL Elat 79.53 303 *e*P **P** 04 05 48.0 0.0
comp=Z,105nm,0.8s,mb5.8
QSPA South Pole Qui 80.68 180⇓ *i*P **P** 04 05 53.7 -0.5
comp=Z,3.0nm,0.9s,mb4.2
TIXI Tiksi 82.07 7 *e*P **P** 04 05 59.5 -2.1
TIXI pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
BR131 Keskin Array S 83.56 312 *e*P **P** 04 06 09.5 +0.2
comp=Z,6.6nm,0.9s,mb4.8
BR131 *ep*P pP 04 06 18.4 -0.6
BRTR Keskin Array B 83.56 312 P **P** 04 06 09.0 -0.3
comp=Z,3.3nm,1.0s,mb4.4,baz=126,slow=6.3,SNR=9.2
VRSR Storozhevoye 83.88 324 *e*P **P** 04 06 10.7 -0.2
VRSR pmax pmax
comp=N,10.0nm,0.5s
VRSR pmax pmax
comp=Z,10.0nm,0.5s,mb5.2
VRSR pmax pmax
comp=E,3.0nm,0.4s
TSUM Tsumeb 86.68 251 *e*P **P** 04 06 25.9 +1.0
comp=E,3.5nm,0.8s,mb4.6
OBN Obninsk 86.80 327⇑ *e*P **P** 04 06 25.0 -0.6
OBN *i* pP 04 06 35.0 -0.3
OBN pmax pmax
comp=Z,21nm,1.4s,mb5.2
SNAA Sanae 87.40 197 *e*P **P** 04 06 27.6 -0.9
SNAA *e* 04 06 29.6
SNAA *e* 04 06 31.1
SNAA Sanae 87.40 197 *e*P **P** 04 06 26.0 -2.5
SNAA Sanae 87.40 197 *e*P **P** 04 06 28.8 +0.3
comp=Z,11nm,1.2s,mb5.0
VNA1 Neumayer--Stat 89.43 198 *e*P **P** 04 06 38.6 +0.6
VNA1 *e* 04 06 39.8
VNA1 *e* 04 06 41.9
AKASG Malin Array Be 89.66 322 P **P** 04 06 41.0 +1.8
comp=Z,0.4nm,0.2s,mb4.4,baz=84,slow=5.6,SNR=4.1
AKASG Malin Array Be 89.66 322 *i* P **P** 04 06 43.2 +4.0
FINES FINESS Array B 93.93 332 P **P** 04 06 59.6 +0.7
comp=Z,1.9nm,0.9s,mb4.5,baz=344,slow=20,SNR=2.7
ARCES ARCESS Array B 95.79 340 LR LR 05 00 28.7
comp=Z,43nm,19.0s,MS4.0,baz=43,slow=42
LONY Lake Ozonia 144.80 2 *e*PKPdf PKPdf 04 13 17.7 -0.3
LONY *ep*PKPdf pPKPdf 04 13 26.8 -1.2
LTX Lajitas 144.86 51 *e*PKIKP PKPdf 04 13 18.9 +0.8
BDFB Brasilia 145.14 225 PKPbc PKPbc 04 13 19.9 +1.7
comp=Z,11nm,0.9s,baz=94,slow=2.2,SNR=13
WMOK Wichita Mounta 145.25 39 *e*PKIKP PKPdf 04 13 18.6 -0.2
MIV Mineville/With 145.38 1 *e*PKPbc PKPbc 04 13 19.5 +0.5
MIV *ep*PKPdf pPKPdf 04 13 28.5 -0.6
NCB Newcomb 145.46 2 *e*PKPbc PKPbc 04 13 19.5 +0.3
NCB *ep*PKPdf pPKPdf 04 13 29.3 +0.1
CCM Cathedral Cave 146.89 27 *e*PKP2 PKPab 04 13 23.8 -1.1
BINY Binghamton 147.13 4 *e*PKPbc PKPbc 04 13 24.6 +0.4
JCT Junction City 147.14 46 *e*PKP2 PKPab 04 13 25.6 -0.3
ACSO Alum Creek Sta 147.90 15 *e*PKPbc PKPbc 04 13 26.4 +0.1
LVC Limon Verde 148.04 187 *e*PKPbc PKPbc 04 13 28.1 +1.5
MIAR Mount Ida 148.46 34 *e*PKPbc PKPbc 04 13 28.7 +0.9
MIAR *e*PKPab PKPab 04 13 32.3 +1.2
SSPA Standing Stone 148.49 8 *e*PKPbc PKPbc 04 13 28.2 +0.4
SSPA *ep*PKPdf pPKPdf 04 13 38.0 +3.7
WCI Wyandotte Cave 148.74 21 *e*PKIKP PKPdf 04 13 26.2 +1.5
HKT Hockley 150.22 43 *e*PKIKP PKPdf 04 13 30.4 +3.4
OXF Oxford 150.64 29 *e*PKIKP PKPdf 04 13 27.6 -0.1
OXF *e* 04 13 33.8
PLAL Pickwick Lake 150.86 26 *e*PKPdf PKPdf 04 13 27.2 -0.8
PLAL *e*PKPbc PKPbc 04 13 33.4 -0.3
ELN Prospectdale 151.29 13 *e*PKPbc PKPbc 04 13 35.2 +0.6
CPCT Cooper Cave 151.86 21 *e*PKPbc PKPbc 04 13 36.7 +0.7
LPAZ La Paz 154.15 190 PKPbc PKPbc 04 13 43.2 +2.2
comp=Z,1.1nm,0.7s,baz=207,slow=9.1,SNR=7.6
LPAZ La Paz 154.15 190 *e*PKIKP PKPdf 04 13 33.1 +0.2
LPAZ 04 13 43.2
LPAZ *e* 04 13 43.5
SAML Samuel 159.50 208 *e*PKPdf PKPdf 04 13 37.7 -2.0
SAML *e*PKPab PKPab 04 14 18.1 +0.2
OTAV Otavalo 169.33 147 *e*PKPdf PKPdf 04 13 49.8 +1.4

*LDG **19** 04:01:09.0±0.1, 4388N×7.15E, h6km, Md2.3/3, Ml2.0/7, Error ellipse: s-maj=1.4km s-min=1.2km az=10.0*
STR 19 04:01:09.2±0.3, 4387N×717E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVIF	**Mont Vial**	**0.03**	**334**	Pg	Pg	04 01 10.7	+0.5
LUCF	**Luceram**	**0.13**	**80**	Pg	Pg	04 01 12.2	+0.4
LUCF				Sg	Sg	04 01 14.6	+1.0
TOUF	**Mont Tournerai**	**0.15**	**21**	Pg	Pg	04 01 13.8	+1.5
SBF	**Sospel**	**0.19**	**92**	*e*Pg	Pg	04 01 13.4	+0.4
SBF				*e*Sg	Sg	04 01 17.0	+1.5
	33nm,0.3s						
REVF	**Revere**	**0.19**	**132**	Pg	Pg	04 01 14.1	+1.1
AUTN	**L'Aution**	**0.22**	**56**	Pg	Pg	04 01 13.4	-0.2
AUTN				Sg	Sg	04 01 17.1	+0.5
FRF	**La Foret Royal**	**0.49**	**231**	*e*Pg	Pg	04 01 17.8	-0.8
FRF				*e*Sg	Sg	04 01 24.9	-0.1
	5.3nm,0.2s						
LMR	**La Mourre**	**0.72**	**222**	*e*Pg	Pg	04 01 22.4	-0.6
LMR				*e*Sg	Sg	04 01 32.1	-0.3
	5.4nm,0.2s						
TAVF	**Tavernes**	**0.84**	**253**	Pg	Pg	04 01 24.6	-0.8
MBDF	**Montbardon**	**0.90**	**342**	*e*Pg	Pg	04 01 24.6	-1.9
MBDF				*e*Sg	Sg	04 01 36.9	-1.4
	1.5nm,0.2s						
SMRF	**Simiane la Rot**	**1.16**	**276**	*e*Pg	Pg	04 01 30.5	-0.9
SMRF				*e*Sg	Sg	04 01 46.7	+0.3
	12nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.40**	**319**	*e*Pg	Pg	04 01 34.8	-1.2
ORIF				*e*Sg	Sg	04 01 53.5	-0.6
	2.4nm,0.3s						
LPG	**La Plagne**	**1.66**	**350**	*e*Pn	Pn	04 01 36.8	-2.1
LPG	**La Plagne**	**1.66**	**350**	*e*Pg	Pg	04 01 40.1	-0.8
LPG				*e*Sn	Sn	04 01 57.7	-2.8
LPG				*e*Sg	Sg	04 02 00.8	-1.6
LPL	**La Plagne**	**1.68**	**349**	*e*Pg	Pg	04 01 40.1	-1.2
LPL				*e*Sn	Sn	04 01 58.2	-2.8
LPL				*e*Sg	Sg	04 02 01.0	-2.0
	1.0nm,0.3s						
PGF	**Pioggiola**	**1.88**	**134**	*e*Pn	Pn	04 01 40.4	-1.6
PGF				*e*Sn	Sn	04 02 02.6	-3.5
	2.2nm,0.4s						
VIVF	**Saint-Julien-l**	**2.04**	**300**	*e*Pn	Pn	04 01 41.9	-2.3
VIVF	**Saint-Julien-l**	**2.04**	**300**	*e*Pg	Pg	04 01 46.6	-1.8
VIVF				*e*Sn	Sn	04 02 06.4	-3.7
VIVF				*e*Sg	Sg	04 02 12.4	-2.5
	1.4nm,0.3s						
LASF	**Ste Croix**	**2.40**	**276**	*e*Pn	Pn	04 01 46.7	-2.4
LASF	**Ste Croix**	**2.40**	**276**	*e*Pg	Pg	04 01 53.6	-1.6
LASF				*e*Sn	Sn	04 02 15.3	-3.6
LASF				*e*Sg	Sg	04 02 23.8	-2.5
	2.3nm,0.4s						

*BJI **19** 04:15:27.9, 5420N×15930E, h140km, mB4.3, mb4.2*
*IDC **19** 04:15:28.4±7.7, 5441N×15928E, h96km±75km, mb3.7/14, mb1 3.9/14, mb1mx3.8/24, mbtmp4.0/14, Error ellipse: s-maj=28.0km s-min=12.9km az=170.0*
*MOS **19** 04:15:29.3±1.0, 5416N×15932E, h136km, mb4.0/19, Error ellipse: s-maj=15.6km s-min=7.9km az=83.5*
*ISCJB **19** 04:15:29.4±0.3, 5414N±004×15934E±008, h135km±3km, mb4.0/31, Error ellipse: s-maj=8.2km s-min=5.2km az=49.1*
*KRSC **19** 04:15:30, 5410N×15987E, h121km, ML4.3*
*NEIC **19** 04:15:31.9±0.8, 5418N×15933E, h141km±9km, mb4.2/14, Error ellipse: s-maj=14.5km s-min=8.1km az=183.0*
ISC 19 04:15:30.5±0.3, 5415N±003×15932E±008, h130km±3km, n69, σ1°04/83, mb4.0/31, 2C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.14**	**147**	P	**Pn**	**04 15 48.7**	**+0.5**
KII				S	**Sn**	**04 16 02.1**	**+0.5**
NLC	**Nalytchevo**	**0.98**	**179**	P	**Pn**	**04 15 53.5**	**+0.3**
NLC				S	**Sn**	**04 16 10.2**	**-0.3**
SPN	**Mys Shipunski**	**1.14**	**158**	P	**Pn**	**04 15 53.5**	**-1.2**
SPN				S	**Sn**	**04 16 10.3**	**-2.8**
PET	**Petropavlovsk**	**1.20**	**200**	P	**Pn**	**04 15 56.7**	**+1.4**
PET				S	**Sn**	**04 16 15.8**	**+1.6**
PET	**Petropavlovsk**	**1.20**	**200**⇑	*i*PN	**Pn**	**04 15 56.8**	**+1.5**
PET				*e*S	**Sn**	**04 16 16.0**	**+1.8**
PET				pmax	pmax		
	comp=Z,800nm,0.2s						
PET				pmax	pmax		
	comp=Z,705nm,0.4s						
PET				smax			
	comp=N,2μm,0.6s						
PET				smax			
	comp=N,3μm,0.6s						
PET				smax			
	comp=E,2μm,0.4s						
PET	**Petropavlovsk**	**1.20**	**200**	*e*Pn	**Pn**	**04 15 56.6**	**+1.3**
PET				*e*Sn	**Sn**	**04 16 14.5**	**+0.3**
MKZ	**Mys Kozlova**	**1.47**	**73**	P	**Pn**	**04 15 55.6**	**-2.6**
MKZ				S	**Sn**	**04 16 13.5**	**-5.8**
RUS	**Russkaya**	**1.79**	**196**	P	**Pn**	**04 16 02.9**	**+1.0**
RUS				S	**Sn**	**04 16 26.4**	**+0.4**
KOZ	**Kozyrevsk**	**1.94**	**9**	P	**Pn**	**04 16 04.6**	**+0.9**
KOZ				S	**Sn**	**04 16 29.0**	**0.0**
KOZR	**Kozyr**	**1.94**	**10**	PN	**Pn**	**04 16 04.6**	**+0.8**
KOZR				S	**Sn**	**04 16 29.0**	**-0.3**
KLY	**Klyuchi**	**2.29**	**19**	P	**Pn**	**04 16 09.0**	**+0.9**
KBTR	**Krutoberegovo**	**2.88**	**43**	P	**Pn**	**04 16 14.4**	**-1.1**
KBTR				S	**Sn**	**04 16 46.2**	**-3.9**
SKR	**Severo-Kuril's**	**3.99**	**211**	*e*PN	**Pn**	**04 16 29.0**	**-1.1**
SKR				*e*S	**Sn**	**04 17 15.4**	**-0.9**
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				pmax	pmax		
	comp=N,90nm,0.2s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				smax			
	comp=N,150nm,0.5s						
SKR				smax			
	comp=E,120nm,0.5s						
SKR				smax			
	comp=Z,70nm,0.4s						
MA2	**Magadan**	**7.17**	**323**	*e*PN	**Pn**	**04 17 16.5**	**+3.7**
MA2				pmax	pmax		
	comp=E,30nm,0.8s						
MA2				pmax	pmax		
	comp=Z,40nm,0.8s						
MA2	**Magadan**	**7.17**	**323**	*e*Pn	**Pn**	**04 17 16.3**	**+3.5**
	comp=Z,16nm,0.8s						
YAK	**Yakutsk**	**17.40**	**309**	*e*P	**Pn**	**04 19 24.7**	**-0.5**
YAK				pmax	pmax		
	comp=Z,23nm,0.7s						
TIXI	**Tiksi**	**21.92**	**335**⇑	*e*P	**P**	**04 20 13.9**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
TIXI				MLR	MLR		
	comp=Z,200nm,22.0s						
MJAR	**Matsushiro Arr**	**22.88**	**228**	P	**P**	**04 20 25.2**	**+2.4**
	comp=Z,2.4nm,0.8s,mb3.7,baz=11,slow=14,SNR=4.0						
MJAR	**Matsushiro Arr**	**22.88**	**228**	P	**P**	**04 20 25.2**	**+2.4**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TTA	**Tatalina**	**24.43**	**51**	*e*P	**P**	**04 20 36.6**	**-0.3**
TTA				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.4						
TTA	**Tatalina**	**24.43**	**51**	*e*P	**P**	**04 20 36.6**	**-0.3**
	comp=Z,7.7nm,0.7s,mb4.3						
BOD	**Bodaibo**	**25.24**	**297**	*e*P	**P**	**04 20 44.2**	**-0.1**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
KDAK	**Kodiak Island**	**26.70**	**63**	P	**P**	**04 20 56.4**	**-1.1**
	comp=Z,11nm,1.0s,mb4.4,baz=280,slow=6.1,SNR=3.3						
KDAK	**Kodiak Island**	**26.70**	**63**	P	**P**	**04 20 56.4**	**-1.1**
COLA	**College**	**27.99**	**46**	*e*P	**P**	**04 21 10.6**	**+1.7**
SONM	**Songino Array**	**33.23**	**281**	P	**P**	**04 21 56.2**	**+1.2**
	comp=Z,1.2nm,0.6s,mb3.8,baz=55,slow=8.3,SNR=13						
SONM				PcP	PcP	04 24 35.5	+1.0
	comp=Z,0.6nm,0.6s,baz=98,slow=2.1,SNR=6.0						
SONM	**Songino Array**	**33.23**	**281**	P	**P**	**04 21 56.2**	**+1.2**
SONM						04 24 35.5	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**33.32**	**39**	P	**P**	**04 21 55.5**	**-0.3**
	comp=Z,1.4nm,0.4s,mb4.0,baz=287,slow=6.7,SNR=19						
INK	**Inuvik**	**33.32**	**39**	*e*P	**P**	**04 21 54.7**	**-1.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**33.32**	**39**	*e*P	**P**	**04 21 54.7**	**-1.1**
	comp=Z,1.6nm,0.6s,mb3.9						
HHC	**Hu-ho-hao-te**	**34.22**	**267**	*e*P	**P**	**04 22 02.1**	**-1.5**
HHC				AP	pP	04 22 36.9	+5.0
HHC				PP	PP	04 23 21.5	-2.1
HHC				S	**S**	**04 27 14.1**	**-6.5**
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.8						
HHC				AMB	AMB		
	comp=Z,55nm,5.6s						
HHC				LR	LR		
	comp=N,142nm,14.3s						
HHC				LR	LR		
	comp=E,111nm,15.5s						
HHC				LR	LR		
	comp=Z,71nm,14.3s						
YKA	**Yellowknife Ar**	**42.70**	**43**	P	**P**	**04 23 14.0**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.5,baz=301,slow=7.4,SNR=7.6						
WMQ	**Urumqi**	**46.20**	**288**	P	**P**	**04 23 42.9**	**+0.7**
KURK	**Kurchatov**	**46.79**	**301**	*e*P	**P**	**04 23 45.5**	**-1.3**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.4						
KURK	**Kurchatov**	**46.79**	**301**	*e*P	**P**	**04 23 45.5**	**-1.3**
	comp=Z,5.3nm,0.5s,mb4.4						
MKAR	**Makanchi Array**	**47.29**	**294**	P	**P**	**04 23 50.4**	**-0.3**
	comp=Z,1.8nm,0.6s,mb3.9,baz=58,slow=7.7,SNR=27						
MKAR	**Makanchi Array**	**47.29**	**294**	P	**P**	**04 23 50.4**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CHKZ	**Chkalovo**	**48.86**	**308**	*e*P	**P**	**04 24 01.8**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
CHKZ	**Chkalovo**	**48.86**	**308**	*e*P	**P**	**04 24 01.8**	**-1.0**
	comp=Z,1.7nm,0.4s,mb4.0						
BVAR	**Borovoye Array**	**49.37**	**307**	P	**P**	**04 24 06.2**	**-0.5**
	comp=Z,1.0nm,0.4s,mb3.8,baz=54,slow=8.0,SNR=6.2						
BVAR	**Borovoye Array**	**49.37**	**307**	P	**P**	**04 24 06.2**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NEW	**Newport**	**49.78**	**60**	*e*P	**P**	**04 24 09.7**	**-0.1**
NEW				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NEW	**Newport**	**49.78**	**60**	*e*P	**P**	**04 24 09.7**	**-0.1**
	comp=Z,2.3nm,0.7s,mb3.9						
YBH	**Yreka Blue Hor**	**51.09**	**70**	P	**P**	**04 24 20.8**	**+1.2**
	comp=Z,2.5nm,0.9s,mb3.8,baz=30,slow=1.3,SNR=4.0						
YBH	**Yreka Blue Hor**	**51.09**	**70**	P	**P**	**04 24 20.8**	**+1.2**
YBH				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARU	**Arti**	**52.31**	**316**⇓	*i*P	**P**	**04 24 27.8**	**-0.9**
ARU				*e*		04 26 24.1	
ARU				*e*S	**S**	**04 31 45.5**	**+1.6**
ARU				*e*SS	SS	04 35 24.3	+1.1
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
ARU	**Arti**	**52.31**	**316**	*e*P	**P**	**04 24 28.1**	**-0.5**
FFC	**Flin Flon**	**52.62**	**46**	*e*P	**P**	**04 24 31.0**	**0.0**
FFC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
FFC	**Flin Flon**	**52.62**	**46**	*e*P	**P**	**04 24 31.0**	**0.0**
	comp=Z,3.0nm,0.8s,mb4.1						
BOZ	**Bozeman (W)**	**54.33**	**60**	*e*P	**P**	**04 24 42.1**	**-1.3**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
BOZ	**Bozeman (W)**	**54.33**	**60**	*e*P	**P**	**04 24 42.1**	**-1.3**
	comp=Z,1.2nm,0.8s,mb3.7						
NVAR	**Mina Array Bea**	**55.81**	**70**	P	**P**	**04 24 55.5**	**+1.4**
	comp=Z,1.2nm,0.8s,mb3.8,baz=285,slow=8.9,SNR=8.0						
TPAW	**Teton Pass**	**56.18**	**61**	*e*P	**P**	**04 24 57.6**	**+0.9**
	comp=Z,1.7nm,0.6s,mb4.0						
JOF	**Joensuu**	**56.41**	**334**	*e*p	**P**	**04 24 56.4**	**-1.9**
	comp=Z,1.0nm,0.4s,mb4.0						
JOF	**Joensuu**	**56.41**	**334**	*e*P	**P**	**04 24 56.4**	**-1.9**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
HWUT	**Hardware Ranch**	**57.20**	**63**	*e*P	**P**	**04 25 05.0**	**+1.1**
	comp=Z,2.9nm,0.6s,mb4.3						
BW06	**Boulder Array**	**57.41**	**61**	*e*P	**P**	**04 25 05.9**	**+0.5**
	comp=Z,1.9nm,0.5s,mb4.2						
PDAR	**Pinedale Array**	**57.41**	**61**	P	**P**	**04 25 05.9**	**+0.5**
	comp=Z,2.9nm,0.7s,mb4.2,baz=337,slow=2.9,SNR=29						
FINES	**FINESS Array B**	**58.96**	**336**	P	**P**	**04 25 15.6**	**-0.6**
	comp=Z,2.2nm,1.0s,mb3.9,baz=38,slow=8.1,SNR=9.4						
FINES	**FINESS Array B**	**58.96**	**336**	P	**P**	**04 25 15.6**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
RSSD	**Black Hills**	**59.20**	**56**	*e*P	**P**	**04 25 18.1**	**+0.3**
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
RSSD	**Black Hills**	**59.20**	**56**	*e*P	**P**	**04 25 18.1**	**+0.2**
	comp=Z,5.2nm,0.6s,mb4.5						
NOA	**NORSAR Array B**	**62.39**	**343**	P	**P**	**04 25 38.3**	**-1.1**
	comp=Z,0.2nm,0.3s,mb3.4,baz=16,slow=5.6,SNR=2.7						
ANMO	**Albuquerque**	**64.81**	**65**	*e*P	**P**	**04 25 55.9**	**+0.6**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ANMO	**Albuquerque**	**64.81**	**65**	*e*P	**P**	**04 25 55.9**	**+0.6**
	comp=Z,1.0nm,0.8s,mb3.7						
AKASG	**Malin Array Be**	**67.47**	**328**	P	**P**	**04 26 11.4**	**-0.9**
	comp=Z,0.4nm,0.2s,mb3.8,baz=30,slow=6.1,SNR=5.1						
WMOK	**Wichita Mounta**	**68.97**	**60**	*e*P	**P**	**04 26 21.6**	**0.0**
WMOK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
WMOK	**Wichita Mounta**	**68.97**	**60**	*e*P	**P**	**04 26 21.6**	**-0.1**
	comp=Z,1.4nm,0.6s,mb3.9						
ESDC	**Sonseca Array**	**85.44**	**347**	P	**P**	**04 27 54.5**	**+1.1**
	comp=Z,0.7nm,0.5s,mb3.7,baz=2.9,slow=5.1,SNR=6.5						

*BJI **19** 04:19:41.0, 940S×10880E, h22km, mB4.9, mb4.8, Ms4.6, Msz4.4*
*MOS **19** 04:19:43.4±1.4, 924S×10889E, h33km, mb4.9/13, Error ellipse: s-maj=15.7km s-min=8.4km az=116.6*
*ISCJB **19** 04:19:44.2±0.9, 941S±005×10882E±006, h41km±7km, mb4.7/53, MS4.2/16, Error ellipse: s-maj=10.4km s-min=6.1km az=107.4*
*NEIC **19** 04:19:45.0±2.2, 938S×10883E, h32km±15km, mb4.8/22, Error ellipse: s-maj=8.3km s-min=4.2km az=48.0*
*IDC **19** 04:19:46.0±0.5, 934S×10886E, h39km±3km, mb4.3/15, mb1 4.4/17, mb1mx4.3/21, mbtmp4.5/17, ML4.0/2, MS3.8/8, Ms1 3.8/8, ms1mx3.4/22, Error ellipse: s-maj=19.7km s-min=10.7km az=61.0*
ISC 19 04:19:46.0±0.8, 943S±004×10879E±005, h40km±7km, h41km±1.4km: pP-P, n125, σ1°09/110, mb4.7/53, MS4.2/16, 8C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.28**	**24**	P	**Pn**	**04 20 21.2**	**+0.1**
	822nm,0.9s						
BJII	**Banjamegara**	**2.28**	**24**⇑	*i*P	**Pn**	**04 20 22.2**	**+1.1**
BJII				*i* S	**Sn**	**04 20 51.3**	**+3.4**
LEM	**Lembang**	**2.84**	**336**	P	**Pn**	**04 20 29.8**	**+1.1**
	952nm,1.0s						
JCJI	**Jatiwangi**	**2.97**	**350**	P	**Pn**	**04 20 29.4**	**-1.1**
	1μm,1.0s						
NBBI	**Negara**	**5.86**	**80**	P	**Pn**	**04 21 10.8**	**+0.5**
	749nm,0.6s						
KSI	**Kapahiang**	**8.42**	**313**	P	**Pn**	**04 21 44.5**	**-0.8**
	155nm,0.8s						
PSI	**Prapat**	**15.63**	**321**	Pn	**Pn**	**04 23 22.1**	**-1.2**
	0.5nm,0.3s,baz=161,slow=8.7,SNR=3.9						
FITZ	**Fitzroy Crossi**	**18.48**	**120**	*e*P	**Pn**	**04 23 57.8**	**-1.1**
	20nm,0.8s						
FITZ				*e*S	**S**	**04 27 05.8**	**-22**
FITZ	**

WB2	**Warramunga Arr**	**26.80**	**116**	*e*P		**P**	04 25 21.0	**-1.3**
WB2				*e*S		S	04 30 23.7	+28
ASPA	**Alice Springs**	**27.86**	**124**	*e*P		**P**	**04 25 31.8**	**+0.1**
ASAR	**Alice Springs**	**27.86**	**124**	P		**P**	**04 25 31.9**	**+0.1**
	comp=Z,4.3nm,0.9s,mb4.1,baz=302,slow=9.0,SNR=35							
ASAR				PcP		PcP	04 28 48.5	+1.7
	comp=Z,2.4nm,0.7s,baz=327,slow=1.8,SNR=12							
ASAR				pPcP			04 29 00.6	
	comp=Z,2.4nm,0.8s,baz=314,slow=2.0,SNR=8.0							
ASAR				Sn		S	04 30 54.9	+43
	comp=Z,4.1nm,0.8s,baz=302,slow=24,SNR=5.1							
ASAR				LR		LR	04 35 42.2	
	comp=Z,136nm,21.4s,MS3.5,baz=310,slow=34							
ASAR	**Alice Springs**	**27.86**	**124**	P		**P**	**04 25 31.9**	**+0.2**
ASAR							04 28 48.5	
AS31	**Alice Springs**	**27.86**	**124**	*e*P		**P**	**04 25 31.8**	**+0.1**
QIZ	**Qiongzhong**	**28.30**	**2**	P		**P**	**04 25 35.6**	**0.0**
QIZ				S		**S**	**04 30 20.5**	**+1.3**
QIZ				LR		LR		
	comp=E,296nm,15.9s							
QIZ				LR		LR		
	comp=Z,245nm,15.4s,MS3.9							
KMI	**Kunming**	**34.85**	**350**	P		**P**	**04 26 36.0**	**+2.9**
KMI				AP		pP	04 26 39.6	-4.7
KMI				XP		sP	04 26 41.9	-7.2
KMI				PP		PP	04 27 54.0	+1.4
KMI				PPP			04 28 10.8	
KMI				S		**S**	**04 32 05.5**	**+4.2**
KMI				XS		sS	04 32 12.3	-7.6
KMI				SSS			04 34 48.9	
KMI				AMB		AMB		
	comp=Z,7.0nm,1.1s,mb4.5							
KMI				AMB		AMB		
	comp=Z,82nm,4.5s							
KMI				LR		LR		
	comp=N,440nm,15.6s,MS4.4							
KMI				LR		LR		
	comp=E,365nm,18.2s,MS4.4							
KMI				LR		LR		
	comp=Z,427nm,15.6s,MS4.3							
GYA	**Guiyang**	**35.73**	**357**⇑	*i*P		**P**	**04 26 41.8**	**+1.0**
GYA				AP		pP	04 26 53.8	+1.9
GYA				PP		PP	04 28 03.0	+0.6
GYA				S		**S**	**04 32 13.8**	**-1.1**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.8							
GYA				AMB		AMB		
	comp=Z,110nm,4.0s							
GYA				LR		LR		
	comp=N,420nm,14.8s,MS4.5							
GYA				LR		LR		
	comp=E,430nm,14.2s,MS4.5							
GYA				LR		LR		
	comp=Z,400nm,14.0s,MS4.3							
CTA	**Charters Tower**	**37.66**	**111**	*e*P		**P**	**04 26 59.0**	**+1.8**
	comp=Z,8.7nm,0.9s,mb4.5							
CTA	**Charters Tower**	**37.66**	**111**	*e*P		**P**	**04 26 59.0**	**+1.8**
CTA				pmax		pmax		
	comp=Z,9.0nm,0.9s							
STKA	**Stephens Creek**	**37.71**	**131**	*e*P		**P**	**04 26 58.0**	**+0.4**
	comp=Z,23nm,0.7s,mb5.0							
STKA	**Stephens Creek**	**37.71**	**131**	P		**P**	**04 26 58.4**	**+0.8**
	comp=Z,27nm,0.7s,mb5.1,baz=307,slow=8.1,SNR=60							
CD2	**Chengdu**	**40.40**	**353**⇑	*i*P		**P**	**04 27 20.6**	**+0.5**
CD2				AP		pP	04 27 32.9	+1.5
CD2				PP		PP	04 28 58.4	+4.9
CD2				S		**S**	**04 33 26.8**	**+1.3**
CD2				SS		SS	04 36 23.0	-2.5
CD2				AMB		AMB		
	comp=Z,10.0nm,1.4s,mb4.3							
CD2				AMB		AMB		
	comp=Z,40nm,5.2s							
CD2				LR		LR		
	comp=N,150nm,14.4s							
CD2				LR		LR		
	comp=Z,130nm,13.2s,MS4.0							
JOW	**Kunigami**	**40.71**	**27**	P		**P**	**04 27 22.9**	**+0.3**
	comp=Z,35nm,1.0s,mb4.9,baz=174,slow=17,SNR=3.6							
SSE	**Sheshan**	**42.02**	**16**	P		**P**	**04 27 35.3**	**+2.0**
SSE				AMB		AMB		
	comp=Z,12nm,0.9s,mb4.5							
SSE				AMB		AMB		
	comp=Z,58nm,7.5s							
NJ2	**Nanjing**	**42.36**	**13**	*e*P		**P**	**04 27 36.0**	**-0.1**
NJ2				AP		pP	04 27 45.9	-1.6
NJ2				XP		sP	04 27 49.8	-2.4
NJ2				S		**S**	**04 33 53.0**	**-1.5**
NJ2				XS		sS	04 34 09.0	-4.4
NJ2				AMB		AMB		
	comp=Z,20nm,0.9s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,110nm,4.9s							
NJ2				LR		LR		
	comp=N,230nm,10.0s,MS4.5							
NJ2				LR		LR		
	comp=E,230nm,12.2s,MS4.5							
NJ2				LR		LR		
	comp=Z,2µm,12.3s,MS5.3							
JIRN	**Jiri**	**42.88**	**330**	*e*P		**P**	**04 27 41.3**	**+1.0**
PKI	**Pulchoki**	**43.20**	**329**	*e*P		**P**	**04 27 43.0**	**+0.1**
XAN	**Xi'an**	**43.23**	**0**	P		**P**	**04 27 43.0**	**-0.2**
XAN				AP		pP	04 27 51.0	-3.6
XAN				XP		sP	04 27 55.3	-4.0
GUN	**Gumba**	**43.24**	**330**	*e*P		**P**	**04 27 43.9**	**+0.6**
	comp=Z,27nm,0.6s,mb5.1							
DMN	**Daman**	**43.38**	**329**	*e*P		**P**	**04 27 45.1**	**+0.7**
	comp=Z,23nm,0.8s,mb5.0							
KKN	**Kakani**	**43.44**	**329**	*e*P		**P**	**04 27 45.1**	**+0.2**
GKN	**Gorkha**	**43.94**	**329**	*e*P		**P**	**04 27 49.5**	**+0.6**
	comp=Z,21nm,0.7s,mb5.0							
KOLN	**Koldanda**	**44.30**	**327**	*e*P		**P**	**04 27 52.3**	**+0.5**
	comp=Z,32nm,0.7s,mb5.2							
LZH	**Lanzhou**	**45.51**	**354**	*e*P		**P**	**04 28 02.1**	**+0.7**
LZH				AP		pP	04 28 12.5	-0.4
LZH				XP		sP	04 28 17.3	-0.3
LZH				AMB		AMB		
	comp=Z,22nm,1.4s,mb4.9							
GTA	**Gaotai**	**49.30**	**351**	*e*P		**P**	**04 28 31.8**	**+0.9**
GTA				AP		pP	04 28 39.5	-2.9
GTA				XP		sP	04 28 44.1	-3.0
GTA				PP		PP	04 30 26.0	+1.0
GTA				PPP			04 31 20.8	
GTA				S		**S**	**04 35 40.1**	**+5.7**
GTA				XS		sS	04 35 49.3	-4.2
GTA				AMB		AMB		
	comp=Z,5.0nm,1.1s,mb4.5							
GTA				AMB		AMB		
	comp=Z,185nm,4.6s							
GTA				LR		LR		
	comp=N,187nm,19.8s,MS4.2							
GTA				LR		LR		
	comp=E,160nm,17.5s,MS4.2							
GTA				LR		LR		
	comp=Z,239nm,19.4s,MS4.2							
BJI	**Beijing**	**49.70**	**7**	P		**P**	**04 28 33.3**	**-0.6**
BJI				AMB		AMB		
	comp=Z,18nm,0.9s,mb5.1							
HHC	**Hu-ho-hao-te**	**50.09**	**3**	*e*P		**P**	**04 28 39.8**	**+2.9**
HHC				AP		pP	04 28 44.5	-4.0
HHC				XP		sP	04 28 47.8	-5.4
HHC				PP		PP	04 30 36.4	+4.2
HHC				S		**S**	**04 35 48.0**	**+2.6**
HHC				XS		sS	04 35 58.8	-5.8
HHC				SCS		ScS	04 38 20.3	-4.5
HHC				AMB		AMB		
	comp=Z,12nm,0.8s,mb5.0							
HHC				AMB		AMB		
	comp=Z,275nm,8.2s							
HHC				LR		LR		
	comp=N,167nm,19.0s,MS4.2							
HHC				LR		LR		
	comp=E,179nm,17.8s,MS4.2							
HHC				LR		LR		
	comp=Z,106nm,17.8s,MS3.9							
SNY	**Shenyang**	**52.79**	**14**	⇑P		**P**	**04 28 55.8**	**-1.2**
SNY				AP		pP	04 29 06.8	-1.9
SNY				XP		sP	04 29 13.0	-0.4
SNY				AMB		AMB		
	comp=Z,10.0nm,2.2s,mb4.4							
MJAR	**Matsushiro Arr**	**53.45**	**30**	P		**P**	**04 28 59.7**	**-2.2**
	comp=Z,3.8nm,0.6s,mb4.5,baz=204,slow=8.1,SNR=5.8							
MJAR				pP		pP	04 29 11.3	-2.3
	comp=Z,5.1nm,0.9s,baz=209,slow=7.5,SNR=4.4							
MJAR				LR		LR	04 53 23.1	
	comp=Z,70nm,19.8s,MS3.7,baz=210,slow=38							
MJAR	**Matsushiro Arr**	**53.45**	**30**	P		**P**	**04 28 59.7**	**-2.2**
MJAR				*PP		pP	04 29 11.3	-2.2
WMQ	**Urumqi**	**56.36**	**342**	P		**P**	**04 29 26.1**	**+3.1**
WMQ				AP		pP	04 29 30.8	-3.9
WMQ				XP		sP	04 29 33.1	-6.2
WMQ				PP		PP	04 31 33.0	+4.3
WMQ				AMB		AMB		
	comp=Z,27nm,1.5s,mb5.1							
WMQ				AMB		AMB		
	comp=Z,147nm,5.2s							
WMQ				LR		LR		
	comp=N,658nm,17.2s,MS4.9							
WMQ				LR		LR		
	comp=E,493nm,16.1s,MS4.9							
WMQ				LR		LR		
	comp=Z,657nm,17.7s,MS4.8							
MDJ	**Mudanjiang**	**56.99**	**18**	P		**P**	**04 29 27.9**	**+0.4**
MDJ				AMB		AMB		
	comp=Z,2.0nm,0.6s,mb4.3							
MDJ				AMB		AMB		
	comp=Z,48nm,5.5s							
SONM	**Songino Array**	**57.05**	**358**	P		**P**	**04 29 27.8**	**-0.1**
	comp=Z,4.3nm,0.6s,mb4.6,baz=175,slow=8.2,SNR=43							
SONM				pP		pP	04 29 39.8	+0.2
	comp=Z,5.5nm,0.4s,baz=180,slow=7.8,SNR=21							
KSH	**Kashi**	**57.44**	**330**	*e*P		**P**	**04 29 26.5**	**-4.1**
KSH				*e*PCP		PcP	04 30 23.8	-0.2
KSH				*e*PPP			04 32 50.9	
KSH				*e*SCP		ScP	04 34 20.1	-0.5
KSH				*e*S		**S**	**04 37 17.5**	**-7.3**
KSH				*e*PS			04 37 37.1	
KSH				*e*SCS		ScS	04 39 11.9	-4.8
KSH				AMB		AMB		
	comp=Z,38nm,1.1s,mb5.3							
KSH				LR		LR		
	comp=N,372nm,5.3s							
KSH				LR		LR		
	comp=E,405nm,5.1s							
KSH				LR		LR		
	comp=Z,1µm,19.7s,MS4.9							
ZAK	**Zakamensk**	**59.76**	**356**	*e*P		**P**	**04 29 44.0**	**-2.7**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.4s,mb4.1							
AAK	**Ala-Archa**	**60.55**	**331**⇑	*e*P		**P**	**04 29 49.8**	**-2.4**
AAK				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.2							
MKAR	**Makanchi Array**	**60.77**	**339**	P		**P**	**04 29 53.6**	**0.0**
	comp=Z,8.7nm,0.6s,mb5.1,baz=143,slow=7.6,SNR=113							
MKAR				pP		pP	04 30 05.1	-0.3
	comp=Z,8.8nm,0.5s,baz=141,slow=7.4,SNR=17							
MOY	**Mondy**	**61.22**	**354**	*e*P		**P**	**04 29 58.2**	**+1.5**
KLR	**Kul'dur**	**61.80**	**17**	*e*P		**P**	**04 29 55.2**	**-5.4**
YSS	**Yuzh-Sakhalins**	**63.77**	**25**⇑	*e*P		**P**	**04 30 12.6**	**-1.2**
YSS				pmax		pmax		
	comp=Z,9.0nm,1.2s,mb4.7							
KURK	**Kurchatov**	**65.38**	**339**	*e*P		**P**	**04 30 23.7**	**-0.6**
KURK				*e*PP		pP	04 30 35.9	-0.3
KURK				pmax		pmax		
	comp=Z,6.0nm,0.7s,mb4.7							
KURK	**Kurchatov**	**65.38**	**339**	*e*P		**P**	**04 30 23.7**	**-0.5**
	comp=Z,6.5nm,0.7s,mb4.8							
KURK				*e*pP		pP	04 30 35.9	-0.3
MAW	**Mawson**	**65.58**	**198**	P		**P**	**04 30 25.4**	**-0.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=35,slow=6.4,SNR=5.1							
MAW				pP		pP	04 30 37.3	-0.1
	comp=Z,3.1nm,0.8s,baz=63,slow=8.0,SNR=5.2							
ZAL	**Zalesovo**	**66.32**	**345**	P		**P**	**04 30 28.8**	**-1.5**
	comp=Z,2.2nm,0.6s,mb4.4,baz=304,slow=5.0,SNR=11							
ZAL	**Zalesovo**	**66.32**	**345**	*i* P		**P**	**04 30 29.6**	**-0.7**
ZAL				pmax		pmax		
	comp=Z,2.0nm,0.6s							
BOD	**Bodaibo**	**67.15**	**3**	*e*P		**P**	**04 30 33.6**	**-2.0**
BOD				*e*		pP	04 30 42.6	-5.0
BOD				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.5							
BOD				pmax		pmax		
	comp=Z,7.0nm,1.2s,mb4.6							
BVAR	**Borovoye Array**	**70.29**	**337**	P		**P**	**04 30 55.1**	**0.0**
	comp=Z,3.1nm,0.7s,mb4.4,baz=144,slow=8.0,SNR=14							
BVAR				pP		pP	04 31 06.4	-0.7
	comp=Z,2.8nm,0.4s,baz=140,slow=7.5,SNR=9.3							
BVAR				LR		LR	05 05 41.6	
	comp=Z,75nm,20.6s,MS3.9,baz=138,slow=39							
BVAR	**Borovoye Array**	**70.29**	**337**	P		**P**	**04 30 55.1**	**0.0**
BVAR				*PP		pP	04 31 06.4	-0.7
BRVK	**Borovoye**	**70.35**	**336**	*e*P		**P**	**04 30 55.1**	**-0.4**
BRVK				*e*PP		pP	04 31 07.7	+0.2
BRVK				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.4							
BRVK	**Borovoye**	**70.35**	**336**	*e*P		**P**	**04 30 55.1**	**-0.5**
	comp=Z,4.7nm,0.9s,mb4.4							
BRVK				*e*pP		pP	04 31 07.7	+0.2
CHKZ	**Chkalovo**	**70.69**	**337**	*e*P		**P**	**04 30 57.5**	**-0.1**
CHKZ				*e*PP		pP	04 31 09.0	-0.6
CHKZ				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.8							
CHKZ	**Chkalovo**	**70.69**	**337**	*e*P		**P**	**04 30 57.5**	**-0.1**
	comp=Z,7.7nm,0.6s,mb4.8							
CHKZ				*e*pP		pP	04 31 09.0	-0.6
ZRNK	**Zerenda**	**70.78**	**336**	*e*P		**P**	**04 30 57.8**	**-0.4**
ZRNK				*e*PP		pP	04 31 09.8	-0.4
ZRNK				pmax		pmax		
	comp=Z,5.0nm,0.5s,mb4.7							
ZRNK	**Zerenda**	**70.78**	**336**	*e*P		**P**	**04 30 57.8**	**-0.4**
	comp=Z,5.4nm,0.5s,mb4.7							
ZRNK				*e*pP		pP	04 31 09.8	-0.4
KMBO	**Kilima Mbogo**	**71.60**	**272**	LR		LR	04 59 57.8	
	comp=Z,83nm,18.9s,MS4.0,baz=98,slow=34							
YAK	**Yakutsk**	**73.08**	**10**⇑	*e*P		**P**	**04 31 10.8**	**-1.1**
YAK				pmax		pmax		
	comp=Z,34nm,1.0s,mb5.2							
YAK	**Yakutsk**	**73.08**	**10**	*e*P		**P**	**04 31 10.6**	**-1.3**
	comp=Z,25nm,0.6s,mb5.3							
VNDA	**Vanda**	**73.27**	**170**	P		**P**	**04 31 12.8**	**-0.2**
	comp=Z,4.6nm,0.9s,mb4.4,baz=293,slow=6.7,SNR=24							
VNDA				LR		LR	05 00 08.0	
	comp=Z,61nm,18.3s,MS3.9,baz=302,slow=33							
VNDA	**Vanda**	**73.27**	**170**	*e*P		**P**	**04 31 12.4**	**-0.6**
VNDA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
VNDA	**Vanda**	**73.27**	**170**	*e*P		**P**	**04 31 12.4**	**-0.6**
	comp=Z,6.0nm,1.0s,mb4.5							
AKTK	**Aktyubinsk**	**74.11**	**329**	P		**P**	**04 31 17.6**	**-0.3**
AKTO	**Aktyubinsk**	**74.11**	**329**	P		**P**	**04 31 17.6**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=90,slow=13,SNR=3.3							
MA2	**Magadan**	**76.52**	**20**	*e*P		**P**	**04 31 30.6**	**-1.2**
MA2				pmax		pmax		
	comp=Z,40nm,1.3s,mb5.2							
MA2	**Magadan**	**76.52**	**20**	*e*P		**P**	**04 31 30.9**	**-0.9**
	comp=Z,20nm,0.9s,mb5.1							
SVE	**Sverdlovsk**	**76.94**	**335**	*e*P		**P**	**04 31 30.0**	**-4.2**
ARU	**Arti**	**77.57**	**334**	*e*P		**P**	**04 31 36.6**	**-1.1**
ARU				*e*			04 34 31.7	
ARU				*e*PPP			04 36 16.2	
ARU				*e*S		S	04 41 26.0	-0.1
ARU				*e*SS		SS	04 46 28.3	+2.4
LSZ	**Lusaka**	**78.57**	**256**	*e*P		**P**	**04 31 44.3**	**+1.0**
LSZ				*e*		pP	04 31 57.4	+2.0
LSZ				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
LSZ	**Lusaka**	**78.57**	**256**	*e*P		**P**	**04 31 44.3**	**+1.0**
	comp=Z,4.5nm,0.8s,mb4.5							
LSZ				*e*		pP	04 31 57.4	+2.0
BOSA	**Boshof**	**79.90**	**243**	LR		LR	05 02 50.9	
	comp=Z,79nm,18.2s,MS4.1,baz=181,slow=32							
LBTB	**Lobatse**	**79.94**	**246**	*e*P		**P**	**04 31 52.0**	**+1.2**
LBTB				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
LBTB	**Lobatse**	**79.94**	**246**	*e*P		**P**	**04 31 52.0**	**+1.3**
	comp=Z,4.5nm,0.8s,mb4.5							
GOF	**Gofitskoye**	**80.08**	**319**	*e*P		**P**	**04 31 48.6**	**-2.9**
QSPA	**South Pole Qui**	**80.57**	**180**	*e*P		**P**	**04 31 54.4**	**+0.3**
	comp=Z,13nm,1.1s,mb4.8							
SOC	**Sochi**	**81.70**	**317**	*e*P		**P**	**04 31 57.9**	**-2.3**
SOC				*e*			04 35 11.8	
SOC				*e*S		S	04 42 08.5	-1.4
SOC				pmax		pmax		
	comp=Z,14nm,1.1s,mb4.8							
TIXI	**Tiksi**	**82.00**	**6**	*e*P		**P**	**04 31 58.0**	**-3.7**
TIXI				*e*			04 32 12.9	
TIXI				pmax		pmax		
	comp=Z,15nm,0.7s,mb5.0							
BR131	**Keskin Array S**	**84.75**	**312**	*e*P		**P**	**04 32 16.5**	**+0.6**
	comp=Z,2.2nm,0.6s,mb4.5							
BR131				*e*pP		pP	04 32 29.2	+1.1
BRTR	**Keskin Array B**	**84.75**	**312**	P		**P**	**04 32 16.6**	**+0.7**
	comp=Z,3.1nm,1.0s,mb4.4,baz=126,slow=6.3,SNR=10							
BRTR				pP		pP	04 32 28.9	+0.7
	comp=Z,2.5nm,0.6s,baz=137,slow=5.8,SNR=8.0							
OBN	**Obninsk**	**87.72**	**327**⇑	*e*P		**P**	**04 32 31.0**	**+0.6**
OBN				*i*		pP	04 32 43.8	+1.0
OBN				pmax		pmax		
	comp=Z,14nm,0.8s,mb5.2							
SNAA	**Sanae**	**87.74**	**197**	*e*P		**P**	**04 32 30.1**	**-0.5**
SNAA				*e*			04 32 31.7	
SNAA				*e*			04 32 35.7	
SNAA	**Sanae**	**87.74**	**197**	*e*P		**P**	**04 32 30.8**	**+0.2**
SNAA				pmax		pmax		
	comp=Z,9.0nm,1.2s							
SNAA	**Sanae**	**87.74**	**197**	*e*P		**P**	**04 32 30.8**	**+0.3**
	comp=Z,8.8nm,1.2s,mb4.9							
TSUM	**Tsumeb**	**88.07**	**251**	*e*P		**P**	**04 32 33.3**	**+1.2**
	comp=Z,4.3nm,0.9s,mb4.7							
VNA1	**Neumayer--Stat**	**89.77**	**197**	*e*P		**P**	**04 32 41.0**	**+0.9**
VNA1				*e*			04 32 42.2	
VNA1				*e*			04 32 44.8	
AKASG	**Malin Array Be**	**90.69**	**321**	P		**P**	**04 32 43.8**	**-0.6**
	comp=Z,0.2nm,0.3s,mb3.9,baz=134,slow=2.8,SNR=2.1							
AKASG				pP		pP	04 32 55.6	-1.1
	comp=Z,2.4nm,0.8s,baz=83,slow=4.9,SNR=3.6							
FINES	**FINESS Array B**	**94.74**	**331**	P		**P**	**04 33 03.4**	**+0.3**
	comp=Z,1.7nm,0.9s,mb4.5,baz=126,slow=12,SNR=4.4							
FINES	**FINESS Array B**	**94.74**	**331**	P		**P**	**04 33 03.4**	**+0.3**
ARCES	**ARCESS Array B**	**96.42**	**339**	LR		LR	05 18 33.5	
	comp=Z,51nm,19.2s,MS4.0,baz=27,slow=37							
TORD	**Torodi Ar. Bea**	**108.62**	**281**	PKKPbc		PKKPbc	04 49 21.2	+1.7
	comp=Z,0.3nm,0.8s,baz=235,slow=2.5,SNR=4.0							
YKA	**Yellowknife Ar**	**118.50**	**21**	PKP		PKPdf	04 38 28.2	-1.0
	comp=Z,0.8nm,0.7s,baz=329,slow=1.9,SNR=7.3							
YKA				pPKP		pPKPdf	04 38 41.5	-0.4
	comp=Z,0.8nm,0.5s,baz=330,slow=1.4,SNR=6.2							
YKA	**Yellowknife Ar**	**118.50**	**21**	PKP		PKPdf	04 38 28.2	-1.1
YKA				pPKP		pPKPdf	04 38 41.5	-0.4
NVAR	**Mina Array Bea**	**128.93**	**48**	PKP		PKPdf	04 38 51.7	+2.5
	comp=Z,1.0nm,0.9s,baz=326,slow=2.1,SNR=5.4							
NVAR				pPKP		pPKPdf	04 39 04.0	+2.1
	comp=Z,0.6nm,0.7s,baz=324,slow=2.5,SNR=4.7							
ANMO	**Albuquerque**	**139.00**	**46**	*e*PKIKP		PKPdf	04 39 08.3	+0.2
LTX	**Lajitas**	**143.74**	**52**	*e*PKIKP		PKPdf	04 39 17.4	+0.8
WMOK	**Wichita Mounta**	**144.36**	**41**	*e*PKIKP		PKPdf	04 39 16.9	-0.8
WMOK				*e*			04 39 29.7	
NCB	**Newcomb**	**145.49**	**4**	*e*PKPbc		PKPbc	04 39 20.1	+0.4
NCB				*ep*PKPdf		pPKPdf	04 39 33.0	+0.6
BDFB	**Brasilia**	**146.11**	**223**	PKPbc		PKPbc	04 39 23.5	+1.9
	comp=Z,3.1nm,0.7s,baz=161,slow=3.9,SNR=8.5							
JCT	**Junction City**	**146.11**	**48**	*e*PKPbc		PKPbc	04 39 23.1	+1.4
JCT				*ep*PKPdf		pPKPdf	04 39 35.9	+2.4
CCM	**Cathedral Cave**	**146.28**	**29**	*e*PKP2		PKPab	04 39 22.3	-0.6
MIAR	**Mount Ida**	**147.68**	**36**	*e*PKPbc		PKPbc	04 39 27.4	+1.2
MIAR				*ep*PKPdf		pPKPdf	04 39 39.8	+3.9
PARMO	**Parma**	**148.10**	**29**	*e*PKPbc		PKPbc	04 39 27.8	+0.5
WCI	**Wyandotte Cave**	**148.28**	**23**	*e*PKPbc		PKPbc	04 39 28.2	+0.5
WCI				*ep*PKPdf		pPKPdf	04 39 40.5	+3.4
SSPA	**Standing Stone**	**148.37**	**10**	*e*PKPbc		PKPbc	04 39 28.3	+0.4
SSPA				*ep*PKPdf		pPKPdf	04 39 41.2	+4.0
HKT	**Hockley**	**149.25**	**45**	*e*PKPbc		PKPbc	04 39 32.0	+1.8
HKT				*ep*PKPdf		pPKPdf	04 39 45.2	+6.6
WVT	**Waverly**	**149.43**	**27**	*e*PKPbc		PKPbc	04 39 31.5	+0.8
WVT				*e*			04 39 44.2	
PLAL	**Pickwick Lake**	**150.26**	**29**	*e*PKPbc		PKPbc	04 39 32.7	0.0
PLAL				*ep*PKPdf		pPKPdf	04 39 45.3	+5.1
TZTN	**Tazewell**	**150.78**	**21**	*e*PKPbc		PKPbc	04 39 34.7	+0.8
TZTN				*e*			04 39 47.5	
ELN	**Prospectdale**	**151.01**	**16**	*e*PKPbc		PKPbc	04 39 34.6	+0.2
ELN				*e*			04 39 47.2	
CPCT	**Cooper Cave**	**151.40**	**23**	*e*PKPbc		PKPbc	04 39 36.7	+1.4
CPCT				*e*			04 39 49.2	
LPAZ	**La Paz**	**154.26**	**187**	PKPbc		PKPbc	04 39 44.4	+2.7
	comp=Z,1.5nm,0.9s,baz=171,slow=4.9,SNR=5.7							
LPAZ	**La Paz**	**154.26**	**187**	PKPbc		PKPbc	04 39 44.4	+2.7
LPAZ				*e*PKPab		PKPab	04 39 57.3	+1.6

*ISCJB **19** 04:37:49.4±2.4, 373N±02×716E±02, h211km±35km, Error ellipse: s-maj=31.1km s-min=21.9km az=103.0*
*NNC **19** 04:37:50.5±9.2, 3735N×7143E, h197km±108km, mb2.3, mpv3.2, Error ellipse: s-maj=86.4km s-min=44.8km az=10.0*

ISC 19 04:37:53.4±2.4, 375N±02×716E±02, h232km±31km, n9, σ0s92/12, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
	SNR=82								
AML	**Almayashu**	**4.86**	**19**	P		P	**Pn**	**04 39 06.0**	**-0.8**
UCH	**Uchtor**	**5.19**	**25**	P		P	**Pn**	**04 39 10.4**	**-0.5**
	SNR=8.7								
EKS2	**Erkin-Say**	**5.38**	**17**	P		P	**Pn**	**04 39 13.5**	**+0.2**
	SNR=6.7								
AAK	**Ala-Archa**	**5.55**	**23**	P		P	**Pn**	**04 39 15.3**	**-0.1**
	SNR=6.7								
KK31	**Karatay Array**

*IDC **19** 04:57:11.2±2.2,889S×108.14E,h0km,mb3.9/6,mb1 3.9/7, mb1mx3.8/19,mbtmp3.9/7,ML3.5/1,Error ellipse: s-maj=105.2km s-min=18.2km az=51.0*
*NEIC **19** 04:57:11.2±0.6,921S×10775E,h10km,mb4.2/4,Error ellipse: s-maj=32.0km s-min=8.4km az=51.0*
*ISCJB **19** 04:57:12.9±0.9,9.1S±02×1079E±03,h33km,mb3.9/10, Error ellipse: s-maj=46.4km s-min=12.1km az=101.1*

ISC 19 04:57:15.0±0.9,92S±02×1078E±03,h35km,n15,σ0§36/13, mb3.9/10,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.45**	**119**	P	**Pn**	**05 01 39.5**	**-0.3**
	0.1nm,0.3s,baz=7.1,slow=16,SNR=4.0						
WRA	**Warramunga Arr**	**27.77**	**116**	P	**P**	**05 03 00.1**	**-0.3**
	0.9nm,0.6s,mb3.6,baz=291,slow=10,SNR=7.0						
ASAR	**Alice Springs**	**28.80**	**123**	P	**P**	**05 03 09.8**	**+0.2**
	0.5nm,0.9s,mb3.2,baz=306,slow=7.9,SNR=4.1						
STKA	**Stephens Creek**	**38.60**	**131**	P	**P**	**05 04 35.6**	**+1.0**
	0.7nm,0.4s,mb3.7,baz=324,slow=11,SNR=5.1						
STKA	**Stephens Creek**	**38.60**	**131**	*e*P	**P**	**05 04 34.6**	**0.0**
SONM	**Songino Array**	**56.79**	**359**	P	**P**	**05 06 56.2**	**+0.6**
	0.7nm,0.4s,mb4.0,baz=180,slow=9.4,SNR=8.2						
SONM				pP	pP	05 07 06.4	+0.2
	0.5nm,0.5s,baz=180,slow=7.9,SNR=5.0						
MKAR	**Makanchi Array**	**60.21**	**340**	P	**P**	**05 07 19.5**	**+0.1**
	1.5nm,0.5s,mb4.3,baz=145,slow=7.8,SNR=10						
MKAR	**Makanchi Array**	**60.21**	**340**	P	**P**	**05 07 19.5**	**+0.1**
KURK	**Kurchatov**	**64.82**	**340**	*e*P	**P**	**05 07 50.3**	**+0.1**
	2.3nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**69.69**	**337**	P	**P**	**05 08 21.0**	**-0.1**
	0.4nm,0.3s,mb3.8,baz=142,slow=7.5,SNR=4.8						
CHKZ	**Chkalovo**	**70.10**	**338**	*e*P	**P**	**05 08 23.2**	**-0.3**
	1.6nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**70.17**	**336**	*e*P	**P**	**05 08 23.6**	**-0.5**
	0.8nm,0.5s,mb3.9						
VNDA	**Vanda**	**73.68**	**169**	*e*P	**P**	**05 08 45.1**	**+0.1**
	0.3nm,0.5s,mb3.5						
WMOK	**Wichita Mounta**	**144.81**	**40**	*e*PKPdf	PKPdf	05 16 48.5	+0.3
WVT	**Waverly**	**149.65**	**26**	*e*PKPbc	PKPbc	05 17 01.6	+0.8

IDC 19 05:15:15.7±2.6,888S×10768E,h0km,mb3.6/4,mb1 3.7/4, mb1mx3.5/17,mbtmp3.6/4,Error ellipse: s-maj=135.6km s-min=25.4km az=50.0,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**2.53**	**53**	*e*P	Pn	05 15 54.0	-4.1
BJII				*e*S	Sn	05 16 39.0	+9.4
WRA	**Warramunga Arr**	**28.02**	**116**	P	P	05 21 09.1	+0.8
	0.3nm,0.7s,baz=286,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**29.08**	**124**	P	P	05 21 18.4	+0.7
	0.2nm,0.3s,baz=296,slow=9.0,SNR=3.6						
STKA	**Stephens Creek**	**38.90**	**131**	P	P	05 22 42.6	-0.3
	1.1nm,0.7s,baz=304,slow=16,SNR=3.5						
MKAR	**Makanchi Array**	**59.87**	**340**	P	P	05 25 23.2	+0.1
	0.8nm,0.4s,baz=157,slow=7.3,SNR=10						

*IDC **19** 05:24:15.0±2.2,926S×10920E,h0km,mb3.9/5,mb1 4.0/6, mb1mx3.8/17,mbtmp3.8/6,ML3.4/1,Error ellipse: s-maj=95.4km s-min=19.1km az=53.0*
*NEIC **19** 05:24:15.4±1.1,959S×10888E,h10km,mb4.3/2,Error ellipse: s-maj=54.4km s-min=9.1km az=51.0*
*ISCJB **19** 05:24:16.8±1.4,96S±03×1089E±04,h33km,mb3.9/7, Error ellipse: s-maj=71.6km s-min=12.2km az=100.8*

ISC 19 05:24:19.0±1.5,96S±03×1089E±04,h35km,n10,σ0§65/10, mb3.9/7,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**15.52**	**139**	*e*Pn	**Pn**	**05 27 53.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**18.33**	**119**	P	**Pn**	**05 28 29.9**	**-0.5**
	0.1nm,0.3s,baz=270,slow=20,SNR=11						
WRA	**Warramunga Arr**	**26.65**	**116**	P	**P**	**05 29 54.8**	**+0.5**
	0.8nm,0.6s,mb3.4,baz=288,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**27.69**	**123**	P	**P**	**05 30 04.3**	**+0.6**
	0.4nm,0.4s,mb3.4,baz=299,slow=10.0,SNR=6.1						
STKA	**Stephens Creek**	**37.53**	**131**	P	**P**	**05 31 30.6**	**+1.1**
	2.1nm,0.6s,mb4.1,baz=304,slow=9.6,SNR=8.3						
STKA	**Stephens Creek**	**37.53**	**131**	*e*P	**P**	**05 31 30.4**	**+0.9**
SONM	**Songino Array**	**57.26**	**358**	P	**P**	**05 34 02.4**	**-0.5**
	0.7nm,0.5s,mb3.9,baz=180,slow=8.1,SNR=8.1						
MKAR	**Makanchi Array**	**60.98**	**339**	P	**P**	**05 34 28.1**	**-0.6**
	1.2nm,0.5s,mb4.2,baz=142,slow=7.6,SNR=16						
CHKZ	**Chkalovo**	**70.91**	**337**	*e*P	**P**	**05 35 32.8**	**+0.3**
	1.4nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**71.00**	**336**	*e*P	**P**	**05 35 33.3**	**+0.3**
	1.3nm,0.5s,mb4.1						

*CSEM **19** 05:29:29.6±0.1,4336N×1873E,h2km,MD3.1,Error ellipse: s-maj=1.8km s-min=1.6km az=66.0*
*ISCJB **19** 05:29:29.4±0.4,4333N±002×1874E±003,h7km±4km, Error ellipse: s-maj=3.4km s-min=3.0km az=49.7*
*PDG **19** 05:29:30.6±0.1,4326N×1870E,h9km±1km*
*NEIC **19** 05:29:30.6,4326N×1870E,h9km,MD3.1(PDG),After PDG.*
*PRU **19** 05:29:32.8,4343N×1803E,h0km*
*ROM **19** 05:29:34.3±0.5,4310N×1849E,h10km,Ml3.2/11,Error ellipse: s-maj=9.1km s-min=4.2km az=35.0*
*VIE **19** 05:29:35.0±0.7,4367N×1872E,h10km,mb2.8/2,ML2.7/2, Error ellipse: s-maj=9.9km s-min=5.7km az=40.0*

ISC 19 05:29:30.4±0.4,4332N±002×1875E±003,h5km±4km,n52, σ1§09/74,12C-8D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPM	**Unac-Piva**	**0.16**	**133**	⇑*i*Pg	**Pg**	**05 29 34.2**	**+0.5**
UPM				*e*Sg	**Sg**	**05 29 36.7**	**+0.8**
BRY	**Bratogost**	**0.44**	**200**	⇓*i*Pg	**Pg**	**05 29 37.7**	**-1.2**
BRY				*e*Sg	**Sg**	**05 29 43.7**	**-0.9**
PLE	**Pljevlja**	**0.47**	**88**	⇓*i*Pg	**Pg**	**05 29 40.1**	**+0.6**
PLE				*e*Sg	**Sg**	**05 29 47.7**	**+2.0**
NKY	**Niksic**	**0.54**	**160**	⇑*i*Pg	**Pg**	**05 29 39.8**	**-0.9**
NKY				*e*Sg	**Sg**	**05 29 47.8**	**+0.2**
TREB	**Trebinje**	**0.66**	**206**	P	**Pg**	**05 29 42.1**	**-1.1**
TREB				S	**Sg**	**05 29 53.1**	**+1.3**
STON	**Ston**	**0.89**	**240**	*i* Pg	**Pg**	**05 29 44.9**	**-2.5**
STON				*i* Sg	**Sg**	**05 29 59.4**	**+0.5**
STON	**Ston**	**0.89**	**240**	*i* Pg	**Pg**	**05 29 44.8**	**-2.6**
STON				*i* Sg	**Sg**	**05 29 59.3**	**+0.4**
HCY	**Herceg Novi**	**0.89**	**192**	⇓*i*Pg	**Pg**	**05 29 45.9**	**-1.5**
HCY				*e*Sg	**Sg**	**05 29 59.1**	**+0.2**
IVA	**Berane**	**0.95**	**117**	⇑*i*Pg	**Pg**	**05 29 48.5**	**-0.2**
IVA				*e*Sg	**Sg**	**05 30 03.7**	**+2.6**
TTG	**Podgorica**	**0.96**	**157**	⇓*i*Pg	**Pg**	**05 29 46.9**	**-1.9**
TTG				*e*Sg	**Sg**	**05 30 02.4**	**+1.1**
BUM	**Brajici-Budva**	**1.02**	**174**	⇓*i*Pg	**Pg**	**05 29 48.6**	**-1.3**
BUM				*e*Sg	**Sg**	**05 30 04.3**	**+1.1**
PVY	**Plav**	**1.15**	**128**	⇑*i*Pg	**Pg**	**05 29 51.9**	**-0.6**
PVY				*e*Sg	**Sg**	**05 30 09.8**	**+2.3**
DIVS	**Divcibare**	**1.20**	**49**	*i* Pg	**Pg**	**05 29 53.4**	**0.0**
DIVS				Sg	**Sg**	**05 30 07.9**	**-0.9**
ULC	**Ulcinj**	**1.40**	**164**	⇓*i*Pg	**Pg**	**05 29 56.0**	**-1.3**
ULC				*e*Sg	**Sg**	**05 30 17.2**	**+1.7**
BLY	**Banja Luka**	**1.82**	**322**	P	**Pn**	**05 30 02.6**	**+0.2**
BLY				S	**Sn**	**05 30 28.0**	**+2.2**
BEO	**Belgrade**	**1.95**	**39**	*i* Pn	**Pg**	**05 30 08.7**	**+1.0**
QSH	**Qafa e Shtames**	**1.99**	**154**	*i* Pn	**Pg**	**05 30 04.2**	**-0.4**
TIR	**Tirane**	**2.13**	**157**	Pn	**Pg**	**05 30 09.3**	**-2.0**
RHK3	**Tenkes**	**2.60**	**352**	⇑*e*P	**Pn**	**05 30 12.5**	**-0.5**
FGMS	**Monte Sant'Ang**	**2.62**	**233**	Pn	**Pn**	**05 30 13.3**	**0.0**
MSAG	**Monte S. Angel**	**2.64**	**234**	Pn	**Pn**	**05 30 12.9**	**-0.7**
OHR	**Ohrid**	**2.68**	**145**	*i* Pn	**Pg**	**05 30 19.8**	**-2.0**
OHR				*e*Sn	**Sb**	**05 30 51.5**	**-0.5**
AMUR	**Altamura**	**2.89**	**214**	Pn	**Pn**	**05 30 16.2**	**-0.8**
PKSM	**Moragy**	**2.90**	**359**	⇑*i*P	**Pn**	**05 30 16.4**	**-0.8**
PKSM	**Moragy**	**2.90**	**359**	⇓*e*Pn	**Pn**	**05 30 16.3**	**-0.9**
PKSM				*e*Sn	**Sn**	**05 30 51.0**	**-1.4**
SG1	**Sgolgore (BA)**	**2.91**	**213**	*e*Pn	**Pn**	**05 30 16.5**	**-0.9**
BZS	**Buzias**	**3.09**	**41**	⇑*i*P	**Pg**	**05 30 30.2**	**+0.6**
SGTA	**Sant Agata di**	**3.32**	**230**	Pn	**Pn**	**05 30 23.9**	**+0.9**
	72nm,0.7s						
VTS	**Vitosha**	**3.35**	**101**	⇑*i*P	**Pn**	**05 30 24.2**	**+0.8**
VAY	**Valandovo**	**3.47**	**124**	*i* Pn	**Pg**	**05 30 35.8**	**-1.0**
VAY				*e*Sn	**Sb**	**05 31 13.0**	**-1.6**
MRLC	**Muro Lucano**	**3.52**	**225**	Pn	**Pn**	**05 30 25.9**	**+0.1**
	33nm,0.6s						
MCRV	**Calabrutti - M**	**3.67**	**228**	Pn	**Pn**	**05 30 28.4**	**+0.6**
	36nm,0.5s						
SCHR	**S. Chirico Rap**	**3.70**	**214**	Pn	**Pn**	**05 30 28.4**	**+0.2**
	28nm,1.0s						
MIDA	**Miranda**	**3.72**	**245**	Pn	**Pn**	**05 30 29.5**	**+1.0**
	41nm,0.5s						
SGO	**Sicignano**	**3.76**	**224**	Pn	**Pn**	**05 30 29.1**	**+0.1**
	5.0nm,0.2s						
INTR	**Introdacqua**	**3.80**	**252**	Pn	**Pn**	**05 30 29.0**	**-0.6**
CDRU	**Civita di Ruta**	**3.82**	**223**	Pn	**Pn**	**05 30 29.4**	**-0.4**
	18nm,0.5s						
VAGA	**Valle Agricola**	**3.84**	**242**	Pn	**Pn**	**05 30 31.3**	**+1.1**
	76nm,0.6s						
CMPR	**Campora**	**3.95**	**222**	Pn	**Pn**	**05 30 31.1**	**-0.5**
CUC	**Castrocucco**	**3.98**	**214**	Pn	**Pn**	**05 30 32.1**	**+0.1**
SDI	**San Donato**	**3.99**	**248**	Pn	**Pn**	**05 30 33.1**	**+1.0**
	26nm,0.6s						
CAMP	**Campotosto**	**4.00**	**261**	Pn	**Pn**	**05 30 33.2**	**+0.9**
	29nm,0.7s						
CING	**Cingoli**	**4.05**	**273**	Pn	**Pn**	**05 30 34.0**	**+1.0**
	24nm,0.5s						
VVLD	**Villa Vallelon**	**4.05**	**251**	Pn	**Pn**	**05 30 34.1**	**+1.1**
	61nm,0.6s						
NRCA	**Norcia**	**4.15**	**265**	Pn	**Pn**	**05 30 35.5**	**+1.1**
	5.0nm,0.2s						
ARV	**Arcevia**	**4.23**	**274**	⇑*i*Pn	**Pn**	**05 30 36.5**	**+1.0**
	3.0nm,0.2s						
VOY	**Vojsko**	**4.40**	**310**	*e*Pn	**Pn**	**05 30 38.7**	**+0.9**
VOY				*e*(Sn)	**Sg**	**05 31 57.3**	**+5.6**
MURB	**Monte Urbino**	**4.54**	**271**	Pn	**Pn**	**05 30 40.9**	**+1.1**
	77nm,0.3s						
ARSA	**Arzberg**	**4.54**	**331**	⇑*i*Pn	**Pn**	**05 30 39.6**	**-0.2**
ARSA				⇓*i*Sn	**Sn**	**05 31 30.6**	**-2.4**
VYHS	**Vyhne**	**5.18**	**1**	*e*SN	**Sn**	**05 31 48.0**	**-0.7**
KBA	**Koelnbreinsper**	**5.36**	**316**	⇑*i*Pn	**Pn**	**05 30 51.7**	**+0.7**
KBA				⇑*i*Sn	**Sn**	**05 31 51.6**	**-1.5**
KHC	**Kasperske Hory**	**6.83**	**330**	*e*PN	**Pn**	**05 31 11.9**	**+0.7**
KHC				*ex*	x	05 32 16.9	
KHC				*e*SB	**Sb**	**05 32 57.5**	**+6.1**

*IDC **19** 05:31:47.1±0.5,9.19S×10734E,h0km,mb4.2/15, mb1 4.3/17,mb1mx4.3/22,mbtmp4.2/17,ML3.7/2,MS4.2/14, Ms1 4.2/14,ms1mx4.0/26,Error ellipse: s-maj=25.0km s-min=12.4km az=59.0*
*ISCJB **19** 05:31:49.6±0.3,921S±005×10747E±007,h26km, mb4.6/48,MS4.5/21,Error ellipse: s-maj=11.0km s-min=5.4km az=125.3*
*MOS **19** 05:31:50.7±1.2,9.13S×10754E,h33km,mb5.0/19,Error ellipse: s-maj=18.5km s-min=7.9km az=116.4*
*BJI **19** 05:31:50.0,920S×10740E,h23km,mB5.0,mb4.7,Ms4.9, Msz4.8*
*NEIC **19** 05:31:51.1±2.8,922S×10737E,h23km±19km,mb4.8/16, Error ellipse: s-maj=11.1km s-min=4.8km az=54.0*

ISC 19 05:31:51.9±0.3,923S±005×10745E±007,h28km, h28km±2.1km;pP-P,n118,σ1§14/101,mb4.6/48,MS4.5/21, 5C-1D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**2.39**	**4**	P	**Pn**	**05 32 30.7**	**+1.6**
	1µm,0.9s						
CBJI	**Citeko**	**2.85**	**348**	P	**Pn**	**05 32 40.9**	**+5.5**
	2µm,0.6s						
CBJI	**Citeko**	**2.85**	**348**	P	**Pn**	**05 32 40.9**	**+5.5**
	2µm,0.6s						
SBJI	**Serang**	**3.35**	**337**	P	**Pn**	**05 32 42.2**	**-0.1**
	987nm,1.2s						
KSI	**Kapahiang**	**7.34**	**319**	P	**Pn**	**05 33 43.1**	**+5.9**
	188nm,0.8s						
KSI	**Kapahiang**	**7.34**	**319**	P	**Pn**	**05 33 43.1**	**+5.9**
	188nm,0.8s						
DNP	**Denpasar**	**7.69**	**87**	P		05 33 55.7	
	671nm,0.8s						
PSI	**Prapat**	**14.66**	**324**	Pn	**Pn**	**05 35 11.4**	**-5.9**
	0.2nm,0.3s,baz=161,slow=14,SNR=2.4						
PSI				LR	LR	05 42 04.1	
	comp=Z,1µm,20.2s,baz=147,slow=43						
KULM	**Kulim**	**15.93**	**335**	*e*Pn	**Pn**	**05 35 33.4**	**-0.6**
MBWA	**Marble Bar**	**16.76**	**136**	*e*Pn	**Pn**	**05 35 42.1**	**-2.4**
BSI	**Banda Aceh**	**18.99**	**320**	P	**Pn**	**05 36 15.7**	**+3.7**
	130nm,1.4s						
BSI	**Banda Aceh**	**18.99**	**320**	P	**Pn**	**05 36 15.7**	**+3.7**
	130nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.74**	**118**	*e*P	**Pn**	**05 36 20.8**	**-0.2**
	24nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.74**	**118**	P	**Pn**	**05 36 20.8**	**-0.2**
	0.2nm,0.3s,baz=272,slow=7.3,SNR=7.3						
FITZ				LR	LR	05 43 22.2	
	comp=Z,375nm,18.9s,baz=134,slow=35						
KLBR	**Kellerberrin**	**24.23**	**158**	*e*P	sP	05 37 21.6	+3.8
	22nm,1.2s						
NWAO	**Narrogin (SRO)**	**25.26**	**160**	P	**P**	**05 37 16.6**	**+1.0**
	5.2nm,0.9s,mb4.1,baz=332,slow=16,SNR=2.5						
NWAO				LR	LR	05 45 39.7	
	comp=Z,419nm,21.7s,MS3.9,baz=158,slow=33						
WRA	**Warramunga Arr**	**28.08**	**115**	P	**P**	**05 37 40.9**	**-0.1**
	3.1nm,0.9s,mb3.9,baz=286,slow=11,SNR=6.3						
WRAB	**Tennant Creek**	**28.08**	**115**	*e*P	**P**	**05 37 41.6**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.3						
WRAB	**Tennant Creek**	**28.08**	**115**	*e*P	**P**	**05 37 41.5**	**+0.5**
	comp=Z,8.1nm,1.1s,mb4.3						
WB2	**Warramunga Arr**	**28.09**	**115**	*e*P	**P**	**05 37 42.3**	**+1.2**
ASAR	**Alice Springs**	**29.08**	**123**	P	**P**	**05 37 49.9**	**0.0**
	comp=Z,1.4nm,0.8s,mb3.7,baz=292,slow=8.6,SNR=9.9						
ASAR				PcP	PcP	05 40 59.2	+1.7
	comp=Z,1.3nm,0.8s,baz=281,slow=1.9,SNR=8.4						
ASAR				LR	LR	05 49 54.8	
	comp=Z,323nm,19.2s,MS4.0,baz=309,slow=37						
ASAR	**Alice Springs**	**29.08**	**123**	P	**P**	**05 37 49.9**	**0.0**
ASAR						05 40 59.2	
AS31	**Alice Springs**	**29.08**	**123**	*e*P	**P**	**05 37 52.0**	**+2.1**
CHTO	**Chiang Mai**	**29.09**	**343**	*e*P	**P**	**05 37 49.2**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
CHTO	**Chiang Mai**	**29.09**	**343**	*e*P	**P**	**05 37 49.2**	**-0.8**
	comp=Z,13nm,1.0s,mb4.6						
GZH	**Guangzhou**	**32.63**	**10**	P	**P**	**05 38 26.5**	**+5.3**
GZH				LR	LR		
	comp=N,547nm,12.4s,MS4.6						
GZH				LR	LR		
	comp=E,437nm,12.1s,MS4.6						
GZH				LR	LR		
	comp=Z,805nm,14.6s,MS4.5						
KMI	**Kunming**	**34.45**	**352**	P	**P**	**05 38 39.4**	**+2.4**
KMI				AP	pP	05 38 42.3	-3.0
KMI				PP	PP	05 39 56.3	+1.0
KMI				PPP		05 40 14.3	
KMI				PCP	PcP	05 41 13.8	+1.8
KMI				S	**S**	**05 44 08.1**	**+4.6**
KMI				XS	sS	05 44 13.1	-4.0
KMI				SCP	ScP	05 44 57.6	+2.4
KMI				SS	SS	05 46 19.9	-13
KMI				SSS		05 46 46.6	
KMI				SCS	ScS	05 48 59.5	+1.6
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
KMI				AMB	AMB		
	comp=Z,98nm,3.8s						
KMI				LR	LR		
	comp=N,2µm,14.3s,MS5.0						
KMI				LR	LR		
	comp=E,1µm,12.5s,MS5.0						
KMI				LR	LR		
	comp=Z,2µm,14.3s,MS5.0						
GYA	**Guiyang**	**35.48**	**359**	P	**P**	**05 38 47.6**	**+1.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**38.85**	**130**	⇓*i*P	**P**	**05 39 15.2**	**+0.7**
	comp=Z,11nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**38.85**	**130**	P	**P**	**05 39 15.2**	**+0.7**
	comp=Z,12nm,0.8s,mb4.7,baz=315,slow=8.4,SNR=22						
STKA				LR	LR	05 55 46.9	
	comp=Z,415nm,20.5s,MS4.2,baz=237,slow=37						
JIRN	**Jiri**	**42.05**	**331**	*e*P	**P**	**05 39 41.5**	**+0.5**
	comp=Z,67nm,0.7s,mb5.4						
SSE	**Sheshan**	**42.20**	**18**	P	**P**	**05 39 41.1**	**-1.1**
SSE				AP	pP	05 39 50.3	-0.3
SSE				XP	sP	05 39 54.3	+0.3
SSE				PCP	PcP	05 41 37.9	+1.9
SSE				S	**S**	**05 45 55.0**	**-5.6**
SSE				XS	sS	05 46 10.8	-3.6
SSE				SCS	ScS	05 49 41.9	-0.5
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,44nm,4.1s						
SSE				LR	LR		
	comp=N,126nm,14.9s,MS4.0						
SSE				LR	LR		
	comp=E,91nm,15.0s,MS4.0						
SSE				LR	LR		
	comp=Z,133nm,13.6s,MS4.0						
PKI	**Pulchoki**	**42.35**	**330**	*e*P	**P**	**05 39 44.8**	**+1.4**
GUN	**Gumba**	**42.41**	**331**	*e*P	**P**	**05 39 44.8**	**+0.9**
	comp=Z,84nm,0.7s,mb5.5						
NJ2	**Nanjing**	**42.47**	**14**	*e*P	**P**	**05 39 44.8**	**+0.4**
NJ2				AP	pP	05 39 54.4	+1.6
NJ2				XP	sP	05 39 58.3	+2.2
NJ2				PP	PP	05 41 26.0	+3.0
NJ2				S	**S**	**05 45 59.0**	**-5.5**
NJ2				XS	sS	05 46 15.0	-3.4
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,110nm,4.9s						
NJ2				LR	LR		
	comp=N,1µm,15.0s,MS5.1						
NJ2				LR	LR		
	comp=E,1µm,12.2s,MS5.1						
NJ2				LR	LR		
	comp=Z,1µm,15.3s,MS4.8						
DMN	**Daman**	**42.53**	**330**	*e*P	**P**	**05 39 45.1**	**+0.2**
KKN	**Kakani**	**42.60**	**330**	*e*P	**P**	**05 39 46.4**	**+1.0**
	comp=Z,108nm,1.3s,mb5.4						
KKN	**Kakani**	**42.60**	**330**	*e*P	**P**	**05 39 46.4**	**+1.0**
KKN				pmax	pmax		
	comp=Z,108nm,1.3s,mb5.4						
XAN	**Xi'an**	**43.05**	**2**	P	**P**	**05 39 49.6**	**+0.5**
XAN				AP	pP	05 39 56.8	-0.7
XAN				S	**S**	**05 46 11.8**	**-1.3**
XAN				SS	SS	05 49 22.1	-3.6
XAN				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.5						
XAN				LR	LR		
	comp=N,643nm,12.9s						
XAN				LR	LR		
	comp=Z,997nm,12.9s,MS4.9						
GKN	**Gorkha**	**43.09**	**330**	*e*P	**P**	**05 39 49.5**	**+0.1**
KOLN	**Koldanda**	**43.42**	**329**	*e*P	**P**	**05 39 52.7**	**+0.6**
GTA	**Gaotai**	**48.90**	**352**	*e*P	**P**	**05 40 36.8**	**+1.6**
GTA				AP	pP	05 40 45.0	+1.3
GTA				XP	sP	05 40 49.1	+2.0
GTA				PP	PP	05 42 31.6	+2.9
GTA				PPP		05 43 33.6	
GTA				S	**S**	**05 47 35.4**	**-1.8**
GTA				SS	SS	05 51 01.5	-6.5
GTA				AMB	AMB		
	comp=Z,11nm,2.4s,mb4.5						
GTA				AMB	AMB		
	comp=Z,146nm,5.3s						
GTA				LR	LR		
	comp=N,524nm,13.7s,MS4.8						
GTA				LR	LR		
	comp=E,451nm,14.1s,MS4.8						
GTA				LR	LR		
	comp=Z,737nm,13.7s,MS4.8						
BJI	**Beijing**	**49.68**	**9**	P	**P**	**05 40 40.8**	**-0.4**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.7						
BJI				AMB	AMB		
	comp=Z,53nm,3.8s						
BJI				LR	LR		
	comp=N,339nm,15.1s,MS4.6						
BJI				LR	LR		
	comp=E,380nm,15.0s,MS4.6						
BJI				LR	LR		
	comp=Z,303nm,15.2s,MS4.4						
HHC	**Hu-ho-hao-te**	**49.97**	**4**	*e*P	**P**	**05 40 46.3**	**+2.9**
HHC				AP	pP	05 40 51.4	-0.5
HHC				XP	sP	05 40 54.3	-0.9
HHC				PP	PP	05 42 42.4	+4.0
HHC				PCS	PcS	05 46 03.4	+3.3
HHC				S	**S**	**05 47 51.6**	**-0.5**
HHC				XS	sS	05 48 02.3	-3.8
HHC				SCS	ScS	05 50 27.4	-5.4
HHC				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.9						
HHC				AMB	AMB		
	comp=Z,203nm,3.9s						
HHC				LR	LR		
	comp=N,1µm,14.3s,MS5.1						
HHC				LR	LR		
	comp=E,451nm,14.3s,MS5.1						
HHC				LR	LR		
	comp=Z,977nm,13.1s,MS5.0						
CN2	**Changchun**	**55.25**	**16**	*e*P	**P**	**05 41 28.8**	**+6.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
WMQ	**Urumqi**	**55.76**	**343**	P	**P**	**05 41 28.1**	**+2.0**
WMQ				AP	pP	05 41 32.1	-2.6
WMQ				XP	sP	05 41 34.6	-3.5
WMQ				PP	PP	05 43 33.9	+3.3
WMQ				AMB	AMB		
	comp=Z,14nm,1.6s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,114nm,5.1s						
WMQ				LR	LR		
	comp=N,570nm,18.4s,MS4.8						
WMQ				LR	LR		
	comp=E,428nm,17.3s,MS4.8						
WMQ				LR	LR		
	comp=Z,573nm,18.9s,MS4.7						
SONM	**Songino Array**	**56.81**	**359**	P	**P**	**05 41 33.6**	**0.0**
	comp=Z,1.5nm,0.6s,mb4.2,baz=177,slow=7.5,SNR=7.7						
SONM				LR	LR	06 10 08.3	
	comp=Z,421nm,18.0s,MS4.6,baz=

comp=Z,3.0nm,1.2s,mb4.1
BVAR Borovoye Array 69.58 337 P **P** 05 42 57.3 -1.0
comp=Z,2.8nm,0.7s,mb4.3,baz=134,slow=11,SNR=11
BRVK Borovoye 69.64 337 *e*P **P** 05 42 59.0 +0.3
BRVK pmax pmax
comp=E,6.0nm,1.1s,mb4.4
BRVK Borovoye 69.64 337 *e*P **P** 05 42 59.0 +0.3
comp=Z,6.3nm,1.1s,mb4.5
CHKZ Chkalovo 69.99 338 *e*P **P** 05 43 00.6 -0.2
CHKZ *e**PP pP 05 43 10.4 +0.8
CHKZ pmax pmax
comp=Z,12nm,0.9s,mb4.8
CHKZ Chkalovo 69.99 338 *e*P **P** 05 43 00.6 -0.3
comp=Z,12nm,0.9s,mb4.8
CHKZ *e*pP pP 05 43 10.4 +0.8
ZRNK Zerenda 70.06 336 *e*P **P** 05 43 00.6 -0.6
ZRNK *e**PP pP 05 43 10.6 +0.6
ZRNK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ZRNK Zerenda 70.06 336 *e*P **P** 05 43 00.6 -0.6
comp=Z,5.4nm,0.7s,mb4.6
ZRNK *e*pP pP 05 43 10.6 +0.6
KMBO Kilima Mbogo 70.27 272 P **P** 05 43 02.4 -0.1
comp=Z,0.8nm,0.6s,mb3.8,baz=58,slow=12,SNR=4.2
KMBO LR LR 06 06 07.5
comp=Z,113nm,20.5s,MS4.1,baz=279,slow=29
AB31 Akbulak army 71.54 329 P **P** 05 43 10.0 -0.2
AB31 pmax pmax
comp=Z,18nm,0.8s,mb5.0
AKTK Aktyubinsk 73.25 330 P **P** 05 43 18.4 -2.0
AKTO Aktyubinsk 73.25 330 P **P** 05 43 18.4 -2.0
comp=Z,0.6nm,0.7s,mb3.6,baz=137,slow=5.9,SNR=4.5
SYO Syowa Base 73.58 200⇑ *e*P **P** 05 43 22.8 +0.4
VNDA Vanda 73.71 169 P **P** 05 43 21.4 -1.8
comp=Z,1.6nm,0.8s,mb4.0,baz=300,slow=6.0,SNR=8.0
VNDA Vanda 73.71 169 *e*P **P** 05 43 22.2 -1.0
VNDA pmax pmax
comp=Z,33nm,2.1s
VNDA Vanda 73.71 169 *e*P **P** 05 43 22.2 -1.0
comp=Z,33nm,2.1s,mb4.9
GNI Garni 75.83 315⇑ *e*P **P** 05 43 38.0 +2.6
GNI pmax pmax
comp=Z,25nm,2.4s
SVE Sverdlovsk 76.21 336 *e*P **P** 05 43 38.0 +0.4
SVE *e* pP 05 43 46.0 -0.4
SVE pmax pmax
comp=Z,36nm,2.3s,mb4.9
ARU Arti 76.81 335 *e*P **P** 05 43 38.5 -2.5
ARU *e* pP 05 43 46.2 -3.6
ARU *e* 05 46 29.4
ARU *e*S S 05 53 20.6 -5.9
LSZ Lusaka 77.33 256 *e*P **P** 05 43 45.1 +1.2
LSZ pmax pmax
comp=Z,55nm,2.0s,mb5.1
LSZ Lusaka 77.33 256 *e*P **P** 05 43 45.0 +1.1
comp=Z,55nm,2.0s,mb5.1
LBTB Lobatse 78.82 246 *e*P **P** 05 43 53.1 +1.0
LBTB pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LBTB Lobatse 78.82 246 *e*P **P** 05 43 53.0 +0.9
comp=Z,2.7nm,0.6s,mb4.3
QSPA South Pole Qui 80.78 180 *e*P **P** 05 44 02.0 -0.8
comp=Z,6.0nm,0.7s,mb4.6
TIXI Tiksi 81.95 7 *e*P **P** 05 44 07.4 -1.6
TIXI pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BRTR Keskin Array B 83.63 312 P **P** 05 44 17.6 -0.1
comp=Z,1.6nm,0.8s,mb4.2,baz=138,slow=7.6,SNR=9.2
BRTR LR LR 06 23 01.5
comp=Z,98nm,19.4s,MS4.2,baz=108,slow=37
MOS Moscow 86.49 328 *e*P **P** 05 44 33.9 +1.9
OBN Obninsk 86.82 327⇑ *i*P **P** 05 44 33.9 +0.2
OBN *i* pP 05 44 43.1 +0.4
OBN *i* 05 44 48.6
OBN *e*S 05 55 06.8
OBN pmax pmax
comp=Z,11nm,0.6s,mb5.3
SNAA Sanae 87.55 197 *e*P **P** 05 44 36.6 -0.6
SNAA *e* 05 44 38.2
SNAA *e* 05 44 42.1
VNA1 Neumayer--Stat 89.58 197 *e*P **P** 05 44 47.8 +1.0
VNA1 *e* 05 44 48.9
VNA1 *e* 05 44 53.1
VNA1 *e* 05 45 00.5
AKASG Malin Array Be 89.70 321 P **P** 05 44 45.5 -1.9
comp=Z,0.1nm,0.2s,mb3.7,baz=101,slow=3.5,SNR=6.3
AKASG LR LR 06 34 38.1
comp=Z,71nm,18.6s,MS4.1,baz=60,slow=42
AKASG Malin Array Be 89.70 321 P **P** 05 44 45.5 -1.9
AKASG LR LR 06 34 38.1
FINES FINESS Array B 93.93 332 P **P** 05 45 06.0 -0.9
comp=Z,0.8nm,0.8s,mb4.2,baz=12,slow=8.5,SNR=2.8
FINES LR LR 06 34 45.8
comp=Z,65nm,18.5s,MS4.1,baz=5.8,slow=40
ARCES ARCESS Array B 95.76 340 LR LR 06 34 04.9
comp=Z,135nm,18.2s,MS4.5,baz=54,slow=39
LTX Lajitas 144.65 51 *e*PKIKP PKPdf 05 51 26.5 +0.7
LONY Lake Ozonia 144.69 3 *e*PKPdf PKPdf 05 51 25.3 -0.6
LONY epPKPdf pPKPdf 05 51 34.2 -1.0
WMOK Wichita Mounta 145.05 39 *e*PKIKP PKPdf 05 51 27.1 +0.6
WMOK *e* 05 51 36.4
BDFB Brasilia 145.34 225 PKPbc PKPbc 05 51 28.6 +1.7
comp=Z,5.6nm,0.7s,baz=134,slow=3.7,SNR=12
NCB Newcomb 145.35 2 *e*PKPbc PKPbc 05 51 27.3 +0.4
JCT Junction City 146.94 46 *e*PKP2 PKPab 05 51 33.6 +0.5
ACSO Alum Creek Sta 147.76 15 *e*PKPbc PKPbc 05 51 34.4 +0.5
LVC Limon Verde 148.16 186 PKPbc PKPbc 05 51 34.3 -0.7
comp=Z,2.9nm,0.8s,baz=7.2,slow=1.1,SNR=5.1
LVC Limon Verde 148.16 186 *e*PKPbc PKPbc 05 51 37.4 +2.4
MIAR Mount Ida 148.28 34 *e*PKPbc PKPbc 05 51 36.7 +1.4
MIAR *e*PKPab PKPab 05 51 40.4 +1.9
WCI Wyandotte Cave 148.58 21 *e*PKP2 PKPab 05 51 37.1 -2.5
WVT Waverly 149.82 25 *e*PKP2 PKPab 05 51 40.2 -4.5
HKT Hockley 150.02 43 *e*PKP2 PKPab 05 51 42.4 -3.1
PLAL Pickwick Lake 150.69 27 *e*PKPbc PKPbc 05 51 41.8 +0.5
PLAL *e*PKPab PKPab 05 51 47.8 -0.5
SIV San Ignacio 152.49 204 PKP PKPdf 05 51 38.6 +0.1
comp=Z,0.9nm,1.0s,baz=184,slow=7.7,SNR=3.5
SIV PKPbc PKPbc 05 51 46.7 +1.3
comp=Z,2.4nm,0.7s,baz=118,slow=2.0,SNR=15
SIV PKPab PKPab 05 51 57.0 +1.2
comp=Z,2.3nm,0.7s,baz=144,slow=5.2,SNR=9.7
LPAZ La Paz 154.28 190 PKPbc PKPbc 05 51 52.6 +3.3
comp=Z,0.9nm,0.7s,baz=274,slow=3.8,SNR=6.1
LPAZ La Paz 154.28 190 *e*PKPbc PKPbc 05 51 52.4 +3.1
SAML Samuel 159.68 208 *e*PKPab PKPab 05 52 27.9 +1.3

NIED ***19*** *05:34:00, 25.00N× 126.30E, h32km, Mw3.7 Best double couple: M0 4.42000×10^14 NP1:φs 360.00000°, δ 78.00000°, λ 163.00000°. NP2:φs 94.00000°, δ 73.00000°, λ 12.00000°.*

IDC ***19*** *05:34:44.6±4.2, 25.08N× 126.04E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.9/21, mbtmp4.1/7, Error ellipse: s-maj=103.3km s-min=33.6km az=174.0*

ISCJB ***19*** *05:34:48.0±0.7, 24.95N±0.09× 126.40E±0.06, h57km±7km, mb3.9/6, Error ellipse: s-maj=17.0km s-min=3.5km az=114.2*

JMA ***19*** *05:34:48.4±0.1, 25.04N× 126.33E, h80km±2km, M3.6*

NEIC ***19*** *05:34:51.9±2.1, 25.35N× 126.21E, h47km±16km, MG3.6(JMA), Error ellipse: s-maj=68.2km s-min=12.4km az=157.0*

ISC 19 05:34:49.1±0.7, 24.97N±0.08× 126.38E±0.06, h44km±7km, n28, σ0 91/45, mb3.9/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.91**	**257**	P			**Pn**	**05 35 06.2**	**+0.8**
JOGS				S			**Sn**	**05 35 19.0**	**+1.6**
JMJ	**Miyako jima 2**	**1.00**	**261**	P			**Pn**	**05 35 07.3**	**+0.6**
JMJ				S			**Sn**	**05 35 20.8**	**+1.2**
JKE	**Kume jima 2**	**1.40**	**15**	P			**Pn**	**05 35 12.3**	**+0.2**
JKE				S			**Sn**	**05 35 29.1**	**-0.3**
JTJ	**Tarama**	**1.56**	**258**	P			**Pn**	**05 35 14.5**	**+0.2**
JTJ				S			**Sn**	**05 35 33.6**	**+0.3**
JJT2	**Tamagusuku 2**	**1.70**	**46**	P			**Pn**	**05 35 16.6**	**+0.4**
JJT2				S			**Sn**	**05 35 37.9**	**+1.2**
NAH1	**Naha**	**1.71**	**44**	P			**Pn**	**05 35 16.4**	**+0.1**
NAH1				S			**Sn**	**05 35 37.7**	**+0.8**
JAGN	**Aguni-jima**	**1.79**	**26**	P			**Pn**	**05 35 17.5**	**0.0**
JAGN				S			**Sn**	**05 35 38.6**	**-0.4**
JIJ	**Ishigaki jima**	**2.12**	**254**	P			**Pn**	**05 35 21.8**	**-0.3**
JIJ				S			**Sn**	**05 35 46.3**	**-0.9**
JKRS	**Kuro-shima**	**2.28**	**252**	P			**Pn**	**05 35 24.0**	**-0.2**
IRIF	**Iriomote-Funau**	**2.49**	**256**	P			**Pn**	**05 35 26.9**	**-0.2**
IRIF				S			**Sn**	**05 35 56.0**	**-0.3**
JIH	**Iheya**	**2.50**	**34**	P			**Pn**	**05 35 27.6**	**+0.3**
JIH				S			**Sn**	**05 35 54.9**	**-1.7**
HATJ	**Hateruma jima**	**2.52**	**249**	P			**Pn**	**05 35 26.8**	**-0.7**
HATJ				S			**Sn**	**05 35 55.8**	**-1.1**
JOW	**Kunigami**	**2.52**	**42**	Pn			**Pn**	**05 35 28.3**	**+0.8**
	23nm,0.3s,baz=200,slow=16,SNR=69								
JOW				Sn			**Sn**	**05 35 50.7**	**-6.3**
	32nm,0.3s,baz=113,slow=24,SNR=6.8								
JOW	**Kunigami**	**2.52**	**42**	P			**Pn**	**05 35 28.2**	**+0.7**
JOW				S			**Sn**	**05 35 57.1**	**+0.1**
YOJ	**Yonaguni jima**	**3.10**	**261**	P			**Pn**	**05 35 35.1**	**-0.5**
YOJ				S			**Sn**	**05 36 08.7**	**-2.7**
JTK	**Tokunoshima**	**3.63**	**39**	P			**Pn**	**05 35 42.8**	**0.0**
JTK				S			**Sn**	**05 36 18.4**	**-5.9**
JMZ	**Minamidaito 2**	**4.46**	**78**	P			**Pn**	**05 35 52.3**	**-1.9**
JMZ				S			**Sn**	**05 36 39.3**	**-5.5**
JAM	**Amami Oshima**	**4.48**	**39**	P			**Pn**	**05 35 54.1**	**-0.3**
JAM				S			**Sn**	**05 36 41.6**	**-3.7**
YHNB	**Yeheng**	**4.56**	**267**	*e*Pn			**Pn**	**05 35 56.9**	**+1.4**
SONM	**Songino Array**	**27.76**	**330**	P			**P**	**05 40 32.7**	**-0.8**
	2.4nm,0.5s,mb4.1,baz=150,slow=9.0,SNR=6.0								
BVAR	**Borovoye Array**	**50.12**	**319**	P			**P**	**05 43 39.3**	**-0.4**
	3.1nm,0.7s,mb4.5,baz=112,slow=9.0,SNR=3.7								
FINES	**FINESS Array B**	**73.13**	**330**	P			**P**	**05 46 15.2**	**+0.3**
	1.0nm,0.4s,mb4.1,baz=64,slow=4.8,SNR=12								
AKASG	**Malin Array Be**	**75.40**	**319**	P			**P**	**05 46 28.0**	**-0.1**
	0.5nm,0.4s,mb3.8,baz=57,slow=6.4,SNR=4.2								
AKASG	**Malin Array Be**	**75.40**	**319**	P			**P**	**05 46 28.0**	**-0.1**
NB2	**NORSAR Subarra**	**79.69**	**333**	P			**P**	**05 46 52.6**	**+0.5**
	comp=Z,0.1nm,0.5s,mb3.0,baz=60,slow=6.2								
NOA	**NORSAR Array B**	**79.69**	**333**	P			**P**	**05 46 52.5**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=54,slow=5.8,SNR=3.9								
NOA	**NORSAR Array B**	**79.69**	**333**	P			**P**	**05 46 52.5**	**+0.4**
YKA	**Yellowknife Ar**	**80.36**	**24**	P			**P**	**05 46 58.4**	**+2.7**
	comp=Z,0.6nm,0.5s,mb3.8,baz=299,slow=5.3,SNR=21								

IDC 19 05:42:21.6±1.4, 2413S×6705W, h181km±14km, mb2.9/2, mb1 3.2/6, mb1mx3.1/17, mbtmp3.6/6, Error ellipse: s-maj=22.9km s-min=19.4km az=51.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.28**	**311**	P			Pn	05 43 03.1	+1.3
	27nm,0.3s,baz=120,slow=7.0,SNR=46								
LVC				S			Sn	05 43 33.7	+0.7
	16nm,0.3s,baz=285,slow=21,SNR=18								
CFAA	**Coronel Fontan**	**7.53**	**188**	P			Pn	05 44 08.6	0.0
	0.1nm,0.3s,baz=8.7,slow=6.2,SNR=14								
LPAZ	**La Paz**	**7.86**	**352**	P			Pn	05 44 13.5	+0.5
	0.6nm,0.3s,baz=154,slow=7.9,SNR=25								
SIV	**San Ignacio**	**9.85**	**36**	P			Pn	05 44 40.2	+1.1
	0.2nm,0.3s,baz=233,slow=11,SNR=6.6								
BDFB	**Brasilia**	**19.78**	**68**	P			P	05 46 38.2	+0.4
	0.3nm,0.3s,baz=244,slow=9.7,SNR=7.6								
TORD	**Torodi Ar. Bea**	**76.66**	**69**	P			P	05 53 52.6	+0.2
	0.2nm,0.5s,baz=260,slow=4.2,SNR=2.8								
PDAR	**Pinedale Array**	**77.23**	**329**	P			P	05 53 56.1	+0.6
	0.1nm,0.4s,baz=134,slow=15,SNR=2.4								

CSEM ***19*** *05:58:49.8, 21.31S× 177.88W, h33km, mb5.8*

MOS ***19*** *05:59:21.7±0.9, 21.45S× 177.89W, h337km, mb5.0/37, Error ellipse: s-maj=9.5km s-min=7.7km az=54.4*

BJI ***19*** *05:59:24.1, 21.32S× 177.77W, h356km, mB5.0, mb5.1*

HRVD ***19*** *05:59:24.7±0.2, 21.58S× 177.67W, h372km±1km, MW5.4/81, Centroid moment Tensor Solution. LP body waves: s81,c146; Half duration: 1±2 Moment tensor: Scale 10^17 Nm; Mrr~0.69±.03; Mθθ 0.39±.05; Mϕϕ 0.29±.05; Mrθ~0.62±.04; Mrϕ 0.25±.04; Mθr~1.43±.04; Best double couple: M0 1.67900×10^17 NP1:φs 239.00000°, δ 13.00000°, λ -57.00000°. NP2:φs 26.00000°, δ 79.00000°, λ -97.00000°. Principal axes: T 1.5880, Plg34.0000°, Azm122.0000°; N 0.1820, Plg7.0000°, Azm27.0000°; P -1.7700, Plg55.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s.*

BGS ***19*** *05:59:24.5±3.5, 21.60S× 177.88W, h362km, mb5.0(NEIC)*

ISCJB ***19*** *05:59:24.0±0.1, 21.68S±0.003× 177.85W±0.03, h362km, mb4.9/88, Error ellipse: s-maj=5.2km s-min=3.1km az=99.6*

NEIC ***19*** *05:59:24.7±0.1, 21.60S× 177.88W, mb5.0/53, Error ellipse: s-maj=6.5km s-min=3.7km az=144.0*

SZGRF ***19*** *05:59:25.1, 22.07S× 176.52W, h383km, South of Fiji Islands*

IDC ***19*** *05:59:25.5±0.4, 21.51S× 177.82W, h369km±4km, mb4.6/19, mb1 4.7/21, mb1mx4.7/22, mbtmp5.3/21, Error ellipse: s-maj=11.8km s-min=8.5km az=157.0*

ISC 19 05:59:25.5±0.1, 21.69S±0.003× 177.80W±0.03, h364km, h364km±1.9km: pP-P, n767, σ0 s79/400, mb4.9/88, 78C-112D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.53**	**181**	P			**Pn**	**06 01 13.0**	**-1.3**
	82nm,0.3s,baz=336,slow=20,SNR=3.6								
RAO				S			**S**	**06 02 37.1**	**-5.9**
	188nm,0.3s,baz=82,slow=23,SNR=3.9								
RAO	**Raoul Island**	**7.53**	**181**	P			**Pn**	**06 01 13.0**	**-1.3**
RAO				S			**S**	**06 02 37.1**	**-5.9**
RAO				pmax	pmax				
	comp=Z,82nm,0.3s								
RAO				smax					
	comp=E,188nm,0.3s								
RAO	**Raoul Island**	**7.53**	**181**	P			**Pn**	**06 01 13.0**	**-1.3**
RAO				S			**S**	**06 02 37.1**	**-5.9**
AFI	**Afiamalu**	**9.63**	**38**	P			**Pn**	**06 01 31.2**	**-7.8**
	comp=E,87nm,0.3s,baz=334,slow=5.0,SNR=103								
AFI				S			S	06 03 08.5	-20
	comp=E,152nm,0.3s,baz=44,slow=23,SNR=13								
FUNA	**Funafuti**	**13.40**	**347**	*e*Pn			**Pn**	**06 02 19.9**	**-3.5**
BKM	**Butte a Klehm**	**13.74**	**284**	*i*P			**P**	**06 02 28.3**	**+2.7**
DZM	**Mont Dzumac**	**14.63**	**266**	*e*P			**P**	**06 02 38.0**	**+2.6**
DZM	**Mont Dzumac**	**14.63**	**266**	P			**P**	**06 02 36.7**	**+1.3**
	comp=E,4.9nm,0.3s,baz=82,slow=15,SNR=60								
NOUC	**Port Laguerre**	**14.76**	**265**	*e*P			**P**	**06 02 39.3**	**+2.5**
RAR	**Rarotonga**	**16.79**	**92**	P			**P**	**06 02 58.2**	**-0.6**
	comp=E,0.9nm,0.3s,baz=229,slow=6.1,SNR=8.0								
RAR	**Rarotonga**	**16.79**	**92**	P			**P**	**06 02 58.2**	**-0.6**
RAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MWZ	**Matawai**	**17.07**	**193**	PN			**P**	**06 03 00.8**	**-1.0**
URZ	**Urewera**	**17.09**	**194**	P			**P**	**06 03 00.7**	**-1.2**
	comp=Z,13nm,0.3s,baz=55,slow=3.6,SNR=44								
URZ				S			**S**	**06 06 02.9**	**+1.6**
	comp=Z,11nm,0.3s,baz=279,slow=18,SNR=9.7								
URZ	**Urewera**	**17.09**	**194**	PN			**P**	**06 02 59.6**	**-2.3**
URZ				SN			**S**	**06 05 57.6**	**-3.8**
KNZ	**Kokohu**	**17.70**	**192**	PN			**P**	**06 03 10.2**	**+1.7**
BKZ	**Black Stump Fm**	**18.09**	**194**	PN			**P**	**06 03 12.3**	**-0.4**
BFZ	**Birch Farm**	**19.59**	**194**	PN			**P**	**06 03 28.6**	**+0.1**
BFZ				SN			**S**	**06 06 50.7**	**+2.9**
MRZ	**Mangatainoka R**	**19.73**	**195**	PN			**P**	**06 03 28.1**	**-1.8**
KIW	**Kapiti Island**	**20.09**	**196**	PN			**P**	**06 03 32.3**	**-0.9**
CAW	**Cannon Point**	**20.28**	**196**	PN			**P**	**06 03 34.8**	**-0.1**
SNZO	**South Karori**	**20.56**	**196**	*e*P			**P**	**06 03 37.1**	**-0.3**
THZ	**Tophouse**	**21.49**	**199**	PN			**P**	**06 03 45.3**	**-0.7**
KHZ	**Kahutara**	**21.91**	**197**	PN			**P**	**06 03 49.4**	**-0.4**
LTZ	**Lake Taylor**	**22.61**	**199**	PN			**P**	**06 03 56.2**	**+0.1**
WVZ	**Waitaha Valley**	**23.37**	**202**	PN			**P**	**06 04 02.2**	**-0.8**
RPZ	**Rata Peaks**	**23.84**	**200**	P			**P**	**06 04 07.6**	**+0.3**
	comp=Z,32nm,0.5s,mb4.8,baz=0.6,slow=3.1,SNR=28								
HNR	**Honiara**	**24.61**	**296**	P			**P**	**06 04 13.4**	**-0.9**
	comp=Z,78nm,0.4s,mb5.3,baz=266,slow=5.3,SNR=4.2								
HNR	**Honiara**	**24.61**	**296**	P			**P**	**06 04 13.4**	**-0.8**
HNR				pmax	pmax				
	comp=Z,78nm,0.4s,mb5.3								
TBI	**Tubuai**	**26.22**	**99**	*e*P			**P**	**06 04 28.1**	**-0.4**
	comp=Z,275nm,1.1s,mb5.4								
PAE	**Paea**	**26.86**	**86**	*e*P			**P**	**06 04 33.2**	**-1.0**
	comp=Z,120nm,1.2s,mb5.0								
PAE				*e*pP				06 05 34.8	
	comp=Z,140nm,1.2s								
PPT	**Papeete**	**26.88**	**86**	*e*P			**P**	**06 04 33.3**	**-1.1**
	comp=Z,91nm,1.4s,mb4.8								
PPT				*e*pP				06 05 35.4	
	comp=Z,59nm,1.2s								
TVO	**Taravao**	**27.14**	**87**	*e*P			**P**	**06 04 35.7**	**-0.9**
	comp=Z,236nm,1.3s,mb5.2								
TVO				*e*pP				06 05 38.0	
	comp=Z,222nm,1.3s								
ARMA	**Armidale**	**28.73**	**246**	*i*P			**P**	**06 04 52.5**	**+1.8**
PMOR	**Pomariorio Ree**	**29.12**	**82**	*e*P			**P**	**06 04 53.1**	**-1.1**
	comp=Z,104nm,1.3s,mb4.9								
PMOR				*e*pP				06 05 58.5	
	comp=Z,48nm,1.1s								
VAH	**Vaihoa**	**29.30**	**83**	*e*P			**P**	**06 04 54.4**	**-1.3**
	comp=Z,86nm,1.1s,mb4.9								
VAH				*e*pP				06 05 59.3	
	comp=Z,72nm,1.4s								
CNB	**Canberra Magne**	**31.73**	**237**	*e*P			**P**	**06 05 17.8**	**+0.9**
	comp=E,61nm,0.6s,mb5.0								
CTA	**Charters Tower**	**33.57**	**266**	*i*P			**P**	**06 05 33.3**	**+0.6**
	comp=Z,111nm,1.4s,mb4.9								
CTA	**Charters Tower**	**33.57**	**266**	P			**P**	**06 05 33.4**	**+0.7**
	comp=Z,76nm,0.8s,mb5.0,baz=96,slow=11,SNR=65								
CTA	**Charters Tower**	**33.57**	**266**	*i*P			**P**	**06 05 33.3**	**+0.6**
CTA				pmax	pmax				
	comp=Z,111nm,1.4s								
CTAO	**Charters Tower**	**33.57**	**266**	*i*P			**P**	**06 05 33.3**	**+0.6**
TOO	**Toolangi**	**35.36**	**235**	*e*P			**P**	**06 05 45.9**	**-2.0**
	comp=Z,47nm,0.5s,mb5.0								
TOO	**Toolangi**	**35.36**	**235**	*e*P			**P**	**06 05 45.9**	**-2.0**
TOO				pmax	pmax				
	comp=Z,47nm,0.5s,mb5.0								
PMG	**Port Moresby**	**35.80**	**284**	P			**P**	**06 05 51.8**	**+0.2**
	comp=Z,239nm,1.0s,mb5.4,baz=88,slow=4.6,SNR=29								
PMG	**Port Moresby**	**35.80**	**284**⇑	*e*P			**P**	**06 05 50.3**	**-1.3**
PMG	**Port Moresby**	**35.80**	**284**	*i*P			**P**	**06 05 51.8**	**+0.2**
TAU	**Tasmania Unive**	**35.92**	**226**	*e*P			**P**	**06 05 52.1**	**-0.5**
TAU				pmax	pmax				
	comp=Z,17nm,0.6s,mb4.5								
TAU	**Tasmania Unive**	**35.92**	**226**	*e*P			**P**	**06 05 52.1**	**-0.5**
	comp=Z,17nm,0.6s,mb4.4								
STKA	**Stephens Creek**	**37.45**	**246**	*i*P			**P**	**06 06 06.2**	**+0.8**
	comp=Z,48nm,0.4s,mb5.1								
STKA	**Stephens Creek**	**37.45**	**246**	P			**P**	**06 06 06.2**	**+0.9**
	comp=Z,55nm,0.5s,mb5.1,baz=92,slow=9.8,SNR=255								
AS31	**Alice Springs**	**44.44**	**258**	*e*P			**P**	**06 07 01.6**	**-0.1**
ASAR	**Alice Springs**	**44.44**	**258**	P			**P**	**06 07 01.4**	**-0.3**
	comp=Z,62nm,0.7s,mb4.8,baz=100,slow=7.9,SNR=436								
ASAR				pP	pP			06 08 14.6	+0.5
	comp=Z,11nm,0.7s,baz=88,slow=8.4,SNR=1.0								
ASAR				PcP	PcP			06 08 37.9	-0.2
	comp=Z,4.9nm,0.5s,baz=111,slow=4.1,SNR=5.4								
ASAR				S			**S**	**06 13 07.3**	**-1.2**
	comp=Z,1.2nm,1.0s,baz=102,slow=17,SNR=2.8								
ASAR	**Alice Springs**	**44.44**	**258**	P			**P**	**06 07 01.5**	**-0.2**
ASAR				*PP	pP			06 08 14.6	+0.6
ASAR								06 08 37.9	
ASAR				S			**S**	**06 13 07.3**	**-1.2**
ASAR				pmax	pmax				
	comp=Z,62nm,0.7s								
ASAR				pmax	pmax				
	comp=Z,11nm,0.7s								
ASAR				pmax	pmax				
	comp=Z,5.0nm,0.5s								
ASAR				smax					
	comp=E,1.0nm,1.0s								
ASPA	**Alice Springs**	**44.44**	**258**	*e*P			**P**	**06 07 01.7**	**0.0**
WB2	**Warramunga Arr**	**44.62**	**263**	*i*P			**P**	**06 07 02.2**	**-0.9**
WRAB	**Tennant Creek**	**44.62**	**263**	*i*P			**P**	**06 07 02.3**	**-0.8**
WRAB	**Tennant Creek**	**44.62**	**263**	*e*P			**P**	**06 07 02.4**	**-0.8**
WRA	**Warramunga Arr**	**44.63**	**263**	P			**P**	**06 07 02.5**	**-0.7**
	comp=E,64nm,1.0s,mb4.7,baz=97,slow=7.7,SNR=116								
WRA				pP	pP			06 08 15.5	-0.1
	comp=E,4.8nm,0.8s,baz=95,slow=7.7,SNR=1.1								
WRA	**Warramunga Arr**	**44.63**	**263**	P			**P**	**06 07 02.5**	**-0.7**
WRA				*PP	pP			06 08 15.5	-0.1
WRA				pmax	pmax				
	comp=Z,64nm,1.0s								
WRA				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KAKA	**Kakadu**	**48.19**	**272**	*e*P			**P**	**06 07 30.0**	**-0.6**
	comp=E,61nm,0.5s,mb5.1								
FORT	**Forrest**	**49.00**	**248**	*e*P			**P**	**06 07 36.0**	**-0.7**
	comp=Z,129nm,1.1s,mb5.1								
FITZ	**Fitzroy Crossi**	**52.06**	**263**	*i*P			**P**	**06 08 06.6**	**+0.1**
	comp=Z,151nm,1.3s,mb5.2								
FITZ	**Fitzroy Crossi**	**53.06**	**263**	P			**P**	**06 08 06.8**	**+0.2**
	comp=Z,65nm,1.0s,mb4.9,baz=102,slow=7.1,SNR=42								
FITZ				pP	pP			06 09 22.6	+0.7
	comp=Z,8.8nm,0.8s,baz=87,slow=19,SNR=1.9								
SBA	**Scott Base**	**56.70**	**184**	*e*P			**P**	**06 08 35.3**	**+3.0**
SBA				pmax	pmax				
	comp=Z,100nm,1.4s,mb5.0								
SBA	**Scott Base**	**56.70**	**184**	*e*P			**P**	**06 08 35.3**	**+3.0**
	comp=Z,100nm,1.4s,mb5.0								
VNDA	**Vanda**	**56.75**	**185**	P			**P**	**06 08 33.7**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=38,slow=7.7,SNR=23								
VNDA	**Vanda**	**56.75**	**185**	*e*P			**P**	**06 08 34.5**	**+1.8**
VNDA				pmax	pmax				
	comp=Z,37nm,1.5s								
VNDA	**Vanda**	**56.75**	**185**	*e*P			**P**	**06 08 34.5**	**+1.8**
	comp=Z,37nm,1.5s,mb4.5								
KLBR	**Kellerberrin**	**57.73**	**246**	P			**P**	**06 08 38.9**	**-0.5**
	comp=Z,172nm,1.2s,mb5.3								
MBWA	**Marble Bar**	**57.78**	**258**	*e*P			**P**	**06 08 39.4**	**-0.4**
NWAO	**Narrogin (SRO)**	**58.01**	**244**	P			**P**	**06 08 41.1**	**-0.2**
	comp=Z,23nm

SAO ep P p P 06 12 15.4 +4.3
PKD Parkfield 78.85 44 ⇓P P 06 10 49.5 +0.4
baz=79
PTRM Twissleman Ran 78.89 44 eP P 06 10 49.6 +0.3
U04C Hernandez Rese 78.94 44 ⇓P P 06 10 50.5 +0.9
baz=79,SNR=6.8
PACP Pacheco Peak 79.02 43 P P 06 10 50.7 +0.7
baz=79,SNR=7.6
WENL Wente Brothers 79.10 42 ⇑P P 06 10 50.9 +0.4
baz=79
CVS Carmenet Viney 79.11 41 ⇓P P 06 10 50.6 +0.1
baz=79
NSHM Saint Helena R 79.13 41 eP P 06 10 50.9 +0.2
HOPS Hopland 79.15 40 ⇓P P 06 10 50.2 -0.5
baz=79
OSI Osito Adit 79.26 46 ⇓P P 06 10 51.6 +0.3
baz=79
S04C Ingram Canyon, 79.29 42 P P 06 10 52.3 +0.8
baz=80,SNR=7.9
P01C Double 8 Ranch 79.29 40 ⇑P P 06 10 51.8 +0.3
baz=80
T05C Eagle Field, D 79.34 43 ⇓P P 06 10 52.0 +0.3
baz=80
VLA Vladivostok 79.35 325⇓eP P 06 10 51.4 -0.4
VLA pmax pmax
comp=Z,36nm,0.8s,mb5.2
O01C Eel River Cons 79.44 39 ⇓P P 06 10 52.6 +0.4
baz=80
MNRC McLaughlin Nat 79.46 41 ⇑P P 06 10 53.0 +0.6
baz=80
MWC Mount Wilson 79.48 47 eP P 06 10 53.0 +0.5
MWC epP pP 06 12 16.8 +1.7
GASB Alder Springs 79.78 40 P P 06 10 55.2 +1.1
baz=80,SNR=6.1
S05C Merced 79.83 43 ⇑P P 06 10 54.5 +0.2
baz=80
R04C Big Horse Ranc 80.00 42 ⇑P P 06 10 55.0 -0.2
baz=80
T06C Millerton Lake 80.02 44 ⇓P P 06 10 55.3 0.0
baz=80
ISA Isabella 80.03 45 eP P 06 10 55.8 +0.4
ISA pmax pmax
comp=Z,16nm,1.3s,mb4.6
ISA Isabella 80.03 45 eP P 06 10 55.8 +0.4
comp=Z,16nm,1.3s,mb4.6
ISA epP pP 06 12 19.2 +1.1
ISA Isabella 80.03 45 P P 06 10 55.9 +0.5
baz=80,SNR=9.2
O02C Red Bluff 80.07 40 ⇑P P 06 10 56.4 +0.8
baz=80,SNR=9.7
SUTB Sutter Butte 80.08 41 ⇑P P 06 10 55.4 -0.2
baz=80
Q04C Lincoln 80.08 41 ⇑P P 06 10 55.8 +0.1
baz=80
N02C Big Bar 80.17 39 ⇓P P 06 10 56.0 -0.1
baz=80
CMB Columbia Colle 80.21 42 eP P 06 10 56.7 +0.4
CMB pmax pmax
comp=Z,15nm,1.1s,mb4.6
CMB Columbia Colle 80.21 42 eP P 06 10 56.7 +0.3
comp=Z,15nm,1.1s,mb4.6
CMB epP pP 06 12 19.9 +0.7
CMB Columbia Colle 80.21 42 P P 06 10 56.1 -0.2
baz=80,SNR=8.9
PFO Pinyon Flat Ob 80.23 48 eP P 06 10 56.7 +0.2
PFO epP pP 06 12 20.3 +1.1
PFO Pinyon Flat Ob 80.23 48 ⇓P P 06 10 57.0 +0.5
baz=80
OHCM Honcut 80.33 41 eP P 06 10 58.5 +1.5
OHCM epP pP 06 12 20.0 +0.3
O03C Acorn Hollow, 80.41 40 ⇑P P 06 10 57.6 +0.2
baz=81
LAVA Lava Cap Winer 80.43 42 ⇓P P 06 10 57.2 -0.3
baz=81
ORV Oroville 80.45 41 P P 06 10 57.6 -0.1
baz=81,SNR=7.4
S06C San Francisco 80.45 43 P P 06 10 57.8 +0.1
baz=81,SNR=9.0
GZH Guangzhou 80.46 299 P P 06 10 58.0 +0.3
KCC Kaiser Creek 80.46 44 ⇑P P 06 10 57.4 -0.2
baz=81
WDC Whiskeytown Da 80.47 39 eP P 06 10 58.2 +0.5
WDC e*PP pP 06 12 21.0 +0.4
WDC Whiskeytown Da 80.47 39 ⇓P P 06 10 57.8 +0.1
baz=81,SNR=10
MAW Mawson 80.51 200⇓iP P 06 10 58.1 +0.2
comp=Z,10.0nm,0.6s,mb4.7
MAW Mawson 80.51 200 P P 06 10 58.3 +0.4
comp=Z,15nm,0.7s,mb4.8,baz=129,slow=6.6,SNR=75
MAW pP pP 06 12 21.9 +1.1
comp=Z,14nm,0.9s,baz=127,slow=5.2,SNR=5.4
MAW Mawson 80.51 200⇓iP P 06 10 58.1 +0.2
MAW pmax pmax
comp=Z,10.0nm,0.6s
CWC Cottonwood Cre 80.75 45 ⇑P P 06 10 59.4 +0.3
baz=81
NJ2 Nanjing 80.78 310 eP P 06 10 59.3 0.0
NJ2 AP pP 06 12 20.1 -2.1
NJ2 XP sP 06 12 55.4 -5.0
NJ2 PP PP 06 14 05.0 -4.2
NJ2 S S 06 20 36.0 -0.2
NJ2 SKS 06 20 39.0
NJ2 AMB AMB
comp=Z,90nm,1.1s,mb5.4
NJ2 AMB AMB
comp=Z,110nm,4.9s
NJ2 LR LR
comp=N,230nm,17.0s
NJ2 LR LR
comp=E,260nm,12.7s
NJ2 LR LR
comp=Z,2µm,19.3s
K01A Sixes 80.80 37 ⇑P P 06 10 59.9 +0.5
baz=81
M02C Callahan 80.80 39 P P 06 11 00.2 +0.7
baz=81,SNR=9.8
R05C Kirkwood Meado 80.80 42 P P 06 10 59.8 +0.3
baz=81,SNR=16
P05C Yuba Gap, Truc 80.84 41 P P 06 11 00.0 +0.3
baz=81,SNR=16
L02A Cave Junction 80.86 38 ⇑P P 06 11 00.2 +0.4
baz=81
GSC Goldstone 80.94 46 eP P 06 11 00.0 -0.2
GSC epP pP 06 12 23.4 +0.2
GSC Goldstone 80.94 46 P P 06 11 00.7 +0.6
baz=81,SNR=6.6
MLAC Mammoth Lakes 80.95 44 ⇑P P 06 11 00.7 +0.5
baz=81
MTUM Tungsten Hills 80.96 44 eP P 06 11 01.2 +0.9
MTUM epP pP 06 12 24.4 +1.1
DAC Darwin (Calif) 80.97 45 eP P 06 10 59.9 -0.5
DAC epP pP 06 12 23.8 +0.5
O05C Quincy 81.05 41 ⇓P P 06 11 00.9 +0.2
baz=81
GLA Glamis 81.06 49 eP P 06 11 01.6 +0.8
GLA epP pP 06 12 26.0 +2.3
GLA Glamis 81.06 49 ⇓P P 06 11 01.7 +0.9
baz=81
R07C Lee Vining 81.09 43 ⇓P P 06 11 01.2 +0.3
baz=81
WAKR Walker 81.09 43 eP P 06 11 01.5 +0.6
WAKR epP pP 06 12 24.9 +1.0
R06C Coleville 81.09 43 P P 06 11 01.6 +0.6
baz=81,SNR=11
YBH Yreka Blue Hor 81.10 38 P P 06 11 00.3 -0.7
comp=Z,21nm,1.0s,mb4.8,baz=220,slow=1.9,SNR=20
YBH pP pP 06 12 24.9 +0.8
comp=Z,5.0nm,0.9s,baz=184,slow=5.6,SNR=3.2
YBH Yreka Blue Hor 81.10 38 eP P 06 11 01.6 +0.6
YBH pmax pmax
comp=Z,29nm,1.0s
YBH Yreka Blue Hor 81.10 38 eP P 06 11 01.6 +0.5
comp=Z,29nm,1.0s,mb5.0
YBH Yreka Blue Hor 81.10 38 ⇑P P 06 11 01.5 +0.5
baz=81,SNR=13
O04C Chester 81.17 40 ⇓P P 06 11 01.6 +0.2
baz=81,SNR=10
HATC Hat Creek Radi 81.26 40 ⇑P P 06 11 01.9 0.0
baz=82,SNR=6.3
K02A Glendale 81.32 37 ⇑P P 06 11 02.4 +0.2
baz=82,SNR=6.4
WCN Washoe City 81.37 42 ⇓P P 06 11 02.7 +0.3
baz=82,SNR=14
P06A Stead Airport, 81.51 41 ⇑P P 06 11 03.4 +0.3
baz=82
HUMO Hull Mountain 81.52 38 eP P 06 11 03.8 +0.6
comp=Z,32nm,1.1s,mb5.1
HUMO epP pP 06 12 26.9 +0.6
HUMO Hull Mountain 81.52 38 ⇓P P 06 11 03.6 +0.4
baz=82,SNR=9.5
ELFS Eagle Lake Fie 81.57 40 ⇑P P 06 11 03.8 +0.4
baz=82
MDJ Mudanjiang 81.59 325 P P 06 11 04.3 +0.7
MDJ PP PP 06 14 13.4 -2.5
MDJ S S 06 20 42.9 -1.7
MDJ XS sS 06 23 11.4 -0.6
MDJ SS SS 06 26 09.6 -1.2
MDJ AMB AMB
comp=Z,44nm,1.4s,mb5.1
MDJ AMB AMB
comp=Z,152nm,3.6s
MDJ Mudanjiang 81.59 325 eP P 06 11 03.1 -0.5
comp=Z,64nm,1.2s,mb5.3
MDJ epP pP 06 12 32.7 +6.0
TUQ Turquoise Mtn. 81.61 47 ⇓P P 06 11 03.7 +0.1
baz=82
M04C Macdoel 81.64 39 ⇓P P 06 11 03.8 0.0
baz=82,SNR=9.0
Y12C Blythe 81.65 49 ⇓P P 06 11 04.1 +0.3
baz=82
J02A Umpqua 81.66 37 ⇓P P 06 11 03.8 -0.1
baz=82,SNR=6.4
Q07A Schurz 81.74 42 ⇓P P 06 11 04.6 +0.3
baz=82
NVAR Mina Array Bea 81.76 43 P P 06 11 04.3 -0.1
comp=Z,8.9nm,1.0s,mb4.6,baz=211,slow=6.4,SNR=47
NVAR pP pP 06 12 27.8 +0.2
comp=Z,10nm,0.9s,baz=213,slow=6.2,SNR=9.7
M05C Lookout 81.78 39 ⇓P P 06 11 04.7 +0.1
baz=82,SNR=12
R08A Mina 81.84 43 ⇓P P 06 11 05.0 +0.2
baz=82
O06A Flanigan 81.84 41 P P 06 11 05.1 +0.3
baz=82,SNR=8.0
PAHR Pah Rah Range 81.84 42 eP P 06 11 05.0 +0.2
comp=Z,39nm,1.3s,mb5.1
PAHR epP pP 06 12 28.4 +0.4
L04A Klamath Falls 81.85 38 ⇓P P 06 11 05.2 +0.2
baz=82,SNR=6.2
MNV Mina 81.86 43 eP P 06 11 05.2 +0.3
MNV e*PP pP 06 12 28.5 +0.4
MNV pmax pmax
comp=Z,24nm,1.2s,mb4.9
MNV Mina 81.86 43 eP P 06 11 05.2 +0.2
comp=Z,24nm,1.2s,mb4.9
MNV epP pP 06 12 28.5 +0.4
U10A Ash Meadows, A 81.89 46 ⇓P P 06 11 05.6 +0.5
baz=82
I02A Mapleton 81.93 36 ⇑P P 06 11 05.4 +0.1
baz=82,SNR=5.1
J03A Ideyld Park 82.00 37 P P 06 11 06.5 +0.7
baz=82,SNR=5.8
S09A Goldfield 82.05 44 ⇑P P 06 11 06.1 +0.1
baz=82,SNR=6.5
P07A Fallon 82.05 42 ⇓P P 06 11 06.3 +0.3
baz=82
M06C Likely Place G 82.08 40 ⇓P P 06 11 06.3 +0.3
baz=82,SNR=9.4
Y13A Salome 82.17 49 ⇓P P 06 11 07.2 +0.7
baz=82
V11A Goodsprings 82.17 47 ⇓P P 06 11 06.9 +0.4
baz=82
N06A Buffalo Meadow 82.19 41 P P 06 11 07.1 +0.4
baz=82,SNR=14
I03A Eugene 82.21 36 ⇓P P 06 11 06.5 -0.3
baz=82
K04A Chilquin 82.22 38 ⇓P P 06 11 06.9 +0.1
baz=82
TPNV Topopah Spring 82.24 45 eP P 06 11 07.3 +0.4
TPNV e*PP pP 06 12 30.6 +0.4
TPH Tonopah 82.25 44 eP P 06 11 07.3 +0.3
TPH pmax pmax
comp=Z,38nm,1.3s,mb5.1
TPH Tonopah 82.25 44 eP P 06 11 07.3 +0.4
comp=Z,38nm,1.3s,mb5.1
TPH epP pP 06 12 31.5 +1.3
Q08A Gabbs 82.25 43 ⇑P P 06 11 06.9 -0.1
baz=82,SNR=16
H02A Toledo 82.28 36 ⇑P P 06 11 07.6 +0.5
baz=82
L05A Lakeview 82.39 39 P P 06 11 08.3 +0.6
baz=83,SNR=16
O07A Toulon 82.42 41 P P 06 11 08.1 +0.2
baz=83,SNR=19
V12A Nelson 82.50 47 ⇑P P 06 11 08.6 +0.3
baz=83
U11A Corn Creek 82.53 46 ⇑P P 06 11 08.4 0.0
baz=83
Z14A Wintersburg 82.55 50 ⇓P P 06 11 09.2 +0.7
baz=83
X13A Yucca 82.59 48 P P 06 11 09.3 +0.6
baz=83,SNR=7.7
P08A Dixie Valley 82.64 42 ⇓P P 06 11 09.1 +0.1
baz=83
H03A Soap Creek Ran 82.66 36 ⇑P P 06 11 09.1 +0.1
baz=83,SNR=9.1
DL2 Dalian 82.72 317 P P 06 11 09.8 +0.4
DL2 AMB AMB
comp=Z,20nm,1.1s,mb4.9
SHPR Sheep Range 82.72 46 eP P 06 11 09.9 +0.5
SHPR epP pP 06 12 33.4 +0.7
W13A Hualapai Mount 82.82 48 ⇓P P 06 11 10.5 +0.7
baz=83
Y14A Wickenburg 82.82 49 P P 06 11 10.5 +0.6
baz=83,SNR=6.5
BROR Big Rock Looko 82.86 37 P P 06 11 09.8 -0.3
R10A Warm Springs 82.97 44 P P 06 11 11.2 +0.6
baz=83,SNR=22
M07A Soldier Meadow 82.98 40 P P 06 11 11.0 +0.3
baz=83,SNR=11
116A Eloy 83.03 51 ⇓P P 06 11 11.7 +0.8
baz=83
U12A Valley of Fire 83.10 47 ⇑P P 06 11 11.5 +0.2
baz=83,SNR=5.1
P09A Austin 83.15 43 ⇓P P 06 11 11.6 0.0
baz=83
X14A Yava 83.18 49 ⇓P P 06 11 12.4 +0.7
baz=83,SNR=6.5
K06A Valley Falls 83.19 39 P P 06 11 12.1 +0.3
baz=83,SNR=15
SNY Shenyang 83.23 320 ⇑P P 06 11 10.0 -2.0
SNY AMB AMB
comp=Z,40nm,1.8s,mb5.0
L07A Adell 83.25 40 P P 06 11 12.5 +0.4
baz=84,SNR=27
H04A Detroit Lake 83.27 36 P P 06 11 11.6 -0.5
baz=84,SNR=17
WHN Wuhan 83.29 306⇑iP P 06 11 13.3 +1.0
F03A Seaside 83.33 35 ⇓P P 06 11 12.3 -0.2
baz=84
CN2 Changchun 83.35 322 eP P 06 11 12.5 -0.1
CN2 eAP pP 06 12 39.3 +3.3
CN2 eS S 06 21 01.0 -1.2
CN2 AMB AMB
comp=Z,60nm,1.5s,mb5.2
CN2 AMB AMB
comp=Z,200nm,3.0s
W14A Seligman 83.44 48 ⇑P P 06 11 13.8 +0.8
baz=84,SNR=13
G04A Mulino 83.44 36 ⇑P P 06 11 12.9 -0.2
baz=84,SNR=5.5
I05A Bend 83.45 37 ⇓P P 06 11 13.2 +0.1
baz=84,SNR=8.1
IPM Ipoh 83.46 277 P P 06 11 13.9 +0.7
O09A Fish Creek Ran 83.48 42 P P 06 11 13.3 +0.1
baz=84,SNR=11
M08A Happy Creek Ra 83.49 41 P P 06 11 13.7 +0.4
baz=84,SNR=11
J06A Christmas Vall 83.53 38 P P 06 11 13.3 -0.2
baz=84,SNR=19
TUC Tucson 83.57 52 eP P 06 11 15.0 +1.3
TUC epP pP 06 12 40.4 +3.2
BMN Battle Mountai 83.61 42 eP P 06 11 14.0 +0.1
BMN pmax pmax
comp=Z,34nm,1.3s,mb5.0
BMN Battle Mountai 83.61 42 eP P 06 11 14.0 +0.1
comp=Z,34nm,1.3s,mb5.0
BMN epP pP 06 12 38.5 +1.1
P10A Eureka 83.62 43 ⇓P P 06 11 13.7 -0.2
baz=84
KLR Kul'dur 83.64 329 eP P 06 11 04.2 -10
X15A Humboldt 83.64 49 ⇓P P 06 11 14.7 +0.7
baz=84,SNR=9.4
N09A Rock Creek Ran 83.67 42 ⇓P P 06 11 14.2 +0.1
baz=84,SNR=10.0
Q11A Duckwater 83.70 44 ⇓P P 06 11 14.2 -0.1
baz=84,SNR=21
E03A Lebam 83.73 34 ⇓P P 06 11 14.4 -0.1
baz=84,SNR=12
H05A Madras 83.78 37 ⇓P P 06 11 14.6 -0.2
baz=84,SNR=6.6
WVOR Wild Horse Val 83.92 40 P P 06 11 15.4 0.0
F04A Amboy 83.94 35 ⇓P P 06 11 15.1 -0.4
baz=84,SNR=12
HOOD Mount Hood Mea 83.97 36 eP P 06 11 15.8 +0.1
W15A Williams 83.98 49 ⇑P P 06 11 16.6 +0.9
baz=84
D03A Wishkah Elem. 83.99 34 ⇓P P 06 11 16.0 +0.2
baz=84
P11A Circle Ranch, 84.03 43 ⇓P P 06 11 15.8 -0.2
baz=84
VIPM Ingram Point 84.03 37 P P 06 11 16.1 +0.1
M09A Marrel Ranch, 84.04 41 ⇑P P 06 11 16.3 +0.3
baz=84,SNR=6.8
UBT Ubonrachathani 84.08 289 ⇑P P 06 11 18.0 +1.8
J07A Hines 84.09 39 ⇑P P 06 11 16.2 0.0
baz=84,SNR=15
G05A Wamic 84.10 36 ⇓P P 06 11 16.1 -0.2
baz=84,SNR=7.5
KULM Kulim 84.12 278 eP P 06 11 16.9 +0.5
C03A Quillayute Air 84.13 33 ⇓P P 06 11 17.0 +0.5
baz=84
E04A Onalaska 84.20 35 ⇓P P 06 11 17.1 +0.3
baz=84
N10A Dunphy 84.22 42 ⇓P P 06 11 16.9 0.0
baz=84
L09A Wilkinson Ranc 84.26 40 ⇓P P 06 11 17.1 0.0
baz=84
Q12A Willow Creek R 84.34 44 ⇑P P 06 11 17.5 0.0
baz=84,SNR=6.9
O11A Cowboy Ranch, 84.42 43 P P 06 11 18.1 +0.2
baz=85,SNR=13
F05A White Salmon 84.42 36 ⇓P P 06 11 17.6 -0.4
baz=85,SNR=5.4
VTHM Trough 84.48 37 P P 06 11 18.0 -0.2
D04A Dobbs Creek Ra 84.49 34 ⇓P P 06 11 18.7 +0.4
baz=85
CCUT Cedar City 84.50 46 eP P 06 11 18.6 +0.4
P12A McGill 84.53 44 ⇓P P 06 11 18.4 0.0
baz=85
ARUT Antelope Range 84.57 46 eP P 06 11 18.8 +0.1
M10A I.L. Ranch, Tu 84.66 41 ⇓P P 06 11 19.2 +0.1
baz=85
E05A Randle 84.69 35 ⇓P P 06 11 18.6 -0.6
baz=85,SNR=15
B04A Port Angeles 84.75 33 ⇓P P 06 11 19.4 -0.2
baz=85
N11A Elko Archery C 84.75 42 ⇑P P 06 11 19.6 0.0
baz=85
GNW Green Mountain 84.77 34 eP P 06 11 19.3 -0.3
GNW epP pP 06 12 43.8 +0.3
PSI Prapat 84.78 275 P P 06 11 18.4 -1.2
comp=Z,21nm,1.0s,mb4.9,baz=135,slow=2.3,SNR=18
PSI Prapat 84.78 275 P P 06 11 18.5 -1.2
PSI pmax pmax
comp=Z,21nm,1.0s,mb4.9
LON Longmire 84.78 35 P P 06 11 19.1 -0.6
WUAZ Wupatki 84.78 49 eP P 06 11 20.3 +0.6
comp=Z,4.5nm,0.9s,mb4.3
C04A Brinnon 84.80 34 ⇓P P 06 11 19.7 -0.1
baz=85
SLKM Skilak Lake 84.92 13 eP P 06 11 17.8 -2.6
D05A Enumclaw 84.97 34 ⇑P P 06 11 20.8 +0.1
baz=85,SNR=14
MA2 Magadan 84.97 345 eP P 06 11 17.8 -2.9
MA2 eS 06 21 08.4
MA2 e 06 23 06.0
MA2 pmax pmax
comp=Z,60nm,1.2s,mb5.3
MA2 Magadan 84.97 345 eP P 06 11 19.0 -1.7
ELK Elko 85.03 43 eP P 06 11 20.5 -0.4
ELK e*PP pP 06 12 44.0 -0.8
M11A Holland Ranch, 85.07 42 ⇓P P 06 11 21.3 +0.2
baz=85,SNR=6.2
O12A Currie 85.07 43 ⇑P P 06 11 21.0 -0.1
baz=85
PGC Sidney 85.16 33 eP P 06 11 21.0 -0.6
N12A Clover Valley, 85.21 43 ⇑P P 06 11 21.7 -0.2
baz=85,SNR=7.0
C05A Tolt Reservoir 85.44 34 ⇓P P 06 11 22.2 -0.7
baz=86,SNR=7.0
TWW Teanaway 85.53 35 P P 06 11 23.9 +0.5
EBG Ellensburg 85.55 35 P P 06 11 23.6 +0.1
A04A Legoe Bay, Lum 85.58 33 ⇓P P 06 11 23.2 -0.4
baz=86
B05A Bryant 85.59 34 ⇓P P 06 11 23.2 -0.5
baz=86,SNR=7.1
M12A Wells 85.60 42 ⇑P P 06 11 23.6 -0.1
baz=86,SNR=5.2
SYO Syowa Base 85.61 193⇑eP P 06 11 22.6 -1.2
LTY Liberty 85.71 35 P P 06 11 23.6 -0.7
N13A Wendover, West 85.74 43 ⇓P P 06 11 24.2 -0.2
baz=86
MVU Marysvale 85.77 46 eP P 06 11 20.0 -4.6
MVU epP pP 06 12 43.1 -5.5
HAWA Hanford 85.79 36 eP P 06 11 24.5 -0.2
HAWA epP pP 06 12 46.9 -1.8
MSU Marysvale 85.80 46 eP P 06 11 25.4 +0.7
MSU e*PP pP 06 12 48.0 -0.7
M13A Montello 86.04 43 ⇑P P 06 11 25.5 -0.4
baz=86,SNR=10
A05A Maple Falls 86.07 33 ⇓P P 06 11 25.2 -0.8
baz=86
TTA Tatalina 86.08 10 eP P 06 11 24.3 -1.8
PMR Palmer 86.13 13 eP P 06 11 24.1 -2.2
PMR pmax pmax
comp=Z,48nm,1.6s,mb5.1
PMR Palmer 86.13 13 eP P 06 11 24.1 -2.2
comp=Z,48nm,1.6s,mb5.1
BMO Blue Mountains 86.13 38 eP P 06 11 26.0 -0.3
BMO pmax pmax
comp=Z,24nm,1.4s,mb4.8
BMO Blue Mountains 86.13 38 eP P 06 11 26.0 -0.3
comp=Z,24nm,1.4s,mb4.8
BMO epP pP 06 12 50.4 +0.1
SIT Sitka 86.15 22 eP P 06 11 25.2 -1.2
SIT pmax pmax
comp=Z,16nm,1.2s,mb4.7
SIT Sitka 86.15 22 eP P 06 11 25.2 -1.2
comp=Z,16nm,1.2s,mb4.7
DUG Dugway 86.27 44 eP P 06 11 26.8 -0.2
DUG e*PP pP 06 12 49.8 -1.3
EPH Ephrata 86.35 35 P P 06 11 27.0 -0.3
KKTK Khon Kaen 86.45 289 P P 06 11 29.0 +1.2
comp=Z,309nm,1.0s
SNAA Sanae 86.82 178 eP P 06 11 28.7 -0.9
SNAA e 06 11 29.7
SNAA e 06 11 34.8
SNAA e 06 11 37.6
SNAA e 06 11 43.0
SNAA e pP 06 12 52.8 -1.1
SNAA e pP 06 12 54.3 +0.4
SNAA e pP 06 12 56.2 +2.3
SNAA e pP 06 12 57.8 +3.9
SNAA Sanae 86.82 178 eP P 06 11 28.6 -1.0
SNAA pmax pmax
comp=Z,5.0nm,0.8s
SNAA Sanae 86.82 178 eP P 06 11 28.6 -1.0
comp=Z,4.7nm,0.8s,mb4.4
TMUT Trail Mountain 86.85 45 eP P 06 11 30.4 +0.6
TMUT epP pP 06 12 53.2 -0.8
BJT Baijiatuau 86.86 315 eP P 06 11 30.3 +0.5
BJI Beijing 86.86 315 P P 06 11 29.9 +0.1
BJI AMB AMB
comp=Z,47nm,2.0s,mb5.0
HLID Hailey 87.10 41 eP P 06 11 30.9 -0.1
SRU San Rafael 87.21 46 eP P 06 11 31.3 -0.2
SRU e*PP pP 06 12 54.3 -1.5
CTU Camp Tracy 87.22 44 eP P 06 11 31.7 +0.2
CTU epP pP 06 12 54.6 -1.3
LAZ Ladron 87.25 51 eP P 06 11 31.0 -0.6
GYA Guiyang 87.39 300⇑iP P 06 11 33.5 +1.2
GYA PP PP 06 15 08.4 +5.7
GYA SKS 06 21 23.6
GYA S 06 21 42.3
GYA AMB AMB
comp=Z,30nm,1.1s,mb5.0
GYA AMB AMB

comp=Z,110nm,4.2s
BNM Barren Site 87.50 52 *e*P **P 06 11 32.5 -0.4**
BNM *ep*P pP 06 12 57.6 +0.4
LTX Lajitas 87.54 57 *e*P **P 06 11 34.1 +1.1**
LTX pmax pmax
comp=Z,20nm,1.4s,mb4.8
LTX Lajitas 87.54 57 *e*P **P 06 11 34.1 +1.1**
comp=Z,20nm,1.4s,mb4.8
LTX *ep*P pP 06 12 58.7 +1.3
VNA1 Neumayer--Stat 87.62 177 *e*P **P 06 11 33.5 +0.1**
VNA1 *e* 06 11 34.5
VNA1 *e* 06 11 39.4
VNA1 *e* 06 11 41.5
VNA1 *e* 06 11 47.4
VNA1 *e* pP 06 12 57.3 -0.5
VNA1 *e* pP 06 12 58.6 +0.8
VNA1 *e* pP 06 13 01.0 +3.2
VNA1 *e* pP 06 13 02.1 +4.3
TCUT Toone Canyon 87.67 44 *e*P **P 06 11 34.1 +0.5**
TCUT *ep*P pP 06 12 57.6 -0.4
HWUT Hardware Ranch 87.82 43 *e*P **P 06 11 32.0 -2.3**
ANMO Albuquerque 88.00 51 *e*P **P 06 11 35.5 +0.3**
ANMO *ep*P pP 06 13 00.2 +0.6
SKAG Skagway 88.03 20 *e*P **P 06 11 35.0 -0.3**
comp=Z,60nm,1.8s,mb5.1
MCK McKinley 88.09 12 *e*P **P 06 11 32.9 -2.7**
MCK pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
MCK McKinley 88.09 12 *e*P **P 06 11 32.9 -2.6**
comp=Z,9.3nm,0.9s,mb4.6
MCK *ep*P pP 06 12 57.5 -2.6
NEW Newport 88.23 36 *e*P **P 06 11 35.2 -1.0**
NEW *e**PP pP 06 12 58.1 -2.7
NEW pmax pmax
comp=Z,11nm,1.1s
NEW Newport 88.23 36 *e*P **P 06 11 35.2 -1.0**
comp=Z,11nm,1.1s,mb4.6
NEW *ep*P pP 06 12 58.1 -2.6
PLCA Paso Flores 88.33 133 P **P 06 11 37.6 +0.9**
comp=Z,8.4nm,1.2s,mb4.4,baz=214,slow=8.0,SNR=3.7
PLCA *ep*P pP 06 13 02.5 +1.2
comp=Z,9.1nm,1.1s,baz=209,slow=3.8,SNR=7.3
PLCA Paso Flores 88.33 133 P **P 06 11 37.6 +0.9**
PLCA pmax pmax
comp=Z,8.0nm,1.3s
PLCA pmax pmax
comp=Z,9.0nm,1.1s
PLCA Paso Flores 88.33 133 *e*P **P 06 11 37.9 +1.2**
comp=Z,10nm,1.3s,mb4.5
MENT Mentasta 88.53 15 *e*P **P 06 11 35.7 -2.0**
MCMT McKenzie Canyo 88.74 40 *e*P **P 06 11 38.6 0.0**
MCMT *ep*P pP 06 13 03.8 +0.5
RRI2 Red Ridge 88.89 42 *e*P **P 06 11 39.4 +0.1**
comp=Z,32nm,1.2s,mb5.0
XAN Xi'an 89.00 307 P **P 06 11 40.0 +0.2**
XAN AMB AMB
comp=Z,60nm,1.2s,mb5.3
DLBC Dease Lake 89.07 23 *e*P **P 06 11 39.4 -0.8**
DLBC *ep*P pP 06 13 04.8 0.0
DLMT Dillon 89.18 40 *e*P **P 06 11 40.8 +0.1**
comp=Z,26nm,1.1s,mb5.0
MSO Missoula 89.19 38 *e*P **P 06 11 39.3 -1.4**
comp=Z,6.0nm,1.2s,mb4.3
TPAW Teton Pass 89.19 42 *e*P **P 06 11 40.8 +0.1**
comp=Z,26nm,1.4s,mb4.9
BSMT Bassoo Peak 89.28 37 *e*P **P 06 11 40.5 -0.6**
BSMT *ep*P pP 06 13 06.2 +0.3
NANT Nan 89.28 290 P **P 06 11 42.0 +0.9**
COLA College 89.32 12 *e*P **P 06 11 38.3 -3.0**
comp=Z,14nm,0.9s,mb4.8
IMA2 Indian Mountai 89.38 10 *e*P **P 06 11 39.4 -2.2**
IMA2 *ep*P pP 06 13 06.0 -0.3
IMW Indian Meadow 89.41 42 *e*P **P 06 11 42.0 +0.3**
comp=Z,30nm,1.2s,mb5.0
IMW *ep*P pP 06 13 07.0 +0.5
MOOW Moose Ponds 89.45 42 *e*P **P 06 11 41.6 -0.3**
comp=Z,14nm,1.4s,mb4.6
LRM Limekiln Ridge 89.51 39 *e*P **P 06 11 42.0 -0.2**
LRM *ep*P pP 06 13 08.0 +1.1
QLMT Earthquake Lak 89.59 41 *e*P **P 06 11 43.3 +0.7**
QLMT *ep*P pP 06 13 09.0 +1.6
CHMT Chamberlain Mo 89.63 38 *e*P **P 06 11 42.0 -0.8**
CHMT *ep*P pP 06 13 06.1 -1.4
SMCO Snowmass 89.64 47 *e*P **P 06 11 43.4 +0.5**
FLWY Flagg Ranch 89.65 42 *e*P **P 06 11 43.2 +0.4**
BW06 Boulder Array 89.70 43 *e*P **P 06 11 42.1 -1.0**
comp=Z,14nm,1.2s,mb4.8
BW06 *ep*P pP 06 13 13.8 +5.9
PDAR Pinedale Array 89.70 43 P **P 06 11 42.5 -0.6**
comp=Z,6.6nm,1.0s,mb4.5,baz=204,slow=3.3,SNR=38
PDAR pP pP 06 13 06.8 -1.1
comp=Z,1.1nm,0.8s,baz=220,slow=2.4,SNR=2.7
YFT Old Faithful 89.76 41 *e*P **P 06 11 44.8 +1.4**
HIA Hailar 89.76 324 *e*P **P 06 11 44.4 -1.0**
HIA pmax pmax
comp=Z,21nm,1.0s
HIA Hailar 89.76 324 *e*P **P 06 11 42.4 -1.0**
comp=Z,20nm,1.0s,mb5.0
BOZ Bozeman (W) 89.90 40 *e*P **P 06 11 43.9 -0.1**
BOZ *e**PP pP 06 13 07.4 -1.4
BOZ pmax pmax
comp=Z,23nm,1.2s,mb5.0
BOZ Bozeman (W) 89.90 40 *e*P **P 06 11 43.9 -0.1**
comp=Z,23nm,1.2s,mb5.0
BOZ *ep*P pP 06 13 07.4 -1.4
KMI Kunming 90.05 297 P **P 06 11 46.6 +1.9**
KMI AP pP 06 13 11.3 +1.8
KMI XP sP 06 13 48.3 +1.1
KMI PP PP 06 15 23.3 -0.4
KMI S 06 22 07.1
KMI XS sS 06 24 31.8 -4.8
KMI SS SS 06 28 16.3 +2.3
KMI SSS 06 31 54.8
KMI AMB AMB
comp=Z,33nm,1.3s,mb5.1
KMI AMB AMB
comp=Z,201nm,3.1s
KMI LR LR
comp=N,122nm,14.3s
KMI LR LR
comp=E,101nm,15.6s
KMI LR LR
comp=Z,107nm,14.3s
HHC Hu-ho-hao-te 90.31 314 *e*P **P 06 11 46.5 +0.6**
HHC AP pP 06 13 09.3 -1.4
HHC XP sP 06 13 43.8 -4.6
HHC SKS 06 21 39.4
HHC S 06 22 09.1
HHC XS sS 06 24 33.0 -6.1
HHC SS SS 06 28 17.8 0.0
HHC AMB AMB
comp=Z,35nm,0.9s,mb5.3
HHC AMB AMB
comp=Z,147nm,9.5s
HRY Holter Researc 90.34 39 *e*P **P 06 11 45.5 -0.5**
HRY *ep*P pP 06 13 08.9 -1.9
WALA Waterton Lakes 90.43 36 *e*P **P 06 11 45.9 -0.6**
comp=Z,21nm,1.3s,mb4.9
WALA *ep*P pP 06 13 11.2 -0.1
DAWY Dawson 90.55 16 *e*P **P 06 11 45.5 -1.5**
DAWY *ep*P pP 06 13 10.8 -1.1
CM31 Chiang Mai Arr 90.68 289 *e*P **P 06 11 48.8 +1.1**
comp=Z,41nm,1.0s,mb5.3
CHG Chiang Mai 90.82 290 ⇓P **P 06 11 49.2 +0.9**
comp=Z,34nm,1.2s,mb5.2
CHTO Chiang Mai 90.82 290 ⇓P **P 06 11 49.2 +1.0**
SNR=10
CHTO Chiang Mai 90.82 290 *e*P **P 06 11 48.7 +0.4**
CHTO pmax pmax
comp=Z,64nm,1.4s,mb5.4
CHTO Chiang Mai 90.82 290 *e*P **P 06 11 48.7 +0.4**
comp=Z,64nm,1.4s,mb5.4
GCMT Greycliff 91.16 41 *e*P **P 06 11 49.5 -0.3**
BTO Baotou 91.23 314 *e*P **P 06 11 50.3 +0.1**
CD2 Chengdu 91.58 303 ⇑*i*P **P 06 11 53.0 +1.2**
CD2 AP pP 06 13 15.5 -1.2
CD2 XP sP 06 13 51.0 -3.3
CD2 PP PP 06 15 38.0 +2.3
CD2 SKS 06 21 50.0
CD2 S 06 22 19.0
CD2 XS sS 06 24 44.0 -6.9
CD2 SS SS 06 28 36.0 0.0
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
CD2 AMB AMB
comp=Z,80nm,9.2s
CD2 LR LR
comp=E,110nm,14.4s
CD2 LR LR
comp=Z,70nm,15.6s
EDM Edmonton 93.00 33 *e*P **P 06 11 56.9 -1.4**
EDM *e**PP pP 06 13 20.2 -3.1
YAK Yakutsk 93.28 338⇓ *e*P **P 06 11 57.8 -1.8**
YAK pmax pmax
comp=Z,49nm,1.0s,mb5.5
YAK Yakutsk 93.28 338 *e*P **P 06 11 57.2 -2.4**
comp=Z,48nm,0.9s,mb5.5
LZH Lanzhou 93.63 307 *e*P **P 06 12 01.9 +0.7**
LZH PP PP 06 15 47.5 -4.2
LZH SS SS 06 29 04.0 -1.2
LZH AMB AMB
comp=Z,36nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,141nm,6.4s
LAO LASA Array 93.68 41 *e*P **P 06 12 01.5 0.0**
comp=Z,9.6nm,1.0s,mb4.8
LAO *ep*P pP 06 13 24.6 -1.8
RSSD Black Hills 93.88 44 *e*P **P 06 12 01.1 -1.3**
RSSD *e**PP pP 06 13 25.0 -2.3
RSSD pmax pmax
comp=Z,14nm,1.1s,mb4.9
RSSD Black Hills 93.88 44 *e*P **P 06 12 01.1 -1.3**
comp=Z,14nm,1.1s,mb4.9
RSSD *ep*P pP 06 13 25.0 -2.3
INK Inuvik 95.37 15 *e*P **P 06 12 06.0 -3.1**
INK pmax pmax
comp=Z,13nm,1.6s
INK Inuvik 95.37 15 *e*P **P 06 12 06.0 -3.1**
comp=Z,13nm,1.6s,mb4.7
INK *ep*P pP 06 13 32.1 -2.0
SONM Songino Array 96.77 319 P **P 06 12 13.7 -1.7**
comp=Z,1.9nm,1.0s,mb4.2,baz=123,slow=3.3,SNR=9.9
SONM PP PP 06 16 11.9 -3.8
comp=Z,2.0nm,1.0s,baz=108,slow=7.5,SNR=5.4
SONM Songino Array 96.77 319 P **P 06 12 13.7 -1.8**
SONM 06 16 11.9
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM pmax pmax
comp=Z,2.0nm,1.0s
YKA Yellowknife Ar 97.51 25 P **P 06 12 16.5 -2.2**
comp=Z,2.2nm,1.1s,mb4.3,baz=239,slow=4.2,SNR=9.4
YKA pP pP 06 13 42.8 -1.1
comp=Z,1.3nm,0.9s,baz=238,slow=4.3,SNR=6.4
YKA PKKPbc PKKPbc 06 28 52.7 -1.1
comp=Z,0.3nm,0.4s,baz=40,slow=2.4,SNR=11
YKA Yellowknife Ar 97.51 25 P **P 06 12 16.6 -2.2**
YKA pP pP 06 13 42.9 -1.1
YKA PKKPbc PKKPbc 06 28 52.7 -1.1
GTA Gaotai 97.86 309 P **P 06 12 20.8 +0.4**
GTA AP pP 06 13 50.0 +4.4
GTA XP sP 06 14 19.3 -3.9
GTA AMB AMB
comp=Z,10.0nm,1.6s,mb4.8
ZAK Zakamensk 99.66 320 *e*P Pdif 06 12 27.2 -1.2
ZAK pmax pmax
comp=Z,3.0nm,1.7s,mb4.5
ZAK pmax pmax
comp=Z,3.0nm,1.9s,mb4.4
LPAZ La Paz 101.44 113 P Pdif 06 12 38.8 +2.5
comp=Z,0.9nm,0.9s,baz=181,slow=3.7,SNR=3.9
LPAZ La Paz 101.44 113 P Pdif 06 12 38.8 +2.5
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
JIRN Jiri 104.83 294 *e*P PKiKP 06 17 05.6 +1.1
comp=Z,14nm,0.3s
GUN Gumba 105.17 294 *e*P PKiKP 06 17 05.5 +0.4
PKI Pulchoki 105.47 294 *e*P PKiKP 06 17 06.4 +0.8
comp=Z,10nm,0.4s
KKN Kakani 105.64 294 *e*P PKiKP 06 17 06.4 +0.4
comp=Z,10nm,0.6s
DMN Daman 105.74 294 *e*P PKiKP 06 17 07.0 +0.9
comp=Z,6.1nm,0.4s
GKN Gorkha 106.25 294 *e*P PKiKP 06 17 07.3 +0.2
comp=Z,6.6nm,0.4s
KOLN Koldanda 107.07 294 *e*P PKiKP 06 17 08.5 -0.1
comp=Z,41nm,1.3s
MKAR Makanchi Array 112.14 313 Pdiff Pdif 06 13 21.3 -2.6
comp=Z,0.2nm,0.4s,baz=264,slow=1.3,SNR=2.8
MKAR PKiKP PKiKP 06 17 16.0 -2.2
comp=Z,1.9nm,0.3s,baz=132,slow=0.4,SNR=31
MKAR PP PP 06 18 12.2 +3.4
comp=Z,1.6nm,1.0s,baz=97,slow=9.9,SNR=5.3
MKAR Makanchi Array 112.14 313 *i* PKIKP PKiKP 06 17 16.0 -2.2
MKAR pmax pmax
comp=Z,2.0nm,0.3s
KURK Kurchatov 114.99 317⇑ *i*PKIKP PKPdf 06 17 21.2 -2.4
KURK Kurchatov 114.99 317 *e*PKP PKPdf 06 17 21.4 -2.2
CPD Cerro la Pandu 116.29 80 *e*PP PP 06 18 34.8 -3.1
FRU Bishkek 117.10 308 *e*PKIKP PKPdf 06 17 25.5 -2.2
FRU *e* 06 18 43.0
AAK Ala-Archa 117.17 308⇑ *i*PKIKP PKPdf 06 17 26.5 -1.3
AAK Ala-Archa 117.17 308 *e*PKPdf PKPdf 06 17 27.2 -0.6
SCHQ Schefferville 119.49 38 PKP PKPdf 06 17 30.6 -1.6
comp=Z,4.2nm,1.1s,baz=49,slow=3.2,SNR=2.5
CHKZ Chkalovo 119.92 320 *e*PKIKP PKPdf 06 17 30.4 -2.7
BRVK Borovoye 120.16 320⇑P PKPdf 06 17 31.6 -2.0
SNR=6.8
BRVK Borovoye 120.16 320 *e*PKPdf PKPdf 06 17 31.4 -2.2
OPO Ambohidratompo 120.50 231 PKP PKPdf 06 17 34.6 +0.4
comp=Z,2.3nm,0.8s,baz=243,slow=2.3,SNR=3.3
ZRNK Zerenda 120.94 320 *e*PKIKP PKPdf 06 17 32.7 -2.4
SUR Sutherland 123.36 199 *e*PKPdf PKPdf 06 17 40.7 +1.0
SUMG Summit 124.26 14 *e*PKPdf PKPdf 06 17 40.1 -1.3
SVE Sverdlovsk 125.07 325 *e*PKIKP PKPdf 06 17 41.8 -1.2
SVE pmax pmax
comp=Z,40nm,1.8s
BOSA Boshof 125.26 205 PKP PKPdf 06 17 44.0 +0.6
comp=Z,3.6nm,0.7s,baz=195,slow=5.0,SNR=6.5
BOSA Boshof 125.26 205 PKIKP PKPdf 06 17 44.0 +0.7
BOSA pmax pmax
comp=Z,4.0nm,0.7s
BOSA Boshof 125.26 205 *e*PKPdf PKPdf 06 17 43.6 +0.3
ARU Arti 126.28 325 *i* PKIKP PKPdf 06 17 42.9 -2.4
ARU *e* 06 19 39.2
ARU Arti 126.28 325 *e*PKPdf PKPdf 06 17 43.9 -1.4
WSAR Wadi Sarin 128.11 283 PKP PKPdf 06 17 49.3 +0.5
comp=Z,7.7nm,1.0s,baz=252,slow=14,SNR=4.3
LBTB Lobatse 128.31 207 *e*PKIKP PKPdf 06 17 50.1 +0.9
KEV Kevo 129.67 349 *ep* PKPdf 06 17 48.7 -3.0
ARCES ARCESS Array B 130.12 350 PKP PKPdf 06 17 49.9 -2.7
comp=Z,5.1nm,0.5s,baz=82,slow=1.4,SNR=36
ARCES ARCESS Array B 130.12 350 PKIKP PKPdf 06 17 49.9 -2.7
ARCES pmax pmax
comp=Z,5.0nm,0.5s
ARCES ARCESS Array B 130.12 350 PKP PKPdf 06 17 49.9 -2.7
JOF Joensuu 134.31 342 *ep* PKPdf 06 17 57.5 -3.0
comp=Z,7.1nm,0.5s
JOF Joensuu 134.31 342 *e*PKIKP PKPdf 06 17 57.5 -3.0
JOF pmax pmax
comp=Z,7.0nm,0.5s
LSZ Lusaka 135.28 217 *e*PKIKP PKPdf 06 18 03.8 +1.5
KAF Kangasniemi 136.34 344 *ep* PKPdf 06 17 59.5 -4.8
comp=Z,4.3nm,0.4s
KAF Kangasniemi 136.34 344 *e*PKIKP PKPdf 06 17 59.5 -4.8
KAF pmax pmax
comp=Z,4.0nm,0.4s
FIA1 FINESS Array S 136.96 343 *e*PKPdf PKPdf 06 18 00.5 -4.9
FINES FINESS Array B 136.96 343 PKhKP 06 17 52.3
comp=Z,0.6nm,0.5s,baz=44,slow=2.9,SNR=7.1
FINES PKP PKPdf 06 18 00.9 -4.5
comp=Z,1.8nm,0.4s,baz=61,slow=4.8,SNR=14
FINES FINESS Array B 136.96 343 PKHKP 06 17 52.3
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES pmax pmax
comp=Z,2.0nm,0.4s
OBN Obninsk 137.88 331 *d i*PKIKP PKPdf 06 18 07.9 +0.8
OBN *i* 06 21 05.0
OBN *e* 06 24 40.2
OBN pmax pmax
comp=Z,68µm,2.0s
QRN Al-Qurain 138.24 289 *e*P PKPdf 06 18 09.5 +1.8
UMR Umm Al-Rimmam 138.43 290 *e*P PKPdf 06 18 10.1 +1.9
RDF Al-Radifah 138.57 290 *e*P PKPdf 06 18 09.6 +1.3
MIB Mutribah 138.75 291 *e*P PKPdf 06 18 09.8 +1.1
MIB *i* P 06 18 09.9
NAY Al-Naaiem 138.84 290 *e*P PKPdf 06 18 10.5 +1.6
KMBO Kilima Mbogo 138.94 241 PKhKP 06 18 05.0
comp=Z,1.3nm,0.5s,baz=54,slow=7.8,SNR=4.9
KMBO Kilima Mbogo 138.94 241 *i* PKHKP 06 18 04.3
KMBO pmax pmax
comp=Z,1.0nm,0.5s
RST Umm Al-Ruwaisa 139.05 290 *e*P PKPdf 06 18 10.4 +1.1
GNI Garni 139.57 307 *e*P PKPdf 06 18 09.6 -0.6
GNI Garni 139.57 307⇑P PKPdf 06 18 10.5 +0.3
SNR=6.5
GNI Garni 139.57 307⇑ *i*PKIKP PKPdf 06 18 10.2 0.0
GNI Garni 139.57 307 *e*PKPdf PKPdf 06 18 10.8 +0.6
NB2 NORSAR Subarra 140.18 353 PKPdf PKPdf 06 18 03.0 -8.3
comp=Z,22nm,1.4s,baz=13,slow=1.9
NOA NORSAR Array B 140.18 353 PKhKP 06 18 01.2
comp=Z,4.6nm,1.0s,baz=14,slow=2.4,SNR=7.3
NOA pPKP pPKPdf 06 19 41.2 +0.2
comp=Z,1.1nm,0.8s,baz=16,slow=4.3,SNR=2.7
NOA NORSAR Array B 140.18 353 PKHKP 06 18 01.2
NOA pmax pmax
comp=Z,5.0nm,1.0s
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 140.18 353 PKP 06 18 01.2
NOA pPKP pPKPdf 06 19 41.2 +0.2
CLDR Calderan 140.43 306 *e*P 06 18 04.2
MSL Mosul 141.68 301 *ex* x 06 19 11.0
ERZM Erzurum 142.13 308 *i* P PKPdf 06 18 11.8 -3.0
ANN Anapa 143.02 317 *i* PKHKP 06 18 07.7
ANN pmax pmax
comp=Z,34nm,0.8s
MARD Mardin 143.27 304 *i* P PKPdf 06 18 13.4 -3.4
EZC Erzincan 143.32 308 *e*P PKPdf 06 18 15.6 -1.3
KELT Kelkit 143.60 309 *i* P PKPdf 06 18 15.3 -2.1
KSK Scoval 143.68 8 *e*P PKPdf 06 18 13.2 -4.3
KSK Scoval 143.68 8 *e*P PKPdf 06 18 13.2 -4.3
KAC Achnashellach 143.81 7 *e*P PKPdf 06 18 13.7 -4.0
KAC Achnashellach 143.81 7 *e*P PKPdf 06 18 13.7 -4.0
KPL Plockton 143.93 7 *e*P PKPdf 06 18 13.1 -4.8
KPL Plockton 143.93 7 *e*P PKPdf 06 18 13.1 -4.8
SUW Suwalki 144.01 339 *e*PKP PKPdf 06 18 15.5 -2.6
AKASG Malin Array Be 144.14 330 PKP PKPdf 06 18 14.8 -3.6
comp=Z,24nm,0.5s,baz=40,slow=4.1,SNR=84
AKASG pPKP pPKPdf 06 19 49.2 +1.1
comp=Z,2.6nm,0.6s,baz=39,slow=4.2,SNR=2.8
AKASG Malin Array Be 144.14 330 PKIKP PKPdf 06 18 14.8 -3.5
AKASG pmax pmax
comp=Z,24nm,0.5s
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 144.14 330 PKP PKPdf 06 18 14.8 -3.6
AKASG pPKP pPKPdf 06 19 49.2 +1.1
AKBB Malin Array Si 144.14 330 *e*PKIKP PKPdf 06 18 14.9 -3.4
ELZG Elazig 144.31 306 *i* P PKPdf 06 18 18.2 -0.4
KAR1 Arisaig 144.32 8 *e*P PKPdf 06 18 15.5 -3.1
KAR1 Arisaig 144.32 8 *e*P PKPdf 06 18 15.5 -3.1
URFA Urfa 144.74 305 *e*P PKPdf 06 18 19.0 -0.4
MYA Malataya 144.78 306 *e*P PKPdf 06 18 20.5 +1.1
MALT Malatya 144.79 306⇓ *i*P PKPdf 06 18 19.9 +0.5
MALT Malatya 144.79 306 *e*PKPdf PKPdf 06 18 19.4 -0.1
MUD Monsted U'grnd 144.90 353⇓ *i*P PKPdf 06 18 17.9 -1.7
comp=Z,204nm,1.1s
MUD Monsted U'grnd 144.90 353⇓ *i*PKIKP PKPdf 06 18 17.9 -1.7
MUD pmax pmax
comp=Z,200nm,1.1s
SIM Simferopol' 145.01 319 *d i*PKIKP PKPdf 06 18 19.0 -0.8
SIM pmax pmax
comp=Z,140nm,1.0s
SIM pmax pmax
comp=Z,70nm,16.4s
COP Copenhagen 145.20 350 *i* P PKPdf 06 18 20.4 +0.2
comp=Z,98nm,1.1s
COP Copenhagen 145.20 350 *i* PKIKP PKPdf 06 18 20.4 +0.2
COP pmax pmax
comp=Z,98nm,1.1s
EAB Aberfoyle 145.21 6 *e*P PKPdf 06 18 18.4 -1.8
EAB Aberfoyle 145.21 6 *e*P PKPdf 06 18 18.4 -1.8
BSD Bornholm Skovb 145.28 347⇓ *i*P PKPdf 06 18 18.7 -1.6
comp=Z,204nm,1.0s
BSD *i* 06 19 52.0
BSD
comp=Z,80nm,18.0s
BSD Bornholm Skovb 145.28 347⇓ *i*PKIKP PKPdf 06 18 18.7 -1.6
BSD pmax pmax
comp=Z,200nm,1.0s
BSD MLR MLR
comp=Z,82nm,18.0s
BSD Bornholm Skovb 145.28 347⇓ *i*P PKPdf 06 18 18.7 -1.6
BSD *i* 06 19 52.0
SVSK Karacayir 145.31 310 *e*P PKPdf 06 18 21.3 +1.0
PCOU Corrie 145.43 6 *e*P PKPdf 06 18 19.0 -1.6
PCOU Corrie 145.43 6 *e*P PKPdf 06 18 19.0 -1.6
EDI Edinburgh 145.58 5 *e*P PKPdf 06 18 19.6 -1.2
EDI Edinburgh 145.58 5 *e*P PKPdf 06 18 19.6 -1.2
ESY Stoneypath 145.63 5 *e*P PKPdf 06 18 18.9 -2.0
ESY Stoneypath 145.63 5 *e*P PKPdf 06 18 18.9 -2.0
EAU Auchinoon 145.63 6 *e*P PKPdf 06 18 20.0 -0.9
EAU Auchinoon 145.63 6 *e*P PKPdf 06 18 20.0 -0.9
GZT Gaziantep 145.72 305 *i* P PKPdf 06 18 21.9 +0.8
EBL Broad Law 145.74 5 *e*P PKPdf 06 18 20.0 -1.1
EBL Broad Law 145.74 5 *e*P PKPdf 06 18 20.0 -1.1
RGN Rugen 146.13 348 *e*PKP PKPdf 06 18 24.5 +2.8
BOYT Boyabat 146.17 313 *i* P PKPdf 06 18 23.2 +1.4
ESK Eskdalemuir 146.18 6 *e*P PKPdf 06 18 19.6 -2.3
ESK Eskdalemuir 146.18 6 *e*P PKPdf 06 18 19.6 -2.3
ESK Eskdalemuir 146.18 6 *e*PKPdf PKPdf 06 18 21.1 -0.8
BWH Wardlaw 146.28 6 *e*P PKPdf 06 18 21.7 -0.3
BWH Wardlaw 146.28 6 *e*P PKPdf 06 18 21.7 -0.3
BHH Howats Hill 146.40 6 *e*P PKPdf 06 18 21.6 -0.6
BHH Howats Hill 146.40 6 *e*P PKPdf 06 18 21.6 -0.6
GKP Gorka Klasztor 146.44 344 *e*PKP PKPdf 06 18 23.1 +0.9
BNN Bunyan 146.52 308 *e*P PKPbc 06 18 24.7 +0.2
CTKT Corum 146.59 312 *i* P PKPdf 06 18 23.0 +0.5
BBO1 Bothel 146.75 6 *e*P PKPdf 06 18 22.5 -0.2
BBO1 Bothel 146.75 6 *e*P PKPdf 06 18 22.5 -0.2
CORM Corum 146.88 311 *e*P PKPbc 06 18 25.1 -0.4
XDE Dent Fell 146.95 6 *e*P PKPdf 06 18 22.9 -0.2
XDE Dent Fell 146.95 6 *e*P PKPdf 06 18 22.9 -0.2
COBT Iskenderun 146.97 304 *i* P PKPbc 06 18 25.5 -0.3
KOZT Kozan 147.00 306 *e*P PKPbc 06 18 25.1 -0.8
LVV L'vov 147.05 334 *e*PKP2 PKPbc 06 18 24.5 -1.5
GIM North Isle of 147.06 7 *e*P PKPdf 06 18 24.0 +0.8
GIM North Isle of 147.06 7 *e*P PKPdf 06 18 24.0 +0.8
WIM Isle of Man 147.18 7 *e*P PKPdf 06 18 21.1 -2.4
WIM Isle of Man 147.18 7 *e*P PKPdf 06 18 21.1 -2.4
HTY Hatay 147.18 303 *e*P PKPbc 06 18 27.4 +1.1
CEYT Ceyhan 147.21 305 *e*P PKPbc 06 18 26.0 -0.4
BSEG Bad Segeberg 147.22 351 *e*PKP PKPbc 06 18 27.1 +0.7
HLG Helgoland 147.27 354 *e*PKP PKPbc 06 18 27.4 +0.9
CDAG Cicekdag 147.29 310 *i* P PKPdf 06 18 23.5 -0.2
CANT Cankiri 147.40 313 *e*P PKPdf 06 18 26.6 +2.7
DCN Croghan 147.58 11 *e*P PKPdf 06 18 21.9 -2.2
ELDT Eldivan 147.58 312 *i* P PKPdf 06 18 26.3 +2.2
KARA Karaisali 147.65 306 *e*P PKPdf 06 18 26.6 +2.4
KWP Kalwaria 147.73 335 *e*PKP PKPdf 06 18 27.1 +2.7
DLF Lyons Farm 147.75 10 *e*P PKPdf 06 18 22.5 -1.9
SAFT Safranbolu 147.75 314 *e*P PKPdf 06 18 27.0 +2.6
BR131 Keskin Array S 147.76 311 *e*PKPbc PKPbc 06 18 26.4 -1.4
BRTR Keskin Array B 147.76 311 PKP PKPdf 06 18 21.4 -3.0
comp=Z,1.4nm,0.8s,baz=316,slow=4.0,SNR=4.2
BRTR PKPbc PKPbc 06 18 26.7 -1.1
comp=Z,13nm,0.6s,baz=143,slow=4.1,SNR=50
BRTR pPKPbc pPKPbc 06 19 57.0 +0.5
comp=Z,3.5nm,0.9s,baz=105,slow=4.2,SNR=2.6
BRTR Keskin Array B 147.76 311 PKHKP 06 18 21.5
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR pmax pmax
comp=Z,13nm,0.6s
BRTR pmax pmax
comp=Z,4.0nm,0.9s
DSB Dublin 147.82 10 *e*PKPbc PKPbc 06 18 26.0 -2.0
KAMT Kaman 147.86 310 *e*P PKPdf 06 18 27.2 +2.6
WCB1 Church Bay 147.95 8 *e*P PKPdf 06 18 19.8 -5.0
WCB1 Church Bay 147.95 8 *e*P PKPdf 06 18 19.8 -5.0
WME Myndd Eilian 147.96 7 *e*P PKPdf 06 18 24.5 -0.2
WME Myndd Eilian 147.96 7 *e*P PKPdf 06 18 24.5 -0.2
RUE Ruedersdorf 147.99 347 *e*PKPbc PKPbc 06 18 27.1 -1.3
RUE *e*PKPab PKPab 06 18 31.8 -0.5
RUE Ruedersdorf 147.99 347 *e*PKPbc PKPbc 06 18 26.7 -1.7
LHO Holmfirth 148.05 5 *e*P PKPdf 06 18 25.4 +0.4
LHO Holmfirth 148.05 5 *e*P PKPdf 06 18 25.4 +0.4
WLF1 Llynfaes 148.05 7 *e*P PKPdf 06 18 24.7 -0.2
WLF1 Llynfaes 148.05 7 *e*P PKPdf 06 18 24.7 -0.2

YRC	Rhoscolyn	148.07	8	*e*P		PKPdf	06 18 23.2	-1.7
YRC	Rhoscolyn	148.07	8	*e*P		PKPdf	06 18 23.2	-1.7
BURAR	Bucovina Array	148.18	330	⇓*i*P		PKPbc	06 18 29.2	+0.3
BURAR	Bucovina Array	148.18	330	⇓P		PKPbc	06 18 29.2	+0.3
MERS	Mersin	148.19	306	*e*P		PKPdf	06 18 27.4	+2.3
ANTO	Ankara	148.29	312	*e*P		PKPdf	06 18 25.0	-0.3
ANTO	Ankara	148.29	312	⇑*i*P		PKPbc	06 18 28.7	-0.5
ANTO	Ankara	148.29	312	P		PKPbc	06 18 29.2	0.0
LOD	Lodumlu	148.30	312	*e*P		PKPbc	06 18 28.8	-0.5
OJC	Ojcow	148.33	338	*e*PKP		PKPdf	06 18 26.5	+1.1
YRE	Yr Eifl	148.35	8	*e*P		PKPdf	06 18 24.5	-0.9
YRE	Yr Eifl	148.35	8	*e*P		PKPdf	06 18 24.5	-0.9
KOLS	Kolonicke sedl	148.46	334	*e*PKP		PKPdf	06 18 24.9	-0.7
KOLS				*e*			06 18 27.6	
KOLS				*e*			06 18 31.2	
KOLS				*e*			06 20 00.9	
KOLS	Kolonicke sedl	148.46	334	*e*PKIKP		PKPdf	06 18 24.9	-0.7
KOLS				*e*			06 18 31.2	
SGKT	Sivrigoynuk	148.48	313	*i* P		PKPbc	06 18 28.5	-1.2
SBD1	Bryn Du	148.56	6	*e*P		PKPdf	06 18 23.2	-2.5
SBD1	Bryn Du	148.56	6	*e*P		PKPdf	06 18 23.2	-2.5
TIRR	Tirgusor	148.65	323	⇓*i*P		PKPbc	06 18 30.1	0.0
TIRR	Tirgusor	148.65	323	P		PKPbc	06 18 29.6	-0.5
NRDL	Niedersach Rie	148.65	351	*e*PKPdf		PKPdf	06 18 25.0	-0.9
NRDL				*e*PKPbc		PKPbc	06 18 28.7	-1.4
NRDL				*e*PKPab		PKPab	06 18 34.5	-0.5
VRI	Vrincioaia	148.66	326	⇑*i*P		PKPbc	06 18 29.1	-1.0
VRI	Vrincioaia	148.66	326	P		PKPbc	06 18 29.6	-0.5
PLOR	Plostina	148.71	326	⇑*i*P		PKPbc	06 18 29.6	-0.6
HARR	Harsova	148.77	323	⇑*i*P		PKPbc	06 18 29.7	-0.7
HARR	Harsova	148.77	323	⇑P		PKPbc	06 18 29.7	-0.7
CRVS	Cervenica-Dubn	148.81	335	*e*PKP		PKPdf	06 18 24.8	-1.3
CRVS				*e*			06 18 29.6	
CRVS				*e*			06 18 34.3	
CRVS				*e*			06 19 59.9	
CRVS	Cervenica-Dubn	148.81	335	*e*PKIKP		PKPdf	06 18 24.8	-1.3
CRVS				*e*			06 18 34.3	
NIE	Niedzica	148.82	337	*e*PKP		PKPbc	06 18 29.9	-0.6
KSP	Ksiaz	148.88	343	*e*PKP		PKPbc	06 18 29.4	-1.3
KSP	Ksiaz	148.88	343	*e*PKP		PKPbc	06 18 29.6	-1.1
KSP				*e*			06 18 34.3	
KSP				*ep*PKP		pPKPdf	06 20 00.4	+4.3
ROSA	Rosais	148.89	50	*e*S			06 18 04.3	
HLM1	Long Mynd	148.98	6	*e*P		PKPdf	06 18 23.9	-2.5
HLM1	Long Mynd	148.98	6	*e*P		PKPdf	06 18 23.9	-2.5
IKL	Isikli	149.03	305	*e*P		PKPbc	06 18 29.6	-1.4
HENT	Hendek	149.13	315	*i* P		PKPbc	06 18 29.6	-1.6
IBBN	Ibbenburen	149.14	353	*e*PKPbc		PKPbc	06 18 29.8	-1.5
IBBN				*e*PKPab		PKPab	06 18 36.6	-0.4
OKC	Ostrava-Krasne	149.21	340	*e*PKPbc		PKPbc	06 18 30.2	-1.3
OKC				*e*PKPab		PKPab	06 18 36.6	-0.7
OKC				*ep*PKP		pPKPdf	06 20 08.4	+12
OKC	Ostrava-Krasne	149.21	340	*e*PKHKP		PKPbc	06 18 30.2	-1.3
OKC				*e*			06 18 36.6	
CLZ	Clausthal	149.24	350	*e*PKPdf		PKPdf	06 18 26.1	-0.7
CLZ				*e*PKPbc		PKPbc	06 18 29.7	-1.9
CLZ				*e*PKPab		PKPab	06 18 37.4	0.0
CLZ	Clausthal	149.24	350	*e*PKP2		PKPab	06 18 37.4	0.0
PSN	Preselentsi	149.25	322	*e*P		PKPbc	06 18 33.0	+1.4
PSN	Preselentsi	149.25	322	*e*P		PKPbc	06 18 33.0	+1.4
UPC	Upice	149.26	343	*e*PKPbc		PKPbc	06 18 30.4	-1.2
UPC				*e*PKPab		PKPab	06 18 37.0	-0.5
UPC				*ep*PKP		pPKPdf	06 20 06.8	+10
UPC	Upice	149.26	343	*e*PKHKP		PKPbc	06 18 30.4	-1.2
UPC				*e*			06 18 37.0	
CLL	Collm	149.26	347	*e*PKPdf		PKPdf	06 18 25.9	-1.0
CLL				*e*PKPbc		PKPbc	06 18 30.1	-1.5
CLL				*e*PKPab		PKPab	06 18 36.9	-0.6
CLL	Collm	149.26	347	*e*PKIKP		PKPdf	06 18 26.0	-0.9
CLL				*i* PKP1		PKPbc	06 18 30.3	-1.3
CLL				*i*			06 18 32.4	
CLL				*i* PKP2		PKPab	06 18 36.6	-0.9
CLL				*e*			06 20 06.0	
CLL	Collm	149.26	347	*e*(PKPdf)		PKPdf	06 18 26.0	-0.9
CLL				⇓*i*PKPbc		PKPbc	06 18 30.3	-1.3
	comp=Z,67nm,1.2s							
CLL				*i* PKiKP		PKiKP	06 18 32.4	-0.2
	comp=Z,118nm,1.2s							
CLL				⇑*i*PKPab		PKPab	06 18 36.6	-0.9
	comp=Z,58nm,1.1s							
CLL				*ep*PKiKP			06 20 06.0	
	comp=Z,78nm,1.6s							
CLL	Collm	149.26	347	⇓*i*PKHKP		PKPbc	06 18 30.3	-1.3
CLL				*i*			06 18 36.6	
CLL				pmax	pmax			
	comp=Z,118nm,1.2s							
CLL				pmax	pmax			
	comp=Z,58nm,1.1s							
CLL	Collm	149.26	347	⇓*i*PKP		PKPbc	06 18 30.3	-1.3
CLL				⇑*i*PKP		PKPab	06 18 36.6	-0.9
CLL				*ep*PKP		pPKPdf	06 20 06.0	+9.3
DPC	Dobruska-Polom	149.31	342	*e*PKPbc		PKPbc	06 18 31.0	-0.7
DPC				*ep*PKP		pPKPdf	06 20 05.6	+8.8
MLR	Muntele Rosu	149.31	326	⇑*i*P		PKPdf	06 18 30.6	+3.6
MLR	Muntele Rosu	149.31	326	P		PKPbc	06 18 31.2	-0.6
KDHN	Kadinhani	149.34	310	*i* P		PKPbc	06 18 30.3	-1.5
KIZT	Kizilcal	149.36	311	*e*P		PKPbc	06 18 31.0	-0.8
KONT	Konya--Tatoy	149.40	309	*e*P		PKPbc	06 18 30.7	-1.2
BRG	Berggiesshubel	149.45	345	*e*PKPdf		PKPdf	06 18 25.9	-1.3
BRG				*e*PKPbc		PKPbc	06 18 30.9	-1.2
BRG				*e*PKPab		PKPab	06 18 37.6	-0.7
BRG	Berggiesshubel	149.45	345	*e*PKP		PKPdf	06 18 26.0	-1.2
	comp=Z,24nm,2.0s							
BRG	Berggiesshubel	149.45	345	*i* PKP		PKPbc	06 18 30.9	-1.1
	comp=Z,56nm,1.4s							
BRG	Berggiesshubel	149.45	345	*i* PKP		PKPdf	06 18 37.6	+10
	comp=Z,25nm,1.0s							
BRG				pPKP		pPKPdf	06 20 01.6	+4.6
	comp=Z,35nm,1.5s							
BRG	Berggiesshubel	149.45	345	*e*PKIKP		PKPdf	06 18 26.0	-1.2
BRG				*i*			06 18 37.6	
BRG				pmax	pmax			
	comp=Z,24nm,2.0s							
BRG				pmax	pmax			
	comp=Z,56nm,1.4s							
BRG				pmax	pmax			
	comp=Z,25nm,1.0s							
BRG				pmax	pmax			
	comp=Z,35nm,1.5s							
BRG	Berggiesshubel	149.45	345	*e*PKP		PKPdf	06 18 26.0	-1.2
BRG				*i* PKP		PKPbc	06 18 30.9	-1.1
BRG				*i* PKP		PKPab	06 18 37.6	-0.7
BRG				pPKP		pPKPdf	06 20 01.6	+4.6
MORC	Moravsky Berou	149.45	340	⇓*i*P		PKPbc	06 18 31.2	-0.9
MORC	Moravsky Berou	149.45	340	*e*PKPdf		PKPdf	06 18 26.2	-1.0
MORC				*e*PKPbc		PKPbc	06 18 30.6	-1.5
MORC				*e*PKPab		PKPab	06 18 38.0	-0.3
ERMK	Ermenek	149.48	306	*i* P		PKPbc	06 18 30.8	-1.3
MCH1	Michaelchurch	149.48	6	*e*P		PKPdf	06 18 24.3	-2.9
MCH1	Michaelchurch	149.48	6	*e*P		PKPdf	06 18 24.3	-2.9
EIL	Elat	149.51	292	*e*PKPdf		PKPbc	06 18 31.3	-0.9
FBE	Freiberg	149.54	346	*e*PKPbc		PKPbc	06 18 31.3	-1.0
FBE				*e*PKPab		PKPab	06 18 38.6	-0.1
WTSB	Winterswijk	149.57	354	*e*PKiKP		PKiKP	06 18 30.8	-2.4
	comp=Z,123nm,1.6s							
PVCC	Panska Ves	149.62	344	*e*PKPbc		PKPbc	06 18 31.5	-1.0
PVCC				*ep*PKP		pPKPdf	06 20 06.2	+8.9
SNX	Sinaia	149.63	326	⇑*i*P		PKPbc	06 18 30.8	-1.7
SNX	Sinaia	149.63	326	⇑P		PKPbc	06 18 30.8	-1.7
CSS	Prodhromos	149.71	303	*e*PKPbc		PKPbc	06 18 31.8	-0.9
ESKT	Eskisehir	149.79	313	*i* P		PKPbc	06 18 31.6	-1.2
VOIR		149.81	327	⇑*i*P		PKPbc	06 18 32.5	-0.4
VOIR		149.81	327	⇑P		PKPbc	06 18 32.5	-0.4
HGH	Gray Hill	149.85	6	*e*P		PKPbc	06 18 26.1	-1.8
HGH	Gray Hill	149.85	6	*e*P		PKPbc	06 18 26.1	-1.8
BORA	Eskisehir	149.89	313	*i* P		PKPbc	06 18 31.8	-1.3
HRT	Hereke	149.94	316	*e*P		PKPbc	06 18 33.0	-0.3
MTUR	Matau	149.95	327	PKHKP		PKPbc	06 18 32.8	-0.5
PRD	Provadia	150.00	321	*e*P		PKPbc	06 18 36.5	+3.1
PRD	Provadia	150.00	321	*e*P		PKPbc	06 18 36.5	+3.1
BUG	Bochum--Univer	150.04	354	*e*PKPbc		PKPbc	06 18 32.3	-1.2
BUG				*e*PKPab		PKPab	06 18 40.4	-0.3
BUG				*ep*PKPbc		pPKPbc	06 20 05.4	+2.9
ADVT	Abdulvahap	150.09	315	*e*P		PKPbc	06 18 32.4	-1.2
PRU	Pruhonice	150.12	344	*e*PKPbc		PKPbc	06 18 32.4	-1.3
PRU				*ep*PKP		PKPab	06 18 40.7	-0.4
PRU				*ep*PKP		pPKPdf	06 20 05.8	+7.7
PRU	Pruhonice	150.12	344	*e*PKHKP			06 18 32.4	
PRU				*e*			06 18 40.7	
VYHS	Vyhne	150.12	338	*e*PKP		PKPbc	06 18 32.6	-1.1
VYHS				*e*			06 20 03.2	
VRAC	Vranov	150.16	341	⇓*i*P		PKPbc	06 18 32.8	-1.0
VRAC	Vranov	150.16	341	P		PKPbc	06 18 32.9	-0.8
MOX	Moxa	150.17	348	*e*PKPdf		PKPdf	06 18 27.0	-1.3
MOX				*e*PKPbc		PKPbc	06 18 32.3	-1.5
MOX				*e*PKPab		PKPab	06 18 41.0	-0.3
MOX				*ep*PKPbc		pPKPbc	06 20 05.5	+2.7
MOX	Moxa	150.17	348	*e*PKP		PKPdf	06 18 27.3	-1.0
	comp=Z,105nm,1.6s							
MOX				*e*			06 18 32.2	
MOX				*e*			06 20 03.4	
MOX	Moxa	150.17	348	*e*PKIKP		PKPdf	06 18 27.3	-1.0
MOX				pmax	pmax			
	comp=Z,105nm,1.6s							
PSZ	Piszkesteto	150.21	336	⇓*e*PKP		PKPbc	06 18 32.7	-1.2
PSZ	Piszkesteto	150.21	336	⇓*i*P		PKPbc	06 18 33.1	-0.8
TANN	Tannenbergstha	150.21	347	*e*PKPdf		PKPdf	06 18 26.5	-1.9
TANN				*e*PKPbc		PKPbc	06 18 32.8	-1.1
TANN				*e*PKPab		PKPab	06 18 41.0	-0.5
TANN				*ep*PKPbc		pPKPbc	06 20 05.7	+2.8
WERD	Werda	150.22	347	*e*PKPdf		PKPdf	06 18 27.0	-1.4
WERD				*e*PKPbc		PKPbc	06 18 32.8	-1.1
WERD				*e*PKPab		PKPab	06 18 41.1	-0.4
WERD				*ep*PKPbc		pPKPbc	06 20 05.6	+2.7
YLV	Yalova	150.26	315	*e*P		PKPbc	06 18 32.3	-1.7
UBBA	Unterbreizbach	150.29	350	*e*PKPdf		PKPdf	06 18 27.6	-0.9
UBBA				*e*PKPbc		PKPbc	06 18 32.9	-1.2
UBBA				*e*PKPab		PKPab	06 18 41.3	-0.5
UBBA				*ep*PKPbc		pPKPbc	06 20 05.4	+2.3
GUNZ	Gunzen	150.29	347	*e*PKPdf		PKPdf	06 18 27.1	-1.4
GUNZ				*e*PKPbc		PKPbc	06 18 33.4	-0.7
GUNZ				*e*PKPab		PKPab	06 18 41.6	-0.2
GUNZ				*ep*PKPbc		pPKPbc	06 20 06.1	+3.0
NKC	Novy Kostel	150.39	347	*e*PKPdf		PKPdf	06 18 29.6	+1.0
NKC				*e*PKPab		PKPab	06 18 39.5	-2.7
NKC	Novy Kostel	150.39	347	*e*PKP		PKPdf	06 18 29.6	+1.0
NKC				*e*			06 18 39.5	
GEMT	Gemlik	150.45	315	*e*P		PKPbc	06 18 33.0	-1.4
TREC	Trest	150.50	342	*e*PKPbc		PKPbc	06 18 33.4	-1.1
TREC				*e*PKPab		PKPab	06 18 41.9	-0.7
TREC				*ep*PKP		pPKPdf	06 20 06.2	+7.5
TREC	Trest	150.50	342	*e*PKIKP		PKPbc	06 18 33.4	-1.1
TREC				*e*			06 18 41.9	
SMOL	Smolenice	150.59	339	*e*PKP		PKPbc	06 18 34.8	0.0
ULDT	Uludag	150.64	315	*i* P		PKPbc	06 18 34.0	-0.8
MANZ	Manzenberg	150.69	347	*e*PKPdf		PKPdf	06 18 27.9	-1.2
MANZ				*e*PKPbc		PKPbc	06 18 34.0	-1.0
MANZ				*e*PKPab		PKPab	06 18 42.7	-0.2
MANZ				*ep*PKPbc		pPKPbc	06 20 07.1	+3.0
ISP	Isparta	150.77	310	*e*P		PKPbc	06 18 32.5	-2.7
ISP	Isparta	150.77	310	⇓*i*P		PKPbc	06 18 33.6	-1.6
ISP	Isparta	150.77	310	*e*PKPbc		PKPbc	06 18 33.5	-1.7
SZH	Strazhica	150.79	323	*e*P		PKPbc	06 18 36.5	+1.3
SZH	Strazhica	150.79	323	*e*P		PKPbc	06 18 36.5	+1.3
BEBN	Eben Emael	150.82	355	PKP		PKPdf	06 18 28.0	-1.3
BEBN				PKPbc		PKPbc	06 18 34.1	-1.2
BEBN				PKPab		PKPab	06 18 42.1	-1.9
TKTP	Tekketepe	150.82	310	*i* P		PKPbc	06 18 33.9	-1.4
HGN	Heimansgroeve	150.84	355	*e*PKiKP		PKiKP	06 18 34.0	-1.9
	comp=Z,42nm,1.4s							
ROTZ	Rotzenmuhle	150.88	347	*e*PKPdf		PKPdf	06 18 28.6	-0.8
ROTZ				*e*PKPbc		PKPbc	06 18 34.5	-0.9
ROTZ				*e*PKPab		PKPab	06 18 44.2	0.0
ROTZ				*ep*PKPbc		pPKPbc	06 20 07.5	+3.0
UCC	Uccle	150.90	357	PKPbc		PKPbc	06 18 34.1	-1.4
UCC				PKPab		PKPab	06 18 41.2	-3.1
BUD	Budapest	150.90	336	*e*PKP		PKPbc	06 18 36.6	+1.1
JMB	Yambol	150.92	321	*e*P		PKPbc	06 18 35.0	-0.5
JMB	Yambol	150.92	321	*e*P		PKPbc	06 18 35.0	-0.5
GDZ	Gediz	150.93	313	*i* P		PKPbc	06 18 34.2	-1.3
GZR	Gura Zlata	150.96	329	⇓*i*P		PKPbc	06 18 33.9	-1.7
GZR	Gura Zlata	150.96	329	⇓P		PKPbc	06 18 33.9	-1.7
MEM	Membach	150.98	355	PKPbc		PKPbc	06 18 34.4	-1.3
TNS	Taunus Mts	151.10	352	*e*PKPbc		PKPbc	06 18 34.6	-1.3
TNS				*e*PKPab		PKPab	06 18 44.6	-0.6
TNS				*ep*PKPbc		pPKPbc	06 20 08.1	+3.0
GRA1	Grafenberg Arr	151.16	348	*e*PKPbc		PKPbc	06 18 35.1	-1.0
GRA1				*e*PKPab		PKPab	06 18 44.7	-0.7
GRA1				*ep*PKPbc		pPKPbc	06 20 08.4	+3.2
GRF	Grafenberg Arr	151.16	348	*e*PKPbc		PKPbc	06 18 35.1	-1.0
GRF				*e*PKPab		PKPab	06 18 44.7	-0.7
GRF				*ep*PKPbc		pPKPbc	06 20 08.4	+3.2
GRF	Grafenberg Arr	151.16	348	*e*PKIKP		PKPbc	06 18 35.1	-1.0
GRF				*e*			06 18 44.7	
PVL	Pavlikeni	151.16	323	*e*P		PKPbc	06 18 36.0	-0.1
PVL	Pavlikeni	151.16	323	*e*P		PKPbc	06 18 36.0	-0.1
KHC	Kasperske Hory	151.16	344	*e*PKPdf		PKPdf	06 18 28.6	-1.2
KHC				*e*PKPbc		PKPbc	06 18 35.0	-1.1
KHC				*e*PKPab		PKPab	06 18 43.7	-1.7
KHC				*ep*PKP		pPKPdf	06 20 08.5	+8.8
KHC	Kasperske Hory	151.16	344	*e*PKIKP		PKPdf	06 18 28.6	-1.2
KHC				*e*			06 18 43.7	
EDRB	Edirne	151.20	320	*e*P		PKPbc	06 18 34.6	-1.5
BCLA	Clavier	151.22	356	PKPbc		PKPbc	06 18 34.9	-1.3
BCLA				PKPab		PKPab	06 18 45.0	-0.7
WET	Wettzell	151.31	345	*e*PKPdf		PKPdf	06 18 28.9	-1.2
WET				*e*PKPbc		PKPbc	06 18 35.5	-0.9
WET				*e*PKPab		PKPab	06 18 46.3	+0.2
WET				*ep*PKPbc		pPKPbc	06 20 08.5	+2.9
BZS	Buzias	151.32	331	⇓*i*P		PKPbc	06 18 35.1	-1.4
BZS	Buzias	151.32	331	P		PKPbc	06 18 35.2	-1.3
GEC2	GERESS Array S	151.39	344	*e*PKPdf		PKPdf	06 18 28.8	-1.4
GEC2				*e*PKPbc		PKPbc	06 18 29.8	-0.4
GEC2				*e*PKPbc		PKPbc	06 18 35.4	-1.2
GEC2				*e*PKPab		PKPab	06 18 46.4	0.0
GEC2				*ep*PKPbc		pPKPbc	06 20 08.8	+3.1
GERES	GERESS Array B	151.39	344	PKP		PKPdf	06 18 27.5	-2.7
	comp=Z,0.6nm,0.6s,baz=318,slow=1.3,SNR=4.8							
GERES				PKPbc		PKPbc	06 18 34.9	-1.7
	comp=Z,6.9nm,0.7s,baz=27,slow=1.5,SNR=8.4							
GERES				pPKPbc		pPKPbc	06 20 05.0	-0.7
	comp=Z,4.6nm,0.9s,baz=85,slow=1.6,SNR=3.6							
GERES	GERESS Array B	151.39	344	PKIKP		PKPdf	06 18 27.5	-2.7
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GERES				pmax	pmax			
	comp=Z,7.0nm,0.7s							
GERES				pmax	pmax			
	comp=Z,5.0nm,0.9s							
ABH	Alteburg	151.55	353	PKP		PKPbc	06 18 35.9	-1.1
DOU	Dourbes	151.59	357	PKPbc		PKPbc	06 18 35.9	-1.1
DOU				PKPab		PKPab	06 18 46.6	-0.6
CONA	Conrad Observa	151.61	340	⇑*i*PKPdf		PKPdf	06 18 25.9	-4.6
	comp=Z,7.0nm,1.3s							
CONA				⇓*i*PKPbc		PKPbc	06 18 34.3	-2.8
	comp=Z,67nm,1.4s							
TOD	Tromm	151.65	351	PKIKP		PKPdf	06 18 35.9	+5.3
ELL	Elmali	151.67	308	*e*P		PKPbc	06 18 36.7	-0.5
WLF	Walferdange	151.91	355	*e*PKPdf		PKPdf	06 18 30.7	-0.2
WLF				*e*PKPbc		PKPbc	06 18 37.2	-0.6
WLF				*e*PKPab		PKPab	06 18 48.4	-0.1
WLF	Walferdange	151.91	355	PKPbc		PKPbc	06 18 37.5	-0.3
WLF				PKPab		PKPab	06 18 47.6	-1.0
WLF	Walferdange	151.91	355	*e*PKPbc		PKPbc	06 18 37.5	-0.2
PKSM	Moragy	152.11	335	⇑*i*P		PKPbc	06 18 36.7	-1.5
PKSM	Moragy	152.11	335	⇓*i*P		PKPbc	06 18 36.7	-1.5
AKS	Akhisar	152.16	314	*e*P		PKPbc	06 18 39.0	+0.6
FETY	Fethiye	152.32	308	*e*P		PKPbc	06 18 37.4	-1.3
LANF	Langenberg	152.40	352	PKP		PKPdf	06 18 31.4	-0.3
STU	Stuttgart	152.40	350	*e*PKPdf		PKPdf	06 18 31.1	-0.6
STU				*e*PKPbc		PKPbc	06 18 37.8	-1.1
STU				*e*PKPab		PKPab	06 18 49.5	-1.1
FUR	Furstenfeldbru	152.60	347	*e*PKPbc		PKPbc	06 18 38.4	-0.9
FUR				*e*PKPab		PKPab	06 18 51.5	0.0
VTS	Vitosha	152.74	325	*e*P		PKPbc	06 18 38.0	-1.6
VTS	Vitosha	152.74	325	*e*P		PKPbc	06 18 38.0	-1.6
VTS	Vitosha	152.74	325	⇓*i*P		PKPbc	06 18 38.6	-1.0
KDAG	Bornova	152.77	313	*i* P		PKPbc	06 18 39.8	+0.1
IZM	Izmir	152.78	313	*e*P		PKPbc	06 18 37.7	-2.0
BFO	Black Forest	152.97	351	*e*PKPbc		PKPbc	06 18 38.9	-1.2
BFO				*e*PKPab		PKPab	06 18 52.4	-0.6
BFO				*ep*PKPbc		pPKPbc	06 20 12.6	+3.2
BFO	Black Forest	152.97	351	*e*PKPbc		PKPbc	06 18 38.6	-1.5
BFO				*e*PKPab		PKPab	06 18 51.9	-1.2
CDF	Champ du Feu	153.03	353	*e*PKIKP		PKPdf	06 18 31.3	-1.3
LDF	La Druitiere	153.09	3	*e*PKIKP		PKPdf	06 18 31.4	-1.3
	comp=Z,36nm,1.1s							
KBA	Koelnbreinsper	153.11	343	⇑*i*		PKPbc	06 18 39.0	-1.5
	comp=Z,18nm,0.9s							
KBA	Koelnbreinsper	153.11	343	⇑*i*PKPdf		PKPdf	06 18 30.9	-1.8
	comp=Z,8.3nm,1.3s							
KBA				⇑*i*PKPbc		PKPbc	06 18 39.0	-1.5
MMB	Musomiste	153.12	322	*e*P		PKPbc	06 18 38.0	-2.4
MMB	Musomiste	153.12	322	*e*P		PKPbc	06 18 38.0	-2.4
ECH	Echery	153.24	353	PKP		PKPbc	06 18 40.8	+0.1
GRR	Gorron	153.25	5	*e*PKIKP		PKPdf	06 18 31.8	-1.1
WTTA	Wattenberg	153.37	346	⇑*i*		PKPbc	06 18 40.1	-0.9
	comp=Z,30nm,0.9s							
WTTA				⇑*i*			06 18 54.8	
	comp=Z,49nm,1.2s							
WTTA	Wattenberg	153.37	346	⇑*i*PKPdf		PKPdf	06 18 32.2	-0.9
	comp=Z,14nm,1.5s							
WTTA				⇑*i*PKPbc		PKPbc	06 18 40.1	-0.9
	comp=Z,30nm,0.9s							
WTTA				⇑*i*PKPab		PKPab	06 18 54.8	+0.1
	comp=Z,49nm,1.2s							
FELD	Feldberg im Sc	153.46	351	PKP		PKPdf	06 18 32.3	-0.9
MOF	Molkenrain	153.60	353	PKP		PKPdf	06 18 32.6	-0.8
LJU	Ljubljana	153.70	340	*e*PKPdf		PKPdf	06 18 32.7	-0.8
LJU				*e*PKPbc		PKPbc	06 18 40.8	-0.9
LJU				*ep*PKPbc		pPKPbc	06 20 12.5	+1.5
VOY	Vojsko	153.91	341	*e*PKPdf		PKPdf	06 18 31.7	-2.1
VOY				*e*PKPbc		PKPbc	06 18 40.5	-1.6
VOY				*e*PKPab		PKPab	06 18 54.3	-2.7
BBS	Basel-Blauen	153.93	352	PKIKP		PKPdf	06 18 33.1	-0.8
BOJS	Bojanci	153.95	339	*e*PKPdf		PKPdf	06 18 31.9	-2.0
BOJS				*e*PKPbc		PKPbc	06 18 41.1	-1.1
BOJS				*e*PKPab		PKPab	06 18 56.7	-0.5
BOJS				*ep*PKPbc		pPKPbc	06 20 14.0	+2.5
VAY	Valandovo	153.95	323	*i* PKP		PKPbc	06 18 41.8	-0.4
VAY				*i*			06 18 56.1	
CEY	Cerknica	154.01	340	*e*PKPbc		PKPbc	06 18 40.8	-1.5
SKO	Skopje	154.11	326	*i* PKP		PKPbc	06 18 42.0	-0.5
SKO				*i*			06 18 57.9	
LOR	Lormes	154.45	357	*e*PKIKP		PKPdf	06 18 33.1	-1.5
	comp=Z,7.8nm,0.6s							
SSF	Saint Saulge	154.67	358	*e*PKIKP		PKPdf	06 18 33.5	-1.4
BIA	Bitola	154.84	324	*i* PKP		PKPbc	06 18 43.2	-0.9
BIA				*i*			06 19 00.6	
CABF	La Chapelle	154.94	354	*e*PKIKP		PKPdf	06 18 33.8	-1.5
AVF	Avril sur Loir	154.94

mb1mx3.2/11,**mbtmp3.0**/3,**ML2.9**/3,**Error ellipse: s-maj=109.5km s-min=17.0km az=46.0,South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.01**	**129**	Pn	Pn	06 18 51.3	-0.1
	0.5nm,0.3s,baz=320,slow=15,SNR=13						
STKA				Lg		06 19 38.0	
	5.3nm,0.3s,baz=264,slow=13,SNR=7.2						
ASAR	**Alice Springs**	**7.70**	**324**	Pn	Pn	06 19 56.5	+0.6
	0.2nm,0.3s,baz=148,slow=11,SNR=7.3						
ASAR				Sn	Sn	06 21 22.9	-0.9
	0.1nm,0.3s,baz=148,slow=21,SNR=3.3						
WRA	**Warramunga Arr**	**10.82**	**337**	Pn	Pn	06 20 39.2	+0.6
	0.2nm,0.3s,baz=160,slow=12,SNR=5.9						

NEIC ***19*** *06:22:14.0, 1582N×9831W, h22km, MD4.0(MEX), After MEX.*

MEX 19 06:22:13.6±0.7, 1578N×9831W, h18km±44km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**1.88**	**305**	*eP*	Pn	06 22 41.5	-3.4
ACX				*i* S	Sn	06 23 02.0	-6.2
VHO	**Vista Hermosa**	**1.99**	**49**	*eP*	Pn	06 22 42.2	-4.2
VHO				*i* S	Sn	06 23 06.9	-4.0
OXX	**Oaxaca**	**2.00**	**49**	*eP*	Pn	06 22 43.0	-3.6
OXX				*i* S	Sn	06 23 07.0	-4.2
OXX	**Oaxaca**	**2.00**	**49**	*eP*	Pn	06 22 43.0	-3.6
OXX				*i* S	Sn	06 23 12.0	+0.8
UTMO	**Huajuapan**	**2.10**	**13**	*i P*	Pn	06 22 45.1	-2.8
UTMO				*i* S	Sn	06 23 09.2	-4.4
CAIG	**El Cayaco**	**2.26**	**304**	*i P*	Pn	06 22 49.7	-0.5
CAIG				*i* S	Sn	06 23 14.9	-2.7
CAIG	**El Cayaco**	**2.26**	**304**	*i P*	Pn	06 22 49.7	-0.5
CAIG				*i* S	Sn	06 23 20.4	+2.9
MEIG	**Mezcala**	**2.48**	**330**	*i P*	Pn	06 22 50.8	-2.3
MEIG				*i* S	Sn	06 23 18.5	-4.3
TPIG	**Tehuac#an**	**2.78**	**19**	*eP*	Pn	06 22 53.5	-3.8
TPIG				*i* S	Sn	06 23 28.8	-1.6
PLIG	**Platanillo**	**2.84**	**337**	*i P*	Pn	06 22 53.9	-4.2
PLIG				*i* S	Sn	06 23 27.6	-4.2
YAIG	**Yautepec**	**3.15**	**347**	*i P*	Pn	06 23 00.2	-2.1
YAIG				*i* S	Sn	06 23 35.3	-4.2
YAIG	**Yautepec**	**3.15**	**347**	*i P*	Pn	06 23 04.4	+2.1
YAIG				*i* S	Sn	06 23 35.3	-4.2
PPM	**Popocatepetl**	**3.29**	**355**	*i P*	Pn	06 23 06.1	+1.9
PPM				*eP*		06 23 08.0	
PPM				*i* S	Sn	06 23 41.0	-1.9
PPM	**Popocatepetl**	**3.29**	**355**	*i P*	Pn	06 23 09.4	+5.2
PPM				*i* S	Sn	06 23 41.0	-1.9
CMIG	**Matias Romero**	**3.54**	**68**	*eP*	Pn	06 23 05.2	-2.5
CMIG				*i* S	Sn	06 23 46.0	-3.2
CMIG	**Matias Romero**	**3.54**	**68**	*eP*	Pn	06 23 05.2	-2.5
CMIG				*i* S	Sn	06 23 48.9	-0.2

IDC 19 06:32:08.3±3.5, 961S×10792E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, ML3.1/1, Error ellipse: s-maj=139.9km s-min=22.4km az=50.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.15**	**118**	P	Pn	06 36 35.1	+1.2
	0.0nm,0.3s,baz=270,slow=19,SNR=3.8						
WRA	**Warramunga Arr**	**27.50**	**115**	P	P	06 37 56.5	+0.2
	0.6nm,0.6s,baz=286,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**28.48**	**123**	P	P	06 38 04.7	-0.4
	0.3nm,0.8s,baz=311,slow=8.5,SNR=2.8						
SONM	**Songino Array**	**57.20**	**359**	P	P	06 41 57.5	+0.4
	0.3nm,0.4s,baz=176,slow=10.0,SNR=2.9						
MKAR	**Makanchi Array**	**60.63**	**340**	P	P	06 42 20.8	-0.2
	0.8nm,0.7s,baz=155,slow=8.5,SNR=4.5						

ISCJB ***19*** *06:35:44.0±1.4, 4129N±007×7559E±007, h10km, Error ellipse: s-maj=10.4km s-min=6.7km az=145.1*
KNET ***19*** *06:35:44.3±0.7, 4140N×7551E, h8km±3km, ml2.9, Error ellipse: s-maj=4.1km s-min=3.4km az=163.0*
NNC ***19*** *06:35:49.6±3.1, 4155N×7568E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=24.4km s-min=15.8km az=133.0*

ISC 19 06:35:44.7±1.4, 4133N±007×7558E±007, h10km, n15, σ1§23/24, 14C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.79**	**342**	P	**Pg**	**06 35 58.4**	**-1.5**
	61nm,0.2s,SNR=152						
KZA				⇑S	**Sg**	**06 36 09.6**	**-0.7**
	413nm,0.2s						
ULHL	**Ulahol**	**1.04**	**28**	⇑P	**Pg**	**06 36 03.2**	**-1.5**
	24nm,0.1s,SNR=28						
ULHL				⇓S	**Sg**	**06 36 17.9**	**-0.3**
	109nm,0.1s						
UCH	**Uchtor**	**1.21**	**319**	⇓P	**Pb**	**06 36 05.4**	**-2.2**
	40nm,0.2s,SNR=84						
UCH				⇑S	**Sb**	**06 36 22.1**	**-1.1**
	185nm,0.2s						
KBK	**Karagaybulak**	**1.41**	**341**	⇓P	**Pn**	**06 36 09.8**	**-0.6**
	45nm,0.1s,SNR=45						
KBK				⇑S	**Sn**	**06 36 29.2**	**+0.1**
	456nm,0.2s						
AAK	**Ala-Archa**	**1.54**	**329**	⇓P	**Pn**	**06 36 11.6**	**-0.5**
	40nm,0.2s,SNR=41						
TKM2	**Tokmak 2**	**1.59**	**0**	⇑P	**Pn**	**06 36 13.2**	**+0.2**
	46nm,0.2s,SNR=44						
TKM2				⇑S	**Sn**	**06 36 35.0**	**+1.4**
	182nm,0.1s						
TKM2	**Tokmak 2**	**1.59**	**0**	⇓P	**Pn**	**06 36 13.2**	**+0.3**
	2.0nm,0.5s						
TKM2				⇑S	**Sn**	**06 36 34.5**	**+0.9**
	3.1nm,0.3s						
AML	**Almayashu**	**1.63**	**300**	⇑P	**Pn**	**06 36 12.5**	**-0.8**
	23nm,0.1s,SNR=68						
AML				⇓S	**Sn**	**06 36 34.2**	**-0.2**
	191nm,0.6s						
CHMS	**Chumysh**	**1.78**	**340**	⇓P	**Pn**	**06 36 16.2**	**+0.6**
	16nm,0.1s,SNR=21						
CHMS				⇑S	**Sn**	**06 36 39.9**	**+1.7**
	139nm,0.2s						
EKS2	**Erkin-Say**	**1.90**	**315**	⇓P	**Pn**	**06 36 17.7**	**+0.7**
	44nm,0.5s,SNR=26						
USP	**Ospenovka**	**2.10**	**338**	⇓P	**Pn**	**06 36 21.8**	**+1.9**
	44nm,0.3s,SNR=41						
USP				⇑S	**Sn**	**06 36 50.0**	**+4.0**
	212nm,0.3s						
KNDC	**Almaty**	**2.15**	**28**	⇑Pn	**Pn**	**06 36 23.7**	**+3.1**
	41nm,0.5s						
KNDC				⇓Lg		06 36 53.6	
	289nm,0.6s						
KK31	**Karatay Array**	**4.17**	**297**	⇑Pn	**Pb**	**06 36 57.4**	**-0.6**
	1.7nm,0.4s,baz=104,slow=16,SNR=28						
KK31				⇑Sn	**Sb**	**06 37 50.3**	**+1.9**
	4.1nm,0.4s,baz=109,slow=27,SNR=7.9						
MK09	**Makanchi Array**	**7.27**	**39**	⇓Pn	**Pn**	**06 37 39.7**	**+8.7**
	1.0nm,0.8s						
MK09				⇑Lg		06 39 31.0	
	1.4nm,0.6s						
KURK	**Kurchatov**	**9.62**	**12**	⇓Lg		06 40 44.5	
	7.2nm,1.4s						

BJI ***19*** *07:16:16.2, 1009S×10762E, h48km, mB5.0, mb4.7, Ms4.6, Msz4.4*
ISCJB ***19*** *07:16:17.4±0.4, 979S±007×10743E±008, h33km, mb4.5/21, MS4.4/1, Error ellipse: s-maj=13.5km s-min=7.3km az=107.9*
MOS ***19*** *07:16:17.7±1.0, 977S×10743E, h35km, mb5.1/3, Error ellipse: s-maj=25.3km s-min=15.0km az=126.2*
IDC ***19*** *07:16:19.3±0.5, 978S×10739E, h34km±4km, mb4.0/11, mb1 4.1/12, mb1mx4.0/18, mbtmp4.2/12, ML3.7/1, Error ellipse: s-maj=20.0km s-min=13.6km az=50.0*
NEIC ***19*** *07:16:19.4±0.2, 980S×10739E, mb4.9/8, Error ellipse: s-maj=10.5km s-min=5.2km az=224.0*

ISC 19 07:16:19.8±0.4, 978S±007×10744E±008, h35km, h35km±1.0km:pP-P,n50,σ0§68/43, mb4.5/21, MS4.4/1, 1C-2D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.94**	**3**	P	**Pn**	**07 17 03.1**	**-0.9**
	657nm,1.1s						
BJII	**Banjamegara**	**3.31**	**43**	P	**Pn**	**07 17 13.1**	**+4.0**
	55nm,1.2s						
KSI	**Kapahiang**	**7.76**	**321**	P	**Pn**	**07 18 09.5**	**-0.8**
	86nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.49**	**117**	*eP*	**Pn**	**07 20 44.3**	**-0.8**
	14nm,0.9s						
FITZ				*eS*	**S**	**07 24 07.1**	**-15**
FITZ	**Fitzroy Crossi**	**19.49**	**117**	P	**Pn**	**07 20 44.5**	**-0.6**
	0.2nm,0.3s,baz=335,slow=12,SNR=13						
KAKA	**Kakadu**	**24.68**	**99**	*eP*	**P**	**07 21 38.2**	**+0.8**
	15nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**27.85**	**114**	P	**P**	**07 22 05.9**	**0.0**
	4.4nm,0.9s,mb4.1,baz=285,slow=11,SNR=13						
WB2	**Warramunga Arr**	**27.86**	**114**	*eP*	**P**	**07 22 06.1**	**+0.1**
ASAR	**Alice Springs**	**28.79**	**122**	P	**P**	**07 22 14.6**	**+0.3**
	1.7nm,0.8s,mb3.8,baz=295,slow=9.0,SNR=12						
ASAR				PcP	PcP	07 25 23.5	-0.1
	0.5nm,0.7s,baz=343,slow=1.3,SNR=4.3						
ASAR				pPcP		07 25 34.6	
	0.7nm,0.7s,baz=302,slow=2.0,SNR=5.0						
ASAR	**Alice Springs**	**28.79**	**122**	P	**P**	**07 22 14.6**	**+0.3**
ASAR						07 25 23.5	
GYA	**Guiyang**	**36.03**	**359**	⇑*iP*	**P**	**07 23 17.8**	**+0.2**
GYA				AP	pP	07 23 27.5	-0.3
GYA				XP	sP	07 23 31.4	-0.6
GYA				PP	PP	07 24 38.6	-1.3
GYA				PCP	PcP	07 25 46.4	+2.9
GYA				S	**S**	**07 28 50.8**	**-3.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
GYA				AMB	AMB		
	comp=Z,100nm,4.0s						
GYA				LR	LR		
	comp=N,420nm,14.8s,MS4.5						
GYA				LR	LR		
	comp=E,410nm,14.2s,MS4.5						
GYA				LR	LR		
	comp=Z,430nm,14.6s,MS4.3						
STKA	**Stephens Creek**	**38.49**	**130**	*eP*	**P**	**07 23 38.0**	**-0.5**
	comp=Z,6.7nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**38.49**	**130**	P	**P**	**07 23 38.7**	**+0.2**
	comp=Z,7.9nm,0.9s,mb4.5,baz=320,slow=8.2,SNR=14						
JIRN	**Jiri**	**42.53**	**332**	*eP*	**P**	**07 24 12.5**	**+0.6**
	comp=Z,46nm,0.8s,mb5.3						
PKI	**Pulchoki**	**42.83**	**331**	*eP*	**P**	**07 24 14.3**	**0.0**
	comp=Z,13nm,0.7s,mb4.8						
PKI	**Pulchoki**	**42.83**	**331**	*eP*	**P**	**07 24 14.3**	**0.0**
PKI				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.8						
GUN	**Gumba**	**42.89**	**331**	*eP*	**P**	**07 24 15.6**	**+0.8**
	comp=Z,45nm,0.8s,mb5.3						
DMN	**Daman**	**43.01**	**330**	*eP*	**P**	**07 24 16.0**	**+0.2**
KKN	**Kakani**	**43.08**	**331**	*eP*	**P**	**07 24 16.7**	**+0.4**
	comp=Z,24nm,0.8s,mb5.0						
KKN	**Kakani**	**43.08**	**331**	*eP*	**P**	**07 24 16.7**	**+0.4**
KKN				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.0						
GKN	**Gorkha**	**43.57**	**330**	*eP*	**P**	**07 24 20.3**	**+0.1**
XAN	**Xi'an**	**43.60**	**2**	P	**P**	**07 24 19.3**	**-1.2**
XAN				AP	pP	07 24 30.1	-0.8
KOLN	**Koldanda**	**43.89**	**329**	*eP*	**P**	**07 24 22.9**	**0.0**
	comp=Z,22nm,0.7s,mb5.0						
LZH	**Lanzhou**	**45.75**	**356**	*eP*	**P**	**07 24 38.3**	**+0.7**
LZH				AP	pP	07 24 47.3	-0.7
LZH				XP	sP	07 24 50.5	-1.7
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.9						
GTA	**Gaotai**	**49.45**	**352**	*eP*	**P**	**07 25 08.0**	**+1.6**
GTA				AP	pP	07 25 18.0	+1.2
GTA				XP	sP	07 25 23.3	+2.3
GTA				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.5						
SONM	**Songino Array**	**57.37**	**359**	P	**P**	**07 26 04.1**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=168,slow=7.4,SNR=7.5						
SONM				pP	pP	07 26 15.4	+0.3
	comp=Z,0.8nm,0.5s,baz=172,slow=7.9,SNR=4.6						
MKAR	**Makanchi Array**	**60.64**	**340**	P	**P**	**07 26 26.9**	**-0.2**
	comp=Z,2.1nm,0.6s,mb4.4,baz=142,slow=7.8,SNR=7.8						
MKAR				pP	pP	07 26 37.2	-0.6
	comp=Z,3.5nm,0.6s,baz=139,slow=9.2,SNR=8.6						
KLR	**Kul'dur**	**62.52**	**18**	*eP*	**P**	**07 26 35.1**	**-4.8**
MAW	**Mawson**	**64.85**	**197**	P	**P**	**07 26 55.8**	**+0.6**
	comp=Z,3.0nm,0.8s,mb4.4,baz=40,slow=9.0,SNR=6.4						
MAW				pP	pP	07 27 05.8	-0.2
	comp=Z,2.4nm,0.7s,baz=58,slow=7.6,SNR=3.8						
KMBO	**Kilima Mbogo**	**70.29**	**272**	P	**P**	**07 27 29.5**	**-0.1**
	comp=Z,1.9nm,1.0s,mb4.0,baz=52,slow=7.7,SNR=5.9						
KMBO				pP	pP	07 27 40.2	-0.2
	comp=Z,1.9nm,0.8s,baz=38,slow=24,SNR=3.4						
KMBO	**Kilima Mbogo**	**70.29**	**272**	P	**P**	**07 27 29.5**	**-0.1**
KMBO				pP	pP	07 27 40.2	-0.2
AB31	**Akbulak array**	**72.01**	**329**	*i* P	**P**	**07 27 39.2**	**-0.8**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
SYO	**Syowa Base**	**73.06**	**200**	⇓*eP*	**P**	**07 27 45.8**	**-0.4**
SYO	**Syowa Base**	**73.06**	**200**	⇓*eP*	**P**	**07 27 55.6**	**+9.4**
VNDA	**Vanda**	**73.17**	**169**	P	**P**	**07 27 45.5**	**-1.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=302,slow=10,SNR=3.5						
VNDA				pP	pP	07 27 56.2	-1.6
	comp=Z,1.3nm,0.9s,baz=280,slow=5.1,SNR=5.2						
VNDA	**Vanda**	**73.17**	**169**	P	**P**	**07 27 45.5**	**-1.3**
VNDA				pP	pP	07 27 56.2	-1.6
SVE	**Sverdlovsk**	**76.71**	**336**	*eP*	**P**	**07 28 08.0**	**+0.7**
SVE				*e*	pP	07 28 17.0	-1.3
LSZ	**Lusaka**	**77.20**	**256**	P	**P**	**07 28 10.0**	**0.0**
	comp=Z,2.2nm,0.7s,mb4.2,baz=124,slow=5.8,SNR=4.5						
BOSA	**Boshof**	**78.57**	**243**	pP	pP	07 28 29.1	+0.4
	comp=Z,1.7nm,0.9s,baz=64,slow=13,SNR=1.9						
LBTB	**Lobatse**	**78.59**	**246**	P	**P**	**07 28 17.8**	**0.0**
	comp=Z,2.7nm,0.9s,mb4.2,baz=169,slow=3.8,SNR=4.1						
LBTB	**Lobatse**	**78.59**	**246**	P	**P**	**07 28 17.8**	**0.0**
BRTR	**Keskin Array B**	**84.00**	**312**	P	**P**	**07 28 46.2**	**-0.2**
	comp=Z,0.9nm,0.8s,mb4.0,baz=119,slow=4.4,SNR=5.8						
BRTR				pP	pP	07 28 56.5	-1.0
	comp=Z,0.9nm,0.8s,baz=100,slow=3.6,SNR=4.0						
YKA	**Yellowknife Ar**	**119.30**	**21**	PKP	PKPdf	07 35 04.0	-1.2
	comp=Z,0.6nm,0.8s,baz=300,slow=2.0,SNR=4.6						
YKA				pPKP	pPKPdf	07 35 15.2	-1.5
	comp=Z,0.6nm,0.7s,baz=332,slow=1.9,SNR=6.1						
YKA	**Yellowknife Ar**	**119.30**	**21**	PKP	PKPdf	07 35 04.0	-1.2
YKA				pPKP	pPKPdf	07 35 15.2	-1.5
BDFB	**Brasilia**	**144.94**	**224**	PKP	PKPdf	07 35 54.3	+1.1
	comp=Z,6.1nm,0.8s,baz=199,slow=4.6,SNR=14						
BDFB				pPKP	pPKPdf	07 36 04.2	-0.5
	comp=Z,5.6nm,0.8s,baz=174,slow=0.8,SNR=6.6						
WMOK	**Wichita Mounta**	**145.48**	**40**	*e*PKIKP	PKPdf	07 35 55.0	+0.9
MIAR	**Mount Ida**	**148.73**	**35**	*e*PKPbc	PKPbc	07 36 04.7	+1.3
MIAR				*e*PKPab	PKPab	07 36 09.1	+2.0
WVT	**Waverly**	**150.33**	**26**	*e*PKIKP	PKPbc	07 36 07.9	+0.6
OXF	**Oxford**	**150.95**	**30**	*e*PKIKP	PKPbc	07 36 09.1	+0.4
LPAZ	**La Paz**	**153.73**	**190**	PKPbc	PKPbc	07 36 17.1	+2.1
	comp=Z,0.5nm,0.5s,baz=72,slow=6.0,SNR=4.4						

IDC 19 07:21:56.4±1.7, 987S×10735E, h33km±7km, mb3.5/6, mb1 3.6/7, mb1mx3.5/18, mbtmp3.7/7, ML3.0/1, Error ellipse: s-maj=73.4km s-min=17.5km az=49.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.53**	**117**	P	Pn	07 26 19.5	-2.9
	0.0nm,0.3s,baz=286,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**27.90**	**114**	P	P	07 27 42.7	-0.5
	0.4nm,0.6s,baz=286,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**28.82**	**122**	P	P	07 27 53.0	+1.6
	0.5nm,0.7s,baz=297,slow=8.2,SNR=4.3						
STKA	**Stephens Creek**	**38.51**	**130**	P	P	07 29 16.3	+0.8
	2.0nm,0.9s,baz=308,slow=12,SNR=3.8						
SONM	**Songino Array**	**57.45**	**359**	P	P	07 31 43.1	+1.1
	0.2nm,0.5s,baz=165,slow=7.4,SNR=2.3						
SONM				pP	pP	07 31 52.4	+0.4
	0.5nm,0.5s,baz=177,slow=9.2,SNR=3.6						
MKAR	**Makanchi Array**	**60.69**	**341**	P	P	07 32 03.9	-0.5
	0.7nm,0.6s,baz=145,slow=8.1,SNR=6.9						
MKAR				pP	pP	07 32 14.3	-0.1
	0.8nm,0.6s,baz=142,slow=7.8,SNR=6.7						
BVAR	**Borovoye Array**	**70.13**	**337**	P	P	07 33 04.7	-0.7
	0.5nm,0.6s,baz=144,slow=10.0,SNR=3.6						
BVAR				pP	pP	07 33 15.8	+0.1
	0.6nm,0.6s,baz=158,slow=9.6,SNR=3.4						
BDFB	**Brasilia**	**144.81**	**224**	PKP	PKPdf	07 41 31.0	+1.2
	0.5nm,0.3s,baz=170,slow=4.2,SNR=4.3						

BJI ***19*** *07:25:06.3, 950S×10720E, h10km, mB5.7, mb5.6, Ms5.5, Msz5.2*
HRVD ***19*** *07:25:06.4±0.1, 973S×107.19E, h13km, MW5.6/95, Centroid moment Tensor Solution. LP body waves: s77,c143;Mantle waves: s95,c257; Half duration: 1§6 Moment tensor: Scale 10^17Nm; Mrr-0.51±.04; Mθθ2.81±.04; Mϕϕ-2.29±.05; Mrθ0.53±.09; Mϕθ-1.96±.03; Mϕr-0.42±.11; Best double couple: Mo3.27700×10^17 NP1:φs154.00000°,δ88.00000°,λ10.00000°. Principal axes: T 3.5760, Plg9.0000°, Azm19.0000°; N -0.5920, Plg80.0000°, Azm167.0000°; P -2.9770, Plg5.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***19*** *07:25:06.4±0.1, 954S×10724E, h10km, mb5.6/45, MS5.2/107, MW5.7 Error ellipse: s-maj=6.7km s-min=4.2km az=53.0,Moment Tensor Solution. s17 Moment tensor: Scale 10^17Nm; Mrr0.18; Mθθ3.66; Mϕϕ-3.83; Mrθ0.86; Mϕθ-0.49; Mrr0.12; Best double couple: Mo3.90000×10^17 NP1:φs48.00000°,δ83.00000°, λ169.00000°. NP2:φs139.00000°,δ79.00000°,λ7.00000°. Principal axes: T 3.8900, Plg13.0000°, Azm3.0000°; N -0.0100, Plg77.0000°, Azm195.0000°; P -3.8700, Plg2.0000°, Azm94.0000°;*
NEIC Felt [IV] at Tasikmalaya and [III] at Jakarta and Sukabumi. Also felt at Cibinong.
ISCJB ***19*** *07:25:08.7±0.2, 954S±003×10731E±003, h38km, mb5.5/132, MS5.2/153 Error ellipse: s-maj=4.2km s-min=3.7km az=128.2*
MOS ***19*** *07:25:09.0±1.6, 944S×10729E, h33km, mb5.7/51, MS5.0/28, Error ellipse: s-maj=10.0km s-min=5.4km az=116.7*
IDC ***19*** *07:25:10.8±0.4, 958S×10726E, h43km±3km, mb5.0/31, mb1 5.0/32, mb1mx5.0/33, mbtmp5.2/32, ML5.1/1, MS5.1/24, Ms1 5.1/24, ms1mx4.9/32, Error ellipse: s-maj=11.4km s-min=9.4km az=39.0*

ISC 19 07:25:11.0±0.2, 955S±003×10732E±003, h40km, h40km±2.1km:pP-P,n535,σ1§05/344, mb5.5/132, MS5.2/153, 46C-41D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.72**	**6**	P	**Pn**	**07 25 51.1**	**-1.0**
	25μm,0.8s						
BJII	**Banjamegara**	**3.23**	**47**	P	**Pn**	**07 25 59.0**	**-0.1**
	2μm,0.5s						
BJII	**Banjamegara**	**3.23**	**47**	⇓*iP*	**Pn**	**07 26 00.4**	**+1.3**
BJII				*i* S	**Sn**	**07 26 34.0**	**-2.3**
COCO	**West Island**	**10.62**	**255**	Pn	**Pn**	**07 27 35.7**	**-4.9**
	7μm,0.5s,SNR=8.2						
KSM	**Kuching**	**11.34**	**15**	*e*Pn	**Pn**	**07 27 46.7**	**-3.7**
KSM				*e*Sn	Sn	07 30 21.0	+25
WSI	**Waingapu**	**12.80**	**92**	P	**Pn**	**07 28 08.5**	**-1.8**
	2μm,0.7s						
PSI	**Prapat**	**14.84**	**325**	P	**Pn**	**07 28 33.4**	**-4.6**
	1.8nm,0.3s,baz=176,slow=11,SNR=6.1						
PSI	**Prapat**	**14.84**	**325**	P	**Pn**	**07 28 33.4**	**-4.6**
PSI				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PSI	**Prapat**	**14.84**	**325**	P	**Pn**	**07 28 33.4**	**-4.6**
PCI	**Palu**	**15.13**	**56**	P	**Pn**	**07 28 42.6**	**+0.9**
	comp=Z,285nm,1.3s						
IPM	**Ipoh**	**15.28**	**336**	P	**Pn**	**07 28 43.9**	**+0.2**
KULM	**Kulim**	**16.16**	**335**	*e*Pn	**Pn**	**07 28 49.0**	**-6.2**
MBWA	**Marble Bar**	**16.62**	**135**	⇓P	**Pn**	**07 28 56.0**	**-4.8**
	SNR=20						
MBWA	**Marble Bar**	**16.62**	**135**	*e*Pn	**Pn**	**07 28 55.8**	**-5.0**
MBWA				*e*Sn	**Sn**	**07 31 45.3**	**-19**
KKM	**Kota Kinabalu**	**17.84**	**30**	*e*Pn	**Pn**	**07 29 14.6**	**-1.5**
SNG	**Songkhla**	**17.90**	**338**	P	**Pn**	**07 29 11.0**	**-5.8**
	comp=Z,110nm,1.0s						
BSI	**Banda Aceh**	**19.15**	**321**	P	**Pn**	**07 29 30.5**	**-1.4**
	comp=Z,569nm,1.3s						
FITZ	**Fitzroy Crossi**	**19.70**	**118**	*eP*	**Pn**	**07 29 37.2**	**-1.3**
	comp=Z,462nm,1.5s						
FITZ				*eS*	**S**	**07 33 02.7**	**-14**
FITZ	**Fitzroy Crossi**	**19.70**	**118**	P	**Pn**	**07 29 37.3**	**-1.2**
	comp=Z,4.1nm,0.3s,baz=278,slow=7.0,SNR=77						
FITZ				LR	LR	07 36 28.7	
	comp=Z,6μm,19.1s,baz=300,slow=34						
PPR	**Puerto Princes**	**22.30**	**31**	⇓*iP*	**P**	**07 30 02.5**	**-2.3**
NNT	**Nongplab**	**23.24**	**341**	P	**P**	**07 30 14.0**	**-0.8**
PAGZ	**Pagadian**	**23.55**	**43**	*eP*	**P**	**07 30 18.8**	**+1.1**
ENPP	**El Nido**	**23.87**	**31**	*eP*	**P**	**07 30 21.6**	**+1.0**
KLBR	**Kellerberrin**	**23.98**	**158**	*eP*	**P**	**07 30 20.2**	**-1.5**
	comp=Z,87nm,1.1s,mb5.1						
KLBR				*eS*	**S**	**07 34 40.2**	**+4.5**
CUYO	**Cuyo Island**	**24.42**	**34**	*eP*	**P**	**07 30 27.0**	**+1.4**
SNPH	**Sibulan**	**24.56**	**41**	*eP*	**P**	**07 30 29.0**	**+2.1**
DAV	**Davao City (W)**	**24.57**	**48**	*eP*	**P**	**07 30 28.1**	**+1.1**
	comp=Z,376nm,0.6s,mb6.1						
DAV				LR	LR		
	comp=Z,4μm,21.0s,MS4.8						
BUKP	**Musuan**	**24.74**	**46**	*eP*	**P**	**07 30 29.3**	**+0.8**
KAKA	**Kakadu**	**24.85**	**100**	*eP*	**P**	**07 30 29.0**	**-0.5**
	comp=Z,194nm,0.6s,mb5.8						
KAKA				*eS*	S	07 35 15.3	+26
BUSP	**Coron**	**24.94**	**31**	*eP*	**P**	**07 30 31.1**	**+0.7**
NWAO	**Narrogin (SRO)**	**25.01**	**160**	P	**P**	**07 30 29.6**	**-1.4**
	comp=Z,95n

BALP	**Baler**	**28.82**	**29**	*e*P		**P**	**07 31 05.2**	**0.0**
BCPH	**Baguio City Da**	**28.91**	**27**	⇓*e*P		**P**	**07 31 05.7**	**-0.4**
NANT	**Nan**	**28.91**	**347**	⇓P		**P**	**07 31 06.5**	**+0.5**
	comp=Z,750nm,0.4s							
ASPA	**Alice Springs**	**29.01**	**122**	*e*P		**P**	**07 31 06.7**	**-0.3**
ASPA				*e*S		S	07 36 46.9	+52
ASAR	**Alice Springs**	**29.02**	**122**	P		**P**	**07 31 06.8**	**-0.2**
	comp=Z,11nm,0.7s,mb4.7,baz=298,slow=8.1,SNR=81							
ASAR				PcP		PcP	07 34 15.8	+1.1
	comp=Z,7.2nm,0.8s,baz=310,slow=2.2,SNR=5.3							
ASAR				LR		LR	07 41 37.9	
	comp=Z,6µm,20.6s,MS5.2,baz=302,slow=34							
ASAR	**Alice Springs**	**29.02**	**122**	P		**P**	**07 31 06.8**	**-0.2**
ASAR							07 34 15.8	
ASAR				pmax		pmax		
	comp=Z,11nm,0.7s							
ASAR				pmax		pmax		
	comp=Z,7.0nm,0.8s							
ASAR				MLR		MLR		
	comp=Z,6µm,20.6s							
AS31	**Alice Springs**	**29.02**	**122**	*e*P		**P**	**07 31 06.7**	**-0.3**
AS31				*e*S		S	07 36 46.9	+51
CM31	**Chiang Mai Arr**	**29.02**	**343**	PFAKE			07 31 20.0	+13
CM31				LR		LR		
	comp=Z,2µm,21.0s,MS4.7							
CHG	**Chiang Mai**	**29.36**	**344**	⇑P		**P**	**07 31 09.4**	**-0.7**
	comp=Z,149nm,1.2s,mb5.6							
CHTO	**Chiang Mai**	**29.36**	**344**	⇓P		**P**	**07 31 10.2**	**+0.1**
	SNR=47							
CHTO	**Chiang Mai**	**29.36**	**344**	*e*P		**P**	**07 31 09.3**	**-0.8**
CHTO				pmax		pmax		
	comp=Z,204nm,1.3s,mb5.7							
CHTO				MLR		MLR		
	comp=Z,2µm,21.0s,MS4.8							
CHTO	**Chiang Mai**	**29.36**	**344**	*e*P		**P**	**07 31 09.3**	**-0.8**
	comp=Z,204nm,1.3s,mb5.7							
CHTO				LR		LR		
	comp=Z,2µm,21.0s,MS4.8							
ABRA	**Dolores**	**30.09**	**26**	*e*P		**P**	**07 31 15.0**	**-1.4**
APYP	**Conner**	**30.51**	**27**	*e*P		**P**	**07 31 20.6**	**+0.4**
CVC	**Callao Caves**	**30.63**	**28**	*e*P		**P**	**07 31 20.0**	**-1.3**
PALK	**Pallekele**	**31.34**	**301**	PFAKE			07 31 40.0	+12
PALK				LR		LR		
	comp=Z,4µm,20.0s,MS5.1							
GZH	**Guangzhou**	**32.96**	**10**	P		**P**	**07 31 45.8**	**+4.0**
GZH				S		**S**	**07 37 07.8**	**+11**
GZH				LR		LR		
	comp=N,2µm,15.2s,MS5.2							
GZH				LR		LR		
	comp=E,3µm,15.2s,MS5.2							
GZH				LR		LR		
	comp=Z,3µm,14.3s,MS5.2							
DGAR	**Diego Garcia**	**34.54**	**271**	PFAKE			07 32 10.0	+15
DGAR				LR		LR		
	comp=Z,3µm,19.0s,MS5.1							
KMI	**Kunming**	**34.74**	**353**	P		**P**	**07 31 58.9**	**+1.7**
KMI				AP		pP	07 32 07.4	-1.0
KMI				XP		sP	07 32 11.8	-1.4
KMI				PP		PP	07 33 16.0	-0.4
KMI				PPP			07 33 32.1	
KMI				S		**S**	**07 37 25.1**	**+0.4**
KMI				XS		sS	07 37 40.6	-2.7
KMI				SS		SS	07 39 37.8	-19
KMI				SSS			07 40 04.6	
KMI				AMB		AMB		
	comp=Z,144nm,1.6s,mb5.7							
KMI				AMB		AMB		
	comp=Z,869nm,3.6s							
KMI				LR		LR		
	comp=N,5µm,15.1s,MS5.7							
KMI				LR		LR		
	comp=E,9µm,17.0s,MS5.7							
KMI				LR		LR		
	comp=Z,6µm,13.2s,MS5.5							
MDRS	**Chennai**	**35.03**	**309**	*e*P		**P**	**07 31 58.8**	**-0.9**
MDRS				AMb		AMB	07 32 02.2	
	comp=Z,79nm,0.3s,mb6.1							
MDRS				*ex*		x	07 41 38.7	
GYA	**Guiyang**	**35.79**	**359**	⇑*i*P		**P**	**07 32 06.4**	**+0.2**
GYA				AP		pP	07 32 10.6	-6.8
GYA				XP		sP	07 32 13.8	-8.4
GYA				PP		PP	07 33 25.4	-2.6
GYA				PCP		PcP	07 34 37.6	+4.3
GYA				S		**S**	**07 37 38.6**	**-2.2**
GYA				AMB		AMB		
	comp=Z,250nm,0.7s,mb6.2							
GYA				AMB		AMB		
	comp=Z,580nm,5.6s							
GYA				LR		LR		
	comp=N,2µm,16.4s,MS5.3							
GYA				LR		LR		
	comp=E,4µm,17.0s,MS5.3							
GYA				LR		LR		
	comp=Z,2µm,16.2s,MS5.0							
VIS	**Vishakhapatnam**	**35.99**	**319**	*e*P		**P**	**07 32 06.4**	**-1.6**
VIS				AMb		AMB	07 32 15.5	
	comp=Z,188nm,1.8s,mb5.7							
QZH	**Quanzhou**	**36.00**	**18**	P		**P**	**07 32 05.1**	**-2.9**
QZH				PP		PP	07 33 28.9	-1.4
QZH				S		**S**	**07 37 46.3**	**+2.4**
QZH				AMB		AMB		
	comp=Z,260nm,1.8s,mb5.9							
QZH				LR		LR		
	comp=N,3µm,13.8s,MS5.4							
QZH				LR		LR		
	comp=E,3µm,15.7s,MS5.4							
QZH				LR		LR		
	comp=Z,6µm,28.5s							
NACB	**Ninganchiao**	**36.30**	**22**	*e*P		**P**	**07 32 08.0**	**-2.6**
NACB				*e*PP		PP	07 33 33.0	-0.6
YHNB	**Yeheng**	**36.67**	**22**	*e*P		**P**	**07 32 14.6**	**+0.9**
CAL	**Calcutta**	**36.92**	**330**	*e*P		**P**	**07 32 15.3**	**-0.5**
CAL				*ex*		x	07 36 21.7	
TATO	**Taipei**	**36.99**	**22**	*e*P		**P**	**07 32 17.0**	**+0.5**
	comp=Z,65nm,0.7s,mb5.6							
TATO				*e*pP		pP	07 32 28.7	+1.0
TATO				LR		LR		
	comp=Z,2µm,21.0s,MS4.9							
ADE	**Adelaide**	**38.23**	**136**	*e*P		**P**	**07 32 27.0**	**0.0**
STKA	**Stephens Creek**	**38.74**	**130**	*e*P		**P**	**07 32 30.4**	**-0.8**
	comp=Z,88nm,0.6s,mb5.7							
STKA	**Stephens Creek**	**38.74**	**130**	P		**P**	**07 32 31.1**	**-0.2**
	comp=Z,121nm,0.7s,mb5.8,baz=302,slow=8.1,SNR=233							
STKA				LR		LR	07 48 33.4	
	comp=Z,4µm,19.1s,MS5.2,baz=71,slow=36							
CTA	**Charters Tower**	**38.98**	**110**	*e*P		**P**	**07 32 34.5**	**+1.2**
	comp=Z,55nm,0.6s,mb5.5							
CTA				*e*S		**S**	**07 38 36.8**	**+7.6**
CTA	**Charters Tower**	**38.98**	**110**	P		**P**	**07 32 34.6**	**+1.3**
	comp=Z,69nm,0.6s,mb5.6,baz=276,slow=11,SNR=108							
CTA	**Charters Tower**	**38.98**	**110**	*e*P		**P**	**07 32 34.5**	**+1.2**
CTA				*e*S		**S**	**07 38 36.8**	**+7.6**
CTA				pmax		pmax		
	comp=Z,55nm,0.6s							
CTAO	**Charters Tower**	**38.98**	**110**	*e*P		**P**	**07 32 34.6**	**+1.4**
	comp=Z,252nm,1.3s,mb5.8							
CTAO				LR		LR		
	comp=Z,5µm,20.0s,MS5.3							
HYB	**Hyderabad**	**39.06**	**313**	*i* P		**P**	**07 32 33.0**	**-0.9**
HYB				*e*S		**S**	**07 38 38.0**	**+7.6**
BOK	**Bokaro**	**39.20**	**328**	*e*P		**P**	**07 32 36.3**	**+1.2**
BOK				AMb		AMB	07 32 37.8	
	comp=Z,119nm,0.7s,mb5.7							
MNGI	**Mangalore**	**39.25**	**304**	*ex*		x	07 34 01.3	
MNGI				AMb		AMB	07 34 05.8	
	comp=Z,88nm,1.7s,mb5.2							
PMG	**Port Moresby**	**39.28**	**93**	P		**P**	**07 32 37.5**	**+1.8**
	comp=Z,34nm,0.8s,mb5.2,baz=209,slow=9.6,SNR=6.7							
PMG				LR		LR	07 52 16.9	
	comp=Z,2µm,18.1s,MS5.0,baz=70,slow=41							
PMG	**Port Moresby**	**39.28**	**93**	⇑*e*P		**P**	**07 32 37.7**	**+1.9**
PMG	**Port Moresby**	**39.28**	**93**	*e*P		**P**	**07 32 37.6**	**+1.8**
	comp=Z,141nm,1.4s,mb5.5							
PMG				LR		LR		
	comp=Z,2µm,20.0s,MS5.0							
CD2	**Chengdu**	**40.37**	**355**	⇓*i*P		**P**	**07 32 44.6**	**-0.2**
CD2				AP		pP	07 32 49.1	-7.0
CD2				XP		sP	07 32 51.6	-9.3
CD2				PP		PP	07 34 21.9	+3.8
CD2				PCP		PcP	07 34 47.3	-0.1
CD2				SCP		ScP	07 38 34.9	+1.4
CD2				PCS		PcS	07 38 37.3	-0.7
CD2				S		**S**	**07 38 53.5**	**+3.5**
CD2				XS		sS	07 39 00.9	-7.9
CD2				SS		SS	07 41 48.1	-1.7
CD2				SCS		ScS	07 42 48.0	+0.5
CD2				AMB		AMB		
	comp=Z,80nm,1.3s,mb5.3							
CD2				AMB		AMB		
	comp=Z,390nm,9.0s							
CD2				LR		LR		
	comp=E,3µm,19.2s							
CD2				LR		LR		
	comp=Z,2µm,19.2s,MS5.0							
WHN	**Wuhan**	**40.42**	**9**	⇓P		**P**	**07 32 47.0**	**+1.7**
WHN				AP		pP	07 32 58.0	+1.4
WHN				S		**S**	**07 38 53.0**	**+2.1**
WHN				LR		LR		
	comp=Z,5µm,17.7s,MS5.4							
GTK	**Gangtok**	**40.90**	**334**	*ex*		x	07 32 45.0	
NGP	**Nagpur**	**41.25**	**318**	*e*P		**P**	**07 32 50.4**	**-1.7**
NGP				*ex*		x	07 32 55.1	
	comp=Z,129nm,1.7s							
NGP				*ex*		x	07 38 49.0	
JOW	**Kunigami**	**41.49**	**29**	P		**P**	**07 32 54.5**	**+0.5**
	comp=Z,26nm,0.7s,mb5.0,baz=245,slow=11,SNR=6.9							
JOW				LR		LR	07 53 02.1	
	comp=Z,2µm,19.2s,MS5.0,baz=27,slow=40							
KAD	**Karad**	**42.24**	**309**	*e*P		**P**	**07 32 59.8**	**-0.3**
KAD				AMb		AMB	07 33 05.1	
	comp=Z,100nm,2.0s,mb5.1							
JIRN	**Jiri**	**42.27**	**332**	*e*P		**P**	**07 33 00.7**	**+0.3**
	comp=Z,375nm,0.7s,mb6.1							
AKL	**Akola**	**42.32**	**315**	*e*P		**P**	**07 33 01.6**	**+0.8**
AKL				AMb		AMB	07 33 04.0	
	comp=Z,80nm,1.6s,mb5.1							
SSE	**Sheshan**	**42.54**	**18**	P		**P**	**07 33 03.3**	**+0.7**
SSE				AP		pP	07 33 06.3	-7.7
SSE				XP		sP	07 33 07.8	-11
SSE				PP		PP	07 34 41.8	+0.1
SSE				S		**S**	**07 39 26.8**	**+4.6**
SSE				XS		sS	07 39 32.0	-9.1
SSE				SCS		ScS	07 43 03.9	+3.2
SSE				AMB		AMB		
	comp=Z,67nm,1.2s,mb5.2							
SSE				AMB		AMB		
	comp=Z,389nm,7.7s							
SSE				LR		LR		
	comp=N,1µm,25.1s,MS4.8							
SSE				LR		LR		
	comp=E,1µm,25.0s,MS4.8							
SSE				LR		LR		
	comp=Z,2µm,22.4s,MS4.9							
PKI	**Pulchoki**	**42.56**	**331**	*e*P		**P**	**07 33 02.8**	**0.0**
	comp=Z,156nm,1.0s,mb5.7							
PKI	**Pulchoki**	**42.56**	**331**	*e*P		**P**	**07 33 02.8**	**0.0**
PKI				pmax		pmax		
	comp=Z,156nm,1.0s,mb5.7							
GUN	**Gumba**	**42.62**	**331**	*e*P		**P**	**07 33 03.3**	**0.0**
	comp=Z,1µm,1.4s,mb6.5							
DMN	**Daman**	**42.74**	**330**	*e*P		**P**	**07 33 04.0**	**-0.2**
	comp=Z,344nm,1.0s,mb6.0							
NJ2	**Nanjing**	**42.81**	**14**	*e*P		**P**	**07 33 05.5**	**+0.8**
NJ2				AP		pP	07 33 15.6	-0.5
NJ2				XP		sP	07 33 19.5	-1.4
NJ2				PP		PP	07 34 47.5	+3.0
NJ2				S		**S**	**07 39 29.0**	**+2.9**
NJ2				XS		sS	07 39 45.0	0.0
NJ2				AMB		AMB		
	comp=Z,90nm,0.6s,mb5.7							
NJ2				AMB		AMB		
	comp=Z,560nm,5.4s							
NJ2				LR		LR		
	comp=N,4µm,22.0s,MS5.5							
NJ2				LR		LR		
	comp=E,6µm,21.0s,MS5.5							
NJ2				LR		LR		
	comp=Z,7µm,20.9s,MS5.5							
KKN	**Kakani**	**42.81**	**331**	*e*P		**P**	**07 33 04.3**	**-0.5**
	comp=Z,313nm,0.9s,mb6.0							
KKN	**Kakani**	**42.81**	**331**	*e*P		**P**	**07 33 04.3**	**-0.5**
KKN				pmax		pmax		
	comp=Z,313nm,0.9s,mb6.0							
POO	**Poona**	**43.23**	**310**	⇓*i*P		**P**	**07 33 07.5**	**-0.7**
	comp=Z,60nm,1.0s,mb5.3							
GKN	**Gorkha**	**43.30**	**330**	*e*P		**P**	**07 33 08.4**	**-0.3**
	comp=Z,329nm,1.0s,mb6.0							
XAN	**Xi'an**	**43.37**	**2**	P		**P**	**07 33 08.5**	**-0.8**
XAN				AP		pP	07 33 15.8	-4.9
XAN				S		**S**	**07 39 30.0**	**-4.3**
XAN				AMB		AMB		
	comp=Z,67nm,0.6s,mb5.5							
XAN				AMB		AMB		
	comp=Z,357nm,4.1s							
XAN				LR		LR		
	comp=E,4µm,21.7s							
XAN				LR		LR		
	comp=Z,4µm,17.7s,MS5.4							
KOLN	**Kolkanda**	**43.63**	**329**	*e*P		**P**	**07 33 11.1**	**-0.3**
	comp=Z,371nm,1.0s,mb6.1							
BHPL	**Bhopal**	**43.79**	**319**	*e*P		**P**	**07 33 12.2**	**-0.5**
BHPL				AMb		AMB	07 33 15.1	
	comp=Z,59nm,1.1s,mb5.2							
GUMO	**Guam**	**43.79**	**59**	LR		LR	07 51 22.8	
	comp=Z,856nm,21.9s,MS4.6,baz=237,slow=36							
TOO	**Toolangi**	**44.26**	**135**	*e*P		**P**	**07 33 17.7**	**+1.2**
	comp=Z,14nm,0.7s,mb4.8							
TOO	**Toolangi**	**44.26**	**135**	*e*P		**P**	**07 33 17.7**	**+1.2**
TOO				pmax		pmax		
	comp=Z,14nm,0.7s,mb4.8							
LZH	**Lanzhou**	**45.50**	**356**	*e*P		**P**	**07 33 26.4**	**+0.1**
LZH				AP		pP	07 33 32.0	-5.8
LZH				XP		sP	07 33 35.0	-7.5
LZH				PP		PP	07 35 11.3	-2.0
LZH				*e*S		**S**	**07 40 07.0**	**+1.7**
LZH				SS		SS	07 43 20.1	-9.4
LZH				AMB		AMB		
	comp=Z,375nm,1.5s,mb6.1							
LZH				AMB		AMB		
	comp=Z,918nm,5.0s							
LZH				LR		LR		
	comp=E,5µm,15.0s							
LZH				LR		LR		
	comp=Z,6µm,16.4s,MS5.6							
CNB	**Canberra Magne**	**46.07**	**130**	*e*P		**P**	**07 33 31.7**	**+0.9**
	comp=Z,105nm,1.4s,mb5.6							
ARMA	**Armidale**	**46.16**	**123**	*e*P		**P**	**07 33 33.6**	**+2.1**
AGRA	**Agra**	**46.34**	**323**	*e*P		**P**	**07 33 31.9**	**-1.0**
AGRA				AMb		AMB	07 33 37.3	
	comp=Z,242nm,1.1s,mb6.0							
TIA	**Tai'an**	**46.44**	**11**	P		**P**	**07 33 33.1**	**-0.6**
TIA				AMB		AMB		
	comp=Z,38nm,0.8s,mb5.4							
LGTI	**Lohaghat**	**46.73**	**327**	*i* P		**P**	**07 33 35.5**	**-0.5**
AYAN	**Aya Nagar**	**47.75**	**323**	*e*P		**P**	**07 33 42.7**	**-1.2**
AYAN				AMb		AMB	07 33 47.0	
	comp=Z,116nm,1.1s,mb5.8							
NDI	**New Delhi**	**47.85**	**324**	*e*P		**P**	**07 33 43.4**	**-1.2**
NDI				AMb		AMB	07 33 48.2	
	comp=Z,194nm,1.1s,mb6.0							
NDI				*ex*		x	07 40 32.0	
AJM	**Ajmer**	**47.85**	**319**	*e*P		**P**	**07 33 44.9**	**+0.2**
AJM				AMb		AMB	07 33 52.4	
	comp=Z,79nm,2.0s,mb5.4							
KUDL	**Kundal**	**47.88**	**322**	*e*P		**P**	**07 33 45.2**	**+0.2**
KUDL				AMb		AMB	07 33 53.0	
	comp=Z,251nm,1.8s,mb6.0							
KUDL				*ex*		x	07 40 36.4	
JOSI	**Joshimath**	**47.96**	**327**	*ex*		x	07 33 33.1	
JOSI				AMb		AMB	07 33 46.6	
	comp=Z,597nm,1.1s,mb6.5							
TAU	**Tasmania Unive**	**48.17**	**141**	*e*P		**P**	**07 33 48.0**	**+0.8**
	comp=Z,34nm,0.7s,mb5.5							
TAU				LR		LR		
	comp=Z,3µm,19.0s,MS5.3							
KHET	**Khetri**	**48.24**	**322**	*e*P		**P**	**07 33 46.6**	**-1.2**
KHET				AMb		AMB	07 33 55.1	
	comp=Z,115nm,3.6s							
KHET				*ex*		x	07 40 43.5	
GTA	**Gaotai**	**49.20**	**352**	*e*P		**P**	**07 33 55.4**	**+0.3**
GTA				AP		pP	07 34 01.8	-4.8
GTA				XP		sP	07 34 04.4	-7.0
GTA				PCP		PcP	07 35 20.4	+2.6
GTA				PP		PP	07 35 50.5	+1.4
GTA				PPP			07 36 45.3	
GTA				S		**S**	**07 40 58.9**	**+1.0**
GTA				XS		sS	07 41 10.8	-6.3
GTA				SCS		ScS	07 43 45.0	+1.3
GTA				SS		SS	07 44 26.1	-3.4
GTA				AMB		AMB		
	comp=Z,166nm,1.2s,mb5.9							
GTA				AMB		AMB		
	comp=Z,1µm,7.2s							
GTA				LR		LR		
	comp=N,3µm,19.8s,MS5.7							
GTA				LR		LR		
	comp=E,8µm,19.4s,MS5.7							
GTA				LR		LR		
	comp=Z,3µm,18.3s,MS5.3							
KLP	**Kalpa**	**49.43**	**327**	*e*P		**P**	**07 33 56.7**	**-0.1**
KLP				AMb		AMB	07 34 03.3	
	comp=Z,136nm,0.9s,mb6.0							
KLP				*ex*		x	07 41 02.2	
SMLA	**Simla**	**49.71**	**326**	*e*P		**P**	**07 33 58.8**	**-0.1**
SMLA				AMb		AMB	07 34 02.5	
	comp=Z,229nm,1.1s,mb6.1							
BTO	**Baotou**	**49.96**	**3**	*e*P		**P**	**07 34 00.6**	**-0.3**
BJT	**Baijiatuau**	**49.99**	**9**	PFAKE			07 34 10.0	+8.9
BJT				LR		LR		
	comp=Z,5µm,20.0s,MS5.5							
DL2	**Dalian**	**50.01**	**15**	⇑P		**P**	**07 34 00.5**	**-0.8**
DL2				S		**S**	**07 41 06.5**	**-2.7**
DL2				AMB		AMB		
	comp=Z,20nm,0.6s,mb5.3							
DL2				AMB		AMB		
	comp=Z,150nm,6.9s							
DL2				LR		LR		
	comp=N,810nm,16.7s,MS4.9							
DL2				LR		LR		
	comp=E,460nm,15.5s,MS4.9							
DL2				LR		LR		
	comp=Z,1µm,17.2s,MS5.0							
BJI	**Beijing**	**50.01**	**9**	P		**P**	**07 34 00.9**	**-0.4**
BJI				PP		PP	07 35 55.5	-0.9
BJI				S		**S**	**07 41 09.4**	**+0.2**
BJI				AMB		AMB		
	comp=Z,56nm,1.1s,mb5.5							
BJI				AMB		AMB		
	comp=Z,646µm,3.0s							
BJI				LR		LR		
	comp=N,1µm,18.7s,MS5.3							
BJI				LR		LR		
	comp=E,3µm,18.7s,MS5.3							
BJI				LR		LR		
	comp=Z,3µm,18.5s,MS5.4							
SDNR	**Sundarnagar**	**50.10**	**326**	*e*P		**P**	**07 34 00.6**	**-1.3**
SDNR				*e*S		**S**	**07 41 14.4**	**+3.9**
INCN	**Inchon**	**50.16**	**20**	PFAKE			07 34 10.0	+7.6
INCN				LR		LR		
	comp=Z,1µm,19.0s,MS4.9							
HHC	**Hu-ho-hao-te**	**50.29**	**4**	*e*P		**P**	**07 34 04.3**	**+0.9**
HHC				AP		pP	07 34 09.5	-5.5
HHC				XP		sP	07 34 13.4	-6.3
HHC				PCS		PcS	07 39 18.1	-0.9
HHC				S		**S**	**07 41 12.3**	**-0.9**
HHC				XS		sS	07 41 29.0	-3.4
HHC				SS		SS	07 44 49.9	+2.9
HHC				AMB		AMB		
	comp=Z,64nm,1.0s,mb5.6							
HHC				AMB		AMB		
	comp=Z,672nm,3.8s							
HHC				LR		LR		
	comp=N,3µm,15.5s,MS5.4							
HHC				LR		LR		
	comp=E,2µm,16.7s,MS5.4							
HHC				LR		LR		
	comp=Z,2µm,15.5s,MS5.3							
DLH	**Dalhousie**	**51.44**	**326**	*ex*		x	07 34 16.0	
HNR	**Honiara**	**51.87**	**95**	PFAKE			07 34 30.0	+15
HNR				LR		LR		
	comp=Z,1µm,19.0s,MS5.0							
SNY	**Shenyang**	**53.26**	**15**	⇑P		**P**	**07 34 23.4**	**-2.1**
SNY				AP		pP	07 34 29.5	-7.6
SNY				XP		sP	07 34 34.3	-7.6
SNY				PP		PP	07 36 33.3	+7.5
SNY				S		**S**	**07 41 52.5**	**-1.4**
SNY				XS		sS	07 42 06.3	-6.9
SNY				SS		SS	07 45 35.3	+1.4
SNY				AMB		AMB		
	comp=Z,37nm,1.4s,mb5.1							
SNY				AMB		AMB		
	comp=Z,462nm,6.7s							
SNY				LR		LR		
	comp=N,2µm,16.7s							
SNY				LR		LR		
	comp=Z,1µm,24.5s							
MAJO	**Matsushiro**	**54.27**	**31**	*e*P		**P**	**07 34 32.1**	**-0.8**
	comp=Z,130nm,1.4s,mb5.7							
MAJO				LR		LR		
	comp=Z,788nm,20.0s,MS4.8							
MAT	**Matsushiro**	**54.27**	**31**	P		**P**	**07 34 31.5**	**-1.4**
MAT				S		**S**	**07 42 02.0**	**-5.6**
MAT	**Matsushiro**	**54.27**	**31**	*e*P		**P**	**07 34 32.0**	**-0.9**
MAT				*e*S		**S**	**07 42 02.0**	**-5.6**
MAT				pmax		pmax		
	comp=Z,79nm,1.3s,mb5.5							
MAT	**Matsushiro**	**54.27**	**31**	*e*P		**P**	**07 34 32.0**	**-0.9**
	comp=Z,79nm,1.3s,mb5.5							
MAT				*e*S		**S**	**07 42 02.0**	**-5.6**
MJAR	**Matsushiro Arr**	**54.27**	**31**	P		**P**	**07 34 31.4**	**-1.5**
	comp=Z,59nm,1.1s,mb5.5,baz=207,slow=8.0,SNR=50							
MJAR				LR		LR	07 59 22.1	
	comp=Z,851nm,20.9s,MS4.8,baz=220,slow=38							
MJAR	**Matsushiro Arr**	**54.27**	**31**	P		**P**	**07 34 31.4**	**-1.5**
MJAR				pmax		pmax		
	comp=Z,59nm,1.1s							
MJAR				MLR		MLR		
	comp=Z,851nm,20.9s							
CN2	**Changchun**	**55.59**	**16**	*e*P		**P**	**07 34 41.9**	**-0.6**
CN2				*e*S		**S**	**07 42 28.0**	**+2.7**
CN2				AMB		AMB		
	comp=Z,70nm,1.4s,mb5.5							
CN2				AMB		AMB		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=N,2µm,22.0s,MS5.1							
CN2				LR		LR		
	comp=E,1µm,22.0s,MS5.1							
CN2				LR		LR		
	comp=Z,2µm,22.0s,MS5.1							
WMQ	**Urumqi**	**56.02**	**343**	P		**P**	**07 34 42.8**	**-2.8**
WMQ				AP		pP	07 34 55.5	-1.8
WMQ				XP		sP	07 35 00.8	-1.2
WMQ				PCP		PcP	07 35 40.6	-2.9
WMQ				PP		PP	07 36 49.4	-1.3
WMQ				S		**S**	**07 42 26.1**	**-5.0**
WMQ				AMB		AMB		
	comp=Z,183nm,1.7s,mb5.8							
WMQ				AMB		AMB		
	comp=Z,853nm,5.0s							
WMQ				LR		LR		
	comp=N,4µm,18.2s,MS5.7							
WMQ				LR		LR		
	comp=E,3µm,17.1s,MS5.7							
WMQ				LR		LR		
	comp=Z,4µm,18.7s,MS5.6							
CASY	**Casey**	**56.70**	**178**	PFAKE			07 35 00.0	+10
CASY				LR		LR		
	comp=Z,3µm,19.0s,MS5.4							
KSH	**Kashi**	**56.82**	**331**	⇑P		**P**	**07 34 51.5**	**+0.3**
KSH				*e*AP		pP	07 34 57.4	-5.6
KSH				*e*XP		sP	07 35 01.4	-6.3
KSH				*e*PCP		PcP	07 35 47.8	+1.2
KSH				*e*PP		PP	07 36 58.6	+0.8
KSH				*e*PPP			07 38

SONM LR LR 08 00 54.3
comp=Z,3μm,20.7s,MS5.3,baz=171,slow=38
SONM Songino Array 57.13 359 P **P** **07 34 54.0 +0.6**
SONM pmax pmax
comp=Z,36nm,0.7s
SONM MLR MLR
comp=Z,3μm,20.7s
MDJ Mudanjiang 57.55 19 P **P** **07 34 56.8 +0.4**
MDJ AP pP 07 35 08.4 +0.3
MDJ XP sP 07 35 13.0 +0.2
MDJ PCP PcP 07 35 49.8 +0.3
MDJ PP PP 07 37 04.5 +0.2
MDJ SCP ScP 07 39 45.4 -0.7
MDJ S **S** **07 42 50.9 -0.4**
MDJ XS sS 07 43 10.8 0.0
MDJ SCS ScS 07 44 42.8 +0.3
MDJ SS SS 07 46 42.5 +1.0
MDJ AMB AMB
comp=Z,18nm,1.1s,mb5.0
MDJ LR LR
comp=N,1μm,21.1s,MS5.0
MDJ LR LR
comp=E,660nm,18.4s,MS5.0
MDJ LR LR
comp=Z,703nm,22.5s,MS4.7
WSAR Wadi Sarin 57.70 305 P **P** **07 34 57.0 -0.5**
comp=Z,5.6nm,0.7s,mb4.7,baz=168,slow=9.1,SNR=5.2
WSAR LR LR 07 57 50.4
comp=Z,3μm,18.6s,MS5.4,baz=279,slow=34
WSAR Wadi Sarin 57.70 305 P **P** **07 34 57.0 -0.5**
WSAR LR LR 07 57 50.4
MIR Mirnyy 57.76 187 *c i*P **P** **07 34 58.5 +0.6**
MIR pmax pmax
comp=Z,300nm,2.0s,mb6.0
OPO Ambohidratompo 58.79 254 P **P** **07 35 04.0 -1.0**
comp=Z,12nm,1.0s,mb4.9,baz=84,slow=7.3,SNR=7.2
OPO pP pP 07 35 18.9 +2.0
comp=Z,13nm,0.9s,baz=107,slow=6.6,SNR=7.3
ULHL Ulahol 58.87 333 P **P** **07 35 06.6 +1.0**
SNR=13
KZA Kyzart 59.18 333 P **P** **07 35 07.6 -0.1**
SNR=33
HIA Hailar 59.57 9 PFAKE
HIA LR LR 07 35 20.0 +10
comp=Z,2μm,19.0s,MS5.2
UCH Uchtor 59.64 332 P **P** **07 35 10.2 -0.7**
SNR=12
TKM2 Tokmak 2 59.70 333 P **P** **07 35 10.4 -0.9**
SNR=44
ZAK Zakamensk 59.78 357 *e*P **P** **07 35 11.7 -0.2**
ZAK *e* 07 37 22.8
ZAK pmax pmax
comp=Z,28nm,1.3s,mb5.1
ZAK pmax pmax
comp=Z,10.0nm,1.8s,mb4.5
KBK Karagaybulak 59.78 333 P **P** **07 35 11.9 0.0**
SNR=24
AML Almayashu 59.94 332 P **P** **07 35 14.4 +1.4**
SNR=43
AAK Ala-Archa 59.97 332 P **P** **07 35 13.8 +0.7**
SNR=9.6
AAK Ala-Archa 59.97 332 P **P** **07 35 12.2 -1.0**
comp=Z,76nm,1.1s,mb5.6,SNR=7.2
AAK Ala-Archa 59.97 332 ⇓P **P** **07 35 13.0 -0.2**
SNR=20
AAK Ala-Archa 59.97 332 *ce*P **P** **07 35 12.0 -1.2**
AAK pmax pmax
comp=Z,23nm,1.3s,mb5.0
AAK Ala-Archa 59.97 332 *e*P **P** **07 35 12.0 -1.2**
comp=Z,13nm,0.8s,mb5.0
AAK LR LR
comp=Z,1μm,20.0s,MS5.0
FRU Bishkek 60.07 333 *e*P **P** **07 35 13.8 -0.1**
FRU *e* pP 07 35 26.0 +0.3
FRU pmax pmax
comp=Z,100nm,1.9s,mb5.5
FRU MLR MLR
comp=Z,2μm,21.0s,MS5.3
CHMS Chumysh 60.14 333 P **P** **07 35 13.8 -0.6**
SNR=7.6
EKS2 Erkin-Say 60.32 332 P **P** **07 35 15.8 +0.2**
SNR=26
MK31 Makanchi Array 60.37 340 P **P** **07 35 14.2 -1.7**
MK31 pmax pmax
comp=Z,38nm,0.6s,mb5.6
MKAR Makanchi Array 60.37 340 P **P** **07 35 15.1 -0.9**
comp=Z,76nm,0.6s,mb5.9,baz=150,slow=7.8,SNR=192
MKAR Makanchi Array 60.37 340 P **P** **07 35 15.1 -0.8**
MKAR pmax pmax
comp=Z,76nm,0.6s
MKAR Makanchi Array 60.37 340 P **P** **07 35 15.1 -0.9**
USP Ospenovka 60.46 333 P **P** **07 35 17.3 +0.7**
SNR=19
TLY Talaya 61.06 357 P **P** **07 35 21.7 +1.1**
comp=Z,197nm,1.5s,mb6.0,SNR=12
MOY Mondy 61.20 356 *e*P **P** **07 35 22.4 +0.8**
MOY pmax pmax
comp=Z,136nm,1.9s,mb5.8
IRK Irkutsk 61.59 358 *e*P **P** **07 35 24.5 +0.3**
IRK pmax pmax
comp=Z,90nm,2.2s,mb5.5
KK31 Karatay Array 62.21 330 *i* P **P** **07 35 26.9 -1.5**
KK31 pmax pmax
comp=Z,5.0nm,0.3s,mb5.1
KK31 Karatay Array 62.21 330 *i* P **P** **07 35 26.0 -2.4**
KKAR Karatay Array 62.21 330 *i* P **P** **07 35 26.9 -1.5**
KKAR pmax pmax
comp=Z,2.0nm,0.4s,mb4.6
KLR Kul'dur 62.34 18 *e*P **P** **07 35 25.0 -4.2**
KLR pmax pmax
comp=E,45nm,1.6s
KLR pmax pmax
comp=Z,140nm,1.6s,mb5.8
YSS Yuzh-Sakhalins 64.50 26 ⇑*i*P **P** **07 35 43.9 +0.4**
YSS *e**SP sP 07 35 56.0 -4.1
YSS *e* 07 36 10.9
YSS *e*S **S** **07 44 20.0 +0.3**
YSS *e*PPS 07 44 56.0
YSS pmax pmax
comp=Z,180nm,1.0s,mb6.1
YSS MLR MLR
comp=N,1μm,18.0s,MS5.2
YSS MLR MLR
comp=E,1μm,18.0s,MS5.2
YSS MLR MLR
comp=Z,700nm,18.0s,MS4.9
YSS Yuzh-Sakhalins 64.50 26 *e*P **P** **07 35 43.6 +0.1**
comp=Z,78nm,0.6s,mb5.9
YSS *e*pP pP 07 35 55.8 +0.4
YSS LR LR
comp=Z,778nm,21.0s,MS4.9
RPZ Rata Peaks 64.54 134 LR LR 08 03 39.0
comp=Z,4μm,20.5s,MS5.6,baz=282,slow=36
KURK Kurchatov 64.98 340 P **P** **07 35 46.7 0.0**
comp=Z,603nm,0.8s,SNR=56
KURK Kurchatov 64.98 340 ⇓P **P** **07 35 46.6 -0.1**
SNR=57
KURK Kurchatov 64.98 340 *e*P **P** **07 35 46.0 -0.7**
KURK *e**PP pP 07 36 00.4 +1.8
KURK pmax pmax
comp=Z,70nm,0.8s,mb5.7
KURK MLR MLR
comp=Z,2μm,21.0s,MS5.2
KURK Kurchatov 64.98 340 *e*P **P** **07 35 46.0 -0.7**
comp=Z,70nm,0.8s,mb5.7
KURK *e*pP pP 07 36 00.4 +1.8
KURK LR LR
comp=Z,2μm,21.0s,MS5.2
MAW Mawson 65.04 197 ⇓*i*P **P** **07 35 45.8 -1.2**
comp=Z,35nm,0.7s,mb5.5
MAW Mawson 65.04 197 P **P** **07 35 45.9 -1.1**
comp=Z,86nm,1.1s,mb5.7,baz=51,slow=7.0,SNR=93
MAW pP pP 07 35 58.3 -0.7
comp=Z,31nm,0.7s,baz=30,slow=8.5,SNR=11
MAW LR LR 07 57 34.8
comp=Z,617nm,21.5s,MS4.8,baz=45,slow=30
MAW Mawson 65.04 197 ⇓*i*P **P** **07 35 45.8 -1.2**
MAW pmax pmax
comp=Z,35nm,0.7s
ABKT Ailbek 65.87 319 P **P** **07 35 52.5 +0.1**
comp=Z,387nm,0.6s,SNR=12
NVS Novosibirsk 67.26 345 *i* P **P** **07 36 00.4 -0.9**
NVS *e* 07 38 33.2
NVS *i* S S 07 44 49.9 -3.5
NVS *e* 07 45 48.4
NVS pmax pmax
comp=Z,87nm,2.0s,mb5.4
NVS pmax pmax
comp=N,83nm,1.9s
NVS pmax pmax
comp=E,45nm,1.9s
NVS pmax pmax
comp=Z,28nm,1.9s,mb5.0
NVS pmax pmax
comp=N,42nm,2.0s
NVS pmax pmax
comp=E,20nm,1.6s
NVS smax
comp=N,32nm,2.1s
NVS smax
comp=E,38nm,1.9s
BOD Bodaibo 67.35 4 *e*P **P** **07 36 00.8 -1.0**
BOD pmax pmax
comp=Z,48nm,1.3s,mb5.4
CLNS Chul'man 67.72 10 *e*P **P** **07 36 04.5 +0.3**
CLNS *e**PP pP 07 36 11.4 -4.7
CLNS *e* 07 36 29.9
CLNS *e*S S 07 44 59.8 +1.0
CLNS pmax pmax
comp=Z,74nm,1.0s,mb5.7
CLNS pmax pmax
comp=N,55nm,1.3s
CLNS pmax pmax
comp=E,35nm,1.3s
CLNS pmax pmax
comp=Z,15nm,0.7s,mb5.1
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.6s
CLNS smax
comp=E,180nm,10.7s
CLNS smax
comp=Z,61nm,10.4s
CLNS smax
comp=N,258nm,13.1s
CLNS MLR MLR
comp=N,700nm,14.0s,MS5.3
CLNS MLR MLR
comp=Z,1μm,14.0s,MS5.2
CLNS MLR MLR
comp=E,1μm,16.0s,MS5.3
URZ Urewera 68.30 127 LR LR 08 06 04.6
comp=E,2μm,18.3s,MS5.4,baz=181,slow=36
QRN Al-Qurain 68.77 306 *e*P pP 07 36 20.7 -2.1
QRN AMb AMB 07 36 22.8
comp=Z,81nm,0.5s,mb5.9
KBD Kabd 69.13 306 *e*P pP 07 36 23.4 -1.6
KBD AMb AMB 07 36 27.5
comp=Z,248nm,1.3s,mb6.0
RDF Al-Radifah 69.14 306 *e*P pP 07 36 23.2 -1.9
RDF AMb AMB 07 36 27.5
comp=Z,107nm,1.1s,mb5.7
UMR Umm Al-Rimmam 69.26 307 *e*P pP 07 36 23.7 -2.2
UMR AMb AMB 07 36 27.2
comp=Z,113nm,0.7s,mb5.9
NAY Al-Naaiem 69.52 306 *e*P pP 07 36 25.4 -2.0
NAY AMb AMB 07 36 29.5
comp=Z,41nm,0.9s,mb5.4
BVA0 Borovoye Array 69.82 337 P **P** **07 36 15.9 -1.3**
BVA0 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BVAR Borovoye Array 69.82 337 P **P** **07 36 16.4 -0.8**
comp=Z,34nm,0.7s,mb5.4,baz=147,slow=8.4,SNR=104
BVAR PcP PcP 07 36 43.1 +3.5
comp=Z,16nm,0.5s,baz=147,slow=8.8,SNR=5.7
BVAR Borovoye Array 69.82 337 P **P** **07 36 16.4 -0.8**
BVAR 07 36 43.1
BVAR pmax pmax
comp=Z,35nm,0.7s
BVAR pmax pmax
comp=Z,17nm,0.5s
BRVK Borovoye 69.88 337 P **P** **07 36 17.4 -0.2**
comp=Z,275nm,0.8s,mb6.2,SNR=28
BRVK Borovoye 69.88 337 *e*P **P** **07 36 17.3 -0.4**
comp=Z,35nm,0.8s,mb5.3
BRVK LR LR
comp=Z,590nm,19.0s,MS4.8
KMBO Kilima Mbogo 70.16 272 P **P** **07 36 18.8 -0.5**
comp=Z,5.2nm,1.0s,mb4.4,baz=58,slow=8.3,SNR=10
KMBO LR LR 08 00 57.1
comp=Z,1μm,21.4s,MS5.2,baz=100,slow=31
KMBO Kilima Mbogo 70.16 272 *i* P **P** **07 36 20.5 +1.2**
KMBO pmax pmax
comp=Z,5.0nm,1.0s
CHKZ Chkalovo 70.24 338 *e*P **P** **07 36 19.6 -0.2**
comp=Z,89nm,0.6s,mb5.9
ZRNK Zerenda 70.30 337 *e*P **P** **07 36 19.8 -0.4**
ZRNK pmax pmax
comp=Z,69nm,0.8s,mb5.6
ZRNK Zerenda 70.30 337 *e*P **P** **07 36 19.8 -0.4**
comp=Z,69nm,0.8s,mb5.6
FUNA Funafuti 70.87 96 PFAKE
FUNA LR LR 07 36 40.0 +16
comp=Z,10μm,19.0s,MS6.1
AB31 Akbulak array 71.75 329 P **P** **07 36 27.9 -1.1**
AB31 pmax pmax
comp=Z,75nm,0.7s,mb5.7
AB31 Akbulak array 71.75 329 *i* P **P** **07 36 27.9 -1.1**
RAO Raoul Island 72.15 118 LR LR 08 07 58.9
comp=Z,2μm,19.5s,MS5.3,baz=19,slow=36
SYO Syowa Base 73.24 200 ⇑*e*P **P** **07 36 35.9 -1.9**
SYO Syowa Base 73.24 200 ⇑*i*pP pP 07 36 40.6 -9.3
SKR Severo-Kuril's 73.37 30 *e*P **P** **07 36 34.5 -4.1**
SKR *e* 07 36 54.0
SKR *e* 07 39 25.0
SKR *e*PPP 07 41 14.0
SKR *e*S S 07 46 03.0 -1.7
SKR *e* 07 46 46.0
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
SKR pmax pmax
comp=Z,1μm,2.0s,mb6.4
SKR smax
comp=E,1μm,10.0s
SKR MLR MLR
comp=Z,1μm,20.0s,MS5.2
BHD Baghdad 73.38 309 *ex* x 07 36 28.0
BHD *ex* x 07 45 59.0
VNDA Vanda 73.42 169 P **P** **07 36 36.6 -2.3**
comp=Z,4.6nm,0.5s,mb4.7,baz=305,slow=5.8,SNR=37
VNDA LR LR 08 07 01.0
comp=Z,774nm,18.1s,MS5.0,baz=317,slow=34
VNDA Vanda 73.42 169 *e*P **P** **07 36 37.0 -1.9**
VNDA pmax pmax
comp=Z,25nm,1.2s
VNDA MLR MLR
comp=Z,913nm,20.0s
VNDA Vanda 73.42 169 *e*P **P** **07 36 37.0 -2.0**
comp=Z,25nm,1.2s,mb5.0
VNDA LR LR
comp=Z,913nm,20.0s,MS5.1
YAK Yakutsk 73.45 11 *e*P **P** **07 36 40.4 +1.3**
YAK *e* pP 07 36 51.5 +0.3
YAK *e* 07 39 18.1
YAK *e*S S 07 46 06.6 +1.0
YAK *e* 07 46 31.3
YAK pmax pmax
comp=Z,60nm,1.1s,mb5.4
YAK pmax pmax
comp=N,31nm,1.2s
YAK pmax pmax
comp=E,20nm,1.4s
YAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK smax
comp=N,5.0nm,1.3s
YAK smax
comp=Z,4.0nm,0.7s
YAK smax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=N,733nm,22.6s
YAK pmax pmax
comp=Z,730nm,28.2s
YAK pmax pmax
comp=E,1μm,20.1s
YAK MLR MLR
comp=Z,638nm,14.0s,MS5.1
YAK MLR MLR
comp=N,452nm,15.0s,MS5.0
YAK MLR MLR
comp=E,426nm,14.0s,MS5.0
SBA Scott Base 74.50 169 *e*P **P** **07 36 45.1 -0.1**
SBA pmax pmax
comp=Z,200nm,2.3s,mb5.6
SBA Scott Base 74.50 169 *e*P **P** **07 36 44.5 -0.7**
comp=Z,205nm,2.3s,mb5.7
SBA LR LR
comp=Z,1μm,20.0s,MS5.1
MSL Mosul 75.56 311 *ex* x 07 36 51.0
MSL *ex* x 07 46 27.0
HAKT HAKKARI 75.62 313 *i* P **P** **07 36 52.1 +0.4**
GNI Garni 75.97 315 P **P** **07 36 53.4 -0.3**
comp=Z,3.0nm,0.3s,mb4.7,baz=156,slow=20,SNR=1.9
GNI Garni 75.97 315 ⇓*e*P **P** **07 36 54.2 +0.5**
GNI pmax pmax
comp=Z,26nm,1.7s
PET Petropavlovsk 76.06 29 *ce*P **P** **07 36 54.6 +0.4**
PET *e* pP 07 37 06.9 +0.6
PET *e* 07 39 47.0
PET *i*S S 07 46 35.4 +0.8
PET *e*SS SS 07 51 36.1 +8.0
PET pmax pmax
comp=Z,46nm,1.4s,mb5.2
PET pmax pmax
comp=Z,300nm,7.1s
PET pmax pmax
comp=Z,100nm,1.3s,mb5.6
PET pmax pmax
comp=Z,200nm,9.1s
PET smax
comp=N,300nm,8.8s
PET smax
comp=E,700nm,12.2s
PET MLR MLR
comp=Z,400nm,20.0s,MS4.7
PET Petropavlovsk 76.06 29 *e*P **P** **07 36 54.4 +0.2**
comp=Z,182nm,1.4s,mb5.8
PET *e* pP 07 37 06.9 +0.6
PET LR LR
comp=Z,642nm,20.0s,MS4.9
DGRG David-gareji 76.11 317 P **P** **07 36 55.7 +1.2**
SVE Sverdlovsk 76.44 336 *e*P **P** **07 36 57.0 +0.6**
SVE *e* 07 37 03.0
SVE *e*SS SKSac 07 47 08.0 +3.4
SVE pmax pmax
comp=Z,196nm,1.4s,mb5.8
SVE MLR MLR
comp=N,900nm,22.0s,MS5.1
SVE MLR MLR
comp=E,400nm,22.0s,MS5.1
SVE MLR MLR
comp=Z,2μm,22.0s,MS5.3
MTA Mtatsminda 76.61 317 P **P** **07 36 57.6 +0.3**
TBLG Delisi 76.66 317 P **P** **07 36 57.5 -0.1**
ARU Arti 77.04 335 P **P** **07 36 59.4 -0.3**
comp=Z,428nm,1.3s,mb6.2,SNR=9.9
ARU Arti 77.04 335 ⇓*i*P **P** **07 36 59.3 -0.4**
ARU *e* 07 37 05.6
ARU *e* 07 39 52.9
ARU *e*S S 07 46 46.6 +1.2
ARU *e*SS SS 07 51 42.1 -0.8
ARU pmax pmax
comp=Z,89nm,1.3s,mb5.5
ARU MLR MLR
comp=Z,2μm,22.0s,MS5.3
ARU MLR MLR
comp=N,500nm,19.0s,MS5.1
ARU MLR MLR
comp=E,800nm,21.0s,MS5.1
ARU Arti 77.04 335 *e*P **P** **07 36 59.0 -0.8**
comp=E,92nm,1.1s,mb5.6
ARU LR LR
comp=Z,1μm,22.0s,MS5.3
LSZ Lusaka 77.13 256 P **P** **07 37 00.3 0.0**
comp=Z,24nm,1.1s,mb5.0,baz=104,slow=4.5,SNR=20
LSZ Lusaka 77.13 256 *e*P **P** **07 37 00.7 +0.4**
comp=Z,28nm,1.2s,mb5.1
LSZ LR LR
comp=Z,2μm,19.0s,MS5.3
MA2 Magadan 77.14 21 *de*P **P** **07 37 00.6 +0.3**
MA2 *e* pP 07 37 13.1 +0.7
MA2 *e* 07 41 39.4
MA2 *e*S S 07 46 45.4 -1.0
MA2 *e* 07 46 58.5
MA2 *e*PS 07 47 22.0
MA2 *e*SS SS 07 51 51.1 +6.7
MA2 pmax pmax
comp=Z,70nm,1.0s,mb5.5
MA2 MLR MLR
comp=Z,400nm,16.6s,MS4.8
MA2 Magadan 77.14 21 *e*P **P** **07 37 01.0 +0.7**
comp=Z,87nm,1.1s,mb5.6
MA2 LR LR
comp=Z,518nm,20.0s,MS4.8
BEST Besiri 77.52 312 *i* P **P** **07 37 03.0 +0.6**
MARD Mardin 77.66 312 *i* P **P** **07 37 02.5 -0.7**
ZEI Tsey 77.67 318 *e*P **P** **07 37 05.0 +1.7**
ZEI *e**PP pP 07 37 12.5 -2.9
ONI Oni 77.89 317 P **P** **07 37 07.5 +3.1**
BNGL BINGOL 78.02 313 *i* P pP 07 37 16.8 -0.5
BOSA Boshof 78.56 243 P **P** **07 37 08.2 0.0**
comp=Z,27nm,1.1s,mb5.1,baz=100,slow=5.2,SNR=20
BOSA LR LR 08 07 38.9
comp=Z,948nm,18.1s,MS5.2,baz=95,slow=32
BOSA Boshof 78.56 243 P **P** **07 37 08.4 +0.2**
BOSA pmax pmax
comp=Z,22nm,1.0s,mb5.0
BOSA Boshof 78.56 243 *e*P **P** **07 37 08.1 -0.1**
comp=Z,22nm,1.0s,mb5.0
BOSA LR LR
comp=Z,1μm,19.0s,MS5.2
LBTB Lobatse 78.57 246 P **P** **07 37 08.2 -0.1**
comp=Z,13nm,0.7s,mb5.0,baz=114,slow=4.8,SNR=22
LBTB pP pP 07 37 20.9 +0.4
comp=Z,10nm,0.7s,baz=98,slow=5.6,SNR=6.9
LBTB Lobatse 78.57 246 P **P** **07 37 08.2 -0.1**
LBTB *PP pP 07 37 20.9 +0.5
LBTB pmax pmax
comp=Z,13nm,0.7s,mb5.0
LBTB pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
LBTB Lobatse 78.57 246 *e*P **P** **07 37 08.6 +0.3**
comp=Z,30nm,1.1s,mb5.1
LBTB *e* pP 07 37 20.8 +0.3
LBTB LR LR
comp=Z,619nm,20.0s,MS4.9
ASF Jabal al Asfar 78.87 305 P **P** **07 37 10.6 +0.7**
comp=Z,7.4nm,0.7s,mb4.7,baz=1.0,slow=3.5,SNR=13
ASF Jabal al Asfar 78.87 305 P **P** **07 37 10.6 +0.7**
ASF pmax pmax
comp=Z,7.0nm,0.7s
KIV Kislovodsk 78.97 318 ⇑*e*P **P** **07 37 12.4 +1.9**
KIV pmax pmax
comp=Z,18nm,1.0s,mb5.0
AFI Afiamalu 79.00 102 P **P** **07 37 12.5 +1.8**
comp=Z,71nm,1.0s,mb5.5,baz=157,slow=17,SNR=4.8
AFI Afiamalu 79.00 102 P **P** **07 37 12.5 +1.9**
AFI pmax pmax
comp=Z,71nm,1.0s,mb5.5
GOF Gofitskoye 79.21 319 *e*P **P** **07 37 06.0 -5.8**
ELZG Elazig 79.42 312 *i* P **P** **07 37 14.7 +1.8**
EIL Elat 79.69 303 *e*P **P** **07 37 14.5 +0.1**
EIL *e*pP pP 07 37 28.1 +1.5
GZT Gaziantep 80.07 311 *i* P **P** **07 37 17.9 +1.5**
MMAI Mount Meron Ar 80.33 306 P **P** **07 37 19.0 +1.2**
comp=Z,8.5nm,0.6s,mb4.9,baz=88,slow=8.4,SNR=14
MMAI pP pP 07 37 30.9 +0.9
comp=Z,7.0nm,0.6s,baz=97,slow=6.8,SNR=5.2
QSPA South Pole Qui 80.46 180 *e*P **P** **07 37 17.0 -1.5**
comp=Z,37nm,1.1s,mb5.2
COBT Iskenderun 80.78 309 *i* P **P** **07 37 21.4 +1.2**
SOC Sochi 80.80 317 *e*P **P** **07 37 18.9 -1.4**
SOC *e* 07 40 26.5
SOC *e*PPP 07 42 12.3
SOC *e*S S 07 47 25.6 +0.2
SOC *e*SS SS 07 52 44.9 +5.6
SOC pmax pmax
comp=Z,10.0nm,0.5s,mb5.0

SOC MLR MLR
comp=Z,780nm,22.0s,MS5.0
SUR Sutherland 82.03 239 P **P** **07 37 28.2 +1.4**
comp=Z,47nm,1.1s,mb5.3,baz=110,slow=3.7,SNR=13
SUR Sutherland 82.03 239 *eP* **P** **07 37 27.4 +0.6**
comp=Z,34nm,0.9s,mb5.3
SUR LR LR
comp=Z,2µm,22.0s,MS5.4
TIXI Tiksi 82.28 7 *eP* **P** **07 37 25.3 -2.9**
TIXI *e* 07 40 32.6
TIXI *eS* S 07 47 31.6 -9.2
TIXI pmax pmax
comp=Z,43nm,0.8s,mb5.4
TIXI MLR MLR
comp=Z,2µm,18.0s,MS5.4
TIXI Tiksi 82.28 7⇓ *eP* **P** **07 37 27.5 -0.7**
MEST Erdemli 82.41 309 *i* P **P** **07 37 29.6 +0.8**
VRHR Novokhopersk 82.64 325 *eP* **P** **07 37 30.7 +0.7**
VRHR pmax pmax
comp=Z,50nm,0.7s,mb5.7
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.4s
VRHR MLR MLR
comp=Z,700nm,28.0s,MS4.9
VRHR MLR MLR
comp=N,240nm,22.0s
VRHR MLR MLR
comp=E,370nm,19.0s
ANN Anapa 82.77 318 *eP* **P** **07 37 32.5 +1.8**
ANN *eS* S 07 47 48.2 +2.4
ANN pmax pmax
comp=Z,30nm,1.0s,mb5.3
NVL N'lazarevskaya 82.87 199⇓ *iP* **P** **07 37 31.2 0.0**
NVL *eS* S 07 47 51.9 +5.1
NVL pmax pmax
comp=Z,29nm,1.5s,mb5.1
NVL MLR MLR
comp=Z,457nm,16.5s,MS4.9
MAIT Maitri 82.90 199 *eP* **P** **07 37 31.2 -0.2**
CDAG Cicekdag 83.18 312 *i* P **P** **07 37 32.6 -0.2**
CTKT Corum 83.19 313 *i* P **P** **07 37 34.5 +1.7**
BOYT Boyabat 83.36 314 *i* P **P** **07 37 35.1 +1.3**
ERMK Ermenek 83.37 309 *i* P **P** **07 37 43.2 +9.4**
BR131 Keskin Array S 83.75 312 *eP* **P** **07 37 36.0 +0.3**
comp=Z,15nm,0.9s,mb5.1
BR131 LR LR
comp=Z,872nm,21.0s,MS5.1
BRTR Keskin Array B 83.75 312 P **P** **07 37 35.1 -0.6**
comp=Z,5.1nm,0.7s,mb4.7,baz=134,slow=6.0,SNR=25
BRTR pP pP 07 37 47.6 -0.4
comp=Z,15nm,1.0s,baz=134,slow=7.1,SNR=12
BRTR LR LR 08 13 02.8
comp=Z,789nm,21.9s,MS5.0,baz=89,slow=34
BRTR Keskin Array B 83.75 312 P **P** **07 37 35.2 -0.5**
BRTR *PP pP 07 37 47.7 -0.3
BRTR pmax pmax
comp=Z,5.0nm,0.7s
BRTR pmax pmax
comp=Z,15nm,1.0s
VRSR Storozhevoye 84.08 324 *eP* **P** **07 37 37.9 +0.4**
VRSR pmax pmax
comp=Z,80nm,1.3s,mb5.7
VRSR pmax pmax
comp=N,6.0nm,0.4s
VRSR pmax pmax
comp=E,30nm,0.7s
ELDT Eldivan 84.13 313 *i* P **P** **07 37 38.8 +1.1**
VOR Voronezh 84.28 325 *eP* **P** **07 37 38.5 0.0**
VOR pmax pmax
comp=Z,150nm,1.4s,mb5.9
ANTO Ankara 84.41 312 PFAKE 07 37 50.0 +11
ANTO LR LR
comp=Z,724nm,21.0s,MS5.0
BALT Daday 84.48 314 *i* P **P** **07 37 41.0 +1.5**
SIM Simferopol' 85.04 317 *eP* **P** **07 37 45.0 +2.7**
SIM *e* 07 48 00.0
SIM *eS* 07 48 12.0
SIM pmax pmax
comp=Z,33nm,1.5s,mb5.2
SIM pmax pmax
comp=Z,80nm,8.3s
SIM MLR MLR
comp=Z,850nm,21.8s,MS5.1
SGKT Sivrigoynuk 85.16 312 *i* P **P** **07 37 43.2 +0.3**
TKTP Tekketepe 85.75 310 *i* P **P** **07 37 40.3 -5.6**
ESKT Eskisehir 85.75 311 *i* P **P** **07 37 47.1 +1.2**
HENT Hendek 86.07 312 *i* P **P** **07 37 55.9 +8.5**
TSUM Tsumeb 86.66 251 P **P** **07 37 51.1 +0.7**
comp=Z,7.7nm,1.0s,mb4.9,baz=97,slow=6.1,SNR=10.0
TSUM Tsumeb 86.66 251 *eP* **P** **07 37 51.0 +0.6**
comp=Z,9.1nm,0.8s,mb5.1
TSUM LR LR
comp=Z,725nm,20.0s,MS5.1
MOS Moscow 86.69 328 *eP* **P** **07 37 47.7 -2.8**
MOS *e* 07 41 11.9
MOS *e* 07 48 14.7
MOS *eS* 07 48 24.9
MOS pmax pmax
comp=Z,107nm,1.3s,mb5.9
OBN Obninsk 87.02 327 *deP* **P** **07 37 52.5 +0.4**
OBN *e* pP 07 38 04.9 +0.5
OBN *i* 07 41 16.6
OBN *i S* 07 48 24.6
OBN *eSS* SS 07 54 11.4 +0.1
OBN pmax pmax
comp=Z,78nm,1.2s,mb5.8
OBN MLR MLR
comp=Z,800nm,22.0s,MS5.1
OBN Obninsk 87.02 327 *eP* **P** **07 37 51.8 -0.2**
comp=Z,41nm,0.6s,mb5.8
OBN LR LR
comp=Z,651nm,20.0s,MS5.0
ULDT Uludag 87.19 311 *i* P **P** **07 37 53.5 +0.6**
SNAA Sanae 87.21 197 *eP* **P** **07 37 52.3 -0.7**
SNAA *e* 07 37 54.0
SNAA *e* 07 37 56.9
SNAA *e* pP 07 38 05.9 +0.6
SNAA *e* 07 38 15.3
SNAA *e* 07 38 24.2
TIRR Tirgusor 88.80 315⇑ *iP* **P** **07 38 05.4 +4.9**
TIRR Tirgusor 88.80 315 *eP* **P** **07 37 59.9 -0.7**
KIS Kishinev 89.17 318 *eP* **P** **07 38 02.0 -0.3**
KIS *e* 07 43 38.0
KIS *eS* 07 48 48.0
KIS *ePS* PS 07 50 04.0 +6.2
KIS *eSS* SS 07 54 40.0 -2.6
CFR Carcaliu 89.17 316⇑ *iP* **P** **07 38 03.6 +1.3**
CFR Carcaliu 89.17 316⇑ *P* **P** **07 38 03.6 +1.3**
HARR Harsova 89.19 315⇑ *iP* **P** **07 38 03.2 +0.8**
HARR Harsova 89.19 315⇑ *P* **P** **07 38 03.2 +0.8**
VNA1 Neumayer--Stat 89.23 197 *eP* **P** **07 38 02.9 +0.3**
VNA1 *e* 07 38 04.1
VNA1 *e* 07 38 06.3
VNA1 *e* 07 38 07.8
VNA1 *e* pP 07 38 15.8 +0.8
VNA1 *e* 07 38 25.0
VNA1 *e* 07 38 33.8
VNA1 *e* 07 38 44.8
RAR Rarotonga 89.28 111 LR LR 08 17 28.3
comp=Z,967nm,18.5s,MS5.3,baz=267,slow=35
AKASG Malin Array Be 89.87 322 P **P** **07 38 05.0 -0.5**
comp=Z,0.6nm,0.4s,baz=87,slow=4.5,SNR=12
AKASG PP PP 07 41 37.2 -1.2
comp=Z,5.0nm,0.8s,baz=90,slow=6.3,SNR=11
AKASG LR LR 08 24 33.7
comp=Z,508nm,21.3s,MS4.9,baz=100,slow=40
AKASG Malin Array Be 89.87 322 P **P** **07 38 05.1 -0.5**
AKASG 07 41 37.2
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 89.87 322 P **P** **07 38 05.0 -0.5**
AKASG PP PP 07 41 37.2 -1.2
AKASG LR LR 08 24 33.7
AKBB Malin Array Si 89.87 322 P **P** **07 38 07.3 +1.7**
AKBB Malin Array Si 89.87 322 *eP* **P** **07 38 05.1 -0.5**
VRI Vrincioaia 90.30 316⇓ *iP* pP 07 38 20.1 +0.2
PLOR Plostina 90.34 316⇓ *iP* pP 07 38 18.7 -1.5
MLR Muntele Rosu 90.75 316 P **P** **07 38 09.5 -0.2**
comp=Z,4.2nm,0.5s,mb5.0,baz=32,slow=1.7,SNR=9.0
MLR Muntele Rosu 90.75 316⇓ *iP* **P** **07 38 10.9 +1.3**
MLR Muntele Rosu 90.75 316⇓ *iP* **P** **07 38 10.8 +1.2**
BURAR Bucovina Array 91.69 318⇑ *iP* **P** **07 38 15.9 +1.9**
BURAR Bucovina Array 91.69 318⇑ *P* **P** **07 38 15.9 +1.9**
VTS Vitosha 92.08 313⇑ *iP* pP 07 38 29.0 +0.8
JOF Joensuu 92.14 334 *eP* **P** **07 38 16.4 +0.3**
comp=Z,0.8nm,0.4s,mb4.4
JOF Joensuu 92.14 334 *eP* **P** **07 38 16.4 +0.3**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.5
LVZ Lovozero 92.36 339 PFAKE 07 38 30.0 +13
LVZ LR LR
comp=Z,1µm,19.0s,MS5.5
APA Apatity 92.71 338⇓ *eP* **P** **07 38 20.0 +1.3**
APA *e* 07 48 42.0
APA *i S* 07 49 22.0
APA *i* PS PS 07 50 38.0 +1.0
APA pmax pmax
comp=Z,64nm,1.5s,mb5.8
VSU Vasula 93.17 329⇑ *eP* **P** **07 38 21.2 +0.3**
BZS Buzias 93.75 315⇑ *iP* **P** **07 38 22.8 -0.7**
BZS Buzias 93.75 315⇑ *P* **P** **07 38 22.8 -0.8**
FINES FINESS Array B 94.14 332 P **P** **07 38 24.7 -0.6**
comp=Z,1.6nm,0.7s,mb4.5,baz=100,slow=7.9,SNR=4.8
FINES LR LR 08 25 49.6
comp=Z,500nm,19.6s,MS5.0,baz=283,slow=39
FINES FINESS Array B 94.14 332 *iP* **P** **07 38 27.6 +2.3**
FINES pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 94.18 332 *ep* **P** **07 38 28.8 +3.3**
comp=Z,7.5nm,0.5s,mb5.4
KAF Kangasniemi 94.18 332 *eP* **P** **07 38 28.8 +3.3**
KAF pmax pmax
comp=Z,8.0nm,0.5s,mb5.4
KEV Kevo 95.55 340 PFAKE 07 38 40.0 +8.2
KEV LR LR
comp=Z,2µm,22.0s,MS5.4
ARCES ARCESS Array B 96.02 340 P **P** **07 38 32.9 -1.0**
comp=Z,12nm,0.9s,mb5.3,baz=91,slow=6.1,SNR=9.4
ARCES LR LR 08 27 12.6
comp=Z,1µm,21.9s,MS5.4,baz=216,slow=39
OKC Ostrava-Krasne 96.68 319 *ePP* PP 07 42 29.7 -2.1
OKC AMS AMS 08 31 50.0
comp=Z,600nm,15.4s
DPC Dobruska-Polom 97.90 320 *ePP* PP 07 42 34.0 -7.2
DPC AMS AMS 08 30 30.0
comp=Z,800nm,22.8s
TBI Tubuai 98.19 115 *ePS* PS 07 51 40.3 +3.2
comp=Z,660nm,31.5s
TBI Tubuai 98.19 115 *eSS* SS 07 56 59.6 +8.1
comp=Z,480nm,30.0s
TBI *e*LR LR 08 10 53.4
comp=Z,1µm,23.2s
TREC Trest 98.34 319 *ePP* PP 07 42 48.5 +3.9
PRU Pruhonice 99.01 319 *ePP* PP 07 42 49.4 -0.3
PRU AMS AMS 08 32 40.0
comp=Z,600nm,19.2s
PPT Papeete 99.44 110 *ePS* PS 07 51 53.1 +2.6
comp=Z,904nm,25.5s
PPT Papeete 99.44 110 *eSS* SS 07 57 12.8 +3.8
comp=Z,496nm,25.5s
PPT *e*LR LR 08 11 27.1
comp=Z,2µm,25.2s
PPT Papeete 99.44 110 LR LR 08 19 01.9
comp=Z,967nm,21.9s,MS5.3,baz=268,slow=32
GERES GERESS Array B 99.48 318 P **P** **07 38 49.4 -0.1**
comp=Z,0.2nm,0.3s,baz=70,slow=5.6,SNR=2.5
GERES pP pP 07 39 00.9 -1.0
comp=Z,0.8nm,0.6s,baz=70,slow=4.4,SNR=2.3
GERES GERESS Array B 99.48 318 P **P** **07 38 49.4 -0.1**
GERES *PP pP 07 39 00.9 -1.0
GERES pmax pmax
comp=Z,1.0nm,0.6s
KHC Kasperske Hory 99.58 318 *ePP* PP 07 42 53.6 -0.4
KHC AMS AMS 08 31 10.0
comp=Z,700nm,19.4s
CLL Collm 100.07 321 *ePdiff* Pdif 07 38 53.3 +1.2
CLL *ePP* PP 07 42 56.4 -1.3
CLL *ePPP* 07 45 09.5
CLL *eSKSac* SKSac 07 49 27.7 +0.1
CLL *eSdiff* Sdif 07 50 22.0 -2.0
CLL *ePS* PS 07 51 56.5 -0.8
CLL *eSS* SS 07 57 20.5 +2.7
CLL *eSSS* 08 00 59.1
CLL *eSSSS* 08 04 27.7
CLL *eL* 08 30 55.2
comp=Z,714nm,20.0s
CLL Collm 100.07 321 *ePDIF* Pdif 07 38 54.0 +1.9
CLL *ePP* PP 07 42 54.0 -3.7
CLL *e* 07 43 16.0
CLL *ePPP* 07 45 05.0
CLL *e* 07 49 28.0
CLL *e* 07 50 10.0
CLL *e* 07 50 23.0
CLL *e* 07 50 48.0
CLL *ePS* PS 07 51 56.0 -1.3
CLL *ePPS* 07 52 37.0
CLL *e* 07 54 01.0
CLL *eSS* SS 07 57 17.0 -0.8
CLL *e* 08 04 20.0
CLL Collm 100.07 321 *ePdif* Pdif 07 38 54.0 +1.9
CLL *ePP* PP 07 42 54.0 -3.7
CLL *ex* x 07 43 16.0
CLL *ePPP* 07 45 05.0
CLL *eSKSac* SKSac 07 49 28.0 +0.4
CLL *eSKKSac* SKKSac 07 50 10.0 +8.9
CLL *eSdif* Sdif 07 50 23.0 -1.0
CLL *ex* x 07 50 48.0
CLL *ePS* PS 07 51 56.0 -1.3
CLL *ePPS* 07 52 37.0
CLL *ex* x 07 54 01.0
CLL *eSS* SS 07 57 17.0 -0.8
CLL *e*(SSS) 08 01 00.0
CLL *e*(SSSS) 08 04 20.0
CLL LmV 08 30 00.0
comp=Z,700nm,18.8s
CLL Collm 100.07 321 *eP* Pdif 07 38 54.0 +1.9
CLL *e* 07 42 54.0
CLL *e* 07 49 28.0
CLL *eS* Sdif 07 50 23.0 -1.0
CLL MLR MLR
comp=Z,700nm,18.8s,MS5.2
KBS Kingsbay 100.34 349 PFAKE 07 39 00.0 +6.7
KBS LR LR
comp=Z,1µm,21.0s,MS5.4
NKC Novy Kostel 100.37 319 *ePP* PP 07 42 59.3 -0.7
GRF Grafenberg Arr 101.14 319 *ePP* PP 07 43 03.8 -2.0
GRF *eSKSac* SKSac 07 49 36.9 +4.0
GRF *eSS* SS 07 57 29.9 -2.9
GRF *eL* 08 31 08.7
comp=Z,714nm,21.2s
GRF Grafenberg Arr 101.14 319 *eP* PP 07 43 03.8 -2.0
GRF *eSKSac* SKSac 07 49 36.9 +4.0
GRF *eSS* SS 07 57 29.9 -2.9
GRF *eL* 08 31 08.7
comp=Z,714nm,21.2s
NB2 NORSAR Subarra101.24 330 Pdif Pdif 07 38 52.1 -5.2
comp=Z,3.8nm,1.0s,baz=89,slow=4.4
NOA NORSAR Array B101.24 330 P Pdif 07 38 56.2 -1.1
comp=Z,0.6nm,0.8s,baz=92,slow=4.8,SNR=2.7
NOA PP PP 07 43 06.5 -0.1
comp=Z,2.9nm,1.1s,baz=94,slow=7.5,SNR=3.4
NOA NORSAR Array B101.24 330 P Pdif 07 38 56.2 -1.1
NOA 07 43 06.5
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA pmax pmax
comp=Z,3.0nm,1.1s
NOA NORSAR Array B101.24 330 P Pdif 07 38 56.2 -1.1
NOA PP PP 07 43 06.5 -0.1
KONO Kongsberg 102.07 329 PFAKE 07 39 10.0 +9.0
KONO LR LR
comp=Z,713nm,20.0s,MS5.2
KDAK Kodiak Island 103.40 33 PFAKE 07 39 20.0 +13
KDAK LR LR
comp=Z,202nm,20.0s,MS4.7
MCK McKinley 104.59 27 PFAKE 07 39 20.0 +7.8
MCK LR LR
comp=Z,291nm,22.0s,MS4.8
COLA College 104.88 25 PFAKE 07 39 20.0 +6.5
COLA LR LR
comp=Z,511nm,21.0s,MS5.0
DAG Danmarks Havn 107.08 349 *i* P PP 07 43 44.0 -6.0
TORD Torodi Ar. Bea 107.22 281 PKiKP PKiKP 07 43 33.0 +0.2
comp=Z,0.9nm,1.0s,baz=124,slow=1.2,SNR=6.1
TORD PKKPbc PKKPbc 07 54 49.8 +0.9
comp=Z,0.6nm,0.7s,baz=311,slow=3.8,SNR=6.5
TORD Torodi Ar. Bea 107.22 281 PKPdf PKiKP 07 43 33.0 +0.2
TORD PKKPbc PKKPbc 07 54 49.8 +0.9
ESK Eskdalemuir 109.44 325 PFAKE 07 43 50.0 +13
ESK LR LR
comp=Z,750nm,20.0s,MS5.3
HOPE Hope Point 109.47 202 PFAKE 07 43 50.0 +13
HOPE LR LR
comp=Z,2µm,22.0s,MS5.6
TAOE Nuku Hiva Isla 110.39 103 *e*LR LR 08 16 35.6
comp=Z,2µm,24.1s
RKT Rikitea 110.97 119 *e*LR LR 08 16 51.9
comp=Z,1µm,26.5s
ESLA Sonseca Array 112.40 309 PFAKE 07 43 50.0 +7.5
ESLA LR LR
comp=Z,2µm,20.0s,MS5.7
DBIC Dimbokro 112.88 273 PFAKE 07 44 00.0 +17
DBIC LR LR
comp=Z,483nm,20.0s,MS5.1
BORG Borgarnes 114.39 338 PFAKE 07 44 00.0 +14
BORG LR LR
comp=Z,469nm,21.0s,MS5.1
EFI East Falkland 117.74 190 PFAKE 07 44 00.0 +7.2
EFI LR LR
comp=Z,801nm,21.0s,MS5.3
YKA Yellowknife Ar 119.12 21 PKP PKPdf 07 43 54.4 -1.0
comp=Z,0.9nm,0.5s,baz=8.1,slow=2.3,SNR=36
YKA pPKP pPKPdf 07 44 08.4 +0.2
comp=Z,2.3nm,0.8s,baz=320,slow=1.9,SNR=8.4
YKA PP PP 07 45 14.5 -1.2
comp=Z,1.2nm,0.9s,baz=325,slow=5.4,SNR=2.1
YKA PKKPbc PKKPbc 07 54 07.6 -1.1
comp=Z,0.8nm,1.0s,baz=109,slow=4.2,SNR=4.8
YKA Yellowknife Ar 119.12 21 PKIKP PKPdf 07 43 54.4 -1.0
YKA 07 44 08.4
YKA 07 45 14.5
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,1.0s
A05A Maple Falls 123.14 37 ⇓P PKPdf 07 44 03.9 +0.8
baz=123
E03A Lebam 123.28 40 ⇓P PKPdf 07 44 05.1 +1.7
baz=123
GNW Green Mountain 123.32 38 *e*PKPdf PKPdf 07 44 05.3 +1.8
B05A Bryant 123.46 37 ⇑P PKPdf 07 44 05.0 +1.3
baz=124
C05A Tolt Reservoir 123.96 38 ⇑P PKPdf 07 44 05.9 +1.1
baz=124
COR Corvallis 124.22 42 PFAKE 07 44 20.0 +15
COR LR LR
comp=Z,405nm,19.0s,MS5.1
F04A Amboy 124.26 40 ⇑P PKPdf 07 44 06.6 +1.3
baz=124
E05A Randle 124.41 39 ⇑P PKPdf 07 44 06.3 +0.7
baz=124
H04A Detroit Lake 124.92 41 ⇓P PKPdf 07 44 07.2 +0.6
baz=125
HUMO Hull Mountain 125.21 44 PFAKE 07 44 20.0 +13
HUMO LR LR
comp=Z,404nm,21.0s,MS5.1
HUMO Hull Mountain 125.21 44 ⇑P PKPdf 07 44 08.4 +1.3
baz=125
H05A Madras 125.55 41 ⇑P PKPdf 07 44 09.4 +1.7
baz=126
EDM Edmonton 125.56 29 *e*PKIKP PKPdf 07 44 08.5 +0.7
N02C Big Bar 125.60 46 ⇓P PKPdf 07 44 08.8 +0.9
baz=126
HAWA Hanford 125.86 39 *e*PKPdf PKPdf 07 44 09.7 +1.3
HAWA LR LR
comp=Z,40nm,21.0s,MS4.1
J05A Fort Rock 126.11 43 ⇑P PKPdf 07 44 10.7 +1.9
baz=126
O02C Red Bluff 126.19 47 ⇓P PKPdf 07 44 10.4 +1.4
baz=126
NEW Newport 126.38 36 *e*PKIKP PKPdf 07 44 11.2 +1.9
NEW *e* 07 44 26.1
NEW Newport 126.38 36 *e*PKPdf PKPdf 07 44 11.2 +1.9
NEW LR LR
comp=Z,426nm,20.0s,MS5.1
HOPS Hopland 126.39 48 PFAKE 07 44 20.0 +11
HOPS LR LR
comp=Z,461nm,22.0s,MS5.1
J06A Christmas Vall 126.85 42 ⇑P PKPdf 07 44 10.8 +0.6
baz=127
K06A Valley Falls 126.97 43 ⇓P PKPdf 07 44 11.3 +0.9
baz=127
J07A Hines 127.35 42 ⇓P PKPdf 07 44 13.0 +1.8
baz=127
O04C Chester 127.36 46 ⇓P PKPdf 07 44 13.3 +2.0
baz=127
WALA Waterton Lakes 127.74 33 *e*PKPdf PKPdf 07 44 13.1 +1.2
BSMT Bassoo Peak 127.93 35 *e*PKPdf PKPdf 07 44 13.3 +1.0
BMO Blue Mountains 127.96 39 PFAKE 07 44 20.0 +7.6
BMO LR LR
comp=Z,361nm,22.0s,MS5.0
N06A Buffalo Meadow 128.08 45 ⇑P PKPdf 07 44 14.7 +2.1
baz=128
WVOR Wild Horse Val 128.20 43 PKIKP PKPdf 07 44 15.6 +2.8
WVOR Wild Horse Val 128.20 43 *e*PKPdf PKPdf 07 44 14.6 +1.8
WVOR LR LR
comp=Z,461nm,20.0s,MS5.2
M07A Soldier Meadow 128.28 44 ⇓P PKPdf 07 44 15.6 +2.7
baz=128
O06A Flanigan 128.31 46 ⇑P PKPdf 07 44 15.3 +2.3
baz=128
HAST UC Hastings Re 128.38 51 ⇑P PKPdf 07 44 15.1 +1.9
baz=128
PACP Pacheco Peak 128.38 50 ⇑P PKPdf 07 44 15.1 +1.9
baz=128
CMB Columbia Colle 128.70 48 PFAKE 07 44 30.0 +16
CMB LR LR
comp=Z,326nm,20.0s,MS5.0
V03C Hunter Liggett 128.73 51 ⇑P PKPdf 07 44 16.2 +2.3
baz=129
M08A Happy Creek Ra 128.79 44 ⇑P PKPdf 07 44 16.5 +2.5
baz=129
MSO Missoula 128.97 36 *e*PKPdf PKPdf 07 44 15.5 +1.2
MSO LR LR
comp=Z,330nm,20.0s,MS5.0
O07A Toulon 128.98 45 ⇑P PKPdf 07 44 16.2 +1.9
baz=129
L09A Wilkinson Ranc 129.03 43 ⇑P PKPdf 07 44 16.7 +2.3
baz=129
S06C San Francisco 129.15 48 ⇑P PKPdf 07 44 16.9 +2.3
baz=129
FFC Flin Flon 129.28 22 PFAKE 07 44 30.0 +15
FFC LR LR
comp=Z,586nm,21.0s,MS5.2
PKD Parkfield 129.29 51 ⇑P PKPdf 07 44 18.0 +3.1
baz=129
PLCA Paso Flores 129.94 182 PKP PKPdf 07 44 17.6 +1.4
comp=Z,10nm,1.3s,baz=139,slow=7.3,SNR=3.8
PLCA PP PP 07 46 27.1 -1.0
comp=Z,7.8nm,1.1s,baz=196,slow=7.6,SNR=3.7
PLCA Paso Flores 129.94 182 PKIKP PKPdf 07 44 17.6 +1.5
PLCA 07 46 27.2
PLCA pmax pmax
comp=Z,11nm,1.3s
PLCA pmax pmax
comp=Z,8.0nm,1.1s
BMN Battle Mountai 130.02 44 PFAKE 07 44 30.0 +14
BMN LR LR
comp=Z,368nm,19.0s,MS5.1
NVAR Mina Array Bea 130.07 47 PKP PKPdf 07 44 17.1 +0.7
comp=Z,1.1nm,0.7s,baz=239,slow=1.0,SNR=8.6
NVAR pPKP pPKPdf 07 44 30.6 +1.4
comp=Z,1.1nm,0.7s,baz=224,slow=0.7,SNR=3.9
NVAR SKPbc 07 47 34.9
comp=Z,0.3nm,0.7s,baz=23,slow=2.9,SNR=2.3
NVAR Mina Array Bea 130.07 47 PKP PKPdf 07 44 17.1 +0.7
NVAR pPKP pPKPdf 07 44 30.6 +1.4
NVAR SKPbc 07 47 34.9
MNV Mina 130.18 47 PFAKE 07 44 30.0 +13
MNV LR LR
comp=Z,495nm,22.0s,MS5.2
HLID Hailey 130.41 39 *e*PKPdf PKPdf 07 44 18.4 +1.3
HLID *e*SKPbc SKPbc 07 47 40.5 +3.4
HLID *e*SKPdf SKPdf 07 47 47.6 -1.4
HLID LR LR
comp=Z,565nm,22.0s,MS5.2

M11A	**Holland Ranch,** baz=131	**130.55**	**43**	⇓P		PKPdf	07 44 19.6 +2.4
DLMT	**Dillon**	**130.56**	**37**	*e*PKPdf	PKPdf		07 44 18.1 +0.8
DLMT				*e*SKPbc	SKPbc		07 47 40.1 +2.5
EGMT	**Eagleton**	**130.57**	**32**	*e*PKPdf	PKPdf		07 44 17.9 +0.5
EGMT				LR	LR		
	comp=Z,297nm,20.0s,MS5.0						
MCMT	**McKenzie Canyo**	**130.70**	**37**	*e*PKPdf	PKPdf		07 44 17.9 +0.3
BOZ	**Bozeman (W)**	**130.96**	**36**	*e*PKPdf	PKPdf		07 44 19.9 +1.9
BOZ				LR	LR		
	comp=Z,457nm,21.0s,MS5.2						
ISA	**Isabella**	**130.97**	**51**	PKIKP	PKPdf		07 44 10.9 -7.2
ISA	**Isabella**	**130.97**	**51**	PFAKE			07 44 30.0 +12
ISA				LR	LR		
	comp=Z,106nm,21.0s,MS4.5						
M12A	**Wells** baz=131	**131.14**	**42**	⇑P		PKPdf	07 44 20.4 +1.9
S09A	**Goldfield** baz=131	**131.14**	**48**	⇓P		PKPdf	07 44 20.5 +2.1
O11A	**Cowboy Ranch,** baz=131	**131.23**	**44**	⇓P		PKPdf	07 44 19.8 +1.2
ELK	**Elko**	**131.23**	**43**	PKIKP	PKPdf		07 44 21.3 +2.7
ELK	**Elko**	**131.23**	**43**	*e*PKPdf	PKPdf		07 44 20.6 +2.0
ELK				LR	LR		
	comp=Z,448nm,20.0s,MS5.2						
DAC	**Darwin (Calif)**	**131.41**	**50**	PFAKE			07 44 30.0 +11
DAC				LR	LR		
	comp=Z,406nm,22.0s,MS5.1						
R10A	**Warm Springs** baz=132	**131.57**	**47**	⇑P		PKPdf	07 44 21.5 +2.2
O12A	**Currie** baz=132	**131.78**	**43**	⇓P		PKPdf	07 44 22.1 +2.5
YMR	**Madison River**	**131.90**	**36**	*e*PKPdf	PKPdf		07 44 23.1 +3.2
YMR				LR	LR		
	comp=Z,710nm,19.0s,MS5.4						
P12A	**McGill** baz=132	**132.04**	**44**	⇑P		PKPdf	07 44 22.4 +2.3
LKWY	**Lake**	**132.29**	**36**	PFAKE			07 44 30.0 +9.4
LKWY				LR	LR		
	comp=Z,915nm,21.0s,MS5.5						
HVU	**Hansel Valley**	**132.35**	**41**	PKIKP	PKPdf		07 44 23.2 +2.5
HVU	**Hansel Valley**	**132.35**	**41**	*e*PKPdf	PKPdf		07 44 21.7 +1.0
IMW	**Indian Meadow**	**132.36**	**37**	*e*PKPdf	PKPdf		07 44 21.0 +0.3
RRI2	**Red Ridge**	**132.43**	**38**	*e*PKPdf	PKPdf		07 44 24.8 +3.9
AHID	**Auburn Hatcher**	**132.89**	**39**	PFAKE			07 44 30.0 +8.3
AHID				LR	LR		
	comp=Z,543nm,19.0s,MS5.3						
DUG	**Dugway**	**133.12**	**43**	PKIKP	PKPdf		07 44 24.5 +2.3
DUG	**Dugway**	**133.12**	**43**	*e*PKPdf	PKPdf		07 44 23.4 +1.2
DUG				LR	LR		
	comp=Z,441nm,21.0s,MS5.2						
HWUT	**Hardware Ranch**	**133.22**	**40**	*e*PKPdf	PKPdf		07 44 22.6 +0.3
HWUT				LR	LR		
	comp=Z,516nm,19.0s,MS5.3						
PFO	**Pinyon Flat Ob** baz=133	**133.25**	**52**	⇓P		PKPdf	07 44 25.4 +3.0
LAO	**LASA Array**	**133.27**	**31**	PFAKE			07 44 30.0 +7.6
LAO				LR	LR		
	comp=Z,410nm,21.0s,MS5.1						
V12A	**Nelson** baz=134	**133.68**	**49**	⇑P		PKPdf	07 44 26.6 +3.4
BW06	**Boulder Array**	**133.83**	**38**	PFAKE			07 44 40.0 +17
BW06				LR	LR		
	comp=Z,380nm,19.0s,MS5.1						
PDAR	**Pinedale Array**	**133.83**	**38**	PKP	PKPdf		07 44 25.1 +1.6
	comp=Z,1.1nm,0.7s,baz=141,slow=0.5,SNR=12						
PDAR				pPKP	pPKPdf		07 44 37.9 +1.7
	comp=Z,1.2nm,0.6s,baz=117,slow=2.0,SNR=7.1						
MVU	**Marysvale**	**134.35**	**44**	PFAKE			07 44 40.0 +16
MVU				LR	LR		
	comp=Z,463nm,20.0s,MS5.2						
MSU	**Marysvale**	**134.37**	**44**	*e*PKIKP	PKPdf		07 44 25.3 +0.8
SCHQ	**Schefferville**	**134.59**	**355**	PKP	PKPdf		07 44 25.7 +0.8
	comp=Z,3.0nm,0.8s,baz=5.4,slow=4.4,SNR=8.8						
SCHQ				pPKP	pPKPdf		07 44 38.1 +0.4
	comp=Z,3.2nm,0.7s,baz=265,slow=1.4,SNR=2.3						
X13A	**Yucca** baz=135	**134.90**	**50**	⇓P		PKPdf	07 44 29.6 +4.1
SRU	**San Rafael**	**135.19**	**43**	*e*PKIKP	PKPdf		07 44 29.1 +3.1
W14A	**Seligman** baz=135	**135.21**	**49**	⇓P		PKPdf	07 44 30.2 +4.1
RWWY	**Rawlins**	**135.87**	**38**	*e*PKPdf	PKPdf		07 44 30.1 +2.8
RSSD	**Black Hills**	**136.13**	**33**	PKIKP	PKPdf		07 44 28.8 +1.0
RSSD	**Black Hills**	**136.13**	**33**	*e*PKPdf	PKPdf		07 44 28.6 +0.8
RSSD				LR	LR		
	comp=Z,541nm,19.0s,MS5.3						
PV10	**Paradox Valley**	**136.57**	**43**	*e*PKPdf	PKPdf		07 44 29.6 +1.1
PV01	**Paradox Valley**	**137.01**	**43**	*e*PKPdf	PKPdf		07 44 31.6 +2.2
ISCO	**Idaho Springs**	**137.97**	**39**	*e*PKPdf	PKPdf		07 44 35.5 +4.3
ISCO				LR	LR		
	comp=Z,655nm,21.0s,MS5.3						
EYMN	**Ely**	**138.56**	**19**	PFAKE			07 44 40.0 +7.7
EYMN				LR	LR		
	comp=Z,836nm,20.0s,MS5.5						
ANMO	**Albuquerque**	**140.12**	**45**	PKIKP	PKPdf		07 44 37.3 +2.2
ANMO				MLR	MLR		
	comp=Z,547nm,20.0s						
AMTX	**Amarillo**	**143.42**	**42**	*e*PKPdf	PKPdf		07 44 41.6 +0.6
AMTX				*e*PP	PP		07 47 50.1 -2.4
AMTX				LR	LR		
	comp=Z,415nm,20.0s,MS5.2						
PKME	**Peaks-Kenny Pk**	**144.29**	**356**	*e*PKPdf	PKPdf		07 44 40.6 -1.9
PKME				*e*PP	PP		07 47 53.5 -4.3
MSNY	**Massena**	**144.63**	**3**	*e*PKPdf	PKPdf		07 44 42.3 -0.8
EMMW	**East Machias**	**144.67**	**354**	*e*PKPdf	PKPdf		07 44 43.6 +0.4
FRNY	**Flat Rock**	**144.83**	**1**	*e*PKPdf	PKPdf		07 44 42.6 -0.8
LTX	**Lajitas**	**144.95**	**52**	PKIKP	PKPdf		07 44 45.1 +1.4
LTX				*e*			07 44 51.1
LTX	**Lajitas**	**144.95**	**52**	*e*PKPdf	PKPdf		07 44 45.0 +1.3
LTX				LR	LR		
	comp=Z,490nm,20.0s,MS5.3						
WVL	**Waterville**	**145.01**	**356**	*e*PKPab	PKPab		07 44 44.5 +1.3
BAO	**Brasilia Array**	**145.01**	**225**	PKPdf	PKPdf		07 44 44.0 +0.2
LONY	**Lake Ozonia**	**145.02**	**2**	*e*PKPab	PKPab		07 44 43.4 +0.2
BDFB	**Brasilia**	**145.03**	**225**	PKP	PKPdf		07 44 44.0 +0.2
	comp=Z,56nm,1.0s,baz=136,slow=2.3,SNR=50						
BDFB				pPKP	pPKPdf		07 44 57.0 +0.4
	comp=Z,42nm,0.9s,baz=130,slow=7.0,SNR=11						
BDFB	**Brasilia**	**145.03**	**225**	PKIKP	PKPdf		07 44 44.0 +0.2
BDFB							07 44 57.0
BDFB				pmax	pmax		
	comp=Z,56nm,1.0s						
BDFB				pmax	pmax		
	comp=Z,42nm,0.9s						
BDFB	**Brasilia**	**145.03**	**225**	PKP	PKPdf		07 44 44.0 +0.2
BDFB				pPKP	pPKPdf		07 44 57.0 +0.4
BDFB				LR	LR		
	comp=Z,759nm,19.0s,MS5.5						
WMOK	**Wichita Mounta**	**145.38**	**40**	*e*PKPbc	PKPbc		07 44 45.5 +1.1
WMOK				LR	LR		
	comp=Z,688nm,20.0s,MS5.4						
LBNH	**Lisbon**	**145.43**	**359**	*e*PKPdf	PKPdf		07 44 45.5 +1.0
LBNH				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
MIV	**Mineville/With**	**145.59**	**1**	*e*PKPdf	PKPdf		07 44 45.6 +0.8
NCB	**Newcomb**	**145.68**	**2**	*e*PKPdf	PKPdf		07 44 45.4 +0.5
NCB				LR	LR		
	comp=Z,488nm,21.0s,MS5.3						
AAM	**Ann Arbor**	**145.98**	**15**	PFAKE			07 45 00.0 +15
AAM				LR	LR		
	comp=Z,563nm,20.0s,MS5.3						
ACCN	**Adirondack Com**	**146.28**	**1**	*e*PKPbc	PKPbc		07 44 47.6 +0.5
ERPA	**Erie**	**146.93**	**10**	PFAKE			07 45 00.0 +13
ERPA				LR	LR		
	comp=Z,623nm,19.0s,MS5.4						
CCM	**Cathedral Cave**	**147.06**	**28**	*e*PKP2	PKPab		07 44 49.8 -1.2
CCM				MLR	MLR		
	comp=Z,490nm,20.0s,MS5.3						
HRV	**Harvard--Oak R**	**147.15**	**358**	*e*PKIKP	PKPdf		07 44 47.4 0.0
HRV				*e*			07 44 49.7
HRV				MLR	MLR		
	comp=Z,525nm,19.0s,MS5.3						
JCT	**Junction City**	**147.25**	**47**	*e*PKPdf	PKPdf		07 44 49.5 +1.9
JCT				*e*PKPbc	PKPbc		07 44 51.5 +1.6
JCT				LR	LR		
	comp=Z,551nm,20.0s,MS5.3						
BINY	**Binghamton**	**147.34**	**5**	*e*PKPdf	PKPdf		07 44 48.6 +0.9
BINY				*e*PKPbc	PKPbc		07 44 50.5 +0.3
BINY				*e*PKPab	PKPab		07 44 52.1 +0.1
BINY				LR	LR		
	comp=Z,1µm,22.0s,MS5.6						
ALLY	**Alegheny Colle**	**147.35**	**10**	*e*PKPdf	PKPdf		07 44 48.1 +0.4
ALLY				*e*PKPab	PKPab		07 44 52.6 +0.5
FVM	**French Village**	**147.49**	**27**	*e*PKP2	PKPab		07 44 50.8 -1.9
LVC	**Limon Verde**	**147.83**	**187**	*e*PKPbc	PKPbc		07 44 52.8 +1.3
LVC				*e*PKPab	PKPab		07 44 56.4 +2.4
LVC				LR	LR		
	comp=Z,817nm,19.0s,MS5.5						
BLO	**Bloomington**	**148.00**	**21**	*e*PKP2	PKPab		07 44 52.6 -2.1
ACSO	**Alum Creek Sta**	**148.10**	**15**	*e*PKPdf	PKPdf		07 44 50.0 +1.1
ACSO				*e*PKPbc	PKPbc		07 44 52.7 +0.5
ACSO				LR	LR		
	comp=Z,405nm,21.0s,MS5.2						
SIUC	**Southern Illin**	**148.24**	**25**	*e*PKPdf	PKPbc		07 44 53.3 +0.7
MIAR	**Mount Ida**	**148.61**	**34**	*e*PKIKP	PKPdf		07 44 50.6 +0.8
MIAR				*e*			07 44 54.6
MIAR				MLR	MLR		
	comp=Z,509nm,19.0s,MS5.3						
PAL	**Palisades**	**148.65**	**2**	*e*PKP2	PKPab		07 44 59.2 +1.9
SSPA	**Standing Stone**	**148.69**	**8**	*e*PKPbc	PKPbc		07 44 54.2 +0.5
SSPA				*e*PKPab	PKPab		07 44 58.3 +0.8
SSPA				LR	LR		
	comp=Z,575nm,20.0s,MS5.4						
PARMO	**Parma**	**148.88**	**27**	*e*PKPbc	PKPbc		07 44 57.0 +2.7
WCI	**Wyandotte Cave**	**148.93**	**21**	*e*PKP2	PKPbc		07 44 54.2 -0.2
UALR	**University of**	**149.11**	**33**	*e*PKPdf	PKPbc		07 44 55.8 +1.0
MCWV	**Mont Chateau**	**149.34**	**11**	*e*PKPbc	PKPbc		07 44 56.1 +0.7
MCWV				*e*PKPab	PKPab		07 45 01.1 +1.0
MCWV				LR	LR		
	comp=Z,821nm,20.0s,MS5.5						
GLAT	**Glass**	**149.42**	**27**	*e*PKPbc	PKPbc		07 44 56.4 +0.8
MVL	**Millersville**	**149.50**	**6**	*e*PKPdf	PKPdf		07 44 51.5 +0.2
MVL				*e*PKPbc	PKPbc		07 44 56.5 +0.7
MVL				*e*PKPab	PKPab		07 45 00.6 -0.1
UTMT	**University of**	**149.54**	**26**	*e*PKPbc	PKPbc		07 44 56.9 +1.0
UTMT				*e*PKPab	PKPab		07 45 02.5 +1.6
NATX	**Nacogdoches**	**149.93**	**40**	*e*PKPbc	PKPbc		07 44 58.5 +1.7
NATX				LR	LR		
	comp=Z,427nm,19.0s,MS5.3						
HKT	**Hockley**	**150.34**	**44**	PFAKE			07 45 00.0 +7.4
HKT				LR	LR		
	comp=Z,579nm,22.0s,MS5.3						
OXF	**Oxford**	**150.80**	**29**	*e*PKPbc	PKPbc		07 44 59.5 +0.6
OXF				LR	LR		
	comp=Z,691nm,20.0s,MS5.5						
PLAL	**Pickwick Lake**	**151.03**	**27**	*e*PKPbc	PKPbc		07 44 59.5 0.0
PLAL				LR	LR		
	comp=Z,711nm,21.0s,MS5.5						
FWV	**Forest Hill**	**151.14**	**13**	*e*PKPdf	PKPdf		07 44 54.3 +0.5
FWV				*e*PKPbc	PKPbc		07 44 59.9 +0.2
CBN	**Corbin**	**151.15**	**8**	PFAKE			07 45 10.0 +16
CBN				LR	LR		
	comp=Z,1µm,22.0s,MS5.7						
ELN	**Prospectdale**	**151.49**	**14**	*e*PKPdf	PKPdf		07 44 55.4 +1.0
ELN				*e*PKPbc	PKPbc		07 45 00.6 +0.1
ELN				*e*PKPab	PKPab		07 45 10.4 +1.4
BLA	**Blacksburg**	**151.58**	**13**	*e*PKIKP	PKPdf		07 44 54.6 +0.1
BLA				*e*			07 45 01.0
BLA				*e*			07 45 07.0
BLA				MLR	MLR		
	comp=Z,56nm,21.0s,MS4.3						
CPCT	**Cooper Cave**	**152.04**	**21**	*e*PKPdf	PKPdf		07 44 56.2 +1.1
LRAL	**Lakeview Retre**	**153.15**	**27**	*e*PKPdf	PKPdf		07 44 57.8 +1.0
LRAL				*e*PKPbc	PKPbc		07 45 04.5 +0.3
LRAL				*e*PKPab	PKPab		07 45 19.2 +3.3
LRAL				LR	LR		
	comp=Z,605nm,22.0s,MS5.4						
LPAZ	**La Paz**	**153.94**	**190**	PKP	PKPdf		07 44 60.0 +2.0
	comp=Z,1.7nm,1.0s,baz=6.7,slow=0.7,SNR=5.5						
LPAZ				PKPbc	PKPbc		07 45 08.1 +2.2
	comp=Z,8.2nm,1.2s,baz=135,slow=1.4,SNR=14						
LPAZ	**La Paz**	**153.94**	**190**	PKIKP	PKPdf		07 45 00.0 +2.1
LPAZ							07 45 08.1
LPAZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
LPAZ				pmax	pmax		
	comp=Z,8.0nm,1.2s						
LPAZ	**La Paz**	**153.94**	**190**	PKP	PKPdf		07 44 60.0 +2.0
LPAZ				PKPbc	PKPbc		07 45 08.1 +2.2
LPAZ				LR	LR		
	comp=Z,446nm,20.0s,MS5.3						
BBSR	**BB Station**	**156.11**	**343**	PFAKE			07 45 10.0 +9.1
BBSR				LR	LR		
	comp=Z,530nm,21.0s,MS5.3						
DWPF	**Disney**	**159.78**	**23**	PFAKE			07 45 20.0 +15
DWPF				LR	LR		
	comp=Z,600nm,21.0s,MS5.4						
OTAV	**Otavalo**	**169.12**	**148**	*e*PKPdf	PKPdf		07 45 15.4 +1.8
OTAV				*e*PKPab	PKPab		07 46 25.0 -0.5
OTAV				LR	LR		
	comp=Z,498nm,21.0s						

IDC 19 07:41:28.7±1.7, 044N×12384E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, Error ellipse: s-maj=185.8km s-min=25.7km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.9nm,0.5s,baz=331,slow=10,SNR=7.9	**22.72**	**154**	P	P	07 46 32.1	0.0
ASAR	**Alice Springs** 0.4nm,0.4s,baz=350,slow=15,SNR=6.1	**25.88**	**158**	P	P	07 47 02.6	+0.5
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=120,slow=8.6,SNR=5.7	**58.69**	**328**	P	P	07 51 28.2	+0.2

MAN 19 07:42:02.6, 711N×12617E, h29km, mb3.1, ML4.4, MS4.0, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.19**	**151**	*e*P	Pb	07 42 09.7	+1.2
MATI				*e*S	Sb	07 42 16.0	+3.5
KCP	**Kidapawan**	**1.07**	**265**	⇑*i*P	Pn	07 42 27.3	+5.7
KCP				*i* S	Sn	07 42 45.5	+10
BUKP	**Musuan**	**1.33**	**305**	*e*P	Pn	07 42 26.1	+0.9
BUTP	**Butuan**	**1.92**	**344**	*e*P	Pn	07 42 33.1	-0.2
CGP	**Cagayan de Oro**	**1.98**	**313**	*e*P	Pn	07 42 34.2	+0.1
CGP				*i* S	Sn	07 42 58.1	+0.2
SCPH	**Surigao**	**2.74**	**346**	⇑*e*P	Pn	07 42 46.7	+2.2

IDC 19 08:08:10.3±3.3, 969S×10832E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.8/4, MS3.8/1, Ms1 3.8/1, ms1mx2.9/33, Error ellipse: s-maj=160.6km s-min=29.9km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat** comp=Z,307nm,18.1s,baz=62,slow=46	**15.54**	**323**	LR	LR	08 19 58.5	
ASAR	**Alice Springs** 0.3nm,0.7s,baz=299,slow=9.8,SNR=4.3	**28.10**	**123**	P	P	08 14 04.2	+0.4
SONM	**Songino Array** 1.1nm,0.6s,baz=176,slow=8.2,SNR=6.3	**57.30**	**358**	P	P	08 18 00.2	+0.3
MKAR	**Makanchi Array** 1.0nm,0.8s,baz=133,slow=8.4,SNR=7.2	**60.85**	**340**	P	P	08 18 24.2	-0.3
BVAR	**Borovoye Array** 1.0nm,0.5s,baz=140,slow=9.4,SNR=5.8	**70.34**	**337**	P	P	08 19 26.0	+0.1

*NEIC **19** 08:08:51.2±3.6, 3248N×9620E, h10km, mb3.9/2, Error ellipse: s-maj=56.9km s-min=20.5km az=166.0*
*ISCJB **19** 08:08:53.2±0.7, 3282N±009×9610E±010, h10km, mb4.1/11, Error ellipse: s-maj=14.6km s-min=10.1km az=75.9*
*IDC **19** 08:08:53.5±0.8, 3291N×9634E, h0km, mb3.9/8, mb1 4.1/10, mb1mx4.0/20, mbtmp4.0/10, ML4.0/2, Error ellipse: s-maj=46.7km s-min=17.6km az=55.0*
*BJI **19** 08:08:54.3, 3290N×9605E, h11km, mb4.5, ML3.6, Ms3.9, Msz3.6*

ISC 19 08:08:55.4±0.7, 3284N±009×9602E±010, h10km, n18, σ1§22/20, mb4.1/11, 1C, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**7.22**	**61**	*e*P	**Pn**	**08 10 42.3**	**+1.3**
LZH				*e*S	**Sn**	**08 12 09.3**	**+6.2**
LZH				Smax			
	comp=N,46nm,0.9s						
LZH				Smax			
	comp=E,31nm,1.0s						
LZH				LR	LR		
	comp=N,236nm,7.6s						
LZH				LR	LR		
	comp=Z,342nm,8.4s						
GTA	**Gaotai**	**7.24**	**24**	P	**Pn**	**08 10 40.4**	**-0.8**
GTA				SG	**Sg**	**08 12 41.0**	**-6.6**
GYA	**Guiyang**	**11.23**	**122**	⇑*i*P	**Pn**	**08 11 36.1**	**+0.2**
SONM	**Songino Array**	**16.91**	**25**	Pn	**Pn**	**08 12 51.3**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=208,slow=15,SNR=13						
MKAR	**Makanchi Array**	**17.44**	**327**	P	**Pn**	**08 12 59.4**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=137,slow=12,SNR=39						
AAK	**Ala-Archa**	**19.59**	**306**	*e*Pn	**Pn**	**08 13 24.7**	**-0.2**
	comp=Z,3.3nm,0.6s						
KURK	**Kurchatov**	**21.98**	**329**	*e*P	**P**	**08 13 49.6**	**+0.1**
	comp=Z,6.6nm,0.9s,mb4.1						
CN2	**Changchun**	**25.42**	**56**	*e*P	**P**	**08 14 26.1**	**+3.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
JOF	**Joensuu**	**49.87**	**327**	*e*p	**P**	**08 17 43.4**	**-5.4**
	comp=Z,2.0nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**52.26**	**325**	P	**P**	**08 18 05.6**	**-1.2**
	comp=Z,1.0nm,0.4s,mb4.1,baz=96,slow=7.1,SNR=12						
ARCES	**ARCESS Array B**	**52.84**	**335**	P	**P**	**08 18 09.2**	**-2.0**
	comp=Z,3.0nm,0.8s,mb4.3,baz=88,slow=8.6,SNR=5.4						
ARCES				PcP	PcP	08 19 20.7	+0.4
	comp=Z,4.8nm,1.0s,baz=98,slow=6.5,SNR=3.5						
NB2	**NORSAR Subarra**	**59.43**	**326**	P	**P**	**08 18 58.1**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.8,baz=78,slow=6.9						
NOA	**NORSAR Array B**	**59.43**	**326**	P	**P**	**08 18 58.4**	**+0.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=76,slow=6.9,SNR=5.0						
GERES	**GERESS Array B**	**61.35**	**312**	P	**P**	**08 19 13.5**	**+2.2**
	comp=Z,0.4nm,0.2s,mb4.1,baz=123,slow=6.6,SNR=4.5						
WRA	**Warramunga Arr**	**64.00**	**140**	P	**P**	**08 19 28.2**	**-0.8**
	comp=Z,5.2nm,1.3s,mb4.4,baz=332,slow=7.4,SNR=11						
ASAR	**Alice Springs**	**66.81**	**142**	P	**P**	**08 19 46.1**	**-1.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=327,slow=6.4,SNR=18						
YKA	**Yellowknife Ar**	**81.85**	**14**	P	**P**	**08 21 14.1**	**-0.7**
	comp=Z,0.2nm,0.6s,mb3.3,baz=339,slow=5.7,SNR=3.9						
TORD	**Torodi Ar. Bea**	**86.55**	**283**	P	**P**	**08 21 40.9**	**+2.2**
	comp=Z,0.7nm,0.6s,mb4.0,baz=55,slow=5.1,SNR=5.9						

*IDC **19** 08:18:58.0±0.8, 854S×10890E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.9/17, mbtmp3.9/8, Error ellipse: s-maj=41.1km s-min=17.7km az=61.0*
*NEIC **19** 08:18:59.4±0.7, 850S×10887E, h10km, mb4.5/2, Error ellipse: s-maj=34.7km s-min=14.4km az=59.0*
*ISCJB **19** 08:19:00.7±0.7, 85S±02×1089E±02, h33km, mb4.0/10, Error ellipse: s-maj=34.7km s-min=13.9km az=114.1*

ISC 19 08:19:03.1±0.7, 85S±02×1088E±02, h35km, n13, σ1§07/10, mb4.0/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.7nm,0.8s,mb3.3,baz=291,slow=10,SNR=4.7	**27.15**	**117**	P	**P**	**08 24 43.6**	**+0.6**
ASAR	**Alice Springs** 0.2nm,0.7s,mb2.8,baz=301,slow=8.7,SNR=3.3	**28.32**	**125**	P	**P**	**08 24 53.0**	**-0.5**
ASAR				PcP	PcP	08 28 04.7	-1.0
	0.5nm,0.6s,baz=308,slow=1.8,SNR=6.0						
STKA	**Stephens Creek** 2.6nm,1.0s,mb3.9,baz=340,slow=14,SNR=3.5	**38.27**	**132**	P	**P**	**08 26 18.7**	**-1.3**
SONM	**Songino Array** 1.1nm,0.5s,mb4.2,baz=176,slow=8.8,SNR=8.3	**56.15**	**358**	P	**P**	**08 28 41.1**	**+1.9**
MKAR	**Makanchi Array** 4.2nm,0.6s,mb4.7,baz=142,slow=7.6,SNR=54	**59.94**	**339**	P	**P**	**08 29 05.3**	**-0.3**
KURK	**Kurchatov** 4.9nm,1.0s,mb4.5	**64.55**	**339**	*e*P	**P**	**08 29 35.8**	**-0.8**
KURK				*e*	pP	08 29 45.5	-1.8
MAW	**Mawson** 1.4nm,0.7s,mb4.1,baz=53,slow=7.0,SNR=4.0	**66.46**	**197**	P	**P**	**08 29 48.6**	**-0.3**
BVAR	**Borovoye Array** 1.0nm,0.5s,mb4.0,baz=137,slow=9.4,SNR=7.0	**69.48**	**336**	P	**P**	**08 30 08.3**	**+0.4**
CHKZ	**Chkalovo** 2.0nm,0.6s,mb4.2	**69.88**	**337**	*e*P	**P**	**08 30 09.1**	**-1.3**
VNDA	**Vanda** 1.0nm,0.8s,mb3.8,baz=300,slow=10,SNR=4.8	**74.15**	**170**	P	**P**	**08 30 37.8**	**+1.9**
WMOK	**Wichita Mounta**	**143.63**	**40**	*e*PKPdf	PKPdf	08 38 33.3	-0.9
JCT	**Junction City**	**145.45**	**47**	*e*PKPbc	PKPbc	08 38 39.5	+2.1
WVT	**Waverly**	**148.59**	**26**	*e*PKPbc	PKPbc	08 38 47.0	+0.7

*KISR **19** 08:24:18.0±0.8, 2753N×5295E, h33km, ML3.3*
*NEIC **19** 08:24:19.6, 2732N×5260E, h14km, ML3.6(THR), After THR.*
*THR **19** 08:24:19.2±0.5, 2732N×5255E, h15km±8km, ML3.6*
*IDC **19** 08:24:20.2±1.4, 2739N×5268E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.9/23, mbtmp3.9/11, ML3.8/1, Error ellipse: s-maj=29.3km s-min=22.9km az=178.0*
*CSEM **19** 08:24:21.2±0.2, 2733N×5263E, h25km, mb4.1/6, Error ellipse: s-maj=5.9km s-min=3.5km az=34.0*
*ISCJB **19** 08:24:22.5±0.7, 2733N±005×5272E±004, h33km±8km, mb3.9/10, Error ellipse: s-maj=8.5km s-min=5.4km az=17.7*
*MOS **19** 08:24:23.6±1.5, 2746N×5268E, h35km, mb4.2/6, Error ellipse: s-maj=26.8km s-min=13.4km az=86.5*
*TEH **19** 08:24:26.3, 2757N×5267E, h18km, Mn3.7*

ISC 19 08:24:25.2±0.6, 2743N±004×5276E±004, h35km±7km, n50, σ1§20/62, mb3.9/10, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.88**	**13**	*e*PG	**Pn**	**08 24 38.8**	**-2.2**
GHIR				*e*SG	**Sn**	**08 24 52.9**	**+0.4**
GHIR				AML	AML	08 24 57.1	
	comp=E,3µm,0.5s						
GHIR	**Ghir-Karzin**	**0.88**	**13**	*e*P

KKAR **Karatay Array** 21.25 38 P P 08 29 06.6 -1.6
AB31 **Akbulak array** 22.49 12 P P 08 29 21.0 -0.4
AKTK **Aktyubinsk** 23.32 9 P P 08 29 32.1 +1.9
AKTO **Aktyubinsk** 23.32 9 P P 08 29 32.1 +1.9
comp=Z,1.1nm,0.4s,mb3.6,baz=180,slow=12,SNR=4.8
AKTO **Aktyubinsk** 23.32 9 P P 08 29 32.1 +1.9
AKTO pmax pmax
comp=Z,1.0nm,0.4s,mb3.6
BVAR **Borovoye Array** 28.73 22 P P 08 30 19.6 +0.5
comp=Z,0.7nm,0.4s,mb3.7,baz=190,slow=7.3,SNR=3.6
BVAR **Borovoye Array** 28.73 22 P P 08 30 19.6 +0.4
BVAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR **Makanchi Array** 30.20 42 P P 08 30 32.1 -0.1
comp=Z,0.4nm,0.6s,mb3.3,baz=224,slow=6.0,SNR=2.3
JOF **Joensuu** 38.18 344 *ep* P 08 31 39.1 -2.2
comp=Z,3.7nm,0.5s,mb4.4
JOF **Joensuu** 38.18 344 *eP* P 08 31 39.1 -2.2
JOF pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
FINES **FINESS Array B** 38.42 340 P P 08 31 42.8 -0.5
comp=Z,1.6nm,0.4s,mb4.1,baz=141,slow=9.3,SNR=15
FINES **FINESS Array B** 38.42 340 P P 08 31 42.8 -0.5
FINES pmax pmax
comp=Z,2.0nm,0.4s
NB2 **NORSAR Subarra** 43.61 332 P P 08 32 25.1 -0.9
comp=Z,0.9nm,0.6s,mb3.7,baz=120,slow=8.6
NOA **NORSAR Array B** 43.61 332 P P 08 32 25.3 -0.7
comp=Z,1.2nm,0.6s,mb3.8,baz=121,slow=8.1,SNR=5.9
NOA **NORSAR Array B** 43.61 332 P P 08 32 25.3 -0.7
NOA pmax pmax
comp=Z,1.0nm,0.6s
ARCES **ARCESS Array B** 45.02 347 P P 08 32 37.2 -0.1
comp=Z,4.8nm,1.0s,mb4.3,baz=151,slow=4.6,SNR=3.9
ARCES **ARCESS Array B** 45.02 347 P P 08 32 37.2 -0.1
ARCES pmax pmax
comp=Z,5.0nm,1.0s
SONM **Songino Array** 46.08 49 P P 08 32 46.7 +1.1
comp=Z,0.4nm,0.4s,mb3.7,baz=255,slow=8.1,SNR=4.9
TORD **Torodi Ar. Bea** 49.63 264 P P 08 33 13.3 +0.1
comp=Z,2.0nm,0.6s,mb4.3,baz=56,slow=7.6,SNR=16
TORD **Torodi Ar. Bea** 49.63 264 P P 08 33 13.3 +0.1
YKA **Yellowknife Ar** 89.82 354 P P 08 37 20.4 +0.3
comp=Z,0.6nm,0.5s,mb4.2,baz=7.7,slow=5.1,SNR=25
YKA **Yellowknife Ar** 89.82 354 P P 08 37 20.4 +0.2
YKA pmax pmax
comp=Z,1.0nm,0.5s

NNC 19 08:37:55.2±10.0, 3644N×7021E, h122km±185km, mb2.9, mpv3.6, 2C-2D, Error ellipse: s-maj=157.1km s-min=73.1km az=75.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.66**	**2**	P	Pn	08 39 30.3	-0.2
	1.3nm,0.2s,baz=173,slow=11,SNR=42						
KK31				⇑S	Sn	08 40 45.5	+0.6
	1.2nm,0.3s,baz=195,slow=24,SNR=7.8						
AB31	**Akbulak array**	**14.84**	**333**	⇓P	Pn	08 41 20.1	+1.4
	1.0nm,0.5s						
AB31				⇑S	Sn	08 44 02.8	+0.1
	0.6nm,0.6s,baz=153,slow=24,SNR=8.2						
AKTO	**Aktyubinsk**	**16.52**	**332**	⇓P	Pn	08 41 38.3	-1.3
	1.2nm,3.3s						

IDC 19 08:43:49.2±2.4, 946S×10893E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/15, mbtmp3.9/5, Error ellipse: s-maj=110.7km s-min=19.7km az=53.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.66**	**116**	P	P	08 49 29.7	+0.1
	0.5nm,0.8s,baz=286,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**27.73**	**124**	P	P	08 49 39.6	+0.3
	0.4nm,0.5s,baz=297,slow=9.4,SNR=9.6						
STKA	**Stephens Creek**	**37.59**	**131**	P	P	08 51 06.0	+0.6
	2.3nm,0.6s,baz=284,slow=8.1,SNR=12						
SONM	**Songino Array**	**57.08**	**358**	P	P	08 53 37.5	+0.4
	0.9nm,0.6s,baz=179,slow=8.1,SNR=8.5						
MKAR	**Makanchi Array**	**60.83**	**339**	P	P	08 54 03.1	-0.1
	1.6nm,0.6s,baz=141,slow=7.6,SNR=19						

*ISCJB **19** 08:53:48.8±0.7, 2768S×005×179.1W±0.1, h388km±7km, mb4.2/15, Error ellipse: s-maj=15.3km s-min=7.5km az=12.0*
*IDC **19** 08:53:49.2±0.8, 2749S×17902W, h374km±9km, mb3.8/8, mb1 4.0/11, mb1mx3.8/15, mbtmp4.6/11, Error ellipse: s-maj=21.7km s-min=13.6km az=157.0*
*NEIC **19** 08:53:49.5±0.8, 2745S×17901W, h381km±9km, mb4.3/7, Error ellipse: s-maj=15.7km s-min=9.7km az=150.0*
ISC 19 08:53:50.3±0.6, 2777S±004×1790W±01, h387km±6km, n69, σ1ᵍ01/59, mb4.2/15, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.75**	**147**	P	**Pn**	**08 54 44.4**	**+0.9**
	1μm,0.3s,baz=53,slow=23,SNR=120						
RAO				S	**S**	**08 55 25.7**	**-0.7**
	421nm,0.3s,baz=233,slow=20,SNR=2.8						
MXZ	**Matakaoa Point**	**10.02**	**192**	PN	**Pn**	**08 56 11.0**	**+2.5**
MXZ	**Matakaoa Point**	**10.02**	**192**	P	**Pn**	**08 56 10.9**	**+2.4**
MWZ	**Matawai**	**10.93**	**195**	PN	**Pn**	**08 56 18.5**	**-0.5**
MWZ				SN	**S**	**08 58 19.8**	**-1.2**
MWZ				SN	**S**	**08 58 20.8**	**-0.2**
MWZ	**Matawai**	**10.93**	**195**	*eP*	**Pn**	**08 56 18.8**	**-1.1**
URZ	**Urewera**	**10.96**	**196**	P	**Pn**	**08 56 20.3**	**+0.9**
	25nm,0.3s,baz=310,slow=2.3,SNR=40						
URZ				S	**S**	**08 58 22.0**	**+0.5**
	17nm,0.3s,baz=106,slow=23,SNR=16						
URZ	**Urewera**	**10.96**	**196**	PN	**Pn**	**08 56 17.1**	**-2.3**
URZ	**Urewera**	**10.96**	**196**	*eP*	**Pn**	**08 56 17.1**	**-2.3**
KNZ	**Kokohu**	**11.56**	**193**	PN	**Pn**	**08 56 24.6**	**-1.8**
KNZ				SN	**S**	**08 58 33.7**	**-0.1**
KNZ	**Kokohu**	**11.56**	**193**	*eP*	**Pn**	**08 56 24.6**	**-1.8**
BKZ	**Black Stump Fm**	**11.97**	**197**	PN	**Pn**	**08 56 28.1**	**-3.1**
BKZ				SN	**S**	**08 58 42.0**	**-0.1**
BKZ	**Black Stump Fm**	**11.97**	**197**	*eP*	**Pn**	**08 56 28.8**	**-2.4**
TUVZ	**Tukino**	**12.30**	**200**	PN	**Pn**	**08 56 36.3**	**+1.3**
FWVZ	**Far West T-bar**	**12.32**	**200**	PN	**Pn**	**08 56 36.1**	**+0.8**
PKVZ	**Pokaka**	**12.41**	**201**	PN	**Pn**	**08 56 37.0**	**+0.7**
MTVZ	**Mangateitei**	**12.46**	**200**	*e*PN	**Pn**	**08 56 37.3**	**+0.3**
WAZ	**Wanganui**	**12.95**	**201**	PN	**Pn**	**08 56 42.1**	**-0.5**
BFZ	**Birch Farm**	**13.46**	**196**	PN	**P**	**08 56 45.9**	**-0.6**
BFZ				SN	**S**	**08 59 11.8**	**-0.5**
BFZ	**Birch Farm**	**13.46**	**196**	*e*P	**P**	**08 56 45.9**	**-0.6**
MRZ	**Mangatainoka R**	**13.61**	**198**	*e*PN	**P**	**08 56 46.3**	**-1.8**
MRZ	**Mangatainoka R**	**13.61**	**198**	*e*P	**P**	**08 56 47.0**	**-1.1**
TIWZ	**Tintock**	**13.64**	**197**	*e*PN	**P**	**08 56 49.3**	**+0.9**
MTW	**Mount Morrison**	**14.10**	**197**	*e*PN	**P**	**08 56 54.4**	**+1.0**
CAW	**Cannon Point**	**14.17**	**199**	*e*PN	**P**	**08 56 53.2**	**-1.0**
DZM	**Mont Dzumac**	**14.37**	**290**	P	**P**	**08 56 56.8**	**+0.4**
	1.7nm,0.3s,baz=150,slow=8.1,SNR=10						
NOUC	**Port Laguerre**	**14.47**	**290**	*e*P	**P**	**08 56 57.1**	**-0.4**
AFI	**Afiamalu**	**15.35**	**27**	P	**P**	**08 57 01.3**	**-5.7**
	21nm,0.3s,baz=6.7,slow=3.7,SNR=30						
AFI				S	**S**	**08 59 35.9**	**-14**
	9.5nm,0.3s,baz=41,slow=23,SNR=6.7						
THZ	**Tophouse**	**15.45**	**203**	*e*PN	**P**	**08 57 08.1**	**0.0**
THZ	**Tophouse**	**15.45**	**203**	*e*P	**P**	**08 57 09.4**	**+1.3**
KHZ	**Kahutara**	**15.83**	**201**	*e*PN	**P**	**08 57 12.3**	**+0.1**
KHZ	**Kahutara**	**15.83**	**201**	*e*P	**P**	**08 57 13.0**	**+0.8**
RPZ	**Rata Peaks**	**17.82**	**204**	P	**P**	**08 57 36.1**	**+2.7**
	0.6nm,0.3s,baz=338,slow=5.4,SNR=3.3						
TOO	**Toolangi**	**31.29**	**243**	*e*P	**P**	**08 59 38.8**	**+2.7**
	2.9nm,0.3s,mb4.1						
CTA	**Charters Tower**	**32.59**	**276**	*e*P	**P**	**08 59 47.7**	**+0.4**
	10nm,0.3s,mb4.6						
STKA	**Stephens Creek**	**34.30**	**253**	P	**P**	**09 00 02.9**	**+1.0**
	4.1nm,0.5s,mb4.0,baz=88,slow=9.8,SNR=15						
AS31	**Alice Springs**	**42.43**	**265**	*e*P	**P**	**09 01 09.0**	**+0.2**
ASAR	**Alice Springs**	**42.43**	**265**	P	**P**	**09 01 08.8**	**0.0**
	4.9nm,0.4s,mb4.2,baz=98,slow=7.5,SNR=113						
ASAR				ScP	ScP	09 06 07.5	+0.9
	1.0nm,0.9s,baz=119,slow=4.4,SNR=4.7						
ASPA	**Alice Springs**	**42.43**	**265**	*e*P	**P**	**09 01 09.0**	**+0.2**
WB2	**Warramunga Arr**	**43.16**	**270**	*e*P	**P**	**09 01 14.1**	**-0.5**
WRAB	**Tennant Creek**	**43.17**	**270**	*e*P	**P**	**09 01 14.0**	**-0.6**
	20nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**43.17**	**270**	P	**P**	**09 01 14.2**	**-0.4**
	7.7nm,0.4s,mb4.4,baz=108,slow=6.2,SNR=184						
FORT	**Forrest**	**45.93**	**253**	*e*P	**P**	**09 01 35.5**	**-0.6**
	14nm,1.2s,mb4.2						

KAKA **Kakadu** 47.66 278 *e*P P 09 01 48.2 -1.1
4.4nm,0.3s,mb4.3
FITZ **Fitzroy Crossi** 51.52 268 P P 09 02 18.3 +0.2
1.3nm,0.3s,mb3.6,baz=318,slow=4.1,SNR=7.1
KLBR **Kellerberrin** 54.41 250 *e*P P 09 02 38.6 -0.3
11nm,1.1s,mb4.0
MJAR **Matsushiro Arr** 75.59 326 P P 09 04 52.2 -1.5
6.3nm,0.8s,mb4.3,baz=164,slow=6.8,SNR=7.3
MJAR **Matsushiro Arr** 75.59 326 P P 09 04 52.2 -1.5
ASAJ **Asahikawa** 79.71 333 P P 09 05 16.4 +0.2
9.5nm,0.8s,mb4.5,baz=281,slow=6.2,SNR=5.9
NVAR **Mina Array Bea** 86.92 43 P P 09 05 52.9 +0.4
2.3nm,0.8s,mb4.0,baz=217,slow=6.4,SNR=17
TUC **Tucson** 88.17 52 *eP* P 09 05 59.5 +1.2
16nm,1.6s,mb4.5
PDAR **Pinedale Array** 94.84 44 P P 09 06 28.4 -0.8
0.3nm,0.5s,mb3.5,baz=192,slow=4.2,SNR=5.0
MKAR **Makanchi Array** 115.40 311 PKP PKPdf 09 11 45.1 -1.5
0.4nm,0.5s,baz=228,slow=1.3,SNR=7.5
BVAR **Borovoye Array** 123.90 317 PKP PKPdf 09 12 02.1 -0.9
1.7nm,0.4s,baz=130,slow=1.5,SNR=13
ZRNK **Zerenda** 124.74 317 *e*PKPdf PKPdf 09 12 03.5 -1.1
ARCES **ARCESS Array B** 135.84 348 PKP PKPdf 09 12 25.6 0.0
0.9nm,0.4s,baz=107,slow=2.2,SNR=6.3
JOF **Joensuu** 139.66 339 *ep* PKPdf 09 12 22.8 -10
1.0nm,0.4s
KAF **Kangasniemi** 141.79 341 *ep* PKPdf 09 12 29.2 -7.2
2.5nm,0.5s
FINES **FINESS Array B** 142.38 341 PKhKP 09 12 31.9
2.1nm,0.3s,baz=56,slow=3.9,SNR=37
FINES **FINESS Array B** 142.38 341 PKP PKPdf 09 12 31.9 -5.6
NB2 **NORSAR Subarra** 146.03 351 PKP PKPdf 09 12 43.0 -0.8
comp=Z,3.2nm,0.5s,baz=24,slow=3.3
NOA **NORSAR Array B** 146.03 351 PKPbc PKPbc 09 12 43.5 -1.9
comp=Z,2.4nm,0.4s,baz=15,slow=4.6,SNR=14
HFS **Hagfors** 146.50 349 PKPbc PKPbc 09 12 44.7 -2.0
comp=Z,4.9nm,0.4s,baz=72,slow=1.9,SNR=46
AKASG **Malin Array Be** 148.67 325 PKPbc PKPbc 09 12 51.0 -1.4
comp=Z,4.2nm,0.4s,baz=47,slow=3.5,SNR=30
AKBB **Malin Array Si** 148.67 325 *e*PKPbc PKPbc 09 12 51.1 -1.3
AKBB *e*PKPab PKPab 09 12 55.9 -1.5
MMAI **Mount Meron Ar** 149.95 289 PKPbc PKPbc 09 12 57.1 +1.5
comp=Z,3.7nm,0.4s,baz=78,slow=7.8,SNR=7.0
BRTR **Keskin Array B** 150.52 302 PKPbc PKPbc 09 12 56.4 -0.5
comp=Z,1.5nm,0.6s,baz=127,slow=4.2,SNR=10
EKA **Eskdalemuir Ar** 152.29 5 PKPbc PKPbc 09 12 59.5 -1.4
comp=Z,0.9nm,0.4s,baz=333,slow=2.5,SNR=9.0
EKA PKPab PKPab 09 13 10.2 -2.4
comp=Z,0.9nm,0.5s,baz=345,slow=3.6,SNR=4.9
GERES **GERESS Array B** 156.78 338 PKPab PKPab 09 13 30.0 -1.7
comp=Z,0.3nm,0.2s,baz=145,slow=4.9,SNR=4.4
TORD **Torodi Ar. Bea** 165.44 183 PKPab PKPab 09 14 11.9 +2.2
comp=Z,0.4nm,0.5s,baz=170,slow=4.1,SNR=10

*ISCJB **19** 08:58:21.8±0.5, 5247N±006×15856E±0.10, h91km±3km, mb4.0/25, Error ellipse: s-maj=12.7km s-min=6.8km az=92.2*
*MOS **19** 08:58:21.6±1.1, 5244N×15853E, h90km, mb4.3/14, Error ellipse: s-maj=11.2km s-min=0.0km az=66.3*
*IDC **19** 08:58:22.2±7.5, 5252N×15842E, h75km±69km, mb3.7/21, mb1 3.9/21, mb1mx3.9/27, mbtmp4.1/21, MS3.8/3, Ms1 3.8/3, ms1mx3.0/44, Error ellipse: s-maj=16.6km s-min=14.5km az=154.0*
*NEIC **19** 08:58:23.9±0.8, 5256N×15842E, h90km±6km, mb4.4/3, Error ellipse: s-maj=11.2km s-min=8.4km az=153.0*
*KRSC **19** 08:58:23, 5235N×159.10E, h73km, ML4.3*
ISC 19 08:58:22.9±0.5, 5251N±006×15854E±010, h87km±4km, n64, σ1ᵍ18/71, mb4.0/25, 6C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.08**	**192**	P	Pn	**08 58 35.3**	**+0.2**
PET	**Petropavlovsk**	**0.52**	**8**	P	Pn	**08 58 39.1**	**+1.7**
PET				S	Sn	**08 58 50.8**	**+2.6**
PET	**Petropavlovsk**	**0.52**	**8**	⇑*i*PN	Pn	**08 58 39.1**	**+1.7**
PET				*i* S	Sn	**08 58 51.0**	**+2.8**
PET				pmax	pmax		
	comp=Z,2μm,0.2s						
PET				pmax	pmax		
	comp=Z,1μm,0.4s						
PET				smax			
	comp=E,4μm,0.6s						
PET				smax			
	comp=N,5μm,0.6s						
PET	**Petropavlovsk**	**0.52**	**8**	*e*Pg	Pn	**08 58 38.6**	**+1.3**
PET				*e*Sg	Sn	**08 58 50.1**	**+2.0**
NLC	**Nalytchevo**	**0.82**	**36**	P	Pn	**08 58 40.6**	**+0.3**
NLC				S	Sn	**08 58 53.6**	**+0.3**
SPN	**Mys Shipunski**	**1.07**	**56**	P	Pn	**08 58 42.6**	**-0.6**
SPN				S	Sn	**08 58 56.4**	**-2.0**
SKR	**Severo-Kuril's**	**2.38**	**220**	*e*PN	Pn	**08 58 57.0**	**-2.9**
SKR				*e*S	Sn	**08 59 24.7**	**-3.6**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,550nm,0.5s						
SKR				smax			
	comp=E,390nm,0.5s						
SKR				smax			
	comp=Z,170nm,0.5s						
MKZ	**Mys Kozlova**	**2.79**	**42**	P	Pn	**08 59 05.4**	**-0.1**
MKZ				S	Sn	**08 59 36.2**	**-2.1**
KOZ	**Kozyrevsk**	**3.64**	**12**	P	Pn	**08 59 20.4**	**+3.5**
KOZR	**Kozyr**	**3.65**	**12**	PN	Pn	**08 59 20.4**	**+3.4**
KBTR	**Krutoberegovo**	**4.47**	**32**	P	Pn	**08 59 29.1**	**+0.9**
KBTR				S	Sn	**09 00 16.7**	**-2.2**
MA2	**Magadan**	**8.30**	**332**	⇑*e*PN	Pn	**09 00 19.7**	**-0.7**
YSS	**Yuzh-Sakhalins**	**11.62**	**248**	⇑*e*PN	Pn	**09 01 08.8**	**+3.2**
YSS				pmax	pmax		
	comp=Z,19nm,2.5s						
MJAR	**Matsushiro Arr**	**21.45**	**230**	P	P	**09 03 05.3**	**+1.3**
	comp=Z,1.1nm,0.5s,mb3.5,baz=27,slow=11,SNR=4.2						
MJAR	**Matsushiro Arr**	**21.45**	**230**	P	P	**09 03 05.4**	**+1.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TIXI	**Tiksi**	**23.23**	**337**	⇑*eP*	P	**09 03 21.3**	**-1.1**
TIXI				*i* *PP		09 03 41.0	
HIA	**Hailar**	**24.49**	**278**	⇑*eP*	P	**09 03 35.6**	**+1.7**
MCK	**McKinley**	**29.04**	**47**	*eP*	P	**09 04 09.1**	**-5.6**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.4						
MCK	**McKinley**	**29.04**	**47**	*eP*	P	**09 04 09.1**	**-5.6**
	comp=Z,3.8nm,0.4s,mb4.4						
COLA	**College**	**29.48**	**44**	*eP*	P	**09 04 19.1**	**+0.5**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
COLA	**College**	**29.48**	**44**	*eP*	P	**09 04 19.1**	**+0.5**
	comp=Z,6.6nm,0.6s,mb4.4						
SONM	**Songino Array**	**33.12**	**283**	LR	LR	09 17 52.9	
	comp=Z,64nm,19.4s,baz=242,slow=35						
INK	**Inuvik**	**34.90**	**37**	P	P	**09 05 05.7**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.6,baz=303,slow=6.7,SNR=8.5						
YKA	**Yellowknife Ar**	**44.23**	**42**	P	P	**09 06 23.4**	**0.0**
	comp=Z,0.3nm,0.7s,mb3.1,baz=300,slow=7.4,SNR=4.7						
YKA	**Yellowknife Ar**	**44.23**	**42**	*eP*	P	**09 06 23.3**	**-0.1**
KURK	**Kurchatov**	**47.24**	**302**	⇓*eP*	P	**09 06 49.6**	**-0.2**
MKAR	**Makanchi Array**	**47.55**	**295**	P	P	**09 06 48.8**	**-0.8**
	comp=Z,0.6nm,0.4s,mb3.7,baz=56,slow=6.9,SNR=10						
MKAR	**Makanchi Array**	**47.55**	**295**	*i* P	P	**09 06 49.0**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHKZ	**Chkalovo**	**49.51**	**309**	*eP*	P	**09 07 03.4**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
CHKZ	**Chkalovo**	**49.51**	**309**	*eP*	P	**09 07 03.4**	**-1.2**
	comp=Z,1.6nm,0.4s,mb4.3						
BVAR	**Borovoye Array**	**50.01**	**308**	P	P	**09 07 07.1**	**-1.3**
	comp=Z,0.9nm,0.4s,mb4.1,baz=64,slow=7.8,SNR=8.1						
BVAR	**Borovoye Array**	**50.01**	**308**	P	P	**09 07 07.1**	**-1.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YBH	**Yreka Blue Hor**	**52.11**	**68**	P	P	**09 07 25.4**	**+1.3**
	comp=Z,1.0nm,0.7s,mb4.0,baz=263,slow=16,SNR=3.4						
YBH	**Yreka Blue Hor**	**52.11**	**68**	P	P	**09 07 25.4**	**+1.3**
YBH				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**53.54**	**341**	P	P	**09 07 34.3**	**-0.3**
	comp=Z,2.6nm,0.7s,mb4.3,baz=37,slow=8.4,SNR=4.0						
ARCES	**ARCESS Array B**	**53.54**	**341**	P	P	**09 07 34.3**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NVAR	**Mina Array Bea**	**56.83**	**69**	P	P	**09 07 59.3**	**+1.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=296,slow=6.5,SNR=6.9						
AKTK	**Aktyubinsk**	**57.51**	**312**	P	P	**09 08 02.0**	**-1.1**
AKTO	**Aktyubinsk**	**57.51**	**312**	P	P	**09 08 02.0**	**-1.1**
	comp=Z,0.9nm,0.5s,mb4.1,baz=66,slow=6.3,SNR=8.3						
AKTO	**Aktyubinsk**	**57.51**	**312**	P	P	**09 08 02.0**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**58.63**	**60**	P	P	**09 08 11.8**	**+0.9**
	comp=Z,2.0nm,0.7s,mb4.3,baz=323,slow=3.1,SNR=20						
FINES	**FINESS Array B**	**60.27**	**336**	P	P	**09 08 21.4**	**-0.8**
	comp=Z,1.1nm,0.6s,mb4.1,baz=35,slow=7.0,SNR=5.1						
FINES	**FINESS Array B**	**60.27**	**336**	*i* P	P	**09 08 22.2**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	**NORSAR Subarra**	**63.83**	**343**	P	P	**09 08 46.0**	**0.0**
	comp=Z,3.8nm,0.6s,mb4.4,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**63.83**	**343**	P	P	**09 08 46.3**	**+0.3**
	comp=Z,3.7nm,0.5s,mb4.4,baz=21,slow=6.7,SNR=21						
NOA	**NORSAR Array B**	**63.83**	**343**	P	P	**09 08 46.3**	**+0.3**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
HFS	**Hagfors**	**64.21**	**341**	P	P	**09 08 48.5**	**+0.1**
	comp=Z,1.8nm,0.3s,mb4.3,baz=67,slow=4.8,SNR=7.8						
HFS				LR	LR	09 42 48.2	
	comp=Z,90nm,20.4s,baz=279,slow=42						
AKASG	**Malin Array Be**	**68.62**	**328**	P	P	**09 09 15.9**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.7,baz=30,slow=5.6,SNR=5.2						
AKASG	**Malin Array Be**	**68.62**	**328**	P	P	**09 09 15.9**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KIV	**Kislovodsk**	**69.21**	**316**	⇑*eP*	P	**09 09 19.8**	**-0.5**
KIV				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.5						
EKA	**Eskdalemuir Ar**	**71.46**	**349**	P	P	**09 09 34.6**	**+0.7**
	comp=Z,1.4nm,0.3s,mb4.2,baz=17,slow=5.0,SNR=16						
EKA	**Eskdalemuir Ar**	**71.46**	**349**	P	P	**09 09 34.7**	**+0.7**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VRAC	**Vranov**	**73.53**	**335**	P	P	**09 09 46.5**	**+0.2**
	comp=Z,4.0nm,0.6s,mb4.3,baz=345,slow=12,SNR=3.5						
VRAC	**Vranov**	**73.53**	**335**	P	P	**09 09 46.5**	**+0.2**
VRAC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MLR	**Muntele Rosu**	**74.24**	**327**	P	P	**09 09 51.6**	**+1.2**
	comp=Z,1.7nm,0.5s,mb4.0,baz=308,slow=12,SNR=4.2						
MLR	**Muntele Rosu**	**74.24**	**327**	P	P	**09 09 51.6**	**+1.2**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GERES	**GERESS Array B**	**74.68**	**337**	P	P	**09 09 53.9**	**+0.9**
	comp=Z,2.0nm,0.6s,mb4.0,baz=20,slow=4.4,SNR=13						
GERES	**GERESS Array B**	**74.68**	**337**	P	P	**09 09 53.9**	**+0.9**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**75.16**	**204**	P	P	**09 09 55.5**	**-0.2**
	comp=Z,0.9nm,0.8s,mb3.6,baz=15,slow=6.0,SNR=4.7						
WRA	**Warramunga Arr**	**75.16**	**204**	P	P	**09 09 55.5**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**76.46**	**319**	P	P	**09 10 03.8**	**+0.7**
	comp=Z,0.6nm,0.5s,mb3.6,baz=34,slow=3.6,SNR=3.7						
BRTR				LR	LR	09 45 52.2	
	comp=Z,90nm,19.1s,baz=289,slow=37						
BRTR	**Keskin Array B**	**76.46**	**319**	P	P	**09 10 03.8**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR				MLR	MLR		
	comp=Z,90nm,19.2s						
ASAR	**Alice Springs**	**78.85**	**203**	P	P	**09 10 16.7**	**+0.3**
	comp=Z,0.5nm,0.4s,mb3.7,baz=16,slow=5.1,SNR=14						
ASAR	**Alice Springs**	**78.85**	**203**	P	P	**09 10 16.7**	**+0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*CSEM **19** 09:09:13.3±0.2, 3372N×3696E, h5km, Mc1.8, Error ellipse: s-maj=3.0km s-min=2.3km az=93.0*
*GRAL **19** 09:09:13.2±0.9, 3369N×3709E, h115km±924km, MD3.3*
*ISCJB **19** 09:09:15.1±0.7, 3376N±003×3688E±005, h10km, Error ellipse: s-maj=5.8km s-min=4.1km az=133.2*
*NSSC **19** 09:09:15.1, 3375N×3692E, h12km±2km*
ISC 19 09:09:15.2±0.7, 3375N±003×3691E±005, h10km, n13, σ1ᵍ02/25, 8D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QASN	**Qassioun**	**0.57**	**248**	⇓P	Pg	**09 09 26.0**	**-0.3**
QASN				⇑S	Sg	**09 09 35.3**	**+1.5**
QASN	**Qassioun**	**0.57**	**248**	⇓*i*P	Pg	**09 09 26.0**	**-0.3**
ZALF	**Zalf**	**0.90**	**157**	⇑P	Pg	**09 09 31.9**	**-0.5**
ZALF				⇓S	Sg	**09 09 45.2**	**+1.0**
ZALF	**Zalf**	**0.90**	**157**	⇑*i*P	Pg	**09 09 31.9**	**-0.6**
ZALF				⇓*i*S	Sg	**09 09 45.2**	**+1.0**
RCY	**Rachaya**	**0.95**	**254**	*e*Pg	Pg	**09 09 31.9**	**-1.5**
RCY				*e*Sg	Sg	**09 09 45.5**	**-0.4**
HWQ	**Hawqa**	**0.96**	**303**	*e*Pg	Pg	**09 09 32.5**	**-1.1**
HWQ				*e*Sg	Sg	**09 09 46.4**	**+0.3**
SALA	**Sala**	**1.05**	**188**	⇓P	Pg	**09 09 34.1**	**-1.2**
SALA				⇓S	Sg	**09 09 50.3**	**+1.3**
SALA	**Sala**	**1.05**	**188**	⇓*i*P	Pg	**09 09 34.1**	**-1.2**
S

STKA	**Stephens Creek**	**33.68**	**251**	P		**P**	**09 30 41.9**	**+0.8**
	6.1nm,0.5s,mb4.4,baz=97,slow=11,SNR=35							
STKA				PcP		PcP	09 33 07.3	+1.1
	2.4nm,0.5s,baz=69,slow=4.9,SNR=5.7							
AS31	**Alice Springs**	**41.38**	**263**	*eP*		**P**	**09 31 44.2**	**+0.1**
ASAR	**Alice Springs**	**41.38**	**263**	P		**P**	**09 31 44.2**	**+0.1**
	8.6nm,0.4s,mb4.6,baz=92,slow=7.5,SNR=224							
ASAR				PcP		PcP	09 33 30.1	-0.2
	1.2nm,0.8s,baz=96,slow=4.2,SNR=4.5							
ASAR				S		**S**	**09 37 23.1**	**+1.4**
	1.9nm,0.8s,baz=99,slow=17,SNR=10							
ASPA	**Alice Springs**	**41.38**	**263**	⇑*iP*		**P**	**09 31 44.1**	**-0.1**
WB2	**Warramunga Arr**	**41.93**	**268**	*eP*		**P**	**09 31 48.0**	**-0.5**
WRA	**Warramunga Arr**	**41.94**	**268**	P		**P**	**09 31 48.1**	**-0.5**
	6.6nm,0.5s,mb4.4,baz=101,slow=7.6,SNR=186							
WRA				PcP		PcP	09 33 32.7	+0.5
	1.5nm,0.9s,baz=100,slow=3.6,SNR=4.9							
WRA				S		**S**	**09 37 28.7**	**-1.1**
	3.9nm,0.9s,baz=99,slow=15,SNR=10							
WRA				PKiKP		PKiKP	09 40 35.1	-1.3
	0.3nm,0.8s,baz=96,slow=0.8,SNR=5.5							
WRA	**Warramunga Arr**	**41.94**	**268**	P		**P**	**09 31 48.1**	**-0.5**
WRA				PcP		PcP	09 33 32.7	+0.5
WRA				S		**S**	**09 37 28.7**	**-1.1**
FORT	**Forrest**	**45.30**	**251**	*eP*		**P**	**09 32 13.9**	**-0.8**
	9.4nm,0.6s,mb4.5							
KAKA	**Kakadu**	**46.15**	**277**	⇑*iP*		**P**	**09 32 20.0**	**-1.2**
	7.6nm,0.4s,mb4.6							
FITZ	**Fitzroy Crossi**	**50.33**	**267**	*eP*		**P**	**09 32 52.2**	**-0.2**
	10nm,0.7s,mb4.4							
FITZ	**Fitzroy Crossi**	**50.33**	**267**	P		**P**	**09 32 52.3**	**-0.1**
	5.5nm,0.7s,mb4.1,baz=134,slow=7.9,SNR=11							
QSPA	**South Pole Qui**	**64.21**	**180**	*eP*		**P**	**09 34 28.3**	**+1.0**
	2.5nm,0.7s,mb3.8							
MAW	**Mawson**	**75.77**	**201**	P		**P**	**09 35 36.3**	**+0.1**
	2.1nm,0.5s,mb3.8,baz=151,slow=5.3,SNR=3.8							
NVAR	**Mina Array Bea**	**86.43**	**44**	P		**P**	**09 36 31.1**	**-0.1**
	2.1nm,0.8s,mb3.8,baz=210,slow=6.8,SNR=17							
YKA	**Yellowknife Ar**	**102.31**	**26**	PKiKP		PKiKP	09 41 59.6	-2.3
	0.1nm,0.6s,baz=262,slow=1.8,SNR=5.1							
MKAR	**Makanchi Array**	**113.21**	**312**	PKiKP		PKiKP	09 42 20.5	-1.8
	0.4nm,0.5s,baz=119,slow=2.0,SNR=4.4							
MKAR	**Makanchi Array**	**113.21**	**312**	PKPdf		PKiKP	09 42 20.5	-1.8
AKTK	**Aktyubinsk**	**129.45**	**315**	PKP		PKPdf	09 42 52.8	-0.7
AKTO	**Aktyubinsk**	**129.45**	**315**	PKP		PKPdf	09 42 52.8	-0.7
	1.6nm,0.6s,baz=71,slow=6.7,SNR=7.8							
KEV	**Kevo**	**133.26**	**347**	*ep*		PKPdf	09 42 55.9	-4.8
ARCES	**ARCESS Array B**	**133.74**	**348**	PKP		PKPdf	09 43 00.8	-0.8
	3.0nm,0.6s,baz=74,slow=1.8,SNR=7.4							
JOF	**Joensuu**	**137.45**	**339**	*ep*		PKPdf	09 43 05.8	-2.6
	2.4nm,0.5s							
NB2	**NORSAR Subarra**	**143.97**	**350**	PKP		PKPdf	09 43 17.3	-2.8
	comp=Z,16nm,0.8s,baz=15,slow=3.2							
NOA	**NORSAR Array B**	**143.97**	**350**	PKP		PKPdf	09 43 17.8	-2.3
	comp=Z,12nm,0.7s,baz=22,slow=3.8,SNR=65							
NAO01	**NORSAR Array S**	**144.21**	**351**	*e*PKPbc		PKPdf	09 43 18.5	-2.1
HFS	**Hagfors**	**144.40**	**348**	PKP		PKPdf	09 43 18.6	-2.2
	comp=Z,14nm,0.4s,baz=68,slow=4.0,SNR=133							
AKASG	**Malin Array Be**	**146.41**	**325**	PKPbc		PKPbc	09 43 24.9	-1.6
	comp=Z,2.2nm,0.4s,baz=44,slow=3.9,SNR=20							
ASF	**Jabal al Asfar**	**146.90**	**290**	PKPbc		PKPbc	09 43 29.1	+1.2
	comp=Z,3.6nm,0.5s,baz=1.5,slow=9.1,SNR=5.4							
MMAI	**Mount Meron Ar**	**148.12**	**291**	PKPbc		PKPbc	09 43 32.1	+1.0
	comp=Z,9.1nm,0.4s,baz=80,slow=6.0,SNR=14							
BRTR	**Keskin Array B**	**148.43**	**304**	PKPbc		PKPbc	09 43 31.3	-0.5
	comp=Z,1.7nm,0.5s,baz=131,slow=4.1,SNR=4.3							
EKA	**Eskdalemuir Ar**	**150.51**	**3**	PKPbc		PKPbc	09 43 34.9	-1.9
	comp=Z,2.4nm,0.4s,baz=337,slow=2.4,SNR=24							
CLL	**Collm**	**152.62**	**342**	*e*PKPbc		PKPbc	09 43 41.0	-0.6
	comp=Z,9.0nm,0.7s							

WEL 19 09:26:27.8±0.3, 4467S×16794E, h96km±2km, ML3.6/10, Error ellipse: s-maj=2.6km s-min=2.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSZ	**Milford Sound**	**0.01**	**220**	PN		Pn	09 26 41.1	0.0
MSZ				SN		Sn	09 26 50.6	-0.4
MLZ	**Mavora Lakes**	**0.70**	**166**	PN		Pn	09 26 45.0	+0.2
MLZ				SN		Sn	09 26 57.8	+0.3
WKZ	**Wanaka**	**0.79**	**102**	PN		Pn	09 26 45.9	+0.3
WKZ				SN		Sn	09 26 58.6	-0.4
DCZ	**Deep Cove**	**0.98**	**214**	PN		Pn	09 26 47.0	-0.7
DCZ				SN		Sn	09 27 01.9	-0.8
EAZ	**Earnscleugh**	**1.13**	**121**	PN		Pn	09 26 49.3	0.0
EAZ				SN		Sn	09 27 03.7	-1.8
WHZ	**Wether Hill Ro**	**1.23**	**180**	PN		Pn	09 26 50.6	+0.1
WHZ				SN		Sn	09 27 07.3	-0.4
LBZ	**Lake Benmore**	**1.63**	**81**	PN		Pn	09 26 54.8	-0.6
FOZ	**Fox Glacier**	**1.67**	**50**	PN		Pn	09 26 57.0	+1.0
TUZ	**Tuapeka**	**1.76**	**138**	PN		Pn	09 26 57.0	0.0
ODZ	**Otahua Downs**	**1.96**	**102**	PN		Pn	09 26 59.1	-0.6
SYZ	**Scrubby Hill**	**2.05**	**156**	PN		Pn	09 27 01.2	+0.3
APZ	**The Paps**	**2.17**	**179**	PN		Pn	09 27 02.5	+0.1
HHSZ	**Highcliff Hill**	**2.24**	**124**	PN		Pn	09 27 03.4	+0.1
RPZ	**Rata Peaks**	**2.44**	**68**	PN		Pn	09 27 04.7	-1.2
WVZ	**Waitaha Valley**	**2.57**	**53**	PN		Pn	09 27 06.9	-0.8

IDC 19 09:29:13.7±1.9, 428N×12734E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=104.8km s-min=24.0km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.31**	**184**	P		P	09 34 14.1	+1.4
	0.7nm,0.3s,baz=45,slow=8.6,SNR=4.1							
WRA	**Warramunga Arr**	**25.04**	**164**	P		P	09 34 39.5	0.0
	2.9nm,0.7s,baz=343,slow=11,SNR=14							
WB2	**Warramunga Arr**	**25.04**	**164**	*eP*		P	09 34 39.6	+0.1
ASAR	**Alice Springs**	**28.51**	**167**	P		P	09 35 10.6	-0.2
	0.2nm,0.3s,baz=345,slow=9.3,SNR=3.6							
MKAR	**Makanchi Array**	**57.45**	**325**	P		P	09 39 04.5	+0.2
	0.4nm,0.4s,baz=120,slow=7.8,SNR=7.3							

*ISCJB **19** 09:35:00.2±0.2, 1461N×004×14550E×005, h26km, mb4.6/54, MS4.3/4, Error ellipse: s-maj=7.7km s-min=5.4km az=41.2*

*IDC **19** 09:35:00.5±0.5, 1463N×14559E, h21km±2km, mb4.3/14, mb1 4.4/14, mb1mx4.3/20, mbtmp4.4/14, MS3.5/2, Ms1 3.5/2, ms1mx2.6/29, Error ellipse: s-maj=23.6km s-min=10.1km az=109.0*

*MOS **19** 09:35:01.2±0.9, 1464N×14540E, h33km, mb4.8/20, Error ellipse: s-maj=15.6km s-min=9.9km az=88.1*

*NEIC **19** 09:35:01.5±0.2, 1464N×14547E, mb4.8/27, Error ellipse: s-maj=9.1km s-min=4.6km az=115.0*

NEIC Felt [IV] on Saipan.

*BJI **19** 09:35:01.5, 1460N×14550E, h25km, mB4.9, mb4.7, Ms4.7, Msz4.4*

ISC 19 09:35:02.2±0.2, 1458N±004×14554E±005, h27km, h27km±.6km: pP-P, n108, σ0s97/108, mb4.6/54, MS4.3/4, 2C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**1.18**	**213**	Pn		**Pn**	**09 35 22.1**	**-0.9**
	708nm,0.3s,baz=125,slow=5.1,SNR=682							
GUMO				Sn		**Sn**	**09 35 37.7**	**-0.4**
	1µm,0.3s,baz=180,slow=20,SNR=38							
CBIJ	**Chichi jima**	**12.84**	**346**	LR		LR	09 42 54.9	
	comp=Z,213nm,18.0s,baz=125,slow=37							
JOW	**Kunigami**	**20.20**	**310**	P		**P**	**09 39 39.6**	**+4.8**
	46nm,1.1s,baz=123,slow=15,SNR=4.6							
JOW				LR		LR	09 46 47.4	
	comp=Z,128nm,18.9s,MS3.3,baz=126,slow=35							
SSE	**Sheshan**	**27.72**	**310**	P		**P**	**09 40 47.9**	**-0.3**
SSE				AMB		AMB		
	comp=Z,30nm,0.7s,mb5.0							
SSE				AMB		AMB		
	comp=Z,50nm,4.4s							
KAKA	**Kakadu**	**30.06**	**206**	*eP*		**P**	**09 41 08.7**	**-0.3**
	comp=Z,9.2nm,0.8s,mb4.6							
MDJ	**Mudanjiang**	**32.86**	**339**	P		**P**	**09 41 34.8**	**+1.1**
MDJ				AP		pP	09 41 41.0	-0.7
MDJ				XP		sP	09 41 43.5	-1.5
MDJ				AMB		AMB		
	comp=Z,2.0nm,0.6s,mb4.2							
MDJ				AMB		AMB		
	comp=Z,61nm,6.2s							
SNY	**Shenyang**	**33.14**	**329**	⇑P		**P**	**09 41 35.1**	**-1.0**
SNY				AMB		AMB		
	comp=Z,13nm,2.6s,mb4.4							
CN2	**Changchun**	**33.80**	**333**	*eP*		**P**	**09 41 44.1**	**+2.2**
CN2				*eXP*		sP	09 41 54.8	+1.6
CN2				*eS*		**S**	**09 47 05.5**	**+1.4**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.9							
WRAB	**Tennant Creek**	**36.02**	**198**	*eP*		**P**	**09 42 00.9**	**-0.1**
WRAB				pmax		pmax		
	comp=Z,12nm,0.6s,mb5.0							
WRAB	**Tennant Creek**	**36.02**	**198**	*eP*		**P**	**09 42 00.9**	**-0.1**
	comp=Z,12nm,0.6s,mb5.0							
WB2	**Warramunga Arr**	**36.03**	**198**	*eP*		**P**	**09 42 01.0**	**-0.1**
WB2				*ep*		pP	09 42 09.5	+0.3
WRA	**Warramunga Arr**	**36.03**	**198**	P		**P**	**09 42 01.3**	**+0.1**
	comp=Z,4.0nm,0.6s,mb4.5,baz=24,slow=8.3,SNR=106							
WRA				pP		pP	09 42 07.0	-2.2
	comp=Z,6.8nm,0.6s,baz=20,slow=9.3,SNR=17							
WRA				sP		sP	09 42 09.9	-2.6
	comp=Z,6.8nm,0.6s,baz=20,slow=9.2,SNR=17							
WRA				ScP		ScP	09 48 11.7	+0.2
	comp=Z,1.1nm,0.8s,baz=16,slow=3.8,SNR=9.1							
WRA	**Warramunga Arr**	**36.03**	**198**	P		**P**	**09 42 01.3**	**+0.2**
WRA				*SP		sP	09 42 09.9	-2.6
KLR	**Kul'dur**	**36.36**	**345**	*eP*		**P**	**09 42 05.4**	**+1.5**
FITZ	**Fitzroy Crossi**	**37.94**	**212**	*eP*		**P**	**09 42 17.7**	**+0.3**
	comp=Z,7.0nm,1.1s,mb4.3							
FITZ				*ep*		pP	09 42 25.9	+0.4
FITZ	**Fitzroy Crossi**	**37.94**	**212**	P		**P**	**09 42 17.8**	**+0.5**
	comp=Z,1.8nm,0.3s,mb4.3,baz=37,slow=12,SNR=29							
GYA	**Guiyang**	**38.13**	**294**	⇑*iP*		**P**	**09 42 21.9**	**+2.9**
GYA				AP		pP	09 42 29.4	+2.3
GYA				XP		sP	09 42 32.6	+2.2
GYA				S		**S**	**09 48 15.0**	**+4.7**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.7							
GYA				AMB		AMB		
	comp=Z,90nm,3.9s							
GYA				LR		LR		
	comp=N,340nm,16.7s,MS4.4							
GYA				LR		LR		
	comp=E,320nm,16.4s,MS4.4							
GYA				LR		LR		
	comp=Z,280nm,17.0s,MS4.1							
HHC	**Hu-ho-hao-te**	**39.46**	**318**	*eP*		**P**	**09 42 30.3**	**+0.3**
HHC				AP		pP	09 42 37.8	-0.4
HHC				XP		sP	09 42 40.4	-1.1
HHC				PP		PP	09 44 07.3	+6.5
HHC				S		**S**	**09 48 27.8**	**-2.5**
HHC				XS		sS	09 48 41.9	-1.8
HHC				SCS		ScS	09 52 35.0	-1.5
HHC				AMB		AMB		
	comp=Z,9.0nm,1.0s,mb4.5							
HHC				AMB		AMB		
	comp=Z,103nm,5.1s							
HHC				LR		LR		
	comp=N,546nm,14.5s,MS4.8							
HHC				LR		LR		
	comp=E,701nm,12.6s,MS4.8							
AS31	**Alice Springs**	**39.68**	**197**	*eP*		**P**	**09 42 32.8**	**+0.9**
AS31				*epP*		pP	09 42 41.2	+1.2
ASAR	**Alice Springs**	**39.68**	**197**	P		**P**	**09 42 31.9**	**-0.1**
	comp=E,1.1nm,0.5s,mb3.8,baz=22,slow=11,SNR=30							
ASAR				sP		sP	09 42 41.6	-1.7
	comp=E,2.0nm,0.5s,baz=24,slow=11,SNR=12							
ASAR				ScP		ScP	09 48 23.2	-2.0
	comp=E,0.4nm,0.6s,baz=15,slow=3.9,SNR=4.2							
ASAR	**Alice Springs**	**39.68**	**197**	P		**P**	**09 42 31.9**	**0.0**
ASAR				*SP		sP	09 42 41.6	-1.8
ASPA	**Alice Springs**	**39.68**	**197**	*eP*		**P**	**09 42 32.8**	**+0.9**
ASPA				*epP*		pP	09 42 41.2	+1.1
KMI	**Kunming**	**41.44**	**291**	P		**P**	**09 42 48.6**	**+2.1**
KMI				AP		pP	09 42 57.4	+2.8
KMI				XP		sP	09 43 00.6	+2.7
KMI				AMB		AMB		
	comp=Z,7.0nm,1.1s,mb4.2							
CD2	**Chengdu**	**41.55**	**300**	*eP*		**P**	**09 42 45.6**	**-1.7**
CD2				AP		pP	09 42 53.0	-2.5
CD2				XP		sP	09 42 56.4	-2.4
CD2				PP		PP	09 44 25.1	+1.6
CD2				S		**S**	**09 48 59.6**	**-1.9**
CD2				SS		SS	09 51 58.6	-8.0
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.5							
LZH	**Lanzhou**	**42.92**	**308**	*eP*		**P**	**09 42 59.4**	**+0.9**
LZH				AP		pP	09 43 06.9	+0.2
LZH				XP		sP	09 43 10.3	+0.3
LZH				PP		PP	09 44 41.5	+3.2
LZH				AMB		AMB		
	comp=Z,24nm,1.4s,mb4.7							
LZH				AMB		AMB		
	comp=Z,83nm,4.8s							
SONM	**Songino Array**	**46.31**	**324**	P		**P**	**09 43 25.0**	**-0.5**
	comp=Z,1.2nm,0.6s,mb4.0,baz=134,slow=6.2,SNR=8.1							
STKA	**Stephens Creek**	**46.35**	**185**	*eP*		**P**	**09 43 25.5**	**-0.4**
	comp=Z,5.2nm,2.0s,mb4.1							
STKA	**Stephens Creek**	**46.35**	**185**	P		**P**	**09 43 25.6**	**-0.2**
	comp=Z,1.1nm,0.4s,mb4.1,baz=346,slow=21,SNR=5.4							
GTA	**Gaotai**	**47.01**	**311**	*eP*		**P**	**09 43 33.4**	**+2.3**
GTA				AP		pP	09 43 41.9	+2.6
GTA				XP		sP	09 43 45.8	+3.2
GTA				AMB		AMB		
	comp=Z,4.0nm,0.5s,mb4.6							
FORT	**Forrest**	**48.13**	**200**	*eP*		**P**	**09 43 40.7**	**+0.9**
	comp=Z,14nm,0.5s,mb5.2							
ZAK	**Zakamensk**	**49.38**	**325**	*eP*		**P**	**09 43 48.2**	**-1.2**
ZAK				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.2							
WMQ	**Urumqi**	**56.93**	**313**	P		**P**	**09 44 46.9**	**+2.0**
WMQ				AP		pP	09 44 54.5	+1.1
WMQ				XP		sP	09 44 57.8	+1.2
WMQ				PP		PP	09 46 54.9	+3.4
WMQ				AMB		AMB		
	comp=Z,16nm,1.6s,mb4.8							
WMQ				AMB		AMB		
	comp=Z,133nm,5.4s							
WMQ				LR		LR		
	comp=N,542nm,18.1s,MS4.8							
WMQ				LR		LR		
	comp=E,406nm,17.0s,MS4.8							
WMQ				LR		LR		
	comp=Z,542nm,18.6s,MS4.7							
ZAL	**Zalesovo**	**61.21**	**324**	P		**P**	**09 45 14.6**	**0.0**
	comp=Z,2.0nm,0.4s,mb4.6,baz=63,slow=4.5,SNR=3.9							
MK31	**Makanchi Array**	**61.23**	**316**	P		**P**	**09 45 14.9**	**+0.2**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.3							
MKAR	**Makanchi Array**	**61.23**	**316**	P		**P**	**09 45 14.9**	**+0.2**
	comp=Z,3.8nm,0.5s,mb4.8,baz=91,slow=8.5,SNR=52							
SVW2	**Sparrevohn**	**62.50**	**28**	*eP*		**P**	**09 45 23.2**	**0.0**
KDAK	**Kodiak Island**	**62.89**	**32**	P		**P**	**09 45 24.9**	**-0.9**
	comp=Z,9.9nm,0.9s,mb5.0,baz=315,slow=1.9,SNR=3.9							
KDAK	**Kodiak Island**	**62.89**	**32**	P		**P**	**09 45 24.9**	**-0.9**
KURK	**Kurchatov**	**64.25**	**320**	*eP*		**P**	**09 45 34.5**	**-0.3**
KURK				pmax		pmax		
	comp=Z,8.0nm,0.5s,mb5.0							
KURK	**Kurchatov**	**64.25**	**320**	*eP*		**P**	**09 45 34.5**	**-0.3**
	comp=Z,7.6nm,0.5s,mb5.0							
PMR	**Palmer**	**65.61**	**29**	*eP*		**P**	**09 45 42.1**	**-1.6**
PMR				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.8							
PMR	**Palmer**	**65.61**	**29**	*eP*		**P**	**09 45 42.1**	**-1.6**
	comp=Z,7.5nm,0.7s,mb4.8							
KKAR	**Karatay Array**	**69.30**	**311**	P		**P**	**09 46 07.4**	**+0.4**
KKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.0							
CHKZ	**Chkalovo**	**69.46**	**322**	*eP*		**P**	**09 46 06.7**	**-1.3**
CHKZ				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.3							
CHKZ	**Chkalovo**	**69.46**	**322**	*eP*		**P**	**09 46 06.7**	**-1.3**
	comp=Z,3.9nm,1.3s,mb4.3							
BRVK	**Borovoye**	**69.62**	**321**	*eP*		**P**	**09 46 09.0**	**0.0**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
BRVK	**Borovoye**	**69.62**	**321**	*eP*		**P**	**09 46 09.0**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.2							
ZRNK	**Zerenda**	**70.39**	**321**	*eP*		**P**	**09 46 13.1**	**-0.6**
ZRNK				*ePP		pP	09 46 20.5	-1.8
ZRNK				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
ZRNK	**Zerenda**	**70.39**	**321**	*eP*		**P**	**09 46 13.1**	**-0.6**
	comp=Z,2.6nm,0.6s,mb4.3							
ZRNK				*epP*		pP	09 46 20.5	-1.8
DAWY	**Dawson**	**70.46**	**27**	*eP*		**P**	**09 46 13.7**	**-0.5**
INK	**Inuvik**	**73.20**	**23**	*eP*		**P**	**09 46 29.6**	**-1.0**
INK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
INK	**Inuvik**	**73.20**	**23**	*eP*		**P**	**09 46 29.6**	**-1.0**
	comp=Z,2.3nm,0.6s,mb4.3							
DLBC	**Dease Lake**	**74.80**	**33**	*eP*		**P**	**09 46 40.3**	**+0.4**
AB31	**Akbulak array**	**76.25**	**318**	P		**P**	**09 46 47.3**	**-0.9**
YKW3	**Yellowknife Ar**	**81.66**	**27**	*eP*		**P**	**09 47 16.5**	**-1.4**
YKA	**Yellowknife Ar**	**81.68**	**28**	P		**P**	**09 47 16.3**	**-1.7**
	comp=Z,3.8nm,0.7s,mb4.4,baz=285,slow=5.3,SNR=47							
YKA				pP			09 47 22.2	-4.6
	comp=Z,3.5nm,0.6s,baz=285,slow=5.2,SNR=13							
YKA				sP		sP	09 47 26.0	-3.9
	comp=Z,3.4nm,0.6s,baz=285,slow=5.3,SNR=13							
YKA	**Yellowknife Ar**	**81.68**	**28**	P		**P**	**09 47 16.3**	**-1.7**
YKA				pP		pP	09 47 22.2	-4.6
YKA				sP		sP	09 47 26.0	-3.9
NEW	**Newport**	**84.06**	**42**	*eP*		**P**	**09 47 30.2**	**-0.2**
NEW				*e*PP		pP	09 47 38.5	-0.6
NEW				pmax		pmax		
	comp=Z,6.0nm,0.6s							
NEW	**Newport**	**84.06**	**42**	*eP*		**P**	**09 47 30.2**	**-0.2**
	comp=Z,5.6nm,0.6s,mb4.9							
NEW				*epP*		pP	09 47 38.5	-0.7
CMB	**Columbia Colle**	**84.31**	**52**	*eP*		**P**	**09 47 31.8**	**+0.2**
CMB				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.5							
CMB	**Columbia Colle**	**84.31**	**52**	*eP*		**P**	**09 47 31.8**	**+0.2**
	comp=Z,2.8nm,0.7s,mb4.5							
WVOR	**Wild Horse Val**	**84.52**	**48**	*eP*		**P**	**09 47 32.9**	**+0.2**
WVOR				*e*PP		pP	09 47 41.3	-0.2
WVOR				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.5							
WVOR	**Wild Horse Val**	**84.52**	**48**	*eP*		**P**	**09 47 32.9**	**+0.2**
	comp=Z,3.2nm,0.7s,mb4.6							
WVOR				*epP*		pP	09 47 41.3	-0.1
BMO	**Blue Mountains**	**84.83**	**45**	*eP*		**P**	**09 47 33.9**	**-0.4**
BMO				*e*PP		pP	09 47 42.6	-0.4
BMO				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.5							
BMO	**Blue Mountains**	**84.83**	**45**	*eP*		**P**	**09 47 33.9**	**-0.4**
	comp=Z,2.9nm,0.7s,mb4.5							
BMO				*epP*		pP	09 47 42.6	-0.4
EDM	**Edmonton**	**84.97**	**36**	*eP*		**P**	**09 47 34.4**	**-0.6**
EDM				*e*PP		pP	09 47 42.3	-1.4
BSMT	**Bassoo Peak**	**85.68**	**42**	*eP*		**P**	**09 47 38.9**	**+0.4**
NVAR	**Mina Array Bea**	**85.80**	**52**	P		**P**	**09 47 39.7**	**+0.6**
	comp=Z,2.3nm,0.7s,mb4.5,baz=270,slow=4.9,SNR=15							
NVAR				sP		sP	09 47 48.5	-2.5
	comp=Z,2.0nm,0.5s,baz=276,slow=4.9,SNR=11							
WALA	**Waterton Lakes**	**85.88**	**40**	*eP*		**P**	**09 47 40.0**	**+0.5**
	comp=Z,5.1nm,0.6s,mb4.9							
ARCES	**ARCESS Array B**	**86.34**	**342**	P		**P**	**09 47 39.9**	**-1.9**
	comp=Z,6.4nm,0.9s,mb4.8,baz=50,slow=6.5,SNR=6.0							
ARCES	**ARCESS Array B**	**86.34**	**342**	P		**P**	**09 47 39.9**	**-1.9**
CHMT	**Chamberlain Mo**	**86.95**	**42**	*eP*		**P**	**09 47 43.9**	**-0.9**
ELK	**Elko**	**87.43**	**49**	*eP*		**P**	**09 47 47.5**	**+0.4**
ELK				*e*PP		pP	09 47 56.2	+0.3
ELK				pmax		pmax		
	comp=Z,5.0nm,0.7s							
ELK	**Elko**	**87.43**	**49**	*eP*		**P**	**09 47 47.5**	**+0.4**
	comp=Z,5.4nm,0.7s,mb4.9							
ELK				*epP*		pP	09 47 56.2	+0.3
JOF	**Joensuu**	**87.67**	**335**	*ep*		**P**	**09 47 44.7**	**-3.5**
	comp=Z,2.0nm,0.4s,mb4.7							
JOF	**Joensuu**	**87.67**	**335**	*eP*		**P**	**09 47 44.7**	**-3.5**
JOF				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.7							
TPNV	**Topopah Spring**	**87.77**	**53**	*eP*		**P**	**09 47 49.4**	**+0.7**
TPNV				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.3							
TPNV	**Topopah Spring**	**87.77**	**53**	*eP*		**P**	**09 47 49.4**	**+0.7**
	comp=Z,0.8nm,0.5s,mb4.2							
GSC	**Goldstone**	**87.80**	**54**	*eP*		**P**	**09 47 49.6**	**+0.8**
LRM	**Limekiln Ridge**	**87.82**	**43**	*eP*		**P**	**09 47 49.1**	**+0.1**
LRM				*epP*		pP	09 47 55.9	-1.9
MCMT	**McKenzie Canyo**	**87.87**	**44**	*eP*		**P**	**09 47 49.4**	**+0.2**
HRY	**Holter Researc**	**87.94**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.29**	**201**	*e*PB	**Pb**	**09 41 14.6**	**-0.3**
KARP				*e*SB	**Sb**	**09 41 19.3**	**-0.1**
ARG	**Arkhangelos**	**0.79**	**60**	*e*PN	**Pn**	**09 41 22.6**	**-1.6**
ARG				*e*SN	**Sn**	**09 41 35.0**	**-0.3**
NISR	**Nisiros**	**0.80**	**351**	*e*PN	**Pn**	**09 41 20.3**	**-4.0**
DAT	**Datca**	**0.93**	**14**	*i* PG	**Pb**	**09 41 25.6**	**-0.2**
DAT				*i* SG	**Sb**	**09 41 38.8**	**+1.1**
BODT	**Bodrum**	**1.24**	**1**	*i* PG	**Pn**	**09 41 29.6**	**-0.8**
BODT				*i* SG	**Sn**	**09 41 43.6**	**-2.9**
BDRM	**Kayabasi**	**1.25**	**6**	*i* P	**Pn**	**09 41 30.3**	**-0.2**
BDRM				*i* S	**Sn**	**09 41 44.9**	**-1.8**
DALT	**Dalyan (Mudla)**	**1.44**	**49**	PN	**Pn**	**09 41 34.1**	**+0.9**
DALT				SN	**Sn**	**09 41 52.1**	**+0.6**
NPS	**Neapolis**	**1.48**	**248**	*e*PN	**Pn**	**09 41 34.3**	**+0.6**
NPS				*e*SN	**Sn**	**09 41 53.3**	**+0.9**
MLSB	**Milas**	**1.52**	**15**	PN	**Pn**	**09 41 33.8**	**-0.5**
YER	**Yerkesik**	**1.54**	**31**	PN	**Pn**	**09 41 34.8**	**+0.3**
XRY	**Khrisi**	**1.61**	**235**	*e*PN	**Pn**	**09 41 37.0**	**+1.5**
FETY	**Fethiye**	**1.66**	**60**	PN	**Pn**	**09 41 37.8**	**+1.6**
APE	**Apeiranthos**	**1.89**	**312**	*e*PN	**Pn**	**09 41 38.5**	**-0.8**
KSL	**Kastellorizon**	**1.89**	**79**	*e*PB	**Pb**	**09 41 40.0**	**-2.1**
KSL	**Kastellorizon**	**1.89**	**79**	*e*Pb	**Pb**	**09 41 39.8**	**-2.3**
AYDN	**Tasoluk**	**1.90**	**14**	*i* P	**Pn**	**09 41 40.1**	**+0.7**
AYDN				*i* S	**Sn**	**09 41 52.4**	**-10**
IDI	**Anoyia**	**2.03**	**255**	Pn	**Pn**	**09 41 41.8**	**+0.6**
	16nm,0.3s,baz=61,slow=14,SNR=39						
IDI				Sn	**Sn**	**09 42 06.1**	**+0.1**
	104nm,0.3s,baz=316,slow=15,SNR=11						
ELL	**Elmali**	**2.31**	**66**	PN	**Pn**	**09 41 46.5**	**+1.4**
DENT	**Denizli**	**2.38**	**35**	PN	**Pn**	**09 41 45.0**	**-1.1**
BLCB	**Balcova**	**2.57**	**356**	*e*PN	**Pn**	**09 41 45.6**	**-3.1**
IZM	**Izmir**	**2.57**	**360**	*e*PN	**Pn**	**09 41 46.7**	**-2.0**
KDAG	**Bornova**	**2.58**	**360**	*i* P	**Pn**	**09 41 57.4**	**+8.6**
KDAG				*i* S	**Sn**	**09 42 34.7**	**+15**
AKHS	**Akhisar**	**3.08**	**8**	*i* P	**Pn**	**09 41 56.9**	**+1.2**
AKHS				*i* S	**Sn**	**09 42 32.3**	**+0.4**
AKS	**Akhisar**	**3.08**	**8**	*e*PN	**Pn**	**09 41 53.6**	**-2.1**
BCK	**Bucak**	**3.12**	**57**	*e*PN	**Pn**	**09 41 56.2**	**0.0**
ISP	**Isparta**	**3.28**	**51**	*e*PN	**Pn**	**09 41 59.0**	**+0.6**
TKTP	**Tekketepe**	**3.29**	**47**	*i* P	**Pn**	**09 42 00.2**	**+1.6**
TKTP				*i* S	**Sn**	**09 42 41.1**	**+4.1**
KYTH	**Kithira**	**3.48**	**279**	*e*PN	**Pn**	**09 42 01.8**	**+0.6**
VLI	**Veliai**	**3.63**	**286**	*e*PN	**Pn**	**09 42 03.5**	**+0.2**
SLUM		**4.65**	**202**	P	**Pn**	**09 42 18.8**	**+1.5**
SLUM				S	**Sn**	**09 43 09.1**	**-1.7**
HMAT	**Matruh**	**4.72**	**182**	P	**Pn**	**09 42 19.1**	**+0.9**
KIZT	**Kizilcal**	**4.76**	**49**	*e*PN	**Pn**	**09 42 19.0**	**+0.1**
CSS	**Prodhromos**	**5.01**	**98**	*e*Pn	**Pn**	**09 42 22.1**	**-0.2**
	17nm,0.6s						
CSS				*e*Sn	**Sn**	**09 43 20.5**	**+1.0**
CSS	**Prodhromos**	**5.01**	**98**	*e*Pn	**Pn**	**09 42 22.1**	**-0.2**
	17nm,0.6s						
IKL	**Isikli**	**5.20**	**84**	*e*PN	**Pn**	**09 42 26.2**	**+1.3**
MEST	**Erdemli**	**5.60**	**80**	*i* P	**Pn**	**09 42 32.1**	**+1.8**
MEST				*i* S	**Sn**	**09 43 40.1**	**+6.1**
HBRG	**Burj al 'Arab**	**5.65**	**157**	P	**Pn**	**09 42 30.7**	**-0.4**
MERS	**Mersin**	**5.93**	**78**	*e*PN	**Pn**	**09 42 35.7**	**+0.8**
BRTR	**Keskin Array B**	**6.36**	**50**	Pn	**Pn**	**09 42 41.8**	**+1.0**
	1.9nm,0.3s,baz=248,slow=13,SNR=5.2						
SWA1		**6.67**	**192**	P	**Pn**	**09 42 46.1**	**+1.0**
SWA1				S	**Sn**	**09 43 56.3**	**-4.3**
SWA2		**6.74**	**194**	P	**Pn**	**09 42 46.9**	**+0.9**
SWA2				S	**Sn**	**09 43 59.1**	**-3.1**
FYM	**Al Fayyum**	**6.88**	**152**	P	**Pn**	**09 42 47.5**	**-0.5**
KOT	**Kottamia**	**7.01**	**146**	P	**Pn**	**09 42 48.8**	**-0.9**
HHAG	**Hagoal**	**7.11**	**144**	P	**Pn**	**09 42 50.5**	**-0.6**
HSAF	**As Saff**	**7.15**	**149**	P	**Pn**	**09 42 50.9**	**-0.8**
AMAG	**Maghara**	**7.16**	**135**	P	**Pn**	**09 42 51.1**	**-0.7**
GLL	**Jalalah**	**7.25**	**148**	P	**Pn**	**09 42 52.3**	**-0.8**
MMAI	**Mount Meron Ar**	**7.27**	**110**	Pn	**Pn**	**09 42 52.4**	**-0.9**
	3.6nm,0.3s,baz=308,slow=10,SNR=6.0						
SUZ		**7.57**	**140**	P	**Pn**	**09 42 58.0**	**+0.6**
HNKL	**Nakhl**	**8.13**	**134**	P	**Pn**	**09 43 04.3**	**-0.9**
HBST	**Basata**	**9.10**	**134**	P	**Pn**	**09 43 18.1**	**-0.4**
HKAT	**Jabal Katrina**	**9.23**	**140**	P	**Pn**	**09 43 19.9**	**-0.2**
HFS	**Hagfors**	**25.87**	**344**	P	**P**	**09 46 37.9**	**-0.6**
	1.0nm,0.5s,mb3.6,baz=124,slow=18,SNR=4.2						
AKTK	**Aktyubinsk**	**26.53**	**47**	P	**P**	**09 46 44.3**	**-0.1**
AKTK	**Aktyubinsk**	**26.53**	**47**	P	**P**	**09 46 44.3**	**-0.2**
AKTO	**Aktyubinsk**	**26.53**	**47**	P	**P**	**09 46 44.3**	**-0.1**
	1.5nm,0.6s,mb3.7,baz=249,slow=12,SNR=6.8						
TORD	**Torodi Ar. Bea**	**32.26**	**232**	P	**P**	**09 47 35.9**	**+0.6**
	1.5nm,0.3s,mb4.3,baz=32,slow=8.8,SNR=44						
TORD	**Torodi Ar. Bea**	**32.26**	**232**	P	**P**	**09 47 35.9**	**+0.6**
DBIC	**Dimbokro**	**41.34**	**233**	P	**P**	**09 48 52.8**	**+0.1**
	6.3nm,1.1s,mb4.2,baz=40,slow=7.9,SNR=3.7						
MKAR	**Makanchi Array**	**41.96**	**57**	P	**P**	**09 48 57.9**	**+0.2**
	1.0nm,0.7s,mb3.6,baz=279,slow=6.9,SNR=7.4						

IDC ***19*** *09:53:04.5±0.4,3297N×9630E,h0km,mb4.9/35, mb1 4.9/36,mb1mx4.9/38,mbtmp4.9/36,ML4.8/1,MS5.3/1, Ms1 5.3/1,ms1mx3.3/5,Error ellipse: s-maj=14.8km s-min=9.1km az=44.0*

ISCJB ***19*** *09:53:05.5±0.1,3291N×002×9616E±002,h17km, mb5.1/219,MS5.3/52,Error ellipse: s-maj=2.6km s-min=2.1km az=16.1*

BJI ***19*** *09:53:05.1,3304N×9622E,h15km,mB5.2,mb5.0,ML5.3, Ms5.8,Msz5.5*

NEIC ***19*** *09:53:07.2±0.1,3297N×9621E,mb5.2/137,Error ellipse: s-maj=2.9km s-min=2.5km az=221.0*

HRVD ***19*** *09:53:07.2±0.1,3306N×9627E,h25km,MW5.5/95, Centroid moment Tensor Solution. LP body waves: s77,c121;Mantle waves: s95,c192; Half duration: ↑s4 Moment tensor: Scale 10¹⁷Nm; Mrr0.10±.03; Mθθ1.78±.03; Mϕϕ-1.89±.03; Mrθ-0.65±.06; Mθϕ1.01±.03; Mϕr-0.82±.07; Best double couple: M₀2.34300×10¹⁷ NP1:ϕs302.00000°, δ64.00000°,λ4.00000°. NP2:ϕs210.00000°,δ86.00000°, λ154.00000°. Principal axes: T 2.3600, Plg21.0000°, Azm163.0000°; N -0.0400, Plg63.0000°, Azm22.0000°; P -2.3250, Plg16.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***19*** *09:53:07.8±0.8,3295N×9618E,h33km,mb5.4/112, MS5.3/42 Error ellipse: s-maj=6.8km s-min=3.2km az=127.3*

SZGRF ***19*** *09:53:10.6,3305N×9600E,h33km,mb5.6,MS5.2, Qinghai, China*

VIE ***19*** *09:53:42.2,3267N×9589E,h0km,mb4.9,ML4.6,Ms4.8 810 km WNW of Chengdu*

ISC 19 09:53:07.6±0.1,3295N±002×9619E±002,h18km, h18km±.9km:pP-P,n735,σ0.99/786,mb5.1/219,MS5.3/52, 51C-28D,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**7.05**	**62**	*e*P	**Pn**	**09 54 51.9**	**+2.0**
LZH				*e*S	**Sn**	**09 56 11.1**	**+1.5**
LZH				XS		09 56 16.0	
LZH				Smax			
	comp=N,4μm,1.4s						
LZH				Smax			
	comp=E,6μm,1.5s						
LZH				LR	LR		
	comp=N,51μm,9.3s						
LZH				LR	LR		
	comp=Z,52μm,10.3s						
GTA	**Gaotai**	**7.08**	**23**	P	**Pn**	**09 54 52.0**	**+1.6**
GTA				S	**Sn**	**09 56 12.3**	**+1.9**
GTA				SG	Sn	09 56 51.8	+41
GTA				LR	LR		
	comp=N,48μm,10.7s						
GTA				LR	LR		
	comp=E,126μm,9.1s						
GTA				LR	LR		
	comp=Z,14μm,11.8s						
IMP	**Imphal**	**8.37**	**194**	*i* P	**Pn**	**09 55 08.0**	**-0.1**
GTK	**Gangtok**	**8.62**	**232**	*e*P	**Pn**	**09 55 10.0**	**-1.5**
KMI	**Kunming**	**9.67**	**142**	P	**Pn**	**09 55 27.4**	**+1.5**
KMI				AP		09 55 32.3	
KMI				XP		09 55 35.3	
KMI				PP		09 55 37.4	
KMI				S	**Sn**	**09 57 23.3**	**+9.2**
KMI				XS		09 57 25.9	
KMI				SS		09 57 33.1	
KMI				AMB	AMB		
	comp=Z,49nm,1.1s						
KMI				AMB	AMB		
	comp=Z,515nm,4.1s						
KMI				LR	LR		
	comp=N,38μm,15.8s						
KMI				LR	LR		
	comp=E,59μm,16.2s						
KMI				LR	LR		
	comp=Z,25μm,10.5s						
JIRN	**Jiri**	**10.12**	**241**	*e*P	**Pn**	**09 55 33.4**	**+1.3**
	comp=Z,521nm,1.0s						
GUN	**Gumba**	**10.22**	**243**	*e*P	**Pn**	**09 55 34.3**	**+0.9**
	comp=Z,237nm,0.4s						
XAN	**Xi'an**	**10.69**	**81**	P	**Pn**	**09 55 40.3**	**+0.5**
XAN				AP		09 55 48.3	
XAN				S	**Sn**	**09 57 45.8**	**+6.9**
XAN				LR	LR		
	comp=N,16μm,15.9s						
XAN				LR	LR		
	comp=Z,19μm,16.8s						
KKN	**Kakani**	**10.73**	**244**	*e*P	**Pn**	**09 55 40.5**	**+0.1**
	comp=Z,202nm,0.4s						
KKN	**Kakani**	**10.73**	**244**	*e*P	**Pn**	**09 55 40.5**	**+0.1**
KKN				pmax	pmax		
	comp=Z,202nm,0.4s						
PKI	**Pulchoki**	**10.75**	**243**	*e*P	**Pn**	**09 55 41.0**	**+0.3**
	comp=Z,544nm,0.5s						
PKI	**Pulchoki**	**10.75**	**243**	*e*P	**Pn**	**09 55 41.0**	**+0.3**
PKI				pmax	pmax		
	comp=Z,544nm,0.5s						
DMN	**Daman**	**10.96**	**244**	*e*P	**Pn**	**09 55 43.6**	**+0.1**
	comp=Z,272nm,0.7s						
GKN	**Gorkha**	**11.12**	**247**	*e*P	**Pn**	**09 55 45.1**	**-0.6**
	comp=Z,338nm,0.6s						
GYA	**Guiyang**	**11.16**	**123**	⇑*i*P	**Pn**	**09 55 45.4**	**-0.9**
GYA				AP		09 55 48.6	
GYA				XP		09 55 51.6	
GYA				PP		09 55 53.9	
GYA				S	**Sn**	**09 57 47.9**	**-2.7**
GYA				AMB	AMB		
	comp=Z,260nm,0.8s						
GYA				AMB	AMB		
	comp=Z,500nm,5.0s						
GYA				LR	LR		
	comp=N,22μm,9.9s						
GYA				LR	LR		
	comp=E,26μm,12.8s						
GYA				LR	LR		
	comp=Z,22μm,9.0s						
KOLN	**Koldanda**	**12.03**	**248**	*e*P	**Pn**	**09 55 57.0**	**-1.2**
	comp=Z,341nm,0.8s						
WMQ	**Urumqi**	**12.73**	**331**	P	**Pn**	**09 56 10.8**	**+3.1**
WMQ				AP		09 56 14.1	
WMQ				XP		09 56 17.3	
WMQ				PP		09 56 21.1	
WMQ				S	**Sn**	**09 58 33.3**	**+4.3**
WMQ				XS		09 58 36.1	
WMQ				SS		09 58 47.9	
WMQ				PCP	PcP	10 01 47.3	+3.3
WMQ				SCP	ScP	10 05 18.6	+2.4
WMQ				SCS	ScS	10 08 53.8	+1.3
WMQ				AMB	AMB		
	comp=Z,186nm,0.9s						
WMQ				LR	LR		
	comp=N,30μm,11.6s						
WMQ				LR	LR		
	comp=E,15μm,10.5s						
WMQ				LR	LR		
	comp=Z,32μm,12.4s						
BOK	**Bokaro**	**12.86**	**227**	*e*P	**Pn**	**09 56 07.2**	**-2.2**
BOK				AMb	AMB	09 56 14.6	
	comp=Z,143nm,1.0s						
BTO	**Baotou**	**13.45**	**51**	*e*P	**Pn**	**09 56 15.4**	**-2.2**
PTH	**Pithoragarh**	**14.08**	**260**	*e*P	**Pn**	**09 56 25.2**	**-1.0**
PTH				*ex*	x	09 59 25.3	
LGTI	**Lohaghat**	**14.09**	**260**	*i* P	**Pn**	**09 56 26.0**	**-0.3**
LGTI				*e*S	**Sn**	**09 59 02.5**	**+0.4**
CHG	**Chiang Mai**	**14.29**	**169**	⇓P	**Pn**	**09 56 30.6**	**+1.6**
	comp=Z,109nm,0.8s						
CHG				SG	**Sn**	**09 59 23.8**	**+17**
CHTO	**Chiang Mai**	**14.29**	**169**	*e*P	**Pn**	**09 56 29.5**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,108nm,0.9s						
CHTO	**Chiang Mai**	**14.29**	**169**	*e*Pn	**Pn**	**09 56 29.5**	**+0.5**
	comp=Z,108nm,0.9s						
JOSI	**Joshimath**	**14.36**	**265**	*e*S	**Sn**	**09 59 02.7**	**-6.0**
HHC	**Hu-ho-hao-te**	**14.60**	**53**	*e*P	**Pn**	**09 56 30.3**	**-2.9**
HHC				AP	pP	09 56 34.1	-10
HHC				XP	sP	09 56 37.3	-10
HHC				PP		09 56 41.4	
HHC				S	**Sn**	**09 59 12.0**	**-2.6**
HHC				SS		09 59 28.0	
HHC				AMB	AMB		
	comp=Z,41nm,1.4s						
HHC				AMB	AMB		
	comp=Z,232nm,3.3s						
HHC				LR	LR		
	comp=N,23μm,10.7s						
HHC				LR	LR		
	comp=E,19μm,9.5s						
HHC				LR	LR		
	comp=Z,12μm,16.1s						
CM31	**Chiang Mai Arr**	**14.64**	**170**	*e*Pn	**Pn**	**09 56 35.0**	**+1.2**
CM31				*e*pPn		09 56 38.7	
NANT	**Nan**	**14.66**	**163**	⇑P	**Pn**	**09 56 40.0**	**+6.0**
	comp=Z,562nm,0.4s						
KLP	**Kalpa**	**15.25**	**270**	*e*P	**Pn**	**09 56 41.7**	**-0.3**
KLP				*ex*	x	09 59 46.5	
WHN	**Wuhan**	**15.63**	**94**	P	**Pn**	**09 56 46.3**	**-0.7**
WHN				LR	LR		
	comp=Z,35μm,11.4s						
DDI	**Dehra Dun**	**15.67**	**265**	*ex*	**Pn**	**09 56 46.5**	**-1.0**
SMLA	**Simla**	**16.24**	**269**	*e*P	**Pn**	**09 56 51.6**	**-3.2**
SDNR	**Sundarnagar**	**16.33**	**270**	*e*P	**Pn**	**09 56 54.0**	**-2.0**
SDNR				*ex*	x	10 00 07.2	
ASOR	**Ausora**	**16.36**	**260**	*e*P	**Pn**	**09 56 54.1**	**-2.2**
BLSP	**Bilaspur**	**16.46**	**233**	*ex*	**Pn**	**09 57 06.0**	**+8.3**
BLSP				*ex*	x	09 59 50.0	
SONM	**Songino Array**	**16.75**	**24**	Pn	**Pn**	**09 56 59.4**	**-1.9**
	comp=Z,3.5nm,0.3s,baz=213,slow=14,SNR=53						
SONM	**Songino Array**	**16.75**	**24**	P	**Pn**	**09 56 59.4**	**-2.0**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AGRA	**Agra**	**16.78**	**255**	*e*P	**Pn**	**09 56 58.6**	**-3.1**
AGRA				*ex*	x	09 57 00.9	
KKR	**Kurukshetra**	**16.80**	**265**	*e*P	**Pn**	**09 56 59.4**	**-2.5**
BHK	**Bhakra**	**16.81**	**270**	*ex*	**Pn**	**09 57 05.0**	**+2.9**
NDI	**New Delhi**	**16.84**	**260**	*e*P	**Pn**	**09 56 59.2**	**-3.3**
DLH	**Dalhousie**	**17.02**	**274**	*e*P	**Pn**	**09 57 05.0**	**+0.2**
DLH				*ex*	x	09 57 28.0	
BHGR	**Bahadurgarh**	**17.07**	**261**	*e*P	**Pn**	**09 57 02.0**	**-3.4**
SONA	**Sohna**	**17.10**	**259**	*e*P	**Pn**	**09 57 03.1**	**-2.6**
SONA				*ex*	x	10 00 18.9	
PONG	**Pong**	**17.12**	**272**	*e*P	**Pn**	**09 57 06.0**	**+0.1**
PONG				*ex*	x	10 00 25.0	
JBP	**Jabalpur**	**17.29**	**240**	⇓*i*P	**Pn**	**09 57 05.4**	**-2.7**
JBP				*ex*	x	10 00 29.6	
MK31	**Makanchi Array**	**17.43**	**327**	P	**Pn**	**09 57 07.3**	**-2.5**
MK31				pmax	pmax		
	comp=Z,113nm,0.9s						
MKAR	**Makanchi Array**	**17.43**	**327**	P	**Pn**	**09 57 06.8**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=131,slow=13,SNR=93						
MKAR	**Makanchi Array**	**17.43**	**327**	*i* P	**Pn**	**09 57 07.3**	**-2.5**
MKAR				pmax	pmax		
	comp=Z,37nm,0.8s						
MKAR	**Makanchi Array**	**17.43**	**327**	P	**Pn**	**09 57 06.8**	**-3.0**
BJT	**Baijiatuau**	**17.53**	**61**	*e*P	**Pn**	**09 57 12.4**	**+1.4**
BJT				pmax	pmax		
	comp=Z,108nm,1.4s						
BJT	**Baijiatuau**	**17.53**	**61**	*e*P	**Pn**	**09 57 12.4**	**+1.4**
	comp=Z,108nm,1.4s						
BJI	**Beijing**	**17.54**	**61**	P	**Pn**	**09 57 12.3**	**+1.1**
BJI				S	**Sn**	**10 00 26.8**	**+0.8**
BJI				AMB	AMB		
	comp=Z,50nm,2.3s						
BJI				AMB	AMB		
	comp=Z,898nm,3.1s						
BJI				LR	LR		
	comp=N,16μm,13.6s						
BJI				LR	LR		
	comp=E,11μm,13.6s						
BJI				LR	LR		
	comp=Z,12μm,17.5s						
TIA	**Tai'an**	**17.54**	**73**	*e*P	**Pn**	**09 57 11.3**	**+0.1**
TIA				LR	LR		
	comp=N,3μm,12.0s						
TIA				LR	LR		
	comp=E,4μm,12.0s						
KSH	**Kashi**	**17.57**	**298**	P	**Pn**	**09 57 11.1**	**-0.4**
KSH				*e*AP	pP	09 57 15.8	-1.6
KSH				*e*XP	sP	09 57 18.3	-1.4
KSH				*e*PP		09 57 27.0	
KSH				*e*PPP		09 57 35.5	
KSH				S	**Sn**	**10 00 22.3**	**-4.3**
KSH				*e*SS		10 00 49.1	
KSH				AMB	AMB		
	comp=Z,383nm,4.1s						
KSH				AMB	AMB		
	comp=Z,504nm,3.2s						
KSH				LR	LR		
	comp=N,32μm,24.0s						
KSH				LR	LR		
	comp=E,68μm,9.2s						
NST	**Nakhon Sawan**	**17.57**	**167**	P	**Pn**	**09 57 12.0**	**+0.5**
	comp=E,98nm,1.0s						
KKTK	**Khon Kaen**	**17.59**	**158**	P	**Pn**	**09 57 12.2**	**+0.4**
	comp=E,802nm,0.9s						
KUDL	**Kundal**	**17.63**	**259**	*e*P	**Pn**	**09 57 09.6**	**-2.7**
KUDL				AMb	AMB	09 57 16.7	
	comp=Z,269nm,1.6s						
KUDL				*ex*	x	10 00 31.8	
GZH	**Guangzhou**	**18.03**	**119**	P	**Pn**	**09 57 16.1**	**-1.1**
GZH				S	**Sn**	**10 00 36.8**	**-1.1**
GZH				LR	LR		
	comp=N,13μm,13.1s						
GZH				LR	LR		
	comp=E,21μm,10.9s						
GZH				LR	LR		
	comp=Z,34μm,11.5s						
ZAK	**Zakamensk**	**18.19**	**15**	*e*P	**Pn**	**09 57 17.9**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,27nm,1.4s						
KHET	**Khetri**	**18.22**	**260**	*e*P	**Pn**	**09 57 16.9**	**-2.7**
KHET				*ex*	x	10 00 46.7	
AAA	**Alma-Ata**	**18.28**	**310**	*i* P	**Pn**	**09 57 22.7**	**+2.4**
AAA				*i* S	**Sn**	**10 00 45.8**	**+1.8**
AAA				pmax	pmax		
	comp=Z,35μm,2.4s						
AAA				smax			
	comp=N,30μm,4.8s						
AAA				MLR	MLR		
	comp=Z,161μm,17.3s						
ULHL	**Ulahol**	**18.30**	**306**	P	**Pn**	**09 57 20.8**	**+0.3**
	SNR=26						
QIZ	**Qiongzhong**	**18.48**	**135**	P	**Pn**	**09 57 22.8**	**0.0**
QIZ				XP	sP	09 57 29.5	-0.4
QIZ				S	**Sn**	**10 00 44.4**	**-4.5**
QIZ				XS	sS	10 00 50.6	-10
QIZ				SS		10 01 15.3	
QIZ				AMB	AMB		
	comp=Z,82nm,1.3s						
QIZ				AMB	AMB		
	comp=Z,828nm,7.8s						
QIZ				LR	LR		
	comp=N,26μm,16.7s						
QIZ				LR	LR		
	comp=E,32μm,17.6s						
QIZ				LR	LR		
	comp=Z,28μm,12.3s						
QIZ	**Qiongzhong**	**18.48**	**135**	*e*P	**Pn**	**09 57 22.7**	**-0.1**
	comp=Z,157nm,1.2s						
KZA	**Kyzart**	**18.91**	**305**	P	**Pn**	**09 57 28.6**	**+0.6**
	SNR=79						
TKM2	**Tokmak 2**	**19.01**	**308**	P	**Pn**	**09 57 30.5**	**+1.3**
	SNR=28						
TKM2	**Tokmak 2**	**19.01**	**308**	*i* P	**Pn**	**09 57 29.3**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,327nm,2.5s						
MOY	**Mondy**	**19.03**	**9**	*e*P	**Pn**	**09 57 30.0**	**+0.6**
MOY				pmax	pmax		
	comp=Z,287nm,4.2s						
VIS	**Vishakhapatnam**	**19.08**	**220**	*e*P	**Pn**	**09 57 27.8**	**-2.2**
VIS				AMb	AMB	09 57 38.8	
	comp=Z,108nm,1.3s						
NJ2	**Nanjing**	**19.13**	**87**	*e*P	**Pn**	**09 57 30.1**	**-0.6**
NJ2				AP	pP	09 57 34.9	+0.2
NJ2				XP	sP	09 57 38.6	+1.6
NJ2				PP		09 57 47.3	
NJ2				S	**Sn**	**10 00 58.0**	**-6.6**
NJ2				XS	sS	10 01 05.0	-9.0
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,110nm,4.9s						
BHPL	**Bhopal**	**19.15**	**244**	*e*P	**Pn**	**09 57 28.6**	**-2.2**
NIL	**Nilore**	**19.19**	**278**	P	**Pn**	**09 57 30.7**	**-0.6**
	comp=Z,559nm,1.3s,SNR=8.2						
KBK	**Karagaybulak**	**19.34**	**306**	P	**Pn**	**09 57 34.4**	**+1.3**
	SNR=55						
UBT	**Ubonrathani**	**19.36**	**153**	P	**Pn**	**09 57 33.5**	**+0.1**
	comp=Z,278nm,0.9s						
UCH	**Uchtor**	**19.48**	**305**	P	**Pn**	**09 57 35.3**	**+0.6**
	SNR=85						
TLY	**Talaya**	**19.50**	**14**	Pn	**Pn**	**09 57 35.1**	**+0.1**
	comp=Z,71nm,1.2s,SNR=13						
CHMS	**Chumysh**	**19.61**	**307**	P	**Pn**	**09 57 35.4**	**-0.9**
	SNR=14						
FRU	**Bishkek**	**19.63**	**306**	⇓*e*P	**Pn**	**09 57 36.3**	**-0.3**
FRU				*e*S	**Sn**	**10 01 19.0**	**+2.3**
FRU				pmax	pmax		
	comp=Z,3μm,6.0s						
FRU				pmax	pmax		
	comp=Z,2μm,2.9s						
FRU				pmax	pmax		
	comp=E,4μm,8.2s						
FRU				MLR	MLR		
	comp=N,20μm,16.0s						
FRU				MLR	MLR		
	comp=E,20μm,16.0s						
FRU				MLR	MLR		
	comp=Z,23μm,16.0s						
AAK	**Ala-Archa**	**19.64**	**306**	P	**Pn**	**09 57 36.4**	**-0.3**
	comp=Z,485nm,0.9s,SNR=54						
AAK	**Ala-Archa**	**19.64**	**306**	*de*P	**Pn**	**09 57 35.8**	**-0.9**
AAK				pmax	pmax		
	comp=Z,120nm,1.3s						
AAK				MLR	MLR		
	comp=Z,21μm,19.0s						
AAK	**Ala-Archa**	**19.64**	**306**	*e*P	**Pn**	**09 57 35.9**	**-0.8**
	comp=Z,326nm,1.5s						
AJM	**Ajmer**	**19.78**	**257**	*e*P	**Pn**	**09 57 35.6**	**-2.8**
USP	**Ospenovka**	**19.89**	**307**	P	**Pn**	**09 57 39.0**	**-0.6**
	SNR=33						
AML	**Almayashu**	**20.01**	**304**	P	**P**	**09 57 41.1**	**+1.7**
	SNR=16						
EKS2	**Erkin-Say**	**20.14**	**305**	P	**P**	**09 57 42.1**	**+1.4**
	SNR=56						
IRK	**Irkutsk**	**20.16**	**15**	*e*P	**P**	**09 57 41.7**	**+0.8**
IRK				pmax	pmax		
	comp=Z,167nm,2.0s						
NNT	**Nongplab**	**20.52**	**170**	P	**P**	**09 57 46.7**	**+1.8**
AKL	**Akola**	**20.97**	**239**	*e*P	**

comp=Z,8µm,18.3s,MS5.1
DL2 Dalian 21.40 67 P **P** **09 57 54.8 +0.4**
DL2 XP sP 09 58 05.3 +3.6
DL2 S **S** **10 01 55.0 +3.8**
DL2 XS sS 10 02 01.8 +2.5
DL2 AMB AMB
comp=Z,60nm,1.0s,mb4.9
DL2 AMB AMB
comp=Z,450nm,6.2s
DL2 LR LR
comp=N,6µm,17.4s,MS5.0
DL2 LR LR
comp=E,2µm,17.7s,MS5.0
DL2 LR LR
comp=Z,6µm,16.7s,MS5.1
KURK Kurchatov 21.96 329 P **P** **09 57 59.9 -0.5**
comp=Z,509nm,0.8s,mb6.0,SNR=35
KURK Kurchatov 21.96 329 ⇑P **P** **09 58 00.0 -0.4**
SNR=7.1
KURK Kurchatov 21.96 329 ⇓*i*P **P** **09 57 58.8 -1.6**
KURK Kurchatov 21.96 329 *e*P **P** **09 57 59.5 -0.9**
comp=Z,116nm,0.8s,mb5.4
HYB Hyderabad 22.17 230 *i* P **P** **09 58 04.5 +1.9**
HYB *e*S **S** **10 02 03.0 -3.2**
HYB LR LR 10 06 00.0
comp=Z,7.0nm,12.0s
HYB Hyderabad 22.17 230 *e*P **P** **09 58 03.5 +0.9**
HYB *e*S **S** **10 02 00.0 -6.2**
ZAL Zalesovo 22.50 342 P **P** **09 58 04.7 -1.4**
comp=Z,18nm,0.9s,mb4.5,baz=314,slow=9.1,SNR=45
ZAL Zalesovo 22.50 342 *i* P **P** **09 58 06.5 +0.4**
ZAL pmax pmax
comp=Z,18nm,0.9s
KK31 Karatay Array 22.55 304 *i* P **P** **09 58 06.4 -0.3**
KK31 pmax pmax
comp=Z,177nm,1.2s,mb5.4
KKAR Karatay Array 22.55 304 *i* P **P** **09 58 06.4 -0.3**
KKAR pmax pmax
comp=Z,221nm,1.3s,mb5.4
JASL Jaisalmer 22.70 261 *e*P **P** **09 58 06.5 -1.7**
LATR Latur 22.80 235 *e*P **P** **09 58 10.0 +0.7**
KRAR Krasnoyarsk 23.18 355⇑*e*P **P** **09 58 12.6 -0.7**
KRAR pmax pmax
comp=Z,139nm,1.3s,mb5.2
KRAR MLR MLR
comp=Z,5µm,19.0s,MS5.0
SNY Shenyang 23.42 60 ⇑P **P** **09 58 09.6 -6.2**
SNY S **S** **10 02 22.8 -5.1**
SNY XS sS 10 02 32.9 -3.8
SNY AMB AMB
comp=Z,42nm,2.5s,mb4.4
SNY AMB AMB
comp=Z,745nm,3.9s
SNY LR LR
comp=N,12µm,14.4s,MS5.6
SNY LR LR
comp=E,4µm,10.8s,MS5.6
SNY LR LR
comp=Z,6µm,14.2s,MS5.2
YHNB Yeheng 23.52 104 *e*P **P** **09 58 16.8 0.0**
NVS Novosibirsk 23.72 341 *i* P **P** **09 58 18.8 +0.1**
NVS *e*PPP 09 59 07.2
NVS *i* S **S** **10 02 29.8 -3.0**
NVS *e*SS 10 03 12.4
NVS pmax pmax
comp=Z,220nm,2.5s,mb5.1
NVS pmax pmax
comp=N,312nm,2.4s
NVS pmax pmax
comp=E,138nm,2.4s
NVS smax
comp=N,270nm,2.3s
NVS smax
comp=E,236nm,2.1s
HIA Hailar 23.95 40⇓*e*P **P** **09 58 21.1 +0.3**
HIA Hailar 23.95 40 *e*P **P** **09 58 21.7 +0.9**
comp=E,23nm,0.7s,mb4.7
MDRS Chennai 24.57 220 *e*P **P** **09 58 26.7 +0.2**
POO Poona 24.65 240⇑*i*P **P** **09 58 25.0 -2.2**
comp=E,120nm,1.0s,mb5.4
POO *i* x x 09 59 05.0
POO *i* x x 10 02 52.0
POO *i* x x 10 04 55.0
POO *e*x x 10 05 36.0
POO *i* x x 10 09 23.5
KAD Karad 25.21 237 *e*P **P** **09 58 32.4 +0.1**
KAD ⇑*i*P 09 58 32.8
KAD AMb AMB 09 58 41.1
comp=Z,158nm,1.4s,mb5.4
INCN Inchon 25.22 71 *e*P **P** **09 58 31.8 -0.6**
comp=Z,38nm,0.7s,mb5.0
INCN *e*pP pP 09 58 36.8 -0.9
CN2 Changchun 25.24 56 *e*P **P** **09 58 32.8 +0.2**
CN2 *e*XP sP 09 58 39.8 -0.3
CN2 *e*PP 09 59 11.0
CN2 *e*S **S** **10 02 55.0 -2.3**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.7
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,25µm,16.0s,MS5.8
CN2 LR LR
comp=E,5µm,16.0s,MS5.8
CN2 LR LR
comp=Z,10µm,12.0s,MS5.5
BHJ Bhuj 25.27 254 *e*P **P** **09 58 32.4 -0.4**
SNG Songkhla 25.97 170 P **P** **09 58 40.0 +0.8**
comp=Z,352nm,0.8s,mb5.9
VOSK Vostochnaya 26.83 325 P **P** **09 58 45.8 -1.1**
VOSK pmax pmax
comp=Z,107nm,1.3s,mb5.2
BVA0 Borovoye Array 27.30 325 *i* P **P** **09 58 51.1 0.0**
BVA0 pmax pmax
comp=Z,13nm,1.3s,mb4.3
BVAR Borovoye Array 27.30 325 P **P** **09 58 50.9 -0.2**
comp=Z,4.2nm,0.7s,mb4.1,baz=123,slow=11,SNR=15
BVAR ScP ScP 10 05 50.0 0.0
comp=Z,1.9nm,0.6s,baz=144,slow=4.0,SNR=4.0
BVAR LR LR 10 09 56.7
comp=Z,6µm,19.2s,MS5.2,baz=152,slow=37
BVAR Borovoye Array 27.30 325 P **P** **09 58 50.9 -0.2**
BVAR pmax pmax
comp=Z,4.0nm,0.7s
BVAR pmax pmax
comp=E,2.0nm,0.6s
BVAR MLR MLR
comp=Z,6µm,19.2s
BRVK Borovoye 27.37 325 P **P** **09 58 51.9 +0.1**
comp=Z,143nm,0.8s,mb5.5,SNR=15
BRVK Borovoye 27.37 325 ⇑P **P** **09 58 52.0 +0.2**
SNR=20
BRVK Borovoye 27.37 325 *e*P **P** **09 58 51.7 -0.1**
BRVK pmax pmax
comp=Z,9.0nm,0.6s,mb4.5
BRVK Borovoye 27.37 325 *e*P **P** **09 58 51.7 -0.1**
comp=Z,8.9nm,0.6s,mb4.5
CHKZ Chkalovo 27.59 326 *i* P **P** **09 58 51.7 -2.1**
CHKZ pmax pmax
comp=Z,78nm,1.7s,mb5.1
CHKZ Chkalovo 27.59 326 *e*P **P** **09 58 53.2 -0.5**
comp=Z,26nm,0.9s,mb4.9
CVP Callao Caves 27.59 117 *e*P **P** **09 58 55.0 +1.2**
KULM Kulim 27.83 170 *e*P **P** **09 58 56.9 +1.0**
ZRNK Zerenda 27.93 324 *e*P **P** **09 58 56.4 -0.4**
ZRNK pmax pmax
comp=Z,19nm,1.3s,mb4.6
ZRNK Zerenda 27.93 324 *e*P **P** **09 58 56.4 -0.4**
comp=Z,19nm,1.3s,mb4.6
MDJ Mudanjiang 28.33 56 P **P** **09 59 01.0 +0.6**
MDJ AP pP 09 59 04.0 -1.8
MDJ XP sP 09 59 05.3 -2.7
MDJ PCP PcP 10 02 12.3 -0.7
MDJ S **S** **10 03 45.4 -0.7**
MDJ SCP ScP 10 05 54.6 +1.4
MDJ AMB AMB
comp=Z,8.0nm,1.1s,mb4.3
MDJ AMB AMB
comp=Z,104nm,6.6s
MDJ LR LR
comp=N,15µm,16.9s,MS5.7
MDJ LR LR
comp=E,4µm,16.1s,MS5.7
MDJ LR LR
comp=Z,6µm,14.7s,MS5.3
MDJ Mudanjiang 28.33 56 *e*P **P** **09 59 00.6 +0.2**
comp=Z,3.4nm,0.4s,mb4.3
IPM Ipoh 28.68 170 P **P** **09 59 04.0 +0.5**
PALK Pallekele 29.32 213 *e*P **P** **09 59 10.4 +1.2**
comp=Z,44nm,1.2s,mb5.1
VLA Vladivostok 29.70 60 *e*P **P** **09 59 11.6 -0.9**
VLA *e*S **S** **10 04 08.9 +1.3**
VLA *e*SSS 10 05 48.0
VLA *e* 10 09 47.0
VLA pmax pmax
comp=Z,14µm,0.6s
VLA MLR MLR
comp=Z,4µm,12.0s,MS5.2
PSI Prapat 30.10 175 P **P** **09 59 16.7 +0.6**
comp=Z,4.5nm,0.5s,mb4.5,baz=351,slow=11,SNR=7.7
PSI Prapat 30.10 175 P **P** **09 59 16.7 +0.6**
PSI pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
PSI Prapat 30.10 175 P **P** **09 59 16.7 +0.6**
CLNS Chul'man 30.96 31 *e*P **P** **09 59 20.6 -3.0**
CLNS *e**PP pP 09 59 29.8 +0.8
CLNS *e*PPP 10 00 28.3
CLNS *e* 10 02 15.1
CLNS *e*SS SS 10 06 07.4 -32
CLNS *e*SSS 10 06 33.1
CLNS pmax pmax
comp=Z,13nm,0.7s,mb4.9
CLNS pmax pmax
comp=N,12nm,0.8s
CLNS pmax pmax
comp=E,4.0nm,0.6s
CLNS pmax pmax
comp=Z,18nm,1.0s,mb4.9
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS MLR MLR
comp=N,4µm,12.0s,MS5.4
CLNS MLR MLR
comp=Z,5µm,12.0s,MS5.4
CLNS MLR MLR
comp=E,4µm,13.0s,MS5.4
KLR Kul'dur 31.00 48 *e*P **P** **09 59 20.6 -3.4**
KLR *e*S **S** **10 04 29.5 +1.5**
KLR pmax pmax
comp=E,160nm,2.8s
KLR pmax pmax
comp=Z,210nm,2.8s,mb5.5
KLR MLR MLR
comp=E,6µm,11.0s
KLR MLR MLR
comp=Z,13µm,11.0s,MS5.8
ABKT Ailbek 31.27 290 P **P** **09 59 27.8 +1.4**
comp=Z,222nm,1.0s,mb6.0,SNR=14
VAN Vannovskaya 31.27 290 *e*P **P** **09 59 27.5 +1.0**
AB31 Akbulak array 31.44 312 P **P** **09 59 27.7 -0.2**
AB31 pmax pmax
comp=Z,101nm,1.4s,mb5.5
AB31 Akbulak array 31.44 312⇑*e*P **P** **09 59 27.7 -0.2**
KGM Kluang 31.49 166 P **P** **09 59 29.7 +1.3**
KKM Kota Kinabalu 32.62 141 P **P** **09 59 39.8 +1.6**
KKM Kota Kinabalu 32.62 141 *e*P **P** **09 59 38.6 +0.4**
AKTK Aktyubinsk 32.98 313 P **P** **09 59 41.8 +0.3**
AKTO Aktyubinsk 32.98 313 P **P** **09 59 41.8 +0.3**
comp=Z,31nm,0.8s,mb5.3,baz=107,slow=8.3,SNR=69
AKTO Aktyubinsk 32.98 313 P **P** **09 59 41.8 +0.4**
AKTO pmax pmax
comp=Z,31nm,0.8s,mb5.3
KSM Kuching 34.00 154 *e*P **P** **09 59 50.9 +0.6**
SVE Sverdlovsk 34.08 325 *e*P **P** **09 59 51.8 +0.8**
SVE *e*PPP 10 01 06.8
SVE *e*S **S** **10 05 14.0 -2.0**
SVE *e* 10 05 26.0
SVE pmax pmax
comp=Z,350nm,2.5s,mb5.8
SVE MLR MLR
comp=N,2µm,20.0s,MS5.2
SVE MLR MLR
comp=E,4µm,20.0s,MS5.2
SVE MLR MLR
comp=Z,6µm,20.0s,MS5.3
WSAR Wadi Sarin 34.37 263 P **P** **09 59 54.3 +0.8**
comp=Z,16nm,1.0s,mb4.9,baz=61,slow=13,SNR=14
MAT Matsushiro 34.51 72 P **P** **09 59 58.0 +3.2**
MAT S **S** **10 05 22.0 -0.6**
MAT Matsushiro 34.51 72 P **P** **09 59 58.0 +3.2**
MAT *e*S **S** **10 05 22.0 -0.6**
MJAR Matsushiro Arr 34.52 72 P **P** **09 59 53.5 -1.3**
comp=Z,2.3nm,0.9s,mb4.1,baz=280,slow=8.1,SNR=5.1
MJAR Matsushiro Arr 34.52 72 P **P** **09 59 53.5 -1.3**
MJAR pmax pmax
comp=Z,2.0nm,0.9s
ARU Arti 34.91 324 P **P** **09 59 58.0 -0.2**
comp=Z,316nm,1.1s,mb6.2,SNR=10.0
ARU Arti 34.91 324⇓*i*P **P** **09 59 58.0 -0.2**
ARU *e* 10 01 13.9
ARU *e* 10 02 27.7
ARU *e*S **S** **10 05 30.0 +1.2**
ARU *e*SS SS 10 07 44.8 -16
ARU *e*SSS 10 08 09.8
ARU pmax pmax
comp=Z,92nm,1.3s,mb5.5
ARU MLR MLR
comp=N,3µm,17.0s,MS5.2
ARU MLR MLR
comp=Z,4µm,17.0s,MS5.2
ARU MLR MLR
comp=E,3µm,16.0s,MS5.2
ARU Arti 34.91 324 *e*P **P** **09 59 58.4 +0.2**
ARU *e*pP pP 10 00 02.8 -0.8
SMDO Samad 34.93 264 ⇓P **P** **09 59 59.6 +1.2**
SNR=7.0
JMDO Jabal Madar 35.17 262 ⇑P **P** **10 00 01.2 +0.8**
BSY Bisya 35.77 264 ⇑P **P** **10 00 06.9 +1.3**
SNR=14
ASHO Ashiyiah 35.95 267 ⇓P **P** **10 00 08.7 +1.6**
SNR=10
ARQ Araqi 36.09 265 ⇑P **P** **10 00 09.7 +1.4**
SNR=10.0
YAK Yakutsk 36.10 26 *e*P **P** **10 00 08.8 +0.4**
YAK *e**PP pP 10 00 15.1 +1.2
YAK *e* 10 02 32.3
YAK *e*S **S** **10 05 46.4 -0.6**
YAK *e**SS sS 10 06 00.0 +4.0
YAK pmax pmax
comp=Z,17nm,0.8s,mb5.0
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,19nm,0.8s,mb5.1
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,18nm,1.1s
YAK smax
comp=N,4.0nm,1.3s
YAK smax
comp=Z,3.0nm,0.7s
YAK smax
comp=E,6.0nm,1.4s
ASAJ Asahikawa 37.52 59 P **P** **10 00 20.6 +0.1**
comp=E,28nm,1.1s,mb4.9,baz=253,slow=16,SNR=16
ASAJ Asahikawa 37.52 59 P **P** **10 00 20.7 +0.2**
ASAJ pmax pmax
comp=Z,28nm,1.1s
YSS Yuzh-Sakhalins 37.78 54 *e*P **P** **10 00 22.5 -0.2**
YSS *e**SP sP 10 00 30.0 -0.3
YSS *e* 10 01 58.0
YSS *e* 10 02 35.0
YSS *e*S **S** **10 06 16.0 +3.4**
YSS MLR MLR
comp=Z,4µm,12.0s,MS5.4
YSS MLR MLR
comp=N,6µm,13.0s,MS5.6
YSS MLR MLR
comp=E,4µm,14.0s,MS5.6
YSS Yuzh-Sakhalins 37.78 54 *e*P **P** **10 00 22.1 -0.6**
comp=E,39nm,1.0s,mb5.1
YSS *e*pP pP 10 00 27.1 -1.1
WHFO Wadi Hawf 40.84 259 ⇑P **P** **10 00 48.2 -0.1**
SNR=12
DGRG David-gareji 40.86 297 P **P** **10 00 49.9 +1.4**
DGRG David-gareji 40.86 297 P **P** **10 00 50.0 +1.6**
MTA Mtatsminda 41.27 297 P **P** **10 00 54.8 +3.0**
UMR Umm Al-Rimmam 41.30 279 *e*P **P** **10 00 51.9 -0.1**
UMR AMb AMB 10 00 54.2
comp=Z,107nm,0.9s,mb5.5
TBLG Delisi 41.31 298 P **P** **10 00 54.6 +2.5**
QRN Al-Qurain 41.38 277 *e*P **P** **10 00 52.9 +0.2**
QRN AMb AMB 10 00 54.2
comp=Z,89nm,1.2s,mb5.3
KBD Kabd 41.43 278 *e*P **P** **10 00 52.9 -0.2**
KBD AMb AMB 10 00 55.4
comp=Z,308nm,1.1s,mb5.8
GNI Garni 41.47 295 *e*P **P** **10 00 53.7 +0.2**
GNI Garni 41.47 295 P **P** **10 00 55.6 +2.2**
comp=Z,41nm,1.1s,mb5.0,baz=143,slow=14,SNR=18
GNI Garni 41.47 295 ⇑P **P** **10 00 55.6 +2.2**
SNR=18
GNI Garni 41.47 295⇓*e*P **P** **10 00 54.7 +1.3**
GNI pmax pmax
comp=Z,75nm,1.3s
GNI MLR MLR
comp=Z,2µm,20.0s
GNI Garni 41.47 295 *e*P **P** **10 00 54.8 +1.3**
comp=Z,114nm,1.2s,mb5.4
ABTO Aybut 41.52 259 ⇑P **P** **10 00 53.8 -0.1**
RDF Al-Radifah 41.63 278 *e*P **P** **10 00 54.9 +0.2**
RDF AMb AMB 10 00 57.0
comp=Z,160nm,1.1s,mb5.6
GOR Gori 41.76 298 P **P** **10 00 57.1 +1.3**
NAY Al-Naaiem 41.78 278 *e*P **P** **10 00 55.6 -0.4**
NAY AMb AMB 10 00 58.1
comp=Z,120nm,0.9s,mb5.5
ZEI Tsey 41.85 299 *e*P **P** **10 00 58.5 +2.0**
ZEI pmax pmax
comp=Z,12nm,0.5s,mb4.8
RST Umm Al-Ruwaisa 41.91 279 *e*P **P** **10 00 56.6 -0.5**
RST AMb AMB 10 00 58.7
comp=Z,156nm,0.8s,mb5.7
ONI Oni 42.19 299 P **P** **10 01 00.6 +1.2**
ONI Oni 42.19 299 P **P** **10 01 00.7 +1.4**
CLDR Caldiran 42.24 294 *e*P **P** **10 01 01.0 +1.3**
GOF Gofitskoye 42.34 303⇑*i*P **P** **10 01 00.6 +0.1**
GOF pmax pmax
comp=Z,139nm,1.0s,mb5.5
AMRG 42.43 299 P **P** **10 01 04.0 +2.8**
TIXI Tiksi 42.47 15 *e*P **P** **10 00 58.2 -3.4**
TIXI *e*S **S** **10 07 17.0 -5.7**
TIXI *e*SS SS 10 10 29.0 -3.2
TIXI pmax pmax
comp=Z,15nm,0.9s,mb4.6
TIXI MLR MLR
comp=Z,3µm,13.0s,MS5.3
TIXI Tiksi 42.47 15 *e*P **P** **10 00 59.9 -1.7**
PECR Pechory 42.51 319 *e*P **P** **10 01 00.0 -1.9**
PECR MLR MLR
comp=N,2µm,12.0s,MS5.5
PECR MLR MLR
comp=E,4µm,13.0s,MS5.5
KIV Kislovodsk 42.65 301 P **P** **10 01 04.5 +1.5**
comp=E,233nm,0.8s,mb6.0,SNR=8.5
KIV Kislovodsk 42.65 301 ⇑P **P** **10 01 04.0 +1.0**
SNR=14
KIV Kislovodsk 42.65 301 *e*P **P** **10 01 03.3 +0.3**
KIV *e* 10 02 41.6
KIV *e*S **S** **10 07 27.9 +2.6**
KIV pmax pmax
comp=Z,60nm,1.2s,mb5.2
KIV pmax pmax
comp=Z,638nm,4.0s
KIV MLR MLR
comp=Z,2µm,17.0s,MS5.2
KIV Kislovodsk 42.65 301 *e*P **P** **10 01 03.1 +0.1**
comp=Z,61nm,0.9s,mb5.3
HAKT HAKKARI 42.65 292 *i* P **P** **10 01 04.2 +1.2**
VANB Van 42.73 293 *e*P **P** **10 01 05.7 +2.1**
CUKT Cukurca 42.79 291 *e*P **P** **10 01 03.5 -0.6**
BHD Baghdad 43.03 285 *ex* x **P** **10 01 03.0**
VRHR Novokhopersk 43.32 312 *e*P **P** **10 01 10.6 +2.1**
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=Z,50nm,0.7s,mb5.3
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR MLR MLR
comp=Z,2µm,26.0s,MS5.0
VRHR MLR MLR
comp=N,4µm,21.0s,MS5.4
VRHR MLR MLR
comp=E,2µm,20.0s,MS5.4
MSL Mosul 43.38 290 *ex* x 10 01 11.0
ERZM Erzurum 44.07 295 *i* P **P** **10 01 16.4 +1.9**
EZM Erzurum 44.08 295 *e*P **P** **10 01 17.1 +2.5**
BTMT Batman 44.27 293 *e*P **P** **10 01 17.4 +1.3**
MA2 Magadan 44.44 36 *e* P **P** **10 01 16.5 -1.0**
MA2 *e* 10 07 43.8
MA2 Magadan 44.44 36 *e*P **P** **10 01 16.6 -0.9**
comp=E,24nm,1.2s,mb4.8
SOC Sochi 44.82 301 *c i*P **P** **10 01 21.8 +1.3**
SOC *e* 10 03 03.6
SOC *e*PPP 10 03 40.6
SOC *e*S **S** **10 07 59.5 +2.4**
SOC *e*SS SS 10 11 13.8 -4.3
SOC *e*SSS 10 12 06.5
SOC pmax pmax
comp=Z,21nm,0.9s,mb5.0
SOC MLR MLR
comp=Z,3µm,18.0s,MS5.3
VRSR Storozhevoye 44.86 312 *e*P **P** **10 01 20.6 -0.2**
VRSR pmax pmax
comp=Z,20nm,0.6s,mb5.1
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=E,60nm,0.9s
VRSR MLR MLR
comp=Z,3µm,14.0s,MS5.4
VRSR MLR MLR
comp=N,2µm,17.0s,MS5.2
VRSR MLR MLR
comp=E,2µm,13.0s,MS5.2
VOR Voronezh 44.87 312 *e*P **P** **10 01 19.7 -1.2**
VOR pmax pmax
comp=E,130nm,1.2s
VOR pmax pmax
comp=Z,140nm,1.2s,mb5.7
BINT Bingol 44.91 294 *e*P **P** **10 01 21.8 +0.5**
MARD Mardin 44.99 292 *i* P **P** **10 01 23.7 +1.8**
EZC Erzincan 45.28 295 *e*P **P** **10 01 26.9 +2.8**
KELT Kelkit 45.63 296 *i* P **P** **10 01 27.4 +0.4**
MOS Moscow 46.02 318 *e*P **P** **10 01 29.4 -0.6**
MOS *e* 10 01 40.0
MOS *e* 10 03 04.3
MOS *e* 10 03 17.6
MOS *e*S **S** **10 08 12.9 -1.5**
MOS pmax pmax
comp=Z,159nm,0.7s,mb6.1
MOS pmax pmax
comp=Z,600nm,1.6s
MOS MLR MLR
comp=Z,3µm,13.0s,MS5.4
MOS Moscow 46.02 318 *e*P **P** **10 01 29.9 -0.1**
ELZG Elazig 46.14 294 *i* P **P** **10 01 31.9 +0.9**
ANN Anapa 46.33 303 *e*P **P** **10 01 31.3 -1.1**
ANN *e**PP pP 10 01 37.5 -0.5
ANN *e* 10 03 21.7
ANN *e*PPP 10 04 02.7
ANN *e*S **S** **10 08 19.2 +0.4**
ANN pmax pmax
comp=Z,81nm,1.2s,mb5.5
ANN MLR MLR
comp=N,7µm,19.0s,MS5.8
ANN MLR MLR
comp=E,6µm,19.0s,MS5.8
ANN MLR MLR
comp=Z,7µm,19.0s,MS5.6
URFA Urfa 46.49 292 *e*P **P** **10 01 34.2 +0.5**
OBN Obninsk 46.58 317 *de*P **P** **10 01 33.6 -0.8**
OBN *i* 10 03 23.4
OBN *i* S **S** **10 08 26.2 +3.8**
OBN pmax pmax
comp=Z,141nm,1.6s,mb5.7
OBN MLR MLR
comp=Z,2µm,17.0s,MS5.1
OBN Obninsk 46.58 317 *e*P **P** **10 01 33.8 -0.6**

OBN *eScP ScP 10 06 59.5 -1.6
comp=Z,25nm,0.3s,mb5.6
MALT Malatya 46.61 294⇑ *iP **P** **10 01 36.2 +1.6**
MALT Malatya 46.61 294 *eP **P** **10 01 35.1 +0.5**
MALT pmax pmax
comp=Z,14nm,0.9s,mb4.9
MALT Malatya 46.61 294 *eP **P** **10 01 35.1 +0.5**
comp=Z,14nm,0.9s,mb4.9
SVSK Karacayir 47.38 296 *eP **P** **10 01 40.4 -0.2**
GZT Gaziantep 47.48 293 *iP **P** **10 01 42.0 +0.5**
GAZ Gaziantep 47.80 292 *eP **P** **10 01 44.8 +0.9**
PET Petropavlovsk 48.23 46⇓ *eP **P** **10 01 44.2 -3.0**
PET pmax pmax
comp=Z,36nm,1.7s,mb5.1
PET MLR MLR
comp=Z,3μm,19.0s,MS5.3
BNN Bunyan 48.47 295 *eP **P** **10 01 49.6 +0.5**
SIM Simferopol' 48.65 303 *eP **P** **10 01 51.0 +0.5**
SIM *e 10 03 47.0
SIM *iS **S** **10 08 53.0 +1.2**
SIM pmax pmax
comp=Z,39nm,0.7s,mb5.5
SIM MLR MLR
comp=Z,5μm,16.9s,MS5.6
BOYT Boyabat 48.66 299 *iP **P** **10 01 50.6 0.0**
COBT Iskenderun 48.70 292 *iP **P** **10 01 51.6 +0.8**
KOZT Kozan 48.80 293 *eP **P** **10 01 52.1 +0.5**
HTY Hatay 48.89 291 *eP **P** **10 01 51.0 -1.3**
CTKT Corum 48.90 298 *iP **P** **10 01 52.5 +0.1**
CEYT Ceyhan 48.97 293 *eP **P** **10 01 53.7 +0.7**
TOS Tosya 49.39 298 *eP **P** **10 01 56.1 0.0**
ASF Jabal al Asfar 49.39 286 P **P** **10 01 57.4 +1.3**
comp=Z,61nm,1.1s,mb5.5,baz=299,slow=2.2,SNR=28
ASF Jabal al Asfar 49.39 286 P **P** **10 01 57.4 +1.2**
ASF pmax pmax
comp=Z,61nm,1.2s
KARA Karaisali 49.45 293 *eP **P** **10 01 56.9 +0.2**
APA Apatity 49.65 333⇓ *iP **P** **10 01 59.8 +1.6**
APA *eS **S** **10 09 16.0 +10**
APA pmax pmax
comp=Z,18nm,0.7s,mb5.2
APA MLR MLR
comp=Z,6μm,18.0s,MS5.6
BALT Daday 49.76 299 *iP **P** **10 01 59.1 +0.1**
CANT Cankiri 49.77 298 *eP **P** **10 01 57.6 -1.5**
JOF Joensuu 49.86 327 *ep **P** **10 01 58.6 -1.2**
comp=Z,42nm,0.8s,mb5.5
JOF Joensuu 49.86 327 *eP **P** **10 01 58.6 -1.2**
JOF pmax pmax
comp=Z,43nm,0.8s,mb5.5
ELDT Eldivan 49.94 298 *iP **P** **10 02 00.6 +0.2**
BR131 Keskin Array S 49.95 297 *eP **P** **10 02 00.3 -0.2**
comp=Z,3.7nm,0.5s,mb4.7
BRTR Keskin Array B 49.95 297 P **P** **10 02 00.3 -0.1**
comp=Z,12nm,0.9s,mb4.9,baz=97,slow=6.3,SNR=44
BRTR Keskin Array B 49.95 297 P **P** **10 02 00.3 -0.1**
BRTR pmax pmax
comp=Z,12nm,0.9s
MERS Mersin 49.96 293 *eP **P** **10 02 00.5 0.0**
KAMT Kaman 49.98 296 *eP **P** **10 01 59.5 -1.1**
PUL Pulkovo 50.15 323⇑ *eP **P** **10 02 03.1 +1.1**
MEST Erdemli 50.32 293 *iP **P** **10 02 03.1 -0.2**
SAFT Safranbolu 50.33 299 *eP **P** **10 02 02.0 -1.3**
MMAI Mount Meron Ar 50.34 288 P **P** **10 02 04.9 +1.5**
comp=Z,6.0nm,0.4s,mb4.9,baz=104,slow=7.0,SNR=4.5
ANTO Ankara 50.55 297 *eP **P** **10 02 03.7 -1.3**
ANTO Ankara 50.55 297⇓ *iP **P** **10 02 05.8 +0.8**
ANTO Ankara 50.55 297 P **P** **10 02 05.1 +0.1**
SNR=20
LOD Lodumlu 50.57 297 *eP **P** **10 02 04.2 -1.0**
IKL Isikli 50.77 292 *eP **P** **10 02 04.9 -1.8**
SGKT Sivrigoynuk 50.94 298 *iP **P** **10 02 08.0 +0.1**
AKASG Malin Array Be 51.18 311 P **P** **10 02 09.1 -0.7**
comp=Z,17nm,0.6s,mb5.2,baz=76,slow=6.3,SNR=38
AKASG Malin Array Be 51.18 311 P **P** **10 02 09.1 -0.6**
AKASG pmax pmax
comp=Z,17nm,0.6s
AKBB Malin Array Si 51.18 311 *eP **P** **10 02 08.9 -0.8**
AKBB *e*PP pP 10 02 14.4 -0.9
ERMK Ermenek 51.27 293 *iP **P** **10 02 09.3 -1.0**
CSS Prodhromos 51.41 291 *eP **P** **10 02 11.3 -0.1**
comp=Z,25nm,0.9s,mb5.1
CSS *epP pP 10 02 16.1 -0.9
KIZT Kizilcal 51.48 296 *eP **P** **10 02 11.7 -0.3**
MDU Mudurnu 51.59 298 *eP **P** **10 02 11.8 -1.0**
MNK Minsk 51.65 316 *eP **P** **10 02 10.0 -3.2**
HENT Hendek 51.74 299 *iP **P** **10 02 13.5 -0.5**
EIL Elat 51.78 284 *eP **P** **10 02 14.3 0.0**
comp=Z,594nm,0.7s
KIS Kishinev 51.97 307 *eP **P** **10 02 14.0 -1.7**
KIS *e 10 04 12.0
KIS *e 10 05 23.0
KIS *eS **S** **10 09 36.0 -2.1**
VSU Vasula 52.01 321⇓ *eP **P** **10 02 15.2 -0.7**
VSU Vasula 52.01 321 *eP **P** **10 02 15.3 -0.6**
ESKT Eskisehir 52.09 297 *iP **P** **10 02 15.5 -1.1**
KAF Kangasniemi 52.15 326 *ep **P** **10 02 15.2 -1.7**
comp=Z,13nm,0.7s,mb5.0,baz=89,slow=7.4
KAF Kangasniemi 52.15 326 *eP **P** **10 02 15.2 -1.7**
KAF pmax pmax
comp=Z,13nm,0.7s,mb5.0
FIA1 FINESS Array S 52.26 325 *eP **P** **10 02 16.9 -0.9**
FIA1 *epP pP 10 02 22.9 -0.4
FINES FINESS Array B 52.26 325 P **P** **10 02 17.4 -0.4**
comp=Z,12nm,0.5s,mb5.1,baz=96,slow=7.4,SNR=40
FINES FINESS Array B 52.26 325 P **P** **10 02 17.4 -0.4**
FINES pmax pmax
comp=Z,12nm,0.5s
KEV Kevo 52.31 336 *ep **P** **10 02 17.6 -0.5**
comp=Z,3.2nm,0.4s,mb4.6
KEV Kevo 52.31 336 *eP **P** **10 02 17.6 -0.5**
KEV pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
ADVT Abdulvahap 52.69 298 *eP **P** **10 02 20.2 -0.8**
TIRR Tirgusor 52.73 304⇑ *iP **P** **10 02 21.3 0.0**
TIRR Tirgusor 52.73 304 P **P** **10 02 21.6 +0.2**
CFR Carcaliu 52.78 305⇑ *iP **P** **10 02 22.0 +0.4**
CFR Carcaliu 52.78 305 ⇑P **P** **10 02 22.0 +0.3**
ISP Isparta 52.79 295*c* *iP **P** **10 02 21.1 -0.6**
ISP Isparta 52.79 295⇑ *iP **P** **10 02 21.1 -0.6**
comp=Z,2.1nm,0.9s,mb4.1
ARCES ARCESS Array B 52.81 335 P **P** **10 02 21.4 -0.4**
comp=Z,9.4nm,0.7s,mb4.8,baz=84,slow=7.2,SNR=29
ARCES ARCESS Array B 52.81 335 P **P** **10 02 21.4 -0.4**
ARCES pmax pmax
comp=Z,9.0nm,0.7s
ARE0 ARCESS Array S 52.81 335 *eP **P** **10 02 21.3 -0.5**
TKTP Tekketepe 52.88 295 *iP **P** **10 02 21.1 -1.3**
HARR Harsova 53.02 304⇑ *iP **P** **10 02 23.9 +0.5**
HARR Harsova 53.02 304 ⇑P **P** **10 02 23.9 +0.5**
ATD Arta Tunnel 53.17 259 P **P** **10 02 25.6 +1.1**
comp=Z,16nm,0.9s,mb4.9,baz=279,slow=23,SNR=4.0
VRI Vrincioaia 53.61 306⇓ *iP **P** **10 02 28.7 +1.0**
VRI Vrincioaia 53.61 306 P **P** **10 02 28.0 +0.2**
PLOR Plostina 53.66 306⇓ *iP **P** **10 02 29.4 +1.2**
MLR Muntele Rosu 54.22 305 P **P** **10 02 33.2 +1.0**
comp=Z,17nm,0.7s,mb5.1,baz=40,slow=2.5,SNR=19
MLR Muntele Rosu 54.22 305⇑ *iP **P** **10 02 34.0 +1.7**
MLR Muntele Rosu 54.22 305 ⇑P **P** **10 02 34.1 +1.8**
MLR Muntele Rosu 54.22 305 P **P** **10 02 33.2 +0.9**
BURAR Bucovina Array 54.27 308⇑ *iP **P** **10 02 32.7 +0.1**
BURAR Bucovina Array 54.27 308 ⇑P **P** **10 02 32.7 +0.2**
SUW Suwalki 54.41 316 *eP **P** **10 02 33.1 -0.5**
SUW L 10 24 58.4
comp=Z,2.3nm,35.8s
LVV L'vov 54.60 311 *eP **P** **10 02 34.1 -0.9**
LVV *e 10 05 48.1
LVV *eS **S** **10 10 11.7 -2.1**
LVV MLR MLR
comp=Z,900nm,13.0s,MS5.0
LVV MLR MLR
comp=N,1μm,16.0s,MS5.3
LVV MLR MLR
comp=E,2μm,16.0s,MS5.3
VOIR 54.85 305⇓ *iP **P** **10 02 38.0 +1.2**
VOIR 54.85 305 ⇓P **P** **10 02 38.0 +1.2**
BJO Bjornoya 55.10 341 AMS AMS 10 30 37.8
comp=Z,3μm,20.5s,MS5.3
TRO Tromso 55.12 335 *eP **P** **10 02 38.4 -0.3**
TRO *eS **S** **10 10 22.7 +1.9**
TRO *eSS SS 10 14 05.6 +0.9
TRO AMS AMS 10 28 48.6
comp=Z,5μm,20.6s,MS5.6

KWP Kalwaria 55.48 311 *eP **P** **10 02 41.7 +0.3**
KWP *epP pP 10 02 44.2 -2.8
KWP L 10 30 04.0
comp=Z,4.2nm,18.9s
KWP Kalwaria 55.48 311 *eP **P** **10 02 41.7 +0.3**
KWP *epP pP 10 02 44.2 -2.8
KOLS Kolonicke sedl 55.91 310 *eP **P** **10 02 44.2 -0.2**
KOLS pmax pmax
comp=Z,29nm,1.4s,mb5.1
KOLS Kolonicke sedl 55.91 310 *eP **P** **10 02 44.2 -0.2**
comp=Z,28nm,1.4s,mb5.1
SPB4 Spitsbergen Ar 55.93 346 *eP **P** **10 02 44.3 -0.3**
SPB4 *epP pP 10 02 49.0 -1.2
CRVS Cervenica-Dubn 56.44 310 *eP **P** **10 02 47.8 -0.4**
comp=Z,10nm,1.2s,mb4.7
CRVS LR LR
comp=Z,1μm,24.1s,MS4.9
KBS Kingsbay 56.81 347 *eS **S** **10 10 40.6 -2.7**
KBS *eSS SS 10 14 46.0 +15
KBS AMS AMS 10 32 40.0
comp=Z,3μm,17.2s,MS5.4
VTS Vitosha 56.86 303⇓ *iP **P** **10 02 52.4 +1.2**
VTS Vitosha 56.86 303 P **P** **10 02 52.0 +0.8**
BZS Buzias 57.15 306⇑ *iP **P** **10 02 53.1 -0.1**
BZS Buzias 57.15 306 P **P** **10 02 53.6 +0.4**
OJC Ojcow 57.19 312 *eP **P** **10 02 53.0 -0.5**
OJC *eS **S** **10 10 46.8 -1.4**
OJC L 10 28 40.7
comp=Z,15nm,20.2s
VAY Valandovo 57.68 301 *iP **P** **10 02 56.9 -0.2**
PSZ Piszkesteto 57.69 309⇑ *eP **P** **10 02 59.8 +2.7**
PSZ Piszkesteto 57.69 309⇑ *iP **P** **10 02 57.8 +0.7**
GKP Gorka Klasztor 58.03 316 *eP **P** **10 03 00.2 +0.8**
GKP *eS **S** **10 11 03.0 +3.7**
GKP L 10 33 07.0
comp=Z,3.1nm,17.7s
FITZ Fitzroy Crossi 58.04 147 *eP **P** **10 02 59.5 0.0**
comp=Z,18nm,0.9s,mb5.1
FITZ Fitzroy Crossi 58.04 147 P **P** **10 02 59.4 -0.1**
comp=Z,7.3nm,0.8s,mb4.8,baz=303,slow=8.0,SNR=12
VYHS Vyhne 58.23 310 *eP **P** **10 03 00.9 +0.1**
comp=Z,19nm,1.3s,mb5.0
VYHS LR LR
comp=Z,900nm,28.6s,MS4.7
GRUS Gruza 58.24 305 *iP **P** **10 03 00.6 -0.3**
SKO Skopje 58.30 302 *iP **P** **10 03 01.3 0.0**
MBWA Marble Bar 58.31 154 *eP **P** **10 03 01.3 -0.1**
comp=Z,24nm,1.1s,mb5.2
OKC Ostrava-Krasne 58.31 312 *eP **P** **10 03 01.7 +0.3**
OKC *ex x 10 03 12.6
OKC *eS **S** **10 11 03.7 +0.7**
OKC AMS AMS 10 33 50.0
comp=Z,2μm,15.6s
OKC Ostrava-Krasne 58.31 312 *eP **P** **10 03 01.7 +0.3**
OKC *e 10 03 12.6
OKC *eS **S** **10 11 03.7 +0.7**
NSS Namsos 58.36 330 *e **P** **10 03 00.3 -1.4**
NSS AMS AMS 10 30 22.6
comp=Z,4μm,21.2s,MS5.5
HFS Hagfors 58.43 324 P **P** **10 03 01.5 -0.8**
comp=Z,23nm,0.7s,mb5.3,baz=86,slow=7.7,SNR=21
HFS Hagfors 58.43 324 P **P** **10 03 01.5 -0.7**
HFS pmax pmax
comp=Z,23nm,0.7s
GVD Gavdhos 58.65 294 *eP **P** **10 03 02.7 -1.1**
comp=Z,132nm,1.1s,mb5.9
BIA Bitola 58.67 301 *iP **P** **10 03 01.7 -2.3**
DIVS Divcibare 58.68 305 *iP **P** **10 03 03.7 -0.3**
MORC Moravsky Berou 58.71 312⇑ *iP **P** **10 03 04.7 +0.5**
MORC Moravsky Berou 58.71 312 *eP **P** **10 03 04.2 0.0**
MORC *e pP 10 03 09.8 -0.1
MORC pmax pmax
comp=Z,13nm,0.7s,mb5.1
MORC Moravsky Berou 58.71 312 *eP **P** **10 03 04.2 +0.1**
comp=Z,13nm,0.7s,mb5.1
MORC *e pP 10 03 09.8 -0.1
BSD Bornholm Skovb 58.92 318 *iP **P** **10 03 05.0 -0.6**
comp=Z,38nm,0.9s,mb5.4
BSD *e 10 05 51.3
BSD *i 10 06 45.3
BSD *i 10 11 10.9
BSD
comp=Z,330nm,18.0s
BSD Bornholm Skovb 58.92 318 *iP **P** **10 03 05.0 -0.6**
BSD *i 10 06 45.3
BSD *i 10 11 10.9
BSD pmax pmax
comp=Z,38nm,0.9s,mb5.4
BSD MLR MLR
comp=Z,340nm,18.0s,MS4.5
BSD Bornholm Skovb 58.92 318 *iP **P** **10 03 05.0 -0.6**
comp=Z,38nm,0.9s,mb5.4
BSD *e 10 05 51.3
BSD *i 10 06 45.3
BSD *i 10 11 10.9
PKSM Moragy 58.98 308⇑ *iP **P** **10 03 05.7 -0.4**
PKSM Moragy 58.98 308⇑ *eP **P** **10 03 05.8 -0.3**
OHR Ohrid 59.02 301 *iP **P** **10 03 07.8 +1.4**
BBLS Bajina Basta - 59.15 305 *iP **P** **10 03 07.4 +0.2**
KSP Ksiaz 59.20 313 *eP **P** **10 03 07.5 -0.1**
KSP *epP pP 10 03 10.5 -2.8
KSP *eS **S** **10 11 15.6 +1.1**
KSP L 10 30 01.4
comp=Z,4.0nm,18.2s
KSP Ksiaz 59.20 313 *eP **P** **10 03 07.0 -0.6**
KSP *epP pP 10 03 10.3 -3.0
KSP *eS **S** **10 11 14.5 0.0**
KSP LR LR
comp=Z,5μm,17.6s,MS5.7
DPC Dobruska-Polom 59.31 313 *eP **P** **10 03 08.6 +0.2**
DPC *ex x 10 03 19.3
DPC *eS **S** **10 11 17.9 +1.9**
DPC AMS AMS 10 32 10.0
comp=Z,3μm,14.4s
ZST Bratislava 59.42 310 *eP **P** **10 03 08.5 -0.6**
comp=Z,14nm,1.3s,mb4.8
ZST LR LR
comp=Z,2μm,13.5s,MS5.3
NB2 NORSAR Subarra 59.42 326 P **P** **10 03 08.6 -0.6**
comp=Z,14nm,0.7s,mb5.1,baz=76,slow=6.9
NOA NORSAR Array B 59.42 326 P **P** **10 03 08.2 -0.9**
comp=Z,17nm,0.8s,mb5.1,baz=77,slow=6.9,SNR=46
NOA NORSAR Array B 59.42 326 P **P** **10 03 08.2 -1.0**
NOA pmax pmax
comp=Z,17nm,0.8s
VRAC Vranov 59.43 312⇑ *iP **P** **10 03 09.8 +0.6**
VRAC Vranov 59.43 312 P **P** **10 03 09.0 -0.2**
UPC Upice 59.46 313 *eP **P** **10 03 09.5 +0.1**
UPC *ex x 10 03 20.0
NAO01 NORSAR Array S 59.63 326 *eP **P** **10 03 09.8 -0.8**
comp=Z,33nm,0.9s,mb5.4
NAO01 *epP pP 10 03 15.1 -1.1
RGN Rugen 59.95 318 *eP **P** **10 03 13.1 +0.3**
comp=Z,96nm,1.0s,mb5.8
RGN Rugen 59.95 318 *eP **P** **10 03 12.1 -0.7**
comp=Z,159nm,1.3s,mb5.9
TREC Trest 60.13 312 *eP **P** **10 03 14.1 +0.1**
TREC *eS **S** **10 11 28.3 +1.8**
TREC AMS AMS 10 34 50.0
comp=Z,3μm,16.3s
COP Copenhagen 60.14 320 *iP **P** **10 03 15.0 +0.9**
comp=Z,37nm,0.9s,mb5.4
COP *iS **S** **10 11 32.4 +5.8**
COP
comp=Z,1μm,18.0s
COP Copenhagen 60.14 320 *eP **P** **10 03 15.0 +0.9**
COP *iS **S** **10 11 32.4 +5.8**
COP pmax pmax
comp=Z,37nm,0.9s,mb5.4
COP MLR MLR
comp=Z,1μm,18.0s,MS5.0
COP Copenhagen 60.14 320 *eP **P** **10 03 15.0 +0.9**
comp=Z,37nm,0.9s,mb5.4
COP *iS **S** **10 11 32.4 +5.8**
COP LR LR
comp=Z,1μm,18.0s,MS5.0
RUE Ruedersdorf 60.26 316 *eP **P** **10 03 14.7 -0.2**
comp=Z,36nm,0.8s,mb5.5
RUE Ruedersdorf 60.26 316 *eP **P** **10 03 14.3 -0.6**
comp=Z,28nm,1.0s,mb5.2
RUE *epP pP 10 03 18.1 -2.4
CONA Conrad Observa 60.29 310⇓ *iP **P** **10 03 13.1 -2.1**
comp=Z,303nm,3.8s,SNR=15
PVCC Panska Ves 60.34 313 *eP **P** **10 03 15.6 +0.2**

PRU Pruhonice 60.51 313 *eP **P** **10 03 16.8 +0.2**
PRU *ex x 10 03 27.8
PRU *eS **S** **10 11 32.3 +0.9**
PRU AMS AMS 10 31 10.0
comp=Z,2μm,13.1s
KONO Kongsberg 60.55 324 *eP **P** **10 03 16.8 -0.1**
KONO *eS **S** **10 11 32.6 +0.7**
KONO Kongsberg 60.55 324 *eP **P** **10 03 16.7 -0.2**
KONO *e*PP pP 10 03 21.9 -0.7
KONO pmax pmax
comp=Z,49nm,1.3s,mb5.5
KONO Kongsberg 60.55 324 *eP **P** **10 03 16.7 -0.2**
comp=Z,49nm,1.3s,mb5.5
KONO *epP pP 10 03 21.9 -0.7
BRG Berggiesshubel 60.62 314 *eP **P** **10 03 17.3 -0.1**
comp=Z,28nm,1.0s,mb5.3
BRG Berggiesshubel 60.62 314 *iP **P** **10 03 17.4 0.0**
comp=Z,7.7nm,0.8s,mb4.9
BRG *e 10 03 28.9
comp=Z,16nm,1.2s
BRG PP PP 10 05 36.0 +5.1
BRG PPP 10 07 03.0
BRG SCP ScP 10 07 22.2 -40
comp=Z,2.2nm,0.7s
BRG PCS PcS 10 07 28.9 -35
comp=Z,3.5nm,0.9s
BRG S **S** **10 11 32.0 -0.8**
BRG SS SS 10 15 54.0 +23
BRG
comp=N,2μm,18.5s
BRG
comp=E,1μm,18.8s
BRG
comp=Z,2μm,18.9s
BRG Berggiesshubel 60.62 314 *iP **P** **10 03 17.4 0.0**
BRG *e 10 03 28.9
BRG 10 05 36.0
BRG PPP 10 07 03.0
BRG S **S** **10 11 32.0 -0.8**
BRG pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
BRG pmax pmax
comp=Z,16nm,1.2s,mb5.0
BRG pmax pmax
comp=N,2.0nm,0.7s
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BRG MLR MLR
comp=N,2μm,18.5s,MS5.3
BRG MLR MLR
comp=E,1μm,18.8s,MS5.3
BRG MLR MLR
comp=Z,2μm,18.9s,MS5.2
BRG Berggiesshubel 60.62 314 *iP **P** **10 03 17.4 0.0**
comp=Z,7.7nm,0.8s,mb4.9
BRG *e 10 03 28.9
BRG PP PP 10 05 36.0 +5.1
BRG PPP 10 07 03.0
BRG ScP ScP 10 07 22.2 -40
BRG PcS PcS 10 07 28.9 -35
BRG S **S** **10 11 32.0 -0.8**
BRG SS SS 10 15 54.0 +23
BRG LR LR
comp=Z,2μm,18.9s,MS5.2
ARSA Arzberg 60.72 310⇓ *iP **P** **10 03 17.6 -0.4**
comp=Z,142nm,3.7s
ARSA Arzberg 60.72 310 P PcP 10 03 58.4 -3.6
comp=Z,17nm,1.3s
MOL Molde 60.73 328 AMS AMS 10 32 19.9
comp=Z,6μm,19.2s,MS5.7
FBE Freiberg 60.96 314 *eP **P** **10 03 19.8 +0.1**
comp=Z,125nm,2.0s,mb5.7
CLL Collm 61.06 315 *eP **P** **10 03 19.7 -0.6**
comp=Z,32nm,1.0s,mb5.4
CLL *ePP PP 10 05 31.1 -3.7
CLL *ePPP 10 07 04.4
CLL *ePPPP 10 07 48.6
CLL *eS **S** **10 11 38.8 +0.4**
CLL *eScS ScS 10 13 15.4 +4.7
CLL *eSS SS 10 15 44.9 +6.9
CLL *eL 10 34 28.1
comp=Z,4μm,20.0s
CLL Collm 61.06 315 P **P** **10 03 19.9 -0.4**
comp=Z,logA/T=1.7,mb5.6
CLL *i *PP pP 10 03 25.4 -0.6
CLL *i 10 04 12.3
CLL *i PP PP 10 05 31.1 -3.7
CLL *ePPP 10 07 00.0
CLL *e 10 07 48.0
CLL *eS **S** **10 11 38.0 -0.4**
CLL *e 10 12 16.0
CLL *eSCS ScS 10 13 11.0 +0.3
CLL *eSS SS 10 15 41.0 +3.0
CLL *ex x 10 16 53.0
CLL *ex x 10 18 18.0
CLL Collm 61.06 315 *iP **P** **10 03 19.9 -0.4**
CLL *i *PP pP 10 03 25.4 -0.6
CLL *i 10 05 31.1
CLL *eS **S** **10 11 38.0 -0.4**
CLL pmax pmax
comp=Z,94nm,1.9s,mb5.6
CLL pmax pmax
comp=Z,23nm,1.3s,mb5.2
CLL MLR MLR
comp=Z,4μm,16.7s,MS5.7
CLL Collm 61.06 315 *iP **P** **10 03 19.9 -0.4**
comp=Z,94nm,1.9s,mb5.6
CLL *i pP pP 10 03 25.4 -0.6
CLL *i PP PP 10 05 31.1 -3.7
CLL *eS **S** **10 11 38.0 -0.4**
CLL LR LR
comp=Z,4μm,16.7s,MS5.7
PERS Pernice 61.17 309 *eP **P** **10 03 20.5 -0.7**
MOA Molln 61.34 311⇓ *iP **P** **10 03 22.0 -0.3**
comp=Z,145nm,3.8s
MOA Molln 61.34 311⇓ *iP PcP 10 04 03.7 -0.8
comp=Z,19nm,1.4s
KHC Kasperske Hory 61.37 312 *eP **P** **10 03 22.4 -0.1**
KHC *ex x 10 03 33.1
KHC *ex x 10 03 45.5
KHC *eS **S** **10 11 45.2 +2.8**
KHC AMS AMS 10 33 20.0
comp=Z,2μm,14.8s
KHC Kasperske Hory 61.37 312 *eP **P** **10 03 22.4 -0.1**
KHC *e 10 03 33.1
KHC *eS **S** **10 11 45.2 +2.8**
KHC MLR MLR
comp=Z,2μm,14.8s,MS5.4
GEC2 GERESS Array S 61.38 312 *eP **P** **10 03 22.9 +0.4**
comp=Z,133nm,2.3s,mb5.7
GEC2 GERESS Array S 61.38 312 *eP **P** **10 03 22.9 +0.4**
GEC2 pmax pmax
comp=Z,133nm,2.3s,mb5.7
GERES GERESS Array B 61.38 312 P **P** **10 03 22.6 0.0**
comp=Z,5.0nm,0.6s,mb4.8,baz=71,slow=5.8,SNR=39
GERES GERESS Array B 61.38 312 P **P** **10 03 22.6 +0.1**
GERES pmax pmax
comp=Z,5.0nm,0.6s
BOJS Bojanci 61.45 308 *eP **P** **10 03 22.8 -0.2**
BOJS *eS **S** **10 11 44.0 +0.6**
OBKA Obir 61.59 309⇓ *iP **P** **10 03 23.5 -0.4**
comp=Z,272nm,3.5s
TANN Tannenbergstha 61.66 314 *eP **P** **10 03 24.4 0.0**
comp=Z,88nm,2.2s,mb5.5
MUD Monsted U'grnd 61.67 321 *iP **P** **10 03 24.7 +0.2**
comp=Z,32nm,0.7s,mb5.6
MUD *e 10 07 06.7
MUD *i 10 11 51.8
MUD
comp=Z,2μm,16.0s
MUD Monsted U'grnd 61.67 321 *eP **P** **10 03 24.7 +0.2**

MUD *i* 10 11 51.8
MUD pmax pmax
comp=Z,32nm,0.7s,mb5.6
MUD MLR MLR
comp=Z,2µm,16.0s,MS5.5
MUD Monsted U'grnd 61.67 321 *eP* **P 10 03 24.7 +0.2**
comp=Z,32nm,0.7s,mb5.6
MUD *e* 10 07 06.7
MUD *i* 10 11 51.8
NKC Novy Kostel 61.72 314 *eP* **P 10 03 24.7 -0.1**
NKC *ex* x 10 03 35.9
WERD Werda 61.74 314 *eP* **P 10 03 24.9 -0.1**
comp=Z,20nm,1.2s,mb5.1
GUNZ Gunzen 61.75 314 *eP* **P 10 03 25.2 +0.2**
comp=Z,131nm,2.0s,mb5.7
LJU Ljubljana 61.75 309 *eP* **P 10 03 24.5 -0.5**
WET Wettzell 61.80 312 *eP* **P 10 03 25.7 +0.3**
comp=Z,27nm,1.2s,mb5.2
WET Wettzell 61.80 312 *eP* **P 10 03 25.7 +0.3**
WET pmax pmax
comp=Z,27nm,1.2s,mb5.2
BSEG Bad Segeberg 61.82 318 *eP* **P 10 03 25.9 +0.4**
comp=Z,77nm,1.1s,mb5.8
BSEG Bad Segeberg 61.82 318 *eP* **P 10 03 25.9 +0.4**
BSEG pmax pmax
comp=Z,77nm,1.1s,mb5.8
MANZ Manzenberg 62.01 313 *eP* **P 10 03 27.2 +0.4**
comp=Z,94nm,2.1s,mb5.5
ROTZ Rotzenmuhle 62.02 313 *eP* **P 10 03 27.4 +0.6**
comp=Z,51nm,1.1s,mb5.6
KNDS Knezji Dol 62.02 308 *eP* **P 10 03 26.2 -0.6**
MOX Moxa 62.10 314 *eP* **P 10 03 27.4 +0.1**
comp=Z,120nm,2.3s,mb5.6
MOX Moxa 62.10 314 *eP* **P 10 03 27.2 -0.1**
comp=Z,82nm,2.0s,mb5.5
MOX
comp=Z,2µm,19.0s
MOX Moxa 62.10 314 *eP* **P 10 03 27.2 -0.1**
MOX pmax pmax
comp=Z,82nm,2.0s,mb5.5
MOX MLR MLR
comp=Z,2µm,19.0s,MS5.3
JAVS Javornik 62.11 308 *eP* **P 10 03 25.9 -1.6**
JAVS *eS* **S 10 11 53.0 +1.4**
VOY Vojsko 62.17 309 *eP* **P 10 03 27.2 -0.7**
VOY *e* pP 10 03 32.4 -1.2
VOY *e* 10 03 47.3
KBA Koelnbreinsper 62.18 310⇑ *iP* **P 10 03 27.8 -0.1**
comp=Z,187nm,3.2s
KBA Koelnbreinsper 62.18 310⇑ *iP* **P 10 03 27.8 -0.1**
KBA pmax pmax
comp=Z,187nm,3.3s
BER Bergen 62.38 326 *eP* **P 10 03 30.7 +1.4**
BER *eS* **S 10 11 54.7 -0.5**
BER AMS AMS 10 33 10.1
comp=Z,2µm,16.7s,MS5.3
NRDL Niedersach Rie 62.39 316 *eP* **P 10 03 29.8 +0.5**
comp=Z,73nm,1.1s,mb5.7
CLZ Clausthal 62.45 316 *eP* **P 10 03 30.0 +0.3**
comp=Z,66nm,1.1s,mb5.7
CLZ Clausthal 62.45 316 *eP* **P 10 03 30.0 +0.3**
CLZ pmax pmax
comp=Z,66nm,1.1s,mb5.7
GRA1 Grafenberg Arr 62.65 313 *eP* **P 10 03 31.5 +0.5**
comp=Z,45nm,1.0s,mb5.5
GRA1 *eS* **S 10 12 04.4 +5.9**
GRA1 LR LR
comp=Z,2µm,21.6s,MS5.2
GRF Grafenberg Arr 62.65 313 *eP* **P 10 03 31.5 +0.5**
comp=Z,45nm,1.0s,mb5.5
GRF *eS* **S 10 12 04.4 +5.9**
GRF *eL* 10 31 44.7
comp=Z,2µm,21.6s
GRF Grafenberg Arr 62.65 313 *eP* **P 10 03 31.5 +0.5**
GRF *eS* **S 10 12 04.4 +5.9**
GRF pmax pmax
comp=Z,45nm,1.0s,mb5.5
GRF MLR MLR
comp=Z,2µm,21.6s,MS5.2
GRF Grafenberg Arr 62.65 313 *eP* **P 10 03 31.5 +0.5**
GRF *eS* **S 10 12 04.4 +5.9**
GRF pmax pmax
comp=Z,45nm,1.0s,mb5.5
GRF MLR MLR
comp=Z,2µm,21.6s,MS5.2
UBBA Unterbreizbach 63.01 315 *eP* **P 10 03 33.5 +0.1**
comp=Z,58nm,2.0s,mb5.4
HLG Helgoland 63.10 319 *eP* **P 10 03 34.4 +0.4**
comp=Z,153nm,1.1s,mb6.0
FUR Furstenfeldbru 63.13 312 *eP* **P 10 03 34.7 +0.5**
comp=Z,123nm,1.2s,mb5.9
FUR Furstenfeldbru 63.13 312 *eP* **P 10 03 34.7 +0.5**
FUR pmax pmax
comp=Z,123nm,1.2s,mb5.9
WTTA Wattenberg 63.21 311⇓ *iP* **P 10 03 34.2 -0.6**
comp=Z,333nm,3.7s,SNR=8.6
WTTA Wattenberg 63.21 311⇓ *iP* **P 10 03 34.2 -0.6**
WTTA pmax pmax
comp=Z,333nm,3.7s
SQTA Sankt Quirin 63.50 311⇑ *iP* **P 10 03 36.3 -0.5**
comp=Z,19nm,1.1s,mb5.0,SNR=8.1
SQTA Sankt Quirin 63.50 311⇑ *iP* **P 10 03 36.3 -0.4**
SQTA pmax pmax
comp=Z,19nm,1.1s,mb5.0
MOTA Moosalm 63.53 311⇑ *iP* **P 10 03 36.5 -0.4**
comp=Z,28nm,1.1s,mb5.2,SNR=9.2
MOTA Moosalm 63.53 311⇑ *iP* **P 10 03 36.5 -0.4**
MOTA pmax pmax
comp=Z,28nm,1.1s,mb5.2
AQU L'Aquila 63.80 305 *eP* **P 10 03 38.0 -0.7**
AQU pmax pmax
comp=Z,58nm,1.4s,mb5.4
AQU L'Aquila 63.80 305 *eP* **P 10 03 38.0 -0.6**
comp=Z,58nm,1.4s,mb5.4
JMIC Jan Mayen 63.81 339 *eS* **S 10 12 20.6 +7.6**
JMIC *eSS* SS 10 16 29.0 +8.0
JMIC AMS AMS 10 33 50.9
comp=Z,1µm,19.4s,MS5.0
IBBN Ibbenburen 63.81 317 *eP* **P 10 03 38.8 0.0**
comp=Z,75nm,1.4s,mb5.5
WRAB Tennant Creek 63.98 140 P **P 10 03 40.6 +0.7**
comp=Z,166nm,1.0s,mb6.0,SNR=13
WRAB Tennant Creek 63.98 140⇑ *iP* **P 10 03 40.2 +0.3**
WRAB Tennant Creek 63.98 140 *eP* **P 10 03 40.1 +0.2**
comp=Z,46nm,0.8s,mb5.5
WRA Warramunga Arr 63.99 140 P **P 10 03 40.0 +0.1**
comp=Z,18nm,0.7s,mb5.2,baz=333,slow=7.2,SNR=72
WRA Warramunga Arr 63.99 140 P **P 10 03 40.0 +0.1**
WRA pmax pmax
comp=Z,19nm,0.7s
WB2 Warramunga Arr 63.99 140 *eP* **P 10 03 39.9 0.0**
WB2 *ePCP* PcP 10 04 17.1 +1.8
TNS Taunus Mts 64.14 314 *eP* **P 10 03 41.0 +0.1**
comp=Z,31nm,1.2s,mb5.2
TNS Taunus Mts 64.14 314 *eP* **P 10 03 41.0 +0.1**
TNS pmax pmax
comp=Z,31nm,1.2s,mb5.2
TOD Tromm 64.15 314 *eP* **P 10 03 40.0 -1.0**
STU Stuttgart 64.21 313 *eP* **P 10 03 41.4 0.0**
comp=Z,48nm,1.0s,mb5.5
STU Stuttgart 64.21 313 *eP* **P 10 03 41.3 -0.1**
STU pmax pmax
comp=Z,34nm,0.8s,mb5.4
STU Stuttgart 64.21 313 *eP* **P 10 03 41.3 -0.1**
comp=Z,34nm,0.8s,mb5.4
PMG Port Moresby 64.24 122 P **P 10 03 39.4 -2.1**
comp=Z,39nm,0.9s,mb5.5,baz=21,slow=2.4,SNR=4.8
PMG Port Moresby 64.24 122‖ *eP* **P 10 03 42.6 +1.0**
PMG Port Moresby 64.24 122 *eP* **P 10 03 42.4 +0.8**
comp=Z,64nm,0.9s,mb5.7
DAVA Damuels 64.32 311⇑ *iP* **P 10 03 41.6 -0.5**
comp=Z,297nm,4.0s
BUG Bochum-Univer 64.40 316 *eP* **P 10 03 42.7 +0.1**
comp=Z,86nm,1.9s,mb5.5
WTSB Winterswijk 64.48 317 *eP* **P 10 03 43.5 +0.3**
ABH Alteburg 64.81 314 *eP* **P 10 03 44.5 -0.8**
BFO Black Forest 64.91 313 P **P 10 03 45.1 -0.8**
comp=Z,92nm,1.2s,mb5.7,SNR=6.7
BFO Black Forest 64.91 313 *eP* **P 10 03 45.7 -0.2**
comp=Z,30nm,1.1s,mb5.2
BFO Black Forest 64.91 313 *eP* **P 10 03 45.7 -0.2**
BFO pmax pmax
comp=Z,30nm,1.1s,mb5.2
KMBO Kilima Mbogo 64.97 251 P **P 10 03 46.5 +0.2**
comp=Z,9.9nm,0.6s,mb5.0,baz=42,slow=11,SNR=25
KMBO Kilima Mbogo 64.97 251 P **P 10 03 46.5 +0.2**
KMBO pmax pmax
comp=Z,10.0nm,0.6s
KMBO Kilima Mbogo 64.97 251 P **P 10 03 46.5 +0.2**
LANF Langenberg 64.99 313 *eP* **P 10 03 46.2 -0.3**
FELD Feldberg im Sc 65.28 312 *eP* **P 10 03 47.3 -1.1**
HGN Heimansgroeve 65.44 316 *eP* **P 10 03 43.3 -6.1**
comp=Z,12nn,2.4s,mb4.5
HGN *ex* x 10 03 50.7
comp=Z,26nm,2.3s
HGN *eS* S 10 12 30.6 -2.5
HGN *eSS* SS 10 17 07.2 +21
MEM Membach 65.45 316 P **P 10 03 48.9 -0.6**
MEM AP pP 10 03 54.8 -0.4
CDF Champ du Feu 65.53 313 *eP* **P 10 03 49.6 -0.4**
comp=Z,82nm,1.3s,mb5.3
CDF Champ du Feu 65.53 313 *eP* **P 10 03 49.6 -0.4**
CDF pmax pmax
comp=Z,41nm,1.3s,mb5.3
CDF Champ du Feu 65.53 313 *eP* **P 10 03 49.6 -0.4**
comp=Z,41nn,1.3s,mb5.3
BEBN Eben Emael 65.58 316 P **P 10 03 49.2 -1.0**
BEBN E 10 04 13.3
ECH Echery 65.68 313 *eP* **P 10 03 49.9 -1.0**
WLF Walferdange 65.73 315 *eP* **P 10 03 51.8 +0.5**
comp=Z,74nm,1.0s,mb5.7
WLF Walferdange 65.73 315 P **P 10 03 51.3 +0.1**
comp=Z,27nn,1.0s,mb5.2
WLF Walferdange 65.73 315 *eP* **P 10 03 51.1 -0.2**
WLF pmax pmax
comp=Z,51nn,1.0s,mb5.5
WLF Walferdange 65.73 315 *eP* **P 10 03 51.0 -0.2**
comp=Z,51nn,1.0s,mb5.5
BBS Basel-Blauen 65.75 312 *eP* **P 10 03 52.5 +1.1**
MOF Molkenrain 65.83 312 *eP* **P 10 03 51.0 -0.9**
BCLA Clavier 65.94 316 P **P 10 03 52.5 -0.1**
comp=Z,5.0nn,0.9s,mb4.5
BCLA AP pP 10 03 57.9 -0.4
HINF Hinteralfeld 66.02 312 *eP* **P 10 03 52.7 -0.4**
comp=Z,20nn,0.8s,mb4.9
HINF Hinteralfeld 66.02 312 *eP* **P 10 03 52.7 -0.4**
HINF pmax pmax
comp=Z,10.0nn,0.8s,mb4.9
HINF Hinteralfeld 66.02 312 *eP* **P 10 03 52.7 -0.4**
comp=Z,9.9nn,0.8s,mb4.9
LOMF Lomont 66.22 312 *eP* **P 10 03 53.4 -1.0**
HAU Haudompre 66.26 313 *eP* **P 10 03 54.4 -0.3**
comp=Z,27nn,1.0s,mb4.9
HAU *eR*
comp=Z,2µm,19.0s
HAU Haudompre 66.26 313 *eP* **P 10 03 54.4 -0.3**
HAU pmax pmax
comp=Z,13nn,1.0s,mb4.9
HAU MLR MLR
comp=Z,2µm,19.0s,MS5.4
HAU Haudompre 66.26 313 *eP* **P 10 03 54.4 -0.3**
comp=Z,13nn,1.0s,mb4.9
HAU LR LR
comp=Z,2µm,19.0s,MS5.4
UCC Uccle 66.34 316 P **P 10 03 54.8 -0.5**
UCC AP pP 10 04 00.5 -0.5
GIVF Givet 66.35 315 *eP* **P 10 03 55.1 -0.1**
THEF They Montfort 66.39 313 *eP* **P 10 03 54.9 -0.6**
DOU Dourbes 66.49 315 P **P 10 03 56.5 +0.4**
DOU AP pP 10 04 01.4 -0.4
SNF Seneffe 66.50 316 P **P 10 03 55.5 -0.8**
SNF AP pP 10 04 01.3 -0.7
PGF Pioggiola 66.73 307 *eP* **P 10 03 57.6 -0.1**
comp=Z,92nn,1.2s,mb5.4
PGF Pioggiola 66.73 307 *eP* **P 10 03 57.6 -0.1**
PGF pmax pmax
comp=Z,46nn,1.2s,mb5.4
PGF Pioggiola 66.73 307 *eP* **P 10 03 57.6 -0.1**
comp=Z,46nn,1.2s,mb5.4
BAIF Baives 66.73 315 *eP* **P 10 03 57.5 -0.2**
comp=Z,31nn,1.0s,mb5.0
BAIF Baives 66.73 315 *eP* **P 10 03 57.5 -0.2**
BAIF pmax pmax
comp=Z,15nn,1.0s,mb5.0
BAIF Baives 66.73 315 *eP* **P 10 03 57.5 -0.2**
comp=Z,15nn,1.0s,mb5.0
ASPA Alice Springs 66.80 142 *eP* **P 10 03 58.0 -0.1**
ASPA *ePCP* PcP 10 04 36.0 +9.1
AS31 Alice Springs 66.81 142 *eP* **P 10 03 58.0 -0.1**
AS31 *ePcP* PcP 10 04 36.0 +9.1
ASAR Alice Springs 66.81 142 P **P 10 03 58.2 0.0**
comp=Z,8.7nn,0.4s,mb5.1,baz=326,slow=6.5,SNR=255
ASAR Alice Springs 66.81 142 P **P 10 03 58.2 0.0**
ASAR pmax pmax
comp=Z,9.0nn,0.4s
MEZF Maizieres J'vi 66.85 314 *eP* **P 10 03 57.8 -0.7**
CABF La Chapelle 66.98 311 *eP* **P 10 03 59.1 -0.2**
LPG La Plagne 67.01 310 *eP* **P 10 03 59.5 0.0**
comp=Z,65nn,0.7s,mb5.5
LPG La Plagne 67.01 310 *eP* **P 10 03 59.5 0.0**
LPG pmax pmax
comp=Z,33nn,0.7s,mb5.5
LPG La Plagne 67.01 310 *eP* **P 10 03 59.5 0.0**
comp=Z,33nn,0.7s,mb5.5
LPL La Plagne 67.02 310 *eP* **P 10 03 59.5 0.0**
comp=Z,90nn,0.9s,mb5.5
LPL La Plagne 67.02 310 *eP* **P 10 03 59.5 0.0**
LPL pmax pmax
comp=Z,45nn,0.9s,mb5.5
LPL La Plagne 67.02 310 *eP* **P 10 03 59.5 0.0**
comp=Z,45nn,0.9s,mb5.5
SAOF Saorge 67.11 308 *eP* **P 10 03 59.7 -0.4**
AUTN L'Aution 67.19 308 *eP* **P 10 04 00.3 -0.3**
SBF Sospel 67.24 308 *eP* **P 10 04 00.6 -0.3**
comp=Z,87nn,0.9s,mb5.5
SBF Sospel 67.24 308 *eP* **P 10 04 00.6 -0.3**
SBF pmax pmax
comp=Z,44nn,0.9s,mb5.5
SBF Sospel 67.24 308 *eP* **P 10 04 00.6 -0.3**
comp=Z,44nn,0.9s,mb5.5
BNI Bardonecchia 67.24 310 *eP* **P 10 04 00.7 -0.2**
comp=Z,32nn,1.0s,mb5.3
BNI Bardonecchia 67.24 310 *eP* **P 10 04 00.7 -0.2**
BNI pmax pmax
comp=Z,32nn,1.0s,mb5.3
LUCF Luceram 67.28 308 *eP* **P 10 04 00.6 -0.6**
TOUF Mont Tournerai 67.30 309 *eP* **P 10 04 00.6 -0.7**
MBDF Montbardon 67.31 309 *eP* **P 10 04 01.1 -0.3**
comp=Z,36nn,0.8s,mb5.2
MBDF Montbardon 67.31 309 *eP* **P 10 04 01.1 -0.3**
MBDF pmax pmax
comp=Z,18nn,0.8s,mb5.2
MBDF Montbardon 67.31 309 *eP* **P 10 04 01.1 -0.3**
comp=Z,18nn,0.8s,mb5.2
KLBR Kellerberrin 67.35 160 *eP* **P 10 04 01.0 -0.6**
comp=Z,12nn,0.6s,mb5.1
KLBR *ePCP* PcP 10 04 41.4 +12
MVIF Mont Vial 67.41 308 *eP* **P 10 04 01.0 -1.0**
VSL Villasalto 67.73 303 *eP* **P 10 04 04.0 0.0**
comp=Z,16nn,0.8s,mb5.1
ORIF Oris-en-Rattie 67.81 310 *eP* **P 10 04 04.2 -0.3**
comp=Z,49nn,0.9s,mb5.2
ORIF *eR*
comp=Z,3µm,20.0s
ORIF Oris-en-Rattie 67.81 310 *eP* **P 10 04 04.2 -0.3**
ORIF pmax pmax
comp=Z,25nn,0.9s,mb5.2
ORIF Oris-en-Rattie 67.81 310 *eP* **P 10 04 04.2 -0.3**
comp=Z,24nn,0.9s,mb5.2
FRF La Foret Royal 67.88 308 *eP* **P 10 04 04.5 -0.5**
comp=Z,26nn,0.8s,mb5.0
FRF La Foret Royal 67.88 308 *eP* **P 10 04 04.5 -0.5**
FRF pmax pmax
comp=Z,13nn,0.8s,mb5.0
FRF La Foret Royal 67.88 308 *eP* **P 10 04 04.5 -0.5**
comp=Z,13nn,0.8s,mb5.0
IMA2 Indian Mountai 67.90 24 *eP* **P 10 04 05.0 -0.1**
LMR La Mourre 68.07 308 *eP* **P 10 04 05.8 -0.3**
comp=Z,95nn,1.2s,mb5.4
LMR La Mourre 68.07 308 *eP* **P 10 04 05.8 -0.3**
LMR pmax pmax
comp=Z,48nn,1.2s,mb5.4
LMR La Mourre 68.07 308 *eP* **P 10 04 05.8 -0.3**
comp=Z,48nn,1.2s,mb5.4
LOR Lormes 68.10 313 *eP* **P 10 04 05.4 -0.9**
comp=Z,8.0nm,0.5s,mb4.7
LOR *eR*
comp=Z,2µm,23.0s
LOR Lormes 68.10 313 *eP* **P 10 04 05.4 -0.9**
LOR pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
LOR MLR MLR
comp=Z,2µm,23.0s,MS5.2
LOR Lormes 68.10 313 *eP* **P 10 04 05.4 -0.9**
comp=Z,4.0nm,0.5s,mb4.7
LOR LR LR
comp=Z,2µm,23.0s,MS5.2
TAVF Tavernes 68.25 309 *eP* **P 10 04 06.3 -1.0**
VILF Villemus 68.37 309 *eP* **P 10 04 07.2 -0.8**
SMF Signal de Mont 68.37 312 *eP* **P 10 04 07.6 -0.5**
comp=Z,110nn,1.1s,mb5.5
SMF Signal de Mont 68.37 312 *eP* **P 10 04 07.6 -0.5**
SMF pmax pmax
comp=Z,55nn,1.1s,mb5.5
SMF Signal de Mont 68.37 312 *eP* **P 10 04 07.6 -0.5**
comp=Z,55nn,1.1s,mb5.5
SSF Saint Saulge 68.40 313 *eP* **P 10 04 07.7 -0.5**
comp=Z,50nn,1.1s,mb5.2
SSF Saint Saulge 68.40 313 *eP* **P 10 04 07.7 -0.5**
SSF pmax pmax
comp=Z,25nn,1.1s,mb5.2
SSF Saint Saulge 68.40 313 *eP* **P 10 04 07.7 -0.5**
comp=Z,25nn,1.1s,mb5.2
SMRF Simiane la Rot 68.41 309 *eP* **P 10 04 08.2 -0.1**
comp=Z,28nn,0.9s,mb5.0
SMRF Simiane la Rot 68.41 309 *eP* **P 10 04 08.2 -0.1**
comp=Z,28nn,0.9s,mb5.3
NWAO Narrogin (SRO) 68.46 161 P **P 10 04 08.3 -0.2**
comp=Z,19nn,0.8s,mb5.2,baz=341,slow=7.1,SNR=11
NWAO Narrogin (SRO) 68.46 161 *eP* **P 10 04 08.2 -0.4**
NWAO pmax pmax
comp=Z,24nn,0.9s
NWAO Narrogin (SRO) 68.46 161 *eP* **P 10 04 08.2 -0.4**
comp=Z,24nn,0.9s,mb5.2
PUYF Puyloubier 68.52 309 *eP* **P 10 04 08.3 -0.7**
EKA Eskdalemuir Ar 68.52 323 P **P 10 04 08.5 -0.5**
comp=Z,14nn,1.0s,mb4.8,baz=62,slow=6.4,SNR=21
EKA Eskdalemuir Ar 68.52 323 P **P 10 04 08.5 -0.5**
EKA pmax pmax
comp=Z,14nn,1.0s
ESK Eskdalemuir 68.55 323 *eP* **P 10 04 09.2 0.0**
ESK pmax pmax
comp=Z,27nn,0.9s,mb5.2
ESK Eskdalemuir 68.55 323 *eP* **P 10 04 09.2 0.0**
comp=Z,27nn,0.9s,mb5.2
AVF Avril sur Loir 68.61 313 *eP* **P 10 04 08.9 -0.7**
comp=Z,93nn,1.1s,mb5.3
AVF Avril sur Loir 68.61 313 *eP* **P 10 04 08.9 -0.7**
AVF pmax pmax
comp=Z,46nn,1.1s,mb5.3
AVF Avril sur Loir 68.61 313 *eP* **P 10 04 08.9 -0.7**
comp=Z,46nn,1.1s,mb5.3
VIVF Saint-Julien-l 68.62 310 *eP* **P 10 04 09.1 -0.5**
comp=Z,91nn,1.2s,mb5.3
VIVF Saint-Julien-l 68.62 310 *eP* **P 10 04 09.1 -0.5**
VIVF pmax pmax
comp=Z,45nn,1.2s,mb5.3
VIVF Saint-Julien-l 68.62 310 *eP* **P 10 04 09.1 -0.5**
comp=Z,45nn,1.2s,mb5.3
BERF Bertagne 68.62 308 *eP* **P 10 04 07.9 -1.7**
TTA Tatalina 68.67 28 *eP* **P 10 04 09.9 0.0**
TREF Trevaresse 68.69 309 *eP* **P 10 04 11.1 +1.1**
PRAF Pradon 68.75 309 *eP* **P 10 04 10.2 -0.2**
BGF Bois d'Agland 69.03 312 *eP* **P 10 04 11.7 -0.5**
comp=Z,21nn,0.8s,mb4.8
BGF Bois d'Agland 69.03 312 *eP* **P 10 04 11.7 -0.5**
BGF pmax pmax
comp=Z,11nn,0.8s,mb4.8
BGF Bois d'Agland 69.03 312 *eP* **P 10 04 11.7 -0.5**
comp=Z,10nn,0.8s,mb4.8
AGO Saint Agoulin 69.07 312 *eP* **P 10 04 12.2 -0.2**
LBL Lubilhac 69.36 311 *eP* **P 10 04 14.3 +0.1**
OPO Ambohidratompo 69.40 230 P **P 10 04 15.2 +0.7**
comp=Z,7.4nn,0.9s,mb4.6,baz=2.5,slow=6.5,SNR=6.9
LASF Ste Croix 69.48 310 *eP* **P 10 04 15.0 +0.1**
comp=Z,65nn,1.0s,mb5.2
TCF Toulx Ste Croi 69.54 312 *eP* **P 10 04 15.3 0.0**
comp=Z,101nn,1.0s,mb5.4
TCF Toulx Ste Croi 69.54 312 *eP* **P 10 04 15.3 0.0**
TCF pmax pmax
comp=Z,51nn,1.0s,mb5.4
TCF Toulx Ste Croi 69.54 312 *eP* **P 10 04 15.3 0.0**
comp=Z,51nn,1.0s,mb5.4
SVW2 Sparrevohn 69.80 29 *eP* **P 10 04 17.4 +0.5**
MBAR Mbarara 69.90 256⇑ *eP* **P 10 04 17.8 +0.3**
LDF La Druitiere 69.92 315 *eP* **P 10 04 17.4 -0.2**
comp=Z,57nn,1.0s,mb5.2
LDF La Druitiere 69.92 315 *eP* **P 10 04 17.4 -0.2**
LDF pmax pmax
comp=Z,29nn,1.0s,mb5.2
LDF La Druitiere 69.92 315 *eP* **P 10 04 17.4 -0.2**
comp=Z,29nn,1.0s,mb5.2
FLN La Foliere 70.05 316 *eP* **P 10 04 18.1 -0.4**
FORT Forrest 70.18 151 *eP* **P 10 04 19.3 0.0**
comp=Z,18nn,0.7s,mb5.1
SUMG Summit 70.24 347 *eP* **P 10 04 18.6 -1.0**
comp=Z,36nn,1.3s,mb5.1
CAF Calviac 70.25 311 *eP* **P 10 04 19.5 -0.2**
comp=Z,40nn,1.0s,mb5.0
CAF Calviac 70.25 311 *eP* **P 10 04 19.5 -0.2**
CAF pmax pmax
comp=Z,20nn,1.0s,mb5.0
CAF Calviac 70.25 311 *eP* **P 10 04 19.5 -0.2**
comp=Z,20nn,1.0s,mb5.0
RJF Les Rejaudoux 70.42 312 *eP* **P 10 04 20.5 -0.2**
comp=Z,79nn,1.1s,mb5.3
RJF *eR*
comp=Z,2µm,21.0s
RJF Les Rejaudoux 70.42 312 *eP* **P 10 04 20.5 -0.2**
RJF pmax pmax
comp=Z,40nn,1.1s,mb5.3
RJF MLR MLR
comp=Z,2µm,21.0s,MS5.2
RJF Les Rejaudoux 70.42 312 *eP* **P 10 04 20.5 -0.2**
comp=Z,40nn,1.1s,mb5.3
RJF LR LR
comp=Z,2µm,21.0s,MS5.2
GRR Gorron 70.45 315 *eP* **P 10 04 20.5 -0.4**
comp=Z,36nn,0.7s,mb5.1
GRR Gorron 70.45 315 *eP* **P 10 04 20.5 -0.4**
GRR pmax pmax
comp=Z,18nn,0.7s,mb5.1
GRR Gorron 70.45 315 *eP* **P 10 04 20.5 -0.4**
comp=Z,18nn,0.7s,mb5.1
COLA College 70.59 24⇑ *eP* **P 10 04 21.4 -0.3**
COLA College 70.59 24⇑ *eP* **P 10 04 21.5 -0.2**
EJON La Jonquera 70.85 309 P **P 10 04 25.5 +2.2**
comp=Z,26nn,1.2s,mb5.0
MFF Saint Martin d 70.85 313 *eP* **P 10 04 23.3 0.0**
MTLF Montolieu 70.87 310 *eP* **P 10 04 23.3 -0.2**
comp=Z,32nn,1.1s,mb4.9
MTLF Montolieu 70.87 310 *eP* **P 10 04 23.3 -0.2**
MTLF pmax pmax
comp=Z,16nn,1.0s,mb4.9
MTLF Montolieu 70.87 310 *eP* **P 10 04 23.3 -0.2**
comp=Z,16nn,1.0s,mb4.9
MCK McKinley 70.89 25 *eP* **P 10 04 23.0 -0.6**
MCK pmax pmax
comp=Z,3.0nn,0.5s,mb4.5
MCK McKinley 70.89 25 *eP* **P 10 04 23.0 -0.6**
comp=Z,2.6nn,0.5s,mb4.4
FILF Fillols 71.01 309 *eP* **P 10 04 24.0 -0.3**
LFF La Frestale 71.08 312 *eP* **P 10 04 24.6 -0.1**
comp=Z,72nn,1.0s,mb5.3
LFF La Frestale 71.08 312 *eP* **P 10 04 24.6 -0.1**
LFF pmax pmax
comp=Z,36nn,1.0s,mb5.3
LFF La Frestale 71.08 312 *eP* **P 10 04 24.6 -0.1**
comp=Z,36nn,1.0s,mb5.3
CTA Charters Tower 71.18 130 *eP* **P 10 04 25.3 -0.1**
comp=Z,15nn,1.8s,mb4.6
CTA *ePCP* PcP 10 05 05.3 +20
CTA Charters Tower 71.18 130 P **P 10 04 25.7 +0.4**
comp=Z,7.7nn,0.7s,mb4.7,baz=306,slow=7.7,SNR=6.8
CTA Charters Tower 71.18 130 *eP* **P 10 04 25.3 -0.1**
CTA pmax pmax
comp=Z,15nn,1.8s
CTAO Charters Tower 71.18 130 *eP* **P 10 04 25.1 -0.3**
CTAO pmax pmax
comp=Z,78nn,1.6s,mb5.4
CTAO Charters Tower 71.18 130 *eP* **P 10 04 25.1 -0.3**
comp=Z,78nn,1.6s,mb5.4
SGMF Saint Gilles 71.51 316 *eP* **P 10 04 27.0 -0.3**
comp=Z,110nn,1.1s,mb5.4
SGMF Saint Gilles 71.51 316 *eP* **P 10 04 27.0 -0.3**
SGMF pmax pmax
comp=Z,55nn,1.1s,mb5.4

SGMF	**Saint Gilles**	**71.51**	**316**	*e*P		**P**	**10 04 27.0**	**-0.3**
	comp=Z,55nm,1.1s,mb5.4								
MLS	**Moulis**	**71.78**	**310**	*e*P		**P**	**10 04 28.1**	**-0.9**
ROSF	**Rostrenen**	**71.89**	**316**	*e*P		**P**	**10 04 29.5**	**-0.1**
	comp=Z,105nm,1.1s,mb5.4								
ROSF	**Rostrenen**	**71.89**	**316**	*e*P		**P**	**10 04 29.5**	**-0.1**
ROSF					pmax	pmax			
	comp=Z,53nm,1.1s,mb5.4								
ROSF	**Rostrenen**	**71.89**	**316**	*e*P		**P**	**10 04 29.5**	**-0.1**
	comp=Z,52nm,1.1s,mb5.4								
QUIF	**Quistinic**	**72.03**	**316**	*e*P		**P**	**10 04 30.3**	**-0.2**
	comp=Z,43nm,1.0s,mb5.0								
QUIF	**Quistinic**	**72.03**	**316**	*e*P		**P**	**10 04 30.3**	**-0.2**
QUIF					pmax	pmax			
	comp=Z,22nm,1.0s,mb5.0								
QUIF	**Quistinic**	**72.03**	**316**	*e*P		**P**	**10 04 30.3**	**-0.2**
	comp=Z,22nm,1.0s,mb5.0								
PMR	**Palmer**	**72.09**	**27**	*e*P		**P**	**10 04 30.4**	**-0.4**
PMR					pmax	pmax			
	comp=Z,26nm,0.8s,mb5.2								
PMR					MLR	MLR			
	comp=Z,2µm,20.0s,MS5.3								
PMR	**Palmer**	**72.09**	**27**	*e*P		**P**	**10 04 30.4**	**-0.4**
	comp=Z,26nm,0.8s,mb5.2								
PMR					LR	LR			
	comp=Z,2µm,20.0s,MS5.3								
ETOS	**Mallorca**	**72.14**	**306**	P		**P**	**10 04 32.9**	**+1.8**
	comp=Z,90nm,1.7s,mb5.4								
EPF	**Esparros**	**72.23**	**310**	*e*P		**P**	**10 04 31.0**	**-0.7**
RESF	**Ens**	**72.34**	**310**	*e*P		**P**	**10 04 32.1**	**-0.2**
VIEF	**Viey**	**72.51**	**310**	*e*P		**P**	**10 04 33.4**	**+0.1**
INK	**Inuvik**	**72.52**	**17**	*e*P		**P**	**10 04 32.9**	**-0.5**
INK					pmax	pmax			
	comp=Z,25nm,1.1s								
INK	**Inuvik**	**72.52**	**17**	*e*P		**P**	**10 04 32.9**	**-0.5**
	comp=Z,25nm,1.1s,mb5.1								
EBIE	**Bielsa**	**72.53**	**310**	P		**P**	**10 04 34.5**	**+1.1**
	comp=Z,6.3nm,0.7s,mb4.7								
EPOB	**Poblet**	**72.55**	**308**	P		**P**	**10 04 34.1**	**+0.6**
	comp=Z,18nm,1.0s,mb5.0								
ETSF	**Etsaut**	**72.87**	**310**	*e*P		**P**	**10 04 35.4**	**-0.1**
	comp=Z,34nm,0.7s,mb5.1								
ETSF	**Etsaut**	**72.87**	**310**	*e*P		**P**	**10 04 35.4**	**-0.1**
ETSF					pmax	pmax			
	comp=Z,17nm,0.7s,mb5.1								
ETSF	**Etsaut**	**72.87**	**310**	*e*P		**P**	**10 04 35.4**	**-0.1**
	comp=Z,17nm,0.7s,mb5.1								
ERTA	**Horta de San J**	**73.24**	**308**	P		**P**	**10 04 38.2**	**+0.6**
	comp=Z,56nm,1.2s,mb5.4								
EALK	**Alkurruntz**	**73.32**	**311**	P		**P**	**10 04 39.1**	**+1.0**
	comp=Z,7.1nm,0.7s,mb4.7								
ELIZ	**Elizondo**	**73.36**	**311**	P		**P**	**10 04 40.0**	**+1.6**
	comp=Z,18nm,1.4s,mb4.8								
ESAC	**San Caprasio**	**73.39**	**309**	P		**P**	**10 04 40.3**	**+1.7**
	comp=Z,22nm,0.6s,mb5.3								
EIBI	**Ibiza**	**73.50**	**306**	P		**P**	**10 04 40.6**	**+1.4**
	comp=Z,22nm,0.9s,mb5.1								
DAWY	**Dawson**	**73.91**	**22**	*e*P		**P**	**10 04 40.7**	**-0.9**
DAWY				*e*			10 04 58.1		
EYAK	**Cordova Ski Ar**	**74.03**	**27**	*e*P		**P**	**10 04 42.0**	**-0.3**
EMOS	**Mosqueruela**	**74.06**	**308**	P		**P**	**10 04 43.3**	**+0.8**
	comp=Z,23nm,0.7s,mb5.2								
ELAN	**Lanestosa**	**74.53**	**312**	P		**P**	**10 04 46.3**	**+1.0**
	comp=Z,14nm,0.8s,mb5.0								
EBEN	**Beniarda**	**74.72**	**306**	P		**P**	**10 04 47.6**	**+1.3**
	comp=Z,19nm,0.9s,mb5.0								
ECHE	**Chera**	**74.78**	**307**	P		**P**	**10 04 47.6**	**+1.0**
ECHE					pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.7								
ECHE	**Chera**	**74.78**	**307**	P		**P**	**10 04 47.6**	**+0.9**
	comp=Z,9.1nm,0.9s,mb4.7								
EARI	**Arriondas**	**75.61**	**312**	P		**P**	**10 04 51.9**	**+0.5**
	comp=Z,9.1nm,0.8s,mb4.8								
ETOB	**Tobarra**	**75.64**	**307**	P		**P**	**10 04 53.2**	**+1.6**
	comp=Z,10nm,0.7s,mb4.9								
EMUR	**La Murta**	**75.84**	**306**	P		**P**	**10 04 54.4**	**+1.6**
	comp=Z,6.9nm,0.6s,mb4.8								
EVIA	**Vianos**	**76.29**	**307**	P		**P**	**10 04 56.1**	**+0.8**
EVIA					pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.8								
EVIA	**Vianos**	**76.29**	**307**	P		**P**	**10 04 56.1**	**+0.8**
	comp=Z,9.7nm,0.8s,mb4.8								
GUD	**Guadarrama**	**76.33**	**310**	P		**P**	**10 04 56.4**	**+0.8**
GUD					pmax	pmax			
	comp=Z,6.0nm,0.5s,mb4.8								
GUD	**Guadarrama**	**76.33**	**310**	P		**P**	**10 04 56.4**	**+0.8**
	comp=Z,6.0nm,0.5s,mb4.8								
ESDC	**Sonseca Array**	**76.72**	**309**	P		**P**	**10 04 58.2**	**+0.4**
	comp=Z,4.8nm,0.8s,mb4.5,baz=50,slow=6.1,SNR=12								
ESDC	**Sonseca Array**	**76.72**	**309**	P		**P**	**10 04 59.0**	**+1.3**
	comp=Z,10nm,1.0s,mb4.7								
ESLA	**Sonseca Array**	**76.72**	**309**	*e*P		**P**	**10 04 58.0**	**+0.2**
	comp=Z,2.4nm,0.9s,mb4.1								
ESLA					*e*pP	pP	10 05 03.3	-0.3	
EPON	**Pontenova**	**76.79**	**313**	P		**P**	**10 04 58.0**	**-0.2**
	comp=Z,7.5nm,0.5s,mb4.9								
EQES	**Quesada**	**77.11**	**307**	P		**P**	**10 05 01.1**	**+1.2**
	comp=Z,18nm,0.8s,mb5.0								
SFJD	**Kangerlussuaq**	**77.22**	**347**	*i* P		**P**	**10 05 00.0**	**-0.6**
	comp=Z,32nm,1.0s,mb5.2								
SFJD				*i* S		S	10 14 46.0	-3.4	
SFJD									
	comp=Z,2µm,20.0s								
SFJD	**Kangerlussuaq**	**77.22**	**347**	*i* P		**P**	**10 05 00.0**	**-0.6**
SFJD				*i* S		S	10 14 46.0	-3.4	
SFJD					pmax	pmax			
	comp=Z,32nm,1.0s,mb5.2								
SFJD					MLR	MLR			
	comp=Z,2µm,20.0s,MS5.5								
ECAL	**Calabor**	**77.29**	**312**	P		**P**	**10 05 01.7**	**+0.8**
	comp=Z,17nm,1.0s,mb4.9								
PBRG	**Braganca**	**77.36**	**312**	*e*P		**P**	**10 05 01.2**	**-0.2**
	comp=Z,16nm,1.5s,mb4.7								
EBAN	**Banos Encina**	**77.39**	**307**	P		**P**	**10 05 02.1**	**+0.5**
EBAN					pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
EBAN	**Banos Encina**	**77.39**	**307**	P		**P**	**10 05 02.1**	**+0.6**
	comp=Z,10nm,0.9s,mb4.8								
STKA	**Stephens Creek**	**77.42**	**142**	*e*P		**P**	**10 05 01.2**	**-0.5**
	comp=Z,5.3nm,0.6s,mb4.7								
STKA	**Stephens Creek**	**77.42**	**142**	P		**P**	**10 05 01.6**	**0.0**
	comp=Z,6.2nm,0.7s,mb4.6,baz=321,slow=5.1,SNR=15								
EBER	**Berja**	**77.46**	**306**	P		**P**	**10 05 02.3**	**+0.4**
	comp=Z,65nm,1.3s,mb5.4								
STS	**Santiago**	**77.89**	**313**	P		**P**	**10 05 03.7**	**-0.6**
STS					pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8								
STS	**Santiago**	**77.89**	**313**	P		**P**	**10 05 03.7**	**-0.7**
	comp=Z,8.7nm,0.8s,mb4.7								
EADA	**Adamuz**	**77.92**	**308**	P		**P**	**10 05 04.4**	**-0.1**
	comp=Z,12nm,1.2s,mb4.7								
ELOB	**Lobios**	**78.16**	**312**	P		**P**	**10 05 06.6**	**+0.8**
	comp=Z,11nm,0.8s,mb4.8								
SKAG	**Skagway**	**78.57**	**24**	*e*P		**P**	**10 05 08.6**	**+0.5**
	comp=Z,29nm,0.9s,mb5.2								
SKAG					LR	LR			
	comp=Z,2µm,19.0s,MS5.3								
MTE	**Manteigas**	**78.64**	**311**	*e*P		**P**	**10 05 09.3**	**+0.8**
	comp=Z,28nm,1.2s,mb5.1								
MTE				*e*S			10 14 12.7		
MTE	**Manteigas**	**78.64**	**311**	*e*LQ			10 29 12.3		
MTE				*e*LR		LR	10 35 37.6		
	comp=Z,1µm,20.0s								
MTE	**Manteigas**	**78.64**	**311**	*e*P		**P**	**10 05 09.3**	**+0.8**
	comp=Z,12nm,0.8s,mb4.9								
PVIS	**Viseu**	**78.69**	**311**	*e*P		**P**	**10 05 11.4**	**+2.7**
	comp=Z,28nm,1.7s,mb4.9								
EBAD	**Badajoz**	**79.21**	**309**	P		**P**	**10 05 10.9**	**-0.6**
	comp=Z,4.5nm,0.6s,mb4.6								
EMIN	**Mina Concepcio**	**79.53**	**308**	P		**P**	**10 05 12.1**	**-1.3**
	comp=Z,11nm,0.9s,mb4.8								
EVO	**Evora**	**79.98**	**309**	*e*P		**P**	**10 05 15.6**	**-0.2**
	comp=Z,22nm,0.9s,mb4.8								
EVO				*e*R					
	comp=Z,1µm,21.8s								
PBEJ	**Beja**	**80.17**	**309**	*e*P		**P**	**10 05 18.2**	**+1.4**
	comp=Z,19nm,2.5s,mb4.6								
SIT	**Sitka**	**80.36**	**26**	*e*P		**P**	**10 05 17.5**	**-0.3**
SIT					pmax	pmax			
	comp=Z,14nm,1.0s,mb4.8								
SIT	**Sitka**	**80.36**	**26**	*e*P		**P**	**10 05 17.5**	**-0.3**
	comp=Z,14nm,1.0s,mb4.8								
LSZ	**Lusaka**	**80.67**	**245**	*e*P		**P**	**10 05 20.2**	**+0.7**
LSZ					pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.8								
LSZ	**Lusaka**	**80.67**	**245**	*e*P		**P**	**10 05 20.2**	**+0.7**
	comp=Z,7.2nm,0.6s,mb4.8								

MDT	**Midelt**	**80.84**	**303**	P		**P**	**10 05 21.2**	**+0.8**
	comp=Z,5.0nm,0.9s,mb4.5,baz=63,slow=9.1,SNR=8.3								
DLBC	**Dease Lake**	**81.12**	**23**	*e*P		**P**	**10 05 23.1**	**+1.1**
YKW3	**Yellowknife Ar**	**81.66**	**14**	*e*P		**P**	**10 05 24.3**	**-0.4**
YKA	**Yellowknife Ar**	**81.72**	**14**	P		**P**	**10 05 23.9**	**-1.2**
	comp=Z,4.2nm,0.6s,mb4.5,baz=339,slow=5.9,SNR=45								
YKA	**Yellowknife Ar**	**81.72**	**14**	P		**P**	**10 05 23.9**	**-1.2**
YKA					pmax	pmax			
	comp=Z,4.0nm,0.6s								
CRAG	**Craig**	**82.37**	**26**	*e*P		**P**	**10 05 28.8**	**+0.3**
TOA0	**Torodi Ar. Sit**	**86.67**	**283**	*e*P		**P**	**10 05 50.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**86.67**	**283**	P		**P**	**10 05 50.2**	**0.0**
	comp=Z,5.7nm,0.6s,mb5.0,baz=57,slow=4.7,SNR=78								
TORD					PP	PP	10 09 10.8	-1.6	
	comp=Z,6.1nm,1.2s,baz=59,slow=8.5,SNR=3.7								
TORD					PKKPbc	PKKPbc	10 23 46.9	+1.9	
	comp=Z,0.7nm,1.0s,baz=209,slow=2.2,SNR=2.4								
LBTB	**Lobatse**	**88.52**	**239**	*e*P		**P**	**10 05 59.7**	**+0.6**
LBTB					pmax	pmax			
	comp=Z,13nm,0.8s,mb5.3								
LBTB	**Lobatse**	**88.52**	**239**	*e*P		**P**	**10 05 59.7**	**+0.6**
	comp=Z,13nm,0.8s,mb5.3								
TAU	**Tasmania Unive**	**88.82**	**145**	*e*P		**P**	**10 06 00.2**	**-0.4**
TAU					pmax	pmax			
	comp=Z,59nm,1.3s,mb5.8								
TAU	**Tasmania Unive**	**88.82**	**145**	*e*P		**P**	**10 06 00.2**	**-0.4**
	comp=Z,59nm,1.3s,mb5.8								
EDM	**Edmonton**	**90.42**	**17**	*e*P		**P**	**10 06 08.4**	**+0.4**
BOSA	**Boshof**	**90.94**	**236**	P		**P**	**10 06 10.2**	**-0.3**
	comp=Z,5.2nm,0.7s,mb5.0,baz=42,slow=5.5,SNR=9.4								
BOSA	**Boshof**	**90.94**	**236**	*e*P		**P**	**10 06 10.8**	**+0.4**
BOSA					pmax	pmax			
	comp=Z,8.0nm,1.0s,mb5.0								
BOSA	**Boshof**	**90.94**	**236**	*e*P		**P**	**10 06 10.8**	**+0.4**
	comp=Z,8.3nm,1.0s,mb5.0								
TSUM	**Tsumeb**	**91.15**	**248**	*e*P		**P**	**10 06 12.2**	**+0.8**
	comp=Z,0.4nm,0.4s,mb4.1								
FFC	**Flin Flon**	**91.29**	**10**	*e*P		**P**	**10 06 11.7**	**-0.4**
FFC					pmax	pmax			
	comp=Z,14nm,1.0s,mb5.2								
FFC	**Flin Flon**	**91.29**	**10**	*e*P		**P**	**10 06 11.7**	**-0.4**
	comp=Z,14nm,1.0s,mb5.3								
NEW	**Newport**	**93.83**	**22**	*e*pP		pP	10 06 29.7	0.0	
DBIC	**Dimbokro**	**95.60**	**282**	P		**P**	**10 06 31.4**	**-0.5**
	comp=Z,1.9nm,0.5s,mb4.8,baz=352,slow=16,SNR=5.9								
DBIC	**Dimbokro**	**95.60**	**282**	*e*P		**P**	**10 06 32.4**	**+0.5**
DBIC					pmax	pmax			
	comp=Z,10.0nm,1.0s								
DBIC	**Dimbokro**	**95.60**	**282**	*e*P		**P**	**10 06 32.4**	**+0.4**
	comp=Z,10nm,1.0s,mb5.2								
DBIC					*e*pP	pP	10 06 37.4	-0.4	
LIC	**Lamto**	**95.99**	**281**	*e*P		**P**	**10 06 33.4**	**-0.3**
BMO	**Blue Mountains**	**96.79**	**23**	*e*P		**P**	**10 06 37.9**	**+0.6**
	comp=Z,3.1nm,1.1s,mb4.7								
HLID	**Hailey**	**98.88**	**22**	*e*P		**P**	**10 06 47.0**	**+0.2**
	comp=Z,8.9nm,1.9s,mb5.0								
NVAR	**Mina Array Bea**	**102.08**	**27**	P		Pdif	10 07 02.6	+1.7	
	comp=Z,0.3nm,0.6s,baz=334,slow=6.0,SNR=3.5								
PV01	**Paradox Valley**	**105.62**	**20**	*e*PKPdf		PKiKP	10 11 29.5	-0.3	
PV01				*e*PP		PP	10 11 38.0	-1.0	
PPT	**Papeete**	**119.44**	**93**	*e*PS		PS	10 23 01.1	-5.1	
	comp=Z,124nm,26.2s								
PPT	**Papeete**	**119.44**	**93**	*e*LR		LR	10 48 27.7		
	comp=Z,1µm,30.2s								
TBI	**Tubuai**	**122.13**	**99**	*e*PS		PS	10 23 25.1	-5.1	
	comp=Z,106nm,30.8s								
TBI	**Tubuai**	**122.13**	**99**	*e*SS		SS	10 30 08.2	-5.8	
TBI									
	comp=Z,311nm,38.8s								
					*e*LR	LR	10 49 42.7		
	comp=Z,490nm,26.2s								
QSPA	**South Pole Qui**	**122.72**	**180**	*e*P		PKPdf	10 12 01.2	-1.2	
SNAA	**Sanae**	**123.73**	**202**	? *e*PKIKP		PKPdf	10 12 09.6	+5.3	
ROSC	**El Rosal**	**141.34**	**345**	*e*PKPdf		PKPdf	10 12 39.0	+1.7	
BDFB	**Brasilia**	**143.33**	**289**	PKP		PKPdf	10 12 39.4	-1.4	
	comp=Z,2.0nm,0.5s,baz=45,slow=1.4,SNR=2.8								
BDFB	**Brasilia**	**143.33**	**289**	PKIKP		PKPdf	10 12 39.4	-1.5	
BDFB					pmax	pmax			
	comp=Z,2.0nm,0.5s								
OTAV	**Otavalo**	**146.61**	**350**	*e*PKPdf		PKPdf	10 12 48.8	+2.3	
CPUP	**Villa Florida**	**156.10**	**279**	PKP		PKPdf	10 13 00.9	0.0	
	comp=Z,0.5nm,0.5s,baz=185,slow=1.9,SNR=2.6								
CPUP	**Villa Florida**	**156.10**	**279**	PKIKP		PKPdf	10 13 01.0	+0.1	
CPUP					pmax	pmax			
	comp=Z,1.0nm,0.5s								

IDC 19 09:53:42.2±0.8, 3267N×9589E, h0km, mb4.9/9, mb1 5.0/11, mb1mx4.8/23, mbtmp5.0/11, ML4.6/2, MS4.8/1, Ms1 4.7/1, ms1mx3.0/5, Error ellipse: s-maj=50.9km s-min=16.4km az=53.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**17.11**	**25**	P	P	Pn	09 57 41.8	-0.9
	1.1nm,0.3s,baz=212,slow=13,SNR=4.5							
MKAR	**Makanchi Array**	**17.52**	**328**	P	P	Pn	09 57 49.0	+1.2
	4.5nm,0.3s,baz=137,slow=13,SNR=6.1							
AKASG	**Malin Array Be**	**51.16**	**311**	P	P		10 02 47.2	+0.2
	9.5nm,0.6s,baz=72,slow=7.1,SNR=4.9							
FINES	**FINESS Array B**	**52.34**	**325**	P	P		10 02 54.5	-1.3
	7.6nm,0.7s,baz=79,slow=16,SNR=2.2							
HFS	**Hagfors**	**58.50**	**324**	P	P		10 03 39.8	-0.3
	7.9nm,0.5s,baz=120,slow=8.5,SNR=2.6							
NOA	**NORSAR Array B**	**59.51**	**326**	P	P		10 03 46.9	-0.2
	5.0nm,0.8s,baz=76,slow=6.8,SNR=3.8							
WRA	**Warramunga Arr**	**63.94**	**139**	P	P		10 04 17.4	+0.3
	15nm,0.8s,baz=333,slow=7.1,SNR=4.8							
PMG	**Port Moresby**	**64.31**	**121**	P	P		10 04 20.0	+0.6
	68nm,0.9s,baz=14,slow=6.7,SNR=4.7							
ASAR	**Alice Springs**	**66.75**	**142**	P	P		10 04 35.9	+0.7
	13nm,0.7s,baz=333,slow=6.4,SNR=7.8							
STKA	**Stephens Creek**	**77.36**	**141**	P	P		10 05 37.8	-1.0
	4.0nm,0.6s,baz=328,slow=8.7,SNR=4.2							
STKA				LR	LR		10 43 27.5	
	comp=Z,565nm,21.4s,baz=132,slow=39							
YKA	**Yellowknife Ar**	**82.05**	**14**	P	P		10 06 04.5	+0.2
	2.7nm,0.8s,baz=336,slow=5.3,SNR=7.0							

IDC 19 09:58:39.0±1.0, 994S×10802E, h0km, mb4.2/6, mb1 4.2/6, mb1mx4.0/17, mbtmp4.2/6, Error ellipse: s-maj=73.4km s-min=21.6km az=63.0
NEIC 19 09:58:40.7±0.8, 990S×108.10E, h10km, mb4.3/1, Error ellipse: s-maj=41.5km s-min=13.4km az=52.0
ISCJB 19 09:58:42.3±0.8, 99S±02×1081E±03, h33km, mb4.2/6, Error ellipse: s-maj=45.0km s-min=16.5km az=136.4
ISC 19 09:58:44.5±0.8, 100S±02×1081E±03, h35km, n10, σ0§32/9, mb4.2/6, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**24.39**	**161**	P	P		**10 03 59.3**	**0.0**
	5.9nm,0.9s,mb4.0,baz=354,slow=13,SNR=2.9							
NWAO	**Narrogin (SRO)**	**24.39**	**161**	P	P		**10 03 59.3**	**0.0**
STKA	**Stephens Creek**	**37.93**	**130**	P	P		**10 05 58.5**	**0.0**
	11nm,1.1s,mb4.5,baz=307,slow=10,SNR=3.2							
STKA	**Stephens Creek**	**37.93**	**130**	P	P		**10 05 58.5**	**0.0**
SONM	**Songino Array**	**57.55**	**359**	P	P		**10 08 30.6**	**+0.2**
	1.3nm,0.7s,mb4.1,baz=170,slow=8.0,SNR=5.4							
MKAR	**Makanchi Array**	**60.99**	**340**	P	P		**10 08 53.8**	**-0.4**
	1.5nm,0.6s,mb4.3,baz=141,slow=7.6,SNR=7.3							
BVAR	**Borovoye Array**	**70.47**	**337**	P	P		**10 09 55.0**	**-0.3**
	0.9nm,0.6s,mb3.9,baz=152,slow=9.4,SNR=3.5							
SYO	**Syowa Base**	**73.11**	**201**	? *e*P	P		**10 10 11.0**	**-0.2**
BRTR	**Keskin Array B**	**84.55**	**312**	P	P		**10 11 14.6**	**+0.6**
	1.5nm,0.8s,mb4.2,baz=128,slow=6.1,SNR=7.4							
YKA	**Yellowknife Ar**	**119.24**	**21**	PKP	PKPdf		10 17 29.3	-0.5
	0.2nm,0.6s,baz=324,slow=1.6,SNR=5.9							

IDC 19 10:04:57.1±1.0, 880S×10820E, h0km, mb4.2/8, mb1 4.2/9, mb1mx4.1/18, mbtmp4.1/9, ML3.4/1, Error ellipse: s-maj=42.5km s-min=16.4km az=50.0
ISCJB 19 10:04:59.8±0.9, 89S±02×1083E±02, h33km, mb4.3/13, Error ellipse: s-maj=41.2km s-min=10.3km az=98.9
NEIC 19 10:04:59.9±11.0, 882S×10824E, h19km±68km, mb4.6/5, Error ellipse: s-maj=32.9km s-min=12.8km az=55.0
BJI 19 10:04:59.8, 880S×10820E, h18km, mb4.6
ISC 19 10:05:01.9±0.9, 90S±02×1082E±02, h35km, n23, σ1§13/17, mb4.3/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**16.47**	**139**	*e*P	P	Pn	**10 08 47.4**	**-2.7**
	7.5nm,0.8s							

FITZ	**Fitzroy Crossi**	**19.24**	**120**	P		Pn	**10 09 24.6**	**+0.4**
	0.1nm,0.3s,baz=318,slow=14,SNR=2.9								
WRA	**Warramunga Arr**	**27.54**	**116**	P		P	**10 10 46.7**	**+1.5**
	0.8nm,0.4s,mb3.7,baz=286,slow=12,SNR=10.0								
WRAB	**Tennant Creek**	**27.54**	**116**	*e*P		P	**10 10 43.1**	**-2.1**
	5.0nm,0.8s,mb4.2								
ASAR	**Alice Springs**	**28.62**	**124**	P		P	**10 10 56.4**	**+1.5**
	0.8nm,0.8s,mb3.5,baz=300,slow=8.4,SNR=6.8								
STKA	**Stephens Creek**	**38.48**	**131**	P		P	**10 12 21.0**	**+0.6**
	3.5nm,0.9s,mb4.1,baz=332,slow=5.6,SNR=4.1								
STKA				PcP		PcP	10 14 34.0	+1.0	
	1.3nm,0.5s,baz=182,slow=23,SNR=3.1								
STKA	**Stephens Creek**	**38.48**	**131**	*e*P		P	**10 12 21.0**	**+0.5**
STKA				PcP		PcP	10 14 34.0	+1.0	
GTA	**Gaotai**	**48.73**	**351**	*e*P		P	**10 13 44.5**	**+1.6**
GTA				AP		pP	10 13 53.3	-0.1	
GTA				XP		sP	10 13 57.9	+0.4	
GTA				AMB		AMB			
	comp=Z,8.0nm,1.1s,mb4.7								
MJAR	**Matsushiro Arr**	**53.32**	**30**	P		P	**10 14 15.9**	**-1.5**
	comp=Z,1.2nm,0.7s,mb4.0,baz=191,slow=9.4,SNR=5.3								
SONM	**Songino Array**	**56.55**	**359**	P		P	**10 14 41.4**	**+0.6**
	comp=Z,2.5nm,0.5s,mb4.5,baz=176,slow=8.1,SNR=30								
MKAR	**Makanchi Array**	**60.10**	**340**	P		P	**10 15 05.5**	**-0.1**
	comp=Z,5.6nm,0.7s,mb4.7,baz=142,slow=7.1,SNR=37								
MKAR	**Makanchi Array**	**60.10**	**340**	P		P	**10 15 05.5**	**-0.1**
KURK	**Kurchatov**	**64.72**	**340**	*e*P		P	**10 15 35.6**	**-0.8**
	comp=Z,5.0nm,0.6s,mb4.7								
BVAR	**Borovoye Array**	**69.61**	**337**	P		P	**10 16 07.3**	**-0.2**
	comp=Z,3.6nm,0.6s,mb4.5,baz=144,slow=8.6,SNR=15								
CHKZ	**Chkalovo**	**70.02**	**337**	*e*P		P	**10 16 09.9**	**0.0**
	comp=Z,5.8nm,0.5s,mb4.8								
ZRNK	**Zerenda**	**70.10**	**336**	*e*P		P	**10 16 10.1**	**-0.4**
	comp=Z,2.9nm,0.5s,mb4.5								
BRTR	**Keskin Array B**	**83.99**	**312**	P		P	**10 17 28.6**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.7,baz=126,slow=7.3,SNR=2.8								
WMOK	**Wichita Mounta**	**144.37**	**40**	*e*PKPdf		PKPdf	10 24 34.4	+0.2	
BDFB	**Brasilia**	**146.05**	**224**	PKPbc		PKPbc	10 24 40.1	+2.1	
	comp=Z,1.8nm,0.6s,baz=307,slow=6.1,SNR=3.6								
CCM	**Cathedral Cave**	**146.13**	**28**	*e*PKPdf		PKPdf	10 24 38.6	+1.4	
JCT	**Junction City**	**146.22**	**47**	*e*PKPab		PKPab	10 24 40.4	+1.2	
MIAR	**Mount Ida**	**147.63**	**35**	*e*PKPbc		PKPbc	10 24 44.3	+1.8	
WVT	**Waverly**	**149.26**	**26**	*e*PKPbc		PKPbc	10 24 48.0	+1.2	

IDC 19 10:09:40.7±0.8, 1089S×11201E, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.2/18, mbtmp4.2/10, ML3.8/1, Error ellipse: s-maj=40.3km s-min=15.2km az=57.0
ISCJB 19 10:09:42.3±0.3, 1089S±007×11202E±0.10, h22km, mb4.5/24, MS4.6/1, Error ellipse: s-maj=16.0km s-min=6.3km az=107.8
NEIC 19 10:09:44.0±2.9, 1084S×112.10E, h22km±20km, mb4.8/14, Error ellipse: s-maj=10.8km s-min=5.1km az=57.0
BJI 19 10:09:43.9, 1080S×112.10E, h21km, mB5.2, mb4.5, Ms4.7, Msz4.5
ISC 19 10:09:44.4±3.4, 1092S±008×11203E±009, h22km±24km, n44, σ0§79/45, mb4.5/24, MS4.6/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**12.58**	**145**	*e*Pn		**Pn**	**10 12 36.2**	**-5.7**
FITZ	**Fitzroy Crossi**	**14.98**	**120**	Pn		**Pn**	**10 13 14.4**	**-0.2**
	0.3nm,0.3s,baz=273,slow=18,SNR=5.3								
FITZ				Sn		**Sn**	**10 15 43.6**	**-16**	
	0.7nm,0.3s,baz=180,slow=19,

WVT	**Waverly**	**149.12**	**32**	*e*PKPbc	PKPbc	10 29 31.6	+0.8

IDC 19 10:11:28.4±3.0, 3007S×17743W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.7/12, mbtmp3.7/2, Error ellipse: s-maj=61.2km s-min=33.4km az=97.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.92**	**332**	Pn	Pn	10 11 48.5	0.0
	192nm,0.3s,baz=84,slow=11,SNR=29						
RAO				Sn	Sn	10 11 59.5	-2.9
	899nm,0.3s,baz=43,slow=19,SNR=25						
ASAR	**Alice Springs**	**43.62**	**266**	P	P	10 19 35.1	+0.7
	0.9nm,0.6s,baz=111,slow=8.4,SNR=5.1						
WRA	**Warramunga Arr**	**44.58**	**272**	P	P	10 19 41.9	-0.2
	0.5nm,0.3s,baz=110,slow=8.1,SNR=10						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPdf	10 31 05.5	-2.1
	1.4nm,0.5s,baz=60,slow=4.5,SNR=11						

IDC 19 10:18:43.2±3.2, 888S×10809E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, Error ellipse: s-maj=135.1km s-min=23.6km az=51.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.66**	**116**	P	P	10 24 32.9	+0.2
	0.4nm,0.5s,baz=289,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**28.74**	**124**	P	P	10 24 42.8	+0.5
	0.4nm,0.6s,baz=297,slow=8.1,SNR=4.0						
SONM	**Songino Array**	**56.48**	**359**	P	P	10 28 27.3	+0.4
	0.6nm,0.6s,baz=172,slow=7.0,SNR=5.7						
MKAR	**Makanchi Array**	**60.01**	**340**	P	P	10 28 51.4	-0.2
	0.9nm,0.7s,baz=138,slow=7.5,SNR=7.5						

ISCJB ***19*** *10:42:59.8±5.7, 973S±009×1083E±01, h15km±41km, mb4.5/26, Error ellipse: s-maj=22.9km s-min=10.2km az=107.4*
IDC ***19*** *10:43:00.7±0.6, 962S×10830E, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.2/18, mbtmp4.3/10, ML3.7/1, Error ellipse: s-maj=29.7km s-min=15.4km az=49.0*
BJI ***19*** *10:43:02.3, 1025S×10835E, h50km, mB4.8, mb4.6, Ms4.6, Msz4.4*
NEIC ***19*** *10:43:04.5±0.2, 968S×10828E, mb4.7/15, Error ellipse: s-maj=11.9km s-min=4.3km az=47.0*
ISC 19 10:43:01.8±4.1, 976S±009×1082E±01, h7km±25km, h28km±.7km: pP-P, n41, σ0s81/37, mb4.5/26, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.84**	**137**	*e*P	**Pn**	**10 46 41.7**	**-3.5**
	12nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.81**	**118**	*e*P	**Pn**	**10 47 23.0**	**+0.6**
	12nm,0.9s						
FITZ				*e*S	**Sn**	**10 50 38.9**	**-14**
FITZ	**Fitzroy Crossi**	**18.81**	**118**	P	**Pn**	**10 47 23.0**	**+0.6**
	0.2nm,0.3s,baz=268,slow=9.4,SNR=9.8						
FITZ				Sn	**Sn**	**10 50 35.3**	**-18**
	0.1nm,0.3s,baz=234,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**27.15**	**115**	P	**P**	**10 48 45.7**	**+0.1**
	3.5nm,0.8s,mb4.0,baz=285,slow=11,SNR=15						
WRAB	**Tennant Creek**	**27.16**	**115**	*e*P	**P**	**10 48 45.4**	**-0.4**
	7.5nm,0.7s,mb4.3						
WB2	**Warramunga Arr**	**27.16**	**115**	*e*P	**P**	**10 48 46.0**	**+0.2**
ASAR	**Alice Springs**	**28.14**	**123**	P	**P**	**10 48 54.3**	**-0.2**
	1.8nm,0.9s,mb3.7,baz=303,slow=9.0,SNR=9.7						
ASAR				PcP	PcP	10 52 09.6	+1.1
	0.9nm,0.6s,baz=299,slow=1.8,SNR=14						
KMI	**Kunming**	**35.08**	**351**	P	**P**	**10 49 57.1**	**+1.6**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**37.92**	**130**	P	**P**	**10 50 20.1**	**+0.4**
	comp=Z,8.3nm,0.7s,mb4.6,baz=306,slow=9.5,SNR=16						
STKA	**Stephens Creek**	**37.92**	**130**	*e*P	**P**	**10 50 20.0**	**+0.3**
STKA				*e*pP	pP	10 50 27.6	+5.8
CD2	**Chengdu**	**40.66**	**354**	*e*P	**P**	**10 50 42.6**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
JIRN	**Jiri**	**42.89**	**331**	*e*P	**P**	**10 51 01.5**	**+0.6**
	comp=Z,37nm,0.7s,mb5.2						
PKI	**Pulchoki**	**43.20**	**330**	*e*P	**P**	**10 51 03.3**	**-0.1**
GUN	**Gumba**	**43.25**	**331**	*e*P	**P**	**10 51 04.1**	**+0.3**
	comp=Z,41nm,0.7s,mb5.3						
DMN	**Daman**	**43.38**	**330**	*e*P	**P**	**10 51 04.8**	**0.0**
	comp=Z,35nm,0.8s,mb5.1						
KKN	**Kakani**	**43.44**	**330**	*e*P	**P**	**10 51 05.0**	**-0.4**
	comp=Z,33nm,0.9s,mb5.1						
XAN	**Xi'an**	**43.56**	**1**	P	**P**	**10 51 05.4**	**-0.9**
XAN				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.5						
GKN	**Gorkha**	**43.94**	**329**	*e*P	**P**	**10 51 09.2**	**-0.1**
	comp=Z,23nm,0.8s,mb5.0						
KOLN	**Koldanda**	**44.28**	**328**	*e*P	**P**	**10 51 12.2**	**+0.1**
	comp=Z,18nm,0.8s,mb4.9						
HHC	**Hu-ho-hao-te**	**50.45**	**3**	*e*P	**P**	**10 52 02.8**	**+2.7**
HHC				PP	PP	10 54 01.4	+5.7
HHC				S	**S**	**10 59 14.3**	**+0.3**
HHC				SS	SS	11 02 47.1	-0.7
HHC				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
HHC				AMB	AMB		
	comp=Z,107nm,8.2s						
WMQ	**Urumqi**	**56.50**	**342**	P	**P**	**10 52 45.9**	**+1.3**
SONM	**Songino Array**	**57.36**	**359**	P	**P**	**10 52 49.6**	**-1.1**
	comp=Z,0.8nm,0.6s,mb4.0,baz=179,slow=8.0,SNR=8.7						
MDJ	**Mudanjiang**	**57.47**	**18**	P	**P**	**10 52 51.8**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,229nm,12.4s						
MKAR	**Makanchi Array**	**60.88**	**340**	P	**P**	**10 53 14.7**	**-0.4**
	comp=Z,5.5nm,0.7s,mb4.8,baz=143,slow=7.7,SNR=45						
MAW	**Mawson**	**65.10**	**197**	P	**P**	**10 53 43.5**	**+0.4**
	comp=Z,2.0nm,0.4s,mb4.5,baz=28,slow=5.9,SNR=9.7						
MAW	**Mawson**	**65.10**	**197**	*e*P	**P**	**10 53 42.8**	**-0.3**
	comp=Z,3.7nm,0.7s,mb4.5						
KURK	**Kurchatov**	**65.49**	**340**	*e*P	**P**	**10 53 45.1**	**-0.5**
	comp=Z,5.6nm,0.9s,mb4.6						
KURK				*e*pP	pP	10 53 53.1	+5.3
BVAR	**Borovoye Array**	**70.37**	**337**	P	**P**	**10 54 15.4**	**-1.0**
	comp=Z,2.6nm,0.6s,mb4.3,baz=143,slow=8.7,SNR=16						
BRVK	**Borovoye**	**70.43**	**337**	*e*P	**P**	**10 54 15.5**	**-1.2**
	comp=Z,1.5nm,0.6s,mb4.1						
BRVK				*e*pP	pP	10 54 24.3	+5.3
CHKZ	**Chkalovo**	**70.78**	**337**	*e*P	**P**	**10 54 18.0**	**-0.8**
	comp=Z,2.2nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**70.86**	**336**	*e*P	**P**	**10 54 18.4**	**-0.9**
	comp=Z,2.1nm,0.7s,mb4.2						
KMBO	**Kilima Mbogo**	**71.06**	**272**	P	**P**	**10 54 21.8**	**+1.2**
	comp=Z,1.7nm,0.8s,mb4.0,baz=124,slow=22,SNR=4.3						
QSPA	**South Pole Qui**	**80.25**	**180**	*e*P	**P**	**10 55 13.2**	**+0.1**
	comp=Z,3.0nm,0.8s,mb4.3						
BRTR	**Keskin Array B**	**84.56**	**312**	P	**P**	**10 55 36.0**	**+0.2**
	comp=Z,0.8nm,0.6s,mb4.0,baz=133,slow=5.3,SNR=5.2						
YKA	**Yellowknife Ar**	**119.00**	**21**	PKP	PKPdf	11 01 50.5	-0.8
	comp=Z,0.5nm,0.7s,baz=331,slow=2.0,SNR=9.8						
WMOK	**Wichita Mounta**	**144.96**	**41**	*e*PKPdf	PKPdf	11 02 39.4	-0.4
NCB	**Newcomb**	**145.85**	**3**	*e*PKPdf	PKPdf	11 02 41.8	+0.5
JCT	**Junction City**	**146.74**	**48**	*e*PKPab	PKPab	11 02 45.5	-0.1
WVT	**Waverly**	**149.97**	**27**	*e*PKPbc	PKPbc	11 02 53.2	+0.3
PLAL	**Pickwick Lake**	**150.81**	**28**	*e*PKPbc	PKPbc	11 02 54.7	-0.2
LPAZ	**La Paz**	**153.87**	**188**	PKPbc	PKPbc	11 03 06.0	+4.2
	comp=Z,0.6nm,0.7s,baz=216,slow=5.7,SNR=4.3						

MAN 19 10:47:35.7, 1886N×12129E, h7km, mb2.9, ML4.3, MS1.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.83**	**230**	*e*P	Pg	10 47 51.5	-0.2
PIP				*e*S	Sg	10 48 05.4	+3.0
SGCP	**Mt. Cagua**	**0.94**	**131**	*e*P	Pg	10 47 53.0	-0.8
APYP	**Conner**	**0.99**	**183**	*e*P	Pg	10 47 54.9	+0.2
APYP				*e*S	Sg	10 48 10.7	+3.1
CVP	**Callao Caves**	**1.26**	**156**	↓*e*P	Pn	10 47 59.0	-0.6
CVP				*i* S	Sb	10 48 17.0	+1.0
CAUP	**Cauayan**	**1.97**	**165**	*e*P	Pn	10 48 10.2	+0.8
BOLP	**Bolinao**	**2.79**	**208**	*e*P	Pn	10 48 21.9	+1.2
BALP	**Baler**	**3.11**	**175**	*e*P	Pn	10 48 26.7	+1.5

BJI ***19*** *10:51:41.4, 1058S×10741E, h33km, mB4.9, mb4.7*
IDC ***19*** *10:51:46.0±0.7, 962S×10726E, h0km, mb4.3/12, mb1 4.4/13, mb1mx4.2/21, mbtmp4.3/13, ML4.3/1, Error ellipse: s-maj=29.8km s-min=13.7km az=56.0*
ISCJB ***19*** *10:51:49.4±0.4, 962S±009×1074E±0.1, h33km, mb4.6/31, Error ellipse: s-maj=17.9km s-min=7.1km az=104.3*
NEIC ***19*** *10:51:51.3±0.3, 962S×10733E, mb4.9/17, Error ellipse: s-maj=12.9km s-min=5.1km az=50.0*
ISC 19 10:51:51.6±0.4, 966S±009×1073E±01, h35km, h35km±1.6km: pP-P, n47, σ0s66/42, mb4.6/31, 1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**16.54**	**135**	*e*P	**Pn**	**10 55 36.5**	**-4.3**
	14nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.65**	**117**	*e*P	**Pn**	**10 56 18.7**	**-0.2**
	23nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.65**	**117**	P	**Pn**	**10 56 18.7**	**-0.1**
	0.7nm,0.3s,baz=295,slow=6.0,SNR=22						
FITZ				Sn	**Sn**	**10 59 43.8**	**-15**
	0.4nm,0.3s,baz=194,slow=19,SNR=4.7						
KAKA	**Kakadu**	**24.83**	**99**	*e*P	**P**	**10 57 11.5**	**+1.0**
	21nm,0.7s,mb4.8						
NWAO	**Narrogin (SRO)**	**24.90**	**160**	P	**P**	**10 57 10.8**	**-0.3**
	5.2nm,0.8s,mb4.1,baz=337,slow=7.7,SNR=3.3						
NWAO	**Narrogin (SRO)**	**24.90**	**160**	P	**P**	**10 57 10.8**	**-0.3**
WRA	**Warramunga Arr**	**28.01**	**114**	P	**P**	**10 57 38.9**	**-0.3**
	7.1nm,1.0s,mb4.2,baz=286,slow=11,SNR=21						
WRAB	**Tennant Creek**	**28.02**	**114**	*e*P	**P**	**10 57 38.6**	**-0.7**
	8.5nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**28.02**	**114**	*e*P	**P**	**10 57 39.3**	**0.0**
ASAR	**Alice Springs**	**28.95**	**122**	P	**P**	**10 57 47.3**	**-0.3**
	2.6nm,0.8s,mb4.0,baz=298,slow=8.8,SNR=12						
KMI	**Kunming**	**34.86**	**353**	P	**P**	**10 58 40.5**	**+1.2**
KMI				AP	pP	10 58 48.1	-1.4
KMI				XP	sP	10 58 51.9	-1.9
KMI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
KMI				AMB	AMB		
	comp=Z,101nm,5.7s						
GYA	**Guiyang**	**35.91**	**359**	↓*i*P	**P**	**10 58 48.8**	**+0.4**
GYA				AP	pP	10 59 00.3	+1.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**38.67**	**130**	P	**P**	**10 59 12.5**	**+0.7**
	comp=Z,8.8nm,0.8s,mb4.6,baz=284,slow=7.0,SNR=19						
STKA	**Stephens Creek**	**38.67**	**130**	*e*P	**P**	**10 59 12.2**	**+0.4**
JIRN	**Jiri**	**42.37**	**332**	*e*P	**P**	**10 59 42.8**	**+0.4**
	comp=Z,56nm,0.8s,mb5.2						
PKI	**Pulchoki**	**42.66**	**331**	*e*P	**P**	**10 59 45.6**	**+0.8**
GUN	**Gumba**	**42.73**	**332**	*e*P	**P**	**10 59 45.8**	**+0.5**
	comp=Z,45nm,0.7s,mb5.3						
DMN	**Daman**	**42.84**	**330**	*e*P	**P**	**10 59 46.4**	**+0.2**
	comp=Z,53nm,1.0s,mb5.2						
KKN	**Kakani**	**42.91**	**331**	*e*P	**P**	**10 59 46.7**	**0.0**
	comp=Z,38nm,0.9s,mb5.1						
GKN	**Gorkha**	**43.40**	**330**	*e*P	**P**	**10 59 50.6**	**-0.1**
	comp=Z,41nm,0.8s,mb5.2						
XAN	**Xi'an**	**43.48**	**2**	P	**P**	**10 59 50.6**	**-0.8**
XAN				AP	pP	10 59 59.8	-1.9
XAN				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.6						
KOLN	**Koldanda**	**43.73**	**329**	*e*P	**P**	**10 59 53.4**	**+0.1**
	comp=Z,34nm,0.7s,mb5.2						
LZH	**Lanzhou**	**45.62**	**356**	*e*P	**P**	**11 00 08.5**	**+0.1**
LZH				AP	pP	11 00 19.5	+0.7
LZH				XP	sP	11 00 23.5	+0.5
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.9						
GTA	**Gaotai**	**49.31**	**352**	*e*P	**P**	**11 00 37.3**	**+0.2**
GTA				AP	pP	11 00 46.8	-0.8
GTA				XP	sP	11 00 51.4	-0.4
GTA				PCP	PcP	11 01 59.3	-0.2
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.6						
MJAR	**Matsushiro Ar**	**54.37**	**31**	P	**P**	**11 01 15.0**	**+0.3**
	comp=Z,1.8nm,0.8s,mb4.0,baz=200,slow=9.2,SNR=3.3						
SONM	**Songino Array**	**57.24**	**359**	P	**P**	**11 01 35.8**	**+0.3**
	comp=Z,2.8nm,0.6s,mb4.5,baz=175,slow=6.1,SNR=5.1						
MKAR	**Makanchi Array**	**60.48**	**340**	P	**P**	**11 01 57.0**	**-0.9**
	comp=Z,3.5nm,0.8s,mb4.5,baz=140,slow=8.2,SNR=19						
MKAR	**Makanchi Array**	**60.48**	**340**	P	**P**	**11 01 57.0**	**-0.9**
MAW	**Mawson**	**64.93**	**197**	P	**P**	**11 02 27.7**	**+0.1**
	comp=Z,2.5nm,0.7s,mb4.3,baz=34,slow=5.4,SNR=4.6						
MAW	**Mawson**	**64.93**	**197**	*e*P	**P**	**11 02 27.9**	**+0.4**
	comp=Z,7.9nm,1.0s,mb4.7						
MAW				*e*pP	pP	11 02 39.0	+0.6
KURK	**Kurchatov**	**65.09**	**340**	*e*P	**P**	**11 02 28.0**	**-0.6**
	comp=Z,15nm,0.9s,mb5.0						
KURK				*e*pP	pP	11 02 38.7	-0.7
ZAL	**Zalesovo**	**66.16**	**346**	P	**P**	**11 02 34.0**	**-1.5**
	comp=Z,1.4nm,0.4s,mb4.3,baz=343,slow=11,SNR=2.6						
BVAR	**Borovoye Array**	**69.92**	**337**	P	**P**	**11 02 58.4**	**-0.7**
	comp=Z,2.3nm,0.7s,mb4.2,baz=148,slow=8.7,SNR=10						
BRVK	**Borovoye**	**69.99**	**337**	*e*P	**P**	**11 02 58.8**	**-0.8**
	comp=Z,5.2nm,1.0s,mb4.4						
BRVK				*e*pP	pP	11 03 08.4	-2.0
CHKZ	**Chkalovo**	**70.35**	**338**	*e*P	**P**	**11 03 01.3**	**-0.4**
	comp=Z,13nm,0.9s,mb4.8						
CHKZ				*e*pP	pP	11 03 12.2	-0.4
ZRNK	**Zerenda**	**70.40**	**337**	*e*P	**P**	**11 03 01.2**	**-0.8**
	comp=Z,9.2nm,1.0s,mb4.7						
ZRNK				*e*pP	pP	11 03 11.2	-1.8
AKTK	**Aktyubinsk**	**73.56**	**330**	P	**P**	**11 03 20.6**	**-0.4**
AKTO	**Aktyubinsk**	**73.56**	**330**	P	**P**	**11 03 20.6**	**-0.4**
	comp=Z,1.3nm,0.9s,mb3.8,baz=133,slow=18,SNR=2.8						
ARU	**Arti**	**77.14**	**335**	*e*P	**P**	**11 03 43.4**	**+1.9**
	comp=Z,7.9nm,1.0s,mb4.6						
QSPA	**South Pole Qui**	**80.35**	**180**	*e*P	**P**	**11 03 59.7**	**+0.5**
	comp=Z,4.3nm,1.1s,mb4.3						
BRTR	**Keskin Array B**	**83.82**	**312**	P	**P**	**11 04 17.7**	**+0.3**
	comp=Z,0.8nm,0.8s,mb3.9,baz=134,slow=6.2,SNR=4.2						
YKA	**Yellowknife Ar**	**119.23**	**21**	PKP	PKPdf	11 10 36.7	-0.2
	comp=Z,0.4nm,1.1s,baz=332,slow=1.3,SNR=4.0						
YKA	**Yellowknife Ar**	**119.23**	**21**	PKP	PKPdf	11 10 36.7	-0.2
BDFB	**Brasilia**	**144.95**	**224**	PKP	PKPdf	11 11 25.9	+1.0
	comp=Z,2.2nm,0.6s,baz=114,slow=5.6,SNR=3.2						
JCT	**Junction City**	**147.33**	**47**	*e*PKPbc	PKPbc	11 11 32.3	+0.9
WVT	**Waverly**	**150.27**	**25**	*e*PKPbc	PKPbc	11 11 38.9	0.0
PLAL	**Pickwick Lake**	**151.13**	**27**	*e*PKPbc	PKPbc	11 11 41.0	+0.1

IDC ***19*** *10:57:30.2±0.3, 655S×10543E, h0km, mb5.7/40, mb1 5.6/41, mb1mx5.6/41, mbtmp5.6/41, ML4.3/1, MS5.7/32, Ms1 5.7/32, ms1mx5.7/35, Error ellipse: s-maj=11.7km s-min=9.2km az=47.0*
CRAAG ***19*** *10:57:34.0, 648S×10550E, Mb6.0*
MOS ***19*** *10:57:34.3±1.1, 640S×10541E, h33km, mb6.0/64, MS5.8/49, Error ellipse: s-maj=8.4km s-min=4.0km az=123.0*
ISCJB ***19*** *10:57:35.4±0.1, 657S±002×10541E±002, h47km, mb5.8/192, MS6.0/217, Error ellipse: s-maj=3.7km s-min=3.0km az=76.4*
HRVD ***19*** *10:57:36.9±0.1, 718S×10521E, h46km, MW6.2/104, Centroid moment Tensor Solution. LP body waves: s104,c235;Mantle waves: s98,c347; Half duration: 2s9 Moment tensor: Scale 10^18Nm; Mrr 1.61±.02; Mθθ -1.56±.01; Mφφ -0.04±.02; Mrθ 0.94±.01; Mrφ 0.91±.01; Mθφ 0.02±.02; Best double couple: M◎2.04400×10^18 NP1:ϑ◎a311.0000°, δ35.00000°, λ116.00000°. NP2: ϕ◎a101.00000°, δ59.00000°, λ73.00000°. Principal axes: T 1.9100, Plg71.0000°, Azm333.0000°; N 0.2760, Plg14.0000°, Azm110.0000°; P -2.1790, Plg13.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***19*** *10:57:36.9±0.1, 654S×10539E, h45km, mb5.6/85, ME5.7, MS6.0/153, MW6.1 Error ellipse: s-maj=5.3km s-min=3.2km az=42.0, Moment Tensor Solution. s28 Moment tensor: Scale 10^18Nm; Mrr 1.99; Mθθ -0.10; Mφφ -1.89; Mrθ 0.22; Mrφ 0.61; Mθr -0.22; Best double couple: M◎2.10000×10^18 NP1:ϑ◎s159.00000°, δ49.00000°, λ84.00000°. NP2:ϑ◎s347.00000°, δ41.00000°, λ96.00000°. Principal axes: T 2.0200, Plg84.0000°, Azm25.0000°; N 0.0800, Plg4.0000°, Azm162.0000°; P -2.1000, Plg4.0000°, Azm253.0000°; Broadband fault plane solution: P waves. NP1:ϑ◎s340.00000°, δ40.00000°, λ90.00000°. NP2: ϕ◎s160.00000°, δ50.00000°, λ90.00000°. Principal axes: T Plg85.0000°, Azm70.0000°; N Plg0.0000°, Azm0.0000°; P Plg5.0000°, Azm250.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] on Anyer; [IV] at Jakarta and Merak; [II] at Bogor and Depok, Java. Also felt at Bandung, Bekasi, Cibinong, Serpong and Tangerang, Java.
BJI ***19*** *10:57:36.8, 650S×10540E, h45km, mB5.9, mb5.5, Ms6.0, Msz5.8*
ISC 19 10:57:37.5±0.1, 658S±002×10539E±002, h49km, h49km±1.7km: pP-P, n1216, σ0s95/756, mb5.8/191, MS6.0/217, 176C-108D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**0.87**	**58**	P	**Pn**	**10 57 55.5**	**+2.1**
	173µm,1.1s						
KSI	**Kapahiang**	**4.02**	**316**	P	**Pn**	**10 58 38.1**	**+1.5**
	7µm,1.1s						
BJII	**Banjamegara**	**4.36**	**100**	P	**Pn**	**10 58 44.0**	**+2.8**
	879nm,1.2s						
BJII	**Banjamegara**	**4.36**	**100**	↑*i*P	**Pn**	**10 58 44.5**	**+3.3**
BJII				*i* S	**Sn**	**10 59 40.7**	**+10**
BJII	**Banjamegara**	**4.36**	**100**	↓*i*P	**Pn**	**10 58 46.5**	**+5.3**
PPI	**Padang Panjang**	**7.86**	**321**	P	**Pn**	**10 59 29.8**	**+0.6**
	587nm,1.0s						
KGM	**Kluang**	**8.78**	**346**	P	**Pn**	**10 59 46.2**	**+4.4**
KSM	**Kuching**	**9.39**	**32**	*e*Pn	**Pn**	**10 59 54.4**	**+4.3**
COCO	**West Island**	**10.11**	**236**	Pn	**Pn**	**10 59 56.4**	**-3.6**
	19µm,0.8s,SNR=26						
PSI	**Prapat**	**11.33**	**325**	Pn	**Pn**	**11 00 13.7**	**-3.0**
	2.0nm,0.3s,baz=165,slow=14,SNR=18						
PSI				LR	LR	11 05 30.5	
	comp=Z,62µm,21.8s,baz=144,slow=43						
IPM	**Ipoh**	**11.81**	**338**	P	**Pn**	**11 00 25.9**	**+2.6**
KULM	**Kulim**	**12.70**	**338**	*e*Pn	**Pn**	**11 00 35.6**	**+0.2**
SNG	**Songkhla**	**14.47**	**341**	P	**Pn**	**11 00 58.0**	**-1.3**
	678nm,1.0s						
PCI	**Palu**	**15.48**	**69**	P	**Pn**	**11 01 16.3**	**+3.8**
	2µm,1.7s						
BSI	**Banda Aceh**	**15.66**	**320**	P	**Pn**	**11 01 09.5**	**-5.3**
	357nm,0.8s						
KKM	**Kota Kinabalu**	**16.55**	**41**	P	**Pn**	**11 01 30.3**	**+4.2**
KKM	**Kota Kinabalu**	**16.55**	**41**	*e*P	**Pn**	**11 01 30.0**	**+3.8**
NNT	**Nongplab**	**19.85**	**344**	P	**Pn**	**11 02 06.0**	**-0.3**
MBWA	**Marble Bar**	**20.07**	**138**	↓P	**P**	**11 02 07.6**	**+0.9**
	SNR=11						
MBWA	**Marble Bar**	**20.07**	**138**	*e*P	**P**	**11 02 07.2**	**+0.5**
MBWA				LR	LR		
	comp=Z,44µm,22.0s,MS5.8						
PPR	**Puerto Princes**	**20.99**	**39**	↓*i*P	**P**	**11 02 20.3**	**+3.6**
PBA	**Port Blair**	**22.05**	**325**	*ex*	x	11 01 20.1	
PBA				*ex*	x	11 07 10.4	
IPIL	**Ipil**	**22.30**	**50**	*e*P	**P**	**11 02 33.5**	**+2.9**
ENPP	**El Nido**	**22.52**	**38**	*e*P	**P**	**11 02 35.3**	**+2.3**
NST	**Nakhon Sawan**	**22.71**	**347**	P	**P**	**11 02 33.4**	**-1.6**
	comp=Z,275nm,0.8s,mb5.7						
FITZ	**Fitzroy Crossi**	**22.83**	**122**	*e*P	**P**	**11 02 36.0**	**-0.2**
	comp=Z,317nm,0.8s,mb5.8						
FITZ				*e*S	**S**	**11 06 40.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**22.83**	**122**	P	**P**	**11 02 36.0**	**-0.2**
	comp=Z,109nm,0.7s,mb5.4,baz=294,slow=4.9,SNR=54						
FITZ				S	**S**	**11 06 43.6**	**+1.5**
	comp=Z,35nm,0.6s,baz=204,slow=19,SNR=4.1						
FITZ				LR	LR	11 11 22.1	
	comp=Z,20µm,21.8s,MS5.5,baz=302,slow=36						
KKTK	**Khon Kaen**	**22.91**	**354**	P	**P**	**11 02 36.3**	**-0.8**
	comp=Z,2µm,0.6s,mb6.6						
PAGZ	**Pagadian**	**22.97**	**52**	*e*P	**P**	**11 02 40.8**	**+3.1**
CTBH	**Cotabato--PC H**	**23.28**	**54**	↑*e*P	**P**	**11 02 43.2**	**+2.3**
CUYO	**Cuyo Island**	**23.28**	**42**	*e*P	**P**	**11 02 42.3**	**+1.4**
BUSP	**Coron**	**23.62**	**39**	*e*P	**P**	**11 02 45.9**	**+1.9**
SNPH	**Sibulan**	**23.80**	**49**	*e*P	**P**	**11 02 49.0**	**+3.3**
QUIM	**Jordan**	**24.20**	**45**	*e*P	**P**	**11 02 52.2**	**+2.9**
DAV	**Davao City (W)**	**24.28**	**56**	*e*P	**P**	**11 02 53.4**	**+3.3**
DAV				LR	LR		
	comp=Z,16µm,22.0s,MS5.5						
BUKP	**Musuan**	**24.32**	**54**	*e*P	**P**	**11 02 52.9**	**+2.5**
CGP	**Cagayan de Oro**	**24.36**	**52**	↑*i*P	**P**	**11 02 51.9**	**+1.0**
TBP	**Tagbilaran**	**24.50**	**49**	*e*P	**P**	**11 02 53.4**	**+1.4**
RCP	**Roxas**	**24.96**	**44**	↑*e*P	**P**	**11 02 57.3**	**+1.0**
LLP	**Lapu-Lapu**	**24.98**	**48**	↑*i*P	**P**	**11 03 00.2**	**+3.8**
LUBP	**Lubang**	**25.00**	**36**	*e*P	**P**	**11 02 57.0**	**+0.4**
OTRP	**Odiongan**	**25.05**	**41**	*e*P	**P**	**11 03 00.7**	**+3.6**
PGP	**Puerto Galera**	**25.24**	**38**	*e*P	**P**	**11 03 02.2**	**+3.5**
MSLP	**Maasin**	**25.53**	**50**	*e*P	**P**	**11 03 04.7**	**+3.2**
NANT	**Nan

WRA PcP PcP 11 06 45.6 +0.1
comp=Z,26nm,0.6s,baz=295,slow=2.1,SNR=9.1
WRA S **S** **11 08 49.9 -3.0**
comp=Z,2.7nm,0.7s,baz=310,slow=16,SNR=3.7
WRA LR LR 11 17 14.0
comp=Z,12µm,21.4s,MS5.5,baz=295,slow=38
WRA P3KPbc 11 35 36.0
comp=Z,4.2nm,0.8s,baz=113,slow=4.4,SNR=23
WRA Warramunga Arr 31.08 118 P **P** **11 03 50.5 -0.5**
WRA 11 06 45.6
WRA S **S** **11 08 49.9 -2.9**
WRA Warramunga Arr 31.08 118 P **P** **11 03 50.5 -0.4**
WRA PcP PcP 11 06 45.6 +0.1
WRA S **S** **11 08 49.9 -3.0**
WRA LR LR 11 17 14.0
WRA *e* 11 35 36.0
WRAB Tennant Creek 31.09 118 P **P** **11 03 50.0 -1.0**
comp=Z,1µm,0.5s
WRAB Tennant Creek 31.09 118 *e*P **P** **11 03 50.7 -0.3**
comp=Z,297nm,0.8s,mb6.2
WRAB *e* pP 11 04 04.0 +0.2
WRAB LR LR
comp=Z,14µm,21.0s,MS5.6
WB2 Warramunga Arr 31.09 118⇑ *i*P **P** **11 03 50.8 -0.2**
WB2 *e*pP pP 11 04 04.4 +0.6
WB2 *e*PCP PcP 11 06 47.2 +1.7
WB2 *e*S **S** **11 08 49.6 -3.4**
WB2 *e*PCS PcS 11 10 27.8 -1.9
BAKI Biak 31.10 81 P **P** **11 03 55.4 +4.3**
comp=Z,120nm,0.8s,mb5.8
KMI Kunming 31.61 355 P **P** **11 03 56.6 +1.0**
KMI AP pP 11 04 06.5 -1.9
KMI XP sP 11 04 10.8 -3.5
KMI PP PP 11 05 00.8 -6.9
KMI PPP 11 05 14.3
KMI S **S** **11 09 01.1 -0.1**
KMI XS sS 11 09 18.3 -4.4
KMI SS SS 11 10 50.4 -28
KMI SSS 11 11 13.3
KMI AMB AMB
comp=Z,48nm,0.9s,mb5.3
KMI AMB AMB
comp=Z,1µm,8.2s
KMI LR LR
comp=N,40µm,15.7s
KMI LR LR
comp=E,23µm,23.6s
KMI LR LR
comp=Z,47µm,17.3s,MS6.2
MDRS Chennai 31.70 308 *e*P **P** **11 03 56.2 -0.2**
MDRS *ex* x 11 09 37.7
TRD Trivandrum 32.06 297 *e*P **P** **11 03 59.3 -0.2**
TRD AMb AMB 11 04 05.4
comp=Z,241nm,1.4s,mb5.8
FORT Forrest 32.12 141 *e*P **P** **11 03 59.3 -0.8**
comp=Z,55nm,0.6s,mb5.6
FORT *e*PCP PcP 11 06 50.3 +2.0
FORT *e*S ScP 11 10 15.1 -13
ASPA Alice Springs 32.24 125⇑ *i*P **P** **11 04 00.7 -0.4**
ASPA *e*PCP PcP 11 06 49.3 +0.7
ASPA *e*S **S** **11 09 06.7 -4.2**
ASPA *e*PCS PcS 11 10 31.7 -1.8
ASAR Alice Springs 32.24 125 P **P** **11 04 00.4 -0.7**
comp=Z,1.7nm,0.7s,baz=310,slow=24,SNR=4.1
ASAR PcP PcP 11 06 49.0 +0.4
comp=Z,24nm,0.6s,baz=308,slow=2.1,SNR=9.9
ASAR S **S** **11 09 08.1 -2.8**
comp=Z,51nm,1.1s,baz=276,slow=16,SNR=11
ASAR LR LR 11 17 05.9
comp=Z,26µm,22.0s,MS5.9,baz=300,slow=36
ASAR P3KPbc 11 35 29.5
comp=Z,1.7nm,0.7s,baz=116,slow=3.8,SNR=20
ASAR Alice Springs 32.24 125 P **P** **11 04 00.4 -0.7**
ASAR 11 06 49.1
ASAR S **S** **11 09 08.1 -2.8**
ASAR Alice Springs 32.24 125 P **P** **11 04 00.4 -0.7**
ASAR PcP PcP 11 06 49.0 +0.4
ASAR S **S** **11 09 08.1 -2.8**
ASAR LR LR 11 17 05.9
ASAR *e* 11 35 29.5
AS31 Alice Springs 32.24 125⇑ *i*P **P** **11 04 00.7 -0.4**
AS31 *e*PcP PcP 11 06 49.3 +0.7
AS31 *e*S **S** **11 09 06.7 -4.2**
AS31 *e*PcS PcS 11 10 31.7 -1.8
VIS Vishakhapatnam 32.52 318 *e*P **P** **11 04 03.6 +0.1**
DGAR Diego Garcia 32.70 267 PFAKE 11 04 20.0 +15
DGAR LR LR
comp=Z,17µm,21.0s,MS5.7
GYA Guiyang 32.86 2⇑ *i*P **P** **11 04 06.4 -0.2**
GYA AP pP 11 04 18.3 -1.1
GYA XP sP 11 04 23.6 -1.6
GYA PP PP 11 05 16.1 -5.4
GYA PCP PcP 11 06 52.0 +1.7
GYA S **S** **11 09 16.9 -3.7**
GYA XS sS 11 09 38.3 -3.9
GYA SCP ScP 11 10 30.9 +0.6
GYA SS SS 11 11 16.6 -27
GYA AMB AMB
comp=Z,70nm,0.8s,mb5.6
GYA AMB AMB
comp=Z,1µm,12.0s
GYA LR LR
comp=N,10µm,21.2s,MS5.7
GYA LR LR
comp=E,13µm,19.1s,MS5.7
GYA LR LR
comp=Z,11µm,21.8s,MS5.5
CAL Calcutta 33.41 330 *e*P **P** **11 04 11.4 +0.1**
CAL *ex* x 11 09 37.2
CAL AMP 11 20 27.1
comp=Z,13µm,16.2s
QZH Quanzhou 33.87 22⇑ *i*P **P** **11 04 15.6 +0.3**
QZH PP PP 11 05 31.5 -1.1
QZH S **S** **11 09 37.0 +0.8**
QZH AMB AMB
comp=Z,100nm,0.5s,mb6.0
QZH AMB AMB
comp=Z,2µm,9.5s
QZH LR LR
comp=N,15µm,19.2s
QZH LR LR
comp=E,2µm,13.5s
QZH LR LR
comp=Z,32µm,21.9s,MS6.0
NACB Ninganchiao 34.41 27 *e*P **P** **11 04 19.4 -0.7**
YHNB Yeheng 34.75 26 *e*P **P** **11 04 24.2 +1.3**
TATO Taipei 35.06 26 *e*P **P** **11 04 27.5 +1.8**
comp=Z,241nm,1.5s,mb5.9
TATO LR LR
comp=Z,9µm,22.0s,MS5.5
JAY Jayapura 35.43 85 P **P** **11 04 26.9 -1.9**
comp=Z,152nm,1.0s,mb5.9
HYB Hyderabad 35.66 312⇑ *i*P **P** **11 04 32.5 +1.8**
comp=Z,400nm,1.0s,mb6.3
HYB *e*S **S** **11 10 06.0 +2.3**
HYB LR LR 11 16 40.0
comp=Z,7.7nm,24.0s
HYB Hyderabad 35.66 312⇑ *e*P **P** **11 04 30.0 -0.7**
HYB *e*S **S** **11 10 06.0 +2.3**
HYB pmax pmax
comp=Z,400nm,1.0s,mb6.3
HYB Hyderabad 35.66 312⇑ *e*P **P** **11 04 30.0 -0.7**
comp=Z,400nm,1.0s,mb6.3
HYB *e*S **S** **11 10 06.0 +2.3**
BOK Bokaro 35.69 328 *e*P **P** **11 04 31.2 +0.1**
MNGI Mangalore 36.03 303 *i* P **P** **11 04 33.6 -0.4**
MNGI *i* x x 11 10 14.0
MNGI *ex* x 11 18 28.4
comp=Z,14µm,19.6s
BLSP Bilaspur 36.51 322 *e*P **P** **11 04 37.0 -1.1**
CD2 Chengdu 37.31 358⇑ *i*P **P** **11 04 44.1 -0.7**
CD2 AP pP 11 04 56.3 -1.5
CD2 XP sP 11 05 01.8 -1.8
CD2 PP PP 11 06 12.8 +2.2
CD2 S **S** **11 10 28.8 -0.1**
CD2 XS sS 11 10 49.1 -1.6
CD2 SS SS 11 13 02.6 -11
CD2 AMB AMB
comp=Z,30nm,0.7s,mb5.2
CD2 AMB AMB
comp=Z,740nm,9.6s
CD2 LR LR
comp=E,9µm,21.6s
CD2 LR LR
comp=Z,9µm,21.6s,MS5.5
LATR Latur 37.76 312 *i* P **P** **11 04 49.5 +0.9**
WHN Wuhan 37.90 13 *e*P **P** **11 04 50.6 +0.8**
WHN S **S** **11 10 37.4 -0.4**
WHN LR LR
comp=Z,24µm,20.6s,MS6.0
GOA Goa 38.19 305 *e*P **P** **11 04 52.0 -0.3**
JBP Jabalpur 38.61 321⇑ *e*P **P** **11 04 56.2 +0.4**
JBP *ex* x 11 10 44.9
JIRN Jiri 38.77 332 *e*P **P** **11 04 56.6 -0.5**
comp=Z,549nm,0.6s,mb6.4
AKL Akola 38.88 315 *e*P **P** **11 04 59.0 +0.9**
AKL *i* P 11 04 59.3
AKL *i* x x 11 10 40.9
KAD Karad 38.91 308 *e*P **P** **11 04 57.0 -1.3**
PKI Pulchoki 39.06 331 *e*P **P** **11 04 58.5 -1.1**
comp=Z,245nm,0.9s,mb5.9
PKI Pulchoki 39.06 331 *e*P **P** **11 04 58.5 -1.1**
PKI pmax pmax
comp=Z,245nm,0.9s,mb5.9
ALBI Allahabad 39.12 325 *e*P **P** **11 05 00.0 -0.1**
GUN Gumba 39.12 332 *e*P **P** **11 04 59.5 -0.6**
comp=Z,695nm,0.7s,mb6.5
DMN Daman 39.24 331 *e*P **P** **11 05 00.1 -1.0**
comp=Z,610nm,1.0s,mb6.3
KKN Kakani 39.30 331 *e*P **P** **11 05 00.6 -1.0**
comp=Z,637nm,1.0s,mb6.3
KKN Kakani 39.30 331 *e*P **P** **11 05 00.6 -1.0**
KKN pmax pmax
comp=Z,637nm,1.0s,mb6.3
GKN Gorkha 39.79 331 *e*P **P** **11 05 04.7 -1.0**
POO Poona 39.87 309⇑ *i*P **P** **11 05 05.0 -1.3**
comp=Z,150nm,1.0s,mb5.7
POO *i* PP PP 11 06 39.5 +0.9
POO *i* S **S** **11 11 08.0 +0.4**
POO *ex* x 11 13 54.0
JOW Kunigami 39.94 33 P **P** **11 05 07.8 +0.9**
comp=Z,50nm,0.6s,mb5.4,baz=262,slow=8.3,SNR=36
JOW LR LR 11 23 14.1
comp=Z,4µm,18.8s,MS5.3,baz=226,slow=39
KOLN Koldanda 40.12 329 *e*P **P** **11 05 07.7 -0.7**
comp=Z,943nm,0.8s,mb6.6
BHPL Bhopal 40.31 318 *e*P **P** **11 05 09.5 -0.5**
SSE Sheshan 40.40 21 P **P** **11 05 11.9 +1.2**
SSE XP sP 11 05 31.3 +1.8
SSE PP PP 11 06 47.3 +3.0
SSE S **S** **11 11 20.3 +4.9**
SSE XS sS 11 11 41.5 +4.2
SSE AMB AMB
comp=Z,82nm,1.0s,mb5.4
SSE AMB AMB
comp=Z,1µm,11.2s
SSE LR LR
comp=N,5µm,18.0s,MS5.7
SSE LR LR
comp=E,9µm,18.0s,MS5.7
SSE LR LR
comp=Z,9µm,17.7s,MS5.7
NJ2 Nanjing 40.50 18 *e*P **P** **11 05 09.4 -2.2**
NJ2 AP pP 11 05 19.3 -5.4
NJ2 PP PP 11 06 46.4 +0.9
NJ2 S **S** **11 11 16.0 -1.0**
NJ2 AMB AMB
comp=Z,260nm,1.2s,mb5.7
NJ2 AMB AMB
comp=Z,110nm,4.9s
NJ2 LR LR
comp=N,23µm,17.3s,MS6.2
NJ2 LR LR
comp=E,12µm,14.5s,MS6.2
NJ2 LR LR
comp=Z,7µm,16.6s,MS5.6
XAN Xi'an 40.53 5 P **P** **11 05 11.3 -0.5**
XAN PP PP 11 06 51.5 +5.7
XAN AMB AMB
comp=Z,36nm,1.1s,mb4.9
XAN AMB AMB
comp=Z,1µm,14.3s
XAN LR LR
comp=N,11µm,15.3s
XAN LR LR
comp=Z,22µm,21.7s
PMG Port Moresby 41.45 97 P **P** **11 05 19.8 +0.5**
comp=Z,643nm,0.7s,mb6.4,baz=260,slow=2.7,SNR=122
PMG Port Moresby 41.45 97 *c* P **P** **11 05 19.8 +0.5**
PMG Port Moresby 41.45 97 *e*P **P** **11 05 19.8 +0.5**
PMG LR LR
comp=Z,6µm,21.0s,MS5.4
ADE Adelaide 41.69 137⇑ *i*P **P** **11 05 21.5 +0.2**
CTA Charters Tower 41.84 113 *e*P **P** **11 05 22.8 +0.3**
comp=Z,67nm,1.0s,mb5.2
CTA *e*PCP PcP 11 07 16.4 -1.3
CTA *e*S **S** **11 11 35.9 -0.9**
CTA Charters Tower 41.84 113 *e*P **P** **11 05 22.8 +0.3**
CTA *e* 11 07 16.4
CTA *e*S **S** **11 11 35.9 -0.9**
CTA pmax pmax
comp=Z,67nm,1.0s
CTAO Charters Tower 41.84 113 *e*P **P** **11 05 23.0 +0.4**
comp=Z,185nm,1.3s,mb5.5
CTAO LR LR
comp=Z,7µm,22.0s,MS5.5
STKA Stephens Creek 42.12 131 *e*P **P** **11 05 24.8 0.0**
comp=Z,165nm,0.6s,mb5.8
STKA *e*PCP PcP 11 07 18.3 -0.3
STKA *e*S **S** **11 11 39.6 -1.3**
STKA Stephens Creek 42.12 131 P **P** **11 05 24.9 +0.2**
comp=Z,184nm,0.7s,mb5.8,baz=304,slow=8.0,SNR=153
STKA PcP PcP 11 07 18.7 +0.1
comp=Z,24nm,0.5s,baz=316,slow=6.1,SNR=3.2
STKA S **S** **11 11 38.9 -1.9**
comp=Z,7.7nm,0.9s,baz=193,slow=16,SNR=1.8
STKA LR LR 11 23 37.2
comp=Z,30µm,20.9s,MS6.2,baz=290,slow=37
LZH Lanzhou 42.46 358 *e*P **P** **11 05 27.9 +0.3**
LZH AP pP 11 05 40.5 -0.3
LZH XP sP 11 05 47.5 +1.0
LZH XS sS 11 12 03.1 -5.0
LZH SS SS 11 14 47.0 -10
LZH AMB AMB
comp=Z,501nm,1.5s,mb5.9
LZH AMB AMB
comp=Z,1µm,4.6s
LZH LR LR
comp=N,16µm,15.5s
LZH LR LR
comp=Z,19µm,16.2s,MS6.1
BHV Bhavnagar 43.07 312 *e*P **P** **11 05 34.0 +1.5**
LGTI Lohaghat 43.22 327 *e*P **P** **11 05 32.5 -1.2**
PTH Pithoragarh 43.31 327 *e*P **P** **11 05 36.2 +1.7**
PTH *e*S **S** **11 12 00.9 +2.5**
GUMO Guam 44.02 63 P **P** **11 05 39.0 -1.2**
comp=Z,105nm,0.4s,mb6.0,baz=186,slow=8.7,SNR=13
GUMO LR LR 11 24 27.6
comp=Z,3µm,21.3s,MS5.1,baz=238,slow=37
NDI New Delhi 44.34 324 *e*P **P** **11 05 42.0 -0.7**
AJM Ajmer 44.37 319 *e*P **P** **11 05 42.9 0.0**
DDI Dehra Dun 45.09 326 *e*P **P** **11 05 47.2 -1.5**
BHJ Bhuj 45.81 311 *e*P **P** **11 05 54.7 +0.3**
BHJ AMb AMB 11 05 59.8
comp=Z,465nm,1.5s,mb6.2
GTA Gaotai 46.05 354 *i* P **P** **11 05 56.5 +0.2**
GTA AP pP 11 06 09.3 -0.2
GTA XP sP 11 06 14.8 -0.5
GTA PCP PcP 11 07 32.8 +0.8
GTA PP PP 11 07 45.8 +0.9
GTA PPP 11 08 31.4
GTA SCP ScP 11 11 21.3 +0.3
GTA PCS PcS 11 11 24.4 -2.1
GTA S **S** **11 12 38.5 +0.4**
GTA XS sS 11 12 59.1 -1.2
GTA SCS ScS 11 15 45.8 -1.7
GTA SS SS 11 15 57.4 -6.0
GTA AMB AMB
comp=Z,88nm,1.1s,mb5.6
GTA AMB AMB
comp=Z,2µm,6.1s
GTA LR LR
comp=N,15µm,22.1s,MS6.0
GTA LR LR
comp=E,10µm,24.0s,MS6.0
GTA LR LR
comp=Z,16µm,23.2s,MS5.9
SMLA Simla 46.20 326 *e*P **P** **11 05 56.9 -0.5**
SDNR Sundarnagar 46.59 326 *e*P **P** **11 05 59.4 -1.1**
SDNR *ex* x 11 12 43.2
BTO Baotou 47.14 5 *e*P **P** **11 06 04.9 +0.1**
BTO S **S** **11 12 52.8 -1.0**
BJT Baijiatuau 47.42 11 *e*P **P** **11 06 07.1 +0.1**
BJT pmax pmax
comp=Z,94nm,0.8s
BJT MLR MLR
comp=Z,15µm,20.0s
BJT Baijiatuau 47.42 11 *e*P **P** **11 06 07.1 +0.1**
comp=Z,94nm,0.8s,mb5.8
BJT LR LR
comp=Z,15µm,20.0s,MS6.0
BJI Beijing 47.44 11 P **P** **11 06 07.3 +0.1**
BJI XP sP 11 06 23.5 -2.7
BJI S **S** **11 13 01.8 +3.8**
BJI AMB AMB
comp=Z,67nm,0.8s,mb5.6
BJI AMB AMB
comp=Z,2µm,11.4s
BJI LR LR
comp=N,4µm,18.5s,MS6.0
BJI LR LR
comp=E,14µm,18.5s,MS6.0
BJI LR LR
comp=Z,11µm,19.6s,MS5.8
PONG Pong 47.50 325 *e*P **P** **11 06 08.0 +0.4**
PONG *e*S **S** **11 13 00.0 +1.2**
HHC Hu-ho-hao-te 47.53 6⇑ P **P** **11 06 08.3 +0.4**
HHC AP pP 11 06 20.3 -0.9
HHC XP sP 11 06 26.1 -0.8
HHC PCP PcP 11 07 37.4 +0.1
HHC PP PP 11 08 01.4 +1.8
HHC PCS PcS 11 11 30.5 -2.2
HHC S **S** **11 13 01.1 +1.8**
HHC XS sS 11 13 23.9 +2.2
HHC SCS ScS 11 15 53.8 -3.4
HHC AMB AMB
comp=Z,48nm,0.7s,mb5.6
HHC AMB AMB
comp=Z,2µm,9.3s
HHC LR LR
comp=N,14µm,21.6s,MS6.0
HHC LR LR
comp=E,8µm,18.0s,MS6.0
HHC LR LR
comp=Z,18µm,22.8s,MS6.0
DL2 Dalian 47.70 17⇑ *i*P **P** **11 06 08.9 -0.2**
DL2 XP sP 11 06 23.0 -5.2
DL2 PCP PcP 11 07 37.8 -0.1
DL2 PP PP 11 08 06.3 +5.2
DL2 PPP 11 09 05.9
DL2 PCS PcS 11 11 32.0 -1.4
DL2 S **S** **11 13 02.1 +0.5**
DL2 SSS 11 16 54.4
DL2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
DL2 AMB AMB
comp=Z,780nm,7.6s
DL2 LR LR
comp=N,4µm,15.8s,MS5.6
DL2 LR LR
comp=E,3µm,16.8s,MS5.6
DL2 LR LR
comp=Z,5µm,16.5s,MS5.6
TOO Toolangi 47.71 136 *e*P **P** **11 06 11.2 +2.0**
comp=Z,18nm,0.6s,mb5.3
TOO Toolangi 47.71 136 *e*P **P** **11 06 11.2 +2.0**
TOO pmax pmax
comp=Z,18nm,0.6s,mb5.3
DLH Dalhousie 47.93 326 *e*P **P** **11 06 11.0 0.0**
INCN Inchon 48.11 23 *e*P **P** **11 06 12.3 -0.1**
comp=Z,58nm,0.8s,mb5.7
INCN LR LR
comp=Z,5µm,20.0s,MS5.5
CBIJ Chichi jima 48.88 45 P **P** **11 06 16.7 -1.6**
comp=Z,69nm,0.3s,mb6.1,baz=155,slow=19
CBIJ LR LR 11 26 43.9
comp=Z,5µm,21.6s,MS5.5,baz=222,slow=36
ARMA Armidale 49.39 125 *e*P **P** **11 06 23.9 +1.7**
CNB Canberra Magne 49.45 132 *e*P **P** **11 06 23.2 +0.6**
comp=Z,34nm,0.8s,mb5.4
RIV Riverview 50.21 129 *e*P **P** **11 06 29.6 +1.2**
NIL Nilore 50.28 325 P **P** **11 06 28.3 -0.6**
comp=Z,374nm,0.9s,mb6.4,SNR=11
JHJ Hachijo jima 2 51.24 37 P **P** **11 06 34.9 -1.3**
comp=Z,125nm,0.8s,mb5.9,baz=103,slow=19,SNR=2.6
TAU Tasmania Unive 51.67 141 P **P** **11 06 40.2 +0.8**
comp=Z,291nm,1.0s,mb6.2,SNR=5.7
TAU Tasmania Unive 51.67 141 *e*P **P** **11 06 40.3 +0.9**
TAU LR LR
comp=Z,12µm,20.0s,MS5.9
WMQ Urumqi 52.66 344 P **P** **11 06 47.5 +0.8**
WMQ AP pP 11 07 00.1 -0.1
WMQ XP sP 11 07 05.4 -0.5
WMQ PCP PcP 11 07 57.3 +1.2
WMQ PP PP 11 08 48.1 +2.0
WMQ SCP ScP 11 11 49.3 +0.1
WMQ PCS PcS 11 11 54.3 -0.4
WMQ S **S** **11 14 09.8 -0.8**
WMQ PS 11 14 26.4
WMQ XS sS 11 14 31.1 -2.1
WMQ SCS ScS 11 16 30.0 -2.1
WMQ SS SS 11 17 47.3 -2.1
WMQ AMB AMB
comp=Z,143nm,0.9s,mb5.9
WMQ AMB AMB
comp=Z,2µm,9.8s
WMQ LR LR
comp=N,8µm,18.3s,MS5.8
WMQ LR LR
comp=E,6µm,23.0s,MS5.8
WMQ LR LR
comp=Z,7µm,17.0s
MAJO Matsushiro 52.78 33 *e*P **P** **11 06 46.1 -1.5**
comp=Z,138nm,1.2s,mb5.8
MAJO LR LR
comp=Z,4µm,22.0s,MS5.4
MAT Matsushiro 52.78 33 P **P** **11 06 46.0 -1.6**
MAT S **S** **11 14 10.0 -2.3**
MAT Matsushiro 52.78 33 *e*P **P** **11 06 46.0 -1.6**
MAT *e*S **S** **11 14 10.0 -2.3**
MAT pmax pmax
comp=Z,183nm,1.3s,mb5.8
MAT MLR MLR
comp=Z,2µm,20.0s,MS5.2
MAT Matsushiro 52.78 33 *e*P **P** **11 06 46.0 -1.6**
comp=Z,183nm,1.3s,mb5.8
MAT *e*S **S** **11 14 10.0 -2.3**
MAT LR LR
comp=Z,2µm,20.0s,MS5.2
MJAR Matsushiro Arr 52.78 33 P **P** **11 06 46.2 -1.4**
comp=Z,51nm,1.0s,mb5.4,baz=211,slow=7.6,SNR=54
MJAR PcP PcP 11 07 57.0 +0.4
comp=Z,36nm,0.9s,baz=202,slow=4.3,SNR=8.5
MJAR ScP ScP 11 11 48.7 -1.0
comp=Z,5.7nm,0.9s,baz=209,slow=5.0,SNR=4.6
MJAR LR LR 11 29 35.2
comp=Z,2µm,20.4s,MS5.2,baz=215,slow=36
MJAR Matsushiro Arr 52.78 33 P **P** **11 06 46.2 -1.4**
MJAR 11 07 57.0
MJAR Matsushiro Arr 52.78 33 P **P** **11 06 46.2 -1.4**
MJAR PcP PcP 11 07 57.0 +0.5
MJAR ScP ScP 11 11 48.7 -1.0
MJAR LR LR 11 29 35.2
KSH Kashi 53.32 332⇑ P **P** **11 06 51.3 -0.3**
KSH *e*AP pP 11 07 04.8 -0.3
KSH *e*XP sP 11 07 08.9 -1.9
KSH *e*PCP PcP 11 07 59.3 +0.7
KSH *e*PP PP 11 08 52.0 -0.1
KSH *e*PPP 11 09 58.6
KSH *e*SCP ScP 11 11 51.0 -1.1
KSH *e*PCS PcS 11 11 59.3 +1.7
KSH S **S** **11 14 16.3 -3.4**
KSH *e*PS 11 14 33.1
KSH *e*SCS ScS 11 16 32.9 -3.9
KSH *e*SS SS 11 17 53.5 -6.4
KSH AMB AMB
comp=Z,961nm,1.9s,mb6.4
KSH LR LR
comp=N,10µm,18.2s,MS6.2
KSH LR LR
comp=E,20µm,18.6s,MS6.2
KSH LR LR
comp=Z,10µm,19.3s,MS5.9
CN2 Changchun 53.33 18 *e*P **P** **11 06 51.0 -0.6**

CN2 eXP sP 11 07 09.0 -1.8
CN2 eS **S** **11 14 19.5 -0.3**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,6µm,21.0s,MS5.7
CN2 LR LR
comp=E,4µm,21.0s,MS5.7
CN2 LR LR
comp=Z,8µm,21.0s,MS5.8
WBK Wadi Bani Khal 53.88 304 ⇑P **P** **11 06 57.1 +1.4**
SNR=22
HNR Honiara 54.06 97 *e*P **P** **11 06 56.3 -0.7**
HNR *e**PP pP 11 07 09.4 -1.2
HNR pmax pmax
comp=Z,611nm,1.1s,mb6.4
HNR MLR MLR
comp=Z,2µm,22.0s,MS5.2
HNR Honiara 54.06 97 *e*P **P** **11 06 56.3 -0.7**
comp=Z,611nm,1.1s,mb6.4
HNR epP pP 11 07 09.4 -1.2
HNR LR LR
comp=Z,2µm,22.0s,MS5.2
SONM Songino Array 54.18 1 P **P** **11 06 58.3 +0.5**
comp=Z,74nm,0.7s,mb5.7,baz=177,slow=8.3,SNR=60
SONM PcP PcP 11 08 02.1 +0.2
comp=Z,65nm,0.7s,baz=188,slow=3.9,SNR=12
SONM ScP ScP 11 11 55.5 -0.4
comp=Z,6.1nm,0.9s,baz=171,slow=4.3,SNR=4.7
SONM LR LR 11 32 53.4
comp=Z,29µm,19.7s,MS6.3,baz=184,slow=39
SONM PKPPKP 11 37 12.0
comp=Z,0.7nm,0.8s,baz=0.0,slow=3.1,SNR=5.1
SONM Songino Array 54.18 1 P **P** **11 06 58.3 +0.4**
SONM 11 08 02.1
ULN Ulaanbaatar 54.23 1 *e*P **P** **11 06 58.4 +0.2**
ULN pmax pmax
comp=Z,74nm,0.7s,mb5.7
ULN Ulaanbaatar 54.23 1 *e*P **P** **11 06 58.4 +0.2**
comp=Z,74nm,0.7s,mb5.7
WSAR Wadi Sarin 54.45 305 P **P** **11 07 01.2 +1.4**
comp=Z,54nm,0.7s,mb5.6,baz=114,slow=6.9,SNR=32
WSAR LR LR 11 29 17.2
comp=Z,17µm,19.3s,MS6.1,baz=115,slow=35
JMDO Jabal Madar 54.49 303 ⇓P **P** **11 07 01.1 +1.0**
SNR=23
SMDO Samad 54.84 304 ⇑P **P** **11 07 04.1 +1.4**
SNR=60
BIDO Bidbid 54.99 305 ⇑P **P** **11 07 05.4 +1.7**
SNR=76
VLA Vladivostok 55.01 24*d* *i*P **P** **11 07 03.8 -0.1**
VLA *e* 11 08 04.4
VLA *i*S **S** **11 14 43.8 +1.4**
VLA pmax pmax
comp=Z,529nm,2.1s,mb6.2
VLA MLR MLR
comp=Z,4µm,16.7s,MS5.6
VLA Vladivostok 55.01 24 *i*P **P** **11 07 03.1 -0.8**
ULHL Ulahol 55.38 334 P **P** **11 07 06.0 -0.6**
SNR=24
BSY Bisya 55.41 303 ⇑P **P** **11 07 08.1 +1.4**
SNR=29
MDJ Mudanjiang 55.42 21 P **P** **11 07 06.6 -0.3**
MDJ AP pP 11 07 18.3 -2.2
MDJ XP sP 11 07 23.3 -2.8
MDJ PCP PcP 11 08 06.6 0.0
MDJ PP PP 11 09 10.5 -0.5
MDJ S **S** **11 14 47.6 -0.4**
MDJ XS sS 11 15 07.3 -3.4
MDJ SS SS 11 18 35.5 +2.4
MDJ AMB AMB
comp=Z,118nm,0.7s,mb6.0
MDJ AMB AMB
comp=Z,1µm,11.6s
MDJ LR LR
comp=N,4µm,18.6s,MS5.7
MDJ LR LR
comp=E,4µm,17.4s,MS5.7
MDJ LR LR
comp=Z,5µm,24.2s
MDJ Mudanjiang 55.42 21 *e*P **P** **11 07 06.7 -0.2**
comp=Z,86nm,0.7s,mb5.9
MDJ LR LR
comp=Z,5µm,21.0s,MS5.6
HOQ Hoqain 55.68 304 ⇑P **P** **11 07 10.1 +1.4**
SNR=40
KZA Kyzart 55.69 333 P **P** **11 07 08.7 -0.1**
SNR=53
AAA Alma-Ata 55.92 335 *i*P **P** **11 07 08.7 -1.7**
AAA *i*S **S** **11 14 56.3 +1.7**
AAA pmax pmax
comp=Z,20µm,3.8s
AAA smax
comp=N,17µm,8.1s
AAA MLR MLR
comp=Z,39µm,21.2s,MS6.5
UCH Uchtor 56.14 333 P **P** **11 07 11.7 -0.3**
SNR=63
TKM2 Tokmak 2 56.21 334 P **P** **11 07 12.0 -0.5**
SNR=107
TKM2 Tokmak 2 56.21 334 *i*P **P** **11 07 11.8 -0.7**
TKM2 pmax pmax
comp=Z,103nm,0.6s,mb6.0
TKM2 Tokmak 2 56.21 334 *i*P **P** **11 07 11.9 -0.6**
ARQ Araqi 56.23 304 ⇑P **P** **11 07 13.8 +1.2**
SNR=28
KBK Karagaybulak 56.28 333 P **P** **11 07 13.0 0.0**
SNR=27
AML Almayashu 56.44 332 P **P** **11 07 14.5 +0.3**
SNR=12
WHFO Wadi Hawf 56.46 296 ⇓P **P** **11 07 14.9 +0.7**
SNR=45
AAK Ala-Archa 56.47 333 P **P** **11 07 14.1 -0.2**
SNR=18
AAK Ala-Archa 56.47 333 P **P** **11 07 13.2 -1.1**
comp=Z,271nm,1.0s,mb6.2,SNR=29
AAK Ala-Archa 56.47 333 P **P** **11 07 13.1 -1.2**
SNR=25
AAK P 11 07 13.3
SNR=51
AAK Ala-Archa 56.47 333*c* *i*P **P** **11 07 12.8 -1.5**
AAK pmax pmax
comp=Z,157nm,2.5s,mb5.6
AAK Ala-Archa 56.47 333 *e*P **P** **11 07 13.1 -1.3**
AAK LR LR
comp=Z,5µm,21.0s,MS5.6
FRU Bishkek 56.57 333 *i*P **P** **11 07 14.0 -1.1**
FRU *e*S **S** **11 15 01.0 -2.2**
FRU pmax pmax
comp=Z,350nm,2.1s,mb6.0
FRU MLR MLR
comp=Z,8µm,24.0s,MS5.7
CHMS Chumysh 56.64 333 P **P** **11 07 14.5 -1.0**
SNR=13
ABTO Aybut 56.68 296 ⇓P **P** **11 07 16.8 +1.0**
SNR=21
ZAK Zakamensk 56.76 358 ⇓*i*P **P** **11 07 16.0 -0.4**
ZAK *e* 11 08 12.2
ZAK pmax pmax
comp=Z,31nm,1.2s,mb5.2
ZAK pmax pmax
comp=Z,42nm,1.8s,mb5.2
EKS2 Erkin-Say 56.82 332 P **P** **11 07 16.5 -0.3**
SNR=45
MK31 Makanchi Array 56.96 341 P **P** **11 07 16.6 -1.2**
MK31 pmax pmax
comp=Z,48nm,0.7s,mb5.6
MKAR Makanchi Array 56.96 341 P **P** **11 07 16.7 -1.1**
comp=Z,70nm,0.7s,mb5.8,baz=143,slow=8.3,SNR=159
MKAR PKP2bc 11 37 15.5
comp=Z,1.0nm,0.9s,baz=337,slow=2.8,SNR=4.8
MKAR Makanchi Array 56.96 341⇑*e*P **P** **11 07 16.7 -1.1**
MKAR Makanchi Array 56.96 341 P **P** **11 07 16.7 -1.1**
MKAR ⇑*e* 11 37 15.5
USP Ospenovka 56.97 333 P **P** **11 07 16.9 -1.0**
SNR=31
HIA Hailar 57.01 11 *e*P **P** **11 07 17.3 -0.9**
HIA pmax pmax
comp=Z,49nm,0.7s
HIA MLR MLR
comp=Z,11µm,19.0s
HIA Hailar 57.01 11 *e*P **P** **11 07 17.3 -0.8**
comp=Z,49nm,0.7s,mb5.7
HIA LR LR
comp=Z,11µm,19.0s,MS6.0
ASHO Ashiyiah 57.20 305 ⇑P **P** **11 07 20.6 +1.1**
SNR=46
BANOM Banah 57.56 306 ⇓P **P** **11 07 22.9 +0.9**
OPO Ambohidratompo 57.81 252 P **P** **11 07 25.0 +1.2**
comp=Z,17nm,0.9s,mb5.1,baz=71,slow=7.0,SNR=17
TLY Talaya 58.05 359 P **P** **11 07 25.2 -0.3**
comp=Z,357nm,1.0s,mb6.3,SNR=36
MOY Mondy 58.13 357 *e*P **P** **11 07 26.2 +0.1**
MOY pmax pmax
comp=Z,233nm,2.6s,mb5.8
IRK Irkutsk 58.60 359⇑*i*P **P** **11 07 29.0 -0.3**
IRK pmax pmax
comp=Z,177nm,1.9s,mb5.8
KK31 Karatay Array 58.70 331 *i*P **P** **11 07 28.3 -1.7**
KK31 pmax pmax
comp=Z,27nm,0.6s,mb5.5
KKAR Karatay Array 58.70 331 *i*P **P** **11 07 28.3 -1.7**
KKAR pmax pmax
comp=Z,16nm,0.6s,mb5.2
ERM Erimo 59.38 32 P **P** **11 07 34.5 -0.2**
comp=Z,632nm,1.0s,mb6.6,SNR=7.7
CASY Casey 59.71 178 *e*P **P** **11 07 34.8 -2.2**
KLR Kul'dur 60.16 20κ *i*P **P** **11 07 36.7 -3.4**
KLR *e* 11 09 51.0
KLR pmax pmax
comp=E,180nm,2.0s
KLR pmax pmax
comp=Z,540nm,2.0s,mb6.2
KLR pmax pmax
comp=N,900nm,10.0s
KLR pmax pmax
comp=Z,2µm,10.0s
MIR Mirnyy 60.48 186*d* *i*P **P** **11 07 43.0 +0.7**
MIR pmax pmax
comp=Z,550nm,1.5s,mb6.4
MIR pmax pmax
comp=Z,2µm,10.0s
ASAJ Asahikawa 60.60 30 P **P** **11 07 42.5 -0.6**
comp=Z,47nm,0.7s,mb5.7,baz=242,slow=10,SNR=46
ASAJ LR LR 11 37 02.4
comp=Z,2µm,18.1s,MS5.3,baz=291,slow=39
NOUC Port Laguerre 60.63 112 *e*P **P** **11 07 43.6 +0.3**
DZM Mont Dzumac 60.76 112 *e*P **P** **11 07 44.8 +0.6**
DZM Mont Dzumac 60.76 112 LR LR 11 34 13.6
comp=Z,3µm,20.7s,MS5.3,baz=278,slow=36
KURK Kurchatov 61.57 341 P **P** **11 07 48.0 -1.7**
comp=Z,552nm,0.9s,mb6.7,SNR=74
KURK Kurchatov 61.57 341 P **P** **11 07 48.7 -1.0**
SNR=65
KURK P 11 07 48.8
SNR=101
KURK Kurchatov 61.57 341⇑*i*P **P** **11 07 48.7 -1.0**
KURK Kurchatov 61.57 341 *e*P **P** **11 07 48.9 -0.8**
comp=Z,98nm,1.0s,mb5.9
KURK LR LR
comp=Z,10µm,19.0s,MS6.0
ABKT Ailbek 62.39 319 P **P** **11 07 55.9 +0.7**
comp=Z,2µm,0.7s,SNR=83
VAN Vannovskaya 62.41 319⇑*e*P **P** **11 07 55.4 +0.1**
VAN S **S** **11 16 15.6 -2.9**
ZAL Zalesovo 62.73 346 P **P** **11 07 56.2 -1.2**
comp=Z,75nm,0.3s,mb6.2,baz=323,slow=4.4,SNR=138
ZAL S **S** **11 16 21.6 -0.9**
comp=Z,1.6nm,0.9s,baz=180,slow=19,SNR=2.5
ZAL PKPPKP 11 36 59.8
comp=Z,1.5nm,0.3s,baz=193,slow=5.2,SNR=4.0
ZAL LR LR 11 38 26.4
comp=Z,26µm,20.5s,MS6.4,baz=319,slow=39
ZAL Zalesovo 62.73 346 P **P** **11 07 56.2 -1.2**
ZAL S **S** **11 16 21.6 -1.0**
ZAL Zalesovo 62.73 346 P **P** **11 07 56.2 -1.2**
ZAL S **S** **11 16 21.6 -0.9**
ZAL P'P' 11 36 59.8
ZAL LR LR 11 38 26.4
YSS Yuzh-Sakhalins 62.74 28*c* *i*P **P** **11 07 57.0 -0.5**
YSS pmax pmax
comp=Z,738nm,1.7s,mb6.5
YSS Yuzh-Sakhalins 62.74 28 *e*P **P** **11 07 57.1 -0.4**
YSS LR LR
comp=Z,2µm,19.0s,MS5.3
63.04 289 *e*P **P** **11 08 00.9 +1.4**
KRAR Krasnoyarsk 63.22 352⇓*e*P **P** **11 07 57.8 -2.9**
KRAR pmax pmax
comp=Z,251nm,1.7s,mb6.1
NVS Novosibirsk 63.93 346⇑*i*P **P** **11 08 03.3 -2.1**
NVS *i* 11 08 39.9
NVS *e*S **S** **11 16 34.3 -3.2**
NVS *e* 11 17 16.2
NVS pmax pmax
comp=N,177nm,1.7s
NVS pmax pmax
comp=Z,158nm,1.7s,mb5.8
NVS pmax pmax
comp=E,91nm,1.6s
NVS smax
comp=N,63nm,1.7s
NVS smax
comp=E,77nm,1.8s
DHBB Dhamar BB 64.03 290 *e*P **P** **11 08 08.6 +2.6**
DRV Dumont d'Urvil 64.53 165 P **P** **11 08 16.0 +6.7**
DRV S **S** **11 16 45.0 +0.1**
DRV SP 11 17 10.0
DRV SS SS 11 20 54.0 -1.9
DRV L 11 24 00.0
ATD Arta Tunnel 64.76 286 P **P** **11 08 12.0 +1.2**
comp=E,24nm,0.9s,mb5.2,baz=74,slow=4.2,SNR=6.4
ATD LR LR 11 32 29.0
comp=E,3µm,20.5s,MS5.4,baz=103,slow=32
ATD Arta Tunnel 64.76 286 P **P** **11 08 12.0 +1.2**
ATD LR LR 11 32 29.0
CLNS Chul'man 65.19 12 *e*P **P** **11 08 05.0 -8.6**
CLNS *e**PP pP 11 08 12.2 -15
CLNS *e*S S 11 16 50.0 -3.0
CLNS *e* 11 18 02.1
CLNS *e*SS SS 11 21 05.4 -0.7
CLNS pmax pmax
comp=Z,4.0nm,0.6s
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=E,1.0nm,0.7s
CLNS pmax pmax
comp=Z,11nm,0.6s,mb5.1
CLNS pmax pmax
comp=N,35nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS smax
comp=N,765nm,13.5s
CLNS smax
comp=Z,254nm,11.3s
CLNS smax
comp=E,460nm,12.0s
CLNS MLR MLR
comp=Z,7µm,17.0s,MS6.0
CLNS MLR MLR
comp=N,7µm,16.0s
CLNS MLR MLR
comp=E,6µm,22.0s
QRN Al-Qurain 65.50 306 *e*P **P** **11 08 15.8 +0.2**
QRN AMb AMB 11 08 16.7
comp=Z,617nm,0.8s,mb6.7
WAKE Wake Island 65.56 65 PFAKE 11 08 30.0 +14
WAKE LR LR
comp=Z,3µm,22.0s,MS5.4
KBD Kabd 65.85 306 *e*P **P** **11 08 18.1 +0.3**
KBD AMb AMB 11 08 19.1
comp=Z,2µm,0.8s
RDF Al-Radifah 65.87 306 *e*P **P** **11 08 18.2 +0.2**
RDF AMb AMB 11 08 19.6
comp=Z,730nm,0.8s,mb6.7
VOSK Vostochnaya 65.91 338 P **P** **11 08 16.5 -1.7**
VOSK pmax pmax
comp=Z,145nm,1.2s,mb5.9
UMR Umm Al-Rimmam 65.98 306 *e*P **P** **11 08 18.7 +0.1**
UMR AMb AMB 11 08 20.3
comp=Z,962nm,0.7s
NAY Al-Naaiem 66.24 306 *e*P **P** **11 08 20.4 0.0**
NAY AMb AMB 11 08 21.8
comp=Z,352nm,0.8s,mb6.4
BVA0 Borovoye Array 66.36 338 *i*P **P** **11 08 20.2 -0.9**
BVA0 pmax pmax
comp=Z,93nm,1.9s,mb5.5
BVAR Borovoye Array 66.36 338 P **P** **11 08 20.1 -1.0**
comp=Z,48nm,0.5s,mb5.8,baz=145,slow=8.3,SNR=104
BVAR PKP2bc 11 36 56.8
comp=Z,1.6nm,1.0s,baz=324,slow=12,SNR=5.4
BVAR LR LR 11 41 05.4
comp=Z,6µm,21.8s,MS5.8,baz=139,slow=39
BVAR Borovoye Array 66.36 338 P **P** **11 08 20.1 -1.0**
BVAR ⇑*e* 11 36 56.8
BVAR LR LR 11 41 05.4
MIB Mutribah 66.38 306 *e*P **P** **11 08 21.5 +0.2**
MIB AMb AMB 11 08 22.9
comp=Z,487nm,0.9s,mb6.5
BRVK Borovoye 66.43 338 P **P** **11 08 20.8 -0.8**
comp=Z,665nm,0.9s,mb6.7,SNR=46
BRVK Borovoye 66.43 338 *e*P **P** **11 08 20.8 -0.8**
comp=Z,109nm,1.1s,mb5.8
BRVK LR LR
comp=Z,4µm,22.0s,MS5.6
RST Umm Al-Ruwaisa 66.53 306 *e*P **P** **11 08 22.1 -0.1**
RST AMb AMB 11 08 23.1
comp=Z,735nm,0.8s,mb6.8
CHKZ Chkalovo 66.79 338 *i*P **P** **11 08 23.2 -0.7**
CHKZ pmax pmax
comp=Z,332nm,1.6s,mb6.1
CHKZ Chkalovo 66.79 338 *e*P **P** **11 08 23.3 -0.5**
ZRNK Zerenda 66.83 337 *i*P **P** **11 08 23.1 -1.0**
ZRNK pmax pmax
comp=Z,24nm,1.1s,mb5.1
ZRNK Zerenda 66.83 337 *e*P **P** **11 08 23.0 -1.1**
comp=Z,288nm,1.4s,mb6.1
MAW Mawson 67.31 196 *e*P **P** **11 08 26.0 -1.2**
comp=Z,40nm,0.9s,mb5.4
MAW Mawson 67.31 196 P **P** **11 08 26.0 -1.1**
comp=Z,28nm,0.9s,mb5.3,baz=37,slow=7.7,SNR=38
MAW PcP PcP 11 08 48.4 -6.2
comp=Z,21nm,0.8s,baz=4.3,slow=9.7,SNR=4.5
MAW S S 11 17 17.0 -1.7
comp=Z,1.8nm,0.9s,baz=216,slow=19,SNR=1.9
MAW LR LR 11 31 49.0
comp=Z,8µm,21.0s,MS5.9,baz=29,slow=31
MAW PKPPKP 11 36 48.6
comp=Z,19nm,1.0s,baz=226,slow=4.2,SNR=13
MAW Mawson 67.31 196 *e*P **P** **11 08 26.0 -1.2**
MAW pmax pmax
comp=Z,40nm,0.9s
KMBO Kilima Mbogo 68.15 271 P **P** **11 08 32.5 0.0**
comp=Z,19nm,1.0s,mb5.1,baz=57,slow=8.1,SNR=20
KMBO LR LR 11 33 47.4
comp=Z,12µm,20.6s,MS6.1,baz=95,slow=32
KMBO Kilima Mbogo 68.15 271 *i*P **P** **11 08 32.5 +0.1**
KMBO pmax pmax
comp=Z,19nm,1.0s
KMBO Kilima Mbogo 68.15 271 P **P** **11 08 32.5 0.0**
KMBO LR LR 11 33 47.4
AB31 Akbulak array 68.24 330 *i*P **P** **11 08 32.6 -0.4**
AB31 pmax pmax
comp=Z,195nm,0.5s,mb6.4
AB31 Akbulak array 68.24 330 *i*P **P** **11 08 32.7 -0.3**
AKTK Aktyubinsk 69.95 330 P **P** **11 08 43.1 -0.5**
AKTK S S 11 17 45.2 -4.9
AKTK ⇑*e* 11 36 46.0
AKTK LR LR 11 45 13.8
AKTO Aktyubinsk 69.95 330 P **P** **11 08 43.1 -0.5**
comp=Z,210nm,0.7s,mb6.2,baz=129,slow=7.5,SNR=422
AKTO S S 11 17 45.2 -4.9
comp=Z,1.7nm,0.9s,baz=330,slow=18,SNR=1.8
AKTO PKP2bc 11 36 46.0
comp=Z,3.5nm,0.9s,baz=306,slow=5.6,SNR=13
AKTO LR LR 11 45 13.8
comp=Z,5µm,19.6s,MS5.8,baz=24,slow=41
AKTO Aktyubinsk 69.95 330 *i*P **P** **11 08 42.8 -0.8**
AKTO pmax pmax
comp=Z,186nm,1.6s,mb5.8
BHD Baghdad 70.04 309 *i*x x 11 08 42.0
BHD *i*x x 11 08 59.0
BHD *ex* x 11 13 10.0
BHD *ex* x 11 17 47.5
SNZO South Karori 70.17 131 PFAKE 11 09 00.0 +15
SNZO LR LR
comp=Z,15µm,20.0s,MS6.2
YAK Yakutsk 70.94 12*c* *i*P **P** **11 08 48.4 -1.2**
YAK *e* 11 09 12.1
YAK *e* 11 11 23.2
YAK *e*S S 11 18 01.1 -0.5
YAK *e* 11 18 53.5
YAK pmax pmax
comp=Z,213nm,1.0s,mb6.0
YAK pmax pmax
comp=N,80nm,1.2s
YAK pmax pmax
comp=E,35nm,1.2s
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
YAK pmax pmax
comp=N,11nm,1.4s
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK smax
comp=N,11nm,1.4s
YAK smax
comp=Z,5.0nm,1.5s
YAK smax
comp=E,12nm,1.6s
YAK pmax pmax
comp=N,2µm,30.5s
YAK pmax pmax
comp=Z,3µm,37.1s
YAK pmax pmax
comp=E,2µm,30.5s
YAK MLR MLR
comp=Z,4µm,19.0s,MS5.7
YAK MLR MLR
comp=N,4µm,21.0s,MS5.8
YAK MLR MLR
comp=E,2µm,16.0s,MS5.8
URZ Urewera 71.61 128 P **P** **11 08 52.5 -1.3**
comp=E,20nm,0.7s,mb5.1,baz=334,slow=5.6,SNR=10
URZ LR LR 11 41 56.7
comp=E,9µm,19.8s,MS6.0,baz=266,slow=37
SKR Severo-Kuril's 71.81 31 *e*P **P** **11 08 51.0 -3.9**
SKR *e* pP 11 09 09.0 +0.1
SKR *e* 11 09 16.0
SKR *e*PPP 11 13 10.0
SKR *e*S S 11 18 10.0 -1.6
SKR *e*PS 11 18 37.0
SKR *e* 11 18 39.0
SKR pmax pmax
comp=Z,400nm,1.0s,mb6.3
SKR pmax pmax
comp=Z,2µm,4.0s
SKR pmax pmax
comp=N,1µm,2.0s
SKR pmax pmax
comp=E,1µm,2.0s
SKR smax
comp=N,1µm,12.0s
SKR smax
comp=E,1µm,12.0s
SKR MLR MLR
comp=N,1µm,18.0s,MS5.4
SKR MLR MLR
comp=E,1µm,18.0s,MS5.4
SKR MLR MLR
comp=Z,2µm,18.0s,MS5.5
MAK Makhachkala 71.91 319⇓*e*P **P** **11 08 56.1 +0.6**
CUKT Cukurca 72.16 312 *e*P **P** **11 08 56.6 -0.4**
MSL Mosul 72.17 311 *i*x x 11 08 59.0
MSL *i*x x 11 09 17.5
MSL *ex* x 11 18 14.0
MSL *ex* x 11 18 39.0
HAKT HAKKARI 72.21 313 *i*P **P** **11 08 57.1 -0.2**
GNI Garni 72.53 316 *e*P **P** **11 08 59.1 -0.1**
GNI Garni 72.53 316 P **P** **11 08 59.8 +0.6**
comp=Z,76nm,1.1s,mb5.6,baz=7.7,slow=1.9,SNR=36
GNI S S 11 18 20.6 +0.7
comp=Z,3.1nm,0.3s,baz=162,slow=19,SNR=1.4
GNI LR LR 11 41 44.1
comp=Z,2µm,20.8s,MS5.5,baz=105,slow=37
GNI Garni 72.53 316 P **P** **11 09 00.1 +0.9**
SNR=44
GNI Garni 72.53 316*c* *i*P **P** **11 08 59.8 +0.6**
GNI pmax pmax
comp=Z,297nm,1.7s
GNI Garni 72.53 316 *e*P **P** **11 08 59.8 +0.6**
comp=Z,109nm,0.9s,mb5.8
GNI LR LR
comp=Z,3µm,21.0s,MS5.5
DGRG David-gareji 72.65 317 P **P** **11 09 01.1 +1.2**

DGRG S S 11 18 24.4 +3.2
CLDR Caldiran 72.69 314 *e*P **P 11 09 00.8 +0.6**
TVAN Van 72.81 314 *i* P **P 11 09 01.8 +0.9**
VANB Van 72.85 314 *e*P **P 11 09 00.7 -0.4**
SVE Sverdlovsk 72.97 336⇑*i*P **P 11 09 02.0 +0.2**
SVE *e* 11 11 46.0
SVE *e*S S 11 18 22.0 -2.9
SVE *e*PS 11 19 00.0
SVE MLR MLR
comp=N,3μm,24.0s,MS5.6
SVE MLR MLR
comp=E,2μm,24.0s,MS5.6
SVE MLR MLR
comp=Z,8μm,24.0s,MS5.9
FUNA Funafuti 73.10 97 *e*P **P 11 09 03.8 +1.3**
FUNA LR LR
comp=Z,10μm,20.0s,MS6.1
MTA Mtatsminda 73.15 317 P **P 11 09 03.3 +0.5**
MTA S S 11 18 26.3 -0.6
TBLG Delisi 73.20 317 P **P 11 09 03.5 +0.4**
TBLG S S 11 18 28.7 +1.2
TBLG Delisi 73.20 317 P **P 11 09 03.5 +0.3**
TBLG S S 11 18 28.7 +1.2
ARU Arti 73.56 335 P **P 11 09 05.9 +0.6**
comp=Z,3μm,1.0s
ARU Arti 73.56 335*c* *i*P **P 11 09 05.0 -0.3**
ARU pmax pmax
comp=E,1μm,1.7s,mb6.5
ARU Arti 73.56 335 *e*P **P 11 09 05.1 -0.2**
ARU LR LR
comp=Z,8μm,21.0s,MS6.0
DIGO Kars 73.59 315 *i* P **P 11 09 05.8 +0.3**
GOR Gori 73.73 317 P **P 11 09 06.8 +0.5**
KARS Kars 73.87 315 P **P 11 09 08.2 +1.2**
AKH Akhalkalaki 73.91 316 P **P 11 09 08.0 +0.7**
BTMT Batman 74.08 313 P **P 11 09 08.7 +0.4**
ZEI Tsey 74.20 318 *e*P **P 11 09 10.1 +1.1**
ZEI *e* 11 11 52.6
ZEI pmax pmax
comp=Z,119nm,0.7s,mb5.9
MARD Mardin 74.28 312 *i* P **P 11 09 10.6 +1.1**
ONI Oni 74.42 317 P **P 11 09 11.1 +0.8**
ONI S S 11 18 40.4 -0.9
PET Petropavlovsk 74.44 30α *i*P **P 11 09 09.8 -0.6**
PET *e* 11 11 54.2
PET *e*S S 11 18 33.9 -7.6
PET *e*PS 11 19 10.3
PET pmax pmax
comp=Z,1μm,1.6s,mb6.6
PET pmax pmax
comp=Z,1μm,17.3s
PET pmax pmax
comp=Z,510nm,0.7s,mb6.6
PET pmax pmax
comp=Z,700nm,35.0s
PET MLR MLR
comp=Z,2μm,21.0s,MS5.3
PET MLR MLR
comp=Z,1μm,20.0s
PET MLR MLR
comp=Z,2μm,20.0s
PET Petropavlovsk 74.44 30⇑*i*P **P 11 09 09.7 -0.7**
PET LR LR
comp=Z,2μm,20.0s,MS5.5
AMRG 74.61 317 P **P 11 09 12.1 +0.7**
MBAR Mbarara 74.68 271⇑*i*P **P 11 09 11.8 0.0**
EZM Erzurum 74.81 314 P **P 11 09 13.4 +0.8**
DIY Diyarbakir 74.89 312 P **P 11 09 13.1 0.0**
BINT Bingol 75.06 313 P **P 11 09 14.0 +0.1**
MA2 Magadan 75.10 22*c* *i*P **P 11 09 13.7 -0.5**
MA2 *e* pP 11 09 31.6 +3.2
MA2 *e* 11 12 04.2
MA2 *e*S S 11 18 45.4 -3.4
MA2 *e*PS 11 19 25.5
MA2 pmax pmax
comp=N,70nm,0.8s
MA2 pmax pmax
comp=Z,200nm,0.8s,mb6.1
MA2 Magadan 75.10 22 *e*P **P 11 09 13.9 -0.4**
comp=Z,184nm,0.9s,mb6.0
MA2 LR LR
comp=Z,3μm,22.0s,MS5.6
BCA Borcka 75.22 316 P **P 11 09 14.9 0.0**
RAO Raoul Island 75.22 118 PFAKE 11 09 30.0 +15
RAO LR LR
comp=Z,9μm,21.0s,MS6.1
SYO Syowa Base 75.35 200⇓*i*P **P 11 09 15.0 -0.7**
SYO Syowa Base 75.35 200⇑*i*PcP PcP 11 09 28.3 -0.4
SYO Syowa Base 75.35 200⇑*i*pP pP 11 09 29.5 -0.3
KIV Kislovodsk 75.50 318 P **P 11 09 16.0 -0.5**
comp=Z,970nm,1.0s,mb6.7,SNR=21
KIV Kislovodsk 75.50 318 P **P 11 09 17.0 +0.5**
SNR=43
KIV Kislovodsk 75.50 318*c* *i*P **P 11 09 16.7 +0.2**
KIV *e* pP 11 09 30.0 -0.7
KIV *e*S S 11 18 52.4 -0.9
KIV pmax pmax
comp=Z,246nm,1.1s,mb6.0
KIV pmax pmax
comp=Z,559nm,1.7s,mb6.2
KIV Kislovodsk 75.50 318 *e*P **P 11 09 16.5 0.0**
comp=Z,407nm,1.4s,mb6.2
KIV LR LR
comp=Z,4μm,21.0s,MS5.7
ASF Jabal al Asfar 75.60 305 P **P 11 09 18.8 +1.6**
comp=Z,90nm,0.9s,mb5.7,baz=346,slow=2.9,SNR=92
GOF Gofitskoye 75.73 320⇓*i*P **P 11 09 17.2 -0.6**
GOF pmax pmax
comp=Z,327nm,1.3s,mb6.1
URFA Urfa 75.78 311 P **P 11 09 18.7 +0.6**
EZC Erzincan 75.86 314 P **P 11 09 21.4 +2.8**
LSZ Lusaka 75.98 256 P **P 11 09 19.6 +0.3**
LSZ S S 11 18 57.7 -0.8
LSZ SKSac SKSac 11 19 27.9 +2.1
LSZ Lusaka 75.98 256 LR LR 11 38 37.2
comp=Z,19μm,20.2s,MS6.4,baz=101,slow=32
LSZ Lusaka 75.98 256 P **P 11 09 20.0 +0.8**
SNR=14
LSZ Lusaka 75.98 256 *e*P **P 11 09 19.7 +0.4**
LSZ LR LR
comp=Z,17μm,20.0s,MS6.3
ATAB Bozova 76.19 311 *i* P **P 11 09 21.5 +1.0**
MALT Malatya 76.37 312⇑*i*P **P 11 09 22.1 +0.6**
MALT Malatya 76.37 312 *e*P **P 11 09 22.2 +0.7**
MALT pmax pmax
comp=Z,160nm,1.3s,mb5.8
MALT Malatya 76.37 312 *e*P **P 11 09 22.2 +0.7**
comp=Z,163nm,1.3s,mb5.8
MYA Malatya 76.38 312 P **P 11 09 22.1 +0.6**
KELT Kelkit 76.40 314 *i* P **P 11 09 22.1 +0.5**
EIL Elat 76.50 302 P **P 11 09 22.8 +0.6**
ZFRI Zfri 76.55 303⇑P **P 11 09 23.3 +0.8**
MBH Mount Berech 76.56 303⇑P **P 11 09 23.3 +0.7**
PRNI Paran 76.64 303⇑P **P 11 09 24.0 +1.0**
VNDA Vanda 76.68 169 P **P 11 09 22.3 -0.9**
comp=Z,18nm,0.9s,mb5.0,baz=300,slow=5.9,SNR=29
VNDA LR LR 11 37 52.1
comp=Z,8μm,21.7s,MS6.0,baz=321,slow=32
VNDA Vanda 76.68 169 *e*P **P 11 09 21.8 -1.4**
VNDA pmax pmax
comp=Z,16nm,0.8s
VNDA MLR MLR
comp=Z,8μm,21.0s
VNDA Vanda 76.68 169 *e*P **P 11 09 21.8 -1.4**
comp=Z,16nm,0.8s,mb5.0
VNDA LR LR
comp=Z,8μm,21.0s,MS6.0
GZT Gaziantep 76.70 311 *i* P **P 11 09 24.0 +0.7**
HMDT Nahal Hemdat 76.74 305⇑P **P 11 09 24.5 +0.9**
RCY Rachaya 76.86 306 *e*P **P 11 09 25.8 +1.6**
MMLI Mount Malkishu 76.88 305⇑P **P 11 09 25.6 +1.3**
GAZ Gaziantep 76.90 310 P **P 11 09 24.9 +0.4**
MASH Mash'abbe Sade 76.99 304 P **P 11 09 25.9 +0.9**
MMAI Mount Meron Ar 77.06 306 P **P 11 09 26.8 +1.5**
comp=Z,37nm,0.5s,mb5.5,baz=99,slow=9.5,SNR=49
MMAI S S 11 19 11.4 +1.1
comp=Z,1.1nm,0.3s,baz=65,slow=13,SNR=1.9
BHL Bhannes 77.11 307 *e*P **P 11 09 27.2 +1.6**
SLTI Sal'it 77.13 305 P **P 11 09 26.7 +0.9**
HNTI Hanita 77.26 306 P **P 11 09 27.9 +1.4**
OFRI 'Ofer 77.28 305 P **P 11 09 27.6 +1.0**
KZIT Kziot 77.29 304 P **P 11 09 27.5 +0.8**
SOC Sochi 77.33 317*c* *i*P **P 11 09 26.3 -0.6**
SOC *e* pP 11 09 37.3 -3.8
SOC *i*S S 11 19 13.4 +0.1
SOC *e* 11 19 54.6
SOC pmax pmax
comp=Z,119nm,0.8s,mb5.9
SOC MLR MLR
comp=Z,4μm,21.0s,MS5.8
SOC Sochi 77.33 317 *i* P **P 11 09 26.6 -0.3**
GRSN GIRESUNGRSN 77.38 314 *i* P **P 11 09 26.5 -0.7**
HTY Hatay 77.39 309 P **P 11 09 27.8 +0.6**
COBT Iskenderun 77.43 310 *i* P **P 11 09 28.1 +0.7**
SBA Scott Base 77.76 169 *e*P **P 11 09 29.1 -0.2**
SBA LR LR
comp=Z,8μm,22.0s,MS6.0
SVSK Karacayir 77.95 313 *e*P **P 11 09 31.4 +1.0**
CEYT Ceyhan 77.97 310 *e*P **P 11 09 30.4 0.0**
LBTB Lobatse 78.02 246 LR LR 11 38 53.3
comp=Z,5μm,20.4s,MS5.8,baz=126,slow=32
LBTB Lobatse 78.02 246 *e*P **P 11 09 30.6 -0.1**
LBTB pmax pmax
comp=Z,25nm,0.8s,mb5.2
LBTB MLR MLR
comp=Z,5μm,21.0s,MS5.8
LBTB Lobatse 78.02 246 *e*P **P 11 09 30.6 -0.1**
comp=Z,25nm,0.8s,mb5.2
LBTB LR LR
comp=Z,5μm,21.0s,MS5.8
KOZT Kozan 78.05 310 *e*P **P 11 09 31.0 +0.1**
KRTS Karatas 78.12 309 *e*P **P 11 09 32.6 +1.3**
BOSA Boshof 78.23 242 P **P 11 09 31.8 -0.1**
comp=Z,20nm,0.7s,mb5.1,baz=106,slow=4.5,SNR=55
BOSA LR LR 11 41 43.5
comp=Z,3μm,18.0s,MS5.7,baz=66,slow=34
BOSA Boshof 78.23 242 *e*P **P 11 09 31.6 -0.3**
BOSA *e**SP sP 11 09 50.1 -1.5
BOSA pmax pmax
comp=Z,55nm,1.0s,mb5.4
BOSA MLR MLR
comp=Z,4μm,22.0s,MS5.7
BOSA Boshof 78.23 242 *e*P **P 11 09 31.6 -0.3**
comp=Z,55nm,1.0s,mb5.4
BOSA *e*sP sP 11 09 50.1 -1.6
BOSA LR LR
comp=Z,4μm,22.0s,MS5.7
TOKT Tokat 78.41 313 *e*P **P 11 09 33.4 +0.5**
BNN Bunyan 78.46 312 *e*P **P 11 09 33.3 +0.2**
KARA Karaisali 78.57 310 *e*P **P 11 09 34.2 +0.4**
MERS Mersin 78.86 309 *e*P **P 11 09 35.7 +0.3**
MEST Erdemli 79.07 309 *i* P **P 11 09 36.2 -0.3**
VRHR Novokhopersk 79.12 325 *e*P **P 11 09 36.3 -0.5**
VRHR pmax pmax
comp=Z,210nm,0.6s,mb6.2
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,150nm,1.0s
VRHR MLR MLR
comp=Z,2μm,17.0s,MS5.6
VRHR MLR MLR
comp=N,2μm,22.0s,MS5.7
VRHR MLR MLR
comp=E,4μm,26.0s,MS5.7
AVNT Avonos 79.17 311 *i* P **P 11 09 37.5 +0.4**
CSS Prodhromos 79.25 307⇑P **P 11 09 38.3 +0.8**
comp=E,3.5nm,0.9s
CSS Prodhromos 79.25 307 *e*P **P 11 09 38.2 +0.7**
CSS Prodhromos 79.25 307⇑*e*P **P 11 09 38.3 +0.8**
ANN Anapa 79.30 318 *e*P **P 11 09 36.2 -1.6**
ANN *e* 11 12 32.5
ANN *e*S S 11 19 34.4 -0.1
ANN *e* 11 19 50.4
ANN *e*SS SS 11 24 43.1 +1.1
ANN *e*SSS 11 28 05.6
ANN pmax pmax
comp=Z,1μm,8.5s
ANN MLR MLR
comp=N,3μm,22.0s,MS5.8
ANN MLR MLR
comp=E,3μm,22.0s,MS5.8
ANN MLR MLR
comp=Z,3μm,22.0s,MS5.6
IKL Isikli 79.33 309 *e*P **P 11 09 38.1 +0.2**
SZAC Souni-Zanaja 79.55 307 P **P 11 09 39.8 +0.7**
TIXI Tiksi 79.59 7 *e*P **P 11 09 35.0 -4.3**
TIXI *e* 11 12 37.1
TIXI *e**SS sS 11 20 41.7 +40
TIXI *e*SS SS 11 24 41.5 -4.8
TIXI pmax pmax
comp=N,63nm,0.8s
TIXI pmax pmax
comp=E,24nm,0.8s
TIXI pmax pmax
comp=Z,200nm,0.8s,mb6.1
TIXI pmax pmax
comp=Z,770nm,1.9s,mb6.3
TIXI MLR MLR
comp=Z,10μm,19.0s,MS6.2
TIXI MLR MLR
comp=N,7μm,20.0s,MS6.1
TIXI MLR MLR
comp=E,2μm,16.0s,MS6.1
TIXI Tiksi 79.59 7⇑*e*P **P 11 09 37.4 -1.9**
TIXI LR LR
comp=Z,10μm,19.0s,MS6.2
CORM Corum 79.76 313 *e*P **P 11 09 40.5 +0.3**
DIKM Dikmen 79.76 314 *e*P **P 11 09 40.1 -0.2**
CTKT Corum 79.78 313 *i* P **P 11 09 40.6 +0.3**
CDAG Cicekdag 79.78 312 *i* P **P 11 09 40.2 -0.2**
ALFC Alevga 79.88 307 P **P 11 09 41.2 +0.3**
comp=Z,2.2nm,0.6s
BOYT Boyabat 79.94 314 *i* P **P 11 09 41.6 +0.3**
PPCY Paphos 80.01 307 P **P 11 09 41.6 0.0**
ERMK Ermenek 80.04 309 *i* P **P 11 09 42.7 +0.9**
BYBT Boyabat 80.06 314 *e*P **P 11 09 41.9 +0.1**
PECR Pechory 80.14 330 *e*P **P 11 09 42.4 +0.1**
PECR *e* 11 19 38.6
KAMT Kaman 80.20 312 *e*P **P 11 09 41.9 -0.8**
BR131 Keskin Array S 80.35 312 *e*P **P 11 09 43.1 -0.4**
comp=Z,73nm,0.7s,mb5.7
BR131 LR LR
comp=Z,4μm,20.0s,MS5.7
BRTR Keskin Array B 80.35 312 P **P 11 09 43.3 -0.2**
comp=Z,71nm,0.7s,mb5.7,baz=133,slow=7.0,SNR=230
BRTR PKKPbc PKKPbc 11 28 25.3 +0.2
comp=Z,0.9nm,0.9s,baz=222,slow=1.7,SNR=4.5
BRTR LR LR 11 46 50.5
comp=Z,5μm,21.5s,MS5.8,baz=102,slow=37
BRTR Keskin Array B 80.35 312 *i* P **P 11 09 43.2 -0.3**
BRTR pmax pmax
comp=Z,71nm,0.7s
TOS Tosya 80.46 313 *e*P **P 11 09 44.5 +0.5**
VRSR Storozhevoye 80.58 324 *e*P **P 11 09 44.0 -0.7**
VRSR *e*S S 11 19 45.3 -2.6
VRSR pmax pmax
comp=Z,520nm,1.4s,mb6.3
VRSR pmax pmax
comp=N,110nm,1.3s
VRSR pmax pmax
comp=E,320nm,1.2s
VRSR smax
comp=N,530nm,4.5s
VRSR smax
comp=Z,230nm,3.4s
VRSR smax
comp=E,440nm,4.3s
VRSR MLR MLR
comp=Z,2μm,16.0s,MS5.5
VRSR MLR MLR
comp=N,2μm,19.0s
VRSR MLR MLR
comp=E,3μm,26.0s
CANT Cankiri 80.62 313 *e*P **P 11 09 45.0 +0.1**
ELDT Eldivan 80.73 313 *i* P **P 11 09 45.5 0.0**
VOR Voronezh 80.77 325 *e*P **P 11 09 45.3 -0.4**
VOR pmax pmax
comp=Z,870nm,1.6s,mb6.4
VOR pmax pmax
comp=N,270nm,1.5s
VOR pmax pmax
comp=E,270nm,1.5s
KONT Konya--Tatoy 80.81 310 *e*P **P 11 09 46.0 0.0**
ANTO Ankara 81.02 312 *e*P **P 11 09 46.5 -0.5**
ANTO Ankara 81.02 312⇑*i*P **P 11 09 47.0 0.0**
ANTO Ankara 81.02 312 P **P 11 09 47.5 +0.5**
SNR=47
ANTO Ankara 81.02 312 *e*P **P 11 09 46.9 -0.1**
ANTO pmax pmax
comp=Z,132nm,1.0s,mb5.8
ANTO MLR MLR
comp=Z,5μm,20.0s,MS5.9
ANTO Ankara 81.02 312 *e*P **P 11 09 46.9 -0.1**
comp=Z,132nm,1.0s,mb5.8
ANTO LR LR
comp=Z,5μm,20.0s,MS5.9
LOD Lodumlu 81.05 312 *e*P **P 11 09 47.3 +0.2**
BALT Daday 81.06 314 *i* P **P 11 09 48.0 +0.7**
KDHN Kadinhani 81.16 311 *i* P **P 11 09 46.8 -1.0**
KIZT Kizilcal 81.43 311 *e*P **P 11 09 48.9 -0.3**
SAFT Safranbolu 81.48 313 *e*P **P 11 09 49.4 -0.1**
SIM Simferopol' 81.58 317*c* *i*P **P 11 09 50.0 0.0**
SIM *e* 11 13 01.0
SIM *e*S S 11 19 59.0 +0.7
SIM pmax pmax
comp=Z,88nm,0.7s,mb5.8
SIM pmax pmax
comp=Z,450nm,10.8s
SIM MLR MLR
comp=Z,5μm,24.2s,MS5.8
SGKT Sivrigoynuk 81.76 312 *i* P **P 11 09 50.9 0.0**
ANTB Antalya 81.85 309 *e*P **P 11 09 49.1 -2.4**
SUR Sutherland 81.94 238 P **P 11 09 53.4 +1.5**
comp=Z,301nm,1.3s,mb6.1,SNR=8.2
SUR Sutherland 81.94 238 P **P 11 09 53.6 +1.7**
SNR=12
SUR P 11 09 55.0
SNR=7.4
SUR Sutherland 81.94 238 *e*P **P 11 09 53.5 +1.5**
comp=Z,129nm,1.1s,mb5.8
SUR LR LR
comp=Z,15μm,22.0s,MS6.3
MIDW Midway 81.95 60 PFAKE 11 10 00.0 +8.1
MIDW LR LR
comp=Z,2μm,21.0s,MS5.5
ISP Isparta 82.20 310 *e*P **P 11 09 51.8 -1.5**
ISP Isparta 82.20 310 *e*P **P 11 09 52.6 -0.6**
ISP Isparta 82.20 310*c* *i*P **P 11 09 52.7 -0.6**
ISP Isparta 82.20 310 *e*P **P 11 09 54.2 +0.9**
comp=Z,44nm,0.6s,mb5.6
MDU Mudurnu 82.35 312 *e*P **P 11 09 54.0 -0.1**
ESKT Eskisehir 82.37 311 *i* P **P 11 09 53.8 -0.3**
TKTP Tekketepe 82.40 310 *i* P **P 11 09 53.7 -0.6**
ELL Elmali 82.40 308 *e*P **P 11 09 54.5 +0.2**
KDZE Karadeniz Ereo 82.41 313 *e*P **P 11 09 53.6 -0.7**
SMY Shemya 82.59 35 *e*P **P 11 09 54.5 -0.8**
SMY pmax pmax
comp=Z,816nm,1.9s,mb6.4
SMY Shemya 82.59 35 *e*P **P 11 09 54.5 -0.8**
comp=Z,816nm,1.9s,mb6.4
HENT Hendek 82.67 312 *i* P **P 11 09 55.4 -0.3**
BORA Eskisehir 82.76 311 *i* P **P 11 09 56.4 +0.2**
ALT Altintas 82.81 311 *e*P **P 11 09 56.8 +0.4**
GPA Golpazari 82.97 312 *e*P **P 11 09 57.0 -0.2**
FETY Fethiye 83.01 308 *e*P **P 11 09 56.9 -0.6**
MOS Moscow 83.18 328α *i*P **P 11 09 58.2 -0.1**
MOS *i* pP 11 10 10.8 -1.9
MOS *i*S S 11 20 10.9 -3.7
MOS pmax pmax
comp=Z,1μm,2.4s,mb6.6
MOS pmax pmax
comp=Z,562nm,1.4s,mb6.4
MOS MLR MLR
comp=E,5μm,23.0s
MOS MLR MLR
comp=Z,7μm,23.0s,MS6.0
GDZ Gediz 83.29 311 *i* P **P 11 09 59.0 +0.1**
QSPA South Pole Qui 83.41 180 *e*P **P 11 09 58.4 -1.1**
comp=Z,97nm,1.1s,mb5.8
ADVT Abdulvahap 83.43 312 *e*P **P 11 09 59.6 0.0**
OBN Obninsk 83.50 327 P **P 11 10 00.2 +0.2**
comp=Z,1μm,0.9s,SNR=14
OBN Obninsk 83.50 327*c* *i*P **P 11 09 59.7 -0.3**
OBN *i* pP 11 10 12.7 -1.7
OBN *i* 11 13 10.4
OBN *i*S S 11 20 17.1 -0.9
OBN *i* 11 20 21.7
OBN *i*SS SS 11 25 42.2 -2.3
OBN pmax pmax
comp=Z,306nm,1.3s,mb6.3
OBN Obninsk 83.50 327 *e*P **P 11 09 59.5 -0.5**
OBN LR LR
comp=Z,4μm,19.0s,MS5.8
ARG Arkhangelos 83.67 307 *e*P **P 11 09 58.5 -2.4**
YLV Yalova 83.73 312 *e*P **P 11 10 00.8 -0.4**
YER Yerkesik 83.75 308 *e*P **P 11 10 00.9 -0.4**
ULDT Uludag 83.80 311 *i* P **P 11 10 02.0 +0.4**
GEMT Gemlik 83.83 312 *e*P **P 11 10 01.6 -0.1**
ISK Istanbul-Kandi 84.08 312 *e*P **P 11 10 02.9 -0.1**
KLYT Kilyos 84.14 313 *e*P **P 11 10 03.3 +0.1**
MLSB Milas 84.18 308 *e*P **P 11 10 03.0 -0.1**
AYDN Tasoluk 84.18 309 *i* P **P 11 10 04.7 +1.2**
DAT Datca 84.21 308 *e*P **P 11 10 02.8 -0.9**
KARP Karpathos 84.29 307 *e*P **P 11 10 04.0 0.0**
BDRM Kayabasi 84.39 308 *i* P **P 11 10 04.3 -0.2**
BODT Bodrum 84.50 308 *e*P **P 11 10 04.9 -0.2**
AKHS Akhisar 84.50 310 *i* P **P 11 10 05.5 +0.4**
AKS Akhisar 84.51 310 *e*P **P 11 10 03.8 -1.4**
KDAG Bornova 84.82 309 *i* P **P 11 10 07.8 +1.1**
IZM Izmir 84.82 309 *e*P **P 11 10 07.3 +0.6**
BLCB Balcova 84.99 309 *e*P **P 11 10 08.3 +0.7**
SMG Samos 85.00 309 *e*P **P 11 10 07.5 -0.1**
NVL N'lazarevskaya 85.01 199*d* *i*P **P 11 10 09.1 +1.4**
NVL *e* 11 13 22.1
NVL *i*S S 11 20 22.9 -10
NVL *e*SP 11 21 31.1
NVL *e*SSS 11 29 34.2
NVL pmax pmax
comp=Z,37nm,0.9s,mb5.5
MAIT Maitri 85.04 199 *e*P **P 11 10 08.7 +0.9**
MAIT *e*pP pP 11 10 15.1 -7.1
MAIT *e*PP PP 11 13 29.2 +4.0
MAIT *e*SKSac SKSac 11 20 23.1 -5.2
AMKA Amchitka 85.19 37 *e*P **P 11 10 07.9 -0.7**
CANB Canakkale 85.32 311 *e*P **P 11 10 08.7 -0.5**
PSN Preselentsi 85.33 315 P **P 11 10 10.0 +0.7**
TIRR Tirgusor 85.36 316⇓*i*P **P 11 10 09.5 +0.1**
TIRR Tirgusor 85.36 316⇓P **P 11 10 09.5 +0.1**
RKY Sarkoy-Tekirda 85.38 312 *e*P **P 11 10 09.6 +0.1**
AYVA Ayvalik 85.45 310 *i* P **P 11 10 09.2 -0.7**
NPS Neapolis 85.47 306 *e*P **P 11 10 10.0 0.0**
LAST Lasithi 85.56 306 *e*P **P 11 10 11.4 +1.0**
KIS Kishinev 85.70 318 *e*P **P 11 10 10.0 -1.1**
KIS *e* 11 13 25.0
KIS *e* 11 15 24.0
KIS *e*S S 11 20 38.0 -1.8
KIS pmax pmax
comp=Z,3μm,8.0s
CFR Carcaliu 85.72 316⇓*i*P **P 11 10 11.5 +0.3**
CFR Carcaliu 85.72 316⇓P **P 11 10 11.5 +0.3**
HARR Harsova 85.75 316⇓*i*P **P 11 10 11.9 +0.6**
HARR Harsova 85.75 316⇓P **P 11 10 11.9 +0.5**
PRK Paraskevi 85.76 310 *e*P **P 11 10 10.5 -0.9**
PRD Provadia 85.78 314 P **P 11 10 11.7 +0.2**
TSUM Tsumeb 85.80 251 *e*P **P 11 10 12.2 +0.6**
comp=Z,42nm,1.0s,mb5.6
TSUM LR LR
comp=Z,12μm,21.0s,MS6.3
SANT Santorini 85.81 307 *e*P **P 11 10 11.2 -0.4**
comp=Z,228nm,1.1s,mb6.3
SANT *e*pP pP 11 10 25.1 -0.9
APE Apeiranthos 85.89 308 *e*P **P 11 10 08.0 -4.0**
APE Apeiranthos 85.89 308⇑*i*P **P 11 10 12.2 +0.2**
APE Apeiranthos 85.89 308⇑P **P 11 10 12.2 +0.1**
EDRB Edirne 85.95 313 *e*P **P 11 10 12.4 0.0**
IDI Anoyia 86.06 306 P **P 11 10 13.9 +1.0**
comp=Z,52nm,0.7s,mb5.9,baz=90,slow=5.8,SNR=20
SIVA Sivas 86.07 306 *e*P **P 11 10 13.9 +0.9**
ENEZ Enez 86.16 312 *e*P **P 11 10 13.4 0.0**
JMB Yambol 86.20 313 P pP 11 10 24.0 -4.0
GADA Gvkgeada 86.23 311 *e*P **P 11 10 13.0 -0.7**
ALN Alexandroupoli 86.27 312 *e*P **P 11 10 13.8 -0.1**
AKASG Malin Array Be 86.37 322 P **P 11 10 13.6 -0.9**
AKASG comp=Z,59nm,0.7s,mb5.9,baz=89,slow=4.7,SNR=92
AKASG PP PP 11 13 34.4 -1.7
comp=Z,11nm,0.7s,baz=86,slow=6.2,SNR=5.9
AKASG LR LR 11 56 17.1
comp=Z,2μm,20.6s,MS5.6,baz=110,slow=41
AKASG Malin Array Be 86.37 322 *i* P **P 11 10 13.6 -0.8**
AKASG pmax pmax
comp=Z,59nm,0.7s

AKBB Malin Array Si 86.37 322 *e*P **P** **11 10 13.5 -0.9**
GVD Gavdhos 86.62 305 *e*P **P** **11 10 16.2 +0.6**
comp=Z,122nm,0.8s,mb6.2
VAM Vamos 86.63 306 *e*P **P** **11 10 14.5 -1.2**
VRI Vrincioaia 86.84 317⇑*i*P **P** **11 10 17.7 +1.0**
VRI Vrincioaia 86.84 317⇑P **P** **11 10 17.7 +1.0**
DIM Dimitrovgrad 86.88 313 P **P** **11 10 17.2 +0.3**
PLOR Plostina 86.89 317⇓*i*P **P** **11 10 17.8 +0.9**
BUC1 Bucharest 87.00 315 P **P** **11 10 18.3 +0.8**
PVL Pavlikeni 87.26 314 P **P** **11 10 20.0 +1.3**
MLR Muntele Rosu 87.30 316 P **P** **11 10 19.8 +0.8**
comp=Z,146nm,1.1s,mb6.1,baz=124,slow=1.4,SNR=128
MLR Muntele Rosu 87.30 316⇑*i*P **P** **11 10 19.6 +0.7**
MLR Muntele Rosu 87.30 316⇑P **P** **11 10 19.6 +0.7**
RZN Rozhen 87.41 312 P **P** **11 10 20.1 +0.6**
PLD Plovdiv 87.50 313 *e*P **P** **11 10 19.9 +0.1**
OUR Ouranopolis 87.70 311 *e*P **P** **11 10 20.8 0.0**
MTUR Matau 87.85 316 P **P** **11 10 22.3 +0.7**
PAIG Paliouri 87.85 310 *e*P **P** **11 10 21.5 -0.1**
VLI Veliai 87.87 307 *e*P **P** **11 10 15.0 -6.7**
VOIR 87.90 316⇑*i*P **P** **11 10 21.7 -0.1**
VOIR 87.90 316⇑P **P** **11 10 21.7 -0.1**
PLG Polygyros 88.11 311 *e*P **P** **11 10 22.0 -0.8**
MMB Musomiste 88.12 312 *e*P **P** **11 10 22.6 -0.2**
MMB Musomiste 88.12 312 *i*P **P** **11 10 22.5 -0.3**
MNK Minsk 88.14 325⇑*e*P **P** **11 10 20.0 -2.9**
MNK *e*S S 11 21 00.0 -3.3
MNK pmax pmax
comp=Z,390nm,1.5s,mb6.4
MNK pmax pmax
comp=E,660nm,2.0s
PUL Pulkovo 88.20 331 *i*P **P** **11 10 23.3 +0.1**
PUL S S 11 21 00.5 -3.4
PUL pmax pmax
comp=Z,278nm,0.6s,mb6.7
PUL pmax pmax
comp=N,92nm,0.7s
PUL pmax pmax
comp=E,321nm,0.8s
PUL Pulkovo 88.20 331⇓*e*P **P** **11 10 23.7 +0.5**
BURAR Bucovina Array 88.22 318⇑*i*P **P** **11 10 24.4 +1.1**
BURAR Bucovina Array 88.22 318⇑P **P** **11 10 24.4 +1.0**
SOH Sokhos 88.26 311 *e*P **P** **11 10 23.2 -0.3**
HORT Hortiatis 88.41 311 *e*P **P** **11 10 23.8 -0.4**
THE Thessaloniki 88.52 311 *e*P **P** **11 10 24.0 -0.8**
KKB Krupnik 88.64 312 P **P** **11 10 25.6 +0.3**
JOF Joensuu 88.65 334 *e*p **P** **11 10 24.5 -0.8**
comp=E,285nm,0.8s,mb6.7
JOF Joensuu 88.65 334 *e*P **P** **11 10 24.5 -0.8**
JOF pmax pmax
comp=Z,285nm,0.8s,mb6.7
KNT Kendrikon 88.66 312 *e*P **P** **11 10 25.2 -0.2**
VTS Vitosha 88.67 313 *e*P **P** **11 10 26.7 +1.2**
VTS Vitosha 88.67 313 *i*P **P** **11 10 26.0 +0.5**
VTS Vitosha 88.67 313⇓*i*P **P** **11 10 25.9 +0.4**
VTS Vitosha 88.67 313 P **P** **11 10 26.2 +0.7**
AGG Agios Georgios 88.73 309 *e*P **P** **11 10 25.0 -0.7**
ITM Ithomi 88.74 307 *e*P **P** **11 10 24.5 -1.3**
LIT Litokhoron 88.78 310 *e*P **P** **11 10 25.8 -0.2**
VAY Valandovo 88.93 312⇑*i*P **P** **11 10 25.8 -0.8**
LVZ Lovozero 88.93 339 P **P** **11 10 25.5 -1.2**
comp=Z,897nm,0.6s,SNR=8.5
LVZ Lovozero 88.93 339 PFAKE 11 10 40.0 +13
LVZ LR LR
comp=Z,5μm,22.0s,MS5.9
IDID Didziasalis 88.94 326 *e*P **P** **11 10 26.9 +0.1**
IDID AMb AMB 11 10 29.6
comp=Z,4μm,0.8s
EVR Evrytania 89.11 309 *e*P **P** **11 10 27.0 -0.5**
IZAR Zarasai 89.31 326 *e*P **P** **11 10 27.9 -0.6**
IZAR AMb AMB 11 10 31.2
comp=Z,4895μm,0.8s
ISAL Salakas 89.34 326 *e*P **P** **11 10 28.0 -0.6**
ISAL AMb AMB 11 10 31.4
comp=Z,2μm,0.8s
LVV L'vov 89.42 320 *e*P **P** **11 10 28.5 -0.5**
LVV *e* 11 13 58.5
LVV *e* 11 20 50.9
LVV *e*S S 11 21 11.5 -3.9
LVV *e* 11 22 16.9
LVV MLR MLR
comp=Z,3μm,23.0s,MS5.6
LVV MLR MLR
comp=N,2μm,26.0s,MS5.6
LVV MLR MLR
comp=E,2μm,23.0s,MS5.6
SNAA Sanae 89.45 197 PKKP PKKPbc 11 28 02.0 -1.7
comp=E,1.2nm,0.9s,baz=301,slow=1.3,SNR=9.6
SNAA Sanae 89.45 197⇓*i*P **P** **11 10 29.5 +0.4**
SNAA *e* 11 10 30.8
SNAA *e* 11 10 32.1
SNAA *e* pP 11 10 43.0 -0.6
SNAA *e* pP 11 10 48.0 +4.4
SNAA *e* 11 10 54.3
SNAA *e* 11 10 58.4
SNAA *e* 11 11 06.4
SNAA *e* 11 11 17.4
SNAA Sanae 89.45 197 *e*P **P** **11 10 29.0 -0.1**
SNAA pmax pmax
comp=Z,110nm,1.1s
SNAA Sanae 89.45 197 *e*P **P** **11 10 29.0 -0.1**
comp=Z,108nm,1.1s,mb6.1
GZR Gura Zlata 89.47 316⇓*i*P **P** **11 10 31.2 +2.0**
GZR Gura Zlata 89.47 316⇓P **P** **11 10 31.2 +2.0**
VSU Vasula 89.66 329*c* *i*P **P** **11 10 29.8 -0.3**
FNA Florina 89.73 311 *e*P **P** **11 10 29.9 -0.5**
BIA Bitola 89.81 311 *i*P **P** **11 10 29.7 -1.1**
SKO Skopje 89.87 312⇑*i*P **P** **11 10 31.1 0.0**
VLS Valsamata 89.94 308 *e*P **P** **11 10 30.5 -0.9**
JAN Janina 89.96 310 *e*P **P** **11 10 31.5 0.0**
LKD Levkas 89.97 309 *e*P **P** **11 10 32.4 +0.8**
OHR Ohrid 90.21 311 *e*P **P** **11 10 31.6 -1.1**
OHR Ohrid 90.21 311⇑*i*P **P** **11 10 31.8 -0.9**
KWP Kalwaria 90.24 320 *e*P **P** **11 10 33.2 +0.4**
KWP L 11 52 15.6
comp=Z,4.4nm,26.4s
BZS Buzias 90.31 316⇓*i*P **P** **11 10 33.1 0.0**
BZS Buzias 90.31 316⇓P **P** **11 10 33.1 0.0**
IGT Igoumenitsa 90.34 310 *e*P **P** **11 10 33.8 +0.5**
KOLS Kolonicke sedl 90.40 319 *e*P **P** **11 10 34.4 +0.9**
comp=Z,41nm,0.8s,mb5.8
KOLS LR LR
comp=Z,1μm,27.2s,MS5.2
FIA1 FINESS Array S 90.64 332 *e*P **P** **11 10 34.2 -0.4**
FINES FINESS Array B 90.64 332 P **P** **11 10 34.2 -0.4**
comp=Z,86nm,0.8s,mb6.2,baz=106,slow=6.8,SNR=101
FINES LR LR 11 56 34.0
comp=Z,3μm,21.9s,MS5.7,baz=100,slow=39
FINES FINESS Array B 90.64 332 *i*P **P** **11 10 34.2 -0.5**
FINES pmax pmax
comp=Z,86nm,0.8s
KAF Kangasniemi 90.68 333 *e*p **P** **11 10 33.7 -1.2**
comp=Z,188nm,0.7s,mb6.5,baz=95,slow=4.2
KAF Kangasniemi 90.68 333 *e*P **P** **11 10 33.7 -1.2**
KAF pmax pmax
comp=Z,189nm,0.7s,mb6.5
SUW Suwalki 90.71 324 *e*P **P** **11 10 34.3 -0.7**
SUW L 11 51 03.7
comp=Z,5.8nm,26.8s
KEK Kerkira 90.77 310 *e*P **P** **11 10 35.0 -0.3**
CRVS Cervenica-Dubn 90.92 319 *e*P **P** **11 10 35.9 -0.1**
CRVS *e*PP PP 11 14 11.7 -0.7
CRVS *e*pS 11 21 48.0
CRVS Cervenica-Dubn 90.92 319 *e*P **P** **11 10 35.9 -0.1**
comp=Z,23nm,1.1s,mb5.4
CRVS *e*PP PP 11 14 11.7 -0.7
CRVS *e*S S 11 21 48.0 +19
CRVS LR LR
comp=Z,1μm,26.4s,MS5.2
PVY Plav 91.03 313⇑*i*P **P** **11 10 36.2 -0.3**
IVA Berane 91.13 313⇑*i*P **P** **11 10 37.1 +0.2**
DIVS Divcibare 91.23 314 *e*P **P** **11 10 37.8 +0.4**
VNA1 Neumayer--Stat 91.46 198⇓*i*P **P** **11 10 39.2 +0.7**
VNA1 *e* 11 10 40.4
VNA1 *e* 11 10 41.8
VNA1 *e* pP 11 10 52.2 -0.8
VNA1 *e* pP 11 10 57.8 +4.8
VNA1 *e* 11 11 02.7
VNA1 *e* 11 11 07.3
VNA1 *e* 11 11 14.6
VNA1 *e* 11 11 25.8
ULC Ulcinj 91.48 312⇑*i*P **P** **11 10 38.8 +0.2**
TTG Podgorica 91.53 312⇑*i*P **P** **11 10 38.7 -0.1**

PLE Pljevlja 91.56 313⇑*i*P **P** **11 10 39.0 +0.1**
WAR Warsaw 91.70 322 *e*P **P** **11 10 40.1 +0.5**
WAR L 11 55 13.3
comp=Z,4.4nm,23.6s
NIE Niedzica 91.75 319 *e*P **P** **11 10 40.3 +0.5**
NKY Niksic 91.78 313⇑*i*P **P** **11 10 39.9 0.0**
BUM Brajici-Budva 91.78 312⇑*i*P **P** **11 10 40.0 +0.1**
PSZ Piszkesteto 91.81 318⇑*e*P **P** **11 10 40.2 +0.1**
PSZ Piszkesteto 91.81 318 P **P** **11 10 40.5 +0.4**
UPM Unac-Piva 91.89 313⇑*i*P **P** **11 10 40.2 -0.2**
HCY Herceg Novi 92.10 312⇑*i*P **P** **11 10 41.1 -0.3**
BRT Bratogost 92.12 313⇑*i*P **P** **11 10 41.2 -0.3**
KEV Kevo 92.12 340 *e*p **P** **11 10 39.3 -2.2**
comp=Z,22nm,0.7s,mb5.6
KEV Kevo 92.12 340 *e*P **P** **11 10 39.3 -2.2**
KEV pmax pmax
comp=Z,22nm,0.7s,mb5.6
OJC Ojcow 92.18 320 *e*P **P** **11 10 41.6 -0.2**
OJC *e*PP PP 11 14 21.9 -0.5
OJC *e*S S 11 21 42.7 +2.0
OJC L 11 59 40.8
comp=Z,17nm,22.6s
OJC Ojcow 92.18 320 *e*P **P** **11 10 41.6 -0.2**
OJC *e* 11 14 21.9
OJC *e*S S 11 21 42.7 +2.0
SPIA Saint Paul Isl 92.43 33 *e*P **P** **11 10 45.9 +2.9**
PKSM Moragy 92.45 316⇑*i*P **P** **11 10 42.8 -0.2**
PKSM Moragy 92.45 316⇑*e*P **P** **11 10 43.1 +0.1**
ARCES ARCESS Array B 92.59 340 P **P** **11 10 42.7 -1.0**
comp=Z,68nm,0.8s,mb6.1,baz=97,slow=6.1,SNR=67
ARCES LR LR 11 59 21.8
comp=Z,5μm,21.7s,MS5.9,baz=105,slow=40
ARCES ARCESS Array B 92.59 340 P **P** **11 10 42.7 -1.0**
ARCES LR LR 11 59 21.8
ARE0 ARCESS Array S 92.59 340 *e*P **P** **11 10 42.4 -1.3**
VYHS Vyhne 92.59 318 *i*P **P** **11 10 43.5 -0.2**
VYHS *e*PP PP 11 14 23.2 -2.4
VYHS *e*S S 11 21 45.6 +1.3
VYHS Vyhne 92.59 318 *i*P **P** **11 10 43.5 -0.2**
comp=Z,22nm,1.5s,mb5.4
VYHS *e*PP PP 11 14 23.2 -2.4
VYHS *e*S S 11 21 45.7 +1.4
VYHS LR LR
comp=Z,2μm,21.1s,MS5.5
NIKO Nikolski 92.65 37 *e*P **P** **11 10 42.7 -1.2**
OKC Ostrava-Krasne 93.19 320 *e*P **P** **11 10 46.2 -0.3**
OKC *e*pP pP 11 11 01.9 +0.9
OKC *e*PP PP 11 14 28.2 -2.1
OKC *e*SKS 11 21 14.8
OKC AMS AMS 11 59 50.0
comp=Z,3μm,21.3s
OKC Ostrava-Krasne 93.19 320 *e*P **P** **11 10 46.2 -0.3**
OKC *e* pP 11 11 01.9 +0.9
OKC *e*PP PP 11 14 28.2 -2.1
OKC *e* 11 21 14.8
MORC Moravsky Berou 93.58 320⇑*i*P **P** **11 10 48.3 +0.1**
MORC Moravsky Berou 93.58 320 *e*P **P** **11 10 47.9 -0.4**
MORC *e*PP PP 11 14 35.6 +2.3
ZST Bratislava 93.71 318 *e*P **P** **11 10 49.0 +0.2**
ZST *e*pP pP 11 11 03.8 +0.5
ZST *e*PP PP 11 14 33.6 -0.7
ZST Bratislava 93.71 318 *e*P **P** **11 10 49.0 +0.2**
comp=Z,23nm,1.1s,mb5.5
ZST *e* pP 11 11 03.9 +0.6
ZST *e*PP PP 11 14 33.6 -0.7
ZST LR LR
comp=Z,600nm,19.5s,MS5.1
UNV Unalaska Valle 94.14 36 PFAKE 11 11 00.0 +9.2
UNV LR LR
comp=Z,11μm,21.0s,MS6.3
VRAC Vranov 94.15 319 P **P** **11 10 51.0 +0.2**
comp=Z,2.4nm,0.3s,mb5.0,baz=186,slow=3.2,SNR=7.0
VRAC PP PP 11 14 36.4 -1.4
comp=Z,3.1nm,0.4s,baz=78,slow=6.7,SNR=12
DPC Dobruska-Polom 94.42 320 *e*P **P** **11 10 52.4 +0.3**
DPC *e*PP PP 11 14 37.8 -2.0
DPC *e*SKS 11 21 21.1
DPC AMS AMS 12 00 50.0
comp=Z,4μm,19.5s
KSP Ksiaz 94.47 321 *e*P **P** **11 10 54.8 +2.4**
KSP Ksiaz 94.47 321 *e*P **P** **11 10 52.5 +0.1**
KSP *e* 11 14 37.0
KSP *e* 11 21 21.0
KSP *e*S S 11 22 00.5 -0.3
KSP *e*SP SP 11 23 12.0 -4.2
KSP MLR MLR
comp=Z,8μm,24.5s,MS6.1
KSP Ksiaz 94.47 321 *e*P **P** **11 10 52.5 +0.1**
KSP *e*PP PP 11 14 37.0 -3.3
KSP *e*SKS 11 21 21.0
KSP *e*S S 11 22 00.5 -0.3
KSP *e*SP SP 11 23 12.0 -4.2
KSP *e*SS SS 11 28 08.0 -16
KSP LR LR
comp=Z,8μm,24.5s,MS6.1
CONA Conrad Observa 94.51 318⇑*i*P **P** **11 10 50.2 -2.3**
comp=Z,7.6nm,1.3s,mb5.0
TNA Tin City 94.57 25 PFAKE 11 11 00.0 +7.2
TNA LR LR
comp=Z,1μm,20.0s,MS5.4
AKUT Akutan 94.60 36 *e*P **P** **11 10 51.8 -1.1**
comp=Z,257nm,0.8s,mb6.7
UPC Upice 94.63 320 *e*P **P** **11 10 52.5 -0.6**
UPC *e*pP pP 11 11 08.4 +0.9
UPC *e*PP PP 11 14 38.1 -3.4
ARSA Arzberg 94.69 317⇑*i*P **P** **11 10 53.4 +0.1**
comp=Z,15nm,1.1s,mb5.3
ARSA *i* 11 14 41.6
VAE Valguarnera 94.72 307 P **P** **11 10 55.0 +1.4**
comp=Z,9.4nm,0.3s,mb5.6,baz=47,slow=4.5,SNR=4.0
BOJS Bojanci 94.73 315 *e*P **P** **11 10 53.5 -0.1**
BOJS *e*PP PP 11 14 43.9 +1.5
BOJS *e*SKSac SKSac 11 21 24.8 -0.1
BOJS *e*S S 11 21 59.9 -3.2
BOJS *e*SP SP 11 22 24.2 +5.2
BOJS *e* 11 28 45.7
TREC Trest 94.87 319 *e*P **P** **11 10 53.2 -1.0**
TREC *e*SKS 11 21 26.9
TREC AMS AMS 11 55 20.0
comp=Z,4μm,25.9s
TRO Tromso 94.88 339 *e*P **P** **11 10 52.6 -1.6**
TRO *e*PP PP 11 14 36.2 -7.3
TRO *e*SKS 11 21 27.4
TRO AMS AMS 11 56 35.9
comp=Z,3μm,21.8s,MS5.7
TRO Tromso 94.88 339 *e*P **P** **11 10 50.9 -3.3**
TRO LR LR
comp=Z,3μm,21.8s,MS5.7
PERS Pernice 94.92 316 *e*P **P** **11 10 54.4 0.0**
PERS *e*PP PP 11 14 44.7 +0.9
PDKS Podkum 94.95 316 *e*P **P** **11 10 54.8 +0.2**
BJO Bjornoya 95.27 344 *e*SKS 11 21 31.5
BJO AMS AMS 12 02 44.3
comp=Z,5μm,15.7s,MS6.1
LJU Ljubljana 95.28 316 *e*P **P** **11 10 56.2 +0.1**
LJU *e*PP PP 11 14 48.2 +1.7
LJU *e*SKSac SKSac 11 21 27.6 -0.2
LJU *e*S S 11 22 05.2 -2.7
LJU *e* 11 22 33.2
LJU Ljubljana 95.28 316 *e*P **P** **11 10 56.2 +0.2**
LJU *e* 11 14 48.2
LJU *e* 11 21 27.6
LJU *e*S S 11 22 05.2 -2.6
OBKA Obir 95.30 316⇑*i*P **P** **11 10 56.3 +0.2**
comp=Z,14nm,1.1s,mb5.3
PRU Pruhonice 95.53 320 *e*P **P** **11 10 56.8 -0.4**
PRU *e*pP pP 11 11 10.2 -1.5
PRU *e*PP PP 11 14 41.6 -6.9
PRU *e*SKS 11 21 29.5
PRU AMS AMS 12 01 40.0
comp=Z,4μm,20.0s
PRU Pruhonice 95.53 320 *e*P **P** **11 10 56.8 -0.4**
PRU *e* pP 11 11 10.2 -1.5
PRU *e* 11 21 29.5
PRU MLR MLR
comp=Z,4μm,20.0s,MS5.9
PVCC Panska Ves 95.55 320 *e*P **P** **11 10 57.2 -0.1**
MOA Molln 95.58 317⇑*i*P **P** **11 10 56.8 -0.6**
comp=Z,6.8nm,0.8s,mb5.1
MOA *i* 11 14 47.7
BSD Bornholm Skovb 95.61 325⇑*i*P **P** **11 10 58.5 +0.9**
comp=Z,24nm,0.9s,mb5.6
BSD *i* 11 24 08.1
BSD
comp=Z,2μm,20.0s
BSD Bornholm Skovb 95.61 325⇑*i*P **P** **11 10 58.5 +0.9**
BSD *i* 11 24 08.1
BSD pmax pmax
comp=Z,24nm,0.9s,mb5.6
BSD MLR MLR
comp=Z,2μm,20.0s,MS5.7
BSD Bornholm Skovb 95.61 325⇑*i*P **P** **11 10 58.5 +0.9**
comp=Z,24nm,0.9s,mb5.6
BSD *i* 11 24 08.1
VOY Vojsko 95.72 316 *e*P **P** **11 10 57.5 -0.6**
VOY *e* 11 11 25.5
CADS Cadrg 95.84 316 *e*P **P** **11 10 58.0 -0.5**
BRG Berggiesshubel 95.96 320 *e*P **P** **11 10 58.9 -0.3**
comp=Z,14nm,1.0s,mb5.3
BRG *e*PP PP 11 14 45.5 -6.4
BRG Berggiesshubel 95.96 320 *i*P **P** **11 10 58.8 -0.4**
comp=Z,8.2nm,1.0s,mb5.1
BRG *i* 11 11 05.2
comp=Z,10nm,1.0s
BRG *e* 11 14 12.7
comp=Z,11nm,1.6s
BRG PP PP 11 14 49.9 -2.0
comp=Z,38nm,1.5s
BRG SKS 11 21 36.0
BRG S S 11 22 15.0 +1.2
BRG PS PS 11 23 39.0 +0.3
BRG SS SS 11 28 43.0 -2.0
BRG
comp=N,2μm,28.1s
BRG
comp=E,1μm,27.5s
BRG
comp=Z,2μm,28.6s
BRG Berggiesshubel 95.96 320 *i*P **P** **11 10 58.8 -0.4**
BRG *i* 11 11 05.2
BRG 11 14 49.9
BRG 11 21 36.0
BRG S S 11 22 15.0 +1.2
BRG PS PS 11 23 39.0 +0.3
BRG SS SS 11 28 43.0 -2.0
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
BRG pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
BRG pmax pmax
comp=Z,11nm,1.6s,mb5.0
BRG pmax pmax
comp=Z,38nm,1.5s,mb5.6
BRG MLR MLR
comp=N,2μm,28.1s,MS5.6
BRG MLR MLR
comp=E,1μm,27.5s,MS5.6
BRG MLR MLR
comp=Z,2μm,28.6s,MS5.3
BRG Berggiesshubel 95.96 320 *i*P **P** **11 10 58.8 -0.4**
comp=Z,8.2nm,1.0s,mb5.1
BRG *e* 11 14 12.7
BRG PP PP 11 14 49.9 -2.0
BRG SKS 11 21 36.0
BRG S S 11 22 15.0 +1.2
BRG PS PS 11 23 39.0 +0.3
BRG SS SS 11 28 43.0 -2.0
BRG LR LR
comp=Z,2μm,28.6s,MS5.3
GEC2 GERESS Array S 96.01 318 *e*P **P** **11 10 59.2 -0.2**
comp=Z,40nm,1.6s,mb5.6
GEC2 *e*PP PP 11 14 45.9 -6.3
GEC2 GERESS Array S 96.01 318 *e*P **P** **11 10 59.2 -0.2**
GEC2 pmax pmax
comp=Z,40nm,1.6s,mb5.6
GERES GERESS Array B 96.01 318 P **P** **11 10 59.0 -0.3**
comp=Z,3.7nm,0.6s,mb5.0,baz=92,slow=4.4,SNR=23
GERES PP PP 11 14 50.2 -2.1
comp=Z,3.8nm,0.7s,baz=90,slow=6.7,SNR=5.0
GERES LR LR 12 00 54.4
comp=Z,2μm,19.9s,MS5.5,baz=102,slow=40
GERES GERESS Array B 96.01 318 P **P** **11 10 59.0 -0.4**
GERES 11 14 50.2
FALS False Pass 96.02 36 *e*P **P** **11 10 58.4 -1.0**
KHC Kasperske Hory 96.11 319 *e*P **P** **11 10 59.3 -0.5**
KHC *e*PCP PcP 11 11 01.5 +1.5
KHC *e*PP PP 11 14 46.7 -6.3
KHC AMS AMS 11 55 50.0
comp=Z,3μm,25.5s
RUE Ruedersdorf 96.15 322 *e*P **P** **11 10 59.7 -0.3**
comp=Z,49nm,1.2s,mb5.8
RUE *e*PP PP 11 14 45.7 -7.6
KBA Koelnbreinsper 96.16 317⇑*i*P **P** **11 10 59.0 -1.0**
KBA *i* 11 14 54.1
KBA pmax pmax
comp=Z,6.0nm,1.1s,mb4.9
KBA Koelnbreinsper 96.16 317⇑*i*P **P** **11 10 59.0 -1.1**
comp=Z,5.7nm,1.1s,mb4.9
KBA *i* 11 14 54.1
SPB4 Spitsbergen Ar 96.19 348 *e*P **P** **11 10 58.9 -1.3**
FBE Freiberg 96.34 320 *e*P **P** **11 11 00.6 -0.3**
comp=Z,28nm,1.5s,mb5.5
HFS Hagfors 96.50 330 P **P** **11 11 00.7 -0.9**
comp=Z,33nm,0.7s,mb5.9,baz=111,slow=3.7,SNR=38
HFS PP PP 11 14 54.1 -1.9
comp=Z,19nm,0.7s,baz=96,slow=14,SNR=4.1
RGN Rugen 96.51 324 *e*P **P** **11 11 01.2 -0.4**
comp=Z,57nm,1.1s,mb5.9
RGN *e*PP PP 11 14 47.7 -8.4
WET Wettzell 96.57 319 *e*P **P** **11 11 01.9 0.0**
comp=Z,23nm,1.0s,mb5.6
WET *e*PP PP 11 14 50.2 -6.3
WET Wettzell 96.57 319 *e*P **P** **11 11 01.9 0.0**
WET pmax pmax
comp=Z,23nm,1.0s,mb5.6
CLL Collm 96.58 321 *e*P **P** **11 11 01.2 -0.7**
comp=Z,21nm,1.4s,mb5.4
CLL *e*PP PP 11 14 54.2 -2.4
CLL *e*SKSac SKSac 11 21 32.6 -2.0
CLL *e*SKKSac SKKSac 11 21 57.6 -2.8
CLL *e*S S 11 22 18.5 -0.5
CLL *e* 11 22 43.9
CLL *e*SP SP 11 23 36.6 -2.6
CLL *e*PS PS 11 23 48.8 +3.4
CLL *e*SS SS 11 28 47.9 -5.8
CLL *e*SSSS 11 36 04.7
CLL *e*L 12 00 02.0
comp=Z,2μm,22.0s
CLL Collm 96.58 321 P **P** **11 11 01.1 -0.8**
comp=Z,logA/T=1.2,mb5.4
CLL *i* *PP pP 11 11 15.2 -1.2
CLL *e**SP sP 11 11 21.0 -0.9
CLL *i* 11 11 59.0
CLL *e*PP PP 11 14 53.0 -3.6
CLL *e* 11 15 37.0
CLL *e* 11 21 33.0
CLL *e* 11 21 59.0
CLL *e*S S 11 22 18.0 -1.0
CLL *e* 11 22 43.0
CLL *e*SP SP 11 23 36.0 -3.2
CLL *e* 11 36 00.0
CLL Collm 96.58 321 *i*P **P** **11 11 01.1 -0.8**
comp=Z,21nm,1.4s,mb5.4
CLL *i* pP pP 11 11 15.2 -1.2
CLL *e*sP sP 11 11 21.0 -0.9
CLL *i* x x 11 11 59.0
CLL *e*PP PP 11 14 53.0 -3.6
CLL *e*PKiKP PKiKP 11 15 37.0 -2.0
CLL *e*SKSac SKSac 11 21 33.0 -1.6
CLL *e*SKKSac SKKSac 11 21 59.0 -1.4
CLL *e*S S 11 22 18.0 -1.0
CLL *e*x x 11 22 43.0
CLL *e*SP SP 11 23 36.0 -3.2
CLL *e*(SS) 11 28 42.0
CLL *e*x x 11 29 42.0
CLL *e*x x 11 34 12.0
CLL *e*SSSS 11 36 00.0
CLL Collm 96.58 321 *i*P **P** **11 11 01.1 -0.8**
CLL *i* *PP pP 11 11 15.2 -1.2
CLL *e* 11 21 33.0
CLL *e*S S 11 22 18.0 -1.0
CLL pmax pmax
comp=Z,21nm,1.4s,mb5.4
CLL MLR MLR
comp=Z,2μm,16.5s,MS5.7
CLL Collm 96.58 321 *i*P **P** **11 11 01.1 -0.8**
comp=Z,21nm,1.4s,mb5.4

CLL *i* pP pP 11 11 15.2 -1.2
CLL *e*SKS 11 21 33.0
CLL *e*S S 11 22 18.0 -1.0
CLL *e* 11 22 43.0
CLL LR LR
comp=Z,2µm,16.5s,MS5.7
TANN Tannenbergstha 96.89 320 *e*P **P 11 11 02.6 -0.7**
comp=Z,34nm,1.8s,mb5.5
TANN *e*PP PP 11 14 52.9 -6.1
NKC Novy Kostel 96.89 320 *e*P **P 11 11 02.7 -0.7**
NKC *e*SKS 11 21 38.1
NKC AMS AMS 12 05 50.0
comp=Z,3µm,18.8s
NKC Novy Kostel 96.89 320 *e*P **P 11 11 02.7 -0.7**
NKC *e* 11 21 38.1
GUNZ Gunzen 96.97 320 *e*P **P 11 11 03.5 -0.2**
comp=Z,10.0nm,1.1s,mb5.2
WERD Werda 96.99 320 *e*P **P 11 11 03.4 -0.4**
comp=Z,22nm,1.6s,mb5.3
ROTZ Rotzenmuhle 97.03 319 *e*P **P 11 11 04.3 +0.3**
comp=Z,17nm,1.1s,mb5.4
ROTZ *e*PP PP 11 14 54.5 -5.6
COP Copenhagen 97.05 325 *i* P **P 11 11 05.5 +1.4**
COP *i* 11 15 03.7
COP
comp=Z,870nm,21.0s
KBS Kingsbay 97.08 349 *e*P **P 11 11 00.1 -4.1**
KBS *e*PP PP 11 14 57.8 -2.6
KBS *e*SKS 11 21 34.1
KBS AMS AMS 11 57 39.0
comp=Z,3µm,23.1s,MS5.8
KBS Kingsbay 97.08 349⇑ *e*P **P 11 11 03.2 -1.0**
KBS Kingsbay 97.08 349 *e*P **P 11 11 03.0 -1.2**
comp=Z,31nm,0.8s,mb5.8
KBS LR LR
comp=Z,5µm,21.0s,MS6.0
MANZ Manzenberg 97.10 320 *e*P **P 11 11 04.6 +0.3**
comp=Z,22nm,1.2s,mb5.5
MANZ *e*PP PP 11 14 54.8 -5.8
WTTA Wattenberg 97.33 317⇑ *i*P **P 11 11 04.8 -0.5**
WTTA *i* 11 14 57.7
WTTA pmax pmax
comp=Z,14nm,0.7s,mb5.5
WTTA Wattenberg 97.33 317⇑ *i*P **P 11 11 04.8 -0.6**
comp=Z,14nm,0.7s,mb5.5
WTTA *i* 11 14 57.7
NSS Namsos 97.37 334 *e*P **P 11 11 05.1 -0.4**
NSS AMS AMS 12 00 22.8
comp=Z,3µm,21.3s,MS5.7
MOX Moxa 97.43 320 *e*P **P 11 11 05.2 -0.6**
comp=Z,10.0nm,1.1s,mb5.2
MOX *e*PP PP 11 14 56.9 -6.3
MOX Moxa 97.43 320 *e*P **P 11 11 05.8 0.0**
comp=Z,18nm,1.5s,mb5.3
MOX *e* 11 15 02.6
MOX
comp=Z,2µm,22.0s
MOX Moxa 97.43 320 *e*P **P 11 11 05.8 0.0**
MOX *e* 11 15 02.6
MOX pmax pmax
comp=Z,18nm,1.5s,mb5.3
MOX MLR MLR
comp=Z,2µm,22.0s,MS5.4
FUR Furstenfeldbru 97.60 318 *e*PP PP 11 14 58.0 -6.5
FUR Furstenfeldbru 97.60 318 *e*PP PP 11 14 58.0 -6.5
SQTA Sankt Quirin 97.62 317⇑ *i*P **P 11 11 05.9 -0.8**
comp=Z,8.0nm,1.2s,mb5.1
SQTA Sankt Quirin 97.62 317⇑ *i*P **P 11 11 05.9 -0.8**
SQTA pmax pmax
comp=Z,8.0nm,1.2s,mb5.1
GRA1 Grafenberg Arr 97.67 319 *e*P **P 11 11 06.1 -0.8**
comp=Z,18nm,0.8s,mb5.7
GRA1 *e*PP PP 11 14 59.0 -6.0
GRA1 *e*SKSac SKSac 11 22 08.2 +28
GRA1 *e*S S 11 22 39.4 +11
GRA1 *e*PS PS 11 23 59.5 +2.2
GRA1 LR LR
comp=Z,3µm,21.4s,MS5.7
GRF Grafenberg Arr 97.67 319 *e*P **P 11 11 06.1 -0.8**
comp=Z,18nm,0.8s,mb5.7
GRF *e*PP PP 11 14 59.0 -6.0
GRF *e*SKSac SKSac 11 22 08.2 +28
GRF *e*S S 11 22 39.4 +11
GRF *e*PS PS 11 23 59.5 +2.2
GRF *e*L 12 01 29.6
comp=Z,3µm,21.4s
GRF Grafenberg Arr 97.67 319 *e*P **P 11 11 06.1 -0.8**
GRF *e*PS PS 11 23 59.5 +2.2
GRF pmax pmax
comp=Z,18nm,0.8s,mb5.7
GRF MLR MLR
comp=Z,3µm,21.4s,MS5.7
GRFO Grafenberg 97.67 319 *e*P **P 11 11 06.4 -0.5**
comp=Z,16nm,0.8s,mb5.6
GRFO Grafenberg 97.67 319 *e*P **P 11 11 06.4 -0.5**
GRFO pmax pmax
comp=Z,16nm,0.8s,mb5.6
MOTA Moosalm 97.69 317⇑ *i*P **P 11 11 06.0 -1.0**
comp=Z,6.4nm,1.1s,mb5.1
MOTA Moosalm 97.69 317⇑ *i*P **P 11 11 06.0 -1.0**
MOTA pmax pmax
comp=Z,6.0nm,1.1s,mb5.0
NB2 NORSAR Subarra 97.73 331 P **P 11 11 05.7 -1.5**
comp=Z,13nm,1.0s,mb5.4,baz=90,slow=4.6
NOA NORSAR Array B 97.73 331 P **P 11 11 05.6 -1.5**
comp=Z,5.6nm,0.7s,mb5.2,baz=89,slow=4.4,SNR=16
NOA PKKPbc PKKPbc 11 27 42.1 0.0
comp=Z,1.7nm,0.7s,baz=275,slow=2.2,SNR=5.5
NOA LR LR 12 01 58.6
comp=Z,3µm,20.6s,MS5.8,baz=100,slow=40
NAO01 NORSAR Array S 97.90 330 *e*P **P 11 11 06.6 -1.3**
comp=Z,6.0nm,0.8s,mb5.2
NAO01 *e*pP pP 11 11 21.6 -0.9
NAO01 LR LR
comp=Z,3µm,20.0s,MS5.8
CLZ Clausthal 98.23 321 *e*P **P 11 11 06.6 -2.8**
comp=Z,14nm,1.2s,mb5.4
CLZ *e*PP PP 11 15 05.7 -3.6
CLZ Clausthal 98.23 321 *e*P **P 11 11 06.6 -2.8**
CLZ *e* 11 15 05.7
CLZ pmax pmax
comp=Z,14nm,1.2s,mb5.4
BSEG Bad Segeberg 98.26 323 *e*P **P 11 11 09.2 -0.3**
comp=Z,21nm,0.9s,mb5.7
BSEG *e*PP PP 11 15 08.6 -0.9
BSEG Bad Segeberg 98.26 323 *e*P **P 11 11 09.2 -0.3**
BSEG *e* 11 15 08.6
BSEG pmax pmax
comp=Z,21nm,0.9s,mb5.7
NRDL Niedersach Rie 98.39 322 *e*P **P 11 11 09.9 -0.2**
comp=Z,19nm,1.3s,mb5.5
UBBA Unterbreizbach 98.46 320 *e*P **P 11 11 10.4 0.0**
comp=Z,8.0nm,1.1s,mb5.2
UBBA *e*PP PP 11 15 04.5 -6.6
KIP Kipapa 98.50 69 PFAKE 11 11 20.0 +9.4
KIP LR LR
comp=Z,4µm,20.0s,MS6.0
DAVOX Davos 98.52 316 P **P 11 11 10.8 +0.1**
comp=Z,3.6nm,0.5s,mb5.1,baz=71,slow=7.8,SNR=8.0
DAVOX PP PP 11 15 12.1 +0.5
comp=Z,8.0nm,0.7s,baz=168,slow=11,SNR=3.5
DAVA Damuels 98.53 317⇑ *i*P **P 11 11 10.7 0.0**
comp=Z,15nm,1.1s,mb5.5
DAVA *i* 11 15 11.0
KONO Kongsberg 98.56 329 *e* **P 11 11 09.4 -1.5**
KONO *e*PP PP 11 15 10.8 -1.1
KONO *e*SKS 11 21 44.4
KONO Kongsberg 98.56 329⇑ *e*P **P 11 11 10.3 -0.6**
KONO Kongsberg 98.56 329⇑ *e*P **P 11 11 10.4 -0.5**
KONO LR LR
comp=Z,3µm,19.0s,MS5.7
STU Stuttgart 98.99 318 *e*PP PP 11 15 09.0 -6.1
STU Stuttgart 98.99 318 *e*PP PP 11 15 09.0 -6.1
PGF Pioggiola 99.11 312 *e*P **P 11 11 12.2 -1.1**
MOL Molde 99.42 332 *e* **P 11 11 10.4 +3.7**
MOL *e*PP PP 11 15 18.2 -0.1
MOL AMS AMS 12 01 12.4
comp=Z,7µm,19.8s,MS6.2
TNS Taunus Mts 99.46 320 *e*P **P 11 11 17.3 +2.4**
comp=Z,24nm,1.3s,mb5.6
TNS *e*PP PP 11 15 12.5 -6.2
TNS Taunus Mts 99.46 320 *e*P **P 11 11 17.3 +2.4**
TNS pmax pmax
comp=Z,24nm,1.3s,mb5.6
BFO Black Forest 99.57 318 *e*P Pdif 11 11 18.7 +3.3
comp=Z,8.0nm,1.1s
BFO *e*PP PP 11 15 13.1 -6.4
BFO Black Forest 99.57 318 *e*P Pdif 11 11 18.7 +3.3
BFO pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
BFO Black Forest 99.57 318 *e*P Pdif 11 11 14.8 -0.6
BFO *e*PP PP 11 15 13.1 -6.4
HLG Helgoland 99.69 324 *e*P Pdif 11 11 17.2 +1.3
comp=Z,154nm,1.5s
HLG *e*PP PP 11 15 18.2 -2.2
TTA Tatalina 99.74 27 *e*P Pdif 11 11 16.0 -0.1
IBBN Ibbenburen 99.83 322 *e*P Pdif 11 11 13.9 -2.7
SVW2 Sparrevohn 100.09 29 *e*Pdif Pdif 11 11 17.5 -0.2
BUG Bochum--Univer 100.17 321 *e*P Pdif 11 11 18.3 +0.3
comp=Z,7.0nm,0.7s
SBF Sospel 100.25 313 *e*P Pdif 11 11 17.7 -0.7
CDF Champ du Feu 100.27 318 *e*P Pdif 11 11 17.5 -1.0
CMAH Djebel Manchou 100.27 306 P PP 11 15 30.0 +5.1
CGMA Guelma 100.28 306 P PP 11 15 30.0 +5.1
IMA2 Indian Mountai 100.41 24 *e*Pdif Pdif 11 11 18.9 -0.3
WTSB Winterswijk 100.44 322 *e*PP PP 11 15 11.6 -15
BER Bergen 100.66 330 *e* Pdif 11 11 25.8 +5.6
BER *e*PP PP 11 15 26.6 -1.2
BER *e*SKS 11 21 54.7
BER AMS AMS 12 01 21.9
comp=Z,3µm,20.2s,MS5.8
LPG La Plagne 100.71 315 *e*P Pdif 11 11 19.8 -0.6
comp=Z,10nm,0.7s
LPG La Plagne 100.71 315 *e*P Pdif 11 11 19.8 -0.6
LPG pmax pmax
comp=Z,5.0nm,0.7s
LPG La Plagne 100.71 315 *e*P Pdif 11 11 19.8 -0.6
comp=Z,5.2nm,0.7s
MBDF Montbardon 100.71 314 *e*P Pdif 11 11 19.6 -0.9
POHA Pohakuloa 100.72 71 PFAKE 11 11 30.0 +10
POHA LR LR
comp=Z,5µm,22.0s,MS6.0
LPL La Plagne 100.72 315 *e*P Pdif 11 11 19.7 -0.8
CKFL Kef-Lekhel 100.84 306 P PP 11 15 32.0 +2.9
HAU Haudompre 100.90 318 *e*P Pdif 11 11 20.6 -0.7
comp=Z,17nm,0.8s
HAU *e*R
comp=Z,2µm,22.9s
HAU Haudompre 100.90 318 *e*P Pdif 11 11 20.6 -0.7
HAU pmax pmax
comp=Z,9.0nm,0.8s
HAU MLR MLR
comp=Z,2µm,22.9s,MS5.6
HAU Haudompre 100.90 318 *e*P Pdif 11 11 20.6 -0.7
comp=Z,8.6nm,0.8s
HAU LR LR
comp=Z,2µm,22.9s,MS5.6
LMR La Mourre 100.93 313 *e*P Pdif 11 11 20.5 -0.9
WLF Walferdange 100.96 319 *e*P Pdif 11 11 20.9 -0.7
WLF *e*PP PP 11 15 23.9 -6.2
CASM Ain Smara 101.02 306 P PP 11 15 33.0 +2.5
HGN Heimansgroeve 101.04 320 *e*PP PP 11 15 18.7 -12
CTEI Djebel Teioual 101.09 305 P PP 11 15 33.0 +2.0
CABF La Chapelle 101.13 316 *e*P Pdif 11 11 21.8 -0.5
comp=Z,12nm,0.7s
CABF La Chapelle 101.13 316 *e*P Pdif 11 11 21.8 -0.5
CABF pmax pmax
comp=Z,6.0nm,0.7s
CABF La Chapelle 101.13 316 *e*P Pdif 11 11 21.8 -0.5
comp=Z,6.3nm,0.7s
TBI Tubuai 101.18 115 *e*PS PS 11 24 31.8 -3.2
comp=Z,1µm,28.5s
TBI Tubuai 101.18 115 *e*SS SS 11 30 07.2 +9.1
comp=Z,2µm,32.8s
TBI *e*LR LR 11 44 40.8
comp=Z,7µm,32.8s
ORIF Oris-en-Rattie 101.34 314 *e*P Pdif 11 11 22.3 -1.0
ORIF *e*R
comp=Z,7µm,22.8s
CMER Merouana 101.50 305 P PP 11 15 35.0 +0.8
DFRA Djebel Bou Aff 101.52 306 P PP 11 15 35.0 +0.7
SMRF Simiane la Rot 101.59 313 *e*P Pdif 11 11 23.7 -0.7
comp=Z,6.5nm,0.7s
SMRF Simiane la Rot 101.59 313 *e*P Pdif 11 11 23.7 -0.7
comp=Z,6.5nm,0.7s
SET Setif 101.90 306 P PP 11 15 33.0 -4.2
KDAK Kodiak Island 101.95 32 P Pdif 11 11 25.1 -0.8
comp=Z,30nm,1.0s,baz=102,slow=19,SNR=5.1
KDAK Kodiak Island 101.95 32 P Pdif 11 11 25.1 -0.8
KDAK LR LR
comp=Z,929nm,19.0s,MS5.3
BAIF Baives 102.19 320 *e*P Pdif 11 11 26.4 -0.6
comp=Z,4.6nm,0.6s
BAIF Baives 102.19 320 *e*P Pdif 11 11 26.4 -0.6
BAIF pmax pmax
comp=Z,2.0nm,0.6s
BAIF Baives 102.19 320 *e*P Pdif 11 11 26.4 -0.6
comp=Z,2.3nm,0.6s
PPT Papeete 102.23 109 *e*PS PS 11 24 49.1 +3.0
comp=Z,2µm,26.8s
PPT Papeete 102.23 109 *e*SS SS 11 30 22.1 +9.5
comp=Z,2µm,28.8s
PPT *e*LR LR 11 45 10.7
comp=Z,10µm,22.5s
LOR Lormes 102.62 317 *e*P Pdif 11 11 28.0 -1.0
comp=Z,10nm,0.7s
LOR *e*R
comp=Z,2µm,22.0s
LOR Lormes 102.62 317 *e*P Pdif 11 11 28.0 -1.0
LOR pmax pmax
comp=Z,5.0nm,0.7s
LOR MLR MLR
comp=Z,2µm,22.0s,MS5.5
LOR Lormes 102.62 317 *e*P Pdif 11 11 28.0 -1.0
comp=Z,5.2nm,0.7s
LOR LR LR
comp=Z,2µm,22.0s,MS5.5
SMF Signal de Mont 102.68 316 *e*P Pdif 11 11 28.5 -0.7
comp=Z,7.6nm,0.6s
SMF Signal de Mont 102.68 316 *e*P Pdif 11 11 28.5 -0.7
SMF pmax pmax
comp=Z,4.0nm,0.6s
SMF Signal de Mont 102.68 316 *e*P Pdif 11 11 28.5 -0.7
comp=Z,3.8nm,0.6s
MCK McKinley 102.79 26 *e*Pdif Pdif 11 11 29.0 -0.7
MCK LR LR
comp=Z,1µm,22.0s,MS5.4
LASF Ste Croix 102.83 314 *e*P Pdif 11 11 29.2 -0.7
SSF Saint Saulge 102.88 317 *e*P Pdif 11 11 28.7 -1.4
COLA College 103.02 25 *e*P Pdif 11 11 30.5 -0.2
COLA pmax pmax
comp=Z,3.0nm,0.9s
COLA MLR MLR
comp=Z,2µm,21.0s,MS5.7
COLA College 103.02 25 *e*Pdif Pdif 11 11 30.4 -0.3
comp=Z,3.0nm,0.9s
COLA LR LR
comp=Z,2µm,21.0s,MS5.7
PMR Palmer 103.11 28 *e*P Pdif 11 11 29.7 -1.4
PMR MLR MLR
comp=Z,2µm,22.0s,MS5.7
DAG Danmarks Havn 103.82 349⇓ *i*P Pdif 11 11 32.3 -2.0
comp=Z,18nm,0.7s
DAG
comp=Z,10µm,21.0s
DAG Danmarks Havn 103.82 349⇓ *i*P Pdif 11 11 32.3 -2.0
DAG pmax pmax
comp=Z,18nm,0.7s
DAG MLR MLR
comp=N,6µm,21.0s,MS6.2
DAG MLR MLR
comp=E,6µm,21.0s,MS6.2
DAG MLR MLR
comp=Z,10µm,21.0s,MS6.3
JMIC Jan Mayen 103.85 342 *e* Pdif 11 11 37.4 +3.0
JMIC *e*PP PP 11 15 54.1 +2.3
JMIC AMS AMS 12 04 52.2
comp=Z,5µm,22.8s,MS5.9
JMIC Jan Mayen 103.85 342 *e*P Pdif 11 11 38.0 +3.5
JMIC LR LR
comp=Z,5µm,22.8s,MS5.9
EMHD Djebel Mahouad 103.88 306 P PKiKP 11 15 54.0 +1.9
CAF Calviac 104.05 315 *e*P Pdif 11 11 34.3 -1.0
TORD Torodi Ar. Bea 104.76 282 Pdiff Pdif 11 11 38.9 +0.4
comp=Z,2.6nm,1.0s,baz=91,slow=1.7,SNR=9.7
TORD PKiKP PKiKP 11 15 53.8 +0.1
comp=Z,2.7nm,0.7s,baz=56,slow=1.8,SNR=9.4
TORD PKKPbc PKKPbc 11 27 22.2 +0.4
comp=Z,1.1nm,0.8s,baz=300,slow=3.9,SNR=5.1
ETRT Tiaret 105.26 305 P PKiKP 11 15 59.0 +4.4
EANR 'Ain N'Sour 105.39 305 P PKiKP 11 15 57.0 +2.2
EKA Eskdalemuir Ar 105.90 326 PKKPbc PKKPbc 11 27 19.6 +1.2
comp=Z,1.3nm,0.7s,baz=255,slow=2.5,SNR=4.8
ESK Eskdalemuir 105.93 326 PFAKE 11 16 10.0 +14
ESK LR LR
comp=Z,4µm,20.0s,MS6.0
DAWY Dawson 106.76 25 *e*Pdif Pdif 11 11 47.0 -0.3
INK Inuvik 107.24 19 PKiKP PKiKP 11 15 57.1 -1.1
comp=Z,6.9nm,1.0s,baz=143,slow=1.1,SNR=6.7
INK PKKPbc PKKPbc 11 27 13.5 -0.8
comp=Z,3.3nm,1.0s,baz=136,slow=4.4,SNR=5.0
INK PKKP PKKPbc 11 27 29.4 +15
comp=Z,4.4nm,0.8s,baz=125,slow=5.3,SNR=6.7
INK Inuvik 107.24 19 *e*Pdif Pdif 11 11 48.5 -1.0
INK *e*PKiKP PKiKP 11 15 56.9 -1.3
INK PKPdf PKiKP 11 15 57.1 -1.1
INK PKKPbc PKKPbc 11 27 13.5 -0.8
INK PKKP PKKPbc 11 27 29.4 +15
TRIS Tristan da Cun 107.52 228 PFAKE 11 16 10.0 +11
TRIS LR LR
comp=Z,5µm,20.0s,MS6.1
PMSA Palmer Station 108.40 185 PFAKE 11 16 10.0 +10
PMSA LR LR
comp=Z,14µm,20.0s,MS6.5
ESDC Sonseca Array 109.05 310 PKiKP PKiKP 11 16 02.1 +0.5
comp=Z,0.6nm,0.5s,baz=87,slow=3.7,SNR=5.9
ESDC PKKPab PKKPab 11 27 20.8 -0.3
comp=Z,1.0nm,0.5s,baz=275,slow=4.5,SNR=5.7
ESLA Sonseca Array 109.05 310 PFAKE 11 16 10.0 +8.4
ESLA LR LR
comp=Z,11µm,21.0s,MS6.4
DBIC Dimbokro 110.77 275 PKiKP PKiKP 11 16 05.9 +1.0
comp=Z,11nm,1.0s,baz=228,slow=4.7,SNR=3.8
DBIC Dimbokro 110.77 275 PKPdf PKiKP 11 16 05.9 +1.0
DBIC LR LR
comp=Z,3µm,20.0s,MS5.8
PBRG Braganca 110.81 312 *e*PP PP 11 16 43.0 +0.2
BORG Borgarnes 110.95 338 PFAKE 11 16 20.0 +15
BORG LR LR
comp=Z,3µm,20.0s,MS5.9
SIT Sitka 111.15 31 PFAKE 11 16 20.0 +14
SIT LR LR
comp=Z,5µm,20.0s,MS6.1
HOPE Hope Point 111.47 203 PFAKE 11 16 20.0 +14
HOPE LR LR
comp=Z,6µm,22.0s,MS6.1
MTE Manteigas 111.66 311 *e*P PKiKP 11 16 07.4 +0.8
MTE Manteigas 111.66 311 *e*PP PP 11 16 48.2 -0.6
PCBR Castelo Branco 111.70 310 *e*P PKiKP 11 16 07.2 +0.6
PCBR Castelo Branco 111.70 310 *e*PP PP 11 16 49.8 +0.6
PCAB Cabril 111.78 312 *e*PP PP 11 16 49.7 0.0
PVIS Viseu 111.86 311 *e*P PKiKP 11 16 09.0 +2.0
PESTR Estremoz 111.95 309 *e*P PKiKP 11 16 07.2 +0.1
PESTR Estremoz 111.95 309 *e*PP PP 11 16 51.7 +0.8
PBEJ Beja 112.31 308 *e*P PKiKP 11 16 06.3 -1.5
PBEJ Beja 112.31 308 *e*PP PP 11 16 55.2 +1.7
EVO Evora 112.34 309 *e*P Pdif 11 12 11.9 -0.2
EVO *e*R
comp=Z,3µm,20.5s
TAOE Nuku Hiva Isla 112.91 102 *e*PS PS 11 26 30.3 -2.7
comp=Z,3µm,28.5s
TAOE Nuku Hiva Isla 112.91 102 *e*LR LR 11 49 59.3
comp=Z,15µm,25.4s
DLBC Dease Lake 113.17 28 PKiKP PKiKP 11 16 09.1 -0.3
comp=Z,3.0nm,0.7s,baz=304,slow=1.5,SNR=7.0
DLBC Dease Lake 113.17 28 *e*Pdif Pdif 11 12 18.1 +2.3
DLBC *e*PKPdf PKiKP 11 16 09.0 -0.4
DLBC *e*SKPdf SKPdf 11 19 39.2 -1.5
RKT Rikitea 114.08 119 *e*PS PS 11 26 41.5 -2.2
comp=Z,3µm,29.0s
RKT Rikitea 114.08 119 *e*SS SS 11 33 09.0 +16
comp=Z,2µm,32.8s
RKT *e*LR LR 11 50 42.2
comp=Z,11µm,27.2s
YKW3 Yellowknife Ar 116.96 20 *e*PKPdf PKPdf 11 16 15.1 -1.6
BBB Bella Bella 116.97 34 PKP PKPdf 11 16 16.7 -0.1
comp=Z,15nm,1.1s,baz=265,slow=3.5,SNR=14
BBB Bella Bella 116.97 34 PKP PKPdf 11 16 16.7 -0.1
YKA Yellowknife Ar 117.01 20 PKP PKPdf 11 16 15.3 -1.5
comp=Z,8.1nm,0.8s,baz=276,slow=2.7,SNR=49
YKA PKKPbc PKKPbc 11 26 40.7 -1.1
comp=Z,3.9nm,1.0s,baz=128,slow=3.7,SNR=15
YKA Yellowknife Ar 117.01 20 PKP PKPdf 11 16 15.3 -1.5
YKA PKKPbc PKKPbc 11 26 40.7 -1.1
PTCN Pitcairn Islan 117.56 123 PFAKE 11 16 30.0 +12
PTCN LR LR
comp=Z,10µm,22.0s,MS6.4
ASCN Ascension 118.21 257 PFAKE 11 16 30.0 +11
ASCN LR LR
comp=Z,5µm,19.0s,MS6.1
PMPS Porto Santo 120.03 304 *e*P PKPdf 11 16 24.7 +2.1
EFI East Falkland 120.26 192 PFAKE 11 16 30.0 +6.9
EFI LR LR
comp=Z,7µm,22.0s,MS6.3
PMAR Madeira 120.58 304 *e*PP PP 11 17 50.8 -0.5
C03A Quillayute Air 120.93 37⇓P PKPdf 11 16 25.3 +1.0
baz=121
B04A Port Angeles 121.51 36⇓P PKPdf 11 16 25.9 +0.4
baz=121
A04A Legoe Bay, Lum 121.65 35⇑P PKPdf 11 16 25.9 +0.2
baz=122
D03A Wishkah Elem. 121.80 37⇑P PKPdf 11 16 26.4 +0.4
baz=122
A05A Maple Falls 121.87 35⇑P PKPdf 11 16 25.9 -0.3
baz=122,SNR=14
C04A Brinnon 121.99 37⇑P PKPdf 11 16 27.2 +0.8
baz=122
GNW Green Mountain 122.15 37 *e*PKPdf PKPdf 11 16 27.5 +0.8
E03A Lebam 122.19 38⇓P PKPdf 11 16 27.4 +0.7
baz=122,SNR=20
B05A Bryant 122.23 36⇓P PKPdf 11 16 27.0 +0.2
baz=122,SNR=27
F03A Seaside 122.47 39⇓P PKPdf 11 16 28.3 +1.0
baz=122
E04A Onalaska 122.68 38⇓P PKPdf 11 16 28.5 +0.8
baz=123
C05A Tolt Reservoir 122.75 36⇑P PKPdf 11 16 27.8 -0.1
baz=123,SNR=13
H02A Toledo 122.76 40⇓P PKPdf 11 16 28.6 +0.8
baz=123
FRB Frobisher Bay 122.77 357 PKP PKPdf 11 16 26.7 -1.2
comp=Z,33nm,1.1s,baz=29,slow=3.1,SNR=5.1
D05A Enumclaw 122.83 37⇑P PKPdf 11 16 28.5 +0.5
baz=123
LON Longmire 123.15 37 PKIKP PKPdf 11 16 28.7 +0.1
I02A Mapleton 123.17 41⇓P PKPdf 11 16 29.3 +0.7
baz=123
F04A Amboy 123.18 38⇓P PKPdf 11 16 29.0 +0.3
baz=123
H03A Soap Creek Ran 123.21 40⇑P PKPdf 11 16 29.6 +0.8
baz=123
COR Corvallis 123.25 40 *e*PKPdf PKPdf 11 16 29.7 +0.9
COR LR LR
comp=Z,2µm,20.0s,MS5.8
E05A Randle 123.27 37⇑P PKPdf 11 16 29.0 +0.1
baz=123,SNR=21
G04A Mulino 123.48 39⇓P PKPdf 11 16 29.7 +0.5
baz=123,SNR=7.7
TWW Teanaway 123.51 36 P PKPdf 11 16 30.4 +1.1
I03A Eugene 123.54 41⇑P PKPdf 11 16 30.0 +0.7
baz=124
J02A Umpqua 123.61 41 P PKPdf 11 16 30.1 +0.6
baz=124,SNR=6.0
WTV Waterville 123.75 35 P PKPdf 11 16 29.6 -0.2
F05A White Salmon 123.79 38⇑P PKPdf 11 16 30.4 +0.5
baz=124
EDM Edmonton 123.84 27 *e*PKIKP PKPdf 11 16 29.9 0.0
H04A Detroit Lake 123.91 39⇓P PKPdf 11 16 30.1 +0.1
baz=124,SNR=16
K02A Glendale 123.93 42⇓P PKPdf 11 16 30.7 +0.6
baz=124,SNR=9.4
HOOD Mount Hood Mea 123.94 38 *e*PKPdf PKPdf 11 16 31.3 +1.1
J03A Ideyld Park 124.01 41⇓P PKPdf 11 16 31.0 +0.7
baz=124,SNR=12
L02A Cave Junction 124.12 43⇑P PKPdf 11 16 31.3 +0.8
baz=124
EPH Ephrata 124.14 36 P PKPdf 11 16 30.9 +0.4
G05A Wamic 124.19 38⇓P PKPdf 11 16 31.3 +0.7
baz=124
HUMO Hull Mountain 124.35 42 *e*PKPdf PKPdf 11 16 31.8 +0.9
HUMO LR LR
comp=Z,12µm,21.0s,MS6.5
HUMO Hull Mountain 124.35 42 P PKPdf 11 16 32.0 +1.1
baz=124,SNR=18
H05A Madras 124.53 39⇓P PKPdf 11 16 31.8 +0.6
baz=124,SNR=22
KHMM Horse Mountain 124.56 44 *e*PKPdf PKPdf 11 16 32.4 +1.1

OD2	**Odessa Site #2**	**124.63**	**35**	P		PKPdf	11 16 31.9 +0.4
HAWA	**Hanford**	**124.69**	**36**	*e*PKPdf		PKPdf	11 16 32.3 +0.7
WRD	**Warden**	**124.70**	**36**	P		PKPdf	11 16 32.4 +0.8
I05A	**Bend**	**124.74**	**40**	⇓P		PKPdf	11 16 32.2 +0.6
	baz=125,SNR=18						
O01C	**Eel River Cons**	**124.80**	**45**	⇓P		PKPdf	11 16 31.8 +0.1
	baz=125						
N02C	**Big Bar**	**124.88**	**44**	⇓P		PKPdf	11 16 32.7 +0.8
	baz=125						
YBH	**Yreka Blue Hor**	**124.90**	**43**	PKP		PKPdf	11 16 32.9 +0.9
	comp=Z,11nm,1.0s,baz=148,slow=5.8,SNR=11						
YBH	**Yreka Blue Hor**	**124.90**	**43**	*e*PKPdf		PKPdf	11 16 32.9 +0.9
YBH				LR	LR		
	comp=Z,8μm,21.0s,MS6.4						
YBH	**Yreka Blue Hor**	**124.90**	**43**	⇑P		PKPdf	11 16 32.3 +0.3
	baz=125						
M02C	**Callahan**	**124.95**	**43**	⇓P		PKPdf	11 16 33.2 +1.2
	baz=125,SNR=11						
VIPM	**Ingram Point**	**124.98**	**39**	PKIKP		PKPdf	11 16 33.1 +1.0
NEW	**Newport**	**125.03**	**33**	PKP		PKPdf	11 16 32.0 -0.2
	comp=Z,20nm,0.9s,baz=180,slow=0.5,SNR=26						
NEW	**Newport**	**125.03**	**33**	*e*PKPdf		PKPdf	11 16 32.5 +0.3
NEW				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
K04A	**Chilquin**	**125.16**	**41**	⇑P		PKPdf	11 16 33.2 +0.7
	baz=125						
L04A	**Klamath Falls**	**125.25**	**42**	⇓P		PKPdf	11 16 33.1 +0.5
	baz=125,SNR=12						
LHEM	**Herd Peak**	**125.28**	**43**	P		PKPdf	11 16 33.4 +0.7
P01C	**Double 8 Ranch**	**125.41**	**46**	⇑P		PKPdf	11 16 33.7 +0.8
	baz=125						
M04C	**Macdoel**	**125.46**	**42**	⇑P		PKPdf	11 16 33.7 +0.6
	baz=125,SNR=12						
O02C	**Red Bluff**	**125.50**	**45**	⇑P		PKPdf	11 16 34.1 +0.9
	baz=125,SNR=13						
WDC	**Whiskeytown Da**	**125.51**	**44**	*e*PKPdf		PKPdf	11 16 33.4 +0.3
WDC				LR	LR		
	comp=Z,6μm,22.0s,MS6.2						
WDC	**Whiskeytown Da**	**125.51**	**44**	P		PKPdf	11 16 33.5 +0.4
	baz=125,SNR=9.3						
GASB	**Alder Springs**	**125.77**	**45**	⇓P		PKPdf	11 16 34.7 +1.1
	baz=126,SNR=9.1						
HOPS	**Hopland**	**125.79**	**46**	PFAKE			11 16 50.0 +16
HOPS				LR	LR		
	comp=Z,10μm,22.0s,MS6.4						
HOPS	**Hopland**	**125.79**	**46**	⇑P		PKPdf	11 16 34.8 +1.1
	baz=126						
FCC	**Fort Churchill**	**125.82**	**12**	*e*PKIKP		PKPdf	11 16 33.2 -0.5
J06A	**Christmas Vall**	**125.88**	**40**	P		PKPdf	11 16 34.7 +0.9
	baz=126,SNR=39						
L05A	**Lakeview**	**126.01**	**42**	⇓P		PKPdf	11 16 35.3 +1.2
	baz=126,SNR=15						
K06A	**Valley Falls**	**126.04**	**41**	P		PKPdf	11 16 35.2 +1.1
	baz=126,SNR=33						
O03C	**Acorn Hollow,**	**126.11**	**44**	⇓P		PKPdf	11 16 35.3 +1.0
	baz=126						
M05C	**Lookout**	**126.12**	**43**	⇓P		PKPdf	11 16 35.0 +0.7
	baz=126						
HATC	**Hat Creek Radi**	**126.14**	**43**	⇑P		PKPdf	11 16 35.1 +0.8
	baz=126,SNR=8.3						
LBCM	**Butte Creek Ri**	**126.21**	**43**	P		PKPdf	11 16 35.2 +0.8
MCCM	**Marconi Confer**	**126.26**	**47**	⇓P		PKPdf	11 16 35.3 +0.7
	baz=126						
WALA	**Waterton Lakes**	**126.26**	**31**	*e*PKPdf		PKPdf	11 16 35.1 +0.5
MNRC	**McLaughlin Nat**	**126.28**	**46**	⇓P		PKPdf	11 16 35.7 +1.1
	baz=126,SNR=15						
NSHM	**Saint Helena R**	**126.31**	**46**	*e*PKPdf		PKPdf	11 16 35.7 +1.0
FARB	**Farallon Islan**	**126.35**	**47**	⇓P		PKPdf	11 16 35.3 +0.5
	baz=126						
J07A	**Hines**	**126.36**	**40**	⇓P		PKPdf	11 16 35.8 +1.0
	baz=126,SNR=20						
CVS	**Carmenet Viney**	**126.48**	**46**	P		PKPdf	11 16 36.0 +1.0
	baz=126,SNR=9.1						
BSMT	**Bassoo Peak**	**126.54**	**33**	*e*PKPdf		PKPdf	11 16 35.0 -0.1
SUTB	**Sutter Butte**	**126.60**	**45**	⇓P		PKPdf	11 16 35.4 +0.2
	baz=126,SNR=9.9						
O04C	**Chester**	**126.62**	**44**	⇓P		PKPdf	11 16 35.8 +0.6
	baz=126,SNR=11						
M06C	**Likely Place G**	**126.64**	**42**	P		PKPdf	11 16 36.4 +1.1
	baz=126,SNR=17						
ORV	**Oroville**	**126.67**	**45**	P		PKPdf	11 16 35.6 +0.3
	baz=127,SNR=17						
Q03C	**Winters**	**126.69**	**46**	⇑P		PKPdf	11 16 36.1 +0.7
	baz=127						
ELFS	**Eagle Lake Fie**	**126.73**	**43**	⇑P		PKPdf	11 16 36.3 +0.8
	baz=127,SNR=12						
OHCM	**Honcut**	**126.77**	**45**	*e*PKPdf		PKPdf	11 16 35.9 +0.4
BMO	**Blue Mountains**	**126.83**	**37**	*e*PKPdf		PKPdf	11 16 35.3 -0.4
BMO				*e*PP		PP	11 18 32.9 -0.4
BMO				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
O05C	**Quincy**	**126.89**	**44**	⇓P		PKPdf	11 16 36.4 +0.6
	baz=127,SNR=27						
L07A	**Adell**	**127.00**	**41**	⇑P		PKPdf	11 16 37.1 +1.1
	baz=127,SNR=16						
JRSC	**Jasper Ridge**	**127.02**	**47**	⇓P		PKPdf	11 16 36.8 +0.8
	baz=127						
Q04C	**Lincoln**	**127.06**	**45**	⇑P		PKPdf	11 16 37.2 +1.1
	baz=127						
BDM	**Black Diamond**	**127.07**	**47**	⇓P		PKPdf	11 16 37.0 +0.9
	baz=127						
BNLO	**Ben Lomond (Sa**	**127.17**	**48**	⇓P		PKPdf	11 16 37.2 +0.9
	baz=127						
FFC	**Flin Flon**	**127.19**	**20**	*e*PKPdf		PKPdf	11 16 36.2 -0.1
FFC				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
WVOR	**Wild Horse Val**	**127.26**	**40**	*e*PKIKP		PKPdf	11 16 37.1 +0.6
WVOR				MLR	MLR		
	comp=Z,6μm,20.0s,MS6.3						
N06A	**Buffalo Meadow**	**127.28**	**43**	P		PKPdf	11 16 37.5 +1.0
	baz=127,SNR=29						
WENL	**Wente Brothers**	**127.28**	**47**	⇑P		PKPdf	11 16 37.6 +1.1
	baz=127,SNR=6.9						
P05C	**Yuba Gap, Truc**	**127.40**	**45**	⇓P		PKPdf	11 16 37.6 +0.8
	baz=127,SNR=23						
M07A	**Soldier Meadow**	**127.42**	**42**	⇑P		PKPdf	11 16 37.9 +1.1
	baz=127,SNR=19						
LAVA	**Lava Cap Winer**	**127.54**	**45**	⇑P		PKPdf	11 16 37.6 +0.6
	baz=128,SNR=19						
O06A	**Flanigan**	**127.55**	**43**	⇓P		PKPdf	11 16 37.9 +0.8
	baz=128,SNR=21						
R04C	**Big Horse Ranc**	**127.61**	**46**	⇑P		PKPdf	11 16 37.4 +0.3
	baz=128						
MSO	**Missoula**	**127.62**	**33**	*e*PKPdf		PKPdf	11 16 37.2 0.0
MSO				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
S04C	**Ingram Canyon,**	**127.64**	**47**	⇓P		PKPdf	11 16 38.1 +0.9
	baz=128,SNR=13						
P06A	**Stead Airport,**	**127.72**	**44**	⇓P		PKPdf	11 16 38.4 +1.0
	baz=128,SNR=8.6						
SAO	**San Andreas Ge**	**127.85**	**48**	*e*PKPdf		PKPdf	11 16 39.0 +1.4
SAO				LR	LR		
	comp=Z,12μm,21.0s,MS6.5						
PACP	**Pacheco Peak**	**127.87**	**48**	⇓P		PKPdf	11 16 39.0 +1.4
	baz=128,SNR=12						
M08A	**Happy Creek Ra**	**127.91**	**41**	⇓P		PKPdf	11 16 38.9 +1.2
	baz=128,SNR=14						
HAST	**UC Hastings Re**	**127.92**	**48**	⇓P		PKPdf	11 16 38.8 +1.1
	baz=128,SNR=9.8						
CHMT	**Chamberlain Mo**	**127.94**	**33**	*e*PKPdf		PKPdf	11 16 37.9 +0.1
WCN	**Washoe City**	**127.99**	**44**	⇑P		PKPdf	11 16 39.1 +1.2
	baz=128,SNR=21						
R05C	**Kirkwood Meado**	**128.03**	**45**	⇓P		PKPdf	11 16 39.0 +1.0
	baz=128,SNR=22						
PAHR	**Pah Rah Range**	**128.06**	**44**	*e*PKPdf		PKPdf	11 16 39.0 +1.0
PAHR				*e*PP		PP	11 18 44.3 +2.8
L09A	**Wilkinson Ranc**	**128.09**	**40**	⇑P		PKPdf	11 16 39.2 +1.2
	baz=128,SNR=20						
CMB	**Columbia Colle**	**128.10**	**46**	*e*PKIKP		PKPdf	11 16 38.1 0.0
CMB				*e*			11 18 39.1
CMB	**Columbia Colle**	**128.10**	**46**	*e*PKPdf		PKPdf	11 16 38.1 0.0
CMB				*e*PP		PP	11 18 39.1 -2.6
CMB				LR	LR		
	comp=Z,13μm,21.0s,MS6.6						
CMB	**Columbia Colle**	**128.10**	**46**	⇑P		PKPdf	11 16 38.7 +0.7
	baz=128,SNR=13						
O07A	**Toulon**	**128.20**	**43**	⇓P		PKPdf	11 16 39.2 +0.9
	baz=128,SNR=14						
V03C	**Hunter Liggett**	**128.30**	**49**	⇑P		PKPdf	11 16 40.0 +1.5
	baz=128						
LRV	**Little Rabbit**	**128.30**	**48**	*e*PKPdf		PKPdf	11 16 40.9 +2.5
T05C	**Eagle Field, D**	**128.37**	**47**	⇑P		PKPdf	11 16 40.0 +1.4
	baz=128						
S05C	**Merced**	**128.43**	**47**	⇑P		PKPdf	11 16 39.4 +0.7
	baz=128,SNR=17						
P07A	**Fallon**	**128.48**	**44**	⇑P		PKPdf	11 16 39.6 +0.8
	baz=128						
U04C	**Hernandez Rese**	**128.50**	**48**	⇑P		PKPdf	11 16 40.0 +1.2
	baz=128,SNR=8.6						
M09A	**Marrel Ranch,**	**128.53**	**41**	⇓P		PKPdf	11 16 40.0 +1.2
	baz=128						
S06C	**San Francisco**	**128.55**	**46**	⇓P		PKPdf	11 16 39.5 +0.6
	baz=128,SNR=18						
R06C	**Coleville**	**128.55**	**45**	⇑P		PKPdf	11 16 40.2 +1.2
	baz=128,SNR=18						
WAKR	**Walker**	**128.57**	**45**	*e*PKPdf		PKPdf	11 16 40.9 +1.9
V04C	**Ramage Ranch,**	**128.72**	**49**	⇑P		PKPdf	11 16 40.2 +1.0
	baz=129,SNR=8.6						
N09A	**Rock Creek Ran**	**128.77**	**41**	⇓P		PKPdf	11 16 40.6 +1.3
	baz=129,SNR=15						
HRY	**Holter Researc**	**128.83**	**32**	*e*PKPdf		PKPdf	11 16 40.2 +0.7
PKD	**Parkfield**	**128.85**	**48**	⇓P		PKPdf	11 16 40.5 +1.0
	baz=129,SNR=14						
P08A	**Dixie Valley**	**128.96**	**43**	⇑P		PKPdf	11 16 41.1 +1.4
	baz=129						
U05C	**Westside ANR,**	**129.00**	**48**	⇑P		PKPdf	11 16 41.2 +1.4
	baz=129						
T06C	**Millerton Lake**	**129.02**	**47**	⇓P		PKPdf	11 16 40.3 +0.4
	baz=129,SNR=8.2						
R07C	**Lee Vining**	**129.03**	**45**	⇑P		PKPdf	11 16 41.1 +1.3
	baz=129,SNR=14						
EGMT	**Eagleton**	**129.03**	**30**	*e*PKPdf		PKPdf	11 16 40.2 +0.4
EGMT				LR	LR		
	comp=Z,2μm,22.0s,MS5.8						
LRM	**Limekiln Ridge**	**129.05**	**34**	*e*PKPdf		PKPdf	11 16 40.9 +1.0
M10A	**I.L. Ranch, Tu**	**129.07**	**40**	⇓P		PKPdf	11 16 41.0 +1.1
	baz=129						
KCC	**Kaiser Creek**	**129.17**	**46**	⇓P		PKPdf	11 16 40.3 +0.2
	baz=129						
BMN	**Battle Mountai**	**129.18**	**42**	*e*PKIKP		PKPdf	11 16 42.2 +2.1
BMN				*e*			11 18 47.2
BMN	**Battle Mountai**	**129.18**	**42**	*e*PKPdf		PKPdf	11 16 42.2 +2.1
BMN				*e*PP		PP	11 18 47.1 -1.6
BMN				LR	LR		
	comp=Z,4μm,22.0s,MS6.0						
PTRM	**Twissleman Ran**	**129.21**	**49**	*e*PKPdf		PKPdf	11 16 42.4 +2.2
DLMT	**Dillon**	**129.26**	**34**	*e*PKPdf		PKPdf	11 16 41.6 +1.3
DLMT				*e*SKP			11 19 58.6
HLID	**Hailey**	**129.27**	**37**	*e*PKPdf		PKPdf	11 16 41.7 +1.4
HLID				LR	LR		
	comp=Z,8μm,22.0s,MS6.4						
O09A	**Fish Creek Ran**	**129.32**	**42**	⇓P		PKPdf	11 16 41.3 +0.9
	baz=129,SNR=8.4						
V05C	**Boulder Hill,**	**129.35**	**48**	⇓P		PKPdf	11 16 41.8 +1.4
	baz=129						
MLAC	**Mammoth Lakes**	**129.38**	**46**	⇑P		PKPdf	11 16 41.8 +1.3
	baz=129						
NVAR	**Mina Array Bea**	**129.40**	**45**	PKhKP			11 16 29.1
	comp=Z,0.8nm,0.8s,baz=286,slow=1.4,SNR=4.9						
NVAR				PKP		PKPdf	11 16 41.8 +1.2
	comp=Z,9.7nm,1.0s,baz=295,slow=1.1,SNR=26						
NVAR				SKPbc			11 19 59.5
	comp=Z,2.0nm,0.9s,baz=304,slow=11,SNR=6.2						
NVAR	**Mina Array Bea**	**129.40**	**45**	PKP		PKPdf	11 16 41.8 +1.2
NVAR				SKPbc			11 19 59.5
MCMT	**McKenzie Canyo**	**129.44**	**35**	*e*PKPdf		PKPdf	11 16 42.0 +1.3
Q08A	**Gabbs**	**129.45**	**44**	⇑P		PKPdf	11 16 41.8 +1.2
	baz=129,SNR=17						
MNV	**Mina**	**129.50**	**45**	*e*PKPdf		PKPdf	11 16 42.1 +1.4
MNV				LR	LR		
	comp=Z,13μm,20.0s,MS6.6						
N10A	**Dunphy**	**129.50**	**41**	⇑P		PKPdf	11 16 41.8 +1.1
	baz=129						
R08A	**Mina**	**129.57**	**45**	⇑P		PKPdf	11 16 42.3 +1.4
	baz=130						
M11A	**Holland Ranch,**	**129.59**	**40**	P		PKPdf	11 16 42.5 +1.5
	baz=130,SNR=25						
BOZ	**Bozeman (W)**	**129.61**	**33**	*e*PKIKP		PKPdf	11 16 42.2 +1.2
BOZ				*e*			11 18 50.0
BOZ	**Bozeman (W)**	**129.61**	**33**	*e*PKPdf		PKPdf	11 16 42.2 +1.2
BOZ				*e*PP		PP	11 18 50.0 -1.6
BOZ				LR	LR		
	comp=Z,3μm,22.0s,MS6.0						
P09A	**Austin**	**129.66**	**43**	⇓P		PKPdf	11 16 41.9 +0.8
	baz=130						
MTUM	**Tungsten Hills**	**129.70**	**46**	*e*PKPdf		PKPdf	11 16 42.6 +1.4
N11A	**Elko Archery C**	**129.95**	**41**	⇑P		PKPdf	11 16 42.9 +1.3
	baz=130						
SBC	**Santa Barbara**	**130.06**	**50**	⇑P		PKPdf	11 16 43.4 +1.5
	baz=130						
TIN	**Tinemaha**	**130.07**	**46**	⇑P		PKPdf	11 16 42.5 +0.7
	baz=130						
P10A	**Eureka**	**130.08**	**42**	⇓P		PKPdf	11 16 42.8 +0.9
	baz=130						
M12A	**Wells**	**130.16**	**40**	⇑P		PKPdf	11 16 43.3 +1.3
	baz=130,SNR=23						
QLMT	**Earthquake Lak**	**130.23**	**34**	*e*PKPdf		PKPdf	11 16 43.8 +1.6
QLMT				*e*SKPbc		SKPbc	11 20 02.9 +1.9
ELK	**Elko**	**130.31**	**40**	*e*PKIKP		PKPdf	11 16 43.4 +1.1
ELK				*e*			11 18 51.7
ELK	**Elko**	**130.31**	**40**	*e*PKPdf		PKPdf	11 16 43.4 +1.1
ELK				*e*PP		PP	11 18 51.7 -4.5
ELK				*e*SKPbc		SKPbc	11 20 03.2 +2.0
ELK				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
TPH	**Tonopah**	**130.31**	**44**	*e*PKPdf		PKPdf	11 16 44.8 +2.5
TPH				*e*SKPbc		SKPbc	11 20 03.1 +1.8
TPH				LR	LR		
	comp=Z,12μm,20.0s,MS6.6						
O11A	**Cowboy Ranch,**	**130.36**	**41**	⇑P		PKPdf	11 16 43.4 +1.1
	baz=130,SNR=16						
N12A	**Clover Valley,**	**130.38**	**40**	⇓P		PKPdf	11 16 43.7 +1.2
	baz=130,SNR=24						
CWC	**Cottonwood Cre**	**130.45**	**47**	⇑P		PKPdf	11 16 43.6 +1.1
	baz=130						
S09A	**Goldfield**	**130.48**	**45**	P		PKPdf	11 16 44.1 +1.5
	baz=130,SNR=22						
ISA	**Isabella**	**130.50**	**48**	*e*PKPdf		PKPdf	11 16 43.6 +0.9
ISA				*e*SKPbc		SKPbc	11 20 03.0 +1.0
ISA				LR	LR		
	comp=Z,3μm,21.0s,MS6.0						
ISA	**Isabella**	**130.50**	**48**	⇓P		PKPdf	11 16 43.8 +1.2
	baz=130,SNR=6.3						
GCMT	**Greycliff**	**130.57**	**32**	*e*PKPdf		PKPdf	11 16 44.0 +1.2
P11A	**Circle Ranch,**	**130.59**	**42**	⇑P		PKPdf	11 16 43.6 +0.8
	baz=130,SNR=8.1						
YMR	**Madison River**	**130.59**	**34**	PFAKE			11 16 50.0 +7.2
YMR				LR	LR		
	comp=Z,4μm,19.0s,MS6.1						
M13A	**Montello**	**130.66**	**39**	⇑P		PKPdf	11 16 43.9 +1.0
	baz=131,SNR=17						
SNCC	**San Nicolas Is**	**130.67**	**51**	*e*PKPdf		PKPdf	11 16 44.7 +1.7
SNCC				*e*SKPbc		SKPbc	11 20 03.9 +1.2
SNCC				LR	LR		
	comp=Z,17μm,20.0s,MS6.8						
SNCC	**San Nicolas Is**	**130.67**	**51**	⇓P		PKPdf	11 16 43.9 +0.9
	baz=131						
YFT	**Old Faithful**	**130.80**	**34**	*e*PKPdf		PKPdf	11 16 46.7 +3.5
YFT				*e*SKPbc		SKPbc	11 20 06.8 +3.6
R10A	**Warm Springs**	**130.85**	**44**	⇑P		PKPdf	11 16 44.6 +1.2
	baz=131,SNR=8.2						
DAC	**Darwin (Calif)**	**130.87**	**47**	*e*PKPdf		PKPdf	11 16 45.2 +1.9
DAC				*e*SKPbc		SKPbc	11 20 04.8 +1.3
DAC				LR	LR		
	comp=Z,14μm,21.0s,MS6.7						
N13A	**Wendover, West**	**130.91**	**40**	⇑P		PKPdf	11 16 44.5 +1.0
	baz=131,SNR=6.2						
LKWY	**Lake**	**130.97**	**34**	*e*PKPdf		PKPdf	11 16 47.0 +3.5
LKWY				*e*SKPbc		SKPbc	11 20 07.7 +3.9
LKWY				LR	LR		
	comp=Z,11μm,22.0s,MS6.5						
Q11A	**Duckwater**	**131.01**	**43**	P		PKPdf	11 16 45.0 +1.4
	baz=131,SNR=15						
IMW	**Indian Meadow**	**131.09**	**35**	*e*PKPdf		PKPdf	11 16 45.2 +1.4
FLWY	**Flagg Ranch**	**131.11**	**34**	*e*PKPdf		PKPdf	11 16 46.2 +2.4
FLWY				*e*SKPbc		SKPbc	11 20 06.1 +1.8
DCID1	**Drake Creek**	**131.14**	**35**	*e*PKPdf		PKPdf	11 16 45.5 +1.6
DCID1				*e*SKPbc		SKPbc	11 20 07.8 +3.4
P12A	**McGill**	**131.19**	**42**	⇓P		PKPdf	11 16 45.1 +1.2
	baz=131,SNR=21						
RRI2	**Red Ridge**	**131.22**	**35**	*e*PKPdf		PKPdf	11 16 45.8 +1.8
HVU	**Hansel Valley**	**131.28**	**38**	*e*PKPdf		PKPdf	11 16 44.0 -0.1
HVU				*e*SKPbc		SKPbc	11 20 07.5 +2.5
MOOW	**Moose Ponds**	**131.29**	**35**	*e*PKPdf		PKPdf	11 16 45.3 +1.1
MOOW				*e*SKPbc		SKPbc	11 20 07.4 +2.4
TPAW	**Teton Pass**	**131.34**	**35**	*e*PKPdf		PKPdf	11 16 44.6 +0.4
MWC	**Mount Wilson**	**131.41**	**49**	*e*PKPdf		PKPdf	11 16 46.9 +2.6
MWC				*e*SKPbc		SKPbc	11 20 07.2 +1.8
FMP	**Fort Macarthur**	**131.44**	**50**	⇑P		PKPdf	11 16 45.4 +1.0
	baz=131						
Q12A	**Willow Creek R**	**131.47**	**42**	⇓P		PKPdf	11 16 45.3 +0.8
	baz=131,SNR=7.2						
SCHQ	**Schefferville**	**131.48**	**354**	PKP		PKPdf	11 16 44.5 0.0
	comp=Z,12nm,0.7s,baz=12,slow=3.3,SNR=14						
SCHQ				SKPbc		SKPbc	11 20 05.2 -0.4
	comp=Z,25nm,1.0s,baz=45,slow=5.6,SNR=5.6						
SCHQ	**Schefferville**	**131.48**	**354**	*e*PKPdf		PKPdf	11 16 43.2 -1.3
SCHQ				LR	LR		
	comp=Z,4μm,21.0s,MS6.1						
TPNV	**Topopah Spring**	**131.53**	**45**	*e*PKHKP			11 16 34.2
TPNV				*e*			11 16 46.1
TPNV				MLR	MLR		
	comp=Z,13μm,22.0s,MS6.6						
TPNV	**Topopah Spring**	**131.53**	**45**	*e*PKPpre			11 16 34.2
TPNV				*e*PKPdf		PKPdf	11 16 46.1 +1.5
TPNV				*e*SKPbc		SKPbc	11 20 07.4 +1.6
TPNV				LR	LR		
	comp=Z,13μm,22.0s,MS6.6						
BGU	**Big Grassy Mou**	**131.61**	**39**	*e*PKPdf		PKPdf	11 16 46.4 +1.6
LAO	**LASA Array**	**131.68**	**29**	*e*PKPdf		PKPdf	11 16 46.9 +2.0
LAO				*e*SKPbc		SKPbc	11 20 08.1 +1.7
LAO				LR	LR		
	comp=Z,4μm,21.0s,MS6.1						
AHID	**Auburn Hatcher**	**131.70**	**36**	*e*PKPdf		PKPdf	11 16 46.3 +1.4
AHID				*e*SKPbc		SKPbc	11 20 08.8 +2.3
AHID				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
U10A	**Ash Meadows, A**	**131.72**	**46**	⇓P		PKPdf	11 16 46.8 +1.9
	baz=132,SNR=12						
SPUT	**South Promonto**	**131.76**	**38**	*e*PKPdf		PKPdf	11 16 46.5 +1.5
GSC	**Goldstone**	**131.88**	**48**	*e*SKPbc		SKPbc	11 20 09.0 +1.9
GSC	**Goldstone**	**131.88**	**48**	⇓P		PKPdf	11 16 46.9 +1.6
	baz=132,SNR=13						
HWUT	**Hardware Ranch**	**132.12**	**37**	*e*PKPdf		PKPdf	11 16 46.8 +1.1
HWUT				LR	LR		
	comp=Z,6μm,21.0s,MS6.3						
DUG	**Dugway**	**132.16**	**40**	*e*PKIKP		PKPdf	11 16 47.4 +1.6
DUG				*e*			11 19 07.4
DUG	**Dugway**	**132.16**	**40**	*e*PKPdf		PKPdf	11 16 47.4 +1.6
DUG				*e*PP		PP	11 19 07.4 -0.7
DUG				*e*SKPbc		SKPbc	11 20 10.9 +2.9
DUG				LR	LR		
	comp=Z,4μm,20.0s,MS6.1						
NOQ	**North Oquirrh**	**132.34**	**39**	*e*PKPdf		PKPdf	11 16 47.6 +1.5
NOQ				*e*SKPbc		SKPbc	11 20 12.4 +3.7
U11A	**Corn Creek**	**132.39**	**45**	⇓P		PKPdf	11 16 47.8 +1.6
	baz=132						
TUQ	**Turquoise Mtn.**	**132.46**	**47**	⇑P		PKPdf	11 16 47.8 +1.4
	baz=132,SNR=12						
TCUT	**Toone Canyon**	**132.50**	**38**	*e*PKPdf		PKPdf	11 16 48.0 +1.5
TCUT				*e*PP		PP	11 19 13.7 +3.4
TCUT				*e*SKPbc		SKPbc	11 20 13.0 +3.7
SHPR	**Sheep Range**	**132.51**	**45**	*e*PKPdf		PKPdf	11 16 48.3 +1.8
SHPR				*e*PP		PP	11 19 10.7 +0.4
SHPR				*e*SKPbc		SKPbc	11 20 12.8 +3.5
CTU	**Camp Tracy**	**132.54**	**39**	*e*PKPdf		PKPdf	11 16 47.9 +1.3
CTU				*e*SKPbc		SKPbc	11 20 13.2 +3.7
RPN	**Rapa Nui**	**132.55**	**136**	PFAKE			11 17 00.0 +13
RPN				LR	LR		
	comp=Z,5μm,21.0s,MS6.2						
BW06	**Boulder Array**	**132.59**	**35**	*e*SKPbc		SKPbc	11 20 11.4 +1.9
BW06				LR	LR		
	comp=Z,3μm,22.0s,MS6.0						
PDAR	**Pinedale Array**	**132.59**	**35**	PKhKP			11 16 33.7
	comp=Z,1.7nm,0.9s,baz=27,slow=0.3,SNR=5.8						
PDAR				PKP		PKPdf	11 16 46.5 -0.1
	comp=Z,7.4nm,0.6s,baz=342,slow=3.4,SNR=21						
PDAR				PP	PP		11 19 11.6 +0.7
	comp=Z,4.2nm,1.0s,baz=347,slow=3.3,SNR=4.6						
PDAR				SKPbc		SKPbc	11 20 11.2 +1.6
	comp=Z,8.7nm,1.0s,baz=315,slow=1.4,SNR=7.3						
PDAR	**Pinedale Array**	**132.59**	**35**	PKP		PKPdf	11 16 46.5 -0.1
PDAR				PP	PP		11 19 11.6 +0.7
PDAR				SKPbc		SKPbc	11 20 11.2 +1.6
**V11

W15A	**Williams**	**135.20**	**45**	⇑P		PKPdf	11 16 53.4	+1.9	
	baz=135								
Y14A	**Wickenburg**	**135.29**	**47**	⇑P		PKPdf	11 16 52.8	+1.2	
	baz=135,SNR=6.9								
X15A	**Humboldt**	**135.57**	**46**	⇑P		PKPdf	11 16 53.8	+1.6	
	baz=136,SNR=7.8								
PV10	**Paradox Valley**	**135.60**	**39**	*e*PKPpre			11 16 41.0		
PV10				*e*PKPdf	PKPdf		11 16 53.9	+1.6	
Z14A	**Wintersburg**	**135.60**	**48**	⇑P		PKPdf	11 16 53.5	+1.2	
	baz=136								
WUAZ	**Wupatki**	**135.66**	**44**	*e*PKPpre			11 16 45.8		
WUAZ				*e*PKPdf	PKPdf		11 16 54.2	+1.8	
WUAZ				*e*SKPbc	SKPbc		11 20 22.7	+3.1	
WUAZ				LR	LR				
	comp=Z,16μm,22.0s,MS6.7								
PHWY	**Pilot Hill**	**135.85**	**34**	*e*PKPpre			11 16 45.3		
PHWY				*e*PKPdf	PKPdf		11 16 53.2	+0.5	
PHWY				*e*PP	PP		11 19 27.9	-3.6	
PHWY				*e*SKPbc	SKPbc		11 20 19.2	-1.0	
PV01	**Paradox Valley**	**136.04**	**39**	*e*PKPpre			11 16 43.5		
PV01				*e*PKPdf	PKPdf		11 16 54.9	+1.8	
EYMN	**Ely**	**136.34**	**16**	*e*PKPpre			11 16 43.2		
EYMN				*e*PKPdf	PKPdf		11 16 53.5	-0.1	
EYMN				*e*SKPbc	SKPbc		11 20 22.1	+0.4	
EYMN				LR	LR				
	comp=Z,4μm,22.0s,MS6.1								
SMCO	**Snowmass**	**136.38**	**37**	*e*PKPpre			11 16 45.6		
SMCO				*e*PKPdf	PKPdf		11 16 55.2	+1.6	
SMCO				*e*PP	PP		11 19 35.6	+0.8	
SMCO				*e*SKPbc	SKPbc		11 20 21.5	-0.3	
MVCO	**Mesa Verde**	**136.64**	**40**	*e*PKPpre			11 16 43.8		
MVCO				*e*PKPdf	PKPdf		11 16 55.0	+0.8	
MVCO				*e*PP	PP		11 19 33.2	-3.2	
MVCO				*e*SKPdf	SKPdf		11 20 27.2	+2.1	
ISCO	**Idaho Springs**	**136.77**	**35**	*e*PKPpre			11 16 45.8		
ISCO				*e*PKPdf	PKPdf		11 17 03.1	+8.7	
ISCO				*e*SKP			11 20 25.8		
ISCO				LR	LR				
	comp=Z,7μm,22.0s,MS6.3								
CAM3	**Guarapari**	**136.90**	**230**	(P)		PKPdf	11 16 55.4	+0.8	
CAM3				*i*			11 16 58.6		
CAM3				*i*			11 17 13.2		
116A	**Eloy**	**136.90**	**48**	⇓P		PKPdf	11 16 56.1	+1.4	
	baz=137								
CAM4	**Nova Friburgo**	**137.44**	**227**	(P)		PKPdf	11 16 52.8	-2.9	
CAM4				*i*			11 16 59.7		
CAM4				*i*			11 17 07.0		
CAM4				*i*			11 17 22.3		
CAM4				*i*			11 17 58.7		
TUC	**Tucson**	**137.70**	**48**	*e*PKHKP			11 16 48.9		
TUC				*e*			11 16 57.4		
TUC				*e*			11 19 41.0		
TUC				MLR	MLR				
	comp=Z,16μm,21.0s,MS6.7								
TUC	**Tucson**	**137.70**	**48**	*e*PKPpre			11 16 48.9		
TUC				*e*PKPdf	PKPdf		11 16 57.4	+1.2	
TUC				*e*PP	PP		11 19 41.0	-2.2	
TUC				*e*SKPbc	SKPbc		11 20 27.8	+2.1	
TUC				LR	LR				
	comp=Z,16μm,21.0s,MS6.7								
SDCO	**Great Sand Dun**	**138.18**	**38**	PFAKE			11 17 10.0	+13	
SDCO				LR	LR				
	comp=Z,20μm,22.0s,MS6.8								
ECSD	**EROS,Sioux Fal**	**138.26**	**24**	*e*PKPpre			11 16 46.5		
ECSD				*e*PKPdf	PKPdf		11 16 57.6	+0.4	
ECSD				*e*PP	PP		11 19 40.6	-6.0	
ECSD				*e*SKPbc	SKPbc		11 20 27.1	-0.2	
ECSD				*e*SKPab			11 20 35.0		
LAZ	**Ladron**	**139.17**	**43**	*e*PKPdf	PKPdf		11 17 00.2	+1.4	
ANMO	**Albuquerque**	**139.30**	**42**	*e*PKHKP			11 16 51.1		
ANMO				*e*			11 17 00.3		
ANMO				MLR	MLR				
	comp=Z,10μm,20.0s								
ANMO	**Albuquerque**	**139.30**	**42**	*e*PKPpre			11 16 51.1		
ANMO				*e*PKPdf	PKPdf		11 17 00.3	+1.2	
ANMO				*e*SKPbc	SKPbc		11 20 32.5	+2.3	
ANMO				LR	LR				
	comp=Z,10μm,20.0s,MS6.6								
LENM	**Lemitar**	**139.42**	**43**	*e*PKPdf	PKPdf		11 17 00.5	+1.3	
RCBR	**Riachuelo**	**139.45**	**253**	*e*PKPdf	PKPdf		11 17 02.5	+3.2	
RCBR				LR	LR				
	comp=Z,5μm,20.0s,MS6.3								
Y22C	**IRIS PASSCAL I**	**139.51**	**43**	⇓P		PKPdf	11 17 00.9	+1.5	
	baz=139								
LPM	**Los Pinos Moun**	**139.56**	**43**	*e*PKPpre			11 16 54.9		
LPM				*e*PKPdf	PKPdf		11 17 03.3	+3.7	
LPM				*e*SKPbc	SKPbc		11 20 33.3	+2.3	
BNM	**Barren Site**	**139.66**	**43**	*e*PKPpre			11 16 55.1		
BNM				*e*PKPdf	PKPdf		11 17 02.1	+2.4	
BNM				*e*SKPbc	SKPbc		11 20 33.7	+2.5	
SCIA	**State Center**	**141.13**	**22**	*e*PKPpre			11 16 56.7		
SCIA				*e*PKPdf	PKPdf		11 17 02.8	+0.5	
PKME	**Peaks-Kenny Pk**	**141.19**	**354**	*e*PKPpre			11 16 57.6		
PKME				*e*PKPdf	PKPdf		11 17 03.5	+1.0	
PKME				*e*PP	PP		11 20 03.0	-1.6	
EMMW	**East Machias**	**141.51**	**352**	*e*PKPdf	PKPdf		11 16 57.5	-5.6	
CFAA	**Coronel Fontan**	**141.55**	**189**	PKhKP			11 16 57.2		
	comp=Z,2.1nm,0.7s,baz=214,slow=2.4,SNR=21								
MSNY	**Massena**	**141.73**	**0**	*e*PKPdf	PKPdf		11 17 03.9	+0.4	
SADO	**Sadowa**	**141.75**	**5**	PKhKP			11 16 57.0		
	comp=Z,19nm,0.7s,baz=344,slow=4.6,SNR=14								
SADO				SKPbc	SKPbc		11 20 39.4	+2.7	
	comp=Z,19nm,1.1s,baz=215,slow=3.9,SNR=2.9								
FRNY	**Flat Rock**	**141.88**	**359**	*e*PKPpre			11 16 57.7		
FRNY				*e*PKPdf	PKPdf		11 17 04.1	+0.4	
WVL	**Waterville**	**141.91**	**354**	*e*PKPdf	PKPdf		11 17 04.6	+0.8	
WVL				*e*SKPbc	SKPbc		11 20 42.0	+4.8	
LONY	**Lake Ozonia**	**142.11**	**360**	*e*PKPdf	PKPdf		11 16 59.0	-5.1	
GDL2	**Guadalupe Moun**	**142.34**	**44**	*e*PKPdf	PKPdf		11 17 02.6	-2.0	
AMTX	**Amarillo**	**142.38**	**38**	*e*PKPpre			11 17 00.3		
AMTX				*e*PKPdf	PKPdf		11 17 05.2	+0.6	
AMTX				LR	LR				
	comp=Z,16μm,20.0s,MS6.8								
LBNH	**Lisbon**	**142.41**	**357**	*e*PKHKP			11 16 59.6		
LBNH				*e*			11 17 05.5		
LBNH				MLR	MLR				
	comp=Z,4μm,21.0s,MS6.2								
MIV	**Mineville/With**	**142.64**	**359**	*e*PKPpre			11 17 00.3		
MIV				*e*PKPdf	PKPdf		11 17 07.7	+2.6	
MIV				*e*PP	PP		11 20 12.7	-0.7	
NCB	**Newcomb**	**142.75**	**360**	*e*PKPdf	PKPdf		11 17 01.1	-4.2	
NCB				LR	LR				
	comp=Z,3μm,21.0s,MS6.0								
HNH	**Hanover**	**142.97**	**357**	*e*PKPdf	PKPdf		11 17 03.2	-2.4	
CPUP	**Villa Florida**	**143.24**	**206**	PKhKP			11 17 02.8		
	comp=Z,17nm,0.9s,baz=155,slow=3.2,SNR=7.7								
ACCN	**Adirondack Com**	**143.33**	**359**	*e*PKPdf	PKPdf		11 17 03.0	-3.3	
AAM	**Ann Arbor**	**143.53**	**11**	*e*PKPdf	PKPdf		11 17 04.2	-2.5	
AAM				LR	LR				
	comp=Z,4μm,22.0s,MS6.1								
HRV	**Harvard--Oak R**	**144.12**	**356**	*e*PKPdf	PKPdf		11 17 05.0	-2.7	
HRV				LR	LR				
	comp=Z,2μm,20.0s,MS6.0								
WMOK	**Wichita Mounta**	**144.20**	**35**	*e*PKPdf	PKPdf		11 17 06.0	-1.8	
WMOK				LR	LR				
	comp=Z,8μm,20.0s,MS6.5								
WES	**Weston**	**144.22**	**356**	*e*PKPdf	PKPdf		11 17 05.9	-1.9	
WES				LR	LR				
	comp=Z,2μm,21.0s,MS5.8								
ERPA	**Erie**	**144.29**	**7**	*e*PKPdf	PKPdf		11 17 06.1	-1.8	
ERPA				LR	LR				
	comp=Z,3μm,22.0s,MS6.1								
QUA2	**Belchertown**	**144.39**	**357**	*e*PKPdf	PKPdf		11 17 06.4	-1.7	
LTX	**Lajitas**	**144.47**	**47**	*e*PKPdf	PKPdf		11 17 09.4	+1.1	
LTX				LR	LR				
	comp=Z,14μm,21.0s,MS6.7								
BINY	**Binghamton**	**144.51**	**2**	*e*PKPdf	PKPdf		11 17 06.8	-1.5	
BINY				LR	LR				
	comp=Z,4μm,21.0s,MS6.2								
ALLY	**Alegheny Colle**	**144.73**	**7**	*e*PKPdf	PKPdf		11 17 07.3	-1.4	
SLM	**Saint Louis**	**145.09**	**22**	*e*PKIKP	PKPdf		11 17 08.1	-1.3	
CCM	**Cathedral Cave**	**145.22**	**23**	*e*PKPab	PKPab		11 17 09.1	-0.4	
CCM				LR	LR				
	comp=Z,7μm,22.0s,MS6.4								
FVM	**French Village**	**145.60**	**22**	*e*PKIKP	PKPdf		11 17 09.6	-0.6	
BAO	**Brasilia Array**	**145.61**	**230**	PKPdf	PKPdf		11 17 12.0	+1.7	
BDFB	**Brasilia**	**145.63**	**230**	PKPbc	PKPbc		11 17 11.8	+1.2	
	comp=Z,22nm,0.6s,baz=148,slow=1.8,SNR=23								
BDFB	**Brasilia**	**145.63**	**230**	PFAKE			11 17 20.0	+10	
BDFB				LR	LR				
	comp=Z,5μm,20.0s,MS6.3								
ACSO	**Alum Creek Sta**	**145.66**	**11**	*e*PKPdf	PKPdf		11 17 10.4	0.0	
ACSO				LR	LR				
	comp=Z,2μm,22.0s,MS5.9								
PAL	**Palisades**	**145.71**	**359**	*e*PKP2	PKPab		11 17 10.5	-0.8	
BLO	**Bloomington**	**145.82**	**17**	*e*PKP2	PKPab		11 17 11.3	-0.4	
CPNY	**Central Park**	**145.93**	**359**	*e*PKPdf	PKPdf		11 17 11.4	+0.6	
SSPA	**Standing Stone**	**145.96**	**4**	*e*PKPdf	PKPdf		11 17 11.2	+0.3	
SSPA				LR	LR				
	comp=Z,5μm,22.0s,MS6.2								
SIUC	**Southern Illin**	**146.28**	**21**	*e*PKPdf	PKPdf		11 17 12.2	+0.9	
JCT	**Junction City**	**146.47**	**42**	*e*PKPdf	PKPdf		11 17 12.5	+0.8	
JCT				LR	LR				
	comp=Z,16μm,21.0s,MS6.8								
USIN	**University of**	**146.58**	**19**	*e*PKPdf	PKPdf		11 17 12.9	+1.0	
MVL	**Millersville**	**146.69**	**2**	*e*PKPdf	PKPdf		11 17 13.0	+0.9	
MCWV	**Mont Chateau**	**146.73**	**7**	*e*PKPdf	PKPdf		11 17 12.9	+0.7	
MCWV				LR	LR				
	comp=Z,5μm,21.0s,MS6.3								
WCI	**Wyandotte Cave**	**146.76**	**17**	*e*PKPdf	PKPdf		11 17 12.4	+0.2	
WCI				LR	LR				
	comp=Z,8μm,21.0s,MS6.5								
PARMO	**Parma**	**147.01**	**23**	*e*PKPbc	PKPbc		11 17 14.5	-0.2	
MIAR	**Mount Ida**	**147.12**	**30**	*e*PKIKP	PKPdf		11 17 13.5	+0.7	
MIAR				*e*			11 17 15.3		
MIAR				MLR	MLR				
	comp=Z,11μm,20.0s,MS6.6								
MIAR	**Mount Ida**	**147.12**	**30**	*e*PKPdf	PKPdf		11 17 13.4	+0.6	
MIAR				*e*PKPbc	PKPbc		11 17 15.3	+0.3	
MIAR				*e*PKPab	PKPab		11 17 17.4	+0.6	
MIAR				LR	LR				
	comp=Z,11μm,20.0s,MS6.6								
PVMO	**Portageville**	**147.25**	**23**	*e*PKPbc	PKPbc		11 17 15.4	0.0	
UALR	**University of**	**147.52**	**28**	*e*PKPdf	PKPdf		11 17 13.5	0.0	
GLAT	**Glass**	**147.54**	**22**	*e*PKPab	PKPab		11 17 16.9	-1.4	
HBAR	**Harrisburg**	**147.61**	**25**	*e*PKPdf	PKPdf		11 17 15.0	+1.4	
HBAR				*e*PKPbc	PKPbc		11 17 17.0	+0.6	
UTMT	**University of**	**147.63**	**22**	*e*PKPab	PKPab		11 17 16.8	-2.0	
CJM	**Chamela**	**147.77**	**64**	*i* P	PKPdf		11 17 16.2	+2.3	
HALT	**Halls**	**147.83**	**23**	*e*PKPbc	PKPbc		11 17 16.5	-0.4	
WVT	**Waverly**	**148.19**	**21**	*e*PKIKP	PKPdf		11 17 14.9	+0.3	
WVT				*e*			11 17 18.3		
WVT				*e*			11 17 20.2		
WVT				MLR	MLR				
	comp=Z,13μm,21.0s,MS6.7								
MET	**Memphis--Engin**	**148.28**	**24**	*e*PKPbc	PKPbc		11 17 18.2	0.0	
CBN	**Corbin**	**148.42**	**4**	*e*PKPbc	PKPbc		11 17 18.4	-0.2	
CBN				LR	LR				
	comp=Z,4μm,20.0s,MS6.2								
FWV	**Forest Hill**	**148.63**	**9**	*e*PKPdf	PKPdf		11 17 15.0	-0.3	
FWV				*e*PKPbc	PKPbc		11 17 18.9	-0.2	
NATX	**Nacogdoches**	**148.72**	**34**	*e*PKPdf	PKPdf		11 17 17.5	+2.1	
NATX				LR	LR				
	comp=Z,9μm,21.0s,MS6.5								
ELN	**Prospectdale**	**148.98**	**10**	*e*PKPdf	PKPdf		11 17 15.7	-0.2	
ELN				*e*PKPbc	PKPbc		11 17 19.5	-0.5	
OXF	**Oxford**	**149.03**	**24**	*e*PKP2	PKPbc		11 17 19.8	-0.3	
OXF				MLR	MLR				
	comp=Z,11μm,20.0s,MS6.6								
BLA	**Blacksburg**	**149.05**	**9**	*e*PKPdf	PKPdf		11 17 15.9	-0.1	
BLA				*e*PKPbc	PKPbc		11 17 19.7	-0.4	
BLA				LR	LR				
	comp=Z,248nm,21.0s,MS5.0								
TZTN	**Tazewell**	**149.07**	**14**	*e*PKPdf	PKPdf		11 17 16.8	+0.7	
PLAL	**Pickwick Lake**	**149.13**	**22**	*e*PKPdf	PKPdf		11 17 15.1	-1.0	
PLAL				LR	LR				
	comp=Z,12μm,22.0s,MS6.6								
HKT	**Hockley**	**149.35**	**38**	*e*PKPdf	PKPdf		11 17 17.7	+1.3	
HKT				LR	LR				
	comp=Z,17μm,19.0s,MS6.9								
KVTX	**Kingsville**	**149.62**	**44**	*e*PKPbc	PKPbc		11 17 23.1	+1.5	
CPCT	**Cooper Cave**	**149.86**	**16**	*e*PKPdf	PKPdf		11 17 18.2	+0.9	
CEN1	**Los Morros**	**149.91**	**188**	*e*P	PKPdf		11 17 18.9	+1.6	
LVC	**Limon Verde**	**150.46**	**191**	PKP	PKPdf		11 17 20.8	+2.6	
	comp=Z,14nm,1.0s,baz=211,slow=2.3,SNR=10.0								
LVC				PKPbc	PKPbc		11 17 25.8	+2.3	
	comp=Z,72nm,0.9s,baz=134,slow=7.3,SNR=39								
LVC				SKPbc			11 21 00.1		
	comp=Z,13nm,1.1s,baz=141,slow=7.8,SNR=3.1								
LVC	**Limon Verde**	**150.46**	**191**	*e*PKPdf	PKPdf		11 17 20.9	+2.7	
LVC				*e*PKPbc	PKPbc		11 17 25.4	+1.9	
LVC				*e*PKPab	PKPab		11 17 31.2	+1.0	
LVC				LR	LR				
	comp=Z,5μm,22.0s,MS6.3								
MOIG	**Morelia**	**151.09**	**61**	*i* P	PKPdf		11 17 20.7	+1.5	
LRAL	**Lakeview Retre**	**151.27**	**22**	*e*PKPdf	PKPdf		11 17 19.9	+0.5	
LRAL				LR	LR				
	comp=Z,11μm,21.0s,MS6.6								
CNNC	**Cliffs of the**	**151.32**	**6**	*e*PKPdf	PKPdf		11 17 20.1	+0.5	
CNNC				*e*PKPbc	PKPbc		11 17 26.1	+0.5	
BBSR	**BB Station**	**152.72**	**341**	*e*PKPbc	PKPbc		11 17 29.1	+0.3	
BBSR				LR	LR				
	comp=Z,3μm,20.0s,MS6.1								
SIV	**San Ignacio**	**153.87**	**211**	PKP	PKPdf		11 17 24.0	+0.7	
	comp=Z,10nm,0.9s,baz=127,slow=2.1,SNR=12								
SIV				PKPbc	PKPbc		11 17 33.1	+1.8	
	comp=Z,13nm,0.9s,baz=174,slow=2.7,SNR=16								
SIV				PKPab	PKPab		11 17 45.2	+0.6	
	comp=Z,45nm,1.1s,baz=187,slow=2.3,SNR=14								
LVIG	**Laguna Verde**	**155.12**	**56**	*i* P	PKPdf		11 17 26.3	+1.3	
LPAZ	**La Paz**	**156.39**	**196**	PKPdf	PKPdf		11 17 28.5	+1.8	
LPAZ	**La Paz**	**156.39**	**196**	PKP	PKPdf		11 17 28.8	+2.1	
	comp=Z,40nm,1.3s,baz=51,slow=2.6,SNR=21								
LPAZ				PKPab	PKPab		11 17 58.1	+2.8	
	comp=Z,8.8nm,0.7s,baz=111,slow=3.7,SNR=5.1								
LPAZ	**La Paz**	**156.39**	**196**	*e*PKPdf	PKPdf		11 17 28.3	+1.6	
LPAZ				LR	LR				
	comp=Z,4μm,20.0s,MS6.2								
ARE	**Arequipa**	**156.90**	**188**	*e*PKIKP	PKPdf		11 17 30.0	+2.6	
DWPF	**Disney**	**157.63**	**16**	PKPdf	PKPdf		11 17 28.8	+0.5	
DWPF	**Disney**	**157.63**	**16**	*e*PKPdf	PKPdf		11 17 28.9	+0.6	
DWPF				*e*PKPab	PKPab		11 18 01.3	+0.7	
DWPF				LR	LR				
	comp=Z,6μm,22.0s,MS6.3								
CCIG	**Comitan**	**160.32**	**59**	*i* P	PKPdf		11 17 31.8	+0.3	
TEIG	**Tepich**	**161.03**	**43**	PKPdf	PKPdf		11 17 32.7	+0.5	
TEIG	**Tepich**	**161.03**	**43**	*e*PKPdf	PKPdf		11 17 33.2	+1.0	
TEIG				*e*PKPab	PKPab		11 18 16.3	+0.9	
TEIG				LR	LR				
	comp=Z,6μm,21.0s								
NNA	**Nana**	**161.42**	**173**	*e*PKPdf	PKPdf		11 17 33.6	+1.0	
NNA				LR	LR				
	comp=Z,9μm,22.0s								
PAYG	**Puerto Ayora**	**162.78**	**114**	PFAKE			11 17 50.0	+16	
PAYG				LR	LR				
	comp=Z,5μm,19.0s								
SJG	**San Juan**	**165.87**	**325**	PKPab	PKPab		11 18 37.4	+0.7	
	comp=Z,15nm,0.6s,baz=68,slow=6.5,SNR=2.6								
SJG	**San Juan**	**165.87**	**325**	*e*PKIKP	PKPdf		11 17 36.9	+0.1	
SJG				MLR	MLR				
	comp=Z,6μm,20.0s								
OTAV	**Otavalo**	**172.63**	**149**	PKPdf	PKPdf		11 17 42.4	+1.4	
OTAV	**Otavalo**	**172.63**	**149**	*e*PKPdf	PKPdf		11 17 41.5	+0.6	
OTAV				LR	LR				
	comp=Z,7μm,22.0s								
SDV	**Santo Domingo**	**175.44**	**300**	PFAKE			11 17 50.0	+8.1	
SDV				LR	LR				
	comp=Z,5μm,20.0s								
ROSC	**El Rosal**	**178.27**	**189**	*e*PKPdf	PKPdf		11 17 42.9	+0.5	

IDC 19 11:13:25.7±1.3, 1056S×10897E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/16, mbtmp4.0/4, MS4.9/1, Ms1 4.9/1, ms1mx3.3/35, Error ellipse: s-maj=65.4km s-min=25.1km az=45.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.79**	**117**	LR	LR	11 23 17.7	
	comp=Z,3μm,18.4s,baz=103,slow=33						
WRA	**Warramunga Arr**	**26.16**	**114**	P	P	11 19 01.8	+0.1
	2.0nm,0.8s,baz=285,slow=12,SNR=7.1						
ASAR	**Alice Springs**	**27.10**	**122**	P	P	11 19 11.2	+1.1
	1.3nm,0.6s,baz=299,slow=9.4,SNR=15						
STKA	**Stephens Creek**	**36.84**	**130**	P	P	11 20 35.6	0.0
	2.9nm,0.8s,baz=313,slow=9.2,SNR=3.6						
MKAR	**Makanchi Array**	**61.88**	**340**	P	P	11 23 47.4	+0.5
	1.5nm,0.7s,baz=147,slow=7.9,SNR=6.3						
SIV	**San Ignacio**	**151.84**	**201**	PKPbc	PKPbc	11 33 22.7	+0.3
	1.2nm,0.6s,baz=331,slow=2.1,SNR=7.3						

IDC 19 11:27:13.6±14.0, 858S×10796E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.9/4, Error ellipse: s-maj=234.9km s-min=133.0km az=130.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.62**	**121**	P	Pn	11 31 43.5	-1.4
	0.2nm,0.3s,baz=287,slow=12,SNR=12						
WRA	**Warramunga Arr**	**27.91**	**117**	P	P	11 33 06.5	+1.2
	0.7nm,0.9s,baz=290,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**29.02**	**124**	P	P	11 33 15.7	+0.5
	1.0nm,0.8s,baz=292,slow=7.8,SNR=5.0						
STKA	**Stephens Creek**	**38.89**	**131**	P	P	11 34 40.2	-0.6
	2.2nm,0.7s,baz=311,slow=8.9,SNR=4.0						

IDC ***19*** *11:41:40.0±1.0, 4043N×124.40W, h0km, mb4.2/10, mb1 4.4/13, mb1mx4.3/25, mbtmp4.2/13, ML4.6/3, MS4.3/1, Ms1 4.2/1, ms1mx2.7/41, Error ellipse: s-maj=13.3km s-min=9.9km az=109.0*

MOS ***19*** *11:41:40.5±0.9, 4031N×124.34W, h10km, mb5.1/10, Error ellipse: s-maj=7.8km s-min=6.7km az=3.0*

ISCJB ***19*** *11:41:41.1±0.2, 4028N±001×124.41W±003, h21km, mb4.5/15, MS4.9/3, Error ellipse: s-maj=3.0km s-min=1.4km az=152.5*

BJI ***19*** *11:41:42.9, 4054N×125.30W, h19km, mB5.3, mb5.0, Ms5.2, Msz4.8*

NEIC ***19*** *11:41:43.5, 4028N×124.43W, h21km, mb4.4/3, MW5.0(BRK), After NCEDC.*

NEIC Felt [V] at Ferndale; [IV] at Carlotta, Fortuna, Hydesville, Loleta, Rio Dell and Whitethorn; [III] at Bayside, Bridgeville, Eureka, Garberville, Myers Flat, Petrolia, Redway, San Francisco and Scotia; [II] at Arcata, McKinleyville and Willits. Felt at Alameda, Alderpoint, Berkeley, Blocksburg, Blue Lake, Burnt Ranch, Daly City, Elk, Fort Bragg, Fresno, Kneeland, Korbel, Laytonville, Leggett, Littleriver, Oakland, Peircy, Redcrest, Redding, Salyer, San Jose, Santa Cruz, Trinidad and Willow Creek. Also felt at Reno, Nevada and at Brookings and Williams, Oregon.

ISC 19 11:41:44.2±0.5, 4029N±001×12441W±003, h33km±3km, n267, σ1°30/333, mb4.5/15, MS4.9/3, 101C-92D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O01C	**Eel River Cons**	**0.47**	**108**	P	**Pb**	**11 41 53.2**	**-1.2**
	baz=0.5,SNR=1000						
O01C				⇓S	**Sb**	**11 42 00.6**	**-0.8**
	baz=0.5						
JCC	**Jacoby Creek**	**0.60**	**28**	⇓P	**Pb**	**11 41 54.5**	**-2.0**
	baz=0.6,SNR=1000						
JCC				⇓S	**Sb**	**11 42 02.6**	**-2.2**
	baz=0.6						
KHMM	**Horse Mountain**	**0.78**	**41**	*e*Pg	**Pn**	**11 41 57.8**	**-1.2**
KHMM				*e*Sg	**Sn**	**11 42 08.4**	**-1.1**
KIPM	**Iron Peak**	**0.86**	**124**	*e*Pn	**Pn**	**11 41 58.6**	**-1.4**
N02C	**Big Bar**	**0.99**	**57**	⇓P	**Pn**	**11 42 00.3**	**-1.5**
	baz=1.0,SNR=1000						
N02C				⇓S	**Sn**	**11 42 13.7**	**-1.0**
	baz=1.0						
P01C	**Double 8 Ranch**	**1.16**	**134**	⇓P	**Pn**	**11 42 02.6**	**-1.5**
	baz=1.2,SNR=1000						
P01C				⇑S	**Sn**	**11 42 16.5**	**-2.3**
	baz=1.2						
O02C	**Red Bluff**	**1.24**	**94**	⇑P	**Pn**	**11 42 04.1**	**-1.1**
	baz=1.2,SNR=1000						
O02C				⇑S	**Sn**	**11 42 20.6**	**-0.3**
	baz=1.2						
KRMB	**Red Mountain**	**1.29**	**17**	*e*Pn	**Pn**	**11 42 04.5**	**-1.4**
KRMB				*e*Sn	**Sn**	**11 42 19.4**	**-2.8**
GASB	**Alder Springs**	**1.44**	**116**	⇓P	**Pn**	**11 42 06.8**	**-1.2**
	baz=1.4,SNR=1000						
GASB				⇑S	**Sn**	**11 42 25.6**	**-0.2**
	baz=1.4						
WDC	**Whiskeytown Da**	**1.45**	**78**	*e*P	**Pn**	**11 42 07.2**	**-1.0**
WDC	**Whiskeytown Da**	**1.45**	**78**	⇑P	**Pn**	**11 42 06.7**	**-1.5**
	baz=1.4,SNR=1000						
WDC				⇓S	**Sn**	**11 42 25.1**

M05C **Lookout** 2.69 65 P Pn 11 42 24.5 -0.8
baz=2.7,SNR=1000
Q04C **Lincoln** 2.75 121 ⇑P Pn 11 42 23.9 -2.1
baz=2.7,SNR=38
FARB **Farallon Islan** 2.81 157 ⇑P Pn 11 42 25.1 -1.7
baz=2.8,SNR=449
ELFS **Eagle Lake Fie** 2.83 82 ⇓P Pn 11 42 26.7 -0.4
baz=2.8,SNR=394
ELFS ⇓S Sn 11 43 00.8 +0.8
baz=2.8
BDM **Black Diamond** 3.05 139 ⇑P Pn 11 42 29.4 -0.8
baz=3.1,SNR=30
K04A **Chilquin** 3.07 40 ⇑P Pn 11 42 30.6 +0.2
baz=3.0,SNR=56
P05C **Yuba Gap, Truc** 3.09 107 ⇓P Pn 11 42 30.2 -0.5
baz=3.1,SNR=560
P05C ⇑S Sn 11 43 06.9 +0.5
baz=3.1
SAC **San Andreas** 3.11 149 ℯPn Pn 11 42 28.8 -2.2
M06C **Likely Place G** 3.12 72 ⇓P Pn 11 42 30.7 -0.4
baz=3.1,SNR=1000
J02A **Umpqua** 3.14 11 ⇓P Pn 11 42 30.6 -0.8
baz=3.1,SNR=110
J02A ⇓S Sn 11 43 06.1 -1.7
baz=3.1
LAVA **Lava Cap Winer** 3.22 117 ⇑P Pn 11 42 31.9 -0.5
baz=3.2,SNR=171
LAVA ⇑S Sn 11 43 09.6 -0.1
baz=3.2
L05A **Lakeview** 3.22 56 ⇑P Pn 11 42 32.3 -0.2
baz=3.2,SNR=1000
L05A ⇑S Sn 11 43 10.2 +0.4
baz=3.2
J03A **Ideyld Park** 3.27 19 ⇓P Pn 11 42 33.3 +0.2
baz=3.2
JRSC **Jasper Ridge** 3.34 149 ⇑P Pn 11 42 32.2 -1.9
baz=3.3,SNR=1000
JRSC ⇓S Sn 11 43 12.1 -0.6
baz=3.3
R04C **Big Horse Ranc** 3.37 126 ⇑P Pn 11 42 33.0 -1.5
baz=3.4,SNR=149
R04C ⇑S Sn 11 43 12.8 -0.5
baz=3.4
WENL **Wente Brothers** 3.37 141 ⇑P Pn 11 42 33.9 -0.6
baz=3.4,SNR=35
WENL ⇑S Sn 11 43 13.2 -0.1
baz=3.4
O06A **Flanigan** 3.51 91 ⇓P Pn 11 42 36.1 -0.3
baz=3.5,SNR=129
P06A **Stead Airport,** 3.52 98 ⇑P Pn 11 42 36.7 +0.2
baz=3.5,SNR=126
N06A **Buffalo Meadow** 3.52 81 P Pn 11 42 35.7 -0.9
baz=3.5,SNR=1000
BNLO **Ben Lomond (Sa** 3.60 150 P Pn 11 42 35.6 -2.2
baz=3.6,SNR=500
S04C **Ingram Canyon,** 3.67 138 ⇑P Pn 11 42 37.7 -1.1
baz=3.7,SNR=129
R05C **Kirkwood Meado** 3.70 114 ⇑P Pn 11 42 39.1 0.0
baz=3.7
WCN **Washoe City** 3.71 104 ⇑P Pn 11 42 39.6 +0.3
baz=3.7,SNR=1000
I02A **Mapleton** 3.74 6 ⇓P Pn 11 42 39.4 -0.2
baz=3.7
I02A ⇑S Sn 11 43 21.6 -0.8
baz=3.7
I03A **Eugene** 3.77 12 ⇑P Pn 11 42 40.3 +0.2
baz=3.8
I03A ⇓S Sn 11 43 22.1 -1.3
baz=3.8
CMB **Columbia Colle** 3.85 124 ℯPn Pn 11 42 41.0 -0.1
CMB ℯS Sn 11 43 35.9 +11
CMB **Columbia Colle** 3.85 124 ⇑P Pn 11 42 41.0 -0.1
baz=3.8,SNR=105
PAHR **Pah Rah Range** 3.90 97 ℯPn Pn 11 42 41.7 -0.1
PAHR ℯSn Sn 11 43 33.4 +6.9
K06A **Valley Falls** 4.00 50 P Pn 11 42 43.1 -0.1
baz=4.0,SNR=1000
K06A ⇓S Sn 11 43 29.6 +0.5
baz=4.0
PACP **Pacheco Peak** 4.08 142 P Pn 11 42 43.5 -0.8
baz=4.1,SNR=242
PACP ⇑S Sn 11 43 29.8 -1.2
baz=4.1
M07A **Soldier Meadow** 4.12 73 ⇑P Pn 11 42 44.0 -0.9
baz=4.1,SNR=1000
L07A **Adell** 4.20 64 ⇑P Pn 11 42 45.1 -0.8
baz=4.2,SNR=365
SAO **San Andreas Ge** 4.21 146 ℯPn Pn 11 42 43.9 -2.2
SAO ℯSn Sn 11 43 33.2 -1.0
R06C **Coleville** 4.22 113 ⇑P Pn 11 42 46.8 +0.5
baz=4.2
R06C ⇓S Sn 11 43 31.3 -3.1
baz=4.2
O07A **Toulon** 4.23 90 ⇓P Pn 11 42 46.1 -0.3
baz=4.2,SNR=460
O07A ⇓S Sn 11 43 33.1 -1.6
baz=4.2
S06C **San Francisco** 4.28 123 ⇓P Pn 11 42 46.8 -0.3
baz=4.3
P07A **Fallon** 4.31 98 ⇑P Pn 11 42 47.4 0.0
baz=4.3,SNR=22
S05C **Merced** 4.33 131 ⇑P Pn 11 42 47.3 -0.4
baz=4.3
J06A **Christmas Vall** 4.35 46 P Pn 11 42 48.1 +0.1
baz=4.3,SNR=216
COR **Corvallis** 4.37 10 ℯP Pn 11 42 49.6 +1.3
H02A **Toledo** 4.40 4 ⇓P Pn 11 42 49.2 +0.5
baz=4.4
H02A ⇓S Sn 11 43 37.1 -1.8
baz=4.4
H03A **Soap Creek Ran** 4.47 10 ⇓P Pn 11 42 49.9 +0.2
baz=4.4
H03A ⇑S Sn 11 43 39.2 -1.3
baz=4.4
T05C **Eagle Field, D** 4.47 138 ⇑P Pn 11 42 49.8 +0.1
baz=4.5,SNR=26
T05C ⇓S Sn 11 43 40.1 -0.4
baz=4.5
HAST **UC Hastings Re** 4.49 149 ⇓P Pn 11 42 48.0 -1.9
baz=4.5,SNR=1000
HAST ⇓S Sn 11 43 40.3 -0.7
baz=4.5
I05A **Bend** 4.52 30 ⇓P Pn 11 42 51.2 +0.9
baz=4.5
Q07A **Schurz** 4.53 105 ⇓P Pn 11 42 50.6 +0.1
baz=4.5,SNR=6.0
LRV **Little Rabbit** 4.69 144 ℯPn Pn 11 42 51.7 -1.0
LRV ℯS Sn 11 43 48.2 +2.4
H04A **Detroit Lake** 4.69 20 ⇓P Pn 11 42 53.5 +0.8
baz=4.7
H04A ⇑S Sn 11 43 45.9 0.0
baz=4.7
R07C **Lee Vining** 4.70 116 ⇓P Pn 11 42 53.6 +0.7
baz=4.7
M08A **Happy Creek Ra** 4.71 74 P Pn 11 42 51.6 -1.4
baz=4.7,SNR=420
O08A **Rochester Mine** 4.78 88 ⇓P Pn 11 42 54.4 +0.5
baz=4.8
WVOR **Wild Horse Val** 4.84 62 ℯP Pn 11 42 53.3 -1.5
U04C **Hernandez Rese** 4.85 143 ⇓P Pn 11 42 53.6 -1.3
baz=4.9,SNR=8.1
P08A **Dixie Valley** 4.90 95 ⇑P Pn 11 42 55.5 0.0
baz=4.9,SNR=5.8
J07A **Hines** 4.90 49 ⇓P Pn 11 42 55.4 -0.1
baz=4.9,SNR=67
J07A ⇑S Sn 11 43 51.2 +0.1
baz=4.9
T06C **Millerton Lake** 4.92 130 ⇓P Pn 11 42 56.5 +0.6
baz=4.9,SNR=21
V03C **Hunter Liggett** 4.94 149 ⇓P Pn 11 42 54.0 -2.1
baz=4.9,SNR=263
V03C ⇑S Sn 11 43 51.5 -0.5
baz=4.9
H05A **Madras** 4.95 27 ⇓P Pn 11 42 56.8 +0.5
baz=4.9
H05A ⇓S Sn 11 43 52.0 -0.4
baz=4.9
KCC **Kaiser Creek** 4.95 125 ⇓P Pn 11 42 57.1 +0.8
baz=4.9
NVAR **Mina Array Bea** 5.08 109 Pn Pn 11 42 58.7 +0.6
27nm,0.3s,baz=295,slow=15,SNR=777
NVAR Sn Sn 11 44 00.3 +4.7
12nm,0.3s,baz=280,slow=25,SNR=4.9
NVAR Lg 11 44 14.4
15nm,0.3s,baz=283,slow=25,SNR=4.4
NVAR **Mina Array Bea** 5.08 109 Pn Pn 11 42 58.7 +0.6
NVAR Sn Sn 11 44 00.3 +4.7
NVAR Lg 11 44 14.4

MLAC **Mammoth Lakes** 5.09 120 ⇑P Pn 11 42 59.7 +1.6
baz=5.1
G04A **Mulino** 5.12 15 ⇑P Pn 11 42 59.6 +1.0
baz=5.1
G04A ⇑S Sn 11 43 56.3 -0.3
baz=5.1
U05C **Westside ANR,** 5.18 138 ⇓P Pn 11 42 59.6 +0.1
baz=5.2
MNV **Mina** 5.19 109 ℯPn Pn 11 42 59.8 +0.3
315nm,1.1s
Q08A **Gabbs** 5.20 104 ⇓P Pn 11 42 59.5 -0.2
baz=5.2,SNR=6.7
R08A **Mina** 5.25 110 ⇑P Pn 11 43 00.6 +0.2
baz=5.2,SNR=14
N09A **Rock Creek Ran** 5.28 82 ⇑P Pn 11 42 59.6 -1.1
baz=5.2,SNR=86
PKD **Parkfield** 5.30 144 ⇓P Pn 11 42 59.2 -1.9
baz=5.3,SNR=171
PKD ⇑S Sn 11 44 00.8 -0.1
baz=5.3
L09A **Wilkinson Ranc** 5.37 69 ⇓P Pn 11 43 00.5 -1.5
baz=5.3,SNR=53
M09A **Marrel Ranch,** 5.40 76 ⇓P Pn 11 43 01.0 -1.4
baz=5.4,SNR=30
V04C **Ramage Ranch,** 5.41 148 ⇑P Pn 11 43 00.7 -2.0
baz=5.4,SNR=118
V04C ⇑S Sn 11 44 03.9 +0.1
baz=5.4
MTUM **Tungsten Hills** 5.42 121 ℯPn Pn 11 43 04.0 +1.2
G05A **Wamic** 5.45 24 ⇑P Pn 11 43 04.0 +0.9
baz=5.4
BMN **Battle Mountai** 5.49 86 ℯPn Pn 11 43 02.8 -0.9
113nm,0.9s
O09A **Fish Creek Ran** 5.53 89 ⇑P Pn 11 43 03.8 -0.4
baz=5.5,SNR=9.7
P09A **Austin** 5.63 95 ⇑P Pn 11 43 05.8 +0.1
baz=5.6,SNR=36
V05C **Boulder Hill,** 5.66 140 ⇓P Pn 11 43 06.4 +0.4
baz=5.7,SNR=7.1
F03A **Seaside** 5.67 6 ⇑P Pn 11 43 07.6 +1.4
baz=5.7
F03A ⇓S Sn 11 44 08.8 -1.4
baz=5.7
PTRM **Twissleman Ran** 5.69 143 ℯPn Pn 11 43 04.8 -1.6
PTRM ℯSn Sn 11 44 12.8 +2.3
F04A **Amboy** 5.83 14 ⇓P Pn 11 43 09.0 +0.7
baz=5.8
F04A ⇓S Sn 11 44 13.3 -0.6
baz=5.8
F05A **White Salmon** 5.99 20 ⇓P Pn 11 43 11.7 +1.1
baz=6.0
F05A ⇓S Sn 11 44 17.8 -0.2
baz=6.0
TPH **Tonopah** 6.00 109 ℯPn Pn 11 43 11.6 +0.9
79nm,0.8s
M10A **I.L. Ranch, Tu** 6.09 76 ⇑P Pn 11 43 10.8 -1.1
baz=6.1
P10A **Eureka** 6.14 94 ⇑P Pn 11 43 13.1 +0.5
baz=6.1
S09A **Goldfield** 6.16 112 ⇓P Pn 11 43 12.7 -0.1
baz=6.1,SNR=79
CWC **Cottonwood Cre** 6.28 126 ⇓P Pn 11 43 16.8 +2.3
baz=6.3
E03A **Lebam** 6.29 5 ⇓P Pn 11 43 16.2 +1.5
baz=6.3
E03A ⇓S Sn 11 44 24.5 -0.9
baz=6.3
E04A **Onalaska** 6.42 10 ⇓S Sn 11 44 29.3 +0.8
baz=6.4
E05A **Randle** 6.56 16 ⇑P Pn 11 43 19.7 +1.4
baz=6.5
E05A ⇑S Sn 11 44 32.3 +0.3
baz=6.5
ISA **Isabella** 6.58 133 ℯPn Pn 11 43 20.1 +1.5
3µm,2.7s
ISA **Isabella** 6.58 133 ⇓P Pn 11 43 19.6 +1.0
baz=6.6,SNR=128
R10A **Warm Springs** 6.60 105 ⇑P Pn 11 43 19.7 +0.9
baz=6.6,SNR=28
M11A **Holland Ranch,** 6.63 77 ⇑P Pn 11 43 18.3 -1.1
baz=6.6
DAC **Darwin (Calif)** 6.69 125 ℯPn Pn 11 43 22.3 +2.2
47nm,1.0s
DAC ℯSn Sn 11 44 57.3 +22
P11A **Circle Ranch,** 6.70 94 ⇑P Pn 11 43 20.7 +0.5
baz=6.7
O11A **Cowboy Ranch,** 6.70 89 ⇑P Pn 11 43 20.6 +0.4
baz=6.7
D03A **Wishkah Elem.** 6.85 4 ⇓P Pn 11 43 23.1 +0.8
baz=6.8
Q11A **Duckwater** 6.92 99 ⇑P Pn 11 43 24.2 +0.9
baz=6.9,SNR=137
Q11A ⇓S Sn 11 44 40.0 -0.7
baz=6.9
SBC **Santa Barbara** 6.93 146 ⇑P Pn 11 43 23.0 -0.4
baz=6.9
SBC ⇓S Sn 11 44 41.4 +0.4
baz=6.9
BMO **Blue Mountains** 6.95 47 ℯPn Pn 11 43 24.8 +1.1
78nm,0.8s
ELK **Elko** 7.00 83 ℯPn Pn 11 43 24.1 -0.3
22nm,0.7s
HAWA **Hanford** 7.06 29 ℯPn Pn 11 43 26.3 +1.1
5.4nm,0.6s
D05A **Enumclaw** 7.12 13 ⇓P Pn 11 43 27.6 +1.6
baz=7.1
N12A **Clover Valley,** 7.16 82 ⇓P Pn 11 43 26.5 -0.1
baz=7.1
TPNV **Topopah Spring** 7.20 115 ℯPn Pn 11 43 28.8 +1.6
42nm,0.8s
OSI **Oeito Adit** 7.24 140 ⇑P Pn 11 43 27.8 +0.1
baz=7.2
M12A **Wells** 7.28 78 ⇑P Pn 11 43 27.2 -1.1
baz=7.2
Q12A **Willow Creek R** 7.49 96 ⇓P Pn 11 43 32.7 +1.5
baz=7.5
Q12A ⇑S Sn 11 44 54.7 -0.3
baz=7.5
C04A **Brinnon** 7.50 7 ⇓S Sn 11 44 55.5 +0.3
baz=7.5
C05A **Tolt Reservoir** 7.66 14 ⇑P Pn 11 43 34.7 +1.3
baz=7.6
N13A **Wendover, West** 7.79 83 ⇑P Pn 11 43 36.4 +1.2
baz=7.8
B04A **Port Angeles** 7.80 4 ⇑S Sn 11 45 01.1 -1.4
baz=7.8
GSC **Goldstone** 7.81 127 ⇑P Pn 11 43 37.0 +1.5
baz=7.8
M13A **Montello** 7.84 79 ⇑P Pn 11 43 36.8 +0.8
baz=7.8
SNCC **San Nicolas Is** 8.04 149 ⇓S Sn 11 45 06.2 -2.3
baz=8.1
HLID **Hailey** 8.14 63 ℯPn Pn 11 43 40.2 +0.2
46nm,0.8s
B05A **Bryant** 8.14 11 ⇑S Sn 11 45 08.4 -2.5
baz=8.1
FMP **Fort Macarthur** 8.18 141 ⇑S Sn 11 45 13.0 +1.0
baz=8.2
TUQ **Turquoise Mtn.** 8.27 123 ⇓P Pn 11 43 43.8 +1.9
baz=8.3
V11A **Goodsprings** 8.36 119 ⇑P Pn 11 43 42.8 -0.2
baz=8.3
PGC **Sidney** 8.39 4 ℯPn Pn 11 43 45.3 +1.8
41nm,0.9s
A04A **Legoe Bay, Lum** 8.52 8 ⇓P Pn 11 43 49.2 +3.9
baz=8.5
U12A **Valley of Fire** 8.65 113 ⇑P Pn 11 43 49.0 +1.9
baz=8.6
BGU **Big Grassy Mou** 8.68 82 ℯPn Pn 11 43 49.6 +2.1
V12A **Nelson** 8.81 118 ⇓P Pn 11 43 52.3 +3.1
baz=8.8
A05A **Maple Falls** 8.87 10 ⇑P Pn 11 43 51.9 +1.9
baz=8.8
DUG **Dugway** 8.87 87 ℯPn Pn 11 43 51.2 +1.2
62nm,0.9s
ARUT **Antelope Range** 8.89 103 ℯP Pn 11 43 51.3 +0.9
HVU **Hansel Valley** 8.92 77 ℯPn Pn 11 43 52.4 +1.6
36nm,1.0s
CCUT **Cedar City** 9.03 104 ℯPn Pn 11 43 53.4 +1.1
W12A **Cal Nev Ari** 9.04 120 ⇓P Pn 11 43 54.6 +2.2
baz=9.0
SPUT **South Promonto** 9.13 80 ℯPn Pn 11 43 55.6 +2.0
PFO **Pinyon Flat Ob** 9.21 134 ℯPn Pn 11 43 55.1 +0.4
64nm,0.8s
PFO **Pinyon Flat Ob** 9.21 134 ⇑P Pn 11 43 55.5 +0.8
baz=9.2,SNR=34
NOQ **North Oquirrh** 9.37 84 ℯPn Pn 11 43 59.2 +2.2
48nm,1.0s

109C **Camp Elliot, M** 9.43 139 ⇑P Pn 11 43 58.2 +0.5
baz=9.4
NLU **North Lily Min** 9.45 88 ℯPn Pn 11 43 60.0 +1.9
NEE **Needles** 9.50 122 ⇓P Pn 11 44 03.0 +4.3
baz=9.5
NEW **Newport** 9.53 31 Pn Pn 11 44 00.1 +1.0
1.0nm,0.3s,baz=184,slow=14,SNR=7.1
NEW Lg 11 46 37.6
0.2nm,0.3s,baz=126,slow=19,SNR=3.4
NEW **Newport** 9.53 31 ℯPn Pn 11 44 00.3 +1.2
13nm,0.9s
MSU **Marysvale** 9.63 97 ℯP Pn 11 44 02.5 +2.0
CTU **Camp Tracy** 9.65 83 ℯPn Pn 11 44 02.8 +2.0
21nm,0.8s
MCMT **McKenzie Canyo** 9.66 58 ℯPn Pn 11 44 02.3 +1.4
MPU **Maple Canyon** 9.79 87 ℯPn Pn 11 44 05.2 +2.6
21nm,0.7s
HWUT **Hardware Ranch** 9.81 78 ℯPn Pn 11 44 05.5 +2.6
85nm,1.0s
W13A **Hualapai Mount** 9.81 119 ⇑P Pn 11 44 07.2 +4.3
baz=9.8
TCUT **Toone Canyon** 9.91 81 ℯPn Pn 11 44 06.9 +2.6
MSO **Missoula** 10.02 46 ℯPn Pn 11 44 07.1 +1.3
193nm,1.4s
DAU **Daniels Canyon** 10.04 85 ℯP Pn 11 44 08.4 +2.3
DLMT **Dillon** 10.05 56 ℯPn Pn 11 44 07.0 +0.8
111nm,1.1s
X13A **Yucca** 10.15 121 ⇑P Pn 11 44 11.7 +4.1
baz=10
RRI2 **Red Ridge** 10.24 68 ℯPn Pn 11 44 10.7 +1.9
58nm,0.9s
Y12C **Blythe** 10.24 126 ⇑P Pn 11 44 09.8 +0.9
baz=10,SNR=6.3
AHID **Auburn Hatcher** 10.28 72 ℯPn Pn 11 44 10.8 +1.4
48nm,1.2s
W14A **Seligman** 10.30 116 ⇑P Pn 11 44 10.1 +0.5
baz=10
DCID1 **Drake Creek** 10.39 67 ℯPn Pn 11 44 13.9 +3.0
CHMT **Chamberlain Mo** 10.45 47 ℯPn Pn 11 44 12.9 +1.2
TPAW **Teton Pass** 10.53 68 ℯPn Pn 11 44 14.8 +2.0
100nm,1.4s
GLA **Glamis** 10.54 130 ⇓P Pn 11 44 13.5 +0.5
baz=10,SNR=20
QLMT **Earthquake Lak** 10.59 60 ℯPn Pn 11 44 15.8 +2.1
Y13A **Salome** 10.63 124 ⇑P Pn 11 44 17.1 +2.9
baz=11,SNR=12
IMW **Indian Meadow** 10.64 66 ℯPn Pn 11 44 16.7 +2.4
62nm,0.9s
MOOW **Moose Ponds** 10.74 67 ℯPn Pn 11 44 17.5 +1.9
34nm,1.1s
BOZ **Bozeman (W)** 10.78 56 ℯPn Pn 11 44 16.3 0.0
27nm,1.0s
X14A **Yava** 10.84 119 ⇑P Pn 11 44 21.8 +4.7
baz=11
YMR **Madison River** 10.85 62 ℯPn Pn 11 44 18.9 +1.7
59nm,1.3s
FLWY **Flagg Ranch** 10.86 65 ℯPn Pn 11 44 19.8 +2.5
118nm,1.2s
YFT **Old Faithful** 10.87 63 ℯPn Pn 11 44 20.1 +2.7
W15A **Williams** 10.88 114 ⇓P Pn 11 44 22.2 +4.7
baz=11
Y14A **Wickenburg** 11.09 121 ⇑P Pn 11 44 24.4 +3.9
baz=11
HRY **Holter Researc** 11.16 51 ℯPn Pn 11 44 22.1 +0.7
X15A **Humboldt** 11.27 117 ⇓P Pn 11 44 27.4 +4.4
baz=11
PDAR **Pinedale Array** 11.40 73 Pn Pn 11 44 26.7 +1.9
0.8nm,0.3s,baz=267,slow=13,SNR=36
PDAR Lg 11 47 37.2
baz=285,slow=21,SNR=2.3
PDAR **Pinedale Array** 11.40 73 Pn Pn 11 44 26.7 +1.9
PDAR Lg 11 47 37.2
Z14A **Wintersburg** 11.49 123 ⇑P Pn 11 44 29.9 +4.0
baz=12
WALA **Waterton Lakes** 11.51 37 ℯPn Pn 11 44 27.9 +1.6
73nm,1.3s
PV10 **Paradox Valley** 12.05 94 ℯPn Pn 11 44 37.1 +3.4
GCMT **Greycliff** 12.10 58 ℯPn Pn 11 44 35.7 +1.4
BBB **Bella Bella** 12.17 349 Pn Pn 11 44 38.8 +3.5
0.4nm,0.3s,baz=172,slow=11,SNR=37
PV01 **Paradox Valley** 12.47 95 ℯPn Pn 11 44 42.5 +3.1
116A **Eloy** 12.80 123 ⇓P Pn 11 44 47.8 +3.9
baz=13
EGMT **Eagleton** 13.04 49 ℯPn Pn 11 44 46.2 -0.9
31nm,0.6s
RWWY **Rawlins** 13.07 78 ℯPn Pn 11 44 47.1 -0.4
46nm,0.9s
SMCO **Snowmass** 13.47 89 ℯPn Pn 11 44 54.2 +1.2
45nm,1.3s
PHWY **Pilot Hill** 14.39 80 ℯPn Pn 11 45 05.0 -0.6
ISCO **Idaho Springs** 14.41 86 ℯPn Pn 11 45 06.9 +1.1
26nm,1.1s
LAO **LASA Array** 14.65 58 ℯPn Pn 11 45 07.8 -1.4
82nm,1.0s
LAZ **Ladron** 14.93 108 ℯPn Pn 11 45 14.6 +1.8
EDM **Edmonton** 14.97 27 ℯP Pn 11 45 12.4 -1.0
LENM **Lemitar** 15.16 108 ℯPn Pn 11 45 18.0 +2.1
ANMO **Albuquerque** 15.18 105 ℯPn Pn 11 45 17.4 +1.3
12nm,1.0s
LPM **Los Pinos Moun** 15.34 107 ℯP Pn 11 45 21.2 +3.0
BNM **Barren Site** 15.42 108 ℯPn Pn 11 45 21.0 +1.7
RSSD **Black Hills** 15.57 69 ℯPn Pn 11 45 18.8 -2.4
27nm,0.8s
DLBC **Dease Lake** 18.52 351 P Pn 11 46 01.6 +3.5
0.1nm,0.3s,baz=190,slow=11,SNR=14
SKAG **Skagway** 20.39 344 ℯP P 11 46 20.6 +2.4
27nm,1.4s
ULM **Lac du Bonnet** 22.29 54 P P 11 46 36.2 -2.4
35nm,0.7s,mb4.9,baz=256,slow=9.2,SNR=24
ULM LR LR 11 56 32.8
comp=Z,792nm,20.9s,MS4.1,baz=325,slow=40
YKA **Yellowknife Ar** 23.01 12 P P 11 46 46.6 +0.4
1.9nm,0.7s,mb3.6,baz=200,slow=11,SNR=17
YKA **Yellowknife Ar** 23.01 12 P P 11 46 46.6 +0.3
YKA pmax pmax
comp=Z,2.0nm,0.7s
CMIG **Matias Romero** 34.44 124 P P 11 48 31.0 +2.3
comp=Z,4.4nm,0.6s,mb4.6,baz=323,slow=7.0,SNR=11
SCHQ **Schefferville** 40.30 49 P P 11 49 17.8 -0.5
comp=Z,11nm,0.8s,mb4.6,baz=286,slow=8.3,SNR=8.4
MAJO **Matsushiro** 72.39 303 ℯP P 11 53 04.0 -3.0
MAJO pmax pmax
comp=Z,37nm,0.8s,mb5.4
MAT **Matsushiro** 72.39 303 P P 11 53 03.9 -3.1
MAT **Matsushiro** 72.39 303 ℯP P 11 53 04.0 -3.0
MAT pmax pmax
comp=Z,47nm,1.1s,mb5.3
MDJ **Mudanjiang** 72.53 314 P P 11 53 07.9 +0.1
MDJ AMB AMB
comp=Z,13nm,0.8s,mb4.9
MDJ AMB AMB
comp=Z,579nm,14.2s
NB2 **NORSAR Subarra** 72.75 21 P P 11 53 09.5 +0.4
comp=Z,0.7nm,0.7s,mb3.7,baz=323,slow=6.2
NB2 **NORSAR Subarra** 72.75 21 ℯP P 11 53 09.5 +0.4
NOA **NORSAR Array B** 72.75 21 P P 11 53 09.3 +0.2
comp=Z,4.9nm,1.1s,mb4.3,baz=325,slow=6.0,SNR=4.0
NOA **NORSAR Array B** 72.75 21 P P 11 53 09.4 +0.3
NOA pmax pmax
comp=Z,5.0nm,1.1s
CN2 **Changchun** 75.32 315 ℯP P 11 53 21.5 -2.6
FINES **FINESS Array B** 75.82 14 P P 11 53 26.9 -0.2
comp=Z,2.1nm,1.0s,mb4.0,baz=238,slow=6.5,SNR=3.5
FINES **FINESS Array B** 75.82 14 P P 11 53 26.9 -0.1
FINES pmax pmax
comp=Z,2.0nm,1.0s
LPAZ **La Paz** 76.80 125 P P 11 53 33.8 +1.3
comp=Z,1.6nm,0.6s,mb4.1,baz=340,slow=5.0,SNR=5.4
LPAZ **La Paz** 76.80 125 P P 11 53 33.8 +1.2
LPAZ pmax pmax
comp=Z,2.0nm,0.6s
DL2 **Dalian** 80.77 314 P P 11 53 56.6 +2.2
DL2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
SIV **San Ignacio** 81.15 120 P P 11 53 57.4 +1.0
comp=Z,0.6nm,0.5s,mb3.8,baz=313,slow=5.8,SNR=4.2
CLL **Collm** 81.50 25 ℯP P 11 54 00.0 +1.8
ESDC **Sonseca Array** 83.66 42 P P 11 54 11.4 +1.9
comp=Z,0.2nm,0.4s,mb3.6,baz=316,slow=6.2,SNR=4.4
HHC **Hu-ho-hao-te** 84.56 321 ℯP P 11 54 14.6 +0.5
HHC AMB AMB
comp=Z,10.0nm,0.6s,mb5.1
HHC AMB AMB
comp=Z,461nm,12.4s
AKASG **Malin Array Be** 86.49 16 P P 11 54 23.9 +0.2
comp=Z,0.2nm,0.3s,mb3.8,baz=344,slow=4.5,SNR=5.9

SSE	**Sheshan**	**86.57**	**309**	P	**P**	**11 54 24.9**	**+0.8**
SSE				AMB	AMB			
	comp=Z,295nm,10.2s							
WMQ	**Urumqi**	**91.41**	**337**	P	**P**	**11 54 48.8**	**+1.8**
WMQ				AP	pP	11 54 56.8	-0.7
WMQ				XP	sP	11 54 59.9	-1.3
WMQ				AMB	AMB			
	comp=Z,105nm,6.5s							
WMQ				LR	LR			
	comp=N,402nm,18.6s,MS5.0							
WMQ				LR	LR			
	comp=E,301nm,17.5s,MS5.0							
WMQ				LR	LR			
	comp=Z,355nm,19.1s,MS4.8							
LZH	**Lanzhou**	**92.00**	**323**	*e*P	**P**	**11 54 51.3**	**+1.6**
LZH				AP	pP	11 54 57.8	-2.4
LZH				XP	sP	11 55 00.4	-3.5
LZH				AMB	AMB			
	comp=Z,92nm,6.0s							
CD2	**Chengdu**	**96.28**	**320**	*e*P	**P**	**11 55 07.8**	**-1.5**
CD2				LR	LR			
	comp=E,2μm,19.2s							
CD2				LR	LR			
	comp=Z,2μm,18.0s,MS5.7							
KMI	**Kunming**	**101.52**	**317**	P	Pdif	11 55 32.0	-0.8	
JIRN	**Jiri**	**106.66**	**332**	*e*P	PKiKP	12 00 12.1	+6.1	
	comp=Z,371nm,1.7s							

BJI ***19*** *11:44:27.3, 56.82N×155.19W, h43km, mB5.4, mb5.4, Ms5.9, Msz5.6*
MOS ***19*** *11:44:28.0±0.8, 57.24N×155.37W, h29km, mb5.4/97, Error ellipse: s-maj=7.3km s-min=3.6km az=90.7*
ISCJB ***19*** *11:44:30.9±0.1, 57.29N±.002×155.25W±.003, h50km, mb5.2/253, MS5.7/17, Error ellipse: s-maj=3.4km s-min=1.8km az=68.5*
IDC ***19*** *11:44:32.5±0.5, 57.32N×155.17W, h54km±3km, mb4.9/25, mb1 5.0/28, mb1mx5.0/31, mbtmp5.2/28, Error ellipse: s-maj=12.5km s-min=6.5km az=0.0*
SZGRF ***19*** *11:44:33.5, 57.18N×155.85W, h48km, mb5.4, Alaska Peninsula, United States*
NEIC ***19*** *11:44:33.4, 57.14N×154.97W, h38km, mb5.2/152, ML5.1(AEIC), ML5.3(PMR), After AEIC.*
NEIC Felt at Kodiak.
ISC 19 11:44:32.6±0.1, 5732N±.002×15525W±.003, h52km, h52km±1.0km: pP-P, n857, σ0=85/847, mb5.2/253, MS5.7/17, 102C-78D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.51**	**71**	Pn		**Pn**		**11 44 56.2**	**-1.1**
	44μm,0.4s								
KDAK	**Kodiak Island**	**1.51**	**71**	P		**Pn**		**11 44 56.4**	**-0.9**
	762nm,0.3s,baz=223,slow=6.0,SNR=3329								
KDAK				S		**Sn**		**11 45 13.7**	**-2.2**
	2μm,0.3s,baz=143,slow=20,SNR=36								
KDAK	**Kodiak Island**	**1.51**	**71**	P		**Pn**		**11 44 55.8**	**-1.5**
KDAK				S		**Sn**		**11 45 11.7**	**-4.2**
CHGN	**Chignik**	**2.02**	**241**	P		**Pn**		**11 45 04.4**	**+0.2**
CHGN				S		**Sn**		**11 45 30.7**	**+2.4**
SDPT	**Sand Point**	**3.52**	**238**	P		**Pn**		**11 45 24.5**	**-0.2**
SVW2	**Sparrevohn**	**3.79**	**358**	P		**Pn**		**11 45 30.9**	**+2.4**
SEW	**Seward**	**4.12**	**45**	P		**Pn**		**11 45 32.2**	**-0.8**
SLKM	**Skilak Lake**	**4.12**	**37**	P		**Pn**		**11 45 33.4**	**+0.3**
RC01	**Rabbit Creek A**	**4.72**	**35**	P		**Pn**		**11 45 41.9**	**+0.6**
FALS	**False Pass**	**5.20**	**245**	P		**Pn**		**11 45 47.9**	**+0.1**
PMR	**Palmer**	**5.30**	**34**	P		**Pn**		**11 45 49.1**	**-0.1**
TTA	**Tatalina**	**5.64**	**356**	*e*P		**Pn**		**11 45 55.8**	**+2.0**
EYAK	**Cordova Ski Ar**	**5.89**	**53**	P		**Pn**		**11 45 55.8**	**-1.5**
TRF	**Thorofare Moun**	**6.62**	**20**	P		**Pn**		**11 46 08.5**	**+1.2**
AKUT	**Akutan**	**6.74**	**246**	*e*P		**Pn**		**11 46 11.3**	**+2.3**
MCK	**McKinley**	**7.14**	**23**	P		**Pn**		**11 46 15.5**	**+1.1**
GCSA	**Galena City Sc**	**7.49**	**355**	P		**Pn**		**11 46 22.3**	**+3.1**
MENT	**Mentasta**	**8.04**	**41**	*e*P		**Pn**		**11 46 28.3**	**+1.5**
SPIA	**Saint Paul Isl**	**8.13**	**275**	P		**Pn**		**11 46 30.2**	**+2.2**
OKCE	**Okmok Cone E**	**8.32**	**247**	P		**Pn**		**11 46 29.6**	**-1.0**
COLA	**College**	**8.38**	**22**	*i* P		**Pn**		**11 46 30.7**	**-0.6**
COLA	**College**	**8.38**	**22**	P		**Pn**		**11 46 31.3**	**-0.1**
PNL	**Peninsula**	**8.63**	**68**	P		**Pn**		**11 46 32.5**	**-2.3**
IMA2	**Indian Mountai**	**8.81**	**4**	*e*P		**Pn**		**11 46 38.8**	**+1.5**
NIKO	**Nikolski**	**8.92**	**247**	*e*Pn		**Pn**		**11 46 41.9**	**+3.1**
TNA	**Tin City**	**10.23**	**329**	*e*Pn		**Pn**		**11 47 00.9**	**+4.3**
DAWY	**Dawson**	**10.28**	**42**	*e*Pn		**Pn**		**11 46 57.5**	**+0.1**
SKAG	**Skagway**	**10.67**	**70**	*e*P		**Pn**		**11 47 01.5**	**-1.2**
	20nm,0.7s								
SIT	**Sitka**	**10.81**	**83**	*e*P		**Pn**		**11 47 03.6**	**-1.1**
CRAG	**Craig**	**12.39**	**89**	*e*Pn		**Pn**		**11 47 21.4**	**-4.8**
DLBC	**Dease Lake**	**13.45**	**75**	P		**Pn**		**11 47 40.1**	**-0.5**
	0.4nm,0.3s,baz=270,slow=12,SNR=18								
DLBC	**Dease Lake**	**13.45**	**75**	*e*Pn		**Pn**		**11 47 40.5**	**-0.1**
INK	**Inuvik**	**14.71**	**33**	P		**Pn**		**11 47 57.0**	**-0.6**
	2.3nm,0.3s,baz=230,slow=16,SNR=54								
INK				ScP		ScP		11 56 34.6	-1.5
	0.2nm,0.3s,baz=257,slow=3.9,SNR=3.8								
INK	**Inuvik**	**14.71**	**33**	*e*Pn		**Pn**		**11 47 57.1**	**-0.5**
BBB	**Bella Bella**	**16.43**	**97**	P		**Pn**		**11 48 18.6**	**-1.0**
	0.5nm,0.3s,baz=289,slow=12,SNR=19								
BBB				S		**S**		**11 51 11.8**	**-19**
	0.1nm,0.3s,baz=106,slow=18,SNR=2.5								
BBB				ScP		ScP		11 56 37.8	-1.5
	0.1nm,0.3s,baz=283,slow=3.8,SNR=3.4								
SMY	**Shemya**	**18.07**	**268**	*e*P		**Pn**		**11 48 39.3**	**-0.5**
C03A	**Quillayute Air**	**20.68**	**104**	⇓P		**P**		**11 49 09.0**	**+0.8**
	baz=20,SNR=18								
YKW3	**Yellowknife Ar**	**20.74**	**58**	*e*P		**P**		**11 49 08.0**	**-0.8**
YKA	**Yellowknife Ar**	**20.75**	**59**	P		**P**		**11 49 08.0**	**-0.9**
	38nm,0.7s,baz=272,slow=10,SNR=137								
YKA				PcP		PcP		11 53 14.9	-1.6
	4.7nm,0.6s,baz=282,slow=1.8,SNR=11								
YKA				ScP		ScP		11 56 46.8	-2.0
	4.7nm,0.8s,baz=284,slow=2.4,SNR=17								
YKA	**Yellowknife Ar**	**20.75**	**59**	P		**P**		**11 49 08.0**	**-0.9**
YKA								11 53 14.9	
YKA				pmax		pmax			
	comp=Z,38nm,0.7s								
YKA				pmax		pmax			
	comp=Z,5.0nm,0.6s								
YKA				pmax		pmax			
	comp=E,5.0nm,0.8s								
YKA	**Yellowknife Ar**	**20.75**	**59**	P		**P**		**11 49 08.1**	**-0.9**
YKA				PcP		PcP		11 53 14.9	-1.6
YKA				ScP		ScP		11 56 46.8	-2.0
PGC	**Sidney**	**20.85**	**101**	*e*P		**P**		**11 49 10.2**	**+0.2**
	comp=E,132nm,1.0s								
OBC	**Olympics--Boni**	**20.89**	**103**	P		**P**		**11 49 11.2**	**+0.8**
OOW	**Octopus West**	**21.02**	**104**	P		**P**		**11 49 12.7**	**+0.9**
VGZ	**Gonzales**	**21.06**	**101**	P		**P**		**11 49 12.3**	**+0.1**
MCW	**Mount Constitu**	**21.16**	**100**	P		**P**		**11 49 13.9**	**+0.5**
B04A	**Port Angeles**	**21.18**	**102**	⇑P		**P**		**11 49 13.9**	**+0.3**
	baz=21,SNR=20								
A04A	**Legoe Bay, Lum**	**21.20**	**100**	⇓P		**P**		**11 49 14.2**	**+0.4**
	baz=21,SNR=22								
VDB	**Vedder Mountai**	**21.35**	**99**	P		**P**		**11 49 15.2**	**-0.2**
A05A	**Maple Falls**	**21.37**	**99**	P		**P**		**11 49 15.7**	**+0.1**
	baz=21,SNR=33								
D03A	**Wishkah Elem.**	**21.63**	**105**	P		**P**		**11 49 19.1**	**+0.7**
	baz=21,SNR=30								
C04A	**Brinnon**	**21.67**	**102**	⇑P		**P**		**11 49 19.1**	**+0.3**
	baz=21,SNR=15								
B05A	**Bryant**	**21.80**	**100**	⇑P		**P**		**11 49 20.4**	**+0.2**
	baz=22,SNR=54								
GNW	**Green Mountain**	**21.85**	**103**	*e*P		**P**		**11 49 20.9**	**+0.2**
RPW	**Rockport**	**22.00**	**99**	P		**P**		**11 49 22.1**	**-0.3**
E03A	**Lebam**	**22.11**	**106**	⇑P		**P**		**11 49 23.2**	**-0.2**
	baz=22,SNR=11								
D04A	**Dobbs Creek Ra**	**22.14**	**103**	⇓P		**P**		**11 49 24.6**	**+0.7**
	baz=22,SNR=5.7								
C05A	**Tolt Reservoir**	**22.37**	**101**	⇑P		**P**		**11 49 25.8**	**-0.4**
	baz=22,SNR=50								
F03A	**Seaside**	**22.52**	**107**	⇑P		**P**		**11 49 27.8**	**0.0**
	baz=22								
E04A	**Onalaska**	**22.52**	**104**	⇓P		**P**		**11 49 28.3**	**+0.5**
	baz=22,SNR=9.4								
PNT	**Penticton**	**22.52**	**95**	P		**P**		**11 49 27.9**	**0.0**
D05A	**Enumclaw**	**22.52**	**102**	⇓P		**P**		**11 49 27.9**	**+0.1**
	baz=22								
LON	**Longmire**	**22.90**	**103**	P		**P**		**11 49 32.9**	**+1.1**
E05A	**Randle**	**23.05**	**103**	P		**P**		**11 49 32.9**	**-0.5**
	baz=23,SNR=21								
G03A	**Yamhill**	**23.07**	**108**	⇓P		**P**		**11 49 33.0**	**-0.6**
	baz=23								
F04A	**Amboy**	**23.11**	**105**	⇓P		**P**		**11 49 33.7**	**-0.4**
	baz=23								
H02A	**Toledo**	**23.14**	**110**	⇓P		**P**		**11 49 34.1**	**-0.3**
	baz=23								
TBM	**Table Mountain**	**23.27**	**101**	P		**P**		**11 49 34.6**	**-1.2**
WTV	**Waterville**	**23.29**	**99**	P		**P**		**11 49 35.4**	**-0.5**
H03A	**Soap Creek Ran**	**23.51**	**109**	⇑P		**P**		**11 49 38.1**	**+0.3**
	baz=23								
G04A	**Mulino**	**23.56**	**107**	⇓P		**P**		**11 49 38.3**	**0.0**
	baz=23,SNR=20								
COR	**Corvallis**	**23.57**	**109**	*e*P		**P**		**11 49 39.3**	**+0.9**
COR					pmax	pmax			
	comp=Z,326nm,1.7s,mb5.5								
COR	**Corvallis**	**23.57**	**109**	*e*P		**P**		**11 49 39.3**	**+0.9**
	comp=Z,326nm,1.7s,mb5.5								
F05A	**White Salmon**	**23.65**	**104**	P		**P**		**11 49 39.2**	**+0.1**
	baz=23,SNR=21								
I02A	**Mapleton**	**23.71**	**111**	⇓P		**P**		**11 49 39.9**	**+0.2**
	baz=23,SNR=5.3								
TDH	**Tom, Dick, Har**	**23.87**	**106**	P		**P**		**11 49 41.3**	**+0.1**
HOOD	**Mount Hood Mea**	**23.92**	**106**	*e*P		**P**		**11 49 41.9**	**+0.3**
EDM	**Edmonton**	**23.93**	**82**	*e*P		**P**		**11 49 41.4**	**-0.4**
I03A	**Eugene**	**24.01**	**110**	⇓P		**P**		**11 49 42.9**	**+0.4**
	baz=24								
H04A	**Detroit Lake**	**24.07**	**107**	⇓P		**P**		**11 49 43.4**	**+0.3**
	baz=24,SNR=66								
G05A	**Wamic**	**24.15**	**105**	⇓P		**P**		**11 49 43.9**	**+0.3**
	baz=24,SNR=17								
BROR	**Big Rock Looko**	**24.23**	**108**	P		**P**		**11 49 44.9**	**+0.4**
KEBM	**Edson Butte**	**24.27**	**113**	*e*P		**P**		**11 49 45.2**	**+0.4**
KEBM				*e*				11 49 59.4	
J02A	**Umpqua**	**24.29**	**111**	⇓P		**P**		**11 49 44.9**	**-0.1**
	baz=24,SNR=5.8								
HAWA	**Hanford**	**24.33**	**101**	*e*P		**P**		**11 49 45.3**	**-0.1**
NEW	**Newport**	**24.48**	**95**	P		**P**		**11 49 46.5**	**-0.2**
	comp=Z,56nm,1.1s,mb4.9,baz=311,slow=7.4,SNR=16								
NEW					ScP	ScP		11 56 56.6	-1.9
	comp=Z,2.2nm,0.5s,baz=96,slow=19,SNR=2.7								
NEW	**Newport**	**24.48**	**95**	*e*P		**P**		**11 49 46.5**	**-0.2**
NEW					pmax	pmax			
	comp=Z,104nm,1.3s								
NEW	**Newport**	**24.48**	**95**	*e*P		**P**		**11 49 46.5**	**-0.2**
	comp=Z,104nm,1.3s,mb5.1								
H05A	**Madras**	**24.59**	**106**	P		**P**		**11 49 48.2**	**+0.4**
	baz=24,SNR=24								
J03A	**Ideyld Park**	**24.60**	**111**	⇑P		**P**		**11 49 48.4**	**+0.5**
	baz=24,SNR=29								
WIFE	**Three Sisters-**	**24.70**	**108**	P		**P**		**11 49 49.3**	**+0.6**
K02A	**Glendale**	**24.77**	**112**	⇑P		**P**		**11 49 49.9**	**+0.6**
	baz=24,SNR=19								
I05A	**Bend**	**24.91**	**107**	⇓P		**P**		**11 49 50.9**	**+0.2**
	baz=25,SNR=17								
VIPM	**Ingram Point**	**25.01**	**106**	P		**P**		**11 49 51.9**	**+0.4**
HUMO	**Hull Mountain**	**25.16**	**112**	*e*P		**P**		**11 49 53.5**	**+0.6**
	comp=Z,70nm,0.9s,mb5.2								
HUMO	**Hull Mountain**	**25.16**	**112**	⇑P		**P**		**11 49 53.3**	**+0.4**
	baz=25,SNR=38								
L02A	**Cave Junction**	**25.16**	**113**	⇑P		**P**		**11 49 53.4**	**+0.5**
	baz=25								
PINOR	**Pine Mountain**	**25.36**	**107**	P		**P**		**11 49 55.4**	**+0.7**
WALA	**Waterton Lakes**	**25.76**	**91**	*e*P		**P**		**11 49 58.0**	**-0.4**
WALA				*e*ScP		ScP		11 57 00.6	-1.5
K04A	**Chilquin**	**25.77**	**110**	⇓P		**P**		**11 49 59.2**	**+0.7**
	baz=26								
YBH	**Yreka Blue Hor**	**25.92**	**113**	P		**P**		**11 50 00.6**	**+0.8**
	comp=Z,23nm,0.9s,mb4.7,baz=338,slow=3.9,SNR=28								
YBH	**Yreka Blue Hor**	**25.92**	**113**	P		**P**		**11 50 00.6**	**+0.8**
YBH					pmax	pmax			
	comp=Z,23nm,0.9s								
YBH	**Yreka Blue Hor**	**25.92**	**113**	*e*P		**P**		**11 50 00.2**	**+0.4**
YBH	**Yreka Blue Hor**	**25.92**	**113**	P		**P**		**11 50 00.9**	**+1.0**
	baz=26,SNR=19								
BSMT	**Bassoo Peak**	**25.98**	**94**	*e*P		**P**		**11 50 00.3**	**-0.1**
BSMT				*e*ScP		ScP		11 57 01.1	-1.6
L04A	**Klamath Falls**	**26.01**	**111**	⇑P		**P**		**11 50 01.1**	**+0.5**
	baz=26,SNR=6.6								
KHMM	**Horse Mountain**	**26.07**	**116**	*e*P		**P**		**11 50 01.9**	**+0.8**
M02C	**Callahan**	**26.11**	**114**	P		**P**		**11 50 02.5**	**+1.0**
	baz=26,SNR=7.9								
J06A	**Christmas Vall**	**26.13**	**107**	P		**P**		**11 50 02.1**	**+0.4**
	baz=26,SNR=44								
PET	**Petropavlovsk**	**26.27**	**280**	⇑*e*P		**P**		**11 50 01.9**	**-1.0**
PET					pmax	pmax			
	comp=Z,106nm,1.7s,mb5.1								
PET	**Petropavlovsk**	**26.27**	**280**	*e*P		**P**		**11 50 02.2**	**-0.7**
	comp=Z,128nm,1.3s,mb5.3								
N02C	**Big Bar**	**26.31**	**115**	⇓P		**P**		**11 50 03.7**	**+0.4**
	baz=26								
M04C	**Macdoel**	**26.33**	**112**	P		**P**		**11 50 04.2**	**+0.7**
	baz=26,SNR=28								
K06A	**Valley Falls**	**26.39**	**108**	⇓P		**P**		**11 50 04.6**	**+0.5**
	baz=26,SNR=14								
J07A	**Hines**	**26.48**	**106**	⇓P		**P**		**11 50 05.1**	**+0.2**
	baz=26,SNR=26								
BMO	**Blue Mountains**	**26.52**	**102**	*e*P		**P**		**11 50 05.1**	**-0.2**
O01C	**Eel River Cons**	**26.59**	**117**	⇑P		**P**		**11 50 06.4**	**+0.6**
	baz=26								
L05A	**Lakeview**	**26.64**	**110**	⇓P		**P**		**11 50 07.2**	**+0.9**
	baz=26,SNR=16								
WDC	**Whiskeytown Da**	**26.88**	**114**	*e*P		**P**		**11 50 08.5**	**+0.1**
WDC	**Whiskeytown Da**	**26.88**	**114**	P		**P**		**11 50 08.7**	**+0.3**
	baz=27,SNR=11								
M05C	**Lookout**	**26.98**	**112**	P		**P**		**11 50 09.8**	**+0.5**
	baz=27,SNR=13								
O02C	**Red Bluff**	**27.06**	**115**	⇑P		**P**		**11 50 10.5**	**+0.4**
	baz=27,SNR=10.0								
MSO	**Missoula**	**27.06**	**95**	*e*P		**P**		**11 50 09.7**	**-0.4**
HATC	**Hat Creek Radi**	**27.23**	**113**	⇑P		**P**		**11 50 12.1**	**+0.5**
	baz=27,SNR=8.7								
CHMT	**Chamberlain Mo**	**27.38**	**94**	*e*P		**P**		**11 50 12.6**	**-0.4**
L07A	**Adell**	**27.42**	**108**	⇓P		**P**		**11 50 14.1**	**+0.7**
	baz=27,SNR=22								
M06C	**Likely Place G**	**27.44**	**111**	⇑P		**P**		**11 50 13.9**	**+0.5**
	baz=27,SNR=10.0								
WVOR	**Wild Horse Val**	**27.49**	**107**	*e*P		**P**		**11 50 13.9**	**0.0**
GASB	**Alder Springs**	**27.50**	**116**	⇓P		**P**		**11 50 14.7**	**+0.7**
	baz=27,SNR=5.8								
O03C	**Acorn Hollow,**	**27.57**	**115**	⇓P		**P**		**11 50 14.2**	**-0.5**
	baz=27								
MA2	**Magadan**	**27.69**	**298**	*e*P		**P**		**11 50 15.2**	**-0.5**
MA2					pmax	pmax			
	comp=E,20nm,0.6s								
MA2					pmax	pmax			
	comp=Z,20nm,0.6s,mb4.9								
ELFS	**Eagle Lake Fie**	**27.75**	**112**	⇓P		**P**		**11 50 16.7**	**+0.5**
	baz=28,SNR=8.9								
O04C	**Chester**	**27.79**	**113**	⇑P		**P**		**11 50 17.0**	**+0.3**
	baz=28								
M07A	**Soldier Meadow**	**27.97**	**109**	P		**P**		**11 50 18.9**	**+0.7**
	baz=28,SNR=56								
N06A	**Buffalo Meadow**	**28.11**	**111**	P		**P**		**11 50 19.8**	**+0.4**
	baz=28,SNR=24								
O05C	**Quincy**	**28.15**	**113**	⇓P		**P**		**11 50 20.0**	**+0.2**
	baz=28,SNR=14								
ORV	**Oroville**	**28.17**	**115**	⇓P		**P**		**11 50 19.4**	**-0.6**
	baz=28,SNR=14								
RES	**Resolute Bay**	**28.22**	**29**	*e*P		**P**		**11 50 21.0**	**+0.6**
MNRC	**McLaughlin Nat**	**28.24**	**117**	⇓P		**P**		**11 50 19.5**	**-1.0**
	baz=28								
HRY	**Holter Researc**	**28.28**	**93**	*e*P		**P**		**11 50 20.5**	**-0.5**
SUTB	**Sutter Butte**	**28.28**	**115**	⇑P		**P**		**11 50 19.9**	**-1.1**
	baz=28,SNR=10								
L09A	**Wilkinson Ranc**	**28.29**	**106**	⇑P		**P**		**11 50 21.0**	**0.0**
	baz=28,SNR=9.9								
M08A	**Happy Creek Ra**	**28.33**	**108**	⇓P		**P**		**11 50 21.8**	**+0.4**
	baz=28,SNR=10								
OHCM	**Honcut**	**28.35**	**115**	*e*P		**P**		**11 50 20.8**	**-0.8**
NSHM	**Saint Helena R**	**28.44**	**117**	*e*P		**P**		**11 50 21.2**	**-1.2**
LRM	**Limekiln Ridge**	**28.50**	**95**	*e*P		**P**		**11 50 22.9**	**0.0**
LRM				*e*pP		pP		11 50 36.8	+0.6
O06A	**Flanigan**	**28.55**	**112**	P		**P**		**11 50 23.7**	**+0.3**
	baz=28,SNR=17								
EGMT	**Eagleton**	**28.61**	**89**	*e*P		**P**		**11 50 23.3**	**-0.6**
	comp=Z,33nm,0.8s,mb5.1								
EGMT				*e*ScP		ScP		11 57 09.0	-1.7
Q03C	**Winters**	**28.64**	**116**	⇓P		**P**		**11 50 24.6**	**+0.4**
	baz=28								
CVS	**Carmenet Viney**	**28.65**	**117**	⇑P		**P**		**11 50 23.7**	**-0.6**
	baz=28								
DLMT	**Dillon**	**28.71**	**96**	*e*P		**P**		**11 50 24.9**	**0.0**
	comp=Z,67nm,1.4s,mb5.2								
Q04C	**Lincoln**	**28.79**	**115**	⇑P		**P**		**11 50 25.0**	**-0.5**
	baz=28								
SKR	**Severo-Kuril's**	**28.81**	**278**	*e*P		**P**		**11 50 20.5**	**-5.1**
SKR					pmax	pmax			
	comp=E,60nm,0.5s								
SKR					pmax	pmax			
	comp=Z,90nm,0.5s,mb5.8								
P05C	**Yuba Gap, Truc**	**28.81**	**114**	P		**P**		**11 50 25.5**	**-0.2**
	baz=28,SNR=9.8								
M09A	**Marrel Ranch,**	**28.84**	**107**	⇑P		**P**		**11 50 26.2**	**+0.3**
	baz=28,SNR=10								
P06A	**Stead Airport,**	**28.87**	**112**	⇓P		**P**		**11 50 26.5**	**+0.3**
	baz=29								
FARB	**Farallon Islan**	**28.90**	**119**	⇑P		**P**		**11 50 25.5**	**-1.0**
	baz=29								
MCMT	**McKenzie Canyo**	**28.92**	**97**	*e*P		**P**		**11 50 26.2**	**-0.4**
HLID	**Hailey**	**28.93**	**101**	*e*P		**P**		**11 50 26.7**	**0.0**
O07A	**Toulon**	**29.03**	**110**	⇓P		**P**		**11 50 28.0**	**+0.4**
	baz=29,SNR=30								
BOZ	**Bozeman (W)**	**29.05**	**95**	*e*P		**P**		**11 50 27.7**	**-0.1**
PAHR	**Pah Rah Range**	**29.11**	**112**	*e*P		**P**		**11 50 28.4**	**+0.1**
LAVA	**Lava Cap Winer**	**29.16**	**115**	⇑P		**P**		**11 50 28.4**	**-0.4**
	baz=29,SNR=17								
N09A	**Rock Creek Ran**	**29.21**	**108**	⇑P		**P**		**11 50 29.3**	**0.0**
	baz=29,SNR=16								
WCN	**Washoe City**	**29.23**	**113**	⇑P		**P**		**11 50 29.6**	**+0.2**
	baz=29,SNR=18								
M10A	**I.L. Ranch, Tu**	**29.24**	**106**	⇑P		**P**		**11 50 29.9**	**+0.4**
	baz=29,SNR=6.9								
BDM	**Black Diamond**	**29.24**	**117**	⇑P		**P**		**11 50 28.9**	**-0.7**
	baz=29								
FFC	**Flin Flon**	**29.26**	**72**	*e*P		**P**		**11 50 29.5**	**-0.1**
R04C	**Big Horse Ranc**	**29.45**	**116**	⇑P		**P**		**11 50 30.8**	**-0.5**
	baz=29,SNR=5.4								
P07A	**Fallon**	**29.49**	**111**	⇓P		**P**		**11 50 31.3**	**-0.4**
	baz=29								
JRSC	**Jasper Ridge**	**29.50**	**118**	⇑P		**P**		**11 50 31.1**	**-0.7**
	baz=29								
R05C	**Kirkwood Meado**	**29.53**	**114**	⇓P		**P**		**11 50 32.2**	**+0.1**
	baz=29,SNR=13								
WENL	**Wente Brothers**	**29.56**	**117**	⇑P		**P**		**11 50 32.1**	**-0.2**
	baz=29								
BMN	**Battle Mountai**	**29.67**	**108**	*e*P		**P**		**11 50 33.8**	**+0.5**
BMN				*e*		pP		11 50 47.1	+0.4
QLMT	**Earthquake Lak**	**29.69**	**96**	*e*P		**P**		**11 50 33.6**	**+0.1**
QLMT				*e*		pP		11 50 47.6	+0.8
M11A	**Holland Ranch,**	**29.69**	**105**	⇑P		**P**		**11 50 33.9**	**+0.4**
	baz=29,SNR=14								
N10A	**Dunphy**	**29.83**	**107**	⇓P		**P**		**11 50 34.4**	**-0.4**
	baz=30								
S04C	**Ingram Canyon,**	**29.86**	**117**	⇓P		**P**		**11 50 34.6**	**-0.4**
	baz=30								
O09A	**Fish Creek Ran**	**29.88**	**109**	P		**P**		**11 50 35.8**	**+0.6**
	baz=30,SNR=24								
CMB	**Columbia Colle**	**29.90**	**115**	*e*P		**P**		**11 50 35.2**	**-0.1**
CMB				*e*				11 53 35.7	
CMB	**Columbia Colle**	**29.90**	**115**	P		**P**		**11 50 35.3**	**0.0**
	baz=30,SNR=8.6								
Q07A	**Schurz**	**29.98**	**112**	⇑P		**P**		**11 50 36.3**	**+0.2**
	baz=30								
R06C	**Coleville**	**29.99**	**113**	P		**P**		**11 50 36.7**	**+0.6**
	baz=30,SNR=16								
WAKR	**Walker**	**30.00**	**113**	*e*P		**P**		**11 50 36.8**	**+0.5**
GCMT	**Greycliff**	**30.02**	**93**	*e*P		**P**		**11 50 36.8**	**+0.4**
GCMT				*e*		pP		11 50 51.8	+2.0
YMR	**Madison River**	**30.04**	**96**	*e*P		**P**		**11 50 36.6**	**0.0**
YMR				*e*		pP		11 50 51.6	+1.7
N11A	**Elko Archery C**	**30.16**	**106**	⇓P		**P**		**11 50 38.3**	**+0.6**
	baz=30								
M12A	**Wells**	**30.16**	**104**	⇑P		**P**		**11 50 38.0**	**+0.3

baz=31,SNR=11
SPUT South Promonto 31.54 102 *e*P P **11 50 50.3 +0.5**
V04C Ramage Ranch, 31.57 119 ⇓P P **11 50 50.4 +0.3**
baz=31,SNR=5.6
Q11A Duckwater 31.66 108 ⇓P P **11 50 51.0 +0.2**
baz=31,SNR=43
S09A Goldfield 31.72 112 ⇑P P **11 50 51.0 -0.4**
baz=31,SNR=28
TIN Tinemaha 31.73 114 ⇑P P **11 50 51.9 +0.4**
baz=31
R10A Warm Springs 31.75 110 ⇓P P **11 50 51.7 0.0**
baz=32,SNR=22
HWUT Hardware Ranch 31.80 101 *e*P P **11 50 52.6 +0.5**
comp=Z,37nn,0.9s,mb5.2
V05C Boulder Hill, 31.85 117 ⇓P P **11 50 53.2 +0.6**
baz=32
PTRM Twissleman Ran 31.88 118 *e*P P **11 50 53.1 +0.4**
Q12A Willow Creek R 31.94 107 P P **11 50 53.8 +0.4**
baz=32,SNR=23
BW06 Boulder Array 32.07 97 *e*P P **11 50 54.3 -0.2**
comp=Z,21nn,0.7s,mb5.1
PDAR Pinedale Array 32.07 97 P P **11 50 54.2 -0.2**
comp=Z,22nn,0.7s,mb5.1,baz=312,slow=5.0,SNR=170
PDAR pP pP 11 51 08.2 +0.3
comp=Z,19nn,0.6s,baz=309,slow=4.8,SNR=17
PDAR ScP ScP 11 57 19.2 -2.8
comp=Z,0.4nm,0.7s,baz=352,slow=3.0,SNR=4.4
DUG Dugway 32.15 104 *e*P P **11 50 55.1 0.0**
DUG pmax pmax
comp=Z,23nn,0.9s,mb5.0
DUG Dugway 32.15 104 *e*P P **11 50 55.1 0.0**
comp=Z,23nn,0.9s,mb5.0
NOQ North Oquirrh 32.18 102 *e*P P **11 50 55.7 +0.2**
NOQ *e* pP 11 51 10.4 +1.5
TCUT Toone Canyon 32.23 101 *e*P P **11 50 56.6 +0.8**
CWC Cottonwood Cre 32.29 114 ⇓P P **11 50 56.7 +0.3**
baz=32,SNR=5.1
CTU Camp Tracy 32.35 102 *e*P P **11 50 57.0 +0.1**
DAC Darwin (Calif) 32.66 114 *e*P P **11 50 59.8 +0.2**
DAC pmax pmax
comp=Z,31nn,1.1s,mb5.2
DAC Darwin (Calif) 32.66 114 *e*P P **11 50 59.8 +0.2**
comp=Z,31nn,1.1s,mb5.2
NLU North Lily Min 32.71 103 *e*P P **11 51 00.3 +0.2**
ISA Isabella 32.71 116 *e*P P **11 50 59.9 -0.2**
ISA pmax pmax
comp=Z,25nn,0.8s,mb5.2
ISA Isabella 32.71 116 *e*P P **11 50 59.9 -0.2**
comp=Z,25nn,0.8s,mb5.2
ISA Isabella 32.71 116 ⇑P P **11 50 59.6 -0.5**
baz=32,SNR=35
TPNV Topopah Spring 32.81 111 *e*P P **11 51 01.1 +0.2**
TPNV pmax pmax
comp=Z,44nn,0.9s,mb5.4
TPNV Topopah Spring 32.81 111 *e*P P **11 51 01.1 +0.2**
comp=Z,44nn,0.9s,mb5.4
DAU Daniels Canyon 32.81 102 *e*P P **11 51 01.5 +0.5**
MPU Maple Canyon 32.90 103 *e*P P **11 51 02.0 +0.3**
TIXI Tiksi 32.99 326 ⇓*i*P P **11 51 00.8 -1.7**
TIXI pmax pmax
comp=Z,31nn,0.8s,mb5.3
TIXI Tiksi 32.99 326 *i*P P **11 51 01.7 -0.8**
SBC Santa Barbara 33.10 118 ⇓P P **11 51 03.5 0.0**
baz=33
U10A Ash Meadows, A 33.18 112 P P **11 51 04.7 +0.5**
baz=33,SNR=16
OSI Osito Adit 33.43 117 ⇓P P **11 51 06.2 -0.2**
baz=33
ARUT Antelope Range 33.60 107 *e*P P **11 51 07.5 -0.3**
ARUT *e* pP 11 51 25.1 +3.9
TMUT Trail Mountain 33.65 103 *e*P P **11 51 08.4 +0.2**
TMUT ePcP PcP 11 53 47.2 -0.1
U11A Corn Creek 33.66 111 ⇑P P **11 51 07.9 -0.4**
baz=33
SHPR Sheep Range 33.70 111 *e*P P **11 51 08.8 +0.1**
MVU Marysvale 33.70 105 *e*P P **11 51 03.9 -4.8**
comp=Z,63nn,1.1s,mb5.5
MSU Marysvale 33.72 105 *e*P P **11 51 09.8 +1.0**
MSU *e* 11 53 48.8
GSC Goldstone 33.82 114 *e*P P **11 51 09.7 0.0**
GSC Goldstone 33.82 114 P P **11 51 09.8 +0.1**
baz=34,SNR=27
CCUT Cedar City 33.82 108 *e*P P **11 51 09.1 -0.6**
MWC Mount Wilson 34.07 117 *e*P P **11 51 12.0 +0.1**
U12A Valley of Fire 34.08 110 P P **11 51 12.2 +0.3**
baz=34,SNR=9.4
RWWY Rawlins 34.08 96 *e*P P **11 51 11.5 -0.5**
V11A Goodsprings 34.08 112 ⇓P P **11 51 12.3 +0.3**
baz=34,SNR=14
SRU San Rafael 34.15 103 *e*P P **11 51 13.2 +0.7**
TUQ Turquoise Mtn. 34.15 113 P P **11 51 12.8 +0.2**
baz=34,SNR=17
RSSD Black Hills 34.16 90 *e*P P **11 51 12.7 +0.1**
SNCC San Nicolas Is 34.16 119 ⇓P P **11 51 12.3 -0.4**
baz=34
V12A Nelson 34.46 111 P P **11 51 15.9 +0.6**
baz=34,SNR=36
ULM Lac du Bonnet 34.77 76 P P **11 51 17.1 -0.8**
comp=Z,26nn,0.6s,mb5.3,baz=306,slow=8.5,SNR=40
ULM pP pP 11 51 31.4 0.0
comp=Z,22nn,0.8s,baz=320,slow=8.0,SNR=9.3
ULM Lac du Bonnet 34.77 76 *e*P P **11 51 17.0 -0.9**
comp=Z,92nn,1.1s,mb5.6
ULM *e* pP 11 51 30.9 -0.5
W12A Cal Nev Ari 34.79 112 ⇓P P **11 51 18.3 +0.2**
baz=34
PHWY Pilot Hill 35.30 95 *e*P P **11 51 21.1 -1.4**
PFO Pinyon Flat Ob 35.35 115 P P **11 51 22.9 0.0**
comp=Z,142nn,1.2s,mb5.8,SNR=6.2
PFO Pinyon Flat Ob 35.35 115 *e*P P **11 51 22.5 -0.4**
PFO pmax pmax
comp=Z,30nn,1.1s,mb5.1
PFO Pinyon Flat Ob 35.35 115 *e*P P **11 51 22.5 -0.4**
comp=Z,30nn,1.1s,mb5.1
PFO Pinyon Flat Ob 35.35 115 ⇑P P **11 51 22.3 -0.6**
baz=35,SNR=10
W13A Hualapai Mount 35.44 111 ⇑P P **11 51 23.7 0.0**
baz=35,SNR=18
PV10 Paradox Valley 35.47 102 *e*P P **11 51 23.9 -0.1**
PV10 *e* pP 11 51 39.5 +2.0
109C Camp Elliot, M 35.61 117 ⇓P P **11 51 25.1 -0.1**
baz=35,SNR=6.6
W14A Seligman 35.77 110 P P **11 51 26.9 +0.4**
baz=36,SNR=25
X13A Yucca 35.87 111 P P **11 51 27.3 -0.2**
baz=36,SNR=19
PV01 Paradox Valley 35.90 102 *e*P P **11 51 27.2 -0.5**
KIP Kipapa 35.91 184 ⇑*i*P P **11 51 26.8 -1.0**
SMCO Snowmass 35.99 99 *e*P P **11 51 28.3 -0.1**
comp=Z,23nn,1.0s,mb5.1
BAR Barrett 36.00 117 *e*P P **11 51 28.5 0.0**
Y12C Blythe 36.19 113 P P **11 51 30.2 +0.1**
baz=36,SNR=27
W15A Williams 36.20 109 P P **11 51 31.2 +1.0**
baz=36,SNR=23
YAK Yakutsk 36.22 310 *e*P P **11 51 29.2 -1.2**
YAK *e* pP 11 51 44.4 +0.5
YAK pmax pmax
comp=Z,96nn,1.0s,mb5.7
YAK pmax pmax
comp=N,11nn,1.1s
YAK pmax pmax
comp=E,28nn,1.3s
YAK pmax pmax
comp=Z,46nn,1.2s,mb5.3
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,27nn,1.4s
ISCO Idaho Springs 36.27 97 *e*P P **11 51 31.7 +0.9**
WUAZ Wupatki 36.41 108 *e*P P **11 51 32.3 +0.4**
comp=E,54nm,1.0s,mb5.4
X14A Yava 36.44 110 P P **11 51 32.8 +0.5**
baz=36,SNR=37
Y13A Salome 36.49 112 ⇓P P **11 51 32.4 -0.3**
baz=36
GLA Glamis 36.60 114 *e*P P **11 51 33.5 -0.1**
GLA Glamis 36.60 114 P P **11 51 33.6 0.0**
baz=36,SNR=19
X15A Humboldt 36.76 110 P P **11 51 35.6 +0.6**
baz=36,SNR=38
Y14A Wickenburg 36.81 111 P P **11 51 35.4 0.0**
baz=36,SNR=30
Z14A Wintersburg 37.29 112 ⇑P P **11 51 39.3 -0.2**
baz=37,SNR=12
YSS Yuzh-Sakhalins 38.14 282 *d i*P P **11 51 46.3 -0.4**
YSS pmax pmax
comp=Z,41nn,1.3s,mb5.0
YSS Yuzh-Sakhalins 38.14 282 *e*P P **11 51 46.9 +0.2**
comp=Z,29nn,0.9s,mb5.0
EYMN Ely 38.45 76 *e*P P **11 51 48.5 -0.7**
116A Eloy 38.56 111 ⇑P P **11 51 50.2 0.0**
baz=38,SNR=7.7
TUC Tucson 39.23 110 *e*P P **11 51 55.9 +0.1**
TUC pmax pmax
comp=Z,27nn,1.1s,mb4.9
TUC Tucson 39.23 110 *e*P P **11 51 55.9 +0.1**
comp=Z,27nn,1.1s,mb4.9
ANMO Albuquerque 39.41 103 *e*P P **11 51 57.1 -0.2**
ANMO *e* 11 54 04.7
ANMO pmax pmax
comp=Z,15nn,0.6s
ANMO Albuquerque 39.41 103 *e*P P **11 51 57.1 -0.2**
comp=Z,14nn,0.6s,mb4.9
ANMO ePcP PcP 11 54 04.7 +0.1
LAZ Ladron 39.47 104 *e*P P **11 51 57.9 0.0**
LAZ *e* pP 11 52 13.2 +1.7
LENM Lemitar 39.74 105 *e*P P **11 52 00.4 +0.3**
LPM Los Pinos Moun 39.81 104 *e*P P **11 52 00.7 +0.1**
Y22C IRIS PASSCAL I 39.84 105 ⇓P P **11 52 01.4 +0.5**
baz=40
BNM Barren Site 39.94 104 *e*P P **11 52 02.0 +0.3**
ASAJ Asahikawa 40.07 278 P P **11 52 02.4 -0.4**
comp=Z,58nn,0.6s,mb5.5,baz=40,slow=4.1,SNR=86
ASAJ Asahikawa 40.07 278 P P **11 52 02.4 -0.4**
ASAJ pmax pmax
comp=Z,58nm,0.6s
SCIA State Center 41.51 84 *e*P P **11 52 13.1 -1.5**
SCIA *e* pP 11 52 28.4 0.0
AMTX Amarillo 42.01 99 *e*P P **11 52 18.5 -0.2**
DAG Danmarks Havn 43.39 13 ⇓*i*P P **11 52 28.4 -1.5**
comp=Z,30nn,0.5s,mb5.3
DAG pmax pmax
comp=Z,10μm,22.0s
DAG Danmarks Havn 43.39 13 ⇓*i*P P **11 52 28.4 -1.5**
DAG pmax pmax
comp=Z,30nn,0.5s,mb5.3
DAG MLR MLR
comp=Z,10μm,22.0s,MS5.7
WMOK Wichita Mounta 43.67 96 *e*P P **11 52 31.3 -0.9**
WMOK pmax pmax
comp=Z,32nn,0.8s,mb5.1
WMOK Wichita Mounta 43.67 96 *e*P P **11 52 31.3 -0.9**
comp=Z,32nn,0.8s,mb5.1
KBS Kingsbay 43.78 4 ⇓*e*P P **11 52 34.3 +1.2**
KBS Kingsbay 43.78 4 *e*P P **11 52 34.0 +0.9**
SFJD Kangerlussuaq 44.06 33 *i*P P **11 52 36.9 +1.6**
comp=Z,33nn,0.9s,mb5.1
SFJD *i* pP 11 52 48.4 -0.7
SFJD
comp=Z,6μm,22.0s
SFJD Kangerlussuaq 44.06 33 *i*P P **11 52 36.9 +1.6**
SFJD *i* pP 11 52 48.4 -0.7
SFJD pmax pmax
comp=Z,33nn,0.9s,mb5.1
SFJD MLR MLR
comp=Z,6μm,22.0s,MS5.5
LTX Lajitas 45.27 106 *e*P P **11 52 44.5 -0.4**
LTX pmax pmax
comp=Z,30nn,0.8s,mb5.2
LTX Lajitas 45.27 106 *e*P P **11 52 44.5 -0.4**
comp=Z,30nn,0.8s,mb5.2
CCM Cathedral Cave 45.30 87 *e*P P **11 52 43.4 -1.8**
CCM pmax pmax
comp=Z,30nn,0.8s,mb5.2
CCM Cathedral Cave 45.30 87 *e*P P **11 52 43.4 -1.8**
comp=Z,30nn,0.8s,mb5.2
FVM French Village 45.80 86 *e*P P **11 52 47.3 -1.8**
FVM pmax pmax
comp=Z,54nn,1.1s,mb5.4
FVM French Village 45.80 86 *e*P P **11 52 47.3 -1.9**
comp=Z,54nn,1.1s,mb5.4
SCHQ Schefferville 46.06 53 P P **11 52 50.5 -0.7**
comp=Z,11nn,0.6s,mb5.0,baz=308,slow=8.2,SNR=23
SCHQ Schefferville 46.06 53 *e*P P **11 52 50.3 -0.9**
comp=Z,15nn,0.7s,mb5.0
JCT Junction City 46.41 101 *e*P P **11 52 52.9 -1.0**
VLA Vladivostok 46.43 285 ⇓*e*P P **11 52 52.0 -2.1**
VLA pmax pmax
comp=Z,58nn,1.3s,mb5.3
VLA Vladivostok 46.43 285 *e*P P **11 52 52.1 -2.0**
MDJ Mudanjiang 46.59 288 P P **11 52 58.3 +3.0**
MDJ AMB AMB
comp=Z,11nn,0.8s,mb4.8
MDJ LR LR
comp=N,11μm,14.8s,MS6.0
MDJ LR LR
comp=E,7μm,19.7s,MS6.0
MDJ LR LR
comp=Z,6μm,17.2s,MS5.6
MDJ Mudanjiang 46.59 288 *e*P P **11 52 53.8 -1.5**
comp=Z,31nn,0.9s,mb5.2
MIAR Mount Ida 46.64 92 *e*P P **11 52 54.3 -1.4**
SIUC Southern Illin 46.65 85 *e*P P **11 52 54.3 -1.5**
comp=Z,83nn,1.2s,mb5.5
SIUC *e* pP 11 53 08.4 -1.3
BLO Bloomington 47.04 82 *e*P P **11 52 57.2 -1.7**
UALR University of 47.13 91 *e*P P **11 52 57.5 -2.1**
comp=Z,20nn,0.9s,mb5.1
USIN University of 47.30 84 *e*P P **11 52 59.5 -1.4**
USIN *e* pP 11 53 13.6 -1.2
MAJO Matsushiro 47.78 274 *e*P P **11 53 04.0 -0.6**
MAJO pmax pmax
comp=Z,37nn,0.8s,mb5.5
MAJO Matsushiro 47.78 274 *e*P P **11 53 04.0 -0.6**
comp=Z,37nn,0.8s,mb5.5
MAT Matsushiro 47.78 274 *e*P P **11 53 04.0 -0.6**
MAT pmax pmax
comp=Z,47nn,1.1s,mb5.4
MAT Matsushiro 47.78 274 *e*P P **11 53 04.0 -0.6**
comp=Z,47nn,1.1s,mb5.4
MJAR Matsushiro Arr 47.78 274 P P **11 53 03.9 -0.7**
comp=Z,81nn,0.6s,mb4.9,baz=34,slow=6.7,SNR=24
WCI Wyandotte Cave 47.85 83 *e*P P **11 53 03.0 -2.1**
WCI pmax pmax
comp=Z,31nn,1.0s,mb5.3
WCI Wyandotte Cave 47.85 83 *e*P P **11 53 03.0 -2.1**
comp=Z,31nn,1.0s,mb5.3
HALT Halls 47.91 87 *e*P P **11 53 04.1 -1.5**
HALT *e* pP 11 53 18.8 -0.8
NATX Nacogdoches 48.17 95 *e*P P **11 53 07.2 -0.4**
NATX *e* pP 11 53 21.4 -0.1
ACSO Alum Creek Sta 48.17 78 *e*P P **11 53 06.0 -1.6**
comp=Z,15nn,0.7s,mb5.1
HIA Hailar 48.27 299 *e*P P **11 53 06.6 -1.7**
HIA pmax pmax
comp=Z,13nn,0.7s
HIA Hailar 48.27 299 *e*P P **11 53 06.6 -1.8**
comp=Z,13nn,0.7s,mb5.1
ERPA Erie 48.40 74 *e*P P **11 53 08.4 -0.9**
WVT Waverly 48.57 86 *e*P P **11 53 09.0 -1.7**
WVT pmax pmax
comp=Z,67nn,0.8s,mb5.7
WVT Waverly 48.57 86 *e*P P **11 53 09.0 -1.7**
comp=Z,67nn,0.8s,mb5.7
OXF Oxford 48.92 88 *e*P P **11 53 12.1 -1.3**
HKT Hockley 48.94 98 *e*P P **11 53 13.4 -0.2**
HKT pmax pmax
comp=Z,36nn,1.2s,mb5.3
HKT Hockley 48.94 98 *e*P P **11 53 13.4 -0.1**
comp=Z,36nn,1.2s,mb5.3
MSNY Massena 48.99 68 *e*P P **11 53 12.2 -1.6**
CN2 Changchun 49.28 290 *e*P P **11 53 15.0 -1.1**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,16μm,16.0s,MS6.2
CN2 LR LR
comp=E,9μm,16.0s,MS6.2
CN2 LR LR
comp=Z,22μm,21.0s,MS6.1
PLAL Pickwick Lake 49.29 87 *e*P P **11 53 14.6 -1.6**
LONY Lake Ozonia 49.40 68 *e*P P **11 53 15.3 -1.7**
FRNY Flat Rock 49.74 67 *e*P P **11 53 17.8 -1.9**
NCB Newcomb 50.04 69 *e*P P **11 53 20.6 -1.3**
comp=Z,41nn,1.0s,mb5.4
NCB *e* pP 11 53 35.1 -0.8
MCWV Mont Chateau 50.25 76 *e*P P **11 53 22.1 -1.4**
comp=Z,52nn,0.9s,mb5.6
MIV Mineville/With 50.31 68 *e*P P **11 53 22.3 -1.6**
BINY Binghamton 50.41 71 *e*Pn P **11 53 24.1 -0.7**
BINY *e* pP 11 53 38.3 -0.5
SSPA Standing Stone 50.56 74 *e*P P **11 53 24.5 -1.4**
TZTN Tazewell 50.57 82 *e*P P **11 53 24.4 -1.5**
ACCN Adirondack Com 50.74 69 *e*P P **11 53 26.0 -1.2**
CPCT Cooper Cave 50.86 84 *e*P P **11 53 26.6 -1.5**
HNH Hanover 51.20 67 *e*P P **11 53 29.8 -0.9**
FWV Forest Hill 51.26 79 *e*P P **11 53 29.8 -1.3**
LRAL Lakeview Retre 51.35 88 *e*P P **11 53 29.4 -2.4**
comp=Z,20nn,0.9s,mb5.0
ELN Prospectdale 51.55 79 *e*P P **11 53 31.3 -2.0**
ELN *e* pP 11 53 46.4 -1.0
PKME Peaks-Kenny Pk 51.56 64 *e*P P **11 53 31.0 -2.3**
BLA Blacksburg 51.74 79 *e*P P **11 53 33.0 -1.7**
BLA pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BLA Blacksburg 51.74 79 *e*P P **11 53 33.0 -1.7**
comp=Z,1.9nm,0.7s
MVL Millersville 51.83 74 *e*P P **11 53 34.2 -1.1**
PAL Palisades 52.35 71 *e*P P **11 53 38.3 -0.9**
PAL pmax pmax
comp=Z,28nn,1.0s,mb5.2
PAL Palisades 52.35 71 *e*P P **11 53 38.3 -0.9**
comp=Z,28nn,1.0s,mb5.2
WES Weston 52.65 68 *e*P P **11 53 40.5 -0.9**
EMMW East Machias 52.85 63 *e*P P **11 53 41.5 -1.5**
comp=Z,32nn,0.7s,mb5.4
CBIJ Chichi jima 52.88 263 P P **11 53 41.3 -1.9**
comp=Z,35nn,0.5s,mb5.6,baz=266,slow=24,SNR=6.3
KEV Kevo 53.21 359 *e*p P **11 53 43.2 -2.4**
comp=Z,14nn,0.8s,mb4.9
KEV Kevo 53.21 359 *e*P P **11 53 43.2 -2.4**
KEV pmax pmax
comp=Z,14nn,0.8s,mb4.9
INCN Inchon 53.28 284 *e*P P **11 53 45.8 -0.3**
BORG Borgarnes 53.31 23 *e*P P **11 53 47.5 +1.2**
comp=Z,78nn,1.4s,mb5.4
ARCES ARCESS Array B 53.44 360 P P **11 53 46.2 -1.1**
comp=Z,8.5nn,0.6s,mb4.8,baz=13,slow=7.6,SNR=25
TLY Talaya 53.68 311 P P **11 53 48.1 -0.9**
comp=Z,214nm,0.9s,mb6.1,SNR=12
KRAR Krasnoyarsk 54.44 320 ⇓*e*P P **11 53 50.9 -3.6**
KRAR pmax pmax
comp=Z,96nn,0.8s,mb5.8
LOF Lofoten 54.58 5 *e*P P **11 53 56.7 +1.1**
MOY Mondy 54.77 312 *e*P P **11 53 57.1 +0.2**
MOY pmax pmax
comp=Z,31nn,2.0s,mb5.0
ZAK Zakamensk 54.81 310 ⇓*i*P P **11 53 56.3 -0.9**
ZAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
SONM Songino Array 55.41 306 P P **11 54 01.7 +0.1**
comp=Z,51nn,0.7s,mb5.7,baz=44,slow=6.9,SNR=370
SONM pP pP 11 54 15.8 0.0
comp=Z,21nn,0.8s,baz=51,slow=7.0,SNR=7.5
BJI Beijing 56.72 293 P P **11 54 10.1 -0.8**
BJI AMB AMB
comp=Z,40nn,0.6s,mb5.6
BJT Baijiatuao 56.74 293 *e*P P **11 54 10.2 -0.9**
BJT pmax pmax
comp=Z,19nn,0.4s
BJT Baijiatuao 56.74 293 *e*P P **11 54 10.2 -0.9**
comp=Z,19nn,0.4s,mb5.5
NSS Namsos 58.08 6 *e*P P **11 54 18.6 -1.9**
NSS AMb AMB 11 54 20.5
comp=Z,105nn,0.9s,mb5.9
NSS Namsos 58.08 6 *e*P P **11 54 18.6 -1.9**
comp=Z,105nn,0.9s,mb5.9
HHC Hu-ho-hao-te 58.37 297 *e*P P **11 54 22.4 -0.1**
HHC AP pP 11 54 32.9 -3.9
HHC XP sP 11 54 37.1 -5.7
HHC PP PP 11 56 33.6 +1.6
HHC S **S** **12 02 23.3 +2.0**
HHC PS 12 02 38.8
HHC SCS ScS 12 04 05.5 -2.1
HHC AMB AMB
comp=Z,59nn,0.9s,mb5.6
HHC AMB AMB
comp=Z,689nm,13.8s
HHC LR LR
comp=N,6μm,16.6s,MS5.9
HHC LR LR
comp=E,4μm,14.9s,MS5.9
HHC LR LR
comp=Z,4μm,16.1s,MS5.6
NVS Novosibirsk 58.58 325 *e*P P **11 54 15.0 -9.0**
NVS pmax pmax
comp=Z,76nn,1.4s,mb5.5
NVS pmax pmax
comp=N,51nn,1.7s
NVS pmax pmax
comp=E,39nn,1.4s
ZAL Zalesovo 58.84 323 P P **11 54 25.4 -0.4**
comp=E,25nn,0.8s,mb5.3,baz=68,slow=7.9,SNR=99
MOL Molde 59.70 9 *e*P P **11 54 31.5 -0.2**
MOL AMb AMB 11 54 33.3
comp=Z,105nn,1.4s,mb5.7
MOL Molde 59.70 9 *e*P P **11 54 31.5 -0.2**
comp=Z,105nn,1.4s,mb5.7
CMIG Matias Romero 59.88 106 P P **11 54 31.2 -1.7**
comp=Z,11nn,0.8s,mb4.9,baz=324,slow=7.8,SNR=13
JOF Joensuu 59.98 357 *e*p P **11 54 32.3 -1.4**
comp=Z,49nn,0.6s,mb5.7
DOMB Dombas 60.34 8 *e*P P **11 54 35.6 -0.5**
DOMB AMb AMB 11 54 37.3
comp=Z,75nn,1.0s,mb5.7
DOMB Dombas 60.34 8 *e*P P **11 54 35.6 -0.5**
comp=Z,75nn,1.0s,mb5.7
JOW Kunigami 60.62 274 P P **11 54 37.0 -1.0**
comp=Z,6.8nn,0.3s,mb5.3,baz=126,slow=29,SNR=15
TEIG Tepich 60.79 98 *e*P P **11 54 37.2 -2.0**
comp=Z,18nn,1.0s,mb5.2
TEIG *e* pP 11 54 52.2 -1.4
KAF Kangasniemi 60.89 359 *e*p P **11 54 38.5 -1.4**
comp=Z,62nn,0.4s,mb6.1,baz=358,slow=6.5
KAF Kangasniemi 60.89 359 *e*P P **11 54 38.5 -1.4**
KAF pmax pmax
comp=Z,62nn,0.4s,mb6.1
NB2 NORSAR Subarra 61.50 7 P P **11 54 43.6 -0.4**
comp=Z,74nn,0.8s,mb5.9,baz=352,slow=6.9
NOA NORSAR Array B 61.50 7 P P **11 54 43.5 -0.4**
comp=Z,68nn,0.8s,mb5.8,baz=352,slow=6.8,SNR=233
ASK Askoy 61.53 11 *e*P P **11 54 44.1 -0.1**
NJ2 Nanjing 61.53 286 *e*P P **11 54 43.0 -1.2**
NJ2 AP pP 11 54 53.1 -5.5
NJ2 XP sP 11 54 57.0 -7.5
NJ2 PP PP 11 57 01.0 +1.0
NJ2 AMB AMB
comp=Z,90nn,1.0s,mb5.8
NJ2 AMB AMB
comp=Z,110nm,4.9s
NJ2 LR LR
comp=N,230nm,10.0s,MS4.8
NJ2 LR LR
comp=E,260nm,12.2s,MS4.8
NJ2 LR LR
comp=Z,2μm,19.3s
FIA1 FINESS Array S 61.57 359 *e*P P **11 54 43.3 -1.1**
FINES FINESS Array B 61.57 359 P P **11 54 43.5 -0.9**
comp=Z,42nn,0.6s,mb5.7,baz=13,slow=8.3,SNR=175
RUND Rundenannen 61.62 11 *e*P P **11 54 44.6 -0.2**
RUND AMb AMB 11 54 46.4
comp=Z,168nn,1.1s,mb6.1
RUND Rundenannen 61.62 11 *e*P P **11 54 44.6 -0.2**
comp=Z,168nn,1.1s,mb6.1
BER Bergen 61.64 11 *e*P P **11 54 45.0 +0.1**
BER AMb AMB 11 54 45.9
comp=Z,104nn,1.3s,mb5.8
BER Bergen 61.64 11 *e*P P **11 54 45.0 +0.1**
comp=Z,104nn,1.3s,mb5.8
NAO01 NORSAR Array S 61.67 8 *e*P P **11 54 44.5 -0.6**
comp=Z,59nn,0.8s,mb5.8
EGD Espegrend 61.74 11 *e*P P **11 54 45.6 0.0**
EGD AMb AMB 11 54 47.2
comp=Z,119nn,1.1s,mb6.0
EGD Espegrend 61.74 11 *e*P P **11 54 45.6 0.0**
comp=Z,119nn,1.0s,mb6.0
ODD1 Odda 62.23 10 *e*P P **11 54 47.7 -1.2**
ODD1 AMb AMB 11 54 49.6
comp=Z,71nn,0.9s,mb5.8
ODD1 Odda 62.23 10 *e*P P **11 54 47.7 -1.2**
comp=Z,71nn,0.9s,mb5.8
SVE Sverdlovsk 62.60 339 ⇑*e*P P **11 54 50.8 -0.6**
SVE pmax pmax
comp=Z,180nn,1.5s,mb6.0

BLS5 Blasjo 62.70 10 *e*P **P 11 54 52.8 +0.8**
BLS5 AMb AMB 11 54 54.5
comp=Z,71nm,0.9s,mb5.8
BLS5 Blasjo 62.70 10 *e*P **P 11 54 52.8 +0.8**
comp=Z,71nm,0.9s,mb5.8
KONO Kongsberg 62.76 9 *e*P **P 11 54 52.2 -0.2**
KONO Kongsberg 62.76 9*c i*P **P 11 54 52.4 0.0**
KONO Kongsberg 62.76 9 *e*P **P 11 54 52.6 +0.2**
KMY Karmoy 62.78 11 *e*P **P 11 54 52.6 +0.1**
KMY AMb AMB 11 54 53.9
comp=Z,29nm,0.9s,mb5.4
KMY Karmoy 62.78 11 *e*P **P 11 54 52.6 +0.1**
comp=Z,29nm,0.9s,mb5.4
PUL Pulkovo 63.17 357⇓*e*P **P 11 54 54.7 -0.4**
CHKZ Chkalovo 63.23 331 *i* P **P 11 54 54.3 -1.2**
CHKZ pmax pmax
comp=Z,67nm,0.9s,mb5.8
CHKZ Chkalovo 63.23 331 *e*P **P 11 54 54.2 -1.3**
ARU Arti 63.38 340 P **P 11 54 55.6 -0.9**
comp=Z,492nm,0.6s,SNR=19
ARU Arti 63.38 340⇑*i*P **P 11 54 55.0 -1.5**
ARU *e*PPP 11 58 45.8
ARU *e*S **S 12 03 27.8 +2.7**
ARU *e*SS SS 12 07 34.3 +1.8
ARU pmax pmax
comp=Z,70nm,0.8s,mb5.8
ARU Arti 63.38 340 *e*P **P 11 54 55.4 -1.1**
KURK Kurchatov 63.57 325⇑P **P 11 54 57.4 -0.4**
SNR=13
KURK Kurchatov 63.57 325⇑*i*P **P 11 54 57.1 -0.7**
KURK Kurchatov 63.57 325 *e*P **P 11 54 57.2 -0.5**
SNART Snartemo 63.84 10 *e*P **P 11 55 00.0 +0.5**
SNART AMb AMB 11 55 01.7
comp=Z,82nm,1.5s,mb5.5
BRVK Borovoye 63.87 331 P **P 11 54 59.6 -0.1**
comp=Z,812nm,0.8s,SNR=35
BRVK Borovoye 63.87 331⇑P **P 11 54 59.3 -0.4**
SNR=30
BRVK Borovoye 63.87 331 *e*P **P 11 54 59.0 -0.7**
BVA0 Borovoye Array 63.87 331 *i* P **P 11 54 59.1 -0.7**
BVA0 pmax pmax
comp=Z,13nm,0.8s,mb5.0
BVAR Borovoye Array 63.87 331 P **P 11 54 58.9 -0.8**
baz=20,slow=4.6
VOSK Vostochnaya 63.99 331 P **P 11 54 59.4 -1.1**
VOSK pmax pmax
comp=Z,19nm,0.6s,mb5.3
ZRNK Zerenda 64.30 332 *i* P **P 11 55 01.8 -0.7**
ZRNK pmax pmax
comp=Z,119nm,0.8s,mb6.0
ZRNK Zerenda 64.30 332 *e*P **P 11 55 01.6 -0.9**
comp=Z,132nm,0.7s,mb6.1
VSU Vasula 64.55 359*c i*P **P 11 55 03.8 -0.4**
VSU Vasula 64.55 359⇑*i*P **P 11 55 03.9 -0.3**
GTA Gaotai 64.98 304 *e*P **P 11 55 06.5 -0.5**
GTA AMB AMB
comp=Z,37nm,0.8s,mb5.5
GTA AMB AMB
comp=Z,587nm,4.6s
GTA LR LR
comp=N,6μm,17.9s,MS6.0
GTA LR LR
comp=E,6μm,20.5s,MS6.0
GTA LR LR
comp=Z,9μm,14.8s
XAN Xi'an 65.02 294 P **P 11 55 06.4 -0.8**
XAN AP pP 11 55 16.8 -5.0
XAN XP sP 11 55 22.0 -5.7
XAN AMB AMB
comp=Z,41nm,0.9s,mb5.5
WHN Wuhan 65.07 288⇑P **P 11 55 07.3 -0.3**
ESK Eskdalemuir 65.46 17 P **P 11 55 08.4 -1.7**
comp=Z,222nm,0.5s,SNR=8.5
ESK Eskdalemuir 65.46 17 *e*P **P 11 55 09.5 -0.6**
ESK pmax pmax
comp=Z,39nm,0.9s,mb5.4
ESK Eskdalemuir 65.46 17 *e*P **P 11 55 09.5 -0.6**
comp=Z,39nm,0.9s,mb5.4
MK31 Makanchi Array 65.77 321 P **P 11 55 11.3 -0.8**
MK31 pmax pmax
comp=Z,37nm,0.9s,mb5.4
MKAR Makanchi Array 65.77 321 P **P 11 55 11.2 -0.9**
comp=Z,31nm,0.7s,mb5.4,baz=46,slow=7.0,SNR=184
LZH Lanzhou 65.83 299 *e*P **P 11 55 11.8 -0.7**
LZH AP pP 11 55 27.0 0.0
LZH XP sP 11 55 32.5 -0.4
LZH AMB AMB
comp=Z,56nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,272nm,5.8s
LZH LR LR
comp=N,2μm,15.5s
LZH LR LR
comp=Z,4μm,16.6s,MS5.7
MUD Monsted U'grnd 65.88 9⇑*i*P **P 11 55 13.5 +0.7**
MUD pmax pmax
comp=Z,73nm,1.0s,mb5.7
MUD Monsted U'grnd 65.88 9⇑*i*P **P 11 55 13.5 +0.7**
comp=Z,72nm,1.0s,mb5.7
MUD *i* 12 20 29.1
WMQ Urumqi 66.36 315 P **P 11 55 22.0 +6.1**
WMQ AP pP 11 55 32.4 +2.0
WMQ XP sP 11 55 36.3 0.0
WMQ AMB AMB
comp=Z,39nm,1.4s,mb5.2
WMQ AMB AMB
comp=Z,223nm,5.0s
WMQ LR LR
comp=N,951nm,16.5s,MS5.2
WMQ LR LR
comp=E,714nm,15.4s,MS5.2
WMQ LR LR
comp=Z,899nm,17.0s,MS5.0
DCN Croghan 66.64 20 *e*P **P 11 55 12.0 -5.7**
MOS Moscow 66.81 352 *e*P **P 11 55 13.5 -5.3**
MOS pmax pmax
comp=Z,109nm,0.7s,mb6.0
DLF Lyons Farm 66.82 20 *e*P **P 11 55 13.0 -5.8**
COP Copenhagen 66.91 8 *i* P **P 11 55 20.1 +0.7**
comp=Z,20nm,0.5s,mb5.4
COP Copenhagen 66.91 8 *i* P **P 11 55 20.1 +0.7**
COP pmax pmax
comp=Z,20nm,0.5s,mb5.4
OBN Obninsk 67.51 353*c i*P **P 11 55 21.9 -1.3**
OBN *e*S S 12 04 17.6 +1.9
OBN pmax pmax
comp=Z,107nm,1.2s,mb5.8
OBN Obninsk 67.51 353 *e*P **P 11 55 21.7 -1.5**
comp=Z,79nm,0.8s,mb5.8
BSD Bornholm Skovb 67.64 6 *i* P **P 11 55 23.5 -0.5**
comp=Z,34nm,1.0s,mb5.3
BSD *i* 11 55 27.2
BSD
comp=Z,12μm,19.0s
BSD Bornholm Skovb 67.64 6 *i* P **P 11 55 23.5 -0.5**
comp=Z,34nm,1.0s,mb5.3
BSD *i* 11 55 27.2
HLG Helgoland 68.01 11 *e*P **P 11 55 27.8 +1.5**
comp=Z,78nm,1.0s,mb5.7
RGN Rugen 68.10 7 *e*P **P 11 55 27.4 +0.5**
comp=Z,141nm,1.1s,mb5.9
RGN Rugen 68.10 7 *e*P **P 11 55 27.6 +0.6**
comp=Z,32nm,0.6s,mb5.5
BSEG Bad Segeberg 68.48 9 *e*P **P 11 55 29.6 +0.3**
comp=Z,55nm,1.1s,mb5.5
MNK Minsk 68.51 358 *e*P **P 11 55 26.0 -3.5**
MNK pmax pmax
comp=Z,280nm,1.0s,mb6.2
SUW Suwalki 69.02 1 *e*P **P 11 55 31.6 -1.0**
AKTK Aktyubinsk 69.16 338 P **P 11 55 32.7 -0.8**
AKTO Aktyubinsk 69.16 338 P **P 11 55 32.7 -0.8**
comp=Z,69nm,0.7s,mb5.7,baz=26,slow=6.1,SNR=168
AKTO Aktyubinsk 69.16 338 *i* P **P 11 55 32.5 -1.0**
AKTO pmax pmax
comp=Z,15nm,0.7s,mb5.0
IBBN Ibbenburen 69.85 11 *e*P **P 11 55 38.1 +0.3**
comp=Z,55nm,1.3s,mb5.3
AB31 Akbulak array 69.87 336 *i* P **P 11 55 37.1 -0.8**
AB31 pmax pmax
comp=Z,18nm,0.5s,mb5.3
AB31 Akbulak array 69.87 336 *i* P **P 11 55 37.2 -0.7**
NRDL Niedersach Rie 69.89 9 *e*P **P 11 55 38.1 +0.1**
comp=Z,54nm,1.5s,mb5.3
WTSB Winterswijk 70.08 12 *e*P **P 11 55 39.4 +0.2**
comp=Z,47nm,1.1s,mb5.3

CD2 Chengdu 70.09 296⇑*i*P **P 11 55 38.9 -0.3**
CD2 AMB AMB
comp=Z,70nm,0.9s,mb5.6
CD2 AMB AMB
comp=Z,250nm,5.8s
RUE Ruedersdorf 70.19 7 *e*P **P 11 55 40.0 +0.1**
comp=Z,69nm,1.0s,mb5.5
CLZ Clausthal 70.56 9 *e*P **P 11 55 42.7 +0.6**
comp=Z,74nm,1.5s,mb5.4
CLZ Clausthal 70.56 9 *e*P **P 11 55 42.7 +0.6**
CLZ pmax pmax
comp=Z,74nm,1.5s,mb5.4
BUG Bochum--Univer 70.65 11 *e*P **P 11 55 42.7 0.0**
comp=Z,37nm,0.9s,mb5.3
VOR Voronezh 70.66 351 *e*P **P 11 55 41.0 -1.7**
VOR pmax pmax
comp=Z,110nm,1.4s,mb5.6
MENF Mencas 70.88 15 *e*P **P 11 55 44.5 +0.4**
BEBN Eben Emael 71.11 13 P **P 11 55 46.0 +0.6**
HGN Heimansgroeve 71.17 12 *e*P **P 11 55 47.2 +1.4**
comp=Z,28nm,1.0s,mb5.2
SNF Seneffe 71.22 14 P **P 11 55 46.5 +0.4**
CLL Collm 71.30 8 *e*P **P 11 55 46.3 -0.3**
comp=Z,66nm,2.0s,mb5.2
CLL Collm 71.30 8⇑P **P 11 55 46.3 -0.3**
comp=Z,logA/T=1.5,mb5.2
CLL *i* *PP pP 11 56 00.2 -1.1
CLL Collm 71.30 8⇑*i*P **P 11 55 46.3 -0.3**
comp=Z,66nm,2.0s,mb5.2
CLL *i* pP pP 11 56 00.2 -1.1
CLL Collm 71.30 8⇑*i*P **P 11 55 46.3 -0.3**
CLL pmax pmax
comp=Z,66nm,2.0s,mb5.2
MEM Membach 71.33 12 P **P 11 55 47.0 +0.2**
comp=Z,10.0nm,0.7s,mb4.8
BCLA Clavier 71.43 13 P **P 11 55 47.6 +0.2**
comp=Z,8.0nm,0.7s,mb4.8
TKM2 Tokmak 2 71.43 323 P **P 11 55 48.1 +0.7**
SNR=58
TKM2 Tokmak 2 71.43 323 *i* P **P 11 55 47.9 +0.5**
USP Ospenovka 71.48 324 P **P 11 55 48.1 +0.4**
SNR=40
UBBA Unterbreizbach 71.54 10 *e*P **P 11 55 48.5 +0.5**
comp=Z,39nm,2.0s,mb5.0
CHMS Chumysh 71.64 324 P **P 11 55 49.1 +0.5**
SNR=46
BAIF Baives 71.65 14 *e*P **P 11 55 48.9 +0.2**
DOU Dourbes 71.66 14 P **P 11 55 49.4 +0.6**
comp=Z,10.0nm,0.9s,mb4.8
APYP Conner 71.67 275 *e*P **P 11 55 47.2 -1.6**
GIVF Givet 71.68 13 *e*P **P 11 55 49.0 +0.1**
comp=Z,53nm,0.9s,mb5.2
GIVF Givet 71.68 13 *e*P **P 11 55 49.0 +0.1**
GIVF pmax pmax
comp=Z,27nm,0.9s,mb5.2
GIVF Givet 71.68 13 *e*P **P 11 55 49.0 +0.1**
comp=Z,27nm,0.9s,mb5.2
FBE Freiberg 71.71 8 *e*P **P 11 55 49.2 +0.1**
comp=Z,33nm,1.3s,mb5.1
BRG Berggiesshubel 71.80 7 *e*P **P 11 55 49.6 0.0**
comp=Z,22nm,1.3s,mb4.9
BRG Berggiesshubel 71.80 7 *i* P **P 11 55 49.6 -0.1**
comp=Z,13nm,1.3s,mb4.7
BRG *i* 11 55 57.9
comp=Z,6.5nm,0.8s
BRG *e* pP 11 56 03.1 -1.2
comp=Z,12nm,1.3s
BRG Berggiesshubel 71.80 7 *i* P **P 11 55 49.6 0.0**
BRG *i* 11 55 57.9
BRG *e* pP 11 56 03.1 -1.2
BRG pmax pmax
comp=Z,13nm,1.3s,mb4.7
FRU Bishkek 71.83 324⇑*i*P **P 11 55 50.1 +0.3**
FRU pmax pmax
comp=Z,140nm,1.7s,mb5.6
MOX Moxa 71.85 9 *e*P **P 11 55 50.0 +0.1**
comp=Z,58nm,1.5s,mb5.3
MOX Moxa 71.85 9 *e*P **P 11 55 50.0 +0.1**
MOX pmax pmax
comp=Z,32nm,0.7s,mb5.4
KBK Karagaybulak 71.88 323 P **P 11 55 51.0 +0.9**
SNR=34
KSP Ksiaz 71.97 6 *e*P **P 11 55 50.7 +0.1**
KSP L 11 56 34.9
comp=Z,7.0nm,24.9s
KSP Ksiaz 71.97 6 *e*P **P 11 55 49.5 -1.1**
TNS Taunus Mts 71.98 11 *e*P **P 11 55 51.0 +0.3**
comp=Z,23nm,0.7s,mb5.2
TNS *e*pP pP 11 56 04.8 -0.6
TNS Taunus Mts 71.98 11 *e*P **P 11 55 51.0 +0.3**
TNS *e*PP pP 11 56 04.8 -0.6
TNS pmax pmax
comp=Z,23nm,0.7s,mb5.2
AAK Ala-Archa 72.05 324 P **P 11 55 51.7 +0.6**
SNR=49
AAK Ala-Archa 72.05 324 P **P 11 55 50.6 -0.5**
comp=Z,647nm,0.6s,SNR=40
AAK Ala-Archa 72.05 324⇑P **P 11 55 50.9 -0.2**
SNR=35
AAK Ala-Archa 72.05 324*c i*P **P 11 55 50.6 -0.5**
AAK pmax pmax
comp=Z,75nm,0.7s,mb5.7
AAK Ala-Archa 72.05 324 *e*P **P 11 55 52.2 +1.1**
WERD Werda 72.11 8 *e*P **P 11 55 51.7 +0.3**
comp=Z,32nm,1.8s,mb5.0
TANN Tannenbergstha 72.15 8 *e*P **P 11 55 52.1 +0.4**
comp=Z,56nm,2.1s,mb5.1
ROSF Rostrenen 72.17 19 *e*P **P 11 55 52.3 +0.5**
PVCC Panska Ves 72.19 7 *e*P **P 11 55 52.2 +0.3**
PVCC *e*pP pP 11 56 05.4 -1.3
PVCC Panska Ves 72.19 7 *e*P **P 11 55 52.2 +0.3**
PVCC *e*pP pP 11 56 05.4 -1.3
GUNZ Gunzen 72.19 8 *e*P **P 11 55 52.2 +0.3**
comp=Z,31nm,1.6s,mb5.0
GUNZ *e*pP pP 11 56 06.1 -0.6
ABH Alteburg 72.22 12 *e*P **P 11 55 52.4 +0.3**
FLN La Foliniere 72.23 17 *e*P **P 11 55 52.7 +0.5**
EKS2 Erkin-Say 72.25 324 P **P 11 55 53.0 +0.7**
SNR=79
AKASG Malin Array Be 72.28 357 P **P 11 55 51.3 -1.2**
comp=Z,48nm,0.7s,mb5.5,baz=5.8,slow=6.0,SNR=43
AKBB Malin Array Si 72.28 357 *e*P **P 11 55 51.3 -1.2**
UPC Upice 72.29 6 *e*P **P 11 55 52.6 0.0**
KZA Kyzart 72.30 323 P **P 11 55 53.8 +1.2**
SNR=5.0
GYA Guiyang 72.31 291⇑*i*P **P 11 55 52.4 -0.2**
GYA AP pP 11 56 02.6 -4.8
GYA XP sP 11 56 08.8 -4.4
GYA AMB AMB
comp=Z,60nm,0.7s,mb5.6
GYA AMB AMB
comp=Z,120nm,5.8s
GYA LR LR
comp=N,460nm,20.9s,MS4.8
GYA LR LR
comp=E,410nm,21.0s,MS4.8
GYA LR LR
comp=Z,450nm,21.4s,MS4.7
NKC Novy Kostel 72.33 8 *e*P **P 11 55 52.9 +0.1**
NKC *e*pP pP 11 56 06.6 -0.9
NKC Novy Kostel 72.33 8 *e*P **P 11 55 52.9 +0.1**
NKC *e*pP pP 11 56 06.6 -0.9
SGMF Saint Gilles 72.38 19 *e*P **P 11 55 53.6 +0.5**
UCH Uchtor 72.41 323 P **P 11 55 54.3 +1.0**
SNR=26
LDF La Druitiere 72.45 17 *e*P **P 11 55 53.9 +0.4**
comp=Z,19nm,0.9s,mb4.8
LDF La Druitiere 72.45 17 *e*P **P 11 55 53.9 +0.4**
LDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LDF La Druitiere 72.45 17 *e*P **P 11 55 53.9 +0.4**
comp=Z,9.7nm,0.9s,mb4.7
DPC Dobruska-Polom 72.47 6 *e*P **P 11 55 53.8 +0.2**
DPC *e*pP pP 11 56 07.0 -1.3
DPC Dobruska-Polom 72.47 6 *e*P **P 11 55 53.8 +0.2**
DPC *e*pP pP 11 56 07.0 -1.3
GRR Gorron 72.53 18 *e*P **P 11 55 54.1 +0.1**
MANZ Manzenberg 72.55 9 *e*P **P 11 55 54.4 +0.3**
comp=Z,48nm,2.5s,mb5.0
QUIF Quistinic 72.60 19 *e*P **P 11 55 54.7 +0.3**
TOD Tromm 72.62 11 *e*P **P 11 55 54.8 +0.3**
PRU Pruhonice 72.72 7 *e*P **P 11 55 55.0 -0.1**
PRU *e*pP pP 11 56 09.0 -0.9
PRU Pruhonice 72.72 7 *e*P **P 11 55 55.0 -0.1**
PRU *e*PP pP 11 56 09.0 -0.9
PRU MLR MLR
comp=Z,16μm,22.9s,MS6.2
PRU Pruhonice 72.72 7 *e*P **P 11 55 55.0 -0.1**
PRU *e*pP pP 11 56 09.0 -0.9
PRU LR LR
comp=Z,16μm,22.9s,MS6.2
OJC Ojcow 72.75 3 *e*P **P 11 55 55.6 +0.4**
AML Almayashu 72.76 324 P **P 11 55 56.6 +1.3**
SNR=96
GRA1 Grafenberg Arr 72.77 9 *e*P **P 11 55 55.8 +0.4**
comp=Z,21nm,0.8s,mb5.1
GRA1 *e*pP pP 11 56 09.5 -0.6
GRF Grafenberg Arr 72.77 9 *e*P **P 11 55 55.8 +0.4**
comp=Z,21nm,0.8s,mb5.1
GRF *e*pP pP 11 56 09.5 -0.6
GRF Grafenberg Arr 72.77 9 *e*P **P 11 55 55.8 +0.4**
GRF *e**PP pP 11 56 09.5 -0.6
GRF pmax pmax
comp=Z,21nm,0.8s,mb5.1
GRF Grafenberg Arr 72.77 9 *e*P **P 11 55 55.8 +0.4**
GRF *e*PP pP 11 56 09.5 -0.6
GRF pmax pmax
comp=Z,21nm,0.8s,mb5.1
GRFO Grafenberg 72.77 9 *e*P **P 11 55 55.9 +0.5**
comp=Z,19nm,0.8s,mb5.1
GRFO Grafenberg 72.77 9 *e*P **P 11 55 55.9 +0.5**
GRFO pmax pmax
comp=Z,139nm,0.8s,mb5.9
ROTZ Rotzenmuhle 72.77 8 *e*P **P 11 55 55.9 +0.5**
comp=Z,12nm,0.9s,mb4.8
ROTZ *e*pP pP 11 56 09.8 -0.4
KK31 Karatay Array 72.86 327 *i* P **P 11 55 55.5 -0.4**
KK31 pmax pmax
comp=Z,63nm,0.6s,mb5.7
KK31 Karatay Array 72.86 327 *i* P **P 11 55 55.6 -0.3**
KKAR Karatay Array 72.86 327 *i* P **P 11 55 55.5 -0.4**
KKAR pmax pmax
comp=Z,41nm,0.7s,mb5.5
OKC Ostrava-Krasne 73.07 4 *e*P **P 11 55 55.5 -1.6**
OKC *e*pP pP 11 56 10.3 -1.6
OKC Ostrava-Krasne 73.07 4 *e*P **P 11 55 55.5 -1.6**
OKC *e*pP pP 11 56 10.3 -1.6
MORC Moravsky Berou 73.10 5⇑*i*P **P 11 55 57.4 +0.1**
MORC Moravsky Berou 73.10 5 *e*P **P 11 55 56.9 -0.4**
MORC pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MORC Moravsky Berou 73.10 5 *e*P **P 11 55 56.9 -0.5**
comp=Z,6.1nm,0.8s,mb4.6
LANF Langenberg 73.14 12 *e*P **P 11 55 57.3 -0.3**
LVV L'vov 73.22 0 *e*P **P 11 55 57.7 -0.4**
KWP Kalwaria 73.40 1 *e*P **P 11 55 59.3 +0.2**
WET Wettzell 73.44 8 *e*P **P 11 55 59.9 +0.5**
comp=Z,9.0nm,1.0s,mb4.7
WET *e*pP pP 11 56 13.3 -0.8
WET Wettzell 73.44 8 *e*P **P 11 55 59.9 +0.5**
WET *e*PP pP 11 56 13.3 -0.8
WET pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
TREC Trest 73.47 6 *e*P **P 11 55 59.2 -0.3**
TREC *e*pP pP 11 56 13.0 -1.3
STU Stuttgart 73.49 11 *e*P **P 11 55 59.8 +0.2**
comp=Z,18nm,0.7s,mb5.1
KHC Kasperske Hory 73.51 8 *e*P **P 11 56 00.1 +0.3**
KHC *e*pP pP 11 56 13.4 -1.1
KHC Kasperske Hory 73.51 8 *e*P **P 11 56 00.1 +0.3**
KHC *e**PP pP 11 56 13.4 -1.1
KHC MLR MLR
comp=Z,16μm,22.5s,MS6.3
KHC Kasperske Hory 73.51 8 *e*P **P 11 56 00.1 +0.3**
KHC *e*pP pP 11 56 13.4 -1.1
KHC LR LR
comp=Z,16μm,22.5s,MS6.3
VRAC Vranov 73.52 6⇑*i*P **P 11 56 00.0 +0.2**
VRAC Vranov 73.52 6⇑P **P 11 55 60.0 +0.1**
BOLP Bolinao 73.60 275 *e*P **P 11 55 54.4 -5.9**
CDF Champ du Feu 73.64 12 *e*P **P 11 56 00.3 -0.2**
WLS Welschbruch 73.65 12 *e*P **P 11 56 01.8 +1.2**
THEF They Montfort 73.67 13 *e*P **P 11 56 00.1 -0.6**
GEC2 GERESS Array S 73.80 8 *e*P **P 11 56 01.4 -0.1**
comp=Z,11nm,0.7s,mb4.9
GEC2 GERESS Array S 73.80 8 *e*P **P 11 56 01.4 -0.1**
GEC2 pmax pmax
comp=Z,11nm,0.7s,mb4.9
GERES GERESS Array B 73.80 8 P **P 11 56 01.5 0.0**
comp=Z,8.1nm,0.6s,mb4.9,baz=359,slow=4.4,SNR=61
GERES pP pP 11 56 15.3 -0.9
comp=Z,9.3nm,0.6s,baz=350,slow=5.4,SNR=11
ECH Echery 73.82 12 *e*P **P 11 56 01.4 -0.2**
BFO Black Forest 73.84 11 *e*P **P 11 56 01.4 -0.3**
comp=Z,11nm,0.6s,mb5.0
BFO Black Forest 73.84 11 *e*P **P 11 56 01.4 -0.3**
BFO pmax pmax
comp=Z,11nm,0.6s,mb5.0
LIKS Likavka 73.89 4 *e*P **P 11 56 02.4 +0.4**
LIKS pmax pmax
comp=Z,34nm,1.0s,mb5.2
LIKS Likavka 73.89 4 *e*P **P 11 56 02.4 +0.4**
comp=Z,34nm,1.0s,mb5.2
HAU Haudompre 73.93 13 *e*P **P 11 56 02.3 +0.1**
comp=Z,44nm,0.7s,mb5.2
HAU Haudompre 73.93 13 *e*P **P 11 56 02.3 +0.1**
HAU pmax pmax
comp=Z,22nm,0.7s,mb5.2
HAU Haudompre 73.93 13 *e*P **P 11 56 02.3 +0.1**
comp=Z,22nm,0.7s,mb5.2
KOLS Kolonicke sedl 74.09 2 *e*P **P 11 56 03.1 -0.1**
KOLS pmax pmax
comp=Z,14nm,1.0s,mb4.8
KOLS MLR MLR
comp=Z,9μm,27.6s,MS5.9
KOLS Kolonicke sedl 74.09 2 *e*P **P 11 56 03.1 -0.1**
comp=Z,14nm,1.0s,mb4.9
KOLS LR LR
comp=Z,9μm,27.6s,MS5.9
SCZP Santa Cruz 74.10 274 *e*P **P 11 56 08.3 +5.1**
CRVS Cervenica-Dubn 74.11 2 *e*P **P 11 56 03.3 0.0**
CRVS Cervenica-Dubn 74.11 2 *e*P **P 11 56 03.3 0.0**
CRVS pmax pmax
comp=Z,12nm,1.4s,mb4.6
CRVS MLR MLR
comp=Z,8μm,23.4s,MS5.9
CRVS Cervenica-Dubn 74.11 2 *e*P **P 11 56 03.3 0.0**
comp=Z,12nm,1.4s,mb4.6
CRVS LR LR
comp=Z,8μm,23.4s,MS5.9
HYF Humbligny 74.17 15 *e*P **P 11 56 03.7 +0.1**
MOF Molkenrain 74.18 12 *e*P **P 11 56 03.5 -0.2**
HINF Hinteralfeld 74.18 12 *e*P **P 11 56 03.3 -0.4**
comp=Z,18nm,0.7s,mb4.8
HINF Hinteralfeld 74.18 12 *e*P **P 11 56 03.3 -0.4**
HINF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
HINF Hinteralfeld 74.18 12 *e*P **P 11 56 03.3 -0.4**
comp=Z,8.9nm,0.7s,mb4.8
FELD Feldberg im Sc 74.25 12 *e*P **P 11 56 03.1 -1.0**
FUR Furstenfeldbru 74.29 9 *e*P **P 11 56 04.5 +0.2**
comp=Z,35nm,0.7s,mb5.4
FUR *e*pP pP 11 56 18.4 -0.7
FUR Furstenfeldbru 74.29 9 *e*P **P 11 56 04.5 +0.2**
FUR *e**PP pP 11 56 18.4 -0.7
FUR pmax pmax
comp=Z,35nm,0.7s,mb5.4
LOR Lormes 74.34 15 *e*P **P 11 56 04.6 0.0**
comp=Z,38nm,0.9s,mb5.0
LOR Lormes 74.34 15 *e*P **P 11 56 04.6 0.0**
LOR pmax pmax
comp=Z,19nm,0.9s,mb5.0
LOR Lormes 74.34 15 *e*P **P 11 56 04.6 0.0**
comp=Z,19nm,0.9s,mb5.0
MFF Saint Martin d 74.39 18 *e*P **P 11 56 05.2 +0.3**
comp=Z,45nm,0.9s,mb5.1
MFF Saint Martin d 74.39 18 *e*P **P 11 56 05.2 +0.3**
MFF pmax pmax
comp=Z,22nm,0.9s,mb5.1
MFF Saint Martin d 74.39 18 *e*P **P 11 56 05.2 +0.3**
comp=Z,22nm,0.9s,mb5.1
VYHS Vyhne 74.44 4 *e*P **P 11 56 05.1 -0.1**
VYHS *e*pP pP 11 56 18.4 -1.6
VYHS Vyhne 74.44 4 *e*P **P 11 56 05.1 -0.1**
VYHS *e* pP 11 56 18.4 -1.6
VYHS pmax pmax
comp=Z,12nm,1.2s,mb4.7
VYHS MLR MLR
comp=Z,12μm,24.0s,MS6.1
VYHS Vyhne 74.44 4 *e*P **P 11 56 05.1 -0.1**

comp=Z,12nm,1.2s,mb4.7
VYHS *e* pP 11 56 18.4 -1.6
VYHS LR LR
comp=Z,12μm,24.0s,MS6.1
SSF Saint Saulge 74.49 15 *eP* **P 11 56 05.7 +0.2**
comp=Z,69nm,0.9s,mb5.3
SSF Saint Saulge 74.49 15 *eP* **P 11 56 05.7 +0.2**
SSF pmax pmax
comp=Z,35nm,0.9s,mb5.3
SSF Saint Saulge 74.49 15 *eP* **P 11 56 05.7 +0.2**
comp=Z,34nm,0.9s,mb5.3
BBS Basel-Blauen 74.60 12 *eP* **P 11 56 05.7 -0.4**
LOMF Lomont 74.63 13 *eP* **P 11 56 04.8 -1.5**
ZST Bratislava 74.66 5 *eP* **P 11 56 07.0 +0.6**
ZST Bratislava 74.66 5 *eP* **P 11 56 07.0 +0.6**
ZST pmax pmax
comp=Z,15nm,1.1s,mb4.8
ZST MLR MLR
comp=Z,4μm,22.2s,MS5.6
ZST Bratislava 74.66 5 *eP* **P 11 56 07.0 +0.6**
comp=Z,14nm,1.1s,mb4.8
ZST LR LR
comp=Z,4μm,22.2s,MS5.6
AVF Avril sur Loir 74.73 15 *eP* **P 11 56 06.9 0.0**
comp=Z,39nm,0.7s,mb5.2
AVF Avril sur Loir 74.73 15 *eP* **P 11 56 06.9 0.0**
AVF pmax pmax
comp=Z,19nm,0.7s,mb5.1
AVF Avril sur Loir 74.73 15 *eP* **P 11 56 06.9 0.0**
comp=Z,19nm,0.7s,mb5.1
CONA Conrad Observa 74.86 6 *i* P **P 11 56 06.0 -1.6**
comp=Z,12nm,0.8s,mb4.8,SNR=9.4
BGF Bois d'Agland 74.89 15 *eP* **P 11 56 07.7 -0.1**
comp=Z,37nm,0.7s,mb5.1
BGF Bois d'Agland 74.89 15 *eP* **P 11 56 07.7 -0.1**
BGF pmax pmax
comp=Z,19nm,0.7s,mb5.1
BGF Bois d'Agland 74.89 15 *eP* **P 11 56 07.7 -0.1**
comp=Z,18nm,0.7s,mb5.1
SMF Signal de Mont 74.94 15 *eP* **P 11 56 08.0 -0.1**
comp=Z,51nm,0.9s,mb5.2
SMF Signal de Mont 74.94 15 *eP* **P 11 56 08.0 -0.1**
SMF pmax pmax
comp=Z,25nm,0.9s,mb5.1
SMF Signal de Mont 74.94 15 *eP* **P 11 56 08.0 -0.1**
comp=Z,26nm,0.9s,mb5.2
DAVA Damuels 75.03 10⇑ *iP* **P 11 56 09.7 +1.1**
comp=Z,11nm,1.0s,mb4.7
PSZ Piszkesteto 75.05 3⇑ *eP* **P 11 56 09.3 +0.6**
TCF Toulx Ste Croi 75.06 16 *eP* **P 11 56 09.0 +0.2**
comp=Z,26nm,0.9s,mb4.9
TCF Toulx Ste Croi 75.06 16 *eP* **P 11 56 09.0 +0.2**
TCF pmax pmax
comp=Z,13nm,0.9s,mb4.9
TCF Toulx Ste Croi 75.06 16 *eP* **P 11 56 09.0 +0.2**
comp=Z,13nm,0.9s,mb4.9
MOTA Moosalm 75.08 10⇓ *iP* **P 11 56 09.3 +0.4**
comp=Z,16nm,1.1s,mb4.8
MOTA Moosalm 75.08 10⇓ *iP* **P 11 56 09.3 +0.4**
MOTA pmax pmax
comp=Z,16nm,1.1s,mb4.9
WATA Walderalm 75.14 9⇓ *iP* **P 11 56 09.6 +0.4**
comp=Z,10nm,0.8s,mb4.8
WATA Walderalm 75.14 9⇓ *iP* **P 11 56 09.6 +0.4**
WATA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
WTTA Wattenberg 75.21 9⇑ *iP* **P 11 56 10.3 +0.7**
comp=Z,23nm,1.0s,mb5.1,SNR=8.0
WTTA Wattenberg 75.21 9⇑ *iP* **P 11 56 10.3 +0.7**
WTTA pmax pmax
comp=Z,23nm,1.0s,mb5.1
SQTA Sankt Quirin 75.22 9⇑ *iP* **P 11 56 10.3 +0.7**
comp=Z,24nm,1.3s,mb5.0
SQTA Sankt Quirin 75.22 9⇑ *iP* **P 11 56 10.4 +0.7**
SQTA pmax pmax
comp=Z,24nm,1.3s,mb5.0
CABF La Chapelle 75.27 13 *eP* **P 11 56 10.0 0.0**
comp=Z,38nm,0.7s,mb5.1
CABF La Chapelle 75.27 13 *eP* **P 11 56 10.0 0.0**
CABF pmax pmax
comp=Z,19nm,0.7s,mb5.1
CABF La Chapelle 75.27 13 *eP* **P 11 56 10.0 0.0**
comp=Z,19nm,0.7s,mb5.1
KMI Kunming 75.38 294 P **P 11 56 10.0 -0.6**
KMI AP pP 11 56 24.6 -0.8
KMI XP sP 11 56 31.6 +0.3
KMI AMB AMB
comp=Z,22nm,0.8s,mb5.1
AGO Saint Agoulin 75.43 15 *eP* **P 11 56 11.1 +0.2**
BURAR Bucovina Array 75.43 360⇑ *iP* **P 11 56 10.7 -0.2**
ARSA Arzberg 75.51 6⇑ *iP* **P 11 56 11.9 +0.5**
comp=Z,7.2nm,1.0s,mb4.6
KBA Koelnbreinsper 75.53 8⇑ *iP* **P 11 56 12.4 +0.9**
KBA pmax pmax
comp=Z,30nm,1.0s,mb5.2
KBA Koelnbreinsper 75.53 8⇑ *iP* **P 11 56 12.4 +0.9**
comp=Z,30nm,1.0s,mb5.2
KBA *i* 12 09 41.7
OG05 Jujurieux 75.75 14 *eP* **P 11 56 12.8 0.0**
RJF Les Rejaudoux 75.92 17 *eP* **P 11 56 13.8 +0.1**
COLF Collangettes 76.03 15 *eP* **P 11 56 14.7 +0.4**
PERS Pernice 76.10 7 *eP* **P 11 56 14.8 +0.1**
LFF La Frestale 76.15 17 *eP* **P 11 56 15.3 +0.3**
comp=Z,16nm,0.3s,mb5.1
EMAZ Mazaricos 76.17 25 P **P 11 56 16.3 +1.1**
comp=Z,12nm,2.3s,mb4.4
OBKA Obir 76.19 7⇑ *iP* **P 11 56 15.5 +0.3**
comp=Z,41nm,0.6s,mb5.5,SNR=21
EPON Pontenova 76.22 23 P **P 11 56 16.8 +1.5**
comp=Z,9.2nm,0.7s,mb4.8
GROS Grobnik 76.30 7 *i* P **P 11 56 15.8 0.0**
CAF Calviac 76.37 16 *eP* **P 11 56 16.4 +0.1**
CADS Cadrg 76.41 8 *eP* **P 11 56 15.7 -0.7**
LPL La Plagne 76.43 13 *eP* **P 11 56 16.8 +0.2**
LPG La Plagne 76.45 13 *eP* **P 11 56 17.0 +0.3**
EARI Arriondas 76.65 22 P **P 11 56 20.4 +2.5**
comp=Z,9.2nm,0.7s,mb4.8
PKSM Moragy 76.71 4⇓ *iP* **P 11 56 18.4 +0.2**
PKSM Moragy 76.71 4⇑ *eP* **P 11 56 18.0 -0.2**
QIZ Qiongzhong 76.80 284 P **P 11 56 18.3 -0.4**
QIZ AMB AMB
comp=Z,20nm,1.3s,mb4.9
VIVF Saint-Julien-l 76.81 15 *eP* **P 11 56 18.7 -0.1**
comp=Z,27nm,0.8s,mb4.9
VIVF Saint-Julien-l 76.81 15 *eP* **P 11 56 18.7 -0.1**
VIVF pmax pmax
comp=Z,14nm,0.8s,mb4.9
VIVF Saint-Julien-l 76.81 15 *eP* **P 11 56 18.7 -0.1**
comp=Z,14nm,0.8s,mb4.9
GOF Gofitskoye 76.85 347 *eP* **P 11 56 18.8 -0.2**
GOF pmax pmax
comp=Z,389nm,0.8s
BNI Bardonecchia 76.88 13 *eP* **P 11 56 20.4 +1.3**
BNI pmax pmax
comp=Z,34nm,1.1s,mb5.2
BNI Bardonecchia 76.88 13 *eP* **P 11 56 20.4 +1.3**
comp=Z,34nm,1.1s,mb5.2
ORIF Oris-en-Rattie 76.91 14 *eP* **P 11 56 19.4 +0.1**
comp=Z,15nm,0.7s,mb4.7
ORIF Oris-en-Rattie 76.91 14 *eP* **P 11 56 19.4 +0.1**
ORIF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ORIF Oris-en-Rattie 76.91 14 *eP* **P 11 56 19.4 +0.1**
comp=Z,7.3nm,0.7s,mb4.7
ELAN Lanestosa 77.06 21 P **P 11 56 22.6 +2.4**
comp=Z,14nm,0.7s,mb5.0
PLOR Plostina 77.18 359⇓ *iP* **P 11 56 21.2 +0.4**
MBDF Montbardon 77.21 13 *eP* **P 11 56 20.8 -0.2**
BOJS Bojanci 77.23 7 *eP* **P 11 56 20.8 -0.3**
BZS Buzias 77.40 2⇑ *iP* **P 11 56 21.8 -0.2**
BZS Buzias 77.40 2 ⇑P **P 11 56 21.8 -0.2**
ELOB Lobios 77.41 24 P **P 11 56 23.8 +1.7**
comp=Z,29nm,2.8s,mb4.7
EALK Alkurruntz 77.44 19 P **P 11 56 24.4 +2.2**
comp=Z,9.4nm,0.7s,mb4.8
LASF Ste Croix 77.47 15 *eP* **P 11 56 22.3 -0.1**
comp=Z,11nm,0.8s,mb4.5
MLR Muntele Rosu 77.55 359⇑ *iP* **P 11 56 21.9 -1.0**
MLR Muntele Rosu 77.55 359 ⇑P **P 11 56 21.9 -1.0**
VOIR 77.61 360⇑ *iP* **P 11 56 24.1 +0.9**
VOIR 77.61 360 ⇑P **P 11 56 24.1 +0.9**
ECAL Calabor 77.63 24 P **P 11 56 24.9 +1.5**
comp=Z,3.8nm,0.7s,mb4.4
GZR Gura Zlata 77.64 1⇑ *iP* **P 11 56 23.6 +0.2**
GZR Gura Zlata 77.64 1 ⇑P **P 11 56 23.6 +0.3**
ANN Anapa 77.69 351 *eP* **P 11 56 22.4 -1.3**
ANN pmax pmax
comp=Z,34nm,0.8s,mb5.3
PBRG Braganca 77.76 24 *eP* **P 11 56 27.1 +3.0**
comp=Z,14nm,1.5s,mb4.7
SMRF Simiane la Rot 77.80 14 *eP* **P 11 56 24.4 +0.1**
comp=Z,37nm,0.8s,mb5.0
SMRF Simiane la Rot 77.80 14 *eP* **P 11 56 24.4 +0.1**
comp=Z,37nm,0.8s,mb5.4
CFR Carcaliu 77.83 358⇑ *iP* **P 11 56 24.1 -0.3**
ETSF Etsaut 77.91 19 *eP* **P 11 56 25.0 +0.1**
comp=Z,41nm,0.7s,mb5.2
ETSF Etsaut 77.91 19 *eP* **P 11 56 25.0 +0.1**
ETSF pmax pmax
comp=Z,21nm,0.7s,mb5.2
ETSF Etsaut 77.91 19 *eP* **P 11 56 25.0 +0.1**
comp=Z,20nm,0.7s,mb5.2
VILF Villemus 77.94 14 *eP* **P 11 56 26.4 +1.3**
EPF Esparros 77.94 18 *eP* **P 11 56 24.7 -0.4**
MTLF Montolieu 77.94 17 *eP* **P 11 56 24.8 -0.3**
TOUF Mont Tournerai 77.97 13 *eP* **P 11 56 25.8 +0.6**
KIV Kislovodsk 77.98 347 P **P 11 56 25.3 0.0**
comp=Z,833nm,0.8s,SNR=7.4
KIV Kislovodsk 77.98 347⇑ *iP* **P 11 56 25.7 +0.5**
SNR=14
KIV Kislovodsk 77.98 347⇑ *iP* **P 11 56 25.4 +0.1**
KIV pmax pmax
comp=Z,119nm,0.8s,mb5.9
KIV MLR MLR
comp=Z,2μm,22.0s,MS5.3
KIV Kislovodsk 77.98 347 *eP* **P 11 56 25.6 +0.3**
AUTN L'Aution 78.01 13 *eP* **P 11 56 25.7 +0.2**
SAOF Saorge 78.04 13 *eP* **P 11 56 25.6 0.0**
MVIF Mont Vial 78.08 13 *eP* **P 11 56 25.4 -0.4**
LUCF Luceram 78.10 13 *eP* **P 11 56 26.3 +0.3**
SBF Sospel 78.14 13 *eP* **P 11 56 25.8 -0.4**
comp=Z,83nm,0.8s,mb5.4
SBF Sospel 78.14 13 *eP* **P 11 56 25.8 -0.4**
SBF pmax pmax
comp=Z,41nm,0.8s,mb5.4
SBF Sospel 78.14 13 *eP* **P 11 56 25.8 -0.4**
comp=Z,41nm,0.8s,mb5.4
TAVF Tavernes 78.22 14 *eP* **P 11 56 27.3 +0.7**
EBIE Bielsa 78.24 18 P **P 11 56 29.8 +3.1**
comp=Z,8.8nm,0.8s,mb4.7
HARR Harsova 78.32 358⇓ *iP* **P 11 56 25.4 -1.8**
HARR Harsova 78.32 358 ⇓P **P 11 56 25.4 -1.8**
FRF La Foret Royal 78.35 13 *eP* **P 11 56 27.1 -0.2**
TIRR Tirgusor 78.54 357⇑ *iP* **P 11 56 28.0 -0.4**
TIRR Tirgusor 78.54 357 *eP* **P 11 56 27.9 -0.5**
PVIS Viseu 78.54 25 *eP* **P 11 56 29.3 +0.9**
comp=Z,12nm,1.0s,mb4.8
LMR La Mourre 78.55 13 *eP* **P 11 56 27.8 -0.6**
SOC Sochi 78.68 349 *c iP* **P 11 56 28.4 -0.8**
SOC *e* 11 56 36.2
SOC *eS* S 12 06 25.8 +3.4
SOC *e* 12 06 49.9
SOC pmax pmax
comp=Z,42nm,0.7s,mb5.5
SOC Sochi 78.68 349 *i* P **P 11 56 29.7 +0.5**
MTE Manteigas 78.92 25 *eP* **P 11 56 31.3 +0.8**
comp=Z,13nm,0.8s,mb4.9
MTE Manteigas 78.92 25 *eP* **P 11 56 31.6 +1.1**
ZEI Tsey 78.99 346 *eP* **P 11 56 30.6 -0.2**
ZEI *e* 11 59 26.4
ZEI pmax pmax
comp=Z,35nm,1.0s,mb5.2
ESAC San Caprasio 79.07 19 P **P 11 56 34.0 +2.8**
comp=Z,18nm,0.5s,mb5.3
ONI Oni 79.23 346 P **P 11 56 32.8 +0.7**
AMRG 79.34 346 P **P 11 56 31.6 -1.2**
GUD Guadarrama 79.42 22 P **P 11 56 35.2 +2.0**
GUD pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
GUD Guadarrama 79.42 22 P **P 11 56 35.2 +2.0**
comp=Z,5.2nm,0.5s,mb4.7
PTOM Tomar 79.47 25 *eP* **P 11 56 36.2 +2.7**
comp=Z,19nm,0.8s,mb5.1
PCBR Castelo Branco 79.47 25 *eP* **P 11 56 33.7 +0.2**
comp=Z,15nm,1.4s,mb4.7
PGF Pioggiola 79.62 12 *eP* **P 11 56 34.1 -0.2**
comp=Z,26nm,0.8s,mb4.9
PGF Pioggiola 79.62 12 *eP* **P 11 56 34.1 -0.2**
PGF pmax pmax
comp=Z,13nm,0.8s,mb4.9
PGF Pioggiola 79.62 12 *eP* **P 11 56 34.1 -0.2**
comp=Z,13nm,0.8s,mb4.9
EPOB Poblet 79.70 18 P **P 11 56 36.9 +2.2**
comp=Z,6.9nm,0.8s,mb4.6
GOR Gori 79.73 345 P **P 11 56 35.7 +0.9**
TBLG Delisi 79.89 345 P **P 11 56 36.2 +0.4**
MTA Mtatsminda 79.92 345 P **P 11 56 36.2 +0.3**
DGRG David-gareji 80.08 344 P **P 11 56 37.6 +0.8**
ESDC Sonseca Array 80.39 22 P **P 11 56 39.1 +0.7**
comp=Z,2.9nm,0.4s,mb4.5,baz=340,slow=5.1,SNR=16
ESDC Sonseca Array 80.39 22 P **P 11 56 39.2 +0.8**
comp=Z,2.3nm,0.4s,mb4.5
ESLA Sonseca Array 80.39 22 *eP* **P 11 56 38.7 +0.3**
comp=Z,2.6nm,0.8s,mb4.2
EMOS Mogueruela 80.39 19 P **P 11 56 42.0 +3.6**
comp=Z,11nm,0.7s,mb4.9
MOE Montemor 80.53 26 *eP* **P 11 56 41.5 +2.3**
EVO Evora 80.60 25 *eP* **P 11 56 38.8 -0.8**
comp=Z,4.5nm,0.5s,mb4.4
EBAD Badajoz 80.61 25 P **P 11 56 41.3 +1.7**
comp=Z,8.4nm,1.1s,mb4.6
KLP Kalpa 80.69 316 *eP* **P 11 56 40.6 +0.5**
GUN Gumba 80.83 308 *eP* **P 11 56 41.2 +0.4**
comp=Z,155nm,0.9s,mb5.9
JIRN Jiri 80.92 308 *eP* **P 11 56 42.0 +0.8**
comp=Z,237nm,0.8s,mb6.2
ABKT Ailbek 81.03 334 P **P 11 56 42.7 +0.9**
comp=Z,244nm,0.9s,mb6.1,SNR=6.5
ROSC El Rosal 81.03 95 P **P 11 56 40.5 -1.4**
comp=Z,4.3nm,0.4s,mb4.8,baz=273,slow=21,SNR=4.8
SKO Skopje 81.03 2 *i* P **P 11 56 42.7 +0.8**
ECHE Chera 81.05 20 P **P 11 56 43.8 +1.8**
ECHE pmax pmax
comp=Z,15nm,0.7s,mb5.0
ECHE Chera 81.05 20 P **P 11 56 43.8 +1.8**
comp=Z,15nm,0.7s,mb5.0
JOSI Joshimath 81.07 314 *ex* x 11 56 29.6
PBEJ Beja 81.11 26 *eP* **P 11 56 45.1 +2.8**
comp=Z,10nm,1.7s,mb4.5
KKN Kakani 81.19 309 *eP* **P 11 56 42.9 +0.2**
comp=Z,60nm,0.8s,mb5.6
KKN Kakani 81.19 309 *eP* **P 11 56 42.9 +0.2**
KKN pmax pmax
comp=Z,60nm,0.8s,mb5.6
GKN Gorkha 81.27 309 *eP* **P 11 56 43.2 +0.1**
comp=Z,161nm,0.9s,mb6.0
PKI Pulchoki 81.33 308 *eP* **P 11 56 43.4 0.0**
comp=Z,113nm,0.9s,mb5.8
PKI Pulchoki 81.33 308 *eP* **P 11 56 43.4 0.0**
PKI pmax pmax
comp=Z,113nm,0.9s,mb5.8
PTEO Sao Teotonio 81.37 26 *eP* **P 11 56 46.0 +2.3**
comp=Z,32nm,0.9s,mb5.2
DMN Daman 81.42 309 *eP* **P 11 56 44.4 +0.5**
comp=Z,110nm,0.8s,mb5.8
GNI Garni 81.44 345⇓ *iP* **P 11 56 44.9 +0.8**
SNR=5.7
GNI Garni 81.44 345⇓ *eP* **P 11 56 44.8 +0.8**
GNI pmax pmax
comp=Z,40nm,1.3s
GNI Garni 81.44 345 *eP* **P 11 56 44.2 +0.2**
comp=Z,32nm,1.0s,mb5.2
GNI *e* pP 11 56 59.4 +0.4
SMLA Simla 81.46 317 *eP* **P 11 56 44.1 -0.1**
SMLA AMb AMB 11 56 46.6
comp=Z,132nm,1.6s,mb5.6
ETOS Mallorca 81.53 17 P **P 11 56 46.7 +2.2**
comp=Z,29nm,1.7s,mb4.9
EMIN Mina Concepcio 81.64 25 P **P 11 56 46.6 +1.5**
comp=Z,15nm,1.8s,mb4.6
EGRO El Granado 81.67 25 P **P 11 56 46.7 +1.4**
comp=Z,42nm,1.7s,mb5.1
EVIA Vianos 81.68 21 P **P 11 56 47.1 +1.8**
EVIA pmax pmax
comp=Z,13nm,0.8s,mb4.9
EVIA Vianos 81.68 21 P **P 11 56 47.1 +1.8**
comp=Z,13nm,0.8s,mb4.9
NANT Nan 81.70 292⇑ *iP* **P 11 56 45.0 -0.4**
comp=Z,188nm,0.6s,mb6.2
VAY Valandovo 81.71 2 *i* P **P 11 56 44.6 -0.8**
EADA Adamuz 81.71 23 P **P 11 56 47.7 +2.2**
comp=Z,10nm,0.8s,mb4.8
LGTI Lohaghat 81.78 313 *eP* **P 11 56 48.5 +2.7**
OHR Ohrid 81.88 3 *i* P **P 11 56 45.7 -0.6**
KOLN Koldanda 81.91 310 *eP* **P 11 56 46.8 +0.3**
comp=Z,145nm,0.9s,mb5.9
BIA Bitola 81.98 3 *i* P **P 11 56 45.8 -1.1**
CHTO Chiang Mai 82.57 293 *eP* **P 11 56 49.0 -0.9**
CHTO pmax pmax
comp=Z,15nm,1.0s,mb5.0
CHTO Chiang Mai 82.57 293 *ePn* **P 11 56 49.0 -0.9**
comp=Z,15nm,1.0s,mb5.0
OTAV Otavalo 82.69 101 *eP* **P 11 56 49.8 -0.8**
ANTO Ankara 82.94 354⇑ *iP* **P 11 56 52.5 +0.6**
ANTO Ankara 82.94 354 *eP* **P 11 56 52.7 +0.8**
ANTO *e* pP 11 57 07.3 +0.4
ANTO pmax pmax
comp=Z,13nm,0.8s,mb5.0
ANTO Ankara 82.94 354 *eP* **P 11 56 52.7 +0.8**
comp=Z,13nm,0.8s,mb5.0
ANTO *e* pP 11 57 07.2 +0.4
ERON Agron 82.98 23 P **P 11 56 54.8 +2.8**
comp=Z,9.0nm,0.6s,mb5.0
BR131 Keskin Array S 83.03 353 *ePn* **P 11 56 52.6 +0.3**
comp=Z,5.4nm,0.7s,mb4.7
BR131 *e* pP 11 57 06.7 -0.7
BRTR Keskin Array B 83.03 353 P **P 11 56 52.5 +0.2**
comp=Z,9.8nm,0.9s,mb4.8,baz=5.4,slow=2.6,SNR=41
BRTR pP pP 11 57 06.5 -0.8
comp=Z,7.2nm,0.8s,baz=48,slow=1.8,SNR=7.6
BRTR sP sP 11 57 14.6 +1.4
comp=Z,4.9nm,0.7s,baz=34,slow=3.8,SNR=3.7
BRTR Keskin Array B 83.03 353 P **P 11 56 52.5 +0.2**
BRTR *PP pP 11 57 06.5 -0.8
EMIJ Mijas 83.21 24 P **P 11 56 55.8 +2.6**
comp=Z,20nm,0.5s,mb5.4
EBER Berja 83.28 22 P **P 11 56 56.7 +3.1**
comp=Z,13nm,0.6s,mb5.1
NDI New Delhi 83.64 315 *eP* **P 11 56 55.3 -0.2**
NDI AMb AMB 11 56 55.9
comp=Z,63nm,0.7s,mb5.9
AYAN Aya Nagar 83.86 315 *eP* **P 11 56 55.6 -1.0**
AYAN AMb AMB 11 56 56.5
comp=Z,30nm,0.8s,mb5.5
KUDL Kundal 84.40 316 *eP* **P 11 56 59.5 +0.2**
KUDL AMb AMB 11 56 59.9
comp=Z,71nm,1.4s,mb5.6
BOK Bokaro 84.42 306 *ex* x 11 56 44.7
BOK AMb AMB 11 57 02.0
comp=Z,34nm,1.5s,mb5.2
AGRA Agra 84.67 314 *eP* **P 11 57 00.3 -0.3**
KHET Khetri 84.72 316 *eP* **P 11 57 00.6 -0.4**
KHET AMb AMB 11 57 02.3
comp=Z,31nm,1.3s,mb5.3
AJM Ajmer 86.60 317 *ex* x 11 55 59.4
AJM AMb AMB 11 56 04.0
comp=Z,13nm,0.2s,mb5.9
SANT Santorini 86.66 359 *eP* **P 11 57 09.5 -1.1**
BHPL Bhopal 88.45 313 *eP* **P 11 57 18.2 -0.9**
BHPL AMb AMB 11 57 19.2
comp=Z,51nm,1.2s,mb5.6
AKL Akola 90.89 312 *ex* x 11 55 44.1
AKL AMb AMB 11 55 58.4
comp=Z,32nm,0.0s
PSI Prapat 96.14 285 P **P 11 57 54.3 -0.4**
comp=Z,6.7nm,0.6s,mb5.2,baz=51,slow=4.2,SNR=6.3
MDRS Chennai 96.35 306 *ex* x 11 55 50.6
TORD Torodi Ar. Bea 107.24 24 PKKPbc PKKPbc 12 14 05.5 -3.5
comp=Z,1.7nm,0.6s,baz=165,slow=2.2,SNR=9.3
MDZ Mendoza 115.17 112 *eP* PKiKP 12 03 05.1 -2.9
PLCA Paso Flores 120.53 119 PKP PKPdf 12 03 15.7 -2.7
comp=Z,1.1nm,0.6s,baz=258,slow=23,SNR=4.3
KMBO Kilima Mbogo 123.09 345 PKP PKPdf 12 03 23.1 -0.2
comp=Z,2.1nm,0.6s,baz=49,slow=9.1,SNR=8.2
QSPA South Pole Qui 147.11 180 *eP* PKPdf 12 04 07.2 -0.3
LBTB Lobatse 147.71 359 PKPbc PKPbc 12 04 11.2 -0.2
comp=Z,18nm,0.7s,baz=2,3,slow=1.3,SNR=27
BOSA Boshof 151.30 359 PKP PKPdf 12 04 12.9 -1.3
comp=Z,3.6nm,0.8s,baz=149,slow=4.0,SNR=4.7
BOSA PKPbc PKPbc 12 04 19.4 -0.8
comp=Z,10nm,0.5s,baz=28,slow=1.9,SNR=27
VNA1 Neumayer--Stat 160.68 147 *e*PKPdf PKPab 12 05 04.2 -4.4
VNA1 *e* 12 05 05.7
VNA1 *e* 12 05 14.7
VNA1 *e* 12 05 19.3
VNA1 *e* 12 07 09.8
VNA1 *e* 12 07 18.6
VNA1 *e* 12 07 23.5
VNA1 *e* 12 07 25.8
SNAA Sanae 161.63 152 PKPab PKPab 12 05 08.9 -3.9
comp=Z,7.1nm,0.8s,baz=253,slow=5.6,SNR=26
SNAA Sanae 161.63 152 *e*PKPdf PKPab 12 05 08.9 -3.9
SNAA *e* 12 05 09.8
SNAA *e* 12 05 19.7
SNAA *e* 12 05 24.0
SNAA *e* 12 07 00.8
SNAA *e* 12 07 10.1
SNAA *e* 12 07 19.0
SNAA *e* 12 07 22.0
SNAA Sanae 161.63 152 PKP2 PKPab 12 05 08.9 -3.9
SNAA pmax pmax
comp=Z,7.0nm,0.8s

IDC ***19*** *11:48:53.4±0.4, 52.5S×157.3E, h0km, mb5.2/25, mb1 5.3/26, mb1mx5.3/27, mbtmp5.2/26, ML5.2/1, MS6.2/25, Ms1 6.2/25, ms1mx6.0/28, Error ellipse: s-maj=14.0km s-min=9.0km az=111.0*

ISCJB ***19*** *11:48:56.6±0.1, 51.5S±003.4×156.8E±002.0, h27km, mb5.6/127, MS6.3/194, Error ellipse: s-maj=3.9km s-min=3.4km az=31.6*

BJI ***19*** *11:48:56.9, 5.06S×151.15E, h24km, mB6.3, mb5.5, Ms6.4, Msz6.2*

MOS ***19*** *11:48:57.9±1.4, 5.44S×150.67E, h36km, mb5.8/46, Error ellipse: s-maj=8.5km s-min=6.1km az=88.1*

NEIC ***19*** *11:48:58.3±0.2, 5.47S×150.68E, mb5.6/68, MS6.4/156, MW6.3, Error ellipse: s-maj=6.2km s-min=5.0km az=110.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^18 Nm; Mrr 0.85; Mθθ 2.55; Mθφ -3.40; Mrθ 0.57; Mθφ 0.62; Mφr 0.01; Best double couple: Mo 3.10000×10^18 NP1: φs 130.00000°, δ 79.00000°, λ 12.00000°. NP2: φs 38.00000°, δ 78.00000°, λ 169.00000°. Principal axes: T 2.7800, Plg 17.0000°, Azm 354.0000°; N 0.6900, Plg 73.0000°, Azm 172.0000°; P -3.4700, Plg 1.0000°, Azm 264.0000°;*

NEIC Felt at Kimbe.

HRVD ***19*** *11:48:58.3±0.1, 5.42S×150.71E, h15km, MW6.4/113, Centroid moment Tensor Solution. LP body waves: s110, c260; Mantle waves: s113, c445; Half duration: 3.9 Moment tensor: Scale 10^18 Nm; Mrr 0.42±.02; Mθθ 5.16±.03; Mφφ -4.74±.03; Mrθ 0.17±.05; Mφφ 1.01±.02; Mφr 0.07±.05; Best double couple: Mo 5.05500×10^18 NP1: φs 129.00000°, δ 88.00000°, λ 1.00000°. NP2: φs 39.00000°, δ 89.00000°, λ 178.00000°. Principal axes: T 5.2670, Plg 2.0000°, Azm 354.0000°; N -0.4240, Plg 88.0000°, Azm 195.0000°; P -4.8430, Plg 1.0000°, Azm 84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

SZGRF ***19*** *11:49:04.8, 4.97S×150.88E, h33km, mb6.6, New Britain, Papua New Guinea, region*

ISC 19 11:48:58.8±0.1, 551S±003.3×150.72E±003.0, h28km, h28km±.9km: pP-P, n596, σ1.813/401, mb5.6/127, MS6.3/194, 56C-4-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.23**	**222**	Pn	**Pn**	**11 50 16.3**	**+1.3**
	59nm,0.3s,baz=45,slow=5.0,SNR=63						
PMG				Sn	**Sn**	**11 51 15.4**	**+0.9**
	14nm,0.3s,baz=60,slow=20,SNR=1.9						
PMG				LR	LR	11 52 30.6	
	comp=Z,361μm,20.4s,baz=45,slow=41						
PMG	**Port Moresby**	**5.23**	**222**	P	**Pn**	**11 50 16.3**	**+1.2**
PMG						11 51 15.4	
PMG				pmax	pmax		
	comp=Z,59nm,0.3s						
PMG				smax			
	comp=E,15nm,0.3s						
PMG				MLR	MLR		
	comp=Z,361μm,20.4s						
PMG	**Port Moresby**	**5.23**	**222**	*e*Pn	**Pn**	**11 50 16.1**	**+1.1**
HNR	**Honiara**	**9.95**	**114**	Pn	**Pn**	**11 51 21.0**	**+1.3**
	comp=Z,16nm,0.3s,baz=267,slow=1.8,SNR=21						

HNR Sn **Sn** **11 53 15.7 +5.4**
baz=270,slow=20,SNR=1.3
HNR Honiara 9.95 114 P **Pn** **11 51 21.0 +1.3**
HNR 11 53 15.7
HNR pmax pmax
comp=Z,16nm,0.3s
HNR Honiara 9.95 114 *e*Pn **Pn** **11 51 22.6 +2.9**
comp=Z,88nm,0.7s
CTA Charters Tower 15.12 196 *e*P **Pn** **11 52 33.4 +3.1**
comp=Z,246nm,1.8s
CTA *ep*P pP 11 52 41.0 -1.8
CTA *e*S **Sn** **11 55 28.5 +12**
CTA Charters Tower 15.12 196 Pn **Pn** **11 52 32.5 +2.2**
comp=Z,1.4nm,0.3s,baz=22,slow=14,SNR=16
CTA Sn **Sn** **11 55 26.5 +10**
comp=Z,0.2nm,0.3s,baz=304,slow=18,SNR=1.0
CTA LR LR 11 57 41.4
comp=Z,172µm,21.9s,baz=16,slow=35
CTA Charters Tower 15.12 196 P **Pn** **11 52 32.5 +2.2**
CTA 11 55 26.5
CTA pmax pmax
comp=Z,1.0nm,0.3s
CTA MLR MLR
comp=Z,172µm,21.9s
CTAO Charters Tower 15.12 196 *e*P **Pn** **11 52 31.0 +0.7**
CTAO pmax pmax
comp=Z,1µm,1.5s
CTAO Charters Tower 15.12 196 *e*Pn **Pn** **11 52 31.0 +0.7**
comp=Z,1µm,1.5s
KAKA Kakadu 19.40 247 *e*P **Pn** **11 53 19.1 -4.7**
comp=Z,251nm,0.6s
GUMO Guam 19.85 343 P **Pn** **11 53 27.7 -1.4**
comp=Z,7.5nm,0.3s,baz=198,slow=7.1,SNR=7.0
GUMO S **Sn** **11 57 16.0 +4.7**
comp=Z,3.2nm,0.3s,baz=198,slow=20,SNR=2.1
GUMO LR LR 11 59 35.1
comp=Z,54µm,18.1s,baz=157,slow=32
BKM Butte a Klehm 20.96 127⇑*i*P **P** **11 53 40.9 +1.4**
WRAB Tennant Creek 21.42 227 P **P** **11 53 43.0 -1.4**
comp=Z,5µm,1.3s
WRAB Tennant Creek 21.42 227 *e*P **P** **11 53 43.8 -0.6**
WRAB pmax pmax
comp=Z,2µm,1.3s,mb6.3
WRAB MLR MLR
comp=Z,77µm,19.0s,MS6.1
WRAB Tennant Creek 21.42 227 *e*P **P** **11 53 43.8 -0.6**
comp=Z,2µm,1.3s,mb6.3
WRAB LR LR
comp=Z,77µm,19.0s,MS6.1
WB2 Warramunga Arr 21.43 227 *e*P **P** **11 53 43.1 -1.4**
WB2 *ep*P 11 53 51.4
WB2 *e*S **S** **11 57 38.8 -1.9**
WRA Warramunga Arr 21.43 227 P **P** **11 53 43.3 -1.3**
comp=Z,94nm,0.4s,mb5.4,baz=53,slow=11,SNR=161
WRA S **S** **11 57 43.7 +2.9**
comp=Z,14nm,1.1s,baz=41,slow=20,SNR=3.7
WRA LR LR 12 02 37.7
comp=Z,73µm,18.6s,MS6.1,baz=55,slow=38
WRA Warramunga Arr 21.43 227 P **P** **11 53 43.3 -1.2**
WRA S **S** **11 57 43.7 +2.9**
DZM Mont Dzumac 22.41 139 *e*P **P** **11 53 54.1 -0.9**
DZM Mont Dzumac 22.41 139 P **P** **11 53 54.2 -0.8**
comp=Z,83nm,1.0s,mb5.1,baz=267,slow=20,SNR=37
DZM LR LR 12 01 16.3
comp=Z,150µm,19.7s,MS6.4,baz=322,slow=33
AS31 Alice Springs 24.25 220 *e*P **P** **11 54 12.5 -0.7**
AS31 *ep*P 11 54 22.1
ASAR Alice Springs 24.25 220 P **P** **11 54 12.8 -0.4**
comp=Z,48nm,0.5s,mb5.2,baz=51,slow=8.7,SNR=328
ASAR S **S** **11 58 34.1 +4.0**
comp=Z,3.3nm,0.7s,baz=34,slow=16,SNR=4.4
ASAR LR LR 12 03 45.5
comp=Z,43µm,21.2s,MS5.9,baz=50,slow=37
ASAR Alice Springs 24.25 220 P **P** **11 54 12.8 -0.4**
ASAR S **S** **11 58 34.1 +4.0**
ASPA Alice Springs 24.25 220 *e*P **P** **11 54 12.5 -0.7**
ASPA *ep*P 11 54 22.1
ARMA Armidale 24.79 178 *e*P **P** **11 54 18.0 -0.1**
FITZ Fitzroy Crossi 27.50 241 *e*P **P** **11 54 41.0 -1.7**
comp=Z,190nm,0.8s,mb5.8
FITZ *ep*P pP 11 54 49.7 -1.2
FITZ Fitzroy Crossi 27.50 241 P **P** **11 54 41.4 -1.3**
comp=Z,41nm,0.5s,mb5.3,baz=77,slow=8.9,SNR=27
FITZ S **S** **11 59 30.3 +8.6**
comp=Z,6.3nm,0.9s,baz=226,slow=18,SNR=0.7
FITZ LR LR 12 07 22.5
comp=Z,84µm,18.4s,MS6.3,baz=241,slow=40
STKA Stephens Creek 27.58 197 *e*P **P** **11 54 42.0 -1.4**
comp=Z,104nm,0.9s,mb5.5
STKA Stephens Creek 27.58 197 P **P** **11 54 43.5 +0.1**
comp=Z,92nm,0.9s,mb5.4,baz=9.3,slow=9.5,SNR=51
STKA S **S** **11 59 24.1 +1.0**
comp=Z,14nm,1.1s,baz=0.3,slow=15,SNR=1.6
STKA LR LR 12 05 43.8
comp=Z,134µm,19.5s,MS6.5,baz=14,slow=37
DAV Davao City (W) 28.03 296 PFAKE 11 55 00.0 +13
DAV LR LR
comp=Z,54µm,19.0s,MS6.2
RIV Riverview 28.18 179 *e*P **P** **11 54 56.6 +7.9**
FUNA Funafuti 28.42 98 *e*P **P** **11 54 52.0 +1.2**
FUNA LR LR
comp=Z,27µm,21.0s,MS5.8
WAKE Wake Island 29.21 32 PFAKE 11 55 10.0 +12
WAKE LR LR
comp=Z,46µm,22.0s,MS6.0
CNB Canberra Magne 29.68 182 *e*P **P** **11 55 02.6 +0.5**
comp=Z,106nm,1.4s,mb5.4
CNB *ep*P pP 11 55 10.9 +0.5
PAGZ Pagadian 30.33 296 *e*P **P** **11 55 07.4 -0.3**
SNPH Sibulan 31.11 298 *e*P **P** **11 55 21.0 +6.3**
PVCP Virac 32.49 306 *e*P **P** **11 55 25.2 -1.7**
RCP Roxas 32.59 301⇑*e*P **P** **11 55 31.7 +4.0**
FORT Forrest 32.94 218 *e*P **P** **11 55 30.0 -0.8**
comp=Z,288nm,1.5s,mb6.0
FORT *e* pP 11 55 37.9 -1.2
CBIJ Chichi jima 33.45 346 P **P** **11 55 35.8 +0.5**
comp=Z,56nm,0.9s,mb5.5,baz=16,slow=5.2,SNR=3.7
CBIJ S **S** **12 00 49.3 -5.6**
comp=Z,9.7nm,0.4s,baz=297,slow=20,SNR=1.3
OTRP Odiongan 33.60 302 *e*P **P** **11 55 39.9 +3.4**
CUYO Cuyo Island 33.74 299 *e*P **P** **11 55 40.3 +2.6**
MBWA Marble Bar 33.82 240 *e*P **P** **11 55 36.4 -2.0**
comp=Z,152nm,0.7s,mb6.0
MBWA LR LR
comp=Z,78µm,19.0s,MS6.5
BUSP Coron 34.98 300 *e*P **P** **11 55 49.2 +0.7**
ENPP El Nido 35.29 298 *e*P **P** **11 55 53.3 +2.2**
TGY Tagaytay City 35.40 304 P **P** **11 55 52.2 +0.1**
comp=Z,116nm,0.4s,baz=147,slow=3.9,SNR=3.4
BALP Baler 35.76 307 *e*P **P** **11 55 53.5 -1.6**
BATP Bataraza 35.76 293 *e*P **P** **11 55 55.7 +0.5**
LUBP Lubang 35.78 303 *e*P **P** **11 55 52.8 -2.5**
CAUP Cauayan 36.24 309 *e*P **P** **11 56 03.6 +4.4**
KKM Kota Kinabalu 36.31 288 P **P** **11 56 03.3 +3.4**
KKM Kota Kinabalu 36.31 288 *e*P **P** **11 55 59.1 -0.7**
BCPH Baguio City Da 36.90 307⇑*e*P **P** **11 56 07.4 +2.5**
TAU Tasmania Unive 37.36 184 P **P** **11 56 10.0 +1.2**
comp=Z,2µm,0.9s,SNR=11
TAU Tasmania Unive 37.36 184 *e*P **P** **11 56 10.4 +1.6**
TAU pmax pmax
comp=Z,381nm,1.1s,mb6.1
TAU MLR MLR
comp=Z,129µm,21.0s,MS6.7
TAU Tasmania Unive 37.36 184 *e*P **P** **11 56 10.4 +1.6**
comp=Z,381nm,1.1s,mb6.1
TAU LR LR
comp=Z,129µm,21.0s,MS6.7
ABRA Dolores 37.51 308 *e*P **P** **11 56 08.8 -1.3**
AFI Afiamalu 37.85 106 P **P** **11 56 13.8 +0.9**
comp=Z,78nm,0.9s,mb5.5,baz=263,slow=23,SNR=5.0
AFI LR LR 12 09 33.7
comp=Z,24µm,19.7s,MS6.0,baz=277,slow=33
AFI Afiamalu 37.85 106 P **P** **11 56 13.8 +0.8**
AFI pmax pmax
comp=Z,78nm,0.9s,mb5.4
RAO Raoul Island 37.89 132 LR LR 12 08 38.5
comp=Z,26µm,20.6s,MS6.0,baz=155,slow=31
RAO Raoul Island 37.89 132 PFAKE 11 56 30.0 +17
RAO LR LR
comp=Z,27µm,21.0s,MS6.0
JOW Kunigami 38.81 327 LR LR 12 09 01.9
comp=Z,47µm,21.8s,MS6.3,baz=149,slow=31
JHJ Hachijo jima 2 39.80 346 LR LR 12 10 03.0
comp=Z,44µm,21.7s,MS6.3,baz=170,slow=32
KLBR Kellerberrin 40.31 226 *e*P **P** **11 56 31.9 -1.7**
comp=Z,63nm,0.6s,mb5.5

KLBR *ep*P pP 11 56 38.1 -3.9
URZ Urewera 40.47 147 P **P** **11 56 34.1 -0.7**
comp=Z,19nm,0.8s,mb4.9,baz=317,slow=3.0,SNR=9.7
URZ LR LR 12 10 12.6
comp=Z,26µm,20.8s,MS6.1,baz=142,slow=32
NACB Ninganchiao 40.94 317 *e*P **P** **11 56 39.2 +0.5**
KSM Kuching 40.95 279 *e*P **P** **11 56 43.4 +4.6**
NWAO Narrogin (SRO) 41.42 225 P **P** **11 56 41.1 -1.5**
comp=Z,24nm,0.7s,mb4.9,baz=56,slow=7.2,SNR=19
NWAO LR LR 12 13 27.7
comp=Z,74µm,20.1s,MS6.5,baz=53,slow=36
NWAO Narrogin (SRO) 41.42 225 *e*P **P** **11 56 41.3 -1.4**
NWAO *e* 11 58 24.9
NWAO pmax pmax
comp=Z,306nm,1.4s
NWAO MLR MLR
comp=Z,62µm,20.0s
NWAO Narrogin (SRO) 41.42 225 *e*P **P** **11 56 41.3 -1.3**
comp=Z,306nm,1.4s,mb5.7
NWAO *e*PP PP 11 58 24.9 +6.4
NWAO LR LR
comp=Z,62µm,20.0s,MS6.5
YHNB Yeheng 41.42 318 *e*P **P** **11 56 42.2 -0.5**
TATO Taipei 41.55 318 ⇓P **P** **11 56 46.2 +2.5**
SNR=7.4
TATO Taipei 41.55 318 *e*P **P** **11 56 44.4 +0.6**
comp=Z,575nm,1.3s,mb6.0
TATO LR LR
comp=Z,45µm,20.0s,MS6.3
SNZO South Karori 41.59 153 P **P** **11 56 42.8 -1.3**
comp=Z,491nm,1.4s,mb6.0
SNZO LR LR
comp=Z,60µm,21.0s,MS6.5
RPZ Rata Peaks 42.05 158 LR LR 12 11 52.0
comp=Z,74µm,21.6s,MS6.5,baz=316,slow=33
MJAR Matsushiro Arr 43.44 345 P **P** **11 56 57.4 -1.7**
comp=Z,34nm,1.1s,mb5.0,baz=166,slow=8.1,SNR=25
MJAR LR LR 12 14 28.3
comp=Z,26µm,19.4s,MS6.2,baz=165,slow=35
MAJO Matsushiro 43.44 345 *e*P **P** **11 56 58.0 -1.1**
MAJO pmax pmax
comp=Z,121nm,1.3s,mb5.5
MAJO MLR MLR
comp=Z,29µm,19.0s,MS6.2
MAJO Matsushiro 43.44 345 *e*P **P** **11 56 58.0 -1.1**
comp=Z,121nm,1.3s,mb5.5
MAJO LR LR
comp=Z,29µm,19.0s,MS6.2
MAT Matsushiro 43.44 345 P **P** **11 56 57.3 -1.8**
MAT S **S** **12 03 10.0 -16**
MAT Matsushiro 43.44 345 *e*P **P** **11 56 57.0 -2.1**
MAT pmax pmax
comp=Z,165nm,1.4s,mb5.6
MAT MLR MLR
comp=Z,29µm,19.0s,MS6.2
MAT Matsushiro 43.44 345 *e*P **P** **11 56 57.0 -2.1**
comp=Z,165nm,1.4s,mb5.6
MAT *e*S **S** **12 03 11.0 -15**
MAT LR LR
comp=Z,29µm,19.0s,MS6.2
QZH Quanzhou 43.51 315⇑*i*P **P** **11 56 59.8 +0.2**
QZH S **S** **12 03 30.0 +3.4**
QZH AMB AMB
comp=Z,660nm,1.0s,mb6.3
QZH AMB AMB
comp=Z,6µm,3.0s
QZH LR LR
comp=N,52µm,15.9s,MS6.7
QZH LR LR
comp=E,28µm,12.0s,MS6.7
QZH LR LR
comp=Z,54µm,22.0s
MIDW Midway 45.51 41 PFAKE 11 57 30.0 +14
MIDW LR LR
comp=Z,16µm,19.0s,MS6.0
GZH Guangzhou 46.27 309 P **P** **11 57 22.8 +1.2**
GZH S **S** **12 04 02.8 -3.8**
GZH LR LR
comp=N,10µm,16.2s,MS6.1
GZH LR LR
comp=E,15µm,16.2s,MS6.1
GZH LR LR
comp=Z,30µm,19.3s,MS6.2
QIZ Qiongzhong 47.07 302 P **P** **11 57 29.8 +1.9**
QIZ S **S** **12 04 19.8 +1.8**
QIZ XS sS 12 04 31.8 -0.3
QIZ SS SS 12 07 39.3 -5.8
QIZ AMB AMB
comp=Z,82nm,1.2s,mb5.5
QIZ AMB AMB
comp=Z,2µm,5.2s
QIZ LR LR
comp=N,34µm,22.5s
QIZ LR LR
comp=Z,33µm,28.8s
QIZ Qiongzhong 47.07 302 P **P** **11 57 28.7 +0.8**
comp=Z,300nm,1.5s,mb6.0
QIZ LR LR
comp=Z,20µm,19.0s,MS6.1
ERM Erimo 47.80 352 P **P** **11 57 35.5 +1.9**
comp=Z,683nm,1.5s,mb6.5,SNR=6.1
KGM Kluang 47.93 278 P **P** **11 57 39.3 +4.7**
NJ2 Nanjing 48.12 323 *e*P **P** **11 57 35.6 -0.5**
NJ2 AP pP 11 57 45.5 +0.8
NJ2 XP sP 11 57 49.5 +1.4
NJ2 PP PP 11 59 27.0 -1.4
NJ2 S **S** **12 04 30.0 -3.0**
NJ2 XS sS 12 04 47.0 -0.2
NJ2 AMB AMB
comp=Z,830nm,1.2s,mb6.6
INCN Inchon 48.31 334⇑P **P** **11 57 39.1 +1.6**
SNR=16
INCN Inchon 48.31 334 *e*P **P** **11 57 37.8 +0.2**
comp=Z,936nm,1.8s,mb6.5
INCN LR LR
comp=Z,28µm,21.0s,MS6.2
ASAJ Asahikawa 49.94 352 P **P** **11 57 50.9 +0.9**
comp=Z,297nm,1.1s,mb6.2,baz=233,slow=16,SNR=33
ASAJ S **S** **12 05 01.6 +3.1**
comp=Z,4.5nm,1.0s,baz=47,slow=12,SNR=2.1
ASAJ LR LR 12 16 59.2
comp=Z,18µm,20.8s,MS6.0,baz=189,slow=34
ASAJ Asahikawa 49.94 352 P **P** **11 57 50.9 +0.9**
ASAJ S **S** **12 05 01.7 +3.1**
ASAJ pmax pmax
comp=Z,297nm,1.1s
ASAJ smax
comp=E,5.0nm,1.0s
WHN Wuhan 49.96 318 ⇓P **P** **11 57 51.5 +1.3**
WHN S **S** **12 05 06.0 +7.1**
WHN LR LR
comp=Z,38µm,23.4s,MS6.3
RAR Rarotonga 50.40 113 LR LR 12 15 54.3
comp=Z,8µm,18.6s,MS5.8,baz=283,slow=32
IPM Ipoh 50.61 280 P **P** **11 57 59.8 +4.7**
KULM Kulim 51.13 281 *e*P **P** **11 57 60.0 +1.0**
VLA Vladivostok 51.33 342*d i*P **P** **11 58 00.2 -0.2**
VLA *e* 12 00 01.7
VLA *i* PPP 12 01 04.7
VLA *i* S **S** **12 05 20.2 +2.4**
VLA pmax pmax
comp=Z,413nm,1.6s,mb6.1
VLA MLR MLR
comp=Z,12µm,17.4s,MS6.0
VLA Vladivostok 51.33 342⇓*i*P **P** **11 58 00.5 +0.1**
SNG Songkhla 51.56 284 P **P** **11 58 06.0 +3.8**
DL2 Dalian 51.76 331⇑*i*P **P** **11 58 04.4 +0.7**
DL2 XP sP 11 58 15.1 -0.6
DL2 PPP 12 01 04.3
DL2 S **S** **12 05 26.4 +2.7**
DL2 XS sS 12 05 36.8 -1.1
DL2 SS SS 12 08 58.3 -2.0
DL2 AMB AMB
comp=Z,80nm,1.5s,mb5.4
DL2 AMB AMB
comp=Z,1µm,5.8s
DL2 LR LR
comp=N,7µm,21.1s,MS5.8
DL2 LR LR
comp=E,8µm,20.6s,MS5.8
DL2 LR LR
comp=Z,15µm,22.3s,MS6.0
YSS Yuzh-Sakhalins 52.71 353*αe*P **P** **11 58 11.5 +0.7**
YSS *e* pP 11 58 18.0 -1.4
YSS *e* 11 59 24.0
YSS *i* S **S** **12 05 38.0 +1.2**

YSS *e*PS 12 05 58.0
YSS *e*SS SS 12 09 04.0 -11
YSS *e*SSS 12 10 58.0
YSS pmax pmax
comp=N,60nm,1.0s
YSS pmax pmax
comp=E,60nm,1.0s
YSS pmax pmax
comp=Z,140nm,1.0s,mb5.8
YSS smax
comp=N,15µm,16.0s
YSS MLR MLR
comp=Z,14µm,19.0s,MS6.0
YSS MLR MLR
comp=N,12µm,18.0s,MS6.1
YSS MLR MLR
comp=E,9µm,17.0s,MS6.1
YSS Yuzh-Sakhalins 52.71 353 *e*P **P** **11 58 11.4 +0.6**
comp=E,201nm,1.2s,mb5.9
YSS LR LR
comp=Z,26µm,22.0s,MS6.2
GYA Guiyang 53.20 309⇑*i*P **P** **11 58 15.1 +0.8**
GYA AP pP 11 58 25.3 +2.3
GYA XP sP 11 58 28.9 +2.5
GYA PCP PcP 11 59 18.5 -3.6
GYA PP PP 12 00 18.8 +4.3
GYA PPP 12 01 20.0
GYA PCS PcS 12 03 16.4 -4.5
GYA S **S** **12 05 48.3 +4.9**
GYA PS 12 06 06.8
GYA AMB AMB
comp=Z,90nm,1.0s,mb5.7
GYA AMB AMB
comp=Z,1µm,4.5s
GYA LR LR
comp=N,38µm,18.8s,MS6.5
GYA LR LR
comp=E,26µm,20.9s,MS6.5
GYA LR LR
comp=Z,14µm,19.1s,MS6.0
SNY Shenyang 53.23 335⇑P **P** **11 58 13.8 -0.8**
SNY AP pP 11 58 18.4 -4.8
SNY S **S** **12 05 48.5 +4.7**
SNY SS SS 12 09 21.0 -2.6
SNY AMB AMB
comp=Z,117nm,1.7s,mb5.5
SNY AMB AMB
comp=Z,5µm,4.1s
SNY LR LR
comp=N,17µm,23.7s,MS6.2
SNY LR LR
comp=E,15µm,21.6s,MS6.2
SNY LR LR
comp=Z,29µm,28.4s
MDJ Mudanjiang 53.39 341 P **P** **11 58 17.0 +1.2**
MDJ AP pP 11 58 23.4 -1.0
MDJ XP sP 11 58 25.9 -1.9
MDJ PP PP 12 00 17.4 +1.2
MDJ S **S** **12 05 46.8 +0.7**
MDJ SCS ScS 12 08 00.3 -3.0
MDJ AMB AMB
comp=Z,77nm,1.4s,mb5.4
MDJ AMB AMB
comp=Z,2µm,8.6s
MDJ LR LR
comp=N,19µm,30.9s,MS6.1
MDJ LR LR
comp=E,16µm,29.6s,MS6.1
MDJ LR LR
comp=Z,29µm,23.0s
MDJ Mudanjiang 53.39 341 *e*P **P** **11 58 15.1 -0.7**
comp=Z,647nm,1.9s,mb6.2
MDJ LR LR
comp=Z,27µm,22.0s,MS6.3
COCO West Island 53.58 259 PFAKE 11 58 30.0 +13
COCO LR LR
comp=Z,24µm,22.0s,MS6.2
CN2 Changchun 54.13 338 *e*P **P** **11 58 21.5 +0.3**
CN2 *e*XP sP 11 58 32.4 -0.8
CN2 *e*S **S** **12 05 56.8 +0.8**
CN2 *e*SS SS 12 09 37.8 0.0
CN2 AMB AMB
comp=Z,40nm,1.3s,mb5.2
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,15µm,20.0s,MS6.2
CN2 LR LR
comp=E,17µm,20.0s,MS6.2
CN2 LR LR
comp=Z,40µm,21.0s,MS6.5
NST Nakhon Sawan 54.32 294 P **P** **11 58 24.6 +2.0**
comp=Z,71nm,0.8s,mb5.7
BJT Baijiatuau 55.35 328 *e*P **P** **11 58 29.7 -0.3**
BJT pmax pmax
comp=Z,616nm,2.0s
BJT MLR MLR
comp=Z,24µm,21.0s
BJT Baijiatuau 55.35 328 *e*P **P** **11 58 29.7 -0.4**
comp=Z,616nm,2.0s,mb6.3
BJT LR LR
comp=Z,24µm,21.0s,MS6.2
BJI Beijing 55.37 328 P **P** **11 58 27.8 -2.3**
BJI S **S** **12 06 14.6 +1.9**
BJI AMB AMB
comp=Z,60nm,1.8s,mb5.3
BJI AMB AMB
comp=Z,4µm,5.6s
BJI LR LR
comp=N,22µm,23.4s,MS6.3
BJI LR LR
comp=E,16µm,23.4s,MS6.3
BJI LR LR
comp=Z,32µm,23.4s,MS6.3
KMI Kunming 55.68 305 P **P** **11 58 35.5 +3.1**
KMI AP pP 11 58 42.6 +1.5
KMI XP sP 11 58 44.9 +0.4
KMI PP PP 12 00 42.6 +5.8
KMI PPP 12 01 58.9
KMI S **S** **12 06 16.3 -0.6**
KMI XS sS 12 06 31.8 +0.6
KMI AMB AMB
comp=Z,62nm,1.4s,mb5.5
KMI AMB AMB
comp=Z,1µm,3.9s
KMI LR LR
comp=N,27µm,31.1s
KMI LR LR
comp=E,20µm,19.5s
KMI LR LR
comp=Z,18µm,17.5s
XAN Xi'an 55.73 318 P **P** **11 58 32.9 +0.2**
XAN AP pP 11 58 42.4 +0.9
XAN S **S** **12 06 16.5 -1.0**
XAN AMB AMB
comp=Z,48nm,1.2s,mb5.4
XAN AMB AMB
comp=Z,1µm,4.9s
XAN LR LR
comp=E,14µm,20.3s
XAN LR LR
comp=Z,24µm,19.0s,MS6.3
SKR Severo-Kuril's 56.16 4 *e*P **P** **11 58 32.0 -3.8**
SKR *e* 12 00 38.0
SKR *i* S **S** **12 06 23.0 -0.3**
SKR pmax pmax
comp=N,220nm,1.0s
SKR pmax pmax
comp=Z,270nm,1.0s,mb6.2
SKR pmax pmax
comp=E,80nm,0.6s
SKR pmax pmax
comp=N,2µm,10.0s
SKR pmax pmax
comp=E,2µm,10.0s
SKR pmax pmax
comp=Z,3µm,10.0s
SKR pmax pmax
comp=N,2µm,14.0s
SKR pmax pmax
comp=E,1µm,14.0s
SKR pmax pmax
comp=Z,3µm,14.0s
SKR smax
comp=N,18µm,16.0s
SKR smax

comp=E,11µm,14.0s
SKR MLR MLR
comp=Z,16µm,18.0s,MS6.2
SKR MLR MLR
comp=N,8µm,16.0s,MS6.3
SKR MLR MLR
comp=E,19µm,18.0s,MS6.3
CM31 Chiang Mai Arr 56.31 296 eP **P 11 58 40.4 +3.4**
CM31 LR LR
comp=Z,11µm,19.0s,MS6.0
CHTO Chiang Mai 56.44 297 ⇑P **P 11 58 42.4 +4.6**
SNR=19
CHTO Chiang Mai 56.44 297 eP **P 11 58 40.3 +2.5**
CHTO pmax pmax
comp=Z,101nm,1.4s,mb5.7
CHTO MLR MLR
comp=Z,11µm,22.0s,MS5.9
CHTO Chiang Mai 56.44 297 eP **P 11 58 40.3 +2.6**
comp=Z,101nm,1.4s,mb5.7
CHTO LR LR
comp=Z,11µm,22.0s,MS5.9
KIP Kipapa 56.93 60 eP **P 11 58 41.5 +0.2**
KIP pmax pmax
comp=Z,247nm,1.5s,mb6.0
KIP MLR MLR
comp=Z,25µm,22.0s,MS6.3
KIP Kipapa 56.93 60 eP **P 11 58 41.5 +0.2**
comp=Z,247nm,1.5s,mb6.0
KIP LR LR
comp=Z,25µm,22.0s,MS6.3
KLR Kul'dur 56.97 345 eP **P 11 58 37.2 -4.4**
KLR eS **S 12 06 34.0 0.0**
KLR pmax pmax
comp=E,90nm,2.0s
KLR pmax pmax
comp=Z,300nm,2.0s,mb6.0
KLR MLR MLR
comp=E,10µm,18.0s
CD2 Chengdu 57.64 312⇑ iP **P 11 58 47.0 +0.7**
CD2 AP pP 11 58 54.6 -0.5
CD2 XP sP 11 58 57.9 -0.5
CD2 PP PP 12 00 56.8 +2.5
CD2 S **S 12 06 43.0 +0.2**
CD2 XS sS 12 06 55.8 -1.4
CD2 SS SS 12 10 35.1 +1.9
CD2 AMB AMB
comp=Z,70nm,1.0s,mb5.7
CD2 AMB AMB
comp=Z,1µm,9.6s
CD2 LR LR
comp=N,15µm,18.0s
CD2 LR LR
comp=Z,11µm,20.4s,MS6.0
POHA Pohakuloa 58.51 63 PFAKE 11 59 10.0 +18
POHA LR LR
comp=Z,27µm,19.0s,MS6.4
PET Petropavlovsk 58.70 6 eP **P 11 58 53.5 -0.2**
PET eS **S 12 07 00.3 +3.7**
PET eSSS 12 13 07.8
PET pmax pmax
comp=Z,54nm,0.8s,mb5.6
PET pmax pmax
comp=Z,2µm,16.2s
PET MLR MLR
comp=Z,14µm,18.0s,MS6.1
PET MLR MLR
comp=Z,13µm,16.0s
PET Petropavlovsk 58.70 6 eP **P 11 58 53.6 -0.2**
comp=Z,30nm,0.7s,mb5.4
BTO Baotou 59.15 325 eP **P 11 58 56.8 -0.1**
PPT Papeete 59.49 107 eP **P 11 59 01.4 +2.2**
comp=Z,93nm,1.5s,mb5.6
PPT Papeete 59.49 107 eS **S 12 07 07.2 +0.3**
comp=Z,16µm,24.2s
PPT eSS SS 12 11 11.0 +8.7
comp=Z,6µm,28.5s
PPT eLQ 12 13 50.8
comp=Z,63µm,34.2s
PPT eLR LR 12 16 36.5
comp=Z,19µm,23.5s
PPT Papeete 59.49 107 LR LR 12 18 35.8
comp=Z,9µm,21.8s,MS5.9,baz=277,slow=30
PAE Paea 59.50 107 eP **P 11 59 01.2 +1.9**
comp=Z,80nm,1.2s,mb5.6
TVO Taravao 59.82 107 eP **P 11 59 03.5 +2.0**
comp=Z,707nm,1.7s,mb6.4
TBI Tubuai 60.16 114 eS **S 12 07 14.6 -0.9**
comp=Z,10µm,30.2s
TBI eLQ 12 14 34.3
comp=Z,115µm,34.0s
TBI eLR LR 12 16 48.6
comp=Z,40µm,33.2s
LZH Lanzhou 60.31 317 eP **P 11 59 06.5 +1.6**
LZH AP pP 11 59 14.8 +1.2
LZH XP sP 11 59 17.8 +0.8
LZH PP PP 12 01 23.1 +5.2
LZH eS **S 12 07 24.0 +6.6**
LZH XS sS 12 07 30.1 -1.8
LZH SS SS 12 11 18.0 +2.9
LZH AMB AMB
comp=Z,452nm,1.5s,mb6.3
LZH AMB AMB
comp=Z,2µm,4.3s
LZH LR LR
comp=N,11µm,16.5s
LZH LR LR
comp=Z,24µm,17.5s,MS6.4
HIA Hailar 60.86 337 eP **P 11 59 08.4 -0.2**
HIA pmax pmax
comp=Z,402nm,1.2s
HIA MLR MLR
comp=Z,22µm,19.0s
HIA Hailar 60.86 337 eP **P 11 59 08.4 -0.2**
comp=Z,402nm,1.2s,mb6.4
HIA LR LR
comp=Z,22µm,19.0s,MS6.3
PMOR Pomariorio Ree 60.98 104 eP **P 11 59 11.2 +1.8**
comp=Z,202nm,1.4s,mb6.1
VAH Vaihoa 61.24 104 eP **P 11 59 12.7 +1.5**
comp=Z,93nm,1.2s,mb5.8
SMY Shemya 61.32 16 eP **P 11 59 14.4 +2.7**
SMY pmax pmax
comp=Z,53nm,0.9s,mb5.7
SMY Shemya 61.32 16 eP **P 11 59 14.4 +2.7**
comp=Z,53nm,0.9s,mb5.7
GTA Gaotai 64.79 318 eP **P 11 59 34.9 +0.2**
GTA PP PP 12 02 01.1 +3.8
GTA PPP 12 03 36.1
GTA S **S 12 08 14.1 +0.5**
GTA PS 12 08 41.1
GTA SCS ScS 12 09 22.8 -4.6
GTA AMB AMB
comp=Z,587nm,4.6s
GTA LR LR
comp=N,9µm,18.2s,MS6.2
GTA LR LR
comp=E,11µm,20.2s,MS6.2
GTA LR LR
comp=Z,18µm,19.0s,MS6.3
MA2 Magadan 64.88 0 eP **P 11 59 33.7 -1.6**
MA2 eS **S 12 08 09.7 -5.1**
MA2 e 12 09 30.1
MA2 eSSS 12 15 14.3
MA2 pmax pmax
comp=Z,50nm,1.3s,mb5.4
MA2 MLR MLR
comp=Z,14µm,18.0s,MS6.2
MA2 Magadan 64.88 0 eP **P 11 59 32.7 -2.7**
comp=Z,102nm,1.0s,mb5.8
MA2 LR LR
comp=Z,23µm,22.0s,MS6.3
CLNS Chul'man 65.62 345 eP **P 11 59 38.7 -1.4**
CLNS e*PP pP 11 59 47.1 -1.9
CLNS ePPP 12 02 04.1
CLNS e 12 08 22.5
CLNS pmax pmax
comp=Z,141nm,1.1s,mb5.9
CLNS pmax pmax
comp=N,111nm,1.4s
CLNS pmax pmax
comp=E,16nm,0.8s
CLNS pmax pmax
comp=Z,20nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,17nm,0.9s
CLNS pmax pmax

comp=E,22nm,0.9s
SONM Songino Array 65.84 329 P **P 11 59 42.2 +0.7**
comp=E,62nm,1.0s,mb5.6,baz=145,slow=7.8,SNR=69
SONM LR LR 12 30 21.7
comp=E,28µm,18.3s,MS6.5,baz=135,slow=38
CASY Casey 66.74 197 eP **P 11 59 48.5 +1.2**
comp=E,34nm,0.9s,mb5.4
CASY LR LR
comp=Z,37µm,21.0s,MS6.6
CAL Calcutta 67.03 297 eP **P 11 59 49.5 +0.4**
CAL ex x 12 08 50.1
TAOE Nuku Hiva Isla 68.59 97 eLQ 12 17 21.9
comp=Z,39µm,28.9s
TAOE Nuku Hiva Isla 68.59 97 eP **P 12 00 00.1 +1.1**
comp=Z,938nm,1.4s,mb6.5
TAOE Nuku Hiva Isla 68.59 97 eS S 12 09 00.0 +0.3
comp=Z,30µm,27.5s
TAOE eSS SS 12 13 13.6 -11
comp=Z,16µm,29.3s
TAOE eLR LR 12 20 45.6
comp=Z,44µm,23.4s
ZAK Zakamensk 69.04 330 eP **P 12 00 02.4 +0.6**
ZAK pmax pmax
comp=Z,129nm,1.8s,mb5.6
ZAK pmax pmax
comp=Z,53nm,1.8s,mb5.2
UNV Unalaska Valle 69.14 26 PFAKE 12 00 10.0 +7.6
UNV LR LR
comp=Z,50µm,22.0s,MS6.7
YAK Yakutsk 69.28 350 eP **P 12 00 04.4 +1.2**
YAK e*PP pP 12 00 14.1 +2.0
YAK e 12 00 27.2
YAK e 12 02 38.3
YAK eS S 12 09 08.8 +1.0
YAK e*SS sS 12 09 44.4 +22
YAK e 12 10 01.1
YAK pmax pmax
comp=Z,64nm,1.1s,mb5.5
YAK pmax pmax
comp=N,37nm,1.3s
YAK pmax pmax
comp=E,19nm,1.6s
YAK pmax pmax
comp=Z,26nm,1.4s,mb5.0
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,16nm,1.2s
YAK smax
comp=N,3µm,13.6s
YAK smax
comp=Z,3µm,21.2s
YAK smax
comp=E,1µm,17.2s
YAK pmax pmax
comp=N,16µm,39.0s
YAK pmax pmax
comp=Z,14µm,35.0s
YAK pmax pmax
comp=E,11µm,40.4s
YAK MLR MLR
comp=Z,4µm,15.0s,MS5.8
YAK MLR MLR
comp=N,5µm,22.0s
YAK MLR MLR
comp=E,4µm,22.0s
BOK Bokaro 69.54 298 eP **P 12 00 04.6 -0.3**
TLY Talaya 69.67 331 P **P 12 00 08.3 +2.6**
comp=E,294nm,1.2s,mb6.1,SNR=24
IRK Irkutsk 69.73 332⇓ iP **P 12 00 07.8 +1.8**
IRK pmax pmax
comp=Z,396nm,3.6s
SPIA Saint Paul Isl 70.06 21 eP **P 12 00 09.7 +1.6**
GUN Gumba 70.72 302 eP **P 12 00 13.6 +1.5**
comp=Z,407nm,1.4s,mb6.2
MOY Mondy 70.97 330 eP **P 12 00 15.9 +2.3**
MOY pmax pmax
comp=Z,612nm,3.7s
PALK Pallekele 71.00 280 PFAKE 12 00 30.0 +16
PALK LR LR
comp=Z,8µm,22.0s,MS6.0
PKI Pulchoki 71.02 301 eP **P 12 00 15.4 +1.5**
comp=Z,277nm,1.6s,mb6.0
PKI Pulchoki 71.02 301 eP **P 12 00 15.4 +1.5**
PKI pmax pmax
comp=Z,277nm,1.6s,mb5.9
KKN Kakani 71.19 302 eP **P 12 00 17.1 +2.1**
comp=Z,261nm,1.5s,mb6.0
KKN Kakani 71.19 302 eP **P 12 00 17.1 +2.1**
KKN pmax pmax
comp=Z,261nm,1.5s,mb5.9
DMN Daman 71.29 301 eP **P 12 00 17.5 +1.9**
comp=Z,252nm,1.2s,mb6.0
GKN Gorkha 71.80 302 eP **P 12 00 20.2 +1.6**
comp=Z,300nm,1.3s,mb6.1
VNDA Vanda 72.20 177 P **P 12 00 20.4 -0.6**
comp=Z,20nm,0.9s,mb5.1,baz=333,slow=6.7,SNR=22
VNDA LR LR 12 30 17.0
comp=Z,13µm,20.1s,MS6.2,baz=352,slow=34
VNDA Vanda 72.20 177 eP **P 12 00 20.0 -1.1**
VNDA pmax pmax
comp=Z,131nm,1.2s
VNDA MLR MLR
comp=Z,16µm,19.0s
VNDA Vanda 72.20 177 eP **P 12 00 20.0 -1.1**
comp=Z,131nm,1.2s,mb5.7
VNDA LR LR
comp=Z,16µm,19.0s,MS6.3
MIR Mirnyy 72.52 201 d iP **P 12 00 27.0 +4.0**
MIR ePS 12 09 46.0
MIR e 12 10 24.0
MIR pmax pmax
comp=Z,1µm,1.0s
MIR pmax pmax
comp=Z,4µm,10.0s
SBA Scott Base 72.79 176 eP **P 12 00 26.1 +1.6**
SBA pmax pmax
comp=Z,165nm,1.3s,mb5.8
SBA MLR MLR
comp=Z,9µm,19.0s,MS6.1
SBA Scott Base 72.79 176 eP **P 12 00 26.1 +1.6**
comp=Z,165nm,1.3s,mb5.8
SBA LR LR
comp=Z,9µm,19.0s,MS6.1
RKT Rikitea 73.44 112 eP **P 12 00 29.3 +0.9**
comp=Z,97nm,0.9s,mb5.7
RKT Rikitea 73.44 112 eS S 12 09 54.4 -1.5
comp=Z,7µm,27.8s
RKT eSS SS 12 14 40.2 +1.8
comp=Z,9µm,37.8s
RKT eLQ 12 20 07.1
comp=Z,44µm,37.5s
RKT eLR LR 12 22 52.1
comp=Z,16µm,39.8s
JBP Jabalpur 74.64 296 eP **P 12 00 35.0 -0.4**
JBP ex x 12 01 07.2
comp=Z,101nm,1.6s
JBP ex x 12 10 15.1
HYB Hyderabad 74.77 290 i P **P 12 00 38.0 +1.9**
HYB Hyderabad 74.77 290 eP **P 12 00 40.0 +3.9**
WMQ Urumqi 74.87 318 P **P 12 00 38.3 +1.6**
WMQ AP pP 12 00 46.0 +0.3
WMQ XP sP 12 00 49.3 +0.3
WMQ PCP PcP 12 00 52.5 +1.9
WMQ PP PP 12 03 27.8 +3.5
WMQ S S 12 10 12.1 +0.1
WMQ XS sS 12 10 25.3 -1.5
WMQ SKS 12 10 40.3
WMQ SCS ScS 12 10 44.9 -1.9
WMQ PS 12 10 50.8
WMQ AMB AMB
comp=Z,127nm,1.3s,mb5.7
WMQ AMB AMB
comp=Z,3µm,5.0s
WMQ LR LR
comp=N,10µm,17.0s,MS6.3
WMQ LR LR
comp=E,8µm,18.4s,MS6.3
WMQ LR LR
comp=Z,10µm,18.4s,MS6.2
JOSI Joshimath 76.76 303 ex x 12 00 34.4
JOSI AMb AMB 12 00 46.3
comp=Z,556nm,1.0s,mb6.4
AKL Akola 76.82 293 eP **P 12 00 47.4 -0.5**
AKL AMb AMB 12 01 16.8
comp=Z,101nm,2.0s,mb5.4

BHPL Bhopal 76.95 295 eP **P 12 00 47.6 -1.0**
BHPL AMb AMB 12 01 03.1
comp=Z,45nm,1.9s,mb5.1
TNA Tin City 77.05 16 PFAKE 12 01 00.0 +11
TNA LR LR
comp=Z,17µm,20.0s,MS6.4
AGRA Agra 77.34 299 eP **P 12 00 50.4 -0.4**
AGRA AMb AMB 12 00 53.6
comp=Z,39nm,0.3s,mb5.8
DGAR Diego Garcia 77.70 264 PFAKE 12 01 00.0 +7.2
DGAR LR LR
comp=Z,13µm,21.0s,MS6.2
KDAK Kodiak Island 77.75 27 PFAKE 12 01 00.0 +6.9
KDAK LR LR
comp=Z,4µm,22.0s,MS5.7
PTCN Pitcairn Islan 77.90 114 PFAKE 12 01 10.0 +16
PTCN LR LR
comp=Z,10µm,22.0s,MS6.1
KLP Kalpa 78.09 304 eP **P 12 00 54.9 -0.1**
KLP AMb AMB 12 01 09.1
comp=Z,136nm,1.7s,mb5.6
SVW2 Sparrevohn 78.30 24 eP **P 12 00 56.5 +0.4**
NDI New Delhi 78.30 301 eP **P 12 00 56.1 0.0**
NDI AMb AMB 12 01 06.3
comp=Z,66nm,1.4s,mb5.4
AYAN Aya Nagar 78.33 300 eP **P 12 00 55.6 -0.7**
AYAN AMb AMB 12 01 07.8
comp=Z,51nm,0.8s,mb5.5
TIXI Tiksi 78.34 353 eP **P 12 00 52.5 -3.8**
TIXI eS S 12 10 46.2 -3.7
TIXI pmax pmax
comp=Z,31nm,1.2s,mb5.1
TIXI Tiksi 78.34 353⇑ eP **P 12 00 55.7 -0.6**
TIXI LR LR
comp=Z,11µm,19.0s,MS6.2
KUDL Kundal 78.80 300 eP **P 12 00 58.1 -0.8**
KUDL AMb AMB 12 01 09.3
SMLA Simla 78.89 303 eP **P 12 00 57.2 -2.2**
SMLA AMb AMB 12 01 16.0
comp=Z,108nm,0.7s,mb5.9
KKR Kurukshetra 78.92 302 eP **P 12 00 58.5 -1.0**
KKR AMb AMB 12 01 13.7
comp=Z,110nm,0.4s,mb6.1
TTA Tatalina 79.19 22 eP **P 12 01 00.1 -0.9**
TTA pmax pmax
comp=Z,35nm,1.1s,mb5.2
TTA Tatalina 79.19 22 eP **P 12 01 00.1 -1.0**
comp=Z,35nm,1.1s,mb5.2
KHET Khetri 79.38 300 eP **P 12 01 00.6 -1.4**
KHET AMb AMB 12 01 14.1
comp=Z,61nm,2.0s,mb5.2
MK31 Makanchi Array 79.50 319 P **P 12 01 02.4 -0.3**
MK31 pmax pmax
comp=Z,254nm,1.5s,mb5.9
MKAR Makanchi Array 79.50 319 P **P 12 01 02.9 +0.1**
comp=Z,9.5nm,0.8s,mb4.8,baz=99,slow=7.5,SNR=8.6
MKAR PP PP 12 04 02.9 -0.3
comp=Z,12nm,1.1s,baz=107,slow=8.1,SNR=3.7
MKAR PKKPbc PKKPbc 12 19 53.8 +2.7
comp=Z,0.7nm,0.6s,baz=297,slow=0.5,SNR=5.8
MKAR Makanchi Array 79.50 319 P **P 12 01 02.9 +0.2**
MKAR 12 04 02.9
MKAR Makanchi Array 79.50 319 P **P 12 01 02.9 +0.1**
MKAR PP PP 12 04 02.9 -0.3
MKAR PKKPbc PKKPbc 12 19 53.8 +2.8
AJM Ajmer 80.07 298 eP **P 12 01 07.0 +1.2**
SLKM Skilak Lake 80.19 26 P **P 12 01 07.3 +0.8**
ZAL Zalesovo 80.61 327 P **P 12 01 07.0 -1.7**
comp=Z,4.3nm,0.6s,mb4.5,baz=345,slow=5.8,SNR=6.2
ZAL LR LR 12 38 08.1
comp=Z,13µm,20.8s,MS6.3,baz=353,slow=37
ZAL Zalesovo 80.61 327 P **P 12 01 07.0 -1.7**
ZAL LR LR 12 38 08.1
PMR Palmer 81.19 25 eP **P 12 01 11.7 -0.1**
PMR pmax pmax
comp=Z,25nm,1.1s,mb5.1
PMR MLR MLR
comp=Z,14µm,21.0s,MS6.3
PMR Palmer 81.19 25 eP **P 12 01 11.7 -0.1**
comp=Z,25nm,1.1s,mb5.1
PMR LR LR
comp=Z,14µm,21.0s,MS6.3
SML Sawmill 81.63 25 eP **P 12 01 02.6 -12**
NVS Novosibirsk 81.80 327 i P **P 12 01 15.8 +0.8**
NVS eS S 12 11 30.8 +4.5
NVS pmax pmax
comp=Z,270nm,1.4s,mb6.0
NVS pmax pmax
comp=N,125nm,2.5s
NVS pmax pmax
comp=E,158nm,2.1s
NVS smax
comp=N,68nm,3.0s
IMA2 Indian Mountai 81.82 20 eP **P 12 01 13.0 -2.1**
KSH Kashi 81.83 311 eP **P 12 01 18.8 +3.6**
KSH eAP pP 12 01 26.0 +1.8
KSH eXP sP 12 01 29.3 +1.8
KSH ePPP 12 06 19.9
KSH eS S 12 11 31.3 +4.7
KSH eXS sS 12 11 44.3 +2.7
KSH ePS 12 12 24.1
KSH AMB AMB
comp=Z,4µm,4.2s
KSH LR LR
comp=N,3µm,24.0s
KSH LR LR
comp=E,4µm,8.0s
MCK McKinley 82.32 23 eP **P 12 01 18.2 +0.5**
MCK McKinley 82.32 23 eP **P 12 01 14.7 -3.0**
comp=E,31nm,0.9s,mb5.2
MCK LR LR
comp=Z,14µm,22.0s,MS6.3
TKM2 Tokmak 2 82.93 314 i P **P 12 01 19.6 -1.3**
KURK Kurchatov 83.06 322 P **P 12 01 20.5 -1.1**
comp=Z,218nm,1.0s,mb6.1,SNR=13
KURK Kurchatov 83.06 322⇓P **P 12 01 21.5 -0.1**
SNR=22
KURK Kurchatov 83.06 322 P **P 12 01 20.5 -1.1**
KURK pmax pmax
comp=Z,174nm,2.1s,mb5.7
KURK Kurchatov 83.06 322 eP **P 12 01 20.8 -0.8**
comp=Z,48nm,1.0s,mb5.5
KURK LR LR
comp=Z,19µm,21.0s,MS6.4
COLA College 83.28 22 eP **P 12 01 19.0 -3.8**
COLA pmax pmax
comp=Z,24nm,0.8s,mb5.3
COLA MLR MLR
comp=Z,18µm,20.0s,MS6.4
COLA College 83.28 22 eP **P 12 01 19.0 -3.7**
comp=Z,24nm,0.8s,mb5.3
COLA LR LR
comp=Z,18µm,20.0s,MS6.4
JASL Jaisalmer 83.44 298 eP **P 12 01 21.8 -1.8**
FRU Bishkek 83.61 314 eP **P 12 01 29.0 +4.6**
FRU pmax pmax
comp=Z,380nm,2.6s,mb6.1
AAK Ala-Archa 83.65 314 P **P 12 01 25.0 +0.3**
comp=Z,159nm,0.9s,mb6.2,SNR=5.4
AAK Ala-Archa 83.65 314⇓P **P 12 01 25.0 +0.3**
SNR=15
AAK Ala-Archa 83.65 314⇓ eP **P 12 01 24.3 -0.4**
AAK pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
AAK MLR MLR
comp=Z,14µm,20.0s,MS6.3
AAK Ala-Archa 83.65 314 eP **P 12 01 24.7 0.0**
comp=Z,23nm,0.9s,mb5.3
AAK LR LR
comp=Z,16µm,22.0s,MS6.4
MENT Mentasta 84.06 25 eP **P 12 01 29.2 +2.5**
MAW Mawson 84.12 203 P **P 12 01 25.9 -1.1**
comp=Z,14nm,0.9s,mb5.1,baz=86,slow=6.8,SNR=8.7
MAW LR LR 12 38 07.2
comp=Z,15µm,20.3s,MS6.3,baz=85,slow=35
MAW Mawson 84.12 203 eP **P 12 01 26.8 -0.2**
MAW pmax pmax
comp=Z,470nm,2.0s
MAW MLR MLR
comp=Z,23µm,20.0s
MAW Mawson 84.12 203 eP **P 12 01 26.8 -0.3**
comp=Z,470nm,2.0s,mb6.3
MAW LR LR
comp=Z,23µm,20.0s,MS6.6
QSPA South Pole Qui 84.45 180 eP **P 12 01 29.9 +1.2**
comp=Z,209nm,1.1s,mb6.2

QSPA LR LR
comp=Z,16µm,20.0s,MS6.4
SIT Sitka 85.97 32 *e*P **P 12 01 35.5 -0.8**
SIT pmax pmax
comp=Z,78nm,1.4s,mb5.8
SIT MLR MLR
comp=Z,27µm,20.0s,MS6.6
SIT Sitka 85.97 32 *e*P **P 12 01 35.5 -0.8**
comp=Z,78nm,1.4s,mb5.7
SIT LR LR
comp=Z,27µm,20.0s,MS6.6
DAWY Dawson 86.29 24 *e*P **P 12 01 36.6 -1.3**
KK31 Karatay Array 86.61 314 *i* P **P 12 01 38.4 -1.1**
KKAR Karatay Array 86.61 314 *i* P **P 12 01 38.4 -1.1**
KKAR pmax pmax
comp=Z,803nm,2.2s,mb6.6
SKAG Skagway 86.65 29 *e*P **P 12 01 38.6 -1.1**
comp=Z,42nm,1.1s,mb5.6
CRAG Craig 86.72 34 *e*P **P 12 01 39.1 -0.9**
VOSK Vostochnaya 88.16 323 P **P 12 01 44.3 -2.6**
VOSK pmax pmax
comp=Z,48nm,1.8s,mb5.4
CHKZ Chkalovo 88.56 324 *i* P **P 12 01 45.1 -3.7**
CHKZ pmax pmax
comp=Z,27nm,1.5s,mb5.4
CHKZ Chkalovo 88.56 324 *e*P **P 12 01 46.9 -1.9**
comp=Z,36nm,1.3s,mb5.5
BVA0 Borovoye Array 88.57 323 *i* P **P 12 01 45.2 -3.7**
BVA0 pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
BVAR Borovoye Array 88.57 323 P **P 12 01 47.3 -1.6**
comp=Z,7.2nm,0.8s,mb5.0,baz=96,slow=6.0,SNR=9.2
BRVK Borovoye 88.64 323 ⇑P **P 12 01 46.9 -2.3**
SNR=8.3
BRVK Borovoye 88.64 323 *e*P **P 12 01 46.8 -2.4**
BRVK pmax pmax
comp=Z,19nm,1.1s,mb5.3
BRVK MLR MLR
comp=Z,9µm,21.0s,MS6.2
BRVK Borovoye 88.64 323 *e*P **P 12 01 46.8 -2.4**
comp=Z,19nm,1.1s,mb5.3
BRVK LR LR
comp=Z,9µm,21.0s,MS6.2
BBB Bella Bella 88.92 37 P **P 12 01 50.5 -0.1**
comp=Z,4.5nm,1.2s,mb4.7,baz=301,slow=12,SNR=3.0
DLBC Dease Lake 89.06 31 P **P 12 01 49.8 -1.4**
comp=Z,10nm,1.1s,mb5.1,baz=235,slow=5.1,SNR=8.1
DLBC Dease Lake 89.06 31 *e*P **P 12 01 50.3 -0.8**
ZRNK Zerenda 89.38 323 *i* P **P 12 01 49.8 -2.9**
ZRNK pmax pmax
comp=Z,28nm,1.6s,mb5.3
ZRNK Zerenda 89.38 323 *e*P **P 12 01 50.5 -2.2**
comp=Z,31nm,1.3s,mb5.5
INK Inuvik 89.86 21 P **P 12 01 52.5 -2.5**
comp=Z,19nm,1.0s,mb5.4,baz=235,slow=5.7,SNR=10
INK Inuvik 89.86 21 P **P 12 01 52.5 -2.4**
INK pmax pmax
comp=Z,19nm,1.0s
INK Inuvik 89.86 21 *e*P **P 12 01 52.3 -2.6**
HOPS Hopland 90.49 51 PFAKE 12 02 10.0 +12
HOPS LR LR
comp=Z,23µm,19.0s,MS6.6
J02A Umpqua 90.63 47 ⇑P **P 12 01 58.0 -0.5**
baz=91
GASB Alder Springs 90.84 50 ⇑P **P 12 01 59.9 +0.5**
baz=91
O02C Red Bluff 90.84 50 ⇓P **P 12 02 00.4 +0.9**
baz=91
CVS Carmenet Viney 90.89 52 ⇓P **P 12 02 01.0 +1.2**
baz=91
M02C Callahan 90.93 49 ⇑P **P 12 02 00.5 +0.6**
baz=91
COR Corvallis 90.97 45 PFAKE 12 02 10.0 +10
COR LR LR
comp=Z,22µm,20.0s,MS6.6
HUMO Hull Mountain 90.99 47 *e*P **P 12 02 00.2 0.0**
comp=Z,16nm,0.8s,mb5.4
HUMO LR LR
comp=Z,13µm,20.0s,MS6.4
HUMO Hull Mountain 90.99 47 ⇓P **P 12 01 60.0 -0.2**
baz=91
E03A Lebam 91.02 44 ⇑P **P 12 02 00.1 -0.2**
baz=91
J03A Ideyld Park 91.07 47 ⇑P **P 12 02 00.7 +0.1**
baz=91
WDC Whiskeytown Da 91.08 50 *e*P **P 12 02 00.7 +0.1**
WDC pmax pmax
comp=Z,28nm,1.4s,mb5.4
WDC MLR MLR
comp=Z,17µm,20.0s,MS6.5
WDC Whiskeytown Da 91.08 50 *e*P **P 12 02 00.7 +0.1**
comp=Z,28nm,1.4s,mb5.4
WDC LR LR
comp=Z,17µm,20.0s,MS6.5
WDC Whiskeytown Da 91.08 50 ⇑P **P 12 02 00.4 -0.2**
baz=91
YBH Yreka Blue Hor 91.08 48 P **P 12 02 00.3 -0.3**
comp=Z,8.8nm,1.1s,mb5.0,baz=79,slow=0.9,SNR=5.6
YBH Yreka Blue Hor 91.08 48 *e*P **P 12 02 00.6 0.0**
YBH *e**PP pP 12 02 08.9 -0.8
YBH pmax pmax
comp=Z,15nm,1.0s
YBH MLR MLR
comp=Z,13µm,20.0s
YBH Yreka Blue Hor 91.08 48 *e*P **P 12 02 00.6 0.0**
comp=Z,15nm,1.0s,mb5.3
YBH *e*pP pP 12 02 08.9 -0.8
YBH LR LR
comp=Z,13µm,20.0s,MS6.4
YBH Yreka Blue Hor 91.08 48 ⇑P **P 12 02 00.9 +0.3**
baz=91
SAO San Andreas Ge 91.53 53 PFAKE 12 02 10.0 +7.3
SAO LR LR
comp=Z,12µm,21.0s,MS6.3
V03C Hunter Liggett 91.63 54 ⇓P **P 12 02 03.9 +0.7**
baz=92
GNW Green Mountain 91.64 43 *e*P **P 12 02 04.0 +0.8**
PACP Pacheco Peak 91.68 53 ⇑P **P 12 02 02.5 -0.9**
baz=92
S04C Ingram Canyon, 91.70 53 ⇑P **P 12 02 03.1 -0.4**
baz=92
M04C Macdoel 91.73 48 ⇓P **P 12 02 03.2 -0.4**
baz=92
OHCM Honcut 91.75 51 *e*P **P 12 02 03.7 0.0**
OHCM *e*pP pP 12 02 11.7 -1.1
ORV Oroville 91.76 51 ⇑P **P 12 02 03.2 -0.5**
baz=92
H04A Detroit Lake 91.77 45 ⇑P **P 12 02 04.4 +0.6**
baz=92
V04C Ramage Ranch, 91.89 55 ⇑P **P 12 02 04.8 +0.4**
baz=92
HATC Hat Creek Radi 91.92 49 ⇓P **P 12 02 04.6 +0.1**
baz=92
U04C Hernandez Rese 92.02 54 ⇓P **P 12 02 05.1 +0.1**
baz=92
O04C Chester 92.15 50 ⇓P **P 12 02 05.3 -0.2**
baz=92
D05A Enumclaw 92.16 43 ⇓P **P 12 02 05.2 -0.4**
baz=92
PKD Parkfield 92.18 54 ⇑P **P 12 02 05.5 -0.2**
baz=92
M05C Lookout 92.20 49 ⇓P **P 12 02 05.4 -0.4**
baz=92
O05C Quincy 92.25 50 ⇓P **P 12 02 05.8 -0.2**
baz=92
E05A Randle 92.26 44 ⇑P **P 12 02 05.0 -1.0**
baz=92
LAVA Lava Cap Winer 92.28 51 ⇓P **P 12 02 05.4 -0.7**
baz=92
SYO Syowa Base 92.31 200⇑ *e*P **P 12 02 05.0 -1.3**
J05A Fort Rock 92.32 47 ⇑P **P 12 02 06.3 -0.1**
baz=92
PTRM Twissleman Ran 92.42 55 *e*P **P 12 02 07.3 +0.5**
PTRM *e*pP pP 12 02 16.2 +0.2
P05C Yuba Gap, Truc 92.43 51 ⇓P **P 12 02 06.6 -0.2**
baz=92
H05A Madras 92.45 46 ⇑P **P 12 02 06.5 -0.4**
baz=92
ELFS Eagle Lake Fie 92.45 50 ⇑P **P 12 02 06.6 -0.4**
baz=92
S05C Merced 92.47 53 ⇓P **P 12 02 06.7 -0.4**
baz=92
CMB Columbia Colle 92.49 52 *e*P **P 12 02 06.2 -0.9**
CMB *e**PP pP 12 02 16.3 0.0
CMB pmax pmax
comp=Z,16nm,1.1s,mb5.3
CMB MLR MLR
comp=Z,16µm,19.0s,MS6.5
CMB Columbia Colle 92.49 52 *e*P **P 12 02 06.2 -0.9**
comp=Z,16nm,1.1s,mb5.2
CMB *e*pP pP 12 02 16.3 0.0
CMB LR LR
comp=Z,16µm,19.0s,MS6.5
CMB Columbia Colle 92.49 52 ⇓P **P 12 02 06.9 -0.2**
baz=92
L05A Lakeview 92.50 48 ⇑P **P 12 02 07.4 +0.2**
baz=92
SNCC San Nicolas Is 92.78 57 PFAKE 12 02 20.0 +12
SNCC LR LR
comp=Z,17µm,20.0s,MS6.5
R05C Kirkwood Meado 92.79 52 ⇓P **P 12 02 08.2 -0.3**
baz=93
S06C San Francisco 92.90 52 ⇓P **P 12 02 08.8 -0.3**
baz=93
T06C Millerton Lake 92.94 53 ⇑P **P 12 02 09.1 -0.1**
baz=93
K06A Valley Falls 93.00 47 ⇓P **P 12 02 09.0 -0.4**
baz=93
WCN Washoe City 93.09 51 ⇓P **P 12 02 09.1 -0.7**
baz=93
O06A Flanigan 93.10 50 ⇓P **P 12 02 09.4 -0.6**
baz=93
J06A Christmas Vall 93.10 47 ⇑P **P 12 02 09.4 -0.5**
baz=93
N06A Buffalo Meadow 93.14 50 ⇓P **P 12 02 10.0 -0.1**
baz=93
R06C Coleville 93.26 52 ⇓P **P 12 02 10.4 -0.3**
baz=93
WAKR Walker 93.27 52 *e*P **P 12 02 10.4 -0.3**
KCC Kaiser Creek 93.28 53 ⇓P **P 12 02 11.0 +0.2**
baz=93
PAHR Pah Rah Range 93.40 51 *e*P **P 12 02 10.8 -0.5**
comp=Z,21nm,1.2s,mb5.5
L07A Adell 93.61 48 ⇑P **P 12 02 11.4 -0.9**
baz=94
M07A Soldier Meadow 93.69 49 ⇑P **P 12 02 11.7 -0.9**
baz=94
J07A Hines 93.72 47 ⇓P **P 12 02 12.2 -0.6**
baz=94
HAWA Hanford 93.78 44 PFAKE 12 02 20.0 +6.9
HAWA LR LR
comp=Z,1µm,20.0s,MS5.3
O07A Toulon 93.83 50 ⇑P **P 12 02 13.5 +0.2**
baz=94
ISA Isabella 93.83 55 *e*P **P 12 02 12.9 -0.4**
ISA *e**PP pP 12 02 21.9 -0.6
ISA MLR MLR
comp=Z,3µm,21.0s,MS5.8
ISA Isabella 93.83 55 ⇑P **P 12 02 12.9 -0.4**
baz=94
MTUM Tungsten Hills 93.88 53 *e*P **P 12 02 14.0 +0.5**
WSAR Wadi Sarin 94.06 293 LR LR 12 45 19.6
comp=Z,3µm,19.7s,MS5.8,baz=91,slow=36
MWC Mount Wilson 94.08 56 *e*P **P 12 02 15.1 +0.7**
NVAR Mina Array Bea 94.16 52 P **P 12 02 13.8 -1.0**
comp=Z,4.2nm,0.7s,mb5.0,baz=256,slow=3.9,SNR=22
WVOR Wild Horse Val 94.16 48 *e*P **P 12 02 14.4 -0.4**
WVOR pmax pmax
comp=Z,29nm,1.4s,mb5.5
WVOR MLR MLR
comp=Z,13µm,21.0s,MS6.4
WVOR Wild Horse Val 94.16 48 *e*P **P 12 02 14.4 -0.4**
comp=Z,29nm,1.4s,mb5.5
WVOR LR LR
comp=Z,13µm,21.0s,MS6.4
CWC Cottonwood Cre 94.20 54 ⇑P **P 12 02 14.7 -0.3**
baz=94
MNV Mina 94.27 52 *e*P **P 12 02 14.9 -0.4**
MNV *e**PP pP 12 02 23.7 -0.8
MNV pmax pmax
comp=Z,32nm,1.3s,mb5.6
MNV MLR MLR
comp=Z,16µm,21.0s,MS6.5
MNV Mina 94.27 52 *e*P **P 12 02 14.9 -0.4**
comp=Z,32nm,1.3s,mb5.6
MNV *e*pP pP 12 02 23.6 -0.8
MNV LR LR
comp=Z,16µm,21.0s,MS6.5
M08A Happy Creek Ra 94.29 49 ⇑P **P 12 02 15.3 -0.1**
baz=94
R08A Mina 94.30 52 ⇓P **P 12 02 15.5 0.0**
baz=94
J08A Circle Bar Ran 94.33 47 ⇓P **P 12 02 15.1 -0.5**
baz=94
Q08A Gabbs 94.47 52 ⇑P **P 12 02 15.5 -0.8**
baz=94
DAC Darwin (Calif) 94.59 54 *e*P **P 12 02 16.5 -0.3**
DAC *e**PP pP 12 02 25.5 -0.4
DAC pmax pmax
comp=Z,7.0nm,1.2s,mb5.0
DAC MLR MLR
comp=Z,14µm,21.0s,MS6.4
DAC Darwin (Calif) 94.59 54 *e*P **P 12 02 16.5 -0.2**
comp=Z,7.2nm,1.2s,mb5.0
DAC *e*pP pP 12 02 25.4 -0.5
DAC LR LR
comp=Z,14µm,21.0s,MS6.4
S09A Goldfield 94.96 53 ⇓P **P 12 02 18.0 -0.5**
baz=95
TPH Tonopah 94.98 52 *e*P **P 12 02 19.4 +0.8**
TPH *e**PP pP 12 02 28.5 +0.7
TPH pmax pmax
comp=Z,18nm,1.1s,mb5.4
TPH MLR MLR
comp=Z,14µm,19.0s,MS6.4
TPH Tonopah 94.98 52 *e*P **P 12 02 19.4 +0.8**
comp=Z,18nm,1.1s,mb5.4
TPH *e*pP pP 12 02 28.5 +0.8
TPH LR LR
comp=Z,14µm,19.0s,MS6.4
BMN Battle Mountai 95.11 50 PFAKE 12 02 30.0 +11
BMN LR LR
comp=Z,14µm,19.0s,MS6.5
O09A Fish Creek Ran 95.12 50 ⇑P **P 12 02 18.7 -0.5**
baz=95
BAR Barrett 95.14 58 *e*P **P 12 02 20.2 +0.9**
BAR *e*pP pP 12 02 29.1 +0.6
GSC Goldstone 95.17 55 *e*P **P 12 02 19.8 +0.4**
GSC Goldstone 95.17 55 *e*P **P 12 02 19.1 -0.4**
GSC Goldstone 95.17 55 ⇑P **P 12 02 19.4 0.0**
baz=95
BMO Blue Mountains 95.25 46 *e*P **P 12 02 15.9 -3.9**
BMO pmax pmax
comp=Z,22nm,1.5s,mb5.4
BMO MLR MLR
comp=Z,14µm,20.0s,MS6.4
BMO Blue Mountains 95.25 46 *e*P **P 12 02 15.9 -3.9**
comp=Z,22nm,1.5s,mb5.4
BMO LR LR
comp=Z,14µm,20.0s,MS6.4
PFO Pinyon Flat Ob 95.37 57 *e*P **P 12 02 19.6 -0.8**
PFO pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
PFO MLR MLR
comp=Z,17µm,19.0s,MS6.5
PFO Pinyon Flat Ob 95.37 57 *e*P **P 12 02 19.6 -0.7**
comp=Z,10nm,0.9s,mb5.3
PFO LR LR
comp=Z,17µm,19.0s,MS6.5
PFO Pinyon Flat Ob 95.37 57 ⇑P **P 12 02 19.7 -0.7**
baz=95
NEW Newport 95.51 42 P **P 12 02 19.8 -1.2**
comp=Z,1.3nm,0.4s,mb4.8,baz=112,slow=6.0,SNR=3.3
NEW Newport 95.51 42 *e*P **P 12 02 19.8 -1.2**
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW MLR MLR
comp=Z,11µm,20.0s
NEW Newport 95.51 42 *e*P **P 12 02 19.8 -1.3**
comp=Z,8.6nm,1.0s,mb5.1
NEW LR LR
comp=Z,11µm,20.0s,MS6.3
U10A Ash Meadows, A 95.61 54 ⇑P **P 12 02 21.0 -0.5**
baz=96
TPNV Topopah Spring 95.70 54 *e*P **P 12 02 21.6 -0.3**
TPNV pmax pmax
comp=Z,20nm,1.1s,mb5.5
TPNV MLR MLR
comp=Z,13µm,20.0s,MS6.4
TPNV Topopah Spring 95.70 54 *e*P **P 12 02 21.6 -0.3**
comp=Z,20nm,1.1s,mb5.5
TPNV LR LR
comp=Z,13µm,20.0s,MS6.4
ARU Arti 95.75 326 *e*P **P 12 02 23.4 +1.3**
ARU *e* 12 06 16.1
ARU *e*PPP 12 08 25.9
ARU *e*S S 12 12 56.8 -41
ARU *e*SP SP 12 14 56.3 +0.5
ARU *e*SS SS 12 20 02.4 -4.9
ARU MLR MLR
comp=Z,22µm,21.0s,MS6.6
ARU MLR MLR
comp=N,2µm,22.0s,MS6.4
ARU MLR MLR
comp=E,15µm,21.0s,MS6.4
ARU Arti 95.75 326 P **P 12 02 22.9 +0.8**
comp=E,24nm,1.3s,mb5.5
ARU LR LR
comp=Z,22µm,21.0s,MS6.6
TUQ Turquoise Mtn. 95.90 55 ⇑P **P 12 02 22.7 0.0**
baz=96
AKTK Aktyubinsk 95.93 320 P **P 12 02 21.8 -1.2**
AKTO Aktyubinsk 95.93 320 P **P 12 02 21.8 -1.2**
comp=Z,0.9nm,0.4s,mb4.6,baz=344,slow=20,SNR=2.8
AKTO Aktyubinsk 95.93 320 P **P 12 02 21.8 -1.1**
AKTO pmax pmax
comp=Z,1.0nm,0.4s,mb4.6
Q11A Duckwater 96.25 52 ⇓P **P 12 02 23.7 -0.7**
baz=96
RPN Rapa Nui 96.32 118 PFAKE 12 02 40.0 +15
RPN LR LR
comp=Z,5µm,21.0s,MS6.0
SHPR Sheep Range 96.56 54 *e*P **P 12 02 26.1 +0.3**
ELK Elko 96.63 50 *e*P **P 12 02 25.9 -0.2**
ELK pmax pmax
comp=Z,18nm,1.6s
ELK MLR MLR
comp=Z,13µm,19.0s
ELK Elko 96.63 50 *e*P **P 12 02 25.9 -0.2**
comp=Z,18nm,1.6s,mb5.2
ELK LR LR
comp=Z,13µm,19.0s,MS6.5
GLA Glamis 96.71 57 *e*P **P 12 02 27.8 +1.4**
GLA Glamis 96.71 57 ⇑P **P 12 02 26.9 +0.4**
baz=97
N12A Clover Valley, 96.78 50 ⇑P **P 12 02 27.3 +0.6**
baz=97
V12A Nelson 96.78 55 ⇑P **P 12 02 26.5 -0.2**
baz=97
O12A Currie 96.99 50 ⇑P **P 12 02 28.0 +0.2**
baz=97
YKA Yellowknife Ar 97.02 28 P **P 12 02 25.4 -2.5**
comp=Z,2.6nm,0.8s,mb4.7,baz=267,slow=4.7,SNR=13
YKA PKKPbc PKKPbc 12 19 08.0 -0.1
comp=Z,0.5nm,0.8s,baz=79,slow=2.4,SNR=5.4
YKA LR LR 12 45 50.9
comp=Z,14µm,19.6s,MS6.4,baz=270,slow=35
BSMT Bassoo Peak 97.07 43 *e*P **P 12 02 27.1 -1.0**
BSMT *e*pP pP 12 02 36.6 -0.7
HLID Hailey 97.30 47 *e*P **P 12 02 29.1 0.0**
comp=Z,5.8nm,1.1s,mb4.9
HLID LR LR
comp=Z,13µm,19.0s,MS6.4
X13A Yucca 97.58 56 ⇑P **P 12 02 30.8 +0.4**
baz=98
MSO Missoula 97.64 44 PFAKE 12 02 40.0 +9.3
MSO LR LR
comp=Z,10µm,20.0s,MS6.3
WALA Waterton Lakes 97.65 41 *e*P **P 12 02 30.6 -0.1**
comp=Z,15nm,1.1s,mb5.4
EDM Edmonton 97.94 37 *e*P **P 12 02 32.1 +0.1**
CCUT Cedar City 98.02 53 *e*P **P 12 02 32.8 +0.4**
W14A Seligman 98.21 55 ⇓P **P 12 02 33.2 0.0**
baz=98
X14A Yava 98.36 56 ⇓P **P 12 02 34.4 +0.5**
baz=98
MCMT McKenzie Canyo 98.42 46 P **P 12 02 34.1 -0.1**
DUG Dugway 98.47 50 PFAKE 12 02 50.0 +16
DUG LR LR
comp=Z,8µm,19.0s,MS6.2
HVU Hansel Valley 98.50 49 *e*P **P 12 02 44.1 +10**
W15A Williams 98.88 55 ⇓P **P 12 02 37.8 +1.6**
baz=99
X15A Humboldt 98.90 56 ⇑P **P 12 02 37.3 +1.0**
baz=99
MVU Marysvale 98.94 52 PFAKE 12 02 50.0 +14
MVU LR LR
comp=Z,14µm,21.0s,MS6.4
NVL N'lazarevskaya 99.12 193*d* iP **P 12 02 43.7 +6.4**
NVL *e* 12 06 44.3
NVL pmax pmax
comp=Z,62nm,1.8s,mb5.8
NVL MLR MLR
comp=Z,18µm,19.6s,MS6.6
BOZ Bozeman (W) 99.27 45 *e*P **P 12 02 45.7 +7.7**
comp=Z,2.1nm,0.7s,mb4.8
BOZ LR LR
comp=Z,13µm,20.0s,MS6.4
MPU Maple Canyon 99.38 50 PFAKE 12 02 50.0 +12
MPU LR LR
comp=Z,14µm,20.0s,MS6.5
HWUT Hardware Ranch 99.40 49 PFAKE 12 02 50.0 +11
HWUT LR LR
comp=Z,16µm,20.0s,MS6.5
WUAZ Wupatki 99.61 55 *e*Pdif Pdif 12 02 40.9 +1.4
WUAZ LR LR
comp=Z,16µm,22.0s,MS6.5
AHID Auburn Hatcher 99.72 48 PFAKE 12 02 50.0 +10
AHID LR LR
comp=Z,13µm,20.0s,MS6.4
YMR Madison River 99.77 46 PFAKE 12 02 50.0 +10
YMR LR LR
comp=Z,21µm,20.0s,MS6.6
TUC Tucson 100.10 58 PFAKE 12 02 50.0 +8.3
TUC LR LR
comp=Z,16µm,21.0s,MS6.5
LKWY Lake 100.17 46 PFAKE 12 02 50.0 +8.0
LKWY LR LR
comp=Z,35µm,19.0s,MS6.9
EGMT Eagleton 100.45 42 PFAKE 12 02 50.0 +6.8
EGMT LR LR
comp=Z,10µm,21.0s,MS6.3
BW06 Boulder Array 100.86 48 PFAKE 12 03 00.0 +15
BW06 LR LR
comp=Z,11µm,19.0s,MS6.4
PDAR Pinedale Array 100.86 48 P Pdif 12 02 43.4 -1.6
comp=Z,1.3nm,0.6s,baz=223,slow=3.5,SNR=10
SNAA Sanae 101.04 188 P Pdif 12 02 44.1 -1.8
comp=Z,1.3nm,0.9s,baz=203,slow=6.0,SNR=6.7
SNAA Sanae 101.04 188 *e*PKPdf Pdif 12 02 46.4 +0.6
SNAA *e* 12 02 52.7
SNAA *e* 12 02 56.7
SNAA Sanae 101.04 188⇑ *e*P Pdif 12 02 46.8 +1.0
SNAA Sanae 101.04 188 *e*Pdif Pdif 12 02 45.9 +0.1
comp=Z,24nm,1.1s
PV10 Paradox Valley 101.43 52 *e*Pdif Pdif 12 02 48.0 +0.5
VNA1 Neumayer--Stat 102.69 187 *e*PKPdf Pdif 12 02 54.3 +1.1
VNA1 *e* 12 03 02.4
VNA1 *e* 12 03 06.2
VNA1 *e* 12 03 15.9
LAO LASA Array 102.95 43 PFAKE 12 03 10.0 +16
LAO LR LR
comp=Z,12µm,20.0s,MS6.4
SMCO Snowmass 103.00 51 *e*Pdif Pdif 12 02 54.7 +0.1
comp=Z,3.3nm,0.9s
ANMO Albuquerque 103.65 56 PFAKE 12 03 10.0 +13
ANMO LR LR
comp=Z,10µm,20.0s,MS6.4
KBS Kingsbay 103.79 352 PFAKE 12 03 10.0 +12
KBS LR LR
comp=Z,8µm,19.0s,MS6.3
ISCO Idaho Springs 104.01 50 PFAKE 12 03 10.0 +11
ISCO LR LR
comp=Z,18µm,19.0s,MS6.6
SDCO Great Sand Dun 104.25 53 PFAKE 12 03 10.0 +10
SDCO LR LR
comp=Z,20µm,22.0s,MS6.6
FFC Flin Flon 104.45 35 PFAKE 12 03 10.0 +9.0
FFC LR LR
comp=Z,14µm,20.0s,MS6.5
LVZ Lovozero 104.71 339 PFAKE 12 03 10.0 +7.9
LVZ LR LR
comp=Z,11µm,21.0s,MS6.3
RSSD Black Hills 104.76 46 PFAKE 12 03 10.0 +7.6
RSSD LR LR
comp=Z,12µm,19.0s,MS6.5
DGRG David-gareji 105.13 311 S PP 12 07 13.0 -12
PMSA Palmer Station 105.32 165 PFAKE 12 07 30.0 +11
PMSA LR LR
comp=Z,9µm,20.0s,MS6.3

MTA	**Mtatsminda**	**105.53**	**312**	S	PP	12 07 36.6	+8.7		
TBLG	**Delisi**	**105.57**	**312**	S	PP	12 07 34.0	+5.8		
GNI	**Garni**	**105.74**	**310**	PFAKE		12 07 30.0	+10		
GNI				LR	LR				
	comp=Z,5μm,22.0s,MS6.0								
LTX	**Lajitas**	**106.29**	**61**	PFAKE		12 07 30.0	+9.5		
LTX				LR	LR				
	comp=Z,14μm,21.0s,MS6.5								
ONI	**Oni**	**106.41**	**313**	S	PP	12 07 22.7	-12		
KIV	**Kislovodsk**	**106.77**	**314**	PFAKE		12 07 30.0	+8.6		
KIV				LR	LR				
	comp=Z,9μm,20.0s,MS6.3								
AMTX	**Amarillo**	**107.57**	**55**	PFAKE		12 07 30.0	+7.1		
AMTX				LR	LR				
	comp=Z,16μm,20.0s,MS6.6								
JOF	**Joensuu**	**107.97**	**335**	*e*p	PP	12 07 44.9	-0.9		
OBN	**Obninsk**	**108.19**	**327**	PFAKE		12 07 40.0	+16		
OBN				LR	LR				
	comp=Z,18μm,22.0s,MS6.6								
ULM	**Lac du Bonnet**	**109.09**	**39**	PFAKE		12 07 40.0	+14		
ULM				LR	LR				
	comp=Z,21μm,20.0s,MS6.7								
JCT	**Junction City**	**109.56**	**60**	PFAKE		12 07 40.0	+13		
JCT				LR	LR				
	comp=Z,16μm,21.0s,MS6.6								
WMOK	**Wichita Mounta**	**109.95**	**55**	PFAKE		12 07 40.0	+13		
WMOK				LR	LR				
	comp=Z,9μm,19.0s,MS6.4								
ANN	**Anapa**	**110.31**	**316**	*i* PKIKP	PKiKP	12 07 29.2	+1.2		
ANN				*e*		12 08 03.0			
ANN				*e*PS	PS	12 17 33.5	+1.0		
ANN				*e*SS	SS	12 23 36.0	+7.9		
ANN				pmax	pmax				
	comp=Z,45nm,1.0s								
ANN				MLR	MLR				
	comp=N,6μm,22.0s,MS6.3								
ANN				MLR	MLR				
	comp=E,7μm,22.0s,MS6.3								
ANN				MLR	MLR				
	comp=Z,10μm,22.0s,MS6.3								
KAF	**Kangasniemi**	**110.41**	**336**	*e*p	PP	12 07 56.7	-6.8		
FINES	**FINESS Array B**	**110.83**	**335**	PP	PP	12 08 06.3	-0.2		
	comp=Z,6.9nm,0.9s,baz=54,slow=9.7,SNR=7.2								
EYMN	**Ely**	**112.50**	**40**	PFAKE		12 07 40.0	+7.8		
EYMN				LR	LR				
	comp=Z,11μm,19.0s,MS6.5								
HKT	**Hockley**	**113.03**	**60**	PFAKE		12 07 50.0	+17		
HKT				LR	LR				
	comp=Z,17μm,19.0s,MS6.7								
NATX	**Nacogdoches**	**113.78**	**58**	PFAKE		12 07 50.0	+15		
NATX				LR	LR				
	comp=Z,10μm,19.0s,MS6.4								
AKASG	**Malin Array Be**	**113.85**	**324**	PP	PP	12 08 30.2	+2.1		
	comp=Z,1.9nm,0.8s,baz=58,slow=7.1,SNR=7.9								
AKASG				PKKPab	PKKPab	12 18 22.0	-1.8		
	comp=Z,1.1nm,0.5s,baz=260,slow=3.8,SNR=7.4								
BR131	**Keskin Array S**	**114.22**	**311**	PFAKE		12 07 50.0	+15		
BR131				LR	LR				
	comp=Z,2μm,22.0s,MS5.8								
BRTR	**Keskin Array B**	**114.22**	**311**	PKKPab	PKKPab	12 18 21.6	-0.5		
	comp=Z,0.9nm,0.7s,baz=203,slow=9.0,SNR=3.7								
MIAR	**Mount Ida**	**114.23**	**55**	PFAKE		12 07 50.0	+15		
MIAR				LR	LR				
	comp=Z,11μm,20.0s,MS6.4								
ANTO	**Ankara**	**114.81**	**311**	PFAKE		12 07 50.0	+13		
ANTO				LR	LR				
	comp=Z,4μm,22.0s,MS6.0								
CCM	**Cathedral Cave**	**115.34**	**50**	PFAKE		12 07 50.0	+12		
CCM				LR	LR				
	comp=Z,8μm,19.0s,MS6.3								
NB2	**NORSAR Subarra**	**116.86**	**339**	PKPdf	PKPdf	12 07 38.2	-2.3		
	comp=Z,2.2nm,0.8s,baz=46,slow=2.0								
NOA	**NORSAR Array B**	**116.86**	**339**	PKP	PKPdf	12 07 38.2	-2.4		
	comp=Z,0.6nm,0.7s,baz=49,slow=1.8,SNR=3.5								
NOA				PP	PP	12 08 49.4	+0.1		
	comp=Z,11nm,1.1s,baz=44,slow=6.8,SNR=6.9								
NOA				PKKPbc	PKKPbc	12 18 08.8	+2.4		
	comp=Z,0.9nm,0.8s,baz=36,slow=3.8,SNR=3.9								
NOA	**NORSAR Array B**	**116.86**	**339**	PKP	PKPdf	12 07 38.2	-2.4		
NOA				PP	PP	12 08 49.4	+0.1		
NOA				PKKPbc	PKKPbc	12 18 08.8	+2.4		
ISP	**Isparta**	**117.05**	**310**	*e*PKIKP	PKPdf	12 07 37.6	-3.3		
NAO01	**NORSAR Array S**	**117.11**	**339**	PFAKE		12 07 50.0	+9.0		
NAO01				LR	LR				
	comp=Z,10μm,20.0s,MS6.4								
LVV	**L'vov**	**117.25**	**324**	*e*PKIKP	pPKPdf	12 07 52.3	+1.6		
LVV				MLR	MLR				
	comp=Z,7μm,27.0s,MS6.1								
LVV				MLR	MLR				
	comp=E,6μm,29.0s,MS6.3								
LVV				MLR	MLR				
	comp=N,7μm,25.0s,MS6.3								
BOSA	**Boshof**	**117.53**	**234**	PFAKE		12 07 50.0	+8.2		
BOSA				LR	LR				
	comp=Z,19μm,22.0s,MS6.7								
OXF	**Oxford**	**117.60**	**54**	PFAKE		12 07 50.0	+8.0		
OXF				LR	LR				
	comp=Z,11μm,20.0s,MS6.5								
EFI	**East Falkland**	**117.94**	**160**	PFAKE		12 07 50.0	+7.4		
EFI				LR	LR				
	comp=Z,7μm,20.0s,MS6.3								
KWP	**Kalwaria**	**118.11**	**324**	*e*PKP	PKPdf	12 07 47.6	+4.7		
KWP				*e*PP	PP	12 09 03.9	+5.9		
KWP				L		12 54 40.7			
	comp=Z,24nm,28.2s								
KWP	**Kalwaria**	**118.11**	**324**	*e*PKP	PKPdf	12 07 47.6	+4.7		
KWP				*e*PP	PP	12 09 03.9	+5.9		
KONO	**Kongsberg**	**118.41**	**339**	PFAKE		12 07 50.0	+6.5		
KONO				LR	LR				
	comp=Z,10μm,20.0s,MS6.4								
WVT	**Waverly**	**118.46**	**52**	PFAKE		12 08 00.0	+16		
WVT				LR	LR				
	comp=Z,14μm,21.0s,MS6.6								
PLAL	**Pickwick Lake**	**118.56**	**53**	PFAKE		12 08 00.0	+16		
PLAL				LR	LR				
	comp=Z,12μm,22.0s,MS6.5								
LBTB	**Lobatse**	**118.65**	**238**	PKP	PKPdf	12 07 42.8	-1.2		
	comp=Z,2.5nm,0.9s,baz=194,slow=2.9,SNR=2.2								
LBTB	**Lobatse**	**118.65**	**238**	PKP	PKPdf	12 07 42.8	-1.2		
LBTB				LR	LR				
	comp=Z,10μm,20.0s,MS6.5								
PAYG	**Puerto Ayora**	**118.78**	**94**	PFAKE		12 08 00.0	+16		
PAYG				LR	LR				
	comp=Z,5μm,19.0s,MS6.2								
WCI	**Wyandotte Cave**	**119.06**	**49**	PFAKE		12 08 00.0	+15		
WCI				LR	LR				
	comp=Z,8μm,21.0s,MS6.3								
CRVS				*e*SS	SS	12 25 19.2	-5.4		
CRVS	**Cervenica-Dubn**	**119.17**	**324**	*e*PP	PP	12 09 07.7	+2.4		
CRVS				*e*SS	SS	12 25 19.2	-5.4		
CRVS	**Cervenica-Dubn**	**119.17**	**324**	*e*PP	PP	12 09 07.7	+2.4		
SUR	**Sutherland**	**119.31**	**228**	PFAKE		12 08 00.0	+15		
SUR				LR	LR				
	comp=Z,19μm,21.0s,MS6.7								
LSZ	**Lusaka**	**119.45**	**249**	*e*PKIKP	PKPdf	12 07 46.5	+1.0		
LSZ				MLR	MLR				
	comp=Z,14μm,22.0s,MS6.5								
OJC	**Ojcow**	**119.47**	**326**	*e*PKPdf	PKPdf	12 07 45.5	-0.1		
OJC				*e*PP	PP	12 09 06.8	-0.6		
OJC				*e*SKSac	SKSac	12 14 39.8	+0.2		
OJC				*e*SKKSdf	SKKSdf	12 25 38.5	+0.8		
OJC				L		12 59 38.7			
	comp=Z,80nm,22.7s								
AAM	**Ann Arbor**	**119.61**	**44**	PFAKE		12 08 00.0	+14		
AAM				LR	LR				
	comp=Z,13μm,20.0s,MS6.5								
LRAL	**Lakeview Retre**	**119.90**	**55**	PFAKE		12 08 00.0	+14		
LRAL				LR	LR				
	comp=Z,11μm,19.0s,MS6.5								
HOPE	**Hope Point**	**120.12**	**175**	*e*Pdif	Pdif	12 04 04.5	-6.1		
HOPE				LR	LR				
	comp=Z,13μm,21.0s,MS6.6								
RGN	**Rugen**	**120.29**	**333**	*e*PP	PP	12 09 15.3	+2.2		
RGN	**Rugen**	**120.29**	**333**	*e*PP	PP	12 09 15.3	+2.2		
PLCA	**Paso Flores**	**120.44**	**144**	PKP	PKPdf	12 07 47.2	-0.2		
	comp=Z,10.0nm,1.0s,baz=135,slow=0.4,SNR=8.4								
PLCA	**Paso Flores**	**120.44**	**144**	PKP	PKPdf	12 07 47.2	-0.2		
PLCA				LR	LR				
	comp=Z,6μm,20.0s,MS6.2								
OKC	**Ostrava-Krasne**	**120.58**	**326**	*e*SS	SS	12 25 52.4	+10		
OKC				AMS	AMS	13 00 50.0			
	comp=Z,11μm,22.3s								
BORG	**Borgarnes**	**120.61**	**356**	PFAKE		12 08 00.0	+12		
BORG				LR	LR				
	comp=Z,5μm,20.0s,MS6.2								
ACSO	**Alum Creek Sta**	**120.84**	**46**	PFAKE		12 08 00.0	+12		
ACSO				LR	LR				
	comp=Z,4μm,22.0s,MS6.0								
VYHS	**Vyhne**	**120.88**	**325**	*e*PP	PP	12 09 17.5	+0.4		
VYHS	**Vyhne**	**120.88**	**325**	*e*PP	PP	12 09 17.5	+0.4		
TEIG	**Tepich**	**120.95**	**70**	PFAKE		12 08 00.0	+12		
TEIG				LR	LR				
	comp=Z,6μm,21.0s,MS6.2								
KSP	**Ksiaz**	**121.03**	**328**	*e*PKP	PKPdf	12 07 49.8	+1.2		
KSP				*e*PP	PP	12 09 22.0	+3.9		
KSP				L		13 01 32.6			
	comp=Z,29nm,21.2s								
DPC	**Dobruska-Polom**	**121.29**	**328**	*e*PP	PP	12 09 22.7	+2.8		
DPC				*e*SS	SS	12 26 00.8	+8.9		
DPC				AMS	AMS	13 01 00.0			
	comp=Z,14μm,20.7s								
RUE	**Ruedersdorf**	**121.35**	**331**	*e*PP	PP	12 09 23.1	+2.8		
RUE	**Ruedersdorf**	**121.35**	**331**	*e*PP	PP	12 09 23.1	+2.8		
UPC	**Upice**	**121.37**	**328**	*e*PP	PP	12 09 16.3	-4.1		
UPC				*ex*	x	12 09 31.3			
MYNC	**Murphy**	**121.65**	**52**	PFAKE		12 08 00.0	+10		
MYNC				LR	LR				
	comp=Z,18μm,21.0s,MS6.7								
ZST	**Bratislava**	**122.03**	**325**	*e*PP	PP	12 09 28.7	+3.8		
ZST	**Bratislava**	**122.03**	**325**	*e*PP	PP	12 09 28.7	+3.8		
BSEG	**Bad Segeberg**	**122.04**	**334**	*e*PP	PP	12 09 27.6	+2.6		
BSEG	**Bad Segeberg**	**122.04**	**334**	*e*PP	PP	12 09 27.6	+2.6		
PVCC	**Panska Ves**	**122.12**	**329**	*e*SS	SS	12 26 11.2	+8.8		
ERPA	**Erie**	**122.20**	**43**	PFAKE		12 08 00.0	+9.2		
ERPA				LR	LR				
	comp=Z,10μm,20.0s,MS6.5								
BRG	**Berggiesshubel**	**122.24**	**329**	*e*(P)	PKPdf	12 07 54.3	+3.5		
	comp=Z,5.4nm,1.1s								
BRG				*e*		12 08 38.2			
	comp=Z,4.5nm,1.0s								
BRG				*e*		12 09 30.3			
	comp=Z,27nm,1.8s								
BRG				*e*		12 26 10.0			
BRG				*e*		12 30 50.0			
BRG									
	comp=N,8μm,24.0s								
BRG									
	comp=E,4μm,21.2s								
BRG									
	comp=Z,8μm,20.9s								
BRG	**Berggiesshubel**	**122.24**	**329**	PKIKP	PKPdf	12 07 54.3	+3.4		
BRG				*e*		12 09 30.3			
BRG				MLR	MLR				
	comp=Z,8μm,20.9s,MS6.4								
BRG	**Berggiesshubel**	**122.24**	**329**	P	PKPdf	12 07 54.3	+3.5		
BRG				*e*		12 08 38.2			
BRG				*e*		12 09 30.3			
BRG				*e*		12 26 10.0			
BRG				*e*		12 30 50.0			
BRG				LR	LR				
	comp=Z,8μm,20.9s,MS6.4								
SCHQ	**Schefferville**	**122.31**	**25**	PKKPbc	PKKPbc	12 17 50.2	+3.9		
	comp=Z,4.4nm,0.7s,baz=214,slow=1.2,SNR=4.8								
SCHQ	**Schefferville**	**122.31**	**25**	PFAKE		12 08 00.0	+9.0		
SCHQ				LR	LR				
	comp=Z,19μm,21.0s,MS6.7								
TREC	**Trest**	**122.33**	**327**	*e*PP	PP	12 09 23.8	-3.1		
TREC				AMS	AMS	13 01 10.0			
	comp=Z,13μm,21.4s								
PRU	**Pruhonice**	**122.44**	**328**	*e*PP	PP	12 09 36.2	+8.5		
PRU				*e*SS	SS	12 26 15.7	+9.2		
PRU				AMS	AMS	12 59 40.0			
	comp=Z,16μm,22.9s								
CLL	**Collm**	**122.45**	**330**	*e*PKPdf	PKPdf	12 07 55.1	+3.8		
CLL				*ep*PKPdf	pPKPdf	12 08 02.4	+1.7		
CLL				*e*PP	PP	12 09 27.4	-0.3		
CLL				*es*PP		12 09 38.8			
CLL				*e*SKKSac	SKKSac	12 16 29.5	+4.5		
CLL				*e*PPS		12 20 45.0			
CLL				*e*SS	SS	12 26 10.7	+4.1		
CLL				*e*SSS		12 30 44.4			
CLL				*e*LR	LR	12 47 32.2			
CLL				*e*L		13 06 01.7			
	comp=Z,12μm,20.0s								
CLL	**Collm**	**122.45**	**330**	*e*PKIKP	PKPdf	12 07 55.0	+3.7		
CLL				*e*		12 08 02.0			
CLL				*e*PP	PP	12 09 27.0	-0.7		
CLL				*e**SPP		12 09 38.0			
CLL				*e*		12 10 52.0			
CLL				*e*		12 16 24.0			
CLL				*e*		12 20 28.0			
CLL				*e*PPS		12 20 55.0			
CLL				*e*		12 22 09.0			
CLL				*e*SS	SS	12 26 13.0	+6.4		
CLL				*e*		12 26 41.0			
CLL				*e*SSS		12 30 37.0			
CLL				*e*		12 31 44.0			
CLL	**Collm**	**122.45**	**330**	*e*(PKPdf)	PKPdf	12 07 55.0	+3.7		
CLL				*es*PKPdf		12 08 02.0			
CLL				*e*PP	PP	12 09 27.0	-0.7		
CLL				*es*PP		12 09 38.0			
CLL				*ex*	x	12 10 52.0			
CLL				*e*SKKSac	SKKSac	12 16 24.0	-1.0		
CLL				*e*(PS)		12 19 12.0			
CLL				*ex*	x	12 20 28.0			
CLL				*e*PPS		12 20 55.0			
CLL				*ex*	x	12 22 09.0			
CLL				*e*SS	SS	12 26 13.0	+6.4		
CLL				*e*PSPS		12 26 41.0			
CLL				*e*SSS		12 30 37.0			
CLL				*ex*	x	12 31 44.0			
CLL				LmV		13 05 00.0			
	comp=Z,12μm,19.3s								
CLL	**Collm**	**122.45**	**330**	*e*PKP	PKPdf	12 07 55.0	+3.7		
CLL				*e*		12 08 02.0			
CLL				*e*PP	PP	12 09 27.0	-0.7		
CLL				LR	LR				
	comp=Z,12μm,19.3s,MS6.6								
FBE	**Freiberg**	**122.51**	**329**	*e*PP	PP	12 09 30.9	+2.8		
FBE	**Freiberg**	**122.51**	**329**	*e*PP	PP	12 09 30.9	+2.8		
CONA	**Conrad Observa**	**122.88**	**325**	*i* PKIKP	PKiKP	12 07 53.6	+1.2		
	comp=Z,9.6nm,1.8s								
HLG	**Helgoland**	**122.92**	**335**	*e*PP	PP	12 09 33.6	+2.7		
HLG	**Helgoland**	**122.92**	**335**	*e*PP	PP	12 09 33.6	+2.7		
NRDL	**Niedersach Rie**	**123.09**	**332**	*e*PP	PP	12 09 34.7	+2.6		
NRDL	**Niedersach Rie**	**123.09**	**332**	*e*PP	PP	12 09 34.7	+2.6		
TANN	**Tannenbergstha**	**123.27**	**329**	*e*PP	PP	12 09 36.1	+2.8		
TANN	**Tannenbergstha**	**123.27**	**329**	*e*PP	PP	12 09 36.1	+2.8		
MCWV	**Mont Chateau**	**123.29**	**45**	PFAKE		12 08 00.0	+7.1		
MCWV				LR	LR				
	comp=Z,13μm,21.0s,MS6.6								
WERD	**Werda**	**123.32**	**329**	*e*PP	PP	12 09 36.4	+2.7		
WERD	**Werda**	**123.32**	**329**	*e*PP	PP	12 09 36.4	+2.7		
GUNZ	**Gunzen**	**123.36**	**329**	*e*PP	PP	12 09 36.8	+2.9		
GUNZ	**Gunzen**	**123.36**	**329**	*e*PP	PP	12 09 36.8	+2.9		
FWV	**Forest Hill**	**123.36**	**48**	*e*PKPdf	PKPdf	12 07 53.4	+0.4		
NKC	**Novy Kostel**	**123.38**	**329**	*e*PP	PP	12 09 36.2	+2.1		
NKC				AMS	AMS	13 05 20.0			
	comp=Z,12μm,17.9s								
CLZ	**Clausthal**	**123.39**	**332**	*e*PP	PP	12 09 37.3	+3.2		
CLZ	**Clausthal**	**123.39**	**332**	*e*PP	PP	12 09 37.3	+3.2		
KHC	**Kasperske Hory**	**123.45**	**328**	*ex*	x	12 05 02.5			
KHC				*e*PKP	PKPdf	12 07 56.0	+2.8		
KHC				*e*PP	PP	12 09 40.6	+6.1		
KHC				*ex*	x	12 09 57.9			
KHC				*e*PKKP	PKKPbc	12 17 44.0	+2.2		
KHC				x	x	12 17 50.5			
KHC				*e*PKPPKP		12 26 31.7			
KHC				AMS	AMS	13 00 30.0			
	comp=Z,16μm,22.5s								
KHC	**Kasperske Hory**	**123.45**	**328**	*e*PKIKP	PKPdf	12 07 54.7	+1.5		
MOX	**Moxa**	**123.55**	**330**	*e*PP	PP	12 09 38.1	+2.9		
MOX	**Moxa**	**123.55**	**330**	*e*PP	PP	12 09 38.1	+2.9		
MOX	**Moxa**	**123.55**	**330**	*e*(PKP)		12 07 58.1			
MOX				*e*		12 09 32.9			
	comp=Z,169nm,2.4s								
MOX									
	comp=Z,8μm,20.0s								
GEC2	**GERESS Array S**	**123.55**	**327**	*e*PP	PP	12 09 37.8	+2.6		
GEC2	**GERESS Array S**	**123.55**	**327**	*e*PP	PP	12 09 37.8	+2.6		
GERES	**GERESS Array B**	**123.55**	**327**	PKP	PKPdf	12 07 51.4	-2.0		
	comp=Z,1.8nm,0.7s,baz=0.0,slow=1.5,SNR=6.6								
GERES				PKKPbc	PKKPbc	12 17 44.3	+2.9		
	comp=Z,1.3nm,0.8s,baz=227,slow=2.9,SNR=6.0								
MANZ	**Manzenberg**	**123.71**	**329**	*e*PP	PP	12 09 39.2	+3.0		
MANZ	**Manzenberg**	**123.71**	**329**	*e*PP	PP	12 09 39.2	+3.0		
BLA	**Blacksburg**	**123.79**	**48**	PFAKE		12 08 10.0	+16		
BLA				LR	LR				
	comp=Z,865nm,20.0s,MS5.4								
ROTZ	**Rotzenmuhle**	**123.79**	**329**	*e*PP	PP	12 09 39.9	+3.1		
ROTZ	**Rotzenmuhle**	**123.79**	**329**	*e*PP	PP	12 09 39.9	+3.1		
WET	**Wettzell**	**123.82**	**328**	*e*PP	PP	12 09 39.8	+2.8		
WET	**Wettzell**	**123.82**	**328**	*e*PP	PP	12 09 39.8	+2.8		
UBBA	**Unterbreizbach**	**124.23**	**331**	*e*PP	PP	12 09 42.7	+2.9		
UBBA	**Unterbreizbach**	**124.23**	**331**	*e*PP	PP	12 09 42.7	+2.9		
SSPA	**Standing Stone**	**124.25**	**44**	PFAKE		12 08 10.0	+15		
SSPA				LR	LR				
	comp=Z,12μm,20.0s,MS6.5								
IBBN	**Ibbenburen**	**124.28**	**333**	*e*PP	PP	12 09 42.1	+2.0		
IBBN	**Ibbenburen**	**124.28**	**333**	*e*PP	PP	12 09 42.1	+2.0		
GRA1	**Grafenberg Arr**	**124.34**	**329**	*e*PKPdf	PKPdf	12 07 58.0	+3.1		
GRA1				*e*PP	PP	12 09 43.6	+3.1		
GRA1				*e*SS	SS	12 26 44.9	+14		
GRA1				LR	LR				
	comp=Z,13μm,19.3s,MS6.6								
GRF	**Grafenberg Arr**	**124.34**	**329**	*e*PKPdf	PKPdf	12 07 58.0	+3.1		
GRF				*e*PP	PP	12 09 43.6	+3.1		
GRF				*e*SS	SS	12 26 44.9	+14		
GRF				*e*L		13 07 00.7			
	comp=Z,13μm,19.3s								
GRFO	**Grafenberg**	**124.34**	**329**	*e*PP	PP	12 09 43.6	+3.1		
GRFO	**Grafenberg**	**124.34**	**329**	*e*PP	PP	12 09 43.6	+3.1		
VISS	**Visnje**	**124.62**	**324**	*e*PKPdf	PKPdf	12 07 58.9	+3.5		
VISS				*e*PP	PP	12 09 43.5	+1.1		
LJU	**Ljubljana**	**124.67**	**324**	*e*PP	PP	12 09 43.9	+1.2		
BINY	**Binghamton**	**124.83**	**41**	PFAKE		12 08 10.0	+14		
BINY				LR	LR				
	comp=Z,16μm,21.0s,MS6.7								
CEY	**Cerknica**	**124.89**	**324**	*e*PP	PP	12 09 40.2	-4.0		
CEY				*e*		12 12 27.1			
CEY				*e*		12 13 20.4			
CEY				*e*		12 15 33.0			
NCB	**Newcomb**	**125.08**	**39**	PFAKE		12 08 10.0	+14		
NCB				LR	LR				
	comp=Z,15μm,22.0s,MS6.6								
BUG	**Bochum--Univer**	**125.09**	**333**	*e*PP	PP	12 09 48.0	+2.5		
BUG	**Bochum--Univer**	**125.09**	**333**	*e*PP	PP	12 09 48.0	+2.5		
TNS	**Taunus Mts**	**125.37**	**331**	*e*PP	PP	12 09 50.6	+3.2		
TNS	**Taunus Mts**	**125.37**	**331**	*e*PP	PP	12 09 50.6	+3.2		
MIV	**Mineville/With**	**125.46**	**38**	*e*PKPdf	PKPdf	12 07 57.0	0.0		
CBN	**Corbin**	**125.64**	**46**	PFAKE		12 08 10.0	+13		
CBN				LR	LR				
	comp=Z,25μm,21.0s,MS6.9								
DWPF	**Disney**	**125.75**	**59**	PFAKE		12 08 10.0	+12		
DWPF				LR	LR				
	comp=Z,7μm,19.0s,MS6.3								
STU	**Stuttgart**	**125.95**	**329**	*e*PP	PP	12 09 53.9	+2.6		
STU	**Stuttgart**	**125.95**	**329**	*e*PP	PP	12 09 53.9	+2.6		
ESK	**Eskdalemuir**	**126.11**	**342**	PFAKE		12 08 10.0	+12		
ESK				LR	LR				
	comp=Z,8μm,22.0s,MS6.3								
LBNH	**Lisbon**	**126.35**	**37**	PFAKE		12 08 10.0	+11		
LBNH				LR	LR				
	comp=Z,23μm,21.0s,MS6.8								
DAVA	**Damuels**	**126.54**	**328**	⇑ *i* P	PKPdf	12 08 02.8	+3.7		
	comp=Z,5.4nm,1.0s								
DAVA	**Damuels**	**126.54**	**328**	⇑ *i* P	PKPdf	12 08 02.8	+3.7		
DAVA				*i*		12 09 58.4			
BFO	**Black Forest**	**126.68**	**329**	*e*PP	PP	12 09 58.7	+2.6		
BFO	**Black Forest**	**126.68**	**329**	*e*PP	PP	12 09 58.7	+2.6		
TRQA	**Tornquist**	**127.06**	**148**	PFAKE		12 08 10.0	+10		
TRQA				LR	LR				
	comp=Z,7μm,19.0s,MS6.3								
HRV	**Harvard--Oak R**	**127.51**	**39**	PFAKE		12 08 10.0	+9.0		
HRV				LR	LR				
	comp=Z,17μm,22.0s,MS6.7								
WES	**Weston**	**127.72**	**39**	PFAKE		12 08 10.0	+8.6		
WES				LR	LR				
	comp=Z,13μm,22.0s,MS6.5								
TSUM	**Tsumeb**	**127.73**	**241**	*e*PKPdf	PKPdf	12 08 02.4	+1.0		
TSUM				LR	LR				
	comp=Z,11μm,22.0s,MS6.5								
NNA	**Nana**	**129.61**	**110**	*e*PKPdf	PKPdf	12 08 08.8	+3.9		
NNA				LR	LR				
	comp=Z,9μm,22.0s,MS6.4								
OTAV	**Otavalo**	**130.64**	**94**	PFAKE		12 08 20.0	+13		
OTAV				LR	LR				
	comp=Z,7μm,22.0s,MS6.3								
LVC	**Limon Verde**	**132.22**	**127**	*e*PKPdf	PKPdf	12 08 11.4	+1.5		
LVC				LR	LR				
	comp=Z,6μm,21.0s,MS6.3								
TRIS	**Tristan da Cun**	**134.77**	**199**	PFAKE		12 08 30.0	+15		
TRIS				LR	LR				
	comp=Z,6μm,20.0s,MS6.3								

12nm,0.7s
PSI Prapat 15.69 323 LR LR 11 59 00.3
comp=Z,646nm,20.8s,baz=184,slow=37
KKM Kota Kinabalu 17.60 27 *e*P **Pn 11 53 25.8 -4.3**
FITZ Fitzroy Crossi 18.64 118 P **Pn 11 53 42.8 -0.1**
0.4nm,0.3s,baz=294,slow=11,SNR=9.7
BUKP Musuan 24.20 44 *e*P **P 11 54 41.2 -0.2**
MSLP Maasin 25.74 40 *e*P **P 11 54 56.6 +1.2**
CHTO Chiang Mai 29.95 342 *e*P **P 11 55 32.9 -0.1**
16nm,1.3s,mb4.6
SSE Sheshan 42.51 16 P **P 11 57 19.5 -0.7**
SSE AP pP 11 57 28.5 +5.1
SSE XP sP 11 57 32.3 +7.7
SSE PCP PcP 11 58 56.5 -16
SSE PP PP 11 59 06.8 +8.1
SSE S S 12 04 03.1 +21
SSE XS sS 12 04 18.1 +31
SSE SCS ScS 12 07 12.9 -9.1
SSE AMB AMB
comp=Z,41nm,1.0s,mb5.1
SSE AMB AMB
comp=Z,2µm,9.1s
SSE LR LR
comp=N,14µm,16.8s,MS6.3
SSE LR LR
comp=E,35µm,16.8s,MS6.3
SSE LR LR
comp=Z,29µm,20.5s,MS6.2
XAN Xi'an 43.64 1 P **P 11 57 28.8 -0.5**
XAN AP pP 11 57 36.8 +4.3
XAN AMB AMB
comp=Z,19nm,0.7s,mb4.9
LZH Lanzhou 45.88 355 *e*P **P 11 57 47.8 +0.6**
LZH AP pP 11 57 55.3 +5.0
LZH XP sP 11 57 58.1 +6.5
LZH AMB AMB
comp=Z,37nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,193nm,4.9s
GTA Gaotai 49.64 351 *e*P **P 11 58 17.6 +1.2**
GTA AP pP 11 58 25.8 +6.3
GTA XP sP 11 58 30.1 +9.3
GTA AMB AMB
comp=Z,9.0nm,1.1s,mb4.7
SONM Songino Array 57.44 358 P **P 11 59 13.2 -0.5**
comp=Z,1.9nm,0.4s,mb4.4,baz=175,slow=9.0,SNR=14
MKAR Makanchi Array 61.00 340 P **P 11 59 38.5 +0.2**
comp=Z,8.8nm,0.7s,mb5.0,baz=141,slow=7.5,SNR=20
KURK Kurchatov 65.61 340 *e*P **P 12 00 08.3 -0.6**
comp=Z,4.5nm,0.7s,mb4.6
BVAR Borovoye Array 70.49 337 P **P 12 00 39.2 -0.3**
comp=Z,3.2nm,0.6s,mb4.4,baz=137,slow=7.2,SNR=10.0
CHKZ Chkalovo 70.91 337 *e*P **P 12 00 41.9 -0.2**
comp=Z,4.4nm,0.6s,mb4.6
ZRNK Zerenda 70.98 336 *e*P **P 12 00 42.1 -0.4**
LSZ Lusaka 78.08 256 *e*P **P 12 01 29.1 +5.4**
comp=Z,5.7nm,0.8s,mb4.5
BRTR Keskin Array B 84.72 312 P **P 12 01 59.6 +0.7**
comp=Z,0.8nm,0.6s,mb4.0,baz=119,slow=6.0,SNR=3.9

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*ISCJB **19** 11:57:49.6±4.6, 54S±02×150.1E±0.3, h65km±33km, mb4.4/8, Error ellipse: s-maj=47.5km s-min=31.6km az=167.4*
*IDC **19** 11:57:52.1±6.5, 5.46S×15001E, h70km±51km, mb4.2/6, mb1 4.4/7, mb1mx4.1/14, mbtmp4.5/7, ML3.2/1, Error ellipse: s-maj=55.1km s-min=28.3km az=81.0*
*NEIC **19** 11:57:52.2±3.1, 552S×15007E, h69km±23km, mb4.6/3, Error ellipse: s-maj=30.3km s-min=19.4km az=87.0*
ISC 19 11:57:51.3±4.4, 55S±02×1502E±0.3, h65km±31km, n12, σ0s43/12, mb4.4/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.90**	**217**	P		**Pn**		**11 59 02.5**	**+0.1**
	6.5nm,0.3s,baz=26,slow=7.8,SNR=7.1								
PMG				S		**Sn**		**12 00 04.2**	**+6.5**
	1.7nm,0.3s,baz=144,slow=19,SNR=2.7								
WRAB	**Tennant Creek**	**21.04**	**226**	*e*P		**P**		**12 02 29.5**	**-0.2**
	50nm,0.9s,mb4.8								
WRA	**Warramunga Arr**	**21.05**	**226**	P		**P**		**12 02 30.0**	**+0.2**
	15nm,0.7s,mb4.4,baz=49,slow=11,SNR=13								
ASAR	**Alice Springs**	**23.91**	**219**	P		**P**		**12 02 59.1**	**+0.1**
	16nm,0.9s,mb4.3,baz=53,slow=9.0,SNR=13								
FITZ	**Fitzroy Crossi**	**27.03**	**240**	P		**P**		**12 03 27.5**	**+0.2**
	18nm,0.9s,mb4.6,baz=108,slow=8.7,SNR=5.7								
STKA	**Stephens Creek**	**27.45**	**196**	P		**P**		**12 03 29.7**	**-1.3**
	8.0nm,1.1s,mb4.2,baz=14,slow=8.4,SNR=3.9								
STKA	**Stephens Creek**	**27.45**	**196**	*e*P		**P**		**12 03 30.4**	**-0.7**
SONM	**Songino Array**	**65.54**	**329**	P		**P**		**12 08 27.6**	**-0.2**
	3.0nm,1.1s,mb4.0,baz=134,slow=6.2,SNR=6.0								
VNDA	**Vanda**	**72.25**	**177**	P		**P**		**12 09 10.0**	**+0.4**
	1.7nm,0.7s,mb4.0,baz=337,slow=6.0,SNR=5.1								
VNDA	**Vanda**	**72.25**	**177**	*e*P		**P**		**12 09 09.4**	**-0.1**
	2.8nm,0.9s,mb4.1								
QSPA	**South Pole Qui**	**84.47**	**180**	*e*P		**P**		**12 10 17.5**	**+0.6**
	6.8nm,1.0s,mb4.4								
ESLA	**Sonseca Array**	**138.74**	**329**	*e*PKPdf		PKPdf		12 17 11.8	+1.9

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*BJI **19** 12:01:56.2, 1029S×10859E, h34km, mB5.1, mb4.8, Ms4.8, Msz4.8*
*NEIC **19** 12:01:57.5±0.6, 984S×10833E, h10km, mb5.0/10, Error ellipse: s-maj=28.9km s-min=9.5km az=49.0*
*ISCJB **19** 12:02:00.1±0.8, 98S±0.1×1084E±0.1, h38km, mb4.7/30, MS4.6/3, Error ellipse: s-maj=22.7km s-min=12.2km az=94.9*
*MOS **19** 12:02:05.0±1.6, 889S×10807E, h33km, mb5.1/11, Error ellipse: s-maj=23.6km s-min=10.1km az=105.6*
*IDC **19** 12:02:06.3±6.9, 973S×10835E, h76km±61km, mb4.1/8, mb1 4.2/9, mb1mx4.0/18, mbtmp4.4/9, ML4.0/1, Error ellipse: s-maj=39.6km s-min=16.4km az=58.0*
ISC 19 12:02:02.0±0.8, 98S±01×1084E±01, h40km, h40km±3.2km:pP-P, n59, σ0s92/51, mb4.7/30, MS4.6/3, 7C-2D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**15.70**	**323**	P		**Pn**		**12 05 41.0**	**+0.9**
	0.6nm,0.3s,baz=169,slow=19,SNR=3.9								
KULM	**Kulim**	**16.89**	**333**	*e*P		**Pn**		**12 05 55.3**	**0.0**
ASAR	**Alice Springs**	**27.98**	**123**	P		**P**		**12 07 52.6**	**+3.8**
	1.7nm,0.8s,mb3.7,baz=301,slow=9.1,SNR=9.7								
CHTO	**Chiang Mai**	**29.95**	**342**	*e*P		**P**		**12 08 06.6**	**+0.2**
CHTO				pmax		pmax			
	comp=Z,23nm,1.3s,mb4.8								
CHTO	**Chiang Mai**	**29.95**	**342**	*e*P		**P**		**12 08 06.6**	**+0.2**
	comp=Z,23nm,1.3s,mb4.8								
KMI	**Kunming**	**35.18**	**351**	P		**P**		**12 08 54.8**	**+2.7**
KMI				AP		pP		12 09 05.1	+1.9
KMI				AMB		AMB			
	comp=Z,12nm,1.4s,mb4.6								
GYA	**Guiyang**	**36.12**	**357**	*i*P		**P**		**12 09 01.6**	**+1.5**
GYA				AP		pP		12 09 15.8	+4.6
GYA				XP		sP		12 09 18.6	+2.6
GYA				PP		PP		12 10 21.9	-0.8
GYA				S		**S**		**12 14 36.4**	**-0.5**
GYA				AMB		AMB			
	comp=Z,20nm,0.7s,mb5.2								
GYA				AMB		AMB			
	comp=Z,120nm,4.0s								
GYA				LR		LR			
	comp=N,490nm,14.6s,MS4.5								
GYA				LR		LR			
	comp=E,450nm,14.3s,MS4.5								
GYA				LR		LR			
	comp=Z,430nm,14.9s,MS4.3								
STKA	**Stephens Creek**	**37.75**	**130**	*e*P		**P**		**12 09 14.9**	**+0.9**
	comp=Z,9.7nm,0.8s,mb4.6								
STKA	**Stephens Creek**	**37.75**	**130**	P		**P**		**12 09 14.4**	**+0.4**
	comp=Z,8.5nm,0.8s,mb4.5,baz=204,slow=24,SNR=6.8								
NJ2	**Nanjing**	**42.84**	**13**	*e*P		**P**		**12 09 55.3**	**-0.8**
NJ2				AP		pP		12 10 05.3	-2.1
NJ2				XP		sP		12 10 09.1	-3.0
NJ2				PP		PP		12 11 35.3	-0.6
NJ2				S		**S**		**12 16 11.0**	**-6.7**
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.6								
NJ2				AMB		AMB			
	comp=Z,110nm,4.9s								
NJ2				LR		LR			
	comp=N,230nm,10.0s,MS4.5								
NJ2				LR		LR			
	comp=E,260nm,12.2s,MS4.5								
NJ2				LR		LR			
	comp=Z,2µm,19.3s								
JIRN	**Jiri**	**43.03**	**331**	*e*P		**P**		**12 09 57.8**	**+0.2**
PKI	**Pulchoki**	**43.34**	**330**	*e*P		**P**		**12 09 59.6**	**-0.5**
GUN	**Gumba**	**43.39**	**330**	*e*P		**P**		**12 10 00.9**	**+0.4**
DMN	**Daman**	**43.52**	**329**	*e*P		**P**		**12 10 01.3**	**-0.3**
	comp=Z,54nm,1.0s,mb5.2								
KKN	**Kakani**	**43.58**	**330**	*e*P		**P**		**12 10 01.8**	**-0.3**
	comp=Z,22nm,0.7s,mb5.0								
KKN	**Kakani**	**43.58**	**330**	*e*P		**P**		**12 10 01.8**	**-0.3**
KKN				pmax		pmax			
	comp=Z,22nm,0.7s,mb5.0								
XAN	**Xi'an**	**43.64**	**1**	P		**P**		**12 10 02.3**	**-0.2**
XAN				AP		pP		12 10 11.9	-1.9
XAN				AMB		AMB			
	comp=Z,9.0nm,0.9s,mb4.5								
GKN	**Gorkha**	**44.08**	**329**	*e*P		**P**		**12 10 06.0**	**-0.1**
	comp=Z,42nm,1.0s,mb5.1								
KOLN	**Koldanda**	**44.42**	**328**	*e*P		**P**		**12 10 08.5**	**-0.3**
	comp=Z,24nm,0.8s,mb5.0								
GTA	**Gaotai**	**49.64**	**351**	*e*P		**P**		**12 10 51.1**	**+1.6**
GTA				AP		pP		12 11 03.0	+2.0
GTA				XP		sP		12 11 08.0	+2.3
GTA				AMB		AMB			
	comp=Z,6.0nm,1.3s,mb4.5								
MJAR	**Matsushiro Arr**	**53.99**	**30**	P		**P**		**12 11 20.2**	**-1.7**
	comp=Z,2.6nm,0.9s,mb4.2,baz=206,slow=7.4,SNR=5.0								
WMQ	**Urumqi**	**56.62**	**342**	P		**P**		**12 11 43.9**	**+3.0**
WMQ				AP		pP		12 11 48.0	-4.5
WMQ				PP		PP		12 13 52.3	+5.3
WMQ				AMB		AMB			
	comp=Z,17nm,1.6s,mb4.8								
WMQ				AMB		AMB			
	comp=Z,155nm,5.7s								
WMQ				LR		LR			
	comp=N,647nm,17.3s,MS4.9								
WMQ				LR		LR			
	comp=E,485nm,16.2s,MS4.9								
WMQ				LR		LR			
	comp=Z,644nm,17.8s,MS4.8								
SONM	**Songino Array**	**57.44**	**358**	P		**P**		**12 11 47.7**	**+1.0**
	comp=Z,5.3nm,0.6s,mb4.7,baz=175,slow=7.5,SNR=36								
HIA	**Hailar**	**59.69**	**9**	*e*P		**P**		**12 12 02.3**	**-0.1**
ZAK	**Zakamensk**	**60.13**	**356**	*e*P		**P**		**12 12 04.1**	**-1.3**
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.3s,mb4.3								
ZAK				pmax		pmax			
	comp=Z,5.0nm,1.9s,mb4.2								
AAK	**Ala-Archa**	**60.71**	**332**	*e*P		**P**		**12 12 09.4**	**0.0**
AAK				pmax		pmax			
	comp=Z,8.0nm,2.5s,mb4.4								
MKAR	**Makanchi Array**	**61.00**	**340**	P		**P**		**12 12 11.3**	**0.0**
	comp=Z,4.1nm,0.7s,mb4.7,baz=143,slow=7.8,SNR=31								
MKAR	**Makanchi Array**	**61.00**	**340**	P		**P**		**12 12 11.3**	**0.0**
MOY	**Mondy**	**61.58**	**355**	*e*P		**P**		**12 12 16.6**	**+1.3**
KLR	**Kul'dur**	**62.30**	**17**	*e*P		**P**		**12 12 15.0**	**-5.1**
YSS	**Yuzh-Sakhalins**	**64.31**	**25**	*i*P		**P**		**12 12 32.7**	**-0.7**
YSS				pmax		pmax			
	comp=Z,19nm,1.7s,mb4.8								
KURK	**Kurchatov**	**65.62**	**340**	*e*P		**P**		**12 12 41.7**	**-0.2**
ZAL	**Zalesovo**	**66.60**	**345**	P		**P**		**12 12 46.9**	**-1.3**
	comp=Z,1.3nm,0.4s,mb4.3,baz=359,slow=2.4,SNR=5.4								
BVAR	**Borovoye Array**	**70.50**	**337**	P		**P**		**12 13 12.4**	**-0.1**
	comp=Z,6.8nm,0.7s,mb4.7,baz=143,slow=8.6,SNR=25								
BRVK	**Borovoye**	**70.56**	**337**	*e*P		**P**		**12 13 12.0**	**-0.9**
BRVK				pmax		pmax			
	comp=Z,7.0nm,1.1s,mb4.5								
BRVK	**Borovoye**	**70.56**	**337**	*e*P		**P**		**12 13 12.0**	**-0.9**
	comp=Z,7.1nm,1.1s,mb4.5								
CHKZ	**Chkalovo**	**70.91**	**337**	*e*P		**P**		**12 13 14.8**	**-0.2**
CHKZ				pmax		pmax			
	comp=Z,11nm,0.8s,mb4.8								
CHKZ	**Chkalovo**	**70.91**	**337**	*e*P		**P**		**12 13 14.8**	**-0.2**
	comp=Z,11nm,0.8s,mb4.8								
ZRNK	**Zerenda**	**70.99**	**336**	*e*P		**P**		**12 13 14.9**	**-0.6**
ZRNK				pmax		pmax			
	comp=Z,7.0nm,0.7s,mb4.7								
ZRNK	**Zerenda**	**70.99**	**336**	*e*P		**P**		**12 13 14.9**	**-0.5**
	comp=Z,6.9nm,0.7s,mb4.7								
AB31	**Akbulak array**	**72.53**	**329**	*i*P		**P**		**12 13 24.1**	**-0.7**
AB31				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.6								
PET	**Petropavlovsk**	**75.81**	**29**	*e*P		**P**		**12 13 47.3**	**+3.5**
PET				pmax		pmax			
	comp=Z,25nm,1.3s,mb5.0								
SVE	**Sverdlovsk**	**77.14**	**335**	*e*P		**P**		**12 13 52.0**	**+0.6**
SVE				MLR		MLR			
	comp=N,1µm,18.0s								
SVE				MLR		MLR			
	comp=E,5µm,18.0s								
SVE				MLR		MLR			
	comp=Z,10µm,18.0s								
ARU	**Arti**	**77.75**	**334**	*i*P		**P**		**12 13 54.3**	**-0.5**
ARU				*e*		pP		12 14 05.0	-1.9
ARU				*e*				12 16 46.9	
ARU				*e*S		S		12 23 39.5	-4.8
ARU				*e*SS		SS		12 28 34.3	-11
ARU				pmax		pmax			
	comp=Z,16nm,1.1s,mb4.9								
ARU	**Arti**	**77.75**	**334**	*e*P		**P**		**12 13 54.5**	**-0.3**
	comp=Z,26nm,1.4s,mb5.0								
TIXI	**Tiksi**	**82.45**	**6**	*i*P		**P**		**12 14 19.6**	**-0.5**
TIXI				pmax		pmax			
	comp=Z,13nm,0.8s,mb4.9								
BRTR	**Keskin Array B**	**84.72**	**312**	P		**P**		**12 14 31.1**	**-0.7**
	comp=Z,4.4nm,0.9s,mb4.6,baz=141,slow=7.3,SNR=14								
BRTR	**Keskin Array B**	**84.72**	**312**	*i*P		**P**		**12 14 31.7**	**-0.1**
OBN	**Obninsk**	**87.83**	**327**	*i*P		**P**		**12 14 46.9**	**-0.2**
OBN				pmax		pmax			
	comp=Z,7.0nm,0.8s,mb4.9								
YKA	**Yellowknife Ar**	**119.02**	**21**	PKP		PKPdf		12 20 45.7	-0.6
	comp=Z,0.6nm,0.7s,baz=323,slow=1.9,SNR=7.3								
YKA	**Yellowknife Ar**	**119.02**	**21**	PKP		PKPdf		12 20 45.7	-0.6
MSNY	**Massena**	**144.86**	**4**	*e*PKPdf		PKPdf		12 21 34.6	0.0
LONY	**Lake Ozonia**	**145.25**	**4**	*e*PKPdf		PKPdf		12 21 35.8	+0.5
BDFB	**Brasilia**	**145.54**	**223**	PKPbc		PKPbc		12 21 36.9	+1.0
	comp=Z,3.6nm,0.7s,baz=146,slow=4.9,SNR=4.1								
JCT	**Junction City**	**146.68**	**48**	*e*PKIKP		PKPbc		12 21 41.7	+2.3
CCM	**Cathedral Cave**	**146.82**	**29**	*e*PKIKP		PKPdf		12 21 40.6	+2.6
WVT	**Waverly**	**149.97**	**27**	*e*PKIHKP		PKPbc		12 21 49.3	+1.3
PLAL	**Pickwick Lake**	**150.80**	**28**	*e*PKPbc		PKPbc		12 21 50.6	+0.6
SIV	**San Ignacio**	**152.29**	**202**	PKPbc		PKPbc		12 21 54.3	+0.9
	comp=Z,2.8nm,0.9s,baz=118,slow=3.5,SNR=10								

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*BJI **19** 12:05:00.1, 568S×15150E, h48km, mB4.7, mb4.8, Ms4.8, Msz4.2*
*ISCJB **19** 12:05:03.5±2.0, 543S±008×15077E±007, h40km±18km, mb4.5/18, MS4.2/1, Error ellipse: s-maj=13.4km s-min=10.9km az=107.3*
*NEIC **19** 12:05:05.9±1.3, 542S×15076E, h48km±12km, mb4.6/7, Error ellipse: s-maj=11.1km s-min=8.1km az=156.0*
*IDC **19** 12:05:06.6±3.4, 550S×15079E, h54km±30km, mb4.0/9, mb1 4.2/12, mb1mx4.1/17, mbtmp4.4/12, ML3.8/3, Error ellipse: s-maj=23.7km s-min=18.5km az=159.0*
ISC 19 12:05:06.8±1.5, 547S±008×15080E±007, h53km±14km, n35, σ0s87/35, mb4.5/18, MS4.2/1, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.32**	**223**	P		**Pn**		**12 06 23.5**	**0.0**
	16nm,0.3s,baz=28,slow=13,SNR=22								
PMG				S		**Sn**		**12 07 23.7**	**+0.2**
	2.3nm,0.3s,baz=131,slow=22,SNR=2.9								
PMG	**Port Moresby**	**5.32**	**223**	*e*Pn		**Pn**		**12 06 23.4**	**-0.1**
	86nm,0.6s								
HNR	**Honiara**	**9.89**	**114**	P		**Pn**		**12 07 26.3**	**+0.2**
	3.0nm,0.3s,baz=262,slow=5.2,SNR=4.1								
CTA	**Charters Tower**	**15.18**	**197**	P		**Pn**		**12 08 37.2**	**-0.6**
	0.1nm,0.3s,baz=30,slow=17,SNR=2.6								
CTAO	**Charters Tower**	**15.18**	**197**	*e*Pn		**Pn**		**12 08 39.1**	**+1.3**
	3µm,3.9s								
KAKA	**Kakadu**	**19.49**	**247**	*e*P		**Pn**		**12 09 28.1**	**-2.9**
	9.6nm,0.5s								
WRAB	**Tennant Creek**	**21.51**	**227**	*e*P		**P**		**12 09 51.0**	**-0.1**
WB2	**Warramunga Arr**	**21.51**	**227**	*e*P		**P**		**12 09 50.8**	**-0.4**
WRA	**Warramunga Arr**	**21.52**	**227**	P		**P**		**12 09 50.2**	**-1.0**
	8.7nm,0.8s,mb4.3,baz=52,slow=11,SNR=13								
DZM	**Mont Dzumac**	**22.39**	**139**	P		**P**		**12 10 00.4**	**-0.2**
	27nm,1.1s,mb4.6,baz=350,slow=15,SNR=5.4								
AS31	**Alice Springs**	**24.33**	**220**	*e*P		**P**		**12 10 20.9**	**+1.5**
ASAR	**Alice Springs**	**24.33**	**220**	P		**P**		**12 10 19.8**	**+0.4**
	3.7nm,0.6s,mb4.0,baz=54,slow=8.3,SNR=24								
ASPA	**Alice Springs**	**24.33**	**220**	*e*P		**P**		**12 10 20.9**	**+1.5**
FITZ	**Fitzroy Crossi**	**27.59**	**241**	*e*P		**P**		**12 10 48.5**	**-0.4**
	18nm,0.6s,mb4.9								
FITZ	**Fitzroy Crossi**	**27.59**	**241**	P		**P**		**12 10 47.7**	**-1.1**
	7.5nm,0.8s,mb4.4,baz=71,slow=11,SNR=7.5								
STKA	**Stephens Creek**	**27.64**	**197**	P		**P**		**12 10 50.2**	**+0.9**
	4.5nm,0.9s,mb4.1,baz=52,slow=15,SNR=2.9								
STKA	**Stephens Creek**	**27.64**	**197**	P		**P**		**12 10 50.2**	**+0.9**
FORT	**Forrest**	**33.02**	**218**	*e*P		**P**		**12 11 36.9**	**0.0**
	17nm,0.7s,mb5.1								
MBWA	**Marble Bar**	**33.91**	**240**	*e*P		**P**		**12 11 44.0**	**-0.6**
	5.4nm,0.6s,mb4.7								
YHNB	**Yeheng**	**41.45**	**318**	*e*P		**P**		**12 12 47.4**	**-0.8**
MDJ	**Mudanjiang**	**53.38**	**341**	P		**P**		**12 14 20.3**	**-0.5**
MDJ				AMB		AMB			
	comp=Z,6.0nm,0.8s,mb4.6								
CN2	**Changchun**	**54.12**	**338**	*e*P		**P**		**12 14 27.4**	**+1.1**
CN2				AMB		AMB			
	comp=Z,20nm,1.3s,mb4.9								
KMI	**Kunming**	**55.73**	**305**	P		**P**		**12 14 39.3**	**+1.4**
KMI				AMB		AMB			
	comp=Z,4.0nm,0.5s,mb4.7								
CD2	**Chengdu**	**57.68**	**312**	*e*P		**P**		**12 14 51.6**	**-0.1**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.8								
SONM	**Songino Array**	**65.85**	**329**	P		**P**		**12 15 47.5**	**+0.8**
	comp=Z,4.7nm,1.1s,mb4.4,baz=142,slow=6.7,SNR=9.8								
VNDA	**Vanda**	**72.24**	**177**	P		**P**		**12 16 26.2**	**-0.1**
	comp=Z,1.6nm,1.0s,mb3.9,baz=320,slow=6.3,SNR=4.9								
VNDA	**Vanda**	**72.24**	**177**	*e*P		**P**		**12 16 26.4**	**+0.1**
	comp=Z,1.7nm,0.9s,mb4.0								
WMQ	**Urumqi**	**74.89**	**318**	P		**P**		**12 16 42.9**	**+1.0**
WMQ				AMB		AMB			
	comp=Z,8.0nm,1.9s,mb4.3								
WMQ				AMB		AMB			
	comp=Z,65nm,6.0s								
WMQ				LR		LR			
	comp=N,112nm,18.6s,MS4.3								
WMQ				LR		LR			
	comp=E,84nm,17.5s,MS4.3								
WMQ				LR		LR			
	comp=Z,106nm,19.1s,MS4.2								
MKAR	**Makanchi Array**	**79.53**	**319**	P		**P**		**12 17 08.3**	**+0.5**
	comp=Z,2.3nm,1.1s,mb4.0,baz=125,slow=3.4,SNR=4.1								
KURK	**Kurchatov**	**83.08**	**322**	*e*P		**P**		**12 17 25.9**	**-0.8**
	comp=Z,4.9nm,1.1s,mb4.5								
KURK				*e*pP		pP		12 17 39.5	-2.4
QSPA	**South Pole Qui**	**84.49**	**180**	*e*P		**P**		**12 17 33.8**	**-0.1**
	comp=Z,9.3nm,1.3s,mb4.8								
DAWY	**Dawson**	**86.22**	**24**	*e*P		**P**		**12 17 41.6**	**-0.8**
SYO	**Syowa Base**	**92.37**	**200**	*i*eP		**P**		**12 18 10.0**	**-1.5**
NVAR	**Mina Array Bea**	**94.07**	**52**	P		**P**		**12 18 18.6**	**-0.7**
	comp=Z,1.0nm,0.9s,mb4.2,baz=248,slow=3.8,SNR=5.8								
TORD	**Torodi Ar. Bea**	**148.60**	**286**	PKPbc		PKPbc		12 24 47.5	-0.3
	comp=Z,1.5nm,0.8s,baz=36,slow=2.5,SNR=6.1								

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*IDC **19** 12:08:18.3±6.2, 530S×14985E, h60km±49km, mb4.0/5, mb1 4.3/7, mb1mx4.0/14, mbtmp4.4/7, ML3.6/2, Error ellipse: s-maj=66.2km s-min=31.1km az=90.0*
*ISCJB **19** 12:08:20.2±3.6, 54S±0.1×1496E±0.3, h76km±28km, mb4.2/5, Error ellipse: s-maj=52.6km s-min=24.0km az=2.2*
*NEIC **19** 12:08:21.7±2.9, 542S×14965E, h75km±23km, mb4.8/2, Error ellipse: s-maj=39.2km s-min=18.0km az=91.0*
ISC 19 12:08:21.6±3.3, 54S±01×1497E±03, h70km±26km, n14, σ0s82/15, mb4.2/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.67**	**212**	P		**Pn**		**12 09 29.2**	**-0.4**
	9.5nm,0.3s,baz=15,slow=10,SNR=8.1								
PMG				S		**Sn**		**12 10 29.3**	**+6.9**
	5.2nm,0.3s,baz=16,slow=22,SNR=3.7								
PMG	**Port Moresby**	**4.67**	**212**	*e*Pn		**Pn**		**12 09 29.8**	**+0.2**
PMG				*e*Sn		**Sn**		**12 10 31.1**	**+8.6**
CTA	**Charters Tower**	**14.95**	**192**	P		**Pn**		**12 11 49.0**	**+0.1**
	0.3nm,0.3s,baz=34,slow=14,SNR=4.1								
WRAB	**Tennant Creek**	**20.73**	**225**	*e*P		**P**		**12 12 56.1**	**-0.2**
WB2	**Warramunga Arr**	**20.74**	**225**	*e*P		**P**		**12 12 56.6**	**+0.2**
WRA	**Warramunga Arr**	**20.75**	**225**	P		**P**		**12 12 55.9**	**-0.5**
	8.9nm,0.8s,baz=54,slow=11,SNR=11								
ASAR	**Alice Springs**	**23.65**	**218**	P		**P**		**12 13 25.2**	**-1.2**
	5.5nm,0.9s,mb3.9,baz=50,slow=8.5,SNR=10								
FITZ	**Fitzroy Crossi**	**26.63**	**240**	*e*P		**P**		**12 13 54.4**	**+0.9**
	21nm,0.8s,mb4.7								
FITZ	**Fitzroy Crossi**	**26.63**	**240**	P		**P**		**12 13 54.0**	**+0.6**
	9.6nm,0.7s,mb4.4,baz=102,slow=8.8,SNR=5.8								
STKA	**Stephens Creek**	**27.38**	**195**	P		**P**		**12 14 01.2**	**+1.0**
	5.3nm,0.9s,mb4.1,baz=28,slow=14,SNR=4.0								
MBWA	**Marble Bar**	**32.96**	**239**	*e*P		**P**		**12 14 49.6**	**+0.1**
	15nm,0.9s,mb4.8								
YHNB	**Yeheng**	**40.65**	**319**	*e*P		**P**		**12 15 56.1**	**+1.3**
SONM	**Songino Array**	**65.22**	**329**	P		**P**		**12 18 54.1**	**-1.5**
	1.0nm,0.7s,mb3.7,baz=139,slow=5.2,SNR=5.9								
TORD	**Torodi Ar. Bea**	**147.49**	**286**	PKPbc		PKPbc		12 27 54.3	-3.2
	1.0nm,0.8s,baz=67,slow=2.4,SNR=3.7								

**IDC 19 12:19:20.3±2.3, 1012S×10851E, h0km, mb3.9/4, mb1 4.0/

CMIG				*i* S	Sn	12 44 58.5	-2.5
CCIG	**Comitan**	**2.28**	**118**	*i* P	Pn	12 44 55.2	-0.9
CCIG				*i* S	Sn	12 45 26.2	-1.0
OXX	**Oaxaca**	**2.40**	**263**	*e*P	Pn	12 44 57.0	-0.5
OXX				*i* S	Sn	12 45 30.0	+0.5
HUIG	**Huatulco**	**2.40**	**229**	*i* P	Pn	12 44 54.8	-2.7
HUIG				*i* S	Sn	12 45 27.6	-2.1
VHO	**Vista Hermosa**	**2.41**	**263**	*i* P	Pn	12 44 56.9	-0.6
VHO				*i* S	Sn	12 45 29.7	0.0
TPIG	**Tehuac#an**	**3.16**	**290**	*i* P	Pn	12 45 06.2	-0.3
TPIG				*i* S	Sn	12 45 43.5	-2.3
UTMO	**Huajuapan**	**3.44**	**278**	*e*P	Pn	12 45 09.2	-0.8
UTMO				*i* S	Sn	12 45 48.6	-3.4

IDC 19 12:52:36.9±4.3, 384S×15068E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.6/14, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=128.9km s-min=28.1km az=102.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.54**	**212**	Pn	Pn	12 54 13.4	-0.9
	3.1nm,0.3s,baz=34,slow=20,SNR=9.9						
WRA	**Warramunga Arr**	**22.58**	**224**	P	P	12 57 39.2	+0.3
	1.1nm,0.5s,baz=50,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.52**	**218**	P	P	12 58 08.1	+1.1
	0.4nm,0.6s,baz=53,slow=8.2,SNR=11						
SONM	**Songino Array**	**64.40**	**329**	P	P	13 03 14.7	-0.1
	1.0nm,1.1s,baz=160,slow=4.6,SNR=5.2						

IDC 19 12:55:29.4±2.4, 903S×10793E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=107.1km s-min=19.9km az=52.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.42**	**120**	P	Pn	12 59 57.5	-0.8
	0.1nm,0.3s,baz=294,slow=14,SNR=4.4						
WRA	**Warramunga Arr**	**27.73**	**116**	P	P	13 01 20.5	+0.9
	0.9nm,1.0s,baz=287,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**28.79**	**123**	P	P	13 01 29.2	+0.3
	0.6nm,0.8s,baz=300,slow=8.5,SNR=5.5						
STKA	**Stephens Creek**	**38.62**	**131**	P	P	13 02 54.2	-0.1
	1.3nm,0.7s,baz=294,slow=8.0,SNR=6.6						
SONM	**Songino Array**	**56.63**	**359**	P	P	13 05 14.7	+0.5
	1.3nm,1.0s,baz=179,slow=7.7,SNR=5.4						
MKAR	**Makanchi Array**	**60.09**	**340**	P	P	13 05 38.2	-0.2
	1.1nm,0.6s,baz=137,slow=8.1,SNR=13						

IDC 19 13:25:26.0±3.6, 839S×10736E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/18, mbtmp4.0/4, Error ellipse: s-maj=155.3km s-min=29.1km az=47.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.51**	**117**	P	P	13 31 23.5	+0.4
	1.2nm,0.7s,baz=286,slow=13,SNR=5.8						
SONM	**Songino Array**	**55.99**	**359**	P	P	13 35 06.0	-0.1
	0.9nm,0.5s,baz=178,slow=8.9,SNR=6.9						
MKAR	**Makanchi Array**	**59.31**	**340**	P	P	13 35 29.9	+0.3
	1.0nm,0.6s,baz=142,slow=7.2,SNR=9.1						
BVAR	**Borovoye Array**	**68.78**	**337**	P	P	13 36 31.7	-0.1
	1.8nm,0.8s,baz=145,slow=8.1,SNR=7.0						

JMA 19 13:35:41.2±0.1, 3635N×14057E, h63km±1km, M3.5, 5C-3D Broadband fault plane solution: P waves. NP1: ϕ_s65.00000°,δ41.00000°,λ162.00000°. NP2: ϕ_s169.00000°,δ78.00000°,λ51.00000°. Principal axes: T Plg43.0000°, Azm41.0000°; N Plg38.0000°, Azm178.0000°; P Plg23.0000°, Azm288.0000°; Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.26**	**360**	↑P	Pn	13 35 51.4	+0.1
JHO				S	Sn	13 35 58.6	-0.1
JYT	**Yasato**	**0.33**	**248**	↑P	Pn	13 35 52.0	+0.2
JYT				S	Sn	13 35 59.7	+0.2
JAG	**Ashikaga**	**0.90**	**275**	↓P	Pn	13 35 58.4	+0.3
JAG				S	Sn	13 36 10.8	+0.2
JFK	**Kawauchi**	**1.04**	**13**	↑P	Pn	13 35 59.3	-0.6
JKT	**Katashina**	**1.14**	**292**	P	Pn	13 36 01.9	+0.7
JKT				S	Sn	13 36 17.0	+0.9
JFT	**Otama**	**1.18**	**351**	P	Pn	13 36 02.1	+0.4
JFT				S	Sn	13 36 17.3	+0.3
JFY	**Yanaizu**	**1.26**	**327**	↓P	Pn	13 36 03.3	+0.5
JFY				*e*S	Sn	13 36 19.3	+0.4
JRY	**Ryogami san**	**1.39**	**257**	↑P	Pn	13 36 05.0	+0.5
JRY				S	Sn	13 36 22.3	+0.4
JMM	**Marumori**	**1.52**	**7**	↑P	Pn	13 36 06.5	+0.2
JMM				S	Sn	13 36 25.2	+0.1
JHK	**Hiroka**	**1.54**	**306**	↓P	Pn	13 36 07.0	+0.6
MAT	**Matsushiro**	**1.92**	**276**	P	Pn	13 36 12.7	+1.2
MAT				*e*S	Sn	13 36 35.4	+0.8

IDC 19 13:46:57.0±2.8, 967S×10823E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/16, mbtmp3.9/5 Error ellipse: s-maj=124.7km s-min=20.9km az=53.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.19**	**115**	P	P	13 52 42.3	+0.1
	1.6nm,1.0s,baz=288,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**28.19**	**123**	P	P	13 52 52.2	+1.1
	0.7nm,0.9s,baz=306,slow=10,SNR=4.7						
STKA	**Stephens Creek**	**37.97**	**131**	P	P	13 54 16.2	-0.3
	2.4nm,0.7s,baz=294,slow=11,SNR=5.9						
SONM	**Songino Array**	**57.27**	**359**	P	P	13 56 47.2	+0.9
	1.8nm,0.7s,baz=175,slow=7.8,SNR=14						
MKAR	**Makanchi Array**	**60.79**	**340**	P	P	13 57 10.1	-0.7
	0.9nm,0.6s,baz=139,slow=7.6,SNR=9.4						

IDC 19 13:53:07.3±1.7, 128N×97.10E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/20, mbtmp4.0/6, ML2.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/31, Error ellipse: s-maj=49.2km s-min=20.6km az=59.0
BJI 19 13:53:08.5, 100N×9728E, h36km, mB4.8, mb4.7
ISCJB 19 13:53:10.2±0.9, 13N±0.1×97.1E±0.1, h33km, mb4.1/12, Error ellipse: s-maj=19.1km s-min=13.1km az=116.2
NEIC 19 13:53:11.7±0.6, 132N×97.13E, h30km, mb4.3/4, Error ellipse: s-maj=13.7km s-min=9.3km az=54.0
ISC 19 13:53:12.9±0.9, 14N±01×972E±01, h35km, n14, σ0§62/14, mb4.1/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.28**	**51**	Pn	Pn	13 53 47.0	-0.9
	3.1nm,0.3s,baz=233,slow=4.1,SNR=34						
PSI				LR	LR	13 54 37.7	
	comp=Z,524nm,18.3s,baz=230,slow=39						
KULM	**Kulim**	**5.24**	**42**	*e*Pn	Pn	13 54 28.8	+0.1
KMI	**Kunming**	**24.24**	**12**	P	P	13 58 28.3	+1.9
KMI				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.4						
GYA	**Guiyang**	**26.58**	**19**	P	P	13 58 47.9	+0.2
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
GTA	**Gaotai**	**37.96**	**3**	*e*P	P	14 00 27.1	0.0
GTA				AP	pP	14 00 34.8	-2.5
GTA				XP	sP	14 00 38.5	-3.0
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**42.15**	**122**	P	P	14 01 01.6	-0.3
	comp=Z,1.1nm,0.6s,mb3.7,baz=301,slow=9.1,SNR=13						
WRAB	**Tennant Creek**	**42.15**	**122**	*e*P	P	14 01 02.1	+0.2
	comp=Z,10.0nm,1.1s,mb4.4						
ASAR	**Alice Springs**	**43.52**	**127**	P	P	14 01 13.2	+0.3
	comp=Z,0.9nm,0.9s,mb3.5,baz=301,slow=8.1,SNR=9.7						
SONM	**Songino Array**	**46.99**	**9**	P	P	14 01 40.6	+0.1
	comp=Z,2.7nm,0.8s,mb4.2,baz=189,slow=9.2,SNR=21						
MKAR	**Makanchi Array**	**47.09**	**346**	P	P	14 01 41.6	+0.4
	comp=Z,1.3nm,0.5s,mb4.1,baz=158,slow=8.8,SNR=14						
KURK	**Kurchatov**	**51.64**	**345**	*e*P	P	14 02 15.6	-0.3
	comp=Z,2.1nm,0.6s,mb4.2						
ZAL	**Zalesovo**	**53.40**	**351**	P	P	14 02 28.7	-0.3
	comp=Z,3.1nm,0.5s,mb4.5,baz=335,slow=6.1,SNR=8.9						
ZRNK	**Zerenda**	**56.50**	**340**	*e*P	P	14 02 51.0	-0.4
	comp=Z,0.7nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**56.57**	**341**	*e*P	P	14 02 51.2	-0.7
	comp=Z,4.4nm,0.8s,mb4.5						

IDC 19 13:56:44.4±3.1, 972S×10792E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, MS4.5/1, Ms1 4.5/1, ms1mx3.3/31, Error ellipse: s-maj=129.1km s-min=24.6km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.44**	**115**	P	P	14 02 32.4	+0.5
	0.7nm,0.7s,baz=284,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**28.42**	**122**	P	P	14 02 41.0	+0.4
	0.4nm,0.6s,baz=294,slow=8.8,SNR=3.1						
PMG	**Port Moresby**	**38.68**	**93**	LR	LR	14 20 10.8	
	comp=Z,645nm,19.2s,baz=204,slow=36						
SONM	**Songino Array**	**57.31**	**359**	P	P	14 06 33.4	-0.6
	0.4nm,0.5s,baz=175,slow=8.2,SNR=4.5						
MKAR	**Makanchi Array**	**60.73**	**340**	P	P	14 06 58.2	+0.5
	0.5nm,0.6s,baz=140,slow=7.7,SNR=6.3						

STR 19 14:15:13.2±0.5, 4438N×734E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG 19 14:15:12.2±0.2, 4442N×749E, h16km±1km, Md2.2/2, Ml2.2/4, Error ellipse: s-maj=5.1km s-min=2.5km az=67.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUTN	**L'Aution**	**0.42**	**186**	Pg	Pg	14 15 20.5	-0.2
AUTN				Sg	Sg	14 15 26.3	-0.1
SAOF	**Saorge**	**0.43**	**174**	Pg	Pg	14 15 21.2	+0.3
SAOF				Sg	Sg	14 15 27.5	+0.8
LUCF	**Luceram**	**0.53**	**191**	Pg	Pg	14 15 22.5	-0.2
LUCF				Sg	Sg	14 15 29.7	-0.2
SBF	**Sospel**	**0.55**	**184**	*e*Pg	Pg	14 15 23.1	0.0
SBF				*e*Sg	Sg	14 15 30.1	-0.4
	6.0nm,0.2s						
MVIF	**Mont Vial**	**0.57**	**205**	Pg	Pg	14 15 23.1	-0.4
MVIF				Sg	Sg	14 15 29.3	-1.8
MBDF	**Montbardon**	**0.60**	**302**	*e*Pg	Pg	14 15 23.4	-0.6
MBDF				*e*Sn	Sg	14 15 32.1	+0.1
MBDF				*e*Sg	Sg	14 15 33.3	+1.3
	6.7nm,0.2s						
FRF	**La Foret Royal**	**1.05**	**216**	*e*Pn	Pn	14 15 31.3	-1.0
FRF	**La Foret Royal**	**1.05**	**216**	*e*Pg	Pg	14 15 32.8	+0.3
FRF				*e*Sn	Sn	14 15 42.7	-3.9
FRF				*e*Sg	Sg	14 15 46.4	+0.2
	5.1nm,0.3s						
LPG	**La Plagne**	**1.20**	**334**	*e*Pn	Pn	14 15 33.4	-1.0
LPL	**La Plagne**	**1.23**	**334**	*e*Pn	Pn	14 15 33.6	-1.1
ORIF	**Oris-en-Rattie**	**1.25**	**294**	*e*Pg	Pg	14 15 35.6	-0.8
ORIF				*e*Sg	Sg	14 15 52.0	-0.7
	2.5nm,0.3s						
LMR	**La Mourre**	**1.29**	**214**	*e*Pg	Pg	14 15 36.4	-0.7
LMR				*e*Sg	Sg	14 15 53.0	-1.0
	12nm,0.3s						
SMRF	**Simiane la Rot**	**1.45**	**253**	*e*Pn	Pn	14 15 36.2	-1.5
SMRF	**Simiane la Rot**	**1.45**	**253**	*e*Pg	Pg	14 15 39.8	-0.2
SMRF				*e*Sg	Sg	14 15 59.0	+0.2
	3.8nm,0.3s						

ISCJB 19 14:25:36.5±0.6, 3289N±007×9627E±006, h10km, mb3.9/9, Error ellipse: s-maj=9.9km s-min=7.3km az=35.1
IDC 19 14:25:37.0±0.9, 3278N×9631E, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.8/22, mbtmp3.8/9, ML3.9/2, Error ellipse: s-maj=46.7km s-min=18.8km az=55.0
BJI 19 14:25:38.1, 3304N×9630E, h10km, mb4.5, ML3.7, Ms3.9, Msz3.8
NEIC 19 14:25:38.3±0.7, 3285N×9633E, h10km, mb3.9/2, Error ellipse: s-maj=22.1km s-min=11.8km az=55.0
MOS 19 14:25:39.4±0.9, 3291N×9629E, h36km, mb4.2/1, Error ellipse: s-maj=28.5km s-min=13.4km az=110.2
ISC 19 14:25:38.9±0.6, 3298N±005×9625E±006, h10km, n23, σ1§29/28, mb3.9/9, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**6.70**	**106**	*e*P	Pn	14 27 19.0	+1.6
CD2				PG	Pg	14 27 41.3	-5.9
CD2				S	Sn	14 28 36.5	+2.7
CD2				SG	Sg	14 29 09.3	-4.7
CD2				Smax			
	comp=N,20nm,0.8s						
CD2				Smax			
	comp=E,30nm,0.9s						
CD2				LR	LR		
	comp=N,1μm,10.8s						
CD2				LR	LR		
	comp=Z,390nm,9.8s						
LZH	**Lanzhou**	**6.99**	**62**	*e*P	Pn	14 27 22.6	+1.3
LZH				*e*S	Sn	14 28 42.1	+1.3
LZH				Smax			
	comp=N,34nm,1.1s						
LZH				Smax			
	comp=E,50nm,1.2s						
LZH				LR	LR		
	comp=N,447nm,8.8s						
LZH				LR	LR		
	comp=Z,602nm,10.1s						
GTA	**Gaotai**	**7.03**	**23**	P	Pn	14 27 21.5	-0.4
GTA				SG	Sg	14 29 22.1	-2.5
GTA				LR	LR		
	comp=N,461nm,5.3s						
GTA				LR	LR		
	comp=E,1μm,6.5s						
GTA				LR	LR		
	comp=Z,433nm,4.9s						
GYA	**Guiyang**	**11.14**	**123**	P	Pn	14 28 17.3	-0.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
SONM	**Songino Array**	**16.70**	**24**	Pn	Pn	14 29 33.0	0.0
	comp=Z,0.2nm,0.3s,baz=209,slow=15,SNR=8.7						
MKAR	**Makanchi Array**	**17.43**	**326**	P	Pn	14 29 43.0	+0.9
	comp=Z,0.8nm,0.3s,baz=138,slow=13,SNR=33						
MKAR	**Makanchi Array**	**17.43**	**326**	P	Pn	14 29 43.0	+0.9
ZAK	**Zakamensk**	**18.15**	**15**	*e*P	Pn	14 29 51.0	0.0
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.8s						
AAK	**Ala-Archa**	**19.66**	**306**	P	Pn	14 30 08.6	-0.7
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AAK	**Ala-Archa**	**19.66**	**306**	P	Pn	14 30 08.6	-0.7
	comp=Z,3.2nm,0.7s						
KURK	**Kurchatov**	**21.96**	**329**	*e*P	P	14 30 31.5	-1.3
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
KURK	**Kurchatov**	**21.96**	**329**	*e*P	P	14 30 31.5	-1.3
	comp=Z,5.4nm,0.8s,mb4.0						
ZAL	**Zalesovo**	**22.48**	**342**	P	P	14 30 41.4	+3.1
	comp=Z,1.5nm,0.5s,mb3.7,baz=312,slow=10.0,SNR=7.0						
ZAL	**Zalesovo**	**22.48**	**342**	P	P	14 30 41.4	+3.1
CN2	**Changchun**	**25.18**	**56**	*e*P	P	14 31 04.0	-0.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**27.30**	**325**	P	P	14 31 25.2	+1.6
	comp=Z,0.4nm,0.5s,mb3.2,baz=154,slow=8.0,SNR=2.9						
BRTR	**Keskin Array B**	**49.98**	**297**	P	P	14 34 33.0	-0.2
	comp=Z,0.7nm,0.6s,mb3.9,baz=88,slow=6.6,SNR=4.1						
NB2	**NORSAR Subarra**	**59.43**	**326**	P	P	14 35 41.9	+0.2
	comp=Z,0.5nm,0.6s,mb3.7,baz=75,slow=7.4						
NOA	**NORSAR Array B**	**59.43**	**326**	P	P	14 35 42.0	+0.3
	comp=Z,0.7nm,0.7s,mb3.8,baz=78,slow=6.8,SNR=3.7						
WRAB	**Tennant Creek**	**63.98**	**140**	*e*P	P	14 36 10.8	-1.5
WRA	**Warramunga Arr**	**63.98**	**140**	P	P	14 36 11.0	-1.4
	comp=Z,1.2nm,0.9s,mb3.9,baz=337,slow=7.3,SNR=7.0						
ASAR	**Alice Springs**	**66.80**	**142**	P	P	14 36 29.5	-1.1
	comp=Z,0.6nm,0.6s,mb3.8,baz=325,slow=6.3,SNR=6.4						
TORD	**Torodi Ar. Bea**	**86.71**	**283**	P	P	14 38 24.4	+1.4
	comp=Z,1.1nm,0.7s,mb4.2,baz=55,slow=5.1,SNR=6.0						

IDC 19 14:36:20.7±55.0, 1787S×17461W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/13, mbtmp4.0/3, Error ellipse: s-maj=1042.0km s-min=173.3km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.83**	**242**	P	P	14 44 13.0	+0.8
	1.0nm,0.5s,baz=113,slow=13,SNR=4.5						
WB2	**Warramunga Arr**	**48.18**	**259**	*e*P	P	14 45 03.0	+0.2
WRA	**Warramunga Arr**	**48.19**	**259**	P	P	14 45 03.1	+0.2
	0.7nm,0.4s,baz=98,slow=7.3,SNR=36						
ASAR	**Alice Springs**	**48.28**	**254**	P	P	14 45 03.6	+0.1
	1.0nm,0.4s,baz=87,slow=8.3,SNR=45						
ASPA	**Alice Springs**	**48.28**	**254**	*e*P	P	14 45 03.9	+0.4

IDC 19 15:49:35.8±1.7, 1000S×10775E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.8/17, mbtmp3.8/7, ML3.2/1, Error ellipse: s-maj=80.7km s-min=18.4km az=48.0
NEIC 19 15:49:37.1±0.6, 1007S×10767E, h10km, mb4.1/3, Error ellipse: s-maj=26.2km s-min=9.6km az=51.0
ISCJB 19 15:49:38.6±0.8, 1015S±02×1078E±02, h33km, mb3.8/9, Error ellipse: s-maj=34.2km s-min=12.6km az=101.4
ISC 19 15:49:40.9±0.8, 1015S±02×1077E±02, h35km, n12, σ0§58/12, mb3.8/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.11**	**117**	P	Pn	15 54 01.8	0.0
	0.1nm,0.3s,baz=291,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**27.48**	**114**	P	P	15 55 23.4	-0.4
	0.4nm,0.4s,mb3.3,baz=287,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**28.40**	**122**	P	P	15 55 32.0	0.0
	0.3nm,0.6s,mb3.1,baz=305,slow=9.3,SNR=10						
STKA	**Stephens Creek**	**38.10**	**130**	P	P	15 56 57.0	+0.7
	1.5nm,0.6s,mb3.9,baz=319,slow=8.8,SNR=6.3						
STKA	**Stephens Creek**	**38.10**	**130**	*e*P	P	15 56 57.2	+0.9
CASY	**Casey**	**56.16**	**179**	P	P	15 59 16.4	-0.7
SONM	**Songino Array**	**57.67**	**359**	P	P	15 59 27.9	+0.2
	2.5nm,0.7s,mb4.4,baz=177,slow=8.3,SNR=24						
ULN	**Ulaanbaatar**	**57.69**	**359**	*e*P	P	15 59 27.8	-0.1
	1.4nm,0.6s,mb4.2						
MKAR	**Makanchi Array**	**61.00**	**340**	P	P	15 59 49.8	-1.0
	1.4nm,0.8s,mb4.1,baz=136,slow=8.1,SNR=7.5						
CHKZ	**Chkalovo**	**70.88**	**338**	*e*P	P	16 00 54.1	-0.2
	1.3nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**70.94**	**336**	*e*P	P	16 00 54.7	+0.1
	1.0nm,0.6s,mb3.9						
BRTR	**Keskin Array B**	**84.39**	**312**	P	P	16 02 10.8	+1.2
	0.3nm,0.4s,mb3.8,baz=122,slow=6.1,SNR=3.7						

IDC 19 16:03:38.3±1.1, 841S×12798E, h0km, mb3.7/4, mb1 3.9/7, mb1mx3.8/14, mbtmp3.7/7, ML3.7/3, Error ellipse: s-maj=81.2km s-min=19.5km az=70.0
NEIC 19 16:03:43.5±2.8, 854S×12791E, h38km±31km, Error ellipse: s-maj=24.1km s-min=19.7km az=205.0
ISCJB 19 16:03:48.1±1.5, 913S±009×12821E±008, h33km, mb3.6/4, Error ellipse: s-maj=12.6km s-min=11.4km az=141.5
ISC 19 16:03:48.4±1.7, 90S±01×12817E±010, h35km, n14, σ1§40/22, mb3.6/4, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.62**	**132**	*e*P	Pn	16 05 11.0	+1.6
	6.4nm,0.5s						
KAKA				*e*S	Sn	16 06 18.7	+6.1
FITZ	**Fitzroy Crossi**	**9.41**	**195**	*e*P	Pn	16 06 02.5	+1.0
	3.1nm,0.3s						
FITZ				*e*S	Sn	16 07 47.4	+1.3
FITZ	**Fitzroy Crossi**	**9.41**	**195**	Pn	Pn	16 06 02.3	+0.9
	0.4nm,0.3s,baz=18,slow=13,SNR=19						
FITZ				Sn	Sn	16 07 47.5	+1.4
	1.7nm,0.3s,baz=131,slow=22,SNR=12						
WRAB	**Tennant Creek**	**12.44**	**152**	*e*Pn	Pn	16 06 42.9	0.0
	3.1nm,0.4s						
WRA	**Warramunga Arr**	**12.45**	**152**	Pn	Pn	16 06 42.5	-0.5
	0.5nm,0.3s,baz=325,slow=13,SNR=41						
WRA				Sn	Sn	16 09 01.1	+0.8
	1.3nm,0.3s,baz=328,slow=23,SNR=16						
WB2	**Warramunga Arr**	**12.45**	**152**	*e*P	Pn	16 06 42.9	-0.1
WB2				*e*S	Sn	16 08 58.8	-1.7
MBWA	**Marble Bar**	**14.60**	**213**	*e*Pn	Pn	16 07 10.4	-2.0
AS31	**Alice Springs**	**15.62**	**160**	*e*P	Pn	16 07 25.8	0.0
AS31				*e*S	S	16 10 14.9	-17
ASPA	**Alice Springs**	**15.62**	**160**	*e*P	Pn	16 07 25.8	0.0
ASPA				*e*S	S	16 10 14.9	-17
ASAR	**Alice Springs**	**15.62**	**160**	Pn	Pn	16 07 26.2	+0.4
	0.3nm,0.3s,baz=330,slow=9.8,SNR=39						
ASAR				Sn	Sn	16 10 16.2	-1.5
	0.5nm,0.3s,baz=342,slow=25,SNR=7.8						
STKA	**Stephens Creek**	**25.99**	**153**	P	P	16 09 19.0	+1.1
	1.3nm,0.8s,mb3.5,baz=337,slow=13,SNR=2.7						
SONM	**Songino Array**	**59.74**	**343**	P	P	16 13 41.7	-8.0
	0.6nm,0.7s,mb3.8,baz=170,slow=7.2,SNR=4.8						
MKAR	**Makanchi Array**	**68.89**	**328**	P	P	16 14 41.4	-8.1
	0.2nm,0.5s,mb3.3,baz=127,slow=8.4,SNR=3.3						
ZAL	**Zalesovo**	**72.55**	**335**	P	P	16 15 02.9	-8.9
	0.7nm,0.3s,mb4.0,baz=212,slow=0.5,SNR=3.2						

NEIC 19 16:05:48.2, 1699N×10033W, h17km, MD4.0(MEX), After MEX.
MEX 19 16:05:48.2±0.9, 1700N×10033W, h18km±6km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.08**	**50**	*i* P	Pg	16 05 50.4	-1.3
CAIG				*i* S	Sg	16 05 53.3	-0.6
ACX	**Acapulco**	**0.42**	**108**	*i* P	Pg	16 05 55.0	-1.8
ACX				*i* S	Sg	16 06 02.0	-0.5
MEIG	**Mezcala**	**1.15**	**36**	*i* P	Pn	16 06 05.9	-3.4
MEIG				*i* S	Sb	16 06 19.5	-4.5
ZIIG	**Zihuatanejo**	**1.24**	**299**	*i* P	Pn	16 06 07.6	-3.1
ZIIG				*i* S	Sb	16 06 24.4	-2.4
PLIG	**Platanillo**	**1.60**	**30**	*i* P	Pn	16 06 12.8	-2.7
PLIG				*i* S	Sn	16 06 32.6	-3.1
YAIG	**Yautepec**	**2.21**	**33**	*i* P	Pn	16 06 20.1	-3.9
YAIG				*i* S	Sn	16 06 46.2	-4.6
IIZ	**Mezontepec**	**2.41**	**25**	*i* P	Pn	16 06 24.5	-2.2
IIZ				*i* S	Sn	16 06 51.0	-4.9
UTMO	**Huajuapan**	**2.55**	**71**	*e*P	Pn	16 06 25.6	-3.0
UTMO				*i* S	Sn	16 06 54.6	-4.6
UNM	**Universidad Na**	**2.56**	**25**	*e*P	Pn	16 06 25.0	-3.9
PPM	**Popocatepetl**	**2.62**	**38**	*i* P	Pn	16 06 28.4	-1.2
PPM				*e*P		16 06 29.5	

KKM	Kota Kinabalu	17.25	27	*e*P		Pn	16 29 41.6	+1.3
FITZ	Fitzroy Crossi	18.87	119	*e*P		Pn	16 30 00.4	+0.3
	20nm,0.8s							
FITZ	Fitzroy Crossi	18.87	119	P		Pn	16 29 59.7	-0.4
	0.4nm,0.3s,baz=259,slow=4.6,SNR=19							
FITZ				LR		LR	16 36 50.4	
	comp=Z,200nm,20.0s,baz=151,slow=36							
KAKA	Kakadu	23.86	100	*e*P		P	16 30 52.5	+0.2
	17nm,0.9s,mb4.5							
NWAO	Narrogin (SRO)	24.79	162	P		P	16 31 00.3	-0.4
	16nm,0.8s,mb4.6,baz=335,slow=9.5,SNR=8.5							
NWAO				LR		LR	16 39 23.3	
	comp=Z,184nm,21.3s,MS3.5,baz=151,slow=33							
NWAO	Narrogin (SRO)	24.79	162	*e*P		P	16 31 00.5	-0.3
NWAO				*e*			16 31 11.3	
NWAO				pmax	pmax			
	comp=Z,28nm,1.0s							
NWAO	Narrogin (SRO)	24.79	162	*e*P		P	16 31 00.5	-0.2
	comp=Z,28nm,1.0s,mb4.8							
NWAO				*e*			16 31 11.3	
NWAO				LR	LR		16 39 23.3	
NST	Nakhon Sawan	26.23	342	P		P	16 31 14.0	+0.2
WRA	Warramunga Arr	27.19	116	P		P	16 31 22.4	-0.1
	comp=Z,8.2nm,0.8s,mb4.3,baz=286,slow=11,SNR=31							
WRA				PcP		PcP	16 34 43.3	+1.2
	comp=Z,0.8nm,0.7s,baz=296,slow=2.0,SNR=4.0							
WRAB	Tennant Creek	27.20	116	*e*P		P	16 31 22.9	+0.4
WRAB				*e*		pP	16 31 32.6	+0.5
WRAB				pmax	pmax			
	comp=Z,12nm,0.7s,mb4.5							
WRAB	Tennant Creek	27.20	116	*e*P		P	16 31 22.9	+0.4
	comp=Z,12nm,0.7s,mb4.5							
WRAB				*e*		pP	16 31 32.6	+0.5
WB2	Warramunga Arr	27.20	116	*e*P		P	16 31 22.5	-0.1
WB2				*e*		pP	16 31 33.0	+0.9
ASPA	Alice Springs	28.23	123	*e*P		P	16 31 31.7	0.0
ASPA				*e*			16 31 35.7	
AS31	Alice Springs	28.23	123	*e*P		P	16 31 31.7	0.0
AS31				*e*			16 31 35.7	
ASAR	Alice Springs	28.23	123	P		P	16 31 30.9	-0.8
	comp=Z,7.8nm,0.8s,mb4.4,baz=298,slow=7.9,SNR=39							
ASAR				PcP		PcP	16 34 45.9	+1.2
	comp=Z,1.5nm,0.6s,baz=300,slow=2.3,SNR=9.9							
ASAR				LR		LR	16 42 43.4	
	comp=Z,273nm,21.4s,MS3.8,baz=314,slow=36							
ASAR	Alice Springs	28.23	123	P		P	16 31 31.0	-0.7
ASAR							16 34 45.9	
ASAR	Alice Springs	28.23	123	P		P	16 31 30.9	-0.8
ASAR				PcP		PcP	16 34 45.9	+1.2
ASAR				LR		LR	16 42 43.4	
QIZ	Qiongzhong	28.31	3	P		P	16 31 38.1	+5.6
QIZ				S		S	16 36 22.5	+5.9
QIZ				LR	LR			
	comp=E,290nm,19.1s							
QIZ				LR	LR			
	comp=Z,280nm,16.2s,MS4.0							
NANT	Nan	29.04	345	P		P	16 31 40.0	+1.1
CHG	Chiang Mai	29.55	342	⇓P		P	16 31 43.9	+0.4
	comp=Z,13nm,0.9s,mb4.7							
CHTO	Chiang Mai	29.55	342	*e*P		P	16 31 43.5	0.0
CHTO				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.6							
CHTO	Chiang Mai	29.55	342	*e*P		P	16 31 43.5	0.0
	comp=Z,10nm,0.8s,mb4.6							
KMI	Kunming	34.77	351	P		P	16 32 29.9	+0.7
KMI				AP		pP	16 32 36.8	-2.1
KMI				XP		sP	16 32 40.0	-2.9
KMI				SSS			16 41 57.8	
KMI				AMB	AMB			
	comp=Z,7.0nm,1.3s,mb4.4							
KMI				AMB	AMB			
	comp=Z,136nm,5.0s							
KMI				LR	LR			
	comp=N,467nm,14.3s,MS4.4							
KMI				LR	LR			
	comp=E,270nm,15.8s,MS4.4							
KMI				LR	LR			
	comp=Z,502nm,15.0s,MS4.4							
GYA	Guiyang	35.70	357⇑	*i*P		P	16 32 38.4	+1.2
GYA				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.8							
STKA	Stephens Creek	38.05	131	*e*P		P	16 32 57.4	+0.2
	comp=Z,25nm,0.8s,mb5.0							
STKA				*e*		pP	16 33 07.9	+0.9
STKA	Stephens Creek	38.05	131	P		P	16 32 57.5	+0.4
	comp=Z,31nm,0.8s,mb5.1,baz=306,slow=8.0,SNR=56							
STKA				LR		LR	16 48 17.3	
	comp=Z,110nm,21.4s,MS3.6,baz=209,slow=36							
CTA	Charters Tower	38.07	111	P		P	16 32 59.1	+1.8
	comp=Z,9.1nm,1.0s,mb4.5,baz=273,slow=10.0,SNR=4.4							
JOW	Kunigami	40.90	28	LR		LR	16 53 33.9	
	comp=Z,106nm,18.6s,MS3.7,baz=123,slow=41							
NJ2	Nanjing	42.44	13	*e*P		P	16 33 34.3	+0.7
NJ2				AP		pP	16 33 44.1	+0.6
NJ2				XP		sP	16 33 48.1	+0.6
NJ2				PP		PP	16 35 15.0	+2.7
NJ2				S		S	16 39 52.0	-1.1
NJ2				XS		sS	16 40 09.0	-0.4
NJ2				AMB	AMB			
	comp=Z,30nm,1.1s,mb4.8							
NJ2				AMB	AMB			
	comp=Z,110nm,4.9s							
NJ2				LR	LR			
	comp=N,230nm,10.0s,MS4.5							
NJ2				LR	LR			
	comp=E,260nm,12.2s,MS4.5							
NJ2				LR	LR			
	comp=Z,2μm,19.3s							
JIRN	Jiri	42.65	330	*e*P		P	16 33 35.9	+0.6
	comp=Z,61nm,0.8s,mb5.4							
PKI	Pulchoki	42.97	329	*e*P		P	16 33 38.1	+0.3
GUN	Gumba	43.01	330	*e*P		P	16 33 38.7	+0.5
	comp=Z,64nm,0.7s,mb5.4							
DMN	Daman	43.15	329	*e*P		P	16 33 39.5	+0.2
	comp=Z,44nm,0.8s,mb5.2							
KKN	Kakani	43.21	330	*e*P		P	16 33 39.8	0.0
	comp=Z,56nm,0.9s,mb5.3							
KKN	Kakani	43.21	330	*e*P		P	16 33 39.8	0.0
KKN				pmax	pmax			
	comp=Z,56nm,0.9s,mb5.3							
XAN	Xi'an	43.22	1	P		P	16 33 39.8	-0.1
XAN				AP		pP	16 33 49.4	-0.4
XAN				AMB	AMB			
	comp=Z,20nm,1.0s,mb4.8							
XAN				LR	LR			
	comp=E,271nm,20.8s							
XAN				LR	LR			
	comp=Z,362nm,16.5s,MS4.4							
GKN	Gorkha	43.71	329	*e*P		P	16 33 43.7	-0.1
	comp=Z,40nm,0.8s,mb5.2							
KOLN	Koldanda	44.06	328	*e*P		P	16 33 46.8	+0.2
	comp=Z,69nm,0.8s,mb5.5							
LZH	Lanzhou	45.46	355	*e*P		P	16 33 58.9	+1.1
LZH				AP		pP	16 34 04.5	-3.2
LZH				XP		sP	16 34 07.8	-3.9
LZH				AMB	AMB			
	comp=Z,35nm,1.4s,mb5.0							
LZH				AMB	AMB			
	comp=Z,186nm,5.0s							
TIA	Tai'an	46.13	10	*e*P		P	16 34 02.5	-0.6
GTA	Gaotai	49.22	351	*e*P		P	16 34 27.8	+0.7
GTA				AP		pP	16 34 37.1	0.0
GTA				XP		sP	16 34 41.8	+0.8
GTA				AMB	AMB			
	comp=Z,8.0nm,1.3s,mb4.6							
BJT	Baijiatuau	49.72	8	*e*P		P	16 34 31.0	+0.1
BJT				pmax	pmax			
	comp=Z,22nm,1.0s							
BJT	Baijiatuau	49.72	8	*e*P		P	16 34 31.0	+0.2
	comp=Z,22nm,1.0s,mb5.1							
BJI	Beijing	49.74	8	P		P	16 34 30.6	-0.4
BJI				AMB	AMB			
	comp=Z,17nm,1.0s,mb5.0							
BJI				AMB	AMB			
	comp=Z,204nm,5.3s							
BJI				LR	LR			
	comp=N,193nm,15.8s,MS4.3							
BJI				LR	LR			
	comp=E,144nm,15.8s,MS4.3							
BJI				LR	LR			
	comp=Z,91nm,17.0s,MS3.9							
BTO	Baotou	49.80	2	*e*P		P	16 34 31.0	-0.5
MJAR	Matsushiro Arr	53.65	30	P		P	16 34 58.5	-1.8
	comp=Z,5.0nm,0.8s,mb4.5,baz=211,slow=7.1,SNR=9.7							
SONM	Songino Array	57.03	358	P		P	16 35 24.9	+0.4
	comp=Z,3.6nm,0.7s,mb4.5,baz=174,slow=8.2,SNR=24							
SONM				LR		LR	17 01 35.0	
	comp=Z,173nm,20.3s,MS4.2,baz=89,slow=38							
ULN	Ulaanbaatar	57.04	359	*e*⇑*i*P		P	16 35 22.4	-2.2
ULN	Ulaanbaatar	57.04	359	*e*P		P	16 35 25.2	+0.6
	comp=Z,4.1nm,0.6s,mb4.6							
WSAR	Wadi Sarin	58.47	305	LR		LR	17 00 42.0	
	comp=Z,124nm,20.5s,MS4.0,baz=148,slow=36							
ZAK	Zakamensk	59.71	356	*e*P		P	16 35 43.2	-0.1
ZAK				*e*			16 36 34.6	
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.5s,mb4.1							
ZAK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.2							
AAK	Ala-Archa	60.33	332⇑	*e*P		P	16 35 47.9	+0.4
AAK				pmax	pmax			
	comp=Z,5.0nm,1.3s,mb4.4							
AAK	Ala-Archa	60.33	332	*e*P		P	16 35 48.1	+0.6
MK31	Makanchi Array	60.60	340	P		P	16 35 48.9	-0.5
MK31				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.9							
MKAR	Makanchi Array	60.60	340	P		P	16 35 49.0	-0.3
	comp=Z,13nm,0.7s,mb5.2,baz=145,slow=7.4,SNR=133							
MKAR	Makanchi Array	60.60	340⇑	*e*P		P	16 35 49.0	-0.4
KLR	Kul'dur	61.91	17	*e*P		P	16 35 53.1	-5.1
YSS	Yuzh-Sakhalins	63.95	26⇑	*i*P		P	16 36 08.0	-3.8
YSS				pmax	pmax			
	comp=Z,12nm,0.8s,mb5.0							
KURK	Kurchatov	65.22	340⇑	*i*P		P	16 36 19.6	-0.4
KURK	Kurchatov	65.22	340	*e*P		P	16 36 19.5	-0.5
	comp=Z,10.0nm,0.8s,mb4.9							
MAW	Mawson	65.46	197	P		P	16 36 21.1	-0.5
	comp=Z,4.0nm,0.8s,mb4.5,baz=37,slow=9.5,SNR=2.1							
ZAL	Zalesovo	66.19	345	P		P	16 36 26.1	-0.3
	comp=Z,2.3nm,0.8s,mb4.2,baz=0.2,slow=2.8,SNR=15							
KRAR	Krasnoyarsk	66.45	351⇓	*e*P		P	16 36 25.2	-2.8
KRAR				pmax	pmax			
	comp=Z,26nm,0.8s,mb5.3							
BVA0	Borovoye Array	70.10	337	*i*P		P	16 36 50.5	-0.4
BVA0				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.8							
CHKZ	Chkalovo	70.52	337	*i*P		P	16 36 53.0	-0.4
CHKZ				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
CHKZ	Chkalovo	70.52	337	*e*P		P	16 36 52.9	-0.5
	comp=Z,10nm,0.8s,mb4.8							
ZRNK	Zerenda	70.59	336	*e*P		P	16 36 53.6	-0.3
ZRNK				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.6							
ZRNK	Zerenda	70.59	336	*e*P		P	16 36 53.6	-0.3
	comp=Z,6.2nm,0.8s,mb4.6							
KMBO	Kilima Mbogo	71.17	272	*i*P		pP	16 37 08.5	+0.8
KMBO				pmax	pmax			
	comp=Z,2.0nm,0.8s							
AB31	Akbulak array	72.16	329	*i*P		P	16 37 02.6	-0.7
AB31				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.6							
YAK	Yakutsk	73.15	10	*e*P		P	16 37 09.9	+0.7
YAK				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.7							
YAK				pmax	pmax			
	comp=N,3.0nm,1.2s							
VNDA	Vanda	73.36	169	P		P	16 37 09.9	-0.5
	comp=N,5.0nm,0.8s,mb4.5,baz=310,slow=6.1,SNR=20							
VNDA	Vanda	73.36	169	*e*P		P	16 37 09.8	-0.6
VNDA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
VNDA	Vanda	73.36	169	*e*P		P	16 37 09.8	-0.7
	comp=Z,5.1nm,0.9s,mb4.5							
AKTK	Aktyubinsk	73.87	329	P		P	16 37 12.0	-1.5
AKTO	Aktyubinsk	73.87	329	P		P	16 37 12.0	-1.5
	comp=Z,0.5nm,0.3s,mb3.9,baz=327,slow=1.0,SNR=2.6							
SVE	Sverdlovsk	76.75	335	*e*P		P	16 37 31.5	+1.5
ARU	Arti	77.37	334	*e*P		P	16 37 30.4	-3.1
ARU				*e*		pP	16 37 41.5	-2.4
ARU				*e*			16 40 22.5	
ARU				*e*S		S	16 47 14.8	-6.7
ARU	Arti	77.37	334	P		P	16 37 32.6	-0.9
	comp=Z,8.5nm,1.1s,mb4.6							
LSZ	Lusaka	78.15	256	P		P	16 37 38.6	+0.8
	comp=Z,1.1nm,0.8s,mb3.9,baz=67,slow=7.7,SNR=3.0							
KIV	Kislovodsk	79.56	318	*i*P		P	16 37 46.7	+1.1
ASF	Jabal al Asfar	79.63	305	P		P	16 37 48.4	+2.4
	comp=Z,3.1nm,0.9s,mb4.2,baz=88,slow=2.6,SNR=3.2							
QSPA	South Pole Qui	80.58	180	*e*P		P	16 37 49.6	-1.5
	comp=Z,13nm,1.2s,mb4.8							
SOC	Sochi	81.40	317	*c*⇑*i*P		P	16 37 56.0	+0.6
SOC				*e**PP		pP	16 38 06.8	+0.8
SOC				*e*S		S	16 48 05.9	+1.7
SOC				*e*SSS			16 56 47.0	
SOC				pmax	pmax			
	comp=Z,9.0nm,0.5s,mb5.0							
TIXI	Tiksi	82.04	6⇑	*e*P		P	16 37 58.1	-0.7
TIXI				pmax	pmax			
	comp=Z,11nm,0.8s,mb4.8							
ANN	Anapa	83.37	317	*e*P		P	16 38 02.4	-3.3
ANN				pmax	pmax			
	comp=Z,41nm,1.2s,mb5.3							
BRTR	Keskin Array B	84.42	312	P		P	16 38 12.4	+1.4
	comp=Z,2.5nm,0.9s,mb4.3,baz=134,slow=7.1,SNR=12							
VRSR	Storozhevoye	84.58	324	*e*P		P	16 38 12.8	+0.9
VRSR				pmax	pmax			
	comp=Z,10.0nm,0.5s,mb5.2							
VRSR				pmax	pmax			
	comp=N,3.0nm,0.4s							
VRSR				pmax	pmax			
	comp=E,6.0nm,0.7s							
OBN	Obninsk	87.47	327⇓	*e*P		P	16 38 26.4	+0.2
OBN				*e*		pP	16 38 36.1	-0.7
OBN				pmax	pmax			
	comp=Z,15nm,0.8s,mb5.3							
SNAA	Sanae	87.63	197	*e*P		pP	16 38 36.9	-0.6
SNAA				*e*			16 38 38.9	
SNAA				*e*			16 38 47.8	
SNAA				*e*			16 38 51.9	
SNAA	Sanae	87.63	197	*e*P		P	16 38 26.6	-0.3
SNAA				*e*		pP	16 38 36.9	-0.6
SNAA				pmax	pmax			
	comp=Z,22nm,1.9s							
SNAA	Sanae	87.63	197	*e*P		P	16 38 26.6	-0.3
	comp=Z,22nm,1.9s,mb5.1							
SNAA				*e*		pP	16 38 36.9	-0.6
VNA1	Neumayer--Stat	89.66	197	*e*P		pP	16 38 47.2	+0.1
VNA1				*e*			16 38 49.1	
VNA1				*e*			16 38 58.4	
VNA1				*e*			16 39 03.4	
AKASG	Malin Array Be	90.41	321	*i*P		P	16 38 42.0	+2.0
ARCES	ARCESS Array B	96.26	339	LR		LR	17 28 41.3	
	comp=Z,73nm,18.5s,MS4.2,baz=0.3,slow=39							
PPT	Papeete	98.52	109	LR		LR	17 15 42.3	
	comp=Z,171nm,21.5s,MS4.5,baz=290,slow=30							
WMOK	Wichita Mounta	144.63	40	*e*PKIKP		PKPdf	16 45 15.6	+0.5
LONY	Lake Ozonia	144.84	4	*e*PKP		PKPdf	16 45 15.2	-0.2
MIV	Mineville/With	145.44	2	*e*PKP		PKPdf	16 45 17.5	+1.0
NCB	Newcomb	145.51	3	*e*PKP		PKPdf	16 45 17.1	+0.5
JCT	Junction City	146.42	47	*e*PKP2		PKPab	16 45 21.7	+1.3
MIAR	Mount Ida	147.93	35	*e*PKP2		PKPab	16 45 26.1	-0.2
PLAL	Pickwick Lake	150.45	28	*e*PKPbc		PKPbc	16 45 31.7	+1.7
CPCT	Cooper Cave	151.55	22	*e*PKPbc		PKPbc	16 45 35.0	+2.3

CASC 19 16:26:25.7±2.6, 1326N×9003W, h27km±8km, MD3.9, ML4.3,11C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNJE	San Jose	0.73	35⇑	*e*P	x	16 26 55.1	
SNJE				*e*S	x	16 27 08.7	
BOQS	Boqueron	0.87	57⇓	*e*P	x	16 26 57.2	
BOQS				*e*S	x	16 27 08.3	
RBDL	Robledal	0.91	22⇑	*i*P	x	16 26 58.3	
RBDL				*e*S	x	16 27 12.5	
IXG	Ixpaco	0.99	336⇓	*e*P	Pn	16 26 43.2	-0.6
IXG				*e*S	Sb	16 26 56.4	-0.5
LFU	La Fuente	1.02	62⇑	*e*P	x	16 26 59.4	
LFU				*e*S	x	16 27 13.7	
LBRS	Las Brisas	1.07	64⇑	*e*P	x	16 26 60.0	
LBRS				*e*S	x	16 27 17.5	
SNVI	San Vicente	1.21	73	*e*P	x	16 27 01.9	
SNVI				*e*S	x	16 27 17.7	
PCG	Pacaya	1.25	334⇑	*e*P	Pn	16 26 48.5	+1.1
PCG				*e*S	Sn	16 27 04.6	+1.1
FUG	Fuego 3	1.42	326	⇓*i*P	Pn	16 26 50.1	+0.4
VSM	San Miguel	1.72	84	*e*P	x	16 27 09.0	
VSM				*e*S	x	16 27 30.9	
BLLM	Bellamira	1.76	84⇓	*e*P	x	16 27 09.6	
BLLM				*e*S	x	16 27 32.0	
TP2	Tecpan 2	1.79	328⇑	*e*P	Pn	16 26 55.7	+0.9
TP2				*e*S	Sn	16 27 19.1	+2.5
JAT	Jato	1.88	304⇓	*e*P	Pn	16 26 56.5	+0.5
CNCH	Conchagua	2.14	89	*e*P	x	16 27 15.2	
CNCH				*e*S	x	16 27 41.4	
CRIN	San Cristobal	2.96	101⇑	*e*P	Pn	16 27 11.6	+0.6
LEON	Leon	3.18	105	*e*P	Pn	16 27 12.4	-1.5
TELN	Telica	3.19	101⇑	*e*P	Pn	16 27 15.5	+1.4
MIRN	Miramar	3.34	104	*e*P	Pn	16 27 15.8	-0.4
MIRN				*e*S	Sn	16 27 54.8	-0.2
MOMJ	Momotombo	3.51	104	*e*P	Pn	16 27 18.4	-0.1
MOMJ				*e*S	Sn	16 28 00.3	+1.1
COPN	Copaltepe	3.53	107⇑	*e*P	Pn	16 27 18.0	-0.7
APYN	Apoyeque	3.74	105⇑	*e*P	Pn	16 27 21.5	-0.1
APYN				*e*S	Sn	16 28 06.2	+1.6
XAVN	Gruta Xavier	3.78	107⇑	*e*P	Pn	16 27 21.9	-0.3
TICN	Ticuantepe	3.91	108	*e*P	Pn	16 27 24.3	+0.4
CONN	Concepcion	4.63	111	*e*P	Pn	16 27 33.3	-0.5
VCR	Vista de Mar	5.32	125	*e*P	Pn	16 27 43.9	+0.6
CGA2	Cerro Gallo 2	6.34	120	*e*P	Pn	16 27 59.6	+2.3
PRS1	Puriscal	6.48	120	*e*P	Pn	16 28 01.2	+1.9
PRS1				*e*S	Sn	16 29 13.6	+1.1
LCR2	La Lucha 2	6.87	120	*e*P	Pn	16 28 07.1	+2.5
BUS	Buena Vista	7.17	120	*e*P	Pn	16 28 11.7	+2.9

IDC 19 16:42:38.1±2.2, 254N×9582E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/20, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=71.8km s-min=27.0km az=51.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	3.11	85	Pn	Pn	16 43 28.9	+0.5
	1.8nm,0.3s,baz=297,slow=16,SNR=5.1						
WRA	Warramunga Arr	43.91	122	P	P	16 50 45.8	-0.7
	0.3nm,0.7s,baz=300,slow=9.1,SNR=3.9						
ASAR	Alice Springs	45.30	127	P	P	16 50 58.8	+1.3
	0.4nm,0.5s,baz=300,slow=7.6,SNR=12						
MKAR	Makanchi Array	45.63	347	P	P	16 51 00.2	0.0
	0.5nm,0.6s,baz=144,slow=8.0,SNR=7.8						

IDC ***19*** *16:41:00.1±24.0, 2675N×7398E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.6/21, mbtmp4.1/4, Error ellipse: s-maj=465.1km s-min=62.5km az=155.0*
ISCJB ***19*** *16:42:45.8±3.8, 370N±02×705E±02, h228km±30km, mb3.7/2, Error ellipse: s-maj=39.9km s-min=23.3km az=5.3*
NNC ***19*** *16:42:45.3±18.0, 3732N×7062E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=159.5km s-min=143.5km az=86.0*

ISC 19 16:42:47.6±4.1, 371N±03×706E±02, h229km±31km, n7, σ1°02/9, mb3.7/2, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	6.02	360	Pn	Pn	16 44 14.8	-0.7
	1.0nm,0.2s,baz=171,slow=11,SNR=108						
KK31				⇑Sn	S	16 45 25.3	-0.4
	2.8nm,0.5s,baz=159,slow=18,SNR=5.1						
TKM2	Tokmak 2	7.00	32	⇓Pn	Pn	16 44 27.5	-0.4
	0.6nm,0.5s						
TKM2				⇓Sn	S	16 45 48.8	+0.6
	0.5nm,1.0s						
MKAR	Makanchi Array	13.04	38	P	Pn	16 45 45.8	+1.2
	0.5nm,0.3s,baz=198,slow=9.2,SNR=14						
AB31	Akbulak array	14.41	331	⇑Pn	Pn	16 46 02.8	+1.3
	0.2nm,0.3s,baz=152,slow=12,SNR=13						
ZAL	Zalesovo	19.52	26	P	P	16 46 55.3	-2.6
	1.8nm,0.3s,baz=248,slow=4.6,SNR=4.2						
FINES	FINESS Array B	36.82	326	P	P	16 49 33.1	-0.5
	0.5nm,0.4s,mb3.4,baz=119,slow=15,SNR=3.9						
ARCES	ARCESS Array B	40.48	337	P	P	16 50 04.6	+0.5
	6.3nm,1.1s,mb4.0,baz=111,slow=7.2,SNR=6.0						

ISCJB ***19*** *16:57:30.7±1.2, 99S±03×1085E±03, h10km, mb3.9/10, Error ellipse: s-maj=59.4km s-min=12.1km az=92.6*
IDC ***19*** *16:57:30.8±1.8, 1004S×10836E, h0km, mb3.9/6, ML3.5/1, Error ellipse: s-maj=84.4km s-min=18.7km az=48.0*
NEIC ***19*** *16:57:32.2±0.8, 1001S×10838E, h10km, mb4.2/4, Error ellipse: s-maj=41.9km s-min=8.7km az=47.0*

ISC 19 16:57:32.5±1.2, 100S±03×1084E±03, h10km, n12, σ0°48/12, mb3.9/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	18.56	118	P	Pn	17 01 49.4	-0.2
	0.1nm,0.3s,baz=322,slow=16,SNR=6.7						
WRA	Warramunga Arr	26.91	115	P	P	17 03 13.3	-0.4
	0.7nm,0.7s,mb3.3,baz=286,slow=11,SNR=4.7						
ASAR	Alice Springs	27.89	122	P	P	17 03 22.9	+0.4
	0.5nm,0.5s,mb3.4,baz=297,slow=9.6,SNR=11						
STKA	Stephens Creek	37.65	130	P	P	17 04 48.0	+0.3
	1.4nm,0.8s,mb3.7,baz=306,slow=15,SNR=2.9						
STKA	Stephens Creek	37.65	130	P	P	17 04 48.0	+0.3
SONM	Songino Array	57.57	358	P	P	17 07 23.0	+0.7
	1.1nm,0.6s,mb4.1,baz=178,slow=7.8,SNR=9.5						
ULN	Ulaanbaatar	57.59	359	*e*P	P	17 07 22.6	+0.1
	1.9nm,0.8s,mb4.2						
MKAR	Makanchi Array	61.13	340	P	P	17 07 47.2	+0.3
	1.8nm,0.7s,mb4.3,baz=144,slow=7.5,SNR=23						
KURK	Kurchatov	65.75	340	*e*P	P	17 08 17.6	+0.1
	2.2nm,1.0s,mb4.1						
BRVK	Borovoye	70.69	337	P	P	17 08 47.4	-1.2

FITZ	**Fitzroy Crossi**	**18.75**	**119**	P		**Pn**	**17 10 43.8**	**+0.4**
	0.2nm,0.3s,baz=290,slow=5.4,SNR=6.2							
WRA	**Warramunga Arr**	**27.07**	**116**	P		**P**	**17 12 07.2**	**+0.5**
	1.6nm,0.7s,mb3.7,baz=288,slow=11,SNR=10							
WRAB	**Tennant Creek**	**27.08**	**116**	*e*P		**P**	**17 12 06.2**	**-0.6**
	4.2nm,0.8s,mb4.0							
AS31	**Alice Springs**	**28.12**	**123**	*e*P		**P**	**17 12 16.2**	**+0.1**
ASAR	**Alice Springs**	**28.12**	**123**	P		**P**	**17 12 16.4**	**+0.3**
	1.7nm,0.9s,mb3.7,baz=300,slow=8.3,SNR=10.0							
STKA	**Stephens Creek**	**37.95**	**131**	P		**P**	**17 13 42.7**	**+1.0**
	8.3nm,0.7s,mb4.6,baz=302,slow=9.8,SNR=14							
STKA	**Stephens Creek**	**37.95**	**131**	P		**P**	**17 13 42.7**	**+1.0**
SONM	**Songino Array**	**57.03**	**358**	P		**P**	**17 16 10.3**	**+0.3**
	1.2nm,0.5s,mb4.2,baz=178,slow=8.4,SNR=14							
ULN	**Ulaanbaatar**	**57.05**	**359**	*e*P		**P**	**17 16 10.4**	**+0.2**
	1.3nm,1.0s,mb3.9							
MKAR	**Makanchi Array**	**60.65**	**340**	P		**P**	**17 16 35.2**	**0.0**
	1.5nm,0.5s,mb4.4,baz=148,slow=8.2,SNR=38							
KURK	**Kurchatov**	**65.27**	**340**	*e*P		**P**	**17 17 05.4**	**-0.6**
	2.5nm,0.8s,mb4.3							
MAW	**Mawson**	**65.50**	**198**	P		**P**	**17 17 07.8**	**+0.3**
	1.2nm,0.6s,mb4.1,baz=45,slow=5.7,SNR=1.3							
BRVK	**Borovoye**	**70.22**	**337**	*e*P		**P**	**17 17 36.8**	**-0.4**
	0.7nm,0.6s,mb3.8							
CHKZ	**Chkalovo**	**70.57**	**337**	*e*P		**P**	**17 17 39.1**	**-0.2**
	1.9nm,0.6s,mb4.2							
VNDA	**Vanda**	**73.33**	**170**	P		**P**	**17 17 56.0**	**+0.2**
	1.1nm,0.8s,mb3.8,baz=297,slow=5.0,SNR=5.3							
VNDA	**Vanda**	**73.33**	**170**	*e*P		**P**	**17 17 56.1**	**+0.2**
BRTR	**Keskin Array B**	**84.52**	**312**	P		**P**	**17 18 57.5**	**+0.2**
	0.6nm,0.5s,mb4.0,baz=67,slow=3.2,SNR=3.7							

CASC 19 17:23:20.0±1.2**, 1172N**×**8749W, h37**km±999km**, MD3.9, ML2.9, 3C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LEON	**Leon**	**0.91**	**40**⇑	*e*P		Pn	17 23 36.3	+0.1
COPN	**Copaltepe**	**0.99**	**62**↓	*e*P		Pn	17 23 37.7	+0.3
MIRN	**Miramar**	**1.04**	**47**↓	*e*P		Pn	17 23 38.2	0.0
TEL3	**Telica 3**	**1.06**	**36**	*e*P		Pn	17 23 37.7	-0.6
CRIN	**San Cristobal**	**1.07**	**24**↓	*e*P		Pn	17 23 38.4	0.0
CNGN	**Cerro Negro**	**1.10**	**45**↓	*e*P		Pn	17 23 39.0	+0.1
MOMJ	**Momotombo**	**1.15**	**53**⇑	*e*P		Pn	17 23 39.5	-0.1
XAVN	**Gruta Xavier**	**1.22**	**69**	*e*P		Pn	17 23 40.5	+0.1
APYN	**Apoyeque**	**1.23**	**65**	*e*P		Pn	17 23 40.9	+0.3
APYN				*e*S		Sn	17 23 56.5	+0.5
TISN	**Laguna Tiscapa**	**1.27**	**70**	*e*P		Pn	17 23 41.4	+0.3
TICN	**Ticuantepe**	**1.27**	**76**	*e*P		Pn	17 23 41.0	-0.2
MGAN	**Managua**	**1.29**	**71**	*e*P		Pn	17 23 42.2	+0.7
MGAN				*e*S		Sn	17 24 01.8	+4.3
MGAN				*i*			17 24 02.6	
	comp=N,213nm,0.5s							
APON	**Apoyo**	**1.41**	**82**↓	*e*P		Pn	17 23 42.9	-0.2
PYTN	**Playitas**	**1.62**	**60**	*e*P		Pn	17 23 46.2	+0.2
CONN	**Concepcion**	**1.83**	**95**	*e*P		Pn	17 23 48.9	0.0
LCBS	**La Ceiba**	**2.41**	**323**	*e*P		x	17 24 08.6	
LCBS				*e*S		x	17 24 37.8	
PRS1	**Puriscal**	**3.56**	**119**	*e*P		Pn	17 24 15.0	+2.2
LCR2	**La Lucha 2**	**3.95**	**119**	*e*P		Pn	17 24 18.6	+0.6
BUS	**Buena Vista**	**4.25**	**120**⇑	*e*P		Pn	17 24 23.3	+1.1
BUS				*e*S		Sn	17 25 12.8	+2.3

IDC ***19*** *17:29:32.1±2.5, 891S×10804E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/16, mbtmp3.6/5, Error ellipse: s-maj=116.6km s-min=21.3km az=53.0*

NEIC ***19*** *17:29:32.1±1.4, 920S×10766E, h10km, mb4.4/3, Error ellipse: s-maj=69.1km s-min=11.0km az=52.0*

ISCJB ***19*** *17:29:33.7±2.0, 9.1S±04×1077E±05, h33km, mb3.8/8, Error ellipse: s-maj=92.9km s-min=15.1km az=104.1*

ISC 19 17:29:35.8±2.0**, 92S**±04×**1076E**±05**, h35**km**, n9**, σ0**°32/9, mb3.8/8, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.93**	**115**	P		**P**	**17 35 22.1**	**-0.6**
	0.3nm,0.6s,mb3.1,baz=288,slow=11,SNR=3.5							
ASAR	**Alice Springs**	**28.94**	**123**	P		**P**	**17 35 32.0**	**+0.3**
	0.1nm,0.4s,mb2.9,baz=302,slow=8.0,SNR=6.9							
STKA	**Stephens Creek**	**38.73**	**131**	P		**P**	**17 36 56.7**	**+0.2**
	2.1nm,1.0s,mb3.8,baz=322,slow=12,SNR=3.5							
STKA	**Stephens Creek**	**38.73**	**131**	P		**P**	**17 36 56.7**	**+0.2**
SONM	**Songino Array**	**56.82**	**359**	P		**P**	**17 39 17.0**	**+0.4**
	0.6nm,0.6s,mb3.8,baz=172,slow=8.1,SNR=6.1							
ULN	**Ulaanbaatar**	**56.84**	**360**	P		**P**	**17 39 16.8**	**0.0**
	0.8nm,0.4s,mb4.1							
MKAR	**Makanchi Array**	**60.17**	**340**	P		**P**	**17 39 40.1**	**+0.1**
	1.8nm,0.5s,mb4.3,baz=142,slow=7.8,SNR=34							
KURK	**Kurchatov**	**64.78**	**340**	*e*P		**P**	**17 40 10.5**	**-0.3**
	2.7nm,0.9s,mb4.3							
CHKZ	**Chkalovo**	**70.06**	**338**	*e*P		**P**	**17 40 44.0**	**-0.2**
	2.7nm,0.8s,mb4.2							

IDC ***19*** *17:43:13.3±2.7, 928S×10849E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/15, mbtmp3.7/5, Error ellipse: s-maj=127.1km s-min=21.3km az=53.0*

NEIC ***19*** *17:43:14.2±1.5, 940S×10831E, h10km, mb4.1/1, Error ellipse: s-maj=75.2km s-min=10.5km az=54.0*

ISCJB ***19*** *17:43:15.3±2.0, 94S±04×1083E±06, h33km, mb3.7/6, Error ellipse: s-maj=100.0km s-min=14.5km az=108.4*

ISC 19 17:43:17.5±2.1**, 95S**±04×**1082E**±06**, h35**km**, n8, σ0**°19/8, mb3.7/6, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBWA	**Marble Bar**	**16.05**	**138**	Pn		**Pn**	**17 47 00.3**	**-0.2**
WRA	**Warramunga Arr**	**27.29**	**115**	P		**P**	**17 48 58.8**	**+0.1**
	0.6nm,0.8s,mb3.1,baz=287,slow=12,SNR=4.5							
ASAR	**Alice Springs**	**28.31**	**123**	P		**P**	**17 49 07.7**	**-0.1**
	0.5nm,0.6s,mb3.3,baz=298,slow=8.5,SNR=11							
STKA	**Stephens Creek**	**38.11**	**131**	P		**P**	**17 50 33.2**	**+0.2**
	3.2nm,0.8s,mb4.1,baz=312,slow=12,SNR=4.6							
STKA	**Stephens Creek**	**38.11**	**131**	P		**P**	**17 50 33.2**	**+0.2**
SONM	**Songino Array**	**57.11**	**359**	P		**P**	**17 53 00.2**	**-0.1**
	0.3nm,0.6s,mb3.5,baz=176,slow=8.7,SNR=3.8							
MKAR	**Makanchi Array**	**60.63**	**340**	P		**P**	**17 53 25.1**	**+0.3**
	0.8nm,0.5s,mb4.1,baz=143,slow=7.7,SNR=12							
KURK	**Kurchatov**	**65.24**	**340**	*e*P		**P**	**17 53 55.2**	**-0.2**
	0.8nm,0.6s,mb3.9							

CASC 19 17:54:04.3±2.5**, 1137N**×**8708W, h44**km±262km**, MD4.3, ML3.5, 7C-9D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
COPN	**Copaltepe**	**0.94**	**31**↓	*e*P		Pn	17 54 21.6	+0.5
LEON	**Leon**	**1.06**	**10**⇑	*e*P		Pn	17 54 22.9	+0.2
TICN	**Ticuantepe**	**1.06**	**51**↓	*e*P		Pn	17 54 23.4	+0.7
XAVN	**Gruta Xavier**	**1.07**	**43**↓	*e*P		Pn	17 54 23.3	+0.4
TISN	**Laguna Tiscapa**	**1.11**	**46**↓	*e*P		Pn	17 54 23.7	+0.3
APYN	**Apoyeque**	**1.12**	**40**	*e*P		Pn	17 54 23.4	-0.1
MGAN	**Managua**	**1.13**	**46**	*e*P		Pn	17 54 24.1	+0.5
MGAN				*e*S		Sn	17 54 38.7	+0.8
MGAN				*i*			17 54 51.3	
	comp=N,1μm,0.4s							
MIRN	**Miramar**	**1.13**	**19**↓	*e*P		Pn	17 54 23.8	+0.1
APON	**Apoyo**	**1.14**	**61**⇑	*e*P		Pn	17 54 23.6	-0.2
MOMJ	**Momotombo**	**1.17**	**27**⇑	*e*P		Pn	17 54 24.3	+0.2
CNGN	**Cerro Negro**	**1.19**	**18**↓	*e*P		Pn	17 54 24.7	+0.2
SSNN	**San Juan del S**	**1.21**	**94**⇑	*e*P		Pn	17 54 23.9	-0.8
TELN	**Telica**	**1.26**	**11**	*e*P		Pn	17 54 25.2	-0.2
CRIN	**San Cristobal**	**1.33**	**1**	*e*P		Pn	17 54 26.6	+0.2
CONN	**Concepcion**	**1.44**	**82**⇑	*e*P		Pn	17 54 27.2	-0.7
MADN	**Villa Maderas**	**1.52**	**88**↓	*e*P		Pn	17 54 28.4	-0.5
PYTN	**Playitas**	**1.54**	**41**⇑	*e*P		Pn	17 54 29.3	+0.1
LIM1	**Limonal**	**1.91**	**110**	*i* P		Pn	17 54 32.5	-1.9
CNCH	**Conchagua**	**2.04**	**339**↓	*e*P		x	17 54 51.3	
CNCH				*e*S		x	17 55 15.7	
BLLM	**Bellamira**	**2.35**	**331**⇑	*e*P		x	17 54 56.7	
BLLM				*e*S		x	17 55 23.0	
LCBS	**La Ceiba**	**2.93**	**321**	*e*P		x	17 55 02.3	
LCBS				*e*S		x	17 55 36.9	
LFRS	**El Faro**	**2.96**	**319**	*e*P		x	17 55 03.9	
LFRS				*e*S		x	17 55 38.4	
PRS1	**Puriscal**	**3.05**	**116**	*e*P		Pn	17 54 51.9	+1.9
PICS	**Picacho**	**3.17**	**318**	*e*P		x	17 54 54.5	
PICS				*e*S		x	17 55 31.2	
LCR2	**La Lucha 2**	**3.43**	**118**	*e*P		Pn	17 54 56.8	+1.6
SNJE	**San Jose**	**3.50**	**316**	*e*P		x	17 55 10.7	
SNJE				*e*S		x	17 55 53.0	
RTR	**El Retiro**	**3.55**	**315**	*e*P		x	17 55 11.6	
RTR				*e*S		x	17 55 52.6	
RBDL	**Robledal**	**3.73**	**317**	*e*P		x	17 55 15.1	
RBDL				*e*S		x	17 55 56.9	
BUS	**Buena Vista**	**3.73**	**119**↓	*e*P		Pn	17 55 00.6	+1.3
BUS				*e*S		Sn	17 55 42.5	+0.5

IDC ***19*** *17:55:39.2±1.1, 984S×10784E, h0km, mb4.1/8, mb1 4.1/9, mb1mx4.0/17, mbtmp4.0/9, ML3.6/1, Error ellipse: s-maj=44.8km s-min=16.7km az=56.0*

BJI ***19*** *17:55:39.7, 990S×10780E, h10km, mB5.1, mb4.4*

NEIC ***19*** *17:55:40.7±0.6, 985S×10783E, h10km, mb4.5/5, Error ellipse: s-maj=27.8km s-min=9.5km az=53.0*

ISCJB ***19*** *17:55:42.4±0.7, 99S±0.1×1079E±0.2, h33km, mb4.2/15, Error ellipse: s-maj=31.1km s-min=10.1km az=110.2*

ISC 19 17:55:44.5±0.8**, 100S**±01×**1078E**±02**, h35**km**, n19, σ1**°**00/19, mb4.2/15, 1C, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBWA	**Marble Bar**	**15.99**	**135**	*e*P		**Pn**	**17 59 20.1**	**-6.7**
FITZ	**Fitzroy Crossi**	**19.10**	**117**	P		**Pn**	**18 00 04.9**	**-0.3**
	0.1nm,0.3s,baz=283,slow=7.2,SNR=7.4							
NWAO	**Narrogin (SRO)**	**24.45**	**161**	P		**P**	**18 01 00.2**	**+0.2**
	12nm,1.1s,mb4.2,baz=326,slow=11,SNR=2.3							
NWAO	**Narrogin (SRO)**	**24.45**	**161**	P		**P**	**18 01 00.1**	**+0.1**
	2.7nm,0.6s,mb3.9							
WRA	**Warramunga Arr**	**27.46**	**114**	P		**P**	**18 01 26.4**	**-0.8**
	1.3nm,0.8s,mb3.5,baz=286,slow=11,SNR=7.0							
ASAR	**Alice Springs**	**28.40**	**122**	P		**P**	**18 01 37.3**	**+1.7**
	0.7nm,0.8s,mb3.3,baz=297,slow=9.2,SNR=10							
KMI	**Kunming**	**35.22**	**352**	P		**P**	**18 02 37.9**	**+2.5**
KMI				AMB		AMB		
	comp=Z,5.0nm,1.4s,mb4.2							
GYA	**Guiyang**	**36.22**	**358**⇑	*i* P		**P**	**18 02 44.8**	**+0.8**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.7							
STKA	**Stephens Creek**	**38.12**	**130**	P		**P**	**18 03 00.1**	**0.0**
	comp=Z,3.9nm,0.8s,mb4.2,baz=302,slow=11,SNR=6.5							
GTA	**Gaotai**	**49.68**	**352**	*e*P		**P**	**18 04 34.1**	**+1.2**
GTA				AP		pP	18 04 43.9	+0.6
GTA				AMB		AMB		
	comp=Z,4.0nm,0.9s,mb4.5							
MJAR	**Matsushiro Arr**	**54.40**	**30**	P		**P**	**18 05 05.3**	**-2.7**
	comp=Z,1.3nm,0.7s,mb4.0,baz=212,slow=9.3,SNR=4.2							
SONM	**Songino Array**	**57.56**	**359**	P		**P**	**18 05 30.7**	**+0.1**
	comp=Z,2.8nm,0.7s,mb4.4,baz=175,slow=7.4,SNR=17							
ULN	**Ulaanbaatar**	**57.58**	**359**	*e*P		**P**	**18 05 30.7**	**0.0**
	comp=Z,3.5nm,0.8s,mb4.4							
MKAR	**Makanchi Array**	**60.92**	**340**	P		**P**	**18 05 53.4**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.3,baz=144,slow=7.9,SNR=12							
KURK	**Kurchatov**	**65.54**	**340**	P		**P**	**18 06 23.6**	**-0.7**
	comp=Z,3.1nm,0.9s,mb4.3							
BRVK	**Borovoye**	**70.45**	**337**	*e*P		**P**	**18 06 54.8**	**-0.5**
CHKZ	**Chkalovo**	**70.81**	**338**	*e*P		**P**	**18 06 56.8**	**-0.7**
	comp=Z,4.2nm,0.9s,mb4.4							
ZRNK	**Zerenda**	**70.87**	**336**	*e*P		**P**	**18 06 57.1**	**-0.7**
	comp=Z,3.5nm,0.9s,mb4.3							
BRTR	**Keskin Array B**	**84.37**	**312**	P		**P**	**18 08 13.2**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.8,baz=142,slow=4.7,SNR=3.6							

BJI ***19*** *18:08:56.8, 525S×15103E, h18km, mB6.1, mb5.4, Ms5.7, Msz5.5*

NEIC ***19*** *18:08:57.9±0.2, 533S×15069E, h10km, mb5.7/61, MS5.7/115, MW5.6, Error ellipse: s-maj=6.8km s-min=5.1km az=101.0, Moment Tensor Solution. s19 Moment tensor: Scale 10^17 Nm; Mrr 0.78; Mθθ 2.84; Mφφ -3.62; Mrθ 1.45; Mrφ -0.30; Mθφ -0.58; Best double couple: M0 3.70000×10^17 NP1:ϕs 141.00000°, δ 76.00000°, λ 25.00000°. NP2:ϕs 44.00000°, δ 65.00000°, λ 165.00000°. Principal axes: T 3.6300, Plg 28.0000°, Azm 5.0000°; N 0.0700, Plg 61.0000°, Azm 168.0000°; P -3.6900, Plg 7.0000°, Azm 271.0000°;*

HRVD ***19*** *18:08:57.9±0.1, 536S×15066E, h15km, MW5.9/110, Centroid moment Tensor Solution. LP body waves: s102, c209; Mantle waves: s110, c324; Half duration: 2s2 Moment tensor: Scale 10^18 Nm; Mrr 0.11±.01; Mθθ 0.95±.01; Mφφ -0.83±.01; Mrθ 0.08±.02; Mφφ -0.05±.01; Mrφ -0.12±.02; Best double couple: M0 0.90600×10^18 NP1:ϕs 47.00000°, δ 80.00000°, λ -177.00000°. NP2: ϕs 316.00000°, δ 87.00000°, λ -10.00000°. Principal axes: T 0.9560, Plg 4.0000°, Azm 2.0000°; N -0.1000, Plg 80.0000°, Azm 117.0000°; P -0.8560, Plg 9.0000°, Azm 271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISCJB ***19*** *18:08:58.6±0.1, 536S±003×15067E±003, h23km, mb5.6/112, MS5.7/165 Error ellipse: s-maj=3.9km s-min=3.6km az=38.6*

MOS ***19*** *18:09:00.1±1.2, 531S×15063E, h33km, mb5.9/44, MS5.6/31, Error ellipse: s-maj=8.5km s-min=6.1km az=95.7*

IDC ***19*** *18:09:03.8±1.8, 542S×15056E, h54km±15km, mb5.0/24, mb1 5.0/28, mb1mx5.0/29, mbtmp5.2/28, ML4.3/4, MS5.6/21, Ms1 5.6/21, ms1mx5.2/30, Error ellipse: s-maj=11.5km s-min=8.3km az=118.0*

ISC 19 18:09:00.7±0.1**, 540S**±003×**15071E**±003**, h25**km**, h25**km±1.5km**:pP-P, n543, σ1**°**21**/360**, mb5.6**/112**, MS5.7**/165**, 64C-43D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.32**	**221**	P		**Pn**	**18 10 19.3**	**+0.8**
	25nm,0.3s,baz=141,slow=20,SNR=57							
PMG				S		**Sn**	**18 11 19.3**	**+0.4**
	baz=0.0,slow=2.0,SNR=2.7							
PMG				LR		LR	18 12 07.2	
	comp=Z,56μm,18.8s,baz=49,slow=35							
PMG	**Port Moresby**	**5.32**	**221**⇑	*i* P		**Pn**	**18 10 19.6**	**+1.1**
PMG	**Port Moresby**	**5.32**	**221**⇑	*e*Pn		**Pn**	**18 10 19.5**	**+1.0**
	1μm,0.8s							
HNR	**Honiara**	**10.00**	**114**	P		**Pn**	**18 11 24.7**	**+2.0**
	4.1nm,0.3s,baz=207,slow=0.9,SNR=7.0							
HNR	**Honiara**	**10.00**	**114**↓	*e*P		**Pn**	**18 11 24.4**	**+1.6**
HNR				pmax		pmax		
	comp=Z,922nm,1.0s							
HNR	**Honiara**	**10.00**	**114**↓	*e*Pn		**Pn**	**18 11 24.4**	**+1.7**
	comp=Z,922nm,1.0s							
CTA	**Charters Tower**	**15.23**	**196**	*e*P		**Pn**	**18 12 40.3**	**+6.2**
	comp=Z,472nm,1.5s							
CTA				*e*S		**Sn**	**18 15 31.9**	**+10**
CTA	**Charters Tower**	**15.23**	**196**	P		**Pn**	**18 12 34.7**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=25,slow=15,SNR=8.4							
CTA				LR		LR	18 17 55.5	
	comp=Z,25μm,21.8s,baz=13,slow=35							
CTA	**Charters Tower**	**15.23**	**196**	*e*P		**Pn**	**18 12 40.3**	**+6.2**
CTA				*e*S		**Sn**	**18 15 31.9**	**+10**
CTA				LR		LR	18 17 55.5	
CTAO	**Charters Tower**	**15.23**	**196**⇑	*e*P		**Pn**	**18 12 34.6**	**+0.5**
CTAO				pmax		pmax		
	comp=Z,1μm,1.4s							
CTAO	**Charters Tower**	**15.23**	**196**⇑	*e*Pn		**Pn**	**18 12 34.6**	**+0.5**
	comp=Z,1μm,1.4s							
KAKA	**Kakadu**	**19.44**	**247**	*e*P		**Pn**	**18 13 22.8**	**-3.8**
	comp=Z,522nm,1.1s							
GUMO	**Guam**	**19.73**	**343**	P		**Pn**	**18 13 27.7**	**-2.4**
	comp=Z,4.2nm,0.3s,baz=208,slow=7.2,SNR=3.5							
GUMO				LR		LR	18 19 43.8	
	comp=Z,11μm,20.1s,baz=161,slow=32							
BKM	**Butte a Klehm**	**21.04**	**127**	*i* P		**P**	**18 13 44.2**	**+1.5**
WRAB	**Tennant Creek**	**21.50**	**226**	P		**P**	**18 13 47.0**	**-0.6**
	comp=Z,2μm,0.8s,mb6.5,SNR=62							
WRAB	**Tennant Creek**	**21.50**	**226**	*e*P		**P**	**18 13 46.8**	**-0.8**
WRAB				*e*S		**S**	**18 17 42.3**	**-2.4**
WRAB				pmax		pmax		
	comp=Z,2μm,1.5s,mb6.1							
WRAB	**Tennant Creek**	**21.50**	**226**	*e*P		**P**	**18 13 46.8**	**-0.8**
	comp=Z,2μm,1.5s,mb6.1							
WRAB				*e*S		**S**	**18 17 42.3**	**-2.4**
WB2	**Warramunga Arr**	**21.50**	**226**	*e*P		**P**	**18 13 45.7**	**-1.9**
WB2				*e*S		**S**	**18 17 43.2**	**-1.6**
WRA	**Warramunga Arr**	**21.51**	**226**	P		**P**	**18 13 47.0**	**-0.8**
	comp=Z,132nm,0.9s,mb5.3,baz=52,slow=9.7,SNR=246							
WRA				S		**S**	**18 17 41.2**	**-3.8**
	comp=Z,12nm,1.0s,baz=47,slow=21,SNR=6.7							
WRA				LR		LR	18 22 39.6	
	comp=Z,20μm,18.9s,MS5.5,baz=50,slow=38							
WRA	**Warramunga Arr**	**21.51**	**226**	P		**P**	**18 13 47.0**	**-0.7**
WRA				S		**S**	**18 17 41.2**	**-3.7**
NOUC	**Port Laguerre**	**22.44**	**139**	*e*P		**P**	**18 13 58.4**	**+0.8**
DZM	**Mont Dzumac**	**22.51**	**139**	*e*P		**P**	**18 13 59.0**	**+0.6**
DZM	**Mont Dzumac**	**22.51**	**139**	P		**P**	**18 13 59.9**	**+1.5**
	comp=Z,429nm,1.1s,mb5.8,baz=11,slow=8.9,SNR=37							
DZM				LR		LR	18 21 39.2	
	comp=Z,36μm,19.0s,MS5.8,baz=322,slow=33							
AS31	**Alice Springs**	**24.33**	**220**	*e*P		**P**	**18 14 16.2**	**-0.2**
ASAR	**Alice Springs**	**24.33**	**220**	P		**P**	**18 14 16.1**	**-0.3**
	comp=Z,56nm,0.8s,mb5.0,baz=47,slow=8.4,SNR=380							
ASAR				S		**S**	**18 18 31.7**	**-2.5**
	comp=Z,6.4nm,1.0s,baz=48,slow=18,SNR=4.6							
ASAR				LR		LR	18 23 46.3	
	comp=Z,15μm,20.5s,MS5.5,baz=49,slow=36							
ASAR	**Alice Springs**	**24.33**	**220**	P		**P**	**18 14 16.1**	**-0.3**
ASAR				S		**S**	**18 18 31.7**	**-2.5**
ASPA	**Alice Springs**	**24.33**	**220**	*e*P		**P**	**18 14 16.2**	**-0.2**
ARMA	**Armidale**	**24.90**	**178**	*e*P		**P**	**18 14 22.7**	**+1.1**
ARMA				*e*S		**S**	**18 18 47.9**	**+4.5**
FITZ	**Fitzroy Crossi**	**27.55**	**241**	*e*P		**P**	**18 14 44.1**	**-1.4**
	comp=Z,295nm,0.9s,mb5.9							
FITZ				*e*S		**S**	**18 19 23.3**	**-2.0**
FITZ	**Fitzroy Crossi**	**27.55**	**241**	P		**P**	**18 14 44.5**	**-1.0**
	comp=Z,51nm,0.6s,mb5.3,baz=75,slow=7.7,SNR=61							
FITZ				LR		LR	18 27 21.1	
	comp=Z,17μm,18.5s,MS5.7,baz=68,slow=40							
STKA	**Stephens Creek**	**27.69**	**197**⇑	*i* P		**P**	**18 14 46.3**	**-0.5**
	comp=Z,115nm,1.0s,mb5.5							
STKA				*e*S		**S**	**18 19 24.9**	**-2.6**
STKA	**Stephens Creek**	**27.69**	**197**	P		**P**	**18 14 46.4**	**-0.4**
	comp=Z,91nm,0.9s,mb5.4,baz=359,slow=9.2,SNR=102							
STKA				LR		LR	18 25 36.7	
	comp=Z,23μm,21.4s,MS5.7,baz=20,slow=36							
DAV	**Davao City (W)**	**27.97**	**296**	PFAKE			18 15 00.0	+11
DAV				LR		LR		
	comp=Z,15μm,21.0s,MS5.5							
FUNA	**Funafuti**	**28.44**	**98**	PFAKE			18 15 10.0	+16
FUNA				LR		LR		
	comp=Z,13μm,21.0s,MS5.5							
CGP	**Cagayan de Oro**	**29.37**	**298**↓	*e*P		**P**	**18 15 02.2**	**+0.5**
CNB	**Canberra Magne**	**29.80**	**182**	*e*P		**P**	**18 15 06.3**	**+0.8**
	comp=Z,220nm,1.3s,mb5.7							
ADE	**Adelaide**	**31.45**	**199**⇑	*i* P		**P**	**18 15 20.2**	**+0.1**
TOO	**Toolangi**	**32.38**	**188**⇑	*i* P		**P**	**18 15 28.5**	**+0.2**
	comp=Z,106nm,1.3s,mb5.5							
TOO	**Toolangi**	**32.38**	**188**⇑	*i* P		**P**	**18 15 28.5**	**+0.2**
TOO				pmax		pmax		
	comp=Z,106nm,1.3s,mb5.5							
FORT	**Forrest**	**33.03**	**217**	*e*P		**P**	**18 15 33.1**	**-0.9**
	comp=Z,238nm,1.5s,mb5.9							
CBIJ	**Chichi jima**	**33.34**	**346**	P		**P**	**18 15 38.4**	**+1.7**
	comp=Z,52nm,0.9s,mb5.5,baz=262,slow=19,SNR=3.8							
MBWA	**Marble Bar**	**33.87**	**240**	⇑P		**P**	**18 15 41.7**	**+0.4**
	SNR=17							
MBWA	**Marble Bar**	**33.87**	**240**	*e*P		**P**	**18 15 40.1**	**-1.2**
	comp=Z,364nm,1.4s,mb6.1							
MBWA				*e*			18 15 44.0	
MBWA				LR		LR		
	comp=Z,12μm,19.0s,MS5.7							
TSM	**Tawau**	**34.18**	**286**	P		**P**	**18 15 48.7**	**+4.8**
BOAC	**Boac**	**34.24**	**303**	*e*P		**P**	**18 15 47.2**	**+2.7**
BUSP	**Coron**	**34.92**	**300**	*e*P		**P**	**18 15 52.0**	**+1.6**
ENPP	**El Nido**	**35.23**	**298**	*e*P		**P**	**18 15 53.0**	**-0.1**
TGY	**Tagaytay City**	**35.33**	**304**	P		**P**	**18 15 53.5**	**-0.4**
	comp=Z,41nm,0.3s,baz=172,slow=13,SNR=12							
BALP	**Baler**	**35.68**	**307**	*e*P		**P**	**18 15

comp=Z,4μm,19.0s,MS5.4
SSE Sheshan 45.96 324 P **P** **18 17 22.3 +0.7**
SSE AP pP 18 17 31.3 +2.1
SSE XP sP 18 17 35.3 +3.2
SSE PCP PcP 18 18 57.8 -0.4
SSE PP PP 18 19 10.3 +0.8
SSE S **S** **18 24 05.4 +0.5**
SSE XS sS 18 24 21.0 +3.7
SSE SCS ScS 18 27 16.9 +1.1
SSE AMB AMB
comp=Z,67nm,1.4s,mb5.4
SSE AMB AMB
comp=Z,695nm,5.4s
SSE LR LR
comp=N,4μm,21.2s,MS5.7
SSE LR LR
comp=E,7μm,21.1s,MS5.7
SSE LR LR
comp=Z,5μm,18.5s,MS5.5
GZH Guangzhou 46.19 309 P **P** **18 17 24.8 +1.3**
GZH S **S** **18 24 00.3 -8.0**
GZH LR LR
comp=N,2μm,12.8s,MS5.5
GZH LR LR
comp=E,3μm,14.3s,MS5.5
GZH LR LR
comp=Z,6μm,17.4s,MS5.6
QIZ Qiongzhong 47.00 302 P **P** **18 17 30.5 +0.7**
QIZ AP pP 18 17 34.9 -2.4
QIZ XP sP 18 17 37.5 -2.8
QIZ S **S** **18 24 18.0 -1.8**
QIZ SS SS 18 27 40.6 -6.2
QIZ AMB AMB
comp=Z,137nm,1.7s,mb5.6
QIZ AMB AMB
comp=Z,349nm,3.5s
QIZ LR LR
comp=N,6μm,20.0s
QIZ LR LR
comp=Z,7μm,23.8s,MS5.5
QIZ Qiongzhong 47.00 302 *e*P **P** **18 17 30.8 +1.0**
comp=Z,469nm,1.6s,mb6.2
QIZ LR LR
comp=Z,4μm,20.0s,MS5.3
ERM Erimo 47.68 352 P **P** **18 17 36.1 +1.0**
comp=Z,626nm,1.3s,mb6.5,SNR=5.5
ERM Erimo 47.68 352 PFAKE 18 17 50.0 +15
ERM LR LR
comp=Z,22nm,20.0s
NJ2 Nanjing 48.03 323 *e*P **P** **18 17 38.0 +0.2**
NJ2 AP pP 18 17 47.9 +2.5
NJ2 XP sP 18 17 51.9 +3.6
NJ2 PP PP 18 19 29.0 -0.9
NJ2 S **S** **18 24 32.0 -2.5**
NJ2 AMB AMB
comp=Z,140nm,1.0s,mb6.0
NJ2 AMB AMB
comp=Z,1μm,4.6s
NJ2 LR LR
comp=N,7μm,17.6s,MS5.9
NJ2 LR LR
comp=E,7μm,15.7s,MS5.9
NJ2 LR LR
comp=Z,9μm,12.6s,MS6.0
INCN Inchon 48.20 334 *e*P **P** **18 17 38.4 -0.7**
comp=Z,211nm,1.3s,mb6.0
INCN LR LR
comp=Z,5μm,22.0s,MS5.5
WHN Wuhan 49.87 318 *e*P **P** **18 17 53.1 +1.2**
WHN S **S** **18 25 03.0 +2.6**
WHN LR LR
comp=Z,8μm,16.2s,MS5.8
RAR Rarotonga 50.45 113 LR LR 18 35 47.2
comp=Z,1μm,20.5s,MS4.9,baz=290,slow=32
RAR Rarotonga 50.45 113 PFAKE 18 18 10.0 +14
RAR LR LR
comp=Z,1.0nm,19.0s
VLA Vladivostok 51.21 342 *d i*P **P** **18 18 02.7 +0.6**
VLA *i* 18 19 55.4
VLA *e*PPP 18 21 06.5
VLA S **S** **18 25 23.0 +4.0**
VLA pmax pmax
comp=Z,171nm,1.8s,mb5.7
VLA MLR MLR
comp=Z,3μm,15.8s,MS5.3
VLA Vladivostok 51.21 342 *i* P **P** **18 18 01.6 -0.5**
DL2 Dalian 51.65 331⇑ *i*P **P** **18 18 05.5 +0.2**
DL2 PP PP 18 19 58.8 -4.1
DL2 S **S** **18 25 26.6 +1.5**
DL2 SS SS 18 28 59.5 -1.9
DL2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
DL2 AMB AMB
comp=Z,400nm,4.6s
DL2 LR LR
comp=N,2μm,20.2s,MS5.2
DL2 LR LR
comp=E,2μm,20.3s,MS5.2
DL2 LR LR
comp=Z,3μm,21.4s,MS5.3
TIA Tai'an 51.99 325 *e*P **P** **18 18 07.4 -0.5**
TIA S **S** **18 25 31.0 +1.3**
TIA LR LR
comp=N,2μm,20.0s,MS5.4
TIA LR LR
comp=E,2μm,17.0s,MS5.4
KKTK Khon Kaen 52.05 295 P **P** **18 18 11.0 +2.7**
comp=E,309nm,0.9s,mb6.2
PSI Prapat 52.36 278 P **P** **18 18 11.2 +0.5**
comp=E,11nm,0.9s,mb4.8,baz=191,slow=5.5,SNR=9.1
YSS Yuzh-Sakhalins 52.60 353α *i*P **P** **18 18 11.5 -0.9**
YSS *e**SP sP 18 18 30.0 +7.0
YSS 18 19 22.0
YSS *e*S **S** **18 25 35.0 -3.0**
YSS *e*SSS 18 30 50.0
YSS pmax pmax
comp=N,40nm,1.0s
YSS pmax pmax
comp=E,40nm,1.0s
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.7
YSS pmax pmax
comp=N,900nm,4.0s
YSS pmax pmax
comp=Z,900nm,4.0s
YSS smax
comp=N,3μm,10.0s
YSS MLR MLR
comp=Z,3μm,20.0s,MS5.3
YSS MLR MLR
comp=N,2μm,18.0s,MS5.4
YSS MLR MLR
comp=E,2μm,16.0s,MS5.4
YSS Yuzh-Sakhalins 52.60 353 *e*P **P** **18 18 11.8 -0.6**
comp=E,108nm,1.1s,mb5.7
ENH Enshi 53.06 314 PFAKE 18 18 30.0 +14
ENH LR LR
comp=Z,2.0nm,20.0s
SNY Shenyang 53.12 335⇑P **P** **18 18 15.8 -0.4**
SNY AP pP 18 18 24.1 +0.2
SNY XP sP 18 18 26.5 -0.3
SNY PP PP 18 20 21.1 +4.9
SNY S **S** **18 25 50.8 +5.6**
SNY AMB AMB
comp=Z,2μm,4.1s
SNY LR LR
comp=N,4μm,20.6s,MS5.5
SNY LR LR
comp=E,3μm,23.9s,MS5.5
SNY LR LR
comp=Z,5μm,21.6s,MS5.5
GYA Guiyang 53.12 309⇑ *i*P **P** **18 18 17.4 +1.2**
GYA AP pP 18 18 24.8 +0.9
GYA XP sP 18 18 27.6 +0.8
GYA PCP PcP 18 19 24.0 -0.3
GYA PP PP 18 20 20.0 +3.8
GYA PPP 18 21 29.3
GYA SCP ScP 18 23 17.8 -2.4
GYA S **S** **18 25 50.3 +5.1**
GYA SS SS 18 29 29.3 +4.7
GYA AMB AMB
comp=Z,50nm,1.2s,mb5.3
GYA AMB AMB
comp=Z,250nm,5.3s
GYA LR LR
comp=N,1μm,19.8s,MS5.2
GYA LR LR
comp=E,2μm,20.1s,MS5.2
GYA LR LR
comp=Z,3μm,20.7s,MS5.3
MDJ Mudanjiang 53.28 341 P **P** **18 18 17.6 +0.2**
MDJ AP pP 18 18 20.8 -4.2
MDJ XP sP 18 18 22.3 -5.7
MDJ PCP PcP 18 19 24.8 -0.1
MDJ PP PP 18 20 17.6 0.0
MDJ S **S** **18 25 48.9 +1.6**
MDJ AMB AMB
comp=Z,38nm,2.0s,mb5.0
MDJ AMB AMB
comp=Z,788nm,4.7s
MDJ LR LR
comp=N,4μm,24.8s,MS5.4
MDJ LR LR
comp=E,2μm,26.6s,MS5.4
MDJ LR LR
comp=Z,6μm,24.8s,MS5.5
MDJ Mudanjiang 53.28 341 *e*P **P** **18 18 17.6 +0.2**
comp=Z,48nm,1.0s,mb5.4
MDJ LR LR
comp=Z,5μm,22.0s,MS5.5
COCO West Island 53.59 259 PFAKE 18 18 30.0 +10
COCO LR LR
comp=Z,4μm,20.0s,MS5.5
CN2 Changchun 54.02 338 *e*P **P** **18 18 22.8 0.0**
CN2 *e*AP pP 18 18 30.4 -0.1
CN2 *e*PP PP 18 20 25.9 +1.6
CN2 *e*S **S** **18 25 55.6 -1.8**
CN2 AMB AMB
comp=Z,40nm,1.6s,mb5.1
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,4μm,20.0s,MS5.6
CN2 LR LR
comp=E,3μm,20.0s,MS5.6
CN2 LR LR
comp=Z,7μm,21.0s,MS5.7
NST Nakhon Sawan 54.27 294 P **P** **18 18 28.5 +3.9**
comp=Z,42nm,1.3s,mb5.2
NANT Nan 54.81 297⇓P **P** **18 18 31.0 +2.4**
comp=Z,188nm,0.7s,mb6.2
BJT Baijiatuau 55.25 328 *e*P **P** **18 18 30.6 -1.2**
BJT *e* pP 18 18 37.1 -2.3
BJT pmax pmax
comp=Z,428nm,1.8s
BJT MLR MLR
comp=Z,6μm,22.0s
BJT Baijiatuau 55.25 328 *e*P **P** **18 18 30.6 -1.2**
comp=Z,428nm,1.8s,mb6.2
BJT *e* pP 18 18 37.1 -2.3
BJT LR LR
comp=Z,6μm,22.0s,MS5.6
BJI Beijing 55.26 328 P **P** **18 18 31.5 -0.4**
BJI S **S** **18 26 16.8 +2.7**
BJI AMB AMB
comp=Z,40nm,2.0s,mb5.1
BJI AMB AMB
comp=Z,2μm,3.9s
BJI LR LR
comp=N,3μm,22.3s,MS5.5
BJI LR LR
comp=E,3μm,22.3s,MS5.5
BJI LR LR
comp=Z,4μm,20.2s,MS5.5
KMI Kunming 55.61 305 P **P** **18 18 35.4 +1.1**
KMI AP pP 18 18 42.5 +0.5
KMI XP sP 18 18 45.8 +0.8
KMI PP PP 18 20 41.8 +3.2
KMI PPP 18 21 55.6
KMI S **S** **18 26 21.4 +2.7**
KMI XS sS 18 26 31.3 0.0
KMI SS SS 18 30 03.0 -0.9
KMI SSS 18 32 07.0
KMI AMB AMB
comp=Z,73nm,1.8s,mb5.4
KMI AMB AMB
comp=Z,637nm,3.4s
KMI LR LR
comp=N,5μm,25.2s
KMI LR LR
comp=E,3μm,15.6s
KMI LR LR
comp=Z,3μm,24.0s,MS5.3
XAN Xi'an 55.64 318 P **P** **18 18 34.5 -0.1**
XAN AP pP 18 18 44.8 +2.6
XAN S **S** **18 26 22.0 +2.9**
XAN AMB AMB
comp=Z,38nm,1.4s,mb5.2
XAN AMB AMB
comp=Z,539nm,4.7s
XAN LR LR
comp=N,2μm,19.1s
XAN LR LR
comp=Z,5μm,19.6s,MS5.6
SKR Severo-Kuril's 56.05 4 *e*P **P** **18 18 32.2 -5.3**
SKR *e* pP 18 18 39.1 -6.1
SKR *e*PPP 18 21 57.0
SKR *e*S **S** **18 26 22.0 -2.6**
SKR *e*SS SS 18 30 04.0 -6.8
SKR *e*SSS 18 32 13.0
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.1
SKR pmax pmax
comp=E,1μm,4.0s
SKR pmax pmax
comp=Z,1μm,4.0s
SKR smax
comp=E,2μm,14.0s
SKR smax
comp=N,4μm,16.0s
SKR MLR MLR
comp=N,3μm,18.0s,MS5.7
SKR MLR MLR
comp=E,4μm,18.0s,MS5.7
SKR MLR MLR
comp=Z,6μm,18.0s,MS5.7
CM31 Chiang Mai Arr 56.26 296 PFAKE 18 18 50.0 +11
CM31 LR LR
comp=Z,3μm,19.0s,MS5.4
CHG Chiang Mai 56.38 297⇓P **P** **18 18 43.8 +4.0**
comp=Z,36nm,1.3s,mb5.2
CHTO Chiang Mai 56.38 297 *e*P **P** **18 18 42.0 +2.2**
CHTO pmax pmax
comp=Z,84nm,1.5s,mb5.5
CHTO MLR MLR
comp=Z,2μm,20.0s,MS5.2
CHTO Chiang Mai 56.38 297 *e*P **P** **18 18 42.0 +2.1**
comp=Z,84nm,1.5s,mb5.5
CHTO LR LR
comp=Z,2μm,20.0s,MS5.2
KLR Kul'dur 56.86 345κ *i*P **P** **18 18 40.0 -3.3**
KLR *e* 18 20 53.5
KLR *e*S **S** **18 26 30.5 -4.8**
KLR pmax pmax
comp=E,150nm,2.4s
KLR pmax pmax
comp=Z,480nm,2.4s,mb6.1
KLR pmax pmax
comp=N,1μm,9.0s
KLR pmax pmax
comp=Z,2μm,9.0s
KLR MLR MLR
comp=N,2μm,13.0s,MS5.4
KLR MLR MLR
comp=E,1μm,13.0s,MS5.4
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.5
KIP Kipapa 56.88 60⇑ *e*P **P** **18 18 42.4 -1.0**
KIP MLR MLR
comp=Z,4μm,19.0s,MS5.5
CD2 Chengdu 57.56 312⇑ *i*P **P** **18 18 48.9 +0.7**
CD2 AP pP 18 18 56.5 +0.6
CD2 XP sP 18 18 59.8 +0.9
CD2 PP PP 18 20 58.1 +2.1
CD2 S **S** **18 26 42.9 -1.7**
CD2 XS sS 18 26 55.9 -1.3
CD2 SS SS 18 30 34.9 +0.3
CD2 AMB AMB
comp=Z,90nm,1.4s,mb5.6
CD2 AMB AMB
comp=Z,490nm,5.9s
CD2 LR LR
comp=N,3μm,20.4s
CD2 LR LR
comp=Z,2μm,19.2s,MS5.2
KKH Kailua Kona 58.00 63 *e*P **P** **18 19 00.2 +8.9**
HHC Hu-ho-hao-te 58.34 326 *e*P **P** **18 18 54.1 +0.4**
HHC AP pP 18 18 58.3 -3.1
HHC XP sP 18 19 01.9 -2.4
HHC PCP PcP 18 19 43.3 -1.2
HHC PP PP 18 21 06.3 +3.4
HHC SCP ScP 18 23 42.1 -1.1
HHC PCS PcS 18 23 44.0 -2.0
HHC S **S** **18 26 57.8 +3.1**
HHC XS sS 18 27 05.9 -1.5
HHC PS 18 27 12.6
HHC SCS ScS 18 28 39.9 -1.9
HHC SS SS 18 30 52.6 +5.7
HHC AMB AMB
comp=Z,80nm,2.0s,mb5.4
HHC AMB AMB
comp=Z,1μm,3.8s
HHC LR LR
comp=N,3μm,18.0s,MS5.7
HHC LR LR
comp=E,4μm,19.1s,MS5.7
HHC LR LR
comp=Z,5μm,21.6s,MS5.6
POHA Pohakuloa 58.47 63 PFAKE 18 19 10.0 +15
POHA LR LR
comp=Z,3μm,19.0s,MS5.5
PET Petropavlovsk 58.59 6*c i*P **P** **18 18 54.8 -0.6**
PET *e* 18 21 07.1
PET *e*S **S** **18 26 53.3 -4.7**
PET *e*SS SS 18 30 42.5 -8.3
PET *e*SSS 18 33 10.3
PET pmax pmax
comp=Z,800nm,4.2s
PET pmax pmax
comp=Z,56nm,1.2s,mb5.5
PET pmax pmax
comp=Z,400nm,17.2s
PET MLR MLR
comp=Z,3μm,17.0s,MS5.5
PET Petropavlovsk 58.59 6 *e*P **P** **18 18 54.3 -1.1**
comp=Z,216nm,1.6s,mb5.9
PET LR LR
comp=Z,4μm,20.0s,MS5.5
BTO Baotou 59.05 325 *e*P **P** **18 18 59.3 +0.6**
BTO S **S** **18 27 03.6 -0.4**
PPT Papeete 59.54 107 *e*S **S** **18 27 07.0 -3.3**
comp=Z,5μm,24.0s
PPT *e*LQ 18 33 58.6
comp=Z,10μm,33.8s
PPT *e*LR LR 18 36 26.2
comp=Z,4μm,25.2s
PPT Papeete 59.54 107 LR LR 18 40 55.5
comp=Z,2μm,18.8s,MS5.2,baz=170,slow=32
TVO Taravao 59.86 107 *e*P **P** **18 19 02.8 -1.4**
comp=Z,389nm,1.5s,mb6.2
TBI Tubuai 60.22 114 *e*S **S** **18 27 16.0 -3.0**
comp=Z,3μm,27.2s
TBI *e*LQ 18 34 22.2
comp=Z,19μm,34.0s
TBI *e*LR LR 18 36 51.2
comp=Z,9μm,35.8s
LZH Lanzhou 60.22 317 *e*P **P** **18 19 08.3 +1.6**
LZH AP pP 18 19 14.8 +0.4
LZH XP sP 18 19 17.9 +0.5
LZH PP PP 18 21 23.1 +3.5
LZH *e*S **S** **18 27 23.0 +3.9**
LZH XS sS 18 27 32.1 +0.3
LZH SS SS 18 31 19.1 +2.6
LZH AMB AMB
comp=Z,119nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,272nm,4.6s
LZH LR LR
comp=N,4μm,16.5s
LZH LR LR
comp=Z,4μm,17.2s,MS5.7
HIA Hailar 60.75 337⇑ *i*P **P** **18 19 10.5 +0.2**
HIA pmax pmax
comp=Z,233nm,1.1s
HIA MLR MLR
comp=Z,4μm,20.0s
HIA Hailar 60.75 337⇑ *i*P **P** **18 19 10.5 +0.2**
comp=Z,233nm,1.1s,mb6.2
HIA LR LR
comp=Z,4μm,20.0s,MS5.5
PMOR Pomariorio Ree 61.01 104 *e*P **P** **18 19 10.2 -1.9**
comp=Z,185nm,1.4s,mb6.0
SMY Shemya 61.21 16 *e*P **P** **18 19 12.3 -1.1**
SMY pmax pmax
comp=Z,82nm,1.0s,mb5.8
SMY Shemya 61.21 16 *e*P **P** **18 19 12.3 -1.2**
comp=Z,82nm,1.0s,mb5.8
VAH Vaihoa 61.28 104 *e*P **P** **18 19 11.7 -2.2**
comp=Z,81nm,1.1s,mb5.8
DRV Dumont d'Urvil 61.61 185 P **P** **18 19 19.0 +2.8**
DRV S **S** **18 27 37.0 +0.2**
DRV L 18 34 00.0
DRV R 18 38 00.0
GTA Gaotai 64.69 318⇑ *i*P **P** **18 19 37.6 +1.0**
GTA AP pP 18 19 45.5 +1.1
GTA XP sP 18 19 48.5 +1.2
GTA PP PP 18 22 04.6 +5.6
GTA PPP 18 23 40.4
GTA S **S** **18 28 17.6 +2.3**
GTA PS 18 28 45.4
GTA AMB AMB
comp=Z,34nm,1.3s,mb5.2
GTA AMB AMB
comp=Z,819nm,6.1s
GTA LR LR
comp=N,2μm,18.3s,MS5.4
GTA LR LR
comp=E,2μm,18.2s,MS5.4
GTA LR LR
comp=Z,2μm,21.3s,MS5.3
MA2 Magadan 64.77 0 *e*P **P** **18 19 34.8 -2.3**
MA2 *e* 18 20 07.4
MA2 *e*S **S** **18 28 11.5 -4.7**
MA2 *e*PS 18 28 34.7
MA2 *e*SSS 18 35 18.0
MA2 pmax pmax
comp=Z,70nm,0.9s,mb5.7
MA2 MLR MLR
comp=Z,3μm,20.4s,MS5.5
MA2 Magadan 64.77 0 *e*P **P** **18 19 36.2 -0.9**
comp=Z,100nm,1.1s,mb5.8
MA2 LR LR
comp=Z,5μm,19.0s,MS5.7
ULN Ulaanbaatar 65.42 329 P **P** **18 19 42.8 +1.5**
SNR=112
ULN Ulaanbaatar 65.42 329⇑ *i*P **P** **18 19 42.3 +1.0**
ULN pmax pmax
comp=Z,104nm,1.0s,mb5.8
ULN Ulaanbaatar 65.42 329⇑ *i*P **P** **18 19 42.3 +1.0**
comp=Z,104nm,1.0s,mb5.8
CLNS Chul'man 65.51 345 *e*P **P** **18 19 39.5 -2.4**
SONM Songino Array 65.74 329 P **P** **18 19 44.4 +1.0**
comp=Z,132nm,1.1s,mb5.9,baz=140,slow=5.7,SNR=206
SONM ScS ScS 18 29 35.3 -2.3
comp=Z,0.8nm,0.6s,baz=151,slow=4.4,SNR=5.0
SONM PKPPKP 18 48 18.8
comp=Z,0.8nm,0.9s,baz=289,slow=4.5,SNR=6.4
SONM LR LR 18 50 20.7
comp=Z,5μm,18.5s,MS5.8,baz=134,slow=38
SONM Songino Array 65.74 329 P **P** **18 19 44.4 +1.0**
SONM 18 29 35.3
CASY Casey 66.84 196 *e*P **P** **18 19 54.4 +3.9**
CASY LR LR
comp=Z,7μm,20.0s,MS5.9
CAL Calcutta 66.97 297 *e*P **P** **18 19 51.1 -0.2**
CAL *e*S S 18 28 49.5 +6.4
CAL AMP 18 39 57.8
comp=Z,1μm,14.3s
TAOE Nuku Hiva Isla 68.62 97 *e*S S 18 28 57.8 -5.0
comp=Z,8μm,27.1s
TAOE *e*SS SS 18 33 30.3 +3.1
comp=Z,3μm,31.4s
TAOE *e*LR LR 18 40 48.6
comp=Z,15μm,36.1s,baz=274
ZAK Zakamensk 68.93 330⇓ *i*P **P** **18 20 04.0 +0.4**
ZAK pmax pmax

comp=Z,126nm,1.1s,mb5.8
YAK Yakutsk 69.16 350*c iP* **P 18 20 04.4 -0.6**
YAK *e**PP pP 18 20 13.1 +0.3
YAK *e* 18 20 25.2
YAK *e* 18 22 37.3
YAK *e*S S 18 29 12.1 +2.9
YAK *e**SS sS 18 29 32.3 +10
YAK *e* 18 29 58.5
YAK *e*SS SS 18 33 28.2 -7.4
YAK pmax pmax
comp=N,35nm,1.0s
YAK pmax pmax
comp=Z,75nm,1.0s,mb5.6
YAK pmax pmax
comp=E,23nm,1.1s
YAK pmax pmax
comp=Z,20nm,1.5s,mb4.8
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK smax
comp=N,606nm,12.6s
YAK smax
comp=Z,354nm,12.6s
YAK smax
comp=E,470nm,16.0s
YAK pmax pmax
comp=E,2μm,29.4s
YAK pmax pmax
comp=Z,2μm,29.4s
YAK pmax pmax
comp=N,896nm,20.8s
TLY Talaya 69.56 331 P **P 18 20 08.9 +1.4**
comp=N,475nm,1.3s,mb6.3,SNR=41
IRK Irkutsk 69.62 332⇑*iP* **P 18 20 08.0 +0.1**
IRK *e* 18 20 29.5
IRK pmax pmax
comp=Z,311nm,2.5s,mb5.8
JIRN Jiri 70.32 302 *eP* **P 18 20 15.1 +3.0**
comp=Z,188nm,1.4s,mb5.8
GUN Gumba 70.66 302 *eP* **P 18 20 16.9 +2.7**
comp=Z,234nm,1.2s,mb6.0
MOY Mondy 70.86 330 *eP* **P 18 20 16.7 +1.2**
MOY pmax pmax
comp=Z,497nm,3.3s
PKI Pulchoki 70.95 301 *eP* **P 18 20 17.6 +1.6**
comp=Z,197nm,1.4s,mb5.8
PKI Pulchoki 70.95 301 *eP* **P 18 20 17.6 +1.6**
PKI pmax pmax
comp=Z,197nm,1.4s,mb5.8
PALK Pallekele 70.98 280 PFAKE 18 20 30.0 +14
PALK LR LR
comp=Z,2μm,21.0s,MS5.2
KKN Kakani 71.13 302 *eP* **P 18 20 18.1 +1.0**
comp=Z,318nm,1.8s,mb6.0
KKN Kakani 71.13 302 *eP* **P 18 20 18.1 +1.0**
KKN pmax pmax
comp=Z,318nm,1.8s,mb6.0
DMN Daman 71.22 301 *eP* **P 18 20 18.8 +1.2**
comp=Z,532nm,1.6s,mb6.2
GKN Gorkha 71.73 302 *eP* **P 18 20 21.6 +0.9**
comp=Z,286nm,1.4s,mb6.0
VNDA Vanda 72.32 177 P **P 18 20 24.1 -0.2**
comp=Z,53nm,1.0s,mb5.4,baz=338,slow=6.7,SNR=50
VNDA LR LR 18 51 05.6
comp=Z,3μm,18.7s,MS5.6,baz=349,slow=35
VNDA Vanda 72.32 177 *eP* **P 18 20 23.8 -0.4**
VNDA pmax pmax
comp=Z,170nm,1.4s
VNDA Vanda 72.32 177 *eP* **P 18 20 23.8 -0.5**
comp=Z,170nm,1.4s,mb5.8
VNDA *e* 18 20 28.6
MDRS Chennai 72.33 285 *ex* x 18 20 31.7
KOLN Koldanda 72.55 301 *eP* **P 18 20 26.4 +0.8**
comp=Z,356nm,1.6s,mb6.0
MIR Mirnyy 72.63 201*c iP* **P 18 20 20.0 -6.1**
MIR pmax pmax
comp=Z,1μm,1.5s
MIR MLR MLR
comp=N,2μm,20.0s,MS5.5
MIR MLR MLR
comp=E,2μm,20.0s,MS5.5
MIR MLR MLR
comp=Z,5μm,20.0s,MS5.8
SBA Scott Base 72.90 176 *eP* **P 18 20 28.3 +0.6**
SBA pmax pmax
comp=Z,321nm,1.7s,mb6.0
SBA Scott Base 72.90 176 *eP* **P 18 20 28.3 +0.6**
comp=Z,321nm,1.7s,mb6.0
SBA *e* 18 20 32.9
RKT Rikitea 73.49 112 *eS* S 18 29 55.5 -3.8
comp=Z,2μm,27.0s
RKT *e*LQ 18 39 58.9
comp=Z,7μm,37.0s
RKT *e*LR LR 18 43 03.8
comp=Z,6μm,31.8s
WMQ Urumqi 74.78 318 P **P 18 20 39.3 +0.6**
WMQ AP pP 18 20 44.0 -2.6
WMQ XP sP 18 20 46.3 -3.2
WMQ PCP PcP 18 20 53.8 +1.1
WMQ PP PP 18 23 28.5 +2.5
WMQ S S 18 30 13.8 0.0
WMQ AMB AMB
comp=Z,254nm,1.8s,mb5.8
WMQ AMB AMB
comp=Z,1μm,5.7s
WMQ LR LR
comp=N,4μm,17.9s,MS5.9
WMQ LR LR
comp=E,3μm,16.8s,MS5.9
WMQ LR LR
comp=Z,4μm,18.4s,MS5.8
KRAR Krasnoyarsk 77.27 331⇑*eP* **P 18 20 52.5 -0.4**
KRAR pmax pmax
comp=Z,109nm,2.5s,mb5.3
KDAK Kodiak Island 77.65 27 PFAKE 18 21 10.0 +15
KDAK LR LR
comp=Z,1μm,21.0s,MS5.1
DGAR Diego Garcia 77.70 264 PFAKE 18 21 10.0 +15
DGAR LR LR
comp=Z,3μm,20.0s,MS5.5
PTCN Pitcairn Islan 77.96 114 PFAKE 18 21 10.0 +13
PTCN LR LR
comp=Z,2μm,20.0s,MS5.4
SVW2 Sparrevohn 78.19 24 *eP* **P 18 20 57.9 -0.1**
TIXI Tiksi 78.22 353 *eP* **P 18 20 55.4 -2.8**
TIXI *e*S S 18 30 47.3 -4.2
TIXI pmax pmax
comp=Z,25nm,1.2s,mb5.0
TIXI MLR MLR
comp=Z,3μm,18.0s,MS5.6
TIXI Tiksi 78.22 353‖*eP* **P 18 20 55.8 -2.4**
TTA Tatalina 79.09 22 *eP* **P 18 21 02.7 -0.3**
MK31 Makanchi Array 79.41 319 P **P 18 21 04.9 +0.2**
MK31 pmax pmax
comp=Z,253nm,1.6s,mb5.9
MKAR Makanchi Array 79.41 319 P **P 18 21 04.8 0.0**
comp=Z,12nm,0.9s,mb4.8,baz=101,slow=6.1,SNR=31
MKAR PP PP 18 24 04.7 -0.2
comp=Z,4.1nm,1.0s,baz=113,slow=11,SNR=3.9
MKAR PKKPbc PKKPbc 18 39 54.1 +0.4
comp=Z,0.8nm,0.9s,baz=288,slow=1.9,SNR=4.5
MKAR PKP2ab 18 47 51.7
comp=Z,0.6nm,1.0s,baz=284,slow=2.0,SNR=3.7
MKAR Makanchi Array 79.41 319 P **P 18 21 04.8 +0.1**
MKAR 18 24 04.7
MKAR Makanchi Array 79.41 319 P **P 18 21 04.8 0.0**
MKAR PP PP 18 24 04.7 -0.2
MKAR PKKPbc PKKPbc 18 39 54.1 +0.4
MKAR P'P'ab 18 47 51.7
AJM Ajmer 80.01 298 *iP* **P 18 21 10.0 +2.0**
SLKM Skilak Lake 80.09 26 P **P 18 21 07.6 -0.8**
SLKM Skilak Lake 80.09 26 *eP* **P 18 21 06.2 -2.3**
PMR Palmer 81.09 25 P **P 18 21 13.2 -0.6**
PMR pmax pmax
comp=Z,29nm,1.1s,mb5.1
PMR Palmer 81.09 25 P **P 18 21 12.1 -1.6**
comp=Z,8.0nm,0.4s,mb5.0
PMR LR LR
comp=Z,3μm,19.0s,MS5.7
NVS Novosibirsk 81.70 327 *iP* **P 18 21 16.1 -0.9**
NVS *i*S S 18 31 30.3 +2.2
NVS pmax pmax
comp=Z,142nm,1.7s,mb5.6
NVS pmax pmax
comp=N,57nm,1.6s
NVS pmax pmax
comp=E,91nm,1.6s
NVS smax
comp=N,70nm,3.2s
NVS smax
comp=E,221nm,3.2s
IMA2 Indian Mountai 81.71 20 *eP* **P 18 21 16.7 -0.4**
KSH Kashi 81.75 311 *eP* **P 18 21 20.8 +3.6**
KSH *e*AP pP 18 21 28.8 +3.6
KSH *e*XP sP 18 21 31.9 +3.8
KSH *e*PP PP 18 24 31.0 +6.7
KSH *e*PPP 18 26 22.4
KSH *e*S S 18 31 31.9 +3.3
KSH *e*XS sS 18 31 47.8 +6.0
KSH *e*PS 18 32 26.0
KSH *e*SS SS 18 36 55.1 +8.6
KSH AMB AMB
comp=Z,38nm,1.1s,mb5.2
KSH LR LR
comp=N,3μm,24.0s
KSH LR LR
comp=E,780nm,35.9s
MCK McKinley 82.22 23 P **P 18 21 17.8 -1.9**
MCK pmax pmax
comp=Z,29nm,1.0s,mb5.2
MCK McKinley 82.22 23 *eP* **P 18 21 16.5 -3.2**
comp=Z,29nm,1.0s,mb5.2
MCK LR LR
comp=Z,3μm,22.0s,MS5.7
TKM2 Tokmak 2 82.85 314 P **P 18 21 23.9 +0.9**
SNR=14
TKM2 Tokmak 2 82.85 314 *iP* **P 18 21 23.3 +0.3**
KZA Kyzart 82.89 313 P **P 18 21 25.7 +2.4**
SNR=19
KURK Kurchatov 82.96 322 P **P 18 21 22.8 -0.8**
comp=Z,288nm,1.3s,mb6.1,SNR=8.1
KURK Kurchatov 82.96 322⇓ **P 18 21 22.9 -0.7**
SNR=41
KURK Kurchatov 82.96 322⇑*iP* **P 18 21 22.3 -1.3**
KURK Kurchatov 82.96 322 *eP* **P 18 21 22.2 -1.4**
comp=Z,102nm,1.3s,mb5.7
KURK LR LR
comp=Z,4μm,21.0s,MS5.7
COLA College 83.18 22 P **P 18 21 22.5 -2.2**
COLA pmax pmax
comp=Z,26nm,0.8s,mb5.3
COLA College 83.18 22 *eP* **P 18 21 21.7 -3.0**
comp=Z,26nm,0.8s,mb5.3
COLA LR LR
comp=Z,3μm,19.0s,MS5.7
UCH Uchtor 83.46 313 P **P 18 21 27.9 +1.8**
SNR=18
CHMS Chumysh 83.47 314 P **P 18 21 30.8 +4.6**
SNR=6.9
FRU Bishkek 83.53 314 *eP* **P 18 21 28.0 +1.5**
FRU *e* 18 31 50.0
FRU pmax pmax
comp=Z,460nm,2.5s,mb6.2
FRU MLR MLR
comp=Z,2μm,18.0s,MS5.5
AAK Ala-Archa 83.57 314 P **P 18 21 31.8 +5.1**
SNR=5.7
AAK Ala-Archa 83.57 314 P **P 18 21 27.3 +0.6**
comp=Z,132nm,1.6s,mb5.8,SNR=8.3
AAK Ala-Archa 83.57 314 P **P 18 21 27.5 +0.8**
SNR=24
AAK Ala-Archa 83.57 314⇑*eP* **P 18 21 26.9 +0.2**
AAK pmax pmax
comp=Z,70nm,1.9s,mb5.5
AAK MLR MLR
comp=Z,3μm,18.0s,MS5.7
AAK Ala-Archa 83.57 314 *eP* **P 18 21 26.7 0.0**
comp=Z,128nm,1.8s,mb5.8
AAK LR LR
comp=Z,3μm,19.0s,MS5.6
USP Ospenovka 83.71 314 P **P 18 21 27.9 +0.4**
SNR=20
AML Almayashu 84.03 313 P **P 18 21 29.9 +0.8**
SNR=29
EKS2 Erkin-Say 84.09 314 P **P 18 21 34.6 +5.2**
SNR=24
MAW Mawson 84.22 203 P **P 18 21 29.1 -0.9**
comp=Z,36nm,1.1s,mb5.4,baz=68,slow=7.1,SNR=15
MAW LR LR 18 58 49.8
comp=Z,3μm,19.0s,MS5.8,baz=86,slow=36
MAW Mawson 84.22 203 *eP* **P 18 21 28.7 -1.4**
MAW pmax pmax
comp=Z,37nm,1.4s
MAW MLR MLR
comp=Z,6μm,22.0s
MAW Mawson 84.22 203 *eP* **P 18 21 28.7 -1.4**
comp=Z,37nm,1.4s,mb5.3
MAW LR LR
comp=Z,6μm,22.0s,MS6.0
QSPA South Pole Qui 84.57 180 *eP* **P 18 21 31.6 -0.2**
comp=Z,666nm,1.8s,mb6.5
QSPA LR LR
comp=Z,3μm,20.0s,MS5.7
SIT Sitka 85.87 32 PFAKE 18 21 50.0 +12
SIT LR LR
comp=Z,7μm,19.0s,MS6.1
DAWY Dawson 86.18 24 *eP* **P 18 21 38.9 -1.0**
KK31 Karatay Array 86.53 314 *iP* **P 18 21 40.8 -0.8**
KKAR Karatay Array 86.53 314 *iP* **P 18 21 40.8 -0.8**
KKAR pmax pmax
comp=Z,93nm,1.3s,mb5.8
SKAG Skagway 86.55 29 *eP* **P 18 21 41.6 -0.1**
comp=Z,24nm,1.2s,mb5.3
VOSK Vostochnaya 88.06 323 P **P 18 21 46.3 -2.7**
VOSK pmax pmax
comp=Z,28nm,1.6s,mb5.2
CHKZ Chkalovo 88.46 324 P **P 18 21 48.3 -2.6**
CHKZ pmax pmax
comp=Z,20nm,1.1s,mb5.3
CHKZ Chkalovo 88.46 324 *eP* **P 18 21 47.9 -3.0**
comp=Z,20nm,1.2s,mb5.2
BVA0 Borovoye Array 88.47 323 *eP* **P 18 21 47.4 -3.5**
BVA0 *i* pP 18 21 54.1 -4.8
BVA0 pmax pmax
comp=Z,9.0nm,1.6s,mb4.8
BVAR Borovoye Array 88.47 323 P **P 18 21 48.7 -2.2**
comp=Z,4.1nm,0.8s,mb4.7,baz=104,slow=5.4,SNR=22
BRVK Borovoye 88.54 323⇓ **P 18 21 49.2 -2.1**
SNR=11
BRVK Borovoye 88.54 323 *eP* **P 18 21 48.4 -2.8**
BRVK *e* 18 25 17.9
BRVK pmax pmax
comp=Z,18nm,1.4s,mb5.2
BRVK MLR MLR
comp=Z,2μm,21.0s,MS5.5
BRVK Borovoye 88.54 323 *eP* **P 18 21 48.4 -2.8**
comp=Z,18nm,1.4s,mb5.2
BRVK *e*PP PP 18 25 17.9 -1.6
BRVK LR LR
comp=Z,2μm,21.0s,MS5.5
BBB Bella Bella 88.83 37 P **P 18 21 54.1 +1.5**
comp=Z,6.8nm,1.1s,mb4.9,baz=259,slow=10,SNR=2.7
DLBC Dease Lake 88.96 31 P **P 18 21 53.0 -0.2**
comp=Z,15nm,1.0s,mb5.3,baz=248,slow=6.2,SNR=17
DLBC Dease Lake 88.96 31 *eP* **P 18 21 52.3 -0.9**
ZRNK Zerenda 89.28 323 *eP* **P 18 21 51.3 -3.4**
ZRNK *e* 18 25 25.4
ZRNK pmax pmax
comp=Z,12nm,0.9s,mb5.2
ZRNK Zerenda 89.28 323 *eP* **P 18 21 51.3 -3.4**
comp=Z,12nm,0.9s,mb5.2
ZRNK *e*PP PP 18 25 25.4 -0.1
INK Inuvik 89.76 21 P **P 18 21 55.2 -1.7**
comp=Z,23nm,1.1s,mb5.4,baz=240,slow=7.1,SNR=14
INK Inuvik 89.76 21 *eP* **P 18 21 54.9 -2.0**
INK pmax pmax
comp=Z,28nm,1.1s
INK Inuvik 89.76 21 *eP* **P 18 21 54.9 -2.1**
comp=Z,28nm,1.1s,mb5.5
HOPS Hopland 90.42 51 PFAKE 18 22 10.0 +10
HOPS LR LR
comp=Z,6μm,19.0s,MS6.1
I02A Mapleton 90.45 46⇑P **P 18 22 00.1 0.0**
baz=90
J02A Umpqua 90.56 47⇑P **P 18 22 00.4 -0.3**
baz=91
O02C Red Bluff 90.77 50⇑P **P 18 22 01.7 0.0**
baz=91
M02C Callahan 90.86 49⇑P **P 18 22 02.3 +0.3**
baz=91
COR Corvallis 90.89 45 PFAKE 18 22 10.0 +7.8
COR LR LR
comp=Z,6μm,20.0s,MS6.0
HUMO Hull Mountain 90.92 47 *eP* **P 18 22 02.3 0.0**
comp=Z,14nm,1.0s,mb5.2
HUMO LR LR
comp=Z,2μm,20.0s,MS5.6
HUMO Hull Mountain 90.92 47⇑P **P 18 22 02.9 +0.5**
baz=91
J03A Ideyld Park 91.00 47⇓P **P 18 22 02.7 0.0**
baz=91
YBH Yreka Blue Hor 91.00 48 P **P 18 22 03.1 +0.4**
comp=Z,12nm,1.2s,mb5.1,baz=184,slow=1.7,SNR=7.5
YBH Yreka Blue Hor 91.00 48 *eP* **P 18 22 02.6 -0.1**
YBH pmax pmax
comp=Z,16nm,1.1s
YBH Yreka Blue Hor 91.00 48 *eP* **P 18 22 02.6 -0.2**
comp=Z,16nm,1.1s,mb5.3
YBH Yreka Blue Hor 91.00 48⇓P **P 18 22 02.7 0.0**
baz=91
WDC Whiskeytown Da 91.00 50⇑P **P 18 22 02.7 0.0**
baz=91
SAO San Andreas Ge 91.47 53 PFAKE 18 22 20.0 +15
SAO LR LR
comp=Z,3μm,19.0s,MS5.7
V03C Hunter Liggett 91.56 54⇓P **P 18 22 06.2 +0.8**
baz=92
PACP Pacheco Peak 91.62 53⇓P **P 18 22 06.1 +0.5**
baz=92
S04C Ingram Canyon, 91.63 53⇓P **P 18 22 05.8 +0.1**
baz=92
M04C Macdoel 91.66 48⇑P **P 18 22 05.9 +0.1**
baz=92
ORV Oroville 91.69 51⇓P **P 18 22 05.5 -0.5**
baz=92
HATC Hat Creek Radi 91.85 49⇑P **P 18 22 06.3 -0.3**
baz=92
U04C Hernandez Rese 91.96 54⇓P **P 18 22 08.1 +0.9**
baz=92
O04C Chester 92.08 50⇓P **P 18 22 08.7 +0.9**
baz=92
PKD Parkfield 92.12 54⇑P **P 18 22 08.3 +0.4**
baz=92
M05C Lookout 92.14 49⇑P **P 18 22 07.8 -0.2**
baz=92
E05A Randle 92.18 44⇑P **P 18 22 07.7 -0.5**
baz=92
LAVA Lava Cap Winer 92.21 51⇓P **P 18 22 08.1 -0.2**
baz=92
J05A Fort Rock 92.24 47⇓P **P 18 22 08.3 -0.2**
baz=92
P05C Yuba Gap, Truc 92.36 51⇓P **P 18 22 09.4 +0.4**
baz=92
ELFS Eagle Lake Fie 92.38 50⇓P **P 18 22 09.8 +0.6**
baz=92
SYO Syowa Base 92.41 200‖*eP* **P 18 22 07.0 -2.3**
SYO Syowa Base 92.41 200⇑*epP* pP 18 22 11.5 -5.8
CMB Columbia Colle 92.42 52 P **P 18 22 09.9 +0.6**
CMB *e* 18 22 22.2
CMB pmax pmax
comp=Z,23nm,1.3s,mb5.3
CMB Columbia Colle 92.42 52 *eP* **P 18 22 08.5 -0.9**
comp=Z,11nm,1.1s,mb5.1
CMB LR LR
comp=Z,6μm,19.0s,MS6.0
CMB Columbia Colle 92.42 52⇑P **P 18 22 09.4 +0.1**
baz=92
L05A Lakeview 92.43 48⇓P **P 18 22 09.6 +0.2**
baz=92
R05C Kirkwood Meado 92.72 52⇑P **P 18 22 10.6 -0.1**
baz=93
SNCC San Nicolas Is 92.73 57⇓P **P 18 22 10.4 -0.3**
baz=93
S06C San Francisco 92.83 52⇑P **P 18 22 11.2 -0.1**
baz=93
T06C Millerton Lake 92.88 53⇓P **P 18 22 11.2 -0.3**
baz=93
K06A Valley Falls 92.92 47⇑P **P 18 22 11.3 -0.4**
baz=93
J06A Christmas Vall 93.03 47⇓P **P 18 22 11.8 -0.4**
baz=93
O06A Flanigan 93.03 50⇑P **P 18 22 12.0 -0.2**
baz=93
N06A Buffalo Meadow 93.07 50⇑P **P 18 22 12.4 +0.1**
baz=93
R06C Coleville 93.20 52⇑P **P 18 22 13.5 +0.6**
baz=93
KCC Kaiser Creek 93.21 53⇓P **P 18 22 13.3 +0.3**
baz=93
PAHR Pah Rah Range 93.34 51 *eP* **P 18 22 13.5 0.0**
comp=Z,59nm,1.7s,mb5.7
L07A Adell 93.54 48⇓P **P 18 22 14.6 +0.2**
baz=94
M07A Soldier Meadow 93.62 49⇑P **P 18 22 15.0 +0.2**
baz=94
HAWA Hanford 93.70 44 P **P 18 22 14.5 -0.7**
comp=Z,1.2nm,1.5s
HAWA LR LR
comp=Z,220nm,20.0s,MS4.6
O07A Toulon 93.76 50⇓P **P 18 22 15.4 -0.1**
baz=94
ISA Isabella 93.77 55 PFAKE 18 22 30.0 +14
ISA LR LR
comp=Z,573nm,19.0s,MS5.0
ISA Isabella 93.77 55⇑P **P 18 22 15.3 -0.2**
baz=94
MTUM Tungsten Hills 93.81 53 *eP* **P 18 22 15.0 -0.7**
WSAR Wadi Sarin 94.01 293 LR LR 19 05 09.1
comp=Z,809nm,21.0s,MS5.2,baz=97,slow=36
WVOR Wild Horse Val 94.08 48 P **P 18 22 18.3 +1.3**
WVOR pmax pmax
comp=Z,29nm,1.5s,mb5.5
WVOR Wild Horse Val 94.08 48 *eP* **P 18 22 17.0 +0.1**
comp=Z,29nm,1.5s,mb5.5
MNV Mina 94.21 52 *eP* **P 18 22 17.5 0.0**
MNV pmax pmax
comp=Z,30nm,1.4s,mb5.5
MNV MLR MLR
comp=Z,4μm,19.0s,MS5.9
MNV Mina 94.21 52 *eP* **P 18 22 17.5 -0.1**
comp=Z,30nm,1.4s,mb5.5
MNV LR LR
comp=Z,4μm,19.0s,MS5.9
M08A Happy Creek Ra 94.22 49⇓P **P 18 22 18.0 +0.4**
baz=94
R08A Mina 94.24 52⇑P **P 18 22 18.3 +0.6**
baz=94
Q08A Gabbs 94.41 52⇓P **P 18 22 18.3 -0.1**
baz=94
SVE Sverdlovsk 94.52 327 *eP* **P 18 22 17.0 -2.0**
SVE *e* 18 26 06.0
SVE MLR MLR
comp=N,700nm,18.0s,MS5.6
SVE MLR MLR
comp=E,2μm,18.0s,MS5.6
SVE MLR MLR
comp=Z,4μm,18.0s,MS5.9
DAC Darwin (Calif) 94.52 54 P **P 18 22 19.4 +0.4**
DAC pmax pmax
comp=Z,60nm,1.5s,mb5.8
DAC Darwin (Calif) 94.52 54 *eP* **P 18 22 18.8 -0.2**
comp=Z,60nm,1.5s,mb5.8
DAC LR LR
comp=Z,3μm,20.0s,MS5.7
AB31 Akbulak array 94.55 319 *iP* **P 18 22 16.7 -2.4**
S09A Goldfield 94.90 53⇑P **P 18 22 20.9 +0.2**
baz=95
BMN Battle Mountai 95.04 50 P **P 18 22 23.7 +2.4**
BMN pmax pmax
comp=Z,35nm,1.7s,mb5.5
BMN MLR MLR
comp=Z,4μm,19.0s,MS5.9
BMN Battle Mountai 95.04 50 P **P 18 22 23.7 +2.4**
comp=Z,35nm,1.7s,mb5.5
BMN LR LR
comp=Z,4μm,19.0s,MS5.9
GSC Goldstone 95.11 55⇓P **P 18 22 22.0 +0.3**
baz=95
BMO Blue Mountains 95.17 46 P **P 18 22 20.7 -1.3**
BMO pmax pmax
comp=Z,42nm,1.6s,mb5.6
BMO Blue Mountains 95.17 46 *eP* **P 18 22 20.6 -1.3**
comp=Z,42nm,1.7s,mb5.6
BMO LR LR
comp=Z,3μm,19.0s,MS5.8
PFO Pinyon Flat Ob 95.31 57 P **P 18 22 23.9 +1.3**
PFO pmax pmax

comp=Z,20nm,1.3s,mb5.4
PFO Pinyon Flat Ob 95.31 57 *e*P **P 18 22 23.4 +0.8**
comp=Z,20nm,1.4s,mb5.3
PFO LR LR
comp=E,2µm,21.0s,MS5.6
PFO Pinyon Flat Ob 95.31 57 ⇓P **P 18 22 23.2 +0.6**
baz=95
NEW Newport 95.43 42 PFAKE 18 22 30.0 +6.8
NEW LR LR
comp=Z,3µm,19.0s,MS5.8
TPNV Topopah Spring 95.64 54 P **P 18 22 24.4 +0.3**
TPNV pmax pmax
comp=Z,77nm,1.8s,mb5.8
TPNV Topopah Spring 95.64 54 *e*P **P 18 22 23.8 -0.3**
comp=Z,77nm,1.8s,mb5.8
ARU Arti 95.65 326 *e*P **P 18 22 24.1 0.0**
ARU *e* 18 26 17.2
ARU *e*S S 18 32 56.9 -43
ARU *e*SP SP 18 34 59.5 +1.9
ARU *e*SS SS 18 40 09.3 +0.6
ARU *e*SSS 18 43 49.7
ARU MLR MLR
comp=Z,4µm,20.0s,MS5.8
ARU MLR MLR
comp=N,700nm,18.0s,MS5.7
ARU MLR MLR
comp=E,2µm,20.0s,MS5.7
ARU Arti 95.65 326 *e*P **P 18 22 24.9 +0.8**
comp=E,21nm,1.5s,mb5.3
ARU LR LR
comp=Z,3µm,20.0s,MS5.8
TUQ Turquoise Mtn. 95.84 55 ⇑P **P 18 22 26.1 +1.1**
baz=96
AKTK Aktyubinsk 95.84 320 P **P 18 22 23.4 -1.6**
AKTO Aktyubinsk 95.84 320 P **P 18 22 23.4 -1.6**
comp=Z,2.4nm,1.0s,mb4.6,baz=85,slow=4.1,SNR=7.4
Q11A Duckwater 96.18 52 ⇑P **P 18 22 27.9 +1.4**
baz=96
RPN Rapa Nui 96.38 118 PFAKE 18 22 40.0 +13
RPN LR LR
comp=Z,2µm,19.0s,MS5.6
ELK Elko 96.56 50 P **P 18 22 33.1 +4.8**
ELK pmax pmax
comp=Z,26nm,1.7s
ELK Elko 96.56 50 P **P 18 22 26.5 -1.8**
comp=Z,26nm,1.7s,mb5.4
ELK LR LR
comp=Z,4µm,20.0s,MS5.9
GLA Glamis 96.65 57 ⇑P **P 18 22 29.9 +1.2**
baz=97
N12A Clover Valley, 96.71 50 ⇑P **P 18 22 29.0 +0.1**
baz=97
V12A Nelson 96.72 55 ⇓P **P 18 22 29.8 +0.8**
baz=97
Q12A Willow Creek R 96.83 51 ⇓P **P 18 22 30.0 +0.5**
baz=97
YKA Yellowknife Ar 96.92 28 P **P 18 22 27.7 -2.2**
comp=Z,3.1nm,1.1s,mb4.7,baz=272,slow=4.5,SNR=9.6
YKA LR LR 19 04 47.9
comp=Z,3µm,19.0s,MS5.8,baz=270,slow=34
O12A Currie 96.92 50 ⇑P **P 18 22 30.1 +0.2**
baz=97
HLID Hailey 97.22 47 P **P 18 22 30.3 -1.0**
HLID LR LR
comp=Z,4µm,20.0s,MS5.9
W13A Hualapai Mount 97.49 55 ⇓P **P 18 22 33.7 +1.2**
baz=98
X13A Yucca 97.53 56 ⇑P **P 18 22 34.4 +1.7**
baz=98
MSO Missoula 97.57 44 PFAKE 18 22 40.0 +7.2
MSO LR LR
comp=Z,2µm,20.0s,MS5.6
EDM Edmonton 97.85 37 P **P 18 22 37.9 +3.8**
EDM Edmonton 97.85 37 *e*P **P 18 22 34.2 0.0**
CHMT Chamberlain Mo 98.04 44 P **P 18 22 33.4 -1.6**
DUG Dugway 98.40 50 PFAKE 18 22 50.0 +13
DUG LR LR
comp=Z,3µm,21.0s,MS5.7
DLMT Dillon 98.52 45 P **P 18 22 39.0 +1.9**
MVU Marysvale 98.87 52 PFAKE 18 22 50.0 +11
MVU LR LR
comp=Z,4µm,19.0s,MS5.9
BOZ Bozeman (W) 99.19 45 PFAKE 18 22 50.0 +10
BOZ LR LR
comp=Z,3µm,21.0s,MS5.7
NVL N'lazarevskaya 99.23 193 ⇓*i*P **P 18 22 42.9 +2.6**
NVL *e* 18 33 12.2
NVL pmax pmax
comp=Z,51nm,1.6s,mb5.8
NVL MLR MLR
comp=Z,4µm,16.0s,MS6.0
MPU Maple Canyon 99.31 50 PFAKE 18 22 50.0 +9.4
MPU LR LR
comp=Z,6µm,21.0s,MS6.1
HWUT Hardware Ranch 99.33 49 PFAKE 18 22 50.0 +9.3
HWUT LR LR
comp=Z,5µm,20.0s,MS6.0
AHID Auburn Hatcher 99.65 48 PFAKE 18 22 50.0 +7.8
AHID LR LR
comp=Z,5µm,19.0s,MS6.0
TUC Tucson 100.05 58 P Pdif 18 22 44.1 +0.2
LKWY Lake 100.10 46 PFAKE 18 23 00.0 +16
LKWY LR LR
comp=Z,6µm,20.0s,MS6.1
EGMT Eagleton 100.37 42 PFAKE 18 23 00.0 +15
EGMT LR LR
comp=Z,2µm,19.0s,MS5.7
BW06 Boulder Array 100.79 48 PFAKE 18 23 00.0 +13
BW06 LR LR
comp=Z,5µm,19.0s,MS6.0
PDAR Pinedale Array 100.79 48 P Pdif 18 22 46.2 -1.0
comp=Z,1.5nm,0.8s,baz=252,slow=1.7,SNR=14
SNAA Sanae 101.15 188 *e*Pdiff Pdif 18 22 51.1 +2.3
SNAA *e* 18 22 55.8
SNAA *e* 18 22 57.9
SNAA *e* 18 23 03.0
SNAA *e* 18 23 06.7
SNAA *e* 18 26 59.6
SNAA *e* 18 27 16.0
SNAA *e* 18 27 25.2
SNAA Sanae 101.15 188 P Pdif 18 22 47.3 -1.5
SNAA pmax pmax
comp=Z,38nm,1.5s
SNAA Sanae 101.15 188 *e*Pdif Pdif 18 22 47.0 -1.8
comp=Z,38nm,1.5s
PV01 Paradox Valley 101.74 52 *e*Pdif Pdif 18 22 52.6 +1.2
VNA1 Neumayer--Stat 102.81 187 *e*Pdiff Pdif 18 22 59.4 +3.2
VNA1 *e* 18 23 02.5
VNA1 *e* 18 23 07.4
VNA1 *e* 18 23 11.0
VNA1 *e* 18 27 13.0
VNA1 *e* 18 27 17.9
VNA1 *e* 18 27 28.8
LAO LASA Array 102.87 43 PFAKE 18 23 10.0 +14
LAO LR LR
comp=Z,3µm,19.0s,MS5.8
ANMO Albuquerque 103.59 55 PFAKE 18 23 10.0 +10
ANMO LR LR
comp=Z,1µm,20.0s,MS5.5
KBS Kingsbay 103.68 352 *e*PP PP 18 27 13.5 -3.1
KBS *e*SS SS 18 42 06.6 +5.8
KBS AMS AMS 19 11 48.7
comp=Z,2µm,15.0s,MS5.7
KBS Kingsbay 103.68 352 PFAKE 18 23 10.0 +10
KBS LR LR
comp=Z,2µm,20.0s,MS5.6
ISCO Idaho Springs 103.94 50 PFAKE 18 23 10.0 +8.8
ISCO LR LR
comp=Z,5µm,19.0s,MS6.0
SDCO Great Sand Dun 104.19 53 PFAKE 18 23 10.0 +7.7
SDCO LR LR
comp=Z,5µm,20.0s,MS6.0
FFC Flin Flon 104.36 35 PFAKE 18 23 10.0 +6.9
FFC LR LR
comp=Z,3µm,19.0s,MS5.9
LVZ Lovozero 104.59 339 PFAKE 18 23 10.0 +5.9
LVZ LR LR
comp=Z,2µm,20.0s,MS5.6
RSSD Black Hills 104.68 46 PFAKE 18 23 20.0 +15
RSSD LR LR
comp=Z,3µm,19.0s,MS5.8
PMSA Palmer Station 105.43 165 PFAKE 18 27 30.0 +8.5
PMSA LR LR
comp=Z,2µm,20.0s,MS5.6
BJO Bjornoya 105.51 348 AMS AMS 19 14 35.4
comp=Z,3µm,21.8s,MS5.8
GNI Garni 105.66 310 PFAKE 18 27 30.0 +8.1
GNI LR LR
comp=Z,880nm,20.0s,MS5.3
KIV Kislovodsk 106.68 314 PFAKE 18 27 40.0 +16
KIV LR LR
comp=Z,2µm,22.0s,MS5.5
ARCES ARCESS Array B 106.82 343 PKKPbc PKKPbc 18 38 45.5 +3.5
comp=Z,27nm,0.8s,baz=232,slow=1.4,SNR=4.2
MOS Moscow 107.33 327 *e*P Pdif 18 23 22.2 +5.9
AMTX Amarillo 107.51 55 PFAKE 18 27 40.0 +15
AMTX LR LR
comp=Z,2µm,19.0s,MS5.7
OBN Obninsk 108.08 327 PFAKE 18 27 40.0 +14
OBN LR LR
comp=Z,3µm,21.0s,MS5.8
TRO Tromso 108.65 344 *e*PP PP 18 27 49.2 -4.0
TRO *e* 18 37 17.8
TRO *e*SS SS 18 43 08.1 -0.4
TRO AMS AMS 19 14 52.1
comp=Z,2µm,16.9s,MS5.7
ULM Lac du Bonnet 109.00 39 PP PP 18 27 56.4 +0.6
comp=Z,1.6nm,0.4s,baz=282,slow=4.1,SNR=3.0
JCT Junction City 109.51 60 PFAKE 18 27 40.0 +11
JCT LR LR
comp=Z,3µm,19.0s,MS5.8
ANN Anapa 110.22 316 *i* PKIKP PKiKP 18 27 26.2 -4.2
ANN *e* 18 28 03.8
ANN *e*PS PS 18 37 34.2 0.0
ANN *e*SS SS 18 43 35.3 +5.5
ANN pmax pmax
comp=Z,33nm,1.1s
ANN MLR MLR
comp=N,2µm,21.0s,MS5.8
ANN MLR MLR
comp=E,2µm,21.0s,MS5.8
ANN MLR MLR
comp=Z,2µm,21.0s,MS5.6
KAF Kangasniemi 110.30 336 *e*pkp PP 18 28 04.6 -0.6
FINES FINESS Array B 110.72 335 PP PP 18 27 54.5 -14
comp=Z,2.0nm,0.8s,baz=23,slow=7.5,SNR=3.5
EYMN Ely 112.42 40 PFAKE 18 27 50.0 +15
EYMN LR LR
comp=Z,2µm,21.0s,MS5.7
HKT Hockley 112.98 60 PKIKP PKiKP 18 27 35.7 +0.1
HKT Hockley 112.98 60 PFAKE 18 27 50.0 +14
HKT LR LR
comp=Z,3µm,19.0s,MS5.9
JMIC Jan Mayen 113.16 353 *e*PP PP 18 28 23.5 -2.2
JMIC AMS AMS 19 10 31.0
comp=Z,658nm,26.2s,MS5.1
NATX Nacogdoches 113.73 58 PFAKE 18 27 50.0 +13
NATX LR LR
comp=Z,2µm,19.0s,MS5.8
AKASG Malin Array Be 113.75 324 PP PP 18 28 13.7 -16
comp=Z,0.5nm,0.5s,baz=55,slow=6.1,SNR=6.6
AKASG PKKPbc PKKPbc 18 38 19.2 -0.3
comp=Z,0.6nm,0.6s,baz=254,slow=3.1,SNR=8.9
AKASG Malin Array Be 113.75 324 *i* PKIKP PKiKP 18 27 39.4 +2.3
NSS Namsos 114.07 342 *e*SS SS 18 44 15.2 -5.7
NSS AMS AMS 19 15 42.8
comp=Z,2µm,20.6s,MS5.6
BR131 Keskin Array S 114.14 311 PFAKE 18 27 50.0 +12
BR131 LR LR
comp=Z,1µm,22.0s,MS5.4
BRTR Keskin Array B 114.14 311 PP PP 18 27 59.2 -33
comp=Z,0.9nm,0.9s,baz=90,slow=2.9,SNR=4.1
BRTR PKKPbc PKKPbc 18 38 20.2 +1.9
comp=Z,1.3nm,0.9s,baz=243,slow=1.4,SNR=3.7
MIAR Mount Ida 114.17 55 PFAKE 18 27 50.0 +12
MIAR LR LR
comp=Z,3µm,20.0s,MS5.9
ANTO Ankara 114.73 312 PFAKE 18 27 50.0 +11
ANTO LR LR
comp=Z,664nm,21.0s,MS5.2
CCM Cathedral Cave 115.27 50 PFAKE 18 27 50.0 +10
CCM LR LR
comp=Z,3µm,20.0s,MS5.9
NB2 NORSAR Subarra116.75 339 PP PP 18 28 48.1 -2.9
comp=Z,57nm,1.7s,baz=46,slow=7.4
NB2 NORSAR Subarra116.75 339 PP PP 18 28 48.1 -2.9
baz=46,slow=7.4
NOA NORSAR Array B116.75 339 PKP PKPdf 18 27 40.7 -2.1
comp=Z,0.9nm,0.8s,baz=36,slow=1.8,SNR=2.6
NOA PP PP 18 28 49.9 -1.1
comp=Z,13nm,1.2s,baz=44,slow=6.9,SNR=5.7
NOA NORSAR Array B116.75 339 PKP PKPdf 18 27 40.7 -2.1
NOA PP PP 18 28 49.9 -1.1
MOL Molde 116.86 342 AMS AMS 19 16 09.4
comp=Z,2µm,22.5s,MS5.6
ISP Isparta 116.97 310 PKPdf PKPdf 18 27 42.0 -1.3
ISP *e* 18 27 45.8
NAO01 NORSAR Array S 117.00 339 PFAKE 18 27 50.0 +6.7
NAO01 LR LR
comp=Z,2µm,20.0s,MS5.8
OXF Oxford 117.54 54 PFAKE 18 28 00.0 +16
OXF LR LR
comp=Z,2µm,20.0s,MS5.8
BOSA Boshof 117.60 234 PKP PKPdf 18 27 43.5 -1.0
comp=Z,2.0nm,0.9s,baz=146,slow=3.6,SNR=2.2
BOSA Boshof 117.60 234 PKP PKPdf 18 27 43.5 -1.0
BOSA LR LR
comp=Z,5µm,22.0s,MS6.1
EFI East Falkland 118.06 160 PFAKE 18 28 00.0 +15
EFI LR LR
comp=Z,1µm,19.0s,MS5.6
KONO Kongsberg 118.30 339 *e*PP PP 18 28 58.7 -3.1
KONO *e*SS SS 18 45 16.1 0.0
KONO Kongsberg 118.30 339 PFAKE 18 28 00.0 +14
KONO LR LR
comp=Z,2µm,20.0s,MS5.8
PLAL Pickwick Lake 118.49 53 PFAKE 18 28 00.0 +14
PLAL LR LR
comp=Z,3µm,20.0s,MS5.9
KOLS Kolonicke sedl 118.58 324 *e*PKP PKPdf 18 27 48.0 +1.6
KOLS *e* 18 29 48.1
LBTB Lobatse 118.70 238 *e*PKIKP PKPdf 18 27 47.6 +1.0
LBTB MLR MLR
comp=Z,2µm,21.0s,MS5.8
PAYG Puerto Ayora 118.79 94 PFAKE 18 28 00.0 +13
PAYG LR LR
comp=Z,2µm,20.0s,MS5.7
CRVS Cervenica-Dubn 119.07 324 *e*PP PP 18 29 11.5 +4.4
BER Bergen 119.21 341 *e*PP PP 18 29 02.1 -6.0
BER *e*SS SS 18 45 25.4 -2.5
BER AMS AMS 19 21 54.2
comp=Z,2µm,21.3s,MS5.6
LSZ Lusaka 119.48 249 *e*PKIKP PKPdf 18 27 51.2 +3.1
LSZ MLR MLR
comp=Z,2µm,21.0s,MS5.8
AAM Ann Arbor 119.54 44 PFAKE 18 28 00.0 +12
AAM LR LR
comp=Z,3µm,20.0s,MS6.0
LRAL Lakeview Retre 119.83 55 PFAKE 18 28 00.0 +11
LRAL LR LR
comp=Z,2µm,19.0s,MS5.8
RGN Rugen 120.19 333 *e*PP PP 18 29 07.1 -7.7
RGN Rugen 120.19 333 *e*PP PP 18 29 07.1 -7.7
HOPE Hope Point 120.23 175 PFAKE 18 28 00.0 +10
HOPE LR LR
comp=Z,3µm,21.0s,MS5.9
PSZ Piszkesteto 120.46 324 ⇓*e*PKP pPKPdf 18 27 51.7 -6.5
OKC Ostrava-Krasne 120.48 326 *e*PP PP 18 29 16.5 -0.3
OKC *e*SS SS 18 45 45.8 +1.5
OKC AMS AMS 19 20 50.0
comp=Z,2µm,24.3s
BORG Borgarnes 120.49 356 PFAKE 18 28 00.0 +10
BORG LR LR
comp=Z,2µm,22.0s,MS5.6
PLCA Paso Flores 120.53 144 PKP PKPdf 18 27 50.6 +0.5
comp=Z,7.5nm,1.0s,baz=313,slow=3.7,SNR=6.0
PLCA Paso Flores 120.53 144 PKP PKPdf 18 27 50.6 +0.5
PLCA LR LR
comp=Z,2µm,20.0s,MS5.7
ACSO Alum Creek Sta 120.76 46 PFAKE 18 28 00.0 +9.4
ACSO LR LR
comp=Z,2µm,19.0s,MS5.8
VYHS Vyhne 120.79 325 *e*PKP PKPdf 18 27 51.6 +1.0
VYHS *e*PP PP 18 29 22.6 +3.7
DPC Dobruska-Polom 121.19 328 *e*PP PP 18 29 20.6 -1.1
DPC *e*SS SS 18 45 55.5 +2.1
DPC AMS AMS 19 20 50.0
comp=Z,2µm,18.8s
RUE Ruedersdorf 121.25 331 *e*PP PP 18 29 15.2 -6.9
RUE *e*SS SS 18 45 55.8 +1.7
RUE Ruedersdorf 121.25 331 *e*PP PP 18 29 15.2 -6.9
RUE *e*SS SS 18 45 55.8 +1.7
UPC Upice 121.27 328 *e*PP PP 18 29 23.4 +1.2
SADO Sadowa 121.52 40 PKP PKPdf 18 27 50.6 -1.5
comp=Z,2.0nm,0.4s,baz=297,slow=6.8,SNR=3.3
BSEG Bad Segeberg 121.93 334 *e*PP PP 18 29 19.4 -7.3
BSEG Bad Segeberg 121.93 334 *e*PP PP 18 29 19.4 -7.3
PVCC Panska Ves 122.01 329 *e*PP PP 18 29 26.7 -0.6
PVCC *e*SS SS 18 46 03.7 -0.2
PKSM Moragy 122.04 323 *e*PKIKP PKPdf 18 27 51.9 -1.1
ERPA Erie 122.12 43 PFAKE 18 28 00.0 +6.8
ERPA LR LR
comp=Z,3µm,19.0s,MS6.0
BRG Berggiesshubel 122.13 329 *e*SS SS 18 46 06.0 +0.6
BRG Berggiesshubel 122.13 329 *e*SS SS 18 46 06.0 +0.6
BRG Berggiesshubel 122.13 329 *e*(P) PKPdf 18 27 55.1 +1.9
comp=Z,7.1nm,1.4s
BRG *e* 18 28 54.5
comp=Z,5.5nm,1.4s
BRG *e* 18 29 31.4
comp=Z,11nm,1.5s
TREC Trest 122.23 327 *e*PP PP 18 29 24.3 -4.4
PRU Pruhonice 122.34 328 *e*PP PP 18 29 26.3 -3.2
PRU *e*SS SS 18 46 06.8 -1.3
PRU *ex* x 18 59 08.3
PRU AMS AMS 19 19 40.0
comp=Z,3µm,22.2s
CLL Collm 122.34 330 *e*PP PP 18 29 28.8 -0.7
CLL *e*PPP 18 32 01.8
CLL *e*PKKPab PKKPab 18 37 48.6 -0.6
CLL *e*PS PS 18 39 24.4 +0.2
CLL *e*PPS 18 40 47.4
CLL *e*SS SS 18 46 10.2 +2.1
CLL *e*SSS 18 50 43.0
CLL *e*SSSS 18 54 17.3
CLL *e*LR LR 19 07 37.8
CLL *e*L 19 25 12.1
comp=Z,3µm,20.0s
CLL Collm 122.34 330 *e*PP PP 18 29 28.8 -0.7
CLL *e*PPP 18 32 01.8
CLL *e*PKKPab PKKPab 18 37 48.6 -0.6
CLL *e*PS PS 18 39 24.4 +0.2
CLL *e*PPS 18 40 47.4
CLL *e*SS SS 18 46 10.2 +2.1
CLL *e*SSS 18 50 43.0
CLL *e*SSSS 18 54 17.3
CLL *e*LR LR 19 07 37.8
CLL *e*L 19 25 12.1
comp=Z,3µm,20.0s
CLL Collm 122.34 330 *i* PP PP 18 29 22.4 -7.1
CLL *e* 18 29 30.0
CLL *i* *PPP 18 29 34.8
CLL *e* 18 29 48.0
CLL *e* 18 31 21.0
CLL *e*PPP 18 32 00.0
CLL *e* 18 35 24.0
CLL *e*PKKP PKKPbc 18 37 49.0 +0.3
CLL *e*SP SP 18 39 17.0 -4.1
CLL *e* 18 42 05.0
CLL *e* 18 45 05.0
CLL *e*SS SS 18 46 14.0 +5.9
CLL *e* 18 47 13.0
CLL *e*SSS 18 50 29.0
CLL *e* 18 54 18.0
CLL Collm 122.34 330 *i* PP PP 18 29 22.4 -7.1
CLL LmV 18 25 00.0
comp=Z,3µm,19.4s
CLL *e*PPlp 18 29 30.0
CLL *i* pPP 18 29 34.8
CLL *ex* x 18 29 48.0
CLL *ex* x 18 31 21.0
CLL *e*PPP 18 32 00.0
CLL *ex* x 18 35 24.0
CLL *e*PKKPab PKKPab 18 37 49.0 -0.2
CLL *e*SP SP 18 39 17.0 -4.1
CLL *e*(PPS) 18 40 36.0
CLL *ex* x 18 42 05.0
CLL *ex* x 18 45 05.0
CLL *e*SS SS 18 46 14.0 +5.9
CLL *ex* x 18 47 13.0
CLL *e*(SSS) 18 50 29.0
CLL *ex* x 18 51 54.0
CLL *e*SSSS 18 54 18.0
FBE Freiberg 122.40 329 *e*PP PP 18 29 23.0 -6.9
FBE Freiberg 122.40 329 *e*PP PP 18 29 23.0 -6.9
HLG Helgoland 122.81 335 *e*SS SS 18 46 17.7 +3.7
HLG Helgoland 122.81 335 *e*SS SS 18 46 17.7 +3.7
TANN Tannenbergstha 123.16 329 *e*PKPdf PKPdf 18 27 56.2 +1.0
TANN *e*PP PP 18 29 28.6 -6.4
TANN *e*SS SS 18 46 21.0 +2.5
MCWV Mont Chateau 123.21 45 PFAKE 18 28 10.0 +15
MCWV LR LR
comp=Z,4µm,20.0s,MS6.1
WERD Werda 123.22 330 *e*PP PP 18 29 28.6 -6.8
WERD Werda 123.22 330 *e*PP PP 18 29 28.6 -6.8
GUNZ Gunzen 123.26 329 *e*PKPdf PKPdf 18 27 54.5 -0.9
GUNZ *e*PP PP 18 29 28.7 -7.0
NKC Novy Kostel 123.28 329 *ex* x 18 46 06.9
NKC *ex* x 18 59 47.9
NKC AMS AMS 19 25 30.0
comp=Z,3µm,19.0s
CLZ Clausthal 123.28 332 *e*PP PP 18 29 29.1 -6.8
CLZ *e*SS SS 18 46 24.0 +4.0
CLZ Clausthal 123.28 332 *e*PP PP 18 29 29.1 -6.8
CLZ *e*SS SS 18 46 24.0 +4.0
FWV Forest Hill 123.29 48 *e*PKPdf PKPdf 18 27 52.9 -2.5
KHC Kasperske Hory 123.35 328 *e*PKP PKPdf 18 27 58.0 +2.5
KHC *e*PP PP 18 29 36.5 +0.2
KHC *e*PKKP PKKPbc 18 37 49.5 +4.8
KHC *e*SS SS 18 46 20.4 -0.5
KHC AMS AMS 19 20 20.0
comp=Z,3µm,23.2s
KHC Kasperske Hory 123.35 328 *e*P PKPdf 18 27 58.0 +2.5
KHC *e*PP PP 18 29 36.5 +0.2
KHC *e* 18 46 20.4
KHC LR LR
comp=Z,3µm,23.2s,MS5.9
MOX Moxa 123.44 330 *e*PP PP 18 29 30.0 -7.0
MOX *e*SS SS 18 46 29.6 +7.5
MOX Moxa 123.44 330 *e*PP PP 18 29 30.0 -7.0
MOX *e*SS SS 18 46 29.6 +7.5
MOX Moxa 123.44 330 *e*PKP PKPdf 18 27 58.6 +2.9
MOX *e* 18 29 37.1
MOX
comp=Z,2µm,22.0s
GEC2 GERESS Array S 123.45 327 *e*PKPdf PKPdf 18 27 56.6 +0.9
GEC2 *e*PP PP 18 29 32.9 -4.1
GEC2 *e*SS SS 18 46 32.8 +11
GERES GERESS Array B 123.45 327 PKP PKPdf 18 27 54.5 -1.2
comp=Z,0.8nm,0.6s,baz=76,slow=1.7,SNR=10
GERES PP PP 18 29 35.9 -1.1
comp=Z,1.2nm,0.9s,baz=64,slow=6.7,SNR=2.4
GERES PKKPbc PKKPbc 18 37 48.8 +4.4
comp=Z,0.3nm,0.3s,baz=212,slow=4.7,SNR=9.2
GERES GERESS Array B 123.45 327 PKIKP PKPdf 18 27 54.5 -1.2
GERES 18 29 35.9
MANZ Manzenberg 123.60 329 *e*PP PP 18 29 31.1 -6.9
MANZ *e*SS SS 18 46 36.8 +13
MANZ Manzenberg 123.60 329 *e*PP PP 18 29 31.1 -6.9
MANZ *e*SS SS 18 46 36.8 +13
ROTZ Rotzenmuhle 123.69 329 *e*PP PP 18 29 31.8 -6.8
ROTZ *e*SS SS 18 46 37.0 +12
ROTZ Rotzenmuhle 123.69 329 *e*PP PP 18 29 31.8 -6.8
ROTZ *e*SS SS 18 46 37.0 +12
WET Wettzell 123.71 328 *e*PP PP 18 29 31.8 -7.0
WET *e*SS SS 18 46 30.3 +4.8
WET Wettzell 123.71 328 *e*PP PP 18 29 31.8 -7.0
WET *e*SS SS 18 46 30.3 +4.8
BLA Blacksburg 123.72 48 PFAKE 18 28 10.0 +14
BLA LR LR
comp=Z,225nm,19.0s,MS4.8
GROS Grobnik 123.78 324 *e*PKPdf PKPdf 18 27 57.1 +0.8
GROS *e*PP PP 18 29 40.6 +1.4
GCIS Gornji Cirnik 124.02 323 *e*PP PP 18 29 42.1 +1.3
GCIS *e* 18 32 10.8
UBBA Unterbreizbach 124.13 331 *e*SS SS 18 46 40.9 +10
UBBA Unterbreizbach 124.13 331 *e*SS SS 18 46 40.9 +10
IBBN Ibbenburen 124.17 333 *e*PP PP 18 29 34.1 -7.7
IBBN Ibbenburen 124.17 333 *e*PP PP 18 29 34.1 -7.7
SSPA Standing Stone 124.17 44 *e*PKPdf PKPdf 18 27 55.7 -1.4
GRF Grafenberg Arr 124.24 329 *e*PP PP 18 29 35.3 -7.0

GRF				*e*SS	SS	18 46 27.9	-4.2		
GRF				*e*L		19 26 59.6			
	comp=Z,3µm,20.1s								
GRF	**Grafenberg Arr**	**124.24**	**329**	*e*PP	PP	18 29 35.3	-7.0		
GRF				*e*SS	SS	18 46 27.9	-4.2		
GRF				*e*L		19 26 59.6			
	comp=Z,3µm,20.1s								
LONY	**Lake Ozonia**	**124.44**	**38**	*e*PKPdf	PKPdf	18 27 56.0	-1.7		
KBA	**Koelnbreinsper**	**124.67**	**326**⇑	*i*P	PKPdf	18 28 00.6	+2.5		
	comp=Z,17nm,1.2s								
KBA	**Koelnbreinsper**	**124.67**	**326**⇓	*e*PKPdf	PKPdf	18 27 55.8	-2.2		
	comp=Z,17nm,1.2s								
BINY	**Binghamton**	**124.75**	**41**	PFAKE		18 28 10.0	+12		
BINY				LR	LR				
	comp=Z,4µm,20.0s,MS6.1								
WTSB	**Winterswijk**	**124.83**	**334**	*e*PP	PP	18 29 51.4	+5.2		
BUG	**Bochum--Univer**	**124.99**	**333**	*e*PP	PP	18 29 39.8	-7.5		
BUG				*e*SS	SS	18 46 41.4	-0.2		
BUG	**Bochum--Univer**	**124.99**	**333**	*e*PP	PP	18 29 39.8	-7.5		
BUG				*e*SS	SS	18 46 41.4	-0.2		
NCB	**Newcomb**	**125.00**	**39**	PKPdf	PKPdf	18 27 56.5	-2.2		
NCB				LR	LR				
	comp=Z,3µm,20.0s,MS6.0								
FUR	**Furstenfeldbru**	**125.15**	**328**	*e*PP	PP	18 29 41.7	-6.7		
FUR				*e*SS	SS	18 46 55.9	+12		
FUR	**Furstenfeldbru**	**125.15**	**328**	*e*PP	PP	18 29 41.7	-6.7		
FUR				*e*SS	SS	18 46 55.9	+12		
TNS	**Taunus Mts**	**125.27**	**331**	*e*PKPdf	PKPdf	18 28 00.9	+1.7		
TNS				*e*PP	PP	18 29 42.0	-7.2		
TNS				*e*SS	SS	18 46 51.6	+6.5		
WTTA	**Wattenberg**	**125.50**	**327**⇓	*i*P	PKPdf	18 27 59.1	-0.6		
	comp=Z,20nm,1.5s								
CBN	**Corbin**	**125.56**	**46**	PFAKE		18 28 10.0	+10		
CBN				LR	LR				
	comp=Z,6µm,20.0s,MS6.2								
DWPF	**Disney**	**125.70**	**59**	PFAKE		18 28 10.0	+10		
DWPF				LR	LR				
	comp=Z,2µm,19.0s,MS5.8								
STU	**Stuttgart**	**125.85**	**329**	*e*PKPdf	PKPdf	18 28 01.6	+1.3		
STU				*e*PP	PP	18 29 45.7	-7.3		
STU				*e*SS	SS	18 47 02.0	+10		
ESK	**Eskdalemuir**	**126.00**	**342**	PFAKE		18 28 10.0	+9.4		
ESK				LR	LR				
	comp=Z,1µm,22.0s,MS5.6								
HGN	**Heimansgroeve**	**126.06**	**333**	*e*PP	PP	18 29 54.8	+0.3		
HGN				*e*PPS		18 41 22.9			
HGN				*e*SS	SS	18 46 43.7	-11		
LBNH	**Lisbon**	**126.26**	**37**	PFAKE		18 28 10.0	+8.9		
LBNH				LR	LR				
	comp=Z,5µm,21.0s,MS6.1								
BFO	**Black Forest**	**126.57**	**330**	*e*PP	PP	18 29 50.3	-7.6		
BFO				*e*SS	SS	18 47 11.9	+10		
BFO	**Black Forest**	**126.57**	**330**	*e*PP	PP	18 29 50.3	-7.6		
BFO				*e*SS	SS	18 47 11.9	+10		
WLF	**Walferdange**	**126.73**	**332**	*e*PKPdf	PKPdf	18 28 04.8	+2.8		
WLF				*e*PP	PP	18 29 52.1	-6.8		
WLF				*e*SS	SS	18 47 08.9	+5.5		
CDF	**Champ du Feu**	**127.05**	**330**	*e*PKIKP	PKPdf	18 28 02.2	-0.4		
HRV	**Harvard--Oak R**	**127.42**	**39**	PFAKE		18 28 10.0	+6.7		
HRV				LR	LR				
	comp=Z,4µm,22.0s,MS6.0								
HINF	**Hinteralfeld**	**127.66**	**330**	*e*PKIKP	PKPdf	18 28 03.4	-0.4		
CABF	**La Chapelle**	**128.85**	**329**	*e*PKIKP	PKPdf	18 28 05.6	-0.5		
	comp=Z,76nm,1.5s								
BNI	**Bardonecchia**	**129.57**	**327**	PKIKP	PKPdf	18 28 10.3	+2.9		
BNI	**Bardonecchia**	**129.57**	**327**	PKPdf	PKPdf	18 28 08.0	+0.5		
NNA	**Nana**	**129.66**	**110**	PKPdf	PKPdf	18 28 08.2	+0.7		
NNA				LR	LR				
	comp=Z,2µm,20.0s,MS5.8								
AVF	**Avril sur Loir**	**130.09**	**331**	*e*PKIKP	PKPdf	18 28 08.0	-0.4		
FRF	**La Foret Royal**	**130.55**	**326**	*e*PKIKP	PKPdf	18 28 08.8	-0.5		
OTAV	**Otavalo**	**130.65**	**94**	PFAKE		18 28 20.0	+11		
OTAV				LR	LR				
	comp=Z,1µm,21.0s,MS5.6								
VIVF	**Saint-Julien-l**	**130.77**	**328**	*e*PKIKP	PKPdf	18 28 09.3	-0.4		
LMR	**La Mourre**	**130.78**	**326**	*e*PKIKP	PKPdf	18 28 09.1	-0.6		
GRR	**Gorron**	**130.79**	**335**	*e*PKIKP	PKPdf	18 28 08.6	-1.1		
	comp=Z,7.3nm,0.7s								
SMRF	**Simiane la Rot**	**130.88**	**327**	*e*PKIKP	PKPdf	18 28 09.5	-0.4		
LVC	**Limon Verde**	**132.29**	**127**	PFAKE		18 28 30.0	+17		
LVC				LR	LR				
	comp=Z,2µm,22.0s,MS5.7								
MTLF	**Montolieu**	**133.09**	**329**	*e*PKIKP	PKPdf	18 28 13.3	-0.8		
LPAZ	**La Paz**	**135.95**	**120**	PKP	PKPdf	18 28 21.1	+1.7		
	comp=Z,5.2nm,0.8s,baz=318,slow=1.5,SNR=13								
LPAZ	**La Paz**	**135.95**	**120**	*e*PKHKP		18 28 09.6			
LPAZ				*e*		18 28 21.1			
LPAZ				MLR	MLR				
	comp=Z,1µm,21.0s								
BBSR	**BB Station**	**137.43**	**46**	PFAKE		18 28 30.0	+7.8		
BBSR				LR	LR				
	comp=Z,2µm,20.0s,MS5.9								
CPUP	**Villa Florida**	**138.37**	**141**	PKP	PKPdf	18 28 24.7	+0.8		
	comp=Z,3.5nm,0.8s,baz=219,slow=4.2,SNR=7.4								
CPUP	**Villa Florida**	**138.37**	**141**	PKP	PKPdf	18 28 24.7	+0.8		
SDV	**Santo Domingo**	**138.85**	**83**	*e*PKPdf	PKPdf	18 28 25.2	+0.5		
ESDC	**Sonseca Array**	**138.94**	**330**	PP	PP	18 31 13.9	-3.2		
	comp=Z,0.6nm,0.6s,baz=23,slow=6.6,SNR=3.5								
ESLA	**Sonseca Array**	**138.94**	**330**	PFAKE		18 28 40.0	+15		
ESLA				LR	LR				
	comp=Z,10µm,21.0s,MS6.5								
SAML	**Samuel**	**143.33**	**113**	*e*PKPpre		18 28 30.0			
SAML				LR	LR				
	comp=Z,1µm,20.0s,MS5.6								
TOA0	**Torodi Ar. Sit**	**148.49**	**286**	*e*PKPbc	PKPbc	18 28 43.9	-1.4		
TORD	**Torodi Ar. Bea**	**148.49**	**286**	PKPbc	PKPbc	18 28 43.3	-1.9		
	comp=Z,4.3nm,0.9s,baz=107,slow=1.3,SNR=18								
CAM4	**Nova Friburgo**	**149.51**	**155**⇑	*i*P	PKPbc	18 28 48.3	+0.5		
CAM4				*i*		18 28 52.8			
CAM4				*i*		18 28 58.6			
CAM4				*i*		18 29 09.1			
CAM4				*i*		18 29 37.3			
CAM3	**Guarapari**	**151.79**	**157**⇑	*i*P	PKPbc	18 28 54.5	+1.3		
CAM3				*i*		18 28 56.5			
CAM3				*i*		18 29 06.6			
BDFB	**Brasilia**	**152.06**	**139**	PKP	PKPdf	18 28 48.2	+1.0		
	comp=Z,17nm,1.1s,baz=229,slow=0.5,SNR=4.9								
BDFB				PKPbc	PKPbc	18 28 54.4	+0.6		
	comp=Z,27nm,0.7s,baz=180,slow=1.3,SNR=30								
DBIC	**Dimbokro**	**155.67**	**274**	PFAKE		18 29 00.0	+7.7		
DBIC				LR	LR				
	comp=Z,2µm,22.0s,MS5.9								
ASCN	**Ascension**	**160.07**	**228**	PFAKE		18 29 10.0	+12		
ASCN				LR	LR				
	comp=Z,2µm,21.0s								
RCBR	**Riachuelo**	**167.04**	**149**	PFAKE		18 29 20.0	+16		
RCBR				LR	LR				
	comp=Z,2µm,21.0s								

*NEIC **19** 18:09:48.6, 1560N×9838W, h10km, MD4.4(MEX), After MEX.*

MEX 19 18:09:48.2±1.1, 1565N×9837W, h3km±17km, MD4.4, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**1.92**	**309**	*i* P	Pn	18 10 19.0	-2.7
ACX				*i* S	Sn	18 10 42.0	-4.4
VHO	**Vista Hermosa**	**2.11**	**48**	*i* P	Pn	18 10 21.1	-3.2
VHO				*i* S	Sn	18 10 47.7	-3.5
VHO	**Vista Hermosa**	**2.11**	**48**	*i* P	Pn	18 10 21.1	-3.2
VHO				*i* S	Sn	18 10 49.7	-1.4
OXX	**Oaxaca**	**2.12**	**48**	*i* P	Pn	18 10 21.0	-3.6
OXX				*i* S	Sn	18 10 48.0	-3.5
HUIG	**Huatulco**	**2.18**	**87**	*e*P	Pn	18 10 21.8	-3.5
HUIG				*i* S	Sn	18 10 48.3	-4.5
UTMO	**Huajuapan**	**2.23**	**14**	*i* P	Pn	18 10 23.6	-2.5
UTMO				*i* S	Sn	18 10 48.5	-5.6
CAIG	**El Cayaco**	**2.29**	**308**	*i* P	Pn	18 10 23.0	-3.9
CAIG				*i* S	Sn	18 10 52.6	-3.1
MEIG	**Mezcala**	**2.56**	**332**	*i* P	Pn	18 10 26.4	-4.2
MEIG				*i* S	Sn	18 10 57.4	-4.8
TPIG	**Tehuac#an**	**2.92**	**19**	*i* P	Pn	18 10 31.9	-3.6
TPIG				*i* S	Sn	18 11 10.1	-0.9
PLIG	**Platanillo**	**2.93**	**338**	*i* P	Pn	18 10 34.9	-0.8
PLIG				*i* S	Sn	18 11 10.2	-1.3
YAIG	**Yautepec**	**3.26**	**348**	*i* P	Pn	18 10 39.1	-1.1
YAIG				*i* S	Sn	18 11 17.8	-1.7
PPM	**Popocatepetl**	**3.41**	**356**	*e*P	Pn	18 10 38.7	-3.5
PPM				*e*P		18 10 40.1	
PPM				*e*P		18 10 40.5	
CIVM	**Cilcuayo**	**3.48**	**350**	*i* P	Pn	18 10 46.0	+2.7
CIVM				*i* S	Sn	18 11 29.0	+4.0
ZIIG	**Zihuatanejo**	**3.55**	**304**	*i* P	Pn	18 10 39.3	-4.9
ZIIG				*i* S	Sn	18 11 22.0	-4.7
IIZ	**Mezontepec**	**3.61**	**347**	*e*P	Pn	18 10 44.4	-0.7
IIZ				*i* S	Sn	18 11 22.7	-5.6
CMIG	**Matias Romero**	**3.64**	**66**	*i* P	Pn	18 10 43.6	-1.7
CMIG				*i* S	Sn	18 11 24.8	-4.0
RFVM	**Rio Frio**	**3.68**	**354**	*e*P	Pn	18 10 47.8	+1.8
UNM	**Universidad Na**	**3.74**	**348**	*e*P	Pn	18 10 42.0	-4.8
UNM				*i* P		18 10 44.2	
UNM				*i* S	Sn	18 11 29.8	-1.5
UNM	**Universidad Na**	**3.74**	**348**	*i* P	Pn	18 10 44.2	-2.5
UNM				*e*P		18 10 50.6	
UNM				*i* P		18 11 01.0	
UNM				*i* S	Sn	18 11 29.8	-1.5
UNM				*i* S	Sn	18 11 35.5	+4.2
PTVM	**Pico Tres Padr**	**3.98**	**350**	*e*P	Pn	18 10 53.2	+3.0
MOIG	**Morelia**	**4.82**	**327**	*i* P	Pn	18 11 02.3	+0.6
MOIG				*i* S	Sn	18 11 54.8	-3.3
CCIG	**Comitan**	**6.03**	**83**	*i* S	Sn	18 12 26.9	-0.8

*ISCJB **19** 18:16:34.5±4.9, 56S×02×1502E±05, h81km±33km, mb4.0/7, Error ellipse: s-maj=76.4km s-min=29.1km az=14.3*

*IDC **19** 18:16:36.9±6.2, 558S×150.11E, h83km±49km, mb3.9/6, mb1 4.0/7, mb1mx3.8/12, mbtmp4.2/7, ML2.6/1, Error ellipse: s-maj=68.2km s-min=26.8km az=93.0*

*NEIC **19** 18:16:36.5±3.4, 559S×150.19E, h82km±22km, mb4.3/1, Error ellipse: s-maj=49.2km s-min=19.1km az=97.0*

ISC 19 18:16:36.3±4.6, 56S±02×1502E±04, h79km±31km, n9, σ0.537/10, mb4.0/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.86**	**218**	P	**Pn**	**18 17 46.9**	**0.0**
	1.8nm,0.3s,baz=336,slow=10.0,SNR=6.7						
PMG				S	**Sn**	**18 18 50.7**	**+8.8**
	1.0nm,0.3s,baz=323,slow=20,SNR=3.1						
WRAB	**Tennant Creek**	**21.02**	**226**	*e*P	**P**	**18 21 13.7**	**+0.3**
	14nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**21.03**	**226**	P	**P**	**18 21 13.7**	**+0.1**
	4.6nm,0.5s,mb4.0,baz=51,slow=11,SNR=300						
ASAR	**Alice Springs**	**23.88**	**220**	P	**P**	**18 21 43.0**	**+0.5**
	5.4nm,0.8s,mb4.0,baz=53,slow=8.8,SNR=7.6						
FITZ	**Fitzroy Crossi**	**27.04**	**241**	P	**P**	**18 22 10.5**	**-0.6**
	2.7nm,0.6s,mb4.0,baz=81,slow=19,SNR=3.1						
STKA	**Stephens Creek**	**27.37**	**196**	P	**P**	**18 22 13.8**	**-0.3**
	4.9nm,1.1s,mb4.0,baz=23,slow=17,SNR=2.9						
SONM	**Songino Array**	**65.65**	**329**	P	**P**	**18 27 11.8**	**-0.3**
	3.6nm,1.0s,mb4.2,baz=140,slow=4.8,SNR=8.9						
MKAR	**Makanchi Array**	**79.24**	**320**	P	**P**	**18 28 33.4**	**+0.5**
	1.1nm,0.9s,mb3.7,baz=93,slow=5.1,SNR=4.0						
MKAR	**Makanchi Array**	**79.24**	**320**	P	**P**	**18 28 33.4**	**+0.5**

IDC 19 18:18:42.3±7.8, 482S×15084E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/12, mbtmp4.0/5, ML2.6/1, Error ellipse: s-maj=118.1km s-min=72.8km az=38.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.84**	**219**	P	Pn	18 20 10.9	+0.9
	1.0nm,0.3s,baz=344,slow=7.4,SNR=3.8						
WRA	**Warramunga Arr**	**22.00**	**226**	P	P	18 23 38.2	+0.2
	2.5nm,0.6s,baz=52,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**24.85**	**219**	P	P	18 24 07.2	+0.9
	1.2nm,0.6s,baz=50,slow=8.3,SNR=8.3						
FITZ	**Fitzroy Crossi**	**27.95**	**240**	P	P	18 24 34.2	-0.2
	1.8nm,0.7s,baz=61,slow=10,SNR=4.8						
STKA	**Stephens Creek**	**28.28**	**197**	P	P	18 24 37.2	-0.1
	2.1nm,0.7s,baz=32,slow=16,SNR=3.2						

CASC 19 18:24:08.9±2.9, 1406N×9133W, h56km±30km, MD4.0, 4C-6D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.39**	**311**⇑	*e*P	Pn	18 24 20.1	+0.7
FUG	**Fuego 3**	**0.61**	**51**⇓	*i*P	Pn	18 24 22.6	+0.8
TER	**Terranova**	**0.67**	**69**⇓	*e*P	Pn	18 24 23.2	+0.6
PCG	**Pacaya**	**0.78**	**65**⇓	*e*P	Pn	18 24 25.4	+1.5
PCG				*e*S	Sn	18 24 36.8	+2.0
TP2	**Tecpan 2**	**0.78**	**23**⇓	*e*P	Pn	18 24 24.4	+0.5
TP2				*e*S	Sn	18 24 37.2	+2.4
IXG	**Ixpaco**	**0.86**	**82**⇑	*e*P	Pn	18 24 25.2	+0.3
IXG				*e*S	Sn	18 24 37.3	+0.7
RBDL	**Robledal**	**1.60**	**88**⇓	*e*P	x	18 24 51.4	
RBDL				*e*S	x	18 25 12.2	
RTR	**El Retiro**	**1.64**	**95**⇓	*e*P	x	18 24 52.7	
RTR				*e*S	x	18 25 14.8	
SBLS	**San Blas**	**1.67**	**97**	*e*P	x	18 24 52.9	
SBLS				*e*S	x	18 25 13.3	
SNJE	**San Jose**	**1.69**	**96**	*e*P	x	18 24 52.8	
SNJE				*e*S	x	18 25 13.8	
BOQS	**Boqueron**	**2.02**	**99**	*e*P	x	18 24 58.3	
BOQS				*e*S	x	18 25 21.9	
LFU	**La Fuente**	**2.17**	**98**	*e*P	x	18 24 59.1	
LFU				*e*S	x	18 25 25.0	
LFRS	**El Faro**	**2.25**	**101**⇑	*e*P	x	18 25 00.7	
LFRS				*e*S	x	18 25 28.2	
LCBS	**La Ceiba**	**2.32**	**100**	*e*P	x	18 25 01.5	
LCBS				*e*S	x	18 25 30.1	
SNVI	**San Vicente**	**2.46**	**100**	*e*P	x	18 25 03.5	
SNVI				*e*S	x	18 25 33.3	
BLLM	**Bellamira**	**3.07**	**101**	*e*P	x	18 25 14.0	
BLLM				*e*S	x	18 25 51.7	
CNCH	**Conchagua**	**3.49**	**102**⇑	*e*P	x	18 25 20.4	
CNCH				*e*S	x	18 25 59.0	

*ISCJB **19** 18:38:03.0±0.2, 49.17N±001×679E±003, h0km, Error ellipse: s-maj=2.4km s-min=1.8km az=8.0*

*CSEM **19** 18:38:04.5±0.1, 49.19N×685E, h1km, ML3.2/7, Error ellipse: s-maj=1.2km s-min=1.2km az=46.0*

*BNS **19** 18:38:05.3±0.8, 49.18N×704E, h1km, ML2.0*

*STR **19** 18:38:05.0±0.2, 49.15N×683E, h1km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **19** 18:38:05.3±0.1, 49.17N×682E, h1km, Md3.2/4, Ml3.1/9, Error ellipse: s-maj=2.4km s-min=2.1km az=91.0, Suspected Mining induced.*

*NEIC **19** 18:38:05.0, 49.15N×683E, h1km, ML2.3(SZGRF), ML2.6(STR), ML3.1(LDG), After STR.*

*BGR **19** 18:38:05.7±0.4, 49.18N×695E, h1km, ML2.3/4, Error ellipse: s-maj=5.6km s-min=3.3km az=16.0*

ISC 19 18:38:03.8±0.2, 4917N±001×685E±002, h0km, n61, σ1.937/118, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUP	**Ruppelstein**	**0.55**	**14**	**Pg**	**Pg**	**18 38 16.1**	**+1.7**
RUP				Sg	**Sg**	**18 38 23.9**	**+2.4**
LANF	**Langenberg**	**0.66**	**106**	Pg	**Pg**	**18 38 17.4**	**+1.0**
LANF				Sg	**Sg**	**18 38 27.3**	**+2.3**
WLF	**Walferdange**	**0.67**	**318**	*e*Pg	**Pg**	**18 38 18.6**	**+1.9**
	SNR=15						
WLF				*e*Sg	**Sg**	**18 38 28.1**	**+2.7**
	SNR=3.8						
WLF	**Walferdange**	**0.67**	**318**	*e*P	**Pg**	**18 38 18.5**	**+1.8**
WLF	**Walferdange**	**0.67**	**318**	Pg	**Pg**	**18 38 18.6**	**+1.9**
	SNR=15						
WLF				Sg	**Sg**	**18 38 28.1**	**+2.7**
	SNR=3.8						
CDF	**Champ du Feu**	**0.81**	**159**	*e*Pg	**Pg**	**18 38 21.4**	**+2.0**
CDF				*e*Sg	**Sg**	**18 38 32.9**	**+3.0**
	93nm,0.3s						
CDF	**Champ du Feu**	**0.81**	**159**	*e*Pn	**Pn**	**18 38 19.8**	**-2.7**
CDF				*e*Pg	**Pg**	**18 38 21.4**	**+2.0**
CDF				*e*Sg	**Sg**	**18 38 32.9**	**+3.0**
CDF	**Champ du Feu**	**0.81**	**159**	*e*Pg	**Pg**	**18 38 21.4**	**+2.0**
CDF				*e*Sg	**Sg**	**18 38 32.9**	**+3.0**
	46nm,0.3s						
WLS	**Welschbruch**	**0.83**	**156**	Pg	**Pg**	**18 38 20.2**	**+0.5**
WLS				Sg	**Sg**	**18 38 33.0**	**+2.6**
ABH	**Alteburg**	**0.85**	**32**	Pg	**Pg**	**18 38 21.3**	**+1.2**
ECH	**Echery**	**0.98**	**168**	Pg	**Pg**	**18 38 24.2**	**+1.6**
ECH				Sg	**Sg**	**18 38 36.3**	**+1.1**
RFYF	**Reffroy**	**1.06**	**240**	*e*Pg	**Pg**	**18 38 25.8**	**+1.7**
RFYF				*e*Sg	**Sg**	**18 38 39.0**	**+1.2**
BGG	**Burgeitz**	**1.08**	**17**	*e*Pg	**Pg**	**18 38 25.2**	**+0.6**
BGG				*e*Sg	**Sg**	**18 38 39.4**	**+0.7**
	30nm,0.3s						
BGG	**Burgeitz**	**1.08**	**17**	Pg	**Pg**	**18 38 25.2**	**+0.6**
BGG				Sg	**Sg**	**18 38 39.3**	**+0.6**
	30nm,0.3s						
THEF	**They Montfort**	**1.10**	**211**	Pg	**Pg**	**18 38 25.1**	**+0.1**
THEF				Sg	**Sg**	**18 38 40.2**	**+0.9**
HILG	**Hillesheim**	**1.13**	**354**	*e*Pg	**Pg**	**18 38 26.2**	**+0.8**
LIBD	**Limburg**	**1.14**	**154**	Pg	**Pg**	**18 38 26.2**	**+0.6**
HAU	**Haudompre**	**1.21**	**196**	*e*Pg	**Pg**	**18 38 28.1**	**+1.0**
HAU				*e*Sn	**Sn**	**18 38 43.2**	**-1.9**
HAU				*e*Sg	**Sg**	**18 38 46.1**	**+3.3**
	68nm,0.3s						
HAU	**Haudompre**	**1.21**	**196**	*e*Pn	**Pn**	**18 38 27.2**	**-0.8**
HAU				*e*Pg	**Pg**	**18 38 28.1**	**+1.0**
HAU				*e*Sn	**Sn**	**18 38 43.2**	**-1.9**
HAU				*e*Sg	**Sg**	**18 38 46.1**	**+3.3**
HAU	**Haudompre**	**1.21**	**196**	*e*Pg	**Pg**	**18 38 28.1**	**+1.0**
HAU				*e*Sn	**Sn**	**18 38 43.2**	**-1.9**
HAU				*e*Sg	**Sg**	**18 38 46.1**	**+3.3**
	34nm,0.3s						
BFO	**Black Forest**	**1.29**	**130**	*e*Pn	**Pn**	**18 38 28.6**	**-0.6**
	SNR=1.6						
BFO				*e*Sg	**Sg**	**18 38 45.3**	**-0.1**
	SNR=6.5						
BFO	**Black Forest**	**1.29**	**130**	*e*Pg	**Pg**	**18 38 28.4**	**-0.2**
BFO				*e*Sg	**Sg**	**18 38 46.7**	**+1.3**
BFO	**Black Forest**	**1.29**	**130**	Pn	**Pn**	**18 38 28.6**	**-0.5**
	SNR=1.6						
BFO				Sg	**Sg**	**18 38 45.3**	**-0.1**
	SNR=6.5						
MOF	**Molkenrain**	**1.33**	**172**	Pg	**Pg**	**18 38 29.9**	**+0.5**
MOF				Sg	**Sg**	**18 38 47.8**	**+1.1**
TOD	**Tromm**	**1.35**	**70**	Pg	**Pg**	**18 38 30.1**	**+0.4**
HINF	**Hinteralfeld**	**1.35**	**180**	*e*Pg	**Pg**	**18 38 30.2**	**+0.4**
HINF				*e*Sg	**Sg**	**18 38 48.5**	**+1.1**
	48nm,0.2s						
HINF	**Hinteralfeld**	**1.35**	**180**	*e*Pg	**Pg**	**18 38 30.2**	**+0.4**
HINF				*e*Sg	**Sg**	**18 38 48.5**	**+1.1**
	24nm,0.2s						
MEZF	**Maizieres J'vi**	**1.36**	**241**	*e*Pg	**Pg**	**18 38 30.2**	**+0.3**
MEZF				*e*Sg	**Sg**	**18 38 47.6**	**0.0**
STB	**Steinbach**	**1.43**	**360**	*e*Pg	**Pg**	**18 38 31.0**	**-0.2**
STB				*e*Sg	**Sg**	**18 38 50.0**	**+0.4**
	20nm,0.5s						
TNS	**Taunus Mts**	**1.48**	**44**	*e*Pn	**Pn**	**18 38 31.3**	**-0.4**
	SNR=1.8						
TNS				*e*Sg	**Sg**	**18 38 52.0**	**+0.6**
	SNR=3.5						
TNS	**Taunus Mts**	**1.48**	**44**	*e*Pg	**Pg**	**18 38 31.4**	**-0.8**
TNS				*e*Sg	**Sg**	**18 38 53.5**	**+2.1**
FELD	**Feldberg im Sc**	**1.51**	**149**	Pg	**Pg**	**18 38 33.2**	**+0.5**
FELD				Sg	**Sg**	**18 38 52.2**	**0.0**
KLL	**Kalltalsperre**	**1.52**	**347**	*e*Pg	**Pg**	**18 38 31.7**	**-1.3**
SFTF	**Sexfontaines**	**1.54**	**232**	*e*Pg	**Pg**	**18 38 32.2**	**-1.2**
SFTF				*e*Sg	**Sg**	**18 38 53.2**	**-0.1**
	72nm,0.3s						
SFTF	**Sexfontaines**	**1.54**	**232**	*e*Pg	**Pg**	**18 38 32.2**	**-1.2**
SFTF				*e*Sg	**Sg**	**18 38 53.2**	**-0.1**
	36nm,0.3s						
STU	**Stuttgart**	**1.60**	**104**	*e*Sg	**Sg**	**18 38 52.4**	**-2.8**
	SNR=3.0						
GIVF	**Givet**	**1.61**	**306**	*e*Pg	**Pg**	**18 38 34.0**	**-0.8**
GIVF				*e*Sg	**Sg**	**18 38 57.3**	**+1.6**
	88nm,0.6s						
GIVF	**Givet**	**1.61**	**306**	*e*Pg	**Pg**	**18 38 34.0**	**-0.8**
GIVF				*e*Sg	**Sg**	**18 38 57.3**	**+1.6**
	44nm,0.6s						
HGN	**Heimansgroeve**	**1.70**	**340**	*e*Pg	**Pg**	**18 38 37.2**	**+0.7**
	9.7nm,0.2s						
HGN				*e*Sg	**Sg**	**18 38 58.4**	**-0.1**
BAIF	**Baives**	**1.93**	**298**	*e*Pg	**Pg**	**18 38 41.6**	**+0.7**
BAIF				*e*Sg	**Sg**	**18 39 04.7**	**-1.3**
	22nm,0.4s						
BAIF	**Baives**	**1.93**	**298**	*e*Pn	**Pn**	**18 38 38.3**	**+0.3**
BAIF				*e*Pg	**Pg**	**18 38 41.6**	**+0.7**
BAIF				*e*Sg	**Sg**	**18 39 04.7**	**-1.3**
BAIF	**Baives**	**1.93**	**298**	*e*Pg	**Pg**	**18 38 41.6**	**+0.7**
BAIF				*e*Sg	**Sg**	**18 39 04.7**	**-1.3**
	11nm,0.4s						
BUG	**Bochum--Univer**	**2.29**	**7**	*e*Sg	**Sg**	**18 39 16.5**	**-0.9**
	SNR=3.2						
CABF	**La Chapelle**	**2.61**	**192**	*e*Pg	**Pg**	**18 38 54.1**	**+0.2**
CAB

UTMO	**Huajupan**	**2.05**	**13**	*e*P		Pn	18 57 03.6	-3.6
UTMO				*i* S		Sn	18 57 29.6	-3.0
HUIG	**Huatulco**	**2.08**	**91**	*i* P		Pn	18 57 05.8	-1.9
HUIG				*i* S		Sn	18 57 28.8	-4.7
CAIG	**El Cayaco**	**2.27**	**303**	*i* P		Pn	18 57 08.6	-1.6
CAIG				*i* S		Sn	18 57 33.4	-4.8
MEIG	**Mezcala**	**2.46**	**329**	*i* P		Pn	18 57 09.4	-3.4
MEIG				*i* S		Sn	18 57 39.1	-3.8
TPIG	**Tehuac#an**	**2.73**	**18**	*e*P		Pn	18 57 12.3	-4.3
TPIG				*i* S		Sn	18 57 46.5	-2.9
PLIG	**Platanillo**	**2.82**	**335**	*i* P		Pn	18 57 15.8	-1.9
PLIG				*i* S		Sn	18 57 47.9	-3.7
YAIG	**Yautepec**	**3.12**	**346**	*i* P		Pn	18 57 21.2	-0.7
YAIG				*i* S		Sn	18 57 53.5	-5.6
PPM	**Popocatepetl**	**3.25**	**354**	*i* P		Pn	18 57 23.1	-0.6
PPM				*e*P			18 57 25.5	
PPM				*i* S		Sn	18 57 59.9	-2.3
IIZ	**Mezontepec**	**3.48**	**345**	*e*P		Pn	18 57 24.0	-2.8
IIZ				*i* S		Sn	18 58 03.9	-3.9
CMIG	**Matias Romero**	**3.49**	**68**	*e*P		Pn	18 57 24.3	-2.7
CMIG				*i* S		Sn	18 58 05.5	-2.7
ZIIG	**Zihuatanejo**	**3.54**	**301**	*i* P		Pn	18 57 23.5	-4.1
ZIIG				*i* S		Sn	18 58 05.6	-3.8
UNM	**Universidad Na**	**3.60**	**346**	*e*P		Pn	18 57 25.0	-3.4
UNM				*i* P			18 57 29.5	
UNM				*i* S		Sn	18 58 07.7	-3.1
UNM				*i* S		Sn	18 58 07.9	-2.9
UNM	**Universidad Na**	**3.60**	**346**	*i* P		Pn	18 57 36.7	+8.2
UNM				*i* S		Sn	18 58 07.7	-3.1
UNM				*i* S		Sn	18 58 15.8	+4.9
LVIG	**Laguna Verde**	**4.27**	**24**	*i* P		Pn	18 57 33.4	-4.3
LVIG				*i* S		Sn	18 58 22.5	-4.8
MOIG	**Morelia**	**4.74**	**325**	*i* P		Pn	18 57 41.9	-2.3
MOIG				*i* S		Sn	18 58 35.4	-3.6
MOIG	**Morelia**	**4.74**	**325**	*i* P		Pn	18 57 41.9	-2.3
MOIG				*i* S		Sn	18 58 32.2	-6.8
CCIG	**Comitan**	**5.92**	**85**	*i* S		Sn	18 59 05.9	-2.2
SFJM	**Santa Fe**	**6.49**	**316**	*e*P		Pn	18 58 05.0	-3.2

ISCJB ***19*** *18:58:08.1±1.1,635S±004×146.10E±006,h102km±10km, mb4.9/63,Error ellipse: s-maj=9.9km s-min=7.1km az=6.9*
MOS ***19*** *18:58:08.7±0.9,626S×14599E,h102km,mb5.0/17,Error ellipse: s-maj=12.3km s-min=6.5km az=101.7*
BJI ***19*** *18:58:08.8,6.18S×14650E,h118km,mB5.3,mb5.0*
NEIC ***19*** *18:58:10.9±0.2,637S×14608E,mb4.9/29,Error ellipse: s-maj=6.8km s-min=4.0km az=97.0*
IDC ***19*** *18:58:10.3±1.6,645S×14599E,h109km±15km,mb4.3/15, mb1 4.4/18,mb1mx4.4/19,mbtmp4.7/18,MS3.9/1, Ms1 3.9/1,ms1mx3.3/26,Error ellipse: s-maj=15.0km s-min=9.2km az=105.0*

ISC 19 18:58:10.7±1.0,642S±004×14616E±006,h112km±10km, h114km±3.8km:pP-P,n202,σ122/144,mb4.9/62,6C-8D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.13**	**162**	P		**Pn**	**18 58 59.6**	**+1.2**
	79nm,0.3s,baz=4.3,slow=5.3,SNR=282							
PMG				S		**Sn**	**18 59 35.4**	**+0.8**
	586nm,0.3s,baz=346,slow=15,SNR=17							
PMG				LR		LR	19 00 04.1	
	comp=Z,2μm,19.4s,baz=211,slow=36							
PMG	**Port Moresby**	**3.13**	**162**	*e*P		**Pn**	**18 58 59.3**	**+0.9**
PMG				*e*S		**Sn**	**18 59 35.4**	**+0.8**
CTA	**Charters Tower**	**13.59**	**180**	*e*P		**Pn**	**19 01 20.3**	**+1.6**
	21nm,0.7s							
CTA	**Charters Tower**	**13.59**	**180**	P		**Pn**	**19 01 20.7**	**+1.9**
	0.4nm,0.3s,baz=356,slow=12,SNR=14							
CTA	**Charters Tower**	**13.59**	**180**	*e*P		**Pn**	**19 01 20.3**	**+1.6**
CTA				pmax		pmax		
	comp=Z,21nm,0.7s							
CTAO	**Charters Tower**	**13.59**	**180**	*e*P		**Pn**	**19 01 20.8**	**+2.1**
CTAO				pmax		pmax		
	comp=Z,27nm,0.7s							
CTAO	**Charters Tower**	**13.59**	**180**	*e*P		**Pn**	**19 01 20.8**	**+2.1**
	comp=Z,27nm,0.7s							
HNR	**Honiara**	**13.98**	**103**	P		**Pn**	**19 01 30.1**	**+6.4**
	comp=Z,3.9nm,0.3s,baz=271,slow=1.7,SNR=6.1							
KAKA	**Kakadu**	**14.90**	**244**	*e*P		**Pn**	**19 01 34.9**	**-0.6**
	comp=Z,66nm,0.4s							
WRAB	**Tennant Creek**	**17.67**	**219**	⇑*i*P		**Pn**	**19 02 09.0**	**-0.6**
WRAB	**Tennant Creek**	**17.67**	**219**	*e*P		**Pn**	**19 02 08.4**	**-1.1**
	comp=Z,56nm,0.9s							
WB2	**Warramunga Arr**	**17.67**	**219**	*e*P		**Pn**	**19 02 08.5**	**-1.1**
WRA	**Warramunga Arr**	**17.68**	**219**	P		**Pn**	**19 02 08.9**	**-0.9**
	comp=Z,2.2nm,0.3s,baz=48,slow=13,SNR=92							
WRA				S		**S**	**19 05 25.2**	**-1.5**
	baz=43,slow=24,SNR=3.3							
GUMO	**Guam**	**19.92**	**356**	P		**P**	**19 02 33.8**	**+0.4**
	comp=Z,3.9nm,0.3s,baz=165,slow=9.3,SNR=5.9							
AS31	**Alice Springs**	**20.81**	**213**	*e*P		**P**	**19 02 42.6**	**-0.4**
ASAR	**Alice Springs**	**20.81**	**213**	P		**P**	**19 02 42.8**	**-0.2**
	comp=Z,3.8nm,0.3s,baz=51,slow=9.2,SNR=158							
ASAR				S		**S**	**19 06 25.8**	**-3.1**
	comp=Z,2.4nm,0.8s,baz=30,slow=24,SNR=4.2							
ASPA	**Alice Springs**	**20.81**	**213**	*e*P		**P**	**19 02 42.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**23.14**	**238**	*e*P		**P**	**19 03 04.2**	**-2.8**
	comp=Z,13nm,0.7s,mb4.4							
FITZ	**Fitzroy Crossi**	**23.14**	**238**	P		**P**	**19 03 05.2**	**-1.8**
	comp=Z,4.6nm,0.5s,mb4.1,baz=45,slow=11,SNR=28							
ARMA	**Armidale**	**24.42**	**169**	*e*P		**P**	**19 03 20.3**	**+1.6**
STKA	**Stephens Creek**	**25.69**	**189**	*e*P		**P**	**19 03 30.2**	**+0.1**
	comp=Z,16nm,0.7s,mb4.6							
STKA	**Stephens Creek**	**25.69**	**189**	P		**P**	**19 03 30.1**	**-0.1**
	comp=Z,18nm,0.7s,mb4.6,baz=353,slow=9.0,SNR=49							
MBWA	**Marble Bar**	**29.48**	**238**	P		**P**	**19 04 04.1**	**+0.1**
TOO	**Toolangi**	**31.02**	**181**	*e*P		**P**	**19 04 19.5**	**+2.0**
	comp=Z,3.4nm,0.6s,mb4.2							
TOO	**Toolangi**	**31.02**	**181**	*e*P		**P**	**19 04 19.5**	**+2.0**
TOO				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.2							
TGY	**Tagaytay City**	**32.28**	**309**	P		**P**	**19 04 29.0**	**+0.3**
	comp=Z,73nm,0.2s,baz=202,slow=4.5,SNR=16							
KKM	**Kota Kinabalu**	**32.35**	**292**	P		**P**	**19 04 21.8**	**-7.4**
KLBR	**Kellerberrin**	**36.50**	**223**	*e*P		**P**	**19 05 04.2**	**-0.8**
	comp=Z,45nm,1.6s,mb5.2							
NWAO	**Narrogin (SRO)**	**37.66**	**222**	P		**P**	**19 05 12.5**	**-2.3**
	comp=Z,4.2nm,0.8s,mb4.3,baz=63,slow=2.3,SNR=2.8							
NWAO	**Narrogin (SRO)**	**37.66**	**222**	P		**P**	**19 05 12.5**	**-2.3**
NACB	**Ninganchiao**	**38.71**	**323**	P		**P**	**19 05 22.3**	**-1.3**
YHNB	**Yeheng**	**39.21**	**323**	*e*P		**P**	**19 05 28.8**	**+0.9**
QZH	**Quanzhou**	**41.13**	**320**	⇑*i*P		**P**	**19 05 44.6**	**+1.0**
QZH				AMB		AMB		
	comp=Z,120nm,0.8s,mb5.8							
MJAR	**Matsushiro Arr**	**43.38**	**351**	P		**P**	**19 06 00.4**	**-1.5**
	comp=Z,12nm,0.8s,mb4.7,baz=179,slow=8.7,SNR=29							
MAJO	**Matsushiro**	**43.38**	**351**	*e*P		**P**	**19 06 00.3**	**-1.6**
MAJO				pmax		pmax		
	comp=Z,18nm,0.8s,mb4.8							
MAJO	**Matsushiro**	**43.38**	**351**	*e*P		**P**	**19 06 00.3**	**-1.6**
	comp=Z,18nm,0.8s,mb4.9							
MAT	**Matsushiro**	**43.38**	**351**	P		**P**	**19 06 00.3**	**-1.6**
MAT	**Matsushiro**	**43.38**	**351**	*e*P		**P**	**19 06 00.0**	**-1.9**
MAT				pmax		pmax		
	comp=Z,27nm,1.2s,mb4.8							
MAT	**Matsushiro**	**43.38**	**351**	*e*P		**P**	**19 06 00.0**	**-1.9**
	comp=Z,27nm,1.2s,mb4.8							
GZH	**Guangzhou**	**43.46**	**313**	P		**P**	**19 06 02.3**	**-0.2**
GZH				LR		LR		
	comp=N,359nm,19.6s							
GZH				LR		LR		
	comp=E,343nm,15.2s							
GZH				LR		LR		
	comp=Z,764nm,14.9s							
SSE	**Sheshan**	**44.29**	**329**	P		**P**	**19 06 07.3**	**-1.9**
SSE				AMB		AMB		
	comp=Z,36nm,0.9s,mb5.1							
SSE				AMB		AMB		
	comp=Z,323nm,9.5s							
NJ2	**Nanjing**	**46.27**	**327**	*e*P		**P**	**19 06 23.6**	**-1.2**
NJ2				PP		PP	19 08 11.0	-4.4
NJ2				S		**S**	**19 13 07.0**	**+3.9**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.7							
NJ2				AMB		AMB		
	comp=Z,110nm,4.9s							
NJ2				LR		LR		
	comp=N,230nm,10.0s							
NJ2				LR		LR		
	comp=E,260nm,12.2s							
NJ2				LR		LR		
	comp=Z,2μm,19.3s							

IPM	**Ipoh**	**46.34**	**282**	P		**P**	**19 06 25.5**	**+0.2**
PSI	**Prapat**	**48.04**	**280**	P		**P**	**19 06 37.4**	**-1.1**
	comp=Z,4.6nm,0.4s,mb4.7,baz=121,slow=4.8,SNR=4.1							
PSI	**Prapat**	**48.04**	**280**	P		**P**	**19 06 37.4**	**-1.1**
GYA	**Guiyang**	**50.34**	**312**	⇓*i*P		**P**	**19 06 57.6**	**+1.6**
GYA				AMB		AMB		
	comp=Z,30nm,1.1s,mb5.1							
GYA				AMB		AMB		
	comp=Z,550nm,13.4s							
VLA	**Vladivostok**	**50.98**	**347**	*i* P		**P**	**19 06 59.7**	**-1.1**
VLA				pmax		pmax		
	comp=Z,26nm,1.3s,mb5.1							
NANT	**Nan**	**51.33**	**300**	⇑P		**P**	**19 07 05.5**	**+2.0**
	comp=Z,225nm,0.6s							
SNY	**Shenyang**	**52.26**	**339**	*e*P		**P**	**19 07 14.0**	**+3.6**
SNY				AMB		AMB		
	comp=Z,8.0nm,2.7s,mb4.3							
KMI	**Kunming**	**52.59**	**308**	P		**P**	**19 07 14.8**	**+2.0**
KMI				AMB		AMB		
	comp=Z,17nm,1.4s,mb4.9							
CHG	**Chiang Mai**	**52.86**	**299**	⇓P		**P**	**19 07 14.4**	**-0.3**
	comp=Z,22nm,0.9s,mb5.2							
CHTO	**Chiang Mai**	**52.86**	**299**	⇓P		**P**	**19 07 16.4**	**+1.7**
	SNR=6.8							
CHTO	**Chiang Mai**	**52.86**	**299**	*e*P		**P**	**19 07 15.8**	**+1.1**
CHTO				pmax		pmax		
	comp=Z,25nm,1.1s,mb5.2							
CHTO	**Chiang Mai**	**52.86**	**299**	*e*P		**P**	**19 07 15.8**	**+1.0**
	comp=Z,25nm,1.1s,mb5.2							
MDJ	**Mudanjiang**	**52.95**	**345**	P		**P**	**19 07 14.6**	**-0.8**
MDJ				AMB		AMB		
	comp=Z,8.0nm,0.8s,mb4.8							
MDJ				AMB		AMB		
	comp=Z,409nm,13.0s							
MDJ	**Mudanjiang**	**52.95**	**345**	*e*P		**P**	**19 07 14.7**	**-0.7**
YSS	**Yuzh-Sakhalins**	**53.22**	**357**	⇑*e*P		**P**	**19 07 15.6**	**-1.8**
YSS				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.8							
YSS	**Yuzh-Sakhalins**	**53.22**	**357**	*e*P		**P**	**19 07 15.8**	**-1.6**
	comp=Z,3.9nm,0.5s,mb4.7							
CN2	**Changchun**	**53.38**	**341**	*e*P		**P**	**19 07 18.3**	**-0.3**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb5.0							
XAN	**Xi'an**	**53.48**	**321**	P		**P**	**19 07 19.1**	**-0.2**
XAN				AMB		AMB		
	comp=Z,38nm,1.1s,mb5.3							
BJT	**Baijiatuan**	**53.85**	**332**	*e*P		**P**	**19 07 20.0**	**-2.0**
BJI	**Beijing**	**53.86**	**332**	P		**P**	**19 07 20.0**	**-2.1**
BJI				AMB		AMB		
	comp=Z,4.0nm,1.0s,mb4.4							
CD2	**Chengdu**	**54.97**	**315**	P		**P**	**19 07 30.8**	**+0.7**
CD2				AP		pP	19 07 58.8	+1.8
CD2				XP		sP	19 08 12.3	+2.9
CD2				PCP		PcP	19 08 30.6	0.0
CD2				PP		PP	19 09 37.0	+2.8
CD2				SCP		ScP	19 12 17.8	-0.9
CD2				PCS		PcS	19 12 29.4	-1.1
CD2				AMB		AMB		
	comp=Z,90nm,0.8s,mb5.8							
CD2				AMB		AMB		
	comp=Z,210nm,10.8s							
HHC	**Hu-ho-hao-te**	**56.75**	**329**	*e*P		**P**	**19 07 45.3**	**+2.5**
HHC				AP		pP	19 08 12.1	+2.3
HHC				XP		sP	19 08 25.5	+3.3
HHC				PCP		PcP	19 08 39.3	+1.8
HHC				SCP		ScP	19 12 26.9	+0.4
HHC				PCS		PcS	19 12 38.3	-0.1
HHC				AMB		AMB		
	comp=Z,11nm,0.5s,mb5.1							
HHC				AMB		AMB		
	comp=Z,534nm,3.0s							
HHC				LR		LR		
	comp=N,209nm,14.9s							
HHC				LR		LR		
	comp=E,272nm,16.3s							
HHC				LR		LR		
	comp=Z,353nm,18.0s							
KLR	**Kul'dur**	**56.83**	**349**	*e*P		**P**	**19 07 39.0**	**-4.3**
LZH	**Lanzhou**	**57.98**	**320**	*e*P		**P**	**19 07 52.5**	**+1.0**
LZH				AMB		AMB		
	comp=Z,56nm,1.5s,mb5.4							
LZH				AMB		AMB		
	comp=Z,296nm,5.1s							
GTA	**Gaotai**	**62.53**	**321**	*e*P		**P**	**19 08 23.4**	**+1.0**
GTA				AP		pP	19 08 47.4	-2.5
GTA				XP		sP	19 09 01.8	-0.4
GTA				AMB		AMB		
	comp=Z,12nm,1.1s,mb4.7							
ULN	**Ulaanbaatar**	**64.08**	**332**	*d i*P		**P**	**19 08 32.8**	**+0.2**
ULN	**Ulaanbaatar**	**64.08**	**332**	*e*P		**P**	**19 08 32.2**	**-0.5**
	comp=Z,8.9nm,0.9s,mb4.6							
SONM	**Songino Array**	**64.36**	**331**	P		**P**	**19 08 34.5**	**0.0**
	comp=Z,1.9nm,0.3s,mb4.3,baz=151,slow=7.5,SNR=18							
MA2	**Magadan**	**65.88**	**3**	*e*P		**P**	**19 08 44.1**	**-0.2**
MA2				pmax		pmax		
	comp=Z,40nm,1.1s,mb5.2							
JIRN	**Jiri**	**67.05**	**303**	*e*P		**P**	**19 08 53.2**	**+1.4**
	comp=Z,30nm,0.7s,mb5.2							
GUN	**Gumba**	**67.40**	**304**	*e*P		**P**	**19 08 55.4**	**+1.5**
	comp=Z,95nm,0.7s,mb5.7							
ZAK	**Zakamensk**	**67.61**	**332**	⇑*i*P		**P**	**19 08 54.7**	**-0.6**
ZAK				*e*			19 09 31.1	
ZAK				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.5							
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.2							
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb4.0							
PKI	**Pulchoki**	**67.67**	**303**	*e*P		**P**	**19 08 56.7**	**+1.1**
	comp=Z,44nm,0.8s,mb5.3							
PKI	**Pulchoki**	**67.67**	**303**	*e*P		**P**	**19 08 56.7**	**+1.1**
PKI				pmax		pmax		
	comp=Z,44nm,0.8s,mb5.3							
KKN	**Kakani**	**67.85**	**303**	*e*P		**P**	**19 08 58.0**	**+1.2**
	comp=Z,66nm,0.8s,mb5.5							
KKN	**Kakani**	**67.85**	**303**	*e*P		**P**	**19 08 58.0**	**+1.2**
KKN				pmax		pmax		
	comp=Z,66nm,0.8s,mb5.5							
DMN	**Daman**	**67.94**	**303**	*e*P		**P**	**19 08 58.7**	**+1.4**
	comp=Z,70nm,0.8s,mb5.6							
GKN	**Gorkha**	**68.46**	**303**	*e*P		**P**	**19 09 01.6**	**+1.0**
	comp=Z,67nm,0.8s,mb5.5							
KOLN	**Koldanda**	**69.25**	**303**	*e*P		**P**	**19 09 06.5**	**+1.0**
	comp=Z,74nm,0.8s,mb5.6							
MOY	**Mondy**	**69.54**	**332**	*e*P		**P**	**19 09 07.7**	**+0.4**
VNDA	**Vanda**	**71.55**	**176**	P		**P**	**19 09 20.0**	**+0.5**
	comp=Z,2.2nm,0.8s,mb4.1,baz=319,slow=6.4,SNR=14							
VNDA	**Vanda**	**71.55**	**176**	*e*P		**P**	**19 09 19.5**	**0.0**
VNDA				*e**PP		pP	19 09 48.7	+1.2
VNDA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
VNDA	**Vanda**	**71.55**	**176**	*e*P		**P**	**19 09 19.5**	**+0.1**
	comp=Z,3.3nm,0.9s,mb4.2							
VNDA				*e*pP		pP	19 09 48.7	+1.1
SBA	**Scott Base**	**72.21**	**176**	*e*P		**P**	**19 09 24.5**	**+1.1**
WMQ	**Urumqi**	**72.56**	**320**	P		**P**	**19 09 27.3**	**+1.8**
MK31	**Makanchi Array**	**77.29**	**321**	P		**P**	**19 09 52.8**	**+0.1**
MK31				pmax		pmax		
	comp=Z,11nm,0.9s,mb4.6							
MKAR	**Makanchi Array**	**77.29**	**321**	P		**P**	**19 09 52.9**	**+0.2**
	comp=Z,7.0nm,0.6s,mb4.6,baz=100,slow=7.9,SNR=64							
KSH	**Kashi**	**79.03**	**312**	*e*P		**P**	**19 10 04.5**	**+2.2**
KSH				*e*PPP			19 13 29.3	
KSH				*e*PS			19 18 11.0	
KSH				AMB		AMB		
	comp=Z,383nm,4.1s							
KSH				LR		LR		
	comp=N,314nm,10.2s							
KSH				LR		LR		
	comp=E,584nm,7.9s							
KSH				LR		LR		
	comp=Z,434nm,18.4s							
ULHL	**Ulahol**	**79.69**	**315**	P		**P**	**19 10 07.2**	**+1.3**
	SNR=6.0							
NVS	**Novosibirsk**	**80.15**	**328**	*i* P		**P**	**19 10 06.8**	**-1.5**
NVS				*i*			19 10 44.7	
NVS				pmax		pmax		
	comp=Z,20nm,1.7s,mb4.7							
NVS				pmax		pmax		
	comp=N,8.0nm,1.5s							
NVS				pmax		pmax		
	comp=E,10.0nm,1.5s							
KZA	**Kyzart**	**80.34**	**314**	P		**P**	**19 10 11.4**	**+2.0**
	SNR=49							
TKM2	**Tokmak 2**	**80.35**	**315**	P		**P**	**19 10 10.4**	**+1.0**
	SNR=21							

TKM2	**Tokmak 2**	**80.35**	**315**	*i* P		**P**	**19 10 09.9**	**+0.5**
TKM2				pmax		pmax		
	comp=Z,21nm,0.8s,mb5.0							
KDAK	**Kodiak Island**	**80.66**	**28**	P		**P**	**19 10 11.8**	**+0.7**
	comp=Z,23nm,1.0s,mb5.0,baz=216,slow=8.7,SNR=4.6							
KBK	**Karagaybulak**	**80.73**	**315**	P		**P**	**19 10 12.5**	**+1.1**
	SNR=14							
UCH	**Uchtor**	**80.91**	**314**	P		**P**	**19 10 14.2**	**+1.8**
	SNR=49							
CHMS	**Chumysh**	**80.97**	**315**	P		**P**	**19 10 13.3**	**+0.5**
	SNR=15							
SVW2	**Sparrevohn**	**80.97**	**25**	*e*P		**P**	**19 10 12.9**	**+0.2**
FRU	**Bishkek**	**81.01**	**315**	*e*P		**P**	**19 10 14.0**	**+1.1**
FRU				pmax		pmax		
	comp=Z,36nm,1.6s,mb5.0							
AAK	**Ala-Archa**	**81.04**	**315**	P		**P**	**19 10 14.2**	**+1.1**
	SNR=9.7							
AAK	**Ala-Archa**	**81.04**	**315**	⇓P		**P**	**19 10 13.4**	**+0.3**
	SNR=12							
AAK	**Ala-Archa**	**81.04**	**315**	*d i*P		**P**	**19 10 13.0**	**-0.1**
AAK				pmax		pmax		
	comp=Z,26nm,1.3s,mb4.9							
AAK	**Ala-Archa**	**81.04**	**315**	*e*P		**P**	**19 10 12.9**	**-0.1**
	comp=Z,31nm,1.3s,mb5.0							
KURK	**Kurchatov**	**81.05**	**324**	⇑P		**P**	**19 10 13.4**	**+0.3**
	SNR=7.0							
KURK	**Kurchatov**	**81.05**	**324**	⇓*e*P		**P**	**19 10 12.5**	**-0.6**
KURK	**Kurchatov**	**81.05**	**324**	*e*P		**P**	**19 10 12.4**	**-0.8**
	comp=Z,19nm,1.0s,mb4.9							
USP	**Ospenovka**	**81.22**	**315**	P		**P**	**19 10 14.9**	**+0.8**
	SNR=21							
AML	**Almayashu**	**81.46**	**314**	P		**P**	**19 10 17.0**	**+1.7**
	SNR=59							
MAW	**Mawson**	**81.54**	**203**	P		**P**	**19 10 16.0**	**+0.3**
	comp=Z,1.0nm,0.4s,mb4.0,baz=87,slow=7.4,SNR=9.9							
MAW	**Mawson**	**81.54**	**203**	*e*P		**P**	**19 10 15.8**	**0.0**
EKS2	**Erkin-Say**	**81.55**	**315**	P		**P**	**19 10 17.0**	**+1.2**
	SNR=58							
SLKM	**Skilak Lake**	**82.99**	**27**	*e*P		**P**	**19 10 22.5**	**-0.8**
QSPA	**South Pole Qui**	**83.55**	**180**	*e*P		**P**	**19 10 25.6**	**-0.6**
	comp=Z,14nm,1.4s,mb4.6							
QSPA				*e*pP		pP	19 10 55.7	+0.7
PMR	**Palmer**	**83.94**	**26**	*e*P		**P**	**19 10 27.1**	**-1.1**
PMR				pmax		pmax		
	comp=Z,10.0nm,0.4s,mb5.0							
PMR	**Palmer**	**83.94**	**26**	*e*P		**P**	**19 10 27.1**	**-1.1**
	comp=Z,10nm,0.4s,mb5.0							
KK31	**Karatay Array**	**83.98**	**314**	*i* P		**P**	**19 10 28.5**	**+0.1**
KK31				pmax		pmax		
	comp=Z,10.0nm,0.6s,mb4.8							
KKAR	**Karatay Array**	**83.98**	**314**	*i* P		**P**	**19 10 28.5**	**+0.1**
KKAR				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.6							
IMA2	**Indian Mountai**	**84.24**	**21**	*e*P		**P**	**19 10 29.3**	**-0.3**
MCK	**McKinley**	**84.94**	**24**	*e*P		**P**	**19 10 31.8**	**-1.4**
MCK				pmax		pmax		
	comp=Z,26nm,0.9s,mb5.2							
MCK	**McKinley**	**84.94**	**24**	*e*P		**P**	**19 10 31.8**	**-1.4**
	comp=Z,26nm,0.9s,mb5.2							
COLA	**College**	**85.86**	**23**	*d i*P		**P**	**19 10 36.4**	**-1.3**
COLA	**College**	**85.86**	**23**	*e*P		**P**	**19 10 36.0**	**-1.7**
	comp=Z,31nm,0.8s,mb5.3							
VOSK	**Vostochnaya**	**86.19**	**324**	P		**P**	**19 10 37.2**	**-2.2**
VOSK				pmax		pmax		
	comp=Z,14nm,1.9s,mb4.6							
BVA0	**Borovoye Array**	**86.61**	**324**	*i* P		**P**	**19 10 39.8**	**-1.7**
BVA0				pmax		pmax		
	comp=Z,1.0nm,1.1s							
CHKZ	**Chkalovo**	**86.66**	**325**	*i* P		**P**	**19 10 39.8**	**-1.9**
CHKZ				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
BRVK	**Borovoye**	**86.68**	**324**	*e*P		**P**	**19 10 40.4**	**-1.4**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
BRVK	**Borovoye**	**86.68**	**324**	*e*P		**P**	**19 10 40.4**	**-1.4**
	comp=Z,2.9nm,0.8s,mb4.3							
ZRNK	**Zerenda**	**87.41**	**324**	*i* P		**P**	**19 10 43.4**	**-1.9**
ZRNK				pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.5							
DAWY	**Dawson**	**89.00**	**25**	*e*P		**P**	**19 10 52.4**	**-0.4**
WSAR	**Wadi Sarin**	**90.24**	**293**	P		**P**	**19 10 58.6**	**+0.1**
	comp=Z,3.0nm,0.9s,mb4.4,baz=101,slow=5.2,SNR=3.5							
DLBC	**Dease Lake**	**92.18**	**32**	P		**P**	**19 11 06.8**	**-0.9**
	comp=Z,2.5nm,0.9s,mb4.5,baz=282,slow=9.5,SNR=6.0							
AB31	**Akbulak array**	**92.34**	**319**	P		**P**	**19 11 07.0**	**-1.4**
AB31				pmax		pmax		
	comp=Z,19nm,0.9s,mb5.3							
INK	**Inuvik**	**92.

LMR	**La Mourre**	**128.94**	**323**	*e*PKIKP	PKPdf	19 17 05.0	-0.1
	comp=Z,10nm,0.9s						
SMRF	**Simiane la Rot**	**129.13**	**324**	*e*PKIKP	PKPdf	19 17 05.6	+0.1
	comp=Z,15nm,0.9s						
LDF	**La Druitiere**	**129.19**	**332**	*e*PKIKP	PKPdf	19 17 05.1	-0.5
	comp=Z,41nm,1.4s						
FLN	**La Foliniere**	**129.24**	**332**	*e*PKIKP	PKPdf	19 17 05.2	-0.5
TCF	**Toulx Ste Croi**	**129.58**	**328**	*e*PKIKP	PKPdf	19 17 06.2	-0.1
	comp=Z,11nm,0.8s						
GRR	**Gorron**	**129.68**	**332**	*e*PKIKP	PKPdf	19 17 06.6	+0.1
CAF	**Calviac**	**130.54**	**327**	*e*PKIKP	PKPdf	19 17 08.1	0.0
SGMF	**Saint Gilles**	**130.56**	**333**	*e*PKIKP	PKPdf	19 17 07.5	-0.7
ROSF	**Rostrenen**	**130.82**	**333**	*e*PKIKP	PKPdf	19 17 07.2	-1.5
	comp=Z,63nm,1.5s						
ETSF	**Etsaut**	**133.30**	**326**	*e*PKIKP	PKPdf	19 17 13.2	-0.1
	comp=Z,6.5nm,0.7s						
LPAZ	**La Paz**	**139.25**	**124**	PKhKP		19 17 18.4	
	comp=Z,1.0nm,0.8s,baz=202,slow=5.4,SNR=3.0						
LPAZ				PKP	PKPdf	19 17 27.2	+2.8
	comp=Z,2.0nm,0.8s,baz=295,slow=2.0,SNR=5.6						
LPAZ	**La Paz**	**139.25**	**124**	PKPpre		19 17 16.5	
LPAZ				*e*PKPdf	PKPdf	19 17 27.4	+3.0
TOA0	**Torodi Ar. Sit**	**144.38**	**284**	*e*PKPdf	PKPdf	19 17 33.3	-0.3
TORD	**Torodi Ar. Bea**	**144.38**	**284**	PKP	PKPdf	19 17 33.3	-0.2
	comp=Z,17nm,0.8s,baz=79,slow=3.0,SNR=77						
SJG	**San Juan**	**146.42**	**67**	PKPbc	PKPbc	19 17 39.1	+0.6
	comp=Z,35nm,0.7s,baz=291,slow=8.6,SNR=11						
SJG	**San Juan**	**146.42**	**67**	*e*PKPdf	PKPdf	19 17 39.0	+1.9
CPD	**Cerro la Pandu**	**146.66**	**67**	*e*PKP2	PKPab	19 17 39.5	-1.1
MTP	**Monte Pirata**	**146.97**	**67**	*e*PKPbc	PKPbc	19 17 40.7	+0.6
SAML	**Samuel**	**147.01**	**117**	*e*PKPdf	PKPdf	19 17 39.2	+1.2
DBIC	**Dimbokro**	**151.21**	**272**	PKPbc	PKPbc	19 17 52.6	+1.8
	comp=Z,21nm,0.7s,baz=38,slow=1.9,SNR=26						
BDFB	**Brasilia**	**153.97**	**147**	PKPbc	PKPbc	19 17 58.8	+1.8
	comp=Z,4.2nm,0.6s,baz=186,slow=3.4,SNR=8.5						

*ISCJB **19** 19:00:23.1±1.0,3834N±004×205E±0.1,h10km, Error ellipse: s-maj=11.9km s-min=4.5km az=144.7*
*CSEM **19** 19:00:23.5±0.6,3833N×2044E,h5km,MD3.2, Error ellipse: s-maj=13.5km s-min=4.6km az=69.0*
*ATH **19** 19:00:23.4,3833N×2049E,h10km,MD3.2/5*
*NEIC **19** 19:00:25.0,3840N×2044E,h3km,MD3.2(ATH),After THE.*
*THE **19** 19:00:25.0,3840N×2044E,h3km,ML3.0*

ISC 19 19:00:23.9±0.8,3835N±003×2055E±009,h0km±7km,n16, σ0§97/24,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.17**	**169**	*e*PG		**Pg**	**Pg**	**19 00 27.3**	**0.0**
VLS				*e*SG		**Sg**	**Sg**	**19 00 30.7**	**+1.2**
LKD	**Levkas**	**0.37**	**13**	*e*Pg		**Pg**	**Pg**	**19 00 30.7**	**-0.3**
LKD				*e*Sg		**Sg**	**Sg**	**19 00 36.9**	**+1.2**
RLS	**Riolos of Patr**	**0.78**	**111**	*e*PB		**Pb**	**Pb**	**19 00 39.3**	**-1.0**
EVR	**Evrytania**	**1.14**	**60**	*e*Pb		**Pb**	**Pb**	**19 00 45.3**	**-1.2**
EVR				*e*Sb		**Sb**	**Sb**	**19 01 08.5**	**+6.7**
IGT	**Igoumenitsa**	**1.20**	**352**	*e*Pg		**Pg**	**Pg**	**19 00 45.2**	**-1.6**
IGT				*e*Sg		**Sg**	**Sg**	**19 01 03.9**	**+1.5**
IGT	**Igoumenitsa**	**1.20**	**352**	*e*Pg		**Pg**	**Pg**	**19 00 45.2**	**-1.6**
IGT				*e*Sg		**Sg**	**Sg**	**19 01 03.8**	**+1.5**
JAN	**Janina**	**1.33**	**10**	*e*PB		**Pb**	**Pb**	**19 00 49.2**	**-0.5**
JAN	**Janina**	**1.33**	**10**	*e*Pg		**Pg**	**Pg**	**19 00 49.7**	**+0.3**
KEK	**Kerkira**	**1.48**	**337**	*e*PG		**Pg**	**Pg**	**19 00 51.0**	**-1.3**
MEV	**Metsovon**	**1.53**	**20**	*e*Pg		**Pg**	**Pg**	**19 00 53.0**	**-0.2**
AGG	**Agios Georgios**	**1.55**	**64**	*e*Pg		**Pg**	**Pg**	**19 00 54.0**	**+0.3**
SRN	**Sarande**	**1.59**	**345**	*i* Pn		**Pn**	**Pn**	**19 00 52.8**	**-0.4**
SRN				*i* Sn		**Sn**	**Sn**	**19 01 16.8**	**+2.4**
XOR	**Xorichti**	**2.30**	**63**	*e*Pn		**Pn**	**Pn**	**19 01 03.8**	**+0.7**
LIT	**Litokhoron**	**2.31**	**40**	*e*Pn		**Pn**	**Pn**	**19 01 03.9**	**+0.7**
FNA	**Florina**	**2.52**	**15**	*e*Pn		**Pn**	**Pn**	**19 01 05.8**	**-0.2**
FNA				*e*Sn		**Sn**	**Sn**	**19 01 36.7**	**-0.7**
FNA	**Florina**	**2.52**	**15**	*e*Pn		**Pn**	**Pn**	**19 01 05.8**	**-0.2**
FNA				*e*Sn		**Sn**	**Sn**	**19 01 36.7**	**-0.7**

*BJI **19** 19:03:52.7,950S×108.10E,h10km,mB5.1,mb4.6*
*IDC **19** 19:03:53.0±0.8,948S×10804E,h0km,mb4.2/7,mb1 4.3/8, mb1mx4.1/17,mbtmp4.2/8,ML3.8/1, Error ellipse: s-maj=35.6km s-min=17.4km az=51.0*
*NEIC **19** 19:03:54.7±0.4,949S×10806E,h10km,mb5.2/11, Error ellipse: s-maj=21.5km s-min=6.3km az=49.0*
*MOS **19** 19:03:55.9±0.5,943S×10815E,h33km,mb5.0/6, Error ellipse: s-maj=31.1km s-min=13.9km az=118.8*
*ISCJB **19** 19:03:56.2±0.6,955S±01×1081E±01,h33km,mb4.7/22, Error ellipse: s-maj=24.2km s-min=8.5km az=101.3*

ISC 19 19:03:58.6±0.6,95S±01×1081E±01,h35km, (h33km±4.8km:pP-P),n33,σ0§50/33,mb4.7/22,1C,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**16.13**	**137**	P		P	**Pn**	**19 07 37.5**	**-5.0**
FITZ	**Fitzroy Crossi**	**19.05**	**119**	P		P	**Pn**	**19 08 19.7**	**+1.0**
	0.2nm,0.3s,baz=315,slow=13,SNR=7.2								
WRA	**Warramunga Arr**	**27.38**	**115**	P		P	**P**	**19 09 39.9**	**-0.6**
	1.7nm,0.6s,mb3.7,baz=287,slow=11,SNR=5.7								
WRAB	**Tennant Creek**	**27.39**	**115**	*e*P		**P**	**P**	**19 09 40.3**	**-0.3**
ASAR	**Alice Springs**	**28.39**	**123**	P		P	**P**	**19 09 50.2**	**+0.6**
	1.7nm,0.7s,mb3.8,baz=303,slow=8.6,SNR=6.4								
CHTO	**Chiang Mai**	**29.54**	**342**	*e*P		**P**	**P**	**19 09 59.6**	**-0.1**
CHTO				pmax		pmax			
	comp=Z,14nm,1.0s,mb4.7								
CHTO	**Chiang Mai**	**29.54**	**342**	*e*P		**P**	**P**	**19 09 59.5**	**-0.2**
	comp=Z,14nm,1.0s,mb4.6								
STKA	**Stephens Creek**	**38.19**	**131**	*i*P		P	**P**	**19 11 14.0**	**-0.7**
	comp=Z,5.4nm,0.9s,mb4.3								
STKA	**Stephens Creek**	**38.19**	**131**	P		P	**P**	**19 11 14.5**	**-0.3**
	comp=Z,7.5nm,0.9s,mb4.4,baz=321,slow=7.9,SNR=6.9								
JIRN	**Jiri**	**42.59**	**331**	*e*P		**P**	**P**	**19 11 51.7**	**+0.6**
	comp=Z,94nm,1.0s,mb5.5								
PKI	**Pulchoki**	**42.90**	**330**	*e*P		**P**	**P**	**19 11 53.7**	**+0.1**
	comp=Z,48nm,1.1s,mb5.1								
PKI	**Pulchoki**	**42.90**	**330**	*e*P		**P**	**P**	**19 11 53.7**	**+0.1**
PKI				pmax		pmax			
	comp=Z,48nm,1.1s,mb5.1								
GUN	**Gumba**	**42.95**	**331**	*e*P		**P**	**P**	**19 11 54.4**	**+0.3**
	comp=Z,156nm,1.2s,mb5.6								
DMN	**Daman**	**43.08**	**329**	*e*P		**P**	**P**	**19 11 55.5**	**+0.4**
	comp=Z,98nm,1.0s,mb5.5								
KKN	**Kakani**	**43.14**	**330**	*e*P		**P**	**P**	**19 11 55.7**	**+0.1**
	comp=Z,74nm,1.0s,mb5.4								
KKN	**Kakani**	**43.14**	**330**	*e*P		**P**	**P**	**19 11 55.7**	**+0.1**
KKN				pmax		pmax			
	comp=Z,74nm,1.0s,mb5.4								
XAN	**Xi'an**	**43.29**	**1**	P		P	**P**	**19 11 56.3**	**-0.5**
XAN				AP		pP		19 12 06.4	-0.7
XAN				AMB		AMB			
	comp=Z,7.0nm,1.2s,mb4.3								
GKN	**Gorkha**	**43.64**	**329**	*e*P		**P**	**P**	**19 11 59.7**	**+0.1**
	comp=Z,91nm,1.1s,mb5.4								
KOLN	**Koldanda**	**43.98**	**328**	*e*P		**P**	**P**	**19 12 02.6**	**+0.2**
	comp=Z,62nm,0.9s,mb5.3								
LZH	**Lanzhou**	**45.50**	**355**	*e*P		**P**	**P**	**19 12 14.8**	**+0.3**
LZH				AP		pP		19 12 25.3	+0.4
LZH				AMB		AMB			
	comp=Z,23nm,1.0s,mb5.1								
GTA	**Gaotai**	**49.25**	**352**	*e*P		**P**	**P**	**19 12 44.8**	**+1.2**
GTA				AP		pP		19 12 50.5	-3.6
GTA				XP		sP		19 12 54.1	-4.1
GTA				AMB		AMB			
	comp=Z,4.0nm,1.5s,mb4.2								
BJI	**Beijing**	**49.84**	**8**	P		P	**P**	**19 12 47.6**	**-0.5**
BJI				AMB		AMB			
	comp=Z,7.0nm,1.2s,mb4.6								
SONM	**Songino Array**	**57.09**	**359**	P		P	**P**	**19 13 41.2**	**0.0**
	comp=Z,1.1nm,0.7s,mb4.0,baz=175,slow=8.3,SNR=10								
ULN	**Ulaanbaatar**	**57.10**	**359**	*e*P		**P**	**P**	**19 13 41.4**	**0.0**
ULN				pmax		pmax			
	comp=Z,5.0nm,1.1s,mb4.5								
ULN	**Ulaanbaatar**	**57.10**	**359**	*e*P		**P**	**P**	**19 13 41.4**	**0.0**
	comp=Z,5.1nm,1.1s,mb4.5								
ZAK	**Zakamensk**	**59.76**	**356**	*e*P		**P**	**P**	**19 13 59.0**	**-1.0**
ZAK				*e*				19 14 47.3	
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.6s,mb4.1								
MKAR	**Makanchi Array**	**60.58**	**340**	P		P	**P**	**19 14 05.3**	**-0.2**
	comp=Z,4.8nm,0.7s,mb4.7,baz=148,slow=7.8,SNR=30								
KLR	**Kul'dur**	**62.05**	**17**	*e*P		**P**	**P**	**19 14 20.1**	**+4.6**
KURK	**Kurchatov**	**65.19**	**340**	*e*P		**P**	**P**	**19 14 35.7**	**-0.5**
KURK				*e*		pP		19 14 46.3	-0.7
MAW	**Mawson**	**65.33**	**197**	P		P	**P**	**19 14 36.8**	**-0.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=88,slow=8.0,SNR=6.9								
BRVK	**Borovoye**	**70.13**	**337**	*e*P		**P**	**P**	**19 15 07.1**	**-0.3**
BRVK				pmax		pmax			
	comp=Z,3.0nm,1.0s,mb4.2								
BRVK	**Borovoye**	**70.13**	**337**	*e*P		**P**	**P**	**19 15 07.1**	**-0.3**
	comp=Z,2.6nm,1.0s,mb4.1								
BRTR	**Keskin Array B**	**84.29**	**312**	P		P	**P**	**19 16 26.6**	**-0.1**
	comp=Z,4.2nm,1.1s,mb4.5,baz=126,slow=6.3,SNR=17								

*BJI **19** 19:06:26.8,980S×10770E,h10km,mB5.0,mb4.6,Ms4.7, Msz4.4*
*NEIC **19** 19:06:28.9±0.4,976S×10769E,h10km,mb4.8/6, Error ellipse: s-maj=18.6km s-min=7.5km az=53.0*
*MOS **19** 19:06:30.2±1.0,969S×10784E,h33km,mb4.8/8, Error ellipse: s-maj=21.7km s-min=9.6km az=114.7*
*ISCJB **19** 19:06:31.8±2.4,976S×007×10772E±010,h45km±22km, mb4.5/29,MS4.3/3, Error ellipse: s-maj=18.4km s-min=8.6km az=118.7*
*IDC **19** 19:06:34.0±5.5,970S×10769E,h50km±53km,mb4.0/8, mb1 4.1/10,mb1mx4.0/18,mbtmp4.3/10,ML4.2/2, Error ellipse: s-maj=30.8km s-min=15.9km az=60.0*

ISC 19 19:06:34.2±2.1,980S±007×10768E±010,h50km±19km, h20km±7.4km:pP-P,n52,σ0§85/53,mb4.5/29,MS4.3/3, 1C-1D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**15.26**	**325**	P		P	**Pn**	**19 10 05.8**	**-0.5**
	0.7nm,0.3s,baz=145,slow=15,SNR=2.9								
PSI	**Prapat**	**15.26**	**325**	P		P	**Pn**	**19 10 05.8**	**-0.5**
MBWA	**Marble Bar**	**16.19**	**136**	*e*P		P	**Pn**	**19 10 12.9**	**-5.4**
FITZ	**Fitzroy Crossi**	**19.27**	**117**	P		P	**Pn**	**19 10 55.8**	**-0.3**
	0.8nm,0.3s,baz=300,slow=9.9,SNR=14								
WRA	**Warramunga Arr**	**27.63**	**114**	P		P	**P**	**19 12 16.8**	**-0.2**
	1.9nm,0.6s,mb3.9,baz=286,slow=11,SNR=7.6								
WRAB	**Tennant Creek**	**27.64**	**114**	*e*P		**P**	**P**	**19 12 16.1**	**-1.0**
ASAR	**Alice Springs**	**28.58**	**122**	P		P	**P**	**19 12 25.9**	**+0.3**
	0.5nm,0.4s,mb3.6,baz=289,slow=8.7,SNR=4.5								
ASAR				PcP		PcP		19 15 37.5	+1.7
	1.0nm,0.8s,baz=307,slow=1.9,SNR=4.4								
CHTO	**Chiang Mai**	**29.71**	**343**	*e*P		**P**	**P**	**19 12 35.1**	**-0.4**
CHTO				pmax		pmax			
	comp=Z,6.0nm,1.0s,mb4.3								
CHTO	**Chiang Mai**	**29.71**	**343**	*e*P		**P**	**P**	**19 12 35.0**	**-0.5**
	comp=Z,6.1nm,1.0s,mb4.3								
KMI	**Kunming**	**35.05**	**352**	P		P	**P**	**19 13 24.1**	**+1.9**
KMI				AMB		AMB			
	comp=Z,8.0nm,1.5s,mb4.4								
GYA	**Guiyang**	**36.06**	**358**	*i*P		P	**P**	**19 13 31.4**	**+0.5**
GYA				AP		pP		19 13 35.8	-8.1
GYA				XP		sP		19 13 38.6	-11
GYA				PP		PP		19 14 51.8	-1.7
GYA				PCP		PcP		19 15 59.9	+3.7
GYA				S		**S**		**19 19 06.4**	**-0.1**
GYA				SCP		ScP		19 19 44.6	+6.3
GYA				AMB		AMB			
	comp=Z,20nm,0.8s,mb5.1								
GYA				AMB		AMB			
	comp=Z,110nm,4.3s								
GYA				LR		LR			
	comp=N,460nm,15.0s,MS4.5								
GYA				LR		LR			
	comp=E,470nm,14.8s,MS4.5								
GYA				LR		LR			
	comp=Z,480nm,15.3s,MS4.4								
STKA	**Stephens Creek**	**38.31**	**130**	P		P	**P**	**19 13 50.3**	**+0.4**
	comp=Z,4.5nm,0.7s,mb4.3,baz=297,slow=6.6,SNR=7.6								
STKA				PcP		PcP		19 16 03.6	+0.6
	comp=Z,1.2nm,0.4s,baz=306,slow=8.3,SNR=4.3								
STKA	**Stephens Creek**	**38.31**	**130**	*e*P		**P**	**P**	**19 13 50.5**	**+0.6**
CD2	**Chengdu**	**40.65**	**355**	*e*P		**P**	**P**	**19 14 09.9**	**+0.4**
CD2				XP		sP		19 14 16.9	-12
CD2				PP		PP		19 15 47.9	+4.1
CD2				S		**S**		**19 20 21.5**	**+5.6**
CD2				SS		SS		19 23 18.9	+1.4
CD2				AMB		AMB			
	comp=Z,10.0nm,1.2s,mb4.3								
CD2				LR		LR			
	comp=E,220nm,15.6s								
CD2				LR		LR			
	comp=Z,200nm,16.8s,MS4.0								
JIRN	**Jiri**	**42.66**	**331**	*e*P		**P**	**P**	**19 14 26.4**	**+0.5**
	comp=Z,20nm,0.4s,mb5.2								
PKI	**Pulchoki**	**42.96**	**330**	*e*P		**P**	**P**	**19 14 28.7**	**+0.4**
GUN	**Gumba**	**43.02**	**331**	*e*P		**P**	**P**	**19 14 29.2**	**+0.4**
	comp=Z,51nm,0.8s,mb5.3								
DMN	**Daman**	**43.14**	**330**	*e*P		**P**	**P**	**19 14 29.8**	**0.0**
	comp=Z,28nm,0.8s,mb5.0								
KKN	**Kakani**	**43.21**	**330**	*e*P		**P**	**P**	**19 14 30.2**	**-0.1**
	comp=Z,11nm,0.6s,mb4.8								
KKN	**Kakani**	**43.21**	**330**	*e*P		**P**	**P**	**19 14 30.2**	**-0.1**
KKN				pmax		pmax			
	comp=Z,11nm,0.6s,mb4.8								
XAN	**Xi'an**	**43.62**	**2**	P		P	**P**	**19 14 33.3**	**-0.3**
XAN				AP		pP		19 14 43.8	-3.1
XAN				AMB		AMB			
	comp=Z,7.0nm,0.8s,mb4.4								
GKN	**Gorkha**	**43.70**	**330**	*e*P		**P**	**P**	**19 14 34.0**	**-0.3**
	comp=Z,24nm,0.7s,mb5.0								
KOLN	**Koldanda**	**44.03**	**329**	*e*P		**P**	**P**	**19 14 37.0**	**+0.1**
	comp=Z,15nm,0.4s,mb5.0								
GTA	**Gaotai**	**49.50**	**352**	*e*P		**P**	**P**	**19 15 20.0**	**+0.3**
GTA				AP		pP		19 15 26.8	-6.4
GTA				XP		sP		19 15 30.3	-8.6
GTA				AMB		AMB			
	comp=Z,6.0nm,1.2s,mb4.5								
BJT	**Baijiatuao**	**50.19**	**8**	*e*P		**P**	**P**	**19 15 25.3**	**+0.4**
BJI	**Beijing**	**50.21**	**8**	P		P	**P**	**19 15 25.3**	**+0.2**
BJI				AMB		AMB			
	comp=Z,6.0nm,1.1s,mb4.5								
HHC	**Hu-ho-hao-te**	**50.52**	**4**	*e*P		**P**	**P**	**19 15 29.8**	**+2.3**
HHC				AP		pP		19 15 34.3	-6.7
HHC				XP		sP		19 15 36.8	-10
HHC				PCP		PcP		19 16 45.1	+0.3
HHC				PP		PP		19 17 27.3	+3.8
HHC				SCP		ScP		19 20 39.3	+2.6
HHC				PCS		PcS		19 20 41.8	-0.3
HHC				S		**S**		**19 22 45.8**	**+7.8**
HHC				XS		sS		19 22 53.8	-6.8
HHC				PS				19 22 56.8	
HHC				SCS		ScS		19 25 17.1	+3.1
HHC				AMB		AMB			
	comp=Z,7.0nm,0.4s,mb4.9								
HHC				LR		LR			
	comp=N,281nm,16.4s,MS4.5								
HHC				LR		LR			
	comp=E,317nm,16.5s,MS4.5								
HHC				LR		LR			
	comp=Z,353nm,16.2s,MS4.5								
MJAR	**Matsushiro Arr**	**54.31**	**30**	P		P	**P**	**19 15 53.5**	**-2.0**
	comp=Z,4.6nm,0.9s,mb4.4,baz=205,slow=7.9,SNR=8.7								
WMQ	**Urumqi**	**56.38**	**343**	P		P	**P**	**19 16 12.8**	**+2.5**
SONM	**Songino Array**	**57.39**	**359**	P		P	**P**	**19 16 17.5**	**0.0**
	comp=Z,2.1nm,0.5s,mb4.4,baz=177,slow=7.8,SNR=12								
ULN	**Ulaanbaatar**	**57.41**	**360**	*e*P		**P**	**P**	**19 16 17.6**	**-0.1**
MDJ	**Mudanjiang**	**57.68**	**18**	P		P	**P**	**19 16 20.8**	**+1.2**
MDJ				AMB		AMB			
	comp=Z,3.0nm,0.8s,mb4.4								
MDJ				AMB		AMB			
	comp=Z,460nm,14.8s								
MK31	**Makanchi Array**	**60.73**	**340**	P		P	**P**	**19 16 40.3**	**-0.4**
MK31				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.6								
MKAR	**Makanchi Array**	**60.73**	**340**	P		P	**P**	**19 16 40.1**	**-0.6**
	comp=Z,2.7nm,0.4s,mb4.7,baz=146,slow=8.6,SNR=24								
KLR	**Kul'dur**	**62.47**	**18**	*e*P		**P**	**P**	**19 16 47.1**	**-5.3**
YSS	**Yuzh-Sakhalins**	**64.58**	**26**	*e*P		**P**	**P**	**19 17 03.0**	**-3.3**
YSS				*e*		pP		19 17 16.8	-3.4
MAW	**Mawson**	**64.90**	**197**	P		P	**P**	**19 17 08.3**	**-0.1**
	comp=Z,2.3nm,0.7s,mb4.3,baz=37,slow=7.9,SNR=7.8								
MAW	**Mawson**	**64.90**	**197**	*e*P		**P**	**P**	**19 17 07.9**	**-0.5**
KURK	**Kurchatov**	**65.34**	**340**	*e*P		**P**	**P**	**19 17 10.6**	**-0.7**
VOSK	**Vostochnaya**	**69.73**	**337**	P		P	**P**	**19 17 38.6**	**-0.4**
VOSK				pmax		pmax			
	comp=Z,14nm,1.8s,mb4.6								
BVA0	**Borovoye Array**	**70.19**	**337**	*i* P		P	**P**	**19 17 41.6**	**-0.2**
BVA0				pmax		pmax			
	comp=Z,1.0nm,1.1s,mb3.7								
BRVK	**Borovoye**	**70.26**	**337**	*e*P		**P**	**P**	**19 17 41.8**	**-0.4**
BRVK				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb4.1								
BRVK	**Borovoye**	**70.26**	**337**	*e*P		**P**	**P**	**19 17 41.8**	**-0.4**
	comp=Z,2.4nm,0.8s,mb4.2								
CHKZ	**Chkalovo**	**70.61**	**338**	P		P	**P**	**19 17 43.9**	**-0.4**
CHKZ				pmax		pmax			
	comp=Z,8.0nm,1.0s,mb4.6								
ZRNK	**Zerenda**	**70.67**	**336**	P		P	**P**	**19 17 43.9**	**-0.8**
ZRNK				pmax		pmax			
	comp=Z,6.0nm,1.0s,mb4.5								
VNDA	**Vanda**	**73.11**	**169**	*e*P		**P**	**P**	**19 18 00.1**	**+0.8**
SYO	**Syowa Base**	**73.12**	**200**	*e*P		**P**	**P**	**19 18 00.0**	**+0.6**
ARU	**Arti**	**77.42**	**335**	*e*P		**P**	**P**	**19 18 23.4**	**-0.7**
QSPA	**South Pole Qui**	**80.20**	**180**	*e*P		**P**	**P**	**19 18 40.0**	**+0.6**
BRTR	**Keskin Array B**	**84.18**	**312**	P		P	**P**	**19 18 58.5**	**-1.7**
	comp=Z,0.9nm,0.6s,mb4.0,baz=143,slow=5.5,SNR=4.8								
LONY	**Lake Ozonia**	**145.26**	**3**	*e*PKPdf		PKPdf	PKPdf	19 26 06.6	+0.3
PLAL	**Pickwick Lake**	**151.10**	**27**	*e*PKPbc		PKPbc	PKPbc	19 26 22.4	+0.7

*ISCJB **19** 19:19:40.8±0.7,4836N±005×665E±004,h8km, Error ellipse: s-maj=7.3km s-min=3.1km az=154.5*
*STR **19** 19:19:41.6±0.8,4841N×666E,h5km±1km,Ml1.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **19** 19:19:41.8±0.1,4833N×667E,h8km,Md2.0/4,Ml2.0/2, Error ellipse: s-maj=2.3km s-min=1.3km az=172.0*

ISC 19 19:19:41.0±1.1,4835N±005×666E±004,h17km±16km,n10, σ0§68/18,France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.36**	**111**	*e*Pg		**Pg**	**Pg**	**19 19 48.7**	**+0.2**
ECH				*e*Sg		**Sg**	**Sg**	**19 19 53.3**	**-0.3**
HAU	**Haudompre**	**0.40**	**211**	*e*Pg		**Pg**	**Pg**	**19 19 49.6**	**+0.4**
HAU				*e*Sg		**Sg**	**Sg**	**19 19 54.7**	**0.0**
	8.0nm,0.3s								
CDF	**Champ du Feu**	**0.42**	**81**	*e*Pg		**Pg**	**Pg**	**19 19 49.9**	**+0.3**
CDF				*e*Sg		**Sg**	**Sg**	**19 19 54.2**	**-1.1**
	3.0nm,0.2s								
THEF	**They Montfort**	**0.46**	**255**	Pg		**Pg**	**Pg**	**19 19 50.7**	**+0.3**
THEF				Sg		**Sg**	**Sg**	**19 19 57.1**	**+0.4**
WLS	**Welschbruch**	**0.47**	**81**	Pg		**Pg**	**Pg**	**19 19 50.8**	**+0.3**
WLS				Sg		**Sg**	**Sg**	**19 19 57.0**	**+0.2**
HINF	**Hinteralfeld**	**0.55**	**166**	*e*Pg		**Pg**	**Pg**	**19 19 52.0**	**+0.1**
HINF				*e*Sg		**Sg**	**Sg**	**19 19 58.9**	**-0.3**
	5.6nm,0.2s								
MOF	**Molkenrain**	**0.59**	**147**	Pg		**Pg**	**Pg**	**19 19 55.6**	**+2.9**
SFTF	**Sexfontaines**	**1.09**	**263**	*e*Sg		**Sg**	**Sg**	**19 20 16.6**	**+0.1**
	4.5nm,0.4s								
BFO	**Black Forest**	**1.11**	**90**	*e*Pg		**Pg**	**Pg**	**19 20 02.8**	**+0.1**
BFO				*e*Sg		**Sg**	**Sg**	**19 20 16.8**	**-0.4**
LOR	**Lormes**	**2.17**	**241**	*e*Pg		**Pg**	**Pg**	**19 20 22.4**	**-0.4**
LOR				*e*Sg		**Sg**	**Sg**	**19 20 49.6**	**-1.4**
	1.6nm,0.2s								

*ISCJB **19** 19:42:20.6±1.4,4319N±008×080W±005,h10km, Error ellipse: s-maj=12.2km s-min=5.5km az=169.4*
*STR **19** 19:42:21.3±0.1,4320N×086W,h2km±1km,Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **19** 19:42:21.1±0.1,4310N×083W,h16km,Md1.7/2,Ml1.2/1, Error ellipse: s-maj=1.1km s-min=0.5km az=176.0*
*MDD **19** 19:42:21.8±0.9,4313N×082W,h0km,mbLg0.6/1,Error ellipse: s-maj=9.3km s-min=3.3km az=7.0,PRXIMO SIN SOLUCIN*

ISC 19 19:42:21.2±1.5,431N±01×082W±006,h17km±9km,n8, σ0§14/12,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.09**	**109**	Pg		**Pg**	**Pg**	**19 42

comp=Z,67nm,1.5s
PCRV Puerto La Cruz 22.04 91 P **P** **19 47 12.2 -0.8**
comp=Z,6.2nm,0.7s,mb4.1,baz=258,slow=4.2,SNR=5.9
JCT Junction City 22.41 330 *e*P **P** **19 47 15.7 -1.1**
PLAL Pickwick Lake 23.53 358 *e*P **P** **19 47 27.9 -0.2**
comp=Z,22nm,1.3s,mb4.4
MIAR Mount Ida 23.83 347 *e*P **P** **19 47 28.8 -2.1**
MIAR pmax pmax
comp=Z,33nm,0.5s,mb5.0
MIAR Mount Ida 23.83 347 *e*P **P** **19 47 28.8 -2.1**
comp=Z,33nm,0.5s,mb5.0
CPCT Cooper Cave 24.09 5 *e*P **P** **19 47 34.2 +1.0**
CPCT *e* 19 47 42.4
WMOK Wichita Mounta 25.61 337 *e*P **P** **19 47 46.6 -0.5**
WMOK pmax pmax
comp=Z,62nm,1.4s,mb5.0
WMOK Wichita Mounta 25.61 337 *e*P **P** **19 47 46.6 -0.5**
comp=Z,62nm,1.4s,mb4.9
BNM Barren Site 28.89 325 P **P** **19 48 16.4 0.0**
MCWV Mont Chateau 28.89 12 P **P** **19 48 16.9 +0.4**
LPAZ La Paz 33.24 145 P **P** **19 49 01.0 +6.3**
comp=Z,0.4nm,0.6s,mb3.5,baz=252,slow=9.6,SNR=2.4
LPAZ La Paz 33.24 145 P **P** **19 49 01.0 +6.3**
SADO Sadowa 33.97 10 P **P** **19 49 00.5 -0.6**
comp=Z,7.4nm,0.6s,mb4.8,baz=206,slow=8.2,SNR=7.1
SADO Sadowa 33.97 10 P **P** **19 49 00.5 -0.7**
SRU San Rafael 34.64 327 *e*P **P** **19 49 07.7 +0.8**
SRU pmax pmax
comp=Z,13nm,1.2s,mb4.7
SRU San Rafael 34.64 327 *e*P **P** **19 49 07.7 +0.8**
comp=Z,13nm,1.2s,mb4.7
LONY Lake Ozonia 34.83 16 *e*P **P** **19 49 07.1 -1.4**
DAU Daniels Canyon 35.97 328 *e*P **P** **19 49 19.1 +0.8**
TPNV Topopah Spring 36.59 319 P **P** **19 49 26.7 +3.1**
DUG Dugway 36.65 326 P **P** **19 49 23.0 -1.1**
PDAR Pinedale Array 36.91 332 P **P** **19 49 26.6 +0.3**
comp=Z,0.8nm,0.6s,mb3.8,baz=128,slow=9.9,SNR=9.1
PDAR PcP PcP 19 51 48.8 +2.0
comp=Z,0.7nm,0.9s,baz=145,slow=5.4,SNR=3.9
HWUT Hardware Ranch 37.01 329 *e*P **P** **19 49 28.0 +0.8**
comp=Z,7.4nm,0.9s,mb4.5
TPAW Teton Pass 38.12 331 P **P** **19 49 36.8 +0.3**
comp=Z,15nm,1.0s,mb4.7
ELK Elko 38.38 325 *e*P **P** **19 49 39.8 +1.1**
ELK pmax pmax
comp=Z,4.0nm,1.1s
ELK Elko 38.38 325 *e*P **P** **19 49 39.8 +1.1**
comp=Z,3.7nm,1.1s,mb4.0
MNV Mina 38.69 320 *e*P **P** **19 49 40.8 -0.5**
MNV pmax pmax
comp=Z,11nm,1.5s,mb4.4
MNV Mina 38.69 320 *e*P **P** **19 49 40.8 -0.6**
comp=Z,11nm,1.5s,mb4.3
NVAR Mina Array Bea 38.78 319 P **P** **19 49 44.5 +2.4**
comp=Z,1.0nm,0.8s,mb3.6,baz=124,slow=6.8,SNR=6.6
NVAR PcP PcP 19 51 56.0 +3.4
comp=Z,0.3nm,0.3s,baz=221,slow=6.6,SNR=3.5
NVAR Mina Array Bea 38.78 319 P **P** **19 49 44.5 +2.4**
NVAR PcP PcP 19 51 56.0 +3.4
QLMT Earthquake Lak 39.37 332 P **P** **19 49 47.8 +0.8**
ULM Lac du Bonnet 39.45 351 P **P** **19 49 46.2 -1.5**
comp=Z,3.1nm,0.6s,mb4.2,baz=174,slow=12,SNR=4.6
ULM Lac du Bonnet 39.45 351 P **P** **19 49 46.2 -1.5**
SCHQ Schefferville 46.20 16 P **P** **19 50 41.0 -1.3**
comp=Z,4.2nm,0.8s,mb4.4,baz=201,slow=7.9,SNR=6.3
BDFB Brasilia 47.04 124 P **P** **19 50 49.9 +1.0**
comp=Z,4.5nm,0.5s,mb4.7,baz=302,slow=9.9,SNR=4.2
YKA Yellowknife Ar 54.76 345 P **P** **19 51 45.3 -1.6**
comp=Z,1.1nm,0.8s,mb4.0,baz=150,slow=6.5,SNR=6.8
YKA PcP PcP 19 52 49.4 +0.6
comp=Z,0.3nm,0.6s,baz=158,slow=3.7,SNR=3.9
YKA Yellowknife Ar 54.76 345 P **P** **19 51 45.3 -1.6**
YKA PcP PcP 19 52 49.4 +0.6
UCC Uccle 82.18 40 P **P** **19 54 41.1 +3.2**
UCC XP sP 19 54 57.2 -3.4
DOU Dourbes 82.43 40 AP pP 19 54 53.8 -1.7
CLL Collm 87.42 38 *e**PP pP 19 55 15.0 -5.6
CLL Collm 87.42 38 *e*pP pP 19 55 15.0 -5.6
SONM Songino Array 119.87 350 PKP PKPdf 20 01 08.4 +1.5
comp=Z,0.3nm,0.7s,baz=38,slow=2.0,SNR=4.1
WMQ Urumqi 124.87 5 PKP PKPdf 20 01 22.1 +5.5
HHC Hu-ho-hao-te 125.28 343 *e*PKP PKPdf 20 01 22.5 +5.2
HHC PP PP 20 03 12.1 +4.3
HHC SKS SKSdf 20 08 29.6 +5.4
HHC SKKS SKKSac 20 10 01.3 +0.3
HHC SS SS 20 19 58.9 -2.0
HHC LR LR
comp=N,153nm,25.0s,MS4.8
HHC LR LR
comp=E,210nm,22.6s,MS4.8
HHC LR LR
comp=Z,190nm,26.2s,MS4.6
GTA Gaotai 129.09 353 *e*PKP PKPdf 20 01 26.8 +2.2
CD2 Chengdu 136.71 346 *e*PKP PKPdf 20 01 41.4 +2.4
ASAR Alice Springs 139.23 247 PKP PKPdf 20 01 47.0 +3.4
comp=Z,1.5nm,0.9s,baz=94,slow=1.6,SNR=7.4
WRA Warramunga Arr 139.34 253 PKP PKPdf 20 01 47.3 +3.5
comp=Z,1.3nm,0.6s,baz=91,slow=3.7,SNR=4.6
FITZ Fitzroy Crossi 147.73 254 PKPbc PKPbc 20 02 03.5 +2.2
comp=Z,1.7nm,0.9s,baz=180,slow=5.1,SNR=2.8
NANT Nan 149.07 346 ⇓P PKPbc 20 02 09.0 +4.2
comp=Z,125nm,0.6s
CHG Chiang Mai 149.44 349 ⇑P PKPbc 20 02 07.8 +2.1
comp=Z,12nm,0.9s
CHTO Chiang Mai 149.44 349 *e*PKP2 PKPab 20 02 07.8 -2.9

*BJI **19** 19:45:23.9, 1026S×108.48E, h30km, mB5.0, mb4.6*
*NEIC **19** 19:45:26.9±0.4, 9.79S×108.38E, h10km, mb4.7/9, Error ellipse: s-maj=17.8km s-min=6.7km az=49.0*
*ISCJB **19** 19:45:28.3±0.6, 9.8S±0.1×108.4E±0.1, h32km, mb4.3/18, Error ellipse: s-maj=25.2km s-min=9.2km az=97.7*
*IDC **19** 19:45:30.3±0.7, 9.90S×108.28E, h32km±5km, mb3.8/7, mb1 3.8/8, mb1mx3.7/16, mbtmp4.0/8, ML3.6/1, Error ellipse: s-maj=28.2km s-min=15.3km az=62.0*
ISC 19 19:45:30.7±0.6, **98S**±0.1×**108.4E**±0.1, **h34**km, **h34**km±.6km:**pP-P**,**n26**,σ0**68**/26,**mb4.3**/18,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.64**	**118**	P	**Pn**	**19 49 45.6**	**-0.3**
	0.1nm,0.3s,baz=11,slow=10,SNR=6.5						
FITZ				S	**Sn**	**19 52 56.0**	**-17**
	0.1nm,0.3s,baz=120,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**26.98**	**115**	P	**P**	**19 51 09.0**	**-0.1**
	1.0nm,0.8s,mb3.4,baz=286,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**27.98**	**123**	P	**P**	**19 51 19.3**	**+1.3**
	0.7nm,0.7s,mb3.4,baz=297,slow=9.2,SNR=13						
CHTO	**Chiang Mai**	**29.93**	**342**	*e*P	**P**	**19 51 35.6**	**+0.2**
	14nm,1.1s,mb4.6						
CHTO				*e*	pP	19 51 46.0	+0.7
STKA	**Stephens Creek**	**37.76**	**130**	P	**P**	**19 52 43.8**	**+0.5**
	0.9nm,0.4s,mb3.8,baz=306,slow=12,SNR=4.8						
JIRN	**Jiri**	**43.02**	**331**	*e*P	**P**	**19 53 27.6**	**+0.8**
GUN	**Gumba**	**43.38**	**330**	*e*P	**P**	**19 53 30.5**	**+0.8**
DMN	**Daman**	**43.51**	**329**	*e*P	**P**	**19 53 31.0**	**+0.3**
KKN	**Kakani**	**43.57**	**330**	*e*P	**P**	**19 53 31.4**	**+0.2**
	21nm,0.9s,mb4.9						
XAN	**Xi'an**	**43.61**	**1**	P	**P**	**19 53 31.6**	**0.0**
XAN				AP	pP	19 53 40.3	-1.4
XAN				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.2						
GKN	**Gorkha**	**44.07**	**329**	*e*P	**P**	**19 53 35.4**	**+0.2**
KOLN	**Koldanda**	**44.41**	**328**	*e*P	**P**	**19 53 38.1**	**+0.1**
	comp=Z,7.8nm,0.6s,mb4.6						
MJAR	**Matsushiro Arr**	**53.97**	**30**	P	**P**	**19 54 48.9**	**-2.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=206,slow=10,SNR=4.6						
MJAR	**Matsushiro Arr**	**53.97**	**30**	P	**P**	**19 54 48.9**	**-2.1**
SONM	**Songino Array**	**57.42**	**358**	P	**P**	**19 55 16.5**	**+0.7**
	comp=Z,2.4nm,0.8s,mb4.3,baz=170,slow=7.9,SNR=20						
SONM				pP	pP	19 55 26.9	+0.7
	comp=Z,4.2nm,1.0s,baz=182,slow=7.1,SNR=11						
ULN	**Ulaanbaatar**	**57.44**	**359**	*e*P	**P**	**19 55 16.4**	**+0.4**
	comp=Z,4.3nm,0.9s,mb4.5						
ULN				*e*	pP	19 55 26.0	-0.4
MKAR	**Makanchi Array**	**60.98**	**340**	P	**P**	**19 55 40.5**	**0.0**
	comp=Z,3.3nm,0.7s,mb4.6,baz=142,slow=7.7,SNR=37						
MKAR				pP	pP	19 55 50.8	-0.2
	comp=Z,2.9nm,0.7s,baz=141,slow=8.2,SNR=15						
MAW	**Mawson**	**65.10**	**198**	P	**P**	**19 56 06.9**	**-0.9**
	comp=Z,1.0nm,0.7s,mb4.0,baz=352,slow=11,SNR=4.8						
MAW				pP	pP	19 56 16.7	-1.7
	comp=Z,1.8nm,0.8s,baz=60,slow=11,SNR=3.9						
KURK	**Kurchatov**	**65.60**	**340**	*e*P	**P**	**19 56 10.3**	**-0.7**
	comp=Z,5.2nm,0.9s,mb4.6						
KURK				*e*	pP	19 56 21.2	-0.4
CHKZ	**Chkalovo**	**70.89**	**337**	*e*P	**P**	**19 56 43.5**	**-0.7**
	comp=Z,7.9nm,0.9s,mb4.6						
CHKZ				*e*	pP	19 56 54.4	-0.5
ZRNK	**Zerenda**	**70.97**	**336**	*e*P	**P**	**19 56 44.1**	**-0.6**
	comp=Z,7.0nm,0.8s,mb4.6						
ZRNK				*e*	pP	19 56 54.0	-1.3
AB31	**Akbulak array**	**72.52**	**329**	*i* P	**P**	**19 56 53.4**	**-0.6**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ARU	**Arti**	**77.74**	**334**	*e*P	**P**	**19 57 23.9**	**-0.2**
	comp=Z,4.6nm,1.0s,mb4.4						
ARU				*e*	pP	19 57 33.7	-1.1
BR131	**Keskin Array S**	**84.72**	**312**	P	**P**	**19 58 01.4**	**+0.3**
	comp=Z,1.7nm,0.6s,mb4.3						
BR131				*e*	pP	19 58 11.5	-0.5
BRTR	**Keskin Array B**	**84.72**	**312**	P	**P**	**19 58 01.3**	**+0.2**
	comp=Z,1.3nm,0.9s,mb4.0,baz=131,slow=7.7,SNR=6.5						
BRTR				pP	pP	19 58 11.3	-0.6
	comp=Z,1.9nm,0.7s,baz=141,slow=6.3,SNR=8.4						
WMOK	**Wichita Mounta**	**144.90**	**41**	*e*P	PKPdf	20 05 04.3	+0.3
WMOK				*e*		20 05 12.9	

*ISCJB **19** 19:47:07.5±0.5, 4834N±003×666E±003, h2km, Error ellipse: s-maj=4.8km s-min=3.0km az=14.4*
*LDG **19** 19:47:08.5±0.1, 4833N×667E, h2km, Md1.4/6, Ml2.1/4, Error ellipse: s-maj=2.1km s-min=1.3km az=6.0*
*STR **19** 19:47:08.1±0.2, 4833N×670E, h10km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 19 19:47:07.8±1.0, **4834N**±004×**668E**±003, **h15**km±19km, **n13**, σ0**67**/22, **France**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECH	**Echery**	**0.34**	**110**	Pg	**Pg**	**19 47 15.2**	**+0.4**
ECH				Sg	**Sg**	**19 47 19.8**	**+0.2**
HAU	**Haudompre**	**0.40**	**214**	*e*Pg	**Pg**	**19 47 16.0**	**+0.2**
HAU				*e*Sg	**Sg**	**19 47 20.6**	**-0.6**
	9.9nm,0.2s						
CDF	**Champ du Feu**	**0.41**	**79**	*e*Pg	**Pg**	**19 47 16.3**	**+0.4**
CDF				*e*Sg	**Sg**	**19 47 20.7**	**-0.8**
	4.7nm,0.2s						
WLS	**Welschbruch**	**0.46**	**80**	Pg	**Pg**	**19 47 17.3**	**+0.4**
THEF	**They Montfort**	**0.48**	**257**	Pg	**Pg**	**19 47 17.1**	**-0.1**
HINF	**Hinteralfeld**	**0.53**	**167**	*e*Pg	**Pg**	**19 47 18.5**	**+0.2**
HINF				*e*Sg	**Sg**	**19 47 25.5**	**+0.1**
	9.7nm,0.2s						
MOF	**Molkenrain**	**0.57**	**148**	Pg	**Pg**	**19 47 19.7**	**+0.7**
RFYF	**Reffroy**	**0.85**	**291**	*e*Pg	**Pg**	**19 47 24.3**	**0.0**
RFYF				*e*Sg	**Sg**	**19 47 36.5**	**+0.9**
	12nm,0.2s						
LOMF	**Lomont**	**0.99**	**174**	Pg	**Pg**	**19 47 27.0**	**+0.1**
LOMF				Sg	**Sg**	**19 47 40.6**	**+0.7**
MEZF	**Maizieres J'vi**	**1.10**	**279**	*e*Pg	**Pg**	**19 47 28.9**	**0.0**
MEZF				*e*Sg	**Sg**	**19 47 43.8**	**+0.5**
	4.0nm,0.2s						
BFO	**Black Forest**	**1.10**	**90**	*e*Pg	**Pg**	**19 47 29.4**	**+0.4**
BFO				*e*Sg	**Sg**	**19 47 41.5**	**-1.9**
SFTF	**Sexfontaines**	**1.10**	**264**	*e*Pg	**Pg**	**19 47 29.4**	**+0.3**
SFTF				*e*Sg	**Sg**	**19 47 42.6**	**-0.9**
	5.6nm,0.4s						
LOR	**Lormes**	**2.18**	**242**	*e*Sg	**Sg**	**19 48 16.5**	**-1.4**
	1.2nm,0.2s						

IDC 19 20:22:37.2±39.0, **616N×12629E**, **h0**km, **mb3.6**/4, **mb1 3.8**/4, **mb1mx3.5**/19, **mbtmp3.6**/4, **Error ellipse: s-maj=661.6km s-min=121.2km az=159.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**24.11**	**182**	P	P	20 27 55.7	+1.1
	1.0nm,0.5s,baz=337,slow=7.7,SNR=8.3						
WRA	**Warramunga Arr**	**27.12**	**163**	P	P	20 28 23.6	+1.7
	0.2nm,0.4s,baz=340,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**30.56**	**166**	P	P	20 28 51.5	-0.9
	0.3nm,0.6s,baz=339,slow=6.0,SNR=5.6						
STKA	**Stephens Creek**	**40.54**	**160**	P	P	20 30 17.1	-1.0
	4.1nm,1.1s,baz=315,slow=11,SNR=3.3						

IDC 19 20:32:48.8±1.7, **963S×10831E**, **h0**km, **mb3.8**/5, **mb1 3.9**/5, **mb1mx3.7**/16, **mbtmp3.8**/5, **Error ellipse: s-maj=83.6km s-min=22.4km az=49.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.14**	**115**	P	P	20 38 33.4	-0.2
	0.9nm,0.7s,baz=289,slow=11,SNR=6.4						
STKA	**Stephens Creek**	**37.94**	**131**	P	P	20 40 08.8	+0.9
	2.1nm,0.7s,baz=309,slow=7.9,SNR=5.8						
SONM	**Songino Array**	**57.24**	**358**	P	P	20 42 37.9	0.0
	0.5nm,0.5s,baz=181,slow=8.5,SNR=5.6						
MKAR	**Makanchi Array**	**60.78**	**340**	P	P	20 43 03.2	+0.7
	0.7nm,0.5s,baz=148,slow=8.1,SNR=20						
BRTR	**Keskin Array B**	**84.53**	**312**	P	P	20 45 23.2	-0.5
	0.3nm,0.3s,baz=132,slow=1.8,SNR=4.0						

*CSEM **19** 20:42:35.8±0.1, 6778N×1053E, h10km, mb4.0/7, Error ellipse: s-maj=2.4km s-min=2.1km az=17.0*
*ISCJB **19** 20:42:36.1±0.4, 6777N±003×1105E±007, h10km, mb3.8/10, Error ellipse: s-maj=5.2km s-min=3.2km az=114.0*
*IDC **19** 20:42:36.3±1.1, 6794N×1025E, h0km, mb3.7/3, mb1 3.7/9, mb1mx3.6/23, mbtmp3.7/9, ML3.6/6, Error ellipse: s-maj=15.8km s-min=11.2km az=123.0*
*NEIC **19** 20:42:37.2±0.3, 6792N×1033E, h10km, mb4.1/7, Error ellipse: s-maj=4.6km s-min=3.7km az=112.0*
*HEL **19** 20:42:37.7±0.2, 6789N×1036E, h10km, ML3.5, mb4.1(NEIC), ML3.3(BER)*
*BER **19** 20:42:38.6±3.5, 6794N×1016E, h12km, MD3.5, ML3.3, ML3.3(NAO)*
*MOS **19** 20:42:38.0±1.1, 6789N×1085E, h35km, mb4.1/7, Error ellipse: s-maj=24.7km s-min=5.6km az=86.9*
*NAO **19** 20:42:39.1±2.7, 6791N×1069E, h19km±19km, ML3.3*
ISC 19 20:42:36.9±0.3, **6786N**±003×**1067E**±006, **h10**km, **n110**, σ1§**48**/152, **mb3.8**/10, **4C-2D**, **Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOF	**Lofoten**	**1.12**	**75**	*e*P	**Pb**	**20 43 01.1**	**+2.7**
LOF				*e*		20 43 01.2	
LOF				*e*Sg	**Sg**	**20 43 20.6**	**+7.6**
LOF				AML	AML	20 43 22.6	
	comp=Z,2μm,0.3s						
LOF	**Lofoten**	**1.12**	**75**	*e*P	**Pb**	**20 43 01.1**	**+2.7**
LOF				*e*S	**Sg**	**20 43 20.6**	**+7.6**
STOK	**Stokkvaagen**	**1.79**	**148**	⇑*i*P	**Pn**	**20 43 09.6**	**+1.7**
STOK				AML	AML	20 43 36.8	
	comp=Z,306nm,0.6s						
MOR8	**Moi Rana**	**2.25**	**137**	⇑*i*P	**Pn**	**20 43 17.0**	**+2.7**
MOR8				*e*S	**Sn**	**20 43 45.1**	**+3.0**
MOR8				AML	AML	20 43 47.3	
	comp=Z,612nm,0.4s						
MOR8	**Moi Rana**	**2.25**	**137**	⇑*i*P	**Pn**	**20 43 17.0**	**+2.7**
MOR8				*e*S	**Sn**	**20 43 45.1**	**+3.0**
NSS	**Namsos**	**3.39**	**170**	⇑*i*P	**Pn**	**20 43 30.5**	**+0.6**
NSS				AML	AML	20 44 13.1	
	comp=Z,174nm,0.5s						
TRO	**Tromso**	**3.50**	**56**	*e*P	**Pn**	**20 43 31.9**	**+0.6**
KIF	**Kilpisjarvi**	**3.92**	**68**	*e*P	**Pn**	**20 43 39.4**	**+2.3**
KIF				*e*S	**Sn**	**20 44 22.6**	**-0.5**
KIF				MSN		20 44 27.1	
	comp=Z,48nm,0.3s						
KIF	**Kilpisjarvi**	**3.92**	**68**	P	**Pn**	**20 43 39.4**	**+2.3**
KIF				S	**Sn**	**20 44 22.5**	**-0.6**
	comp=Z,48nm,0.3s						
KTK1	**Kautokeino**	**4.78**	**70**	*e*P	**Pn**	**20 43 51.7**	**+2.7**
KTK1				AML	AML	20 45 17.8	
	comp=Z,78nm,0.6s						
MOL	**Molde**	**5.47**	**195**	*e*P	**Pn**	**20 43 58.1**	**-0.4**
MOL				*e*S	**Sn**	**20 44 54.6**	**-6.9**
MOL				AML	AML	20 45 03.5	
	comp=Z,52nm,0.6s						
MOL	**Molde**	**5.47**	**195**	*e*P	**Pn**	**20 43 58.1**	**-0.4**
MOL				*e*S	**Sn**	**20 44 54.6**	**-6.9**
ARA0	**ARCESS Array S**	**5.66**	**66**	Pn	**Pn**	**20 44 01.9**	**+0.8**
	baz=241,slow=14						
ARA0				Sn	**Sn**	**20 45 03.1**	**-3.0**
	baz=260,slow=28						
ARA0				Lg		20 45 36.8	
	baz=270,slow=37						
ARA0	**ARCESS Array S**	**5.66**	**66**	*e*P	**Pn**	**20 44 01.9**	**+0.8**
ARA0				*e*S	**Sn**	**20 45 03.1**	**-3.0**
ARA0				*e*SG	**Sg**	**20 45 36.8**	**-1.9**
ARCES	**ARCESS Array B**	**5.66**	**66**	Pn	**Pn**	**20 44 02.5**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=246,slow=13,SNR=58						
ARCES				Sn	**Sn**	**20 45 04.0**	**-2.1**
	comp=Z,2.9nm,0.3s,baz=267,slow=24,SNR=3.2						
ARCES				Lg		20 45 40.1	
	comp=Z,5.3nm,0.3s,baz=262,slow=24,SNR=7.2						
ARCES	**ARCESS Array B**	**5.66**	**66**	P	**Pn**	**20 44 02.6**	**+1.5**
ARCES						20 45 04.0	
DOMB	**Dombas**	**5.88**	**187**	*e*P	**Pn**	**20 44 04.5**	**+0.3**
DOMB				*e*S	**Sn**	**20 45 09.7**	**-2.0**
DOMB				AML	AML	20 45 26.6	
	comp=Z,44nm,0.7s						
DOMB	**Dombas**	**5.88**	**187**	*e*P	**Pn**	**20 44 04.5**	**+0.3**
DOMB				*e*S	**Sn**	**20 45 09.7**	**-2.0**
DOMB	**Dombas**	**5.88**	**187**	*e*P	**Pn**	**20 44 04.4**	**+0.3**
	SNR=49						
KEV	**Kevo**	**6.22**	**65**	*e*P	**Pn**	**20 44 10.1**	**+1.4**
KEV				*e*S	**Sn**	**20 45 18.1**	**-1.8**
KEV				MSN		20 45 27.6	
	comp=Z,8.5nm,0.3s						
OUL	**Oulu**	**6.70**	**107**	*e*P	**Pn**	**20 44 17.3**	**+2.0**
OUL				*e*S	**Sn**	**20 45 30.6**	**-1.1**
OUL				MSN		20 45 32.2	
	comp=Z,17nm,0.2s						
NB2	**NORSAR Subarra**	**6.86**	**178**	Pn	**Pn**	**20 44 18.6**	**+1.2**
	baz=357,slow=14						
NB2	**NORSAR Subarra**	**6.86**	**178**	*e*P	**Pn**	**20 44 18.6**	**+1.2**
NOA	**NORSAR Array B**	**6.86**	**178**	Pn	**Pn**	**20 44 18.6**	**+1.1**
	comp=Z,1.5nm,0.3s,baz=354,slow=13,SNR=16						
NOA				Sn	**Sn**	**20 45 33.2**	**-2.4**
	comp=Z,2.0nm,0.3s,baz=312,slow=17,SNR=3.8						
VAF	**Ylistaro**	**6.95**	**128**	*e*P	**Pn**	**20 44 21.1**	**+2.4**
VAF				*e*S	**Sn**	**20 45 36.6**	**-1.3**
VAF				MSN		20 45 42.1	
	comp=Z,10nm,0.2s						
VAF	**Ylistaro**	**6.95**	**128**	P	**Pn**	**20 44 21.1**	**+2.3**
VAF				S	**Sn**	**20 45 36.5**	**-1.4**
	comp=Z,10nm,0.2s						
JNE	**Jan Mayen East**	**7.36**	**304**	*e*P	**Pn**	**20 44 22.6**	**-1.8**
JNW	**Jan Mayen West**	**7.42**	**304**	*e*P	**Pn**	**20 44 22.8**	**-2.4**
JMIC	**Jan Mayen**	**7.43**	**304**	*e*P	**Pn**	**20 44 22.8**	**-2.6**
JMIC				*e*		20 45 37.8	
JMIC	**Jan Mayen**	**7.43**	**304**	Pn	**Pn**	**20 44 22.8**	**-2.7**
	comp=Z,32nm,0.3s,baz=18,slow=1.1,SNR=26						
JMIC	**Jan Mayen**	**7.43**	**304**	Pn	**Pn**	**20 44 22.8**	**-2.6**
JMIC				Sn	**Sn**	**20 45 37.8**	**-12**
MSF	**Maaselka**	**7.48**	**97**	*e*P	**Pn**	**20 44 27.1**	**+0.9**
MSF				*e*S	**Sn**	**20 45 48.0**	**-3.1**
MSF				MSN		20 45 53.8	
	comp=Z,10nm,0.2s						
MSF	**Maaselka**	**7.48**	**97**	P	**Pn**	**20 44 27.0**	**+0.9**
JMI	**Jan Mayen**	**7.48**	**303**	*e*P	**Pn**	**20 44 24.2**	**-1.9**
KU4	**Liikasenvaara**	**7.52**	**93**	*e*P	**Pn**	**20 44 27.4**	**+0.8**
KU4				*e*S	**Sn**	**20 45 48.3**	**-3.5**
KU4				MSN		20 45 50.0	
	comp=Z,22nm,0.4s						
HFS	**Hagfors**	**7.87**	**169**	*e*P	**Pn**	**20 44 32.0**	**+0.5**
HFS				*e*S	**Sn**	**20 45 55.9**	**-4.7**
HFS	**Hagfors**	**7.87**	**169**	Pn	**Pn**	**20 44 32.7**	**+1.2**
	comp=Z,2.1nm,0.3s,baz=354,slow=12,SNR=92						
HFS				Sn	**Sn**	**20 45 56.5**	**-4.1**
	comp=Z,2.3nm,0.3s,baz=351,slow=24,SNR=9.1						
HFS	**Hagfors**	**7.87**	**169**	Pn	**Pn**	**20 44 32.0**	**+0.5**
	baz=350,slow=14						
HFS				Sn	**Sn**	**20 45 55.9**	**-4.7**
	baz=347,slow=28						
KJN	**Kajaani**	**7.91**	**111**	*e*P	**Pn**	**20 44 33.1**	**+1.2**
KJN				*e*S	**Sn**	**20 45 58.4**	**-3.0**
KJN				MSN		20 46 02.1	
	comp=Z,8.7nm,0.2s						
SUF	**Sumiainen**	**8.27**	**121**	*e*P	**Pn**	**20 44 38.6**	**+1.7**
SUF				*e*S	**Sn**	**20 46 07.9**	**-2.5**
SUF				MSN		20 46 20.5	
	comp=Z,11nm,0.3s						
KEF	**Keuruu**	**8.28**	**127**	*e*P	**Pn**	**20 44 38.3**	**+1.3**
KEF				*e*S	**Sn**	**20 46 09.1**	**-1.4**
KEF				MSN		20 46 14.1	
	comp=Z,9.1nm,0.2s						
RAF	**Rauma**	**8.36**	**140**	*e*P	**Pn**	**20 44 39.2**	**+1.1**
RAF				*e*S	**Sn**	**20 46 11.5**	**-1.1**
RAF				MSN		20 46 16.2	
	comp=Z,5.5nm,0.3s						
RAF	**Rauma**	**8.36**	**140**	P	**Pn**	**20 44 39.2**	**+1.1**
RAF				S	**Sn**	**20 46 11.4**	**-1.2**
	comp=Z,5.5nm,0.3s						
APA0	**Apatity Array**	**8.47**	**81**	Pn	**Pn**	**20 44 38.9**	**-0.7**
	baz=282,slow=12						
APA0				Sn	**Sn**	**20 46 08.2**	**-7.0**
	baz=291,slow=28						
APA0				Lg		20 47 02.3	
	baz=297,slow=28						
APA0	**Apatity Array**	**8.47**	**81**	*e*P	**Pn**	**20 44 38.9**	**-0.7**
APA0				*e*S	**Sn**	**20 46 08.2**	**-7.0**
APA0				*e*SG	Sn	20 47 02.3	+47
APA0	**Apatity Array**	**8.47**	**81**	P	**Pn**	**20 44 38.9**	**-0.7**
APA0						20 46 08.2	
APA	**Apatity**	**8.63**	**81**	⇓*i*P	**Pn**	**20 44 39.1**	**-2.7**
APA				*i*		20 46 09.0	
APA				pmax	pmax		
	comp=Z,36nm,1.2s						
KAF	**Kangasniemi**	**8.76**	**124**	*e*P	**Pn**	**20 44 45.5**	**+1.8**
KAF				*e*S	**Sn**	**20 46 19.8**	**-2.7**
KAF				MSN		20 46 36.9	
	comp=Z,9.1nm,0.3s						
KAF	**Kangasniemi**	**8.76**	**124**	P	**Pn**	**20 44 45.4**	**+1.7**
FIA0	**FINESS Array S**	**9.20**	**127**	*e*P	**Pn**	**20 44 51.1**	**+1.4**
FIA0				*e*S	**

comp=Z,300nm,21.7s
BAIF Baives 18.14 193 *e*P **Pn 20 46 49.6 +0.6**
GEC2 GERESS Array S 19.13 174 *e*P **Pn 20 47 02.8 +1.8**
GERES GERESS Array B 19.13 174 P **Pn 20 47 02.4 +1.4**
comp=Z,0.1nm,0.3s,baz=7.0,slow=12,SNR=6.6
AKASG Malin Array Be 19.50 143 P **Pn 20 47 03.4 -2.0**
comp=Z,0.6nm,0.3s,baz=338,slow=12,SNR=3.8
AKBB Malin Array Si 19.50 143 P **Pn 20 47 01.1 -4.2**
FLN La Foliniere 19.96 202 *e*P **Pn 20 47 09.7 -1.2**
GRR Gorron 20.39 202 *e*P **P 20 47 14.6 +0.8**
SGMF Saint Gilles 20.78 206 *e*P **P 20 47 18.3 +0.2**
comp=Z,9.8nm,0.8s
SGMF Saint Gilles 20.78 206 *e*P **P 20 47 18.3 +0.2**
SGMF pmax pmax
comp=Z,5.0nm,0.8s
SGMF Saint Gilles 20.78 206 *e*P **P 20 47 18.3 +0.2**
comp=Z,4.9nm,0.8s
LOR Lormes 20.94 193 *e*P **P 20 47 20.7 +0.8**
SSF Saint Saulge 21.18 194 *e*P **P 20 47 23.1 +0.7**
QUIF Quistinic 21.21 206 *e*P **P 20 47 22.9 +0.2**
comp=Z,1.9nm,0.8s,mb4.0
QUIF Quistinic 21.21 206 *e*P **P 20 47 22.9 +0.2**
QUIF pmax pmax
comp=Z,6.0nm,0.8s,mb4.0
QUIF Quistinic 21.21 206 *e*P **P 20 47 22.9 +0.2**
comp=Z,6.4nm,0.8s,mb4.0
CABF La Chapelle 21.44 189 *e*P **P 20 47 26.3 +1.1**
comp=Z,14nm,0.8s,mb4.0
CABF La Chapelle 21.44 189 *e*P **P 20 47 26.3 +1.1**
CABF pmax pmax
comp=Z,7.0nm,0.8s,mb4.0
CABF La Chapelle 21.44 189 *e*P **P 20 47 26.3 +1.1**
comp=Z,7.0nm,0.8s,mb4.0
AVF Avril sur Loir 21.46 194 *e*P **P 20 47 25.7 +0.2**
SMF Signal de Mont 21.56 193 *e*P **P 20 47 26.6 +0.1**
comp=Z,13nm,0.9s,mb4.1
SMF Signal de Mont 21.56 193 *e*P **P 20 47 26.6 +0.1**
SMF pmax pmax
comp=Z,7.0nm,0.9s,mb4.1
SMF Signal de Mont 21.56 193 *e*P **P 20 47 26.6 +0.1**
comp=Z,6.6nm,0.9s,mb4.1
MFF Saint Martin d 22.04 200 *e*P **P 20 47 31.3 -0.3**
LPL La Plagne 22.50 187 *e*P **P 20 47 36.6 +0.1**
LPG La Plagne 22.52 187 *e*P **P 20 47 36.6 -0.1**
comp=Z,1.0nm,0.4s,mb3.3
LPG La Plagne 22.52 187 *e*P **P 20 47 36.6 -0.1**
comp=Z,0.5nm,0.4s,mb3.3
MBDF Montbardon 23.28 187 *e*P **P 20 47 44.1 -0.7**
comp=Z,6.1nm,0.9s,mb3.8
MBDF Montbardon 23.28 187 *e*P **P 20 47 44.1 -0.7**
MBDF pmax pmax
comp=Z,3.0nm,0.9s,mb3.7
MBDF Montbardon 23.28 187 *e*P **P 20 47 44.1 -0.7**
comp=Z,3.0nm,0.9s,mb3.7
ARU Arti 24.41 94⇓ *i*P **P 20 47 58.4 +2.9**
ARU *e* 20 48 33.2
ARU *e*PPP 20 48 42.3
ARU *e*SS 20 53 16.4
ARU pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
ARU Arti 24.41 94 *e*P **P 20 47 57.1 +1.7**
comp=Z,9.9nm,0.6s,mb4.4
ARU Arti 24.41 94 *e*P **P 20 47 57.1 +1.6**
comp=Z,9.9nm,0.6s,mb4.4
FRF La Foret Royal 24.45 187 *e*P **P 20 47 55.2 -0.7**
LMR La Mourre 24.68 187 *e*P **P 20 47 57.4 -0.6**
PGF Pioggiola 25.39 183 *e*P **P 20 48 04.7 +0.3**
comp=Z,6.9nm,0.8s,mb4.0
PGF Pioggiola 25.39 183 *e*P **P 20 48 04.7 +0.3**
PGF pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
PGF Pioggiola 25.39 183 *e*P **P 20 48 04.7 +0.3**
comp=Z,3.5nm,0.8s,mb4.0
ETSF Etsaut 25.73 199 *e*P **P 20 48 07.3 -0.2**
MKAR Makanchi Array 41.02 83 P **P 20 50 21.7 +1.5**
comp=Z,0.4nm,0.7s,mb3.2,baz=347,slow=6.8,SNR=7.7
SONM Songino Array 48.83 63 P **P 20 51 24.6 +2.2**
comp=Z,0.2nm,0.4s,mb3.5,baz=350,slow=7.9,SNR=4.2
TORD Torodi Ar. Bea 54.98 191 P **P 20 52 09.3 +1.0**
comp=Z,2.4nm,0.7s,mb4.3,baz=3.8,slow=7.5,SNR=36
TORD Torodi Ar. Bea 54.98 191 P **P 20 52 09.3 +1.0**
ASAR Alice Springs 124.05 68 PKP PKPdf 21 01 35.5 0.0
comp=Z,0.3nm,0.7s,baz=356,slow=1.5,SNR=5.1

STR ***19*** *20:54:52.4±0.5, 4826N×665E, h5km±1km, Ml1.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 19 20:54:52.5, 4834N×667E, h27km, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.35**	**111**	Pg	Pb	20 54 58.4	-2.0
ECH				Sg	Sb	20 55 04.9	-0.9
HAU	**Haudompre**	**0.40**	**213**	*e*Pg	Pb	20 55 01.1	-0.1
HAU				*e*Sg	Sb	20 55 07.9	+0.8
CDF	**Champ du Feu**	**0.41**	**80**	*e*Pg	Pb	20 55 01.5	+0.2
CDF				*e*Sg	Sb	20 55 07.2	-0.1
WLS	**Welschbruch**	**0.46**	**81**	Pg	Pb	20 55 02.4	+0.3
WLS				Sg	Sb	20 55 08.7	0.0
THEF	**They Montfort**	**0.47**	**256**	Pg	Pb	20 54 59.7	-2.6
THEF				Sg	Sb	20 55 08.2	-0.8
HINF	**Hinteralfeld**	**0.54**	**167**	*e*Pg	Pb	20 55 03.2	-0.3
HINF				*e*Sg	Sb	20 55 10.3	-0.6
	2.3nm,0.2s						
SFTF	**Sexfontaines**	**1.10**	**263**	*e*Pg	Pn	20 55 11.0	-1.1
SFTF				*e*Sg	Sn	20 55 23.0	-3.4
	4.4nm,0.3s						

BJI ***19*** *21:01:12.5, 1093S×10875E, h17km, mB5.0, mb4.7, Ms4.6, Msz4.3*
IDC ***19*** *21:01:17.9±0.6, 1000S×10861E, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.3/16, mbtmp4.3/11, ML4.3/1, MS4.0/1, Ms1 4.0/1, ms1mx2.9/27, Error ellipse: s-maj=25.4km s-min=15.8km az=53.0*
ISCJB ***19*** *21:01:21.2±0.4, 1010S±007×10866E±009, h35km, mb4.6/34, MS4.0/4, Error ellipse: s-maj=15.1km s-min=6.9km az=106.3*
MOS ***19*** *21:01:21.0±0.7, 9995×10869E, h33km, mb4.7/4, Error ellipse: s-maj=21.8km s-min=10.8km az=116.4*
NEIC ***19*** *21:01:22.1±3.7, 1003S×10869E, h28km±25km, mb4.8/15, Error ellipse: s-maj=11.5km s-min=4.5km az=53.0*
ISC 19 21:01:23.5±0.4, 1013S±007×10863E±009, h37km, h37km±2.6km: pP-P, n63, σ0s92/59, mb4.6/34, MS4.0/4, 2C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.30**	**137**	*e*P	**Pn**	**21 04 50.4**	**-6.3**
	14nm,0.6s						
PSI	**Prapat**	**16.08**	**323**	LR	LR	21 12 24.6	
	comp=Z,454nm,18.1s,baz=345,slow=42						
FITZ	**Fitzroy Crossi**	**18.29**	**118**	*e*P	**Pn**	**21 05 33.6**	**-0.6**
	11nm,0.6s						
FITZ				*e*S	S	21 08 39.6	-22
FITZ	**Fitzroy Crossi**	**18.29**	**118**	P	**Pn**	**21 05 33.6**	**-0.6**
	0.7nm,0.3s,baz=295,slow=8.4,SNR=33						
FITZ				Sn	**Sn**	**21 08 41.6**	**-16**
	0.6nm,0.3s,baz=36,slow=24,SNR=5.7						
WRA	**Warramunga Arr**	**26.64**	**114**	P	**P**	**21 06 58.7**	**+0.2**
	4.6nm,0.8s,mb4.0,baz=285,slow=11,SNR=18						
WRA				PcP	PcP	21 10 22.5	+0.7
	1.0nm,0.7s,baz=288,slow=2.9,SNR=4.7						
WRAB	**Tennant Creek**	**26.65**	**114**	*e*P	**P**	**21 06 58.7**	**+0.1**
WB2	**Warramunga Arr**	**26.65**	**114**	*e*P	**P**	**21 06 58.6**	**0.0**
ASAR	**Alice Springs**	**27.61**	**122**	P	**P**	**21 07 08.8**	**+1.6**
	2.1nm,0.8s,mb3.8,baz=302,slow=8.7,SNR=14						
ASAR				PcP	PcP	21 10 25.7	+1.6
	1.5nm,0.7s,baz=309,slow=1.9,SNR=8.0						
ASAR				Sn	S	21 12 26.6	+40
	1.9nm,0.9s,baz=299,slow=22,SNR=8.8						
ASAR	**Alice Springs**	**27.61**	**122**	P	**P**	**21 07 08.9**	**+1.6**
ASAR						21 10 25.7	
AS31	**Alice Springs**	**27.61**	**122**	*e*P	**P**	**21 07 06.5**	**-0.8**
CHTO	**Chiang Mai**	**30.31**	**342**	*e*P	**P**	**21 07 31.1**	**-0.1**
CHTO				*e*	pP	21 07 41.4	-0.3
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
CHTO	**Chiang Mai**	**30.31**	**342**	*e*P	**P**	**21 07 31.1**	**-0.2**
	comp=Z,7.2nm,1.0s,mb4.4						
CHTO				*e*	pP	21 07 41.4	-0.4
KMI	**Kunming**	**35.51**	**351**	P	**P**	**21 08 19.0**	**+2.4**
KMI				AP	pP	21 08 29.8	+2.6
KMI				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.7						
KMI				LR	LR		
	comp=Z,157nm,17.9s,MS3.8						
GYA	**Guiyang**	**36.42**	**357**⇑ *i*P		**P**	**21 08 25.5**	**+1.1**
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
STKA	**Stephens Creek**	**37.38**	**130**	*e*P	**P**	**21 08 33.3**	**+0.8**
	comp=Z,7.6nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**37.38**	**130**	P	**P**	**21 08 33.4**	**+0.8**
	comp=Z,11nm,0.9s,mb4.7,baz=309,slow=9.0,SNR=22						
CD2	**Chengdu**	**41.07**	**354**	*e*P	**P**	**21 09 03.6**	**+0.2**
CD2				XP	sP	21 09 10.8	-7.8
CD2				PP	PP	21 10 42.6	+4.1
CD2				S	**S**	**21 15 17.1**	**+3.6**
CD2				SS	SS	21 18 16.6	-0.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2				LR	LR		
	comp=N,80nm,13.2s						
CD2				LR	LR		
	comp=Z,80nm,15.6s,MS3.7						
JIRN	**Jiri**	**43.41**	**330**	*e*P	**P**	**21 09 23.0**	**+0.6**
	comp=Z,65nm,0.8s,mb5.4						
PKI	**Pulchoki**	**43.72**	**330**	*e*P	**P**	**21 09 24.8**	**-0.1**
GUN	**Gumba**	**43.76**	**330**	*e*P	**P**	**21 09 25.6**	**+0.3**
	comp=Z,56nm,0.7s,mb5.4						
DMN	**Daman**	**43.90**	**329**	*e*P	**P**	**21 09 26.5**	**+0.1**
XAN	**Xi'an**	**43.93**	**0**	P	**P**	**21 09 26.4**	**-0.2**
XAN				AP	pP	21 09 37.9	+0.5
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
KKN	**Kakani**	**43.96**	**330**	*e*P	**P**	**21 09 26.9**	**0.0**
	comp=Z,20nm,0.6s,mb5.0						
KKN	**Kakani**	**43.96**	**330**	*e*P	**P**	**21 09 26.9**	**0.0**
KKN				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.0						
GKN	**Gorkha**	**44.46**	**329**	*e*P	**P**	**21 09 30.8**	**0.0**
	comp=Z,22nm,0.7s,mb5.0						
KOLN	**Koldanda**	**44.80**	**328**	*e*P	**P**	**21 09 33.7**	**+0.1**
	comp=Z,37nm,0.9s,mb5.2						
LZH	**Lanzhou**	**46.19**	**355**	*e*P	**P**	**21 09 45.0**	**+0.4**
LZH				AP	pP	21 09 56.3	+0.9
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
GTA	**Gaotai**	**49.97**	**351**	*e*P	**P**	**21 10 14.3**	**+0.6**
GTA				AP	pP	21 10 22.5	-2.2
GTA				XP	sP	21 10 26.8	-2.3
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.6						
BJT	**Baijiatuau**	**50.38**	**8**	P	**P**	**21 10 16.1**	**-0.8**
BJI	**Beijing**	**50.41**	**8**	P	**P**	**21 10 16.1**	**-1.0**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
BJI				AMB	AMB		
	comp=Z,107nm,4.4s						
HHC	**Hu-ho-hao-te**	**50.80**	**3**	*e*P	**P**	**21 10 23.8**	**+3.8**
HHC				XP	sP	21 10 31.8	-3.6
HHC				PP	PP	21 12 22.3	+5.9
HHC				S	**S**	**21 17 38.6**	**+5.4**
HHC				PS		21 17 49.3	
HHC				SCS	ScS	21 20 10.9	+3.1
HHC				SS	SS	21 21 12.8	+4.8
HHC				AMB	AMB		
	comp=Z,17nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,148nm,10.0s						
HHC				LR	LR		
	comp=N,133nm,16.6s,MS4.1						
HHC				LR	LR		
	comp=E,125nm,20.2s,MS4.1						
HHC				LR	LR		
	comp=Z,151nm,15.5s,MS4.1						
MJAR	**Matsushiro Arr**	**54.13**	**29**	P	**P**	**21 10 42.7**	**-2.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=199,slow=9.4,SNR=4.0						
WMQ	**Urumqi**	**56.97**	**342**	P	**P**	**21 11 07.6**	**+2.5**
WMQ				AP	pP	21 11 11.8	-4.4
WMQ				XP	sP	21 11 14.1	-6.5
WMQ				PP	PP	21 13 15.8	+3.9
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,60nm,5.6s						
WMQ				LR	LR		
	comp=N,164nm,17.4s,MS4.3						
WMQ				LR	LR		
	comp=E,123nm,16.3s,MS4.3						
WMQ				LR	LR		
	comp=Z,164nm,17.9s,MS4.2						
MDJ	**Mudanjiang**	**57.70**	**18**	P	**P**	**21 11 12.4**	**+2.1**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,38nm,4.3s						
SONM	**Songino Array**	**57.74**	**358**	P	**P**	**21 11 10.2**	**-0.3**
	comp=Z,4.4nm,0.6s,mb4.6,baz=178,slow=8.1,SNR=20						
ULN	**Ulaanbaatar**	**57.76**	**359**	*e*P	**P**	**21 11 10.5**	**-0.2**
ULN				*e*	pP	21 11 20.8	-1.0
ULN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**57.76**	**359**	*e*P	**P**	**21 11 10.5**	**-0.2**
	comp=Z,4.7nm,0.9s,mb4.5						
ULN				*e*	pP	21 11 20.8	-1.0
ZAK	**Zakamensk**	**60.44**	**356**	*e*P	**P**	**21 11 25.9**	**-3.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.9						
MKAR	**Makanchi Array**	**61.36**	**340**	P	**P**	**21 11 35.1**	**-0.4**
	comp=Z,3.1nm,0.6s,mb4.6,baz=144,slow=7.8,SNR=39						
KLR	**Kul'dur**	**62.51**	**17**	*e*P	**P**	**21 11 37.3**	**-5.9**
MAW	**Mawson**	**64.87**	**198**	P	**P**	**21 11 59.2**	**+0.5**
	comp=Z,4.7nm,0.9s,mb4.5,baz=59,slow=9.4,SNR=8.0						
KURK	**Kurchatov**	**65.98**	**340**	*e*P	**P**	**21 12 05.0**	**-0.9**
BVA0	**Borovoye Array**	**70.86**	**337**	*i* P	**P**	**21 12 35.5**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
BRVK	**Borovoye**	**70.93**	**337**	*e*P	**P**	**21 12 35.7**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**70.93**	**337**	*e*P	**P**	**21 12 35.7**	**-1.2**
	comp=Z,1.8nm,0.7s,mb4.1						
CHKZ	**Chkalovo**	**71.27**	**337**	*e*P	**P**	**21 12 38.5**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
CHKZ	**Chkalovo**	**71.27**	**337**	*e*P	**P**	**21 12 38.5**	**-0.4**
	comp=Z,11nm,0.8s,mb4.8						
ZRNK	**Zerenda**	**71.35**	**336**	P	**P**	**21 12 39.2**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
ZRNK	**Zerenda**	**71.35**	**336**	*e*P	**P**	**21 12 38.9**	**-0.5**
	comp=Z,9.9nm,0.8s,mb4.8						
KMBO	**Kilima Mbogo**	**71.47**	**272**	P	**P**	**21 12 40.8**	**+0.7**
	comp=Z,0.3nm,0.3s,mb3.8,baz=42,slow=17,SNR=4.1						
VNDA	**Vanda**	**72.61**	**169**	P	**P**	**21 12 47.0**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=312,slow=8.8,SNR=3.7						
AB31	**Akbulak array**	**72.91**	**329**	*i* P	**P**	**21 12 48.4**	**-0.3**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
SYO	**Syowa Base**	**73.14**	**201**⇑ *e*P		**P**	**21 12 49.4**	**-0.7**
ARU	**Arti**	**78.12**	**334**	*e*P	**P**	**21 13 17.5**	**-1.1**
ARU	**Arti**	**78.12**	**334**	*e*P	**P**	**21 13 18.0**	**-0.6**
	comp=Z,17nm,1.4s,mb4.8						
BR131	**Keskin Array S**	**85.10**	**312**	*e*P	**P**	**21 13 55.3**	**-0.2**
	comp=Z,2.6nm,0.9s,mb4.4						
BRTR	**Keskin Array B**	**85.10**	**312**	P	**P**	**21 13 55.2**	**-0.2**
	comp=Z,2.4nm,1.0s,mb4.3,baz=138,slow=7.6,SNR=12						
WMOK	**Wichita Mounta**	**144.99**	**41**	*e*PKIKP	PKPdf	21 20 57.0	+0.4
WMOK				*e*		21 21 07.8	
CCM	**Cathedral Cave**	**146.96**	**29**	*e*PKP2	PKPab	21 21 02.8	-0.6
LVC	**Limon Verde**	**147.37**	**184**	PKPbc	PKPbc	21 21 05.0	+1.9
	comp=Z,3.4nm,0.8s,baz=181,slow=1.8,SNR=3.8						
MIAR	**Mount Ida**	**148.34**	**36**	*e*PKP2	PKPab	21 21 06.3	-2.6
PLAL	**Pickwick Lake**	**150.94**	**29**	*e*PKPbc	PKPbc	21 21 12.2	0.0
LPAZ	**La Paz**	**153.55**	**187**	PKPbc	PKPbc	21 21 21.0	+3.0
	comp=Z,1.0nm,0.7s,baz=234,slow=6.5,SNR=5.7						

ISCJB ***19*** *21:03:29.6±0.3, 1282N±008×8723W±009, h208km±3km, mb4.2/18, Error ellipse: s-maj=18.4km s-min=6.6km az=95.5*
IDC ***19*** *21:03:29.6±3.5, 1310N×8704W, h179km±33km, mb3.9/9, mb1 4.1/10, mb1mx3.7/22, mbtmp4.4/10, Error ellipse: s-maj=29.6km s-min=18.5km az=71.0*
NEIC ***19*** *21:03:30.3±2.3, 1285N×8717W, h199km±13km, mb4.5/12, Error ellipse: s-maj=28.5km s-min=11.9km az=180.0*

CASC ***19*** *21:03:31.6±3.5, 1163N×8800W, h2km±6km, MD4.2, mb4.5(NEIC)*
ISC 19 21:03:30.7±0.3, 1282N±008×8720W±009, h203km±3km, n75, σ1s05/76, mb4.2/18, 22C-8D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.19**	**130**⇑ *e*P		**Pn**	**21 03 56.6**	**-0.7**
CRIN				*e*S	**Sn**	**21 04 19.2**	**+1.3**
TELN	**Telica**	**0.42**	**121**⇑ *e*P		**Pn**	**21 03 57.0**	**-0.8**
TELN				*e*S	**Sn**	**21 04 20.5**	**+1.7**
TEL3	**Telica 3**	**0.43**	**126**⇓ *i*P		**Pn**	**21 03 57.2**	**-0.6**
LEON	**Leon**	**0.50**	**143**⇑ *i*P		**Pn**	**21 03 57.0**	**-1.1**
LEON				*e*S	**Sn**	**21 04 16.6**	**-2.7**
CNGN	**Cerro Negro**	**0.59**	**123**⇑ *i*P		**Pn**	**21 03 57.8**	**-0.5**
CNGN				*e*S	**Sn**	**21 04 22.9**	**+3.1**
MIRN	**Miramar**	**0.61**	**128**⇓ *i*P		**Pn**	**21 03 58.0**	**-0.4**
MIRN				*e*S	**Sn**	**21 04 19.5**	**-0.5**
CNCH	**Conchagua**	**0.76**	**306**⇑ *e*P		x	21 04 14.2	
CNCH				*e*S	x	21 04 38.5	
MOMJ	**Momotombo**	**0.77**	**122**⇑ *e*P		**Pn**	**21 03 58.9**	**-0.4**
MOMJ				*e*S	**Sn**	**21 04 24.5**	**+3.1**
COPN	**Copaltepe**	**0.87**	**137**⇓ *i*P		**Pn**	**21 03 59.2**	**-0.6**
COPN				*e*S	**Sn**	**21 04 21.3**	**-1.2**
APYN	**Apoyeque**	**1.02**	**125**⇓ *i*P		**Pn**	**21 04 00.8**	**0.0**
APYN				*e*S	**Sn**	**21 04 25.9**	**+1.7**
XAVN	**Gruta Xavier**	**1.09**	**128**⇑ *i*P		**Pn**	**21 04 01.1**	**-0.1**
TISN	**Laguna Tiscapa**	**1.13**	**127**⇓ *e*P		**Pn**	**21 04 01.6**	**0.0**
MGAN	**Managua**	**1.15**	**126**⇑ *i*P		**Pn**	**21 04 01.6**	**-0.1**
MGAN				*e*S	**Sn**	**21 04 27.0**	**+1.2**
BLLM	**Bellamira**	**1.18**	**302**⇑ *e*P		x	21 04 17.0	
BLLM				*e*S	x	21 04 43.7	
TICN	**Ticuantepe**	**1.23**	**130**⇑ *e*P		**Pn**	**21 04 02.7**	**+0.4**
TICN				*e*S	**Sn**	**21 04 26.4**	**-0.5**
APON	**Apoyo**	**1.43**	**129**⇓ *e*P		**Pn**	**21 04 04.0**	**+0.1**
APON				*e*S	**Sn**	**21 04 29.6**	**-0.2**
SNVI	**San Vicente**	**1.78**	**296**⇓ *e*P		x	21 04 22.8	
SNVI				*e*S	x	21 04 52.6	
LCBS	**La Ceiba**	**1.92**	**296**⇑ *e*P		x	21 04 23.7	
LCBS				*e*S	x	21 04 52.5	
LFRS	**El Faro**	**1.98**	**294**⇑ *e*P		x	21 04 24.4	
LFRS				*e*S	x	21 04 53.8	
CONN	**Concepcion**	**1.98**	**129**⇑ *e*P		**Pn**	**21 04 09.7**	**+0.5**
CONN				*e*S	**Sn**	**21 04 40.7**	**+1.5**
LBRS	**Las Brisas**	**2.01**	**297**⇑ *e*P		x	21 04 25.6	
LBRS				*e*S	x	21 04 54.8	
SSNN	**San Juan del S**	**2.02**	**139**⇑ *i*P		**Pn**	**21 04 10.1**	**+0.6**
SSNN				*e*S	**Sn**	**21 04 38.3**	**-1.5**
MADN	**Villa Maderas**	**2.15**	**131**⇑ *e*P		**Pn**	**21 04 11.5**	**+0.6**
PICS	**Picacho**	**2.20**	**295**⇑ *i*P		x	21 04 13.7	
BOQS	**Boqueron**	**2.22**	**294**⇑ *e*P		x	21 04 27.4	
BOQS				*e*S	x	21 04 58.5	
SBLS	**San Blas**	**2.56**	**293**⇑ *e*P		x	21 04 31.2	
SBLS				*e*S	x	21 05 05.3	
RTR	**El Retiro**	**2.61**	**294** *e*P		x	21 04 33.0	
RTR				*e*S	x	21 05 07.4	
RBDL	**Robledal**	**2.74**	**298** *e*P		x	21 04 33.0	
RBDL				*e*S	x	21 05 09.6	
LIM1	**Limonal**	**2.84**	**138**⇓ *e*P		**Pn**	**21 04 19.2**	**+0.4**
LIM1				*e*S	**Sn**	**21 04 54.5**	**-1.6**
VCR	**Vista de Mar**	**3.09**	**150**⇑ *e*P		**Pn**	**21 04 21.9**	**+0.4**
CGA2	**Cerro Gallo 2**	**3.87**	**136** *e*P		**Pn**	**21 04 31.1**	**+0.3**
CGA2				*e*S	**Sn**	**21 05 17.1**	**-1.1**
PRS1	**Puriscal**	**4.00**	**135** *e*P		**Pn**	**21 04 32.1**	**-0.4**
LAJ	**Bijagual**	**4.21**	**134** *e*P		**Pn**	**21 04 32.3**	**-2.9**
LCR2	**La Lucha 2**	**4.38**	**134**⇑ *e*P		**Pn**	**21 04 38.7**	**+1.4**
BUS	**Buena Vista**	**4.69**	**134**⇑ *e*P		**Pn**	**21 04 43.5**	**+2.4**
TEIG	**Tepich**	**7.43**	**352** *e*P		**Pn**	**21 05 16.5**	**0.0**
CMIG	**Matias Romero**	**8.55**	**301** P		**Pn**	**21 05 29.6**	**-1.4**
	1.5nm,0.3s,baz=134,slow=11,SNR=7.8						
CMIG				S	**Sn**	**21 06 55.2**	**-12**
	1.7nm,0.3s,baz=346,slow=16,SNR=7.5						
CMIG	**Matias Romero**	**8.55**	**301** P		**Pn**	**21 05 29.6**	**-1.4**
CMIG				S	**Sn**	**21 06 55.2**	**-12**
HKT	**Hockley**	**18.83**	**336** *e*P		**P**	**21 07 36.2**	**+1.1**
	58nm,1.6s						
LRAL	**Lakeview Retre**	**20.12**	**0** *e*P		**P**	**21 07 50.3**	**+1.3**
	29nm,0.9s						
JCT	**Junction City**	**21.08**	**328** *e*P		**P**	**21 07 58.4**	**-0.9**
MTP	**Monte Pirata**	**21.50**	**73** *e*P		**P**	**21 08 04.1**	**+0.4**
ATAH	**Atahualpa**	**21.55**	**156** P		**P**	**21 08 08.9**	**+4.7**
	7.9nm,0.6s,mb4.4,baz=0.0,slow=8.1,SNR=4.6						
MIAR	**Mount Ida**	**22.39**	**346** *e*P		**P**	**21 08 11.8**	**-0.3**
	18nm,0.7s,mb4.7						
WMOK	**Wichita Mounta**	**24.21**	**336** *e*P		**P**	**21 08 28.1**	**-0.7**
	51nm,1.1s,mb5.1						
AMTX	**Amarillo**	**25.58**	**332** *e*P		**P**	**21 08 40.8**	**-0.3**
	18nm,0.6s,mb4.9						
TUC	**Tucson**	**29.04**	**316** P		**P**	**21 09 11.5**	**-0.4**
ECSD	**EROS,Sioux Fal**	**31.85**	**347** *e*P		**P**	**21 09 35.3**	**-1.3**
SADO	**Sadowa**	**32.58**	**11** P		**P**	**21 09 40.9**	**-2.0**
	5.2nm,0.6s,mb4.3,baz=211,slow=8.0,SNR=5.2						
NCB	**Newcomb**	**32.98**	**17** P		**P**	**21 09 46.2**	**-0.2**
SRU	**San Rafael**	**33.34**	**326** *e*P		**P**	**21 09 50.9**	**+1.3**
	1.9nm,0.4s,mb4.0						
MSU	**Marysvale**	**33.86**	**324** *e*P		**P**	**21 09 54.2**	**+0.2**
RSSD	**Black Hills**	**34.37**	**338** *e*P		**P**	**21 09 59.6**	**+1.2**
	3.8nm,0.5s,mb4.2						
TPNV	**Topopah Spring**	**35.40**	**318** *e*P		**P**	**21 10 08.7**	**+1.5**
PDAR	**Pinedale Array**	**35.56**	**331** P		**P**	**21 10 09.1**	**+0.6**
	2.2nm,0.5s,mb3.9,baz=126,slow=10,SNR=27						
BGU	**Big Grassy Mou**	**35.99**	**326** *e*P		**P**	**21 10 13.1**	**+0.9**
ELK	**Elko**	**37.11**	**324** *e*P		**P**	**21 10 21.8**	**+0.2**
	1.5nm

0.8nm,0.6s,mb3.5,baz=286,slow=12,SNR=6.2
WRAB Tennant Creek 27.57 114 *e*P **P 21 24 15.9 -0.2**
ASAR Alice Springs 28.52 122 P **P 21 24 25.3 +0.8**
0.9nm,0.6s,mb3.7,baz=296,slow=8.2,SNR=4.8
STKA Stephens Creek 38.25 130 P **P 21 25 51.2 +2.1**
1.8nm,0.6s,mb4.0,baz=307,slow=14,SNR=5.2
STKA Stephens Creek 38.25 130 P **P 21 25 51.2 +2.1**
SONM Songino Array 57.39 359 P **P 21 28 17.2 -0.1**
0.8nm,0.5s,mb4.0,baz=178,slow=9.4,SNR=4.7
MKAR Makanchi Array 60.76 340 P **P 21 28 40.4 -0.2**
1.3nm,0.5s,mb4.3,baz=147,slow=7.7,SNR=30
KURK Kurchatov 65.37 340 *e*P **P 21 29 10.8 -0.4**
CHKZ Chkalovo 70.64 338 *e*P **P 21 29 44.8 +0.5**
1.7nm,0.6s,mb4.2
ZRNK Zerenda 70.70 336 *e*P **P 21 29 44.2 -0.4**
1.7nm,0.7s,mb4.1

ISCJB ***19*** *21:25:17.7±1.5, 106S±02×1066E±02, h33km, mb3.6/4, Error ellipse: s-maj=31.6km s-min=18.4km az=117.8*
IDC ***19*** *21:25:20.7±3.3, 945S×10781E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=140.4km s-min=22.5km az=49.0*
ISC 19 21:25:20.8±1.6, 105S±02×1067E±02, h35km, n6, σ1§90/6, mb3.6/4, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**4.36**	**43**⇑	*e*P	**Pn**	**21 26 25.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**19.83**	**114**	P	**Pn**	**21 29 47.6**	**-2.5**
	0.1nm,0.3s,baz=259,slow=16,SNR=8.9						
WRA	**Warramunga Arr**	**28.23**	**113**	P	**P**	**21 31 10.6**	**+0.3**
	0.7nm,0.9s,mb3.3,baz=286,slow=11,SNR=3.3						
WRA				pP	pP	21 31 21.9	+1.6
	0.7nm,0.7s,baz=286,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**29.04**	**120**	P	**P**	**21 31 19.3**	**+1.8**
	0.3nm,0.6s,mb3.2,baz=297,slow=9.0,SNR=5.7						
ASAR				pP	pP	21 31 31.4	+3.8
	0.4nm,0.6s,baz=298,slow=9.6,SNR=3.0						
SONM	**Songino Array**	**58.10**	**360**	P	**P**	**21 35 09.2**	**-1.4**
	0.5nm,0.5s,mb3.8,baz=180,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**61.09**	**341**	P	**P**	**21 35 31.9**	**+0.6**
	0.5nm,0.5s,mb3.9,baz=148,slow=7.9,SNR=11						

ISCJB ***19*** *21:26:19.6±0.5, 3832N±002×3906E±002, h0km, 4km, Error ellipse: s-maj=3.8km s-min=2.8km az=13.1*
CSEM ***19*** *21:26:19.4±0.0, 3836N×3905E, h5km, MD3.8, Error ellipse: s-maj=1.3km s-min=1.0km az=10.0*
ISK ***19*** *21:26:19.7, 3835N×3907E, h8km, MD3.8, ML3.8*
ISC 19 21:26:20.7±0.5, 3833N±002×3908E±002, h2km, 4km, n46, σ0§97/63, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.18**	**336**	*i* P	**Pg**	**21 26 23.3**	**-0.9**
ELZG				*i* S	**Sg**	**21 26 27.1**	**+0.6**
MYA	**Malataya**	**0.51**	**269**	*i* PG	**Pg**	**21 26 29.8**	**-0.8**
MYA				*i* SG	**Sg**	**21 26 37.6**	**+0.4**
URFA	**Urfa**	**0.91**	**193**	*i* PG	**Pg**	**21 26 37.9**	**-0.3**
DIY	**Diyarbakir**	**1.01**	**115**	*i* PG	**Pg**	**21 26 39.8**	**-0.2**
DIY				*i* SG	**Sg**	**21 26 54.1**	**+1.0**
ATAB	**Bozova**	**1.06**	**216**	*i* P	**Pg**	**21 26 41.1**	**0.0**
ATAB				*i* S	**Sg**	**21 26 57.7**	**+2.9**
BINT	**Bingol**	**1.23**	**63**	*i* PN	**Pn**	**21 26 43.1**	**-1.8**
EZC	**Erzincan**	**1.52**	**22**	*i* PN	**Pn**	**21 26 46.4**	**-2.6**
EZC				*i* SN	**Sn**	**21 27 05.6**	**-3.8**
GZT	**Gaziantep**	**1.54**	**231**	*i* P	**Pn**	**21 26 49.0**	**-0.2**
GZT				*i* S	**Sn**	**21 27 11.0**	**+1.1**
MARD	**Mardin**	**1.69**	**127**	*i* P	**Pn**	**21 26 50.6**	**-0.6**
MARD				*i* S	**Sn**	**21 27 11.2**	**-2.2**
BNGL	**BINGOL**	**1.74**	**69**	*i* P	**Pn**	**21 26 53.1**	**+1.2**
BNGL				*i* S	**Sn**	**21 27 16.3**	**+1.7**
BEST	**Besiri**	**1.79**	**104**	*i* P	**Pn**	**21 26 51.7**	**-0.9**
BEST				*i* S	**Sn**	**21 27 16.3**	**+0.5**
KELT	**Kelkit**	**1.82**	**4**	*i* P	**Pn**	**21 26 53.2**	**+0.2**
KELT				*i* S	**Sn**	**21 27 18.1**	**+1.5**
GAZ	**Gaziantep**	**1.88**	**232**	PN	**Pn**	**21 26 53.1**	**-0.7**
BTMT	**Batman**	**1.90**	**94**	PN	**Pn**	**21 26 52.3**	**-1.9**
SVST	**Sivas**	**2.19**	**312**	*i* P	**Pn**	**21 26 59.6**	**+1.5**
SVST				*i* S	**Sg**	**21 27 32.2**	**+1.1**
SVSK	**Karacayir**	**2.26**	**315**	PN	**Pn**	**21 26 58.8**	**-0.3**
EZM	**Erzurum**	**2.37**	**48**	PN	**Pn**	**21 27 00.7**	**+0.1**
ERZM	**Erzurum**	**2.37**	**48**	*i* P	**Pn**	**21 27 01.4**	**+0.8**
ERZM				*i* S	**Sn**	**21 27 26.2**	**-4.1**
BNN	**Bunyan**	**2.58**	**283**	PN	**Pn**	**21 27 02.8**	**-0.7**
GRSN	**GIRESUNGRSN**	**2.66**	**347**	*i* P	**Pn**	**21 27 05.6**	**+1.0**
GRSN				*i* S	**Sg**	**21 27 44.9**	**-1.3**
KOZT	**Kozan**	**2.71**	**253**	PN	**Pn**	**21 27 05.4**	**+0.2**
TOKT	**Tokat**	**2.79**	**316**	PN	**Pn**	**21 27 05.6**	**-0.8**
COBT	**Iskenderun**	**2.88**	**232**	*i* P	**Pn**	**21 27 06.4**	**-1.3**
COBT				*i* S	**Sg**	**21 27 53.3**	**-0.1**
CEYT	**Ceyhan**	**2.95**	**244**	PN	**Pn**	**21 27 08.3**	**-0.3**
YOZ	**Yozgat**	**3.21**	**295**	PN	**Pn**	**21 27 11.6**	**-0.5**
HTY	**Hatay**	**3.22**	**228**	PN	**Pn**	**21 27 11.6**	**-0.7**
KARA	**Karaisali**	**3.36**	**253**	PN	**Pn**	**21 27 14.1**	**-0.1**
VANB	**Van**	**3.40**	**84**	PN	**Pn**	**21 27 15.1**	**+0.4**
TVAN	**Van**	**3.41**	**85**	*i* P	**Pn**	**21 27 19.1**	**+4.3**
TVAN				*i* S	**Sg**	**21 28 14.6**	**+4.5**
BCA	**Borcka**	**3.67**	**31**	PN	**Pn**	**21 27 18.4**	**-0.1**
HAKT	**HAKKARI**	**3.74**	**101**	*i* P	**Pn**	**21 27 19.2**	**-0.3**
HAKT				*i* S	**Sg**	**21 28 24.3**	**+3.4**
CUKT	**Cukurca**	**3.75**	**105**	PN	**Pn**	**21 27 19.7**	**+0.2**
MSL	**Mosul**	**3.79**	**121**	*ex*	x	21 27 33.0	
MSL				*i* x	x	21 28 24.5	
CDAG	**Cicekdag**	**3.89**	**291**	*i* P	**Pn**	**21 27 21.4**	**0.0**
CDAG				*i* S	**Sg**	**21 28 25.5**	**-0.1**
MERS	**Mersin**	**3.90**	**249**	*e*PN	**Pn**	**21 27 21.7**	**+0.1**
CORM	**Corum**	**3.91**	**299**	*e*PN	**Pn**	**21 27 21.7**	**-0.1**
KAMT	**Kaman**	**4.31**	**286**	*e*PN	**Pn**	**21 27 28.3**	**+1.0**
DIKM	**Dikmen**	**4.42**	**320**	*e*PN	**Pn**	**21 27 29.1**	**+0.3**
BOYT	**Boyabat**	**4.45**	**315**	*i* P	**Pn**	**21 27 30.1**	**+0.9**
BOYT				*i* S	**Sg**	**21 28 40.4**	**-3.3**
BYBT	**Boyabat**	**4.56**	**315**	*e*PN	**Pn**	**21 27 30.8**	**+0.1**
FKH	**Fakeheh**	**4.62**	**209**	*e*Pn	**Pn**	**21 27 31.3**	**-0.3**
TOS	**Tosya**	**4.74**	**306**	*e*PN	**Pn**	**21 27 33.0**	**-0.2**
HWQ	**Hawqa**	**4.77**	**213**	*e*Pn	**Pn**	**21 27 33.9**	**+0.3**
IKL	**Isikli**	**4.78**	**246**	*e*PN	**Pn**	**21 27 34.0**	**+0.3**
CANT	**Cankiri**	**4.79**	**300**	*e*PN	**Pn**	**21 27 34.3**	**+0.4**
BHL	**Bhannes**	**5.22**	**213**	*e*Pn	**Pn**	**21 27 40.4**	**+0.7**

IDC ***19*** *21:36:22.8±1.6, 3237S×7221W, h0km, mb4.2/6, mb1 4.0/10, mb1mx3.9/18, mbtmp4.0/10, ML3.9/4, MS3.0/2, Ms1 3.0/2, ms1mx2.6/24, Error ellipse: s-maj=44.9km s-min=20.5km az=110.0*
ISCJB ***19*** *21:36:26.4±0.9, 3246S±003×7205W±006, h27km, 5km, mb4.0/6, MS3.2/1, Error ellipse: s-maj=8.6km s-min=4.9km az=158.5*
GUC ***19*** *21:36:27.6±0.8, 3246S×7193W, h32km, 4km, MD4.4, ML4.3*
NEIC ***19*** *21:36:27.6, 3246S×7193W, h32km, mb3.9/2, ML4.3(GUC), After GUC.*
ISC 19 21:36:27.0±0.9, 3246S±003×7198W±006, h18km, 5km, n44, σ0§73/60, mb4.0/6, MS3.2/1, 10C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.46**	**99**⇓	*i* P	**Pg**	**21 36 36.4**	**0.0**
IHA	**Instituto Hidr**	**0.63**	**153**⇑	*i* P	**Pg**	**21 36 39.2**	**-0.2**
CHNG	**Los Chungos**	**0.71**	**35**⇓	*i* P	**Pb**	**21 36 40.6**	**-0.2**
CHNG				*i* S	**Sb**	**21 36 50.6**	**+0.4**
ROCH	**El Roble**	**0.96**	**122**⇑	*i* P	**Pb**	**21 36 44.5**	**-0.7**
ROCH				*i* S	**Sb**	**21 36 56.7**	**-0.8**
LCCH	**Las Cruces**	**1.06**	**161**⇓	*i* P	**Pb**	**21 36 46.4**	**-0.6**
LCCH				*i* S	**Sb**	**21 37 00.3**	**-0.2**
JACH	**Jahuel**	**1.19**	**101**⇑	*i* P	**Pn**	**21 36 48.0**	**-0.8**
JACH				*i* S	**Sb**	**21 37 03.2**	**-0.8**
PEL	**Peldehue**	**1.28**	**122**⇑	*i* P	**Pn**	**21 36 49.7**	**-0.3**
PEL				*i* S	**Sn**	**21 37 06.1**	**-0.6**
PEL				AML	AML	21 37 09.2	
	comp=E,20μm,0.4s						
PEL	**Peldehue**	**1.28**	**122**⇑	*i* P	**Pn**	**21 36 49.7**	**-0.3**
PEL				*i* S	**Sn**	**21 37 06.1**	**-0.6**
RCDM	**Rinconada Maip**	**1.42**	**136**⇑	*i* P	**Pn**	**21 36 51.5**	**-0.4**
RCDM				*i* S	**Sn**	**21 37 10.2**	**+0.1**
RCDM				AML	AML	21 37 13.2	
	comp=E,4μm,0.4s						
RCDM	**Rinconada Maip**	**1.42**	**136**⇑	*i* P	**Pn**	**21 36 51.5**	**-0.4**
RCDM				*i* S	**Sn**	**21 37 10.2**	**+0.1**
TACH	**Talagante**	**1.47**	**144**	*e*P	**Pn**	**21 36 52.8**	**+0.1**
SAN	**Santiago**	**1.48**	**132**	*i* P	**Pn**	**21 36 53.0**	**+0.2**
SAN				*i* S	**Sn**	**21 37 11.9**	**+0.2**
SAN				AML	AML	21 37 17.4	
	comp=E,6μm,0.4s						
SAN	**Santiago**	**1.48**	**132**	*i* P	**Pn**	**21 36 53.0**	**+0.2**
SAN				*i* S	**Sn**	**21 37 11.9**	**+0.2**
DSCH	**Colegio Aleman**	**1.51**	**129**	*i* P	**Pn**	**21 36 52.4**	**-0.7**
DSCH				*i* S	**Sn**	**21 37 11.5**	**-0.8**
CLCH	**Cerro Calan**	**1.53**	**128**⇓	*i* P	**Pn**	**21 36 53.5**	**+0.1**
CLCH				*i* S	**Sn**	**21 37 12.9**	**+0.1**
CLCH				AML	AML	21 37 16.1	
	comp=N,6μm,0.3s						
CLCH				AML	AML	21 37 16.5	
	comp=N,7μm,0.5s						
CMCH	**Combarbala**	**1.53**	**33**⇑	*i* P	**Pn**	**21 36 53.2**	**-0.2**
CMCH				*i* S	**Sn**	**21 37 13.1**	**+0.2**
CMCH				AML	AML	21 37 15.7	
	comp=E,13μm,0.7s						
CMCH	**Combarbala**	**1.53**	**33**⇑	*i* P	**Pn**	**21 36 53.2**	**-0.2**
CMCH				*i* S	**Sn**	**21 37 13.1**	**+0.2**
ANTU	**Antumapu**	**1.58**	**135**	*e*P	**Pn**	**21 36 54.4**	**+0.3**
ANTU				*i* S	**Sn**	**21 37 14.8**	**+0.7**
ANTU				AML	AML	21 37 21.2	
	comp=E,6μm,0.4s						
ANTU	**Antumapu**	**1.58**	**135**	*e*P	**Pn**	**21 36 54.4**	**+0.3**
ANTU				*i* S	**Sn**	**21 37 14.8**	**+0.7**
FCH	**Farellones**	**1.66**	**122**⇓	*i* P	**Pn**	**21 36 55.4**	**+0.2**
FCH				*i* S	**Sn**	**21 37 16.7**	**+0.6**
FCH				AML	AML	21 37 18.4	
	comp=N,3μm,0.3s						
PCH	**Pirque**	**1.69**	**134**⇓	*i* P	**Pn**	**21 36 56.0**	**+0.5**
CHCH	**Chadas Angostu**	**1.84**	**143**⇓	*i* P	**Pn**	**21 36 58.2**	**+0.5**
CACH	**El Canelo**	**2.01**	**145**⇑	*i* P	**Pn**	**21 37 01.2**	**+1.1**
CICH	**Cipreses**	**2.26**	**145**⇓	*i* P	**Pn**	**21 37 04.3**	**+0.8**
SFDO	**San Fernando**	**2.29**	**160**	*e*P	**Pn**	**21 37 03.9**	**0.0**
MDZ	**Mendoza**	**2.67**	**100**	*e*P	**Pn**	**21 37 11.4**	**+2.3**
MDZ				*e*		21 37 16.2	
MDZ				*e*S	**Sn**	**21 37 50.2**	**+9.2**
CFAA	**Coronel Fontan**	**3.29**	**76**	Pn	**Pn**	**21 37 19.4**	**+1.8**
	comp=N,2.8nm,0.3s,baz=240,slow=10.0,SNR=119						
CFAA				Sn	**Sn**	**21 38 01.9**	**+5.6**
	comp=N,5.3nm,0.3s,baz=130,slow=21,SNR=8.1						
PLCA	**Paso Flores**	**8.33**	**173**	Pn	**Pn**	**21 38 26.8**	**-0.1**
	comp=N,1.4nm,0.3s,baz=333,slow=10,SNR=27						
PLCA	**Paso Flores**	**8.33**	**173**	*e*P	**Pn**	**21 38 26.8**	**-0.1**
	comp=N,4.5nm,0.4s						
TRQA	**Tornquist**	**9.89**	**127**	*e*P	**Pn**	**21 38 49.6**	**+1.3**
	comp=N,6.6nm,0.8s						
LVC	**Limon Verde**	**10.18**	**16**	LR	LR	21 41 36.6	
	comp=N,55nm,21.2s,baz=246,slow=31						
LVC	**Limon Verde**	**10.18**	**16**	*e*P	**Pn**	**21 38 42.0**	**-10**
	comp=N,89nm,0.4s						
LPAZ	**La Paz**	**16.48**	**13**	Pn	**Pn**	**21 40 16.6**	**-0.6**
	comp=N,0.1nm,0.3s,baz=180,slow=4.0,SNR=3.0						
LPAZ	**La Paz**	**16.48**	**13**	*e*P	**Pn**	**21 40 19.5**	**+2.3**
	comp=N,3.3nm,0.8s						
SIV	**San Ignacio**	**19.16**	**34**	P	**Pn**	**21 40 49.0**	**-1.2**
	comp=N,0.1nm,0.3s,baz=230,slow=10,SNR=5.4						
BDFB	**Brasilia**	**27.45**	**58**	P	**P**	**21 42 10.7**	**-1.2**
	comp=N,1.7nm,0.5s,mb3.8,baz=258,slow=6.8,SNR=3.1						
BDFB				LR	LR	21 53 51.6	
	comp=N,67nm,21.8s,MS3.2,baz=16,slow=38						
SNAA	**Sanae**	**52.99**	**158**	P	**P**	**21 45 42.2**	**-0.4**
	comp=N,0.5nm,0.5s,mb3.7,baz=273,slow=7.0,SNR=25						
MAW	**Mawson**	**74.64**	**164**	P	**P**	**21 48 04.8**	**-0.4**
	comp=N,2.3nm,0.9s,mb4.1,baz=115,slow=1.7,SNR=4.9						
DBIC	**Dimbokro**	**74.64**	**72**	P	**P**	**21 48 05.0**	**-0.2**
	comp=N,4.5nm,1.1s,mb4.3,baz=233,slow=14,SNR=5.9						
DBIC	**Dimbokro**	**74.64**	**72**	P	**P**	**21 48 03.8**	**-1.4**
	comp=N,2.0nm,0.6s,mb4.2						
BOSA	**Boshof**	**80.74**	**118**	P	**P**	**21 48 39.0**	**-0.2**
	comp=N,1.0nm,0.6s,mb3.9,baz=243,slow=4.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**83.64**	**70**	P	**P**	**21 48 54.4**	**0.0**
	comp=N,1.7nm,0.7s,mb4.3,baz=252,slow=4.2,SNR=10						
ZRNK	**Zerenda**	**145.36**	**42**	*e*PKPdf	PKPdf	21 56 03.4	-0.4
MKAR	**Makanchi Array**	**155.69**	**46**	PKPab	PKPab	21 56 45.1	-0.9
	comp=N,0.6nm,0.6s,baz=285,slow=3.3,SNR=7.2						

ISCJB ***19*** *21:45:29.4±1.5, 1790S±008×168.1E±04, h57km, 22km, mb3.9/4, Error ellipse: s-maj=59.1km s-min=11.8km az=11.8*
IDC ***19*** *21:45:36.1±7.0, 1819S×16660E, h0km, mb4.0/4, mb1 4.2/6, mb1mx4.0/14, mbtmp4.2/6, ML4.5/2, Error ellipse: s-maj=124.5km s-min=28.6km az=71.0*
ISC 19 21:45:30.3±2.1, 1789S±008×1682E±04, h55km±16km, n9, σ0§72/11, mb3.9/4, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**0.23**	**8**⇓	*i* P	**Pn**	**21 45 38.9**	**-0.5**
DZM	**Mont Dzumac**	**4.47**	**201**	*e*P	**Pn**	**21 46 35.6**	**+0.1**
DZM				*e*S	**Sn**	**21 47 25.5**	**-0.8**
DZM	**Mont Dzumac**	**4.47**	**201**	Pn	**Pn**	**21 46 36.1**	**+0.5**
	6.9nm,0.3s,baz=178,slow=23,SNR=65						
DZM				Sn	**Sn**	**21 47 25.9**	**-0.4**
	14nm,0.3s,baz=122,slow=24,SNR=11						
NOUC	**Port Laguerre**	**4.55**	**203**	*e*P	**Pn**	**21 46 37.4**	**+0.8**
HNR	**Honiara**	**11.62**	**315**	Pn	**Pn**	**21 48 14.0**	**+0.6**
	18nm,0.3s,baz=119,slow=0.3,SNR=4.7						
STKA	**Stephens Creek**	**27.77**	**235**	P	**P**	**21 51 14.9**	**+1.1**
	1.7nm,0.8s,mb3.7,baz=86,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**32.08**	**261**	P	**P**	**21 51 50.6**	**-1.3**
	0.4nm,0.4s,mb3.6,baz=87,slow=8.5,SNR=14						
ASAR	**Alice Springs**	**32.53**	**254**	P	**P**	**21 51 55.5**	**-0.4**
	1.6nm,0.6s,mb4.1,baz=81,slow=8.9,SNR=21						
FITZ	**Fitzroy Crossi**	**40.42**	**263**	P	**P**	**21 53 03.1**	**0.0**
	2.7nm,0.7s,mb4.1,baz=108,slow=7.4,SNR=6.4						

ISCJB ***19*** *21:50:34.6±1.3, 98S±03×1087E±03, h10km, mb3.8/8, Error ellipse: s-maj=56.7km s-min=12.9km az=90.0*
IDC ***19*** *21:50:35.0±1.8, 980S×10866E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.7/16, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=80.9km s-min=20.7km az=46.0*
NEIC ***19*** *21:50:36.3±1.0, 982S×10860E, h10km, mb4.3/3, Error ellipse: s-maj=47.0km s-min=11.3km az=46.0*
ISC 19 21:50:36.5±1.3, 98S±03×1086E±03, h10km, n13, σ0§68/12, mb3.8/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**15.56**	**138**	P	**Pn**	**21 54 10.3**	**-5.6**
FITZ	**Fitzroy Crossi**	**18.47**	**118**	P	**Pn**	**21 54 53.3**	**+0.8**
	0.2nm,0.3s,baz=315,slow=14,SNR=10						
WRA	**Warramunga Arr**	**26.81**	**115**	P	**P**	**21 56 16.2**	**-0.5**
	0.7nm,0.7s,mb3.3,baz=288,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**27.82**	**123**	P	**P**	**21 56 25.4**	**-0.5**
	0.4nm,0.6s,mb3.2,baz=294,slow=9.8,SNR=6.2						
ENH	**Enshi**	**39.86**	**1**	P	**P**	**21 58 08.8**	**-1.3**
SONM	**Songino Array**	**57.42**	**358**	P	**P**	**22 00 25.9**	**+0.7**
	1.6nm,0.6s,mb4.3,baz=179,slow=8.3,SNR=5.3						
MKAR	**Makanchi Array**	**61.05**	**340**	P	**P**	**22 00 51.2**	**+0.9**
	0.6nm,0.5s,mb4.0,baz=145,slow=8.2,SNR=14						
MKAR	**Makanchi Array**	**61.05**	**340**	P	**P**	**22 00 51.2**	**+0.9**
BRVK	**Borovoye**	**70.62**	**337**	P	**P**	**22 01 52.1**	**+0.1**
	0.7nm,0.6s,mb3.8						
CHKZ	**Chkalovo**	**70.96**	**337**	*e*P	**P**	**22 01 54.4**	**+0.3**
	2.1nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**71.04**	**336**	*e*P	**P**	**22 01 54.6**	**0.0**
	2.0nm,0.7s,mb4.2						
BRTR	**Keskin Array B**	**84.86**	**312**	P	**P**	**22 03 10.8**	**-0.6**
	0.5nm,0.7s,mb3.7,baz=122,slow=4.7,SNR=3.7						
WMOK	**Wichita Mounta**	**144.77**	**41**	*e*PKPdf	PKPdf	22 10 13.9	+0.4

NEIC ***19*** *21:58:23.7, 3248S×7187W, h12km, ML3.2(GUC), After GUC.*
GUC 19 21:58:23.7±0.8, 3248S×7187W, h12km±2km, MD3.8, ML3.2, 12C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.37**	**100**⇓	*i* P	Pg	21 58 31.9	+0.8
PACH				*i* S	Sg	21 58 37.4	+1.4
IHA	**Instituto Hidr**	**0.58**	**161**⇑	*i* P	Pg	21 58 34.8	-0.3
IHA				*i* S	Sg	21 58 43.4	+0.6
CHNG	**Los Chungos**	**0.67**	**28**⇓	*i* P	Pg	21 58 36.3	-0.4
CHNG				*i* S	Sg	21 58 45.8	+0.3
CHNG				AML	AML	21 58 50.0	
	comp=E,747nm,0.4s						
ROCH	**El Roble**	**0.88**	**125**⇑	*i* P	Pg	21 58 39.9	-0.7
ROCH				*i* S	Sg	21 58 52.1	+0.1
LCCH	**Las Cruces**	**1.03**	**166**⇓	*i* P	Pb	21 58 41.9	-1.5
LCCH				*i* S	Sb	21 58 56.0	-0.8
JACH	**Jahuel**	**1.10**	**101**⇑	*i* P	Pb	21 58 43.5	-1.1
JACH				*i* S	Sb	21 58 58.6	-0.2
PEL	**Peldehue**	**1.20**	**124**⇑	*i* P	Pn	21 58 45.2	-1.0
PEL				*i* S	Sb	21 59 01.5	-0.2
PEL				AML	AML	21 59 04.8	
	comp=E,3μm,0.5s						
PEL	**Peldehue**	**1.20**	**124**⇑	*i* P	Pn	21 58 45.2	-1.0
PEL				*i* S	Sb	21 59 01.5	-0.2
RCDM	**Rinconada Maip**	**1.35**	**139**	*e*P	Pn	21 58 47.3	-1.0
RCDM				*i* S	Sb	21 59 05.5	-0.5
RCDM				AML	AML	21 59 07.2	
	comp=N,912nm,0.1s						
RCDM	**Rinconada Maip**	**1.35**	**139**	*e*P	Pn	21 58 47.3	-1.0
RCDM				*i* S	Sb	21 59 05.5	-0.5
SAN	**Santiago**	**1.41**	**134**⇑	*i* P	Pn	21 58 48.7	-0.4
SAN				*i* S	Sn	21 59 07.1	-0.4
SAN				AML	AML	21 59 12.7	
	comp=E,652nm,0.4s						
SAN	**Santiago**	**1.41**	**134**⇑	*i* P	Pn	21 58 48.7	-0.4
SAN				*i* S	Sn	21 59 07.1	-0.4
STL	**Santa Lucia**	**1.41**	**133**	*i* P	Pn	21 58 47.9	-1.2
STL				*i* S	Sn	21 59 06.7	-0.9
STL				AML	AML	21 59 09.2	
	comp=N,287nm,0.3s						
TACH	**Talagante**	**1.41**	**147**	*e*P	Pn	21 58 48.2	-0.9
TACH				*i* S	Sn	21 59 06.8	-0.9
DSCH	**Colegio Aleman**	**1.43**	**130**	*i* P	Pn	21 58 47.9	-1.4
DSCH				*i* S	Sn	21 59 06.8	-1.3
DSCH				AML	AML	21 59 12.7	
	comp=N,108nm,0.4s						
DSCH	**Colegio Aleman**	**1.43**	**130**	*i* P	Pn	21 58 47.9	-1.4
DSCH				*i* S	Sn	21 59 06.8	-1.3
CLCH	**Cerro Calan**	**1.45**	**130**⇑	*i* P	Pn	21 58 49.0	-0.7
CLCH				*i* S	Sn	21 59 08.3	-0.2
CLCH				AML	AML	21 59 12.4	
	comp=E,831nm,0.3s						
CMCH	**Combarbala**	**1.49**	**30**⇑	*i* P	Pn	21 58 48.8	-1.5
CMCH				*i* S	Sn	21 59 08.4	-1.2
CMCH				AML	AML	21 59 12.5	
	comp=E,2μm,0.4s						
CMCH	**Combarbala**	**1.49**	**30**⇑	*i* P	Pn	21 58 48.8	-1.5
CMCH				*i* S	Sn	21 59 08.4	-1.2
ANTU	**Antumapu**	**1.50**	**137**	*e*P	Pn	21 58 50.0	-0.4
ANTU				*i* S	Sn	21 59 10.0	+0.1
ANTU				AML	AML	21 59 16.1	
	comp=E,821nm,0.5s						
ANTU	**Antumapu**	**1.50**	**137**	*e*P	Pn	21 58 50.0	-0.4
ANTU				*i* S	Sn	21 59 10.0	+0.1
LNV	**Longovilo**	**1.52**	**166**	*e*P	Pn	21 58 49.7	-1.0
LNV				*i* S	Sn	21 59 11.1	-0.3
FCH	**Farellones**	**1.57**	**123**⇑	*i* P	Pn	21 58 51.0	-0.4
FCH				*i* S	Sn	21 59 12.1	+0.4
FCH				AML	AML	21 59 14.9	
	comp=E,468nm,0.2s						
PCH	**Pirque**	**1.61**	**135**⇑	*i* P	Pn	21 58 51.7	-0.2
PCH				*i* S	Sn	21 59 12.9	+0.3
SJCH	**San Jose de Ma**	**1.72**	**133**	*e*P	Pn	21 58 52.5	-0.9
SJCH				*i* S	Sn	21 59 15.0	-0.3
CHCH	**Chadas Angostu**	**1.77**	**145**⇓	*i* P	Pn	21 58 53.9	-0.3
CHCH				*i* S	Sn	21 59 17.1	+0.4
OVCH	**Ovalle**	**1.95**	**17**	*i* S	Sn	21 59 22.1	+1.3
OVCH				AML	AML	21 59 28.8	
	comp=E,680nm,1.2s						
SFDO	**San Fernando**	**2.25**	**162**	*i* S	Sn	21 59 30.5	+2.2

IDC 19 22:06:20.5±2.8, 138S×13450E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.4/13, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=129.1km s-min=27.9km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

HINF	**Hinteralfeld**	**3.62**	**326**	*e*Pn	**Pn**	**22 07 52.5**	**0.0**
HINF				*e*Sn	**Sn**	**22 08 34.1**	**-0.7**
	3.9nm,0.4s						
HINF	**Hinteralfeld**	**3.62**	**326**	*e*Pn	**Pn**	**22 07 52.5**	**0.0**
HINF				*e*Sn	**Sn**	**22 08 34.1**	**-0.7**
	2.0nm,0.4s						
VIVF	**Saint-Julien-l**	**3.67**	**272**	*e*Pn	**Pn**	**22 07 54.3**	**+1.1**
HAU	**Haudompre**	**3.97**	**324**	*e*Pn	**Pn**	**22 07 58.1**	**+0.7**
HAU				*e*Sn	**Sn**	**22 08 42.3**	**-1.3**
	5.0nm,0.4s						
HAU	**Haudompre**	**3.97**	**324**	*e*Pn	**Pn**	**22 07 58.1**	**+0.7**
HAU				*e*Sn	**Sn**	**22 08 42.3**	**-1.3**
	2.5nm,0.4s						
CDF	**Champ du Feu**	**3.98**	**335**	*e*Pn	**Pn**	**22 07 57.4**	**-0.1**
CDF				*e*Sn	**Sn**	**22 08 42.1**	**-1.6**
	3.0nm,0.4s						
CDF	**Champ du Feu**	**3.98**	**335**	*e*Pn	**Pn**	**22 07 57.4**	**-0.1**
CDF				*e*Sn	**Sn**	**22 08 42.1**	**-1.6**
	1.5nm,0.4s						
LASF	**Ste Croix**	**4.34**	**262**	*e*Pn	**Pn**	**22 08 03.4**	**+0.9**
SMF	**Signal de Mont**	**4.56**	**295**	*e*Sn	**Sn**	**22 08 57.0**	**-1.1**
LOR	**Lormes**	**4.81**	**302**	*e*Pg	**Pg**	**22 08 26.5**	**-2.8**
LOR				*e*Sn	**Sn**	**22 09 01.7**	**-2.6**
	4.4nm,0.4s						
LOR	**Lormes**	**4.81**	**302**	*e*Pg	**Pg**	**22 08 26.5**	**-2.8**
LOR				*e*Sn	**Sn**	**22 09 01.7**	**-2.6**
	2.2nm,0.4s						

BJI **19** *22:09:21.5, 930S× 10850E, h8km, mB5.3, mb5.2, Ms4.9, Msz4.7*

NEIC **19** *22:09:23.5± 2.3, 933S× 10854E, h8km± 14km, mb5.3/39, Error ellipse: s-maj=6.2km s-min=4.1km az=51.0*

HRVD **19** *22:09:23.5± 0.4, 933S× 10856E, h22km± 1km, MW5.0/56, Centroid moment Tensor Solution. LP body waves: s28,c44;Mantle waves: s56,c94; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr- 2.32± .18; Mθθ 2.18± .11; Mφφ 0.14± .14; Mrθ 3.41± .28; Mrφ -0.99± .07; Mθφ -0.23± .22; Best double couple: M◦4.21100×10^16 NP1: ϕs 128.00000°, δ 20.00000°, λ -61.00000°. NP2: ϕs 277.00000°, δ 73.00000°, λ -100.00000°. Principal axes: T 4.2490, Plg27.0000°, Azm15.0000°; N -0.0730, Plg10.0000°, Azm280.0000°; P -4.1720, Plg61.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB **19** *22:09:23.7± 0.2, 934S± 003× 10851E± 003, h24km, mb5.2/105, MS4.5/32 Error ellipse: s-maj=5.1km s-min=3.8km az=117.7*

MOS **19** *22:09:26.1± 1.0, 920S× 10863E, h39km, mb5.4/36, Error ellipse: s-maj=10.8km s-min=6.0km az=116.5*

IDC **19** *22:09:27.4± 0.6, 932S× 10857E, h34km± 4km, mb4.8/18, mb1 4.8/19, mb1mx4.8/21, mbtmp5.0/19, ML4.4/1, MS4.4/13, Ms1 4.4/13, ms1mx4.1/25, Error ellipse: s-maj=14.6km s-min=11.6km az=50.0*

ISC 19 22:09:26.0± 0.2, 937S± 003× 10851E± 003, h25km, h25km± 2.6km; pP-P, n302, σ1§ 05/250, mb5.2/105, MS4.5/32, 26C-27D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJI	**Banjamegara**	**2.35**	**31**	P	**Pn**	**22 10 03.5**	**+0.5**
	4μm,1.3s						
BJI	**Banjamegara**	**2.35**	**31**	⇑*i*P	**Pn**	**22 10 05.0**	**+2.0**
BJI				*i* S	**Sn**	**22 10 37.4**	**+6.4**
LEM	**Lembang**	**2.68**	**341**	P	**Pn**	**22 10 08.7**	**+1.2**
	11μm,0.9s						
JCJI	**Jatiwangi**	**2.87**	**355**	P	**Pn**	**22 10 08.0**	**-2.1**
	7μm,1.0s						
KRKI	**Karangkates**	**4.08**	**73**	P	**Pn**	**22 10 28.7**	**+1.9**
	2μm,0.9s						
KLI	**Kotabumi**	**5.76**	**321**	P	**Pn**	**22 10 50.8**	**+1.0**
	302nm,1.0s						
NBBI	**Negara**	**6.12**	**81**	P	**Pn**	**22 10 58.5**	**+3.7**
	1μm,0.8s						
DNP	**Denpasar**	**6.66**	**85**	P	**Pn**	**22 11 04.6**	**+2.4**
	1μm,0.7s						
KSM	**Kuching**	**10.92**	**10**	*e*Pn	**Pn**	**22 12 02.6**	**+1.9**
KSM				*e*Sn	**Sn**	**22 14 02.7**	**+0.7**
COCO	**West Island**	**11.80**	**255**	*e*Pn	**Pn**	**22 12 12.9**	**+0.2**
PCI	**Palu**	**14.07**	**54**	P	**Pn**	**22 12 46.0**	**+2.4**
	145nm,1.2s						
PSI	**Prapat**	**15.41**	**321**	Pn	**Pn**	**22 12 53.8**	**-7.8**
	0.4nm,0.3s,baz=148,slow=13,SNR=5.2						
MBWA	**Marble Bar**	**15.94**	**139**	*e*Pn	**Pn**	**22 13 05.0**	**-3.5**
MBWA				*e*Sn	Sn	22 15 43.4	-21
KULM	**Kulim**	**16.54**	**331**	*e*Pn	**Pn**	**22 13 16.5**	**+0.4**
KKM	**Kota Kinabalu**	**17.13**	**27**	*e*Pn	**Pn**	**22 13 23.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.76**	**119**	*e*P	**Pn**	**22 13 42.9**	**-0.7**
	86nm,0.9s						
FITZ				*e*S	**Sn**	**22 16 54.3**	**-18**
FITZ	**Fitzroy Crossi**	**18.76**	**119**	P	**Pn**	**22 13 42.5**	**-1.1**
	0.8nm,0.3s,baz=285,slow=8.5,SNR=53						
FITZ				Sn	**Sn**	**22 16 56.1**	**-16**
	0.9nm,0.3s,baz=164,slow=21,SNR=7.0						
AAI	**Ambon**	**20.35**	**75**	P	**P**	**22 14 00.3**	**-0.2**
	193nm,1.1s						
KLBR	**Kellerberrin**	**23.72**	**160**	*e*P	**P**	**22 14 35.3**	**-0.7**
	56nm,1.1s,mb4.9						
KAKA	**Kakadu**	**23.72**	**100**	*e*P	**P**	**22 14 36.0**	**0.0**
	28nm,0.7s,mb4.8						
NWAO	**Narrogin (SRO)**	**24.79**	**162**	P	**P**	**22 14 45.0**	**-0.8**
	54nm,0.9s,mb5.1,baz=329,slow=11,SNR=19						
NWAO				Sn	**S**	**22 19 15.2**	**+8.5**
	9.6nm,0.7s,baz=104,slow=8.3,SNR=4.6						
NWAO				LR	LR	22 23 18.1	
	comp=Z,1μm,19.5s,MS4.4,baz=339,slow=34						
NWAO	**Narrogin (SRO)**	**24.79**	**162**	*e*P	**P**	**22 14 44.9**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,35nm,0.7s						
NWAO	**Narrogin (SRO)**	**24.79**	**162**	*e*P	**P**	**22 14 44.9**	**-0.9**
	comp=Z,35nm,0.7s,mb5.0						
WRA	**Warramunga Arr**	**27.07**	**116**	P	**P**	**22 15 06.2**	**-0.2**
	comp=Z,21nm,0.8s,mb4.7,baz=286,slow=11,SNR=52						
WRA				PcP	PcP	22 18 28.0	+1.0
	comp=Z,4.3nm,0.7s,baz=298,slow=2.1,SNR=7.4						
WRA				Sn	S	22 20 13.0	+30
	comp=Z,1.5nm,0.7s,baz=289,slow=25,SNR=4.1						
WRA	**Warramunga Arr**	**27.07**	**116**	P	**P**	**22 15 06.2**	**-0.2**
WRA						22 18 28.0	
WRAB	**Tennant Creek**	**27.08**	**116**	P	**P**	**22 15 06.2**	**-0.3**
	comp=Z,187nm,0.9s,mb5.6,SNR=7.8						
WRAB	**Tennant Creek**	**27.08**	**116**	⇓*i*P	**P**	**22 15 06.5**	**0.0**
WRAB	**Tennant Creek**	**27.08**	**116**	*e*P	**P**	**22 15 06.4**	**-0.1**
	comp=Z,38nm,0.9s,mb4.9						
WB2	**Warramunga Arr**	**27.08**	**116**	⇓*i*P	**P**	**22 15 06.3**	**-0.2**
FORT	**Forrest**	**28.03**	**142**	*e*P	**P**	**22 15 14.3**	**-0.7**
	comp=Z,21nm,0.6s,mb4.9						
ASPA	**Alice Springs**	**28.12**	**123**	*e*P	**P**	**22 15 15.8**	**0.0**
AS31	**Alice Springs**	**28.12**	**123**	*e*P	**P**	**22 15 15.8**	**0.0**
ASAR	**Alice Springs**	**28.12**	**123**	P	**P**	**22 15 15.6**	**-0.3**
	comp=Z,14nm,0.8s,mb4.7,baz=298,slow=8.4,SNR=44						
ASAR				PcP	PcP	22 18 30.8	+1.2
	comp=Z,8.8nm,0.7s,baz=307,slow=2.0,SNR=22						
ASAR				Sn	S	22 20 39.9	+40
	comp=Z,5.7nm,1.0s,baz=298,slow=23,SNR=6.2						
ASAR				LR	LR	22 25 55.9	
	comp=Z,590nm,19.0s,MS4.2,baz=306,slow=35						
ASAR	**Alice Springs**	**28.12**	**123**	P	**P**	**22 15 15.6**	**-0.2**
ASAR						22 18 30.8	
QIZ	**Qiongzhong**	**28.25**	**3**	P	**P**	**22 15 17.3**	**+0.3**
QIZ				S	**S**	**22 20 01.3**	**-0.2**
QIZ				SS		22 21 19.6	
QIZ				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.3						
QIZ				LR	LR		
	comp=N,677nm,16.9s						
QIZ				LR	LR		
	comp=Z,1μm,15.4s,MS4.5						
NANT	**Nan**	**29.03**	**345**	P	**P**	**22 15 25.0**	**+1.1**
CM31	**Chiang Mai Arr**	**29.22**	**341**	*e*P	**P**	**22 15 24.6**	**-0.9**
	comp=Z,9.9nm,0.6s,mb4.7						
CHG	**Chiang Mai**	**29.55**	**341**	⇓P	**P**	**22 15 27.8**	**-0.7**
	comp=Z,38nm,1.0s,mb5.1						
CHTO	**Chiang Mai**	**29.55**	**341**	*e*P	**P**	**22 15 28.2**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.1						
CHTO	**Chiang Mai**	**29.55**	**341**	*e*P	**P**	**22 15 28.2**	**-0.4**
	comp=Z,37nm,1.0s,mb5.1						
PALK	**Pallekele**	**32.26**	**300**	*e*P	**P**	**22 15 52.8**	**+0.4**
GZH	**Guangzhou**	**32.60**	**8**	P	**P**	**22 16 00.5**	**+5.1**
GZH				LR	LR		
	comp=N,516nm,12.1s,MS4.5						
GZH				LR	LR		
	comp=E,407nm,14.3s,MS4.5						
GZH				LR	LR		
	comp=Z,817nm,17.1s,MS4.5						
KMI	**Kunming**	**34.74**	**351**	P	**P**	**22 16 14.9**	**+0.9**
KMI				AP	pP	22 16 22.3	+0.7
KMI				XP	sP	22 16 24.8	+0.1
KMI				PP	PP	22 17 33.9	+0.9
KMI				PPP		22 17 52.6	
KMI				S	**S**	**22 21 44.6**	**+1.8**
KMI				XS	sS	22 21 57.5	+2.3
KMI				AMB	AMB		
	comp=Z,31nm,1.2s,mb5.1						
KMI				AMB	AMB		
	comp=Z,115nm,4.1s						
KMI				LR	LR		
	comp=N,2μm,16.1s,MS5.0						
KMI				LR	LR		
	comp=E,1μm,14.6s,MS5.0						
KMI				LR	LR		
	comp=Z,2μm,17.6s,MS4.8						
QZH	**Quanzhou**	**35.50**	**16**	*i* P	**P**	**22 16 20.8**	**+0.3**
QZH				S	**S**	**22 21 56.5**	**+2.2**
QZH				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
QZH				LR	LR		
	comp=N,730nm,15.7s,MS4.9						
QZH				LR	LR		
	comp=E,2μm,20.5s,MS4.9						
QZH				LR	LR		
	comp=Z,1μm,18.0s,MS4.7						
GYA	**Guiyang**	**35.66**	**357**	⇑*i*P	**P**	**22 16 23.1**	**+1.2**
GYA				AP	pP	22 16 27.6	-1.9
GYA				XP	sP	22 16 30.8	-1.8
GYA				PP	PP	22 17 44.3	+1.2
GYA				PCP	PcP	22 18 50.9	+0.9
GYA				S	**S**	**22 21 58.3**	**+1.4**
GYA				SCP	ScP	22 22 35.4	+1.1
GYA				SS	SS	22 24 20.1	-12
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
GYA				AMB	AMB		
	comp=Z,280nm,6.6s						
GYA				LR	LR		
	comp=N,670nm,14.8s,MS4.7						
GYA				LR	LR		
	comp=E,710nm,14.2s,MS4.7						
GYA				LR	LR		
	comp=Z,680nm,14.0s,MS4.6						
MDRS	**Chennai**	**35.84**	**308**	*e*P	**P**	**22 16 23.4**	**-0.1**
MDRS				AMb	AMB	22 16 30.3	
	comp=Z,45nm,0.9s,mb5.4						
VIS	**Vishakhapatnam**	**36.65**	**317**	*e*P	**P**	**22 16 31.4**	**+1.0**
VIS				AMb	AMB	22 16 34.8	
	comp=Z,56nm,1.3s,mb5.2						
CTA	**Charters Tower**	**37.94**	**111**	*e*P	**P**	**22 16 42.2**	**+0.8**
	comp=Z,12nm,0.8s,mb4.7						
CTA	**Charters Tower**	**37.94**	**111**	P	**P**	**22 16 42.3**	**+1.0**
	comp=Z,24nm,1.0s,mb4.9,baz=283,slow=10,SNR=11						
CTA	**Charters Tower**	**37.94**	**111**	*e*P	**P**	**22 16 42.2**	**+0.8**
CTA				pmax	pmax		
	comp=Z,12nm,0.8s						
CTAO	**Charters Tower**	**37.94**	**111**	*e*P	**P**	**22 16 42.3**	**+0.9**
STKA	**Stephens Creek**	**37.96**	**131**	*e*P	**P**	**22 16 41.7**	**+0.2**
	comp=Z,89nm,0.8s,mb5.5						
STKA	**Stephens Creek**	**37.96**	**131**	P	**P**	**22 16 41.9**	**+0.4**
	comp=Z,105nm,0.8s,mb5.6,baz=303,slow=8.3,SNR=178						
STKA				LR	LR	22 34 20.5	
	comp=Z,487nm,18.6s,MS4.3,baz=143,slow=39						
PMG	**Port Moresby**	**38.12**	**93**	⇑*e*P	**P**	**22 16 43.6**	**+0.7**
SHL	**Shillong**	**38.31**	**335**	*e*P	**P**	**22 16 45.9**	**+1.4**
BOK	**Bokaro**	**39.69**	**327**	*e*P	**P**	**22 16 57.1**	**+1.0**
BOK				AMb	AMB	22 16 58.6	
	comp=Z,80nm,1.0s,mb5.4						
HYB	**Hyderabad**	**39.81**	**312**	*i* P	**P**	**22 16 58.0**	**+1.0**
HYB	**Hyderabad**	**39.81**	**312**	*e*P	**P**	**22 16 58.0**	**+1.0**
WHN	**Wuhan**	**40.08**	**8**	⇓P	**P**	**22 16 59.9**	**+0.6**
CD2	**Chengdu**	**40.31**	**354**	⇑*i*P	**P**	**22 17 01.3**	**+0.2**
CD2				AP	pP	22 17 05.8	-3.0
CD2				XP	sP	22 17 08.3	-3.6
CD2				PP	PP	22 18 38.5	+4.4
CD2				S	**S**	**22 23 10.1**	**+2.9**
CD2				XS	sS	22 23 17.5	-2.3
CD2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,80nm,7.2s						
CD2				LR	LR		
	comp=E,480nm,18.0s						
CD2				LR	LR		
	comp=Z,370nm,14.4s,MS4.4						
JOW	**Kunigami**	**40.78**	**28**	P	**P**	**22 17 05.0**	**0.0**
	comp=Z,55nm,0.9s,mb5.2,baz=226,slow=4.6,SNR=12						
JOW				LR	LR	22 37 34.6	
	comp=Z,552nm,18.2s,MS4.5,baz=146,slow=41						
NGP	**Nagpur**	**41.92**	**317**	*e*P	**P**	**22 17 14.4**	**0.0**
NGP				AMb	AMB	22 17 18.4	
	comp=Z,57nm,0.8s,mb5.3						
SSE	**Sheshan**	**42.03**	**16**	P	**P**	**22 17 15.3**	**0.0**
SSE				AP	pP	22 17 24.1	+1.1
SSE				XP	sP	22 17 28.1	+2.0
SSE				PCP	PcP	22 19 09.8	-0.2
SSE				S	**S**	**22 23 31.8**	**-1.1**
SSE				XS	sS	22 23 47.1	+1.6
SSE				SCS	ScS	22 27 16.0	-0.2
SSE				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.9						
SSE				AMB	AMB		
	comp=Z,114nm,5.9s						
SSE				LR	LR		
	comp=N,173nm,21.2s,MS4.0						
SSE				LR	LR		
	comp=E,90nm,21.2s,MS4.0						
SSE				LR	LR		
	comp=Z,220nm,21.6s,MS4.0						
NJ2	**Nanjing**	**42.36**	**13**	*e*P	**P**	**22 17 16.3**	**-1.7**
NJ2				AP	pP	22 17 26.1	+0.4
NJ2				XP	sP	22 17 30.0	+1.3
NJ2				S	**S**	**22 23 33.0**	**-4.7**
NJ2				XS	sS	22 23 50.0	-0.3
NJ2				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,110nm,4.9s						
NJ2				LR	LR		
	comp=N,230nm,10.0s,MS4.5						
NJ2				LR	LR		
	comp=E,260nm,12.2s,MS4.5						
NJ2				LR	LR		
	comp=Z,2μm,19.3s						
JIRN	**Jiri**	**42.69**	**330**	*e*P	**P**	**22 17 21.3**	**+0.6**
	comp=Z,222nm,1.0s,mb5.8						
PKI	**Pulchoki**	**43.00**	**329**	*e*P	**P**	**22 17 23.3**	**+0.1**
	comp=Z,141nm,1.2s,mb5.6						
PKI	**Pulchoki**	**43.00**	**329**	*e*P	**P**	**22 17 23.3**	**+0.1**
PKI				pmax	pmax		
	comp=Z,141nm,1.2s,mb5.6						
AKL	**Akola**	**43.03**	**314**	*e*P	**P**	**22 17 24.2**	**+0.7**
AKL				AMb	AMB	22 17 28.3	
	comp=Z,56nm,1.2s,mb5.2						
GUN	**Gumba**	**43.05**	**330**	*e*P	**P**	**22 17 24.1**	**+0.5**
	comp=Z,270nm,1.0s,mb5.9						
XAN	**Xi'an**	**43.17**	**1**	P	**P**	**22 17 23.9**	**-0.7**
XAN				XP	sP	22 17 37.1	+1.8
XAN				AMB	AMB		
	comp=Z,82nm,1.1s,mb5.4						
XAN				AMB	AMB		
	comp=Z,103nm,3.5s						
XAN				LR	LR		
	comp=N,460nm,16.5s						
XAN				LR	LR		
	comp=Z,736nm,15.7s,MS4.7						
DMN	**Daman**	**43.19**	**329**	*e*P	**P**	**22 17 24.9**	**+0.2**
	comp=Z,225nm,1.0s,mb5.9						
KKN	**Kakani**	**43.25**	**329**	*e*P	**P**	**22 17 25.3**	**+0.1**
	comp=Z,209nm,1.0s,mb5.8						
KKN	**Kakani**	**43.25**	**329**	*e*P	**P**	**22 17 25.3**	**+0.1**
KKN				pmax	pmax		
	comp=Z,209nm,1.0s,mb5.8						
TOO	**Toolangi**	**43.57**	**136**	*e*P	**P**	**22 17 29.7**	**+1.9**
	comp=Z,11nm,1.2s,mb4.5						
TOO	**Toolangi**	**43.57**	**136**	*e*P	**P**	**22 17 29.7**	**+1.9**
TOO				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.5						
GKN	**Gorkha**	**43.75**	**329**	*e*P	**P**	**22 17 29.3**	**+0.1**
	comp=Z,245nm,1.0s,mb5.9						
POO	**Poona**	**44.02**	**309**	*ex*	x	22 16 50.0	
KOLN	**Koldanda**	**44.10**	**328**	*e*P	**P**	**22 17 32.4**	**+0.4**
	comp=Z,297nm,0.9s,mb6.0						
BHPL	**Bhopal**	**44.45**	**317**	*e*P	**P**	**22 17 35.2**	**+0.4**
BHPL				AMb	AMB	22 17 37.8	
	comp=Z,42nm,0.6s,mb5.4						
ARMA	**Armidale**	**45.28**	**124**	*e*P	**P**	**22 17 43.2**	**+1.8**
LZH	**Lanzhou**	**45.43**	**355**	*e*P	**P**	**22 17 43.8**	**+1.2**
LZH				AP	pP	22 17 48.4	-1.9
LZH				XP	sP	22 17 49.8	-3.6
LZH				*e*S	**S**	**22 24 25.0**	**+2.6**
LZH				XS	sS	22 24 31.0	-4.1
LZH				SS	SS	22 27 39.0	-7.3
LZH				AMB	AMB		
	comp=Z,149nm,1.3s,mb5.7						
LZH				AMB	AMB		
	comp=Z,321nm,4.3s						
LZH				LR	LR		
	comp=N,5μm,12.0s						
LZH				LR	LR		
	comp=Z,6μm,14.0s						
TIA	**Tai'an**	**46.06**	**10**	P	**P**	**22 17 46.9**	**-0.7**
LGTI	**Lohaghat**	**47.24**	**326**	*e*P	**P**	**22 17 55.3**	**-1.5**
TAU	**Tasmania Unive**	**47.57**	**141**	*e*P	**P**	**22 18 00.3**	**+0.9**
TAU				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.4						
TAU	**Tasmania Unive**	**47.57**	**141**	*e*P	**P**	**22 18 00.3**	**+0.9**
	comp=Z,36nm,1.0s,mb5.3						
NDI	**New Delhi**	**48.42**	**322**	*e*P	**P**	**22 18 04.7**	**-1.3**
NDI				AMb	AMB	22 18 08.2	
	comp=Z,60nm,1.5s,mb5.4						
AJM	**Ajmer**	**48.49**	**318**	*e*P	**P**	**22 18 06.5**	**0.0**
AJM				AMb	AMB	22 18 09.6	
	comp=Z,34nm,0.8s,mb5.4						
CBIJ	**Chichi jima**	**48.79**	**41**	LR	LR	22 36 43.2	
	comp=Z,187nm,20.8s,MS4.1,baz=244,slow=34						
GTA	**Gaotai**	**49.20**	**351**	*e*P	**P**	**22 18 12.9**	**+0.9**
GTA				AP	pP	22 18 19.6	-0.2
GTA				XP	sP	22 18 23.4	+0.6
GTA				PP	PP	22 20 09.8	+4.0
GTA				PPP		22 21 03.0	
GTA				S	**S**	**22 25 19.3**	**+3.2**
GTA				XS	sS	22 25 31.1	+2.2
GTA				AMB	AMB		
	comp=Z,41nm,1.1s,mb5.4						
GTA				AMB	AMB		
	comp=Z,204nm,5.7s						
GTA				LR	LR		
	comp=N,813nm,16.0s,MS4.9						
GTA				LR	LR		
	comp=E,611nm,17.9s,MS4.9						
GTA				LR	LR		
	comp=Z,1μm,19.4s,MS4.9						
DL2	**Dalian**	**49.56**	**13**	P	**P**	**22 18 13.5**	**-1.2**
DL2				*e*S	**S**	**22 25 22.9**	**+1.7**
DL2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
DL2				LR	LR		
	comp=N,290nm,16.3s,MS4.4						
DL2				LR	LR		
	comp=E,100nm,15.5s,MS4.4						
DL2				LR	LR		
	comp=Z,370nm,16.9s,MS4.5						
BJT	**Baijiatuan**	**49.65**	**8**	*e*P	**P**	**22 18 14.7**	**-0.7**
BJT				pmax	pmax		
	comp=Z,124nm,1.1s						
BJT	**Baijiatuan**	**49.65**	**8**	*e*P	**P**	**22 18 14.7**	**-0.7**
	comp=Z,124nm,1.1s,mb5.8						
BJI	**Beijing**	**49.67**	**8**	P	**P**	**22 18 15.1**	**-0.5**
BJI				PP	PP	22 20 06.5	-3.6
BJI				AMB	AMB		
	comp=Z,99nm,1.0s,mb5.8						
BJI				AMB	AMB		
	comp=Z,322nm,3.7s						
BJI				LR	LR		
	comp=N,266nm,15.3s,MS4.7						
BJI				LR	LR		
	comp=E,535nm,15.3s,MS4.7						
BJI				LR	LR		
	comp=Z,413nm,16.6s,MS4.5						
BTO	**Baotou**	**49.74**	**2**	*e*P	**P**	**22 18 15.9**	**-0.3**
SMLA	**Simla**	**50.24**	**325**	*e*P	**P**	**22 18 19.4**	**-0.5**
SMLA				AMb	AMB	22 18 22.6	
	comp=Z,84nm,1.2s,mb5.7						
HNR	**Honiara**	**50.71**	**95**	P	**P**	**22 18 24.0**	**+0.5**
	comp=Z,31nm,0.4s,mb5.6,baz=246,slow=6.7,SNR=4.3						
SNY	**Shenyang**	**52.80**	**14**	⇑P	**P**	**22 18 36.3**	**-2.7**
SNY				AP	pP	22 18 42.6	-4.2
SNY				XP	sP	22 18 44.8	-5.1
SNY				XS	sS	22 26 20.6	+1.9
SNY				AMB	AMB		
	comp=Z,31nm,1.3s,mb5.1						
SNY				LR	LR		
	comp=N,212nm,14.2s,MS4.7						
SNY				LR	LR		
	comp=E,453nm,15.2s,MS4.7						
SNY				LR	LR		
	comp=Z,369nm,15.5s,MS4.5						
MAJO	**Matsushiro**	**53.53**	**30**	P	**P**	**22 18 42.7**	**-1.7**
MAT	**Matsushiro**	**53.53**	**30**	P	**P**	**22 18 41.9**	**-2.5**
MAT				*e*S	**S**	**22 26 20.0**	**+4.1**
MAT	**Matsushiro**	**53.53**	**30**	*e*P	**P**	**22 18 42.0**	**-2.4**
MAT				pmax	pmax		
	comp=Z,37nm,1.6s,mb5.1						
MAT	**Matsushiro**	**53.53**	**30**	*e*P	**P**	**22 18 42.0**	**-2.4**
	comp=Z,37nm,1.6s,mb5.1						
MAT				S	S	22 25 49.0	-27
MJAR	**Matsushiro Arr**	**53.53**	**30**	P	**P**	**22 18 42.4**	**-2.0**
	comp=Z,2.4nm,0.5s,mb4.4,baz=213,slow=8.2,SNR=13						
MJAR				LR	LR	22 43 13.8	
	comp=Z,246nm,19.4s,MS4.3,baz=220,slow=38						
CN2	**Changchun**	**55.12**	**15**	*e*P	**P**	**22 18 54.8**	**-1.2**
CN2				*e*XP	sP	22 19 01.8	-5.1
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,19.0s,MS4.6						
CN2				LR	LR		
	comp=E,400nm,19.0s,MS4.6						
CN2				LR	LR		
	comp=Z,400nm,19.0s,MS4.5						
WMQ	**Urumqi**	**56.22**	**342**	P	**P**	**22 19 06.5**	**+2.6**
WMQ				AP	pP	22 19 11.1	-0.6
WMQ				XP	sP	22 19 13.5	-1.3
WMQ				PCP	PcP	22 20 03.6	+2.3
WMQ				PP	PP	22 21 13.4	+4.2
WMQ				AMB	AMB		
	comp=Z,80nm,1.8s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,368nm,5.2s						
WMQ				LR	LR		
	comp=N,2μm,18.1s,MS5.3						
WMQ				LR	LR		
	comp=E,1μm,17.0s,MS5.3						
WMQ				LR

KSH eAP pP 22 19 13.3 -5.8
KSH eXP sP 22 19 15.5 -6.6
KSH ePCP PcP 22 20 03.3 -2.1
KSH ePP PP 22 21 15.3 -3.0
KSH ePPP 22 22 32.1
KSH eSCP ScP 22 24 01.5 -1.9
KSH S **S** **22 26 56.3 -9.2**
KSH ePS 22 27 15.4
KSH eSCS ScS 22 28 52.8 -6.1
KSH AMB AMB
comp=Z,383nm,4.1s
KSH LR LR
comp=N,301nm,4.3s
KSH LR LR
comp=E,336nm,6.3s
KSH LR LR
comp=Z,716nm,19.6s,MS4.8
WSAR Wadi Sarin 58.57 304 LR LR 22 42 47.5
comp=Z,461nm,20.0s,MS4.6,baz=177,slow=34
HIA Hailar 59.22 9 eP **P** **22 19 24.0 -1.0**
HIA pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 59.22 9 eP **P** **22 19 23.9 -1.0**
comp=Z,9.7nm,0.6s,mb5.0
KZA Kyzart 59.58 332 P **P** **22 19 27.8 +0.3**
SNR=21
ZAK Zakamensk 59.68 356⇓iP **P** **22 19 27.5 -0.6**
ZAK pmax pmax
comp=Z,14nm,1.4s,mb4.8
OPO Ambohidratompo 59.97 254 P **P** **22 19 32.2 +2.1**
comp=Z,12nm,1.0s,mb4.9,baz=104,slow=5.5,SNR=7.6
TKM2 Tokmak 2 60.08 333 P **P** **22 19 30.5 -0.4**
TKM2 pmax pmax
comp=Z,45nm,1.2s,mb5.4
KBK Karagaybulak 60.17 332 P **P** **22 19 31.8 +0.3**
SNR=11
AML Almayashu 60.36 331 P **P** **22 19 32.9 +0.1**
SNR=9.3
AAK Ala-Archa 60.36 332 ⇓P **P** **22 19 32.4 -0.4**
SNR=8.5
AAK Ala-Archa 60.36 332*c iP* **P** **22 19 31.7 -1.1**
AAK pmax pmax
comp=Z,22nm,2.5s,mb4.7
AAK Ala-Archa 60.36 332 eP **P** **22 19 32.3 -0.6**
FRU Bishkek 60.46 332 eP **P** **22 19 32.5 -1.0**
FRU pmax pmax
comp=Z,70nm,2.3s,mb5.3
MK31 Makanchi Array 60.61 340 P **P** **22 19 34.3 -0.2**
MK31 pmax pmax
comp=Z,43nm,1.1s,mb5.5
MKAR Makanchi Array 60.61 340 P **P** **22 19 34.2 -0.3**
comp=Z,21nm,0.8s,mb5.3,baz=149,slow=6.7,SNR=146
MKAR pP 22 19 44.9 +2.4
comp=Z,26nm,0.9s,baz=141,slow=7.8,SNR=12
MKAR Makanchi Array 60.61 340 P **P** **22 19 34.2 -0.3**
MKAR pP pP 22 19 44.9 +2.4
EKS2 Erkin-Say 60.72 331 P **P** **22 19 35.3 0.0**
SNR=21
USP Ospenovka 60.85 332 P **P** **22 19 36.0 -0.1**
SNR=5.4
MOY Mondy 61.13 355 eP **P** **22 19 38.3 +0.2**
MOY pmax pmax
comp=Z,68nm,2.3s,mb5.4
IRK Irkutsk 61.48 357 eP **P** **22 19 39.8 -0.6**
IRK e 22 23 28.4
IRK pmax pmax
comp=Z,58nm,1.8s,mb5.4
KLR Kul'dur 61.82 17 eP **P** **22 19 37.8 -4.9**
KLR pmax pmax
comp=Z,64nm,1.8s,mb5.5
HABR Khabarovsk 62.18 20 eP **P** **22 19 41.0 -4.1**
HABR eS **S** **22 28 01.7 -7.4**
KKAR Karatay Array 62.65 329 *i* P **P** **22 19 47.1 -1.2**
KKAR pmax pmax
comp=Z,15nm,1.3s,mb5.0
YSS Yuzh-Sakhalins 63.84 25 eP **P** **22 19 55.0 -1.2**
YSS e 22 20 07.0
YSS e 22 20 16.0
YSS Yuzh-Sakhalins 63.84 25 eP **P** **22 19 56.1 -0.1**
KURK Kurchatov 65.23 340 P **P** **22 20 04.4 -0.8**
comp=Z,234nm,0.9s,mb6.2,SNR=38
KURK Kurchatov 65.23 340 ⇑P **P** **22 20 05.2 -0.1**
SNR=18
KURK Kurchatov 65.23 340 eP **P** **22 20 04.9 -0.3**
MAW Mawson 65.55 198⇓iP **P** **22 20 07.1 -0.2**
comp=Z,19nm,0.8s,mb5.2
MAW Mawson 65.55 198 P **P** **22 20 07.2 -0.2**
comp=Z,22nm,0.8s,mb5.2,baz=50,slow=7.3,SNR=45
MAW Mawson 65.55 198⇓iP **P** **22 20 07.1 -0.2**
MAW pmax pmax
comp=Z,19nm,0.8s
KRAR Krasnoyarsk 66.43 350⇓eP **P** **22 20 10.3 -2.7**
KRAR pmax pmax
comp=Z,77nm,1.7s,mb5.5
CLNS Chul'man 67.35 10 eP **P** **22 20 17.3 -1.5**
CLNS pmax pmax
comp=Z,18nm,0.7s,mb5.2
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,1.0s
NVS Novosibirsk 67.40 344 *i* P **P** **22 20 17.2 -2.0**
NVS eS S 22 29 02.7 -11
NVS e 22 30 08.8
NVS pmax pmax
comp=Z,68nm,2.5s,mb5.2
NVS pmax pmax
comp=N,30nm,2.2s
NVS pmax pmax
comp=E,21nm,2.2s
NVS smax
comp=N,29nm,2.0s
NVS smax
comp=E,8.0nm,1.6s
VOSK Vostochnaya 69.66 337 P **P** **22 20 32.0 -1.3**
VOSK pmax pmax
comp=Z,39nm,1.4s,mb5.1
UMR Umm Al-Rimmam 70.11 306 eP **P** **22 20 35.2 -0.8**
UMR AMb AMB 22 20 36.9
comp=Z,28nm,0.6s,mb5.4
BVA0 Borovoye Array 70.12 337 *i* P **P** **22 20 35.5 -0.6**
BVA0 pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BRVK Borovoye 70.19 337 P **P** **22 20 35.4 -1.1**
comp=Z,182nm,1.0s,mb6.0,SNR=28
BRVK Borovoye 70.19 337 ⇑P **P** **22 20 36.6 +0.1**
SNR=18
BRVK Borovoye 70.19 337 eP **P** **22 20 35.8 -0.7**
BRVK pmax pmax
comp=Z,31nm,1.1s,mb5.2
BRVK Borovoye 70.19 337 eP **P** **22 20 35.8 -0.7**
comp=Z,31nm,1.1s,mb5.2
NAY Al-Naaiem 70.37 306 eP **P** **22 20 36.9 -0.7**
NAY AMb AMB 22 20 39.3
comp=Z,12nm,1.4s,mb4.7
MIB Mutribah 70.51 306 eP **P** **22 20 38.1 -0.4**
MIB AMb AMB 22 20 44.9
comp=Z,20nm,0.7s,mb5.2
CHKZ Chkalovo 70.53 337 eP **P** **22 20 38.2 -0.4**
CHKZ pmax pmax
comp=Z,50nm,0.9s,mb5.4
CHKZ Chkalovo 70.53 337 eP **P** **22 20 38.2 -0.4**
comp=Z,50nm,0.9s,mb5.4
ZRNK Zerenda 70.61 336 eP **P** **22 20 38.7 -0.4**
ZRNK pmax pmax
comp=Z,44nm,0.9s,mb5.4
ZRNK Zerenda 70.61 336 eP **P** **22 20 38.7 -0.4**
comp=Z,44nm,0.9s,mb5.4
RST Umm Al-Ruwaisa 70.66 306 eP **P** **22 20 38.7 -0.7**
RST AMb AMB 22 20 45.5
comp=Z,30nm,0.8s,mb5.2
KMBO Kilima Mbogo 71.32 272 P **P** **22 20 44.0 +0.6**
comp=Z,3.6nm,1.0s,mb4.3,baz=64,slow=8.3,SNR=8.1
KMBO pP pP 22 20 55.4 +3.9
comp=Z,7.9nm,1.2s,baz=23,slow=7.4,SNR=6.6
AB31 Akbulak array 72.20 329 *i* P **P** **22 20 48.2 -0.5**
AB31 pmax pmax
comp=Z,14nm,0.8s,mb4.9
YAK Yakutsk 73.07 10 eP **P** **22 20 52.5 -1.4**
YAK e 22 21 05.5
YAK eS S 22 30 15.1 -4.6
YAK e*SS sS 22 30 57.5 +24
YAK pmax pmax
comp=Z,70nm,1.0s,mb5.5
YAK pmax pmax
comp=N,22nm,1.1s
YAK pmax pmax
comp=E,13nm,1.4s
YAK smax
comp=N,5.0nm,1.4s
YAK smax
comp=Z,3.0nm,0.7s
YAK smax
comp=E,11nm,1.7s
VNDA Vanda 73.38 170 P **P** **22 20 55.2 -0.5**
comp=E,26nm,0.9s,mb5.2,baz=306,slow=6.3,SNR=84
VNDA Vanda 73.38 170 eP **P** **22 20 54.5 -1.2**
VNDA pmax pmax
comp=Z,37nm,1.0s
VNDA Vanda 73.38 170 eP **P** **22 20 54.5 -1.1**
comp=Z,36nm,1.0s,mb5.3
SYO Syowa Base 73.81 200⇑eP **P** **22 20 57.2 -1.0**
BHD Baghdad 74.19 308 *ex* x 22 21 03.5
SBA Scott Base 74.45 169 eP **P** **22 21 02.4 +0.5**
SBA pmax pmax
comp=Z,40nm,1.0s,mb5.3
SBA Scott Base 74.45 169 eP **P** **22 21 02.4 +0.5**
comp=Z,40nm,1.0s,mb5.3
PET Petropavlovsk 75.34 29 eP **P** **22 21 06.5 -0.6**
PET eS S 22 30 44.1 -1.1
PET pmax pmax
comp=Z,30nm,1.3s,mb5.1
PET MLR MLR
comp=Z,100nm,18.0s,MS4.2
PET Petropavlovsk 75.34 29⇑eP **P** **22 21 06.4 -0.7**
MSL Mosul 76.33 311 *ex* x 22 21 15.5
MA2 Magadan 76.56 21 eP **P** **22 21 13.0 -1.1**
MA2 pmax pmax
comp=Z,40nm,1.0s,mb5.3
MA2 Magadan 76.56 21 eP **P** **22 21 13.7 -0.3**
GNI Garni 76.67 315⇓eP **P** **22 21 14.1 -0.6**
GNI pmax pmax
comp=Z,11nm,1.3s
GNI Garni 76.67 315 P **P** **22 21 16.6 +1.9**
SVE Sverdlovsk 76.77 335 eP **P** **22 21 15.0 -0.3**
SVE pmax pmax
comp=Z,40nm,1.7s,mb5.1
SVE MLR MLR
comp=N,300nm,20.0s,MS4.6
SVE MLR MLR
comp=E,100nm,20.0s,MS4.6
SVE MLR MLR
comp=Z,300nm,20.0s,MS4.6
DGRG David-gareji 76.79 316 P **P** **22 21 15.9 +0.6**
MTA Mtatsminda 77.28 316 P **P** **22 21 18.5 +0.4**
TBLG Delisi 77.34 317 P **P** **22 21 18.3 -0.1**
ARU Arti 77.39 334 P **P** **22 21 18.4 -0.3**
comp=Z,126nm,1.1s,mb5.8,SNR=9.6
ARU Arti 77.39 334⇑iP **P** **22 21 18.1 -0.6**
ARU *e* 22 21 28.7
ARU *e* 22 24 12.6
ARU eS S 22 31 05.5 -2.1
ARU eSS SS 22 36 05.5 -0.9
ARU pmax pmax
comp=Z,20nm,0.9s,mb5.0
ARU Arti 77.39 334 eP **P** **22 21 18.2 -0.6**
comp=Z,27nm,1.0s,mb5.1
MBAR Mbarara 77.83 271⇓*iP* **P** **22 21 22.3 +1.1**
GOR Gori 77.87 317 P **P** **22 21 18.9 -2.6**
LSZ Lusaka 78.31 256 ⇑P **P** **22 21 25.7 +1.8**
SNR=6.8
LSZ Lusaka 78.31 256 eP **P** **22 21 25.4 +1.5**
LSZ pmax pmax
comp=Z,19nm,0.9s,mb5.0
LSZ Lusaka 78.31 256 eP **P** **22 21 25.4 +1.5**
comp=Z,19nm,0.9s,mb5.0
ZEI Tsey 78.34 317 eP **P** **22 21 24.6 +0.6**
ZEI pmax pmax
comp=Z,12nm,0.7s,mb4.9
ONI Oni 78.56 317 P **P** **22 21 22.7 -2.5**
AMRG 78.75 317 P **P** **22 21 25.5 -0.7**
KIV Kislovodsk 79.63 316⇑*iP* **P** **22 21 31.1 0.0**
KIV pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
KIV Kislovodsk 79.63 318 eP **P** **22 21 31.8 +0.7**
BOSA Boshof 79.68 243 P **P** **22 21 32.6 +1.2**
comp=Z,10nm,1.0s,mb4.7,baz=93,slow=7.3,SNR=9.5
BOSA LR LR 22 49 50.2
comp=Z,218nm,18.5s,MS4.5,baz=170,slow=30
BOSA Boshof 79.68 243 eP **P** **22 21 32.8 +1.4**
BOSA pmax pmax
comp=Z,14nm,1.0s,mb4.8
BOSA Boshof 79.68 243 eP **P** **22 21 32.8 +1.4**
comp=Z,14nm,1.0s,mb4.8
BOSA LR LR 22 49 50.2
LBTB Lobatse 79.71 246 eP **P** **22 21 32.2 +0.7**
LBTB pmax pmax
comp=Z,44nm,1.5s,mb5.2
LBTB Lobatse 79.71 246 eP **P** **22 21 32.2 +0.7**
comp=Z,44nm,1.5s,mb5.2
MALT Malatya 80.52 311 eP **P** **22 21 37.3 +1.4**
MALT pmax pmax
comp=Z,17nm,1.4s,mb4.8
MALT Malatya 80.52 311 eP **P** **22 21 37.3 +1.4**
comp=Z,17nm,1.4s,mb4.8
EIL Elat 80.59 302 eP **P** **22 21 37.7 +1.4**
comp=Z,251nm,1.0s,mb6.1
QSPA South Pole Qui 80.63 180 eP **P** **22 21 36.4 -0.1**
comp=Z,70nm,0.9s,mb5.6
SOC Sochi 81.47 317*c iP* **P** **22 21 33.5 -7.5**
SOC *e* pP 22 21 42.8 -6.3
SOC *e* 22 24 45.4
SOC ePPP 22 26 34.4
SOC eS S 22 31 43.0 -7.9
SOC eSSS 22 40 36.2
SOC pmax pmax
comp=Z,22nm,0.9s,mb5.1
TIXI Tiksi 81.98 6⇑*iP* **P** **22 21 42.1 -1.5**
BR131 Keskin Array S 84.51 312 eP **P** **22 21 57.6 +0.9**
comp=Z,20nm,1.1s,mb5.2
BR131 *e* 22 22 08.8
BRTR Keskin Array B 84.51 312 P **P** **22 21 57.5 +0.8**
comp=Z,6.5nm,1.0s,mb4.7,baz=126,slow=6.3,SNR=30
BRTR pP pP 22 22 08.6 +3.7
comp=Z,17nm,1.1s,baz=126,slow=6.3,SNR=20
BRTR LR LR 23 01 28.8
comp=Z,128nm,21.2s,MS4.3,baz=124,slow=37
BRTR Keskin Array B 84.51 312 P **P** **22 21 57.5 +0.8**
BRTR *PP pP 22 22 08.6 +3.7
BRTR Keskin Array B 84.51 312 P **P** **22 21 57.5 +0.8**
BRTR pP pP 22 22 08.6 +3.7
BRTR LR LR 23 01 28.8
VRSR Storozhevoye 84.64 324 eP **P** **22 21 57.3 0.0**
VRSR pmax pmax
comp=Z,30nm,0.9s,mb5.4
VRSR pmax pmax
comp=N,10.0nm,1.4s
VRSR pmax pmax
comp=E,20nm,0.8s
ANTO Ankara 85.17 312 eP **P** **22 21 59.3 -0.7**
ANTO pmax pmax
comp=Z,24nm,1.3s,mb5.2
ANTO Ankara 85.17 312 eP **P** **22 21 59.3 -0.7**
comp=Z,24nm,1.3s,mb5.2
SIM Simferopol' 85.72 317 P **P** **22 22 08.0 +5.3**
SIM eS 22 32 35.0
SIM pmax pmax
comp=Z,15nm,1.0s,mb5.2
MOS Moscow 87.17 328 eP **P** **22 22 08.8 -1.1**
OBN Obninsk 87.51 327*c iP* **P** **22 22 11.4 -0.1**
OBN *i* 22 22 23.8
OBN *i* 22 22 30.8
OBN *e* 22 25 36.0
OBN eS 22 32 43.1
OBN pmax pmax
comp=Z,32nm,1.2s,mb5.4
SNAA Sanae 87.72 197 eP **P** **22 22 12.3 -0.2**
SNAA *e* 22 22 14.4
SNAA *e* 22 22 15.8
SNAA *e* 22 22 17.7
SNAA Sanae 87.72 197⇑eP **P** **22 22 13.1 +0.6**
TSUM Tsumeb 87.83 251 eP **P** **22 22 14.2 +1.2**
comp=Z,16nm,1.0s,mb5.2
TIRR Tirgusor 89.50 315⇓*iP* **P** **22 22 21.6 +0.7**
TIRR Tirgusor 89.50 315 ⇓P **P** **22 22 21.6 +0.7**
VNA1 Neumayer--Stat 89.75 197 eP **P** **22 22 23.1 +1.0**
VNA1 *e* 22 22 24.1
VNA1 *e* 22 22 27.3
VNA1 *e* pP 22 22 29.4 -0.9
AKASG Malin Array Be 90.47 321 P **P** **22 22 24.9 -0.5**
comp=Z,2.4nm,0.8s,mb4.6,baz=85,slow=4.7,SNR=6.2
AKASG PP PP 22 25 59.8 -0.2
comp=Z,0.3nm,0.3s,baz=96,slow=6.5,SNR=12
AKASG LR LR 23 10 28.1
comp=Z,124nm,18.8s,MS4.4,baz=70,slow=40
AKASG Malin Array Be 90.47 321 P **P** **22 22 24.9 -0.5**
AKASG 22 25 59.8
AKASG Malin Array Be 90.47 321 P **P** **22 22 24.9 -0.5**
AKASG PP PP 22 25 59.8 -0.2
AKASG LR LR 23 10 28.1
AKBB Malin Array Si 90.47 321 eP **P** **22 22 24.6 -0.8**
MLR Muntele Rosu 91.44 316⇓iP **P** **22 22 31.5 +1.6**
MLR Muntele Rosu 91.44 316⇓P **P** **22 22 31.5 +1.5**
BURAR Bucovina Array 92.36 318⇓*iP* **P** **22 22 33.5 -0.7**
BURAR Bucovina Array 92.36 318⇓P **P** **22 22 33.5 -0.6**
JOF Joensuu 92.51 333 ep **P** **22 22 34.4 -0.5**
comp=Z,6.6nm,0.7s,mb5.2
BZS Buzias 94.45 315⇓*iP* **P** **22 22 44.3 +0.5**
BZS Buzias 94.45 315⇓P **P** **22 22 44.2 +0.4**
FINES FINESS Array B 94.55 331 P **P** **22 22 43.6 -0.7**
comp=Z,3.6nm,0.9s,mb4.8,baz=116,slow=6.3,SNR=3.7
FINES LR LR 23 15 29.3
comp=Z,172nm,19.4s,MS4.5,baz=196,slow=42
FINES FINESS Array B 94.55 331 *i* P **P** **22 22 48.2 +3.9**
FINES pmax pmax
comp=Z,4.0nm,0.9s
KAF Kangasniemi 94.58 332 ep **P** **22 22 52.0 +7.6**
PSZ Piszkesteto 95.95 317 P **P** **22 22 53.6 +2.9**
ARCES ARCESS Array B 96.27 339 LR LR 23 14 33.6
comp=Z,252nm,19.5s,MS4.7,baz=94,slow=41
TBI Tubuai 97.20 115 eLR LR 22 54 28.3
comp=Z,283nm,26.5s
MORC Moravsky Berou 97.70 319 P **P** **22 22 58.5 -0.1**
PPT Papeete 98.39 109 eLR LR 22 55 00.4
comp=Z,166nm,22.8s
POHA Pohakuloa 98.68 71 P **P** **22 23 04.7 +1.7**
comp=Z,303nm,0.8s
GERES GERESS Array B 100.14 318 P Pdif 22 23 08.9 -0.6
comp=Z,0.1nm,0.3s,baz=149,slow=2.3,SNR=3.3
GRF Grafenberg Arr 101.79 319 ePP PP 22 27 28.6 +1.0
GRF Grafenberg Arr 101.79 319 ePP PP 22 27 28.6 +1.0
YKA Yellowknife Ar 118.54 21 PKP PKPdf 22 28 10.9 -0.6
comp=Z,1.4nm,0.6s,baz=335,slow=1.9,SNR=6.8
YKA pPKP pPKPdf 22 28 22.4 +2.4
comp=Z,0.8nm,0.8s,baz=311,slow=2.2,SNR=4.4
M02C Callahan 124.77 46⇓P PKPdf 22 28 25.4 +2.0
baz=125
J05A Fort Rock 125.19 43⇑P PKPdf 22 28 26.3 +2.1
baz=125
GASB Alder Springs 125.45 48⇓P PKPdf 22 28 27.7 +3.0
baz=125
MNRC McLaughlin Nat 125.90 48⇓P PKPdf 22 28 27.1 +1.5
baz=126
J06A Christmas Vall 125.93 43⇑P PKPdf 22 28 27.1 +1.5
baz=126
K06A Valley Falls 126.04 43⇓P PKPdf 22 28 27.7 +1.8
baz=126
MOD Modoc 126.36 44⇑P PKPdf 22 28 28.7 +2.2
baz=126
WALA Waterton Lakes 126.95 34 ePKPdf PKPdf 22 28 28.1 +0.5
P05C Yuba Gap, Truc 127.10 47⇓P PKPdf 22 28 30.0 +2.1
baz=127
N06A Buffalo Meadow 127.13 45⇓P PKPdf 22 28 29.8 +1.9
baz=127
M07A Soldier Meadow 127.34 44⇑P PKPdf 22 28 30.4 +2.1
baz=127
O06A Flanigan 127.35 46⇑P PKPdf 22 28 30.4 +2.1
baz=127
PACP Pacheco Peak 127.37 50⇑P PKPdf 22 28 30.8 +2.4
baz=127
CMB Columbia Colle 127.71 49 ePKIKP PKPdf 22 28 29.2 +0.2
O07A Toulon 128.02 46⇑P PKPdf 22 28 31.6 +1.9
baz=128
S06C San Francisco 128.16 49⇓P PKPdf 22 28 32.0 +2.1
baz=128
NVAR Mina Array Bea 129.10 48 PKP PKPdf 22 28 34.6 +2.9
comp=Z,1.4nm,0.7s,baz=1.7,slow=1.1,SNR=7.9
NVAR pPKP pPKPdf 22 28 44.6 +4.5
comp=Z,1.3nm,0.7s,baz=263,slow=0.5,SNR=4.2
PLCA Paso Flores 130.14 181 PKP PKPdf 22 28 35.2 +1.6
comp=Z,2.7nm,1.0s,baz=27,slow=5.5,SNR=3.4
S09A Goldfield 130.16 48⇓P PKPdf 22 28 36.5 +2.8
baz=130
ELK Elko 130.31 44 ePKIKP PKPdf 22 28 36.0 +2.0
BW06 Boulder Array 132.97 38 PKPdf PKPdf 22 28 40.5 +1.4
RSSD Black Hills 135.35 33 ePKIKP PKPdf 22 28 45.5 +2.0
PV10 Paradox Valley 135.64 43 ePKPdf PKPdf 22 28 46.5 +2.4
PV01 Paradox Valley 136.09 43 ePKPdf PKPdf 22 28 46.6 +1.8
SDCO Great Sand Dun 138.34 42 PKPdf PKPdf 22 28 49.4 +0.4
ANMO Albuquerque 139.16 46 ePKIKP PKPdf 22 28 52.0 +1.5
ECSD EROS,Sioux Fal 139.39 28 ePKPdf PKPdf 22 28 51.2 +0.3
WMOK Wichita Mounta 144.49 41 ePKIKP PKPdf 22 28 59.8 -0.2
WMOK *e* 22 29 11.4
LONY Lake Ozonia 144.78 4 ePKPdf PKPdf 22 28 59.9 -0.6
LONY *e* 22 29 11.6
MIV Mineville/With 145.38 3 ePKP PKPdf 22 29 02.3 +0.7
NCB Newcomb 145.45 3 ePKP PKPdf 22 29 02.4 +0.7
HNH Hanover 145.79 1 ePKP PKPdf 22 29 04.2 +1.9
BDFB Brasilia 145.96 223 PKPbc PKPbc 22 29 05.0 +1.7
comp=Z,15nm,0.9s,baz=188,slow=3.2,SNR=13
ACCN Adirondack Com 146.07 3 ePKP PKPdf 22 29 04.5 +1.7
JCT Junction City 146.28 48 ePKP2 PKPab 22 29 05.3 +0.3
CCM Cathedral Cave 146.36 29 ePKP2 PKPab 22 29 04.4 -1.0
FVM French Village 146.80 28 ePKP2 PKPab 22 29 04.7 -2.4
BINY Binghamton 147.07 6 ePKPbc PKPbc 22 29 07.0 +0.4
BINY *e* 22 29 18.7
SIUC Southern Illin 147.57 27 ePKP PKPbc 22 29 09.2 +1.2
ACSO Alum Creek Sta 147.61 17 ePKP PKPbc 22 29 08.7 +0.7
MIAR Mount Ida 147.80 36 ePKP2 PKPab 22 29 09.3 -1.7
LVC Limon Verde 148.11 185 ePKP PKPdf 22 29 09.1 +2.9
UALR University of 148.32 34 ePKPbc PKPbc 22 29 10.5 +0.6
WCI Wyandotte Cave 148.33 23 ePKP2 PKPbc 22 29 10.4 +0.4
SSPA Standing Stone 148.35 9 ePKPbc PKPbc 22 29 10.6 +0.6
MCWV Mont Chateau 148.93 13 ePKPbc PKPbc 22 29 12.6 +1.0
MVL Millersville 149.20 7 ePKPdf PKPdf 22 29 09.0 +1.1
HKT Hockley 149.40 45 ePKP2 PKPab 22 29 14.8 -2.7
WVT Waverly 149.50 27 ePKP2 PKPbc 22 29 13.6 +0.7
PLAL Pickwick Lake 150.34 28 ePKPbc PKPbc 22 29 15.1 +0.1
FWV Forest Hill 150.68 15 ePKPbc PKPbc 22 29 16.0 +0.2
TZTN Tazewell 150.82 20 ePKPbc PKPbc 22 29 17.1 +1.0
ELN Prospectdale 151.03 15 ePKPbc PKPbc 22 29 17.0 +0.4
CPCT Cooper Cave 151.45 23 ePKPbc PKPbc 22 29 18.5 +0.9
CPCT ePKPab PKPab 22 29 26.7 +0.8
LRAL Lakeview Retre 152.45 29 ePKPbc PKPbc 22 29 20.3 +0.5
SIV San Ignacio 152.77 202 PKP PKPdf 22 29 15.4 +2.0
comp=Z,2.6nm,0.9s,baz=224,slow=2.1,SNR=9.7
SIV PKPbc PKPbc 22 29 21.7 +1.1
comp=Z,15nm,0.9s,baz=145,slow=2.3,SNR=46
LPAZ La Paz 154.29 187 PKP PKPdf 22 29 18.9 +3.2
comp=Z,1.7nm,0.9s,baz=162,slow=1.6,SNR=5.9
LPAZ PKPbc PKPbc 22 29 26.4 +2.5
comp=Z,4.3nm,0.9s,baz=141,slow=0.7,SNR=3.5
LPAZ PKPab PKPab 22 29 39.7 +1.8
comp=Z,4.8nm,0.9s,baz=183,slow=10,SNR=5.8
LPAZ La Paz 154.29 187 ePKPdf PKPdf 22 29 18.6 +3.0
LPAZ ePKPbc PKPbc 22 29 25.9 +2.1
ATAH Atahualpa 162.34 157 PKP PKPdf 22 29 28.8 +3.5
comp=Z,3.8nm,0.4s,baz=49,slow=9.9,SNR=4.1

GUC ***19*** *22:11:27.9±0.7, 32.47S×71.89W, h31km±3km, ML4.9*
MOS ***19*** *22:11:28.5±1.3, 32.50S×71.93W, h33km, mb4.9/7, Error ellipse: s-maj=14.6km s-min=9.0km az=110.0*
ISCJB ***19*** *22:11:28.1±0.6, 32.48S±0.002×71.97W±0.005, h34km±5km, mb4.7/22, MS4.3/7, Error ellipse: s-maj=7.8km s-min=3.6km az=168.7*
NEIC ***19*** *22:11:29.8±0.5, 32.50S×71.79W, h36km±5km, mb4.7/15, ML4.9(GUC), Error ellipse: s-maj=8.2km s-min=4.4km az=87.0*
NEIC Felt [III] at La Ligua, Papudo, Quillota, Valparaiso and Vina del Mar; [II] at Rancagua, San Antonio and Santiago.
HRVD ***19*** *22:11:29.8±0.5, 32.63S×72.24W, h31km±2km, MW5.0/35, Centroid moment Tensor Solution. LP body waves: s17,c18;Mantle waves: s35,c42; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.23±.31; $M_{\theta\theta}$0.14±.19; $M_{\phi\phi}$-3.37±.21; $M_{r\theta}$0.12±.21; $M_{\theta\phi}$0.95±.12; $M_{r\phi}$-2.96±.30; Best double couple: $M_0$4.53000×10^{16} NP1:ϕ_s336.00000°, δ25.00000°, λ74.00000°. NP2:ϕ_s174.00000°, δ66.00000°, λ98.00000°. Principal axes: T 4.3760, Plg68.0000°, Azm99.0000°; N 0.3030, Plg7.0000°, Azm351.0000°; P -4.6830, Plg20.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves,*

cutoff=50s.
*BJI **19** 22:11:29.8, 3250S×7180W, h36km, mB4.5, Ms5.0, Msz4.6*
*IDC **19** 22:11:30.1±3.1, 3244S×7190W, h42km±26km, mb4.5/8, mb1 4.5/12, mb1mx4.4/16, mbtmp4.6/12, ML4.2/4, MS4.2/10, Ms1 4.2/10, ms1mx4.0/20, Error ellipse: s-maj=28.0km s-min=19.2km az=101.0*

ISC 19 22:11:27.3±0.7, 3249S±002×7193W±004, h16km±4km, n129, σ0§99/123, mb4.7/22, MS4.3/7, 10C-16D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PACH	**Papudo**	**0.42**	**97**	⇓	*eP*	**Pg**	**22 11 36.6**	**+0.8**
IHA	**Instituto Hidr**	**0.59**	**156**		*eP*	**Pg**	**22 11 39.1**	**+0.1**
CHNG	**Los Chungos**	**0.70**	**31**	⇓	*iP*	**Pg**	**22 11 40.8**	**-0.3**
CHNG					*i* S	**Sg**	**22 11 50.2**	**-0.2**
ROCH	**El Roble**	**0.91**	**122**	⇑	*iP*	**Pb**	**22 11 44.6**	**-0.2**
LCCH	**Las Cruces**	**1.03**	**163**	⇑	*iP*	**Pb**	**22 11 46.2**	**-0.5**
JACH	**Jahuel**	**1.14**	**100**	⇑	*iP*	**Pn**	**22 11 48.1**	**-0.5**
PEL	**Peldehue**	**1.23**	**122**	⇑	*eP*	**Pn**	**22 11 49.6**	**-0.3**
PEL					*i* S	**Sb**	**22 12 05.3**	**-0.6**
PEL					AML	AML	22 12 09.1	
	comp=E,78μm,0.6s							
PEL	**Peldehue**	**1.23**	**122**	⇑	*eP*	**Pn**	**22 11 49.6**	**-0.3**
PEL					*i* S	**Sb**	**22 12 05.3**	**-0.6**
RCDM	**Rinconada Maip**	**1.37**	**137**	⇓	*eP*	**Pn**	**22 11 51.7**	**-0.1**
RCDM					*i* S	**Sn**	**22 12 09.5**	**-0.2**
RCDM					AML	AML	22 12 13.2	
	comp=N,18μm,0.4s							
RCDM	**Rinconada Maip**	**1.37**	**137**	⇓	*eP*	**Pn**	**22 11 51.7**	**-0.1**
RCDM					*i* S	**Sn**	**22 12 09.5**	**-0.2**
TACH	**Talagante**	**1.43**	**145**	⇑	*iP*	**Pn**	**22 11 52.7**	**+0.1**
SAN	**Santiago**	**1.44**	**133**	⇓	*eP*	**Pn**	**22 11 52.7**	**0.0**
SAN					*i* S	**Sn**	**22 12 11.4**	**+0.1**
STL	**Santa Lucia**	**1.44**	**132**		*eP*	**Pn**	**22 11 52.0**	**-0.7**
STL					*i* S	**Sn**	**22 12 10.5**	**-0.8**
DSCH	**Colegio Aleman**	**1.46**	**129**	⇓	*iP*	**Pn**	**22 11 52.5**	**-0.5**
DSCH					*i* S	**Sn**	**22 12 11.7**	**-0.1**
CLCH	**Cerro Calan**	**1.48**	**128**	⇓	*iP*	**Pn**	**22 11 53.6**	**+0.3**
CLCH					*i* S	**Sn**	**22 12 12.7**	**+0.4**
CLCH					AML	AML	22 12 16.1	
	comp=N,32μm,0.6s							
CMCH	**Combarbala**	**1.53**	**31**	⇓	*iP*	**Pn**	**22 11 53.5**	**-0.5**
CMCH					*i* S	**Sn**	**22 12 13.2**	**-0.3**
CMCH					AML	AML	22 12 25.7	
	comp=E,47μm,0.8s							
CMCH	**Combarbala**	**1.53**	**31**	⇓	*iP*	**Pn**	**22 11 53.5**	**-0.5**
CMCH					*i* S	**Sn**	**22 12 13.2**	**-0.3**
LNV	**Longovilo**	**1.53**	**164**	⇓	*eP*	**Pn**	**22 11 52.8**	**-1.1**
ANTU	**Antumapu**	**1.53**	**135**		*eP*	**Pn**	**22 11 54.2**	**+0.2**
ANTU					*i* S	**Sn**	**22 12 14.3**	**+0.7**
ANTU					AML	AML	22 12 21.2	
	comp=E,25μm,0.6s							
ANTU	**Antumapu**	**1.53**	**135**		*eP*	**Pn**	**22 11 54.2**	**+0.2**
ANTU					*i* S	**Sn**	**22 12 14.3**	**+0.7**
FCH	**Farellones**	**1.61**	**122**	⇓	*iP*	**Pn**	**22 11 55.6**	**+0.5**
FCH					*i* S	**Sn**	**22 12 16.9**	**+1.3**
FCH					AML	AML	22 12 20.3	
	comp=E,15μm,0.2s							
PCH	**Pirque**	**1.64**	**134**	⇑	*iP*	**Pn**	**22 11 55.9**	**+0.4**
SJCH	**San Jose de Ma**	**1.75**	**131**		*eP*	**Pn**	**22 11 56.8**	**-0.2**
SJCH					*i* S	**Sn**	**22 12 19.4**	**+0.4**
CHCH	**Chadas Angostu**	**1.80**	**144**	⇓	*iP*	**Pn**	**22 11 58.3**	**+0.7**
CACH	**El Canelo**	**1.97**	**146**	⇑	*iP*	**Pn**	**22 12 01.3**	**+1.3**
CICH	**Cipreses**	**2.22**	**146**	⇓	*iP*	**Pn**	**22 12 04.4**	**+0.9**
SFDO	**San Fernando**	**2.25**	**160**	⇓	*iP*	**Pn**	**22 12 04.2**	**+0.2**
TLL	**Tololo Astrono**	**2.50**	**23**	⇑	*iP*	**Pn**	**22 12 07.6**	**+0.2**
TLL					*i* S	**Sn**	**22 12 38.6**	**+1.0**
TLL					AML	AML	22 12 55.7	
	comp=N,11μm,0.8s							
TLL	**Tololo Astrono**	**2.50**	**23**	⇑	*iP*	**Pn**	**22 12 07.6**	**+0.2**
TLL					*i* S	**Sn**	**22 12 38.6**	**+1.0**
NICH	**Los Niches**	**2.58**	**167**		*eP*	**Pn**	**22 12 06.7**	**-1.7**
MDZ	**Mendoza**	**2.62**	**99**		*eP*	**Pn**	**22 12 12.2**	**+3.2**
MDZ					*e*		22 12 14.3	
MDZ					*eS*	**Sn**	**22 12 50.2**	**+10**
CFAA	**Coronel Fontan**	**3.25**	**75**		P	**Pn**	**22 12 19.9**	**+2.2**
	comp=N,8.4nm,0.3s,baz=248,slow=13,SNR=186							
CFAA					S	**Sn**	**22 13 04.8**	**+8.7**
	comp=N,27nm,0.3s,baz=322,slow=21,SNR=7.3							
CFAA					LR	LR	22 13 50.4	
	comp=N,1μm,18.3s,baz=232,slow=44							
CFAA	**Coronel Fontan**	**3.25**	**75**		P	**Pn**	**22 12 19.9**	**+2.2**
CFAA					S	**Sn**	**22 13 04.8**	**+8.7**
CFAA					LR	LR	22 13 50.4	
LNCH	**Linares**	**3.36**	**175**		*eP*	**Pn**	**22 12 18.2**	**-1.0**
LCO	**Las Campanas**	**3.62**	**17**		*eP*	**Pn**	**22 12 22.2**	**-0.6**
CCHI	**Chillan**	**4.11**	**182**		*eP*	**Pn**	**22 12 31.6**	**+2.2**
PLCA	**Paso Flores**	**8.30**	**173**		P	**Pn**	**22 13 27.5**	**+0.5**
	comp=N,1.2nm,0.3s,baz=335,slow=12,SNR=19							
PLCA					LR	LR	22 16 54.6	
	comp=N,2μm,18.4s,baz=350,slow=39							
PLCA	**Paso Flores**	**8.30**	**173**		*eP*	**Pn**	**22 13 27.5**	**+0.4**
PLCA							22 15 02.1	
PLCA					pmax	pmax		
	comp=Z,16nm,0.6s							
PLCA	**Paso Flores**	**8.30**	**173**		*ePn*	**Pn**	**22 13 27.4**	**+0.4**
	comp=Z,16nm,0.6s							
PLCA					Sn	**Sn**	**22 15 02.1**	**+1.6**
TRQA	**Tornquist**	**9.85**	**127**		*eP*	**Pn**	**22 13 48.0**	**-0.2**
	comp=Z,112nm,1.2s							
LVC	**Limon Verde**	**10.19**	**16**		LR	LR	22 17 49.7	
	comp=Z,2μm,20.3s,baz=210,slow=37							
LVC	**Limon Verde**	**10.19**	**16**		*ePn*	**Pn**	**22 13 49.1**	**-3.9**
	comp=Z,21nm,0.6s							
LVC					*eSn*	**Sn**	**22 15 48.1**	**+1.2**
ARE	**Arequipa**	**15.96**	**2**		*eP*	**Pn**	**22 15 18.0**	**+6.9**
LPAZ	**La Paz**	**16.49**	**13**		P	**Pn**	**22 15 17.6**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=170,slow=8.1,SNR=19							
LPAZ	**La Paz**	**16.49**	**13**		*ePn*	**Pn**	**22 15 18.0**	**+0.1**
SIV	**San Ignacio**	**19.15**	**34**		P	**Pn**	**22 15 48.0**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=225,slow=13,SNR=27							
NNA	**Nana**	**20.90**	**346**		*eP*	**P**	**22 16 10.0**	**+1.1**
	comp=Z,7.6nm,0.5s							
EFI	**East Falkland**	**21.69**	**156**		P	**P**	**22 16 19.5**	**+2.0**
SAML	**Samuel**	**24.78**	**21**		*eP*	**P**	**22 16 47.8**	**-0.5**
	comp=Z,22nm,1.1s,mb4.6							
ATAH	**Atahualpa**	**26.06**	**345**		LR	LR	22 24 53.5	
	comp=Z,311nm,18.0s,MS3.9,baz=58,slow=31							
BDFB	**Brasilia**	**27.43**	**58**		P	**P**	**22 17 10.9**	**-1.4**
	comp=Z,22nm,1.0s,mb4.7,baz=236,slow=8.0,SNR=22							
BDFB					LR	LR	22 29 38.6	
	comp=Z,2μm,21.4s,MS4.5,baz=218,slow=40							
BAO	**Brasilia Array**	**27.45**	**58**		P	**P**	**22 17 12.0**	**-0.5**
PMSA	**Palmer Station**	**32.68**	**174**		*eP*	**P**	**22 17 49.6**	**-9.2**
RPN	**Rapa Nui**	**32.78**	**269**		LR	LR	22 27 33.8	
	comp=Z,476nm,19.8s,MS4.2,baz=10,slow=29							
OTAV	**Otavalo**	**33.13**	**348**		*eP*	**P**	**22 18 05.1**	**+2.5**
VNA1	**Neumayer--Stat**	**51.03**	**157**		*eP*	**P**	**22 20 27.5**	**-1.1**
VNA1					*e*		22 20 41.4	
SNAA	**Sanae**	**52.95**	**158**		*eP*	**P**	**22 20 40.5**	**-2.4**
SNAA					*e*		22 20 47.5	
SNAA					*e*		22 20 54.9	
SNAA					*e*		22 21 00.3	
SNAA	**Sanae**	**52.95**	**158**		*eP*	**P**	**22 20 40.3**	**-2.6**
SNAA					pmax	pmax		
	comp=Z,23nm,1.1s							
SNAA	**Sanae**	**52.95**	**158**		*eP*	**P**	**22 20 40.3**	**-2.6**
	comp=Z,23nm,1.1s,mb5.0							
CMIG	**Matias Romero**	**53.97**	**333**		LR	LR	22 39 06.5	
	comp=Z,95nm,19.2s,MS3.9,baz=20,slow=31							
TEIG	**Tepich**	**54.70**	**341**		P	**P**	**22 20 56.8**	**+1.1**
MAIT	**Maitri**	**57.64**	**157**		*eP*	**P**	**22 21 16.5**	**-0.2**
NVL	**N'lazarevskaya**	**57.67**	**157**	⇓	*iP*	**P**	**22 21 16.6**	**-0.3**
NVL					pmax	pmax		
	comp=Z,30nm,1.5s,mb5.1							
QSPA	**South Pole Qui**	**57.75**	**180**		*eP*	**P**	**22 21 17.5**	**0.0**
	comp=Z,18nm,0.9s,mb5.1							
SYO	**Syowa Base**	**67.24**	**159**	⇓	*eP*	**P**	**22 22 19.4**	**-1.5**
TBI	**Tubuai**	**67.77**	**256**		*eS*	S	22 31 19.9	-1.6
	comp=Z,256nm,29.5s							
TBI					*eLR*	LR	22 43 00.2	
	comp=Z,578nm,25.8s,baz=110							
WVT	**Waverly**	**69.86**	**346**		*eP*	**P**	**22 22 36.2**	**-1.1**
WVT					pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6							
WVT	**Waverly**	**69.86**	**346**		*eP*	**P**	**22 22 36.2**	**-1.1**
	comp=Z,8.3nm,1.1s,mb4.6							
PPT	**Papeete**	**70.56**	**261**		*eS*	S	22 31 51.1	-3.4
	comp=Z,99nm,24.0s							
PPT					*eLR*	LR	22 44 07.2	
	comp=Z,227nm,24.8s							
MAW	**Mawson**	**74.60**	**164**		*eP*	**P**	**22 23 04.9**	**-0.7**
	comp=Z,8.3nm,1.0s,mb4.6							
MAW					*e*		22 23 17.3	
MAW	**Mawson**	**74.60**	**164**		*eP*	**P**	**22 23 05.1**	**-0.5**
	comp=Z,9.4nm,0.9s,mb4.7,baz=241,slow=7.8,SNR=8.6							
MAW					LR	LR	22 54 52.1	
	comp=Z,334nm,21.7s,MS4.6,baz=255,slow=35							
MAW	**Mawson**	**74.60**	**164**		*eP*	**P**	**22 23 04.9**	**-0.7**
MAW					*e*		22 23 17.3	
MAW					pmax	pmax		
	comp=Z,8.0nm,1.0s							
DBIC	**Dimbokro**	**74.61**	**72**		P	**P**	**22 23 05.4**	**-0.2**
	comp=Z,13nm,0.8s,mb4.9,baz=194,slow=7.1,SNR=13							
DBIC					LR	LR	22 56 17.9	
	comp=Z,211nm,18.3s,MS4.5,baz=208,slow=36							
DBIC	**Dimbokro**	**74.61**	**72**		*eP*	**P**	**22 23 05.2**	**-0.5**
SUR	**Sutherland**	**75.48**	**119**		P	**P**	**22 23 09.2**	**-1.5**
WUAZ	**Wupatki**	**77.10**	**328**		*eP*	**P**	**22 23 20.9**	**+1.0**
	comp=Z,6.4nm,0.9s,mb4.5							
PV01	**Paradox Valley**	**78.11**	**331**		*eP*	**P**	**22 23 26.9**	**+1.4**
SMCO	**Snowmass**	**78.38**	**333**		*eP*	**P**	**22 23 28.3**	**+1.3**
	comp=Z,14nm,1.1s,mb4.8							
PV10	**Paradox Valley**	**78.51**	**331**		*eP*	**P**	**22 23 28.3**	**+0.6**
ECSD	**EROS,Sioux Fal**	**79.14**	**342**		*eP*	**P**	**22 23 29.9**	**-1.3**
TSUM	**Tsumeb**	**79.54**	**106**		*eP*	**P**	**22 23 33.2**	**-0.1**
	comp=Z,22nm,1.5s,mb4.9							
SRU	**San Rafael**	**79.74**	**330**		*eP*	**P**	**22 23 34.9**	**+0.4**
MSU	**Marysvale**	**79.94**	**329**		*eP*	**P**	**22 23 36.2**	**+0.6**
TPNV	**Topopah Spring**	**80.53**	**325**		P	**P**	**22 23 39.7**	**+0.9**
DAC	**Darwin (Calif)**	**80.66**	**324**		*eP*	**P**	**22 23 40.6**	**+1.2**
DAC					pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6							
DAC	**Darwin (Calif)**	**80.66**	**324**		*eP*	**P**	**22 23 40.6**	**+1.2**
	comp=Z,8.2nm,1.1s,mb4.6							
BOSA	**Boshof**	**80.69**	**118**		P	**P**	**22 23 39.2**	**-0.4**
	comp=Z,12nm,0.9s,mb4.8,baz=231,slow=5.6,SNR=11							
BOSA	**Boshof**	**80.69**	**118**		*eP*	**P**	**22 23 38.2**	**-1.4**
RSSD	**Black Hills**	**81.68**	**337**		*eP*	**P**	**22 23 45.4**	**+0.6**
RSSD					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
RSSD	**Black Hills**	**81.68**	**337**		*eP*	**P**	**22 23 45.4**	**+0.6**
	comp=Z,4.2nm,0.8s,mb4.4							
HWUT	**Hardware Ranch**	**82.27**	**331**		*eP*	**P**	**22 23 47.6**	**-0.3**
	comp=Z,6.7nm,1.0s,mb4.5							
SPUT	**South Promonto**	**82.39**	**330**		*eP*	**P**	**22 23 53.3**	**+4.8**
PDAR	**Pinedale Array**	**82.46**	**333**		P	**P**	**22 23 47.1**	**-1.8**
	comp=Z,0.3nm,0.8s,baz=108,slow=2.9,SNR=3.2							
NVAR	**Mina Array Bea**	**82.70**	**325**		P	**P**	**22 23 50.5**	**+0.4**
	comp=Z,1.1nm,0.7s,mb4.0,baz=136,slow=6.3,SNR=6.1							
LBTB	**Lobatse**	**82.86**	**115**		*eP*	**P**	**22 23 50.4**	**-0.6**
LBTB					pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7							
LBTB	**Lobatse**	**82.86**	**115**		*eP*	**P**	**22 23 50.4**	**-0.6**
	comp=Z,6.2nm,0.7s,mb4.8							
ELK	**Elko**	**83.12**	**328**		*eP*	**P**	**22 23 52.4**	**0.0**
ELK					pmax	pmax		
	comp=Z,4.0nm,0.9s							
ELK	**Elko**	**83.12**	**328**		*eP*	**P**	**22 23 52.4**	**0.0**
	comp=Z,3.7nm,0.9s,mb4.4							
TOA0	**Torodi Ar. Sit**	**83.61**	**70**		*eP*	**P**	**22 23 53.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**83.61**	**70**		P	**P**	**22 23 54.2**	**-0.7**
	comp=Z,13nm,0.9s,mb5.1,baz=254,slow=4.6,SNR=49							
TORD					LR	LR	23 01 36.9	
	comp=Z,216nm,18.4s,MS4.6,baz=210,slow=36							
TORD	**Torodi Ar. Bea**	**83.61**	**70**		P	**P**	**22 23 54.2**	**-0.7**
TORD					LR	LR	23 01 36.9	
HLID	**Hailey**	**85.07**	**330**		*eP*	**P**	**22 24 03.3**	**+1.0**
	comp=Z,8.6nm,1.4s,mb4.7							
MCMT	**McKenzie Canyo**	**85.47**	**332**		*eP*	**P**	**22 24 03.5**	**-0.8**
DLMT	**Dillon**	**85.82**	**333**		*eP*	**P**	**22 24 02.9**	**-3.2**
SCHQ	**Schefferville**	**87.07**	**3**		P	**P**	**22 24 11.1**	**-1.1**
	comp=Z,6.9nm,1.0s,mb4.8,baz=195,slow=2.7,SNR=3.6							
LSZ	**Lusaka**	**90.19**	**108**		*eP*	**P**	**22 24 27.9**	**+0.9**
ESDC	**Sonseca Array**	**95.46**	**46**		P	**P**	**22 24 50.6**	**-0.7**
	comp=Z,0.1nm,0.3s,mb3.8,baz=216,slow=4.8,SNR=4.3							
ASAR	**Alice Springs**	**118.96**	**207**		PKP	PKPdf	22 30 14.5	-0.6
	comp=Z,0.5nm,0.8s,baz=152,slow=4.2,SNR=4.1							
BRTR	**Keskin Array B**	**121.01**	**60**		PKP	PKPdf	22 30 18.0	-1.1
	comp=Z,0.6nm,0.7s,baz=193,slow=4.4,SNR=5.3							
WRA	**Warramunga Arr**	**122.12**	**209**		PKP	PKPdf	22 30 20.1	-1.1
	comp=Z,1.0nm,0.8s,baz=158,slow=1.6,SNR=6.0							
ZRNK	**Zerenda**	**145.35**	**42**		*e*PKIKP	PKPdf	22 31 03.3	-1.1
CHKZ	**Chkalovo**	**145.97**	**40**		*e*PKP2	PKPab	22 31 04.3	-2.4
BRVK	**Borovoye**	**146.03**	**41**		*e*PKP2	PKPab	22 31 05.1	-1.8
BVA0	**Borovoye Array**	**146.10**	**41**		*i* PKP2	PKPab	22 31 05.9	-1.3
BVA0					pmax	pmax		
	comp=Z,5.0nm,1.6s							
VOSK	**Vostochnaya**	**146.55**	**42**		PKP2	PKPab	22 31 07.2	-1.7
VOSK					pmax	pmax		
	comp=Z,12nm,1.0s							
YAK	**Yakutsk**	**147.34**	**341**		*e*PKP2	PKPab	22 31 09.9	-2.1
YAK					pmax	pmax		
	comp=Z,11nm,0.8s							
PSI	**Prapat**	**149.25**	**162**		PKPbc	PKPbc	22 31 13.1	-2.0
	comp=Z,5.5nm,0.7s,baz=202,slow=22,SNR=4.3							
HYB	**Hyderabad**	**149.45**	**112**		*i* PKP	PKPbc	22 31 16.0	+0.3
HYB					*e*		22 31 22.0	
HYB	**Hyderabad**	**149.45**	**112**		*e*P	PKPbc	22 31 16.0	+0.3
NVS	**Novosibirsk**	**151.60**	**31**		*i* PKIKP	PKPbc	22 31 19.5	-1.3
NVS					pmax	pmax		
	comp=Z,24nm,1.3s							
NVS					pmax	pmax		
	comp=E,10.0nm,1.4s							
AAK	**Ala-Archa**	**151.68**	**59**		*e*PKIKP	PKPbc	22 31 19.8	-1.2
KURK	**Kurchatov**	**151.70**	**41**		*e*PKIKP	PKPbc	22 31 19.6	-1.4
FRU	**Bishkek**	**151.74**	**59**		*e*PKIKP	PKPbc	22 31 21.0	-0.1
MKAR	**Makanchi Array**	**155.68**	**47**		PKP	PKPdf	22 31 17.8	-2.6
	comp=E,0.9nm,0.9s,baz=310,slow=5.7,SNR=3.7							
MKAR					PKPab	PKPab	22 31 45.0	-1.6
	comp=E,3.9nm,0.8s,baz=336,slow=2.7,SNR=7.7							
WMQ	**Urumqi**	**160.44**	**49**		PKP	PKPdf	22 31 22.8	-3.4
GTA	**Gaotai**	**170.38**	**42**		*e*PKP	PKPdf	22 31 34.3	-0.1
GTA					APKP		22 31 42.3	
GTA					XPKP		22 31 45.8	
HHC	**Hu-ho-hao-te**	**171.20**	**342**		*e*PKP	PKPdf	22 31 31.6	-3.3
HHC					PP	PP	22 36 44.9	-0.3
HHC					SKS	SKSdf	22 38 29.3	-8.3
HHC					LR	LR		
	comp=N,146nm,20.2s							
HHC					LR	LR		
	comp=E,207nm,17.8s							
HHC					LR	LR		
	comp=Z,114nm,27.3s							
KMI	**Kunming**	**171.30**	**146**		PKP	PKPdf	22 31 36.3	+1.4
CD2	**Chengdu**	**176.00**	**112**		*e*PKP	PKPdf	22 31 34.0	-2.7

MEX 19 22:13:54.6±1.1, 1685N×9981W, h20km±11km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ACX	**Acapulco**	**0.10**	**280**		*i* P	Pb	22 13 57.0	-1.6
ACX					*i* S	Sb	22 14 00.5	-0.8
CAIG	**El Cayaco**	**0.48**	**294**		*i* P	Pb	22 14 03.4	-1.0
CAIG					*i* S	Sb	22 14 08.8	-2.2
MEIG	**Mezcala**	**1.09**	**10**		*i* P	Pn	22 14 10.9	-3.7
MEIG					*i* S	Sb	22 14 24.4	-4.0
PLIG	**Platanillo**	**1.56**	**11**		*i* P	Pn	22 14 19.0	-2.2
PLIG					*i* S	Sn	22 14 37.1	-3.7
UTMO	**Huajuapan**	**2.15**	**63**		*i* P	Pn	22 14 26.8	-2.5
UTMO					*i* S	Sn	22 14 53.1	-2.2
IIZ	**Mezontepec**	**2.39**	**13**		*i* P	Pn	22 14 29.4	-3.1
IIZ					*i* S	Sn	22 14 57.4	-3.9
PPM	**Popocatepetl**	**2.48**	**27**		*e*P	Pn	22 14 38.0	+4.2

*ISCJB **19** 22:29:16.3±3.7, 378N±03×722E±03, h207km±34km, mb2.4/1, Error ellipse: s-maj=58.3km s-min=16.7km az=76.0*
*NNC **19** 22:29:27.6±13.0, 3901N×73.17E, h282km±140km, mb1.7, mpv2.9, Error ellipse: s-maj=155.1km s-min=69.2km az=2.0*

ISC 19 22:29:21.5±3.6, 383N±03×724E±03, h240km±30km, n13, σ0§74/16, mb2.4/1, 4C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**4.00**	**14**		P	**Pn**	**22 30 24.1**	**-0.7**
	SNR=34							
UCH	**Uchtor**	**4.30**	**22**		P	**Pn**	**22 30 28.3**	**-0.1**
	SNR=22							
KZA	**Kyzart**	**4.41**	**29**		P	**Pn**	**22 30 28.8**	**-1.0**
	SNR=7.8							
EKS2	**Erkin-Say**	**4.53**	**13**		P	**Pn**	**22 30 31.4**	**+0.2**
	SNR=15							
AAK	**Ala-Archa**	**4.67**	**20**		P	**Pn**	**22 30 33.4**	**+0.5**
	SNR=16							
KBK	**Karagaybulak**	**4.82**	**23**		P	**Pn**	**22 30 36.1**	**+1.4**
	SNR=6.1							
ULHL	**Ulahol**	**4.97**	**36**		P	**Pn**	**22 30 35.6**	**-1.0**
	SNR=8.0							
KK31	**Karatay Array**	**5.04**	**344**	⇑	P	**Pn**	**22 30 36.9**	**-0.6**
	1.5nm,0.3s,baz=150,slow=12,SNR=101							
KK31					S	**S**	**22 31 38.8**	**+0.9**
	7.6nm,0.3s,baz=158,slow=22,SNR=23							
CHMS	**Chumysh**	**5.08**	**20**		P	**Pn**	**22 30 38.3**	**+0.4**
	SNR=8.1							
TKM2	**Tokmak 2**	**5.27**	**27**		P	**Pn**	**22 30 40.7**	**+0.4**
	SNR=8.4							
TKM2	**Tokmak 2**	**5.27**	**27**	⇑	P	**Pn**	**22 30 40.1**	**-0.2**
	1.0nm,0.8s							
TKM2				⇑	S	**S**	**22 31 30.2**	**-13**
	1.4nm,0.9s							
AB31	**Akbulak array**	**14.17**	**325**	⇑	P	**Pn**	**22 32 32.2**	**+0.3**
	0.3nm,0.4s,baz=132,slow=11,SNR=7.1							
AB31				⇓	S	**S**	**22 35 07.8**	**-1.0**
	0.7nm,0.6s,baz=143,slow=23,SNR=2.9							
NB2	**NORSAR Subarra**	**43.65**	**322**		P	**P**	**22 37 03.1**	**+0.7**
	comp=Z,0.1nm,0.5s,mb2.4,baz=89,slow=6.9							

*NEIC **19** 22:30:05.8, 1584N×9497W, h15km, MD4.1(MEX), After MEX.*

MEX 19 22:30:06.1±0.6, 1584N×9497W, h16km±11km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HUIG	**Huatulco**	**1.10**	**266**		*i* P	Pb	22 30 22.8	-3.9
HUIG					*i* S	Sb	22 30 36.1	-4.7
CMIG	**Matias Romero**	**1.24**	**4**		*i* P	Pn	22 30 25.2	-3.6
OMIG					*i* S	Sb	22 30 39.5	-5.4
OXX	**Oaxaca**	**2.08**	**306**		*e*P	Pn	22 30 39.0	-1.4
VHO	**Vista Hermosa**	**2.09**	**306**		*i* P	Pn	22 30 38.0	-2.4
VHO					*i* S	Sn	22 31 03.1	-2.9
SCX	**San Cristobal**	**2.41**	**68**		*e*P	Pn	22 30 43.5	-1.4
SCX					*i* S	Sn	22 31 09.5	-4.6
UTMO	**Huajuapan**	**3.36**	**306**		*e*P	Pn	22 30 57.0	-0.9
UTMO					*i* S	Sn	22 31 34.5	-2.8
TPIG	**Tehuac#an**	**3.43**	**319**		*i* S	Sn	22 31 36.5	-2.8
PPM	**Popocatepetl**	**4.74**	**313**		*i* S	Sn	22 32 09.3	-2.1
MEIG	**Mezcala**	**4.91**	**296**		*i* S	Sn	22 32 12.3	-3.3

*NEIC **19** 22:30:43.8, 3248S×7189W, h27km, ML3.1(GUC), After GUC.*

GUC 19 22:30:43.8±0.7, 3248S×7189W, h27km±3km, MD3.7, ML3.1, 6C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PACH	**Papudo**	**0.39**	**99**	⇓	*iP*	**Pb**	**22 30 52.1**	**-0.2**
PACH					*i* S	Sb	22 30 58.4	+0.3
IHA	**Instituto Hidr**	**0.58**	**159**		*eP*	**Pb**	**22 30 54.9**	**-0.6**
IHA					*i* S	Sb	22 31 03.2	-0.2
CHNG	**Los Chungos**	**0.68**	**29**	⇓	*iP*	**Pb**	**22 30 56.5**	**-0.6**
CHNG					*i* S	Sb	22 31 06.5	+0.3
CHNG					AML	AML	22 31 06.7	
	comp=E,432nm,0.2s							
ROCH	**El Roble**	**0.89**	**124**	⇓	*

CHTO	**Chiang Mai**	**29.55**	**342**	*e*P		**P**	**22 37 57.5**	**+0.5**
CHTO				*e**PP		pP	22 38 07.1	-0.1
CHTO				pmax		pmax		
	comp=Z,13nm,0.9s,mb4.7							
CHTO	**Chiang Mai**	**29.55**	**342**	*e*P		**P**	**22 37 57.5**	**+0.5**
	comp=Z,13nm,0.9s,mb4.7							
CHTO				*e*pP		pP	22 38 07.1	-0.1
KMI	**Kunming**	**34.77**	**351**	P		**P**	**22 38 43.8**	**+1.1**
KMI				AP		pP	22 38 54.0	+1.0
KMI				AMB		AMB		
	comp=Z,9.0nm,1.4s,mb4.5							
GYA	**Guiyang**	**35.70**	**357**	P		**P**	**22 38 52.6**	**+1.8**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.7							
YHNB	**Yeheng**	**36.19**	**20**	P		**P**	**22 38 54.6**	**-0.3**
STKA	**Stephens Creek**	**38.05**	**131**	P		**P**	**22 39 11.0**	**+0.3**
	comp=Z,5.6nm,0.8s,mb4.4,baz=304,slow=8.6,SNR=11							
STKA				pP		pP	22 39 22.0	+0.9
	comp=Z,11nm,0.8s,baz=298,slow=6.9,SNR=10							
STKA	**Stephens Creek**	**38.05**	**131**	*e*P		**P**	**22 39 11.5**	**+0.8**
STKA				*e*pP		pP	22 39 21.4	+0.3
SSE	**Sheshan**	**42.13**	**17**	P		**P**	**22 39 43.0**	**-1.5**
SSE				AMB		AMB		
	comp=Z,12nm,1.3s,mb4.4							
SSE				AMB		AMB		
	comp=Z,231nm,8.6s							
JIRN	**Jiri**	**42.66**	**330**	*e*P		**P**	**22 39 49.6**	**+0.8**
PKI	**Pulchoki**	**42.97**	**329**	*e*P		**P**	**22 39 51.4**	**0.0**
GUN	**Gumba**	**43.02**	**330**	*e*P		**P**	**22 39 52.4**	**+0.7**
DMN	**Daman**	**43.15**	**329**	*e*P		**P**	**22 39 52.9**	**+0.1**
	comp=Z,48nm,1.1s,mb5.2							
KKN	**Kakani**	**43.21**	**330**	*e*P		**P**	**22 39 53.4**	**+0.1**
XAN	**Xi'an**	**43.23**	**1**	P		**P**	**22 39 53.8**	**+0.4**
XAN				AP		pP	22 40 03.8	-0.1
XAN				AMB		AMB		
	comp=Z,16nm,1.1s,mb4.7							
GKN	**Gorkha**	**43.71**	**329**	*e*P		**P**	**22 39 57.5**	**+0.2**
KOLN	**Koldanda**	**44.06**	**328**	*e*P		**P**	**22 40 00.3**	**+0.2**
	comp=Z,39nm,1.0s,mb5.1							
LZH	**Lanzhou**	**45.46**	**355**	*e*P		**P**	**22 40 12.8**	**+1.5**
LZH				AP		pP	22 40 22.5	+0.6
LZH				XP		sP	22 40 27.1	+1.0
LZH				AMB		AMB		
	comp=Z,32nm,1.3s,mb5.0							
GTA	**Gaotai**	**49.23**	**351**	*e*P		**P**	**22 40 40.6**	**0.0**
GTA				AP		pP	22 40 48.5	-2.7
GTA				XP		sP	22 40 52.3	-3.2
GTA				AMB		AMB		
	comp=Z,6.0nm,1.3s,mb4.5							
BJT	**Baijiatuau**	**49.72**	**8**	P		**P**	**22 40 40.4**	**-4.0**
BJT				*e*			22 40 54.8	
BJT				pmax		pmax		
	comp=Z,12nm,0.5s							
BJT	**Baijiatuau**	**49.72**	**8**	P		**P**	**22 40 40.4**	**-3.9**
	comp=Z,12nm,0.5s,mb5.2							
BJT				*e*			22 40 54.8	
MJAR	**Matsushiro Arr**	**53.65**	**30**	P		**P**	**22 41 12.3**	**-1.4**
	comp=Z,1.2nm,0.4s,mb4.2,baz=194,slow=7.7,SNR=5.7							
CASY	**Casey**	**56.80**	**179**	P		**P**	**22 41 35.5**	**-0.8**
SONM	**Songino Array**	**57.03**	**358**	P		**P**	**22 41 37.3**	**-0.8**
	comp=Z,1.8nm,0.9s,mb4.1,baz=152,slow=6.7,SNR=7.4							
ULN	**Ulaanbaatar**	**57.05**	**359**	*e*P		**P**	**22 41 39.3**	**+1.1**
ULN				*e**PP		pP	22 41 49.2	+0.2
ULN				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.5							
ULN	**Ulaanbaatar**	**57.05**	**359**	*e*P		**P**	**22 41 39.3**	**+1.1**
	comp=Z,5.2nm,1.0s,mb4.5							
ULN				*e*pP		pP	22 41 49.2	+0.3
AAK	**Ala-Archa**	**60.33**	**332⇓**	*e*P		**P**	**22 42 00.0**	**-1.0**
AAK				pmax		pmax		
	comp=Z,4.0nm,1.3s,mb4.3							
MK31	**Makanchi Array**	**60.60**	**340**	P		**P**	**22 42 02.3**	**-0.6**
MK31				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.8							
MKAR	**Makanchi Array**	**60.60**	**340**	P		**P**	**22 42 02.6**	**-0.2**
	comp=Z,6.6nm,0.7s,mb4.9,baz=143,slow=7.7,SNR=52							
MKAR				pP		pP	22 42 12.3	-1.5
	comp=Z,6.2nm,0.8s,baz=146,slow=7.9,SNR=13							
MKAR	**Makanchi Array**	**60.60**	**340**	P		**P**	**22 42 02.6**	**-0.2**
MKAR				pP		pP	22 42 12.3	-1.5
KLR	**Kul'dur**	**61.91**	**17**	*e*P		**P**	**22 42 07.0**	**-4.7**
YSS	**Yuzh-Sakhalins**	**63.95**	**26⇑**	*i*P		**P**	**22 42 24.9**	**-0.4**
YSS				pmax		pmax		
	comp=Z,27nm,1.3s,mb5.1							
KURK	**Kurchatov**	**65.22**	**340**	*e*P		**P**	**22 42 33.4**	**-0.1**
KURK				*e**PP		pP	22 42 43.9	-0.6
KURK				pmax		pmax		
	comp=Z,11nm,0.9s,mb4.9							
KURK	**Kurchatov**	**65.22**	**340**	*e*P		**P**	**22 42 33.4**	**-0.1**
	comp=Z,11nm,0.9s,mb4.9							
KURK				*e*pP		pP	22 42 43.9	-0.6
MAW	**Mawson**	**65.46**	**197**	P		**P**	**22 42 34.0**	**-1.1**
	comp=Z,1.5nm,0.7s,mb4.2,baz=27,slow=9.8,SNR=5.2							
MAW				pP		pP	22 42 44.6	-1.4
	comp=Z,3.2nm,0.7s,baz=40,slow=7.1,SNR=5.4							
MAW	**Mawson**	**65.46**	**197**	*e*P		**P**	**22 42 34.4**	**-0.7**
MAW				*e*pP		pP	22 42 45.3	-0.7
KRAR	**Krasnoyarsk**	**66.45**	**351**	*i*P		**P**	**22 42 40.3**	**-1.2**
NVS	**Novosibirsk**	**67.41**	**345**	*e*P		**P**	**22 42 44.9**	**-2.7**
VOSK	**Vostochnaya**	**69.64**	**337**	P		**P**	**22 43 00.7**	**-0.8**
VOSK				pmax		pmax		
	comp=Z,12nm,1.7s,mb4.5							
BVA0	**Borovoye Array**	**70.10**	**337**	*i*P		**P**	**22 43 03.6**	**-0.8**
BVA0				pmax		pmax		
	comp=Z,1.0nm,1.0s,mb3.7							
BRVK	**Borovoye**	**70.17**	**337**	*e*P		**P**	**22 43 04.5**	**-0.3**
BRVK				*e**PP		pP	22 43 15.0	-0.8
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
BRVK	**Borovoye**	**70.17**	**337**	*e*P		**P**	**22 43 04.5**	**-0.3**
	comp=Z,2.9nm,0.9s,mb4.2							
BRVK				*e*pP		pP	22 43 14.9	-0.9
CHKZ	**Chkalovo**	**70.52**	**337**	*e*P		**P**	**22 43 06.7**	**-0.2**
CHKZ				*e**PP		pP	22 43 17.0	-0.9
CHKZ				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
CHKZ	**Chkalovo**	**70.52**	**337**	*e*P		**P**	**22 43 06.7**	**-0.2**
	comp=Z,8.9nm,0.8s,mb4.8							
CHKZ				*e*pP		pP	22 43 17.0	-0.9
ZRNK	**Zerenda**	**70.60**	**336**	*e*P		**P**	**22 43 06.9**	**-0.5**
ZRNK				*e**PP		pP	22 43 17.1	-1.3
ZRNK				*e**SP		sP	22 43 22.2	-0.4
ZRNK				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
ZRNK	**Zerenda**	**70.60**	**336**	*e*P		**P**	**22 43 06.9**	**-0.4**
	comp=Z,5.1nm,0.8s,mb4.5							
ZRNK				*e*pP		pP	22 43 17.1	-1.3
ZRNK				*es*P		sP	22 43 22.2	-0.4
VNDA	**Vanda**	**73.36**	**169**	P		**P**	**22 43 23.1**	**-0.9**
	comp=Z,1.0nm,0.9s,mb3.8,baz=315,slow=3.4,SNR=4.6							
VNDA				pP		pP	22 43 34.5	-0.5
	comp=Z,1.8nm,0.9s,baz=302,slow=5.6,SNR=5.0							
VNDA	**Vanda**	**73.36**	**169**	*e*P		**P**	**22 43 23.2**	**-0.7**
VNDA				*e*pP		pP	22 43 34.6	-0.4
MA2	**Magadan**	**76.66**	**21⇑**	*e*P		**P**	**22 43 42.2**	**-0.8**
MA2				pmax		pmax		
	comp=Z,15nm,1.7s,mb4.7							
SVE	**Sverdlovsk**	**76.75**	**335**	*e*P		**P**	**22 43 45.0**	**+1.5**
ARU	**Arti**	**77.37**	**334⇓**	*i*P		**P**	**22 43 46.5**	**-0.4**
ARU				*e*		pP	22 43 56.7	-1.4
ARU				*e*			22 46 41.0	
ARU				*e*PPP			22 48 25.2	
ARU				*e*S		S	22 53 35.6	+0.9
ARU				*e*SS		SS	22 58 34.8	+1.3
ARU				pmax		pmax		
	comp=Z,7.0nm,1.3s,mb4.4							
LSZ	**Lusaka**	**78.15**	**256**	*e*P		**P**	**22 43 52.0**	**+0.7**
LSZ				*e*		pP	22 44 03.2	+0.7
LBTB	**Lobatse**	**79.55**	**246**	*e*P		**P**	**22 43 58.9**	**-0.1**
LBTB				*e**PP		pP	22 44 10.9	+0.7
LBTB				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.1							
LBTB	**Lobatse**	**79.55**	**246**	*e*P		**P**	**22 43 58.9**	**-0.1**
	comp=Z,1.6nm,0.8s,mb4.0							
LBTB				*e*pP		pP	22 44 10.9	+0.7
KIV	**Kislovodsk**	**79.56**	**318⇑**	*e*P		**P**	**22 44 00.0**	**+1.0**
KIV				pmax		pmax		
	comp=Z,9.0nm,1.4s,mb4.5							
EIL	**Elat**	**80.49**	**302**	P		**P**	**22 44 05.3**	**+1.3**
QSPA	**South Pole Qui**	**80.58**	**180**	P		**P**	**22 44 04.9**	**+0.3**
TIXI	**Tiksi**	**82.04**	**6**	*d*P		**P**	**22 44 11.1**	**-1.2**
BR131	**Keskin Array S**	**84.42**	**312**	*e*P		**P**	**22 44 24.8**	**+0.2**
	comp=Z,1.9nm,0.9s,mb4.2							
BR131				*e*pP		pP	22 44 35.0	-0.8
BRTR	**Keskin Array B**	**84.42**	**312**	P		**P**	**22 44 24.8**	**+0.2**
	comp=Z,2.6nm,1.1s,mb4.3,baz=145,slow=7.4,SNR=13							
BRTR				pP		pP	22 44 34.8	-1.0
	comp=Z,3.5nm,1.0s,baz=139,slow=7.7,SNR=10.0							
OBN	**Obninsk**	**87.47**	**327**	*d*P		**P**	**22 44 39.8**	**+0.2**
OBN				*i*		pP	22 44 50.3	-0.6
OBN				pmax		pmax		
	comp=Z,41nm,1.3s,mb5.5							
OBN				MLR		MLR		
	comp=Z,100nm,16.0s,MS4.3							
SNAA	**Sanae**	**87.62**	**197**	P		**P**	**22 44 39.6**	**-0.8**
AKASG	**Malin Array Be**	**90.41**	**321**	P		**P**	**22 44 52.8**	**-0.7**
	comp=Z,0.2nm,0.3s,mb4.0,baz=95,slow=4.0,SNR=3.2							
WMOK	**Wichita Mounta**	**144.63**	**40**	*e*PKIKP		PKPdf	22 51 29.0	+0.5
WMOK				*e*			22 51 39.6	
LONY	**Lake Ozonia**	**144.84**	**4**	*e*PKPdf		PKPdf	22 51 29.1	+0.2
LONY				*ep*PKPdf		pPKPdf	22 51 39.7	-0.9
NCB	**Newcomb**	**145.51**	**3**	*e*PKPdf		PKPdf	22 51 30.9	+0.9
NCB				*ep*PKPdf		pPKPdf	22 51 41.5	-0.3
JCT	**Junction City**	**146.42**	**47**	*e*PKP2		PKPab	22 51 35.0	+1.1
CCM	**Cathedral Cave**	**146.48**	**29**	*e*PKP		PKPdf	22 51 34.4	+2.7
CCM				*ep*PKPdf		pPKPdf	22 51 44.8	+1.5
BINY	**Binghamton**	**147.13**	**6**	*e*PKP		PKPdf	22 51 35.6	+2.8
BINY				*e*			22 51 46.8	
SSPA	**Standing Stone**	**148.43**	**9**	*e*PKPbc		PKPbc	22 51 39.5	+1.0
WVT	**Waverly**	**149.61**	**26**	*e*PKPbc		PKPbc	22 51 42.6	+1.2
WVT				*es*PKPdf			22 51 53.4	
PLAL	**Pickwick Lake**	**150.46**	**28**	*e*PKPbc		PKPbc	22 51 44.1	+0.6
PLAL				*es*PKP			22 51 55.0	

NNC 19 22:32:53.9±14.0, 3820N×7161E, h0km, mb3.3, mpv2.9, 2C-2D, Error ellipse: s-maj=110.1km s-min=87.4km az=9.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KK31	**Karatay Array**	**4.97**	**351**	Pn		Pn		22 34 13.7	+4.0
	2.4nm,0.4s,baz=148,slow=13,SNR=70								
KK31				Sn		Sn		22 35 13.8	+5.9
	3.2nm,0.3s,baz=173,slow=24,SNR=12								
TKM2	**Tokmak 2**	**5.61**	**32**	⇓Pn		Pn		22 34 13.1	-5.4
	0.2nm,0.5s								
TKM2				⇓Sn		Sn		22 35 28.4	+4.7
	0.4nm,1.0s								
AB31	**Akbulak array**	**13.88**	**326**	⇑Pn		Pn		22 36 12.8	+0.9
	0.2nm,0.4s,baz=136,slow=12,SNR=3.1								
AB31				⇑Sn		Sn		22 38 44.7	-2.1
	0.5nm,0.5s,baz=137,slow=24,SNR=4.5								

*NEIC **19** 22:39:25.2, 35.10S×7176W, h52km, MG3.3(GUC), After GUC.*

GUC 19 22:39:25.2±0.5, 3510S×7176W, h52km±5km, MD3.5, ML3.3, 6C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
NICH	**Los Niches**	**0.44**	**78**	*i*P		Pn		22 39 36.4	+0.5
NICH				*i*S		Sn		22 39 44.4	+0.8
SFDO	**San Fernando**	**0.78**	**52**	⇓*i*P		Pn		22 39 40.3	+0.3
SFDO				⇓*i*S		Sn		22 39 51.9	+1.1
CNCO	**Chanco**	**0.90**	**225**	*i*P		Pn		22 39 41.9	+0.4
CNCO				*i*S		Sn		22 39 54.3	+0.7
CNCO				AML		AML		22 39 55.4	
	comp=E,1μm,0.4s								
CNCO	**Chanco**	**0.90**	**225**	*i*P		Pn		22 39 41.9	+0.4
CNCO				*i*S		Sn		22 39 54.3	+0.7
CICH	**Cipreses**	**1.35**	**55**	*i*P		Pn		22 39 48.4	+0.7
CICH				*i*S		Sn		22 40 06.0	+1.6
CACH	**El Canelo**	**1.37**	**45**	⇑*i*P		Pn		22 39 48.5	+0.6
CACH				*i*S		Sn		22 40 06.6	+1.7
CHCH	**Chadas Angostu**	**1.48**	**38**	⇓*i*P		Pn		22 39 50.1	+0.7
CHCH				*i*S		Sn		22 40 08.7	+1.1
TACH	**Talagante**	**1.59**	**25**	*e*P		Pn		22 39 51.5	+0.5
TACH				*i*S		Sn		22 40 11.4	+1.0
LCCH	**Las Cruces**	**1.63**	**6**	⇑*i*P		Pn		22 39 51.8	+0.4
LCCH				*i*S		Sn		22 40 11.8	+0.6
ANTU	**Antumapu**	**1.79**	**32**	*i*P		Pn		22 39 54.5	+0.9
ANTU				*i*S		Sn		22 40 16.3	+1.2
RCDM	**Rinconada Maip**	**1.79**	**26**	⇑*i*P		Pn		22 39 54.3	+0.7
RCDM				*i*S		Sn		22 40 16.2	+1.0
RCDM				AML		AML		22 40 20.7	
	comp=E,668nm,0.1s								
RCDM	**Rinconada Maip**	**1.79**	**26**	⇑*i*P		Pn		22 39 54.3	+0.7
RCDM				*i*S		Sn		22 40 16.2	+1.0
PCH	**Pirque**	**1.80**	**35**	⇑*i*P		Pn		22 39 54.5	+0.7
PCH				*i*S		Sn		22 40 16.7	+1.3
CLCH	**Cerro Calan**	**1.98**	**31**	*e*P		Pn		22 39 56.9	+0.7
CLCH				*i*S		Sn		22 40 20.8	+1.0
CLCH				AML		AML		22 40 36.2	
	comp=E,275nm,0.5s								
PEL	**Peldehue**	**2.14**	**25**	AML		AML		22 40 34.6	
	comp=N,334nm,0.3s								
FCH	**Farellones**	**2.14**	**35**	*e*P		Pn		22 39 59.8	+1.3
FCH				*i*S		Sn		22 40 26.0	+2.1
FCH				AML		AML		22 40 32.4	
	comp=N,232nm,0.2s								
ROCH	**El Roble**	**2.21**	**17**	⇑*i*P		Pn		22 40 00.6	+1.2
ROCH				*i*S		Sn		22 40 27.5	+2.0

*NEIC **19** 22:47:03.5±2.7, 930S×10755E, h16km±16km, mb5.0/31, Error ellipse: s-maj=7.0km s-min=5.2km az=50.0*
*BJI **19** 22:47:03.4, 930S×10760E, h15km, mB5.0, mb5.1, Ms4.6, Msz4.4*
*ISCJB **19** 22:47:04.6±0.2, 932S±004×10752E±004, h36km, mb5.0/79, MS4.3/17, Error ellipse: s-maj=6.0km s-min=4.8km az=95.8*
*MOS **19** 22:47:04.3±1.1, 926S×10767E, h33km, mb5.3/21, Error ellipse: s-maj=11.5km s-min=6.0km az=115.5*
*IDC **19** 22:47:06.5±0.4, 928S×10749E, h35km±3km, mb4.3/15, mb1 4.4/17, mb1mx4.3/20, mbtmp4.5/17, ML3.9/2, MS4.0/5, Ms1 4.0/5, ms1mx3.5/27, Error ellipse: s-maj=15.7km s-min=10.5km az=65.0*

ISC 19 22:47:06.8±0.2, 934S±004×10752E±004, h38km, h38km±1.7km: pP-P, n236, σ1§03/216, mb5.0/79, MS4.3/17, 17C-17D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LEM	**Lembang**	**2.50**	**2**	P		**Pn**		**22 47 44.7**	**-0.2**
	5μm,0.9s								
JCJI	**Jatiwangi**	**2.93**	**15**	P		**Pn**		**22 47 49.0**	**-1.8**
	2μm,1.0s								
BJII	**Banjamegara**	**2.95**	**48**	P		**Pn**		**22 47 52.3**	**+1.2**
	339nm,0.6s								
TNG	**Tangerang**	**3.26**	**345**	P		**Pn**		**22 47 57.4**	**+1.9**
	1μm,0.5s								
SBJI	**Serang**	**3.48**	**337**	P		**Pn**		**22 47 57.7**	**-0.8**
	1μm,0.9s								
KLI	**Kotabumi**	**5.17**	**329**	P		**Pn**		**22 48 25.6**	**+3.9**
	230nm,1.0s								
NBBI	**Negara**	**7.08**	**83**	P		**Pn**		**22 48 50.0**	**+2.0**
	735nm,0.8s								
KSI	**Kapahiang**	**7.47**	**319**	P		**Pn**		**22 48 50.9**	**-2.4**
	216nm,0.8s								
DNP	**Denpasar**	**7.63**	**86**	P		**Pn**		**22 48 59.1**	**+3.7**
	748nm,0.7s								
COCO	**West Island**	**10.87**	**254**	*e*Pn		**Pn**		**22 49 37.7**	**-2.2**
KSM	**Kuching**	**11.09**	**15**	*e*Pn		**Pn**		**22 49 41.1**	**-1.8**
PSI	**Prapat**	**14.79**	**324**	Pn		**Pn**		**22 50 32.1**	**-1.2**
	0.5nm,0.3s,baz=138,slow=11,SNR=7.5								
PSI				LR		LR		22 56 47.1	
	comp=Z,517nm,20.3s,baz=148,slow=40								
PCI	**Palu**	**14.85**	**56**	P		**Pn**		**22 50 35.5**	**+1.4**
	79nm,1.1s								
KULM	**Kulim**	**16.06**	**335**	*e*Pn		**Pn**		**22 50 46.1**	**-3.7**
MBWA	**Marble Bar**	**16.63**	**136**	*e*Pn		**Pn**		**22 50 52.5**	**-4.5**
KKM	**Kota Kinabalu**	**17.57**	**30**	*e*Pn		**Pn**		**22 51 07.3**	**-1.5**
BSI	**Banda Aceh**	**19.12**	**320**	P		**Pn**		**22 51 26.3**	**-1.3**
	270nm,1.1s								
FITZ	**Fitzroy Crossi**	**19.63**	**118**	*e*P		**Pn**		**22 51 33.7**	**0.0**
	24nm,0.8s								
FITZ				*e*				22 51 44.3	
FITZ	**Fitzroy Crossi**	**19.63**	**118**	P		**Pn**		**22 51 33.8**	**+0.1**
	0.3nm,0.3s,baz=277,slow=8.5,SNR=18								
FITZ				Sn		**Sn**		**22 54 57.3**	**-16**
	0.4nm,0.3s,baz=95,slow=21,SNR=5.1								
KAKA	**Kakadu**	**24.69**	**100**	*e*P		**P**		**22 52 25.7**	**+1.5**
	27nm,0.7s,mb4.9								
NWAO	**Narrogin (SRO)**	**25.13**	**160**	P		**P**		**22 52 28.0**	**-0.3**
	8.9nm,0.8s,mb4.3,baz=312,slow=7.9,SNR=3.6								
NWAO	**Narrogin (SRO)**	**25.13**	**160**	*e*Pn		**P**		**22 52 26.6**	**-1.7**
NST	**Nakhon Sawan**	**25.90**	**344**	P		**P**		**22 52 35.6**	**+0.4**
	57nm,0.9s,mb5.1								
WRA	**Warramunga Arr**	**27.97**	**115**	P		**P**		**22 52 54.4**	**+0.6**
	4.9nm,0.7s,mb4.2,baz=286,slow=11,SNR=13								
WRA				pP		pP		22 53 05.2	+0.9
	12nm,0.9s,baz=287,slow=11,SNR=11								
WRA				PcP		PcP		22 56 09.9	+1.6
	0.3nm,0.4s,baz=299,slow=2.1,SNR=5.4								
WRAB	**Tennant Creek**	**27.97**	**115**	*e*P		**P**		**22 52 53.2**	**-0.7**
WRAB				*e*		pP		22 53 05.0	+0.6
WRAB				pmax		pmax			
	comp=Z,19nm,1.0s,mb4.7								
WRAB	**Tennant Creek**	**27.97**	**115**	*e*P		**P**		**22 52 53.2**	**-0.7**
	comp=Z,19nm,1.0s,mb4.7								
WRAB				*e*		pP		22 53 05.0	+0.6
WB2	**Warramunga Arr**	**27.98**	**115**	*e*P		**P**		**22 52 54.5**	**+0.6**
WB2	**Warramunga Arr**	**27.98**	**115**	*e*P		**P**		**22 52 54.4**	**+0.5**
WB2				*e*PcP		PcP		22 56 08.5	+0.2
QIZ	**Qiongzhong**	**28.28**	**5**	P		**P**		**22 52 57.4**	**+0.8**
QIZ				S		**S**		**22 57 42.8**	**+2.6**
QIZ				LR		LR			
	comp=N,246nm,14.2s								
QIZ				LR		LR			
	comp=Z,352nm,15.1s,MS4.1								
QIZ	**Qiongzhong**	**28.28**	**5**	*e*P		**P**		**22 52 55.9**	**-0.7**
	comp=Z,6.1nm,0.8s,mb4.3								
CM31	**Chiang Mai Arr**	**28.89**	**343**	*e*P		**P**		**22 53 02.7**	**+0.7**
	comp=Z,9.6nm,0.5s,mb4.8								
ASAR	**Alice Springs**	**28.96**	**123**	P		**P**		**22 53 03.0**	**+0.3**
	comp=Z,4.0nm,0.7s,mb4.3,baz=304,slow=8.5,SNR=18								
ASAR				PcP		PcP		22 56 12.4	+1.7
	comp=Z,3.0nm,0.8s,baz=306,slow=2.0,SNR=12								
ASAR				pPcP				22 56 23.2	
	comp=Z,3.4nm,0.8s,baz=315,slow=2.4,SNR=10								
ASAR				Sn		S		22 58 40.1	+49
	comp=Z,1.5nm,0.9s,baz=282,slow=23,SNR=3.6								
ASAR				LR		LR		23 05 12.2	
	comp=Z,198nm,20.9s,MS3.7,baz=304,slow=37								
ASAR	**Alice Springs**	**28.96**	**123**	P		**P**		**22 53 03.0**	**+0.4**
ASAR				PcP		PcP		22 56 12.5	
AS31	**Alice Springs**	**28.96**	**123**	*e*P		**P**		**22 53 03.7**	**+1.1**
CHG	**Chiang Mai**	**29.22**	**343**	⇑P		**P**		**22 53 05.4**	**+0.4**
	comp=Z,42nm,1.0s,mb5.1								
CHTO	**Chiang Mai**	**29.22**	**343**	⇓P		**P**		**22 53 05.8**	**+0.8**
	SNR=11								
CHTO	**Chiang Mai**	**29.22**	**343**	*e*P		**P**		**22 53 04.8**	**-0.2**
CHTO				pmax		pmax			
	comp=Z,42nm,1.0s,mb5.1								
CHTO	**Chiang Mai**	**29.22**	**343**	*e*P		**P**		**22 53 04.8**	**-0.2**
	comp=Z,42nm,1.0s,mb5.1								
PALK	**Pallekele**	**31.40**	**301**	*e*P		**P**		**22 53 25.4**	**+1.2**
KMI	**Kunming**	**34.57**	**352**	P		**P**		**22 53 54.3**	**+2.5**
KMI				AP		pP		22 54 04.6	+2.1
KMI				AMB		AMB			
	comp=Z,33nm,1.0s,mb5.2								
KMI				LR		LR			
	comp=Z,206nm,25.1s,MS3.8								
GYA	**Guiyang**	**35.59**	**359⇑**	*i*P		**P**		**22 54 01.6**	**+0.9**
GYA				AP		pP		22 54 05.8	-5.5
GYA				XP		sP		22 54 08.9	-6.9
GYA				PP		PP		22 55 22.8	+0.9
GYA				PCP		PcP		22 56 29.4	+0.5
GYA				S		**S**		**22 59 37.8**	**+3.7**
GYA				SCP		ScP		23 00 13.9	+2.0
GYA				SS		SS		23 01 58.6	-11
GYA				AMB		AMB			
	comp=Z,30nm,0.9s,mb5.2								
GYA				AMB		AMB			
	comp=Z,120nm,4.6s								
GYA				LR		LR			
	comp=N,540nm,14.6s,MS4.6								
GYA				LR		LR			
	comp=E,570nm,14.2s,MS4.6								
GYA				LR		LR			
	comp=Z,590nm,14.3s,MS4.5								
NACB	**Ninganchiao**	**36.03**	**22**	P		**P**		**22 54 03.1**	**-1.3**
YHNB	**Yeheng**	**36.41**	**22**	*e*P		**P**		**22 54 07.4**	**-0.2**
STKA	**Stephens Creek**	**38.72**	**130⇑**	*i*P		**P**		**22 54 28.2**	**+0.9**
	comp=Z,7.5nm,1.0s,mb

GTA PP PP 22 57 46.8 +3.2
GTA PPP 22 58 40.8
GTA S **S** **23 02 56.6 +4.8**
GTA XS sS 23 03 09.5 -0.4
GTA SS SS 23 06 24.1 +1.1
GTA AMB AMB
comp=Z,23nm,0.9s,mb5.2
GTA AMB AMB
comp=Z,169nm,6.5s
GTA LR LR
comp=N,121nm,15.6s,MS4.1
GTA LR LR
comp=E,120nm,17.5s,MS4.1
GTA LR LR
comp=Z,182nm,14.8s,MS4.2
BTO Baotou 49.74 2 *eP* **P 22 55 54.8 -0.6**
BJT Baijiatuau 49.76 9 *eP* **P 22 55 56.0 +0.5**
BJT pmax pmax
comp=Z,12nm,0.6s
BJT Baijiatuau 49.76 9 *eP* **P 22 55 56.0 +0.5**
comp=Z,12nm,0.6s,mb5.1
BJI Beijing 49.78 9 P **P 22 55 55.8 +0.1**
BJI AMB AMB
comp=Z,15nm,0.6s,mb5.2
BJI LR LR
comp=N,213nm,16.2s,MS4.4
BJI LR LR
comp=E,208nm,16.2s,MS4.4
BJI LR LR
comp=Z,92nm,25.0s
HHC Hu-ho-hao-te 50.07 4 *eP* **P 22 55 58.1 +0.2**
HHC PP PP 22 57 54.8 +1.6
HHC PCS PcS 23 01 12.8 -1.4
HHC S **S** **23 03 10.5 +4.0**
HHC PS 23 03 18.9
HHC SCS ScS 23 05 45.3 -0.9
HHC SS SS 23 06 39.9 0.0
HHC AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
HHC LR LR
comp=N,345nm,14.3s,MS4.5
HHC LR LR
comp=E,204nm,16.1s,MS4.5
HHC LR LR
comp=Z,258nm,14.9s,MS4.4
HNR Honiara 51.69 95 *eP* **P 22 56 08.0 -2.0**
MAJO Matsushiro 53.99 31 *eP* **P 22 56 26.0 -1.1**
MAJO pmax pmax
comp=Z,4.0nm,0.3s,mb4.8
MAJO Matsushiro 53.99 31 *eP* **P 22 56 26.0 -1.0**
comp=Z,3.8nm,0.3s,mb4.8
MAT Matsushiro 53.99 31 P **P 22 56 25.3 -1.8**
MAT Matsushiro 53.99 31 *eP* **P 22 56 25.0 -2.1**
MJAR Matsushiro Arr 53.99 31 P **P 22 56 25.4 -1.6**
comp=Z,7.7nm,1.0s,mb4.6,baz=202,slow=8.2,SNR=14
MJAR pP pP 22 56 36.1 -2.0
comp=Z,3.7nm,0.8s,baz=219,slow=7.3,SNR=4.5
CN2 Changchun 55.34 16 *eP* **P 22 56 39.4 +2.6**
CN2 *eXP* sP 22 56 46.0 -6.3
CN2 *eS* **S** **23 04 23.0 +4.6**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,16.0s,MS4.4
CN2 LR LR
comp=E,200nm,16.0s,MS4.4
CN2 LR LR
comp=Z,200nm,17.0s,MS4.3
WMQ Urumqi 55.89 343 P **P 22 56 42.5 +1.7**
WMQ AP pP 22 56 47.1 -4.8
WMQ XP sP 22 56 49.5 -6.8
WMQ PP PP 22 58 48.8 +3.2
WMQ S **S** **23 04 28.0 +2.3**
WMQ AMB AMB
comp=Z,71nm,1.6s,mb5.5
WMQ AMB AMB
comp=Z,223nm,5.0s
WMQ LR LR
comp=N,1μm,17.6s,MS5.1
WMQ LR LR
comp=E,809nm,16.5s,MS5.1
WMQ LR LR
comp=Z,1μm,18.1s,MS5.0
KSH Kashi 56.74 331 ⇑P **P 22 56 46.8 0.0**
KSH *eAP* pP 22 56 52.1 -5.9
KSH *eXP* sP 22 56 55.6 -6.7
KSH *ePCP* PcP 22 57 42.1 -0.4
KSH *ePP* PP 22 58 53.6 +0.4
KSH *ePPP* 23 00 10.5
KSH *eSCP* ScP 23 01 41.1 +2.1
KSH *eS* **S** **23 04 37.3 +0.3**
KSH *ePS* 23 04 56.4
KSH *eSCS* ScS 23 06 31.1 -2.0
KSH AMB AMB
comp=Z,639nm,3.4s
KSH LR LR
comp=N,329nm,5.4s
KSH LR LR
comp=E,342nm,6.6s
KSH LR LR
comp=Z,716nm,19.6s,MS4.8
SONM Songino Array 56.93 359 P **P 22 56 48.9 +0.8**
comp=Z,6.8nm,0.8s,mb4.7,baz=172,slow=8.5,SNR=22
SONM pP pP 22 56 59.1 -0.2
comp=Z,4.6nm,0.6s,baz=170,slow=7.4,SNR=8.0
SONM PcP PcP 22 57 43.5 +0.2
comp=Z,4.6nm,0.8s,baz=177,slow=5.0,SNR=4.0
SONM LR LR 23 25 09.3
comp=Z,118nm,18.8s,MS4.0,baz=96,slow=40
SONM Songino Array 56.93 359 P **P 22 56 48.9 +0.7**
SONM *PP pP 22 56 59.1 -0.2
SONM 22 57 43.5
SONM Songino Array 56.93 359 P **P 22 56 48.9 +0.8**
SONM pP pP 22 56 59.1 -0.2
SONM PcP PcP 22 57 43.5 +0.2
SONM LR LR 23 25 09.3
ULN Ulaanbaatar 56.95 360 ⇓P **P 22 56 46.9 -1.4**
SNR=7.9
ULN Ulaanbaatar 56.95 360 *eP* **P 22 56 49.0 +0.7**
ULN *e* pP 22 56 59.2 -0.3
ULN pmax pmax
comp=Z,11nm,0.8s,mb4.9
ULN Ulaanbaatar 56.95 360 *eP* **P 22 56 49.0 +0.6**
comp=Z,11nm,0.8s,mb4.9
ULN *e* pP 22 56 59.2 -0.3
MDJ Mudanjiang 57.29 19 *eP* **P 22 56 50.0 -0.8**
comp=Z,2.9nm,0.3s,mb4.8
KZA Kyzart 59.09 332 P **P 22 57 04.2 +0.9**
SNR=14
HIA Hailar 59.33 9 *eP* **P 22 57 04.3 -0.7**
HIA pmax pmax
comp=Z,6.0nm,0.3s
HIA Hailar 59.33 9 *eP* **P 22 57 04.3 -0.7**
comp=Z,6.3nm,0.3s,mb5.1
UCH Uchtor 59.55 332 P **P 22 57 06.8 +0.3**
SNR=5.7
ZAK Zakamensk 59.58 357 ⇑*iP* **P 22 57 07.0 +0.3**
ZAK *e* 22 57 50.5
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
TKM2 Tokmak 2 59.60 333 P **P 22 57 06.8 0.0**
SNR=18
TKM2 Tokmak 2 59.60 333 *iP* **P 22 57 06.6 -0.3**
KBK Karagaybulak 59.69 333 P **P 22 57 07.9 +0.5**
SNR=9.0
AML Almayashu 59.86 331 P **P 22 57 08.8 +0.2**
SNR=11
AAK Ala-Archa 59.88 332 *diP* **P 22 57 07.5 -1.2**
AAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
AAK Ala-Archa 59.88 332 *eP* **P 22 57 07.8 -0.9**
FRU Bishkek 59.98 333 *eP* **P 22 57 09.0 -0.4**
EKS2 Erkin-Say 60.23 332 P **P 22 57 11.4 +0.3**
SNR=14
MK31 Makanchi Array 60.24 340 P **P 22 57 11.2 -0.1**
MK31 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MKAR Makanchi Array 60.24 340 P **P 22 57 11.2 0.0**
comp=Z,9.9nm,0.7s,mb4.9,baz=142,slow=7.7,SNR=95
MKAR pP pP 22 57 22.2 -0.3
comp=Z,11nm,0.8s,baz=152,slow=7.1,SNR=13

MOY Mondy 61.02 355 *eP* **P 22 57 17.8 +1.3**
KLR Kul'dur 62.08 18 *eP* **P 22 57 19.2 -4.5**
KK31 Karatay Array 62.13 330 *iP* **P 22 57 22.9 -1.1**
KKAR Karatay Array 62.13 330 P **P 22 57 22.9 -1.1**
HABR Khabarovsk 62.48 20 *eP* **P 22 57 24.9 -1.5**
HABR *eS* **S** **23 05 50.0 -1.0**
YSS Yuzh-Sakhalins 64.23 26⇑*eP* **P 22 57 37.2 -0.7**
YSS *e* pP 22 57 47.0 -2.2
YSS Yuzh-Sakhalins 64.23 26 *eP* **P 22 57 36.6 -1.3**
comp=Z,19nm,0.7s,mb5.2
KURK Kurchatov 64.86 340 P **P 22 57 42.6 +0.5**
SNR=13
KURK Kurchatov 64.86 340⇓*iP* **P 22 57 42.1 +0.1**
KURK Kurchatov 64.86 340 *eP* **P 22 57 42.0 0.0**
comp=Z,26nm,0.9s,mb5.2
MAW Mawson 65.29 197 *eP* **P 22 57 44.7 -0.2**
comp=Z,3.7nm,0.6s,mb4.6
MAW Mawson 65.29 197 P **P 22 57 44.8 -0.1**
comp=Z,4.3nm,0.9s,mb4.5,baz=49,slow=8.7,SNR=9.1
MAW pP 22 57 55.8 -0.4
comp=Z,4.3nm,0.7s,baz=44,slow=9.3,SNR=6.4
MAW Mawson 65.29 197 *eP* **P 22 57 44.6 -0.3**
MAW *epP* pP 22 57 55.8 -0.4
ABKT Ailbek 65.84 319 P **P 22 57 48.7 +0.3**
comp=Z,109nm,1.0s,mb5.8,SNR=11
NVS Novosibirsk 67.11 345 *iP* **P 22 57 55.3 -1.2**
NVS pmax pmax
comp=Z,18nm,1.8s,mb4.8
NVS pmax pmax
comp=N,17nm,2.0s
NVS pmax pmax
comp=E,15nm,1.9s
VOSK Vostochnaya 69.25 337 P **P 22 58 09.3 -0.6**
VOSK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
NAY Al-Naaiem 69.56 306 *eP* **P 22 58 10.6 -1.2**
NAY AMb AMB 22 58 12.3
comp=Z,16nm,1.0s,mb4.9
MIB Mutribah 69.70 306 *eP* **P 22 58 12.0 -0.7**
MIB AMb AMB 22 58 13.6
comp=Z,30nm,1.0s,mb5.2
BVA0 Borovoye Array 69.71 337 *iP* **P 22 58 12.7 0.0**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BRVK Borovoye 69.77 337 P **P 22 58 13.1 -0.1**
comp=Z,106nm,0.7s,mb5.9,SNR=13
BRVK Borovoye 69.77 337 ⇓P **P 22 58 13.3 +0.1**
SNR=7.9
BRVK Borovoye 69.77 337 *eP* **P 22 58 12.9 -0.3**
BRVK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BRVK Borovoye 69.77 337 *eP* **P 22 58 12.9 -0.2**
comp=Z,8.4nm,0.8s,mb4.7
RST Umm Al-Ruwaisa 69.85 306 *eP* **P 22 58 12.9 -0.8**
RST AMb AMB 22 58 14.0
comp=Z,33nm,1.1s,mb5.2
CHKZ Chkalovo 70.12 338 *eP* **P 22 58 15.4 +0.1**
ZRNK Zerenda 70.19 336 *eP* **P 22 58 15.2 -0.5**
ZRNK *e**PP pP 22 58 27.8 +0.7
ZRNK pmax pmax
comp=Z,17nm,0.7s,mb5.1
ZRNK Zerenda 70.19 336 *eP* **P 22 58 15.2 -0.5**
comp=Z,17nm,0.7s,mb5.1
ZRNK *ep* pP 22 58 27.8 +0.7
KMBO Kilima Mbogo 70.34 272 P **P 22 58 17.4 +0.7**
comp=Z,1.8nm,0.8s,mb4.0,baz=57,slow=5.4,SNR=5.5
AB31 Akbulak array 71.67 329⇑*eP* **P 22 58 24.5 -0.2**
SKR Severo-Kuril's 73.09 30 *eP* **P 22 58 28.5 -4.7**
YAK Yakutsk 73.22 11 *ciP* **P 22 58 33.5 -0.4**
YAK pmax pmax
comp=Z,78nm,1.0s,mb5.6
YAK Yakutsk 73.22 11 *eP* **P 22 58 33.7 -0.3**
AKTK Aktyubinsk 73.38 330 *iP* **P 22 58 34.2 -0.7**
AKTO Aktyubinsk 73.38 330 *iP* **P 22 58 34.1 -0.8**
AKTO pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
VNDA Vanda 73.59 169 P **P 22 58 35.1 -1.0**
comp=Z,1.1nm,1.0s,baz=319,slow=7.3,SNR=3.2
VNDA LR LR 23 24 52.0
comp=Z,103nm,21.8s,MS4.1,baz=309,slow=31
VNDA Vanda 73.59 169 *eP* **P 22 58 34.5 -1.6**
PET Petropavlovsk 75.78 29 *eP* **P 22 58 49.2 +0.4**
PET pmax pmax
comp=Z,36nm,0.7s,mb5.4
PET Petropavlovsk 75.78 29⇑*iP* **P 22 58 49.2 +0.4**
GNI Garni 75.96 315⇓*iP* **P 22 58 49.9 +0.1**
GNI pmax pmax
comp=Z,14nm,1.3s
GNI Garni 75.96 315 *eP* **P 22 58 50.3 +0.4**
comp=Z,5.4nm,0.7s,mb4.6
DGRG David-gareji 76.09 317 P **P 22 58 50.8 +0.2**
SVE Sverdlovsk 76.34 336 *eP* **P 22 58 52.5 +0.5**
SVE pmax pmax
comp=Z,32nm,1.0s,mb5.2
SVE MLR MLR
comp=N,100nm,18.0s,MS4.3
SVE MLR MLR
comp=E,100nm,18.0s,MS4.3
SVE MLR MLR
comp=Z,200nm,18.0s,MS4.5
MTA Mtatsminda 76.59 317 P **P 22 58 53.1 -0.3**
TBLG Delisi 76.64 317 P **P 22 58 53.6 -0.1**
MBAR Mbarara 76.86 272⇓*iP* **P 22 58 55.4 +0.5**
MA2 Magadan 76.87 21 *deP* **P 22 58 55.2 +0.2**
MA2 pmax pmax
comp=Z,40nm,0.9s,mb5.3
MA2 Magadan 76.87 21 *iP* **P 22 58 55.3 +0.3**
ARU Arti 76.94 335 P **P 22 58 55.0 -0.4**
comp=Z,88nm,1.2s,mb5.6,SNR=6.4
ARU Arti 76.94 335⇑*iP* **P 22 58 54.7 -0.7**
ARU *e* pP 22 59 08.0 +1.1
ARU *e* 23 01 48.0
ARU *eS* S 23 08 41.4 +0.7
ARU *eSS* SS 23 13 37.7 -0.1
ARU pmax pmax
comp=Z,12nm,0.8s,mb4.9
ARU Arti 76.94 335 *eP* **P 22 58 55.3 -0.1**
comp=Z,15nm,0.9s,mb4.9
GOR Gori 77.18 317 P **P 22 58 57.5 +0.8**
LSZ Lusaka 77.37 256 *eP* **P 22 58 58.2 +0.4**
ZEI Tsey 77.65 318 *eP* **P 22 58 59.9 +0.5**
ZEI pmax pmax
comp=Z,19nm,0.8s,mb5.1
BOSA Boshof 78.83 243 LR LR 23 30 04.8
comp=Z,112nm,19.0s,MS4.2,baz=183,slow=33
BOSA Boshof 78.83 243 *eP* **P 22 59 06.7 +0.8**
LBTB Lobatse 78.83 246 *eP* **P 22 59 07.2 +1.3**
LBTB pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
LBTB Lobatse 78.83 246 *eP* **P 22 59 07.2 +1.3**
comp=Z,1.5nm,0.5s,mb4.2
KIV Kislovodsk 78.95 318⇓*iP* **P 22 59 06.8 +0.3**
KIV pmax pmax
comp=Z,16nm,1.0s,mb4.9
KIV Kislovodsk 78.95 318 *eP* **P 22 59 07.2 +0.7**
comp=Z,12nm,0.8s,mb4.9
GOF Gofitskoye 79.19 319 *eP* **P 22 59 07.3 -0.5**
EIL Elat 79.75 302 *eP* **P 22 59 10.5 -0.4**
comp=Z,632nm,1.7s
EIL *e* pP 22 59 21.9 -0.6
MALT Malatya 79.77 312⇓*iP* **P 22 59 11.8 +0.8**
MALT Malatya 79.77 312 *eP* **P 22 59 11.7 +0.7**
comp=Z,11nm,1.4s,mb4.6
QSPA South Pole Qui 80.67 180 *eP* **P 22 59 15.8 -0.1**
SOC Sochi 80.78 317 *eP* **P 22 59 13.6 -2.8**
SOC *e* 22 59 18.8
SOC *e* 23 02 23.2
SOC *eS* S 23 09 16.4 -5.3
SOC *e* 23 10 25.3
SOC *eSS* SS 23 14 42.8 +7.3
SOC *eSSS* 23 17 59.2
SOC pmax pmax
comp=Z,23nm,0.8s,mb5.2
SOC Sochi 80.78 317 *iP* **P 22 59 16.8 +0.4**
TIXI Tiksi 82.05 7 *diP* **P 22 59 22.0 -1.2**
TIXI pmax pmax
comp=Z,18nm,1.0s,mb5.0
TIXI Tiksi 82.05 7 *iP* **P 22 59 22.1 -1.1**
VRHR Novokhopersk 82.58 325 *eP* **P 22 59 25.7 -0.2**
VRHR pmax pmax
comp=Z,60nm,0.5s,mb5.9
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,8.0nm,0.3s

CSS Prodhromos 82.59 307 *eP* **P 22 59 27.0 +1.0**
comp=E,19nm,0.9s,mb5.1
ANN Anapa 82.75 318 *eP* **P 22 59 25.1 -1.7**
BR131 Keskin Array S 83.76 312 *eP* **P 22 59 32.2 +0.2**
comp=E,10nm,1.0s,mb4.9
BR131 *ep*P pP 22 59 43.1 -0.5
BRTR Keskin Array B 83.76 312 P **P 22 59 32.0 0.0**
comp=E,7.3nm,1.0s,mb4.8,baz=126,slow=6.3,SNR=38
BRTR pP pP 22 59 41.8 -1.8
comp=E,6.4nm,1.0s,baz=132,slow=5.9,SNR=10.0
VRSR Storozhevoye 84.03 324 *eP* **P 22 59 33.0 -0.4**
VRSR pmax pmax
comp=Z,30nm,0.6s,mb5.6
VRSR pmax pmax
comp=N,7.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,0.7s
ANTO Ankara 84.42 312 *eP* **P 22 59 36.5 +1.1**
ANTO pmax pmax
comp=Z,18nm,1.3s,mb5.0
ANTO Ankara 84.42 312 *eP* **P 22 59 36.5 +1.1**
comp=Z,18nm,1.3s,mb5.0
SIM Simferopol' 85.03 317 *diP* **P 22 59 39.0 +0.6**
SIM pmax pmax
comp=Z,18nm,0.8s,mb5.2
MOS Moscow 86.62 328 *eP* **P 22 59 45.9 -0.4**
MOS pmax pmax
comp=Z,50nm,1.1s,mb5.7
OBN Obninsk 86.95 327 P **P 22 59 48.8 +0.8**
comp=Z,394nm,0.8s,SNR=5.9
OBN Obninsk 86.95 327 *diP* **P 22 59 48.0 0.0**
OBN pmax pmax
comp=Z,109nm,1.6s,mb5.8
OBN Obninsk 86.95 327 *eP* **P 22 59 48.2 +0.3**
SNAA Sanae 87.46 197 *eP* **P 22 59 50.7 +0.3**
SNAA pmax pmax
comp=Z,2.0nm,0.9s
SNAA Sanae 87.46 197 *eP* **P 22 59 50.7 +0.3**
comp=Z,2.4nm,0.9s,mb4.4
TIRR Tirgusor 88.79 315⇓*iP* **P 22 59 57.2 +0.5**
TIRR Tirgusor 88.79 315 ⇓P **P 22 59 57.2 +0.4**
AKASG Malin Array Be 89.83 321 P **P 23 00 00.6 -1.0**
comp=Z,1.3nm,0.6s,mb4.4,baz=85,slow=4.7,SNR=13
AKASG Malin Array Be 89.83 321 *iP* **P 23 00 01.2 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 89.83 321 P **P 23 00 00.6 -1.0**
VRI Vrincioaia 90.28 316⇓*iP* **P 23 00 05.5 +1.8**
VRI Vrincioaia 90.28 316 ⇓P **P 23 00 05.5 +1.8**
PLOR Plostina 90.33 316⇑*iP* **P 23 00 05.8 +1.9**
MLR Muntele Rosu 90.73 316⇑*iP* **P 23 00 07.0 +1.2**
MLR Muntele Rosu 90.73 316 ⇑P **P 23 00 07.0 +1.2**
BURAR Bucovina Array 91.67 318⇑*iP* **P 23 00 11.6 +1.4**
BURAR Bucovina Array 91.67 318 ⇑P **P 23 00 11.6 +1.5**
JOF Joensuu 92.04 334 *ep* **P 23 00 11.0 -0.9**
comp=Z,5.7nm,0.6s,mb5.1
KOLS Kolonicke sedl 93.85 319 *eP* **P 23 00 21.4 +1.2**
FINES FINESS Array B 94.06 332 P **P 23 00 20.2 -0.9**
comp=Z,0.9nm,0.6s,mb4.4,baz=120,slow=6.8,SNR=8.9
FINES FINESS Array B 94.06 332 *iP* **P 23 00 21.7 +0.5**
FINES pmax pmax
comp=Z,1.0nm,0.6s
KAF Kangasniemi 94.09 332 *ep* **P 23 00 18.7 -2.6**
comp=Z,9.1nm,0.9s,mb5.2
KAF Kangasniemi 94.09 332 *eP* **P 23 00 18.7 -2.6**
KAF pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
PKSM Moragy 95.89 316⇑*iP* **P 23 00 29.1 -0.4**
PKSM Moragy 95.89 316 ⇑P **P 23 00 29.1 -0.4**
ARCES ARCESS Array B 95.89 340 P **P 23 00 28.7 -0.8**
comp=Z,5.5nm,1.0s,mb4.9,baz=80,slow=10,SNR=5.3
TORD Torodi Ar. Bea 107.37 281 PKiKP PKiKP 23 05 29.9 +0.6
comp=Z,0.3nm,0.5s,baz=67,slow=1.4,SNR=6.1
DLMT Dillon 130.27 37 *e*PKPdf PKPdf 23 06 12.5 -0.5
ELK Elko 130.95 43 PKiKP PKPdf 23 06 16.2 +1.9
PDAR Pinedale Array 133.54 38 PKP PKPdf 23 06 21.1 +2.0
comp=Z,0.4nm,0.7s,baz=90,slow=2.5,SNR=4.1
PV10 Paradox Valley 136.28 43 *e*PKPdf PKPdf 23 06 27.2 +2.9
LONY Lake Ozonia 144.80 3 *e*PKPdf PKPdf 23 06 39.4 -0.2
WMOK Wichita Mounta 145.09 40 *e*PKIKP PKPdf 23 06 41.2 +1.0
LBNH Lisbon 145.23 359 *e*PKIKP PKPdf 23 06 40.3 -0.1
BDFB Brasilia 145.31 225 PKPbc PKPbc 23 06 42.0 +1.6
comp=Z,6.3nm,0.7s,baz=142,slow=4.0,SNR=11
BDFB pPKPbc pPKPbc 23 06 52.9 +0.5
comp=Z,12nm,1.0s,baz=192,slow=5.9,SNR=6.6
MIV Mineville/With 145.38 1 *e*PKPab PKPab 23 06 41.6 +0.8
NCB Newcomb 145.47 2 *e*PKPab PKPab 23 06 41.7 +0.6
ACCN Adirondack Com 146.07 2 *e*PKPab PKPab 23 06 43.7 +0.3
CCM Cathedral Cave 146.79 28 *e*PKP2 PKPab 23 06 45.8 -0.3
JCT Junction City 146.97 47 *e*PKP2 PKPab 23 06 46.2 -0.6
BINY Binghamton 147.12 5 *e*PKPab PKPab 23 06 47.1 -0.3
ACSO Alum Creek Sta 147.85 15 *e*PKPab PKPab 23 06 49.1 -1.2
LVC Limon Verde 148.06 186 *e*PKPbc PKPbc 23 06 48.5 +0.2
SSPA Standing Stone 148.46 8 *e*PKPab PKPbc 23 06 50.0 +0.6
WCI Wyandotte Cave 148.66 21 *e*PKP2 PKPbc 23 06 51.1 +1.2
MCWV Mont Chateau 149.10 11 *e*PKPab PKPab 23 06 55.8 +0.5
WVT Waverly 149.90 25 *e*PKP2 PKPbc 23 06 54.3 +1.3
HKT Hockley 150.05 44 *e*PKP2 PKPbc 23 06 56.4 +3.0
OXF Oxford 150.53 29 *e*PKIKP PKPbc 23 06 55.7 +1.2
PLAL Pickwick Lake 150.76 27 *e*PKPdf PKPbc 23 06 55.4 +0.3
TZTN Tazewell 151.11 19 *e*PKPab PKPbc 23 07 05.0 +1.4
ELN Prospectdale 151.24 14 *e*PKPbc PKPbc 23 06 57.0 +0.8
CPCT Cooper Cave 151.78 21 *e*PKPab PKPbc 23 07 04.2 +6.8
MYNC Murphy 152.26 21 *e*PKIKP PKPbc 23 07 00.2 +1.7
SIV San Ignacio 152.41 204 PKPbc PKPbc 23 07 00.3 +1.5
comp=Z,3.3nm,0.8s,baz=134,slow=3.0,SNR=11
SIV pPKPbc pPKPbc 23 07 10.4 -0.4
comp=Z,5.8nm,0.9s,baz=127,slow=3.7,SNR=12
LPAZ La Paz 154.18 190 PKPbc PKPbc 23 07 05.1 +2.4
comp=Z,0.8nm,0.7s,baz=210,slow=1.3,SNR=2.8
LPAZ La Paz 154.18 190 *e*PKPdf PKPdf 23 06 56.4 +1.9
LPAZ PKPbc PKPbc 23 07 05.1 +2.4

GUC 19 22:48:45.1±0.8, 3248S×7190W, h25km±5km, MD3.5, ML2.3, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.39**	**98**	⇓*i*P		Pb	22 48 53.4	-0.1
PACH				*i* S		Sb	22 48 59.7	+0.4
CHNG	**Los Chungos**	**0.68**	**30**	⇑*i*P		Pb	22 48 57.8	-0.6
CHNG				*i* S		Sb	22 49 07.5	0.0
CHNG				AML	AML		22 49 09.6	
	comp=E,70nm,0.5s							
ROCH	**El Roble**	**0.89**	**124**	⇑*i*P		Pb	22 49 01.5	-0.4
ROCH				*i* S		Sb	22 49 13.6	+0.2
LCCH	**Las Cruces**	**1.03**	**165**	⇑*i*P		Pn	22 49 03.3	-0.6
LCCH				*i* S		Sb	22 49 17.1	-0.2
JACH	**Jahuel**	**1.12**	**101**	*eP*		Pn	22 49 04.9	-0.2
JACH				*i* S		Sn	22 49 20.1	+0.4
PEL	**Peldehue**	**1.22**	**123**	⇓*i*P		Pn	22 49 06.7	+0.3
PEL				*i* S		Sn	22 49 22.9	+0.8
PEL				AML	AML		22 49 26.2	
	comp=E,224nm,0.2s							
RCDM	**Rinconada Maip**	**1.36**	**138**	*eP*		Pn	22 49 09.1	+0.7
RCDM				*i* S		Sn	22 49 26.3	+0.6
RCDM				AML	AML		22 49 30.5	
	comp=E,117nm,0.1s							
TACH	**Talagante**	**1.42**	**146**	⇓*i*P		Pn	22 49 10.0	+0.7
TACH				*i* S		Sn	22 49 27.4	+0.3
CMCH	**Combarbala**	**1.51**	**31**	⇓*i*P		Pn	22 49 10.8	+0.3
CMCH				*i* S		Sn	22 49 30.8	+1.5
CMCH				AML	AML		22 49 32.1	
	comp=E,234nm,0.5s							
FCH	**Farellones**	**1.59**	**122**	*eP*		Pn	22 49 12.8	+1.1
FCH				*i* S		Sn	22 49 33.7	+2.3
FCH				AML	AML		22 49 35.4	
	comp=E,54nm,0.3s							
PCH	**Pirque**	**1.62**	**135**	*i* S		Sn	22 49 34.5	+2.3
CHCH	**Chadas Angostu**	**1.79**	**145**	*eP*		Pn	22 49 15.1	+0.8
CACH	**El Canelo**	**1.96**	**147**	*eP*		Pn	22 49 18.5	+1.8
CACH				*i* S		Sn	22 49 44.8	+4.3
SFDO	**San Fernando**	**2.25**	**161**	⇓*i*P		Pn	22 49 21.9	+1.1

NEIC 19 22:55:23.9, 3245S×7185W, h36km, ML3.0(GUC), After GUC.

GUC 19 22:55:23.9±0.9, 3245S×7185W, h36km±4km, MD3.7, ML3.0, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.87**	**126**	*i* S		Sn	22 55 52.7	+1.6

PEL	**Peldehue**	**1.20**	**125**	*i* S	Sn	22 56 01.8	+2.7
PEL				AML	AML	22 56 04.5	
	comp=E,1μm,0.6s						
RCDM	**Rinconada Maip**	**1.35**	**140**	*e*P	Pn	22 55 47.3	+1.1
RCDM				*i* S	Sn	22 56 05.0	+2.1
RCDM				AML	AML	22 56 08.2	
	comp=E,256nm,0.2s						
RCDM	**Rinconada Maip**	**1.35**	**140**	*e*P	Pn	22 55 47.3	+1.1
RCDM				*i* S	Sn	22 56 05.0	+2.1
CLCH	**Cerro Calan**	**1.45**	**131**	⇓*i*P	Pn	22 55 49.3	+1.7
CLCH				*i* S	Sn	22 56 08.3	+2.9
CLCH				AML	AML	22 56 12.3	
	comp=E,304nm,0.5s						
CMCH	**Combarbala**	**1.47**	**30**	⇑*i*P	Pn	22 55 49.5	+1.7
CMCH				*i* S	Sn	22 56 08.7	+2.9
CMCH				AML	AML	22 56 11.2	
	comp=E,741nm,0.5s						
CMCH	**Combarbala**	**1.47**	**30**	⇑*i*P	Pn	22 55 49.5	+1.7
CMCH				*i* S	Sn	22 56 08.7	+2.9
ANTU	**Antumapu**	**1.51**	**138**	AML	AML	22 56 14.7	
	comp=N,289nm,0.4s						
FCH	**Farellones**	**1.57**	**124**	*e*P	Pn	22 55 51.0	+1.8
FCH				*i* S	Sn	22 56 12.2	+3.8
FCH				AML	AML	22 56 13.7	
	comp=N,181nm,0.1s						
PCH	**Pirque**	**1.61**	**136**	*e*P	Pn	22 55 50.9	+1.1
PCH				*i* S	Sn	22 56 12.6	+3.2
CHCH	**Chadas Angostu**	**1.78**	**146**	*e*P	Pn	22 55 54.2	+2.0
CHCH				*i* S	Sn	22 56 16.8	+3.2

*NEIC **19** 22:58:57.0, 3247S×7188W, h28km, ML2.5(GUC), After GUC.*

GUC 19 22:58:57.0±0.8, 3247S×7188W, h28km±6km, MD3.6, ML2.5, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.38**	**101**	⇓*i*P	Pb	22 59 05.5	0.0
PACH				*i* S	Sb	22 59 11.6	+0.4
CHNG	**Los Chungos**	**0.67**	**29**	*e*P	Pb	22 59 09.2	-0.9
CHNG				*i* S	Sb	22 59 19.4	+0.5
CHNG				AML	AML	22 59 22.1	
	comp=E,128nm,0.4s						
ROCH	**El Roble**	**0.89**	**125**	*e*P	Pn	22 59 13.3	-0.4
ROCH				*i* S	Sb	22 59 25.9	+0.5
LCCH	**Las Cruces**	**1.04**	**165**	⇓*i*P	Pn	22 59 15.6	-0.2
LCCH				*i* S	Sn	22 59 29.3	-0.1
JACH	**Jahuel**	**1.11**	**102**	⇑*i*P	Pn	22 59 16.9	+0.2
JACH				*i* S	Sn	22 59 32.2	+1.1
RCDM	**Rinconada Maip**	**1.36**	**139**	*e*P	Pn	22 59 21.2	+1.0
RCDM				AML	AML	22 59 41.4	
	comp=N,161nm,0.1s						
TACH	**Talagante**	**1.43**	**146**	*e*P	Pn	22 59 21.6	+0.5
TACH				*i* S	Sn	22 59 40.2	+1.3
CMCH	**Combarbala**	**1.49**	**30**	*e*P	Pn	22 59 22.2	+0.3
CMCH				*i* S	Sn	22 59 42.1	+1.7
CMCH				AML	AML	22 59 44.4	
	comp=E,330nm,0.4s						
CMCH	**Combarbala**	**1.49**	**30**	*e*P	Pn	22 59 22.2	+0.3
CMCH				*i* S	Sn	22 59 42.1	+1.7
FCH	**Farellones**	**1.59**	**123**	⇑*i*P	Pn	22 59 24.6	+1.2
FCH				*i* S	Sn	22 59 45.8	+2.8
FCH				AML	AML	22 59 47.6	
	comp=N,88nm,0.1s						
PCH	**Pirque**	**1.63**	**135**	*e*P	Pn	22 59 25.1	+1.3
CHCH	**Chadas Angostu**	**1.79**	**145**	*e*P	Pn	22 59 27.4	+1.3
CACH	**El Canelo**	**1.97**	**147**	*i* P	Pn	22 59 30.5	+2.0
CICH	**Cipreses**	**2.22**	**147**	*e*P	Pn	22 59 33.9	+1.9

*STR **19** 23:01:36.2±0.3, 4460N×663E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 19 23:01:38.1±0.2, 4460N×676E, h2km, Md2.1/3, Ml1.8/7, Error ellipse: s-maj=4.5km s-min=2.6km az=80.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.12**	**2**	*e*Pg	Pg	23 01 40.5	0.0
MBDF				*e*Sg	Sg	23 01 42.3	+0.1
OG22	**Abries**	**0.26**	**30**	Pg	Pg	23 01 43.0	0.0
OG22				Sg	Sg	23 01 46.7	+0.4
OG25	**Le Caire**	**0.55**	**245**	Pg	Pg	23 01 44.5	-4.1
OG25				Sg	Sg	23 01 51.4	-4.3
TOUF	**Mont Tournerai**	**0.68**	**149**	Pg	Pg	23 01 50.7	-0.5
TOUF				Sg	Sg	23 02 00.6	+0.5
ORIF	**Oris-en-Rattie**	**0.70**	**297**	*e*Pg	Pg	23 01 50.8	-0.8
ORIF				*e*Sg	Sg	23 02 00.1	-0.7
	2.9nm,0.3s						
AUTN	**L'Aution**	**0.77**	**142**	Pg	Pg	23 01 52.3	-0.6
AUTN				Sg	Sg	23 02 02.5	-0.4
LUCF	**Luceram**	**0.82**	**149**	Pg	Pg	23 01 53.6	-0.3
LUCF				Sg	Sg	23 02 04.7	+0.1
SBF	**Sospel**	**0.88**	**147**	*e*Pg	Pg	23 01 54.8	-0.2
SBF				*e*Sg	Sg	23 02 06.3	-0.1
	2.9nm,0.2s						
LPG	**La Plagne**	**0.90**	**359**	*e*Pg	Pg	23 01 57.2	+1.9
LPG				*e*Sg	Sg	23 02 07.9	+1.0
	4.0nm,0.6s						
LPL	**La Plagne**	**0.92**	**359**	*e*Pg	Pg	23 01 55.8	+0.2
LPL				*e*Sg	Sg	23 02 08.8	+1.3
	2.3nm,0.3s						
FRF	**La Foret Royal**	**1.04**	**185**	*e*Pg	Pg	23 01 57.3	-0.8
FRF				*e*Sg	Sg	23 02 11.1	-0.6
	3.4nm,0.2s						
SMRF	**Simiane la Rot**	**1.06**	**234**	*e*Pg	Pg	23 01 58.7	+0.3
SMRF				*e*Sg	Sg	23 02 13.8	+1.7
	2.3nm,0.3s						
LMR	**La Mourre**	**1.28**	**188**	*e*Pg	Pg	23 02 02.0	-0.7
LMR				*e*Sg	Sg	23 02 18.7	-0.6
	1.7nm,0.2s						
VIVF	**Saint-Julien-l**	**1.51**	**280**	*e*Pg	Pg	23 02 07.1	0.0
VIVF				*e*Sg	Sg	23 02 24.9	-1.8
	1.5nm,0.3s						

*CSEM **19** 23:13:34.3±0.3, 3845N×2840W, h6km±2km, ML0.7, Error ellipse: s-maj=1.6km s-min=1.2km az=54.0, After PDA*
*PDA **19** 23:13:34.3±0.3, 3845N×2840W, h6km±2km, MD2.7, ML0.7, Error ellipse: s-maj=1.6km s-min=1.2km az=54.0*

SVSA 19 23:13:34.3±0.3, 3845N×2840W, h6km±2km, MD2.7, ML0.7, Error ellipse: s-maj=1.6km s-min=1.2km az=54.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBOI	**Pico dos Bois**	**0.03**	**131**	*e*P	Pg	23 13 35.5	+0.1
PBOI				*e*S	Sg	23 13 36.3	+0.1
PBOI							
	36nm,0.1s						
PCND	**Candelaria**	**0.05**	**287**	*e*P	Pg	23 13 35.7	0.0
PCND				*e*S	Sg	23 13 36.8	+0.2
PCND							
	17nm,0.1s						
PICO	**Pico**	**0.05**	**338**	*e*P	Pg	23 13 35.8	+0.1
PICO				*e*S	Sg	23 13 36.8	+0.2
PTEI	**Pico do Teixo**	**0.05**	**40**	*e*S	Sg	23 13 36.9	+0.2
PTEI							
	14nm,0.2s						

IDC 19 23:13:39.9±2.7, 1598S×17632W, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, ML2.1/1, MS3.6/3, Ms1 3.6/3, ms1mx3.2/22, Error ellipse: s-maj=203.0km s-min=29.2km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.85**	**65**	Pn	Pn	23 14 52.9	-1.1
AFI	4.6nm,0.3s,baz=236,slow=7.3,SNR=3.7			LR	LR	23 16 26.3	
	comp=Z,386nm,19.4s,baz=177,slow=34						
HNR	**Honiara**	**24.04**	**283**	LR	LR	23 26 43.7	
	comp=Z,100nm,20.3s,baz=178,slow=33						
ASAR	**Alice Springs**	**47.26**	**252**	P	P	23 22 14.9	+0.2
ASAR	0.5nm,0.6s,baz=85,slow=8.1,SNR=7.8			LR	LR	23 40 45.9	
	comp=Z,143nm,20.5s,baz=272,slow=34						
PDAR	**Pinedale Array**	**84.58**	**43**	P	P	23 26 16.4	+1.4
	0.5nm,0.8s,baz=235,slow=3.2,SNR=5.2						
BRTR	**Keskin Array B**	**144.78**	**318**	PKP	PKPdf	23 33 19.4	+0.7
	0.9nm,1.0s,baz=90,slow=2.9,SNR=5.0						
GERES	**GERESS Array B**	**146.22**	**348**	PKPbc	PKPbc	23 33 20.7	-1.5
	0.2nm,0.5s,baz=28,slow=6.0,SNR=4.5						

*ISCJB **19** 23:29:07.2±0.7, 3247S±003×7201W±006, h34km±8km, mb3.9/7, Error ellipse: s-maj=9.1km s-min=4.3km az=160.4*
*GUC **19** 23:29:07.8±0.7, 3251S×7190W, h25km±2km, MD3.9, ML4.0*
*NEIC **19** 23:29:07.8, 3251S×7190W, h25km, mb3.8/2, ML4.0(GUC), After GUC.*
*IDC **19** 23:29:09.8±3.6, 3250S×7191W, h40km±28km, mb3.7/6, mb1 3.7/11, mb1mx3.6/19, mbtmp3.8/11, ML3.7/5, Error ellipse: s-maj=37.4km s-min=20.8km az=101.0*

ISC 19 23:29:07.0±0.7, 3250S±002×7195W±005, h17km±3km, n48, σ0°76/75, mb3.9/7, 22C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.44**	**96**	*i* P	Pg	23 29 16.2	+0.3
PACH				*i* S	Sg	23 29 22.4	+0.5
IHA	**Instituto Hidr**	**0.59**	**154**	⇓*i*P	Pg	23 29 18.6	-0.1
IHA				*i* S	Sg	23 29 26.5	-0.1
CHNG	**Los Chungos**	**0.72**	**32**	⇓*i*P	Pg	23 29 21.0	-0.2
CHNG				*i* S	Sg	23 29 30.8	0.0
ROCH	**El Roble**	**0.93**	**121**	⇑*i*P	Pb	23 29 24.1	-0.5
ROCH				*i* S	Sb	23 29 36.1	-0.6
LCCH	**Las Cruces**	**1.03**	**162**	⇑*i*P	Pb	23 29 25.7	-0.7
LCCH				*i* S	Sb	23 29 39.0	-0.7
JACH	**Jahuel**	**1.16**	**100**	⇑*i*P	Pn	23 29 27.8	-0.8
JACH				*i* S	Sb	23 29 42.8	-0.7
PEL	**Peldehue**	**1.25**	**122**	⇑*i*P	Pn	23 29 29.3	-0.4
PEL				*i* S	Sb	23 29 45.0	-0.9
PEL				AML	AML	23 29 47.4	
	comp=E,7μm,0.3s						
PEL	**Peldehue**	**1.25**	**122**	⇑*i*P	Pn	23 29 29.3	-0.4
PEL				*i* S	Sb	23 29 45.0	-0.9
RCDM	**Rinconada Maip**	**1.38**	**136**	⇑*i*P	Pn	23 29 31.1	-0.4
RCDM				*i* S	Sn	23 29 48.7	-0.8
RCDM				AML	AML	23 29 53.0	
	comp=N,2μm,0.4s						
RCDM	**Rinconada Maip**	**1.38**	**136**	⇑*i*P	Pn	23 29 31.1	-0.4
RCDM				*i* S	Sn	23 29 48.7	-0.8
TACH	**Talagante**	**1.44**	**144**	⇑*i*P	Pn	23 29 32.1	-0.2
TACH				*i* S	Sn	23 29 49.8	-1.0
SAN	**Santiago**	**1.45**	**132**	⇑*i*P	Pn	23 29 32.4	0.0
SAN				*i* S	Sn	23 29 50.4	-0.6
SAN				AML	AML	23 29 55.9	
	comp=E,3μm,0.3s						
SAN	**Santiago**	**1.45**	**132**	⇑*i*P	Pn	23 29 32.4	0.0
SAN				*i* S	Sn	23 29 50.4	-0.6
STL	**Santa Lucia**	**1.45**	**131**	⇑*i*P	Pn	23 29 31.8	-0.7
STL				*i* S	Sn	23 29 50.3	-0.8
STL				AML	AML	23 29 55.0	
	comp=E,2μm,0.6s						
DSCH	**Colegio Aleman**	**1.47**	**128**	⇑*i*P	Pn	23 29 32.3	-0.4
DSCH				*i* S	Sn	23 29 51.2	-0.5
CLCH	**Cerro Calan**	**1.49**	**127**	⇓*i*P	Pn	23 29 33.0	-0.1
CLCH				*e*S	Sn	23 29 52.1	0.0
CLCH				AML	AML	23 29 55.7	
	comp=E,4μm,0.5s						
CLCH				AML	AML	23 29 56.3	
	comp=E,5μm,0.5s						
ANTU	**Antumapu**	**1.54**	**134**	⇑*i*P	Pn	23 29 33.9	+0.2
ANTU				*i* S	Sn	23 29 53.4	0.0
ANTU				AML	AML	23 30 00.9	
	comp=N,4μm,0.3s						
ANTU	**Antumapu**	**1.54**	**134**	⇑*i*P	Pn	23 29 33.9	+0.2
ANTU				*i* S	Sn	23 29 53.4	0.0
CMCH	**Combarbala**	**1.55**	**32**	⇑*i*P	Pn	23 29 33.9	+0.1
CMCH				*i* S	Sn	23 29 54.0	+0.5
CMCH				AML	AML	23 29 57.6	
	comp=E,9μm,0.6s						
CMCH	**Combarbala**	**1.55**	**32**	⇑*i*P	Pn	23 29 33.9	+0.1
CMCH				*i* S	Sn	23 29 54.0	+0.5
FCH	**Farellones**	**1.63**	**121**	⇑*i*P	Pn	23 29 35.3	+0.4
FCH				*i* S	Sn	23 29 56.5	+1.0
FCH				AML	AML	23 29 57.3	
	comp=N,2μm,0.2s						
PCH	**Pirque**	**1.65**	**133**	⇑*i*P	Pn	23 29 35.5	+0.3
PCH				*i* S	Sn	23 29 56.1	+0.1
SJCH	**San Jose de Ma**	**1.76**	**131**	⇑*i*P	Pn	23 29 36.9	+0.1
SJCH				*i* S	Sn	23 29 59.6	+0.8
SJCH				AML	AML	23 30 04.5	
	comp=N,1μm,0.3s						
SJCH	**San Jose de Ma**	**1.76**	**131**	⇑*i*P	Pn	23 29 36.9	+0.1
SJCH				*i* S	Sn	23 29 59.6	+0.8
CHCH	**Chadas Angostu**	**1.80**	**143**	⇑*i*P	Pn	23 29 37.9	+0.6
CHCH				*i* S	Sn	23 30 00.7	+0.8
CACH	**El Canelo**	**1.98**	**145**	⇓*i*P	Pn	23 29 41.1	+1.4
CACH				*i* S	Sn	23 30 06.6	+2.5
OVCH	**Ovalle**	**1.99**	**19**	AML	AML	23 30 14.9	
	comp=N,2μm,0.7s						
CICH	**Cipreses**	**2.23**	**145**	⇑*i*P	Pn	23 29 44.1	+0.9
CICH				*i* S	Sn	23 30 11.8	+1.5
TLL	**Tololo Astrono**	**2.52**	**23**	AML	AML	23 30 27.8	
	comp=E,2μm,0.8s						
MDZ	**Mendoza**	**2.65**	**99**	*e*P	Pn	23 29 53.2	+4.3
MDZ				*e*		23 29 56.1	
MDZ				S	Sn	23 30 32.3	+12
CFAA	**Coronel Fontan**	**3.28**	**75**	P	Pn	23 29 59.8	+2.1
	comp=E,1.0nm,0.3s,baz=242,slow=12,SNR=85						
CFAA				S	Sn	23 30 44.5	+8.2
	comp=E,2.5nm,0.3s,baz=335,slow=23,SNR=9.0						
CFAA	**Coronel Fontan**	**3.28**	**75**	P	Pn	23 29 59.8	+2.1
CFAA				S	Sn	23 30 44.5	+8.2
PLCA	**Paso Flores**	**8.30**	**173**	P	Pn	23 31 06.2	-0.4
	comp=E,0.5nm,0.3s,baz=336,slow=10,SNR=9.9						
TRQA	**Tornquist**	**9.86**	**127**	Pn	Pn	23 31 29.8	+1.8
LVC	**Limon Verde**	**10.21**	**16**	Pn	Pn	23 31 32.6	-0.1
CPUP	**Villa Florida**	**14.14**	**68**	P	Pn	23 32 26.2	-0.3
	comp=E,0.2nm,0.3s,baz=219,slow=14,SNR=2.1						
LPAZ	**La Paz**	**16.50**	**13**	P	Pn	23 32 57.6	-0.1
	comp=E,0.1nm,0.3s,baz=201,slow=14,SNR=4.2						
LPAZ	**La Paz**	**16.50**	**13**	*e*P	Pn	23 32 58.4	+0.7
	comp=E,2.0nm,0.7s						
SIV	**San Ignacio**	**19.17**	**34**	P	Pn	23 33 29.0	-1.7
	comp=E,0.1nm,0.3s,baz=251,slow=10,SNR=4.8						
NNA	**Nana**	**20.90**	**346**	P	P	23 33 48.8	+0.3
BDFB	**Brasilia**	**27.45**	**58**	P	P	23 34 52.5	+0.4
	comp=E,1.3nm,0.6s,mb3.6,baz=205,slow=6.8,SNR=4.3						
OTAV	**Otavalo**	**33.13**	**348**	*e*P	P	23 35 42.4	+0.1
	comp=E,1.2nm,0.3s,mb4.3						
SNAA	**Sanae**	**52.95**	**158**	P	P	23 38 22.0	-0.5
	comp=E,0.2nm,0.5s,mb3.3,baz=288,slow=10,SNR=18						
DBIC	**Dimbokro**	**74.63**	**72**	P	P	23 40 44.4	-1.0
	comp=E,3.6nm,0.9s,mb4.3,baz=235,slow=11,SNR=6.0						
BOSA	**Boshof**	**80.71**	**118**	P	P	23 41 18.5	-0.8
	comp=E,0.8nm,0.5s,mb3.9,baz=254,slow=6.0,SNR=4.1						
NVAR	**Mina Array Bea**	**82.69**	**325**	P	P	23 41 30.0	+0.3
	comp=E,0.3nm,0.4s,mb3.6,baz=104,slow=15,SNR=4.2						
TORD	**Torodi Ar. Bea**	**83.63**	**70**	P	P	23 41 34.1	-0.5
	comp=E,1.4nm,0.7s,mb4.2,baz=268,slow=3.5,SNR=17						
MKAR	**Makanchi Array**	**155.70**	**47**	PKPab	PKPab	23 49 25.5	-0.8
	comp=E,0.4nm,0.5s,baz=290,slow=3.6,SNR=6.7						

IDC 19 23:45:10.0±3.5, 901S×10812E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.8/4, Error ellipse: s-maj=146.9km s-min=23.7km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.57**	**116**	P	P	23 50 58.0	-0.7
	0.3nm,0.3s,baz=289,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**28.64**	**124**	P	P	23 51 09.8	+1.5
	0.4nm,0.8s,baz=296,slow=9.6,SNR=4.8						
SONM	**Songino Array**	**56.61**	**359**	P	P	23 54 55.4	+0.8
	1.0nm,0.5s,baz=177,slow=7.8,SNR=7.7						
MKAR	**Makanchi Array**	**60.14**	**340**	P	P	23 55 18.8	-0.5
	0.7nm,0.7s,baz=144,slow=8.1,SNR=8.6						

*ISCJB **19** 23:51:04.8±0.9, 2096S±006×3265E±008, h10km, mb4.5/2, Error ellipse: s-maj=12.0km s-min=7.1km az=52.3*
*IDC **19** 23:51:04.6±4.7, 2103S×3283E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/22, mbtmp3.8/3, Error ellipse: s-maj=107.7km s-min=24.2km az=118.0*
*NEIC **19** 23:51:06.2±1.2, 2096S×3295E, h10km, mb4.3/1, Error ellipse: s-maj=24.9km s-min=10.9km az=118.0*

ISC 19 23:51:07.3±0.9, 2095S±006×3271E±008, h10km, n12, σ1°19/17, mb4.5/2, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.09**	**322**	*e*Pn	Pn	23 52 51.9	+0.8
	4.0nm,0.6s						
LSZ				*e*Sn	Sn	23 54 10.2	-1.6
LBTB	**Lobatse**	**7.70**	**237**	*e*Pn	Pn	23 53 03.5	+4.0
	0.3nm,0.3s						
LBTB				*e*Sn	Sn	23 54 24.8	-1.8
BOSA	**Boshof**	**10.19**	**220**	Pn	Pn	23 53 33.7	0.0
	0.9nm,0.3s,baz=49,slow=14,SNR=20						
BOSA				Sn	Sn	23 55 27.6	-0.5
	0.7nm,0.3s,baz=24,slow=12,SNR=6.6						
BOSA				Lg		23 56 27.7	
	1.6nm,0.3s,baz=147,slow=18,SNR=5.7						
BOSA	**Boshof**	**10.19**	**220**	Pn	Pn	23 53 33.7	0.0
BOSA				Sn	Sn	23 55 27.6	-0.5
BOSA				Lg		23 56 27.7	
TSUM	**Tsumeb**	**14.31**	**274**	*e*Pn	Pn	23 54 32.7	+2.7
	3.7nm,0.6s						
TSUM				*e*Sn	Sn	23 57 09.8	+0.9
SUR	**Sutherland**	**15.56**	**221**	*e*Pn	Pn	23 54 47.2	+0.5
	21nm,1.1s						
KMBO	**Kilima Mbogo**	**20.20**	**13**	P	P	23 55 41.6	-0.6
	0.9nm,0.7s,baz=208,slow=17,SNR=3.7						
TORD	**Torodi Ar. Bea**	**45.57**	**315**	P	P	23 59 27.6	+0.2
	1.4nm,0.8s,mb4.0,baz=130,slow=6.4,SNR=13						
DBIC	**Dimbokro**	**45.98**	**303**	*e*P	P	23 59 30.0	-0.6
	44nm,1.7s,mb5.1						
EIL	**Elat**	**50.37**	**3**	P	P	00 00 04.5	0.0
MALT	**Malatya**	**59.19**	**5**	P	P	00 01 07.2	-1.3
ESLA	**Sonseca Array**	**69.36**	**330**	P	P	00 02 17.3	+2.2

*ISCJB **19** 23:58:42.1±0.5, 4168N±003×2373E±004, h12km±4km, Error ellipse: s-maj=5.1km s-min=4.1km az=83.2*
*CSEM **19** 23:58:42.4±0.2, 4171N×2372E, h12km, ML2.8, Error ellipse: s-maj=4.1km s-min=2.9km az=97.0*
*ATH **19** 23:58:42.5, 4169N×2381E, h4km, MD3.1/3*
*NEIC **19** 23:58:42.5, 4169N×2381E, h4km, MD3.1(ATH), ML2.5(THE), After ATH.*
*THE **19** 23:58:42.8, 4169N×2376E, h11km, ML2.8*

ISC 19 23:58:42.6±0.5, 4167N±003×2376E±004, h15km±4km, n17, σ0°63/29, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB	**Musomiste**	**0.08**	**195**	*e*Pg	Pg	23 58 45.8	+0.1
MMB				*e*Sg	Sg	23 58 48.2	+0.5
NVR	**Nevrokopi**	**0.33**	**166**	*e*PG	Pg	23 58 49.0	-0.4
NVR				*e*SG	Sg	23 58 54.3	+0.3
KNT	**Kendrikon**	**0.82**	**232**	*e*Pg	Pg	23 58 58.5	-0.1
PLD	**Plovdiv**	**0.83**	**58**	*e*Pg	Pg	23 58 58.4	-0.4
PLD				*e*Sg	Sg	23 59 09.6	0.0
SOH	**Sokhos**	**0.90**	**200**	*e*Pg	Pg	23 58 59.6	-0.4
SOH				*e*Sg	Sg	23 59 12.6	+0.7
VAY	**Valandovo**	**0.96**	**249**	*e*Pg	Pg	23 59 01.4	+0.2
VAY				*e*Sg	Sg	23 59 14.4	+0.8
VAY	**Valandovo**	**0.96**	**249**	*e*Pn	Pn	23 59 01.7	+0.3
VAY				*i* Sn	Sn	23 59 14.6	-0.2
VAY	**Valandovo**	**0.96**	**249**	*e*Pn	Pn	23 59 01.7	+0.2
VAY				*e*Sg	Sg	23 59 14.4	+0.7
VAY				*i* Sn	Sn	23 59 14.6	-0.2
VTS	**Vitosha**	**1.01**	**336**	*e*Pg	Pg	23 59 01.3	-0.8
VTS				*e*Sg	Sg	23 59 15.9	+0.6
HORT	**Hortiatis**	**1.18**	**205**	*e*Pg	Pg	23 59 04.8	-0.5
HORT				*e*Sg	Sg	23 59 21.1	+0.3
THE	**Thessaloniki**	**1.20**	**210**	*e*Pg	Pg	23 59 05.1	-0.6
THE				*e*Sg	Sg	23 59 21.6	+0.3
PLG	**Polygyros**	**1.32**	**190**	*e*PG	Pg	23 59 07.4	-0.5
OUR	**Ouranopolis**	**1.34**	**173**	*e*Pg	Pg	23 59 07.2	-1.3
RDO	**Rodhopi**	**1.44**	**111**	*e*PB	Pb	23 59 09.1	0.0
RDO				*e*SB	Sb	23 59 28.3	+1.1
PAIG	**Paliouri**	**1.74**	**182**	*e*Pb	Pb	23 59 12.7	-1.6
ALN	**Alexandroupoli**	**1.89**	**113**	*e*Pb	Pb	23 59 17.4	+0.7
XOR	**Xorichti**	**2.34**	**191**	*e*Pn	Pn	23 59 21.3	+0.8

IDC 20 00:09:20.2±2.8, 955S×10857E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/16, mbtmp3.6/5, Error ellipse: s-maj=123.9km s-min=22.7km az=49.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.94**	**115**	P	P	00 15 03.1	-0.1
	0.8nm,0.8s,baz=287,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**27.98**	**123**	P	P	00 15 13.3	+0.8
	0.6nm,0.7s,baz=297,slow=9.6,SNR=5.9						
SONM	**Songino Array**	**57.16**	**358**	P	P	00 19 09.9	+1.1
	0.7nm,0.7s,baz=168,slow=8.4,SNR=4.7						
MKAR	**Makanchi Array**	**60.80**	**340**	P	P	00 19 34.5	+0.6
	0.5nm,0.7s,baz=154,slow=8.9,SNR=4.0						
BVAR	**Borovoye Array**	**70.31**	**337**	P	P	00 20 34.1	-1.3
	0.7nm,0.7s,baz=145,slow=8.1,SNR=4.5						

*IDC **20** 00:10:52.6±0.8, 3151N×7801E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/23, mbtmp3.8/10, ML3.0/1, Error ellipse: s-maj=29.0km s-min=18.2km az=52.0*
*ISCJB **20** 00:10:54.1±0.8, 3174N±003×7827E±006, h17km±6km, mb3.9/20, Error ellipse: s-maj=7.9km s-min=5.4km az=3.1*
*NDI **20** 00:10:55.9±3.0, 3168N×7822E, h5km, ML3.5, mb3.5(NEIC)*
*MOS **20** 00:10:56.8±1.2, 3177N×7813E, h33km, mb4.1/9, Error ellipse: s-maj=21.5km s-min=9.4km az=107.0*
*NEIC **20** 00:10:58.2±0.5, 3164N×7804E, h35km, mb4.0/9, Error ellipse: s-maj=17.0km s-min=9.4km az=52.0*
*NNC **20** 00:11:05.1±2.0, 3290N×7783E, h0km, mb3.5, Error ellipse: s-maj=24.7km s-min=16.2km az=27.0*

ISC 20 00:10:54.5±0.8, 3175N±003×7823E±005, h8km±5km, n66, σ1°12/74, mb3.9/20, 5C-3D, Western Xizang-India border region

| Code | Station

comp=E,57nm,0.6s
KHET AML AML 00 13 12.9
comp=N,76nm,0.5s
THW Thamme Wali 5.59 282 ⇑P **Pn 00 12 18.1 +0.1**
CEP Cherat 5.71 293 P **Pn 00 12 20.5 +0.9**
AJM Ajmer 6.11 212 *e*S **Sn 00 13 31.4 -3.8**
AJM AML AML 00 14 18.3
comp=E,86nm,0.5s
AJM AML AML 00 14 18.4
comp=N,54nm,0.6s
DRP Derazinda 6.84 272 ⇓P **Pn 00 12 35.7 +0.6**
BHPL Bhopal 8.50 185 *e*S **Sn 00 14 27.9 -6.1**
BHPL AML AML 00 15 22.1
comp=E,34nm,0.7s
BHPL AML AML 00 15 25.9
comp=N,15nm,0.5s
AAK Ala-Archa 11.27 346 *e*P **Pn 00 13 43.9 +8.1**
KK31 Karatay Array 12.88 334 Pn **Pn 00 13 55.5 -2.4**
comp=N,0.7nm,0.3s,baz=149,slow=12,SNR=19
KK31 ⇑Sn **Sn 00 16 11.1 -10**
comp=N,4.3nm,0.6s,baz=166,slow=24,SNR=8.6
MK02 Makanchi Array 15.33 11 ⇑P **Pn 00 14 28.2 -2.9**
comp=N,0.3nm,0.3s
MKAR Makanchi Array 15.35 11 Pn **Pn 00 14 30.4 -1.0**
comp=N,0.1nm,0.3s,baz=196,slow=12,SNR=3.9
MKAR Sn **Sn 00 17 13.0 -8.7**
comp=N,0.1nm,0.3s,baz=187,slow=22,SNR=4.2
MKAR Makanchi Array 15.35 11 Pn **Pn 00 14 30.4 -1.0**
MKAR Sn **Sn 00 17 13.0 -8.7**
KURK Kurchatov 18.96 1 ⇓P **Pn 00 15 13.9 -2.8**
comp=N,3.2nm,0.9s
KURK Kurchatov 18.96 1 *e*P **Pn 00 15 16.6 -0.1**
KURK pmax pmax
comp=E,6.0nm,0.9s
KURK Kurchatov 18.96 1 *e*P **Pn 00 15 16.6 -0.1**
comp=E,6.1nm,0.9s
VOSK Vostochnaya 21.62 348 ⇑P **P 00 15 44.5 -0.6**
comp=E,2.5nm,0.7s,mb3.8
BVAR Borovoye Array 22.02 347 P **P 00 15 49.3 +0.1**
comp=E,1.5nm,0.5s,mb3.7,baz=143,slow=12,SNR=8.9
BVAR Borovoye Array 22.02 347 P **P 00 15 49.3 0.0**
BVAR pmax pmax
comp=E,2.0nm,0.5s
BRVK Borovoye 22.07 347 *e*P **P 00 15 50.2 +0.4**
BRVK pmax pmax
comp=E,5.0nm,1.1s,mb3.9
BRVK Borovoye 22.07 347 *e*P **P 00 15 50.2 +0.4**
comp=E,5.0nm,1.1s,mb3.9
ZRNK Zerenda 22.23 345 ⇑P **P 00 15 50.3 -1.2**
comp=E,1.9nm,0.6s,mb3.7
ZRNK Zerenda 22.23 345 *e*P **P 00 15 50.8 -0.7**
ZRNK pmax pmax
comp=E,2.0nm,0.6s,mb3.7
ZRNK Zerenda 22.23 345 *e*P **P 00 15 50.8 -0.7**
comp=E,2.3nm,0.6s,mb3.8
AB31 Akbulak array 22.25 327 P **P 00 15 51.2 -0.5**
comp=E,1.1nm,0.5s,mb3.5,baz=134,slow=11,SNR=30
CHKZ Chkalovo 22.60 348 *e*P **P 00 15 55.6 +0.1**
CHKZ pmax pmax
comp=E,4.0nm,0.6s,mb4.0
CHKZ Chkalovo 22.60 348 *e*P **P 00 15 55.6 +0.1**
comp=E,4.3nm,0.6s,mb4.1
AKTK Aktyubinsk 23.96 327 P **P 00 16 09.1 -0.2**
AKTO Aktyubinsk 23.96 327 ⇓P **P 00 16 07.7 -1.6**
comp=E,0.1nm,0.7s,mb2.4
AKTO Aktyubinsk 23.96 327 P **P 00 16 09.1 -0.2**
comp=E,1.7nm,0.6s,mb3.7,baz=127,slow=5.6,SNR=8.0
AKTO Aktyubinsk 23.96 327 P **P 00 16 09.1 -0.2**
AKTO pmax pmax
comp=E,2.0nm,0.6s,mb3.7
SONM Songino Array 26.75 45 P **P 00 16 36.2 +1.5**
comp=E,0.2nm,0.2s,mb3.2,baz=263,slow=12,SNR=4.3
ULN Ulaanbaatar 27.16 45 *e*P **P 00 16 46.9 +8.6**
ULN pmax pmax
comp=E,1.0nm,0.4s,mb3.7
ULN Ulaanbaatar 27.16 45 *e*P **P 00 16 46.9 +8.5**
comp=E,0.5nm,0.4s,mb3.4
GNI Garni 28.25 297 *e*P **P 00 16 46.3 -1.8**
GNI pmax pmax
comp=E,1.0nm,0.3s
GNI Garni 28.25 297 *e*P **P 00 16 46.3 -1.8**
comp=E,1.3nm,0.3s,mb4.0
KIV Kislovodsk 30.37 304 *e*P **P 00 17 07.9 +1.1**
KIV pmax pmax
comp=E,4.0nm,1.0s,mb4.1
KIV Kislovodsk 30.37 304 *e*P **P 00 17 07.9 +1.1**
comp=E,4.5nm,1.0s,mb4.2
MALT Malatya 33.05 293 P **P 00 17 28.1 -2.4**
JOF Joensuu 42.96 331 *e*p **P 00 19 00.8 +6.8**
comp=E,1.1nm,0.5s,mb3.8
YAK Yakutsk 44.60 32 *e*P **P 00 19 13.6 +6.4**
FINES FINESS Array B 44.74 327 P **P 00 19 08.6 +0.3**
comp=E,0.6nm,0.5s,mb3.7,baz=110,slow=8.1,SNR=4.8
KEV Kevo 47.42 338 P **P 00 19 29.6 +0.1**
ARCES ARCESS Array B 47.81 338 P **P 00 19 33.8 +1.4**
comp=E,4.4nm,1.0s,mb4.5,baz=112,slow=6.9,SNR=2.9
NOA NORSAR Array B 51.73 325 P **P 00 20 03.8 +1.4**
comp=E,0.5nm,0.7s,mb3.6,baz=95,slow=7.4,SNR=2.9
MBWA Marble Bar 65.94 137 *e*P **P 00 21 40.4 -0.8**
comp=E,6.5nm,0.6s,mb4.8
TORD Torodi Ar. Bea 71.84 274 P **P 00 22 16.3 -1.5**
comp=E,0.3nm,0.4s,mb3.5,baz=47,slow=4.9,SNR=15
WRA Warramunga Ar 74.37 126 P **P 00 22 33.0 +0.2**
comp=E,1.8nm,0.7s,mb4.1,baz=322,slow=5.7,SNR=11
WRAB Tennant Creek 74.37 126 *e*P **P 00 22 33.5 +0.7**
WRAB pmax pmax
comp=E,3.0nm,0.7s,mb4.3
WRAB Tennant Creek 74.37 126 *e*P **P 00 22 33.5 +0.7**
comp=E,3.0nm,0.7s,mb4.3
ASAR Alice Springs 76.61 129 P **P 00 22 45.7 0.0**
comp=E,0.9nm,0.5s,mb3.9,baz=313,slow=5.8,SNR=14
CTAO Charters Tower 83.06 119 P **P 00 23 21.3 +0.7**
LPAZ La Paz 145.81 289 PKPbc PKPbc 00 30 34.5 +0.2
comp=E,0.5nm,0.4s,baz=274,slow=2.4,SNR=1.9
PLCA Paso Flores 153.38 242 PKP PKPdf 00 30 45.6 -0.2
comp=E,1.3nm,0.8s,baz=241,slow=7.7,SNR=3.1
PLCA PKPbc PKPbc 00 30 50.1 -3.2
comp=E,1.3nm,0.8s,baz=108,slow=2.8,SNR=2.7

BJI ***20*** *00:17:50.5, 1028S×10853E, h33km, mB5.1, mb4.9, Ms4.5, Msz4.3*
IDC ***20*** *00:17:54.1±0.5, 936S×1082 4E, h0km, mb4.5/16, mb1 4.5/17, mb1mx4.4/20, mbtmp4.4/17, ML3.7/1, Error ellipse: s-maj=19.9km s-min=13.6km az=61.0*
ISCJB ***20*** *00:17:57.6±0.3, 939S±004×10827E±005, h34km, mb4.7/55, MS5.0/1, Error ellipse: s-maj=7.9km s-min=5.1km az=122.0*
MOS ***20*** *00:17:57.7±1.0, 932S×10829E, h33km, mb4.9/16, Error ellipse: s-maj=14.6km s-min=7.6km az=117.5*
NEIC ***20*** *00:17:59.7±2.1, 937S×10827E, h34km±15km, mb4.7/29, Error ellipse: s-maj=7.5km s-min=5.0km az=57.0*
ISC 20 00:17:59.8±0.3, 939S±004×10827E±005, h36km, h36km±1.7km:pP-P, n124, σ0**90**/107**, mb4.7**/55**, MS5.0**/**1, 12C-6D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJI	**Banjamegara**	**2.49**	**35**	P	**Pn**	**00 18 39.4**	**+1.6**
	0.0nm,0.0s						
LEM	**Lembang**	**2.63**	**346**	P	**Pn**	**00 18 41.1**	**+1.3**
	0.0nm,0.0s						
JCJI	**Jatiwangi**	**2.88**	**360**	P	**Pn**	**00 18 42.2**	**-1.0**
	0.0nm,0.0s						
SBJI	**Serang**	**3.88**	**327**	P	**Pn**	**00 18 57.7**	**+0.7**
	0.0nm,0.0s						
KSI	**Kapahiang**	**8.02**	**315**	P	**Pn**	**00 19 52.3**	**-1.5**
	0.0nm,0.0s						
KSM	**Kuching**	**10.98**	**11**	*e*Pn	**Pn**	**00 20 34.8**	**+0.4**
COCO	**West Island**	**11.58**	**255**	*e*Pn	**Pn**	**00 20 43.6**	**+1.2**
KULM	**Kulim**	**16.45**	**332**	*e*Pn	**Pn**	**00 21 48.6**	**+0.9**
KKM	**Kota Kinabalu**	**17.26**	**28**	*e*P	**Pn**	**00 21 55.8**	**-2.1**
FITZ	**Fitzroy Crossi**	**18.95**	**119**	⇑*i*P	**Pn**	**00 22 18.5**	**-0.1**
	15nm,0.8s						
FITZ				*e*S	**S**	**00 25 34.0**	**-17**
FITZ	**Fitzroy Crossi**	**18.95**	**119**	P	**Pn**	**00 22 18.6**	**0.0**
	0.2nm,0.3s,baz=282,slow=4.3,SNR=11						
FITZ				S	**S**	**00 25 35.5**	**-15**
	0.2nm,0.3s,baz=0.8,slow=20,SNR=3.8						
KAKA	**Kakadu**	**23.94**	**100**	*e*P	**P**	**00 23 11.1**	**+0.6**
	7.9nm,0.6s,mb4.3						
NWAO	**Narrogin (SRO)**	**24.84**	**162**	*e*P	**P**	**00 23 17.6**	**-1.1**
NWAO				pmax	pmax		
	comp=E,17nm,1.0s						
NWAO	**Narrogin (SRO)**	**24.84**	**162**	*e*P	**P**	**00 23 17.6**	**-1.1**
	comp=E,17nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**27.27**	**116**	P	**P**	**00 23 40.9**	**+0.2**
	comp=Z,3.7nm,0.6s,mb4.1,baz=286,slow=11,SNR=12						
WRA				PcP	PcP	00 27 00.7	+0.9
	comp=Z,0.5nm,0.7s,baz=299,slow=2.1,SNR=5.2						
WRAB	**Tennant Creek**	**27.27**	**116**	⇑*i*P	**P**	**00 23 41.3**	**+0.6**
WRAB	**Tennant Creek**	**27.27**	**116**	*e*P	**P**	**00 23 41.0**	**+0.3**
	comp=Z,5.1nm,0.4s,mb4.4						
WB2	**Warramunga Ar**	**27.28**	**116**	⇑*i*P	**P**	**00 23 40.7**	**-0.1**
WB2				*e*P		00 23 41.2	
ASAR	**Alice Springs**	**28.30**	**123**	P	**P**	**00 23 49.6**	**-0.3**
	comp=Z,3.2nm,0.7s,mb4.1,baz=297,slow=9.2,SNR=26						
ASAR				PcP	PcP	00 27 03.6	+1.3
	comp=Z,1.9nm,0.5s,baz=308,slow=2.1,SNR=20						
CHTO	**Chiang Mai**	**29.50**	**342**	*e*P	**P**	**00 24 01.1**	**+0.5**
CHTO				*e**PP	pP	00 24 10.9	+0.2
CHTO				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.8						
CHTO	**Chiang Mai**	**29.50**	**342**	*e*P	**P**	**00 24 01.1**	**+0.6**
	comp=Z,17nm,0.9s,mb4.8						
CHTO				*e*pP	pP	00 24 10.8	+0.1
GYA	**Guiyang**	**35.67**	**358**	⇑*i*P	**P**	**00 24 56.3**	**+1.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NACB	**Ninganchiao**	**35.81**	**21**	P	**P**	**00 24 58.8**	**+3.1**
YHNB	**Yeheng**	**36.19**	**20**	P	**P**	**00 24 59.4**	**+0.5**
STKA	**Stephens Creek**	**38.12**	**131**	⇑*i*P	**P**	**00 25 15.5**	**+0.2**
	comp=E,6.3nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**38.12**	**131**	P	**P**	**00 25 15.4**	**+0.1**
	comp=Z,10nm,0.9s,mb4.6,baz=292,slow=8.6,SNR=13						
STKA				PcP	PcP	00 27 30.4	+0.6
	comp=Z,1.3nm,0.5s,baz=315,slow=5.7,SNR=3.4						
CTA	**Charters Tower**	**38.15**	**111**	*e*P	**P**	**00 25 17.3**	**+1.8**
	comp=Z,9.2nm,1.4s,mb4.3						
CTA	**Charters Tower**	**38.15**	**111**	*e*P	**P**	**00 25 17.3**	**+1.8**
CTA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
CTAO	**Charters Tower**	**38.15**	**111**	*e*P	**P**	**00 25 16.9**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
CTAO	**Charters Tower**	**38.15**	**111**	*e*P	**P**	**00 25 16.9**	**+1.4**
	comp=Z,3.4nm,0.6s,mb4.2						
PMG	**Port Moresby**	**38.35**	**93**	⇑*e*P	**P**	**00 25 17.7**	**+0.5**
ENH	**Enshi**	**39.45**	**2**	*e*P	**P**	**00 25 26.5**	**0.0**
JOW	**Kunigami**	**40.91**	**28**	P	**P**	**00 25 39.4**	**+0.8**
	comp=E,8.2nm,0.8s,mb4.4,baz=222,slow=11,SNR=3.8						
NJ2	**Nanjing**	**42.43**	**13**	*e*P	**P**	**00 25 47.5**	**-3.5**
NJ2				AP	pP	00 25 57.3	-4.2
NJ2				XP	sP	00 26 01.3	-4.4
NJ2				PP	PP	00 27 28.5	-1.2
NJ2				XS	sS	00 32 32.0	+4.5
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,220nm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,21.1s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,21.2s,MS5.0						
NJ2				LR	LR		
	comp=Z,3μm,22.0s,MS5.2						
JIRN	**Jiri**	**42.59**	**330**	*e*P	**P**	**00 25 53.2**	**+0.9**
	comp=Z,68nm,0.8s,mb5.5						
PKI	**Pulchoki**	**42.91**	**330**	*e*P	**P**	**00 25 55.0**	**+0.1**
	comp=Z,45nm,1.1s,mb5.1						
PKI	**Pulchoki**	**42.91**	**330**	*e*P	**P**	**00 25 55.0**	**+0.1**
PKI				pmax	pmax		
	comp=Z,45nm,1.1s,mb5.1						
GUN	**Gumba**	**42.95**	**330**	*e*P	**P**	**00 25 56.2**	**+1.0**
	comp=Z,69nm,0.7s,mb5.5						
DMN	**Daman**	**43.09**	**329**	*e*P	**P**	**00 25 56.7**	**+0.4**
	comp=Z,76nm,1.0s,mb5.4						
KKN	**Kakani**	**43.15**	**330**	*e*P	**P**	**00 25 57.1**	**+0.3**
	comp=Z,69nm,1.0s,mb5.3						
KKN	**Kakani**	**43.15**	**330**	*e*P	**P**	**00 25 57.1**	**+0.3**
KKN				pmax	pmax		
	comp=Z,69nm,1.0s,mb5.3						
XAN	**Xi'an**	**43.20**	**1**	P	**P**	**00 25 57.5**	**+0.3**
XAN				AP	pP	00 26 05.4	-2.3
XAN				AMB	AMB		
	comp=Z,22nm,0.8s,mb4.9						
GKN	**Gorkha**	**43.65**	**329**	*e*P	**P**	**00 26 01.0**	**+0.2**
	comp=Z,74nm,1.0s,mb5.4						
KOLN	**Koldanda**	**43.99**	**328**	*e*P	**P**	**00 26 04.0**	**+0.4**
	comp=Z,49nm,0.9s,mb5.2						
LZH	**Lanzhou**	**45.43**	**355**	*e*P	**P**	**00 26 16.3**	**+1.3**
LZH				AP	pP	00 26 25.0	-0.6
LZH				XP	sP	00 26 33.1	+3.3
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.0						
TAU	**Tasmania Unive**	**47.70**	**141**	*e*P	**P**	**00 26 33.5**	**+0.7**
TAU				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
TAU	**Tasmania Unive**	**47.70**	**141**	*e*P	**P**	**00 26 33.5**	**+0.6**
	comp=Z,0.9nm,0.3s,mb4.3						
GTA	**Gaotai**	**49.19**	**351**	*e*P	**P**	**00 26 45.6**	**+1.3**
GTA				AP	pP	00 26 52.0	-2.9
GTA				XP	sP	00 26 56.0	-3.1
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.6						
MJAR	**Matsushiro Arr**	**53.66**	**30**	P	**P**	**00 27 16.1**	**-1.8**
	comp=Z,3.4nm,0.8s,mb4.3,baz=205,slow=7.7,SNR=9.4						
CASY	**Casey**	**56.83**	**179**	*e*P	**P**	**00 27 42.6**	**+2.0**
	comp=Z,24nm,0.6s,mb5.4						
SONM	**Songino Array**	**57.00**	**358**	P	**P**	**00 27 41.2**	**-0.6**
	comp=Z,2.9nm,0.7s,mb4.4,baz=171,slow=7.6,SNR=16						
ULN	**Ulaanbaatar**	**57.02**	**359**	⇓*i*P	**P**	**00 27 40.7**	**-1.2**
ZAK	**Zakamensk**	**59.68**	**356**	*e*P	**P**	**00 27 59.6**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s,mb3.9						
OPO	**Ambohidratompo**	**59.74**	**254**	P	**P**	**00 28 01.6**	**+0.7**
	comp=Z,5.3nm,1.2s,mb4.4,baz=51,slow=5.4,SNR=3.3						
AAK	**Ala-Archa**	**60.27**	**332**	⇑*e*P	**P**	**00 28 01.1**	**-3.5**
AAK				pmax	pmax		
	comp=Z,6.0nm,2.5s,mb4.2						
AAK	**Ala-Archa**	**60.27**	**332**	*e*P	**P**	**00 28 04.5**	**-0.1**
	comp=Z,1.0nm,0.3s,mb4.3						
MK31	**Makanchi Array**	**60.55**	**340**	P	**P**	**00 28 06.2**	**-0.3**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.0						
MKAR	**Makanchi Array**	**60.55**	**340**	P	**P**	**00 28 06.4**	**-0.1**
	comp=Z,12nm,0.6s,mb5.2,baz=143,slow=7.9,SNR=92						
MKAR	**Makanchi Array**	**60.55**	**340**	⇑*e*P	**P**	**00 28 06.4**	**-0.1**
YSS	**Yuzh-Sakhalins**	**63.95**	**26**	⇓*e*P	**P**	**00 28 28.6**	**-0.7**
YSS				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
KURK	**Kurchatov**	**65.17**	**340**	*e*P	**P**	**00 28 37.2**	**0.0**
KURK				*e**PP	pP	00 28 47.8	-0.3
KURK				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
KURK	**Kurchatov**	**65.17**	**340**	*e*P	**P**	**00 28 37.2**	**0.0**
	comp=Z,14nm,0.9s,mb5.0						
KURK				*e*pP	pP	00 28 47.8	-0.3
MAW	**Mawson**	**65.46**	**197**	P	**P**	**00 28 38.0**	**-1.1**
	comp=Z,1.1nm,0.4s,mb4.2,baz=41,slow=5.1,SNR=10						
MAW	**Mawson**	**65.46**	**197**	*e*P	**P**	**00 28 38.5**	**-0.6**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MAW	**Mawson**	**65.46**	**197**	*e*P	**P**	**00 28 38.5**	**-0.7**
	comp=Z,2.0nm,0.4s,mb4.5						
KRAR	**Krasnoyarsk**	**66.41**	**351**	⇑*e*P	**P**	**00 28 42.3**	**-2.9**
KRAR				pmax	pmax		
	comp=Z,39nm,0.6s,mb5.6						
VOSK	**Vostochnaya**	**69.59**	**337**	P	**P**	**00 29 04.1**	**-1.1**
VOSK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
BVA0	**Borovoye Array**	**70.05**	**337**	*i* P	**P**	**00 29 07.6**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BVAR	**Borovoye Array**	**70.05**	**337**	P	**P**	**00 29 07.7**	**-0.4**
	comp=Z,4.0nm,0.7s,mb4.4,baz=144,slow=8.9,SNR=25						
BRVK	**Borovoye**	**70.12**	**337**	*e*P	**P**	**00 29 08.1**	**-0.3**
BRVK				*e**PP	pP	00 29 18.9	-0.5
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
BRVK	**Borovoye**	**70.12**	**337**	*e*P	**P**	**00 29 08.1**	**-0.4**
	comp=Z,3.5nm,1.1s,mb4.2						
BRVK				*e*pP	pP	00 29 18.9	-0.5
CHKZ	**Chkalovo**	**70.46**	**337**	*e*P	**P**	**00 29 10.4**	**-0.1**
CHKZ				*e**PP	pP	00 29 20.7	-0.8
CHKZ				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
CHKZ	**Chkalovo**	**70.46**	**337**	*e*P	**P**	**00 29 10.4**	**-0.2**
	comp=Z,12nm,0.9s,mb4.8						
CHKZ				*e*pP	pP	00 29 20.7	-0.9
ZRNK	**Zerenda**	**70.54**	**336**	*e*P	**P**	**00 29 10.7**	**-0.3**
ZRNK				*e**PP	pP	00 29 21.4	-0.6
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**70.54**	**336**	*e*P	**P**	**00 29 10.7**	**-0.3**
	comp=Z,5.0nm,0.9s,mb4.4						
ZRNK				*e*pP	pP	00 29 21.4	-0.7
AB31	**Akbulak array**	**72.10**	**329**	P	**P**	**00 29 20.0**	**-0.4**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
YAK	**Yakutsk**	**73.14**	**10**	⇓*i*P	**P**	**00 29 26.3**	**-0.3**
YAK				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.3						
VNDA	**Vanda**	**73.40**	**169**	P	**P**	**00 29 26.8**	**-1.4**
	comp=Z,1.0nm,0.8s,mb3.8,baz=316,slow=8.0,SNR=6.2						
VNDA	**Vanda**	**73.40**	**169**	*e*P	**P**	**00 29 27.5**	**-0.6**
VNDA				*e*pP	pP	00 29 37.9	-1.3
SBA	**Scott Base**	**74.47**	**169**	*e*P	**P**	**00 29 33.9**	**-0.5**
SBA				*e**PP	pP	00 29 46.0	+0.5
SVE	**Sverdlovsk**	**76.70**	**335**	*e*P	**P**	**00 29 47.5**	**+0.3**
ARU	**Arti**	**77.31**	**334**	⇓*i*P	**P**	**00 29 49.9**	**-0.7**
ARU				*e*		00 32 43.7	
ARU				*e*PPP		00 34 28.5	
ARU				*e*S	S	00 39 37.5	-0.6
ARU				*e*SS	SS	00 44 35.4	-1.3
ARU				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
ARU	**Arti**	**77.31**	**334**	*e*P	**P**	**00 29 50.4**	**-0.3**
	comp=Z,2.2nm,0.6s,mb4.3						
BOSA	**Boshof**	**79.47**	**243**	P	**P**	**00 30 02.9**	**+0.4**
	comp=Z,3.2nm,1.2s,mb4.1,baz=109,slow=7.3,SNR=3.9						
BOSA	**Boshof**	**79.47**	**243**	P	**P**	**00 30 02.9**	**+0.4**
KIV	**Kislovodsk**	**79.49**	**318**	*e*P	**P**	**00 30 03.0**	**+0.3**
KIV				*e**PP	pP	00 30 15.4	+1.6
KIV				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
KIV	**Kislovodsk**	**79.49**	**318**	*e*P	**P**	**00 30 03.0**	**+0.3**
	comp=Z,4.7nm,0.6s,mb4.6						
KIV				*e*pP	pP	00 30 15.4	+1.6
LBTB	**Lobatse**	**79.50**	**246**	*e*P	**P**	**00 30 03.5**	**+0.8**
GOF	**Gofitskoye**	**79.72**	**319**	*e*P	**P**	**00 30 03.1**	**-0.8**
EIL	**Elat**	**80.41**	**302**	*e*P	**P**	**00 30 07.7**	**+0.1**
QSPA	**South Pole Qui**	**80.61**	**180**	*e*P	**P**	**00 30 08.0**	**-0.7**
	comp=Z,1.4nm,0.5s,mb4.2						
TIXI	**Tiksi**	**82.02**	**6**	*de*P	**P**	**00 30 15.2**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
VRHR	**Novokhopersk**	**83.06**	**324**	*e*P	**P**	**00 30 21.4**	**-0.2**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb5.2						
VRHR				pmax	pmax		
	comp=N,20nm,0.8s						
VRHR				pmax	pmax		
	comp=E,7.0nm,0.6s						
BR131	**Keskin Array S**	**84.35**	**312**	*e*P	**P**	**00 30 28.1**	**-0.1**
	comp=E,1.3nm,0.7s,mb4.2						
BR131				*e*pP	pP	00 30 39.9	+0.5
BRTR	**Keskin Array B**	**84.35**	**312**	P	**P**	**00 30 28.2**	**0.0**
	comp=E,3.5nm,1.0s,mb4.5,baz=134,slow=7.1,SNR=16						
BRTR	**Keskin Array B**	**84.35**	**312**	⇑*e*P	**P**	**00 30 28.5**	**+0.3**
OBN	**Obninsk**	**87.41**	**327**	*d i*P	**P**	**00 30 43.1**	**-0.2**
OBN				*e**SP	sP	00 30 53.7	-5.0
OBN				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.4						
OBN	**Obninsk**	**87.41**	**327**	*e*P	**P**	**00 30 43.1**	**-0.2**
	comp=Z,13nm,0.6s,mb5.3						
OBN				*e*pP	pP	00 30 53.4	-1.2
SNAA	**Sanae**	**87.63**	**197**	*e*P	**P**	**00 30 44.1**	**-0.3**
SNAA				*e**PP	pP	00 30 55.8	+0.1
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SNAA	**Sanae**	**87.63**	**197**	*e*P	**P**	**00 30 44.1**	**-0.2**
	comp=Z,0.5nm,0.5s,mb4.0						
SNAA				*e*pP	pP	00 30 55.8	+0.1
AKASG	**Malin Array Be**	**90.34**	**321**	P	**P**	**00 30 56.0**	**-1.2**
	comp=Z,0.3nm,0.4s,mb4.0,baz=82,slow=5.9,SNR=5.2						
AKASG	**Malin Array Be**	**90.34**	**321**	P	**P**	**00 30 56.0**	**-1.2**
FINES	**FINESS Array B**	**94.46**	**331**	P	**P**	**00 31 15.8**	**-0.4**
	comp=Z,3.5nm,1.1s,mb4.7,baz=101,slow=6.0,SNR=5.1						
FINES	**FINESS Array B**	**94.46**	**331**	⇑*e*P	**P**	**00 31 17.2**	**+1.0**
ARCES	**ARCESS Array B**	**96.21**	**339**	P	**P**	**00 31 23.1**	**-1.1**
	comp=Z,3.9nm,1.0s,mb4.8,baz=74,slow=4.4,SNR=6.5						
KDAK	**Kodiak Island**	**102.76**	**33**	*e*P	Pdif	00 32 02.8	+9.3
YKA	**Yellowknife Ar**	**118.64**	**21**	PKP	PKPdf	00 36 43.6	-0.3
	comp=Z,0.8nm,0.7s,baz=294,slow=1.0,SNR=3.9						
YKA	**Yellowknife Ar**	**118.64**	**21**	⇑*i*PKIKP	PKPdf	00 36 43.5	-0.4
WMOK	**Wichita Mounta**	**144.66**	**40**	*e*PKIKP	PKPdf	00 37 32.9	+0.3
WMOK				*e*		00 37 43.7	
LONY	**Lake Ozonia**	**144.82**	**4**	*e*PKPdf	PKPdf	00 37 32.7	-0.2
LONY				*e*		00 37 43.1	
NCB	**Newcomb**	**145.49**	**3**	*e*PKPdf	PKPdf	00 37 34.9	+0.8
NCB				*e*		00 37 45.2	
BDFB	**Brasilia**	**145.79**	**224**	PKPbc	PKPbc	00 37 37.0	+2.0
	comp=Z,1.2nm,0.5s,baz=42,slow=3.6,SNR=3.5						
JCT	**Junction City**	**146.46**	**47**	*e*PKP	PKPdf	00 37 38.9	+3.2
JCT				*ep*PKPdf	pPKPdf	00 37 48.9	+1.6
CCM	**Cathedral Cave**	**146.49**	**29**	*e*PKP2	PKPab	00 37 36.6	-1.5
ACSO	**Alum Creek Sta**	**147.70**	**16**	*e*PKP	PKPdf	00 37 41.3	+3.5
ACSO				*ep*PKP	pPKPdf	00 37 51.8	+2.5
MIAR	**Mount Ida**	**147.95**	**35**	*e*PKIKP	PKPdf	00 37 38.8	+0.7
MIAR				*e*		00 37 42.1	
MIAR				*e*		00 37 51.7	
SSPA	**Standing Stone**	**148.41**	**9**	*e*P	PKPbc	00 37 43.4	+0.9
WCI	**Wyandotte Cave

*NDI **20** 00:34:57.7±4.8,3174N×7816E,h5km,ML3.4*
*MOS **20** 00:34:58.1±1.1,3157N×7791E,h33km,mb3.7/4,Error ellipse: s-maj=31.5km s-min=12.0km az=104.6*
*NEIC **20** 00:35:00.2±0.7,3160N×7791E,h35km,mb3.5/4,Error ellipse: s-maj=16.6km s-min=12.1km az=75.0*

ISC 20 00:34:57.2±0.8,3177N±004×7818E±005,h9km±6km,n36,σθ§96/44,mb3.6/9,1C,Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLP	**Kalpa**	**0.24**	**165**	*i* P	**Pg**	**00 35 01.8**	**-0.3**
KLP				*e*S	**Sg**	**00 35 05.0**	**-0.4**
KLP				AML	AML	00 35 05.7	
	comp=E,17μm,0.2s						
KLP				AML	AML	00 35 05.9	
	comp=N,21μm,0.1s						
SDNR	**Sundarnagar**	**1.06**	**256**	*e*P	**Pg**	**00 35 18.0**	**+0.4**
SMLA	**Simla**	**1.08**	**234**	*e*P	**Pg**	**00 35 17.2**	**-0.6**
SMLA				*e*S	**Sg**	**00 35 31.8**	**0.0**
SMLA				AML	AML	00 35 39.0	
	comp=N,1μm,0.2s						
SMLA				AML	AML	00 35 39.0	
	comp=E,1μm,0.1s						
DDI	**Dehra Dun**	**1.45**	**184**	*e*P	**Pn**	**00 35 24.8**	**+1.3**
DDI				*ex*	x	00 35 46.0	
BHK	**Bhakra**	**1.54**	**257**	*e*P	**Pn**	**00 35 31.8**	**+7.0**
BHK				*e*S	**Sn**	**00 35 54.2**	**+9.3**
JOSI	**Joshimath**	**1.69**	**135**	*e*P	**Pn**	**00 35 16.1**	**-11**
JOSI				*e*S	**Sn**	**00 35 37.2**	**-11**
JOSI				AML	AML	00 35 39.0	
	comp=E,526nm,0.4s						
JOSI				AML	AML	00 35 40.3	
	comp=N,636nm,0.2s						
PONG	**Pong**	**1.90**	**276**	*e*P	**Pn**	**00 35 32.0**	**+2.2**
PONG				*ex*	x	00 36 00.3	
DLH	**Dalhousie**	**2.03**	**293**	*e*P	**Pn**	**00 35 34.0**	**+2.6**
PTH	**Pithoragarh**	**2.83**	**141**	*e*P	**Pg**	**00 35 50.8**	**-0.5**
PTH				*e*S	**Sg**	**00 36 28.9**	**+1.0**
LGTI	**Lohaghat**	**2.92**	**142**	*e*P	**Pn**	**00 35 44.0**	**+0.3**
LGTI				*ex*	x	00 36 27.0	
NDI	**New Delhi**	**3.19**	**195**	*e*P	**Pn**	**00 35 54.0**	**+6.6**
NDI				*e*S	**Sn**	**00 36 30.0**	**+4.5**
AYAN	**Aya Nagar**	**3.40**	**196**	*e*P	**Pn**	**00 35 49.8**	**-0.6**
KUDL	**Kundal**	**3.90**	**202**	*e*P	**Pn**	**00 35 57.2**	**+0.1**
KUDL				*e*P		00 35 58.0	
KUDL				*e*S	**Sn**	**00 36 42.9**	**-0.1**
KUDL				AML	AML	00 36 47.8	
	comp=N,14nm,0.1s						
KUDL				AML	AML	00 37 09.6	
	comp=E,66nm,0.5s						
KK31	**Karatay Array**	**12.84**	**334**	Pn	**Pn**	**00 37 58.1**	**-1.7**
	comp=E,0.5nm,0.4s,baz=154,slow=12,SNR=8.9						
KK31				⇑Sn	**Sn**	**00 40 14.4**	**-8.4**
	comp=E,2.4nm,0.6s,baz=160,slow=24,SNR=7.7						
MKAR	**Makanchi Array**	**15.33**	**11**	Pn	**Pn**	**00 38 37.8**	**+4.1**
	comp=E,0.1nm,0.3s,baz=198,slow=12,SNR=6.9						
KURK	**Kurchatov**	**18.93**	**1**	*e*P	**Pn**	**00 39 19.2**	**+0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**18.93**	**1**	*e*P	**Pn**	**00 39 19.2**	**+0.3**
	comp=Z,2.2nm,0.8s						
BVAR	**Borovoye Array**	**21.98**	**347**	P	**P**	**00 39 51.5**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.3,baz=147,slow=12,SNR=5.3						
BRVK	**Borovoye**	**22.03**	**347**	*e*P	**P**	**00 39 52.2**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
BRVK	**Borovoye**	**22.03**	**347**	*e*P	**P**	**00 39 52.1**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.3						
ZRNK	**Zerenda**	**22.19**	**345**	*e*P	**P**	**00 39 53.6**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
ZRNK	**Zerenda**	**22.19**	**345**	*e*P	**P**	**00 39 53.5**	**0.0**
	comp=Z,1.5nm,0.7s,mb3.5						
CHKZ	**Chkalovo**	**22.56**	**348**	*e*P	**P**	**00 39 57.6**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.9						
CHKZ	**Chkalovo**	**22.56**	**348**	*e*P	**P**	**00 39 57.6**	**+0.1**
	comp=Z,2.8nm,0.6s,mb3.9						
AKTK	**Aktyubinsk**	**23.92**	**327**	P	**P**	**00 40 11.5**	**+0.2**
AKTO	**Aktyubinsk**	**23.92**	**327**	P	**P**	**00 40 11.5**	**+0.2**
	comp=Z,0.7nm,0.3s,mb3.5,baz=136,slow=14,SNR=4.8						
AKTO	**Aktyubinsk**	**23.92**	**327**	P	**P**	**00 40 11.5**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
GNI	**Garni**	**28.20**	**297**	P	**P**	**00 40 48.8**	**-1.2**
MALT	**Malatya**	**33.00**	**293**	P	**P**	**00 41 30.3**	**-2.2**
JOF	**Joensuu**	**42.91**	**331**	*e*p	**P**	**00 43 03.5**	**+7.5**
FINES	**FINESS Array B**	**44.69**	**327**	P	**P**	**00 43 11.3**	**+1.0**
	comp=Z,1.6nm,0.9s,mb3.8,baz=128,slow=11,SNR=3.7						
FINES	**FINESS Array B**	**44.69**	**327**	P	**P**	**00 43 11.3**	**+1.0**
TORD	**Torodi Ar. Bea**	**71.80**	**274**	P	**P**	**00 46 18.4**	**-1.6**
	comp=Z,0.2nm,0.5s,mb3.3,baz=50,slow=4.6,SNR=6.4						
TORD	**Torodi Ar. Bea**	**71.80**	**274**	P	**P**	**00 46 18.4**	**-1.6**
WRA	**Warramunga Arr**	**74.42**	**126**	P	**P**	**00 46 35.4**	**-0.1**
	comp=Z,0.6nm,0.8s,mb3.6,baz=320,slow=5.5,SNR=5.3						
ASAR	**Alice Springs**	**76.66**	**129**	P	**P**	**00 46 48.0**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.7,baz=310,slow=5.9,SNR=6.7						

*ISCJB **20** 00:43:02.5±0.9,9.1S±0.1×1090E±02,h10km,mb3.8/7,Error ellipse: s-maj=31.1km s-min=12.5km az=104.2*
*IDC **20** 00:43:03.0±2.5,9.12S×10892E,h0km,mb3.8/4,mb1 3.9/4,mb1mx3.6/15,mbtmp3.8/4,Error ellipse: s-maj=117.9km s-min=22.8km az=53.0*
*NEIC **20** 00:43:04.6±0.8,907S×10902E,h10km,mb4.0/3,Error ellipse: s-maj=26.1km s-min=10.5km az=52.0*

ISC 20 00:43:04.7±0.9,91S±01×1090E±02,h10km,n13,σθ§71/13,mb3.8/7,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**15.87**	**140**	*e*Pn	**Pn**	**00 46 41.3**	**-6.9**
MBWA				*e*Sn	Sn	00 49 20.2	-24
KKM	**Kota Kinabalu**	**16.65**	**26**	Pn	**Pn**	**00 46 57.9**	**-0.3**
WRA	**Warramunga Arr**	**26.79**	**117**	P	**P**	**00 48 45.3**	**+0.5**
	0.4nm,0.6s,mb3.1,baz=290,slow=12,SNR=3.6						
WRAB	**Tennant Creek**	**26.79**	**117**	*e*P	**P**	**00 48 45.1**	**+0.2**
	0.7nm,0.5s,mb3.5						
WB2	**Warramunga Arr**	**26.80**	**117**	*e*P	**P**	**00 48 44.6**	**-0.3**
STKA	**Stephens Creek**	**37.81**	**132**	P	**P**	**00 50 21.2**	**0.0**
	1.2nm,0.6s,mb3.8,baz=303,slow=12,SNR=6.1						
STKA	**Stephens Creek**	**37.81**	**132**	*e*P	**P**	**00 50 20.5**	**-0.8**
SONM	**Songino Array**	**56.70**	**358**	P	**P**	**00 52 49.2**	**+0.9**
	0.5nm,0.5s,mb3.8,baz=179,slow=8.0,SNR=5.4						
MKAR	**Makanchi Array**	**60.49**	**339**	P	**P**	**00 53 14.6**	**-0.2**
	1.4nm,0.5s,mb4.3,baz=148,slow=7.6,SNR=29						
KURK	**Kurchatov**	**65.10**	**339**	*e*P	**P**	**00 53 44.9**	**-0.7**
	0.5nm,0.5s,mb3.8						
BRVK	**Borovoye**	**70.09**	**336**	P	**P**	**00 54 18.7**	**+1.7**
CHKZ	**Chkalovo**	**70.43**	**337**	*e*P	**P**	**00 54 18.5**	**-0.7**
	2.2nm,0.6s,mb4.3						
CHKZ				*e*		00 54 30.0	
ZRNK	**Zerenda**	**70.53**	**336**	*e*P	**P**	**00 54 19.1**	**-0.6**
ZRNK				*e*		00 54 30.9	

IDC 20 00:48:40.3±14.0,1002S×10869E,h0km,mb3.8/4,mb1 3.8/4,mb1mx3.6/16,mbtmp3.8/4,Error ellipse: s-maj=385.1km s-min=92.3km az=131.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**57.63**	**358**	P	P	00 58 32.3	+0.1
	0.3nm,0.3s,baz=168,slow=6.8,SNR=3.9						
MKAR	**Makanchi Array**	**61.27**	**340**	P	P	00 58 57.4	+0.1
	0.5nm,0.6s,baz=145,slow=7.4,SNR=4.1						
BVAR	**Borovoye Array**	**70.78**	**337**	P	P	00 59 58.4	-0.1
	0.8nm,0.6s,baz=150,slow=6.3,SNR=4.6						
BRTR	**Keskin Array B**	**85.07**	**312**	P	P	01 01 18.4	+0.5
	0.4nm,0.7s,baz=145,slow=5.3,SNR=3.0						

*CSEM **20** 01:00:12.5±0.1,4305N×021W,h2km,ML2.6/14,Error ellipse: s-maj=1.0km s-min=0.8km az=168.0*
*NEIC **20** 01:00:12.5,4304N×021W,h2km,ML2.4(STR),ML2.6(LDG),MN1.9(MDD),After LDG.*
*LDG **20** 01:00:12.5±0.1,4304N×021W,h2km,Ml2.6/15,Error ellipse: s-maj=1.2km s-min=1.0km az=164.0*
*STR **20** 01:00:12.2±0.1,4305N×020W,h5km±1km,Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 20 01:00:12.9±0.2,4305N×021W,h0km,mbLg1.8/20,Error ellipse: s-maj=2.2km s-min=1.2km az=17.0,PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	**0.14**	**280**	P	Pg	01 00 15.3	-0.3
REYF				S	Sg	01 00 17.4	+0.1
LABF	**Labassere**	**0.20**	**90**	Pg	Pg	01 00 16.6	-0.2
LABF				Sg	Sg	01 00 19.5	+0.1
LABF	**Labassere**	**0.20**	**90**	P	Pg	01 00 16.4	-0.4
LABF				S	Sg	01 00 19.7	+0.3
VIEF	**Viey**	**0.23**	**134**	Pg	Pg	01 00 17.1	-0.3
VIEF				Sg	Sg	01 00 20.4	0.0
VIEF	**Viey**	**0.23**	**134**	P	Pg	01 00 17.1	-0.3
VIEF				S	Sg	01 00 20.4	0.0
ETSF	**Etsaut**	**0.30**	**240**	*e*Pg	Pg	01 00 18.2	-0.4
ETSF				*e*Sg	Sg	01 00 21.8	-0.7
	142nm,0.3s						
ETSF	**Etsaut**	**0.30**	**240**	*e*Pg	Pg	01 00 18.2	-0.4
ETSF				*e*Sg	Sg	01 00 21.8	-0.7
	71nm,0.3s						
FDAF	**Les Forges d'A**	**0.35**	**230**	P	Pg	01 00 19.2	-0.4
FDAF				S	Sg	01 00 24.3	+0.2
ATE	**Arette**	**0.36**	**276**	Pg	Pg	01 00 19.2	-0.7
ATE				Sg	Sg	01 00 24.7	+0.1
ATE	**Arette**	**0.36**	**276**	P	Pg	01 00 19.1	-0.8
ATE				S	Sg	01 00 24.6	0.0
EPF	**Esparros**	**0.40**	**92**	*e*Pg	Pg	01 00 20.2	-0.3
EPF				*e*Sg	Sg	01 00 25.8	+0.1
	107nm,0.4s						
EPF	**Esparros**	**0.40**	**92**	*e*Pg	Pg	01 00 20.2	-0.3
EPF				*e*Sg	Sg	01 00 25.8	+0.1
	54nm,0.4s						
EBIE	**Bielsa**	**0.44**	**144**	Pg	Pg	01 00 20.9	-0.4
	1.5nm,0.1s,SNR=18						
EBIE				Lg		01 00 27.0	
	32nm,0.1s,SNR=65						
EBIE	**Bielsa**	**0.44**	**144**	Pg	Pg	01 00 20.9	-0.4
EBIE				Lg		01 00 27.0	
EBIE	**Bielsa**	**0.44**	**144**	Pg	Pg	01 00 20.9	-0.4
	1.5nm,0.1s,SNR=18						
RESF	**Ens**	**0.47**	**121**	Pg	Pg	01 00 21.4	-0.4
RESF				Sg	Sg	01 00 28.1	+0.3
RESF	**Ens**	**0.47**	**121**	P	Pg	01 00 21.3	-0.5
RESF				S	Sg	01 00 27.8	0.0
ORDF	**Ordiarp**	**0.56**	**288**	P	Pg	01 00 23.0	-0.6
ORDF				S	Sg	01 00 31.3	+0.5
LARF	**Larrau**	**0.57**	**269**	Pg	Pg	01 00 23.3	-0.6
LARF				Sg	Sg	01 00 31.6	+0.3
LARF	**Larrau**	**0.57**	**269**	P	Pg	01 00 23.3	-0.6
LARF				S	Sg	01 00 31.4	+0.1
MELF	**Melles**	**0.73**	**103**	P	Pg	01 00 25.8	-1.0
MELF				S	Sg	01 00 36.1	-0.2
OSSF	**Osses**	**0.80**	**285**	P	Pg	01 00 27.2	-1.0
OSSF				S	Sg	01 00 38.2	-0.4
MLS	**Moulis**	**0.96**	**95**	S	Sg	01 00 44.7	+1.0
EALK	**Alkurruntz**	**0.97**	**281**	Lg		01 00 44.0	
	3.8nm,0.1s,SNR=5.3						
ELIZ	**Elizondo**	**0.98**	**277**	Pg	Pg	01 00 31.1	-0.4
	0.3nm,0.1s,SNR=7.5						
ELIZ				Lg		01 00 44.7	
	2.8nm,0.2s,SNR=13						
IUSE	**Utxeti**	**0.99**	**265**	Pn	Pn	01 00 33.8	-0.2
	0.2nm,0.1s,SNR=4.0						
IUSE				Lg		01 00 44.8	
	2.3nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.99**	**265**	Pg	Pg	01 00 33.9	+2.1
	0.2nm,0.1s,SNR=4.0						
IUNC	**Unciti**	**0.99**	**253**	Lg		01 00 46.3	
	4.3nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**1.05**	**255**	Lg		01 00 49.1	
	3.8nm,0.1s,SNR=4.7						
SALF	**Salau**	**1.06**	**105**	P	Pg	01 00 32.3	-1.0
SALF				S	Sg	01 00 46.5	-0.6
CSOR	**Sort**	**1.19**	**124**	P	Pg	01 00 35.0	-0.8
CSOR				S	Sg	01 00 51.2	0.0
	5.3nm,0.2s						
ESAC	**San Caprasio**	**1.34**	**188**	Pg	Pg	01 00 39.1	+0.6
	7.2nm,0.1s,SNR=7.1						
ESAC				Lg		01 00 57.2	
	36nm,0.2s,SNR=13						
ESAC	**San Caprasio**	**1.34**	**188**	Pg	Pg	01 00 39.1	+0.6
	7.2nm,0.1s,SNR=7.1						
CAVN	**Les Avellanes**	**1.36**	**148**	P	Pg	01 00 38.5	-0.5
CAVN				S	Sg	01 00 56.7	+0.1
	17nm,0.2s						
CORG	**Organya**	**1.39**	**125**	P	Pn	01 00 38.4	-1.1
CORG				S	Sg	01 00 57.8	+0.3
	1.4nm,0.2s						
CLLI	**Llivia**	**1.70**	**109**	P	Pn	01 00 44.0	+0.2
CLLI				S	Sn	01 01 07.3	+1.0
	1.8nm,0.3s						
VALF	**Valcebollere**	**1.76**	**111**	S	Sn	01 01 09.4	+1.7
MTLF	**Montolieu**	**1.80**	**80**	*e*Pg	Pg	01 00 46.2	-1.1
MTLF				*e*Sg	Sg	01 01 09.4	-1.2
	6.9nm,0.3s						
MTLF	**Montolieu**	**1.80**	**80**	Pn	Pn	01 00 43.0	-2.1
MTLF				Pg	Pg	01 00 46.2	-1.1
MTLF				Lg		01 01 09.4	
	3.5nm,0.3s						
MTLF	**Montolieu**	**1.80**	**80**	*e*Pn	Pn	01 00 43.0	-2.1
MTLF				*e*Pg	Pg	01 00 46.2	-1.1
MTLF				*e*Sg	Sg	01 01 09.4	-1.2
MTLF	**Montolieu**	**1.80**	**80**	*e*Pg	Pg	01 00 46.2	-1.1
MTLF				*e*Sg	Sg	01 01 09.4	-1.2
	3.5nm,0.3s						
EPOB	**Poblet**	**1.94**	**150**	Pg	Pg	01 00 48.8	-1.4
	0.9nm,0.1s,SNR=6.5						
EPOB				Lg		01 01 13.9	
	7.4nm,0.2s,SNR=11						
EPOB	**Poblet**	**1.94**	**150**	Pg	Pg	01 00 48.8	-1.3
EPOB				Lg		01 01 13.9	
EPOB	**Poblet**	**1.94**	**150**	Pg	Pg	01 00 48.8	-1.3
	0.9nm,0.1s,SNR=6.5						
LFF	**La Frestale**	**2.01**	**20**	*e*Pg	Pg	01 00 49.9	-1.5
LFF				*e*Sg	Sg	01 01 16.6	-0.9
	18nm,0.3s						
LFF	**La Frestale**	**2.01**	**20**	Pn	Pn	01 00 45.5	-2.6
LFF				Pg	Pg	01 00 49.9	-1.5
LFF				Lg		01 01 16.6	
	8.8nm,0.3s						
LFF	**La Frestale**	**2.01**	**20**	*e*Pn	Pn	01 00 45.5	-2.6
LFF				*e*Pg	Pg	01 00 49.9	-1.5
LFF				*e*Sg	Sg	01 01 16.6	-0.9
LFF	**La Frestale**	**2.01**	**20**	*e*Pg	Pg	01 00 49.9	-1.5
LFF				*e*Sg	Sg	01 01 16.6	-0.9
	8.8nm,0.3s						
ERTA	**Horta de San J**	**2.13**	**169**	Pg	Pg	01 00 52.4	-1.2
	0.5nm,0.1s,SNR=5.7						
ERTA				Lg		01 01 20.2	
	3.3nm,0.1s,SNR=11						
ERTA	**Horta de San J**	**2.13**	**169**	Pg	Pg	01 00 52.4	-1.2
	0.5nm,0.1s,SNR=5.7						
CFON	**Fontmartina**	**2.34**	**122**	P	Pn	01 00 53.4	+0.8
EJON	**La Jonquera**	**2.36**	**104**	Pg	Pg	01 00 57.8	-0.2
	0.3nm,0.1s,SNR=4.0						
EJON				Lg		01 01 29.3	
	1.3nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.36**	**104**	Pg	Pg	01 00 57.8	-0.2
	SNR=7.9						
ELAN	**Lanestosa**	**2.37**	**276**	Pg	Pg	01 00 57.8	-0.5
	0.2nm,0.2s,SNR=4.0						
ELAN				Sn	Sn	01 01 25.8	+3.0
	0.6nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**2.37**	**276**	Pg	Pg	01 00 57.8	-0.5
	0.2nm,0.2s,SNR=4.0						
CAF	**Calviac**	**2.49**	**40**	*e*Pg	Pg	01 00 58.9	-1.8
CAF				*e*Sg	Sg	01 01 31.1	-1.9
	5.6nm,0.2s						
CAF	**Calviac**	**2.49**	**40**	Pn	Pn	01 00 51.8	-2.9
CAF				Pg	Pg	01 00 58.9	-1.8
CAF				Lg		01 01 31.1	
	2.8nm,0.2s						
CAF	**Calviac**	**2.49**	**40**	*e*Pn	Pn	01 00 51.8	-2.9
CAF				*e*Pg	Pg	01 00 58.9	-1.8
CAF				*e*Sg	Sg	01 01 31.1	-1.9
CAF	**Calviac**	**2.49**	**40**	*e*Pg	Pg	01 00 58.9	-1.8
CAF				*e*Sg	Sg	01 01 31.1	-1.9
	2.8nm,0.2s						
RJF	**Les Rejaudoux**	**2.58**	**28**	*e*Pg	Pg	01 00 59.9	-2.3
RJF				*e*Sg	Sg	01 01 33.0	-2.6
	5.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.58**	**28**	*e*Pg	Pg	01 00 59.9	-2.3
RJF				*e*Sg	Sg	01 01 33.0	-2.6
	2.8nm,0.2s						
EMOS	**Mosqueruela**	**2.69**	**184**	Pg	Pg	01 01 02.9	-1.5
	0.1nm,0.1s,SNR=7.9						
EMOS				Lg		01 01 37.2	
	1.0nm,0.2s,SNR=7.3						
EMOS	**Mosqueruela**	**2.69**	**184**	Pg	Pg	01 01 02.9	-1.5
LASF	**Ste Croix**	**3.13**	**69**	*e*Pg	Pg	01 01 10.6	-2.2
LASF				*e*Sg	Sg	01 01 50.1	-3.2
	2.6nm,0.3s						
LASF	**Ste Croix**	**3.13**	**69**	Pn	Pn	01 01 00.9	-2.5
LASF				Pg	Pg	01 01 10.6	-2.2
LASF				Lg		01 01 50.1	
	1.3nm,0.3s						
LASF	**Ste Croix**	**3.13**	**69**	*e*Pn	Pn	01 01 00.9	-2.5
LASF				*e*Pg	Pg	01 01 10.6	-2.2
LASF				*e*Sg	Sg	01 01 50.1	-3.2
LASF	**Ste Croix**	**3.13**	**69**	*e*Pg	Pg	01 01 10.6	-2.2
LASF				*e*Sg	Sg	01 01 50.1	-3.2
	1.3nm,0.3s						
MFF	**Saint Martin d**	**3.56**	**1**	*e*Pg	Pg	01 01 18.7	-2.3
MFF				*e*Sg	Sg	01 02 04.1	-3.0
	1.8nm,0.3s						
MFF	**Saint Martin d**	**3.56**	**1**	Pn	Pn	01 01 07.0	-2.3
MFF				Pg	Pg	01 01 18.7	-2.3
MFF				Lg		01 02 04.1	
	0.9nm,0.3s						
MFF	**Saint Martin d**	**3.56**	**1**	*e*Pn	Pn	01 01 07.0	-2.3
MFF				*e*Pg	Pg	01 01 18.7	-2.3
MFF				*e*Sg	Sg	01 02 04.1	-3.0
MFF	**Saint Martin d**	**3.56**	**1**	*e*Pg	Pg	01 01 18.7	-2.3
MFF				*e*Sg	Sg	01 02 04.1	-3.0
	0.9nm,0.3s						
TCF	**Toulx Ste Croi**	**3.67**	**27**	*e*Pg	Pg	01 01 20.2	-3.0
TCF				*e*Sg	Sg	01 02 07.8	-3.0
	2.2nm,0.2s						
TCF	**Toulx Ste Croi**	**3.67**	**27**	*e*Pg	Pg	01 01 20.2	-3.0
TCF				*e*Sg	Sg	01 02 07.8	-3.0
	1.1nm,0.2s						
VIVF	**Saint-Julien-l**	**3.96**	**61**	*e*Sg	Sg	01 02 17.0	-3.1
	2.6nm,0.4s						
VIVF	**Saint-Julien-l**	**3.96**	**61**	*e*Sg	Sg	01 02 17.0	-3.1
	1.3nm,0.4s						
BGF	**Bois d'Agland**	**4.13**	**31**	*e*Sg	Sg	01 02 22.6	-2.9
	6.9nm,0.3s						
BGF	**Bois d'Agland**	**4.13**	**31**	*e*Sg	Sg	01 02 22.6	-2.9
	3.5nm,0.3s						
AVF	**Avril sur Loir**	**4.52**	**33**	*e*Sg	Sg	01 02 34.0	-4.0
	1.4nm,0.3s						
AVF	**Avril sur Loir**	**4.52**	**33**	*e*Sg	Sg	01 02 34.0	-4.0
	0.7nm,0.3s						
SMF	**Signal de Mont**	**4.61**	**37**	*e*Sg	Sg	01 02 37.8	-3.1
	1.8nm,0.3s						
SMF	**Signal de Mont**	**4.61**	**37**	*e*Sg	Sg	01 02 37.8	-3.1
	0.9nm,0.3s						
SSF	**Saint Saulge**	**4.80**	**32**	*e*Sg	Sg	01 02 42.7	-4.3
	2.2nm,0.5s						
SSF	**Saint Saulge**	**4.80**	**32**	*e*Sg	Sg	01 02 42.7	-4.3
	1.1nm,0.5s						
LOR	**Lormes**	**5.11**	**33**	*e*Sn	Sn	01 02 24.6	-5.7
LOR				*e*Sg	Sg	01 02 50.5	-6.4
	1.3nm,0.3s						
LOR	**Lormes**	**5.11**	**33**	*e*Sn	Sn	01 02 24.6	-5.7
LOR				*e*Sg	Sg	01 02 50.5	-6.4
	0.6nm,0.3s						
GRR	**Gorron**	**5.36**	**355**	*e*Sg	Sg	01 03 00.2	-4.9
	1.2nm,0.3s						
GRR	**Gorron**	**5.36**	**355**	*e*Sg	Sg	01 03 00.2	-4.9
	0.6nm,0.3s						

*PRU **20** 01:02:46.8,44.11N×1574E,h0km*
*VIE **20** 01:02:47.5±0.6,44.12N×1621E,h10km,mb3.0/5,ML3.1/6,Error ellipse: s-maj=5.6km s-min=4.2km az=35.0*
*PDG **20** 01:02:47.8±1.0,44.17N×1596E,h10km±1km*
*ROM **20** 01:02:48.6±0.3,44.14N×1605E,h10km,Ml3.3/26,Error ellipse: s-maj=5.8km s-min=2.4km az=130.0*
*LDG **20** 01:02:48.3±99.0,4420N×1590E,h2km,Ml3.2/3,Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*ISCJB **20** 01:02:48.6±0.2,4421N±001×1593E±002,h10km,Error ellipse: s-maj=2.4km s-min=1.9km az=139.5*
*CSEM **20** 01:02:48.2±0.0,4423N×1609E,h10km,ML3.8,Error ellipse: s-maj=1.4km s-min=0.9km az=96.0*
*NEIC **20** 01:02:48.3,4420N×1590E,h2km,ML3.2(LDG),ML3.8(PDG),After LDG.*

ISC 20 01:02:49.4±0.2,4421N±001×1592E±002,h10km,n123,σ1§31/177,18C-18D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLY	**Banja Luka**	**1.05**	**59**	P	**Pg**	**01 03 07.2**	**-2.5**
BLY				S	**Sg**	**01 03 23.5**	**+0.1**
SISC	**Sisak**	**1.30**	**14**	*e*Pn	**Pn**	**01 03 12.6**	**-1.0**
SISC				*e*Sn	**Sn**	**01 03 32.3**	**+1.2**
BOJS	**Bojanci**	**1.38**	**340**	*e*Pn	**Pn**	**01 03 14.8**	**+0.1**
BOJS				*e*Sn	**Sn**	**01 03 33.3**	**+0.4**
BOJS							
	comp=Z,111nm,0.4s						
BOJS	**Bojanci**	**1.38**	**340**	*e*Pn	**Pn**	**01 03 14.8**	**+0.1**
BOJS				*e*Sn	**Sn**	**01 03 33.3**	**+0.4**
GCIS	**Gornji Cirnik**	**1.67**	**353**	*e*Pn	**Pn**	**01 03 18.8**	**+0.1**
GCIS				*e*Sn	**Sn**	**01 03 42.2**	**+2.0**
GCIS							
	comp=Z,246nm,1.0s						
GCIS	**Gornji Cirnik**	**

	comp=Z,410nm,0.8s								
FGMS	**Monte Sant'Ang**	**2.50**	**179**	Pn		**Pn**	**01 03 29.4**	**-0.8**	
	comp=Z,148nm,0.5s								
MS1	**Monte Sant'Ang**	**2.51**	**180**	*e*Pn		**Pn**	**01 03 28.7**	**-1.5**	
RSM	**Repubblica di**	**2.52**	**265**	Pn		**Pn**	**01 03 33.5**	**+3.1**	
CADS	**Cadrg**	**2.54**	**323**	*e*Pn		**Pn**	**01 03 32.0**	**+1.4**	
CADS									
	comp=Z,168nm,0.8s								
CADS	**Cadrg**	**2.54**	**323**	*e*Pn		**Pn**	**01 03 32.0**	**+1.3**	
	comp=Z,168nm,0.8s								
RGNG	**Rignano Grg**	**2.55**	**186**	Pn		**Pn**	**01 03 29.1**	**-1.7**	
HCY	**Herceg Novi**	**2.58**	**132**	⇑*i*Pn		**Pn**	**01 03 30.6**	**-0.7**	
HCY				*e*Sn		**Sn**	**01 04 04.1**	**+1.5**	
FAGN	**Fagnano**	**2.59**	**222**	Pn		**Pn**	**01 03 31.3**	**0.0**	
	comp=Z,297nm,0.5s								
AQU	**L'Aquila**	**2.61**	**226**	⇓P		**Pn**	**01 03 32.5**	**+0.9**	
AQU	**L'Aquila**	**2.61**	**226**	⇓P		**Pn**	**01 03 32.5**	**+0.8**	
MURB	**Monte Urbino**	**2.63**	**250**	Pn		**Pn**	**01 03 32.7**	**+0.7**	
	comp=Z,173nm,0.6s								
NKY	**Niksic**	**2.64**	**121**	⇑*i*Pn		**Pn**	**01 03 32.6**	**+0.6**	
NKY				*e*Sn		**Sn**	**01 04 07.0**	**+2.8**	
TRIV	**Trivento**	**2.64**	**203**	Pn		**Pn**	**01 03 31.8**	**-0.3**	
	comp=Z,230nm,1.0s								
INTR	**Introdacqua**	**2.65**	**215**	Pn		**Pn**	**01 03 31.3**	**-0.9**	
	comp=Z,270nm,0.8s								
ROBS	**Robic**	**2.65**	**321**	*e*Pn		**Pn**	**01 03 33.2**	**+1.0**	
ROBS				*e*			01 03 39.0		
CIGN	**Sant'Elia a Pi**	**2.66**	**197**	Pn		**Pn**	**01 03 31.6**	**-0.8**	
PLE	**Pljevlja**	**2.67**	**108**	⇑*i*Pn		**Pn**	**01 03 33.5**	**+1.0**	
PLE				*e*Sn		**Sn**	**01 04 07.3**	**+2.4**	
PKSM	**Moragy**	**2.78**	**43**	⇑*e*Pn		**Pn**	**01 03 32.4**	**-1.5**	
PKSM				*e*Sn		**Sg**	**01 04 17.2**	**-1.4**	
FIAM	**Fiamignano**	**2.82**	**227**	Pn		**Pn**	**01 03 35.2**	**+0.6**	
	comp=Z,121nm,0.9s								
BSSO	**Busso**	**2.84**	**201**	Pn		**Pn**	**01 03 34.3**	**-0.5**	
	comp=Z,159nm,0.7s								
PTCC	**Patocco-Chiusa**	**2.84**	**321**	Pn		**Pn**	**01 03 36.1**	**+1.2**	
	comp=Z,46nm,0.5s								
MIDA	**Miranda**	**2.84**	**206**	Pn		**Pn**	**01 03 34.1**	**-0.8**	
	comp=Z,113nm,0.6s								
VVLD	**Villa Vallelon**	**2.88**	**217**	Pn		**Pn**	**01 03 34.7**	**-0.7**	
	comp=Z,156nm,0.7s								
BUM	**Brajici-Budva**	**2.90**	**130**	⇑*i*Pn		**Pn**	**01 03 35.5**	**-0.1**	
BUM				*e*Sn		**Sn**	**01 04 12.4**	**+1.9**	
CRE	**Caprese Michel**	**2.93**	**260**	Pn		**Pn**	**01 03 37.6**	**+1.6**	
	comp=Z,27nm,0.4s								
FGSL	**Fruska Gora**	**2.93**	**70**	Pn		**Pn**	**01 03 33.3**	**-2.8**	
DIVS	**Divcibare**	**2.94**	**91**	*i* Pn		**Pn**	**01 03 35.4**	**-0.7**	
DIVS				Sn		**Sn**	**01 04 04.2**	**-7.2**	
SDI	**San Donato**	**2.94**	**212**	Pn		**Pn**	**01 03 36.1**	**-0.1**	
	comp=Z,47nm,0.6s								
SACR	**S. Croce Del S**	**2.95**	**198**	Pn		**Pn**	**01 03 35.6**	**-0.7**	
	comp=Z,117nm,0.9s								
FG5	**Orsara di Pugl**	**2.97**	**189**	Pn		**Pn**	**01 03 35.5**	**-1.1**	
	comp=Z,83nm,0.6s								
MNS	**Montasola**	**2.99**	**233**	Pn		**Pn**	**01 03 37.0**	**+0.2**	
	comp=Z,106nm,1.1s								
TTG	**Podgorica**	**3.02**	**125**	⇓*i*Pn		**Pn**	**01 03 37.4**	**0.0**	
TTG				*e*Sn		**Sn**	**01 04 14.8**	**+1.3**	
TTG	**Podgorica**	**3.02**	**125**	⇓*i*Pn		**Pn**	**01 03 37.3**	**0.0**	
ARSA	**Arzberg**	**3.05**	**355**	⇑*i*Pn		**Pn**	**01 03 38.0**	**+0.2**	
	SNR=17								
ARSA				⇑*i*Sn		**Sn**	**01 04 15.6**	**+1.3**	
VAGA	**Valle Agricola**	**3.06**	**204**	Pn		**Pn**	**01 03 37.4**	**-0.4**	
	comp=Z,100nm,0.6s								
CERT	**Cerreto**	**3.12**	**225**	Pn		**Pn**	**01 03 39.1**	**+0.4**	
	comp=Z,77nm,0.8s								
MOCO	**Biccari - m.te**	**3.12**	**205**	Pn		**Pn**	**01 03 35.2**	**-3.5**	
	comp=Z,156nm,1.1s								
IVA	**Berane**	**3.19**	**113**	⇑*i*Pn		**Pn**	**01 03 40.5**	**+0.9**	
IVA				*e*Sn		**Sn**	**01 04 19.6**	**+2.0**	
CAFE	**Carife**	**3.22**	**189**	Pn		**Pn**	**01 03 40.2**	**+0.1**	
	comp=Z,76nm,0.7s								
FVI	**Forni Avoltri**	**3.25**	**318**	Pn		**Pn**	**01 03 43.2**	**+2.7**	
	comp=Z,169nm,1.1s								
GIUL	**Giuliano Di Ro**	**3.30**	**217**	Pn		**Pn**	**01 03 41.8**	**+0.7**	
	comp=Z,67nm,1.2s								
PKS8	**Sarbogard**	**3.30**	**35**	⇓*e*P		**Pn**	**01 03 39.5**	**-1.6**	
PKS8				*e*S		**Sn**	**01 04 17.2**	**-3.1**	
	comp=Z,0.4nm,0.3s								
ULC	**Ulcinj**	**3.32**	**131**	⇓*i*Pn		**Pn**	**01 03 41.4**	**0.0**	
ULC				*e*Sn		**Sn**	**01 04 22.9**	**+2.0**	
AMUR	**Altamura**	**3.34**	**171**	Pn		**Pn**	**01 03 40.1**	**-1.6**	
PVY	**Plav**	**3.37**	**117**	⇑*i*Pn		**Pn**	**01 03 43.1**	**+1.0**	
PVY				*i* Sn		**Sn**	**01 04 24.1**	**+1.9**	
KBA	**Koelnbreinsper**	**3.39**	**329**	⇑*i*Pn		**Pn**	**01 03 43.9**	**+1.6**	
	SNR=7.6								
KBA				⇓*i*Sn		**Sn**	**01 04 26.8**	**+4.2**	
SG1	**Sgolgore (BA)**	**3.42**	**170**	*e*Pn		**Pn**	**01 03 41.0**	**-1.8**	
MRLC	**Muro Lucano**	**3.47**	**185**	Pn		**Pn**	**01 03 42.0**	**-1.5**	
	comp=Z,69nm,0.6s								
MCRV	**Calabrutti - M**	**3.47**	**189**	Pn		**Pn**	**01 03 42.4**	**-1.1**	
	comp=Z,97nm,0.4s								
NOCI	**Noci**	**3.52**	**166**	Pn		**Pn**	**01 03 42.5**	**-1.7**	
	comp=Z,107nm,0.3s								
CTI	**Castel Tesino**	**3.53**	**303**	Pn		**Pn**	**01 03 45.3**	**+0.9**	
	comp=Z,37nm,0.7s								
PE1	**Pezze di Greco**	**3.58**	**161**	*e*Pn		**Pn**	**01 03 43.8**	**-1.2**	
PKSG		**3.62**	**28**	⇓*e*P		**Pn**	**01 03 44.7**	**-0.8**	
SGO	**Sicignano**	**3.68**	**187**	Pn		**Pn**	**01 03 45.6**	**-0.7**	
	comp=Z,11nm,0.4s								
CONA	**Conrad Observa**	**3.72**	**359**	⇓*i*Pn		**Pn**	**01 03 44.6**	**-2.3**	
	SNR=18								
CONA				⇓*i*Sn		**Sn**	**01 04 28.8**	**-1.9**	
MOA	**Molln**	**3.82**	**343**	⇑*i*Pn		**Pn**	**01 03 48.9**	**+0.7**	
	SNR=42								
MOA				⇓*i*Sn		**Sn**	**01 04 35.1**	**+2.0**	
ZST	**Bratislava**	**4.07**	**11**	*e*PN		**Pn**	**01 03 50.4**	**-1.3**	
WTTA	**Wattenberg**	**4.28**	**317**	⇓*i*Pn		**Pn**	**01 03 55.9**	**+1.3**	
WTTA				⇑Sn		**Sn**	**01 04 48.8**	**+4.3**	
BZS	**Buzias**	**4.29**	**69**	⇑P		**Pb**	**01 04 06.6**	**+1.7**	
SMOL	**Smolenice**	**4.43**	**13**	*e*PN		**Pn**	**01 03 55.7**	**-1.0**	
SMOL				*e*SN		**Sn**	**01 04 45.7**	**-2.6**	
MOTA	**Moosalm**	**4.60**	**315**	⇑*i*Pn		**Pn**	**01 03 59.9**	**+0.9**	
	SNR=10.0								
MOTA				⇑*i*Sn		**Sn**	**01 04 55.9**	**+3.5**	
MOTA	**Moosalm**	**4.60**	**315**	⇑*i*Pn		**Pn**	**01 03 59.9**	**+0.9**	
MOTA				*i* Sn		**Sn**	**01 04 55.9**	**+3.5**	
PSZ	**Piszkesteto**	**4.63**	**35**	*e*Pn		**Pn**	**01 03 57.9**	**-1.5**	
PSZ				*e*Sn		**Sn**	**01 04 48.7**	**-4.4**	
VYHS	**Vyhne**	**4.74**	**24**	*e*PN		**Pn**	**01 03 59.5**	**-1.4**	
VYHS				*e*SN		**Sn**	**01 04 52.6**	**-3.2**	
VYHS	**Vyhne**	**4.74**	**24**	*e*Pn		**Pn**	**01 03 59.5**	**-1.4**	
VYHS				*e*Sn		**Sn**	**01 04 52.6**	**-3.2**	
GEC2	**GERESS Array S**	**4.88**	**343**	*e*Pn		**Pn**	**01 04 03.3**	**+0.4**	
GEC2				*e*Sn		**Sn**	**01 04 52.4**	**-1.0**	
TREC	**Trest**	**5.09**	**357**	*e*PN		**Pn**	**01 04 06.5**	**+0.7**	
VRAC	**Vranov**	**5.12**	**5**	⇓P		**Pn**	**01 04 05.4**	**-0.8**	
VRAC	**Vranov**	**5.12**	**5**	⇓P		**Pn**	**01 04 05.4**	**-0.8**	
KHC	**Kasperske Hory**	**5.18**	**343**	*e*PN		**Pn**	**01 04 07.3**	**+0.4**	
KHC				*ex*		x	01 04 13.0		
KHC				*e*SN		**Sn**	**01 05 05.5**	**-1.2**	
KHC				*e*SG		**Sg**	**01 05 29.7**	**-5.9**	
	comp=Z,17nm,1.1s								
KHC	**Kasperske Hory**	**5.18**	**343**	*e*Pn		**Pn**	**01 04 07.3**	**+0.4**	
	comp=Z,17nm,1.1s								
KHC				*e*			01 04 13.0		
KHC				*e*Sn		**Sn**	**01 05 05.5**	**-1.2**	
KHC				*e*Sg		**Sg**	**01 05 29.7**	**-5.9**	
KHC	**Kasperske Hory**	**5.18**	**343**	*e*Pn		**Pn**	**01 04 07.3**	**+0.4**	
KHC				*e*Sn		**Sn**	**01 05 05.5**	**-1.2**	
PGF	**Pioggiola**	**5.31**	**254**	*e*P		**Pn**	**01 04 10.2**	**+1.4**	
DRGR		**5.43**	**59**	⇓P		**Pn**	**01 04 17.8**	**+7.5**	
PRU	**Pruhonice**	**5.86**	**351**	*e*PN		**Pn**	**01 04 15.9**	**-0.4**	
MBDF	**Montbardon**	**6.56**	**278**	*e*Pn		**Pn**	**01 04 23.8**	**-2.2**	
MBDF				*e*Sn		**Sn**	**01 05 33.7**	**-7.2**	
	comp=Z,5.1nm,0.6s								
MBDF	**Montbardon**	**6.56**	**278**	*e*Pn		**Pn**	**01 04 23.8**	**-2.2**	
MBDF				*e*Sn		**Sn**	**01 05 33.7**	**-7.2**	
	comp=Z,2.5nm,0.6s								
LPL	**La Plagne**	**6.66**	**285**	*e*P		**Pn**	**01 04 29.4**	**+2.1**	
LPL				*e*Sn		**Sn**	**01 05 38.6**	**-4.6**	
	comp=Z,6.0nm,0.6s								
LPL	**La Plagne**	**6.66**	**285**	*e*Pn		**Pn**	**01 04 25.5**	**-1.8**	
LPL				*e*P			01 04 29.4		
LPL				*e*Sn		**Sn**	**01 05 38.6**	**-4.6**	
LPL	**La Plagne**	**6.66**	**285**	*e*P		**Pn**	**01 04 29.4**	**+2.1**	
LPL				*e*Sn		**Sn**	**01 05 38.6**	**-4.6**	
	comp=Z,3.0nm,0.6s								
FRF	**La Foret Royal**	**6.73**	**268**	*e*P		**Pn**	**01 04 29.6**	**+1.3**	
FRF	**La Foret Royal**	**6.73**	**268**	*e*Pn		**Pn**	**01 04 26.5**	**-1.8**	
FRF				*e*P			01 04 29.6		
FRF	**La Foret Royal**	**6.73**	**268**	*e*P		**Pn**	**01 04 29.6**	**+1.3**	
LMR	**La Mourre**	**6.87**	**266**	*e*Pn		**Pn**	**01 04 27.8**	**-2.4**	

MOX	**Moxa**	**7.07**	**337**	*e*PN		**Pn**	**01 04 33.3**	**+0.4**	
MOX				*e*SN		**Sn**	**01 05 50.3**	**-2.9**	
MOX				*e*SG		**Sg**	**01 06 35.5**	**-0.7**	
ORIF	**Oris-en-Rattie**	**7.21**	**279**	*e*Pn		**Pn**	**01 04 31.7**	**-3.1**	
ORIF				*e*Sn		**Sn**	**01 05 50.7**	**-6.0**	
	comp=Z,8.2nm,0.8s								
ORIF	**Oris-en-Rattie**	**7.21**	**279**	*e*Pn		**Pn**	**01 04 31.7**	**-3.1**	
ORIF				*e*Sn		**Sn**	**01 05 50.7**	**-6.0**	
	comp=Z,4.1nm,0.8s								
CABF	**La Chapelle**	**7.32**	**293**	*e*Pn		**Pn**	**01 04 34.4**	**-2.0**	
CLL	**Collm**	**7.37**	**346**	*e*Sn		**Sn**	**01 05 57.0**	**-3.6**	
CLL				*i* x		x	01 06 33.8		
CLL				*e*Sg		**Sg**	**01 06 41.0**	**-4.8**	
	comp=Z,14nm,1.0s								

*IDC **20** 01:07:18.5±1.4, 1109N×6021W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/23, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=39.6km s-min=28.4km az=161.0*
*ISCJB **20** 01:07:21.3±0.9, 1081N±004×6005W±006, h33km, mb3.8/4, Error ellipse: s-maj=8.1km s-min=5.9km az=18.3*
*NEIC **20** 01:07:21.8, 1077N×6011W, h28km, MD3.7(TRN), After TRN.*
*TRN **20** 01:07:21.8, 1077N×6011W, h29km, MD3.7*

ISC 20 01:07:22.6±0.9, 1077N±004×6012W±006, h35km, n18, σ1°09/28, mb3.8/4, 3C, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOT	**Bacolet**	**0.71**	**304**	⇑*i*P	**Pn**	**01 07 35.5**	**-0.7**
BOT				*e*S	**Sn**	**01 07 46.9**	**+1.0**
TPR	**Prospect**	**0.77**	**303**	⇑*i*P	**Pn**	**01 07 36.4**	**-0.6**
TPR				*e*S	**Sn**	**01 07 48.6**	**+1.3**
TBH	**Brigand Hill**	**0.97**	**253**	⇑*i*P	**Pn**	**01 07 40.2**	**+0.4**
TBH				*e*S	**Sn**	**01 07 53.7**	**+1.3**
TRN	**Trinidad (W)**	**1.27**	**265**	*e*P	**Pn**	**01 07 43.3**	**-0.5**
TRN				*e*S	**Sn**	**01 07 59.9**	**+0.2**
TPP	**Pointe-a-Pierr**	**1.39**	**251**	*e*P	**Pn**	**01 07 45.6**	**+0.2**
GRW	**Mount Saint Ca**	**2.05**	**313**	*e*P	**Pn**	**01 07 54.6**	**0.0**
GRW				*e*S	**Sn**	**01 08 18.4**	**-0.6**
GRW				*e*S	**Sn**	**01 08 19.4**	**+0.4**
GRHS	**Sauteurs**	**2.08**	**314**	*e*P	**Pn**	**01 07 52.1**	**-2.9**
GRSS	**Sisters**	**2.12**	**316**	*e*P	**Pn**	**01 07 52.6**	**-2.9**
GRCU	**Cariacou**	**2.14**	**322**	*e*P	**Pn**	**01 07 55.2**	**-0.6**
GRCU				*e*S	**Sn**	**01 08 20.2**	**-1.0**
FCV	**Fort Charlotte**	**2.62**	**335**	*e*S	**Sn**	**01 08 32.8**	**-0.2**
SVB	**Belmont**	**2.73**	**336**	*e*P	**Pn**	**01 08 04.4**	**+0.5**
SVB				*e*S	**Sn**	**01 08 34.9**	**-0.8**
SSV	**Crater Summit**	**2.76**	**338**	*e*P	**Pn**	**01 08 05.6**	**+1.3**
SSV				*e*S	**Sn**	**01 08 37.6**	**+1.3**
SVV	**Soufriere Volc**	**2.76**	**337**	*e*P	**Pn**	**01 08 05.0**	**+0.8**
SVV				*e*S	**Sn**	**01 08 36.7**	**+0.4**
PCRV	**Puerto La Cruz**	**4.48**	**263**	Pn	**Pn**	**01 08 25.8**	**-2.2**
	1.3nm,0.3s,baz=108,slow=3.6,SNR=8.6						
ATAH	**Atahualpa**	**25.35**	**227**	P	**P**	**01 12 50.5**	**+4.3**
	1.9nm,0.4s,mb4.0,baz=138,slow=3.9,SNR=3.7						
PDAR	**Pinedale Array**	**53.41**	**316**	P	**P**	**01 16 38.1**	**-0.7**
	0.4nm,0.5s,mb3.6,baz=116,slow=9.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**60.39**	**81**	P	**P**	**01 17 30.2**	**+2.0**
	1.0nm,1.2s,mb3.7,baz=263,slow=4.9,SNR=4.4						
YKA	**Yellowknife Ar**	**64.57**	**335**	P	**P**	**01 17 55.4**	**-0.8**
	0.6nm,0.5s,mb3.9,baz=107,slow=6.7,SNR=4.0						

*ISCJB **20** 01:17:07.5±0.8, 4834N±005×663E±005, h10km±10km, Error ellipse: s-maj=9.3km s-min=4.7km az=141.8*
*STR **20** 01:17:07.5±1.2, 4835N×663E, h5km±1km, Ml1.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **20** 01:17:08.8±0.1, 4832N×667E, h2km, Md1.8/3, Ml1.8/2, Error ellipse: s-maj=3.2km s-min=1.8km az=170.0*

ISC 20 01:17:08.2±0.7, 4833N±005×665E±005, h10km±10km, n7, σ0°55/14, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.36**	**108**	Pg	**Pg**	**01 17 15.3**	**0.0**
ECH				Sg	**Sg**	**01 17 20.2**	**+0.1**
HAU	**Haudompre**	**0.38**	**212**	*e*Pg	**Pg**	**01 17 16.3**	**+0.6**
HAU				*e*Sg	**Sg**	**01 17 20.6**	**-0.1**
	2.0nm,0.3s						
CDF	**Champ du Feu**	**0.43**	**79**	*e*Pg	**Pg**	**01 17 16.7**	**+0.1**
CDF				*e*Sg	**Sg**	**01 17 22.5**	**+0.2**
	1.2nm,0.2s						
WLS	**Welschbruch**	**0.48**	**80**	Pg	**Pg**	**01 17 16.4**	**-1.1**
WLS				Sg	**Sg**	**01 17 23.9**	**0.0**
HINF	**Hinteralfeld**	**0.53**	**165**	*e*Pg	**Pg**	**01 17 18.8**	**+0.3**
HINF				*e*Sg	**Sg**	**01 17 25.6**	**+0.1**
	1.8nm,0.2s						
SFTF	**Sexfontaines**	**1.08**	**264**	*e*Pg	**Pg**	**01 17 29.7**	**+0.7**
SFTF				*e*Sg	**Sg**	**01 17 43.3**	**+0.3**
	6.4nm,0.7s						
LOR	**Lormes**	**2.16**	**242**	*e*Sn	**Sn**	**01 18 11.1**	**+0.1**
LOR				*e*Sg	**Sg**	**01 18 16.2**	**-1.3**
	0.7nm,0.2s						

*BJI **20** 01:17:24.5, 9.10S×10800E, h10km, mB5.1, mb5.0, Ms4.9, Msz4.7*
*IDC **20** 01:17:25.1±0.4, 9.10S×10805E, h0km, mb4.6/20, mb1 4.7/21, mb1mx4.6/27, mbtmp4.6/21, ML4.1/1, MS4.2/12, Ms1 4.2/12, ms1mx3.9/30, Error ellipse: s-maj=16.9km s-min=12.9km az=46.0*
*NEIC **20** 01:17:26.5±0.2, 9.11S×10803E, h10km, mb5.1/25, Error ellipse: s-maj=9.8km s-min=5.7km az=225.0*
*ISCJB **20** 01:17:27.6±0.3, 9.04S×005×108.11E±005, h30km, mb4.9/69, MS4.4/25, Error ellipse: s-maj=8.5km s-min=5.6km az=106.0*
*MOS **20** 01:17:28.0±1.0, 9.03S×108.14E, h33km, mb5.2/20, Error ellipse: s-maj=16.1km s-min=8.3km az=114.9*

ISC 20 01:17:29.9±0.3, 9.10S±004×10808E±005, h32km, h32km±1.3km: pP-P, n168, σ1°01/134, mb4.9/69, MS4.4/25, 16C-8D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.31**	**349**	P	**Pn**	**01 18 07.7**	**+2.1**
	2µm,0.9s						
BJII	**Banjamegara**	**2.38**	**43**	P	**Pn**	**01 18 09.0**	**+2.3**
	650nm,0.8s						
KRKI	**Karangkates**	**4.42**	**78**	P	**Pn**	**01 18 38.9**	**+4.2**
	573nm,1.1s						
KSI	**Kapahiang**	**7.68**	**314**	P	**Pn**	**01 19 17.8**	**-1.7**
	217nm,0.9s						
PCI	**Palu**	**14.26**	**56**	P	**Pn**	**01 20 54.1**	**+4.7**
	122nm,1.2s						
PSI	**Prapat**	**14.94**	**322**	Pn	**Pn**	**01 21 01.3**	**+2.7**
	0.5nm,0.3s,baz=143,slow=13,SNR=2.8						
MBWA	**Marble Bar**	**16.42**	**138**	*e*Pn	**Pn**	**01 21 12.1**	**-5.8**
	34nm,1.0s						
MBWA				*e*Sn	**Sn**	**01 24 03.8**	**-15**
FITZ	**Fitzroy Crossi**	**19.25**	**120**	⇓*i*P	**Pn**	**01 21 52.7**	**0.0**
	14nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.25**	**120**	P	**Pn**	**01 21 52.9**	**+0.2**
	0.4nm,0.3s,baz=302,slow=9.6,SNR=9.9						
BSI	**Banda Aceh**	**19.30**	**318**	P	**Pn**	**01 21 55.3**	**+2.0**
	78nm,0.9s						
KAKA	**Kakadu**	**24.18**	**101**	*e*P	**P**	**01 22 44.1**	**+0.9**
	13nm,0.8s,mb4.4						
NWAO	**Narrogin (SRO)**	**25.18**	**162**	LR	LR	01 33 39.3	
	comp=Z,281nm,18.0s,MS3.8,baz=338,slow=39						
WRA	**Warramunga Arr**	**27.57**	**116**	P	**P**	**01 23 14.1**	**+0.2**
	11nm,0.8s,mb4.5,baz=286,slow=11,SNR=29						
WRA				PcP	PcP	01 26 32.6	+1.5
	1.7nm,0.9s,baz=304,slow=1.9,SNR=4.0						
WRAB	**Tennant Creek**	**27.57**	**116**	P	**P**	**01 23 15.0**	**+1.1**
	131nm,1.1s,mb5.5,SNR=10						
WRAB	**Tennant Creek**	**27.57**	**116**	⇑*i*P	**P**	**01 23 14.5**	**+0.6**
WRAB	**Tennant Creek**	**27.57**	**116**	*e*P	**P**	**01 23 14.5**	**+0.6**
	29nm,0.9s,mb4.9						
WB2	**Warramunga Arr**	**27.58**	**116**	⇓*i*P	**P**	**01 23 14.3**	**+0.3**
QIZ	**Qiongzhong**	**28.00**	**4**	P	**P**	**01 23 15.8**	**-2.0**
QIZ				S	**S**	**01 28 01.6**	**+1.6**
QIZ				AMB	AMB		
	comp=Z,134nm,8.7s						
QIZ				LR	LR		
	comp=N,1µm,14.4s,MS4.6						
QIZ				LR	LR		
	comp=E,934nm,18.0s,MS4.6						
QIZ				LR	LR		
	comp=Z,1µm,13.8s,MS4.7						
ASPA	**Alice Springs**	**28.62**	**124**	*e*P	**P**	**01 23 23.9**	**+0.6**

ASAR	**Alice Springs**	**28.62**	**124**	P		**P**	**01 23 23.0**	**-0.3**	
	comp=Z,11nm,1.1s,mb4.5,baz=292,slow=8.1,SNR=38								
ASAR				PcP		PcP	01 26 35.6	+1.9	
	comp=Z,3.0nm,0.9s,baz=281,slow=2.1,SNR=8.8								
ASAR				LR		LR	01 36 03.2		
	comp=Z,470nm,18.2s,MS4.1,baz=304,slow=39								
ASAR	**Alice Springs**	**28.62**	**124**	P		**P**	**01 23 23.0**	**-0.3**	
ASAR							01 26 35.6		
AS31	**Alice Springs**	**28.62**	**124**	*e*P		**P**	**01 23 23.9**	**+0.6**	
GYA	**Guiyang**	**35.37**	**358**	P		**P**	**01 24 23.1**	**+0.7**	
GYA				AP		pP	01 24 27.8	-4.1	
GYA				XP		sP	01 24 30.4	-5.4	
GYA				PP		PP	01 25 44.9	+1.9	
GYA				PCP		PcP	01 26 49.8	-2.2	
GYA				SCP		ScP	01 30 34.3	-1.1	
GYA				AMB		AMB			
	comp=Z,10.0nm,0.7s,mb4.8								
GYA				AMB		AMB			
	comp=Z,250nm,6.6s								
GYA				LR		LR			
	comp=N,940nm,14.6s,MS4.7								
GYA				LR		LR			
	comp=E,470nm,15.9s,MS4.7								
GYA				LR		LR			
	comp=Z,790nm,14.5s,MS4.6								
STKA	**Stephens Creek**	**38.46**	**131**	⇓*i*P		**P**	**01 24 48.9**	**+0.2**	
	comp=Z,19nm,0.9s,mb4.8								
STKA	**Stephens Creek**	**38.46**	**131**	P		**P**	**01 24 49.0**	**+0.4**	
	comp=Z,22nm,0.8s,mb4.9,baz=301,slow=8.4,SNR=25								
STKA				PcP		PcP	01 27 03.1	+1.7	
	comp=Z,8.9nm,1.0s,baz=232,slow=3.8,SNR=3.6								
JOW	**Kunigami**	**40.74**	**28**	P		**P**	**01 25 08.2**	**+0.6**	
	comp=Z,13nm,0.7s,mb4.7,baz=249,slow=11,SNR=4.4								
JOW				LR		LR	01 42 15.0		
	comp=Z,156nm,18.4s,MS3.9,baz=81,slow=37								
SSE	**Sheshan**	**41.90**	**17**	P		**P**	**01 25 15.6**	**-1.6**	
SSE				AP		pP	01 25 24.6	-2.1	
SSE				XP		sP	01 25 28.4	-2.2	
SSE				S		**S**	**01 31 32.0**	**-1.2**	
SSE				XS		sS	01 31 47.3	-1.6	
SSE				SS		SS	01 34 40.3	0.0	
SSE				AMB		AMB			
	comp=Z,27nm,0.8s,mb4.9								
SSE				AMB		AMB			
	comp=Z,124nm,12.0s								
SSE				LR		LR			
	comp=N,160nm,17.0s,MS4.1								
SSE				LR		LR			
	comp=E,139nm,17.0s,MS4.1								
SSE				LR		LR			
	comp=Z,170nm,17.9s,MS4.0								
NJ2	**Nanjing**	**42.20**	**14**	*e*P		**P**	**01 25 19.3**	**-0.3**	
NJ2				AP		pP	01 25 29.1	-0.1	
NJ2				XP		sP	01 25 33.1	+0.1	
NJ2				PP		PP	01 27 00.0	+2.4	
NJ2				S		**S**	**01 31 35.0**	**-2.6**	
NJ2				XS		sS	01 31 52.0	-1.3	
NJ2				AMB		AMB			
	comp=Z,40nm,1.1s,mb5.0								
NJ2				AMB		AMB			
	comp=Z,320nm,5.2s								
NJ2				LR		LR			
	comp=N,6µm,14.6s								
NJ2				LR		LR			
	comp=E,1µm,21.6s								
NJ2				LR		LR			
	comp=Z,3µm,15.0s,M

comp=Z,300nm,18.0s,MS4.4
VLA Vladivostok 56.32 21 *e*P pP 01 27 15.0 -2.4
VLA pmax pmax
comp=Z,20nm,0.5s,mb5.4
SONM Songino Array 56.70 359 P **P** **01 27 10.6 +0.3**
comp=Z,12nm,0.6s,mb5.1,baz=174,slow=7.6,SNR=56
ULN Ulaanbaatar 56.72 359⇑P **P** **01 27 11.0 +0.6**
SNR=7.8
ULN Ulaanbaatar 56.72 359*c iP* **P** **01 27 10.5 +0.1**
ULN Ulaanbaatar 56.72 359 *e*P **P** **01 27 10.5 +0.1**
comp=Z,15nm,0.7s,mb5.1
ULN *e* pP 01 27 20.0 -0.2
MDJ Mudanjiang 56.89 18 P **P** **01 27 08.8 -2.8**
MDJ AMB AMB
comp=Z,8.0nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,40nm,4.1s
WSAR Wadi Sarin 58.07 305 P **P** **01 27 21.8 +1.9**
comp=Z,4.9nm,0.8s,mb4.6,baz=216,slow=8.4,SNR=4.8
WSAR Wadi Sarin 58.07 305 P **P** **01 27 21.8 +1.9**
SMDO Samad 58.46 304⇑P **P** **01 27 23.5 +0.9**
SNR=6.4
KZA Kyzart 59.14 332 P **P** **01 27 27.2 -0.2**
SNR=12
ZAK Zakamensk 59.38 356 *e*P **P** **01 27 28.8 -0.2**
ZAK *e* pP 01 27 38.5 -0.4
ZAK pmax pmax
comp=Z,6.0nm,1.6s,mb4.4
ZAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
OPO Ambohidratompo 59.64 254 P **P** **01 27 32.5 +1.7**
comp=Z,3.9nm,0.8s,mb4.5,baz=288,slow=2.1,SNR=5.6
TKM2 Tokmak 2 59.65 333 P **P** **01 27 30.8 -0.1**
SNR=17
KBK Karagaybulak 59.73 332 P **P** **01 27 30.9 -0.5**
SNR=6.2
AML Almayashu 59.92 331 P **P** **01 27 32.4 -0.4**
SNR=7.2
AAK Ala-Archa 59.93 332 *e*P **P** **01 27 30.4 -2.4**
AAK *e* 01 27 42.3
AAK pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
AAK Ala-Archa 59.93 332 *e*P **P** **01 27 30.4 -2.4**
comp=Z,9.0nm,1.1s,mb4.7
AAK *e* 01 27 42.3
FRU Bishkek 60.02 332 P **P** **01 27 32.0 -1.5**
MK31 Makanchi Array 60.21 340 P **P** **01 27 33.8 -0.9**
MK31 pmax pmax
comp=Z,17nm,0.8s,mb5.1
MKAR Makanchi Array 60.21 340 P **P** **01 27 34.4 -0.4**
comp=Z,18nm,0.6s,mb5.3,baz=144,slow=7.8,SNR=196
MKAR Makanchi Array 60.21 340⇑*e*P **P** **01 27 34.4 -0.3**
EKS2 Erkin-Say 60.28 331 P **P** **01 27 35.4 +0.2**
SNR=10
KLR Kul'dur 61.69 17 *e*P **P** **01 27 39.8 -5.0**
KLR pmax pmax
comp=Z,12nm,1.8s,mb4.7
KK31 Karatay Array 62.20 330 *i* P **P** **01 27 47.8 -0.4**
KK31 pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
KKAR Karatay Array 62.20 330 P **P** **01 27 47.8 -0.4**
KKAR pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
YSS Yuzh-Sakhalins 63.77 26⇑*i*P **P** **01 27 58.3 -0.4**
YSS pmax pmax
comp=Z,26nm,1.3s,mb5.1
KURK Kurchatov 64.83 340 P **P** **01 28 05.2 -0.4**
comp=Z,161nm,0.8s,SNR=25
KURK Kurchatov 64.83 340⇑P **P** **01 28 05.4 -0.1**
SNR=10
KURK Kurchatov 64.83 340 *e*P **P** **01 28 05.0 -0.6**
KURK *e* 01 28 16.5
KURK pmax pmax
comp=Z,21nm,0.8s,mb5.2
KURK Kurchatov 64.83 340 *e*P **P** **01 28 05.0 -0.5**
comp=Z,21nm,0.8s,mb5.2
KURK *e* pP 01 28 16.4 +0.9
MAW Mawson 65.69 197 *e*P **P** **01 28 09.5 -1.6**
comp=Z,8.3nm,0.6s,mb4.9
MAW Mawson 65.69 197 P **P** **01 28 10.0 -1.2**
comp=Z,9.2nm,0.8s,mb4.9,baz=43,slow=5.9,SNR=35
MAW Mawson 65.69 197 *e*P **P** **01 28 09.5 -1.6**
MAW pmax pmax
comp=Z,8.0nm,0.6s
VOSK Vostochnaya 69.24 337 P **P** **01 28 32.8 -0.8**
VOSK pmax pmax
comp=Z,14nm,1.4s,mb4.7
UMR Umm Al-Rimmam 69.61 306 *e*P **P** **01 28 35.5 -0.4**
UMR AMb AMB 01 28 37.2
comp=Z,45nm,0.8s,mb5.5
BVA0 Borovoye Array 69.71 337 *i* P **P** **01 28 35.8 -0.7**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BRVK Borovoye 69.77 337 P **P** **01 28 36.7 -0.2**
comp=Z,83nm,0.7s,mb5.8,SNR=5.8
BRVK Borovoye 69.77 337⇑P **P** **01 28 36.2 -0.7**
SNR=7.6
BRVK Borovoye 69.77 337 *e*P **P** **01 28 35.9 -1.0**
BRVK *e* pP 01 28 46.2 -0.7
BRVK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BRVK Borovoye 69.77 337 *e*P **P** **01 28 35.9 -1.0**
comp=Z,7.3nm,0.8s,mb4.7
BRVK *e* pP 01 28 46.2 -0.7
NAY Al-Naaiem 69.87 306 *e*P **P** **01 28 36.8 -0.7**
NAY AMb AMB 01 28 39.0
comp=Z,21nm,0.9s,mb5.0
MIB Mutribah 70.01 306 *e*P **P** **01 28 37.7 -0.7**
MIB AMb AMB 01 28 40.2
comp=Z,25nm,1.0s,mb5.1
CHKZ Chkalovo 70.12 337 *e*P **P** **01 28 38.3 -0.7**
CHKZ *e* pP 01 28 48.6 -0.5
CHKZ pmax pmax
comp=Z,26nm,0.8s,mb5.2
CHKZ Chkalovo 70.12 337 *e*P **P** **01 28 38.3 -0.7**
comp=Z,26nm,0.8s,mb5.2
CHKZ *e* pP 01 28 48.6 -0.4
RST Umm Al-Ruwaisa 70.16 306 *e*P **P** **01 28 37.8 -1.5**
RST AMb AMB 01 28 40.2
comp=Z,35nm,0.8s,mb5.3
ZRNK Zerenda 70.20 336 *e*P **P** **01 28 39.2 -0.3**
ZRNK *e* pP 01 28 47.7 -1.8
ZRNK pmax pmax
comp=Z,12nm,0.6s,mb5.0
ZRNK Zerenda 70.20 336 *e*P **P** **01 28 39.2 -0.3**
comp=Z,12nm,0.6s,mb5.0
ZRNK *e* pP 01 28 47.7 -1.8
KMBO Kilima Mbogo 70.89 272 P **P** **01 28 44.9 +1.2**
comp=Z,3.3nm,0.9s,mb4.3,baz=65,slow=6.9,SNR=10
KMBO LR LR 01 54 00.6
comp=Z,183nm,18.6s,MS4.4,baz=96,slow=31
KMBO Kilima Mbogo 70.89 272 *i* P **P** **01 28 44.9 +1.2**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
AB31 Akbulak array 71.75 329 P **P** **01 28 48.0 -0.9**
AB31 pmax pmax
comp=Z,18nm,0.7s,mb5.1
YAK Yakutsk 72.88 10*d iP* **P** **01 28 55.7 0.0**
YAK pmax pmax
comp=Z,33nm,0.8s,mb5.3
AKTK Aktyubinsk 73.46 329 P **P** **01 28 59.6 +0.5**
AKTK LR LR 02 03 51.5
AKTO Aktyubinsk 73.46 329 P **P** **01 28 59.6 +0.5**
AKTO LR LR 02 03 51.6
comp=Z,3.7nm,0.6s,mb4.5,baz=103,slow=6.1,SNR=8.6
comp=Z,33nm,21.9s,MS3.6,baz=320,slow=38
SYO Syowa Base 73.92 200⇑*e*P **P** **01 29 01.2 -0.5**
PET Petropavlovsk 75.31 29 *e*P **P** **01 29 17.6 +7.8**
MAK Makhachkala 75.55 319 *e*P **P** **01 29 11.8 +0.6**
MAK *i* 01 32 06.3
MAK *e*S S 01 38 48.0 -1.7
MAK *i* 01 39 27.7
MAK *e*SS SS 01 43 45.1 +4.2
MAK pmax pmax
comp=Z,115nm,1.3s,mb5.7
GNI Garni 76.19 315 LR LR 02 04 12.0
comp=Z,94nm,22.0s,MS4.0,baz=256,slow=37
SVE Sverdlovsk 76.35 335 *e*P **P** **01 29 16.0 +0.2**
SVE MLR MLR
comp=N,300nm,19.0s,MS4.7
SVE MLR MLR
comp=E,100nm,19.0s,MS4.7
SVE MLR MLR
comp=Z,400nm,19.0s,MS4.8
ARU Arti 76.97 334 *e*P **P** **01 29 19.4 +0.2**
ARU *e* pP 01 29 28.6 -0.8
ARU pmax pmax
comp=Z,12nm,0.9s,mb4.8
ARU Arti 76.97 334 *e*P **P** **01 29 19.4 +0.1**
comp=Z,12nm,0.9s,mb4.8
ARU *e*PcP PcP 01 29 28.6 -1.6
LSZ Lusaka 77.97 256 P **P** **01 29 25.5 +0.7**
comp=Z,4.1nm,0.8s,mb4.4,baz=102,slow=5.3,SNR=14
LSZ Lusaka 77.97 256 P **P** **01 29 25.5 +0.7**
KIV Kislovodsk 79.15 318*c iP* **P** **01 29 37.3 +6.0**
KIV pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KIV Kislovodsk 79.15 318 *e*P **P** **01 29 37.0 +5.7**
comp=Z,7.4nm,0.6s,mb4.8
ASF Jabal al Asfar 79.23 305 P **P** **01 29 32.7 +0.9**
comp=Z,6.0nm,0.9s,mb4.5,baz=26,slow=3.7,SNR=12
BOSA Boshof 79.44 243 LR LR 02 00 33.9
comp=Z,127nm,19.5s,MS4.3,baz=182,slow=33
LBTB Lobatse 79.44 246 P **P** **01 29 33.0 0.0**
comp=Z,2.5nm,0.7s,mb4.2,baz=108,slow=7.3,SNR=6.4
LBTB LR LR 02 01 05.7
comp=Z,139nm,19.1s,MS4.3,baz=113,slow=33
QSPA South Pole Qui 80.90 180 *e*P **P** **01 29 39.6 -1.2**
comp=Z,16nm,1.1s,mb4.9
SOC Sochi 80.99 317 *e*P **P** **01 29 37.4 -3.9**
SOC *e* 01 32 47.0
SOC *e*S S 01 39 37.1 -11
SOC *e*SS SS 01 45 02.3 -0.4
SOC MLR MLR
comp=Z,169nm,20.0s,MS4.4
TIXI Tiksi 81.75 7 *e*P **P** **01 29 42.9 -2.4**
TIXI *e*S S 01 39 55.2 -0.8
TIXI pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
VRHR Novokhopersk 82.71 324 *e*P **P** **01 29 50.6 +0.2**
VRHR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VRHR pmax pmax
comp=N,7.0nm,0.4s
VRHR pmax pmax
comp=E,2.0nm,0.3s
ANN Anapa 82.95 317 *e*P **P** **01 29 46.4 -5.2**
ANN pmax pmax
comp=Z,39nm,0.9s,mb5.4
ANN MLR MLR
comp=Z,172nm,18.0s,MS4.5
BR131 Keskin Array S 84.01 312 *e*P **P** **01 29 57.3 +0.2**
comp=Z,2.7nm,0.7s,mb4.5
BR131 *e* 01 30 11.3
BRTR Keskin Array B 84.01 312 P **P** **01 29 57.0 -0.1**
comp=Z,4.0nm,0.9s,mb4.6,baz=131,slow=7.0,SNR=22
BRTR LR LR 02 09 35.6
comp=Z,174nm,21.0s,MS4.4,baz=95,slow=37
BRTR Keskin Array B 84.01 312⇑*e*P **P** **01 29 57.0 -0.1**
OBN Obninsk 87.06 327*d iP* **P** **01 30 13.0 +0.8**
OBN *i* S S 01 40 39.3 -10
OBN pmax pmax
comp=Z,28nm,1.4s,mb5.3
TSUM Tsumeb 87.52 251 P **P** **01 30 16.1 +1.6**
comp=Z,1.9nm,0.8s,mb4.3,baz=59,slow=6.0,SNR=4.7
SNAA Sanae 87.85 197 P **P** **01 30 15.5 -0.5**
comp=Z,1.8nm,1.1s,mb4.2,baz=77,slow=4.3,SNR=15
SNAA LR LR 02 04 50.0
comp=Z,86nm,20.0s,MS4.2,baz=128,slow=32
SNAA Sanae 87.85 197 *e*P **P** **01 30 15.1 -0.9**
SNAA *e* 01 30 16.9
SNAA *e* pP 01 30 24.9 -1.4
VNA1 Neumayer--Stat 89.88 197 *e*P **P** **01 30 25.8 +0.2**
VNA1 *e* 01 30 27.2
VNA1 *e* pP 01 30 35.8 -0.1
VNA1 *e* 01 30 43.3
VNA1 *e* 01 30 58.7
VNA1 *e* 01 31 23.3
AKASG Malin Array Be 89.99 321 P **P** **01 30 25.8 -0.4**
comp=Z,1.5nm,0.8s,mb4.4,baz=86,slow=4.5,SNR=5.4
AKASG Malin Array Be 89.99 321 *i* P **P** **01 30 27.6 +1.5**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
MLR Muntele Rosu 90.95 316 P **P** **01 30 31.3 +0.8**
comp=Z,3.1nm,0.9s,mb4.7,baz=130,slow=3.6,SNR=5.7
JOF Joensuu 92.08 334 *e*p **P** **01 30 36.0 +0.2**
ARCES ARCESS Array B 95.87 339 LR LR 02 20 10.3
comp=Z,388nm,19.7s,MS4.9,baz=134,slow=39
TBI Tubuai 97.69 115 *e*SS SS 01 49 00.4 -4.7
comp=Z,192nm,30.2s
TBI *e*LR LR 02 02 49.1
comp=Z,192nm,25.8s
PPT Papeete 98.87 109 *e*SS SS 01 49 22.9 +1.3
comp=Z,180nm,20.8s
PPT *e*LR LR 02 03 21.8
comp=Z,164nm,22.0s
PPT Papeete 98.87 109 *e*LQ 01 36 27.2
comp=Z,272nm,24.2s
PPT *e*LR LR 01 37 11.0
comp=Z,187nm,27.5s
GERES GERESS Array B 99.66 318 LR LR 02 25 49.3
comp=Z,172nm,19.7s,MS4.6,baz=87,slow=41
RKT Rikitea 110.53 119 *e*LR LR 01 30 47.5
comp=Z,396nm,23.8s
YBH Yreka Blue Hor 124.85 45⇓P PKPdf 01 36 28.9 +2.5
baz=125
J06A Christmas Vall 126.01 42⇓P PKPdf 01 36 31.1 +2.5
baz=126
MNRC McLaughlin Nat 126.04 48⇑P PKPdf 01 36 32.4 +3.7
baz=126
J08A Circle Bar Ran 127.07 42⇑P PKPdf 01 36 34.0 +3.3
baz=127
N06A Buffalo Meadow 127.23 45⇑P PKPdf 01 36 34.5 +3.5
baz=127
O06A Flanigan 127.46 46⇑P PKPdf 01 36 34.6 +3.2
baz=128
S06C San Francisco 128.29 48⇓P PKPdf 01 36 36.7 +3.7
baz=128
S09A Goldfield 130.28 48⇑P PKPdf 01 36 41.2 +4.4
baz=130
PV10 Paradox Valley 135.73 43 PKPdf PKPdf 01 36 49.1 +2.1
CPUP Villa Florida 142.03 202 PKP PKPdf 01 36 57.0 -1.5
comp=Z,1.8nm,0.8s,baz=218,slow=2.7,SNR=4.9
LONY Lake Ozonia 144.54 3 *e*PKPdf PKPdf 01 37 02.4 -0.6
LONY *e* 01 37 12.3
WMOK Wichita Mounta 144.56 40 *e*PKIKP PKPdf 01 37 03.0 0.0
MIV Mineville/With 145.13 2 *e*PKP PKPdf 01 37 04.7 +0.7
NCB Newcomb 145.21 3 *e*PKP PKPdf 01 37 04.2 +0.1
NCB *e* 01 37 14.3
BDFB Brasilia 145.87 224 PKPbc PKPbc 01 37 07.2 +1.3
comp=Z,6.5nm,0.5s,baz=93,slow=1.4,SNR=12
CCM Cathedral Cave 146.32 28 *e*PKP PKPdf 01 37 08.1 +2.1
CCM *e* 01 37 18.1
JCT Junction City 146.40 47 *e*PKP2 PKPab 01 37 09.6 +1.2
ACSO Alum Creek Sta 147.47 16 *e*PKPdf PKPdf 01 37 09.6 +1.6
MIAR Mount Ida 147.82 35 *e*PKP2 PKPbc 01 37 12.8 +1.3
SSPA Standing Stone 148.15 9 *e*PKPbc PKPbc 01 37 12.8 +0.4
WCI Wyandotte Cave 148.24 22 *e*PKP2 PKPab 01 37 14.3 -1.3
LVC Limon Verde 148.35 185 PKPbc PKPbc 01 37 14.7 +1.9
comp=Z,6.6nm,0.9s,baz=285,slow=3.1,SNR=9.3
MVL Millersville 148.98 7 *e*PKP PKPbc 01 37 16.3 +1.8
WVT Waverly 149.44 26 *e*PKPbc PKPbc 01 37 16.6 +1.0
WVT *e* 01 37 26.1
HKT Hockley 149.50 44 *e*PKP2 PKPbc 01 37 18.4 +2.6
OXF Oxford 150.05 30 *e*PKP2 PKPbc 01 37 18.4 +1.3
PLAL Pickwick Lake 150.30 27 *e*PKPbc PKPbc 01 37 18.5 +0.7
TZTN Tazewell 150.71 19 *e*PKPbc PKPbc 01 37 20.8 +2.1
SIV San Ignacio 152.85 203 PKP PKPdf 01 37 19.3 +2.9
comp=Z,2.0nm,0.9s,baz=254,slow=4.8,SNR=7.4
SIV PKPbc PKPbc 01 37 24.7 +1.1
comp=Z,7.9nm,0.9s,baz=137,slow=2.9,SNR=29
LPAZ La Paz 154.50 188 PKPbc PKPbc 01 37 30.4 +3.2
comp=Z,1.7nm,0.8s,baz=166,slow=2.6,SNR=6.9
LPAZ PKPab PKPab 01 37 44.5 +2.8
comp=Z,1.1nm,0.7s,baz=76,slow=4.2,SNR=3.3
LPAZ La Paz 154.50 188 PKPbc PKPbc 01 37 30.4 +3.2
LPAZ PKPab PKPab 01 37 44.5 +2.8

*NIED **20** 01:20:00, 4260N×14360E, h92km, Mw4.1 Best double couple: M0 1.40000×10^15 NP1:φs108.00000°, δ84.00000°, λ78.00000°. NP2:φs351.00000°, δ13.00000°, λ153.00000°.*
*BJI **20** 01:20:26.6, 4269N×14376E, h101km, mB4.8, mb4.5*
*ISCJB **20** 01:20:27.6±0.3, 4255N±003×14365E±004, h101km±1km, mb4.3/43, Error ellipse: s-maj=5.7km s-min=3.6km az=93.3*
*MOS **20** 01:20:27.4±0.8, 4257N×14358E, h98km, mb4.4/20, Error ellipse: s-maj=11.1km s-min=6.1km az=101.0*
*JMA **20** 01:20:28.9±0.1, 4257N×14357E, h95km±1km, M3.9*
Broadband fault plane solution: P waves. NP1: φs332.00000°, δ23.00000°, λ151.00000°. NP2: φs89.00000°, δ79.00000°, λ69.00000°. Principal axes: T Plg52.0000°, Azm335.0000°; N Plg20.0000°, Azm93.0000°; P Plg31.0000°, Azm196.0000°;
JMA Felt II J1.
*NEIC **20** 01:20:28.7±0.6, 4253N×14366E, h100km±5km, mb4.4/24 Error ellipse: s-maj=7.8km s-min=5.8km az=127.0*
NEIC Recorded [2 JMA] in the Kushiro area and [1 JMA] in eastern Hokkaido.
*IDC **20** 01:20:29.1±1.6, 4255N×14356E, h102km±11km, mb3.9/15, mb1 4.0/16, mb1mx3.9/24, mbtmp4.2/16, MS3.4/1, Ms1 3.4/1, ms1mx2.0/33, Error ellipse: s-maj=17.5km s-min=13.2km az=115.0*

ISC 20 01:20:28.5±0.3, 4257N±003×14366E±004, h98km±1km, n138, σ0 s73/161, mb4.3/43, 6C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCH	**Churui**	**0.22**	**283**	⇑P	**Pn**	**01 20 42.3**	**-0.2**
JCH				*e*S	**Sn**	**01 20 51.8**	**-1.2**
JOB	**Onbets**	**0.36**	**21**	⇓P	**Pn**	**01 20 43.7**	**+0.5**
JOB				*e*S	**Sn**	**01 20 54.8**	**+0.7**
JEM	**Erimo**	**0.66**	**214**	⇑P	**Pn**	**01 20 45.5**	**+0.1**
JEM				*e*S	**Sn**	**01 20 58.2**	**+0.1**
JNBK	**Urakawa-nobuka**	**0.73**	**247**	⇑P	**Pn**	**01 20 46.1**	**+0.1**
JNBK				*e*S	**Sn**	**01 20 58.8**	**-0.3**
JAR	**Ashorobuto**	**0.73**	**6**	⇓P	**Pn**	**01 20 46.3**	**+0.3**
JAR				S	**Sn**	**01 20 59.3**	**+0.1**
JAK	**Akkeshi**	**0.88**	**60**	⇓P	**Pn**	**01 20 47.7**	**+0.2**
JAK				*e*S	**Sn**	**01 21 01.9**	**+0.2**
JBT2	**Biratori 2**	**0.98**	**283**	⇓P	**Pn**	**01 20 48.4**	**-0.1**
JBT2				*e*S	**Sn**	**01 21 03.0**	**-0.6**
JFR	**Furan**	**0.98**	**308**	⇓P	**Pn**	**01 20 47.8**	**-0.8**
JFR				*e*S	**Sn**	**01 21 02.5**	**-1.2**
JNK	**Nakash**	**1.28**	**37**	⇓P	**Pn**	**01 20 52.0**	**0.0**
JNK				*e*S	**Sn**	**01 21 09.4**	**-0.3**
JTKR	**Abashiri--Toko**	**1.42**	**7**	⇓P	**Pn**	**01 20 53.9**	**+0.3**
JTKR				S	**Sn**	**01 21 12.7**	**+0.1**
JKK2	**Kamakawa 2**	**1.47**	**333**	⇓P	**Pn**	**01 20 54.4**	**+0.2**
JKK2				*e*S	**Sn**	**01 21 13.7**	**0.0**
JEW	**Eniwo**	**1.65**	**280**	P	**Pn**	**01 20 57.2**	**+0.7**
JEW				*e*S	**Sn**	**01 21 17.6**	**-0.2**
NEM2	**Nemuro 2**	**1.73**	**62**	⇓P	**Pn**	**01 20 57.0**	**-0.5**
NEM2				*e*S	**Sn**	**01 21 17.7**	**-1.8**
ASAJ	**Asahikawa**	**1.73**	**334**	P	**Pn**	**01 20 57.9**	**+0.3**
	43nm,0.3s,baz=195,slow=12,SNR=89						
ASAJ				S	**Sn**	**01 21 20.2**	**+0.6**
	41nm,0.3s,baz=199,slow=16,SNR=8.8						
ASAJ	**Asahikawa**	**1.73**	**334**	PN	**Pn**	**01 20 57.9**	**+0.4**
ASAJ				S	**Sn**	**01 21 20.2**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,43nm,0.3s						
ASAJ				smax			
	comp=E,41nm,0.3s						
JRA	**Rausu**	**1.74**	**37**	⇓P	**Pn**	**01 20 58.4**	**+0.8**
JRA				*e*S	**Sn**	**01 21 21.3**	**+1.5**
JHR	**Hokuryu**	**1.84**	**310**	P	**Pn**	**01 20 59.6**	**+0.7**
JHR				*e*S	**Sn**	**01 21 22.6**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**2.18**	**47**	*e*PN	**Pn**	**01 21 04.0**	**+0.7**
KUR	**Kuril'sk**	**4.04**	**47**	PN	**Pn**	**01 21 30.0**	**+1.8**
KUR				*e*S	**Sn**	**01 22 13.0**	**-1.5**
KUR				pmax	pmax		
	comp=E,150nm,0.5s						
KUR				pmax	pmax		
	comp=Z,110nm,0.5s						
KUR				smax			
	comp=N,340nm,0.5s						
KUR				smax			
	comp=E,150nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.43**	**352**	PN	**Pn**	**01 21 32.0**	**-1.5**
YSS				*e*S	**Sn**	**01 22 23.3**	**-0.6**
YSS				smax			
	comp=N,80nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.43**	**352**	*e*Pn	**Pn**	**01 21 34.1**	**+0.7**
YSS				*e*Sn	**Sn**	**01 22 23.9**	**0.0**
MAJO	**Matsushiro**	**7.34**	**217**	*e*PN	**Pn**	**01 22 12.4**	**-0.5**
MAJO				*e*		01 23 37.2	
MAJO				pmax	pmax		
	comp=Z,18nm,0.6s						
MAJO	**Matsushiro**	**7.34**	**217**	*e*Pn	**Pn**	**01 22 12.4**	**-0.6**
	comp=Z,18nm,0.6s						
MAJO				*e*Sn	**Sn**	**01 23 37.2**	**+2.5**
MAT	**Matsushiro**	**7.34**	**217**	P	**Pn**	**01 22 12.5**	**-0.4**
MAT				*e*S	**Sn**	**01 23 34.0**	**-0.6**
MAT	**Matsushiro**	**7.34**	**217**	PN	**Pn**	**01 22 13.0**	**+0.1**
MAT				S	**Sn**	**01 23 34.0**	**-0.6**
MAT				pmax	pmax		
	comp=Z,15nm,0.8s						
MAT	**Matsushiro**	**7.34**	**217**	P	**Pn**	**01 22 13.0**	**+0.1**
	comp=Z,15nm,0.8s						
MAT				S	**Sn**	**01 23 34.0**	**-0.6**
MJAR	**Matsushiro Arr**	**7.34**	**217**	P	**Pn**	**01 22 12.3**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=26,slow=13,SNR=16						
MJAR				S	**Sn**	**01 23 34.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=9.1,slow=24,SNR=4.1						
HABR	**Khabarovsk**	**8.45**	**317**	*e*PN	**Pn**	**01 22 27.7**	**-0.3**
HABR				*e*		01 24 00.0	
MDJ	**Mudanjiang**	**10.41**	**286**	Pn	**Pn**	**01 22 55.3**	**+0.6**
MA2	**Magadan**	**17.59**	**12**	P	**Pn**	**01 24 26.7**	**-0.5**
HIA	**Hailar**	**17.89**	**300**⇑	*i*P	**Pn**	**01 24 30.6**	**-0.3**
BJT	**Baijiatuau**	**20.78**	**272**	*e*P	**P**	**01 25 01.5**	**0.0**
YAK	**Yakutsk**	**21.20**	**342**	*e*P	**P**	**01 25 02.5**	**-3.5**
HHC	**Hu-ho-hao-te**	**23.95**	**277**	*e*P	**P**	**01 25 34.1**	**+0.6**
HHC				AP		01 25 55.6	
HHC				XP	sP	01 26 07.5	+0.8
HHC				PP		01 26 13.5	
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.4						
HHC				LR	LR		
	comp=N,694nm,15.5s						
HHC				LR	LR		
	comp=E,517nm,16.6s						
HHC				LR	LR		
	comp=Z,722nm,17.8s						
ULN	**Ulaanbaatar**	**26.15**	**294**	*e*P	**P**	**01 25 54.3**	**+0.8**
	comp=Z,3.2nm,0.5s,mb4.0						
SONM	**Songino Array**	**26.60**	**294**	P	**P**	**01 25 58.6**	**+1.1**
	comp=Z,5.1nm,0.6s,mb4.2,baz=87,slow=9.4,SNR=38						
ZAK	**Zakamensk**	**28.59**	**300**	*e*P	**P**	**01 26 13.6**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
KDAK	**Kodiak Island**	**41.92**	**46**	P	**P**	**01 28 09.2**	**0.0**
	comp=Z,8.9nm,0.6s,mb4.7,baz=79,slow=1.9,SNR=4.2						
KURK	**Kurchatov**	**44.07**	**304**	P	**P**	**01 28 27.0**	**+0.4**
KURK				pmax	pmax		
	comp=Z,11nm,0.4s,mb4.9						
KURK	**Kurchatov**	**44.07**	**304**	P	**P**	**01 28 27.0**	**+0.4**
	comp=Z,11nm,0.4s,mb4.9						
CHKZ	**Chkalovo**	**47.94**	**310**	*e*P	**P**	**01 28 57.1**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
CHKZ	**Chkalovo**	**47.94**	**310**	*e*P	**P**	**01 28 57.1**	**+0.1**
	comp=Z,9.6nm,0.6s,mb4.8						
BVAR	**Borovoye Array**	**48.27**	**309**	LR	LR	01 49 59.3	
	comp=Z,38nm,20.4s,baz=191,slow=37						
BRVK	**Borovoye**	**48.32**	**309**	P	**P**	**01 29 01.3**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
BRVK	**Borovoye**	**48.32**	**309**	P	**P**	**01 29 01.3**	**+1.4**
	comp=Z,2.6nm,0.5s,mb4.3						
INK	**Inuvik**	**48.70**	**29**	P	**P**	**01 29 02.8**	**0.0**
	comp=Z,1.7nm,0.4s,mb4.4,baz=266,slow=6.3,SNR=27						
INK	**Inuvik**	**48.70**	**29**	*e*P	**P**	**01 29 02.6**	**-0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	**Inuvik**	**48.70**	**29**	*e*P	**P**	**01 29 02.6**	**-0.2**
	comp=Z,1.9nm,0.4s,mb4.4						
ZRNK	**Zerenda**	**49.09**	**309**	*e*P	**P**	**01 29 08.0**	**+2.2**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9						
ZRNK	**Zerenda**	**49.09**	**309**	*e*P	**P**	**01 29 08.0**	**+2.3**
	comp=Z,7.2nm,0.4s,mb5.0						
DLBC	**Dease Lake**	**53.26**	**41**	P	**P**	**01 29 38.9**	**+2.0**
	comp=Z,2.0nm,0.8s,mb4.2,baz=348,slow=10,SNR=3.9						
DLBC	**Dease Lake**	**53.26**	**41**	P	**P**	**01 29 38.9**	**+2.0**
ARU	**Arti**	**53.45**	**316**⇑	*i*P	**P**	**01 29 39.2**	**+0.8**
ARU				*e*		01 30 08.1	
ARU				*e*		01 31 37.7	
ARU				*e*S	**S**	**01 37 03.5**	**+0.2**
ARU				*e*SS	SS	01 40 45.5	+0.9
ARU				pmax	pmax		

comp=Z,13nm,1.0s,mb4.9
RES Resolute Bay 56.82 16 *e*P **P 01 30 01.7 -0.8**
RES pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
RES Resolute Bay 56.82 16 *e*P **P 01 30 01.7 -0.8**
comp=Z,9.5nm,0.6s,mb5.0
YKA Yellowknife Ar 58.19 32 P **P 01 30 12.0 -0.1**
comp=Z,0.9nm,0.6s,mb4.0,baz=296,slow=6.9,SNR=7.7
YKA Yellowknife Ar 58.19 32 *e*P **P 01 30 12.0 -0.2**
KEV Kevo 58.91 339 *ep* **P 01 30 16.4 -0.7**
ARCES ARCESS Array B 59.45 339 P **P 01 30 21.5 +0.6**
comp=Z,2.1nm,0.7s,mb4.3,baz=39,slow=7.8,SNR=5.3
KAF Kangasniemi 64.20 332 *ep* **P 01 30 52.9 +0.2**
comp=Z,2.6nm,0.5s,mb4.3
KAF Kangasniemi 64.20 332 *e*P **P 01 30 52.9 +0.2**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
OBN Obninsk 64.73 323⇑ *i*P **P 01 30 55.2 -1.0**
OBN *e**PP pP 01 31 22.7 +1.9
OBN *e**SP sP 01 31 35.8 +4.2
OBN pmax pmax
comp=Z,12nm,0.7s,mb4.8
FINES FINESS Array B 64.74 332 P **P 01 30 55.3 -0.9**
comp=Z,2.8nm,0.6s,mb4.3,baz=56,slow=7.1,SNR=19
FINES FINESS Array B 64.74 332 *i* P **P 01 30 55.2 -1.1**
FINES pmax pmax
comp=Z,3.0nm,0.6s
NB2 NORSAR Subarra 69.75 337 P **P 01 31 26.9 -1.0**
comp=Z,1.9nm,0.7s,mb4.0,baz=34,slow=6.2
NOA NORSAR Array B 69.75 337 P **P 01 31 27.1 -0.8**
comp=Z,2.5nm,0.7s,mb4.1,baz=35,slow=6.1,SNR=17
HFS Hagfors 69.76 336 P **P 01 31 27.3 -0.7**
comp=Z,1.9nm,0.4s,mb4.3,baz=54,slow=7.5,SNR=22
NVAR Mina Array Bea 70.37 56 P **P 01 31 33.4 +1.7**
comp=Z,0.8nm,0.6s,mb3.7,baz=280,slow=7.7,SNR=4.2
SOC Sochi 70.51 312 *e*P **P 01 31 33.9 +1.4**
SOC *e* 01 31 52.4
SOC *e**PP pP 01 32 06.9 +9.4
SOC *e*PPP 01 35 54.5
SOC *e*S S 01 40 34.8 -3.1
SOC *e**SS sS 01 41 28.1 +7.4
SOC *e*SS SS 01 45 08.6 -2.3
SOC pmax pmax
comp=Z,16nm,0.8s,mb4.9
AKASG Malin Array Be 70.98 322 P **P 01 31 34.8 -0.6**
comp=Z,1.6nm,0.5s,mb4.1,baz=40,slow=6.0,SNR=11
PDAR Pinedale Array 72.61 48 P **P 01 31 45.3 +0.2**
comp=Z,0.8nm,0.6s,mb3.8,baz=263,slow=0.9,SNR=11
ULM Lac du Bonnet 73.96 35 P **P 01 31 52.9 -0.2**
comp=Z,1.6nm,0.8s,mb3.8,baz=313,slow=10,SNR=3.8
CLL Collm 77.14 331 *i* P **P 01 32 11.0 -0.2**
CLL *i* P(2) 01 32 15.0
EKA Eskdalemuir Ar 78.47 341 P **P 01 32 18.4 -0.2**
comp=Z,0.6nm,0.4s,mb3.7,baz=26,slow=5.1,SNR=7.3
KHC Kasperske Hory 78.71 329 *e*P **P 01 32 20.5 +0.6**
GERES GERESS Array B 78.90 329 P **P 01 32 21.0 0.0**
comp=Z,0.6nm,0.4s,mb3.8,baz=39,slow=5.5,SNR=9.6
CDF Champ du Feu 81.59 332 *e*P **P 01 32 34.9 -0.5**
MEZF Maizieres J'vi 82.26 334 *e*P **P 01 32 38.8 -0.1**
CABF La Chapelle 83.55 332 *e*P **P 01 32 45.3 -0.3**
LOR Lormes 83.73 334 *e*P **P 01 32 45.7 -0.8**
comp=Z,1.4nm,0.4s,mb3.8
LOR Lormes 83.73 334 *e*P **P 01 32 45.7 -0.8**
LOR pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
LOR Lormes 83.73 334 *e*P **P 01 32 45.7 -0.8**
comp=Z,0.7nm,0.4s,mb3.8
FLN La Foliniere 83.73 337 *e*P **P 01 32 46.6 +0.1**
LDF La Druitiere 83.78 337 *e*P **P 01 32 46.6 -0.1**
comp=Z,4.1nm,0.8s,mb4.0
LDF La Druitiere 83.78 337 *e*P **P 01 32 46.6 -0.1**
LDF pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
LDF La Druitiere 83.78 337 *e*P **P 01 32 46.6 -0.1**
comp=Z,2.0nm,0.8s,mb4.0
SSF Saint Saulge 84.03 334 *e*P **P 01 32 47.1 -0.9**
comp=Z,6.4nm,0.9s,mb4.2
SSF Saint Saulge 84.03 334 *e*P **P 01 32 47.1 -0.9**
SSF pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
SSF Saint Saulge 84.03 334 *e*P **P 01 32 47.1 -0.9**
comp=Z,3.2nm,0.9s,mb4.2
GRR Gorron 84.18 337 *e*P **P 01 32 49.0 +0.2**
comp=Z,8.0nm,0.7s,mb4.4
GRR Gorron 84.18 337 *e*P **P 01 32 49.0 +0.2**
GRR pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
GRR Gorron 84.18 337 *e*P **P 01 32 49.0 +0.2**
comp=Z,4.0nm,0.7s,mb4.4
LPL La Plagne 84.27 331 *e*P **P 01 32 49.3 +0.1**
comp=Z,3.2nm,0.7s,mb4.0
LPL La Plagne 84.27 331 *e*P **P 01 32 49.3 +0.1**
LPL pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
LPL La Plagne 84.27 331 *e*P **P 01 32 49.3 +0.1**
comp=Z,1.6nm,0.7s,mb4.0
SMF Signal de Mont 84.28 333 *e*P **P 01 32 49.0 -0.3**
comp=Z,10nm,0.9s,mb4.4
SMF Signal de Mont 84.28 333 *e*P **P 01 32 49.0 -0.3**
SMF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
SMF Signal de Mont 84.28 333 *e*P **P 01 32 49.0 -0.3**
comp=Z,5.3nm,0.9s,mb4.4
AVF Avril sur Loir 84.31 334 *e*P **P 01 32 49.2 -0.2**
comp=Z,9.5nm,0.8s,mb4.4
AVF Avril sur Loir 84.31 334 *e*P **P 01 32 49.2 -0.2**
AVF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
AVF Avril sur Loir 84.31 334 *e*P **P 01 32 49.2 -0.2**
comp=Z,4.8nm,0.8s,mb4.4
BGF Bois d'Agland 84.68 334 *e*P **P 01 32 51.3 0.0**
SGMF Saint Gilles 84.78 338 *e*P **P 01 32 51.7 -0.1**
ROSF Rostrenen 84.90 339 *e*P **P 01 32 52.3 -0.1**
MBDF Montbardon 84.94 331 *e*P **P 01 32 52.5 -0.1**
ORIF Oris-en-Rattie 85.09 331 *e*P **P 01 32 53.2 -0.1**
comp=Z,3.5nm,0.7s,mb4.1
ORIF Oris-en-Rattie 85.09 331 *e*P **P 01 32 53.2 -0.1**
ORIF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ORIF Oris-en-Rattie 85.09 331 *e*P **P 01 32 53.2 -0.1**
comp=Z,1.8nm,0.7s,mb4.1
TCF Toulx Ste Croi 85.13 334 *e*P **P 01 32 53.5 0.0**
SBF Sospel 85.44 330 *e*P **P 01 32 54.2 -0.9**
VIVF Saint-Julien-l 85.57 332 *e*P **P 01 32 55.5 -0.2**
comp=Z,6.3nm,0.7s,mb4.3
VIVF Saint-Julien-l 85.57 332 *e*P **P 01 32 55.5 -0.2**
VIVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
VIVF Saint-Julien-l 85.57 332 *e*P **P 01 32 55.5 -0.2**
comp=Z,3.2nm,0.7s,mb4.4
MFF Saint Martin d 85.58 336 *e*P **P 01 32 55.7 -0.1**
comp=Z,2.3nm,0.5s,mb4.1
MFF Saint Martin d 85.58 336 *e*P **P 01 32 55.7 -0.1**
MFF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
MFF Saint Martin d 85.58 336 *e*P **P 01 32 55.7 -0.1**
comp=Z,1.1nm,0.5s,mb4.0
PGF Pioggiola 85.97 328 *e*P **P 01 32 57.1 -0.6**
FRF La Foret Royal 85.99 330 *e*P **P 01 32 57.7 -0.1**
comp=Z,3.3nm,0.7s,mb4.1
FRF La Foret Royal 85.99 330 *e*P **P 01 32 57.7 -0.1**
FRF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
FRF La Foret Royal 85.99 330 *e*P **P 01 32 57.7 -0.1**
comp=Z,1.6nm,0.7s,mb4.1
SMRF Simiane la Rot 86.02 331 *e*P **P 01 32 57.9 0.0**
LMR La Mourre 86.23 330 *e*P **P 01 32 58.3 -0.7**
comp=Z,8.7nm,0.8s,mb4.4
LMR La Mourre 86.23 330 *e*P **P 01 32 58.3 -0.7**
LMR pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LMR La Mourre 86.23 330 *e*P **P 01 32 58.3 -0.7**
comp=Z,4.3nm,0.8s,mb4.4
CAF Calviac 86.38 334 *e*P **P 01 33 00.4 +0.7**
comp=Z,5.5nm,0.7s,mb4.3
CAF Calviac 86.38 334 *e*P **P 01 33 00.4 +0.7**
CAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CAF Calviac 86.38 334 *e*P **P 01 33 00.4 +0.7**
comp=Z,2.8nm,0.7s,mb4.3
LASF Ste Croix 86.53 332 *e*P **P 01 33 00.4 -0.1**
comp=Z,14nm,1.3s,mb4.4
LFF La Frestale 86.80 335 *e*P **P 01 33 01.7 -0.1**
comp=Z,10nm,0.8s,mb4.5
LFF La Frestale 86.80 335 *e*P **P 01 33 01.7 -0.1**
LFF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LFF La Frestale 86.80 335 *e*P **P 01 33 01.7 -0.1**
comp=Z,5.2nm,0.8s,mb4.5
MTLF Montolieu 87.74 333 *e*P **P 01 33 06.2 -0.1**
EPF Esparros 88.64 334 *e*P **P 01 33 10.4 -0.1**
ETSF Etsaut 89.04 335 *e*P **P 01 33 12.6 +0.2**
comp=Z,5.6nm,0.7s,mb4.4
ETSF Etsaut 89.04 335 *e*P **P 01 33 12.6 +0.2**
ETSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
ETSF Etsaut 89.04 335 *e*P **P 01 33 12.6 +0.2**
comp=Z,2.8nm,0.7s,mb4.4
TORD Torodi Ar. Bea 114.49 319 PKP PKiKP 01 38 56.5 -0.4
comp=Z,0.3nm,1.0s,baz=194,slow=1.7,SNR=5.8
SIV San Ignacio 146.09 46 PKPbc PKPbc 01 39 57.9 +0.9
comp=Z,2.7nm,0.6s,baz=307,slow=2.3,SNR=15

IDC ***20*** *01:27:05.7±0.8, 9.26S×108.50E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.9/17, mbtmp3.9/9, Error ellipse: s-maj=43.6km s-min=17.5km az=55.0*
NEIC ***20*** *01:27:07.5±0.7, 9.26S×108.42E, h10km, mb4.1/4, Error ellipse: s-maj=35.6km s-min=8.8km az=48.0*
ISCJB ***20*** *01:27:10.3±4.2, 9.2S±02×1085E±02, h43km±38km, mb3.9/13, Error ellipse: s-maj=41.0km s-min=11.3km az=97.5*
ISC 20 01:27:11.8±3.4, 93S±02×1083E±02, h41km±31km, n17, σ0§90/17, mb3.9/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**16.38**	**332**	Pn	**Pn**	**01 30 58.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**18.94**	**119**	P	**Pn**	**01 31 31.8**	**+1.6**
	0.1nm,0.3s,baz=259,slow=7.1,SNR=3.9						
WRA	**Warramunga Arr**	**27.26**	**116**	P	**P**	**01 32 50.0**	**-2.1**
	1.0nm,0.6s,mb3.5,baz=290,slow=11,SNR=5.5						
WRAB	**Tennant Creek**	**27.26**	**116**	*e*P	**P**	**01 32 52.4**	**+0.3**
	2.6nm,0.8s,mb3.8						
WB2	**Warramunga Arr**	**27.27**	**116**	P	**P**	**01 32 51.8**	**-0.4**
ASAR	**Alice Springs**	**28.31**	**123**	P	**P**	**01 33 01.2**	**-0.3**
	1.1nm,0.8s,mb3.5,baz=300,slow=9.8,SNR=8.2						
ASAR				PcP	PcP	01 36 13.3	-0.4
	0.4nm,0.6s,baz=282,slow=2.4,SNR=4.8						
CTAO	**Charters Tower**	**38.13**	**111**	*e*P	**P**	**01 34 28.1**	**+1.2**
	1.1nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**38.15**	**131**	P	**P**	**01 34 25.2**	**-1.8**
	2.5nm,0.8s,mb4.0,baz=306,slow=7.7,SNR=3.6						
SONM	**Songino Array**	**56.88**	**358**	P	**P**	**01 36 52.6**	**+0.1**
	0.6nm,0.7s,mb3.7,baz=171,slow=9.9,SNR=4.4						
MKAR	**Makanchi Array**	**60.47**	**340**	P	**P**	**01 37 17.6**	**+0.3**
	3.3nm,0.8s,mb4.4,baz=144,slow=7.7,SNR=24						
KURK	**Kurchatov**	**65.08**	**340**	*e*P	**P**	**01 37 48.2**	**+0.2**
	3.1nm,0.8s,mb4.4						
KURK				*e*	pP	01 37 58.3	-1.8
BVAR	**Borovoye Array**	**69.97**	**337**	P	**P**	**01 38 19.9**	**+1.0**
	0.4nm,0.5s,mb3.6,baz=150,slow=6.3,SNR=3.5						
CHKZ	**Chkalovo**	**70.38**	**337**	*e*P	**P**	**01 38 21.3**	**-0.2**
	1.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**70.46**	**336**	*e*P	**P**	**01 38 21.8**	**-0.2**
ZRNK				*e*	pP	01 38 31.3	-2.8
VNDA	**Vanda**	**73.50**	**169**	P	**P**	**01 38 41.3**	**+1.1**
	0.8nm,0.7s,mb3.7,baz=319,slow=15,SNR=4.1						
BRTR	**Keskin Array B**	**84.32**	**312**	P	**P**	**01 39 39.2**	**-0.2**
	1.3nm,1.1s,mb4.0,baz=130,slow=8.5,SNR=5.9						
SNAA	**Sanae**	**87.76**	**197**	P	**P**	**01 39 56.3**	**-0.2**
	0.6nm,1.0s,mb3.8,baz=153,slow=6.8,SNR=5.1						

ISCJB ***20*** *01:47:02.0±0.9, 92S±0.1×1086E±02, h10km, mb3.9/9, Error ellipse: s-maj=30.9km s-min=10.5km az=101.4*
IDC ***20*** *01:47:02.7±2.8, 9.24S×108.62E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/16, mbtmp3.8/6, ML3.2/1, Error ellipse: s-maj=124.4km s-min=20.4km az=52.0*
NEIC ***20*** *01:47:04.2±0.6, 9.19S×108.66E, h10km, mb4.2/4, Error ellipse: s-maj=22.1km s-min=7.6km az=51.0*
ISC 20 01:47:04.3±0.9, 92S±01×1086E±02, h10km, n14, σ0§55/14, mb3.9/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**16.93**	**27**	Pn	**Pn**	**01 51 01.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**18.75**	**120**	P	**Pn**	**01 51 23.5**	**-0.1**
	0.1nm,0.3s,baz=354,slow=2.6,SNR=4.2						
WRA	**Warramunga Arr**	**27.05**	**116**	P	**P**	**01 52 46.3**	**-0.4**
	1.1nm,0.8s,mb3.5,baz=288,slow=11,SNR=4.9						
WRAB	**Tennant Creek**	**27.05**	**116**	P	**P**	**01 52 46.9**	**+0.1**
WB2	**Warramunga Arr**	**27.06**	**116**	P	**P**	**01 52 46.9**	**+0.1**
ASAR	**Alice Springs**	**28.13**	**124**	P	**P**	**01 52 57.9**	**+1.5**
	0.4nm,0.6s,mb3.3,baz=295,slow=9.7,SNR=4.2						
CTAO	**Charters Tower**	**37.90**	**111**	*e*P	**P**	**01 54 21.4**	**-0.1**
	5.4nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**37.99**	**131**	P	**P**	**01 54 21.3**	**-1.0**
	3.7nm,0.8s,mb4.2,baz=301,slow=7.0,SNR=6.5						
SONM	**Songino Array**	**56.81**	**358**	P	**P**	**01 56 49.2**	**+0.4**
	0.5nm,0.5s,mb3.8,baz=188,slow=7.3,SNR=5.7						
MKAR	**Makanchi Array**	**60.48**	**340**	P	**P**	**01 57 14.7**	**+0.4**
	0.6nm,0.5s,mb3.9,baz=145,slow=7.8,SNR=8.4						
KURK	**Kurchatov**	**65.10**	**339**	*e*P	**P**	**01 57 44.6**	**-0.5**
	1.3nm,0.9s,mb4.0						
BRVK	**Borovoye**	**70.07**	**337**	P	**P**	**01 58 16.8**	**+0.3**
CHKZ	**Chkalovo**	**70.41**	**337**	*e*P	**P**	**01 58 18.3**	**-0.3**
	0.6nm,0.6s,mb3.7						
ZRNK	**Zerenda**	**70.50**	**336**	*e*P	**P**	**01 58 18.9**	**-0.2**
	0.8nm,0.3s,mb4.1						

CSEM ***20*** *01:51:51.2, 38.08N×30.46E, h6km, MD3.0, After ISK*
TIF ***20*** *01:51:51.2, 38.06N×30.42E, h20km±5km*
ISCJB ***20*** *01:51:51.1±0.6, 3808N±004×3045E±006, h3km, Error ellipse: s-maj=6.5km s-min=4.9km az=142.1*
ISK ***20*** *01:51:51.2, 3808N×3046E, h6km, MD3.0*
ISC 20 01:51:51.6±0.8, 3806N±004×3046E±006, h3km±10km, n11, σ0§88/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKTP	**Tekketepe**	**0.11**	**262**	*i* P	**Pg**	**01 51 53.5**	**-0.3**
TKTP				*i* S	**Sg**	**01 52 01.7**	**+6.3**
BCK	**Bucak**	**0.60**	**170**	PG	**Pg**	**01 52 03.7**	**+0.6**
ALT	**Altintas**	**1.03**	**345**	PG	**Pg**	**01 52 10.5**	**-0.9**
ALT				SG	**Sg**	**01 52 25.3**	**+0.5**
GDZ	**Gediz**	**1.29**	**324**	*i* P	**Pg**	**01 52 15.7**	**-0.5**
GDZ				*i* S	**Sg**	**01 52 34.7**	**+1.8**
ELL	**Elmali**	**1.38**	**199**	PN	**Pn**	**01 52 17.8**	**+0.1**
KDHN	**Kadinhani**	**1.38**	**70**	*i* P	**Pg**	**01 52 17.7**	**-0.3**
KDHN				*i* S	**Sg**	**01 52 40.2**	**+4.3**
KIZT	**Kizilcal**	**1.38**	**53**	PN	**Pn**	**01 52 17.5**	**-0.2**
ESKT	**Eskisehir**	**1.49**	**12**	*i* P	**Pg**	**01 52 19.4**	**-0.8**
ESKT				*i* S	**Sg**	**01 52 40.6**	**+1.1**
KONT	**Konya--Tatoy**	**1.50**	**94**	PN	**Pn**	**01 52 19.5**	**+0.1**
DST	**Dursunbey**	**2.11**	**318**	PN	**Pn**	**01 52 27.7**	**0.0**
ULDT	**Uludag**	**2.32**	**334**	*i* P	**Pg**	**01 52 36.9**	**+0.8**
ULDT				*i* S	**Sg**	**01 53 04.2**	**-2.0**

PRU ***20*** *01:51:58.6, 43.27N×19.35E, h0km*
THE ***20*** *01:52:05.1, 44.22N×20.19E, h10km, ML3.6*
NEIC ***20*** *01:52:07.0, 44.03N×20.10E, h11km, ML3.3(PDG), After PDG.*
BEO ***20*** *01:52:06.8±0.4, 43.99N×20.11E, h26km±2km*
ISCJB ***20*** *01:52:06.1±0.3, 4406N±001×20.11E±002, h5km±2km, Error ellipse: s-maj=2.8km s-min=1.9km az=171.7*
PDG ***20*** *01:52:07.0±0.9, 44.03N×20.10E, h11km±2km*
CSEM ***20*** *01:52:06.5±0.1, 44.10N×20.14E, h5km, ML3.6, Error ellipse: s-maj=1.3km s-min=1.1km az=73.0*
ROM ***20*** *01:52:10.3±0.8, 43.96N×19.89E, h10km, Ml3.3/5, Error ellipse: s-maj=14.6km s-min=5.4km az=135.0*
VIE ***20*** *01:52:11.1±0.4, 44.29N×19.96E, h10km, mb2.7/4, ML3.0/4, Error ellipse: s-maj=5.1km s-min=2.9km az=19.0*
ISC 20 01:52:07.7±0.3, 4405N±001×2010E±002, h6km±2km, n116, σ1§14/172, 17C-32D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIVS	**Divcibare**	**0.09**	**305**	*i* Pg	**Pg**	**01 52 09.8**	**+0.1**
DIVS				Sg	**Sg**	**01 52 12.1**	**+1.0**
DIVS	**Divcibare**	**0.09**	**305**	*e*Pg	**Pg**	**01 52 09.1**	**-0.6**
DIVS				*e*Sg	**Sg**	**01 52 11.8**	**+0.6**
GRUS	**Gruza**	**0.47**	**109**	*i* Pg	**Pg**	**01 52 15.6**	**-1.2**
GRUS				Sg	**Sg**	**01 52 23.0**	**0.0**
BBLS	**Bajina Basta -**	**0.53**	**251**	*i* Pg	**Pg**	**01 52 17.9**	**+0.1**
BBLS				Sg	**Sg**	**01 52 25.6**	**+0.9**
SJES	**Sjenica**	**0.79**	**188**	Pg	**Pg**	**01 52 21.2**	**-1.6**
BEO	**Belgrade**	**0.82**	**18**	*i* Pg	**Pg**	**01 52 23.7**	**+0.3**
BEO				Sg	**Sg**	**01 52 35.1**	**+1.1**
PLE	**Pljevlja**	**0.88**	**216**⇓	*i*Pg	**Pg**	**01 52 22.8**	**-1.7**
PLE				*e*Sg	**Sg**	**01 52 36.2**	**+0.3**
FGSL	**Fruska Gora**	**1.13**	**350**	Pg	**Pg**	**01 52 29.1**	**-0.3**
IVA	**Berane**	**1.18**	**187**⇓	*i*Pg	**Pg**	**01 52 27.9**	**-2.5**
IVA				*e*Sg	**Sg**	**01 52 46.1**	**+0.4**
UPM	**Unac-Piva**	**1.21**	**226**⇓	*i*Pg	**Pg**	**01 52 28.6**	**-2.2**
UPM				*e*Sg	**Sg**	**01 52 47.4**	**+0.9**
PVY	**Plav**	**1.45**	**184**⇑	*i*Pg	**Pg**	**01 52 33.1**	**-2.4**
PVY				*e*Sg	**Sg**	**01 52 55.3**	**+0.9**
NKY	**Niksic**	**1.47**	**213**⇓	*i*Pg	**Pg**	**01 52 33.1**	**-2.7**
NKY				*e*Sg	**Sg**	**01 52 55.2**	**+0.2**
BRY	**Bratogost**	**1.61**	**225**⇓	*i*Pn	**Pn**	**01 52 35.5**	**-1.2**
BRY				*e*Sn	**Sn**	**01 52 58.8**	**+1.1**
TTG	**Podgorica**	**1.73**	**201**⇓	*i*Pn	**Pn**	**01 52 36.8**	**-1.4**
TTG				*e*Sn	**Sn**	**01 53 01.8**	**+1.2**
BZS	**Buzias**	**1.91**	**34**⇓	*i*P	**Pn**	**01 52 39.7**	**-1.0**
BZS	**Buzias**	**1.91**	**34**	S	**Sn**	**01 53 09.4**	**+4.3**
BZS	**Buzias**	**1.91**	**34**	P	**Pn**	**01 52 39.8**	**-1.0**
BZS	**Buzias**	**1.91**	**34**	P	**Pn**	**01 52 39.8**	**-0.9**
BUM	**Brajici-Budva**	**1.95**	**207**⇓	*i*Pn	**Pn**	**01 52 41.3**	**-0.1**
BUM				*e*Sn	**Sn**	**01 53 07.8**	**+1.6**
HCY	**Herceg Novi**	**1.98**	**217**⇑	*i*Pn	**Pn**	**01 52 41.9**	**+0.2**
HCY				*e*Sn	**Sn**	**01 53 08.5**	**+1.7**
STON	**Ston**	**2.10**	**237**	*i* Pn	**Pn**	**01 52 44.1**	**+0.7**
STON				*i* Sn	**Sn**	**01 53 11.8**	**+1.9**
ULC	**Ulcinj**	**2.17**	**197**⇓	*i*Pn	**Pn**	**01 52 44.3**	**-0.1**
ULC				*e*Sn	**Sn**	**01 53 12.5**	**+0.9**
RHK3	**Tenkes**	**2.26**	**325**⇑	*i*P	**Pn**	**01 52 44.9**	**-0.7**
RHK3				*e*S	**Sn**	**01 53 19.1**	**+5.3**
SKO	**Skopje**	**2.29**	**154**	*i* Pn	**Pn**	**01 52 49.3**	**+3.2**
SKO				*i* Sn	**Sg**	**01 53 22.6**	**+1.3**
GZR	**Gura Zlata**	**2.34**	**54**⇑	*i*P	**Pn**	**01 52 46.0**	**-0.6**
GZR	**Gura Zlata**	**2.34**	**54**	S	**Sn**	**01 53 21.5**	**+5.8**
GZR	**Gura Zlata**	**2.34**	**54**	⇑P	**Pn**	**01 52 46.0**	**-0.7**
GZR				S	**Sn**	**01 53 21.5**	**+5.8**
PKSM	**Moragy**	**2.40**	**335**⇑	*i*P	**Pn**	**01 52 46.7**	**-0.8**
PKSM	**Moragy**	**2.40**	**335**⇑	*i*Pn	**Pn**	**01 52 46.8**	**-0.7**
PKSM				*e*Sn	**Sg**	**01 53 25.3**	**+0.5**
PKSM	**Moragy**	**2.40**	**335**⇑	*i*Pn	**Pn**	**01 52 46.8**	**-0.7**
PKSM				S	**Sn**	**01 53 12.8**	**-4.4**
PKS6	**Bocsa**	**2.58**	**352**	*e*P	**Pn**	**01 52 50.0**	**0.0**
VTS	**Vitosha**	**2.69**	**122**	*e*Pn	**Pn**	**01 52 50.6**	**-0.9**
VTS	**Vitosha**	**2.69**	**122**⇓	*i*P	**Pn**	**01 52 50.6**	**-1.0**
VTS	**Vitosha**	**2.69**	**122**	*e*Pn	**Pn**	**01 52 50.6**	**-1.0**
VTS				S	**Sn**	**01 53 27.5**	**+3.0**
TIR	**Tirane**	**2.70**	**184**	*e*Pn	**Pn**	**01 52 52.6**	**+0.9**
TIR				*e*Sn	**Sn**	**01 53 29.1**	**+4.5**
TIR	**Tirane**	**2.70**	**184**	Pn	**Pn**	**01 52 53.2**	**+1.5**
	230nm,1.3s						
TIR				*e*Sn	**Sn**	**01 53 29.1**	**+4.4**
PKSN	**Nyarlorinc**	**2.86**	**357**⇓	*i*P	**Pn**	**01 52 53.8**	**0.0**
OHR	**Ohrid**	**2.98**	**170**	*i* Pn	**Pn**	**01 52 55.3**	**-0.2**
OHR				*i* Sn	**Sg**	**01 53 43.1**	**-0.2**
OHR	**Ohrid**	**2.98**	**170**	*i* Pn	**Pn**	**01 52 55.2**	**-0.3**
PKS8	**Sarbogard**	**3.00**	**341**⇑	*e*P	**Pn**	**01 52 55.2**	**-0.6**
PKS8				*e*S	**Sg**	**01 53 47.8**	**+3.6**
SISC	**Sisak**	**3.01**	**300**	Sg	**Sg**	**01 53 44.7**	**+0.2**
BIA	**Bitola**	**3.16**	**163**	*e*Pn	**Pn**	**01 52 57.9**	**-0.1**
BIA	**Bitola**	**3.16**	**163**	*i* Pn	**Pn**	**01 52 58.7**	**+0.8**
BIA	**Bitola**	**3.16**	**163**	*e*Pn	**Pn**	**01 52 57.8**	**-0.1**
VAY	**Valandovo**	**3.28**	**145**	*i* Pn	**Pn**	**01 52 57.7**	**-1.9**
VAY				*i* Sn	**Sg**	**01 53 52.8**	**+0.2**
DRGR		**3.31**	**33**⇑	*i*P	**Pn**	**01 53 02.1**	**+2.1**
DRGR		**3.31**	**33**	P	**Pn**	**01 52 59.5**	**-0.4**
DRGR		**3.31**	**33**	P	**Pn**	**01 52 59.5**	**-0.5**
DRGR				S	**Sn**	**01 53 38.7**	**-0.9**
FNA	**Florina**	**3.39**	**163**	*e*Pn	**Pn**	**01 53 01.4**	**+0.2**
BUD	**Budapest**	**3.52**	**348**⇓	*e*Pn	**Pn**	**01 53 02.6**	**-0.3**
BUD				*e*Sg	**Sg**	**01 54 05.7**	**+5.0**
BUD	**Budapest**	**3.52**	**348**⇓	*i*Pn	**Pn**	**01 53 02.6**	**-0.3**
BUD				*e*Sn	**Sg**	**01 54 05.7**	**+5.0**
KNT	**Kendrikon**	**3.55**	**143**	*e*Pn	**Pn**	**01 53 02.5**	**-0.7**
PKSG		**3.55**	**341**⇑	*i*P	**Pn**	**01 53 03.0**	**-0.4**
PKSG				*e*S	**Sn**	**01 53 44.3**	**-1.4**
PKSG				S	**Sn**	**01 53 44.5**	**-1.2**
PKSG		**3.55**	**341**⇑	*i*Pn	**Pn**	**01 53 03.0**	**-0.4**
PKSG				*e*S	**Sn**	**01 53 44.3**	**-1.4**
	0.7nm,0.4s						
MMB	**Musomiste**	**3.63**	**131**	*e*Pn	**Pn**	**01 53 04.1**	**-0.3**
GOLS	**Golise**	**3.73**	**303**	*e*Pn	**Pn**	**01 53 05.7**	**-0.1**
CRES	**Cresnjev**	**3.75**	**300**	*e*Pn	**Pn**	**01 53 06.0**	**0.0**
BOJS	**Bojanci**	**3.75**	**295**	*i* Pn	**Pn**	**01 53 06.9**	**+0.8**
BOJS				*e*		01 53 20.6	
PENC	**Penc**	**3.79**	**352**⇓	*e*P	**Pn**	**01 53 06.4**	**-0.2**
VOIR		**3.79**	**67**⇓	*i*P	**Pn**	**01 53 08.1**	**+1.4**
VOIR		**3.79**	**67**	⇓P	**Pn**	**01 53 08.1**	**+1.5**
PSZ	**Piszkesteto**	**3.88**	**358**⇓	*i*Pn	**Pn**	**01 53 07.4**	**-0.4**
PSZ				*e*Sg	**Sg**	**01 54 12.9**	**+0.7**
PSZ	**Piszkesteto**	**3.88**	**358**⇓	*i*P	**Pn**	**01 53 07.2**	**-0.6**
PSZ	**Piszkesteto**	**3.88**	**358**⇓	*i*Pn	**Pn**	**01 53 07.5**	**-0.3**
PSZ				*e*Sn	**Sg**	**01 54 12.9**	**+0.7**
LEGS	**Legarje**	**3.89**	**301**	*e*Pn	**Pn**	**01 53 08.0**	**0.0**
SRO2	**Moca**	**3.90**	**343**	*e*Pn	**Pn**	**01 53 08.6**	**+0.4**
SRO2

AGG	**Agios Georgios**	**5.29**	**161**	*e*Pn	**Pn**	**01 53 27.0**	**-0.3**
LKD	**Levkas**	**5.35**	**175**	*e*Pn	**Pn**	**01 53 27.2**	**-0.9**
NIE	**Niedzica**	**5.38**	**2**	*e*Pn	**Pn**	**01 53 30.2**	**+1.8**
NIE				*e*Sn	**Sn**	**01 54 32.8**	**+2.1**
MOA	**Molln**	**5.57**	**315**	⇑*i*Pn	**Pn**	**01 53 31.6**	**+0.6**
	SNR=6.8						
MOA				⇓*i*Sn	**Sn**	**01 54 33.3**	**-2.1**
KBA	**Koelnbreinsper**	**5.63**	**305**	⇓*i*Pn	**Pn**	**01 53 31.6**	**-0.3**
KBA				⇓*i*Sn	**Sn**	**01 54 35.0**	**-1.9**
FVI	**Forni Avoltri**	**5.75**	**299**	⇑*i*Pn	**Pn**	**01 53 34.8**	**+1.2**
	1.0nm,0.2s						
MORC	**Moravsky Berou**	**5.99**	**344**	⇓*i*P	**Pn**	**01 53 37.4**	**+0.5**
MORC	**Moravsky Berou**	**5.99**	**344**	⇓P	**Pn**	**01 53 37.4**	**+0.5**
MORC				S	**Sn**	**01 54 44.9**	**-1.0**
MORC	**Moravsky Berou**	**5.99**	**344**	⇓P	**Pn**	**01 53 37.4**	**+0.5**
MORC				S	**Sn**	**01 54 44.9**	**-1.0**
TREC	**Trest**	**6.13**	**330**	*e*PN	**Pn**	**01 53 39.3**	**+0.5**
GEC2	**GERESS Array S**	**6.52**	**320**	*e*Pn	**Pn**	**01 53 45.1**	**+0.9**
GEC2				*e*Sn	**Sn**	**01 54 56.1**	**-2.8**
KHC	**Kasperske Hory**	**6.78**	**321**	*e*PN	**Pn**	**01 53 47.7**	**-0.1**
KHC				*ex*	x	01 53 59.0	
KHC				*e*SN	**Sn**	**01 55 02.4**	**-2.9**
KHC				*ex*	x	01 55 18.0	
PRU	**Pruhonice**	**7.05**	**329**	*e*Pn	**Pn**	**01 53 50.6**	**-0.8**
	6.0nm,0.8s						

*ISCJB **20** 02:07:42.8±0.9, 1670N±006×6180W±006, h109km±9km, Error ellipse: s-maj=13.0km s-min=4.1km az=96.1*
*TRN **20** 02:07:42.7, 1665N×6184W, h101km, MD3.3, M3.4(FDF)*
*NEIC **20** 02:07:43.6, 1687N×6182W, h108km, MD3.1(TRN), After TRN.*
*RSPR **20** 02:07:45.1, 17.17N×6170W, h78km±77km, MD4.3/6, MD4.3/6*

ISC 20 02:07:43.7±1.1,**1670N**±006×**6178W**±007,**h104**km±10km, **n29**,σ0°**87**/45,**3C-8D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BPA	**Boggy Peak**	**0.36**	**348**	*e*P	**Pn**	**02 07 59.1**	**+0.1**
BPA				*e*S	**Sn**	**02 08 09.9**	**-0.5**
BPA				*e*S	**Sn**	**02 08 10.8**	**+0.4**
BPA	**Boggy Peak**	**0.36**	**348**	*e*P	**Pn**	**02 07 60.0**	**+1.0**
BPA				*e*S	**Sn**	**02 08 10.8**	**+0.4**
SEG	**Port Louis**	**0.39**	**138**	⇓*e*P	**Pn**	**02 07 59.3**	**+0.1**
LZG	**Guadaloupe-1**	**0.55**	**179**	*e*P	**Pn**	**02 08 00.2**	**0.0**
BCG	**Bois Riant Cap**	**0.63**	**166**	⇓*e*P	**Pn**	**02 08 00.9**	**+0.1**
SCG	**Saint Claude**	**0.67**	**172**	*e*P	**Pn**	**02 08 01.5**	**+0.3**
DOG	**Dongo Capester**	**0.68**	**167**	⇓*e*P	**Pn**	**02 08 01.3**	**+0.1**
PHG	**Guadaloupe-2**	**0.69**	**169**	⇓*e*P	**Pn**	**02 08 01.6**	**+0.3**
HMG	**Houelmont**	**0.71**	**174**	*e*P	**Pn**	**02 08 01.7**	**+0.1**
SFG	**Saint Francois**	**0.71**	**128**	*e*P	**Pn**	**02 08 01.8**	**+0.3**
DEG	**La Desirade**	**0.79**	**119**	⇓*e*P	**Pn**	**02 08 02.3**	**0.0**
DEG				*e*S	**Sn**	**02 08 16.1**	**-0.1**
TBG	**Guadaloupe-3**	**0.85**	**171**	*e*P	**Pn**	**02 08 02.5**	**-0.3**
MGG	**Marie-Galante**	**0.89**	**150**	⇓*e*P	**Pn**	**02 08 03.6**	**+0.4**
CPB	**Codrington**	**0.94**	**357**	*e*P	**Pn**	**02 08 04.8**	**+1.1**
CPB				*e*S	**Sn**	**02 08 17.4**	**-1.4**
BBL	**Barber's Block**	**1.20**	**165**	*e*P	**Pn**	**02 08 06.4**	**-0.1**
STAT	**Sint Eustatius**	**1.39**	**305**	*e*P	**Pn**	**02 08 09.5**	**+0.7**
STAT				*e*S	**Sn**	**02 08 28.2**	**+0.3**
SABS	**Saba**	**1.67**	**304**	*e*P	**Pn**	**02 08 13.3**	**+1.1**
SABS				*e*S	**Sn**	**02 08 33.6**	**-0.4**
SABT	**Saba**	**1.67**	**304**	*e*P	**Pn**	**02 08 13.3**	**+1.1**
SABT				*e*S	**Sn**	**02 08 33.6**	**-0.4**
FDF	**Fort de France**	**2.04**	**163**	*e*P	**Pn**	**02 08 16.9**	**0.0**
FDF				*e*S	**Sn**	**02 08 41.7**	**-0.7**
BIM	**Bigot**	**2.27**	**162**	*e*P	**Pn**	**02 08 19.9**	**0.0**
BIM				*e*S	**Sn**	**02 08 46.8**	**-0.8**
TBVI	**Tortola**	**3.19**	**303**	⇓*e*P	**Pn**	**02 08 31.1**	**-0.9**
TBVI				*e*S	**Sn**	**02 09 05.9**	**-3.4**
STVI	**Saint Thomas**	**3.45**	**299**	*e*P	**Pn**	**02 08 35.4**	**-0.2**
STVI				*e*S	**Sn**	**02 09 12.5**	**-3.2**
CULB	**Culebra**	**3.75**	**296**	⇑*e*P	**Pn**	**02 08 38.9**	**-0.6**
CULB				*e*S	**Sn**	**02 09 19.1**	**-3.6**
MTP	**Monte Pirata**	**3.86**	**292**	⇑*e*P	**Pn**	**02 08 40.9**	**-0.1**
MTP				*e*S	**Sn**	**02 09 26.6**	**+1.1**
HUMP	**Col San Antoni**	**4.14**	**291**	*e*S	**Sn**	**02 09 33.6**	**+1.4**
CBYP	**Canovanas**	**4.19**	**293**	⇑*e*P	**Pn**	**02 08 45.7**	**+0.2**
CBYP				*e*S	**Sn**	**02 09 31.6**	**-1.8**
AOPR	**Arecibo Observ**	**5.02**	**290**	*e*S	**Sn**	**02 09 52.4**	**-1.0**
CRPR	**Cabo Rojo, PR**	**5.25**	**285**	⇓*e*P	**Pn**	**02 08 59.5**	**-0.3**
CRPR				*e*S	**Sn**	**02 09 59.7**	**+0.7**
LSP	**Las Mesas**	**5.27**	**287**	*e*S	**Sn**	**02 10 02.2**	**+2.6**

IDC 20 02:27:59.0±4.2,**844S**×**10722E, h0**km,**mb4.0**/3,**mb1 4.0**/3, **mb1mx3.7**/16,**mbtmp4.0**/3,**Error ellipse: s-maj=193.4km s-min=29.7km az=53.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**29.69**	**124**	P	P	02 34 07.0	+0.4
	1.1nm,1.0s,baz=296,slow=10,SNR=5.4						
SONM	**Songino Array**	**56.03**	**359**	P	P	02 37 39.6	+0.1
	0.8nm,0.6s,baz=180,slow=8.8,SNR=7.4						
MKAR	**Makanchi Array**	**59.31**	**340**	P	P	02 38 02.6	0.0
	1.9nm,0.5s,baz=151,slow=8.4,SNR=28						

*IDC **20** 02:34:31.9±3.8, 878S×10771E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.8/3, Error ellipse: s-maj=144.1km s-min=30.9km az=49.0*
*NEIC **20** 02:34:31.2±2.0, 9.12S×10727E, h10km, mb4.3/4, Error ellipse: s-maj=82.0km s-min=17.9km az=46.0*
*ISCJB **20** 02:34:32.7±2.5, 9.1S±05×1073E±05, h33km, mb4.0/7, Error ellipse: s-maj=102.8km s-min=23.3km az=92.2*

ISC 20 02:34:34.8±2.6,**92S**±05×**1072E**±06,**h35**km,**n7**,σ0°**46**/7, **mb4.0**/7,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.31**	**115**	P	**P**	**02 40 25.1**	**0.0**
	0.2nm,0.5s,mb3.0,baz=289,slow=11,SNR=4.7						
SONM	**Songino Array**	**56.75**	**359**	P	**P**	**02 44 15.3**	**+0.1**
	1.6nm,0.6s,mb4.2,baz=177,slow=7.9,SNR=12						
ULN	**Ulaanbaatar**	**56.77**	**360**	*e*P	**P**	**02 44 15.1**	**-0.2**
	1.5nm,0.7s,mb4.1						
MKAR	**Makanchi Array**	**59.98**	**340**	P	**P**	**02 44 38.6**	**+0.9**
	1.2nm,0.7s,mb4.0,baz=140,slow=7.9,SNR=11						
KURK	**Kurchatov**	**64.59**	**340**	*e*P	**P**	**02 45 07.8**	**-0.8**
	1.1nm,0.6s,mb4.1						
CHKZ	**Chkalovo**	**69.85**	**338**	*e*P	**P**	**02 45 42.0**	**+0.1**
	1.6nm,0.5s,mb4.2						
ZRNK	**Zerenda**	**69.91**	**337**	*e*P	**P**	**02 45 42.1**	**-0.2**
	1.9nm,0.8s,mb4.1						

*LDG **20** 02:36:40.7±0.1, 4831N×668E, h10km, Md2.0/4, Ml1.9/6, Error ellipse: s-maj=2.4km s-min=1.3km az=156.0*

STR 20 02:36:40.2±0.4,**4834N**×**668E, h10**km±1km,**Ml1.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ECH	**Echery**	**0.34**	**111**	Pg	Pg	02 36 47.4	+0.4
ECH				Sg	Sg	02 36 52.0	+0.4
HAU	**Haudompre**	**0.40**	**214**	*e*Pg	Pg	02 36 48.3	+0.2
HAU				*e*Sg	Sg	02 36 52.5	-0.9
	5.5nm,0.2s						
CDF	**Champ du Feu**	**0.40**	**79**	*e*Pg	Pg	02 36 48.6	+0.5
CDF				*e*Sg	Sg	02 36 54.2	+0.7
	3.4nm,0.2s						
WLS	**Welschbruch**	**0.46**	**80**	Pg	Pg	02 36 49.5	+0.4
WLS				Sg	Sg	02 36 56.1	+1.0
THEF	**They Montfort**	**0.48**	**257**	Pg	Pg	02 36 49.3	-0.2
THEF				Sg	Sg	02 36 55.8	0.0
HINF	**Hinteralfeld**	**0.54**	**167**	*e*Pg	Pg	02 36 50.7	+0.1
HINF				*e*Sg	Sg	02 36 57.6	-0.1
	6.8nm,0.2s						
MOF	**Molkenrain**	**0.57**	**148**	Pg	Pg	02 36 52.8	+1.4
MEZF	**Maizieres J'vi**	**1.10**	**279**	*e*Pg	Pg	02 37 01.7	+0.4
MEZF				*e*Sg	Sg	02 37 16.8	+1.3
	2.7nm,0.3s						
SFTF	**Sexfontaines**	**1.10**	**264**	*e*Pg	Pg	02 37 01.6	+0.2
SFTF				*e*Sg	Sg	02 37 15.1	-0.7
	3.3nm,0.2s						
LOR	**Lormes**	**2.18**	**242**	*e*Pn	Pn	02 37 15.0	-1.5
LOR	**Lormes**	**2.18**	**242**	*e*Pg	Pg	02 37 21.4	-0.7
LOR				*e*Sg	Sg	02 37 48.6	-1.8
	1.5nm,0.4s						
SMF	**Signal de Mont**	**2.56**	**230**	*e*Sg	Sg	02 38 00.3	-2.3
	1.5nm,0.2s						
AVF	**Avril sur Loir**	**2.73**	**237**	*e*Sg	Sg	02 38 06.2	-1.9
	0.3nm,0.2s						

CASC 20 02:37:32.2±2.7,**1406N**×**9132W, h64**km±17km,**MD3.6, 5C-2D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.40**	**310**	⇑*e*P	Pn	02 37 44.0	+0.4
JAT				*e*S	Sn	02 37 52.8	+1.0
FUG	**Fuego 3**	**0.60**	**50**	⇑*e*P	Pn	02 37 46.5	+0.9
TER	**Terranova**	**0.66**	**69**	⇑*e*P	Pn	02 37 46.9	+0.6
TER				*e*S	Sn	02 37 58.1	+1.5
PCG	**Pacaya**	**0.77**	**64**	⇓*e*P	Pn	02 37 48.9	+1.4
PCG				*e*S	Sn	02 38 00.5	+1.7
TP2	**Tecpan 2**	**0.78**	**22**	⇓*e*P	Pn	02 37 48.2	+0.6
TP2				*e*S	Sn	02 38 00.9	+2.0
IXG	**Ixpaco**	**0.85**	**82**	*e*P	Pn	02 37 48.9	+0.4
IXG				*e*S	Sn	02 38 02.2	+1.7
RBDL	**Robledal**	**1.59**	**88**	⇑*e*P	x	02 38 18.6	
RBDL				*e*S	x	02 38 41.2	
RTR	**El Retiro**	**1.64**	**95**	*e*P	x	02 38 19.6	
RTR				*e*S	x	02 38 41.4	
SBLS	**San Blas**	**1.66**	**97**	*e*P	x	02 38 19.9	
SBLS				*e*S	x	02 38 41.1	
SNJE	**San Jose**	**1.68**	**96**	*e*P	x	02 38 20.2	
SNJE				*e*S	x	02 38 40.6	
LFRS	**El Faro**	**2.24**	**101**	⇑*e*P	x	02 38 27.2	
LFRS				*e*S	x	02 38 54.4	
LCBS	**La Ceiba**	**2.31**	**100**	*e*P	x	02 38 29.3	
LCBS				*e*S	x	02 38 56.9	

IDC 20 02:51:47.7±3.0,**988S**×**10825E, h0**km,**mb3.6**/4,**mb1 3.7**/5, **mb1mx3.5**/17,**mbtmp3.6**/5,**ML3.4**/1,**Error ellipse: s-maj=123.4km s-min=23.9km az=45.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.74**	**118**	P	Pn	02 56 09.6	+1.3
	0.1nm,0.3s,baz=286,slow=18,SNR=3.8						
WRA	**Warramunga Arr**	**27.09**	**115**	P	P	02 57 31.6	-0.4
	0.2nm,0.4s,baz=286,slow=12,SNR=7.0						
SONM	**Songino Array**	**57.48**	**359**	P	P	03 01 39.3	+0.8
	0.5nm,0.5s,baz=172,slow=7.6,SNR=5.0						
MKAR	**Makanchi Array**	**60.99**	**340**	P	P	03 02 03.0	+0.2
	0.3nm,0.3s,baz=141,slow=7.8,SNR=5.4						
BVAR	**Borovoye Array**	**70.48**	**337**	P	P	03 03 03.4	-0.6
	0.7nm,0.5s,baz=140,slow=7.8,SNR=5.3						

*IDC **20** 02:55:47.3±0.6, 1008S×10797E, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.2/17, mbtmp4.2/10, ML4.1/1, Error ellipse: s-maj=28.3km s-min=15.9km az=56.0*
*NEIC **20** 02:55:49.1±0.4, 10.13S×10798E, h10km, mb4.3/7, Error ellipse: s-maj=19.7km s-min=8.3km az=48.0*
*ISCJB **20** 02:55:50.1±0.5, 10.1S±0.1×1080E±0.1, h33km, mb4.2/14, Error ellipse: s-maj=20.0km s-min=9.7km az=92.0*

ISC 20 02:55:52.4±0.5,**101S**±01×**1080E**±01,**h35**km,**n30**, σ0°**58**/24,**mb4.2**/14,**1C, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**15.76**	**136**	*e*Pn	**Pn**	**02 59 28.0**	**-3.6**
FITZ	**Fitzroy Crossi**	**18.87**	**117**	*e*P	**Pn**	**03 00 10.4**	**+0.1**
	11nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.87**	**117**	P	**Pn**	**03 00 10.3**	**0.0**
	0.4nm,0.3s,baz=315,slow=7.8,SNR=8.2						
KAKA	**Kakadu**	**24.12**	**98**	*e*P	**P**	**03 01 04.4**	**-0.4**
	7.1nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**27.23**	**114**	P	**P**	**03 01 32.9**	**-0.2**
	3.7nm,0.8s,mb4.0,baz=286,slow=11,SNR=13						
WRAB	**Tennant Creek**	**27.24**	**114**	*e*P	**P**	**03 01 32.7**	**-0.4**
	3.8nm,0.7s,mb4.0						
WB2	**Warramunga Arr**	**27.25**	**114**	*e*P	**P**	**03 01 32.9**	**-0.2**
AS31	**Alice Springs**	**28.17**	**122**	*e*P	**P**	**03 01 42.3**	**+1.0**
ASAR	**Alice Springs**	**28.17**	**122**	P	**P**	**03 01 41.9**	**+0.6**
	2.5nm,0.7s,mb3.9,baz=296,slow=8.5,SNR=20						
STKA	**Stephens Creek**	**37.88**	**130**	*e*P	**P**	**03 03 06.5**	**+0.6**
	9.9nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**37.88**	**130**	P	**P**	**03 03 06.8**	**+0.9**
	12nm,0.8s,mb4.7,baz=309,slow=8.3,SNR=17						
STKA	**Stephens Creek**	**37.88**	**130**	*e*P	**P**	**03 03 06.0**	**0.0**
SONM	**Songino Array**	**57.72**	**359**	P	**P**	**03 05 39.1**	**-0.4**
	2.1nm,0.5s,mb4.4,baz=174,slow=8.4,SNR=20						
ULN	**Ulaanbaatar**	**57.74**	**359**	*e*P	**P**	**03 05 40.2**	**+0.5**
	2.7nm,0.5s,mb4.5						
MKAR	**Makanchi Array**	**61.13**	**340**	P	**P**	**03 06 03.5**	**+0.4**
	1.7nm,0.7s,mb4.3,baz=154,slow=6.6,SNR=11						
MAW	**Mawson**	**64.68**	**197**	*e*P	**P**	**03 06 27.0**	**+0.3**
	2.4nm,1.4s,mb4.0						
MAW	**Mawson**	**64.68**	**197**	P	**P**	**03 06 27.0**	**+0.3**
	1.5nm,0.7s,mb4.1,baz=63,slow=4.4,SNR=6.5						
BVAR	**Borovoye Array**	**70.60**	**337**	P	**P**	**03 07 04.5**	**+0.5**
	1.3nm,0.6s,mb4.0,baz=147,slow=9.6,SNR=5.3						
CHKZ	**Chkalovo**	**71.02**	**338**	*e*P	**P**	**03 07 05.6**	**-1.0**
	2.1nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**71.08**	**336**	*e*P	**P**	**03 07 06.8**	**-0.2**
	2.7nm,0.8s,mb4.2						
VNDA	**Vanda**	**72.74**	**169**	P	**P**	**03 07 16.8**	**-0.1**
	1.5nm,1.0s,mb3.9,baz=311,slow=4.0,SNR=4.9						
VNDA	**Vanda**	**72.74**	**169**	P	**P**	**03 07 16.8**	**-0.1**
SYO	**Syowa Base**	**72.92**	**201**	⇑*e*P	**P**	**03 07 17.5**	**-0.5**
BRTR	**Keskin Array B**	**84.61**	**312**	P	**P**	**03 08 22.4**	**+0.2**
	0.5nm,0.6s,mb3.8,baz=144,slow=7.0,SNR=3.3						
WMOK	**Wichita Mounta**	**145.41**	**41**	*e*PKPbc	PKPbc	03 15 27.1	+0.6
NCB	**Newcomb**	**146.23**	**3**	*e*PKPbc	PKPbc	03 15 29.2	+0.2
MIAR	**Mount Ida**	**148.72**	**36**	*e*PKPbc	PKPbc	03 15 36.3	+0.4
SIV	**San Ignacio**	**151.87**	**203**	PKP	PKPdf	03 15 37.8	+0.8
	0.7nm,0.8s,baz=214,slow=12,SNR=3.8						
SIV				PKPbc	PKPbc	03 15 45.0	+1.6
	2.3nm,0.7s,baz=128,slow=2.0,SNR=16						
SIV				PKPab	PKPab	03 15 54.3	+1.7
	1.0nm,0.8s,baz=169,slow=6.9,SNR=4.5						
LPAZ	**La Paz**	**153.47**	**188**	PKPbc	PKPbc	03 15 49.7	+2.7
	0.4nm,0.6s,baz=132,slow=5.6,SNR=3.9						
LPAZ				PKPab	PKPab	03 16 01.5	+2.2
	1.1nm,0.7s,baz=149,slow=4.8,SNR=5.6						
LPAZ	**La Paz**	**153.47**	**188**	PKPbc	PKPbc	03 15 49.7	+2.7
LPAZ				PKPab	PKPab	03 16 01.5	+2.1

*MOS **20** 02:59:52.0±0.9, 2500N×6161E, h33km, mb4.3/5, Error ellipse: s-maj=32.4km s-min=11.5km az=105.1*
*ISCJB **20** 03:00:00.6±0.7, 2636N±006×6097E±008, h10km, mb3.9/16, Error ellipse: s-maj=11.6km s-min=6.6km az=65.2*
*IDC **20** 03:00:05.3±4.0, 2602N×6130E, h63km±46km, mb3.6/11, mb1 3.7/12, mb1mx3.5/25, mbtmp3.9/12, ML3.3/1, Error ellipse: s-maj=56.0km s-min=25.0km az=136.0*
*CSEM **20** 03:00:11.5±0.9, 2692N×6056E, h20km, ML3.5, Error ellipse: s-maj=25.8km s-min=14.8km az=148.0*
*NEIC **20** 03:00:11.1, 2697N×6059E, h14km, mb4.1/5, ML3.8(THR), After THR.*
*THR **20** 03:00:12.7±1.4, 2704N×6044E, h18km, ML3.5*

ISC 20 03:00:01.7±0.7,**2631N**±006×**6111E**±008,**h10**km,**n46**, σ1°**03**/52,**mb3.9**/16,**4C-2D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZHSF	**Zahedan**	**3.30**	**355**	*e*Pn	**Pn**	**03 00 55.4**	**+2.0**
ZHSF	**Zahedan**	**3.30**	**355**	Pn	**Pn**	**03 00 55.0**	**+1.6**
WSAR	**Wadi Sarin**	**3.80**	**217**	P	**Pn**	**03 00 59.1**	**-1.2**
	2.5nm,0.3s,baz=18,slow=2.7,SNR=14						
WSAR				S	**Sn**	**03 01 36.0**	**-9.0**
	16nm,0.3s,baz=324,slow=21,SNR=9.9						
WBK	**Wadi Bani Khal**	**4.17**	**208**	⇑S	**Sn**	**03 01 46.0**	**-8.1**
SMDO	**Samad**	**4.27**	**221**	⇓P	**Pn**	**03 01 07.4**	**+0.6**
	SNR=24						
BANOM	**Banah**	**4.34**	**266**	⇑P	**Pn**	**03 01 08.8**	**+1.1**
	SNR=100						
BNDS	**Bandar-Abbas**	**4.54**	**285**	*e*PN	**Pn**	**03 01 13.5**	**+3.0**
BNDS				Sn	**Sn**	**03 01 56.1**	**-7.2**
BNDS				AML	AML	03 02 07.5	
	comp=N,80nm,0.3s						
BNDS				AML	AML	03 02 14.3	
	comp=E,42nm,0.4s						
BNDS	**Bandar-Abbas**	**4.54**	**285**	Pn	**Pn**	**03 01 13.0**	**+2.5**
BNDS				Sn	**Sn**	**03 01 59.0**	**-4.3**
BNDS	**Bandar-Abbas**	**4.54**	**285**	*e*Pn	**Pn**	**03 01 13.5**	**+3.0**
	SNR=52						
BNDS				Sn	**Sn**	**03 01 56.1**	**-7.2**
	SNR=52						
JMDO	**Jabal Madar**	**4.79**	**216**	⇑P	**Pn**	**03 01 14.5**	**+0.7**
	SNR=13						
ASHO	**Ashiyiah**	**4.84**	**252**	⇓P	**Pn**	**03 01 15.0**	**+0.4**
	SNR=74						
BSY	**Bisya**	**5.03**	**226**	⇑P	**Pn**	**03 01 17.8**	**+0.7**
	SNR=14						
KRBR	**Kerman**	**5.30**	**315**	*e*PN	**Pn**	**03 01 21.6**	**+0.7**
KRBR				*e*Sg	**Sb**	**03 02 28.4**	**-10**
KRBR				AML	AML	03 02 31.4	
	comp=N,81nm,0.6s						
KRBR				AML	AML	03 02 41.1	
	comp=E,66nm,0.5s						
KRBR	**Kerman**	**5.30**	**315**	*e*Pn	**Pn**	**03 01 21.6**	**+0.7**
	SNR=52						
KRBR				*e*Sg	**Sb**	**03 02 28.4**	**-10**
	SNR=90						
GHIR	**Ghir-Karzin**	**7.49**	**287**	*e*Pn	**Pn**	**03 01 52.5**	**+1.5**
GHIR	**Ghir-Karzin**	**7.49**	**287**	Pn	**Pn**	**03 01 53.0**	**+2.1**
GHIR				Sn	**Sn**	**03 03 08.0**	**-7.9**
KBD	**Kabd**	**12.22**	**287**	*e*P	**Pn**	**03 02 54.8**	**-0.9**
KBD				AML	AML	03 05 05.3	
	comp=Z,58nm,0.3s						
UMR	**Umm Al-Rimmam**	**12.27**	**288**	*e*P	**Pn**	**03 02 55.8**	**-0.7**
UMR				AML	AML	03 05 05.5	
	comp=Z,15nm,0.3s						
RDF	**Al-Radifah**	**12.30**	**285**	AML	AML	03 05 06.6	
	comp=Z,16nm,0.3s						
NAY	**Al-Naaiem**	**12.62**	**287**	*e*P	**Pn**	**03 03 00.7**	**-0.5**
NAY				AML	AML	03 05 13.8	
	comp=Z,2.1nm,0.3s						
MIB	**Mutribah**	**12.65**	**289**	*e*P	**Pn**	**03 03 00.6**	**-1.0**
MIB				AML	AML	03 05 12.6	
	comp=Z,8.6nm,0.4s						
RST	**Umm Al-Ruwaisa**	**12.88**	**287**	*e*P	**Pn**	**03 03 03.6**	**-1.1**
RST				AML	AML	03 05 12.1	
	comp=Z,3.4nm,0.4s						
ASF	**Jabal al Asfar**	**21.90**	**291**	P	**P**	**03 04 57.8**	**+2.9**
	comp=Z,1.0nm,0.4s,mb3.6,baz=147,slow=5.4,SNR=3.0						
KIV	**Kislovodsk**	**23.08**	**324**	*e*P	**P**	**03 05 09.4**	**+2.0**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
KIV	**Kislovodsk**	**23.08**	**324**	*e*P	**P**	**03 05 09.3**	**+1.9**
	comp=Z,6.4nm,0.6s,mb4.2						
AKTK	**Aktyubinsk**	**24.20**	**355**	P	**P**	**03 05 18.6**	**+0.3**
AKTO	**Aktyubinsk**	**24.20**	**355**	P	**P**	**03 05 18.6**	**+0.3**
	comp=Z,5.4nm,0.8s,mb4.0,baz=163,slow=8.6,SNR=16						
AKTO	**Aktyubinsk**	**24.20**	**355**	P	**P**	**03 05 18.6**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
BRTR	**Keskin Array B**	**26.52**	**307**	P	**P**	**03 05 40.0**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.5,baz=123,slow=8.9,SNR=5.6						
ZRNK	**Zerenda**	**27.26**	**10**	*e*P	**P**	**03 05 46.1**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.6						
ZRNK	**Zerenda**	**27.26**	**10**	*e*P	**P**	**03 05 46.1**	**+0.1**
	comp=Z,2.2nm,0.9s,mb3.7						
BVAR	**Borovoye Array**	**27.57**	**12**	P	**P**	**03 05 49.3**	**+0.5**
	comp=Z,2.5nm,0.7s,mb4.0,baz=188,slow=9.7,SNR=16						
BRVK	**Borovoye**	**27.58**	**12**	*e*P	**P**	**03 05 49.4**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.8						
BRVK	**Borovoye**	**27.58**	**12**	*e*P	**P**	**03 05 49.4**	**+0.4**
	comp=Z,3.2nm,1.1s,mb3.9						
CHKZ	**Chkalovo**	**28.23**	**12**	*e*P	**P**	**03 05 54.3**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
CHKZ	**Chkalovo**	**28.23**	**12**	*e*P	**P**	**03 05 54.3**	**-0.5**
	comp=Z,2.4nm,0.7s,mb3.9						
AKASG	**Malin Array Be**	**34.42**	**324**	P	**P**	**03 06 48.6**	**-0.6**
	comp=Z,3.7nm,0.8s,mb4.4,baz=126,slow=7.9,SNR=11						
JOF	**Joensuu**	**41.54**	**340**	*e*p	**P**	**03 07 48.5**	**-0.8**
FINES	**FINESS Array B**	**42.29**	**336**	P	**P**	**03 07 55.1**	**-0.3**
	comp=Z,0.9nm,0.3s,mb3.8,baz=132,slow=8.8,SNR=16						
GERES	**GERESS Array B**	**42.92**	**314**	P	**P**	**03 07 59.7**	**-0.8**
	comp=Z,0.5nm,0.7s,mb3.4,baz=98,slow=9.6,SNR=5.4

AMAG	**Maghara**	**7.90**	**136**	P	**Pn**	**03 04 28.8**	**-1.0**
HSAF	**As Saff**	**7.94**	**149**	P	**Pn**	**03 04 29.9**	**-0.4**
GLL	**Jalalah**	**8.04**	**149**	⇓P	**Pn**	**03 04 31.2**	**-0.5**
GLL	**Jalalah**	**8.04**	**149**	P	**Pn**	**03 04 31.2**	**-0.5**
SUZ		**8.34**	**142**	⇑P	**Pn**	**03 04 35.6**	**-0.1**
AWBH		**8.38**	**168**	⇓P	**Pn**	**03 04 35.9**	**-0.4**
GERES	**GERESS Array B**	**15.62**	**326**	P	**Pn**	**03 06 09.9**	**-0.3**
	0.1nm,0.3s,baz=141,slow=13,SNR=6.4						
ESDC	**Sonseca Array**	**24.43**	**287**	P	**P**	**03 07 43.4**	**+0.3**
	0.3nm,0.4s,mb3.2,baz=82,slow=9.4,SNR=4.9						
FINES	**FINESS Array B**	**24.92**	**359**	P	**P**	**03 07 46.3**	**-1.2**
	0.4nm,0.4s,mb3.3,baz=157,slow=12,SNR=6.6						
HFS	**Hagfors**	**25.08**	**344**	P	**P**	**03 07 47.8**	**-1.2**
	1.0nm,0.3s,mb3.8,baz=140,slow=11,SNR=21						
TORD	**Torodi Ar. Bea**	**32.47**	**231**	P	**P**	**03 08 56.2**	**+1.6**
	0.4nm,0.3s,mb3.6,baz=33,slow=8.7,SNR=17						

*ISCJB **20** 03:04:49.5±1.5, 1023N±010×6065W±0.10, h72km±11km, Error ellipse: s-maj=19.9km s-min=11.0km az=92.5*
*FUNV **20** 03:04:49.1, 1044N×6040W, h70km, MW2.9*
*TRN **20** 03:04:51.4, 1033N×6064W, h62km, MD3.2*
*NEIC **20** 03:04:51.4, 1033N×6064W, h61km, MD3.2(TRN), After TRN.*

ISC 20 03:04:50.6±1.5, 1026N±010×6063W±009, h66km±13km, n11, σ0°90/17, 1C-1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.48**	**297**	**⇑*iP***		**Pn**	**03 05 03.4**	**+0.5**
TBH				*eS*		**Sn**	**03 05 11.8**	**0.0**
TRN	**Trinidad (W)**	**0.85**	**297**	***eP***		**Pn**	**03 05 06.6**	**-0.4**
TRN				*eS*		**Sn**	**03 05 18.9**	**-0.2**
BOT	**Bacolet**	**0.90**	**355**	***eP***		**Pn**	**03 05 07.5**	**-0.2**
TPR	**Prospect**	**0.93**	**351**	***eP***		**Pn**	**03 05 08.0**	**+0.1**
TPR				*eS*		**Sn**	**03 05 20.0**	**-0.9**
GUIV	**Guiria**	**1.61**	**284**	***eP***		**Pn**	**03 05 17.8**	**+0.9**
GRW	**Mount Saint Ca**	**2.14**	**332**	***eP***		**Pn**	**03 05 24.9**	**+0.9**
GUNV	**Guanoco**	**2.28**	**268**	*eS*		**Sn**	**03 05 55.0**	**+2.1**
CRUV	**Carupano**	**2.59**	**279**	**⇓*iP***		**Pn**	**03 05 30.3**	**+0.1**
ITEV	**Isla Los Testi**	**2.69**	**294**	***eP***		**Pn**	**03 05 30.5**	**-0.9**
ITEV				*eS*		**Sn**	**03 06 02.8**	**-0.1**
CAOV	**Caicara del Or**	**6.34**	**243**	***eP***		**Pn**	**03 06 22.0**	**+0.7**
CAOV				*eS*		**Sn**	**03 07 30.4**	**-1.9**
BAUV	**El Baul**	**7.42**	**260**	***eP***		**Pn**	**03 06 36.2**	**0.0**
BAUV				*eS*		**Sn**	**03 07 55.4**	**-3.6**

MEX 20 03:17:25.4±0.9, 1694N×10022W, h14km±12km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.11**	**336**	*iP*		Pg	03 17 28.0	-0.6
CAIG				*iS*		Sg	03 17 30.3	-0.7
ACX	**Acapulco**	**0.30**	**105**	*iP*		Pg	03 17 31.0	-0.6
ACX				*iS*		Sg	03 17 36.0	+0.2
MEIG	**Mezcala**	**1.13**	**30**	*iP*		Pb	03 17 43.0	-3.7
MEIG				*iS*		Sb	03 17 54.5	-6.8
PLIG	**Platanillo**	**1.59**	**25**	*iP*		Pn	03 17 50.5	-2.7
PLIG				*iS*		Sn	03 18 10.4	-3.1
UTMO	**Huajuapan**	**2.47**	**69**	*iP*		Pn	03 18 04.2	-1.0
UTMO				*iS*		Sn	03 18 30.0	-5.2
PPM	**Popocatepetl**	**2.60**	**35**	***eP***		Pn	03 18 10.0	+3.0

IGQ 20 03:36:44.6, 045S×8181W, h5km±21km, Mb4.3, Ms4.1, 3C-5D, Error ellipse: s-maj=21.9km s-min=9.4km az=9.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**2.07**	**80**	**⇑P**		Pn	03 37 22.8	+2.8
MAG1				S		Sn	03 37 48.2	+2.1
PINO	**Pino**	**3.21**	**85**	P		Pn	03 37 36.8	+1.1
TERV	**Terraza Guagua**	**3.22**	**85**	**⇓P**		Pn	03 37 37.6	+1.8
GGP	**Refugio Guagua**	**3.23**	**85**	**⇓P**		Pn	03 37 37.6	+1.8
GGP				S		Sn	03 38 21.4	+6.8
YAA	**Yana**	**3.25**	**84**	⇓P		Pn	03 37 38.0	+1.7
IGUA	**Igualata**	**3.33**	**108**	P		Pn	03 37 39.5	+2.2
VC1	**Cotopaxi 1**	**3.41**	**93**	**⇑P**		Pn	03 37 41.3	+2.9
TAMB	**Tambo**	**3.45**	**94**	⇓P		Pn	03 37 41.9	+3.0
JUIV	**Juive**	**3.48**	**106**	P		Pn	03 37 41.6	+2.2
RETU	**Refugio**	**3.51**	**106**	P		Pn	03 37 43.1	+3.4
ARRY	**Arrayan**	**3.52**	**107**	**⇑P**		Pn	03 37 41.9	+2.0
PATA	**Patacocha**	**3.53**	**107**	⇓P		Pn	03 37 43.4	+3.3
ULBA	**Ulba**	**3.54**	**106**	P		Pn	03 37 42.6	+2.3
ANTI	**Antisana**	**3.65**	**90**	P		Pn	03 37 44.9	+3.2
CAYR	**Refugio Cayamb**	**3.83**	**83**	P		Pn	03 37 48.7	+4.5
CAYA	**Cayambe**	**3.85**	**82**	P		Pn	03 37 48.8	+4.3

MEX 20 03:54:48.3±0.5, 1790N×10245W, h24km±39km, MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.98**	**107**	*iP*		Pn	03 55 03.9	-2.6
ZIIG				*iS*		Sb	03 55 15.5	-3.6
MOIG	**Morelia**	**2.13**	**34**	*iP*		Pn	03 55 20.9	-1.5
MOIG				*iS*		Sn	03 55 45.3	-2.9
MEIG	**Mezcala**	**2.69**	**89**	*iP*		Pn	03 55 28.0	-2.1
MEIG				*iS*		Sn	03 55 59.6	-2.3
PLIG	**Platanillo**	**2.84**	**80**	*iP*		Pn	03 55 28.6	-3.6
PLIG				*iS*		Sn	03 56 02.1	-3.5
IIZ	**Mezontepec**	**3.30**	**67**	***eP***		Pn	03 55 37.9	-0.6
IIZ				*iS*		Sn	03 56 15.6	-1.3
PPM	**Popocatepetl**	**3.81**	**72**	***eP***		Pn	03 56 01.5	+16
UTMO	**Huajuapan**	**4.42**	**90**	*iS*		Sn	03 56 43.9	-0.8

*NEIC **20** 04:02:23.7, 3209S×7184W, h20km, ML3.0(GUC), After GUC.*

GUC 20 04:02:23.7±0.7, 3209S×7184W, h20km±7km, MD3.7, ML3.0, 5C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.35**	**56**	**⇓*iP***		Pb	04 02 31.3	-0.1
CHNG				*iS*		Sb	04 02 37.0	+0.5
PACH	**Papudo**	**0.57**	**143**	**⇓*iP***		Pb	04 02 34.4	-0.5
PACH				*iS*		Sb	04 02 42.7	+0.1
ROCH	**El Roble**	**1.13**	**142**	**⇓*iP***		Pn	04 02 43.7	-0.6
ROCH				*iS*		Sb	04 02 58.8	0.0
CMCH	**Combarbala**	**1.16**	**39**	**⇑*iP***		Pn	04 02 43.6	-1.1
CMCH				*iS*		Sb	04 02 59.1	-0.5
CMCH					AML	AML	04 03 05.0	
	comp=N,1μm,0.6s							
CMCH	**Combarbala**	**1.16**	**39**	**⇑*iP***		Pn	04 02 43.6	-1.1
CMCH				*iS*		Sb	04 02 59.1	-0.5
JACH	**Jahuel**	**1.21**	**120**	**⇑*iP***		Pn	04 02 44.9	-0.6
JACH				*iS*		Sb	04 03 01.1	-0.1
LCCH	**Las Cruces**	**1.41**	**171**	*iS*		Sn	04 03 08.5	-0.5
PEL	**Peldehue**	**1.44**	**137**	**⇑*iP***		Pn	04 02 48.4	-0.2
PEL				*iS*		Sn	04 03 07.3	+0.4
PEL					AML	AML	04 03 10.6	
	comp=N,654nm,0.5s							
PEL	**Peldehue**	**1.44**	**137**	**⇑*iP***		Pn	04 02 48.4	-0.2
PEL				*iS*		Sn	04 03 07.3	+0.4
RCDM	**Rinconada Maip**	**1.65**	**148**	***eP***		Pn	04 02 51.6	+0.1
RCDM				*iS*		Sn	04 03 13.0	+0.9
RCDM					AML	AML	04 03 14.1	
	comp=E,204nm,0.4s							
RCDM	**Rinconada Maip**	**1.65**	**148**	***eP***		Pn	04 02 51.6	+0.1
RCDM				*iS*		Sn	04 03 13.0	+0.9
CLCH	**Cerro Calan**	**1.71**	**140**	**⇓*iP***		Pn	04 02 52.0	+0.5
CLCH				*iS*		Sn	04 03 15.0	+1.5
CLCH					AML	AML	04 03 21.1	
	comp=N,283nm,0.6s							
TACH	**Talagante**	**1.74**	**154**	***eP***		Pn	04 02 53.3	+0.6
TACH				*iS*		Sn	04 03 15.8	+1.5
FCH	**Farellones**	**1.80**	**134**	***eP***		Pn	04 02 54.1	+0.5
FCH				*iS*		Sn	04 03 17.7	+1.8
FCH					AML	AML	04 03 21.1	
	comp=E,129nm,0.3s							
PCH	**Pirque**	**1.90**	**144**	***eP***		Pn	04 02 56.1	+1.2
PCH				*eS*		Sn	04 03 20.8	+2.6
CHCH	**Chadas Angostu**	**2.10**	**152**	**⇓*iP***		Pn	04 02 59.1	+1.5
CHCH				*iS*		Sn	04 03 25.9	+2.8
TLL	**Tololo Astrono**	**2.11**	**25**	***eP***		Pn	04 02 60.0	+2.2
TLL				*eS*		Sn	04 03 26.9	+3.5
CACH	**El Canelo**	**2.28**	**153**	***eP***		Pn	04 03 02.4	+2.3
CICH	**Cipreses**	**2.53**	**152**	***eP***		Pn	04 03 04.8	+1.2
SFDO	**San Fernando**	**2.62**	**165**	***eP***		Pn	04 03 06.1	+1.3

*IDC **20** 04:28:42.6±2.9, 996S×108.10E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/17, mbtmp3.9/6, ML3.7/1, Error ellipse: s-maj=118.5km s-min=20.6km az=52.0*
*NEIC **20** 04:28:44.1±2.2, 998S×108.08E, h10km, mb4.3/1, Error ellipse: s-maj=93.7km s-min=14.6km az=50.0*
*ISCJB **20** 04:28:45.8±2.5, 99S±05×1082E±06, h33km, mb3.9/6, Error ellipse: s-maj=103.3km s-min=16.7km az=98.7*

ISC 20 04:28:48.3±2.5, 99S±05×1082E±06, h35km, n8, σ0°58/8, mb3.9/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.77**	**118**	P		**Pn**	**04 33 05.1**	**+0.1**
	0.2nm,0.3s,baz=36,slow=14,SNR=3.9							
WRA	**Warramunga Arr**	**27.12**	**115**	P		**P**	**04 34 27.2**	**-0.7**
	1.3nm,0.7s,mb3.6,baz=284,slow=11,SNR=7.5							
WRAB	**Tennant Creek**	**27.13**	**115**	***eP***		**P**	**04 34 27.9**	**-0.1**
	7.1nm,1.0s,mb4.2							
ASAR	**Alice Springs**	**28.09**	**122**	P		**P**	**04 34 37.9**	**+1.2**
	0.9nm,0.8s,mb3.5,baz=294,slow=9.5,SNR=8.6							
STKA	**Stephens Creek**	**37.85**	**130**	P		**P**	**04 36 01.0**	**-0.6**
	1.8nm,0.4s,mb4.1,baz=303,slow=11,SNR=5.5							
SONM	**Songino Array**	**57.51**	**359**	P		**P**	**04 38 34.0**	**0.0**
	0.9nm,0.5s,mb4.0,baz=173,slow=8.2,SNR=9.5							
MKAR	**Makanchi Array**	**61.01**	**340**	P		**P**	**04 38 58.2**	**0.0**
	0.6nm,0.8s,mb3.8,baz=144,slow=7.3,SNR=4.3							
MKAR	**Makanchi Array**	**61.01**	**340**	P		**P**	**04 38 58.2**	**0.0**

*NEIC **20** 04:30:46.7±0.5, 1010S×1080.3E, h10km, mb4.4/8, Error ellipse: s-maj=22.1km s-min=8.8km az=54.0*
*ISCJB **20** 04:30:48.1±0.7, 1015±0.1×1080E±0.2, h33km, mb4.1/15, Error ellipse: s-maj=30.5km s-min=11.4km az=103.4*
*IDC **20** 04:31:22.7±12.0, 973S×1091.0E, h342km±126km, mb3.3/7, mb1 3.3/8, mb1mx3.2/18, mbtmp4.0/8, Error ellipse: s-maj=85.2km s-min=25.4km az=61.0*

ISC 20 04:30:50.5±0.7, 101S±01×1080E±02, h35km, (h35km±1.2km:pP-P), n18, σ0°93/16, mb4.1/15, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.88**	**117**	P		**Pn**	**04 35 10.9**	**+2.4**
	0.2nm,0.3s,baz=320,slow=11,SNR=4.0							
WRA	**Warramunga Arr**	**27.25**	**114**	P		**P**	**04 36 27.8**	**-3.5**
	1.9nm,0.9s,mb3.6,baz=285,slow=11,SNR=6.2							
WRAB	**Tennant Creek**	**27.25**	**114**	***eP***		**P**	**04 36 31.6**	**+0.3**
	2.3nm,0.7s,mb3.8							
ASAR	**Alice Springs**	**28.18**	**122**	P		**P**	**04 36 39.6**	**+0.1**
	0.5nm,0.6s,mb3.3,baz=300,slow=9.3,SNR=5.1							
CHTO	**Chiang Mai**	**30.10**	**343**	***eP***		**P**	**04 36 57.0**	**+0.4**
	4.4nm,1.0s,mb4.1							
STKA	**Stephens Creek**	**37.89**	**130**	P		**P**	**04 38 03.2**	**-0.9**
	2.1nm,0.8s,mb3.9,baz=312,slow=16,SNR=2.8							
SONM	**Songino Array**	**57.72**	**359**	P		**P**	**04 40 36.5**	**-1.2**
	1.4nm,0.6s,mb4.2,baz=171,slow=7.7,SNR=9.1							
ULN	**Ulaanbaatar**	**57.74**	**359**	***eP***		**P**	**04 40 36.8**	**-1.0**
	3.2nm,0.9s,mb4.3							
MKAR	**Makanchi Array**	**61.13**	**340**	P		**P**	**04 41 01.4**	**+0.2**
	2.1nm,0.8s,mb4.3,baz=141,slow=7.8,SNR=14							
MAW	**Mawson**	**64.67**	**197**	***eP***		**P**	**04 41 24.2**	**-0.6**
	7.9nm,0.7s,mb4.8							
KURK	**Kurchatov**	**65.74**	**340**	***eP***		**P**	**04 41 31.6**	**-0.1**
	2.6nm,0.9s,mb4.3							
KURK					*ep*P	pP	04 41 42.6	+0.2
BVAR	**Borovoye Array**	**70.60**	**337**	P		**P**	**04 42 01.7**	**-0.4**
	1.9nm,0.8s,mb4.1,baz=159,slow=8.9,SNR=6.9							
BRVK	**Borovoye**	**70.66**	**337**	***eP***		**P**	**04 42 03.0**	**+0.4**
	1.6nm,0.7s,mb4.1							
CHKZ	**Chkalovo**	**71.02**	**338**	***eP***		**P**	**04 42 05.5**	**+0.8**
	5.1nm,1.0s,mb4.4							
CHKZ					*ep*P	pP	04 42 15.4	-0.1
ZRNK	**Zerenda**	**71.08**	**336**	***eP***		**P**	**04 42 05.1**	**0.0**
	5.1nm,1.1s,mb4.4							
ZRNK					*ep*P	pP	04 42 15.3	-0.6
BRTR	**Keskin Array B**	**84.60**	**312**	P		**P**	**04 43 21.4**	**+1.2**
	0.7nm,0.8s,mb3.8,baz=145,slow=4.5,SNR=4.7							
WMOK	**Wichita Mounta**	**145.42**	**41**	***e*PKPbc**		PKPbc	04 50 24.8	+0.2
WMOK				*ep*PKPdf		pPKPdf	04 50 36.1	0.0
JCT	**Junction City**	**147.18**	**48**	***e*PKPbc**		PKPbc	04 50 30.8	+0.9
JCT				*ep*PKPdf		pPKPdf	04 50 42.0	+2.9

*IDC **20** 04:34:06.3±0.4, 966S×10756E, h0km, mb5.0/29, mb1 5.0/31, mb1mx4.9/33, mbtmp4.9/31, ML4.4/2, MS4.1/16, Ms1 4.1/16, ms1mx3.8/28, Error ellipse: s-maj=15.7km s-min=10.8km az=46.0*
*BJI **20** 04:34:06.7, 970S×10750E, h10km, mB5.2, mb5.3, Ms4.9, Msz4.8*
*ISCJB **20** 04:34:07.1±0.2, 971S±003×10754E±003, h17km, mb5.3/116, MS4.4/32, Error ellipse: s-maj=4.9km s-min=4.6km az=121.6*
*HRVD **20** 04:34:07.8±0.3, 994S×10750E, h12km, MW4.9/62, Centroid moment Tensor Solution. LP body waves: s31,c36;Mantle waves: s62,c93; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.92±.09; Mθθ 2.29±.07; Mϕϕ 0.63±.12; Mrθ-0.46±.26; Mrϕ-0.95±.07; Mθϕ-0.75±.40; Best double couple: M=2.93700×10^16 NP1:ϕs308.00000°, δ46.00000°, λ-69.00000°. NP2: ϕs100.00000°, δ48.00000°, λ-110.00000°. Principal axes: T 2.7250, Plg1.0000°, Azm204.0000°; N 0.4250, Plg15.0000°, Azm114.0000°; P -3.1500, Plg75.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 04:34:07.8±0.1, 974S×10753E, h10km, mb5.3/51 Error ellipse: s-maj=6.1km s-min=4.3km az=49.0*
*MOS **20** 04:34:10.4±1.3, 953S×10760E, h33km, mb5.5/34, Error ellipse: s-maj=10.6km s-min=5.8km az=115.5*

ISC 20 04:34:09.3±0.2, 972S±003×10756E±003, h18km, h18km±2.1km:pP-P, n444, σ0°96/288, mb5.3/115, MS4.4/32, 67C-64D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.88**	**1**	P		**Pn**	**04 34 54.7**	**+0.5**
	8μm,1.0s							
BJII	**Banjamegara**	**3.19**	**42**	P		**Pn**	**04 34 59.2**	**+0.7**
	1μm,1.2s							
JCJI	**Jatiwangi**	**3.29**	**12**	P		**Pn**	**04 34 57.9**	**-2.0**
	6μm,1.0s							
CBJI	**Citeko**	**3.35**	**348**	P		**Pn**	**04 34 57.0**	**-3.8**
	4μm,0.9s							
KMMI	**Kalianget**	**6.88**	**68**	P		**Pn**	**04 35 54.6**	**+5.4**
	148nm,1.2s							
KSI	**Kapahiang**	**7.79**	**320**	P		**Pn**	**04 35 59.5**	**-2.2**
	448nm,0.7s							
COCO	**West Island**	**10.81**	**256**	Pn		**Pn**	**04 36 40.2**	**-2.9**
	2μm,0.8s,SNR=5.2							
COCO	**West Island**	**10.81**	**256**	*e*Pn		**Pn**	**04 36 39.4**	**-3.7**
	363nm,0.9s							
COCO					*e*Sn	**Sn**	**04 38 29.5**	**-14**
KSM	**Kuching**	**11.45**	**14**	*e*Pn		**Pn**	**04 36 53.9**	**+1.9**
KGM	**Kluang**	**12.40**	**340**	P		**Pn**	**04 37 03.4**	**-1.4**
PCI	**Palu**	**15.03**	**55**	P		**Pn**	**04 37 41.3**	**+0.6**
	354nm,1.7s							
PSI	**Prapat**	**15.12**	**325**	Pn		**Pn**	**04 37 40.9**	**-1.0**
	1.1nm,0.3s,baz=127,slow=14,SNR=6.9							
PSI					LR	LR	04 44 08.5	
	comp=Z,723nm,20.0s,baz=136,slow=40							
PSI	**Prapat**	**15.12**	**325**	Pn		**Pn**	**04 37 40.9**	**-1.0**
PSI					LR	LR	04 44 08.5	
IPM	**Ipoh**	**15.54**	**335**	P		**Pn**	**04 37 52.5**	**+5.1**
MBWA	**Marble Bar**	**16.33**	**136**	*e*Pn		**Pn**	**04 37 52.4**	**-5.1**
	51nm,0.8s							
MBWA					*e*Sn	Sn	04 40 37.5	-21
KULM	**Kulim**	**16.43**	**335**	*e*Pn		**Pn**	**04 37 54.5**	**-4.3**
TSM	**Tawau**	**17.31**	**37**	P		**Pn**	**04 38 12.3**	**+2.3**
KKM	**Kota Kinabalu**	**17.88**	**29**	P		**Pn**	**04 38 15.7**	**-1.3**
KKM	**Kota Kinabalu**	**17.88**	**29**	*e*Pn		**Pn**	**04 38 16.6**	**-0.4**
SNG	**Songkhla**	**18.16**	**337**	P		**Pn**	**04 38 17.0**	**-3.4**
	166nm,0.8s							
FITZ	**Fitzroy Crossi**	**19.41**	**117**	***eP***		**Pn**	**04 38 35.5**	**-0.1**
	32nm,0.6s							
FITZ					*eS*	**Sn**	**04 41 53.8**	**-19**
FITZ	**Fitzroy Crossi**	**19.41**	**117**	Pn		**Pn**	**04 38 34.5**	**-1.2**
	1.1nm,0.3s,baz=262,slow=4.5,SNR=17							
FITZ					Sn	**Sn**	**04 41 54.9**	**-18**
	0.6nm,0.3s,baz=28,slow=21,SNR=6.0							
BSI	**Banda Aceh**	**19.44**	**321**	P		**Pn**	**04 38 35.1**	**-0.8**
	589nm,0.9s							
BATP	**Bataraza**	**21.04**	**29**	***eP***		**P**	**04 38 52.5**	**+0.4**
AAI	**Ambon**	**21.35**	**75**	P		**P**	**04 38 54.8**	**-0.6**
	291nm,0.8s,mb5.7							
PPR	**Puerto Princes**	**22.34**	**30**	**⇑*iP***		**P**	**04 39 07.5**	**+1.5**
NNT	**Nongplab**	**23.49**	**341**	P		**P**	**04 39 19.3**	**+1.1**
KAKA	**Kakadu**	**24.58**	**99**	***eP***		**P**	**04 39 28.0**	**-0.2**
	54nm,0.7s,mb5.2							
NWAO	**Narrogin (SRO)**	**24.76**	**160**	P		**P**	**04 39 29.2**	**-0.6**
	25nm,0.8s,mb4.8,baz=335,slow=9.2,SNR=7.1							
NWAO					LR	LR	04 47 28.1	
	comp=Z,829nm,21.1s,MS4.2,baz=348,slow=32							
NWAO	**Narrogin (SRO)**	**24.76**	**160**	P		**P**	**04 39 29.2**	**-0.6**
NWAO					LR	LR	04 47 28.1	
UBT	**Ubonrachathani**	**24.93**	**354**	P		**P**	**04 39 31.8**	**+0.4**
RCP	**Roxas**	**25.98**	**36**	**⇑*eP***		**P**	**04 39 41.8**	**+0.9**
NST	**Nakhon Sawan**	**26.28**	**344**	P		**P**	**04 39 44.0**	**+0.4**
KKTK	**Khon Kaen**	**26.31**	**350**	P		**P**	**04 39 44.0**	**+0.1**
	802nm,0.6s							
WRA	**Warramunga Arr**	**27.77**	**115**	P		**P**	**04 39 56.8**	**-0.2**
	11nm,0.8s,mb4.5,baz=288,slow=10,SNR=34							
WRA					PcP	PcP	04 43 14.3	+1.1
	3.1nm,0.6s,baz=297,slow=2.1,SNR=9.2							
WRA					Sn	S	04 45 16.7	+38
	1.9nm,0.9s,baz=286,slow=25,SNR=4.0							
WRA	**Warramunga Arr**	**27.77**	**115**	P		**P**	**04 39 56.8**	**-0.2**
WRA							04 43 14.3	
WRAB	**Tennant Creek**	**27.78**	**114**	**⇓*eP***		**P**	**04 39 56.9**	**-0.2**
WRAB	**Tennant Creek**	**27.78**	**114**	***eP***		**P**	**04 39 56.5**	**-0.5**
	32nm,0.9s,mb4.9							
WB2	**Warramunga Arr**	**27.78**	**115**	**⇑*iP***		**P**	**04 39 57.0**	**-0.1**
WB2					*e*PcP	PcP	04 43 14.0	+0.8
FORT	**Forrest**	**28.34**	**141**	***eP***		**P**	**04 40 02.7**	**+0.6**
	14nm,0.6s,mb4.8							
FORT					*e*PcP	PcP	04 43 15.4	+0.8
FORT					*eS*	S	04 45 24.9	+37
QIZ	**Qiongzhong**	**28.66**	**5**	P		**P**	**04 40 06.0**	**+1.1**
QIZ					S	**S**	**04 44 55.3**	**+2.5**
QIZ					AMB	AMB		
	comp=Z,40nm,1.5s,mb4.9							
QIZ					AMB	AMB		
	comp=Z,118nm,6.4s							
QIZ					LR	LR		
	comp=Z,335nm,26.8s,MS3.8							
QIZ	**Qiongzhong**	**28.66**	**5**	***eP***		**P**	**04 40 05.8**	**+0.9**
	comp=Z,126nm,1.6s,mb5.4							
AS31	**Alice Springs**	**28.72**	**122**	***eP***		**P**	**04 40 07.6**	**+2.1**
ASAR	**Alice Springs**	**28.72**	**122**	P		**P**	**04 40 05.8**	**+0.3**
	comp=Z,8.7nm,0.8s,mb4.5,baz=296,slow=8.6,SNR=23							
ASAR					PcP	PcP	04 43 16.4	+0.8
	comp=Z,3.7nm,0.6s,baz=291,slow=2.0,SNR=13							
ASAR					Sn	S	04 45 36.0	+42
	comp=Z,1.4nm,0.8s,baz=290,slow=22,SNR=3.3							
ASAR					LR	LR	04 52 17.5	
	comp=Z,406nm,19.7s,MS4.0,baz=296,slow=38							
ASAR	**Alice Springs**	**28.72**	**122**	P		**P**	**04 40 05.8**	**+0.3**
ASAR							04 43 16.4	
CM31	**Chiang Mai Arr**	**29.26**	**343**	***eP***		**P**	**04 40 10.6**	**+0.3**
	comp=Z,9.3nm,0.4s,mb4.9							
CHG	**Chiang Mai**	**29.60**	**343**	**⇑P**		**P**	**04 40 13.3**	**0.0**
	comp=Z,56nm,1.0s,mb5.2							
CHTO	**Chiang Mai**	**29.60**	**343**	⇓P		**P**	**04 40 14.0**	**+0.7**
	SNR=25							
CHTO	**Chiang Mai**	**29.60**	**343**	***eP***		**P**	**04 40 13.5**	**+0.2**
CHTO					pmax	pmax		
	comp=Z,70nm,1.3s,mb5.2							
CHTO	**Chiang Mai**	**29.60**	**343**	***eP***		**P**	**04 40 13.5**	**+0.2**
	comp=Z,70nm,1.3s,mb5.2							
PALK	**Pallekele**	**31.63**	**301**	***eP***		**P**	**04 40 32.9**	**+1.7**
	comp=Z,17nm,0.9s,mb4.9							
GZH	**Guangzhou**	**33.09**	**10**	P		**P**	**04 40 47.9**	**+3.9**
GZH					LR	LR		
	comp=N,365nm,14.9s,MS4.4							
GZH					LR	LR		
	comp=E,401nm,13.4s,MS4.4							
GZH					LR	LR		
	comp=Z,655nm,15.5s,MS4.5							
KMI	**Kunming**	**34.95**	**352**	P		**P**	**04 41 02.5**	**+2.3**
KMI					AP	pP	04 41 08.8	+3.1
KMI					XP	sP	04 41 11.0	+3.0
KMI					PP	PP	04 42 22.1	+2.6
KMI					PPP		04 42 40.6	
KMI					PCP	PcP	04 43 34.8	+2.4

KAD AMb AMB 04 42 09.3
comp=Z,66nm,2.2s,mb5.0
AKL Akola 42.61 315 *e*P **P** **04 42 04.2 -0.2**
AKL AMb AMB 04 42 06.8
comp=Z,69nm,1.6s,mb5.1
SSE Sheshan 42.64 17 P **P** **04 42 05.9 +1.3**
SSE AP pP 04 42 09.0 -1.2
SSE XP sP 04 42 10.3 -2.1
SSE S **S** **04 48 30.8 +4.0**
SSE XS sS 04 48 36.3 +0.3
SSE AMB AMB
comp=Z,43nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,138nm,4.3s
SSE LR LR
comp=N,100nm,26.8s,MS3.7
SSE LR LR
comp=E,95nm,26.8s,MS3.7
SSE LR LR
comp=Z,267nm,17.1s
PKI Pulchoki 42.84 331 *e*P **P** **04 42 06.7 +0.5**
comp=Z,188nm,1.1s,mb5.8
PKI Pulchoki 42.84 331 *e*P **P** **04 42 06.7 +0.5**
PKI pmax pmax
comp=Z,188nm,1.1s,mb5.7
GUN Gumba 42.89 331 *e*P **P** **04 42 07.5 +0.8**
comp=Z,749nm,1.2s,mb6.3
NJ2 Nanjing 42.92 14 *e*P **P** **04 42 07.8 +0.9**
NJ2 AP pP 04 42 17.5 +5.0
NJ2 XP sP 04 42 21.5 +6.8
NJ2 PP PP 04 43 48.9 +2.4
NJ2 S **S** **04 48 30.0 -0.9**
NJ2 XS sS 04 48 47.0 +6.8
NJ2 AMB AMB
comp=Z,90nm,0.9s,mb5.5
NJ2 AMB AMB
comp=Z,330nm,5.6s
NJ2 LR LR
comp=N,1μm,24.6s,MS4.9
NJ2 LR LR
comp=E,1μm,21.4s,MS4.9
NJ2 LR LR
comp=Z,3μm,24.0s,MS5.1
DMN Daman 43.01 330 *e*P **P** **04 42 08.2 +0.6**
comp=Z,312nm,0.9s,mb6.0
KKN Kakani 43.08 331 *e*P **P** **04 42 08.7 +0.5**
comp=Z,337nm,1.0s,mb6.0
KKN Kakani 43.08 331 *e*P **P** **04 42 08.7 +0.5**
KKN pmax pmax
comp=Z,337nm,1.0s,mb6.0
POO Poona 43.52 310 *ex* x 04 42 10.0
XAN Xi'an 43.54 2 P **P** **04 42 11.8 -0.1**
XAN AP pP 04 42 22.9 +5.4
XAN AMB AMB
comp=Z,71nm,0.8s,mb5.5
XAN LR LR
comp=N,482nm,17.1s,MS4.6
XAN LR LR
comp=E,433nm,14.5s,MS4.6
XAN LR LR
comp=Z,1μm,17.1s,MS4.8
GKN Gorkha 43.57 330 *e*P **P** **04 42 12.6 +0.5**
comp=Z,343nm,1.1s,mb6.0
KOLN Koldanda 43.90 329 *e*P **P** **04 42 15.3 +0.5**
comp=Z,309nm,0.9s,mb6.0
BHPL Bhopal 44.08 318 *e*P **P** **04 42 16.3 +0.1**
BHPL AMb AMB 04 42 16.9
comp=Z,65nm,0.6s,mb5.5
LZH Lanzhou 45.70 356 ⇓P **P** **04 42 30.3 +1.2**
LZH AP pP 04 42 41.3 +6.5
LZH PP PP 04 44 20.0 +3.8
LZH *e*S **S** **04 49 12.0 +0.7**
LZH XS sS 04 49 27.0 +6.4
LZH *e*SS SS 04 52 30.0 -5.6
LZH AMB AMB
comp=Z,100nm,1.2s,mb5.6
LZH AMB AMB
comp=Z,490nm,4.4s
LZH LR LR
comp=N,2μm,12.2s
LZH LR LR
comp=Z,4μm,14.4s,MS5.5
LGTI Lohaghat 47.01 327 *i*P **P** **04 42 37.7 -1.7**
NDI New Delhi 48.13 323 *e*P **P** **04 42 47.0 -1.2**
NDI *e*P 04 42 47.0
NDI AMb AMB 04 42 48.6
comp=Z,91nm,0.9s,mb5.8
AJM Ajmer 48.14 319 *e*P **P** **04 42 47.8 -0.3**
AJM AMb AMB 04 42 48.8
comp=Z,42nm,0.7s,mb5.6
AJM *i* x x 04 42 52.0
GTA Gaotai 49.41 352 ⇓*i*P **P** **04 42 59.3 +1.4**
GTA AP pP 04 43 05.8 +2.2
GTA XP sP 04 43 09.3 +3.5
GTA PP PP 04 44 55.0 +3.0
GTA PPP 04 45 49.8
GTA S **S** **04 50 07.5 +3.5**
GTA XS sS 04 50 19.3 +5.9
GTA SS SS 04 53 37.0 +1.2
GTA AMB AMB
comp=Z,52nm,1.1s,mb5.5
GTA AMB AMB
comp=Z,404nm,6.1s
GTA LR LR
comp=N,555nm,17.1s,MS4.7
GTA LR LR
comp=E,329nm,19.4s,MS4.7
GTA LR LR
comp=Z,605nm,16.3s,MS4.7
CBIJ Chichi jima 49.67 42 P **P** **04 42 58.6 -1.4**
comp=Z,60nm,0.8s,mb5.7,baz=299,slow=19,SNR=3.0
SMLA Simla 49.99 326 *e*P **P** **04 43 01.4 -1.0**
SMLA AMb AMB 04 43 05.1
comp=Z,102nm,1.5s,mb5.6
DL2 Dalian 50.12 14 P **P** **04 43 02.5 -0.9**
DL2 *e*S **S** **04 50 14.4 +0.4**
DL2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
DL2 LR LR
comp=N,150nm,15.4s,MS4.2
DL2 LR LR
comp=E,100nm,13.6s,MS4.2
DL2 LR LR
comp=Z,180nm,14.6s,MS4.2
BTO Baotou 50.12 2 *e*P **P** **04 43 03.3 -0.1**
BJT Baijiatuau 50.13 9 *e*P **P** **04 43 02.7 -0.7**
BJT *e* 04 43 14.5
BJT pmax pmax
comp=Z,43nm,0.9s
BJT Baijiatuau 50.13 9 *e*P **P** **04 43 02.7 -0.7**
comp=Z,42nm,0.9s,mb5.5
BJT *e* 04 43 14.5
BJI Beijing 50.15 9 *e*P **P** **04 43 03.4 -0.2**
BJI PP PP 04 45 01.5 +2.7
BJI AMB AMB
comp=Z,35nm,1.2s,mb5.3
BJI LR LR
comp=N,748nm,15.7s,MS4.8
BJI LR LR
comp=E,236nm,15.5s,MS4.8
BJI LR LR
comp=Z,223nm,29.8s
HHC Hu-ho-hao-te 50.45 4 *e*P **P** **04 43 06.6 +0.7**
HHC XP sP 04 43 13.8 0.0
HHC PP PP 04 45 04.3 +2.8
HHC PCS PcS 04 48 20.5 -0.7
HHC S **S** **04 50 20.8 +2.2**
HHC PS 04 50 31.3
HHC SCS ScS 04 52 54.0 -2.1
HHC AMB AMB
comp=Z,22nm,1.3s,mb5.0
HHC AMB AMB
comp=Z,213nm,8.2s
HHC LR LR
comp=N,676nm,18.4s,MS4.8
HHC LR LR
comp=E,712nm,21.4s,MS4.8
HHC LR LR
comp=Z,562nm,15.5s
MAJO Matsushiro 54.30 30 *e*P **P** **04 43 32.2 -2.2**
MAJO pmax pmax
comp=Z,38nm,1.0s,mb5.3
MAJO Matsushiro 54.30 30 *e*P **P** **04 43 32.2 -2.2**
comp=Z,38nm,1.0s,mb5.3
MAT Matsushiro 54.30 30 P **P** **04 43 32.0 -2.4**
MAT pmax pmax
comp=Z,11nm,0.5s,mb5.0
MAT Matsushiro 54.30 30 *e*P **P** **04 43 32.0 -2.4**
comp=Z,11nm,0.5s,mb5.0
MJAR Matsushiro Arr 54.30 30 P **P** **04 43 32.4 -2.0**
comp=Z,31nm,0.9s,mb5.2,baz=202,slow=7.9,SNR=57
MJAR LR LR 05 08 24.2
comp=Z,108nm,19.1s,MS3.9,baz=205,slow=38
CN2 Changchun 55.70 16 *e*P **P** **04 43 43.3 -1.2**
CN2 *e*S **S** **04 51 29.3 -0.8**
CN2 AMB AMB
comp=Z,30nm,1.5s,mb5.1
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,20.0s,MS4.5
CN2 LR LR
comp=E,200nm,20.0s,MS4.5
CN2 LR LR
comp=Z,300nm,16.0s,MS4.5
WMQ Urumqi 56.26 343 P **P** **04 43 52.4 +3.8**
WMQ AP pP 04 43 57.0 +2.6
WMQ XP sP 04 43 59.4 +2.8
WMQ PCP PcP 04 44 49.5 +3.5
WMQ PP PP 04 45 59.3 +5.4
WMQ AMB AMB
comp=Z,67nm,1.9s,mb5.3
WMQ AMB AMB
comp=Z,298nm,5.3s
WMQ LR LR
comp=N,1μm,18.2s,MS5.2
WMQ LR LR
comp=E,1μm,17.1s,MS5.2
WMQ LR LR
comp=Z,1μm,18.7s,MS5.1
VLA Vladivostok 57.08 21 *c i*P **P** **04 43 52.6 -1.8**
VLA *i* 04 44 02.5
VLA pmax pmax
comp=Z,115nm,1.9s,mb5.6
KSH Kashi 57.09 331 P **P** **04 43 53.9 -0.6**
KSH *e*AP pP 04 43 59.5 -0.7
KSH *e*XP sP 04 44 02.8 +0.4
KSH *e*PCP PcP 04 44 48.9 -0.3
KSH *e*PP PP 04 46 01.1 -0.2
KSH *e*PPP 04 47 16.8
KSH *e*S **S** **04 51 46.4 -2.2**
KSH *e*PS 04 52 05.6
KSH *e*SCS ScS 04 53 37.3 -5.7
KSH AMB AMB
comp=Z,639nm,3.4s
KSH LR LR
comp=N,420nm,4.9s
KSH LR LR
comp=E,448nm,6.6s
KSH LR LR
comp=Z,533nm,12.0s,MS4.9
SONM Songino Array 57.31 359 P **P** **04 43 56.1 +0.1**
comp=Z,23nm,0.8s,mb5.3,baz=171,slow=7.7,SNR=143
SONM LR LR 05 10 32.7
comp=Z,442nm,20.7s,MS4.5,baz=175,slow=38
ULN Ulaanbaatar 57.33 360 P **P** **04 43 56.8 +0.6**
SNR=26
ULN Ulaanbaatar 57.33 360 *e*P **P** **04 43 56.1 -0.1**
ULN *e* 04 44 07.8
ULN pmax pmax
comp=Z,39nm,0.8s,mb5.5
ULN Ulaanbaatar 57.33 360 *e*P **P** **04 43 56.1 -0.1**
comp=Z,39nm,0.8s,mb5.5
ULN *e* 04 44 07.8
WBK Wadi Bani Khal 57.42 305 ⇓P **P** **04 43 57.4 +0.6**
MDJ Mudanjiang 57.64 18 P **P** **04 43 57.1 -1.3**
MDJ PCP PcP 04 44 52.0 +0.6
MDJ S **S** **04 51 53.9 -1.9**
MDJ SCS ScS 04 53 45.8 -1.2
MDJ SS SS 04 55 43.5 -2.5
MDJ AMB AMB
comp=Z,18nm,1.2s,mb5.0
MDJ AMB AMB
comp=Z,85nm,5.8s
MDJ LR LR
comp=N,244nm,15.5s,MS4.5
MDJ LR LR
comp=E,179nm,14.1s,MS4.5
MDJ LR LR
comp=Z,246nm,13.2s,MS4.5
MDJ Mudanjiang 57.64 18 *e*P **P** **04 43 57.6 -0.8**
comp=Z,40nm,1.5s,mb5.2
WSAR Wadi Sarin 58.00 305 P **P** **04 44 01.4 +0.6**
comp=Z,8.8nm,0.7s,mb4.9,baz=62,slow=9.5,SNR=9.3
JMDO Jabal Madar 58.01 304 ⇑P **P** **04 44 01.1 +0.1**
SMDO Samad 58.38 305 ⇑P **P** **04 44 04.2 +0.6**
SNR=12
BIDO Bidbid 58.54 305 ⇑P **P** **04 44 05.4 +0.7**
SNR=6.4
BSY Bisya 58.93 304 ⇑P **P** **04 44 07.8 +0.5**
SNR=5.6
OPO Ambohidratompo 58.97 254 P **P** **04 44 08.2 +0.5**
comp=Z,6.5nm,0.9s,mb4.6,baz=80,slow=8.8,SNR=4.9
ULHL Ulahol 59.14 333 P **P** **04 44 08.4 -0.4**
SNR=10
HOQ Hoqain 59.23 305 ⇓P **P** **04 44 10.0 +0.6**
KZA Kyzart 59.45 332 P **P** **04 44 10.8 -0.2**
SNR=26
HIA Hailar 59.70 9 *e*P **P** **04 44 11.6 -1.1**
HIA pmax pmax
comp=Z,22nm,1.1s
HIA Hailar 59.70 9 *e*P **P** **04 44 11.6 -1.1**
comp=Z,22nm,1.1s,mb5.1
ARQ Araqi 59.75 304 ⇑P **P** **04 44 13.2 +0.2**
WHFO Wadi Hawf 59.79 297 ⇓P **P** **04 44 13.3 0.0**
UCH Uchtor 59.91 332 P **P** **04 44 14.2 +0.1**
SNR=8.0
TKM2 Tokmak 2 59.96 333 P **P** **04 44 14.3 -0.2**
SNR=27
ZAK Zakamensk 59.97 357 *e*P **P** **04 44 14.5 0.0**
ZAK pmax pmax
comp=Z,13nm,1.1s,mb4.9
ABTO Aybut 59.99 296 ⇓P **P** **04 44 14.8 +0.1**
KBK Karagaybulak 60.04 333 P **P** **04 44 15.4 +0.4**
SNR=11
AML Almayashu 60.21 331 P **P** **04 44 16.3 +0.1**
SNR=14
AAK Ala-Archa 60.23 332 P **P** **04 44 15.3 -1.0**
SNR=6.2
AAK P 04 44 15.5
SNR=13
AAK Ala-Archa 60.23 332 *d i*P **P** **04 44 15.1 -1.2**
AAK pmax pmax
comp=Z,19nm,1.7s,mb4.8
AAK Ala-Archa 60.23 332 *e*P **P** **04 44 14.7 -1.6**
comp=Z,11nm,0.9s,mb4.9
EKS2 Erkin-Say 60.58 332 P **P** **04 44 18.9 +0.1**
SNR=14
MK31 Makanchi Array 60.62 340 P **P** **04 44 18.5 -0.5**
MK31 pmax pmax
comp=Z,28nm,0.8s,mb5.4
MKAR Makanchi Array 60.62 340 P **P** **04 44 18.8 -0.2**
comp=Z,40nm,0.8s,mb5.6,baz=143,slow=7.8,SNR=195
MKAR Makanchi Array 60.62 340 ⇑*e*P **P** **04 44 18.7 -0.3**
MKAR Makanchi Array 60.62 340 P **P** **04 44 18.8 -0.2**
USP Ospenovka 60.73 333 P **P** **04 44 19.0 -0.7**
SNR=8.1
ASHO Ashiyiah 60.75 305 ⇑P **P** **04 44 20.2 +0.3**
SNR=6.5
MOY Mondy 61.40 355 *e*P **P** **04 44 25.0 +0.7**
MOY pmax pmax
comp=Z,77nm,2.0s,mb5.5
IRK Irkutsk 61.78 358 *e*P **P** **04 44 27.2 +0.4**
IRK pmax pmax
comp=Z,68nm,1.7s,mb5.5
ASAJ Asahikawa 62.29 28 LR LR 05 08 56.5
comp=Z,95nm,21.3s,MS3.9,baz=175,slow=34
KLR Kul'dur 62.43 18 ⇑*i*P **P** **04 44 27.0 -4.2**
KLR pmax pmax
comp=E,56nm,1.8s
KLR pmax pmax
comp=Z,170nm,1.8s,mb5.9
KK31 Karatay Array 62.48 330 *i* P **P** **04 44 30.0 -1.5**
KK31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
KK31 Karatay Array 62.48 330 *i* P **P** **04 44 30.1 -1.4**
KKAR Karatay Array 62.48 330 *i* P **P** **04 44 30.0 -1.5**
HABR Khabarovsk 62.82 20 *e*P **P** **04 44 33.4 -0.4**
HABR *e*S **S** **04 53 00.9 -1.4**
HABR pmax pmax
comp=Z,157nm,1.6s,mb5.9
YSS Yuzh-Sakhalins 64.56 26 ⇓*e*P **P** **04 44 44.0 -1.3**
YSS *e* 04 44 55.8
YSS pmax pmax
comp=Z,100nm,1.0s,mb5.8
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 64.56 26 *e*P **P** **04 44 44.7 -0.5**
comp=Z,152nm,1.2s,mb5.9
MAW Mawson 64.94 197 ⇑*i*P **P** **04 44 47.4 -0.4**
comp=Z,9.2nm,0.6s,mb5.0
MAW Mawson 64.94 197 P **P** **04 44 47.8 0.0**
comp=Z,10nm,0.6s,mb5.0,baz=58,slow=6.2,SNR=71
MAW LR LR 05 06 22.2
comp=Z,112nm,21.9s,MS4.0,baz=60,slow=30
MAW Mawson 64.94 197 ⇑*i*P **P** **04 44 47.4 -0.4**
MAW pmax pmax
comp=Z,9.0nm,0.6s
KURK Kurchatov 65.23 340 P **P** **04 44 49.0 -0.7**
comp=Z,243nm,1.3s,mb6.1,SNR=30
KURK Kurchatov 65.23 340 P **P** **04 44 49.8 +0.2**
SNR=29
KURK Kurchatov 65.23 340 *de*P **P** **04 44 49.4 -0.2**
KURK Kurchatov 65.23 340 *e*P **P** **04 44 49.2 -0.4**
comp=Z,59nm,1.0s,mb5.6
ABKT Ailbek 66.16 319 P **P** **04 44 55.7 +0.1**
comp=Z,198nm,1.2s,mb6.0,SNR=8.0
ZAL Zalesovo 66.28 346 P **P** **04 44 55.8 -0.6**
comp=Z,5.2nm,0.9s,mb4.5,baz=334,slow=3.3,SNR=21
ZAL LR LR 05 18 03.7
comp=Z,163nm,18.1s,MS4.3,baz=176,slow=40
ATD Arta Tunnel 67.70 287 P **P** **04 45 06.6 +1.1**
comp=Z,4.0nm,0.3s,mb4.9,baz=5.6,slow=9.4,SNR=3.8
VOSK Vostochnaya 69.61 337 P **P** **04 45 16.6 -0.8**
VOSK pmax pmax
comp=Z,78nm,1.6s,mb5.4
NAY Al-Naaiem 69.81 306 *e*P **P** **04 45 17.6 -1.0**
NAY AMb AMB 04 45 19.5
comp=Z,30nm,0.9s,mb5.2
MIB Mutribah 69.96 307 *e*P **P** **04 45 18.5 -1.0**
MIB AMb AMB 04 45 20.8
comp=Z,70nm,1.0s,mb5.5
BVA0 Borovoye Array 70.07 337 *i* P **P** **04 45 19.5 -0.7**
BVA0 pmax pmax
comp=Z,21nm,1.5s,mb4.8
BVAR Borovoye Array 70.07 337 P **P** **04 45 19.9 -0.3**
comp=Z,19nm,0.7s,mb5.1,baz=146,slow=8.2,SNR=53
BVAR LR LR 05 20 06.3
comp=Z,147nm,20.1s,MS4.2,baz=139,slow=39
RST Umm Al-Ruwaisa 70.11 306 *e*P **P** **04 45 19.4 -1.1**
RST AMb AMB 04 45 20.7
comp=Z,80nm,1.0s,mb5.6
BRVK Borovoye 70.14 337 P **P** **04 45 20.6 0.0**
comp=Z,187nm,0.9s,mb6.0,SNR=11
BRVK Borovoye 70.14 337 P **P** **04 45 20.7 +0.1**
SNR=20
BRVK Borovoye 70.14 337 *e*P **P** **04 45 20.0 -0.6**
BRVK pmax pmax
comp=Z,27nm,1.1s,mb5.1
BRVK Borovoye 70.14 337 *e*P **P** **04 45 19.9 -0.7**
comp=Z,27nm,1.1s,mb5.1
KMBO Kilima Mbogo 70.40 272 P **P** **04 45 22.6 +0.4**
comp=Z,8.0nm,0.9s,mb4.6,baz=63,slow=7.5,SNR=16
KMBO LR LR 05 12 15.4
comp=Z,73nm,18.8s,MS4.0,baz=276,slow=32
CHKZ Chkalovo 70.49 338 *i* P **P** **04 45 22.3 -0.5**
CHKZ pmax pmax
comp=Z,57nm,1.0s,mb5.5
CHKZ Chkalovo 70.49 338 *e*P **P** **04 45 22.4 -0.4**
comp=Z,76nm,1.1s,mb5.5
ZRNK Zerenda 70.55 336 *i* P **P** **04 45 22.6 -0.6**
ZRNK pmax pmax
comp=Z,39nm,1.1s,mb5.2
ZRNK Zerenda 70.55 336 *e*P **P** **04 45 22.7 -0.4**
comp=Z,55nm,1.1s,mb5.4
AB31 Akbulak array 72.02 329 ⇑*e*P **P** **04 45 31.4 -0.6**
SYO Syowa Base 73.16 200 ⇓*e*P **P** **04 45 37.8 -1.0**
SYO Syowa Base 73.16 200 ⇓*e*pP pP 04 45 40.0 -4.7
VNDA Vanda 73.21 169 LR LR 05 13 46.6
comp=Z,78nm,18.0s,MS4.0,baz=332,slow=32
VNDA Vanda 73.21 169 *e*P **P** **04 45 35.4 -3.7**
VNDA pmax pmax
comp=Z,4.0nm,0.8s
VNDA Vanda 73.21 169 *e*P **P** **04 45 35.4 -3.6**
comp=Z,4.0nm,0.8s,mb4.4
SKR Severo-Kuril's 73.40 30 *e*P **P** **04 45 33.0 -7.2**
SKR pmax pmax
comp=E,130nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
YAK Yakutsk 73.58 11 *d i*P **P** **04 45 40.2 -1.1**
YAK pmax pmax
comp=Z,97nm,0.8s,mb5.8
YAK Yakutsk 73.58 11 *e*P **P** **04 45 40.2 -1.1**
comp=Z,76nm,0.8s,mb5.7
AKTK Aktyubinsk 73.73 330 P **P** **04 45 41.4 -0.8**
AKTO Aktyubinsk 73.73 330 P **P** **04 45 41.4 -0.8**
comp=Z,13nm,0.6s,mb5.0,baz=123,slow=7.6,SNR=35
MAK Makhachkala 75.68 319 *e*P **P** **04 45 50.3 -3.2**
PET Petropavlovsk 76.10 29 *e*P **P** **04 45 55.9 +0.1**
PET *e*S S 04 55 33.9 -4.7
PET pmax pmax
comp=Z,38nm,0.6s,mb5.5
PET smax
comp=E,95nm,0.5s
PET smax
comp=N,117nm,0.5s
PET Petropavlovsk 76.10 29 *e*P **P** **04 45 55.4 -0.4**
comp=N,20nm,0.6s,mb5.2
GNI Garni 76.26 315 P **P** **04 45 57.2 +0.4**
comp=N,4.0nm,0.6s,mb4.5,baz=161,slow=20,SNR=4.2
GNI Garni 76.26 315 *de*P **P** **04 45 56.5 -0.3**
GNI pmax pmax
comp=Z,33nm,1.7s
GNI Garni 76.26 315 *e*P **P** **04 45 56.8 0.0**
comp=Z,17nm,1.0s,mb4.9
DGRG David-gareji 76.40 317 P **P** **04 45 58.4 +0.9**
SVE Sverdlovsk 76.70 336 *e*P **P** **04 46 00.0 +0.7**
SVE *e*S S 04 55 51.0 +5.7
SVE pmax pmax
comp=Z,220nm,2.3s,mb5.7
MTA Mtatsminda 76.90 317 P **P** **04 46 00.5 +0.1**
MBAR Mbarara 76.91 272 *d i*P **P** **04 46 00.9 +0.5**
TBLG Delisi 76.95 317 P **P** **04 46 00.7 +0.1**
MA2 Magadan 77.22 21 *de*P **P** **04 46 02.3 +0.1**
MA2 pmax pmax
comp=Z,60nm,1.2s,mb5.4
MA2 Magadan 77.22 21 *e*P **P** **04 46 02.1 0.0**
comp=Z,27nm,1.0s,mb5.1
ARU Arti 77.30 335 P **P** **04 46 02.5 -0.1**
comp=Z,544nm,0.8s,SNR=6.2
ARU Arti 77.30 335 *d i*P **P** **04 46 02.5 -0.1**
ARU pmax pmax
comp=Z,182nm,1.7s,mb5.7
ARU Arti 77.30 335 *e*P **P** **04 46 02.4 -0.3**
comp=Z,127nm,1.1s,mb5.8
LSZ Lusaka 77.32 256 P **P** **04 46 03.8 +1.0**
SNR=11
LSZ P 04 46 04.4
SNR=5.7
LSZ Lusaka 77.32 256 *e*P **P** **04 46 03.5 +0.7**
LSZ pmax pmax
comp=Z,27nm,1.4s,mb5.0
LSZ Lusaka 77.32 256 *e*P **P** **04 46 03.5 +0.7**
comp=Z,27nm,1.4s,mb5.0
GOR Gori 77.48 317 P **P** **04 46 04.2 +0.6**
ZEI Tsey 77.96 318 *e*P **P** **04 46 06.8 +0.5**
ZEI *e* 04 49 00.7
ZEI pmax pmax
comp=Z,23nm,0.8s,mb5.2
ONI Oni 78.18 317 P **P** **04 46 06.6 -0.9**
AMRG 78.36 317 P **P** **04 46 09.8 +1.2**
BOSA Boshof 78.69 243 P **P** **04 46 10.9 +0.5**
comp=Z,5.8nm,0.9s,mb4.5,baz=80,slow=6.5,SNR=5.6
BOSA LR LR 05 14 09.1
comp=Z,162nm,20.9s,MS4.3,baz=186,slow=30
BOSA Boshof 78.69 243 *e*P **P** **04 46 11.1 +0.7**
BOSA pmax pmax
comp=Z,25nm,1.5s,mb4.9
BOSA Boshof 78.69 243 *e*P **P** **04 46 11.1 +0.7**
comp=Z,25nm,1.5s,mb4.9
LBTB Lobatse 78.72 246 *e*P **P** **04 46 10.6 +0.1**
LBTB pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LBTB Lobatse 78.72 246 *e*P **P** **04 46 10.6 0.0**
comp=Z,5.5nm,0.8s,mb4.5

ASF **Jabal al Asfar** 79.17 305 P P 04 46 13.9 +0.9
comp=Z,20nm,0.8s,mb5.1,baz=345,slow=5.0,SNR=35
KIV **Kislovodsk** 79.26 318 ⇓*i*P P 04 46 13.3 -0.2
KIV pmax pmax
comp=Z,21nm,1.0s,mb5.0
KIV **Kislovodsk** 79.26 318 *e*P P 04 46 14.0 +0.5
comp=Z,16nm,0.8s,mb5.0
GOF **Gofitskoye** 79.50 319 *e*P P 04 46 13.6 -1.2
GOF pmax pmax
comp=Z,30nm,0.6s,mb5.4
EIL **Elat** 79.99 303 *e*P P 04 46 17.8 +0.3
comp=Z,252nm,0.8s,mb6.2
MALT **Malatya** 80.06 312 ⇑*i*P P 04 46 18.7 +0.9
MALT **Malatya** 80.06 312 *e*P P 04 46 18.0 +0.2
comp=Z,6.5nm,0.8s,mb4.6
QSPA **South Pole Qui** 80.28 180 *e*P P 04 46 18.1 -0.9
comp=Z,8.2nm,0.8s,mb4.7
MMAI **Mount Meron Ar** 80.63 306 P P 04 46 21.9 +1.0
comp=Z,19nm,0.6s,mb5.2,baz=101,slow=8.0,SNR=17
SOC **Sochi** 81.09 317 *c i*P P 04 46 22.8 -0.5
SOC *e*S S 04 56 28.2 -3.8
SOC *e*SS SS 05 01 45.3 -1.5
SOC pmax pmax
comp=Z,14nm,0.7s,mb5.0
SOC **Sochi** 81.09 317 *i* P P 04 46 23.5 +0.2
SUR **Sutherland** 82.14 239 *e*P P 04 46 30.2 +1.3
comp=Z,149nm,2.1s,mb5.5
CSS **Prodhromos** 82.85 307 *e*P P 04 46 33.1 +0.5
comp=Z,54nm,0.9s,mb5.6
VRHR **Novokhopersk** 82.92 325 *e*P P 04 46 32.6 -0.4
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,60nm,0.6s,mb5.8
BR131 **Keskin Array S** 84.04 312 *e*P P 04 46 38.6 -0.1
comp=Z,14nm,0.8s,mb5.1
BRTR **Keskin Array B** 84.04 312 P P 04 46 38.5 -0.2
comp=Z,13nm,0.8s,mb5.1,baz=135,slow=6.2,SNR=61
BRTR LR LR 05 29 50.8
comp=Z,53nm,19.4s,MS3.9,baz=269,slow=40
VRSR **Storozhevoye** 84.37 324 *e*P P 04 46 39.9 -0.5
VRSR pmax pmax
comp=Z,50nm,0.6s,mb5.8
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,30nm,0.9s
ANTO **Ankara** 84.71 312 P P 04 46 42.6 +0.5
SNR=6.7
TSUM **Tsumeb** 86.83 251 *e*P P 04 46 53.4 +0.8
comp=E,15nm,1.2s,mb5.1
MOS **Moscow** 86.97 328 *e*P P 04 46 50.9 -2.4
MOS pmax pmax
comp=Z,187nm,1.6s,mb6.1
MOS pmax pmax
comp=Z,91nm,1.3s,mb5.8
SNAA **Sanae** 87.11 197 *e*P P 04 46 54.1 +0.1
SNAA *e* 04 46 55.7
SNAA *e* 04 46 56.7
SNAA *e* pP 04 46 58.3 -1.7
SNAA **Sanae** 87.11 197 *e*P P 04 46 53.7 -0.3
SNAA pmax pmax
comp=Z,20nm,1.4s
SNAA **Sanae** 87.11 197 *e*P P 04 46 53.7 -0.3
comp=Z,20nm,1.4s,mb5.2
OBN **Obninsk** 87.30 327 *d i*P P 04 46 54.5 -0.4
OBN *i* *SP sP 04 47 05.9 +2.8
OBN *e*S 04 57 24.0
OBN pmax pmax
comp=Z,138nm,1.7s,mb5.9
TIRR **Tirgusor** 89.09 315 ⇓*i*P P 04 47 03.8 +0.4
TIRR **Tirgusor** 89.09 315 ⇓P P 04 47 03.8 +0.3
VNA1 **Neumayer--Stat** 89.14 197 *e*P P 04 47 03.2 -0.4
VNA1 *e* 04 47 04.5
VNA1 *e* 04 47 06.2
VNA1 *e* pP 04 47 07.3 -2.4
VNA1 *e* 04 47 16.4
CFR **Carcaliu** 89.46 316 ⇑*i*P P 04 47 05.7 +0.5
CFR **Carcaliu** 89.46 316 ⇑P P 04 47 05.7 +0.5
HARR **Harsova** 89.48 315 ⇑*i*P P 04 47 06.0 +0.7
HARR **Harsova** 89.48 315 ⇑P P 04 47 06.0 +0.7
IDI **Anoyia** 89.63 306 P P 04 47 05.6 -0.3
comp=Z,18nm,0.9s,mb5.4,baz=75,slow=12,SNR=3.8
AKASG **Malin Array Be** 90.16 321 P P 04 47 07.0 -1.5
comp=Z,0.7nm,0.3s,mb4.5,baz=85,slow=4.8,SNR=14
AKASG PP PP 04 50 38.8 -3.1
comp=Z,3.8nm,0.8s,baz=89,slow=6.0,SNR=7.4
VRI **Vrincioaia** 90.59 316 ⇑*i*P P 04 47 11.4 +1.0
VRI **Vrincioaia** 90.59 316 ⇑P P 04 47 11.4 +1.0
PLOR **Plostina** 90.64 316 ⇓*i*P P 04 47 12.5 +1.9
MLR **Muntele Rosu** 91.04 316 P P 04 47 13.1 +0.5
comp=Z,12nm,0.7s,mb5.3,baz=204,slow=1.6,SNR=21
MLR **Muntele Rosu** 91.04 316 ⇑*i*P P 04 47 13.5 +1.0
MLR **Muntele Rosu** 91.04 316 ⇑P P 04 47 13.5 +1.0
BURAR **Bucovina Array** 91.98 318 ⇓*i*P P 04 47 17.7 +0.8
BURAR **Bucovina Array** 91.98 318 ⇓P P 04 47 17.7 +0.8
VTS **Vitosha** 92.38 313 ⇓*i*P P 04 47 19.0 +0.3
VTS **Vitosha** 92.38 313 ⇓P P 04 47 19.0 +0.3
GZR **Gura Zlata** 93.20 315 ⇑*i*P P 04 47 23.7 +1.2
GZR **Gura Zlata** 93.20 315 ⇑P P 04 47 23.7 +1.2
DRGR 93.50 317 ⇓*i*P P 04 47 24.0 +0.1
DRGR 93.50 317 ⇓P P 04 47 24.0 +0.1
BZS **Buzias** 94.04 315 ⇓*i*P P 04 47 26.2 -0.2
BZS **Buzias** 94.04 315 ⇓P P 04 47 26.2 -0.2
KOLS **Kolonicke sedl** 94.17 319 *e*P P 04 47 27.6 +0.6
KOLS pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
KOLS **Kolonicke sedl** 94.17 319 *e*P P 04 47 27.6 +0.6
comp=Z,9.7nm,1.0s,mb5.2
FINES **FINESS Array B** 94.41 332 P P 04 47 27.1 -1.0
comp=Z,2.3nm,0.9s,mb4.6,baz=131,slow=5.3,SNR=5.1
SUW **Suwalki** 94.50 324 *e*P P 04 47 28.0 -0.5
PKSM **Moragy** 96.19 316 ⇓*i*P P 04 47 36.1 -0.1
PKSM **Moragy** 96.19 316 ⇓P P 04 47 36.1 -0.1
ARCES **ARCESS Array B** 96.26 339 P P 04 47 35.5 -1.1
comp=Z,6.4nm,0.9s,mb5.0,baz=191,slow=1.2,SNR=6.8
ARCES LR LR 05 34 10.7
comp=Z,121nm,20.8s,MS4.4,baz=188,slow=38
VYHS **Vyhne** 96.35 318 *e*P P 04 47 34.3 -2.6
VYHS pmax pmax
comp=Z,13nm,2.7s,mb4.9
VYHS **Vyhne** 96.35 318 *e*P P 04 47 34.3 -2.6
comp=Z,13nm,2.7s,mb4.9
VYHS *e*PcP PcP 04 47 36.9 -0.2
TBI **Tubuai** 97.90 115 *e*LR LR 05 19 42.7
comp=Z,68nm,29.8s
PPT **Papeete** 99.15 110 *e*LR LR 05 20 18.9
comp=Z,113nm,24.8s
GERES **GERESS Array B** 99.77 318 P Pdif 04 47 51.6 -0.7
comp=Z,0.5nm,0.6s,baz=73,slow=5.9,SNR=5.3
HFS **Hagfors** 100.28 330 P Pdif 04 47 54.0 -0.5
comp=Z,3.7nm,1.0s,baz=50,slow=9.8,SNR=4.1
HFS PP PP 04 51 57.4 -3.2
comp=Z,3.2nm,0.8s,baz=110,slow=7.8,SNR=3.4
HFS **Hagfors** 100.28 330 P Pdif 04 47 54.0 -0.5
HFS PP PP 04 51 57.4 -3.2
CLL **Collm** 100.36 320 *e*PP PP 04 51 58.0 -3.1
CLL **Collm** 100.36 320 *e*PP PP 04 51 58.0 -3.1
GRF **Grafenberg Arr** 101.43 319 *e*PP PP 04 52 08.3 -1.0
GRF **Grafenberg Arr** 101.43 319 *e*PP PP 04 52 08.3 -1.0
NB2 **NORSAR Subarra** 101.51 330 PP PP 04 51 56.7 -13
comp=Z,4.4nm,1.2s,baz=89,slow=7.9
NB2 **NORSAR Subarra** 101.51 330 PP PP 04 51 56.7 -13
baz=89,slow=7.9
NOA **NORSAR Array B** 101.51 330 PP PP 04 52 07.4 -2.5
comp=Z,1.6nm,0.8s,baz=101,slow=6.8,SNR=3.6
TORD **Torodi Ar. Bea** 107.48 281 PKKPbc PKKPbc 05 03 50.1 +0.5
comp=Z,0.8nm,0.8s,baz=308,slow=4.3,SNR=5.6
RES **Resolute Bay** 113.82 6 *e*PKIKP PKiKP 04 52 46.3 -0.6
YKA **Yellowknife Ar** 119.20 21 PKP PKPdf 04 52 56.7 -0.5
comp=Z,4.8nm,0.7s,baz=312,slow=1.8,SNR=26
YKA **Yellowknife Ar** 119.20 21 PKP PKPdf 04 52 56.7 -0.5
C03A **Quillayute Air** 122.08 39 ⇑P PKPdf 04 53 04.7 +2.0
baz=122
D03A **Wishkah Elem.** 122.91 39 ⇓P PKPdf 04 53 05.8 +1.4
baz=123
C04A **Brinnon** 123.16 39 ⇑P PKPdf 04 53 06.2 +1.4
baz=123
E03A **Lebam** 123.26 40 ⇓P PKPdf 04 53 06.6 +1.6
baz=123
B05A **Bryant** 123.45 38 ⇑P PKPdf 04 53 06.7 +1.3
baz=124
F03A **Seaside** 123.51 41 ⇓P PKPdf 04 53 07.0 +1.6
baz=124
G03A **Yamhill** 123.93 41 ⇓P PKPdf 04 53 08.0 +1.7
baz=124
C05A **Tolt Reservoir** 123.95 38 ⇓P PKPdf 04 53 07.5 +1.1
baz=124
D05A **Enumclaw** 123.98 39 ⇑P PKPdf 04 53 08.1 +1.7
baz=124
H03A **Soap Creek Ran** 124.17 42 ⇓P PKPdf 04 53 08.0 +1.3
baz=124
F04A **Amboy** 124.24 40 ⇓P PKPdf 04 53 08.4 +1.5
baz=124
J02A **Umpqua** 124.47 44 ⇑P PKPdf 04 53 08.2 +0.9
baz=124
K02A **Glendale** 124.74 44 ⇑P PKPdf 04 53 09.3 +1.4
baz=125
H04A **Detroit Lake** 124.89 42 ⇓P PKPdf 04 53 09.0 +0.9
baz=125
HUMO **Hull Mountain** 125.17 44 ⇓P PKPdf 04 53 09.8 +1.2
baz=125
H05A **Madras** 125.53 41 ⇑P PKPdf 04 53 11.4 +2.0
baz=126
N02C **Big Bar** 125.55 46 ⇑P PKPdf 04 53 10.6 +1.2
baz=126
EDM **Edmonton** 125.60 29 *e*PKIKP PKPdf 04 53 09.8 +0.3
M02C **Callahan** 125.68 46 ⇓P PKPdf 04 53 11.6 +1.9
baz=126
J05A **Fort Rock** 126.08 43 ⇓P PKPdf 04 53 12.4 +2.0
baz=126
O02C **Red Bluff** 126.14 47 ⇑P PKPdf 04 53 12.6 +2.1
baz=126
WDC **Whiskeytown Da** 126.18 46 ⇑P PKPdf 04 53 12.1 +1.5
baz=126
M04C **Macdoel** 126.24 45 ⇓P PKPdf 04 53 12.5 +1.8
baz=126
NEW **Newport** 126.39 36 *e*PKIKP PKPdf 04 53 12.5 +1.5
J06A **Christmas Vall** 126.82 42 ⇑P PKPdf 04 53 13.4 +1.6
baz=127
MNRC **McLaughlin Nat** 126.83 48 ⇑P PKPdf 04 53 13.9 +2.0
baz=127
HATC **Hat Creek Radi** 126.86 46 ⇑P PKPdf 04 53 13.5 +1.6
baz=127
M05C **Lookout** 126.88 45 ⇓P PKPdf 04 53 13.6 +1.6
baz=127
K06A **Valley Falls** 126.93 43 ⇓P PKPdf 04 53 13.8 +1.8
baz=127
CVS **Carmenet Viney** 127.00 49 ⇓P PKPdf 04 53 13.9 +1.8
baz=127
MOD **Modoc** 127.26 44 ⇑P PKPdf 04 53 14.4 +1.8
baz=127
ORV **Oroville** 127.29 47 ⇑P PKPdf 04 53 14.1 +1.4
baz=127
O04C **Chester** 127.31 46 ⇑P PKPdf 04 53 14.9 +2.2
baz=127
J07A **Hines** 127.32 42 ⇑P PKPdf 04 53 14.9 +2.1
baz=127
O05C **Quincy** 127.56 47 ⇑P PKPdf 04 53 15.5 +2.3
baz=128
BDM **Black Diamond** 127.57 49 ⇑P PKPdf 04 53 15.8 +2.5
baz=128
L07A **Adell** 127.87 44 ⇑P PKPdf 04 53 16.3 +2.5
baz=128
P05C **Yuba Gap, Truc** 128.03 47 ⇑P PKPdf 04 53 16.4 +2.3
baz=128
N06A **Buffalo Meadow** 128.04 45 ⇑P PKPdf 04 53 16.4 +2.3
baz=128
S04C **Ingram Canyon,** 128.12 50 ⇑P PKPdf 04 53 17.0 +2.7
baz=128
WVOR **Wild Horse Val** 128.17 43 *e*PKIKP PKPdf 04 53 16.0 +1.6
O06A **Flanigan** 128.26 46 ⇑P PKPdf 04 53 16.4 +1.9
baz=128
HAST **UC Hastings Re** 128.30 51 ⇓P PKPdf 04 53 17.2 +2.5
baz=128
PACP **Pacheco Peak** 128.31 50 ⇑P PKPdf 04 53 16.9 +2.3
baz=128
FCC **Fort Churchill** 128.37 14 *e*PKIKP PKPdf 04 53 14.5 -0.3
R05C **Kirkwood Meado** 128.63 48 ⇓P PKPdf 04 53 17.5 +2.3
baz=129
CMB **Columbia Colle** 128.64 49 ⇑P PKPdf 04 53 17.0 +1.8
baz=129
WCN **Washoe City** 128.64 47 ⇓P PKPdf 04 53 17.4 +2.1
baz=129
V03C **Hunter Liggett** 128.66 51 ⇓P PKPdf 04 53 18.2 +2.9
baz=129
M08A **Happy Creek Ra** 128.76 44 ⇑P PKPdf 04 53 18.0 +2.5
baz=129
U04C **Hernandez Rese** 128.90 51 ⇓P PKPdf 04 53 18.3 +2.5
baz=129
S05C **Merced** 128.92 49 ⇑P PKPdf 04 53 18.3 +2.5
baz=129
O07A **Toulon** 128.94 46 ⇑P PKPdf 04 53 18.5 +2.6
baz=129
MSO **Missoula** 128.97 36 *e*PKPdf PKPdf 04 53 17.2 +1.2
S06C **San Francisco** 129.09 49 ⇓P PKPdf 04 53 17.9 +1.7
baz=129
PKD **Parkfield** 129.22 51 ⇑P PKPdf 04 53 18.8 +2.4
baz=129
CHMT **Chamberlain Mo** 129.32 35 *e*PKPdf PKPdf 04 53 16.9 +0.3
FFC **Flin Flon** 129.36 22 *e*PKIKP PKPdf 04 53 16.8 +0.1
PLCA **Paso Flores** 129.77 182 PKP PKPdf 04 53 18.9 +1.4
comp=Z,0.9nm,0.6s,baz=190,slow=6.1,SNR=2.8
PLCA **Paso Flores** 129.77 182 *e*PKPdf PKPdf 04 53 17.4 0.0
NVAR **Mina Array Bea** 130.02 47 PKP PKPdf 04 53 19.8 +1.9
comp=Z,1.6nm,0.7s,baz=238,slow=1.9,SNR=13
Q08A **Gabbs** 130.12 47 ⇑P PKPdf 04 53 19.3 +1.2
baz=130
HLID **Hailey** 130.39 40 *e*PKPdf PKPdf 04 53 20.5 +1.9
DLMT **Dillon** 130.56 37 *e*PKPdf PKPdf 04 53 20.4 +1.4
EGMT **Eagleton** 130.59 32 *e*PKPdf PKPdf 04 53 20.1 +1.1
MCMT **McKenzie Canyo** 130.70 37 *e*PKPdf PKPdf 04 53 21.1 +1.9
BOZ **Bozeman (W)** 130.96 36 *e*PKIKP PKPdf 04 53 21.1 +1.4
M12A **Wells** 131.11 42 ⇓P PKPdf 04 53 22.0 +2.1
baz=131
O11A **Cowboy Ranch,** 131.19 44 ⇓P PKPdf 04 53 22.5 +2.3
baz=131
ELK **Elko** 131.20 43 *e*PKIKP PKPdf 04 53 22.0 +1.9
N12A **Clover Valley,** 131.29 43 ⇓P PKPdf 04 53 23.0 +2.7
baz=131
M13A **Montello** 131.63 42 ⇓P PKPdf 04 53 23.4 +2.4
baz=132
Q11A **Duckwater** 131.75 46 ⇑P PKPdf 04 53 24.0 +2.8
baz=132
YMR **Madison River** 131.90 37 *e*PKPdf PKPdf 04 53 23.3 +1.8
GCMT **Greycliff** 132.00 35 *e*PKPdf PKPdf 04 53 22.7 +1.0
P12A **McGill** 132.00 45 ⇓P PKPdf 04 53 23.3 +1.7
baz=132
MOOW **Moose Ponds** 132.55 38 *e*PKPdf PKPdf 04 53 24.1 +1.4
TPAW **Teton Pass** 132.57 38 *e*PKPdf PKPdf 04 53 24.0 +1.3
REDW **Red Top Meadow** 132.70 38 *e*PKPdf PKPdf 04 53 24.6 +1.6
SNOW **Snow King Moun** 132.71 38 *e*PKPdf PKPdf 04 53 24.7 +1.7
DUG **Dugway** 133.09 43 *e*PKIKP PKPdf 04 53 23.1 -0.6
PFO **Pinyon Flat Ob** 133.17 53 ⇑P PKPdf 04 53 26.3 +2.4
baz=133
HWUT **Hardware Ranch** 133.20 40 *e*PKPdf PKPdf 04 53 25.1 +1.1
LAO **LASA Array** 133.30 32 *e*PKPdf PKPdf 04 53 25.1 +1.0
V12A **Nelson** 133.61 49 ⇓P PKPdf 04 53 27.9 +3.2
baz=134
BW06 **Boulder Array** 133.82 38 *e*PKPdf PKPdf 04 53 26.0 +0.9
PDAR **Pinedale Array** 133.82 38 PKP PKPdf 04 53 26.1 +1.0
comp=Z,1.0nm,0.6s,baz=259,slow=1.2,SNR=8.9
MSU **Marysvale** 134.33 45 *e*PKIKP PKPdf 04 53 26.9 +0.9
W13A **Hualapai Mount** 134.58 50 ⇓P PKPdf 04 53 28.9 +2.4
baz=135
Y12C **Blythe** 134.62 52 ⇑P PKPdf 04 53 29.1 +2.5
baz=135
GLA **Glamis** 134.64 53 ⇑P PKPdf 04 53 30.1 +3.5
baz=135
SCHQ **Schefferville** 134.79 355 PKP PKPdf 04 53 27.6 +0.6
comp=Z,3.8nm,0.8s,baz=350,slow=3.7,SNR=6.2
X13A **Yucca** 134.83 50 ⇓P PKPdf 04 53 29.4 +2.4
baz=135
W14A **Seligman** 135.15 49 ⇑P PKPdf 04 53 30.7 +3.2
baz=135
ULM **Lac du Bonnet** 135.18 21 PKP PKPdf 04 53 27.3 -0.3
comp=Z,3.5nm,0.9s,baz=310,slow=6.5,SNR=4.1
ULM **Lac du Bonnet** 135.18 21 *e*PKPdf PKPdf 04 53 27.3 -0.4
X14A **Yava** 135.59 50 ⇑P PKPdf 04 53 31.8 +3.4
baz=136
X15A **Humboldt** 136.07 50 ⇑P PKPdf 04 53 31.3 +2.0
baz=136
RSSD **Black Hills** 136.15 33 *e*PKIKP PKPdf 04 53 29.3 -0.1
WUAZ **Wupatki** 136.27 48 *e*PKPdf PKPdf 04 53 29.3 -0.3
PV10 **Paradox Valley** 136.54 43 *e*PKPdf PKPdf 04 53 32.1 +2.0
PV01 **Paradox Valley** 136.98 43 *e*PKPdf PKPdf 04 53 31.0 0.0
SMCO **Snowmass** 137.46 41 *e*PKPdf PKPdf 04 53 32.0 +0.1
MVCO **Mesa Verde** 137.50 44 *e*PKPdf PKPdf 04 53 33.8 +1.9
ANMO **Albuquerque** 140.08 46 *e*PKHKP 04 53 31.1
ANMO *e* 04 53 37.8
SCIA **State Center** 143.10 26 *e*PKPdf PKPdf 04 53 39.9 -2.2
AMTX **Amarillo** 143.39 42 *e*PKPdf PKPdf 04 53 42.0 -0.6
PKME **Peaks-Kenny Pk** 144.48 356 *e*PKPdf PKPdf 04 53 42.7 -1.8
MSNY **Massena** 144.79 3 *e*PKPdf PKPdf 04 53 44.2 -0.8
FRNY **Flat Rock** 145.00 1 *e*PKPbc PKPbc 04 53 44.6 -0.1
BDFB **Brasilia** 145.06 224 PKPbc PKPbc 04 53 46.4 +1.4
comp=Z,11nm,0.7s,baz=113,slow=2.3,SNR=23
LONY **Lake Ozonia** 145.18 3 *e*PKPbc PKPbc 04 53 45.7 +0.4
WMOK **Wichita Mounta** 145.36 40 *e*PKIKP PKPdf 04 53 46.6 +0.6
LBNH **Lisbon** 145.61 359 *e*PKIKP PKPdf 04 53 47.3 +0.9
MIV **Mineville/With** 145.76 1 *e*PKPbc PKPbc 04 53 47.3 +0.1
NCB **Newcomb** 145.85 2 *e*PKPbc PKPbc 04 53 47.6 +0.2
AAM **Ann Arbor** 146.09 15 *e*PKP2 PKPab 04 53 48.4 -0.4
HNH **Hanover** 146.15 360 *e*PKPbc PKPbc 04 53 48.8 +0.4
FFD **Franklin Falls** 146.37 359 *e*PKPbc PKPbc 04 53 49.6 +0.6
ACCN **Adirondack Com** 146.45 2 *e*PKPbc PKPbc 04 53 49.2 -0.1
ERPA **Erie** 147.06 10 *e*PKPbc PKPbc 04 53 51.1 +0.2
CCM **Cathedral Cave** 147.11 28 *e*PKIKP PKPdf 04 53 49.2 +0.2
CCM *e* 04 53 51.9
JCT **Junction City** 147.20 47 *e*PKPdf PKPdf 04 53 50.7 +1.6
JCT *e*PKPbc PKPbc 04 53 53.2 +1.8
HRV **Harvard--Oak R** 147.34 359 *e*PKP2 PKPab 04 53 52.0 -1.6
WES **Weston** 147.45 358 *e*PKP2 PKPab 04 53 52.0 -2.1
ALLY **Alegheny Colle** 147.48 11 *e*PKPbc PKPbc 04 53 52.5 +0.3
BINY **Binghamton** 147.50 5 *e*PKPbc PKPbc 04 53 52.5 +0.3
LVC **Limon Verde** 147.68 186 *e*PKPbc PKPbc 04 53 54.6 +1.9
LVC *e*PKPab PKPab 04 53 56.8 +1.8
ACSO **Alum Creek Sta** 148.20 15 *e*PKPdf PKPdf 04 53 51.3 +0.5
ACSO *e*PKPbc PKPbc 04 53 54.6 +0.5
MIAR **Mount Ida** 148.62 35 *e*PKIKP PKPdf 04 53 52.9 +1.4
MIAR *e* 04 53 56.5
MIAR *e* 04 54 00.5
PAL **Palisades** 148.82 2 *e*PKIKP PKPdf 04 53 52.0 +0.2
PAL *e* 04 53 56.2
SSPA **Standing Stone** 148.84 8 *e*PKPdf PKPdf 04 53 52.2 +0.4
SSPA *e*PKPbc PKPbc 04 53 56.2 +0.5
SSPA *e*PKPab PKPab 04 54 00.8 +1.2
PARMO **Parma** 148.93 28 *e*PKPbc PKPbc 04 53 56.8 +0.8
PARMO *e*PKPab PKPab 04 54 01.1 +1.1
WCI **Wyandotte Cave** 149.00 21 *e*PKIKP PKPdf 04 53 52.7 +0.6
WCI *e* 04 53 56.8
WCI *e* 04 54 01.1
CPNY **Central Park** 149.03 2 *e*PKPbc PKPbc 04 53 56.4 +0.1
HBAR **Harrisburg** 149.40 30 *e*PKPdf PKPdf 04 53 53.6 +0.9
HBAR *e*PKPbc PKPbc 04 53 58.5 +1.4
HBAR *e*PKPab PKPab 04 54 04.1 +2.2
GLAT **Glass** 149.47 27 *e*PKPdf PKPdf 04 53 54.0 +1.2
GLAT *e*PKPbc PKPbc 04 53 58.2 +0.9
GLAT *e*PKPab PKPab 04 54 03.8 +1.6
MCWV **Mont Chateau** 149.47 11 *e*PKPbc PKPbc 04 53 57.9 +0.6
MVL **Millersville** 149.65 6 *e*PKPbc PKPbc 04 53 58.5 +0.7
NATX **Nacogdoches** 149.92 40 *e*PKPdf PKPdf 04 53 54.2 +0.7
NATX *e*PKPbc PKPbc 04 54 00.0 +1.6
WVT **Waverly** 150.22 26 *e*PKIKP PKPdf 04 53 59.9 +5.9
HKT **Hockley** 150.30 44 *e*PKIKP PKPdf 04 53 55.6 +1.4
HKT *e* 04 54 01.5
PLAL **Pickwick Lake** 151.08 27 *e*PKPdf PKPdf 04 53 55.3 -0.1
PLAL *e*PKPab PKPab 04 54 01.5 -7.4
FWV **Forest Hill** 151.25 14 *e*PKPbc PKPbc 04 54 01.7 +0.1
TZTN **Tazewell** 151.46 19 *e*PKPdf PKPdf 04 53 56.5 +0.6
TZTN *e*PKPbc PKPbc 04 54 02.8 +0.7
ELN **Prospectdale** 151.60 14 *e*PKPdf PKPdf 04 53 56.7 +0.5
ELN *e*PKPbc PKPbc 04 54 02.5 +0.1
BLA **Blacksburg** 151.70 14 *e*PKIKP PKPdf 04 53 56.8 +0.5
BLA *e* 04 54 03.2
BLA *e* 04 54 12.6
CPCT **Cooper Cave** 152.12 21 *e*PKPdf PKPdf 04 53 58.4 +1.4
CPCT *e*PKPbc PKPbc 04 54 04.6 +1.0
CPCT *e*PKPab PKPab 04 54 14.3 +1.1
LRAL **Lakeview Retre** 153.20 28 *e*PKPdf PKPdf 04 53 59.2 +0.7
LRAL *e*PKPbc PKPbc 04 54 06.4 +0.4
LPAZ **La Paz** 153.81 189 PKP PKPdf 04 54 01.4 +2.0
comp=Z,0.6nm,0.8s,baz=154,slow=3.3,SNR=2.7
LPAZ PKPbc PKPbc 04 54 09.2 +1.9
comp=Z,2.2nm,0.7s,baz=204,slow=6.3,SNR=14
LPAZ **La Paz** 153.81 189 *e*PKPdf PKPdf 04 54 01.4 +2.0
LPAZ *e*PKPbc PKPbc 04 54 09.2 +1.9
LPAZ *e*PKPab PKPab 04 54 22.2 +2.0
SAML **Samuel** 159.29 207 *e*PKPdf PKPdf 04 54 07.1 +0.6
SAML *e*PKPab PKPab 04 54 44.6 +0.7
OTAV **Otavalo** 168.84 147 *e*PKPdf PKPdf 04 54 17.2 +2.0

WEL 20 04:37:22.4±0.5, 3854S×17609E, h162km, 4km, ML3.5/8, 1D, Error ellipse: s-maj=6.2km s-min=3.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKZ	**Black Stump Fm**	0.70	154	PN	Pn	04 37 46.7	+0.5
BKZ				SN	Sn	04 38 04.9	+0.6
FWVZ	**Far West T-bar**	0.83	211	PN	Pn	04 37 47.1	+0.1
URZ	**Urewera**	0.85	71	PN	Pn	04 37 46.8	-0.3
URZ				SN	Sn	04 38 05.5	-0.6
MWZ	**Matawai**	1.14	80	PN	Pn	04 37 50.0	+0.5
MWZ				SN	Sn	04 38 10.4	+0.1
TSZ	**Takapari Road**	1.52	184	⇓PN	Pn	04 37 53.1	0.0
TSZ				SN	Sn	04 38 15.9	-0.7
BFZ	**Birch Farm**	2.14	177	PN	Pn	04 37 59.4	-0.4
BFZ				SN	Sn	04 38 27.7	-1.0
MRZ	**Mangatainoka R**	2.15	190	PN	Pn	04 37 58.9	-1.2
MRZ				SN	Sn	04 38 26.8	-2.2
MTW	**Mount Morrison**	2.65	190	PN	Pn	04 38 04.0	-1.9
MTW				SN	Sn	04 38 36.1	-3.5
MSWZ	**Moikau Station**	2.94	192	PN	Pn	04 38 07.2	-2.3
TUWZ	**Tuamarina**	3.32	209	SN	Sn	04 38 49.9	-4.7

NNC 20 04:48:13.7±4.4, 5417N×8629E, h0km, mb3.9, mpv3.5, 7C-3D, Error ellipse: s-maj=36.0km s-min=16.1km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	5.83	237	⇑Pn	Pn	04 49 43.0	+1.7
KURK	3.3nm,0.7s			⇓Sn	Sn	04 50 51.4	+2.5
KURK	3.0nm,0.7s			⇑Lg		04 51 19.6	
MK02	7.6nm,0.8s **Makanchi Array**	7.83	200	⇑Pn	Pn	04 50 09.2	+0.3
MK02	1.8nm,0.8s,baz=25,slow=12			⇑Sn	Sn	04 51 39.2	+1.0
MK02	2.9nm,0.7s,baz=25,slow=27			⇑Lg		04 52 22.3	
VOSK	7.6nm,0.8s,baz=27,slow=31 **Vostochnaya**	9.25	267	⇑Pn	Pn	04 50 26.1	-2.2
VOSK	2.3nm,0.6s			⇑Sn	Sn	04 52 11.5	-1.6
ZRNK	3.4nm,0.6s **Zerenda**	10.36	270	⇓Pn	Pn	04 50 42.9	-0.5
ZRNK	5.7nm,2.1s			⇓Sn	Sn	04 52 39.1	-1.1
	4.2nm,1.1s						

IDC 20 04:57:09.0±3.0, 567S×14971E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.7/12, mbtmp3.7/4, Error ellipse: s-maj=89.3km s-min=30.0km az=97.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	20.61	225	P	P	05 01 51.0	+1.2
	1.6nm,0.7s,baz=50,slow=10,SNR=9.6						
ASAR	**Alice Springs**	23.49	219	P	P	05 02 20.1	-0.5
	1.8nm,0.8s,baz=57,slow=8.1,SNR=14						
STKA	**Stephens Creek**	27.16	195	P	P	05 02 54.0	0.0
	1.4nm,0.6s,baz=8.3,slow=12,SNR=4.4						
SONM	**Songino Array**	65.46	329	P	P	05 07 54.3	+0.5
	0.7nm,0.8s,baz=116,slow=6.8,SNR=3.8						

IDC 20 04:57:25.8±8.9, 418S×15050E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/13, mbtmp4.0/4, ML3.1/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/21, Error ellipse: s-maj=133.6km s-min=92.3km az=18.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	6.17	212	Pn	Pn	04 58 58.8	+0.7
	2.8nm,0.3s,baz=11,slow=19,SNR=2.9						
PMG				LR	LR	05 01 15.4	
	comp=Z,214nm,19.7s,baz=238,slow=37						

WRA	**Warramunga Arr**	**22.22**	**224**	P	P	05 02 23.2	-0.7
	3.6nm,0.7s,baz=49,slow=11,SNR=5.9						
WRA				LR	LR	05 11 19.2	
	comp=Z,70nm,21.3s,baz=70,slow=38						
ASAR	**Alice Springs**	**25.14**	**218**	P	P	05 02 54.0	+1.4
	1.9nm,0.7s,baz=50,slow=8.8,SNR=7.2						
STKA	**Stephens Creek**	**28.80**	**196**	P	P	05 03 24.9	-0.5
	2.1nm,0.6s,baz=35,slow=11,SNR=4.1						
PSI	**Prapat**	**52.01**	**277**	LR	LR	05 30 45.9	
	comp=Z,282nm,18.2s,baz=147,slow=38						

KRSC 20 05:09:10,5431N×16263E,h17km,ML3.7,Near east coast of Kamchatka Peninsula

*ISCJB **20** 05:12:08.6±0.9,606N±02×1658E±0.1,h10km,mb4.0/16, Error ellipse: s-maj=30.3km s-min=7.9km az=165.4*
*MOS **20** 05:12:08.8±1.3,6062N×16589E,h15km,mb4.3/7, Error ellipse: s-maj=24.2km s-min=20.0km az=82.9*
*IDC **20** 05:12:09.7±1.8,6084N×16597E,h0km,mb3.8/9, mb1 4.0/9,mb1mx3.9/23,mbtmp3.8/9, Error ellipse: s-maj=57.1km s-min=18.4km az=180.0*
*NEIC **20** 05:12:11.4±0.7,6083N×16588E,h10km,mb4.3/8, Error ellipse: s-maj=24.9km s-min=6.0km az=176.0*
ISC 20 05:12:11.2±1.0,609N±02×1658E±01,h10km,n30, σ0s77/30,mb4.0/15,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MA2	**Magadan**	**7.61**	**267**	*e*PN	**Pn**	**05 14 02.4**	**+0.3**
MA2				pmax	pmax		
	comp=Z,11nm,0.6s						
MA2	**Magadan**	**7.61**	**267**	*e*Pn	**Pn**	**05 14 02.4**	**+0.3**
	comp=Z,11nm,0.6s						
IMA2	**Indian Mountai**	**18.55**	**56**	*e*P	**Pn**	**05 16 30.9**	**+2.7**
MCK	**McKinley**	**20.89**	**62**	*e*P	**P**	**05 16 53.0**	**-0.5**
MCK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MCK	**McKinley**	**20.89**	**62**	*e*P	**P**	**05 16 53.0**	**-0.4**
	comp=Z,6.6nm,0.9s						
COLA	**College**	**21.11**	**59**	*e*P	**P**	**05 16 56.5**	**+0.6**
COLA				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.1						
COLA	**College**	**21.11**	**59**	*e*P	**P**	**05 16 56.5**	**+0.6**
	comp=Z,14nm,1.3s,mb4.1						
KLR	**Kul'dur**	**22.44**	**254**	*e*P	**P**	**05 17 05.8**	**-4.4**
DAWY	**Dawson**	**24.86**	**59**	*e*P	**P**	**05 17 33.9**	**+0.1**
INK	**Inuvik**	**26.02**	**48**	P	**P**	**05 17 43.5**	**-0.8**
	comp=Z,5.7nm,0.7s,mb4.2,baz=270,slow=10.0,SNR=4.8						
INK	**Inuvik**	**26.02**	**48**	*e*P	**P**	**05 17 43.5**	**-0.8**
INK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
INK	**Inuvik**	**26.02**	**48**	*e*P	**P**	**05 17 43.5**	**-0.8**
	comp=Z,7.2nm,0.9s,mb4.2						
YKA	**Yellowknife Ar**	**35.56**	**52**	P	**P**	**05 19 09.1**	**+0.6**
	comp=Z,0.7nm,0.7s,mb3.7,baz=305,slow=8.1,SNR=5.2						
YKA	**Yellowknife Ar**	**35.56**	**52**	P	**P**	**05 19 09.1**	**+0.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**35.70**	**276**	P	**P**	**05 19 10.6**	**+0.8**
	comp=Z,0.6nm,0.5s,mb3.8,baz=36,slow=7.9,SNR=4.7						
WALA	**Waterton Lakes**	**44.66**	**67**	*e*P	**P**	**05 20 23.9**	**-0.1**
	comp=Z,5.1nm,1.1s,mb4.3						
KURK	**Kurchatov**	**46.51**	**299**	*e*P	**P**	**05 20 39.3**	**+0.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
KURK	**Kurchatov**	**46.51**	**299**	*e*P	**P**	**05 20 39.2**	**+0.6**
	comp=Z,2.5nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**47.60**	**307**	*e*P	**P**	**05 20 46.8**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						
CHKZ	**Chkalovo**	**47.60**	**307**	*e*P	**P**	**05 20 46.8**	**-0.4**
	comp=Z,4.2nm,1.2s,mb4.3						
MKAR	**Makanchi Array**	**47.83**	**293**	P	**P**	**05 20 49.0**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.8,baz=52,slow=6.3,SNR=4.5						
BVAR	**Borovoye Array**	**48.18**	**306**	P	**P**	**05 20 51.9**	**+0.3**
	comp=Z,3.3nm,0.7s,mb4.5,baz=50,slow=7.9,SNR=16						
ZRNK	**Zerenda**	**48.78**	**307**	*e*P	**P**	**05 20 55.8**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
ZRNK	**Zerenda**	**48.78**	**307**	*e*P	**P**	**05 20 55.8**	**-0.4**
	comp=Z,2.7nm,0.9s,mb4.3						
GCMT	**Greycliff**	**49.02**	**67**	*e*P	**P**	**05 20 58.6**	**+0.5**
NVAR	**Mina Array Bea**	**50.68**	**80**	P	**P**	**05 21 09.7**	**-1.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=327,slow=7.2,SNR=4.8						
BW06	**Boulder Array**	**51.41**	**70**	*e*P	**P**	**05 21 16.5**	**+0.3**
	comp=Z,1.3nm,0.8s,mb3.9						
PDAR	**Pinedale Array**	**51.41**	**70**	P	**P**	**05 21 15.3**	**-0.9**
	comp=Z,0.7nm,0.7s,mb3.7,baz=328,slow=5.3,SNR=8.9						
NOA	**NORSAR Array B**	**56.88**	**346**	P	**P**	**05 21 55.5**	**-0.6**
	comp=Z,0.8nm,0.7s,mb3.9,baz=13,slow=7.2,SNR=3.1						
AKASG	**Malin Array Be**	**63.47**	**331**	P	**P**	**05 22 40.3**	**-1.0**
	comp=Z,1.5nm,0.7s,mb4.2,baz=25,slow=6.8,SNR=6.1						

*BJI **20** 05:14:48.2,998S×10863E,h37km,mB5.1,mb4.8,Ms4.5, Msz4.2*
*ISCJB **20** 05:14:49.5±2.7,938S±007×10851E±0.10,h12km±17km, mb4.7/33,MS4.1/10,Error ellipse: s-maj=18.9km s-min=8.0km az=111.4*
*IDC **20** 05:14:49.1±0.6,936S×10843E,h0km,mb4.6/11, mb1 4.7/12,mb1mx4.5/19,mbtmp4.6/12,ML4.2/1,MS3.9/5, Ms1 3.8/5,ms1mx3.4/22,Error ellipse: s-maj=29.8km s-min=13.8km az=60.0*
*NEIC **20** 05:14:51.1±3.8,936S×10851E,h11km±23km,mb4.8/16, Error ellipse: s-maj=11.3km s-min=4.4km az=57.0*
*MOS **20** 05:14:52.8±0.7,922S×10865E,h33km,mb4.9/9,Error ellipse: s-maj=26.4km s-min=10.7km az=115.7*
ISC 20 05:14:53.1±2.9,944S±007×10846E±010,h24km±21km, h26km±3.8km:pP-P,n66,σ0s86/63,mb4.7/33,MS4.1/10,1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.92**	**138**	*e*Pn	**Pn**	**05 18 35.3**	**-0.3**
	15nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.76**	**119**	*e*P	**Pn**	**05 19 10.7**	**-0.2**
	25nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.76**	**119**	Pn	**Pn**	**05 19 11.4**	**+0.4**
	0.5nm,0.3s,baz=276,slow=6.8,SNR=26						
FITZ				Sn	**Sn**	**05 22 23.4**	**-17**
	0.3nm,0.3s,baz=152,slow=16,SNR=5.1						
NWAO	**Narrogin (SRO)**	**24.74**	**162**	P	**P**	**05 20 14.2**	**+1.6**
	19nm,1.1s,mb4.5,baz=354,slow=8.8,SNR=3.6						
NWAO				LR	LR	05 29 08.8	
	comp=Z,231nm,19.4s,MS3.7,baz=204,slow=35						
WRA	**Warramunga Arr**	**27.08**	**116**	P	**P**	**05 20 33.9**	**0.0**
	6.6nm,0.7s,mb4.3,baz=287,slow=11,SNR=23						
WRA				Sn	S	05 25 43.6	+33
	0.6nm,1.0s,baz=289,slow=26,SNR=4.0						
WRA	**Warramunga Ar**	**27.08**	**116**	P	**P**	**05 20 33.9**	**0.0**
WRA				Sn	S	05 25 43.6	+33
WRAB	**Tennant Creek**	**27.09**	**116**	*e*P	**P**	**05 20 34.1**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**27.09**	**116**	*e*P	**P**	**05 20 34.1**	**+0.2**
	comp=Z,12nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**27.09**	**116**	*e*P	**P**	**05 20 33.8**	**-0.2**
ASAR	**Alice Springs**	**28.12**	**123**	P	**P**	**05 20 43.4**	**+0.1**
	comp=Z,4.2nm,0.7s,mb4.2,baz=301,slow=8.2,SNR=27						
ASAR				PcP	PcP	05 23 58.0	+0.9
	comp=Z,1.3nm,0.5s,baz=307,slow=2.0,SNR=7.6						
ASAR				Sn	S	05 26 12.1	+45
	comp=Z,0.9nm,0.8s,baz=308,slow=24,SNR=3.1						
ASAR	**Alice Springs**	**28.12**	**123**	P	**P**	**05 20 43.4**	**+0.2**
ASAR						05 23 58.0	
AS31	**Alice Springs**	**28.12**	**123**	*e*P	**P**	**05 20 43.1**	**-0.1**
KMI	**Kunming**	**34.80**	**351**	P	**P**	**05 21 44.1**	**+2.2**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
KMI				LR	LR		
	comp=N,303nm,17.3s,MS4.2						
KMI				LR	LR		
	comp=E,230nm,18.6s,MS4.2						
KMI				LR	LR		
	comp=Z,256nm,17.3s,MS4.0						
STKA	**Stephens Creek**	**37.95**	**131**	*e*P	**P**	**05 22 09.4**	**+0.6**
	comp=Z,21nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**37.95**	**131**	P	**P**	**05 22 09.5**	**+0.7**
	comp=Z,27nm,0.7s,mb5.1,baz=302,slow=8.0,SNR=55						
STKA				LR	LR	05 39 49.4	
	comp=Z,130nm,18.6s,MS3.8,baz=208,slow=40						

CD2	**Chengdu**	**40.37**	**354**	P	**P**	**05 22 28.5**	**-0.5**
CD2				PP	PP	05 24 05.8	+3.8
CD2				S	**S**	**05 28 37.4**	**+1.8**
CD2				SS	SS	05 31 32.0	-2.8
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
CD2				LR	LR		
	comp=E,140nm,15.6s						
CD2				LR	LR		
	comp=Z,160nm,13.2s,MS4.0						
NJ2	**Nanjing**	**42.43**	**13**	*e*P	**P**	**05 22 46.3**	**+0.4**
NJ2				AP	pP	05 22 51.8	-1.3
NJ2				PP	PP	05 24 27.0	+2.6
NJ2				S	**S**	**05 29 06.0**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,420nm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,21.6s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,21.2s,MS4.9						
NJ2				LR	LR		
	comp=Z,3μm,21.0s,MS5.2						
JIRN	**Jiri**	**42.72**	**330**	*e*P	**P**	**05 22 48.8**	**+0.5**
PKI	**Pulchoki**	**43.04**	**329**	*e*P	**P**	**05 22 51.0**	**+0.2**
GUN	**Gumba**	**43.08**	**330**	*e*P	**P**	**05 22 51.9**	**+0.7**
DMN	**Daman**	**43.22**	**329**	*e*P	**P**	**05 22 52.6**	**+0.3**
	comp=Z,57nm,1.1s,mb5.2						
XAN	**Xi'an**	**43.24**	**1**	P	**P**	**05 22 52.1**	**-0.4**
XAN				AP	pP	05 22 59.3	-0.4
XAN				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.7						
KKN	**Kakani**	**43.28**	**329**	*e*P	**P**	**05 22 52.9**	**+0.1**
	comp=Z,40nm,1.0s,mb5.1						
KKN	**Kakani**	**43.28**	**329**	*e*P	**P**	**05 22 52.9**	**+0.1**
KKN				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.1						
GKN	**Gorkha**	**43.78**	**329**	*e*P	**P**	**05 22 57.0**	**+0.2**
KOLN	**Koldanda**	**44.13**	**328**	*e*P	**P**	**05 23 00.0**	**+0.4**
	comp=Z,57nm,0.9s,mb5.3						
LZH	**Lanzhou**	**45.48**	**355**	*e*P	**P**	**05 23 10.0**	**-0.4**
LZH				AP	pP	05 23 17.5	-0.2
LZH				XP	sP	05 23 21.5	+1.0
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.9						
GTA	**Gaotai**	**49.26**	**351**	*e*P	**P**	**05 23 40.8**	**+1.0**
GTA				AP	pP	05 23 48.1	+1.0
GTA				XP	sP	05 23 51.6	+1.7
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.6						
BJT	**Baijiatuan**	**49.72**	**8**	*e*P	**P**	**05 23 42.3**	**-1.0**
BJT				pmax	pmax		
	comp=Z,14nm,0.9s						
BJT	**Baijiatuan**	**49.72**	**8**	*e*P	**P**	**05 23 42.3**	**-1.0**
	comp=Z,14nm,0.9s,mb5.0						
BJI	**Beijing**	**49.74**	**8**	*e*P	**P**	**05 23 42.8**	**-0.7**
BJI				AMB	AMB		
	comp=Z,18nm,1.1s,mb5.0						
HHC	**Hu-ho-hao-te**	**50.11**	**3**	*e*P	**P**	**05 23 48.5**	**+2.2**
HHC				PP	PP	05 25 44.8	+3.3
HHC				S	**S**	**05 31 03.5**	**+7.1**
HHC				SS	SS	05 34 29.3	-0.4
HHC				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,117nm,6.1s						
HHC				LR	LR		
	comp=N,184nm,21.4s,MS4.3						
HHC				LR	LR		
	comp=E,276nm,23.2s,MS4.3						
HHC				LR	LR		
	comp=Z,146nm,20.8s,MS4.0						
WMQ	**Urumqi**	**56.26**	**342**	P	**P**	**05 24 33.4**	**+1.8**
WMQ				AP	pP	05 24 38.0	-1.0
WMQ				PP	PP	05 26 40.3	+3.4
WMQ				AMB	AMB		
	comp=Z,13nm,1.5s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,112nm,5.0s						
WMQ				LR	LR		
	comp=N,562nm,18.4s,MS4.8						
WMQ				LR	LR		
	comp=E,421nm,17.3s,MS4.8						
WMQ				LR	LR		
	comp=Z,564nm,18.9s,MS4.7						
SONM	**Songino Array**	**57.05**	**358**	P	**P**	**05 24 36.5**	**-0.6**
	comp=Z,3.8nm,0.5s,mb4.7,baz=176,slow=9.0,SNR=18						
SONM				LR	LR	05 50 49.5	
	comp=Z,131nm,21.4s,MS4.0,baz=95,slow=38						
ULN	**Ulaanbaatar**	**57.06**	**359**	*e*P	**P**	**05 24 36.6**	**-0.6**
ULN				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
ULN	**Ulaanbaatar**	**57.06**	**359**	*e*P	**P**	**05 24 36.6**	**-0.6**
	comp=Z,11nm,1.0s,mb4.8						
MKAR	**Makanchi Array**	**60.66**	**340**	P	**P**	**05 25 02.0**	**-0.2**
	comp=Z,3.5nm,0.5s,mb4.8,baz=151,slow=8.5,SNR=40						
KLR	**Kul'dur**	**61.89**	**17**	*e*P	**P**	**05 25 03.7**	**-6.9**
KURK	**Kurchatov**	**65.27**	**340**	*e*P	**P**	**05 25 32.5**	**-0.4**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
KURK	**Kurchatov**	**65.27**	**340**	*e*P	**P**	**05 25 32.5**	**-0.4**
	comp=Z,5.9nm,0.9s,mb4.6						
MAW	**Mawson**	**65.48**	**198**	P	**P**	**05 25 33.1**	**-1.1**
	comp=Z,4.7nm,0.9s,mb4.5,baz=50,slow=6.1,SNR=9.8						
ZAL	**Zalesovo**	**66.24**	**345**	P	**P**	**05 25 38.0**	**-1.1**
	comp=Z,4.0nm,0.3s,mb5.0,baz=307,slow=1.6,SNR=6.2						
ZAL	**Zalesovo**	**66.24**	**345**	P	**P**	**05 25 38.0**	**-1.1**
BVAR	**Borovoye Array**	**70.16**	**337**	P	**P**	**05 26 01.9**	**-1.8**
	comp=Z,4.5nm,0.8s,mb4.4,baz=127,slow=9.5,SNR=14						
BRVK	**Borovoye**	**70.23**	**337**	*e*P	**P**	**05 26 04.0**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BRVK	**Borovoye**	**70.23**	**337**	*e*P	**P**	**05 26 04.0**	**-0.1**
	comp=Z,4.2nm,0.9s,mb4.4						
CHKZ	**Chkalovo**	**70.57**	**337**	*e*P	**P**	**05 26 05.8**	**-0.4**
CHKZ				*e**PP	pP	05 26 18.3	+4.5
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
CHKZ	**Chkalovo**	**70.57**	**337**	*e*P	**P**	**05 26 05.8**	**-0.4**
	comp=Z,5.6nm,0.6s,mb4.7						
CHKZ				*e*pP	pP	05 26 18.3	+4.5
ZRNK	**Zerenda**	**70.65**	**336**	*e*P	**P**	**05 26 06.1**	**-0.6**
ZRNK				*e**PP	pP	05 26 17.8	+3.5
ZRNK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
ZRNK	**Zerenda**	**70.65**	**336**	*e*P	**P**	**05 26 06.1**	**-0.6**
	comp=Z,12nm,1.2s,mb4.7						
ZRNK				*e*pP	pP	05 26 17.8	+3.5
VNDA	**Vanda**	**73.32**	**169**	P	**P**	**05 26 22.4**	**-0.3**
	comp=Z,3.3nm,0.9s,mb4.3,baz=303,slow=6.9,SNR=16						
VNDA	**Vanda**	**73.32**	**169**	*e*P	**P**	**05 26 22.4**	**-0.3**
VNDA				pmax	pmax		
	comp=Z,20nm,1.8s						
VNDA	**Vanda**	**73.32**	**169**	*e*P	**P**	**05 26 22.4**	**-0.4**
	comp=Z,20nm,1.8s,mb4.8						
BOSA	**Boshof**	**79.62**	**243**	LR	LR	05 55 33.7	
	comp=Z,81nm,19.8s,MS4.1,baz=15,slow=31						
TIXI	**Tiksi**	**82.04**	**6**	*i*P	**P**	**05 27 09.3**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
BR131	**Keskin Array S**	**84.52**	**312**	*e*P	**P**	**05 27 24.6**	**+0.4**
	comp=Z,3.6nm,0.9s,mb4.5						
BR131				*e*pP	pP	05 27 32.2	+0.4
BRTR	**Keskin Array B**	**84.52**	**312**	P	**P**	**05 27 24.6**	**+0.5**
	comp=Z,2.2nm,1.1s,mb4.2,baz=141,slow=8.0,SNR=9.6						
BRTR				LR	LR	06 06 44.8	
	comp=Z,43nm,19.4s,MS3.9,baz=255,slow=37						
OBN	**Obninsk**	**87.54**	**327**	*e*P	**P**	**05 27 38.6**	**-0.5**
OBN				pmax	pmax		
	comp=Z,18nm,1.6s,mb5.0						
SNAA	**Sanae**	**87.64**	**197**	*e*P	**P**	**05 27 40.0**	**+0.4**
SNAA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SNAA	**Sanae**	**87.64**	**197**	*e*P	**P**	**05 27 40.0**	**+0.5**
	comp=Z,3.5nm,1.2s,mb4.5						
WMOK	**Wichita Mounta**	**144.57**	**41**	*e*PKIKP	PKPdf	05 34 27.9	+0.3
NCB	**Newcomb**	**145.52**	**3**	*e*PKPdf	PKPdf	05 34 30.2	+1.0
NCB				*e*pPKPdf	pPKPdf	05 34 37.4	+0.2
BDFB	**Brasilia**	**145.89**	**223**	PKPbc	PKPbc	05 34 32.6	+2.1
	comp=Z,1.7nm,0.6s,baz=49,slow=3.0,SNR=3.7						
MIAR	**Mount Ida**	**147.87**	**36**	*e*PKP2	PKPab	05 34 37.3	-1.4
WVT	**Waverly**	**149.57**	**27**	*e*PKP2	PKPab	05 34 41.5	-4.1
PLAL	**Pickwick Lake**	**150.41**	**28**	*e*PKPbc	PKPbc	05 34 42.3	-0.3

*ISCJB **20** 05:15:06.9±0.8,4718N±004×672E±006,h10km,Error ellipse: s-maj=6.9km s-min=3.5km az=79.5*
*LDG **20** 05:15:07.9±0.2,4716N×678E,h5km,Md2.2/3,Ml2.3/5, Error ellipse: s-maj=4.6km s-min=2.5km az=132.0*
*STR **20** 05:15:08.1±0.5,4717N×677E,h2km±1km,Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 20 05:15:07.3±0.9,4716N±004×678E±007,h15km±9km,n12, σ0s74/21,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMF	**Lomont**	**0.19**	**11**	Pg	**Pg**	**05 15 11.3**	**-0.5**
LOMF				Sg	**Sg**	**05 15 14.8**	**-0.1**
HINF	**Hinteralfeld**	**0.66**	**5**	*e*Pg	**Pg**	**05 15 21.4**	**+1.3**
HINF				*e*Sg	**Sg**	**05 15 28.2**	**-0.6**
	7.1nm,0.3s						
CABF	**La Chapelle**	**0.73**	**221**	*e*Pg	**Pg**	**05 15 21.3**	**-0.2**
CABF				*e*Sg	**Sg**	**05 15 31.5**	**+0.4**
	5.1nm,0.3s						
MOF	**Molkenrain**	**0.73**	**19**	Pg	**Pg**	**05 15 22.6**	**+1.1**
MOF				Sg	**Sg**	**05 15 34.7**	**+3.5**
HAU	**Haudompre**	**0.89**	**341**	*e*Pg	**Pg**	**05 15 25.0**	**+0.4**
HAU				*e*Sg	**Sg**	**05 15 37.4**	**+1.1**
	21nm,0.3s						
ECH	**Echery**	**1.08**	**14**	Pg	**Pg**	**05 15 28.1**	**-0.1**
ECH				Sg	**Sg**	**05 15 43.2**	**+0.8**
THEF	**They Montfort**	**1.19**	**334**	Pg	**Pg**	**05 15 30.3**	**1.0**
CDF	**Champ du Feu**	**1.29**	**15**	*e*Pg	**Pg**	**05 15 31.6**	**-0.6**
CDF				*e*Sg	**Sg**	**05 15 47.6**	**-1.5**
	6.0nm,0.3s						
BFO	**Black Forest**	**1.57**	**41**	*e*Sg	**Sg**	**05 15 57.3**	**-0.5**
SFTF	**Sexfontaines**	**1.57**	**312**	*e*Pg	**Pg**	**05 15 37.3**	**-0.2**
SFTF				*e*Sg	**Sg**	**05 15 57.3**	**-0.6**
	9.2nm,0.4s						
LOR	**Lormes**	**1.99**	**274**	*e*Pn	**Pn**	**05 15 40.4**	**0.0**
LOR	**Lormes**	**1.99**	**274**	*e*Pg	**Pg**	**05 15 45.0**	**-0.5**
LOR				*e*Sg	**Sg**	**05 16 11.3**	**-0.1**
	2.8nm,0.3s						

*MOS **20** 05:17:04.5±1.6,5537N×11042E,h7km,mb4.2/1,Error ellipse: s-maj=18.5km s-min=10.1km az=70.0*
BYKL 20 05:17:04.4±0.2,5539N×11043E,h5km±11km,4C-6D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.64**	**308**	↑*i*Pg	Pg	05 17 15.6	-1.0
NIZ				*e*Sg	Sg	05 17 25.0	+0.1
NIZ				*e*		05 17 34.0	
NIZ				Pmax			
	60nm,0.2s						
NIZ				max			
	267nm,0.5s						
NIZ	**Nizh Angarsk**	**0.64**	**308**	*e*PG	Pg	05 17 15.8	-0.8
NIZ				*e*		05 17 25.0	
NIZ				pmax	pmax		
	comp=Z,52nm,0.2s						
NIZ				smax			
	comp=N,268nm,0.4s						
KMO	**Kumora**	**0.66**	**41**	↑*i*Pg	Pg	05 17 15.8	-1.3
KMO				↓*i*		05 17 16.9	
KMO				*e*Sg	Sg	05 17 24.9	-0.8
KMO				max			
	comp=N,300nm,0.4s						
KMO				Smax			
	comp=N,489nm,0.7s						
KMO	**Kumora**	**0.66**	**41**	*e*PG	Pg	05 17 15.8	-1.3
KMO				*e*		05 17 24.9	
KMO				pmax	pmax		
	comp=Z,300nm,0.4s						
KMO				smax			
	comp=E,368nm,0.6s						
YLYR	**Ulyunkhan**	**0.67**	**140**	↑*i*Pg	Pg	05 17 16.1	-1.1
	comp=E,86nm,0.3s						
YLYR				↓*i*Pg	Pg	05 17 16.1	-1.1
	comp=E,51nm,0.3s						
YLYR				↓*i*Pg	Pg	05 17 16.1	-1.1
	comp=E,91nm,0.3s						
YLYR				*e*Sg	Sg	05 17 25.2	-0.6
YLYR				Pmax			
	comp=E,136nm,0.5s						
YLYR				Smax			
	comp=E,853nm,0.2s						
YLYR	**Ulyunkhan**	**0.67**	**140**	↓*i*Pg	Pg	05 17 16.1	-1.1
YLYR				*e*		05 17 25.2	
YLYR				pmax	pmax		
	comp=Z,91nm,0.1s						
YLYR				smax			
	comp=N,864nm,0.3s						
YOA	**Uoyan**	**1.04**	**44**	↑*i*PG	Pg	05 17 24.1	-0.3
YOA				*e*		05 17 36.7	
YOA				pmax	pmax		
	comp=Z,305nm,0.5s						
YOA				smax			
	comp=E,908nm,0.3s						
SYVR	**Suvo**	**1.75**	**188**	*e*Pg	Pg	05 17 36.0	-2.0
SYVR				*e*Sg	Sg	05 17 59.1	-1.7
SYVR				Pmax			
	comp=E,60nm,0.3s						
SYVR				Smax			
	comp=E,352nm,0.4s						
SYVR	**Suvo**	**1.75**	**188**	*e*PN	Pn	05 17 36.2	+0.8
SYVR				*e*		05 17 59.0	
SYVR				pmax	pmax		
	comp=Z,63nm,0.3s						
SYVR				smax			
	comp=E,330nm,0.4s						
SVKR	**Severomuysk**	**1.91**	**66**	*e*Pg	Pg	05 17 39.7	-1.4
SVKR				*e*Sn	Sn	05 18 02.9	+0.8
SVKR				*e*Sg	Sg	05 18 05.1	-0.8
SVKR				Pmax			
	comp=E,168nm,0.3s						
SVKR				Smax			
	comp=E,656nm,0.5s						
SVKR	**Severomuysk**	**1.91**	**66**	*e*PN	Pn	05 17 38.8	+1.2
SVKR				*e*S	Sn	05 18 01.5	-0.6
SVKR				*e*		05 18 04.5	
SVKR				pmax	pmax		
	comp=Z,162nm,0.4s						
SVKR				smax			
	comp=N,657nm,0.6s						
MXMB	**Maximikha**	**2.35**	**206**	*e*Pn	Pn	05 17 43.6	0.0
MXMB				*

TRTB	**Turuntaevo**	**3.58**	**209**	⇓*i*Pn	Pn	05 18 01.3	+0.8
TRTB				*e*Pg	Pg	05 18 08.5	-4.4
TRTB				*e*Sn	Sn	05 18 42.8	-0.3
TRTB				*e*Sg	Sg	05 18 55.5	-3.7
TRTB				Pmax			
	comp=N,23nm,0.7s						
TRTB				Smax			
	comp=N,82nm,1.1s						
CIT	**Chita**	**3.85**	**150**	*e*Pg	Pg	05 18 12.7	-5.5
CIT				*e*Sn	Sn	05 18 47.5	-2.4
CIT				*e*Sg	Sg	05 19 03.0	-5.1
CIT				Pmax			
	comp=N,13nm,0.5s						
CIT				Smax			
	comp=N,59nm,0.6s						
FFNB	**Fofonovo**	**4.00**	**215**	*e*Pn	Pn	05 18 06.5	+0.2
FFNB				*e*Pg	Pg	05 18 16.8	-4.1
FFNB				*e*Sn	Sn	05 18 49.6	-3.8
FFNB				*e*Sg	Sg	05 19 08.3	-4.4
FFNB				Pmax			
	comp=N,16nm,0.1s						
FFNB				Smax			
	comp=N,107nm,0.7s						
HRMR	**Khuramsha**	**4.30**	**210**	*e*Pn	Pn	05 18 11.3	+0.8
HRMR				*e*Pg	Pg	05 18 20.7	-6.1
HRMR				*e*Sg	Sg	05 19 17.1	-5.5
HRMR				Pmax			
	comp=N,43nm,0.4s						
HRMR				Smax			
	comp=N,203nm,0.5s						
CRS	**Chara**	**4.64**	**68**	*e*Pn	Pn	05 18 16.2	+1.1
CRS				*e*Pg	Pg	05 18 28.6	-4.7
CRS				*e*Sn	Sn	05 19 07.2	-2.1
CRS				*e*Sg	Sg	05 19 28.3	-5.1
CRS				Pmax			
	comp=N,29nm,1.0s						
CRS				Smax			
	comp=N,69nm,1.5s						
CRS	**Chara**	**4.64**	**68**	*e*PN	Pg	05 18 30.1	-3.2
CRS				*e*		05 19 28.4	
CRS				pmax	pmax		
	comp=Z,28nm,1.0s						
CRS				smax			
	comp=E,67nm,1.4s						
LSTR	**Listvyanka**	**4.85**	**226**	*e*Pn	Pn	05 18 18.4	+0.4
LSTR				*e*Pg	Pg	05 18 31.3	-6.1
LSTR				*e*Sn	Sn	05 19 12.0	-2.6
LSTR				*e*Sg	Sg	05 19 34.1	-6.1
LSTR				Pmax			
	comp=E,5.0nm,0.3s						
LSTR				Smax			
	comp=E,54nm,0.9s						
TLY	**Talaya**	**5.49**	**230**	*e*PN	Pg	05 18 43.0	-6.6
TLY				*e*		05 19 51.8	
TLY				pmax	pmax		
	comp=Z,13nm,0.5s						
TLY				smax			
	comp=E,61nm,0.9s						
TUP	**Tupik**	**5.58**	**96**	*e*Pn	Pn	05 18 28.1	+0.1
TUP				*e*Pg	Pg	05 18 44.3	-7.0
TUP				*e*Sn	Sn	05 19 29.8	-2.7
TUP				*e*Sg	Sg	05 19 56.9	-6.7
TUP				Pmax			
	comp=E,7.0nm,0.5s						
TUP				Smax			
	comp=E,91nm,0.8s						
TUP	**Tupik**	**5.58**	**96**	*e*PN	Pn	05 18 27.8	-0.2
TUP				*e*		05 18 44.5	
TUP				*e*S	Sn	05 19 31.1	-1.4
TUP				*e*		05 19 56.9	
TUP				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TUP				smax			
	comp=N,91nm,0.8s						
KPC	**Khapcheranga**	**5.82**	**167**	*e*Pg	Pg	05 18 49.2	-6.7
KPC				*e*Sg	Sg	05 20 04.8	-6.4
KPC				Pmax			
	comp=N,4.0nm,0.1s						
KPC				Smax			
	comp=N,54nm,0.9s						
ARS	**Arshan**	**5.89**	**237**	*e*Pn	Pn	05 18 32.4	+0.1
ARS				*e*Pg	Pg	05 18 50.7	-6.6
ARS				*e*Sn	Sn	05 19 36.8	-3.5
ARS				*e*Sg	Sg	05 20 06.5	-7.1
ARS				Pmax			
	comp=N,25nm,0.6s						
ARS				Smax			
	comp=N,269nm,0.8s						
ZAK	**Zakamensk**	**6.62**	**224**	*e*PN	Pn	05 18 43.2	+0.8
ZAK				*e*		05 19 03.9	
ZAK				*e*		05 20 28.3	
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAK				smax			
	comp=E,39nm,1.1s						
MOY	**Mondy**	**6.75**	**240**	*e*Pn	Pn	05 18 45.1	+1.0
MOY				*e*Pg	Pg	05 19 05.9	-7.8
MOY				*e*Sg	Sg	05 20 33.1	-8.0
MOY				Pmax			
	comp=E,8.0nm,0.8s						
MOY				Smax			
	comp=E,68nm,1.2s						
MOY	**Mondy**	**6.75**	**240**	*e*PN	Pn	05 18 44.1	0.0
MOY				*e*		05 19 06.7	

*IDC **20** 05:23:25.7±1.7, 994S×1079.1E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.9/17, mbtmp3.9/7, ML3.5/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/21, Error ellipse: s-maj=82.2km s-min=18.7km az=47.0*

*NEIC **20** 05:23:27.8±0.8, 988S×1080.2E, h10km, mb4.6/8, Error ellipse: s-maj=39.3km s-min=7.4km az=46.0*

*ISCJB **20** 05:23:29.8±1.0, 97S±03×1082E±03, h33km, mb4.2/14, MS3.5/1, Error ellipse: s-maj=52.8km s-min=9.9km az=90.9*

ISC 20 05:23:31.9±1.0, 98S±03×1081E±03, h35km, (h33km±7km; pP-P), n18, σ0s56/17, mb4.2/14, MS3.5/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.87**	**118**	P	**Pn**	**05 27 50.9**	**+1.0**
	0.1nm,0.3s,baz=285,slow=20,SNR=3.3						
NWAO	**Narrogin (SRO)**	**24.48**	**161**	LR	LR	05 37 31.2	
	comp=Z,189nm,21.4s,MS3.5,baz=350,slow=35						
WRA	**Warramunga Arr**	**27.22**	**115**	P	**P**	**05 29 11.9**	**-0.5**
	1.6nm,0.9s,mb3.6,baz=286,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**28.20**	**122**	P	**P**	**05 29 20.9**	**-0.2**
	0.8nm,0.9s,mb3.4,baz=311,slow=8.5,SNR=4.0						
CHTO	**Chiang Mai**	**29.86**	**342**	*e*P	**P**	**05 29 35.6**	**-0.3**
	4.7nm,0.9s,mb4.2						
CHTO				*e*pP	pP	05 29 44.9	-1.1
STKA	**Stephens Creek**	**37.96**	**130**	P	**P**	**05 30 46.1**	**0.0**
	2.3nm,0.7s,mb4.0,baz=309,slow=12,SNR=4.2						
JIRN	**Jiri**	**42.89**	**331**	*e*P	**P**	**05 31 27.8**	**+0.9**
	18nm,0.7s,mb4.9						
GUN	**Gumba**	**43.25**	**331**	*e*P	**P**	**05 31 30.8**	**+1.0**
	24nm,0.7s,mb5.0						
DMN	**Daman**	**43.38**	**330**	*e*P	**P**	**05 31 31.2**	**+0.3**
KKN	**Kakani**	**43.44**	**330**	*e*P	**P**	**05 31 31.8**	**+0.4**
GKN	**Gorkha**	**43.94**	**329**	*e*P	**P**	**05 31 35.6**	**+0.2**
	4.3nm,0.3s,mb4.7						
KOLN	**Koldanda**	**44.28**	**328**	*e*P	**P**	**05 31 38.1**	**0.0**
	22nm,1.0s,mb4.8						
SONM	**Songino Array**	**57.42**	**359**	P	**P**	**05 33 17.1**	**+0.1**
	1.6nm,0.9s,mb4.0,baz=177,slow=8.0,SNR=7.5						
ULN	**Ulaanbaatar**	**57.44**	**359**	*e*P	**P**	**05 33 16.7**	**-0.4**
	2.2nm,0.7s,mb4.3						
ULN				*e*pP	pP	05 33 26.8	-0.9
MKAR	**Makanchi Array**	**60.90**	**340**	P	**P**	**05 33 40.3**	**-0.8**
	1.8nm,0.7s,mb4.3,baz=139,slow=8.0,SNR=12						
CHKZ	**Chkalovo**	**70.80**	**337**	*e*P	**P**	**05 34 44.6**	**-0.1**
	1.6nm,0.6s,mb4.1						
CHKZ				*e*pP	pP	05 34 54.1	-1.5
ZRNK	**Zerenda**	**70.87**	**336**	*e*P	**P**	**05 34 44.2**	**-1.0**
	2.5nm,0.8s,mb4.2						
ZRNK				*e*pP	pP	05 34 54.3	-1.8
BRTR	**Keskin Array B**	**84.52**	**312**	P	**P**	**05 36 00.8**	**-0.5**
	0.7nm,0.9s,mb3.8,baz=64,slow=2.9,SNR=4.7						

*ISCJB **20** 05:58:25.9±1.7, 65S±02×1279E±03, h368km±19km, mb3.6/4, Error ellipse: s-maj=46.7km s-min=13.7km az=126.4*

*NEIC **20** 05:58:27.6±1.8, 653S×1278.8E, h367km±22km, mb3.9/5, Error ellipse: s-maj=33.8km s-min=14.8km az=71.0*

*IDC **20** 05:58:28.9±3.8, 664S×1277.7E, h379km±39km, mb3.3/2, mb1 3.3/5, mb1mx3.1/14, mbtmp4.0/5, Error ellipse: s-maj=78.3km s-min=14.5km az=65.0*

ISC 20 05:58:27.9±1.5, 66S±01×1279E±03, h372km±17km, n13, σ0s72/16, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.58**	**144**	*e*P	**Pn**	**06 00 17.3**	**-0.1**
	7.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.67**	**191**	*e*P	**Pn**	**06 01 05.2**	**-0.3**
	3.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**11.67**	**191**	P	**Pn**	**06 01 04.9**	**-0.7**
	0.3nm,0.3s,baz=0.2,slow=9.6,SNR=8.8						
FITZ				S	**S**	**06 03 27.6**	**+13**
	0.3nm,0.3s,baz=266,slow=14,SNR=2.4						
WRAB	**Tennant Creek**	**14.69**	**155**	*e*P	**P**	**06 01 38.5**	**+0.4**
	2.7nm,0.4s						
WRA	**Warramunga Arr**	**14.70**	**155**	P	**P**	**06 01 37.3**	**-0.9**
	0.6nm,0.3s,baz=334,slow=13,SNR=58						
WRA				S	**S**	**06 04 14.1**	**-1.7**
	0.1nm,0.3s,baz=325,slow=20,SNR=4.8						
WB2	**Warramunga Arr**	**14.70**	**155**	*e*P	**P**	**06 01 38.7**	**+0.4**
AS31	**Alice Springs**	**17.96**	**162**	*e*P	**P**	**06 02 13.8**	**+0.6**
ASAR	**Alice Springs**	**17.96**	**162**	P	**P**	**06 02 14.2**	**+0.9**
	0.8nm,0.3s,baz=343,slow=12,SNR=51						
ASAR				S	**S**	**06 05 20.7**	**+0.8**
	0.1nm,0.3s,baz=348,slow=24,SNR=6.9						
ASAR				PcP	PcP	06 06 29.7	+0.7
	0.2nm,0.3s,baz=19,slow=0.8,SNR=6.9						
STKA	**Stephens Creek**	**28.25**	**155**	P	**P**	**06 03 48.7**	**+0.4**
	1.8nm,0.6s,mb3.5,baz=338,slow=11,SNR=5.5						
STKA	**Stephens Creek**	**28.25**	**155**	*e*P	**P**	**06 03 49.1**	**+0.8**
MKAR	**Makanchi Array**	**66.73**	**328**	P	**P**	**06 08 40.3**	**0.0**
	0.7nm,0.5s,mb3.7,baz=114,slow=7.0,SNR=10						
MKAR				PcP	PcP	06 09 06.4	+0.3
	0.6nm,0.7s,baz=116,slow=5.5,SNR=4.5						
KURK	**Kurchatov**	**71.07**	**329**	*e*P	**P**	**06 09 06.0**	**-0.7**
	1.2nm,0.5s,mb3.9						
ZRNK	**Zerenda**	**77.28**	**328**	*e*P	**P**	**06 09 42.3**	**+0.1**
	0.6nm,0.5s,mb3.6						

*CSEM **20** 06:05:22.3±1.2, 3559N×1270E, h10km, MD3.1/2, ML3.5/1, Error ellipse: s-maj=17.9km s-min=6.3km az=13.0, After ROM*

ROM 20 06:05:22.3±1.2, 3559N×1270E, h10km, Md3.0/2, Ml3.1/2, Error ellipse: s-maj=17.9km s-min=6.3km az=13.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTS	**Pantelleria**	**1.35**	**335**	Pn	Pn	06 05 46.7	-0.5
RAFF	**Raffo Rosso**	**2.11**	**39**	Pn	Pn	06 05 57.9	+0.3
HVZN	**Vizzini**	**2.27**	**45**	Pn	Pn	06 06 00.1	+0.2
CORL	**Corleone**	**2.35**	**12**	Pn	Pn	06 06 01.9	+0.9
CSLB	**Castelbuono**	**2.58**	**25**	Pn	Pn	06 06 06.1	+1.9
	37nm,0.5s						
GIB	**Gibilmanna**	**2.62**	**24**	Pn	Pn	06 06 05.9	+1.2
GIB				Sn	Sn	06 06 36.5	-0.1
	302nm,1.0s						
DGI	**Dorgali Grotta**	**5.32**	**334**	Pn	Pn	06 06 42.8	+1.1
	14nm,1.5s						

*ISCJB **20** 06:08:07.3±1.6, 5427N±004×1628E±01, h24km±9km, mb3.7/1, Error ellipse: s-maj=12.0km s-min=5.5km az=39.1*

*MOS **20** 06:08:08.4±1.1, 5431N×16267E, h18km, mb4.3/1, Error ellipse: s-maj=21.7km s-min=13.1km az=77.1*

*KRSC **20** 06:08:08, 5431N×16267E, h18km, ML4.2*

ISC 20 06:08:07.7±1.5, 5429N±004×1628E±01, h15km±7km, n13, σ0s83/23, mb3.7/1, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.67**	**294**	P	**Pg**	**06 08 20.2**	**-0.6**
MKZ				S	**Sg**	**06 08 28.9**	**-0.8**
KBTR	**Krutoberegovo**	**1.93**	**1**	P	**Pn**	**06 08 39.6**	**-0.2**
KBTR				S	**Sn**	**06 09 02.1**	**-1.6**
SPN	**Mys Shipunski**	**2.03**	**235**	P	**Pn**	**06 08 41.5**	**+0.3**
SPN				S	**Sn**	**06 09 05.0**	**-1.3**
NLC	**Nalytchevo**	**2.33**	**243**	P	**Pn**	**06 08 46.0**	**+0.6**
NLC				S	**Sn**	**06 09 13.5**	**-0.2**
KLY	**Klyuchi**	**2.37**	**330**	P	**Pn**	**06 08 46.2**	**+0.3**
KLY				S	**Sn**	**06 09 14.6**	**-0.1**
KOZR	**Kozyr**	**2.43**	**318**	PN	**Pn**	**06 08 48.2**	**+1.4**
KOZR				S	**Sn**	**06 09 17.0**	**+0.7**
KOZ	**Kozyrevsk**	**2.44**	**318**	P	**Pn**	**06 08 48.2**	**+1.4**
KOZ				S	**Sn**	**06 09 17.0**	**+0.7**
PET	**Petropavlovsk**	**2.76**	**244**	P	**Pn**	**06 08 52.5**	**+1.1**
PET				S	**Sn**	**06 09 24.3**	**-0.1**
PET	**Petropavlovsk**	**2.76**	**244**	*e*PN	**Pn**	**06 08 52.3**	**+0.9**
PET				*e*S	**Sn**	**06 09 24.3**	**-0.1**
PET				pmax	pmax		
	comp=Z,58nm,0.6s						
PET				smax			
	comp=E,200nm,0.4s						
PET				smax			
	comp=E,359nm,0.5s						
PET				smax			
	comp=N,345nm,0.5s						
PET				smax			
	comp=N,300nm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,14.0s						
RUS	**Russkaya**	**3.16**	**236**	P	**Pn**	**06 08 57.8**	**+1.0**
RUS				S	**Sn**	**06 09 33.6**	**-0.6**
SKR	**Severo-Kuril's**	**5.44**	**231**	*e*PN	**Pn**	**06 09 28.0**	**-0.2**
KAF	**Kangaslniemi**	**59.00**	**338**	*e*p	**P**	**06 18 05.5**	**-1.1**
NB2	**NORSAR Subarra**	**62.83**	**345**	P	**P**	**06 18 32.0**	**-0.6**
	comp=Z,0.4nm,0.6s,mb3.7,baz=17,slow=6.9						

IDC 20 06:10:00.4±2.6, 437S×10547E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.9/5, Error ellipse: s-maj=124.6km s-min=20.8km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.10**	**121**	P	P	06 16 30.1	+0.9
	2.8nm,0.7s,baz=301,slow=9.1,SNR=20						
ASAR	**Alice Springs**	**33.47**	**128**	P	P	06 16 41.0	-0.2
	0.5nm,0.7s,baz=308,slow=9.0,SNR=4.6						
SONM	**Songino Array**	**51.98**	**1**	P	P	06 19 11.5	+0.2
	1.0nm,0.7s,baz=177,slow=7.6,SNR=9.5						
MKAR	**Makanchi Array**	**54.91**	**341**	P	P	06 19 34.8	+2.0
	0.8nm,0.7s,baz=150,slow=6.4,SNR=8.4						
BVAR	**Borovoye Array**	**64.36**	**337**	P	P	06 20 36.1	-1.9
	1.0nm,0.6s,baz=128,slow=9.6,SNR=6.2						

IDC 20 06:23:57.4±3.0, 934S×10872E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=129.1km s-min=23.4km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.89**	**116**	P	P	06 29 40.2	+0.2
	0.4nm,0.5s,baz=286,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**27.96**	**124**	P	P	06 29 50.1	+0.5
	0.5nm,0.8s,baz=302,slow=7.6,SNR=3.3						
SONM	**Songino Array**	**56.96**	**358**	P	P	06 33 44.7	+0.2
	0.6nm,0.6s,baz=190,slow=4.2,SNR=5.5						
MKAR	**Makanchi Array**	**60.66**	**339**	P	P	06 34 10.2	0.0
	1.0nm,0.5s,baz=144,slow=7.5,SNR=14						

*ISCJB **20** 06:50:17.6±0.5, 3222N±002×11579W±003, h13km±3km, Error ellipse: s-maj=4.2km s-min=3.1km az=93.8*

*NEIC **20** 06:50:19.1, 3219N×11581W, h12km, MD3.6(ECX), ML3.4(PAS), After ECX.*

*ECX **20** 06:50:19.1±0.7, 3219N×11581W, h5km, MD3.4, ML3.6*

ISC 20 06:50:18.2±0.4, 3220N±002×11583W±003, h16km±3km, n34, σ0s92/49, 23C-12D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RDX	**Rancho Dowling**	**0.28**	**200**	⇑*i*P	**Pg**	**06 50 23.9**	**-0.4**
RDX				*e*S	**Sg**	**06 50 27.6**	**-0.8**
RDX				⇑*e*		06 50 28.1	
	comp=N,7μm,0.2s						
RMX	**La Rumorosa**	**0.45**	**333**	⇓*e*P	**Pg**	**06 50 27.7**	**+0.4**
RMX				*e*S	**Sg**	**06 50 34.0**	**+0.6**
RMX				⇑*e*		06 50 34.4	
	comp=E,4μm,0.2s						
YUH	**Yuha Desert**	**0.45**	**350**	⇓*i*P	**Pg**	**06 50 27.3**	**0.0**
SGL	**Mount Signal**	**0.46**	**11**	⇑*i*P	**Pg**	**06 50 27.6**	**+0.2**
CBX	**Cerro Bola**	**0.71**	**279**	*e*P	**Pg**	**06 50 32.1**	**-0.1**
CBX				*e*S	**Sg**	**06 50 41.9**	**+0.3**
ENX	**Ensenada**	**0.77**	**246**	⇑*e*P	**Pb**	**06 50 33.2**	**-0.1**
ENX				*e*S	**Sg**	**06 50 43.4**	**-0.2**
ENX				⇓*e*		06 50 44.3	
	comp=N,3μm,0.4s						
ENX				⇑*e*		06 50 44.7	
	comp=E,3μm,0.3s						
ECX	**Ensenada**	**0.78**	**245**	*e*P	**Pb**	**06 50 34.4**	**+1.1**
CCX	**Cicese**	**0.78**	**245**	*e*P	**Pb**	**06 50 33.3**	**-0.1**
ECNX	**Esteban Cantu**	**0.85**	**230**	⇑*e*P	**Pb**	**06 50 34.4**	**-0.1**
ECNX				⇑*e*P		06 50 33.3	
ECNX				*e*S	**Sb**	**06 50 43.8**	**-1.9**
ECNX				*e*S	**Sb**	**06 50 45.7**	**0.0**
PBX	**Punta Banda**	**0.89**	**239**	⇑*e*P	**Pb**	**06 50 35.1**	**-0.1**
PBX				*e*S	**Sb**	**06 50 46.9**	**+0.1**
SPX	**San Pedro Mart**	**1.19**	**165**	*e*P	**Pn**	**06 50 39.5**	**-0.8**
SPX				*e*S	**Sb**	**06 50 55.6**	**-0.1**
GLA	**Glamis**	**1.20**	**45**	P	**Pn**	**06 50 39.3**	**-1.1**
	baz=1.2,SNR=46						
GLA				⇓S	**Sb**	**06 50 54.2**	**-1.7**
	baz=1.2						
109C	**Camp Elliot, M**	**1.28**	**303**	⇓P	**Pn**	**06 50 41.2**	**-0.2**
	baz=1.3,SNR=74						
109C				⇓S	**Sb**	**06 50 57.7**	**-0.5**
	baz=1.3						
PFO	**Pinyon Flat Ob**	**1.50**	**340**	*e*Pn	**Pn**	**06 50 44.3**	**-0.2**
PFO				*e*Sg	**Sg**	**06 51 05.8**	**-0.8**
PFO	**Pinyon Flat Ob**	**1.50**	**340**	⇑P	**Pn**	**06 50 44.3**	**-0.2**
	baz=1.5,SNR=25						
Y12C	**Blythe**	**1.90**	**35**	⇑P	**Pn**	**06 50 49.6**	**-0.4**
	baz=1.9						
FMP	**Fort Macarthur**	**2.56**	**307**	⇓P	**Pn**	**06 51 03.5**	**+4.4**
	baz=2.6						
Z14A	**Wintersburg**	**2.69**	**64**	⇑P	**Pn**	**06 51 00.6**	**-0.3**
	baz=2.7						
X13A	**Yucca**	**2.91**	**35**	⇑P	**Pn**	**06 51 04.3**	**+0.3**
	baz=2.9,SNR=7.6						
Y14A	**Wickenburg**	**2.94**	**53**	⇑P	**Pn**	**06 51 03.8**	**-0.6**
	baz=2.9						
115A	**Sonoran Desert**	**3.09**	**80**	⇑P	**Pn**	**06 51 06.1**	**-0.2**
	baz=3.1						
TUQ	**Turquoise Mtn.**	**3.23**	**359**	⇑S	**Sn**	**06 51 44.1**	**-2.4**
	baz=3.3						
W13A	**Hualapai Mount**	**3.31**	**29**	⇓P	**Pn**	**06 51 09.7**	**+0.2**
	baz=3.3						
W13A				⇑S	**Sn**	**06 51 47.6**	**-1.0**
	baz=3.3						
X14A	**Yava**	**3.35**	**47**	⇑P	**Pn**	**06 51 10.2**	**+0.3**
	baz=3.3						
X14A				⇑S	**Sn**	**06 51 48.0**	**-1.3**
	baz=3.3						
OSI	**Osito Adit**	**3.41**	**316**	⇑S	**Sn**	**06 51 52.1**	**+1.2**
	baz=3.4						
116A	**Eloy**	**3.52**	**83**	⇓P	**Pn**	**06 51 13.6**	**+1.4**
	baz=3.5						
V12A	**Nelson**	**3.62**	**13**	⇑P	**Pn**	**06 51 14.9**	**+1.3**
	baz=3.6						
X15A	**Humboldt**	**3.78**	**52**	⇓P	**Pn**	**06 51 16.6**	**+0.8**
	baz=3.8						
X15A				⇓S	**Sn**	**06 51 59.8**	**-0.1**
	baz=3.8						
W14A	**Seligman**	**3.78**	**37**	⇓P	**Pn**	**06 51 17.2**	**+1.4**
	baz=3.8,SNR=8.6						
W15A	**Williams**	**4.20**	**44**	⇑P	**Pg**	**06 51 37.1**	**-1.7**
	baz=4.2						
U10A	**Ash Meadows, A**	**4.23**	**355**	⇑P	**Pg**	**06 51 39.5**	**+0.2**
	baz=4.3						
TUC	**Tucson**	**4.28**	**87**	*e*Pn	**Pn**	**06 51 24.1**	**+1.4**
TUC				*e*Pg	**Pg**	**06 51 41.1**	**+0.9**
WUAZ	**Wupatki**	**4.97**	**47**	*e*Pn	**Pn**	**06 51 34.6**	**+2.4**
CCUT	**Cedar City**	**5.71**	**20**	*e*Pn	**Pn**	**06 51 44.5**	**+2.1**

*NEIC **20** 06:58:25.1, 3258S×7170W, h23km, ML2.8(GUC), After GUC.*

GUC 20 06:58:25.1±0.8, 3258S×7170W, h23km±6km, MD3.7, ML2.8, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.22**	**79**	⇓*i*P	Pb	06 58 31.0	+0.2
PACH				*i* S	Sb	06 58 35.7	+1.0
ROCH	**El Roble**	**0.70**	**124**	⇓*i*P	Pb	06 58 38.2	-0.4
ROCH				*i* S	Sb	06 58 48.3	+0.6
LCCH	**Las Cruces**	**0.90**	**173**	*e*P	Pb	06 58 40.8	-1.2
LCCH				*i* S	Sb	06 58 53.1	-0.4
JACH	**Jahuel**	**0.94**	**96**	⇑*i*P	Pb	06 58 41.5	-1.1
JACH				*i* S	Sb	06 58 54.8	+0.2
PEL	**Peldehue**	**1.02**	**124**	⇑*i*P	Pn	06 58 43.2	-0.8
PEL				*i* S	Sb	06 58 57.3	+0.3
PEL				AML	AML	06 58 59.2	
	comp=E,940nm,0.2s						
PEL	**Peldehue**	**1.02**	**124**	⇑*i*P	Pn	06 58 43.2	-0.8
PEL				*i* S	Sb	06 58 57.3	+0.3
RCDM	**Rinconada Maip**	**1.17**	**141**	*e*P	Pn	06 58 45.6	-0.5
RCDM				*i* S	Sn	06 59 01.1	-0.3
RCDM				AML	AML	06 59 02.1	
	comp=E,376nm,0.1s						
RCDM	**Rinconada Maip**	**1.17**	**141**	*e*P	Pn	06 58 45.6	-0.5
RCDM				*i* S	Sn	06 59 01.1	-0.3
STL	**Santa Lucia**	**1.23**	**134**	*i* P	Pn	06 58 46.1	-0.8
STL				*i* S	Sn	06 59 02.6	-0.1
TACH	**Talagante**	**1.24**	**149**	*e*P	Pn	06 58 46.9	-0.2
TACH				*i* S	Sn	06 59 03.0	-0.1
CLCH	**Cerro Calan**	**1.27**	**130**	*e*P	Pn	06 58 47.3	-0.1
CLCH				*i* S	Sn	06 59 03.8	+0.1
CLCH				AML	AML	06 59 06.3	
	comp=N,187nm,0.3s						
ANTU	**Antumapu**	**1.33**	**138**	*i* P	Pn	06 58 48.4	+0.1
ANTU				*i* S	Sn	06 59 05.9	+0.6
ANTU				AML	AML	06 59 11.2	
	comp=E,170nm,0.5s						
ANTU	**Antumapu**	**1.33**	**138**	*i* P	Pn	06 58 48.4	+0.1
ANTU				*i* S	Sn	06 59 05.9	+0.6
FCH	**Farellones**	**1.40**	**123**	⇑*i*P	Pn	06 58 49.2	0.0
FCH				*i* S	Sn	06 59 08.6	+1.2
FCH				AML	AML	06 59 08.9	
	comp=E,174nm,0.2s						
PCH	**Pirque**	**1.44**	**137**	*e*P	Pn	06 58 50.1	+0.3
PCH				*i* S	Sn	06 59 09.1	+1.2
CMCH	**Combarbala**	**1.52**	**23**	*i* P	Pn	06 58 49.6	-1.3
CMCH				*i* S	Sn	06 59 09.4	-0.6
CMCH				AML	AML	06 59 12.8	
	comp=E,612nm,0.7s						
CMCH	**Combarbala**	**1.52**	**23**	*i*

STKA	**Stephens Creek**	**26.34 197**	*e*P	P	07 25 14.6	-0.4
	3.3nm,0.9s					
STKA	**Stephens Creek**	**26.34 197**	P	P	07 25 14.3	-0.7
	4.7nm,0.9s,baz=349,slow=8.1,SNR=7.0					
FITZ	**Fitzroy Crossi**	**26.67 243**	*e*P	P	07 25 17.5	-0.4
	2.7nm,0.6s					
FITZ	**Fitzroy Crossi**	**26.67 243**	P	P	07 25 15.5	-2.5
	1.4nm,0.8s,baz=230,slow=17,SNR=4.8					
JOW	**Kunigami**	**39.67 328**	LR	LR	07 39 14.4	
	comp=Z,57nm,20.9s,baz=121,slow=30					
TORD	**Torodi Ar. Bea**	**148.56 284**	PKPbc	PKPbc	07 39 21.4	-4.1
	0.6nm,0.6s,baz=79,slow=2.4,SNR=4.5					

IDC 20 07:37:12.2±2.2, 961S×10839E, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/17, mbtmp4.1/7, ML3.6/1, Error ellipse: s-maj=81.8km s-min=18.3km az=55.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.74 119**		P	Pn	07 41 33.9	+1.0
	0.1nm,0.3s,baz=321,slow=8.7,SNR=4.3						
WRA	**Warramunga Arr**	**27.07 115**		P	P	07 42 56.1	-0.3
	2.9nm,1.0s,baz=286,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**28.09 123**		P	P	07 43 06.3	+0.7
	1.4nm,0.7s,baz=302,slow=9.7,SNR=11						
STKA	**Stephens Creek**	**37.90 131**		P	P	07 44 31.1	+0.1
	7.2nm,0.7s,baz=294,slow=6.6,SNR=14						
MJAR	**Matsushiro Arr**	**53.79 30**		P	P	07 46 36.3	-0.2
	1.1nm,0.6s,baz=220,slow=8.1,SNR=4.3						
SONM	**Songino Array**	**57.21 358**		P	P	07 47 01.8	+0.7
	2.0nm,0.5s,baz=176,slow=8.0,SNR=16						
MKAR	**Makanchi Array**	**60.79 340**		P	P	07 47 25.7	-0.2
	0.8nm,0.5s,baz=145,slow=7.0,SNR=13						

*IDC **20** 07:38:51.5±6.3, 5463N×162.17E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/19, mbtmp3.9/3, Error ellipse: s-maj=389.7km s-min=36.6km az=91.0*

*ISCJB **20** 07:38:57.2±0.8, 5437N±004×1618E±01, h39km±8km, mb3.8/3, Error ellipse: s-maj=12.1km s-min=4.7km az=43.1*

*MOS **20** 07:38:57.6±0.8, 5440N×16186E, h34km, mb4.4/2, Error ellipse: s-maj=23.6km s-min=10.5km az=75.2*

*KRSC **20** 07:38:57, 5443N×16167E, h33km, ML4.2*

ISC 20 07:38:57.7±0.9, 5437N±004×1618E±01, h32km±5km, n18, σ1§01/29, mb3.8/3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.19 344**		P	**Pb**	**07 39 03.9**	**-0.3**
MKZ				S	**Sb**	**07 39 08.2**	**-0.3**
KII	**Karymskiy**	**1.44 257**		P	**Pn**	**07 39 22.0**	**+0.5**
KII				S	**Sn**	**07 39 39.5**	**+0.3**
SPN	**Mys Shipunski**	**1.66 221**		P	**Pn**	**07 39 24.0**	**-0.6**
SPN				S	**Sn**	**07 39 42.8**	**-2.1**
NLC	**Nalytchevo**	**1.90 232**		P	**Pn**	**07 39 27.5**	**-0.4**
NLC				S	**Sn**	**07 39 49.5**	**-1.2**
KBTR	**Krutoberegovo**	**1.93 17**		P	**Pn**	**07 39 29.0**	**+0.8**
KBTR				S	**Sn**	**07 39 52.0**	**+0.6**
KOZ	**Kozyrevsk**	**2.03 327**		P	**Pn**	**07 39 30.3**	**+0.7**
KOZ				S	**Sn**	**07 39 53.9**	**+0.1**
KOZR	**Kozyr**	**2.03 328**		PN	**Pn**	**07 39 30.3**	**+0.7**
KOZR				S	**Sn**	**07 39 53.9**	**+0.1**
KLY	**Klyuchi**	**2.06 342**		P	**Pn**	**07 39 29.7**	**-0.3**
KLY				S	**Sn**	**07 39 53.6**	**-1.0**
PET	**Petropavlovsk**	**2.32 236**		P	**Pn**	**07 39 34.4**	**+0.8**
PET				S	**Sn**	**07 40 00.7**	**-0.3**
PET	**Petropavlovsk**	**2.32 236**	*e*PN		**Pn**	**07 39 34.6**	**+1.0**
PET				*e*S	**Sn**	**07 40 01.9**	**+0.9**
PET				pmax	pmax		
	comp=Z,72nm,0.5s						
PET				smax			
	comp=N,300nm,0.5s						
PET				smax			
	comp=N,340nm,0.7s						
PET				smax			
	comp=E,300nm,0.3s						
PET				smax			
	comp=E,372nm,0.4s						
PET				smax			
	comp=E,38nm,0.8s						
PET				MLR	MLR		
	comp=Z,100nm,16.0s						
RUS	**Russkaya**	**2.77 227**		P	**Pn**	**07 39 41.6**	**+1.7**
RUS				S	**Sn**	**07 40 13.6**	**+1.4**
SKR	**Severo-Kuril's**	**5.08 226**	*e*PN		**Pn**	**07 40 16.6**	**+5.1**
FINES	**FINESS Array B**	**59.35 337**		P	**P**	**07 48 54.0**	**-2.7**
	comp=Z,2.1nm,0.7s,mb4.3,baz=41,slow=6.7,SNR=6.5						
FINES	**FINESS Array B**	**59.35 337**		P	**P**	**07 48 54.0**	**-2.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NB2	**NORSAR Subarra**	**62.60 344**		P	**P**	**07 49 15.8**	**-2.9**
	comp=Z,0.6nm,0.5s,mb4.0,baz=22,slow=6.9						
NOA	**NORSAR Array B**	**62.60 344**		P	**P**	**07 49 15.2**	**-3.5**
	comp=Z,1.3nm,0.8s,mb4.1,baz=20,slow=6.7,SNR=6.5						
NOA	**NORSAR Array B**	**62.60 344**		P	**P**	**07 49 15.2**	**-3.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**81.35 206**		P	**P**	**07 51 11.3**	**+0.3**
	comp=Z,0.1nm,0.5s,mb3.0,baz=8.9,slow=6.6,SNR=4.7						

*NEIC **20** 07:48:39.6±8.0, 5.175N×14678E, h89km±30km, mb4.2/4, Error ellipse: s-maj=95.6km s-min=24.8km az=207.0*

*ISCJB **20** 07:48:46.7±5.3, 59S±03×1466E±03, h117km±28km, mb4.2/4, Error ellipse: s-maj=64.6km s-min=28.3km az=75.3*

*IDC **20** 07:48:46.3±6.6, 580S×14682E, h116km±49km, mb3.8/3, mb1 3.9/5, mb1mx3.6/14, mbtmp4.2/5, Error ellipse: s-maj=55.5km s-min=49.2km az=35.0*

ISC 20 07:48:46.7±4.9, 58S±03×1467E±03, h107km±27km, n13, σ0§59/14, mb4.2/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.62 172**		P	**Pn**	**07 49 41.0**	**+0.1**
	12nm,0.3s,baz=36,slow=5.3,SNR=24						
PMG				S	**Sn**	**07 50 22.5**	**-0.4**
	11nm,0.3s,baz=205,slow=22,SNR=9.1						
CTA	**Charters Tower**	**14.22 182**		P	**Pn**	**07 52 06.7**	**+3.6**
	0.7nm,0.3s,baz=4.4,slow=15,SNR=7.1						
KAKA	**Kakadu**	**15.63 243**	*e*P		**Pn**	**07 52 20.6**	**-0.4**
	9.3nm,0.5s						
WRAB	**Tennant Creek**	**18.47 219**	*e*P		**P**	**07 52 54.0**	**-0.1**
	10nm,0.7s						
WRAB				*e*Pn		**Pn**	**07 52 56.0**	**+0.5**
WB2	**Warramunga Arr**	**18.48 219**	*e*P		**P**	**07 52 54.1**	**-0.1**
WRA	**Warramunga Arr**	**18.49 219**	P		**P**	**07 52 54.4**	**+0.1**
	0.9nm,0.3s,baz=40,slow=11,SNR=45						
ASAR	**Alice Springs**	**21.61 213**	P		**P**	**07 53 28.6**	**+0.6**
	2.2nm,0.5s,mb3.8,baz=48,slow=8.4,SNR=46						
FITZ	**Fitzroy Crossi**	**23.91 237**	*e*P		**P**	**07 53 49.4**	**-1.1**
	21nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**23.91 237**	P		**P**	**07 53 50.1**	**-0.3**
	13nm,0.7s,mb4.4,baz=73,slow=9.3,SNR=27						
STKA	**Stephens Creek**	**26.39 190**	*e*P		**P**	**07 54 12.4**	**-0.5**
	1.8nm,0.9s,mb3.5						
STKA	**Stephens Creek**	**26.39 190**	P		**P**	**07 54 12.2**	**-0.8**
	1.1nm,0.4s,mb3.6,baz=342,slow=15,SNR=4.5						
KLBR	**Kellerberrin**	**37.30 223**	*e*P		**P**	**07 55 48.7**	**+0.4**
	43nm,1.3s,mb5.2						
TORD	**Torodi Ar. Bea**	**144.72 285**	PKP	PKPdf		08 08 09.9	-0.9
	0.2nm,0.3s,baz=66,slow=3.4,SNR=5.3						

*ISCJB **20** 07:52:28.2±1.2, 3185N±004×7843E±005, h4km±7km, mb3.5/7, Error ellipse: s-maj=7.7km s-min=6.7km az=15.0*

*IDC **20** 07:52:28.3±1.0, 3152N×7791E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/24, mbtmp3.5/7, ML3.2/1, Error ellipse: s-maj=43.0km s-min=20.4km az=52.0*

*NEIC **20** 07:52:29.8±0.7, 3158N×7793E, h10km, mb3.5/1, Error ellipse: s-maj=21.9km s-min=12.2km az=69.0*

*NDI **20** 07:52:31.3±2.5, 3178N×7832E, h10km, ML3.4*

ISC 20 07:52:30.5±1.2, 3181N±004×7835E±005, h9km±7km, n27, σ1§22/39, mb3.5/7, 2C-3D, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLP	**Kalpa**	**0.28 198**		*e*P	**Pg**	**07 52 35.3**	**-0.9**
KLP				*e*S	**Sg**	**07 52 38.9**	**-1.2**
KLP				AML	AML	07 52 39.0	
	comp=E,9μm,0.2s						
KLP				AML	AML	07 52 39.1	
	comp=N,6μm,0.1s						
SDNR	**Sundarnagar**	**1.22 256**	*e*P		**Pb**	**07 52 52.5**	**-1.2**
SDNR				*e*S	**Sg**	**07 53 10.5**	**+0.8**
SMLA	**Simla**	**1.22 237**	*e*P		**Pb**	**07 52 53.6**	**0.0**
SMLA				*e*S	**Sg**	**07 53 10.8**	**+1.2**
SMLA				AML	AML	07 53 12.5	
	comp=E,1μm,0.2s						
SMLA				AML	AML	07 53 12.7	
	comp=N,858nm,0.2s						
DDI	**Dehra Dun**	**1.50 190**	*e*P		**Pn**	**07 52 58.8**	**+1.2**
DDI				*e*S	**Sn**	**07 53 20.8**	**+3.6**
JOSI	**Joshimath**	**1.62 140**	*e*P		**Pn**	**07 52 49.5**	**-10**
JOSI				*e*S	**Sn**	**07 53 10.8**	**-9.4**
JOSI				AML	AML	07 53 18.9	
	comp=N,2μm,0.7s						
JOSI				AML	AML	07 53 19.1	
	comp=E,2μm,0.7s						
BHK	**Bhakra**	**1.69 257**	*e*P		**Pn**	**07 53 04.6**	**+4.3**
BHK				*e*S	**Sn**	**07 53 27.0**	**+4.9**
PONG	**Pong**	**2.05 275**	*e*P		**Pn**	**07 53 06.0**	**+0.9**
PONG				*ex*	x	07 56 34.3	
DLH	**Dalhousie**	**2.15 291**	*e*P		**Pn**	**07 53 07.0**	**+0.5**
DLH				*e*S	**Sn**	**07 53 35.0**	**+1.7**
KKR	**Kurukshetra**	**2.26 216**	*e*P		**Pn**	**07 53 10.1**	**+2.0**
LGTI	**Lohaghat**	**2.86 145**	*e*P		**Pn**	**07 53 17.5**	**+1.2**
LGTI				*ex*	x	07 54 01.5	
NDI	**New Delhi**	**3.26 198**	*e*P		**Pn**	**07 53 22.7**	**+0.8**
NDI				*e*S	**Sn**	**07 54 00.3**	**-0.4**
NDI				AML	AML	07 54 16.1	
	comp=N,55nm,0.4s						
NDI				AML	AML	07 54 16.3	
	comp=E,70nm,0.3s						
KHET	**Khetri**	**4.33 211**	*e*P		**Pn**	**07 53 35.9**	**-0.5**
KHET				*e*S	**Sn**	**07 54 25.0**	**-2.0**
KHET				AML	AML	07 54 59.5	
	comp=N,35nm,0.4s						
KHET				AML	AML	07 54 59.7	
	comp=E,24nm,0.4s						
CHCP	**Chirah Chowk**	**4.67 295**		P	**Pn**	**07 53 43.0**	**+1.9**
SARP	**Sargodha**	**4.83 273**	⇓	P	**Pn**	**07 53 41.9**	**-1.5**
THW	**Thamme Wali**	**5.68 282**	⇓	P	**Pn**	**07 53 54.4**	**-0.7**
CEP	**Cherat**	**5.79 292**	⇓	P	**Pn**	**07 53 57.2**	**+0.7**
CEP				S	**Sn**	**07 54 59.0**	**-3.9**
DRP	**Derazinda**	**6.94 272**	⇑	P	**Pn**	**07 54 11.2**	**-1.1**
DRP				S	**Sn**	**07 55 28.0**	**-3.4**
KK31	**Karatay Array**	**12.88 333**		Pn	**Pn**	**07 55 32.0**	**-1.6**
	comp=E,0.3nm,0.3s,baz=142,slow=13,SNR=6.0						
KK31				⇑Sn	**Sn**	**07 57 44.7**	**-12**
	comp=E,1.7nm,0.6s,baz=149,slow=22,SNR=5.2						
MKAR	**Makanchi Array**	**15.27 10**		Pn	**Pn**	**07 56 09.4**	**+3.2**
	comp=E,0.1nm,0.3s,baz=176,slow=11,SNR=3.9						
BVAR	**Borovoye Array**	**21.98 347**		P	**P**	**07 57 25.3**	**+0.6**
	comp=E,0.7nm,0.6s,mb3.3,baz=235,slow=36,SNR=3.1						
ZRNK	**Zerenda**	**22.19 345**	*e*P		**P**	**07 57 26.7**	**-0.3**
	comp=E,0.9nm,0.5s,mb3.5						
AKTK	**Aktyubinsk**	**23.97 327**	P		**P**	**07 57 44.5**	**-0.6**
AKTO	**Aktyubinsk**	**23.97 327**	P		**P**	**07 57 44.5**	**-0.6**
	comp=E,0.8nm,0.5s,mb3.4,baz=133,slow=9.8,SNR=4.4						
FINES	**FINESS Array B**	**44.74 327**	P		**P**	**08 00 43.3**	**-0.8**
	comp=E,1.6nm,1.0s,mb3.8,baz=159,slow=28,SNR=2.3						
TORD	**Torodi Ar. Bea**	**71.94 274**	P		**P**	**08 03 52.0**	**-2.3**
	comp=E,0.2nm,0.8s,mb3.1,baz=36,slow=6.9,SNR=3.3						
WRA	**Warramunga Arr**	**74.32 126**	P		**P**	**08 04 08.3**	**0.0**
	comp=E,1.0nm,0.8s,mb3.8,baz=316,slow=6.6,SNR=9.2						
ASAR	**Alice Springs**	**76.57 129**	P		**P**	**08 04 21.9**	**+0.6**
	comp=E,0.4nm,0.5s,mb3.6,baz=315,slow=6.1,SNR=7.5						

IDC 20 07:57:38.5±2.2, 945S×10834E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, Error ellipse: s-maj=131.7km s-min=21.5km az=54.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**28.22 123**		P	P	08 03 34.1	+1.2
	0.3nm,0.7s,baz=298,slow=9.8,SNR=4.1						
ASAR				PcP	PcP	08 06 47.0	+0.4
	0.3nm,0.5s,baz=303,slow=2.0,SNR=5.1						
STKA	**Stephens Creek**	**38.03 131**		P	P	08 04 58.0	-0.5
	1.9nm,0.7s,baz=292,slow=11,SNR=6.3						
SONM	**Songino Array**	**57.06 358**		P	P	08 07 26.2	-0.1
	0.7nm,0.5s,baz=180,slow=8.9,SNR=6.1						
MKAR	**Makanchi Array**	**60.63 340**		P	P	08 07 51.2	0.0
	1.0nm,0.5s,baz=155,slow=8.5,SNR=15						
BVAR	**Borovoye Array**	**70.13 337**		P	P	08 08 52.9	+0.2
	0.7nm,0.5s,baz=156,slow=11,SNR=4.2						

*ISCJB **20** 08:48:44.5±3.5, 62S±01×1548E±01, h78km±31km, mb3.9/10, Error ellipse: s-maj=23.4km s-min=22.2km az=156.3*

*IDC **20** 08:48:47.8±4.4, 626S×15476E, h95km±38km, mb3.8/8, mb1 4.1/10, mb1mx3.9/15, mbtmp4.2/10, Error ellipse: s-maj=26.1km s-min=24.8km az=86.0*

*NEIC **20** 08:48:48.7±3.2, 6.175×15466E, h101km±24km, mb4.2/1, Error ellipse: s-maj=35.7km s-min=16.4km az=112.0*

ISC 20 08:48:46.3±2.7, 63S±01×1549E±01, h83km±24km, n15, σ0§92/14, mb3.9/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.26 247**		P	**Pn**	**08 50 43.3**	**0.0**
	5.5nm,0.3s,baz=37,slow=8.2,SNR=12						
DZM	**Mont Dzumac**	**19.26 146**		P	**Pn**	**08 53 05.5**	**-0.4**
	0.8nm,0.3s,baz=100,slow=21,SNR=9.1						
WRAB	**Tennant Creek**	**24.13 234**	*e*P		**P**	**08 53 54.5**	**+0.2**
	8.9nm,0.9s,mb4.1						
WB2	**Warramunga Arr**	**24.13 234**	*e*P		**P**	**08 53 55.2**	**+0.8**
WRA	**Warramunga Arr**	**24.14 234**	P		**P**	**08 53 55.4**	**+0.9**
	4.6nm,0.8s,mb3.9,baz=59,slow=9.4,SNR=54						
AS31	**Alice Springs**	**26.57 227**	*e*P		**P**	**08 54 16.4**	**0.0**
ASAR	**Alice Springs**	**26.57 227**	P		**P**	**08 54 16.4**	**0.0**
	1.3nm,0.5s,mb3.7,baz=267,slow=8.9,SNR=25						
STKA	**Stephens Creek**	**28.33 204**	P		**P**	**08 54 28.8**	**-3.4**
	1.0nm,0.5s,mb3.6,baz=36,slow=8.7,SNR=2.8						
SONM	**Songino Array**	**68.69 327**	P		**P**	**08 59 40.4**	**-0.5**
	0.4nm,0.5s,mb3.5,baz=138,slow=5.4,SNR=3.8						
MKAR	**Makanchi Array**	**82.81 319**	P		**P**	**09 01 01.2**	**-0.1**
	1.3nm,0.6s,mb3.9,baz=90,slow=6.1,SNR=13						
MAW	**Mawson**	**85.01 203**	P		**P**	**09 01 12.0**	**-0.6**
	2.7nm,0.5s,mb4.4,baz=93,slow=6.2,SNR=11						
NVAR	**Mina Array Bea**	**91.37 52**	P		**P**	**09 01 45.1**	**+2.2**
	0.7nm,0.8s,mb3.9,baz=242,slow=7.0,SNR=2.9						
BVAR	**Borovoye Array**	**91.67 323**	P		**P**	**09 01 42.7**	**-1.6**
	0.4nm,0.5s,mb3.9,baz=100,slow=6.0,SNR=3.6						
YKA	**Yellowknife Ar**	**95.76 28**	P		**P**	**09 02 03.3**	**+0.2**
	0.3nm,0.5s,mb4.0,baz=268,slow=4.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**152.73 286**	PKPbc	PKPbc		09 08 33.6	+0.1
	0.2nm,0.5s,baz=46,slow=2.6,SNR=5.9						
TORD				PKPab	PKPab	09 08 45.2	+0.7
	0.3nm,0.6s,baz=68,slow=3.7,SNR=4.1						

*IDC **20** 08:48:44.2±0.7, 1766S×17342W, h0km, mb4.4/10, mb1 4.6/10, mb1mx4.4/16, mbtmp4.4/10, MS3.8/9, Ms1 3.8/9, ms1mx3.6/24, Error ellipse: s-maj=29.6km s-min=18.0km az=132.0*

*NEIC **20** 08:48:45.5±0.3, 1766S×17339W, h10km, mb4.7/8, Error ellipse: s-maj=16.8km s-min=8.6km az=137.0*

*ISCJB **20** 08:48:47.3±0.4, 176S±01×1735W±01, h33km, mb4.5/17, MS4.0/7, Error ellipse: s-maj=19.9km s-min=10.0km az=97.0*

ISC 20 08:48:49.2±0.4, 177S±01×1734W±01, h35km, n46, σ0§71/27, mb4.5/17, MS4.0/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.06 23**		LR	LR	08 50 35.5	
	comp=Z,482nm,21.2s,baz=179,slow=28						
RAR	**Rarotonga**	**13.32 107**		Pn	**Pn**	**08 51 43.9**	**-12**
	1.8nm,0.3s,baz=273,slow=12,SNR=8.8						
DZM	**Mont Dzumac**	**19.45 254**		LR	LR	08 58 22.4	
	comp=Z,124nm,18.4s,baz=18,slow=30						
URZ	**Urewera**	**22.12 200**		P	**P**	**08 53 41.7**	**+0.1**
	11nm,0.3s,mb4.7,baz=344,slow=2.9,SNR=23						
PPT	**Papeete**	**22.70 93**	*e*	LR	LR	08 58 51.7	
	258nm,26.5s						
TBI	**Tubuai**	**23.10 108**	*e*	LR	LR	08 59 01.2	
	242nm,27.0s						
HNR	**Honiara**	**27.15 284**		LR	LR	09 03 28.1	
	comp=Z,309nm,20.1s,MS3.9,baz=180,slow=33						
RPZ	**Rata Peaks**	**29.09 204**		P	**P**	**08 54 50.5**	**+4.1**
	12nm,0.5s,mb4.9,baz=32,slow=10,SNR=15						
CTA	**Charters Tower**	**38.19 260**	*e*P		**P**	**08 56 06.8**	**+1.4**
	7.9nm,0.8s,mb4.5						
CTA	**Charters Tower**	**38.19 260**	P		**P**	**08 56 06.3**	**+0.9**
	11nm,0.8s,mb4.6,baz=70,slow=11,SNR=8.3						
CTA				LR	LR	09 10 14.3	
	comp=Z,214nm,19.2s,MS4.0,baz=59,slow=34						
STKA	**Stephens Creek**	**42.94 242**	*e*P		**P**	**08 56 41.4**	**-3.2**
	2.5nm,1.1s,mb3.9						
STKA	**Stephens Creek**	**42.94 242**	P		**P**	**08 56 43.0**	**-1.6**
	2.2nm,0.9s,mb3.9,baz=109,slow=15,SNR=3.3						
STKA				PcP	PcP	08 58 37.1	+2.3
	2.0nm,0.8s,baz=45,slow=1.4,SNR=3.7						
WB2	**Warramunga Arr**	**49.35 259**	*e*P		**P**	**08 57 34.9**	**-0.2**
WRAB	**Tennant Creek**	**49.35 259**	*e*P		**P**	**08 57 35.0**	**-0.1**
	12nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**49.36 259**	P		**P**	**08 57 34.5**	**-0.7**
	6.1nm,0.8s,mb4.7,baz=92,slow=6.9,SNR=24						
AS31	**Alice Springs**	**49.44 254**	*e*P		**P**	**08 57 35.9**	**+0.1**
ASAR	**Alice Springs**	**49.44 254**	P		**P**	**08 57 35.5**	**-0.3**
	20nm,0.8s,mb5.2,baz=89,slow=8.6,SNR=90						
ASAR				PcP	PcP	08 58 59.1	+1.5
	3.7nm,0.8s,baz=103,slow=3.8,SNR=8.1						
VNDA	**Vanda**	**61.12 186**	P		**P**	**08 59 00.6**	**+0.8**
	0.8nm,0.8s,mb3.9,baz=4.8,slow=7.4,SNR=5.3						
CBIJ	**Chichi jima**	**61.95 315**	LR	LR		09 22 41.6	
	comp=Z,66nm,19.9s,MS3.8,baz=154,slow=33						
MJAR	**Matsushiro Arr**	**70.68 320**	P		**P**	**09 00 02.8**	**+1.3**
	2.4nm,0.7s,mb4.2,baz=159,slow=5.5,SNR=6.3						
QSPA	**South Pole Qui**	**72.37 180**	*e*P		**P**	**09 00 11.2**	**-0.4**
	5.4nm,1.1s,mb4.4						
NVAR	**Mina Array Bea**	**76.02 42**	P		**P**	**09 00 33.0**	**+0.2**
	1.0nm,0.8s,mb3.8,baz=211,slow=7.4,SNR=8.0						
WVOR	**Wild Horse Val**	**78.21 38**	*e*P		**P**	**09 00 43.9**	**-1.3**
	11nm,1.6s,mb4.5						
MSU	**Marysvale**	**80.05 44**	*e*P		**P**	**09 00 55.9**	**+0.7**
MCMT	**McKenzie Canyo**	**83.02 39**	*e*P		**P**	**09 01 10.9**	**0.0**
DCID1	**Drake Creek**	**83.37 40**	*e*P		**P**	**09 01 13.2**	**+0.5**
DCID1				*e*PcP	PcP	09 01 17.8	+0.7
IMW	**Indian Meadow**	**83.68 40**	*e*P		**P**	**09 01 14.4**	**+0.1**
	6.8nm,1.3s,mb4.6						
QLMT	**Earthquake Lak**	**83.88 39**	*e*P		**P**	**09 01 15.1**	**-0.2**
FLWY	**Flagg Ranch**	**83.92 40**	*e*P		**P**	**09 01 16.1**	**+0.6**
	5.2nm,1.1s,mb4.6						
PDAR	**Pinedale Array**	**83.96 42**	P		**P**	**09 01 14.9**	**-0.8**
	1.9nm,1.0s,mb4.2,baz=220,slow=3.0,SNR=12						
COLA	**College**	**84.59 11**	*e*P		**P**	**09 01 18.5**	**-0.5**
	8.4nm,0.8s,mb4.9						
HRY	**Holter Researc**	**84.65 37**	*e*P		**P**	**09 01 18.9**	**-0.3**
HRY				*e*PcP	PcP	09 01 21.7	-1.0
HRY				*e*	pP	09 01 30.6	+0.3
MAW	**Mawson**	**85.64 199**	P		**P**	**09 01 24.6**	**+0.4**
	3.2nm,0.9s,mb4.5,baz=66,slow=5.2,SNR=5.3						
PLCA	**Paso Flores**	**87.98 132**	LR	LR		09 33 07.9	
	comp=Z,68nm,21.2s,MS4.0,baz=194,slow=30						
ATAH	**Atahualpa**	**92.63 98**	LR	LR		09 34 44.8	
	comp=Z,37nm,21.9s,MS3.8,baz=1.4,slow=30						
ULM	**Lac du Bonnet**	**95.69 39**	LR	LR		09 43 24.0	
	comp=Z,64nm,18.6s,MS4.1,baz=302,slow=34						
LVC	**Limon Verde**	**96.02 116**	LR	LR		09 34 43.7	
	comp=Z,64nm,18.7s,MS4.1,baz=37,slow=29						
BVAR	**Borovoye Array**	**119.67 321**	PKP	PKPdf		09 07 35.6	+0.2
	1.3nm,0.7s,baz=112,slow=1.6,SNR=7.2						
KMBO	**Kilima Mbogo**	**144.50 241**	PKP	PKPdf		09 08 22.4	+0.6
	9.8nm,1.1s,baz=61,slow=5.3,SNR=14						
MALT	**Malatya**	**145.45 313**	*e*PKPbf	PKPdf		09 08 26.2	+2.8
CLL	**Collm**	**146.07 353**	*i* PKPbc	PKPbc		09 08 25.5	+0.1
	comp=Z,13nm,1.0s						
CLL	**Collm**	**146.07 353**	*i* P	PKPdf		09 08 25.5	+1.0
CLL				*e*		09 08 39.0	
BRG	**Berggiesshubel**	**146.37 352**	*e*P	PKPdf		09 08 27.3	+2.2
	comp=Z,3.7nm,1.0s						
BRTR	**Keskin Array B**	**147.90 319**	PKP	PKPdf		09 08 28.9	+1.4
	comp=Z,2.2nm,0.9s,baz=130,slow=1.9,SNR=8.8						
BRTR				PKPbc	PKPbc	09 08 32.1	+1.5
	comp=Z,2.1nm,0.9s,baz=132,slow=2.2,SNR=8.6						
GERES	**GERESS Array B**	**148.39 351**	PKPbc	PKPbc		09 08 32.5	+0.6
	comp=Z,0.5nm,0.5s,baz=29,slow=3.0,SNR=7.2						
DAVOX	**Davos**	**150.86 355**	PKPbc	PKPbc		09 08 39.7	+1.7
	comp=Z,2.7nm,0.6s,baz=156,slow=20,SNR=4.0						

IDC 20 09:00:27.8±4.5, 1245S×11647E, h0km, mb3.7/1, mb1 3.6/3, mb1mx3.4/14, mbtmp3.4/3, MS3.6/1, Ms1 3.6/1, ms1mx2.9/17, Error ellipse: s-maj=260.6km s-min=29.1km az=44.0, South of Sumbawa

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

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.49**	**31**	*i* P	Pg	09 36 36.5	-1.6
ACX				*i* S	Sg	09 36 43.0	-1.7
CAIG	**El Cayaco**	**0.60**	**352**	*i* P	Pg	09 36 38.3	-1.9
CAIG				*i* S	Sg	09 36 45.8	-2.5
MEIG	**Mezcala**	**1.56**	**20**	*i* P	Pn	09 36 52.1	-3.2
MEIG				*i* S	Sn	09 37 11.2	-3.9
PPM	**Popocatepetl**	**3.00**	**29**	*eS*	Sn	09 37 38.0	-12

IDC 20 09:37:55.6±4.0, 448S×10490E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, Error ellipse: s-maj=234.5km s-min=25.6km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.39**	**125**	P	P	09 43 15.5	+0.1
	1.8nm,0.8s,baz=354,slow=19,SNR=7.0						
WRA	**Warramunga Arr**	**32.53**	**121**	P	P	09 44 29.0	+0.8
	0.3nm,0.3s,baz=313,slow=9.2,SNR=28						
WB2	**Warramunga Arr**	**32.54**	**121**	*eP*	P	09 44 28.8	+0.6
ASAR	**Alice Springs**	**33.86**	**127**	P	P	09 44 40.3	+0.6
	1.7nm,0.3s,baz=294,slow=7.8,SNR=50						
STKA	**Stephens Creek**	**43.87**	**133**	P	P	09 46 03.5	-0.2
	1.3nm,0.3s,baz=316,slow=9.7,SNR=7.5						
MKAR	**Makanchi Array**	**54.83**	**341**	P	P	09 47 27.5	+0.1
	0.3nm,0.4s,baz=141,slow=7.4,SNR=5.1						

*ISCJB **20** 09:45:26.9±2.8, 390N±02×714E±02, h33km, Error ellipse: s-maj=27.8km s-min=15.5km az=52.5*
*NNC **20** 09:45:29.8±18.0, 3949N×7129E, h0km, mb3.5, mpv2.9, Error ellipse: s-maj=210.4km s-min=74.9km az=16.0*

ISC 20 09:45:29.0±2.9, 390N±02×714E±02, h35km, n8, σ0§39/10, 1C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.61**	**28**	P	**Pn**	**09 46 22.3**	**-0.2**
	SNR=10						
UCH	**Uchtor**	**4.03**	**35**	P	**Pn**	**09 46 27.7**	**-0.5**
	SNR=14						
KK31	**Karatay Array**	**4.19**	**351**	Pn	**Pn**	**09 46 31.1**	**+0.6**
	3.6nm,0.3s,baz=235,slow=34,SNR=52						
KK31				⇓Sn	**Sn**	**09 47 18.0**	**-0.2**
	7.7nm,0.5s,baz=252,slow=54,SNR=4.3						
AAK	**Ala-Archa**	**4.35**	**32**	P	**Pn**	**09 46 32.6**	**0.0**
	SNR=6.3						
CHMS	**Chumysh**	**4.76**	**31**	P	**Pn**	**09 46 38.5**	**+0.3**
	SNR=6.3						
USP	**Ospenovka**	**4.89**	**27**	P	**Pn**	**09 46 40.6**	**+0.6**
	SNR=6.4						
TKM2	**Tokmak 2**	**5.07**	**37**	⇓Pn	**Pn**	**09 46 42.1**	**-0.4**
	0.5nm,0.7s						
AB31	**Akbulak array**	**13.16**	**325**	Pn	**Pn**	**09 48 33.1**	**-0.3**
	0.8nm,0.5s,baz=130,slow=14,SNR=12						
AB31				⇑Sn	**Sn**	**09 50 52.1**	**-6.4**
	1.4nm,0.7s,baz=133,slow=26,SNR=8.4						

IDC 20 10:04:25.8±3.6, 574S×15085E, h0km, mb3.7/2, mb1 4.1/2, mb1mx3.6/12, mbtmp3.8/2, MS3.1/3, Ms1 3.1/3, ms1mx2.7/20, Error ellipse: s-maj=141.3km s-min=47.4km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.16**	**225**	LR	LR	10 07 45.3	
	comp=Z,115nm,20.4s,baz=226,slow=39						
HNR	**Honiara**	**9.74**	**113**	LR	LR	10 09 21.4	
	comp=Z,77nm,18.1s,baz=360,slow=30						
WB2	**Warramunga Arr**	**21.37**	**227**	*eP*	P	10 09 15.3	+0.6
WRA	**Warramunga Arr**	**21.38**	**227**	P	P	10 09 15.2	+0.3
	2.6nm,0.9s,baz=53,slow=11,SNR=15						
ASAR	**Alice Springs**	**24.16**	**221**	P	P	10 09 44.0	+0.4
	2.3nm,0.7s,baz=56,slow=8.9,SNR=32						
BVAR	**Borovoye Array**	**88.82**	**323**	LR	LR	10 54 50.9	
	comp=Z,27nm,19.3s,baz=46,slow=34						
TORD	**Torodi Ar. Bea**	**148.72**	**286**	PKPbc	PKPbc	10 24 15.6	+0.6
	0.7nm,0.8s,baz=84,slow=2.6,SNR=4.1						

IDC 20 10:16:28.7±4.0, 333S×10063E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=201.8km s-min=28.7km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.79**	**119**	P	P	10 23 37.5	-0.5
	0.6nm,0.7s,baz=288,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**37.97**	**125**	P	P	10 23 48.4	+0.3
	0.6nm,0.8s,baz=297,slow=8.6,SNR=7.7						
STKA	**Stephens Creek**	**47.80**	**131**	P	P	10 25 09.2	+1.4
	1.7nm,0.8s,baz=292,slow=9.6,SNR=3.2						
MKAR	**Makanchi Array**	**52.47**	**344**	P	P	10 25 43.1	-0.1
	0.1nm,0.3s,baz=159,slow=7.7,SNR=4.1						

*NIED **20** 10:24:00, 44.80N×151.80E, h5km, Mw3.9 Best double couple: M0 7.40000×10^14 NP1:φ=245.00000°, δ=63.00000°, λ=-99.00000°. NP2:φ=85.00000°, δ=28.00000°, λ=-73.00000°.*
*IDC **20** 10:24:41.9±1.7, 4444N×15224E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/20, mbtmp3.9/6, ML4.0/1, Error ellipse: s-maj=44.8km s-min=30.3km az=81.0*
*JMA **20** 10:24:46.2±0.6, 4485N×15177E, h30km, M4.1*
*ISCJB **20** 10:24:47.7±1.0, 440N±0.1×15164E±008, h33km, mb3.8/5, Error ellipse: s-maj=19.0km s-min=8.5km az=170.0*

ISC 20 10:24:49.5±0.9, 441N±01×15170E±009, h35km, n31, σ1§03/38, mb3.8/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.38**	**262**	P	**Pn**	**10 25 52.4**	**-1.1**
NEM2				*eS*	**Sn**	**10 26 41.6**	**-1.7**
JRA	**Rausu**	**4.75**	**270**	P	**Pn**	**10 25 58.9**	**+0.4**
JRA				*eS*	**Sn**	**10 26 53.6**	**+1.3**
JNK	**Nakash**	**5.08**	**266**	P	**Pn**	**10 26 02.4**	**-0.7**
JNK				*eS*	**Sn**	**10 27 00.4**	**0.0**
JAK	**Akkeshi**	**5.21**	**260**	P	**Pn**	**10 26 03.5**	**-1.4**
JAK				*eS*	**Sn**	**10 27 01.5**	**-2.3**
JTKR	**Abashiri--Toko**	**5.62**	**271**	P	**Pn**	**10 26 10.8**	**+0.3**
JAR	**Ashorobuto**	**5.80**	**265**	P	**Pn**	**10 26 13.4**	**+0.3**
JAR				*eS*	**Sn**	**10 27 19.8**	**+1.4**
JOB	**Onbets**	**5.85**	**261**	P	**Pn**	**10 26 13.6**	**-0.1**
JOB				*eS*	**Sn**	**10 27 18.7**	**-0.7**
JMP	**Maruseppu**	**6.01**	**272**	P	**Pn**	**10 26 16.4**	**+0.5**
JCH	**Churui**	**6.26**	**259**	P	**Pn**	**10 26 19.6**	**+0.3**
JCH				*eS*	**Sn**	**10 27 29.1**	**-0.5**
JKK2	**Kamakawa 2**	**6.46**	**271**	P	**Pn**	**10 26 23.4**	**+1.3**
ASAJ	**Asahikawa**	**6.55**	**273**	Pn	**Pn**	**10 26 24.4**	**+1.1**
	2.6nm,0.3s,baz=71,slow=17,SNR=19						
ASAJ	**Asahikawa**	**6.55**	**273**	P	**Pn**	**10 26 24.3**	**+1.0**
JEM	**Erimo**	**6.60**	**254**	P	**Pn**	**10 26 25.7**	**+1.7**
JEM				*eS*	Sx	10 27 38.6	
JFR	**Furan**	**6.67**	**265**	P	**Pn**	**10 26 26.1**	**+1.1**
JNBK	**Urakawa-nobuka**	**6.79**	**257**	P	**Pn**	**10 26 26.6**	**0.0**
JNBK				*eS*	Sx	10 27 41.0	
JAB	**Ashibetsu**	**6.88**	**268**	P	**Pn**	**10 26 30.0**	**+2.1**
JBT2	**Biratori 2**	**6.92**	**262**	P	**Pn**	**10 26 28.5**	**0.0**
JNB	**Noboribetsu**	**7.95**	**262**	P	**Pn**	**10 26 42.4**	**-0.1**
JNB				*eS*	Sx	10 28 10.7	
JKB	**Kayabe**	**8.13**	**258**	P	**Pn**	**10 26 45.0**	**0.0**
JKB				*eS*	Sx	10 28 12.2	
JTH	**Tanohata**	**8.43**	**244**	P	**Pn**	**10 26 48.3**	**-0.8**
JTH				*eS*	Sx	10 28 20.0	
JANG	**Nango**	**8.43**	**247**	P	**Pn**	**10 26 48.3**	**-0.8**
JYM2	**Yakumo 2**	**8.53**	**260**	P	**Pn**	**10 26 50.9**	**+0.5**
JTM	**Tenmabayashi**	**8.54**	**251**	P	**Pn**	**10 26 50.4**	**-0.2**
JTM				*eS*	Sx	10 28 23.3	
JOSM	**Okushiri--Mats**	**9.17**	**261**	P	**Pn**	**10 26 58.7**	**-0.6**
JRG	**Rokugo**	**9.52**	**244**	P	**Pn**	**10 27 05.4**	**+1.4**
JRG				*eS*	Sx	10 28 48.5	
SONM	**Songino Array**	**31.35**	**293**	P	**P**	**10 31 06.4**	**-0.4**
	0.5nm,0.5s,mb3.6,baz=90,slow=6.9,SNR=4.2						
MKAR	**Makanchi Array**	**47.30**	**299**	P	**P**	**10 33 18.4**	**-1.2**
	1.7nm,0.8s,mb4.0,baz=64,slow=8.6,SNR=12						
WRA	**Warramunga Arr**	**65.71**	**198**	P	**P**	**10 35 30.9**	**+0.4**
	0.4nm,0.5s,mb3.7,baz=18,slow=6.8,SNR=7.1						
FINES	**FINESS Array B**	**65.99**	**335**	P	**P**	**10 35 28.8**	**-3.6**
	1.1nm,0.6s,mb4.1,baz=54,slow=9.7,SNR=6.4						
NB2	**NORSAR Subarra**	**70.39**	**341**	P	**P**	**10 35 55.9**	**-4.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=27,slow=6.2						
NOA	**NORSAR Array B**	**70.39**	**341**	P	**P**	**10 35 56.2**	**-3.6**
	comp=Z,0.8nm,0.6s,mb3.9,baz=28,slow=6.4,SNR=5.0						

*ISCJB **20** 10:32:12.9±1.5, 4072N±008×7425E±007, h10km, Error ellipse: s-maj=11.6km s-min=7.6km az=164.5*
*KNET **20** 10:32:12.3±0.8, 4093N×7424E, h0km, ml2.9, Error ellipse: s-maj=4.7km s-min=3.7km az=31.0*

ISC 20 10:32:13.4±1.7, 4072N±010×7424E±007, h10km, n11, σ1§48/20, 10C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.47**	**344**	⇓P	**Pn**	**10 32 36.6**	**-3.4**
	51nm,0.2s,SNR=24						
AML				⇓S	**Sn**	**10 32 55.2**	**-4.2**
	123nm,0.2s						
UCH	**Uchtor**	**1.52**	**8**	⇑P	**Pn**	**10 32 38.1**	**-2.6**
	38nm,0.2s,SNR=227						
UCH				⇑S	**Sn**	**10 32 58.1**	**-2.5**
	116nm,0.3s						
KZA	**Kyzart**	**1.56**	**29**	⇓P	**Pn**	**10 32 39.1**	**-2.1**
	22nm,0.2s,SNR=38						
KZA				⇑S	**Sn**	**10 33 00.3**	**-1.1**
	144nm,0.3s						
AAK	**Ala-Archa**	**1.93**	**6**	⇓P	**Pn**	**10 32 45.4**	**-0.8**
	45nm,0.2s,SNR=42						
EKS2	**Erkin-Say**	**1.98**	**350**	⇓P	**Pn**	**10 32 45.8**	**-1.2**
	18nm,0.2s,SNR=18						
EKS2				⇑S	**Sn**	**10 33 11.8**	**+0.1**
	31nm,0.2s						
KBK	**Karagaybulak**	**2.01**	**15**	⇑P	**Pn**	**10 32 47.1**	**-0.3**
	29nm,0.1s,SNR=40						
KBK				⇓S	**Sn**	**10 33 13.8**	**+1.2**
	52nm,0.1s						
ULHL	**Ulahol**	**2.14**	**44**	⇑P	**Pn**	**10 32 49.2**	**0.0**
	32nm,0.3s,SNR=82						
ULHL				⇑S	**Sn**	**10 33 17.7**	**+1.8**
	144nm,0.3s						
CHMS	**Chumysh**	**2.31**	**9**	⇓P	**Pn**	**10 32 52.3**	**+0.7**
	32nm,0.2s,SNR=29						
TKM2	**Tokmak 2**	**2.42**	**24**	⇓P	**Pn**	**10 32 54.3**	**+1.2**
	0.4nm,0.3s						
TKM2				⇑S	**Sn**	**10 33 24.4**	**+1.6**
	1.2nm,0.4s						
USP	**Ospenovka**	**2.56**	**4**	⇓P	**Pn**	**10 32 55.5**	**+0.6**
	28nm,0.2s,SNR=24						
USP				⇑S	**Sn**	**10 33 29.3**	**+3.2**
	34nm,0.4s						
KK31	**Karatay Array**	**3.67**	**312**	Pn	**Pn**	**10 33 12.5**	**+2.3**
	0.8nm,0.2s,baz=143,slow=13,SNR=34						
KK31				⇑Sn	**Sb**	**10 34 03.3**	**+0.5**
	13nm,0.5s,baz=131,slow=28,SNR=16						

IDC 20 10:37:23.6±1.4, 971S×10750E, h0km, mb3.8/7, mb1 3.8/8, mb1mx3.7/20, mbtmp3.8/8, ML3.7/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/30, Error ellipse: s-maj=70.4km s-min=18.1km az=43.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.47**	**117**	P	Pn	10 41 52.4	-0.6
	0.2nm,0.3s,baz=283,slow=20,SNR=12						
WRA	**Warramunga Arr**	**27.83**	**115**	P	P	10 43 14.7	+0.2
	0.7nm,0.6s,baz=285,slow=12,SNR=9.5						
ASAR	**Alice Springs**	**28.78**	**122**	P	P	10 43 23.4	+0.4
	0.5nm,0.6s,baz=302,slow=8.9,SNR=9.7						
CTA	**Charters Tower**	**38.76**	**110**	LR	LR	10 59 32.7	
	comp=Z,86nm,21.0s,baz=7.7,slow=34						
SONM	**Songino Array**	**57.29**	**359**	P	P	10 47 13.5	+0.5
	0.8nm,0.6s,baz=174,slow=9.8,SNR=6.4						
MKAR	**Makanchi Array**	**60.59**	**340**	P	P	10 47 35.9	0.0
	1.0nm,0.5s,baz=148,slow=7.0,SNR=6.1						
BVAR	**Borovoye Array**	**70.04**	**337**	P	P	10 48 37.1	-0.1
	0.8nm,0.5s,baz=139,slow=12,SNR=4.2						
AKTO	**Aktyubinsk**	**73.69**	**330**	P	P	10 48 59.3	+0.1
	0.8nm,0.5s,baz=129,slow=14,SNR=2.7						
BRTR	**Keskin Array B**	**83.99**	**312**	P	P	10 49 55.9	+0.2
	0.6nm,0.8s,baz=116,slow=9.8,SNR=3.2						

*BJI **20** 11:01:04.1, 1038S×108.15E, h46km, mB4.9, mb4.8, Ms4.4, Msz4.1*
*ISCJB **20** 11:01:05.9±0.3, 991S±004×10788E±006, h33km, mb4.7/39, MS3.8/9, Error ellipse: s-maj=9.6km s-min=5.6km az=134.6*
*MOS **20** 11:01:05.7±0.9, 987S×10793E, h33km, mb4.7/14, Error ellipse: s-maj=18.5km s-min=9.8km az=110.8*
*NEIC **20** 11:01:07.7±0.2, 993S×10786E, mb4.7/19, Error ellipse: s-maj=10.6km s-min=5.0km az=56.0*
*IDC **20** 11:01:08.2±0.5, 983S×10789E, h37km±4km, mb4.2/13, mb1 4.3/14, mb1mx4.3/17, mbtmp4.4/14, ML4.1/1, MS3.6/3, Ms1 3.6/3, ms1mx2.8/16, Error ellipse: s-maj=17.7km s-min=11.7km az=59.0*

ISC 20 11:01:08.1±0.3, 994S±005×10786E±006, h35km, h35km±1.0km: pP-P, n91, σ0§96/85, mb4.7/39, MS3.8/9, 4C-2D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**3.10**	**355**	P	**Pn**	**11 01 52.9**	**-1.6**
	3um,1.1s						
BJII	**Banjamegara**	**3.17**	**35**	P	**Pn**	**11 01 53.9**	**-1.5**
	196nm,1.0s						
JCJI	**Jatiwangi**	**3.45**	**7**	P	**Pn**	**11 01 54.9**	**-4.4**
	1um,1.0s						
SBJI	**Serang**	**4.17**	**336**	P	**Pn**	**11 02 09.6**	**+0.5**
	275nm,0.6s						
KSI	**Kapahiang**	**8.15**	**320**	P	**Pn**	**11 03 02.6**	**-1.2**
	142nm,0.8s						
PPI	**Padang Panjang**	**12.00**	**321**	P	**Pn**	**11 03 51.1**	**-5.4**
	288nm,1.1s						
PCI	**Palu**	**14.91**	**54**	P	**Pn**	**11 04 38.8**	**+2.6**
	106nm,1.2s						
MBWA	**Marble Bar**	**15.96**	**136**	*e*Pn	**Pn**	**11 04 46.2**	**-3.7**
	20nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.05**	**117**	*eP*	**Pn**	**11 05 28.7**	**+0.6**
	9.8nm,0.6s						
FITZ				*eS*	**Sn**	**11 08 42.6**	**-18**
FITZ	**Fitzroy Crossi**	**19.05**	**117**	P	**Pn**	**11 05 28.4**	**+0.2**
	0.4nm,0.3s,baz=305,slow=9.7,SNR=14						
FITZ				S	**Sn**	**11 08 44.7**	**-16**
	0.3nm,0.3s,baz=195,slow=20,SNR=4.0						
KLBR	**Kellerberrin**	**23.42**	**158**	*eP*	**P**	**11 06 14.6**	**+0.5**
NWAO	**Narrogin (SRO)**	**24.45**	**161**	P	**P**	**11 06 23.1**	**-0.4**
	18nm,0.8s,mb4.5,baz=331,slow=10.0,SNR=8.0						
NWAO				LR	LR	11 16 30.2	
	comp=Z,158nm,18.5s,MS3.5,baz=314,slow=38						
WRA	**Warramunga Arr**	**27.40**	**114**	P	**P**	**11 06 50.1**	**-0.1**
	6.2nm,0.9s,mb4.1,baz=287,slow=11,SNR=20						
WRA				PcP	PcP	11 10 09.7	+1.2
	0.9nm,0.7s,baz=310,slow=1.5,SNR=4.6						
WRAB	**Tennant Creek**	**27.41**	**114**	*eP*	**P**	**11 06 50.9**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**27.41**	**114**	*eP*	**P**	**11 06 50.9**	**+0.6**
	comp=Z,11nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**27.41**	**114**	*eP*	**P**	**11 06 50.7**	**+0.3**
ASAR	**Alice Springs**	**28.35**	**122**	P	**P**	**11 06 58.9**	**+0.1**
	comp=Z,3.7nm,0.8s,mb4.0,baz=299,slow=8.7,SNR=18						
ASAR				PcP	PcP	11 10 12.2	+1.4
	comp=Z,1.3nm,0.8s,baz=316,slow=1.7,SNR=6.3						
ASAR				Sn	S	11 12 31.2	+48
	comp=Z,1.3nm,0.9s,baz=311,slow=28,SNR=4.0						
ASAR				LR	LR	11 19 04.6	
	comp=Z,84nm,19.1s,MS3.4,baz=178,slow=38						
ASAR	**Alice Springs**	**28.35**	**122**	P	**P**	**11 06 58.9**	**+0.2**
ASAR						11 10 12.2	
QIZ	**Qiongzhong**	**28.85**	**4**	P	**P**	**11 07 05.3**	**+2.1**
QIZ				S	**S**	**11 11 55.3**	**+4.4**
QIZ				LR	LR		
	comp=E,192nm,18.5s						
QIZ				LR	LR		
	comp=Z,156nm,23.5s,MS3.5						
CHTO	**Chiang Mai**	**29.89**	**343**	*eP*	**P**	**11 07 12.4**	**0.0**
CHTO				*e**PP	pP	11 07 20.5	-1.9
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.1						
CHTO	**Chiang Mai**	**29.89**	**343**	*eP*	**P**	**11 07 12.3**	**-0.1**
	comp=Z,5.4nm,1.2s,mb4.2						
CHTO				*ep*P	pP	11 07 20.5	-1.9
KMI	**Kunming**	**35.21**	**352**	P	**P**	**11 08 00.0**	**+1.1**
KMI				AP	pP	11 08 11.3	+2.4
KMI				XP	sP	11 08 16.8	+3.7
KMI				PP	PP	11 09 24.3	+5.2
KMI				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,109nm,4.9s						
KMI				LR	LR		
	comp=N,183nm,21.8s,MS4.0						
KMI				LR	LR		
	comp=E,254nm,18.9s,MS4.0						
KMI				LR	LR		
	comp=Z,268nm,13.2s						
GYA	**Guiyang**	**36.20**	**358**	⇑*i*P	**P**	**11 08 07.8**	**+0.4**
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
STKA	**Stephens Creek**	**38.08**	**130**	⇓*i*P	**P**	**11 08 23.9**	**+0.6**
	comp=Z,11nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**38.08**	**130**	P	**P**	**11 08 24.4**	**+1.0**
	comp=Z,14nm,0.8s,mb4.7,baz=299,slow=8.1,SNR=24						
STKA				pP	pP	11 08 35.1	+1.7
	comp=Z,5.4nm,0.7s,baz=306,slow=8.4,SNR=5.1						
SSE	**Sheshan**	**42.76**	**17**	P	**P**	**11 09 00.4**	**-1.6**
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,127nm,4.1s						
SSE				LR	LR		
	comp=N,32nm,24.9s,MS3.3						
SSE				LR	LR		
	comp=E,39nm,24.9s,MS3.3						
SSE				LR	LR		
	comp=Z,52nm,21.4s,MS3.4						
JIRN	**Jiri**	**42.87**	**331**	*eP*	**P**	**11 09 04.4**	**+1.5**
	comp=Z,45nm,1.0s,mb5.2						
NJ2	**Nanjing**	**43.06**	**14**	*eP*	**P**	**11 09 04.3**	**-0.1**
NJ2				AP	pP	11 09 14.3	-0.3
NJ2				XP	sP	11 09 18.3	-0.5
NJ2				PP	PP	11 10 47.0	+2.3
NJ2				S	**S**	**11 15 27.0**	**-0.9**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,170nm,3.8s						
GUN	**Gumba**	**43.23**	**331**	*eP*	**P**	**11 09 07.1**	**+1.3**
	comp=Z,32nm,0.7s,mb5.2						
DMN	**Daman**	**43.35**	**330**	*eP*	**P**	**11 09 07.9**	**+1.1**
	comp=Z,44nm,0.9s,mb5.2						
KKN	**Kakani**	**43.42**	**330**	*eP*	**P**	**11 09 08.4**	**+1.0**
	comp=Z,68nm,1.1s,mb5.3						
KKN	**Kakani**	**43.42**	**330**	*eP*	**P**	**11 09 08.4**	**+1.0**
KKN				pmax	pmax		
	comp=Z,68nm,1.1s,mb5.3						
XAN	**Xi'an**	**43.75**	**1**	P	**P**	**11 09 09.4**	**-0.6**
XAN				AP	pP	11 09 19.3	-0.9
XAN				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
XAN				LR	LR		
	comp=E,118nm,19.0s						
XAN				LR	LR		
	comp=Z,193nm,16.2s,MS4.1						
GKN	**Gorkha**	**43.91**	**330**	*eP*	**P**	**11 09 11.9**	**+0.6**
KOLN	**Koldanda**	**44.24**	**329**	*eP*	**P**	**11 09 14.8**	**+0.8**
	comp=Z,16nm,0.7s,mb4.9						
GTA	**Gaotai**	**49.66**	**352**	*eP*	**P**	**11 09 57.6**	**+1.3**
GTA				AP	pP	11 10 05.5	-1.2
GTA				XP	sP	11 10 09.6	-1.2
GTA				AMB	AMB		
	comp=Z,6.0nm,1.5s,mb4.4						
BJI	**Beijing**	**50.32**	**8**	*eP*	**P**	**11 10 01.3**	**0.0**
BJI				S	**S**	**11 17 20.3**	**+8.6**
BJI				AMB	AMB		
	comp=Z,14nm,0.7s,mb5.1						
BJI				LR	LR		
	comp=N,165nm,17.3s,MS4.2						
BJI				LR	LR		
	comp=E,141nm,18.4s,MS4.2						
BJI				LR	LR		
	comp=Z,77nm,28.3s						
HHC	**Hu-ho-hao-te**	**50.65**	**4**	*eP*	**P**	**11 10 05.4**	**+1.6**
HHC				PCP	PcP	11 11 21.3	+0.4
HHC				PP	PP	11 12 02.8	+2.9
HHC				PCS	PcS	11 15 17.9	-0.4
HHC				S	**S**	**11 17 20.4**	**+4.1**
HHC				AMB	AMB		
	comp=Z,21nm,0.6s,mb5.2						
HHC				AMB	AMB		
	comp=Z,104nm,6.5s						
HHC				LR	LR		
	comp=N,199nm,17.8s,MS4.4						
HHC				LR	LR		
	comp=E,289nm,20.8s,MS4.4						
HHC				LR	LR		
	comp=Z,154nm,16.7s,MS4.1						
MJAR	**Matsushiro Arr**	**54.33**	**30**	P	**P**	**11 10 29.1**	**-2.0**
	comp=Z,2.9nm,0.8s,mb4.3,baz=210,slow=7.9,SNR=8.7						
MJAR				pP	pP	11 10 39.7	-1.9
	comp=Z,4.5nm,0.7s,baz=206,slow=7.9,SNR=8.2						
SONM	**Songino Array**	**57.53**	**359**	P	**P**	**11 10 54.0**	**+0.1**
	comp=Z,3.1nm,0.6s,mb4.5,baz=172,slow=7.8,SNR=20						
SONM				pP	pP	11 11 05.1	+0.6
	comp=Z,6.1nm,0.7s,baz=176,slow=7.7,SNR=16						
ULN	**Ulaanbaatar**	**57.55**	**359**	*eP*	**P**	**11 10 54.0**	**-0.1**
ULN				*e**PP	pP	11 11 04.4	-0.2
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**57.55**	**359**	*eP*	**P**	**11 10 54.0**	**-0.1**
	comp=Z,6.3nm,0.8s,mb4.7						
ULN				*ep*P	pP	11 11 04.4	-0.2
ZAK	**Zakamensk**	**60.20**	**357**	*eP*	**P**	**11 11 11.7**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
AAK	**Ala-Archa**	**60.56**	**332**	*eP*	**P**	**11 11 14.5**	**-0.5**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.6						
MKAR	**Makanchi Array**	**60.92**	**340**	P	**P**	**11 11 17.0**	**-0.4**
	comp=Z,3.8nm,0.5s,mb4.8,baz=147,slow=6.9,SNR=30						
MKAR				pP	pP	11 11 27.8	-0.2
	comp=Z,5.2nm,0.6s,baz=140,slow=7.7,SNR=12						
MKAR	**Makanchi Array**	**60.92**	**340**	P	**P**	**11 11 17.0**	**-0.4**
MKA

comp=Z,2.4nm,0.9s,mb4.1
SYO Syowa Base 73.06 200⇑ eP P 11 12 33.5 -1.0
SYO Syowa Base 73.06 200⇑ epP pP 11 12 37.6 -7.7
YAK Yakutsk 73.74 11⇑ iP P 11 12 37.8 -0.7
AKTK Aktyubinsk 74.07 329 P P 11 12 40.2 -0.2
AKTO Aktyubinsk 74.07 329 P P 11 12 40.2 -0.2
comp=Z,1.9nm,0.6s,mb4.2,baz=99,slow=16,SNR=6.0
SVE Sverdlovsk 77.02 336⇓ eP P 11 12 58.0 +0.6
SVE e pP 11 13 07.0 -1.2
ARU Arti 77.63 334 eP P 11 13 00.1 -0.7
ARU e pP 11 13 10.4 -1.2
ARU e 11 15 55.5
ARU ePPP 11 17 39.4
ARU eSS S SS 11 22 50.7 +0.7
ARU eSS SS 11 27 54.0 +4.1
BOSA Boshof 78.86 243 P P 11 13 08.5 +0.9
comp=Z,4.2nm,0.9s,mb4.4,baz=103,slow=9.4,SNR=3.3
QSPA South Pole Qui 80.07 180 eP P 11 13 13.6 -0.6
comp=Z,6.1nm,1.0s,mb4.5
QSPA epP pP 11 13 24.5 -0.6
MMAI Mount Meron Ar 81.00 306 LR LR 11 51 59.9
comp=Z,26nm,19.8s,MS3.6,baz=85,slow=38
TIXI Tiksi 82.61 7 eP P 11 13 26.9 -0.7
TIXI e pP 11 13 36.9 -1.6
TIXI pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
BRTR Keskin Array B 84.41 312 P P 11 13 36.2 -0.6
comp=Z,2.1nm,1.0s,mb4.2,baz=132,slow=7.1,SNR=8.4
BRTR pP pP 11 13 46.6 -1.2
comp=Z,1.4nm,0.8s,baz=140,slow=7.3,SNR=3.9
SNAA Sanae 86.99 197 eP P 11 13 48.5 -1.2
SNAA e 11 13 50.5
SNAA Sanae 86.99 197 eP P 11 13 49.2 -0.5
SNAA pmax pmax
comp=Z,6.0nm,1.0s
SNAA Sanae 86.99 197 eP P 11 13 49.2 -0.5
comp=Z,5.9nm,1.0s,mb4.8
OBN Obninsk 87.64 327 eP P 11 13 53.9 +1.1
OBN i 11 14 11.9
OBN pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
VNA1 Neumayer--Stat 89.02 197 eP P 11 13 59.8 +0.4
VNA1 e 11 14 01.4
VNA1 e pP 11 14 11.2 +0.8
VNA1 e 11 14 19.5
AKASG Malin Array Be 90.51 321 pP pP 11 14 15.1 -2.2
comp=Z,0.2nm,0.3s,baz=83,slow=5.0,SNR=1.8
YKA Yellowknife Ar 119.29 21 pPKP pPKPdf 11 20 04.4 -0.4
comp=Z,0.5nm,0.6s,baz=328,slow=1.6,SNR=4.7
BDFB Brasilia 145.12 224 PKPbc PKPbc 11 20 43.1 +1.8
comp=Z,8.1nm,0.8s,baz=152,slow=4.1,SNR=10
BDFB pPKPbc pPKPbc 11 20 54.3 +1.8
comp=Z,4.7nm,0.7s,baz=85,slow=6.6,SNR=3.6
LONY Lake Ozonia 145.38 3 ePKPdf PKPdf 11 20 41.7 -0.6
NCB Newcomb 146.05 3 ePKPbc PKPbc 11 20 44.4 +0.2
CCM Cathedral Cave 147.16 28 ePKP2 PKPab 11 20 47.6 -1.5
MIAR Mount Ida 148.62 35 ePKP2 PKPbc 11 20 51.7 +0.3
WVT Waverly 150.29 26 ePKIKP PKPbc 11 20 56.2 +0.7
PLAL Pickwick Lake 151.13 28 ePKPbc PKPbc 11 20 57.3 -0.2
LPAZ La Paz 153.64 189 PKPbc PKPbc 11 21 05.5 +2.3
comp=Z,1.0nm,0.6s,baz=210,slow=7.2,SNR=5.8
LPAZ pPKPbc pPKPbc 11 21 17.7 +3.3
comp=Z,2.6nm,0.9s,baz=126,slow=2.2,SNR=6.5

IDC 20 11:01:26.6±1.1, 912S×10760E, h0km, mb4.4/5, mb1 4.5/5, mb1mx4.2/17, mbtmp4.4/5, Error ellipse: s-maj=68.3km s-min=24.7km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	25.31	161	P		P	P	11 06 54.1	-0.7
	46nm,1.2s,baz=323,slow=3.7,SNR=3.8								
WRA	Warramunga Arr	27.98	116	P		P	P	11 07 20.8	+1.8
	4.4nm,0.9s,baz=287,slow=11,SNR=5.0								
STKA	Stephens Creek	38.80	131	P		P	P	11 08 53.5	+0.5
	9.5nm,0.8s,baz=298,slow=9.2,SNR=4.7								
BRTR	Keskin Array B	83.67	312	P		P	P	11 13 59.5	+2.3
	2.0nm,0.8s,baz=125,slow=6.2,SNR=4.7								
AKASG	Malin Array Be	89.71	321	P		P	P	11 14 26.5	-0.2
	0.9nm,0.6s,baz=86,slow=5.1,SNR=5.5								
YKA	Yellowknife Ar	118.63	21	PKP		PKPdf	PKPdf	11 20 13.8	-2.7
	0.9nm,0.9s,baz=313,slow=2.2,SNR=3.2								

IDC 20 11:08:18.4±9.4, 473S×15073E, h100km±59km, mb3.5/4, mb1 3.7/5, mb1mx3.4/13, mbtmp3.9/5, ML2.8/1, Error ellipse: s-maj=69.7km s-min=61.6km az=39.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.84	217	P		Pn	Pn	11 09 41.2	-1.3
	1.8nm,0.3s,baz=32,slow=15,SNR=4.6								
PMG				S		Sn	Sn	11 10 49.7	+1.6
	1.6nm,0.3s,baz=34,slow=18,SNR=2.2								
WRA	Warramunga Arr	21.98	225	P		P	P	11 13 04.1	-0.2
	1.3nm,0.6s,baz=53,slow=9.6,SNR=8.0								
ASAR	Alice Springs	24.85	219	P		P	P	11 13 30.2	-1.3
	0.8nm,0.7s,baz=60,slow=9.4,SNR=6.9								
FITZ	Fitzroy Crossi	27.90	240	P		P	P	11 13 59.9	+1.0
	2.0nm,0.6s,baz=93,slow=8.6,SNR=6.0								
STKA	Stephens Creek	28.33	197	P		P	P	11 14 04.2	+1.5
	1.6nm,0.4s,baz=34,slow=9.4,SNR=12								

IDC 20 11:37:05.1±2.9, 1036S×10784E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/17, mbtmp3.8/6, ML3.4/1, Error ellipse: s-maj=121.4km s-min=20.1km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.88	116	P		P	Pn	11 41 28.9	+1.4
	0.1nm,0.3s,baz=294,slow=12,SNR=4.7								
WRA	Warramunga Arr	27.26	114	P		P	P	11 42 52.1	+1.2
	0.5nm,0.7s,baz=286,slow=11,SNR=4.1								
ASAR	Alice Springs	28.15	121	P		P	P	11 42 57.9	-1.1
	0.4nm,1.0s,baz=309,slow=9.6,SNR=3.2								
STKA	Stephens Creek	37.83	130	P		P	P	11 44 23.2	-0.1
	2.1nm,0.7s,baz=243,slow=6.8,SNR=3.6								
SONM	Songino Array	57.94	359	P		P	P	11 46 59.2	0.0
	1.1nm,0.5s,baz=179,slow=7.8,SNR=10								
MKAR	Makanchi Array	61.30	340	P		P	P	11 47 22.5	+0.2
	1.1nm,0.8s,baz=132,slow=6.2,SNR=7.0								

*ISCJB **20** 11:57:29.1±0.4, 1084N±003×62.15W±003, h98km±4km, mb3.6/6, Error ellipse: s-maj=5.4km s-min=3.7km az=72.9*
*NEIC **20** 11:57:30.0, 1090N×6209W, h93km, mb3.8/1, MD3.6(TRN), MW4.0(CAR), After CAR.*
*FUNV **20** 11:57:30.0, 1090N×6209W, h93km, MW4.0*
*IDC **20** 11:57:31.4±1.3, 1103N×6234W, h111km±12km, mb3.4/6, mb1 3.6/7, mb1mx3.4/22, mbtmp3.7/7, Error ellipse: s-maj=21.0km s-min=7.4km az=127.0*
*TRN **20** 11:57:32.1, 1097N×6212W, h27km, MD3.6*

ISC 20 11:57:30.0±0.4, 1084N±003×6215W±003, h93km±4km, n30, σ1s06/49, mb3.6/6, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.20	201	eP		Pn	Pn	11 57 43.9	+0.6
GUIV				eS		Sn	Sn	11 57 53.3	0.0
TRN	Trinidad (W)	0.76	104	eP		Pn	Pn	11 57 47.7	+0.4
TRN				eS		Sn	Sn	11 57 58.9	-1.4
TPP	Pointe-a-Pierr	0.86	127	eP		Pn	Pn	11 57 49.4	+1.0
TPP				eS		Sn	Sn	11 58 02.8	+0.7
GUNV	Guanoco	1.03	229	eP		Pn	Pn	11 57 51.5	+1.2
GUNV				eS		Sn	Sn	11 58 06.4	+0.9
CRUV	Carupano	1.08	261	eP		Pn	Pn	11 57 51.2	+0.4
CRUV				eS		Sn	Sn	11 58 05.9	-0.6
ITEV	Isla Los Testi	1.09	298	eP		Pn	Pn	11 57 50.6	-0.4
ITEV				eS		Sn	Sn	11 58 05.7	-1.1
TBH	Brigand Hill	1.12	108	eP		Pn	Pn	11 57 51.7	+0.4
TBH				eS		Sn	Sn	11 58 07.0	-0.2
TPR	Prospect	1.39	76	eP		Pn	Pn	11 57 54.6	+0.1
TPR				eS		Sn	Sn	11 58 11.8	-1.3
GRW	Mount Saint Ca	1.40	20	eP		Pn	Pn	11 57 55.0	+0.4
GRW				eS		Sn	Sn	11 58 12.7	-0.5
BOT	Bacolet	1.44	77	eP		Pn	Pn	11 57 55.0	-0.1
BOT				eS		Sn	Sn	11 58 13.2	-1.1
ORIV	Oritupano	2.15	215	eP		Pn	Pn	11 58 04.8	+0.6
ORIV				eS		Sn	Sn	11 58 30.5	0.0
PCRV	Puerto La Cruz	2.53	255	P		Pn	Pn	11 58 10.0	+0.6
	6.0nm,0.3s,baz=64,slow=3.5,SNR=32								
PCRV				S		Sn	Sn	11 58 38.7	-0.8
	22nm,0.3s,baz=205,slow=14,SNR=30								
PCRV	Puerto La Cruz	2.53	255	eP		Pn	Pn	11 58 09.3	0.0
PCRV				eS		Sn	Sn	11 58 38.6	-0.9
SVB	Belmont	2.57	20	eP		Pn	Pn	11 58 11.4	+1.6
SVB				eS		Sn	Sn	11 58 39.0	-1.5
SVV	Soufriere Volc	2.63	20	eP		Pn	Pn	11 58 12.2	+1.6
SVV				eS		Sn	Sn	11 58 41.3	-0.5
SSV	Crater Summit	2.64	21	eP		Pn	Pn	11 58 12.4	+1.6
SSV				eS		Sn	Sn	11 58 43.1	+1.0
GURV	El Guri	3.20	197	eP		Pn	Pn	11 58 17.7	-0.5
GURV				eS		Sn	Sn	11 58 53.5	-1.9
BIM	Bigot	3.80	16	eP		Pn	Pn	11 58 26.9	+0.5
BIM				eS		Sn	Sn	11 59 10.5	+0.4
FDF	Fort de France	3.99	14	eP		Pn	Pn	11 58 29.8	+0.9
FDF				eS		Sn	Sn	11 59 12.7	-2.0
PHG	Guadaloupe-2	5.17	5	eP		Pn	Pn	11 58 48.9	+4.0
DOG	Dongo Capester	5.19	6	eP		Pn	Pn	11 58 49.3	+4.1
LZG	Guadaloupe-1	5.28	4	eP		Pn	Pn	11 58 47.5	+1.0
SAML	Samuel	19.68	183	eP		Pn	Pn	12 01 52.1	-1.9
	5.4nm,1.0s								
SIV	San Ignacio	26.68	178	P		P	P	12 03 01.4	+1.2
	1.1nm,0.6s,mb3.6,baz=3.6,slow=16,SNR=7.8								
LPAZ	La Paz	27.59	192	P		P	P	12 03 11.5	+3.1
	0.8nm,0.6s,mb3.4,baz=348,slow=9.3,SNR=3.9								
SCHQ	Schefferville	44.04	356	P		P	P	12 05 27.7	-0.7
	0.8nm,0.6s,mb3.6,baz=225,slow=4.3,SNR=3.3								
PLCA	Paso Flores	51.90	188	P		P	P	12 06 29.0	0.0
	1.2nm,0.9s,mb3.9,baz=0.0,slow=4.0,SNR=3.0								
PLCA	Paso Flores	51.90	188	P		P	P	12 06 29.0	0.0
PDAR	Pinedale Array	51.98	317	P		P	P	12 06 27.8	-1.8
	0.9nm,0.6s,mb4.0,baz=113,slow=9.2,SNR=10								
YKA	Yellowknife Ar	63.68	336	P		P	P	12 07 48.1	-3.3
	0.2nm,0.4s,mb3.3,baz=108,slow=7.2,SNR=4.0								

GII 20 12:11:20.1±54.0, 3210N×3636E, h0km, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HMDT	Nahal Hemdat	0.72	282	Pg		Pg	Pg	12 11 37.1	+3.1
HMDT				Sg		Sg	Sg	12 11 46.6	+3.2
HMDT	Nahal Hemdat	0.72	282	Pg		Pg	Pg	12 11 37.1	+3.1
HMDT				Sg		Sg	Sg	12 11 46.1	+2.7
GLH	Golan-Tel Qazi	0.86	316	Sg		Sg	Sg	12 11 46.1	-1.6
MMLI	Mount Malkishu	0.86	293	Pg		Pg	Pg	12 11 38.5	+1.8
MMLI				Sg		Sg	Sg	12 11 47.0	-0.9
PRNI	Paran	2.10	214	Pn		Pn	Pn	12 11 56.6	+0.1
PRNI				Sn		Sn	Sn	12 12 21.2	-2.0
PRNI	Paran	2.10	214	Pn		Pn	Pn	12 11 56.6	+0.1
PRNI				Sn		Sn	Sn	12 12 21.2	-2.0

*IDC **20** 12:29:55.6±0.9, 534S×15027E, h0km, mb4.5/11, mb1 4.6/13, mb1mx4.5/18, mbtmp4.5/13, ML3.0/2, MS3.8/8, Ms1 3.8/8, ms1mx3.6/19, Error ellipse: s-maj=24.8km s-min=17.6km az=69.0*
*BJI **20** 12:29:56.5, 540S×150.10E, h20km, mB5.0, mb4.7, Ms4.5, Msz3.9*
*ISCJB **20** 12:29:59.0±0.5, 535S±006×150.17E±009, h33km, mb4.6/24, MS3.9/6, Error ellipse: s-maj=13.3km s-min=8.5km az=168.9*
*NEIC **20** 12:30:00.2±0.7, 545S×150.05E, h20km, mb4.8/14, Error ellipse: s-maj=18.6km s-min=12.8km az=96.0*

ISC 20 12:30:01.3±0.5, 541S±006×15023E±009, h35km, n41, σ0s84/39, mb4.6/24, MS3.9/6, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.00	217	Pn		Pn	Pn	12 31 14.6	+0.8
	1.7nm,0.3s,baz=31,slow=13,SNR=6.2								
PMG				Sn		Sn	Sn	12 32 18.4	+8.0
	2.9nm,0.3s,baz=42,slow=20,SNR=2.7								
PMG				LR		LR	LR	12 33 25.9	
	comp=Z,411nm,21.1s,baz=226,slow=41								
PMG	Port Moresby	5.00	217	ePn		Pn	Pn	12 31 16.9	+3.0
PMG				eSn		Sn	Sn	12 32 17.9	+7.5
CTA	Charters Tower	15.10	194	eP		Pn	Pn	12 33 37.2	+5.4
	13nm,1.5s								
CTA	Charters Tower	15.10	194	Pn		Pn	Pn	12 33 30.4	-1.5
	0.1nm,0.3s,baz=36,slow=17,SNR=2.0								
CTA				LR		LR	LR	12 38 39.4	
	comp=Z,294nm,19.9s,baz=15,slow=34								
CTAO	Charters Tower	15.10	194	ePn		Pn	Pn	12 33 31.9	+0.1
KAKA	Kakadu	18.99	246	eP		Pn	Pn	12 34 20.4	-0.3
	22nm,0.6s								
GUMO	Guam	19.61	344	LR		LR	LR	12 40 19.2	
	comp=Z,154nm,20.0s,baz=84,slow=32								
WRAB	Tennant Creek	21.14	226	eP		P	P	12 34 42.9	-0.3
	44nm,0.9s,mb4.8								
WB2	Warramunga Arr	21.15	225	iP		P	P	12 34 42.9	-0.3
WRA	Warramunga Arr	21.16	226	P		P	P	12 34 43.1	-0.2
	10nm,0.6s,mb4.4,baz=51,slow=11,SNR=47								
DZM	Mont Dzumac	22.82	138	P		P	P	12 34 59.0	-2.0
	22nm,1.0s,mb4.5,baz=348,slow=14,SNR=6.8								
DZM				LR		LR	LR	12 42 36.6	
	comp=Z,312nm,19.9s,MS3.8,baz=30,slow=33								
AS31	Alice Springs	24.01	219	eP		P	P	12 35 13.0	+0.2
ASAR	Alice Springs	24.02	219	P		P	P	12 35 13.1	+0.4
	13nm,0.7s,mb4.5,baz=61,slow=8.3,SNR=36								
FITZ	Fitzroy Crossi	27.13	240	eP		P	P	12 35 40.2	-0.7
	36nm,0.7s,mb5.0								
FITZ	Fitzroy Crossi	27.13	240	P		P	P	12 35 40.2	-0.8
	9.3nm,0.8s,mb4.4,baz=95,slow=6.4,SNR=23								
FITZ				LR		LR	LR	12 48 05.8	
	comp=Z,143nm,19.5s,MS3.5,baz=241,slow=40								
STKA	Stephens Creek	27.55	196	eP		P	P	12 35 45.2	+0.5
	7.9nm,0.7s,mb4.5								
STKA	Stephens Creek	27.55	196	P		P	P	12 35 44.5	-0.2
	9.4nm,0.7s,mb4.5,baz=24,slow=13,SNR=18								
STKA				LR		LR	LR	12 46 30.4	
	comp=Z,261nm,19.1s,MS3.8,baz=23,slow=36								
FORT	Forrest	32.73	217	eP		P	P	12 36 31.0	+0.4
	14nm,0.7s,mb5.0								
MBWA	Marble Bar	33.45	239	eP		P	P	12 36 36.0	-0.9
	7.2nm,0.6s,mb4.8								
TAU	Tasmania Unive	37.44	184	eP		P	P	12 37 11.9	+0.8
	13nm,0.7s,mb4.9								
RAO	Raoul Island	38.33	132	LR		LR	LR	12 48 49.2	
	comp=Z,643nm,20.6s,MS4.4,baz=293,slow=30								
KLBR	Kellerberrin	40.04	225	eP		P	P	12 37 31.3	-1.6
	81nm,1.6s,mb5.2								
URZ	Urewera	40.82	147	P		P	P	12 37 39.0	-0.3
	7.2nm,0.6s,mb4.5,baz=22,slow=16,SNR=5.6								
RPZ	Rata Peaks	42.34	157	P		P	P	12 37 52.4	+0.7
	7.7nm,0.5s,mb4.6,baz=97,slow=16,SNR=9.2								
XAN	Xi'an	55.32	318	P		P	P	12 39 30.9	-0.5
XAN				AMB		AMB			
	comp=Z,4.0nm,1.6s,mb4.2								
HHC	Hu-ho-hao-te	58.08	326	eP		P	P	12 39 52.3	+1.4
HHC				PP		PP		12 42 02.8	+3.1
HHC				S		S	S	12 47 45.3	-4.2
HHC				AMB		AMB			
	comp=Z,19nm,0.7s,mb5.2								
HHC				AMB		AMB			
	comp=Z,101nm,6.2s								
HHC				LR		LR			
	comp=N,269nm,30.9s,MS4.3								
HHC				LR		LR			
	comp=E,256nm,28.5s,MS4.3								
LZH	Lanzhou	59.90	317	eP		P	P	12 40 04.3	+0.7
LZH				AP		pP		12 40 13.1	-1.2
LZH				XP		sP		12 40 16.5	-1.9
LZH				AMB		AMB			
	comp=Z,21nm,1.4s,mb5.0								
HIA	Hailar	60.57	338	eP		P	P	12 40 07.5	-0.7
	comp=Z,7.1nm,0.8s,mb4.8								
GTA	Gaotai	64.38	319	eP		P	P	12 40 33.9	+0.3
GTA				AP		pP		12 40 38.3	-6.1
GTA				XP		sP		12 40 41.8	-6.7
GTA				AMB		AMB			
	comp=Z,4.0nm,0.6s,mb4.6								
ULN	Ulaanbaatar	65.18	329	eP		P	P	12 40 38.8	0.0
	comp=Z,7.9nm,1.1s,mb4.7								
SONM	Songino Array	65.50	329	P		P	P	12 40 39.8	-1.1
	comp=Z,4.1nm,1.0s,mb4.4,baz=139,slow=5.0,SNR=19								
SONM				LR		LR		13 11 16.4	
	comp=Z,48nm,18.3s,MS3.7,baz=256,slow=38								
VNDA	Vanda	72.33	177	P		P	P	12 41 23.3	-0.1
	comp=Z,2.8nm,0.7s,mb4.3,baz=332,slow=6.1,SNR=18								
VNDA	Vanda	72.33	177	eP		P	P	12 41 23.4	0.0
	comp=Z,2.9nm,0.8s,mb4.3								
SBA	Scott Base	72.92	176	eP		P	P	12 41 28.4	+1.5
	comp=Z,2.2nm,0.8s,mb4.1								
MKAR	Makanchi Array	79.11	320	P		P	P	12 42 02.8	+0.7
	comp=Z,0.9nm,0.8s,mb3.8,baz=88,slow=8.8,SNR=5.4								
MAW	Mawson	84.03	203	P		P	P	12 42 28.9	+0.8
	comp=Z,1.8nm,0.6s,mb4.3,baz=64,slow=2.8,SNR=5.2								
MAW	Mawson	84.03	203	eP		P	P	12 42 28.8	+0.7
	comp=Z,2.9nm,0.7s,mb4.5								
QSPA	South Pole Qui	84.56	180	eP		P	P	12 42 31.0	+0.2
	comp=Z,5.6nm,0.8s,mb4.8								
LRAL	Lakeview Retre	120.23	55	ePKPdf		PKPdf	PKPdf	12 48 54.2	+5.7
WLF	Walferdange	126.51	332	ePKPdf		PKPdf	PKPdf	12 49 06.2	+5.6
TORD	Torodi Ar. Bea	148.03	286	PKPbc		PKPbc	PKPbc	12 49 44.9	+1.9
	comp=Z,1.5nm,0.9s,baz=66,slow=2.0,SNR=5.2								

CASC 20 12:37:08.2±3.1, 1059N×8638W, h0km±16km, MD3.7, 3C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LIM1	Limonal	1.11	84	iP		Pg	Pg	12 37 28.7	-0.8
LIM1				iS		Sg	Sg	12 37 44.7	+0.8
COPN	Copaltepe	1.59	353	eP		Pn	Pn	12 37 38.0	+0.4
APYN	Apoyeque	1.63	1	eP		Pn	Pn	12 37 38.6	+0.5
LEON	Leon	1.88	345	eP		Pn	Pn	12 37 41.9	+0.3
PRS1	Puriscal	2.12	106	eP		Pn	Pn	12 37 46.2	+1.2
LCR2	La Lucha 2	2.49	110	eP		Pn	Pn	12 37 51.4	+1.4
BUS	Buena Vista	2.78	112	eP		Pn	Pn	12 37 57.0	+3.0

*IDC **20** 13:00:18.9±1.6, 920S×10829E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.9/18, mbtmp3.9/8, ML3.5/1, Error ellipse: s-maj=58.3km s-min=19.0km az=51.0*
*ISCJB **20** 13:00:19.4±1.1, 92S±02×1085E±02, h10km, mb3.9/10, Error ellipse: s-maj=45.1km s-min=12.6km az=95.6*
*NEIC **20** 13:00:20.8±0.8, 925S×10832E, h10km, mb4.1/4, Error ellipse: s-maj=38.8km s-min=11.9km az=47.0*

ISC 20 13:00:21.2±1.1, 92S±02×1084E±02, h10km, n14, σ0s86/12, mb3.9/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBWA	Marble Bar	16.15	139	eP		Pn	Pn	13 04 03.9	-4.4
	5.1nm,0.8s								
FITZ	Fitzroy Crossi	18.95	120	P		Pn	Pn	13 04 43.2	+0.1
	0.1nm,0.3s,baz=285,slow=16,SNR=4.7								
WRA	Warramunga Arr	27.26	116	P		P	P	13 06 05.3	-0.3
	0.9nm,0.7s,mb3.4,baz=287,slow=11,SNR=4.2								
ASAR	Alice Springs	28.32	124	P		P	P	13 06 16.1	+0.9
	0.9nm,0.8s,mb3.5,baz=302,slow=8.9,SNR=8.6								
STKA	Stephens Creek	38.17	131	P		P	P	13 07 40.2	-0.5
	1.6nm,0.7s,mb3.9,baz=317,slow=11,SNR=2.9								
MJAR	Matsushiro Arr	53.47	30	P		P	P	13 09 40.9	-0.7
	1.8nm,0.9s,mb4.0,baz=179,slow=7.3,SNR=3.2								
SONM	Songino Array	56.83	358	P		P	P	13 10 05.3	-0.5
	0.7nm,0.9s,mb3.7,baz=166,slow=7.2,SNR=4.9								
ULN	Ulaanbaatar	56.84	359	eP		P	P	13 10 09.3	+3.4
	1.2nm,0.6s,mb4.1								
MKAR	Makanchi Array	60.42	340	P		P	P	13 10 30.4	-0.5
	0.8nm,0.4s,mb4.1,baz=146,slow=7.1,SNR=5.4								
CHKZ	Chkalovo	70.34	337	eP		P	P	13 11 35.7	+0.6
	0.9nm,0.4s,mb4.0								
ARU	Arti	77.19	334	eP		P	P	13 12 16.2	+0.9
	6.9nm,0.6s,mb4.8								
BRTR	Keskin Array B	84.30	312	P		P	P	13 12 52.5	-0.9
	0.4nm,0.5s,mb3.8,baz=113,slow=9.5,SNR=3.8								
WMOK	Wichita Mounta	144.47	40	ePKPdf		PKPdf	PKPdf	13 19 59.0	+1.2
CPD	Cerro la Pandu	169.62	328	ePKPdf		PKPdf	PKPdf	13 20 28.1	-0.9

IDC 20 13:02:44.3±7.2, 6338S×15376E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.9/11, mbtmp3.8/3, ML3.6/1, MS3.9/8, Ms1 3.9/8, ms1mx3.5/24, Error ellipse: s-maj=560.1km s-min=40.4km az=76.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	Vanda	14.44	173	Pn		Pn	Pn	13 06 09.5	-0.3
	0.3nm,0.3s,baz=344,slow=14,SNR=9.7								
VNDA				LR		LR	LR	13 11 21.7	
	comp=Z,467nm,18.5s,baz=353,slow=36								
RPZ	Rata Peaks	22.08	35	LR		LR	LR	13 14 18.0	
	comp=Z,331nm,19.0s,baz=178,slow=31								
STKA	Stephens Creek	32.45	340	LR		LR	LR	13 20 37.5	
	comp=Z,144nm,20.7s,baz=26,slow=33								
MAW	Mawson	34.72	222	LR		LR	LR	13 25 12.0	
	comp=Z,131nm,18.4s,baz=241,slow=39								
ASAR	Alice Springs	41.85	332	P		P	P	13 10 36.2	+0.2
	1.6nm,0.8s,baz=166,slow=9.1,SNR=12								
DZM	Mont Dzumac	42.17	18	LR		LR	LR	13 22 48.4	
	comp=Z,224nm,20.7s,baz=208,slow=29								
CTA	Charters Tower	43.56	350	LR		LR	LR	13 26 47.8	
	comp=Z,91nm,21.2s,baz=9.9,slow=33								
WRA	Warramunga Arr	45.38	334	P		P	P	13 11 03.6	-0.8
	0.8nm,0.7s,baz=162,slow=8.0,SNR=9.3								
HNR	Honiara	54.04	8	LR		LR	LR	13 29 27.9	
	comp=Z,121nm,18.9s,baz=178,slow=30								
PMG	Port Moresby	54.09	352	LR		LR	LR	13 31 37.0	
	comp=Z,131nm,20.2s,baz=211,slow=32								

*IDC **20** 13:12:31.9±0.6, 958S×10821E, h0km, mb4.3/12, mb1 4.4/14, mb1mx4.3/18, mbtmp4.3/14, ML3.

KMI AP pP 13 19 38.3 +2.2
KMI XP sP 13 19 42.3 +2.2
KMI AMB AMB
comp=Z,12nm,1.4s,mb4.6
KMI AMB AMB
comp=Z,98nm,7.1s
KMI LR LR
comp=N,219nm,17.7s,MS4.1
KMI LR LR
comp=E,229nm,17.7s,MS4.1
KMI LR LR
comp=Z,217nm,13.6s,MS4.1
GYA Guiyang 35.99 358 ⇓*i*P **P 13 19 35.9 +1.2**
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.2
YHNB Yeheng 36.51 20 *e*P **P 13 19 39.0 -0.1**
STKA Stephens Creek 37.95 130 *e*P **P 13 19 52.4 +1.0**
comp=Z,5.6nm,0.7s,mb4.4
STKA *e* pP 13 20 02.1 +1.1
STKA Stephens Creek 37.95 130 P **P 13 19 52.5 +1.1**
comp=Z,10nm,0.9s,mb4.6,baz=304,slow=7.1,SNR=11
WHN Wuhan 40.46 8 P **P 13 20 13.5 +1.2**
NJ2 Nanjing 42.76 13 *e*P **P 13 20 35.3 +4.1**
NJ2 AP pP 13 20 45.1 +4.2
NJ2 XP sP 13 20 49.0 +4.2
NJ2 PP PP 13 22 16.3 +5.6
NJ2 S **S 13 26 58.0 +5.2**
NJ2 XS sS 13 27 14.0 +5.2
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
NJ2 AMB AMB
comp=Z,220nm,3.8s
NJ2 LR LR
comp=Z,1μm,23.0s,MS4.7
JIRN Jiri 42.85 331 *e*P **P 13 20 32.6 +0.7**
comp=Z,80nm,0.8s,mb5.5
PKI Pulchoki 43.16 330 *e*P **P 13 20 34.5 +0.1**
GUN Gumba 43.21 331 *e*P **P 13 20 35.4 +0.6**
comp=Z,99nm,0.9s,mb5.5
DMN Daman 43.34 329 *e*P **P 13 20 36.0 +0.1**
comp=Z,46nm,0.9s,mb5.2
KKN Kakani 43.40 330 *e*P **P 13 20 36.3 -0.1**
comp=Z,59nm,1.0s,mb5.3
KKN Kakani 43.40 330 *e*P **P 13 20 36.3 -0.1**
KKN pmax pmax
comp=Z,59nm,1.0s,mb5.3
XAN Xi'an 43.52 1 P **P 13 20 37.3 0.0**
XAN AP pP 13 20 47.3 +0.3
XAN AMB AMB
comp=Z,16nm,1.0s,mb4.7
GKN Gorkha 43.90 329 *e*P **P 13 20 40.4 0.0**
comp=Z,39nm,0.8s,mb5.2
KOLN Koldanda 44.24 328 *e*P **P 13 20 43.3 +0.2**
comp=Z,47nm,0.8s,mb5.3
LZH Lanzhou 45.74 355 *e*P **P 13 20 56.5 +1.4**
LZH AP pP 13 21 05.0 +0.2
LZH XP sP 13 21 10.0 +1.3
LZH AMB AMB
comp=Z,26nm,1.0s,mb5.1
GTA Gaotai 49.50 351 *e*P **P 13 21 25.5 +1.3**
GTA AP pP 13 21 32.5 -1.5
GTA XP sP 13 21 36.1 -1.8
GTA PCP PcP 13 22 46.4 +0.6
GTA PP PP 13 23 20.8 +2.3
GTA PPP 13 24 13.6
GTA S **S 13 28 31.8 +2.3**
GTA XS sS 13 28 48.5 +2.8
GTA SS SS 13 32 00.1 -1.5
GTA AMB AMB
comp=Z,11nm,1.5s,mb4.7
GTA AMB AMB
comp=Z,70nm,5.3s
GTA LR LR
comp=N,73nm,18.2s,MS4.1
GTA LR LR
comp=E,169nm,20.5s,MS4.1
GTA LR LR
comp=Z,59nm,12.5s
HHC PCS PcS 13 26 47.1 +0.7
HHC S **S 13 28 47.3 +5.1**
HHC PS 13 28 54.4
HHC SS SS 13 32 17.8 +1.6
HHC LR LR
comp=N,152nm,19.0s,MS4.3
HHC LR LR
comp=E,249nm,19.6s,MS4.3
HHC LR LR
comp=Z,98nm,16.7s,MS3.9
HHC Hu-ho-hao-te 50.41 3 PP PP 13 23 29.1 +2.3
MAT Matsushiro 53.97 30 P **P 13 21 55.4 -2.1**
MAT Matsushiro 53.97 30 P **P 13 21 55.0 -2.5**
MJAR Matsushiro Arr 53.97 30 P **P 13 21 55.8 -1.7**
comp=Z,5.1nm,0.9s,mb4.5,baz=204,slow=7.8,SNR=12
CN2 Changchun 55.52 15 *e*P **P 13 22 09.0 +0.2**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
SONM Songino Array 57.32 359 P **P 13 22 22.0 +0.4**
comp=Z,6.8nm,1.0s,mb4.7,baz=174,slow=8.7,SNR=34
SONM LR LR 13 48 27.0
comp=Z,87nm,21.4s,MS3.8,baz=62,slow=38
ULN Ulaanbaatar 57.34 359 *e*P **P 13 22 22.0 +0.3**
ULN *e* pP 13 22 31.2 -0.5
ULN pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ULN Ulaanbaatar 57.34 359 *e*P **P 13 22 22.0 +0.3**
comp=Z,9.4nm,0.9s,mb4.8
ULN *e* pP 13 22 31.2 -0.5
ZAK Zakamensk 60.00 356 ⇑*i*P **P 13 22 40.1 -0.2**
ZAK *e* 13 23 26.6
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
AAK Ala-Archa 60.53 332 ⇑*e*P **P 13 22 42.5 -1.4**
AAK pmax pmax
comp=Z,3.0nm,1.6s,mb4.2
MKAR Makanchi Array 60.84 340 P **P 13 22 45.9 -0.1**
comp=Z,6.1nm,0.6s,mb4.9,baz=138,slow=7.3,SNR=46
KLR Kul'dur 62.23 17 *e*P **P 13 22 51.2 -4.2**
KLR *e* pP 13 23 00.0 -5.5
YSS Yuzh-Sakhalins 64.27 26 ⇑*i*P **P 13 23 08.0 -0.9**
YSS pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
MAW Mawson 65.14 197 P **P 13 23 14.5 -0.1**
comp=Z,1.4nm,0.5s,mb4.2,baz=65,slow=6.0,SNR=4.4
MAW Mawson 65.14 197 *e*P **P 13 23 14.2 -0.4**
MAW *e* pP 13 23 24.0 -0.7
MAW pmax pmax
comp=Z,3.0nm,0.5s
MAW Mawson 65.14 197 *e*P **P 13 23 14.2 -0.4**
comp=Z,3.0nm,0.5s,mb4.6
MAW *e* pP 13 23 24.0 -0.7
KURK Kurchatov 65.45 340 *e*P **P 13 23 16.3 -0.3**
KURK *e* pP 13 23 26.0 -0.7
KURK pmax pmax
comp=Z,11nm,0.8s,mb4.9
KURK Kurchatov 65.45 340 *e*P **P 13 23 16.3 -0.3**
comp=Z,11nm,0.8s,mb4.9
KURK *e* pP 13 23 26.0 -0.7
ZAL Zalesovo 66.44 345 P **P 13 23 20.6 -2.4**
comp=Z,1.6nm,0.4s,mb4.4,baz=27,slow=1.8,SNR=8.1
NVS Novosibirsk 67.66 345 *e*P **P 13 23 28.5 -2.2**
BRVK Borovoye 70.39 337 *e*P **P 13 23 47.2 -0.4**
BRVK *e* pP 13 23 57.3 -0.6
BRVK pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BRVK Borovoye 70.39 337 *e*P **P 13 23 47.2 -0.4**
comp=Z,3.5nm,0.7s,mb4.4
BRVK *e* pP 13 23 57.3 -0.5
CHKZ Chkalovo 70.74 337 *e*P **P 13 23 49.3 -0.5**
CHKZ *e* pP 13 23 59.3 -0.7
CHKZ pmax pmax
comp=Z,15nm,0.8s,mb5.0
CHKZ Chkalovo 70.74 337 *e*P **P 13 23 49.3 -0.5**
comp=Z,15nm,0.8s,mb5.0
CHKZ *e* pP 13 23 59.3 -0.7
ZRNK Zerenda 70.81 336 *e*P **P 13 23 49.7 -0.5**
ZRNK *e* pP 13 23 59.6 -0.8
ZRNK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ZRNK Zerenda 70.81 336 *e*P **P 13 23 49.7 -0.5**
comp=Z,10nm,0.8s,mb4.8
ZRNK *e* pP 13 23 59.6 -0.8
KMBO Kilima Mbogo 71.06 272 P **P 13 23 52.1 +0.4**
comp=Z,1.4nm,0.7s,mb4.0,baz=31,slow=13,SNR=4.0

YAK Yakutsk 73.46 10 ⇑*i*P **P 13 24 05.7 -0.3**
YAK pmax pmax
comp=Z,28nm,0.8s,mb5.2
SVE Sverdlovsk 76.97 335 ⇓*e*P **P 13 24 25.2 -1.0**
SVE *e* pP 13 24 35.8 -0.7
SVE pmax pmax
comp=Z,40nm,1.9s,mb5.0
ARU Arti 77.58 334 ⇓*i*P **P 13 24 29.6 -0.1**
ARU *e* pP 13 24 38.9 -1.1
ARU *e* 13 27 25.0
ARU *e*PPP 13 29 09.4
ARU *e*S S 13 34 20.2 +1.4
ARU *e*SS SS 13 39 20.4 +1.9
ARU pmax pmax
comp=Z,16nm,0.9s,mb5.0
ARU Arti 77.58 334 *e*P **P 13 24 29.3 -0.3**
comp=Z,18nm,1.0s,mb5.0
ARU *e* pP 13 24 39.5 -0.5
LSZ Lusaka 77.96 256 *e*P **P 13 24 32.6 +0.8**
LSZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LSZ Lusaka 77.96 256 *e*P **P 13 24 32.6 +0.8**
comp=Z,3.2nm,0.7s,mb4.4
BOSA Boshof 79.28 243 LR LR 13 52 03.3
comp=Z,66nm,20.2s,MS4.0,baz=158,slow=30
EIL Elat 80.54 302 *e*P **P 13 24 46.2 +0.4**
comp=Z,72nm,0.8s,mb5.7
EIL *e* pP 13 24 55.8 -0.4
TIXI Tiksi 82.35 6 *e*P **P 13 24 53.7 -1.7**
TIXI *e* pP 13 25 04.0 -1.8
TIXI pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BR131 Keskin Array S 84.53 312 *e*P **P 13 25 06.4 -0.3**
comp=Z,0.6nm,0.5s,mb4.0
BR131 *e* pP 13 25 16.0 -1.1
BRTR Keskin Array B 84.53 312 P **P 13 25 06.8 +0.1**
comp=Z,2.2nm,0.7s,mb4.4,baz=134,slow=7.1,SNR=15
OBN Obninsk 87.65 327 ⇓*e*P **P 13 25 21.7 -0.3**
OBN *i* pP 13 25 32.1 -0.4
OBN *e* 13 28 41.6
OBN *e*S 13 35 49.8
OBN pmax pmax
comp=Z,28nm,1.7s,mb5.2
AKASG Malin Array Be 90.56 321 P **P 13 25 34.2 -1.5**
comp=Z,0.8nm,0.6s,mb4.2,baz=90,slow=4.4,SNR=5.2
AKASG Malin Array Be 90.56 321 P **P 13 25 34.2 -1.5**
FINES FINESS Array B 94.72 331 P **P 13 25 54.8 -0.1**
comp=Z,1.1nm,0.8s,mb4.3,baz=117,slow=14,SNR=3.3
ARCES ARCESS Array B 96.49 339 LR LR 14 14 54.7
comp=Z,35nm,19.9s,MS3.8,baz=248,slow=39
YKA Yellowknife Ar 118.96 21 PKP PKPdf 13 31 21.9 -0.2
comp=Z,0.6nm,0.6s,baz=340,slow=1.9,SNR=10.0
NVAR Mina Array Bea 129.53 48 PKP PKPdf 13 31 44.3 +2.0
comp=Z,0.3nm,0.7s,baz=253,slow=2.7,SNR=3.6
WMOK Wichita Mounta 144.94 41 *e*PKIKP PKPdf 13 32 11.0 +0.4
WMOK *e* 13 32 21.2
FRNY Flat Rock 144.98 2 *e*PKPdf PKPdf 13 32 10.0 -0.7
FRNY *ep*PKPdf pPKPdf 13 32 20.2 -1.3
LONY Lake Ozonia 145.14 4 *e*PKPab PKPab 13 32 11.3 +0.7
LONY *ep*PKPdf pPKPdf 13 32 21.2 -0.5
BDFB Brasilia 145.52 223 PKPbc PKPbc 13 32 13.9 +2.1
comp=Z,2.4nm,0.6s,baz=38,slow=1.3,SNR=3.8
NCB Newcomb 145.81 3 *e*PKPdf PKPdf 13 32 13.3 +1.2
NCB *e* 13 32 23.2
ACCN Adirondack Com 146.42 2 *e*PKPdf PKPdf 13 32 14.7 +1.6
JCT Junction City 146.71 48 *e*PKPab PKPab 13 32 17.3 +0.8
JCT *ep*PKPdf pPKPdf 13 32 27.4 +3.0
CCM Cathedral Cave 146.79 29 *e*PKPbc PKPbc 13 32 15.4 -0.2
CCM *ep*PKPdf pPKPdf 13 32 25.6 +1.1
BINY Binghamton 147.44 6 *e*PKPbc PKPbc 13 32 17.7 +0.3
ACSO Alum Creek Sta 148.02 16 *e*PKPbc PKPbc 13 32 17.6 -1.4
MIAR Mount Ida 148.24 36 *e*PKP2 PKPab 13 32 20.8 -1.8
WVT Waverly 149.93 27 *e*PKPbc PKPbc 13 32 25.1 +1.2
WVT *ep*PKPdf pPKPdf 13 32 35.0 +5.2
PLAL Pickwick Lake 150.77 28 *e*PKPbc PKPbc 13 32 26.2 +0.4
PLAL *ep*PKPdf pPKPdf 13 32 36.0 +5.0
TZTN Tazewell 151.24 20 *e*PKPbc PKPbc 13 32 27.5 +0.6
TZTN *e* 13 32 35.5
ELN Prospectdale 151.44 15 *e*PKPbc PKPbc 13 32 27.9 +0.6
CPCT Cooper Cave 151.87 22 *e*PKPbc PKPbc 13 32 29.6 +1.3
CPCT *e*PKPab PKPab 13 32 38.0 +0.5

IDC 20 13:18:03.2±1.6, 902S×10949E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/16, mbtmp4.0/6, Error ellipse: s-maj=85.7km s-min=19.1km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.35**	**117**	P	P	13 23 43.0	+2.1
	1.4nm,0.8s,baz=285,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**27.51**	**125**	P	P	13 23 52.1	+0.8
	1.1nm,0.9s,baz=297,slow=8.7,SNR=7.7						
STKA	**Stephens Creek**	**37.46**	**132**	P	P	13 25 16.9	-1.4
	7.2nm,0.7s,baz=302,slow=7.1,SNR=14						
SONM	**Songino Array**	**56.67**	**358**	P	P	13 27 48.4	+0.1
	1.9nm,0.5s,baz=181,slow=7.9,SNR=11						
MKAR	**Makanchi Array**	**60.63**	**339**	P	P	13 28 15.0	-0.8
	0.6nm,0.3s,baz=157,slow=7.8,SNR=5.0						
BRTR	**Keskin Array B**	**85.01**	**311**	P	P	13 30 42.5	+2.0
	0.5nm,0.6s,baz=108,slow=8.0,SNR=3.6						

*IDC **20** 13:34:48.6±1.1, 5196N×17704E, h0km, mb3.9/8, mb1 4.3/9, mb1mx4.0/23, mbtmp4.0/9, ML4.0/1, MS3.4/7, Ms1 3.4/7, ms1mx3.1/33, Error ellipse: s-maj=34.2km s-min=21.0km az=166.0*

*ISCJB **20** 13:34:50.7±2.1, 5193N±008×17698E±007, h30km±15km, mb4.3/21, MS3.5/9, Error ellipse: s-maj=13.3km s-min=6.7km az=6.2*

*MOS **20** 13:34:50.3±0.8, 5199N×17700E, h25km, mb4.5/4, Error ellipse: s-maj=21.6km s-min=13.8km az=60.2*

*BJI **20** 13:34:50.0, 5190N×17700E, h27km, mB4.9, mb4.6, Ms4.4, Msz3.9*

*NEIC **20** 13:34:52.1±2.9, 5186N×17703E, h27km±21km, mb4.4/10, ML4.0(AEIC), Error ellipse: s-maj=13.8km s-min=7.8km az=172.0*

ISC 20 13:34:52.1±2.4, 5190N±008×17700E±006, h28km±17km, n52, σ1§15/52, mb4.3/21, MS3.5/9, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.52**	**109**	P	**Pn**	**13 35 16.2**	**-1.2**
AMKA				S	**Sn**	**13 35 37.4**	**+1.2**
SMY	**Shemya**	**1.97**	**296**	P	**Pn**	**13 35 22.1**	**-1.4**
SMY				S	**Sn**	**13 35 49.1**	**+1.9**
ATKA	**Atka Island**	**5.44**	**83**	P	**Pn**	**13 36 11.2**	**0.0**
SPIA	**Saint Paul Isl**	**9.10**	**49**	*e*Pn	**Pn**	**13 37 03.2**	**+1.8**
SKR	**Severo-Kuril's**	**13.13**	**273**	*e*P	**Pn**	**13 37 52.5**	**-4.0**
SVW2	**Sparrevohn**	**17.59**	**48**	*e*Pn	**Pn**	**13 38 57.7**	**+2.7**
TTA	**Tatalina**	**18.09**	**42**	*e*P	**Pn**	**13 39 01.9**	**+0.7**
TTA				pmax	pmax		
	comp=Z,27nm,1.4s						
TTA	**Tatalina**	**18.09**	**42**	*e*Pn	**Pn**	**13 39 01.9**	**+0.7**
	comp=Z,27nm,1.4s						
KDAK	**Kodiak Island**	**18.37**	**59**	P	**Pn**	**13 39 03.8**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=286,slow=9.1,SNR=3.4						
SLKM	**Skilak Lake**	**19.97**	**52**	*e*P	**Pn**	**13 39 21.7**	**-2.1**
IMA2	**Indian Mountai**	**20.44**	**35**	*e*P	**P**	**13 39 27.6**	**+0.5**
MCK	**McKinley**	**21.36**	**43**	*e*P	**P**	**13 39 35.9**	**-1.1**
MCK				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.0						
MCK	**McKinley**	**21.36**	**43**	*e*P	**P**	**13 39 35.9**	**-1.1**
	comp=Z,8.6nm,1.2s,mb4.0						
COLA	**College**	**22.17**	**41**	*e*P	**P**	**13 39 45.1**	**-0.6**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.1						
COLA	**College**	**22.17**	**41**	*e*P	**P**	**13 39 45.1**	**-0.6**
	comp=Z,6.7nm,0.9s,mb4.1						
DAWY	**Dawson**	**25.55**	**45**	*e*P	**P**	**13 40 18.8**	**+0.5**
INK	**Inuvik**	**28.56**	**36**	P	**P**	**13 40 45.5**	**0.0**
	comp=Z,1.9nm,0.7s,mb4.0,baz=263,slow=9.2,SNR=3.2						
INK				LR	LR	13 52 50.0	
	comp=Z,86nm,18.1s,MS3.4,baz=228,slow=38						
INK	**Inuvik**	**28.56**	**36**	*e*P	**P**	**13 40 45.4**	**0.0**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**28.56**	**36**	*e*P	**P**	**13 40 45.4**	**-0.1**
	comp=Z,2.3nm,0.7s,mb4.0						
MAJO	**Matsushiro**	**31.32**	**256**	*e*P	**P**	**13 41 10.4**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.2						
MAJO	**Matsushiro**	**31.32**	**256**	*e*P	**P**	**13 41 10.6**	**+0.6**
	comp=Z,36nm,0.8s,mb5.2						
MAT	**Matsushiro**	**31.32**	**256**	P	**P**	**13 41 10.6**	**+0.7**
MAT	**Matsushiro**	**31.32**	**256**	*e*P	**P**	**13 41 11.0**	**+1.1**
MAT				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.0						
MAT	**Matsushiro**	**31.32**	**256**	*e*P	**P**	**13 41 11.0**	**+1.1**
	comp=Z,22nm,0.8s,mb5.0						
MJAR	**Matsushiro Arr**	**31.32**	**256**	LR	LR	13 51 59.7	
	comp=Z,79nm,21.5s,MS3.4,baz=100,slow=33						
MDJ	**Mudanjiang**	**31.91**	**276**	P	**P**	**13 41 13.8**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,65nm,5.1s						
CN2	**Changchun**	**34.88**	**277**	*e*P	**P**	**13 41 39.5**	**-1.4**
CN2				*e*S	**S**	**13 47 07.4**	**-2.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CBIJ	**Chichi jima**	**35.99**	**240**	LR	LR	13 55 05.3	
	comp=Z,25nm,19.8s,MS3.0,baz=315,slow=34						
YKA	**Yellowknife Ar**	**36.77**	**46**	P	**P**	**13 41 57.5**	**+0.5**
	comp=Z,4.5nm,0.8s,mb4.3,baz=286,slow=8.6,SNR=28						
YKA				LR	LR	13 56 39.8	
	comp=Z,50nm,19.9s,MS3.3,baz=270,slow=36						
YKA	**Yellowknife Ar**	**36.77**	**46**	P	**P**	**13 41 57.5**	**+0.5**
YKA				LR	LR	13 56 39.8	
SONM	**Songino Array**	**44.06**	**294**	P	**P**	**13 42 58.3**	**+0.9**
	comp=Z,0.5nm,0.7s,mb3.4,baz=72,slow=7.8,SNR=5.4						
SONM				LR	LR	14 03 03.8	
	comp=Z,73nm,18.7s,MS3.6,baz=316,slow=38						
HHC	**Hu-ho-hao-te**	**45.03**	**283**	*e*P	**P**	**13 43 04.9**	**-0.2**
HHC				AP	pP	13 43 15.4	+1.8
HHC				XP	sP	13 43 18.3	+1.2
HHC				PP	PP	13 44 51.8	+1.3
HHC				S	**S**	**13 49 41.3**	**-0.7**
HHC				XS	sS	13 49 57.8	+1.7
HHC				SCS	ScS	13 52 56.3	-3.9
HHC				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.8						
HHC				AMB	AMB		
	comp=Z,113nm,6.9s						
HHC				LR	LR		
	comp=N,137nm,20.2s,MS4.3						
HHC				LR	LR		
	comp=E,301nm,18.4s,MS4.3						
HHC				LR	LR		
	comp=Z,103nm,17.8s,MS3.8						
HLID	**Hailey**	**45.30**	**72**	*e*P	**P**	**13 43 06.6**	**-0.6**
MCMT	**McKenzie Canyo**	**45.48**	**70**	*e*P	**P**	**13 43 06.8**	**-1.9**
MCMT				*e*	pP	13 43 14.8	-2.5
NVAR	**Mina Array Bea**	**46.06**	**80**	P	**P**	**13 43 14.1**	**+0.8**
	comp=Z,0.8nm,0.7s,mb3.8,baz=307,slow=7.4,SNR=7.1						
NVAR				PcP	PcP	13 44 51.1	+1.8
	comp=Z,0.2nm,0.5s,baz=294,slow=0.5,SNR=3.6						
GUMO	**Guam**	**46.09**	**226**	LR	LR	13 58 15.4	
	comp=Z,66nm,21.2s,MS3.6,baz=68,slow=30						
TPNV	**Topopah Spring**	**48.26**	**81**	*e*P	**P**	**13 43 30.4**	**0.0**
TPNV				pmax	pmax		
	comp=Z,17nm,1.6s,mb4.8						
TPNV	**Topopah Spring**	**48.26**	**81**	*e*P	**P**	**13 43 30.4**	**0.0**
	comp=Z,17nm,1.6s,mb4.8						
BW06	**Boulder Array**	**48.62**	**70**	*e*P	**P**	**13 43 34.5**	**+1.3**
	comp=Z,4.3nm,1.3s,mb4.3						
PDAR	**Pinedale Array**	**48.62**	**70**	P	**P**	**13 43 32.2**	**-1.0**
	comp=Z,0.8nm,0.8s,mb3.8,baz=289,slow=4.5,SNR=6.9						
ULM	**Lac du Bonnet**	**51.56**	**55**	LR	LR	14 06 17.5	
	comp=Z,57nm,18.9s,MS3.6,baz=123,slow=37						
SUMG	**Summit**	**53.39**	**13**	*e*P	**P**	**13 44 08.3**	**-0.8**
	comp=Z,15nm,1.0s,mb4.9						
CD2	**Chengdu**	**56.31**	**278**	*e*P	**P**	**13 44 29.0**	**-1.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
WMQ	**Urumqi**	**56.84**	**300**	P	**P**	**13 44 36.4**	**+2.5**
ZRNK	**Zerenda**	**59.40**	**318**	*e*P	**P**	**13 44 51.6**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**59.40**	**318**	*e*P	**P**	**13 44 51.6**	**-0.2**
	comp=Z,2.3nm,0.8s,mb4.3						
KMI	**Kunming**	**61.07**	**274**	P	**P**	**13 45 04.3**	**+1.0**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.6						
KMI				LR	LR		
	comp=Z,34nm,20.1s,MS3.5						
NB2	**NORSAR Subarra**	**66.84**	**353**	P	**P**	**13 45 41.3**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.7,baz=7.8,slow=6.2						
NOA	**NORSAR Array B**	**66.84**	**353**	P	**P**	**13 45 41.4**	**+0.1**
	comp=Z,1.4nm,0.8s,mb4.0,baz=9.4,slow=6.3,SNR=4.6						
AKASG	**Malin Array Be**	**74.19**	**339**	P	**P**	**13 46 25.7**	**-0.4**
	comp=Z,0.2nm,0.3s,mb3.6,baz=25,slow=6.1,SNR=6.1						
AKASG	**Malin Array Be**	**74.19**	**339**	P	**P**	**13 46 25.7**	**-0.4**
WRA	**Warramunga Arr**	**80.64**	**220**	P	**P**	**13 47 03.5**	**+1.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=33,slow=6.0,SNR=6.4						

*IDC **20** 13:40:12.7±1.4, 3945N×14124E, h104km±14km, mb3.5/5, mb1 3.7/8, mb1mx3.4/22, mbtmp4.0/8, Error ellipse: s-maj=21.2km s-min=10.2km az=112.0*

*ISCJB **20** 13:40:13.1±0.5, 3942N±004×14122E±008, h126km±3km, mb3.7/6, Error ellipse: s-maj=10.9km s-min=4.9km az=42.8*

*NEIC **20** 13:40:14.5, 3940N×14122E, h120km, mb4.5/2, After JMA.*

*JMA **20** 13:40:14.5±0.1, 3940N×14122E, h120km±1km, M3.7 Broadband fault plane solution: P waves. NP1: ϕs55.00000°, δ47.00000°, λ-2.00000°. NP2: ϕs146.00000°, δ89.00000°, λ-137.00000°. Principal axes: T Plg28.0000°, Azm272.0000°; N Plg47.0000°, Azm148.0000°; P Plg30.0000°, Azm20.0000°;*

JMA Felt I J1.

ISC 20 13:40:14.0±0.5, 3942N±004×14124E±008, h122km±3km, n25, σ0§68/38, mb3.7/6, 2C-11D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOM	**Ohasama**	**0.06**	**39**	⇑P	**Pn**	**13 40 30.8**	**+0.2**
JOM				S	**Sn**	**13 40 43.0**	**-0.1**
JRG	**Rokugo**	**0.47**	**267**	⇓P	**Pn**	**13 40 32.3**	**+0.4**
JRG				S	**Sn**	**13 40 45.8**	**+0.3**
JMK	**Ichinoseki**	**0.47**	**182**	⇓P	**Pn**	**13 40 31.9**	**0.0**
JMK				*e*S	**Sn**	**13 40 45.5**	**0.0**
JYK	**Kaneyama**	**0.85**	**234**	⇓P	**Pn**	**13 40 35.0**	**+0.2**
JYK				S	**Sn**	**13 40 50.9**	**+0.4**
JAH	**Hinai**	**0.90**	**329**	⇓P	**Pn**	**13 40 35.8**	**+0.6**
JIO	**Ouri**	**0.97**	**175**	⇓P	**Pn**	**13 40 35.9**	**0.0**
JIO				*e*S	**Sn**	**13 40 51.8**	**-0.6**
JANG	**Nango**	**0.97**	**12**	⇑P	**Pn**	**13 40 36.1**	**+0.2**
JANG				S	**Sn**	**13 40 52.3**	**-0.2**
JOU	**Okura**	**1.15**	**203**	⇓P	**Pn**	**13 40 38.0**	**+0.4**
JOU				*e*S	**Sn**	**13 40 56.0**	**+0.4**
JTM	**Tenmabayashi**	**1.37**	**355**	⇓P	**Pn**	**13 40 40.3**	**+0.3**
JTM				S	**Sn**	**13 40 59.8**	**0.0**
JYA	**Atsumi**	**1.45**	**236**	⇓P	**Pn**	**13 40 41.1**	**+0.2**
JYA				S	**Sn**	**13 41 01.1**	**-0.3**
JMM	**Marumori**	**1.59**	**193**	⇓P	**Pn**	**13 40 42.4**	**-0.2**
JMM				S	**Sn**	**13 41 03.9**	**-0.5**
JAW	**Awa shima**	**1.83**	**239**	⇓P	**Pn**	**13 40 45.6**	**+0.2**
JAW				*e*S	**Sn**	**13 41 09.3**	**-0.1**
JOT	**Ohata**	**1.96**	**356**	⇓P	**Pn**	**13 40 47.1**	**+0.1**
MAT	**Matsushiro**	**3.74**	**221**	S	**Sn**	**13 41 53.1**	**-0.5**
MJAR	**Matsushiro Arr**	**3.74**	**221**	P	**Pn**	**13 41 10.6**	**+0.5**
	4.0nm,0.3s,baz=28,slow=13,SNR=62						
MJAR				S	**Sn**	**13 41 54.2**	**+0.6**
	0.9nm,0.3s,baz=23,slow=25,SNR=5.5						
ASAJ	**Asahikawa**	**4.80**	**12**	P	**Pn**	**13 41 24.0**	**-0.2**
	5.0nm,0.3s,baz=207,slow=9.3,SNR=61						
ASAJ				S	**Sn**	**13 42 15.7**	**-3.1**
	2.0nm,0.3s,baz=93,slow=32,SNR=5.6						
JHJ	**Hachijo jima 2**	**6.40**	**191**	P	**Pn**	**13 41 43.5**	**-2.3**
	28nm,0.3s,baz=243,slow=23,SNR=3.5						
JHJ				S	**Sn**	**13 42 52.5**	**-5.0**
	8.9nm,0.3s,baz=94,slow=24,SNR=4.2						
YSS	**Yuzh-Sakhalins**	**7.61**	**8**	*e*Pn	**Pn**	**13 42 01.5**	**-0.6**
	29nm,0.8s						
SONM	**Songino Array**	**26.40**	**300**	P	**P**	**13 45 38.3**	**-0.7**
	0.6nm,0.4s,mb3.3,baz=98,slow=9.7,SNR=5.1						
ZAL	**Zalesovo**	**40.25**	**310**	P	**P**	**13 47 38.9**	**+0.2**
	1.5nm,0.4s,mb4.2,baz=8.3,slow=9.7,SNR=5.9						
MKAR	**Makanchi Array**	**42.77**	**300**	P	**P**	**13 47 58.9**	**-0.4**
	1.6nm,0.6s,mb3.9,baz=83,slow=10.8,SNR=9.4						
KURK	**Kurchatov**	**44.38**	**306**	*e*P	**P**	**13 48 11.5**	**-0.7**
	2.5nm,0.6s,mb4.1						
NVAR	**Mina Array Bea**	**73.67**	**54**	P	**P**	**13 51 36.2**	**+1.9**
	0.4nm,0.8s,mb3.2,baz=322,slow=4.9,SNR=4.4						

PDAR	**Pinedale Array**	**76.10**	**46**	P	**P**	**13 51 49.3**	**+1.1**
	0.5nm,0.7s,mb3.4,baz=48,slow=2.2,SNR=5.6						
LPAZ	**La Paz**	**145.54**	**56**	PKPbc	PKPbc	13 59 40.1	+2.0
	0.8nm,0.6s,baz=43,slow=5.1,SNR=3.9						

IDC ***20*** *14:19:04.0±1.1,273S×13831E,h0km,mb3.9/6,mb1 4.1/8, mb1mx4.1/11,mbtmp4.0/8,ML3.9/2,MS3.3/4,Ms1 3.3/4, ms1mx3.0/20,Error ellipse: s-maj=32.3km s-min=11.5km az=98.0*

ISCJB ***20*** *14:19:05.8±0.7,270S±0.06×13871E±0.1,h33km,mb4.0/12, MS3.2/2,Error ellipse: s-maj=21.6km s-min=8.3km az=13.4*

NEIC ***20*** *14:19:07.9±0.6,271S×13870E,h35km,mb4.2/8,Error ellipse: s-maj=24.3km s-min=7.8km az=90.0*

ISC 20 14:19:08.4±1.8,271S±007×1386E±01,h36km±16km,n29, σ0§90/31,mb4.0/12,MS3.2/2,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.65**	**211**	*eP*		**Pn**		**14 21 53.8**	**+1.7**
	16nm,0.6s								
GUMO	**Guam**	**17.35**	**21**	LR		LR		14 28 16.6	
	comp=Z,94nm,19.5s,baz=234,slow=32								
WRAB	**Tennant Creek**	**17.61**	**193**	*e*Pn		**Pn**		**14 23 10.5**	**-0.4**
	16nm,0.8s								
WB2	**Warramunga Arr**	**17.62**	**193**	*e*P		**Pn**		**14 23 10.5**	**-0.5**
WB2	**Warramunga Arr**	**17.62**	**193**	*e*Pn		**Pn**		**14 23 10.3**	**-0.7**
WRA	**Warramunga Arr**	**17.62**	**193**	P		**Pn**		**14 23 09.2**	**-1.8**
	0.5nm,0.3s,baz=16,slow=13,SNR=25								
WRA				S		**S**		**14 26 21.4**	**-11**
	0.1nm,0.3s,baz=18,slow=22,SNR=4.5								
CTA	**Charters Tower**	**18.82**	**157**	LR		LR		14 30 04.3	
	comp=Z,110nm,21.1s,baz=356,slow=35								
CTAO	**Charters Tower**	**18.82**	**157**	P		**Pn**		**14 23 30.4**	**+4.7**
FITZ	**Fitzroy Crossi**	**19.88**	**219**	*e*P		**Pn**		**14 23 36.6**	**-1.7**
	7.7nm,1.0s								
FITZ	**Fitzroy Crossi**	**19.88**	**219**	P		**Pn**		**14 23 36.6**	**-1.6**
	0.3nm,0.3s,baz=77,slow=12,SNR=10.0								
FITZ				S		**S**		**14 27 18.0**	**-0.2**
	0.1nm,0.3s,baz=70,slow=17,SNR=3.8								
AS31	**Alice Springs**	**21.32**	**192**	*e*P		**P**		**14 23 52.0**	**0.0**
AS31				*e*S		**S**		**14 27 46.9**	**+0.2**
ASAR	**Alice Springs**	**21.32**	**192**	P		**P**		**14 23 53.0**	**+0.9**
	3.0nm,0.8s,mb3.7,baz=11,slow=11,SNR=33								
ASAR				S		**S**		**14 27 53.0**	**+6.2**
	1.3nm,0.9s,baz=21,slow=23,SNR=4.6								
ASAR				LR		LR		14 32 46.0	
	comp=Z,182nm,20.2s,MS3.5,baz=122,slow=39								
ASAR	**Alice Springs**	**21.32**	**192**	P		**P**		**14 23 53.0**	**+0.9**
ASAR				S		**S**		**14 27 53.0**	**+6.2**
ASAR				LR		LR		14 32 46.0	
MBWA	**Marble Bar**	**25.95**	**224**	*e*P		**P**		**14 24 38.9**	**+1.6**
	1.5nm,0.6s,mb3.7								
STKA	**Stephens Creek**	**29.15**	**175**	P		**P**		**14 25 06.7**	**+0.7**
	1.0nm,0.7s,mb3.6,baz=168,slow=6.4,SNR=3.8								
STKA	**Stephens Creek**	**29.15**	**175**	P		**P**		**14 25 05.4**	**-0.6**
CBIJ	**Chichi jima**	**29.84**	**6**	LR		LR		14 35 51.8	
	comp=Z,27nm,19.0s,MS2.9,baz=324,slow=34								
ULN	**Ulaanbaatar**	**57.42**	**335**	P		**P**		**14 28 53.1**	**-0.2**
	1.5nm,0.8s,mb4.1								
SONM	**Songino Array**	**57.67**	**335**	P		**P**		**14 28 55.6**	**+0.5**
	0.5nm,0.6s,mb3.7,baz=156,slow=7.5,SNR=5.2								
MKAR	**Makanchi Array**	**69.72**	**322**	P		**P**		**14 30 15.3**	**+0.8**
	1.2nm,0.6s,mb4.0,baz=101,slow=7.9,SNR=10								
MKAR	**Makanchi Array**	**69.72**	**322**	P		**P**		**14 30 15.3**	**+0.8**
ZAL	**Zalesovo**	**71.88**	**330**	P		**P**		**14 30 27.1**	**-0.6**
	0.8nm,0.6s,mb3.9,baz=24,slow=3.3,SNR=4.7								
KURK	**Kurchatov**	**73.65**	**325**	*e*P		**P**		**14 30 37.5**	**-0.7**
	4.2nm,1.1s,mb4.3								
VNDA	**Vanda**	**75.79**	**175**	P		**P**		**14 30 50.9**	**+0.4**
	1.1nm,0.6s,mb3.9,baz=322,slow=5.8,SNR=7.4								
VNDA	**Vanda**	**75.79**	**175**	*e*P		**P**		**14 30 50.0**	**-0.5**
	1.9nm,0.9s,mb4.0								
SBA	**Scott Base**	**76.56**	**174**	*e*P		**P**		**14 30 55.4**	**+0.5**
	7.1nm,1.4s,mb4.4								
ZRNK	**Zerenda**	**80.02**	**325**	*e*P		**P**		**14 31 13.5**	**-0.5**
	2.1nm,0.8s,mb4.1								
MAW	**Mawson**	**82.08**	**202**	P		**P**		**14 31 25.9**	**+0.9**
QSPA	**South Pole Qui**	**87.23**	**180**	*e*P		**P**		**14 31 50.6**	**-0.4**
	3.6nm,0.6s,mb4.8								

ISCJB ***20*** *14:33:19.8±6.2,106S±0.2×1082E±0.3,h19km±43km, mb3.9/8,Error ellipse: s-maj=60.0km s-min=11.9km az=99.7*

IDC ***20*** *14:33:20.9±1.7,995S×10869E,h0km,mb3.8/6,mb1 3.9/7, mb1mx3.8/18,mbtmp3.8/7,ML3.6/1,Error ellipse: s-maj=82.8km s-min=19.8km az=45.0*

NEIC ***20*** *14:33:20.3±1.1,1064S×10813E,h10km,mb4.3/3,Error ellipse: s-maj=48.1km s-min=11.7km az=47.0*

ISC 20 14:33:21.2±6.6,107S±02×1081E±03,h16km±40km,n11, σ1§06/11,mb3.9/8,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.26**	**134**	*e*Pn		**Pn**		**14 36 54.6**	**-1.4**
	4.8nm,0.7s								
MBWA				*e*Sn		**Sn**		**14 39 44.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**18.49**	**116**	P		**Pn**		**14 37 37.8**	**+1.1**
	0.2nm,0.3s,baz=231,slow=9.7,SNR=8.8								
WRA	**Warramunga Arr**	**26.88**	**113**	P		**P**		**14 39 01.3**	**+0.1**
	1.4nm,1.0s,mb3.5,baz=288,slow=11,SNR=5.0								
ASAR	**Alice Springs**	**27.75**	**121**	P		**P**		**14 39 10.4**	**+1.4**
	0.7nm,1.0s,mb3.3,baz=297,slow=10,SNR=5.0								
SONM	**Songino Array**	**58.27**	**359**	P		**P**		**14 43 13.6**	**-1.4**
	0.4nm,0.5s,mb3.7,baz=181,slow=7.5,SNR=5.1								
MKAR	**Makanchi Array**	**61.70**	**340**	P		**P**		**14 43 36.8**	**-1.7**
	0.8nm,0.7s,mb4.0,baz=150,slow=6.7,SNR=4.2								
YSS	**Yuzh-Sakhalins**	**65.16**	**25**	P		**P**		**14 44 02.1**	**+0.6**
	27nm,1.3s,mb5.1								
BVAR	**Borovoye Array**	**71.16**	**337**	P		**P**		**14 44 39.5**	**+0.3**
	0.8nm,0.7s,mb3.8,baz=130,slow=4.6,SNR=5.2								
ZRNK	**Zerenda**	**71.64**	**336**	*e*P		**P**		**14 44 42.2**	**+0.1**
	1.7nm,0.9s,mb4.0								
BRTR	**Keskin Array B**	**85.09**	**312**	P		**P**		**14 45 57.8**	**+1.4**
	0.6nm,0.8s,mb3.8,baz=159,slow=5.7,SNR=3.7								
WMOK	**Wichita Mounta**	**145.71**	**41**	*e*PKPdf		PKPdf		14 53 00.1	+1.2

BJI ***20*** *14:36:01.5,1047S×10871E,h26km,mB5.1,mb4.9,Ms4.8, Msz4.6*

ISCJB ***20*** *14:36:09.5±0.2,953S±0.03×10861E±0.04,h30km, mb5.0/89,MS4.5/21,Error ellipse: s-maj=6.8km s-min=4.2km az=123.6*

HRVD ***20*** *14:36:10.8±0.6,965S×10866E,h15km±1km,MW4.8/46, Centroid moment Tensor Solution. LP body waves: s20,c21;Mantle waves: s46,c72; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.30±.15; Mθθ1.55±.10; Mθφ-0.24±.12; Mrθ1.07±.22; Mφφ-0.42±.06; Mφr-1.03±.27; Best double couple: M◎2.11100×10^16 NP1:φs79.00000°,δ29.00000°,λ-132.00000°. NP2: φs305.00000°,δ69.00000°,λ-70.00000°. Principal axes: T 2.1450, Plg21.0000°, Azm20.0000°; N -0.0630, Plg19.0000°, Azm117.0000°; P -2.0760, Plg61.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***20*** *14:36:10.1±1.1,945S×10866E,h33km,mb5.3/35 Error ellipse: s-maj=12.5km s-min=6.8km az=114.9*

NEIC ***20*** *14:36:10.8±2.1,951S×10881E,h26km±14km,mb5.1/43, Error ellipse: s-maj=7.5km s-min=3.9km az=55.0*

IDC ***20*** *14:36:11.7±0.7,953S×10860E,h30km±4km,mb4.5/23, mb1 4.5/24,mb1mx4.5/26,mbtmp4.6/24,ML4.4/1,MS4.1/7, Ms1 4.1/7,ms1mx3.7/23,Error ellipse: s-maj=16.4km s-min=10.8km az=62.0*

ISC 20 14:36:11.6±0.2,955S±003×10862E±004,h31km, h31km±1.2km:pP-P,n222,σ1§03/192,mb5.0/89,MS4.5/21, 13C-9D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.88**	**340**	P		**Pn**		**14 36 55.6**	**+0.3**
	2µm,1.0s								
JCJI	**Jatiwangi**	**3.06**	**354**	P		**Pn**		**14 36 55.3**	**-2.5**
	2µm,1.5s								
NBBI	**Negara**	**6.05**	**79**	P		**Pn**		**14 37 42.9**	**+4.1**
	1µm,1.0s								
DNP	**Denpasar**	**6.57**	**83**	P		**Pn**		**14 37 53.8**	**+7.8**
	1µm,0.6s								
KSI	**Kapahiang**	**8.37**	**314**	P		**Pn**		**14 38 09.4**	**-1.3**
	387nm,0.7s								
KSM	**Kuching**	**11.08**	**9**	Pn		**Pn**		**14 38 47.2**	**-0.6**
PCI	**Palu**	**14.08**	**53**	P		**Pn**		**14 39 31.0**	**+2.1**
	110nm,1.1s								
PSI	**Prapat**	**15.61**	**321**	Pn		**Pn**		**14 39 38.0**	**-11**
	0.5nm,0.3s,baz=123,slow=17,SNR=2.9								
KULM	**Kulim**	**16.74**	**331**	*e*Pn		**Pn**		**14 40 04.4**	**+0.6**
KULM				*e*Sn		**Sn**		**14 43 09.3**	**+0.6**
KKM	**Kota Kinabalu**	**17.24**	**26**	*e*Pn		**Pn**		**14 40 09.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**18.58**	**119**	*e*P		**Pn**		**14 40 25.8**	**-0.6**
	23nm,0.6s								
FITZ				*e*				14 40 37.1	
FITZ				*e*S		**Sn**		**14 43 36.1**	**-17**
FITZ	**Fitzroy Crossi**	**18.58**	**119**	Pn		**Pn**		**14 40 25.7**	**-0.6**
	0.9nm,0.3s,baz=289,slow=7.8,SNR=36								
FITZ				Sn		**Sn**		**14 43 36.6**	**-16**
	2.3nm,0.3s,baz=93,slow=16,SNR=9.0								
AAI	**Ambon**	**20.29**	**75**	P		**P**		**14 40 42.4**	**-2.3**
	185nm,1.1s								
KAKA	**Kakadu**	**23.58**	**100**	*e*P		**P**		**14 41 19.8**	**+0.2**
	18nm,0.8s,mb4.5								
NWAO	**Narrogin (SRO)**	**24.59**	**162**	P		**P**		**14 41 28.3**	**-0.5**
	18nm,0.9s,mb4.6,baz=328,slow=8.3,SNR=11								
NWAO				LR		LR		14 51 08.7	
	comp=Z,257nm,21.8s,MS3.7,baz=203,slow=36								
NWAO	**Narrogin (SRO)**	**24.59**	**162**	*e*P		**P**		**14 41 27.4**	**-1.4**
NWAO				pmax		pmax			
	comp=Z,103nm,1.4s								
NWAO	**Narrogin (SRO)**	**24.59**	**162**	*e*P		**P**		**14 41 27.4**	**-1.5**
	comp=Z,103nm,1.4s,mb5.2								
NST	**Nakhon Sawan**	**26.43**	**341**	P		**P**		**14 41 46.2**	**+0.7**
WRA	**Warramunga Arr**	**26.90**	**115**	P		**P**		**14 41 50.2**	**+0.5**
	comp=Z,9.5nm,0.8s,mb4.4,baz=285,slow=11,SNR=41								
WRA				Sn		S		14 46 54.0	+29
	comp=Z,1.2nm,0.6s,baz=284,slow=24,SNR=5.4								
WRAB	**Tennant Creek**	**26.90**	**115**	P		**P**		**14 41 50.4**	**+0.6**
	comp=Z,98nm,0.7s,mb5.5,SNR=8.4								
WRAB	**Tennant Creek**	**26.90**	**115**	*e*P		**P**		**14 41 49.8**	**0.0**
WRAB				pmax		pmax			
	comp=Z,37nm,1.1s,mb4.8								
WRAB	**Tennant Creek**	**26.90**	**115**	*e*P		**P**		**14 41 49.8**	**+0.1**
	comp=Z,37nm,1.1s,mb4.8								
WRAB				*e*Sn		S		14 46 51.4	+27
WB2	**Warramunga Arr**	**26.91**	**115**	*e*P		**P**		**14 41 50.3**	**+0.5**
WB2				*e*				14 42 05.4	
FORT	**Forrest**	**27.82**	**142**	*e*P		**P**		**14 41 59.5**	**+1.5**
	comp=Z,18nm,0.8s,mb4.8								
ASAR	**Alice Springs**	**27.94**	**123**	P		**P**		**14 41 59.2**	**+0.2**
	comp=Z,4.5nm,0.7s,mb4.2,baz=299,slow=8.6,SNR=38								
ASAR				PcP		PcP		14 45 15.4	+1.6
	comp=Z,2.1nm,0.7s,baz=290,slow=1.6,SNR=5.9								
ASAR				Sn		S		14 47 22.8	+42
	comp=Z,2.7nm,0.8s,baz=278,slow=23,SNR=12								
ASAR	**Alice Springs**	**27.94**	**123**	P		**P**		**14 41 59.2**	**+0.2**
ASAR								14 45 15.5	
AS31	**Alice Springs**	**27.94**	**123**	*e*P		**P**		**14 41 59.2**	**+0.2**
AS31				*e*S		S		14 47 17.5	+37
QIZ	**Qiongzhong**	**28.42**	**2**	P		**P**		**14 42 03.9**	**+0.6**
QIZ				S		**S**		**14 46 49.9**	**+1.4**
QIZ				AMB		AMB			
	comp=Z,138nm,9.4s								
QIZ				LR		LR			
	comp=N,630nm,15.1s,MS4.5								
QIZ				LR		LR			
	comp=E,640nm,16.0s,MS4.5								
QIZ				LR		LR			
	comp=Z,838nm,15.5s,MS4.5								
CM31	**Chiang Mai Arr**	**29.42**	**341**	*e*P		**P**		**14 42 12.1**	**-0.1**
	comp=Z,41nm,1.0s,mb5.1								
CM31				*e*		pP		14 42 21.8	+0.6
CHG	**Chiang Mai**	**29.75**	**341**	↑P		**P**		**14 42 20.2**	**+5.0**
CHTO	**Chiang Mai**	**29.75**	**341**	*e*P		**P**		**14 42 13.5**	**-1.7**
CHTO				*e*				14 42 24.3	
CHTO				pmax		pmax			
	comp=Z,23nm,0.9s,mb4.9								
CHTO	**Chiang Mai**	**29.75**	**341**	*e*P		**P**		**14 42 13.5**	**-1.7**
	comp=Z,23nm,0.9s,mb4.9								
CHTO				*e*				14 42 24.3	
KMI	**Kunming**	**34.93**	**351**	P		**P**		**14 43 01.3**	**+0.8**
KMI				AP		pP		14 43 12.1	+2.5
KMI				XP		sP		14 43 15.8	+2.4
KMI				PP		PP		14 44 25.1	+5.1
KMI				PPP				14 44 43.9	
KMI				S		**S**		**14 48 35.0**	**+5.0**
KMI				XS		sS		14 48 54.1	+9.1
KMI				SS		SS		14 50 58.3	-4.0
KMI				SSS				14 51 27.8	
KMI				AMB		AMB			
	comp=Z,170nm,5.2s								
KMI				LR		LR			
	comp=N,990nm,14.9s,MS4.9								
KMI				LR		LR			
	comp=E,969nm,12.6s,MS4.9								
KMI				LR		LR			
	comp=Z,1µm,12.4s,MS4.8								
GYA	**Guiyang**	**35.84**	**357**	↓*i*P		**P**		**14 43 08.9**	**+0.6**
GYA				AP		pP		14 43 13.6	-3.8
GYA				XP		sP		14 43 15.9	-5.3
GYA				PP		PP		14 44 29.1	-0.9
GYA				S		**S**		**14 48 45.1**	**+1.1**
GYA				AMB		AMB			
	comp=Z,30nm,0.8s,mb5.3								
GYA				AMB		AMB			
	comp=Z,120nm,4.2s								
GYA				LR		LR			
	comp=N,350nm,12.8s,MS4.7								
GYA				LR		LR			
	comp=E,790nm,13.0s,MS4.7								
GYA				LR		LR			
	comp=Z,1µm,12.7s,MS4.8								
STKA	**Stephens Creek**	**37.77**	**131**	*e*P		**P**		**14 43 24.9**	**+0.2**
	comp=Z,22nm,0.8s,mb4.9								
STKA	**Stephens Creek**	**37.77**	**131**	P		**P**		**14 43 25.5**	**+0.8**
	comp=Z,26nm,0.7s,mb5.0,baz=300,slow=8.1,SNR=45								
STKA				LR		LR		14 57 43.1	
	comp=Z,284nm,18.6s,MS4.1,baz=212,slow=34								
CTA	**Charters Tower**	**37.78**	**110**	P		**P**		**14 43 25.5**	**+0.7**
	comp=Z,15nm,1.1s,mb4.7,baz=281,slow=6.5,SNR=3.8								
CTA	**Charters Tower**	**37.78**	**110**	P		**P**		**14 43 25.5**	**+0.7**
CTAO	**Charters Tower**	**37.78**	**110**	*e*P		**P**		**14 43 25.5**	**+0.7**
CTAO				pmax		pmax			
	comp=Z,36nm,1.3s,mb4.9								
CTAO	**Charters Tower**	**37.78**	**110**	*e*P		**P**		**14 43 25.5**	**+0.7**
	comp=Z,36nm,1.3s,mb5.0								
BOK	**Bokaro**	**39.90**	**327**	*e*P		**P**		**14 43 40.6**	**-1.9**
BOK				*i* x		x		14 43 52.2	
BOK				AMb		AMB		14 43 53.8	
	comp=Z,58nm,0.8s,mb5.3								
HYB	**Hyderabad**	**40.01**	**312**	*i* P		**P**		**14 43 45.5**	**+2.0**
HYB	**Hyderabad**	**40.01**	**312**	*e*P		**P**		**14 43 43.5**	**0.0**
WHN	**Wuhan**	**40.24**	**8**	*e*P		**P**		**14 43 46.3**	**+0.9**
CD2	**Chengdu**	**40.49**	**354**	↑*i*P		**P**		**14 43 47.3**	**-0.2**
CD2				AP		pP		14 43 51.8	-4.9
CD2				PP		PP		14 45 24.9	+3.9
CD2				S		**S**		**14 49 57.6**	**+3.3**
CD2				AMB		AMB			
	comp=Z,10.0nm,1.4s,mb4.3								
CD2				AMB		AMB			
	comp=Z,40nm,5.6s								
CD2				LR		LR			
	comp=E,420nm,15.6s								
CD2				LR		LR			
	comp=Z,280nm,12.0s,MS4.3								
JOW	**Kunigami**	**40.89**	**27**	P		**P**		**14 43 50.9**	**+0.1**
	comp=Z,11nm,0.7s,mb4.6,baz=300,slow=18,SNR=5.5								
JOW				LR		LR		15 04 29.5	
	comp=Z,258nm,18.2s,MS4.1,baz=131,slow=42								
SSE	**Sheshan**	**42.17**	**16**	P		**P**		**14 44 02.3**	**+1.0**
SSE				AP		pP		14 44 05.5	-5.0
SSE				S		**S**		**14 50 23.8**	**+4.6**
SSE				SS		SS		14 53 33.5	+5.9
SSE				AMB		AMB			
	comp=Z,30nm,0.8s,mb5.0								
SSE				AMB		AMB			
	comp=Z,146nm,12.0s								
SSE				LR		LR			
	comp=N,75nm,17.0s,MS3.9								
SSE				LR		LR			
	comp=E,123nm,17.0s,MS3.9								
SSE				LR		LR			
	comp=Z,103nm,18.0s,MS3.8								
NJ2	**Nanjing**	**42.51**	**13**	*e*P		**P**		**14 44 01.6**	**-2.4**
NJ2				AP		pP		14 44 11.3	-1.9
NJ2				XP		sP		14 44 14.3	-2.6
NJ2				PP		PP		14 45 43.0	+0.2
NJ2				S		**S**		**14 50 21.0**	**-3.2**
NJ2				AMB		AMB			
	comp=Z,20nm,0.5s,mb5.1								
NJ2				AMB		AMB			
	comp=Z,330nm,5.2s								
NJ2				LR		LR			
	comp=N,6µm,19.6s,MS5.5								
NJ2				LR		LR			
	comp=E,3µm,22.6s,MS5.5								
NJ2				LR		LR			
	comp=Z,2µm,21.0s,MS5.0								
JIRN	**Jiri**	**42.89**	**330**	*e*P		**P**		**14 44 07.5**	**+0.4**
	comp=Z,173nm,0.9s,mb5.8								
PKI	**Pulchoki**	**43.21**	**329**	*e*P		**P**		**14 44 10.5**	**+0.8**
	comp=Z,94nm,1.1s,mb5.4								
PKI	**Pulchoki**	**43.21**	**329**	*e*P		**P**		**14 44 10.5**	**+0.8**
PKI				pmax		pmax			
	comp=Z,94nm,1.1s,mb5.4								
AKL	**Akola**	**43.23**	**314**	*ex*		x		14 43 52.7	
KAD	**Karad**	**43.24**	**308**	*e*P		**P**		**14 44 10.9**	**+0.9**
GUN	**Gumba**	**43.25**	**330**	*e*P		**P**		**14 44 11.1**	**+1.0**
	comp=Z,225nm,1.0s,mb5.9								
XAN	**Xi'an**	**43.35**	**0**	P		**P**		**14 44 10.9**	**+0.1**
XAN				AP		pP		14 44 20.3	+0.3
XAN				S		**S**		**14 50 36.6**	**+0.1**
XAN				SS		SS		14 53 57.9	+7.2
XAN				AMB		AMB			
	comp=Z,23nm,1.4s,mb4.7								
XAN				LR		LR			
	comp=N,356nm,13.3s								
XAN				LR		LR			
	comp=Z,701nm,13.3s,MS4.7								
TOO	**Toolangi**	**43.37**	**136**	*e*P		**P**		**14 44 12.8**	**+1.8**
	comp=Z,9.6nm,1.3s,mb4.4								
TOO	**Toolangi**	**43.37**	**136**	*e*P		**P**		**14 44 12.8**	**+1.8**
TOO				pmax		pmax			
	comp=Z,10.0nm,1.3s,mb4.4								
DMN	**Daman**	**43.39**	**329**	*e*P		**P**		**14 44 11.4**	**+0.2**
	comp=Z,172nm,1.0s,mb5.7								
KKN	**Kakani**	**43.45**	**329**	*e*P		**P**		**14 44 11.7**	**0.0**
	comp=Z,142nm,1.0s,mb5.7								
KKN	**Kakani**	**43.45**	**329**	*e*P		**P**		**14 44 11.7**	**0.0**
KKN				pmax		pmax			
	comp=Z,142nm,1.0s,mb5.7								
GKN	**Gorkha**	**43.95**	**329**	*e*P		**P**		**14 44 16.3**	**+0.6**
	comp=Z,141nm,1.0s,mb5.7								
KOLN	**Koldanda**	**44.30**	**328**	*e*P		**P**		**14 44 19.4**	**+0.9**
	comp=Z,194nm,1.0s,mb5.8								
BHPL	**Bhopal**	**44.65**	**317**	*e*P		**P**		**14 44 21.6**	**+0.4**
BHPL				*i* x		x		14 44 27.7	
BHPL				*ex*		x		14 44 32.1	
BHPL				AMb		AMB		14 44 33.1	
	comp=Z,25nm,0.4s,mb5.4								
LZH	**Lanzhou**	**45.61**	**355**	*e*P		**P**		**14 44 29.8**	**+0.9**
LZH				AP		pP		14 44 39.3	+1.1
LZH				XP		sP		14 44 43.0	+1.1
LZH				PP		PP		14 46 20.0	+4.1
LZH				*e*S		**S**		**14 51 13.4**	**+4.0**
LZH				XS		sS		14 51 30.0	+5.4
LZH				*e*SS		SS		14 54 30.0	-3.7
LZH				AMB		AMB			
	comp=Z,100nm,1.3s,mb5.6								
LZH				AMB		AMB			
	comp=Z,270nm,4.5s								
LZH				LR		LR			
	comp=N,2µm,12.4s								
LZH				LR		LR			
	comp=Z,4µm,13.7s,MS5.5								
TIA	**Tai'an**	**46.21**	**10**	*e*P		**P**		**14 44 32.4**	**-1.2**
AGRA	**Agra**	**47.13**	**322**	*e*P		**P**		**14 44 40.2**	**-0.6**
AGRA				*i* x		x		14 44 49.1	
AGRA				AMb		AMB		14 45 01.6	
	comp=Z,48nm,0.8s,mb5.5								
TAU	**Tasmania Unive**	**47.37**	**141**	*e*P		**P**		**14 44 43.7**	**+1.0**
TAU				pmax		pmax			
	comp=Z,13nm,0.9s,mb4.9								
TAU	**Tasmania Unive**	**47.37**	**141**	*e*P		**P**		**14 44 43.7**	**+1.0**
	comp=Z,13nm,0.9s,mb4.9								
LGTI	**Lohaghat**	**47.44**	**326**	*ex*		x		14 44 50.5	
AYAN	**Aya Nagar**	**48.53**	**322**	*e*P		**P**		**14 44 49.7**	**-2.0**
AYAN				*i* pP		pP		14 44 58.3	-2.7
NDI	**New Delhi**	**48.62**	**322**	*e*P		**P**		**14 44 51.5**	**-0.9**
NDI				AMb		AMB		14 45 00.8	
	comp=Z,33nm,1.3s,mb5.2								
AJM	**Ajmer**	**48.70**	**318**	*e*P		**P**		**14 44 52.4**	**-0.6**
AJM				AMb		AMB		14 45 05.5	
	comp=Z,19nm,1.1s,mb5.1								
KHET	**Khetri**	**49.05**	**321**	*e*P		**P**		**14 44 55.4**	**-0.2**
KHET				AMb		AMB		14 45 06.9	
	comp=Z,19nm,0.8s,mb5.2								
GTA	**Gaotai**	**49.39**	**351**	P		**P**		**14 44 59.4**	**+1.1**
GTA				AP		pP		14 45 04.6	-3.0
GTA				XP		sP		14 45 08.6	-2.7
GTA				PP		PP		14 46 54.1	+1.7
GTA				PPP				14 47 48.8	
GTA				S		**S**		**14 52 02.8**	**-0.3**
GTA				SS		SS		14 55 35.8	+0.9
GTA				AMB		AMB			
	comp=Z,15nm,1.4s,mb4.8								
GTA			

comp=Z,3.2nm,0.9s,mb4.2,baz=209,slow=7.4,SNR=5.5
MJAR pP pP 14 45 36.8 -2.6
comp=Z,12nm,1.1s,baz=200,slow=7.6,SNR=8.3
MJAR LR LR 15 07 56.1
comp=Z,115nm,19.0s,MS4.0,baz=200,slow=36
MJAR Matsushiro Arr 53.63 30 P **P 14 45 27.6 -2.4**
MJAR *PP pP 14 45 36.8 -2.6
CN2 Changchun 55.26 15 *eP* **P 14 45 45.0 +3.2**
CN2 *eAP pP 14 45 49.6 -1.6
CN2 *eS* **S 14 53 28.4 +5.0**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,16.0s,MS4.4
CN2 LR LR
comp=E,200nm,16.0s,MS4.4
CN2 LR LR
comp=Z,200nm,16.0s,MS4.3
WMQ Urumqi 56.41 342 P **P 14 45 51.8 +1.7**
WMQ AP pP 14 45 55.9 -3.7
WMQ XP sP 14 45 58.3 -4.9
WMQ PCP PcP 14 46 48.6 +1.7
WMQ PP PP 14 47 58.9 +3.1
WMQ S **S 14 53 40.3 +1.5**
WMQ AMB AMB
comp=Z,37nm,1.3s,mb5.2
WMQ AMB AMB
comp=Z,232nm,5.2s
WMQ LR LR
comp=N,1μm,16.6s,MS5.1
WMQ LR LR
comp=E,752nm,15.5s,MS5.1
WMQ LR LR
comp=Z,996nm,17.1s,MS5.0
VLA Vladivostok 56.55 20 *eP* **P 14 45 50.6 -0.5**
VLA pmax pmax
comp=Z,38nm,1.4s,mb5.2
SONM Songino Array 57.16 358 P **P 14 45 55.4 +0.1**
comp=Z,5.0nm,0.5s,mb4.8,baz=177,slow=8.4,SNR=60
SONM pP pP 14 46 05.6 +0.7
comp=Z,15nm,0.9s,baz=173,slow=8.0,SNR=23
SONM LR LR 15 11 34.0
comp=Z,270nm,21.1s,MS4.3,baz=185,slow=37
SONM Songino Array 57.16 358 P **P 14 45 55.4 0.0**
SONM *PP pP 14 46 05.6 +0.7
ULN Ulaanbaatar 57.17 359 ⇑P **P 14 45 55.6 +0.1**
SNR=13
ULN Ulaanbaatar 57.17 359 *eP* **P 14 45 54.3 -1.2**
ULN *e* 14 46 05.4
ULN pmax pmax
comp=Z,32nm,1.0s,mb5.3
ULN Ulaanbaatar 57.17 359 *eP* **P 14 45 54.3 -1.2**
comp=Z,32nm,1.0s,mb5.3
ULN *e* 14 46 05.4
ZAK Zakamensk 59.86 356 *eP* **P 14 46 14.9 +0.7**
ZAK pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
OPO Ambohidratompo 60.02 254 P **P 14 46 15.7 +0.3**
comp=Z,13nm,1.2s,mb4.9,baz=63,slow=6.1,SNR=6.3
AAK Ala-Archa 60.57 332 *eP* **P 14 46 18.0 -1.0**
AAK pmax pmax
comp=Z,15nm,1.5s,mb4.9
AAK Ala-Archa 60.57 332 *eP* **P 14 46 21.8 +2.7**
comp=Z,14nm,1.3s,mb4.9
MKAR Makanchi Array 60.81 340 P **P 14 46 20.3 -0.4**
comp=Z,8.8nm,0.5s,mb5.2,baz=147,slow=8.0,SNR=101
MKAR pP pP 14 46 29.8 -0.5
comp=Z,21nm,0.7s,baz=140,slow=7.9,SNR=23
MOY Mondy 61.32 355 *eP* **P 14 46 25.1 +1.0**
MOY pmax pmax
comp=Z,38nm,1.8s,mb5.2
IRK Irkutsk 61.65 357 *eP* **P 14 46 27.3 +0.9**
IRK pmax pmax
comp=Z,34nm,1.5s,mb5.3
ASAJ Asahikawa 61.66 27 P **P 14 46 25.1 -1.4**
comp=Z,4.9nm,0.8s,mb4.7,baz=141,slow=11,SNR=4.7
KLR Kul'dur 61.96 17 *eP* **P 14 46 22.8 -5.6**
KLR *e* pP 14 46 32.2 -5.8
KLR pmax pmax
comp=Z,40nm,1.6s,mb5.3
YSS Yuzh-Sakhalins 63.95 25 *eP* **P 14 46 41.0 -0.7**
YSS *e* pP 14 46 49.8 -1.5
YSS *e* 14 47 09.8
YSS Yuzh-Sakhalins 63.95 25 *eP* **P 14 46 40.6 -1.1**
comp=Z,15nm,1.1s,mb4.9
YSS *e* pP 14 46 50.0 -1.3
MAW Mawson 65.42 198 P **P 14 46 50.6 -0.7**
comp=Z,9.1nm,1.0s,mb4.8,baz=49,slow=10.0,SNR=13
MAW Mawson 65.42 198 *eP* **P 14 46 50.1 -1.2**
MAW pmax pmax
comp=Z,21nm,1.2s
MAW Mawson 65.42 198 *eP* **P 14 46 50.1 -1.1**
comp=Z,21nm,1.2s,mb5.0
KURK Kurchatov 65.43 340 P **P 14 46 50.9 -0.4**
comp=Z,207nm,1.0s,mb6.1,SNR=9.1
KURK Kurchatov 65.43 340 ⇓P **P 14 46 51.3 0.0**
SNR=17
KURK Kurchatov 65.43 340 *eP* **P 14 46 50.7 -0.6**
KURK *e* pP 14 46 59.8 -1.1
KURK pmax pmax
comp=Z,42nm,1.0s,mb5.4
KURK Kurchatov 65.43 340 *eP* **P 14 46 50.7 -0.6**
comp=Z,42nm,1.0s,mb5.4
KURK *e* pP 14 46 59.8 -1.2
ZAL Zalesovo 66.38 345 P **P 14 46 57.9 +0.4**
comp=Z,3.0nm,0.4s,mb4.7,baz=317,slow=3.6,SNR=13
ZAL LR LR 15 18 23.4
comp=Z,156nm,19.4s,MS4.2,baz=318,slow=38
KRAR Krasnoyarsk 66.62 350 *eP* **P 14 46 58.6 -0.4**
KRAR pmax pmax
comp=Z,62nm,1.1s,mb5.5
NVS Novosibirsk 67.60 344 *eP* **P 14 47 03.8 -1.4**
NVS pmax pmax
comp=N,14nm,1.5s
NVS pmax pmax
comp=E,11nm,1.5s
NVS pmax pmax
comp=Z,19nm,1.5s,mb4.9
BVAR Borovoye Array 70.32 337 P **P 14 47 21.7 -0.4**
comp=Z,2.7nm,0.5s,mb4.5,baz=141,slow=8.6,SNR=18
BRVK Borovoye 70.39 337 P **P 14 47 21.6 -0.9**
comp=Z,73nm,1.2s,mb5.5,SNR=5.5
BRVK Borovoye 70.39 337 ⇓P **P 14 47 22.5 -0.1**
SNR=11
BRVK Borovoye 70.39 337 *eP* **P 14 47 21.6 -0.9**
BRVK *e* pP 14 47 31.5 -0.7
BRVK pmax pmax
comp=Z,12nm,0.9s,mb4.8
BRVK Borovoye 70.39 337 *eP* **P 14 47 21.6 -1.0**
comp=Z,12nm,0.9s,mb4.8
BRVK *e* pP 14 47 31.5 -0.7
CHKZ Chkalovo 70.73 337 *eP* **P 14 47 24.0 -0.6**
CHKZ *e* pP 14 47 33.9 -0.4
CHKZ pmax pmax
comp=Z,38nm,0.9s,mb5.3
CHKZ Chkalovo 70.73 337 *eP* **P 14 47 24.0 -0.6**
comp=Z,38nm,0.9s,mb5.3
CHKZ *e* pP 14 47 33.9 -0.4
ZRNK Zerenda 70.82 336 *eP* **P 14 47 24.3 -0.8**
ZRNK *e* pP 14 47 33.5 -1.3
ZRNK pmax pmax
comp=Z,23nm,0.9s,mb5.1
ZRNK Zerenda 70.82 336 *eP* **P 14 47 24.3 -0.9**
comp=Z,23nm,0.9s,mb5.1
ZRNK *e* pP 14 47 33.5 -1.3
KMBO Kilima Mbogo 71.44 272 P **P 14 47 28.9 0.0**
comp=Z,4.8nm,0.9s,mb4.4,baz=47,slow=8.4,SNR=7.3
VNDA Vanda 73.19 170 P **P 14 47 38.6 -0.7**
comp=Z,2.3nm,0.7s,mb4.2,baz=304,slow=6.1,SNR=13
VNDA Vanda 73.19 170 *eP* **P 14 47 38.6 -0.7**
VNDA pmax pmax
comp=Z,18nm,1.6s
VNDA Vanda 73.19 170 *eP* **P 14 47 38.6 -0.7**
comp=Z,18nm,1.6s,mb4.8
YAK Yakutsk 73.22 10 *eP* **P 14 47 39.5 -0.1**
YAK pmax pmax
comp=Z,43nm,1.0s,mb5.3
YAK Yakutsk 73.22 10 *eP* **P 14 47 37.9 -1.7**
comp=Z,46nm,0.8s,mb5.5
SYO Syowa Base 73.68 201 ⇓*eP* **P 14 47 41.1 -1.2**
AKTK Aktyubinsk 74.12 329 P **P 14 47 44.0 -0.8**
AKTO Aktyubinsk 74.12 329 P **P 14 47 44.0 -0.8**
comp=Z,0.9nm,0.5s,baz=133,slow=3.3,SNR=4.4
SBA Scott Base 74.26 169 *eP* **P 14 47 45.3 -0.3**
SBA pmax pmax
comp=Z,13nm,1.3s,mb4.7
SBA Scott Base 74.26 169 *eP* **P 14 47 45.3 -0.3**
comp=Z,13nm,1.3s,mb4.7
BHD Baghdad 74.38 308 *ex* x 14 54 30.0
BHD *ex* x 14 54 34.0
BHD *ex* x 14 54 34.0
BHD *ex* x 14 54 57.0
PET Petropavlovsk 75.44 29 *eP* **P 14 47 52.1 -0.4**
PET pmax pmax
comp=Z,26nm,1.4s,mb5.0
SVE Sverdlovsk 76.98 335 *eP* **P 14 48 00.0 -1.2**
SVE *e* pP 14 48 09.0 -2.0
SVE *eS* S 14 57 46.0 -1.4
ARU Arti 77.60 334 ⇑*iP* **P 14 48 04.5 -0.2**
ARU *e* pP 14 48 13.5 -0.9
ARU *e* 14 51 00.0
ARU *e*PPP 14 52 44.6
ARU *eS* S 14 57 53.7 -0.4
ARU *eSS* SS 15 02 55.0 +1.2
ARU pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ARU Arti 77.60 334 *eP* **P 14 48 04.3 -0.4**
comp=Z,31nm,1.3s,mb5.1
ARU *e* pP 14 48 13.8 -0.6
MBAR Mbarara 77.94 271 *eP* **P 14 48 07.4 +0.8**
LSZ Lusaka 78.38 256 ⇑P **P 14 48 10.3 +1.3**
SNR=5.7
LSZ Lusaka 78.38 256 *eP* **P 14 48 09.2 +0.2**
LSZ *e* 14 48 20.5
LSZ pmax pmax
comp=Z,28nm,1.4s,mb5.0
LSZ Lusaka 78.38 256 *eP* **P 14 48 09.2 +0.2**
comp=Z,28nm,1.4s,mb5.0
LSZ *e* 14 48 20.5
ZEI Tsey 78.54 317 *eP* **P 14 48 10.3 +0.4**
ZEI *e*PP pP 14 48 19.7 0.0
ZEI pmax pmax
comp=Z,14nm,0.4s,mb5.2
BOSA Boshof 79.70 243 LR LR 15 20 35.3
comp=Z,128nm,18.2s,MS4.3,baz=273,slow=33
BOSA Boshof 79.70 243 *eP* **P 14 48 13.3 -2.9**
BOSA pmax pmax
comp=Z,20nm,1.3s,mb4.9
BOSA Boshof 79.70 243 *eP* **P 14 48 13.3 -2.9**
comp=Z,20nm,1.3s,mb4.9
LBTB Lobatse 79.74 246 *eP* **P 14 48 16.8 +0.3**
LBTB pmax pmax
comp=Z,28nm,1.7s,mb4.9
LBTB Lobatse 79.74 246 *eP* **P 14 48 16.8 +0.3**
comp=Z,28nm,1.7s,mb4.9
KIV Kislovodsk 79.83 318 *eP* **P 14 48 17.4 +0.5**
KIV pmax pmax
comp=Z,17nm,1.3s,mb4.8
KIV Kislovodsk 79.83 318 *eP* **P 14 48 15.9 -1.1**
comp=Z,13nm,0.8s,mb4.9
ASF Jabal al Asfar 79.92 305 P **P 14 48 18.9 +1.5**
comp=Z,3.1nm,0.6s,mb4.4,baz=52,slow=3.5,SNR=6.4
GOF Gofitskoye 80.05 319 *eP* **P 14 48 17.9 -0.2**
GOF pmax pmax
comp=Z,40nm,0.8s,mb5.4
QSPA South Pole Qui 80.46 180 *eP* **P 14 48 20.3 0.0**
comp=Z,60nm,1.3s,mb5.4
MALT Malatya 80.72 311 *eP* **P 14 48 22.8 +1.1**
MALT pmax pmax
comp=Z,12nm,1.3s,mb4.7
MALT Malatya 80.72 311 *eP* **P 14 48 22.8 +1.0**
comp=Z,12nm,1.3s,mb4.7
EIL Elat 80.78 302 P **P 14 48 22.7 +0.7**
comp=Z,479nm,1.5s
TIXI Tiksi 82.14 6*c iP* **P 14 48 27.7 -1.5**
TIXI pmax pmax
comp=Z,17nm,0.9s,mb5.0
SUR Sutherland 83.12 238 *eP* **P 14 48 28.6 -5.7**
comp=Z,17nm,1.1s,mb5.0
BR131 Keskin Array S 84.70 312 *eP* **P 14 48 42.9 +0.4**
comp=Z,11nm,1.0s,mb5.0
BRTR Keskin Array B 84.70 312 P **P 14 48 42.7 +0.3**
comp=Z,11nm,1.1s,mb4.9,baz=132,slow=6.8,SNR=28
BRTR Keskin Array B 84.70 312 *iP* **P 14 48 42.7 +0.3**
BRTR pmax pmax
comp=Z,11nm,1.2s
VRSR Storozhevoye 84.84 324 *eP* **P 14 48 43.0 -0.1**
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VRSR pmax pmax
comp=N,3.0nm,0.6s
VRSR pmax pmax
comp=E,20nm,0.8s
MOS Moscow 87.38 328 *eP* **P 14 48 52.8 -2.8**
MOS *e* pP 14 49 03.8 -1.7
MOS pmax pmax
comp=Z,60nm,1.0s,mb5.8
SNAA Sanae 87.58 197 P **P 14 48 56.9 +0.2**
comp=Z,4.8nm,1.1s,mb4.6,baz=110,slow=4.7,SNR=17
SNAA Sanae 87.58 197 *eP* **P 14 48 55.9 -0.7**
SNAA *e* 14 48 58.8
SNAA *e* 14 48 59.9
SNAA *e* 14 49 00.5
SNAA Sanae 87.58 197 *eP* **P 14 48 56.3 -0.3**
SNAA pmax pmax
comp=Z,21nm,1.3s
SNAA Sanae 87.58 197 *eP* **P 14 48 56.3 -0.3**
comp=Z,21nm,1.3s,mb5.2
OBN Obninsk 87.72 327 *eP* **P 14 48 57.4 +0.1**
OBN *i* *PP pP 14 49 06.6 -0.6
OBN *eS* S 14 59 19.3 -18
OBN pmax pmax
comp=Z,82nm,1.6s,mb5.7
OBN Obninsk 87.72 327 *eP* **P 14 48 57.2 -0.1**
comp=Z,85nm,1.4s,mb5.8
OBN *e* pP 14 49 07.0 -0.2
TSUM Tsumeb 87.87 251 P **P 14 48 59.4 +1.3**
comp=Z,4.5nm,0.9s,mb4.7,baz=54,slow=18,SNR=6.1
TSUM Tsumeb 87.87 251 *eP* **P 14 48 59.1 +1.1**
comp=Z,5.8nm,1.1s,mb4.7
VNA1 Neumayer--Stat 89.61 197 *eP* **P 14 49 07.0 +0.8**
VNA1 *e* 14 49 09.4
VNA1 *e* 14 49 11.3
VNA1 *e* 14 49 12.4
AKASG Malin Array Be 90.67 321 P **P 14 49 10.2 -0.9**
comp=Z,0.4nm,0.4s,mb4.1,baz=87,slow=4.8,SNR=6.2
AKASG pP pP 14 49 21.0 -0.1
comp=Z,2.7nm,0.8s,baz=86,slow=4.8,SNR=3.7
FINES FINESS Array B 94.76 331 P **P 14 49 30.6 +0.6**
comp=Z,1.6nm,0.8s,mb4.5,baz=125,slow=19,SNR=5.3
ARCES ARCESS Array B 96.47 339 P **P 14 49 38.7 +0.9**
comp=Z,6.7nm,1.1s,mb5.0,baz=342,slow=12,SNR=3.6
ARCES ARCESS Array B 96.47 339 P **P 14 49 38.7 +0.9**
YKA Yellowknife Ar 118.66 21 PKP PKPdf 14 54 56.4 0.0
comp=Z,0.4nm,0.5s,baz=344,slow=1.6,SNR=5.7
YKA Yellowknife Ar 118.66 21 PKP PKPdf 14 54 56.4 0.0
J05A Fort Rock 125.24 43 ⇓P PKPdf 14 55 11.6 +2.5
baz=125
MNRC McLaughlin Nat 125.94 49 ⇓P PKPdf 14 55 13.1 +2.8
baz=126
J06A Christmas Vall 125.98 43 ⇑P PKPdf 14 55 11.6 +1.2
baz=126
K06A Valley Falls 126.09 43 ⇑P PKPdf 14 55 13.2 +2.5
baz=126
MOD Modoc 126.41 44 ⇓P PKPdf 14 55 13.1 +1.8
baz=126
J08A Circle Bar Ran 127.05 42 P PKPdf 14 55 15.0 +2.5
baz=127
N06A Buffalo Meadow 127.17 46 ⇑P PKPdf 14 55 14.8 +2.0
baz=127
O06A Flanigan 127.39 46 ⇓P PKPdf 14 55 15.8 +2.6
baz=127
M08A Happy Creek Ra 127.91 44 ⇑P PKPdf 14 55 15.3 +1.1
baz=128
S06C San Francisco 128.19 49 ⇑P PKPdf 14 55 17.4 +2.7
baz=128
NVAR Mina Array Bea 129.13 48 PKP PKPdf 14 55 18.9 +2.4
comp=Z,0.9nm,0.8s,baz=235,slow=1.0,SNR=8.4
S09A Goldfield 130.19 48 ⇑P PKPdf 14 55 22.1 +3.6
baz=130
U10A Ash Meadows, A 131.34 49 ⇑P PKPdf 14 55 25.6 +4.9
baz=131
PDAR Pinedale Array 133.04 39 PKP PKPdf 14 55 25.5 +1.6
comp=Z,0.3nm,0.5s,baz=90,slow=0.2,SNR=3.3
MSU Marysvale 133.47 45 *e*PKIKP PKPdf 14 55 27.8 +3.1
W14A Seligman 134.24 49 ⇓P PKPdf 14 55 30.5 +4.4
baz=134
WMOK Wichita Mounta 144.56 41 *e*PKIKP PKPdf 14 55 44.1 -0.8
EMMW East Machias 144.80 355 *eP* PKPdf 14 55 44.4 -0.9
EMMW *epP* 14 55 53.7
LONY Lake Ozonia 144.95 4 *e*PKPdf PKPdf 14 55 44.7 -0.8
LONY *e* 14 55 54.6
WVL Waterville 145.08 358 *eP* PKPbc 14 55 46.2 +0.9
WVL *epP* 14 55 55.5
MIV Mineville/With 145.55 3 *e*PKPdf PKPdf 14 55 47.3 +0.7
MIV *e* 14 55 56.2
NCB Newcomb 145.62 4 *e*PKPdf PKPdf 14 55 47.3 +0.6
NCB *e* 14 55 56.4
BDFB Brasilia 145.91 223 PKPbc PKPbc 14 55 49.6 +1.7
comp=Z,2.5nm,0.4s,baz=312,slow=6.6,SNR=6.5
JCT Junction City 146.31 48 *e*PKP2 PKPab 14 55 50.1 +0.2
CCM Cathedral Cave 146.46 29 *e*PKPdf PKPdf 14 55 48.6 +0.4
CCM *e* 14 55 57.9
FVM French Village 146.90 28 *e*PKP2 PKPab 14 55 51.9 -0.3
BINY Binghamton 147.23 6 *eP* PKPbc 14 55 52.8 +1.1
BINY *epP* 14 56 01.9
ACSO Alum Creek Sta 147.75 17 *e*PKPbc PKPbc 14 55 53.5 +0.3
ACSO *e* 14 56 02.8
MIAR Mount Ida 147.88 36 *e*PKPbc PKPbc 14 55 54.0 +0.5
MIAR *e* 14 56 03.8
LVC Limon Verde 147.95 184 PKPbc PKPbc 14 55 56.5 +2.8
comp=Z,14nm,0.9s,baz=180,slow=4.6,SNR=11
LVC Limon Verde 147.95 184 *e*PKPbc PKPbc 14 55 53.8 +0.1
UALR University of 148.41 34 *e*PKPdf PKPbc 14 55 50.7 -0.7
UALR *e*PKPbc PKPbc 14 55 55.8 +0.9
SSPA Standing Stone 148.51 9 *e*PKPbc PKPbc 14 55 54.1 -1.0
SSPA *e* 14 56 05.4
HKT Hockley 149.44 45 *e*PKP2 PKPab 14 55 59.6 -2.8
WVT Waverly 149.61 27 *e*PKP2 PKPbc 14 55 58.6 +0.7
OXF Oxford 150.16 31 *e*PKIKP PKPbc 14 56 00.1 +0.8
PLAL Pickwick Lake 150.44 29 *e*PKPbc PKPbc 14 55 59.6 -0.3
PLAL *e* 14 56 08.6
CPCT Cooper Cave 151.57 23 *e*PKPbc PKPbc 14 56 02.7 +0.1
CPCT *epP* pPKPbc 14 56 12.9 +0.1
SIV San Ignacio 152.65 202 PKP PKPdf 14 55 59.4 +1.4
comp=Z,2.4nm,1.0s,baz=172,slow=4.1,SNR=6.6
SIV PKPbc PKPbc 14 56 06.6 +1.6
comp=Z,7.7nm,1.0s,baz=183,slow=1.7,SNR=19
SIV PKPab PKPab 14 56 16.9 +1.2
comp=Z,5.0nm,0.8s,baz=180,slow=2.2,SNR=7.7
LPAZ La Paz 154.13 187 PKP PKPdf 14 56 03.3 +3.2
comp=Z,0.5nm,0.4s,baz=68,slow=2.6,SNR=4.0
LPAZ PKPbc PKPbc 14 56 11.4 +3.1
comp=Z,1.7nm,1.0s,baz=320,slow=2.0,SNR=4.7
LPAZ PKPab PKPab 14 56 24.3 +2.3
comp=Z,3.2nm,0.7s,baz=155,slow=6.2,SNR=10
LPAZ La Paz 154.13 187 *e*PKPdf PKPdf 14 56 02.2 +2.1
LPAZ *e*PKPbc PKPbc 14 56 11.0 +2.8
LPAZ *e*PKPab PKPab 14 56 23.7 +1.8

IDC ***20*** *14:52:15.9± 1.0, 899S× 108 54E, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.1/17, mbtmp4.2/9, ML3.6/1, Error ellipse: s-maj=43.4km s-min=17.5km az=57.0*
ISCJB ***20*** *14:52:16.7± 2.3, 899S± 008× 1087E± 0.1, h16km± 17km, mb4.6/29, MS4.5/5, Error ellipse: s-maj=18.7km s-min=11.2km az=120.2*
NEIC ***20*** *14:52:16.9± 0.5, 881S× 10904E, h10km, mb4.9/12, Error ellipse: s-maj=17.9km s-min=9.3km az=54.0*
BJI ***20*** *14:52:16.9, 880S× 10900E, h10km, mB5.0, mb4.6, Ms4.7, Msz4.5*
ISC 20 14:52:20.5±2.4, 903S±008×1087E±0.1, h31km±17km, h20km±3.2km: pP-P, n42, σ1s12/44, mb4.6/29, MS4.5/5, 1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**16.07**	**140**	P	**Pn**	**14 55 59.0**	**-5.1**
	8.4nm,0.8s						
KKM	**Kota Kinabalu**	**16.74**	**27**	P	**Pn**	**14 56 11.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**18.75**	**120**	P	**Pn**	**14 56 38.0**	**+0.6**
	0.1nm,0.3s,baz=23,slow=3.5,SNR=7.8						
DAV	**Davao City (W)**	**23.21**	**47**	P	**P**	**14 57 18.9**	**-6.0**
	325nm,1.3s,mb5.6						
WRA	**Warramunga Arr**	**27.04**	**116**	P	**P**	**14 58 03.4**	**+3.4**
	0.8nm,0.6s,mb3.4,baz=303,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**28.15**	**124**	PcP	PcP	15 01 23.4	+0.1
	0.6nm,0.9s,baz=318,slow=1.2,SNR=4.0						
AS31	**Alice Springs**	**28.15**	**124**	*eP*	**P**	**14 58 07.2**	**-2.7**
KMI	**Kunming**	**34.44**	**350**	P	**P**	**14 59 06.8**	**+1.6**
KMI				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
GYA	**Guiyang**	**35.33**	**357**	⇓*iP*	**P**	**14 59 15.6**	**+2.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**38.03**	**131**	P	**P**	**14 59 36.0**	**+0.1**
	comp=Z,4.5nm,0.8s,mb4.2,baz=297,slow=13,SNR=6.0						
STKA	**Stephens Creek**	**38.03**	**131**	*eP*	**P**	**14 59 35.5**	**-0.4**
STKA				*e*	pP	14 59 44.4	-0.6
CD2	**Chengdu**	**40.00**	**353**	*eP*	**P**	**14 59 52.1**	**-0.2**
CD2				AP	pP	14 59 56.6	-4.8
CD2				XP	sP	14 59 59.8	-5.3
CD2				PP	PP	15 01 28.8	+4.2
CD2				S	**S**	**15 05 58.4**	**+2.5**
CD2				XS	sS	15 06 05.8	-5.1
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
CD2				LR	LR		
	comp=E,200nm,14.3s						
CD2				LR	LR		
	comp=Z,100nm,13.2s,MS3.8						
NJ2	**Nanjing**	**41.99**	**13**	*eP*	**P**	**15 00 04.3**	**-4.4**
NJ2				AP	pP	15 00 08.8	-9.1
NJ2				XP	sP	15 00 11.3	-10
NJ2				PP	PP	15 01 44.3	-1.9
NJ2				S	**S**	**15 06 21.0**	**-4.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,120nm,5.6s						
NJ2				LR	LR		
	comp=N,6μm,21.6s,MS5.5						
NJ2				LR	LR		
	comp=E,2μm,21.6s,MS5.5						
NJ2				LR	LR		
	comp=Z,4μm,22.0s,MS5.3						
JIRN	**Jiri**	**42.50**	**330**	*eP*	**P**	**15 00 13.1**	**+0.2**
	comp=Z,30nm,0.8s,mb5.0						
PKI	**Pulchoki**	**42.82**	**329**	*eP*	**P**	**15 00 15.2**	**-0.3**
XAN	**Xi'an**	**42.83**	**0**	P	**P**	**15 00 16.5**	**+0.9**
XAN				AP	pP	15 00 25.8	+1.0
XAN				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						
GUN	**Gumba**	**42.86**	**330**	*eP*	**P**	**15 00 16.1**	**+0.3**
DMN	**Daman**	**43.00**	**329**	*eP*	**P**	**15 00 16.1**	**-0.9**
	comp=Z,40nm,1.1s,mb5.1						
KKN	**Kakani**	**43.06**	**329**	*eP*	**P**	**15 00 17.3**	**-0.2**
	comp=Z,27nm,1.0s,mb4.9						
GKN	**Gorkha**	**43.56**	**328**	*eP*	**P**	**15 00 21.2**	**-0.3**
KOLN	**Koldanda**	**43.92**	**327**	*eP*	**P**	**15 00 24.4**	**0.0**
GTA	**Gaotai**	**48.90**	**351**	*eP*	**P**	**15 01 05.3**	**+1.9**
GTA				AP	pP	15 01 11.6	-1.1
GTA				XP	sP	15 01 15.6	-0.8
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.4						
BJT	**Baijiatuau**	**49.29**	**8**	P	**P**	**15 01 07.5**	**+1.1**
	comp=Z,10.0nm,0.6s,mb5.0						
BJI	**Beijing**	**49.31**	**8**	*eP*	**P**	**15 01 07.8**	**+1.2**
BJI				AMB	AMB		
	comp=Z,16nm,0.8s,mb5.1						
HHC	**Hu-ho-hao-te**	**49.70**	**3**	*eP*	**P**	**15 01 09.0**	**-0.6**
HHC				XP	sP	15 01 15.5	-7.0
HHC				PP	PP	15 03 03.8	-0.4
HHC				PCS	PcS	15 06 24.1	-3.1
HHC				S	**S**	**15 08 15.9**	**-0.5**
HHC				SCS	ScS	15 10 57.8	-1.1
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,184nm,5.2s						
HHC				LR	LR		
	comp=N,132nm,16.6s,MS4.5						
HHC				LR	LR		
	comp=E,337nm,17.2s,MS4.5						
HHC				LR	LR		
	comp=Z,128nm,16.6s,MS4.0						
MJAR	**Matsushiro Arr**	**53.14**	**30**	P	**P**	**15 01 34.5**	**-0.8**
	comp=Z,1.0nm,0.5s,mb4.0,baz=265,slow=6.9,SNR=4.4						
WMQ	**Urumqi**	**55.96**	**342**	P	**P**	**15 01 57.5**	**+1.7**
WMQ				AP	pP	15 02 01.5	-3.7
WMQ				XP	sP	15 02 04.1	-4.7
WMQ				PP	PP	15 04 03.9	+3.2
WMQ				AMB	AMB		

comp=Z,13nm,1.8s,mb4.7
WMQ AMB AMB
comp=Z,98nm,5.5s
WMQ LR LR
comp=N,228nm,18.6s,MS4.4
WMQ LR LR
comp=E,171nm,17.5s,MS4.4
WMQ LR LR
comp=Z,229nm,19.1s,MS4.3
MDJ Mudanjiang 56.64 18 P P **15 01 59.0 -1.6**
MDJ AP pP 15 02 02.3 -7.7
MDJ PCP PcP 15 02 56.0 -0.7
MDJ PP PP 15 04 04.8 -1.9
MDJ SCP ScP 15 06 55.3 +1.4
MDJ S **S** **15 09 50.4 -0.4**
MDJ SCS ScS 15 11 47.1 -0.5
MDJ SS SS 15 13 39.3 +0.7
MDJ AMB AMB
comp=Z,3.0nm,0.6s,mb4.5
MDJ AMB AMB
comp=Z,82nm,5.3s
MDJ LR LR
comp=N,254nm,13.6s,MS4.5
MDJ LR LR
comp=E,108nm,12.6s,MS4.5
MDJ LR LR
comp=Z,259nm,12.6s,MS4.5
SONM Songino Array 56.65 358 P **P** **15 02 01.9 +1.1**
comp=Z,2.7nm,0.6s,mb4.5,baz=175,slow=8.0,SNR=24
ULN Ulaanbaatar 56.66 359 *eP* **P** **15 02 01.8 +0.9**
comp=Z,3.4nm,0.6s,mb4.5
MKAR Makanchi Array 60.37 339 P **P** **15 02 26.2 -0.4**
comp=Z,5.0nm,0.5s,mb4.8,baz=144,slow=7.8,SNR=56
KURK Kurchatov 64.98 339 *eP* **P** **15 02 56.9 -0.5**
comp=Z,6.7nm,0.8s,mb4.7
ZAL Zalesovo 65.91 345 P **P** **15 03 02.9 -0.5**
comp=Z,1.4nm,0.3s,mb4.5,baz=3.0,slow=2.1,SNR=6.7
BRVK Borovoye 69.96 336 P **P** **15 03 27.1 -1.7**
CHKZ Chkalovo 70.30 337 *eP* **P** **15 03 29.9 -1.0**
comp=Z,5.4nm,0.8s,mb4.5
ZRNK Zerenda 70.39 336 *eP* **P** **15 03 30.3 -1.2**
comp=Z,1.5nm,0.4s,mb4.3
YAK Yakutsk 72.70 10 P **P** **15 03 43.9 -1.5**
comp=Z,18nm,1.0s,mb5.0
VNDA Vanda 73.67 170 P **P** **15 03 52.5 +1.3**
comp=Z,1.3nm,0.8s,mb3.9,baz=298,slow=6.9,SNR=3.5
ARU Arti 77.17 334 P **P** **15 04 10.3 -1.0**
QSPA South Pole Qui 80.97 180 *eP* **P** **15 04 33.0 +0.9**
comp=Z,4.6nm,1.0s,mb4.4
BRTR Keskin Array B 84.43 312 P **P** **15 04 49.2 -0.8**
comp=Z,1.2nm,1.0s,mb4.0,baz=118,slow=7.6,SNR=6.0
WMOK Wichita Mounta 144.11 40 *e*PKPdf PKPdf 15 11 51.6 -1.5
WMOK *e* 15 12 01.9

*IDC **20** 15:15:48.5±0.5, 1007S×10869E, h0km, mb4.5/14, mb1 4.6/15, mb1mx4.5/18, mbtmp4.5/15, ML4.5/1, MS3.6/6, Ms1 3.6/6, ms1mx3.2/33, Error ellipse: s-maj=22.0km s-min=13.8km az=57.0*
*NEIC **20** 15:15:49.8±0.2, 1006S×10871E, h10km, mb4.9/30, Error ellipse: s-maj=9.5km s-min=5.7km az=59.0*
*BJI **20** 15:15:49.8, 10.10S×10870E, h10km, mB4.9, mb4.7, Ms4.4, Msz4.2*
*ISCJB **20** 15:15:51.5±0.3, 1009S±005×10876E±007, h33km, mb4.8/56, MS4.0/10, Error ellipse: s-maj=9.9km s-min=5.7km az=134.7*
*MOS **20** 15:15:52.3±0.8, 998S×10884E, h38km, mb5.1/15, Error ellipse: s-maj=16.0km s-min=8.5km az=111.3*
ISC 20 15:15:53.7±0.3, 1011S±005×10873E±007, h35km, (h30km±5.3km: pP-P), n120, σ1§05/104, mb4.8/56, MS4.0/10, 3C-5D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.92**	**19**	P		**Pn**	**15 16 37.7**	**+0.1**
	437nm,0.8s							
LEM	**Lembang**	**3.44**	**341**	P		**Pn**	**15 16 44.6**	**-0.1**
	1µm,0.9s							
JCJI	**Jatiwangi**	**3.62**	**353**	P		**Pn**	**15 16 44.2**	**-3.0**
	865nm,1.0s							
KSI	**Kapahiang**	**8.84**	**316**	P		**Pn**	**15 17 56.0**	**-2.9**
	222nm,1.1s							
KSM	**Kuching**	**11.61**	**8**	Pn		**Pn**	**15 18 33.2**	**-3.6**
MBWA	**Marble Bar**	**15.25**	**137**	*e*Pn		**Pn**	**15 19 20.0**	**-6.3**
	28nm,0.6s							
MBWA				*e*Sn		Sn	15 21 51.0	-23
PSI	**Prapat**	**16.12**	**322**	LR		LR	15 26 56.6	
	comp=Z,227nm,18.6s,baz=134,slow=42							
KULM	**Kulim**	**17.28**	**332**	Pn		**Pn**	**15 19 43.8**	**-8.4**
FITZ	**Fitzroy Crossi**	**18.21**	**118**	*e*P		**Pn**	**15 20 03.1**	**-0.5**
	23nm,0.8s							
FITZ				*e*S		S	15 23 06.5	-24
FITZ	**Fitzroy Crossi**	**18.21**	**118**	Pn		**Pn**	**15 20 03.4**	**-0.2**
	1.1nm,0.3s,baz=289,slow=10.0,SNR=53							
FITZ				Sn		**Sn**	**15 23 08.8**	**-17**
	0.7nm,0.3s,baz=198,slow=16,SNR=5.1							
KLBR	**Kellerberrin**	**22.96**	**160**	*e*P		**P**	**15 21 03.2**	**+8.3**
	93nm,1.6s,mb5.0							
NWAO	**Narrogin (SRO)**	**24.03**	**162**	LR		LR	15 30 27.0	
	comp=Z,68nm,21.7s,MS3.1,baz=230,slow=36							
WRA	**Warramunga Arr**	**26.56**	**115**	P		**P**	**15 21 28.8**	**+0.6**
	6.2nm,0.7s,mb4.2,baz=284,slow=12,SNR=32							
WRA				Sn		S	15 26 31.6	+31
	1.5nm,0.8s,baz=282,slow=24,SNR=4.7							
WRAB	**Tennant Creek**	**26.57**	**115**	*e*P		**P**	**15 21 28.7**	**+0.4**
WRAB	**Tennant Creek**	**26.57**	**115**	*e*P		**P**	**15 21 28.8**	**+0.6**
	11nm,0.8s,mb4.5							
WB2	**Warramunga Arr**	**26.57**	**115**	*e*P		**P**	**15 21 28.9**	**+0.6**
AS31	**Alice Springs**	**27.54**	**122**	*e*P		**P**	**15 21 38.5**	**+1.4**
AS31				*e*S		S	15 26 38.1	+22
ASAR	**Alice Springs**	**27.54**	**122**	P		**P**	**15 21 37.2**	**+0.2**
	2.8nm,0.7s,mb4.0,baz=296,slow=9.4,SNR=32							
ASAR				PcP		PcP	15 24 56.0	+1.7
	1.9nm,0.8s,baz=290,slow=1.8,SNR=6.5							
ASAR				Sn		S	15 26 51.7	+36
	1.8nm,0.9s,baz=299,slow=22,SNR=5.7							
ASAR				LR		LR	15 31 30.4	
	comp=Z,156nm,20.5s,MS3.6,baz=110,slow=34							
ASAR	**Alice Springs**	**27.54**	**122**	P		**P**	**15 21 37.2**	**+0.2**
ASAR							15 24 56.1	
CM31	**Chiang Mai Arr**	**29.98**	**341**	P		**P**	**15 21 54.3**	**-4.4**
	14nm,0.9s,mb4.7							
CHTO	**Chiang Mai**	**30.31**	**341**	*e*P		**P**	**15 22 01.8**	**+0.1**
CHTO				pmax		pmax		
	comp=Z,17nm,1.3s,mb4.6							
CHTO	**Chiang Mai**	**30.31**	**341**	*e*P		**P**	**15 22 01.8**	**+0.1**
	comp=Z,17nm,1.3s,mb4.6							
KMI	**Kunming**	**35.50**	**351**	P		**P**	**15 22 50.1**	**+3.2**
KMI				AP		pP	15 23 00.1	+3.0
KMI				PP		PP	15 24 12.8	+4.9
KMI				S		**S**	**15 28 27.4**	**+7.5**
KMI				AMB		AMB		
	comp=Z,19nm,1.2s,mb4.9							
KMI				AMB		AMB		
	comp=Z,107nm,3.8s							
KMI				LR		LR		
	comp=N,216nm,19.3s,MS4.0							
KMI				LR		LR		
	comp=E,173nm,19.3s,MS4.0							
KMI				LR		LR		
	comp=Z,227nm,19.3s,MS3.9							
GYA	**Guiyang**	**36.40**	**357**	⇓*i*P		**P**	**15 22 56.3**	**+1.6**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.7							
STKA	**Stephens Creek**	**37.32**	**130**	*e*P		**P**	**15 23 03.6**	**+1.1**
	comp=Z,8.8nm,0.6s,mb4.8							
STKA	**Stephens Creek**	**37.32**	**130**	P		**P**	**15 23 03.6**	**+1.2**
	comp=Z,11nm,0.7s,mb4.8,baz=306,slow=8.5,SNR=27							
STKA				PcP		PcP	15 25 22.6	+1.4
	comp=Z,2.9nm,0.9s,baz=324,slow=4.4,SNR=3.9							
STKA				LR		LR	15 37 01.3	
	comp=Z,139nm,20.1s,MS3.8,baz=207,slow=34							
WHN	**Wuhan**	**40.77**	**7**	⇑P		**P**	**15 23 31.0**	**-0.4**
CD2	**Chengdu**	**41.06**	**353**	*e*P		**P**	**15 23 33.3**	**-0.4**
CD2				AP		pP	15 23 37.8	-6.2
CD2				XP		sP	15 23 41.0	-7.2
CD2				PP		PP	15 25 11.8	+3.1
CD2				S		**S**	**15 29 46.3**	**+2.4**
CD2				AMB		AMB		
	comp=Z,10.0nm,1.4s,mb4.2							
CD2				LR		LR		
	comp=E,80nm,13.0s							
CD2				LR		LR		
	comp=Z,100nm,14.3s,MS3.8							
JOW	**Kunigami**	**41.33**	**27**	LR		LR	15 41 32.2	
	comp=Z,48nm,19.3s,MS3.4,baz=148,slow=37							
NJ2	**Nanjing**	**43.02**	**13**	*e*P		**P**	**15 23 47.3**	**-2.4**
NJ2				AP		pP	15 23 57.3	-2.7
NJ2				XP		sP	15 24 01.3	-2.9
NJ2				PP		PP	15 25 29.0	-0.9
NJ2				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,120nm,5.6s							
NJ2				LR		LR		
	comp=N,2µm,19.6s,MS5.1							
NJ2				LR		LR		
	comp=E,1µm,21.1s,MS5.1							
NJ2				LR		LR		
	comp=Z,3µm,21.0s,MS5.2							
JIRN	**Jiri**	**43.43**	**330**	*e*P		**P**	**15 23 54.2**	**+1.2**
	comp=Z,83nm,0.7s,mb5.6							
PKI	**Pulchoki**	**43.74**	**329**	*e*P		**P**	**15 23 56.0**	**+0.5**
GUN	**Gumba**	**43.79**	**330**	*e*P		**P**	**15 23 57.0**	**+1.1**
	comp=Z,80nm,0.7s,mb5.6							
XAN	**Xi'an**	**43.90**	**0**	P		**P**	**15 23 56.9**	**+0.1**
XAN				AP		pP	15 24 07.3	+0.2
XAN				AMB		AMB		
	comp=Z,14nm,0.8s,mb4.7							
DMN	**Daman**	**43.93**	**329**	*e*P		**P**	**15 23 57.7**	**+0.7**
	comp=Z,66nm,1.0s,mb5.3							
KKN	**Kakani**	**43.99**	**329**	*e*P		**P**	**15 23 58.0**	**+0.5**
	comp=Z,62nm,0.9s,mb5.3							
KKN	**Kakani**	**43.99**	**329**	*e*P		**P**	**15 23 58.0**	**+0.5**
KKN				pmax		pmax		
	comp=Z,62nm,0.9s,mb5.3							
GKN	**Gorkha**	**44.49**	**329**	*e*P		**P**	**15 24 01.0**	**-0.5**
	comp=Z,93nm,1.2s,mb5.4							
LZH	**Lanzhou**	**46.17**	**355**	*e*P		**P**	**15 24 16.0**	**+1.1**
LZH				AP		pP	15 24 27.0	+1.8
LZH				AMB		AMB		
	comp=Z,26nm,1.0s,mb5.1							
CBIJ	**Chichi jima**	**49.20**	**40**	LR		LR	15 44 21.9	
	comp=Z,92nm,20.6s,MS3.8,baz=54,slow=35							
GTA	**Gaotai**	**49.95**	**351**	*e*P		**P**	**15 24 45.3**	**+1.2**
GTA				AP		pP	15 24 50.0	-4.5
GTA				XP		sP	15 24 52.8	-5.9
GTA				AMB		AMB		
	comp=Z,6.0nm,1.1s,mb4.5							
HHC	**Hu-ho-hao-te**	**50.77**	**3**	*e*P		**P**	**15 24 52.5**	**+2.3**
HHC				XP		sP	15 24 59.6	-5.2
HHC				PP		PP	15 26 49.6	+3.1
HHC				S		**S**	**15 32 07.8**	**+4.4**
HHC				PS			15 32 16.8	
HHC				SCS		ScS	15 34 39.8	+1.6
HHC				AMB		AMB		
	comp=Z,17nm,0.6s,mb5.2							
HHC				AMB		AMB		
	comp=Z,123nm,6.0s							
HHC				LR		LR		
	comp=N,145nm,19.0s,MS4.2							
HHC				LR		LR		
	comp=E,216nm,20.8s,MS4.2							
MAJO	**Matsushiro**	**54.05**	**29**	P		**P**	**15 25 13.2**	**-1.4**
MAJO				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.7							
MAJO	**Matsushiro**	**54.05**	**29**	P		**P**	**15 25 13.2**	**-1.4**
	comp=Z,12nm,1.1s,mb4.7							
MJAR	**Matsushiro Arr**	**54.05**	**29**	P		**P**	**15 25 12.8**	**-1.8**
	comp=Z,2.7nm,0.7s,mb4.3,baz=205,slow=7.7,SNR=7.8							
CASY	**Casey**	**56.11**	**179**	*e*P		**P**	**15 25 27.6**	**-1.9**
	comp=Z,11nm,1.3s,mb4.7							
WMQ	**Urumqi**	**56.98**	**342**	P		**P**	**15 25 37.3**	**+1.7**
WMQ				AP		pP	15 25 41.3	-4.9
WMQ				XP		sP	15 25 43.8	-6.5
WMQ				PP		PP	15 27 45.3	+2.9
WMQ				AMB		AMB		
	comp=Z,12nm,1.3s,mb4.8							
WMQ				AMB		AMB		
	comp=Z,116nm,5.2s							
WMQ				LR		LR		
	comp=N,507nm,17.0s,MS4.8							
WMQ				LR		LR		
	comp=E,381nm,15.9s,MS4.8							
WMQ				LR		LR		
	comp=Z,505nm,17.5s,MS4.7							
MDJ	**Mudanjiang**	**57.65**	**18**	P		**P**	**15 25 39.9**	**-0.4**
MDJ				AMB		AMB		
	comp=Z,5.0nm,0.8s,mb4.6							
MDJ				AMB		AMB		
	comp=Z,61nm,4.7s							
SONM	**Songino Array**	**57.72**	**358**	P		**P**	**15 25 41.4**	**+0.5**
	comp=Z,6.1nm,0.6s,mb4.8,baz=177,slow=7.9,SNR=57							
ULN	**Ulaanbaatar**	**57.73**	**359**	*d*iP		**P**	**15 25 41.3**	**+0.4**
ULN	**Ulaanbaatar**	**57.73**	**359**	*e*P		**P**	**15 25 41.0**	**+0.1**
	comp=Z,8.1nm,0.7s,mb4.9							
ZAK	**Zakamensk**	**60.42**	**356**	*e*P		**P**	**15 25 58.8**	**-0.7**
ZAK				*e*			15 26 45.2	
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.1							
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.1							
AAK	**Ala-Archa**	**61.11**	**332**	*e*P		**P**	**15 26 02.9**	**-1.3**
AAK				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.5							
AAK	**Ala-Archa**	**61.11**	**332**	*e*P		**P**	**15 26 02.9**	**-1.4**
	comp=Z,4.4nm,1.0s,mb4.5							
MKAR	**Makanchi Array**	**61.37**	**340**	P		**P**	**15 26 06.2**	**+0.2**
	comp=Z,5.5nm,0.7s,mb4.8,baz=142,slow=7.6,SNR=60							
MOY	**Mondy**	**61.88**	**355**	*e*P		**P**	**15 26 10.9**	**+1.5**
IRK	**Irkutsk**	**62.21**	**357**	*e*P		**P**	**15 26 11.9**	**+0.2**
IRK				pmax		pmax		
	comp=Z,19nm,1.5s,mb5.0							
KLR	**Kul'dur**	**62.45**	**17**	*e*P		**P**	**15 26 09.0**	**-4.3**
YSS	**Yuzh-Sakhalins**	**64.40**	**25**	*e*P		**P**	**15 26 24.8**	**-1.4**
YSS				pmax		pmax		
	comp=Z,15nm,1.1s,mb4.9							
YSS	**Yuzh-Sakhalins**	**64.40**	**25**	*e*P		**P**	**15 26 25.2**	**-0.9**
	comp=Z,12nm,1.0s,mb4.9							
MAW	**Mawson**	**64.92**	**198**	*e*P		**P**	**15 26 28.6**	**-1.0**
	comp=Z,6.5nm,1.0s,mb4.6,baz=63,slow=12,SNR=9.4							
MAW	**Mawson**	**64.92**	**198**	*e*P		**P**	**15 26 27.6**	**-2.0**
MAW				pmax		pmax		
	comp=Z,7.0nm,0.9s							
MAW	**Mawson**	**64.92**	**198**	*e*P		**P**	**15 26 27.6**	**-2.0**
	comp=Z,7.3nm,0.9s,mb4.7							
KURK	**Kurchatov**	**65.99**	**340**	*e*P		**P**	**15 26 35.9**	**-0.5**
KURK				pmax		pmax		
	comp=Z,18nm,1.4s,mb4.9							
KURK	**Kurchatov**	**65.99**	**340**	*e*P		**P**	**15 26 35.9**	**-0.5**
	comp=Z,18nm,1.4s,mb4.9							
ZAL	**Zalesovo**	**66.95**	**345**	P		**P**	**15 26 42.1**	**-0.5**
	comp=Z,2.8nm,0.4s,mb4.7,baz=336,slow=4.4,SNR=7.4							
BVAR	**Borovoye Array**	**70.88**	**337**	P		**P**	**15 27 07.2**	**+0.2**
	comp=Z,9.0nm,0.7s,mb4.8,baz=140,slow=7.7,SNR=61							
BRVK	**Borovoye**	**70.94**	**337**	*e*P		**P**	**15 27 06.5**	**-0.9**
BRVK				pmax		pmax		
	comp=Z,9.0nm,1.1s,mb4.6							
BRVK	**Borovoye**	**70.94**	**337**	*e*P		**P**	**15 27 06.5**	**-0.9**
	comp=Z,8.9nm,1.1s,mb4.6							
CHKZ	**Chkalovo**	**71.29**	**337**	*e*P		**P**	**15 27 09.4**	**-0.1**
CHKZ				pmax		pmax		
	comp=Z,19nm,0.8s,mb5.1							
CHKZ	**Chkalovo**	**71.29**	**337**	*e*P		**P**	**15 27 09.4**	**-0.1**
	comp=Z,19nm,0.8s,mb5.1							
ZRNK	**Zerenda**	**71.37**	**336**	*e*P		**P**	**15 27 09.6**	**-0.4**
ZRNK				pmax		pmax		
	comp=Z,18nm,0.8s,mb5.0							
ZRNK	**Zerenda**	**71.37**	**336**	*e*P		**P**	**15 27 09.6**	**-0.4**
	comp=Z,18nm,0.8s,mb5.0							
KMBO	**Kilima Mbogo**	**71.57**	**272**	P		**P**	**15 27 12.0**	**+0.8**
	comp=Z,2.3nm,0.9s,mb4.1,baz=27,slow=21,SNR=4.0							
VNDA	**Vanda**	**72.62**	**169**	P		**P**	**15 27 17.4**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=295,slow=4.1,SNR=6.7							
VNDA	**Vanda**	**72.62**	**169**	*e*P		**P**	**15 27 17.1**	**-0.4**
SKR	**Severo-Kuril's**	**73.17**	**29**	*e*P		**P**	**15 27 15.0**	**-5.7**
SYO	**Syowa Base**	**73.20**	**201**	⇑*e*P		**P**	**15 27 20.0**	**-0.9**
SYO	**Syowa Base**	**73.20**	**201**	⇑*e*pP		pP	15 27 22.3	-10
SBA	**Scott Base**	**73.69**	**169**	P		**P**	**15 27 24.0**	**+0.2**
YAK	**Yakutsk**	**73.75**	**10**	*d*iP		**P**	**15 27 23.3**	**-0.9**
YAK				pmax		pmax		
	comp=Z,36nm,1.0s,mb5.3							
YAK	**Yakutsk**	**73.75**	**10**	*e*P		**P**	**15 27 23.0**	**-1.1**
	comp=Z,24nm,0.8s,mb5.2							
SVE	**Sverdlovsk**	**77.53**	**335**	*e*P		**P**	**15 27 45.8**	**0.0**
SVE				pmax		pmax		
	comp=Z,32nm,1.3s,mb5.1							
ARU	**Arti**	**78.14**	**334**	⇓*i*P		**P**	**15 27 49.2**	**0.0**
ARU				*e*		pP	15 27 59.5	-0.7
ARU				*e*			15 30 46.3	
ARU				*e*S		S	15 37 43.1	+2.0
ARU				*e*SS		SS	15 42 43.6	+0.4
ARU				pmax		pmax		
	comp=Z,18nm,1.1s,mb4.9							
ARU	**Arti**	**78.14**	**334**	*e*P		**P**	**15 27 48.6**	**-0.6**
	comp=Z,23nm,1.3s,mb5.0							
ARU				*e*		pP	15 27 59.6	-0.6
LSZ	**Lusaka**	**78.36**	**256**	*e*P		**P**	**15 27 51.3**	**+0.9**
LSZ				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.4							
LSZ	**Lusaka**	**78.36**	**256**	*e*P		**P**	**15 27 51.3**	**+0.9**
	comp=Z,5.9nm,1.1s,mb4.4							
BOSA	**Boshof**	**79.55**	**243**	P		**P**	**15 27 57.6**	**+0.7**
	comp=Z,2.7nm,1.1s,mb4.1,baz=135,slow=1.8,SNR=4.8							
BOSA	**Boshof**	**79.55**	**243**	*e*P		**P**	**15 27 57.7**	**+0.8**
BOSA				pmax		pmax		
	comp=Z,19nm,1.3s,mb4.9							
BOSA	**Boshof**	**79.55**	**243**	*e*P		**P**	**15 27 57.7**	**+0.8**
	comp=Z,19nm,1.3s,mb4.9							
QSPA	**South Pole Qui**	**79.90**	**180**	P		**P**	**15 27 58.6**	**-0.2**
	comp=Z,4.3nm,1.1s,mb4.3							
KIV	**Kislovodsk**	**80.32**	**318**	*e*P		**P**	**15 28 01.1**	**0.0**
KIV				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.3							
EIL	**Elat**	**81.17**	**302**	P		**P**	**15 28 02.9**	**-2.7**
	comp=Z,171nm,1.2s,mb5.8							
MALT	**Malatya**	**81.17**	**311**	P		**P**	**15 28 06.8**	**+1.2**
MALT				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.4							
MALT	**Malatya**	**81.17**	**311**	P		**P**	**15 28 06.8**	**+1.1**
	comp=Z,5.7nm,1.1s,mb4.4							
TIXI	**Tiksi**	**82.67**	**6**	*d*iP		**P**	**15 28 12.7**	**-0.8**
TIXI				pmax		pmax		
	comp=Z,18nm,0.9s,mb5.1							
BR131	**Keskin Array S**	**85.16**	**312**	*e*P		**P**	**15 28 26.1**	**-0.1**
	comp=Z,11nm,1.1s,mb4.9							
BRTR	**Keskin Array B**	**85.16**	**312**	P		**P**	**15 28 26.8**	**+0.6**
	comp=Z,4.3nm,0.8s,mb4.6,baz=126,slow=6.3,SNR=24							
SNAA	**Sanae**	**87.09**	**197**	*e*P		**P**	**15 28 36.2**	**+0.5**
SNAA				*e*			15 28 37.6	
SNAA				*e*			15 28 53.8	
SNAA	**Sanae**	**87.09**	**197**	*e*P		**P**	**15 28 36.1**	**+0.4**
SNAA	**Sanae**	**87.09**	**197**	*e*P		**P**	**15 28 36.0**	**+0.3**
	comp=Z,6.3nm,1.3s,mb4.7							
TSUM	**Tsumeb**	**87.80**	**251**	P		**P**	**15 28 40.1**	**+1.0**
	comp=Z,2.7nm,0.8s,mb4.5							
OBN	**Obninsk**	**88.25**	**327**	*e*P		**P**	**15 28 41.1**	**-0.2**
OBN				*i* *SP		sP	15 28 53.9	-2.5
OBN				*e*			15 32 08.5	
OBN				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.8							
VNA1	**Neumayer--Stat**	**89.12**	**197**	*e*P		**P**	**15 28 44.3**	**-1.1**
VNA1				*e*			15 28 47.1	
VNA1				*e*			15 29 03.2	
AKASG	**Malin Array Be**	**91.17**	**321**	P		**P**	**15 28 54.4**	**-0.6**
	comp=Z,0.4nm,0.4s,mb4.1,baz=92,slow=4.2,SNR=6.6							
DBIC	**Dimbokro**	**114.30**	**273**	PKIKP		PKiKP	15 34 29.1	-0.4
YKA	**Yellowknife Ar**	**119.14**	**21**	PKP		PKPdf	15 34 38.8	0.0
	comp=Z,0.9nm,0.7s,baz=331,slow=1.9,SNR=7.5							
YKA	**Yellowknife Ar**	**119.14**	**21**	PKP		PKPdf	15 34 38.8	0.0
NVAR	**Mina Array Bea**	**129.42**	**48**	PKP		PKPdf	15 35 01.9	+3.4
	comp=Z,0.2nm,0.5s,baz=225,slow=0.7,SNR=4.2							
NVAR	**Mina Array Bea**	**129.42**	**48**	PKP		PKPdf	15 35 01.9	+3.4
WMOK	**Wichita Mounta**	**144.90**	**41**	*e*PKiKP		PKPdf	15 35 27.5	+0.6
WMOK				*e*			15 35 38.6	
LONY	**Lake Ozonia**	**145.49**	**4**	*e*PKPdf		PKPdf	15 35 29.0	+1.1
BDFB	**Brasilia**	**145.58**	**222**	PKPbc		PKPbc	15 35 31.0	+2.7
	comp=Z,1.6nm,0.5s,baz=219,slow=0.6,SNR=3.1							
JCT	**Junction City**	**146.60**	**49**	*e*PKP2		PKPab	15 35 31.5	-1.0
CCM	**Cathedral Cave**	**146.89**	**30**	*e*PKP2		PKPab	15 35 31.7	-1.9
LVC	**Limon Verde**	**147.40**	**184**	*e*PKPbc		PKPbc	15 35 35.5	+1.8
MIAR	**Mount Ida**	**148.26**	**37**	*e*PKP2		PKPab	15 35 37.8	-1.3
WCI	**Wyandotte Cave**	**148.92**	**23**	*e*PKP2		PKPbc	15 35 38.1	+0.4
WVT	**Waverly**	**150.05**	**28**	*e*PKP2		PKPbc	15 35 41.4	+0.9
LPAZ	**La Paz**	**153.59**	**187**	PKPbc		PKPbc	15 35 51.5	+3.0
	comp=Z,1.0nm,0.8s,baz=52,slow=4.8,SNR=4.9							

*ISCJB **20** 15:16:41.1±0.6, 1533N±005×11890E±006, h27km, mb3.7/5, Error ellipse: s-maj=8.6km s-min=7.5km az=6.3*
*NEIC **20** 15:16:42.9±0.7, 1504N×11861E, mb4.3/1, Error ellipse: s-maj=16.9km s-min=10.8km az=48.0*
*IDC **20** 15:16:43.6±1.2, 1524N×11889E, h26km±7km, mb3.5/4, mb1 3.7/5, mb1mx3.5/20, mbtmp3.8/5, ML4.5/1, Error ellipse: s-maj=63.9km s-min=20.3km az=56.0*
ISC 20 15:16:43.0±0.6, 1535N±005×11895E±006, h29km, h29km±.9km: pP-P, n19, σ1§35/21, mb3.7/5, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**1.01**	**65**	*e*P		**Pn**	**15 16 59.5**	**-1.7**
BOLP	**Bolinao**	**1.38**	**42**	*e*P		**Pn**	**15 17 04.5**	**-1.8**
BCPH	**Baguio City Da**	**1.87**	**57**	⇑*i*P		**Pn**	**15 17 12.7**	**-0.3**
BCPH				*i* S		**Sn**	**15 17 35.5**	**-0.1**
PCPH	**Palayan**	**2.08**	**84**	*e*P		**Pn**	**15 17 15.1**	**-0.7**
TGY	**Tagaytay City**	**2.29**	**123**	Pn		**Pn**	**15 17 20.5**	**+1.8**
	124nm,0.3s,baz=217,slow=5.7,SNR=4.2							
TGY				Lg			15 17 52.5	
	55nm,0.3s,baz=307,slow=21,SNR=3.8							
POLP	**Polillo Island**	**2.95**	**102**	*e*P		**Pn**	**15 17 29.6**	**+1.7**
BOAC	**Boac**	**3.38**	**124**	*e*P		**Pn**	**15 17 33.8**	**+0.1**
BUSP	**Coron**	**3.54**

ISC 20 15:38:29.7±0.2, 1003S±004×10877E±004, h20km, h20km,2.6km:pP-P,n260,σ1°05/208, mb5.1/91, MS4.2/32, 10C-30D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.84**	**19**	P	**Pn**	**Pn**	**15 39 15.2**	**+1.3**
	1μm,0.9s							
LEM	**Lembang**	**3.38**	**340**	P	**Pn**	**Pn**	**15 39 22.1**	**+0.7**
	3μm,1.0s							
JCJI	**Jatiwangi**	**3.55**	**352**	P	**Pn**	**Pn**	**15 39 21.6**	**-2.1**
	2μm,1.2s							
SBJI	**Serang**	**4.68**	**326**	P	**Pn**	**Pn**	**15 39 39.0**	**-0.3**
	461nm,1.0s							
NBBI	**Negara**	**6.01**	**75**	P	**Pn**	**Pn**	**15 40 01.4**	**+3.9**
	1μm,0.7s							
KLI	**Kotabumi**	**6.43**	**323**	P	**Pn**	**Pn**	**15 40 03.7**	**+0.4**
	300nm,0.9s							
KSI	**Kapahiang**	**8.82**	**316**	P	**Pn**	**Pn**	**15 40 34.0**	**-2.0**
	584nm,0.8s							
KSM	**Kuching**	**11.53**	**8**	Pn		**Pn**	**15 41 07.5**	**-5.7**
MBWA	**Marble Bar**	**15.28**	**138**	*e*Pn		**Pn**	**15 41 58.2**	**-6.0**
	28nm,0.5s							
MBWA					*e*Sn	Sn	15 44 30.6	-22
PSI	**Prapat**	**16.08**	**322**	Pn		**Pn**	**15 42 06.9**	**-7.7**
	1.7nm,0.3s,baz=136,slow=17,SNR=7.4							
PSI				LR		LR	15 49 33.2	
	comp=Z,794nm,18.0s,baz=141,slow=42							
IPM	**Ipoh**	**16.35**	**332**	P		**Pn**	**15 42 19.4**	**+1.4**
KULM	**Kulim**	**17.24**	**332**	*e*P		**Pn**	**15 42 24.3**	**-5.0**
KKM	**Kota Kinabalu**	**17.61**	**25**	*e*Pn		**Pn**	**15 42 32.6**	**-1.3**
FITZ	**Fitzroy Crossi**	**18.21**	**118**	*e*P		**Pn**	**15 42 40.5**	**-0.8**
	19nm,0.6s							
FITZ					*e*S	**Sn**	**15 45 47.8**	**-16**
FITZ	**Fitzroy Crossi**	**18.21**	**118**	Pn		**Pn**	**15 42 40.8**	**-0.5**
	2.8nm,0.3s,baz=296,slow=11,SNR=38							
FITZ				Sn		**Sn**	**15 45 47.9**	**-16**
	0.5nm,0.3s,baz=239,slow=18,SNR=3.8							
BSI	**Banda Aceh**	**20.45**	**318**	P		**P**	**15 43 06.5**	**+0.6**
	111nm,1.1s							
KLBR	**Kellerberrin**	**23.02**	**160**	*e*P		**P**	**15 43 41.2**	**+7.8**
	76nm,1.6s,mb4.9							
KAKA	**Kakadu**	**23.36**	**99**	*e*P		**P**	**15 43 38.2**	**+1.2**
	17nm,0.8s,mb4.5							
NWAO	**Narrogin (SRO)**	**24.09**	**162**	LR		LR	15 52 39.5	
	comp=Z,469nm,22.0s,MS3.9,baz=352,slow=35							
NNT	**Nongplab**	**24.20**	**338**	P		**P**	**15 43 46.1**	**+1.2**
WRA	**Warramunga Arr**	**26.56**	**115**	P		**P**	**15 44 06.8**	**+0.5**
	6.3nm,0.7s,mb4.2,baz=286,slow=11,SNR=35							
WRA				Sn		S	15 49 07.2	+28
	2.1nm,0.8s,baz=284,slow=24,SNR=4.4							
WRAB	**Tennant Creek**	**26.56**	**115**	P		**P**	**15 44 07.0**	**+0.7**
	57nm,0.8s,mb5.2,SNR=5.8							
WRAB	**Tennant Creek**	**26.56**	**115**	*e*P		**P**	**15 44 06.6**	**+0.3**
WRAB				pmax		pmax		
	comp=Z,22nm,0.7s,mb4.8							
WRAB	**Tennant Creek**	**26.56**	**115**	*e*P		**P**	**15 44 06.6**	**+0.3**
	comp=Z,22nm,0.7s,mb4.8							
WRAB					*e*S	**S**	**15 48 58.3**	**+18**
WB2	**Warramunga Arr**	**26.57**	**115**	*e*P		**P**	**15 44 06.8**	**+0.4**
WB2	**Warramunga Arr**	**26.57**	**115**	*e*P		**P**	**15 44 06.5**	**+0.1**
KKTK	**Khon Kaen**	**26.85**	**347**	P		**P**	**15 44 10.0**	**+1.1**
	comp=Z,247nm,0.6s,mb5.9							
NST	**Nakhon Sawan**	**26.93**	**341**	P		**P**	**15 44 10.5**	**+0.8**
ASAR	**Alice Springs**	**27.55**	**123**	P		**P**	**15 44 16.3**	**+1.1**
	comp=Z,4.0nm,0.7s,mb4.1,baz=298,slow=8.4,SNR=25							
ASAR				PcP		PcP	15 47 33.8	+1.0
	comp=Z,3.3nm,0.8s,baz=283,slow=2.0,SNR=7.3							
ASAR				Sn		S	15 49 29.6	+34
	comp=Z,6.1nm,1.0s,baz=307,slow=25,SNR=7.8							
ASAR				LR		LR	15 54 53.9	
	comp=Z,319nm,20.1s,MS3.9,baz=298,slow=36							
ASAR	**Alice Springs**	**27.55**	**123**	P		**P**	**15 44 16.3**	**+1.1**
ASAR							15 47 33.8	
AS31	**Alice Springs**	**27.55**	**123**	*e*P		**P**	**15 44 16.0**	**+0.8**
AS31				*e*S		S	15 49 29.0	+34
QIZ	**Qiongzhong**	**28.90**	**2**	P		**P**	**15 44 27.0**	**-0.2**
QIZ				XP		sP	15 44 34.4	-1.2
QIZ				S		**S**	**15 49 14.1**	**-2.5**
QIZ				XS		sS	15 49 29.1	+2.6
QIZ				AMB		AMB		
	comp=Z,22nm,1.6s,mb4.6							
QIZ				LR		LR		
	comp=E,310nm,18.4s							
QIZ				LR		LR		
	comp=Z,319nm,20.1s,MS3.9							
QIZ	**Qiongzhong**	**28.90**	**2**	*e*P		**P**	**15 44 27.2**	**0.0**
	comp=Z,64nm,1.6s,mb5.1							
CM31	**Chiang Mai Arr**	**29.92**	**341**	*e*P		**P**	**15 44 37.3**	**+1.0**
	comp=Z,60nm,1.1s,mb5.2							
CHG	**Chiang Mai**	**30.26**	**341**	⇓P		**P**	**15 44 39.9**	**+0.7**
	comp=Z,36nm,0.9s,mb5.1							
CHTO	**Chiang Mai**	**30.26**	**341**	P		**P**	**15 44 40.4**	**+1.1**
	SNR=13							
CHTO	**Chiang Mai**	**30.26**	**341**	⇓*e*P		**P**	**15 44 38.4**	**-0.8**
CHTO				*e*			15 47 41.3	
CHTO				pmax		pmax		
	comp=Z,39nm,1.0s,mb5.1							
CHTO	**Chiang Mai**	**30.26**	**341**	⇓*e*P		**P**	**15 44 38.4**	**-0.8**
	comp=Z,39nm,1.0s,mb5.1							
CHTO				*e*PcP		PcP	15 47 41.3	+1.7
PALK	**Pallekele**	**32.81**	**301**	P		**P**	**15 45 02.3**	**+0.5**
GZH	**Guangzhou**	**33.22**	**8**	P		**P**	**15 45 10.9**	**+5.6**
GZH				LR		LR		
	comp=N,241nm,17.4s,MS4.1							
GZH				LR		LR		
	comp=E,227nm,19.0s,MS4.1							
GZH				LR		LR		
	comp=Z,362nm,19.2s,MS4.1							
KMI	**Kunming**	**35.43**	**351**	P		**P**	**15 45 27.4**	**+2.9**
KMI				AP		pP	15 45 35.3	+4.8
KMI				XP		sP	15 45 39.0	+6.1
KMI				PP		PP	15 46 47.4	+2.4
KMI				PPP			15 47 07.3	
KMI				S		**S**	**15 51 04.3**	**+6.0**
KMI				SS		SS	15 53 19.8	-13
KMI				SSS			15 53 50.3	
KMI				AMB		AMB		
	comp=Z,49nm,1.3s,mb5.3							
KMI				AMB		AMB		
	comp=Z,203nm,4.2s							
KMI				LR		LR		
	comp=N,524nm,16.1s,MS4.5							
KMI				LR		LR		
	comp=E,540nm,19.3s,MS4.5							
KMI				LR		LR		
	comp=Z,689nm,16.1s,MS4.5							
GYA	**Guiyang**	**36.33**	**357**	⇓*i*P		**P**	**15 45 33.8**	**+1.7**
GYA				AP		pP	15 45 38.0	-0.2
GYA				XP		sP	15 45 45.1	+4.5
GYA				PP		PP	15 46 54.6	-0.3
GYA				S		**S**	**15 51 14.8**	**+2.7**
GYA				AMB		AMB		
	comp=Z,50nm,1.3s,mb5.3							
GYA				AMB		AMB		
	comp=Z,290nm,4.5s							
GYA				LR		LR		
	comp=N,540nm,12.6s,MS4.6							
GYA				LR		LR		
	comp=E,480nm,13.4s,MS4.6							
GYA				LR		LR		
	comp=Z,690nm,13.0s,MS4.6							
MDRS	**Chennai**	**36.45**	**308**	*e*P		**P**	**15 45 31.6**	**-1.5**
MDRS				AMb		AMB	15 45 32.1	
	comp=Z,61nm,0.1s							
YHNB	**Yeheng**	**36.62**	**19**	*e*P		**P**	**15 45 33.7**	**-0.9**
VIS	**Vishakhapatnam**	**37.31**	**318**	*e*P		**P**	**15 45 40.7**	**+0.2**
VIS				AMb		AMB	15 45 45.3	
	comp=Z,43nm,1.6s,mb5.0							
STKA	**Stephens Creek**	**37.34**	**130**	P		**P**	**15 45 41.5**	**+0.8**
	comp=Z,24nm,0.8s,mb5.1,baz=299,slow=8.3,SNR=29							
STKA				LR		LR	16 01 45.2	
	comp=Z,256nm,18.0s,MS4.1,baz=306,slow=37							
STKA	**Stephens Creek**	**37.34**	**130**	*e*P		**P**	**15 45 41.5**	**+0.8**
BOK	**Bokaro**	**40.38**	**327**	*e*P		**P**	**15 46 07.1**	**+0.9**
BOK				AMb		AMB	15 46 08.2	
	comp=Z,46nm,0.7s,mb5.3							
HYB	**Hyderabad**	**40.44**	**312**	*i*P		**P**	**15 46 08.0**	**+1.3**
HYB	**Hyderabad**	**40.44**	**312**	*e*P		**P**	**15 46 07.0**	**+0.3**
WHN	**Wuhan**	**40.70**	**7**	⇑P		**P**	**15 46 10.5**	**+1.7**
CD2	**Chengdu**	**40.99**	**353**	⇓*i*P		**P**	**15 46 11.3**	**0.0**
CD2				AP		pP	15 46 15.8	-1.6
CD2				XP		sP	15 46 18.5	-1.3
CD2				PP		PP	15 47 49.3	+3.4
CD2				S		**S**	**15 52 22.1**	**-0.3**
CD2				XS		sS	15 52 30.3	-2.1
CD2				AMB		AMB		
	comp=Z,40nm,1.2s,mb4.9							
CD2				AMB		AMB		
	comp=Z,150nm,9.6s							
CD2				LR		LR		
	comp=N,230nm,14.0s							
CD2				LR		LR		
	comp=Z,300nm,15.6s,MS4.3							
JOW	**Kunigami**	**41.25**	**27**	P		**P**	**15 46 16.0**	**+2.6**
	comp=Z,11nm,0.5s,mb4.7,baz=192,slow=10,SNR=6.9							
JOW				LR		LR	16 03 50.2	
	comp=Z,94nm,19.0s,MS3.7,baz=2.8,slow=37							
JOW	**Kunigami**	**41.25**	**27**	P		**P**	**15 46 16.0**	**+2.6**
JOW				LR		LR	16 03 50.2	
SSE	**Sheshan**	**42.59**	**16**	P		**P**	**15 46 25.6**	**+1.2**
SSE				AP		pP	15 46 28.8	-1.7
SSE				S		**S**	**15 52 49.9**	**+3.8**
SSE				XS		sS	15 52 55.3	-0.9
SSE				AMB		AMB		
	comp=Z,23nm,0.8s,mb5.0							
SSE				AMB		AMB		
	comp=Z,159nm,6.6s							
SSE				LR		LR		
	comp=N,70nm,21.6s,MS3.6							
SSE				LR		LR		
	comp=E,55nm,21.6s,MS3.6							
SSE				LR		LR		
	comp=Z,117nm,20.2s,MS3.8							
NJ2	**Nanjing**	**42.94**	**13**	*e*P		**P**	**15 46 26.6**	**-0.6**
NJ2				AP		pP	15 46 36.6	+3.3
NJ2				XP		sP	15 46 40.4	+4.6
NJ2				PP		PP	15 48 08.6	+1.6
NJ2				S		**S**	**15 52 49.0**	**-2.3**
NJ2				XS		sS	15 53 05.0	+3.7
NJ2				AMB		AMB		
	comp=Z,20nm,0.8s,mb4.9							
NJ2				AMB		AMB		
	comp=Z,120nm,5.2s							
NJ2				LR		LR		
	comp=N,1μm,22.2s,MS4.9							
NJ2				LR		LR		
	comp=E,1μm,21.2s,MS4.9							
NJ2				LR		LR		
	comp=Z,5μm,22.0s,MS5.4							
JIRN	**Jiri**	**43.39**	**330**	*e*P		**P**	**15 46 32.0**	**+1.2**
	comp=Z,256nm,0.7s,mb6.1							
KAD	**Karad**	**43.66**	**308**	*e*P		**P**	**15 46 31.3**	**-1.7**
KAD				AMb		AMB	15 46 37.0	
	comp=Z,42nm,1.6s,mb4.9							
PKI	**Pulchoki**	**43.70**	**329**	*e*P		**P**	**15 46 33.9**	**+0.6**
GUN	**Gumba**	**43.75**	**330**	*e*P		**P**	**15 46 34.9**	**+1.2**
	comp=Z,209nm,0.7s,mb6.0							
XAN	**Xi'an**	**43.83**	**0**	P		**P**	**15 46 34.3**	**-0.1**
XAN				AP		pP	15 46 45.8	+5.3
XAN				AMB		AMB		
	comp=Z,47nm,0.7s,mb5.3							
XAN				LR		LR		
	comp=N,210nm,16.8s,MS4.2							
XAN				LR		LR		
	comp=E,139nm,14.9s,MS4.2							
XAN				LR		LR		
	comp=Z,321nm,16.2s,MS4.3							
DMN	**Daman**	**43.88**	**329**	*e*P		**P**	**15 46 35.5**	**+0.7**
	comp=Z,188nm,0.9s,mb5.8							
KKN	**Kakani**	**43.94**	**329**	*e*P		**P**	**15 46 35.8**	**+0.5**
	comp=Z,153nm,0.9s,mb5.7							
KKN	**Kakani**	**43.94**	**329**	*e*P		**P**	**15 46 35.8**	**+0.5**
KKN				pmax		pmax		
	comp=Z,153nm,0.9s,mb5.7							
GKN	**Gorkha**	**44.44**	**329**	*e*P		**P**	**15 46 39.8**	**+0.5**
	comp=Z,114nm,0.8s,mb5.7							
POO	**Poona**	**44.64**	**309**	*ex*		x	15 47 27.2	
POO				AMb		AMB	15 47 36.0	
	comp=Z,72nm,1.6s,mb5.2							
KOLN	**Koldanda**	**44.79**	**328**	*e*P		**P**	**15 46 43.0**	**+0.9**
	comp=Z,130nm,0.8s,mb5.8							
BHPL	**Bhopal**	**45.10**	**318**	*e*P		**P**	**15 46 44.6**	**0.0**
BHPL				AMb		AMB	15 46 50.1	
	comp=Z,37nm,1.1s,mb5.1							
LZH	**Lanzhou**	**46.10**	**354**	*e*P		**P**	**15 46 54.1**	**+1.6**
LZH				PP		PP	15 48 43.0	+2.3
LZH				S		**S**	**15 53 37.4**	**+0.2**
LZH				XS		sS	15 53 55.0	+7.7
LZH				*e*SS		SS	15 56 55.0	-7.3
LZH				AMB		AMB		
	comp=Z,70nm,1.2s,mb5.5							
LZH				AMB		AMB		
	comp=Z,320nm,4.1s							
LZH				LR		LR		
	comp=N,2μm,14.0s							
LZH				LR		LR		
	comp=Z,3μm,16.7s,MS5.2							
NDI	**New Delhi**	**49.09**	**323**	*e*P		**P**	**15 47 14.3**	**-1.4**
NDI				AMb		AMB	15 47 15.0	
	comp=Z,37nm,0.9s,mb5.4							
AJM	**Ajmer**	**49.16**	**318**	*e*P		**P**	**15 47 16.1**	**-0.1**
AJM				AMb		AMB	15 47 18.0	
	comp=Z,26nm,1.5s,mb5.0							
GTA	**Gaotai**	**49.89**	**351**	*e*P		**P**	**15 47 23.0**	**+1.3**
GTA				AP		pP	15 47 30.4	+2.4
GTA				XP		sP	15 47 34.1	+3.7
GTA				PP		PP	15 49 17.3	+0.7
GTA				PPP			15 50 11.3	
GTA				S		**S**	**15 54 27.5**	**-3.3**
GTA				XS		sS	15 54 39.3	-1.7
GTA				SS		SS	15 57 59.3	-4.2
GTA				AMB		AMB		
	comp=Z,22nm,1.0s,mb5.1							
GTA				AMB		AMB		
	comp=Z,322nm,6.8s							
GTA				LR		LR		
	comp=N,208nm,17.5s,MS4.4							
GTA				LR		LR		
	comp=E,229nm,15.6s,MS4.4							
GTA				LR		LR		
	comp=Z,224nm,18.3s,MS4.2							
BJT	**Baijiatuao**	**50.27**	**7**	*e*P		**P**	**15 47 24.2**	**-0.4**
BJT				pmax		pmax		
	comp=Z,48nm,1.0s							
BJT	**Baijiatuao**	**50.27**	**7**	*e*P		**P**	**15 47 24.2**	**-0.4**
	comp=Z,48nm,1.0s,mb5.5							
BJI	**Beijing**	**50.29**	**7**	P		**P**	**15 47 25.1**	**+0.3**
BJI				S		**S**	**15 54 39.8**	**+3.5**
BJI				AMB		AMB		
	comp=Z,22nm,0.8s,mb5.2							
BJI				LR		LR		
	comp=N,159nm,17.9s,MS4.2							
BJI				LR		LR		
	comp=E,139nm,17.2s,MS4.2							
BJI				LR		LR		
	comp=Z,150nm,30.7s							
BTO	**Baotou**	**50.40**	**1**	*e*P		**P**	**15 47 25.9**	**+0.3**
HHC	**Hu-ho-hao-te**	**50.69**	**3**	*e*P		**P**	**15 47 29.9**	**+2.1**
HHC				XP		sP	15 47 37.0	+0.6
HHC				PP		PP	15 49 27.6	+3.7
HHC				S		**S**	**15 54 43.9**	**+2.0**
HHC				PS			15 54 54.6	
HHC				SCS		ScS	15 57 16.8	-0.9
HHC				SS		SS	15 58 15.6	-0.7
HHC				AMB		AMB		
	comp=Z,18nm,0.8s,mb5.0							
HHC				AMB		AMB		
	comp=Z,123nm,7.9s							
HHC				LR		LR		
	comp=N,160nm,21.4s,MS4.3							
HHC				LR		LR		
	comp=E,282nm,19.6s,MS4.3							
HHC				LR		LR		
	comp=Z,142nm,17.2s,MS4.0							
SMLA	**Simla**	**50.92**	**325**	*e*P		**P**	**15 47 28.5**	**-1.1**
SMLA				AMb		AMB	15 47 30.9	
	comp=Z,78nm,1.1s,mb5.5							
MAJO	**Matsushiro**	**53.97**	**29**	*e*P		**P**	**15 47 49.7**	**-2.5**
MAJO				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
MAJO	**Matsushiro**	**53.97**	**29**	*e*P		**P**	**15 47 49.7**	**-2.5**
	comp=Z,6.9nm,0.8s,mb4.6							
MAT	**Matsushiro**	**53.97**	**29**	P		**P**	**15 47 50.3**	**-1.9**
MAT	**Matsushiro**	**53.97**	**29**	*e*P		**P**	**15 47 50.0**	**-2.2**
MAT				pmax		pmax		
	comp=Z,19nm,1.3s,mb4.9							
MAT	**Matsushiro**	**53.97**	**29**	*e*P		**P**	**15 47 50.0**	**-2.2**
	comp=Z,19nm,1.3s,mb4.9							
MJAR	**Matsushiro Arr**	**53.97**	**29**	P		**P**	**15 47 50.8**	**-1.4**
	comp=Z,8.6nm,0.8s,mb4.7,baz=203,slow=7.8,SNR=21							
MJAR				PcP		PcP	15 48 59.0	+1.7
	comp=Z,2.9nm,0.8s,baz=192,slow=4.7,SNR=4.4							
MJAR				LR		LR	16 09 15.2	
	comp=Z,150nm,21.2s,MS4.0,baz=205,slow=34							
MJAR	**Matsushiro Arr**	**53.97**	**29**	P		**P**	**15 47 50.8**	**-1.4**
MJAR							15 48 59.0	
CN2	**Changchun**	**55.68**	**15**	*e*P		**P**	**15 48 03.4**	**-1.2**
CN2				*e*AP		pP	15 48 08.0	-2.9
CN2				*e*S		**S**	**15 55 49.5**	**-0.4**
CN2				AMB		AMB		
	comp=Z,20nm,0.7s,mb5.3							
CN2				AMB		AMB		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=N,200nm,15.0s,MS4.5							
CN2				LR		LR		
	comp=E,200nm,15.0s,MS4.5							
CN2				LR		LR		
	comp=Z,200nm,14.0s,MS4.3							
CASY	**Casey**	**56.18**	**179**	*e*P		**P**	**15 48 08.9**	**+0.7**
CASY	**Casey**	**56.18**	**179**	*e*P		**P**	**15 48 07.6**	**-0.6**
	comp=Z,6.5nm,0.9s,mb4.7							
DZM	**Mont Dzumac**	**56.42**	**110**	LR		LR	16 08 04.4	
	comp=Z,637nm,21.1s,MS4.7,baz=24,slow=32							
WMQ	**Urumqi**	**56.92**	**342**	P		**P**	**15 48 15.8**	**+2.4**
WMQ				AP		pP	15 48 19.8	+0.1
WMQ				XP		sP	15 48 22.3	+0.2
WMQ				PCP		PcP	15 49 10.9	+2.2
WMQ				PP		PP	15 50 23.8	+3.9
WMQ				S		**S**	**15 56 07.3**	**+1.0**
WMQ				AMB		AMB		
	comp=Z,51nm,1.8s,mb5.2							
WMQ				AMB		AMB		
	comp=Z,250nm,5.6s							
WMQ				LR		LR		
	comp=N,1μm,17.1s,MS5.1							
WMQ				LR		LR		
	comp=E,765nm,16.0s,MS5.1							
WMQ				LR		LR		
	comp=Z,1μm,17.6s,MS5.0							
VLA	**Vladivostok**	**56.95**	**20**	*e*P		**P**	**15 48 12.2**	**-1.4**
VLA				pmax		pmax		
	comp=Z,32nm,1.7s,mb5.1							
MDJ	**Mudanjiang**	**57.57**	**18**	P		**P**	**15 48 17.1**	**-0.9**
MDJ				AMB		AMB		
	comp=Z,12nm,0.8s,mb5.0							
MDJ				AMB		AMB		
	comp=Z,91nm,7.8s							
MDJ	**Mudanjiang**	**57.57**	**18**	*e*P		**P**	**15 48 17.2**	**-0.7**
	comp=Z,7.1nm,0.8s,mb4.8							
SONM	**Songino Array**	**57.65**	**358**	P		**P**	**15 48 19.2**	**+0.7**
	comp=Z,20nm,0.7s,mb5.3,baz=177,slow=8.1,SNR=189							
SONM				LR		LR	16 14 08.1	
	comp=Z,229nm,21.8s,MS4.2,baz=183,slow=37							
ULN	**Ulaanbaatar**	**57.66**	**359**	*e*P		**P**	**15 48 19.1**	**+0.5**
ULN				pmax		pmax		
	comp=Z,24nm,0.8s,mb5.3							
ULN	**Ulaanbaatar**	**57.66**	**359**	*e*P		**P**	**15 48 19.1**	**+0.4**
	comp=Z,24nm,0.8s,mb5.3							
WSAR	**Wadi Sarin**	**59.15**	**305**	P		**P**	**15 48 29.5**	**+0.5**
	comp=Z,7.3nm,0.7s,mb4.8,baz=118,slow=7.1,SNR=6.8							
WSAR				LR		LR	16 13 26.6	
	comp=Z,205nm,18.8s,MS4.3,baz=137,slow=36							
WSAR	**Wadi Sarin**	**59.15**	**305**	P		**P**	**15 48 29.5**	**+0.5**
WSAR				LR		LR	16 13 26.6	
HIA	**Hailar**	**59.83**	**8**	*e*P		**P**	**15 48 32.9**	**-0.8**
HIA				pmax		pmax		
	comp=Z,4.0nm,0.3s							
HIA	**Hailar**	**59.83**	**8**	*e*P		**P**	**15 48 32.9**	**-0.8**
	comp=Z,3.6nm,0.3s,mb4.9							
OPO	**Ambohidratompo**	**60.04**	**254**	P		**P**	**15 48 35.4**	**+0.3**
	comp=Z,4.0nm,1.0s,mb4.4,baz=94,slow=10,SNR=3.9							
ZAK	**Zakamensk**	**60.35**	**356**	⇓*i*P		**P**	**15 48 37.6**	**+0.3**
ZAK				*e*			15 49 22.4	
ZAK				pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.6							
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.4							
AAK	**Ala-Archa**	**61.06**	**332**	*e*P		**P**	**15 48 41.5**	**-0.6**
AAK				pmax		pmax		
	comp=Z,22nm,1.7s,mb5.0							
AAK	**Ala-Archa**	**61.06**	**332**	*e*P		**P**	**15 48 41.4**	**-0.7**
FRU	**Bishkek**	**61.16**	**332**	P		**P**	**15 48 41.6**	**-1.2**
FRU				*e*			15 49 01.0	
MKAR	**Makanchi Array**	**61.32**	**340**	P		**P**	**15 48 43.9**	**0.0**
	comp=Z,16nm,0.6s,mb5.3,baz=143,slow=7.6,SNR=186							
MKAR	**Makanchi Array**	**61.32**	**340**	*i*P		**P**	**15 48 43.9**	**0.0**
MKAR				pmax		pmax		
	comp=Z,16nm,0.6s							
MOY	**Mondy**	**61.81**	**355**	*e*P		**P**	**15 48 47.4**	**+0.2**
MOY				pmax		pmax		
	comp=Z,33nm,2.6s,mb5.0							
ASAJ	**Asahikawa**	**62.02**	**27**	P		**P**	**15 48 47.0**	**-1.6**
	comp=Z,4.3nm,0.6s,mb4.7,baz=101,slow=30,SNR=5.3							
ASAJ	**Asahikawa**	**62.02**	**27**	P		**P**	**15 48 47.0**	**-1.6**
ASAJ				pmax		pmax		
	comp=Z,4.0nm,0.6s							
IRK	**Irkutsk**	**62.14**	**357**	*e*P		**P**	**15 48 49.3**	**-0.1**
IRK				pmax		pmax		
	comp=Z,25nm,0.7s,mb5.5							
KLR	**Kul'dur**	**62.37**	**17**	*e*P		**P**	**15 48 46.3**	**-4.7**
KLR				pmax		pmax		
	comp=Z,34nm,1.2s,mb5.3							
YSS	**Yuzh-Sakhalins**	**64.32**	**25**	*e*P		**P**	**15 49 02.6**	**-1.3**
YSS				*e*			15 49 14.3	
YSS				pmax		pmax		
	comp=Z,30nm,1.0s,mb5.3							
YSS	**Yuzh-Sakhalins**	**64.32**	**25**	*e*P		**P**	**15 49 03.5**	**-0.4**
MAW	**Mawson**	**65.00**	**198**	P		**P**	**15 49 08.5**	**+0.2**
	comp=Z,12nm,0.7s,mb5.0,baz=47,slow=6.4,SNR=22							
MAW				LR		LR	16 11 31.7	
	comp=Z,120nm,18.0s,MS4.1,baz=67,slow=30							
MAW	**Mawson**	**65.00**	**198**	*e*P		**P**	**15 49 08.1**	**-0.2**
MAW				*e*			15 49 18.2	
MAW				pmax		pmax		
	comp=Z,12nm,0.6s							
MAW	**Mawson**	**65.00**	**198**	*e*P		**P**	**15 49 08.1**	**-0.2**
	comp=Z,12nm,0.6s,mb5.1							
MAW				*e*			15 49 18.2	
KURK	**Kurchatov**	**65.93**	**340**	P		**P**	**15 49 14.9**	**+0.6**
	comp=

comp=Z,5.0nm,1.1s
VNDA Vanda 72.69 170 P **P** 15 49 54.0 -2.2
comp=Z,1.4nm,0.6s,mb4.1,baz=304,slow=6.9,SNR=10
VNDA LR LR 16 19 34.1
comp=Z,70nm,19.6s,MS3.9,baz=311,slow=34
VNDA Vanda 72.69 170 *e*P **P** 15 49 54.5 -1.6
VNDA pmax pmax
comp=Z,27nm,1.9s
VNDA Vanda 72.69 170 *e*P **P** 15 49 54.5 -1.7
comp=Z,27nm,1.9s,mb4.9
AB31 Akbulak array 72.90 329 *i* P **P** 15 49 56.8 -0.6
SYO Syowa Base 73.28 201⇑ *e*P **P** 15 50 00.5 +0.8
SYO Syowa Base 73.28 201⇓ *e*pP pP 15 50 02.9 -3.2
YAK Yakutsk 73.67 10 *d* *i* P **P** 15 50 01.0 -1.0
YAK pmax pmax
comp=Z,81nm,0.8s,mb5.7
YAK Yakutsk 73.67 10 *e*P **P** 15 50 01.1 -0.8
comp=Z,80nm,0.8s,mb5.7
SBA Scott Base 73.75 169 *e*P **P** 15 50 04.5 +2.0
AKTK Aktyubinsk 74.61 329 *i* P **P** 15 50 06.7 -0.7
AKTO Aktyubinsk 74.61 329 LR LR 16 27 05.6
comp=Z,57nm,20.6s,MS3.9,baz=19,slow=39
AKTO Aktyubinsk 74.61 329 *i* P **P** 15 50 06.7 -0.7
AKTO pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
PET Petropavlovsk 75.79 28 *e*P **P** 15 50 14.1 -0.2
PET pmax pmax
comp=Z,22nm,0.8s,mb5.1
PET smax
comp=E,29nm,0.4s
SVE Sverdlovsk 77.48 335⇓ *e*P **P** 15 50 23.0 -0.8
SVE *e*S S 16 00 08.0 -5.7
SVE *e*PS 16 00 37.0
SVE pmax pmax
comp=Z,100nm,1.6s,mb5.5
SVE MLR MLR
comp=N,200nm,17.0s,MS4.7
SVE MLR MLR
comp=E,200nm,17.0s,MS4.7
SVE MLR MLR
comp=Z,200nm,17.0s,MS4.5
ARU Arti 78.09 334 P **P** 15 50 27.9 +0.7
comp=Z,256nm,0.8s,SNR=14
ARU Arti 78.09 334 *d* *i* P **P** 15 50 26.9 -0.3
ARU pmax pmax
comp=Z,60nm,1.3s,mb5.4
ARU Arti 78.09 334 *e*P **P** 15 50 26.9 -0.4
comp=Z,44nm,0.9s,mb5.4
MBAR Mbarara 78.11 272 *e*P **P** 15 50 27.8 +0.5
LSZ Lusaka 78.41 256 *e*P **P** 15 50 29.3 +0.3
LSZ pmax pmax
comp=Z,20nm,1.4s,mb4.8
LSZ Lusaka 78.41 256 *e*P **P** 15 50 29.3 +0.3
comp=Z,20nm,1.4s,mb4.8
ZEI Tsey 78.99 317 *e*P **P** 15 50 33.2 +1.0
ZEI *e**PP pP 15 50 43.4 +4.7
ZEI pmax pmax
comp=Z,11nm,0.5s,mb5.0
BOSA Boshof 79.61 243 P **P** 15 50 35.9 +0.3
comp=Z,2.8nm,0.9s,mb4.2,baz=105,slow=9.2,SNR=3.7
BOSA LR LR 16 17 50.9
comp=Z,94nm,21.1s,MS4.1,baz=183,slow=30
BOSA Boshof 79.61 243 P **P** 15 50 35.5 0.0
BOSA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BOSA Boshof 79.61 243 P **P** 15 50 35.5 0.0
comp=Z,2.9nm,0.8s,mb4.3
LBTB Lobatse 79.69 246 P **P** 15 50 34.9 -1.0
LBTB pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
LBTB Lobatse 79.69 246 P **P** 15 50 34.9 -1.0
comp=Z,4.0nm,0.9s,mb4.3
QSPA South Pole Qui 79.97 180 *e*P **P** 15 50 37.1 -0.4
comp=Z,20nm,1.5s,mb4.8
KIV Kislovodsk 80.29 318 *e*P **P** 15 50 39.9 +0.7
KIV pmax pmax
comp=Z,15nm,1.2s,mb4.8
KIV Kislovodsk 80.29 318 P **P** 15 50 39.6 +0.4
comp=Z,10nm,0.7s,mb4.9
MALT Malatya 81.15 311 *e*P **P** 15 50 44.4 +0.6
MALT pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MALT Malatya 81.15 311 *e*P **P** 15 50 44.4 +0.6
comp=Z,3.1nm,0.7s,mb4.3
EIL Elat 81.16 302 *e*P **P** 15 50 44.3 +0.4
comp=Z,153nm,1.0s,mb5.9
SOC Sochi 82.13 317 *e*P **P** 15 50 49.2 +0.2
SOC *e*PPP 15 55 43.8
SOC *e*S S 16 01 00.5 -2.3
SOC *e*SS SS 16 06 21.3 -1.0
SOC pmax pmax
comp=Z,31nm,1.2s,mb5.1
TIXI Tiksi 82.60 6 *d* *i* P **P** 15 50 50.3 -1.1
TIXI pmax pmax
comp=Z,33nm,0.7s,mb5.5
TIXI Tiksi 82.60 6 *i* P **P** 15 50 50.4 -1.0
VRHR Novokhopersk 83.86 324 *e*P **P** 15 50 57.9 -0.1
VRHR pmax pmax
comp=Z,20nm,0.4s,mb5.6
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.5s
ANN Anapa 84.09 317 *e*P **P** 15 50 59.3 +0.2
ANN pmax pmax
comp=Z,47nm,1.2s,mb5.5
BR131 Keskin Array S 85.14 312 *e*P **P** 15 51 04.4 0.0
comp=Z,8.2nm,0.7s,mb5.0
BRTR Keskin Array B 85.14 312 P **P** 15 51 04.2 -0.2
comp=Z,10nm,0.8s,mb5.0,baz=126,slow=6.3,SNR=62
BRTR PP PP 15 54 21.3 -0.4
comp=Z,1.4nm,0.9s,baz=140,slow=6.5,SNR=3.8
BRTR LR LR 16 32 19.4
comp=Z,51nm,19.7s,MS3.9,baz=285,slow=38
BRTR Keskin Array B 85.14 312 P **P** 15 51 04.2 -0.2
BRTR 15 54 21.3
SNAA Sanae 87.17 197 *e*P **P** 15 51 13.0 -1.4
SNAA *e* 15 51 16.3
SNAA *e* pP 15 51 17.6 -3.4
SNAA *e* pP 15 51 18.8 -2.2
SNAA Sanae 87.17 197 *e*P **P** 15 51 13.9 -0.5
SNAA pmax pmax
comp=Z,13nm,1.4s
SNAA Sanae 87.17 197 *e*P **P** 15 51 13.9 -0.6
comp=Z,13nm,1.4s,mb5.0
TSUM Tsumeb 87.86 251 *e*P **P** 15 51 17.6 -0.2
comp=Z,7.0nm,1.0s,mb4.8
MOS Moscow 87.86 328 *e*P **P** 15 51 13.1 -4.7
OBN Obninsk 88.20 327 *e*P **P** 15 51 19.1 -0.3
OBN *i* 15 51 29.9
OBN *i* 15 51 38.7
OBN *e* 15 54 41.1
OBN *e*S 16 01 45.2
OBN pmax pmax
comp=Z,37nm,1.4s,mb5.4
VNA1 Neumayer--Stat 89.20 197 *e*P **P** 15 51 24.1 0.0
VNA1 *e* 15 51 26.6
VNA1 *e* pP 15 51 28.3 -2.3
VNA1 *e* pP 15 51 29.3 -1.3
TIRR Tirgusor 90.15 315⇓ *i*P **P** 15 51 26.3 -2.2
CFR Carcaliu 90.51 316⇑ *i*P **P** 15 51 30.4 +0.2
AKASG Malin Array Be 91.14 321 P **P** 15 51 32.2 -0.9
comp=Z,3.9nm,0.8s,mb4.8,baz=87,slow=4.7,SNR=18
AKASG PP PP 15 55 08.4 -1.4
comp=Z,0.6nm,0.5s,baz=83,slow=6.3,SNR=6.4
AKASG LR LR 16 37 54.9
comp=Z,33nm,20.0s,MS3.8,baz=115,slow=39
AKASG Malin Array Be 91.14 321 *i* P **P** 15 51 32.2 -0.9
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 91.14 321 P **P** 15 51 32.2 -0.9
AKASG PP PP 15 55 08.4 -1.4
AKASG LR LR 16 37 54.9
AKBB Malin Array Si 91.14 321 *e*P **P** 15 51 31.1 -2.0
VRI Vrincioaia 91.63 316⇓ *i*P **P** 15 51 36.0 +0.6
MLR Muntele Rosu 92.09 316⇓ *i*P **P** 15 51 38.0 +0.5
BURAR Bucovina Array 93.02 318⇑ *i*P **P** 15 51 42.7 +0.9
JOF Joensuu 93.21 333 *ep* **P** 15 51 41.3 -1.4
BZS Buzias 95.10 315⇓ *i*P **P** 15 51 42.2 -9.2
FINES FINESS Array B 95.25 331 P **P** 15 51 51.8 -0.3
comp=Z,2.3nm,0.8s,mb4.7,baz=145,slow=8.4,SNR=6.9
FINES FINESS Array B 95.25 331 *i* P **P** 15 51 51.7 -0.4
FINES pmax pmax
comp=Z,2.0nm,0.8s
KAF Kangasniemi 95.28 332 *ep* **P** 15 51 50.9 -1.3
comp=Z,9.1nm,0.9s,mb5.2
KAF Kangasniemi 95.28 332 *e*P **P** 15 51 50.9 -1.3
KAF pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
ARCES ARCESS Array B 96.97 339 P **P** 15 51 58.3 -1.6
comp=Z,3.5nm,0.8s,mb4.8,baz=76,slow=6.6,SNR=5.9
ARCES LR LR 16 40 46.2
comp=Z,99nm,20.1s,MS4.3,baz=36,slow=39
ARCES ARCESS Array B 96.97 339 P **P** 15 51 58.3 -1.6
ARCES LR LR 16 40 46.1
GERES GERESS Array B 100.80 318 P Pdif 15 52 15.3 -1.7
comp=Z,0.1nm,0.3s,baz=116,slow=3.1,SNR=4.2
GERES PP PP 15 56 22.1 -2.6
comp=Z,1.1nm,0.9s,baz=94,slow=5.4,SNR=5.2
GRF Grafenberg Arr 102.45 319 *e*PP PP 15 56 37.1 0.0
GRF Grafenberg Arr 102.45 319 *e*PP PP 15 56 37.1 0.0
TORD Torodi Ar. Bea 108.71 281 PKiKP PKiKP 15 56 58.1 +0.8
comp=Z,0.8nm,0.7s,baz=71,slow=1.5,SNR=4.5
YKA Yellowknife Ar 119.06 21 PKP PKPdf 15 57 16.7 -0.3
comp=Z,1.5nm,0.6s,baz=334,slow=1.8,SNR=14
YKA Yellowknife Ar 119.06 21 PKiKP PKPdf 15 57 16.7 -0.4
YKA pmax pmax
comp=Z,2.0nm,0.6s
J05A Fort Rock 125.49 43⇓ P PKPdf 15 57 31.7 +2.3
baz=126
M04C Macdoel 125.62 45⇑ P PKPdf 15 57 31.4 +1.7
baz=126
HATC Hat Creek Radi 126.22 46⇑ P PKPdf 15 57 32.7 +1.9
baz=126
L05A Lakeview 126.22 45⇓ P PKPdf 15 57 32.5 +1.7
baz=126
J06A Christmas Vall 126.23 43⇓ P PKPdf 15 57 32.8 +1.9
baz=126
K06A Valley Falls 126.34 44⇑ P PKPdf 15 57 33.2 +2.2
baz=126
N06A Buffalo Meadow 127.40 46⇑ P PKPdf 15 57 35.5 +2.4
baz=127
O06A Flanigan 127.62 47⇓ P PKPdf 15 57 35.3 +1.9
baz=128
M07A Soldier Meadow 127.62 45⇓ P PKPdf 15 57 35.6 +2.1
baz=128
O07A Toulon 128.29 46⇓ P PKPdf 15 57 36.7 +1.9
baz=128
S06C San Francisco 128.39 49⇓ P PKPdf 15 57 37.5 +2.6
baz=128
PKD Parkfield 128.48 52⇓ P PKPdf 15 57 37.7 +2.6
baz=128
NVAR Mina Array Bea 129.34 48 PKP PKPdf 15 57 39.4 +2.6
comp=Z,1.2nm,0.8s,baz=236,slow=1.3,SNR=9.7
S09A Goldfield 130.40 48⇓ P PKPdf 15 57 41.8 +3.1
baz=130
M12A Wells 130.53 43⇓ P PKPdf 15 57 42.5 +3.5
baz=130
Q11A Duckwater 131.10 46⇓ P PKPdf 15 57 42.6 +2.5
baz=131
O12A Currie 131.14 44⇓ P PKPdf 15 57 42.6 +2.4
baz=131
P12A McGill 131.37 45⇑ P PKPdf 15 57 44.3 +3.7
baz=131
U10A Ash Meadows, A 131.54 50⇑ P PKPdf 15 57 44.4 +3.5
baz=132
X13A Yucca 134.10 51⇓ P PKPdf 15 57 48.2 +2.5
baz=134
PV10 Paradox Valley 135.94 44 *e*PKPdf PKPdf 15 57 51.0 +1.8
MDZ Mendoza 137.26 183 *e*P PKPdf 15 57 57.4 +5.8
SADO Sadowa 144.72 10 PKP PKPdf 15 58 04.1 -0.9
comp=Z,16nm,1.0s,baz=349,slow=5.7,SNR=5.7
WMOK Wichita Mounta 144.82 41 *e*PKIKP PKPdf 15 58 06.0 +0.8
PKME Peaks-Kenny Pk 144.86 358 *e*PKPdf PKPdf 15 58 05.0 -0.2
FRNY Flat Rock 145.26 3 *e*PKPdf PKPdf 15 58 05.8 -0.2
EMMW East Machias 145.30 355 *e*P PKPbc 15 58 06.5 +0.7
LONY Lake Ozonia 145.42 4 *e*PKPdf PKPdf 15 58 06.8 +0.6
BDFB Brasilia 145.66 222 PKPbc PKPbc 15 58 07.6 +0.7
comp=Z,5.8nm,0.9s,baz=56,slow=2.1,SNR=6.4
LBNH Lisbon 145.91 1 *e*PKP2 PKPab 15 58 08.8 +0.6
MIV Mineville/With 146.03 3 *e*P PKPdf 15 58 08.9 +1.6
NCB Newcomb 146.09 4 *e*PKPdf PKPdf 15 58 09.0 +1.6
NCB *e*SKP 16 01 51.0
JCT Junction City 146.52 48 *e*PKP2 PKPab 15 58 10.6 0.0
FFT Franklin Falls 146.69 1 *e*PKPdf PKPdf 15 58 11.0 +2.6
ACCN Adirondack Com 146.71 3 *e*PKPdf PKPdf 15 58 10.5 +2.0
CCM Cathedral Cave 146.81 30 *e*PKP2 PKPab 15 58 10.3 -1.4
ERPA Erie 147.13 12 *e*PKPdf PKPdf 15 58 11.8 +2.6
FVM French Village 147.25 29 *e*PKP2 PKPab 15 58 12.2 -1.2
LVC Limon Verde 147.48 184 *e*PKPdf PKPdf 15 58 11.9 +2.2
BINY Binghamton 147.69 7 *e*PKPdf PKPbc 15 58 13.6 +0.8
BLO Bloomington 147.93 23 *e*PKIKP PKPdf 15 58 08.1 -2.4
SIUC Southern Illin 148.03 28 *e*PKPdf PKPbc 15 58 14.4 +0.7
ACSO Alum Creek Sta 148.16 17 *e*PKPdf PKPbc 15 58 14.6 +0.5
MIAR Mount Ida 148.18 37 *e*PKP2 PKPab 15 58 15.6 -1.5
UALR University of 148.72 35 *e*P PKPbc 15 58 17.1 +1.6
SSPA Standing Stone 148.96 10 *e*PKPdf PKPbc 15 58 17.0 +0.8
GLAT Glass 149.17 29 *e*P PKPab 15 58 22.6 +1.5
MCWV Mont Chateau 149.52 13 *e*PKPdf PKPdf 15 58 14.1 +1.0
MCWV *e*PKPbc PKPbc 15 58 18.3 +0.7
MCWV *e*PKPab PKPab 15 58 23.6 +1.1
HKT Hockley 149.68 46 *e*PKP2 PKPab 15 58 20.5 -2.7
MVL Millersville 149.81 8 *e*P PKPbc 15 58 19.4 +1.1
OXF Oxford 150.50 32 *e*PKIKP PKPdf 15 58 11.6 -3.0
OXF *e* 15 58 20.8
OXF *e* 15 58 27.9
PLAL Pickwick Lake 150.79 29 *e*PKPdf PKPbc 15 58 20.9 +0.3
CPCT Cooper Cave 151.95 24 *e*P PKPbc 15 58 25.0 +1.7
LPAZ La Paz 153.67 187 PKPbc PKPbc 15 58 29.3 +2.2
comp=Z,1.1nm,0.5s,baz=65,slow=1.4,SNR=6.4
LPAZ La Paz 153.67 187 *e*PKPdf PKPdf 15 58 21.5 +2.2
LPAZ PKPbc PKPbc 15 58 29.3 +2.2

*ISCJB **20** 15:47:03.2±0.8, 1492N±007×9333W±005, h65km±11km, mb3.4/3, Error ellipse: s-maj=14.0km s-min=5.4km az=61.2*
*IDC **20** 15:47:04.0±10.0, 16.18N×9257W, h0km, mb3.5/3, mb1 4.0/4, mb1mx3.7/19, mbtmp3.6/4, ML3.8/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/23, Error ellipse: s-maj=206.8km s-min=41.9km az=176.0*
*CASC **20** 15:47:05.9±2.7, 15.13N×9309W, h31km±417km, MD4.3*
*MEX **20** 15:47:08.0±0.7, 1502N×9340W, h45km±628km, MD4.3*
*NEIC **20** 15:47:16.1±3.2, 1603N×9357W, h72km±13km, MD4.3(MEX), Error ellipse: s-maj=53.4km s-min=16.7km az=172.0*

ISC 20 15:47:04.6±0.8, **1494N**±007×**9331W**±005, **h54**km±11km, **n27**,σ1§**07**/32, **mb3.5**/3, **MS3.1**/2, **2C-1D**, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
					Op			
JAT	**Jato**	**1.73**	**111**	*e*P		**Pn**	**15 47 32.5**	**+0.2**
SCX	**San Cristobal**	**1.90**	**20**	*i* P		**Pn**	**15 47 36.6**	**+2.0**
SCX				*i* S		**Sn**	**15 47 57.5**	**+0.1**
TP2	**Tecpan 2**	**2.22**	**94**⇓	*e*P		**Pn**	**15 47 38.4**	**-0.5**
TP2				*e*S		**Sn**	**15 48 05.8**	**+0.6**
FUG	**Fuego 3**	**2.44**	**101**⇑	*e*P		**Pn**	**15 47 42.7**	**+0.7**
CMIG	**Matias Romero**	**2.62**	**325**	Pn		**Pn**	**15 47 44.6**	**+0.2**
	23nm,0.3s,baz=145,slow=11,SNR=112							
CMIG					Sn	**Sn**	**15 48 14.8**	**-0.3**
	41nm,0.3s,baz=88,slow=14,SNR=8.2							
CMIG	**Matias Romero**	**2.62**	**325**	*i* P		**Pn**	**15 47 44.5**	**0.0**
CMIG				*i* S		**Sn**	**15 48 14.0**	**-1.1**
CMIG	**Matias Romero**	**2.62**	**325**	*i* P		**Pn**	**15 47 44.5**	**0.0**
CMIG				Pn		**Pn**	**15 47 44.6**	**+0.2**
CMIG				*i* S		**Sn**	**15 48 14.0**	**-1.1**
CMIG				Sn		**Sn**	**15 48 14.8**	**-0.3**
IXG	**Ixpaco**	**2.87**	**105**	*e*P		**Pn**	**15 47 47.3**	**-0.5**
IXG				*e*S		**Sn**	**15 48 20.1**	**-1.0**
TUIG	**Tuzandepetl**	**3.26**	**341**	*i* P		**Pn**	**15 47 53.0**	**-0.1**
TUIG				*e*S		**Sn**	**15 48 30.6**	**-0.1**
TUIG	**Tuzandepetl**	**3.26**	**341**	*e*P		**Pn**	**15 47 49.3**	**-3.9**
TUIG				*i* S		**Sn**	**15 48 24.2**	**-6.5**
RBDL	**Robledal**	**3.60**	**103**	*e*P		x	15 48 00.6	
RBDL				*e*S		x	15 48 42.4	
SNJE	**San Jose**	**3.74**	**106**	*e*P		x	15 48 02.5	
SNJE				*e*S		x	15 48 45.8	
OXX	**Oaxaca**	**3.91**	**303**	*e*P		**Pn**	**15 48 05.5**	**+3.4**
VHO	**Vista Hermosa**	**3.92**	**303**	*e*P		**Pn**	**15 48 02.1**	**-0.1**
VHO				*i* S		**Sn**	**15 48 46.0**	**-0.8**
BOQS	**Boqueron**	**4.08**	**107**	*e*P		x	15 48 07.7	
BOQS				*e*S		x	15 48 52.6	
LFRS	**El Faro**	**4.32**	**107**	*e*P		x	15 48 09.9	
LFRS				*e*S		x	15 48 56.6	
LCBS	**La Ceiba**	**4.39**	**106**	*e*P		x	15 48 10.2	
LCBS				*e*S		x	15 48 59.9	
UTMO	**Huajuapan**	**5.18**	**304**	*e*P		**Pn**	**15 48 19.8**	**+0.2**
TEIG	**Tepich**	**7.12**	**42**	*i* P		**Pn**	**15 48 42.5**	**-3.6**
TEIG	**Tepich**	**7.12**	**42**	*i* P		**Pn**	**15 48 45.0**	**-1.1**
TEIG				*i* S		**Sn**	**15 49 56.7**	**-8.9**
SDV	**Santo Domingo**	**22.98**	**103**	LR	LR	LR	15 59 59.5	
	comp=Z,51nm,21.2s,MS2.9,slow=34							
PDAR	**Pinedale Array**	**31.05**	**336**	P		**P**	**15 53 17.1**	**-0.1**
	0.3nm,0.7s,mb3.2,baz=141,slow=8.8,SNR=3.1							
SADO	**Sadowa**	**32.07**	**19**	LR		LR	16 06 45.2	
	comp=Z,72nm,20.2s,MS3.4,baz=277,slow=38							
NVAR	**Mina Array Bea**	**32.15**	**321**	P		**P**	**15 53 29.4**	**+2.5**
	0.8nm,0.7s,mb3.7,baz=126,slow=8.9,SNR=6.0							
MCMT	**McKenzie Canyo**	**34.08**	**335**	*e*P		**P**	**15 53 44.4**	**+0.6**
YKA	**Yellowknife Ar**	**49.83**	**347**	P		**P**	**15 55 49.8**	**-2.3**
	0.4nm,0.6s,mb3.6,baz=149,slow=7.3,SNR=3.6							
YKA	**Yellowknife Ar**	**49.83**	**347**	P		**P**	**15 55 49.8**	**-2.3**

*BJI **20** 15:57:35.2, 3770N×2140E, h14km, mB4.9, mb4.8, Ms4.5, Msz4.3*
*ISCJB **20** 15:57:38.2±0.3, 3767N±002×2126E±003, h14km, mb4.2/28, MS3.2/4, Error ellipse: s-maj=3.9km s-min=2.5km az=104.8*
*ATH **20** 15:57:38.9, 3770N×2137E, h14km±1km, MD3.9/21, ML3.8*
*NEIC **20** 15:57:38.9, 3770N×2137E, h14km, mb4.3/22, MD4.0(PDG), ML3.8(ATH), ML4.1(THE), After ATH.*
*THE **20** 15:57:39.1, 3762N×2141E, h10km, ML4.1*
*PDG **20** 15:57:40.0±0.3, 3765N×2000E, h11km±1km*
*CSEM **20** 15:57:40.2±0.1, 3771N×2148E, h2km, Ms2.6, Error ellipse: s-maj=1.6km s-min=1.0km az=32.0*
*MOS **20** 15:57:42.3±2.0, 3781N×2161E, h33km, mb4.5/12, Error ellipse: s-maj=6.1km s-min=3.6km az=103.4*
*IDC **20** 15:57:43.1±2.3, 3777N×2143E, h52km±24km, mb3.8/11, mb1 3.8/16, mb1mx3.7/26, mbtmp3.9/16, ML3.9/4, MS3.0/5, Ms1 3.1/5, ms1mx2.7/35, Error ellipse: s-maj=17.4km s-min=15.4km az=122.0*
*HLW **20** 15:58:06.9, 3594N×2237E, h33km, Mb3.5*

ISC 20 15:57:39.5±0.6, **3766N**±002×**2130E**±003, **h16**km±3km, **n228**,σ1§**55**/250, **mb4.2**/28, **MS3.2**/4, **12C-8D**, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
					Op			
RLS	**Riolos of Patr**	**0.42**	**18**	*e*PB		**Pg**	**15 57 46.4**	**-1.6**
RLS				*e*SB		**Sg**	**15 57 52.2**	**-1.4**
ITM	**Ithomi**	**0.69**	**134**	*e*PG		**Pg**	**15 57 51.8**	**-1.3**
ITM				*e*SB		**Sb**	**15 58 02.1**	**-0.5**
VLS	**Valsamata**	**0.76**	**313**	*e*PB		**Pb**	**15 57 53.9**	**-0.5**
LKD	**Levkas**	**1.16**	**334**	*e*Pg		**Pg**	**15 57 59.8**	**-2.2**
LKD				*e*Sg		**Sg**	**15 58 19.9**	**+2.7**
LKD	**Levkas**	**1.16**	**334**	P		**Pn**	**15 58 00.1**	**-1.1**
LKD				S		**Sg**	**15 58 19.9**	**+2.7**
LKD	**Levkas**	**1.16**	**334**	P		**Pn**	**15 58 00.1**	**-1.1**
LKD				*e*Sg		**Sg**	**15 58 19.9**	**+2.7**
EVR	**Evrytania**	**1.32**	**18**	*e*PB		**Pb**	**15 58 02.6**	**-1.3**
AGG	**Agios Georgios**	**1.58**	**30**	*e*Pg		**Pg**	**15 58 06.4**	**-3.6**
AGG				*e*Sg		**Sg**	**15 58 30.0**	**-0.5**
AGG	**Agios Georgios**	**1.58**	**30**	P		**Pn**	**15 58 06.4**	**-0.6**
AGG				S		**Sn**	**15 58 29.5**	**+2.5**
AGG	**Agios Georgios**	**1.58**	**30**	*e*Pg		**Pg**	**15 58 06.4**	**-3.6**
AGG				S		**Sn**	**15 58 29.5**	**+2.4**
AGG				*e*Sg		**Sg**	**15 58 30.0**	**-0.5**
MGER	**Gerania Oros**	**1.59**	**78**	*e*PG		**Pg**	**15 58 07.0**	**-3.0**
VLI	**Veliai**	**1.61**	**125**	*e*PG		**Pg**	**15 58 08.6**	**-1.9**
VLI				*e*SB		**Sb**	**15 58 30.9**	**+1.9**
LKR	**Lokris**	**1.66**	**53**	*e*PG		**Pn**	**15 58 08.1**	**0.0**
NAIG	**Nisos Aigina**	**1.74**	**86**	*e*PB		**Pb**	**15 58 09.5**	**-1.6**
ATH	**Athens Observa**	**1.94**	**80**	*e*PN		**Pn**	**15 58 12.3**	**+0.5**
ATH				*e*SN		**Sn**	**15 58 37.4**	**+1.5**
KYTH	**Kithira**	**1.96**	**134**	*e*PG		**Pn**	**15 58 14.5**	**+2.4**
KVR	**Kavouri**	**1.96**	**84**	*e*PN		**Pn**	**15 58 12.5**	**+0.3**
IGT	**Igoumenitsa**	**2.02**	**338**	*e*Pn		**Pn**	**15 58 13.9**	**+1.0**
IGT				*e*Sn		**Sg**	**15 58 46.5**	**+2.1**
IGT	**Igoumenitsa**	**2.02**	**338**	P		**Pn**	**15 58 14.0**	**+1.1**
IGT				S		**Sg**	**15 58 46.5**	**+2.1**
JAN	**Janina**	**2.02**	**350**	*e*PG		**Pg**	**15 58 15.0**	**-3.4**
PTL	**Penteli**	**2.07**	**78**	*e*PN		**Pn**	**15 58 14.0**	**+0.4**
MEV	**Metsovon**	**2.12**	**359**	*e*Pn		**Pn**	**15 58 16.6**	**+2.2**
NEO	**Neokhori**	**2.23**	**42**	*e*PB		**Pn**	**15 58 15.8**	**0.0**
XOR	**Xorichti**	**2.26**	**41**	*e*Pn		**Pn**	**15 58 16.2**	**-0.1**
KEK	**Kerkira**	**2.36**	**331**	*e*PN		**Pn**	**15 58 19.7**	**+2.1**
AOS	**Alonnisos**	**2.52**	**53**	*e*Pn		**Pn**	**15 58 19.3**	**-0.6**
LIT	**Litokhoron**	**2.61**	**21**	*e*Pn		**Pn**	**15 58 23.7**	**+2.7**
LIT				*e*Sn		**Sn**	**15 58 57.4**	**+5.1**
KZN	**Kozani**	**2.67**	**8**	*e*PN		**Pn**	**15 58 23.6**	**+1.8**
PAIG	**Paliouri**	**2.93**	**39**	*e*Pn		**Pn**	**15 58 25.0**	**-0.1**
KARN	**Karanos**	**3.09**	**136**	*e*Pn		**Pn**	**15 58 29.3**	**+1.7**
FNA	**Florina**	**3.12**	**1**	*e*Pn		**Pn**	**15 58 29.0**	**+0.9**
PLG	**Polygyros**	**3.18**	**31**	*e*PN		**Pn**	**15 58 29.9**	**+1.0**
VAM	**Vamos**	**3.24**	**133**	*e*PN		**Pn**	**15 58 31.0**	**+1.2**
HORT	**Hortiatis**	**3.25**	**25**	*e*Pn		**Pn**	**15 58 31.1**	**+1.2**
BIA	**Bitola**	**3.35**	**0**	*i* Pn		**Pn**	**15 58 32.2**	**+0.9**
OUR	**Ouranopolis**	**3.39**	**37**	*e*Pn		**Pn**	**15 58 32.3**	**+0.5**
APE	**Apeiranthos**	**3.42**	**99**	*e*Pn		**Pn**	**15 58 32.5**	**+0.3**
APE	**Apeiranthos**	**3.42**	**99**	*e*PN		**Pn**	**15 58 34.5**	**+2.3**
APE	**Apeiranthos**	**3.42**	**99**	*e*Pn		**Pn**	**15 58 32.5**	**+0.3**
OHR	**Ohrid**	**3.47**	**354**	*i* Pn		**Pn**	**15 58 33.9**	**+1.0**
OHR	**Ohrid**	**3.47**	**354**	*i* Pn		**Pn**	**15 58 33.8**	**+1.0**
SOH	**Sokhos**	**3.54**	**26**	*e*Pn		**Pn**	**15 58 34.8**	**+1.0**
GVD	**Gavdhos**	**3.61**	**141**	*e*PN		**Pn**	**15 58 37.5**	**+2.7**
KNT	**Kendrikon**	**3.71**	**19**	*e*Pn		**Pn**	**15 58 38.0**	**+1.9**
IDI	**Anoyia**	**3.74**	**128**	P		**Pn**	**15 58 38.2**	**+1.6**
	1.7nm,0.3s,baz=324,slow=16,SNR=9.0							
VAY	**Valandovo**	**3.78**	**15**	*i* Pn		**Pn**	**15 58 39.5**	**+2.3**
VAY	**Valandovo**	**3.78**	**15**	*i* Pn		**Pn**	**15 58 39.4**	**+2.2**
CHOS	**Chios island**	**3.82**	**78**	*e*Pn		**Pn**	**15 58 38.3**	**+0.5**
TIP	**Timpagrande**	**3.88**	**294**	*e*Pn		**Pn**	**15 58 41.3**	**+2.8**
TIP	**Timpagrande**	**3.88**	**294**	*e*Pn		**Pn**	**15 58 41.3**	**+2.8**
SRS	**Serrai**	**3.88**	**27**	*e*Pn		**Pn**	**15 58 39.3**	**+0.7**
QSH	**Qafa e Shtames**	**4.00**	**345**	*i* Sn		**Sn**	**15 59 28.0**	**+1.2**
LAST	**Lasithi**	**4.19**	**125**	*e*Pn		**Pn**	**15 58 43.5**	**+0.6**
PRK	**Paraskevi**	**4.21**	**66**	*e*PN		**Pn**	**15 58 45.0**	**+1.9**
SKO	**Skopje**	**4.31**	**1**	*i* Pn		**Pn**	**15 58 44.6**	**+0.3**
SKO				*i* Sn		**Sn**	**15 59 35.3**	**+1.0**
SKO	**Skopje**	**4.31**	**1**	*i* Pn		**Pn**	**15 58 44.6**	**+0.2**
SKO				*i* Sn		**Sn**	**15 59 35.2**	**+0.9**
MMB	**Musomiste**	**4.35**	**25**	*e*Pn		**Pn**	**15 58 45.6**	**+0.7**
MMB	**Musomiste**	**4.35**	**25**	*i* P		**Pn**	**15 58 46.0**	**+1.1**
PEZ	**Pezze di Greco**	**4.35**	**317**	*e*Pn		**Pn**	**15 58 46.1**	**+1.1**
ULC	**Ulcinj**	**4.58**	**340**⇑	*i*Pn		**Pn**	**15 58 47.6**	**-0.5**
ULC				*e*Sn		**Sn**	**15 59 38.8**	**-2.2**
RDO	**Rodhopi**	**4.78**	**42**	*e*PN		**Pn**	**15 58 52.0**	**+1.1**
SG1	**Sgolgore (BA)**	**4.79**	**313**	*e*Pn		**Pn**	**15 58 51.8**	**+0.8**
RZN	**Rozhen**	**4.81**	**32**	*i* P		**Pn**	**15 58 52.3**	**+1.0**
BUM	**Brajici-Budva**	**4.99**	**339**⇑	*i*Pn		**Pn**	**15 58 53.2**	**-0.6**
BUM				*e*Sn		**Sn**	**15 59 47.4**	**-3.7**
TTG	**Podgorica**	**5.01**	**342**⇑	*i*Pn		**Pn**	**15 58 53.8**	**-0.3**
T

SWA2 9.08 156 P Pn 15 59 48.2 -1.8
PLOR Plostina 9.10 24 ‖ *i*P Pn 15 59 53.3 +3.0
VRI Vrincioaia 9.14 25 ‖ *i*P Pn 15 59 55.1 +4.3
SWA1 9.15 155 P Pn 15 59 49.2 -1.7
SWA1 S Sn 16 01 05.0 -29
VSL Villasalto 9.52 285 Pn Pn 15 59 57.2 +1.3
VSL Villasalto 9.52 285 Pn Pn 15 59 57.2 +1.3
BRTR Keskin Array B 9.87 74 P Pn 16 00 01.4 +0.7
baz=269,slow=9.5,SNR=1.3
VOY Vojsko 10.02 329 *e*Pn Pn 16 00 05.3 +2.5
VOY *e*Sn Sn 16 01 53.1 -1.8
PSZ Piszkesteto 10.30 355 *e*P Pn 16 00 14.5 +7.8
PSZ pmax pmax
comp=Z,12nn,0.9s
PSZ Piszkesteto 10.30 355 *e*Pn Pn 16 00 14.5 +7.8
comp=Z,12nn,0.9s
PSZ Piszkesteto 10.30 355 *e*Pn Pn 16 00 14.5 +7.8
comp=Z,12nn,0.9s
PGF Pioggiola 10.61 301 *e*P Pn 16 00 19.0 +8.1
VYHS Vyhne 10.97 351 *e*SN Sn 16 02 11.9 -6.4
CRVS Cervenica-Dubn 11.24 1 *e*PN Pn 16 00 19.3 -0.2
CRVS Cervenica-Dubn 11.24 1 *e*Pn Pn 16 00 19.4 -0.1
GERES GERESS Array B 12.47 336 P Pn 16 00 37.3 +1.0
comp=Z,0.1nm,0.3s,baz=153,slow=12,SNR=8.6
FRF La Foret Royal 12.59 302 *e*P Pn 16 00 45.3 +7.3
comp=Z,19nm,1.1s
FRF La Foret Royal 12.59 302 *e*P Pn 16 00 45.3 +7.3
FRF pmax pmax
comp=Z,10.0nm,1.1s
FRF La Foret Royal 12.59 302 *e*P Pn 16 00 45.3 +7.3
comp=Z,9.6nm,1.1s
LMR La Mourre 12.60 301 *e*P Pn 16 00 45.0 +6.9
MBDF Montbardon 13.01 307 *e*P Pn 16 00 50.7 +7.0
comp=Z,3.4nm,0.7s
MBDF Montbardon 13.01 307 *e*P Pn 16 00 50.7 +7.0
MBDF pmax pmax
comp=Z,2.0nm,0.7s
MBDF Montbardon 13.01 307 *e*P Pn 16 00 50.7 +7.0
comp=Z,1.7nm,0.7s
LPG La Plagne 13.40 310 *e*P Pn 16 00 55.4 +6.4
LPL La Plagne 13.42 310 *e*P Pn 16 00 55.8 +6.5
comp=Z,3.5nm,0.5s
LPL La Plagne 13.42 310 *e*P Pn 16 00 55.8 +6.5
LPL pmax pmax
comp=Z,2.0nm,0.5s
LPL La Plagne 13.42 310 *e*P Pn 16 00 55.8 +6.5
comp=Z,1.8nm,0.5s
ORIF Oris-en-Rattie 13.66 307 *e*P Pn 16 00 58.7 +6.1
comp=Z,2.9nm,0.5s
ORIF Oris-en-Rattie 13.66 307 *e*P Pn 16 00 58.7 +6.1
ORIF pmax pmax
comp=Z,1.0nm,0.5s
ORIF Oris-en-Rattie 13.66 307 *e*P Pn 16 00 58.7 +6.1
comp=Z,1.5nm,0.5s
EIL Elat 13.87 121 P Pn 16 00 50.2 -5.3
comp=Z,54nm,0.6s
EIL Elat 13.87 121 P Pn 16 00 50.2 -5.3
comp=Z,54nm,0.6s
AKASG Malin Array Be 14.21 21 P Pn 16 00 58.8 -1.3
comp=Z,0.3nm,0.3s,baz=212,slow=12,SNR=3.2
CABF La Chapelle 14.38 313 *e*P Pn 16 01 08.1 +5.7
comp=Z,1.7nm,0.5s
CABF La Chapelle 14.38 313 *e*P Pn 16 01 08.1 +5.7
CABF pmax pmax
comp=Z,1.0nm,0.5s
CABF La Chapelle 14.38 313 *e*P Pn 16 01 08.1 +5.7
comp=Z,0.9nm,0.5s
LASF Ste Croix 14.66 301 *e*P Pn 16 01 12.0 +5.8
HINF Hinteralfeld 14.66 318 *e*P Pn 16 01 11.8 +5.6
comp=Z,5.3nm,0.5s
HINF Hinteralfeld 14.66 318 *e*P Pn 16 01 11.8 +5.6
HINF pmax pmax
comp=Z,3.0nm,0.5s
HINF Hinteralfeld 14.66 318 *e*P Pn 16 01 11.8 +5.6
comp=Z,2.7nm,0.5s
CDF Champ du Feu 14.83 321 *e*P Pn 16 01 13.8 +5.3
comp=Z,4.3nm,0.6s
CDF Champ du Feu 14.83 321 *e*P Pn 16 01 13.8 +5.3
CDF pmax pmax
comp=Z,2.0nm,0.6s
CDF Champ du Feu 14.83 321 *e*P Pn 16 01 13.8 +5.3
comp=Z,2.2nm,0.6s
CLL Collm 14.86 339 *e**SP sP 16 01 15.0 -6.1
CLL Collm 14.86 339 *e*sP sP 16 01 15.0 -6.1
HAU Haudompre 15.04 318 *e*P Pn 16 01 16.5 +5.0
comp=Z,12nm,0.7s
HAU *e*R
comp=Z,53nm,17.0s
HAU Haudompre 15.04 318 *e*P Pn 16 01 16.5 +5.0
HAU pmax pmax
comp=Z,6.0nm,0.7s
HAU Haudompre 15.04 318 *e*P Pn 16 01 16.5 +5.0
comp=Z,6.2nm,0.7s
MTLF Montolieu 15.57 297 *e*P Pn 16 01 23.6 +5.2
SMF Signal de Mont 15.73 310 *e*P Pn 16 01 25.4 +5.0
comp=Z,4.9nm,0.6s
SMF Signal de Mont 15.73 310 *e*P Pn 16 01 25.4 +5.0
SMF pmax pmax
comp=Z,2.0nm,0.6s
SMF Signal de Mont 15.73 310 *e*P Pn 16 01 25.4 +5.0
comp=Z,2.5nm,0.6s
LOR Lormes 16.02 312 *e*P Pn 16 01 29.6 +5.4
comp=Z,6.0nm,0.7s
LOR *e*R
comp=Z,55nm,19.5s
LOR Lormes 16.02 312 *e*P Pn 16 01 29.6 +5.4
LOR pmax pmax
comp=Z,3.0nm,0.7s
LOR Lormes 16.02 312 *e*P Pn 16 01 29.6 +5.4
comp=Z,3.0nm,0.7s
AVF Avril sur Loir 16.09 310 *e*P Pn 16 01 30.0 +4.9
comp=Z,5.1nm,0.8s
AVF Avril sur Loir 16.09 310 *e*P Pn 16 01 30.0 +4.9
AVF pmax pmax
comp=Z,3.0nm,0.8s
AVF Avril sur Loir 16.09 310 *e*P Pn 16 01 30.0 +4.9
comp=Z,2.5nm,0.8s
SSF Saint Saulge 16.13 311 *e*P Pn 16 01 30.2 +4.6
comp=Z,5.3nm,0.7s
SSF Saint Saulge 16.13 311 *e*P Pn 16 01 30.2 +4.6
SSF pmax pmax
comp=Z,3.0nm,0.7s
SSF Saint Saulge 16.13 311 *e*P Pn 16 01 30.2 +4.6
comp=Z,2.7nm,0.7s
WLF Walferdange 16.21 323 P Pn 16 01 29.1 +2.5
WLF Walferdange 16.21 323 P Pn 16 01 28.9 +2.3
WLF pmax pmax
comp=Z,9.0nm,0.8s
WLF Walferdange 16.21 323 P Pn 16 01 28.9 +2.2
comp=Z,9.2nm,0.8s
WLF Walferdange 16.21 323 P Pn 16 01 28.9 +2.3
comp=Z,9.1nm,0.8s
SUW Suwalki 16.41 4 *e*P Pn 16 01 30.7 +1.6
SUW Suwalki 16.41 4 *e*P Pn 16 01 27.3 -1.8
comp=Z,53nm,0.8s
BCLA Clavier 17.12 323 P Pn 16 01 37.5 -0.7
GIVF Givet 17.15 322 *e*P Pn 16 01 43.3 +4.8
ETSF Etsaut 17.46 294 *e*P Pn 16 01 47.6 +5.2
comp=Z,4.5nm,0.7s
ETSF Etsaut 17.46 294 *e*P Pn 16 01 47.6 +5.2
ETSF pmax pmax
comp=Z,2.0nm,0.7s
ETSF Etsaut 17.46 294 *e*P Pn 16 01 47.6 +5.2
comp=Z,2.2nm,0.7s
GNI Garni 18.40 75 LR LR 16 10 26.0
comp=Z,64nm,18.4s,baz=76,slow=42
ESDC Sonseca Array 19.81 284 P Pn 16 02 10.6 -0.3
comp=Z,0.4nm,0.3s,baz=79,slow=11,SNR=7.9
ESDC LR LR 16 11 03.9
comp=Z,41nm,18.5s,baz=165,slow=40
ESLA Sonseca Array 19.81 284 P Pn 16 02 06.7 -4.2
comp=Z,0.7nm,0.7s
ESLA Sonseca Array 19.81 284 P Pn 16 02 06.7 -4.2
comp=Z,0.7nm,0.7s
OBN Obninsk 20.31 26 *e*P P 16 02 09.6 -5.1
OBN *e* 16 02 22.2
OBN pmax pmax
comp=Z,5.0nm,0.6s
OBN MLR MLR
comp=Z,40nm,16.0s,MS2.9
VSU Vasula 21.11 8 *d i*P P 16 02 22.3 -1.2
HFS Hagfors 23.01 350 P P 16 02 41.5 -2.2
comp=Z,3.0nm,0.6s,mb3.9,baz=152,slow=9.8,SNR=24
HFS LR LR 16 12 26.5
comp=Z,54nm,19.3s,MS3.0,baz=243,slow=38
KONO Kongsberg 23.25 345 P P 16 02 47.5 +1.2
KONO pmax pmax
comp=Z,15nm,1.2s,mb4.3
KONO Kongsberg 23.25 345 P P 16 02 47.5 +1.2
comp=Z,15nm,1.2s,mb4.3
FINES FINESS Array B 23.99 6 P P 16 02 50.9 -2.5
comp=Z,2.1nm,0.4s,mb3.9,baz=176,slow=10,SNR=46
FINES FINESS Array B 23.99 6 *i* P P 16 02 50.9 -2.5
FINES pmax pmax
comp=Z,2.0nm,0.4s
NAO01 NORSAR Array S 24.12 347 *e*P P 16 02 52.4 -2.2
comp=Z,15nm,1.0s,mb4.4
NAO01 NORSAR Array S 24.12 347 *e*P P 16 02 52.3 -2.2
comp=Z,15nm,1.0s,mb4.4
EKA Eskdalemuir Ar 24.20 325 P P 16 02 54.8 -0.6
comp=Z,5.6nm,0.7s,mb4.1,baz=125,slow=9.2,SNR=25
ESK Eskdalemuir 24.22 325 *e*P P 16 02 54.4 -1.0
ESK pmax pmax
comp=Z,13nm,0.9s,mb4.4
ESK Eskdalemuir 24.22 325 *e*P P 16 02 54.4 -1.0
comp=Z,13nm,0.9s,mb4.3
ESK Eskdalemuir 24.22 325 *e*P P 16 02 54.4 -1.0
comp=Z,13nm,0.9s,mb4.3
NB2 NORSAR Subarra 24.25 348 P P 16 02 53.8 -1.9
comp=Z,4.4nm,0.8s,mb3.9,baz=155,slow=11
NOA NORSAR Array B 24.25 348 P P 16 02 54.3 -1.4
comp=Z,2.7nm,0.7s,mb3.8,baz=154,slow=9.3,SNR=13
NOA LR LR 16 13 55.1
comp=Z,23nm,18.4s,MS2.7,baz=100,slow=40
KAF Kangasniemi 24.67 6 *ep* P 16 02 56.9 -2.7
comp=Z,7.5nm,0.6s,mb4.4,baz=187,slow=9.2
KAF Kangasniemi 24.67 6 *e*P P 16 02 56.9 -2.7
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb4.4
JOF Joensuu 26.02 10 *ep* P 16 03 08.5 -3.3
comp=Z,1.3nm,0.4s,mb3.8
AKTK Aktyubinsk 29.00 52 P P 16 03 36.4 -2.2
AKTK Aktyubinsk 29.00 52 P P 16 03 36.3 -2.3
AKTO Aktyubinsk 29.00 52 P P 16 03 36.4 -2.2
comp=Z,1.3nm,0.6s,mb3.8,baz=249,slow=7.8,SNR=4.0
AKTO Aktyubinsk 29.00 52 P P 16 03 36.4 -2.2
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
TORD Torodi Ar. Bea 30.03 221 P P 16 03 48.3 +0.6
comp=Z,2.3nm,0.8s,mb4.0,baz=32,slow=9.0,SNR=13
ARU Arti 31.04 41 *e*P P 16 03 53.3 -3.3
ARU pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
ARU Arti 31.04 41 *e*P P 16 03 53.3 -3.3
comp=Z,2.9nm,0.5s,mb4.4
ARU Arti 31.04 41 *e*P P 16 03 53.3 -3.3
comp=Z,2.9nm,0.5s,mb4.4
ARCES ARCESS Array B 32.02 3 P P 16 04 03.2 -2.0
comp=Z,1.7nm,0.7s,mb4.0,baz=193,slow=9.7,SNR=12
ARCES ARCESS Array B 32.02 3 P P 16 04 03.2 -2.0
SVE Sverdlovsk 32.26 41 *e*P P 16 04 02.8 -4.5
ZRNK Zerenda 36.14 49 *e*P P 16 04 38.5 -2.5
ZRNK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ZRNK Zerenda 36.14 49 *e*P P 16 04 38.5 -2.5
comp=Z,4.6nm,0.9s,mb4.4
ZRNK Zerenda 36.14 49 *e*P P 16 04 38.5 -2.5
comp=Z,4.6nm,0.9s,mb4.4
BRVK Borovoye 36.92 49 *e*P P 16 04 45.2 -2.4
BRVK pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
BRVK Borovoye 36.92 49 *e*P P 16 04 45.2 -2.4
comp=Z,3.2nm,1.0s,mb4.1
BRVK Borovoye 36.92 49 *e*P P 16 04 45.2 -2.4
comp=Z,3.2nm,1.0s,mb4.1
CHKZ Chkalovo 37.17 48 *e*P P 16 04 47.6 -2.2
CHKZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
CHKZ Chkalovo 37.17 48 *e*P P 16 04 47.6 -2.2
comp=Z,4.4nm,0.8s,mb4.3
CHKZ Chkalovo 37.17 48 *e*P P 16 04 47.6 -2.2
comp=Z,4.4nm,0.8s,mb4.3
DBIC Dimbokro 38.94 224 P P 16 05 05.2 +0.5
comp=Z,7.0nm,0.9s,mb4.4,baz=326,slow=7.0,SNR=3.8
DBIC Dimbokro 38.94 224 P P 16 05 05.2 +0.5
DBIC pmax pmax
comp=Z,11nm,1.0s
DBIC Dimbokro 38.94 224 P P 16 05 05.2 +0.5
comp=Z,11nm,1.0s,mb4.6
LIC Lamto 39.40 224 *e*P P 16 05 10.0 +1.5
comp=Z,47nm,1.1s,mb4.8
LIC Lamto 39.40 224 *e*P P 16 05 10.0 +1.5
comp=Z,24nm,1.1s,mb4.8
AAK Ala-Archa 40.41 66 *e*P P 16 05 14.5 -2.4
AAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
AAK Ala-Archa 40.41 66 P P 16 05 14.4 -2.5
comp=Z,3.9nm,1.0s,mb4.1
AAK Ala-Archa 40.41 66 P P 16 05 14.4 -2.5
comp=Z,3.9nm,1.0s,mb4.1
KURK Kurchatov 42.09 53 *e*P P 16 05 28.3 -2.4
KURK Kurchatov 42.09 53 *e*P P 16 05 26.1 -4.6
comp=Z,5.3nm,0.8s,mb4.2
KURK Kurchatov 42.09 53 *e*P P 16 05 26.1 -4.6
comp=Z,5.2nm,0.8s,mb4.2
NVS Novosibirsk 44.58 47 *e*P P 16 05 49.1 -1.7
NVS pmax pmax
comp=N,3.0nm,1.4s
NVS pmax pmax
comp=Z,12nm,1.4s,mb4.5
NVS pmax pmax
comp=E,5.0nm,1.3s
MKAR Makanchi Array 45.05 58 P P 16 05 52.0 -2.6
comp=E,2.4nm,0.6s,mb4.2,baz=283,slow=6.9,SNR=24
MKAR Makanchi Array 45.05 58 ‖ *e*P P 16 05 52.0 -2.6
MKAR Makanchi Array 45.05 58 P P 16 05 52.0 -2.6
WMQ Urumqi 49.47 61 P P 16 06 28.3 -0.7
TSUM Tsumeb 56.66 184 P P 16 07 18.9 -3.2
comp=E,2.6nm,1.1s,mb4.2
TSUM Tsumeb 56.66 184 P P 16 07 18.9 -3.1
comp=E,2.5nm,1.1s,mb4.2
SONM Songino Array 60.31 51 P P 16 07 46.5 -1.0
comp=E,0.5nm,0.6s,mb3.7,baz=276,slow=6.9,SNR=4.7
YAK Yakutsk 65.26 30 P P 16 08 23.0 +2.6
YAK pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
YAK Yakutsk 65.26 30 P P 16 08 22.9 +2.5
comp=Z,7.7nm,0.7s,mb4.8
YAK Yakutsk 65.26 30 P P 16 08 23.0 +2.6
comp=Z,7.7nm,0.7s,mb4.8
CD2 Chengdu 66.39 68 *e*P P 16 08 23.4 -4.3
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
HHC Hu-ho-hao-te 66.82 56 *e*P P 16 08 27.4 -3.1
HHC AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
HHC AMB AMB
comp=Z,181nm,6.8s
HHC LR LR
comp=N,128nm,16.1s,MS4.5
HHC LR LR
comp=E,196nm,18.4s,MS4.5
HHC LR LR
comp=Z,141nm,15.5s,MS4.3
ULM Lac du Bonnet 76.48 324 P P 16 09 27.2 -1.4
comp=Z,1.9nm,0.8s,mb4.1,baz=0.8,slow=3.9,SNR=3.9
MCMT McKenzie Canyo 88.05 329 P P 16 10 23.3 -5.8
ASAR Alice Springs 121.50 97 PKP PKPdf 16 16 30.3 -2.0
comp=Z,0.6nm,1.0s,baz=297,slow=1.6,SNR=4.3

IDC ***20*** *16:15:21.2±2.0, 584S×152.48E, h0km, mb4.2/4, mb1 4.3/5, mb1mx3.9/15, mbtmp4.2/5, ML3.3/1, Error ellipse: s-maj=58.6km s-min=32.1km az=122.0*
ISCJB ***20*** *16:15:27.4±5.4, 58S±03×1522E±02, h46km±39km, mb4.1/8, Error ellipse: s-maj=52.7km s-min=34.1km az=149.9*
NEIC ***20*** *16:15:30.0±4.3, 582S×152.19E, h56km±28km, mb4.3/6, Error ellipse: s-maj=36.5km s-min=27.3km az=213.0*

ISC 20 16:15:29.1±4.9, 58S±03×1523E±02, h49km±34km, n15, σ0§60/16, mb4.1/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.21**	**235**	Pn	**Pn**	**16 16 58.0**	**-0.1**
	4.3nm,0.3s,baz=57,slow=6.8,SNR=22						
PMG				Sn	**Sn**	**16 18 08.0**	**+0.3**
	16nm,0.3s,baz=354,slow=23,SNR=10						
PMG	**Port Moresby**	**6.21**	**235**	Pn	**Pn**	**16 16 58.0**	**-0.1**
PMG				*e*Sn	**Sn**	**16 18 07.4**	**-0.3**
KAKA	**Kakadu**	**20.74**	**249**	*e*P	**P**	**16 20 05.2**	**-0.3**
	17nm,1.2s						
WRAB	**Tennant Creek**	**22.38**	**230**	*e*P	**P**	**16 20 24.5**	**+1.5**
	6.8nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**22.38**	**230**	*e*P	**P**	**16 20 23.5**	**+0.4**
WRA	**Warramunga Arr**	**22.39**	**230**	P	**P**	**16 20 23.1**	**-0.1**
	1.8nm,0.4s,mb3.9,baz=55,slow=9.7,SNR=36						
AS31	**Alice Springs**	**25.05**	**223**	*e*P	**P**	**16 20 48.2**	**-0.5**
ASAR	**Alice Springs**	**25.05**	**223**	P	**P**	**16 20 48.5**	**-0.2**
	6.5nm,0.8s,mb4.2,baz=61,slow=9.6,SNR=57						
STKA	**Stephens Creek**	**27.78**	**200**	P	**P**	**16 21 12.3**	**-0.9**
	2.5nm,0.9s,mb3.8,baz=24,slow=12,SNR=2.9						
FITZ	**Fitzroy Crossi**	**28.73**	**243**	*e*P	**P**	**16 21 21.4**	**-0.4**
	7.6nm,1.0s,mb4.4						
FITZ	**Fitzroy Crossi**	**28.73**	**243**	P	**P**	**16 21 21.5**	**-0.3**
	2.7nm,0.8s,mb4.0,baz=80,slow=10,SNR=11						
VNDA	**Vanda**	**71.83**	**178**	P	**P**	**16 26 46.9**	**+0.4**
	1.5nm,1.0s,mb3.9						
QSPA	**South Pole Qui**	**84.14**	**180**	*e*P	**P**	**16 27 55.2**	**+0.3**
	3.3nm,0.9s,mb4.5						
MAW	**Mawson**	**84.43**	**203**	P	**P**	**16 27 52.1**	**-4.2**
	2.2nm,0.7s,mb4.4						
TORD	**Torodi Ar. Bea**	**150.13**	**286**	PKPbc	PKPbc	16 35 15.7	+1.3
	0.8nm,0.7s,baz=74,slow=3.6,SNR=4.2						
TORD				PKPab	PKPab	16 35 21.0	+0.6
	0.8nm,0.5s,baz=77,slow=3.3,SNR=6.1						

IDC 20 16:28:47.2±3.0, 937S×10836E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/17, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=123.9km s-min=22.0km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.89**	**119**	P	Pn	16 33 09.2	-0.5
	0.1nm,0.3s,baz=296,slow=19,SNR=12						
WRA	**Warramunga Arr**	**27.20**	**116**	P	P	16 34 32.9	+0.3
	0.7nm,0.7s,baz=284,slow=12,SNR=5.6						
ASAR	**Alice Springs**	**28.25**	**123**	P	P	16 34 42.8	+0.8
	0.5nm,0.7s,baz=300,slow=9.0,SNR=10						
SONM	**Songino Array**	**56.97**	**358**	P	P	16 38 33.1	-1.4
	0.3nm,0.5s,baz=193,slow=6.4,SNR=3.5						
MKAR	**Makanchi Array**	**60.55**	**340**	P	P	16 39 00.3	+0.9
	0.2nm,0.5s,baz=152,slow=6.4,SNR=3.3						

SOF ***20*** *16:29:05.9, 4034N×2522E, h2km, MD2.5*
NEIC ***20*** *16:29:06.5, 4027N×2527E, h32km, MD3.2(ATH), After ATH.*
ATH ***20*** *16:29:06.5, 4027N×2527E, h32km±1km, MD3.2/3*
CSEM ***20*** *16:29:07.0±0.1, 4029N×2540E, h20km, MD2.9, Error ellipse: s-maj=3.6km s-min=3.0km az=104.0*
ISCJB ***20*** *16:29:07.1±0.5, 4025N±004×2541E±006, h25km±7km, Error ellipse: s-maj=8.2km s-min=6.2km az=63.7*
ISK ***20*** *16:29:09.4, 4025N×2573E, h29km, MD2.9*

ISC 20 16:29:07.1±0.6, 4026N±005×2542E±006, h19km±7km, n14, σ0§87/18, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GADA	**Gvkgeada**	**0.37**	**100**	PG	**Pg**	**16 29 15.2**	**+0.3**
GADA				SG	**Sg**	**16 29 19.8**	**-0.4**
LIA	**Limnos Island**	**0.40**	**207**	*e*PB	**Pg**	**16 29 15.5**	**0.0**
LIA				*e*SB	**Sg**	**16 29 21.9**	**+0.8**
ENEZ	**Enez**	**0.74**	**49**	PG	**Pg**	**16 29 21.9**	**+0.3**
ENEZ				SG	**Sg**	**16 29 30.8**	**-0.6**
EZN	**Ezine**	**0.82**	**121**	PG	**Pg**	**16 29 22.5**	**-0.6**
RDO	**Rodhopi**	**0.89**	**6**	*e*PN	**Pb**	**16 29 24.0**	**0.0**
RDO				*e*SN	**Sb**	**16 29 36.5**	**+1.0**
PRK	**Paraskevi**	**1.20**	**147**	*e*PN	**Pn**	**16 29 30.0**	**+1.1**
KDZ	**Kurdzhali**	**1.39**	**360**	*i* P	**Pn**	**16 29 30.9**	**-0.6**
MFT	**Murefte**	**1.51**	**69**	*e*PN	**Pn**	**16 29 32.2**	**-1.0**
PLG	**Polygyros**	**1.52**	**275**	*e*PB	**Pn**	**16 29 31.0**	**-2.2**
RZN	**Rozhen**	**1.53**	**340**	*i* P	**Pn**	**16 29 33.6**	**+0.2**
NVR	**Nevrokopi**	**1.61**	**313**	*e*PN	**Pn**	**16 29 34.0**	**-0.5**
DIM	**Dimitrovgrad**	**1.79**	**3**	*i* P	**Pn**	**16 29 39.0**	**+1.9**
MMB	**Musomiste**	**1.85**	**317**	*i* P	**Pn**	**16 29 37.3**	**-0.5**
EDRB	**Edirne**	**1.88**	**32**	*e*PN	**Pn**	**16 29 38.9**	**+0.7**

MAN 20 16:35:25.0, 1809N×12070E, h11km, mb2.9, ML4.3, MS2.0, Luzon

IDC 20 16:47:47.5±2.0, 634S×10612E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, Error ellipse: s-maj=99.8km s-min=21.2km az=53.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.56**	**119**	P	P	16 54 03.8	+1.0
	0.4nm,0.7s,baz=287,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**31.79**	**126**	P	P	16 54 14.4	+0.9
	0.6nm,0.7s,baz=295,slow=11,SNR=3.6						
ASAR				PcP	PcP	16 57 03.7	-1.1
	0.7nm,0.9s,baz=298,slow=2.0,SNR=4.4						
SONM	**Songino Array**	**53.94**	**0**	P	P	16 57 11.0	-1.8
	0.8nm,0.5s,baz=178,slow=8.2,SNR=12						
MKAR	**Makanchi Array**	**56.97**	**341**	P	P	16 57 35.5	+0.8
	1.7nm,0.5s,baz=152,slow=8.3,SNR=8.2						
BVAR	**Borovoye Array**	**66.42**	**337**	P	P	16 58 39.7	+1.3
	0.5nm,0.5s,baz=152,slow=9.8,SNR=2.3						

IDC 20 16:47:56.1±2.0, 1025S×10856E, h0km, mb4.1/6, mb1 4.1/7, mb1mx4.0/17, mbtmp4.1/7, ML3.9/1, Error ellipse: s-maj=90.6km s-min=18.5km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.30**	**117**	P	Pn	16 52 11.6	+0.2
	0.3nm,0.3s,baz=282,slow=4.7,SNR=8.9						
WRA	**Warramunga Arr**	**26.66**	**114**	P	P	16 53 36.5	-0.1
	2.1nm,0.8s,baz=284,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**27.61**	**122**	P	P	16 53 45.3	+0.1
	0.9nm,0.8s,baz=298,slow=9.4,SNR=7.4						
STKA	**Stephens Creek**	**37.35**	**130**	P	P	16 55 11.3	+1.0
	4.4nm,0.9s,baz=293,slow=7.4,SNR=4.9						
SONM	**Songino Array**	**57.86**	**358**	P	P	16 57 49.6	0.0
	1.3nm,0.6s,baz=178,slow=8.0,SNR=11						
MKAR	**Makanchi Array**	**61.45**	**340**	P	P	16 58 14.3	0.0
	1.9nm,0.7s,baz=145,slow=7.2,SNR=4.5						
BVAR	**Borovoye Array**	**70.94**	**337**	P	P	16 59 15.4	+0.1
	1.4nm,0.6s,baz=138,slow=8.9,SNR=5.3						

BJI ***20*** *16:52:32.2, 2983N×8345E, h15km, mB4.7, mb4.3, Ms3.9, Msz3.7*
IDC ***20*** *16:52:34.1±0.6, 3010N×8367E, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.1/24, mbtmp4.1/17, ML3.9/1, MS3.5/9, Ms1 3.5/9, ms1mx3.2/30, Error ellipse: s-maj=18.4km s-min=16.0km az=65.0*
NEIC ***20*** *16:52:35.3±0.3, 3017N×8368E, h10km, mb4.3/11, Error ellipse: s-maj=8.8km s-min=6.5km az=80.0*
ISCJB ***20*** *16:52:36.9±0.2, 3006N±003×8364E±003, h33km, mb4.1/28, MS3.5/11, Error ellipse: s-maj=4.4km s-min=3.9km az=123.9*
NDI ***20*** *16:52:36.9±3.2, 3015N×8375E, h10km, ML3.9, mb4.3(NEIC)*
MOS ***20*** *16:52:36.9±1.3, 3012N×8359E, h33km, mb4.5/11, Error ellipse: s-maj=14.6km s-min=7.5km az=103.4*

ISC 20 16:52:39.2±0.3, 3009N±003×8366E±003, h35km, n87, σ1§30/93, mb4.1/28, MS3.5/11, 3C-4D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGTI	**Lohaghat**	**3.03**	**259**	*i* P	**Pn**	**16 53 28.5**	**+3.9**
LGTI				*ex*	x	16 54 15.5	
DDI	**Dehra Dun**	**4.85**	**274**	*e*P	**Pn**	**16 53 52.5**	**+2.8**
SMLA	**Simla**	**5.69**	**282**	*e*P	**Pn**	**16 54 02.5**	**+1.3**
SMLA				*e*S	**Sn**	**16 55 03.7**	**-1.5**
NDI	**New Delhi**	**5.79**	**258**	*e*P	**Pn**	**16 54 03.3**	**+0.7**
NDI				*e*S	**Sn**	**16 55 08.4**	**+0.7**
NDI				*ex*	x	16 55 52.0	
BOK	**Bokaro**	**6.57**	**162**	*e*P	**Pn**	**16 54 12.7**	**-0.7**
BOK				*i* P		16 54 14.7	
BOK				*e*S	**Sn**	**16 55 25.5**	**-1.5**
JBP	**Jabalpur**	**7.63**	**206**	*e*P	**Pn**	**16 54 31.9**	**+4.0**
JBP				*i* S	**Sn**	**16 55 52.6**	**-0.5**
AJM	**Ajmer**	**8.72**	**248**	*e*P	**Pn**	**16 54 42.8**	**0.0**
AJM				*e*S	**Sn**	**16 56 17.2**	**-2.6**
AJM				AML	AML	16 57 21.7	
	comp=E,53nm,0.6s						

AJM					AML	AML	16 57 26.0		
	comp=N,52nm,1.0s								
BHPL	**Bhopal**	**8.80**	**221**	*e*P	**Pn**		**16 54 43.7**	**-0.2**	
BHPL				*e*S	**Sn**		**16 56 19.5**	**-2.3**	
BHPL					AML	AML	16 57 25.2		
	comp=E,51nm,1.2s								
BHPL					AML	AML	16 57 25.6		
	comp=N,48nm,0.6s								
AKL	**Akola**	**11.10**	**214**	*e*P	**Pn**		**16 55 15.5**	**+0.2**	
AKL				*e*S	**Sn**		**16 57 11.4**	**-6.8**	
VIS	**Vishakhapatnam**	**12.31**	**181**	*ex*	x		16 54 30.8		
LATR	**Latur**	**13.29**	**211**	*ex*	x		16 58 00.0		
HYB	**Hyderabad**	**13.45**	**201**	*i* P	**Pn**		**16 55 51.0**	**+3.6**	
HYB				*e*S	**Sn**		**16 58 24.0**	**+8.5**	
HYB	**Hyderabad**	**13.45**	**201**	*e*P	**Pn**		**16 55 45.5**	**-1.9**	
WMQ	**Urumqi**	**14.08**	**12**	P	**Pn**		**16 55 56.4**	**+0.3**	
WMQ				AP			16 56 02.0		
WMQ				XP			16 56 06.3		
WMQ				PP			16 56 07.8		
WMQ				S	**Sn**		**16 58 32.1**	**+1.0**	
WMQ				AMB	AMB				
	comp=Z,6.0nm,1.1s								
WMQ				AMB	AMB				
	comp=Z,12nm,4.2s								
AAK	**Ala-Archa**	**14.52**	**332**	*e*P	**Pn**		**16 56 00.3**	**-1.8**	
AAK				pmax	pmax				
	comp=Z,3.0nm,0.9s								
AAK				MLR	MLR				
	comp=Z,100nm,17.0s								
AAK	**Ala-Archa**	**14.52**	**332**	*e*Pn	**Pn**		**16 56 00.7**	**-1.4**	
	comp=Z,4.7nm,0.8s								
POO	**Poona**	**14.56**	**220**	*e*P	**Pn**		**16 56 03.0**	**+0.4**	
GTA	**Gaotai**	**16.19**	**51**	*e*P	**Pn**		**16 56 26.1**	**+2.1**	
GTA				AP	pP		16 56 32.8	-3.1	
GTA				XP	sP		16 56 36.0	-4.4	
GTA				AMB	AMB				
	comp=Z,9.0nm,0.7s								
MKAR	**Makanchi Array**	**16.72**	**357**	Pn	**Pn**		**16 56 27.6**	**-3.0**	
	comp=Z,0.5nm,0.3s,baz=180,slow=11,SNR=55								
MKAR	**Makanchi Array**	**16.72**	**357**	*i* P	**Pn**		**16 56 31.3**	**+0.7**	
MKAR				pmax	pmax				
	comp=Z,9.0nm,0.7s								
MDRS	**Chennai**	**17.23**	**191**	*ex*	x		16 54 22.9		
CD2	**Chengdu**	**17.35**	**82**	*e*P	**Pn**		**16 56 36.5**	**-2.0**	
CD2				AP	pP		16 56 42.4	-6.3	
CD2				XP	sP		16 56 46.6	-6.5	
CD2				PP			16 56 52.0		
CD2				S	**S**		**16 59 49.0**	**-9.1**	
CD2				XS	sS		16 59 57.5	-15	
CD2				AMB	AMB				
	comp=Z,10.0nm,1.2s								
CD2				AMB	AMB				
	comp=Z,80nm,5.2s								
CD2				LR	LR				
	comp=N,110nm,15.5s								
CD2				LR	LR				
	comp=Z,90nm,14.3s								
KMI	**Kunming**	**17.62**	**102**	P	**Pn**		**16 56 41.8**	**0.0**	
KMI				AP	pP		16 56 46.6	-5.1	
KMI				XP	sP		16 56 48.6	-7.5	
KMI				PP			16 57 00.0		
KMI				S	**S**		**16 59 51.8**	**-12**	
KMI				XS	sS		17 00 06.3	-12	
KMI				SS			17 00 21.3		
KMI				AMB	AMB				
	comp=Z,9.0nm,0.9s								
KMI				AMB	AMB				
	comp=Z,37nm,3.1s								
KMI				LR	LR				
	comp=N,278nm,18.3s								
KMI				LR	LR				
	comp=E,120nm,15.7s								
KMI				LR	LR				
	comp=Z,400nm,18.9s								
CHTO	**Chiang Mai**	**17.86**	**125**	*e*P	**Pn**		**16 56 44.9**	**+0.1**	
CHTO				pmax	pmax				
	comp=Z,19nm,1.2s								
CHTO	**Chiang Mai**	**17.86**	**125**	*e*Pn	**Pn**		**16 56 44.9**	**+0.1**	
	comp=Z,19nm,1.2s								
LZH	**Lanzhou**	**17.93**	**65**	*e*P	**Pn**		**16 56 48.5**	**+2.8**	
LZH				AMB	AMB				
	comp=Z,20nm,1.5s								
GYA	**Guiyang**	**20.58**	**94**	ǁ *i* P	**P**		**16 57 14.8**	**-0.1**	
GYA				AMB	AMB				
	comp=Z,10.0nm,0.8s								
KURK	**Kurchatov**	**20.95**	**351**	*d i*P	**P**		**16 57 16.7**	**-2.3**	
KURK	**Kurchatov**	**20.95**	**351**	*e*P	**P**		**16 57 16.8**	**-2.2**	
	comp=Z,13nm,0.9s								
XAN	**Xi'an**	**21.75**	**73**	P	**P**		**16 57 29.4**	**+1.8**	
XAN				AMB	AMB				
	comp=Z,9.0nm,0.8s,mb4.2								
TRD	**Trivandrum**	**22.36**	**198**	*ex*	x		16 54 19.5		
WSAR	**Wadi Sarin**	**23.35**	**259**	P	**P**		**16 57 46.2**	**+1.7**	
	comp=Z,4.1nm,0.6s,mb4.0,baz=116,slow=15,SNR=5.4								
WSAR				LR	LR		17 07 39.8		
	comp=Z,74nm,18.4s,MS3.2,baz=132,slow=39								
WSAR	**Wadi Sarin**	**23.35**	**259**	P	**P**		**16 57 46.2**	**+1.7**	
WSAR				LR	LR		17 07 39.8		
NVS	**Novosibirsk**	**24.74**	**359**	*e*P	**P**		**16 57 54.6**	**-2.7**	
SONM	**Songino Array**	**24.89**	**38**	P	**P**		**16 57 59.3**	**+0.7**	
	comp=Z,1.9nm,0.9s,mb3.6,baz=224,slow=8.0,SNR=8.4								
SONM				PcP	PcP		17 01 33.7	-0.1	
	comp=Z,0.4nm,0.5s,baz=223,slow=2.5,SNR=4.4								
SONM				LR	LR		17 08 32.2		
	comp=Z,76nm,21.3s,MS3.2,baz=243,slow=38								
SONM	**Songino Array**	**24.89**	**38**	P	**P**		**16 57 59.3**	**+0.7**	
SONM							17 01 33.7		
BVAR	**Borovoye Array**	**24.90**	**341**	P	**P**		**16 57 57.8**	**-0.9**	
	comp=Z,0.9nm,0.5s,mb3.6,baz=148,slow=11,SNR=8.4								
BVAR				PcP	PcP		17 01 34.8	+1.0	
	comp=Z,0.2nm,0.4s,baz=123,slow=5.3,SNR=3.1								
BRVK	**Borovoye**	**24.96**	**341**	P	**P**		**16 57 55.9**	**-3.3**	
BRVK				pmax	pmax				
	comp=Z,2.0nm,0.8s,mb3.7								
BRVK	**Borovoye**	**24.96**	**341**	P	**P**		**16 57 55.9**	**-3.3**	
	comp=Z,2.1nm,0.8s,mb3.7								
HHC	**Hu-ho-hao-te**	**25.04**	**57**	*e*P	**P**		**16 57 59.9**	**-0.1**	
HHC				AP	pP		16 58 06.8	-3.2	
HHC				XP	sP		16 58 10.3	-3.9	
HHC				PP			16 58 37.1		
HHC				S	**S**		**17 02 19.3**	**-2.5**	
HHC				XS	sS		17 02 29.8	-8.5	
HHC				AMB	AMB				
	comp=Z,15nm,0.7s,mb4.6								
HHC				AMB	AMB				
	comp=Z,81nm,5.6s								
HHC				LR	LR				
	comp=N,144nm,18.4s,MS3.7								
HHC				LR	LR				
	comp=E,150nm,19.6s,MS3.7								
HHC				LR	LR				
	comp=Z,89nm,19.6s,MS3.3								
ZRNK	**Zerenda**	**25.25**	**339**	*e*P	**P**		**16 58 00.5**	**-1.4**	
ZRNK				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb3.8								
ZRNK	**Zerenda**	**25.25**	**339**	*e*P	**P**		**16 58 00.5**	**-1.4**	
	comp=Z,2.1nm,0.6s,mb3.8								
ZRNK				*e*			16 59 17.1		
ULN	**Ulaanbaatar**	**25.26**	**39**	*i* P	**P**		**16 58 02.0**	**0.0**	
ULN	**Ulaanbaatar**	**25.26**	**39**	*e*P	**P**		**16 58 00.5**	**-1.5**	
	comp=Z,5.2nm,1.1s,mb4.0								
CHKZ	**Chkalovo**	**25.41**	**342**	*e*P	**P**		**16 58 02.2**	**-1.2**	
CHKZ				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb3.9								
CHKZ	**Chkalovo**	**25.41**	**342**	*e*P	**P**		**16 58 02.2**	**-1.1**	
	comp=Z,3.0nm,0.8s,mb3.9								
AKTK	**Aktyubinsk**	**27.98**	**324**	P	**P**		**16 58 26.1**	**-0.3**	
AKTK				LR	LR		17 10 50.7		
AKTO	**Aktyubinsk**	**27.98**	**324**	P	**P**		**16 58 26.1**	**-0.3**	
	comp=Z,0.9nm,0.4s,mb3.7,baz=118,slow=11,SNR=3.1								
AKTO				LR	LR		17 10 50.7		
	comp=Z,81nm,20.6s,MS3.3,baz=275,slow=39								
AKTO	**Aktyubinsk**	**27.98**	**324**	P	**P**		**16 58 26.1**	**-0.4**	
AKTO				pmax	pmax				
	comp=Z,1.0nm,0.4s,mb3.8								
AKTO				MLR	MLR				
	comp=Z,81nm,20.6s,MS3.3								
ARU	**Arti**	**31.70**	**333**	ǁ *i*P	**P**		**16 58 58.6**	**-0.9**	
ARU				*e*			16 59 58.1		
ARU				*e*			17 01 48.5		
ARU				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.2								
ARU	**Arti**	**31.70**	**333**	*e*P	**P**		**16 58 58.3**	**-1.2**	
	comp=Z,4.4nm,0.8s,mb4.3								
GNI	**Garni**	**33.15**	**298**	P	**P**		**16 59 08.3**	**-3.8**	
KIV	**Kislovodsk**	**35.15**	**305**	ǁ *e*P	**P**		**16 59 31.0**	**+1.5**	
KIV				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.6								
KIV				MLR	MLR				
	comp=Z,100nm,21.0s,MS3.5								
OBN	**Obninsk**	**41.65**	**321**	P	**P**		**17 00 21.9**	**-2.1**	
OBN				*e*			17 00 37.4		
OBN				pmax	pmax				
	comp=Z,7.0nm,1.0s,mb4.2								
BRTR	**Keskin Array B**	**41.67**	**297**	P	**P**		**17 00 24.9**	**+0.6**	
	comp=Z,0.5nm,0.6s,mb3.4,baz=98,slow=12,SNR=4.6								
YAK	**Yakutsk**	**43.65**	**29**	*i* P	**P**		**17 00 39.1**	**-1.2**	
YAK				pmax	pmax				
	comp=Z,9.0nm,0.8s,mb4.5								
YAK	**Yakutsk**	**43.65**	**29**	*e*P	**P**		**17 00 37.8**	**-2.5**	
	comp=Z,7.9nm,0.8s,mb4.5								
MJAR	**Matsushiro Arr**	**45.53**	**67**	LR	LR		17 21 23.1		
	comp=Z,66nm,18.2s,MS3.6,baz=60,slow=38								
VRI	**Vrincioaia**	**46.59**	**306**	ǁ *i*P	**P**		**17 01 05.3**	**+1.7**	
PLOR	**Plostina**	**46.64**	**306**	ǁ *i*P	**P**		**17 01 06.0**	**+1.9**	
MLR	**Muntele Rosu**	**47.14**	**306**	ǁ *i*P	**P**		**17 01 09.4**	**+1.4**	
TIXI	**Tiksi**	**48.20**	**18**	*i* P	**P**		**17 01 15.9**	**-0.3**	
FINES	**FINESS Array B**	**48.65**	**327**	P	**P**		**17 01 20.9**	**+1.2**	
	comp=Z,2.6nm,0.9s,mb4.2,baz=108,slow=4.2,SNR=5.8								
FINES				LR	LR		17 23 27.0		
	comp=Z,56nm,19.0s,MS3.6,baz=113,slow=38								
FINES	**FINESS Array B**	**48.65**	**327**	*i* P	**P**		**17 01 21.3**	**+1.7**	
FINES				pmax	pmax				
	comp=Z,3.0nm,1.0s								
ARCES	**ARCESS Array B**	**51.12**	**337**	P	**P**		**17 01 38.4**	**0.0**	
	comp=Z,4.0nm,0.8s,mb4.4,baz=90,slow=7.3,SNR=11								
KMBO	**Kilima Mbogo**	**54.00**	**244**	P	**P**		**17 01 59.9**	**+0.2**	
	comp=Z,1.3nm,0.7s,mb4.0,baz=62,slow=18,SNR=3.8								
KMBO				LR	LR		17 24 24.4		
	comp=Z,40nm,20.5s,MS3.5,baz=90,slow=35								
KMBO	**Kilima Mbogo**	**54.00**	**244**	P	**P**		**17 01 59.9**	**+0.2**	
KMBO				LR	LR		17 24 24.4		
GERES	**GERESS Array B**	**55.20**	**311**	LR	LR		17 27 34.7		
	comp=Z,45nm,20.2s,MS3.5,baz=213,slow=38								
NOA	**NORSAR Array B**	**55.74**	**326**	P	**P**		**17 02 11.1**	**-1.3**	
	comp=Z,1.1nm,0.8s,mb3.9,baz=88,slow=7.1,SNR=2.9								
NOA				LR	LR		17 28 14.4		
	comp=Z,27nm,18.2s,MS3.4,baz=290,slow=38								
OPO	**Ambohidratompo**	**59.78**	**221**	P	**P**		**17 02 41.7**	**+1.0**	
	comp=Z,0.7nm,0.6s,mb3.9,baz=105,slow=20,SNR=3.5								
WRA	**Warramunga Arr**	**69.66**	**129**	P	**P**		**17 03 45.8**	**+0.7**	
	comp=Z,2.5nm,0.8s,mb4.2,baz=323,slow=6.4,SNR=20								
WRAB	**Tennant Creek**	**69.66**	**129**	*e*P	**P**		**17 03 46.0**	**+0.9**	
WRAB				pmax	pmax				
	comp=Z,7.0nm,0.9s,mb4.6								
WRAB	**Tennant Creek**	**69.66**	**129**	*e*P	**P**		**17 03 46.0**	**+0.9**	
	comp=Z,6.9nm,0.9s,mb4.6								
WB2	**Warramunga Arr**	**69.67**	**129**	*e*P	**P**		**17 03 45.6**	**+0.4**	
LSZ	**Lusaka**	**69.90**	**238**	*e*P	**P**		**17 03 47.8**	**+1.2**	
LSZ				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.2								
LSZ	**Lusaka**	**69.90**	**238**	*e*P	**P**		**17 03 47.8**	**+1.2**	
	comp=Z,2.3nm,0.6s,mb4.3								
ASAR	**Alice Springs**	**71.99**	**132**	P	**P**		**17 04 00.1**	**+0.9**	
	comp=Z,0.9nm,0.7s,mb3.8,baz=315,slow=6.1,SNR=11								
TOA0	**Torodi Ar. Sit**	**76.66**	**278**	*e*P	**P**		**17 04 26.5**	**+0.1**	
TORD	**Torodi Ar. Bea**	**76.66**	**278**	P	**P**		**17 04 27.2**	**+0.8**	
	comp=Z,2.4nm,0.7s,mb4.2,baz=53,slow=4.6,SNR=16								
TORD	**Torodi Ar. Bea**	**76.66**	**278**	P	**P**		**17 04 27.2**	**+0.8**	
BOSA	**Boshof**	**80.69**	**229**	P	**P**		**17 04 48.9**	**+0.3**	
	comp=Z,1.6nm,0.6s,mb4.2,baz=80,slow=2.6,SNR=5.3								
BOSA				LR	LR		17 37 25.9		
	comp=Z,69nm,18.6s,MS4.0,baz=180,slow=33								
DBIC	**Dimbokro**	**85.42**	**275**	P	**P**		**17 05 14.0**	**+1.0**	
	comp=Z,4.8nm,0.9s,mb4.7,baz=82,slow=4.3,SNR=3.6								
DBIC	**Dimbokro**	**85.42**	**275**	*e*P	**P**		**17 05 13.7**	**+0.7**	
DBIC				pmax	pmax				
	comp=Z,12nm,1.1s								
DBIC	**Dimbokro**	**85.42**	**275**	*e*P	**P**		**17 05 13.7**	**+0.7**	
	comp=Z,12nm,1.1s,mb4.9								
YKA	**Yellowknife Ar**	**86.58**	**8**	P	**P**		**17 05 17.8**	**-0.9**	
	comp=Z,1.1nm,0.6s,mb4.3,baz=337,slow=4.9,SNR=7.3								
YKA	**Yellowknife Ar**	**86.58**	**8**	*i* P	**P**		**17 05 17.7**	**-1.1**	
YKA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
YKA	**Yellowknife Ar**	**86.58**	**8**	P	**P**		**17 05 17.8**	**-1.0**	

IDC 20 16:55:30.7±3.7, 1940N×12112E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/18, mbtmp3.4/3, Error ellipse: s-maj=314.2km s-min=25.5km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CVP	**Callao Caves**	**1.82**	**158**	*e*P	Pn	16 56 10.0	+6.7
WRA	**Warramunga Arr**	**41.19**	**161**	P	P	17 03 16.7	-0.4
	0.3nm,0.5s,baz=342,slow=9.1,SNR=7.6						
MKAR	**Makanchi Array**	**41.83**	**320**	P	P	17 03 22.2	0.0
	1.3nm,1.2s,baz=120,slow=10.0,SNR=3.2						
ASAR	**Alice Springs**	**44.59**	**163**	P	P	17 03 45.2	+0.7
	0.4nm,0.5s,baz=340,slow=6.8,SNR=14						

*NEIC **20** 17:06:02.8, 3236S×7255W, h4km±11km, **MD3.5, ML3.1, 2C-1D, Off coast of central Chile***

GUC 20 17:06:02.8±0.8, 3236S×7255W, h4km±11km, MD3.5, ML3.1, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**1.01**	**62**	*e*P	Pg	17 06 21.6	-0.6
CHNG				*i* S	Sg	17 06 36.1	+0.9
LCCH	**Las Cruces**	**1.39**	**144**	*i* P	Pn	17 06 27.3	-1.5
LCCH				*i* S	Sb	17 06 47.0	-0.2
JACH	**Jahuel**	**1.68**	**102**	ǁ *i*P	Pn	17 06 32.9	0.0
JACH				*i* S	Sn	17 06 55.4	+0.5
PEL	**Peldehue**	**1.75**	**117**	*e*P	Pn	17 06 34.0	+0.1
PEL				*i* S	Sn	17 06 57.8	+1.1
PEL				AML	AML	17 07 00.4	
	comp=N,770nm,0.3s						
PEL	**Peldehue**	**1.75**	**117**	*e*P	Pn	17 06 34.0	+0.1
PEL				*i* S	Sn	17 06 57.8	+1.1
TACH	**Talagante**	**1.87**	**134**	*i* P	Pn	17 06 35.7	+0.2
TACH				*i* S	Sn	17 07 00.4	+0.8
CLCH	**Cerro Calan**	**1.98**	**122**	*i* P	Pn	17 06 38.7	+1.6
CLCH				*i* S	Sn	17 07 05.0	+2.7
CLCH				AML	AML	17 07 06.7	
	comp=E,242nm,0.4s						
PCH	**Pirque**	**2.12**	**127**	*i* P	Pn	17 06 40.1	+1.1
PCH				*i* S	Sn	17 07 07.4	+1.6
FCH	**Farellones**	**2.13**	**118**	ǁ *i*P	Pn	17 06 40.1	+1.0
FCH				*i* S	Sn	17 07 08.6	+2.6
FCH				AML	AML	17 07 09.3	
	comp=N,131nm,0.2s						
SFDO	**San Fernando**	**2.59**	**151**	ǁ *i*P	Pn	17 06 46.6	+1.2
TLL	**Tololo Astrono**	**2.65**	**35**	AML	AML	17 07 20.1	
	comp=E,73nm,0.3s						

*IDC **20** 17:26:02.1±4.3, 1931N×12084E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/18, mbtmp3.8/3, MS3.6/3, Ms1 3.6/3, ms1mx2.8/35, Error ellipse: s-maj=376.5km s-min=27.8km az=61.0*

*ISCJB **20** 17:26:04.5±3.3, 191N×02×1199E±0.1, h15km±23km, mb3.6/3, MS3.7/3, Error ellipse: s-maj=31.6km s-min=12.8km az=67.4*

*MAN **20** 17:26:04.2, 1908N×12009E, h0km, mb3.7, ML4.8, MS5.4*

ISC 20 17:26:05.8±4.2, 190N±02×1200E±01, h14km±28km, n11, σ1§34/11, mb3.6/3, MS3.7/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**2.13**	**112**	*e*P	**Pn**	**17 26 40.1**	**-0.8**
SGCP				*e*S	**Sn**	**17 27 07.1**	**0.0**
CVP	**Callao Caves**	**2.21**	**127**	*e*P	**Pn**	**17 26 40.9**	**-1.1**
CVP				*i* S	**Sn**	**17 27 09.0**	**-0.1**
PALP	**Palanan**	**3.06**	**130**	*e*P	**Pn**	**17 26 56.0**	**+2.3**
PALP	**Palanan**	**3.06**	**130**	*e*P	**Pn**	**17 26 57.3**	**+3.6**
PALP				*e*S	**Sn**	**17 27 33.6**	**+3.6**
BALP	**Baler**	**3.62**	**155**	*e*P	**Pn**	**17 27 02.8**	**+1.4**
WRA	**Warramunga Arr**	**41.23**	**159**	P	**P**	**17 33 48.2**	**-1.9**
	0.8nm,0.5s,mb3.6,baz=341,slow=9.0,SNR=7.0						
MKAR	**Makanchi Array**	**41.41**	**321**	P	**P**	**17 33 52.7**	**+1.1**
	0.5nm,0.8s,mb3.2,baz=128,slow=9.3,SNR=3.9						
ZAL	**Zalesovo**	**44.05**	**331**	LR	LR	17 54 08.9	
	comp=Z,27nm,21.2s,MS3.1,baz=32,slow=38						
ASAR	**Alice Springs**	**44.57**	**162**	P	**P**	**17 34 16.2**	**-1.0**
	1.2nm,0.6s,mb3.9,baz=339,slow=6.9,SNR=15						

ASF	**Jabal al Asfar**	**74.41**	**299**	LR	LR		18 11 59.2		
	comp=Z,140nm,20.8s,MS4.2,baz=291,slow=37								
IDI	**Anoyia**	**83.22**	**305**	LR	LR		18 21 49.3		
	comp=Z,32nm,18.9s,MS3.7,baz=91,slow=40								

*IDC **20** 17:26:39.3±0.8, 950S×10809E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/18, mbtmp4.1/10, ML3.7/1, Error ellipse: s-maj=33.6km s-min=15.9km az=56.0*

*NEIC **20** 17:26:40.9±0.3, 954S×10804E, h10km, mb4.5/16, Error ellipse: s-maj=15.8km s-min=5.7km az=50.0*

*BJI **20** 17:26:40.8, 950S×10800E, h10km, mb4.3*

*ISCJB **20** 17:26:42.6±0.5, 951S±009×1081E±0.1, h33km, mb4.4/27, Error ellipse: s-maj=19.5km s-min=7.3km az=105.1*

*MOS **20** 17:26:43.3±0.8, 949S×10812E, h40km, mb4.6/11, Error ellipse: s-maj=24.5km s-min=11.3km az=120.4*

ISC 20 17:26:44.8±0.5, 956S±009×1081E±01, h35km, (h31km±1.7km:pP-P), n53, σ0§75/51, mb4.4/27, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**16.09**	**137**	*e*Pn	**Pn**	**17 30 21.1**	**-7.2**
FITZ	**Fitzroy Crossi**	**19.04**	**118**	*e*P	**Pn**	**17 31 04.8**	**0.0**
	9.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.04**	**118**	P	**Pn**	**17 31 04.0**	**-0.8**
	0.2nm,0.3s,baz=288,slow=9.4,SNR=14						
WRA	**Warramunga Arr**	**27.38**	**115**	P	**P**	**17 32 26.5**	**-0.3**
	3.0nm,0.9s,mb3.8,baz=285,slow=12,SNR=17						
WRAB	**Tennant Creek**	**27.39**	**115**	*e*P	**P**	**17 32 26.3**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
WRAB	**Tennant Creek**	**27.39**	**115**	*e*P	**P**	**17 32 26.3**	**-0.5**
	comp=Z,10nm,1.0s,mb4.3						
WB2	**Warramunga Arr**	**27.39**	**115**	*e*P	**P**	**17 32 27.2**	**+0.4**
ASAR	**Alice Springs**	**28.38**	**123**	P	**P**	**17 32 35.8**	**+0.1**
	comp=Z,2.8nm,0.7s,mb4.0,baz=299,slow=7.9,SNR=18						
ASAR				PcP	PcP	17 35 49.0	+1.4
	comp=Z,0.7nm,0.6s,baz=297,slow=1.6,SNR=8.8						
AS31	**Alice Springs**	**28.38**	**123**	*e*P	**P**	**17 32 39.2**	**+3.5**
CM31	**Chiang Mai Arr**	**29.26**	**342**	P	**P**	**17 32 52.4**	**+8.9**
	comp=Z,9.7nm,1.3s,mb4.4						
CHTO	**Chiang Mai**	**29.60**	**342**	*e*P	**P**	**17 32 46.2**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
CHTO	**Chiang Mai**	**29.60**	**342**	*e*P	**P**	**17 32 46.2**	**-0.3**
	comp=Z,8.9nm,1.1s,mb4.4						
STKA	**Stephens Creek**	**38.17**	**130**	*e*P	**P**	**17 34 01.1**	**+0.3**
	comp=Z,3.9nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**38.17**	**130**	P	**P**	**17 34 00.5**	**-0.2**
	comp=Z,6.4nm,0.9s,mb4.4,baz=307,slow=9.0,SNR=9.3						
STKA	**Stephens Creek**	**38.17**	**130**	*e*P	**P**	**17 34 00.2**	**-0.5**
CTA	**Charters Tower**	**38.28**	**110**	*e*P	**P**	**17 34 03.6**	**+1.9**
	comp=Z,12nm,1.5s,mb4.4						
CTA	**Charters Tower**	**38.28**	**110**	*e*P	**P**	**17 34 03.6**	**+1.9**
CTA				pmax	pmax		
	comp=Z,12nm,1.5s						
JIRN	**Jiri**	**42.64**	**331**	*e*P	**P**	**17 34 39.1**	**+1.3**
	comp=Z,19nm,0.6s,mb5.0						
PKI	**Pulchoki**	**42.95**	**330**	*e*P	**P**	**17 34 40.9**	**+0.7**
GUN	**Gumba**	**43.00**	**331**	*e*P	**P**	**17 34 41.8**	**+1.1**
	comp=Z,23nm,0.6s,mb5.1						
DMN	**Daman**	**43.13**	**330**	*e*P	**P**	**17 34 41.7**	**0.0**
KKN	**Kakani**	**43.19**	**330**	*e*P	**P**	**17 34 42.0**	**-0.2**
XAN	**Xi'an**	**43.37**	**1**	P	**P**	**17 34 43.6**	**0.0**
XAN				AP	pP	17 34 52.6	-1.4
XAN				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.3						
GKN	**Gorkha**	**43.69**	**329**	*e*P	**P**	**17 34 46.0**	**-0.2**
	comp=Z,12nm,0.7s,mb4.7						
LZH	**Lanzhou**	**45.58**	**355**	*e*P	**P**	**17 35 01.5**	**+0.2**
LZH				AP	pP	17 35 11.3	-0.3
LZH				XP	sP	17 35 14.5	-1.3
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb5.0						
GTA	**Gaotai**	**49.32**	**352**	*e*P	**P**	**17 35 31.8**	**+1.4**
GTA				AP	pP	17 35 39.9	-0.9
GTA				XP	sP	17 35 44.3	-0.7
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.2						
BJI	**Beijing**	**49.92**	**8**	*e*P	**P**	**17 35 34.4**	**-0.5**
BJI				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
SONM	**Songino Array**	**57.16**	**359**	P	**P**	**17 36 27.8**	**-0.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=173,slow=7.0,SNR=9.3						
ULN	**Ulaanbaatar

1.3nm,0.5s,baz=153,slow=8.5,SNR=6.8
ZAL Zalesovo 66.54 346 LR LR 18 13 02.3
comp=Z,45nm,20.3s,baz=86,slow=40
ARCES ARCESS Array B 96.48 339 LR LR 18 29 32.0
comp=Z,38nm,19.0s,baz=28,slow=38

*ISCJB **20** 17:40:12.7±1.3, 40.25N±0.004×25.27E±0.008, h5km±12km, Error ellipse: s-maj=9.8km s-min=5.9km az=19.9*
*NEIC **20** 17:40:13.5, 40.29N×25.18E, h5km, MD3.1(ATH), After ATH.*
*ATH **20** 17:40:13.7, 40.30N×25.17E, h5km±2km, MD3.1/3*
*CSEM **20** 17:40:14.2±0.1, 40.23N×25.37E, h20km, MD2.7, Error ellipse: s-maj=2.8km s-min=2.4km az=125.0*
*ISK **20** 17:40:16.4, 40.21N×25.59E, h26km, MD2.7*
ISC 20 17:40:13.5±0.7, 4026N±005×2528E±006, h17km±9km, n14, σ0§92/20, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.36**	**192**	*e*PB	**Pg**	**17 40 21.6**	**+0.5**
LIA				*e*S	**Sg**	**17 40 27.3**	**+1.1**
LIA	**Limnos Island**	**0.36**	**192**	*e*Pb	**Pg**	**17 40 21.6**	**+0.5**
LIA				*e*Sb	**Sg**	**17 40 26.7**	**+0.5**
GADA	**Gvkgeada**	**0.48**	**97**	PG	**Pg**	**17 40 23.3**	**+0.2**
GADA				SG	**Sg**	**17 40 27.6**	**-2.0**
ENEZ	**Enez**	**0.82**	**54**	PG	**Pg**	**17 40 29.7**	**+0.1**
ENEZ				SG	**Sg**	**17 40 41.4**	**+1.0**
EZN	**Ezine**	**0.91**	**118**	PG	**Pg**	**17 40 30.8**	**-0.4**
RDO	**Rodhopi**	**0.91**	**12**	*e*PG	**Pb**	**17 40 29.9**	**-1.0**
RDO				*e*SB	**Sb**	**17 40 43.0**	**+0.3**
RDO	**Rodhopi**	**0.91**	**12**	*e*Pg	**Pb**	**17 40 29.9**	**-1.0**
RDO				*e*Sb	**Sb**	**17 40 43.5**	**+0.8**
PLG	**Polygyros**	**1.41**	**275**	*e*PB	**Pb**	**17 40 38.0**	**-1.4**
NVR	**Nevrokopi**	**1.54**	**316**	*e*PB	**Pb**	**17 40 40.8**	**-0.7**
NVR	**Nevrokopi**	**1.54**	**316**	*e*Pb	**Pb**	**17 40 41.7**	**+0.2**
MFT	**Murefte**	**1.61**	**70**	PN	**Pn**	**17 40 40.9**	**-0.3**
EDRB	**Edirne**	**1.94**	**34**	*e*PN	**Pn**	**17 40 47.3**	**+1.6**
SMG	**Samos**	**2.82**	**154**	*e*PN	**Pn**	**17 41 02.9**	**+5.1**
SMG	**Samos**	**2.82**	**154**	*e*Pn	**Pb**	**17 41 03.8**	**+0.4**

*NIED **20** 17:42:00, 32.90N×139.40E, h185km, Mw3.8 Best double couple: M0§5.67000×10^14 NP1:φs§353.00000°, δ75.00000°, λ-102.00000°. NP2:φs§211.00000°, δ19.00000°, λ-53.00000°.*
*MOS **20** 17:42:35.2±0.7, 32.78N×139.30E, h197km, mb4.2/4, Error ellipse: s-maj=29.5km s-min=9.6km az=102.1*
*ISCJB **20** 17:42:36.1±0.5, 32.84N±0.005×139.41E±0.007, h205km±3km, mb3.6/14, Error ellipse: s-maj=9.3km s-min=7.9km az=166.7*
*NEIC **20** 17:42:36.6±1.0, 32.78N×139.23E, h190km±8km, mb3.9/4, Error ellipse: s-maj=20.3km s-min=10.9km az=87.0*
*IDC **20** 17:42:37.4±0.6, 32.82N×139.36E, h197km±9km, mb3.3/8, mb1 3.3/11, mb1mx3.2/21, mbtmp3.8/11, Error ellipse: s-maj=44.0km s-min=9.8km az=75.0*
*JMA **20** 17:42:37.5±0.3, 32.92N×139.38E, h203km±3km, M3.7*
ISC 20 17:42:37.2±0.5, 3285N±005×13941E±007, h200km±3km, n51, σ0§66/64, mb3.6/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**0.41**	**50**	P	**Pn**	**17 43 04.9**	**+1.0**
	391nm,0.3s,baz=64,slow=5.4,SNR=55						
JHJ				S	**Sn**	**17 43 29.6**	**+4.9**
	111nm,0.3s,baz=56,slow=18,SNR=6.2						
JHJ2	**Mitsune**	**0.43**	**53**	P	**Pn**	**17 43 04.7**	**+0.7**
JMY	**Miyakejima3**	**1.22**	**4**	P	**Pn**	**17 43 09.4**	**+0.9**
TK02	**Tokai 2**	**1.76**	**309**	P	**Pn**	**17 43 13.3**	**+0.1**
TK02				S	**Sn**	**17 43 41.3**	**0.0**
TK01	**Tokai 1**	**1.78**	**301**	P	**Pn**	**17 43 12.9**	**-0.5**
JIM2	**Oshima 3**	**1.86**	**1**	P	**Pn**	**17 43 14.8**	**+0.6**
JIZS	**Izushimoda**	**1.91**	**347**	P	**Pn**	**17 43 15.1**	**+0.4**
JIZS				S	**Sn**	**17 43 44.1**	**+0.1**
TK04	**Tokai 4**	**2.00**	**320**	P	**Pn**	**17 43 15.8**	**+0.2**
BSO3	**Boso 3**	**2.15**	**25**	P	**Pn**	**17 43 17.2**	**0.0**
BSO3				S	**Sn**	**17 43 47.9**	**-0.5**
BSO1	**Boso 1**	**2.22**	**36**	P	**Pn**	**17 43 17.7**	**-0.2**
BSO1				S	**Sn**	**17 43 49.3**	**-0.4**
JOD2	**Odawara 2**	**2.42**	**354**	P	**Pn**	**17 43 21.1**	**+1.0**
SHZ3	**Shizuoka 3**	**2.42**	**336**	P	**Pn**	**17 43 20.6**	**+0.5**
SHZ3				S	**Sn**	**17 43 54.2**	**+0.5**
JIE	**Ise**	**2.73**	**305**	P	**Pn**	**17 43 23.3**	**-0.3**
JYN	**Shimob**	**2.73**	**345**	P	**Pn**	**17 43 24.4**	**+0.7**
JWZ	**Kozaga**	**3.17**	**283**	P	**Pn**	**17 43 28.1**	**-0.7**
JRY	**Ryogami san**	**3.18**	**353**	P	**Pn**	**17 43 29.4**	**+0.5**
JRY				S	**Sn**	**17 44 08.9**	**-0.6**
JWY	**Kouya**	**3.47**	**294**	P	**Pn**	**17 43 32.3**	**0.0**
JAG	**Ashikaga**	**3.56**	**1**	P	**Pn**	**17 43 32.5**	**-1.0**
JAG				S	**Sn**	**17 44 13.6**	**-4.1**
JGM	**Miyama**	**3.61**	**323**	P	**Pn**	**17 43 34.4**	**+0.3**
MJAR	**Matsushiro Arr**	**3.81**	**345**	P	**Pn**	**17 43 36.7**	**+0.1**
	1.6nm,0.3s,baz=189,slow=28,SNR=12						
MJAR				S	**Sn**	**17 44 22.3**	**-0.8**
	0.8nm,0.3s,baz=151,slow=21,SNR=3.9						
MAJO	**Matsushiro**	**3.81**	**345**	*e*P	**Pn**	**17 43 34.5**	**-2.1**
MAT	**Matsushiro**	**3.81**	**345**	P	**Pn**	**17 43 36.8**	**+0.2**
MAT				*e*S	**Sn**	**17 44 22.8**	**-0.4**
MAT	**Matsushiro**	**3.81**	**345**	P	**Pn**	**17 43 37.1**	**+0.5**
MAT				S	**Sn**	**17 44 23.1**	**-0.1**
MAT	**Matsushiro**	**3.81**	**345**	*e*P	**Pn**	**17 43 37.0**	**+0.4**
MAT				S	**Sn**	**17 44 23.0**	**-0.2**
CBIJ	**Chichi jima**	**6.22**	**157**	P	**Pn**	**17 44 05.5**	**-1.7**
	6.2nm,0.3s,baz=287,slow=19,SNR=5.1						
CBIJ				S	**Sn**	**17 45 13.2**	**-5.3**
	24nm,0.3s,baz=255,slow=22,SNR=9.0						
ASAJ	**Asahikawa**	**11.52**	**12**	P	**Pn**	**17 45 14.7**	**-1.1**
	0.4nm,0.3s,baz=287,slow=16,SNR=5.9						
YSS	**Yuzh-Sakhalins**	**14.31**	**9**	P	**Pn**	**17 45 51.5**	**+0.6**
YAK	**Yakutsk**	**29.86**	**351**	*e*P	**P**	**17 48 34.5**	**+8.7**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.4						
YAK	**Yakutsk**	**29.86**	**351**	*e*P	**P**	**17 48 34.5**	**+8.7**
	comp=Z,4.8nm,0.5s,mb4.4						
CM31	**Chiang Mai Arr**	**38.95**	**259**	P	**P**	**17 49 42.8**	**-0.9**
MKAR	**Makanchi Array**	**45.07**	**305**	P	**P**	**17 50 33.6**	**+0.5**
	comp=Z,0.2nm,0.4s,mb2.8,baz=87,slow=7.5,SNR=4.5						
MKAR				PcP	PcP	17 52 11.5	+1.3
	comp=Z,0.2nm,0.4s,baz=48,slow=2.1,SNR=4.8						
KURK	**Kurchatov**	**47.32**	**311**	*e*P	**P**	**17 50 50.3**	**-0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5						
KURK	**Kurchatov**	**47.32**	**311**	*e*P	**P**	**17 50 50.3**	**-0.3**
	comp=Z,1.5nm,0.8s,mb3.4						
BVAR	**Borovoye Array**	**52.24**	**314**	P	**P**	**17 51 27.5**	**-0.3**
	comp=Z,0.5nm,0.3s,mb3.4,baz=100,slow=9.0,SNR=6.3						
BVAR				PcP	PcP	17 52 36.9	+0.6
	comp=Z,0.8nm,0.5s,baz=99,slow=4.6,SNR=5.3						
BRVK	**Borovoye**	**52.30**	**315**	P	**P**	**17 51 27.7**	**-0.5**
WRA	**Warramunga Arr**	**52.72**	**186**	P	**P**	**17 51 31.1**	**-0.2**
	comp=Z,0.3nm,0.3s,mb3.1,baz=1.2,slow=7.7,SNR=16						
ZRNK	**Zerenda**	**53.08**	**315**	*e*P	**P**	**17 51 33.4**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
ZRNK	**Zerenda**	**53.08**	**315**	*e*P	**P**	**17 51 33.4**	**-0.5**
	comp=Z,1.6nm,0.7s,mb3.6						
ASAR	**Alice Springs**	**56.45**	**186**	P	**P**	**17 51 58.2**	**+0.2**
	comp=Z,0.2nm,0.5s,mb2.9,baz=19,slow=12,SNR=9.9						
ARCES	**ARCESS Array B**	**67.33**	**340**	P	**P**	**17 53 11.1**	**+0.6**
	comp=Z,3.8nm,0.9s,mb4.0,baz=59,slow=7.5,SNR=6.9						
JOF	**Joensuu**	**68.88**	**332**	*e*p	**P**	**17 53 20.2**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.6						
KAF	**Kangasniemi**	**71.27**	**333**	*e*p	**P**	**17 53 34.5**	**-0.1**
	comp=Z,1.5nm,0.4s,mb4.0,baz=53,slow=5.7						
KAF	**Kangasniemi**	**71.27**	**333**	*e*P	**P**	**17 53 34.5**	**-0.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
FINES	**FINESS Array B**	**71.74**	**332**	P	**P**	**17 53 37.9**	**+0.5**
	comp=Z,0.8nm,0.4s,mb3.7,baz=65,slow=6.3,SNR=17						
FINES	**FINESS Array B**	**71.74**	**332**	P	**P**	**17 53 37.9**	**+0.4**
NB2	**NORSAR Subarra**	**77.39**	**337**	P	**P**	**17 54 10.4**	**+0.5**
	comp=Z,1.1nm,0.8s,mb3.5,baz=42,slow=5.3						
NOA	**NORSAR Array B**	**77.39**	**337**	P	**P**	**17 54 10.6**	**+0.6**
	comp=Z,1.8nm,0.8s,mb3.7,baz=42,slow=5.3,SNR=6.6						
NOA	**NORSAR Array B**	**77.39**	**337**	P	**P**	**17 54 10.6**	**+0.6**
BRTR	**Keskin Array B**	**80.37**	**311**	P	**P**	**17 54 26.6**	**+0.5**
	comp=Z,0.9nm,0.8s,mb3.5,baz=74,slow=7.0,SNR=5.4						
CLL	**Collm**	**83.88**	**329**	P	**P**	**17 54 45.3**	**+1.0**
	comp=Z,logA/T=0.8,mb4.3						
CLL	**Collm**	**83.88**	**329**	*i* P	**P**	**17 54 45.3**	**+1.0**
	comp=Z,7.0nm,1.2s,mb4.3						

IDC 20 18:01:37.5±2.5, 915S×10860E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, Error ellipse: s-maj=114.8km s-min=22.1km az=49.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.09**	**116**	P	P	18 07 21.0	-0.8
	0.6nm,0.8s,baz=288,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**28.17**	**124**	P	P	18 07 33.2	+1.7
	0.2nm,0.8s,baz=299,slow=9.6,SNR=4.8						
SONM	**Songino Array**	**56.76**	**358**	P	P	18 11 24.2	+1.0
	0.7nm,0.5s,baz=175,slow=6.9,SNR=7.7						
MKAR	**Makanchi Array**	**60.44**	**340**	P	P	18 11 49.4	+0.5
	0.8nm,0.6s,baz=139,slow=6.4,SNR=8.7						
BVAR	**Borovoye Array**	**69.95**	**337**	P	P	18 12 49.2	-1.4
	0.8nm,0.6s,baz=139,slow=7.3,SNR=5.1						

*NSSC **20** 18:07:49.1, 38.19N×38.30E, h6km±5km*
*CSEM **20** 18:07:50.2±0.0, 38.03N×38.18E, h5km, mb3.9/3, Error ellipse: s-maj=1.2km s-min=0.9km az=125.0*
*ISK **20** 18:07:50.5, 38.03N×38.17E, h8km, MD4.2, ML4.3*
*ISCJB **20** 18:07:50.6±0.5, 38.01N±0.002×38.22E±0.002, h7km±3km, mb3.6/9, MS3.1/4, Error ellipse: s-maj=3.3km s-min=2.4km az=37.9*
*NEIC **20** 18:07:50.0, 38.03N×38.18E, h10km, mb3.9/3, ML4.1(ISK), After ISK.*
*MOS **20** 18:07:51.3±1.2, 37.97N×38.13E, h10km, mb4.1/3, Error ellipse: s-maj=15.3km s-min=11.2km az=79.9*
*IDC **20** 18:07:52.0±0.9, 37.96N×38.08E, h0km, mb3.6/6, mb1 3.9/12, mb1mx3.7/24, mbtmp3.8/12, ML3.9/5, MS3.1/6, Ms1 3.2/6, ms1mx2.7/30, Error ellipse: s-maj=15.4km s-min=11.7km az=152.0*
ISC 20 18:07:51.3±0.5, 3802N±002×3822E±002, h1km±3km, n125, σ0§99/160, mb3.8/9, MS3.1/4, 24D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MALT	**Malatya**	**0.34**	**29**	*e*P	**Pg**	**18 07 56.4**	**-1.4**
MALT				*e*S	**Sg**	**18 08 01.5**	**-0.7**
MALT	**Malatya**	**0.34**	**29**	*e*P	**Pg**	**18 07 56.4**	**-1.4**
MYA	**Malataya**	**0.35**	**28**	*i* PG	**Pg**	**18 07 57.5**	**-0.5**
MYA				*i* SG	**Sg**	**18 08 03.6**	**+1.0**
ATAB	**Bozova**	**0.55**	**174**	*i* P	**Pg**	**18 08 02.5**	**+0.8**
ATAB				*i* S	**Sg**	**18 08 10.0**	**+1.1**
ATAB	**Bozova**	**0.55**	**174**	*i* P	**Pg**	**18 08 02.5**	**+0.7**
ATAB				*i* S	**Sg**	**18 08 10.0**	**+1.1**
URFA	**Urfa**	**0.75**	**140**	*i* PG	**Pg**	**18 08 05.9**	**+0.3**
URFA				*i* SG	**Sg**	**18 08 17.7**	**+2.4**
ELZG	**Elazig**	**0.77**	**51**	*i* P	**Pg**	**18 08 04.3**	**-1.8**
ELZG				*i* S	**Sg**	**18 08 14.7**	**-1.4**
GAZ	**Gaziantep**	**1.16**	**224**	*i* PN	**Pn**	**18 08 13.4**	**-1.2**
GAZ				*i* SN	**Sn**	**18 08 28.5**	**-2.5**
DIY	**Diyarbakir**	**1.59**	**94**	*i* PN	**Pn**	**18 08 19.7**	**-0.8**
DRBT	**Darb Altahta**	**1.72**	**132**	⇑P	**Pn**	**18 08 19.0**	**-3.3**
DRBT				⇑S	**Sn**	**18 08 40.6**	**-4.2**
DRBT	**Darb Altahta**	**1.72**	**132**	⇑*i*P	**Pn**	**18 08 19.0**	**-3.3**
DRBT				⇑*i*S	**Sn**	**18 08 40.6**	**-4.3**
SLMH	**Al Salmeh**	**1.81**	**187**	⇓*i*P	**Pn**	**18 08 23.0**	**-0.6**
SLMH				⇓*i*S	**Sn**	**18 08 47.9**	**+0.8**
DRWC	**Darouich**	**1.86**	**222**	⇓P	**Pn**	**18 08 23.4**	**-0.8**
DRWC				⇓S	**Sn**	**18 08 48.9**	**+0.6**
DRWC	**Darouich**	**1.86**	**222**	⇓*i*P	**Pn**	**18 08 23.4**	**-0.8**
DRWC				⇓*i*S	**Sn**	**18 08 48.9**	**+0.6**
KOZT	**Kozan**	**1.97**	**255**	PN	**Pn**	**18 08 25.1**	**-0.6**
BINT	**Bingol**	**1.98**	**64**	PN	**Pn**	**18 08 26.2**	**+0.3**
BNN	**Bunyan**	**2.04**	**295**	PN	**Pn**	**18 08 27.8**	**+1.1**
SVSK	**Karacayir**	**2.12**	**334**	PN	**Pn**	**18 08 27.6**	**-0.2**
EZC	**Erzincan**	**2.13**	**35**	PN	**Pn**	**18 08 25.2**	**-2.8**
MARD	**Mardin**	**2.15**	**108**	*i* P	**Pn**	**18 08 28.0**	**-0.2**
MARD				*i* S	**Sg**	**18 08 59.9**	**-0.4**
COBT	**Iskenderun**	**2.16**	**227**	*i* P	**Pn**	**18 08 27.4**	**-0.9**
COBT				*i* S	**Sg**	**18 09 02.2**	**+1.4**
SFNV	**Sufian**	**2.20**	**136**	⇑P	**Pn**	**18 08 27.8**	**-1.0**
SFNV				⇑S	**Sn**	**18 08 55.0**	**-1.7**
SFNV	**Sufian**	**2.20**	**136**	⇑*i*P	**Pn**	**18 08 27.8**	**-1.0**
SFNV				⇑*i*S	**Sn**	**18 08 55.0**	**-1.6**
CEYT	**Ceyhan**	**2.21**	**244**	PN	**Pn**	**18 08 27.7**	**-1.3**
MNKR	**ALMNKUR**	**2.23**	**157**	⇑P	**Pn**	**18 08 28.1**	**-1.3**
MNKR	**ALMNKUR**	**2.23**	**157**	⇑*i*P	**Pn**	**18 08 28.1**	**-1.2**
KELT	**Kelkit**	**2.28**	**20**	*i* P	**Pn**	**18 08 29.7**	**-0.3**
KELT				*i* S	**Sn**	**18 09 02.6**	**+3.9**
JHLN	**Al Jahlan**	**2.34**	**176**	⇓P	**Pn**	**18 08 30.2**	**-0.7**
JHLN				⇓S	**Sn**	**18 09 00.1**	**-0.2**
JHLN	**Al Jahlan**	**2.34**	**176**	⇓*i*P	**Pn**	**18 08 30.2**	**-0.7**
JHLN				⇓*i*S	**Sn**	**18 09 00.1**	**-0.2**
BTCH	**Batrach**	**2.42**	**216**	⇑P	**Pn**	**18 08 31.3**	**-0.7**
BTCH				⇑S	**Sn**	**18 09 02.3**	**0.0**
BTCH	**Batrach**	**2.42**	**216**	⇑*i*P	**Pn**	**18 08 31.3**	**-0.7**
BTCH				⇑*i*S	**Sn**	**18 09 02.3**	**+0.1**
HTY	**Hatay**	**2.52**	**222**	PN	**Pn**	**18 08 32.9**	**-0.4**
BTMT	**Batman**	**2.59**	**85**	PN	**Pn**	**18 08 32.4**	**-1.8**
KARA	**Karaisali**	**2.62**	**254**	PN	**Pn**	**18 08 34.2**	**-0.5**
TOKT	**Tokat**	**2.64**	**331**	PN	**Pn**	**18 08 34.1**	**-0.9**
ARNB	**Al Arnab**	**2.80**	**221**	⇑P	**Pn**	**18 08 37.3**	**+0.1**
WRDH	**Warideh**	**2.89**	**211**	⇓P	**Pn**	**18 08 37.6**	**-0.8**
WRDH				⇓S	**Sn**	**18 09 14.2**	**+0.4**
WRDH	**Warideh**	**2.89**	**211**	⇓*i*P	**Pn**	**18 08 37.6**	**-0.8**
WRDH				⇓*i*S	**Sn**	**18 09 14.2**	**+0.4**
SLNF	**Slenfeh**	**2.90**	**214**	⇑P	**Pn**	**18 08 38.1**	**-0.4**
SLNF				⇑S	**Sn**	**18 09 14.7**	**+0.8**
SLNF	**Slenfeh**	**2.90**	**214**	⇑*i*P	**Pn**	**18 08 38.1**	**-0.4**
SLNF				⇑*i*S	**Sn**	**18 09 14.7**	**+0.8**
KFRA	**Kufra**	**3.02**	**203**	⇓P	**Pn**	**18 08 39.8**	**-0.3**
KFRA				⇓S	**Sn**	**18 09 16.8**	**-0.2**
KFRA	**Kufra**	**3.02**	**203**	⇓*i*P	**Pn**	**18 08 39.8**	**-0.4**
KFRA				⇓*i*S	**Sn**	**18 09 16.8**	**-0.2**
EZM	**Erzurum**	**3.09**	**51**	PN	**Pn**	**18 08 41.5**	**+0.3**
MERS	**Mersin**	**3.16**	**250**	PN	**Pn**	**18 08 41.5**	**-0.5**
BIDA	**Albida**	**3.36**	**208**	⇑P	**Pn**	**18 08 44.7**	**-0.2**
BIDA				⇑S	**Sn**	**18 09 24.1**	**-1.3**
BIDA	**Albida**	**3.36**	**208**	⇑*i*P	**Pn**	**18 08 44.7**	**-0.2**
BIDA				⇑*i*S	**Sn**	**18 09 24.1**	**-1.3**
CDAG	**Cicekdag**	**3.41**	**299**	*i* P	**Pn**	**18 08 45.4**	**-0.1**
CDAG				*i* S	**Sg**	**18 09 39.5**	**-1.3**
CORM	**Corum**	**3.53**	**309**	PN	**Pn**	**18 08 47.5**	**+0.3**
KAMT	**Kaman**	**3.77**	**292**	PN	**Pn**	**18 08 51.1**	**+0.6**
ROOS	**tl_alroos**	**3.91**	**191**	⇓P	**Pn**	**18 08 52.7**	**+0.3**
ROOS	**tl_alroos**	**3.91**	**191**	⇓*i*P	**Pn**	**18 08 52.7**	**+0.3**
BR131	**Keskin Array S**	**3.96**	**297**	*e*Pn	**Pn**	**18 08 53.3**	**+0.2**
BR131				*e*P	**Pb**	**18 09 03.6**	**+1.8**
BR131				*e*S	**Sb**	**18 09 54.7**	**+4.5**
BR131	**Keskin Array S**	**3.96**	**297**	*e*Pn	**Pn**	**18 08 53.3**	**+0.2**
BRTR	**Keskin Array B**	**3.96**	**297**	Pn	**Pn**	**18 08 53.9**	**+0.8**
	4.4nm,0.3s,baz=103,slow=12,SNR=67						
BRTR				Pg	**Pg**	**18 09 04.0**	**-3.2**
	6.9nm,0.3s,baz=122,slow=16,SNR=72						
BRTR				Lg		18 09 56.0	
	2.5nm,0.3s,baz=127,slow=26,SNR=11						
BRTR	**Keskin Array B**	**3.96**	**297**	Pg	**Pg**	**18 09 04.0**	**-3.2**
IKL	**Isikli**	**4.03**	**245**	PN	**Pn**	**18 08 54.2**	**+0.1**
FKH	**Fakeheh**	**4.05**	**202**	*e*Pn	**Pn**	**18 08 54.2**	**-0.1**
VANT	**Van**	**4.09**	**82**	PN	**Pn**	**18 08 54.5**	**-0.4**
VANB	**Van**	**4.11**	**80**	*e*PN	**Pn**	**18 08 56.6**	**+1.5**
HWQ	**Hawqa**	**4.16**	**207**	*e*Pn	**Pn**	**18 08 55.8**	**0.0**
MARH	**Ras Al Marh**	**4.22**	**200**	⇓*i*P	**Pn**	**18 08 57.1**	**+0.4**
MSL	**Mosul**	**4.26**	**112**	*ex*	x	18 09 06.0	
MSL				*i* x	x	18 09 13.5	
MSL				*i* x	x	18 10 06.5	
MSL				*i* x	x	18 10 12.5	
MSL				*i* x	x	18 10 17.0	
MSL				*i* x	x	18 10 17.0	
DIKM	**Dikmen**	**4.29**	**329**	PN	**Pn**	**18 08 57.7**	**+0.1**
BCA	**Borcka**	**4.32**	**36**	PN	**Pn**	**18 08 58.5**	**+0.5**
CUKT	**Cukurca**	**4.35**	**98**	PN	**Pn**	**18 08 59.4**	**+1.0**
BYBT	**Boyabat**	**4.36**	**323**	PN	**Pn**	**18 08 57.9**	**-0.6**
CANT	**Cankiri**	**4.41**	**307**	*e*PN	**Pn**	**18 08 58.8**	**-0.4**
TOS	**Tosya**	**4.43**	**314**	*e*PN	**Pn**	**18 09 00.3**	**+0.8**
BHL	**Bhannes**	**4.60**	**208**	*e*Pn	**Pn**	**18 09 03.0**	**+1.1**
CLDR	**Caldiran**	**4.61**	**74**	*e*PN	**Pn**	**18 09 03.3**	**+1.3**
ANTO	**Ankara**	**4.62**	**295**	*e*PN	**Pn**	**18 09 02.7**	**+0.6**
ANTO	**Ankara**	**4.62**	**295**	*e*Pn	**Pn**	**18 09 03.8**	**+1.6**
ANTO				*e*P		18 09 16.1	
LOD	**Lodumlu**	**4.64**	**295**	*e*PN	**Pn**	**18 09 02.1**	**-0.4**
QASN	**Qassioun**	**4.74**	**200**	⇑*i*P	**Pn**	**18 09 04.7**	**+0.9**
TOTH	**TOTAH**	**4.87**	**198**	⇑P	**Pn**	**18 09 06.3**	**+0.7**
TOTH				⇑S	**Sn**	**18 10 02.4**	**-0.1**
TOTH	**TOTAH**	**4.87**	**198**	⇑*i*P	**Pn**	**18 09 06.3**	**+0.8**
TOTH				⇑*i*S	**Sn**	**18 10 02.4**	**-0.1**
RCY	**Rachaya**	**4.92**	**204**	*e*Pn	**Pn**	**18 09 07.2**	**+0.8**
BRBR	**Barbar**	**4.95**	**203**	⇑P	**Pn**	**18 09 07.0**	**+0.3**
BRBR				⇑S	**Sn**	**18 10 04.8**	**+0.2**
BRBR	**Barbar**	**4.95**	**203**	⇑*i*P	**Pn**	**18 09 07.0**	**+0.3**
BRBR				⇑*i*S	**Sn**	**18 10 04.8**	**+0.3**
CSS	**Prodhromos**	**4.98**	**234**	*e*PN	**Pn**	**18 09 07.2**	**+0.1**
CSS	**Prodhromos**	**4.98**	**234**	*e*P	**Pn**	**18 09 07.3**	**+0.2**
KIZT	**Kizilcal**	**5.05**	**282**	*e*PN	**Pn**	**18 09 08.2**	**+0.1**
MATL	**Matirih**	**5.09**	**208**	*e*Pn	**Pn**	**18 09 08.9**	**+0.3**
BZK	**Bozkurt**	**5.10**	**322**	*e*PN	**Pn**	**18 09 09.2**	**+0.5**
ZALF	**Zalf**	**5.13**	**188**	⇑P	**Pn**	**18 09 08.7**	**-0.5**
ZALF				⇑S	**Sn**	**18 10 08.1**	**-0.9**
ZALF	**Zalf**	**5.13**	**188**	⇑*i*P	**Pn**	**18 09 08.7**	**-0.5**
ZALF				⇑*i*S	**Sn**	**18 10 08.1**	**-0.9**
SAFT	**Safranbolu**	**5.35**	**309**	*e*PN	**Pn**	**18 09 12.1**	**-0.1**
SALA	**Sala**	**5.43**	**193**	⇓P	**Pn**	**18 09 13.2**	**-0.1**
SALA				⇓S	**Sn**	**18 10 15.1**	**-1.3**
SALA	**Sala**	**5.43**	**193**	⇓*i*P	**Pn**	**18 09 13.2**	**-0.1**
MMAI	**Mount Meron Ar**	**5.49**	**206**	Pn	**Pn**	**18 09 14.9**	**+0.8**
	9.8nm,0.3s,baz=19,slow=13,SNR=22						
MMAI				Lg		18 10 44.6	
	8.0nm,0.3s,baz=42,slow=22,SNR=2.7						
MMAI				LR	LR	18 11 23.3	
	comp=Z,95nm,19.8s,baz=155,slow=39						
GNI	**Garni**	**5.50**	**65**	*e*PN	**Pn**	**18 09 15.4**	**+1.1**
GNI	**Garni**	**5.50**	**65**	Pn	**Pn**	**18 09 20.6**	**+6.3**
	0.7nm,0.3s,baz=270,slow=20,SNR=2.3						
GNI	**Garni**	**5.50**	**65**	P	**Pn**	**18 09 20.6**	**+6.3**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI	**Garni**	**5.50**	**65**	P	**Pn**	**18 09 22.1**	**+7.7**
TCHB	**Talchebab**	**5.64**	**200**	⇑P	**Pn**	**18 09 16.8**	**+0.6**
TCHB	**Talchebab**	**5.64**	**200**	⇑*i*P	**Pn**	**18 09 16.8**	**+0.6**
ASF	**Jabal al Asfar**	**5.93**	**191**	Pn	**Pn**	**18 09 20.5**	**+0.4**
	comp=Z,2.5nm,0.3s,baz=260,slow=4.3,SNR=25						
ASF				Lg		18 10 58.2	
	comp=Z,3.2nm,0.3s,baz=253,slow=19,SNR=3.8						
KIV	**Kislovodsk**	**6.83**	**28**	*e*P	**Pn**	**18 09 41.8**	**+9.3**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KIV				MLR	MLR		
	comp=Z,26nm,5.0s						
BHD	**Baghdad**	**6.90**	**132**	*ex*	x	18 09 31.0	
BHD				*i* x	x	18 10 02.0	
BHD				*ex*	x	18 10 51.0	
BHD				*ex*	x	18 11 39.0	
ADVT	**Abdulvahap**	**7.01**	**293**	*e*PN	**Pn**	**18 09 36.3**	**+1.3**
EIL	**Elat**	**8.75**	**199**	P	**Pn**	**18 10 04.4**	**+5

*ISCJB **20** 18:43:00.7±0.5, 4281N×003×7586E±004, h19km±6km, mb3.1/1, Error ellipse: s-maj=5.3km s-min=4.7km az=17.4*
*KNET **20** 18:43:00.2±0.5, 4274N×7581E, h12km±3km, ml2.8, Error ellipse: s-maj=3.3km s-min=2.1km az=52.0*
*IDC **20** 18:43:02.3±2.3, 4301N×7579E, h0km, mb2.9/1, mb1 3.5/5, mb1mx3.3/25, mbtmp3.5/5, ML3.2/4, MS2.5/1, Ms1 2.5/1, ms1mx2.2/11, Error ellipse: s-maj=23.3km s-min=14.1km az=4.0*
*NNC **20** 18:43:02.1±1.2, 4290N×7587E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=20.3km s-min=4.2km az=174.0*
*NEIC **20** 18:43:02.9±1.2, 4298N×7548E, h10km, Error ellipse: s-maj=17.4km s-min=10.3km az=152.0*
*MOS **20** 18:43:02.5±1.9, 4313N×7542E, h17km, mb3.6/1, Error ellipse: s-maj=22.8km s-min=11.9km az=84.1*

ISC 20 18:43:00.8±0.5, 4278N±003×7583E±003, h1km±5km, n36, σ1§14/54, mb3.1/1, 20C-15D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.23**	**310**	⇓P	**Pg**	**18 43 05.7**	**+0.6**
	297nm,0.2s,SNR=1164						
TKM2				⇓S	**Sg**	18 43 09.5	+1.4
	4μm,0.3s						
TKM2	**Tokmak 2**	**0.23**	**310**	⇑P	**Pg**	**18 43 05.7**	**+0.5**
	4.1nm,0.3s						
TKM2				⇓S	**Sg**	18 43 09.4	+1.3
	68nm,0.3s						
ULHL	**Ulahol**	**0.61**	**150**	⇑P	**Pg**	**18 43 11.6**	**-0.9**
	66nm,0.2s,SNR=398						
ULHL				⇓S	**Sg**	18 43 20.5	0.0
	192nm,0.1s						
KBK	**Karagaybulak**	**0.66**	**260**	P	**Pg**	18 43 13.5	0.0
	99nm,0.1s,SNR=97						
KBK				⇑S	**Sg**	18 43 23.1	+1.0
	604nm,0.3s						
KZA	**Kyzart**	**0.82**	**212**	⇓P	**Pg**	18 43 16.0	-0.5
	141nm,0.4s,SNR=182						
KZA				⇑S	**Sg**	18 43 27.0	-0.2
	144nm,0.2s						
CHMS	**Chumysh**	**0.82**	**286**	⇑P	**Pg**	18 43 16.0	-0.7
	23nm,0.1s,SNR=36						
CHMS				⇑S	**Sg**	18 43 27.3	0.0
	149nm,0.2s						
KNDC	**Almaty**	**0.94**	**62**	⇓P	**Pg**	18 43 18.8	0.0
	96nm,0.3s						
KNDC				⇓S	**Sg**	18 43 32.3	+1.2
	550nm,0.5s						
AAK	**Ala-Archa**	**1.00**	**262**	⇑P	**Pg**	18 43 19.2	-0.7
	30nm,0.2s,SNR=45						
AAK				⇓S	**Sg**	18 43 32.7	-0.1
	69nm,0.2s						
AAK	**Ala-Archa**	**1.00**	**262**	*e*P	**Pg**	18 43 18.1	-1.8
USP	**Ospenovka**	**1.09**	**297**	⇓P	**Pg**	18 43 21.1	-0.6
	24nm,0.1s,SNR=22						
USP				⇑S	**Sg**	18 43 37.0	+1.0
	84nm,0.1s						
UCH	**Uchtor**	**1.12**	**241**	⇓P	**Pg**	18 43 21.3	-0.9
	19nm,0.2s,SNR=94						
UCH				⇑S	**Sg**	18 43 36.7	-0.1
	52nm,0.2s						
EKS2	**Erkin-Say**	**1.52**	**266**	⇑P	**Pn**	18 43 29.1	-0.1
	28nm,0.1s,SNR=185						
EKS2				⇓S	**Sn**	18 43 50.7	+1.1
	62nm,0.2s						
AML	**Almayashu**	**1.71**	**249**	⇑P	**Pn**	18 43 32.2	+0.5
	23nm,0.2s,SNR=66						
KSH	**Kashi**	**3.26**	**178**	*e*P	**Pn**	18 43 54.9	+1.8
KSH				S	**Sn**	18 44 38.8	+6.3
KSH				Smax			
	comp=N,62nm,0.8s						
KSH				Smax			
	comp=E,61nm,0.7s						
KK31	**Karatay Array**	**3.92**	**277**	⇑Pn	**Pb**	**18 44 12.7**	**+2.0**
	comp=E,9.1nm,0.5s,baz=91,slow=15,SNR=146						
KK31				⇓Sn	**Sb**	18 44 59.1	+0.5
	comp=E,19nm,0.5s,baz=93,slow=28,SNR=7.6						
MK02	**Makanchi Array**	**6.10**	**47**	⇑Pn	**Pn**	**18 44 33.3**	**+1.2**
	comp=E,7.0nm,0.8s						
MK02				⇑Lg		18 46 10.6	
	comp=E,15nm,0.8s						
MKAR	**Makanchi Array**	**6.10**	**47**	Pn	**Pn**	**18 44 33.6**	**+1.5**
	comp=E,4.0nm,0.3s,baz=224,slow=15,SNR=144						
MKAR				Sn	**Sn**	18 45 42.4	-0.2
	comp=E,1.6nm,0.3s,baz=225,slow=25,SNR=5.5						
MKAR				Lg		18 46 12.2	
	comp=E,2.0nm,0.3s,baz=227,slow=28,SNR=6.1						
MKAR	**Makanchi Array**	**6.10**	**47**	PN	**Pn**	**18 44 33.6**	**+1.5**
MKAR						18 45 42.4	
KURK	**Kurchatov**	**8.17**	**13**	⇑Pn	**Pn**	**18 45 00.4**	**-0.1**
KURK				⇑Lg		18 47 18.0	
KURK	**Kurchatov**	**8.17**	**13**	P	**Pn**	**18 44 59.8**	**-0.7**
KURK				*e*Sn	**Sn**	18 46 23.1	-10
VOSK	**Vostochnaya**	**10.47**	**344**	⇓Lg		18 48 31.5	
	comp=E,11nm,0.9s						
BVA0	**Borovoye Array**	**10.88**	**342**	Pn	**Pn**	**18 45 37.2**	**-0.5**
	comp=E,0.5nm,1.3s,baz=156,slow=13,SNR=3.6						
BVA0				⇑Sn	**Sn**	18 47 40.4	+0.3
	comp=E,0.5nm,1.0s,baz=164,slow=21,SNR=4.1						
BVA0				⇓Lg		18 48 42.3	
	comp=E,1.9nm,0.8s,baz=132,slow=27,SNR=6.5						
BVAR	**Borovoye Array**	**10.88**	**342**	Pn	**Pn**	**18 45 33.6**	**-4.1**
	comp=E,0.2nm,0.3s,baz=161,slow=14,SNR=4.0						
BVAR				Sn	**Sn**	18 47 34.0	-6.1
	comp=E,0.2nm,0.3s,baz=142,slow=24,SNR=3.1						
BVAR				Lg		18 48 41.4	
	comp=E,0.5nm,0.3s,baz=154,slow=15,SNR=3.7						
BVAR				LR	LR	18 50 22.5	
	comp=E,22nm,18.6s,baz=150,slow=41						
BVAR	**Borovoye Array**	**10.88**	**342**	P	**Pn**	**18 45 33.6**	**-4.1**
BVAR						18 47 34.0	
BRVK	**Borovoye**	**10.94**	**342**	P	**Pn**	**18 45 37.1**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRVK	**Borovoye**	**10.94**	**342**	P	**Pn**	**18 45 37.1**	**-1.4**
	comp=Z,1.3nm,0.8s						
ZRNK	**Zerenda**	**11.16**	**338**	⇓Pn	**Pn**	**18 45 37.0**	**-4.5**
	comp=Z,5.9nm,2.0s						
ZRNK				⇑Lg		18 48 48.2	
	comp=Z,22nm,1.2s						
ZRNK	**Zerenda**	**11.16**	**338**	*e*P	**Pn**	**18 45 37.2**	**-4.3**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZRNK	**Zerenda**	**11.16**	**338**	*e*P	**Pn**	**18 45 37.2**	**-4.3**
	comp=Z,0.6nm,0.4s						
CHKZ	**Chkalovo**	**11.44**	**344**	⇑Pn	**Pn**	**18 45 44.1**	**-1.3**
	comp=Z,1.4nm,0.7s						
CHKZ				⇑Lg		18 49 04.4	
	comp=Z,12nm,0.9s						
ZAL	**Zalesovo**	**12.65**	**25**	Pn	**Pn**	**18 45 58.8**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=1.6						
ZAL				Sn	**Sn**	18 48 14.7	-8.6
	comp=Z,0.1nm,0.3s,baz=338,slow=19,SNR=2.4						
ZAL				Lg		18 49 38.5	
	comp=Z,0.2nm,0.3s,baz=342,slow=20,SNR=2.3						
ZAL	**Zalesovo**	**12.65**	**25**	P	**Pn**	**18 45 58.8**	**-3.0**
ZAL						18 48 14.7	
ZAL	**Zalesovo**	**12.65**	**25**	Pn	**Pn**	**18 45 58.8**	**-3.0**
ZAL				Sn	**Sn**	**18 48 14.7**	**-8.6**
ZAL				Lg		18 49 38.5	
AKTK	**Aktyubinsk**	**14.42**	**308**	Pn	**Pn**	**18 46 23.6**	**-2.4**
AKTO	**Aktyubinsk**	**14.42**	**308**	Pn	**Pn**	**18 46 23.6**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=122,slow=13,SNR=4.8						
SONM	**Songino Array**	**22.00**	**66**	P	**P**	**18 47 59.2**	**+2.8**
	comp=Z,0.8nm,0.9s,mb3.1,baz=285,slow=7.3,SNR=4.2						

WEL 20 19:00:03.5±0.3, 3574S×17791E, h245km±9km, ML3.9/4, Error ellipse: s-maj=17.6km s-min=14.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.84**	**170**	PN	Pn	19 00 44.4	+0.3
URZ	**Urewera**	**2.59**	**194**	PN	Pn	19 00 51.6	+0.4
URZ				SN	S	19 01 28.5	-0.5
URZ				SN	S	19 01 28.7	-0.3
MWZ	**Matawai**	**2.60**	**187**	PN	Pn	19 00 51.7	+0.3
BKZ	**Black Stump Fm**	**3.60**	**198**	PN	Pn	19 01 02.5	+0.2

*IDC **20** 19:10:11.7±0.7, 4454N×8337E, h0km, mb4.1/10, mb1 4.2/13, mb1mx4.0/24, mbtmp4.0/13, ML3.6/3, MS3.3/3, Ms1 3.3/3, ms1mx2.7/33, Error ellipse: s-maj=24.2km s-min=10.1km az=53.0*

*MOS **20** 19:10:12.3±1.4, 4448N×8308E, h13km, mb4.8/1, Error ellipse: s-maj=13.3km s-min=7.4km az=108.1*
*BJI **20** 19:10:13.7, 4447N×8343E, h18km, mB4.3, mb4.0, ML4.2, Ms3.7, Msz3.6*
*NEIC **20** 19:10:13.1±0.4, 4446N×8318E, h10km, mb3.6/1, Error ellipse: s-maj=12.8km s-min=6.0km az=223.0*
*ISCJB **20** 19:10:15.4±0.4, 4462N±005×8306E±005, h33km, mb4.1/11, MS3.5/2, Error ellipse: s-maj=7.6km s-min=4.3km az=60.9*
*NNC **20** 19:10:21.0±2.5, 4491N×8274E, h0km, mb4.3, mpv4.2, Error ellipse: s-maj=19.8km s-min=13.1km az=111.0*

ISC 20 19:10:17.5±0.4, 4456N±005×8313E±006, h35km, n60, σ1§10/68, mb4.1/11, MS3.5/2, 11C-9D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK02	**Makanchi Array**	**2.28**	**346**	⇑Pn	**Pn**	**19 10 54.2**	**+1.6**
	42nm,0.3s						
MK02				⇑Lg		19 11 21.7	
	2μm,0.8s						
MKAR	**Makanchi Array**	**2.31**	**346**	Pn	**Pn**	**19 10 54.5**	**+1.6**
	11nm,0.3s,baz=155,slow=16,SNR=72						
MKAR				Lg		19 11 25.0	
	212nm,0.3s,baz=161,slow=18,SNR=13						
WMQ	**Urumqi**	**3.37**	**101**	P	**Pn**	**19 11 07.4**	**-0.1**
WMQ				S	**Sn**	19 11 47.8	+1.5
WMQ				SG	**Sn**	**19 11 55.6**	**+9.3**
WMQ				Smax			
	comp=N,1μm,0.4s						
WMQ				Smax			
	comp=E,2μm,0.4s						
AAA	**Alma-Ata**	**4.65**	**256**	⇓*e*P		19 11 41.7	
AAA				pmax	pmax		
	comp=Z,2μm,0.7s						
AAA				MLR	MLR		
	comp=Z,2μm,10.9s						
KNDC	**Almaty**	**4.65**	**255**	⇓Pn	**Pn**	**19 11 32.4**	**+7.2**
	comp=Z,155nm,0.8s						
KNDC				⇑Lg		19 12 45.1	
	comp=Z,610nm,1.1s						
TKM2	**Tokmak 2**	**5.70**	**256**	⇓Pn	**Pn**	**19 11 47.3**	**+7.7**
	comp=Z,7.2nm,0.8s						
TKM2				⇑Lg		19 13 15.6	
	comp=Z,22nm,0.7s						
TKM2	**Tokmak 2**	**5.70**	**256**	*i* P	**Pn**	**19 11 49.3**	**+10**
TKM2				pmax	pmax		
	comp=Z,56nm,0.8s						
FRU	**Bishkek**	**6.41**	**257**	P	**Pn**	**19 11 50.6**	**+1.3**
FRU				pmax	pmax		
	comp=Z,100nm,1.6s						
UKR	**Ust'-Kan**	**6.48**	**9**	*e*P	**Pn**	**19 11 51.8**	**+1.6**
UKR				*e*		19 13 04.6	
AAK	**Ala-Archa**	**6.56**	**256**	*e*P	**Pn**	**19 11 55.5**	**+4.1**
AAK				pmax	pmax		
	comp=Z,67nm,0.7s						
AAK	**Ala-Archa**	**6.56**	**256**	*e*P	**Pn**	**19 11 55.5**	**+4.1**
	comp=Z,67nm,0.7s						
KURK	**Kurchatov**	**6.87**	**335**	*i* P	**Pn**	**19 11 55.1**	**-0.5**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KURK	**Kurchatov**	**6.87**	**335**	*e*P	**Pn**	**19 11 55.4**	**-0.2**
	comp=Z,14nm,0.7s						
TASR	**Tashtagol**	**8.79**	**19**	*e*P	**Pn**	**19 12 28.1**	**+6.2**
ELT	**Yel'tsovka**	**8.95**	**12**	*e*P	**Pn**	**19 12 24.6**	**+0.5**
ELT				*e*		19 14 04.0	
KK31	**Karatay Array**	**9.24**	**265**	Pn	**Pn**	**19 12 28.3**	**+0.2**
	comp=Z,6.1nm,0.7s,baz=72,slow=15,SNR=11						
KK31				Lg		19 15 05.1	
	comp=Z,8.2nm,0.5s,baz=73,slow=31,SNR=6.4						
NVS	**Novosibirsk**	**10.29**	**0**	*e*P	**Pn**	**19 12 46.5**	**+3.9**
VOSK	**Vostochnaya**	**11.45**	**320**	⇑Pn	**Pn**	**19 13 00.2**	**+1.8**
	comp=Z,8.0nm,1.1s						
VOSK				⇓Sn	**Sn**	**19 15 02.9**	**-2.0**
	comp=Z,12nm,1.1s						
VOSK				⇓Lg		19 16 10.8	
	comp=Z,30nm,0.9s						
BVA0	**Borovoye Array**	**11.91**	**320**	⇓Pn	**Pn**	**19 13 06.0**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=126,slow=14,SNR=16						
BVA0				⇑Lg		19 16 30.3	
	comp=Z,6.4nm,0.8s						
BVAR	**Borovoye Array**	**11.91**	**320**	Pn	**Pn**	**19 13 04.1**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=123,slow=14,SNR=15						
BVAR				Sn	**Sn**	**19 15 17.1**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=133,slow=16,SNR=3.5						
BVAR				LR	LR	19 17 47.4	
	comp=Z,87nm,20.2s,baz=143,slow=38						
BVAR	**Borovoye Array**	**11.91**	**320**	P	**Pn**	**19 13 04.1**	**-0.7**
BVAR						19 15 17.1	
BRVK	**Borovoye**	**11.98**	**320**	*e*P	**Pn**	**19 13 05.4**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**11.98**	**320**	*e*P	**Pn**	**19 13 05.4**	**-0.3**
	comp=Z,2.6nm,0.6s						
CHKZ	**Chkalovo**	**12.25**	**323**	⇑Pn	**Pn**	**19 13 08.2**	**-1.1**
	comp=Z,4.3nm,0.9s						
CHKZ				⇑Sn	**Sn**	**19 15 22.3**	**-2.3**
	comp=Z,7.0nm,0.8s						
CHKZ				⇑Lg		19 16 42.4	
	comp=Z,24nm,0.9s						
CHKZ	**Chkalovo**	**12.25**	**323**	*i* P	**Pn**	**19 13 08.2**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CHKZ	**Chkalovo**	**12.25**	**323**	*e*P	**Pn**	**19 13 07.3**	**-2.0**
	comp=Z,91nm,0.7s						
ZRNK	**Zerenda**	**12.53**	**317**	⇑Pn	**Pn**	**19 13 15.2**	**+2.1**
	comp=Z,2.6nm,0.5s						
ZRNK				⇓Sn	**Sn**	**19 15 26.0**	**-5.3**
	comp=Z,3.5nm,0.7s						
ZRNK				⇓Lg		19 16 46.2	
	comp=Z,20nm,0.9s						
ZRNK	**Zerenda**	**12.53**	**317**	*e*P	**Pn**	**19 13 12.3**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ZRNK	**Zerenda**	**12.53**	**317**	*e*P	**Pn**	**19 13 12.3**	**-0.9**
	comp=Z,8.5nm,0.6s						
GTA	**Gaotai**	**13.43**	**107**	*e*P	**Pn**	**19 13 20.9**	**-4.6**
GTA				AP		19 13 28.3	
GTA				XP		19 13 32.0	
GTA				S	**Sn**	**19 15 48.4**	**-5.1**
GTA				LG2		19 17 19.8	
GTA				AMB	AMB		
	comp=Z,1.0nm,1.0s						
GTA				LR	LR		
	comp=N,95nm,8.4s						
GTA				LR	LR		
	comp=E,85nm,6.1s						
GTA				LR	LR		
	comp=Z,83nm,10.3s						
CEP	**Cherat**	**13.79**	**223**	P	**Pn**	**19 13 31.7**	**+1.3**
THW	**Thamme Wali**	**14.71**	**221**	P	**Pn**	**19 13 48.8**	**+5.8**
ZAK	**Zakamensk**	**14.80**	**60**	*e*P	**Pn**	**19 13 43.9**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**16.42**	**70**	Pn	**Pn**	**19 14 03.1**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=254,slow=10,SNR=3.5						
SONM				Lg		19 18 54.3	
	comp=Z,0.1nm,0.3s,baz=264,slow=26,SNR=3.1						
SONM				LR	LR	19 21 07.2	
	comp=Z,126nm,18.3s,baz=265,slow=40						
ULN	**Ulaanbaatar**	**16.87**	**70**	*i* P	**Pn**	**19 14 13.0**	**+2.2**
AKTK	**Aktyubinsk**	**17.91**	**298**	Pn	**Pn**	**19 14 23.1**	**-0.6**
AKTK				Sn	**Sn**	**19 17 35.2**	**-7.2**
AKTK				Lg		19 19 43.7	
AKTO	**Aktyubinsk**	**17.91**	**298**	Pn	**Pn**	**19 14 23.1**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=110,slow=18,SNR=3.7						
AKTO				Sn	**Sn**	**19 17 35.2**	**-7.2**
	comp=Z,0.1nm,0.3s,baz=8.1,slow=19,SNR=2.4						
AKTO				Lg		19 19 43.7	
	comp=Z,0.1nm,0.3s,baz=188,slow=18,SNR=2.8						
AKTO	**Aktyubinsk**	**17.91**	**298**	P	**Pn**	**19 14 23.1**	**-0.6**
AKTO						19 17 35.2	
ARU	**Arti**	**19.50**	**316**	⇓*i* P	**Pn**	**19 14 42.6**	**-0.4**
ARU				*e*S	**S**	**19 18 13.5**	**-6.5**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARU				MLR	MLR		
	comp=Z,50nm,17.0s						
ARU				MLR	MLR		
	comp=N,20nm,16.0s						
ARU				MLR	MLR		
	comp=E,40nm,15.0s						
ARU	**Arti**	**19.50**	**316**	*e*P	**Pn**	**19 14 38.5**	**-4.5**
	comp=E,3.1nm,0.9s						
HHC	**Hu-ho-hao-te**	**21.18**	**90**	*e*P	**P**	**19 14 54.1**	**-5.6**
HHC				PP		19 15 16.0	
HHC				S	**S**	**19 18 41.3**	**-12**
HHC				SS		19 19 12.6	
HHC				AMB	AMB		
	comp=Z,56nm,7.3s						
HHC				LR	LR		
	comp=N,206nm,14.3s,MS3.8						
HHC				LR	LR		
	comp=E,233nm,14.9s,MS3.8						
HHC				LR	LR		
	comp=Z,265nm,15.5s,MS3.7						
HIA	**Hailar**	**25.28**	**66**	*i* P	**P**	**19 15 47.2**	**+6.7**
GYA	**Guiyang**	**26.18**	**126**	⇑*i*P	**P**	**19 15 47.9**	**-0.7**
WSAR	**Wadi Sarin**	**29.23**	**231**	LR	LR	19 28 08.9	
	comp=Z,62nm,18.1s,MS3.3,baz=163,slow=37						
OBN	**Obninsk**	**31.27**	**307**	P	**P**	**19 16 33.9**	**0.0**
OBN				*e*		19 17 35.2	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
AKASG	**Malin Array Be**	**36.15**	**299**	P	**P**	**19 17 16.5**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=67,slow=8.1,SNR=4.3						
FINES	**FINESS Array B**	**36.86**	**318**	P	**P**	**19 17 22.6**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.7,baz=110,slow=11,SNR=4.9						
ARCES	**ARCESS Array B**	**37.89**	**331**	P	**P**	**19 17 30.6**	**-0.5**
	comp=Z,5.6nm,1.0s,mb4.2,baz=56,slow=9.4,SNR=4.4						
NB2	**NORSAR Subarra**	**44.04**	**318**	P	**P**	**19 18 21.6**	**-0.1**
	comp=Z,4.7nm,0.6s,mb4.4,baz=77,slow=7.9						
NOA	**NORSAR Array B**	**44.04**	**318**	P	**P**	**19 18 21.9**	**+0.2**
	comp=Z,5.3nm,0.6s,mb4.4,baz=78,slow=7.9,SNR=26						
NOA	**NORSAR Array B**	**44.04**	**318**	P	**P**	**19 18 21.9**	**+0.2**
CLL	**Collm**	**45.82**	**305**	*i* P	**P**	**19 18 36.6**	**+0.7**
CLL				*e*pP	pP	19 18 40.0	-6.3
ESDC	**Sonseca Array**	**61.80**	**299**	P	**P**	**19 20 33.2**	**+0.5**
	comp=Z,0.3nm,0.4s,mb3.7,baz=54,slow=6.2,SNR=3.3						
FITZ	**Fitzroy Crossi**	**73.42**	**138**	P	**P**	**19 21 45.3**	**-0.8**
	comp=Z,2.4nm,0.8s,mb4.2,baz=292,slow=5.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**74.83**	**274**	P	**P**	**19 21 54.0**	**-0.2**
	comp=Z,3.9nm,0.7s,mb4.4,baz=42,slow=5.1,SNR=30						
WRAB	**Tennant Creek**	**79.38**	**132**	*e*P	**P**	**19 22 18.7**	**-1.1**
WRA	**Warramunga Arr**	**79.38**	**132**	P	**P**	**19 22 18.6**	**-1.2**
	comp=Z,2.8nm,0.8s,mb4.2,baz=336,slow=5.6,SNR=25						
ASAR	**Alice Springs**	**82.22**	**134**	P	**P**	**19 22 34.1**	**-0.8**
	comp=Z,1.3nm,0.7s,mb4.0,baz=333,slow=5.3,SNR=16						
NVAR	**Mina Array Bea**	**95.15**	**17**	P	**P**	**19 23 36.9**	**-0.2**
	comp=Z,0.3nm,0.5s,mb4.0,baz=41,slow=11,SNR=4.0						
QSPA	**South Pole Qui**	**134.33**	**180**	*e*P	PKPdf	19 29 30.1	-1.5

*IDC **20** 19:13:34.9±1.0, 4428N×8301E, h0km, mb3.9/4, mb1 4.0/7, mb1mx3.7/23, mbtmp3.9/7, ML3.6/3, Error ellipse: s-maj=28.7km s-min=11.9km az=72.0*
*ISCJB **20** 19:13:35.1±0.9, 4414N±008×828E±0.1, h10km, mb3.8/4, Error ellipse: s-maj=13.4km s-min=7.7km az=80.0*
*BJI **20** 19:13:38.2, 4452N×8322E, h14km, ML3.9*

ISC 20 19:13:36.6±0.8, 4416N±008×828E±01, h10km, n10, σ0§76/13, mb3.8/4, 1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK03	**Makanchi Array**	**2.63**	**352**	Pn	**Pn**	**19 14 19.8**	**+0.7**
	40nm,0.7s,baz=160,slow=16						
MK03				⇓Lg		19 14 47.0	
	413nm,0.5s,baz=166,slow=26						
MKAR	**Makanchi Array**	**2.66**	**352**	Pn	**Pn**	**19 14 20.6**	**+1.1**
	31nm,0.3s,baz=158,slow=15,SNR=7.6						
MKAR				Sn	**Sn**	**19 14 51.4**	**-0.3**
	271nm,0.3s,baz=164,slow=26,SNR=21						
MKAR				Lg		19 14 57.7	
	339nm,0.3s,baz=163,slow=28,SNR=20						
WMQ	**Urumqi**	**3.53**	**94**	P	**Pn**	**19 14 32.3**	**+0.8**
WMQ				S	**Sn**	**19 15 12.8**	**-0.4**
WMQ				SG	**Sg**	**19 15 20.6**	**-9.3**
WMQ				Smax			
	comp=N,401nm,0.4s						
WMQ				Smax			
	comp=E,601nm,0.4s						
BVAR	**Borovoye Array**	**12.09**	**322**	Pn	**Pn**	**19 16 27.5**	**-1.3**
	comp=E,0.6nm,0.3s,baz=114,slow=16,SNR=4.1						
SONM	**Songino Array**	**16.76**	**69**	Pn	**Pn**	**19 17 31.0**	**-0.4**
	comp=E,0.1nm,0.3s,baz=263,slow=13,SNR=3.9						
NB2	**NORSAR Subarra**	**44.19**	**319**	P	**P**	**19 21 44.9**	**-0.8**
	comp=Z,1.8nm,0.5s,mb4.1,baz=77,slow=8.6						
NOA	**NORSAR Array B**	**44.19**	**319**	P	**P**	**19 21 45.2**	**-0.5**
	comp=Z,2.4nm,0.6s,mb4.1,baz=78,slow=8.0,SNR=8.7						
TORD	**Torodi Ar. Bea**	**74.63**	**273**	P	**P**	**19 25 17.1**	**+1.0**
	comp=Z,1.5nm,0.6s,mb4.1,baz=42,slow=5.3,SNR=16						
WRA	**Warramunga Arr**	**79.28**	**131**	P	**P**	**19 25 42.0**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=338,slow=5.7,SNR=8.8						
ASAR	**Alice Springs**	**82.10**	**134**	P	**P**	**19 25 57.0**	**-0.3**
	comp=Z,0.3nm,0.7s,mb3.3,baz=336,slow=5.8,SNR=4.6						

*IDC **20** 19:15:26.2±2.4, 953S×10861E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/16, mbtmp3.6/6, ML3.0/1, Error ellipse: s-maj=103.9km s-min=20.1km az=52.0*
*NEIC **20** 19:15:26.9±1.7, 967S×10840E, h10km, mb4.1/1, Error ellipse: s-maj=81.0km s-min=11.9km az=49.0*
*ISCJB **20** 19:15:28.6±2.2, 96S±05×1085E±05, h33km, mb3.7/6, Error ellipse: s-maj=99.4km s-min=15.0km az=97.0*

ISC 20 19:15:30.9±2.2, 96S±05×1085E±05, h35km, n8, σ0§32/8, mb3.7/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.66**	**119**	P	**Pn**	**19 19 46.2**	**0.0**
	0.0nm,0.3s,baz=356,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**26.98**	**115**	P	**P**	**19 21 08.9**	**-0.3**
	0.9nm,0.8s,mb3.4,baz=286,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**28.01**	**123**	P	**P**	**19 21 18.4**	**0.0**
	0.3nm,0.8s,mb3.0,baz=293,slow=8.5,SNR=4.5						
STKA	**Stephens Creek**	**37.81**	**131**	P

*IDC **20** 20:00:49.9±2.8, 4328N×10520W, h0km, mb4.2/1, mb1 4.3/3, mb1mx3.6/23, mbtmp4.1/3, ML3.8/2, Error ellipse: s-maj=66.4km s-min=8.1km az=155.0*
*ISCJB **20** 20:00:51.5±0.6, 4377N±004×10523W±006, h0km, mb4.4/1, Error ellipse: s-maj=6.7km s-min=5.5km az=43.9*
*NEIC **20** 20:00:53.1±0.4, 4375N×10523W, h0km, ML3.3, Error ellipse: s-maj=5.2km s-min=4.1km az=141.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 20 20:00:53.0±0.5, **4376N**±004×**10522W**±006, **h0**km, **n33,**
σ**0**§**87**/37, **mb4.4/1, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**67**	*e*P	**Pg**	**20 01 11.9**	**+1.1**
PHWY	**Pilot Hill**	**2.46**	**184**	*e*Pn	**Pn**	**20 01 33.9**	**-0.5**
PHWY				*e*S	**Sn**	**20 02 07.2**	**+2.0**
RWWY	**Rawlins**	**2.54**	**216**	*e*Pn	**Pn**	**20 01 35.8**	**+0.4**
RWWY				*e*Sn	**Sn**	**20 02 06.0**	**-1.0**
LAO	**LASA Array**	**3.02**	**347**	*e*Pn	**Pn**	**20 01 42.4**	**+0.4**
BW06	**Boulder Array**	**3.32**	**254**	*e*Pn	**Pn**	**20 01 45.9**	**-0.4**
BW06				*e*Sn	**Sn**	**20 02 27.6**	**+1.2**
PDAR	**Pinedale Array**	**3.32**	**254**	Pn	**Pn**	**20 01 45.9**	**-0.4**
	4.9nm,0.3s,baz=70,slow=15,SNR=47						
PDAR				Pg	**Pg**	**20 01 51.3**	**-5.4**
	13nm,0.3s,baz=76,slow=19,SNR=37						
PDAR				Lg		20 02 31.1	
	11nm,0.3s,baz=73,slow=30,SNR=10						
GCMT	**Greycliff**	**3.76**	**304**	*e*Pn	**Pn**	**20 01 52.8**	**+0.5**
ISCO	**Idaho Springs**	**3.97**	**184**	*e*Pn	**Pn**	**20 01 55.6**	**+0.5**
FLWY	**Flagg Ranch**	**3.97**	**277**	*e*Pn	**Pn**	**20 01 54.4**	**-0.8**
MOOW	**Moose Ponds**	**4.00**	**272**	*e*Pn	**Pn**	**20 01 56.3**	**+0.7**
SNOW	**Snow King Moun**	**4.03**	**268**	Pn	**Pn**	**20 01 57.9**	**+1.8**
YFT	**Old Faithful**	**4.11**	**282**	Pn	**Pn**	**20 01 59.5**	**+2.4**
REDW	**Red Top Meadow**	**4.11**	**266**	*e*Pn	**Pn**	**20 01 57.1**	**-0.1**
IMW	**Indian Meadow**	**4.14**	**274**	*e*Pn	**Pn**	**20 01 57.8**	**+0.2**
TPAW	**Teton Pass**	**4.17**	**268**	*e*Pn	**Pn**	**20 01 58.5**	**+0.6**
AHID	**Auburn Hatcher**	**4.41**	**259**	*e*Pn	**Pn**	**20 02 01.0**	**-0.2**
RRI2	**Red Ridge**	**4.46**	**267**	*e*Pn	**Pn**	**20 02 01.8**	**0.0**
SMCO	**Snowmass**	**4.76**	**197**	*e*Pg	**Pg**	**20 02 18.0**	**-6.4**
BOZ	**Bozeman (W)**	**4.95**	**295**	*e*Pn	**Pn**	**20 02 07.5**	**-1.1**
HWUT	**Hardware Ranch**	**5.15**	**248**	*e*Pn	**Pn**	**20 02 10.7**	**-0.6**
	15nm,0.4s						
TCUT	**Toone Canyon**	**5.29**	**242**	*e*Pn	**Pn**	**20 02 13.6**	**+0.4**
HRY	**Holter Researc**	**5.53**	**305**	*e*Pn	**Pn**	**20 02 16.3**	**-0.2**
DAU	**Daniels Canyon**	**5.60**	**235**	*e*Pn	**Pn**	**20 02 17.6**	**0.0**
SPUT	**South Promonto**	**5.88**	**248**	*e*Pn	**Pn**	**20 02 21.5**	**+0.2**
HVU	**Hansel Valley**	**5.90**	**253**	*e*Pn	**Pn**	**20 02 21.2**	**-0.6**
	6.7nm,0.5s						
SRU	**San Rafael**	**6.12**	**222**	*e*Pn	**Pn**	**20 02 23.1**	**-1.6**
	13nm,0.4s						
PV01	**Paradox Valley**	**6.16**	**205**	*e*Pn	**Pn**	**20 02 25.1**	**-0.3**
CHMT	**Chamberlain Mo**	**6.48**	**302**	*e*Pn	**Pn**	**20 02 29.5**	**-0.2**
DUG	**Dugway**	**6.69**	**240**	*e*Pn	**Pn**	**20 02 32.2**	**-0.3**
	3.5nm,0.4s						
MSU	**Marysvale**	**7.42**	**227**	*e*Pn	**Pn**	**20 02 41.2**	**-1.3**
ULM	**Lac du Bonnet**	**9.10**	**41**	Pn	**Pn**	**20 03 05.0**	**-0.7**
ULM				Pg	Pn	20 03 40.8	+35
ULM				Lg		20 05 41.0	
ULM	**Lac du Bonnet**	**9.10**	**41**	Pn	**Pn**	**20 03 05.0**	**-0.6**
	3.0nm,0.3s,baz=233,slow=11,SNR=17						
ULM				Pg	Pn	20 03 40.8	+35
	0.8nm,0.3s,baz=220,slow=13,SNR=4.4						
ULM				Lg		20 05 41.0	
	0.1nm,0.3s,baz=124,slow=18,SNR=3.7						
ARCES	**ARCESS Array B**	**61.39**	**18**	P	**P**	**20 11 09.6**	**-1.2**
	2.9nm,0.9s,mb4.4,baz=331,slow=6.3,SNR=8.5						

*IDC **20** 20:37:07.8±2.4, 898S×108.12E, h0km, mb4.0/5, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, ML3.3/1, Error ellipse: s-maj=101.8km s-min=18.9km az=53.0*
*NEIC **20** 20:37:08.0±1.4, 927S×10776E, h10km, mb4.5/1, Error ellipse: s-maj=74.9km s-min=10.2km az=48.0*
*ISCJB **20** 20:37:09.9±1.9, 9.1S±05×1080E±05, h33km, mb4.0/6, Error ellipse: s-maj=96.1km s-min=13.3km az=96.5*
ISC 20 20:37:12.1±1.9, **92S**±04×**1079E**±05, **h35**km, **n9,** σ**0**§**41**/9, **mb4.0/6, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.37**	**119**	P	**Pn**	**20 41 35.8**	**-0.2**
	0.1nm,0.3s,baz=278,slow=15,SNR=4.6						
WRA	**Warramunga Arr**	**27.69**	**116**	P	**P**	**20 42 56.8**	**0.0**
	0.5nm,0.4s,mb3.5,baz=287,slow=12,SNR=9.5						
ASAR	**Alice Springs**	**28.73**	**123**	P	**P**	**20 43 06.7**	**+0.6**
	0.6nm,0.6s,mb3.5,baz=302,slow=7.1,SNR=4.9						
STKA	**Stephens Creek**	**38.54**	**131**	P	**P**	**20 44 30.9**	**-0.2**
	4.3nm,1.0s,mb4.1,baz=310,slow=11,SNR=5.4						
SONM	**Songino Array**	**56.78**	**359**	P	**P**	**20 46 52.6**	**0.0**
	1.2nm,0.5s,mb4.2,baz=178,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**60.22**	**340**	P	**P**	**20 47 16.9**	**+0.2**
	2.3nm,0.7s,mb4.3,baz=146,slow=7.6,SNR=24						
KURK	**Kurchatov**	**64.84**	**340**	*e*P	**P**	**20 47 47.8**	**+0.4**
CHKZ	**Chkalovo**	**70.12**	**337**	*e*P	**P**	**20 48 19.9**	**-0.9**
	1.7nm,0.4s,mb4.3						
ZRNK	**Zerenda**	**70.19**	**336**	*e*P	**P**	**20 48 21.5**	**+0.3**

*BJI **20** 20:41:01.6, 1020S×10870E, h9km, mB4.9, mb4.5*
*IDC **20** 20:41:02.5±1.5, 1013S×10872E, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/18, mbtmp4.1/9, ML4.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.3/18, Error ellipse: s-maj=75.3km s-min=16.5km az=47.0*
*NEIC **20** 20:41:03.7±7.5, 1018S×10868E, h10km±46km, mb4.7/8, Error ellipse: s-maj=40.7km s-min=7.4km az=46.0*
*ISCJB **20** 20:41:06.2±6.5, 1015±02×1088E±03, h40km±58km, mb4.4/20, Error ellipse: s-maj=54.5km s-min=14.1km az=100.5*
*MOS **20** 20:41:06.3±0.8, 990S×10896E, h33km, mb4.5/5, Error ellipse: s-maj=35.7km s-min=12.9km az=125.3*
ISC 20 20:41:08.2±5.4, **102S**±02×**1087E**±03, **h40**km±50km, **n34,** σ**0**§**52**/33, **mb4.4/20, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.21**	**137**	*e*P	**Pn**	**20 44 34.5**	**-5.6**
PSI	**Prapat**	**16.17**	**322**	LR	LR	20 52 39.3	
	comp=Z,109nm,18.7s,baz=272,slow=43						
FITZ	**Fitzroy Crossi**	**18.19**	**117**	P	**Pn**	**20 45 17.2**	**-0.4**
	0.4nm,0.3s,baz=227,slow=12,SNR=22						
FITZ				S	**S**	**20 48 24.2**	**-19**
	0.3nm,0.3s,baz=165,slow=23,SNR=5.8						
WRA	**Warramunga Arr**	**26.55**	**114**	P	**P**	**20 46 41.6**	**-0.5**
	1.0nm,0.8s,mb3.4,baz=284,slow=12,SNR=9.2						
WRAB	**Tennant Creek**	**26.55**	**114**	*e*P	**P**	**20 46 42.3**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1						
WRAB	**Tennant Creek**	**26.55**	**114**	*e*P	**P**	**20 46 42.3**	**+0.1**
	comp=Z,5.7nm,1.0s,mb4.1						
ASAR	**Alice Springs**	**27.52**	**122**	P	**P**	**20 46 51.5**	**+0.6**
	comp=Z,0.6nm,0.8s,mb3.2,baz=300,slow=9.5,SNR=3.9						
GYA	**Guiyang**	**36.48**	**357**	P	**P**	**20 48 10.4**	**+1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**37.28**	**130**	P	**P**	**20 48 17.2**	**+1.0**
	comp=Z,2.4nm,0.8s,mb4.1,baz=298,slow=11,SNR=5.3						
STKA	**Stephens Creek**	**37.28**	**130**	*e*P	**P**	**20 48 16.3**	**+0.1**
JIRN	**Jiri**	**43.49**	**330**	*e*P	**P**	**20 49 08.2**	**+0.7**
	comp=Z,35nm,0.7s,mb5.2						
PKI	**Pulchoki**	**43.80**	**330**	*e*P	**P**	**20 49 10.0**	**0.0**
GUN	**Gumba**	**43.85**	**330**	*e*P	**P**	**20 49 10.0**	**-0.4**
	comp=Z,37nm,0.7s,mb5.2						
XAN	**Xi'an**	**43.98**	**0**	P	**P**	**20 49 11.0**	**-0.5**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.3						
DMN	**Daman**	**43.99**	**329**	*e*P	**P**	**20 49 11.7**	**+0.2**
	comp=Z,15nm,0.7s,mb4.9						
KKN	**Kakani**	**44.05**	**330**	*e*P	**P**	**20 49 12.0**	**0.0**
GKN	**Gorkha**	**44.55**	**329**	*e*P	**P**	**20 49 16.0**	**0.0**
	comp=Z,7.7nm,0.4s,mb4.9						
GTA	**Gaotai**	**50.03**	**351**	*e*P	**P**	**20 49 59.3**	**+0.6**
GTA				AP	pP	20 50 06.9	-3.4
GTA				XP	sP	20 50 11.3	-3.7
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb4.2						
SONM	**Songino Array**	**57.80**	**358**	P	**P**	**20 50 55.1**	**-0.3**
	comp=Z,2.2nm,0.6s,mb4.4,baz=177,slow=8.4,SNR=21						
MKAR	**Makanchi Array**	**61.44**	**340**	P	**P**	**20 51 20.3**	**-0.2**
	comp=Z,2.7nm,0.6s,mb4.6,baz=143,slow=7.8,SNR=33						
MKAR	**Makanchi Array**	**61.44**	**340**	P	**P**	**20 51 20.3**	**-0.2**
KURK	**Kurchatov**	**66.06**	**340**	*e*P	**P**	**20 51 50.3**	**-0.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
KURK	**Kurchatov**	**66.06**	**340**	*e*P	**P**	**20 51 50.3**	**-0.6**
	comp=Z,2.1nm,0.7s,mb4.3						
ZAL	**Zalesovo**	**67.02**	**345**	P	**P**	**20 51 58.0**	**+1.0**
	comp=Z,1.8nm,0.4s,mb4.5,baz=57,slow=16,SNR=4.8						
BVAR	**Borovoye Array**	**70.94**	**337**	P	**P**	**20 52 21.0**	**-0.4**
	comp=Z,3.4nm,0.7s,mb4.4,baz=144,slow=8.5,SNR=22						
BRVK	**Borovoye**	**71.01**	**337**	*e*P	**P**	**20 52 21.6**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**71.01**	**337**	*e*P	**P**	**20 52 21.6**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.8						
CHKZ	**Chkalovo**	**71.36**	**337**	*e*P	**P**	**20 52 23.6**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**71.36**	**337**	*e*P	**P**	**20 52 23.6**	**-0.3**
	comp=Z,6.8nm,0.8s,mb4.6						
ZRNK	**Zerenda**	**71.44**	**336**	*e*P	**P**	**20 52 23.7**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
ZRNK	**Zerenda**	**71.44**	**336**	*e*P	**P**	**20 52 23.7**	**-0.7**
	comp=Z,5.6nm,0.7s,mb4.6						
ARU	**Arti**	**78.21**	**334**	*e*P	**P**	**20 53 02.9**	**-0.6**
BRTR	**Keskin Array B**	**85.20**	**312**	P	**P**	**20 53 40.9**	**+0.5**
	comp=Z,1.3nm,0.7s,mb4.2,baz=130,slow=6.7,SNR=7.5						
WMOK	**Wichita Mounta**	**144.97**	**41**	*e*PKIKP	PKPdf	21 00 41.9	+0.9

*ISCJB **20** 20:55:26.3±0.4, 3899N±003×2164E±003, h10km, Error ellipse: s-maj=3.9km s-min=3.3km az=56.0*
*THE **20** 20:55:26.2, 3908N×2164E, h10km, ML3.1*
*CSEM **20** 20:55:26.1±0.1, 3904N×2161E, h0km±1km, ML3.5, Error ellipse: s-maj=2.4km s-min=2.0km az=26.0*
*NEIC **20** 20:55:26.1, 3903N×2163E, h9km, ML3.5(ATH), After ATH.*
*ATH **20** 20:55:26.1, 3903N×2163E, h9km±2km, MD3.5/11, ML3.5*
ISC 20 20:55:26.6±0.4, **3903N**±003×**2165E**±003, **h10**km, **n31,** σ1§**42**/44, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.17**	**132**	*e*PG	**Pg**	**20 55 29.6**	**-0.6**
EVR				*e*SG	**Sg**	**20 55 33.2**	**+0.6**
AGG	**Agios Georgios**	**0.53**	**90**	*e*Pg	**Pg**	**20 55 36.4**	**-0.5**
AGG				*e*Sg	**Sg**	**20 55 45.0**	**+1.2**
MEV	**Metsovon**	**0.82**	**337**	*e*Pg	**Pg**	**20 55 40.4**	**-2.0**
LKD	**Levkas**	**0.84**	**248**	*e*Pg	**Pg**	**20 55 41.8**	**-1.0**
LKD				*e*Sg	**Sg**	**20 55 55.0**	**+1.2**
JAN	**Janina**	**0.88**	**316**	*e*PG	**Pg**	**20 55 42.3**	**-1.3**
RLS	**Riolos of Patr**	**0.98**	**189**	*e*PG	**Pg**	**20 55 44.4**	**-1.0**
LKR	**Lokris**	**1.12**	**109**	*e*PN	**Pn**	**20 55 47.4**	**-0.9**
IGT	**Igoumenitsa**	**1.14**	**297**	*e*Pg	**Pg**	**20 55 46.3**	**-2.2**
IGT				*e*Sg	**Sg**	**20 56 04.6**	**+1.3**
VLS	**Valsamata**	**1.19**	**225**	*e*PN	**Pn**	**20 55 47.8**	**-1.4**
XOR	**Xorichti**	**1.24**	**74**	*e*Pg	**Pg**	**20 55 49.6**	**-0.8**
LIT	**Litokhoron**	**1.25**	**31**	*e*Pg	**Pg**	**20 55 49.1**	**-1.5**
LIT				*e*Sg	**Sg**	**20 56 06.3**	**-0.6**
NEO	**Neokhori**	**1.25**	**77**	*e*PB	**Pb**	**20 55 50.1**	**-0.2**
KZN	**Kozani**	**1.28**	**4**	*e*PG	**Pg**	**20 55 50.0**	**-1.2**
KZN				*e*SB	**Sb**	**20 56 07.6**	**+0.3**
LSK	**Leskovik**	**1.39**	**324**	*i* Pn	**Pn**	**20 55 50.3**	**-1.6**
LSK				*i* Sn	**Sn**	**20 56 17.9**	**+7.6**
SRN	**Sarande**	**1.54**	**304**	*i* Pn	**Pn**	**20 55 55.3**	**+1.3**
SRN				*i* Sn	**Sn**	**20 56 18.2**	**+4.2**
KEK	**Kerkira**	**1.59**	**296**	*e*PB	**Pb**	**20 55 56.5**	**+0.5**
MGER	**Gerania Oros**	**1.64**	**129**	*e*PB	**Pb**	**20 55 57.5**	**+0.7**
FNA	**Florina**	**1.77**	**353**	*e*Pb	**Pb**	**20 55 57.4**	**-1.6**
ITM	**Ithomi**	**1.86**	**173**	*e*PG	**Pg**	**20 56 00.9**	**-1.3**
PLG	**Polygyros**	**1.93**	**45**	*e*PN	**Pn**	**20 56 00.5**	**+1.1**
ATH	**Athens Observa**	**1.93**	**122**	*e*PN	**Pn**	**20 56 01.0**	**+1.5**
BIA	**Bitola**	**2.01**	**353**	*i* Pn	**Pn**	**20 56 03.5**	**+3.0**
BIA				*i* Sn	**Sn**	**20 56 29.3**	**+3.7**
GRG	**Griva**	**2.01**	**16**	*e*Pb	**Pn**	**20 55 59.8**	**-0.7**
OHR	**Ohrid**	**2.18**	**343**	*i* Pn	**Pn**	**20 56 06.0**	**+3.1**
OHR				*i* Sn	**Sn**	**20 56 35.3**	**+5.4**
OHR	**Ohrid**	**2.18**	**343**	*i* Pn	**Pn**	**20 56 05.9**	**+3.0**
OHR				*i* Sn	**Sn**	**20 56 35.3**	**+5.3**
SOH	**Sokhos**	**2.22**	**36**	*e*Pn	**Pn**	**20 56 03.3**	**-0.1**
KNT	**Kendrikon**	**2.34**	**24**	*e*Pn	**Pn**	**20 56 04.6**	**-0.4**
VAY	**Valandovo**	**2.40**	**17**	*i* Pn	**Pn**	**20 56 10.1**	**+4.3**
VAY				*i* Sn	**Sn**	**20 56 40.5**	**+5.3**
VLI	**Veliai**	**2.52**	**156**	*e*PN	**Pn**	**20 56 09.5**	**+2.0**
SKO	**Skopje**	**2.95**	**357**	*i* Pn	**Pn**	**20 56 16.5**	**+3.1**
SKO				*i* Sn	**Sn**	**20 56 53.3**	**+4.5**
SKO	**Skopje**	**2.95**	**357**	*i* Pn	**Pn**	**20 56 16.4**	**+3.0**

*ISCJB **20** 21:13:37.3±0.9, 4569N±004×1562E±005, h12km, Error ellipse: s-maj=6.1km s-min=4.1km az=82.7*
*VIE **20** 21:13:38.0±0.6, 4569N×1560E, h8km, mb1.8/1, ML2.5/1, Error ellipse: s-maj=3.5km s-min=2.1km az=133.0 23 km N of Karlovac*
*CSEM **20** 21:13:37.6±0.2, 4569N×1564E, h12km, ML2.8/5, Error ellipse: s-maj=2.9km s-min=1.4km az=129.0*
*LJU **20** 21:13:37.9, 4570N×1560E, h12km, ML1.7*
ISC 20 21:13:37.3±1.1, **4568N**±004×**1567E**±006, **h12**km±9km, **n31,** σ**0**§**53**/52, **7C-2D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCIS	**Gornji Cirnik**	**0.19**	**352**	⇓*i*Pg	**Pg**	**21 13 41.6**	**+0.1**
GCIS				*i* Sg	**Sg**	**21 13 44.2**	**-0.2**
GCIS							
	comp=Z,67nm,0.1s						
GCIS	**Gornji Cirnik**	**0.19**	**352**	⇓*i*Pg	**Pg**	**21 13 41.6**	**+0.1**
GCIS				*i* Sg	**Sg**	**21 13 44.2**	**-0.3**
	comp=Z,67nm,0.1s						
CRES	**Cresnjev**	**0.21**	**315**	⇑*i*Pg	**Pg**	**21 13 41.8**	**-0.1**
CRES				*i* Sg	**Sg**	**21 13 44.3**	**-0.6**
CRES							
	comp=Z,83nm,0.1s						
CRES	**Cresnjev**	**0.21**	**315**	⇑*i*Pg	**Pg**	**21 13 41.8**	**0.0**
CRES				*i* Sg	**Sg**	**21 13 44.3**	**-0.6**
	comp=Z,83nm,0.1s						
CESS	**Cesta pri Krsk**	**0.33**	**334**	*i* Pg	**Pg**	**21 13 43.9**	**0.0**
CESS							
	comp=Z,52nm,0.1s						
CESS	**Cesta pri Krsk**	**0.33**	**334**	*i* Pg	**Pg**	**21 13 43.9**	**0.0**
	comp=Z,52nm,0.1s						
GOLS	**Golise**	**0.34**	**355**	*i* Pg	**Pg**	**21 13 44.0**	**0.0**
GOLS				*i* Sg	**Sg**	**21 13 49.5**	**+0.9**
GOLS							
	comp=Z,32nm,0.1s						
GOLS	**Golise**	**0.34**	**355**	*i* Pg	**Pg**	**21 13 44.0**	**0.0**
GOLS				*i* Sg	**Sg**	**21 13 49.5**	**+0.9**
	comp=Z,32nm,0.1s						
BOJS	**Bojanci**	**0.34**	**240**	⇑*i*Pg	**Pg**	**21 13 44.5**	**+0.4**
BOJS				*i* Sg	**Sg**	**21 13 49.3**	**+0.6**
BOJS							
	comp=Z,30nm,0.1s						
BOJS	**Bojanci**	**0.34**	**240**	⇑*i*Pg	**Pg**	**21 13 44.5**	**+0.4**
BOJS				*i* Sg	**Sg**	**21 13 49.3**	**+0.6**
	comp=Z,30nm,0.1s						
LEGS	**Legarje**	**0.37**	**318**	*i* Pg	**Pg**	**21 13 44.6**	**0.0**
LEGS				*i* Sg	**Sg**	**21 13 49.3**	**-0.2**
VISS	**Visnje**	**0.59**	**283**	*i* Pg	**Pg**	**21 13 49.1**	**+0.3**
VISS				*i* Sg	**Sg**	**21 13 56.7**	**0.0**
VISS							
	comp=Z,18nm,0.1s						
VISS	**Visnje**	**0.59**	**283**	*i* Pg	**Pg**	**21 13 49.2**	**+0.3**
VISS				*i* Sg	**Sg**	**21 13 56.7**	**0.0**
	comp=Z,18nm,0.1s						
PDKS	**Podkum**	**0.61**	**310**	⇑*i*Pg	**Pg**	**21 13 49.4**	**+0.3**
PDKS				*e*Sg	**Sg**	**21 13 56.5**	**-0.6**
PDKS							
	comp=Z,15nm,0.1s						
PERS	**Pernice**	**1.03**	**338**	*e*Pg	**Pg**	**21 13 57.1**	**-0.1**
PERS							
	comp=Z,14nm,0.2s						
PERS	**Pernice**	**1.03**	**338**	*e*Pg	**Pg**	**21 13 57.1**	**-0.1**
	comp=Z,14nm,0.2s						
BISS	**Bistriski jare**	**1.04**	**339**	*i* Pg	**Pg**	**21 13 57.3**	**0.0**
OBKA	**Obir**	**1.14**	**317**	⇑*i*Pg	**Pg**	**21 13 59.7**	**+0.5**
OBKA				⇑*i*Sg	**Sg**	**21 14 15.2**	**+1.1**
	comp=Z,25nm,0.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBKA	**Obir**	**1.14**	**317**	Pg	**Pg**	**21 13 59.7**	**+0.5**
OBKA				Sg	**Sg**	**21 14 15.2**	**+1.1**
	comp=Z,25nm,0.3s						
JAVS	**Javornik**	**1.14**	**281**	*e*Pg	**Pg**	**21 13 58.9**	**-0.4**
JAVS				*e*Sg	**Sg**	**21 14 14.0**	**-0.1**
JAVS							
	comp=Z,4.0nm,0.1s						
JAVS	**Javornik**	**1.14**	**281**	*e*Pg	**Pg**	**21 13 58.9**	**-0.4**
JAVS				*e*Sg	**Sg**	**21 14 14.0**	**-0.2**
	comp=Z,4.0nm,0.1s						
VOJS	**Vojsko**	**1.30**	**287**	*i* Pg	**Pg**	**21 14 02.0**	**-0.2**
VOJS				*i* Sg	**Sg**	**21 14 19.9**	**+0.9**
GORS	**Gorjuse**	**1.33**	**299**	*i* Pg	**Pg**	**21 14 02.5**	**-0.4**
GORS				*e*Sg	**Sg**	**21 14 19.5**	**-0.7**
GORS							
	comp=Z,2.0nm,0.1s						
GORS	**Gorjuse**	**1.33**	**299**	*i* Pg	**Pg**	**21 14 02.5**	**-0.3**
GORS				*e*Sg	**Sg**	**21 14 19.5**	**-0.6**
	comp=Z,2.0nm,0.1s						
CADS	**Cadrg**	**1.46**	**293**	*i* Pg	**Pg**	**21 14 03.7**	**-1.6**
CADS				*i* Sg	**Sg**	**21 14 24.9**	**+0.7**
CADS							
	comp=Z,6.0nm,0.2s						
CADS	**Cadrg**	**1.46**	**293**	*i* Pg	**Pg**	**21 14 03.7**	**-1.5**
CADS				*i* Sg	**Sg**	**21 14 24.9**	**+0.7**
	comp=Z,6.0nm,0.2s						
ROBS	**Robic**	**1.61**	**291**	*e*Pg	**Pg**	**21 14 07.2**	**-1.0**

*CSEM **20** 21:15:41.0±0.1, 4424N×999E, h10km, ML2.5/4, Error ellipse: s-maj=1.8km s-min=0.9km az=6.0*
*ISCJB **20** 21:15:41.2±0.3, 4421N±002×991E±002, h2km±3km, Error ellipse: s-maj=4.1km s-min=2.8km az=19.4*
*GEN **20** 21:15:42.2, 4424N×999E, h7km, ML2.0*
*ROM **20** 21:15:42.3±0.3, 4424N×1001E, h10km, Md2.5/11, Ml2.1/5, Error ellipse: s-maj=3.9km s-min=3.6km az=176.0*
*STR **20** 21:15:44.7±1.4, 4324N×957E, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **20** 21:15:45.5±0.4, 4400N×975E, h10km, Ml2.3/6, Error ellipse: s-maj=6.7km s-min=4.4km az=86.0*
ISC 20 21:15:41.9±0.3, **4418N**±002×**993E**±002, **h3**km±3km, **n67,** σ1§**14**/100, **4D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BACM		**0.14**	**48**	P	**Pg**	**21 15 44.3**	**-0.3**
VINC	**Vinca**	**0.17**	**105**	P	**Pg**	**21 15 45.7**	**+0.6**
CODM		**0.21**	**345**	P	**Pg**	**21 15 45.9**	**-0.1**
VALM		**0.28**	**54**	P	**Pg**	**21 15 46.7**	**-0.6**
GRAM		**0.32**	**18**	P	**Pg**	**21 15 47.5**	**-0.6**
VLC	**Villacollemand**	**0.33**	**94**	⇓*i*Pg	**Pg**	**21 15 48.1**	**-0.1**
VLC				Sg	**Sg**	**21 15 52.6**	**+0.1**
	121nm,0.5s						
SARO	**Sassorosso**	**0.34**	**90**	P	**Pg**	**21 15 48.1**	**-0.3**
SC2M	**Scurtabr**	**0.36**	**308**	P	**Pg**	**21 15 49.4**	**+0.6**
ERBM	**Eremo**	**0.42**	**56**	Pg	**Pg**	**21 15 49.6**	**-0.3**
ERBM				Sg	**Sg**	**21 15 54.9**	**-0.5**
	219nm,0.6s						
ERBM	**Eremo**	**0.42**	**56**	Pg	**Pg**	**21 15 49.6**	**-0.3**
MAIM		**0.49**	**123**	P	**Pg**	**21 15 51.5**	**+0.3**
BDI	**Bagni Di Lucca**	**0.50**	**104**	Pg	**Pg**	**21 15 51.1**	**-0.3**
BDI				Sg	**Sg**	**21 15 58.4**	**+0.6**
	136nm,0.4s						
GSCL	**Gusciola**	**0.50**	**70**	Pg	**Pg**	**21 15 51.1**	**-0.4**
GSCL				Sg	**Sg**	**21 15 57.3**	**-0.7**
	23nm,0.2s						
PII	**Pisa**	**0.63**	**137**	⇓*i*Pg	**Pg**	**21 15 54.8**	**+0.8**
	97nm,0.2s						
BOB	**Bobbio (Coli)**	**0.68**	**330**	⇓*i*Pg	**Pg**	**21 15 53.9**	**-1.0**
GENL	**Genova Univers**	**0.72**	**288**	P	**Pg**	**21 15 56.4**	**+0.7**
GROG	**Isola di Gorgo**	**0.76**	**182**	Pg	**Pg**	**21 15 58.6**	**+2.2**
GROG				Sg	**Sg**	**21 16 08.8**	**+2.6**
	48nm,0.3s						
ZCCA	**Zocca**	**0.77**	**77**	Pg	**Pg**	**21 15 57.6**	**+0.9**
	24nm,0.5s						
SEI	**Scarperia**	**1.04**	**97**	Pg	**Pg**	**21 16 02.4**	**+0.7**
	42nm,0.2s						
PCP	**Pian Castagno**	**1.05**	**290**	P	**Pg**	**21 16 02.0**	**-0.1**
PCP				S	**Sg**	**21 16

HAU	**Haudompre**	**4.56 328**	*e*Pn	**Pn**	**21 16 52.8**	**+1.0**
CDF	**Champ du Feu**	**4.61 337**	*e*Pn	**Pn**	**21 16 52.8**	**+0.3**
CDF			*e*Sn	**Sn**	**21 17 46.8**	**+0.2**
LOR	**Lormes**	**5.25 308**	*e*Pn	**Pn**	**21 17 02.7**	**+1.4**
LOR			*e*Sn	**Sn**	**21 17 58.9**	**-3.4**

IDC 20 21:34:24.1±9.1, **019N**×**12197E, h192**km±90km, **mb3.0**/4, **mb1 3.1**/4, **mb1mx3.0**/16, **mbtmp3.5**/4, **Error ellipse: s-maj=118.5km s-min=17.3km az=65.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.39**	**149**	P	P	21 39 14.9	-0.8
	0.6nm,0.6s,baz=325,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**26.40**	**155**	P	P	21 39 44.2	+1.4
ASAR	0.3nm,0.5s,baz=332,slow=11,SNR=5.4			PcP	PcP	21 43 03.0	-0.1
	0.3nm,0.3s,baz=348,slow=2.1,SNR=7.0						
SONM	**Songino Array**	**49.35**	**346**	P	P	21 42 54.0	+0.1
	0.8nm,0.6s,baz=166,slow=8.9,SNR=7.9						
MKAR	**Makanchi Array**	**57.91**	**329**	P	P	21 43 56.1	+0.1
	0.6nm,0.3s,baz=125,slow=8.8,SNR=18						

CSEM ***20*** *21:34:57.0*±*0.3, 3693N*×*2823E, h2*km*, MD2.7, Error ellipse: s-maj=9.0km s-min=5.8km az=169.0*
ATH ***20*** *21:34:58.5, 3628N*×*2709E, h10*km*, MD2.6/3*
ISK 20 21:34:57.5, 3694N×2824E, h10km**, MD2.7, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.19**	**11**	*e*PG	Pg	21 35 02.0	+0.4
DAT	**Datca**	**0.57**	**248**	PG	Pg	21 35 08.6	0.0
DAT				SG	Sg	21 35 17.6	+1.5
ARG	**Arkhangelos**	**0.73**	**187**	*e*PB	Pg	21 35 14.5	+2.9
FETY	**Fethiye**	**0.75**	**114**	*e*PG	Pg	21 35 12.5	+0.6
BODT	**Bodrum**	**0.75**	**279**	*e*PG	Pg	21 35 12.9	+0.9

ISCJB ***20*** *21:39:06.1*±*0.5, 5158N*±*003*×*690E*±*006, h0km, Error ellipse: s-maj=5.8km s-min=3.8km az=69.5*
BNS ***20*** *21:39:06.9*±*0.7, 5168N*×*693E, h1km, ML1.5*
NEIC ***20*** *21:39:07.7*±*3.4, 5159N*×*698E, h10km, ML2.6(LDG), Error ellipse: s-maj=37.0km s-min=12.8km az=24.0*
BGR ***20*** *21:39:07.7*±*0.8, 5160N*×*693E, h1km, ML1.7/2, Error ellipse: s-maj=13.3km s-min=4.4km az=103.0*
CSEM ***20*** *21:39:08.0*±*0.1, 5164N*×*690E, h1km, ML2.7/3, Error ellipse: s-maj=3.9km s-min=1.7km az=112.0*
LDG ***20*** *21:39:09.1*±*0.4, 5157N*×*695E, h1km, Ml2.6/3, Error ellipse: s-maj=9.1km s-min=5.8km az=2.0, Suspected Mining induced.*
ISC 20 21:39:07.2±0.5, **5161N**±003×**694E**±006, **h0**km**, n25,** σ**0**°**99**/36**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAUG	**Laupendahl**	**0.26**	**179**	*e*Pg	**Pg**	**21 39 12.9**	**+0.8**
BUG	**Bochum--Univer**	**0.27**	**129**	*e*Pg	**Pg**	**21 39 13.2**	**+0.9**
	SNR=14						
WTSB	**Winterswijk**	**0.37**	**347**	*e*Pg	**Pg**	**21 39 15.4**	**+1.2**
WTSB	**Winterswijk**	**0.37**	**347**	*e*Pg	**Pg**	**21 39 15.4**	**+1.2**
IBBN	**Ibbenburen**	**0.86**	**36**	*e*Pg	**Pg**	**21 39 23.7**	**0.0**
	SNR=2.2						
IBBN				*e*Sg	**Sg**	**21 39 35.8**	**+0.8**
	SNR=1.6						
STB	**Steinbach**	**1.02**	**184**	*e*Pg	**Pg**	**21 39 27.6**	**+0.9**
STB				*e*Sg	**Sg**	**21 39 42.6**	**+2.7**
	13nm,0.4s						
KLL	**Kalltalsperre**	**1.04**	**203**	*e*Pg	**Pg**	**21 39 27.6**	**+0.4**
HGN	**Heimansgroeve**	**1.06**	**217**	*e*Pn	**Pn**	**21 39 28.4**	**-0.8**
HGN				*e*Pg	**Pg**	**21 39 29.1**	**+1.7**
	9.9nm,0.2s						
HGN				*e*Sg	**Sg**	**21 39 43.3**	**+2.2**
BGG	**Burgeitz**	**1.43**	**170**	*e*Pg	**Pg**	**21 39 33.7**	**-0.8**
TNS	**Taunus Mts**	**1.68**	**145**	*e*Pg	**Pg**	**21 39 38.6**	**-0.9**
	SNR=2.8						
TNS				*e*Sg	**Sg**	**21 40 01.2**	**-0.2**
	SNR=1.9						
WLF	**Walferdange**	**2.01**	**195**	*e*Sg	**Sg**	**21 40 11.6**	**-0.2**
	SNR=2.9						
GIVF	**Givet**	**2.02**	**222**	*e*Pn	**Pn**	**21 39 41.8**	**-0.6**
GIVF				*e*Sg	**Sg**	**21 40 12.3**	**+0.3**
	7.7nm,0.2s						
GIVF	**Givet**	**2.02**	**222**	*e*Pn	**Pn**	**21 39 41.8**	**-0.6**
GIVF				*e*Sg	**Sg**	**21 40 12.3**	**+0.3**
	3.8nm,0.2s						
BAIF	**Baives**	**2.32**	**229**	*e*Pg	**Pg**	**21 39 52.8**	**+1.1**
BAIF				*e*Sg	**Sg**	**21 40 21.3**	**-0.5**
	2.8nm,0.3s						
BAIF	**Baives**	**2.32**	**229**	*e*Pg	**Pg**	**21 39 52.8**	**+1.1**
BAIF				*e*Sg	**Sg**	**21 40 21.3**	**-0.5**
	1.4nm,0.3s						
CDF	**Champ du Feu**	**3.21**	**176**	*e*Pn	**Pn**	**21 39 58.4**	**-0.4**
LOR	**Lormes**	**4.79**	**206**	*e*Pn	**Pn**	**21 40 19.0**	**-1.5**
CABF	**La Chapelle**	**5.03**	**187**	*e*Pn	**Pn**	**21 40 23.5**	**-0.4**
SSF	**Saint Saulge**	**5.07**	**208**	*e*Pn	**Pn**	**21 40 23.4**	**-1.0**
AVF	**Avril sur Loir**	**5.36**	**207**	*e*Pn	**Pn**	**21 40 27.3**	**-1.1**
SMF	**Signal de Mont**	**5.37**	**203**	*e*Pn	**Pn**	**21 40 27.5**	**-1.0**
FLN	**La Foliniere**	**5.55**	**242**	*e*Pn	**Pn**	**21 40 30.8**	**-0.2**
BGF	**Bois d'Agland**	**5.72**	**210**	*e*Pn	**Pn**	**21 40 32.3**	**-1.1**
GRR	**Gorron**	**5.97**	**240**	*e*Pn	**Pn**	**21 40 36.1**	**-0.7**
GRR				*e*Sn	**Sn**	**21 41 39.8**	**-6.0**
	1.8nm,0.2s						
GRR	**Gorron**	**5.97**	**240**	*e*Pn	**Pn**	**21 40 36.1**	**-0.7**
GRR				*e*Sn	**Sn**	**21 41 39.8**	**-6.0**
	0.9nm,0.2s						

IDC 20 21:39:44.7±3.6, **667S**×**14866E, h0**km**, mb3.5**/2, **mb1 3.6**/3, **mb1mx3.4**/12, **mbtmp3.4**/3, **ML3.3**/1, **Error ellipse: s-maj=105.2km s-min=47.0km az=118.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.09**	**209**	Pn	Pn	21 40 40.3	+5.6
	2.2nm,0.3s,baz=166,slow=18,SNR=4.9						
PMG				Sn	Sn	21 41 21.6	+9.1
	3.4nm,0.3s,baz=360,slow=16,SNR=4.8						
WRA	**Warramunga Arr**	**19.16**	**225**	P	Pn	21 44 09.9	-0.6
	0.1nm,0.3s,baz=52,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**22.06**	**218**	P	P	21 44 42.3	+1.3
	0.6nm,0.5s,baz=51,slow=9.7,SNR=12						
FITZ	**Fitzroy Crossi**	**25.15**	**241**	P	P	21 45 11.1	-0.4
	0.9nm,0.3s,baz=43,slow=14,SNR=11						
TORD	**Torodi Ar. Bea**	**146.85**	**284**	PKPbc	PKPbc	21 59 29.4	+0.5
	0.3nm,0.6s,baz=64,slow=2.1,SNR=4.5						

IDC ***20*** *21:43:10.0*±*1.0, 323S*×*14088E, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.8/11, mbtmp3.9/4, ML4.2/1, Error ellipse: s-maj=41.0km s-min=27.4km az=98.0*
NEIC ***20*** *21:43:11.3*±*0.6, 3255N*×*14089E, h10km, mb4.1/2, Error ellipse: s-maj=20.7km s-min=9.5km az=111.0*
ISCJB ***20*** *21:43:13.8*±*2.1, 33S*±*01*×*1406E*±*04, h33km, mb3.7/2, Error ellipse: s-maj=52.5km s-min=19.5km az=6.3*
ISC 20 21:43:15.6±2.1, **33S**±01×**1408E**±04, **h35**km**, n16,** σ**0**°**47**/10**, mb3.7**/2**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.48**	**221**	*e*P	**Pn**	**21 46 10.4**	**-0.3**
	57nm,0.6s						
WRAB	**Tennant Creek**	**17.70**	**200**	*e*P	**Pn**	**21 47 20.2**	**+1.0**
	13nm,0.8s						
WB2	**Warramunga Arr**	**17.70**	**200**	*e*P	**Pn**	**21 47 18.8**	**-0.5**
WRA	**Warramunga Arr**	**17.71**	**200**	P	**Pn**	**21 47 19.0**	**-0.4**
	0.8nm,0.3s,baz=21,slow=13,SNR=26						
FITZ	**Fitzroy Crossi**	**20.90**	**224**	*e*P	**P**	**21 47 54.9**	**0.0**
	8.3nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.90**	**224**	P	**P**	**21 47 55.4**	**+0.6**
	2.9nm,0.7s,baz=65,slow=12,SNR=7.5						
AS31	**Alice Springs**	**21.32**	**198**	*e*P	**P**	**21 47 59.2**	**-0.2**
ASAR	**Alice Springs**	**21.32**	**198**	P	**P**	**21 47 59.5**	**+0.1**
	2.1nm,0.6s,mb3.6,baz=30,slow=9.9,SNR=25						
MKAR	**Makanchi Array**	**71.51**	**322**	P	**P**	**21 54 32.7**	**0.0**
	0.7nm,0.7s,mb3.7,baz=111,slow=7.7,SNR=7.7						
MKAR	**Makanchi Array**	**71.51**	**322**	P	**P**	**21 54 32.7**	**0.0**
TORD	**Torodi Ar. Bea**	**138.40**	**286**	PKP	PKPdf	22 02 39.6	+2.3
	0.7nm,0.7s,baz=50,slow=2.2,SNR=4.6						
LPAZ	**La Paz**	**145.44**	**125**	PKPbc	PKPbc	22 02 51.3	+1.4
	4.4nm,0.8s,baz=264,slow=1.5,SNR=28						
DBIC	**Dimbokro**	**145.61**	**277**	PKPbc	PKPbc	22 02 51.5	+1.1
	2.5nm,0.6s,baz=111,slow=2.3,SNR=5.9						
CPUP	**Villa Florida**	**145.74**	**150**	PKPbc	PKPbc	22 02 50.7	-0.1
	0.4nm,0.3s,baz=204,slow=8.1,SNR=4.5						
CPUP	**Villa Florida**	**145.74**	**150**	PKPbc	PKPbc	22 02 50.7	-0.1
SIV	**San Ignacio**	**151.12**	**132**	PKPbc	PKPbc	22 03 05.6	+0.6
	1.8nm,0.8s,baz=210,slow=2.1,SNR=9.3						

NEIC ***20*** *22:22:21.1, 3245S*×*7187W, h27km, ML3.8(GUC), After GUC.*
GUC 20 22:22:21.1±0.5, **3245S**×**7187W, h27**km±2km**, MD3.9, ML3.8, 12C-14D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.38**	**103**	⇓*i*P	Pb	22 22 29.3	-0.1
PACH				*i* S	Sb	22 22 35.5	+0.4
IHA	**Instituto Hidr**	**0.60**	**161**	⇓*i*P	Pb	22 22 32.3	-0.8
IHA				*i* S	Sb	22 22 41.0	-0.2
ROCH	**El Roble**	**0.89**	**126**	⇑*i*P	Pn	22 22 37.4	-0.5
ROCH				*i* S	Sb	22 22 50.2	+0.8
LCCH	**Las Cruces**	**1.05**	**166**	⇑*i*P	Pn	22 22 39.6	-0.4
LCCH				*i* S	Sn	22 22 53.8	0.0
JACH	**Jahuel**	**1.10**	**102**	⇑*i*P	Pn	22 22 40.6	-0.1
JACH				*i* S	Sn	22 22 55.3	+0.2
PEL	**Peldehue**	**1.21**	**125**	⇑*i*P	Pn	22 22 42.6	+0.4
PEL				*i* S	Sn	22 22 58.7	+0.9
PEL				AML	AML	22 22 59.8	
	comp=E,7μm,0.5s						
PEL	**Peldehue**	**1.21**	**125**	⇑*i*P	Pn	22 22 42.6	+0.4
PEL				*i* S	Sn	22 22 58.7	+0.9
RCDM	**Rinconada Maip**	**1.37**	**139**	⇓*i*P	Pn	22 22 44.8	+0.4
RCDM				*i* S	Sn	22 23 02.7	+1.1
RCDM				AML	AML	22 23 04.2	
	comp=E,2μm,0.1s						
RCDM	**Rinconada Maip**	**1.37**	**139**	⇓*i*P	Pn	22 22 44.8	+0.4
RCDM				*i* S	Sn	22 23 02.7	+1.1
SAN	**Santiago**	**1.43**	**135**	⇓*i*P	Pn	22 22 46.0	+0.8
SAN				*i* S	Sn	22 23 04.5	+1.5
SAN				AML	AML	22 23 06.2	
	comp=N,2μm,0.5s						
SAN	**Santiago**	**1.43**	**135**	⇓*i*P	Pn	22 22 46.0	+0.8
SAN				*i* S	Sn	22 23 04.5	+1.5
STL	**Santa Lucia**	**1.43**	**134**	⇑*i*P	Pn	22 22 44.9	-0.2
STL				*i* S	Sn	22 23 03.6	+0.5
STL				AML	AML	22 23 08.2	
	comp=E,1μm,0.5s						
TACH	**Talagante**	**1.43**	**147**	⇓*i*P	Pn	22 22 45.8	+0.5
TACH				*i* S	Sn	22 23 04.5	+1.3
DSCH	**Colegio Aleman**	**1.45**	**131**	⇑*i*P	Pn	22 22 45.3	-0.1
DSCH				*i* S	Sn	22 23 04.3	+0.8
CLCH	**Cerro Calan**	**1.47**	**130**	⇓*i*P	Pn	22 22 46.3	+0.6
CLCH				*i* S	Sn	22 23 05.5	+1.5
CLCH				AML	AML	22 23 10.1	
	comp=E,3μm,0.3s						
CMCH	**Combarbala**	**1.48**	**30**	⇑*i*P	Pn	22 22 46.4	+0.6
CMCH				*i* S	Sn	22 23 06.1	+1.8
CMCH				AML	AML	22 23 12.6	
	comp=E,6μm,0.5s						
CMCH	**Combarbala**	**1.48**	**30**	⇑*i*P	Pn	22 22 46.4	+0.6
CMCH				*i* S	Sn	22 23 06.1	+1.8
ANTU	**Antumapu**	**1.52**	**137**	⇑*i*P	Pn	22 22 47.3	+0.7
ANTU				*i* S	Sn	22 23 07.1	+1.7
ANTU				AML	AML	22 23 12.7	
	comp=N,2μm,0.5s						
ANTU	**Antumapu**	**1.52**	**137**	⇑*i*P	Pn	22 22 47.3	+0.7
ANTU				*i* S	Sn	22 23 07.1	+1.7
FSR	**Penalolen**	**1.52**	**133**	*i* P	Pn	22 22 47.4	+0.9
FSR				*i* S	Sn	22 23 07.3	+1.8
FSR				AML	AML	22 23 13.3	
	comp=N,2μm,0.7s						
FSR	**Penalolen**	**1.52**	**133**	*i* P	Pn	22 22 47.4	+0.9
FSR				*i* S	Sn	22 23 07.3	+1.8
LNV	**Longovilo**	**1.55**	**166**	*i* P	Pn	22 22 47.2	+0.3
LNV				*i* S	Sn	22 23 07.7	+1.6
FCH	**Farellones**	**1.59**	**124**	⇓*i*P	Pn	22 22 48.3	+0.9
FCH				*i* S	Sn	22 23 09.2	+2.1
FCH				AML	AML	22 23 11.0	
	comp=N,2μm,0.2s						
PCH	**Pirque**	**1.63**	**136**	⇓*i*P	Pn	22 22 48.9	+0.9
PCH				*i* S	Sn	22 23 10.3	+2.3
SJCH	**San Jose de Ma**	**1.74**	**133**	⇓*i*P	Pn	22 22 50.8	+1.3
SJCH				*i* S	Sn	22 23 13.4	+2.6
SJCH				AML	AML	22 23 21.0	
	comp=N,723nm,0.9s						
SJCH	**San Jose de Ma**	**1.74**	**133**	⇓*i*P	Pn	22 22 50.8	+1.3
SJCH				*i* S	Sn	22 23 13.4	+2.6
CHCH	**Chadas Angostu**	**1.80**	**146**	⇑*i*P	Pn	22 22 51.5	+1.2
CHCH				*i* S	Sn	22 23 14.6	+2.4
OVCH	**Ovalle**	**1.93**	**17**	AML	AML	22 23 32.5	
	comp=E,1μm,0.6s						
CACH	**El Canelo**	**1.97**	**148**	⇓*i*P	Pn	22 22 54.7	+2.0
CACH				*i* S	Sn	22 23 20.6	+4.1
CICH	**Cipreses**	**2.22**	**147**	⇓*i*P	Pn	22 22 57.6	+1.5
CICH				*i* S	Sn	22 23 25.5	+2.8

ISCJB ***20*** *22:29:45.9*±*0.3, 3069S*±*007*×*5950E*±*009, h10km, mb4.3/23, MS3.8/10, Error ellipse: s-maj=11.4km s-min=9.9km az=134.9*
IDC ***20*** *22:29:45.9*±*0.5, 3067S*×*5948E, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.2/27, mbtmp4.1/17, ML4.5/1, MS3.7/9, Ms1 3.7/9, ms1mx3.4/35, Error ellipse: s-maj=20.8km s-min=15.3km az=46.0*
BJI ***20*** *22:29:46.3, 3098S*×*5945E, h21km, mB5.2, mb4.7, Ms4.7, Msz4.2*
NEIC ***20*** *22:29:47.4*±*0.3, 3062S*×*5952E, h10km, mb4.5/6, Error ellipse: s-maj=9.3km s-min=8.1km az=47.0*
MOS ***20*** *22:29:49.3*±*0.9, 3066S*×*5945E, h33km, mb4.6/5, Error ellipse: s-maj=24.9km s-min=16.4km az=92.4*
ISC 20 22:29:47.7±0.3, **3066S**±007×**5949E**±009, **h10**km**, n56,** σ**0**°**66**/46**, mb4.3**/23**, MS3.8**/10**, 4C-2D, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.41**	**314**	Pn	**Pn**	**22 33 38.6**	**+0.6**
	1.9nm,0.3s,baz=134,slow=9.7,SNR=19						
OPO				Sn	**Sn**	**22 36 28.9**	**-11**
	1.6nm,0.3s,baz=0.1,slow=11,SNR=7.2						
DGAR	**Diego Garcia**	**26.12**	**30**	P	**P**	**22 35 20.9**	**-0.9**
BOSA	**Boshof**	**29.76**	**265**	LR	LR	22 45 06.9	
	comp=Z,103nm,20.7s,MS3.4,baz=146,slow=31						
LBTB	**Lobatse**	**30.42**	**272**	LR	LR	22 46 29.4	
	comp=Z,105nm,18.2s,MS3.5,baz=270,slow=33						
LSZ	**Lusaka**	**32.49**	**291**	P	**P**	**22 36 17.0**	**-1.4**
	0.4nm,0.4s,mb3.6,baz=52,slow=7.5,SNR=3.1						
LSZ				LR	LR	22 48 40.7	
	comp=Z,114nm,19.0s,MS3.6,baz=156,slow=35						
LSZ	**Lusaka**	**32.49**	**291**	P	**P**	**22 36 17.0**	**-1.4**
LSZ				LR	LR	22 48 40.7	
KMBO	**Kilima Mbogo**	**36.16**	**320**	LR	LR	22 48 21.3	
	comp=Z,140nm,21.6s,MS3.7,baz=215,slow=31						
MAW	**Mawson**	**37.03**	**178**	P	**P**	**22 36 57.8**	**+0.2**
	2.2nm,0.9s,mb4.0,baz=332,slow=9.1,SNR=4.6						
MAW	**Mawson**	**37.03**	**178**	*e*P	**P**	**22 36 58.2**	**+0.6**
MAW				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MAW	**Mawson**	**37.03**	**178**	*e*P	**P**	**22 36 58.2**	**+0.6**
	comp=Z,3.8nm,0.9s,mb4.2						
COCO	**West Island**	**39.08**	**70**	P	**P**	**22 37 12.6**	**-2.2**
	comp=Z,419nm,0.4s						
TSUM	**Tsumeb**	**39.47**	**277**	P	**P**	**22 37 17.9**	**-0.2**
	comp=Z,0.9nm,0.4s,mb3.9,baz=91,slow=10,SNR=3.3						
TSUM				LR	LR	22 51 00.9	
	comp=Z,106nm,21.4s,MS3.6,baz=125,slow=32						
SYO	**Syowa Base**	**40.07**	**191**	*e*P	**P**	**22 37 23.5**	**+0.4**
ATD	**Arta Tunnel**	**44.89**	**337**	LR	LR	22 53 50.2	
	comp=Z,88nm,18.3s,MS3.7,baz=20,slow=32						
SNAA	**Sanae**	**52.56**	**201**	P	**P**	**22 39 00.7**	**-0.6**
	comp=Z,1.3nm,0.8s,mb3.9,baz=73,slow=5.9,SNR=16						
SNAA	**Sanae**	**52.56**	**201**	*e*	**P**	**22 39 01.0**	**-0.3**
SNAA				*e*		22 39 09.1	
SNAA	**Sanae**	**52.56**	**201**	P	**P**	**22 39 00.8**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SNAA	**Sanae**	**52.56**	**201**	P	**P**	**22 39 00.8**	**-0.5**
	comp=Z,5.0nm,1.0s,mb4.4						
TRIS	**Tristan da Cun**	**58.69**	**243**	P	**P**	**22 39 45.4**	**+0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**59.50**	**180**	*e*P	**P**	**22 39 50.7**	**-0.3**
	comp=Z,7.0nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**60.78**	**95**	LR	LR	23 02 23.7	
	comp=Z,41nm,20.6s,MS3.5,baz=75,slow=32						
VNDA	**Vanda**	**62.93**	**166**	P	**P**	**22 40 13.2**	**-1.0**
	comp=Z,1.1nm,0.8s,mb4.0,baz=266,slow=7.2,SNR=5.8						
VNDA				LR	LR	23 03 36.9	
	comp=Z,103nm,20.5s,MS4.0,baz=268,slow=32						
VNDA	**Vanda**	**62.93**	**166**	*e*P	**P**	**22 40 14.4**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VNDA	**Vanda**	**62.93**	**166**	*e*P	**P**	**22 40 14.4**	**+0.2**
	comp=Z,1.3nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**65.49**	**104**	P	**P**	**22 40 31.1**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.2,baz=240,slow=5.9,SNR=27						
WRA	**Warramunga Arr**	**67.42**	**100**	P	**P**	**22 40 43.5**	**+0.1**
	comp=Z,2.2nm,0.7s,mb4.3,baz=242,slow=5.8,SNR=26						
WRAB	**Tennant Creek**	**67.44**	**100**	*e*P	**P**	**22 40 43.7**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**67.44**	**100**	*e*P	**P**	**22 40 43.6**	**+0.2**
	comp=Z,5.4nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**68.45**	**115**	P	**P**	**22 40 50.1**	**+0.3**
	comp=Z,1.0nm,0.5s,mb4.1,baz=16,slow=8.8,SNR=3.2						
KMI	**Kunming**	**69.22**	**42**	P	**P**	**22 40 55.9**	**+1.3**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
TORD	**Torodi Ar. Bea**	**70.57**	**299**	P	**P**	**22 41 03.5**	**+0.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=105,slow=6.4,SNR=12						
TORD				LR	LR	23 11 42.4	
	comp=Z,94nm,18.0s,MS4.1,baz=170,slow=36						
BRTR	**Keskin Array B**	**74.03**	**340**	P	**P**	**22 41 23.6**	**-0.1**
	comp=Z,1.1nm,0.8s,mb3.8,baz=163,slow=4.7,SNR=5.1						
GTA	**Gaotai**	**79.16**	**31**	*e*P	**P**	**22 41 53.8**	**+1.2**
GTA				AP	pP	22 42 02.3	+6.4
GTA				XP	sP	22 42 06.8	+10
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
XAN	**Xi'an**	**79.47**	**40**	P	**P**	**22 41 54.1**	**-0.2**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
MKAR	**Makanchi Array**	**79.80**	**16**	P	**P**	**22 41 55.9**	**-0.2**
	comp=Z,1.0nm,0.9s,mb3.8,baz=189,slow=6.9,SNR=6.6						
TIRR	**Tirgusor**	**79.96**	**338**	⇑*i*P	**P**	**22 41 56.9**	**-0.1**
MLR	**Muntele Rosu**	**81.69**	**337**	P	**P**	**22 42 06.5**	**+0.2**
	comp=Z,2.3nm,0.7s,mb4.2,baz=276,slow=17,SNR=4.6						
MLR	**Muntele Rosu**	**81.69**	**337**	⇓*i*P	**P**	**22 42 06.3**	**+0.1**
VRI	**Vrincioaia**	**81.76**	**338**	⇑*i*P	**P**	**22 42 07.1**	**+0.5**
PLOR	**Plostina**	**81.77**	**337**	⇑*i*P	**P**	**22 42 07.1**	**+0.5**
VOIR		**81.95**	**336**	⇓*i*P	**P**	**22 42 07.7**	**+0.1**
AKASG	**Malin Array Be**	**85.31**	**341**	P	**P**	**22 42 24.6**	**-0.2**
	comp=Z,1.5nm,0.6s,mb4.3,baz=169,slow=4.5,SNR=6.7						
HHC	**Hu-ho-hao-te**	**85.92**	**37**	*e*P	**P**	**22 42 28.9**	**+1.0**
HHC				XP	sP	22 42 35.3	+2.9
HHC				PP	PP	22 45 51.4	+3.9
HHC				S		22 53 02.0	
HHC				XS	sS	22 53 17.0	+10
HHC				PS		22 54 08.1	
HHC				SS	SS	22 58 42.8	+4.1
HHC				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb5.0						
HHC				AMB	AMB		
	comp=Z,83nm,6.5s						
HHC				LR	LR		
	comp=N,112nm,19.0s,MS4.5						
HHC				LR	LR		
	comp=E,110nm,16.7s,MS4.5						
HHC				LR	LR		
	comp=Z,86nm,16.1s,MS4.2						
ZAL	**Zalesovo**	**87.05**	**15**	P	**P**	**22 42 33.2**	**-0.2**
	comp=Z,1.1nm,0.4s,mb4.4,baz=232,slow=2.7,SNR=6.4						
ZAL	**Zalesovo**	**87.05**	**15**	P	**P**	**22 42 33.2**	**-0.2**
SVE	**Sverdlovsk**	**87.14**	**1**	*e*P	**P**	**22 42 29.0**	**-4.9**
SONM	**Songino Array**	**88.75**	**29**	P	**P**	**22 42 41.4**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.4,baz=219,slow=4.8,SNR=10						
ULN	**Ulaanbaatar**	**89.06**	**30**	*e*P	**P**	**22 42 42.9**	**-0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.5						
ULN	**Ulaanbaatar**	**89.06**	**30**	*e*P	**P**	**22 42 42.9**	**-0.1**
	comp=Z,3.3nm,1.1s,mb4.6						
GERES	**GERESS Array B**	**89.08**	**332**	P	**P**	**22 42 42.2**	**-0.9**
	comp=Z,0.3nm,0.6s,mb3.8,baz=134,slow=3.9,SNR=6.5						
DAWY	**Dawson**	**144.51**	**14**	*e*PKPdf	PKPdf	22 49 22.5	-1.8
YKA	**Yellowknife Ar**	**147.93**	**355**	PKPbc	PKPbc	22 49 32.2	-0.9
	comp=Z,3.5nm,0.9s,baz=3.1,slow=2.7,SNR=9.7						
YKA	**Yellowknife Ar

ZRNK				*e*Sn		**Sn**	**22 40 43.1**	**-10**
ZRNK	**Zerenda**	**16.71**	**31**	*e*Pn		**Pn**	**22 37 46.8**	**-2.1**
	comp=Z,1.2nm,0.4s							
ZRNK				*e*Sn		**Sn**	**22 40 43.1**	**-10**
ARU	**Arti**	**17.21**	**7**	*e*P		**Pn**	**22 37 56.2**	**+1.1**
BRVK	**Borovoye**	**17.32**	**33**	*e*P		**Pn**	**22 37 58.2**	**+1.8**
BRVK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BRVK	**Borovoye**	**17.32**	**33**	*e*Pn		**Pn**	**22 37 58.2**	**+1.8**
	comp=Z,1.1nm,0.5s							
BRVK	**Borovoye**	**17.32**	**33**	*e*Pn		**Pn**	**22 37 58.2**	**+1.8**
	comp=Z,1.1nm,0.5s							
BVAR	**Borovoye Array**	**17.34**	**33**	P		**Pn**	**22 37 55.8**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=214,slow=10,SNR=6.5							
CHKZ	**Chkalovo**	**17.90**	**32**	*e*P		**Pn**	**22 38 05.0**	**+1.4**
CHKZ				pmax	pmax			
	comp=Z,1.0nm,0.5s							
CHKZ	**Chkalovo**	**17.90**	**32**	*e*Pn		**Pn**	**22 38 05.0**	**+1.3**
	comp=Z,1.2nm,0.5s							
CHKZ	**Chkalovo**	**17.90**	**32**	*e*Pn		**Pn**	**22 38 05.0**	**+1.4**
	comp=Z,1.2nm,0.5s							
OBN	**Obninsk**	**19.87**	**328**	P		**Pn**	**22 38 26.3**	**-1.1**
OBN	**Obninsk**	**19.87**	**328**	P		**Pn**	**22 38 26.3**	**-1.1**
KURK	**Kurchatov**	**20.21**	**48**	*e*P		**P**	**22 38 30.2**	**+0.9**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KURK	**Kurchatov**	**20.21**	**48**	*e*P		**P**	**22 38 30.2**	**+0.9**
	comp=Z,1.0nm,0.5s							
KURK	**Kurchatov**	**20.21**	**48**	*e*P		**P**	**22 38 30.2**	**+0.9**
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**21.16**	**311**	P		**P**	**22 38 39.3**	**-0.3**
	comp=Z,4.9nm,0.4s,mb4.2,baz=102,slow=9.1,SNR=25							
MKAR	**Makanchi Array**	**21.35**	**61**	P		**P**	**22 38 42.1**	**+0.4**
	comp=Z,0.5nm,0.7s,mb3.0,baz=251,slow=10.0,SNR=7.9							
IDI	**Anoyia**	**24.03**	**270**	P		**P**	**22 39 10.1**	**+0.9**
	comp=Z,7.3nm,0.9s,mb4.1,baz=16,slow=7.4,SNR=4.4							
KWP	**Kalwaria**	**24.84**	**305**	P		**P**	**22 39 16.9**	**+0.3**
PSZ	**Piszkesteto**	**26.42**	**300**	P		**P**	**22 39 31.7**	**+0.8**
PSZ				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.0							
PSZ	**Piszkesteto**	**26.42**	**300**	P		**P**	**22 39 31.7**	**+0.9**
	comp=Z,2.9nm,0.6s,mb4.0							
FINES	**FINESS Array B**	**28.21**	**331**	P		**P**	**22 39 50.6**	**+3.6**
	comp=Z,0.9nm,0.6s,mb3.6,baz=123,slow=12,SNR=5.1							
HFS	**Hagfors**	**32.87**	**323**	P		**P**	**22 40 28.0**	**-0.1**
	comp=Z,0.8nm,0.4s,mb4.0,baz=112,slow=9.6,SNR=12							
KEV	**Kevo**	**33.75**	**343**	P		**P**	**22 40 36.4**	**+0.6**
KEV	**Kevo**	**33.75**	**343**	P		**P**	**22 40 36.3**	**+0.5**
ARCES	**ARCESS Array B**	**33.93**	**342**	P		**P**	**22 40 37.7**	**+0.4**
	comp=Z,3.6nm,1.1s,mb4.2,baz=120,slow=7.2,SNR=4.4							
ARCES	**ARCESS Array B**	**33.93**	**342**	P		**P**	**22 40 37.7**	**+0.4**
NB2	**NORSAR Subarra**	**34.33**	**324**	P		**P**	**22 40 40.7**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=113,slow=8.6							
NOA	**NORSAR Array B**	**34.33**	**324**	P		**P**	**22 40 40.8**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=118,slow=8.3,SNR=3.7							
ULN	**Ulaanbaatar**	**38.15**	**60**	*e*P		**P**	**22 41 14.8**	**+1.3**
	comp=Z,0.4nm,0.4s,mb3.5							
ULN	**Ulaanbaatar**	**38.15**	**60**	*e*P		**P**	**22 41 14.8**	**+1.4**
YHNB	**Yeheng**	**57.18**	**84**	*e*P		**P**	**22 43 40.3**	**-0.8**
YHNB	**Yeheng**	**57.18**	**84**	*e*P		**P**	**22 43 40.3**	**-0.7**
WRA	**Warramunga Arr**	**94.75**	**112**	P		**P**	**22 47 14.3**	**-1.2**
	comp=Z,0.4nm,1.0s,mb3.8,baz=327,slow=3.5,SNR=5.3							
WRAB	**Tennant Creek**	**94.75**	**112**	P		**P**	**22 47 14.3**	**-1.2**

IDC ***20*** *22:39:15.4±1.1, 1270N×4851E, h0km, mb4.0/14, mb1 4.2/16, mb1mx4.1/24, mbtmp4.0/16, ML3.7/2, MS3.5/7, Ms1 3.5/7, ms1mx3.3/23, Error ellipse: s-maj=25.2km s-min=18.3km az=158.0*

ISCJB ***20*** *22:39:16.2±0.5, 1283N±005×4832E±004, h10km, mb4.1/21, MS3.5/10, Error ellipse: s-maj=7.9km s-min=5.0km az=166.9*

NEIC ***20*** *22:39:17.2±0.6, 1272N×4852E, h10km, mb4.5/3, Error ellipse: s-maj=13.7km s-min=8.6km az=118.0*

CSEM ***20*** *22:39:18.7±0.1, 1285N×4830E, h30km, mb4.4/4, Error ellipse: s-maj=3.4km s-min=2.5km az=176.0*

MOS ***20*** *22:39:19.0±1.1, 1276N×4849E, h33km, mb4.6/6, Error ellipse: s-maj=19.1km s-min=9.0km az=86.0*

DHMR ***20*** *22:39:21.0±1.1, 1266N×4774E, h4km±10km, ML4.3*

ISC 20 22:39:18.2±0.5, 1284N±006×4831E±004, h10km, n62, σ1§18/67, mb4.1/21, MS3.5/10, 5C-3D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BDHA	**Al Bayda'**	**2.90**	**293**	⇑*i*	P	**Pn**	**22 40 04.7**	**+0.3**
BDHA				*i*	S	**Sn**	**22 40 38.8**	**-0.5**
BDHA					AML	AML	22 40 40.9	
	comp=N,2μm,0.5s							
BDHA	**Al Bayda'**	**2.90**	**293**	⇑*i*	P	**Pn**	**22 40 04.7**	**+0.3**
BDHA				*i*	S	**Sn**	**22 40 38.8**	**-0.5**
	comp=N,1μm,0.5s							
LBOS		**3.15**	**289**	⇓*i*	P	**Pn**	**22 40 07.8**	**-0.1**
LBOS				*i*	S	**Sn**	**22 40 44.6**	**-0.9**
TRBA	**At Turbah**	**4.11**	**276**	⇓*i*	P	**Pn**	**22 40 19.7**	**-1.3**
TRBA				*i*	S	**Sn**	**22 41 06.5**	**-2.6**
DHBB	**Dhamar BB**	**4.18**	**295**	*i*	P	**Pn**	**22 40 22.9**	**+0.9**
DHBB				*i*	S	**Sn**	**22 41 10.1**	**-0.8**
UDYN	**Al 'Udayn**	**4.37**	**285**	*i*	S	**Sn**	**22 41 12.5**	**-3.2**
HAJJ	**Hajjah**	**5.38**	**302**	*i*	S	**Sn**	**22 41 40.8**	**+0.3**
HAJJ					AML	AML	22 42 08.7	
	comp=E,358nm,0.7s							
HAJJ	**Hajjah**	**5.38**	**302**	*i*	S	**Sn**	**22 41 40.8**	**+0.3**
	comp=E,179nm,0.7s							
ATD	**Arta Tunnel**	**5.50**	**257**	Pn		**Pn**	**22 40 41.1**	**+1.0**
	comp=E,11nm,0.3s,baz=93,slow=4.9,SNR=41							
ATD					Sn	**Sn**	**22 41 45.7**	**+2.4**
	comp=E,0.6nm,0.3s,baz=60,slow=24,SNR=1.1							
ATD	**Arta Tunnel**	**5.50**	**257**	Pn		**Pn**	**22 40 41.1**	**+1.0**
ATD					Sn	**Sn**	**22 41 45.7**	**+2.4**
RST	**Umm Al-Ruwaisa**	**16.63**	**356**	*e*P		**Pn**	**22 43 12.2**	**+0.9**
UMR	**Umm Al-Rimmam**	**16.64**	**358**	*e*P		**Pn**	**22 43 13.1**	**+1.5**
MIB	**Mutribah**	**16.91**	**357**	*e*P		**Pn**	**22 43 15.3**	**+0.5**
KMBO	**Kilima Mbogo**	**17.69**	**219**	P		**Pn**	**22 43 24.8**	**+0.2**
	comp=E,0.0nm,0.3s,baz=51,slow=11,SNR=5.3							
KMBO	**Kilima Mbogo**	**17.69**	**219**	P		**Pn**	**22 43 24.8**	**+0.2**
EIL	**Elat**	**20.84**	**326**	*e*P		**P**	**22 44 01.4**	**+1.5**
	comp=E,174nm,1.0s							
EIL	**Elat**	**20.84**	**326**	*e*P		**P**	**22 44 01.4**	**+1.4**
	comp=E,174nm,1.0s							
ASF	**Jabal al Asfar**	**21.91**	**333**	P		**P**	**22 44 14.4**	**+2.9**
	comp=E,8.9nm,1.0s,mb4.2,baz=17,slow=3.2,SNR=12							
ASF					LR	LR	22 52 49.8	
	comp=E,134nm,21.3s,MS3.3,baz=222,slow=37							
MMAI	**Mount Meron Ar**	**23.30**	**332**	LR		LR	22 52 45.9	
	comp=E,87nm,19.4s,MS3.2,baz=135,slow=34							
MALT	**Malatya**	**26.86**	**343**	*e*P		**P**	**22 45 01.6**	**+2.7**
MALT				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb3.9							
MALT	**Malatya**	**26.86**	**343**	*e*P		**P**	**22 45 01.6**	**+2.7**
	comp=Z,3.9nm,1.0s,mb3.9							
MALT	**Malatya**	**26.86**	**343**	*e*P		**P**	**22 45 01.6**	**+2.7**
	comp=Z,4.0nm,1.0s,mb3.9							
GNI	**Garni**	**27.39**	**354**	LR		LR	22 57 33.5	
	comp=Z,285nm,20.8s,MS3.8,baz=173,slow=40							
GNI	**Garni**	**27.39**	**354**	*e*P		**P**	**22 45 06.7**	**+3.0**
GNI				pmax	pmax			
	comp=Z,6.0nm,0.7s							
GNI	**Garni**	**27.39**	**354**	*e*P		**P**	**22 45 06.7**	**+3.0**
	comp=Z,5.8nm,0.7s,mb4.2							
GNI	**Garni**	**27.39**	**354**	*e*P		**P**	**22 45 06.7**	**+3.0**
	comp=Z,6.0nm,0.7s,mb4.2							
BRTR	**Keskin Array B**	**29.75**	**337**	P		**P**	**22 45 25.8**	**+1.0**
	comp=Z,0.9nm,0.8s,mb3.5,baz=158,slow=13,SNR=5.3							
IDI	**Anoyia**	**30.78**	**321**	LR		LR	23 00 25.1	
	comp=Z,45nm,19.6s,MS3.1,baz=72,slow=41							
KIV	**Kislovodsk**	**31.39**	**352**	*e*P		**P**	**22 45 39.0**	**-0.2**
KIV				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.4							
KIV					MLR	MLR		
	comp=Z,100nm,17.0s,MS3.5							
KIV	**Kislovodsk**	**31.39**	**352**	*e*P		**P**	**22 45 39.0**	**-0.2**
	comp=Z,100nm,17.0s							
ANN	**Anapa**	**33.18**	**346**	*e*P		**P**	**22 45 47.4**	**-7.6**
ANN				pmax	pmax			
	comp=Z,49nm,1.3s,mb5.3							
ANN	**Anapa**	**33.18**	**346**	*e*P		**P**	**22 45 47.4**	**-7.6**
	comp=Z,49nm,1.3s,mb5.3							
LSZ	**Lusaka**	**34.30**	**216**	*e*P		**P**	**22 46 05.6**	**+0.9**
AAK	**Ala-Archa**	**37.36**	**32**	⇓*e*P		**P**	**22 46 30.7**	**-0.2**
AAK				pmax	pmax			
	comp=Z,4.0nm,1.2s,mb4.1							
AAK					MLR	MLR		
	comp=Z,100nm,17.0s,MS3.7							
AAK	**Ala-Archa**	**37.36**	**32**	*e*P		**P**	**22 46 30.7**	**-0.2**
	comp=Z,100nm,17.0s							
AKASG	**Malin Array Be**	**40.84**	**341**	P		**P**	**22 47 00.3**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.0,baz=151,slow=7.4,SNR=14							
OBN	**Obninsk**	**43.17**	**350**	⇑*e*P		**P**	**22 47 20.3**	**+1.2**
OBN				*i*			22 47 29.0	
OBN				*e*			22 48 58.6	
OBN				*e*SS		SS	22 56 52.4	-5.9
OBN				pmax	pmax			
	comp=Z,14nm,1.1s,mb4.6							
OBN				pmax	pmax			
	comp=Z,1.0nm,0.2s,mb4.2							
OBN				MLR	MLR			
	comp=Z,100nm,17.0s,MS3.8							
OBN	**Obninsk**	**43.17**	**350**	*e*P		**P**	**22 47 20.3**	**+1.2**
	comp=Z,14nm,1.1s,mb4.6							
BVAR	**Borovoye Array**	**43.79**	**19**	P		**P**	**22 47 23.5**	**-0.6**
	comp=Z,1.3nm,0.8s,mb3.7,baz=205,slow=6.6,SNR=6.8							
ARU	**Arti**	**44.22**	**8**	⇑*i*P		**P**	**22 47 24.9**	**-2.6**
ARU				*e*S		**S**	**22 53 49.1**	**-12**
ARU				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.1							
ARU	**Arti**	**44.22**	**8**	*i*P		**P**	**22 47 24.9**	**-2.6**
	comp=Z,3.0nm,0.8s,mb4.1							
ARU				*e*S		**S**	**22 53 49.1**	**-12**
MKAR	**Makanchi Array**	**44.27**	**33**	P		**P**	**22 47 26.4**	**-1.5**
	comp=Z,1.8nm,0.9s,mb3.8,baz=229,slow=8.3,SNR=12							
MKAR	**Makanchi Array**	**44.27**	**33**	P		**P**	**22 47 26.4**	**-1.5**
MKAR	**Makanchi Array**	**44.27**	**33**	*e*P		**P**	**22 47 27.2**	**-0.7**
KURK	**Kurchatov**	**45.12**	**27**	*e*P		**P**	**22 47 34.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**45.37**	**276**	P		**P**	**22 47 37.4**	**+0.7**
	comp=Z,1.1nm,0.7s,mb3.8,baz=95,slow=7.6,SNR=10							
GERES	**GERESS Array B**	**45.89**	**328**	P		**P**	**22 47 41.7**	**+0.9**
	comp=Z,1.5nm,0.8s,mb4.0,baz=133,slow=7.5,SNR=13							
BOSA	**Boshof**	**46.85**	**208**	LR		LR	23 06 47.6	
	comp=Z,62nm,19.7s,MS3.6,baz=234,slow=35							
BOSA	**Boshof**	**46.85**	**208**	*e*P		**P**	**22 47 48.1**	**-0.3**
ZAL	**Zalesovo**	**50.08**	**27**	P		**P**	**22 48 11.7**	**-1.6**
	comp=Z,1.1nm,0.6s,mb4.1,baz=230,slow=5.9,SNR=4.6							
ZAL	**Zalesovo**	**50.08**	**27**	*e*P		**P**	**22 48 11.6**	**-1.7**
FINES	**FINESS Array B**	**51.14**	**346**	P		**P**	**22 48 21.1**	**-0.2**
	comp=Z,4.2nm,0.8s,mb4.4,baz=139,slow=9.6,SNR=13							
FINES	**FINESS Array B**	**51.14**	**346**	*e*P		**P**	**22 48 21.7**	**+0.5**
JOF	**Joensuu**	**51.45**	**350**	*e*p		**P**	**22 48 22.3**	**-1.3**
KAF	**Kangasniemi**	**51.68**	**347**	*e*p		**P**	**22 48 24.3**	**-1.0**
ESDC	**Sonseca Array**	**53.06**	**310**	P		**P**	**22 48 35.7**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=100,slow=7.9,SNR=6.0							
NB2	**NORSAR Subarra**	**55.15**	**339**	P		**P**	**22 48 50.3**	**-0.5**
	comp=Z,4.4nm,1.0s,mb4.4,baz=135,slow=7.4							
NOA	**NORSAR Array B**	**55.15**	**339**	P		**P**	**22 48 50.3**	**-0.5**
	comp=Z,2.1nm,0.8s,mb4.2,baz=134,slow=7.1,SNR=9.1							
NOA					LR	LR	23 15 45.2	
	comp=Z,41nm,19.2s,MS3.5,baz=90,slow=40							
ARCES	**ARCESS Array B**	**58.48**	**351**	P		**P**	**22 49 13.3**	**-1.1**
	comp=Z,5.4nm,0.9s,mb4.6,baz=332,slow=9.9,SNR=5.1							
ARCES					LR	LR	23 17 21.9	
	comp=Z,57nm,21.9s,MS3.6,baz=58,slow=39							
ARCES	**ARCESS Array B**	**58.48**	**351**	P		**P**	**22 49 13.3**	**-1.1**
ARCES					LR	LR	23 17 21.9	
SONM	**Songino Array**	**59.30**	**42**	P		**P**	**22 49 19.3**	**-0.8**
	comp=Z,0.9nm,0.7s,mb3.9,baz=244,slow=7.4,SNR=4.4							
WRA	**Warramunga Arr**	**90.65**	**110**	P		**P**	**22 52 19.7**	**-1.2**
	comp=Z,0.9nm,0.8s,mb4.2,baz=286,slow=11,SNR=11							

IDC ***20*** *22:46:20.4±2.0, 994S×10873E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.9/7, ML3.8/1, Error ellipse: s-maj=96.5km s-min=17.7km az=50.0*

ISCJB ***20*** *22:46:23.8±3.1, 100S±03×1087E±0.3, h41km±29km, mb3.9/10, Error ellipse: s-maj=72.3km s-min=11.2km az=94.5*

NEIC ***20*** *22:46:25.2±3.5, 1003S×10868E, h35km±24km, mb4.1/5, Error ellipse: s-maj=44.9km s-min=7.0km az=48.0*

ISC 20 22:46:25.2±2.6, 101S±03×1086E±03, h36km±25km, n20, σ0§63/17, mb3.9/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**15.36**	**137**	*e*Pn		**Pn**	**22 49 58.6**	**-0.7**
	2.2nm,0.5s							
KULM	**Kulim**	**17.20**	**332**	*e*Pn		**Pn**	**22 50 23.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**18.34**	**118**	P		**Pn**	**22 50 36.8**	**+0.1**
	0.2nm,0.3s,baz=292,slow=5.7,SNR=6.8							
WRA	**Warramunga Arr**	**26.69**	**115**	P		**P**	**22 51 60.0**	**-1.0**
	1.5nm,0.9s,mb3.5,baz=285,slow=11,SNR=5.7							
WRAB	**Tennant Creek**	**26.70**	**114**	*e*P		**P**	**22 52 02.3**	**+1.3**
	0.8nm,0.5s,mb3.5							
WB2	**Warramunga Arr**	**26.70**	**115**	*e*P		**P**	**22 52 00.7**	**-0.3**
ASAR	**Alice Springs**	**27.67**	**122**	P		**P**	**22 52 10.4**	**+0.8**
	0.6nm,0.7s,mb3.3,baz=297,slow=10,SNR=6.6							
STKA	**Stephens Creek**	**37.44**	**130**	P		**P**	**22 53 35.6**	**+0.6**
	3.3nm,0.9s,mb4.2,baz=316,slow=10.0,SNR=5.3							
STKA	**Stephens Creek**	**37.44**	**130**	*e*P		**P**	**22 53 35.9**	**+1.0**
CTAO	**Charters Tower**	**37.62**	**110**	*e*P		**P**	**22 53 35.8**	**-0.7**
SONM	**Songino Array**	**57.69**	**358**	P		**P**	**22 56 12.1**	**-0.1**
	1.4nm,0.6s,mb4.2,baz=178,slow=8.6,SNR=10							
MKAR	**Makanchi Array**	**61.30**	**340**	P		**P**	**22 56 37.4**	**+0.3**
	0.6nm,0.5s,mb4.0,baz=143,slow=8.0,SNR=14							
KURK	**Kurchatov**	**65.92**	**340**	*e*P		**P**	**22 57 06.9**	**-0.6**
	1.2nm,0.6s,mb4.1							
BVAR	**Borovoye Array**	**70.80**	**337**	P		**P**	**22 57 37.8**	**-0.2**
	1.7nm,0.8s,mb4.0,baz=134,slow=8.5,SNR=9.6							
BRVK	**Borovoye**	**70.87**	**337**	P		**P**	**22 57 39.0**	**+0.5**
CHKZ	**Chkalovo**	**71.22**	**337**	*e*P		**P**	**22 57 40.5**	**-0.1**
	3.1nm,0.8s,mb4.3							
ZRNK	**Zerenda**	**71.30**	**336**	*e*P		**P**	**22 57 40.4**	**-0.7**
	2.6nm,0.6s,mb4.3							
WMOK	**Wichita Mounta**	**144.97**	**41**	*e*PKPdf		PKPdf	23 05 59.5	+0.9
WMOK				*e*			23 06 08.1	
JCT	**Junction City**	**146.69**	**48**	PKPdf		PKPdf	23 06 02.8	+1.4
WVT	**Waverly**	**150.09**	**27**	*e*PKPbc		PKPbc	23 06 11.4	-0.6

ISCJB ***20*** *22:47:54.6±0.2, 4564N±001×1177E±002, h4km±2km, Error ellipse: s-maj=2.6km s-min=1.7km az=110.0*

CSEM ***20*** *22:47:56.2±0.1, 4559N×1196E, h12km, ML3.3/14, Error ellipse: s-maj=2.7km s-min=1.3km az=149.0*

ROM ***20*** *22:47:56.3±0.2, 4564N×1183E, h10km, Md3.2/18, Ml2.8/20, Error ellipse: s-maj=3.3km s-min=2.3km az=62.0*

STR ***20*** *22:47:56.8±1.9, 4679N×1269E, h10km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***20*** *22:47:56.4±0.1, 4566N×1201E, h10km, Ml3.1/10, Error ellipse: s-maj=4.0km s-min=3.7km az=48.0*

NEIC ***20*** *22:47:56.3, 4564N×1183E, h10km, MD3.2(ROM), ML3.1(LDG), ML3.2(SZGRF), ML3.4(STR), After ROM.*

NEIC Felt [IV] in the Cittadella-San Martino di Lupari area.

VIE ***20*** *22:47:57.3±0.3, 4564N×1196E, h10km, mb2.7/5, ML3.1/8, Error ellipse: s-maj=2.9km s-min=1.4km az=18.0*

PRU ***20*** *22:48:00.0, 4565N×1208E, h0km*

SZGRF ***20*** *22:48:09.5, 4593N×1156E, h10km, mb3.2, Northern Italy*

ISC 20 22:47:55.6±0.2, 4561N±001×1181E±002, h5km±2km, n136, σ1§18/218, 25C-14D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CGRP	**Cima Grappa**	**0.27**	**359**	⇑*i*Pg		**Pg**	**22 48 00.6**	**-0.3**
TEOL	**Teolo**	**0.27**	**201**	⇓*i*Pg		**Pg**	**22 48 01.4**	**+0.5**
TEOL				*i*	Sg	**Sg**	**22 48 06.5**	**+2.1**
MTLO	**Montello**	**0.28**	**45**	⇓*e*Pg		**Pg**	**22 48 00.6**	**-0.5**
CTI	**Castel Tesino**	**0.45**	**346**	Pg		**Pg**	**22 48 03.9**	**-0.4**
	587nm,0.4s							
IESO	**Jesolo**	**0.53**	**100**	*e*Pg		**Pg**	**22 48 07.5**	**+1.7**
CAE	**Caneva**	**0.59**	**48**	⇑*e*Pg		**Pg**	**22 48 08.1**	**+1.1**
FAU	**Forcella Aurin**	**0.63**	**11**	⇓*i*Pg		**Pg**	**22 48 06.8**	**-0.9**
CSO	**Casso**	**0.75**	**28**	⇑*e*Pg		**Pg**	**22 48 08.6**	**-1.5**
CSO				*e*Sg		**Sg**	**22 48 20.8**	**+0.9**
MLNI	**Malnisio**	**0.78**	**46**	*e*Pg		**Pg**	**22 48 10.2**	**-0.4**
MLNI				*e*Sg		**Sg**	**22 48 25.2**	**+4.6**
SBPO	**S.Benedetto Po**	**0.84**	**229**	Pg		**Pg**	**22 48 13.4**	**+1.6**
SBPO				Sg		**Sg**	**22 48 27.2**	**+4.5**
	266nm,0.3s							
SAL	**Salo**	**0.90**	**270**	Pg		**Pg**	**22 48 13.7**	**+0.8**
	192nm,0.4s							
SALO	**Salr**	**0.90**	**271**	Pg		**Pg**	**22 48 13.5**	**+0.6**
	1μm,0.6s							
AFL	**Alpe Faloria**	**0.95**	**16**	*e*Pg		**Pg**	**22 48 13.9**	**0.0**
TLI	**Talmassons**	**0.96**	**71**	⇓*i*Pg		**Pg**	**22 48 14.1**	**+0.1**
TLI				*i*	Sg	**Sg**	**22 48 28.1**	**+1.8**
APPI	**Appiano**	**0.96**	**335**	Pg		**Pg**	**22 48 13.3**	**-0.7**
	297nm,0.5s							
RAVA	**Ravarino**	**0.98**	**210**	Pg		**Pg**	**22 48 16.8**	**+2.3**
	776nm,0.7s							
FIU	**Minerbio Fiu**	**1.00**	**193**	Pg		**Pg**	**22 48 15.9**	**+1.2**
	422nm,0.4s							
MABI	**Malga Bissina**	**1.01**	**297**	Pg		**Pg**	**22 48 14.5**	**-0.5**
	26nm,0.5s							
MPRI	**Monte Prat**	**1.04**	**52**	⇑*i*Pg		**Pg**	**22 48 15.0**	**-0.5**
MPRI				*i*	Sg	**Sg**	**22 48 30.3**	**+1.3**
CSMI	**Casera Mimoias**	**1.07**	**33**	⇑*i*Pg		**Pg**	**22 48 16.3**	**0.0**
CSMI				*i*	Sg	**Sg**	**22 48 32.0**	**+1.8**
BUA	**Buia**	**1.10**	**56**	⇓*i*Pg		**Pg**	**22 48 16.4**	**-0.3**
BUA				*i*	Sg	**Sg**	**22 48 32.5**	**+1.5**
NOVE	**Novellara**	**1.12**	**224**	Pg		**Pg**	**22 48 18.7**	**+1.6**
	636nm,2.0s							
BOO	**Bordano**	**1.15**	**51**	⇓*i*Pg		**Pg**	**22 48 16.9**	**-0.7**
BOO				*i*	Sg	**Sg**	**22 48 32.2**	**-0.3**
SEST	**Monte Rota**	**1.17**	**14**	Pg		**Pg**	**22 48 18.3**	**+0.2**
	169nm,0.5s							
BAD	**Bernadia**	**1.18**	**57**	*e*Pg		**Pg**	**22 48 16.9**	**-1.3**
BAD				*e*Sg		**Sg**	**22 48 34.3**	**+0.8**
FVI	**Forni Avoltri**	**1.20**	**34**	Pg		**Pg**	**22 48 18.2**	**-0.3**
FVI				Sg		**Sg**	**22 48 36.3**	**+2.3**
	245nm,0.3s							
GMNA	**Gemona**	**1.20**	**56**	Pg		**Pg**	**22 48 17.3**	**-1.3**
	235nm,0.4s							
COLI	**Coloredo**	**1.21**	**64**	⇓*i*Pg		**Pg**	**22 48 18.1**	**-0.8**
COLI				*i*	Sg	**Sg**	**22 48 35.9**	**+1.3**
COLI	**Coloredo**	**1.21**	**64**	*i*Pg		**Pg**	**22 48 18.0**	**-0.9**
COLI				*i*	Sg	**Sg**	**22 48 35.9**	**+1.3**
ZOU	**Zoufplan**	**1.25**	**40**	⇑*i*Pg		**Pg**	**22 48 19.0**	**-0.5**
ZOU				*i*	Sg	**Sg**	**22 48 37.1**	**+1.4**
BRMO	**Bormio**	**1.32**	**311**	Pg		**Pg**	**22 48 20.8**	**-0.2**
	86nm,0.5s							
PLRO	**Paularo**	**1.32**	**44**	⇑*i*Pg		**Pg**	**22 48 20.1**	**-0.9**
PLRO				*i*	Sg	**Sg**	**22 48 39.0**	**+0.9**
PTCC	**Patocco-Chiusa**	**1.34**	**53**	Pg		**Pg**	**22 48 19.8**	**-1.5**
PTCC				Sg		**Sg**	**22 48 39.2**	**+0.6**
	76nm,0.3s							
ROBS	**Robic**	**1.34**	**61**	*i*Pn		**Pn**	**22 48 19.8**	**-1.3**
ROBS				*e*Sn		**Sn**	**22 48 38.9**	**-0.5**
ROBS								
	comp=Z,45nm,0.2s							
ROBS	**Robic**	**1.34**	**61**	*i*Pn		**Pn**	**22 48 19.8**	**-1.3**
ROBS				*e*Sn		**Sn**	**22 48 38.9**	**-0.5**
ROBS	**Robic**	**1.34**	**61**	*i*Pn		**Pn**	**22 48 19.8**	**-1.3**
ROBS				*e*Sn		**Sn**	**22 48 38.9**	**-0.4**
ZCCA	**Zocca**	**1.39**	**205**	Pg		**Pg**	**22 48 22.4**	**+0.1**
	comp=Z,36nm,0.4s							
DRE	**Drenchia**	**1.40**	**66**	⇑*i*Pg		**Pg**	**22 48 20.7**	**-1.7**
DRE				*i*	Sg	**Sg**	**22 48 40.9**	**+0.3**
LSR	**Lussari**	**1.48**	**54**	⇓*i*Pg		**

BFO				*e*Sn		**Sn**	22 49 34.0	-1.3
BFO	**Black Forest**	**3.62**	**320**	*e*Pn		**Pn**	**22 48 54.1**	**+1.8**
BFO				*e*Sn		**Sn**	**22 49 34.0**	**-1.4**
PGF	**Pioggiola**	**3.67**	**214**	*e*Pn		**Pn**	**22 48 52.6**	**-0.4**
PGF				*e*Sn		**Sn**	**22 49 35.8**	**-0.9**
	comp=Z,4.3nm,0.3s							
PGF	**Pioggiola**	**3.67**	**214**	*e*Pn		**Pn**	**22 48 52.6**	**-0.4**
PGF				*e*Sn		**Sn**	**22 49 35.8**	**-0.9**
	comp=Z,2.2nm,0.3s							
MBDF	**Montbardon**	**3.67**	**258**	*e*Pn		**Pn**	**22 48 54.8**	**+1.7**
KHC	**Kasperske Hory**	**3.72**	**18**	*e*PN		**Pn**	**22 48 52.7**	**-1.0**
KHC				*e*PG		**Pg**	**22 49 07.3**	**+0.4**
KHC				*e*SN		**Sn**	**22 49 37.6**	**-0.4**
KHC				*ex*		x	22 49 49.0	
LOMF	**Lomont**	**3.86**	**299**	P		**Pn**	**22 49 00.9**	**+5.3**
MOF	**Molkenrain**	**3.92**	**307**	P		**Pn**	**22 48 57.3**	**+0.8**
HINF	**Hinteralfeld**	**4.06**	**305**	*e*Pn		**Pn**	**22 48 59.1**	**+0.7**
HINF				*e*Sn		**Sn**	**22 49 44.2**	**-2.1**
	comp=Z,12nm,0.5s							
HINF	**Hinteralfeld**	**4.06**	**305**	*e*Pn		**Pn**	**22 48 59.1**	**+0.7**
HINF				*e*Sn		**Sn**	**22 49 44.2**	**-2.1**
	comp=Z,6.0nm,0.5s							
CABF	**La Chapelle**	**4.10**	**286**	*e*Pg		**Pg**	**22 49 14.7**	**+0.5**
CABF				*e*Sn		**Sn**	**22 49 44.6**	**-2.8**
	comp=Z,10nm,0.7s							
CABF	**La Chapelle**	**4.10**	**286**	*e*Pn		**Pn**	**22 48 58.8**	**-0.2**
CABF				*e*Pg		**Pg**	**22 49 14.7**	**+0.5**
CABF				*e*Sn		**Sn**	**22 49 44.6**	**-2.8**
CABF	**La Chapelle**	**4.10**	**286**	*e*Pg		**Pg**	**22 49 14.7**	**+0.5**
CABF				*e*Sn		**Sn**	**22 49 44.6**	**-2.8**
	comp=Z,5.1nm,0.7s							
GRF	**Grafenberg Arr**	**4.10**	**355**	*e*Sg		**Sg**	**22 50 09.5**	**+2.1**
ECH	**Echery**	**4.12**	**311**	P		**Pn**	**22 48 57.9**	**-1.3**
ECH				S		**Sn**	**22 49 50.1**	**+2.4**
ECH	**Echery**	**4.12**	**311**	P		**Pn**	**22 48 59.9**	**+0.7**
ECH				S		**Sn**	**22 49 48.1**	**+0.4**
ECH	**Echery**	**4.12**	**311**	P		**Pn**	**22 48 59.9**	**+0.7**
ECH				S		**Sn**	**22 49 50.1**	**+2.4**
WLS	**Welschbruch**	**4.14**	**314**	P		**Pn**	**22 48 55.6**	**-3.9**
WLS	**Welschbruch**	**4.14**	**314**	P		**Pn**	**22 48 53.9**	**-5.6**
CDF	**Champ du Feu**	**4.18**	**314**	*e*Pn		**Pn**	**22 49 00.1**	**+0.1**
CDF				*e*Pg		**Pg**	**22 49 15.0**	**-0.7**
FRF	**La Foret Royal**	**4.22**	**243**	*e*Pn		**Pn**	**22 49 01.2**	**+0.6**
ORIF	**Oris-en-Rattie**	**4.24**	**263**	*e*Pn		**Pn**	**22 49 02.5**	**+1.6**
ORIF				*e*Sn		**Sn**	**22 49 51.1**	**+0.3**
	comp=Z,6.5nm,0.4s							
ORIF	**Oris-en-Rattie**	**4.24**	**263**	*e*Pn		**Pn**	**22 49 02.5**	**+1.6**
ORIF				*e*Sn		**Sn**	**22 49 51.1**	**+0.3**
	comp=Z,3.2nm,0.4s							
LMR	**La Mourre**	**4.42**	**241**	*e*Pn		**Pn**	**22 49 03.2**	**-0.2**
LMR				*e*Sn		**Sn**	**22 49 54.8**	**-0.5**
	comp=Z,10nm,0.7s							
LMR	**La Mourre**	**4.42**	**241**	*e*Pn		**Pn**	**22 49 03.2**	**-0.2**
LMR				*e*Sn		**Sn**	**22 49 54.8**	**-0.5**
	comp=Z,5.2nm,0.7s							
HAU	**Haudompre**	**4.45**	**305**	*e*Pn		**Pn**	**22 49 04.2**	**+0.5**
HAU				*e*Sn		**Sn**	**22 49 52.4**	**-3.5**
	comp=Z,34nm,0.7s							
HAU	**Haudompre**	**4.45**	**305**	*e*Pn		**Pn**	**22 49 04.2**	**+0.5**
HAU				*e*Sn		**Sn**	**22 49 52.4**	**-3.5**
	comp=Z,17nm,0.7s							
NKC	**Novy Kostel**	**4.64**	**5**	*e*PN		**Pn**	**22 49 06.4**	**0.0**
NKC				*e*PG		**Pg**	**22 49 22.8**	**-1.8**
NKC				*e*SG		**Sg**	**22 50 23.5**	**-1.3**
	comp=Z,25nm,1.3s							
SMRF	**Simiane la Rot**	**4.73**	**252**	*e*Pn		**Pn**	**22 49 08.8**	**+1.2**
PRU	**Pruhonice**	**4.75**	**22**	*e*PN		**Pn**	**22 49 07.5**	**-0.4**
PRU				*e*SG		**Sg**	**22 50 26.1**	**-2.1**
	comp=Z,4.0nm,0.3s							
THEF	**They Montfort**	**4.77**	**305**	P		**Pn**	**22 49 09.8**	**+1.6**
THEF	**They Montfort**	**4.77**	**305**	P		**Pn**	**22 49 05.9**	**-2.3**
VIVF	**Saint-Julien-l**	**5.10**	**264**	*e*Pn		**Pn**	**22 49 13.1**	**+0.4**
BRG	**Berggiesshubel**	**5.46**	**14**	*e*Sg		**Sg**	**22 50 50.8**	**0.0**
BRG	**Berggiesshubel**	**5.46**	**14**	PG		**Pg**	**22 49 37.9**	**-2.2**
BRG				SG		**Sg**	**22 50 49.4**	**-1.5**
	comp=Z,4.2nm,0.7s							
DPC	**Dobruska-Polom**	**5.63**	**31**	*e*SG		**Sg**	**22 50 55.1**	**-1.2**
	comp=Z,5.5nm,0.7s							
SMF	**Signal de Mont**	**5.63**	**283**	*e*Pn		**Pn**	**22 49 19.7**	**-0.3**
SMF				*e*Sn		**Sn**	**22 50 23.2**	**-1.9**
	comp=Z,7.5nm,0.5s							
SMF	**Signal de Mont**	**5.63**	**283**	*e*Pn		**Pn**	**22 49 19.7**	**-0.3**
SMF				*e*Sn		**Sn**	**22 50 23.2**	**-1.9**
	comp=Z,3.8nm,0.5s							
LOR	**Lormes**	**5.74**	**290**	*e*Pn		**Pn**	**22 49 20.9**	**-0.6**
LOR				*e*Sn		**Sn**	**22 50 25.8**	**-1.9**
	comp=Z,7.3nm,0.4s							
CLL	**Collm**	**5.76**	**7**	*e*Pn		**Pg**	**22 49 48.0**	**+2.1**
CLL				*i* x		x	22 50 41.7	
CLL				*i* Sn		**Sb**	**22 50 45.6**	**-0.2**
CLL				*e*Sg		**Sg**	**22 51 03.0**	**+2.5**
	comp=Z,15nm,1.3s							
LASF	**Ste Croix**	**5.86**	**258**	*e*Pn		**Pn**	**22 49 22.7**	**-0.4**
AVF	**Avril sur Loir**	**5.99**	**284**	*e*Pn		**Pn**	**22 49 24.5**	**-0.4**
TCF	**Toulx Ste Croi**	**6.73**	**279**	*e*Pn		**Pn**	**22 49 33.7**	**-1.4**
TCF				*e*Sn		**Sn**	**22 50 48.1**	**-4.0**
	comp=Z,2.0nm,0.5s							
TCF	**Toulx Ste Croi**	**6.73**	**279**	*e*Pn		**Pn**	**22 49 33.7**	**-1.4**
TCF				*e*Sn		**Sn**	**22 50 48.1**	**-4.0**
	comp=Z,1.0nm,0.5s							
CAF	**Calviac**	**6.91**	**268**	*e*Pn		**Pn**	**22 49 38.3**	**+0.7**

GII ***20*** *22:53:01.4±1.9, 33.33N×35.22E, h0km±6km, ML1.7/2*
GRAL ***20*** *22:53:01.2±0.8, 33.15N×35.15E, h2km±212km, MD2.7*
ISCJB ***20*** *22:53:02.0±1.2, 3332N±003×3513E×007, h10km, Error ellipse: s-maj=9.0km s-min=4.3km az=19.5*

ISC 20 22:53:02.7±1.2, 3331N±003×3513E±008, h10km, n11, σ1§15/15, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	**Hanita**	**0.23**	**170**	Pg	**Pg**	**22 53 07.2**	**-0.4**
HNTI	**Hanita**	**0.23**	**170**	Pg	**Pg**	**22 53 07.1**	**-0.4**
MATL	**Matirih**	**0.24**	**44**	*e*Pg	**Pg**	**22 53 07.5**	**-0.2**
MMA0	**Mount Meron ar**	**0.38**	**142**	Pg	**Pg**	**22 53 08.6**	**-1.6**
MMA0				Sg	**Sg**	**22 53 14.9**	**-0.2**
HRI	**Mount Hermon**	**0.51**	**95**	Sg	**Sg**	**22 53 18.4**	**-0.9**
RCY	**Rachaya**	**0.60**	**73**	*e*Pg	**Pg**	**22 53 13.2**	**-1.2**
RCY				*e*Sg	**Sg**	**22 53 21.4**	**-0.9**
KSHT	**Keshet**	**0.66**	**120**	Sg	**Sg**	**22 53 26.2**	**+2.0**
BHL	**Bhannes**	**0.73**	**37**	*e*Sg	**Sg**	**22 53 28.6**	**+2.1**
BHL	**Bhannes**	**0.73**	**37**	*e*Sg	**Sg**	**22 53 28.5**	**+2.0**
MMLI	**Mount Malkishu**	**0.91**	**164**	Pg	**Pg**	**22 53 20.3**	**+0.1**
MMLI				Sg	**Sg**	**22 53 33.6**	**+1.6**
HWQ	**Hawqa**	**1.18**	**35**	*e*Pg	**Pg**	**22 53 24.6**	**-0.8**
HWQ				*e*Sg	**Sg**	**22 53 41.6**	**+1.0**

IDC ***20*** *23:37:25.0±1.6, 981S×10845E, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.0/18, mbtmp4.0/9, ML3.6/1, MS5.1/1, Ms1 5.1/1, ms1mx3.2/26, Error ellipse: s-maj=81.0km s-min=16.0km az=48.0*
NEIC ***20*** *23:37:26.5±0.9, 981S×10842E, h10km, mb4.3/4, Error ellipse: s-maj=47.9km s-min=7.7km az=225.0*
ISCJB ***20*** *23:37:28.5±1.2, 96S±03×1086E±03, h33km, mb4.0/12, MS5.1/1, Error ellipse: s-maj=63.4km s-min=10.1km az=89.1*

ISC 20 23:37:30.6±1.2, 97S±03×1085E±03, h35km, n17, σ0§60/16, mb4.0/12, MS5.1/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.59**	**118**	P	**Pn**	**23 41 44.8**	**-0.2**
	0.2nm,0.3s,baz=246,slow=5.5,SNR=11						
WRA	**Warramunga Arr**	**26.92**	**115**	P	**P**	**23 43 08.1**	**-0.3**
	2.6nm,0.7s,mb3.9,baz=288,slow=11,SNR=14						
WRAB	**Tennant Creek**	**26.93**	**115**	*e*P	**P**	**23 43 08.9**	**+0.5**
	3.7nm,0.6s,mb4.1						
WB2	**Warramunga Arr**	**26.93**	**115**	*e*P	**P**	**23 43 08.8**	**+0.3**
ASAR	**Alice Springs**	**27.93**	**123**	P	**P**	**23 43 17.6**	**+0.1**
	1.2nm,0.9s,mb3.5,baz=305,slow=9.6,SNR=9.4						
STKA	**Stephens Creek**	**37.73**	**131**	P	**P**	**23 44 42.4**	**-0.4**
	6.5nm,0.8s,mb4.4,baz=312,slow=9.0,SNR=9.0						
PMG	**Port Moresby**	**38.11**	**93**	LR	LR	23 58 29.8	
	comp=Z,3μm,21.6s,MS5.1,baz=105,slow=33						
SONM	**Songino Array**	**57.35**	**358**	P	**P**	**23 47 14.8**	**-0.3**
	0.8nm,0.6s,mb4.0,baz=178,slow=7.7,SNR=6.0						
MKAR	**Makanchi Array**	**60.95**	**340**	P	**P**	**23 47 39.8**	**-0.3**
	2.6nm,0.7s,mb4.5,baz=144,slow=7.7,SNR=31						
KURK	**Kurchatov**	**65.56**	**340**	*e*P	**P**	**23 48 10.3**	**-0.3**
	1.1nm,0.4s,mb4.2						

ZAL	**Zalesovo**	**66.54**	**345**	P		**P**	**23 48 18.0**	**+1.2**
	0.6nm,0.4s,mb4.0,baz=300,slow=4.6,SNR=6.5							
ZAL	**Zalesovo**	**66.54**	**345**	P		**P**	**23 48 18.0**	**+1.2**
BVAR	**Borovoye Array**	**70.45**	**337**	P		**P**	**23 48 41.7**	**+0.4**
	1.2nm,0.7s,mb3.9,baz=140,slow=9.5,SNR=6.7							
BRVK	**Borovoye**	**70.52**	**337**	P		**P**	**23 48 41.9**	**+0.2**
CHKZ	**Chkalovo**	**70.86**	**337**	*e*P		**P**	**23 48 42.1**	**-1.7**
	1.5nm,0.4s,mb4.3							
ZRNK	**Zerenda**	**70.94**	**336**	*e*P		**P**	**23 48 44.7**	**+0.4**
	1.3nm,0.6s,mb4.0							
BRTR	**Keskin Array B**	**84.75**	**312**	P		**P**	**23 50 01.3**	**+0.3**
	0.3nm,0.7s,mb3.6,baz=135,slow=7.7,SNR=4.7							

ISCJB ***20*** *23:38:38.4±1.1, 92S±02×1078E±03, h10km, mb4.1/10, Error ellipse: s-maj=47.5km s-min=10.4km az=100.5*
IDC ***20*** *23:38:40.0±2.2, 888S×10807E, h0km, mb4.1/5, mb1 4.1/5, mb1mx3.8/18, mbtmp4.1/5, Error ellipse: s-maj=105.2km s-min=23.0km az=52.0*
NEIC ***20*** *23:38:40.5±0.7, 9.17S×10781E, h10km, mb4.4/5, Error ellipse: s-maj=33.1km s-min=7.5km az=50.0*

ISC 20 23:38:40.3±1.1, 92S±02×1077E±03, h10km, n17, σ0§59/14, mb4.1/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**16.58**	**137**	Pn	**Pn**	**23 42 31.2**	**-1.6**
WRA	**Warramunga Arr**	**27.85**	**115**	P	**P**	**23 44 29.9**	**0.0**
	0.5nm,0.5s,mb3.4,baz=287,slow=11,SNR=4.8						
WRAB	**Tennant Creek**	**27.85**	**115**	*e*P	**P**	**23 44 30.6**	**+0.7**
	1.5nm,0.4s,mb4.0						
WB2	**Warramunga Arr**	**27.86**	**115**	*e*P	**P**	**23 44 30.2**	**+0.2**
QIZ	**Qiongzhong**	**28.15**	**4**	P	**P**	**23 44 32.2**	**-0.3**
STKA	**Stephens Creek**	**38.66**	**131**	P	**P**	**23 46 05.0**	**+1.1**
	2.0nm,0.9s,mb3.8,baz=346,slow=10,SNR=3.2						
HNR	**Honiara**	**51.51**	**95**	P	**P**	**23 47 46.0**	**0.0**
SONM	**Songino Array**	**56.82**	**359**	P	**P**	**23 48 24.2**	**-0.5**
	1.4nm,0.6s,mb4.2,baz=175,slow=8.0,SNR=8.4						
MKAR	**Makanchi Array**	**60.20**	**340**	P	**P**	**23 48 48.6**	**+0.3**
	1.8nm,0.6s,mb4.3,baz=153,slow=7.9,SNR=11						
KURK	**Kurchatov**	**64.81**	**340**	*e*P	**P**	**23 49 19.2**	**0.0**
	1.3nm,0.4s,mb4.3						
BVAR	**Borovoye Array**	**69.67**	**337**	P	**P**	**23 49 49.8**	**-0.2**
	1.4nm,0.6s,mb4.1,baz=147,slow=8.6,SNR=5.2						
BRVK	**Borovoye**	**69.74**	**337**	*e*P	**P**	**23 49 50.7**	**+0.3**
	0.7nm,0.4s,mb3.9						
CHKZ	**Chkalovo**	**70.09**	**338**	*e*P	**P**	**23 49 52.6**	**0.0**
	2.9nm,0.4s,mb4.6						
ZRNK	**Zerenda**	**70.16**	**336**	*e*P	**P**	**23 49 53.0**	**0.0**
	1.6nm,0.4s,mb4.3						
WMOK	**Wichita Mounta**	**144.89**	**40**	*e*PKPdf	PKPdf	23 58 17.7	+0.1
JCT	**Junction City**	**146.75**	**47**	*e*PKP	PKPdf	23 58 22.0	+1.3
KVTX	**Kingsville**	**149.75**	**50**	PKPdf	PKPdf	23 58 27.7	+2.1

TEH ***20*** *23:46:09.4, 2907N×5527E, h9km, ML5.1*
CSEM ***20*** *23:46:47.6±0.1, 2901N×5519E, h20km, mb4.9/99, Ms4.1, Error ellipse: s-maj=1.9km s-min=1.4km az=176.0*
BJI ***20*** *23:46:49.8, 29.10N×5496E, h37km, mB5.3, mb4.8, Ms4.5, Msz4.2*
ISCJB ***20*** *23:46:49.2±0.1, 2905N±002×5514E±002, h25km, mb4.8/167, MS4.2/29, Error ellipse: s-maj=2.5km s-min=2.0km az=97.4*
MOS ***20*** *23:46:49.7±0.8, 2899N×5515E, h33km, mb5.0/75, MS4.1/14, Error ellipse: s-maj=7.5km s-min=3.5km az=127.8*
IDC ***20*** *23:46:49.6±2.4, 2895N×5529E, h19km±14km, mb4.6/23, mb1 4.7/24, mb1mx4.6/27, mbtmp4.7/24, ML4.8/1, MS4.2/19, Ms1 4.2/19, ms1mx4.1/29, Error ellipse: s-maj=14.7km s-min=10.8km az=26.0*
THR ***20*** *23:46:50.1±0.9, 29.10N×5522E, h14km±9km, ML4.9*
SZGRF ***20*** *23:46:50.1, 2933N×5593E, h33km, mb4.8, Southern Iran*
NEIC ***20*** *23:46:53.8, 2908N×5527E, h22km, mb4.9/123, MS4.2/4, ML5.0(THR), MN4.9(TEH), After TEH.*

ISC 20 23:46:51.5±0.1, 2906N±001×5512E±002, h26km, h26km±1.4km: pP-P, n644, σ1§25/700, mb4.8/167, MS4.2/29, 29C-20D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**1.70**	**57**	*e*PG	**Pn**	**23 47 19.4**	**0.0**
KRBR				AML	AML	23 47 48.3	
	comp=E,20μm,0.4s						
KRBR				AML	AML	23 47 50.0	
	comp=N,19μm,0.6s						
KRBR	**Kerman**	**1.70**	**57**	*e*Pg	**Pn**	**23 47 19.0**	**-0.4**
ISRV	**Sarvestan**	**1.79**	**281**	*e*Pn	**Pn**	**23 47 24.9**	**+4.3**
ISRV	**Sarvestan**	**1.79**	**281**	Pn	**Pn**	**23 47 24.9**	**+4.3**
ISRV				Sn	**Sn**	**23 47 48.3**	**+5.9**
ISRV				Sn	**Sn**	**23 47 48.5**	**+6.1**
BNDS	**Bandar-Abbas**	**1.89**	**150**	*e*PG	**Pn**	**23 47 24.5**	**+2.5**
BNDS				AML	AML	23 47 59.6	
	comp=E,10μm,0.6s						
BNDS				AML	AML	23 48 02.6	
	comp=N,14μm,0.5s						
BNDS	**Bandar-Abbas**	**1.89**	**150**	*e*Pg	**Pn**	**23 47 24.0**	**+2.0**
BNDS				*e*Sg	**Sn**	**23 47 50.0**	**+5.0**
GHIR	**Ghir-Karzin**	**2.03**	**248**	*e*PG	**Pn**	**23 47 28.8**	**+4.9**
GHIR				AML	AML	23 48 19.1	
	comp=E,5μm,0.5s						
GHIR	**Ghir-Karzin**	**2.03**	**248**	*e*Pg	**Pn**	**23 47 28.0**	**+4.1**
IMOK	**Mook**	**2.11**	**270**	*e*Pn	**Pn**	**23 47 29.1**	**+4.1**
IMOK	**Mook**	**2.11**	**270**	Pn	**Pn**	**23 47 29.0**	**+4.0**
IMOK				Sn	**Sn**	**23 47 55.8**	**+5.4**
IMOK				Sn	**Sn**	**23 47 56.0**	**+5.6**
SHI	**Shiraz**	**2.35**	**285**	*e*Pn	**Pn**	**23 47 32.8**	**+4.4**
IMEH	**Mehriz**	**2.37**	**349**	*e*Pn	**Pn**	**23 47 31.6**	**+3.0**
IMEH				*e*Sn	**Sn**	**23 48 00.0**	**+3.2**
IMEH	**Mehriz**	**2.37**	**349**	Pn	**Pn**	**23 47 31.7**	**+3.1**
IMEH				Sn	**Sn**	**23 47 59.3**	**+2.5**
IBAF	**Bafgh**	**2.56**	**9**	*e*Pn	**Pn**	**23 47 32.5**	**+1.3**
IBAF				*e*Sn	**Sn**	**23 48 03.7**	**+2.3**
IBAF	**Bafgh**	**2.56**	**9**	Pn	**Pn**	**23 47 32.4**	**+1.2**
IBAF				Sn	**Sn**	**23 48 02.1**	**+0.7**
IBAF				Sn	**Sn**	**23 47 32.5**	**+1.1**
ICHK	**Chekchek**	**3.24**	**349**	*e*Pn	**Pn**	**23 47 43.0**	**+2.4**
ICHK				*e*Sn	**Sn**	**23 48 20.8**	**+2.6**
ICHK	**Chekchek**	**3.24**	**349**	Pn	**Pn**	**23 47 42.8**	**+2.2**
ICHK				Sn	**Sn**	**23 48 20.5**	**+2.3**
BANOM	**Banah**	**3.29**	**161**	⇑P	**Pn**	**23 47 44.3**	**+3.0**
	SNR=30						
NASN	**Na'in**	**4.23**	**333**	*e*Pn	**Pn**	**23 47 56.7**	**+2.5**
NASN	**Na'in**	**4.23**	**333**	*e*Pn	**Pn**	**23 47 56.0**	**+1.8**
ASHO	**Ashiyiah**	**4.43**	**169**	⇑P	**Pn**	**23 47 59.8**	**+2.8**
	SNR=1955						
ASHO				⇓S	**Sn**	**23 48 51.4**	**+3.7**
IZEF	**Zefreh**	**4.52**	**329**	Pn	**Pn**	**23 47 59.8**	**+1.7**
IZEF				Sn	**Sn**	**23 48 51.1**	**+1.3**
ZHSF	**Zahedan**	**4.97**	**82**	*e*Pn	**Pn**	**23 48 06.1**	**+1.8**
ZHSF	**Zahedan**	**4.97**	**82**	*e*Pn	**Pn**	**23 48 05.0**	**+0.7**
IPIR	**Pirpir**	**5.13**	**316**	Pn	**Pn**	**23 48 08.5**	**+1.9**
IPIR				Sn	**Sn**	**23 49 06.1**	**+1.2**
IKLH	**Kalahroud**	**5.22**	**325**	Pn	**Pn**	**23 48 10.6**	**+2.8**
IKLH				Sn	**Sn**	**23 49 07.6**	**+0.4**
ARQ	**Araqi**	**5.83**	**167**	⇑P	**Pn**	**23 48 17.8**	**+1.6**
	SNR=72						
ARQ				⇓S	**Sn**	**23 49 25.5**	**+3.3**
BIDO	**Bidbid**	**6.14**	**153**	⇑P	**Pn**	**23 48 20.3**	**0.0**
	SNR=119						
BIDO				⇑S	**Sn**	**23 49 30.3**	**+0.6**
BIDO	**Bidbid**	**6.14**	**153**	P	**Pn**	**23 48 20.3**	**-0.1**
	SNR=119						
BIDO				S	**Sn**	**23 49 30.3**	**+0.6**
SHGR	**Shooshtar-Gavs**	**6.24**	**301**	*e*Pn	**Pn**	**23 48 24.5**	**+2.7**
SHGR	**Shooshtar-Gavs**	**6.24**	**301**	*e*Pn	**Pn**	**23 48 24.0**	**+2.2**
QRN	**Al-Qurain**	**6.32**	**269**	*e*P	**Pn**	**23 48 25.0**	**+2.1**
QRN				AML	AML	23 49 38.4	
	comp=Z,310nm,0.5s						
IANJ	**Anjiloo**	**6.47**	**351**	*e*Pn	**Pn**	**23 48 27.0**	**+2.0**
IANJ				*e*Lg		23 50 14.4	
UMR	**Umm Al-Rimmam**	**6.49**	**276**	*e*P	**Pn**	**23 48 27.0**	**+1.8**
UMR				AML	AML	23 49 40.5	
	comp=Z,246nm,0.4s						
KBD	**Kabd**	**6.50**	**273**	*e*P	**Pn**	**23 48 27.5**	**+2.1**
KBD				AML	AML	23 49 40.2	
	comp=Z,329nm,0.5s						
SMDO	**Samad**	**6.53**	**156**	⇑P	**Pn**	**23 48 26.6**	**+0.9**
	SNR=110						
BSY	**Bisya**	**6.56**	**163**	⇑P	**Pn**	**23 48 27.8**	**+1.7**
	SNR=63						
BSY				⇑S	**Sn**	**23 49 42.9**	**+2.8**

WSAR	**Wadi Sarin**	**6.59**	**151**	Pn		**Pn**	**23 48 26.9**	**+0.3**
	comp=Z,45nm,0.3s,baz=312,slow=12,SNR=409							
WSAR				Sn		**Sn**	**23 49 40.3**	**-0.7**
	comp=Z,34nm,0.3s,baz=144,slow=17,SNR=8.8							
RDF	**Al-Radifah**	**6.63**	**271**	*e*P		**Pn**	**23 48 29.4**	**+2.1**
RDF				AML	AML		23 49 43.4	
	comp=Z,152nm,0.5s							
MIB	**Mutribah**	**6.83**	**278**	*e*P		**Pn**	**23 48 31.8**	**+1.9**
MIB				AML	AML		23 49 46.4	
	comp=Z,102nm,0.4s							
IFIR	**Firoozkooh**	**6.87**	**344**	Pn		**Pn**	**23 48 32.2**	**+1.8**
IFIR				Sn		**Sn**	**23 49 45.8**	**-1.9**
IFIR				Sn		**Sn**	**23 49 46.1**	**-1.6**
IFIR	**Firoozkooh**	**6.87**	**344**	Pn		**Pn**	**23 48 32.2**	**+1.8**
IFIR				Sn		**Sn**	**23 49 45.8**	**-1.9**
NAY	**Al-Naaiem**	**6.89**	**274**	*e*P		**Pn**	**23 48 32.7**	**+1.9**
NAY				AML	AML		23 49 50.8	
	comp=Z,43nm,0.3s							
ISHM	**Shahmirzad**	**6.91**	**348**	Pn		**Pn**	**23 48 32.8**	**+1.8**
ISHM				Sn		**Sn**	**23 49 46.5**	**-2.2**
ASAO	**Ashtian**	**6.99**	**323**	*e*PN		**Pn**	**23 48 34.5**	**+2.5**
ASAO	**Ashtian**	**6.99**	**323**	*e*Pn		**Pn**	**23 48 34.0**	**+2.0**
IDMV	**Damavand**	**7.01**	**339**	*e*Pn		**Pn**	**23 48 34.9**	**+2.5**
IDMV				*e*Sn		**Sn**	**23 49 50.4**	**-0.8**
IDMV	**Damavand**	**7.01**	**339**	Pn		**Pn**	**23 48 34.7**	**+2.3**
IDMV				Sn		**Sn**	**23 49 49.4**	**-1.8**
IDMV				Sn		**Sn**	**23 49 49.6**	**-1.6**
RST	**Umm Al-Ruwaisa**	**7.11**	**276**	*e*P		**Pn**	**23 48 35.5**	**+1.7**
RST				AML	AML		23 49 57.8	
	comp=Z,221nm,0.6s							
JMDO	**Jabal Madar**	**7.18**	**157**	⇑P		**Pn**	**23 48 35.8**	**+1.1**
	SNR=56							
JMDO				⇓S		**Sn**	**23 49 57.2**	**+1.8**
IKIA	**Kiasar**	**7.23**	**351**	Pn		**Pn**	**23 48 38.3**	**+2.8**
IKIA				Sn		**Sn**	**23 49 53.8**	**-2.9**
WBK	**Wadi Bani Khal**	**7.29**	**151**	⇓P		**Pn**	**23 48 36.5**	**+0.2**
	SNR=52							
WBK				⇓S		**Sn**	**23 49 55.8**	**-2.4**
IGLO	**Galoogah**	**7.36**	**350**	Pn		**Pn**	**23 48 41.0**	**+3.8**
IGLO				Sn		**Sn**	**23 50 00.0**	**+0.1**
IGLO				Sn		**Sn**	**23 50 00.4**	**+0.5**
IAFJ	**Afjeh**	**7.37**	**338**	*e*Pn		**Pn**	**23 48 39.6**	**+2.3**
IAFJ				*e*Sn		**Sn**	**23 49 59.5**	**-0.5**
IAFJ	**Afjeh**	**7.37**	**338**	*e*Pn		**Pn**	**23 48 40.0**	**+2.7**
IAFJ				Sn		**Sn**	**23 49 56.9**	**-3.1**
IAFJ	**Afjeh**	**7.37**	**338**	*e*Pn		**Pn**	**23 48 39.6**	**+2.3**
IAFJ				Sn		**Sn**	**23 49 56.9**	**-3.1**
IPRN	**Paran-Amol**	**7.57**	**342**	Pn		**Pn**	**23 48 41.9**	**+1.9**
IPRN				Sn		**Sn**	**23 50 01.1**	**-3.8**
IPRN				Sn		**Sn**	**23 50 02.2**	**-2.7**
IMHD	**Mahdasht**	**7.61**	**331**	Pn		**Pn**	**23 48 42.8**	**+2.2**
IMHD				Sn		**Sn**	**23 50 04.1**	**-1.8**
CHKH	**Charan**	**7.62**	**335**	*e*PN		**Pn**	**23 48 43.1**	**+2.4**
IRAZ	**Razeghan**	**7.71**	**327**	Pn		**Pn**	**23 48 47.1**	**+5.1**
IRAZ				Sn		**Sn**	**23 50 06.3**	**-2.1**
IRAZ				Sn		**Sn**	**23 50 06.6**	**-1.8**
IKRD	**Kardeh**	**8.21**	**19**	Pn		**Pn**	**23 48 54.0**	**+5.2**
IKRD				Sn		**Sn**	**23 50 23.4**	**+2.7**
IKRD				Sn		**Sn**	**23

LBOS *i* S **Sn** 23 54 10.2 -1.6
KIV Kislovodsk 17.89 330 *d* iP **Pn** 23 51 00.3 +2.0
KIV pmax pmax
comp=Z,33nm,2.7s
KIV MLR MLR
comp=Z,500nm,21.0s
KIV Kislovodsk 17.89 330 *e*Pn **Pn** 23 51 00.7 +2.4
comp=Z,32nm,0.8s
KIV Kislovodsk 17.89 330 *i* P **Pn** 23 51 00.3 +2.0
comp=Z,500nm,21.0s
KOZT Kozan 18.17 303 *e*P **Pn** 23 51 02.6 +0.8
KHET Khetri 18.20 88 *e*P **Pn** 23 51 02.0 -0.1
SVST Sivas 18.38 310 *i* P **Pn** 23 51 04.2 -0.2
SVSK Karacayir 18.42 311 *e*P **Pn** 23 51 05.7 +0.8
GOF Gofitskoye 18.62 332 *e*P **Pn** 23 51 07.8 +0.4
GOF pmax pmax
comp=Z,50nm,0.7s
GOF Gofitskoye 18.62 332 *e*P **Pn** 23 51 07.8 +0.4
comp=Z,50nm,0.7s
KARA Karaisali 18.66 301 *e*P **Pn** 23 51 05.2 -2.7
TRBA At Turbah 18.78 215 *e*P **Pn** 23 51 05.7 -3.5
TRBA AMb AMB 23 51 10.7
comp=Z,100nm,1.4s
TRBA *i* S **Sn** 23 54 36.8 -1.6
SOC Sochi 19.04 324 *e*P **Pn** 23 51 13.6 +1.2
SOC *e* 23 54 41.5
SOC pmax pmax
comp=Z,41nm,1.1s
SOC MLR MLR
comp=Z,887nm,16.0s
SOC Sochi 19.04 324 *e*P **Pn** 23 51 13.6 +1.2
comp=Z,41nm,1.1s
SOC *e*S **Sn** 23 54 41.5 -3.4
comp=Z,887nm,16.0s
MEST Erdemli 19.14 299 *i* P **Pn** 23 51 12.8 -0.8
SMLA Simla 19.18 78 *e*P **Pn** 23 51 12.4 -1.8
AYAN Aya Nagar 19.30 86 *e*P **Pn** 23 51 14.6 -0.9
NDI New Delhi 19.35 86 *e*P **Pn** 23 51 14.5 -1.6
AVNT Avonos 19.38 305 *i* P **Pn** 23 51 15.7 -0.8
CSS Prodhromos 19.38 293 *e*P **Pn** 23 51 17.8 +1.3
comp=Z,88nm,1.0s
CSS Prodhromos 19.38 293 *e*P **Pn** 23 51 17.8 +1.3
comp=Z,88nm,1.0s
AML Almayashu 19.90 44 P **Pn** 23 51 21.3 -1.4
SNR=39
POO Poona 20.06 117 *ex* x 23 49 42.0
CDAG Cicekdag 20.07 307 *i* P **P** 23 51 17.6 -5.2
KSH Kashi 20.10 53 *e*P **P** 23 51 22.6 -0.5
ERMK Ermenek 20.11 298 *i* P **P** 23 51 20.5 -2.7
KLP Kalpa 20.12 77 *e*P **P** 23 51 23.1 -0.2
KLP AMb AMB 23 51 24.0
comp=Z,44nm,0.6s
KLP *e*S **S** 23 55 10.3 +2.4
AGRA Agra 20.20 90 *e*P **P** 23 51 24.0 -0.3
EKS2 Erkin-Say 20.26 43 P **P** 23 51 25.4 +0.5
SNR=25
KAMT Kaman 20.43 306 *e*P **P** 23 51 29.1 +2.4
DIKM Dikmen 20.45 313 *e*P **P** 23 51 32.9 +6.0
UCH Uchtor 20.46 45 P **P** 23 51 27.6 +0.6
SNR=25
BOYT Boyabat 20.56 312 *i* P **P** 23 51 28.2 +0.1
BR131 Keskin Array S 20.63 307 *e*P **P** 23 51 30.9 +2.0
comp=Z,34nm,0.8s
BR131 Keskin Array S 20.63 307 *e*P **P** 23 51 30.9 +2.1
comp=Z,34nm,0.8s
BRTR Keskin Array B 20.63 307 P **P** 23 51 30.6 +1.8
comp=Z,13nm,0.5s,baz=130,slow=10.0,SNR=30
BRTR S **S** 23 55 24.8 +6.7
comp=Z,0.6nm,0.9s,baz=88,slow=12,SNR=2.3
BRTR LR LR 00 01 02.5
comp=Z,2µm,19.0s,MS4.4,baz=110,slow=41
BYBT Boyabat 20.67 312 *e*P **P** 23 51 28.9 -0.3
AAK Ala-Archa 20.68 44 P **P** 23 51 30.9 +1.5
SNR=15
AAK Ala-Archa 20.68 44 *d* iP **P** 23 51 29.3 0.0
AAK pmax pmax
comp=Z,58nm,2.1s
AAK MLR MLR
comp=Z,700nm,18.0s,MS4.1
AAK Ala-Archa 20.68 44 *e*P **P** 23 51 29.8 +0.5
comp=Z,32nm,1.0s
AAK Ala-Archa 20.68 44 *i* P **P** 23 51 29.3 0.0
comp=Z,700nm,18.0s
BHPL Bhopal 20.83 101 *e*P **P** 23 51 31.8 +0.8
KZA Kyzart 20.84 46 P **P** 23 51 32.2 +1.1
SNR=11
ATD Arta Tunnel 20.86 216 P **P** 23 51 34.5 +3.1
comp=Z,29nm,1.1s,baz=353,slow=10,SNR=4.7
FRU Bishkek 20.86 44 P **P** 23 51 23.0 -8.4
FRU *e* 23 55 09.0
KONT Konya--Tatoy 20.91 301 *e*P **P** 23 51 31.9 0.0
TOS Tosya 20.95 310 *e*P **P** 23 51 31.9 -0.4
KBK Karagaybulak 20.97 44 P **P** 23 51 33.4 +0.9
SNR=19
CANT Cankiri 21.02 309 *e*P **P** 23 51 33.4 +0.3
KAD Karad 21.03 120 *e*P **P** 23 51 34.2 +1.0
KAD AMb AMB 23 51 36.0
comp=Z,66nm,0.9s,mb5.0
CHMS Chumysh 21.04 43 P **P** 23 51 33.7 +0.4
SNR=5.1
USP Ospenovka 21.05 42 P **P** 23 51 37.1 +3.8
SNR=15
ANN Anapa 21.07 323 *e*P **P** 23 51 41.5 +7.9
ANN *e**PP 23 52 01.4
ANN *e*S **S** 23 55 35.1 +8.3
ANN pmax pmax
comp=Z,124nm,1.3s,mb5.1
ANN MLR MLR
comp=Z,517nm,22.0s,MS3.9
ANN Anapa 21.07 323 *e*PcP PcP 23 55 35.1 -4.4
ELDT Eldivan 21.10 308 *i* P **P** 23 51 33.9 0.0
JOSI Joshimath 21.25 80 *ex* x 23 51 22.5
KDHN Kadinhani 21.28 302 *i* P **P** 23 51 35.9 0.0
KDHN Kadinhani 21.28 302 *i* P **P** 23 51 35.8 0.0
ANTO Ankara 21.28 306 *e*P **P** 23 51 31.9 -4.0
ANTO Ankara 21.28 306 ⇑ *i*P **P** 23 51 38.1 +2.2
ANTO Ankara 21.28 306 *e*P **P** 23 51 37.7 +1.8
ANTO pmax pmax
comp=Z,118nm,1.1s,mb5.1
ANTO Ankara 21.28 306 *e*P **P** 23 51 37.7 +1.8
comp=Z,118nm,1.1s,mb5.1
ANTO Ankara 21.28 306 *e*P **P** 23 51 37.7 +1.8
comp=Z,118nm,1.1s,mb5.1
LOD Lodumlu 21.31 306 *e*P **P** 23 51 37.5 +1.3
AKTK Aktyubinsk 21.46 5 P **P** 23 51 37.5 -0.4
AKTK LR LR 00 01 33.7
AKTK Aktyubinsk 21.46 5 P **P** 23 51 37.5 -0.4
comp=Z,1µm,19.2s
AKTO Aktyubinsk 21.46 5 P **P** 23 51 37.5 -0.4
comp=Z,64nm,0.7s,mb5.0,baz=180,slow=11,SNR=233
AKTO LR LR 00 01 33.7
comp=Z,1µm,19.2s,MS4.3,baz=180,slow=41
AKTO Aktyubinsk 21.46 5 P **P** 23 51 37.5 -0.4
AKTO pmax pmax
comp=Z,64nm,0.7s,mb5.1
AKTO MLR MLR
comp=Z,1µm,19.2s,MS4.3
AKL Akola 21.51 108 *e*P **P** 23 51 39.2 +0.9
AKL AMb AMB 23 51 43.2
comp=Z,68nm,1.5s,mb4.8
TKM2 Tokmak 2 21.51 44 P **P** 23 51 38.9 +0.6
SNR=16
ULHL Ulahol 21.55 47 P **P** 23 51 39.6 +0.8
SNR=28
KIZT Kizilcal 21.57 303 *e*P **P** 23 51 41.8 +2.8
BALT Daday 21.61 311 *i* P **P** 23 51 34.9 -4.5
LGTI Lohaghat 21.92 83 *i* x x 23 51 38.0
SAFT Safranbolu 21.94 310 *e*P **P** 23 51 40.3 -2.6
ISP Isparta 22.28 300 *e*P **P** 23 51 46.0 -0.6
ISP Isparta 22.28 300 *c* iP **P** 23 51 48.9 +2.3
ISP Isparta 22.28 300 *e*P **P** 23 51 48.3 +1.7
comp=Z,67nm,0.9s,mb5.1
ELL Elmali 22.48 296 *e*P **P** 23 51 48.7 +0.1
ESKT Eskisehir 22.54 304 *i* P **P** 23 51 49.3 -0.1
SEYT Eskypehyr 22.54 304 *i* P **P** 23 51 49.3 -0.1
MDU Mudurnu 22.63 307 *e*P **P** 23 51 47.2 -3.0
SIM Simferopol' 22.99 319 *ce*P **P** 23 51 55.7 +1.6
SIM *e*S **S** 23 56 02.0 -0.9
SIM pmax pmax
comp=Z,25nm,1.1s,mb4.6
SIM MLR MLR
comp=Z,500nm,20.0s,MS4.0
HENT Hendek 22.99 307 *i* P **P** 23 51 46.4 -7.7
DNZL Cakiroluk 23.36 298 *i* P **P** 23 51 54.1 -3.9
GDZ Gediz 23.41 302 *i* P **P** 23 51 51.2 -7.3

ADVT Abdulvahap 23.66 305 *e*P **P** 23 51 57.4 -3.5
ARG Arkhangelos 23.78 294 *e*P **P** 23 52 04.8 +2.9
HRT Hereke 23.85 306 *e*P **P** 23 51 59.1 -3.5
ULDT Uludag 24.00 304 *i* P **P** 23 52 01.7 -2.2
DST Dursunbey 24.20 303 *e*P **P** 23 52 03.5 -2.2
HYB Hyderabad 24.40 113 *i* P **P** 23 52 09.5 +1.9
HYB Hyderabad 24.40 113 *e*P **P** 23 52 07.0 -0.6
KARP Karpathos 24.46 293 *e*P **P** 23 52 05.0 -3.1
BDRM Kayabasi 24.47 296 *i* P **P** 23 52 04.6 -3.7
KDAG Bornova 24.89 299 *i* P **P** 23 52 11.3 -0.8
KOLN Koldanda 25.06 86 *e*P **P** 23 52 11.1 -2.5
comp=Z,32nm,0.8s,mb4.9
VRSR Storozhevoye 25.16 336 *e*P **P** 23 52 14.5 0.0
VRSR pmax pmax
comp=Z,20nm,0.7s,mb4.8
VRSR pmax pmax
comp=N,40nm,0.8s
VRSR pmax pmax
comp=E,40nm,0.8s
VRSR Storozhevoye 25.16 336 *e*P **P** 23 52 14.5 0.0
comp=E,20nm,0.7s,mb4.8
GKN Gorkha 25.93 85 *e*P **P** 23 52 20.2 -1.3
comp=E,45nm,0.7s,mb5.1
ZRNK Zerenda 25.98 19 *e*P **P** 23 52 21.4 -0.5
ZRNK pmax pmax
comp=Z,37nm,1.1s,mb4.8
ZRNK Zerenda 25.98 19 *e*P **P** 23 52 21.4 -0.5
comp=Z,37nm,1.1s,mb4.8
ZRNK Zerenda 25.98 19 *e*P **P** 23 52 21.4 -0.5
comp=Z,37nm,1.1s,mb4.8
APE Apeiranthos 25.98 296 *e*P **P** 23 52 24.5 +2.5
TIRR Tirgusor 26.19 313 ⇓ *i*P **P** 23 52 26.0 +2.1
DMN Daman 26.40 86 *e*P **P** 23 52 24.8 -1.0
comp=Z,65nm,0.9s,mb5.2
BRVK Borovoye 26.45 21 *e*P **P** 23 52 25.8 -0.4
BRVK pmax pmax
comp=Z,20nm,0.8s,mb4.7
BRVK Borovoye 26.45 21 *e*P **P** 23 52 25.8 -0.5
comp=Z,20nm,0.8s,mb4.7
BRVK Borovoye 26.45 21 *e*P **P** 23 52 25.8 -0.4
comp=Z,20nm,0.8s,mb4.7
BVAR Borovoye Array 26.46 21 P **P** 23 52 25.9 -0.4
comp=Z,45nm,0.7s,mb5.1,baz=209,slow=7.6,SNR=216
BVAR PcP PcP 23 55 50.7 -0.3
comp=Z,5.2nm,0.6s,baz=203,slow=2.6,SNR=12
BVAR ScP ScP 23 59 27.9 -1.2
comp=Z,1.7nm,0.7s,baz=219,slow=1.9,SNR=7.1
BVAR LR LR 00 04 22.2
comp=Z,1µm,19.5s,MS4.5,baz=145,slow=40
BVAR Borovoye Array 26.46 21 P **P** 23 52 25.9 -0.4
BVAR 23 55 50.7
KKN Kakani 26.52 85 *e*P **P** 23 52 25.7 -1.1
comp=Z,36nm,0.5s,mb5.1
KKN Kakani 26.52 85 *e*P **P** 23 52 25.7 -1.1
KKN pmax pmax
comp=Z,36nm,0.5s,mb5.2
PKI Pulchoki 26.67 86 *e*P **P** 23 52 27.1 -1.1
comp=Z,79nm,1.1s,mb5.2
PKI Pulchoki 26.67 86 *e*P **P** 23 52 27.1 -1.1
PKI pmax pmax
comp=Z,79nm,1.1s,mb5.2
CFR Carcaliu 26.70 314 ⇑ *i*P **P** 23 52 29.0 +0.6
VAM Vamos 26.84 292 *e*P **P** 23 52 31.5 +1.7
RDO Rodhopi 26.91 305 *e*P pP 23 52 41.5 +3.5
GUN Gumba 27.02 85 *e*P **P** 23 52 32.6 +1.2
comp=Z,128nm,0.9s,mb5.4
CHKZ Chkalovo 27.09 20 *e*P **P** 23 52 31.2 -0.7
CHKZ pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
CHKZ Chkalovo 27.09 20 *e*P **P** 23 52 31.2 -0.8
comp=Z,9.6nm,0.7s,mb4.4
CHKZ Chkalovo 27.09 20 *e*P **P** 23 52 31.2 -0.7
comp=Z,10.0nm,0.7s,mb4.5
JIRN Jiri 27.34 85 *e*P **P** 23 52 35.5 +1.3
ARU Arti 27.47 4 *e*P **P** 23 52 34.7 -0.7
ARU *e* 23 53 22.8
ARU *e* 23 55 50.9
ARU *e*S **S** 23 57 09.2 -5.2
ARU *e*SS 23 58 29.5
ARU *e* 00 03 16.1
ARU MLR MLR
comp=N,400nm,20.0s,MS4.0
ARU MLR MLR
comp=Z,500nm,20.0s,MS4.1
ARU MLR MLR
comp=E,100nm,18.0s,MS4.0
ARU Arti 27.47 4 *e*P **P** 23 52 34.4 -1.0
comp=E,6.6nm,0.7s,mb4.3
ARU Arti 27.47 4 *e*PcP PcP 23 55 50.9 -2.5
MKAR Makanchi Array 27.59 43 P **P** 23 52 36.0 -0.5
comp=E,4.5nm,0.8s,mb4.2,baz=228,slow=8.2,SNR=24
MKAR ScP ScP 23 59 31.2 -1.3
comp=E,2.2nm,0.8s,baz=245,slow=2.6,SNR=11
MKAR Makanchi Array 27.59 43 *e*P **P** 23 52 36.0 -0.5
VRI Vrincioaia 27.89 315 ⇑ *i*P **P** 23 52 40.2 +1.0
PLOR Plostina 27.94 315 ⇓ *i*P **P** 23 52 41.2 +1.7
KURK Kurchatov 27.94 33 *e*P **P** 23 52 39.3 -0.3
comp=E,7.1nm,0.8s,mb4.3
KURK Kurchatov 27.94 33 *e*P **P** 23 52 39.0 -0.6
VLI Veliai 27.99 294 *e*P **P** 23 52 45.0 +5.0
SVE Sverdlovsk 28.03 6 *e*P **P** 23 52 38.7 -1.7
SVE *e* 23 53 32.0
SVE pmax pmax
comp=Z,16nm,1.5s,mb4.4
SVE MLR MLR
comp=N,500nm,12.0s,MS4.4
SVE MLR MLR
comp=E,200nm,12.0s,MS4.4
SVE MLR MLR
comp=Z,900nm,12.0s,MS4.6
SVE Sverdlovsk 28.03 6 *e*P **P** 23 52 38.7 -1.7
comp=Z,16nm,1.5s,mb4.4
MLR Muntele Rosu 28.22 314 P **P** 23 52 43.3 +1.3
comp=Z,7.7nm,0.6s,mb4.5,baz=41,slow=5.2,SNR=14
MLR LR LR 00 06 29.6
comp=Z,723nm,21.0s,MS4.2,baz=96,slow=42
MLR Muntele Rosu 28.22 314 ⇓ *i*P **P** 23 52 44.1 +2.0
VOIR 28.77 313 ⇓ *i*P **P** 23 52 47.7 +0.7
ITM Ithomi 28.85 295 *e*P **P** 23 52 49.0 +1.3
AKASG Malin Array Be 29.11 325 P **P** 23 52 49.5 -0.4
comp=Z,5.1nm,0.8s,mb4.3,baz=128,slow=7.7,SNR=31
AKASG PcP PcP 23 55 57.2 -0.2
comp=Z,0.5nm,0.4s,baz=89,slow=3.0,SNR=4.1
AKASG ScP ScP 23 59 35.2 -2.0
comp=Z,1.4nm,0.6s,baz=93,slow=2.6,SNR=5.9
AKASG Malin Array Be 29.11 325 P **P** 23 52 49.5 -0.4
AKASG PcP PcP 23 55 57.2 -0.2
AKASG ScP ScP 23 59 35.2 -2.0
AKBB Malin Array Si 29.11 325 *e*P **P** 23 52 49.2 -0.7
AKBB *e* pP 23 52 56.0 -1.6
VAY Valandovo 29.11 304 *i* P **P** 23 52 50.0 0.0
OBN Obninsk 29.27 338 ⇓ *i*P **P** 23 52 51.3 -0.1
OBN *e**PP pP 23 53 03.3 +4.2
OBN *e* 23 53 47.0
OBN *e*S **S** 23 57 35.9 -6.8
OBN *i* SS SS 23 59 15.2 -32
OBN pmax pmax
comp=Z,95nm,1.6s,mb5.3
OBN MLR MLR
comp=Z,200nm,18.0s,MS3.8
OBN Obninsk 29.27 338 *e*P **P** 23 52 52.0 +0.6
comp=Z,32nm,0.7s,mb5.2
OBN Obninsk 29.27 338 *i* P **P** 23 52 51.3 -0.1
comp=Z,95nm,1.6s,mb5.3
MOS Moscow 29.46 340 ⇑ *i*P **P** 23 52 52.4 -0.7
MOS *e* 23 53 10.1
MOS *e* 23 53 47.7
MOS *e* 23 55 57.5
MOS *e* 00 03 29.8
MOS pmax pmax
comp=Z,200nm,2.2s,mb5.5
MOS pmax pmax
comp=Z,59nm,1.4s,mb5.1
MOS Moscow 29.46 340 *i* P **P** 23 52 52.4 -0.7
comp=Z,59nm,1.4s,mb5.1
MOS Moscow 29.46 340 *e*PcP PcP 23 55 57.5 -0.8
BURAR Bucovina Array 29.62 317 ⇑ *i*P **P** 23 52 55.4 +0.8
BIA Bitola 29.95 303 *i* P **P** 23 52 58.3 +0.8
BIA Bitola 29.95 303 *i* P **P** 23 52 58.2 +0.7
VLS Valsamata 30.02 297 *e*P **P** 23 52 58.5 +0.4
SKO Skopje 30.09 304 *i* P **P** 23 52 59.9 +1.1
SKO Skopje 30.09 304 *i* P **P** 23 52 59.8 +1.1
OHR Ohrid 30.36 303 *i* P **P** 23 53 01.3 +0.3
DRGR 30.81 314 ⇑ *i*P **P** 23 53 05.9 +0.9
BZS Buzias 31.07 311 ⇓ *i*P **P** 23 53 08.0 +0.7

KWP Kalwaria 32.04 319 *e*P **P** 23 53 16.3 +0.4
MNK Minsk 32.19 330 *e*P **P** 23 53 14.0 -3.2
NVS Novosibirsk 32.77 30 *e*P **P** 23 53 20.8 -1.5
NVS *e*S **S** 23 58 36.9 -0.7
NVS pmax pmax
comp=N,25nm,1.8s
NVS pmax pmax
comp=E,12nm,1.8s
NVS pmax pmax
comp=Z,23nm,1.8s,mb4.8
NVS smax
comp=N,24nm,2.0s
NVS smax
comp=E,17nm,2.0s
NVS Novosibirsk 32.77 30 *e*P **P** 23 53 20.8 -1.5
NVS *e*S **S** 23 58 36.9 -0.7
ZAL Zalesovo 32.92 33 P **P** 23 53 22.6 -1.0
comp=E,12nm,0.4s,mb5.2,baz=224,slow=6.6,SNR=39
ZAL PcP PcP 23 56 06.4 -1.1
comp=E,2.1nm,0.4s,baz=243,slow=4.5,SNR=3.4
ZAL ScP ScP 23 59 47.2 -2.7
comp=E,1.3nm,0.6s,baz=221,slow=3.7,SNR=5.6
ZAL LR LR 00 09 10.9
comp=E,819nm,18.4s,MS4.5,baz=236,slow=41
ZAL Zalesovo 32.92 33 *i* P **P** 23 53 22.6 -1.0
ZAL pmax pmax
comp=Z,12nm,0.4s
ZAL Zalesovo 32.92 33 P **P** 23 53 22.6 -1.0
ZAL PcP PcP 23 56 06.4 -1.1
ZAL ScP ScP 23 59 47.2 -2.7
ZAL LR LR 00 09 10.9
ZAL Zalesovo 32.92 33 *i* P **P** 23 53 22.6 -1.0
comp=Z,12nm,0.4s,mb5.2
ZAL Zalesovo 32.92 33 PcP PcP 23 56 06.4 -1.1
PSZ Piszkesteto 33.01 315 P **P** 23 53 27.1 +2.8
PSZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
PSZ Piszkesteto 33.01 315 P **P** 23 53 27.1 +2.7
comp=Z,5.2nm,0.8s,mb4.5
PSZ Piszkesteto 33.01 315 P **P** 23 53 27.0 +2.7
comp=Z,5.2nm,0.8s,mb4.5
OJC Ojcow 33.99 318 *e*P **P** 23 53 33.2 +0.3
SUW Suwalki 34.05 326 *e*P **P** 23 53 33.4 0.0
KMBO Kilima Mbogo 34.54 213 LR LR 00 09 25.4
comp=Z,604nm,19.1s,MS4.3,baz=88,slow=39
OKC Ostrava-Krasne 34.80 317 *e*P **P** 23 53 40.5 +0.5
MORC Moravsky Berou 35.15 317 *e*P **P** 23 53 40.6 -2.3
MORC pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MORC Moravsky Berou 35.15 317 *e*P **P** 23 53 40.6 -2.3
comp=Z,4.7nm,1.0s,mb4.4
MORC Moravsky Berou 35.15 317 *e*P **P** 23 53 40.6 -2.3
comp=Z,5.0nm,1.0s,mb4.4
VRAC Vranov 35.55 315 *e*P **P** 23 53 46.7 +0.3
CONA Conrad Observa 35.56 313 ⇓ *i*P **P** 23 53 43.9 -2.5
comp=Z,14nm,1.2s,mb4.8
ARSA Arzberg 35.58 312 ⇑ *i*P **P** 23 53 46.3 -0.3
comp=Z,14nm,1.2s,mb4.8
ARSA Arzberg 35.58 312 P **P** 23 53 46.3 -0.3
comp=Z,14nm,1.2s,mb4.8
AQU L'Aquila 36.03 303 *e*P **P** 23 53 51.7 +1.2
AQU *e**PP pP 23 53 59.4 +1.1
AQU pmax pmax
comp=Z,29nm,0.9s,mb5.2
AQU L'Aquila 36.03 303 *e*P **P** 23 53 51.7 +1.2
comp=Z,29nm,0.9s,mb5.2
AQU *e*pP pP 23 53 59.4 +1.2
AQU L'Aquila 36.03 303 *e*P **P** 23 53 51.7 +1.2
comp=Z,29nm,0.9s,mb5.2
DPC Dobruska-Polom 36.09 317 *e*P **P** 23 53 52.2 +1.2
TREC Trest 36.23 315 *e*P **P** 23 53 51.8 -0.4
UPC Upice 36.33 317 *e*P **P** 23 53 52.8 -0.2
MOA Molln 36.57 312 *i* P **P** 23 53 55.1 0.0
comp=Z,22nm,1.1s,mb4.9,SNR=16
GKP Gorka Klasztor 36.74 322 *e*P **P** 23 53 57.1 +0.5
KBA Koelnbreinsper 36.97 311 ⇓ *i*P **P** 23 53 58.8 +0.3
comp=Z,23nm,0.8s,mb5.1,SNR=10
KBA Koelnbreinsper 36.97 311 ⇓ *i*P **P** 23 53 58.8 +0.3
KBA pmax pmax
comp=Z,23nm,0.8s,mb5.1
PRU Pruhonice 37.04 316 *e*P **P** 23 54 00.0 +0.9
PVCC Panska Ves 37.20 317 *e*P **P** 23 54 01.3 +0.8
GEC2 GERESS Array S 37.21 314 *e*P **P** 23 54 00.2 -0.3
GERES GERESS Array B 37.21 314 P **P** 23 54 00.2 -0.3
comp=Z,3.6nm,0.6s,mb4.4,baz=117,slow=8.3,SNR=30
GERES ScP ScP 00 00 04.2 -1.2
comp=Z,0.8nm,0.8s,baz=108,slow=4.3,SNR=4.6
GERES LR LR 00 11 38.2
comp=Z,305nm,21.7s,MS4.1,baz=108,slow=40
JOF Joensuu 37.23 342 *ep* **P** 23 53 59.5 -1.2
comp=Z,20nm,0.7s,mb5.1
KHC Kasperske Hory 37.37 314 *e*P **P** 23 54 01.5 -0.4
KHC *e*pP pP 23 54 06.5 -3.2
FIA1 FINESS Array S 37.67 338 *e*P **P** 23 54 04.1 -0.4
FIA1 FINESS Array S 37.67 338 *e*P **P** 23 54 04.1 -0.4
FINES FINESS Array B 37.67 338 P **P** 23 54 04.2 -0.3
comp=Z,8.6nm,0.4s,mb4.8,baz=140,slow=10.0,SNR=126
FINES LR LR 00 12 42.4
comp=Z,91nm,18.3s,MS3.6,baz=334,slow=41
FINES FINESS Array B 37.67 338 *i* P **P** 23 54 04.1 -0.4
FINES pmax pmax
comp=Z,9.0nm,0.4s
FINES FINESS Array B 37.67 338 *i* P **P** 23 54 04.1 -0.4
comp=Z,9.0nm,0.4s,mb4.8
BRG Berggiesshubel 37.69 317 *e*P **P** 23 54 04.7 +0.1
comp=Z,2.6nm,1.2s,mb3.8
BRG Berggiesshubel 37.69 317 *e*P **P** 23 54 05.4 +0.8
comp=Z,2.0nm,0.5s,mb4.1
BRG *i* 23 54 38.5
comp=Z,4.2nm,0.9s
BRG Berggiesshubel 37.69 317 *e*P **P** 23 54 05.4 +0.8
BRG pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
BRG Berggiesshubel 37.69 317 *e*P **P** 23 54 05.4 +0.8
comp=Z,2.0nm,0.5s,mb4.1
BRG *i* 23 54 38.5
BRG Berggiesshubel 37.69 317 *e*P **P** 23 54 05.4 +0.8
comp=Z,2.0nm,0.5s,mb4.1
GTA Gaotai 38.03 62 *e*P **P** 23 54 07.9 +0.4
GTA AP pP 23 54 15.5 +0.2
GTA AMB AMB
comp=Z,15nm,0.8s,mb4.8
KAF Kangasniemi 38.08 338 *ep* **P** 23 54 07.3 -0.6
comp=Z,6.6nm,0.4s,mb4.7,baz=135,slow=8.6
KAF Kangasniemi 38.08 338 *e*P **P** 23 54 07.3 -0.6
KAF pmax pmax
comp=Z,7.0nm,0.4s,mb4.7
WTTA Wattenberg 38.15 311 *i* P **P** 23 54 08.1 -0.3
comp=Z,28nm,0.6s,mb5.2,SNR=10
WTTA Wattenberg 38.15 311 *i* P **P** 23 54 08.1 -0.4
WTTA pmax pmax
comp=Z,28nm,0.6s,mb5.2
WATA Walderalm 38.20 311 ⇑ *i*P **P** 23 54 08.5 -0.4
comp=Z,20nm,1.0s,mb4.8
WATA Walderalm 38.20 311 ⇑ *i*P **P** 23 54 08.5 -0.4
WATA pmax pmax
comp=Z,20nm,1.0s,mb4.8
CLL Collm 38.39 317 P **P** 23 54 10.0 -0.5
comp=Z,logA/T=1.1,mb4.6
CLL *i* pP 23 54 18.3 -0.1
CLL *i* PP PP 23 55 50.4 +12
CLL Collm 38.39 317 *e*P **P** 23 54 10.0 -0.5
comp=Z,15nm,1.1s,mb4.6
CLL *i* x x 23 54 18.3
CLL *i* PP PP 23 55 50.4 +12
CLL Collm 38.39 317 *e*P **P** 23 54 10.0 -0.5
CLL *i* pP 23 54 18.3 -0.1
CLL pmax pmax
comp=Z,15nm,1.1s,mb4.6
CLL Collm 38.39 317 *e*P **P** 23 54 10.0 -0.5
comp=Z,15nm,1.1s,mb4.6
CLL *i* pP 23 54 18.3 -0.1
NKC Novy Kostel 38.40 316 *e*P **P** 23 54 09.3 -1.2
SQTA Sankt Quirin 38.42 310 ⇓ *i*P **P** 23 54 10.3 -0.5
comp=Z,9.3nm,0.7s,mb4.7,SNR=14
SQTA Sankt Quirin 38.42 310 ⇓ *i*P **P** 23 54 10.3 -0.5
SQTA pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
MOTA Moosalm 38.52 311 ⇑ *i*P **P** 23 54 10.7 -0.9
comp=Z,14nm,0.9s,mb4.7,SNR=11
MOTA Moosalm 38.52 311 ⇑ *i*P **P** 23 54 10.7 -0.9
MOTA pmax pmax
comp=Z,14nm,0.9s,mb4.7
BSD Bornholm Skovb 38.77 324 *i* P **P** 23 54 12.5 -1.2
comp=Z,23nm,0.6s,mb5.1

BSD *i* pP 23 54 20.0 -1.6
BSD
comp=Z,160nm,20.0s
BSD Bornholm Skovb 38.77 324 *i* P **P 23 54 12.5 -1.2**
comp=Z,23nm,0.6s,mb5.1
BSD *i* pP 23 54 20.0 -1.6
VSL Villasalto 38.85 298 *eP* **P 23 54 16.1 +1.8**
comp=Z,45nm,0.8s,mb5.2
VSL *epP* pP 23 54 24.2 +2.0
VSL Villasalto 38.85 298 *eP* **P 23 54 16.1 +1.8**
comp=Z,44nm,0.8s,mb5.2
GRA1 Grafenberg Arr 39.00 314 *eP* **P 23 54 15.8 +0.1**
comp=Z,40nm,1.5s,mb4.9
GRF Grafenberg Arr 39.00 314 *eP* **P 23 54 15.8 +0.1**
comp=Z,40nm,1.5s,mb4.9
GRF Grafenberg Arr 39.00 314 *eP* **P 23 54 15.8 +0.1**
GRF pmax pmax
comp=Z,40nm,1.5s,mb4.9
GRF Grafenberg Arr 39.00 314 *eP* **P 23 54 15.8 +0.1**
GRF pmax pmax
comp=Z,40nm,1.5s,mb4.9
PGF Pioggiola 39.29 303 *eP* **P 23 54 17.1 -0.9**
comp=Z,15nm,0.7s,mb4.5
PGF Pioggiola 39.29 303 *eP* **P 23 54 17.1 -0.9**
PGF pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
PGF Pioggiola 39.29 303 *eP* **P 23 54 17.1 -0.9**
comp=Z,7.7nm,0.7s,mb4.5
DAVA Damuels 39.32 310 *i* P **P 23 54 17.8 -0.5**
comp=Z,26nm,0.5s,mb5.2,SNR=18
COP Copenhagen 40.30 324 *i* P **P 23 54 30.7 +4.3**
comp=Z,25nm,0.9s,mb5.0
COP *i* 23 56 17.5
COP
comp=Z,60nm,19.0s
COP Copenhagen 40.30 324 *eP* **P 23 54 30.7 +4.3**
COP pmax pmax
comp=Z,25nm,0.9s,mb4.9
COP MLR MLR
comp=Z,70nm,19.0s,MS3.5
COP Copenhagen 40.30 324 *eP* **P 23 54 30.7 +4.3**
comp=Z,25nm,0.9s,mb5.0
COP *i* 23 56 17.5
COP LR LR
comp=Z,70nm,19.0s,MS3.5
SBF Sospel 40.54 305 *eP* **P 23 54 27.5 -0.9**
comp=Z,84nm,0.9s,mb5.1
SBF Sospel 40.54 305 *eP* **P 23 54 27.5 -0.9**
SBF pmax pmax
comp=Z,42nm,0.9s,mb5.1
SBF Sospel 40.54 305 *eP* **P 23 54 27.5 -0.9**
comp=Z,42nm,0.9s,mb5.1
BFO Black Forest 40.55 312 *eP* **P 23 54 31.9 +3.4**
FELD Feldberg im Sc 40.68 311 *eP* **P 23 54 31.3 +1.7**
BBS Basel-Blauen 40.94 310 *eP* **P 23 54 36.3 +4.6**
FRF La Foret Royal 41.09 304 *eP* **P 23 54 31.8 -1.1**
comp=Z,14nm,0.9s,mb4.3
FRF La Foret Royal 41.09 304 *eP* **P 23 54 31.8 -1.1**
FRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
FRF La Foret Royal 41.09 304 *eP* **P 23 54 31.8 -1.1**
comp=Z,6.9nm,0.9s,mb4.3
MBDF Montbardon 41.10 306 *eP* **P 23 54 32.7 -0.3**
comp=Z,42nm,0.7s,mb4.9
MBDF Montbardon 41.10 306 *eP* **P 23 54 32.7 -0.3**
MBDF pmax pmax
comp=Z,21nm,0.7s,mb4.9
MBDF Montbardon 41.10 306 *eP* **P 23 54 32.7 -0.3**
comp=Z,21nm,0.7s,mb4.9
LMR La Mourre 41.17 304 *eP* **P 23 54 32.2 -1.4**
LPG La Plagne 41.19 307 *eP* **P 23 54 33.1 -0.7**
comp=Z,39nm,0.7s,mb4.8
LPG La Plagne 41.19 307 *eP* **P 23 54 33.1 -0.7**
LPG pmax pmax
comp=Z,19nm,0.7s,mb4.8
LPG La Plagne 41.19 307 *eP* **P 23 54 33.1 -0.7**
comp=Z,19nm,0.7s,mb4.8
BNI Bardonecchia 41.19 306 *eP* **P 23 54 33.3 -0.5**
BNI pmax pmax
comp=Z,21nm,0.7s,mb4.9
BNI Bardonecchia 41.19 306 *eP* **P 23 54 33.3 -0.5**
comp=Z,21nm,0.7s,mb4.9
BNI Bardonecchia 41.19 306 *eP* **P 23 54 33.3 -0.5**
comp=Z,21nm,0.7s,mb4.9
LPL La Plagne 41.20 307 *eP* **P 23 54 33.1 -0.8**
comp=Z,53nm,0.9s,mb4.9
LPL La Plagne 41.20 307 *eP* **P 23 54 33.1 -0.8**
LPL pmax pmax
comp=Z,27nm,0.9s,mb4.9
LPL La Plagne 41.20 307 *eP* **P 23 54 33.1 -0.8**
comp=Z,26nm,0.9s,mb4.9
MOF Molkenrain 41.25 311 *eP* **P 23 54 34.3 0.0**
CDF Champ du Feu 41.26 311 *eP* **P 23 54 33.1 -1.2**
comp=Z,4.2nm,0.6s,mb3.9
CDF Champ du Feu 41.26 311 *eP* **P 23 54 33.1 -1.2**
CDF pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
CDF Champ du Feu 41.26 311 *eP* **P 23 54 33.1 -1.2**
comp=Z,2.1nm,0.6s,mb3.9
ECH Echery 41.30 311 *eP* **P 23 54 34.3 -0.4**
RSL Roselend 41.30 307 *eP* **P 23 54 33.5 -1.2**
LZH Lanzhou 41.31 67 *eP* **P 23 54 35.5 +0.8**
LZH AP pP 23 54 46.0 +3.4
LZH XP sP 23 54 50.5 +4.7
LZH AMB AMB
comp=Z,14nm,1.0s,mb4.5
LOMF Lomont 41.38 310 *eP* **P 23 54 34.1 -1.2**
HINF Hinteralfeld 41.43 311 *eP* **P 23 54 34.7 -1.1**
OG25 Le Caire 41.56 305 *eP* **P 23 54 32.0 -4.8**
ORIF Oris-en-Rattie 41.74 306 *eP* **P 23 54 37.6 -0.7**
comp=Z,20nm,0.9s,mb4.5
ORIF *eR*
comp=Z,424nm,20.5s
ORIF Oris-en-Rattie 41.74 306 *eP* **P 23 54 37.6 -0.7**
ORIF pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
ORIF Oris-en-Rattie 41.74 306 *eP* **P 23 54 37.6 -0.7**
comp=Z,10nm,0.9s,mb4.5
CABF La Chapelle 41.78 309 *eP* **P 23 54 37.8 -0.8**
comp=Z,38nm,0.9s,mb4.7
CABF La Chapelle 41.78 309 *eP* **P 23 54 37.8 -0.8**
CABF pmax pmax
comp=Z,19nm,0.9s,mb4.7
CABF La Chapelle 41.78 309 *eP* **P 23 54 37.8 -0.8**
comp=Z,19nm,0.9s,mb4.7
HAU Haudompre 41.80 311 *eP* **P 23 54 37.7 -1.1**
comp=Z,7.2nm,0.5s,mb4.2
HAU *eR*
comp=Z,340nm,22.5s
HAU Haudompre 41.80 311 *eP* **P 23 54 37.7 -1.1**
HAU pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
HAU MLR MLR
comp=Z,340nm,22.5s,MS4.2
HAU Haudompre 41.80 311 *eP* **P 23 54 37.7 -1.1**
comp=Z,3.6nm,0.5s,mb4.3
HAU LR LR
comp=Z,340nm,22.5s,MS4.2
ZAK Zakamensk 41.83 46 *eP* **P 23 54 38.4 -0.7**
ZAK pmax pmax
comp=Z,2.0nm,1.7s
ZAK Zakamensk 41.83 46 *eP* **P 23 54 38.4 -0.7**
comp=Z,2.0nm,1.7s
SMRF Simiane la Rot 41.89 305 *eP* **P 23 54 38.4 -1.1**
THEF They Montfort 42.07 311 *eP* **P 23 54 41.3 +0.3**
MUD Monsted U'grnd 42.28 324 *i* P **P 23 54 43.5 +0.8**
comp=Z,11nm,0.7s,mb4.6
MUD *e* pP 23 54 50.5 -0.1
MUD Monsted U'grnd 42.28 324 *i* P **P 23 54 43.5 +0.8**
MUD *e* pP 23 54 50.5 -0.1
MUD pmax pmax
comp=Z,11nm,0.7s,mb4.6
WTSB Winterswijk 42.29 317 *eP* **P 23 54 43.1 +0.3**
KMI Kunming 42.35 84 P **P 23 54 42.3 -1.0**
KMI AP pP 23 54 50.3 -0.9
KMI AMB AMB
comp=Z,13nm,0.8s,mb4.6
HGN Heimansgroeve 42.56 315 *eP* **P 23 54 45.1 +0.1**
comp=Z,14nm,1.2s,mb4.5
VIVF Saint-Julien-l 42.59 306 *eP* **P 23 54 44.2 -1.1**
comp=Z,28nm,0.9s,mb4.7
VIVF Saint-Julien-l 42.59 306 *eP* **P 23 54 44.2 -1.1**
VIVF pmax pmax
comp=Z,14nm,0.9s,mb4.7
VIVF Saint-Julien-l 42.59 306 *eP* **P 23 54 44.2 -1.1**
comp=Z,14nm,0.9s,mb4.7

MEZF Maizieres J'vi 42.73 311 *eP* **P 23 54 45.1 -1.3**
GIVF Givet 43.13 314 *eP* **P 23 54 48.5 -1.1**
LASF Ste Croix 43.13 305 *eP* **P 23 54 48.8 -0.8**
comp=Z,18nm,0.9s,mb4.5
LASF Ste Croix 43.13 305 *eP* **P 23 54 48.8 -0.8**
comp=Z,9.1nm,0.9s,mb4.5
NB2 NORSAR Subarra 43.19 330 P **P 23 54 48.8 -1.3**
comp=Z,11nm,0.8s,mb4.6,baz=118,slow=8.6
NOA NORSAR Array B 43.19 330 P **P 23 54 49.0 -1.1**
comp=Z,1.9nm,0.5s,mb4.1,baz=115,slow=7.6,SNR=24
NOA LR LR 00 16 53.1
comp=Z,114nm,21.2s,MS3.8,baz=125,slow=42
NAO01 NORSAR Array S 43.24 330 *eP* **P 23 54 49.7 -0.8**
comp=Z,7.2nm,0.7s,mb4.5
NAO01 NORSAR Array S 43.24 330 *eP* **P 23 54 49.7 -0.8**
comp=Z,7.2nm,0.7s,mb4.5
KONO Kongsberg 43.30 328 *eP* **P 23 54 50.4 -0.7**
KONO *epP* pP 23 54 56.1 -2.8
KONO Kongsberg 43.30 328 *eP* **P 23 54 50.9 -0.1**
KONO *e* 23 54 56.0
KONO pmax pmax
comp=Z,23nm,1.1s,mb4.8
KONO Kongsberg 43.30 328 *eP* **P 23 54 50.9 -0.1**
comp=Z,23nm,1.1s,mb4.8
KONO *e* 23 54 56.0
KONO Kongsberg 43.30 328 *eP* **P 23 54 50.9 -0.1**
comp=Z,23nm,1.1s,mb4.8
KONO *epP* pP 23 54 56.1 -2.8
SNR=150
SMF Signal de Mont 43.32 308 *eP* **P 23 54 50.2 -1.0**
comp=Z,41nm,0.9s,mb4.9
SMF Signal de Mont 43.32 308 *eP* **P 23 54 50.2 -1.0**
SMF pmax pmax
comp=Z,20nm,0.9s,mb4.8
SMF Signal de Mont 43.32 308 *eP* **P 23 54 50.2 -1.0**
comp=Z,20nm,0.9s,mb4.9
LOR Lormes 43.37 309 *eP* **P 23 54 50.3 -1.3**
comp=Z,13nm,0.7s,mb4.5
LOR *eR*
comp=Z,392nm,18.0s
LOR Lormes 43.37 309 *eP* **P 23 54 50.3 -1.3**
LOR pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
LOR MLR MLR
comp=Z,390nm,18.0s,MS4.3
LOR Lormes 43.37 309 *eP* **P 23 54 50.3 -1.3**
comp=Z,6.5nm,0.7s,mb4.5
LOR LR LR
comp=Z,390nm,18.0s,MS4.3
SONM Songino Array 43.44 50 P **P 23 54 52.1 0.0**
comp=Z,1.4nm,0.7s,mb3.8,baz=268,slow=8.0,SNR=11
SONM LR LR 00 14 40.2
comp=Z,172nm,19.1s,MS4.0,baz=85,slow=38
BAIF Baives 43.52 313 *eP* **P 23 54 51.8 -0.9**
comp=Z,15nm,0.7s,mb4.5
BAIF Baives 43.52 313 *eP* **P 23 54 51.8 -0.9**
BAIF pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
BAIF Baives 43.52 313 *eP* **P 23 54 51.8 -0.9**
comp=Z,7.7nm,0.7s,mb4.5
SSF Saint Saulge 43.59 309 *eP* **P 23 54 52.3 -1.0**
comp=Z,23nm,1.0s,mb4.6
SSF Saint Saulge 43.59 309 *eP* **P 23 54 52.3 -1.0**
SSF pmax pmax
comp=Z,12nm,1.0s,mb4.6
SSF Saint Saulge 43.59 309 *eP* **P 23 54 52.3 -1.0**
comp=Z,12nm,1.0s,mb4.6
LBL Lubilhac 43.63 306 *eP* **P 23 54 53.5 -0.1**
AVF Avril sur Loir 43.67 309 *eP* **P 23 54 52.8 -1.2**
comp=Z,34nm,1.3s,mb4.6
AVF Avril sur Loir 43.67 309 *eP* **P 23 54 52.8 -1.2**
AVF pmax pmax
comp=Z,17nm,1.3s,mb4.6
AVF Avril sur Loir 43.67 309 *eP* **P 23 54 52.8 -1.2**
comp=Z,17nm,1.3s,mb4.6
AGO Saint Agoulin 43.76 308 *eP* **P 23 54 54.2 -0.5**
KEV Kevo 43.80 346 *ep* **P 23 54 54.4 -0.6**
comp=Z,13nm,0.7s,mb4.8
KEV Kevo 43.80 346 *eP* **P 23 54 54.4 -0.6**
KEV pmax pmax
comp=Z,13nm,0.7s,mb4.8
PYM Petit Puy Mans 43.83 307 *eP* **P 23 54 51.4 -3.8**
ULN Ulaanbaatar 43.88 50 *eP* **P 23 54 54.7 -1.0**
ETOS Mallorca 43.91 298 P **P 23 54 55.6 -0.3**
comp=Z,37nm,0.8s,mb5.2
ETOS Mallorca 43.91 298 P **P 23 54 55.6 -0.3**
comp=Z,37nm,0.8s,mb5.2
ARCES ARCESS Array B 43.95 345 P **P 23 54 56.6 +0.4**
comp=Z,6.6nm,0.7s,mb4.5,baz=138,slow=6.8,SNR=38
ARCES ScP ScP 00 00 30.8 -1.0
comp=Z,2.0nm,0.8s,baz=327,slow=3.6,SNR=5.1
ARCES LR LR 00 17 08.5
comp=Z,192nm,20.2s,MS4.0,baz=359,slow=41
BGF Bois d'Agland 44.00 308 *eP* **P 23 54 55.6 -1.0**
comp=Z,4.4nm,0.4s,mb4.2
BGF Bois d'Agland 44.00 308 *eP* **P 23 54 55.6 -1.0**
BGF pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
BGF Bois d'Agland 44.00 308 *eP* **P 23 54 55.6 -1.0**
comp=Z,2.2nm,0.4s,mb4.2
MTLF Montolieu 44.30 304 *eP* **P 23 54 57.9 -1.1**
comp=Z,7.5nm,0.7s,mb4.2
MTLF Montolieu 44.30 304 *eP* **P 23 54 57.9 -1.1**
MTLF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
MTLF Montolieu 44.30 304 *eP* **P 23 54 57.9 -1.1**
comp=Z,3.8nm,0.7s,mb4.2
TCF Toulx Ste Croi 44.42 308 *eP* **P 23 54 59.3 -0.7**
comp=Z,21nm,0.7s,mb4.7
TCF Toulx Ste Croi 44.42 308 *eP* **P 23 54 59.3 -0.7**
TCF pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
TCF Toulx Ste Croi 44.42 308 *eP* **P 23 54 59.3 -0.7**
comp=Z,10nm,0.7s,mb4.7
CAF Calviac 44.45 306 *eP* **P 23 54 59.4 -0.8**
comp=Z,30nm,1.0s,mb4.7
CAF Calviac 44.45 306 *eP* **P 23 54 59.4 -0.8**
CAF pmax pmax
comp=Z,15nm,1.0s,mb4.7
CAF Calviac 44.45 306 *eP* **P 23 54 59.4 -0.8**
comp=Z,15nm,1.0s,mb4.7
NSS Namsos 44.62 335 *eP* **P 23 55 00.3 -1.2**
NSS AMb AMB 23 55 07.3
comp=Z,38nm,1.7s,mb5.0
NSS Namsos 44.62 335 *eP* **P 23 55 00.3 -1.2**
comp=Z,38nm,1.7s,mb5.0
NSS Namsos 44.62 335 *eP* **P 23 55 00.3 -1.2**
comp=Z,38nm,1.7s,mb5.0,SNR=30
BLS5 Blasjo 44.70 327 *eP* **P 23 55 02.8 +0.6**
BLS5 AMb AMB 23 55 06.1
comp=Z,30nm,1.7s,mb4.8
BLS5 *epP* pP 23 55 09.7 -0.4
BLS5 Blasjo 44.70 327 *eP* **P 23 55 02.8 +0.6**
comp=Z,30nm,1.7s,mb4.8
BLS5 Blasjo 44.70 327 *eP* **P 23 55 02.8 +0.6**
comp=Z,30nm,1.7s,mb4.8,SNR=30
ODD1 Odda 44.79 328 *eP* **P 23 55 03.4 +0.5**
ODD1 *epP* pP 23 55 10.1 -0.7
ODD1 AMb AMB 23 55 15.4
comp=Z,39nm,1.1s,mb5.1
ODD1 Odda 44.79 328 *eP* **P 23 55 03.4 +0.5**
comp=Z,39nm,1.1s,mb5.2
RJF Les Rejaudoux 44.85 306 *eP* **P 23 55 02.5 -0.9**
RJF *eR*
comp=Z,449nm,21.8s
RJF Les Rejaudoux 44.85 306 *eP* **P 23 55 02.5 -0.9**
RJF LR LR
comp=Z,450nm,21.8s,MS4.4
EIBI Ibiza 45.09 297 P **P 23 55 05.7 +0.4**
comp=Z,64nm,1.6s,mb5.2
MLS Moulis 45.12 303 *eP* **P 23 55 04.8 -0.8**
EPOB Poblet 45.17 301 P **P 23 55 05.8 -0.1**
comp=Z,38nm,0.9s,mb5.2
KMY Karmoy 45.20 326 *eP* **P 23 55 05.9 -0.3**
KMY AMb AMB 23 55 15.1
comp=Z,23nm,1.2s,mb4.9
KMY Karmoy 45.20 326 *eP* **P 23 55 05.9 -0.3**
comp=Z,23nm,1.2s,mb4.9
KMY Karmoy 45.20 326 *eP* **P 23 55 05.9 -0.3**
comp=Z,23nm,1.2s,mb4.9,SNR=29
STOK Stokkvaagen 45.23 338 *eP* **P 23 55 05.7 -0.7**
STOK AMb AMB 23 55 08.3
comp=Z,67nm,2.0s,mb5.1
STOK *epP* pP 23 55 12.3 -2.0
STOK Stokkvaagen 45.23 338 *eP* **P 23 55 05.7 -0.7**
comp=Z,67nm,2.0s,mb5.1
STOK Stokkvaagen 45.23 338 *eP* **P 23 55 05.7 -0.7**
comp=Z,67nm,2.0s,mb5.1,SNR=30
STOK *epP* pP 23 55 12.3 -2.0
SNR=150
GYA Guiyang 45.39 80 P **P 23 55 05.9 -1.8**
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
LFF La Frestale 45.39 306 *eP* **P 23 55 07.2 -0.5**
comp=Z,70nm,0.9s,mb5.2
LFF La Frestale 45.39 306 *eP* **P 23 55 07.2 -0.5**
LFF pmax pmax
comp=Z,35nm,0.9s,mb5.2
LFF La Frestale 45.39 306 *eP* **P 23 55 07.2 -0.5**
comp=Z,35nm,0.9s,mb5.2
RUND Rundenannen 45.56 328 *eP* **P 23 55 09.2 +0.2**
RUND AMb AMB 23 55 22.1
comp=Z,79nm,1.8s,mb5.3
RUND Rundenannen 45.56 328 *eP* **P 23 55 09.2 +0.2**
comp=Z,79nm,1.8s,mb5.3
RUND Rundenannen 45.56 328 *eP* **P 23 55 09.2 +0.2**
comp=Z,79nm,1.8s,mb5.3,SNR=29
BER Bergen 45.56 328 *eP* **P 23 55 09.1 0.0**
BER *epP* pP 23 55 16.1 -0.9
BER AMb AMB 23 55 18.8
comp=Z,33nm,1.2s,mb5.1
BER Bergen 45.56 328 *eP* **P 23 55 09.1 0.0**
comp=Z,33nm,1.2s,mb5.1
TRO Tromso 45.58 343 *eP* **P 23 55 07.9 -1.3**
TRO AMb AMB 23 55 10.4
comp=Z,69nm,1.8s,mb5.3
TRO Tromso 45.58 343 *eP* **P 23 55 07.9 -1.3**
comp=Z,69nm,1.8s,mb5.3
TRO Tromso 45.58 343 *eP* **P 23 55 07.9 -1.3**
comp=Z,69nm,1.8s,mb5.3,SNR=29
ASK Askoy 45.66 328 *eP* **P 23 55 10.0 +0.1**
ASK AMb AMB 23 55 20.6
comp=Z,82nm,1.8s,mb5.3
ASK Askoy 45.66 328 *eP* **P 23 55 10.0 +0.1**
comp=Z,82nm,1.8s,mb5.4
ASK Askoy 45.66 328 *eP* **P 23 55 10.0 +0.1**
comp=Z,82nm,1.8s,mb5.3,SNR=29
EPF Esparros 45.67 303 *eP* **P 23 55 08.9 -1.0**
XAN Xi'an 45.69 69 P **P 23 55 08.4 -1.6**
XAN AMB AMB
comp=Z,6.0nm,0.5s,mb4.8
EGRA Graus 45.71 302 P **P 23 55 11.0 +0.8**
comp=Z,463nm,0.5s
EGRA Graus 45.71 302 P **P 23 55 11.0 +0.8**
comp=Z,463nm,0.5s
ERTA Horta de San J 45.75 300 P **P 23 55 10.8 +0.2**
comp=Z,65nm,1.1s,mb5.5
ERTA Horta de San J 45.75 300 P **P 23 55 10.8 +0.3**
comp=Z,65nm,1.1s,mb5.5
EBIE Bielsa 45.83 303 P **P 23 55 11.2 +0.1**
comp=Z,16nm,1.6s,mb4.7
EBIE Bielsa 45.83 303 P **P 23 55 11.2 +0.1**
comp=Z,16nm,1.6s,mb4.7
MFF Saint Martin d 46.06 308 *eP* **P 23 55 11.9 -1.1**
comp=Z,5.2nm,0.6s,mb4.3
MFF Saint Martin d 46.06 308 *eP* **P 23 55 11.9 -1.1**
MFF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
MFF Saint Martin d 46.06 308 *eP* **P 23 55 11.9 -1.1**
comp=Z,2.6nm,0.6s,mb4.3
LOF Lofoten 46.10 340 *eP* **P 23 55 14.1 +0.8**
LDF La Druitiere 46.16 311 *eP* **P 23 55 12.5 -1.3**
comp=Z,12nm,0.5s,mb4.8
LDF La Druitiere 46.16 311 *eP* **P 23 55 12.5 -1.3**
LDF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
LDF La Druitiere 46.16 311 *eP* **P 23 55 12.5 -1.3**
comp=Z,5.9nm,0.5s,mb4.8
ETSF Etsaut 46.34 303 *eP* **P 23 55 14.1 -1.1**
comp=Z,4.7nm,0.6s,mb4.3
ETSF Etsaut 46.34 303 *eP* **P 23 55 14.1 -1.1**
ETSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ETSF Etsaut 46.34 303 *eP* **P 23 55 14.1 -1.1**
comp=Z,2.3nm,0.6s,mb4.3
EBEN Beniarda 46.34 297 P **P 23 55 15.8 +0.6**
comp=Z,113nm,1.6s,mb5.5
EBEN Beniarda 46.34 297 P **P 23 55 15.8 +0.6**
comp=Z,113nm,1.6s,mb5.5
EMOS Mosqueruela 46.39 299 P **P 23 55 16.5 +0.9**
comp=Z,111nm,1.5s,mb5.6
EMOS Mosqueruela 46.39 299 P **P 23 55 16.5 +0.9**
comp=Z,111nm,1.5s,mb5.6
FLN La Foliniere 46.41 311 *eP* **P 23 55 14.5 -1.2**
comp=Z,5.0nm,0.4s,mb4.5
FLN La Foliniere 46.41 311 *eP* **P 23 55 14.5 -1.2**
comp=Z,2.5nm,0.4s,mb4.5
GRR Gorron 46.63 311 *eP* **P 23 55 16.4 -1.1**
comp=Z,5.2nm,0.4s,mb4.5
GRR Gorron 46.63 311 *eP* **P 23 55 16.4 -1.1**
GRR pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
GRR Gorron 46.63 311 *eP* **P 23 55 16.4 -1.1**
comp=Z,2.6nm,0.4s,mb4.5
LARF Larrau 46.65 303 *eP* **P 23 55 18.1 +0.5**
SJPF Ste Jean 46.82 303 *eP* **P 23 55 18.0 -0.9**
comp=Z,16nm,0.8s,mb4.7
SJPF Ste Jean 46.82 303 *eP* **P 23 55 18.0 -0.9**
SJPF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
SJPF Ste Jean 46.82 303 *eP* **P 23 55 18.0 -0.9**
comp=Z,7.8nm,0.8s,mb4.7
ECHE Chera 46.83 298 P **P 23 55 19.7 +0.6**
ECHE pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
ECHE Chera 46.83 298 P **P 23 55 19.7 +0.6**
comp=Z,8.7nm,0.6s,mb4.9
ECHE Chera 46.83 298 P **P 23 55 19.7 +0.6**
comp=Z,9.0nm,0.6s,mb4.9
HHC Hu-ho-hao-te 47.00 60 *eP* **P 23 55 24.0 +3.6**
HHC AP pP 23 55 30.9 +2.6
HHC XP sP 23 55 33.3 +1.8
HHC PP PP 23 57 13.3 +2.2
HHC AMB AMB
comp=Z,17nm,0.5s,mb5.2
HHC AMB AMB
comp=Z,85nm,6.8s
HHC LR LR
comp=N,286nm,26.2s,MS4.3
HHC LR LR
comp=E,373nm,28.5s,MS4.3
HHC LR LR
comp=Z,210nm,20.2s
EMUR La Murta 47.23 296 P **P 23 55 22.2 +0.1**
comp=Z,16nm,0.9s,mb5.0
ETOB Tobarra 47.38 297 P **P 23 55 23.1 -0.1**
comp=Z,44nm,1.3s,mb5.2
ETOB Tobarra 47.38 297 P **P 23 55 23.1 -0.2**
comp=Z,44nm,1.3s,mb5.2
SGMF Saint Gilles 47.76 310 *eP* **P 23 55 25.4 -0.9**
comp=Z,18nm,0.6s,mb4.9
SGMF Saint Gilles 47.76 310 *eP* **P 23 55 25.4 -0.9**
SGMF pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
SGMF Saint Gilles 47.76 310 *eP* **P 23 55 25.4 -0.9**
comp=Z,8.9nm,0.6s,mb4.9
ENIJ Nijar 48.10 295 P **P 23 55 28.5 -0.4**
EVIA Vianos 48.12 297 P **P 23 55 28.9 -0.1**
EVIA pmax pmax
comp=Z,11nm,0.7s,mb5.0
EVIA Vianos 48.12 297 P **P 23 55 28.9 -0.1**
comp=Z,11nm,0.7s,mb5.0
EVIA Vianos 48.12 297 P **P 23 55 28.9 -0.1**
comp=Z,11nm,0.7s,mb5.0
QUIF Quistinic 48.16 310 *eP* **P 23 55 28.2 -1.1**
comp=Z,8.4nm,0.6s,mb4.7
QUIF Quistinic 48.16 310 *eP* **P 23 55 28.2 -1.1**
QUIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
QUIF Quistinic 48.16 310 *eP* **P 23 55 28.2 -1.1**
comp=Z,4.2nm,0.6s,mb4.7
ROSF Rostrenen 48.24 310 *eP* **P 23 55 29.2 -0.8**
comp=Z,6.4nm,0.6s,mb4.5
ROSF Rostrenen 48.24 310 *eP* **P 23 55 29.2 -0.8**
ROSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ROSF Rostrenen 48.24 310 *eP* **P 23 55 29.2 -0.8**
comp=Z,3.2nm,0.6s,mb4.5
EBER Berja 48.65 295 P **P 23 55 33.7 +0.6**
comp=Z,34nm,0.9s,mb5.4
EBER Berja 48.65 295 P **P 23 55 33.7 +0.5**
comp=Z,34nm,0.9s,mb5.4
EQES Quesada 48.67 296 P **P 23 55 33.8 +0.5**
comp=Z,55nm,1.2s,mb5.5

EQES	**Quesada**	**48.67**	**296**	P		**P**	**23 55 33.8**	**+0.5**
	comp=Z,55nm,1.2s,mb5.5								
KULM	**Kulim**	**49.08**	**110**	*e*P		**P**	**23 55 35.4**	**-1.0**
KULM	**Kulim**	**49.08**	**110**	*e*P		**P**	**23 55 35.4**	**-1.0**
PSI	**Prapat**	**49.11**	**114**	P		**P**	**23 55 35.7**	**-1.0**
	comp=Z,5.7nm,0.5s,mb4.9,baz=258,slow=6.1,SNR=6.3								
ESDC	**Sonseca Array**	**49.13**	**299**	P		**P**	**23 55 37.0**	**+0.2**
	comp=Z,1.0nm,0.5s,mb4.1,baz=70,slow=7.5,SNR=20								
ESDC				LR		LR	00 19 23.8		
	comp=Z,104nm,18.0s,MS3.9,baz=305,slow=40								
ESLA	**Sonseca Array**	**49.13**	**299**	*e*P		**P**	**23 55 37.1**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.9								
ESLA	**Sonseca Array**	**49.13**	**299**	*e*P		**P**	**23 55 37.1**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.9								
ECOG	**Cogollos-Vega**	**49.13**	**296**	P		**P**	**23 55 35.9**	**-0.9**
ECOG				pmax		pmax			
	comp=Z,10.0nm,0.6s,mb5.0								
ECOG	**Cogollos-Vega**	**49.13**	**296**	P		**P**	**23 55 35.9**	**-0.9**
	comp=Z,10.0nm,0.6s,mb5.0								
GUD	**Guadarrama**	**49.17**	**300**	P		**P**	**23 55 37.4**	**+0.3**
GUD				pmax		pmax			
	comp=Z,7.0nm,0.8s,mb4.7								
GUD	**Guadarrama**	**49.17**	**300**	P		**P**	**23 55 37.4**	**+0.3**
	comp=Z,6.7nm,0.8s,mb4.7								
GUD	**Guadarrama**	**49.17**	**300**	P		**P**	**23 55 37.4**	**+0.3**
	comp=Z,7.0nm,0.8s,mb4.7								
EBAN	**Banos Encina**	**49.18**	**297**	P		**P**	**23 55 37.8**	**+0.6**
EBAN				pmax		pmax			
	comp=Z,23nm,0.7s,mb5.3								
EBAN	**Banos Encina**	**49.18**	**297**	P		**P**	**23 55 37.8**	**+0.6**
	comp=Z,23nm,0.7s,mb5.3								
EBAN	**Banos Encina**	**49.18**	**297**	P		**P**	**23 55 37.8**	**+0.6**
	comp=Z,23nm,0.7s,mb5.3								
EGUA	**Guajares**	**49.20**	**295**	P		**P**	**23 55 37.1**	**-0.2**
EGUA				pmax		pmax			
	comp=Z,1.0nm,0.6s,mb4.0								
EGUA	**Guajares**	**49.20**	**295**	P		**P**	**23 55 37.1**	**-0.3**
	comp=Z,1.4nm,0.6s,mb4.2								
EGUA	**Guajares**	**49.20**	**295**	P		**P**	**23 55 37.1**	**-0.2**
	comp=Z,1.0nm,0.6s,mb4.0								
ERON	**Agron**	**49.36**	**295**	P		**P**	**23 55 38.7**	**+0.1**
	comp=Z,2.4nm,0.4s,mb4.6								
ERON	**Agron**	**49.36**	**295**	P		**P**	**23 55 38.7**	**+0.1**
	comp=Z,2.4nm,0.4s,mb4.6								
ELOJ	**Sierra Loja**	**49.61**	**296**	P		**P**	**23 55 40.2**	**-0.3**
ELOJ				pmax		pmax			
	comp=Z,14nm,0.9s,mb5.0								
ELOJ	**Sierra Loja**	**49.61**	**296**	P		**P**	**23 55 40.2**	**-0.4**
	comp=Z,14nm,0.9s,mb5.0								
ELOJ	**Sierra Loja**	**49.61**	**296**	P		**P**	**23 55 40.2**	**-0.3**
	comp=Z,14nm,0.9s,mb5.0								
EARI	**Arriondas**	**49.72**	**304**	P		**P**	**23 55 40.9**	**-0.4**
	comp=Z,92nm,1.9s,mb5.5								
EARI	**Arriondas**	**49.72**	**304**	P		**P**	**23 55 40.9**	**-0.4**
	comp=Z,92nm,1.9s,mb5.5								
EADA	**Adamuz**	**49.80**	**297**	P		**P**	**23 55 42.1**	**+0.2**
	comp=Z,82nm,1.2s,mb5.6								
EADA	**Adamuz**	**49.80**	**297**	P		**P**	**23 55 42.1**	**+0.2**
	comp=Z,82nm,1.2s,mb5.6								
EMIJ	**Mijas**	**50.20**	**295**	P		**P**	**23 55 44.3**	**-0.7**
	comp=Z,48nm,1.0s,mb5.5								
EMIJ	**Mijas**	**50.20**	**295**	P		**P**	**23 55 44.3**	**-0.7**
	comp=Z,48nm,1.0s,mb5.5								
DLF	**Lyons Farm**	**50.51**	**317**	*e*P		**P**	**23 55 48.3**	**+1.0**
EJIF	**Jimena Fronter**	**50.77**	**295**	P		**P**	**23 55 48.0**	**-1.3**
EJIF				pmax		pmax			
	comp=Z,11nm,0.9s,mb4.8								
EJIF	**Jimena Fronter**	**50.77**	**295**	P		**P**	**23 55 48.0**	**-1.3**
	comp=Z,11nm,0.9s,mb4.8								
EJIF	**Jimena Fronter**	**50.77**	**295**	P		**P**	**23 55 48.0**	**-1.3**
	comp=Z,11nm,0.9s,mb4.8								
DCN	**Croghan**	**50.96**	**317**	*e*P		**P**	**23 55 47.1**	**-3.6**
ECAL	**Calabor**	**50.97**	**302**	P		**P**	**23 55 49.6**	**-1.2**
	comp=Z,32nm,1.3s,mb5.1								
ECAL	**Calabor**	**50.97**	**302**	P		**P**	**23 55 49.6**	**-1.1**
	comp=Z,32nm,1.3s,mb5.1								
PBRG	**Braganca**	**50.98**	**302**	*e*P		**P**	**23 55 51.2**	**+0.3**
	comp=Z,15nm,2.2s,mb4.5								
ESPR	**Espera**	**51.00**	**296**	P		**P**	**23 55 49.3**	**-1.8**
	comp=Z,42nm,1.7s,mb5.1								
ESPR	**Espera**	**51.00**	**296**	P		**P**	**23 55 49.3**	**-1.7**
	comp=Z,42nm,1.7s,mb5.1								
EPON	**Pontenova**	**51.13**	**304**	P		**P**	**23 55 50.5**	**-1.5**
	comp=Z,23nm,1.0s,mb5.1								
EMIN	**Mina Concepcio**	**51.49**	**297**	P		**P**	**23 55 54.5**	**-0.3**
	comp=Z,18nm,1.4s,mb4.8								
EMIN	**Mina Concepcio**	**51.49**	**297**	P		**P**	**23 55 54.5**	**-0.2**
	comp=Z,18nm,1.4s,mb4.8								
MTE	**Manteigas**	**51.76**	**300**	*e*P		**P**	**23 56 02.4**	**+5.7**
	comp=Z,22nm,1.9s,mb4.8								
MTE	**Manteigas**	**51.76**	**300**	*e*P		**P**	**23 56 00.6**	**+3.9**
	comp=Z,11nm,1.1s,mb4.8								
MTE	**Manteigas**	**51.76**	**300**	*e*S		**S**	**00 03 19.0**	**+2.0**
PVRL	**Vila Real**	**51.77**	**301**	*e*P		**P**	**23 55 57.5**	**+0.7**
	comp=Z,14nm,1.4s,mb4.7								
PCBR	**Castelo Branco**	**51.79**	**300**	*e*P		**P**	**23 55 57.6**	**+0.7**
	comp=Z,13nm,1.5s,mb4.7								
TOA0	**Torodi Ar. Sit**	**51.88**	**264**	*e*P		**P**	**23 55 58.0**	**+0.4**
TOA0	**Torodi Ar. Sit**	**51.88**	**264**	*e*P		**P**	**23 55 58.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**51.88**	**264**	P		**P**	**23 55 57.9**	**+0.3**
	comp=Z,7.7nm,0.5s,mb4.9,baz=58,slow=7.8,SNR=139								
TORD				LR		LR	00 20 33.3		
	comp=Z,150nm,21.2s,MS4.0,baz=90,slow=39								
TIA	**Tai'an**	**51.93**	**65**	*e*P		**P**	**23 56 00.5**	**+2.5**
PCAB	**Cabril**	**51.95**	**302**	*e*P		**P**	**23 55 59.3**	**+1.2**
	comp=Z,6.9nm,0.8s,mb4.6								
ELOB	**Lobios**	**51.95**	**302**	P		**P**	**23 55 58.6**	**+0.5**
	comp=Z,23nm,1.2s,mb5.0								
ELOB	**Lobios**	**51.95**	**302**	P		**P**	**23 55 58.7**	**+0.5**
	comp=Z,23nm,1.2s,mb5.0								
PVIS	**Viseu**	**51.98**	**301**	*e*P		**P**	**23 55 59.2**	**+0.8**
	comp=Z,8.6nm,1.6s,mb4.4								
EGRO	**El Granado**	**52.17**	**297**	P		**P**	**23 55 59.1**	**-0.7**
EGRO	**El Granado**	**52.17**	**297**	P		**P**	**23 55 59.1**	**-0.6**
STS	**Santiago**	**52.19**	**304**	P		**P**	**23 55 59.5**	**-0.4**
STS				pmax		pmax			
	comp=Z,11nm,0.9s,mb4.8								
STS	**Santiago**	**52.19**	**304**	P		**P**	**23 55 59.5**	**-0.4**
	comp=Z,11nm,0.9s,mb4.8								
STS	**Santiago**	**52.19**	**304**	P		**P**	**23 55 59.5**	**-0.4**
	comp=Z,11nm,0.9s,mb4.8								
PBEJ	**Beja**	**52.38**	**297**	*e*P		**P**	**23 56 01.5**	**+0.2**
	comp=Z,8.8nm,1.4s,mb4.5								
EMAZ	**Mazaricos**	**52.50**	**304**	P		**P**	**23 56 02.6**	**+0.4**
	comp=Z,60nm,1.5s,mb5.3								
EMAZ	**Mazaricos**	**52.50**	**304**	P		**P**	**23 56 02.6**	**+0.4**
	comp=Z,60nm,1.5s,mb5.3								
PTOM	**Tomar**	**52.54**	**299**	*e*P		**P**	**23 56 03.2**	**+0.7**
	comp=Z,23nm,1.2s,mb5.0								
NJ2	**Nanjing**	**54.25**	**70**	*e*P		**P**	**23 56 15.4**	**+0.3**
NJ2				PP		PP	23 58 19.0	+2.0	
NJ2				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb4.7								
NJ2				AMB		AMB			
	comp=Z,220nm,5.3s								
CN2	**Changchun**	**56.86**	**55**	*e*P		**P**	**23 56 35.0**	**+1.2**
CN2				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.8								
DAG	**Danmarks Havn**	**58.23**	**345**	⇓*i*P		**P**	**23 56 42.6**	**-0.9**
	comp=Z,4.0nm,0.6s,mb4.6								
DAG	**Danmarks Havn**	**58.23**	**345**	⇓*i*P		**P**	**23 56 42.6**	**-0.9**
DAG				pmax		pmax			
	comp=Z,4.0nm,0.6s,mb4.6								
KLR	**Kul'dur**	**60.16**	**47**	*e*P		**P**	**23 56 51.4**	**-5.4**
KLR				pmax		pmax			
	comp=Z,40nm,1.8s,mb5.2								
KLR				MLR		MLR			
	comp=E,1μm,13.5s								
KLR				MLR		MLR			
	comp=Z,1μm,13.5s,MS5.2								
DBIC	**Dimbokro**	**60.60**	**261**	P		**P**	**23 56 59.9**	**0.0**
	comp=Z,3.7nm,0.5s,mb4.8,baz=9.0,slow=8.5,SNR=26								
DBIC				LR		LR	00 26 12.9		
	comp=Z,126nm,19.9s,MS4.1,baz=33,slow=39								
LBTB	**Lobatse**	**60.79**	**211**	*e*P		**P**	**23 57 02.3**	**+1.2**
LBTB				*e*			23 57 12.1		
LBTB				pmax		pmax			
	comp=Z,17nm,1.1s,mb5.1								
LBTB	**Lobatse**	**60.79**	**211**	*e*P		**P**	**23 57 02.3**	**+1.2**
	comp=Z,16nm,1.1s,mb5.1								
LBTB				*e*			23 57 12.1		
LBTB	**Lobatse**	**60.79**	**211**	*e*P		**P**	**23 57 02.3**	**+1.2**
	comp=Z,17nm,1.1s,mb5.1								
LIC	**Lamto**	**60.97**	**260**	*e*P		**P**	**23 57 02.4**	**+0.1**
	comp=Z,6.1nm,0.4s,mb4.8								
LIC				*e*R					
	comp=Z,233nm,18.0s								
LIC	**Lamto**	**60.97**	**260**	*e*P		**P**	**23 57 02.4**	**+0.1**
	comp=Z,3.0nm,0.4s,mb4.8								
LIC				LR		LR			
	comp=Z,120nm,18.0s,MS4.1								
LIC	**Lamto**	**60.97**	**260**	*e*P		**P**	**23 57 02.4**	**+0.1**
	comp=Z,3.0nm,0.4s,mb4.8								
SUMG	**Summit**	**63.62**	**340**	*e*P		**P**	**23 57 20.4**	**+0.2**
	comp=Z,10nm,0.6s,mb5.0								
SUMG	**Summit**	**63.62**	**340**	*e*P		**P**	**23 57 20.4**	**+0.3**
	comp=Z,10nm,0.6s,mb5.0								
BOSA	**Boshof**	**64.06**	**209**	P		**P**	**23 57 23.2**	**+0.2**
	comp=Z,5.4nm,0.7s,mb4.7,baz=19,slow=8.0,SNR=15								
BOSA				LR		LR	00 28 02.4		
	comp=Z,305nm,18.1s,MS4.5,baz=241,slow=39								
YSS	**Yuzh-Sakhalins**	**67.87**	**48**	⇑*e*P		**P**	**23 57 45.4**	**-2.1**
YSS				*i* *PP		pP	23 58 10.7	+15	
YSS				pmax		pmax			
	comp=Z,39nm,1.6s,mb5.2								
YSS	**Yuzh-Sakhalins**	**67.87**	**48**	*e*P		**P**	**23 57 45.4**	**-2.1**
	comp=Z,39nm,1.6s,mb5.2								
YSS	**Yuzh-Sakhalins**	**67.87**	**48**	*i* PcP		PcP	23 58 10.7	-3.2	
FITZ	**Fitzroy Crossi**	**82.61**	**115**	*e*P		**P**	**23 59 11.8**	**-0.5**
	comp=Z,9.9nm,0.6s,mb5.0								
FITZ	**Fitzroy Crossi**	**82.61**	**115**	P		**P**	**23 59 11.9**	**-0.4**
	comp=Z,6.7nm,0.8s,mb4.7,baz=301,slow=4.6,SNR=10.0								
IMA2	**Indian Mountai**	**82.64**	**11**	*e*P		**P**	**23 59 11.7**	**-0.8**
INK	**Inuvik**	**82.72**	**3**	*e*P		**P**	**23 59 11.3**	**-1.6**
INK				pmax		pmax			
	comp=Z,2.0nm,0.6s								
INK	**Inuvik**	**82.72**	**3**	*e*P		**P**	**23 59 11.3**	**-1.5**
	comp=Z,2.1nm,0.6s,mb4.3								
INK	**Inuvik**	**82.72**	**3**	*e*P		**P**	**23 59 11.3**	**-1.6**
	comp=Z,2.0nm,0.6s,mb4.3								
SCHQ	**Schefferville**	**82.76**	**330**	P		**P**	**23 59 12.0**	**-1.1**
	comp=Z,8.9nm,0.6s,mb5.0,baz=34,slow=6.3,SNR=30								
TTA	**Tatalina**	**85.02**	**14**	*e*P		**P**	**23 59 24.1**	**-0.5**
TTA				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.5								
TTA	**Tatalina**	**85.02**	**14**	*e*P		**P**	**23 59 24.1**	**-0.5**
	comp=Z,4.0nm,0.9s,mb4.5								
KAKA	**Kakadu**	**85.30**	**107**	*e*P		**P**	**23 59 24.9**	**-1.1**
	comp=Z,17nm,0.6s,mb5.3								
MCK	**McKinley**	**85.59**	**10**	*e*P		**P**	**23 59 26.2**	**-1.3**
MCK				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.7								
MCK	**McKinley**	**85.59**	**10**	*e*P		**P**	**23 59 26.2**	**-1.3**
	comp=Z,2.6nm,0.6s,mb4.6								
MCK	**McKinley**	**85.59**	**10**	*e*P		**P**	**23 59 26.2**	**-1.3**
	comp=Z,3.0nm,0.6s,mb4.7								
DAWY	**Dawson**	**86.49**	**6**	*e*P		**P**	**23 59 31.3**	**-0.6**
YKA	**Yellowknife Ar**	**88.40**	**355**	P		**P**	**23 59 40.3**	**-0.8**
	comp=Z,8.4nm,0.6s,mb5.1,baz=0.7,slow=4.9,SNR=37								
YKA	**Yellowknife Ar**	**88.40**	**355**	*e*P		**P**	**23 59 40.7**	**-0.4**
WRA	**Warramunga Arr**	**90.56**	**112**	P		**P**	**23 59 49.3**	**-1.9**
	comp=Z,1.2nm,0.5s,mb4.5,baz=315,slow=4.2,SNR=8.7								
WRA	**Warramunga Arr**	**90.56**	**112**	*i* P		**P**	**23 59 50.4**	**-0.8**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.5s								
WRA	**Warramunga Arr**	**90.56**	**112**	*i* P		**P**	**23 59 50.4**	**-0.8**
	comp=Z,1.0nm,0.5s,mb4.4								
ASAR	**Alice Springs**	**92.10**	**116**	P		**P**	**23 59 57.2**	**-1.1**
	comp=Z,2.1nm,0.6s,mb4.7,baz=304,slow=4.7,SNR=23								
ULM	**Lac du Bonnet**	**96.96**	**342**	P		**P**	**00 00 21.0**	**+0.4**
	comp=Z,1.0nm,0.7s,mb4.4,baz=356,slow=2.8,SNR=3.4								
ULM				LR		LR	00 50 37.2		
	comp=Z,130nm,18.5s,MS4.4,baz=17,slow=39								
ULM	**Lac du Bonnet**	**96.96**	**342**	P		**P**	**00 00 21.0**	**+0.4**
ULM				LR		LR	00 50 37.2		

MOS ***20*** *23:47:36.3± 1.1, 1165S×16633E, h32km, mb5.1/13, MS4.5/4, Error ellipse: s-maj=10.2km s-min=9.0km az=11.9*

ISCJB ***20*** *23:47:37.0± 1.7, 1172S±005×16624E±006, h33km±14km, mb5.1/45, MS4.6/26, Error ellipse: s-maj=10.0km s-min=7.6km az=127.7*

IDC ***20*** *23:47:39.3± 2.8, 1170S×16629E, h40km±22km, mb4.6/16, mb1 4.7/19, mb1mx4.6/22, mbtmp4.9/19, ML4.8/3, MS4.6/19, Ms1 4.6/19, ms1mx4.4/26, Error ellipse: s-maj=19.7km s-min=14.2km az=78.0*

BJI ***20*** *23:47:40.2, 1133S×16639E, h54km, mB5.3, mb5.1, Ms4.7, Msz4.6*

NEIC ***20*** *23:47:41.5± 1.5, 1171S×16634E, h70km± 12km, mb5.1/24, Error ellipse: s-maj=9.4km s-min=8.8km az=64.0*

HRVD ***20*** *23:47:41.5± 0.2, 1180S×16603E, h48km± 1km, MW5.2/75, Centroid moment Tensor Solution. LP body waves: s67,c104;Mantle waves: s75,c116; Half duration: 1s0 Moment tensor: Scale 10^17Nm; Mr 0.59± .02; Mθθ 0.20± .02; Mφφ -0.78± .02; Mrθ 0.41± .02; Mrφ 0.03± .02; Mθφ -0.30± .02; Best double couple: M0 0.87100×10^17 NP1:φs 25.00000°, δ 40.00000°, λ 137.00000°. NP2:φs 151.00000°, δ 64.00000°, λ 59.00000°. Principal axes: T 0.8790, Plg58.0000°, Azm16.0000°; N -0.0170, Plg28.0000°, Azm166.0000°; P -0.8620, Plg14.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 20 23:47:40.2± 1.2, 1174S±005×16627E±006, h45km±11km, h37km±2.4km: pP-P, n149, σ0 98/101, mb5.1/45, MS4.6/26, 4C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**6.19**	**162**	*i* P	**Pn**	**23 49 12.4**	**+3.4**
HNR	**Honiara**	**6.63**	**290**	Pn	**Pn**	**23 49 15.3**	**+0.3**
	154nm,0.3s,baz=102,slow=4.5,SNR=31						
HNR				Sn	**Sn**	**23 50 26.6**	**-2.7**
	121nm,0.3s,baz=263,slow=23,SNR=2.8						
HNR	**Honiara**	**6.63**	**290**	*e*P	**Pn**	**23 49 15.6**	**+0.6**
HNR				*e*		23 50 28.8	
HNR				pmax	pmax		
	comp=Z,814nm,0.6s						
HNR	**Honiara**	**6.63**	**290**	*e*Pn	**Pn**	**23 49 15.6**	**+0.6**
	comp=Z,814nm,0.6s						
HNR				*e*Sn	**Sn**	**23 50 28.8**	**-0.5**
DZM	**Mont Dzumac**	**10.27**	**179**	*e*P	**Pn**	**23 50 05.6**	**+0.7**
DZM				*e*S	**Sn**	**23 51 54.2**	**-4.5**
DZM	**Mont Dzumac**	**10.27**	**179**	Pn	**Pn**	**23 50 05.3**	**+0.4**
	comp=Z,8.1nm,0.3s,baz=345,slow=14,SNR=47						
DZM				Sn	**Sn**	**23 51 57.2**	**-1.4**
	comp=Z,4.7nm,0.3s,baz=322,slow=22,SNR=5.4						
PMG	**Port Moresby**	**18.93**	**275**	P	**Pn**	**23 51 58.2**	**0.0**
	comp=Z,2.3nm,0.3s,baz=86,slow=6.6,SNR=9.0						
PMG	**Port Moresby**	**18.93**	**275**	*e*P	**Pn**	**23 51 59.0**	**+0.7**
PMG				pmax	pmax		
	comp=Z,28nm,0.6s						
PMG	**Port Moresby**	**18.93**	**275**	*e*P	**Pn**	**23 51 59.0**	**+0.7**
	comp=Z,28nm,0.6s						
CTA	**Charters Tower**	**20.95**	**244**	*e*P	**P**	**23 52 19.6**	**+0.4**
	comp=Z,33nm,1.8s						
CTA	**Charters Tower**	**20.95**	**244**	P	**P**	**23 52 20.2**	**+1.0**
	comp=Z,20nm,0.8s,baz=69,slow=11,SNR=14						
CTA				LR	LR	23 59 22.3	
	comp=Z,2μm,21.6s,MS4.4,baz=60,slow=34						
CTA	**Charters Tower**	**20.95**	**244**	P	**P**	**23 52 20.2**	**+1.0**
CTA				pmax	pmax		
	comp=Z,21nm,0.8s						
CTA				MLR	MLR		
	comp=Z,2μm,21.6s						
CTAO	**Charters Tower**	**20.95**	**244**	*e*P	**P**	**23 52 20.7**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,119nm,1.4s						
CTAO	**Charters Tower**	**20.95**	**244**	*e*P	**P**	**23 52 20.7**	**+1.5**
	comp=Z,119nm,1.4s						
AFI	**Afiamalu**	**21.51**	**98**	LR	LR	23 59 13.0	
	comp=Z,1μm,20.3s,MS4.4,baz=242,slow=32						
AFI	**Afiamalu**	**21.51**	**98**	P	**P**	**23 52 25.5**	**+0.3**
RAO	**Raoul Island**	**22.82**	**142**	P	**P**	**23 52 38.2**	**-0.9**
ARMA	**Armidale**	**23.02**	**214**	*e*P	**P**	**23 52 42.2**	**+0.9**
URZ	**Urewera**	**28.13**	**162**	LR	LR	00 02 22.8	
	comp=Z,1μm,19.9s,MS4.5,baz=327,slow=31						
STKA	**Stephens Creek**	**30.30**	**225**	*e*P	**P**	**23 53 47.7**	**+0.5**
	comp=Z,5.6nm,0.5s,mb4.5						
STKA				*e*PCP	PcP	23 56 47.0	+0.3
STKA	**Stephens Creek**	**30.30**	**225**	P	**P**	**23 53 47.3**	**+0.1**
	comp=Z,6.9nm,0.6s,mb4.6,baz=56,slow=10,SNR=23						
STKA				PcP	PcP	23 56 47.1	+0.5
	comp=Z,3.2nm,0.6s,baz=52,slow=3.4,SNR=4.6						
STKA				LR	LR	00 05 09.7	
	comp=Z,2μm,21.5s,MS4.7,baz=42,slow=35						
STKA	**Stephens Creek**	**30.30**	**225**	*e*P	**P**	**23 53 47.4**	**+0.2**
WRAB	**Tennant Creek**	**31.73**	**251**	P	**P**	**23 53 59.0**	**-0.7**
	comp=Z,126nm,0.5s,mb6.0,SNR=9.4						
WRAB	**Tennant Creek**	**31.73**	**251**	*e*P	**P**	**23 53 59.1**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.0						
WRAB	**Tennant Creek**	**31.73**	**251**	*e*P	**P**	**23 53 59.1**	**-0.7**
	comp=Z,17nm,0.6s,mb5.1						
WB2	**Warramunga Arr**	**31.73**	**251**	*e*P	**P**	**23 53 58.6**	**-1.1**
WB2				*e*PCP	PcP	23 56 50.8	+0.4
WRA	**Warramunga Arr**	**31.74**	**251**	P	**P**	**23 53 59.1**	**-0.7**
	comp=Z,11nm,0.5s,mb4.9,baz=84,slow=9.1,SNR=125						
WRA				PcP	PcP	23 56 50.7	+0.3
	comp=Z,2.4nm,0.5s,baz=73,slow=3.2,SNR=7.7						
WRA				PKiKP	PKiKP	00 04 18.3	-0.8
	comp=Z,0.5nm,0.9s,baz=5.5,slow=0.3,SNR=7.0						
WRA				LR	LR	00 05 41.5	
	comp=Z,625nm,20.3s,MS4.3,baz=70,slow=34						
WRA	**Warramunga Arr**	**31.74**	**251**	P	**P**	**23 53 59.1**	**-0.7**
WRA				PcP	PcP	23 56 50.7	+0.3
TOO	**Toolangi**	**31.75**	**212**	*e*P	**P**	**23 54 00.0**	**0.0**
	comp=Z,5.3nm,0.8s,mb4.4						
TOO	**Toolangi**	**31.75**	**212**	*e*P	**P**	**23 54 00.0**	**0.0**
TOO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
RPZ	**Rata Peaks**	**32.12**	**173**	P	**P**	**23 54 04.0**	**+0.8**
	comp=Z,14nm,0.5s,mb5.0,baz=250,slow=1.5,SNR=16						
RPZ				LR	LR	00 04 48.8	
	comp=Z,2μm,18.5s,MS4.8,baz=349,slow=32						
GUMO	**Guam**	**32.92**	**319**	LR	LR	00 05 53.2	
	comp=Z,834nm,21.9s,MS4.4,baz=249,slow=33						
AS31	**Alice Springs**	**32.95**	**244**	*e*P	**P**	**23 54 09.3**	**-1.1**
ASAR	**Alice Springs**	**32.95**	**244**	P	**P**	**23 54 09.2**	**-1.3**
	comp=Z,15nm,0.5s,mb5.2,baz=68,slow=9.8,SNR=265						
ASAR				PcP	PcP	23 56 54.3	+0.5
	comp=Z,3.3nm,0.6s,baz=79,slow=2.6,SNR=11						
ASAR				ScP	ScP	00 00 36.0	+1.7
	comp=Z,4.9nm,1.1s,baz=74,slow=3.0,SNR=11						
ASAR				LR	LR	00 06 16.2	
	comp=Z,1μm,20.6s,MS4.6,baz=81,slow=34						
ASAR	**Alice Springs**	**32.95**	**244**	P	**P**	**23 54 09.2**	**-1.3**
ASAR						23 56 54.3	
ASPA	**Alice Springs**	**32.95**	**244**	*e*P	**P**	**23 54 09.4**	**-1.1**
KAKA	**Kakadu**	**33.07**	**265**	*e*P	**P**	**23 54 10.4**	**-1.1**
	comp=Z,37nm,0.5s,mb5.6						
KAKA				*e*PCP	PcP	23 56 55.1	+1.0
TAU	**Tasmania Unive**	**35.15**	**204**	P	**P**	**23 54 30.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**39.71**	**256**	⇑*i*P	**P**	**23 55 08.1**	**0.0**
	comp=Z,15nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**39.71**	**256**	P	**P**	**23 55 08.2**	**+0.1**
	comp=Z,5.4nm,0.6s,mb4.5,baz=50,slow=9.3,SNR=40						
FORT	**Forrest**	**40.07**	**236**	*e*P	**P**	**23 55 10.1**	**-1.0**
	comp=Z,22nm,0.5s,mb5.2						
MIDW	**Midway**	**42.76**	**21**	*e*P	**P**	**23 55 33.4**	**+0.2**
PPT	**Papeete**	**43.03**	**103**	*e*S	**S**	**00 02 15.5**	**+18**
	comp=Z,446nm,26.2s						
PPT				*e*LQ		00 06 12.4	
	comp=Z,1μm,27.8s						
PPT				*e*LR	LR	00 08 07.4	
	comp=Z,2μm,27.0s,baz=278						
PPT	**Papeete**	**43.03**	**103**	LR	LR	00 11 50.0	
	comp=Z,782nm,18.1s,MS4.7,baz=272,slow=34						
TBI	**Tubuai**	**43.59**	**112**	*e*S	**S**	**00 02 23.7**	**+18**
	comp=Z,270nm,26.5s						
TBI				*e*LQ		00 06 00.7	
	comp=Z,849nm,28.2s						
TBI				*e*LR	LR	00 08 22.7	
	comp=Z,2μm,26.8s,baz=287						
CBIJ	**Chichi jima**	**45.14**	**329**	LR	LR	00 11 44.0	

LZH				AMB	AMB		
	comp=Z,446nm,5.0s						
LZH				LR	LR		
	comp=E,194nm,15.4s						
LZH				LR	LR		
	comp=Z,354nm,16.8s,MS4.7						
QSPA	**South Pole Qui**	**78.27 180**	*eP*	**P**		**23 59 34.7**	**-0.6**
	comp=Z,286nm,1.0s,mb5.1						
SONM	**Songino Array**	**79.53 324**	P	**P**		**23 59 42.6**	**+0.3**
	comp=Z,8.3nm,0.4s,mb5.0,baz=137,slow=4.6,SNR=85						
SONM				LR	LR	00 33 56.0	
	comp=Z,90nm,18.8s,MS4.1,baz=291,slow=35						
GTA	**Gaotai**	**79.91 314**	*eP*	**P**		**23 59 45.6**	**+1.3**
GTA				AP	pP	23 59 56.1	-1.4
GTA				AMB	AMB		
	comp=Z,36nm,0.9s,mb5.3						
GTA				AMB	AMB		
	comp=Z,265nm,4.2s						
GTA				LR	LR		
	comp=N,135nm,17.5s,MS4.6						
GTA				LR	LR		
	comp=E,219nm,21.7s,MS4.6						
GTA				LR	LR		
	comp=Z,328nm,24.0s,MS4.6						
PMR	**Palmer**	**81.03 20**	P	**P**		**23 59 47.0**	**-3.3**
ZAK	**Zakamensk**	**82.57 325**	*eP*	**P**		**23 59 57.3**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.5						
TLY	**Talaya**	**82.99 326**	P	**P**		**00 00 00.5**	**0.0**
	comp=Z,112nm,0.6s,mb6.1,SNR=6.4						
YBH	**Yreka Blue Hor**	**84.01 45**	P	**P**		**00 00 06.4**	**+0.6**
	comp=Z,0.5nm,0.3s,mb4.1,baz=307,slow=7.0,SNR=2.5						
MAW	**Mawson**	**84.27 202**	*eP*	**P**		**00 00 06.3**	**-0.8**
MAW	**Mawson**	**84.27 202**	P	**P**		**00 00 06.9**	**-0.2**
	comp=Z,3.9nm,0.5s,mb4.8,baz=118,slow=6.8,SNR=28						
MAW				LR	LR	00 30 52.1	
	comp=Z,470nm,21.9s,MS4.8,baz=65,slow=31						
DLBC	**Dease Lake**	**85.77 28**	LR	LR		00 35 59.7	
	comp=Z,255nm,19.2s,MS4.6,baz=295,slow=33						
JIRN	**Jiri**	**86.78 299**	*eP*	**P**		**00 00 21.0**	**+1.4**
	comp=Z,17nm,0.5s,mb5.5						
GUN	**Gumba**	**87.11 299**	*eP*	**P**		**00 00 22.6**	**+1.4**
PKI	**Pulchoki**	**87.42 299**	*eP*	**P**		**00 00 23.9**	**+1.2**
	comp=Z,27nm,0.6s,mb5.6						
PKI	**Pulchoki**	**87.42 299**	*eP*	**P**		**00 00 23.9**	**+1.2**
PKI				pmax	pmax		
	comp=Z,27nm,0.6s,mb5.7						
KKN	**Kakani**	**87.59 299**	*eP*	**P**		**00 00 24.7**	**+1.2**
	comp=Z,63nm,1.1s,mb5.8						
KKN	**Kakani**	**87.59 299**	*eP*	**P**		**00 00 24.7**	**+1.2**
KKN				pmax	pmax		
	comp=Z,63nm,1.1s,mb5.8						
DMN	**Daman**	**87.69 299**	*eP*	**P**		**00 00 25.6**	**+1.6**
	comp=Z,71nm,0.7s,mb6.0						
GKN	**Gorkha**	**88.19 299**	*eP*	**P**		**00 00 26.6**	**+0.2**
	comp=Z,74nm,0.8s,mb6.0						
LPIG	**La Paz**	**88.83 65**	LR	LR		00 37 17.6	
	comp=Z,162nm,18.2s,MS4.5,baz=336,slow=34						
KOLN	**Koldanda**	**89.03 298**	*eP*	**P**		**00 00 30.4**	**+0.1**
	comp=Z,25nm,0.5s,mb5.8						
NEW	**Newport**	**89.93 41**	LR	LR		00 33 06.3	
	comp=Z,366nm,20.9s,MS4.8,baz=224,slow=30						
SYO	**Syowa Base**	**91.27 197**⇑	*eP*	**P**		**00 00 39.4**	**-1.4**
HWUT	**Hardware Ranch**	**91.92 48**	P	**P**		**00 00 42.4**	**-1.4**
PV01	**Paradox Valley**	**93.39 52**	*eP*	**P**		**00 00 50.4**	**-0.2**
PDAR	**Pinedale Array**	**93.64 47**	PKKPbc	PKKPbc		00 17 56.7	+0.4
	comp=Z,0.5nm,0.7s,baz=114,slow=6.6,SNR=4.5						
PDAR				LR	LR	00 38 42.1	
	comp=Z,190nm,18.8s,MS4.6,baz=292,slow=33						
MKAR	**Makanchi Array**	**94.38 317**	P	**P**		**00 00 55.0**	**-0.1**
	comp=Z,14nm,0.6s,mb5.6,baz=85,slow=6.4,SNR=86						
ZAL	**Zalesovo**	**94.43 324**	P	**P**		**00 00 54.3**	**-1.0**
	comp=Z,1.9nm,0.6s,mb4.7,baz=358,slow=4.5,SNR=7.5						
ZAL				LR	LR	00 42 06.3	
	comp=Z,236nm,21.5s,MS4.6,baz=6.4,slow=35						
YKA	**Yellowknife Ar**	**95.35 27**	LR	LR		00 36 59.4	
	comp=Z,226nm,21.0s,MS4.6,baz=270,slow=31						
SNAA	**Sanae**	**96.46 183**	*eP*	**P**		**00 01 03.0**	**-1.6**
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SNAA	**Sanae**	**96.46 183**	*eP*	**P**		**00 01 03.0**	**-1.6**
	comp=Z,1.0nm,0.6s,mb4.4						
KURK	**Kurchatov**	**97.50 320**	*eP*	**P**		**00 01 08.0**	**-1.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb5.0						
KURK	**Kurchatov**	**97.50 320**	*eP*	**P**		**00 01 08.0**	**-1.4**
	comp=Z,1.5nm,0.4s,mb4.9						
BVAR	**Borovoye Array**	**102.81 322**	P	Pdif		00 01 31.7	-1.3
	comp=Z,1.4nm,0.8s,baz=116,slow=5.1,SNR=6.2						
ARCES	**ARCESS Array B**	**117.14 346**	PKP	PKPdf		00 06 18.4	-1.9
	comp=Z,1.0nm,0.4s,baz=85,slow=2.3,SNR=31						
LPAZ	**La Paz**	**119.41 116**	PKP	PKPdf		00 06 25.2	+0.5
	comp=Z,0.5nm,0.4s,baz=209,slow=8.9,SNR=3.8						
LPAZ				PKKPbc	PKKPbc	00 16 37.6	+1.2
	comp=Z,0.7nm,0.6s,baz=191,slow=2.2,SNR=5.9						
LPAZ	**La Paz**	**119.41 116**	PKP	PKPdf		00 06 25.2	+0.5
LPAZ				PKKPbc	PKKPbc	00 16 37.6	+1.2
JOF	**Joensuu**	**119.77 338**	*ep*	PKPdf		00 06 22.1	-3.2
GNI	**Garni**	**121.50 310**	*e*PKIKP	PKPdf		00 06 24.9	-3.8
KAF	**Kangasniemi**	**122.08 339**	*ep*	PKPdf		00 06 26.5	-3.3
	comp=Z,0.5nm,0.4s						
FINES	**FINESS Array B**	**122.61 339**	PKP	PKPdf		00 06 28.9	-1.9
	comp=Z,0.6nm,0.7s,baz=24,slow=1.7,SNR=6.3						
BOSA	**Boshof**	**124.96 222**	PKP	PKPdf		00 06 35.9	+0.6
	comp=Z,4.1nm,0.6s,baz=134,slow=2.4,SNR=15						
BOSA	**Boshof**	**124.96 222**	PKP	PKPdf		00 06 35.9	+0.6
MALT	**Malatya**	**126.69 309**	PKIKP	PKPdf		00 06 39.7	+1.1
KMBO	**Kilima Mbogo**	**127.77 259**	PKP	PKPdf		00 06 41.9	+1.2
	comp=Z,1.0nm,0.5s,baz=44,slow=6.8,SNR=5.7						
EIL	**Elat**	**131.48 299**	*e*PKPdf	PKPdf		00 06 49.9	+2.1
GERES	**GERESS Array B**	**136.56 334**	PKP	PKPdf		00 06 57.4	+0.2
	comp=Z,0.2nm,0.3s,baz=13,slow=2.9,SNR=4.9						
CABF	**La Chapelle**	**141.41 338**	*e*PKIKP	PKPdf		00 07 03.8	-2.3
	comp=Z,5.0nm,0.8s						
FLN	**La Foliniere**	**141.48 346**	*e*PKIKP	PKPdf		00 07 03.7	-2.5
LDF	**La Druitiere**	**141.55 345**	*e*PKIKP	PKPdf		00 07 04.1	-2.3
LPL	**La Plagne**	**142.09 336**	*e*PKIKP	PKPdf		00 07 05.4	-1.9
	comp=Z,2.6nm,0.5s						
LPG	**La Plagne**	**142.09 336**	*e*PKIKP	PKPdf		00 07 05.4	-1.9
AVF	**Avril sur Loir**	**142.20 341**	*e*PKIKP	PKPdf		00 07 05.2	-2.3
SGMF	**Saint Gilles**	**142.42 348**	*e*PKIKP	PKPdf		00 07 04.9	-3.0
ORIF	**Oris-en-Rattie**	**142.92 337**	*e*PKIKP	PKPdf		00 07 06.6	-2.2
ORIF			*e*R				
	comp=Z,205nm,21.5s						
SBF	**Sospel**	**143.15 334**	*e*PKIKP	PKPdf		00 07 06.0	-3.2
MFF	**Saint Martin d**	**143.40 344**	*e*PKIKP	PKPdf		00 07 07.6	-2.0
	comp=Z,4.1nm,0.6s						
VIVF	**Saint-Julien-l**	**143.43 338**	*e*PKIKP	PKPdf		00 07 07.0	-2.7
PGF	**Pioggiola**	**143.49 331**	*e*PKIKP	PKPdf		00 07 07.3	-2.5
FRF	**La Foret Royal**	**143.73 335**	*e*PKIKP	PKPdf		00 07 06.9	-3.3
	comp=Z,11nm,0.9s						
SMRF	**Simiane la Rot**	**143.83 336**	*e*PKIKP	PKPdf		00 07 07.8	-2.6
LMR	**La Mourre**	**143.97 335**	*e*PKIKP	PKPdf		00 07 07.5	-3.1
	comp=Z,12nm,0.8s						
RJF	**Les Rejaudoux**	**144.11 342**	*e*PKIKP	PKPdf		00 07 08.8	-2.1
RJF			*e*R				
	comp=Z,289nm,22.8s						
RJF	**Les Rejaudoux**	**144.11 342**	*e*PKPdf	PKPdf		00 07 08.8	-2.1
RJF				LR	LR		
	comp=Z,290nm,22.8s,MS5.0						
CAF	**Calviac**	**144.27 341**	*e*PKIKP	PKPdf		00 07 08.8	-2.4
LASF	**Ste Croix**	**144.40 338**	*e*PKIKP	PKPdf		00 07 08.8	-2.6
LFF	**La Frestale**	**144.67 342**	*e*PKIKP	PKPdf		00 07 09.7	-2.2
	comp=Z,9.4nm,0.8s						
MTLF	**Montolieu**	**145.62 339**	*e*PKIKP	PKPdf		00 07 10.4	-3.1
	comp=Z,8.4nm,0.7s						
EPF	**Esparros**	**146.52 341**	*e*PKIKP	PKPdf		00 07 12.7	-2.3
SJPF	**Ste Jean**	**146.92 343**	*e*PKIKP	PKPdf		00 07 13.0	-2.7
ETSF	**Etsaut**	**146.92 342**	*e*PKIKP	PKPdf		00 07 13.1	-2.6
ESDC	**Sonseca Array**	**150.87 344**	PKPbc	PKPbc		00 07 27.0	-0.7
	comp=Z,0.3nm,0.4s,baz=359,slow=3.1,SNR=5.1						
TORD	**Torodi Ar. Bea**	**164.87 277**	PKP	PKPdf		00 07 39.2	+0.1
	comp=Z,0.8nm,1.0s,baz=216,slow=1.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**164.87 277**	PKP	PKPdf		00 07 39.2	0.0

*IDC **21** 00:09:03.2±11.0, **1330S**×**16886E**, **h54**km±104km, **mb3.7**/4, **mb1 4.0**/5, **mb1mx3.7**/14, **mbtmp4.0**/5, **ML4.3**/1, **Error ellipse: s-maj=112.8km s-min=37.0km az=159.0, Vanuatu Islands***

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.02**	**194**	*e*P	Pn	00 05 31.3	+0.1
DZM				*e*S	Sn	00 06 47.2	-24
DZM	**Mont Dzumac**	**9.02**	**194**	P	Pn	00 05 31.3	+0.1
	comp=E,2.9nm,0.3s,baz=101,slow=22,SNR=28						
DZM				S	Sn	00 06 51.1	-20
	0.5nm,0.3s,baz=138,slow=23,SNR=2.8						
STKA	**Stephens Creek**	**31.09 229**	P	P		00 09 37.1	+0.4
	4.2nm,0.6s,baz=50,slow=8.1,SNR=12						
WRA	**Warramunga Arr**	**33.69 254**	P	P		00 09 59.8	+0.4
	0.4nm,0.8s,baz=87,slow=9.1,SNR=5.7						
ASAR	**Alice Springs**	**34.64 248**	P	P		00 10 07.8	+0.2
	0.6nm,0.5s,baz=77,slow=9.0,SNR=9.8						
PDAR	**Pinedale Array**	**92.84 47**	P	P		00 16 30.9	+0.4
	0.3nm,0.6s,baz=204,slow=3.3,SNR=3.5						

*IDC **21** 00:09:07.9±6.9, 5500S×159.18E, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.2/10, mbtmp4.3/5, MS4.0/7, Ms1 4.0/7, ms1mx3.8/17, Error ellipse: s-maj=302.5km s-min=22.6km az=73.0*

*ISCJB **21** 00:09:09.2±0.6, 5512S×006×1583E±02, h10km, mb4.3/10, MS3.9/6, Error ellipse: s-maj=13.5km s-min=7.5km az=49.3*

*NEIC **21** 00:09:11.2±2.9, 5507S×15857E, h14km±23km, mb4.4/6, Error ellipse: s-maj=41.2km s-min=9.2km az=73.0*

ISC 21 00:09:10.5±0.6, 5512S±006×**1584E**±02, **h10**km, **n22, σ0s94/18, mb4.3/10, MS3.9/6, 1D, Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**0.71**	**28**	⇓*i*P	**Pg**	**00 09 23.2**	**-1.0**
MCQ				*e*S	**Sg**	**00 09 34.0**	**+0.6**
RPZ	**Rata Peaks**	**14.05**	**41**	LR	LR	00 16 33.6	
	comp=Z,758nm,19.0s,baz=147,slow=33						
TAU	**Tasmania Unive**	**14.20**	**325**	*e*Pn	**Pn**	**00 12 31.1**	**-0.5**
	23nm,0.7s						
URZ	**Urewera**	**21.08**	**45**	LR	LR	00 21 29.2	
	comp=Z,332nm,20.5s,MS3.7,baz=194,slow=36						
VNDA	**Vanda**	**22.53**	**178**	P	**P**	**00 14 10.7**	**+0.2**
	6.3nm,1.0s,mb4.0,baz=354,slow=9.0,SNR=13						
VNDA				LR	LR	00 22 29.3	
	comp=Z,186nm,19.2s,MS3.5,baz=0.6,slow=35						
VNDA	**Vanda**	**22.53**	**178**	*e*P	**P**	**00 14 10.6**	**+0.2**
	13nm,1.2s,mb4.2						
SBA	**Scott Base**	**23.02**	**175**	*e*P	**P**	**00 14 19.7**	**+4.0**
	78nm,2.1s,mb4.8						
CASY	**Casey**	**25.24**	**225**	P	**P**	**00 14 33.2**	**-3.4**
	6.0nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**26.10**	**326**	P	**P**	**00 14 45.1**	**+0.6**
	3.3nm,0.9s,mb3.9,baz=168,slow=11,SNR=4.5						
STKA				LR	LR	00 23 02.7	
	comp=Z,220nm,21.6s,MS3.7,baz=302,slow=32						
QSPA	**South Pole Qui**	**34.99**	**180**	*e*P	**P**	**00 16 04.6**	**+1.6**
	5.7nm,1.0s,mb4.5						
CTAO	**Charters Tower**	**36.17**	**340**	P	**P**	**00 16 13.5**	**+0.4**
AS31	**Alice Springs**	**36.29**	**320**	*e*P	**P**	**00 16 15.1**	**+0.9**
AS31				*e*		00 16 25.4	
ASAR	**Alice Springs**	**36.29**	**320**	P	**P**	**00 16 14.9**	**+0.8**
	4.9nm,1.0s,mb4.4,baz=157,slow=7.7,SNR=17						
ASAR				LR	LR	00 30 15.7	
	comp=Z,188nm,21.6s,MS3.8,baz=137,slow=35						
WB2	**Warramunga Arr**	**39.55**	**323**	*e*P	**P**	**00 16 41.6**	**0.0**
WRA	**Warramunga Arr**	**39.56**	**323**	P	**P**	**00 16 41.5**	**-0.2**
	4.9nm,1.0s,mb4.2,baz=158,slow=7.1,SNR=18						
WRA				LR	LR	00 31 09.2	
	comp=Z,309nm,21.8s,MS4.1,baz=190,slow=33						
WRAB	**Tennant Creek**	**39.56**	**323**	*e*P	**P**	**00 16 41.8**	**+0.1**
	3.7nm,0.5s,mb4.4						
PMG	**Port Moresby**	**46.46**	**345**	P	**P**	**00 17 36.2**	**-1.5**
TBI	**Tubuai**	**49.72**	**72**	*e*LR	LR	00 31 48.5	
	200nm,33.2s						
SNAA	**Sanae**	**52.81**	**187**	*e*P	**P**	**00 18 24.4**	**-1.6**
	12nm,1.5s,mb4.6						
SNAA				*e*		00 18 36.2	
PPT	**Papeete**	**54.36**	**68**	*e*LR	LR	00 33 57.6	
	330nm,28.0s						
PPT	**Papeete**	**54.36**	**68**	LR	LR	00 35 05.4	
	comp=Z,278nm,20.8s,MS4.3,baz=133,slow=29						
BOSA	**Boshof**	**87.44**	**220**	P	**P**	**00 21 58.1**	**-0.1**
	1.4nm,0.5s,mb4.4,baz=129,slow=6.5,SNR=3.8						

*ISCJB **21** 00:47:24.5±0.6, 2930N±007×55.13E±004, h10km, Error ellipse: s-maj=9.6km s-min=4.8km az=169.2*

*THR **21** 00:47:25.9±0.5, 2911N×5524E, h14km±9km, ML3.4*

*CSEM **21** 00:47:25.9, 2911N×5524E, h14km, ML3.4, After THR*

*KISR **21** 00:47:28.8±1.0, 2933N×5491E, h33km, ML3.5*

ISC 21 00:47:30.2±1.4, 2916N±008×**5517E**±010, **h70**km±64km, **n12, σ0s94/17, 2C, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRBR	**Kerman**	**1.61**	**59**	*e*PG	**Pn**	**00 47 54.9**	**-1.6**
KRBR				*e*SG	**Sn**	**00 48 16.6**	**+0.1**
KRBR				AML	AML	00 48 21.6	
	comp=E,771nm,0.4s						
KRBR				AML	AML	00 48 24.9	
	comp=N,727nm,0.5s						
KRBR	**Kerman**	**1.61**	**59**	*e*Pg	**Pn**	**00 47 54.9**	**-1.6**
	SNR=90						
KRBR				*e*Sg	**Sn**	**00 48 16.6**	**+0.1**
	comp=N,727nm,0.5s,SNR=90						
BNDS	**Bandar-Abbas**	**1.96**	**153**	*e*PG	**Pn**	**00 48 00.6**	**-0.7**
BNDS				AML	AML	00 48 38.5	
	comp=E,166nm,0.8s						
BNDS				AML	AML	00 48 42.7	
	comp=N,243nm,0.6s						
GHIR	**Ghir-Karzin**	**2.11**	**246**	*e*PG	**Pn**	**00 48 04.9**	**+1.6**
GHIR				AML	AML	00 48 48.0	
	comp=E,231nm,0.5s						
GHIR				AML	AML	00 48 50.9	
	comp=N,142nm,0.8s						
BANOM	**Banah**	**3.37**	**163**	⇑P	**Pn**	**00 48 20.6**	**+0.1**
	SNR=17						
NASN	**Na'in**	**4.16**	**331**	*e*PN	**Pn**	**00 48 32.4**	**+1.2**
ASHO	**Ashiyiah**	**4.53**	**170**	⇑P	**Pn**	**00 48 36.2**	**0.0**
	SNR=43						
UMR	**Umm Al-Rimmam**	**6.52**	**275**	*e*P	**Pn**	**00 49 04.0**	**+0.5**
UMR				AML	AML	00 50 18.1	
	comp=Z,27nm,0.4s						
KBD	**Kabd**	**6.54**	**272**	*e*P	**Pn**	**00 49 04.5**	**+0.7**
MIB	**Mutribah**	**6.86**	**277**	*e*P	**Pn**	**00 49 08.7**	**+0.6**
MIB				*e*S	**Sn**	**00 50 23.6**	**-1.1**
MIB				AML	AML	00 50 27.1	
	comp=Z,12nm,0.4s						
NAY	**Al-Naaiem**	**6.93**	**273**	*e*P	**Pn**	**00 49 09.7**	**+0.6**
NAY				*e*S	**Sn**	**00 50 25.9**	**-0.6**
NAY				AML	AML	00 50 27.7	
	comp=Z,3.9nm,0.5s						
RST	**Umm Al-Ruwaisa**	**7.15**	**275**	*e*P	**Pn**	**00 49 12.1**	**+0.1**
RST				*e*S	**Sn**	**00 50 29.9**	**-1.8**
RST				AML	AML	00 50 32.0	
	comp=Z,6.8nm,0.4s						

IDC 21 00:55:23.2±5.4, 2074S×17387W, h0km, mb3.7/2, mb1 4.1/2, mb1mx3.7/14, mbtmp3.7/2, Error ellipse: s-maj=331.5km s-min=36.9km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**48.23**	**256**	P	P	01 04 06.3	+0.8
	0.5nm,0.6s,baz=96,slow=8.5,SNR=5.0						
NVAR	**Mina Array Bea**	**78.59**	**41**	P	P	01 07 27.6	+0.9
	0.9nm,0.7s,baz=223,slow=9.3,SNR=7.5						
AKASG	**Malin Array Be**	**145.00**	**334**	PKPbc	PKPbc	01 15 00.1	-1.6
	0.7nm,0.6s,baz=38,slow=4.7,SNR=6.7						
BRTR	**Keskin Array B**	**149.81**	**315**	PKPbc	PKPbc	01 15 15.3	+0.2
	0.9nm,0.8s,baz=76,slow=0.6,SNR=4.8						
GERES	**GERESS Array B**	**151.30**	**350**	PKPbc	PKPbc	01 15 18.0	-0.6
	0.2nm,0.4s,baz=354,slow=2.7,SNR=4.5						

IDC 21 00:57:31.6±3.5, 943S×10806E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/17, mbtmp3.5/4, Error ellipse: s-maj=146.5km s-min=24.6km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.44**	**115**	P	P	01 03 18.6	-0.6
	0.3nm,0.8s,baz=285,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**28.46**	**123**	P	P	01 03 29.6	+1.4
	0.4nm,0.7s,baz=299,slow=10,SNR=3.5						
SONM	**Songino Array**	**57.03**	**359**	P	P	01 07 19.6	+0.4
	0.4nm,0.6s,baz=177,slow=9.4,SNR=4.1						
MKAR	**Makanchi Array**	**60.51**	**340**	P	P	01 07 43.3	-0.2
	0.3nm,0.4s,baz=132,slow=8.6,SNR=4.5						

*ISCJB **21** 01:09:30.4±3.1, 342N×008×1240E±0.1, h359km±36km, mb3.9/19, Error ellipse: s-maj=24.9km s-min=9.3km az=137.1*

*IDC **21** 01:09:32.9±5.3, 342N×12407E, h369km±62km, mb3.6/10, mb1 3.8/10, mb1mx3.5/19, mbtmp4.4/10, Error ellipse: s-maj=35.3km s-min=11.0km az=80.0*

*NEIC **21** 01:09:32.8±1.7, 341N×12401E, h371km±19km, mb4.1/14, Error ellipse: s-maj=15.0km s-min=5.9km az=69.0*

ISC 21 01:09:33.5±2.8, 340N±008×**1240E**±01, **h377**km±32km, **n32, σ0s53/31, mb3.9/19, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**18.06**	**153**	*e*P	**P**	**01 13 20.3**	**+0.7**
	8.8nm,0.6s						
QIZ	**Qiongzhong**	**20.82**	**319**	P	**P**	**01 13 46.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**21.43**	**176**	*e*P	**P**	**01 13 52.6**	**+0.2**
	12nm,0.2s,mb4.8						
FITZ	**Fitzroy Crossi**	**21.43**	**176**	P	**P**	**01 13 52.7**	**+0.3**
	7.9nm,0.3s,mb4.4,baz=0.9,slow=8.6,SNR=136						
KULM	**Kulim**	**23.37**	**275**	*e*P	**P**	**01 14 09.4**	**-0.6**
MBWA	**Marble Bar**	**24.77**	**190**	*e*P	**P**	**01 14 22.4**	**-0.2**
	5.3nm,0.5s,mb4.0						
WRAB	**Tennant Creek**	**25.31**	**157**	*e*P	**P**	**01 14 26.9**	**-0.5**
	10.0nm,0.3s,mb4.5						
WRA	**Warramunga Arr**	**25.32**	**157**	P	**P**	**01 14 26.8**	**-0.7**
	5.4nm,0.5s,mb4.1,baz=337,slow=9.7,SNR=38						
WB2	**Warramunga Arr**	**25.32**	**157**	*e*P	**P**	**01 14 26.8**	**-0.7**
AS31	**Alice Springs**	**28.58**	**161**	*e*P	**P**	**01 14 56.3**	**0.0**
ASAR	**Alice Springs**	**28.58**	**161**	P	**P**	**01 14 56.3**	**0.0**
	1.9nm,0.4s,mb3.7,baz=337,slow=7.1,SNR=28						
ASPA	**Alice Springs**	**28.58**	**161**	*e*P	**P**	**01 14 56.3**	**0.0**
FORT	**Forrest**	**34.21**	**174**	*e*P	**P**	**01 15 45.3**	**+0.3**
	21nm,0.7s,mb4.5						
KLBR	**Kellerberrin**	**35.30**	**189**	*e*P	**P**	**01 15 54.3**	**0.0**
	95nm,1.6s,mb4.8						
MJAR	**Matsushiro Arr**	**35.48**	**20**	P	**P**	**01 15 55.1**	**-0.7**
	4.1nm,0.5s,mb3.9,baz=195,slow=9.5,SNR=9.8						
NWAO	**Narrogin (SRO)**	**36.70**	**190**	P	**P**	**01 16 05.8**	**-0.1**
	18nm,1.0s,mb4.3,baz=301,slow=10,SNR=6.1						
NWAO	**Narrogin (SRO)**	**36.70**	**190**	*e*P	**P**	**01 16 06.5**	**+0.6**
	3.2nm,0.5s,mb3.8						
STKA	**Stephens Creek**	**38.86**	**156**	*e*P	**P**	**01 16 24.9**	**+1.0**
	3.1nm,0.8s,mb3.6						
STKA	**Stephens Creek**	**38.86**	**156**	P	**P**	**01 16 24.9**	**+1.0**
	5.7nm,0.4s,mb4.2,baz=333,slow=8.0,SNR=23						
SONM	**Songino Array**	**46.80**	**344**	P	**P**	**01 17 27.7**	**+0.9**
	0.8nm,0.7s,mb3.1,baz=159,slow=9.8,SNR=6.5						
TAU	**Tasmania Unive**	**50.68**	**158**	P	**P**	**01 17 56.1**	**+0.2**
	4.9nm,0.5s,mb4.0						
MKAR	**Makanchi Array**	**56.31**	**327**	P	**P**	**01 18 36.7**	**+0.3**
	1.1nm,0.4s,mb3.5,baz=120,slow=8.1,SNR=18						
MKAR	**Makanchi Array**	**56.31**	**327**	P	**P**	**01 18 36.7**	**+0.3**
ZAL	**Zalesovo**	**59.68**	**334**	P	**P**	**01 18 59.0**	**-0.4**
	1.0nm,0.4s,mb3.6,baz=157,slow=7.7,SNR=3.2						
KURK	**Kurchatov**	**60.59**	**329**	*e*P	**P**	**01 19 06.2**	**+0.6**
	2.1nm,0.8s,mb3.6						
ZRNK	**Zerenda**	**66.84**	**327**	*e*P	**P**	**01 19 45.9**	**0.0**
	1.0nm,0.4s,mb3.9						
MAW	**Mawson**	**82.52**	**200**	*e*P	**P**	**01 21 15.5**	**+0.5**
	0.7nm,0.4s,mb3.8						
VNDA	**Vanda**	**83.45**	**172**	P	**P**	**01 21 19.6**	**-0.1**
	0.4nm,0.4s,mb3.6,baz=322,slow=8.0,SNR=4.7						
VNDA	**Vanda**	**83.45**	**172**	*e*P	**P**	**01 21 19.5**	**-0.1**
	0.3nm,0.3s,mb3.6						
SBA	**Scott Base**	**84.39**	**172**	P	**P**	**01 21 23.2**	**-1.2**
QSPA	**South Pole Qui**	**93.31**	**180**	*e*P	**P**	**01 22 06.5**	**+0.2**
	0.3nm,0.3s,mb3.8						
TORD	**Torodi Ar. Bea**	**120.44**	**287**	PKP	PKPdf	01 27 41.1	+0.6
	0.2nm,0.4s,baz=52,slow=1.3,SNR=4.2						

WEL 21 01:42:25.6±0.4, 3844S×17588E, h157km±3km, **ML3.5**/14, **3C, Error ellipse: s-maj=2.5km s-min=2.5km az=90.0, North Island**

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

TACH				*i* S		Sn	02 04 06.1	+1.1
CLCH	**Cerro Calan**	**1.44**	**130**	⇑*i* P		Pn	02 03 48.4	+0.6
CLCH				*i* S		Sn	02 04 07.2	+1.3
CLCH				AML		AML	02 04 11.4	
	comp=N,237nm,0.3s							
CMCH	**Combarbala**	**1.48**	**29**	⇑*i* P		Pn	02 03 48.6	+0.1
CMCH				*i* S		Sn	02 04 08.5	+1.5
CMCH				AML		AML	02 04 14.1	
	comp=N,799nm,0.7s							
CMCH	**Combarbala**	**1.48**	**29**	⇑*i* P		Pn	02 03 48.6	+0.1
CMCH				*i* S		Sn	02 04 08.5	+1.5
FCH	**Farellones**	**1.56**	**123**	⇓*i* P		Pn	02 03 50.4	+0.8
FCH				*i* S		Sn	02 04 11.7	+2.7
FCH				AML		AML	02 04 12.7	
	comp=N,181nm,0.3s							
PCH	**Pirque**	**1.60**	**136**	⇑*i* P		Pn	02 03 51.3	+1.2
CHCH	**Chadas Angostu**	**1.77**	**146**	*i* P		Pn	02 03 53.6	+1.2
CHCH				*e*S		Sn	02 04 16.7	+2.6
CACH	**El Canelo**	**1.94**	**148**	*e*P		Pn	02 03 57.1	+2.3
CICH	**Cipreses**	**2.20**	**147**	*e*P		Pn	02 03 59.7	+1.4

IDC 21 02:15:07.0±4.2, 2261S×14828E, h0km, mb1 3.5/4, mb1mx3.5/10, mbtmp3.4/4, ML3.2/4, Error ellipse: s-maj=42.5km s-min=23.1km az=82.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**3.14**	**323**	Pn	Pn	02 15 57.7	+0.1
	2.3nm,0.3s,baz=148,slow=13,SNR=64						
CTA				Pg	Pg	02 16 05.7	-1.4
	3.7nm,0.3s,baz=145,slow=18,SNR=24						
CTA				Lg		02 16 45.6	
	16nm,0.3s,baz=40,slow=22,SNR=16						
STKA	**Stephens Creek**	**10.98**	**211**	Pn	Pn	02 17 44.7	-0.6
	0.1nm,0.3s,baz=31,slow=12,SNR=2.0						
WRA	**Warramunga Arr**	**13.27**	**279**	Pn	Pn	02 18 15.6	-0.9
	0.3nm,0.3s,baz=108,slow=14,SNR=9.0						
WRA				Lg		02 22 08.8	
	0.1nm,0.3s,baz=99,slow=29,SNR=5.1						
ASAR	**Alice Springs**	**13.27**	**263**	Pn	Pn	02 18 17.4	+0.7
	0.1nm,0.3s,baz=94,slow=14,SNR=7.4						
ASAR				Lg		02 22 09.4	
	0.1nm,0.3s,baz=94,slow=27,SNR=3.9						

*ISCJB **21** 02:22:48.6±1.0, 40.18N×007.7774E×007, h10km, Error ellipse: s-maj=11.4km s-min=5.6km az=119.0*
*BJI **21** 02:22:50.8, 4049N×7742E, h14km, ML3.4*
*NNC **21** 02:22:54.1±5.1, 4062N×7741E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=30.7km s-min=22.8km az=125.0*

ISC 21 02:22:50.9±0.9, 4021N±007×7765E±007, h10km, n20, σ1§22/20, 9C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.46**	**243**	*e*PG	**Pg**	**02 23 17.9**	**-1.1**
KSH				*e*SG	**Sg**	**02 23 38.3**	**+0.3**
KSH				Smax			
	comp=N,272nm,0.4s						
KSH				Smax			
	comp=E,370nm,0.6s						
ULHL	**Ulahol**	**2.30**	**333**	P	**Pn**	**02 23 27.0**	**-1.8**
	SNR=69						
KZA	**Kyzart**	**2.61**	**317**	P	**Pn**	**02 23 32.6**	**-0.5**
	SNR=51						
KNDC	**Almaty**	**3.05**	**351**	⇑Pn	**Pn**	**02 23 38.9**	**-0.3**
	comp=E,112nm,0.7s						
KNDC				⇓Lg		02 24 17.9	
	comp=E,248nm,0.9s						
UCH	**Uchtor**	**3.11**	**311**	P	**Pn**	**02 23 38.9**	**-1.1**
	SNR=51						
TKM2	**Tokmak 2**	**3.12**	**331**	P	**Pn**	**02 23 42.3**	**+2.2**
	SNR=5.5						
TKM2	**Tokmak 2**	**3.12**	**331**	⇑Pn	**Pn**	**02 23 38.9**	**-1.2**
	comp=E,3.5nm,0.5s						
TKM2				⇑Lg		02 24 18.3	
	comp=E,21nm,0.7s						
KBK	**Karagaybulak**	**3.18**	**321**	P	**Pn**	**02 23 43.4**	**+2.3**
	SNR=29						
AAK	**Ala-Archa**	**3.40**	**317**	P	**Pn**	**02 23 43.9**	**0.0**
	SNR=20						
CHMS	**Chumysh**	**3.54**	**323**	P	**Pn**	**02 23 49.7**	**+3.8**
	SNR=12						
AML	**Almayashu**	**3.55**	**304**	P	**Pn**	**02 23 46.4**	**+0.3**
	SNR=33						
EKS2	**Erkin-Say**	**3.81**	**311**	P	**Pn**	**02 23 50.2**	**+0.6**
	SNR=25						
USP	**Ospenovka**	**3.86**	**323**	P	**Pn**	**02 23 55.2**	**+4.8**
	SNR=38						
KK31	**Karatay Array**	**6.08**	**301**	Pn	**Pn**	**02 24 24.3**	**+3.4**
	comp=E,0.7nm,0.6s,baz=153,slow=14,SNR=4.8						
KK31				⇓Pg	**Pg**	**02 24 37.1**	**-10**
	comp=E,3.3nm,0.7s,baz=129,slow=15,SNR=11						
KK31				⇑Lg		02 25 51.0	
	comp=E,37nm,1.3s,baz=116,slow=28,SNR=11						
MK09	**Makanchi Array**	**7.38**	**26**	⇓Pn	**Pn**	**02 24 38.0**	**-0.6**
	comp=E,1.0nm,0.5s						
MK09				⇓Lg		02 26 33.9	
	comp=E,4.5nm,0.8s						
WMQ	**Urumqi**	**8.30**	**61**	P	**Pn**	**02 24 53.6**	**+2.3**
WMQ				S	**Sn**	**02 26 24.4**	**-0.8**
WMQ				Smax			
	comp=N,14nm,0.9s						
WMQ				Smax			
	comp=E,22nm,0.9s						
KURK	**Kurchatov**	**10.53**	**3**	⇑Lg		02 28 01.4	
	comp=E,8.8nm,1.1s						
VOSK	**Vostochnaya**	**13.33**	**342**	⇑Lg		02 29 36.8	
	comp=E,14nm,1.3s						
BVA0	**Borovoye Array**	**13.75**	**341**	⇑Lg		02 29 48.7	
	comp=E,2.0nm,1.2s,baz=137,slow=21,SNR=4.1						
CHKZ	**Chkalovo**	**14.30**	**343**	⇑Sn	**Sn**	**02 28 52.0**	**0.0**
	comp=E,0.8nm,0.7s						
CHKZ				⇑Lg		02 29 50.5	
	comp=E,14nm,2.1s						

*IDC **21** 02:22:59.4±1.0, 37.13N×103.98E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, ML3.9/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/36, Error ellipse: s-maj=38.0km s-min=18.2km az=66.0*
*ISCJB **21** 02:23:00.2±1.2, 37.13N±003×103.99E±009, h20km±10km, mb3.9/12, MS3.1/2, Error ellipse: s-maj=12.6km s-min=5.4km az=161.2*
*BJI **21** 02:23:01.9, 3708N×10386E, h31km, mB4.9, mb4.6, ML4.4, Ms4.1, Msz3.5*
*MOS **21** 02:23:03.1±1.5, 3732N×10395E, h33km, mb4.2/11, Error ellipse: s-maj=75.9km s-min=13.6km az=130.1*
*NEIC **21** 02:23:04.8±2.2, 37.16N×103.94E, h38km±21km, mb4.0/6, Error ellipse: s-maj=22.2km s-min=10.3km az=218.0*

ISC 21 02:23:04.7±0.7, 3713N±004×10389E±010, h36km±10km, n40, σ0§83/45, mb3.9/12, MS3.1/2, 1C, Gansu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**1.04**	**182**	⇑PG	**Pn**	**02 23 19.5**	**-3.2**
LZH				SG	**Sn**	**02 23 32.1**	**-3.9**
LZH				LR	LR		
	comp=E,33μm,4.2s						
LZH				LR	LR		
	comp=Z,39μm,5.6s						
GTA	**Gaotai**	**3.93**	**307**	P	**Pn**	**02 24 01.9**	**-0.6**
GTA				PG	**Pn**	**02 24 11.8**	**+9.3**
GTA				S	**Sn**	**02 24 47.8**	**+0.4**
GTA				SG	**Sn**	**02 25 00.9**	**+14**
GTA				Smax			
	comp=N,1μm,0.6s						
GTA				Smax			
	comp=E,2μm,0.6s						
GTA				LR	LR		
	comp=N,2μm,9.9s						
GTA				LR	LR		
	comp=E,1μm,10.3s						
GTA				LR	LR		
	comp=Z,444nm,8.4s						
XAN	**Xi'an**	**5.13**	**125**	P	**Pn**	**02 24 18.4**	**-0.6**
XAN				PG	**Pn**	**02 24 32.5**	**+14**
XAN				SG	Sn	02 25 43.3	+26
XAN				Smax			
	comp=N,213nm,0.9s						
XAN				Smax			
	comp=E,169nm,1.0s						
XAN				LR	LR		
	comp=N,439nm,7.4s						
XAN				LR	LR		
	comp=E,281nm,7.0s						
XAN				LR	LR		
	comp=Z,224nm,7.4s						
BTO	**Baotou**	**5.91**	**52**	*e*PG	**Pn**	**02 24 48.3**	**+19**
BTO				SG	Sn	02 25 59.9	+24
BTO				Smax			
	comp=N,31nm,0.6s						
BTO				Smax			
	comp=E,26nm,1.1s						
CD2	**Chengdu**	**6.20**	**181**	*e*P	**Pn**	**02 24 34.5**	**+0.8**
CD2				S	**Sn**	**02 25 44.8**	**+1.5**
CD2				SG	Sn	02 26 17.8	+34
CD2				Smax			
	comp=N,90nm,1.2s						
CD2				Smax			
	comp=E,90nm,0.8s						
CD2				LR	LR		
	comp=E,1μm,8.0s						
CD2				LR	LR		
	comp=Z,200nm,9.5s						
HHC	**Hu-ho-hao-te**	**7.04**	**56**	*e*PG	Px	02 25 09.8	
HHC				SG	Sx	02 26 40.3	
HHC				Smax			
	comp=N,175nm,1.0s						
HHC				Smax			
	comp=E,187nm,0.6s						
SONM	**Songino Array**	**10.86**	**9**	Pn	**Pn**	**02 25 37.3**	**-0.2**
	comp=E,0.7nm,0.3s,baz=190,slow=14,SNR=16						
SONM				Sn	**Sn**	**02 27 39.5**	**+1.7**
	comp=E,1.1nm,0.3s,baz=197,slow=23,SNR=3.9						
SONM				Lg		02 28 43.7	
	comp=E,1.1nm,0.3s,baz=199,slow=28,SNR=5.2						
SONM	**Songino Array**	**10.86**	**9**	P	**Pn**	**02 25 37.3**	**-0.2**
SONM						02 27 39.5	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM				smax			
	comp=E,1.0nm,0.3s						
GYA	**Guiyang**	**10.89**	**167**	P	**Pn**	**02 25 38.1**	**+0.1**
GYA				S	**Sn**	**02 27 38.1**	**-0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				LR	LR		
	comp=N,520nm,11.2s						
GYA				LR	LR		
	comp=E,540nm,10.8s						
GYA				LR	LR		
	comp=Z,530nm,10.9s						
ULN	**Ulaanbaatar**	**10.98**	**11**	*e*P	**Pn**	**02 25 38.9**	**-0.3**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ULN	**Ulaanbaatar**	**10.98**	**11**	*e*Pn	**Pn**	**02 25 38.9**	**-0.4**
	comp=Z,8.5nm,0.8s						
ZAK	**Zakamensk**	**13.26**	**358**	*e*P	**Pn**	**02 26 09.5**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**18.69**	**308**	P	**Pn**	**02 27 20.1**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=105,slow=14,SNR=7.8						
KURK	**Kurchatov**	**22.57**	**315**	*e*P	**P**	**02 28 02.1**	**+0.4**
KURK				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.5						
KURK	**Kurchatov**	**22.57**	**315**	*e*P	**P**	**02 28 02.1**	**+0.4**
	comp=Z,11nm,0.6s,mb4.5						
NVS	**Novosibirsk**	**22.65**	**328**	*e*P	**P**	**02 28 02.9**	**+0.3**
AAK	**Ala-Archa**	**23.15**	**293**	*e*P	**P**	**02 28 07.9**	**+0.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb3.9						
AAK	**Ala-Archa**	**23.15**	**293**	*e*P	**P**	**02 28 07.8**	**0.0**
	comp=Z,6.0nm,1.1s,mb3.9						
BVAR	**Borovoye Array**	**28.17**	**315**	LR	LR	02 41 24.3	
	comp=Z,47nm,19.9s,MS3.1,baz=41,slow=39						
BRVK	**Borovoye**	**28.24**	**315**	*e*P	**P**	**02 28 54.9**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
BRVK	**Borovoye**	**28.24**	**315**	*e*P	**P**	**02 28 54.9**	**+0.7**
	comp=Z,1.3nm,0.6s,mb3.7						
CHKZ	**Chkalovo**	**28.28**	**316**	*e*P	**P**	**02 28 53.7**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
CHKZ	**Chkalovo**	**28.28**	**316**	*e*P	**P**	**02 28 53.7**	**-0.9**
	comp=Z,1.5nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**28.93**	**314**	*e*P	**P**	**02 28 59.8**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
ZRNK	**Zerenda**	**28.93**	**314**	*e*P	**P**	**02 28 59.8**	**-0.5**
	comp=Z,1.0nm,0.7s,mb3.6						
ASAJ	**Asahikawa**	**29.99**	**64**	LR	LR	02 43 00.2	
	comp=Z,42nm,18.6s,MS3.1,baz=61,slow=40						
ARU	**Arti**	**35.72**	**317**	*e*P	**P**	**02 29 59.4**	**-0.3**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ARU	**Arti**	**35.72**	**317**	*e*P	**P**	**02 29 59.4**	**-0.3**
	comp=Z,4.2nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**51.74**	**334**	P	**P**	**02 32 08.2**	**-0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=79,slow=8.8,SNR=5.6						
ARCES	**ARCESS Array B**	**51.74**	**334**	P	**P**	**02 32 08.2**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**52.54**	**324**	P	**P**	**02 32 14.2**	**-0.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=85,slow=6.5,SNR=4.4						
FINES	**FINESS Array B**	**52.54**	**324**	P	**P**	**02 32 14.2**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**53.78**	**296**	P	**P**	**02 32 24.8**	**+1.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=100,slow=5.9,SNR=7.1						
BRTR	**Keskin Array B**	**53.78**	**296**	P	**P**	**02 32 24.8**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	**NORSAR Subarra**	**59.54**	**326**	P	**P**	**02 33 03.1**	**-1.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=68,slow=6.9						
NOA	**NORSAR Array B**	**59.54**	**326**	P	**P**	**02 33 03.5**	**-0.9**
	comp=Z,1.0nm,0.6s,mb4.0,baz=70,slow=6.9,SNR=4.8						
NOA	**NORSAR Array B**	**59.54**	**326**	P	**P**	**02 33 03.5**	**-0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**63.61**	**148**	P	**P**	**02 33 32.3**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.9,baz=344,slow=6.8,SNR=4.8						
WRA	**Warramunga Arr**	**63.61**	**148**	P	**P**	**02 33 32.3**	**+0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**66.75**	**150**	P	**P**	**02 33 52.1**	**-0.1**
	comp=Z,0.4nm,0.7s,mb3.6,baz=337,slow=6.4,SNR=5.9						

IDC 21 02:28:23.6±3.8, 568S×15084E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/11, mbtmp3.4/2, Error ellipse: s-maj=158.9km s-min=48.4km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.41**	**227**	P	P	02 33 13.3	+0.3
	0.4nm,0.4s,baz=53,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**24.20**	**221**	P	P	02 33 42.3	+0.6
	1.0nm,0.7s,baz=57,slow=9.3,SNR=9.8						
TORD	**Torodi Ar. Bea**	**148.70**	**286**	PKPbc	PKPbc	02 48 13.3	+0.5
	1.0nm,1.1s,baz=106,slow=3.0,SNR=8.0						

IDC 21 02:33:30.2±3.1, 981S×10837E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/25, 1C, Error ellipse: s-maj=155.3km s-min=25.9km az=48.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**2.79**	**28**	⇑*i* P	Pn	02 34 24.2	+8.1
BJII				*i* S	Sn	02 35 05.0	+15
FITZ	**Fitzroy Crossi**	**18.67**	**118**	P	Pn	02 37 50.0	+0.1
	0.1nm,0.3s,baz=302,slow=13,SNR=5.3						
WRA	**Warramunga Arr**	**27.01**	**115**	P	P	02 39 13.6	-0.2
	1.9nm,1.1s,baz=285,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**28.00**	**123**	P	P	02 39 24.1	+1.3
	0.6nm,0.6s,baz=299,slow=9.7,SNR=7.6						
STKA	**Stephens Creek**	**37.78**	**130**	P	P	02 40 47.6	-0.4
	2.7nm,0.9s,baz=298,slow=6.9,SNR=3.8						
OPO	**Ambohidratompo**	**59.72**	**254**	LR	LR	03 02 19.5	
	comp=Z,9.9nm,21.4s,baz=336,slow=29						
MKAR	**Makanchi Array**	**60.97**	**340**	P	P	02 43 45.2	+0.1
	0.4nm,0.6s,baz=152,slow=6.6,SNR=4.7						

IDC 21 02:38:53.8±3.5, 968S×10733E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.8/4, 1C, Error ellipse: s-maj=145.7km s-min=28.4km az=45.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**3.31**	**46**	⇑*i* P	Pn	02 39 43.2	-3.7
BJII				*i* S	Sn	02 40 11.2	-16
WRA	**Warramunga Arr**	**28.00**	**114**	P	P	02 44 46.6	+0.4
	0.7nm,1.0s,baz=288,slow=11,SNR=3.5						
SONM	**Songino Array**	**57.26**	**359**	P	P	02 48 43.7	+0.6
	0.7nm,0.6s,baz=165,slow=6.2,SNR=4.6						
MKAR	**Makanchi Array**	**60.50**	**340**	P	P	02 49 05.7	+0.2
	1.3nm,0.6s,baz=140,slow=7.0,SNR=9.6						
BVAR	**Borovoye Array**	**69.94**	**337**	P	P	02 50 06.4	-0.5
	0.4nm,0.4s,baz=134,slow=8.3,SNR=3.6						

KRSC 21 02:45:48, 5484N×16386E, h32km, ML3.7, Off east coast of Kamchatka Peninsula

*IDC **21** 02:48:28.8±1.4, 026S×123.42E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/15, mbtmp3.9/4, Error ellipse: s-maj=159.7km s-min=22.2km az=61.0*
*ISCJB **21** 02:48:32.1±1.4, 04N±09×125E±, h33km, mb4.0/7, Error ellipse: s-maj=280.8km s-min=12.5km az=127.2*
*NEIC **21** 02:48:34.9±0.9, 063S×122.94E, h35km, mb4.1/3, Error ellipse: s-maj=208.0km s-min=12.5km az=60.0*

ISC 21 02:48:34.4±1.6, 04N±09×125E±, h35km, n12, σ0§84/11, mb4.0/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**22.24**	**156**	*e*P	**P**	**02 53 28.2**	**+0.1**
	5.3nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**22.25**	**156**	P	**P**	**02 53 27.2**	**-1.0**
	3.9nm,0.6s,mb4.0,baz=331,slow=10,SNR=20						
WB2	**Warramunga Arr**	**22.25**	**156**	*e*P	**P**	**02 53 27.6**	**-0.6**
WB2	**Warramunga Arr**	**22.25**	**156**	*e*P	**P**	**02 53 27.4**	**-0.8**
AS31	**Alice Springs**	**25.48**	**160**	*e*P	**P**	**02 53 59.9**	**+0.6**
ASAR	**Alice Springs**	**25.48**	**160**	P	**P**	**02 53 58.4**	**-0.9**
	3.3nm,0.5s,mb4.1,baz=345,slow=14,SNR=54						
ASPA	**Alice Springs**	**25.48**	**160**	*e*P	**P**	**02 54 00.3**	**+1.0**
STKA	**Stephens Creek**	**35.80**	**155**	P	**P**	**02 55 31.3**	**+1.0**
	0.6nm,0.4s,mb3.8,baz=342,slow=9.6,SNR=2.9						
MKAR	**Makanchi Array**	**59.27**	**327**	P	**P**	**02 58 31.3**	**-1.1**
	0.6nm,0.5s,mb3.9,baz=115,slow=8.0,SNR=7.6						
KURK	**Kurchatov**	**63.58**	**329**	*e*P	**P**	**02 59 02.6**	**+1.1**
	1.5nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**69.81**	**328**	*e*P	**P**	**02 59 41.1**	**-0.2**
	0.8nm,0.5s,mb3.9						
TORD	**Torodi Ar. Bea**	**122.10**	**286**	PKP	PKPdf	03 07 22.6	-2.6
	0.4nm,0.8s,baz=57,slow=1.1,SNR=5.9						

*NIED **21** 03:23:00, 2560N×124.90E, h125km, Mw3.9 Best double couple: M0 9.18000×10^14 NP1:φs232.00000°, δ82.00000°, λ38.00000°. NP2:φs136.00000°, δ52.00000°, λ170.00000°.*
*ISCJB **21** 03:23:32.5±0.4, 2555N±006×125.01E±005, h108km±6km, mb3.6/6, Error ellipse: s-maj=12.7km s-min=3.9km az=110.6*
*IDC **21** 03:23:34.1±5.8, 2563N×125.10E, h107km±63km, mb3.4/6, mb1 3.4/7, mb1mx3.3/21, mbtmp3.7/7, Error ellipse: s-maj=54.4km s-min=15.9km az=64.0*
*NEIC **21** 03:23:34.5±1.0, 2560N×125.03E, h110km±11km, MG3.8(JMA), Error ellipse: s-maj=15.5km s-min=13.8km az=182.0*
*JMA **21** 03:23:34.1±0.2, 2557N×124.89E, h97km, M3.8*

ISC 21 03:23:33.5±0.4, 2556N±007×12499E±006, h101km±6km, n23, σ1§05/38, mb3.6/6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**0.79**	**159**	P	**Pn**	**03 23 52.7**	**+0.8**
JMJ				S	**Sn**	**03 24 06.3**	**+0.7**
JOGS	**Gusukube**	**0.88**	**154**	P	**Pn**	**03 23 53.8**	**+1.0**
JOGS				S	**Sn**	**03 24 08.2**	**+1.0**
JTJ	**Tarama**	**0.95**	**196**	P	**Pn**	**03 23 53.9**	**+0.4**
JTJ				S	**Sn**	**03 24 08.1**	**-0.4**
JIJ	**Ishigaki jima**	**1.42**	**213**	P	**Pn**	**03 23 58.5**	**-0.3**
JIJ				S	**Sn**	**03 24 16.0**	**-1.9**
JKRS	**Kuro-shima**	**1.59**	**214**	P	**Pn**	**03 24 00.7**	**-0.2**
JKRS				*e*S	**Sn**	**03 24 21.0**	**-0.7**
IRIF	**Iriomote-Funau**	**1.67**	**223**	P	**Pn**	**03 24 01.7**	**-0.2**
IRIF				S	**Sn**	**03 24 22.3**	**-1.2**
JKE	**Kume jima 2**	**1.79**	**64**	P	**Pn**	**03 24 04.7**	**+1.3**
JKE				S	**Sn**	**03 24 27.4**	**+1.2**
HATJ	**Hateruma jima**	**1.84**	**216**	P	**Pn**	**03 24 03.9**	**-0.2**
HATJ				S	**Sn**	**03 24 26.5**	**-0.9**
YOJ	**Yonaguni jima**	**2.10**	**239**	P	**Pn**	**03 24 08.8**	**+1.4**
YOJ				S	**Sn**	**03 24 33.2**	**-0.1**
JAGN	**Aguni-jima**	**2.27**	**63**	P	**Pn**	**03 24 11.0**	**+1.4**
JAGN				*e*S	**Sn**	**03 24 37.8**	**+0.5**
JIH	**Iheya**	**3.05**	**61**	P	**Pn**	**03 24 20.8**	**+0.8**
JIH				S	**Sn**	**03 24 54.5**	**-1.2**
JOW	**Kunigami**	**3.21**	**66**	P	**Pn**	**03 24 22.6**	**+0.5**
	13nm,0.3s,baz=223,slow=9.2,SNR=54						
JOW				S	**Sn**	**03 24 58.2**	**-1.4**
	22nm,0.3s,baz=109,slow=24,SNR=7.7						
JOW	**Kunigami**	**3.21**	**66**	P	**Pn**	**03 24 22.6**	**+0.5**
YHNB	**Yeheng**	**3.39**	**256**	*e*Pn	**Pn**	**03 24 26.4**	**+1.9**
JTK	**Tokunoshima**	**4.18**	**57**	P	**Pn**	**03 24 35.4**	**+0.3**
JTK				S	**Sn**	**03 25 21.6**	**-1.3**
JAM	**Amami Oshima**	**5.00**	**54**	P	**Pn**	**03 24 46.1**	**-0.2**
JAM				S	**Sn**	**03 25 40.2**	**-2.7**
JMZ	**Minamidaito 2**	**5.63**	**86**	P	**Pn**	**03 24 52.5**	**-2.2**
JMZ				*e*S	**Sn**	**03 25 50.8**	**-7.2**
SONM	**Songino Array**	**26.64**	**331**	P	**P**	**03 29 02.4**	**-0.2**
	0.5nm,0.3s,mb3.5,baz=151,slow=10,SNR=4.8						
MKAR	**Makanchi Array**	**39.84**	**313**	P	**P**	**03 30 56.3**	**-0.7**
	0.7nm,0.4s,mb3.9,baz=95,slow=9.7,SNR=12						
WRA	**Warramunga Arr**	**46.13**	**168**	P	**P**	**03 31 47.3**	**-0.4**
	0.6nm,0.5s,mb3.6,baz=349,slow=8.7,SNR=12						
BVAR	**Borovoye Array**	**48.85**	**319**	P	**P**	**03 32 09.9**	**+1.2**
	0.3nm,0.4s,mb3.6,baz=104,slow=9.6,SNR=2.5						
ASAR	**Alice Springs**	**49.69**	**169**	P	**P**	**03 32 16.6**	**+1.4**
	0.5nm,0.5s,mb3.7,baz=356,slow=14,SNR=9.8						
FINES	**FINESS Array B**	**72.00**	**330**	P	**P**	**03 34 45.6**	**-0.7**
	0.5nm,0.6s,mb3.5,baz=77,slow=8.4,SNR=5.8						

*ISCJB **21** 03:27:08.8±4.0, 29.3N±0.1×68.1E±0.2, h33km±40km, mb3.6/9, Error ellipse: s-maj=28.3km s-min=20.0km az=58.0*
*IDC **21** 03:27:10.8±8.1, 29.33N×68.17E, h33km±63km, mb3.5/8, mb1 3.7/9, mb1mx3.5/23, mbtmp3.7/9, ML3.8/1, Error ellipse: s-maj=27.6km s-min=22.4km az=140.0*
*NEIC **21** 03:27:10.6±4.9, 2935N×68.17E, h32km±37km, mb

0.5nm,0.5s,baz=345,slow=11,SNR=3.8

IDC 21 03:30:20.8±3.6, 570S×15067E, h0km, mb3.5/2, mb1 3.9/2, mb1mx3.5/10, mbtmp3.6/2, Error ellipse: s-maj=138.5km s-min=47.3km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.27**	**227**	P	P	03 35 09.7	+1.0
	1.4nm,0.9s,baz=53,slow=11,SNR=8.0						
ASAR	**Alice Springs**	**24.08**	**220**	P	P	03 35 37.8	-0.1
	1.9nm,0.7s,baz=55,slow=9.1,SNR=19						
TORD	**Torodi Ar. Bea**	**148.54**	**286**	PKPbc	PKPbc	03 50 10.2	+0.6
	0.7nm,0.8s,baz=109,slow=2.4,SNR=8.1						

*CASC **21** 03:31:12.3±3.1, 1509N×93.15W, h5km±62km, MD4.5*
*ISCJB **21** 03:31:13.2±0.6, 1512N±006×9329W±003, h33km, Error ellipse: s-maj=8.4km s-min=3.7km az=44.8*
*MEX **21** 03:31:17.7±0.5, 1521N×9336W, h77km±51km, MD4.5*
*NEIC **21** 03:31:18.0, 1521N×9336W, h65km, MD4.5(MEX), After MEX.*

ISC 21 03:31:14.7±0.6, 1507N±005×9327W±003, h35km, n21, σ1§23/24, 6C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.75**	**115**	⇑eP	**Pn**	**03 31 42.5**	**-0.1**
SCX	**San Cristobal**	**1.76**	**20**	iP	**Pn**	**03 31 44.0**	**+1.3**
SCX				iS	**Sn**	**03 32 04.5**	**+0.6**
TP2	**Tecpan 2**	**2.19**	**97**	⇓eP	**Pn**	**03 31 48.5**	**-0.1**
TP2				eS	**Sn**	**03 32 14.4**	**-0.1**
FUG	**Fuego 3**	**2.43**	**105**	⇑eP	**Pn**	**03 31 52.7**	**+0.8**
CMIG	**Matias Romero**	**2.54**	**322**	iP	**Pn**	**03 31 54.5**	**+1.2**
CMIG				iS	**Sn**	**03 32 20.4**	**-2.6**
HUIG	**Huatulco**	**2.82**	**285**	iP	**Pn**	**03 31 57.8**	**+0.5**
HUIG				iS	**Sn**	**03 32 28.1**	**-2.0**
IXG	**Ixpaco**	**2.87**	**108**	⇑eP	**Pn**	**03 31 57.2**	**-0.7**
IXG				eS	**Sn**	**03 32 30.5**	**-0.7**
RTR	**El Retiro**	**3.70**	**108**	eP	x	03 32 16.4	
RTR				eS	x	03 32 59.8	
SBLS	**San Blas**	**3.74**	**109**	⇑eP	x	03 32 16.6	
SBLS				eS	x	03 33 01.1	
OXX	**Oaxaca**	**3.87**	**301**	eP	**Pn**	**03 32 15.5**	**+3.8**
VHO	**Vista Hermosa**	**3.88**	**301**	iP	**Pn**	**03 32 15.0**	**+3.2**
VHO				iS	**Sn**	**03 32 55.0**	**-1.1**
LBRS	**Las Brisas**	**4.30**	**107**	⇑eP	x	03 32 25.9	
LBRS				eS	x	03 33 16.0	
LFRS	**El Faro**	**4.33**	**109**	⇑eP	x	03 32 24.6	
LFRS				eS	x	03 33 16.3	
SCIG		**4.35**	**27**	iP	**Pn**	**03 32 18.7**	**+0.3**
SCIG				iS	**Sn**	**03 33 07.0**	**-0.8**
LCBS	**La Ceiba**	**4.39**	**108**	eP	x	03 32 25.8	
LCBS				eS	x	03 33 18.4	
SNVI	**San Vicente**	**4.53**	**108**	eP	x	03 32 31.1	
SNVI				eS	x	03 33 25.8	
VSM	**San Miguel**	**5.11**	**108**	eP	x	03 32 36.8	
VSM				eS	x	03 33 36.0	
TPIG	**Tehuac#an**	**5.14**	**311**	iS	**Sn**	**03 33 27.7**	**+0.4**
UTMO	**Huajuapan**	**5.14**	**303**	eP	**Pn**	**03 32 30.3**	**+1.1**
UTMO				iS	**Sn**	**03 33 26.8**	**-0.4**
TEIG	**Tepich**	**6.99**	**42**	iP	**Pn**	**03 32 52.6**	**-2.0**
TEIG				iS	**Sn**	**03 34 05.9**	**-7.0**
LNIG	**Linares**	**11.37**	**330**	iP	**Pn**	**03 33 57.4**	**+2.8**
LNIG				iS	**Sn**	**03 35 53.8**	**-6.6**

*CSEM **21** 04:07:20.6±0.1, 4298N×1292E, h12km, MD3.1/18, Error ellipse: s-maj=1.5km s-min=0.9km az=70.0*
*ROM **21** 04:07:20.8±0.2, 4298N×1293E, h6km±2km, Md3.1/18, Ml2.6/22, Error ellipse: s-maj=2.1km s-min=1.4km az=110.0*
*ISCJB **21** 04:07:21.1±0.3, 4296N±002×1291E±004, h9km±3km, Error ellipse: s-maj=4.4km s-min=2.8km az=149.5*
*VIE **21** 04:07:21.1±0.7, 4297N×1284E, h8km, mb2.0/1, ML2.6/1, Error ellipse: s-maj=10.2km s-min=1.8km az=77.0 109 km SSE of San Marino*

ISC 21 04:07:21.6±0.3, 4296N±002×1290E±003, h9km±4km, n33, σ0§96/45, 3C-2D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.20**	**127**	⇑iPg	**Pg**	**04 07 25.8**	**+0.1**
SNTG	**Esanatoglia**	**0.30**	**6**	Pg	**Pg**	**04 07 26.9**	**-0.6**
MURB	**Monte Urbino**	**0.41**	**318**	⇓iPg	**Pg**	**04 07 29.2**	**-0.4**
MURB				Sg	**Sg**	**04 07 36.1**	**+1.0**
	2μm,0.3s						
CING	**Cingoli**	**0.47**	**27**	Pg	**Pg**	**04 07 30.2**	**-0.6**
CING				Sg	**Sg**	**04 07 37.5**	**+0.5**
	685nm,0.3s						
ARV	**Arcevia**	**0.54**	**3**	Pg	**Pg**	**04 07 31.2**	**-0.9**
ARV				Sg	**Sg**	**04 07 39.7**	**+0.5**
ARVD	**Arcevia**	**0.54**	**3**	Pg	**Pg**	**04 07 31.2**	**-0.9**
ARVD				Sg	**Sg**	**04 07 39.6**	**+0.4**
	411nm,0.9s						
CAMP	**Campotosto**	**0.56**	**138**	Pg	**Pg**	**04 07 32.1**	**-0.3**
CAMP				Sg	**Sg**	**04 07 41.1**	**+1.3**
	171nm,0.6s						
OFFI	**Offida**	**0.58**	**92**	Pg	**Pg**	**04 07 33.5**	**+0.8**
	628nm,0.6s						
MNS	**Montasola**	**0.59**	**196**	⇑iPg	**Pg**	**04 07 32.9**	**-0.1**
MNS				Sg	**Sg**	**04 07 42.6**	**+1.8**
	427nm,0.3s						
TERO	**Teramo**	**0.61**	**122**	Pg	**Pg**	**04 07 33.0**	**-0.5**
TERO				Sg	**Sg**	**04 07 42.7**	**+1.2**
	242nm,0.7s						
CDCA	**Citt' di Caste**	**0.70**	**316**	Pg	**Pg**	**04 07 34.9**	**-0.2**
CDCA				Sg	**Sg**	**04 07 46.5**	**+2.3**
AQU	**L'Aquila**	**0.70**	**148**	Pg	**Pg**	**04 07 35.4**	**+0.2**
	68nm,0.4s						
FIAM	**Fiamignano**	**0.70**	**167**	Pg	**Pg**	**04 07 34.6**	**-0.6**
	326nm,0.8s						
BADI	**Badiali**	**0.73**	**319**	Pg	**Pg**	**04 07 34.8**	**-0.9**
	10μm,8.0s						
SACS	**San Casciano d**	**0.73**	**262**	Pg	**Pg**	**04 07 35.9**	**+0.2**
	207nm,0.5s						
FSSB	**Fossombrone**	**0.74**	**353**	Pg	**Pg**	**04 07 34.8**	**-1.1**
FSSB				Sg	**Sg**	**04 07 45.9**	**+0.3**
	650nm,0.5s						
AOI	**Ancona**	**0.79**	**41**	Pg	**Pg**	**04 07 36.1**	**-0.6**
	185nm,0.3s						
FAGN	**Fagnano**	**0.85**	**143**	Pg	**Pg**	**04 07 38.0**	**0.0**
	309nm,0.5s						
LATE	**Laterza**	**0.88**	**247**	Pg	**Pg**	**04 07 39.1**	**+0.7**
	40nm,0.6s						
VCEL	**Villa Celiera**	**0.89**	**129**	Pg	**Pg**	**04 07 38.3**	**-0.4**
	191nm,0.4s						
MTCE	**Montecelio**	**0.94**	**187**	Pn	**Pn**	**04 07 39.1**	**-1.8**
	158nm,0.7s						
CRE	**Caprese Michel**	**0.96**	**314**	Pg	**Pg**	**04 07 39.2**	**-0.8**
	31nm,0.6s						
CERT	**Certeto**	**1.01**	**177**	Pg	**Pg**	**04 07 40.0**	**-0.9**
	175nm,0.5s						
ARCI	**Arcidosso**	**1.05**	**265**	Pg	**Pg**	**04 07 43.0**	**+1.2**
	80nm,1.4s						
TOLF	**Tolfa**	**1.11**	**217**	Pn	**Pn**	**04 07 42.7**	**-0.6**
	86nm,0.5s						
INTR	**Introdacqua**	**1.20**	**141**	Pn	**Pn**	**04 07 42.3**	**-2.2**
	154nm,0.6s						
VVLD	**Villa Vallelon**	**1.21**	**153**	Pn	**Pn**	**04 07 46.0**	**+1.4**
	128nm,0.7s						
SFI	**Santa Sofia**	**1.22**	**321**	Pn	**Pn**	**04 07 44.1**	**-0.7**
	21nm,0.4s						
CSNT	**Castellina Chi**	**1.28**	**294**	Pn	**Pn**	**04 07 45.2**	**-0.5**
	25nm,0.5s						
KNDS	**Knezji Dol**	**2.78**	**22**	eSn	**Sn**	**04 08 41.8**	**+1.8**
VOY	**Vojsko**	**3.16**	**13**	ePn	**Pg**	**04 08 20.2**	**-1.9**
VOY				eSn	**Sn**	**04 08 50.2**	**+1.0**
OBKA	**Obir**	**3.74**	**18**	⇓iPn	**Pn**	**04 08 19.5**	**+0.1**
OBKA				⇑iSn	**Sn**	**04 09 04.3**	**+0.6**
KHC	**Kasperske Hory**	**6.20**	**4**	eSN	**Sn**	**04 10 08.5**	**+4.4**
KHC				eSG	**Sg**	**04 10 34.0**	**-6.4**

IDC 21 04:27:14.7±31.0, 2213S×17869W, h0km, mb4.5/4, mb1 4.7/4, mb1mx4.1/13, mbtmp4.5/4, MS3.4/1, Ms1 3.4/1, ms1mx2.8/15, 1D, Error ellipse: s-maj=581.5km s-min=147.2km az=91.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOO	**Toolangi**	**34.43**	**235**	eP	P	04 34 01.8	-2.0
	3.3nm,0.6s						
STKA	**Stephens Creek**	**36.52**	**246**	eP	P	04 34 20.9	-0.9
	3.8nm,1.1s						
STKA	**Stephens Creek**	**36.52**	**246**	P	P	04 34 20.9	-0.9
	1.8nm,0.4s,baz=69,slow=8.6,SNR=4.7						
ASAR	**Alice Springs**	**43.54**	**258**	P	P	04 35 20.4	+0.3
	2.3nm,0.3s,baz=97,slow=6.9,SNR=37						
ASPA	**Alice Springs**	**43.54**	**258**	eP	P	04 35 20.4	+0.3
WB2	**Warramunga Arr**	**43.75**	**264**	eP	P	04 35 22.3	+0.5
WRA	**Warramunga Arr**	**43.76**	**264**	P	P	04 35 23.0	+1.1
	5.2nm,0.3s,baz=96,slow=8.3,SNR=323						
KAKA	**Kakadu**	**47.39**	**273**	eP	P	04 35 53.0	+2.4
	7.6nm,0.8s						
FORT	**Forrest**	**48.07**	**248**	⇓iP	P	04 35 52.3	-3.6
	15nm,0.5s						
FITZ	**Fitzroy Crossi**	**52.19**	**264**	eP	P	04 36 27.4	+0.2
	7.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.19**	**264**	P	P	04 36 27.5	+0.3
	2.4nm,0.4s,baz=119,slow=7.6,SNR=39						
FITZ				LR	LR	04 56 35.9	
	comp=Z,42nm,21.3s,baz=113,slow=34						

*ISCJB **21** 04:32:25.2±0.5, 3933N±003×2079E±005, h10km, Error ellipse: s-maj=5.1km s-min=3.8km az=10.6*
*CSEM **21** 04:32:25.5±0.2, 3932N×2078E, h15km, ML2.2, Error ellipse: s-maj=6.0km s-min=4.9km az=89.0*
*NEIC **21** 04:32:25.0, 3934N×2077E, h25km, MD3.1(ATH), After ATH.*
*ATH **21** 04:32:25.0, 3934N×2077E, h25km±8km, MD3.1/4*
*THE **21** 04:32:26.1, 3932N×2079E, h10km, ML2.2*

ISC 21 04:32:25.7±0.6, 3931N±003×2076E±005, h10km, n10, σ1§33/17, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.36**	**11**	ePB	**Pg**	**04 32 32.1**	**-0.7**
JAN				eSB	**Sg**	**04 32 37.9**	**+0.3**
IGT	**Igoumenitsa**	**0.40**	**304**	ePg	**Pg**	**04 32 33.4**	**-0.2**
IGT				eSg	**Sg**	**04 32 40.4**	**+1.4**
MEV	**Metsovon**	**0.60**	**37**	ePg	**Pg**	**04 32 36.6**	**-0.8**
MEV				eSg	**Sg**	**04 32 46.4**	**+1.2**
LKD	**Levkas**	**0.60**	**188**	ePg	**Pg**	**04 32 37.1**	**-0.3**
LKD				eSg	**Sg**	**04 32 48.0**	**+2.7**
KEK	**Kerkira**	**0.85**	**299**	ePN	**Pn**	**04 32 41.3**	**-2.4**
EVR	**Evrytania**	**0.90**	**115**	ePN	**Pn**	**04 32 42.6**	**-1.9**
VLS	**Valsamata**	**1.13**	**187**	ePN	**Pn**	**04 32 47.9**	**+0.3**
AGG	**Agios Georgios**	**1.25**	**103**	ePg	**Pg**	**04 32 48.5**	**-1.3**
AGG				eSg	**Sg**	**04 33 07.6**	**+1.6**
FNA	**Florina**	**1.55**	**18**	ePg	**Pg**	**04 32 53.4**	**-2.1**
FNA				eSg	**Sg**	**04 33 15.9**	**+0.3**
BIA	**Bitola**	**1.77**	**14**	ePn	**Pg**	**04 33 01.8**	**+2.2**
BIA				iSn	**Sg**	**04 33 22.8**	**+0.2**

JMA 21 04:41:53.4±0.2, 3938N×14445E, h57km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.04**	**276**	P	Pn	04 42 26.4	+1.0
MIYJ				S	Sn	04 42 50.9	+1.1
JTH	**Tanohata**	**2.07**	**286**	P	Pn	04 42 26.6	+0.8
JTH				eS	Sn	04 42 51.9	+1.4
OFUJ	**Ofunato**	**2.18**	**263**	P	Pn	04 42 28.0	+0.7
OFUJ				S	Sn	04 42 53.6	+0.5
JOM	**Ohasama**	**2.45**	**273**	P	Pn	04 42 32.1	+1.2
JOM				S	Sn	04 43 01.3	+1.7
JANG	**Nango**	**2.47**	**295**	P	Pn	04 42 32.0	+0.8
JANG				S	Sn	04 43 00.9	+0.8
JMK	**Ichinoseki**	**2.55**	**261**	P	Pn	04 42 33.1	+0.8
JMK				eS	Sn	04 43 03.1	+1.0
JOT	**Ohata**	**3.28**	**309**	eS	Sn	04 43 19.5	-0.5
JCH	**Churui**	**3.33**	**346**	eS	Sn	04 43 21.4	0.0
NEM2	**Nemuro 2**	**4.10**	**13**	P	Pn	04 42 51.2	-2.3
NEM2				eS	Sn	04 43 35.3	-4.9

*NNC **21** 04:53:50.5±9.2, 4401N×8125E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=77.4km s-min=16.9km az=138.0*

BJI 21 04:53:59.0, 4433N×8150E, h10km, ML3.0, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK09	**Makanchi Array**	**2.50**	**12**	⇑Pn	Pn	04 54 37.4	-2.3
	7.1nm,0.5s,baz=185,slow=13						
MK09				⇓Lg		04 55 21.4	
	14nm,0.5s,baz=187,slow=28						
WMQ	**Urumqi**	**4.49**	**94**	P	Pn	04 55 09.0	+1.9
WMQ				S	Sn	04 56 03.3	+3.9
WMQ				SG	Sg	04 56 22.6	-0.7
WMQ				Smax			
	comp=N,20nm,0.6s						
WMQ				Smax			
	comp=E,30nm,0.6s						
TKM2	**Tokmak 2**	**4.51**	**254**	⇓Pn	Pn	04 55 01.2	-6.2
	comp=E,0.3nm,0.5s						
TKM2				⇑Lg		04 56 10.3	
	comp=E,3.4nm,0.8s						
KURK	**Kurchatov**	**6.68**	**344**	⇓Lg		04 57 31.0	
	comp=E,8.6nm,1.0s						
KK31	**Karatay Array**	**8.05**	**265**	Lg		04 57 57.0	
	comp=E,2.2nm,0.6s,baz=0.0,slow=0.1,SNR=3.6						

SSNC 21 04:58:04.0, 1936N×7309W, h7km, MD3.5, ML3.6, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**1.34**	**307**	ePG	Pg	04 58 26.0	-3.8
MASC				eSG	Sg	04 58 42.6	-4.6
	comp=N,13μm,0.1s						
MASC				e			
	comp=E,14μm,0.1s						
MOAC	**Moa**	**2.18**	**307**	eP	Pn	04 58 38.8	-1.9
MOAC				eS	Sn	04 59 04.7	-3.2
	comp=N,147nm,0.2s						
MOAC				e			
	comp=E,124nm,0.2s						
RCC	**Rio Carpintero**	**2.53**	**285**	eP	Pn	04 58 43.2	-2.3
RCC				eS	Sn	04 59 12.2	-4.4
	comp=N,64nm,0.4s						
RCC				e			
	comp=E,66nm,0.4s						
HLGC	**Holguin**	**3.18**	**299**	eP	Pn	04 58 52.8	-1.6
HLGC				eS	Sn	04 59 38.2	+5.7
	comp=N,8μm,0.2s						
HLGC				e			
	comp=E,7μm,0.5s						
LMGC	**Las Mercedes**	**3.75**	**281**	eP	Pn	04 59 01.0	-1.3
LMGC				eS	Sn	04 59 41.1	-5.6
	comp=N,36nm,0.2s						
LMGC				e			
	comp=E,46nm,0.2s						

*ISK **21** 04:59:45.8, 3518N×2694E, h44km, MD3.5*
*ISCJB **21** 04:59:48.9±0.9, 3540N±006×2724E±006, h12km, Error ellipse: s-maj=8.9km s-min=6.4km az=123.0*
*CSEM **21** 04:59:48.9±0.2, 3542N×2734E, h12km, MD3.4, Error ellipse: s-maj=5.0km s-min=2.9km az=159.0*
*NEIC **21** 04:59:48.0, 3536N×2733E, h16km, MD3.4(ATH), After ATH.*
*ATH **21** 04:59:48.0, 3536N×2733E, h16km±3km, MD3.4/6*

ISC 21 04:59:49.2±1.3, 3540N±006×2725E±008, h12km±6km, n14, σ1§06/20, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.16**	**333**	ePB	**Pg**	**04 59 52.9**	**0.0**
KARP				eSB	**Sg**	**04 59 57.0**	**+1.5**
ARG	**Arkhangelos**	**1.08**	**41**	ePN	**Pn**	**05 00 08.4**	**-1.8**
NISR	**Nisiros**	**1.21**	**355**	ePN	**Pn**	**05 00 12.0**	**0.0**
NPS	**Neapolis**	**1.35**	**265**	ePN	**Pn**	**05 00 14.9**	**+1.0**
DAT	**Datca**	**1.35**	**11**	PN	**Pn**	**05 00 13.1**	**-0.8**
DAT				SN	**Sn**	**05 00 32.5**	**+0.7**
XRY	**Khrisi**	**1.38**	**248**	ePN	**Pn**	**05 00 14.8**	**+0.5**
BODT	**Bodrum**	**1.66**	**2**	ePN	**Pn**	**05 00 16.7**	**-1.4**
BODT				eSN	**Sn**	**05 00 39.5**	**+0.1**
DALT	**Dalyan (Mudla)**	**1.77**	**39**	ePN	**Pn**	**05 00 19.7**	**+0.1**
YER	**Yerkesik**	**1.92**	**25**	ePN	**Pn**	**05 00 21.3**	**-0.4**
FETY	**Fethiye**	**1.93**	**50**	ePN	**Pn**	**05 00 21.8**	**-0.1**
FETY				eSN	**Sn**	**05 00 48.6**	**+2.6**
APE	**Apeiranthos**	**2.17**	**321**	ePB	**Pb**	**05 00 26.5**	**-1.9**
AYDN	**Tasoluk**	**2.31**	**12**	iP	**Pn**	**05 00 28.5**	**+1.4**
AYDN				iS	**Sg**	**05 01 02.3**	**-1.2**
ELL	**Elmali**	**2.54**	**57**	ePN	**Pn**	**05 00 30.2**	**0.0**
DNZL	**Cakiroluk**	**2.70**	**32**	iP	**Pb**	**05 00 36.8**	**-0.7**
DNZL				iS	**Sb**	**05 01 11.7**	**+1.1**

*NEIC **21** 05:24:34.3, 1611N×9677W, h20km, MD3.8(MEX), After MEX.*

MEX 21 05:24:29.9±0.5, 1599N×9700W, h8km±19km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.89**	**104**	iP	Pg	05 24 44.7	-2.2
HUIG				iS	Sg	05 24 56.1	-2.3
HUIG	**Huatulco**	**0.89**	**104**	iP	Pg	05 24 44.6	-2.3
HUIG				iS	Sg	05 24 56.1	-2.3
VHO	**Vista Hermosa**	**1.11**	**13**	iP	Pg	05 24 48.0	-3.3
VHO				iS	Sg	05 25 02.0	-3.6
VHO	**Vista Hermosa**	**1.11**	**13**	iP	Pg	05 24 47.8	-3.4
VHO				iS	Sg	05 25 02.0	-3.6
OXX	**Oaxaca**	**1.12**	**14**	iP	Pg	05 24 48.5	-2.9
OXX				iS	Sg	05 25 03.0	-3.0
UTMO	**Huajuapan**	**1.99**	**337**	iP	Pn	05 25 05.9	+2.1
UTMO				iS	Sn	05 25 29.4	+0.5
CMIG	**Matias Romero**	**2.31**	**61**	iP	Pn	05 25 05.4	-2.8
CMIG				iS	Sn	05 25 33.8	-2.9
CMIG	**Matias Romero**	**2.31**	**61**	iP	Pn	05 25 05.4	-2.8
CMIG				iS	Sn	05 25 36.0	-0.7
TPIG	**Tehuac#an**	**2.44**	**352**	iP	Pn	05 25 07.8	-2.2
TPIG				iS	Sn	05 25 37.4	-2.7

IDC 21 05:28:27.0±31.0, 1595S×17476W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/14, mbtmp4.3/4, Error ellipse: s-maj=611.8km s-min=149.0km az=84.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.63**	**240**	P	P	05 36 25.0	0.0
	1.7nm,0.4s,baz=66,slow=7.2,SNR=7.2						
WRA	**Warramunga Arr**	**48.44**	**257**	P	P	05 37 11.1	0.0
	1.6nm,0.5s,baz=93,slow=6.8,SNR=61						
ASAR	**Alice Springs**	**48.70**	**252**	P	P	05 37 13.3	+0.3
	12nm,0.5s,baz=88,slow=8.0,SNR=153						
FITZ	**Fitzroy Crossi**	**56.81**	**259**	P	P	05 38 14.4	+1.3
	1.3nm,0.8s,baz=114,slow=10.0,SNR=5.6						

CASC 21 05:56:17.5±2.1, 1132N×8540W, h6km±5km, MD3.5, ML3.3, 8C-5D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.16**	**302**	⇑eP	Pg	05 56 21.5	+0.8
CONN	**Concepcion**	**0.33**	**317**	⇑eP	Pg	05 56 24.3	+0.4
SSNN	**San Juan del S**	**0.45**	**265**	⇑eP	Pg	05 56 26.9	+0.8
SSNN				eS	Sg	05 56 33.4	+1.5
LIM1	**Limonal**	**0.64**	**167**	⇑eP	Pg	05 56 29.9	+0.2
LIM1				eS	Sg	05 56 39.5	+1.5
APON	**Apoyo**	**0.88**	**312**	⇓eP	Pg	05 56 34.2	-0.3
APON				eS	Sg	05 56 46.7	+0.8
TICN	**Ticuantepe**	**1.08**	**311**	eP	Pg	05 56 38.3	0.0
MGAN	**Managua**	**1.17**	**315**	⇑eP	Pg	05 56 39.0	-0.9
MGAN				eS	Sg	05 56 55.8	+0.8
MGAN				i		05 56 56.3	
	comp=N,546nm,0.4s						
TISN	**Laguna Tiscapa**	**1.18**	**314**	⇑eP	Pg	05 56 39.0	-1.1
TISN				eS	Sg	05 56 55.6	+0.1
XAVN	**Gruta Xavier**	**1.23**	**312**	eP	Pg	05 56 40.1	-0.9
XAVN				eS	Sg	05 56 57.8	+0.9
APYN	**Apoyeque**	**1.30**	**314**	eP	Pn	05 56 41.0	-1.2
APYN				eS	Sb	05 57 01.5	+2.2
PYTN	**Playitas**	**1.37**	**332**	⇑eP	Pn	05 56 41.9	-1.2
PYTN				eS	Sb	05 56 59.7	-1.5
COPN	**Copaltepe**	**1.45**	**306**	⇓eP	Pn	05 56 42.9	-1.3
COPN				eS	Sn	05 57 03.9	+0.3
MOMJ	**Momotombo**	**1.55**	**314**	⇑eP	Pn	05 56 44.4	-1.3
MIRN	**Miramar**	**1.70**	**311**	⇓eP	Pn	05 56 47.0	-0.7
PRS1	**Puriscal**	**1.71**	**141**	⇓eP	Pn	05 56 48.6	+0.8
PRS1				eS	Sn	05 57 13.8	+4.0
LEON	**Leon**	**1.82**	**307**	⇓eP	Pn	05 56 49.0	-0.4
LEON				eS	Sn	05 57 12.9	+0.1
LCR2	**La Lucha 2**	**2.08**	**139**	eP	Pn	05 56 53.3	+0.3
BUS	**Buena Vista**	**2.38**	**137**	eP	Pn	05 56 57.4	+0.3

IDC 21 05:56:37.8±1.7, 2037S×17437W, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.8/15, mbtmp3.8/4, ML2.5/1, Error ellipse: s-maj=79.5km s-min=23.3km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.88**	**21**	Pn	Pn	05 58 20.0	+0.1
	5.3nm,0.3s,baz=2.5,slow=21,SNR=6.8						
AFI				Sn	Sn	05 59 40.3	+1.4
	2.5nm,0.3s,baz=221,slow=23,SNR=2.8						
ASAR	**Alice Springs**	**47.86**	**256**	P	P	06 05 17.6	+0.3
	0.5nm,0.9s,baz=209,slow=26,SNR=3.2						
WRA	**Warramunga Arr**	**47.99**	**261**	P	P	06 05 18.7	+0.3
	0.7nm,0.8s,baz=96,slow=7.3,SNR=6.8						
NVAR	**Mina Array Bea**	**78.62**	**42**	P	P	06 08 42.0	+0.5
	1.2nm,0.7s,baz=216,slow=7.5,SNR=13						
AKASG	**Malin Array Be**	**144.47**	**334**	PKP	PKPdf	06 16 14.7	-1.3
	1.2nm,0.6s,baz=41,slow=4.3,SNR=11						
BRTR	**Keskin Array B**	**149.22**	**315**	PKPbc	PKPbc	06 16 29.1	+0.9
	0.5nm,0.5s,baz=131,slow=3.4,SNR=3.9						
GERES	**GERESS Array B**	**150.86**	**349**	PKPbc	PKPbc	06 16 31.7	-0.5
	0.2nm,0.3s,baz=43,slow=2.5,SNR=5.2						

IDC 21 05:56:56.4±9.2, 538S×15014E, h67km±65km, mb3.6/3, mb1 3.8/4, mb1mx3.4/13, mbtmp3.9/4, ML2.6/1, MS3.1/4, Ms1 3.2/4, ms1mx2.9/23, Error ellipse: s-maj=105.2km s-min=70.1km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.98**	**216**	P	Pn	05 58 09.1	+0.5
	1.7nm,0.3s,baz=27,slow=9.0,SNR=4.7						
PMG				S	Sn	05 59 10.8	+6.0
	2.7nm,0.3s,baz=252,slow=20,SNR=3.6						
PMG				LR	LR	05 59 35.2	
	comp=Z,161nm,21.7s,baz=216,slow=32						
GUMO	**Guam**	**19.55**	**345**	LR	LR	06 07 04.9	
	comp=Z,48nm,19.7s,baz=124,slow=31		

MWZ			SN	Sn	06 12 05.9	+0.1
MWZ	**Matawai**	**1.47 185**	*e*P	Pn	06 11 44.3	+0.3
MWZ			S	Sn	06 12 06.3	+0.5
KNZ	**Kokohu**	**2.14 181**	PN	Pn	06 11 51.7	0.0
KNZ			SN	Sn	06 12 18.9	-0.8
KNZ	**Kokohu**	**2.14 181**	*e*P	Pn	06 11 51.7	-0.1
BKZ	**Black Stump Fm**	**2.48 202**	PN	Pn	06 11 55.7	-0.2
BKZ			SN	Sn	06 12 27.5	+0.4
BKZ	**Black Stump Fm**	**2.48 202**	*e*P	Pn	06 11 56.0	+0.1
BKZ			S	Sn	06 12 27.5	+0.4
FWVZ	**Far West T-bar**	**2.92 215**	PN	Pn	06 12 02.0	+0.5
PXZ	**Pawanui**	**3.22 192**	PN	Pn	06 12 03.4	-1.9
PXZ			SN	Sn	06 12 41.3	-2.6
TSZ	**Takapari Road**	**3.46 203**	P	Pn	06 12 07.1	-1.3
TSZ			S	Sn	06 12 47.6	-1.8
BFZ	**Birch Farm**	**3.97 196**	*e*P	Pn	06 12 12.8	-2.2
MRZ	**Mangatainoka R**	**4.13 203**	*e*P	Pn	06 12 14.5	-2.7
MTW	**Mount Morrison**	**4.61 201**	P	Pn	06 12 20.3	-3.2
PAWZ	**Paruwai Farm**	**4.84 201**	P	Pn	06 12 23.1	-3.4

MAN 21 06:14:24.7, 1014N×12200E, h8km, mb2.8, ML4.2, MS9.0, 1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.75**	**50**	*e*P	Pg	06 14 38.0	-1.2
GUIM				*e*S	Sg	06 14 49.3	+0.3
CUYO	**Cuyo Island**	**1.20**	**306**	*e*P	Pb	06 14 47.5	-0.2
SNPH	**Sibulan**	**1.45**	**123**	*e*P	Pn	06 14 51.0	-0.2
RCP	**Roxas**	**1.59**	**27**	⇓*e*P	Pn	06 14 53.0	-0.1
RCP				*e*S	Sn	06 15 14.5	+0.7
TBP	**Tagbilaran**	**1.89**	**103**	*e*P	Pn	06 14 56.5	-0.6
TBP				*e*S	Sn	06 15 19.4	-1.8
BUSP	**Coron**	**2.56**	**316**	*e*P	Pn	06 15 06.4	-0.1
LUBP	**Lubang**	**3.96**	**334**	*e*P	Pn	06 15 25.3	-0.5

*ISCJB **21** 06:55:14.6±0.4, 3690N±003×2794E±004, h10km, Error ellipse: s-maj=4.2km s-min=3.9km az=83.6*
*CSEM **21** 06:55:14.9±0.1, 3697N×2797E, h15km, MD2.8, Error ellipse: s-maj=1.2km s-min=1.0km az=46.0*
*NEIC **21** 06:55:14.9, 3695N×2798E, h29km, MD3.3(ATH), After ATH.*
*ATH **21** 06:55:14.3, 3693N×2803E, h26km±1km, MD3.3/4*
*ISK **21** 06:55:14.8, 3694N×2798E, h18km, MD2.8*
ISC 21 06:55:15.4±0.4, 3694N±003×2795E±003, h10km, n21, σ0°96/31, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.33**	**54**	*i* Pg	**Pg**	**06 55 21.9**	**0.0**
YER				*i* Sg	**Sg**	**06 55 26.6**	**+0.3**
DAT	**Datca**	**0.37**	**235**	*i* Pg	**Pg**	**06 55 22.9**	**+0.2**
MLSB	**Milas**	**0.38**	**338**	*i* Pg	**Pg**	**06 55 23.5**	**+0.6**
BDRM	**Kayabasi**	**0.43**	**287**	*i* P	**Pg**	**06 55 23.8**	**0.0**
BDRM				*i* S	**Sg**	**06 55 30.6**	**+1.2**
BODT	**Bodrum**	**0.53**	**284**	*i* Pg	**Pg**	**06 55 26.1**	**+0.4**
DALT	**Dalyan (Mudla)**	**0.57**	**107**	*e*Pg	**Pg**	**06 55 26.8**	**+0.2**
AYDN	**Tasoluk**	**0.72**	**355**	*i* P	**Pg**	**06 55 29.3**	**0.0**
AYDN				*i* S	**Sg**	**06 55 39.6**	**+0.8**
ARG	**Arkhangelos**	**0.74**	**169**	*e*PN	**Pn**	**06 55 28.6**	**-3.3**
ARG				*e*SN	**Sg**	**06 55 39.3**	**+0.1**
ARG	**Arkhangelos**	**0.74**	**169**	*e*Pn	**Pn**	**06 55 29.0**	**-2.9**
ARG				*e*Sn	**Sg**	**06 55 41.5**	**+2.3**
NISR	**Nisiros**	**0.74**	**244**	*e*PN	**Pn**	**06 55 30.0**	**-1.9**
NISR				*e*SN	**Sg**	**06 55 41.2**	**+1.9**
FETY	**Fethiye**	**0.96**	**108**	*e*PG	**Pg**	**06 55 33.8**	**0.0**
DNZL	**Cakiroluk**	**1.15**	**49**	*i* P	**Pb**	**06 55 38.3**	**+0.9**
DNZL				*i* S	**Sb**	**06 55 54.2**	**+1.9**
SMG	**Samos**	**1.18**	**311**	*e*PN	**Pn**	**06 55 37.5**	**-0.4**
DENT	**Denizli**	**1.18**	**46**	*e*PN	**Pn**	**06 55 36.9**	**-1.1**
KARP	**Karpathos**	**1.53**	**205**	*e*PN	**Pn**	**06 55 42.3**	**-0.5**
IZM	**Izmir**	**1.56**	**340**	*e*PN	**Pn**	**06 55 42.2**	**-0.9**
KDAG	**Bornova**	**1.56**	**340**	*i* P	**Pn**	**06 55 42.4**	**-0.8**
KDAG				*i* S	**Sn**	**06 56 02.1**	**-1.3**
BLCB	**Balcova**	**1.61**	**334**	*e*PN	**Pn**	**06 55 43.2**	**-0.7**
AKHS	**Akhisar**	**1.94**	**357**	*i* P	**Pn**	**06 55 48.3**	**-0.1**
AKHS				*i* S	**Sn**	**06 56 13.2**	**+0.4**
AKHS	**Akhisar**	**1.94**	**357**	*i* P	**Pn**	**06 55 48.3**	**-0.1**
AKHS				*i* S	**Sn**	**06 56 13.1**	**+0.3**
AKS	**Akhisar**	**1.94**	**357**	*i* PN	**Pn**	**06 55 48.0**	**-0.4**

*ISCJB **21** 07:01:40.6±0.7, 1126N±004×6220W±004, h122km±7km, Error ellipse: s-maj=7.9km s-min=5.1km az=100.6*
*NEIC **21** 07:01:41.9, 1128N×6213W, h108km, MD3.3(TRN), After TRN.*
*TRN **21** 07:01:41.9, 1128N×6213W, h109km, MD3.3*
*FUNV **21** 07:01:41.7, 1130N×6210W, h119km, MW2.6*
ISC 21 07:01:41.4±0.8, 1127N±004×6219W±004, h119km±8km, n18, σ0°89/34, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.62**	**183**	*e*P	**Pn**	**07 01 59.7**	**-0.4**
GUIV				*e*S	**Sn**	**07 02 13.8**	**-0.4**
ITEV	**Isla Los Testi**	**0.93**	**275**	*e*P	**Pn**	**07 02 02.7**	**0.0**
ITEV				*e*S	**Sn**	**07 02 18.9**	**+0.1**
TRN	**Trinidad (W)**	**0.99**	**128**	*e*P	**Pn**	**07 02 04.2**	**+0.9**
TRN				*e*S	**Sn**	**07 02 18.7**	**-1.1**
GRW	**Mount Saint Ca**	**1.03**	**30**	*e*P	**Pn**	**07 02 05.1**	**+1.4**
GRW				*e*S	**Sn**	**07 02 19.2**	**-1.3**
GRHS	**Sauteurs**	**1.09**	**30**	*e*P	**Pn**	**07 02 05.3**	**+1.0**
GRHS				*e*S	**Sn**	**07 02 21.4**	**-0.2**
GRSS	**Sisters**	**1.17**	**29**	*e*P	**Pn**	**07 02 05.8**	**+0.7**
GRSS				*e*S	**Sn**	**07 02 23.6**	**+0.5**
GRSS	**Sisters**	**1.17**	**29**	*e*P	**Pn**	**07 02 05.8**	**+0.7**
GRSS				*e*S	**Sn**	**07 02 23.6**	**+0.5**
GRIC	**Isle de Caille**	**1.17**	**30**	*e*P	**Pn**	**07 02 04.5**	**-0.7**
GRIC				*e*S	**Sn**	**07 02 23.4**	**+0.3**
GUNV	**Guanoco**	**1.32**	**214**	*e*P	**Pn**	**07 02 08.2**	**+1.4**
GUNV				*e*S	**Sn**	**07 02 27.4**	**+1.4**
TBH	**Brigand Hill**	**1.35**	**125**	*e*P	**Pn**	**07 02 07.8**	**+0.7**
TPR	**Prospect**	**1.39**	**93**	*e*P	**Pn**	**07 02 07.3**	**-0.2**
TPR				*e*S	**Sn**	**07 02 27.8**	**+0.4**
GRCU	**Cariacou**	**1.40**	**31**	*e*P	**Pn**	**07 02 07.8**	**+0.2**
GRCU				*e*S	**Sn**	**07 02 26.2**	**-1.4**
BOT	**Bacolet**	**1.45**	**94**	*e*P	**Pn**	**07 02 07.8**	**-0.5**
PCRV	**Puerto La Cruz**	**2.63**	**246**	*e*P	**Pn**	**07 02 23.9**	**+1.0**
PCRV				*e*S	**Sn**	**07 02 54.1**	**-0.7**
CUPV	**Cœpira**	**3.73**	**252**	*e*P	**Pn**	**07 02 38.7**	**+1.3**
CUPV				*e*S	**Sn**	**07 03 19.4**	**-1.3**
LUEV	**Luepa**	**5.44**	**172**	*e*P	**Pn**	**07 02 59.0**	**-1.2**
LUEV				*e*S	**Sn**	**07 03 56.3**	**-5.3**
CAOV	**Caicara del Or**	**5.65**	**226**	*e*P	**Pn**	**07 03 02.1**	**-1.0**
CAOV				*e*S	**Sn**	**07 04 01.3**	**-5.5**
BAUV	**El Baul**	**6.21**	**249**	*e*P	**Pn**	**07 03 09.8**	**-0.8**
BAUV				*e*S	**Sn**	**07 04 14.8**	**-5.4**

*ISCJB **21** 07:08:48.8±0.2, 4580N±002×1097E±002, h10km, Error ellipse: s-maj=2.5km s-min=1.6km az=133.4*
*CSEM **21** 07:08:49.0±0.1, 4578N×1098E, h12km, ML3.1/9, Error ellipse: s-maj=1.3km s-min=0.9km az=143.0*
*VIE **21** 07:08:49.9±0.7, 4586N×1102E, h8km, mb2.2/3, ML2.7/6, Error ellipse: s-maj=4.2km s-min=2.6km az=3.0*
*ROM **21** 07:08:50.2±0.2, 4581N×1094E, h12km, Md2.8/15, Ml2.4/9, Error ellipse: s-maj=1.9km s-min=0.8km az=70.0*
*NEIC **21** 07:08:51.1, 4575N×1110E, h10km, ML2.3(ZUR), ML2.4(ROM), ML2.7(LDG), After LDG.*
*LDG **21** 07:08:51.1±0.9, 4575N×1110E, h10km, Ml2.7/6, Error ellipse: s-maj=19.6km s-min=9.2km az=90.0*
ISC 21 07:08:49.7±0.3, 4580N±002×1095E±002, h1km±3km, n62, σ0°98/107, 20C-13D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALO	**Salr**	**0.34**	**239**	Pg	**Pg**	**07 08 56.9**	**+0.6**
SALO				Sg	**Sg**	**07 09 02.1**	**+1.3**
	2μm, 0.3s						
SAL	**Salo**	**0.35**	**238**	Pg	**Pg**	**07 08 56.9**	**+0.5**
SAL				Sg	**Sg**	**07 09 02.9**	**+2.0**
	271nm, 0.2s						
MABI	**Malga Bissina**	**0.40**	**311**	Pg	**Pg**	**07 08 57.8**	**+0.4**
MABI				Sg	**Sg**	**07 09 03.7**	**+1.2**
	35nm, 0.3s						
CTI	**Castel Tesino**	**0.55**	**62**	Pg	**Pg**	**07 09 00.2**	**-0.1**
CTI				Sg	**Sg**	**07 09 06.9**	**-0.6**

CGRP	**Cima Grappa**	**0.60**	**82**	⇓*i* Pg	**Pg**	**07 09 01.3**	**0.0**
CGRP				*i* Sg	**Sg**	**07 09 08.7**	**-0.3**
TEOL	**Teolo**	**0.67**	**130**	⇑*i* Pg	**Pg**	**07 09 02.2**	**-0.4**
TEOL				*i* Sg	**Sg**	**07 09 11.3**	**+0.1**
APPI	**Appiano**	**0.71**	**16**	Pg	**Pg**	**07 09 03.7**	**+0.3**
BRMO	**Bormio**	**0.79**	**330**	Pg	**Pg**	**07 09 05.3**	**+0.4**
BRMO				Sg	**Sg**	**07 09 15.4**	**+0.3**
	78nm, 0.4s						
MTLO	**Montello**	**0.81**	**88**	⇑*i* Pg	**Pg**	**07 09 05.3**	**+0.2**
FAU	**Forcella Aurin**	**0.84**	**58**	⇓*i* Pg	**Pg**	**07 09 05.9**	**0.0**
MDI	**Monti di Nese**	**0.86**	**269**	Pg	**Pg**	**07 09 06.4**	**+0.1**
	176nm, 0.3s						
CSO	**Casso**	**1.07**	**63**	⇓*i* Pg	**Pg**	**07 09 10.1**	**-0.2**
CSO				*i* Sg	**Sg**	**07 09 24.1**	**0.0**
MLNI	**Malnisio**	**1.21**	**72**	⇓*e*Pg	**Pg**	**07 09 13.3**	**+0.3**
MLNI				*e*Sg	**Sg**	**07 09 30.1**	**+1.4**
DAVOX	**Davos**	**1.23**	**323**	Pg	**Pg**	**07 09 13.4**	**0.0**
DAVOX				Sg	**Sg**	**07 09 30.1**	**+0.8**
SEST	**Monte Rota**	**1.30**	**42**	Pg	**Pg**	**07 09 13.5**	**-1.1**
SEST				Sg	**Sg**	**07 09 31.7**	**+0.2**
	8μm, 6.4s						
TUE	**Stuetta**	**1.30**	**302**	Pg	**Pg**	**07 09 14.3**	**-0.4**
	33nm, 0.4s						
MUGIO	**Muggio**	**1.34**	**276**	Pg	**Pg**	**07 09 14.7**	**-0.7**
MUGIO				Sg	**Sg**	**07 09 33.9**	**+1.2**
SCE	**Schlegeis**	**1.35**	**23**	⇓*i* Pg	**Pg**	**07 09 15.1**	**-0.5**
CSMI	**Casera Mimoias**	**1.39**	**58**	⇑*i* Pg	**Pg**	**07 09 16.0**	**-0.3**
CSMI				*i* Sg	**Sg**	**07 09 35.4**	**+1.2**
ERBM	**Eremo**	**1.43**	**196**	Pg	**Pg**	**07 09 16.6**	**-0.5**
	122nm, 1.7s						
SQTA	**Sankt Quirin**	**1.44**	**7**	⇑*i* Pn	**Pn**	**07 09 15.6**	**-1.3**
SQTA				⇓*i* Pg	**Pg**	**07 09 16.2**	**-1.0**
SQTA	**Sankt Quirin**	**1.44**	**7**	⇑*i* Pn	**Pn**	**07 09 17.2**	**+0.3**
	28nm, 0.3s						
SQTA				⇑*i* Pg	**Pg**	**07 09 19.5**	**+2.2**
	6.8nm, 0.1s						
SQTA				⇑*i* Sn	**Sn**	**07 09 36.1**	**-0.4**
	43nm, 0.3s						
SQTA	**Sankt Quirin**	**1.44**	**7**	⇑*i* Pn	**Pn**	**07 09 15.6**	**-1.3**
SQTA				⇓*i* Pg	**Pg**	**07 09 16.2**	**-1.0**
SQTA				*i* Sg	**Sg**	**07 09 36.1**	**+0.2**
SQTA	**Sankt Quirin**	**1.44**	**7**	Pg	**Pg**	**07 09 16.2**	**-1.1**
SQTA				Sg	**Sg**	**07 09 36.1**	**+0.2**
	43nm, 0.3s						
GSCL	**Gusciola**	**1.47**	**190**	Pg	**Pg**	**07 09 18.1**	**+0.3**
	9.0nm, 0.3s						
BOB	**Bobbio (Coli)**	**1.48**	**226**	Pg	**Pg**	**07 09 17.1**	**-0.9**
BOB				Sg	**Sg**	**07 09 37.8**	**+0.7**
	60nm, 0.5s						
MPRI	**Monte Prat**	**1.49**	**72**	*e*Pg	**Pg**	**07 09 17.6**	**-0.7**
MPRI				*e*Sg	**Sg**	**07 09 38.1**	**+0.4**
FVI	**Forni Avoltri**	**1.50**	**57**	Pg	**Pg**	**07 09 17.6**	**-1.0**
	58nm, 0.3s						
VAI	**Varese**	**1.52**	**274**	⇑*i* Pg	**Pg**	**07 09 17.5**	**-1.4**
	20nm, 0.2s						
WTTA	**Wattenberg**	**1.54**	**18**	⇑*i* Sg	**Sn**	**07 09 39.1**	**0.0**
	comp=N, 16nm, 0.2s						
WTTA	**Wattenberg**	**1.54**	**18**	⇑*i* Pn	**Pn**	**07 09 18.1**	**-0.3**
WTTA				⇑*i* Sn	**Sn**	**07 09 39.1**	**0.0**
	16nm, 0.2s						
MOTA	**Moosalm**	**1.55**	**4**	⇓*i* Sg	**Sn**	**07 09 38.9**	**-0.4**
	comp=Z, 5.5nm, 0.2s						
MOTA	**Moosalm**	**1.55**	**4**	⇓*i* Pn	**Pn**	**07 09 19.2**	**+0.7**
	3.9nm, 0.3s						
MOTA				⇓*i* Sn	**Sn**	**07 09 38.9**	**-0.4**
	5.5nm, 0.2s						
MOTA	**Moosalm**	**1.55**	**4**	⇑*i* Pg	**Pg**	**07 09 18.1**	**-1.4**
MOTA				*i* Sg	**Sg**	**07 09 38.9**	**-0.7**
MOTA	**Moosalm**	**1.55**	**4**	Pg	**Pg**	**07 09 18.1**	**-1.4**
MOTA				Sg	**Sg**	**07 09 38.9**	**-0.8**
	5.5nm, 0.2s						
WATA	**Walderalm**	**1.60**	**16**	⇑*i* Sg	**Sg**	**07 09 41.4**	**+0.3**
	comp=Z, 8.2nm, 0.1s						
WATA	**Walderalm**	**1.60**	**16**	⇑*i* Pn	**Pn**	**07 09 19.9**	**+0.8**
WATA				⇑*i* Sn	**Sg**	**07 09 41.4**	**+0.3**
	8.2nm, 0.1s						
WATA	**Walderalm**	**1.60**	**16**	Pg	**Pg**	**07 09 19.9**	**-0.5**
WATA				Sg	**Sg**	**07 09 41.4**	**+0.2**
	8.2nm, 0.1s						
ZOU	**Zoufplan**	**1.60**	**61**	⇓*e*Pg	**Pg**	**07 09 19.6**	**-0.8**
ZOU				*e*Sg	**Sg**	**07 09 41.8**	**+0.6**
BAD	**Bernadia**	**1.66**	**74**	*e*Pg	**Pg**	**07 09 20.4**	**-1.1**
BAD				*e*Sg	**Sg**	**07 09 42.0**	**-1.0**
BAD	**Bernadia**	**1.66**	**74**	*e*Pg	**Pg**	**07 09 20.4**	**-1.1**
BAD				*e*Sg	**Sg**	**07 09 42.0**	**-1.1**
DAVA	**Damuels**	**1.66**	**334**	⇑*i* Sg	**Sg**	**07 09 43.7**	**+0.5**
	comp=Z, 18nm, 0.3s						
DAVA	**Damuels**	**1.66**	**334**	⇓*i* Pn	**Pn**	**07 09 22.1**	**+2.1**
DAVA				⇑*i* Sn	**Sg**	**07 09 43.7**	**+0.5**
	18nm, 0.3s						
PLRO	**Paularo**	**1.71**	**63**	⇑*i* Pg	**Pg**	**07 09 21.5**	**-0.9**
PLRO				*i* Sg	**Sg**	**07 09 45.1**	**+0.5**
DRE	**Drenchia**	**1.92**	**78**	*e*Pn	**Pn**	**07 09 23.9**	**+0.3**
DRE				*e*Sn	**Sn**	**07 09 49.9**	**+1.6**
CADS	**Cadrg**	**1.99**	**76**	*i* Pn	**Pn**	**07 09 27.1**	**+2.5**
CADS				*i* Sn	**Sn**	**07 09 51.8**	**+1.6**
CADS							
	comp=Z, 12nm, 0.1s						
VOJS	**Vojsko**	**2.06**	**82**	*i* Pn	**Pn**	**07 09 26.9**	**+1.4**
VOJS				*i* Sn	**Sn**	**07 09 55.3**	**+3.4**
KBA	**Koelnbreinsper**	**2.10**	**51**	⇑*i* Pg	**Pg**	**07 09 28.2**	**-1.7**
KBA				⇓*i* Sg	**Sg**	**07 09 56.3**	**-0.8**
	comp=Z, 9.6nm, 0.2s						
LPG	**La Plagne**	**2.96**	**266**	*e*Pn	**Pn**	**07 09 38.4**	**+0.6**
MBDF	**Montbardon**	**3.14**	**252**	*e*Pn	**Pn**	**07 09 38.8**	**-1.5**
MBDF				*e*Sn	**Sn**	**07 10 15.4**	**-3.0**
	comp=Z, 3.9nm, 0.3s						
MBDF	**Montbardon**	**3.14**	**252**	*e*Pn	**Pn**	**07 09 38.8**	**-1.5**
MBDF				*e*Sn	**Sn**	**07 10 15.4**	**-3.0**
	comp=Z, 2.0nm, 0.3s						
SBF	**Sospel**	**3.16**	**234**	*e*P	**Pn**	**07 09 43.3**	**+2.7**
SBF				*e*Sn	**Sn**	**07 10 16.9**	**-2.0**
	comp=Z, 7.3nm, 0.2s						
HINF	**Hinteralfeld**	**3.46**	**307**	*e*Pn	**Pn**	**07 09 44.9**	**+0.1**
CABF	**La Chapelle**	**3.47**	**285**	*e*Sn	**Sn**	**07 10 25.5**	**-1.2**
	comp=Z, 1.6nm, 0.3s						
PGF	**Pioggiola**	**3.54**	**204**	*e*Pn	**Pn**	**07 09 44.4**	**-1.4**
PGF				*e*Sn	**Sn**	**07 10 24.0**	**-4.2**
	comp=Z, 3.6nm, 0.4s						
PGF	**Pioggiola**	**3.54**	**204**	*e*Pn	**Pn**	**07 09 44.4**	**-1.4**
PGF				*e*Sn	**Sn**	**07 10 24.0**	**-4.2**
	comp=Z, 1.8nm, 0.4s						
CDF	**Champ du Feu**	**3.62**	**318**	*e*Pn	**Pn**	**07 09 47.7**	**+0.7**
ORIF	**Oris-en-Rattie**	**3.68**	**258**	*e*Pn	**Pn**	**07 09 49.0**	**+1.3**
ORIF				*e*Sn	**Sn**	**07 10 31.5**	**-0.2**
	comp=Z, 5.1nm, 0.3s						
HAU	**Haudompre**	**3.85**	**307**	*e*Pn	**Pn**	**07 09 50.2**	**+0.1**
SMF	**Signal de Mont**	**5.00**	**282**	*e*Pn	**Pn**	**07 10 04.3**	**-1.7**
SMF				*e*Sn	**Sn**	**07 11 00.9**	**-3.6**
	comp=Z, 3.1nm, 0.3s						
SMF	**Signal de Mont**	**5.00**	**282**	*e*Pn	**Pn**	**07 10 04.3**	**-1.7**
SMF				*e*Sn	**Sn**	**07 11 00.9**	**-3.6**
	comp=Z, 1.5nm, 0.3s						
AVF	**Avril sur Loir**	**5.36**	**283**	*e*Pn	**Pn**	**07 10 10.6**	**-0.2**

*NEIC **21** 07:11:57.9±2.4, 2046S×17929W, h683km±34km, mb4.4/4, Error ellipse: s-maj=26.4km s-min=19.1km az=206.0*
*ISCJB **21** 07:11:58.9±2.0, 204S±02×1794W±0.1, h712km±27km, mb4.3/10, Error ellipse: s-maj=32.9km s-min=18.3km az=153.4*
*IDC **21** 07:11:58.8±2.2, 2053S×17931W, h699km±33km, mb3.5/6, mb1 3.7/8, mb1mx3.4/15, mbtmp4.6/8, Error ellipse: s-maj=34.0km s-min=14.4km az=160.0*
ISC 21 07:11:58.6±1.8, 2105S±02×1793W±01, h689km±27km, n17, σ0°73/20, mb4.3/10, 3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.39**	**261**	P	**P**	**07 14 50.5**	**+1.2**
	3.0nm, 0.3s, baz=85, slow=19, SNR=12						
URZ	**Urewera**	**17.95**	**189**	P	**P**	**07 15 29.2**	**-1.5**
	1.1nm, 0.3s, baz=294, slow=10, SNR=6.9						
CTA	**Charters Tower**	**32.28**	**265**	⇓*i* P	**P**	**07 17 35.8**	**+0.5**
	26nm, 0.4s, mb5.1						
PMG	**Port Moresby**	**34.17**	**284**	P	**P**	**07 17 50.1**	**-0.8**
	32nm, 0.8s, mb4.9, baz=127, slow=5.1, SNR=5.0						
STKA	**Stephens Creek**	**36.69**	**244**	⇓*i* P	**P**	**07 18 12.7**	**+1.2**
	2.9nm, 0.8s, mb3.9						
STKA	**Stephens Creek**	**36.69**	**244**	P	**P**	**07 18 12.0**	**+0.5**
	2.3nm, 0.4s, mb4.1, baz=88, slow=9.2, SNR=14						
AS31	**Alice Springs**	**43.34**	**257**	*e*P	**P**	**07 19 04.3**	**+0.5**

ASAR	**Alice Springs**	**43.34**	**257**	P	**P**	**07 19 04.2**	**+0.4**
	9.0nm, 0.3s, mb4.7, baz=86, slow=8.7, SNR=214						
ASAR				S	**S**	**07 24 44.8**	**-0.3**
	2.4nm, 0.6s, baz=92, slow=15, SNR=14						
ASAR	**Alice Springs**	**43.34**	**257**	P	**P**	**07 19 04.2**	**+0.4**
ASAR				S	**S**	**07 24 44.8**	**-0.3**
ASPA	**Alice Springs**	**43.34**	**257**	*e*P	**P**	**07 19 04.3**	**+0.4**
WB2	**Warramunga Arr**	**43.39**	**262**	⇓*i* P	**P**	**07 19 03.9**	**-0.3**
WRAB	**Tennant Creek**	**43.39**	**262**	*e*P	**P**	**07 19 03.9**	**-0.4**
	9.8nm, 0.3s, mb4.7						
WRA	**Warramunga Arr**	**43.40**	**262**	P	**P**	**07 19 03.8**	**-0.5**
	8.7nm, 0.3s, mb4.7, baz=98, slow=6.9, SNR=136						
WRA				S	**S**	**07 24 45.5**	**-0.4**
	1.4nm, 0.8s, baz=96, slow=14, SNR=5.0						
KAKA	**Kakadu**	**46.77**	**272**	*e*P	**P**	**07 19 28.8**	**-0.9**
	15nm, 0.6s, mb4.5						
QSPA	**South Pole Qui**	**69.54**	**180**	*e*P	**P**	**07 22 02.5**	**+1.0**
	7.6nm, 0.9s, mb4.1						
NVAR	**Mina Array Bea**	**81.88**	**44**	P	**P**	**07 23 08.5**	**-0.4**
	0.9nm, 0.8s, mb3.4, baz=216, slow=7.3, SNR=7.3						
PDAR	**Pinedale Array**	**89.81**	**44**	P	**P**	**07 23 47.2**	**+0.5**
	0.4nm, 0.8s, mb3.3, baz=211, slow=1.7, SNR=3.9						

IDC 21 07:20:24.3±1.2, 3048N×9040E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/21, mbtmp3.7/6, ML3.4/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/36, Error ellipse: s-maj=47.0km s-min=22.6km az=57.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.46**	**341**	P	Pn	07 24 27.6	-1.6
	0.1nm, 0.3s, baz=153, slow=12, SNR=9.3						
SONM	**Songino Array**	**21.24**	**31**	P	P	07 25 12.5	+0.7
	2.5nm, 0.9s, baz=217, slow=11, SNR=13						
BVAR	**Borovoye Array**	**26.84**	**333**	LR	LR	07 37 30.2	
	comp=Z, 35nm, 19.0s, baz=181, slow=38						
AKTO	**Aktyubinsk**	**31.32**	**319**	LR	LR	07 39 23.1	
	comp=Z, 35nm, 19.7s, baz=296, slow=36						
ARCES	**ARCESS Array B**	**53.03**	**337**	LR	LR	07 53 41.1	
	comp=Z, 29nm, 18.1s, baz=26, slow=38						
NB2	**NORSAR Subarra**	**58.68**	**326**	P	P	07 30 24.0	+0.5
	comp=Z, 0.6nm, 0.7s, baz=83, slow=6.9						
NOA	**NORSAR Array B**	**58.68**	**326**	P	P	07 30 22.5	-1.0
	comp=Z, 1.3nm, 0.9s, baz=84, slow=6.7, SNR=5.2						
GERES	**GERESS Array B**	**59.33**	**312**	P	P	07 30 29.3	+1.3
	comp=Z, 0.2nm, 0.3s, baz=69, slow=5.5, SNR=3.5						
WRA	**Warramunga Arr**	**65.56**	**134**	P	P	07 31 10.4	+0.6
	comp=Z, 0.4nm, 0.7s, baz=324, slow=6.4, SNR=6.2						
ASAR	**Alice Springs**	**68.12**	**137**	P	P	07 31 25.7	-0.3
	comp=Z, 0.4nm, 0.7s, baz=316, slow=6.7, SNR=5.0						

*PRU **21** 07:20:47.9, 5031N×1883E, h0km*
WAR 21 07:20:48.0, 5025N×1896E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.54**	**92**	*i* Pg	Pg	07 20 58.3	-0.1
OJC				*i* Sg	Sg	07 21 06.2	+0.8
OKC	**Ostrava-Krasne**	**0.66**	**232**	*e*PG	Pg	07 21 00.3	-0.4
OKC				*e*SG	Sg	07 21 09.5	+0.2
NIE	**Niedzica**	**1.21**	**133**	*e*Pg	Pg	07 21 10.9	-0.2
NIE				*e*Sg	Sg	07 21 28.2	+1.4
DPC	**Dobruska-Polom**	**1.69**	**275**	*e*PG	Pg	07 21 17.2	-3.3
DPC				*e*SG	Sg	07 21 39.5	-2.9
	15nm, 0.6s						
VYHS	**Vyhne**	**1.76**	**183**	*e*PN	Pn	07 21 18.4	-1.3
VYHS				*e*SN	Sn	07 21 41.1	-1.6
KSP	**Ksiaz**	**1.80**	**290**	*e*Pg	Pg	07 21 21.0	-1.5
KSP				*e*Sg	Sg	07 21 45.0	-0.9
UPC	**Upice**	**1.90**

URZ				Sn	**Sn**	07 30 19.6	-0.3		
	33nm,0.3s,baz=48,slow=15,SNR=8.2								
URZ	**Urewera**	**1.52**	**8**	PN	**Pn**	07 30 00.9	-0.4		
URZ	**Urewera**	**1.52**	**8**	*e*P	**Pn**	07 30 00.9	-0.4		
MWZ	**Matawai**	**1.52**	**21**	PN	**Pn**	07 30 01.1	-0.3		
MWZ	**Matawai**	**1.52**	**21**	P	**Pn**	07 30 01.2	-0.2		
TAZ	**Tarawera**	**1.55**	**350**	PN	**Pn**	07 30 01.9	+0.2		
TAZ	**Tarawera**	**1.55**	**350**	P	**Pn**	07 30 02.1	+0.3		
MTW	**Mount Morrison**	**1.73**	**216**	PN	**Pn**	07 30 04.2	0.0		
MTW	**Mount Morrison**	**1.73**	**216**	P	**Pn**	07 30 04.2	0.0		
VRZ	**Vera Road**	**1.74**	**291**	PN	**Pn**	07 30 04.7	+0.4		
VRZ	**Vera Road**	**1.74**	**291**	P	**Pn**	07 30 04.7	+0.4		
KIW	**Kapiti Island**	**1.84**	**233**	PN	**Pn**	07 30 06.0	+0.3		
KIW	**Kapiti Island**	**1.84**	**233**	P	**Pn**	07 30 06.0	+0.3		
TRWZ	**Traveller**	**1.85**	**208**	PN	**Pn**	07 30 06.0	+0.1		
CAW	**Cannon Point**	**1.91**	**225**	PN	**Pn**	07 30 06.4	-0.3		
CAW	**Cannon Point**	**1.91**	**225**	P	**Pn**	07 30 06.4	-0.2		
PAWZ	**Paruwai Farm**	**1.94**	**213**	PN	**Pn**	07 30 07.0	-0.1		
PAWZ	**Paruwai Farm**	**1.94**	**213**	P	**Pn**	07 30 07.1	0.0		
HIZ	**Hauiti**	**1.99**	**308**	PN	**Pn**	07 30 07.3	-0.5		
HIZ	**Hauiti**	**1.99**	**308**	P	**Pn**	07 30 07.4	-0.3		
MSWZ	**Moikau Station**	**2.05**	**216**	PN	**Pn**	07 30 08.0	-0.5		
MSWZ				SN	**Sn**	07 30 33.2	+0.3		
MSWZ	**Moikau Station**	**2.05**	**216**	P	**Pn**	07 30 08.2	-0.3		
MRW	**Makara Radio**	**2.19**	**228**	P	**Pn**	07 30 08.4	-2.1		
SNZO	**South Karori**	**2.25**	**226**	PN	**Pn**	07 30 10.5	-0.7		
SNZO				SN	**Sn**	07 30 38.2	+0.5		
PKE	**Pukeiti**	**2.28**	**284**	PN	**Pn**	07 30 13.5	+1.8		
PKE	**Pukeiti**	**2.28**	**284**	P	**Pn**	07 30 13.6	+1.8		
NRZ	**Ngariki Road**	**2.28**	**233**	P	**Pn**	07 30 17.0	+5.1		
TCW	**Tory Channel**	**2.44**	**233**	P	**Pn**	07 30 13.2	-0.6		
TUWZ	**Tuamarina**	**2.77**	**232**	PN	**Pn**	07 30 17.1	-1.2		
TUWZ				SN	**Sn**	07 30 50.1	-0.4		
BSWZ	**Blackbirch Sta**	**2.98**	**228**	P	**Pn**	07 30 20.2	-1.1		
NNZ	**Nelson**	**3.02**	**240**	*e*P	**Pn**	07 30 21.4	-0.4		
QRZ	**Quartz Range**	**3.47**	**251**	*e*P	**Pn**	07 30 27.2	-0.8		
THZ	**Tophouse**	**3.60**	**235**	*e*P	**Pn**	07 30 28.7	-1.1		
LTZ	**Lake Taylor**	**4.58**	**227**	*e*P	**Pn**	07 30 40.8	-2.4		
RPZ	**Rata Peaks**	**5.86**	**226**	Pn	**Pn**	07 30 58.9	-1.9		
	0.4nm,0.3s,baz=282,slow=18,SNR=2.8								
RPZ				Sn	**Sn**	07 32 01.0	-5.6		
	2.6nm,0.3s,baz=41,slow=1.9,SNR=14								
ODZ	**Otahua Downs**	**6.99**	**219**	*e*P	**Pn**	07 31 13.4	-2.9		
ASAR	**Alice Springs**	**39.50**	**281**	P	**P**	07 37 03.6	+1.7		
	0.9nm,0.6s,mb3.7,baz=135,slow=9.6,SNR=17								
WRA	**Warramunga Arr**	**41.36**	**286**	P	**P**	07 37 18.5	+1.3		
	1.7nm,0.8s,mb3.8,baz=126,slow=7.4,SNR=33								
TORD	**Torodi Ar. Bea**	**153.14**	**191**	PKPbc	PKPbc	07 49 32.3	+4.1		
	0.3nm,0.7s,baz=296,slow=35,SNR=3.9								
TORD				PKPab	PKPab	07 49 44.3	+4.3		
	0.3nm,0.5s,baz=163,slow=3.8,SNR=4.8								

IDC 21 07:38:49.1±7.4,261N×12650E,h0km,mb3.6/4,mb1 3.8/4, mb1mx3.5/16,mbtmp3.6/4,Error ellipse: s-maj=124.8km s-min=102.4km az=120.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.59**	**182**	P	P	07 43 30.4	+0.7
	1.0nm,0.7s,baz=6.0,slow=16,SNR=3.3						
WRA	**Warramunga Arr**	**23.69**	**161**	P	P	07 44 02.2	-0.4
	0.6nm,0.3s,baz=339,slow=10,SNR=32						
ASAR	**Alice Springs**	**27.09**	**165**	P	P	07 44 34.4	+0.9
	0.4nm,0.3s,baz=348,slow=12,SNR=8.7						
STKA	**Stephens Creek**	**37.17**	**158**	P	P	07 46 01.7	-0.1
	0.6nm,0.4s,baz=348,slow=9.3,SNR=3.4						

IDC 21 07:53:07.6±6.4,1600S×17108W,h164km±124km, mb3.5/3,mb1 3.6/4,mb1mx3.4/16,mbtmp3.9/4,ML1.7/1, MS3.8/1,Ms1 3.8/1,ms1mx2.9/15,Error ellipse: s-maj=273.8km s-min=81.1km az=58.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.18**	**342**	P	Pn	07 53 46.2	+0.7
	12nm,0.3s,baz=17,slow=4.9,SNR=17						
AFI				S	Sn	07 54 15.5	+0.6
	50nm,0.3s,baz=76,slow=23,SNR=8.4						
STKA	**Stephens Creek**	**45.69**	**241**	P	P	08 01 12.0	0.0
	2.0nm,0.8s,baz=90,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**51.89**	**257**	P	P	08 01 59.6	+0.4
	0.3nm,0.4s,baz=97,slow=6.0,SNR=5.6						
ASAR	**Alice Springs**	**52.05**	**252**	P	P	08 02 00.9	+0.5
	2.5nm,0.6s,baz=87,slow=8.4,SNR=18						

IDC 21 07:57:22.4±2.0,893S×12745E,h0km,mb3.7/1,mb1 3.8/4, mb1mx3.6/13,mbtmp3.7/4,ML3.4/3,Error ellipse: s-maj=88.8km s-min=27.9km az=71.0,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.29**	**191**	Pn	Pn	07 59 38.3	+0.8
	0.4nm,0.3s,baz=28,slow=8.9,SNR=17						
FITZ				Sn	Sn	08 01 16.2	-6.5
	1.1nm,0.3s,baz=97,slow=21,SNR=8.1						
WRA	**Warramunga Arr**	**12.81**	**149**	Pn	Pn	08 00 25.9	+0.1
	0.3nm,0.3s,baz=322,slow=14,SNR=17						
WRA				Sn	Sn	08 02 43.6	-5.6
	0.4nm,0.3s,baz=320,slow=26,SNR=7.7						
ASAR	**Alice Springs**	**15.90**	**158**	Pn	Pn	08 01 07.0	-0.5
	0.1nm,0.3s,baz=330,slow=9.9,SNR=12						
ASAR				Sn	Sn	08 03 58.0	-6.3
	0.1nm,0.3s,baz=321,slow=18,SNR=6.0						
MKAR	**Makanchi Array**	**68.49**	**328**	P	P	08 08 26.6	+0.1
	0.5nm,0.6s,baz=120,slow=7.2,SNR=5.5						

MAN 21 08:06:30.7,924N×12517E,h17km,mb2.1,ML3.8,MS3.5, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.52**	**121**	*e*P	Pg	08 06 42.3	+1.3
SCPH	**Surigao**	**0.62**	**30**	⇓*e*P	Pg	08 06 43.0	0.0
SCPH				*e*S	Sg	08 06 55.3	+4.0
BUKP	**Musuan**	**1.36**	**184**	*e*P	Pn	08 06 53.5	-1.3
PLP	**Palo**	**1.92**	**354**	*e*P	Pn	08 07 02.6	0.0
PLP				*e*S	Sn	08 07 29.9	+3.6
IPIL	**Ipil**	**2.95**	**241**	*e*P	Pn	08 07 18.3	+1.7

IDC 21 08:38:15.6±8.1,638S×15557E,h0km,mb3.8/4,mb1 4.0/4, mb1mx3.7/13,mbtmp3.8/4,Error ellipse: s-maj=226.7km s-min=33.2km az=110.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.63**	**235**	P	P	08 43 38.7	+1.0
	1.0nm,0.7s,baz=67,slow=10,SNR=19						
ASAR	**Alice Springs**	**27.00**	**228**	P	P	08 43 59.1	0.0
	0.5nm,0.4s,baz=58,slow=9.7,SNR=11						
FITZ	**Fitzroy Crossi**	**31.42**	**246**	P	P	08 44 38.6	+0.2
	1.1nm,0.7s,baz=49,slow=9.3,SNR=6.6						
SONM	**Songino Array**	**69.13**	**327**	P	P	08 49 23.9	+0.3
	0.8nm,0.5s,baz=141,slow=5.6,SNR=6.6						

IDC 21 09:12:48.1±8.4,321N×12439E,h330km±88km,mb3.1/4, mb1 3.3/4,mb1mx3.0/17,mbtmp3.8/4,Error ellipse: s-maj=94.8km s-min=19.1km az=64.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.21**	**177**	P	P	09 17 08.6	+0.1
	1.7nm,0.4s,baz=26,slow=9.0,SNR=22						
WRA	**Warramunga Arr**	**25.00**	**157**	P	P	09 17 42.9	+0.1
	0.9nm,0.3s,baz=336,slow=10,SNR=34						
WRA				PcP	PcP	09 21 07.9	+0.1
	0.3nm,0.4s,baz=330,slow=2.2,SNR=6.0						
ASAR	**Alice Springs**	**28.28**	**161**	P	P	09 18 12.4	+0.6
	0.2nm,0.4s,baz=344,slow=6.9,SNR=7.0						
MKAR	**Makanchi Array**	**56.67**	**327**	P	P	09 21 57.9	0.0
	0.9nm,0.3s,baz=117,slow=8.0,SNR=16						

MAN 21 10:04:02.7,1155N×12201E,h24km,mb2.5,ML4.0,MS2.5, 1C,Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALP	**Kalibo**	**0.34**	**69**	⇑*e*P	Pb	10 04 11.4	+1.1
KALP				*e*S	Sb	10 04 17.7	+2.2
RCP	**Roxas**	**0.72**	**89**	*e*P	Pb	10 04 16.4	-0.2
RCP				*e*S	Sb	10 04 28.0	+2.0
OTRP	**Odiongan**	**0.80**	**1**	*e*P	Pb	10 04 17.8	-0.1
GUIM	**Jordan**	**1.08**	**148**	*e*P	Pn	10 04 22.6	+0.2
CUYO	**Cuyo Island**	**1.20**	**234**	*e*P	Pn	10 04 23.1	-0.8
BUSP	**Coron**	**1.83**	**284**	*e*P	Pn	10 04 32.4	-0.1
BOAC	**Boac**	**1.90**	**355**	*e*P	Pn	10 04 34.3	+0.7

IDC ***21*** *10:11:08.2±0.7,921S×10801E,h0km,mb4.4/8,mb1 4.4/9, mb1mx4.3/16,mbtmp4.3/9,ML3.6/1,MS3.8/6,Ms1 3.8/6, ms1mx3.4/23,Error ellipse: s-maj=32.0km s-min=16.7km az=54.0*

ISCJB ***21*** *10:11:09.2±0.4,928S±005×10795E±007,h21km, mb4.7/35,MS4.1/12,Error ellipse: s-maj=11.2km s-min=5.9km az=113.7*

BJI ***21*** *10:11:09.6,920S×10800E,h10km,mB5.0,mb4.9,Ms4.4, Msz4.4*

NEIC ***21*** *10:11:09.6±0.3,9.18S×10800E,h10km,mb5.0/14,Error ellipse: s-maj=12.8km s-min=5.4km az=51.0*

MOS ***21*** *10:11:11.6±1.6,906S×108.16E,h33km,mb4.9/7,Error ellipse: s-maj=20.4km s-min=10.1km az=109.6*

ISC 21 10:11:11.4±0.4,930S±005×10794E±006,h22km, h22km±4.1km:pP-P,n79,σ1°11/70,mb4.7/35,MS4.1/12, 6C-1D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.48**	**353**	P	**Pn**	10 11 51.4	+1.0
	1μm,0.8s						
BJII	**Banjamegara**	**2.63**	**42**	P	**Pn**	10 11 52.5	+0.1
	252nm,0.7s						
BJII	**Banjamegara**	**2.63**	**42**	⇓*i*P	**Pn**	10 11 53.5	+1.1
BJII				*i* S	**Sn**	10 12 26.0	+2.3
BJII	**Banjamegara**	**2.63**	**42**	⇑*i*P	**Pn**	10 11 51.9	-0.5
JCJI	**Jatiwangi**	**2.81**	**7**	P	**Pn**	10 11 52.5	-2.5
	1μm,0.7s						
CBJI	**Citeko**	**3.06**	**339**	P	**Pn**	10 11 54.8	-3.6
	2μm,0.7s						
SBJI	**Serang**	**3.63**	**330**	P	**Pn**	10 12 07.2	+0.9
	387nm,0.8s						
KSI	**Kapahiang**	**7.73**	**316**	P	**Pn**	10 13 02.7	+0.2
	104nm,0.7s						
MBWA	**Marble Bar**	**16.37**	**137**	*e*P	**Pn**	10 14 56.1	-3.6
FITZ	**Fitzroy Crossi**	**19.28**	**119**	*e*P	**Pn**	10 15 35.5	-0.1
	11nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.28**	**119**	P	**Pn**	10 15 35.5	-0.1
	0.1nm,0.3s,baz=258,slow=8.3,SNR=7.8						
FITZ				Sn	**Sn**	10 18 51.9	-19
	0.1nm,0.3s,baz=36,slow=19,SNR=2.6						
KAKA	**Kakadu**	**24.29**	**100**	*e*P	**P**	10 16 27.8	+0.8
	10nm,0.6s,mb4.4						
NWAO	**Narrogin (SRO)**	**25.03**	**161**	LR	LR	10 25 45.3	
	comp=Z,140nm,21.9s,MS3.4,baz=114,slow=35						
WRA	**Warramunga Arr**	**27.61**	**115**	P	**P**	10 16 57.3	+0.3
	3.7nm,0.8s,mb4.1,baz=289,slow=11,SNR=25						
WRAB	**Tennant Creek**	**27.61**	**115**	*e*P	**P**	10 16 58.3	+1.2
WB2	**Warramunga Arr**	**27.62**	**115**	*e*P	**P**	10 16 57.2	+0.1
QIZ	**Qiongzhong**	**28.21**	**4**	P	**P**	10 17 04.0	+1.5
QIZ				S	**S**	10 21 51.0	+4.1
QIZ				LR	LR		
	comp=N,215nm,15.1s,MS4.0						
QIZ				LR	LR		
	comp=E,192nm,16.9s,MS4.0						
QIZ				LR	LR		
	comp=Z,252nm,14.7s,MS3.9						
ASAR	**Alice Springs**	**28.63**	**123**	P	**P**	10 17 06.5	+0.4
	comp=Z,1.7nm,0.9s,mb3.8,baz=303,slow=9.2,SNR=12						
ASAR				PcP	PcP	10 20 18.6	+1.8
	comp=Z,1.0nm,0.7s,baz=288,slow=1.8,SNR=8.6						
ASAR				Sn	S	10 22 42.3	+49
	comp=Z,0.8nm,0.9s,baz=306,slow=25,SNR=3.7						
ASAR				LR	LR	10 28 40.2	
	comp=Z,176nm,21.9s,MS3.6,baz=307,slow=37						
ASAR	**Alice Springs**	**28.63**	**123**	P	**P**	10 17 06.6	+0.4
ASAR						10 20 18.6	
STKA	**Stephens Creek**	**38.43**	**131**	P	**P**	10 18 30.6	-0.7
	comp=Z,5.4nm,0.7s,mb4.4,baz=319,slow=9.2,SNR=8.9						
STKA				PcP	PcP	10 20 46.1	+1.8
	comp=Z,0.9nm,0.4s,baz=0.0,slow=6.1,SNR=2.9						
STKA	**Stephens Creek**	**38.43**	**131**	*e*P	**P**	10 18 30.0	-1.3
STKA				PcP	PcP	10 20 46.1	+1.8
CD2	**Chengdu**	**40.18**	**354**	*e*P	**P**	10 18 46.5	+0.6
CD2				AP	pP	10 18 51.0	-1.7
CD2				PP	PP	10 20 23.5	+5.0
CD2				S	**S**	10 24 53.5	+2.1
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,60nm,5.2s						
CD2				LR	LR		
	comp=E,90nm,12.8s						
CD2				LR	LR		
	comp=Z,100nm,14.4s,MS3.8						
SSE	**Sheshan**	**42.13**	**17**	P	**P**	10 18 59.6	-2.3
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,93nm,3.8s						
JIRN	**Jiri**	**42.35**	**331**	*e*P	**P**	10 19 03.9	+0.2
	comp=Z,40nm,0.8s,mb5.1						
NJ2	**Nanjing**	**42.42**	**14**	*e*P	**P**	10 19 02.3	-2.0
NJ2				AP	pP	10 19 11.6	+0.4
NJ2				XP	sP	10 19 16.4	+2.5
NJ2				PP	PP	10 20 44.0	+1.3
NJ2				XS	sS	10 25 36.0	0.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,100nm,6.0s						
NJ2				LR	LR		
	comp=N,220nm,15.6s,MS4.3						
NJ2				LR	LR		
	comp=E,280nm,19.5s,MS4.3						
NJ2				LR	LR		
	comp=Z,1μm,18.1s,MS4.9						
PKI	**Pulchoki**	**42.66**	**330**	*e*P	**P**	10 19 06.3	+0.1
	comp=Z,18nm,0.8s,mb4.9						
PKI	**Pulchoki**	**42.66**	**330**	*e*P	**P**	10 19 06.3	+0.1
PKI				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
GUN	**Gumba**	**42.71**	**331**	*e*P	**P**	10 19 06.6	0.0
	comp=Z,48nm,0.8s,mb5.3						
DMN	**Daman**	**42.84**	**330**	*e*P	**P**	10 19 07.9	+0.2
	comp=Z,44nm,0.8s,mb5.2						
KKN	**Kakani**	**42.90**	**330**	*e*P	**P**	10 19 08.4	+0.2
	comp=Z,34nm,0.8s,mb5.1						
KKN	**Kakani**	**42.90**	**330**	*e*P	**P**	10 19 08.4	+0.2
KKN				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.1						
XAN	**Xi'an**	**43.11**	**1**	P	**P**	10 19 09.3	-0.6
XAN				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.8						
GKN	**Gorkha**	**43.40**	**329**	*e*P	**P**	10 19 12.0	-0.2
	comp=Z,51nm,0.9s,mb5.3						
KOLN	**Koldanda**	**43.74**	**328**	*e*P	**P**	10 19 15.4	+0.4
	comp=Z,63nm,0.7s,mb5.4						
LZH	**Lanzhou**	**45.31**	**355**	*e*P	**P**	10 19 28.0	+0.5
LZH				AP	pP	10 19 37.5	+3.1
LZH				XP	sP	10 19 41.5	+4.4
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,149nm,4.8s						
LZH				LR	LR		
	comp=E,320nm,15.0s						
LZH				LR	LR		
	comp=Z,520nm,16.0s,MS4.6						
GTA	**Gaotai**	**49.05**	**352**	*e*P	**P**	10 19 57.3	+0.7
GTA				AP	pP	10 20 02.0	-1.6
GTA				XP	sP	10 20 05.3	-1.0
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.6						
BJI	**Beijing**	**49.68**	**8**	*e*P	**P**	10 20 00.6	-0.9
BJI				AMB	AMB		
	comp=Z,60nm,2.3s,mb5.2						
BJI				LR	LR		
	comp=N,191nm,18.2s,MS4.2						
BJI				LR	LR		
	comp=E,91nm,18.8s,MS4.2						
BJI				LR	LR		
	comp=Z,209nm,16.5s,MS4.2						

MJAR	**Matsushiro Arr**	**53.75**	**30**	P	**P**	10 20 29.1	-2.8		
	comp=Z,2.2nm,0.8s,mb4.2,baz=202,slow=8.9,SNR=4.2								
WMQ	**Urumqi**	**55.98**	**342**	P	**P**	10 20 50.0	+2.0		
WMQ				AP	pP	10 20 54.6	-0.4		
WMQ				XP	sP	10 20 57.0	-0.7		
WMQ				PP	PP	10 22 56.3	+3.5		
WMQ				S	**S**	10 28 35.5	+0.6		
WMQ				AMB	AMB				
	comp=Z,9.0nm,1.3s,mb4.6								
WMQ				AMB	AMB				
	comp=Z,116nm,5.2s								
WMQ				LR	LR				
	comp=N,542nm,17.6s,MS4.8								
WMQ				LR	LR				
	comp=E,406nm,16.5s,MS4.8								
WMQ				LR	LR				
	comp=Z,543nm,18.1s,MS4.7								
SONM	**Songino Array**	**56.90**	**359**	P	**P**	10 20 54.7	+0.1		
	comp=Z,4.7nm,0.6s,mb4.7,baz=175,slow=8.1,SNR=42								
ULN	**Ulaanbaatar**	**56.92**	**359**	*c iP*	**P**	10 20 54.3	-0.4		
ULN	**Ulaanbaatar**	**56.92**	**359**	*e*P	**P**	10 20 54.2	-0.5		
	comp=Z,6.9nm,0.7s,mb4.8								
HIA	**Hailar**	**59.23**	**9**	*e*P	**P**	10 21 09.9	-1.0		
AAK	**Ala-Archa**	**60.04**	**332**	⇑*e*P	**P**	10 21 14.6	-1.8		
AAK				pmax	pmax				
	comp=Z,10.0nm,2.4s,mb4.4								
MKAR	**Makanchi Array**	**60.35**	**340**	P	**P**	10 21 18.0	-0.6		
	comp=Z,15nm,0.6s,mb5.2,baz=140,slow=7.0,SNR=169								
MKAR	**Makanchi Array**	**60.35**	**340**	⇑*e*P	**P**	10 21 18.2	-0.4		
MOY	**Mondy**	**61.02**	**355**	*e*P	**P**	10 21 25.0	+1.9		
YSS	**Yuzh-Sakhalins**	**64.02**	**26**	*c iP*	**P**	10 21 42.4	-0.8		
YSS				pmax	pmax				
	comp=Z,19nm,2.3s,mb4.7								
KURK	**Kurchatov**	**64.97**	**340**	*c iP*	**P**	10 21 49.0	-0.4		
KURK	**Kurchatov**	**64.97**	**340**	*e*P	**P**	10 21 48.9	-0.5		
	comp=Z,9.5nm,0.8s,mb4.9								
MAW	**Mawson**	**65.45**	**197**	P	**P**	10 21 53.3	+0.8		
	comp=Z,2.8nm,0.9s,mb4.3,baz=62,slow=3.8,SNR=5.6								
BOD	**Bodaibo**	**67.07**	**4**	*e*P	**P**	10 21 59.2	-3.7		
BOD				pmax	pmax				
	comp=Z,4.0nm,1.6s,mb4.2								
BVAR	**Borovoye Array**	**69.84**	**337**	LR	LR	10 56 24.0			
	comp=Z,61nm,18.6s,MS3.9,baz=139,slow=39								
BRVK	**Borovoye**	**69.90**	**337**	*e*P	**P**	10 22 20.2	-0.4		
CHKZ	**Chkalovo**	**70.25**	**337**	*e*P	**P**	10 22 22.1	-0.6		
CHKZ				pmax	pmax				
	comp=Z,9.0nm,0.8s,mb4.8								
CHKZ	**Chkalovo**	**70.25**	**337**	*e*P	**P**	10 22 22.1	-0.6		
	comp=Z,8.8nm,0.8s,mb4.7								
ZRNK	**Zerenda**	**70.32**	**336**	*e*P	**P**	10 22 22.5	-0.7		
ZRNK				pmax	pmax				
	comp=Z,5.0nm,0.7s,mb4.5								
ZRNK	**Zerenda**	**70.32**	**336**	*e*P	**P**	10 22 22.5	-0.7		
	comp=Z,5.2nm,0.7s,mb4.6								
YAK	**Yakutsk**	**73.11**	**11**	*e*P	**P**	10 22 38.6	-1.3		
YAK				pmax	pmax				
	comp=Z,16nm,0.8s,mb5.0								
VNDA	**Vanda**	**73.55**	**169**	P	**P**	10 22 42.3	-0.2		
	comp=Z,1.5nm,0.8s,mb4.0,baz=304,slow=7.6,SNR=6.9								
VNDA	**Vanda**	**73.55**	**169**	*e*P	**P**	10 22 42.0	-0.6		
SBA	**Scott Base**	**74.62**	**169**	*e*P	**P**	10 22 49.5	+0.7		
SVE	**Sverdlovsk**	**76.48**	**335**	*e*P	**P**	10 23 02.4	+3.0		
QSPA	**South Pole Qui**	**80.70**	**180**	*e*P	**P**	10 23 23.0	+0.3		
	comp=Z,4.8nm,0.9s,mb4.4								
BRTR	**Keskin Array B**	**84.04**	**312**	P	**P**	10 23 40.8	+0.6		
	comp=Z,2.0nm,0.8s,mb4.3,baz=120,slow=7.3,SNR=8.5								
BRTR				LR	LR	11 03 19.6			
	comp=Z,36nm,18.3s,MS3.8,baz=283,slow=37								
BRTR	**Keskin Array B**	**84.04**	**312**	*i* P	**P**	10 23 41.0	+0.8		
BRTR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
OBN	**Obninsk**	**87.15**	**327**	*e*P	**P**	10 23 55.7	+0.1		
OBN				pmax	pmax				
	comp=Z,4.0nm,0.7s,mb4.8								
ARCES	**ARCESS Array B**	**96.00**	**339**	LR	LR	11 13 45.5			
	comp=Z,91nm,18.2s,MS4.3,baz=32,slow=39								
GERES	**GERESS Array B**	**99.71**	**318**	LR	LR	11 19 44.1			
	comp=Z,41nm,19.4s,MS4.0,baz=93,slow=41								
WMOK	**Wichita Mounta**	**144.80**	**40**	*e*PKIKP	PKPdf	10 30 46.5	+0.1		
NCB	**Newcomb**	**145.41**	**3**	*e*PKPdf	PKPdf	10 30 48.0	+0.5		
BDFB	**Brasilia**	**145.62**	**224**	PKPbc	PKPbc	10 30 51.1	+2.9		
	comp=Z,2.2nm,0.5s,baz=34,slow=3.6,SNR=4.2								
CCM	**Cathedral Cave**	**146.56**	**28**	*e*PKP2	PKPab	10 30 51.2	-0.8		
JCT	**Junction City**	**146.64**	**47**	*e*PKP2	PKPab	10 30 52.6	+0.3		
MIAR	**Mount Ida**	**148.06**	**35**	*e*PKP2	PKPab	10 30 56.1	-1.8		
WVT	**Waverly**	**149.69**	**26**	*e*PKP2	PKPbc	10 30 59.8	+0.6		
OXF	**Oxford**	**150.29**	**30**	*e*PKP2	PKPbc	10 31 02.2	+1.5		
PLAL	**Pickwick Lake**	**150.54**	**27**	*e*PKPbc	PKPbc	10 31 02.0	+0.7		
CPCT	**Cooper Cave**	**151.60**	**22**	*e*PKPbc	PKPbc	10 31 05.0	+1.3		

MOS ***21*** *10:51:02.2±2.3,5013N×8781E,h15km,mb4.1/1,Error ellipse: s-maj=17.3km s-min=10.2km az=84.3*

NNC ***21***

0.8nm,0.3s,baz=350,slow=7.6,SNR=5.8

CASC 21 11:09:35.1±2.3, 1600N×9013W, h1km±57km, MD4.0, 4C-1D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.69**	**204**	*e*P	Pn	11 10 05.5	-0.2
MTO2	**Montecristo 2**	**1.75**	**155**⇑	*e*P	x	11 10 15.9	
MTO2				*e*S	x	11 10 39.8	
IXG	**Ixpaco**	**1.84**	**190**⇑	*e*P	Pn	11 10 07.6	-0.2
IXG				*e*S	Sn	11 10 34.1	+2.4
RBDL	**Robledal**	**1.92**	**167**⇓	*e*P	x	11 10 17.9	
RBDL				*e*S	x	11 10 44.3	
RTR	**El Retiro**	**2.14**	**167**⇑	*e*P	x	11 10 21.3	
RTR				*e*S	x	11 10 49.6	
LFRS	**El Faro**	**2.58**	**156**	*e*P	x	11 10 29.7	
LFRS				*e*S	x	11 11 03.8	
LCBS	**La Ceiba**	**2.58**	**154**⇑	*e*P	x	11 10 29.9	
LCBS				*e*S	x	11 11 03.8	

SKHL 21 11:24:21.3±0.4, 5608N×13262E, h10km, mb3.8/5, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKMR	**Ekimchan**	**3.02**	**176**	*e*Pn	Pn	11 25 10.1	+0.9
EKMR				*e*Pg	Pg	11 25 16.0	-3.2
EKMR				AMB	AMB	11 25 17.0	
	4.0nm,0.4s						
EKMR				AMB	AMB	11 25 17.0	
	8.0nm,0.4s						
EKMR				*e*Sn	Sn	11 25 45.5	+0.1
EKMR				*e*Sg	Sg	11 25 55.1	-3.3
EKMR				A		11 25 57.9	
	28nm,0.5s						
EKMR				A		11 25 57.9	
	39nm,0.5s						
EKMR				A		11 25 57.9	
	3.0nm,0.5s						
KROS	**Kirovskiy**	**3.63**	**245**	*e*Pg	Pg	11 25 26.0	-4.8
KROS				AMB	AMB	11 25 27.2	
	6.0nm,0.5s						
KROS				AMB	AMB	11 25 27.2	
	13nm,0.5s						
KROS				AMB	AMB	11 25 27.2	
	14nm,0.5s						
KROS				*e*Sg	Sg	11 26 13.0	-4.9
KROS				A		11 26 16.1	
	36nm,0.6s						
KROS				A		11 26 16.1	
	22nm,0.6s						
KROS				A		11 26 16.1	
	9.0nm,0.6s						
ZEA	**Zeya**	**3.89**	**235**	*e*Pg	Pg	11 25 31.1	-4.7
ZEA				AMB	AMB	11 25 31.4	
	11nm,0.2s						
ZEA				*e*Sg	Sg	11 26 22.0	-4.1
ZEA				A		11 26 24.8	
	49nm,0.7s						
ZEA				A		11 26 24.8	
	29nm,0.7s						
CLNS	**Chul'man**	**4.35**	**283**	*e*Pg	Pg	11 25 38.6	-6.1
CLNS				AMB	AMB	11 25 41.9	
	3.0nm,0.3s						
CLNS				AMB	AMB	11 25 41.9	
	4.0nm,0.3s						
CLNS				*e*Sg	Sg	11 26 33.8	-7.3
NKL	**Nikolayevsk**	**5.53**	**119**	*e*rx	rx	11 27 10.0	
KLR	**Kul'dur**	**6.88**	**185**	*e*rx	rx	11 28 00.5	
TUP	**Tupik**	**7.43**	**262**	*e*Pn	Pn	11 26 10.8	+1.1
TUP				*e*Pg	Pg	11 26 35.4	-8.1
TUP				AMB	AMB	11 26 38.0	
	3.0nm,0.6s						
TUP				*e*Sn	Sn	11 27 34.1	+0.1
TUP				*e*Sg	Sg	11 28 12.1	-7.6
TUP				A		11 28 21.0	
	18nm,0.7s						

IDC 21 11:27:37.8±1.9, 362N×12708E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=147.5km s-min=24.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.48**	**163**	P	P	11 32 58.8	+0.4
	0.6nm,0.5s,baz=343,slow=10,SNR=22						
ASAR	**Alice Springs**	**27.93**	**167**	P	P	11 33 30.5	+0.9
	0.2nm,0.4s,baz=353,slow=7.9,SNR=5.9						
STKA	**Stephens Creek**	**37.91**	**160**	P	P	11 34 56.3	-0.3
	1.3nm,0.6s,baz=329,slow=14,SNR=4.2						
MKAR	**Makanchi Array**	**57.84**	**325**	P	P	11 37 31.2	+0.1
	0.3nm,0.5s,baz=125,slow=9.2,SNR=3.0						

*BJI **21** 12:09:42.8, 1008S×10863E, h8km, mB4.6, mb4.4, Ms4.3, Msz4.0*
*IDC **21** 12:09:46.2±1.4, 9.76S×10830E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.9/17, mbtmp3.9/7, ML3.4/1, Error ellipse: s-maj=74.2km s-min=18.0km az=48.0*
*NEIC **21** 12:09:47.6±11.0, 9.76S×10829E, h9km±69km, mb4.8/9, Error ellipse: s-maj=35.0km s-min=8.0km az=47.0*
*ISCJB **21** 12:09:48.2±0.5, 10.10S±007×108.03E±008, h33km, mb4.3/17, MS4.0/1, Error ellipse: s-maj=11.6km s-min=8.9km az=105.9*

ISC 21 12:09:51.4±0.7, 99S±01×1082E±01, h35km, n22, σ0§86/24, mb4.3/17, MS4.0/1, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJI	**Banjamegara**	**2.97**	**30**⇑	*i*P	**Pn**	**12 10 37.4**	**+1.4**
BJI				*i* S	**Sn**	**12 11 16.6**	**+6.2**
FITZ	**Fitzroy Crossi**	**18.76**	**118**	P	**Pn**	**12 14 06.7**	**-1.3**
	0.1nm,0.3s,baz=299,slow=13,SNR=4.2						
FITZ				Sn	**Sn**	**12 17 17.5**	**-19**
	0.1nm,0.3s,baz=306,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**27.11**	**115**	P	**P**	**12 15 30.4**	**-0.5**
	1.5nm,0.8s,mb3.6,baz=286,slow=12,SNR=6.9						
WRAB	**Tennant Creek**	**27.12**	**115**	*e*P	**P**	**12 15 32.2**	**+1.3**
	4.8nm,0.9s,mb4.0						
ASAR	**Alice Springs**	**28.08**	**122**	P	**P**	**12 15 40.0**	**+0.5**
	0.6nm,0.7s,mb3.3,baz=300,slow=9.1,SNR=11						
ASAR				PcP	PcP	12 18 54.7	+1.3
	0.4nm,0.8s,baz=291,slow=2.0,SNR=3.2						
STKA	**Stephens Creek**	**37.84**	**130**	P	**P**	**12 17 05.0**	**+0.5**
	2.4nm,0.7s,mb4.0,baz=305,slow=9.5,SNR=5.8						
HYB	**Hyderabad**	**39.95**	**313**	*i* P	**P**	**12 17 24.0**	**+1.8**
JIRN	**Jiri**	**43.01**	**331**	*e*P	**P**	**12 17 47.7**	**+0.4**
	30nm,0.9s,mb5.0						
GUN	**Gumba**	**43.37**	**331**	*e*P	**P**	**12 17 50.7**	**+0.5**
DMN	**Daman**	**43.50**	**330**	*e*P	**P**	**12 17 51.2**	**-0.1**
	36nm,1.0s,mb5.0						
KKN	**Kakani**	**43.56**	**330**	*e*P	**P**	**12 17 51.5**	**-0.3**
	30nm,1.0s,mb5.0						
XAN	**Xi'an**	**43.72**	**1**	P	**P**	**12 17 51.8**	**-1.2**
XAN				AP	pP	12 18 00.5	-2.9
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
GKN	**Gorkha**	**44.06**	**329**	*e*P	**P**	**12 17 55.7**	**-0.1**
KOLN	**Koldanda**	**44.40**	**328**	*e*P	**P**	**12 17 58.0**	**-0.5**
	comp=Z,14nm,0.6s,mb4.8						
WMQ	**Urumqi**	**56.64**	**342**	P	**P**	**12 19 32.4**	**+1.5**
WMQ				AP	pP	12 19 37.0	-4.5
WMQ				XP	sP	12 19 39.4	-6.2
WMQ				PP	PP	12 21 39.8	+2.8
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,50nm,5.6s						
WMQ				LR	LR		
	comp=N,107nm,17.8s,MS4.1						
WMQ				LR	LR		
	comp=E,81nm,16.7s,MS4.1						
WMQ				LR	LR		
	comp=Z,107nm,18.3s,MS4.0						
SONM	**Songino Array**	**57.52**	**359**	P	**P**	**12 19 36.4**	**-0.7**
	comp=Z,2.0nm,1.0s,mb4.1,baz=173,slow=7.3,SNR=9.0						
ULN	**Ulaanbaatar**	**57.54**	**359**	*e*P	**P**	**12 19 36.2**	**-1.1**
	comp=Z,1.8nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**61.02**	**340**	P	**P**	**12 20 00.7**	**-0.6**
	comp=Z,2.1nm,0.7s,mb4.4,baz=137,slow=7.5,SNR=15						
KURK	**Kurchatov**	**65.63**	**340**	*e*P	**P**	**12 20 31.1**	**-0.7**
	comp=Z,4.5nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**70.92**	**337**	*e*P	**P**	**12 21 04.3**	**-0.6**
	comp=Z,6.3nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**70.99**	**336**	*e*P	**P**	**12 21 04.9**	**-0.5**
	comp=Z,2.7nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**84.64**	**312**	P	**P**	**12 22 21.8**	**+0.5**
	comp=Z,1.0nm,0.9s,mb3.9,baz=123,slow=12,SNR=3.7						

NNC 21 12:16:58.3±6.3, 3632N×6869E, h26km±31km, mb3.6, mpv3.1, 2C-2D, Error ellipse: s-maj=50.0km s-min=34.0km az=113.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.92**	**11**	⇑Pn	Pn	12 18 39.0	+1.0
	1.0nm,0.2s,baz=196,slow=14,SNR=14						
KK31				⇑Sn	Sn	12 19 56.5	+0.7
	0.7nm,0.2s,baz=187,slow=22,SNR=4.5						
KK31				Lg		12 20 38.2	
TKM2	**Tokmak 2**	**8.48**	**37**	⇓Pn	Pn	12 18 58.7	-0.6
	0.1nm,0.5s						
TKM2				⇓Sn	Sn	12 20 35.1	+1.0
	0.5nm,0.8s						
AB31	**Akbulak array**	**14.42**	**336**	P	Pn	12 20 18.1	-2.6
	1.1nm,0.4s,baz=153,slow=12,SNR=16						

*ISCJB **21** 12:21:01.7±2.0, 7.39S±009×1268E±01, h200km±21km, mb3.8/8, Error ellipse: s-maj=23.6km s-min=10.5km az=125.2*
*NEIC **21** 12:21:04.2±3.5, 7.39S×12663E, h204km±36km, mb4.1/5, Error ellipse: s-maj=39.1km s-min=14.2km az=60.0*
*IDC **21** 12:21:07.8±4.6, 7.70S×126.16E, h239km±48km, mb3.5/5, mb1 3.6/7, mb1mx3.5/14, mbtmp4.1/7, Error ellipse: s-maj=67.7km s-min=18.8km az=67.0*

ISC 21 12:21:05.0±1.9, 7.54S±009×1267E±02, h219km±19km, n15, σ1§27/18, mb3.8/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.55**	**186**	P	**Pn**	**12 23 31.2**	**+0.2**
	0.8nm,0.3s,baz=24,slow=13,SNR=39						
FITZ				S	**S**	**12 25 27.1**	**-2.0**
	3.8nm,0.3s,baz=103,slow=19,SNR=5.4						
WRAB	**Tennant Creek**	**14.36**	**150**	*e*P	**Pn**	**12 24 18.1**	**-0.5**
	7.7nm,0.6s						
WRA	**Warramunga Arr**	**14.36**	**150**	P	**Pn**	**12 24 18.2**	**-0.4**
	0.6nm,0.3s,baz=322,slow=12,SNR=33						
WRA				S	**S**	**12 26 53.6**	**-4.3**
	1.3nm,0.3s,baz=330,slow=22,SNR=5.1						
WB2	**Warramunga Arr**	**14.37**	**150**	*e*P	**Pn**	**12 24 17.9**	**-0.7**
MBWA	**Marble Bar**	**15.14**	**206**	*e*P	**Pn**	**12 24 30.0**	**+1.9**
	4.4nm,0.7s						
AS31	**Alice Springs**	**17.44**	**158**	*e*P	**P**	**12 24 56.5**	**+3.1**
ASAR	**Alice Springs**	**17.44**	**158**	P	**P**	**12 24 56.4**	**+2.9**
	1.0nm,0.3s,baz=328,slow=11,SNR=63						
ASAR				S	**S**	**12 28 02.2**	**-1.1**
	0.1nm,0.3s,baz=331,slow=18,SNR=3.9						
STKA	**Stephens Creek**	**27.89**	**152**	P	**P**	**12 26 36.1**	**+1.5**
	1.1nm,0.5s,mb3.7,baz=324,slow=10,SNR=4.7						
ENH	**Enshi**	**41.09**	**337**	*e*P	**P**	**12 28 25.5**	**-1.9**
	0.6nm,0.7s,mb3.1						
SONM	**Songino Array**	**58.00**	**344**	P	**P**	**12 30 35.9**	**+1.1**
	2.8nm,0.9s,mb3.9,baz=163,slow=7.3,SNR=11						
ZAL	**Zalesovo**	**70.68**	**335**	P	**P**	**12 31 56.8**	**-0.2**
	2.3nm,0.7s,mb4.0,baz=348,slow=4.5,SNR=8.3						
VNDA	**Vanda**	**72.32**	**172**	P	**P**	**12 32 07.3**	**+0.5**
	0.5nm,0.6s,mb3.3,baz=331,slow=6.9,SNR=4.0						
BVAR	**Borovoye Array**	**76.83**	**329**	P	**P**	**12 32 31.8**	**-0.8**
	2.1nm,0.8s,mb3.8,baz=134,slow=6.4,SNR=11						
CHKZ	**Chkalovo**	**77.06**	**330**	*e*P	**P**	**12 32 33.6**	**-0.4**
	3.5nm,0.9s,mb4.0						
ZRNK	**Zerenda**	**77.50**	**328**	*e*P	**P**	**12 32 36.2**	**-0.2**
	4.5nm,0.8s,mb4.2						

*KRSC **21** 13:02:12, 60.72N×167.92E, h5km, ML3.7*
*MOS **21** 13:02:23.0±1.9, 60.57N×166.10E, h13km, mb4.2/4, Error ellipse: s-maj=24.0km s-min=19.1km az=109.5*
*ISCJB **21** 13:02:24.6±0.6, 6.07N±0.1×1658E±0.1, h10km, mb4.0/10, MS3.2/5, Error ellipse: s-maj=17.9km s-min=9.1km az=154.1*
*IDC **21** 13:02:26.3±1.8, 6.100N×165.72E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.7/5, MS3.3/5, Ms1 3.3/5, ms1mx2.9/31, Error ellipse: s-maj=76.3km s-min=22.1km az=1.0*
*NEIC **21** 13:02:27.8±1.4, 6.106N×165.80E, h10km, mb4.2/4, Error ellipse: s-maj=48.2km s-min=11.4km az=177.0*

ISC 21 13:02:26.5±0.6, 608N±01×1658E±01, h10km, n26, σ1§07/22, mb4.0/10, MS3.2/5, 5C, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MA2	**Magadan**	**7.59**	**267**	*e*PN	**Pn**	**13 04 16.7**	**-0.4**
MA2				pmax	pmax		
	comp=Z,30nm,0.3s						
PET	**Petropavlovsk**	**8.72**	**210**⇑	*e*PN	**Pn**	**13 04 32.5**	**-0.2**
YAK	**Yakutsk**	**17.18**	**290**	*c i*P	**Pn**	**13 06 28.7**	**+2.2**
YAK				pmax	pmax		
	comp=Z,26nm,1.0s						
YSS	**Yuzh-Sakhalins**	**19.27**	**234**	*e*P	**Pn**	**13 06 45.8**	**-6.3**
YSS				pmax	pmax		
	comp=Z,31nm,1.7s						
MCK	**McKinley**	**20.92**	**62**	*e*P	**P**	**13 07 08.8**	**-0.3**
	comp=Z,4.2nm,0.8s						
COLA	**College**	**21.15**	**59**	*e*P	**P**	**13 07 09.8**	**-1.8**
	comp=Z,6.4nm,0.9s,mb4.0						
ASAJ	**Asahikawa**	**21.69**	**230**	LR	LR	13 16 20.8	
	comp=Z,22nm,21.7s,MS2.5,baz=29,slow=38						
DAWY	**Dawson**	**24.91**	**59**	*e*P	**P**	**13 07 50.0**	**+0.5**
BOD	**Bodaibo**	**26.03**	**287**	*e*P	**P**	**13 07 59.2**	**-0.5**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.8						
MJAR	**Matsushiro Arr**	**29.93**	**228**	LR	LR	13 22 31.3	
	comp=Z,66nm,18.3s,MS3.3,baz=215,slow=40						
ULN	**Ulaanbaatar**	**35.34**	**276**	*c i*P	**P**	**13 09 20.7**	**-1.2**
SONM	**Songino Array**	**35.68**	**276**	P	**P**	**13 09 26.5**	**+1.7**
	comp=Z,0.4nm,0.7s,mb3.5,baz=52,slow=7.7,SNR=3.4						
SONM				LR	LR	13 24 40.7	
	comp=Z,59nm,18.5s,MS3.4,baz=58,slow=38						
ZAL	**Zalesovo**	**41.55**	**298**	LR	LR	13 29 38.7	
	comp=Z,75nm,19.5s,MS3.6,baz=318,slow=39						
KURK	**Kurchatov**	**46.51**	**299**	*c i*P	**P**	**13 10 54.1**	**+0.2**
KURK	**Kurchatov**	**46.51**	**299**	*e*P	**P**	**13 10 53.4**	**-0.5**
	comp=Z,5.8nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**47.60**	**307**	*e*P	**P**	**13 11 03.0**	**+0.6**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
CHKZ	**Chkalovo**	**47.60**	**307**	*e*P	**P**	**13 11 03.0**	**+0.5**
	comp=Z,3.2nm,0.9s,mb4.3						
MKAR	**Makanchi Array**	**47.82**	**293**	P	**P**	**13 11 02.8**	**-1.3**
	comp=Z,1.1nm,0.6s,mb4.1,baz=45,slow=8.2,SNR=8.7						
MKAR	**Makanchi Array**	**47.82**	**293**⇑	*e*P	**P**	**13 11 03.5**	**-0.6**
BVAR	**Borovoye Array**	**48.18**	**306**	LR	LR	13 32 05.0	
	comp=Z,41nm,18.6s,MS3.4,baz=324,slow=37						
NVAR	**Mina Array Bea**	**50.71**	**80**	P	**P**	**13 11 27.9**	**+1.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=296,slow=8.8,SNR=5.3						
PDAR	**Pinedale Array**	**51.44**	**70**	P	**P**	**13 11 32.4**	**+0.6**
	comp=Z,1.0nm,0.6s,mb3.9,baz=321,slow=3.8,SNR=13						
AAK	**Ala-Archa**	**54.55**	**295**	*e*P	**P**	**13 11 53.2**	**-1.4**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.2						
NOA	**NORSAR Array B**	**56.91**	**346**	P	**P**	**13 12 11.8**	**+0.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=14,slow=7.3,SNR=3.5						
NOA	**NORSAR Array B**	**56.91**	**346**	P	**P**	**13 12 11.8**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**56.91**	**346**	P	**P**	**13 12 11.8**	**+0.2**

*IDC **21** 13:06:56.9±0.8, 1139S×7973W, h0km, mb4.3/9, mb1 4.4/12, mb1mx4.3/20, mbtmp4.2/12, ML3.9/3, MS3.7/7, Ms1 3.7/7, ms1mx3.3/19, Error ellipse: s-maj=28.5km s-min=14.9km az=67.0*
*BJI **21** 13:06:58.8, 1130S×7930W, h12km, mB5.5, Ms5.0, Msz4.7*
*NEIC **21** 13:06:58.9±5.3, 1129S×7929W, h12km±33km, mb4.9/13, Error ellipse: s-maj=20.2km s-min=8.5km az=59.0*
*ISCJB **21** 13:07:00.2±0.4, 1131S±006×7939W±008, h33km, mb4.5/22, MS4.1/9, Error ellipse: s-maj=12.0km s-min=6.5km az=120.9*

ISC 21 13:07:02.8±0.4, 1134S±006×7942W±008, h35km, n59, σ1§03/41, mb4.5/22, MS4.1/9, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.61**	**105**	*e*P	**Pn**	**13 07 37.4**	**-5.0**
ATAH	**Atahualpa**	**4.42**	**13**	Pn	**Pn**	**13 08 04.7**	**-2.7**
	5.9nm,0.3s,baz=231,slow=5.3,SNR=9.3						
ATAH				Sn	**Sn**	**13 08 57.7**	**0.0**
	21nm,0.3s,baz=52,slow=20,SNR=11						
LPAZ	**La Paz**	**12.02**	**115**	Pn	**Pn**	**13 09 52.4**	**+0.8**
	0.1nm,0.3s,baz=294,slow=7.6,SNR=4.7						
LPAZ				LR	LR	13 15 14.4	
	comp=Z,185nm,18.6s,baz=79,slow=41						
LPAZ	**La Paz**	**12.02**	**115**	P	**Pn**	**13 09 52.0**	**+0.4**
	3.4nm,0.9s						
LVC	**Limon Verde**	**15.05**	**140**	Pn	**Pn**	**13 10 31.1**	**-1.7**
	0.3nm,0.3s,baz=293,slow=13,SNR=2.7						
SAML	**Samuel**	**16.16**	**83**	*e*P	**Pn**	**13 10 39.5**	**-7.6**
	3.0nm,0.7s						
SIV	**San Ignacio**	**18.42**	**107**	P	**Pn**	**13 11 13.9**	**-1.4**
	0.2nm,0.3s,baz=286,slow=12,SNR=26						
SDV	**Santo Domingo**	**21.91**	**24**	LR	LR	13 20 44.1	
	comp=Z,105nm,21.0s,MS3.2,baz=122,slow=38						
CFAA	**Coronel Fontan**	**22.66**	**155**	P	**P**	**13 12 01.1**	**+0.2**
	1.3nm,1.1s,mb3.3,baz=322,slow=9.4,SNR=7.4						
CPUP	**Villa Florida**	**25.62**	**129**	P	**P**	**13 12 30.0**	**+1.1**
	2.6nm,0.8s,mb3.8,baz=284,slow=12						
PCRV	**Puerto La Cruz**	**25.94**	**35**	P	**P**	**13 12 34.3**	**+2.5**
	8.8nm,0.8s,mb4.3,baz=326,slow=9.1,SNR=5.9						
PCRV				LR	LR	13 24 07.9	
	comp=Z,478nm,18.6s,MS4.1,baz=209,slow=39						
PLCA	**Paso Flores**	**30.31**	**167**	P	**P**	**13 13 10.4**	**-0.4**
	3.8nm,0.8s,mb4.2,baz=325,slow=15,SNR=6.9						
BDFB	**Brasilia**	**30.82**	**102**	LR	LR	13 26 35.9	
	comp=Z,132nm,19.5s,MS3.6,baz=108,slow=38						
LAZ	**Ladron**	**52.55**	**331**	*e*P	**P**	**13 16 13.5**	**+0.8**
ANMO	**Albuquerque**	**52.68**	**332**	*e*P	**P**	**13 16 13.5**	**-0.2**
	13nm,0.9s,mb4.9						
WUAZ	**Wupatki**	**55.53**	**328**	*e*P	**P**	**13 16 35.1**	**+0.7**
	6.8nm,0.9s,mb4.7						
PV01	**Paradox Valley**	**56.26**	**332**	*e*P	**P**	**13 16 40.1**	**+0.4**
ISCO	**Idaho Springs**	**56.39**	**336**	*e*P	**P**	**13 16 40.8**	**+0.2**
	4.0nm,1.1s,mb4.4						
SRU	**San Rafael**	**57.95**	**332**	*e*P	**P**	**13 16 51.8**	**+0.1**
	14nm,1.1s,mb4.9						
MSU	**Marysvale**	**58.27**	**330**	*e*P	**P**	**13 16 54.3**	**+0.5**
MSU				*e*PcP	PcP	13 17 44.6	-0.2
DAU	**Daniels Canyon**	**59.33**	**332**	*e*P	**P**	**13 17 01.7**	**+0.5**
DUG	**Dugway**	**59.89**	**331**	*e*P	**P**	**13 17 05.8**	**+0.7**
	16nm,1.3s,mb4.9						
TCUT	**Toone Canyon**	**59.96**	**332**	*e*P	**P**	**13 17 05.7**	**+0.2**
HWUT	**Hardware Ranch**	**60.42**	**333**	*e*P	**P**	**13 17 08.6**	**-0.2**
	20nm,0.9s,mb5.1						
PDAR	**Pinedale Array**	**60.50**	**335**	P	**P**	**13 17 08.6**	**-0.6**
	4.2nm,1.1s,mb4.4,baz=141,slow=7.3,SNR=21						
HVU	**Hansel Valley**	**61.11**	**332**	*e*P	**P**	**13 17 13.3**	**-0.1**
	7.6nm,0.9s,mb4.8						
NVAR	**Mina Array Bea**	**61.40**	**326**	P	**P**	**13 17 15.2**	**-0.1**
	2.5nm,0.9s,mb4.4,baz=128,slow=7.9,SNR=17						
RRI2	**Red Ridge**	**61.72**	**334**	*e*P	**P**	**13 17 17.5**	**0.0**
	21nm,1.3s,mb5.1						
FLWY	**Flagg Ranch**	**62.05**	**335**	*e*P	**P**	**13 17 20.0**	**+0.2**
	16nm,1.1s,mb5.1						
ULM	**Lac du Bonnet**	**62.99**	**348**	P	**P**	**13 17 24.4**	**-1.7**
	7.5nm,0.9s,mb4.8,baz=168,slow=6.8,SNR=10						
ULM	**Lac du Bonnet**	**62.99**	**348**	*e*P	**P**	**13 17 23.9**	**-2.1**
	12nm,1.1s,mb4.9						
GCMT	**Greycliff**	**63.05**	**337**	*e*P	**P**	**13 17 25.9**	**-0.5**
HLID	**Hailey**	**63.26**	**332**	*e*P	**P**	**13 17 28.3**	**+0.5**
	3.3nm,0.7s,mb4.6						
MCMT	**McKenzie Canyo**	**63.56**	**334**	*e*P	**P**	**13 17 30.3**	**+0.5**
BOZ	**Bozeman (W)**	**63.71**	**335**	*e*P	**P**	**13 17 30.1**	**-0.7**
	4.9nm,1.1s,mb4.5						
DLMT	**Dillon**	**63.88**	**335**	*e*P	**P**	**13 17 32.1**	**+0.2**
	13nm,1.3s,mb4.8						
PPT	**Papeete**	**67.90**	**256**	LR	LR	13 41 00.9	
	comp=Z,47nm,18.7s,MS3.7,baz=76,slow=30						
EDM	**Edmonton**	**70.53**	**339**	*e*P	**P**	**13 18 12.7**	**-1.3**
DBIC	**Dimbokro**	**76.31**	**80**	LR	LR	13 50 02.5	
	comp=Z,54nm,18.2s,MS3.9,baz=270,slow=34						
TORD	**Torodi Ar. Bea**	**84.06**	**75**	P	**P**	**13 19 31.9**	**+2.1**
	1.8nm,1.0s,mb4.2,baz=262,slow=3.0,SNR=6.1						
TORD				LR	LR	13 54 03.4	
	comp=Z,41nm,18.9s,MS3.8,baz=175,slow=34						
TORD	**Torodi Ar. Bea**	**84.06**	**75**	P	**P**	**13 19 31.9**	**+2.1**
TORD				LR	LR	13 54 03.4	
ESDC	**Sonseca Array**	**86.22**	**48**	P	**P**	**13 19 43.1**	**+2.4**
	0.2nm,0.3s,mb3.8,baz=280,slow=8.7,SNR=4.4						
INK	**Inuvik**	**88.14**	**342**	P	**P**	**13 19 47.7**	**-2.2**
	4.5nm,1.0s,mb4.7,baz=108,slow=5.5,SNR=9.3						
INK	**Inuvik**	**88.14**	**342**	P	**P**	**13 19 47.7**	**-2.2**
CHKZ	**Chkalovo**	**131.49**	**23**	*e*PKPdf	PKPdf	13 26 11.8	+0.3
ASAR	**Alice Springs**	**132.33**	**223**	PKP	PKPdf	13 26 12.4	-0.7
	1.7nm,1.1s,baz=108,slow=1.7,SNR=5.5						
WRA	**Warramunga Arr**	**134.50**	**227**	PKP	PKPdf	13 26 17.3	0.0
	1.6nm,0.8s,baz=131,slow=2.1,SNR=12						
ZAL	**Zalesovo**	**135.69**	**13**	PKP	PKPdf	13 26 19.5	0.0
	1.6nm,0.5s,baz=195,slow=7.9,SNR=5.5						
CN2	**Changchun**	**141.17**	**331**	*e*PKP	PKPdf	13 26 32.6	+3.1
MKAR	**Makanchi Array**	**141.42**	**20**	PKP	PKPdf	13 26 29.0	-0.9
	0.2nm,0.3s,baz=357,slow=2.9,SNR=3.3						
ULN	**Ulaanbaatar**	**143.18**	**353**	*e*PKPpre		13 26 30.8	
SONM	**Songino Array**	**143.29**	**353**	PKhKP		13 26 29.7	
	1.0nm,0.9s,baz=354,slow=3.0,SNR=5.5	

*NEIC **21** 13:17:00.8, 34.70S×71.80W, h38km, MG3.5(GUC), After GUC.*

GUC 21 13:17:00.8±0.8, 34.70S×71.80W, h38km±2km, MD3.8, ML3.5, 12C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
NICH	**Los Niches**	**0.56**	**123**	⇓*i*P Pn	13 17 12.6	+0.3
NICH				*i* S Sn	13 17 21.2	+0.7
SFDO	**San Fernando**	**0.66**	**83**	⇑*i*P Pn	13 17 14.0	+0.4
TALC	**Talca**	**0.71**	**169**	⇑*i*P Pn	13 17 15.0	+0.6
TALC				*i* S Sn	13 17 24.9	+0.7
TALC				AML AML	13 17 26.1	
	comp=N,8μm,0.1s					
TALC	**Talca**	**0.71**	**169**	⇑*i*P Pn	13 17 15.0	+0.6
TALC				*i* S Sn	13 17 24.9	+0.7
LNV	**Longovilo**	**0.81**	**24**	⇑*i*P Pn	13 17 15.9	+0.2
LNV				*i* S Sn	13 17 27.5	+1.1
CACH	**El Canelo**	**1.15**	**60**	⇓*i*P Pn	13 17 21.6	+1.2
CACH				*i* S Sn	13 17 37.8	+2.9
CICH	**Cipreses**	**1.20**	**72**	⇑*i*P Pn	13 17 22.0	+0.9
CICH				*i* S Sn	13 17 38.4	+2.3
CHCH	**Chadas Angostu**	**1.22**	**52**	⇑*i*P Pn	13 17 22.4	+1.1
CHCH				*i* S Sn	13 17 39.0	+2.5
LCCH	**Las Cruces**	**1.23**	**9**	⇓*i*P Pn	13 17 21.9	+0.4
TACH	**Talagante**	**1.26**	**35**	*e*P Pn	13 17 23.0	+1.1
TACH				*i* S Sn	13 17 40.1	+2.4
RCDM	**Rinconada Maip**	**1.46**	**35**	*e*P Pn	13 17 25.5	+0.9
RCDM				*i* S Sn	13 17 45.2	+2.6
RCDM				AML AML	13 17 51.2	
	comp=E,1μm,0.1s					
RCDM	**Rinconada Maip**	**1.46**	**35**	*e*P Pn	13 17 25.5	+0.9
RCDM				*i* S Sn	13 17 45.2	+2.6
ANTU	**Antumapu**	**1.48**	**41**	*e*P Pn	13 17 26.6	+1.7
ANTU				*i* S Sn	13 17 45.9	+2.8
ANTU				AML AML	13 17 50.8	
	comp=E,1μm,0.2s					
ANTU	**Antumapu**	**1.48**	**41**	*e*P Pn	13 17 26.6	+1.7
ANTU				*i* S Sn	13 17 45.9	+2.8
PCH	**Pirque**	**1.51**	**45**	⇓*i*P Pn	13 17 26.6	+1.3
PCH				*i* S Sn	13 17 46.4	+2.5
SJCH	**San Jose de Ma**	**1.60**	**49**	⇑*i*P Pn	13 17 27.7	+1.2
SJCH				*i* S Sn	13 17 48.1	+2.2
SJCH				AML AML	13 17 50.7	
	comp=E,444nm,0.3s					
SJCH	**San Jose de Ma**	**1.60**	**49**	⇑*i*P Pn	13 17 27.7	+1.2
SJCH				*i* S Sn	13 17 48.1	+2.2
CLCH	**Cerro Calan**	**1.67**	**39**	⇓*i*P Pn	13 17 29.1	+1.6
CLCH				*i* S Sn	13 17 50.6	+2.9
CLCH				AML AML	13 17 56.7	
	comp=N,867nm,0.5s					
CLCH				AML AML	13 17 57.3	
	comp=N,1μm,0.5s					
PEL	**Peldehue**	**1.81**	**31**	⇑*i*P Pn	13 17 31.0	+1.6
PEL				*i* S Sn	13 17 53.8	+2.8
PEL				AML AML	13 18 03.6	
	comp=E,633nm,0.6s					
PEL	**Peldehue**	**1.81**	**31**	⇑*i*P Pn	13 17 31.0	+1.6
PEL				*i* S Sn	13 17 53.8	+2.8
ROCH	**El Roble**	**1.84**	**21**	*i* P Pn	13 17 32.2	+2.3
FCH	**Farellones**	**1.85**	**43**	⇑*i*P Pn	13 17 31.7	+1.6
FCH				*i* S Sn	13 17 55.5	+3.2
FCH				AML AML	13 18 00.7	
	comp=N,622nm,0.2s					
JACH	**Jahuel**	**2.25**	**27**	⇑*i*P Pn	13 17 36.8	+1.3

MAN 21 13:22:41.0, 1004N×12514E, h2km, mb3.1, ML4.4, MS2.3, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
SCPH	**Surigao**	**0.43**	**126**	⇓*e*P Pg	13 22 49.8	+0.5
SCPH				*e*S Sg	13 22 57.2	+2.4
PLP	**Palo**	**1.13**	**352**	*i* P Pg	13 23 02.0	-0.7
PLP				*i* S Sg	13 23 18.2	+0.8
OCLP	**Ormoc**	**1.14**	**333**	*e*P Pg	13 23 02.8	+0.1
BUTP	**Butuan**	**1.16**	**156**	*e*P Pg	13 23 04.7	+1.4
LLP	**Lapu-Lapu**	**1.19**	**284**	⇑*e*P Pg	13 23 03.9	+0.2
LLP				*i* S Sg	13 23 19.9	+0.8
TBP	**Tagbilaran**	**1.30**	**255**	*e*P Pg	13 23 05.4	-0.6
TBP				*e*S Sg	13 23 22.6	-0.3
CGP	**Cagayan de Oro**	**1.63**	**196**	⇓*e*P Pn	13 23 08.3	-2.4
CGP				*i* S Sn	13 23 30.0	-2.3
SNPH	**Sibulan**	**2.00**	**250**	*e*P Pn	13 23 16.5	+0.7
BUKP	**Musuan**	**2.14**	**182**	*e*P Pn	13 23 17.5	-0.2
GUIM	**Jordan**	**2.57**	**283**	*e*P Pn	13 23 24.1	+0.4
PAGZ	**Pagadian**	**2.78**	**219**	*e*P Pn	13 23 26.6	+0.1
IPIL	**Ipil**	**3.38**	**229**	*e*P Pn	13 23 35.8	+1.1
PVCP	**Virac**	**3.67**	**345**	*e*P Pn	13 23 40.1	+1.3
OTRP	**Odiongan**	**3.83**	**307**	*e*P Pn	13 23 42.6	+1.6

IDC 21 13:33:58.2±2.0, 149N×12631E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=116.9km s-min=26.0km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.48**	**182**	P Pn	13 38 25.6	-2.2
	0.1nm,0.3s,baz=56,slow=20,SNR=4.7					
WRA	**Warramunga Arr**	**22.71**	**160**	P P	13 39 00.8	-0.7
	0.4nm,0.3s,baz=340,slow=11,SNR=8.9					
ASAR	**Alice Springs**	**26.07**	**164**	P P	13 39 35.5	+2.0
	0.4nm,0.8s,baz=347,slow=12,SNR=5.0					
MKAR	**Makanchi Array**	**59.16**	**326**	P P	13 44 00.8	0.0
	0.3nm,0.4s,baz=108,slow=6.9,SNR=3.9					

*IDC **21** 13:40:34.3±1.8, 1006S×10845E, h0km, mb3.8/6, mb1 3.8/7, mb1mx3.7/17, mbtmp3.8/7, ML3.4/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/20, Error ellipse: s-maj=84.7km s-min=18.9km az=47.0*

*NEIC **21** 13:40:35.8±0.9, 1004S×10848E, h10km, mb4.4/2, Error ellipse: s-maj=48.1km s-min=9.3km az=45.0*

*ISCJB **21** 13:40:37.8±1.3, 99S±03×1087E±03, h33km, mb3.8/8, MS3.6/1, Error ellipse: s-maj=67.1km s-min=12.8km az=89.3*

ISC 21 13:40:39.9±1.3, 100S±03×1086E±03, h35km, n11, σ0≤45/11, mb3.8/8, MS3.6/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.41**	**118**	P **Pn**	**13 44 51.5**	**-0.8**
	0.1nm,0.3s,baz=288,slow=11,SNR=3.3					
FITZ				Sn **Sn**	**13 48 00.3**	**-17**
	0.1nm,0.3s,baz=90,slow=8.3,SNR=3.9					
WRA	**Warramunga Arr**	**26.76**	**115**	P **P**	**13 46 16.7**	**+0.5**
	0.5nm,0.7s,mb3.2,baz=286,slow=12,SNR=4.0					
ASAR	**Alice Springs**	**27.75**	**123**	P **P**	**13 46 25.4**	**+0.3**
	0.3nm,0.6s,mb3.1,baz=298,slow=8.9,SNR=7.5					
STKA	**Stephens Creek**	**37.53**	**130**	P **P**	**13 47 50.7**	**+0.2**
	1.1nm,0.7s,mb3.7,baz=313,slow=12,SNR=3.5					
STKA	**Stephens Creek**	**37.53**	**130**	P **P**	**13 47 50.7**	**+0.2**
CTA	**Charters Tower**	**37.67**	**110**	LR LR	14 01 48.0	
	comp=Z,999nm,20.1s,MS3.6,baz=238,slow=34					
SONM	**Songino Array**	**57.57**	**358**	P **P**	**13 50 26.6**	**+0.6**
	1.1nm,0.6s,mb4.1,baz=179,slow=8.0,SNR=8.2					
MKAR	**Makanchi Array**	**61.18**	**340**	P **P**	**13 50 51.1**	**+0.1**
	1.2nm,0.7s,mb4.1,baz=140,slow=7.7,SNR=9.1					
CHKZ	**Chkalovo**	**71.09**	**337**	*e*P **P**	**13 51 53.9**	**-0.7**
	2.0nm,0.6s,mb4.2					
ZRNK	**Zerenda**	**71.17**	**336**	*e*P **P**	**13 51 54.7**	**-0.3**
	2.0nm,0.7s,mb4.2					
BRTR	**Keskin Array B**	**84.95**	**312**	P **P**	**13 53 11.6**	**+0.2**
	0.7nm,0.5s,mb4.0,baz=140,slow=7.8,SNR=3.6					

*IDC **21** 14:08:40.6±0.8, 994S×10866E, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.3/17, mbtmp4.3/10, ML4.0/1, MS3.7/9, Ms1 3.6/9, ms1mx3.3/26, Error ellipse: s-maj=31.2km s-min=16.3km az=57.0*

*ISCJB **21** 14:08:41.6±0.3, 1005S±004×10865E±006, h19km, mb4.6/45, MS3.9/12, Error ellipse: s-maj=8.7km s-min=5.6km az=133.4*

*BJI **21** 14:08:44.4, 1000S×10870E, h25km, mB5.0, mb4.7, Ms4.7, Msz4.3*

*MOS **21** 14:08:44.3±1.0, 988S×10884E, h38km, mb4.9/14, Error ellipse: s-maj=18.4km s-min=9.3km az=115.8*

*NEIC **21** 14:08:44.4±4.0, 998S×10871E, h26km±27km, mb4.7/20, Error ellipse: s-maj=16.9km s-min=6.0km az=56.0*

ISC 21 14:08:43.7±0.3, 1007S±004×10863E±006, h20km, h20km±3.7km; pP-P, n100, σ1≤26/98, mb4.6/45, MS3.9/12, 9C-5D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
BJII	**Banjamegara**	**2.93**	**22**	P **Pn**	**14 09 30.7**	**+1.7**
	542nm,1.0s					
BJII	**Banjamegara**	**2.93**	**22**	⇑*i*P **Pn**	**14 09 31.0**	**+2.0**
BJII				*i* S **Sn**	**14 10 01.7**	**-1.9**
LEM	**Lembang**	**3.38**	**343**	P **Pn**	**14 09 35.5**	**+0.3**
	1μm,0.9s					
JCJI	**Jatiwangi**	**3.58**	**354**	P **Pn**	**14 09 35.3**	**-2.7**
	697nm,1.1s					
SBJI	**Serang**	**4.64**	**328**	P **Pn**	**14 09 52.2**	**-0.4**
	218nm,1.0s					
NBBI	**Negara**	**6.15**	**75**	P **Pn**	**14 10 16.1**	**+2.7**
	980nm,1.1s					
KSI	**Kapahiang**	**8.75**	**316**	P **Pn**	**14 10 46.9**	**-2.1**
	130nm,0.8s					
KSM	**Kuching**	**11.59**	**8**	Pn **Pn**	**14 11 26.9**	**-1.0**
PCI	**Palu**	**14.39**	**51**	P **Pn**	**14 12 08.9**	**+2.7**
	49nm,1.3s					
MBWA	**Marble Bar**	**15.35**	**137**	*e*Pn **Pn**	**14 12 14.2**	**-4.9**
	11nm,0.7s					
MBWA				*e*Sn **Sn**	**14 14 49.5**	**-19**
PSI	**Prapat**	**16.03**	**322**	Pn **Pn**	**14 12 21.4**	**-6.4**
	0.8nm,0.3s,baz=153,slow=11,SNR=2.4					
PSI				LR LR	14 18 20.9	
	comp=Z,155nm,21.9s,baz=300,slow=37					
KULM	**Kulim**	**17.21**	**332**	*e*Pn **Pn**	**14 12 37.9**	**-4.8**
FITZ	**Fitzroy Crossi**	**18.32**	**118**	*e*P **Pn**	**14 12 56.1**	**-0.4**
	11nm,1.0s					
FITZ				*e*S **Sn**	**14 16 03.0**	**-17**
FITZ	**Fitzroy Crossi**	**18.32**	**118**	P **Pn**	**14 12 57.2**	**+0.7**
	0.4nm,0.3s,baz=266,slow=6.0,SNR=14					
FITZ				Sn **Sn**	**14 16 03.7**	**-17**
	0.7nm,0.3s,baz=132,slow=21,SNR=5.9					
BSI	**Banda Aceh**	**20.39**	**319**	P **P**	**14 13 20.4**	**+1.3**
	60nm,1.1s					
NWAO	**Narrogin (SRO)**	**24.09**	**162**	LR LR	14 22 21.2	
	comp=Z,184nm,20.9s,MS3.5,baz=148,slow=34					
WRA	**Warramunga Arr**	**26.67**	**115**	P **P**	**14 14 21.2**	**0.0**
	5.9nm,0.8s,mb4.1,baz=285,slow=11,SNR=24					
WRAB	**Tennant Creek**	**26.67**	**115**	*e*P **P**	**14 14 18.8**	**-2.4**
WRAB	**Tennant Creek**	**26.67**	**115**	*e*P **P**	**14 14 20.1**	**-1.1**
	14nm,1.0s,mb4.5					
WB2	**Warramunga Arr**	**26.68**	**115**	*e*P **P**	**14 14 21.3**	**0.0**
NST	**Nakhon Sawan**	**26.93**	**342**	P **P**	**14 14 23.3**	**-0.2**
ASAR	**Alice Springs**	**27.64**	**122**	P **P**	**14 14 31.8**	**+1.8**
	2.6nm,0.7s,mb4.0,baz=296,slow=8.7,SNR=26					
ASAR				PcP PcP	14 17 48.1	+1.2
	1.0nm,0.7s,baz=292,slow=2.2,SNR=6.3					
ASAR				LR LR	14 25 20.9	
	comp=Z,152nm,21.2s,MS3.5,baz=82,slow=36					
QIZ	**Qiongzhong**	**28.94**	**2**	P **P**	**14 14 43.8**	**+2.3**
QIZ				S **S**	**14 19 32.0**	**+0.9**
QIZ				AMB AMB		
	comp=Z,4.0nm,1.3s,mb4.0					
QIZ				AMB AMB		
	comp=Z,117nm,8.2s					
QIZ	**Qiongzhong**	**28.94**	**2**	P **P**	**14 14 44.0**	**+2.5**
	comp=Z,6.2nm,1.0s,mb4.3					
CM31	**Chiang Mai Arr**	**29.92**	**341**	*e*P **P**	**14 14 51.3**	**+1.1**
	comp=Z,16nm,1.0s,mb4.7					
CHG	**Chiang Mai**	**30.25**	**342**	⇑P **P**	**14 14 54.0**	**+0.9**
	comp=Z,14nm,1.1s,mb4.6					
CHTO	**Chiang Mai**	**30.25**	**342**	*e*P **P**	**14 14 53.1**	**0.0**
CHTO				*e*	14 15 12.6	
CHTO				pmax pmax		
	comp=Z,12nm,1.0s,mb4.6					
CHTO	**Chiang Mai**	**30.25**	**342**	*e*P **P**	**14 14 53.0**	**-0.1**
	comp=Z,12nm,1.0s,mb4.6					
CHTO				*e*	14 15 12.6	
KMI	**Kunming**	**35.45**	**351**	P **P**	**14 15 41.5**	**+3.0**
KMI				AMB AMB		
	comp=Z,9.0nm,1.3s,mb4.5					
GYA	**Guiyang**	**36.36**	**357**	⇑*i*P **P**	**14 15 48.0**	**+1.7**
GYA				AP pP	14 15 53.6	+1.1
GYA				XP sP	14 15 55.8	+0.7
GYA				PP PP	14 17 12.5	+3.4
GYA				PCP PcP	14 18 11.4	+0.8
GYA				S **S**	**14 21 29.8**	**+3.4**
GYA				AMB AMB		
	comp=Z,20nm,1.0s,mb5.0					
GYA				AMB AMB		
	comp=Z,60nm,2.8s,mb5.0					
GYA				LR LR		
	comp=N,310nm,15.4s,MS4.3					
GYA				LR LR		
	comp=E,300nm,14.8s,MS4.3					
GYA				LR LR		
	comp=Z,210nm,14.5s,MS4.0					
STKA	**Stephens Creek**	**37.42**	**130**	*e*P **P**	**14 15 56.1**	**+0.8**
	comp=Z,9.0nm,0.8s,mb4.7					
STKA	**Stephens Creek**	**37.42**	**130**	P **P**	**14 15 55.8**	**+0.5**
	comp=Z,14nm,0.9s,mb4.8,baz=308,slow=9.3,SNR=17					
STKA				LR LR	14 32 38.8	
	comp=Z,86nm,19.8s,MS3.5,baz=206,slow=38					
PMG	**Port Moresby**	**37.97**	**92**	*e*P **P**	**14 15 57.9**	**-2.1**
CD2	**Chengdu**	**41.01**	**354**	⇑*i*P **P**	**14 16 25.8**	**+0.4**
CD2				AP pP	14 16 30.3	-1.3
CD2				PP PP	14 18 04.3	+4.2
CD2				S **S**	**14 22 38.8**	**+2.2**
CD2				SS SS	14 25 36.9	-2.0
CD2				AMB AMB		
	comp=Z,10.0nm,1.1s,mb4.4					
CD2				LR LR		
	comp=Z,70nm,13.2s,MS3.7					
SSE	**Sheshan**	**42.67**	**16**	P **P**	**14 16 37.5**	**-1.4**
SSE				AMB AMB		
	comp=Z,29nm,0.7s,mb5.1					
SSE				AMB AMB		
	comp=Z,107nm,10.4s					
NJ2	**Nanjing**	**43.01**	**13**	*e*P **P**	**14 16 41.0**	**-0.7**
NJ2				AP pP	14 16 51.8	+3.8
NJ2				XP sP	14 16 54.8	+4.3
NJ2				PP PP	14 18 21.9	+0.3
NJ2				AMB AMB		
	comp=Z,10.0nm,0.5s,mb4.8					
NJ2				AMB AMB		
	comp=Z,90nm,7.2s					
NJ2				LR LR		
	comp=N,260nm,18.6s					
NJ2				LR LR		
	comp=E,220nm,23.8s					
NJ2				LR LR		
	comp=Z,1μm,18.4s,MS4.8					
JIRN	**Jiri**	**43.35**	**330**	*e*P **P**	**14 16 45.4**	**+1.0**
PKI	**Pulchoki**	**43.66**	**330**	*e*P **P**	**14 16 47.0**	**+0.1**
GUN	**Gumba**	**43.71**	**330**	*e*P **P**	**14 16 49.2**	**+1.9**
	comp=Z,12nm,0.3s,mb5.1					
DMN	**Daman**	**43.85**	**329**	*e*P **P**	**14 16 48.8**	**+0.4**
	comp=Z,42nm,0.9s,mb5.2					
XAN	**Xi'an**	**43.87**	**0**	P **P**	**14 16 48.4**	**-0.2**
XAN				AP pP	14 16 58.8	+3.9
XAN				AMB AMB		
	comp=Z,6.0nm,0.8s,mb4.4					
KKN	**Kakani**	**43.91**	**330**	*e*P **P**	**14 16 49.2**	**+0.3**
	comp=Z,58nm,1.1s,mb5.2					
KKN	**Kakani**	**43.91**	**330**	*e*P **P**	**14 16 49.2**	**+0.3**
KKN				pmax pmax		
	comp=Z,58nm,1.1s,mb5.2					
GKN	**Gorkha**	**44.41**	**329**	*e*P **P**	**14 16 52.9**	**0.0**
LZH	**Lanzhou**	**46.13**	**355**	*e*P **P**	**14 17 07.0**	**+0.4**
LZH				AMB AMB		
	comp=Z,26nm,1.0s,mb5.1					
HHC	**Hu-ho-hao-te**	**50.74**	**3**	*e*P **P**	**14 17 44.1**	**+2.0**
HHC				AP pP	14 17 48.8	+0.3
HHC				XP sP	14 17 51.4	+0.5
HHC				PP PP	14 19 42.3	+4.1
HHC				SCP ScP	14 22 54.1	+0.1
HHC				S **S**	**14 24 58.3**	**+1.9**
HHC				SCS ScS	14 27 31.1	-0.7
HHC				SS SS	14 28 32.5	+1.6
HHC				AMB AMB		
	comp=Z,12nm,0.4s,mb5.2					
HHC				AMB AMB		
	comp=Z,106nm,5.5s					
HHC				LR LR		
	comp=N,133nm,6.1s					
HHC				LR LR		
	comp=E,119nm,4.7s					
HHC				LR LR		
	comp=Z,109nm,9.6s					
MJAR	**Matsushiro Arr**	**54.08**	**29**	P **P**	**14 18 04.4**	**-2.5**
	comp=Z,1.6nm,0.7s,mb4.0,baz=217,slow=7.9,SNR=5.0					
CN2	**Changchun**	**55.76**	**15**	*e*P **P**	**14 18 19.0**	**0.0**
WMQ	**Urumqi**	**56.91**	**342**	P **P**	**14 18 29.5**	**+2.2**
WMQ				AP pP	14 18 34.1	+0.4
WMQ				PP PP	14 20 37.5	+3.7
WMQ				AMB AMB		
	comp=Z,7.0nm,1.2s,mb4.6					
WMQ				AMB AMB		
	comp=Z,73nm,5.2s					
WMQ				LR LR		
	comp=N,167nm,17.6s,MS4.3					
WMQ				LR LR		
	comp=E,125nm,16.5s,MS4.3					
WMQ				LR LR		
	comp=Z,166nm,18.1s,MS4.2					
MDJ	**Mudanjiang**	**57.65**	**18**	P **P**	**14 18 34.5**	**+2.1**
MDJ				PP PP	14 20 44.6	+4.3
MDJ				PCS PcS	14 23 24.9	-1.7
MDJ				S **S**	**14 26 34.9**	**+5.2**
MDJ				AMB AMB		
	comp=Z,2.0nm,0.5s,mb4.4					
MDJ				AMB AMB		
	comp=Z,58nm,6.2s					
SONM	**Songino Array**	**57.68**	**358**	P **P**	**14 18 32.8**	**+0.1**
	comp=Z,3.4nm,0.6s,mb4.6,baz=174,slow=7.2,SNR=23					
SONM				LR LR	14 44 21.1	
	comp=Z,81nm,21.9s,MS3.8,baz=180,slow=37					
ULN	**Ulaanbaatar**	**57.70**	**359**	⇑*i*P **P**	**14 18 32.4**	**-0.4**
ULN	**Ulaanbaatar**	**57.70**	**359**	*e*P **P**	**14 18 32.0**	**-0.8**
	comp=Z,3.5nm,0.6s,mb4.6					
ZAK	**Zakamensk**	**60.38**	**356**	*e*P **P**	**14 18 44.9**	**-6.5**
ZAK				pmax pmax		
	comp=Z,2.0nm,1.3s,mb4.0					
AAK	**Ala-Archa**	**61.03**	**332**	⇑*i*P **P**	**14 18 55.6**	**-0.2**
AAK				pmax pmax		
	comp=Z,6.0nm,1.5s,mb4.5					
AAK	**Ala-Archa**	**61.03**	**332**	P **P**	**14 18 54.6**	**-1.2**
	comp=Z,9.5nm,1.2s,mb4.8					
MKAR	**Makanchi Array**	**61.30**	**340**	P **P**	**14 18 57.4**	**-0.3**
	comp=Z,2.2nm,0.6s,mb4.4,baz=134,slow=6.9,SNR=24					
MKAR	**Makanchi Array**	**61.30**	**340**	P **P**	**14 18 57.4**	**-0.3**
KLR	**Kul'dur**	**62.45**	**17**	*e*P **P**	**14 19 00.0**	**-5.4**
YSS	**Yuzh-Sakhalins**	**64.42**	**25**	⇑*i*P **P**	**14 19 17.0**	**-1.4**
YSS				pmax pmax		
	comp=Z,26nm,1.5s,mb5.0					
MAW	**Mawson**	**64.92**	**198**	P **P**	**14 19 21.4**	**-0.3**
	comp=Z,5.0nm,0.9s,mb4.5,baz=51,slow=7.4,SNR=4.4					
MAW	**Mawson**	**64.92**	**198**	*e*P **P**	**14 19 21.3**	**-0.4**
MAW				pmax pmax		
	comp=Z,5.0nm,0.9s					
MAW	**Mawson**	**64.92**	**198**	*e*P **P**	**14 19 21.3**	**-0.4**
	comp=Z,5.5nm,0.9s,mb4.6					
KURK	**Kurchatov**	**65.92**	**340**	⇑*e*P **P**	**14 19 28.1**	**-0.1**
KURK	**Kurchatov**	**65.92**	**340**	*e*P **P**	**14 19 27.7**	**-0.4**
	comp=Z,7.8nm,1.0s,mb4.7					
BOD	**Bodaibo**	**67.80**	**3**	*e*P **P**	**14 19 38.3**	**-1.8**
BOD				pmax pmax		
	comp=Z,4.0nm,1.7s,mb4.2					
BVAR	**Borovoye Array**	**70.81**	**337**	LR LR	14 51 33.8	
	comp=Z,40nm,20.7s,MS3.6,baz=319,slow=36					
BRVK	**Borovoye**	**70.87**	**337**	*e*P **P**	**14 19 59.0**	**-0.1**
BRVK				pmax pmax		
	comp=Z,4.0nm,0.9s,mb4.3					
BRVK	**Borovoye**	**70.87**	**337**	*e*P **P**	**14 19 59.0**	**-0.1**
	comp=Z,4.5nm,0.9s,mb4.4					
CHKZ	**Chkalovo**	**71.22**	**337**	*e*P **P**	**14 20 00.8**	**-0.4**
CHKZ				pmax pmax		
	comp=Z,18nm,1.2s,mb4.9					
CHKZ	**Chkalovo**	**71.22**	**337**	*e*P **P**	**14 20 00.8**	**-0.4**
	comp=Z,18nm,1.2s,mb4.9					
ZRNK	**Zerenda**	**71.30**	**336**	*e*P **P**	**14 20 01.1**	**-0.6**
ZRNK				pmax pmax		
	comp=Z,6.0nm,0.8s,mb4.6					
ZRNK	**Zerenda**	**71.30**	**336**	*e*P **P**	**14 20 01.1**	**-0.6**
	comp=Z,6.2nm,0.8s,mb4.6					
VNDA	**Vanda**	**72.67**	**169**	P **P**	**14 20 11.3**	**+1.4**
	comp=Z,0.5nm,0.7s,mb3.5,baz=321,slow=6.5,SNR=2.9					
VNDA	**Vanda**	**72.67**	**169**	P **P**	**14 20 10.3**	**+0.3**
VNDA				pmax pmax		
	comp=Z,3.0nm,1.2s					
VNDA	**Vanda**	**72.67**	**169**	P **P**	**14 20 10.3**	**+0.4**
	comp=Z,3.1nm,1.2s,mb4.1					
SYO	**Syowa Base**	**73.20**	**201**	⇓*e*P pP	14 20 18.9	-0.8
SYO	**Syowa Base**	**73.20**	**201**	⇓*e*pP pP	14 20 18.9	-0.8
YAK	**Yakutsk**	**73.74**	**10**	*d i*P **P**	**14 20 15.1**	**-1.1**
YAK				pmax pmax		
	comp=Z,16nm,1.2s,mb4.8					
SBA	**Scott Base**	**73.74**	**169**	P **P**	**14 20 17.9**	**+1.6**
SBA				pmax pmax		
	comp=Z,4.0nm,1.2s,mb4.2					
SBA	**Scott Base**	**73.74**	**169**	P **P**	**14 20 17.9**	**+1.7**
	comp=Z,3.8nm,1.2s,mb4.2					
AKTO	**Aktyubinsk**	**74.57**	**329**	LR LR	15 00 38.2	
	comp=Z,24nm,18.0s,MS3.5,baz=54,slow=42					
GNI	**Garni**	**77.25**	**315**	⇑*e*P **P**	**14 20 36.6**	**+0.2**
GNI				pmax pmax		
	comp=Z,19nm,1.7s					
SVE	**Sverdlovsk**	**77.46**	**335**	*e*P **P**	**14 20 36.8**	**-0.8**
SVE				pmax pmax		
	comp=Z,20nm,1.2s,mb4.9					
ARU	**Arti**	**78.07**	**334**	⇓*i*P **P**	**14 20 39.3**	**-1.7**
ARU				*e*	14 20 49.6	
ARU				*e*	14 23 35.9	
ARU				*e*S S	14 30 32.1	-1.8
ARU				*e*SS SS	14 35 32.0	-3.4
ARU				pmax pmax		
	comp=Z,12nm,1.2s,mb4.7					
ARU	**Arti**	**78.07**	**334**	*e*P **P**	**14 20 39.4**	**-1.6**
	comp=Z,11nm,0.9s,mb4.8					
BOSA	**Boshof**	**79.47**	**243**	LR LR	14 50 23.7	
	comp=Z,79nm,18.3s,MS4.1,baz=171,slow=32					
QSPA	**South Pole Qui**	**79.94**	**180**	*e*P **P**	**14 20 49.9**	**-1.3**
	comp=Z,5.7nm,1.2s,mb4.4					
KIV	**Kislovodsk**	**80.22**	**318**	*e*P **P**	**14 20 52.9**	**+0.1**
KIV				pmax pmax		
	comp=Z,6.0nm,0.9s,mb4.5					
TIXI	**Tiksi**	**82.65**	**6**	*d i*P **P**	**14 21 04.5**	**-1.1**
TIXI				pmax pmax		
	comp=Z,11nm,1.3s,mb4.7					
BRTR	**Keskin Array B**	**85.06**	**312**	P **P**	**

BVAR	**Borovoye Array**	**69.34**	**337**	P		P	14 52 30.4	-0.9
	0.6nm,0.5s,baz=131,slow=6.5,SNR=3.4							

ISCJB ***21*** *14:58:43.9±0.9, 3904N×003×2430E×006, h13km±6km, Error ellipse: s-maj=7.5km s-min=4.8km az=27.3*
CSEM ***21*** *14:58:44.7±0.1, 3902N×2431E, h20km, ML3.6, Error ellipse: s-maj=2.6km s-min=1.7km az=95.0*
ATH ***21*** *14:58:44.3, 3902N×2430E, h36km×3km, MD3.4/10, ML3.4*
NEIC ***21*** *14:58:44.3, 3902N×2430E, h36km, MD3.4(ATH), After ATH.*
THE ***21*** *14:58:46.8, 3915N×2423E, h12km, ML3.6*

ISC 21 14:58:44.3±1.0, 3902N±003×2430E±006, h14km±6km, n27, σ0§64/34, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
AOS	**Alonnisos**	**0.36**	**294**	*e*Pg		**Pg**	**14 58 52.2**		**+0.5**
AOS				*e*Sg		**Sg**	**14 58 57.2**		**+0.6**
NEO	**Neokhori**	**0.89**	**289**	*e*PN		**Pb**	**14 59 01.3**		**-0.1**
XOR	**Xorichti**	**0.93**	**292**	*e*Pg		**Pg**	**14 59 01.9**		**-0.4**
XOR				*e*Sg		**Sg**	**14 59 14.9**		**+0.4**
PAIG	**Paliouri**	**1.02**	**332**	*e*Pg		**Pg**	**14 59 03.7**		**-0.4**
PAIG				*e*Sg		**Sg**	**14 59 16.3**		**-1.2**
PTL	**Penteli**	**1.03**	**200**	*e*PN		**Pn**	**14 59 03.5**		**-0.8**
LKR	**Lokris**	**1.08**	**250**	*e*PN		**Pn**	**14 59 04.5**		**-0.5**
LIA	**Limnos Island**	**1.11**	**38**	*e*PN		**Pn**	**14 59 05.8**		**+0.4**
LIA				*e*SN		**Sn**	**14 59 20.4**		**0.0**
ATH	**Athens Observa**	**1.15**	**204**	*e*PN		**Pn**	**14 59 05.5**		**-0.4**
KVR	**Kavouri**	**1.26**	**200**	*e*PB		**Pn**	**14 59 06.5**		**-1.0**
MGER	**Gerania Oros**	**1.32**	**219**	*e*PN		**Pn**	**14 59 08.5**		**+0.2**
MGER				*e*SN		**Sn**	**14 59 26.0**		**+0.4**
OUR	**Ouranopolis**	**1.33**	**349**	*e*Pg		**Pn**	**14 59 08.3**		**-0.2**
NAIG	**Nisos Aigina**	**1.42**	**207**	*e*PN		**Pn**	**14 59 09.5**		**-0.1**
PLG	**Polygyros**	**1.50**	**334**	*e*PN		**Pn**	**14 59 10.2**		**-0.6**
AGG	**Agios Georgios**	**1.54**	**271**	*e*Pg		**Pn**	**14 59 11.2**		**0.0**
LIT	**Litohoron**	**1.77**	**308**	*e*Pb		**Pn**	**14 59 14.2**		**-0.3**
SOH	**Sokhos**	**1.94**	**338**	*e*Pb		**Pn**	**14 59 17.0**		**+0.2**
APE	**Apeiranthos**	**2.18**	**153**	*e*PN		**Pn**	**14 59 20.1**		**0.0**
ALN	**Alexandroupoli**	**2.30**	**35**	*e*Pn		**Pn**	**14 59 23.1**		**+1.4**
ALN	**Alexandroupoli**	**2.30**	**35**	*e*Pn		**Pn**	**14 59 23.1**		**+1.3**
RDO	**Rodhopi**	**2.32**	**24**	*e*PN		**Pn**	**14 59 21.7**		**-0.4**
NVR	**Nevrokopi**	**2.35**	**352**	*e*PN		**Pn**	**14 59 22.5**		**+0.1**
KNT	**Kendrikon**	**2.39**	**334**	*e*Pn		**Pn**	**14 59 23.6**		**+0.6**
GRG	**Griva**	**2.42**	**324**	*e*Pn		**Pn**	**14 59 24.1**		**+0.7**
GRG				*e*Sn		**Sn**	**14 59 52.3**		**-0.5**
GRG	**Griva**	**2.42**	**324**	*e*Pn		**Pn**	**14 59 24.1**		**+0.7**
GRG				*e*Sn		**Sn**	**14 59 52.3**		**-0.5**
VLI	**Veliai**	**2.54**	**206**	*e*PN		**Pn**	**14 59 25.4**		**+0.3**
MMB	**Musomiste**	**2.60**	**350**	*e*Pn		**Pn**	**14 59 25.6**		**-0.3**
IGT	**Igoumenitsa**	**3.12**	**281**	*e*Pn		**Pn**	**14 59 36.0**		**+3.0**

NEIC ***21*** *15:15:01.4, 1794N×9898W, h62km, MD3.6(MEX), After MEX.*

MEX 21 15:15:01.5±0.7, 1795N×9897W, h61km±12km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
MEIG	**Mezcala**	**0.62**	**268**	*i* P			Pn	15 15 13.5	-1.3
MEIG				*i* S			Sn	15 15 23.1	-1.4
PLIG	**Platanillo**	**0.67**	**311**	*e*P			Pn	15 15 14.1	-1.3
PLIG				*i* S			Sn	15 15 24.3	-1.4
UTMO	**Huajuapan**	**1.12**	**96**	*i* P			Pn	15 15 20.2	-0.9
UTMO				*i* S			Sn	15 15 34.0	-1.7
PPM	**Popocatepetl**	**1.16**	**16**	*e*P			Pn	15 15 20.0	-1.7
PPM				*e*P				15 15 20.7	
PPM				*i* S			Sn	15 15 35.3	-1.4
PPM				*i* S			Sn	15 15 36.0	-0.7
PPM	**Popocatepetl**	**1.16**	**16**	*e*P			Pn	15 15 20.7	-1.0
PPM				*i* S			Sn	15 15 35.3	-1.4
ACX	**Acapulco**	**1.40**	**220**	*i* P			Pn	15 15 23.5	-1.4
ACX				*i* S			Sn	15 15 38.5	-3.9
ACX	**Acapulco**	**1.40**	**220**	*i* P			Pn	15 15 23.5	-1.4
ACX				*i* S			Sn	15 15 36.0	-6.4
OXX	**Oaxaca**	**2.31**	**111**	*e*P			Pn	15 15 45.5	+8.3
TUIG	**Tuzandepetl**	**4.33**	**88**	*i* S			Sn	15 16 58.8	+4.8

ISCJB ***21*** *15:24:20.7±0.9, 4429N±005×7462E±009, h10km, Error ellipse: s-maj=9.6km s-min=5.6km az=55.9*
NNC ***21*** *15:24:21.6±2.0, 4420N×7480E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=16.1km s-min=12.1km az=58.0*
KNET ***21*** *15:24:21.9±0.5, 4412N×7455E, h11km±2km, ml2.0, Error ellipse: s-maj=3.0km s-min=2.1km az=171.0*

ISC 21 15:24:22.4±0.9, 4419N±004×7460E±008, h10km, n13, σ1§38/25, 14C-10D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
USP	**Ospenovka**	**0.92**	**185**	⇑P			**Pg**	**15 24 38.2**	**-2.0**
	12nm,0.2s,SNR=9.0								
USP				⇓S			**Sg**	**15 24 51.3**	**-0.9**
	11nm,0.1s								
CHMS	**Chumysh**	**1.19**	**175**	⇑P			**Pb**	**15 24 43.4**	**-1.7**
	3.3nm,0.1s,SNR=7.0								
CHMS				⇑S			**Sb**	**15 24 59.7**	**-0.9**
	6.6nm,0.1s								
TKM2	**Tokmak 2**	**1.46**	**150**	⇑P			**Pn**	**15 24 47.6**	**-1.2**
	19nm,0.2s,SNR=17								
TKM2				⇑S			**Sn**	**15 25 09.4**	**+1.5**
	17nm,0.1s								
TKM2	**Tokmak 2**	**1.46**	**150**	⇓P			**Pn**	**15 24 47.5**	**-1.3**
	0.6nm,0.5s								
TKM2				⇑S			**Sn**	**15 25 07.3**	**-0.6**
	0.3nm,0.3s								
KBK	**Karagaybulak**	**1.55**	**171**	⇓P			**Pn**	**15 24 50.2**	**+0.1**
	8.5nm,0.1s,SNR=8.0								
KBK				⇓S			**Sn**	**15 25 12.1**	**+1.9**
	26nm,0.2s								
AAK	**Ala-Archa**	**1.55**	**183**	⇓P			**Pn**	**15 24 50.1**	**0.0**
	7.6nm,0.2s								
AAK				⇓S			**Sn**	**15 25 11.4**	**+1.1**
	24nm,0.4s								
EKS2	**Erkin-Say**	**1.64**	**202**	⇓P			**Pn**	**15 24 51.0**	**-0.3**
	7.1nm,0.1s,SNR=11								
EKS2				⇑S			**Sn**	**15 25 13.6**	**+1.1**
	20nm,0.2s								
UCH	**Uchtor**	**1.96**	**182**	⇑P			**Pn**	**15 24 57.3**	**+1.6**
	3.2nm,0.1s,SNR=10								
UCH				⇑S			**Sn**	**15 25 23.5**	**+3.2**
	12nm,0.4s								
AML	**Almayashu**	**2.16**	**198**	⇑P			**Pn**	**15 25 00.1**	**+1.6**
	13nm,0.2s,SNR=22								
AML				⇑S			**Sg**	**15 25 29.7**	**-2.1**
	33nm,0.6s								
KZA	**Kyzart**	**2.16**	**167**	⇑P			**Pn**	**15 25 01.0**	**+2.6**
	4.5nm,0.3s,SNR=8.2								
KZA				⇓S			**Sg**	**15 25 30.7**	**-1.1**
	10nm,0.4s								
ULHL	**Ulahol**	**2.28**	**148**	⇑P			**Pn**	**15 25 02.0**	**+1.9**
	6.7nm,0.3s,SNR=18								
KK31	**Karatay Array**	**3.16**	**251**	Pn			**Pn**	**15 25 11.3**	**-0.9**
	1.1nm,0.3s,baz=70,slow=14,SNR=9.3								
KK31				⇓Sn			**Sg**	**15 25 57.2**	**-6.8**
	1.7nm,0.5s,baz=59,slow=28,SNR=7.8								
MK08	**Makanchi Array**	**5.98**	**62**	⇓Pn			**Pn**	**15 25 50.5**	**-0.5**
	0.5nm,0.3s,baz=244,slow=14								
MK08				⇑Sn			**Sn**	**15 26 58.7**	**-0.9**
	1.3nm,0.6s,baz=248,slow=24								

ISCJB ***21*** *15:29:25.2±0.4, 9445±007×1084E±0.1, h10km, mb4.4/27, MS3.9/8, Error ellipse: s-maj=15.9km s-min=7.7km az=128.1*
IDC ***21*** *15:29:25.3±0.7, 9345×10846E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.2/18, mbtmp4.2/11, ML3.5/1, MS3.7/5, Ms1 3.7/5, ms1mx3.2/19, Error ellipse: s-maj=34.5km s-min=14.8km az=56.0*
NEIC ***21*** *15:29:26.7±0.4, 9355×10845E, h10km, mb4.6/12, Error ellipse: s-maj=16.2km s-min=8.0km az=53.0*
BJI ***21*** *15:29:26.6, 9405×10840E, h10km, mB4.9, mb4.5, Ms4.6, Msz4.4*

ISC 21 15:29:27.1±3.0, 9485±007×1083E±01, h11km±18km, n37, σ1§17/40, mb4.4/27, MS3.9/8, 1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
BJI	**Banjamegara**	**2.53**	**33**	⇓*i*P			**Pn**	**15 30 12.6**	**+4.5**
BJI				*i* S			**Sn**	**15 30 47.7**	**+8.7**
MBWA	**Marble Bar**		**15.97**	**138**	*e*Pn		**Pn**	**15 33 05.7**	**-6.1**
MBWA					*e*Sn		Sn	15 35 44.0	-25
FITZ	**Fitzroy Crossi**		**18.85**	**119**	P		**Pn**	**15 33 46.6**	**-1.0**
	0.1nm,0.3s,baz=269,slow=6.5,SNR=8.5								
FITZ					Sn		**Sn**	**15 37 03.0**	**-15**
	0.1nm,0.3s,baz=8.2,slow=23,SNR=5.2								
NWAO	**Narrogin (SRO)**		**24.73**	**162**	LR		LR	15 43 13.7	
	comp=Z,178nm,21.4s,MS3.5,baz=28,slow=33								
WRA	**Warramunga Arr**		**27.17**	**115**	P		**P**	**15 35 10.1**	**-0.5**
	1.1nm,0.6s,mb3.6,baz=287,slow=11,SNR=8.7								
WRAB	**Tennant Creek**		**27.18**	**115**	*e*P		**P**	**15 35 10.0**	**-0.6**
	7.7nm,1.0s,mb4.2								
ASAR	**Alice Springs**		**28.20**	**123**	P		**P**	**15 35 19.6**	**-0.2**
	1.5nm,0.7s,mb3.7,baz=298,slow=7.9,SNR=10								
ASAR					PcP		PcP	15 38 33.9	+0.6
	0.6nm,0.4s,baz=304,slow=1.7,SNR=7.8								
ASAR					LR		LR	15 45 19.4	
	comp=Z,89nm,21.3s,MS3.3,baz=190,slow=34								
KMI	**Kunming**		**34.83**	**351**	P		**P**	**15 36 19.5**	**+1.5**
KMI					AMB		AMB		
	comp=Z,7.0nm,1.0s,mb4.5								
STKA	**Stephens Creek**		**38.02**	**131**	P		**P**	**15 36 45.5**	**+0.3**
	comp=Z,10nm,0.8s,mb4.6,baz=305,slow=9.5,SNR=17								
STKA					LR		LR	15 50 55.0	
	comp=Z,129nm,19.5s,MS3.7,baz=25,slow=34								
STKA	**Stephens Creek**		**38.02**	**131**	*e*P		**P**	**15 36 44.9**	**-0.4**
PMG	**Port Moresby**		**38.28**	**93**	P		**P**	**15 36 48.9**	**+1.4**
	comp=Z,15nm,0.9s,mb4.7								
CD2	**Chengdu**		**40.40**	**354**	*e*P		**P**	**15 37 04.6**	**-0.6**
CD2					PP		PP	15 38 41.6	+3.5
CD2					S		**S**	**15 43 12.3**	**-1.0**
CD2					AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.7								
CD2					LR		LR		
	comp=E,160nm,15.6s								
CD2					LR		LR		
	comp=Z,70nm,13.2s,MS3.7								
NJ2	**Nanjing**		**42.51**	**13**	*e*P		**P**	**15 37 24.5**	**+2.0**
NJ2					PP		PP	15 39 06.0	+5.1
NJ2					S		**S**	**15 43 47.0**	**+2.5**
NJ2					AMB		AMB		
	comp=Z,20nm,0.6s,mb5.0								
NJ2					AMB		AMB		
	comp=Z,70nm,4.9s								
NJ2					LR		LR		
	comp=N,200nm,11.6s,MS4.4								
NJ2					LR		LR		
	comp=E,250nm,14.6s,MS4.4								
NJ2					LR		LR		
	comp=Z,3µm,12.4s,MS5.3								
LZH	**Lanzhou**		**45.52**	**355**	*e*P		**P**	**15 37 47.1**	**+0.5**
LZH					PP		PP	15 39 34.5	+1.3
LZH					AMB		AMB		
	comp=Z,22nm,1.4s,mb4.9								
HHC	**Hu-ho-hao-te**		**50.17**	**3**	*e*P		**P**	**15 38 22.3**	**-0.4**
HHC					PCP		PcP	15 39 40.6	-1.3
HHC					PP		PP	15 40 20.0	+2.2
HHC					PCS		PcS	15 43 37.8	-1.2
HHC					S		**S**	**15 45 33.5**	**-0.9**
HHC					SCS		ScS	15 48 09.5	-4.5
HHC					AMB		AMB		
	comp=Z,24nm,0.4s,mb5.6								
HHC					AMB		AMB		
	comp=Z,125nm,4.6s								
HHC					LR		LR		
	comp=N,74nm,5.4s								
HHC					LR		LR		
	comp=E,87nm,5.7s								
HHC					LR		LR		
	comp=Z,105nm,7.1s								
WMQ	**Urumqi**		**56.27**	**342**	P		**P**	**15 39 09.1**	**+1.5**
WMQ					AP		pP	15 39 13.8	+2.8
WMQ					PP		PP	15 41 15.9	+3.0
WMQ					AMB		AMB		
	comp=Z,8.0nm,1.4s,mb4.6								
WMQ					AMB		AMB		
	comp=Z,76nm,5.4s								
WMQ					LR		LR		
	comp=N,174nm,18.0s,MS4.3								
WMQ					LR		LR		
	comp=E,130nm,16.9s,MS4.3								
WMQ					LR		LR		
	comp=Z,174nm,18.5s,MS4.2								
SONM	**Songino Array**		**57.09**	**358**	P		**P**	**15 39 12.7**	**-0.7**
	comp=Z,1.2nm,0.5s,mb4.2,baz=174,slow=7.5,SNR=10								
SONM					LR		LR	16 06 12.4	
	comp=Z,66nm,18.9s,MS3.8,baz=346,slow=39								
ULN	**Ulaanbaatar**		**57.10**	**359**	*e*P		**P**	**15 39 11.4**	**-2.1**
	comp=Z,0.8nm,0.6s,mb3.9								
ULN					*e*			15 39 23.2	
MDJ	**Mudanjiang**		**57.18**	**18**	P		**P**	**15 39 16.8**	**+2.8**
MDJ					PCP		PcP	15 40 09.8	+1.2
MDJ					PP		PP	15 41 24.3	+3.4
MDJ					S		**S**	**15 47 15.3**	**+5.9**
MDJ					AMB		AMB		
	comp=Z,2.0nm,0.7s,mb4.3								
MDJ					AMB		AMB		
	comp=Z,34nm,3.9s								
MKAR	**Makanchi Array**		**60.66**	**340**	P		**P**	**15 39 37.3**	**-0.9**
	comp=Z,1.0nm,0.5s,mb4.2,baz=148,slow=8.2,SNR=22								
KURK	**Kurchatov**		**65.27**	**340**	*e*P		**P**	**15 40 07.5**	**-1.4**
	comp=Z,9.9nm,1.3s,mb4.7								
MAW	**Mawson**		**65.40**	**197**	P		**P**	**15 40 10.4**	**+0.7**
	comp=Z,2.6nm,0.9s,mb4.2,baz=30,slow=9.3,SNR=4.3								
MAW	**Mawson**		**65.40**	**197**	P		**P**	**15 40 09.8**	**+0.1**
	comp=Z,5.2nm,1.1s,mb4.5								
ZAL	**Zalesovo**		**66.25**	**345**	P		**P**	**15 40 14.0**	**-1.2**
	comp=Z,1.2nm,0.3s,mb4.4,baz=86,slow=17,SNR=4.6								
ZAL	**Zalesovo**		**66.25**	**345**	P		**P**	**15 40 14.0**	**-1.2**
BVAR	**Borovoye Array**		**70.16**	**337**	P		**P**	**15 40 38.9**	**-0.8**
	comp=Z,1.6nm,0.8s,mb4.0,baz=150,slow=9.6,SNR=7.6								
CHKZ	**Chkalovo**		**70.57**	**337**	*e*P		**P**	**15 40 41.3**	**-0.9**
	comp=Z,2.3nm,0.6s,mb4.3								
CHKZ					*e*			15 40 50.5	
ZRNK	**Zerenda**		**70.65**	**336**	*e*P		**P**	**15 40 41.1**	**-1.6**
	comp=Z,2.1nm,0.8s,mb4.1								
ZRNK					*e*			15 40 51.0	
VNDA	**Vanda**		**73.30**	**169**	P		**P**	**15 40 58.9**	**+0.2**
	comp=Z,2.7nm,0.9s,mb4.2,baz=295,slow=6.4,SNR=11								
VNDA	**Vanda**		**73.30**	**169**	*e*P		**P**	**15 40 58.5**	**-0.2**
	comp=Z,4.6nm,1.1s,mb4.3								
SBA	**Scott Base**		**74.37**	**169**	*e*P		**P**	**15 41 05.6**	**+0.7**
	comp=Z,4.5nm,1.0s,mb4.3								
GNI	**Garni**		**76.63**	**315**	P		**P**	**15 41 20.3**	**+2.5**
	comp=Z,6.3nm,0.6s,mb4.7								
QSPA	**South Pole Qui**		**80.52**	**180**	*e*P		**P**	**15 41 39.4**	**+0.1**
	comp=Z,9.6nm,1.2s,mb4.6								
BRTR	**Keskin Array B**		**84.46**	**312**	P		**P**	**15 42 00.7**	**+0.9**
	comp=Z,2.0nm,1.0s,mb4.2,baz=145,slow=9.0,SNR=7.5								
SNAA	**Sanae**		**87.56**	**197**	P		**P**	**15 42 15.5**	**+0.3**
	comp=Z,7.8nm,1.5s,mb4.7								
ARCES	**ARCESS Array B**		**96.31**	**339**	LR		LR	16 29 59.5	
	comp=Z,37nm,19.3s,MS3.9,baz=116,slow=38								
WMOK	**Wichita Mounta**		**144.69**	**40**	*e*PKPdf		PKPdf	15 49 02.7	-1.2
WMOK					*e*			15 49 14.1	

IDC 21 15:34:03.9±4.6, 871S×10873E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=269.2km s-min=23.9km az=46.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
WRA	**Warramunga Arr**		**27.17**	**117**	P		P	15 39 47.8	-1.1
	1.2nm,0.9s,baz=285,slow=11,SNR=4.6								
ASAR	**Alice Springs**		**28.31**	**125**	P		P	15 40 01.1	+1.9
	0.6nm,0.8s,baz=293,slow=9.6,SNR=4.5								
MKAR	**Makanchi Array**		**60.07**	**339**	P		P	15 44 13.1	+0.3
	0.7nm,0.7s,baz=150,slow=7.2,SNR=6.7								
BVAR	**Borovoye Array**		**69.60**	**336**	P		P	15 45 14.6	-0.2
	0.3nm,0.4s,baz=167,slow=7.0,SNR=4.0								

ISCJB ***21*** *15:49:43.2±4.4, 5605±02×272W±03, h105km±38km, mb4.2/9, Error ellipse: s-maj=28.8km s-min=24.7km az=95.8*
NEIC ***21*** *15:49:45.3±4.4, 5604S×27.10W, h111km±38km, mb4.4/8, Error ellipse: s-maj=20.8km s-min=19.8km az=67.0*
IDC ***21*** *15:49:48.0±10.0, 5600S×27.36W, h134km±97km, mb3.9/6, mb1 4.0/6, mb1mx3.7/14, mbtmp4.2/6, MS2.5/1, Ms1 2.5/1, ms1mx2.5/17, Error ellipse: s-maj=39.2km s-min=22.5km az=65.0*

ISC 21 15:49:46.2±4.4, 561S±02×272W±03, h120km±38km, n18, σ0§43/15, mb4.2/9, 1C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
VNA1	**Neumayer--Stat**		**16.76**	**158**	⇓*i*		**Pn**	**15 53 33.9**	**+0.3**
VNA1					*e*			15 53 36.3	
VNA1					*e*			15 53 38.9	
VNA1					*e*			15 53 41.1	
SNAA	**Sanae**		**18.70**	**156**	LR		LR	15 59 22.7	
	comp=Z,18nm,21.6s,slow=30								
SNAA	**Sanae**		**18.70**	**156**	⇑*e*P		**P**	**15 53 54.3**	**-0.9**
	17nm,0.6s								
PMSA	**Palmer Station**		**19.89**	**229**	P		**P**	**15 54 08.0**	**0.0**
	28nm,1.0s								
QSPA	**South Pole Qui**		**34.17**	**180**	*e*P		**P**	**15 56 19.8**	**0.0**
MAW	**Mawson**		**40.11**	**144**	P		**P**	**15 57 10.6**	**+0.7**
	5.9nm,0.6s,mb4.6,baz=234,slow=9.1,SNR=15								
SBA	**Scott Base**		**46.05**	**184**	*e*P		**P**	**15 57 58.0**	**+0.3**
	4.7nm,1.1s,mb4.1								
VNDA	**Vanda**		**46.54**	**183**	P		**P**	**15 58 02.1**	**+0.5**
	1.9nm,0.6s,mb4.0,baz=196,slow=7.0,SNR=22								
VNDA	**Vanda**		**46.54**	**183**	*e*P		**P**	**15 58 01.6**	**+0.1**
	5.1nm,1.0s,mb4.2								
LPAZ	**La Paz**		**50.41**	**305**	P		**P**	**15 58 31.0**	**-0.3**
	0.8nm,0.7s,mb3.8,baz=170,slow=6.1,SNR=4.7								
LPAZ	**La Paz**		**50.41**	**305**	P		**P**	**15 58 25.6**	**-5.6**
	1.0nm,0.7s,mb3.9								
CASY	**Casey**		**53.87**	**160**	*e*P		**P**	**15 58 56.7**	**-0.1**
	3.5nm,0.8s,mb4.4								
TORD	**Torodi Ar. Bea**		**73.08**	**29**	P		**P**	**16 01 03.3**	**+0.2**
	0.5nm,0.5s,mb3.6,baz=208,slow=6.3,SNR=4.4								
NWAO	**Narrogin (SRO)**		**86.29**	**151**	P		**P**	**16 02 13.6**	**-0.8**
	12nm,0.9s,mb4.8								
STKA	**Stephens Creek**		**91.87**	**170**	P		**P**	**16 02 40.9**	**+0.2**
	1.6nm,0.7s,mb4.4,baz=219,slow=6.5,SNR=2.9								
ASPA	**Alice Springs**		**98.95**	**162**	*e*P		sP	16 03 55.6	-1.1
ASAR	**Alice Springs**		**98.95**	**162**	P		**P**	**16 03 13.0**	**0.0**
	0.6nm,0.6s,mb4.3,baz=186,slow=3.8,SNR=17								
SONM	**Songino Array**		**150.71**	**87**	PKPbc		PKPbc	16 09 23.5	-0.6
	1.6nm,0.7s,baz=232,slow=3.2,SNR=11								

MOS ***21*** *16:05:42.7±1.6, 5141N×16008E, h11km, mb4.4/1, Error ellipse: s-maj=35.2km s-min=15.7km az=104.9*

KRSC 21 16:05:42, 5141N×16008E, h11km, ML4.3, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
RUS	**Russkaya**		**1.41**	**317**	P		Pn	16 06 07.4	-0.2
RUS					S		Sn	16 06 25.3	-0.9
SPN	**Mys Shipunski**		**1.69**	**359**	P		Pn	16 06 13.8	+2.3
SPN					S		Sn	16 06 36.8	+3.7
NLC	**Nalytchevo**		**1.82**	**346**	P		Pn	16 06 15.1	+1.9
NLC					S		Sn	16 06 38.4	+2.1
PET	**Petropavlovsk**		**1.84**	**332**	P		Pn	16 06 14.3	+0.8
PET					S		Sn	16 06 37.3	+0.5
PET	**Petropavlovsk**		**1.84**	**332**	*i* PN		Pn	16 06 14.6	+1.1
PET					*i* S		Sn	16 06 36.9	+0.1
SKR	**Severo-Kuril's**		**2.60**	**255**	*e*PN		Pn	16 06 23.3	-0.7
SKR					*e*S		Sn	16 06 57.6	+1.9
SKR					pmax		pmax		
	comp=Z,70nm,0.3s								
SKR					smax				
	comp=E,200nm,0.4s								
SKR					smax				
	comp=N,140nm,0.5s								
SKR					smax				
	comp=Z,80nm,0.4s								

WEL 21 16:07:35.1±0.3, 3897S×17777E, h38km±1km, ML3.6/4, 3C, Error ellipse: s-maj=3.0km s-min=1.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
KNZ	**Kokohu**	**0.09**	**232**	⇑PN			Pn	16 07 41.5	+0.1
KNZ					SN		Sn	16 07 45.8	0.0
MWZ	**Matawai**	**0.66**	**343**	⇑PN			Pn	16 07 47.8	-0.1
MWZ					SN		Sn	16 07 56.9	-0.1
URZ	**Urewera**	**0.87**	**324**	⇑PN			Pn	16 07 50.4	-0.5
BKZ	**Black Stump Fm**	**1.01**	**258**	PN			Pn	16 07 52.6	-0.2
BKZ				SN			Sn	16 08 05.7	0.0
TAZ	**Tarawera**	**1.23**	**306**	PN			Pn	16 07 55.5	-0.2
PATZ	**Paeroa**	**1.32**	**296**	PN			Pn	16 07 58.4	+1.5
TSZ	**Takapari Road**	**1.77**	**231**	PN			Pn	16 08 03.0	-0.3
MRZ	**Mangatainoka R**	**2.39**	**224**	PN			Pn	16 08 10.3	-1.4
MRZ				SN			Sn	16 08 38.0	-1.8
KIW	**Kapiti Island**	**2.90**	**228**	PN			Pn	16 08 17.6	-1.1
NNZ	**Nelson**	**4.05**	**235**	PN			Pn	16 08 32.6	-1.9

CASC 21 16:13:18.6±1.2, 1467N×8965W, h5km±11km, MD3.5, 4C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
MTO2	**Montecristo 2**	**0.38**	**134**	⇑*e*P			x	16 13 40.5	
MT

SONM	**Songino Array**	**57.56 358**	P	P	17 02 25.5	+1.6
	0.9nm,0.6s,baz=176,slow=8.1,SNR=6.9					
SONM			pP		17 02 34.6	
	0.6nm,0.6s,baz=178,slow=7.9,SNR=4.8					
SONM			LR	LR	17 29 50.8	
	comp=Z,46nm,21.0s,baz=320,slow=39					
MKAR	**Makanchi Array**	**61.09 340**	P	P	17 02 46.6	-1.7
	0.2nm,0.3s,baz=151,slow=7.8,SNR=2.9					

*IDC **21** 16:57:36.5±1.6,271S×13882E,h0km,mb3.6/5,mb1 3.8/6, mb1mx3.8/10,mbtmp3.7/6,ML3.6/1,MS3.7/2,Ms1 3.7/2, ms1mx2.7/19,Error ellipse: s-maj=67.5km s-min=21.0km az=86.0*

*ISCJB **21** 16:57:42.1±4.2,28S±0.1×1384E±0.3,h49km±37km, mb4.1/8,MS3.7/2,Error ellipse: s-maj=45.3km s-min=18.7km az=172.8*

*NEIC **21** 16:57:45.0±2.9,282S×13844E,h61km±25km,mb4.2/6, Error ellipse: s-maj=34.6km s-min=13.9km az=86.0*

ISC 21 16:57:46.3±3.5,28S±01×1383E±03,h71km±30km,n17, σ0§65/16,mb4.0/8,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**11.42**	**210**	*e*P	**Pn**	**17 00 26.9**	**+0.5**
	5.7nm,0.4s						
WRAB	**Tennant Creek**	**17.43**	**193**	*e*P	**Pn**	**17 01 44.2**	**-0.5**
	13nm,0.9s						
WB2	**Warramunga Arr**	**17.44**	**193**	*e*P	**Pn**	**17 01 45.2**	**+0.4**
WRA	**Warramunga Arr**	**17.45**	**193**	P	**Pn**	**17 01 43.8**	**-1.0**
	0.2nm,0.3s,baz=17,slow=13,SNR=16						
FITZ	**Fitzroy Crossi**	**19.62**	**218**	P	**Pn**	**17 02 10.9**	**-0.1**
	2.7nm,1.0s,baz=47,slow=18,SNR=3.5						
AS31	**Alice Springs**	**21.15**	**191**	*e*P	**P**	**17 02 25.6**	**+0.2**
ASAR	**Alice Springs**	**21.15**	**191**	P	**P**	**17 02 26.0**	**+0.6**
	2.1nm,0.6s,mb3.7,baz=17,slow=12,SNR=19						
ASPA	**Alice Springs**	**21.15**	**191**	*e*P	**P**	**17 02 26.0**	**+0.6**
MBWA	**Marble Bar**	**25.69**	**223**	P	**P**	**17 03 08.4**	**-1.2**
	12nm,1.3s,mb4.2						
STKA	**Stephens Creek**	**29.05**	**174**	LR	LR	17 16 58.4	
	comp=Z,161nm,21.7s,baz=26,slow=40						
YSS	**Yuzh-Sakhalins**	**49.73**	**4**	P	**P**	**17 06 30.2**	**-1.0**
	16nm,1.1s,mb4.9						
SONM	**Songino Array**	**57.67**	**335**	P	**P**	**17 07 29.9**	**+0.6**
	0.4nm,0.6s,mb3.6,baz=157,slow=8.4,SNR=2.7						
MKAR	**Makanchi Array**	**69.66**	**323**	P	**P**	**17 08 48.8**	**+0.6**
	0.6nm,0.5s,mb3.7,baz=103,slow=8.3,SNR=3.3						
VNDA	**Vanda**	**75.69**	**175**	P	**P**	**17 09 23.9**	**0.0**
	0.6nm,0.8s,mb3.4,baz=327,slow=9.1,SNR=4.5						
VNDA				LR	LR	17 38 26.7	
	comp=Z,45nm,21.3s,baz=82,slow=32						
VNDA	**Vanda**	**75.69**	**175**	P	**P**	**17 09 23.9**	**0.0**
	0.6nm,0.7s,mb3.4						
VNDA				LR	LR	17 38 26.7	
ZRNK	**Zerenda**	**79.97**	**325**	P	**P**	**17 09 52.3**	**+4.6**
	4.0nm,1.3s,mb4.1						
QSPA	**South Pole Qui**	**87.11**	**180**	*e*P	**P**	**17 10 24.6**	**+0.3**
	1.5nm,0.6s,mb4.1						

*ISCJB **21** 17:00:59.0±1.3,417N±0.1×7246E±009,h10km,Error ellipse: s-maj=15.7km s-min=9.3km az=165.5*

*KNET **21** 17:00:59.7±0.5,4170N×7279E,h0km,ml3.1,Error ellipse: s-maj=4.7km s-min=2.6km az=145.0*

*NNC **21** 17:01:08.3±4.1,4220N×7275E,h22km±22km,mb3.8, mpv3.3,Error ellipse: s-maj=49.1km s-min=11.4km az=6.0*

ISC 21 17:01:03.0±1.2,419N±01×7267E±007,h10km,n15, σ1§54/21,12C-6D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**0.82**	**69**	P	**Pg**	**17 01 15.5**	**-3.3**
	69nm,0.2s,SNR=120						
AML				⇓S	**Sg**	**17 01 27.6**	**-1.8**
	130nm,0.2s						
EKS2	**Erkin-Say**	**1.16**	**45**	⇑P	**Pb**	**17 01 23.0**	**-2.1**
	18nm,0.2s,SNR=65						
EKS2				⇑S	**Sb**	**17 01 40.6**	**+0.4**
	32nm,0.2s						
UCH	**Uchtor**	**1.43**	**74**	⇑P	**Pn**	**17 01 26.0**	**-3.0**
	54nm,0.2s,SNR=149						
AAK	**Ala-Archa**	**1.57**	**59**	⇑P	**Pn**	**17 01 29.5**	**-1.4**
	88nm,0.3s,SNR=66						
KBK	**Karagaybulak**	**1.88**	**64**	⇓P	**Pn**	**17 01 34.9**	**-0.3**
	126nm,0.4s,SNR=104						
KBK				⇓S	**Sn**	**17 02 02.4**	**+3.6**
	157nm,0.3s						
CHMS	**Chumysh**	**1.93**	**53**	⇑P	**Pn**	**17 01 36.3**	**+0.5**
	44nm,0.2s,SNR=75						
CHMS				⇑S	**Sn**	**17 02 04.3**	**+4.3**
	166nm,0.7s						
KZA	**Kyzart**	**1.94**	**82**	⇑P	**Pn**	**17 01 34.5**	**-1.5**
	49nm,0.2s,SNR=147						
KZA				⇓S	**Sn**	**17 02 01.9**	**+1.5**
	171nm,0.5s						
USP	**Ospenovka**	**1.96**	**43**	⇑P	**Pn**	**17 01 37.4**	**+1.2**
	73nm,0.3s,SNR=79						
USP				⇑S	**Sn**	**17 02 05.8**	**+4.8**
	135nm,0.3s						
KK31	**Karatay Array**	**2.03**	**309**	Pn	**Pn**	**17 01 38.8**	**+1.6**
	8.9nm,0.3s,baz=218,slow=14,SNR=137						
KK31				Lg		17 02 09.1	
	26nm,0.4s,baz=233,slow=31,SNR=11						
TKM2	**Tokmak 2**	**2.42**	**63**	⇑Pn	**Pn**	**17 01 44.0**	**+1.4**
	177nm,0.5s,SNR=234						
TKM2	**Tokmak 2**	**2.42**	**63**	⇑Pn	**Pn**	**17 01 44.3**	**+1.6**
	8.9nm,0.5s						
TKM2				⇑Lg		17 02 18.8	
	6.4nm,0.6s						
ULHL	**Ulahol**	**2.69**	**80**	⇓P	**Pn**	**17 01 47.0**	**+0.7**
	19nm,0.2s,SNR=40						
MK09	**Makanchi Array**	**8.47**	**51**	⇓Pn	**Pn**	**17 03 06.5**	**+0.9**
	1.1nm,0.7s						
ZRNK	**Zerenda**	**11.38**	**349**	Sn	**Sn**	**17 05 48.9**	**-3.9**
AB31	**Akbulak array**	**11.58**	**314**	P	**Pn**	**17 03 47.2**	**-1.2**
	1.1nm,0.4s,baz=119,slow=13,SNR=27						

*NEIC **21** 17:26:54.9,1800N×6544W,h20km,MD2.8(RSPR),After RSPR.*

RSPR 21 17:26:54.9,1800N×6544W,h20km±1km,MD2.8/12, MD2.8/12,35C-4D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**0.14**	**310**	⇓*e*P	Pg	17 26 58.9	-0.5
MTP	**Monte Pirata**	**0.14**	**310**	*e*S	Sg	17 27 02.0	-0.3
MTP	**Monte Pirata**	**0.14**	**310**	⇑*e*P	Pg	17 26 58.9	-0.5
MTP	**Monte Pirata**	**0.14**	**310**	*e*S	Sg	17 27 02.1	-0.2
MTP	**Monte Pirata**	**0.14**	**310**	⇑*e*P	Pg	17 26 58.9	-0.5
MTP				*e*S	Sg	17 27 02.1	-0.2
CULB	**Culebra**	**0.33**	**19**	⇑*e*P	Pg	17 27 01.8	-0.3
CULB				*e*S	Sg	17 27 06.9	0.0
CULB	**Culebra**	**0.33**	**19**	⇓*e*P	Pg	17 27 01.5	-0.5
CULB	**Culebra**	**0.33**	**19**	*e*S	Sg	17 27 06.8	-0.1
HUMP	**Col San Antoni**	**0.41**	**290**	⇓*e*P	Pb	17 27 02.8	-0.8
HUMP	**Col San Antoni**	**0.41**	**290**	*e*S	Sg	17 27 08.9	-0.4
HUMP	**Col San Antoni**	**0.41**	**290**	⇑*e*P	Pb	17 27 02.9	-0.7
HUMP	**Col San Antoni**	**0.41**	**290**	*e*S	Sg	17 27 08.9	-0.5
HUMP	**Col San Antoni**	**0.41**	**290**	⇑*e*P	Pb	17 27 02.9	-0.7
HUMP				*e*S	Sg	17 27 08.9	-0.5
CPD	**Cerro la Pandu**	**0.45**	**275**	⇑*e*P	Pb	17 27 03.6	-0.6
CPD	**Cerro la Pandu**	**0.45**	**275**	*e*S	Sg	17 27 10.0	-0.6
CPD	**Cerro la Pandu**	**0.45**	**275**	*e*S	Sg	17 27 10.1	-0.4
CPD	**Cerro la Pandu**	**0.45**	**275**	⇑*e*P	Pb	17 27 03.6	-0.6
CPD	**Cerro la Pandu**	**0.45**	**275**	⇑*e*P	Pb	17 27 03.6	-0.6
CPD				*e*S	Sg	17 27 10.1	-0.4
CBYP	**Canovanas**	**0.48**	**304**	*e*S	Sb	17 27 10.4	-0.9
CBYP	**Canovanas**	**0.48**	**304**	⇑*e*P	Pb	17 27 03.9	-0.7
CBYP	**Canovanas**	**0.48**	**304**	*e*S	Pb	17 27 10.3	-0.9
CBYP	**Canovanas**	**0.48**	**304**	⇑*e*P	Pb	17 27 04.0	-0.6
CBYP	**Canovanas**	**0.48**	**304**	⇑*e*P	Pb	17 27 04.0	-0.6
CBYP				*e*S	Sb	17 27 10.3	-0.9
STVI	**Saint Thomas**	**0.57**	**52**	*e*S	Sb	17 27 12.6	-1.5
STVI	**Saint Thomas**	**0.57**	**52**	⇑*e*P	Pb	17 27 04.9	-1.4
STVI	**Saint Thomas**	**0.57**	**52**	*e*S	Sb	17 27 12.7	-1.3
STVI	**Saint Thomas**	**0.57**	**52**	⇑*e*P	Pb	17 27 05.0	-1.3
STVI	**Saint Thomas**	**0.57**	**52**	⇑*e*P	Pb	17 27 05.0	-1.3
STVI				*e*S	Sb	17 27 12.7	-1.3
SJG	**San Juan**	**0.68**	**279**	*e*S	Sb	17 27 16.1	-1.1
SJG	**San Juan**	**0.68**	**279**	⇑*e*P	Pb	17 27 07.0	-1.1
SJG	**San Juan**	**0.68**	**279**	*e*S	Sb	17 27 15.5	-1.7
SJG	**San Juan**	**0.68**	**279**	⇑*e*P	Pb	17 27 06.4	-1.8
				*e*S	Sb	17 27 15.5	-1.7
CDVI	**St. Croix**	**0.69**	**111**	*e*S	Sb	17 27 15.9	-1.4
CDVI	**St. Croix**	**0.69**	**111**	⇑*e*P	Pb	17 27 06.8	-1.4
CDVI	**St. Croix**	**0.69**	**111**	*e*S	Sb	17 27 15.9	-1.5
CDVI	**St. Croix**	**0.69**	**111**	⇑*e*P	Pb	17 27 06.7	-1.5
CDVI	**St. Croix**	**0.69**	**111**	⇑*e*P	Pb	17 27 06.7	-1.5
CDVI				*e*S	Sb	17 27 15.9	-1.5
ICM	**Isla Caja Muer**	**1.03**	**264**	⇑*e*P	Pb	17 27 13.7	-0.5
ICM	**Isla Caja Muer**	**1.03**	**264**	*e*S	Sb	17 27 28.3	+1.1
ICM	**Isla Caja Muer**	**1.03**	**264**	⇑*e*P	Pb	17 27 11.7	-2.5
ICM	**Isla Caja Muer**	**1.03**	**264**	*e*S	Sb	17 27 24.7	-2.5
ICM	**Isla Caja Muer**	**1.03**	**264**	⇑*e*P	Pb	17 27 11.7	-2.5
ICM				*e*S	Sb	17 27 24.7	-2.5
CELP	**Cerrillos**	**1.08**	**274**	⇓*e*P	Pn	17 27 14.0	-1.0
CELP				*e*S	Sb	17 27 27.8	-1.0
CELP	**Cerrillos**	**1.08**	**274**	⇑*e*P	Pn	17 27 12.5	-2.5
CELP				*e*S	Sb	17 27 25.4	-3.3
CELP	**Cerrillos**	**1.08**	**274**	⇑*e*P	Pn	17 27 12.5	-2.5
CELP				*e*S	Sb	17 27 25.4	-3.3
OBIP	**Obispado Ponce**	**1.11**	**272**	⇑*e*P	Pn	17 27 12.3	-3.0
AOPR	**Arecibo Observ**	**1.29**	**286**	⇑*e*P	Pn	17 27 17.5	-0.3
AOPR	**Arecibo Observ**	**1.29**	**286**	*e*S	Sn	17 27 34.9	+0.4
AOPR	**Arecibo Observ**	**1.29**	**286**	⇑*e*P	Pn	17 27 15.4	-2.4
AOPR	**Arecibo Observ**	**1.29**	**286**	*e*S	Sn	17 27 31.1	-3.4
AOPR	**Arecibo Observ**	**1.29**	**286**	⇑*e*P	Pn	17 27 15.4	-2.4
AOPR				*e*S	Sn	17 27 31.1	-3.4
LRS	**Lares**	**1.37**	**282**	⇑*e*P	Pn	17 27 18.6	-0.2
LRS				*e*S	Sn	17 27 36.0	-0.4
LRS	**Lares**	**1.37**	**282**	⇑*e*P	Pn	17 27 16.6	-2.3
LRS	**Lares**	**1.37**	**282**	⇑*e*P	Pn	17 27 16.6	-2.3
LSP	**Las Mesas**	**1.57**	**277**	⇑*e*P	Pn	17 27 22.7	+1.0
LSP	**Las Mesas**	**1.57**	**277**	⇓*e*P	Pn	17 27 22.4	+0.7
LSP	**Las Mesas**	**1.57**	**277**	*e*S	Sn	17 27 38.0	-3.6
LSP	**Las Mesas**	**1.57**	**277**	⇓*e*P	Pn	17 27 22.4	+0.7
LSP				*e*S	Sn	17 27 38.0	-3.6
CRPR	**Cabo Rojo, PR**	**1.59**	**270**	*e*S	Sn	17 27 38.0	-3.9
CRPR	**Cabo Rojo, PR**	**1.59**	**270**	⇑*e*P	Pn	17 27 19.0	-2.9
CRPR				*e*S	Sn	17 27 38.0	-3.9

IDC 21 17:34:01.7±1.8,681S×12946E,h0km,mb3.8/2,mb1 4.1/5, mb1mx3.8/14,mbtmp3.9/5,ML3.9/3,Error ellipse: s-maj=70.0km s-min=25.8km az=71.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.83**	**198**	Pn	Pn	17 36 51.9	+0.3
	0.4nm,0.3s,baz=22,slow=13,SNR=22						
FITZ				Sn	Sn	17 38 50.8	-13
	0.6nm,0.3s,baz=93,slow=18,SNR=6.2						
WRA	**Warramunga Arr**	**13.89**	**161**	Pn	Pn	17 37 18.9	-0.8
	0.6nm,0.3s,baz=340,slow=14,SNR=43						
WRA				Sn	Sn	17 39 40.2	-14
	1.0nm,0.3s,baz=339,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.30**	**166**	P	Pn	17 38 03.9	-0.6
	0.5nm,0.3s,baz=342,slow=9.6,SNR=78						
ASAR				S	Sn	17 41 03.4	-14
	0.2nm,0.3s,baz=343,slow=26,SNR=5.0						
STKA	**Stephens Creek**	**27.39**	**157**	P	P	17 39 49.7	+0.9
	1.3nm,0.6s,baz=331,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**67.78**	**327**	P	P	17 45 01.3	+0.1
	0.2nm,0.3s,baz=110,slow=8.0,SNR=5.0						

*ISCJB **21** 17:47:15.8±0.8,12N±0.1×969E±0.1,h24km,mb4.0/10, Error ellipse: s-maj=17.2km s-min=14.2km az=138.2*

*NEIC **21** 17:47:17.6±0.7,1.18N×9688E,mb4.3/5,Error ellipse: s-maj=15.0km s-min=12.5km az=69.0*

*IDC **21** 17:47:18.1±1.5,1.13N×9691E,h23km±5km,mb3.7/5, mb1 3.8/6,mb1mx3.5/20,mbtmp3.8/6,ML3.2/1,Error ellipse: s-maj=48.7km s-min=16.8km az=59.0*

ISC 21 17:47:18.3±0.8,12N±01×969E±01,h25km, h25km±.8km:pP-P,n13,σ0§67/13,mb4.0/10,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.54**	**52**	Pn	**Pn**	**17 47 58.5**	**+0.6**
	4.6nm,0.3s,baz=200,slow=6.5,SNR=17						
KULM	**Kulim**	**5.49**	**43**	*e*Pn	**Pn**	**17 48 37.0**	**-1.3**
WRA	**Warramunga Arr**	**42.29**	**122**	P	**P**	**17 55 09.6**	**-0.1**
	0.8nm,0.7s,mb3.5,baz=300,slow=9.1,SNR=8.7						
WRA				pP	pP	17 55 16.8	-0.7
	0.5nm,0.5s,baz=309,slow=8.9,SNR=3.1						
WRAB	**Tennant Creek**	**42.29**	**122**	P	**P**	**17 55 10.0**	**+0.3**
	4.1nm,0.9s,mb4.1						
ASAR	**Alice Springs**	**43.64**	**127**	P	**P**	**17 55 21.0**	**+0.4**
	0.4nm,0.8s,mb3.2,baz=303,slow=8.1,SNR=4.2						
ASAR				pP	pP	17 55 27.9	-0.4
	0.5nm,0.7s,baz=299,slow=7.5,SNR=3.5						
SONM	**Songino Array**	**47.14**	**9**	P	**P**	**17 55 49.3**	**+0.9**
	1.9nm,0.8s,mb4.1,baz=189,slow=9.1,SNR=15						
SONM				pP	pP	17 55 56.4	+0.2
	1.0nm,0.8s,baz=184,slow=7.8,SNR=6.3						
MKAR	**Makanchi Array**	**47.14**	**346**	P	**P**	**17 55 49.0**	**+0.6**
	1.4nm,0.8s,mb4.0,baz=161,slow=9.0,SNR=8.3						
MKAR				pP	pP	17 55 56.8	+0.6
	0.9nm,0.6s,baz=162,slow=10.0,SNR=5.0						
MKAR	**Makanchi Array**	**47.14**	**346**	P	**P**	**17 55 49.0**	**+0.6**
MKAR				pP	pP	17 55 56.8	+0.6
ULN	**Ulaanbaatar**	**47.27**	**9**	*e*P	**P**	**17 55 49.0**	**-0.4**
	1.4nm,0.7s,mb4.0						
KURK	**Kurchatov**	**51.69**	**345**	P	**P**	**17 56 23.1**	**0.0**
	2.1nm,0.9s,mb4.1						
ZAL	**Zalesovo**	**53.47**	**351**	P	**P**	**17 56 37.0**	**+0.7**
	1.7nm,0.6s,mb4.2,baz=308,slow=4.4,SNR=6.6						
YAK	**Yakutsk**	**65.47**	**16**	*e*P	**P**	**17 57 58.4**	**-0.7**
	8.0nm,0.9s,mb4.8						
TSUM	**Tsumeb**	**80.34**	**250**	*e*P	**P**	**17 59 26.4**	**-0.9**
	5.6nm,1.0s,mb4.5						

*IDC **21** 18:07:43.5±2.0,3267S×17867W,h0km,mb4.1/4, mb1 4.3/5,mb1mx4.0/15,mbtmp4.1/5,ML3.6/1,Error ellipse: s-maj=53.5km s-min=35.3km az=146.0*

*NEIC **21** 18:07:43.9±1.0,3274S×17851W,h10km,mb4.2/1,Error ellipse: s-maj=26.3km s-min=18.6km az=128.0*

*ISCJB **21** 18:07:47.6±2.9,332S±0.1×1783W±0.3,h74km±24km, mb4.1/5,Error ellipse: s-maj=47.6km s-min=18.8km az=35.6*

ISC 21 18:07:48.6±2.7,332S±01×1782W±03,h68km±21km,n17, σ0§65/17,mb4.1/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWZ	**Matawai**	**6.21**	**213**	PN	**Pn**	**18 09 17.5**	**-0.1**
MWZ				SN	**Sn**	**18 10 28.0**	**+0.8**
URZ	**Urewera**	**6.35**	**216**	Pn	**Pn**	**18 09 20.7**	**+1.1**
	1.2nm,0.3s,baz=84,slow=13,SNR=15						
URZ				Sn	**Sn**	**18 10 30.7**	**0.0**
	0.7nm,0.3s,baz=150,slow=16,SNR=3.8						
URZ	**Urewera**	**6.35**	**216**	PN	**Pn**	**18 09 20.7**	**+1.1**
URZ				SN	**Sn**	**18 10 29.7**	**-1.0**
OUZ	**Omahuta**	**7.11**	**251**	PN	**Pn**	**18 09 29.6**	**-0.2**
BKZ	**Black Stump Fm**	**7.36**	**214**	PN	**Pn**	**18 09 34.0**	**+0.6**
BKZ				SN	**Sn**	**18 10 55.2**	**-0.2**
MRZ	**Mangatainoka R**	**8.98**	**212**	PN	**Pn**	**18 09 53.8**	**-1.7**
MRZ				SN	**Sn**	**18 11 30.0**	**-5.1**
CTA	**Charters Tower**	**34.19**	**283**	P	**P**	**18 14 27.9**	**+0.6**
	7.1nm,1.0s,mb4.5,baz=104,slow=12						
ASAR	**Alice Springs**	**42.88**	**270**	P	**P**	**18 15 40.2**	**+0.1**
	1.4nm,0.7s,mb3.8,baz=108,slow=7.5,SNR=21						
WB2	**Warramunga Arr**	**44.10**	**275**	*e*P	**P**	**18 15 50.0**	**0.0**
WRAB	**Tennant Creek**	**44.11**	**275**	*e*P	**P**	**18 15 49.9**	**-0.1**
	2.1nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**44.11**	**275**	P	**P**	**18 15 49.8**	**-0.3**
	1.6nm,0.6s,mb3.9,baz=113,slow=7.9,SNR=30						
FITZ	**Fitzroy Crossi**	**52.25**	**272**	P	**P**	**18 16 52.7**	**-0.1**
	2.4nm,1.1s,mb4.2,baz=142,slow=12,SNR=4.0						
JOF	**Joensuu**	**144.92**	**337**	*e*pkp	PKPdf	18 27 17.6	-0.2
KAF	**Kangasniemi**	**147.09**	**339**	*e*pkp	PKPdf	18 27 24.2	+2.7
FINES	**FINESS Array B**	**147.68**	**338**	PKPbc	PKPbc	18 27 27.0	+1.7
	1.7nm,0.4s,baz=49,slow=4.3,SNR=40						
NB2	**NORSAR Subarra151.46**	**350**	PKP	PKPbc		18 27 36.1	+1.4
	comp=Z,0.7nm,0.6s,baz=16,slow=2.5						
NOA	**NORSAR Array B 151.46**	**350**	PKPbc	PKPbc		18 27 37.1	+2.4
	comp=Z,0.9nm,0.9s,baz=12,slow=4.5,SNR=5.8						

*IDC **21** 18:29:33.3±1.0,3278S×17857W,h0km,mb4.5/4, mb1 4.7/5,mb1mx4.2/15,mbtmp4.5/5,ML4.2/1,MS3.8/2, Ms1 3.8/2,ms1mx3.1/19,Error ellipse: s-maj=37.9km s-min=28.5km az=169.0*

*NEIC **21** 18:29:34.6±0.5,3279S×17856W,h10km,mb4.7/6,Error ellipse: s-maj=16.2km s-min=13.4km az=145.0*

*ISCJB **21** 18:29:45.0±2.0,3329S±0.008×1795W±0.2,h63km±18km, mb4.5/8,Error ellipse: s-maj=24.7km s-min=12.5km az=30.9*

ISC 21 18:29:45.0±2.0,3320S±009×1793W±02,h53km±17km,n43, σ0§86/33,mb4.5/8,MS3.8/2,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWZ	**Matawai**	**5.73**	**206**	PN	**Pn**	**18 31 08.4**	**+0.9**
MWZ				SN	**Sn**	**18 32 19.6**	**+7.6**
URZ	**Urewera**	**5.83**	**209**	Pn	**Pn**	**18 31 09.8**	**+1.0**
	5.0nm,0.3s,baz=358,slow=22,SNR=29						
URZ				Sn	**Sn**	**18 32 22.1**	**+7.8**
	4.1nm,0.3s,baz=195,slow=20,SNR=4.8						
URZ	**Urewera**	**5.83**	**209**	PN	**Pn**	**18 31 09.8**	**+1.0**
URZ				SN	**Sn**	**18 32 21.1**	**+6.8**
OUZ	**Omahuta**	**6.22**	**249**	PN	**Pn**	**18 31 19.9**	**+5.7**
BKZ	**Black Stump Fm**	**6.85**	**209**	PN	**Pn**	**18 31 24.0**	**+1.1**
BKZ				SN	**Sn**	**18 32 44.8**	**+5.3**
MRZ	**Mangatainoka R**	**8.50**	**207**	PN	**Pn**	**18 31 43.3**	**-2.1**
MRZ				SN	**Sn**	**18 33 20.2**	**+0.4**
KIW	**Kapiti Island**	**8.93**	**210**	SN	**Sn**	**18 33 31.8**	**+1.3**
TCW	**Tory Channel**	**9.49**	**211**	SN	**Sn**	**18 33 43.3**	**-0.6**
TUWZ	**Tuamarina**	**9.81**	**211**	SN	**Sn**	**18 33 52.4**	**+0.3**
THZ	**Tophouse**	**10.55**	**214**	PN	**Pn**	**18 32 12.8**	**-0.6**
THZ				SN	**Sn**	**18 34 09.0**	**-1.0**
LTZ	**Lake Taylor**	**11.64**	**212**	SN	**Sn**	**18 34 31.7**	**-5.1**
MQZ	**McQueen's Vall**	**12.23**	**209**	SN	**Sn**	**18 34 44.9**	**-6.3**
RPZ	**Rata Peaks**	**12.92**	**213**	Pn	**Pn**	**18 32 44.4**	**-1.4**
	0.4nm,0.3s,baz=23,slow=2.8,SNR=3.2						
RPZ				Sn	**Sn**	**18 35 02.5**	**-5.5**
	0.4nm,0.3s,baz=345,slow=20,SNR=4.3						
STKA	**Stephens Creek**	**32.86**	**261**	LR	LR	18 46 51.1	
	comp=Z,178nm,20.0s,MS3.8,baz=24,slow=31						
CTA	**Charters Tower**	**33.28**	**284**	*e*P	**P**	**18 36 19.2**	**+1.8**
	7.8nm,1.4s,mb4.5						
CTA	**Charters Tower**	**33.28**	**284**	P	**P**	**18 36 18.6**	**+1.2**
	6.8nm,0.7s,mb4.7,baz=155,slow=1.8,SNR=10						
CTAO	**Charters Tower**	**33.28**	**284**	*e*P	**P**	**18 36 17.7**	**+0.3**
	6.7nm,0.6s,mb4.8						
AS31	**Alice Springs**	**41.94**	**271**	*e*P	**P**	**18 37 31.0**	**+0.5**
ASAR	**Alice Springs**	**41.94**	**271**	P	**P**	**18 37 30.8**	**+0.3**
	6.7nm,0.8s,mb4.3,baz=106,slow=7.4,SNR=70						
ASPA	**Alice Springs**	**41.94**	**271**	*e*P	**P**	**18 37 31.0**	**+0.5**
WB2	**Warramunga Arr**	**43.17**	**276**	*e*P	**P**	**18 37 40.2**	**-0.3**
WRAB	**Tennant Creek**	**43.18**	**276**	*e*P	**P**	**18 37 39.7**	**-0.9**
	6.5nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**43.19**	**276**	P	**P**	**18 37 40.4**	**-0.2**
	4.4nm,0.4s,mb4.5,baz=113,slow=7.9,SNR=114						
FORT	**Forrest**	**44.32**	**258**	*e*P	**P**	**18 37 49.9**	**+0.2**
	11nm,0.8s,mb4.6						
SBA	**Scott Base**	**45.17**	**184**	P	**P**	**18 37 57.0**	**+0.6**
	2.9nm,1.2s,mb4.0						
FITZ	**Fitzroy Crossi**	**51.31**	**273**	P	**P**	**18 38 43.2**	**-0.7**
	2.4nm,0.8s,mb4.2,baz=240,slow=17,SNR=7.3						
FITZ				LR	LR	18 59 37.7	
	comp=Z,110nm,21.8s,MS3.8,baz=270,slow=35						
QSPA	**South Pole Qui**	**56.91**	**180**	*e*P	**P**	**18 39 24.0**	**-0.6**
	12nm,1.2s,mb4.8						
MKAR	**Makanchi Array**	**118.70**	**309**	PKP	PKPdf	18 48 22.4	-4.7
	0.5nm,0.6s,baz=265,slow=0.8,SNR=6.5						
MKAR	**Makanchi Array**	**118.70**	**309**	PKP	PKPdf	18 48 22.4	-4.7
KURK	**Kurchatov**	**122.16**	**313**	*e*PKPdf	PKPdf	18 48 29.3	-4.5
BVAR	**Borovoye Array**	**127.60**	**314**	PKP	PKPdf	18 48 39.8	-4.4
	1.3nm,0.6s,baz=156,slow=1.8,SN

KIW				SN	**S**	**19 21 44.4**	**-0.9**	
MRW	**Makara Radio**	**11.79**	**201**	SN	**S**	**19 21 53.2**	**-1.0**	
TCW	**Tory Channel**	**11.91**	**202**	SN	**S**	**19 21 56.7**	**-0.2**	
TUWZ	**Tuamarina**	**12.21**	**203**	PN	**Pn**	**19 19 47.2**	**-0.8**	
TUWZ				SN	**S**	**19 22 02.2**	**-1.5**	
NNZ	**Nelson**	**12.23**	**205**	PN	**Pn**	**19 19 47.1**	**-1.1**	
NNZ				SN	**S**	**19 22 04.6**	**+0.6**	
QRZ	**Quartz Range**	**12.23**	**209**	*e*PN	**Pn**	**19 19 49.1**	**+0.8**	
THZ	**Tophouse**	**12.88**	**206**	PN	**Pn**	**19 19 55.5**	**-0.5**	
LTZ	**Lake Taylor**	**13.99**	**205**	SN	**S**	**19 22 42.5**	**+1.1**	
MQZ	**McQueen's Vall**	**14.68**	**202**	SN	**S**	**19 22 56.4**	**+1.2**	
DZM	**Mont Dzumac**	**14.88**	**300**	P	**P**	**19 20 19.4**	**+1.5**	
	0.7nm,0.3s,baz=123,slow=17,SNR=5.6							
AS31	**Alice Springs**	**41.62**	**268**	*e*P	**P**	**19 24 20.7**	**0.0**	
ASAR	**Alice Springs**	**41.62**	**268**	P	**P**	**19 24 20.6**	**-0.1**	
	0.5nm,0.5s,mb2.9,baz=104,slow=6.8,SNR=16							
ASAR				PcP	PcP	19 26 09.0	-1.8	
	0.2nm,0.4s,baz=112,slow=4.0,SNR=4.6							
ASPA	**Alice Springs**	**41.63**	**268**	*e*P	**P**	**19 24 20.7**	**0.0**	
WB2	**Warramunga Arr**	**42.59**	**273**	*e*P	**P**	**19 24 28.0**	**-0.5**	
WRAB	**Tennant Creek**	**42.60**	**273**	*e*P	**P**	**19 24 27.5**	**-1.0**	
	5.1nm,0.7s,mb3.8							
WRA	**Warramunga Arr**	**42.60**	**273**	P	**P**	**19 24 27.9**	**-0.6**	
	2.2nm,0.4s,mb3.6,baz=110,slow=7.7,SNR=53							
FITZ	**Fitzroy Crossi**	**50.87**	**271**	P	**P**	**19 25 32.6**	**+0.6**	
	0.9nm,0.7s,mb3.1,baz=90,slow=19,SNR=2.7							
FINES	**FINESS Array B**	**144.54**	**339**	PKP	PKPdf	19 35 55.0	-6.4	
	1.2nm,0.3s,baz=55,slow=4.2,SNR=48							
NB2	**NORSAR Subarra**	**148.43**	**350**	PKP	PKPdf	19 36 06.2	-1.7	
	comp=Z,0.3nm,0.5s,baz=12,slow=2.9							
NOA	**NORSAR Array B**	**148.43**	**350**	PKPbc	PKPbc	19 36 06.2	-5.7	
	comp=Z,0.3nm,0.5s,baz=16,slow=4.2,SNR=3.8							
NOA	**NORSAR Array B**	**148.43**	**350**	PKPbc	PKPbc	19 36 06.2	-5.7	
HFS	**Hagfors**	**148.85**	**347**	PKPbc	PKPbc	19 36 06.8	-6.2	
	comp=Z,0.4nm,0.3s,baz=33,slow=3.4,SNR=7.2							

FUNV 21 19:38:20.9, 855N×7087W, h5km, MW3.6, 1C-1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.27**	**177**	⇑*iP*	Pg	19 38 25.3	-0.7
SOCV				*e*S	Sg	19 38 30.2	+0.7
VIGV	**El Vigia**	**0.57**	**301**	⇓*iP*	Pg	19 38 31.2	-0.6
VIGV				*e*S	Sg	19 38 39.3	+0.1
CAPV	**Capacho**	**1.58**	**245**	*e*P	Pn	19 38 50.5	+0.9
CAPV				*e*S	Sn	19 39 11.4	+1.0
SANV	**Sanarito**	**1.62**	**54**	*e*P	Pn	19 38 49.1	-1.0
SANV				*e*S	Sn	19 39 11.2	-0.2
QARV	**Quebrada Arrib**	**1.68**	**12**	*e*P	Pn	19 38 50.5	-0.4
QARV				*e*S	Sn	19 39 13.0	+0.1
CURV	**Curarigua**	**1.71**	**32**	*e*P	Pn	19 38 49.9	-1.4
CURV				*e*S	Sn	19 39 13.5	0.0
ELOV	**Elorza**	**2.06**	**138**	*e*P	Pn	19 38 54.9	-1.3
ELOV				*e*S	Sn	19 39 21.8	-0.5
TEPV	**Terepaima**	**2.17**	**50**	*e*P	Pn	19 38 57.3	-0.4
TEPV				*e*S	Sn	19 39 23.7	-1.3
SIQV	**Siquisique**	**2.33**	**27**	*e*P	Pn	19 38 59.9	-0.1
SIQV				*e*S	Sn	19 39 27.9	-1.1
DABV	**Dabajuro**	**2.37**	**6**	*e*P	Pn	19 38 59.9	-0.5
DABV				*e*S	Sn	19 39 28.6	-1.2
VIRV	**Villa del Rosa**	**2.46**	**322**	*e*P	Pn	19 39 00.7	-1.0
JACV	**Jacura**	**3.23**	**38**	*e*S	Sn	19 39 48.6	-2.3
MONV	**Montecano**	**3.50**	**15**	*e*P	Pn	19 39 15.0	-1.0
MONV				*e*S	Sn	19 39 55.3	-2.4
TURV	**Turiamo**	**3.54**	**57**	*e*P	Pn	19 39 15.2	-1.2
TURV				*e*S	Sn	19 39 55.7	-2.9
IMOV	**Isla Los Monje**	**3.79**	**360**	*e*P	Pn	19 39 18.6	-1.2
CAOV	**Caicara del Or**	**4.67**	**105**	*e*S	Sn	19 40 22.1	-4.5

IDC 21 19:38:25.6±2.1, 2954S×17817W, h192km±8km, mb3.3/3, mb1 3.5/3, mb1mx3.3/12, mbtmp3.8/3, Error ellipse: s-maj=111.1km s-min=31.8km az=167.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.36**	**38**	P	Pn	19 38 52.3	+1.1
	1μm,0.3s,baz=116,slow=23,SNR=60						
RAO				S	Sn	19 39 12.1	+1.0
	459nm,0.3s,baz=106,slow=22,SNR=18						
CTA	**Charters Tower**	**33.52**	**278**	P	P	19 44 48.1	+1.2
	6.6nm,1.0s,baz=101,slow=15,SNR=3.1						
ASAR	**Alice Springs**	**43.01**	**266**	P	P	19 46 06.3	+0.3
	0.4nm,0.8s,baz=105,slow=7.5,SNR=8.4						
WRA	**Warramunga Arr**	**43.92**	**271**	P	P	19 46 12.8	-0.5
	0.4nm,0.3s,baz=111,slow=8.9,SNR=19						
FINES	**FINESS Array B**	**144.29**	**340**	PKP	PKPdf	19 57 35.8	-2.8
	0.7nm,0.5s,baz=55,slow=4.1,SNR=10						
NB2	**NORSAR Subarra**	**147.88**	**351**	PKP	PKPdf	19 57 46.4	+1.8
	comp=Z,0.6nm,0.6s,baz=13,slow=2.8						
NOA	**NORSAR Array B**	**147.88**	**351**	PKPbc	PKPbc	19 57 46.8	-1.1
	comp=Z,1.0nm,0.8s,baz=14,slow=4.2,SNR=5.3						

*ISCJB **21** 19:42:32.8±0.9, 559S×005×15089E±0.06, h13km±6km, mb4.4/12, MS3.9/13, Error ellipse: s-maj=11.9km s-min=6.9km az=67.8*

*IDC **21** 19:42:32.7±1.2, 555S×15088E, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.3/13, mbtmp4.2/8, ML3.3/1, MS3.9/14, Ms1 3.8/14, ms1mx3.8/21, Error ellipse: s-maj=33.8km s-min=16.6km az=118.0*

*NEIC **21** 19:42:33.6±0.7, 558S×15085E, h7km±5km, mb4.7/6, Error ellipse: s-maj=14.9km s-min=6.5km az=138.0*

*BJI **21** 19:42:33.6, 560S×15080E, h7km, mB5.2, mb4.5, Ms4.5, Msz4.1*

ISC 21 19:42:33.4±1.4, 562S±007×15093E±007, h5km±8km, n36, σ0°84/30, mb4.4/12, MS3.9/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGKAI	**Kaiamu**	**0.16**	**355**	*i* P	**Pg**	**19 42 36.1**	**-0.4**
PGKAI				*e*S	**Sg**	**19 42 38.6**	**0.0**
PGMAR	**Marapu**	**0.16**	**284**	*i* P	**Pg**	**19 42 36.6**	**-0.1**
PGMAR				*e*S	**Sg**	**19 42 39.4**	**+0.6**
PGBAU	**Baubata**	**0.27**	**23**	*i* P	**Pg**	**19 42 38.6**	**-0.1**
PGBAU				*e*S	**Sg**	**19 42 42.5**	**+0.1**
PMG	**Port Moresby**	**5.30**	**225**	Pn	**Pn**	**19 43 55.2**	**+2.0**
	6.0nm,0.3s,baz=47,slow=7.2,SNR=18						
PMG				Sn	**Sn**	**19 44 59.5**	**+4.8**
	7.4nm,0.3s,baz=356,slow=19,SNR=4.6						
PMG				LR	LR	19 46 14.2	
	comp=Z,1μm,18.5s,baz=51,slow=42						
PMG	**Port Moresby**	**5.30**	**225**	*e*P	**Pn**	**19 43 55.8**	**+2.6**
	71nm,0.6s						
HNR	**Honiara**	**9.71**	**113**	LR	LR	19 48 06.6	
	comp=Z,405nm,19.2s,baz=358,slow=34						
KAKA	**Kakadu**	**19.55**	**248**	*e*P	**Pn**	**19 47 00.7**	**-2.5**
	33nm,1.5s						
WRAB	**Tennant Creek**	**21.50**	**227**	*e*P	**P**	**19 47 21.7**	**-1.3**
	68nm,1.4s,mb4.8						
WB2	**Warramunga Arr**	**21.50**	**227**	*e*P	**P**	**19 47 23.2**	**+0.1**
WRA	**Warramunga Arr**	**21.51**	**227**	P	**P**	**19 47 22.9**	**-0.3**
	10nm,1.0s,mb4.2,baz=51,slow=10,SNR=36						
WRA				S	**S**	**19 51 25.6**	**+3.6**
	1.1nm,1.1s,baz=48,slow=20,SNR=6.6						
WRA				LR	LR	19 55 51.3	
	comp=Z,131nm,21.4s,MS3.3,baz=50,slow=37						
DZM	**Mont Dzumac**	**22.20**	**139**	LR	LR	19 55 16.5	
	comp=Z,454nm,18.4s,MS3.9,baz=358,slow=34						
AS31	**Alice Springs**	**24.30**	**221**	*e*P	**P**	**19 47 52.2**	**+0.5**
ASAR	**Alice Springs**	**24.30**	**221**	P	**P**	**19 47 51.8**	**+0.1**
	6.8nm,0.9s,mb4.1,baz=52,slow=8.5,SNR=31						
ASPA	**Alice Springs**	**24.30**	**221**	*e*P	**P**	**19 47 52.2**	**+0.5**
STKA	**Stephens Creek**	**27.54**	**197**	*e*P	**P**	**19 48 21.7**	**+0.7**
	3.9nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**27.54**	**197**	P	**P**	**19 48 21.1**	**+0.1**
	6.0nm,1.1s,mb4.2,baz=328,slow=6.2,SNR=4.9						
STKA				LR	LR	19 59 27.0	
	comp=Z,266nm,18.7s,MS3.8,baz=24,slow=37						
FITZ	**Fitzroy Crossi**	**27.63**	**241**	*e*P	**P**	**19 48 20.9**	**-1.0**
	22nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**27.63**	**241**	P	**P**	**19 48 20.6**	**-1.2**
	12nm,0.7s,mb4.6,baz=75,slow=9.3,SNR=25						
FITZ				LR	LR	20 01 37.5	
	comp=Z,178nm,18.2s,MS3.7,baz=241,slow=41						
FORT	**Forrest**	**32.99**	**218**	*e*P	**P**	**19 49 09.1**	**-0.1**
	27nm,0.8s,mb5.2						
MBWA	**Marble Bar**	**33.95**	**240**	*e*P	**P**	**19 49 16.4**	**-1.2**
JOW	**Kunigami**	**39.01**	**327**	LR	LR	20 02 40.3	
	comp=Z,81nm,21.0s,MS3.5,baz=120,slow=31						
URZ	**Urewera**	**40.26**	**147**	LR	LR	20 04 20.4	
	comp=Z,309nm,18.4s,MS4.2,baz=4.3,slow=32						
RPZ	**Rata Peaks**	**41.88**	**158**	LR	LR	20 04 46.6	
	comp=Z,296nm,18.5s,MS4.2,baz=330,slow=32						
CD2	**Chengdu**	**57.87**	**312**	*e*P	**P**	**19 52 26.5**	**+0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
SONM	**Songino Array**	**66.04**	**329**	P	**P**	**19 53 21.7**	**+0.6**
	comp=Z,1.1nm,0.9s,mb3.9,baz=151,slow=3.4,SNR=7.1						
SONM				LR	LR	20 21 16.1	
	comp=Z,81nm,20.8s,MS3.9,baz=217,slow=35						
VNDA	**Vanda**	**72.09**	**178**	P	**P**	**19 53 59.3**	**+0.6**
	comp=Z,1.4nm,0.9s,mb3.9,baz=320,slow=6.8,SNR=7.2						
VNDA				LR	LR	20 22 17.9	
	comp=Z,83nm,21.3s,MS4.0,baz=356,slow=33						
WMQ	**Urumqi**	**75.09**	**318**	P	**P**	**19 54 17.3**	**+1.0**
WMQ				PP	PP	19 57 07.8	+3.5
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.7s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,80nm,5.9s						
WMQ				LR	LR		
	comp=N,110nm,18.4s,MS4.3						
WMQ				LR	LR		
	comp=E,83nm,17.3s,MS4.3						
WMQ				LR	LR		
	comp=Z,105nm,18.9s,MS4.2						
MKAR	**Makanchi Array**	**79.72**	**319**	P	**P**	**19 54 41.5**	**-0.8**
	comp=Z,1.1nm,1.0s,mb3.7,baz=94,slow=7.7,SNR=6.0						
ZAL	**Zalesovo**	**80.81**	**327**	LR	LR	20 30 13.3	
	comp=Z,46nm,18.8s,MS3.9,baz=274,slow=35						
KURK	**Kurchatov**	**83.27**	**322**	*e*P	**P**	**19 55 01.3**	**+0.3**
	comp=Z,7.6nm,1.4s,mb4.5						
MAW	**Mawson**	**84.10**	**203**	LR	LR	20 27 37.6	
	comp=Z,97nm,21.2s,MS4.2,baz=237,slow=32						
QSPA	**South Pole Qui**	**84.34**	**180**	*e*P	**P**	**19 55 06.4**	**-0.1**
YKA	**Yellowknife Ar**	**97.02**	**28**	LR	LR	20 32 55.4	
	comp=Z,29nm,20.7s,MS3.8,baz=240,slow=31						
LPAZ	**La Paz**	**135.65**	**120**	PKP	PKPdf	20 01 57.5	+2.7
	comp=Z,0.5nm,0.5s,baz=307,slow=7.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**148.76**	**286**	PKPbc	PKPbc	20 02 23.3	+1.4
	comp=Z,0.7nm,0.7s,baz=67,slow=3.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**148.76**	**286**	PKPbc	PKPbc	20 02 23.3	+1.4

IDC 21 19:53:40.0±15.0, 1481S×16826E, h550km±104km, mb3.0/4, mb1 3.2/5, mb1mx2.9/15, mbtmp4.1/5, Error ellipse: s-maj=319.4km s-min=83.8km az=73.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.42**	**193**	P	P	19 55 32.0	+0.1
	0.7nm,0.3s,baz=24,slow=20,SNR=5.7						
STKA	**Stephens Creek**	**29.67**	**230**	P	P	19 59 01.0	-0.4
	1.2nm,0.3s,baz=75,slow=9.5,SNR=5.9						
WRA	**Warramunga Arr**	**32.73**	**256**	P	P	19 59 28.0	+0.4
	0.9nm,0.5s,baz=86,slow=8.9,SNR=21						
ASAR	**Alice Springs**	**33.53**	**249**	P	P	19 59 34.8	+0.4
	1.6nm,0.4s,baz=75,slow=9.9,SNR=51						
FITZ	**Fitzroy Crossi**	**40.94**	**259**	P	P	20 00 35.0	+0.1
	0.9nm,0.5s,baz=79,slow=10,SNR=11						

*LDG **21** 20:05:11.1±0.1, 4399N×694E, h2km, Md2.2/3, Ml1.4/1, Error ellipse: s-maj=1.6km s-min=1.2km az=4.0*

STR 21 20:05:09.3±1.5, 4414N×691E, h2km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOUF	**Mont Tournerai**	**0.28**	**117**	Pg	Pg	20 05 14.1	-0.5
TOUF				Sg	Sg	20 05 18.4	+0.3
MVIF	**Mont Vial**	**0.30**	**144**	Pg	Pg	20 05 14.7	-0.4
MVIF				Sg	Sg	20 05 19.3	+0.3
LUCF	**Luceram**	**0.40**	**128**	Pg	Pg	20 05 18.4	+1.4
LUCF				Sg	Sg	20 05 22.9	+0.7
SBF	**Sospel**	**0.47**	**126**	*e*Pg	Pg	20 05 18.5	+0.2
SBF				*e*Sg	Sg	20 05 24.0	-0.4
	5.9nm,0.4s						
FRF	**La Foret Royal**	**0.61**	**198**	*e*Pg	Pg	20 05 20.3	-0.7
FRF				*e*Sg	Sg	20 05 26.4	-2.5
	4.3nm,0.3s						
FRF				*e*Sn	Sg	20 05 28.4	-0.5
LMR	**La Mourre**	**0.86**	**200**	*e*Pg	Pg	20 05 24.9	-0.8
LMR				*e*Sg	Sg	20 05 34.0	-2.8
	2.1nm,0.2s						
SMRF	**Simiane la Rot**	**0.98**	**261**	*e*Pg	Pg	20 05 29.7	+1.7
SMRF				*e*Sg	Sg	20 05 42.8	+2.1
	1.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.07**	**317**	*e*Pn	Pn	20 05 33.2	+1.9
PGF	**Pioggiola**	**2.20**	**136**	*e*Pn	Pn	20 05 45.5	-1.4

*BJI **21** 20:20:29.6, 993S×10907E, h25km, mB4.9, mb4.6, Ms4.5, Msz4.2*

*IDC **21** 20:20:30.1±0.7, 957S×10894E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/17, mbtmp4.1/10, ML3.5/1, MS3.9/3, Ms1 3.9/3, ms1mx3.2/22, Error ellipse: s-maj=31.0km s-min=15.3km az=59.0*

*ISCJB **21** 20:20:31.3±0.4, 963S±005×10891E±007, h21km, mb4.4/29, MS4.1/7, Error ellipse: s-maj=11.0km s-min=6.0km az=136.0*

*NEIC **21** 20:20:31.7±0.4, 958S×10898E, h10km, mb4.5/9, Error ellipse: s-maj=15.6km s-min=7.8km az=55.0*

*MOS **21** 20:20:33.3±0.9, 949S×10905E, h33km, mb4.5/8, Error ellipse: s-maj=23.7km s-min=11.9km az=113.1*

ISC 21 20:20:33.6±0.4, 963S±005×10895E±008, h22km, h22km±3.3km: pP-P, n62, σ1s15/66, mb4.4/29, MS4.1/7, 4C-2D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.40**	**18**	P	**Pn**	**20 21 12.2**	**+0.7**
	0.0nm,0.0s						
BJII	**Banjamegara**	**2.40**	**18**	⇓*iP*	**Pn**	**20 21 13.3**	**+1.8**
BJII				*i* S	**Sn**	**20 21 40.1**	**-0.1**
LEM	**Lembang**	**3.08**	**334**	P	**Pn**	**20 21 22.1**	**+1.2**
	0.0nm,0.0s						
JCJI	**Jatiwangi**	**3.19**	**348**	P	**Pn**	**20 21 20.8**	**-1.6**
	0.0nm,0.0s						
CBJI	**Citeko**	**3.80**	**327**	P	**Pn**	**20 21 27.3**	**-3.6**
	0.0nm,0.0s						
KSI	**Kapahiang**	**8.66**	**313**	P	**Pn**	**20 22 36.9**	**-0.7**
	0.0nm,0.0s						
PCI	**Palu**	**13.87**	**52**	P	**Pn**	**20 23 58.6**	**+10**
	0.0nm,0.0s						
MBWA	**Marble Bar**	**15.46**	**139**	*e*P	**Pn**	**20 24 07.5**	**-2.8**
MBWA				*e*S	**Sn**	**20 26 43.2**	**-18**
FITZ	**Fitzroy Crossi**	**18.25**	**119**	*e*P	**Pn**	**20 24 44.4**	**-1.0**
	4.5nm,0.6s						
FITZ				*e*S	**Sn**	**20 27 51.1**	**-17**
FITZ	**Fitzroy Crossi**	**18.25**	**119**	P	**Pn**	**20 24 44.5**	**-0.9**
	0.1nm,0.3s,baz=307,slow=10,SNR=7.1						
FITZ				Sn	**Sn**	**20 27 54.5**	**-14**
	0.5nm,0.3s,baz=117,slow=16,SNR=5.7						
AAI	**Ambon**	**20.00**	**74**	P	**Pn**	**20 25 16.5**	**+10**
	102nm,1.4s						
WRA	**Warramunga Arr**	**26.57**	**116**	P	**P**	**20 26 10.5**	**+0.6**
	1.3nm,0.6s,mb3.6,baz=287,slow=12,SNR=11						
WRA				Sn	S	20 31 13.1	+30
	0.5nm,0.8s,baz=285,slow=23,SNR=4.0						
WRAB	**Tennant Creek**	**26.57**	**116**	*e*P	**P**	**20 26 10.4**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.3						
WRAB	**Tennant Creek**	**26.57**	**116**	*e*P	**P**	**20 26 10.4**	**+0.4**
	comp=Z,9.5nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**26.58**	**116**	*e*P	**P**	**20 26 10.8**	**+0.8**
WB2				*e*		20 26 20.1	
ASAR	**Alice Springs**	**27.62**	**123**	P	**P**	**20 26 20.6**	**+1.2**
	comp=Z,1.1nm,0.8s,mb3.5,baz=298,slow=9.2,SNR=7.8						
ASAR				PcP	PcP	20 29 37.8	+1.3
	comp=Z,0.9nm,0.6s,baz=300,slow=1.8,SNR=8.3						
ASAR				Sn	S	20 31 37.7	+38
	comp=Z,0.5nm,0.7s,baz=285,slow=23,SNR=3.8						
ASAR	**Alice Springs**	**27.62**	**123**	P	**P**	**20 26 20.6**	**+1.2**
ASAR						20 29 37.8	
KMI	**Kunming**	**35.06**	**350**	P	**P**	**20 27 28.6**	**+3.8**
KMI				AP	pP	20 27 33.5	+1.8
KMI				XP	sP	20 27 35.4	+1.0
KMI				PP	PP	20 28 48.5	+4.0
KMI				PPP		20 29 08.1	
KMI				S	**S**	**20 33 03.6**	**+7.6**
KMI				XS	sS	20 33 09.4	+2.2
KMI				SS	SS	20 35 17.3	-11
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
KMI				AMB	AMB		
	comp=Z,55nm,4.9s						
KMI				LR	LR		
	comp=N,302nm,14.2s,MS4.2						
KMI				LR	LR		
	comp=E,113nm,16.5s,MS4.2						
KMI				LR	LR		
	comp=Z,281nm,15.3s,MS4.1						
STKA	**Stephens Creek**	**37.46**	**131**	P	**P**	**20 27 46.4**	**+1.0**
	comp=Z,2.5nm,0.7s,mb4.2,baz=309,slow=7.6,SNR=7.7						
STKA	**Stephens Creek**	**37.46**	**131**	*e*P	**P**	**20 27 46.1**	**+0.8**
CD2	**Chengdu**	**40.61**	**353**	*e*P	**P**	**20 28 12.1**	**+0.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
SSE	**Sheshan**	**42.15**	**16**	P	**P**	**20 28 22.1**	**-2.3**
SSE				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
SSE				AMB	AMB		
	comp=Z,76nm,11.2s						
NJ2	**Nanjing**	**42.51**	**12**	*e*P	**P**	**20 28 25.6**	**-1.6**
NJ2				AP	pP	20 28 35.1	+0.9
NJ2				XP	sP	20 28 39.4	+2.5
NJ2				PP	PP	20 30 06.6	+0.7
NJ2				S	**S**	**20 34 42.0**	**-6.2**
NJ2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,50nm,4.1s						
NJ2				LR	LR		
	comp=N,200nm,14.1s						
NJ2				LR	LR		
	comp=E,190nm,20.0s						
XAN	**Xi'an**	**43.42**	**360**	P	**P**	**20 28 34.5**	**-0.1**
XAN				AP	pP	20 28 42.3	+0.7
XAN				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.2						
LZH	**Lanzhou**	**45.72**	**354**	*e*P	**P**	**20 28 54.0**	**+1.0**
LZH				AP	pP	20 29 04.1	+4.2
LZH				XP	sP	20 29 07.9	+5.2
LZH				PP	PP	20 30 42.1	+1.9
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.9						
GTA	**Gaotai**	**49.52**	**351**	*e*P	**P**	**20 29 23.4**	**+0.9**
GTA				AP	pP	20 29 28.4	-1.1
GTA				XP	sP	20 29 32.3	+0.1
GTA				PP	PP	20 31 19.1	+2.3
GTA				SCP	ScP	20 34 38.5	+0.3
GTA				S	**S**	**20 36 32.8**	**+3.9**
GTA				XS	sS	20 36 41.5	+1.1
GTA				SCS	ScS	20 39 09.9	-3.0
GTA				SS	SS	20 40 00.8	-0.1
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.4						
GTA				AMB	AMB		
	comp=Z,73nm,4.2s						
GTA				LR	LR		
	comp=N,114nm,15.2s,MS4.2						
GTA				LR	LR		
	comp=E,133nm,15.6s,MS4.2						
GTA				LR	LR		
	comp=Z,138nm,17.1s,MS4.0						
HHC	**Hu-ho-hao-te**	**50.28**	**3**	*e*P	**P**	**20 29 29.5**	**+1.2**
HHC				AP	pP	20 29 33.9	-1.4
HHC				XP	sP	20 29 36.8	-1.2
HHC				PCP	PcP	20 30 45.4	-1.6
HHC				PP	PP	20 31 24.4	+0.7
HHC				S	**S**	**20 36 42.5**	**+3.0**
HHC				SCS	ScS	20 39 17.0	-1.1
HHC				SS	SS	20 40 11.3	-1.8
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,117nm,4.5s						
HHC				LR	LR		
	comp=N,73nm,13.2s,MS4.2						
HHC				LR	LR		
	comp=E,133nm,10.8s,MS4.2						
HHC				LR	LR		
	comp=Z,112nm,15.3s,MS4.0						
MJAR	**Matsushiro Arr**	**53.53**	**29**	P	**P**	**20 29 50.5**	**-2.0**
	comp=Z,0.9nm,0.5s,mb4.0,baz=208,slow=8.2,SNR=4.5						
MJAR	**Matsushiro Arr**	**53.53**	**29**	P	**P**	**20 29 50.5**	**-2.0**
CN2	**Changchun**	**55.25**	**14**	*e*P	**P**	**20 30 08.8**	**+3.8**
WMQ	**Urumqi**	**56.59**	**342**	P	**P**	**20 30 17.0**	**+2.4**
WMQ				AP	pP	20 30 21.6	-0.1
WMQ				XP	sP	20 30 24.0	-0.4
WMQ				PP	PP	20 32 24.5	+3.9
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,61nm,5.4s						
WMQ				LR	LR		
	comp=N,133nm,17.6s,MS4.2						
WMQ				LR	LR		
	comp=E,100nm,16.5s,MS4.2						
WMQ				LR	LR		
	comp=Z,133nm,18.1s,MS4.1						
SONM	**Songino Array**	**57.25**	**358**	P	**P**	**20 30 19.4**	**+0.2**
	comp=Z,2.0nm,0.6s,mb4.3,baz=178,slow=8.4,SNR=24						
SONM				LR	LR	20 57 44.5	
	comp=Z,72nm,18.9s,MS3.8,baz=180,slow=39						
ULN	**Ulaanbaatar**	**57.26**	**358**	*c iP*	**P**	**20 30 18.1**	**-1.2**
ULN	**Ulaanbaatar**	**57.26**	**358**	*e*P	**P**	**20 30 18.9**	**-0.4**
	comp=Z,3.8nm,0.9s,mb4.4						
AAK	**Ala-Archa**	**60.79**	**331**	*e*P	**P**	**20 30

SIV PKPab PKPab 20 40 40.0 +0.7
comp=Z,0.8nm,0.6s,baz=162,slow=23,SNR=4.3
LPAZ La Paz 154.09 186 PKPab PKPab 20 40 47.2 +2.1
comp=Z,1.2nm,0.7s,baz=151,slow=5.4,SNR=6.4

IDC 21 20:44:26.5±3.2, 960S×10908E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.7/4, ML2.9/1, Error ellipse: s-maj=123.8km s-min=25.2km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.15**	**120**	P	Pn	20 48 38.2	-1.7
	0.0nm,0.3s,baz=241,slow=19,SNR=2.1						
WRA	**Warramunga Arr**	**26.46**	**116**	P	P	20 50 06.3	+1.1
	0.5nm,0.6s,baz=286,slow=12,SNR=4.1						
SONM	**Songino Array**	**57.23**	**358**	P	P	20 54 16.4	+0.9
	0.3nm,0.5s,baz=170,slow=8.4,SNR=4.1						
MKAR	**Makanchi Array**	**61.02**	**339**	P	P	20 54 41.3	-0.5
	1.0nm,0.6s,baz=148,slow=7.1,SNR=9.6						

IDC 21 20:56:34.0±3.0, 612S×15036E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/14, mbtmp3.9/4, ML2.8/1, Error ellipse: s-maj=105.9km s-min=36.0km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.55**	**224**	Pn	Pn	20 57 45.0	+1.0
	3.3nm,0.3s,baz=217,slow=12,SNR=9.3						
PMG				Sn	Sn	20 58 36.7	-0.9
	8.9nm,0.3s,baz=100,slow=21,SNR=8.1						
WB2	**Warramunga Arr**	**20.75**	**227**	*e*P	P	21 01 16.5	+0.2
WRA	**Warramunga Arr**	**20.76**	**227**	P	P	21 01 16.8	+0.5
	3.7nm,0.7s,baz=52,slow=11,SNR=11						
ASAR	**Alice Springs**	**23.55**	**221**	P	P	21 01 45.7	-0.5
	0.8nm,0.4s,baz=58,slow=8.8,SNR=11						
FITZ	**Fitzroy Crossi**	**26.90**	**242**	*e*P	P	21 02 17.4	+0.8
	3.2nm,0.9s						
FITZ	**Fitzroy Crossi**	**26.90**	**242**	P	P	21 02 17.5	+0.9
	1.4nm,0.5s,baz=41,slow=10.0,SNR=12						
TORD	**Torodi Ar. Bea**	**148.35**	**285**	PKPbc	PKPbc	21 16 22.6	+0.4
	0.6nm,0.5s,baz=61,slow=2.4,SNR=9.3						

IDC 21 20:57:12.2±1.5, 162N×9959E, h172km±11km, mb3.2/4, mb1 3.4/4, mb1mx3.0/19, mbtmp3.7/4, Error ellipse: s-maj=99.1km s-min=17.0km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.35**	**330**	P	Pn	20 57 41.9	-0.2
	7.1nm,0.3s,baz=114,slow=12,SNR=18						
PSI				S	Sn	20 58 04.0	-1.1
	2.4nm,0.3s,baz=0.3,slow=21,SNR=17						
WRA	**Warramunga Arr**	**40.26**	**124**	P	P	21 04 32.2	+0.1
	1.6nm,0.5s,baz=302,slow=9.1,SNR=22						
WRA				PcP	PcP	21 06 32.1	-0.3
	0.2nm,0.5s,baz=314,slow=2.7,SNR=5.7						
WB2	**Warramunga Arr**	**40.27**	**124**	*e*P	P	21 04 32.6	+0.4
ASAR	**Alice Springs**	**41.77**	**129**	P	P	21 04 45.4	+0.9
	0.2nm,0.4s,baz=302,slow=7.5,SNR=5.7						
SONM	**Songino Array**	**46.41**	**6**	P	P	21 05 21.6	+0.2
	0.3nm,0.5s,baz=190,slow=9.7,SNR=3.6						
MKAR	**Makanchi Array**	**47.46**	**344**	P	P	21 05 29.6	+0.1
	0.6nm,0.4s,baz=155,slow=7.5,SNR=16						

IDC 21 21:00:31.9±17.0, 1902S×17395W, h0km, mb4.1/5, mb1 4.2/5, mb1mx4.0/16, mbtmp4.1/5, Error ellipse: s-maj=325.1km s-min=141.6km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.46**	**262**	P	P	21 07 48.5	+1.5
	4.8nm,0.7s,baz=71,slow=11,SNR=4.2						
STKA	**Stephens Creek**	**41.86**	**243**	P	P	21 08 23.9	+0.2
	2.6nm,0.9s,baz=79,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**48.58**	**255**	P	P	21 09 17.2	+0.2
	2.3nm,0.8s,baz=92,slow=7.7,SNR=19						
WB2	**Warramunga Arr**	**48.59**	**260**	*e*P	P	21 09 17.1	0.0
WRA	**Warramunga Arr**	**48.60**	**260**	P	P	21 09 17.0	-0.2
	1.2nm,0.5s,baz=97,slow=7.9,SNR=37						
FITZ	**Fitzroy Crossi**	**57.02**	**260**	P	P	21 10 19.7	+0.3
	0.5nm,0.4s,baz=61,slow=13,SNR=6.1						

IDC 21 21:18:22.9±5.3, 3003S×17774W, h56km±43km, mb3.3/2, mb1 3.6/2, mb1mx3.3/11, mbtmp3.6/2, Error ellipse: s-maj=67.9km s-min=56.3km az=152.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.79**	**349**	P	Pn	21 18 38.4	+0.4
	94nm,0.3s,baz=195,slow=20,SNR=5.4						
RAO				S	Sn	21 18 50.3	+1.2
	530nm,0.3s,baz=159,slow=23,SNR=18						
ASAR	**Alice Springs**	**43.35**	**266**	P	P	21 26 20.4	+0.7
	0.1nm,0.3s,baz=104,slow=7.5,SNR=5.5						
WRA	**Warramunga Arr**	**44.31**	**272**	P	P	21 26 27.1	-0.2
	0.9nm,0.6s,baz=110,slow=8.1,SNR=28						
FINES	**FINESS Array B**	**144.87**	**340**	PKP	PKPdf	21 37 52.4	-1.2
	0.6nm,0.5s,baz=52,slow=5.4,SNR=9.0						

IDC 21 21:37:14.2±5.4, 4808S×10337E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/12, mbtmp3.7/3, MS3.8/7, Ms1 3.8/7, ms1mx3.5/25, Error ellipse: s-maj=173.0km s-min=31.4km az=109.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**28.29**	**212**	LR	LR	21 51 45.0	
	comp=Z,71nm,20.0s,baz=77,slow=31						
STKA	**Stephens Creek**	**33.06**	**75**	LR	LR	21 54 52.3	
	comp=Z,156nm,21.4s,baz=206,slow=32						
ASAR	**Alice Springs**	**34.34**	**56**	P	P	21 44 02.5	0.0
	0.5nm,0.6s,baz=207,slow=8.2,SNR=6.4						
ASAR				LR	LR	21 55 44.5	
	comp=Z,98nm,19.1s,baz=268,slow=32						
VNDA	**Vanda**	**36.84**	**162**	P	P	21 44 23.4	-0.5
	2.4nm,1.1s,baz=287,slow=10,SNR=6.3						
VNDA				LR	LR	21 58 04.4	
	comp=Z,258nm,21.2s,baz=301,slow=34						
WRA	**Warramunga Arr**	**37.58**	**53**	P	P	21 44 30.4	+0.1
	0.7nm,0.9s,baz=213,slow=8.6,SNR=4.6						
BOSA	**Boshof**	**61.65**	**258**	LR	LR	22 09 32.2	
	comp=Z,90nm,18.4s,baz=20,slow=31						
ATD	**Arta Tunnel**	**79.86**	**300**	LR	LR	22 17 56.4	
	comp=Z,86nm,18.4s,baz=270,slow=31						
PLCA	**Paso Flores**	**91.41**	**185**	LR	LR	22 28 13.2	
	comp=Z,86nm,18.5s,baz=191,slow=34						
NVAR	**Mina Array Bea**	**148.49**	**92**	PKPbc	PKPbc	21 57 01.7	-1.1
	0.4nm,0.7s,baz=230,slow=6.9,SNR=4.5						

*IDC **21** 21:40:18.4±8.8, 2441S×17761W, h206km±76km, mb3.7/8, mb1 3.9/8, mb1mx3.8/14, mbtmp4.3/8, Error ellipse: s-maj=30.3km s-min=23.0km az=75.0*
*ISCJB **21** 21:40:21.6±1.1, 2445S±02×17771W±02, h250km, mb3.9/9, Error ellipse: s-maj=29.2km s-min=20.6km az=2.8*
*NEIC **21** 21:40:25.1±6.9, 2443S×17769W, h272km±62km, mb4.2/6, Error ellipse: s-maj=27.9km s-min=21.0km az=59.0*

ISC 21 21:40:23.0±1.1, 2455S±02×1776W±02, h250km, n35, σ0§54/19, mb3.9/9, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.63**	**270**	*e*P	P	**21 46 41.2**	**+1.1**
	4.2nm,0.6s,mb4.2						
CTA	**Charters Tower**	**33.63**	**270**	P	P	**21 46 40.4**	**+0.3**
	5.3nm,0.6s,mb4.2,baz=95,slow=11,SNR=9.0						
CTAO	**Charters Tower**	**33.63**	**270**	*e*P	P	**21 46 41.3**	**+1.2**
	6.6nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**36.51**	**249**	*e*P	P	**21 47 05.4**	**+0.8**
	3.4nm,1.1s,mb3.8						
STKA	**Stephens Creek**	**36.51**	**249**	P	P	**21 47 05.0**	**+0.4**
	1.7nm,0.5s,mb3.9,baz=109,slow=15,SNR=9.8						
AS31	**Alice Springs**	**44.06**	**261**	*e*P	P	**21 48 06.0**	**-0.3**
ASAR	**Alice Springs**	**44.06**	**261**	P	P	**21 48 06.2**	**-0.1**
	2.8nm,0.8s,mb3.7,baz=95,slow=6.6,SNR=30						
ASAR				PcP	PcP	21 49 47.5	+0.5
	1.0nm,0.9s,baz=96,slow=4.3,SNR=4.7						
ASPA	**Alice Springs**	**44.07**	**261**	*e*P	P	**21 48 06.0**	**-0.4**
WB2	**Warramunga Arr**	**44.50**	**266**	*e*P	P	**21 48 09.1**	**-0.7**
WRA	**Warramunga Arr**	**44.52**	**266**	P	P	**21 48 09.2**	**-0.7**
	3.3nm,0.6s,mb3.9,baz=102,slow=8.0,SNR=38						
WRA				PcP	PcP	21 49 49.8	+1.4
	1.3nm,0.8s,baz=100,slow=3.8,SNR=6.0						
FORT	**Forrest**	**48.13**	**250**	*e*P	P	**21 48 37.8**	**-0.1**
	10nm,0.7s,mb4.3						
FITZ	**Fitzroy Crossi**	**52.93**	**265**	*e*P	P	**21 49 14.5**	**+0.8**
	4.9nm,0.7s,mb4.0						
FITZ	**Fitzroy Crossi**	**52.93**	**265**	P	P	**21 49 14.4**	**+0.7**
	3.0nm,0.8s,mb3.8,baz=139,slow=13,SNR=9.2						
VNDA	**Vanda**	**53.99**	**185**	P	P	**21 49 21.0**	**-0.3**
	0.5nm,0.7s,mb3.1,baz=317,slow=10,SNR=3.8						
VNDA	**Vanda**	**53.99**	**185**	P	P	**21 49 21.0**	**-0.4**
MAW	**Mawson**	**77.95**	**200**	*e*P	P	**21 51 54.0**	**+0.5**
	5.8nm,0.6s,mb4.4						
MAW	**Mawson**	**77.95**	**200**	P	P	**21 51 53.9**	**+0.4**
	6.9nm,0.6s,mb4.4,baz=135,slow=8.9,SNR=15						
NVAR	**Mina Array Bea**	**83.69**	**43**	P	P	**21 52 23.8**	**0.0**
	0.8nm,0.6s,mb3.6,baz=209,slow=7.1,SNR=5.9						
NVAR	**Mina Array Bea**	**83.69**	**43**	P	P	**21 52 23.8**	**0.0**
MKAR	**Makanchi Array**	**114.13**	**312**	PKP	PKiKP	21 58 31.8	-0.7
	0.5nm,0.7s,baz=90,slow=1.2,SNR=3.8						
MKAR	**Makanchi Array**	**114.13**	**312**	PKP	PKiKP	21 58 31.8	-0.7
ZRNK	**Zerenda**	**123.14**	**318**	*e*PKPdf	PKPdf	21 58 49.2	-0.5
ARCES	**ARCESS Array B**	**132.88**	**349**	PKP	PKPdf	21 59 07.5	-0.8
	2.4nm,0.9s,baz=25,slow=1.0,SNR=6.9						
FINES	**FINESS Array B**	**139.66**	**343**	PKhKP		21 59 14.1	
	1.1nm,0.9s,baz=193,slow=5.9,SNR=3.4						
FINES				PKP	PKPdf	21 59 22.6	+1.7
	0.9nm,0.8s,baz=122,slow=2.5,SNR=5.3						
FINES	**FINESS Array B**	**139.66**	**343**	PKP		21 59 14.1	
FINES				PKP	PKPdf	21 59 22.6	+1.7
AKASG	**Malin Array Be**	**146.61**	**329**	PKPbc	PKPbc	21 59 34.5	-0.5
	2.8nm,0.5s,baz=42,slow=4.1,SNR=20						
BRTR	**Keskin Array B**	**149.64**	**308**	PKPbc	PKPbc	21 59 43.5	+0.6
	1.2nm,0.9s,baz=190,slow=5.0,SNR=4.4						
MMAI	**Mount Meron Ar**	**149.90**	**294**	PKPbc	PKPbc	21 59 45.0	+1.5
	2.6nm,0.6s,baz=72,slow=6.2,SNR=6.1						
KOLS	**Kolonicke sedl**	**151.01**	**332**	*e*PKP	PKPbc	21 59 47.2	+1.1
CLL	**Collm**	**151.99**	**346**	*i* PKPbc	PKPbc	21 59 48.8	+0.4
	comp=Z,6.0nm,0.8s						
CLL				*i* PKPab	PKPab	21 59 56.1	-2.6
BRG	**Berggiesshubel**	**152.17**	**344**	*i* P	PKPbc	21 59 49.3	+0.5
	comp=Z,2.6nm,0.8s						
BRG				*e*		21 59 56.1	
	comp=Z,1.9nm,0.8s						
BRG				*e*		21 59 59.9	
	comp=Z,4.2nm,1.4s						
BRG				*e*		22 06 46.7	
	comp=Z,1.2nm,1.0s						
BRG							
	comp=N,54nm,12.4s						
BRG							
	comp=E,57nm,12.2s						
BRG							
	comp=Z,48nm,17.9s						
BRG	**Berggiesshubel**	**152.17**	**344**	*i* P	PKPbc	21 59 49.3	+0.5
BRG				*e*		21 59 56.1	
BRG				*e*		21 59 59.9	
BRG				*e*		22 06 46.7	
BRG				LR	LR		
	comp=Z,50nm,17.9s						
VYHS	**Vyhne**	**152.74**	**336**	*e*PKP	PKPab	22 00 02.6	+0.7
GERES	**GERESS Array B**	**154.10**	**343**	PKP	PKPdf	21 59 42.9	-1.8
	comp=Z,0.1nm,0.3s,baz=190,slow=6.6,SNR=3.9						
GERES				PKPbc	PKPbc	21 59 53.2	+0.2
	comp=Z,0.2nm,0.6s,baz=38,slow=2.4,SNR=3.8						
GERES				PKPab	PKPab	22 00 07.2	-0.4
	comp=Z,0.5nm,0.7s,baz=30,slow=6.2,SNR=5.6						
ESDC	**Sonseca Array**	**163.94**	**18**	PKPab	PKPab	22 00 51.0	+0.5
	comp=Z,0.2nm,0.5s,baz=337,slow=4.2,SNR=4.9						

*ISCJB **21** 21:55:51.6±0.7, 5425S±006×15089E±004, h3km, mb4.0/7, MS3.6/5, Error ellipse: s-maj=9.0km s-min=5.7km az=132.7*
*NEIC **21** 21:55:52.1±3.6, 5265S×15097E, h3km±23km, mb4.5/3, Error ellipse: s-maj=30.4km s-min=20.0km az=134.0*
*IDC **21** 21:56:01.2±6.8, 5345S×15089E, h60km±53km, mb3.8/6, mb1 4.0/7, mb1mx3.8/14, mbtmp4.1/7, ML3.1/1, MS3.5/9, Ms1 3.5/9, ms1mx3.2/34, Error ellipse: s-maj=50.4km s-min=28.4km az=84.0*

ISC 21 21:55:53.3±0.9, 5375S±010×15092E±005, h3km, n22, σ0§96/18, mb4.0/7, MS3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGKAI	**Kaiamu**	**0.10**	**184**	*i* P	**Pg**	**21 55 51.6**	**-3.6**
PGKAI				*eS*	**Sg**	**21 55 53.5**	**-3.0**
PGBAU	**Baubata**	**0.11**	**88**	*i* P	**Pg**	**21 55 54.4**	**-1.1**
PGBAU				*eS*	**Sg**	**21 55 57.9**	**+0.9**
PMG	**Port Moresby**	**5.48**	**223**	P	**Pn**	**21 57 18.4**	**+2.6**
	3.9nm,0.3s,baz=42,slow=13,SNR=12						
PMG				S	**Sn**	**21 58 19.7**	**+0.4**
	1.6nm,0.3s,baz=99,slow=15,SNR=3.4						
PMG				LR	LR	21 59 00.9	
	comp=Z,185nm,19.4s,baz=221,slow=34						
HNR	**Honiara**	**9.82**	**115**	LR	LR	22 01 42.6	
	comp=Z,260nm,18.6s,baz=358,slow=34						
CTA	**Charters Tower**	**15.32**	**197**	P	**Pn**	**21 59 37.7**	**+7.2**
	0.2nm,0.3s,baz=25,slow=12,SNR=5.0						
CTA				LR	LR	22 04 44.7	
	comp=Z,154nm,19.9s,baz=37,slow=34						
CTA	**Charters Tower**	**15.32**	**197**	P	**Pn**	**21 59 37.7**	**+7.2**
CTA				LR	LR	22 04 44.7	
CTAO	**Charters Tower**	**15.32**	**197**	*e*P	**Pn**	**21 59 35.8**	**+5.4**
	21nm,1.0s						
GUMO	**Guam**	**19.77**	**342**	LR	LR	22 06 02.9	
	comp=Z,125nm,21.7s,baz=248,slow=31						
WRAB	**Tennant Creek**	**21.67**	**227**	*e*P	**P**	**22 00 44.5**	**-0.6**
	6.9nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**21.67**	**227**	*e*P	**P**	**22 00 44.7**	**-0.4**
WRA	**Warramunga Arr**	**21.68**	**227**	P	**P**	**22 00 44.8**	**-0.4**
	4.9nm,0.9s,mb3.9,baz=50,slow=10,SNR=25						
DZM	**Mont Dzumac**	**22.39**	**139**	LR	LR	22 08 13.7	
	comp=Z,296nm,19.1s,MS3.7,baz=331,slow=32						
ASAR	**Alice Springs**	**24.49**	**220**	P	**P**	**22 01 14.4**	**+0.8**
	2.9nm,0.9s,mb3.7,baz=58,slow=7.2,SNR=16						
FITZ	**Fitzroy Crossi**	**27.75**	**241**	*e*P	**P**	**22 01 42.6**	**-0.6**
	13nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**27.75**	**241**	P	**P**	**22 01 42.6**	**-0.6**
	7.0nm,0.7s,mb4.4,baz=96,slow=7.9,SNR=21						
STKA	**Stephens Creek**	**27.78**	**197**	P	**P**	**22 01 43.6**	**+0.2**
	4.1nm,0.9s,mb4.0,baz=1.3,slow=12,SNR=3.5						
STKA				LR	LR	22 11 36.9	
	comp=Z,158nm,21.9s,MS3.6,baz=204,slow=34						
JOW	**Kunigami**	**38.80**	**327**	LR	LR	22 16 12.7	
	comp=Z,58nm,19.5s,MS3.4,baz=331,slow=31						
MJAR	**Matsushiro Arr**	**43.36**	**345**	LR	LR	22 20 22.2	
	comp=Z,46nm,19.5s,MS3.4,baz=220,slow=34						
SONM	**Songino Array**	**65.82**	**329**	P	**P**	**22 06 39.7**	**-0.2**
	0.5nm,0.8s,mb3.6,baz=122,slow=5.4,SNR=4.9						
VNDA	**Vanda**	**72.34**	**178**	P	**P**	**22 07 20.5**	**+0.1**
	1.0nm,0.9s,mb3.7,baz=333,slow=7.1,SNR=3.4						
YKA	**Yellowknife Ar**	**96.80**	**28**	LR	LR	22 52 21.4	
	comp=Z,24nm,18.0s,MS3.7,baz=345,slow=35						
TORD	**Torodi Ar. Bea**	**148.69**	**286**	PKPbc	PKPbc	22 15 41.1	-0.9
	0.9nm,0.8s,baz=74,slow=2.5,SNR=5.4						

*ISK **21** 22:01:44.7, 3936N×4083E, h5km, MD4.3, ML4.4*
*NEIC **21** 22:01:44.8, 3938N×4082E, h5km, mb4.2/26, ML4.2(ISK), After ISK.*
*IDC **21** 22:01:45.6±0.8, 3942N×4085E, h0km, mb3.9/11, mb1 3.9/18, mb1mx3.8/28, mbtmp3.8/18, ML3.6/6, MS3.6/15, Ms1 3.6/15, ms1mx3.4/39, Error ellipse: s-maj=17.0km s-min=8.5km az=176.0*
*MOS **21** 22:01:46.9±1.4, 3942N×4087E, h18km, mb4.3/31, Error ellipse: s-maj=6.5km s-min=4.2km az=122.8*
*ISCJB **21** 22:01:46.1±0.2, 3944N±002×4087E±003, h10km, mb4.0/35, MS3.6/17, Error ellipse: s-maj=3.0km s-min=2.2km az=53.1*
*CSEM **21** 22:01:47.9±0.1, 3939N×4083E, h25km, mb4.2/17, Ms3.2, Error ellipse: s-maj=1.9km s-min=1.6km az=163.0*

ISC 21 22:01:47.4±0.2, 3941N±002×4090E±002, h10km, n235, σ1§31/263, mb4.0/35, MS3.6/17, 19C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNGL	**BINGOL**	**0.50**	**157**	*i* P	**Pg**	**22 01 55.9**	**-1.2**
BNGL				*i* S	**Sg**	**22 02 06.6**	**+3.0**
EZM	**Erzurum**	**0.61**	**36**	*i* PG	**Pg**	**22 01 58.6**	**-0.5**
BINT	**Bingol**	**0.62**	**211**	*i* PG	**Pg**	**22 01 56.5**	**-2.9**
BINT				*i* SG	**Sg**	**22 02 05.0**	**-2.6**
EZC	**Erzincan**	**0.90**	**292**	*i* PN	**Pn**	**22 02 07.1**	**+1.0**
BTMT	**Batman**	**1.30**	**159**	PN	**Pn**	**22 02 10.2**	**-1.4**
KELT	**Kelkit**	**1.47**	**301**	*i* P	**Pn**	**22 02 11.2**	**-2.6**
KELT				*i* S	**Sn**	**22 02 30.5**	**-2.6**
BEST	**Besiri**	**1.55**	**169**	*i* P	**Pn**	**22 02 14.6**	**-0.3**
BEST				*i* S	**Sn**	**22 02 35.6**	**+0.5**
DIY	**Diyarbakir**	**1.60**	**199**	PN	**Pn**	**22 02 14.9**	**-0.8**
DIY				SN	**Sn**	**22 02 36.1**	**-0.4**
ELZG	**Elazig**	**1.75**	**239**	*i* P	**Pn**	**22 02 16.2**	**-1.5**
ELZG				*i* S	**Sn**	**22 02 33.1**	**-7.0**
KARS	**Kars**	**2.07**	**54**	PN	**Pn**	**22 02 22.9**	**+0.8**
BCA	**Borcka**	**2.10**	**15**	PN	**Pn**	**22 02 23.2**	**+0.6**
MYA	**Malataya**	**2.22**	**241**	PN	**Pn**	**22 02 22.9**	**-1.2**
MALT	**Malatya**	**2.22**	**241**	*e*Pn	**Pn**	**22 02 22.2**	**-2.1**
MALT				*e*Sn	**Sn**	**22 02 53.7**	**+2.0**
MALT	**Malatya**	**2.22**	**241**	*e*Pn	**Pn**	**22 02 22.2**	**-2.0**
CLDR	**Caldiran**	**2.36**	**96**	PN	**Pn**	**22 02 27.0**	**+0.9**
URFA	**Urfa**	**2.56**	**220**	PN	**Pn**	**22 02 27.4**	**-1.4**
DRBT	**Darb Altahta**	**2.70**	**199**	⇓P	**Pg**	**22 02 41.4**	**+2.3**
DRBT				⇑S	**Sg**	**22 03 22.4**	**+8.4**
CUKT	**Cukurca**	**3.03**	**135**	PN	**Pn**	**22 02 36.5**	**+1.1**
GNI	**Garni**	**3.05**	**75**	PN	**Pn**	**22 02 36.9**	**+1.3**
GNI	**Garni**	**3.05**	**75**	Pn	**Pn**	**22 02 37.2**	**+1.6**
	1.7nm,0.3s,baz=265,slow=3.6,SNR=20						
GNI				Pg	**Pg**	**22 02 42.9**	**-2.9**
	11nm,0.3s,baz=145,slow=2.9,SNR=58						
GNI				Lg		22 03 30.0	
	2.5nm,0.3s,baz=234,slow=19,SNR=1.9						
GNI	**Garni**	**3.05**	**75**	*c* iP	**Pn**	**22 02 36.7**	**+1.1**
GNI	**Garni**	**3.05**	**75**	Pg	**Pg**	**22 02 42.9**	**-2.9**
SFNV	**Sufian**	**3.05**	**192**	⇓P	**Pg**	**22 02 43.7**	**-2.1**
SFNV				⇓S	**Sb**	**22 03 19.0**	**-0.1**
SVSK	**Karacayir**	**3.05**	**281**	PN	**Pn**	**22 02 35.6**	**-0.1**
TOKT	**Tokat**	**3.47**	**287**	PN	**Pn**	**22 02 41.4**	**0.0**
AMRG		**3.53**	**28**	P	**Pg**	**22 02 53.9**	**-1.1**
AMRG				S	**Sg**	**22 03 38.9**	**-1.9**
GOR	**Gori**	**3.54**	**42**	P	**Pn**	**22 02 43.8**	**+1.4**
GOR				S	**Sg**	**22 03 50.2**	**+9.0**
GOR	**Gori**	**3.54**	**42**	P	**Pn**	**22 02 43.8**	**+1.4**
MSL	**Mosul**	**3.57**	**150**	*ex*	x	22 02 45.0	
MSL				*i* x	x	22 02 52.0	
MSL				*ex*	x	22 03 03.0	
MSL				*i* x	x	22 03 30.0	
MSL				*i* x	x	22 03 40.0	
MSL				*i* x	x	22 03 48.0	
MZRK	**Al-Mazaregh**	**3.58**	**183**	⇓P	**Pn**	**22 02 41.8**	**-1.2**
MZRK				⇑S	**Sn**	**22 03 14.3**	**-11**
MZRK	**Al-Mazaregh**	**3.58**	**183**	⇓ *i* P	**Pn**	**22 02 41.8**	**-1.2**
GAZ	**Gaziantep**	**3.66**	**234**	PN	**Pn**	**22 02 44.4**	**+0.3**
ONI	**Oni**	**3.71**	**31**	P	**Pg**	**22 02 55.5**	**-2.9**
ONI				S	**Sg**	**22 03 45.0**	**-1.4**
ONI	**Oni**	**3.71**	**31**	P	**Pn**	**22 02 45.7**	**+1.1**
ONI				S	**Sg**	**22 03 44.1**	**-2.3**
TBLG	**Delisi**	**3.73**	**50**	P	**Pb**	**22 02 55.0**	**+1.7**
TBLG				S	**Sg**	**22 03 56.3**	**+9.2**
TBLG	**Delisi**	**3.73**	**50**	P	**Pn**	**22 02 46.1**	**+1.2**
TBLG				S	**Sg**	**22 03 47.4**	**+0.3**
TBLG	**Delisi**	**3.73**	**50**	P	**Pn**	**22 02 46.1**	**+1.1**
MTA	**Mtatsminda**	**3.74**	**51**	P	**Pb**	**22 02 55.2**	**+1.8**
MTA				S	**Sg**	**22 03 56.3**	**+8.9**
MTA	**Mtatsminda**	**3.74**	**51**	P	**Pn**	**22 02 46.0**	**+0.9**
MTA				S	**Sg**	**22 03 45.9**	**-1.6**
SLMH	**Al Salmeh**	**3.97**	**217**	⇑ *i* P	**Pn**	**22 02 47.5**	**-0.7**
BNN	**Bunyan**	**3.97**	**264**	PN	**Pn**	**22 02 48.8**	**+0.5**
DGRG	**David-gareji**	**3.98**	**58**	P	**Pg**	**22 03 00.1**	**-3.4**
DGRG				S	**Sg**	**22 04 04.3**	**+9.3**
DGRG	**David-gareji**	**3.98**	**58**	P	**Pn**	**22 02 50.3**	**+2.0**
DGRG				S	**Sg**	**22 03 56.2**	**+1.2**
ZEI	**Tsey**	**4.05**	**33**	*e*P	**Pn**	**22 02 49.8**	**+0.5**
ZEI				pmax	pmax		
	comp=Z,45nm,0.2s						
ZEI				pmax	pmax		
	comp=Z,34nm,0.1s						
ZEI	**Tsey**	**4.05**	**33**	*e*P	**Pn**	**22 02 49.8**	**+0.5**
	comp=Z,34nm,0.1s						
JHLN	**Al Jahlan**	**4.21**	**208**	⇓P	**Pn**	**22 02 49.9**	**-1.7**
JHLN	**Al Jahlan**	**4.21**	**208**	⇓ *i* P	**Pn**	**22 02 49.9**	**-1.7**
SOC	**Sochi**	**4.26**	**348**	*d* iP	**Pn**	**22 02 52.0**	**-0.3**
SOC				*i*		22 03 41.1	
SOC				pmax	pmax		
	comp=Z,174nm,1.0s						
SOC				MLR	MLR		
	comp=Z,555nm,12.0s						
SOC	**Sochi**	**4.26**	**348**	*i* P	**Pn**	**22 02 52.0**	**-0.3**
	comp=Z,174nm,1.0s						
SOC				*i* S	**Sn**

comp=N,80nm,1.0s
SUDU smax
comp=E,120nm,1.0s
YAL Yalta 7.14 317 *e*P **Pn 22 03 37.9 +6.1**
YAL *e*S **Sn 22 04 59.4 +6.4**
YAL smax
comp=N,20nm,0.5s
YAL smax
comp=E,30nm,0.6s
SEV Sevastopol' 7.44 316 *e*P **Pn 22 03 40.0 +4.1**
MMAI Mount Meron Ar 7.78 217 Pn **Pn 22 03 41.3 +0.7**
comp=E,1.7nm,0.3s,baz=57,slow=14,SNR=10
MMAI Lg 22 06 00.8
comp=E,1.9nm,0.3s,baz=26,slow=27,SNR=5.0
ASF Jabal al Asfar 7.92 205 Pn **Pn 22 03 43.5 +1.0**
comp=E,0.3nm,0.3s,baz=225,slow=8.6,SNR=4.6
ASF Lg 22 06 00.7
comp=E,0.5nm,0.3s,baz=92,slow=22,SNR=4.2
CFR Carcaliu 11.07 305⇑ *i*P **Pn 22 04 31.1 +5.5**
CFR Carcaliu 11.07 305⇑P **Pn 22 04 31.1 +5.4**
VRSR Storozhevoye 11.86 355 *e*P **Pn 22 04 35.9 -0.7**
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=Z,5.0nm,0.8s
VRSR pmax pmax
comp=E,5.0nm,0.9s
VRSR MLR MLR
comp=Z,120nm,20.0s
VRSR MLR MLR
comp=N,200nm,23.0s
VRSR MLR MLR
comp=E,290nm,19.0s
VRSR Storozhevoye 11.86 355 *e*P **Pn 22 04 35.9 -0.7**
comp=E,200nm,23.0s
VRI Vrincioaia 12.26 306⇑ *i*P **Pn 22 04 46.7 +4.7**
VRI Vrincioaia 12.26 306⇑P **Pn 22 04 46.7 +4.7**
PLOR Plostina 12.30 306⇑ *i*P **Pn 22 04 46.4 +3.8**
APE Apeiranthos 12.31 264 *e*P **Pn 22 04 42.4 -0.3**
MLR Muntele Rosu 12.60 304 Pn **Pn 22 04 46.3 -0.3**
comp=E,0.2nm,0.3s,baz=95,slow=11,SNR=2.7
MLR Muntele Rosu 12.60 304⇑ *i*P **Pn 22 04 55.6 +9.0**
AKASG Malin Array Be 13.96 328 Pn **Pn 22 05 03.8 -1.5**
comp=E,0.4nm,0.3s,baz=134,slow=14,SNR=22
BURAR Bucovina Array 14.01 311⇑ *i*P **Pn 22 05 11.3 +5.5**
BURAR Bucovina Array 14.01 311⇑P **Pn 22 05 11.3 +5.4**
DRGR 15.18 305⇑ *i*P **Pn 22 05 27.6 +5.9**
DRGR 15.18 305⇑P **Pn 22 05 27.6 +5.9**
OBN Obninsk 15.98 351 *e*P **Pn 22 05 30.7 -1.5**
OBN pmax pmax
comp=Z,19nm,0.9s
OBN MLR MLR
comp=Z,100nm,14.0s
OBN Obninsk 15.98 351 *e*Pn **Pn 22 05 29.7 -2.5**
comp=Z,10.0nm,0.6s
OBN Obninsk 15.98 351 *e*P **Pn 22 05 30.7 -1.5**
comp=Z,100nm,14.0s
AKTK Aktyubinsk 16.34 42 Pn **Pn 22 05 34.5 -2.4**
AKTK LR LR 22 13 56.3
AKTK Aktyubinsk 16.34 42 P **Pn 22 05 34.5 -2.3**
comp=Z,141nm,18.6s
AKTO Aktyubinsk 16.34 42 Pn **Pn 22 05 34.5 -2.4**
comp=Z,0.1nm,0.3s,baz=234,slow=12,SNR=4.9
AKTO LR LR 22 13 56.3
comp=Z,141nm,18.6s,baz=241,slow=45
KOLS Kolonicke sedl 16.37 312 *e*PN **Pn 22 05 35.0 -2.2**
MOS Moscow 16.48 353 *e*P **Pn 22 05 34.2 -4.4**
MOS pmax pmax
comp=Z,42nm,0.9s
CRVS Cervenica-Dubn 16.83 311 *e*P **Pn 22 05 43.8 +0.8**
CRVS Cervenica-Dubn 16.83 311 *e*P **Pn 22 05 43.9 +0.9**
PKSM Moragy 17.66 300⇑ *i*P **Pn 22 05 55.6 +2.2**
PKSM Moragy 17.66 300⇑P **Pn 22 05 55.6 +2.3**
VYHS Vyhne 18.25 307 *e*P **Pn 22 05 58.9 -1.7**
VYHS pmax pmax
comp=Z,3.0nm,1.3s
VYHS Vyhne 18.25 307 *e*P **Pn 22 05 58.9 -1.7**
comp=Z,3.2nm,1.3s
SUW Suwalki 18.92 326 *e*P **Pn 22 06 07.3 -1.5**
SUW pmax pmax
comp=Z,24nm,0.8s
SUW Suwalki 18.92 326 *e*P **Pn 22 06 07.3 -1.5**
comp=Z,24nm,0.8s
SUW Suwalki 18.92 326 *e*P **Pn 22 06 07.3 -1.5**
comp=Z,24nm,0.8s
OKC Ostrava-Krasne 19.19 310 *e*P **Pn 22 06 10.5 -1.5**
OKC AMS AMS 22 15 40.0
comp=Z,200nm,18.5s
OKC Ostrava-Krasne 19.19 310 *e*P **Pn 22 06 10.5 -1.5**
comp=Z,200nm,18.5s
VRAC Vranov 19.92 308 LR LR 22 14 35.6
comp=Z,34nm,20.5s,baz=310,slow=39
CONA Conrad Observa 19.95 303⇑ *i*P **Pn 22 06 15.9 -5.3**
comp=Z,15nm,1.1s
DPC Dobruska-Polom 20.47 310 *e*P **P 22 06 26.8 +1.7**
DPC AMS AMS 22 16 30.0
comp=Z,200nm,10.3s
DPC Dobruska-Polom 20.47 310 *e*P **P 22 06 26.8 +1.7**
comp=Z,200nm,10.3s
TREC Trest 20.60 307 *e*P **P 22 06 28.8 +2.3**
TREC *ex* x 22 06 38.4
TREC AMS AMS 22 16 30.0
comp=Z,200nm,14.3s
ARU Arti 20.63 29⇓ *i*P **P 22 06 26.0 -0.9**
ARU *e*PPP 22 06 53.5
ARU *e*S **S 22 10 18.6 +1.2**
ARU *e*SS 22 10 37.8
ARU *e*SSS 22 10 48.9
ARU pmax pmax
comp=Z,6.0nm,0.8s
ARU MLR MLR
comp=Z,100nm,18.0s,MS3.2
ARU MLR MLR
comp=N,90nm,20.0s,MS3.3
ARU MLR MLR
comp=E,80nm,16.0s,MS3.3
ARU Arti 20.63 29 *e*P **P 22 06 26.2 -0.6**
comp=E,5.0nm,0.7s
ARU Arti 20.63 29 *e*P **P 22 06 26.2 -0.7**
comp=E,5.0nm,0.7s
UPC Upice 20.71 311 *e*P **P 22 06 27.6 -0.2**
AQU L'Aquila 20.96 287 *e*P **P 22 06 28.8 -1.7**
AQU pmax pmax
comp=Z,38nm,1.0s
AQU L'Aquila 20.96 287 *e*P **P 22 06 28.8 -1.7**
comp=Z,38nm,1.0s
AQU L'Aquila 20.96 287 *e*P **P 22 06 28.8 -1.7**
comp=Z,38nm,1.0s
VSU Vasula 21.13 339 *e*P **P 22 06 32.8 +0.5**
PRU Pruhonice 21.41 308 *e*P **P 22 06 34.8 -0.4**
PRU *e*pP 22 06 44.4
PRU AMS AMS 22 17 20.0
comp=Z,200nm,18.3s
PRU Pruhonice 21.41 308 *e*P **P 22 06 34.8 -0.4**
PRU *e* 22 06 44.4
PRU Pruhonice 21.41 308 *e*P **P 22 06 34.8 -0.4**
comp=Z,200nm,18.3s
KBA Koelnbreinsper 21.41 300⇑ *i*P **P 22 06 32.8 -2.5**
comp=Z,12nm,1.1s,mb4.1
KBA Koelnbreinsper 21.41 300⇑ *i*P **P 22 06 32.8 -2.5**
KBA pmax pmax
comp=Z,12nm,1.1s,mb4.1
KLMR Klimovskoe 21.48 358 *e*P **P 22 06 37.6 +1.5**
KLMR *e*S **S 22 10 35.3 +1.0**
KLMR pmax pmax
comp=Z,20nm,1.1s,mb4.4
KLMR MLR MLR
comp=Z,180nm,16.0s,MS3.6
KLMR Klimovskoe 21.48 358 *e*P **P 22 06 37.6 +1.5**
comp=Z,20nm,1.1s,mb4.4
PVCC Panska Ves 21.57 310 *e*P **P 22 06 36.6 -0.5**
GERES GERESS Array B 21.58 305 P **P 22 06 36.5 -0.6**
comp=Z,1.8nm,0.8s,mb3.5,baz=105,slow=8.8,SNR=15
GERES LR LR 22 16 03.3
comp=Z,103nm,18.8s,MS3.2,baz=109,slow=40
GERES GERESS Array B 21.58 305 P **P 22 06 36.5 -0.6**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES MLR MLR
comp=Z,103nm,18.8s
SVE Sverdlovsk 21.71 30 *e*P **P 22 06 40.8 +2.3**
SVE *e* 22 07 00.0
SVE *e*S **S 22 10 43.0 +4.3**
SVE *e*SS 22 11 32.0
SVE pmax pmax
comp=Z,20nm,1.7s,mb4.3
SVE MLR MLR
comp=N,200nm,13.0s,MS3.9
SVE MLR MLR
comp=E,200nm,13.0s,MS3.9
SVE MLR MLR
comp=Z,300nm,13.0s,MS3.9
KHC Kasperske Hory 21.74 306 *e*P **P 22 06 36.3 -2.5**
KHC *ex* x 22 06 50.7
CLL Collm 22.78 311 *i* *SP sP 22 06 51.8 -2.3
CLL *e*S **S 22 11 00.0 +0.9**
CLL Collm 22.78 311 *i* (sP) sP 22 06 51.8 -2.3
comp=Z,6.0nm,1.0s
CLL *e*S **S 22 11 00.0 +0.9**
CLL LmH 22 17 06.0
comp=N,200nm,18.6s
CLL LmH 22 17 06.0
comp=E,100nm,18.1s
CLL Collm 22.78 311 *i* P **P 22 06 51.8 +1.9**
comp=E,6.0nm,1.0s,mb4.0
CLL *e*S **S 22 11 00.0 +0.9**
MOTA Moosalm 22.96 300⇑ *i*P **P 22 06 50.6 -1.2**
comp=E,5.5nm,0.9s,mb4.0
MOTA Moosalm 22.96 300⇑ *i*P **P 22 06 50.6 -1.2**
MOTA pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
GRA1 Grafenberg Arr 23.37 306 *e*P **P 22 06 55.8 -0.4**
comp=Z,15nm,0.9s,mb4.4
GRF Grafenberg Arr 23.37 306 *e*P **P 22 06 55.8 -0.4**
comp=Z,15nm,0.9s,mb4.4
GRF Grafenberg Arr 23.37 306 *e*P **P 22 06 55.8 -0.4**
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.4
GRF Grafenberg Arr 23.37 306 *e*P **P 22 06 55.8 -0.4**
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.4
ZRNK Zerenda 23.52 46 *e*P **P 22 06 56.9 -0.8**
ZRNK pmax pmax
comp=Z,7.0nm,1.2s,mb4.0
ZRNK Zerenda 23.52 46 *e*P **P 22 06 56.9 -0.8**
comp=Z,6.7nm,1.2s,mb4.0
DAVOX Davos 23.71 298 LR LR 22 17 16.1
comp=Z,119nm,20.8s,MS3.3,baz=89,slow=39
FINES FINESS Array B 23.88 342 P **P 22 07 00.8 -0.3**
comp=Z,3.3nm,0.5s,mb4.0,baz=146,slow=12,SNR=12
FINES LR LR 22 17 26.5
comp=Z,54nm,19.9s,MS3.0,baz=141,slow=39
FINES FINESS Array B 23.88 342 P **P 22 07 00.8 -0.3**
FINES LR LR 22 17 26.5
PGF Pioggiola 24.21 288 *e*P **P 22 07 03.8 -0.3**
comp=Z,10nm,0.7s,mb4.1
PGF Pioggiola 24.21 288 *e*P **P 22 07 03.8 -0.3**
PGF pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
PGF Pioggiola 24.21 288 *e*P **P 22 07 03.8 -0.3**
comp=Z,5.2nm,0.7s,mb4.1
JOF Joensuu 24.24 349 *e*p **P 22 07 03.0 -1.3**
comp=Z,4.6nm,0.6s,mb4.1
JOF Joensuu 24.24 349 *e*P **P 22 07 03.0 -1.3**
JOF pmax pmax
comp=Z,5.0nm,0.6s,mb4.1
BVAR Borovoye Array 24.32 46 P **P 22 07 06.2 +1.1**
comp=Z,0.8nm,0.7s,mb3.3,baz=253,slow=7.6,SNR=5.7
BVAR LR LR 22 18 19.1
comp=Z,86nm,18.5s,MS3.3,baz=232,slow=41
BVAR Borovoye Array 24.32 46 P **P 22 07 06.2 +1.1**
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR MLR MLR
comp=Z,86nm,18.5s
BVAR Borovoye Array 24.32 46 P **P 22 07 06.2 +1.1**
BVAR LR LR 22 18 19.1
KAF Kangasniemi 24.41 343 *e*p **P 22 07 04.9 -1.0**
comp=Z,5.4nm,0.8s,mb4.0
KAF Kangasniemi 24.41 343 *e*P **P 22 07 04.9 -1.0**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
CHKZ Chkalovo 24.70 45 *e*P **P 22 07 07.6 -0.9**
CHKZ pmax pmax
comp=Z,7.0nm,1.2s,mb4.1
CHKZ Chkalovo 24.70 45 *e*P **P 22 07 07.6 -0.9**
comp=Z,7.2nm,1.2s,mb4.1
SBF Sospel 25.30 291 *e*P **P 22 07 14.3 +0.3**
comp=Z,54nm,1.0s,mb4.7
SBF Sospel 25.30 291 *e*P **P 22 07 14.3 +0.3**
SBF pmax pmax
comp=Z,27nm,1.0s,mb4.7
SBF Sospel 25.30 291 *e*P **P 22 07 14.3 +0.3**
comp=Z,27nm,1.0s,mb4.7
AAK Ala-Archa 25.45 72 *e*P **P 22 07 14.1 -1.3**
AAK pmax pmax
comp=Z,6.0nm,1.7s,mb3.9
AAK MLR MLR
comp=Z,100nm,17.0s,MS3.4
MBDF Montbardon 25.76 293 *e*P **P 22 07 18.9 +0.7**
comp=Z,9.4nm,0.7s,mb4.1
MBDF Montbardon 25.76 293 *e*P **P 22 07 18.9 +0.7**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
MBDF Montbardon 25.76 293 *e*P **P 22 07 18.9 +0.7**
comp=Z,4.7nm,0.7s,mb4.1
LPG La Plagne 25.79 295 *e*P **P 22 07 19.5 +1.1**
comp=Z,5.4nm,0.8s,mb3.8
LPG La Plagne 25.79 295 *e*P **P 22 07 19.5 +1.1**
LPG pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
LPG La Plagne 25.79 295 *e*P **P 22 07 19.5 +1.1**
comp=Z,2.7nm,0.8s,mb3.8
LPL La Plagne 25.80 295 *e*P **P 22 07 19.3 +0.8**
comp=Z,2.1nm,0.5s,mb3.6
LPL La Plagne 25.80 295 *e*P **P 22 07 19.3 +0.8**
LPL pmax pmax
comp=Z,1.0nm,0.5s,mb3.6
LPL La Plagne 25.80 295 *e*P **P 22 07 19.3 +0.8**
comp=Z,1.0nm,0.5s,mb3.6
BNI Bardonecchia 25.83 294 *e*P **P 22 07 19.9 +1.1**
BNI pmax pmax
comp=Z,12nm,1.0s,mb4.4
BNI Bardonecchia 25.83 294 *e*P **P 22 07 19.9 +1.1**
comp=Z,12nm,1.0s,mb4.4
FRF La Foret Royal 25.88 290 *e*P **P 22 07 20.2 +0.9**
comp=Z,27nm,1.1s,mb4.4
FRF La Foret Royal 25.88 290 *e*P **P 22 07 20.2 +0.9**
FRF pmax pmax
comp=Z,14nm,1.1s,mb4.4
FRF La Foret Royal 25.88 290 *e*P **P 22 07 20.2 +0.9**
comp=Z,14nm,1.1s,mb4.4
CABF La Chapelle 26.29 297 *e*P **P 22 07 22.7 -0.3**
comp=Z,24nm,0.9s,mb4.4
CABF La Chapelle 26.29 297 *e*P **P 22 07 22.7 -0.3**
CABF pmax pmax
comp=Z,12nm,0.9s,mb4.4
CABF La Chapelle 26.29 297 *e*P **P 22 07 22.7 -0.3**
comp=Z,12nm,0.9s,mb4.4
ORIF Oris-en-Rattie 26.40 293 *e*P **P 22 07 25.1 +1.2**
ORIF *e*R
comp=Z,129nm,22.5s
SMRF Simiane la Rot 26.64 291 *e*P **P 22 07 27.3 +1.2**
HFS Hagfors 26.84 330 P **P 22 07 27.3 -0.6**
comp=Z,3.7nm,0.7s,mb4.0,baz=139,slow=12,SNR=8.7
HFS LR LR 22 19 18.7
comp=Z,92nm,19.5s,MS3.3,baz=127,slow=39
HFS Hagfors 26.84 330 P **P 22 07 27.3 -0.6**
HFS pmax pmax
comp=Z,4.0nm,0.7s
HFS MLR MLR
comp=Z,92nm,19.5s
VIVF Saint-Julien-l 27.26 293 *e*P **P 22 07 32.7 +1.0**
comp=Z,4.9nm,0.8s,mb3.8
VIVF Saint-Julien-l 27.26 293 *e*P **P 22 07 32.7 +1.0**
VIVF pmax pmax
comp=Z,2.0nm,0.8s,mb3.7
VIVF Saint-Julien-l 27.26 293 *e*P **P 22 07 32.7 +1.0**
comp=Z,2.5nm,0.8s,mb3.8
SMF Signal de Mont 27.84 297 *e*P **P 22 07 37.3 +0.4**
LOR Lormes 27.85 299 *e*P **P 22 07 37.9 +0.9**
LOR *e*R
comp=Z,103nm,17.2s
LASF Ste Croix 27.87 292 *e*P **P 22 07 38.3 +1.1**
AVF Avril sur Loir 28.18 298 *e*P **P 22 07 40.3 +0.3**
comp=Z,4.5nm,0.9s,mb3.8
AVF Avril sur Loir 28.18 298 *e*P **P 22 07 40.3 +0.3**
AVF pmax pmax
comp=Z,2.0nm,0.9s,mb3.8
AVF Avril sur Loir 28.18 298 *e*P **P 22 07 40.3 +0.3**
comp=Z,2.2nm,0.9s,mb3.8
NB2 NORSAR Subarra 28.36 330 P **P 22 07 40.4 -1.2**
comp=Z,0.4nm,0.6s,mb3.2,baz=126,slow=9.3
NOA NORSAR Array B 28.36 330 P **P 22 07 40.3 -1.3**
comp=Z,0.5nm,0.7s,mb3.2,baz=127,slow=8.8,SNR=4.6
NOA LR LR 22 20 14.2
comp=Z,77nm,18.7s,MS3.3,baz=115,slow=39
NOA NORSAR Array B 28.36 330 P **P 22 07 40.3 -1.3**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA MLR MLR
comp=Z,77nm,18.7s
KURK Kurchatov 28.64 54⇑ *i*P **P 22 07 44.8 +0.8**
TCF Toulx Ste Croi 28.97 296 *e*P **P 22 07 47.6 +0.7**
comp=Z,2.1nm,0.5s,mb3.8
TCF Toulx Ste Croi 28.97 296 *e*P **P 22 07 47.6 +0.7**
TCF pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
TCF Toulx Ste Croi 28.97 296 *e*P **P 22 07 47.6 +0.7**
comp=Z,1.0nm,0.5s,mb3.8
MTLF Montolieu 29.11 290 *e*P **P 22 07 49.7 +1.5**
EPF Esparros 30.51 290 *e*P **P 22 08 02.1 +1.5**
MKAR Makanchi Array 30.82 62 P **P 22 08 03.8 +0.4**
comp=Z,0.9nm,0.7s,mb3.7,baz=274,slow=8.0,SNR=11
MKAR Makanchi Array 30.82 62 *i* P **P 22 08 04.5 +1.1**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
FLN La Foliniere 30.83 301 *e*P **P 22 08 04.1 +0.7**
ETSF Etsaut 31.18 290 *e*P **P 22 08 07.8 +1.2**
comp=Z,3.1nm,0.7s,mb4.0
ETSF Etsaut 31.18 290 *e*P **P 22 08 07.8 +1.2**
ETSF pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
ETSF Etsaut 31.18 290 *e*P **P 22 08 07.8 +1.2**
comp=Z,1.5nm,0.7s,mb3.9
ARCES ARCESS Array B 31.28 350 P **P 22 08 06.9 -0.5**
comp=Z,3.5nm,0.9s,mb4.2,baz=146,slow=9.7,SNR=7.8
ARCES LR LR 22 21 46.5
comp=Z,123nm,20.5s,MS3.6,baz=153,slow=38
ARCES ARCESS Array B 31.28 350 P **P 22 08 06.9 -0.5**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES MLR MLR
comp=Z,123nm,20.5s
SJPF Ste Jean 31.64 291 *e*P **P 22 08 11.7 +1.1**
SGMF Saint Gilles 32.20 300 *e*P **P 22 08 16.2 +0.7**
ZAL Zalesovo 32.86 49 LR LR 22 23 46.7
comp=Z,82nm,19.1s,MS3.5,baz=209,slow=40
EKA Eskdalemuir Ar 33.17 313 P **P 22 08 23.2 -0.8**
comp=Z,1.4nm,0.8s,mb3.9,baz=104,slow=9.8,SNR=8.2
EKA Eskdalemuir Ar 33.17 313 P **P 22 08 23.2 -0.8**
EKA pmax pmax
comp=Z,1.0nm,0.9s
ESDC Sonseca Array 34.32 285 P **P 22 08 32.6 -1.4**
comp=Z,1.1nm,0.8s,mb3.8,baz=69,slow=8.8,SNR=5.9
KMBO Kilima Mbogo 40.48 186 LR LR 22 25 06.3
comp=Z,120nm,19.3s,MS3.8,baz=261,slow=35
TORD Torodi Ar. Bea 43.31 244 P **P 22 09 48.2 -1.1**
comp=Z,2.6nm,1.0s,mb3.9,baz=34,slow=6.0,SNR=10
SONM Songino Array 46.86 57 LR LR 22 32 24.9
comp=Z,295nm,18.5s,MS4.3,baz=299,slow=39
DBIC Dimbokro 52.42 244 P **P 22 11 00.2 +0.3**
comp=Z,2.5nm,0.7s,mb4.2,baz=41,slow=6.8,SNR=4.7
DBIC Dimbokro 52.42 244 P **P 22 11 00.2 +0.3**
DBIC pmax pmax
comp=Z,3.0nm,0.7s
LIC Lamto 52.86 244 *e*P **P 22 11 03.8 +0.6**
comp=Z,17nm,1.0s,mb4.6
LIC *e*R
comp=Z,62nm,21.9s
LIC Lamto 52.86 244 *e*P **P 22 11 03.8 +0.6**
comp=Z,8.7nm,1.0s,mb4.6
NEW Newport 90.55 346 LR LR 22 59 18.6
comp=Z,57nm,18.1s,MS4.0,baz=164,slow=38
PDAR Pinedale Array 93.93 339 LR LR 22 57 29.7
comp=Z,70nm,18.8s,MS4.2,baz=166,slow=36
YBH Yreka Blue Hor 97.87 348 LR LR 23 00 17.3
comp=Z,56nm,19.1s,MS4.1,baz=0.0,slow=36

MOS ***21*** *22:04:17.9±1.5, 57.30N×126.93E, h14km, mb4.1/15, Error ellipse: s-maj=17.3km s-min=9.8km az=98.6*
IDC ***21*** *22:04:17.0±1.6, 57.20N×127.27E, h0km, mb3.9/14, mb1 4.0/15, mb1mx3.9/23, mbtmp3.8/15, ML3.2/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/37, Error ellipse: s-maj=45.2km s-min=18.6km az=167.0*
NEIC ***21*** *22:04:19.4±0.7, 57.42N×127.08E, h10km, mb4.0/2, Error ellipse: s-maj=15.5km s-min=12.3km az=146.0*
ISCJB ***21*** *22:04:20.2±3.2, 57.53N±0.05×127.0E±0.1, h23km±24km, mb3.9/23, MS3.5/3, Error ellipse: s-maj=12.7km s-min=7.2km az=36.4*
BJI ***21*** *22:04:20.8, 57.31N×127.10E, h4km, mB4.7, mb4.1, ML4.6, Ms4.2, Msz3.6*

ISC 21 22:04:18.3±4.6, 57.46N±0.06×127.0E±0.1, h4km±30km, n60, σ1s27/58, mb3.9/23, MS3.5/3, 1C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YAK	**Yakutsk**	**4.78**	**15**	*e*P	**Pn**		**22 05 33.3**	**+2.3**
YAK				*e*			22 06 27.2	
YAK				pmax	pmax			
	comp=Z,20nm,0.7s							
YAK				pmax	pmax			
	comp=N,9.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,3.0nm,0.8s							
YAK				pmax	pmax			
	comp=N,15nm,0.7s							
YAK				pmax	pmax			
	comp=E,8.0nm,0.7s							
YAK				pmax	pmax			
	comp=Z,68nm,0.7s							
YAK				smax				
	comp=N,493nm,0.8s							
YAK				smax				
	comp=E,574nm,0.8s							
YAK				smax				
	comp=Z,451nm,0.8s							
YAK				smax				
	comp=N,2μm,0.8s							
YAK				smax				
	comp=Z,1μm,0.9s							
YAK				smax				
	comp=E,934nm,0.8s							
YAK				MLR	MLR			
	comp=Z,134nm,8.3s							
YAK	**Yakutsk**	**4.78**	**15**	*e*Pn	**Pn**		**22 05 31.4**	**+0.4**
YAK				*e*Sn	**Sn**		**22 06 25.8**	**-1.0**
KLR	**Kul'dur**	**8.71**	**159**	*e*P	**Pn**		**22 06 23.6**	**-1.5**
KLR				MLR	MLR			
	comp=N,2μm,7.0s							
KLR				MLR	MLR			
	comp=E,800nm,7.0s							
KLR				MLR	MLR			
	comp=Z,2μm,7.0s							
HIA	**Hailar**	**9.29**	**211**	*e*P	**Pn**		**22 06 32.1**	**-0.9**
MDJ	**Mudanjiang**	**12.96**	**172**	P	**Pn**		**22 07 27.3**	**+4.1**
TIXI	**Tiksi**	**14.27**	**2**	*e*P	**Pn**		**22 07 37.8**	**-3.3**
TIXI				pmax	pmax			
	comp=Z,8.0nm,0.7s							
TIXI				MLR	MLR			
	comp=Z,82nm,11.0s							
VLA	**Vladivostok**	**14.68**	**166**	*e*P	**Pn**		**22 07 57.3**	**+11**
VLA				pmax	pmax			
	comp=Z,105nm,2.1s							
ULN	**Ulaanbaatar**	**15.41**	**240**	*e*P	**Pn**		**22 07 52.4**	**-4.1**
ZAK	**Zakamensk**	**15.63**	**253**	*e*P	**Pn**		**22 08 04.4**	**+5.1**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.6s							
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.6s							
ZAK				pmax	pmax			
	comp=N,25nm,1.7s							
SONM	**Songino Array**	**15.74**	**241**	Pn	**Pn**		**22 08 00.7**	**-0.1**
	comp=N,0.1nm,0.3s,baz=58,slow=19,SNR=2.6							
SONM				Lg			22 12 30.8	
	comp=N,0.6nm,0.3s,baz=47,slow=30,SNR=9.3							
SONM				LR	LR		22 14 31.5	
	comp=N,129nm,21.1s,baz=218,slow=39							
ASAJ	**Asahikawa**	**16.53**	**137**	LR	LR		22 14 52.4	
	comp=N,104nm,19.2s,baz=234,slow=39							
KRAR	**Krasnoyarsk**	**18.68**	**280**	*e*P	**Pn**		**22 08 31.2**	**-6.5**
KRAR				pmax	pmax			
	comp=Z,24nm,1.0s							
BJI	**Beijing**	**18.80**	**207**	*e*P	**Pn**		**22 08 46.0**	**+6.8**
BJI				S	**Sn**		**22 12 05.9**	**-4.0**
BJI				AMB	AMB			

	comp=Z,4.0nm,0.5s							
BJI				LR	LR			
	comp=N,507nm,9.9s							
BJI				LR	LR			
	comp=E,714nm,10.2s							
MJAR	**Matsushiro Arr**	**22.21**	**156**	P	**P**	**22 09 15.8**	**+0.1**
	comp=E,0.8nm,0.6s,mb3.3,baz=297,slow=16,SNR=3.5							
MJAR	**Matsushiro Arr**	**22.21**	**156**	P	**P**	**22 09 15.8**	**+0.1**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ZAL	**Zalesovo**	**23.77**	**280**	P	**P**	**22 09 32.2**	**+0.2**
	comp=Z,1.4nm,0.6s,mb3.5,baz=54,slow=5.3,SNR=4.8							
ZAL	**Zalesovo**	**23.77**	**280**	P	**P**	**22 09 32.2**	**+0.3**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ZAL	**Zalesovo**	**23.77**	**280**	P	**P**	**22 09 32.2**	**+0.2**
NVS	**Novosibirsk**	**24.22**	**283**	*eP*	**P**	**22 09 33.8**	**-2.2**
NVS				pmax	pmax			
	comp=Z,18nm,1.8s,mb4.2							
NVS				pmax	pmax			
	comp=N,19nm,1.9s							
NVS				pmax	pmax			
	comp=E,19nm,1.6s							
GTA	**Gaotai**	**25.27**	**236**	*eP*	**P**	**22 09 48.3**	**+2.8**
GTA				AP	pP	22 09 50.8	+4.0
GTA				XP	sP	22 09 52.6	+5.3
GTA				AMB	AMB			
	comp=Z,2.0nm,0.9s,mb3.6							
GTA				AMB	AMB			
	comp=Z,111nm,5.4s							
GTA				LR	LR			
	comp=N,112nm,9.2s							
GTA				LR	LR			
	comp=E,127nm,12.2s							
GTA				LR	LR			
	comp=Z,128nm,13.8s,MS3.6							
NJ2	**Nanjing**	**26.02**	**196**	*eP*	**P**	**22 09 55.4**	**+3.0**
NJ2				AMB	AMB			
	comp=Z,20nm,1.2s,mb4.5							
KURK	**Kurchatov**	**28.66**	**277**	*eP*	**P**	**22 10 15.0**	**-1.0**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb3.9							
KURK	**Kurchatov**	**28.66**	**277**	*eP*	**P**	**22 10 15.0**	**-1.1**
	comp=Z,2.3nm,0.9s,mb3.9							
MKAR	**Makanchi Array**	**28.95**	**268**	P	**P**	**22 10 18.9**	**+0.3**
	comp=Z,0.5nm,0.8s,mb3.3,baz=43,slow=8.7,SNR=5.3							
MKAR	**Makanchi Array**	**28.95**	**268**	P	**P**	**22 10 18.9**	**+0.3**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
CHKZ	**Chkalovo**	**31.34**	**288**⇑	*eP*	**P**	**22 10 39.5**	**-0.3**
BVAR	**Borovoye Array**	**31.79**	**287**	P	**P**	**22 10 44.3**	**+0.6**
	comp=Z,2.0nm,0.8s,mb4.0,baz=72,slow=9.5,SNR=8.0							
BVAR	**Borovoye Array**	**31.79**	**287**	P	**P**	**22 10 44.3**	**+0.6**
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ZRNK	**Zerenda**	**32.54**	**287**	*eP*	**P**	**22 10 49.9**	**-0.4**
ARU	**Arti**	**35.93**	**298**	*eP*	**P**	**22 11 13.4**	**-6.3**
ARU				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
AKTK	**Aktyubinsk**	**39.59**	**290**	P	**P**	**22 11 50.6**	**-0.1**
AKTO	**Aktyubinsk**	**39.59**	**290**	P	**P**	**22 11 50.6**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.8,baz=76,slow=7.7,SNR=4.0							
AKTO	**Aktyubinsk**	**39.59**	**290**	P	**P**	**22 11 50.6**	**-0.1**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb3.8							
ARCES	**ARCESS Array B**	**41.44**	**329**	P	**P**	**22 12 08.4**	**+2.4**
	comp=Z,2.0nm,0.9s,mb3.7,baz=54,slow=8.2,SNR=4.3							
ARCES	**ARCESS Array B**	**41.44**	**329**	P	**P**	**22 12 08.4**	**+2.4**
ARCES				pmax	pmax			
	comp=Z,2.0nm,1.0s							
KLMR	**Klimovskoe**	**41.83**	**313**	*eP*	**P**	**22 12 09.2**	**0.0**
KLMR				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.5							
JOF	**Joensuu**	**43.66**	**319**	*ep*	**P**	**22 12 23.3**	**-0.8**
	comp=Z,2.2nm,0.5s,mb4.1							
JOF	**Joensuu**	**43.66**	**319**	*eP*	**P**	**22 12 23.3**	**-0.8**
JOF				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.1							
KAF	**Kangasniemi**	**45.95**	**320**	*ep*	**P**	**22 12 39.3**	**-3.0**
	comp=Z,1.3nm,0.6s,mb4.0							
KAF	**Kangasniemi**	**45.95**	**320**	*eP*	**P**	**22 12 39.3**	**-3.0**
KAF				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
FINES	**FINESS Array B**	**46.49**	**319**	P	**P**	**22 12 46.6**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.2,baz=47,slow=11,SNR=9.5							
FINES				LR	LR	22 34 08.0		
	comp=Z,66nm,18.6s,MS3.6,baz=132,slow=38							
FINES	**FINESS Array B**	**46.49**	**319**	P	**P**	**22 12 46.6**	**+0.1**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.7s							
FINES				MLR	MLR			
	comp=Z,66nm,18.6s							
YKA	**Yellowknife Ar**	**51.25**	**32**	P	**P**	**22 13 22.7**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.1,baz=324,slow=7.0,SNR=6.5							
YKA	**Yellowknife Ar**	**51.25**	**32**	*i* P	**P**	**22 13 23.7**	**+0.6**
YKA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
YKA	**Yellowknife Ar**	**51.25**	**32**	P	**P**	**22 13 22.7**	**-0.4**
HFS	**Hagfors**	**51.59**	**324**	P	**P**	**22 13 25.6**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=72,slow=5.3,SNR=6.0							
HFS	**Hagfors**	**51.59**	**324**	P	**P**	**22 13 25.6**	**-0.1**
HFS				pmax	pmax			
	comp=Z,1.0nm,0.7s							
HFS	**Hagfors**	**51.59**	**324**	P	**P**	**22 13 25.6**	**-0.1**
NB2	**NORSAR Subarra**	**51.65**	**326**	P	**P**	**22 13 25.5**	**-0.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=38,slow=6.9							
NOA	**NORSAR Array B**	**51.65**	**326**	P	**P**	**22 13 25.9**	**-0.2**
	comp=Z,1.6nm,0.8s,mb4.0,baz=38,slow=7.3,SNR=8.5							
NOA	**NORSAR Array B**	**51.65**	**326**	P	**P**	**22 13 25.9**	**-0.2**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
AKASG	**Malin Array Be**	**52.94**	**308**	P	**P**	**22 13 37.8**	**+2.1**
	comp=Z,0.4nm,0.4s,mb3.7,baz=37,slow=7.8,SNR=5.6							
GERES	**GERESS Array B**	**60.64**	**316**	P	**P**	**22 14 33.1**	**+2.7**
	comp=Z,0.6nm,0.8s,mb3.8,baz=34,slow=8.1,SNR=5.2							
GERES				LR	LR	22 42 51.7		
	comp=Z,23nm,18.7s,MS3.4,baz=335,slow=38							
GERES	**GERESS Array B**	**60.64**	**316**	P	**P**	**22 14 33.1**	**+2.7**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.8s							
GERES				MLR	MLR			
	comp=Z,23nm,18.7s							
PDAR	**Pinedale Array**	**69.51**	**41**	P	**P**	**22 15 28.8**	**+0.8**
	comp=Z,0.6nm,0.6s,mb3.7,baz=37,slow=2.0,SNR=7.0							
NVAR	**Mina Array Bea**	**69.90**	**49**	P	**P**	**22 15 29.7**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.6,baz=343,slow=4.7,SNR=4.6							
TORD	**Torodi Ar. Bea**	**96.57**	**307**	P	**P**	**22 17 48.8**	**-0.5**
	comp=Z,0.4nm,0.8s,mb3.9,baz=18,slow=5.9,SNR=4.3							
CPUP	**Villa Florida**	**148.74**	**8**	PKPbc	PKPbc	22 24 05.8	-1.0	
	comp=Z,0.5nm,0.4s,baz=7.3,slow=4.9,SNR=5.4							
CPUP	**Villa Florida**	**148.74**	**8**	PKP2	PKPab	22 24 05.8	-4.8	
CPUP				pmax	pmax			
	comp=Z,1.0nm,0.4s							
CPUP	**Villa Florida**	**148.74**	**8**	PKPbc	PKPbc	22 24 05.8	-1.1	

*IDC **21** 22:06:24.3±2.3, 595S×13028E, h0km, mb3.6/1, mb1 4.0/4, mb1mx3.8/13, mbtmp3.9/4, ML4.0/3, Error ellipse: s-maj=95.0km s-min=28.2km az=77.0*
*NEIC **21** 22:06:36.8±3.1, 639S×12982E, h105km±30km, mb3.8/1, Error ellipse: s-maj=38.7km s-min=24.7km az=63.0*
*ISCJB **21** 22:06:43.0±2.3, 695±0.1×1300E±0.1, h138km±28km, mb3.4/1, Error ellipse: s-maj=22.7km s-min=19.9km az=95.8*

ISC 21 22:06:44.9±2.2, 70S±01×1299E±01, h147km±14km, n10, σ1§20/17, mb3.4/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.23**	**157**	*eP*	**Pn**	**22 08 14.1**	**-0.5**
	14nm,0.2s						
KAKA				*eS*	**Sn**	**22 09 25.6**	**+0.8**
FITZ	**Fitzroy Crossi**	**11.82**	**200**	*eP*	**Pn**	**22 09 28.9**	**0.0**
	3.3nm,0.2s						
FITZ				*eS*	**Sn**	**22 11 39.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**11.82**	**200**	Pn	**Pn**	**22 09 29.1**	**+0.2**
	1.0nm,0.3s,baz=37,slow=12,SNR=42						
FITZ				Sn	**Sn**	**22 11 39.4**	**0.0**
	0.3nm,0.3s,baz=114,slow=20,SNR=4.2						
WRAB	**Tennant Creek**	**13.59**	**162**	*e*Pn	**Pn**	**22 09 51.6**	**-0.1**
	2.1nm,0.3s						
WRA	**Warramunga Arr**	**13.60**	**162**	Pn	**Pn**	**22 09 49.9**	**-1.9**
	0.6nm,0.3s,baz=347,slow=13,SNR=36						
WRA				Sn	**Sn**	**22 12 18.0**	**-4.2**
	1.2nm,0.3s,baz=335,slow=23,SNR=9.5						
WB2	**Warramunga Arr**	**13.60**	**162**	*eP*	**Pn**	**22 09 50.2**	**-1.6**
WB2				*eS*	**Sn**	**22 12 18.1**	**-4.2**
AS31	**Alice Springs**	**17.04**	**167**	*eP*	**Pn**	**22 10 35.6**	**+1.2**
AS31				*eS*	Sx	22 13 42.1	
ASPA	**Alice Springs**	**17.04**	**167**	*eP*	**Pn**	**22 10 35.6**	**+1.2**
ASPA				*eS*	**S**	**22 13 42.1**	**-1.7**
ASAR	**Alice Springs**	**17.04**	**167**	P	**Pn**	**22 10 35.8**	**+1.4**
	0.3nm,0.3s,baz=350,slow=11,SNR=20						
ASAR				S		**22 13 45.1**	**+1.3**
	0.2nm,0.3s,baz=87,slow=26,SNR=5.4						
MKAR	**Makanchi Array**	**68.14**	**327**	P	**P**	**22 17 22.3**	**-6.8**
	0.4nm,0.5s,mb3.4,baz=113,slow=6.9,SNR=5.9						

*NEIC **21** 22:19:41.1, 2851S×7025W, h85km, MG3.6(GUC), After GUC.*

GUC 21 22:19:41.1±0.6, 2851S×7025W, h85km±7km, MD3.2, ML3.6, 9C, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.64**	**218**⇑	*i*P	Pn	22 19 57.6	+1.1
LCO				*i* S	Sn	22 20 09.7	+1.7
CPCH	**Copiapo**	**1.15**	**355**⇑	*i*P	Pn	22 20 02.6	+0.4
CPCH				*i* S	Sn	22 20 18.7	+0.6
CPCH				AML	AML	22 20 21.3	
	comp=E,13μm,0.1s						
CPCH	**Copiapo**	**1.15**	**355**⇑	*i*P	Pn	22 20 02.6	+0.4
CPCH				*i* S	Sn	22 20 18.7	+0.6
CDCH	**Caldera**	**1.52**	**340**⇑	*i*P	Pn	22 20 07.3	+0.4
CDCH				*i* S	Sn	22 20 26.8	+0.5
CDCH				AML	AML	22 20 29.5	
	comp=N,402nm,0.5s						
CDCH	**Caldera**	**1.52**	**340**⇑	*i*P	Pn	22 20 07.3	+0.4
CDCH				*i* S	Sn	22 20 26.8	+0.5
TLL	**Tololo Astrono**	**1.72**	**196**⇑	*i*P	Pn	22 20 10.8	+1.4
TLL				*i* S	Sn	22 20 33.0	+2.0
TLL				AML	AML	22 20 35.5	
	comp=E,275nm,0.2s						
TLL	**Tololo Astrono**	**1.72**	**196**⇑	*i*P	Pn	22 20 10.8	+1.4
TLL				*i* S	Sn	22 20 33.0	+2.0
CMCH	**Combarbala**	**2.73**	**194**⇑	*i*P	Pn	22 20 23.3	+0.4
CMCH				*i* S	Sn	22 20 55.7	+0.6
CMCH				AML	AML	22 20 58.1	
	comp=N,308nm,0.8s						
CMCH	**Combarbala**	**2.73**	**194**⇑	*i*P	Pn	22 20 23.3	+0.4
CMCH				*i* S	Sn	22 20 55.7	+0.6

*IDC **21** 22:23:24.8±6.2, 2048S×17804W, h580km±65km, mb3.6/7, mb1 3.8/8, mb1mx3.5/16, mbtmp4.7/8, Error ellipse: s-maj=41.9km s-min=29.1km az=53.0*
*ISCJB **21** 22:23:26.8±4.6, 206S±02×1783W±03, h615km±50km, mb4.2/14, Error ellipse: s-maj=48.2km s-min=23.4km az=100.2*
*NEIC **21** 22:23:26.7±3.5, 2052S×17812W, h605km±36km, mb4.4/11, Error ellipse: s-maj=27.1km s-min=13.7km az=52.0*

ISC 21 22:23:26.8±5.9, 206S±02×1781W±03, h600km±64km, n28, σ0§34/23, mb4.2/14, 3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.09**	**192**	P	**P**	**22 27 03.3**	**+0.2**
	6.4nm,0.3s,baz=296,slow=4.6,SNR=28						
CNB	**Canberra Magne**	**32.09**	**236**	*eP*	**P**	**22 29 06.3**	**+0.1**
	7.2nm,0.5s,mb4.6						
CTA	**Charters Tower**	**33.37**	**264**	*eP*	**P**	**22 29 16.8**	**-0.2**
	2.9nm,0.3s,mb4.4						
CTA	**Charters Tower**	**33.37**	**264**	P	**P**	**22 29 16.9**	**-0.1**
	3.1nm,0.3s,mb4.4,baz=78,slow=13,SNR=13						
CTAO	**Charters Tower**	**33.37**	**264**	*eP*	**P**	**22 29 16.7**	**-0.3**
	3.6nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**37.65**	**244**	*eP*	**P**	**22 29 52.3**	**0.0**
	5.0nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**37.65**	**244**	P	**P**	**22 29 52.4**	**+0.1**
	8.0nm,0.5s,mb4.5,baz=84,slow=9.2,SNR=20						
AS31	**Alice Springs**	**44.39**	**257**	*eP*	**P**	**22 30 45.4**	**0.0**
ASAR	**Alice Springs**	**44.39**	**257**	P	**P**	**22 30 45.6**	**+0.2**
	20nm,0.8s,mb4.7,baz=99,slow=7.6,SNR=188						
ASAR				PcP	PcP	22 32 17.4	+1.7
	0.9nm,0.5s,baz=100,slow=3.9,SNR=4.9						
ASPA	**Alice Springs**	**44.40**	**257**	*i*P	**P**	**22 30 45.4**	**0.0**
WB2	**Warramunga Arr**	**44.47**	**262**	*i*P	**P**	**22 30 45.6**	**-0.4**
WRAB	**Tennant Creek**	**44.47**	**262**	*eP*	**P**	**22 30 45.5**	**-0.6**
	16nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**44.48**	**262**	P	**P**	**22 30 45.7**	**-0.4**
	7.2nm,0.7s,mb4.3,baz=97,slow=7.5,SNR=227						
FORT	**Forrest**	**49.16**	**247**	*eP*	**P**	**22 31 21.0**	**-0.2**
	15nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**52.91**	**262**	*i*P	**P**	**22 31 49.0**	**+0.8**
	6.3nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**52.91**	**262**	P	**P**	**22 31 49.0**	**+0.8**
	3.4nm,0.5s,mb3.9,baz=115,slow=4.4,SNR=33						
MBWA	**Marble Bar**	**57.73**	**257**	*eP*	**P**	**22 32 21.7**	**+0.1**
	6.2nm,0.5s,mb4.0						
KLBR	**Kellerberrin**	**57.92**	**245**	*eP*	**P**	**22 32 23.2**	**+0.4**
	123nm,1.8s,mb4.7						
NWAO	**Narrogin (SRO)**	**58.23**	**243**	P	**P**	**22 32 25.3**	**+0.3**
	4.5nm,0.7s,mb3.7,baz=52,slow=16,SNR=3.6						
NWAO	**Narrogin (SRO)**	**58.23**	**243**	P	**P**	**22 32 25.3**	**+0.3**
CASY	**Casey**	**63.84**	**205**	*eP*	**P**	**22 33 00.9**	**-0.6**
	2.4nm,0.6s,mb3.7						
QSPA	**South Pole Qui**	**69.48**	**180**	*eP*	**P**	**22 33 36.1**	**-0.1**
	4.7nm,0.7s,mb4.0						
MJAR	**Matsushiro Arr**	**70.22**	**324**	P	**P**	**22 33 40.6**	**+0.1**
	1.9nm,0.8s,mb3.6,baz=157,slow=6.9,SNR=5.4						
BVAR	**Borovoye Array**	**119.08**	**320**	PKP	PKPdf	22 41 08.4	0.0
	0.6nm,0.4s,baz=108,slow=2.1,SNR=5.8						
AKASG	**Malin Array Be**	**143.04**	**331**	PKP	PKPdf	22 41 50.9	-2.3
	3.5nm,0.7s,baz=43,slow=4.4,SNR=14						
BRTR	**Keskin Array B**	**146.82**	**312**	PKPbc	PKPbc	22 42 02.2	-0.4
	0.9nm,0.7s,baz=155,slow=4.1,SNR=4.8						
CLL	**Collm**	**148.13**	**347**	*i* PKPbc	PKPbc	22 42 06.4	+0.4
	comp=Z,4.0nm,0.8s						
CLL				*i* PKPab	PKPab	22 42 12.3	+1.1
GERES	**GERESS Array B**	**150.26**	**344**	PKPbc	PKPbc	22 42 09.9	-1.2
	comp=Z,0.6nm,0.7s,baz=40,slow=2.3,SNR=6.5						

*IDC **21** 22:31:42.1±1.4, 657S×8097W, h0km, mb4.0/7, mb1 4.2/9, mb1mx4.0/18, mbtmp4.1/9, ML3.7/2, MS3.5/9, Ms1 3.6/9, ms1mx3.2/34, Error ellipse: s-maj=49.0km s-min=18.7km az=39.0*
*ISCJB **21** 22:31:46.3±2.6, 679S±0.1×81.1W±0.1, h51km±21km, mb4.1/7, MS3.6/5, Error ellipse: s-maj=23.3km s-min=15.7km az=145.7*
*NEIC **21** 22:31:48.2±1.2, 636S×8066W, h35km, mb3.8/1, Error ellipse: s-maj=35.0km s-min=15.0km az=51.0*

ISC 21 22:31:48.4±2.5, 67S±01×811W±01, h47km±21km, n21, σ0§67/13, mb4.1/7, MS3.6/5, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.66**	**96**	Pn	**Pn**	**22 32 28.0**	**-0.7**
	48nm,0.3s,baz=283,slow=5.8,SNR=70						
ATAH				Sn	**Sn**	**22 33 00.3**	**+0.6**
	83nm,0.3s,baz=70,slow=11,SNR=6.2						
NNA	**Nana**	**6.69**	**142**	*e*Pn	**Pn**	**22 33 24.3**	**+0.3**
	35nm,0.5s						
NNA				*e*Sn	**Sn**	**22 34 38.5**	**-0.4**
ROSC	**El Rosal**	**13.31**	**30**	LR	LR	22 39 46.7	
	comp=Z,106nm,18.2s,baz=198,slow=37						
LPAZ	**La Paz**	**15.83**	**128**	Pn	**Pn**	**22 35 29.1**	**+1.1**
	0.1nm,0.3s,baz=315,slow=12,SNR=3.6						
LPAZ				LR	LR	22 42 26.1	
	comp=Z,91nm,18.6s,baz=277,slow=41						
SAML	**Samuel**	**17.85**	**98**	*e*Pn	**Pn**	**22 35 49.3**	**-3.9**
	6.4nm,0.8s						
SDV	**Santo Domingo**	**18.66**	**34**	LR	LR	22 43 17.6	
	comp=Z,182nm,21.9s,baz=209,slow=38						
LVC	**Limon Verde**	**19.67**	**145**	LR	LR	22 43 04.8	
	comp=Z,148nm,20.4s,baz=114,slow=35						
SIV	**San Ignacio**	**21.64**	**117**	P	**P**	**22 36 33.7**	**-0.9**
	8.1nm,0.8s,mb4.2,baz=298,slow=9.9,SNR=31						
PCRV	**Puerto La Cruz**	**23.43**	**44**	LR	LR	22 47 03.4	
	comp=Z,151nm,18.9s,MS3.5,baz=212,slow=40						
CMIG	**Matias Romero**	**27.32**	**330**	LR	LR	22 45 33.6	
	comp=Z,54nm,20.6s,MS3.1,baz=20,slow=30						
CPUP	**Villa Florida**	**29.86**	**134**	P	**P**	**22 37 51.6**	**+0.3**
	0.2nm,0.3s,mb3.3,baz=280,slow=11,SNR=3.2						
BDFB	**Brasilia**	**33.57**	**108**	LR	LR	22 52 59.4	
	comp=Z,350nm,18.4s,MS4.1,baz=113,slow=38						
SADO	**Sadowa**	**51.27**	**2**	LR	LR	23 00 20.6	
	comp=Z,38nm,19.8s,MS3.4,baz=122,slow=34						
PDAR	**Pinedale Array**	**55.65**	**335**	P	**P**	**22 41 20.1**	**+0.5**
	0.9nm,0.7s,mb3.9,baz=132,slow=8.2,SNR=8.7						
ULM	**Lac du Bonnet**	**58.17**	**349**	P	**P**	**22 41 36.9**	**-0.6**
	3.1nm,0.7s,mb4.5,baz=165,slow=9.4,SNR=5.6						
DBIC	**Dimbokro**	**77.18**	**82**	P	**P**	**22 43 36.6**	**-0.6**
	3.3nm,0.8s,mb4.3,baz=203,slow=7.7,SNR=4.8						
ESDC	**Sonseca Array**	**84.41**	**49**	P	**P**	**22 44 16.4**	**+0.5**
	1.3nm,0.8s,mb4.1,baz=267,slow=4.9,SNR=8.1						
TORD	**Torodi Ar. Bea**	**84.50**	**76**	P	**P**	**22 44 16.4**	**+0.2**
	2.7nm,1.3s,mb4.2,baz=285,slow=4.6,SNR=8.6						
TORD				LR	LR	23 20 00.4	
	comp=Z,67nm,21.1s,MS4.0,baz=200,slow=34						
ASAR	**Alice Springs**	**134.43**	**227**	PKP	PKPdf	22 51 04.2	+3.0
	0.7nm,0.8s,baz=109,slow=3.0,SNR=4.2						
MKAR	**Makanchi Array**	**137.57**	**17**	PKP	PKPdf	22 51 08.2	+1.1
	0.6nm,0.9s,baz=2.9,slow=2.4,SNR=3.8						
FITZ	**Fitzroy Crossi**	**143.91**	**227**	PKP	PKPdf	22 51 19.1	+0.5
	1.9nm,0.7s,baz=90,slow=3.0,SNR=4.5						

*ISCJB **21** 22:32:46.5±1.3, 3184N±004×78.38E±005, h1km±8km, mb3.6/6, Error ellipse: s-maj=7.7km s-min=6.2km az=13.4*
*IDC **21** 22:32:47.2±1.0, 3157N×7805E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.4/24, mbtmp3.5/7, ML3.0/1, Error ellipse: s-maj=45.2km s-min=21.6km az=52.0*
*NDI **21** 22:32:48.3±2.4, 3180N×7831E, h5km, ML3.3*

ISC 21 22:32:48.0±1.3, 3180N±004×7835E±006, h1km±7km, n23, σ0§92/29, mb3.6/6, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLP	**Kalpa**	**0.28**	**197**	*eP*	**Pg**	**22 32 53.6**	**+0.2**
KLP				*eS*	**Sg**	**22 32 56.7**	**-0.3**
KLP				AML	AML	22 32 57.3	
	comp=E,7μm,0.2s						
KLP				AML	AML	22 32 57.5	
	comp=N,4μm,0.2s						
SMLA	**Simla**	**1.21**	**237**	*eP*	**Pg**	**22 33 09.5**	**-1.6**
SMLA				*eS*	**Sg**	**22 33 27.9**	**+1.0**
SMLA				AML	AML	22 33 31.5	
	comp=N,644nm,0.3s						
SMLA				AML	AML	22 33 31.6	
	comp=E,558nm,0.2s						
SDNR	**Sundarnagar**	**1.21**	**256**	*eP*	**Pg**	**22 33 10.0**	**-1.2**
SDNR				*eS*	**Sg**	**22 33 28.0**	**+1.1**
DDI	**Dehra Dun**	**1.49**	**190**	*eP*	**Pn**	**22 33 17.0**	**+1.1**
DDI				*eS*	**Sb**	**22 33 36.8**	**+0.8**
JOSI	**Joshimath**	**1.62**	**140**	*ex*	x	22 33 07.9	
BHK	**Bhakra**	**1.69**	**257**	*eP*	**Pn**	**22 33 23.6**	**+5.0**
BHK				*eS*	**Sn**	**22 33 45.2**	**+4.3**
PONG	**Pong**	**2.04**	**275**	*eP*	**Pn**	**22 33 24.0**	**+0.5**
PONG				*eS*	**Sn**	**22 33 50.0**	**+0.4**
DLH	**Dalhousie**	**2.15**	**291**	*eP*	**Pn**	**22 33 24.0**	**-0.9**
DLH				*eS*	**Sn**	**22 33 52.0**	**-0.2**
NDI	**New Delhi**	**3.26**	**198**	*ex*	x	22 33 46.0	
NDI				*ex*	x	22 33 46.1	
NDI				*eS*	**Sn**	**22 34 18.2**	**-1.3**
NDI				*eS*	**Sn**	**22 34 18.5**	**-1.1**
NDI				AML	AML	22 34 34.8	
	comp=E,74nm,0.5s						
NDI				AML	AML	22 34 35.0	
	comp=N,46nm,0.3s						
BHGR	**Bahadurgarh**	**3.33**	**202**	*ex*	x	22 33 50.0	
AYAN	**Aya Nagar**	**3.47**	**198**	*ex*	x	22 33 49.4	
CHCP	**Chirah Chowk**	**4.67**	**295**	P	**Pn**	**22 34 00.4**	**+0.8**
THW	**Thamme Wali**	**5.68**	**282**	P	**Pn**	**22 34 13.0**	**-0.5**
CEP	**Cherat**	**5.78**	**292**	P	**Pn**	**22 34 14.5**	**-0.4**
CEP				S	**Sn**	**22 35 17.0**	**-4.9**
SBDP	**Sheikh Budin**	**6.42**	**276**	P	**Pn**	**22 34 24.3**	**+0.7**
DRP	**Derazinda**	**6.94**	**272**	P	**Pn**	**22 34 30.0**	**-0.7**
MKAR	**Makanchi Array**	**15.28**	**10**	Pn	**Pn**	**22 36 25.8**	**+1.0**
	comp=N,0.1nm,0.3s,baz=189,slow=14,SNR=3.3						
BVAR	**Borovoye Array**	**21.98**	**347**	P	**P**	**22 37 42.6**	**-0.8**
	comp=N,0.5nm,0.4s,mb3.3,baz=150,slow=12,SNR=3.3						
AKTO	**Aktyubinsk**	**23.97**	**327**	P	**P**	**22 38 05.2**	**+1.4**
	comp=N,1.0nm,0.6s,mb3.5,baz=141,slow=6.5,SNR=3.2						
FINES	**FINESS Array B**	**44.74**	**327**	P	**P**	**22 41 03.1**	**+0.2**
	comp=N,1.3nm,0.9s,mb3.9,baz=116,slow=11,SNR=4.6						
TORD	**Torodi Ar. Bea**	**71.94**	**274**	P	**P**	**22 44 10.8**	**-2.2**
	comp=N,0.1nm,0.5s,mb3.2,baz=52,slow=5.0,SNR=6.0						
WRA	**Warramunga Arr**	**74.32**	**126**	P	**P**	**22 44 27.3**	**+0.2**
	comp=N,0.7nm,0.6s,mb3.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PDAR	**Pinedale Array**	55.06	334	P	P	22 48 32.8	+0.3
	0.6nm,0.8s,baz=104,slow=6.3,SNR=4.8						
ULM	**Lac du Bonnet**	57.30	348	P	P	22 48 49.1	+0.6
	0.7nm,0.5s,baz=169,slow=16,SNR=3.2						
DBIC	**Dimbokro**	76.19	82	P	P	22 50 50.0	+0.9
	1.7nm,0.7s,baz=258,slow=12,SNR=3.0						
ESDC	**Sonseca Array**	83.08	49	P	P	22 51 27.8	+1.3
	0.5nm,0.6s,baz=255,slow=4.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	83.43	76	P	P	22 51 28.2	-0.1
	0.4nm,0.7s,baz=302,slow=4.6,SNR=7.3						

*BJI **21** 22:50:34.0, 1068S×10766E, h10km, mB5.0, mb4.8, Ms5.1, Msz5.1*
*IDC **21** 22:50:41.7±0.7, 966S×10761E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.2/23, mbtmp4.3/16, ML3.6/1, Error ellipse: s-maj=28.6km s-min=14.3km az=50.0*
*NEIC **21** 22:50:43.0±0.3, 974S×10760E, h10km, mb4.7/14, Error ellipse: s-maj=13.9km s-min=6.2km az=54.0*
*ISCJB **21** 22:50:43.9±0.4, 971S±005×10768E±006, h28km, mb4.5/45, MS4.8/2, Error ellipse: s-maj=9.3km s-min=6.6km az=120.2*
*MOS **21** 22:50:46.3±0.9, 930S×10777E, h33km, mb5.0/11, Error ellipse: s-maj=25.0km s-min=9.7km az=110.0*
ISC 21 22:50:46.1±0.4**, 972S**±005×**10769E**±006**, h30km, h30km**±4.5km**:pP-P, n87, σ0.97**/81**, mb4.5**/45**, MS4.8**/2**, 6C-1D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	2.87	359	P	**Pn**	**22 51 30.8**	**+1.0**
	1μm,0.8s						
BJII	**Banjamegara**	3.10	40	P	**Pn**	**22 51 31.0**	**-1.9**
	137nm,0.9s						
BJII	**Banjamegara**	3.10	40⇑	*i*P	**Pn**	**22 51 19.5**	**-13**
BJII				*i* S	**Sn**	**22 52 03.3**	**-5.6**
BJII	**Banjamegara**	3.10	40⇑	*i*P	**Pn**	**22 51 31.5**	**-1.4**
BJII				*i* S	**Sn**	**22 52 09.6**	**+0.7**
JCJI	**Jatiwangi**	3.26	10	P	**Pn**	**22 51 33.4**	**-1.7**
	1μm,1.0s						
SBJI	**Serang**	3.89	337	P	**Pn**	**22 51 42.8**	**-1.0**
	348nm,0.9s						
KRKI	**Karangkates**	4.96	72	P	**Pn**	**22 52 03.8**	**+5.3**
	423nm,0.5s						
KSI	**Kapahiang**	7.87	320	P	**Pn**	**22 52 39.3**	**+0.9**
	67nm,0.6s						
KSM	**Kuching**	11.42	13	*e*Pn	**Pn**	**22 53 27.4**	**+0.4**
PCI	**Palu**	14.92	55	P	**Pn**	**22 54 19.5**	**+4.6**
	50nm,1.2s						
MBWA	**Marble Bar**	16.24	136	*e*Pn	**Pn**	**22 54 28.2**	**-3.8**
	9.4nm,0.6s						
KULM	**Kulim**	16.47	335	Pn	**Pn**	**22 54 35.8**	**+0.9**
FITZ	**Fitzroy Crossi**	19.30	118	P	**Pn**	**22 55 08.8**	**-0.9**
	0.1nm,0.3s,baz=22,slow=5.4,SNR=4.0						
BSI	**Banda Aceh**	19.51	320	P	**Pn**	**22 55 09.1**	**-3.2**
	67nm,0.9s						
NWAO	**Narrogin (SRO)**	24.72	161	P	**P**	**22 56 03.9**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NWAO	**Narrogin (SRO)**	24.72	161	P	**P**	**22 56 03.9**	**-0.8**
	comp=Z,3.8nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	27.66	115	P	**P**	**22 56 32.2**	**+1.1**
	comp=Z,1.7nm,0.8s,mb3.7,baz=287,slow=11,SNR=9.8						
WRAB	**Tennant Creek**	27.66	115	P	**P**	**22 56 32.0**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
WRAB	**Tennant Creek**	27.66	115	P	**P**	**22 56 31.9**	**+0.7**
	comp=Z,1.8nm,0.7s,mb3.8						
ASAR	**Alice Springs**	28.62	122	P	**P**	**22 56 42.5**	**+2.8**
	comp=Z,1.7nm,0.9s,mb3.8,baz=301,slow=9.4,SNR=11						
ASAR				PcP	PcP	22 59 50.5	+0.2
	comp=Z,0.5nm,0.6s,baz=290,slow=2.3,SNR=4.1						
KMI	**Kunming**	34.96	352	P	**P**	**22 57 37.3**	**+1.9**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.5						
GYA	**Guiyang**	35.97	358	P	**P**	**22 57 45.6**	**+1.5**
GYA				AP	pP	22 57 49.8	-3.1
GYA				XP	sP	22 57 52.8	-3.7
GYA				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
GYA				AMB	AMB		
	comp=Z,100nm,4.2s						
GYA				LR	LR		
	comp=N,420nm,14.6s,MS4.5						
GYA				LR	LR		
	comp=E,430nm,14.4s,MS4.5						
GYA				LR	LR		
	comp=Z,410nm,14.8s,MS4.3						
STKA	**Stephens Creek**	38.35	130	P	**P**	**22 58 05.5**	**+1.2**
	comp=Z,3.9nm,0.9s,mb4.2,baz=318,slow=7.8,SNR=6.2						
STKA	**Stephens Creek**	38.35	130	*e*P	**P**	**22 58 05.6**	**+1.3**
JIRN	**Jiri**	42.59	331	*e*P	**P**	**22 58 40.3**	**+1.0**
	comp=Z,61nm,0.9s,mb5.3						
NJ2	**Nanjing**	42.88	14	*e*P	**P**	**22 58 42.0**	**+0.3**
NJ2				AP	pP	22 58 51.6	+1.0
NJ2				XP	sP	22 58 55.8	+1.6
NJ2				PP	PP	23 00 24.0	+2.5
NJ2				S	**S**	**23 05 03.0**	**-1.4**
NJ2				XS	sS	23 05 19.0	-0.1
NJ2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,40nm,4.3s						
NJ2				LR	LR		
	comp=N,1μm,14.1s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,16.0s,MS5.0						
NJ2				LR	LR		
	comp=Z,4μm,15.8s,MS5.4						
PKI	**Pulchoki**	42.89	330	*e*P	**P**	**22 58 42.3**	**+0.5**
	comp=Z,17nm,0.7s,mb4.9						
PKI	**Pulchoki**	42.89	330	*e*P	**P**	**22 58 42.3**	**+0.5**
PKI				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.9						
GUN	**Gumba**	42.95	331	*e*P	**P**	**22 58 43.1**	**+0.9**
DMN	**Daman**	43.07	330	*e*P	**P**	**22 58 43.5**	**+0.3**
	comp=Z,46nm,1.0s,mb5.2						
KKN	**Kakani**	43.14	330	*e*P	**P**	**22 58 43.8**	**0.0**
	comp=Z,38nm,0.9s,mb5.1						
KKN	**Kakani**	43.14	330	*e*P	**P**	**22 58 43.8**	**0.0**
KKN				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.1						
XAN	**Xi'an**	43.53	1	P	**P**	**22 58 47.4**	**+0.5**
XAN				AP	pP	22 58 57.1	+1.2
XAN				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.7						
GKN	**Gorkha**	43.63	330	*e*P	**P**	**22 58 47.9**	**+0.2**
	comp=Z,17nm,0.4s,mb5.2						
KOLN	**Koldanda**	43.96	329	*e*P	**P**	**22 58 50.3**	**-0.1**
	comp=Z,22nm,0.6s,mb5.1						
LZH	**Lanzhou**	45.70	356	*e*P	**P**	**22 59 05.1**	**+0.9**
LZH				AP	pP	22 59 09.3	-3.9
LZH				XP	sP	22 59 11.3	-5.5
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.9						
GTA	**Gaotai**	49.42	352	*e*P	**P**	**22 59 34.6**	**+1.5**
GTA				AP	pP	22 59 39.3	-2.9
GTA				XP	sP	22 59 42.5	-3.3
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
BJI	**Beijing**	50.12	8	*e*P	**P**	**22 59 39.3**	**+0.8**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.8						
MJAR	**Matsushiro Arr**	54.23	30	P	**P**	**23 00 07.9**	**-1.1**
	comp=Z,4.2nm,0.9s,mb4.3,baz=204,slow=8.0,SNR=8.3						
SONM	**Songino Array**	57.30	359	P	**P**	**23 00 31.8**	**+0.7**
	comp=Z,3.1nm,0.6s,mb4.5,baz=177,slow=8.0,SNR=22						
ULN	**Ulaanbaatar**	57.33	359	*e*P	**P**	**23 00 31.7**	**+0.5**
ULN				*e**PP	pP	23 00 42.9	+2.5
ULN				*e**SP	sP	23 00 47.9	+4.0
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	57.33	359	*e*P	**P**	**23 00 31.7**	**+0.5**
	comp=Z,4.0nm,0.9s,mb4.5						
ULN				*e*pP	pP	23 00 42.9	+2.5
ULN				*e*sP	sP	23 00 47.9	+4.0
ZAK	**Zakamensk**	59.97	357	*e*P	**P**	**23 00 48.1**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
AAK	**Ala-Archa**	60.28	332⇑	*i*P	**P**	**23 00 50.3**	**-1.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
MKAR	**Makanchi Array**	60.65	340	P	**P**	**23 00 54.2**	**-0.1**
	comp=Z,4.4nm,0.6s,mb4.8,baz=138,slow=7.2,SNR=52						
MKAR	**Makanchi Array**	60.65	340	P	**P**	**23 00 54.2**	**-0.1**
KLR	**Kul'dur**	62.39	18	*e*P	**P**	**23 01 02.2**	**-3.8**
YSS	**Yuzh-Sakhalins**	64.49	26	*e*P	**P**	**23 01 19.3**	**-0.6**
YSS				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
MAW	**Mawson**	64.99	197	P	**P**	**23 01 22.4**	**-0.7**
	comp=Z,1.1nm,0.5s,mb4.2,baz=70,slow=12,SNR=6.2						
KURK	**Kurchatov**	65.27	340	*e*P	**P**	**23 01 24.7**	**-0.2**
KURK				*e**PP	pP	23 01 36.9	+2.6
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	65.27	340	*e*P	**P**	**23 01 24.7**	**-0.2**
	comp=Z,4.0nm,0.8s,mb4.5						
KURK				*e*pP	pP	23 01 36.9	+2.6
ZAL	**Zalesovo**	66.31	345	P	**P**	**23 01 31.1**	**-0.5**
	comp=Z,1.8nm,0.3s,mb4.5,baz=326,slow=1.7,SNR=6.0						
BOD	**Bodaibo**	67.50	4	*e*P	**P**	**23 01 36.2**	**-3.0**
BVAR	**Borovoye Array**	70.12	337	P	**P**	**23 01 55.3**	**-0.2**
	comp=Z,2.3nm,0.7s,mb4.2,baz=147,slow=9.1,SNR=21						
BRVK	**Borovoye**	70.18	337	*e*P	**P**	**23 01 55.1**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	70.18	337	*e*P	**P**	**23 01 55.1**	**-0.8**
	comp=Z,1.5nm,0.6s,mb4.1						
CHKZ	**Chkalovo**	70.53	338	*e*P	**P**	**23 01 58.2**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
CHKZ	**Chkalovo**	70.53	338	*e*P	**P**	**23 01 58.1**	**+0.1**
	comp=Z,6.1nm,0.6s,mb4.7						
ZRNK	**Zerenda**	70.60	336	*e*P	**P**	**23 01 58.1**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	70.60	336	*e*P	**P**	**23 01 58.1**	**-0.4**
	comp=Z,2.4nm,0.6s,mb4.3						
YAK	**Yakutsk**	73.55	11⇑	*e*P	**P**	**23 02 16.0**	**-0.1**
YAK				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
AKTK	**Aktyubinsk**	73.79	329	P	**P**	**23 02 17.4**	**-0.1**
AKTO	**Aktyubinsk**	73.79	329	P	**P**	**23 02 17.4**	**-0.1**
	comp=Z,2.1nm,0.6s,mb4.2,baz=104,slow=15,SNR=10						
SVE	**Sverdlovsk**	76.75	336	*e*P	**P**	**23 02 34.2**	**-0.3**
ARU	**Arti**	77.35	334⇓	*i*P	**P**	**23 02 37.8**	**-0.1**
ARU				*e*	pP	23 02 46.8	-0.6
ARU				*e*		23 05 31.8	
ARU				*e*PPP		23 07 13.9	
ARU				*e*S	S	23 12 25.9	-0.3
ARU				*e*SS	SS	23 17 28.1	+3.3
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
ARU	**Arti**	77.35	334	*e*P	**P**	**23 02 37.8**	**-0.2**
	comp=Z,2.7nm,0.4s,mb4.5						
ARU				*e*		23 02 49.8	
ASF	**Jabal al Asfar**	79.27	305	P	**P**	**23 02 49.6**	**+1.0**
	comp=Z,2.0nm,0.7s,mb4.2,baz=45,slow=7.6,SNR=4.6						
MMAI	**Mount Meron Ar**	80.73	306	P	**P**	**23 02 57.4**	**+1.0**
	comp=Z,1.7nm,0.5s,mb4.3,baz=101,slow=7.7,SNR=5.3						
SOC	**Sochi**	81.17	317	*e*P	**P**	**23 02 58.7**	**-0.1**
SOC				*e*		23 06 00.2	
SOC				*e*S	S	23 13 02.7	-4.0
SOC				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
TIXI	**Tiksi**	82.41	7*c*	*i*P	**P**	**23 03 05.0**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
VRHR	**Novokhopersk**	82.98	325	*e*P	**P**	**23 03 06.7**	**-1.6**
VRHR				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
VRHR				pmax	pmax		
	comp=N,5.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,5.0nm,0.4s						
BRTR	**Keskin Array B**	84.13	312	P	**P**	**23 03 14.1**	**-0.1**
	comp=E,0.8nm,0.7s,mb4.0,baz=140,slow=4.3,SNR=4.3						
VRSR	**Storozhevoye**	84.44	324	*e*P	**P**	**23 03 15.6**	**-0.1**
VRSR				*e*		23 03 20.8	
OBN	**Obninsk**	87.36	327*c*	*e*P	**P**	**23 03 29.7**	**-0.5**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb5.0						
KLMR	**Klimovskoe**	88.09	333	*e*P	**P**	**23 03 32.9**	**-0.8**
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.8						
MLR	**Muntele Rosu**	91.12	316	P	**P**	**23 03 48.6**	**+0.7**
	comp=Z,2.1nm,0.7s,mb4.6,baz=120,slow=14,SNR=4.2						
LVV	**L'vov**	93.28	320	*e*P	**P**	**23 03 52.1**	**-5.7**
LVV				*e*		23 14 51.3	
ARCES	**ARCESS Array B**	96.30	339	P	**P**	**23 04 10.5**	**-1.2**
	comp=Z,1.9nm,0.9s,mb4.5,baz=46,slow=5.4,SNR=4.7						
PPT	**Papeete**	99.04	110	*e*LR	LR	23 03 25.3	
	comp=Z,98nm,24.8s						
BOZ	**Bozeman (W)**	130.88	36	*e*PKIKP	PKPdf	23 09 57.1	+2.6
LONY	**Lake Ozonia**	145.17	3	*e*PKPdf	PKPdf	23 10 20.9	+0.3
LONY				*e*pPKPdf	pPKPdf	23 10 32.3	+1.8
JCT	**Junction City**	147.10	47	*e*PKP2	PKPab	23 10 28.6	+1.0
MIAR	**Mount Ida**	148.54	35	*e*PKP2	PKPab	23 10 32.0	-1.4
WVT	**Waverly**	150.16	26	*e*PKIKP	PKPdf	23 10 28.5	-0.4
WVT				*e*		23 10 35.4	
WVT	**Waverly**	150.16	26	*e*PKPdf	PKPdf	23 10 28.5	-0.4
WVT				*e*PKPbc	PKPbc	23 10 35.4	+1.4
WVT				*e*pPKPbc	pPKPbc	23 10 46.3	+2.5
PLAL	**Pickwick Lake**	151.02	27	*e*PKPbc	PKPbc	23 10 36.7	+0.7
PLAL				*e*		23 10 47.5	
ELN	**Prospectdale**	151.57	14	*e*PKPbc	PKPbc	23 10 37.2	0.0

*IDC **21** 22:54:05.8±0.9, 1003S×10864E, h0km, mb4.1/9, mb1 4.1/10, mb1mx4.0/18, mbtmp4.1/10, ML3.6/1, Error ellipse: s-maj=40.0km s-min=16.9km az=52.0*
*NEIC **21** 22:54:07.2±0.6, 996S×10864E, h10km, mb4.5/3, Error ellipse: s-maj=26.8km s-min=8.9km az=49.0*
*ISCJB **21** 22:54:08.7±0.7, 100S±02×1087E±02, h33km, mb4.1/12, Error ellipse: s-maj=31.5km s-min=11.0km az=95.5*
ISC 21 22:54:11.0±0.7**, 100S**±02×**1087E**±02**, h35km, n17, σ0.57**/18**, mb4.1**/12**, 1C, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	2.86	21⇑	*i*P	**Pn**	**22 55 02.6**	**+8.4**
BJII				*i* S	**Sn**	**22 55 43.5**	**+16**
KULM	**Kulim**	17.17	332	Pn	**Pn**	**22 58 04.5**	**-3.7**
FITZ	**Fitzroy Crossi**	18.32	118	P	**Pn**	**22 58 22.0**	**-0.2**
	0.2nm,0.3s,baz=315,slow=10.0,SNR=7.2						
FITZ				Sn	Sn	23 01 25.1	-21
	0.2nm,0.3s,baz=124,slow=3.6,SNR=3.7						
WRA	**Warramunga Arr**	26.66	115	P	**P**	**22 59 46.1**	**-0.4**
	1.4nm,0.7s,mb3.6,baz=284,slow=12,SNR=4.7						
ASAR	**Alice Springs**	27.65	123	P	**P**	**22 59 56.2**	**+0.9**
	0.8nm,0.7s,mb3.4,baz=302,slow=10.0,SNR=5.1						
STKA	**Stephens Creek**	37.43	130	P	**P**	**23 01 20.5**	**-0.3**
	3.6nm,0.8s,mb4.3,baz=299,slow=8.4,SNR=5.2						
STKA	**Stephens Creek**	37.43	130	P	**P**	**23 01 20.5**	**-0.3**
SONM	**Songino Array**	57.63	358	P	**P**	**23 03 58.3**	**+0.7**
	1.3nm,0.6s,mb4.2,baz=172,slow=7.5,SNR=7.6						
MKAR	**Makanchi Array**	61.26	340	P	**P**	**23 04 23.2**	**+0.5**
	1.3nm,0.6s,mb4.2,baz=138,slow=7.4,SNR=7.9						
MKAR	**Makanchi Array**	61.26	340	P	**P**	**23 04 23.2**	**+0.5**
MAW	**Mawson**	64.99	198	P	**P**	**23 04 47.3**	**0.0**
	0.4nm,0.3s,mb4.0,baz=65,slow=9.3,SNR=3.9						
ZAL	**Zalesovo**	66.84	345	P	**P**	**23 04 58.6**	**-0.7**
	0.8nm,0.4s,mb4.1,baz=217,slow=5.1,SNR=2.6						
BVAR	**Borovoye Array**	70.77	337	P	**P**	**23 05 23.9**	**+0.2**
	1.8nm,0.7s,mb4.1,baz=142,slow=7.5,SNR=9.4						
CHKZ	**Chkalovo**	71.18	337	*e*P	**P**	**23 05 26.2**	**0.0**
	3.8nm,0.8s,mb4.4						
ZRNK	**Zerenda**	71.26	336	*e*P	**P**	**23 05 26.5**	**-0.2**
	4.0nm,0.8s,mb4.4						
ARU	**Arti**	78.03	334	*e*P	**P**	**23 06 05.3**	**-0.7**
	1.7nm,0.8s,mb4.0						
BRTR	**Keskin Array B**	85.04	312	P	**P**	**23 06 43.4**	**+0.4**
	1.8nm,1.0s,mb4.2,baz=68,slow=3.3,SNR=4.7						

IDC 21 22:56:49.1±1.8**, 883S**×**10784E, h0km, mb3.9**/3**, mb1 4.0**/3**, mb1mx3.6**/17**, mbtmp3.9**/3**, 1C, Error ellipse: s-maj=73.1km s-min=45.0km az=96.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	2.37	51⇑	*i*P	Pn	22 57 35.0	+5.8
BJII				*i* S	Sn	22 58 09.3	+10
MJAR	**Matsushiro Arr**	53.39	30	P	P	23 06 10.3	-0.1
	1.7nm,0.9s,baz=202,slow=7.6,SNR=3.7						
SONM	**Songino Array**	56.43	359	P	P	23 06 33.8	+1.3
	0.7nm,0.6s,baz=176,slow=8.0,SNR=4.2						
MKAR	**Makanchi Array**	59.88	340	P	P	23 06 56.0	-0.6
	1.2nm,0.7s,baz=134,slow=6.9,SNR=7.6						
LPAZ	**La Paz**	154.73	189	PKPbc	PKPbc	23 16 54.2	+2.1
	1.5nm,0.4s,baz=172,slow=3.3,SNR=9.6						

IDC 21 23:24:04.1±11.0**, 2008N**×**14465E, h437km**±113km**, mb3.1**/7**, mb1 3.3**/8**, mb1mx3.1**/19**, mbtmp4.0**/8**, Error ellipse: s-maj=120.6km s-min=15.3km az=77.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	16.45	297	P	P	23 27 30.2	-0.7
	2.0nm,0.3s,baz=120,slow=15,SNR=8.2						
WRA	**Warramunga Arr**	41.03	195	P	P	23 31 07.5	-0.1
	0.4nm,0.5s,baz=18,slow=8.7,SNR=2.8						
SONM	**Songino Array**	41.45	321	P	P	23 31 11.5	+0.5
	1.4nm,0.5s,baz=134,slow=9.6,SNR=6.2						
ASAR	**Alice Springs**	44.72	194	P	P	23 31 37.2	+0.5
	0.2nm,0.3s,baz=15,slow=7.7,SNR=3.1						
ZAL	**Zalesovo**	56.33	322	P	P	23 33 01.6	-0.5
	1.0nm,0.5s,baz=8.4,slow=8.0,SNR=4.9						
MKAR	**Makanchi Array**	56.80	313	P	P	23 33 05.4	+0.1
	1.5nm,0.5s,baz=83,slow=8.9,SNR=22						
ARCES	**ARCESS Array B**	80.88	342	P	P	23 35 31.5	+0.1
	0.9nm,0.5s,baz=54,slow=4.6,SNR=12						
FINES	**FINESS Array B**	85.22	335	P	P	23 35 52.0	-1.3
	1.3nm,0.4s,baz=69,slow=4.9,SNR=40						

*NIED **21** 23:26:00, 3770N×13340E, h440km, Mw4.0 Best double couple: $M_0$1.09000×10^15 NP1:ϕ_s141.00000°, δ80.00000°, λ94.00000°. NP2:ϕ_s296.00000°, δ11.00000°, λ66.00000°.*
*JMA **21** 23:26:05.9±0.3, 3765N×13338E, h450km±4km, M3.5*
*NEIC **21** 23:26:05.9, 3765N×13339E, h450km, MG3.5(JMA), After JMA.*
*BJI **21** 23:26:06.7, 3767N×13338E, h445km, mB4.8, mb4.5*
*ISCJB **21** 23:26:06.8±0.4, 3761N±009×13348E±008, h440km±7km, mb3.5/12, Error ellipse: s-maj=14.7km s-min=8.8km az=136.8*
*IDC **21** 23:26:07.9±1.2, 3761N×13339E, h434km±14km, mb3.0/9, mb1 3.3/11, mb1mx3.1/22, mbtmp3.9/11, Error ellipse: s-maj=25.1km s-min=16.5km az=23.0*
ISC 21 23:26:07.7±0.4**, 3762N**±010×**13340E**±009**, h435km**±8km**, n35, σ0.77**/39**, mb3.5**/12**, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHS	**Saijyo**	2.62	185	P	**P**	**23 27 10.7**	**0.0**
JKG	**Kaga**	2.70	119	P	**P**	**23 27 11.6**	**+0.3**
JGT	**Gotsu**	2.72	199	P	**P**	**23 27 11.2**	**-0.2**
JHG	**Hegura jima**	2.80	84	P	**P**	**23 27 11.9**	**-0.1**
JWT	**Wachi**	2.83	145	P	**P**	**23 27 12.9**	**+0.7**
JWT				S	**S**	**23 28 04.3**	**-0.4**
JHT	**Toyohira**	3.06	195	P	**P**	**23 27 13.3**	**-0.6**
MAJO	**Matsushiro**	3.99	104	*e*P	**P**	**23 27 21.4**	**-0.3**
MAT	**Matsushiro**	3.99	104	P	**P**	**23 27 21.2**	**-0.5**
MAT				S	**S**	**23 28 22.7**	**+0.7**
MAT	**Matsushiro**	3.99	104	P	**P**	**23 27 21.6**	**-0.1**
MAT	**Matsushiro**	3.99	104	*e*P	**P**	**23 27 21.0**	**-0.7**
MJAR	**Matsushiro Arr**	3.99	104	P	**P**	**23 27 22.1**	**+0.4**
	3.2nm,0.3s,baz=289,slow=11,SNR=37						
MJAR				S	**S**	**23 28 23.7**	**+1.7**
	baz=287,slow=17,SNR=4.5						
JIE	**Ise**	4.19	139	P	**P**	**23 27 23.7**	**+0.2**
JTU	**Tsushima**	4.48	228	P	**P**	**23 27 26.1**	**-0.1**
JWZ	**Kozaga**	4.49	155	P	**P**	**23 27 26.3**	**-0.1**
JTO	**Tosashimizu**	4.77	186	P	**P**	**23 27 29.6**	**+0.6**
JOD2	**Odawara 2**	5.15	115	P	**P**	**23 27 32.5**	**-0.2**
JMK	**Ichinoseki**	6.29	75	P	**P**	**23 27 43.6**	**-0.9**
JMK				S	**S**	**23 28 58.8**	**-4.8**
BSO1	**Boso 1**	6.81	113	P	**P**	**23 27 47.5**	**-2.4**
BSO1				*e*S	**S**	**23 29 09.4**	**-4.2**
JOT	**Ohata**	7.01	55	P	**P**	**23 27 51.8**	**-0.2**
ASAJ	**Asahikawa**	9.52	44	P	**P**	**23 28 18.9**	**-0.5**
	6.0nm,0.3s,baz=229,slow=9.8,SNR=22						
SONM	**Songino Array**	22.21	306	P	**P**	**23 30 31.3**	**+1.5**
	1.7nm,0.8s,mb3.5,baz=110,slow=9.2,SNR=6.6						
GTA	**Gaotai**	26.26	284	*e*P	**P**	**23 31 06.4**	**+0.3**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.0						
MKAR	**Makanchi Array**	38.36	300	P	**P**	**23 32 49.4**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.2,baz=80,slow=10,SNR=7.9						
BJII	**Banjamegara**	49.89	211	*e*P	**P**	**23 34 08.5**	**-11**
WRA	**Warramunga Arr**	57.26	179	P	**P**	**23 35 12.0**	**-0.2**
	comp=Z,0.3nm,0.3s,mb3.0,baz=354,slow=7.5,SNR=2.9						
KEV	**Kevo**	60.54	337	*e*p	**P**	**23 35 24.2**	**-10**
	comp=Z,2.0nm,0.8s,mb3.6						
ARCES	**ARCESS Array B**	61.11	338	P	**P**	**23 35 37.6**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.2,baz=59,slow=9.5,SNR=7.4						
JOF	**Joensuu**	62.34	330	*e*p	**P**	**23 35 37.6**	**-8.6**
	comp=Z,1.4nm,0.4s,mb3.8						
FINES	**FINESS Array B**	65.20	330	P	**P**	**23 36 03.9**	**-0.7**
	comp=Z,0.7nm,0.5s,mb3.6,baz=64,slow=6.6,SNR=6.1						
NB2	**NORSAR Subarra**	71.03	334	P	**P**	**23 36 39.5**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.2,baz=41,slow=6.5						
NOA	**NORSAR Array B**	71.03	334	P	**P**	**23 36 39.9**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.2,baz=42,slow=6.1,SNR=5.4						
NVAR	**Mina Array Bea**	79.61	49	P	**P**	**23 37 29.9**	**+1.6**
	comp=Z,0.9nm,0.6s,mb3.6,baz=270,slow=4.1,SNR=5.0						
PDAR	**Pinedale Array**	81.64	42	P	**P**	**23 37 40.0**	**+0.9**
	comp=Z,0.7nm,0.7s,mb3.5,baz=76,slow=1.8,SNR=7.9						
ULM	**Lac du Bonnet**	82.33	29	P	**P**	**23 37 42.4**	**-0.2**
	comp=Z,0.8nm,0.4s,mb3.9,baz=330,slow=8.1,SNR=4.6						
LPAZ	**La Paz**	151.50	48	PKPbc	PKPbc	23 45 13.0	+1.6
	comp=Z,0.4nm,0.4s,baz=285,slow=3.7,SNR=3.4						

*SZGRF **21** 23:43:04.4, 3130N×9930E, h33km, mb4.6, Sichuan, China*
*BJI **21** 23:43:19.9, 3301N×96.12E, h10km, mB4.8, mb4.7, ML4.4, Ms4.5, Msz4.3*
*IDC **21** 23:43:20.0±0.7, 3298N×9585E, h0km, mb4.2/14, mb1 4.3/16, mb1mx4.2/23, mbtmp4.2/16, ML4.2/2, MS3.8/16, Ms1 3.8/16, ms1mx3.6/28, Error ellipse: s-maj=30.8km s-min=13.7km az=54.0*
*ISCJB **21** 23:43:20.9±1.2, 3303N±003×9593E±003, h19km±9km, mb4.4/50, MS4.0/35, Error ellipse: s-maj=4.6km s-min=3.7km az=137.8*
*NEIC **21** 23:43:21.3±0.2, 3308N×9600E, h10km, mb4.5/29, MS4.2/12, Error ellipse: s-maj=5.5km s-min=4.9km az=97.0*
*MOS **21** 23:43:22.8±0.8, 3304N×9593E, h33km, mb4.7/34, Error ellipse: s-maj=9.7km s-min=5.2km az=119.4*
ISC 21 23:43:25.3±0.5**, 3298N**±003×**9599E**±003**, h43km**±5km**, n200, σ1.05**/203**, mb4.4**/50**, MS4.0**/35**, 6C-3D, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	7.12	25	*e*P	**Pn**	**23 45 05.9**	**-1.0**
GTA				S	**Sn**	**23 46 28.8**	**+2.3**
GTA				LR	LR		
	comp=N,2μm,9.5s						
GTA				LR	LR		
	comp=E,4μm,9.9s						
GTA				LR	LR		
	comp=Z,1μm,8.0s						
LZH	**Lanzhou**	7.18	62	*e*P	**Pn**	**23 45 07.6**	**-0.1**
LZH				S	**Sn**	**23 46 33.0**	**+5.0**
LZH				Smax			
	comp=N,160nm,1.1s						
LZH				Smax			
	comp=E,140nm,1.0s						
LZH				LR	LR		
	comp=E,6μm,8.7s						
LZH				LR	LR		
	comp=Z,6μm,9.3s						
SHL	**Shillong**	8.21	207	*e*P	**Pn**	**23 45 23.2**	**+1.4**
SHL				*e*S	**Sn**	**23 46 53.1**	**-0.2**
KMI	**Kunming**	9.80	141	P	**Pn**	**23 45 42.8**	**-0.9**
KMI				AP		23 45 45.8	
KMI				XP		23 45 48.1	
KMI				PP		23 45 50.8	
KMI				PPP		23 45 57.3	
KMI				S	**Sn**	**23 47 37.6**	**+5.2**
KMI				XS		23 47 42.1	
KMI				SS		23 47 49.3	
KMI				AMB	AMB		
	comp=Z,20nm,0.9s						
KMI				LR	LR		
	comp=N,1μm,10.4s						

KMI LR LR
comp=E,2µm,10.4s
KMI LR LR
comp=Z,2µm,9.9s
JIRN Jiri 9.99 240 *e*Pn **Pn 23 45 47.9 +1.7**
GUN Gumba 10.08 243 *e*Pn **Pn 23 45 48.5 +1.1**
GUN *e*Sn **Sn 23 47 43.2 +4.1**
comp=Z,48nm,0.7s
KKN Kakani 10.59 244 *e*Pn **Pn 23 45 54.5 +0.1**
PKI Pulchoki 10.61 242 *e*Pn **Pn 23 45 55.1 +0.4**
PKI *e*Sn **Sn 23 47 56.4 +4.2**
comp=Z,28nm,0.7s
DMN Daman 10.82 243 *e*Pn **Pn 23 45 57.6 +0.1**
DMN *e*Sn **Sn 23 48 01.3 +4.1**
comp=Z,41nm,0.8s
XAN Xi'an 10.85 81 P **Pn 23 45 57.3 -0.6**
XAN AP 23 46 04.0
XAN S **Sn 23 47 57.8 -0.2**
XAN AMB AMB
comp=E,8.0nm,0.9s
XAN LR LR
comp=N,592nm,8.5s
XAN LR LR
comp=E,904nm,14.5s
XAN LR LR
comp=Z,1µm,14.5s
GKN Gorkha 10.97 246 *e*Pn **Pn 23 45 58.6 -1.1**
KOLN Koldanda 11.89 247 *e*Pn **Pn 23 46 11.5 -0.6**
KOLN *e*Sn **Sn 23 48 24.1 +0.7**
comp=Z,19nm,0.8s
CAL Calcutta 12.41 215 *ex* x 23 47 24.9
CAL *ex* x 23 50 20.5
BOK Bokaro 12.75 227 *e*P **Pn 23 46 22.1 -1.9**
CHTO Chiang Mai 14.36 169 *e*P **Pn 23 46 45.8 0.0**
CHTO pmax pmax
comp=Z,22nm,1.2s
CHTO Chiang Mai 14.36 169 *e*Pn **Pn 23 46 45.8 0.0**
comp=Z,22nm,1.2s
HHC Hu-ho-hao-te 14.71 53 *e*P **Pn 23 46 45.5 -5.1**
HHC PP 23 46 56.4
HHC S **Sn 23 49 25.1 -7.2**
HHC AMB AMB
comp=Z,11nm,0.5s
HHC AMB AMB
comp=Z,113nm,7.1s
HHC LR LR
comp=N,1µm,13.1s
HHC LR LR
comp=E,1µm,13.7s
HHC LR LR
comp=Z,2µm,12.5s
WHN Wuhan 15.81 94 *e*P **Pn 23 47 00.8 -4.0**
SMLA Simla 16.07 268 *e*P **Pn 23 47 05.9 -2.2**
SMLA *e*S **S 23 50 09.3 -7.9**
BLSP Bilaspur 16.35 232 *e*P **Pn 23 47 09.7 -1.9**
BLSP AMb AMB 23 47 19.4
comp=Z,18nm,1.1s
NDI New Delhi 16.68 260 *e*P **Pn 23 47 14.4 -1.5**
NDI AMb AMB 23 47 15.3
comp=Z,32nm,1.2s
SONM Songino Array 16.80 25 Pn **Pn 23 47 16.9 -0.4**
comp=Z,1.1nm,0.3s,baz=206,slow=14,SNR=15
SONM LR LR 23 54 12.2
comp=Z,218nm,18.9s,baz=209,slow=39
SONM Songino Array 16.80 25 P **Pn 23 47 16.9 -0.4**
SONM pmax pmax
comp=Z,1.0nm,0.3s
SONM MLR MLR
comp=Z,218nm,18.9s
ULN Ulaanbaatar 17.06 26 ⇓P **Pn 23 47 21.9 +1.3**
SNR=7.0
ULN Ulaanbaatar 17.06 26 *e*P **Pn 23 47 20.2 -0.4**
ULN pmax pmax
comp=Z,6.0nm,0.8s
ULN Ulaanbaatar 17.06 26 *e*Pn **Pn 23 47 20.2 -0.4**
comp=Z,5.8nm,0.8s
MKAR Makanchi Array 17.31 327 P **Pn 23 47 22.1 -1.5**
comp=Z,0.7nm,0.3s,baz=130,slow=14,SNR=23
MKAR Makanchi Array 17.31 327 P **Pn 23 47 22.2 -1.4**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
BJI Beijing 17.67 61 *e*P **Pn 23 47 29.8 +1.7**
BJI S **S 23 50 32.4 -17**
BJI AMB AMB
comp=Z,14nm,0.8s
BJI LR LR
comp=N,561nm,8.8s
BJI LR LR
comp=E,979nm,12.9s
BJI LR LR
comp=Z,481nm,15.1s
ULHL Ulahol 18.14 306 P **Pn 23 47 36.5 +2.6**
SNR=11
GZH Guangzhou 18.20 118 P **Pn 23 47 29.6 -5.0**
GZH S **S 23 50 47.9 -13**
GZH LR LR
comp=N,1µm,10.2s
GZH LR LR
comp=E,2µm,10.4s
GZH LR LR
comp=Z,3µm,10.3s
ZAK Zakamensk 18.20 15 *e*P **Pn 23 47 32.4 -2.2**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
QIZ Qiongzhong 18.63 135 P **Pn 23 47 37.9 -1.9**
QIZ AP pP 23 47 45.4 -4.1
QIZ S **S 23 51 06.6 -1.8**
QIZ AMB AMB
comp=Z,22nm,1.4s
QIZ LR LR
comp=N,899nm,16.2s
QIZ LR LR
comp=E,1µm,17.1s
QIZ LR LR
comp=Z,2µm,11.8s
QIZ Qiongzhong 18.63 135 *e*Pn **Pn 23 47 37.8 -2.0**
comp=Z,44nm,1.4s
BHPL Bhopal 19.01 244 *e*P **Pn 23 47 43.0 -1.4**
NGP Nagpur 19.11 236 *e*P **Pn 23 47 44.3 -1.4**
NGP AMb AMB 23 47 48.9
comp=Z,43nm,1.0s
KBK Karagaybulak 19.18 306 P **Pn 23 47 48.4 +1.9**
SNR=7.7
NJ2 Nanjing 19.30 87 *e*P **Pn 23 47 50.4 +2.5**
NJ2 S **S 23 51 22.0 -0.8**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s
NJ2 AMB AMB
comp=Z,80nm,6.0s
NJ2 LR LR
comp=N,620nm,16.0s
NJ2 LR LR
comp=E,300nm,22.0s
NJ2 LR LR
comp=Z,3µm,18.0s
UCH Uchtor 19.32 305 P **Pn 23 47 49.3 +1.2**
SNR=7.8
FRU Bishkek 19.48 306 *e*P **Pn 23 47 50.0 0.0**
FRU MLR MLR
comp=Z,1µm,14.0s
AAK Ala-Archa 19.48 306 P **Pn 23 47 51.5 +1.5**
SNR=6.3
AAK Ala-Archa 19.48 306 ⇑P **Pn 23 47 50.4 +0.3**
SNR=13
AAK Ala-Archa 19.48 306 *d i*P **Pn 23 47 49.9 -0.1**
AAK pmax pmax
comp=Z,22nm,1.6s
AAK MLR MLR
comp=Z,700nm,18.0s
AAK Ala-Archa 19.48 306 *e*P **Pn 23 47 50.1 +0.1**
comp=Z,15nm,1.0s
AJM Ajmer 19.62 256 *i* P **Pn 23 47 51.0 -0.7**
EKS2 Erkin-Say 19.98 305 P **Pn 23 47 56.0 0.0**
SNR=7.0
AKL Akola 20.84 239 *e*P **P 23 48 04.4 +1.1**
AKL AMb AMB 23 48 08.5
comp=Z,80nm,1.4s
QZH Quanzhou 21.31 106 ⇑*i*P **P 23 48 10.1 +1.8**
QZH S **S 23 52 01.0 -1.6**
QZH AMB AMB
comp=Z,110nm,1.0s,mb5.1
QZH LR LR
comp=N,2µm,12.9s,MS4.8
QZH LR LR
comp=E,1µm,12.5s,MS4.8
QZH LR LR
comp=Z,3µm,9.8s
SSE Sheshan 21.43 88 P **P 23 48 10.6 +1.0**
SSE S **S 23 52 05.3 +0.3**
SSE AMB AMB
comp=Z,35nm,1.0s,mb4.6
SSE AMB AMB
comp=Z,105nm,10.7s
SSE LR LR
comp=N,354nm,10.8s,MS4.3
SSE LR LR
comp=E,575nm,10.8s,MS4.3
SSE LR LR
comp=Z,772nm,15.1s,MS4.2
KURK Kurchatov 21.85 329 ⇑P **P 23 48 13.6 -0.5**
SNR=11
KURK Kurchatov 21.85 329 *c i*P **P 23 48 13.5 -0.6**
KURK Kurchatov 21.85 329 *e*P **P 23 48 13.2 -0.9**
comp=Z,9.6nm,0.8s,mb4.3
HYB Hyderabad 22.06 230 *i* P **P 23 48 19.0 +2.6**
HYB *e*S **S 23 52 18.0 +0.7**
HYB *e*ScP ScP 23 55 52.0 +5.2
HYB Hyderabad 22.06 230 *e*P **P 23 48 18.5 +2.1**
ZAL Zalesovo 22.41 342 P **P 23 48 21.1 +0.9**
comp=Z,2.8nm,0.9s,mb3.7,baz=316,slow=7.8,SNR=14
ZAL LR LR 23 57 51.9
comp=Z,110nm,18.5s,MS3.3,baz=284,slow=39
ZAL Zalesovo 22.41 342 P **P 23 48 21.1 +1.0**
ZAL pmax pmax
comp=Z,3.0nm,0.9s
ZAL MLR MLR
comp=Z,110nm,18.5s
NVS Novosibirsk 23.63 341 *e*P **P 23 48 31.0 -1.5**
NVS *e*S **S 23 52 46.6 +2.7**
NVS pmax pmax
comp=Z,23nm,2.2s,mb4.2
NVS pmax pmax
comp=N,25nm,2.5s
NVS pmax pmax
comp=E,7.0nm,1.3s
NVS smax
comp=N,48nm,2.3s
YHNB Yeheng 23.69 104 *e*P **P 23 48 34.3 +1.2**
NACB Ninganchiao 24.09 105 *e*P **P 23 48 39.0 +2.3**
CN2 Changchun 25.37 56 *e*P **P 23 48 48.4 +0.1**
CN2 AMB AMB
comp=Z,70nm,0.8s,mb5.2
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,700nm,16.0s,MS4.4
CN2 LR LR
comp=E,500nm,16.0s,MS4.4
CN2 LR LR
comp=Z,400nm,21.0s,MS3.9
INCN Inchon 25.37 71 PFAKE
INCN LR LR 23 49 00.0 +12
comp=Z,236nm,19.0s,MS3.7
BVAR Borovoye Array 27.17 325 P **P 23 49 04.0 -0.6**
comp=Z,1.2nm,0.9s,mb3.4,baz=133,slow=12,SNR=5.2
BVAR LR LR 00 01 28.1
comp=Z,132nm,18.9s,MS3.5,baz=138,slow=40
BVAR Borovoye Array 27.17 325 P **P 23 49 04.0 -0.6**
BVAR pmax pmax
comp=Z,1.0nm,0.9s
BVAR MLR MLR
comp=Z,132nm,18.9s
BRVK Borovoye 27.24 325 *e*P **P 23 49 04.2 -1.1**
BRVK pmax pmax
comp=Z,3.0nm,1.1s,mb3.7
BRVK MLR MLR
comp=Z,307nm,22.0s,MS3.8
BRVK Borovoye 27.24 325 *e*P **P 23 49 04.2 -1.1**
comp=Z,3.4nm,1.1s,mb3.8
BRVK LR LR
comp=Z,307nm,22.0s,MS3.8
CHKZ Chkalovo 27.46 326 *e*P **P 23 49 07.0 -0.3**
CHKZ pmax pmax
comp=Z,2.0nm,0.7s,mb3.8
CHKZ Chkalovo 27.46 326 *e*P **P 23 49 07.0 -0.2**
comp=Z,1.7nm,0.7s,mb3.7
BOD Bodaibo 27.69 21 *e*P **P 23 49 07.5 -1.8**
JOW Kunigami 28.58 94 LR LR 00 01 21.5
comp=Z,259nm,20.4s,MS3.8,baz=302,slow=38
PSI Prapat 30.15 174 LR LR 00 02 04.9
comp=Z,251nm,18.7s,MS3.9,baz=197,slow=37
KLR Kul'dur 31.10 48 *e*P **P 23 49 37.2 -2.3**
KLR MLR MLR
comp=E,600nm,12.0s
KLR MLR MLR
comp=Z,1µm,12.0s,MS4.7
AKTK Aktyubinsk 32.83 313 P **P 23 49 55.7 +1.0**
AKTK LR LR 00 04 09.3
AKTO Aktyubinsk 32.83 313 P **P 23 49 55.7 +1.0**
comp=Z,2.8nm,0.7s,mb4.3,baz=100,slow=13,SNR=9.9
AKTO LR LR 00 04 09.3
comp=Z,197nm,20.7s,MS3.8,baz=274,slow=38
AKTO Aktyubinsk 32.83 313 P **P 23 49 55.7 +1.0**
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
AKTO MLR MLR
comp=Z,197nm,20.7s,MS3.8
SVE Sverdlovsk 33.96 325 *e*P **P 23 50 04.0 -0.5**
SVE MLR MLR
comp=N,200nm,11.0s,MS4.2
SVE MLR MLR
comp=E,200nm,11.0s,MS4.2
SVE MLR MLR
comp=Z,200nm,11.0s,MS4.1
MJAR Matsushiro Arr 34.67 72 LR LR 00 05 35.5
comp=Z,233nm,18.6s,MS4.0,baz=275,slow=38
ARU Arti 34.78 324 ⇓P **P 23 50 11.7 0.0**
ARU *e* 23 51 29.2
ARU *e* 23 52 39.2
ARU *e*S **S 23 55 37.3 -1.9**
ARU *e*SS SS 23 57 56.8 -14
ARU *e* 00 00 25.6
ARU pmax pmax
comp=Z,14nm,1.7s,mb4.6
ARU Arti 34.78 324 *e*P **P 23 50 12.0 +0.4**
comp=Z,6.5nm,0.8s,mb4.6
ARU LR LR
comp=Z,259nm,22.0s,MS3.9
YAK Yakutsk 36.15 26 *e*P **P 23 50 25.2 +1.8**
YAK pmax pmax
comp=Z,19nm,0.9s,mb5.0
YAK MLR MLR
comp=Z,100nm,17.0s,MS3.7
DAV Davao City (W) 37.66 127 PFAKE
DAV LR LR 23 50 50.0 +14
comp=Z,631nm,19.0s,MS4.4
YSS Yuzh-Sakhalins 37.90 54⇑ *e*P **P 23 50 40.2 +2.0**
YSS pmax pmax
comp=Z,19nm,1.4s,mb4.6
YSS MLR MLR
comp=Z,200nm,16.0s,MS4.0
KIV Kislovodsk 42.48 301 *e*P **P 23 51 16.3 +0.1**
KIV pmax pmax
comp=Z,10.0nm,1.4s,mb4.2
KIV MLR MLR
comp=Z,200nm,19.0s,MS4.0
KLMR Klimovskoe 45.60 325 *e*P **P 23 51 40.9 -0.2**
KLMR pmax pmax
comp=Z,20nm,1.5s,mb4.8
MOS Moscow 45.88 318 *e*P **P 23 51 42.5 -0.9**
MOS *e* 23 53 31.7
MOS pmax pmax
comp=Z,32nm,0.9s,mb5.2
OBN Obninsk 46.44 317 *ce*P **P 23 51 47.8 0.0**
OBN pmax pmax
comp=Z,24nm,1.8s,mb4.8
GUMO Guam 48.40 102 LR LR 00 13 27.4
comp=Z,84nm,20.2s,MS3.7,baz=37,slow=37
GUMO Guam 48.40 102 PFAKE
GUMO LR LR 23 52 20.0 +17
comp=Z,1.0nm,22.0s
JOF Joensuu 49.74 327 *ep* **P 23 52 12.6 -0.7**
comp=Z,7.8nm,0.6s,mb4.9
JOF Joensuu 49.74 327 *e*P **P 23 52 12.6 -0.7**
JOF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
BR131 Keskin Array S 49.78 297 *e*P **P 23 52 12.7 -0.9**
comp=Z,3.6nm,0.9s,mb4.4
BRTR Keskin Array B 49.78 297 P **P 23 52 14.2 +0.6**
comp=Z,1.2nm,0.6s,mb4.1,baz=107,slow=5.5,SNR=6.2
BRTR LR LR 00 18 16.5
comp=Z,48nm,18.4s,MS3.5,baz=246,slow=42
BRTR Keskin Array B 49.78 297⇑ *e*P **P 23 52 14.1 +0.5**
AKASG Malin Array Be 51.02 311 P **P 23 52 22.9 0.0**
comp=Z,2.2nm,0.5s,mb4.3,baz=76,slow=6.3,SNR=9.0
AKASG Malin Array Be 51.02 311 P **P 23 52 23.0 0.0**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
EIL Elat 51.61 284 *e*P **P 23 52 28.4 +1.0**
comp=Z,170nm,1.0s
KAF Kangasniemi 52.02 326 *ep* **P 23 52 29.3 -1.1**
comp=Z,3.6nm,0.6s,mb4.5,baz=89,slow=7.3
KAF Kangasniemi 52.02 326 *e*P **P 23 52 29.3 -1.1**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
FINES FINESS Array B 52.13 325 P **P 23 52 31.0 -0.2**
comp=Z,2.9nm,0.6s,mb4.4,baz=96,slow=8.2,SNR=44
FINES LR LR 00 16 41.3
comp=Z,94nm,21.3s,MS3.8,baz=83,slow=38
FINES FINESS Array B 52.13 325 P **P 23 52 31.0 -0.2**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES MLR MLR
comp=Z,94nm,21.3s
KEV Kevo 52.20 336 *e*P **P 23 52 30.6 -1.2**
KEV LR LR
comp=Z,267nm,19.0s,MS4.3
ARCES ARCESS Array B 52.70 335 P **P 23 52 35.3 -0.2**
comp=Z,1.4nm,0.6s,mb4.0,baz=81,slow=7.5,SNR=16
ARCES PcP PcP 23 53 44.1 -0.7
comp=Z,0.9nm,0.5s,baz=66,slow=3.0,SNR=7.4
ARCES LR LR 00 17 15.2
comp=Z,231nm,19.0s,MS4.2,baz=264,slow=39
ARCES ARCESS Array B 52.70 335 P **P 23 52 35.3 -0.2**
ARCES 23 53 44.1
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES MLR MLR
comp=Z,231nm,19.0s
KWP Kalwaria 55.33 311 *e*P **P 23 52 55.1 +0.5**
KWP pmax pmax
comp=Z,13nm,0.9s,mb5.0
KWP Kalwaria 55.33 311 *e*P **P 23 52 55.1 +0.5**
comp=Z,13nm,0.9s,mb5.0
OKC Ostrava-Krasne 58.16 312 *e*P **P 23 53 14.8 +0.1**
DPC Dobruska-Polom 59.16 313 *e*P **P 23 53 22.5 +0.8**
DPC *ex* x 23 53 30.0
NB2 NORSAR Subarra 59.30 326 P **P 23 53 21.5 -1.1**
comp=Z,2.5nm,0.6s,mb4.4,baz=76,slow=6.9
NOA NORSAR Array B 59.30 326 P **P 23 53 21.9 -0.7**
comp=Z,2.3nm,0.7s,mb4.3,baz=76,slow=6.9,SNR=15
NOA LR LR 00 19 41.5
comp=Z,73nm,20.5s,MS3.8,baz=65,slow=37
NOA NORSAR Array B 59.30 326 P **P 23 53 21.9 -0.7**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,73nm,20.5s
UPC Upice 59.31 313 *e*P **P 23 53 23.2 +0.5**
NA001 NORSAR Array S 59.50 326 *e*P **P 23 53 23.1 -0.9**
comp=Z,2.0nm,0.7s,mb4.3
PVCC Panska Ves 60.19 313 *e*P **P 23 53 29.1 +0.3**
PRU Pruhonice 60.36 313 *e*P **P 23 53 30.4 +0.5**
CLL Collm 60.91 315 P **P 23 53 34.0 +0.3**
comp=Z,logA/T=0.8,mb4.7
CLL Collm 60.91 315 *e*P **P 23 53 34.0 +0.3**
comp=Z,9.0nm,1.6s,mb4.7
CLL Lm 00 23 00.0
comp=Z,200nm,22.0s
CLL Collm 60.91 315 *e*P **P 23 53 34.0 +0.3**
CLL pmax pmax
comp=Z,9.0nm,1.6s,mb4.7
CLL MLR MLR
comp=Z,200nm,22.0s,MS4.2
KHC Kasperske Hory 61.22 312 *e*P **P 23 53 36.4 +0.6**
KHC *ex* x 23 53 46.0
GERES GERESS Array B 61.23 312 P **P 23 53 36.5 +0.6**
comp=Z,0.7nm,0.5s,mb4.0,baz=66,slow=5.0,SNR=8.5
GERES LR LR 00 23 55.2
comp=Z,83nm,18.7s,MS3.9,baz=285,slow=40
GERES GERESS Array B 61.23 312 P **P 23 53 36.5 +0.7**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES MLR MLR
comp=Z,83nm,18.7s
GRA1 Grafenberg Arr 62.50 313 *e*P **P 23 53 44.8 +0.5**
comp=Z,6.0nm,1.5s,mb4.5
GRF Grafenberg Arr 62.50 313 *e*P **P 23 53 44.8 +0.5**
comp=Z,6.0nm,1.5s,mb4.5
GRF Grafenberg Arr 62.50 313 *e*P **P 23 53 44.8 +0.5**
GRF pmax pmax
comp=Z,6.0nm,1.5s,mb4.5
GRF Grafenberg Arr 62.50 313 *e*P **P 23 53 44.8 +0.5**
GRF pmax pmax
comp=Z,6.0nm,1.5s,mb4.5
WRA Warramunga Arr 64.12 140 P **P 23 53 57.8 +2.7**
comp=Z,6.5nm,0.9s,mb4.7,baz=332,slow=7.5,SNR=13
WRA Warramunga Arr 64.12 140 *i* P **P 23 53 58.0 +2.9**
WRA pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 64.81 251 P **P 23 54 00.5 +0.9**
comp=Z,3.9nm,0.9s,mb4.4,baz=46,slow=9.6,SNR=11
KMBO Kilima Mbogo 64.81 251 P **P 23 54 00.5 +0.9**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
CDF Champ du Feu 65.38 313 *e*P **P 23 54 03.3 0.0**
HAU Haudompre 66.11 313 *e*P **P 23 54 08.1 +0.1**
comp=Z,1.5nm,0.4s,mb4.1
HAU *e*R
comp=Z,50nm,21.5s
HAU Haudompre 66.11 313 *e*P **P 23 54 08.1 +0.1**
HAU pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
HAU Haudompre 66.11 313 *e*P **P 23 54 08.1 +0.1**
comp=Z,0.8nm,0.4s,mb4.1
PGF Pioggiola 66.57 306 *e*P **P 23 54 10.7 -0.2**
comp=Z,27nm,1.2s,mb4.9
PGF Pioggiola 66.57 306 *e*P **P 23 54 10.7 -0.2**
PGF pmax pmax
comp=Z,14nm,1.2s,mb4.9
PGF Pioggiola 66.57 306 *e*P **P 23 54 10.7 -0.2**
comp=Z,14nm,1.2s,mb4.9
CABF La Chapelle 66.83 311 *e*P **P 23 54 12.6 0.0**
LPG La Plagne 66.86 310 *e*P **P 23 54 13.2 +0.4**
comp=Z,9.6nm,0.7s,mb4.6
LPG La Plagne 66.86 310 *e*P **P 23 54 13.2 +0.4**
LPG pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
LPG La Plagne 66.86 310 *e*P **P 23 54 13.2 +0.4**
comp=Z,4.8nm,0.7s,mb4.6
LPL La Plagne 66.86 310 *e*P **P 23 54 13.2 +0.4**
comp=Z,1.1nm,0.7s,mb4.7
LPL La Plagne 66.86 310 *e*P **P 23 54 13.2 +0.4**
LPL pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
LPL La Plagne 66.86 310 *e*P **P 23 54 13.2 +0.4**
comp=Z,5.4nm,0.7s,mb4.7
ASAR Alice Springs 66.94 142 P **P 23 54 13.2 0.0**
comp=Z,3.7nm,0.7s,mb4.5,baz=329,slow=6.3,SNR=21
ASAR Alice Springs 66.94 142 P **P 23 54 13.3 0.0**
ASAR pmax pmax
comp=Z,4.0nm,0.7s
SBF Sospel 67.08 308 *e*P **P 23 54 14.1 -0.1**
MBDF Montbardon 67.16 309 *e*P **P 23 54 14.9 +0.2**
comp=Z,4.4nm,0.6s,mb4.4
MBDF Montbardon 67.16 309 *e*P **P 23 54 14.9 +0.2**
MBDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
MBDF Montbardon 67.16 309 *e*P **P 23 54 14.9 +0.2**
comp=Z,2.2nm,0.6s,mb4.4
ORIF Oris-en-Rattie 67.66 310 *e*P **P 23 54 17.7 -0.1**
comp=Z,3.7nm,0.5s,mb4.3
ORIF *e*R
comp=Z,122nm,21.0s
ORIF Oris-en-Rattie 67.66 310 *e*P **P 23 54 17.7 -0.1**
ORIF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
ORIF Oris-en-Rattie 67.66 310 *e*P **P 23 54 17.7 -0.1**
comp=Z,1.9nm,0.5s,mb4.4
FRF La Foret Royal 67.72 308 *e*P **P 23 54 17.8 -0.5**
LMR La Mourre 67.91 308 *e*P **P 23 54 19.2 -0.2**
comp=Z,2.7nm,0.5s,mb4.2
LMR La Mourre 67.91 308 *e*P **P 23 54 19.2 -0.2**
LMR pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
LMR La Mourre 67.91 308 *e*P **P 23 54 19.2 -0.2**

	comp=Z,1.4nm,0.5s,mb4.2								
LOR	**Lormes**	**67.95**	**313**	*e*P		**P**	**23**	**54**	**19.4**	**-0.3**
LOR				*e*R						
	comp=Z,40nm,20.5s									
LOR	**Lormes**	**67.95**	**313**	*e*P		**P**	**23**	**54**	**19.4**	**-0.3**
LOR				LR		LR				
	comp=Z,40nm,20.5s,MS3.6									
SMF	**Signal de Mont**	**68.22**	**312**	*e*P		**P**	**23**	**54**	**21.1**	**-0.3**
	comp=Z,10nm,0.9s,mb4.5									
SMF	**Signal de Mont**	**68.22**	**312**	*e*P		**P**	**23**	**54**	**21.1**	**-0.3**
SMF				pmax		pmax				
	comp=Z,5.0nm,0.9s,mb4.5									
SMF	**Signal de Mont**	**68.22**	**312**	*e*P		**P**	**23**	**54**	**21.1**	**-0.3**
	comp=Z,5.2nm,0.9s,mb4.6									
SMRF	**Simiane la Rot**	**68.25**	**309**	*e*P		**P**	**23**	**54**	**21.3**	**-0.3**
SSF	**Saint Saulge**	**68.25**	**313**	*e*P		**P**	**23**	**54**	**21.6**	**0.0**
VIVF	**Saint-Julien-l**	**68.46**	**310**	*e*P		**P**	**23**	**54**	**22.9**	**0.0**
AVF	**Avril sur Loir**	**68.47**	**312**	*e*P		**P**	**23**	**54**	**22.6**	**-0.3**
	comp=Z,8.1nm,0.9s,mb4.5									
AVF	**Avril sur Loir**	**68.47**	**312**	*e*P		**P**	**23**	**54**	**22.6**	**-0.3**
AVF				pmax		pmax				
	comp=Z,4.0nm,0.9s,mb4.5									
AVF	**Avril sur Loir**	**68.47**	**312**	*e*P		**P**	**23**	**54**	**22.6**	**-0.3**
	comp=Z,4.1nm,0.9s,mb4.5									
LASF	**Ste Croix**	**69.33**	**310**	*e*P		**P**	**23**	**54**	**28.2**	**-0.1**
	comp=Z,9.2nm,1.0s,mb4.4									
LDF	**La Druitiere**	**69.77**	**315**	*e*P		**P**	**23**	**54**	**30.6**	**-0.4**
	comp=Z,5.3nm,0.7s,mb4.3									
LDF	**La Druitiere**	**69.77**	**315**	*e*P		**P**	**23**	**54**	**30.6**	**-0.4**
LDF				pmax		pmax				
	comp=Z,3.0nm,0.7s,mb4.3									
LDF	**La Druitiere**	**69.77**	**315**	*e*P		**P**	**23**	**54**	**30.6**	**-0.4**
	comp=Z,2.7nm,0.7s,mb4.3									
CAF	**Calviac**	**70.10**	**311**	*e*P		**P**	**23**	**54**	**32.9**	**-0.1**
GRR	**Gorron**	**70.30**	**315**	*e*P		**P**	**23**	**54**	**34.0**	**-0.2**
	comp=Z,4.2nm,0.5s,mb4.3									
GRR	**Gorron**	**70.30**	**315**	*e*P		**P**	**23**	**54**	**34.0**	**-0.2**
GRR				pmax		pmax				
	comp=Z,2.0nm,0.5s,mb4.3									
GRR	**Gorron**	**70.30**	**315**	*e*P		**P**	**23**	**54**	**34.0**	**-0.2**
	comp=Z,2.1nm,0.5s,mb4.3									
MFF	**Saint Martin d**	**70.70**	**313**	*e*P		**P**	**23**	**54**	**36.4**	**-0.3**
MTLF	**Montolieu**	**70.72**	**310**	*e*P		**P**	**23**	**54**	**36.6**	**-0.2**
	comp=Z,5.6nm,0.9s,mb4.2									
MTLF	**Montolieu**	**70.72**	**310**	*e*P		**P**	**23**	**54**	**36.6**	**-0.2**
MTLF				pmax		pmax				
	comp=Z,3.0nm,0.9s,mb4.2									
MTLF	**Montolieu**	**70.72**	**310**	*e*P		**P**	**23**	**54**	**36.6**	**-0.2**
	comp=Z,2.8nm,0.9s,mb4.2									
SGMF	**Saint Gilles**	**71.36**	**316**	*e*P		**P**	**23**	**54**	**40.5**	**-0.2**
	comp=Z,6.9nm,0.6s,mb4.5									
SGMF	**Saint Gilles**	**71.36**	**316**	*e*P		**P**	**23**	**54**	**40.5**	**-0.2**
SGMF				pmax		pmax				
	comp=Z,3.0nm,0.6s,mb4.4									
SGMF	**Saint Gilles**	**71.36**	**316**	*e*P		**P**	**23**	**54**	**40.5**	**-0.2**
	comp=Z,3.5nm,0.6s,mb4.5									
ROSF	**Rostrenen**	**71.74**	**316**	*e*P		**P**	**23**	**54**	**42.7**	**-0.3**
	comp=Z,6.6nm,0.7s,mb4.4									
ROSF	**Rostrenen**	**71.74**	**316**	*e*P		**P**	**23**	**54**	**42.7**	**-0.3**
ROSF				pmax		pmax				
	comp=Z,3.0nm,0.7s,mb4.3									
ROSF	**Rostrenen**	**71.74**	**316**	*e*P		**P**	**23**	**54**	**42.7**	**-0.3**
	comp=Z,3.3nm,0.7s,mb4.4									
QUIF	**Quistinic**	**71.89**	**316**	*e*P		**P**	**23**	**54**	**43.4**	**-0.4**
EPF	**Esparros**	**72.08**	**310**	*e*P		**P**	**23**	**54**	**44.9**	**-0.1**
ETSF	**Etsaut**	**72.72**	**310**	*e*P		**P**	**23**	**54**	**48.6**	**-0.2**
	comp=Z,4.2nm,0.6s,mb4.2									
ETSF	**Etsaut**	**72.72**	**310**	*e*P		**P**	**23**	**54**	**48.6**	**-0.2**
ETSF				pmax		pmax				
	comp=Z,2.0nm,0.6s,mb4.2									
ETSF	**Etsaut**	**72.72**	**310**	*e*P		**P**	**23**	**54**	**48.6**	**-0.2**
	comp=Z,2.1nm,0.6s,mb4.2									
SJPF	**Ste Jean**	**73.04**	**311**	*e*P		**P**	**23**	**54**	**50.7**	**0.0**
STKA	**Stephens Creek**	**77.55**	**141**	P		**P**	**23**	**55**	**19.9**	**+3.3**
	comp=Z,2.7nm,0.7s,mb4.3,baz=305,slow=2.8,SNR=5.8									
YKA	**Yellowknife Ar**	**81.73**	**14**	LR		LR		00	32	13.8	
	comp=Z,33nm,18.4s,MS3.7,baz=90,slow=36									
TORD	**Torodi Ar. Bea**	**86.49**	**283**	P		**P**	**23**	**56**	**04.3**	**+0.8**
	comp=Z,1.4nm,0.6s,mb4.3,baz=55,slow=4.9,SNR=29									
TORD				LR		LR		00	36	32.0	
	comp=Z,72nm,21.9s,MS4.0,baz=95,slow=37									
FUNA	**Funafuti**	**88.94**	**101**	PFAKE				23	56	30.0	+15
FUNA				LR		LR					
	comp=Z,4μm,19.0s										
SCHQ	**Schefferville**	**91.30**	**350**	LR		LR		00	42	06.4	
	comp=Z,52nm,19.1s,MS4.0,baz=359,slow=39										
BMO	**Blue Mountains**	**96.83**	**23**	PFAKE				23	57	00.0	+8.4
BMO				LR		LR					
	comp=Z,121nm,21.0s,MS4.4										
BOZ	**Bozeman (W)**	**97.83**	**19**	PFAKE				23	57	10.0	+14
BOZ				LR		LR					
	comp=Z,69nm,21.0s,MS4.1										
BMN	**Battle Mountai**	**100.77**	**25**	PFAKE				23	57	20.0	+11
BMN				LR		LR					
	comp=Z,161nm,22.0s,MS4.5										
CBN	**Corbin**	**108.91**	**354**	PFAKE				00	02	00.0	+10
CBN				LR		LR					
	comp=Z,159nm,22.0s,MS4.5										
ANMO	**Albuquerque**	**109.22**	**19**	PFAKE				00	02	00.0	+9.5
ANMO				LR		LR					
	comp=Z,99nm,19.0s,MS4.4										
SAML	**Samuel**	**149.30**	**317**	*e*PKPdf		PKPdf		00	03	05.9	+0.9
SAML				*e*PKPbc		PKPbc		00	03	09.7	+0.4

*IDC **21** 23:47:26.4±2.2, 6065×12969E, h0[km], mb3.5/1, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, ML4.2/3, Error ellipse: s-maj=92.4km s-min=28.5km az=76.0*
*ISCJB **21** 23:47:43.5±3.6, 675±02×1294E±03, h179[km]±36[km], mb3.3/1, Error ellipse: s-maj=46.7km s-min=30.9km az=116.3*
*NEIC **21** 23:47:43.5±2.7, 6635×12930E, h156[km]±27[km], mb4.3/3, Error ellipse: s-maj=32.0km s-min=21.3km az=60.0*
ISC 21 23:47:44.7±3.7, 67S±02×1293E±03, h171[km]±40[km], n10, σ0$72/10, mb3.3/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
KAKA	**Kakadu**	**6.70**	**153**	*e*P		**Pn**	**23**	**49**	**20.7**	**0.0**
	2.7nm,0.1s									
FITZ	**Fitzroy Crossi**	**11.88**	**197**	*e*P		**Pn**	**23**	**50**	**29.1**	**+0.4**
	2.8nm,0.3s									
FITZ				*e*S		Sx	23	52	33.0	
FITZ	**Fitzroy Crossi**	**11.88**	**197**	Pn		**Pn**	**23**	**50**	**28.3**	**-0.4**
	0.7nm,0.3s,baz=31,slow=14,SNR=34									
FITZ				Sn		Sx	23	52	33.8	
	0.8nm,0.3s,baz=298,slow=17,SNR=5.5									
WRAB	**Tennant Creek**	**14.01**	**160**	*e*Pn		**Pn**	**23**	**50**	**56.3**	**+0.5**
	3.3nm,0.4s									
WRAB				*e*Sn		Sx	23	53	21.3	
WRA	**Warramunga Arr**	**14.02**	**160**	Pn		**Pn**	**23**	**50**	**52.7**	**-3.1**
	0.9nm,0.3s,baz=343,slow=12,SNR=51									
WRA				Sn		Sx	23	53	23.1	
	0.7nm,0.3s,baz=332,slow=23,SNR=9.0									
WB2	**Warramunga Arr**	**14.02**	**160**	*e*P		**Pn**	**23**	**50**	**56.6**	**+0.7**
WB2				*e*			23	50	58.9	
WB2				*e*S		Sx	23	53	22.1	
AS31	**Alice Springs**	**17.41**	**166**	*e*P		**Pn**	**23**	**51**	**37.2**	**0.0**
ASAR	**Alice Springs**	**17.41**	**166**	P		**Pn**	**23**	**51**	**37.4**	**+0.1**
	1.6nm,0.3s,baz=342,slow=9.8,SNR=106									
ASPA	**Alice Springs**	**17.41**	**166**	*e*P		**Pn**	**23**	**51**	**37.1**	**-0.2**
MKAR	**Makanchi Array**	**67.63**	**327**	P		**P**	**23**	**58**	**23.0**	**0.0**
	0.2nm,0.3s,mb3.3,baz=108,slow=8.1,SNR=4.8									

*ISCJB **22** 00:27:57.2±0.6, 4286N±004×080W±004, h8[km], Error ellipse: s-maj=5.9km s-min=3.2km az=47.8*
*STR **22** 00:27:57.5±0.3, 4287N×079W, h5[km]±1[km], Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **22** 00:27:57.4±0.2, 4285N×081W, h4[km], Md2.1/3, Ml1.9/1, Error ellipse: s-maj=3.4km s-min=1.2km az=16.0*
*MDD **22** 00:27:58.2±0.5, 4289N×079W, h8[km]±9[km], mbLg1.0/6, Error ellipse: s-maj=3.7km s-min=1.7km az=24.0, PRXIMO*
ISC 22 00:27:57.4±0.9, 4287N±004×079W±004, h14[km]±8[km], n22, σ0$25/31, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
ETSF	**Etsaut**	**0.17**	**82**	*e*Pg		**Pg**	**00**	**28**	**01.4**	**-0.1**
ETSF				*e*Sg		**Sg**	**00**	**28**	**04.2**	**-0.2**
	17nm,0.2s									
ETSF	**Etsaut**	**0.17**	**82**	Pg		**Pg**	**00**	**28**	**01.4**	**-0.1**
ETSF				Lg			00	28	04.2	
	8.3nm,0.2s									

FDAF	**Les Forges d'A**	**0.17**	**109**	P		**Pg**	**00**	**28**	**01.5**	**0.0**
FDAF				S		**Sg**	**00**	**28**	**04.4**	**0.0**
LARF	**Larrau**	**0.22**	**319**	Pg		**Pg**	**00**	**28**	**02.0**	**-0.2**
LARF				Sg		**Sg**	**00**	**28**	**05.9**	**+0.3**
LARF	**Larrau**	**0.22**	**319**	P		**Pg**	**00**	**28**	**02.1**	**-0.2**
LARF				S		**Sg**	**00**	**28**	**05.3**	**-0.3**
ATE	**Arette**	**0.22**	**17**	Pg		**Pg**	**00**	**28**	**02.2**	**-0.1**
ATE				Sg		**Sg**	**00**	**28**	**06.0**	**+0.4**
ATE	**Arette**	**0.22**	**17**	P		**Pg**	**00**	**28**	**02.4**	**+0.1**
ATE				S		**Sg**	**00**	**28**	**06.0**	**+0.4**
REYF	**Montagne du Re**	**0.35**	**56**	Pg		**Pg**	**00**	**28**	**04.7**	**+0.1**
REYF				Sg		**Sg**	**00**	**28**	**09.4**	**0.0**
REYF	**Montagne du Re**	**0.35**	**56**	P		**Pg**	**00**	**28**	**04.8**	**+0.2**
REYF				S		**Sg**	**00**	**28**	**09.2**	**-0.2**
ORDF	**Ordiarp**	**0.35**	**343**	Pg		**Pg**	**00**	**28**	**04.9**	**+0.3**
ORDF				Sg		**Sg**	**00**	**28**	**09.8**	**+0.3**
ORDF	**Ordiarp**	**0.35**	**343**	P		**Pg**	**00**	**28**	**05.0**	**+0.4**
ORDF				S		**Sg**	**00**	**28**	**09.8**	**+0.3**
SJPF	**Ste Jean**	**0.40**	**307**	*e*Pg		**Pg**	**00**	**28**	**05.1**	**-0.3**
SJPF				*e*Sg		**Sg**	**00**	**28**	**10.5**	**-0.3**
	6.2nm,0.2s									
SJPF	**Ste Jean**	**0.40**	**307**	Pg		**Pg**	**00**	**28**	**05.1**	**-0.3**
SJPF				Lg			00	28	10.5	
	3.1nm,0.2s									
IUSE	**Utxeti**	**0.56**	**278**	Lg			00	28	16.7	
	0.7nm,0.1s,SNR=7.9									
ELIZ	**Elizondo**	**0.61**	**298**	Pg		**Pg**	**00**	**28**	**09.3**	**-0.1**
	1.5nm,0.2s,SNR=7.9									
ELIZ				Lg			00	28	17.9	
	1.1nm,0.1s,SNR=7.9									
EALK	**Alkurruntz**	**0.63**	**304**	Pg		**Pg**	**00**	**28**	**09.7**	**0.0**
	0.4nm,0.1s,SNR=7.9									
EALK				Lg			00	28	17.9	
	1.9nm,0.1s,SNR=7.9									
EBIE	**Bielsa**	**0.71**	**105**	Pg		**Pg**	**00**	**28**	**11.1**	**-0.2**
	0.1nm,0.0s,SNR=7.9									
EBIE				Lg			00	28	21.8	
	0.6nm,0.1s,SNR=7.9									
EPF	**Esparros**	**0.84**	**79**	*e*Pg		**Pg**	**00**	**28**	**13.9**	**+0.1**
EPF				*e*Sg		**Sg**	**00**	**28**	**24.5**	**-0.4**
	3.1nm,0.2s									
EPF	**Esparros**	**0.84**	**79**	Pg		**Pg**	**00**	**28**	**13.9**	**+0.1**
EPF				Lg			00	28	24.5	
	1.6nm,0.2s									
ESAC	**San Caprasio**	**1.18**	**168**	Pg		**Pg**	**00**	**28**	**20.6**	**+0.5**
	2.2nm,0.2s,SNR=7.9									
ESAC				Lg			00	28	38.1	
	4.1nm,0.1s,SNR=7.9									
EPOB	**Poblet**	**2.06**	**137**	Lg			00	29	04.6	
	0.1nm,0.1s,SNR=7.9									
ERTA	**Horta de San J**	**2.09**	**156**	Lg			00	29	06.2	
	0.1nm,0.1s,SNR=7.9									

*MDD **22** 00:43:32.5±2.4, 3696N×1057W, h0[km], mbLg2.4/3, Error ellipse: s-maj=21.5km s-min=14.2km az=85.0, PRXIMO*
INMG 22 00:43:33.3±0.8, 3690N×1065W, h10[km], ML1.8, Error ellipse: s-maj=7.0km s-min=3.6km az=84.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
PTEO	**Sao Teotonio**	**1.66**	**67**	*e*Pn		Pn	00	44	00.7	-1.8
PTEO				*e*Sn		Sn	00	44	21.5	-2.4
PLOU	**Loures**	**2.31**	**30**	*e*Sn		Sn	00	44	36.7	-3.1
PLOU										
	9.0nm,0.1s									
PLOU	**Loures**	**2.31**	**30**	Sn		Sn	00	44	36.7	-3.1
	4.5nm,0.1s									
MOE	**Montemor**	**2.44**	**48**	*e*Pn		Pn	00	44	11.6	-1.5
MOE				*e*Sn		Sn	00	44	39.8	-3.2
PBEJ	**Beja**	**2.48**	**62**	*e*Pn		Pn	00	44	12.2	-1.5
PBEJ				*e*Sn		Sn	00	44	40.3	-3.8
PBEJ										
	1.5nm,0.3s									
EGRO	**El Granado**	**2.60**	**75**	P		Pn	00	44	13.5	-1.9
	0.8nm,0.1s,SNR=4.0									
EGRO				S		Sn	00	44	44.0	-3.1
	1.6nm,0.1s,SNR=7.9									
PTOM	**Tomar**	**3.23**	**32**	*e*Sn		Sn	00	44	59.9	-2.8
PTOM										
	4.1nm,0.1s									
PTOM	**Tomar**	**3.23**	**32**	Sn		Sn	00	44	59.9	-2.8
	2.0nm,0.1s									
EMIN	**Mina Concepcio**	**3.28**	**74**	P		Pn	00	44	22.6	-2.2
	0.6nm,0.1s,SNR=15									
EMIN				S		Sn	00	45	00.3	-3.6
	0.8nm,0.1s,SNR=6.8									
EBAD	**Badajoz**	**3.42**	**56**	P		Pn	00	44	24.2	-2.5
	0.4nm,0.1s,SNR=7.9									
EBAD				S		Sn	00	45	03.3	-4.0
	2.3nm,0.1s,SNR=7.9									
ESPR	**Espera**	**3.84**	**89**	P		Pn	00	44	30.5	-1.9
	2.1nm,0.1s,SNR=7.9									
PCBR	**Castelo Branco**	**3.85**	**39**	*e*Sn		Sn	00	45	13.3	-4.5
PCBR										
	0.9nm,0.3s									
PCBR	**Castelo Branco**	**3.85**	**39**	Sn		Sn	00	45	13.3	-4.5
	0.4nm,0.3s									
MTE	**Manteigas**	**4.25**	**34**	*e*Sn		Sn	00	45	23.3	-4.5
MTE										
	1.4nm,0.5s									
MTE	**Manteigas**	**4.25**	**34**	Sn		Sn	00	45	23.3	-4.5
	0.7nm,0.5s									
PVIS	**Viseu**	**4.37**	**29**	*e*Sn		Sn	00	45	25.9	-4.9
PVIS										
	2.0nm,0.1s									
PVIS	**Viseu**	**4.37**	**29**	Sn		Sn	00	45	25.9	-4.9
	1.0nm,0.1s									
EPLA	**Plasencia**	**4.78**	**47**	P		Pn	00	44	43.4	-1.8
	0.3nm,0.0s,SNR=7.9									
EPLA				S		Sn	00	45	36.6	-4.1
	0.9nm,0.1s,SNR=7.9									
PVRL	**Vila Real**	**4.93**	**27**	*e*Sn		Sn	00	45	39.2	-5.2
PVRL										
	2.1nm,0.1s									
PVRL	**Vila Real**	**4.93**	**27**	Sn		Sn	00	45	39.2	-5.2
	1.1nm,0.1s									
EADA	**Adamuz**	**4.99**	**73**	P		Pn	00	44	46.0	-2.2
	0.2nm,0.1s,SNR=7.9									
EADA				S		Sn	00	45	41.7	-4.2
	0.9nm,0.1s,SNR=7.9									
ELOB	**Lobios**	**5.35**	**21**	S		Sn	00	45	48.5	-6.4
	1.2nm,0.1s,SNR=7.9									

*IDC **22** 00:45:36.9±1.1, 9375×10837E, h0[km], mb4.1/6, mb1 4.2/7, mb1mx4.0/17, mbtmp4.0/7, ML3.5/1, Error ellipse: s-maj=51.6km s-min=19.3km az=56.0*
*NEIC **22** 00:45:38.4±0.9, 9385×10837E, h10[km], mb3.8/2, Error ellipse: s-maj=35.8km s-min=12.7km az=51.0*
*ISCJB **22** 00:45:39.9±1.2, 935±02×1085E±03, h33[km], mb3.8/7, Error ellipse: s-maj=44.4km s-min=15.6km az=99.9*
ISC 22 00:45:42.2±1.2, 94S±02×1084E±02, h35[km], n12, σ0$33/12, mb3.8/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
FITZ	**Fitzroy Crossi**	**18.86**	**119**	*e*P		**Pn**	**00**	**50**	**00.2**	**+0.3**
	4.9nm,0.8s									
FITZ	**Fitzroy Crossi**	**18.86**	**119**	P		**Pn**	**00**	**49**	**59.9**	**0.0**
	0.1nm,0.3s,baz=226,slow=7.2,SNR=6.4									
WRA	**Warramunga Arr**	**27.18**	**116**	P		**P**	**00**	**51**	**22.3**	**0.0**
	0.2nm,0.3s,mb3.1,baz=290,slow=11,SNR=6.8									
WRAB	**Tennant Creek**	**27.18**	**116**	*e*P		**P**	**00**	**51**	**21.8**	**-0.5**
	4.5nm,0.6s,mb3.6									
WB2	**Warramunga Arr**	**27.19**	**116**	*e*P		**P**	**00**	**51**	**22.8**	**+0.4**
ASAR	**Alice Springs**	**28.22**	**123**	P		**P**	**00**	**51**	**31.1**	**-0.5**
	1.1nm,0.7s,mb3.6,baz=296,slow=7.4,SNR=4.7									
ASAR				PcP		PcP	00	54	45.6	+1.1
	0.6nm,0.6s,baz=308,slow=2.0,SNR=8.7									
STKA	**Stephens Creek**	**38.05**	**131**	*e*P		**P**	**00**	**52**	**57.8**	**+0.7**
	6.3nm,0.7s,mb4.5									
STKA	**Stephens Creek**	**38.05**	**131**	P		**P**	**00**	**52**	**57.4**	**+0.3**
	6.4nm,0.6s,mb4.5,baz=304,slow=8.8,SNR=15									
STKA	**Stephens Creek**	**38.05**	**131**	*e*P		**P**	**00**	**52**	**57.2**	**+0.1**
SONM	**Songino Array**	**57.00**	**358**	P		**P**	**00**	**55**	**24.6**	**+0.3**
	0.8nm,0.5s,mb4.0,baz=177,slow=7.4,SNR=5.5									
MKAR	**Makanchi Array**	**60.59**	**340**	P		**P**	**00**	**55**	**49.0**	**-0.2**
	1.2nm,0.5s,mb4.3,baz=142,slow=6.9,SNR=11									
VNDA	**Vanda**	**73.38**	**169**	P		**P**	**00**	**57**	**10.5**	**0.0**
	0.8nm,0.9s,mb3.6,baz=312,slow=5.9,SNR=10									

*CSEM **22** 00:49:25.8±0.2, 3766N×2078E, h2[km], MD3.5, Error ellipse: s-maj=5.2km s-min=3.2km az=55.0*
*NEIC **22** 00:49:26.6, 3773N×2085E, h18[km], MD3.5(ATH), After ATH.*
*ATH **22** 00:49:26.6, 3773N×2085E, h18[km]±2[km], MD3.5/4*
*ISCJB **22** 00:49:27.1±1.2, 3775N±006×2088E±007, h11[km]±5[km], Error ellipse: s-maj=11.7km s-min=8.1km az=62.1*
*THE **22** 00:49:30.4, 3792N×2088E, h7[km], ML2.9*
ISC 22 00:49:26.9±1.4, 3771N±007×2086E±007, h6[km]±6[km], n19, σ0$84/24, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
VLS	**Valsamata**	**0.51**	**335**	*e*PB		**Pg**	**00**	**49**	**36.5**	**-0.3**
VLS				*e*SB		**Sg**	**00**	**49**	**44.2**	**+0.8**
RLS	**Riolos of Patr**	**0.59**	**54**	*e*PN		**Pg**	**00**	**49**	**37.7**	**-0.6**
RLS				*e*SN		**Sg**	**00**	**49**	**46.7**	**+0.7**
ITM	**Ithomi**	**1.00**	**122**	*e*PN		**Pn**	**00**	**49**	**46.2**	**-1.3**
EVR	**Evrytania**	**1.42**	**31**	*e*PN		**Pn**	**00**	**49**	**52.8**	**-0.4**
AGG	**Agios Georgios**	**1.75**	**41**	*e*Pg		**Pg**	**00**	**49**	**58.9**	**-1.5**
AGG	**Agios Georgios**	**1.75**	**41**	*e*Pg		**Pg**	**00**	**49**	**58.8**	**-1.6**
IGT	**Igoumenitsa**	**1.86**	**347**	*e*Pb		**Pb**	**00**	**49**	**59.1**	**-2.3**
LKR	**Lokris**	**1.93**	**60**	*e*PN		**Pn**	**00**	**50**	**01.3**	**+1.0**
NEO	**Neokhori**	**2.44**	**49**	*e*PN		**Pn**	**00**	**50**	**07.8**	**+0.5**
XOR	**Xorichti**	**2.46**	**47**	*e*Pn		**Pn**	**00**	**50**	**08.3**	**+0.7**
LIT	**Litokhoron**	**2.70**	**28**	*e*Pn		**Pn**	**00**	**50**	**11.5**	**+0.6**
FNA	**Florina**	**3.10**	**7**	*e*Pn		**Pn**	**00**	**50**	**16.6**	**+0.3**
HORT	**Hortiatis**	**3.37**	**30**	*e*Pn		**Pn**	**00**	**50**	**20.4**	**+0.3**
HORT				*e*Sn		**Sn**	**00**	**50**	**59.2**	**-1.2**
GRG	**Griva**	**3.45**	**20**	*e*Pn		**Pn**	**00**	**50**	**21.4**	**+0.1**
GRG				*e*Sn		**Sn**	**00**	**51**	**01.8**	**-0.7**
OUR	**Ouranopolis**	**3.57**	**42**	*e*Pn		**Pn**	**00**	**50**	**23.2**	**+0.3**
SOH	**Sokhos**	**3.66**	**31**	*e*Pn		**Pn**	**00**	**50**	**25.4**	**+1.3**
SOH				*e*Sn		**Sn**	**00**	**51**	**07.2**	**-0.3**
KNT	**Kendrikon**	**3.79**	**24**	*e*Pn		**Pn**	**00**	**50**	**26.4**	**+0.6**
SRS	**Serrai**	**4.00**	**31**	*e*Pn		**Pn**	**00**	**50**	**29.2**	**+0.4**
MMB	**Musomiste**	**4.46**	**29**	*e*Pn		**Pn**	**00**	**50**	**35.2**	**+0.1**

*IDC **22** 01:01:23.4±1.8, 2575×12810E, h0[km], mb3.8/2, mb1 4.0/4, mb1mx3.7/16, mbtmp3.8/4, ML3.6/2, Error ellipse: s-maj=106.9km s-min=25.7km az=76.0*
NEIC 22 01:01:28.5±1.0, 264S×12812E, h35[km], mb3.6/1, Error ellipse: s-maj=43.8km s-min=13.5km az=76.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
FITZ	**Fitzroy Crossi**	**15.56**	**189**	Pn		Pn	01	05	05.2	+0.1
	0.1nm,0.3s,baz=353,slow=17,SNR=2.7									
WRAB	**Tennant Creek**	**18.23**	**161**	*e*P		Pn	01	05	38.8	+0.1
	1.7nm,0.4s									
WRA	**Warramunga Arr**	**18.24**	**161**	P		Pn	01	05	38.3	-0.5
	0.4nm,0.3s,baz=340,slow=11,SNR=17									
WB2	**Warramunga Arr**	**18.24**	**161**	*e*P		Pn	01	05	39.1	+0.3
AS31	**Alice Springs**	**21.64**	**165**	*e*P		P	01	06	16.7	+1.0
ASPA	**Alice Springs**	**21.64**	**165**	*e*P		P	01	06	16.7	+1.0
ASAR	**Alice Springs**	**21.64**	**165**	P		P	01	06	16.2	+0.5
	3.5nm,0.8s,baz=346,slow=12,S

Moment tensor: Scale 10^{16}Nm; M_{rr}1.65±.17; $M_{\theta\theta}$0.97±.10; $M_{\phi\phi}$-2.62±.14; $M_{r\theta}$-0.91±.25; $M_{r\phi}$-2.12±.10; $M_{\theta\phi}$-0.07±.22; Best double couple: M_o3.13600×10^{16} NP1:ϕ_s347.00000°, δ59.00000°, λ27.00000°. NP2:ϕ_s242.00000°, δ67.00000°, λ146.00000°. Principal axes: T 2.6320, Plg40.0000°, Azm201.0000°; N 1.0120, Plg49.0000°, Azm31.0000°; P -3.6400, Plg5.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

BGS ***22*** *01:10:33.8±1.5, 2933N×104*^{4}*2E, h56*^{km}*, mb4.8*

ISC 22 01:10:28.3±0.4**, 2805N**±002×**10419E**±002**, h47**^{km}±3^{km}**, h54**^{km}±3.9^{km}**:pP-P, n697,** σ**0**^{s}**97**/700**, mb5.1**/202**, MS4.5**/69**, 49C-40D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.71**	**125**	P		**Pn**	**01 11 09.5**	**+0.1**
GYA				PG		**Pn**	**01 11 14.3**	**+4.9**
GYA				S		**Sn**	**01 11 45.3**	**+4.3**
GYA				SG		**Sn**	**01 11 51.1**	**+10**
GYA				Smax				
	comp=N,9μm,0.8s							
GYA				Smax				
	comp=E,8μm,0.8s							
GYA				LR	LR			
	comp=N,29μm,3.0s							
GYA				LR	LR			
	comp=E,40μm,5.1s							
GYA				LR	LR			
	comp=Z,40μm,3.6s							
CD2	**Chengdu**	**2.88**	**353**	⇓*i*P		**Pn**	**01 11 11.6**	**0.0**
CD2				PG		**Pn**	**01 11 18.4**	**+6.8**
CD2				SG		**Sn**	**01 11 53.5**	**+8.6**
CD2				Smax				
	comp=N,7μm,0.8s							
CD2				Smax				
	comp=E,18μm,0.8s							
CD2				LR	LR			
	comp=N,57μm,3.9s							
CD2				LR	LR			
	comp=Z,25μm,3.7s							
KMI	**Kunming**	**3.19**	**204**	PG		**Pn**	**01 11 15.8**	**-0.1**
KMI				SG		**Sn**	**01 11 55.8**	**+3.2**
KMI				Smax				
	comp=N,2μm,1.4s							
KMI				Smax				
	comp=E,2μm,1.0s							
KMI				LR	LR			
	comp=N,30μm,6.7s							
KMI				LR	LR			
	comp=E,33μm,5.0s							
KMI				LR	LR			
	comp=Z,23μm,7.6s							
XAN	**Xi'an**	**7.22**	**33**	P		**Pn**	**01 12 09.6**	**-1.6**
XAN				LR	LR			
	comp=N,7μm,6.0s							
XAN				LR	LR			
	comp=E,7μm,5.4s							
XAN				LR	LR			
	comp=Z,10μm,7.5s							
LZH	**Lanzhou**	**8.02**	**358**	⇑P		**Pn**	**01 12 21.8**	**-0.3**
LZH				AP			01 12 30.0	
LZH				XP			01 12 34.0	
LZH				S		**Sn**	**01 13 54.0**	**+2.5**
LZH				AMB	AMB			
	comp=Z,390nm,1.2s							
LZH				AMB	AMB			
	comp=Z,1μm,4.4s							
LZH				Smax				
	comp=N,2μm,0.9s							
LZH				Smax				
	comp=E,1μm,1.0s							
LZH				LR	LR			
	comp=E,16μm,9.0s							
LZH				LR	LR			
	comp=Z,21μm,9.5s							
WHN	**Wuhan**	**9.21**	**72**	⇓P		**Pn**	**01 12 37.6**	**-0.9**
WHN				S		**Sn**	**01 14 16.4**	**-4.4**
WHN				Smax				
	comp=N,624nm,0.7s							
WHN				Smax				
	comp=E,2μm,0.8s							
WHN				LR	LR			
	comp=Z,14μm,13.4s							
NANT	**Nan**	**9.75**	**200**	⇓P		**Pn**	**01 12 44.0**	**-1.8**
	comp=Z,238nm,0.6s							
QIZ	**Qiongzhong**	**10.37**	**149**	P		**Pn**	**01 12 50.9**	**-3.4**
QIZ				S		**Sn**	**01 14 48.6**	**-0.4**
QIZ				LR	LR			
	comp=N,9μm,11.1s							
QIZ				LR	LR			
	comp=E,11μm,10.8s							
QIZ				LR	LR			
	comp=Z,11μm,10.1s							
QIZ	**Qiongzhong**	**10.37**	**149**	*e*Pn		**Pn**	**01 12 50.7**	**-3.6**
	comp=Z,40nm,0.9s							
CHG	**Chiang Mai**	**10.37**	**209**	⇑P		**Pn**	**01 12 55.6**	**+1.2**
	comp=Z,44nm,1.0s							
CHTO	**Chiang Mai**	**10.37**	**209**	⇑*i*P		**Pn**	**01 12 54.7**	**+0.3**
CHTO				pmax	pmax			
	comp=Z,33nm,1.0s							
CHTO	**Chiang Mai**	**10.37**	**209**	⇑*i*Pn		**Pn**	**01 12 54.7**	**+0.3**
	comp=Z,33nm,1.0s							
CM31	**Chiang Mai Arr**	**10.69**	**208**	*e*Pn		**Pn**	**01 13 00.5**	**+1.8**
	comp=Z,22nm,0.6s							
SHL	**Shillong**	**11.27**	**260**	*e*P		**Pn**	**01 13 06.4**	**-0.1**
SHL				AMb	AMB		01 13 13.9	
	comp=Z,11nm,0.5s							
GTA	**Gaotai**	**11.90**	**343**	P		**Pn**	**01 13 15.3**	**+0.1**
GTA				AP			01 13 18.8	
GTA				XP			01 13 21.5	
GTA				PP			01 13 26.1	
GTA				S		**Sn**	**01 15 33.3**	**+6.8**
GTA				XS			01 15 40.3	
GTA				SCP	ScP		01 22 33.1	+4.6
GTA				AMB	AMB			
	comp=Z,31nm,1.5s							
GTA				AMB	AMB			
	comp=Z,486nm,4.2s							
GTA				LR	LR			
	comp=N,5μm,11.0s							
GTA				LR	LR			
	comp=E,10μm,12.2s							
GTA				LR	LR			
	comp=Z,4μm,8.0s							
NST	**Nakhon Sawan**	**12.88**	**198**	P		**Pn**	**01 13 29.2**	**+0.6**
QZH	**Quanzhou**	**13.27**	**100**	P		**Pn**	**01 13 34.3**	**+0.4**
QZH				AMB	AMB			
	comp=Z,10.0nm,0.8s							
QZH				LR	LR			
	comp=N,25μm,7.9s							
QZH				LR	LR			
	comp=E,8μm,6.7s							
QZH				LR	LR			
	comp=Z,9μm,15.1s							
NJ2	**Nanjing**	**13.31**	**69**	*e*P		**Pn**	**01 13 35.3**	**+0.8**
NJ2				AP			01 13 43.1	
NJ2				PP			01 13 45.4	
NJ2				XP			01 13 47.9	
NJ2				S		**Sn**	**01 16 05.0**	**+3.9**
NJ2				XS			01 16 16.0	
NJ2				AMB	AMB			
	comp=Z,30nm,1.2s							
NJ2				AMB	AMB			
	comp=Z,110nm,3.5s							
NJ2				LR	LR			
	comp=N,11μm,18.5s							
NJ2				LR	LR			
	comp=E,11μm,18.2s							
NJ2				LR	LR			
	comp=Z,31μm,18.6s							
BTO	**Baotou**	**13.41**	**19**	*e*P		**Pn**	**01 13 32.3**	**-3.6**
BTO				S		**Sn**	**01 16 12.3**	**+8.8**
BTO				AMB	AMB			
	comp=Z,37nm,1.2s							
BTO				LR	LR			
	comp=N,2μm,10.6s							
BTO				LR	LR			
	comp=E,858nm,8.9s							
TIA	**Tai'an**	**13.64**	**50**	*e*P		**Pn**	**01 13 37.1**	**-1.9**
TIA				LR	LR			
	comp=N,2μm,10.0s							
TIA				LR	LR			
	comp=E,2μm,10.0s							
HHC	**Hu-ho-hao-te**	**14.14**	**24**	*e*P		**Pn**	**01 13 43.3**	**-2.4**
HHC				AP			01 13 48.3	
HHC				PP			01 13 54.9	
HHC				XP			01 13 58.8	
HHC				S		**Sn**	**01 16 20.0**	**-1.1**
HHC				XS			01 16 34.6	
HHC				SS			01 16 40.3	
HHC				AMB	AMB			
	comp=Z,40nm,0.7s							
HHC				AMB	AMB			
	comp=Z,183nm,4.5s							
HHC				LR	LR			
	comp=N,2μm,7.6s							
HHC				LR	LR			
	comp=E,3μm,5.7s							
HHC				LR	LR			
	comp=Z,2μm,7.2s							
SSE	**Sheshan**	**15.10**	**74**	*e*P		**Pn**	**01 14 00.8**	**+2.3**
SSE				PP			01 14 14.1	
SSE				S		**S**	**01 16 47.8**	**-12**
SSE				SCS	ScS		01 26 08.6	-3.1
SSE				AMB	AMB			
	comp=Z,37nm,0.8s							
SSE				AMB	AMB			
	comp=Z,85nm,5.0s							
SSE				LR	LR			
	comp=N,6μm,15.4s							
SSE				LR	LR			
	comp=E,1μm,15.4s							
SSE				LR	LR			
	comp=Z,3μm,9.7s							
CAL	**Calcutta**	**15.35**	**253**	*ex*		x	01 13 43.5	
BJT	**Baijiatuau**	**15.51**	**37**	*e*P		**Pn**	**01 14 03.6**	**-0.2**
BJT				pmax	pmax			
	comp=Z,63nm,0.9s							
BJT	**Baijiatuau**	**15.51**	**37**	*e*Pn		**Pn**	**01 14 03.6**	**-0.1**
	comp=Z,63nm,0.9s							
BJI	**Beijing**	**15.53**	**37**	P		**Pn**	**01 14 03.1**	**-0.9**
BJI				AMB	AMB			
	comp=Z,56nm,1.3s							
BJI				LR	LR			
	comp=N,4μm,9.7s							
BJI				LR	LR			
	comp=E,3μm,13.6s							
BJI				LR	LR			
	comp=Z,2μm,14.0s							
YHNB	**Yeheng**	**15.77**	**98**	*e*Pn		**Pn**	**01 14 10.2**	**+3.1**
YHNB				*e*Sn		**Sn**	**01 16 58.2**	**-2.6**
TATO	**Taipei**	**15.79**	**97**	*e*Pn		**Pn**	**01 14 11.4**	**+4.0**
	comp=Z,68nm,1.0s							
NNT	**Nongplab**	**15.93**	**196**	P		**Pn**	**01 14 10.5**	**+1.3**
NACB	**Ninganchiao**	**16.10**	**100**	*e*P		**Pn**	**01 14 16.0**	**+4.6**
NACB				*e*S		**S**	**01 17 20.2**	**-0.2**
NACB				*e*PcP		PcP	01 19 05.1	0.0
BOK	**Bokaro**	**17.00**	**260**	*e*P		**Pn**	**01 14 22.0**	**-0.6**
BOK				AMb	AMB		01 14 26.4	
	comp=Z,64nm,1.6s							
DL2	**Dalian**	**18.11**	**49**	⇑*i*P		**Pn**	**01 14 37.8**	**+1.6**
DL2				S		**S**	**01 18 01.9**	**+0.8**
DL2				AMB	AMB			
	comp=Z,80nm,1.0s							
DL2				AMB	AMB			
	comp=Z,160nm,2.9s							
DL2				LR	LR			
	comp=N,710nm,10.6s							
DL2				LR	LR			
	comp=E,500nm,10.3s							
DL2				LR	LR			
	comp=Z,790nm,10.3s							
SONM	**Songino Array**	**19.83**	**4**	P		**Pn**	**01 14 55.0**	**-1.9**
	comp=Z,2.5nm,0.3s,baz=186,slow=10,SNR=76							
SONM				LR	LR		01 23 37.6	
	comp=Z,989nm,21.5s,baz=186,slow=40							
SONM	**Songino Array**	**19.83**	**4**	P		**Pn**	**01 14 55.0**	**-1.9**
SONM				pmax	pmax			
	comp=Z,3.0nm,0.3s							
SONM				MLR	MLR			
	comp=Z,989nm,21.5s							
ULN	**Ulaanbaatar**	**19.91**	**6**	⇓P		**Pn**	**01 14 56.2**	**-1.6**
	SNR=63							
ULN	**Ulaanbaatar**	**19.91**	**6**	*d i*P		**Pn**	**01 14 56.1**	**-1.8**
ULN	**Ulaanbaatar**	**19.91**	**6**	*e*P		**Pn**	**01 14 56.1**	**-1.8**
	comp=Z,206nm,1.4s							
WMQ	**Urumqi**	**20.58**	**324**	P		**P**	**01 15 05.6**	**+2.4**
WMQ				PP			01 15 29.1	
WMQ				S		**S**	**01 18 47.5**	**-3.2**
WMQ				PCP	PcP		01 19 14.5	+1.9
WMQ				SCP	ScP		01 22 44.5	-0.8
WMQ				AMB	AMB			
	comp=Z,41nm,0.8s							
WMQ				AMB	AMB			
	comp=Z,358nm,4.2s							
WMQ				LR	LR			
	comp=N,2μm,17.4s							
WMQ				LR	LR			
	comp=E,3μm,10.2s							
WMQ				LR	LR			
	comp=Z,2μm,10.2s							
BLSP	**Bilaspur**	**20.81**	**258**	*e*P		**P**	**01 15 04.8**	**-0.9**
BLSP				AMb	AMB		01 15 08.0	
	comp=Z,132nm,1.1s							
SNY	**Shenyang**	**20.95**	**44**	⇓P		**P**	**01 15 07.8**	**+0.6**
SNY				PP			01 15 30.0	
SNY				S		**S**	**01 18 59.8**	**+1.8**
SNY				XS		sS	01 19 07.8	-8.1
SNY				AMB	AMB			
	comp=Z,41nm,1.6s							
SNY				AMB	AMB			
	comp=Z,249nm,3.5s							
SNY				LR	LR			
	comp=E,2μm,15.5s							
SNY				LR	LR			
	comp=Z,1μm,11.4s,MS4.5							
LGTI	**Lohaghat**	**21.03**	**280**	*e*P		**P**	**01 15 07.5**	**-0.5**
SNG	**Songkhla**	**21.03**	**190**	P		**P**	**01 15 09.0**	**+0.9**
INCN	**Inchon**	**21.05**	**58**	*e*Pn		**P**	**01 15 10.0**	**+1.8**
	comp=Z,54nm,0.8s,mb4.9							
JOW	**Kunigami**	**21.41**	**88**	P		**P**	**01 15 11.4**	**-0.7**
	comp=Z,25nm,0.4s,mb4.9,baz=275,slow=12,SNR=17							
JOW				LR	LR		01 23 00.4	
	comp=Z,1μm,21.1s,MS4.2,baz=286,slow=35							
VIS	**Vishakhapatnam**	**21.76**	**246**	*e*P		**P**	**01 15 15.1**	**-0.8**
VIS				AMb	AMB		01 15 18.8	
	comp=Z,61nm,0.6s,mb5.2							
JBP	**Jabalpur**	**22.35**	**263**	⇓*i*P		**P**	**01 15 22.9**	**+0.8**
JBP				*ex*		x	01 15 27.8	
	comp=Z,92nm,0.7s							
JBP				*e*S		**S**	**01 19 23.7**	**-1.5**
KULM	**Kulim**	**22.88**	**189**	*e*P		**P**	**01 15 26.6**	**-1.2**
CN2	**Changchun**	**23.21**	**42**	*e*P		**P**	**01 15 32.1**	**+0.9**
CN2				PP			01 16 05.1	
CN2				*e*S		**S**	**01 19 37.8**	**-1.7**
CN2				AMB	AMB			
	comp=Z,80nm,1.3s,mb5.0							
CN2				AMB	AMB			
	comp=Z,200nm,3.0s							
CN2				LR	LR			
	comp=N,1μm,14.0s,MS4.6							
CN2				LR	LR			
	comp=E,1μm,14.0s,MS4.6							
CN2				LR	LR			
	comp=Z,1μm,17.0s,MS4.5							
SMLA	**Simla**	**23.68**	**284**	*e*P		**P**	**01 15 34.5**	**-1.1**
SMLA				*e*S		**S**	**01 19 47.2**	**+0.3**
MOY	**Mondy**	**23.71**	**355**	*e*P		**P**	**01 15 36.5**	**+0.6**
MOY				pmax	pmax			
	comp=Z,248nm,2.8s,mb5.2							
NDI	**New Delhi**	**23.73**	**278**	*e*P		**P**	**01 15 34.8**	**-1.3**
NDI				AMb	AMB		01 15 39.1	
	comp=Z,97nm,0.6s,mb5.4							
NDI				*e*S		**S**	**01 19 47.0**	**-0.8**
NGP	**Nagpur**	**23.84**	**259**	*e*P		**P**	**01 15 37.1**	**+0.1**
NGP				AMb	AMB		01 15 40.7	
	comp=Z,72nm,1.4s,mb4.9							
IRK	**Irkutsk**	**24.17**	**0**	*e*P		**P**	**01 15 40.8**	**+0.8**
IRK				*e*S		**S**	**01 19 47.6**	**-7.3**
IRK				pmax	pmax			
	comp=Z,482nm,1.9s,mb5.6							
HIA	**Hailar**	**24.33**	**25**	*e*P		**P**	**01 15 42.0**	**+0.5**
HIA				pmax	pmax			
	comp=Z,343nm,1.4s							
HIA	**Hailar**	**24.33**	**25**	*e*P		**P**	**01 15 42.0**	**+0.5**
	comp=Z,343nm,1.4s,mb5.6							
BHPL	**Bhopal**	**24.57**	**265**	*e*P		**P**	**01 15 43.5**	**-0.3**
BHPL				AMb	AMB		01 15 50.5	
	comp=Z,62nm,1.2s,mb5.0							
KKM	**Kota Kinabalu**	**24.68**	**150**	*e*P		**P**	**01 15 44.5**	**-0.3**
PONG	**Pong**	**24.73**	**286**	*e*P		**P**	**01 15 46.0**	**+0.8**
DLH	**Dalhousie**	**24.74**	**287**	*e*P		**P**	**01 15 45.0**	**-0.3**
CIT	**Chita**	**24.95**	**14**	*e*P		**P**	**01 15 46.3**	**-0.9**
CIT				*e*			01 16 22.6	
CIT				*e*			01 16 39.6	
CIT				pmax	pmax			
	comp=Z,203nm,2.4s,mb5.2							
MKAR	**Makanchi Array**	**25.40**	**323**	P		**P**	**01 15 50.2**	**-1.0**
	comp=Z,21nm,0.8s,mb4.8,baz=122,slow=13,SNR=87							
MKAR				PcP	PcP		01 19 23.7	+1.1
	comp=Z,6.9nm,0.8s,baz=110,slow=7.0,SNR=6.0							
MKAR				ScP	ScP		01 23 00.3	+2.4
	comp=Z,11nm,0.8s,baz=104,slow=5.1,SNR=30							
MKAR	**Makanchi Array**	**25.40**	**323**	P		**P**	**01 15 50.3**	**-1.0**
MKAR							01 19 23.7	
MKAR				pmax	pmax			
	comp=Z,21nm,0.8s							
MKAR				pmax	pmax			
	comp=Z,7.0nm,0.8s							
MKAR				pmax	pmax			
	comp=E,11nm,0.8s							
PSI	**Prapat**	**25.61**	**192**	P		**P**	**01 15 52.7**	**-0.4**
	comp=E,33nm,0.9s,mb4.9,baz=349,slow=7.5,SNR=30							
PSI				ScP	ScP		01 23 02.2	+3.7
	comp=E,6.6nm,0.7s,baz=324,slow=6.3,SNR=7.4							
PSI				LR	LR		01 25 36.2	
	comp=E,794nm,21.4s,MS4.2,baz=349,slow=36							
PSI	**Prapat**	**25.61**	**192**	P		**P**	**01 15 52.7**	**-0.4**
PSI				pmax	pmax			
	comp=Z,33nm,0.9s,mb4.9							
PSI				pmax	pmax			
	comp=E,7.0nm,0.7s							
PSI				MLR	MLR			
	comp=Z,795nm,21.5s,MS4.2							
AKL	**Akola**	**25.77**	**260**	*e*P		**P**	**01 15 54.3**	**-0.3**
AKL				AMb	AMB		01 16 00.3	
	comp=Z,61nm,0.2s,mb5.7							
HYB	**Hyderabad**	**25.85**	**251**	*i*P		**P**	**01 15 56.5**	**+1.2**
HYB	**Hyderabad**	**25.85**	**251**	*e*P		**P**	**01 15 56.5**	**+1.2**
KSH	**Kashi**	**25.98**	**303**	*e*P		**P**	**01 15 58.0**	**+1.4**
KSH				*e*PP			01 16 40.4	
KSH				*e*PCP	PcP		01 19 27.5	+3.6
KSH				*e*S		**S**	**01 20 21.0**	**-2.9**
KSH				*e*XS	sS		01 20 32.1	-12
KSH				*e*PS			01 20 39.8	
KSH				*e*SS			01 21 28.8	
KSH				*e*PCS	PcS		01 23 06.3	+1.5
KSH				*e*SCS	ScS		01 26 46.1	-3.2
KSH				AMB	AMB			
	comp=Z,383nm,4.1s							
KSH				LR	LR			
	comp=N,2μm,17.0s							
KSH				LR	LR			
	comp=E,4μm,8.2s							
KSH				LR	LR			
	comp=Z,498nm,5.9s							
MDJ	**Mudanjiang**	**26.15**	**44**	P		**P**	**01 15 59.1**	**+1.0**
MDJ				XP	sP		01 16 11.6	-4.3
MDJ				PCP	PcP		01 19 20.9	-3.4
MDJ				S		**S**	**01 20 27.4**	**+0.8**
MDJ				PCS	PcS		01 23 02.5	-2.8
MDJ				AMB	AMB			
	comp=Z,15nm,1.1s,mb4.4							
MDJ				AMB	AMB			
	comp=Z,50nm,2.6s,mb4.6							
MDJ				LR	LR			
	comp=N,788nm,16.4s,MS4.4							
MDJ				LR	LR			
	comp=E,552nm,19.8s,MS4.4							
MDJ				LR	LR			
	comp=Z,1μm,11.9s							
MDJ	**Mudanjiang**	**26.15**	**44**	*e*P		**P**	**01 15 59.2**	**+1.1**
	comp=Z,25nm,1.0s,mb4.7							
AJM	**Ajmer**	**26.28**	**274**	*i*P		**P**	**01 15 58.0**	**-1.2**
ULHL	**Ulahol**	**26.74**	**309**	P		**P**	**01 16 03.5**	**+0.2**
	SNR=14							
VLA	**Vladivostok**	**26.93**	**49**	*e*P		**P**	**01 16 04.1**	**-1.0**
VLA				*e*S		**S**	**01 20 42.3**	**+3.5**
VLA				pmax	pmax			
	comp=Z,163nm,1.5s,mb5.3							
VLA				MLR	MLR			
	comp=Z,1μm,13.0s,MS4.6							
NIL	**Nilore**	**27.08**	**290**	P		**P**	**01 16 08.9**	**+2.5**
	comp=Z,285nm,0.6s,mb6.0,SNR=5.7							
KZA	**Kyzart**	**27.36**	**308**	P		**P**	**01 16 09.9**	**+1.0**
	SNR=15							
UCH	**Uchtor**	**27.92**	**308**	P		**P**	**01 16 15.3**	**+1.3**
	SNR=8.7							
FRU	**Bishkek**	**28.07**	**310**	*e*P		**P**	**01 16 17.0**	**+1.7**
FRU				*e*			01 16 36.0	
FRU				*e*			01 17 04.0	
FRU				MLR	MLR			
	comp=Z,1μm,14.0s,MS4.6							
AAK	**Ala-Archa**	**28.08**	**309**	⇑*i*P		**P**	**01 16 15.3**	**-0.1**
AAK				pmax	pmax			
	comp=Z,8.0nm,1.2s,mb4.2							
AAK				MLR	MLR			
	comp=Z,500nm,19.0s,MS4.1							
AAK	**Ala-Archa**	**28.08**	**309**	*e*P		**P**	**01 16 15.5**	**+0.1**
AAK				LR	LR			
	comp=Z,424nm,21.0s,MS4.0							
USP	**Ospenovka**	**28.32**	**310**	P		**P**	**01 16 18.4**	**+1.0**
	SNR=8.5							
AML	**Almayashu**	**28.46**	**308**	P		**P**	**01 16 18.9**	**+0.1**
	SNR=7.1							
EKS2	**Erkin-Say**	**28.59**	**309**	P		**P**	**01 16 20.8**	**+0.9**
	SNR=9.8							
ZAL	**Zalesovo**	**29.52**	**337**	P		**P**	**01 16 27.6**	**-0.5**
	comp=Z,11nm,0.9s,mb4.6,baz=331,slow=8.9,SNR=45							
ZAL				LR	LR		01 29 36.0	
	comp=Z,917nm,19.1s,MS4.4,baz=328,slow=39							
ZAL	**Zalesovo**	**29.52**	**337**	P		**P**	**01 16 27.6**	**-0.5**
ZAL				pmax	pmax			
	comp=Z,11nm,0.9s							
ZAL				MLR	MLR			
	comp=Z,917nm,19.1s							
KURK	**Kurchatov**	**29.78**	**326**	P		**P**	**01 16 29.5**	**-1.0**
	comp=Z,93nm,0.7s,mb5.6,SNR=13							
KURK	**Kurchatov**	**29.78**	**326**	P		**P**	**01 16 29.9**	**-0.5**
	SNR=9.8							
KURK	**Kurchatov**	**29.78**	**326**	⇓*i*P		**P**	**01 16 29.2**	**-1.3**
KURK	**Kurchatov**	**29.78**	**326**	*e*P		**P**	**01 16 29.2**	**-1.2**
	comp=Z,13nm,0.8s,mb4.7							
MAT	**Matsushiro**	**29.86**	**65**	P		**P**	**01 16 31.9**	**+0.8**
MAT				*e*S		**S**	**01 21 26.8**	**+1.9**
MAT	**Matsushiro**	**29.86**	**65**	P		**P**	**01 16 31.0**	**-0.1**
MAT				S		**S**	**01 21 27.0**	**+2.1**
MAT				LR	LR			
	comp=Z,4μm,18.0s,MS5.1							
MJAR	**Matsushiro Arr**	**29.86**	**65**	P		**P**	**01 16 30.9**	**-0.3**
	comp=Z,3.9nm,1.0s,mb4.1,baz=271,slow=10,SNR=9.5							
MJAR	**Matsushiro Arr**	**29.86**	**65**	P		**P**	**01 16 30.9**	**-0.3**
MJAR				pmax	pmax			
	comp=Z.4.0nm,1.0s							
KLR	**Kul'dur**	**29.90**	**37**	*e*P		**P**	**01 16 28.8**	**-2.7**
KLR				pmax	pmax			
	comp=E,30nm,1.2s							
KLR				pmax	pmax			
	comp=Z,45nm,1.2s,mb5.1							
KLR				MLR	MLR			
	comp=E,2μm,11.0s							
KLR				MLR	MLR			
	comp=Z,3μm,11.0s,MS5.2							
PALK	**Pallekele**	**30.34**	**232**	*e*P		**P**	**01 16 35.6**	**+0.2**
	comp=Z,33nm,1.1s,mb5.0							
NVS	**Novosibirsk**	**30.79**	**336**	*e*P		**P**	**01 16 38.0**	**-1.4**
NVS				*i* S		**S**	**01 21 41.4**	**+1.9**
NVS				pmax	pmax			
	comp=N,39nm,1.5s							
NVS				pmax	pmax			
	comp=Z,34nm,1.5s,mb5.0							
NVS				pmax	pmax			
	comp=E,26nm,1.4s							
NVS				smax				
	comp=N,22nm,2.1s							
NVS				smax				
	comp=E,45nm,2.1s							
CLNS	**Chul'man**	**32.31**	**21**	*e*P		**P**	**01 16 54.4**	**+1.7**
CLNS				*e*			01 17 56.9	
CLNS				*e*			01 19 42.9	
CLNS				*e*S		**S**	**01 22 03.4**	**+0.2**
CLNS				*e*SS		SS	01 23 59.8	-23
CLNS				pmax	pmax			
	comp=Z,44nm,1.1s,mb5.2							
CLNS				pmax	pmax			

comp=N,26nm,1.0s
CLNS pmax pmax
comp=E,23nm,1.2s
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=E,12nm,0.9s
CLNS pmax pmax
comp=Z,14nm,0.9s,mb4.8
CLNS smax
comp=N,88nm,12.9s
CLNS smax
comp=Z,68nm,13.7s
CLNS smax
comp=E,251nm,16.9s
CLNS MLR MLR
comp=N,1μm,12.0s,MS4.9
CLNS MLR MLR
comp=E,1μm,12.0s,MS4.9
CLNS MLR MLR
comp=Z,2μm,12.0s,MS5.0
ASAJ Asahikawa 34.58 52 P **P 01 17 12.4 -0.1**
comp=Z,3.7nm,0.4s,mb4.6,baz=0.0,slow=7.1,SNR=2.8
ASAJ Asahikawa 34.58 52 P **P 01 17 12.4 -0.1**
ASAJ pmax pmax
comp=Z,4.0nm,0.4s
BRVK Borovoye 35.34 324 *e*P **P 01 17 18.8 -0.3**
BRVK MLR MLR
comp=Z,553nm,20.0s,MS4.3
YSS Yuzh-Sakhalins 35.49 47⇓ *e*P **P 01 17 21.0 +0.6**
YSS *e*S **S 01 22 50.0 -2.4**
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.3
YSS MLR MLR
comp=E,1μm,13.0s
YSS MLR MLR
comp=Z,1μm,13.0s,MS4.8
YSS Yuzh-Sakhalins 35.49 47 *e*P **P 01 17 20.9 +0.5**
comp=Z,16nm,0.4s,mb5.3
CHKZ Chkalovo 35.50 325 *e*P **P 01 17 19.7 -0.7**
BJII Banjamegara 35.58 171⇓ *i*P pP 01 17 38.8 +5.3
ZRNK Zerenda 35.95 324 *e*P **P 01 17 23.3 -1.0**
ZRNK *e**PP pP 01 17 37.7 +1.0
ZRNK pmax pmax
comp=Z,11nm,0.9s,mb4.8
ZRNK Zerenda 35.95 324 *e*P **P 01 17 23.3 -1.0**
comp=Z,10nm,0.9s,mb4.8
ZRNK *e*pP pP 01 17 37.7 +0.9
ZRNK *e*sP sP 01 17 43.9 +1.7
YAK Yakutsk 37.94 19 *e*P **P 01 17 42.4 +1.2**
YAK *e**PP pP 01 17 50.5 -3.2
YAK *e* 01 19 10.1
YAK *e*PPP 01 19 27.2
YAK *e* 01 19 56.5
YAK *e*S **S 01 23 35.3 +5.6**
YAK *e* 01 27 50.5
YAK pmax pmax
comp=Z,30nm,0.9s,mb5.0
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=E,21nm,1.5s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK smax
comp=N,6.0nm,1.2s
YAK smax
comp=E,7.0nm,1.2s
YAK MLR MLR
comp=Z,585nm,11.0s,MS4.7
YAK MLR MLR
comp=N,411nm,13.0s,MS4.6
YAK MLR MLR
comp=E,573nm,15.0s,MS4.6
YAK Yakutsk 37.94 19 *e*P **P 01 17 41.1 -0.1**
comp=E,66nm,0.7s,mb5.5
YAK *e*pP pP 01 17 54.5 +0.8
ABKT Ailbek 39.53 297 P **P 01 17 55.7 +1.1**
comp=E,274nm,1.4s,mb5.8,SNR=23
AKTO Aktyubinsk 41.32 316 LR LR 01 36 53.6
comp=E,434nm,18.7s,MS4.3,baz=280,slow=38
BIDO Bidbid 41.53 275⇑ P **P 01 18 12.3 +1.2**
SNR=17
SMDO Samad 41.73 274⇓ P **P 01 18 13.6 +0.9**
SNR=36
JMDO Jabal Madar 41.89 273⇓ P **P 01 18 15.6 +1.6**
SVE Sverdlovsk 42.02 326 *e*P **P 01 18 12.0 -3.0**
SVE pmax pmax
comp=Z,80nm,2.0s,mb5.0
SVE MLR MLR
comp=N,500nm,12.0s,MS4.7
SVE MLR MLR
comp=E,400nm,12.0s,MS4.7
SVE MLR MLR
comp=Z,600nm,12.0s,MS4.7
HOQ Hoqain 42.23 275⇓ P **P 01 18 17.8 +1.1**
SNR=6.8
BSY Bisya 42.57 274⇓ P **P 01 18 20.5 +1.0**
SNR=17
ARU Arti 42.92 324 P **P 01 18 21.7 -0.6**
comp=Z,103nm,0.9s,mb5.6,SNR=6.1
ARU Arti 42.92 324 *e*P **P 01 18 21.6 -0.7**
ARU *e* 01 20 01.9
ARU *e* 01 20 10.7
ARU *e*PPP 01 20 37.9
ARU *e*S **S 01 24 46.7 +2.8**
ARU *e* 01 28 17.5
ARU *e*SSS 01 28 37.9
ARU MLR MLR
comp=Z,500nm,21.0s,MS4.4
ARU MLR MLR
comp=N,100nm,19.0s,MS4.2
ARU MLR MLR
comp=E,300nm,21.0s,MS4.2
ARU Arti 42.92 324 *e*P **P 01 18 21.7 -0.6**
ARU LR LR
comp=Z,558nm,21.0s,MS4.4
ARQ Araqi 43.00 275⇓ P **P 01 18 24.5 +1.5**
SNR=10
ASHO Ashiyiah 43.04 277⇑ P **P 01 18 25.1 +1.8**
SNR=20
TIXI Tiksi 45.73 11 *d i*P **P 01 18 43.2 -1.6**
TIXI pmax pmax
comp=Z,40nm,1.5s,mb5.1
TIXI Tiksi 45.73 11 *e*P **P 01 18 43.6 -1.2**
PET Petropavlovsk 46.91 42⇓ *i*P **P 01 18 55.2 +1.1**
PET *e*S **S 01 25 42.8 +1.0**
PET pmax pmax
comp=Z,25nm,1.0s,mb5.1
PET MLR MLR
comp=Z,400nm,14.0s,MS4.5
KAKA Kakadu 48.89 142 *e*P **P 01 19 07.8 -1.6**
comp=Z,9.7nm,0.5s,mb5.1
UMR Umm Al-Rimmam 49.09 286 *e*P **P 01 19 11.1 +0.2**
QRN Al-Qurain 49.10 285 *e*P **P 01 19 10.6 -0.4**
KBD Kabd 49.19 286 *e*P **P 01 19 11.3 -0.4**
DGRG David-gareji 49.27 302 P **P 01 19 13.4 +1.1**
DGRG David-gareji 49.27 302 P **P 01 19 13.4 +1.1**
MIB Mutribah 49.35 286 *e*P **P 01 19 12.7 -0.2**
MIB AMb AMB 01 19 15.6
comp=Z,144nm,0.7s,mb6.1
NAY Al-Naaiem 49.56 286 *e*P **P 01 19 14.1 -0.4**
NAY AMb AMB 01 19 17.2
comp=Z,126nm,0.7s,mb6.1
MTA Mtatsminda 49.69 302 P **P 01 19 14.3 -1.1**
MTA Mtatsminda 49.69 302 P **P 01 19 19.3 +3.9**
RST Umm Al-Ruwaisa 49.71 286 *e*P **P 01 19 14.4 -1.3**
RST AMb AMB 01 19 19.4
comp=Z,83nm,0.8s,mb5.8
TBLG Delisi 49.72 302 P **P 01 19 14.4 -1.3**
TBLG Delisi 49.72 302 P **P 01 19 18.3 +2.6**
TBLG Delisi 49.72 302 P **P 01 19 18.3 +2.6**
GNI Garni 49.85 300 *c i*P **P 01 19 18.2 +1.5**
GNI pmax pmax
comp=Z,98nm,1.6s
GNI Garni 49.85 300 *e*P **P 01 19 18.0 +1.3**
ZEI Tsey 50.28 304 *e*P **P 01 19 20.8 +0.9**
FITZ Fitzroy Crossi 50.36 153 *e*P **P 01 19 18.6 -2.0**
comp=Z,11nm,0.6s,mb5.1
FITZ Fitzroy Crossi 50.36 153 P **P 01 19 19.0 -1.6**
comp=Z,5.4nm,0.6s,mb4.7,baz=354,slow=6.1,SNR=21
ONI Oni 50.62 304 P **P 01 19 22.2 -0.3**
ONI Oni 50.62 304 P **P 01 19 23.7 +1.2**
GOF Gofitskoye 50.79 307 *e*P **P 01 19 23.4 -0.4**
GOF pmax pmax
comp=Z,85nm,1.0s,mb5.6
HAKT HAKKARI 50.95 297 *i*P **P 01 19 24.9 -0.1**
KIV Kislovodsk 51.09 305 P **P 01 19 26.5 +0.5**
comp=Z,565nm,1.2s,SNR=25
KIV Kislovodsk 51.09 305⇑ P **P 01 19 26.8 +0.8**
SNR=39
KIV Kislovodsk 51.09 305⇓ *i*P **P 01 19 26.4 +0.4**
KIV pmax pmax
comp=Z,159nm,1.3s,mb5.8
KIV MLR MLR
comp=Z,400nm,18.0s,MS4.5
KIV Kislovodsk 51.09 305 *e*P **P 01 19 26.2 +0.2**
BHD Baghdad 51.11 292 *ex* x 01 19 24.0
MBWA Marble Bar 51.17 161 *e*P **P 01 19 26.1 -0.5**
comp=Z,34nm,0.8s,mb5.3
MSL Mosul 51.63 296 *ex* x 01 19 32.5
VRHR Novokhopersk 51.70 315 *e*P **P 01 19 30.2 -0.4**
VRHR pmax pmax
comp=Z,20nm,0.7s,mb5.2
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,40nm,0.8s
ERZM Erzurum 52.45 300 *i*P **P 01 19 37.9 +1.7**
BNGL BINGOL 52.75 299 *i*P **P 01 19 42.6 +4.3**
BEST Besiri 52.81 298 *i*P **P 01 19 39.8 +0.9**
VOR Voronezh 53.22 315 *e*P **P 01 19 41.0 -0.9**
VOR pmax pmax
comp=E,60nm,1.4s
VOR pmax pmax
comp=Z,80nm,1.4s,mb5.5
VRSR Storozhevoye 53.23 315 *e*P **P 01 19 40.9 -1.0**
VRSR pmax pmax
comp=Z,20nm,1.3s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,20nm,1.2s
SOC Sochi 53.26 305 *d i*P **P 01 19 40.9 -1.3**
SOC *e* 01 20 50.9
SOC *e*PPP 01 22 51.9
SOC *i*S **S 01 27 10.2 +0.1**
SOC pmax pmax
comp=Z,47nm,0.9s,mb5.4
SOC MLR MLR
comp=Z,280nm,14.0s,MS4.5
MARD Mardin 53.29 297 *i*P **P 01 19 43.2 +0.9**
KLMR Klimovskoe 53.63 327 *d i*P **P 01 19 43.0 -1.9**
KLMR *e*S **S 01 27 18.3 +3.2**
KLMR pmax pmax
comp=Z,80nm,1.4s,mb5.5
KLMR pmax pmax
comp=Z,30nm,4.8s
KLMR MLR MLR
comp=Z,550nm,19.0s,MS4.6
BILL Bilibino 53.91 24 PFAKE 01 20 00.0 +13
BILL LR LR
comp=Z,6.0nm,20.0s
MOS Moscow 54.23 320 *e*P **P 01 19 47.2 -2.0**
MOS *e* 01 20 51.9
MOS *e* 01 21 48.4
MOS *e*S **S 01 27 20.6 -2.6**
MOS pmax pmax
comp=Z,53nm,1.3s,mb5.3
MOS MLR MLR
comp=Z,700nm,20.0s,MS4.7
ELZG Elazig 54.49 299 *i*P **P 01 19 52.3 +1.2**
ANN Anapa 54.77 307 *e*P **P 01 19 50.0 -3.2**
ANN *e**PP pP 01 20 02.3 -3.9
ANN *e*S **S 01 27 30.7 +0.2**
ANN pmax pmax
comp=Z,98nm,1.3s,mb5.7
ANN MLR MLR
comp=Z,445nm,20.0s,MS4.5
OBN Obninsk 54.81 319 *ce*P **P 01 19 53.3 -0.2**
OBN *e* 01 21 56.8
OBN *e*S **S 01 27 29.4 -1.7**
OBN pmax pmax
comp=Z,36nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,900nm,23.0s,MS4.8
OBN Obninsk 54.81 319 *e*P **P 01 19 53.0 -0.5**
comp=Z,14nm,0.6s,mb5.2
MALT Malatya 54.95 299 *e*P **P 01 19 56.6 +2.1**
ATAB Bozova 55.21 298 *i*P **P 01 19 57.2 +0.9**
GZT Gaziantep 55.80 298 *i*P **P 01 20 01.0 +0.4**
WRAB Tennant Creek 55.91 145 P **P 01 20 01.6 +0.2**
comp=Z,584nm,0.6s,SNR=39
WRAB Tennant Creek 55.91 145⇑ *i*P **P 01 20 00.9 -0.5**
WRAB Tennant Creek 55.91 145 *e*P **P 01 20 00.1 -1.3**
WRA Warramunga Arr 55.92 145 P **P 01 20 01.0 -0.4**
comp=Z,46nm,0.6s,mb5.7,baz=335,slow=8.3,SNR=337
WRA S **S 01 27 44.1 -1.7**
comp=Z,0.8nm,0.7s,baz=327,slow=16,SNR=5.0
WRA Warramunga Arr 55.92 145 P **P 01 20 01.0 -0.4**
WRA S **S 01 27 44.1 -1.7**
WRA pmax pmax
comp=Z,47nm,0.6s
WRA smax
comp=E,1.0nm,0.7s
WB2 Warramunga Arr 55.92 145⇑ *i*P **P 01 20 00.9 -0.6**
APA Apatity 57.07 334⇑ *i*P **P 01 20 11.0 +1.4**
APA *e*S **S 01 28 04.0 +2.9**
APA pmax pmax
comp=Z,11nm,0.5s,mb5.1
APA MLR MLR
comp=Z,1μm,18.0s,MS5.0
SIM Simferopol' 57.09 307 *e*P **P 01 20 09.8 0.0**
SIM *e*S **S 01 28 05.8 +4.4**
SIM pmax pmax
comp=Z,24nm,0.8s,mb5.3
SIM MLR MLR
comp=Z,210nm,19.0s,MS4.3
AVNT Avonos 57.62 300 *i*P **P 01 20 12.9 -0.6**
JOF Joensuu 57.66 329 *ep* **P 01 20 12.5 -1.3**
comp=Z,12nm,0.7s,mb5.0
JOF Joensuu 57.66 329 *e*P **P 01 20 12.5 -1.3**
JOF pmax pmax
comp=Z,12nm,0.7s,mb5.0
RCY Rachaya 58.05 294 *e*P **P 01 20 17.5 +1.0**
BHL Bhannes 58.08 294 *e*P **P 01 20 17.3 +0.5**
BR131 Keskin Array S 58.35 301 *e*P **P 01 20 18.4 -0.2**
comp=Z,10nm,0.8s,mb4.9
BR131 *e*PcP PcP 01 21 10.3 +1.2
BRTR Keskin Array B 58.35 301 P **P 01 20 18.6 -0.1**
comp=Z,11nm,0.8s,mb4.9,baz=119,slow=6.8,SNR=27
BRTR ScP ScP 01 25 05.7 +0.1
comp=Z,1.0nm,0.8s,baz=7.1,slow=12,SNR=3.5
BRTR LR LR 01 49 59.6
comp=Z,129nm,19.6s,MS4.0,baz=302,slow=41
BRTR Keskin Array B 58.35 301 P **P 01 20 18.6 0.0**
BRTR pmax pmax
comp=Z,11nm,0.8s
BRTR pmax pmax
comp=E,1.0nm,0.8s
BRTR MLR MLR
comp=Z,129nm,19.6s
ELDT Eldivan 58.35 302 *i*P **P 01 20 18.5 -0.1**
MMAI Mount Meron Ar 58.51 293 LR LR 01 48 56.5
comp=Z,11nm,20.5s,MS4.2,baz=75,slow=40
MEST Erdemli 58.64 298 *i*P **P 01 20 17.2 -3.4**
ASPA Alice Springs 58.86 148 *e*P **P 01 20 22.0 -0.2**
AS31 Alice Springs 58.86 148 *e*P **P 01 20 22.0 -0.2**
ASAR Alice Springs 58.86 148 P **P 01 20 22.1 0.0**
comp=Z,20nm,0.7s,mb5.3,baz=327,slow=6.5,SNR=154
ASAR LR LR 01 48 08.5
comp=Z,150nm,21.3s,MS4.1,baz=345,slow=38
ASAR Alice Springs 58.86 148 P **P 01 20 22.2 0.0**
ASAR pmax pmax
comp=Z,20nm,0.7s
ASAR MLR MLR
comp=Z,150nm,21.3s
ANTO Ankara 58.96 302⇑ P **P 01 20 23.4 +0.6**
SNR=7.3
ANTO Ankara 58.96 302 *e*P **P 01 20 22.9 +0.1**
ANTO pmax pmax
comp=Z,30nm,0.8s,mb5.4
ANTO MLR MLR
comp=Z,218nm,20.0s,MS4.3
ANTO Ankara 58.96 302 *e*P **P 01 20 22.9 +0.1**
comp=Z,30nm,0.8s,mb5.4
ANTO LR LR
comp=Z,218nm,20.0s,MS4.3
SGKT Sivrigoynuk 59.36 303 *i*P **P 01 20 25.0 -0.6**
AKASG Malin Array Be 59.55 315 P **P 01 20 26.0 -0.9**
comp=Z,10.0nm,0.6s,mb5.0,baz=72,slow=6.3,SNR=35
AKASG Malin Array Be 59.55 315 P **P 01 20 26.0 -0.9**
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKBB Malin Array Si 59.55 315 *e*P **P 01 20 25.2 -1.7**
KEV Kevo 59.55 337 *ep* **P 01 20 25.6 -1.3**
comp=Z,20nm,0.9s,mb5.2
KEV Kevo 59.55 337 *e*P **P 01 20 25.6 -1.3**
KEV pmax pmax
comp=Z,21nm,0.9s,mb5.2
CSS Prodhromos 59.68 296 *e*P **P 01 20 27.8 0.0**
comp=Z,19nm,0.8s,mb5.2
EIL Elat 59.80 290 *e*P **P 01 20 28.5 -0.2**
KAF Kangasniemi 59.99 328 *ep* **P 01 20 28.7 -1.3**
comp=Z,4.1nm,0.7s,mb4.6,baz=85,slow=6.6
KAF Kangasniemi 59.99 328 *e*P **P 01 20 28.7 -1.3**
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ARCES ARCESS Array B 60.07 337 P **P 01 20 29.3 -1.2**
comp=Z,8.0nm,0.7s,mb4.8,baz=86,slow=6.9,SNR=19
ARCES LR LR 01 48 49.4
comp=Z,365nm,19.1s,MS4.5,baz=90,slow=38
ARCES ARCESS Array B 60.07 337 P **P 01 20 29.3 -1.2**
ARCES pmax pmax
comp=Z,8.0nm,0.7s
ARCES MLR MLR
comp=Z,365nm,19.1s
ARE0 ARCESS Array S 60.07 337 *e*P **P 01 20 30.0 -0.5**
VSU Vasula 60.08 324 *d i*P **P 01 20 29.7 -0.8**
FIA1 FINESS Array S 60.15 327 *e*P **P 01 20 30.0 -1.0**
FINES FINESS Array B 60.15 327 P **P 01 20 30.4 -0.7**
comp=Z,4.0nm,0.7s,mb4.6,baz=86,slow=7.7,SNR=36
FINES LR LR 01 48 19.8
comp=Z,319nm,20.5s,MS4.5,baz=267,slow=38
FINES FINESS Array B 60.15 327⇑ *e*P **P 01 20 30.3 -0.8**
ESKT Eskisehir 60.49 302 *i*P **P 01 20 32.0 -1.4**
KLBR Kellerberrin 60.70 167⇑ *i*P **P 01 20 34.4 -0.4**
comp=Z,7.1nm,0.4s,mb5.2
ISP Isparta 61.16 300 *c i*P **P 01 20 36.7 -1.2**
ISP Isparta 61.16 300 *e*P **P 01 20 39.8 +1.9**
comp=Z,40nm,0.8s,mb5.6
TIRR Tirgusor 61.18 308⇑ *i*P **P 01 20 38.2 +0.1**
TIRR Tirgusor 61.18 308 *e*P **P 01 20 38.0 -0.1**
CFR Carcaliu 61.23 308⇓ *i*P **P 01 20 38.5 +0.1**
HARR Harsova 61.47 308⇓ *i*P **P 01 20 40.2 +0.2**
PSN Preselentsi 61.51 307 *e*P **P 01 20 43.4 +3.1**
NWAO Narrogin (SRO) 61.89 168 LR LR 01 47 04.1
comp=Z,409nm,21.5s,MS4.5,baz=342,slow=36
VRI Vrincioaia 62.05 309⇑ *i*P **P 01 20 44.9 +1.0**
VRI Vrincioaia 62.05 309⇑ P **P 01 20 44.9 +0.9**
PLOR Plostina 62.10 309⇑ *i*P **P 01 20 45.3 +1.0**
PLOR Plostina 62.10 309⇑ P **P 01 20 45.4 +1.1**
DNZL Cakiroluk 62.32 300 *i*P **P 01 20 44.4 -1.3**
TRO Tromso 62.37 337 *e*P **P 01 20 44.0 -2.1**
TRO AMb AMB 01 20 50.1
comp=Z,40nm,1.8s,mb5.2
TRO Tromso 62.37 337 *e*P **P 01 20 44.0 -2.1**
comp=Z,40nm,1.8s,mb5.2
MLR Muntele Rosu 62.67 309 LR LR 01 52 20.5
comp=Z,311nm,21.6s,MS4.4,baz=62,slow=40
MLR Muntele Rosu 62.67 309⇑ *i*P **P 01 20 48.8 +0.7**
MLR Muntele Rosu 62.67 309⇑ P **P 01 20 48.8 +0.7**
SUW Suwalki 62.67 319 *e*P **P 01 20 47.6 -0.5**
SUW L 01 49 12.5
comp=Z,0.8nm,20.5s
BURAR Bucovina Array 62.69 312⇑ *i*P **P 01 20 48.4 +0.2**
BURAR Bucovina Array 62.69 312⇑ P **P 01 20 48.4 +0.2**
CTA Charters Tower 62.81 135 *e*P **P 01 20 49.7 +0.7**
comp=Z,14nm,1.0s,mb5.1
CTA Charters Tower 62.81 135 P **P 01 20 49.8 +0.8**
comp=Z,6.5nm,0.5s,mb5.0,baz=311,slow=6.1,SNR=6.0
CTA Charters Tower 62.81 135 *e*P **P 01 20 49.7 +0.7**
CTA pmax pmax
comp=Z,14nm,1.0s
CTAO Charters Tower 62.81 135 *e*P **P 01 20 49.1 +0.1**
JMB Yambol 62.93 306 *e*P **P 01 20 49.9 +0.1**
JMB Yambol 62.93 306 *e*P **P 01 20 51.7 +1.9**
LVV L'vov 62.98 314 *e*P **P 01 20 49.7 -0.5**
LVV *e* pP 01 21 04.9 +1.5
LVV MLR MLR
comp=N,100nm,14.0s,MS4.3
LVV MLR MLR
comp=E,100nm,14.0s,MS4.3
LVV MLR MLR
comp=Z,200nm,14.0s,MS4.4
SNX Sinaia 62.99 309⇑ *i*P **P 01 20 51.8 +1.6**
SNX Sinaia 62.99 309⇑ P **P 01 20 51.9 +1.6**
SZH Strazhica 63.20 307 *e*P **P 01 20 52.2 +0.6**
AYDN Tasoluk 63.22 300 *i*P **P 01 20 45.1 -6.6**
VOIR 63.29 309⇑ *i*P **P 01 20 52.2 0.0**
VOIR 63.29 309⇑ P **P 01 20 52.2 0.0**
DIM Dimitrovgrad 63.79 306 *e*P **P 01 20 55.6 +0.1**
KWP Kalwaria 63.86 314 *e*P **P 01 20 56.4 +0.4**
KWP L 01 48 43.7
comp=Z,0.2nm,26.1s
KDZ Kurdzhali 63.98 305 *e*P **P 01 20 57.1 +0.4**
KOLS Kolonicke sedl 64.30 314 *e*P **P 01 20 58.2 -0.6**
KOLS *e* 01 21 05.5
KOLS *e* 01 21 27.4
KOLS pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
KOLS Kolonicke sedl 64.30 314 *e*P **P 01 20 58.2 -0.6**
comp=Z,6.2nm,0.8s,mb4.7
KOLS *e* 01 21 05.5
KOLS *e* 01 21 27.4
WAR Warsaw 64.31 317 *e*P **P 01 21 00.8 +1.9**
WAR L 01 50 18.0
comp=Z,0.6nm,19.9s
PLD Plovdiv 64.37 306 *e*P **P 01 21 00.6 +1.3**
RZN Rozhen 64.48 305 *e*P **P 01 21 00.3 +0.3**
LOF Lofoten 64.53 335 *e*P **P 01 21 02.1 +1.7**
LOF AMb AMB 01 21 11.6
comp=Z,69nm,1.6s,mb5.4
LOF Lofoten 64.53 335 *e*P **P 01 21 02.1 +1.7**
comp=Z,69nm,1.6s,mb5.4
DRGR 64.54 311⇓ *i*P **P 01 20 00.8 +0.4**
DRGR 64.54 311⇓ P **P 01 20 00.8 +0.4**
PGB Panagyurishte 64.64 306 *e*P **P 01 21 01.7 +0.7**
CRVS Cervenica-Dubn 64.83 314 *e*P **P 01 21 03.8 +1.5**
CRVS *e* 01 21 30.4
CRVS pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CRVS Cervenica-Dubn 64.83 314 *e*P **P 01 21 03.8 +1.5**
comp=Z,9.8nm,1.0s,mb4.8
CRVS *e* 01 21 08.5
CRVS *e* 01 21 30.4
GZR Gura Zlata 64.85 310⇑ *i*P **P 01 21 03.1 +0.7**
MMB Musomiste 65.22 305 *e*P **P 01 21 04.1 -0.7**
VTS Vitosha 65.31 307 *e*P **P 01 21 05.7 +0.3**
VTS Vitosha 65.31 307 *e*P **P 01 21 05.5 +0.1**
VTS Vitosha 65.31 307⇓ *i*P **P 01 21 06.0 +0.6**
NIE Niedzica 65.43 314 *e*P **P 01 21 06.8 +0.6**
HNR Honiara 65.51 116 LR LR 01 45 18.8
comp=Z,215nm,20.4s,MS4.3,baz=359,slow=32
OJC Ojcow 65.54 315 *e*P **P 01 21 06.8 -0.1**
OJC *e*S S 01 29 52.3 +3.7
OJC L 01 51 20.7
comp=Z,2.6nm,21.8s
BZS Buzias 65.58 310⇓ *i*P **P 01 21 06.3 -0.9**
BZS Buzias 65.58 310⇓ P **P 01 21 06.3 -0.8**
KKB Krupnik 65.60 306 *e*P **P 01 21 07.3 0.0**
LAST Lasithi 65.80 298 *e*P **P 01 21 08.7 +0.1**
KNT Kendrikon 65.94 305 *e*P **P 01 21 08.5 -1.0**
NSS Namsos 65.99 332 *e*P **P 01 21 07.5 -2.2**
NSS AMb AMB 01 21 11.3
comp=Z,29nm,1.9s,mb5.0
NSS Namsos 65.99 332 *e*P **P 01 21 07.5 -2.2**
comp=Z,29nm,1.9s,mb5.0
PSZ Piszkesteto 66.09 313⇓ *e*PcP **P 01 21 11.5 +1.0**
VAY Valandovo 66.13 305⇑ *i*P **P 01 21 09.7 -0.9**
GKP Gorka Klasztor 66.28 319 *e*P **P 01 21 11.3 -0.4**
GKP L 01 51 38.2
comp=Z,1.1nm,20.2s
STIP Stip 66.29 306 *e*P **P 01 21 10.6 -1.1**
STIP Stip 66.29 306⇑ *i*P **P 01 21 10.9 -0.8**
GRG Griva 66.36 305 *e*P **P 01 21 11.3 -0.9**
LIT Litokhoron 66.55 304 *e*P **P 01 21 12.3 -1.1**
VYHS Vyhne 66.61 314 *i*P **P 01 21 14.1 +0.3**
VYHS pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
VYHS Vyhne 66.61 314 *i*P **P 01 21 14.1 +0.3**

comp=Z,10nm,1.0s,mb4.8
OKC Ostrava-Krasne 66.67 315 *e*P **P 01 21 13.8 -0.4**
OKC AMS AMS 01 51 50.0
comp=Z,800nm,19.1s
SKO Skopje 66.74 306⇑ *i*P **P 01 21 15.0 +0.4**
BUD Budapest 66.78 313⇓ *e*PcP **P 01 21 17.2 +2.4**
KARN Karanos 66.93 299 *e*P **P 01 21 15.2 -0.6**
AGG Agios Georgios 66.99 303 *e*P **P 01 21 14.7 -1.5**
MORC Moravsky Berou 67.06 315 *e*P **P 01 21 16.5 -0.2**
MORC pmax pmax
comp=Z,11nm,0.9s,mb4.9
MORC Moravsky Berou 67.06 315 *e*P **P 01 21 16.5 -0.2**
comp=Z,11nm,0.9s,mb4.9
DIVS Divcibare 67.12 309 *e*P **P 01 21 16.8 -0.2**
FNA Florina 67.15 305 *e*P **P 01 21 15.9 -1.3**
NB2 NORSAR Subarra 67.28 328 P **P 01 21 16.5 -1.5**
comp=Z,52nm,1.4s,mb5.4,baz=73,slow=6.9
NOA NORSAR Array B 67.28 328 P **P 01 21 16.8 -1.2**
comp=Z,11nm,0.8s,mb4.9,baz=74,slow=6.2,SNR=29
NOA LR LR 01 52 28.9
comp=Z,280nm,18.4s,MS4.5,baz=90,slow=38
NOA NORSAR Array B 67.28 328 P **P 01 21 16.8 -1.2**
NOA pmax pmax
comp=Z,11nm,0.8s
NOA MLR MLR
comp=Z,280nm,18.4s
PKSM Moragy 67.40 311⇑ *i*P **P 01 21 19.2 +0.4**
PKSM Moragy 67.40 311⇑ *i*P **P 01 21 19.0 +0.2**
NAO01 NORSAR Array S 67.48 328 *e*P **P 01 21 17.4 -1.9**
comp=Z,1.6nm,0.5s,mb4.3
SMOL Smolenice 67.50 314 *e*P **P 01 21 20.9 +1.5**
KSP Ksiaz 67.52 317 *e*P **P 01 21 20.1 +0.6**
KSP L 01 52 32.4
comp=Z,1.2nm,18.9s
KSP Ksiaz 67.52 317 *e*P **P 01 21 19.6 +0.1**
KSP *ep*P pP 01 21 35.2 +2.3
KSP LR LR
comp=Z,1μm,18.9s,MS5.2
DPC Dobruska-Polom 67.65 316 *e*P **P 01 21 20.4 0.0**
DPC AMS AMS 01 52 00.0
comp=Z,700nm,17.3s
UPC Upice 67.79 316 *e*P **P 01 21 21.4 +0.1**
VRAC Vranov 67.79 315 LR LR 01 53 00.3
comp=Z,438nm,19.8s,MS4.7,baz=336,slow=38
VRAC Vranov 67.79 315⇓ *i*P **P 01 21 21.9 +0.6**
VRAC Vranov 67.79 315 ⇓P **P 01 21 21.9 +0.6**
ZST Bratislava 67.81 314 *e*P **P 01 21 21.3 0.0**
ZST *e* 01 21 26.2
ZST *ep*P pP 01 21 38.2 +3.5
ZST Bratislava 67.81 314 *e*P **P 01 21 21.3 0.0**
ZST *e* pP 01 21 38.2 +3.5
ZST pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
ZST MLR MLR
comp=Z,200nm,15.8s,MS4.4
ZST Bratislava 67.81 314 *e*P **P 01 21 21.3 0.0**
comp=Z,8.1nm,0.7s,mb4.9
ZST *e* 01 21 26.3
ZST *e* pP 01 21 38.2 +3.5
ZST LR LR
comp=Z,200nm,15.8s,MS4.4
COP Copenhagen 68.27 322 *i* P **P 01 21 26.9 +2.6**
comp=Z,19nm,1.1s,mb5.0
COP Copenhagen 68.27 322 *i* P **P 01 21 26.9 +2.6**
COP pmax pmax
comp=Z,19nm,1.1s,mb5.0
IGT Igoumenitsa 68.30 304 *e*P **P 01 21 22.4 -2.0**
KONO Kongsberg 68.47 327 *e*P **P 01 21 25.1 -0.4**
KONO AMb AMB 01 21 28.6
comp=Z,28nm,1.7s,mb5.0
KONO Kongsberg 68.47 327 *c i*P **P 01 21 24.7 -0.8**
KONO Kongsberg 68.47 327 *e*P **P 01 21 22.6 -2.9**
comp=Z,10nm,0.8s,mb4.9
TREC Trest 68.49 315 *e*P **P 01 21 26.2 +0.6**
TREC AMS AMS 01 52 30.0
comp=Z,700nm,16.7s
PVCC Panska Ves 68.66 317 *e*P **P 01 21 26.8 +0.1**
PVCC *ex* x 01 21 35.4
CONA Conrad Observa 68.68 314⇓ *i*P **P 01 21 23.9 -2.9**
comp=Z,61nm,1.6s,mb5.3,SNR=16
PRU Pruhonice 68.85 316 *e*P **P 01 21 27.9 0.0**
PRU AMS AMS 01 53 00.0
comp=Z,700nm,16.2s
BRG Berggiesshubel 68.93 317 *e*P **P 01 21 28.3 -0.1**
comp=Z,9.0nm,0.8s,mb4.8
BRG Berggiesshubel 68.93 317 *e*P **P 01 21 28.4 +0.1**
comp=Z,3.4nm,0.5s,mb4.5
BRG *e* 01 21 52.9
comp=Z,5.1nm,1.1s
BRG
comp=N,388nm,23.6s
BRG
comp=E,173nm,25.4s
BRG
comp=Z,342nm,16.6s
BRG Berggiesshubel 68.93 317 *e*P **P 01 21 28.4 0.0**
BRG *e* 01 21 52.8
BRG pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BRG MLR MLR
comp=N,388nm,23.6s,MS4.6
BRG MLR MLR
comp=E,173nm,25.4s,MS4.6
BRG MLR MLR
comp=Z,342nm,16.6s
BRG Berggiesshubel 68.93 317 *e*P **P 01 21 28.4 +0.1**
comp=Z,3.4nm,0.5s,mb4.5
BRG *e* 01 21 52.9
BRG LR LR
comp=Z,340nm,16.6s,MS4.7
ARSA Arzberg 69.12 313⇑ *i*P **P 01 21 29.7 +0.2**
comp=Z,16nm,1.3s,mb4.8,SNR=7.3
ARSA Arzberg 69.12 313⇑ *i*P **P 01 21 29.7 +0.2**
comp=Z,16nm,1.3s,mb4.8
SISC Sisak 69.14 311 P **P 01 21 28.7 -1.0**
CLL Collm 69.35 318 *e*P **P 01 21 30.6 -0.4**
comp=Z,13nm,1.0s,mb4.8
CLL Collm 69.35 318 P **P 01 21 30.6 -0.4**
comp=Z,logA/T=1.1,mb4.8
CLL *i* PCP PcP 01 21 54.5 +0.3
CLL *e*S S 01 30 37.0 +2.7
CLL Collm 69.35 318 *i* P **P 01 21 30.6 -0.4**
comp=Z,13nm,1.0s,mb4.8
CLL *i* PcP PcP 01 21 54.5 +0.3
comp=Z,11nm,1.3s
CLL *e*S S 01 30 37.0 +2.7
CLL Collm 69.35 318 *i* P **P 01 21 30.6 -0.4**
CLL *i* 01 21 54.5
CLL *e*S S 01 30 37.0 +2.7
CLL pmax pmax
comp=Z,13nm,1.0s,mb4.8
CLL pmax pmax
comp=Z,11nm,1.3s,mb4.6
CLL MLR MLR
comp=Z,500nm,16.8s,MS4.8
CLL Collm 69.35 318 *i* P **P 01 21 30.6 -0.4**
comp=Z,13nm,1.0s,mb4.8
CLL *i* 01 21 34.2
CLL *i* PcP PcP 01 21 54.5 +0.3
CLL *e*S S 01 30 37.0 +2.7
CLL LR LR
comp=Z,500nm,16.8s,MS4.8
STKA Stephens Creek 69.42 146⇑ *i*P **P 01 21 30.9 -0.5**
comp=Z,7.8nm,0.6s,mb4.8
STKA Stephens Creek 69.42 146 P **P 01 21 30.9 -0.5**
comp=Z,9.8nm,0.7s,mb4.9,baz=330,slow=5.7,SNR=22
IMA2 Indian Mountai 69.43 25 *e*P **P 01 21 32.1 +0.6**
PERS Pernice 69.58 313 *e*P **P 01 21 32.3 -0.1**
CRES Cresnjev 69.63 312 *e*P **P 01 21 32.8 +0.1**
LEGS Legarje 69.68 312 *e*P **P 01 21 33.4 +0.3**
TTA Tatalina 69.69 29 *e*P **P 01 21 34.3 +1.2**
MOA Molln 69.72 314 *i* P **P 01 21 33.5 +0.2**
comp=Z,36nm,1.6s,mb5.1,SNR=16
KHC Kasperske Hory 69.72 316 *c i*P **P 01 21 33.6 +0.3**
KHC Kasperske Hory 69.72 316 *e*P **P 01 21 33.2 -0.1**
KHC LR LR
comp=Z,1μm,21.3s,MS5.0
GEC2 GERESS Array S 69.74 315 *e*P **P 01 21 33.6 +0.2**
comp=Z,13nm,0.9s,mb4.9
GEC2 GERESS Array S 69.74 315 *e*P **P 01 21 33.6 +0.2**
GEC2 pmax pmax
comp=Z,13nm,0.9s,mb4.9
GERES GERESS Array B 69.74 315 P **P 01 21 33.3 -0.1**
comp=Z,5.5nm,0.7s,mb4.6,baz=70,slow=5.6,SNR=39
GERES LR LR 01 54 10.8
comp=Z,434nm,20.6s,MS4.7,baz=163,slow=38
GERES GERESS Array B 69.74 315 P **P 01 21 33.3 -0.1**
GERES pmax pmax
comp=Z,6.0nm,0.7s
GERES MLR MLR
comp=Z,434nm,20.6s
MUD Monsted U'grnd 69.75 324 *i* P **P 01 21 33.8 +0.4**
comp=Z,25nm,0.8s,mb5.2
MUD
comp=Z,200nm,19.0s
DAG Danmarks Havn 69.83 348⇓ *i*P **P 01 21 33.9 0.0**
comp=Z,21nm,1.3s,mb4.9
DAG Danmarks Havn 69.83 348⇓ *i*P **P 01 21 33.9 0.0**
DAG pmax pmax
comp=Z,21nm,1.3s,mb4.9
TANN Tannenbergstha 69.97 317 *e*P **P 01 21 34.7 -0.1**
BSEG Bad Segeberg 70.00 321 *e*P **P 01 21 35.2 +0.2**
comp=Z,48nm,1.5s,mb5.2
BSEG Bad Segeberg 70.00 321 *e*P **P 01 21 35.2 +0.2**
BSEG pmax pmax
comp=Z,48nm,1.5s,mb5.2
NKC Novy Kostel 70.04 317 *e*P **P 01 21 35.0 -0.2**
VISS Visnje 70.04 312 *e*P **P 01 21 35.2 -0.1**
BLS5 Blasjo 70.05 327 *e*P **P 01 21 35.0 -0.2**
BLS5 AMb AMB 01 21 39.6
comp=Z,26nm,1.8s,mb4.8
BLS5 Blasjo 70.05 327 *e*P **P 01 21 35.0 -0.2**
comp=Z,26nm,1.8s,mb4.8
WET Wettzell 70.15 316 *e*P **P 01 21 36.2 +0.3**
comp=Z,16nm,1.1s,mb4.9
WET Wettzell 70.15 316 *e*P **P 01 21 36.2 +0.3**
WET pmax pmax
comp=Z,16nm,1.1s,mb4.9
BER Bergen 70.22 329 *e*P **P 01 21 35.7 -0.7**
BER AMb AMB 01 21 46.4
comp=Z,42nm,1.4s,mb5.2
BER Bergen 70.22 329 *e*P **P 01 21 35.7 -0.7**
comp=Z,42nm,1.4s,mb5.2
ASK Askoy 70.25 329 *e*P **P 01 21 36.1 -0.4**
KMBO Kilima Mbogo 70.30 258 P **P 01 21 36.6 -0.2**
comp=Z,4.7nm,1.0s,mb4.4,baz=60,slow=7.8,SNR=11
KMBO LR LR 01 52 24.2
comp=Z,127nm,19.8s,MS4.2,baz=278,slow=36
KMBO Kilima Mbogo 70.30 258 P **P 01 21 36.6 -0.2**
KMBO pmax pmax
comp=Z,5.0nm,1.0s
KMBO MLR MLR
comp=Z,127nm,19.8s
MANZ Manzenberg 70.33 317 *e*P **P 01 21 37.4 +0.4**
ROTZ Rotzenmuhle 70.35 317 *e*P **P 01 21 37.7 +0.6**
MOX Moxa 70.40 318 *e*P **P 01 21 37.4 0.0**
comp=Z,20nm,1.5s,mb4.8
MOX Moxa 70.40 318 *e*P **P 01 21 37.5 +0.1**
comp=Z,28nm,1.8s,mb4.9
MOX
comp=Z,400nm,20.0s
MOX Moxa 70.40 318 *e*P **P 01 21 37.5 +0.1**
MOX pmax pmax
comp=Z,28nm,1.8s,mb4.9
MOX MLR MLR
comp=Z,400nm,20.0s,MS4.7
KBA Koelnbreinsper 70.58 314⇑ *i*P **P 01 21 38.0 -0.5**
comp=Z,17nm,1.4s,mb4.8
KBA Koelnbreinsper 70.58 314⇑ *i*P **P 01 21 38.0 -0.5**
KBA pmax pmax
comp=Z,17nm,1.4s,mb4.8
SVW2 Sparrevohn 70.58 30 *e*P **P 01 21 39.8 +1.3**
VOY Vojsko 70.58 312 *e*P **P 01 21 36.2 -2.3**
VOY *e* 01 21 38.2
VOY *e* 01 21 55.0
CADS Cadrg 70.62 313 *e*P **P 01 21 37.8 -0.9**
CLZ Clausthal 70.71 319 *e*P **P 01 21 39.5 +0.2**
comp=Z,39nm,1.5s,mb5.1
CLZ Clausthal 70.71 319 *e*P **P 01 21 39.5 +0.2**
CLZ pmax pmax
comp=Z,39nm,1.5s,mb5.1
GRA1 Grafenberg Arr 70.97 317 *e*P **P 01 21 41.4 +0.5**
comp=Z,26nm,1.1s,mb5.1
GRF Grafenberg Arr 70.97 317 *e*P **P 01 21 41.4 +0.5**
comp=Z,26nm,1.1s,mb5.1
GRF Grafenberg Arr 70.97 317 *e*P **P 01 21 41.4 +0.5**
GRF pmax pmax
comp=Z,26nm,1.1s,mb5.1
GRF Grafenberg Arr 70.97 317 *e*P **P 01 21 41.4 +0.5**
GRF pmax pmax
comp=Z,26nm,1.1s,mb5.1
CHGN Chignik 71.04 36 *e*P **P 01 21 42.1 +0.8**
UBBA Unterbreizbach 71.30 318 *e*P **P 01 21 43.0 +0.1**
FUR Furstenfeldbru 71.49 315 *e*P **P 01 21 44.6 +0.6**
comp=Z,55nm,0.9s,mb5.5
FUR Furstenfeldbru 71.49 315 *e*P **P 01 21 44.6 +0.6**
FUR pmax pmax
comp=Z,55nm,0.9s,mb5.5
WTTA Wattenberg 71.60 314⇑ *i*P **P 01 21 44.4 -0.3**
comp=Z,90nm,2.4s,mb5.3,SNR=11
WTTA Wattenberg 71.60 314⇑ *i*P **P 01 21 44.4 -0.3**
WTTA pmax pmax
comp=Z,90nm,2.4s,mb5.3
SQTA Sankt Quirin 71.88 314⇓ *i*P **P 01 21 46.3 -0.1**
comp=Z,37nm,1.4s,mb5.1,SNR=9.3
SQTA Sankt Quirin 71.88 314⇓ *i*P **P 01 21 46.3 -0.1**
SQTA pmax pmax
comp=Z,37nm,1.4s,mb5.1
MOTA Moosalm 71.90 314 *i* P **P 01 21 46.0 -0.5**
comp=Z,31nm,1.4s,mb5.0,SNR=13
MOTA Moosalm 71.90 314 *i* P **P 01 21 46.0 -0.5**
MOTA pmax pmax
comp=Z,31nm,1.4s,mb5.0
MOTA Moosalm 71.90 314 *i* P **P 01 21 46.0 -0.5**
comp=Z,31nm,1.4s,mb5.0
IBBN Ibbenburen 72.04 320 *e*P **P 01 21 47.3 0.0**
COLA College 72.14 25 *d i*P **P 01 21 48.8 +0.8**
COLA College 72.14 25 *e*P **P 01 21 48.5 +0.5**
comp=Z,79nm,1.4s,mb5.5
COLA LR LR
comp=Z,272nm,19.0s,MS4.5
AQU L'Aquila 72.24 309⇓ *i*P **P 01 21 48.8 +0.3**
AQU L'Aquila 72.24 309 ⇓P **P 01 21 48.8 +0.2**
MCK McKinley 72.26 27 *e*P **P 01 21 50.5 +1.9**
MCK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MCK McKinley 72.26 27 *e*P **P 01 21 50.5 +1.9**
comp=Z,5.6nm,0.7s,mb4.6
TNS Taunus Mts 72.44 318 *e*P **P 01 21 49.7 0.0**
comp=Z,20nm,1.4s,mb4.8
TNS Taunus Mts 72.44 318 *e*P **P 01 21 49.7 0.0**
TNS pmax pmax
comp=Z,20nm,1.4s,mb4.8
WIT Witteveen 72.45 321 *e*P **P 01 21 52.0 +2.3**
TOD Tromm 72.47 317 *e*P **P 01 21 49.9 0.0**
STU Stuttgart 72.55 316 *e*P **P 01 21 50.4 0.0**
STU Stuttgart 72.55 316 P **P 01 21 50.5 +0.1**
STU pmax pmax
comp=Z,12nm,0.6s,mb5.0
STU Stuttgart 72.55 316 P **P 01 21 50.5 +0.2**
comp=Z,12nm,0.6s,mb5.0
BUG Bochum--Univer 72.65 319 *e*P **P 01 21 51.0 0.0**
DAVA Damuels 72.70 315⇑ *i*P **P 01 21 50.4 -0.9**
comp=Z,20nm,1.5s,mb4.8,SNR=5.0
WTSB Winterswijk 72.71 320 *e*P **P 01 21 51.7 +0.4**
comp=Z,21nm,1.6s,mb4.8
PMR Palmer 73.17 29 *e*P **P 01 21 54.7 +0.6**
PMR pmax pmax
comp=Z,46nm,1.0s,mb5.4
PMR MLR MLR
comp=Z,100nm,19.0s,MS4.1
PMR Palmer 73.17 29 *e*P **P 01 21 54.7 +0.6**
comp=Z,46nm,1.0s,mb5.4
PMR LR LR
comp=Z,100nm,19.0s,MS4.1
BFO Black Forest 73.25 316 P **P 01 21 54.8 +0.3**
comp=Z,61nm,1.3s,mb5.4,SNR=7.7
BFO Black Forest 73.25 316 *e*P **P 01 21 54.3 -0.2**
comp=Z,21nm,1.3s,mb4.9
BFO Black Forest 73.25 316 *e*P **P 01 21 54.3 -0.2**
BFO pmax pmax
comp=Z,21nm,1.3s,mb4.9
LANF Langenberg 73.31 317 *e*P **P 01 21 54.9 0.0**
KDAK Kodiak Island 73.34 33 *e*P **P 01 21 57.0 +1.9**
SML Sawmill 73.41 28 *e*P **P 01 21 45.2 -10**
SML *e* 01 24 37.4
RUP Ruppelstein 73.47 318 *e*P **P 01 21 56.2 +0.4**
FELD Feldberg im Sc 73.63 316 *e*P **P 01 21 56.6 -0.2**
HGN Heimansgroeve 73.70 319 *e*P **P 01 21 57.2 +0.1**
comp=Z,13nm,1.6s,mb4.6
HGN *ex* x 01 22 10.0
HGN *ex* x 01 22 14.3
HGN *ex* x 01 22 20.3
MEM Membach 73.72 319 P **P 01 21 58.4 +1.2**
comp=Z,6.0nm,0.9s,mb4.5
WLS Welschbruch 73.81 316 *e*P **P 01 21 57.9 +0.1**
BEBN Eben Emael 73.83 319 P **P 01 21 59.4 +1.5**
CDF Champ du Feu 73.86 316 *e*P **P 01 21 57.9 -0.2**
comp=Z,36nm,0.9s,mb5.0
CDF Champ du Feu 73.86 316 *e*P **P 01 21 57.9 -0.2**
CDF pmax pmax
comp=Z,18nm,0.9s,mb5.0
CDF Champ du Feu 73.86 316 *e*P **P 01 21 57.9 -0.2**
comp=Z,18nm,0.9s,mb5.0
ECH Echery 74.01 316 *e*P **P 01 21 58.6 -0.4**
WLF Walferdange 74.02 318 *e*P **P 01 21 59.6 +0.6**
WLF Walferdange 74.02 318 P **P 01 21 59.9 +0.8**
comp=Z,15nm,1.0s,mb4.9
WLF Walferdange 74.02 318 *e*P **P 01 21 59.3 +0.3**
WLF pmax pmax
comp=Z,34nm,1.0s,mb5.2
WLF Walferdange 74.02 318 *e*P **P 01 21 59.3 +0.3**
comp=Z,34nm,1.0s,mb5.2
MOF Molkenrain 74.18 316 *e*P **P 01 21 59.9 -0.1**
BCLA Clavier 74.20 319 P **P 01 22 00.1 0.0**
comp=Z,6.4nm,1.0s,mb4.5
UCC Uccle 74.59 320 P **P 01 22 03.1 +0.8**
HAU Haudompre 74.59 316 *e*P **P 01 22 01.8 -0.6**
comp=Z,21nm,0.9s,mb4.8
HAU *e*R
comp=Z,549nm,19.0s
HAU Haudompre 74.59 316 *e*P **P 01 22 01.8 -0.6**
HAU pmax pmax
comp=Z,11nm,0.9s,mb4.8
HAU MLR MLR
comp=Z,550nm,19.0s,MS4.9
HAU Haudompre 74.59 316 *e*P **P 01 22 01.8 -0.6**
comp=Z,11nm,0.9s,mb4.8
HAU LR LR
comp=Z,550nm,19.0s,MS4.9
GIVF Givet 74.62 319 *e*P **P 01 22 02.3 -0.2**
THEF They Montfort 74.72 317 *e*P **P 01 22 03.1 0.0**
DOU Dourbes 74.75 319 P **P 01 22 03.5 +0.2**
comp=Z,3.7nm,0.9s,mb4.3
SNF Seneffe 74.76 319 P **P 01 22 03.3 0.0**
comp=Z,4.1nm,0.9s,mb4.4
BAIF Baives 74.99 319 *e*P **P 01 22 04.5 -0.2**
comp=Z,17nm,0.9s,mb4.7
BAIF Baives 74.99 319 *e*P **P 01 22 04.5 -0.2**
BAIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BAIF Baives 74.99 319 *e*P **P 01 22 04.5 -0.2**
comp=Z,8.6nm,0.9s,mb4.7
INK Inuvik 75.01 19 *e*P **P 01 22 05.7 +0.9**
EYAK Cordova Ski Ar 75.12 29 *e*P **P 01 22 05.8 +0.4**
CORF Corte 75.16 310 *e*P **P 01 22 05.8 +0.2**
PGF Pioggiola 75.16 310 *e*P **P 01 22 05.8 +0.2**
comp=Z,46nm,0.9s,mb5.1
PGF Pioggiola 75.16 310 *e*P **P 01 22 05.8 +0.2**
PGF pmax pmax
comp=Z,23nm,0.9s,mb5.1
PGF Pioggiola 75.16 310 *e*P **P 01 22 05.8 +0.2**
comp=Z,23nm,0.9s,mb5.1
ORE Reay 75.20 329 *e*P **P 01 22 04.8 -1.0**
ORE Reay 75.20 329 *e*P **P 01 22 04.8 -1.0**
CABF La Chapelle 75.34 315 *e*P **P 01 22 06.5 -0.2**
comp=Z,23nm,1.0s,mb4.7
CABF La Chapelle 75.34 315 *e*P **P 01 22 06.5 -0.2**
CABF pmax pmax
comp=Z,11nm,1.0s,mb4.7
CABF La Chapelle 75.34 315 *e*P **P 01 22 06.5 -0.2**
comp=Z,11nm,1.0s,mb4.8
LPG La Plagne 75.40 314 *e*P **P 01 22 07.5 +0.5**
comp=Z,46nm,0.7s,mb5.2
LPG La Plagne 75.40 314 *e*P **P 01 22 07.5 +0.5**
LPG pmax pmax
comp=Z,23nm,0.7s,mb5.2
LPG La Plagne 75.40 314 *e*P **P 01 22 07.5 +0.5**
comp=Z,23nm,0.7s,mb5.2
LPL La Plagne 75.41 314 *e*P **P 01 22 07.5 +0.5**
comp=Z,42nm,0.6s,mb5.2
LPL La Plagne 75.41 314 *e*P **P 01 22 07.5 +0.5**
LPL pmax pmax
comp=Z,21nm,0.6s,mb5.2
LPL La Plagne 75.41 314 *e*P **P 01 22 07.5 +0.5**
comp=Z,21nm,0.6s,mb5.2
MME1 Meikle Cairn 75.44 328 *e*P **P 01 22 05.6 -1.6**
MME1 Meikle Cairn 75.44 328 *e*P **P 01 22 05.6 -1.6**
MCD Coleburn Disti 75.44 328 *e*P **P 01 22 06.0 -1.2**
MCD Coleburn Disti 75.44 328 *e*P **P 01 22 06.0 -1.2**
AUTN L'Aution 75.60 312 *e*P **P 01 22 08.9 +0.7**
BNI Bardonecchia 75.64 313 *e*P **P 01 22 08.2 -0.2**
BNI pmax pmax
comp=Z,19nm,1.0s,mb5.0
BNI Bardonecchia 75.64 313 *e*P **P 01 22 08.2 -0.1**
comp=Z,19nm,1.0s,mb5.0
SBF Sospel 75.65 312 *e*P **P 01 22 08.2 -0.3**
comp=Z,46nm,0.8s,mb5.2
SBF Sospel 75.65 312 *e*P **P 01 22 08.2 -0.3**
SBF pmax pmax
comp=Z,23nm,0.8s,mb5.2
SBF Sospel 75.65 312 *e*P **P 01 22 08.2 -0.3**
comp=Z,23nm,0.8s,mb5.2
DAWY Dawson 75.69 24 *e*P **P 01 22 09.0 +0.3**
LUCF Luceram 75.70 312 *e*P **P 01 22 09.1 +0.4**
TOUF Mont Tournerai 75.71 312 *e*P **P 01 22 09.2 +0.4**
MBDF Montbardon 75.72 313 *e*P **P 01 22 08.8 0.0**
comp=Z,12nm,0.6s,mb4.7
MBDF Montbardon 75.72 313 *e*P **P 01 22 08.8 0.0**
MBDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MBDF Montbardon 75.72 313 *e*P **P 01 22 08.8 0.0**
comp=Z,6.1nm,0.6s,mb4.7
TOO Toolangi 75.90 147 *e*P **P 01 22 10.3 +0.4**
comp=Z,5.8nm,0.7s,mb4.6
TOO Toolangi 75.90 147 *e*P **P 01 22 10.3 +0.4**
TOO pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ESY Stoneypath 75.95 326 *e*P **P 01 22 09.1 -1.1**
ESY Stoneypath 75.95 326 *e*P **P 01 22 09.1 -1.1**
CNB Canberra Magne 76.09 143 *e*P **P 01 22 11.1 +0.1**
comp=Z,13nm,0.8s,mb4.9
VSL Villasalto 76.17 307 *e*P **P 01 22 11.3 -0.1**
comp=Z,28nm,0.9s,mb5.2
EBL Broad Law 76.23 326 *e*P **P 01 22 11.2 -0.6**
EBL Broad Law 76.23 326 *e*P **P 01 22 11.2 -0.6**
FRF La Foret Royal 76.30 312 *e*P **P 01 22 11.9 -0.2**
comp=Z,23nm,1.0s,mb4.8
FRF La Foret Royal 76.30 312 *e*P **P 01 22 11.9 -0.2**
FRF pmax pmax
comp=Z,12nm,1.0s,mb4.8
FRF La Foret Royal 76.30 312 *e*P **P 01 22 11.9 -0.2**
comp=Z,12nm,1.0s,mb4.8
EAU Auchinoon 76.39 326 *e*P **P 01 22 11.4 -1.2**
EAU Auchinoon 76.39 326 *e*P **P 01 22 11.4 -1.2**
LOR Lormes 76.43 316 *e*P **P 01 22 12.1 -0.8**
comp=Z,5.8nm,0.7s,mb4.3
LOR *e*R
comp=Z,454nm,19.5s
LOR Lormes 76.43 316 *e*P **P 01 22 12.1 -0.8**
LOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LOR MLR MLR
comp=Z,450nm,19.5s,MS4.8
LOR Lormes 76.43 316 *e*P **P 01 22 12.1 -0.8**
comp=Z,2.9nm,0.7s,mb4.3
LOR LR LR
comp=Z,450nm,19.5s,MS4.8
SUMG Summit 76.45 349 *e*P **P 01 22 12.7 -0.3**
comp=Z,24nm,0.8s,mb5.2
LMR La Mourre 76.49 312 *e*P **P 01 22 13.0 -0.2**
comp=Z,35nm,0.9s,mb5.0
LMR La Mourre 76.49 312 *e*P **P 01 22 13.0 -0.2**
LMR pmax pmax
comp=Z,18nm,0.9s,mb5.0
LMR La Mourre 76.49 312 *e*P **P 01 22 13.0 -0.2**
comp=Z,18nm,0.9s,mb5.0
ESK Eskdalemuir 76.54 326 *e*P **P 01 22 12.9 -0.6**
ESK Eskdalemuir 76.54 326 *e*P **P 01 22 12.9 -0.6**
ESK Eskdalemuir 76.54 326 *e*P **P 01 22 12.5 -1.0**
ESK pmax pmax
comp=Z,15nm,1.1s,mb4.8
ESK Eskdalemuir 76.54 326 *e*P **P 01 22 12.5 -1.0**
comp=Z,15nm,1.1s,mb4.8
ECK Cauldkaine Hil 76.57 326 *e*P **P 01 22 12.9 -0.8**

ECK AMb AMB 01 22 15.2
comp=Z,20nm,1.6s,mb4.8
ECK Cauldkaine Hil 76.57 326 *e*P **P 01 22 12.9 -0.8**
ECK AMb AMB 01 22 15.2
comp=Z,20nm,1.6s,mb4.8
EAB Aberfoyle 76.66 327 *e*P **P 01 22 12.3 -1.8**
EAB Aberfoyle 76.66 327 *e*P **P 01 22 12.3 -1.8**
KBI1 Birley Grange 76.70 324 *e*P **P 01 22 13.8 -0.6**
KBI1 Birley Grange 76.70 324 *e*P **P 01 22 13.8 -0.6**
SMF Signal de Mont 76.72 316 *e*P **P 01 22 14.2 -0.3**
comp=Z,58nm,1.0s,mb5.2
SMF Signal de Mont 76.72 316 *e*P **P 01 22 14.2 -0.3**
SMF pmax pmax
comp=Z,29nm,1.0s,mb5.2
SMF Signal de Mont 76.72 316 *e*P **P 01 22 14.2 -0.3**
comp=Z,29nm,1.0s,mb5.2
LHO Holmfirth 76.73 324 *e*P **P 01 22 13.5 -1.0**
LHO Holmfirth 76.73 324 *e*P **P 01 22 13.5 -1.0**
SSF Saint Saulge 76.74 316 *e*P **P 01 22 14.1 -0.5**
comp=Z,31nm,1.1s,mb4.8
SSF Saint Saulge 76.74 316 *e*P **P 01 22 14.1 -0.5**
SSF pmax pmax
comp=Z,15nm,1.1s,mb4.8
SSF Saint Saulge 76.74 316 *e*P **P 01 22 14.1 -0.5**
comp=Z,15nm,1.1s,mb4.8
SMRF Simiane la Rot 76.81 313 *e*P **P 01 22 13.5 -1.6**
comp=Z,63nm,1.4s,mb5.0
SMRF Simiane la Rot 76.81 313 *e*P **P 01 22 13.5 -1.6**
comp=Z,63nm,1.4s,mb5.3
AVF Avril sur Loir 76.96 316 *e*P **P 01 22 15.3 -0.6**
comp=Z,38nm,1.0s,mb5.2
AVF Avril sur Loir 76.96 316 *e*P **P 01 22 15.3 -0.6**
AVF pmax pmax
comp=Z,19nm,1.0s,mb5.0
AVF Avril sur Loir 76.96 316 *e*P **P 01 22 15.3 -0.6**
comp=Z,19nm,1.0s,mb5.0
KWE Weaver Farm 76.98 323 *e*P **P 01 22 15.4 -0.6**
KWE Weaver Farm 76.98 323 *e*P **P 01 22 15.4 -0.6**
VIVF Saint-Julien-l 77.00 314 *e*P **P 01 22 16.0 -0.1**
comp=Z,20nm,0.9s,mb4.8
VIVF Saint-Julien-l 77.00 314 *e*P **P 01 22 16.0 -0.1**
VIVF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VIVF Saint-Julien-l 77.00 314 *e*P **P 01 22 16.0 -0.1**
comp=Z,9.9nm,0.9s,mb4.7
SKP1 Kophill 77.06 322 *e*P **P 01 22 15.8 -0.6**
SKP1 Kophill 77.06 322 *e*P **P 01 22 15.8 -0.6**
XDE Dent Fell 77.09 325 *e*P **P 01 22 16.1 -0.5**
XDE Dent Fell 77.09 325 *e*P **P 01 22 16.1 -0.5**
BGF Bois d'Agland 77.37 316 *e*P **P 01 22 17.9 -0.3**
SSW Stow on the Wo 77.50 322 *e*P **P 01 22 18.9 0.0**
SSW Stow on the Wo 77.50 322 *e*P **P 01 22 18.9 0.0**
GIM North Isle of 77.69 325 *e*P **P 01 22 19.6 -0.3**
GIM North Isle of 77.69 325 *e*P **P 01 22 19.6 -0.3**
HLM1 Long Mynd 77.78 323 *e*P **P 01 22 19.9 -0.5**
HLM1 Long Mynd 77.78 323 *e*P **P 01 22 19.9 -0.5**
SBD1 Bryn Du 77.78 324 *e*P **P 01 22 20.1 -0.4**
SBD1 Bryn Du 77.78 324 *e*P **P 01 22 20.1 -0.4**
WIM Isle of Man 77.87 325 *e*P **P 01 22 20.1 -0.9**
WIM AMb AMB 01 22 23.2
comp=Z,44nm,1.3s,mb5.2
WIM Isle of Man 77.87 325 *e*P **P 01 22 20.1 -0.9**
WIM AMb AMB 01 22 23.2
comp=Z,44nm,1.3s,mb5.2
LASF Ste Croix 77.88 314 *e*P **P 01 22 20.7 -0.3**
comp=Z,73nm,1.3s,mb5.2
TCF Toulx Ste Croi 77.89 316 *e*P **P 01 22 20.9 -0.2**
comp=Z,47nm,1.0s,mb5.1
TCF Toulx Ste Croi 77.89 316 *e*P **P 01 22 20.9 -0.2**
TCF pmax pmax
comp=Z,23nm,1.0s,mb5.1
TCF Toulx Ste Croi 77.89 316 *e*P **P 01 22 20.9 -0.2**
comp=Z,23nm,1.0s,mb5.1
MCH1 Michaelchurch 78.10 323 *e*P **P 01 22 21.8 -0.4**
MCH1 Michaelchurch 78.10 323 *e*P **P 01 22 21.8 -0.4**
WLF1 Llynfaes 78.17 324 *e*P **P 01 22 21.8 -0.8**
WLF1 AMb AMB 01 22 26.6
comp=Z,24nm,0.9s,mb5.1
WLF1 Llynfaes 78.17 324 *e*P **P 01 22 21.8 -0.8**
WLF1 AMb AMB 01 22 26.6
comp=Z,24nm,0.9s,mb5.1
HGH Gray Hill 78.18 322 *e*P **P 01 22 21.4 -1.2**
HGH Gray Hill 78.18 322 *e*P **P 01 22 21.4 -1.2**
LDF La Druitiere 78.18 319 *e*P **P 01 22 22.2 -0.5**
comp=Z,27nm,1.1s,mb4.8
LDF La Druitiere 78.18 319 *e*P **P 01 22 22.2 -0.5**
LDF pmax pmax
comp=Z,14nm,1.1s,mb4.8
LDF La Druitiere 78.18 319 *e*P **P 01 22 22.2 -0.5**
comp=Z,14nm,1.1s,mb4.8
WCB1 Church Bay 78.20 325 *e*P **P 01 22 22.2 -0.6**
WCB1 AMb AMB 01 22 24.2
comp=Z,16nm,1.4s,mb4.8
WCB1 Church Bay 78.20 325 *e*P **P 01 22 22.2 -0.6**
WCB1 AMb AMB 01 22 24.2
comp=Z,16nm,1.4s,mb4.8
HTR Trewern Hill 78.20 323 *e*P **P 01 22 22.4 -0.4**
HTR AMb AMB 01 22 25.4
comp=Z,14nm,1.3s,mb4.7
HTR Trewern Hill 78.20 323 *e*P **P 01 22 22.4 -0.4**
HTR AMb AMB 01 22 25.4
comp=Z,14nm,1.3s,mb4.7
FLN La Foliniere 78.31 319 *e*P **P 01 22 23.0 -0.4**
BORG Borgarnes 78.33 339 P **P 01 22 25.3 +1.8**
comp=Z,21nm,1.1s,mb5.0
BORG LR LR
comp=Z,132nm,19.0s,MS4.3
CAF Calviac 78.62 315 *e*P **P 01 22 24.3 -0.8**
comp=Z,40nm,1.0s,mb5.0
CAF Calviac 78.62 315 *e*P **P 01 22 24.3 -0.8**
CAF pmax pmax
comp=Z,20nm,1.0s,mb5.0
CAF Calviac 78.62 315 *e*P **P 01 22 24.3 -0.8**
comp=Z,20nm,1.0s,mb5.0
GRR Gorron 78.71 319 *e*P **P 01 22 25.4 -0.2**
comp=Z,19nm,0.9s,mb4.8
GRR Gorron 78.71 319 *e*P **P 01 22 25.4 -0.2**
GRR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GRR Gorron 78.71 319 *e*P **P 01 22 25.4 -0.2**
comp=Z,9.7nm,0.9s,mb4.7
RJF Les Rejaudoux 78.78 315 *e*P **P 01 22 25.7 -0.3**
comp=Z,37nm,1.0s,mb5.0
RJF *e*R
comp=Z,267nm,22.0s
RJF Les Rejaudoux 78.78 315 *e*P **P 01 22 25.7 -0.3**
RJF pmax pmax
comp=Z,19nm,1.0s,mb5.0
RJF MLR MLR
comp=Z,270nm,22.0s,MS4.5
RJF Les Rejaudoux 78.78 315 *e*P **P 01 22 25.7 -0.3**
comp=Z,19nm,1.0s,mb5.0
RJF LR LR
comp=Z,270nm,22.0s,MS4.5
HSA Swansea 78.84 323 *e*P **P 01 22 25.9 -0.4**
HSA Swansea 78.84 323 *e*P **P 01 22 25.9 -0.4**
MFF Saint Martin d 79.17 317 *e*P **P 01 22 27.5 -0.6**
DLF Lyons Farm 79.26 325 *e*P **P 01 22 19.9 -8.7**
MTLF Montolieu 79.27 313 *e*P **P 01 22 28.7 0.0**
comp=Z,25nm,1.0s,mb4.8
MTLF Montolieu 79.27 313 *e*P **P 01 22 28.7 0.0**
MTLF pmax pmax
comp=Z,12nm,1.0s,mb4.8
MTLF Montolieu 79.27 313 *e*P **P 01 22 28.7 0.0**
comp=Z,12nm,1.0s,mb4.8
DYA Yadsworthy 79.41 322 *e*P **P 01 22 29.1 -0.4**
DYA Yadsworthy 79.41 322 *e*P **P 01 22 29.1 -0.4**
DCN Croghan 79.61 325 *e*P **P 01 22 21.0 -9.5**
SGMF Saint Gilles 79.76 319 *e*P **P 01 22 30.8 -0.5**
comp=Z,41nm,0.9s,mb5.0
SGMF Saint Gilles 79.76 319 *e*P **P 01 22 30.8 -0.5**
SGMF pmax pmax
comp=Z,21nm,0.9s,mb5.1
SGMF Saint Gilles 79.76 319 *e*P **P 01 22 30.8 -0.5**
comp=Z,20nm,0.9s,mb5.1
VALF Valcebollere 79.85 313 *e*P **P 01 22 32.7 +0.9**
SKAG Skagway 80.03 27 *e*P **P 01 22 34.3 +1.5**
comp=Z,53nm,1.3s,mb5.3
SKAG LR LR
comp=Z,200nm,19.0s,MS4.5
ROSF Rostrenen 80.13 320 *e*P **P 01 22 33.2 -0.1**
comp=Z,36nm,1.0s,mb4.9
ROSF Rostrenen 80.13 320 *e*P **P 01 22 33.2 -0.1**
ROSF pmax pmax
comp=Z,18nm,1.0s,mb5.0
ROSF Rostrenen 80.13 320 *e*P **P 01 22 33.2 -0.1**
comp=Z,18nm,1.0s,mb5.0
QUIF Quistinic 80.28 319 *e*P **P 01 22 33.6 -0.6**
comp=Z,40nm,1.1s,mb5.0
QUIF Quistinic 80.28 319 *e*P **P 01 22 33.6 -0.6**
QUIF pmax pmax
comp=Z,20nm,1.1s,mb5.0
QUIF Quistinic 80.28 319 *e*P **P 01 22 33.6 -0.6**
comp=Z,20nm,1.1s,mb5.0
ETOS Mallorca 80.58 310 P **P 01 22 35.9 +0.1**
comp=Z,36nm,1.2s,mb5.2
EPF Esparros 80.62 314 *e*P **P 01 22 35.6 -0.4**
RESF Ens 80.73 314 *e*P **P 01 22 37.8 +1.2**
VIEF Viey 80.90 314 *e*P **P 01 22 38.5 +1.1**
EBIE Bielsa 80.92 314 P **P 01 22 38.4 +0.8**
comp=Z,27nm,1.5s,mb5.0
EPOB Poblet 80.97 312 P **P 01 22 37.5 -0.4**
comp=Z,22nm,1.1s,mb5.0
ETSF Etsaut 81.26 314 *e*P **P 01 22 38.9 -0.5**
comp=Z,15nm,0.6s,mb4.8
ETSF Etsaut 81.26 314 *e*P **P 01 22 38.9 -0.5**
ETSF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ETSF Etsaut 81.26 314 *e*P **P 01 22 38.9 -0.5**
comp=Z,7.6nm,0.6s,mb4.8
SJPF Ste Jean 81.57 314 *e*P **P 01 22 41.0 0.0**
comp=Z,19nm,0.8s,mb4.8
SJPF Ste Jean 81.57 314 *e*P **P 01 22 41.0 0.0**
SJPF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SJPF Ste Jean 81.57 314 *e*P **P 01 22 41.0 0.0**
comp=Z,9.4nm,0.8s,mb4.8
ERTA Horta de San J 81.65 312 P **P 01 22 40.9 -0.6**
comp=Z,55nm,1.4s,mb5.3
EALK Alkurruntz 81.70 315 P **P 01 22 42.0 +0.3**
comp=Z,45nm,1.2s,mb5.3
EIBI Ibiza 81.93 310 P **P 01 22 43.2 +0.2**
comp=Z,34nm,1.3s,mb5.1
EMOS Mogueruela 82.48 312 P **P 01 22 46.2 +0.4**
comp=Z,19nm,0.8s,mb5.1
ELAN Lanestosa 82.89 315 P **P 01 22 47.9 0.0**
comp=Z,88nm,1.6s,mb5.5
ECHE Chera 83.20 311 P **P 01 22 50.2 +0.7**
ECHE pmax pmax
comp=Z,17nm,1.4s,mb4.9
ECHE Chera 83.20 311 P **P 01 22 50.2 +0.6**
comp=Z,17nm,1.4s,mb4.9
EARI Arriondas 83.95 316 P **P 01 22 54.5 +1.2**
comp=Z,92nm,1.6s,mb5.7
ETOB Tobarra 84.08 311 P **P 01 22 54.1 +0.1**
comp=Z,33nm,1.2s,mb5.3
EMUR La Murta 84.28 310 P **P 01 22 54.7 -0.4**
comp=Z,37nm,1.3s,mb5.4
YKA Yellowknife Ar 84.58 17 P **P 01 22 56.9 +0.4**
comp=Z,7.8nm,0.6s,mb5.0,baz=328,slow=5.2,SNR=44
YKA Yellowknife Ar 84.58 17⇑ *e*P **P 01 22 57.9 +1.3**
YKA Yellowknife Ar 84.58 17 P **P 01 22 56.9 +0.4**
EVIA Vianos 84.72 311 P **P 01 22 58.0 +0.8**
EVIA pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
EVIA Vianos 84.72 311 P **P 01 22 58.0 +0.7**
comp=Z,8.2nm,0.8s,mb4.9
GUD Guadarrama 84.73 314 P **P 01 22 57.9 +0.6**
GUD pmax pmax
comp=Z,28nm,1.4s,mb5.2
GUD Guadarrama 84.73 314 P **P 01 22 57.9 +0.5**
comp=Z,28nm,1.4s,mb5.2
EPON Pontenova 85.12 317 P **P 01 23 00.9 +1.6**
comp=Z,39nm,1.3s,mb5.3
ESDC Sonseca Array 85.13 313 P **P 01 22 59.8 +0.5**
comp=Z,2.8nm,0.9s,mb4.4,baz=43,slow=5.6,SNR=10
ESDC LR LR 02 04 34.5
comp=Z,135nm,18.2s,MS4.4,baz=45,slow=38
ESDC Sonseca Array 85.13 313 P **P 01 22 59.3 -0.1**
comp=Z,6.7nm,1.4s,mb4.6
ESLA Sonseca Array 85.13 313 *e*P **P 01 22 59.7 +0.3**
comp=Z,3.5nm,1.2s,mb4.4
ESLA *e*pP pP 01 23 13.0 -0.1
LSZ Lusaka 85.19 250⇑ *e*P **P 01 23 00.2 +0.6**
LSZ pmax pmax
comp=Z,16nm,0.6s,mb5.3
LSZ Lusaka 85.19 250⇑ *e*P **P 01 23 00.2 +0.6**
comp=Z,16nm,0.6s,mb5.3
ENIJ Nijar 85.39 310 P **P 01 23 01.5 +0.9**
ENIJ pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
ENIJ Nijar 85.39 310 P **P 01 23 01.5 +0.8**
comp=Z,8.3nm,0.6s,mb5.0
EQES Quesada 85.54 311 P **P 01 23 01.2 -0.1**
comp=Z,29nm,1.2s,mb5.4
ECAL Calabor 85.64 316 P **P 01 23 02.0 +0.1**
comp=Z,18nm,0.8s,mb5.3
PBRG Braganca 85.72 316 *e*P **P 01 23 03.5 +1.2**
comp=Z,15nm,1.1s,mb5.1
EBAN Banos Encina 85.82 311 P **P 01 23 02.8 0.0**
EBAN pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
EBAN Banos Encina 85.82 311 P **P 01 23 02.8 0.0**
comp=Z,6.6nm,0.7s,mb5.0
EBER Berja 85.90 310 P **P 01 23 03.9 +0.7**
comp=Z,16nm,1.0s,mb5.2
ECOG Cogollos-Vega 86.15 310 P **P 01 23 04.1 -0.3**
ECOG pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
ECOG Cogollos-Vega 86.15 310 P **P 01 23 04.1 -0.3**
comp=Z,3.1nm,0.6s,mb4.7
STS Santiago 86.21 317 P **P 01 23 03.9 -0.8**
STS pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
STS Santiago 86.21 317 P **P 01 23 03.9 -0.7**
comp=Z,5.4nm,0.9s,mb4.8
EPLA Plasencia 86.28 314 P **P 01 23 04.8 -0.2**
EPLA pmax pmax
comp=Z,65nm,1.6s,mb5.6
EPLA Plasencia 86.28 314 P **P 01 23 04.8 -0.2**
comp=Z,65nm,1.6s,mb5.6
EADA Adamuz 86.34 312 P **P 01 23 03.6 -1.7**
comp=Z,14nm,1.2s,mb5.1
ELUQ Luque 86.47 311 P **P 01 23 06.1 +0.1**
ELUQ pmax pmax
comp=Z,18nm,0.8s,mb5.3
ELUQ Luque 86.47 311 P **P 01 23 06.1 +0.1**
comp=Z,18nm,0.8s,mb5.3
ELOB Lobios 86.50 316 P **P 01 23 06.5 +0.4**
comp=Z,38nm,1.2s,mb5.5
PCAB Cabril 86.57 316 *e*P **P 01 23 07.7 +1.3**
comp=Z,40nm,1.0s,mb5.6
PVRL Vila Real 86.62 316 *e*P **P 01 23 07.5 +0.8**
MTE Manteigas 87.02 315 *e*P **P 01 23 09.8 +1.2**
comp=Z,26nm,1.0s,mb5.4
MTE Manteigas 87.02 315 *e*LQ
MTE *e*LR LR 01 59 01.5
comp=Z,134nm,19.0s
MTE Manteigas 87.02 315 *e*P **P 01 23 09.6 +1.0**
comp=Z,13nm,0.8s,mb5.2
PVIS Viseu 87.06 315 *e*P **P 01 23 10.4 +1.6**
comp=Z,24nm,1.4s,mb5.2
PTO Porto 87.25 316 *e*P **P 01 23 12.7 +2.9**
comp=Z,36nm,1.4s,mb5.4
PCBR Castelo Branco 87.29 314 *e*P **P 01 23 11.1 +1.1**
comp=Z,9.4nm,1.1s,mb4.9
EMIJ Mijas 87.35 310 P **P 01 23 09.0 -1.2**
comp=Z,9.9nm,0.9s,mb5.0
EBAD Badajoz 87.61 313 P **P 01 23 11.3 -0.2**
comp=Z,21nm,1.3s,mb5.2
EMIN Mina Concepcio 87.94 312 P **P 01 23 12.3 -0.8**
comp=Z,70nm,2.2s,mb5.5
PTOM Tomar 88.01 314 *e*P **P 01 23 14.3 +0.9**
comp=Z,32nm,1.3s,mb5.4
PBEJ Beja 88.58 313 *e*P **P 01 23 17.2 +1.1**
comp=Z,24nm,1.3s,mb5.4
FCC Fort Churchill 92.19 9 *e*P **P 01 23 32.5 -0.4**
FCC pmax pmax
comp=Z,17nm,1.1s,mb5.3
FCC Fort Churchill 92.19 9 *e*P **P 01 23 32.5 -0.5**
comp=Z,17nm,1.1s,mb5.3
EDM Edmonton 92.73 22 *e*P **P 01 23 36.6 +1.2**
CASY Casey 94.15 177 *e*P **P 01 23 39.5 -2.4**
BOSA Boshof 94.22 240 P **P 01 23 41.4 -0.9**
comp=Z,3.0nm,0.5s,mb5.0,baz=98,slow=7.6,SNR=15
BOSA Boshof 94.22 240 P **P 01 23 41.4 -0.9**
BOSA pmax pmax
comp=Z,3.0nm,0.5s,mb5.0
FFC Flin Flon 94.54 15 *e*P **P 01 23 44.3 +0.6**
FFC pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
FFC Flin Flon 94.54 15 *e*P **P 01 23 44.3 +0.6**
comp=Z,4.3nm,0.8s,mb4.9
TORD Torodi Ar. Bea 94.62 287 P **P 01 23 43.6 -0.5**
comp=Z,1.7nm,0.8s,mb4.5,baz=44,slow=3.8,SNR=10
TORD PP PP 01 27 31.6 -0.9
comp=Z,3.4nm,1.0s,baz=51,slow=6.4,SNR=8.1
TORD LR LR 02 10 56.7
comp=Z,152nm,19.3s,MS4.5,baz=180,slow=38
SCHQ Schefferville 97.10 355 P **P 01 23 55.9 +0.5**
comp=Z,2.5nm,0.6s,mb4.8,baz=22,slow=7.1,SNR=5.3
BMO Blue Mountains 98.17 28 PFAKE 01 24 10.0 +10
BMO LR LR
comp=Z,136nm,19.0s,MS4.5
BOZ Bozeman (W) 99.75 25 PFAKE 01 24 20.0 +13
BOZ LR LR
comp=Z,134nm,20.0s,MS4.4
BMN Battle Mountai 101.76 31 PFAKE 01 24 30.0 +14
BMN LR LR
comp=Z,117nm,21.0s,MS4.4
CMB Columbia Colle 102.13 35 PFAKE 01 24 30.0 +12
CMB LR LR
comp=Z,73nm,22.0s,MS4.2
AHID Auburn Hatcher 102.41 26 PFAKE 01 24 30.0 +11
AHID LR LR
comp=Z,109nm,19.0s,MS4.4
BW06 Boulder Array 102.99 25 PFAKE 01 24 30.0 +8.4
BW06 LR LR
comp=Z,159nm,19.0s,MS4.6
MPU Maple Canyon 104.53 28 PFAKE 01 24 40.0 +12
MPU LR LR
comp=Z,537nm,22.0s,MS5.0
BINY Binghamton 110.10 0 PFAKE 01 29 10.0 +15
BINY LR LR
comp=Z,217nm,19.0s,MS4.8
ANMO Albuquerque 110.97 27 PFAKE 01 29 10.0 +14
ANMO LR LR
comp=Z,147nm,19.0s,MS4.6
CCM Cathedral Cave 112.67 13 PFAKE 01 29 10.0 +10
CCM LR LR
comp=Z,158nm,19.0s,MS4.6
AMTX Amarillo 112.80 23 PFAKE 01 29 10.0 +10
AMTX LR LR
comp=Z,165nm,22.0s,MS4.6
CBN Corbin 114.08 1 PFAKE 01 29 10.0 +7.7
CBN LR LR
comp=Z,212nm,19.0s,MS4.8
BLA Blacksburg 114.94 4 PFAKE 01 29 20.0 +16
BLA LR LR
comp=Z,13nm,20.0s,MS3.5
JCT Junction City 117.45 23 *e*PKIKP PKPdf 01 29 09.4 +0.6
QSPA South Pole Qui 117.83 180 *e*P PKPdf 01 29 07.3 -2.2
SDV Santo Domingo 142.94 351 PKP PKPdf 01 29 55.1 -1.6
comp=Z,36nm,0.8s,baz=354,slow=0.6,SNR=10
ROSC El Rosal 147.26 357 PKPbc PKPbc 01 30 07.9 +1.4
comp=Z,36nm,0.9s,baz=108,slow=5.0,SNR=14
CAM4 Nova Friburgo 149.45 273 *e*P PKPdf 01 30 10.0 +2.3
CAM4 *i* 01 30 14.8
CAM4 *i* 01 30 16.5
CAM4 *i* 01 30 18.6
CAM4 *i* 01 30 31.7
CAM4 *i* 01 30 46.1
BDFB Brasilia 151.47 290 PKPbc PKPbc 01 30 18.1 +1.1
comp=Z,8.5nm,0.8s,baz=56,slow=2.3,SNR=13
BDFB Brasilia 151.47 290 PKIKP PKPbc 01 30 18.1 +1.1
BDFB pmax pmax
comp=Z,9.0nm,0.8s
OTAV Otavalo 151.76 6 *e*PKPdf PKPdf 01 30 15.0 +3.7
OTAV *e*PKPbc PKPbc 01 30 21.6 +3.9
ATAH Atahualpa 158.92 7 PKPab PKPab 01 30 59.5 +2.2
comp=Z,7.6nm,1.0s,baz=270,slow=3.0,SNR=3.9
SIV San Ignacio 161.84 308 PKP PKPdf 01 30 25.1 +0.9
comp=Z,1.5nm,0.7s,baz=78,slow=4.0,SNR=6.7
SIV PKPab PKPab 01 31 09.9 -0.1
comp=Z,4.4nm,0.9s,baz=70,slow=8.1,SNR=7.3
CPUP Villa Florida 163.46 272 PKP PKPdf 01 30 26.7 +0.9
comp=Z,0.3nm,0.3s,baz=50,slow=8.5,SNR=4.8
CPUP Villa Florida 163.46 272 PKP PKPdf 01 30 26.7 +0.9
LPAZ La Paz 166.31 327 PKP PKPdf 01 30 30.9 +2.7
comp=Z,2.3nm,0.9s,baz=29,slow=4.8,SNR=6.1
LPAZ La Paz 166.31 327 PKIKP PKPdf 01 30 30.9 +2.7
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
PLCA Paso Flores 166.63 198 PKPab PKPab 01 31 29.2 -1.8
comp=Z,1.3nm,0.6s,baz=40,slow=15,SNR=4.1
PLCA Paso Flores 166.63 198 PKP2 PKPab 01 31 29.2 -1.9
PLCA pmax pmax
comp=Z,1.0nm,0.6s

MOS **22** *01:13:47.9±2.1, 55.38N×110.45E, h10km, mb4.3/1, Error ellipse: s-maj=20.6km s-min=13.0km az=62.2*

BYKL 22 01:13:47.4±0.2, 5539N×11044E, 2C-3D, Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
NIZ	**Nizh Angarsk**	**0.64**	**307**	*e*Pg	Pg	01 13 58.6	-1.1
NIZ				*e*Sg	Sg	01 14 07.9	-0.1
NIZ				Pmax			
	40nm,0.2s						
NIZ				Smax			
	279nm,0.3s						
NIZ	**Nizh Angarsk**	**0.64**	**307**	*e*PG	Pg	01 13 59.4	-0.3
NIZ				*e*S	Sg	01 14 07.9	-0.1
KMO	**Kumora**	**0.66**	**41**	⇓*i*Pg	Pg	01 13 59.0	-1.0
KMO				*e*Sg	Sg	01 14 07.7	-0.9
KMO				Pmax			
	114nm,0.4s						
KMO				Smax			
	744nm,1.1s						
KMO	**Kumora**	**0.66**	**41**	*e*PG	Pg	01 13 59.1	-0.9
KMO				*e*		01 14 07.5	
KMO				pmax	pmax		
	comp=Z,177nm,0.5s						
KMO				smax			
	comp=N,719nm,0.9s						
YLYR	**Ulyunkhan**	**0.66**	**141**	⇑*i*Pg	Pg	01 13 59.1	-1.0
YLYR				*e*Sg	Sg	01 14 08.2	-0.4
YLYR				Pmax			
	comp=N,87nm,0.3s						
YLYR				Smax			
	comp=N,336nm,0.2s						
YOA	**Uoyan**	**1.04**	**44**	*e*Pg	Pg	01 14 06.8	-0.5
YOA				*e*Sg	Sg	01 14 20.9	+0.1
YOA				Pmax			
	comp=N,370nm,0.2s						
YOA				Smax			
	comp=N,2μm,0.9s						
YOA	**Uoyan**	**1.04**	**44**	⇓*i*PG	Pg	01 14 08.3	+1.0
YOA				*i*		01 14 20.7	
YOA				pmax	pmax		
	comp=Z,369nm,0.2s						
YOA				smax			
	comp=E,2μm,0.5s						
SYVR	**Suvo**	**1.75**	**189**	*e*Pg	Pg	01 14 18.6	-2.4
SYVR				*e*Sg	Sg	01 14 43.0	-0.8
SYVR				Pmax			
	comp=E,80nm,0.3s						
SYVR				Smax			
	comp=E,380nm,0.8s						
SYVR	**Suvo**	**1.75**	**189**	*e*PN	Pn	01 14 18.7	-0.4
SYVR				*e*		01 14 42.9	
SYVR				pmax	pmax		
	comp=Z,72nm,0.6s						
SYVR				smax			
	comp=N,318nm,0.6s						
UKT	**Uakit**	**1.82**	**86**	⇓*i*Pg	Pg	01 14 20.0	-2.3
UKT				*e*Sg	Sg	01 14 43.7	-2.1
UKT				Pmax			
	comp=N,57nm,0.5s						
UKT				Smax			
	comp=N,197nm,0.6s						
UKT	**Uakit**	**1.82**	**86**	*e*PN	Pn	01 14 19.9	0.0
UKT				*e*		01 14 43.8	
UKT				pmax	pmax		
	comp=Z,81nm,0.4s						
UKT				smax			
	comp=N,174nm,0.3s						
SVKR	**Severomuysk**	**1.91**	**66**	*e*Sg	Sg	01 14 47.8	-0.9
SVKR				Smax			
	comp=N,1μm,0.7s						
MXMB	**Maximikha**	**2.35**	**206**	*e*	Pn	01 14 23.7	-3.6
MXMB				*e*Pg	Pg	01 14 30.4	-2.1
MXMB				*e*Sg	Sg	01 15 01.2	-1.8
MXMB				Pmax			
	comp=N,59nm,0.4s						

MXMB				Smax				
	comp=N,863nm,0.9s							
OGRR	**Ongureny**	**2.41**	**225**	*e*Pn	Pn	01 14 28.6	+0.5	
OGRR				*e*Pg	Pg	01 14 30.5	-3.1	
OGRR				*e*Sg	Sg	01 15 01.9	-3.0	
OGRR				Pmax				
	comp=N,40nm,0.4s							
OGRR				Smax				
	comp=N,154nm,0.3s							
OGRR	**Ongureny**	**2.41**	**225**	*e*PN	Pn	01 14 28.7	+0.6	
OGRR				*e*		01 14 31.8		
OGRR				*e*		01 15 01.8		
OGRR				pmax	pmax			
	comp=Z,40nm,0.5s							
OGRR				smax				
	comp=N,221nm,0.9s							
KELR	**Kotokel**	**2.98**	**209**	*e*Sg	Sg	01 15 19.6	-3.5	
KELR				Smax				
	comp=N,272nm,0.4s							
BOD	**Bodaibo**	**3.13**	**38**	*e*Pn	Pn	01 14 37.9	-0.1	
BOD				*e*Pg	Pg	01 14 43.4	-4.0	
BOD				*e*Sg	Sg	01 15 23.1	-4.9	
BOD				Pmax				
	comp=N,18nm,0.4s							
BOD				Smax				
	comp=N,146nm,0.9s							
NLYR	**Nelyaty**	**3.16**	**67⇑**	*i*Pn	Pn	01 14 38.5	+0.1	
NLYR				*e*Pg	Pg	01 14 44.2	-3.8	
NLYR				*e*Sg	Sg	01 15 25.7	-3.2	
NLYR				Pmax				
	comp=N,19nm,0.7s							
NLYR				Smax				
	comp=N,149nm,1.0s							
TRG	**Tyrgan**	**3.57**	**224**	*e*Pn	Pn	01 14 45.2	+1.2	
TRG				*e*Sn	Sn	01 15 25.0	-1.9	
TRG				*e*Sg	Sg	01 15 38.0	-4.1	
TRG				Smax				
	comp=N,65nm,0.8s							
TRTB	**Turuntaevo**	**3.58**	**209**	*e*Pn	Pn	01 14 44.4	+0.3	
TRTB				*e*Pg	Pg	01 14 52.3	-3.7	
TRTB				*e*Sg	Sg	01 15 38.1	-4.3	
TRTB				Pmax				
	comp=N,18nm,0.7s							
TRTB				Smax				
	comp=N,212nm,1.6s							
CIT	**Chita**	**3.85**	**150**	*e*Pg	Pg	01 14 56.3	-4.9	
CIT				*e*Sg	Sg	01 15 45.6	-5.5	
CIT				Pmax				
	comp=N,11nm,0.6s							
CIT				Smax				
	comp=N,61nm,0.8s							
FFNB	**Fofonovo**	**4.00**	**215**	*e*Pg	Pg	01 14 59.5	-4.5	
FFNB				*e*Sg	Sg	01 15 50.5	-5.4	
FFNB				Smax				
	comp=N,238nm,1.5s							
HRMR	**Khuramsha**	**4.30**	**210**	*e*Pg	Pg	01 15 03.9	-6.0	
HRMR				*e*		01 15 36.6		
HRMR				*e*Sg	Sg	01 16 00.5	-5.2	
HRMR				Pmax				
	comp=N,44nm,0.7s							
HRMR				Smax				
	comp=N,270nm,0.6s							
CRS	**Chara**	**4.63**	**68**	*e*Pn	Pn	01 14 58.8	+0.2	
CRS				*e*Pg	Pg	01 15 11.5	-4.7	
CRS				*e*Sg	Sg	01 16 10.6	-5.6	
CRS				Pmax				
	comp=N,23nm,0.9s							
CRS				Smax				
	comp=N,74nm,1.3s							
CRS	**Chara**	**4.63**	**68**	*e*PN	Pn	01 15 10.8	+12	
CRS				*e*		01 16 10.5		
CRS				pmax	pmax			
	comp=Z,22nm,0.8s							
CRS				smax				
	comp=E,73nm,1.2s							
TLY	**Talaya**	**5.50**	**230**	*e*PN	Pn	01 15 26.6	+16	
TUP	**Tupik**	**5.57**	**96**	*e*Pn	Pn	01 15 11.0	-0.6	
TUP				*e*		01 15 19.3		
TUP				*e*Pg	Pg	01 15 26.4	-7.8	
TUP				*e*Sg	Sg	01 16 39.5	-7.0	
TUP				Pmax				
	comp=E,10.0nm,0.8s							
TUP				Smax				
	comp=E,78nm,0.8s							
TUP	**Tupik**	**5.57**	**96**	*e*PN	Pn	01 15 27.3	+16	
TUP				*e*S	Sn	01 16 13.0	-3.3	
TUP				*e*		01 16 39.8		
TUP				pmax	pmax			
	comp=Z,7.0nm,0.5s							
TUP				smax				
	comp=N,77nm,1.0s							
KPC	**Khapcheranga**	**5.82**	**167**	*e*Sg	Sg	01 16 47.5	-6.8	
KPC				Smax				
	comp=N,63nm,1.7s							

*ISCJB **22** 01:21:47.9±0.9, 20N±02×992W±0.1, h10km, mb3.8/7, MS4.0/11, Error ellipse: s-maj=24.0km s-min=14.2km az=54.0*
*IDC **22** 01:21:49.0±1.6, 2.18N×99.02W, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.8/19, mbtmp3.7/6, MS4.0/12, Ms1 4.0/12, ms1mx3.8/22, Error ellipse: s-maj=59.6km s-min=21.6km az=44.0*
*HRVD **22** 01:21:50.3±0.6, 2.25N×98.64W, h12km, MW4.9/42, Centroid moment Tensor Solution. LP body waves: s13,c14;Mantle waves: s42,c56; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.13±.13; $M_{\theta\theta}$1.61±.11; $M_{\phi\phi}$-1.48±.12; $M_{r\theta}$1.32±.32; $M_{\theta\phi}$1.34±.10; $M_{\phi r}$0.34±.36; Best double couple: M_o2.37200×10^{16} NP1:ϕ_s21.00000°,δ68.00000°,λ166.00000°. NP2: ϕ_s117.00000°,δ77.00000°,λ22.00000°. Principal axes: T 2.7500, Plg25.0000°, Azm340.0000°; N -0.7570, Plg64.0000°, Azm146.0000°; P -1.9940, Plg6.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 01:21:50.3±0.9, 2.12N×99.03W, h10km, mb4.4/3 Error ellipse: s-maj=32.5km s-min=13.1km az=219.0*

ISC 22 01:21:50.0±1.1, 20N±02×992W±02, h10km, n22, σ1§05/11, mb3.8/7, MS4.0/11, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**15.59**	**16**	LR	LR	01 29 51.8	
	comp=Z,479nm,18.7s,baz=189,slow=31						
OTAV	**Otavalo**	**20.85**	**95**	*e*P	**P**	**01 26 30.9**	**-1.1**
	24nm,1.3s						
ATAH	**Atahualpa**	**22.64**	**113**	P	**P**	**01 26 52.7**	**+1.6**
	1.6nm,0.5s,mb3.7,baz=240,slow=20,SNR=2.8						
ROSC	**El Rosal**	**25.02**	**83**	P	**P**	**01 27 13.4**	**-0.6**
	2.0nm,0.4s,mb4.0,baz=98,slow=21,SNR=4.9						
ROSC				LR	LR	01 33 58.3	
	comp=Z,84nm,18.0s,MS3.3,baz=194,slow=29						
SDV	**Santo Domingo**	**29.26**	**75**	LR	LR	01 37 12.3	
	comp=Z,360nm,21.9s,MS4.0,baz=216,slow=32						
LPAZ	**La Paz**	**35.70**	**122**	P	**P**	**01 28 49.4**	**+0.9**
	2.2nm,0.9s,mb4.1,baz=309,slow=12,SNR=4.5						
LPAZ				LR	LR	01 41 54.2	
	comp=Z,105nm,19.3s,MS3.6,baz=313,slow=34						
LPAZ	**La Paz**	**35.70**	**122**	*e*P	**P**	**01 28 48.5**	**-0.1**
	5.1nm,1.1s,mb4.4						
LPAZ				LR	LR	01 41 54.2	
SAML	**Samuel**	**37.54**	**107**	*e*P	**P**	**01 29 04.4**	**+0.1**
	14nm,1.4s,mb4.5						
NVAR	**Mina Array Bea**	**40.23**	**337**	P	**P**	**01 29 28.4**	**+1.6**
	0.2nm,0.3s,mb3.4,baz=98,slow=16,SNR=3.5						
NVAR	**Mina Array Bea**	**40.23**	**337**	P	**P**	**01 29 28.4**	**+1.6**
PDAR	**Pinedale Array**	**41.62**	**349**	P	**P**	**01 29 37.2**	**-0.9**
	0.6nm,0.7s,mb3.4,baz=148,slow=8.7,SNR=5.5						
PDAR				LR	LR	01 45 39.8	
	comp=Z,96nm,21.6s,MS3.6,baz=182,slow=34						
SIV	**San Ignacio**	**41.74**	**117**	P	**P**	**01 29 38.7**	**-0.5**
	0.9nm,0.9s,mb3.4,baz=254,slow=16,SNR=2.5						
ULM	**Lac du Bonnet**	**48.15**	**3**	LR	LR	01 50 35.6	
	comp=Z,80nm,18.7s,MS3.7,baz=175,slow=36						
CPUP	**Villa Florida**	**49.30**	**128**	LR	LR	01 51 41.2	
	comp=Z,108nm,18.3s,MS3.9,baz=300,slow=36						
PLCA	**Paso Flores**	**49.94**	**152**	LR	LR	01 47 15.2	
	comp=Z,286nm,18.3s,MS4.3,baz=344,slow=30						
PPT	**Papeete**	**53.27**	**246**	*e*S	**S**	**01 38 38.0**	**-2.2**
	93nm,25.0s						
PPT				*e*LR	LR	01 46 37.7	
	386nm,24.8s						

BDFB	**Brasilia**	**53.58**	**111**	LR	LR	01 53 43.6		
	comp=Z,162nm,18.4s,MS4.1,baz=86,slow=36							
TBI	**Tubuai**	**54.98**	**240**	*e*LR	LR	01 47 25.6		
	251nm,28.5s							
AFI	**Afiamalu**	**73.57**	**255**	LR	LR	02 00 16.6		
	comp=Z,197nm,18.5s,MS4.4,baz=56,slow=31							
VNDA	**Vanda**	**93.88**	**192**	LR	LR	02 07 46.1		
	comp=Z,96nm,20.9s,MS4.2,baz=325,slow=29							
DBIC	**Dimbokro**	**94.12**	**83**	LR	LR	02 16 51.4		
	comp=Z,122nm,18.5s,MS4.4,baz=128,slow=35							
WRA	**Warramunga Arr**	**124.76**	**247**	PKP	PKPdf	01 40 51.8	+1.9	
	0.2nm,0.7s,baz=154,slow=2.2,SNR=3.2							

*ISCJB **22** 01:26:57.6±0.6, 6621N±004×142.14W±009, h10km, Error ellipse: s-maj=6.4km s-min=4.9km az=19.9*
*NEIC **22** 01:26:58.5, 6620N×142.30W, h9km, ML3.0(AEIC), After AEIC.*
*PGC **22** 01:26:58.6, 6627N×142.49W, h1km, ML2.9/2, 284km northwest of Dawson, Yt Eastern Alaska.*

ISC 22 01:26:59.1±0.6, 6622N±004×14216W±008, h10km, n10, σ1§14/19, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**2.46**	**150**	Pn	**Pn**	**01 27 40.1**	**+0.9**
DAWY				Pg	**Pg**	**01 27 44.5**	**-1.6**
DAWY				Sn	**Sn**	**01 28 11.8**	**+2.5**
DAWY				Sg	**Sg**	**01 28 18.4**	**+0.4**
DAWY				Trac		01 28 22.2	
	comp=Z,22nm,0.3s						
DAWY	**Dawson**	**2.46**	**150**	P	**Pn**	**01 27 39.4**	**+0.2**
DAWY				S	**Sn**	**01 28 11.2**	**+1.9**
COLA	**College**	**2.72**	**243**	P	**Pn**	**01 27 42.6**	**-0.3**
COLA				S	**Sn**	**01 28 15.7**	**-0.1**
COLD	**Coldfoot**	**3.35**	**291**	P	**Pn**	**01 27 50.7**	**-0.8**
COLD				S	**Sn**	**01 28 31.7**	**+0.4**
MCK	**McKinley**	**3.81**	**232**	P	**Pn**	**01 27 56.5**	**-1.3**
MCK				S	**Sn**	**01 28 43.9**	**+1.2**
INK	**Inuvik**	**3.96**	**54**	Pn	**Pn**	**01 28 00.7**	**+0.8**
INK				Sn	**Sn**	**01 28 46.6**	**+0.2**
INK				Trac		01 29 16.1	
	comp=Z,12nm,0.6s						
TRF	**Thorofare Moun**	**4.44**	**235**	P	**Pn**	**01 28 06.4**	**-0.2**
HYT	**Haines Junctio**	**5.80**	**157**	Pn	**Pn**	**01 28 26.3**	**+1.2**
HYT				Sg	**Sg**	**01 30 03.2**	**-2.0**
HYT				Trac		01 30 11.7	
	comp=Z,4.0nm,0.6s						
WHY	**Whitehorse**	**6.46**	**146**	Pn	**Pn**	**01 28 35.3**	**+1.0**
WHY				Trac		01 30 47.8	
	comp=Z,3.0nm,0.9s						
YKW3	**Yellowknife Ar**	**12.40**	**94**	Pn	**Pn**	**01 29 53.6**	**-2.1**

*ATH **22** 01:27:46.4, 3963N×2176E, h4km, MD3.1/4*
*NEIC **22** 01:27:46.4, 3963N×2176E, h4km, MD3.1(ATH), After ATH.*
*ISCJB **22** 01:27:50.7±0.6, 3935N±004×2136E±004, h2km, Error ellipse: s-maj=5.8km s-min=3.7km az=62.6*
*CSEM **22** 01:27:50.9±0.3, 3931N×2133E, h2km, MD3.1, Error ellipse: s-maj=8.0km s-min=4.9km az=32.0*
*THE **22** 01:27:50.9, 3923N×2131E, h14km, ML2.7*

ISC 22 01:27:51.3±0.6, 3933N±004×2135E±004, h8km±11km, n8, σ0§99/14, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.51**	**311**	*e*PG	**Pg**	**01 27 59.8**	**-1.3**
JAN				*e*SG	**Sg**	**01 28 08.7**	**+1.0**
EVR	**Evrytania**	**0.55**	**139**	*e*PB	**Pg**	**01 28 01.0**	**-0.9**
EVR				*e*SG	**Sg**	**01 28 09.6**	**+0.6**
IGT	**Igoumenitsa**	**0.81**	**285**	*e*Pg	**Pg**	**01 28 05.9**	**-1.0**
IGT				*e*Sg	**Sg**	**01 28 18.9**	**+1.4**
AGG	**Agios Georgios**	**0.82**	**111**	*e*Pg	**Pg**	**01 28 06.5**	**-0.7**
AGG				*e*Sg	**Sg**	**01 28 19.1**	**+1.2**
LIT	**Litokhoron**	**1.17**	**48**	*e*Pg	**Pg**	**01 28 13.4**	**-0.5**
LIT				*e*Sg	**Sg**	**01 28 29.8**	**+0.7**
KEK	**Kerkira**	**1.26**	**288**	*e*PB	**Pn**	**01 28 15.8**	**+0.6**
FNA	**Florina**	**1.46**	**1**	*e*Pg	**Pg**	**01 28 17.3**	**-1.9**
FNA				*e*Sg	**Sg**	**01 28 38.8**	**+0.7**
GRG	**Griva**	**1.82**	**26**	*e*Pb	**Pn**	**01 28 22.8**	**-0.1**

*LDG **22** 01:38:07.5±0.3, 4279N×148W, h11km, Md2.4/3, Ml2.5/1, Error ellipse: s-maj=5.2km s-min=2.9km az=61.0*
*STR **22** 01:38:08.0±0.5, 4280N×145W, h2km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **22** 01:38:09.4±0.1, 4286N×143W, h8km, ML2.4/1, Error ellipse: s-maj=2.5km s-min=1.6km az=71.0*

MDD 22 01:38:09.2±0.2, 4282N×142W, h0km, mbLg1.5/12, 2C, Error ellipse: s-maj=1.7km s-min=1.2km az=138.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EARA	**Aranguren**	**0.13**	**247**	⇑Pg	Pg	01 38 11.4	-0.2
	9.3nm,0.1s,SNR=18						
EARA				Lg		01 38 14.8	
	280nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.16**	**323**	⇑Pg	Pg	01 38 11.9	-0.3
	10nm,0.1s,SNR=18						
IUSE				Lg		01 38 15.0	
	30nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.16**	**323**	Pg	Pg	01 38 11.9	-0.3
	10nm,0.1s,SNR=7.9						
IUSE				Lg		01 38 15.0	
	30nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.33**	**26**	*e*Pg	Pg	01 38 14.9	-0.5
SJPF				*e*Sg	Sg	01 38 19.9	+0.3
	41nm,0.3s						
SJPF	**Ste Jean**	**0.33**	**26**	*e*Pg	Pg	01 38 14.9	-0.5
SJPF				*e*Sg	Sg	01 38 19.9	+0.3
	21nm,0.3s						
ELIZ	**Elizondo**	**0.35**	**347**	Pg	Pg	01 38 15.8	-0.1
	5.4nm,0.2s,SNR=17						
ELIZ				Lg		01 38 21.1	
	4.8nm,0.1s,SNR=5.0						
LARF	**Larrau**	**0.39**	**56**	P	Pg	01 38 15.8	-0.8
LARF				S	Sg	01 38 21.8	+0.3
EALK	**Alkurruntz**	**0.40**	**351**	Pg	Pg	01 38 16.5	-0.4
	2.8nm,0.2s,SNR=12						
EALK				Lg		01 38 22.5	
	32nm,0.3s,SNR=5.0						
EALK	**Alkurruntz**	**0.40**	**351**	Pg	Pg	01 38 16.6	-0.3
	2.8nm,0.2s,SNR=12						
OSSF	**Osses**	**0.45**	**15**	Pg	Pg	01 38 16.8	-1.0
OSSF				Sg	Sg	01 38 23.7	+0.1
ORDF	**Ordiarp**	**0.53**	**42**	Pg	Pg	01 38 18.7	-0.6
ORDF				Sg	Sg	01 38 26.2	0.0
ATE	**Arette**	**0.59**	**63**	P	Pg	01 38 19.6	-0.9
ATE				S	Sg	01 38 28.4	+0.3
FDAF	**Les Forges d'A**	**0.63**	**90**	P	Pg	01 38 20.7	-0.5
FDAF				S	Sg	01 38 28.7	-0.7
ETSF	**Etsaut**	**0.64**	**83**	*e*Pg	Pg	01 38 20.2	-1.2
ETSF				*e*Sg	Sg	01 38 29.5	-0.2
	14nm,0.4s						
ETSF	**Etsaut**	**0.64**	**83**	*e*Pg	Pg	01 38 20.2	-1.2
ETSF				*e*Sg	Sg	01 38 29.5	-0.2
	6.8nm,0.4s						
VIEF	**Viey**	**1.06**	**86**	S	Sg	01 38 43.5	+0.1
LABF	**Labassere**	**1.12**	**78**	S	Sg	01 38 46.4	+1.2
EBIE	**Bielsa**	**1.16**	**96**	Pg	Pg	01 38 29.9	-1.5
	2.3nm,0.1s,SNR=23						
EBIE				Lg		01 38 48.2	
	3.9nm,0.2s,SNR=9.1						
EBIE	**Bielsa**	**1.16**	**96**	Pg	Pg	01 38 29.9	-1.5
	2.3nm,0.1s,SNR=23						
ESAC	**San Caprasio**	**1.31**	**147**	Pg	Pg	01 38 34.2	0.0
	15nm,0.2s,SNR=9.0						
ESAC				Lg		01 38 51.7	
	28nm,0.2s,SNR=11						
ESAC	**San Caprasio**	**1.31**	**147**	Pg	Pg	01 38 34.2	0.0
	15nm,0.2s,SNR=9.0						
EPF	**Esparros**	**1.31**	**80**	*e*Pg	Pg	01 38 33.3	-1.0
EPF				*e*Sg	Sg	01 38 51.9	+0.6
	13nm,0.4s						
EPF	**Esparros**	**1.31**	**80**	*e*Pg	Pg	01 38 33.3	-1.0
EPF				*e*Sg	Sg	01 38 51.9	+0.6
	6.4nm,0.4s						
ELAN	**Lanestosa**	**1.53**	**286**	Pg	Pg	01 38 38.3	-0.2
	0.9nm,0.3s,SNR=7.9						
ELAN				Lg		01 38 58.2	
	3.2nm,0.5s,SNR=7.9						
ELAN	**Lanestosa**	**1.53**	**286**	Pg	Pg	01 38 38.3	-0.2
	0.9nm,0.3s,SNR=7.9						
SALF	**Salau**	**1.92**	**91**	S	Sn	01 39 10.0	+2.0
ERTA	**Horta de San J**	**2.28**	**144**	Pg	Pg	01 38 51.6	-1.2
	0.1nm,0.2s,SNR=7.9						
ERTA				Lg		01 39 21.2	
	2.0nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**2.28**	**144**	Pg	Pg	01 38 51.6	-1.2
	0.1nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.37**	**127**	Pn	Pn	01 38 47.8	-1.4
	0.5nm,0.3s,SNR=7.9						
EPOB				Pg	Pg	01 38 53.2	-1.3
	0.5nm,0.2s,SNR=7.9						
EPOB				Lg		01 39 23.6	
	2.6nm,0.5s,SNR=7.9						
EPOB	**Poblet**	**2.37**	**127**	Pn	Pn	01 38 47.8	-1.5
	0.5nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.37**	**127**	Pg	Pg	01 38 53.2	-1.4
	0.5nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.56**	**164**	Lg		01 39 30.1	
	1.1nm,0.5s,SNR=7.9						
RJF	**Les Rejaudoux**	**3.26**	**39**	*e*Sn	Sn	01 39 34.4	-6.7
RJF				*e*Sg	Sg	01 39 51.3	-2.7

*IDC **22** 01:41:06.6±0.8, 3336N×5086E, h0km, mb4.1/13, mb1 4.2/17, mb1mx4.1/25, mbtmp4.1/17, ML3.8/4, Error ellipse: s-maj=18.8km s-min=17.0km az=133.0*
*THR **22** 01:41:07.5±0.5, 3348N×5093E, h16km±5km, ML4.3*
*ISCJB **22** 01:41:07.4±0.2, 3334N±003×5075E±003, h10km, mb4.2/40, Error ellipse: s-maj=3.7km s-min=3.1km az=29.4*
*MOS **22** 01:41:09.4±1.1, 3322N×5075E, h33km, mb4.6/26, Error ellipse: s-maj=9.1km s-min=4.9km az=125.4*
*CSEM **22** 01:41:09.4±0.1, 3337N×5073E, h30km, mb4.3/32, Error ellipse: s-maj=2.0km s-min=1.6km az=24.0*
*NEIC **22** 01:41:12.6±0.4, 3334N×5083E, h45km±4km, mb4.4/26, Error ellipse: s-maj=5.2km s-min=4.1km az=204.0*
*TEH **22** 01:41:12.3, 3332N×5084E, h18km, Mn4.4*

ISC 22 01:41:09.2±0.2, 3338N±002×5080E±003, h10km, n223, σ1§36/231, mb4.2/40, 9C-11D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKLH	**Kalahroud**	**0.66**	**95**	*e*Pg	**Pg**	**01 41 18.8**	**-3.1**
IPIR	**Pirpir**	**0.70**	**173**	*e*Pg	**Pg**	**01 41 21.6**	**-1.1**
IPIR	**Pirpir**	**0.70**	**173**	Pg	**Pg**	**01 41 21.5**	**-1.2**
ASAO	**Ashtian**	**1.33**	**331**	*e*PG	**Pg**	**01 41 32.1**	**-2.6**
ASAO				AML	AML	01 41 55.0	
	comp=N,4μm,0.6s						
IZEF	**Zefreh**	**1.38**	**110**	*e*Pn	**Pn**	**01 41 31.7**	**-2.7**
IZEF	**Zefreh**	**1.38**	**110**	Pn	**Pn**	**01 41 31.6**	**-2.8**
NASN	**Na'in**	**1.79**	**108**	*e*PG	**Pn**	**01 41 39.2**	**-0.9**
NASN				*e*SG	**Sn**	**01 42 02.1**	**-0.7**
NASN				AML	AML	01 42 06.4	
	comp=N,3μm,0.5s						
NASN				AML	AML	01 42 07.7	
	comp=E,3μm,0.6s						
NASN	**Na'in**	**1.79**	**108**	*e*Pg	**Pn**	**01 41 39.2**	**-0.9**
	SNR=91						
NASN				*e*Sg	**Sn**	**01 42 02.1**	**-0.7**
	SNR=91						
SHGR	**Shooshtar-Gavs**	**2.11**	**233**	*e*PG	**Pg**	**01 41 48.3**	**-1.3**
SHGR				AML	AML	01 42 25.8	
	comp=E,2μm,0.7s						
SHGR				AML	AML	01 42 26.1	
	comp=N,2μm,0.7s						
IRAZ	**Razeghan**	**2.14**	**341**	*e*Pn	**Pg**	**01 41 55.0**	**+4.8**
IMHD	**Mahdasht**	**2.30**	**357**	*e*Pn	**Pn**	**01 41 47.8**	**+0.7**
IMHD	**Mahdasht**	**2.30**	**357**	Pn	**Pn**	**01 41 47.7**	**+0.6**
TEH	**Tehran**	**2.40**	**11**	*e*Pn	**Pn**	**01 41 48.6**	**+0.1**
TEH	**Tehran**	**2.40**	**11**	Pn	**Pn**	**01 41 48.5**	**0.0**
IDMV	**Damavand**	**2.42**	**25**	*e*Pn	**Pn**	**01 41 49.1**	**+0.4**
DAMV	**Damavand**	**2.44**	**23**	*e*Pg	**Pn**	**01 41 49.7**	**+0.6**
DAMV				AML	AML	01 42 23.4	
	comp=N,1μm,0.4s						
DAMV				AML	AML	01 42 23.6	
	comp=E,2μm,0.4s						
THKV	**Tehran--Karaj**	**2.53**	**2**	*e*Pg	**Pn**	**01 41 51.6**	**+1.4**
THKV				AML	AML	01 42 37.4	
	comp=E,1μm,0.6s						
THKV				AML	AML	01 42 39.7	
	comp=N,1μm,0.7s						
CHTH	**Charan**	**2.53**	**6**	*e*PG	**Pn**	**01 41 51.6**	**+1.2**
IAFJ	**Afjeh**	**2.58**	**17**	*e*Pn	**Pn**	**01 41 52.2**	**+1.2**
IAFJ	**Afjeh**	**2.58**	**17**	Pn	**Pn**	**01 41 52.1**	**+1.1**
ILAS	**Lasjerd**	**2.68**	**41**	*e*Pn	**Pn**	**01 41 52.6**	**+0.2**
ILAS	**Lasjerd**	**2.68**	**41**	Pn	**Pn**	**01 41 52.5**	**+0.1**
IFIR	**Firoozkooh**	**2.77**	**35**	*e*Pn	**Pn**	**01 41 54.7**	**+1.0**
IGZV	**Gazvin**	**3.03**	**351**	*e*Pn	**Pn**	**01 41 58.9**	**+1.7**
IGZV	**Gazvin**	**3.03**	**351**	Pn	**Pn**	**01 41 58.8**	**+1.6**
IPRN	**Paran-Amol**	**3.09**	**22**	*e*Pn	**Pn**	**01 42 00.4**	**+2.4**
IPRN	**Paran-Amol**	**3.09**	**22**	Pn	**Pn**	**01 42 00.3**	**+2.3**
ISHM	**Shahmirzad**	**3.18**	**40**	*e*Pn	**Pn**	**01 41 59.6**	**+0.4**
ISHM	**Shahmirzad**	**3.18**	**40**	Pn	**Pn**	**01 41 59.5**	**+0.3**
ICHK	**Chekchek**	**3.25**	**109**	*e*Pn	**Pn**	**01 42 01.2**	**+1.1**
IANJ	**Anjiloo**	**3.31**	**50**	*e*Pn	**Pn**	**01 42 03.0**	**+1.9**
IVIS	**Veys**	**3.47**	**290**	*e*Pn	**Pn**	**01 42 05.1**	**+1.9**
IVIS	**Veys**	**3.47**	**290**	Pn	**Pn**	**01 42 05.0**	**+1.8**
ILIN	**Laeen**	**3.53**	**297**	*e*Pn	**Pn**	**01 42 07.2**	**+3.2**
ILIN	**Laeen**	**3.53**	**297**	Pn	**Pn**	**01 42 07.1**	**+3.1**
IGHG	**Ghaleghazi**	**3.64**	**286**	*e*Pn	**Pn**	**01 42 08.0**	**+2.4**
IGHG	**Ghaleghazi**	**3.64**	**286**	Pn	**Pn**	**01 42 07.9**	**+2.3**
IGLO	**Galoogah**	**3.67**	**36**	*e*Pn	**Pn**	**01 42 11.8**	**+5.9**
IKIA	**Kiasar**	**3.69**	**39**	*e*Pn	**Pn**	**01 42 07.0**	**+0.8**
IMEH	**Mehriz**	**3.79**	**121**	*e*Pn	**Pn**	**01 42 09.4**	**+1.8**
IMEH	**Mehriz**	**3.79**	**121**	Pn	**Pn**	**01 42 09.3**	**+1.7**
SHI	**Shiraz**	**4.01**	**158**	*e*Pn	**Pn**	**01 42 13.7**	**+3.1**
SHI	**Shiraz**	**4.01**	**158**	Pn	**Pn**	**01 42 13.6**	**+3.0**
IBAF	**Bafgh**	**4.41**	**113**	*e*Pn	**Pn**	**01 42 17.6**	**+1.4**
ISRV	**Sarvestan**	**4.45**	**153**	*e*Pn	**Pn**	**01 42 17.2**	**+0.5**
IMOK	**Mook**	**4.62**	**159**	*e*Pn	**Pn**	**01 42 19.4**	**+0.3**
IMOK	**Mook**	**4.62**	**159**	Pn	**Pn**	**01 42 19.3**	**+0.2**
MIB	**Mutribah**	**4.63**	**221**	*e*P	**Pn**	**01 42 21.3**	**+2.1**
MIB				AML	AML	01 43 16.9

MALT eSn Sn 01 46 00.4 +6.4
MALT Malatya 11.18 300 eP Pn 01 43 49.6 +0.6
comp=Z,2.0nm,0.4s
ASF Jabal al Asfar 11.76 268 Pn Pn 01 43 55.4 -1.6
comp=Z,1.6nm,0.3s,baz=302,slow=5.0,SNR=15
ASF Sn Sn 01 45 58.5 -10
comp=Z,0.4nm,0.3s,baz=62,slow=5.0,SNR=2.2
ASF Jabal al Asfar 11.76 268 P Pn 01 43 55.4 -1.6
ASF 01 45 58.5
ASF pmax pmax
comp=Z,2.0nm,0.3s
WSAR Wadi Sarin 12.23 144 Pn Pn 01 44 02.2 -1.2
comp=Z,2.3nm,0.3s,baz=322,slow=12,SNR=35
WSAR Sn Sn 01 46 11.8 -8.0
comp=Z,1.4nm,0.3s,baz=114,slow=19,SNR=5.8
WSAR Wadi Sarin 12.23 144 Pn Pn 01 44 02.2 -1.2
WSAR Sn Sn 01 46 11.8 -8.0
KIV Kislovodsk 12.30 331⇑ *i*P Pn 01 44 09.9 +5.5
KIV pmax pmax
comp=Z,18nm,1.6s
MMAI Mount Meron Ar 12.90 273 Pn Pn 01 44 15.0 +2.4
comp=Z,1.5nm,0.3s,baz=82,slow=14,SNR=3.4
EIL Elat 14.01 259 *e*Pn Pn 01 44 27.1 -0.7
comp=Z,196nm,0.7s
EIL *e*Sn Sn 01 47 04.0 +0.7
BR131 Keskin Array S 15.16 300 *e*Pn Pn 01 44 46.6 +3.2
comp=Z,2.8nm,0.8s
BRTR Keskin Array B 15.16 300 Pn Pn 01 44 44.2 +0.9
comp=Z,0.1nm,0.3s,baz=327,slow=8.8,SNR=7.7
ANN Anapa 15.39 322 *e*P Pn 01 44 50.8 +4.4
ANN *e*S Sn 01 47 45.1 +8.2
ANN pmax pmax
comp=Z,79nm,1.5s
ISP Isparta 17.08 291 *d i*P Pn 01 45 13.6 +5.6
ISP Isparta 17.08 291 *e*P Pn 01 45 13.9 +5.8
comp=Z,18nm,0.8s
AKTK Aktyubinsk 17.85 15 P Pn 01 45 16.6 -1.0
AKTO Aktyubinsk 17.85 15 P Pn 01 45 16.6 -1.0
comp=Z,0.3nm,0.3s,baz=206,slow=11,SNR=13
ANR Andizhan 18.69 61 *e*P Pn 01 45 25.0 -2.9
VRSR Storozhevoye 19.74 338 *e*P Pn 01 45 39.0 -1.5
VRSR pmax pmax
comp=Z,5.0nm,0.8s
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,5.0nm,0.9s
VRSR Storozhevoye 19.74 338 *e*P Pn 01 45 39.0 -1.5
comp=E,10.0nm,1.0s
TIRR Tirgusor 20.56 309⇓ *i*P P 01 45 57.2 +9.2
AAK Ala-Archa 20.78 57⇑ *i*P P 01 45 50.8 +0.5
AAK pmax pmax
comp=Z,4.0nm,1.2s
AAK Ala-Archa 20.78 57 *e*P P 01 45 50.6 +0.3
comp=Z,5.9nm,0.9s
AAK Ala-Archa 20.78 57 *i* P P 01 45 50.8 +0.5
comp=Z,4.0nm,1.2s
HARR Harsova 20.97 309⇑ *i*P P 01 45 53.0 +0.6
CFR Carcaliu 21.05 311⇓ *i*P P 01 45 56.3 +3.0
VRI Vrincioaia 22.24 311⇑ *i*P P 01 46 10.1 +4.0
PLOR Plostina 22.29 311⇓ *i*P P 01 46 07.4 +0.9
MLR Muntele Rosu 22.59 310 P P 01 46 12.4 +2.7
comp=Z,11nm,0.8s,mb4.3,baz=36,slow=2.8,SNR=11
MLR Muntele Rosu 22.59 310⇑ *i*P P 01 46 12.8 +3.1
MLR Muntele Rosu 22.59 310 ⇑P P 01 46 12.8 +3.1
SNX Sinaia 22.81 309⇓ *i*P P 01 46 16.1 +4.0
VOIR 23.14 309⇑ *i*P P 01 46 18.2 +2.6
AKASG Malin Array Be 23.44 324 P P 01 46 20.1 +1.3
comp=Z,1.4nm,0.6s,mb3.6,baz=129,slow=8.9,SNR=8.9
AKASG Malin Array Be 23.44 324 P P 01 46 20.1 +1.3
AKASG pmax pmax
comp=Z,1.0nm,0.6s
ZRNK Zerenda 23.52 28 *e*P P 01 46 19.3 -0.2
ZRNK pmax pmax
comp=Z,5.0nm,0.9s,mb3.9
ZRNK Zerenda 23.52 28 *e*P P 01 46 19.3 -0.3
comp=Z,5.0nm,0.9s,mb3.9
ARU Arti 23.66 11⇓ *i*P P 01 46 22.0 +1.1
ARU *e* 01 46 48.1
ARU *e*S S 01 50 37.1 +1.7
ARU *e*SS 01 51 16.6
ARU pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
ARU Arti 23.66 11 *e*P P 01 46 22.3 +1.4
comp=Z,9.3nm,0.8s,mb4.3
OBN Obninsk 23.91 340 *de*P P 01 46 27.8 +4.7
OBN *e* 01 46 56.8
OBN *e*S S 01 50 43.4 +4.1
OBN pmax pmax
comp=Z,35nm,2.0s,mb4.4
OBN Obninsk 23.91 340 *e*P P 01 46 28.0 +4.9
comp=Z,17nm,1.1s,mb4.4
BURAR Bucovina Array 23.95 314⇓ *i*P P 01 46 24.0 +0.4
BURAR Bucovina Array 23.95 314 ⇓P P 01 46 23.9 +0.4
BVAR Borovoye Array 24.13 30 P P 01 46 24.4 -0.8
comp=Z,1.7nm,0.6s,mb3.7,baz=227,slow=10,SNR=13
BVAR Borovoye Array 24.13 30 P P 01 46 24.4 -0.8
BVAR pmax pmax
comp=Z,2.0nm,0.6s
SVE Sverdlovsk 24.40 13 *e*P P 01 46 32.7 +5.0
CHKZ Chkalovo 24.70 29 *e*P P 01 46 30.5 +0.1
CHKZ pmax pmax
comp=Z,2.0nm,0.8s,mb3.7
CHKZ Chkalovo 24.70 29 *e*P P 01 46 30.5 +0.1
comp=Z,1.9nm,0.8s,mb3.7
CHKZ Chkalovo 24.70 29 *e*P P 01 46 30.5 +0.1
comp=Z,2.0nm,0.8s,mb3.7
DRGR 25.16 310⇓ *i*P P 01 46 36.2 +1.6
DRGR 25.16 310 ⇓P P 01 46 36.2 +1.6
BZS Buzias 25.47 307⇑ *i*P P 01 46 36.2 -1.2
BZS Buzias 25.47 307 ⇑P P 01 46 36.2 -1.2
KWP Kalwaria 26.36 316 *e*P P 01 46 46.3 +0.9
KWP pmax pmax
comp=Z,22nm,1.2s,mb4.6
KWP Kalwaria 26.36 316 *e*P P 01 46 46.3 +0.8
comp=Z,22nm,1.2s,mb4.6
KWP Kalwaria 26.36 316 *e*P P 01 46 46.3 +0.9
comp=Z,22nm,1.2s,mb4.6
KURK Kurchatov 26.73 41 *i*P P 01 46 49.6 +0.8
MKAR Makanchi Array 27.36 51 P P 01 46 53.5 -1.0
comp=Z,0.2nm,0.2s,mb3.2,baz=213,slow=10,SNR=3.2
KLMR Klimovskoe 28.45 348 *e*P P 01 47 03.2 -1.0
KLMR pmax pmax
comp=Z,10.0nm,1.4s,mb4.2
KLMR Klimovskoe 28.45 348 *e*P P 01 47 03.2 -1.0
comp=Z,10.0nm,1.4s,mb4.2
VRAC Vranov 29.89 312 P P 01 47 17.1 +0.1
comp=Z,2.2nm,0.5s,mb4.1,baz=126,slow=8.7,SNR=3.5
VRAC Vranov 29.89 312 P P 01 47 17.1 +0.1
VRAC pmax pmax
comp=Z,2.0nm,0.5s
DPC Dobruska-Polom 30.41 314 *e*P P 01 47 21.4 -0.2
TREC Trest 30.57 312 *e*P P 01 47 24.1 +1.1
UPC Upice 30.65 314 *e*P P 01 47 21.8 -1.9
PRU Pruhonice 31.37 313 *e*P P 01 47 26.6 -3.5
GERES GERESS Array B 31.57 310 P P 01 47 31.3 -0.5
comp=Z,0.8nm,0.6s,mb3.8,baz=111,slow=7.3,SNR=10.0
GERES GERESS Array B 31.57 310 P P 01 47 31.3 -0.5
GERES pmax pmax
comp=Z,1.0nm,0.6s
KHC Kasperske Hory 31.72 311 *e*P P 01 47 33.0 -0.1
KHC *ex* x 01 47 37.5
JOF Joensuu 32.01 343 *ep* P 01 47 34.6 -1.1
comp=Z,2.6nm,0.6s,mb4.2
JOF Joensuu 32.01 343 *e*P P 01 47 34.6 -1.1
JOF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
FINES FINESS Array B 32.28 338 P P 01 47 38.0 0.0
comp=Z,0.5nm,0.4s,mb3.7,baz=140,slow=11,SNR=7.7
FINES FINESS Array B 32.28 338 P P 01 47 38.0 0.0
FINES pmax pmax
comp=Z,1.0nm,0.4s
BSD Bornholm Skovb 33.10 322 *i* P P 01 47 44.0 -1.2
comp=Z,14nm,0.9s,mb4.9
BSD Bornholm Skovb 33.10 322 *i* P P 01 47 44.0 -1.2
BSD pmax pmax
comp=Z,14nm,0.9s,mb4.9
PGF Pioggiola 33.91 298 *e*P P 01 47 51.4 -0.9
comp=Z,53nm,1.5s,mb5.0
PGF Pioggiola 33.91 298 *e*P P 01 47 51.4 -0.9
PGF pmax pmax
comp=Z,27nm,1.5s,mb5.0
PGF Pioggiola 33.91 298 *e*P P 01 47 51.4 -0.9
comp=Z,27nm,1.5s,mb5.0
SBF Sospel 35.10 300 *e*P P 01 48 01.3 -1.3
comp=Z,31nm,0.9s,mb4.9
SBF Sospel 35.10 300 *e*P P 01 48 01.3 -1.3
SBF pmax pmax
comp=Z,16nm,0.9s,mb5.0
SBF Sospel 35.10 300 *e*P P 01 48 01.3 -1.3
comp=Z,16nm,0.9s,mb4.9
MBDF Montbardon 35.62 302 *e*P P 01 48 06.1 -0.9
comp=Z,15nm,0.7s,mb4.7
MBDF Montbardon 35.62 302 *e*P P 01 48 06.1 -0.9
MBDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
MBDF Montbardon 35.62 302 *e*P P 01 48 06.1 -0.9
comp=Z,7.3nm,0.7s,mb4.7
CDF Champ du Feu 35.65 308 *e*P P 01 48 06.7 -0.6
FRF La Foret Royal 35.66 300 *e*P P 01 48 06.1 -1.3
LPG La Plagne 35.68 303 *e*P P 01 48 06.8 -0.8
comp=Z,7.3nm,0.6s,mb4.5
LPG La Plagne 35.68 303 *e*P P 01 48 06.8 -0.8
LPG pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LPG La Plagne 35.68 303 *e*P P 01 48 06.8 -0.8
comp=Z,3.7nm,0.6s,mb4.5
LPL La Plagne 35.69 303 *e*P P 01 48 06.5 -1.2
comp=Z,6.7nm,0.8s,mb4.3
LPL La Plagne 35.69 303 *e*P P 01 48 06.5 -1.2
LPL pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LPL La Plagne 35.69 303 *e*P P 01 48 06.5 -1.2
comp=Z,3.3nm,0.8s,mb4.3
BNI Bardonecchia 35.70 302 *e*P P 01 48 06.6 -1.1
BNI pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
BNI Bardonecchia 35.70 302 *e*P P 01 48 06.5 -1.2
comp=Z,9.7nm,0.7s,mb4.8
BNI Bardonecchia 35.70 302 *e*P P 01 48 06.6 -1.1
comp=Z,10.0nm,0.7s,mb4.8
HAU Haudompre 36.20 307 *e*P P 01 48 11.1 -1.0
CABF La Chapelle 36.23 305 *e*P P 01 48 11.4 -0.9
comp=Z,16nm,0.7s,mb4.8
CABF La Chapelle 36.23 305 *e*P P 01 48 11.4 -0.9
CABF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
CABF La Chapelle 36.23 305 *e*P P 01 48 11.4 -0.9
comp=Z,8.0nm,0.7s,mb4.8
ORIF Oris-en-Rattie 36.26 302 *e*P P 01 48 11.4 -1.1
VIVF Saint-Julien-l 37.11 302 *e*P P 01 48 18.5 -1.3
MEZF Maizieres J'vi 37.13 308 *e*P P 01 48 19.1 -0.8
comp=Z,5.3nm,0.6s,mb4.2
MEZF Maizieres J'vi 37.13 308 *e*P P 01 48 19.1 -0.8
comp=Z,7.7nm,0.6s,mb4.2
NB2 NORSAR Subarra 37.60 329 P P 01 48 22.1 -1.9
comp=Z,1.0nm,0.6s,mb3.7,baz=118,slow=8.6
NOA NORSAR Array B 37.60 329 P P 01 48 21.7 -2.2
comp=Z,1.1nm,0.6s,mb3.8,baz=121,slow=8.3,SNR=9.7
NOA NORSAR Array B 37.60 329 P P 01 48 21.7 -2.3
NOA pmax pmax
comp=Z,1.0nm,0.6s
LASF Ste Croix 37.69 301 *e*P P 01 48 23.2 -1.5
SMF Signal de Mont 37.78 305 *e*P P 01 48 24.1 -1.3
comp=Z,13nm,0.8s,mb4.4
SMF Signal de Mont 37.78 305 *e*P P 01 48 24.1 -1.3
SMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
SMF Signal de Mont 37.78 305 *e*P P 01 48 24.1 -1.3
comp=Z,6.7nm,0.8s,mb4.4
LOR Lormes 37.81 306 *e*P P 01 48 24.7 -1.0
BAIF Baives 37.88 310 *e*P P 01 48 25.5 -0.8
comp=Z,5.1nm,0.8s,mb4.0
BAIF Baives 37.88 310 *e*P P 01 48 25.5 -0.8
BAIF pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
BAIF Baives 37.88 310 *e*P P 01 48 25.5 -0.8
comp=Z,2.5nm,0.8s,mb4.0
SSF Saint Saulge 38.03 305 *e*P P 01 48 26.4 -1.2
comp=Z,4.2nm,0.7s,mb4.0
SSF Saint Saulge 38.03 305 *e*P P 01 48 26.4 -1.2
SSF pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
SSF Saint Saulge 38.03 305 *e*P P 01 48 26.4 -1.2
comp=Z,2.1nm,0.7s,mb4.0
AVF Avril sur Loir 38.12 305 *e*P P 01 48 27.3 -1.0
comp=Z,7.4nm,0.9s,mb4.1
AVF Avril sur Loir 38.12 305 *e*P P 01 48 27.3 -1.0
AVF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
AVF Avril sur Loir 38.12 305 *e*P P 01 48 27.3 -1.0
comp=Z,3.7nm,0.9s,mb4.1
ARCES ARCESS Array B 38.86 346 P P 01 48 32.4 -2.1
comp=Z,2.3nm,0.9s,mb3.9,baz=23,slow=6.6,SNR=2.5
ARCES ARCESS Array B 38.86 346 P P 01 48 32.4 -2.1
ARCES pmax pmax
comp=Z,2.0nm,0.9s
TCF Toulx Ste Croi 38.89 304 *e*P P 01 48 33.5 -1.3
EPF Esparros 40.27 299 *e*P P 01 48 44.8 -1.5
MFF Saint Martin d 40.52 305 *e*P P 01 48 46.9 -1.5
LDF La Druitiere 40.56 308 *e*P P 01 48 47.9 -0.8
FLN La Foliniere 40.80 308 *e*P P 01 48 49.8 -0.9
GRR Gorron 41.04 307 *e*P P 01 48 51.8 -0.9
comp=Z,11nm,0.9s,mb4.2
GRR Gorron 41.04 307 *e*P P 01 48 51.8 -0.9
GRR pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
GRR Gorron 41.04 307 *e*P P 01 48 51.8 -0.9
comp=Z,5.6nm,0.9s,mb4.2
SGMF Saint Gilles 42.17 307 *e*P P 01 49 00.5 -1.4
comp=Z,4.9nm,0.5s,mb4.1
SGMF Saint Gilles 42.17 307 *e*P P 01 49 00.5 -1.4
SGMF pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
SGMF Saint Gilles 42.17 307 *e*P P 01 49 00.5 -1.4
comp=Z,2.5nm,0.5s,mb4.1
QUIF Quistinic 42.58 306 *e*P P 01 49 04.0 -1.3
comp=Z,7.6nm,0.6s,mb4.3
QUIF Quistinic 42.58 306 *e*P P 01 49 04.0 -1.3
QUIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
QUIF Quistinic 42.58 306 *e*P P 01 49 04.0 -1.3
comp=Z,3.8nm,0.6s,mb4.3
ESDC Sonseca Array 43.88 295 P P 01 49 16.3 +0.6
comp=Z,1.0nm,0.7s,mb3.7,baz=72,slow=8.1,SNR=6.3
ULN Ulaanbaatar 44.12 54 *e*P P 01 49 17.6 -0.1
CHTO Chiang Mai 45.22 96 *e*P P 01 49 26.2 -0.3
CHTO *e**PP pP 01 49 31.7 +2.1
CHTO pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
CHTO Chiang Mai 45.22 96 *e*P P 01 49 26.2 -0.3
comp=Z,5.7nm,0.6s,mb4.6
CHTO *ep*P pP 01 49 31.7 +2.1
CHTO Chiang Mai 45.22 96 *e*P P 01 49 26.2 -0.3
comp=Z,6.0nm,0.6s,mb4.6
TOA0 Torodi Ar. Sit 48.90 258 *e*P P 01 49 55.1 -0.1
TORD Torodi Ar. Bea 48.90 258 P P 01 49 54.1 -1.1
comp=Z,5.8nm,0.8s,mb4.6,baz=50,slow=8.0,SNR=37
DBIC Dimbokro 57.85 256 P P 01 51 00.6 -0.4
comp=Z,2.0nm,0.5s,mb4.4,baz=45,slow=12,SNR=9.3
DBIC Dimbokro 57.85 256 P P 01 51 00.6 -0.4
DBIC pmax pmax
comp=Z,2.0nm,0.5s
DBIC Dimbokro 57.85 256 P P 01 51 00.6 -0.4
LIC Lamto 58.25 255 *e*P P 01 51 02.8 -1.0
comp=Z,12nm,0.8s,mb4.7
LIC Lamto 58.25 255 *e*P P 01 51 02.8 -1.0
comp=Z,5.9nm,0.8s,mb4.7
BOSA Boshof 66.24 204 P P 01 51 57.0 -0.3
comp=Z,2.4nm,0.9s,mb4.2,baz=355,slow=6.3,SNR=6.8
BOSA Boshof 66.24 204 P P 01 51 57.1 -0.3
BOSA pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
YKA Yellowknife Ar 83.74 353 P P 01 53 37.1 -1.3
comp=Z,2.1nm,0.8s,mb4.3,baz=7.3,slow=5.0,SNR=7.1
YKA Yellowknife Ar 83.74 353 P P 01 53 37.1 -1.3
YKA pmax pmax
comp=Z,2.0nm,0.9s
FITZ Fitzroy Crossi 87.77 113 P P 01 53 56.9 -1.5
comp=Z,2.4nm,0.8s,mb4.5,baz=69,slow=2.4,SNR=4.8

*ISCJB **22** 01:45:43.0±3.3,238S±02×1775W±0.1,h105km±32km, mb4.0/9, Error ellipse: s-maj=28.9km s-min=15.0km az=131.4*
*IDC **22** 01:45:45.5±6.2,2361S×17746W,h117km±55km,mb3.7/7, mb1 3.9/8,mb1mx3.9/13,mbtmp4.1/8,MS3.8/7,Ms1 3.8/7, ms1mx3.5/20, Error ellipse: s-maj=26.1km s-min=18.9km az=153.0*
*NEIC **22** 01:45:46.4±3.1,2359S×17744W,h125km±30km,mb4.1/2,*

Error ellipse: s-maj=25.8km s-min=13.9km az=169.0
ISC 22 01:45:44.9±3.3,238S±02×1774W±0.1,h108km±32km,n36, σ0885/12,mb4.0/9,1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**15.15**	**197**	P	**Pn**	**01 49 11.9**	**-1.2**
	0.5nm,0.3s,baz=353,slow=8.1,SNR=5.1						
RAR	**Rarotonga**	**16.50**	**84**	P	**Pn**	**01 49 30.6**	**+0.8**
	3.7nm,0.3s,baz=238,slow=5.5,SNR=5.3						
HNR	**Honiara**	**25.92**	**300**	LR	LR	01 59 51.3	
	comp=Z,145nm,18.4s,baz=179,slow=33						
PPT	**Papeete**	**26.74**	**82**	LR	LR	02 01 16.3	
	comp=Z,190nm,18.0s,baz=271,slow=35						
CTA	**Charters Tower**	**33.85**	**269**	LR	LR	02 02 50.2	
	comp=Z,160nm,20.8s,baz=54,slow=30						
CTAO	**Charters Tower**	**33.85**	**269**	*e*P	**P**	**01 52 18.1**	**+1.2**
	2.3nm,0.5s,mb4.3						
PMG	**Port Moresby**	**36.72**	**287**	LR	LR	02 04 45.4	
	comp=Z,171nm,20.7s,baz=192,slow=31						
STKA	**Stephens Creek**	**36.96**	**248**	P	**P**	**01 52 44.4**	**+0.9**
	1.2nm,0.6s,mb4.0,baz=99,slow=23,SNR=4.3						
STKA				LR	LR	02 06 36.8	
	comp=Z,170nm,19.8s,baz=164,slow=34						
STKA	**Stephens Creek**	**36.96**	**248**	P	**P**	**01 52 44.4**	**+0.9**
STKA				LR	LR	02 06 36.8	
ASAR	**Alice Springs**	**44.39**	**260**	P	**P**	**01 53 45.0**	**+0.5**
	2.5nm,0.9s,mb3.9,baz=92,slow=8.1,SNR=16						
ASAR				LR	LR	02 11 44.0	
	comp=Z,175nm,19.1s,baz=149,slow=35						
WRAB	**Tennant Creek**	**44.77**	**265**	*e*P	**P**	**01 53 47.3**	**-0.4**
	2.3nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**44.78**	**265**	P	**P**	**01 53 46.4**	**-1.3**
	2.8nm,0.8s,mb4.1,baz=103,slow=8.2,SNR=21						
WRA				LR	LR	02 11 00.9	
	comp=Z,124nm,20.8s,baz=200,slow=34						
VNDA	**Vanda**	**54.68**	**185**	P	**P**	**01 55 03.6**	**+0.9**
	0.6nm,0.5s,mb3.9,baz=352,slow=6.8,SNR=7.7						
MAW	**Mawson**	**78.66**	**200**	P	**P**	**01 57 35.1**	**+0.1**
	3.4nm,0.7s,mb4.3,baz=120,slow=8.9,SNR=12						
NVAR	**Mina Array Bea**	**83.05**	**43**	P	**P**	**01 57 57.6**	**-0.7**
	0.2nm,0.4s,mb3.3,baz=227,slow=9.3,SNR=3.6						
PDAR	**Pinedale Array**	**90.99**	**43**	P	**P**	**01 58 36.0**	**-0.8**
	0.7nm,0.8s,mb3.9,baz=253,slow=1.5,SNR=6.8						
BVAR	**Borovoye Array**	**121.93**	**319**	PKP	PKPdf	02 04 25.8	-0.6
	0.4nm,0.5s,baz=132,slow=0.2,SNR=4.3						
NOA	**NORSAR Array B**	**142.31**	**353**	PKhKP		02 04 58.6	
	0.6nm,0.7s,baz=15,slow=5.0,SNR=3.5						
AKASG	**Malin Array Be**	**146.14**	**329**	PKPbc	PKPbc	02 05 10.7	-1.7
	1.4nm,0.5s,baz=42,slow=3.7,SNR=8.3						
EKA	**Eskdalemuir Ar**	**148.22**	**6**	PKPbc	PKPbc	02 05 16.5	-1.7
	1.7nm,0.7s,baz=336,slow=3.0,SNR=9.5						
KWP	**Kalwaria**	**149.79**	**334**	*e*PKPbc	PKPbc	02 05 22.1	-0.1
NIE	**Niedzica**	**150.89**	**336**	*e*PX		02 05 25.5	
OKC	**Ostrava-Krasne**	**151.31**	**339**	*e*PKPab	PKPab	02 05 30.8	-3.3
UPC	**Upice**	**151.37**	**342**	*e*PKPbc	PKPbc	02 05 25.9	0.0
UPC				*e*PKPab	PKPab	02 05 31.6	-2.8
CLZ	**Clausthal**	**151.38**	**350**	*e*PKP	PKPbc	02 05 26.4	+0.5
CLL	**Collm**	**151.39**	**346**⇓	*i* PKPbc	PKPbc	02 05 25.9	0.0
	comp=Z,9.0nm,0.7s						
CLL				*i* PKPab	PKPab	02 05 30.5	-4.0
	comp=Z,19nm,1.2s						
DPC	**Dobruska-Polom**	**151.42**	**341**	*e*PKPbc	PKPbc	02 05 26.4	+0.4
DPC				*e*PKPab	PKPab	02 05 31.5	-3.1
BRG	**Berggiesshubel**	**151.58**	**345**	*e*P	PKPbc	02 05 26.6	+0.2
	comp=Z,3.4nm,0.6s						
BRG				*e*		02 05 32.1	
	comp=Z,8.2nm,1.3s						
PRU	**Pruhonice**	**152.25**	**343**	*e*PKPbc	PKPbc	02 05 26.5	-1.4
MOX	**Moxa**	**152.30**	**348**	*e*P	PKPab	02 05 34.0	-4.3
TREC	**Trest**	**152.61**	**341**	*e*PKPbc	PKPbc	02 05 27.4	-1.3
KHC	**Kasperske Hory**	**153.28**	**344**	*e*PKPbc	PKPbc	02 05 28.1	-2.1
GRA1	**Grafenberg Arr**	**153.29**	**347**	*e*PKP	PKPbc	02 05 31.0	+0.8
GRF	**Grafenberg Arr**	**153.29**	**347**	*e*PKP	PKPbc	02 05 31.0	+0.8
GERES	**GERESS Array B**	**153.51**	**343**	PKPbc	PKPbc	02 05 29.1	-1.5
	comp=Z,3.0nm,0.5s,baz=17,slow=1.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**169.37**	**175**	PKPab	PKPab	02 06 52.2	-0.4
	comp=Z,0.6nm,0.8s,baz=174,slow=5.5,SNR=5.6						

*IDC **22** 01:51:27.5±0.7,050N×9851E,h0km,mb4.3/17, mb1 4.3/17,mb1mx4.2/23,mbtmp4.3/17, Error ellipse: s-maj=34.2km s-min=14.4km az=51.0*
*BJI **22** 01:51:29.6,006S×9866E,h53km,mB5.0,mb5.0*
*NEIC **22** 01:51:31.6±0.4,036N×9844E,h30km,mb4.7/8, Error ellipse: s-maj=12.3km s-min=8.0km az=63.0*
*ISCJB **22** 01:51:33.8±2.4,05N±0.1×987E±0.1,h56km±18km, mb4.4/29, Error ellipse: s-maj=24.9km s-min=11.8km az=97.4*
ISC 22 01:51:35.0±2.3,05N±01×986E±01,h52km±18km,n54, σ0991/50,mb4.4/29,4C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.32**	**8**	Pn	**Pn**	**01 52 09.4**	**-1.3**
	116nm,0.3s,baz=305,slow=2.6,SNR=122						
KULM	**Kulim**	**5.18**	**23**	*e*Pn	**Pn**	**01 52 50.6**	**+0.7**
XAN	**Xi'an**	**34.74**	**15**	P	**P**	**01 58 19.3**	**-0.8**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.7						
GTA	**Gaotai**	**38.75**	**1**	*e*P	**P**	**01 58 54.6**	**+0.4**
GTA				AP	pP	01 59 03.8	-4.0
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**40.46**	**122**	P	**P**	**01 59 08.2**	**-0.1**
	comp=Z,0.8nm,0.7s,mb3.6,baz=305,slow=8.9,SNR=8.5						
WRA				PcP	PcP	02 01 11.4	+1.0
	comp=Z,0.8nm,0.6s,baz=310,slow=2.5,SNR=136						
WB2	**Warramunga Arr**	**40.47**	**122**	*e*P	**P**	**01 59 08.4**	**-0.1**
ASAR	**Alice Springs**	**41.84**	**127**	P	**P**	**01 59 19.6**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.5,baz=303,slow=8.1,SNR=12						
ASAR				PcP	PcP	02 01 16.4	+1.5
	comp=Z,0.9nm,0.7s,baz=317,slow=3.1,SNR=7.1						
BJT	**Baijiatuau**	**42.47**	**20**	*e*P	**P**	**01 59 26.1**	**+1.2**
	comp=Z,14nm,0.5s,mb4.8						
BJI	**Beijing**	**42.49**	**20**	*e*P	**P**	**01 59 26.1**	**+1.1**
BJI				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
ULHL	**Ulahol**	**46.19**	**337**	P	**P**	**01 59 56.1**	**+1.5**
	SNR=6.4						
UCH	**Uchtor**	**46.87**	**335**	P	**P**	**02 00 01.0**	**+1.1**
	SNR=10.0						
TKM2	**Tokmak 2**	**47.02**	**337**	P	**P**	**02 00 01.9**	**+0.9**
	SNR=11						
KBK	**Karagaybulak**	**47.05**	**336**	P	**P**	**02 00 02.6**	**+1.3**
	SNR=5.1						
AML	**Almayashu**	**47.14**	**335**	P	**P**	**02 00 03.3**	**+1.3**
	SNR=6.0						
EKS2	**Erkin-Say**	**47.54**	**335**	P	**P**	**02 00 06.4**	**+1.3**
	SNR=5.9						
SONM	**Songino Array**	**47.64**	**7**	P	**P**	**02 00 06.8**	**+1.0**
	comp=Z,2.9nm,0.4s,mb4.7,baz=189,slow=9.9,SNR=23						
SONM				PcP	PcP	02 01 35.1	+0.3
	comp=Z,2.1nm,0.7s,baz=184,slow=5.1,SNR=5.3						
USP	**Ospenovka**	**47.74**	**336**	P	**P**	**02 00 07.3**	**+0.7**
	SNR=8.1						
ULN	**Ulaanbaatar**	**47.75**	**8**	*e*P	**P**	**02 00 07.6**	**+0.8**
	comp=Z,2.2nm,0.4s,mb4.5						
MKAR	**Makanchi Array**	**48.28**	**345**	P	**P**	**02 00 11.0**	**+0.2**
	comp=Z,11nm,0.6s,mb5.0,baz=152,slow=7.3,SNR=91						
CN2	**Changchun**	**49.31**	**26**	*e*P	**P**	**02 00 17.0**	**-1.7**
MJAR	**Matsushiro Arr**	**51.27**	**41**	P	**P**	**02 00 32.7**	**-0.8**
	comp=Z,0.4nm,0.3s,mb3.8,baz=242,slow=8.4,SNR=4.0						
MJAR	**Matsushiro Arr**	**51.27**	**41**	P	**P**	**02 00 32.7**	**-0.8**
STKA	**Stephens Creek**	**51.83**	**132**	P	**P**	**02 00 38.7**	**+1.0**
	comp=Z,2.2nm,0.7s,mb4.2,baz=300,slow=18,SNR=5.4						
STKA	**Stephens Creek**	**51.83**	**132**	P	**P**	**02 00 38.7**	**+1.0**
KURK	**Kurchatov**	**52.85**	**344**	*e*P	**P**	**02 00 45.0**	**-0.3**
	comp=Z,9.3nm,0.9s,mb4.7						
KURK				*ep*P	pP	02 00 57.9	-1.5
ZAL	**Zalesovo**	**54.48**	**350**	P	**P**	**02 00 57.0**	**-0.2**
	comp=Z,4.5nm,0.5s,mb4.7,baz=306,slow=4.8,SNR=20						
BVAR	**Borovoye Array**	**57.39**	**340**	P	**P**	**02 01 17.1**	**-0.9**
	comp=Z,3.5nm,0.6s,mb4.6,baz=140,slow=9.5,SNR=19						
BRVK	**Borovoye**	**57.45**	**340**	*e*P	**P**	**02 01 17.4**	**-1.1**
	comp=Z,3.1nm,1.0s,mb4.3						
ZRNK	**Zerenda**	**57.81**	**339**	*e*P	**P**	**02 01 19.9**	**-1.0**
	comp=Z,2.0nm,0.4s,mb4.5						
CHKZ	**Chkalovo**	**57.85**	**341**	*e*P	**P**	**02 01 20.6**	**-0.7**
	comp=Z,

comp=Z,0.7nm,0.4s,mb3.9,baz=88,slow=5.4,SNR=7.8
AKASG **Malin Array Be** 76.68 322 P **P** 02 03 20.0 -0.4
VRI **Vrincioaia** 77.10 317⇑ *i*P **P** 02 03 23.4 +0.7
MLR **Muntele Rosu** 77.56 317⇑ *i*P **P** 02 03 24.8 -0.5
BURAR **Bucovina Array** 78.49 319⇑ *i*P **P** 02 03 31.4 +0.9
JOF **Joensuu** 79.39 335 *ep* **P** 02 03 34.5 -0.9
comp=Z,2.9nm,0.5s,mb4.5
DRGR 80.01 317⇑ *i*P **P** 02 03 39.9 +1.1
FINES **FINESS Array B** 81.28 332 P **P** 02 03 45.0 -0.6
comp=Z,3.3nm,0.6s,mb4.5,baz=106,slow=5.9,SNR=53
KAF **Kangasniemi** 81.35 333 *ep* **P** 02 03 45.1 -0.8
comp=Z,6.0nm,0.5s,mb4.8,baz=101,slow=4.9
ARCES **ARCESS Array B** 83.68 340 P **P** 02 03 57.3 -0.7
comp=Z,0.9nm,0.5s,mb4.2,baz=104,slow=5.0,SNR=18
GERES **GERESS Array B** 86.28 319 P **P** 02 04 11.0 -0.1
comp=Z,0.8nm,0.7s,mb4.0,baz=38,slow=2.4,SNR=6.6
HFS **Hagfors** 87.04 330 P **P** 02 04 14.4 -0.4
comp=Z,1.9nm,0.6s,mb4.5,baz=108,slow=4.8,SNR=17
NB2 **NORSAR Subarra** 88.31 331 P **P** 02 04 20.6 -0.3
comp=Z,1.2nm,0.8s,mb4.2,baz=92,slow=4.8
NOA **NORSAR Array B** 88.31 331 P **P** 02 04 19.6 -1.3
comp=Z,1.2nm,0.9s,mb4.1,baz=94,slow=5.3,SNR=4.4
DAVOX **Davos** 88.78 317 P **P** 02 04 23.5 +0.4
comp=Z,2.7nm,0.6s,mb4.7,baz=160,slow=23,SNR=5.2
LPG **La Plagne** 90.97 315 *e*P **P** 02 04 33.9 +0.6
comp=Z,7.4nm,0.8s,mb4.8
LPG **La Plagne** 90.97 315 *e*P **P** 02 04 33.9 +0.6
comp=Z,3.7nm,0.8s,mb4.8
NVAR **Mina Array Bea** 128.51 37 PKP PKPdf 02 10 37.5 +1.6
comp=Z,0.6nm,0.7s,baz=296,slow=1.3,SNR=3.8
MIAR **Mount Ida** 143.32 17 *e*PKPdf PKPdf 02 11 01.9 -1.5
MIAR *ep*PKPdf pPKPdf 02 11 16.4 -2.7
JCT **Junction City** 144.56 28 *e*PKPdf PKPdf 02 11 05.5 0.0
JCT *ep*PKPdf pPKPdf 02 11 20.6 -0.6
CPUP **Villa Florida** 145.41 220 PKPbc PKPbc 02 11 08.7 +1.6
comp=Z,1.2nm,0.7s,baz=80,slow=2.4,SNR=5.5

IDC ***22*** *03:03:31.8± 1.1, 3295N× 9617E, h0km, mb4.0/11, mb1 4.1/13, mb1mx4.0/23, mbtmp4.0/13, ML4.2/2, MS3.6/9, Ms1 3.7/9, ms1mx3.4/34, Error ellipse: s-maj=45.4km s-min=22.0km az=51.0*
BJI ***22*** *03:03:33.7, 3302N× 9616E, h20km, mB4.7, mb4.6, ML4.2, Ms4.3, Msz3.7*
ISCJB ***22*** *03:03:34.3± 1.7, 3296N± 005× 9613E± 005, h29km± 13km, mb4.3/31, MS3.8/11, Error ellipse: s-maj=9.8km s-min=5.8km az=108.6*
NEIC ***22*** *03:03:34.9± 1.5, 3303N× 9627E, h20km± 10km, mb4.4/18, Error ellipse: s-maj=6.9km s-min=5.6km az=103.0*
MOS ***22*** *03:03:34.8± 0.7, 3300N× 9618E, h33km, mb4.5/24, Error ellipse: s-maj=12.6km s-min=6.6km az=121.1*
ISC 22 03:03:37.8±0.6, 3297N±005× 9618E±005, h42km±7km, n121, σ0°78/116, mb4.3/31, MS3.8/11, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**7.05**	**62**	*e*P	**Pn**	**03 05 19.6**	**+1.2**
LZH				S	**Sn**	**03 06 40.3**	**+3.1**
LZH				Smax			
	comp=N,440nm,1.0s						
LZH				Smax			
	comp=E,100nm,1.0s						
LZH				LR	LR		
	comp=E,2μm,6.6s						
LZH				LR	LR		
	comp=Z,2μm,8.9s						
GTA	**Gaotai**	**7.07**	**24**	*e*P	**Pn**	**03 05 19.8**	**+1.2**
GTA				S	**Sn**	**03 06 40.3**	**+2.6**
GTA				XS		03 06 46.8	
GTA				LR	LR		
	comp=N,795nm,9.2s						
GTA				LR	LR		
	comp=E,2μm,9.9s						
GTA				LR	LR		
	comp=Z,387nm,11.8s						
JIRN	**Jiri**	**10.12**	**241**	*e*P	**Pn**	**03 06 02.0**	**+1.5**
	comp=Z,36nm,0.7s						
GUN	**Gumba**	**10.22**	**243**	*e*P	**Pn**	**03 06 02.4**	**+0.6**
	comp=Z,50nm,0.5s						
KKN	**Kakani**	**10.73**	**244**	*e*P	**Pn**	**03 06 08.2**	**-0.6**
	comp=Z,28nm,0.6s						
KKN	**Kakani**	**10.73**	**244**	*e*P	**Pn**	**03 06 08.2**	**-0.6**
KKN				pmax	pmax		
	comp=Z,29nm,0.6s						
PKI	**Pulchoki**	**10.75**	**243**	*e*P	**Pn**	**03 06 08.5**	**-0.6**
	comp=Z,38nm,0.5s						
PKI	**Pulchoki**	**10.75**	**243**	*e*P	**Pn**	**03 06 08.5**	**-0.6**
PKI				pmax	pmax		
	comp=Z,38nm,0.5s						
DMN	**Daman**	**10.96**	**244**	*e*P	**Pn**	**03 06 11.4**	**-0.5**
	comp=Z,22nm,0.7s						
GKN	**Gorkha**	**11.12**	**247**	*e*P	**Pn**	**03 06 13.5**	**-0.6**
	comp=Z,22nm,0.6s						
GYA	**Guiyang**	**11.18**	**123**	P	**Pn**	**03 06 13.9**	**-1.1**
GYA				S	**Sn**	**03 08 15.4**	**-3.2**
GYA				AMB	AMB		
	comp=Z,30nm,0.6s						
GYA				LR	LR		
	comp=N,1μm,10.8s						
GYA				LR	LR		
	comp=E,880nm,11.9s						
GYA				LR	LR		
	comp=Z,230nm,10.4s						
KOLN	**Koldanda**	**12.03**	**248**	*e*P	**Pn**	**03 06 21.7**	**-4.9**
CHTO	**Chiang Mai**	**14.31**	**169**	*e*P	**Pn**	**03 06 57.9**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,11nm,1.0s						
CHTO	**Chiang Mai**	**14.31**	**169**	*e*Pn	**Pn**	**03 06 57.9**	**+0.2**
	comp=Z,11nm,1.0s						
SONM	**Songino Array**	**16.74**	**25**	Pn	**Pn**	**03 07 27.0**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=211,slow=15,SNR=14						
SONM				LR	LR	03 13 29.7	
	comp=Z,63nm,20.1s,baz=210,slow=36						
SONM	**Songino Array**	**16.74**	**25**	P	**Pn**	**03 07 27.0**	**-2.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM				MLR	MLR		
	comp=Z,63nm,20.1s						
MKAR	**Makanchi Array**	**17.41**	**327**	P	**Pn**	**03 07 36.4**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=131,slow=13,SNR=65						
MKAR	**Makanchi Array**	**17.41**	**327**	P	**Pn**	**03 07 36.4**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**17.41**	**327**	P	**Pn**	**03 07 36.4**	**-1.0**
BJI	**Beijing**	**17.54**	**61**	*e*P	**Pn**	**03 07 43.1**	**+4.0**
BJI				AMB	AMB		
	comp=Z,5.0nm,0.9s						
BJI				LR	LR		
	comp=N,614nm,8.5s						
BJI				LR	LR		
	comp=E,365nm,10.5s						
BJI				LR	LR		
	comp=Z,262nm,20.8s						
ZAK	**Zakamensk**	**18.18**	**15**	*e*P	**Pn**	**03 07 46.6**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
AAK	**Ala-Archa**	**19.62**	**306**	*e*P	**Pn**	**03 08 03.8**	**-0.4**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AAK	**Ala-Archa**	**19.62**	**306**	*e*P	**Pn**	**03 08 03.8**	**-0.5**
	comp=Z,10nm,0.8s						
KURK	**Kurchatov**	**21.94**	**329**	*e*P	**P**	**03 08 26.5**	**-1.2**
KURK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.3						
KURK	**Kurchatov**	**21.94**	**329**	*e*P	**P**	**03 08 26.5**	**-1.2**
	comp=Z,11nm,0.8s,mb4.3						
HYB	**Hyderabad**	**22.18**	**230**	*i* P	**P**	**03 08 32.0**	**+1.8**
CN2	**Changchun**	**25.24**	**56**	*e*P	**P**	**03 09 00.3**	**+0.5**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
CN2				LR	LR		
	comp=N,300nm,16.0s,MS4.0						
CN2				LR	LR		
	comp=E,300nm,16.0s,MS4.0						
CN2				LR	LR		
	comp=Z,200nm,16.0s,MS3.7						
BVAR	**Borovoye Array**	**27.27**	**325**	LR	LR	03 20 14.6	
	comp=Z,112nm,20.0s,MS3.4,baz=231,slow=37						
CHKZ	**Chkalovo**	**27.57**	**326**	*e*P	**P**	**03 09 20.0**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
CHKZ	**Chkalovo**	**27.57**	**326**	*e*P	**P**	**03 09 20.0**	**-0.8**
	comp=Z,1.2nm,0.8s,mb3.6						
ZRNK	**Zerenda**	**27.91**	**324**	*e*P	**P**	**03 09 23.3**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
ZRNK	**Zerenda**	**27.91**	**324**	*e*P	**P**	**03 09 23.2**	**-0.6**
	comp=Z,0.9nm,0.7s,mb3.5						
KLR	**Kul'dur**	**30.99**	**48**	*e*P	**P**	**03 09 47.2**	**-4.0**
AKTK	**Aktyubinsk**	**32.96**	**313**	P	**P**	**03 10 08.5**	**+0.1**
AKTK				LR	LR	03 24 34.3	
AKTO	**Aktyubinsk**	**32.96**	**313**	P	**P**	**03 10 08.5**	**+0.1**
	comp=Z,3.0nm,0.7s,mb4.3,baz=98,slow=10,SNR=14						
AKTO				LR	LR	03 24 34.3	
	comp=Z,89nm,18.3s,MS3.5,baz=275,slow=38						
AKTO	**Aktyubinsk**	**32.96**	**313**	P	**P**	**03 10 08.5**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
AKTO				MLR	MLR		
	comp=Z,89nm,18.3s,MS3.5						
GNI	**Garni**	**41.45**	**295**	LR	LR	03 30 46.1	
	comp=Z,41nm,18.8s,MS3.3,baz=12,slow=39						
GUMO	**Guam**	**48.24**	**102**	LR	LR	03 30 44.2	
	comp=Z,81nm,18.6s,MS3.7,baz=258,slow=34						
JOF	**Joensuu**	**49.84**	**327**	*ep*	**P**	**03 12 25.1**	**-1.5**
	comp=Z,2.0nm,0.5s,mb4.4						
JOF	**Joensuu**	**49.84**	**327**	*e*P	**P**	**03 12 25.1**	**-1.5**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
BRTR	**Keskin Array B**	**49.93**	**297**	P	**P**	**03 12 27.4**	**+0.1**
	comp=Z,1.5nm,0.9s,mb4.0,baz=110,slow=6.7,SNR=6.3						
BRTR	**Keskin Array B**	**49.93**	**297**	P	**P**	**03 12 27.5**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**51.15**	**311**	P	**P**	**03 12 36.5**	**-0.1**
	comp=Z,1.1nm,0.5s,mb4.0,baz=68,slow=7.1,SNR=3.7						
AKASG	**Malin Array Be**	**51.15**	**311**	P	**P**	**03 12 36.5**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**51.15**	**311**	P	**P**	**03 12 36.5**	**-0.1**
EIL	**Elat**	**51.77**	**284**	*e*P	**P**	**03 12 41.5**	**+0.4**
	comp=Z,91nm,0.9s,mb5.7						
KAF	**Kangasniemi**	**52.12**	**326**	*ep*	**P**	**03 12 43.0**	**-0.8**
	comp=Z,2.2nm,0.6s,mb4.3,baz=88,slow=8.5						
KAF	**Kangasniemi**	**52.12**	**326**	*e*P	**P**	**03 12 43.0**	**-0.8**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**52.23**	**325**	P	**P**	**03 12 44.7**	**+0.1**
	comp=Z,1.2nm,0.4s,mb4.1,baz=86,slow=7.5,SNR=20						
FINES	**FINESS Array B**	**52.23**	**325**	P	**P**	**03 12 44.7**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**52.23**	**325**	P	**P**	**03 12 44.7**	**+0.1**
ARCES	**ARCESS Array B**	**52.78**	**335**	P	**P**	**03 12 48.5**	**-0.2**
	comp=Z,3.2nm,1.0s,mb4.2,baz=86,slow=8.1,SNR=7.3						
ARCES				LR	LR	03 37 41.2	
	comp=Z,103nm,19.2s,MS3.9,baz=182,slow=39						
ARCES	**ARCESS Array B**	**52.78**	**335**	P	**P**	**03 12 48.5**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,103nm,19.2s						
MLR	**Muntele Rosu**	**54.20**	**305**	LR	LR	03 40 21.0	
	comp=Z,97nm,18.6s,MS3.9,baz=213,slow=41						
KWP	**Kalwaria**	**55.46**	**311**	*e*P	**P**	**03 13 08.3**	**+0.1**
KWP				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
KWP	**Kalwaria**	**55.46**	**311**	*e*P	**P**	**03 13 08.3**	**+0.1**
	comp=Z,5.7nm,0.8s,mb4.7						
HFS	**Hagfors**	**58.41**	**324**	P	**P**	**03 13 28.6**	**-0.4**
	comp=Z,2.0nm,0.6s,mb4.3,baz=111,slow=8.1,SNR=8.7						
HFS	**Hagfors**	**58.41**	**324**	P	**P**	**03 13 28.6**	**-0.4**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**59.40**	**326**	P	**P**	**03 13 36.3**	**+0.3**
	comp=Z,0.3nm,0.7s,mb3.4,baz=78,slow=7.4						
NOA	**NORSAR Array B**	**59.40**	**326**	P	**P**	**03 13 35.5**	**-0.4**
	comp=Z,1.8nm,0.7s,mb4.2,baz=77,slow=6.9,SNR=14						
NOA				LR	LR	03 40 46.8	
	comp=Z,52nm,21.5s,MS3.6,baz=60,slow=38						
NOA	**NORSAR Array B**	**59.40**	**326**	P	**P**	**03 13 35.6**	**-0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,52nm,21.5s						
BRG	**Berggiesshubel**	**60.60**	**314**	*e*(P)	pP	03 13 52.4	-3.8
	comp=Z,0.9nm,0.6s						
BRG				*e*		03 13 57.7	
	comp=Z,1.6nm,0.7s						
BRG							
	comp=N,77nm,21.5s						
BRG							
	comp=E,74nm,17.1s						
BRG							
	comp=Z,47nm,22.4s						
BRG	**Berggiesshubel**	**60.60**	**314**	*e*P	pP	03 13 52.4	-3.8
BRG				*e*		03 13 57.7	
BRG				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
BRG				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
BRG				MLR	MLR		
	comp=N,77nm,21.5s,MS4.0						
BRG				MLR	MLR		
	comp=E,74nm,17.1s,MS4.0						
BRG				MLR	MLR		
	comp=Z,47nm,22.5s						
BRG	**Berggiesshubel**	**60.60**	**314**	P	pP	03 13 52.4	-3.8
	comp=Z,0.9nm,0.6s						
BRG				*e*		03 13 57.7	
BRG				LR	LR		
	comp=Z,50nm,22.4s,MS3.6						
CLL	**Collm**	**61.03**	**315**	*e**PP	**P**	**03 13 52.0**	**+4.9**
CLL	**Collm**	**61.03**	**315**	*e*P	**P**	**03 13 52.0**	**+4.9**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
CLL				MLR	MLR		
	comp=Z,200nm,20.7s,MS4.2						
CLL	**Collm**	**61.03**	**315**	*e*P	**P**	**03 13 52.0**	**+4.9**
	comp=Z,3.0nm,0.6s,mb4.6						
CLL				LR	LR		
	comp=Z,200nm,20.7s,MS4.2						
GERES	**GERESS Array B**	**61.36**	**312**	P	**P**	**03 13 49.6**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.7,baz=68,slow=4.7,SNR=5.0						
WRA	**Warramunga Arr**	**64.01**	**140**	P	**P**	**03 14 07.5**	**+0.6**
	comp=Z,1.4nm,0.9s,mb4.0,baz=315,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**64.01**	**140**	P	**P**	**03 14 07.5**	**+0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KMBO	**Kilima Mbogo**	**64.96**	**251**	LR	LR	03 45 39.0	
	comp=Z,155nm,18.9s,MS4.2,baz=277,slow=39						
CDF	**Champ du Feu**	**65.51**	**313**	*e*P	**P**	**03 14 16.5**	**-0.2**
PGF	**Pioggiola**	**66.71**	**307**	*e*P	**P**	**03 14 24.2**	**-0.2**
MEZF	**Maizieres J'vi**	**66.83**	**314**	*e*P	**P**	**03 14 25.2**	**0.0**
CABF	**La Chapelle**	**66.96**	**311**	*e*P	**P**	**03 14 25.9**	**-0.1**
LPG	**La Plagne**	**66.99**	**310**	*e*P	**P**	**03 14 26.4**	**+0.2**
	comp=Z,3.8nm,0.7s,mb4.3						
LPG	**La Plagne**	**66.99**	**310**	*e*P	**P**	**03 14 26.4**	**+0.2**
LPG				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
LPG	**La Plagne**	**66.99**	**310**	*e*P	**P**	**03 14 26.4**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.3						
LPL	**La Plagne**	**67.00**	**310**	*e*P	**P**	**03 14 26.5**	**+0.2**
	comp=Z,5.7nm,0.8s,mb4.3						
LPL	**La Plagne**	**67.00**	**310**	*e*P	**P**	**03 14 26.5**	**+0.2**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
LPL	**La Plagne**	**67.00**	**310**	*e*P	**P**	**03 14 26.5**	**+0.2**
	comp=Z,2.8nm,0.8s,mb4.3						
SBF	**Sospel**	**67.21**	**308**	*e*P	**P**	**03 14 27.6**	**-0.1**
MBDF	**Montbardon**	**67.29**	**309**	*e*P	**P**	**03 14 28.4**	**+0.2**
ORIF	**Oris-en-Rattie**	**67.79**	**310**	*e*P	**P**	**03 14 31.4**	**+0.1**
FRF	**La Foret Royal**	**67.86**	**308**	*e*P	**P**	**03 14 31.8**	**+0.1**
	comp=Z,6.8nm,1.0s,mb4.3						
FRF	**La Foret Royal**	**67.86**	**308**	*e*P	**P**	**03 14 31.8**	**+0.1**
FRF				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
FRF	**La Foret Royal**	**67.86**	**308**	*e*P	**P**	**03 14 31.8**	**+0.1**
	comp=Z,3.4nm,1.0s,mb4.3						
LOR	**Lormes**	**68.08**	**313**	*e*P	**P**	**03 14 33.3**	**+0.2**
SSF	**Saint Saulge**	**68.38**	**313**	*e*P	**P**	**03 14 35.6**	**+0.6**
SMRF	**Simiane la Rot**	**68.39**	**309**	*e*P	**P**	**03 14 35.2**	**+0.2**
	comp=Z,15nm,1.1s,mb4.6						
SMRF	**Simiane la Rot**	**68.39**	**309**	*e*P	**P**	**03 14 35.2**	**+0.2**
	comp=Z,15nm,1.1s,mb4.9						
EKA	**Eskdalemuir Ar**	**68.50**	**323**	P	**P**	**03 14 35.3**	**-0.4**
	comp=Z,0.8nm,0.8s,mb3.8,baz=64,slow=6.5,SNR=4.6						
EKA	**Eskdalemuir Ar**	**68.50**	**323**	P	**P**	**03 14 35.3**	**-0.4**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AVF	**Avril sur Loir**	**68.59**	**313**	*e*P	**P**	**03 14 36.6**	**+0.3**
	comp=Z,8.8nm,1.1s,mb4.3						
AVF	**Avril sur Loir**	**68.59**	**313**	*e*P	**P**	**03 14 36.6**	**+0.3**
AVF				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
AVF	**Avril sur Loir**	**68.59**	**313**	*e*P	**P**	**03 14 36.6**	**+0.3**
	comp=Z,4.4nm,1.1s,mb4.3						
VIVF	**Saint-Julien-l**	**68.59**	**310**	*e*P	**P**	**03 14 36.7**	**+0.4**
LASF	**Ste Croix**	**69.46**	**310**	*e*P	**P**	**03 14 42.1**	**+0.4**
LDF	**La Druitiere**	**69.89**	**315**	*e*P	**P**	**03 14 44.7**	**+0.3**
	comp=Z,3.5nm,0.9s,mb4.0						
LDF	**La Druitiere**	**69.89**	**315**	*e*P	**P**	**03 14 44.7**	**+0.3**
LDF				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
LDF	**La Druitiere**	**69.89**	**315**	*e*P	**P**	**03 14 44.7**	**+0.3**
	comp=Z,1.8nm,0.9s,mb4.0						
FLN	**La Foliniere**	**70.03**	**316**	*e*P	**P**	**03 14 45.5**	**+0.3**
CAF	**Calviac**	**70.23**	**311**	*e*P	**P**	**03 14 46.8**	**+0.4**
GRR	**Gorron**	**70.42**	**315**	*e*P	**P**	**03 14 48.3**	**+0.7**
MFF	**Saint Martin d**	**70.83**	**313**	*e*P	**P**	**03 14 50.3**	**+0.2**
MTLF	**Montolieu**	**70.85**	**310**	*e*P	**P**	**03 14 50.3**	**+0.1**
LFF	**La Frestale**	**71.06**	**312**	*e*P	**P**	**03 14 51.9**	**+0.4**
SGMF	**Saint Gilles**	**71.49**	**316**	*e*P	**P**	**03 14 54.3**	**+0.2**
	comp=Z,7.7nm,0.9s,mb4.3						
SGMF	**Saint Gilles**	**71.49**	**316**	*e*P	**P**	**03 14 54.3**	**+0.2**
SGMF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
SGMF	**Saint Gilles**	**71.49**	**316**	*e*P	**P**	**03 14 54.3**	**+0.2**
	comp=Z,3.8nm,0.9s,mb4.3						
ROSF	**Rostrenen**	**71.86**	**316**	*e*P	**P**	**03 14 56.7**	**+0.4**
	comp=Z,13nm,1.0s,mb4.5						
ROSF	**Rostrenen**	**71.86**	**316**	*e*P	**P**	**03 14 56.7**	**+0.4**
ROSF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
ROSF	**Rostrenen**	**71.86**	**316**	*e*P	**P**	**03 14 56.7**	**+0.4**
	comp=Z,6.3nm,1.0s,mb4.5						
PMR	**Palmer**	**72.08**	**27**	*e*P	**P**	**03 14 54.7**	**-2.9**
PMR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
PMR	**Palmer**	**72.08**	**27**	*e*P	**P**	**03 14 54.7**	**-2.9**
	comp=Z,5.9nm,0.9s,mb4.5						
EPF	**Esparros**	**72.21**	**310**	*e*P	**P**	**03 14 58.5**	**+0.1**
ETSF	**Etsaut**	**72.85**	**310**	*e*P	**P**	**03 15 02.2**	**0.0**
	comp=Z,8.4nm,1.0s,mb4.3						
ETSF	**Etsaut**	**72.85**	**310**	*e*P	**P**	**03 15 02.2**	**0.0**
ETSF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
ETSF	**Etsaut**	**72.85**	**310**	*e*P	**P**	**03 15 02.2**	**0.0**
	comp=Z,4.2nm,1.0s,mb4.3						
TORD	**Torodi Ar. Bea**	**86.65**	**283**	P	**P**	**03 16 16.9**	**0.0**
	comp=Z,1.4nm,1.0s,mb4.2,baz=47,slow=3.7,SNR=10.0						
TORD	**Torodi Ar. Bea**	**86.65**	**283**	P	**P**	**03 16 16.9**	**0.0**

IDC ***22*** *03:05:09.3± 0.6, 974S× 10887E, h0km, mb4.6/16, mb1 4.6/17, mb1mx4.6/20, mbtmp4.6/17, ML4.1/1, MS4.2/9, Ms1 4.2/9, ms1mx3.8/30, Error ellipse: s-maj=22.5km s-min=13.6km az=51.0*
ISCJB ***22*** *03:05:11.0± 0.3, 979S± 004× 10877E± 004, h23km, mb5.0/82, MS4.6/26, Error ellipse: s-maj=6.0km s-min=5.0km az=105.2*
NEIC ***22*** *03:05:11.2± 0.2, 969S× 10882E, h10km, mb5.2/31, Error ellipse: s-maj=8.8km s-min=5.5km az=50.0*
BJI ***22*** *03:05:11.2, 970S× 10880E, h10km, mB5.3, mb5.1, Ms4.9, Msz4.8*
MOS ***22*** *03:05:15.3± 0.9, 927S× 10863E, h33km, mb5.3/29, Error ellipse: s-maj=17.5km s-min=7.3km az=108.1*
ISC 22 03:05:13.1±0.3, 981S±004× 10878E±004, h25km, h25km±1.7km; pP-P, n233, σ1°12/179, mb5.0/82, MS4.6/26, 23C-16D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJI	**Banjamegara**	**2.63**	**21**	P	**Pn**	**03 05 54.5**	**+0.5**
	2μm,1.0s						
BJI	**Banjamegara**	**2.63**	**21**	⇑ *i*P	**Pn**	**03 05 54.4**	**+0.4**
BJI				*i* S	**Sn**	**03 06 24.6**	**-0.4**
LEM	**Lembang**	**3.18**	**339**	P	**Pn**	**03 06 02.7**	**+1.2**
	2μm,1.0s						
JCJI	**Jatiwangi**	**3.34**	**351**	P	**Pn**	**03 06 02.0**	**-1.7**
	2μm,1.6s						
KRKI	**Karangkates**	**3.98**	**66**	P	**Pn**	**03 06 13.0**	**+0.4**
	3μm,1.1s						
SBJI	**Serang**	**4.51**	**324**	P	**Pn**	**03 06 25.1**	**+5.3**
	292nm,1.1s						
NBBI	**Negara**	**5.94**	**77**	P	**Pn**	**03 06 40.8**	**+1.3**
	1μm,1.0s						
KLI	**Kotabumi**	**6.27**	**321**	P	**Pn**	**03 06 49.4**	**+5.4**
	130nm,1.4s						
KSI	**Kapahiang**	**8.67**	**314**	P	**Pn**	**03 07 16.3**	**-0.6**
	216nm,1.1s						
PCI	**Palu**	**14.11**	**52**	P	**Pn**	**03 08 33.5**	**+2.1**
	198nm,1.9s						
MBWA	**Marble Bar**	**15.44**	**138**	*e*Pn	**Pn**	**03 08 42.2**	**-7.0**
	41nm,1.0s						
MBWA				*e*Sn	**Sn**	**03 11 19.3**	**-20**
PSI	**Prapat**	**15.91**	**321**	Pn	**Pn**	**03 08 45.8**	**-10**
	0.6nm,0.3s,baz=180,slow=12,SNR=5.5						
KULM	**Kulim**	**17.05**	**331**	*e*Pn	**Pn**	**03 09 07.5**	**-2.3**
KKM	**Kota Kinabalu**	**17.40**	**25**	*e*P	**Pn**	**03 09 10.6**	**-3.6**
FITZ	**Fitzroy Crossi**	**18.31**	**119**	*e*P	**Pn**	**03 09 24.6**	**-0.8**
	36nm,1.0s						
FITZ				*e*S	Sn	03 12 27.8	-21
FITZ	**Fitzroy Crossi**	**18.31**	**119**	P	**Pn**	**03 09 23.3**	**-2.0**
	0.5nm,0.3s,baz=296,slow=7.8,SNR=15						
FITZ				Sn	**Sn**	**03 12 30.1**	**-19**
	0.3nm,0.3s,baz=105,slow=17,SNR=6.7						
AAI	**Ambon**	**20.21**	**74**

NANT Nan 29.52 344 P P 03 11 17.0 +1.5
CHTO Chiang Mai 30.05 341 eP P 03 11 20.5 +0.3
CHTO e*PP pP 03 11 29.6 +2.1
CHTO pmax pmax
comp=Z,31nm,1.2s,mb4.9
CHTO Chiang Mai 30.05 341 eP P 03 11 20.5 +0.3
comp=Z,31nm,1.2s,mb4.9
CHTO epP pP 03 11 29.6 +2.1
GZH Guangzhou 33.00 8 P P 03 11 49.4 +3.3
GZH S S 03 17 11.6 +8.6
GZH LR LR
comp=N,942nm,12.4s,MS4.8
GZH LR LR
comp=E,509nm,11.2s,MS4.8
GZH LR LR
comp=Z,1μm,12.4s,MS4.9
KMI Kunming 35.22 350 P P 03 12 08.3 +2.9
KMI AP pP 03 12 11.3 -1.4
KMI PP PP 03 13 26.6 +1.2
KMI PPP 03 13 46.9
KMI PCP PcP 03 14 38.9 +2.9
KMI S S 03 17 42.1 +4.8
KMI XS sS 03 17 46.5 -3.0
KMI PCS PcS 03 18 24.6 +1.7
KMI AMB AMB
comp=Z,60nm,1.2s,mb5.4
KMI AMB AMB
comp=Z,217nm,3.1s
KMI LR LR
comp=N,2μm,12.9s,MS5.1
KMI LR LR
comp=E,2μm,14.4s,MS5.1
KMI LR LR
comp=Z,2μm,11.0s,MS5.0
NACB Ninganchiao 36.02 20 eP P 03 12 13.8 +1.5
NACB epP pP 03 12 20.9 +1.3
GYA Guiyang 36.11 357⇓ iP P 03 12 14.9 +1.9
GYA AP pP 03 12 19.3 -1.1
GYA XP sP 03 12 22.8 -0.6
GYA PP PP 03 13 37.6 +2.3
GYA PCP PcP 03 14 40.4 +1.8
GYA S S 03 17 55.8 +4.8
GYA SS SS 03 20 17.5 -11
GYA AMB AMB
comp=Z,40nm,1.1s,mb5.3
GYA AMB AMB
comp=Z,140nm,4.5s
GYA LR LR
comp=N,540nm,14.9s,MS4.6
GYA LR LR
comp=E,570nm,14.6s,MS4.6
GYA LR LR
comp=Z,580nm,14.3s,MS4.5
YHNB Yeheng 36.41 20 eP P 03 12 14.9 -0.6
TATO Taipei 36.73 20 eP P 03 12 18.0 -0.3
comp=Z,98nm,0.9s,mb5.6
TATO epP pP 03 12 26.3 +0.6
STKA Stephens Creek 37.47 131⇑ iP P 03 12 24.3 -0.3
comp=Z,11nm,0.9s,mb4.7
STKA epP pP 03 12 33.3 +1.3
STKA Stephens Creek 37.47 131 P P 03 12 23.9 -0.8
comp=Z,14nm,1.0s,mb4.8,baz=309,slow=9.4,SNR=11
CTA Charters Tower 37.54 110 LR LR 03 27 00.3
comp=Z,452nm,19.5s,MS4.3,baz=104,slow=35
WHN Wuhan 40.48 7⇑ P P 03 12 50.5 +0.7
WHN AMB AMB
comp=Z,86nm,1.3s,mb5.3
CD2 Chengdu 40.77 353⇑ iP P 03 12 52.1 -0.1
CD2 AP pP 03 12 56.6 -3.0
CD2 XP sP 03 12 59.3 -3.3
CD2 PP PP 03 14 29.8 +3.5
CD2 S S 03 19 02.4 +1.0
CD2 XS sS 03 19 09.8 -3.9
CD2 SS SS 03 21 58.4 -4.3
CD2 AMB AMB
comp=Z,40nm,1.3s,mb4.9
CD2 AMB AMB
comp=Z,140nm,5.6s
CD2 LR LR
comp=N,910nm,13.1s
CD2 LR LR
comp=Z,750nm,13.1s,MS4.7
JOW Kunigami 41.05 27 P P 03 12 54.1 -0.3
comp=Z,30nm,0.9s,mb4.9,baz=248,slow=4.3,SNR=5.3
JOW LR LR 03 30 52.3
comp=Z,161nm,18.9s,MS3.9,baz=290,slow=38
SSE Sheshan 42.38 16⇓ P P 03 13 06.6 +1.2
SSE AP pP 03 13 09.8 -3.0
SSE XP sP 03 13 11.6 -4.2
SSE PP PP 03 14 42.8 -0.9
SSE PCP PcP 03 15 02.1 +3.7
SSE S S 03 19 28.4 +3.2
SSE SCS ScS 03 23 05.6 0.0
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,130nm,7.1s
SSE LR LR
comp=N,217nm,14.5s,MS4.4
SSE LR LR
comp=E,299nm,14.5s,MS4.4
SSE LR LR
comp=Z,408nm,12.3s,MS4.5
NJ2 Nanjing 42.72 13 eP P 03 13 09.0 +0.8
NJ2 AP pP 03 13 15.1 -0.6
NJ2 XP sP 03 13 18.3 -0.3
NJ2 PP PP 03 14 50.5 +3.1
NJ2 S S 03 19 27.0 -3.3
NJ2 AMB AMB
comp=Z,30nm,0.9s,mb5.0
NJ2 AMB AMB
comp=Z,80nm,3.8s
NJ2 LR LR
comp=N,2μm,12.9s,MS5.2
NJ2 LR LR
comp=E,820nm,12.0s,MS5.2
JIRN Jiri 43.20 330 eP P 03 13 13.2 +1.2
comp=E,230nm,1.3s,mb5.7
PKI Pulchoki 43.51 329 eP P 03 13 15.2 +0.6
GUN Gumba 43.56 330 eP P 03 13 16.1 +1.2
comp=E,383nm,1.4s,mb6.0
XAN Xi'an 43.60 0 P P 03 13 15.3 0.0
XAN AP pP 03 13 22.9 +0.1
XAN S S 03 19 34.8 -8.5
XAN AMB AMB
comp=Z,61nm,1.4s,mb5.1
XAN LR LR
comp=N,598nm,11.8s,MS4.8
XAN LR LR
comp=E,532nm,15.5s,MS4.8
XAN LR LR
comp=Z,1μm,12.4s,MS5.0
DMN Daman 43.70 329 eP P 03 13 16.6 +0.5
comp=Z,138nm,1.1s,mb5.6
KKN Kakani 43.76 329 eP P 03 13 17.2 +0.7
comp=Z,241nm,1.5s,mb5.7
KKN Kakani 43.76 329 eP P 03 13 17.2 +0.7
KKN pmax pmax
comp=Z,241nm,1.5s,mb5.7
GKN Gorkha 44.26 329 eP P 03 13 21.0 +0.4
comp=Z,297nm,1.6s,mb5.8
KOLN Koldanda 44.61 328 eP P 03 13 24.1 +0.7
comp=Z,110nm,1.0s,mb5.6
LZH Lanzhou 45.88 354 P P 03 13 34.8 +1.3
LZH AP pP 03 13 43.4 +2.4
LZH XP sP 03 13 47.3 +3.3
LZH PP PP 03 15 23.0 +1.8
LZH S S 03 20 15.0 -1.3
LZH XS sS 03 20 32.0 +3.3
LZH eSS SS 03 23 33.0 -8.1
LZH AMB AMB
comp=Z,90nm,1.2s,mb5.6
LZH AMB AMB
comp=Z,390nm,4.2s
LZH LR LR
comp=N,2μm,14.1s
LZH LR LR
comp=Z,4μm,15.0s,MS5.5
NDI New Delhi 48.92 322 eP P 03 13 55.0 -2.1
GTA Gaotai 49.67 351⇑ P P 03 14 04.3 +1.5
GTA AP pP 03 14 08.0 -2.4
GTA XP sP 03 14 10.4 -3.0
GTA PCP PcP 03 15 25.0 +1.1
GTA PP PP 03 15 58.1 +0.7
GTA PCS PcS 03 19 19.9 -0.7
GTA SCP ScP 03 19 22.8 +5.0
GTA S S 03 21 13.5 +3.5
GTA XS sS 03 21 20.4 -2.1
GTA SS SS 03 24 40.8 -1.6
GTA AMB AMB
comp=Z,25nm,1.6s,mb5.0
GTA AMB AMB
comp=Z,307nm,5.0s
GTA LR LR
comp=N,397nm,14.1s,MS4.7
GTA LR LR
comp=E,433nm,16.8s,MS4.7
GTA LR LR
comp=Z,485nm,18.3s,MS4.5
BJT Baijiatuao 50.04 7 eP P 03 14 05.6 -0.1
BJT pmax pmax
comp=Z,33nm,1.0s
BJT Baijiatuao 50.04 7 eP P 03 14 05.6 -0.1
comp=Z,33nm,1.0s,mb5.3
BJI Beijing 50.07 7 P P 03 14 05.8 0.0
BJI S S 03 21 13.4 -2.1
BJI SS SS 03 24 43.8 -4.9
BJI AMB AMB
comp=Z,34nm,1.2s,mb5.2
BJI AMB AMB
comp=Z,220nm,4.5s
BJI LR LR
comp=N,468nm,16.6s,MS4.8
BJI LR LR
comp=E,553nm,15.5s,MS4.8
BJI LR LR
comp=Z,333nm,17.8s,MS4.4
BTO Baotou 50.17 1 eP P 03 14 05.9 -0.7
HHC Hu-ho-hao-te 50.47 3 eP P 03 14 07.3 -1.6
HHC AP pP 03 14 11.9 -4.6
HHC PCP PcP 03 15 25.5 -1.3
HHC PP PP 03 16 03.9 -0.7
HHC S S 03 21 18.9 -2.2
HHC XS sS 03 21 30.8 -2.8
HHC AMB AMB
comp=Z,13nm,0.5s,mb5.2
HHC AMB AMB
comp=Z,235nm,9.0s
HHC LR LR
comp=N,974nm,13.3s,MS5.1
HHC LR LR
comp=E,513nm,12.3s,MS5.1
HHC LR LR
comp=Z,763nm,12.2s,MS4.9
MAT Matsushiro 53.77 29 P P 03 14 31.6 -1.9
MAT S S 03 22 02.0 -4.5
MAT Matsushiro 53.77 29 P P 03 14 31.0 -2.5
MAT pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MJAR Matsushiro Arr 53.77 29 P P 03 14 31.1 -2.3
comp=Z,10nm,1.0s,mb4.7,baz=201,slow=6.5,SNR=8.4
CN2 Changchun 55.47 15 eP P 03 14 52.3 +6.6
CN2 eAP pP 03 14 56.9 +3.5
CN2 eS S 03 22 35.5 +6.3
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,500nm,17.0s,MS4.8
CN2 LR LR
comp=E,500nm,17.0s,MS4.8
CN2 LR LR
comp=Z,400nm,13.0s,MS4.7
WMQ Urumqi 56.71 342 P P 03 14 56.4 +1.8
WMQ AP pP 03 15 01.0 -1.3
WMQ XP sP 03 15 03.4 -1.9
WMQ PCP PcP 03 15 52.6 +2.1
WMQ PP PP 03 17 03.9 +3.1
WMQ SCP ScP 03 19 50.0 +1.6
WMQ S S 03 22 46.1 +0.3
WMQ AMB AMB
comp=Z,31nm,1.1s,mb5.2
WMQ AMB AMB
comp=Z,228nm,5.1s
WMQ LR LR
comp=N,1μm,17.4s,MS5.1
WMQ LR LR
comp=E,785nm,16.3s,MS5.1
WMQ LR LR
comp=Z,1μm,17.9s,MS5.0
MDJ Mudanjiang 57.35 18 P P 03 15 00.0 +0.8
MDJ AP pP 03 15 03.1 -3.8
MDJ PCP PcP 03 15 52.3 -0.7
MDJ PP PP 03 17 05.8 -0.7
MDJ PCS PcS 03 19 54.6 +0.5
MDJ S S 03 22 56.8 +2.6
MDJ SCS ScS 03 24 49.4 +2.4
MDJ SS SS 03 26 49.5 +5.7
MDJ AMB AMB
comp=Z,7.0nm,1.3s,mb4.5
MDJ AMB AMB
comp=Z,87nm,4.7s
MDJ LR LR
comp=N,183nm,17.5s,MS4.3
MDJ LR LR
comp=E,86nm,16.7s,MS4.3
MDJ LR LR
comp=Z,140nm,17.5s,MS4.1
SONM Songino Array 57.43 358 P P 03 14 59.5 -0.2
comp=Z,20nm,1.1s,mb5.0,baz=175,slow=6.7,SNR=54
ULN Ulaanbaatar 57.44 359⇑ P P 03 15 00.3 +0.5
SNR=8.9
ULN Ulaanbaatar 57.44 359⇑ iP P 03 14 59.0 -0.8
ULN Ulaanbaatar 57.44 359 eP P 03 14 59.5 -0.3
comp=Z,26nm,1.2s,mb5.1
KSH Kashi 57.76 330 eP P 03 15 02.9 +0.9
KSH eAP pP 03 15 11.8 +2.1
KSH ePCS PcS 03 19 59.4 +3.5
KSH eS S 03 22 58.3 -1.2
KSH LR LR
comp=N,351nm,5.9s
KSH LR LR
comp=E,456nm,6.2s
KSH LR LR
comp=Z,576nm,18.9s,MS4.7
WSAR Wadi Sarin 59.03 305 LR LR 03 40 30.1
comp=Z,357nm,18.3s,MS4.5,baz=117,slow=36
ZAK Zakamensk 60.13 356⇓ iP P 03 15 18.1 -0.4
ZAK pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
AAK Ala-Archa 60.87 332⇓ P P 03 15 23.5 0.0
SNR=8.7
AAK Ala-Archa 60.87 332⇑ iP P 03 15 23.1 -0.5
AAK pmax pmax
comp=Z,13nm,1.7s,mb4.8
AAK Ala-Archa 60.87 332 eP P 03 15 23.4 -0.2
comp=Z,28nm,1.5s,mb5.2
FRU Bishkek 60.97 332 eP P 03 15 24.0 -0.2
FRU pmax pmax
comp=Z,40nm,2.0s,mb5.2
MK31 Makanchi Array 61.11 340 P P 03 15 25.0 -0.2
MK31 pmax pmax
comp=Z,25nm,0.9s,mb5.3
MKAR Makanchi Array 61.11 340 P P 03 15 25.2 +0.1
comp=Z,7.3nm,0.7s,mb4.9,baz=140,slow=7.7,SNR=32
MKAR Makanchi Array 61.11 340⇑ eP P 03 15 25.2 0.0
CIT Chita 61.72 3 eP P 03 15 29.6 +0.3
CIT e pP 03 15 37.9 +0.9
CIT e 03 15 47.2
CIT e 03 16 15.4
CIT pmax pmax
comp=Z,51nm,1.5s,mb5.4
IRK Irkutsk 61.92 357 eP P 03 15 30.3 -0.4
IRK pmax pmax
comp=Z,94nm,0.6s,mb6.1
KLR Kul'dur 62.16 17 eP P 03 15 27.0 -5.2
KLR pmax pmax
comp=Z,43nm,1.4s,mb5.4
HABR Khabarovsk 62.50 19 P P 03 15 33.2 -1.3
HABR eS S 03 23 59.2 -1.2
KK31 Karatay Array 63.16 329 iP P 03 15 37.6 -1.3
KK31 pmax pmax
comp=Z,7.0nm,1.2s,mb4.7
KKAR Karatay Array 63.16 329 iP P 03 15 37.6 -1.3
KKAR pmax pmax
comp=Z,9.0nm,1.3s,mb4.7
YSS Yuzh-Sakhalins 64.11 25 P P 03 15 39.0 -6.2
YSS e 03 15 51.8
YSS eS S 03 24 08.0 -13
YSS pmax pmax
comp=Z,20nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 64.11 25 eP P 03 15 42.9 -2.3
comp=Z,27nm,0.9s,mb5.3
MAW Mawson 65.22 198 eP P 03 15 52.2 -0.2
comp=Z,6.0nm,0.8s,mb4.7
MAW Mawson 65.22 198 P P 03 15 50.8 -1.7
comp=Z,6.2nm,1.1s,mb4.6,baz=24,slow=7.3,SNR=6.2
MAW LR LR 03 38 06.8
comp=Z,144nm,18.2s,MS4.2,baz=67,slow=30
MAW Mawson 65.22 198 eP P 03 15 52.2 -0.2
MAW pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 65.73 339 P P 03 15 55.7 0.0
comp=Z,152nm,1.1s,mb5.9,SNR=14
KURK Kurchatov 65.73 339 P P 03 15 56.1 +0.4
SNR=12
KURK Kurchatov 65.73 339 eP P 03 15 55.0 -0.7
KURK e*PP pP 03 16 07.0 +3.5
KURK pmax pmax
comp=Z,43nm,1.2s,mb5.3
KURK Kurchatov 65.73 339 eP P 03 15 55.0 -0.7
comp=Z,43nm,1.2s,mb5.3
KURK epP pP 03 16 07.0 +3.5
BOD Bodaibo 67.53 3 eP P 03 16 05.3 -1.9
BOD pmax pmax
comp=Z,20nm,1.5s,mb4.9
NVS Novosibirsk 67.89 344 iP P 03 16 08.6 -0.9
VOSK Vostochnaya 70.16 337 P P 03 16 23.0 -0.6
VOSK pmax pmax
comp=Z,44nm,1.7s,mb5.1
BVA0 Borovoye Array 70.63 337 iP P 03 16 26.1 -0.3
BVA0 pmax pmax
comp=Z,19nm,2.3s,mb4.6
BVAR Borovoye Array 70.63 337 P P 03 16 26.0 -0.5
comp=Z,9.8nm,1.0s,mb4.7,baz=142,slow=7.5,SNR=14
BRVK Borovoye 70.69 337⇑ P P 03 16 26.7 -0.2
SNR=12
BRVK Borovoye 70.69 337 eP P 03 16 25.7 -1.1
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BRVK Borovoye 70.69 337 eP P 03 16 25.7 -1.2
comp=Z,9.1nm,0.9s,mb4.7
CHKZ Chkalovo 71.04 337 iP P 03 16 28.2 -0.7
CHKZ pmax pmax
comp=Z,38nm,1.5s,mb5.1
CHKZ Chkalovo 71.04 337 eP P 03 16 28.4 -0.5
comp=Z,32nm,1.2s,mb5.1
ZRNK Zerenda 71.12 336 iP P 03 16 29.2 -0.2
ZRNK pmax pmax
comp=Z,26nm,1.5s,mb4.9
ZRNK Zerenda 71.12 336 eP P 03 16 29.2 -0.3
comp=Z,22nm,1.1s,mb5.0
KMBO Kilima Mbogo 71.61 272 P P 03 16 34.4 +2.0
comp=Z,2.8nm,0.9s,mb4.2,baz=68,slow=0.8,SNR=3.7
AB31 Akbulak array 72.71 329 iP P 03 16 38.9 -0.1
AB31 pmax pmax
comp=Z,53nm,1.1s,mb5.4
VNDA Vanda 72.90 170 P P 03 16 39.0 -1.2
comp=Z,2.7nm,1.1s,mb4.1,baz=296,slow=6.1,SNR=7.9
VNDA LR LR 03 48 17.1
comp=Z,109nm,18.8s,MS4.2,baz=332,slow=36
VNDA Vanda 72.90 170 eP P 03 16 39.2 -0.9
VNDA pmax pmax
comp=Z,6.0nm,1.1s
VNDA Vanda 72.90 170 eP P 03 16 39.2 -0.9
comp=Z,6.4nm,1.1s,mb4.5
YAK Yakutsk 73.45 10 eP P 03 16 42.4 -1.0
YAK e*PP pP 03 16 51.5 +0.3
YAK e 03 16 57.5
YAK e 03 19 25.2
YAK ePPP 03 21 10.1
YAK eS S 03 26 10.1 -1.2
YAK e 03 26 53.5
YAK eSS SS 03 30 48.4 -5.5
YAK pmax pmax
comp=Z,13nm,1.1s,mb4.8
YAK pmax pmax
comp=N,12nm,2.1s
YAK pmax pmax
comp=E,5.0nm,1.5s
YAK pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
YAK pmax pmax
comp=N,2.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.9s
YAK smax
comp=E,8.0nm,1.3s
YAK smax
comp=N,7.0nm,1.2s
AKTK Aktyubinsk 74.42 329 P P 03 16 48.2 -0.8
AKTO Aktyubinsk 74.42 329 P P 03 16 48.2 -0.8
comp=N,5.4nm,0.9s,mb4.5,baz=135,slow=6.3,SNR=18
AKTO Aktyubinsk 74.42 329 iP P 03 16 49.0 -0.1
AKTO pmax pmax
comp=Z,4.0nm,1.5s,mb4.1
PET Petropavlovsk 75.59 28d iP P 03 16 55.7 -0.1
PET pmax pmax
comp=Z,31nm,1.5s,mb5.0
PET Petropavlovsk 75.59 28 eP P 03 16 55.8 0.0
MAK Makhachkala 76.54 319 eP P 03 17 05.4 +4.2
MAK eS S 03 26 43.5 -2.2
MAK i SSS 03 34 58.3
MAK pmax pmax
comp=Z,57nm,1.0s,mb5.5
MA2 Magadan 76.87 20 eP P 03 16 57.0 -6.1
MA2 e 03 27 20.6
SVE Sverdlovsk 77.28 335⇑ eP P 03 17 04.2 -1.2
SVE eS S 03 26 52.0 -1.8
SVE pmax pmax
comp=Z,56nm,1.7s,mb5.2
SVE MLR MLR
comp=N,200nm,14.0s,MS4.6
SVE MLR MLR
comp=E,100nm,14.0s,MS4.6
SVE MLR MLR
comp=Z,300nm,14.0s,MS4.8
ARU Arti 77.90 334 P P 03 17 08.3 -0.5
comp=Z,109nm,1.1s,mb5.7,SNR=5.7
ARU Arti 77.90 334⇑ iP P 03 17 09.0 +0.2
ARU e pP 03 17 17.2 +0.5
ARU e 03 20 04.7
ARU ePPP 03 21 51.5
ARU eS S 03 27 00.4 -0.1
ARU eSS SS 03 32 01.3 0.0
ARU pmax pmax
comp=Z,25nm,1.3s,mb5.0
ARU Arti 77.90 334 eP P 03 17 08.3 -0.5
comp=Z,30nm,1.1s,mb5.1
ARU epP pP 03 17 17.6 +0.8
LSZ Lusaka 78.47 256 eP P 03 17 13.8 +1.8
LSZ e*PP pP 03 17 21.9 +2.0
LSZ pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
LSZ Lusaka 78.47 256 eP P 03 17 13.8 +1.7
comp=Z,4.3nm,1.0s,mb4.3
LSZ epP pP 03 17 21.9 +2.0
BOSA Boshof 79.72 243 LR LR 03 46 08.7
comp=Z,234nm,18.7s,MS4.5,baz=143,slow=31
KIV Kislovodsk 80.13 318 eP P 03 17 19.9 -1.2
KIV pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
KIV Kislovodsk 80.13 318 eP P 03 17 19.9 -1.1
comp=Z,6.5nm,0.6s,mb4.7
QSPA South Pole Qui 80.20 180 eP P 03 17 21.2 -0.2
comp=Z,13nm,1.2s,mb4.8
ASF Jabal al Asfar 80.20 305 P P 03 17 22.9 +1.5
comp=Z,2.4nm,0.8s,mb4.2,baz=304,slow=4.1,SNR=5.6
MALT Malatya 81.01 311 eP P 03 17 25.6 -0.2
EIL Elat 81.05 302 eP P 03 17 25.4 -0.6
comp=Z,324nm,1.5s,mb6.0
SOC Sochi 81.97 317 eP P 03 17 32.9 +2.0
SOC e 03 20 35.4
SOC eS S 03 27 41.5 -1.9
SOC eSS SS 03 33 01.9 -0.4
SOC pmax pmax
comp=Z,13nm,0.9s,mb4.9
TIXI Tiksi 82.38 6c iP P 03 17 31.5 -1.5
TIXI pmax pmax
comp=Z,19nm,1.3s,mb4.9
VRHR Novokhopersk 83.69 324 eP P 03 17 39.7 -0.1
VRHR pmax pmax
comp=Z,30nm,1.1s,mb5.3
VRHR pmax pmax
comp=N,6.0nm,0.5s

VRHR						pmax	pmax				
	comp=E,10.0nm,0.7s										
BR131	**Keskin Array S**	**85.00**	**312**		*e*P	**P**	**P**	**03 17 47.3**	**+0.9**		
	comp=E,11nm,1.0s,mb5.0										
BR131					*e*pP	pP		03 17 55.9	+1.5		
BRTR	**Keskin Array B**	**85.00**	**312**		P	**P**		**03 17 47.0**	**+0.5**		
	comp=E,4.6nm,1.0s,mb4.6,baz=131,slow=5.6,SNR=17										
BRTR	**Keskin Array B**	**85.00**	**312**	⇓	*e*P	**P**		**03 17 47.0**	**+0.6**		
VRSR	**Storozhevoye**	**85.15**	**324**		*e*P	**P**		**03 17 47.1**	**-0.1**		
VOR	**Voronezh**	**85.33**	**324**		*e*P	**P**		**03 17 48.0**	**-0.1**		
VOR						pmax	pmax				
	comp=E,50nm,1.6s,mb5.4										
SIM	**Simferopol'**	**86.22**	**317**		P	pP		03 18 02.6	+2.1		
SIM					S			03 28 25.1			
SIM						pmax	pmax				
	comp=Z,15nm,1.0s,mb5.2										
SNAA	**Sanae**	**87.38**	**197**		LR	LR		03 51 03.7			
	comp=Z,54nm,20.5s,MS4.0,baz=137,slow=32										
SNAA	**Sanae**	**87.38**	**197**		*e*P	**P**		**03 17 58.4**	**+0.2**		
SNAA					*e*			03 18 00.6			
SNAA					*e*			03 18 01.8			
SNAA					*e*	pP		03 18 06.4	+0.2		
SNAA					*e*	pP		03 18 07.8	+1.6		
SNAA					*e*			03 18 12.8			
SNAA					*e*			03 18 34.2			
MOS	**Moscow**	**87.68**	**328**		*e*P	**P**		**03 17 58.7**	**-0.9**		
MOS						pmax	pmax				
	comp=Z,50nm,1.3s,mb5.6										
OBN	**Obninsk**	**88.03**	**327**	*c*	*e*P	**P**		**03 18 01.2**	**0.0**		
OBN					*e*			03 21 27.1			
OBN					*i* S			03 28 30.2			
OBN						pmax	pmax				
	comp=Z,38nm,1.7s,mb5.3										
OBN	**Obninsk**	**88.03**	**327**		*e*P	**P**		**03 18 00.9**	**-0.3**		
	comp=Z,71nm,1.4s,mb5.7										
KLMR	**Klimovskoe**	**88.67**	**333**	*c*	*i*P	**P**		**03 18 04.4**	**+0.1**		
KLMR						pmax	pmax				
	comp=Z,90nm,1.3s,mb5.9										
VNA1	**Neumayer--Stat**	**89.42**	**197**		*e*P	**P**		**03 18 08.0**	**+0.2**		
VNA1					*e*			03 18 09.6			
VNA1					*e*			03 18 11.3			
VNA1					*e*			03 18 12.4			
VNA1					*e*			03 18 17.9			
VNA1					*e*			03 18 19.4			
VNA1					*e*			03 18 24.4			
VNA1					*e*			03 18 44.9			
AKASG	**Malin Array Be**	**90.97**	**321**		P	**P**		**03 18 13.9**	**-1.1**		
	comp=Z,1.0nm,0.6s,mb4.3,baz=95,slow=4.1,SNR=6.9										
AKASG	**Malin Array Be**	**90.97**	**321**		*i* P	**P**		**03 18 14.8**	**-0.2**		
AKASG						pmax	pmax				
	comp=Z,1.0nm,0.6s										
MLR	**Muntele Rosu**	**91.94**	**316**		P	**P**		**03 18 21.0**	**+1.5**		
	comp=Z,1.7nm,0.6s,mb4.6,baz=111,slow=11,SNR=3.2										
APA	**Apatity**	**93.48**	**338**	⇓	*e*P	**P**		**03 18 24.5**	**-2.2**		
APA					*i*			03 29 02.0			
APA					*i* S			03 29 32.0			
APA						pmax	pmax				
	comp=Z,38nm,1.6s,mb5.6										
FINES	**FINESS Array B**	**95.06**	**331**		P	**P**		**03 18 34.3**	**+0.4**		
	comp=Z,1.7nm,1.0s,mb4.4,baz=216,slow=9.4,SNR=3.6										
TBI	**Tubuai**	**96.77**	**115**		*e*LR	LR		03 49 56.7			
	comp=Z,99nm,25.5s										
PPT	**Papeete**	**97.99**	**109**		*e*LR	LR		03 50 30.5			
	comp=Z,116nm,25.5s										
YKA	**Yellowknife Ar**	**118.85**	**21**		PKP	PKPdf		03 23 59.5	+0.2		
	comp=Z,0.5nm,0.7s,baz=331,slow=1.2,SNR=3.7										
YKA	**Yellowknife Ar**	**118.85**	**21**		PKP	PKPdf		03 23 59.5	+0.2		
M02C	**Callahan**	**124.88**	**46**	⇓	P	PKPdf		03 24 15.7	+4.8		
	baz=125										
J05A	**Fort Rock**	**125.32**	**43**	⇓	P	PKPdf		03 24 14.3	+2.5		
	baz=125										
NEW	**Newport**	**125.75**	**36**		*e*PKIKP	PKPdf		03 24 13.0	+0.4		
MNRC	**McLaughlin Nat**	**125.99**	**49**	⇑	P	PKPdf		03 24 14.9	+1.9		
	baz=126										
J06A	**Christmas Vall**	**126.06**	**43**	⇓	P	PKPdf		03 24 15.0	+1.8		
	baz=126										
CVS	**Carmenet Viney**	**126.14**	**49**	⇓	P	PKPdf		03 24 15.7	+2.4		
	baz=126										
MOD	**Modoc**	**126.48**	**45**	⇓	P	PKPdf		03 24 14.9	+1.0		
	baz=126										
N06A	**Buffalo Meadow**	**127.24**	**46**	⇑	P	PKPdf		03 24 17.6	+2.2		
	baz=127										
WVOR	**Wild Horse Val**	**127.41**	**43**		*e*PKIKP	PKPdf		03 24 14.8	-0.9		
PACP	**Pacheco Peak**	**127.44**	**51**	⇓	P	PKPdf		03 24 16.8	+1.0		
	baz=127										
O06A	**Flanigan**	**127.45**	**46**	⇑	P	PKPdf		03 24 18.8	+2.9		
	baz=127										
M07A	**Soldier Meadow**	**127.46**	**45**	⇑	P	PKPdf		03 24 16.8	+0.9		
	baz=127										
CMB	**Columbia Colle**	**127.79**	**49**	⇓	P	PKPdf		03 24 17.9	+1.5		
	baz=128										
M08A	**Happy Creek Ra**	**127.98**	**44**	⇑	P	PKPdf		03 24 19.2	+2.3		
	baz=128										
R06C	**Coleville**	**128.31**	**48**	⇓	P	PKPdf		03 24 18.4	+1.0		
	baz=128										
FFC	**Flin Flon**	**128.99**	**22**		*e*PKIKP	PKPdf		03 24 19.5	+0.8		
NVAR	**Mina Array Bea**	**129.19**	**48**		PKP	PKPdf		03 24 22.0	+2.9		
	comp=Z,0.5nm,0.7s,baz=230,slow=1.1,SNR=3.7										
MTUM	**Tungsten Hills**	**129.38**	**49**		*e*PKPdf	PKPdf		03 24 23.2	+3.7		
HLID	**Hailey**	**129.68**	**40**		*e*PKPdf	PKPdf		03 24 21.7	+1.6		
HLID					*ep*PKPdf	pPKPdf		03 24 31.4	+3.1		
S09A	**Goldfield**	**130.24**	**48**	⇓	P	PKPdf		03 24 23.3	+2.1		
	baz=130										
BOZ	**Bozeman (W)**	**130.32**	**37**		*e*PKIKP	PKPdf		03 24 23.5	+2.2		
BOZ					*e*			03 24 32.2			
ELK	**Elko**	**130.43**	**44**		*e*PKIKP	PKPdf		03 24 23.6	+2.1		
ELK					*e*			03 24 32.9			
M13A	**Montello**	**130.88**	**43**	⇓	P	PKPdf		03 24 24.3	+1.9		
	baz=131										
U10A	**Ash Meadows, A**	**131.38**	**50**	⇑	P	PKPdf		03 24 27.3	+4.0		
	baz=131										
TPAW	**Teton Pass**	**131.89**	**39**		*e*PKPdf	PKPdf		03 24 28.7	+4.4		
REDW	**Red Top Meadow**	**132.02**	**39**		*e*PKPdf	PKPdf		03 24 27.1	+2.6		
REDW					*ep*PKPdf	pPKPdf		03 24 36.0	+3.3		
DUG	**Dugway**	**132.33**	**43**		*e*PKIKP	PKPdf		03 24 27.4	+2.3		
HWUT	**Hardware Ranch**	**132.48**	**41**		*e*PKPdf	PKPdf		03 24 25.5	+0.1		
BW06	**Boulder Array**	**133.14**	**39**		*e*PKPdf	PKPdf		03 24 28.8	+2.2		
MSU	**Marysvale**	**133.54**	**45**		*e*PKIKP	PKPdf		03 24 30.2	+2.8		
RSSD	**Black Hills**	**135.56**	**34**		*e*PKIKP	PKPdf		03 24 33.0	+1.9		
PV01	**Paradox Valley**	**136.21**	**44**		*e*PKPdf	PKPdf		03 24 36.0	+3.7		
PV01					*ep*PKPdf	pPKPdf		03 24 44.5	+3.9		
SMCO	**Snowmass**	**136.73**	**42**		*e*PKPdf	PKPdf		03 24 34.7	+1.4		
ANMO	**Albuquerque**	**139.27**	**47**		*e*PKIKP	PKPdf		03 24 38.6	+0.6		
ANMO					*e*			03 24 49.3			
CPUP	**Villa Florida**	**141.62**	**200**		PKP	PKPdf		03 24 44.9	+2.6		
	comp=Z,1.0nm,0.8s,baz=188,slow=4.8,SNR=2.8										
PKME	**Peaks-Kenny Pk**	**144.63**	**358**		*e*PKPdf	PKPdf		03 24 47.3	-0.2		
WMOK	**Wichita Mounta**	**144.64**	**41**		*e*PKIKP	PKPdf		03 24 47.6	0.0		
WMOK					*e*			03 24 56.0			
LONY	**Lake Ozonia**	**145.20**	**4**		*e*PKPbc	PKPbc		03 24 48.2	+0.1		
LONY					*ep*PKPdf	pPKPdf		03 24 57.2	+0.4		
BDFB	**Brasilia**	**145.83**	**223**		PKPbc	PKPbc		03 24 52.2	+2.0		
	comp=Z,3.1nm,0.8s,baz=25,slow=4.5,SNR=4.6										
NCB	**Newcomb**	**145.87**	**4**		*e*PKPbc	PKPbc		03 24 50.3	0.0		
NCB					*ep*PKPdf	pPKPdf		03 24 59.9	+2.0		
JCT	**Junction City**	**146.36**	**48**		*e*PKPbc	PKPbc		03 24 53.0	+1.2		
JCT					*ep*PKPdf	pPKPdf		03 25 03.4	+4.6		
ACCN	**Adirondack Com**	**146.49**	**3**		*e*PKPbc	PKPbc		03 24 52.0	-0.2		
CCM	**Cathedral Cave**	**146.60**	**29**		*e*PKPbc	PKPbc		03 24 52.5	0.0		
CCM					*ep*PKPdf	pPKPdf		03 25 01.9	+2.7		
FVM	**French Village**	**147.05**	**29**		*e*PKIKP	PKPdf		03 24 53.6	+1.9		
BINY	**Binghamton**	**147.47**	**7**		*e*PKPbc	PKPbc		03 24 54.6	-0.3		
BINY					*ep*PKPdf	pPKPdf		03 25 04.2	+3.5		
LVC	**Limon Verde**	**147.70**	**184**		*e*PKPbc	PKPbc		03 24 57.2	+1.7		
LVC					*ep*PKPdf	pPKPdf		03 25 07.0	+6.0		
ACSO	**Alum Creek Sta**	**147.95**	**17**		*e*PKPbc	PKPbc		03 24 56.5	+0.3		
ACSO					*ep*PKPdf	pPKPdf		03 25 05.7	+4.2		
MIAR	**Mount Ida**	**147.99**	**36**		*e*PKPbc	PKPbc		03 24 57.6	+1.3		
MIAR					*ep*PKPdf	pPKPdf		03 25 06.3	+4.8		
USIN	**University of**	**148.30**	**25**		*e*PKPbc	PKPbc		03 24 57.8	+0.7		
PARMO	**Parma**	**148.43**	**29**		*e*PKPbc	PKPbc		03 24 57.8	+0.3		
PARMO					*ep*PKPdf	pPKPdf		03 25 07.2	+5.0		
UALR	**University of**	**148.53**	**35**		*e*PKPbc	PKPbc		03 24 58.7	+0.9		
UALR					*ep*PKPdf	pPKPdf		03 25 07.4	+5.0		
WCI	**Wyandotte Cave**	**148.63**	**23**		*e*PKIKP	PKPdf		03 24 55.0	+0.7		
WCI					*e*			03 24 58.7			
SSPA	**Standing Stone**	**148.74**	**10**		*e*PKPbc	PKPbc		03 24 58.5	+0.3		
MCWV	**Mont Chateau**	**149.30**	**13**		*e*PKPbc	PKPbc		03 25 00.5	+0.8		
HKT	**Hockley**	**149.51**	**45**		*e*PKP2	PKPbc		03 25 01.7	+1.5		
MVL	**Millersville**	**149.59**	**8**		*e*PKPbc	PKPbc		03 25 01.5	+1.1		
WVT	**Waverly**	**149.76**	**27**		*e*PKP2	PKPbc		03 25 01.3	+0.5		
OXF	**Oxford**	**150.30**	**31**		*e*PKPbc	PKPbc		03 25 03.0	+0.8		
OXF					*ep*PKPdf	pPKPdf		03 25 11.5	+6.3		
PLAL	**Pickwick Lake**	**150.59**	**29**		*e*PKPbc	PKPbc		03 25 02.8	0.0		
PLAL					*ep*PKPab	pPKPab		03 25 10.9	-6.8		
FWV	**Forest Hill**	**151.03**	**16**		*e*PKPbc	PKPbc		03 25 04.2	+0.3		
FWV					*e*PKPab	PKPab		03 25 11.9	+0.5		
TZTN	**Tazewell**	**151.13**	**21**		*e*PKPbc	PKPbc		03 25 05.0	+0.9		
ELN	**Prospectdale**	**151.38**	**16**		*e*PKPbc	PKPbc		03 25 05.2	+0.5		
ELN					*e*PKPab	PKPab		03 25 13.1	+0.2		
BLA	**Blacksburg**	**151.48**	**16**		*e*PKIKP	PKPbc		03 25 06.0	+1.1		
BLA					*e*			03 25 14.2			
CPCT	**Cooper Cave**	**151.74**	**23**		*e*PKPbc	PKPbc		03 25 06.9	+1.4		
CPCT					*e*PKPab	PKPab		03 25 15.0	+0.6		
MYNC	**Murphy**	**152.22**	**23**		*e*PKIKP	PKPbc		03 25 07.8	+1.2		
MYNC					*e*			03 25 16.3			
LRAL	**Lakeview Retre**	**152.69**	**30**		*e*PKPbc	PKPbc		03 25 08.7	+1.0		
LRAL					*e*PKPab	PKPab		03 25 17.4	-0.9		

BJI **22** *03:21:10.7, 997S×10875E, h36km, mB5.0, mb4.9, Ms4.9, Msz4.6*

HRVD **22** *03:21:12.8±0.5, 954S×10857E, h20km±1km, MW4.9/51, Centroid moment Tensor Solution. LP body waves: s24,c30;Mantle waves: s51,c69; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.85±.17; $M_{\theta\theta}$2.15±.11; $M_{\phi\phi}$-0.30±.14; $M_{r\theta}$1.49±.21; $M_{\theta\phi}$-0.07±.09; $M_{\phi r}$0.25±.30; Best double couple: M_o2.51000×10^{16} NP1:ϕ_s101.00000°,δ27.00000°,λ-75.00000°. NP2: ϕ_s264.00000°,δ64.00000°,λ-97.00000°. Principal axes: T 2.6440, Plg18.0000°, Azm360.0000°; N -0.2740, Plg7.0000°, Azm268.0000°; P -2.3760, Plg70.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC **22** *03:21:12.1±0.4, 936S×10850E, h0km, mb4.8/17, mb1 4.9/18, mb1mx4.8/21, mbtmp4.8/18, ML4.5/1, MS4.4/10, Ms1 4.4/10, ms1mx4.0/26 Error ellipse: s-maj=23.0km s-min=11.8km az=53.0*

NEIC **22** *03:21:12.8±3.1, 933S×10855E, h6km±19km, mb5.1/36, Error ellipse: s-maj=7.9km s-min=4.1km az=56.0*

MOS **22** *03:21:15.9±1.2, 924S×10858E, h33km, mb5.1/39, MS4.3/7, Error ellipse: s-maj=14.2km s-min=6.6km az=114.5*

ISCJB **22** *03:21:15.4±0.2, 936S±003×10854E±004, h35km, mb4.9/82, MS4.5/26, Error ellipse: s-maj=6.0km s-min=4.3km az=120.7*

ISC 22 03:21:17.6±0.2, 938S±003×10853E±004, h37km, h37km±2.7km:pP-P, n281, σ1§03/188, mb4.9/82, MS4.5/26, 37C-35D, South of Jawa

Code	Station Name	Δ°	AΣ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.35**	**30**	P		**Pn**		**03 21 53.4**	**-0.2**
	2μm,1.2s								
BJII	**Banjamegara**	**2.35**	**30**	⇑	*i*P	**Pn**		**03 21 54.0**	**+0.4**
BJII					*i* S	**Sn**		**03 22 18.0**	**-3.2**
LEM	**Lembang**	**2.70**	**340**	P		**Pn**		**03 21 59.2**	**+0.8**
	4μm,0.8s								
JCJI	**Jatiwangi**	**2.89**	**355**	P		**Pn**		**03 21 58.7**	**-2.3**
	2μm,1.3s								
CBJI	**Citeko**	**3.38**	**330**	P		**Pn**		**03 22 04.9**	**-3.0**
	3μm,0.7s								
SBJI	**Serang**	**4.02**	**324**	P		**Pn**		**03 22 20.0**	**+3.3**
	320nm,1.7s								
KRKI	**Karangkates**	**4.06**	**73**	P		**Pn**		**03 22 18.6**	**+1.4**
	1μm,1.1s								
NBBI	**Negara**	**6.10**	**81**	P		**Pn**		**03 22 46.6**	**+1.4**
	2μm,0.6s								
DNP	**Denpasar**	**6.63**	**84**	P		**Pn**		**03 22 55.8**	**+3.3**
	1μm,0.7s								
KSI	**Kapahiang**	**8.20**	**314**	P		**Pn**		**03 23 13.3**	**-0.7**
	239nm,0.7s								
PSI	**Prapat**	**15.43**	**321**	Pn		**Pn**		**03 24 44.5**	**-8.0**
	1.1nm,0.3s,baz=174,slow=9.3,SNR=7.6								
PSI	**Prapat**	**15.43**	**321**	P		**Pn**		**03 24 44.5**	**-8.0**
PSI				pmax	pmax				
	comp=Z,1.0nm,0.3s								
PSI	**Prapat**	**15.43**	**321**	Pn		**Pn**		**03 24 44.5**	**-8.0**
MBWA	**Marble Bar**	**15.92**	**139**	*e*Pn		**Pn**		**03 24 55.1**	**-3.6**
	comp=Z,36nm,0.8s								
MBWA				*e*Sn		**Sn**		**03 27 34.2**	**-20**
FITZ	**Fitzroy Crossi**	**18.73**	**119**	⇓	*i*P	**Pn**		**03 25 32.7**	**-0.9**
	comp=Z,68nm,0.8s								
FITZ				*e*sP		sP		03 25 45.7	-1.5
FITZ				*e*S		S		03 28 43.6	-21
FITZ	**Fitzroy Crossi**	**18.73**	**119**	P		**Pn**		**03 25 33.2**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=281,slow=7.6,SNR=60								
FITZ				Sn		Sn		03 28 40.9	-21
	comp=Z,0.5nm,0.3s,baz=301,slow=15,SNR=2.9								
AAI	**Ambon**	**20.33**	**75**	P		**P**		**03 25 50.2**	**-0.3**
	comp=Z,187nm,0.9s								
KAKA	**Kakadu**	**23.69**	**100**	*e*P		**P**		**03 26 25.6**	**-0.3**
	comp=Z,19nm,0.6s,mb4.7								
KAKA				*e*S		**S**		**03 30 52.2**	**+14**
KLBR	**Kellerberrin**	**23.70**	**160**	*e*P		**P**		**03 26 25.4**	**-0.6**
	comp=Z,85nm,1.6s,mb4.9								
KLBR				*e*S		**S**		**03 30 39.8**	**+1.5**
NWAO	**Narrogin (SRO)**	**24.77**	**162**	P		**P**		**03 26 35.2**	**-0.5**
	comp=Z,22nm,0.7s,mb4.8,baz=320,slow=9.7,SNR=10								
NWAO				LR		LR		03 34 48.3	
	comp=Z,782nm,19.7s,MS4.2,baz=157,slow=33								
NWAO	**Narrogin (SRO)**	**24.77**	**162**	P		**P**		**03 26 35.2**	**-0.5**
NWAO				pmax	pmax				
	comp=Z,22nm,0.7s								
NWAO				MLR	MLR				
	comp=Z,782nm,19.7s								
NWAO	**Narrogin (SRO)**	**24.77**	**162**	P		**P**		**03 26 35.2**	**-0.6**
NWAO				LR	LR			03 34 48.3	
WRA	**Warramunga Arr**	**27.04**	**116**	P		**P**		**03 26 56.1**	**-0.2**
	comp=Z,20nm,0.8s,mb4.7,baz=287,slow=11,SNR=48								
WRA				PcP	PcP			03 30 18.1	+1.2
	comp=Z,3.1nm,0.7s,baz=298,slow=2.2,SNR=5.4								
WRA				Sn	S			03 32 01.1	+30
	comp=Z,1.3nm,0.7s,baz=272,slow=24,SNR=5.7								
WRA	**Warramunga Arr**	**27.04**	**116**	P		**P**		**03 26 56.1**	**-0.2**
WRA								03 30 18.1	
WRA				pmax	pmax				
	comp=Z,20nm,0.8s								
WRA				pmax	pmax				
	comp=Z,3.0nm,0.7s								
WRAB	**Tennant Creek**	**27.05**	**116**	P		**P**		**03 26 56.6**	**+0.3**
	comp=Z,144nm,0.8s,mb5.5,SNR=12								
WRAB	**Tennant Creek**	**27.05**	**116**	⇓	*i*P	**P**		**03 26 56.5**	**+0.2**
WRAB	**Tennant Creek**	**27.05**	**116**		*e*P	**P**		**03 26 56.4**	**+0.1**
	comp=Z,25nm,0.8s,mb4.8								
WB2	**Warramunga Arr**	**27.05**	**116**	⇓	*i*P	**P**		**03 26 55.7**	**-0.7**
WB2				*e*S		S		03 32 04.3	+33
ASPA	**Alice Springs**	**28.09**	**123**		*e*P	**P**		**03 27 05.7**	**0.0**
ASPA				*i* pP		pP		03 27 09.8	-6.3
ASPA				*e*S		S		03 32 29.9	+42
ASAR	**Alice Springs**	**28.09**	**123**	P		**P**		**03 27 05.6**	**-0.1**
	comp=Z,11nm,0.7s,mb4.6,baz=298,slow=7.6,SNR=49								
ASAR				PcP	PcP			03 30 20.9	+1.5
	comp=Z,7.6nm,0.8s,baz=321,slow=2.0,SNR=19								
ASAR				Sn	S			03 32 28.3	+40
	comp=Z,5.0nm,0.8s,baz=292,slow=23,SNR=6.6								
ASAR				LR	LR			03 37 36.1	
	comp=Z,552nm,19.8s,MS4.2,baz=312,slow=35								
ASAR	**Alice Springs**	**28.09**	**123**	P		**P**		**03 27 05.6**	**-0.1**
ASAR								03 30 20.9	
ASAR				pmax	pmax				
	comp=Z,11nm,0.7s								
ASAR				pmax	pmax				
	comp=Z,8.0nm,0.8s								
ASAR				MLR	MLR				
	comp=Z,552nm,19.8s								
AS31	**Alice Springs**	**28.09**	**123**	*e*P		**P**		**03 27 05.7**	**0.0**
AS31				*i* pP		pP		03 27 09.8	-6.3
AS31				*e*S		S		03 32 29.9	+42
QIZ	**Qiongzhong**	**28.26**	**3**	P		**P**		**03 27 07.8**	**+0.6**
QIZ				*e*S		**S**		**03 31 51.0**	**+0.3**
QIZ				LR	LR				
	comp=N,595nm,16.2s,MS4.4								
QIZ				LR	LR				
	comp=E,512nm,13.7s,MS4.4								
QIZ				LR	LR				
	comp=Z,687nm,15.8s,MS4.3								
CHTO	**Chiang Mai**	**29.57**	**341**	*e*P		**P**		**03 27 19.0**	**+0.2**
CHTO				pmax	pmax				
	comp=Z,21nm,1.1s,mb4.8								
CHTO	**Chiang Mai**	**29.57**	**341**	*e*P		**P**		**03 27 19.0**	**+0.1**
	comp=Z,21nm,1.1s,mb4.8								
KMI	**Kunming**	**34.76**	**351**	P		**P**		**03 28 07.8**	**+3.5**
KMI				AP		pP		03 28 10.6	-4.2
KMI				PP		PP		03 29 25.6	+2.2
KMI				S		**S**		**03 33 39.8**	**+7.7**
KMI				SS		SS		03 35 52.6	-11
KMI				SSS				03 36 20.1	
KMI				AMB	AMB				
	comp=Z,10.0nm,0.7s,mb4.8								
KMI				LR	LR				
	comp=N,985nm,16.2s,MS4.7								
KMI				LR	LR				
	comp=E,624nm,16.7s,MS4.7								
KMI				LR	LR				
	comp=Z,1μm,20.2s,MS4.6								
GYA	**Guiyang**	**35.67**	**357**	P		**P**		**03 28 13.0**	**+0.9**
GYA				PCP	PcP			03 30 40.8	+0.9
GYA				S		**S**		**03 33 49.3**	**+3.2**
GYA				AMB	AMB				
	comp=Z,20nm,0.5s,mb5.3								
GYA				AMB	AMB				
	comp=Z,130nm,4.3s								
GYA				LR	LR				
	comp=N,480nm,14.6s,MS4.5								
GYA				LR	LR				
	comp=E,450nm,14.3s,MS4.5								
GYA				LR	LR				
	comp=Z,460nm,14.8s,MS4.4								
VIS	**Vishakhapatnam**	**36.68**	**317**	*ex*		x		03 28 32.6	
VIS				AMb	AMB			03 28 36.6	
	comp=Z,54nm,1.4s,mb5.2								
CTA	**Charters Tower**	**37.91**	**111**	*e*P		**P**		**03 28 32.2**	**+1.0**
	comp=Z,8.9nm,0.6s,mb4.7								
CTA	**Charters Tower**	**37.91**	**111**	P		**P**		**03 28 32.2**	**+1.0**
	comp=Z,10nm,0.6s,mb4.7,baz=283,slow=13,SNR=11								
CTA	**Charters Tower**	**37.91**	**111**	P		**P**		**03 28 32.2**	**+1.0**
CTA				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CTAO	**Charters Tower**	**37.91**	**111**	*e*P		**P**		**03 28 32.2**	**+1.0**
CTAO				pmax	pmax				
	comp=Z,12nm,0.6s,mb4.8								
CTAO	**Charters Tower**	**37.91**	**111**	*e*P		**P**		**03 28 32.2**	**+1.0**
	comp=Z,12nm,0.6s,mb4.8								
STKA	**Stephens Creek**	**37.93**	**131**	⇓	*i*P	**P**		**03 28 31.4**	**0.0**
	comp=E,66nm,0.7s,mb5.5								
STKA	**Stephens Creek**	**37.93**	**131**	P		**P**		**03 28 31.9**	**+0.5**
	comp=E,84nm,0.8s,mb5.5,baz=304,slow=8.1,SNR=150								
STKA				LR	LR			03 45 33.7	
	comp=E,652nm,18.2s,MS4.5,baz=129,slow=38								
BOK	**Bokaro**	**39.72**	**326**	*e*P		**P**		**03 28 46.5**	**+0.2**
BOK				AMb	AMB			03 28 48.0	
	comp=Z,26nm,0.6s,mb5.2								
HYB	**Hyderabad**	**39.84**	**312**	*i*P		**P**		**03 28 49.5**	**+2.2**
CD2	**Chengdu**	**40.32**	**354**	⇓	*i*P	**P**		**03 28 51.6**	**+0.3**
CD2				PP	PP			03 30 28.9	+4.4
CD2				S		**S**		**03 35 00.5**	**+4.0**
CD2				SS	SS			03 37 55.1	-0.9
CD2				AMB	AMB				
	comp=Z,10.0nm,1.1s,mb4.5								
CD2				AMB	AMB				
	comp=Z,80nm,5.2s								
CD2				LR	LR				
	comp=E,280nm,15.5s								
CD2				LR	LR				
	comp=Z,250nm,16.1s,MS4.2								
BLSP	**Bilaspur**	**40.63**	**321**	*e*P

HHC S **S** **03 37 19.5 +2.4**
HHC AMB AMB
comp=Z,15nm,0.4s,mb5.4
HHC AMB AMB
comp=Z,70nm,6.1s
HHC LR LR
comp=N,320nm,13.3s,MS4.6
HHC LR LR
comp=E,318nm,14.7s,MS4.6
HHC LR LR
comp=Z,426nm,13.9s,MS4.6
SMLA Simla 50.27 325 *e*P **P** **03 30 09.8 -0.3**
SNY Shenyang 52.80 14 ⇑P **P** **03 30 27.0 -2.1**
SNY AMB AMB
comp=Z,13nm,2.5s,mb4.4
MAT Matsushiro 53.53 30 P **P** **03 30 32.2 -2.2**
MAT S **S** **03 38 03.2 -1.6**
MAT Matsushiro 53.53 30 P **P** **03 30 32.0 -2.4**
MJAR Matsushiro Arr 53.53 30 P **P** **03 30 31.5 -2.9**
comp=Z,1.8nm,0.5s,mb4.2,baz=264,slow=6.5,SNR=7.7
MJAR LR LR 03 51 52.3
comp=Z,259nm,19.5s,MS4.3,baz=315,slow=34
CN2 Changchun 55.12 15 *e*P **P** **03 30 44.3 -1.7**
CN2 *e*S **S** **03 38 27.1 +0.9**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.5
CN2 LR LR
comp=E,200nm,15.0s,MS4.5
CN2 LR LR
comp=Z,300nm,15.0s,MS4.5
WMQ Urumqi 56.23 342 P **P** **03 30 55.9 +1.9**
WMQ AP pP 03 31 00.5 -4.6
WMQ PCP PcP 03 31 53.4 +2.1
WMQ PP PP 03 33 02.8 +3.3
WMQ S **S** **03 38 43.3 +2.2**
WMQ AMB AMB
comp=Z,31nm,1.4s,mb5.2
WMQ AMB AMB
comp=Z,195nm,5.5s
WMQ LR LR
comp=N,861nm,17.8s,MS5.0
WMQ LR LR
comp=E,646nm,16.7s,MS5.0
WMQ LR LR
comp=Z,862nm,18.3s,MS4.9
CASY Casey 56.83 179 *e*P **P** **03 30 58.0 -0.3**
comp=Z,3.0nm,0.8s,mb4.4
SONM Songino Array 57.00 358 P **P** **03 30 59.8 +0.4**
comp=Z,6.5nm,0.5s,mb5.0,baz=177,slow=8.8,SNR=40
SONM LR LR 03 56 05.0
comp=Z,453nm,19.2s,MS4.6,baz=352,slow=37
SONM Songino Array 57.00 358 P **P** **03 30 59.8 +0.4**
SONM pmax pmax
comp=Z,7.0nm,0.5s
SONM MLR MLR
comp=Z,453nm,19.2s
ULN Ulaanbaatar 57.01 359 ⇓P **P** **03 31 00.1 +0.5**
SNR=7.2
ULN Ulaanbaatar 57.01 359 *e*P **P** **03 30 59.6 +0.1**
ULN *e**PP pP 03 31 10.9 +0.3
ULN pmax pmax
comp=Z,15nm,0.8s,mb5.1
ULN Ulaanbaatar 57.01 359 *e*P **P** **03 30 59.6 +0.1**
comp=Z,15nm,0.8s,mb5.1
ULN *e*pP pP 03 31 10.9 +0.3
MDJ Mudanjiang 57.02 18 P **P** **03 31 00.3 +0.7**
MDJ PCP PcP 03 31 54.6 +0.2
MDJ PP PP 03 33 10.9 +4.4
MDJ PCS PcS 03 35 55.3 0.0
MDJ S **S** **03 38 55.1 +3.6**
MDJ AMB AMB
comp=Z,6.0nm,1.9s,mb4.3
MDJ AMB AMB
comp=Z,48nm,4.8s
MDJ LR LR
comp=N,84nm,16.2s,MS4.1
MDJ LR LR
comp=E,124nm,19.2s,MS4.1
MDJ LR LR
comp=Z,163nm,18.8s,MS4.2
KSH Kashi 57.27 330 *e*P **P** **03 31 04.3 +2.9**
KSH *e*AP pP 03 31 11.3 -1.1
KSH *e*XP sP 03 31 19.6 +2.8
KSH *e*PP PP 03 33 09.3 +0.6
KSH *e*SCP ScP 03 35 50.5 -1.7
KSH *e*PCS PcS 03 35 58.3 +1.9
KSH *e*S **S** **03 39 00.1 +5.3**
KSH *e*SCS ScS 03 40 40.3 -7.5
KSH LR LR
comp=N,697nm,17.2s,MS5.1
KSH LR LR
comp=E,878nm,14.8s,MS5.1
KSH LR LR
comp=Z,2µm,16.0s,MS5.2
MIR Mirnyy 58.06 187 *c i*P **P** **03 31 08.0 +1.0**
MIR pmax pmax
comp=Z,170nm,1.2s,mb6.0
ZAK Zakamensk 59.69 356 *e*P **P** **03 31 17.7 -0.5**
ZAK pmax pmax
comp=Z,4.0nm,1.5s,mb4.2
AAK Ala-Archa 60.39 332⇑ *e*P **P** **03 31 23.8 +0.8**
AAK pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
AAK Ala-Archa 60.39 332 *e*P **P** **03 31 24.6 +1.6**
comp=Z,11nm,1.3s,mb4.7
MK31 Makanchi Array 60.63 340 P **P** **03 31 24.2 -0.5**
MK31 pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
MKAR Makanchi Array 60.63 340 P **P** **03 31 24.7 0.0**
comp=Z,9.2nm,0.5s,mb5.2,baz=146,slow=7.5,SNR=119
MKAR Makanchi Array 60.63 340 P **P** **03 31 24.7 0.0**
MKAR pmax pmax
comp=Z,9.0nm,0.5s
MKAR Makanchi Array 60.63 340 P **P** **03 31 24.7 0.0**
MOY Mondy 61.15 355 *e*P **P** **03 31 29.1 +0.9**
IRK Irkutsk 61.49 357 *e*P **P** **03 31 31.4 +0.9**
IRK pmax pmax
comp=Z,32nm,1.4s,mb5.3
KLR Kul'dur 61.82 17 *e*P **P** **03 31 28.1 -4.6**
KK31 Karatay Array 62.67 329 *i*P **P** **03 31 38.8 +0.4**
KK31 pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
KKAR Karatay Array 62.67 329 *i*P **P** **03 31 38.8 +0.4**
KKAR pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
RPZ Rata Peaks 63.79 134 LR LR 03 56 33.7
comp=Z,778nm,18.4s,MS4.9,baz=86,slow=33
YSS Yuzh-Sakhalins 63.84 25⇑ *e*P **P** **03 31 46.2 +0.1**
YSS pmax pmax
comp=Z,22nm,1.2s,mb5.1
KURK Kurchatov 65.25 340 P **P** **03 31 55.6 +0.3**
comp=Z,92nm,0.8s,mb5.9,SNR=10
KURK Kurchatov 65.25 340⇑P **P** **03 31 55.6 +0.2**
SNR=7.8
KURK Kurchatov 65.25 340 *e*P **P** **03 31 54.9 -0.4**
KURK *e**PP pP 03 32 06.3 -0.3
KURK pmax pmax
comp=Z,17nm,1.0s,mb5.0
KURK Kurchatov 65.25 340 *e*P **P** **03 31 54.9 -0.4**
comp=Z,17nm,1.0s,mb5.0
KURK *e*pP pP 03 32 06.3 -0.3
MAW Mawson 65.55 198⇓ *i*P **P** **03 31 57.3 0.0**
comp=Z,7.2nm,0.9s,mb4.7
MAW Mawson 65.55 198 P **P** **03 31 57.0 -0.3**
comp=Z,8.9nm,0.9s,mb4.8,baz=48,slow=7.6,SNR=15
MAW Mawson 65.55 198⇓ *i*P **P** **03 31 57.3 0.0**
MAW pmax pmax
comp=Z,7.0nm,0.9s
BOD Bodaibo 67.12 3 *e*P **P** **03 32 06.6 -0.7**
BOD *e* pP 03 32 17.6 -1.0
BOD pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
BOD pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
NVS Novosibirsk 67.42 344 *e*P **P** **03 32 07.0 -2.3**
VOSK Vostochnaya 69.68 337 P **P** **03 32 22.7 -0.7**
VOSK pmax pmax
comp=Z,16nm,1.4s,mb4.8
BVA0 Borovoye Array 70.14 337 *i*P **P** **03 32 25.9 -0.3**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BVAR Borovoye Array 70.14 337 P **P** **03 32 26.1 -0.1**
comp=Z,7.3nm,0.7s,mb4.7,baz=143,slow=8.2,SNR=41
BVAR Borovoye Array 70.14 337 P **P** **03 32 26.1 -0.1**
BVAR pmax pmax
comp=Z,7.0nm,0.7s
BRVK Borovoye 70.21 337 P **P** **03 32 26.7 +0.1**
comp=Z,77nm,1.0s,mb5.6,SNR=6.6
BRVK Borovoye 70.21 337⇑P **P** **03 32 26.2 -0.4**
SNR=8.5
BRVK Borovoye 70.21 337 *e*P **P** **03 32 25.9 -0.7**
BRVK *e**PP pP 03 32 37.5 -0.4
BRVK pmax pmax
comp=Z,13nm,0.9s,mb4.9
BRVK Borovoye 70.21 337 *e*P **P** **03 32 25.9 -0.7**
comp=Z,13nm,0.9s,mb4.9
BRVK *e*pP pP 03 32 37.5 -0.4
CHKZ Chkalovo 70.55 337 *e*P **P** **03 32 28.5 -0.2**
CHKZ *e**PP pP 03 32 39.9 -0.1
CHKZ pmax pmax
comp=Z,39nm,0.9s,mb5.3
CHKZ Chkalovo 70.55 337 *e*P **P** **03 32 28.5 -0.2**
comp=Z,39nm,0.9s,mb5.3
CHKZ *e*pP pP 03 32 39.9 -0.1
ZRNK Zerenda 70.64 336 *e*P **P** **03 32 29.1 -0.1**
ZRNK *e**PP pP 03 32 40.5 0.0
ZRNK pmax pmax
comp=Z,25nm,0.9s,mb5.1
ZRNK Zerenda 70.64 336 *e*P **P** **03 32 29.1 -0.1**
comp=Z,25nm,0.9s,mb5.2
ZRNK *e*pP pP 03 32 40.5 -0.1
KMBO Kilima Mbogo 71.35 272 P **P** **03 32 34.1 +0.6**
comp=Z,1.4nm,0.7s,mb4.0,baz=50,slow=7.9,SNR=4.5
KMBO Kilima Mbogo 71.35 272 P **P** **03 32 34.1 +0.6**
KMBO pmax pmax
comp=Z,1.0nm,0.7s
AB31 Akbulak array 72.22 329 *i*P **P** **03 32 38.1 -0.7**
AB31 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
YAK Yakutsk 73.08 10⇑ *e*P **P** **03 32 42.4 -1.5**
YAK pmax pmax
comp=Z,20nm,0.7s,mb5.2
YAK Yakutsk 73.08 10 *e*P **P** **03 32 42.7 -1.1**
comp=Z,63nm,0.8s,mb5.6
VNDA Vanda 73.36 170 P **P** **03 32 45.3 -0.2**
comp=Z,14nm,0.9s,mb4.9,baz=296,slow=6.3,SNR=64
VNDA LR LR 04 00 27.5
comp=Z,122nm,20.5s,MS4.2,baz=332,slow=32
VNDA Vanda 73.36 170 *e*P **P** **03 32 45.2 -0.3**
comp=Z,20nm,1.0s,mb5.0
SYO Syowa Base 73.81 200⇓ *e*X **P** **03 32 45.8 -2.4**
SYO Syowa Base 73.81 200⇓ *e*X PcP 03 33 00.0 -3.6
AKTK Aktyubinsk 73.94 329 P **P** **03 32 48.9 0.0**
AKTO Aktyubinsk 73.94 329 P **P** **03 32 48.9 0.0**
comp=Z,1.6nm,0.6s,mb4.1,baz=103,slow=8.2,SNR=6.5
AKTO Aktyubinsk 73.94 329 *i*P **P** **03 32 51.2 +2.3**
AKTO pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
SBA Scott Base 74.43 169 *e*P **P** **03 32 52.3 +0.5**
SBA pmax pmax
comp=Z,17nm,1.0s,mb4.9
SBA Scott Base 74.43 169 *e*P **P** **03 32 52.3 +0.5**
comp=Z,18nm,1.0s,mb4.9
PET Petropavlovsk 75.34 29 *e*P **P** **03 32 56.5 -0.5**
PET *e*S S 03 42 29.6 -4.4
PET pmax pmax
comp=Z,25nm,0.7s,mb5.2
PET smax
comp=N,100nm,21.5s
PET MLR MLR
comp=Z,200nm,13.0s,MS4.6
PET Petropavlovsk 75.34 29 *e*P **P** **03 32 56.2 -0.8**
comp=Z,17nm,0.7s,mb5.1
SVE Sverdlovsk 76.80 335 *e*P **P** **03 33 04.7 -0.6**
SVE *e* pP 03 33 17.8 +1.0
SVE MLR MLR
comp=N,100nm,18.0s,MS4.3
SVE MLR MLR
comp=E,100nm,18.0s,MS4.3
SVE MLR MLR
comp=Z,200nm,18.0s,MS4.5
ARU Arti 77.41 334⇓ *i*P **P** **03 33 08.2 -0.6**
ARU *e* pP 03 33 19.3 -0.9
ARU *e* 03 36 02.9
ARU 03 37 46.2
ARU *e*PPP
ARU *e*S S 03 42 55.3 -1.4
ARU *e*SS SS 03 47 59.2 +3.4
ARU pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ARU Arti 77.41 334 *e*P **P** **03 33 08.5 -0.3**
comp=Z,10nm,0.9s,mb4.8
KIV Kislovodsk 79.66 318⇑ *e*P **P** **03 33 21.3 +0.1**
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BOSA Boshof 79.70 243 LR LR 04 02 31.3
comp=Z,195nm,19.0s,MS4.5,baz=278,slow=31
ASF Jabal al Asfar 79.76 305 P **P** **03 33 22.8 +1.1**
comp=Z,2.6nm,0.5s,mb4.4,baz=92,slow=0.4,SNR=7.4
ASF Jabal al Asfar 79.76 305 P **P** **03 33 22.8 +1.1**
ASF pmax pmax
comp=Z,3.0nm,0.5s
MALT Malatya 80.55 311 *e*P **P** **03 33 27.1 +1.1**
MALT pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MALT Malatya 80.55 311 *e*P **P** **03 33 27.1 +1.1**
comp=Z,3.2nm,0.9s,mb4.2
QSPA South Pole Qui 80.62 180⇓ *i*P **P** **03 33 26.4 0.0**
comp=Z,42nm,1.1s,mb5.3
EIL Elat 80.62 302 *e*P **P** **03 33 27.5 +1.1**
comp=Z,172nm,1.1s,mb5.9
SOC Sochi 81.50 317 *e*P **P** **03 33 29.7 -1.3**
SOC *i* S S 03 43 43.2 +3.2
SOC *e* 03 43 45.7
SOC MLR MLR
comp=Z,153nm,15.0s,MS4.5
TIXI Tiksi 81.98 6 *d i*P **P** **03 33 32.1 -1.5**
TIXI pmax pmax
comp=Z,14nm,0.9s,mb4.9
BRTR Keskin Array B 84.54 312 P **P** **03 33 47.5 +0.7**
comp=Z,5.6nm,0.9s,mb4.7,baz=131,slow=7.0,SNR=21
BRTR LR LR 04 12 28.9
comp=Z,94nm,19.9s,MS4.2,baz=90,slow=36
BRTR Keskin Array B 84.54 312 P **P** **03 33 47.5 +0.8**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR MLR MLR
comp=Z,94nm,19.9s
BRTR Keskin Array B 84.54 312 P **P** **03 33 47.5 +0.7**
BRTR LR LR 04 12 28.9
BR131 Keskin Array S 84.54 312 *e*P **P** **03 33 47.0 +0.3**
comp=Z,5.1nm,0.9s,mb4.7
VRSR Storozhevoye 84.66 324 *e*P **P** **03 33 47.2 -0.2**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
VRSR pmax pmax
comp=N,6.0nm,1.1s
VRSR pmax pmax
comp=E,10.0nm,0.8s
MOS Moscow 87.19 328 *e*P pP 03 34 08.1 -3.4
OBN Obninsk 87.54 327 *c e*P **P** **03 34 01.8 +0.2**
OBN *e* 03 37 25.3
OBN *e*S 03 44 33.3
OBN pmax pmax
comp=Z,35nm,1.2s,mb5.5
OBN Obninsk 87.54 327 *e*P **P** **03 34 01.5 -0.1**
comp=Z,19nm,0.6s,mb5.5
SNAA Sanae 87.72 197 *e*P **P** **03 34 01.6 -0.8**
SNAA *e* 03 34 03.4
SNAA Sanae 87.72 197 *e*P **P** **03 34 02.7 +0.3**
SNAA pmax pmax
comp=Z,34nm,1.5s
SNAA Sanae 87.72 197 *e*P **P** **03 34 02.7 +0.3**
comp=Z,34nm,1.5s,mb5.4
TSUM Tsumeb 87.85 251 *e*P **P** **03 34 04.3 +1.3**
comp=Z,7.0nm,1.0s,mb4.8
KLMR Klimovskoe 88.18 333 *e*P **P** **03 34 04.0 -0.6**
KLMR pmax pmax
comp=Z,20nm,1.3s,mb5.2
VNA1 Neumayer--Stat 89.75 197 *e*P **P** **03 34 12.2 +0.2**
VNA1 *e* 03 34 13.4
VNA1 *e* 03 34 14.5
VNA1 *e* 03 34 16.1
AKASG Malin Array Be 90.49 321 P **P** **03 34 14.4 -1.1**
comp=Z,1.5nm,0.6s,mb4.5,baz=88,slow=4.5,SNR=8.3
AKASG Malin Array Be 90.49 321 *i*P **P** **03 34 15.0 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
MLR Muntele Rosu 91.47 316 P **P** **03 34 19.7 -0.2**
comp=Z,2.9nm,0.9s,mb4.6,baz=87,slow=12,SNR=3.3
MLR Muntele Rosu 91.47 316 P **P** **03 34 19.7 -0.3**
MLR pmax pmax
comp=Z,3.0nm,0.9s
JOF Joensuu 92.53 333 *e*p **P** **03 34 24.4 -0.5**
comp=Z,3.2nm,0.7s,mb4.9
JOF Joensuu 92.53 333 *e*P **P** **03 34 24.4 -0.5**
JOF pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
FINES FINESS Array B 94.58 331 P **P** **03 34 33.2 -1.1**
comp=Z,1.4nm,0.8s,mb4.5,baz=111,slow=8.4,SNR=7.8
FINES FINESS Array B 94.58 331 *i*P **P** **03 34 34.2 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 94.58 331 P **P** **03 34 33.2 -1.2**
KAF Kangasniemi 94.60 332 *e*p **P** **03 34 32.6 -1.8**
comp=Z,5.6nm,0.9s,mb5.0
KAF Kangasniemi 94.60 332 *e*P **P** **03 34 32.6 -1.8**
KAF pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
ARCES ARCESS Array B 96.29 339 LR LR 04 25 05.7
comp=Z,149nm,18.8s,MS4.5,baz=93,slow=40
YKA Yellowknife Ar 118.54 21 PKP PKPdf 03 40 00.3 -1.0
comp=Z,1.9nm,0.7s,baz=334,slow=1.7,SNR=7.8
YKA Yellowknife Ar 118.54 21⇑ *i*PKIKP PKPdf 03 40 00.9 -0.4
YKA Yellowknife Ar 118.54 21 PKP PKPdf 03 40 00.3 -1.0
E03A Lebam 122.39 40⇑P PKPdf 03 40 10.3 +1.6
baz=122
B05A Bryant 122.60 38⇓P PKPdf 03 40 10.2 +1.1
baz=122
F04A Amboy 123.36 40⇑P PKPdf 03 40 11.1 +0.5
baz=123
E05A Randle 123.52 40⇑P PKPdf 03 40 11.6 +0.7
baz=123
K02A Glendale 123.83 44⇓P PKPdf 03 40 12.6 +1.1
baz=124
L02A Cave Junction 123.96 45⇓P PKPdf 03 40 13.1 +1.4
baz=124
J03A Ideyld Park 123.98 43⇓P PKPdf 03 40 13.0 +1.3
baz=124
F05A White Salmon 123.99 40⇓P PKPdf 03 40 12.7 +1.0
baz=124
HUMO Hull Mountain 124.25 44⇓P PKPdf 03 40 14.1 +1.8
baz=124
M02C Callahan 124.76 46⇓P PKPdf 03 40 14.9 +1.7
baz=125
J05A Fort Rock 125.17 43⇑P PKPdf 03 40 16.4 +2.4
baz=125
O02C Red Bluff 125.21 47⇓P PKPdf 03 40 16.7 +2.5
baz=125
M04C Macdoel 125.33 45⇓P PKPdf 03 40 15.9 +1.5
baz=125
FARB Farallon Islan 125.84 50⇓P PKPdf 03 40 16.7 +1.4
baz=126
MNRC McLaughlin Nat 125.89 48⇓P PKPdf 03 40 17.1 +1.7
baz=126
J06A Christmas Vall 125.92 43⇓P PKPdf 03 40 17.0 +1.5
baz=126
HATC Hat Creek Radi 125.94 46⇑P PKPdf 03 40 17.3 +1.8
baz=126
M05C Lookout 125.96 45⇑P PKPdf 03 40 17.7 +2.1
baz=126
K06A Valley Falls 126.03 43⇑P PKPdf 03 40 17.8 +2.1
baz=126
CVS Carmenet Viney 126.05 49⇑P PKPdf 03 40 17.5 +1.8
baz=126
O04C Chester 126.38 46⇑P PKPdf 03 40 17.3 +1.0
baz=126
L07A Adell 126.96 44⇑P PKPdf 03 40 19.7 +2.2
baz=127
J08A Circle Bar Ran 126.99 42⇑P PKPdf 03 40 20.0 +2.5
baz=127
P05C Yuba Gap, Truc 127.09 47⇑P PKPdf 03 40 19.8 +2.1
baz=127
N06A Buffalo Meadow 127.11 45⇓P PKPdf 03 40 20.1 +2.4
baz=127
WVOR Wild Horse Val 127.27 43 *e*PKIKP PKPdf 03 40 18.9 +0.8
O06A Flanigan 127.34 46⇓P PKPdf 03 40 20.5 +2.4
baz=127
HAST UC Hastings Re 127.34 51⇓P PKPdf 03 40 20.3 +2.1
baz=127
PACP Pacheco Peak 127.35 50⇑P PKPdf 03 40 20.7 +2.5
baz=127
R05C Kirkwood Meado 127.69 48⇓P PKPdf 03 40 20.5 +1.7
baz=128
CMB Columbia Colle 127.69 49⇑P PKPdf 03 40 21.1 +2.2
baz=128
S05C Merced 127.97 50⇑P PKPdf 03 40 22.0 +2.6
baz=128
O07A Toulon 128.01 46⇑P PKPdf 03 40 22.0 +2.5
baz=128
MSO Missoula 128.13 36 *e*PKPdf PKPdf 03 40 21.0 +1.3
S06C San Francisco 128.14 49⇓P PKPdf 03 40 20.8 +1.1
baz=128
R06C Coleville 128.21 48⇑P PKPdf 03 40 20.9 +1.1
baz=128
FFC Flin Flon 128.69 22 *e*PKIKP PKPdf 03 40 20.7 -0.1
NVAR Mina Array Bea 129.08 48 PKP PKPdf 03 40 23.2 +1.7
comp=Z,1.3nm,0.8s,baz=310,slow=0.5,SNR=8.8
HLID Hailey 129.52 40 *e*PKPbc PKPdf 03 40 25.0 +2.7
EGMT Eagleton 129.79 33 *e*PKPbc PKPdf 03 40 24.7 +1.8
MCMT McKenzie Canyo 129.84 38 *e*PKPdf PKPdf 03 40 25.5 +2.6
BOZ Bozeman (W) 130.12 36 *e*PKIKP PKPdf 03 40 25.0 +1.5
S09A Goldfield 130.14 48⇑P PKPdf 03 40 26.4 +2.9
baz=130
M12A Wells 130.21 43⇑P PKPdf 03 40 26.7 +3.0
baz=130
O11A Cowboy Ranch, 130.28 44⇓P PKPdf 03 40 26.8 +3.0
baz=130
ELK Elko 130.29 44 *e*PKIKP PKPdf 03 40 25.4 +1.6
N12A Clover Valley, 130.38 43⇑P PKPdf 03 40 27.3 +3.3
baz=130
M13A Montello 130.73 42⇑P PKPdf 03 40 27.5 +2.8
baz=131
Q11A Duckwater 130.82 46⇓P PKPdf 03 40 28.3 +3.4
baz=131
U10A Ash Meadows, A 131.29 49⇑P PKPdf 03 40 29.7 +4.0
baz=131
GSC Goldstone 131.34 51⇓P PKPdf 03 40 29.1 +3.3
baz=131
PFO Pinyon Flat Ob 132.20 53⇑P PKPdf 03 40 31.3 +3.9
baz=132
V12A Nelson 132.66 49⇑P PKPdf 03 40 31.7 +3.4
baz=133
PDAR Pinedale Array 132.96 38 PKP PKPdf 03 40 29.1 +0.2
comp=Z,0.5nm,0.8s,baz=288,slow=0.5,SNR=4.3
MSU Marysvale 133.41 45 *e*PKIKP PKPdf 03 40 31.8 +2.1
GLA Glamis 133.67 53⇑P PKPdf 03 40 33.9 +3.7
baz=134
W14A Seligman 134.19 49⇓P PKPdf 03 40 34.8 +3.7
baz=134
X15A Humboldt 135.12 50⇓P PKPdf 03 40 36.0 +3.1
baz=135
RSSD Black Hills 135.34 33 *e*PKIKP PKPdf 03 40 33.7 +0.4
CFAA Coronel Fontan 139.13 184 PKP PKPdf 03 40 41.9 +1.5
comp=Z,0.4nm,0.8s,baz=221,slow=1.1,SNR=7.5
ANMO Albuquerque 139.15 46 *e*PKIKP PKPdf 03 40 40.8 +0.4
CPUP Villa Florida 141.94 201 PKP PKPdf 03 40 46.1 +0.7
comp=Z,0.4nm,0.4s,baz=103,slow=4.9,SNR=3.0
WMOK Wichita Mounta 144.48 41 *e*PKIKP PKPdf 03 40 49.8 -0.1
LONY Lake Ozonia 144.79 4 *e*PKPdf PKPdf 03 40 50.0 -0.5
LBNH Lisbon 145.27 1 *e*PKIKP PKPdf 03 40 51.8 +0.6
NCB Newcomb 145.46 4 *e*PKPbc PKPbc 03 40 52.3 +0.6
NCB *e*PKPdf pPKPdf 03 41 04.3 +0.8
BDFB Brasilia 145.97 223 PKPbc PKPbc 03 40 54.3 +1.1
comp=Z,7.2nm,0.8s,baz=114,slow=2.2,SNR=15
BDFB Brasilia 145.97 223 PKP2 PKPab 03 40 54.3 +0.5
BDFB pmax pmax
comp=Z,7.0nm,0.8s
ACCN Adirondack Com 146.08 3 *e*PKPbc PKPbc 03 40 53.8 +0.3
JCT Junction City 146.26 48 *e*PKP2 PKPab 03 40 55.1 +0.2
CCM Cathedral Cave 146.35 29 *e*PKP2 PKPab 03 40 54.6 -0.6
FVM French Village 146.79 28 *e*PKP2 PKPab 03 40 55.4 -1.5
BINY Binghamton 147.07 6 *e*PKPbc PKPbc 03 40 56.7 +0.3
BINY *e*pPKPdf pPKPdf 03 41 09.3 +3.0
ACSO Alum Creek Sta 147.62 17 *e*PKPbc PKPbc 03 40 58.5 +0.6
MIAR Mount Ida 147.79 36 *e*PKP2 PKPab 03 40 58.9 -2.0
LVC Limon Verde 148.10 184 PKP PKPdf 03 40 58.0 +2.0
comp=Z,11nm,0.9s,baz=172,slow=7.1,SNR=3.0
LVC PKPbc PKPbc 03 41 01.9 +2.7
comp=Z,11nm,0.9s,baz=322,slow=2.2,SNR=9.9
LVC Limon Verde 148.10 184 *e*PKPbc PKPbc 03 40 58.6 -0.6
LVC *e*PKPab PKPab 03 41 02.0 -0.1
PARMO Parma 148.18 29 *e*PKPbc PKPbc 03 41 00.2 +0.7

UALR	**University of**	**148.32**	**34**	*e*PKPbc	PKPbc	03 41 00.7	+0.9
WCI	**Wyandotte Cave**	**148.33**	**23**	*e*PKPbc	PKPbc	03 41 00.2	+0.4
WCI				*ep*PKPdf	pPKPdf	03 41 12.5	+4.1
SSPA	**Standing Stone**	**148.36**	**9**	*e*PKPbc	PKPbc	03 40 59.9	0.0
HBAR	**Harrisburg**	**148.62**	**31**	*e*PKPbc	PKPbc	03 41 02.0	+1.4
MVL	**Millersville**	**149.20**	**7**	*e*PKPbc	PKPbc	03 41 02.7	+0.6
MVL				*e*		03 41 14.9	
HKT	**Hockley**	**149.39**	**45**	*e*PKP2	PKPab	03 41 04.4	-2.9
WVT	**Waverly**	**149.50**	**27**	*e*PKPbc	PKPbc	03 41 03.4	+0.6
WVT				*e*		03 41 16.0	
OXF	**Oxford**	**150.07**	**31**	*e*PKPbc	PKPbc	03 41 04.8	+0.6
OXF				*e*PKPab	PKPab	03 41 10.6	+0.5
PLAL	**Pickwick Lake**	**150.34**	**28**	*e*PKPdf	PKPdf	03 40 59.5	-0.1
PLAL				*e*PKPbc	PKPbc	03 41 04.9	+0.1
PLAL				*e*		03 41 17.3	
FWV	**Forest Hill**	**150.69**	**15**	*e*PKPbc	PKPbc	03 41 06.0	+0.4
FWV				*e*		03 41 18.2	
TZTN	**Tazewell**	**150.82**	**20**	*e*PKPbc	PKPbc	03 41 06.6	+0.6
ELN	**Prospectdale**	**151.03**	**15**	*e*PKPbc	PKPbc	03 41 06.5	+0.1
BLA	**Blacksburg**	**151.13**	**15**	*e*PKIKP	PKPdf	03 41 00.7	-0.1
BLA				*e*		03 41 07.2	
BLA	**Blacksburg**	**151.13**	**15**	*e*PKPdf	PKPdf	03 41 00.7	-0.1
BLA				*e*PKPbc	PKPbc	03 41 07.2	+0.5
BLA				*e*		03 41 18.9	
CPCT	**Cooper Cave**	**151.45**	**23**	*e*PKPbc	PKPbc	03 41 08.7	+1.3
CPCT				*e*PKPab	PKPab	03 41 16.7	+0.9
MYNC	**Murphy**	**151.93**	**22**	*e*PKIKP	PKPdf	03 41 08.9	+6.9
MYNC				*e*		03 41 21.5	
LRAL	**Lakeview Retre**	**152.44**	**29**	*e*PKPdf	PKPdf	03 41 04.5	+1.7
LRAL				*e*PKPbc	PKPbc	03 41 10.5	+0.8
SIV	**San Ignacio**	**152.77**	**202**	PKP	PKPdf	03 41 04.9	+1.6
	comp=Z,1.8nm,0.9s,baz=130,slow=5.3,SNR=8.7						
SIV				PKPbc	PKPbc	03 41 12.3	+1.9
	comp=Z,8.5nm,0.9s,baz=133,slow=2.5,SNR=34						
LPAZ	**La Paz**	**154.28**	**187**	PKP	PKPdf	03 41 08.2	+2.7
	comp=Z,1.0nm,0.9s,baz=119,slow=0.8,SNR=5.2						
LPAZ				PKPbc	PKPbc	03 41 16.2	+2.6
	comp=Z,2.9nm,0.9s,baz=138,slow=2.6,SNR=13						
LPAZ	**La Paz**	**154.28**	**187**	PKIKP	PKPdf	03 41 08.2	+2.8
LPAZ						03 41 16.3	
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LPAZ	**La Paz**	**154.28**	**187**	*e*PKPdf	PKPdf	03 41 08.2	+2.7
LPAZ				*e*PKPbc	PKPbc	03 41 16.3	+2.6
SAML	**Samuel**	**160.01**	**205**	*e*PKPab	PKPab	03 41 53.3	+0.8
OTAV	**Otavalo**	**168.56**	**142**	*e*PKPdf	PKPdf	03 41 23.1	+2.7

*ISCJB **22** 03:49:09.6±0.5, 3185S×002×7129W±008, h89km±4km, mb4.0/5, Error ellipse: s-maj=12.0km s-min=3.6km az=170.4*
*GUC **22** 03:49:10.7±0.8, 3187S×71.17W, h75km±4km, MD4.0, ML3.9*
*NEIC **22** 03:49:10.7, 3187S×71.17W, h75km, mb4.0/4, After GUC.*
*IDC **22** 03:49:11.5±3.6, 3190S×71.10W, h85km±26km, mb4.0/3, mb1 3.7/7, mb1mx3.5/17, mbtmp3.9/7, Error ellipse: s-maj=51.2km s-min=24.6km az=119.0*

ISC 22 03:49:10.7±0.5, 3186S±002×7127W±008, h82km±4km, n44, σ0§64/65, mb4.0/5, 10C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.20**	**263**	*i* P	**Pn**	**03 49 22.6**	**-0.1**
CHNG				*i* S	**Sn**	**03 49 31.2**	**-0.4**
CHNG				AML	AML	03 49 32.1	
	comp=E,7μm,0.2s						
PACH	**Papudo**	**0.69**	**192**⇓	*i* P	**Pn**	**03 49 26.5**	**+0.1**
PACH				*i* S	**Sn**	**03 49 38.3**	**+0.3**
CMCH	**Combarbala**	**0.72**	**18**⇓	*i* P	**Pn**	**03 49 25.9**	**-0.8**
CMCH				*i* S	**Sn**	**03 49 37.9**	**-0.7**
CMCH				AML	AML	03 49 39.3	
	comp=E,13μm,0.5s						
CMCH	**Combarbala**	**0.72**	**18**⇓	*i* P	**Pn**	**03 49 25.9**	**-0.8**
CMCH				*i* S	**Sn**	**03 49 37.9**	**-0.7**
JACH	**Jahuel**	**1.00**	**145**⇑	*i* P	**Pn**	**03 49 29.4**	**-0.5**
JACH				*i* S	**Sn**	**03 49 43.6**	**-0.5**
OVCH	**Ovalle**	**1.25**	**3**⇑	*i* P	**Pn**	**03 49 33.3**	**+0.4**
OVCH				*i* S	**Sn**	**03 49 49.8**	**+0.3**
OVCH				AML	AML	03 49 52.1	
	comp=N,5μm,0.3s						
OVCH	**Ovalle**	**1.25**	**3**⇑	*i* P	**Pn**	**03 49 33.3**	**+0.4**
OVCH				*i* S	**Sn**	**03 49 49.8**	**+0.3**
PEL	**Peldehue**	**1.37**	**159**⇑	*i* P	**Pn**	**03 49 34.4**	**0.0**
PEL				*i* S	**Sn**	**03 49 51.4**	**-0.9**
PEL				AML	AML	03 49 57.3	
	comp=E,3μm,0.1s						
PEL	**Peldehue**	**1.37**	**159**⇑	*i* P	**Pn**	**03 49 34.4**	**0.0**
PEL				*i* S	**Sn**	**03 49 51.4**	**-0.9**
LCCH	**Las Cruces**	**1.63**	**189**	*i* P	**Pn**	**03 49 37.8**	**+0.1**
LCCH				*i* S	**Sn**	**03 49 58.3**	**0.0**
DSCH	**Colegio Aleman**	**1.64**	**159**⇑	*i* P	**Pn**	**03 49 37.4**	**-0.5**
DSCH				*i* S	**Sn**	**03 49 58.1**	**-0.5**
CLCH	**Cerro Calan**	**1.65**	**158**⇑	*i* P	**Pn**	**03 49 38.3**	**+0.3**
CLCH				*i* S	**Sn**	**03 49 58.5**	**-0.3**
CLCH				AML	AML	03 50 00.4	
	comp=E,1μm,0.8s						
CLCH				AML	AML	03 50 06.2	
	comp=E,1μm,0.8s						
RCDM	**Rinconada Maip**	**1.67**	**167**	*i* P	**Pn**	**03 49 38.2**	**0.0**
RCDM				*i* S	**Sn**	**03 49 59.0**	**-0.2**
RCDM				AML	AML	03 50 03.7	
	comp=E,1μm,0.1s						
RCDM	**Rinconada Maip**	**1.67**	**167**	*i* P	**Pn**	**03 49 38.2**	**0.0**
RCDM				*i* S	**Sn**	**03 49 59.0**	**-0.2**
FCH	**Farellones**	**1.68**	**151**	*i* P	**Pn**	**03 49 38.9**	**+0.5**
FCH				*i* S	**Sn**	**03 50 00.3**	**+0.9**
FSR	**Penalolen**	**1.73**	**159**	AML	AML	03 50 25.6	
	comp=N,1μm,0.4s						
TLL	**Tololo Astrono**	**1.73**	**13**⇓	*i* P	**Pn**	**03 49 39.8**	**+0.7**
TLL				*i* S	**Sn**	**03 50 01.8**	**+1.1**
TLL				AML	AML	03 50 03.3	
	comp=E,3μm,0.4s						
TLL	**Tololo Astrono**	**1.73**	**13**⇓	*i* P	**Pn**	**03 49 39.8**	**+0.7**
TLL				*i* S	**Sn**	**03 50 01.8**	**+1.1**
ANTU	**Antumapu**	**1.79**	**163**	*i* P	**Pn**	**03 49 39.4**	**-0.4**
ANTU				*i* S	**Sn**	**03 50 01.9**	**+0.1**
ANTU				AML	AML	03 50 03.5	
	comp=E,1μm,0.4s						
ANTU	**Antumapu**	**1.79**	**163**	*i* P	**Pn**	**03 49 39.4**	**-0.4**
ANTU				*i* S	**Sn**	**03 50 01.9**	**+0.1**
TACH	**Talagante**	**1.81**	**171**⇑	*i* P	**Pn**	**03 49 40.5**	**+0.4**
TACH				*i* S	**Sn**	**03 50 02.3**	**-0.2**
PCH	**Pirque**	**1.87**	**160**⇑	*i* P	**Pn**	**03 49 41.2**	**+0.3**
PCH				*i* S	**Sn**	**03 50 03.3**	**-0.5**
SJCH	**San Jose de Ma**	**1.94**	**157**	*e*P	**Pn**	**03 49 41.4**	**-0.4**
SJCH				*i* S	**Sn**	**03 50 05.1**	**-0.3**
CHCH	**Chadas Angostu**	**2.13**	**166**	*i* P	**Pn**	**03 49 44.5**	**+0.2**
CHCH				*i* S	**Sn**	**03 50 09.7**	**-0.3**
MDZ	**Mendoza**	**2.29**	**117**	*e*P	**Pn**	**03 49 49.5**	**+3.1**
MDZ				*i*		03 50 05.8	
MDZ				S	**Sn**	**03 50 23.7**	**+10**
CACH	**El Canelo**	**2.32**	**166**	*i* P	**Pn**	**03 49 47.6**	**+0.8**
CACH				*i* S	**Sn**	**03 50 15.9**	**+1.4**
CICH	**Cipreses**	**2.55**	**164**⇑	*i* P	**Pn**	**03 49 50.5**	**+0.5**
CICH				*i* S	**Sn**	**03 50 20.3**	**+0.1**
CFAA	**Coronel Fontan**	**2.59**	**85**	P	**Pn**	**03 49 50.8**	**+0.2**
	comp=E,1.5nm,0.3s,baz=241,slow=8.8,SNR=84						
CFAA				S	**Sn**	**03 50 13.6**	**-7.6**
	comp=E,5.9nm,0.3s,baz=262,slow=13,SNR=32						
PLCA	**Paso Flores**	**8.87**	**176**	P	**Pn**	**03 51 15.7**	**-0.3**
	comp=E,0.1nm,0.3s,baz=180,slow=2.5,SNR=3.4						
LVC	**Limon Verde**	**9.45**	**13**	P	**Pn**	**03 51 19.2**	**-4.6**
	comp=E,0.2nm,0.3s,baz=160,slow=12,SNR=4.6						
LPAZ	**La Paz**	**15.76**	**11**	P	**Pn**	**03 52 48.9**	**+1.1**
	comp=E,0.1nm,0.3s,baz=201,slow=9.6,SNR=4.8						
LPAZ	**La Paz**	**15.76**	**11**	*e*P	**Pn**	**03 52 45.1**	**-2.7**
	comp=E,7.4nm,1.4s						
SIV	**San Ignacio**	**18.32**	**33**	P	**Pn**	**03 53 17.9**	**-1.3**
	comp=E,0.2nm,0.3s,baz=208,slow=7.8,SNR=8.2						
SAML	**Samuel**	**24.00**	**20**	*e*P	**P**	**03 54 17.7**	**+0.1**
	comp=E,3.7nm,1.2s,mb3.6						
BDFB	**Brasilia**	**26.62**	**58**	P	**P**	**03 54 40.6**	**-0.8**
	comp=E,2.4nm,0.4s,mb4.0,baz=225,slow=9.6,SNR=7.1						
WVT	**Waverly**	**69.39**	**346**	*e*P	**P**	**04 00 09.3**	**-0.4**
	comp=E,2.3nm,0.7s,mb4.1						
DBIC	**Dimbokro**	**73.88**	**71**	P	**P**	**04 00 36.4**	**-0.2**
	comp=E,2.9nm,1.0s,mb4.0,baz=207,slow=3.1,SNR=7.6						
DBIC	**Dimbokro**	**73.88**	**71**	*e*P	**P**	**04 00 36.8**	**+0.1**
	comp=E,2.5nm,0.6s,mb4.1						
TORD	**Torodi Ar. Bea**	**82.87**	**70**	P	**P**	**04 01 26.6**	**+0.5**
	comp=E,1.8nm,0.7s,mb4.0,baz=280,slow=6.5,SNR=28						
WRA	**Warramunga Arr**	**122.94**	**209**	PKP	PKPdf	04 07 57.9	+0.6
	comp=E,0.4nm,0.4s,baz=158,slow=1.7,SNR=11						
CHKZ	**Chkalovo**	**145.13**	**40**	*e*PKPbc	PKPbc	04 08 39.0	+0.8
AAK	**Ala-Archa**	**150.88**	**59**	*e*PKPbc	PKPbc	04 08 54.3	+0.6
ZAL	**Zalesovo**	**152.06**	**31**	PKPbc	PKPbc	04 08 57.1	+0.7
	comp=E,2.2nm,0.4s,baz=99,slow=2.7,SNR=5.0						
MKAR	**Makanchi Array**	**154.84**	**46**	PKPab	PKPab	04 09 18.8	+0.8
	comp=E,0.5nm,0.6s,baz=298,slow=5.1,SNR=4.4						

*IDC **22** 03:59:00.4±2.5, 6235N×15050E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/14, mbtmp4.0/5, ML3.1/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/22, Error ellipse: s-maj=63.1km s-min=38.8km az=113.0*
*ISCJB **22** 03:59:06.1±5.2, 63S±03×1504E±03, h55km±35km, mb3.7/3, MS3.6/2, Error ellipse: s-maj=67.3km s-min=39.5km az=101.1*
*NEIC **22** 03:59:08.1±4.2, 6375N×15045E, h56km±25km, mb4.3/1, Error ellipse: s-maj=42.7km s-min=32.8km az=90.0*

ISC 22 03:59:07.6±5.2, 64S±04×1505E±03, h52km±34km, n10, σ0§11/9, mb3.7/3, MS3.6/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.49**	**227**	Pn	**Pn**	**04 00 13.0**	**0.0**
	6.3nm,0.3s,baz=83,slow=4.9,SNR=13						
PMG				Sn	**Sn**	**04 01 03.9**	**0.0**
	11nm,0.3s,baz=110,slow=14,SNR=7.3						
PMG				LR	LR	04 02 08.7	
	comp=Z,147nm,21.9s,baz=78,slow=41						
WRAB	**Tennant Creek**	**20.69**	**228**	*e*P	**P**	**04 03 43.4**	**+0.1**
	12nm,0.8s						
WB2	**Warramunga Arr**	**20.70**	**228**	*e*P	**P**	**04 03 43.2**	**-0.2**
WRA	**Warramunga Arr**	**20.71**	**228**	P	**P**	**04 03 43.4**	**-0.1**
	3.6nm,0.5s,baz=52,slow=11,SNR=55						
DZM	**Mont Dzumac**	**21.95**	**137**	LR	LR	04 10 59.8	
	comp=Z,261nm,19.4s,MS3.6,baz=181,slow=33						
AS31	**Alice Springs**	**23.47**	**221**	*e*P	**P**	**04 04 12.6**	**0.0**
ASAR	**Alice Springs**	**23.47**	**221**	P	**P**	**04 04 12.8**	**+0.2**
	0.9nm,0.4s,mb3.5,baz=58,slow=9.8,SNR=10						
STKA	**Stephens Creek**	**26.73**	**197**	P	**P**	**04 04 42.0**	**-0.1**
	1.6nm,0.8s,mb3.6,baz=16,slow=15,SNR=2.4						
STKA				LR	LR	04 13 16.0	
	comp=Z,141nm,22.0s,MS3.5,baz=26,slow=32						
FITZ	**Fitzroy Crossi**	**26.91**	**242**	P	**P**	**04 04 43.7**	**-0.1**
	1.6nm,0.5s,mb3.9,baz=50,slow=8.4,SNR=8.7						
TORD	**Torodi Ar. Bea**	**148.54**	**285**	PKPbc	PKPbc	04 18 50.0	+1.4
	0.9nm,0.5s,baz=79,slow=2.6,SNR=21						

MEX 22 04:01:20.9±1.1, 1702N×10022W, h19km±18km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.05**	**306**	*i* P	Pg	04 01 23.4	-0.9
CAIG				*i* S	Sg	04 01 25.7	-0.9
ACX	**Acapulco**	**0.33**	**117**	*i* P	Pg	04 01 26.5	-1.5
ACX				*i* S	Sg	04 01 31.5	-1.2
MEIG	**Mezcala**	**1.07**	**32**	*i* P	Pb	04 01 37.7	-3.2
MEIG				*i* S	Sb	04 01 49.7	-4.8
PLIG	**Platanillo**	**1.53**	**27**	*i* P	Pn	04 01 45.9	-1.3
PLIG				*i* S	Sn	04 02 03.4	-3.2
UTMO	**Huajuapan**	**2.45**	**70**	*e*P	Pn	04 01 59.4	-0.4
UTMO				*i* S	Sn	04 02 27.5	-1.7

*IDC **22** 04:12:34.5±0.7, 951S×10901E, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.3/19, mbtmp4.3/12, ML4.0/1, MS3.6/10, Ms1 3.6/10, ms1mx3.3/26, Error ellipse: s-maj=31.6km s-min=13.8km az=57.0*
*ISCJB **22** 04:12:35.3±0.4, 956S±007×10899E±009, h15km, mb4.5/33, MS3.9/11, Error ellipse: s-maj=15.6km s-min=7.0km az=109.8*
*BJI **22** 04:12:35.8, 960S×10890E, h10km, mB4.8, mb4.6, Ms4.5, Msz4.1*
*NEIC **22** 04:12:35.9±0.2, 958S×10894E, h10km, mb4.6/19, Error ellipse: s-maj=12.6km s-min=5.5km az=51.0*

ISC 22 04:12:37.2±0.4, 963S±007×10893E±009, h16km, h16km±2.7km:pP-P, n61, σ0§88/54, mb4.5/33, MS3.9/11, 1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**2.41**	**19**⇓	*i* P	**Pn**	**04 13 16.7**	**+0.8**
BJII				*i* S	**Sn**	**04 13 32.7**	**-12**
MBWA	**Marble Bar**	**15.47**	**139**	*e*Pn	**Pn**	**04 16 11.5**	**-3.2**
	19nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.26**	**119**	*e*P	**Pn**	**04 16 50.5**	**+0.7**
	17nm,0.8s						
FITZ				*e*S	**Sn**	**04 19 59.3**	**-14**
FITZ	**Fitzroy Crossi**	**18.26**	**119**	P	**Pn**	**04 16 49.6**	**-0.3**
	0.3nm,0.3s,baz=280,slow=5.3,SNR=12						
FITZ				Sn	**Sn**	**04 19 56.6**	**-17**
	0.2nm,0.3s,baz=110,slow=19,SNR=4.1						
FITZ				LR	LR	04 22 39.5	
	comp=Z,94nm,21.8s,baz=104,slow=33						
NWAO	**Narrogin (SRO)**	**24.42**	**163**	LR	LR	04 27 13.6	
	comp=Z,182nm,21.4s,MS3.5,baz=204,slow=36						
WRA	**Warramunga Arr**	**26.58**	**116**	P	**P**	**04 18 14.8**	**+0.3**
	3.9nm,0.8s,mb4.0,baz=285,slow=12,SNR=19						
WRA				Sn	S	04 23 21.6	+33
	1.9nm,1.1s,baz=291,slow=25,SNR=3.1						
WRA	**Warramunga Arr**	**26.58**	**116**	P	**P**	**04 18 14.8**	**+0.3**
WRA				Sn	S	04 23 21.6	+33
WRAB	**Tennant Creek**	**26.59**	**116**	*e*P	**P**	**04 18 14.9**	**+0.4**
	5.3nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**26.59**	**116**	*e*P	**P**	**04 18 15.0**	**+0.4**
ASAR	**Alice Springs**	**27.63**	**123**	P	**P**	**04 18 24.2**	**+0.3**
	1.7nm,0.8s,mb3.7,baz=301,slow=9.0,SNR=17						
ASAR				PcP	PcP	04 21 42.2	+1.2
	1.1nm,0.7s,baz=305,slow=2.0,SNR=7.0						
ASAR				LR	LR	04 29 15.6	
	comp=Z,128nm,20.4s,MS3.5,baz=327,slow=36						
KMI	**Kunming**	**35.06**	**350**	P	**P**	**04 19 34.3**	**+5.0**
KMI				AP	pP	04 19 38.0	+3.7
KMI				XP	sP	04 19 39.8	+3.4
KMI				PP	PP	04 20 52.3	+3.4
KMI				PPP		04 21 11.0	
KMI				S	**S**	**04 25 07.8**	**+6.8**
KMI				XS	sS	04 25 12.9	+3.6
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,52nm,3.7s						
KMI				LR	LR		
	comp=N,295nm,17.5s,MS4.2						
KMI				LR	LR		
	comp=E,291nm,16.8s,MS4.2						
KMI				LR	LR		
	comp=Z,280nm,13.3s,MS4.2						
GYA	**Guiyang**	**35.94**	**357**	*e*P	**P**	**04 19 37.0**	**+0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**37.48**	**131**	*e*P	**P**	**04 19 50.7**	**+0.8**
	comp=Z,6.3nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**37.48**	**131**	P	**P**	**04 19 50.5**	**+0.6**
	comp=Z,7.3nm,0.8s,mb4.6,baz=309,slow=7.8,SNR=16						
STKA				LR	LR	04 36 27.9	
	comp=Z,176nm,21.1s,MS3.8,baz=22,slow=38						
CD2	**Chengdu**	**40.61**	**353**	*e*P	**P**	**04 20 16.1**	**0.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
GUMO	**Guam**	**42.48**	**58**	LR	LR	04 36 45.2	
	comp=Z,2.2nm,19.0s,baz=175,slow=34						
JIRN	**Jiri**	**43.12**	**330**	*e*P	**P**	**04 20 37.5**	**+0.8**
XAN	**Xi'an**	**43.42**	**360**	P	**P**	**04 20 39.1**	**0.0**
XAN				AP	pP	04 20 47.5	+3.3
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
GUN	**Gumba**	**43.48**	**330**	*e*P	**P**	**04 20 41.3**	**+1.7**
DMN	**Daman**	**43.62**	**329**	*e*P	**P**	**04 20 39.8**	**-0.9**
	comp=Z,23nm,0.8s,mb5.0						
KKN	**Kakani**	**43.68**	**329**	*e*P	**P**	**04 20 41.3**	**+0.1**
GKN	**Gorkha**	**44.19**	**329**	*e*P	**P**	**04 20 45.3**	**+0.1**
	comp=Z,22nm,0.7s,mb5.0						
KOLN	**Koldanda**	**44.54**	**327**	*e*P	**P**	**04 20 48.1**	**0.0**
	comp=Z,27nm,0.7s,mb5.2						
GTA	**Gaotai**	**49.52**	**351**	*e*P	**P**	**04 21 27.5**	**+0.5**
GTA				AP	pP	04 21 31.1	-1.0
GTA				XP	sP	04 21 33.8	-0.3
GTA				PP	PP	04 23 24.4	+3.2
GTA				S	**S**	**04 28 42.8**	**+8.8**
GTA				XS	sS	04 28 51.3	+8.9
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.4						
GTA				AMB	AMB		
	comp=Z,97nm,5.3s						
GTA				LR	LR		
	comp=N,236nm,20.3s						
GTA				LR	LR		
	comp=E,162nm,14.5s						
GTA				LR	LR		
	comp=Z,166nm,16.8s,MS4.1						
BJI	**Beijing**	**49.87**	**7**	*e*P	**P**	**04 21 27.5**	**-2.1**
BJI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.9						
HHC	**Hu-ho-hao-te**	**50.28**	**3**	*e*P	**P**	**04 21 34.3**	**+1.5**
HHC				AP	pP	04 21 38.5	+0.6
HHC				XP	sP	04 21 41.8	+1.9
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb5.4						
HHC				AMB	AMB		
	comp=Z,88nm,5.5s						
HHC				LR	LR		
	comp=N,132nm,9.0s						
HHC				LR	LR		
	comp=E,170nm,10.9s						
HHC				LR	LR		
	comp=Z,71nm,7.8s						
MJAR	**Matsushiro Arr**	**53.54**	**29**	P	**P**	**04 21 54.4**	**-2.7**
	comp=Z,1.8nm,0.8s,mb4.0,baz=207,slow=6.9,SNR=6.3						
WMQ	**Urumqi**	**56.59**	**342**	P	**P**	**04 22 21.0**	**+1.9**
WMQ				AP	pP	04 22 25.6	+1.3
WMQ				XP	sP	04 22 28.0	+1.7
WMQ				PP	PP	04 24 28.5	+3.5
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,61nm,5.4s						
WMQ				LR	LR		
	comp=N,133nm,17.6s,MS4.2						
WMQ				LR	LR		
	comp=E,100nm,16.5s,MS4.2						
WMQ				LR	LR		
	comp=Z,133nm,18.1s,MS4.1						
SONM	**Songino Array**	**57.25**	**358**	P	**P**	**04 22 23.9**	**+0.1**
	comp=Z,2.9nm,0.6s,mb4.5,baz=177,slow=8.9,SNR=14						
SONM				LR	LR	04 47 53.2	
	comp=Z,85nm,20.1s,MS3.8,baz=251,slow=37						
ULN	**Ulaanbaatar**	**57.26**	**358**	*e*P	**P**	**04 22 23.4**	**-0.4**
	comp=Z,3.5nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**60.79**	**331**	*e*P	**P**	**04 22 48.4**	**0.0**
	comp=Z,1.2nm,0.5s,mb4.3						
MKAR	**Makanchi Array**	**61.00**	**339**	P	**P**	**04 22 49.3**	**-0.4**
	comp=Z,4.8nm,0.7s,mb4.7,baz=134,slow=6.9,SNR=48						
MAW	**Mawson**	**65.44**	**198**	LR	LR	04 46 38.4	
	comp=Z,67nm,20.7s,MS3.8,baz=250,slow=31						
KURK	**Kurchatov**	**65.61**	**339**	*e*P	**P**	**04 23 18.9**	**-1.4**
	comp=Z,7.7nm,1.1s,mb4.7						
ZAL	**Zalesovo**	**66.54**	**345**	P	**P**	**04 23 25.4**	**-0.9**
	comp=Z,2.5nm,0.5s,mb4.5,baz=348,slow=3.2,SNR=10						
ZAL	**Zalesovo**	**66.54**	**345**	P	**P**	**04 23 25.4**	**-0.9**
BVAR	**Borovoye Array**	**70.52**	**336**	P	**P**	**04 23 50.5**	**-0.7**
	comp=Z,4.4nm,0.7s,mb4.5,baz=141,slow=9.6,SNR=20						
BRVK	**Borovoye**	**70.59**	**336**	*e*P	**P**	**04 23 52.5**	**+0.9**
	comp=Z,1.8nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**70.93**	**337**	*e*P	**P**	**04 23 52.9**	**-0.7**
	comp=Z,8.3nm,0.9s,mb4.7						
ZRNK	**Zerenda**	**71.02**	**336**	*e*P	**P**	**04 23 53.5**	**-0.6**
	comp=Z,7.8nm,0.9s,mb4.6						
VNDA	**Vanda**	**73.05**	**170**	P	**P**	**04 24 06.1**	**-0.2**
	comp=Z,2.5nm,0.9s,mb4.1,baz=293,slow=6.0,SNR=12						
VNDA				LR	LR	04 53 14.2	
	comp=Z,45nm,20.0s,MS3.7,baz=308,slow=33						
VNDA	**Vanda**	**73.05**	**170**	*e*P	**P**	**04 24 05.6**	**-0.7**
	comp=Z,2.6nm,0.9s,mb4.2						
AKTK	**Aktyubinsk**	**74.35**	**329**	P	**P**	**04 24 14.1**	**+0.1**
AKTO	**Aktyubinsk**	**74.35**	**329**	P	**P**	**04 24 14.1**	**+0.1**
	comp=Z,0.5nm,0.4s,mb3.8,baz=127,slow=6.8,SNR=4.3						
ARU	**Arti**	**77.81**	**334**	*e*P	**P**	**04 24 32.9**	**-0.7**
	comp=Z,3.1nm,0.3s,mb4.7						
LSZ	**Lusaka**	**78.67**	**256**	*e*P	**P**	**04 24 38.7**	**+0.3**
	comp=Z,8.3nm,1.2s,mb4.5						
BOSA	**Boshof**	**79.94**	**243**	LR	LR	04 55 17.2	
	comp=Z,112nm,19.4s,MS4.2,baz=0.7,slow=32						
QSPA	**South Pole Qui**	**80.38**	**180**	*e*P	**P**	**04 24 47.3**	**-0.4**
	comp=Z,11nm,1.1s,mb4.7						
BR131	**Keskin Array S**	**84.99**	**312**	*e*P	**P**	**04 25 11.6**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.2						
BRTR	**Keskin Array B**

DAWY	Dawson	23.44	61	eP	P	04 21 55.2	-1.5	
INK	Inuvik	24.63	49	P	P	04 22 08.2	+0.4	
	comp=Z,17nm,1.0s,mb4.5,baz=296,slow=8.7,SNR=10							
INK				LR	LR	04 32 43.0		
	comp=Z,112nm,18.2s,MS3.4,baz=278,slow=39							
INK	Inuvik	24.63	49	eP	P	04 22 07.9	+0.1	
INK				pmax	pmax			
	comp=Z,23nm,1.1s							
INK	Inuvik	24.63	49	eP	P	04 22 07.8	+0.1	
	comp=Z,23nm,1.1s,mb4.6							
SKAG	Skagway	27.04	69	eP	P	04 22 29.3	-0.3	
BOD	Bodaibo	27.07	287	eP	P	04 22 27.7	-2.2	
BOD				e		04 23 30.3		
BOD				pmax	pmax			
	comp=Z,3.0nm,1.5s,mb3.6							
BOD				pmax	pmax			
	comp=Z,4.0nm,1.7s,mb3.7							
MDJ	Mudanjiang	28.25	251	P	P	04 22 36.4	-4.1	
MDJ				AMB	AMB			
	comp=Z,7.0nm,2.4s,mb3.9							
MDJ				AMB	AMB			
	comp=Z,69nm,5.1s							
DLBC	Dease Lake	29.93	68	P	P	04 22 56.4	+1.0	
	comp=Z,1.8nm,0.8s,mb3.9,baz=301,slow=10,SNR=3.1							
CN2	Changchun	30.78	255	eP	P	04 23 03.3	+0.4	
MAT	Matsushiro	31.37	231	P	P	04 23 07.4	-0.7	
MAT	Matsushiro	31.37	231	P	P	04 23 07.0	-1.1	
MJAR	Matsushiro Arr	31.37	231	P	P	04 23 07.2	-0.9	
	comp=Z,6.7nm,0.9s,mb4.5,baz=20,slow=7.7,SNR=12							
MJAR	Matsushiro Arr	31.37	231	P	P	04 23 07.2	-0.9	
MJAR				pmax	pmax			
	comp=Z,7.0nm,0.9s							
SNY	Shenyang	33.18	255	eP	P	04 23 27.8	+3.8	
SNY				AMB	AMB			
	comp=Z,12nm,1.1s,mb4.7							
ULN	Ulaanbaatar	36.56	277	d iP	P	04 23 54.9	+1.8	
ULN	Ulaanbaatar	36.56	277	eP	P	04 23 54.7	+1.6	
	comp=Z,2.2nm,0.8s,mb4.0							
KRAR	Krasnoyarsk	37.53	297	eP	P	04 24 02.5	+1.1	
KRAR				pmax	pmax			
	comp=Z,17nm,0.4s,mb5.1							
HHC	Hu-ho-hao-te	39.61	265	eP	P	04 24 18.8	-0.1	
HHC				AP	pP	04 24 23.3	+2.6	
HHC				XP	sP	04 24 26.1	+4.7	
HHC				XS	sS	04 30 24.4	-0.8	
HHC				SS	SS	04 33 06.1	-11	
HHC				SCS	ScS	04 34 27.1	-0.5	
HHC				AMB	AMB			
	comp=Z,17nm,0.4s,mb5.1							
HHC				AMB	AMB			
	comp=Z,152nm,8.7s							
HHC				LR	LR			
	comp=N,126nm,5.7s							
HHC				LR	LR			
	comp=E,171nm,5.7s							
HHC				LR	LR			
	comp=Z,114nm,5.8s							
NEW	Newport	42.36	73	eP	P	04 24 40.9	-0.6	
NEW				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NEW	Newport	42.36	73	eP	P	04 24 40.9	-0.6	
	comp=Z,1.5nm,0.7s,mb3.7							
SSE	Sheshan	43.11	247	eP	P	04 24 46.4	-1.2	
SSE				AMB	AMB			
	comp=Z,24nm,0.7s,mb5.0							
SSE				AMB	AMB			
	comp=Z,33nm,5.1s							
WALA	Waterton Lakes	43.24	70	eP	P	04 24 48.5	-0.2	
	comp=Z,3.9nm,0.8s,mb4.2							
J03A	Ideyld Park	43.27	82	⇑P	P	04 24 48.1	-0.8	
	baz=43							
NJ2	Nanjing	43.34	250	eP	P	04 24 49.5	0.0	
NJ2				AP	pP	04 24 56.0	+4.7	
NJ2				XP	sP	04 24 59.3	+7.3	
NJ2				PP	PP	04 26 33.8	+3.7	
NJ2				S	S	04 31 17.0	-0.5	
NJ2				XS	sS	04 31 28.0	+7.5	
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.7							
NJ2				AMB	AMB			
	comp=Z,120nm,4.0s							
NJ2				LR	LR			
	comp=N,250nm,10.8s,MS4.5							
NJ2				LR	LR			
	comp=E,250nm,12.0s,MS4.5							
HUMO	Hull Mountain	43.85	83	⇑P	P	04 24 52.2	-1.4	
	baz=44							
I06A	Prineville	44.14	79	⇓P	P	04 24 55.3	-0.6	
	baz=44							
J05A	Fort Rock	44.15	81	⇑P	P	04 24 55.0	-1.0	
	baz=44							
YBH	Yreka Blue Hor	44.64	83	⇑P	P	04 24 58.9	-1.0	
	baz=44							
J06A	Christmas Vall	44.69	80	⇑P	P	04 24 59.9	-0.4	
	baz=45,SNR=5.0							
L04A	Klamath Falls	44.69	82	⇓P	P	04 24 60.0	-0.4	
	baz=45							
BMO	Blue Mountains	44.81	76	eP	P	04 25 01.7	+0.4	
	comp=E,5.4nm,1.1s,mb4.3							
K06A	Valley Falls	44.98	80	⇑P	P	04 25 02.1	-0.6	
	baz=45							
J07A	Hines	44.99	79	⇓P	P	04 25 02.5	-0.2	
	baz=45							
M04C	Macdoel	45.02	83	⇑P	P	04 25 02.1	-0.8	
	baz=45							
N02C	Big Bar	45.06	85	⇓P	P	04 25 02.7	-0.5	
	baz=45							
L05A	Lakeview	45.29	82	⇓P	P	04 25 04.5	-0.6	
	baz=45							
J08A	Circle Bar Ran	45.40	79	⇑P	P	04 25 05.8	-0.1	
	baz=45							
WDC	Whiskeytown Da	45.61	84	⇓P	P	04 25 07.3	-0.3	
	baz=46							
MOD	Modoc	45.65	81	⇑P	P	04 25 07.6	-0.4	
	baz=46							
M05C	Lookout	45.67	82	⇓P	P	04 25 08.0	-0.1	
	baz=46							
L07A	Adell	46.02	80	⇑P	P	04 25 10.7	-0.2	
	baz=46							
WVOR	Wild Horse Val	46.03	79	eP	P	04 25 10.9	-0.1	
WVOR				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.3							
WVOR	Wild Horse Val	46.03	79	eP	P	04 25 10.9	0.0	
	comp=Z,3.8nm,1.0s,mb4.3							
M06C	Likely Place G	46.11	82	⇑P	P	04 25 11.2	-0.4	
	baz=46							
GASB	Alder Springs	46.25	85	⇑P	P	04 25 12.2	-0.5	
	baz=46							
ELFS	Eagle Lake Fie	46.44	83	⇓P	P	04 25 14.0	-0.2	
	baz=46							
O04C	Chester	46.51	83	⇑P	P	04 25 14.6	-0.1	
	baz=46							
M07A	Soldier Meadow	46.58	81	⇑P	P	04 25 15.2	-0.1	
	baz=46							
N06A	Buffalo Meadow	46.77	82	⇑P	P	04 25 16.9	+0.1	
	baz=47							
L09A	Wilkinson Ranc	46.80	79	⇑P	P	04 25 16.9	-0.2	
	baz=47							
BOZ	Bozeman (W)	46.82	71	eP	P	04 25 17.7	+0.5	
BOZ				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.9							
BOZ	Bozeman (W)	46.82	71	eP	P	04 25 17.7	+0.6	
	comp=Z,1.1nm,0.7s,mb3.9							
O05C	Quincy	46.87	83	⇓P	P	04 25 17.2	-0.3	
	baz=47							
M08A	Happy Creek Ra	46.91	80	⇑P	P	04 25 18.2	+0.3	
	baz=47							
LZH	Lanzhou	47.07	268	eP	P	04 25 18.8	-0.3	
LZH				AP	pP	04 25 23.3	+2.3	
LZH				PP	PP	04 27 09.1	-0.7	
LZH				AMB	AMB			
	comp=Z,21nm,1.3s,mb4.9							
HLID	Hailey	47.13	75	eP	P	04 25 19.5	-0.1	
	comp=Z,1.3nm,0.9s,mb3.9							
KURK	Kurchatov	47.30	300	⇑eP	P	04 25 23.4	+2.5	
KURK	Kurchatov	47.30	300	eP	P	04 25 22.1	+1.1	
	comp=Z,3.3nm,0.8s,mb4.3							
CVS	Carmenet Viney	47.41	86	⇑P	P	04 25 21.6	-0.2	
	baz=47							
P05C	Yuba Gap, Truc	47.53	84	⇓P	P	04 25 22.4	-0.3	
	baz=47							
GCMT	Greycliff	47.59	70	eP	P	04 25 23.9	+0.6	
O07A	Toulon	47.68	82	⇑P	P	04 25 23.8	-0.1	
	baz=48							
M10A	I.L. Ranch, Tu	47.72	79	⇓P	P	04 25 24.1	-0.1	
	baz=48							
N09A	Rock Creek Ran	47.78	80	⇑P	P	04 25 24.7	0.0	
	baz=48							
LAVA	Lava Cap Winer	47.90	84	⇑P	P	04 25 25.5	0.0	
	baz=48							
WCN	Washoe City	47.94	83	⇑P	P	04 25 25.6	-0.3	
	baz=48							
M11A	Holland Ranch,	48.15	78	⇑P	P	04 25 27.5	0.0	
	baz=48							
CHKZ	Chkalovo	48.22	308	eP	P	04 25 26.8	-1.2	
CHKZ				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.3							
CHKZ	Chkalovo	48.22	308	eP	P	04 25 26.8	-1.2	
	comp=Z,3.0nm,0.9s,mb4.3							
R05C	Kirkwood Meado	48.26	84	⇓P	P	04 25 26.6	-1.8	
	baz=48							
FLWY	Flagg Ranch	48.44	72	eP	P	04 25 30.4	+0.7	
	comp=Z,5.0nm,0.9s,mb4.5							
O09A	Fish Creek Ran	48.47	80	⇓P	P	04 25 30.1	+0.1	
	baz=48,SNR=5.7							
M12A	Wells	48.57	77	⇑P	P	04 25 31.2	+0.5	
	baz=48							
WMQ	Urumqi	48.62	288	P	P	04 25 33.1	+2.0	
WMQ				AP	pP	04 25 37.6	+4.6	
WMQ				XP	sP	04 25 40.1	+6.4	
WMQ				PP	PP	04 27 25.8	+1.8	
WMQ				AMB	AMB			
	comp=Z,3.0nm,1.0s,mb4.3							
WMQ				AMB	AMB			
	comp=Z,31nm,4.3s							
WMQ				LR	LR			
	comp=N,82nm,13.4s,MS4.0							
WMQ				LR	LR			
	comp=E,61nm,12.3s,MS4.0							
WMQ				LR	LR			
	comp=Z,81nm,13.9s,MS3.9							
CMB	Columbia Colle	48.64	85	⇓P	P	04 25 31.7	+0.4	
	baz=48							
R06C	Coleville	48.70	83	⇑P	P	04 25 32.1	+0.3	
	baz=49							
MKAR	Makanchi Array	48.74	294	P	P	04 25 29.7	-2.3	
	comp=Z,0.6nm,0.4s,mb4.0,baz=46,slow=8.3,SNR=4.9							
TPAW	Teton Pass	48.79	73	eP	P	04 25 32.6	+0.1	
	comp=Z,8.2nm,1.4s,mb4.6							
BVAR	Borovoye Array	48.81	307	P	P	04 25 31.7	-0.9	
	comp=Z,2.9nm,0.6s,mb4.5,baz=52,slow=7.7,SNR=8.0							
BVAR	Borovoye Array	48.81	307	P	P	04 25 31.7	-0.9	
BVAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
REDW	Red Top Meadow	48.93	73	eP	P	04 25 34.4	+0.8	
	comp=Z,19nm,1.9s,mb4.8							
ELK	Elko	48.94	78	eP	P	04 25 33.8	+0.2	
ELK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
ELK	Elko	48.94	78	eP	P	04 25 33.8	+0.2	
	comp=Z,4.2nm,1.0s,mb4.4							
N12A	Clover Valley,	48.95	78	⇑P	P	04 25 34.2	+0.5	
	baz=49							
S06C	San Francisco	49.02	84	⇓P	P	04 25 34.4	+0.1	
	baz=49							
PACP	Pacheco Peak	49.03	86	⇓P	P	04 25 34.5	+0.2	
	baz=49							
Q08A	Gabbs	49.16	82	⇑P	P	04 25 35.6	+0.3	
	baz=49							
S05C	Merced	49.22	85	⇑P	P	04 25 35.0	-0.7	
	baz=49							
O11A	Cowboy Ranch,	49.23	79	⇑P	P	04 25 36.1	+0.3	
	baz=49							
NVAR	Mina Array Bea	49.32	83	P	P	04 25 37.2	+0.7	
	comp=Z,1.4nm,0.8s,mb4.0,baz=329,slow=6.2,SNR=10							
NVAR	Mina Array Bea	49.32	83	P	P	04 25 37.2	+0.7	
ZRNK	Zerenda	49.39	308	eP	P	04 25 35.4	-1.7	
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.2							
ZRNK	Zerenda	49.39	308	eP	P	04 25 35.4	-1.7	
	comp=Z,2.0nm,0.9s,mb4.2							
HWUT	Hardware Ranch	49.98	75	eP	P	04 25 41.7	+0.2	
	comp=Z,4.0nm,1.0s,mb4.4							
BW06	Boulder Array	49.99	72	eP	P	04 25 41.4	-0.2	
	comp=Z,2.4nm,0.9s,mb4.2							
PDAR	Pinedale Array	49.99	72	P	P	04 25 41.8	+0.1	
	comp=Z,2.4nm,0.8s,mb4.3,baz=333,slow=4.0,SNR=21							
ULM	Lac du Bonnet	50.03	56	P	P	04 25 40.8	-1.1	
	comp=Z,2.2nm,0.7s,mb4.3,baz=314,slow=9.5,SNR=4.7							
ULM	Lac du Bonnet	50.03	56	eP	P	04 25 41.1	-0.8	
	comp=Z,2.2nm,0.6s,mb4.4							
R09A	Tonopah	50.06	82	⇓P	P	04 25 41.8	-0.4	
	baz=50							
P12A	McGill	50.10	79	⇑P	P	04 25 42.8	+0.3	
	baz=50							
PKD	Parkfield	50.24	86	⇑P	P	04 25 44.4	+0.9	
	baz=50							
Q11A	Duckwater	50.24	80	⇓P	P	04 25 43.4	-0.1	
	baz=50							
ARU	Arti	50.29	317	eP	P	04 25 45.1	+1.2	
ARU				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.4							
R10A	Warm Springs	50.38	81	⇑P	P	04 25 44.1	-0.5	
	baz=50							
S09A	Goldfield	50.40	82	⇓P	P	04 25 44.6	-0.1	
	baz=50							
Q12A	Willow Creek R	50.48	79	⇓P	P	04 25 45.9	+0.5	
	baz=50							
DUG	Dugway	50.51	77	eP	P	04 25 45.7	+0.1	
DUG				pmax	pmax			
	comp=Z,5.0nm,1.3s,mb4.3							
DUG	Dugway	50.51	77	eP	P	04 25 45.7	+0.2	
	comp=Z,4.7nm,1.3s,mb4.3							
CWC	Cottonwood Cre	51.02	84	⇓P	P	04 25 50.0	+0.6	
	baz=51							
CD2	Chengdu	51.34	264	eP	P	04 25 50.5	-1.3	
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.8							
ISA	Isabella	51.46	85	⇓P	P	04 25 52.7	0.0	
	baz=51							
U10A	Ash Meadows, A	51.87	82	⇑P	P	04 25 56.1	+0.4	
	baz=52							
MSU	Marysvale	52.15	78	eP	P	04 25 58.7	+0.8	
SRU	San Rafael	52.44	76	eP	P	04 26 00.1	+0.1	
SRU				pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.6							
SRU	San Rafael	52.44	76	eP	P	04 26 00.1	+0.1	
	comp=Z,8.7nm,1.1s,mb4.6							
GSC	Goldstone	52.55	84	⇑P	P	04 26 01.2	+0.4	
	baz=52							
V11A	Gedsprings	52.77	82	⇑P	P	04 26 02.8	+0.4	
	baz=53							
TUQ	Turquoise Mtn.	52.86	83	⇑P	P	04 26 02.9	-0.2	
	baz=53							
V12A	Nelson	53.13	82	⇓P	P	04 26 05.5	+0.4	
	baz=53							
SMCO	Snowmass	54.03	73	eP	P	04 26 12.5	+0.8	
	comp=Z,5.2nm,1.3s,mb4.3							
FINES	FINESS Array B	54.06	339	P	P	04 26 11.2	-0.8	
	comp=Z,1.5nm,0.9s,mb3.9,baz=16,slow=8.5,SNR=3.5							
FINES	FINESS Array B	54.06	339	P	P	04 26 11.2	-0.7	
FINES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
PFO	Pinyon Flat Ob	54.09	85	⇑P	P	04 26 12.0	-0.2	
	baz=54							
W13A	Hualapai Mount	54.10	81	⇓P	P	04 26 12.3	+0.1	
	baz=54							
PV01	Paradox Valley	54.13	75	eP	P	04 26 12.6	+0.2	
W14A	Seligman	54.39	81	⇓P	P	04 26 15.2	+0.8	
	baz=54,SNR=5.4							
X13A	Yucca	54.54	82	⇓P	P	04 26 15.8	+0.4	
	baz=54							
Y12C	Blythe	54.90	83	⇑P	P	04 26 18.3	+0.2	
	baz=55							
WUAZ	Wupatki	54.95	79	eP	P	04 26 19.5	+1.1	
	comp=Z,4.1nm,0.9s,mb4.5							
X14A	Yava	55.08	81	⇓P	P	04 26 20.2	+0.9	
	baz=55							
GLA	Glamis	55.33	84	⇑P	P	04 26 21.8	+0.7	
	baz=55							
X15A	Humboldt	55.38	81	⇓P	P	04 26 22.5	+1.0	
	baz=55,SNR=7.6							
AAK	Ala-Archa	55.42	297	i iP	P	04 26 23.2	+1.4	
AAK				pmax	pmax			
	comp=Z,3.0nm,1.3s,mb4.2							
Y14A	Wickenburg	55.47	82	⇑P	P	04 26 22.3	+0.2	
	baz=55							
Z14A	Wintersburg	55.97	82	⇓P	P	04 26 26.2	+0.5	
	baz=56							
NOA	NORSAR Array B	56.55	347	P	P	04 26 28.3	-1.6	
	comp=Z,1.0nm,1.0s,mb3.8,baz=14,slow=7.1,SNR=2.5							
NOA	NORSAR Array B	56.55	347	P	P	04 26 28.3	-1.6	
NOA				pmax	pmax			
	comp=Z,1.0nm,1.0s							
NOA	NORSAR Array B	56.55	347	P	P	04 26 28.3	-1.6	
KMI	Kunming	56.69	261	P	P	04 26 30.0	-0.9	
KMI				AMB	AMB			
	comp=Z,6.0nm,0.6s,mb4.8							
115A	Sonoran Desert	56.85	82	⇑P	P	04 26 32.9	+0.9	
	baz=57							
ANMO	Albuquerque	57.71	76	⇑iP	P	04 26 38.1	0.0	
ANMO	Albuquerque	57.71	76	eP	P	04 26 38.5	+0.4	
	comp=Z,2.5nm,1.0s,mb4.2							
OBN	Obninsk	57.71	330	⇓eP	P	04 26 42.2	+4.1	
OBN				e		04 28 46.1		
OBN				eS	S	04 34 38.3	+1.0	
OBN				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.8							
TUC	Tucson	57.86	81	eP	P	04 26 39.9	+0.8	
TUC				pmax	pmax			
	comp=Z,2.0nm,1.1s,mb4.1							
TUC	Tucson	57.86	81	eP	P	04 26 39.9	+0.8	
	comp=Z,2.1nm,1.1s,mb4.1							
WMOK	Wichita Mounta	61.40	70	eP	P	04 27 02.6	-0.9	
WMOK				pmax	pmax			
	comp=Z,9.0nm,1.5s,mb4.7							
WMOK	Wichita Mounta	61.40	70	eP	P	04 27 02.6	-1.0	
	comp=Z,9.3nm,1.5s,mb4.7							
OJC	Ojcow	65.84	339	eP	P	04 27 31.7	-1.2	
GERES	GERESS Array B	68.15	342	P	P	04 27 46.0	-1.6	
	comp=Z,0.5nm,0.7s,mb3.6,baz=27,slow=3.3,SNR=5.6							
GERES	GERESS Array B	68.15	342	P	P	04 27 46.0	-1.6	
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BRTR	Keskin Array B	72.68	325	LR	LR	05 04 29.4		
	comp=Z,23nm,19.7s,MS3.5,baz=265,slow=40							
WRA	Warramunga Arr	85.64	212	P	P	04 29 24.4	-1.7	
	comp=Z,1.7nm,0.7s,mb4.4,baz=20,slow=5.4,SNR=9.0							
WRA	Warramunga Arr	85.64	212	i P	P	04 29 27.2	+1.1	
WRA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ASAR	Alice Springs	89.32	211	P	P	04 29 43.7	-0.1	
	comp=Z,0.6nm,0.9s,mb3.9,baz=19,slow=5.9,SNR=3.8							
ASAR	Alice Springs	89.32	211	P	P	04 29 43.7	-0.1	
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
QSPA	South Pole Qui	151.27	180	eP	PKPdf	04 36 37.1	+2.0	

JMA ***22*** *04:17:36.5±0.2, 2418N×12153E, h69km, M3.0*
ISCJB ***22*** *04:17:37.4±3.1, 240N±03×12161E±005, h32km±36km, Error ellipse: s-maj=53.0km s-min=6.6km az=10.0*
BJI ***22*** *04:17:37.2, 2420N×12162E, h51km, ML3.6*

ISC 22 04:17:37.3±2.9, 241N±03×12163E±005, h19km±22km, n7, σ0°48/13, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
YOJ	Yonaguni jima	1.32	73	P	Pn	04 18 00.2			-0.5
YOJ				eS	Sn	04 18 17.9			+0.2
IRIF	Iriomote-Funau	1.94	82	P	Pn	04 18 08.8			-0.4
IRIF				S	Sn	04 18 33.3			+0.3
HATJ	Hateruma jima	1.99	90	P	Pn	04 18 09.8			-0.1
HATJ				eS	Sn	04 18 34.5			+0.2
JKRS	Kuro-shima	2.18	85	P	Pn	04 18 12.8			+0.3
JKRS				eS	Sn	04 18 39.2			+0.2
JIJ	Ishigaki jima	2.31	83	P	Pn	04 18 14.1			-0.3
JIJ				eS	Sn	04 18 41.4			-0.9
JTJ	Tarama	2.86	78	eS	Sn	04 18 56.3			+0.6
QZH	Quanzhou	2.89	288	P	Pn	04 18 23.3			+1.0
QZH				S	Sn	04 18 56.1			-0.5
QZH				Smax					
	comp=N,180nm,0.7s								
QZH				Smax					
	comp=E,220nm,1.2s								

IDC ***22*** *04:19:35.0±1.0, 938S×10850E, h0km, mb4.2/7, mb1 4.2/8, mb1mx4.0/18, mbtmp4.1/8, ML3.4/1, Error ellipse: s-maj=52.2km s-min=16.7km az=56.0*
NEIC ***22*** *04:19:36.4±0.6, 9.37S×108.49E, h10km, mb4.4/3, Error ellipse: s-maj=32.3km s-min=8.4km az=51.0*
ISCJB ***22*** *04:19:37.9±0.9, 9.3S±02×1086E±03, h33km, mb4.1/10, Error ellipse: s-maj=46.1km s-min=12.0km az=99.8*

ISC 22 04:19:40.1±0.9, 94S±02×1085E±03, h35km, n11, σ0°38/11, mb4.1/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
FITZ	Fitzroy Crossi	18.76	119	P	Pn	04 23 56.3			-0.4
	0.1nm,0.3s,baz=255,slow=7.4,SNR=4.7								
WRA	Warramunga Arr	27.07	116	P	P	04 25 19.0			-0.2
	1.2nm,0.6s,mb3.6,baz=288,slow=11,SNR=8.1								
WRA				PcP	PcP	04 28 40.7			+1.0
	0.4nm,0.7s,baz=293,slow=2.0,SNR=5.0								
ASAR	Alice Springs	28.12	123	P	P	04 25 28.9			+0.2
	1.1nm,0.7s,mb3.6,baz=298,slow=8.0,SNR=4.2								
ASAR				PcP	PcP	04 28 44.0			+1.7
	1.3nm,0.8s,baz=306,slow=2.2,SNR=11								
STKA	Stephens Creek	37.96	131	P	P	04 26 54.9			+0.6
	6.4nm,0.7s,mb4.5,baz=306,slow=8.9,SNR=14								
SONM	Songino Array	57.00	358	P	P	04 29 22.5			+0.4
	1.5nm,0.5s,mb4.3,baz=178,slow=8.7,SNR=14								
MKAR	Makanchi Array	60.62	340	P	P	04 29 47.5			+0.2
	2.1nm,0.5s,mb4.5,baz=145,slow=8.0,SNR=25								
KURK	Kurchatov	65.23	340	eP	P	04 30 18.0			0.0
	1.5nm,0.6s,mb4.2								
BVAR	Borovoye Array	70.13	337	P	P	04 30 49.1			+0.3
	1.5nm,0.5s,mb4.2,baz=134,slow=8.5,SNR=6.6								
CHKZ	Chkalovo	70.54	337	eP	P	04 30 50.5			-0.9
	2.2nm,0.5s,mb4.3								
ZRNK	Zerenda	70.62	336	eP	P	04 30 51.9			0.0
	1.2nm,0.6s,mb4.0								
VNDA	Vanda	73.36	170	P	P	04 31 08.2			-0.1
	1.3nm,0.9s,mb3.9,baz=282,slow=7.4,SNR=7.5								

ISCJB ***22*** *04:27:30.2±1.2, 3945S±004×1782E±0.1, h55km±8km, mb4.0/3, Error ellipse: s-maj=17.5km s-min=6.3km az=20.4*
NEIC ***22*** *04:27:34.1, 39.30S×177.96E, h50km, ML4.4(WEL), After WEL.*
NEIC Felt in northern Hawke's Bay County.
WEL ***22*** *04:27:34.1±0.2, 39.29S×177.96E, h50km±2km, ML4.4/22, Error ellipse: s-maj=2.9km s-min=1.3km az=90.0*
WEL Felt in the Hawke's Bay region, maximum reported intensity MM 4.
IDC ***22*** *04:27:38.9±1.7, 38.68S×176.15E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.9/12, mbtmp4.0/3, Error ellipse: s-maj=63.7km s-min=9.7km az=160.0*

**ISC 22 04:27:31.3±1.3, 39.42S±004×1782E

RITZ	**Rihia Road**	**1.86**	**283**	P	**Pn**	**04 28 01.0**	**+0.3**
RITZ				S	**Sn**	**04 28 17.5**	**-5.5**
MOVZ	**Moawhango**	**1.89**	**270**	PN	**Pn**	**04 28 01.8**	**+0.8**
MOVZ	**Moawhango**	**1.89**	**270**	P	**Pn**	**04 28 01.8**	**+0.8**
BFZ	**Birch Farm**	**1.95**	**229**	PN	**Pn**	**04 28 03.0**	**+1.1**
BFZ	**Birch Farm**	**1.95**	**229**	*e*P	**Pn**	**04 28 03.0**	**+1.1**
RATZ	**Rangitukua**	**1.96**	**286**	⇓PN	**Pn**	**04 28 01.9**	**-0.1**
RATZ	**Rangitukua**	**1.96**	**286**	P	**Pn**	**04 28 01.9**	**-0.1**
TUVZ	**Tukino**	**1.97**	**274**	PN	**Pn**	**04 28 02.8**	**+0.6**
OTVZ	**Oturere**	**1.97**	**277**	⇓PN	**Pn**	**04 28 02.6**	**+0.4**
KATZ	**Kakaramea**	**1.99**	**282**	PN	**Pn**	**04 28 02.5**	**+0.1**
KATZ	**Kakaramea**	**1.99**	**282**	P	**Pn**	**04 28 02.5**	**+0.1**
KRVZ	**Karewarewa**	**2.00**	**278**	PN	**Pn**	**04 28 02.7**	**+0.1**
NGZ	**Ngauruhoe**	**2.02**	**276**	⇓PN	**Pn**	**04 28 03.2**	**+0.4**
NGZ	**Ngauruhoe**	**2.02**	**276**	P	**Pn**	**04 28 03.2**	**+0.3**
WATZ	**Wairara**	**2.04**	**290**	PN	**Pn**	**04 28 02.5**	**-0.6**
WATZ	**Wairara**	**2.04**	**290**	P	**Pn**	**04 28 02.5**	**-0.6**
WTVZ	**West Tongariro**	**2.04**	**278**	PN	**Pn**	**04 28 03.3**	**+0.2**
WTVZ	**West Tongariro**	**2.04**	**278**	P	**Pn**	**04 28 02.5**	**-0.6**
WIZ	**White Island**	**2.04**	**337**	PN	**Pn**	**04 28 02.6**	**-0.6**
WIZ	**White Island**	**2.04**	**337**	P	**Pn**	**04 28 02.7**	**-0.5**
FWVZ	**Far West T-bar**	**2.05**	**274**	⇑PN	**Pn**	**04 28 03.7**	**+0.4**
FWVZ	**Far West T-bar**	**2.05**	**274**	P	**Pn**	**04 28 03.7**	**+0.4**
WPVZ	**Whakapapa**	**2.06**	**275**	⇓PN	**Pn**	**04 28 03.8**	**+0.4**
WPVZ	**Whakapapa**	**2.06**	**275**	P	**Pn**	**04 28 03.8**	**+0.4**
MTVZ	**Mangateitei**	**2.10**	**270**	PN	**Pn**	**04 28 04.4**	**+0.4**
TWVZ	**Taurewa**	**2.16**	**278**	PN	**Pn**	**04 28 04.5**	**-0.3**
TWVZ	**Taurewa**	**2.16**	**278**	P	**Pn**	**04 28 04.5**	**-0.3**
MRZ	**Mangatainoka R**	**2.36**	**237**	P	**Pn**	**04 28 08.1**	**+0.6**
WAZ	**Wanganui**	**2.50**	**261**	P	**Pn**	**04 28 10.8**	**+1.4**
VRZ	**Vera Road**	**2.68**	**275**	P	**Pn**	**04 28 12.0**	**+0.1**
MTW	**Mount Morrison**	**2.69**	**229**	P	**Pn**	**04 28 12.0**	**-0.1**
HIZ	**Hauiti**	**2.75**	**288**	P	**Pn**	**04 28 12.5**	**-0.4**
PAWZ	**Paruwai Farm**	**2.88**	**226**	P	**Pn**	**04 28 14.7**	**0.0**
KIW	**Kapiti Island**	**2.90**	**239**	P	**Pn**	**04 28 15.2**	**+0.3**
CAW	**Cannon Point**	**2.92**	**234**	P	**Pn**	**04 28 15.3**	**0.0**
RAEZ	**Rainy Point**	**2.94**	**271**	P	**Pn**	**04 28 16.3**	**+0.7**
MSWZ	**Moikau Station**	**3.00**	**227**	P	**Pn**	**04 28 16.1**	**-0.2**
NEZ	**North Egmont**	**3.18**	**271**	P	**Pn**	**04 28 19.8**	**+1.1**
MRW	**Makara Radio**	**3.22**	**235**	P	**Pn**	**04 28 19.0**	**-0.4**
SNZO	**South Karori**	**3.26**	**233**	P	**Pn**	**04 28 19.6**	**-0.3**
PKE	**Pukeiti**	**3.27**	**273**	P	**Pn**	**04 28 20.9**	**+0.9**
NRZ	**Ngariki Road**	**3.30**	**270**	P	**Pn**	**04 28 21.5**	**+1.1**
NWEZ	**Newall Road**	**3.35**	**271**	P	**Pn**	**04 28 22.4**	**+1.2**
TCW	**Tory Channel**	**3.49**	**238**	P	**Pn**	**04 28 22.3**	**-0.7**
BSWZ	**Blackbirch Sta**	**4.01**	**234**	P	**Pn**	**04 28 29.3**	**-0.8**
NNZ	**Nelson**	**4.09**	**242**	P	**Pn**	**04 28 30.5**	**-0.8**
QRZ	**Quartz Range**	**4.56**	**250**	P	**Pn**	**04 28 36.1**	**-1.7**
WCZ	**Waipu Caves**	**4.62**	**318**	*e*P	**Pn**	**04 28 38.5**	**-0.1**
THZ	**Tophouse**	**4.66**	**235**	*e*P	**Pn**	**04 28 37.8**	**-1.2**
DSZ	**Denniston Nort**	**5.39**	**242**	*e*P	**Pn**	**04 28 47.4**	**-1.7**
LTZ	**Lake Taylor**	**5.59**	**231**	*e*P	**Pn**	**04 28 50.4**	**-1.5**
RPZ	**Rata Peaks**	**6.86**	**229**	Pn	**Pn**	**04 29 08.2**	**-1.1**
	1.6nm,0.3s,baz=185,slow=10.0,SNR=8.0						
RPZ				Sn	**Sn**	**04 30 19.0**	**-7.0**
	19nm,0.3s,baz=335,slow=4.9,SNR=42						
ASAR	**Alice Springs**	**40.46**	**279**	P	**P**	**04 35 05.7**	**+0.2**
	2.5nm,0.8s,mb4.0,baz=129,slow=9.1,SNR=24						
WRA	**Warramunga Arr**	**42.27**	**284**	P	**P**	**04 35 20.1**	**-0.3**
	2.0nm,0.8s,mb3.8,baz=127,slow=8.3,SNR=28						
FITZ	**Fitzroy Crossi**	**49.96**	**280**	P	**P**	**04 36 21.0**	**+0.2**
	1.3nm,0.7s,mb4.1,baz=112,slow=16,SNR=3.6						
TORD	**Torodi Ar. Bea**	**153.65**	**188**	PKPbc	PKPab	04 47 41.5	+3.5
	0.4nm,0.9s,baz=177,slow=0.7,SNR=5.2						

MEX 22 04:33:39.1±0.6, 1701N×10023W, h20km±7km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.05**	**313**	*i* P	Pg	04 33 41.6	-1.0
CAIG				*i* S	Sg	04 33 43.8	-1.2
ACX	**Acapulco**	**0.33**	**116**	*i* P	Pg	04 33 45.0	-1.3
ACX				*i* S	Sg	04 33 50.0	-1.2
MEIG	**Mezcala**	**1.08**	**33**	*i* P	Pb	04 33 56.1	-3.0
MEIG				*i* S	Sb	04 34 08.2	-4.5
PLIG	**Platanillo**	**1.54**	**27**	*e*P	Pn	04 34 03.5	-1.9
PLIG				*i* S	Sn	04 34 21.9	-2.9
UTMO	**Huajuapan**	**2.45**	**70**	*e*P	Pn	04 34 15.8	-2.2
UTMO				*i* S	Sn	04 34 44.6	-2.8

IDC 22 05:04:48.0±0.8, 946S×10706E, h0km, mb4.2/10, mb1 4.3/12, mb1mx4.2/20, mbtmp4.2/12, ML3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/27, Error ellipse: s-maj=30.2km s-min=14.8km az=59.0
ISCJB 22 05:04:49.2±0.5, 957S±009×107.1E±0.1, h19km, mb4.5/33, MS4.0/2, Error ellipse: s-maj=18.1km s-min=6.4km az=103.1
BJI 22 05:04:49.9, 950S×107.10E, h10km, mB5.0, mb4.5, Ms4.6, Msz4.3
NEIC 22 05:04:49.9±0.3, 949S×107.09E, h10km, mb4.8/16, Error ellipse: s-maj=14.9km s-min=5.1km az=48.0
MOS 22 05:04:51.4±0.9, 942S×107.18E, h33km, mb4.8/13, Error ellipse: s-maj=20.9km s-min=9.0km az=116.8
ISC 22 05:04:54.1±0.5, 959S±009×1071E±01, h40km, h40km±3.4km:pP-P, n62, σ0s88/59, mb4.5/33, MS4.0/2, 2C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**14.74**	**326**	Pn	**Pn**	**05 08 16.0**	**-3.9**
	0.4nm,0.3s,baz=169,slow=19,SNR=2.3						
MBWA	**Marble Bar**	**16.76**	**135**	*e*Pn	**Pn**	**05 08 41.5**	**-4.3**
FITZ	**Fitzroy Crossi**	**19.90**	**117**	*e*P	**Pn**	**05 09 23.4**	**-0.6**
	7.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.90**	**117**	P	**Pn**	**05 09 23.1**	**-0.9**
	0.1nm,0.3s,baz=252,slow=10.0,SNR=5.3						
FITZ				Sn	**Sn**	**05 12 48.9**	**-18**
	0.2nm,0.3s,baz=151,slow=19,SNR=5.0						
NWAO	**Narrogin (SRO)**	**25.05**	**159**	P	**P**	**05 10 15.8**	**+1.3**
	14nm,1.0s,mb4.5,baz=333,slow=4.5,SNR=3.1						
NWAO	**Narrogin (SRO)**	**25.05**	**159**	P	**P**	**05 10 15.8**	**+1.3**
KAKA	**Kakadu**	**25.08**	**99**	*e*P	**P**	**05 10 15.2**	**+0.4**
	8.0nm,0.7s,mb4.4						
NST	**Nakhon Sawan**	**26.02**	**345**	P	**P**	**05 10 22.6**	**-0.7**
WRA	**Warramunga Arr**	**28.26**	**114**	P	**P**	**05 10 43.1**	**-0.4**
	1.3nm,0.6s,mb3.7,baz=288,slow=10,SNR=14						
WRAB	**Tennant Creek**	**28.27**	**114**	*e*P	**P**	**05 10 43.2**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**28.27**	**114**	*e*P	**P**	**05 10 43.2**	**-0.3**
	comp=Z,3.6nm,0.7s,mb4.1						
WB2	**Warramunga Arr**	**28.27**	**114**	*e*P	**P**	**05 10 43.4**	**-0.1**
NANT	**Nan**	**28.90**	**347**	P	**P**	**05 10 51.0**	**+1.9**
ASAR	**Alice Springs**	**29.20**	**122**	P	**P**	**05 10 52.2**	**+0.5**
	comp=Z,0.8nm,0.5s,mb3.7,baz=302,slow=9.0,SNR=11						
CHG	**Chiang Mai**	**29.34**	**344**	⇑P	**P**	**05 10 53.7**	**+0.7**
	comp=Z,12nm,1.0s,mb4.6						
CHTO	**Chiang Mai**	**29.34**	**344**	*e*P	**P**	**05 10 52.2**	**-0.8**
CHTO				*e**PP	pP	05 11 04.0	-0.1
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
CHTO	**Chiang Mai**	**29.34**	**344**	*e*P	**P**	**05 10 52.2**	**-0.8**
	comp=Z,10.0nm,1.0s,mb4.5						
CHTO				*e*pP	pP	05 11 04.0	-0.1
GYA	**Guiyang**	**35.83**	**359**	⇑*i*P	**P**	**05 11 50.8**	**+1.1**
GYA				AP	pP	05 11 54.8	-6.1
GYA				XP	sP	05 11 58.4	-7.3
GYA				PP	PP	05 13 11.8	+0.2
GYA				PCP	PcP	05 14 18.5	+1.9
GYA				S	**S**	**05 17 26.9**	**+2.3**
GYA				SCP	ScP	05 18 02.9	+3.5
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,4.4s						
GYA				LR	LR		
	comp=N,420nm,14.8s,MS4.5						
GYA				LR	LR		
	comp=E,480nm,14.6s,MS4.5						
GYA				LR	LR		
	comp=Z,430nm,14.9s,MS4.3						
STKA	**Stephens Creek**	**38.90**	**130**	P	**P**	**05 12 16.4**	**+0.6**
	comp=Z,2.1nm,0.6s,mb4.0,baz=308,slow=8.8,SNR=5.5						
CTAO	**Charters Tower**	**39.20**	**110**	*e*P	**P**	**05 12 19.0**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
CTAO	**Charters Tower**	**39.20**	**110**	*e*P	**P**	**05 12 19.0**	**+0.8**
	comp=Z,6.9nm,0.8s,mb4.4						
JIRN	**Jiri**	**42.19**	**332**	*e*P	**P**	**05 12 44.0**	**+1.1**
	comp=Z,38nm,0.7s,mb5.1						
PKI	**Pulchoki**	**42.48**	**331**	*e*P	**P**	**05 12 46.2**	**+0.9**
GUN	**Gumba**	**42.55**	**332**	*e*P	**P**	**05 12 45.8**	**0.0**
DMN	**Daman**	**42.66**	**331**	*e*P	**P**	**05 12 47.2**	**+0.5**
	comp=Z,31nm,0.8s,mb5.1						
KKN	**Kakani**	**42.73**	**331**	*e*P	**P**	**05 12 47.8**	**+0.5**
	comp=Z,25nm,0.8s,mb5.0						
KKN	**Kakani**	**42.73**	**331**	*e*P	**P**	**05 12 47.8**	**+0.5**
KKN				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.0						
GKN	**Gorkha**	**43.22**	**330**	*e*P	**P**	**05 12 52.0**	**+0.8**
	comp=Z,28nm,0.8s,mb5.0						
XAN	**Xi'an**	**43.42**	**2**	P	**P**	**05 12 52.0**	**-0.9**
XAN				AP	pP	05 13 02.3	-2.0
XAN				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.7						
KOLN	**Koldanda**	**43.54**	**329**	*e*P	**P**	**05 12 53.5**	**-0.3**
	comp=Z,52nm,0.6s,mb5.4						
LZH	**Lanzhou**	**45.53**	**356**	*e*P	**P**	**05 13 10.5**	**+0.8**
LZH				AP	pP	05 13 14.8	-6.3
LZH				XP	sP	05 13 17.0	-8.9
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.9						
GTA	**Gaotai**	**49.21**	**353**	*e*P	**P**	**05 13 39.8**	**+1.5**
GTA				AP	pP	05 13 43.8	-6.1
GTA				XP	sP	05 13 45.8	-8.8
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
MJAR	**Matsushiro Arr**	**54.43**	**31**	P	**P**	**05 14 15.0**	**-2.2**
	comp=Z,3.7nm,0.9s,mb4.3,baz=203,slow=8.4,SNR=7.0						
SONM	**Songino Array**	**57.17**	**359**	P	**P**	**05 14 37.0**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.3,baz=174,slow=7.7,SNR=16						
SONM				LR	LR	05 42 14.0	
	comp=Z,34nm,18.1s,MS3.5,baz=242,slow=39						
ULN	**Ulaanbaatar**	**57.20**	**360**	*e*P	**P**	**05 14 36.8**	**-0.3**
ULN				*e**PP	pP	05 14 47.9	-0.9
ULN				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
ULN	**Ulaanbaatar**	**57.20**	**360**	*e*P	**P**	**05 14 36.8**	**-0.3**
	comp=Z,2.9nm,0.5s,mb4.6						
ULN				*e*pP	pP	05 14 47.9	-0.9
ZAK	**Zakamensk**	**59.81**	**357**	*e*P	**P**	**05 14 55.4**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
MK31	**Makanchi Array**	**60.33**	**341**	P	**P**	**05 14 58.4**	**-0.4**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**60.33**	**341**	P	**P**	**05 14 58.7**	**-0.1**
	comp=Z,4.2nm,0.5s,mb4.7,baz=137,slow=7.5,SNR=22						
MKAR	**Makanchi Array**	**60.33**	**341**	P	**P**	**05 14 58.7**	**-0.1**
KLR	**Kul'dur**	**62.45**	**18**	*e*P	**P**	**05 15 08.2**	**-5.0**
MAW	**Mawson**	**64.93**	**197**	P	**P**	**05 15 29.1**	**-0.3**
	comp=Z,1.1nm,0.5s,mb4.2,baz=73,slow=14,SNR=4.9						
KURK	**Kurchatov**	**64.94**	**340**	*e*P	**P**	**05 15 29.1**	**-0.5**
KURK				*e**PP	pP	05 15 40.9	-0.6
KURK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
KURK	**Kurchatov**	**64.94**	**340**	*e*P	**P**	**05 15 29.1**	**-0.5**
	comp=Z,6.9nm,0.7s,mb4.8						
KURK				*e*pP	pP	05 15 40.9	-0.6
ZAL	**Zalesovo**	**66.04**	**346**	P	**P**	**05 15 34.6**	**-2.0**
	comp=Z,1.2nm,0.4s,mb4.3,baz=36,slow=6.6,SNR=3.9						
NVS	**Novosibirsk**	**67.24**	**345**	*e*P	**P**	**05 15 51.0**	**+6.7**
BOD	**Bodaibo**	**67.41**	**4**	*e*P	**P**	**05 15 44.5**	**-0.9**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.2						
BRVK	**Borovoye**	**69.83**	**337**	*e*P	**P**	**05 16 00.2**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
BRVK	**Borovoye**	**69.83**	**337**	*e*P	**P**	**05 16 00.2**	**-0.3**
	comp=Z,4.5nm,0.9s,mb4.4						
CHKZ	**Chkalovo**	**70.19**	**338**	*e*P	**P**	**05 16 02.3**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**70.19**	**338**	*e*P	**P**	**05 16 02.3**	**-0.4**
	comp=Z,14nm,0.8s,mb4.9						
ZRNK	**Zerenda**	**70.24**	**337**	*e*P	**P**	**05 16 02.8**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**70.24**	**337**	*e*P	**P**	**05 16 02.8**	**-0.2**
	comp=Z,4.4nm,0.6s,mb4.6						
AB31	**Akbulak array**	**71.66**	**330**	*i* P	**P**	**05 16 11.3**	**-0.3**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
ARU	**Arti**	**76.97**	**335**	*e*P	**P**	**05 16 41.7**	**-0.8**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
ARU	**Arti**	**76.97**	**335**	*e*P	**P**	**05 16 41.7**	**-0.8**
	comp=Z,2.6nm,0.4s,mb4.5						
BRTR	**Keskin Array B**	**83.59**	**312**	P	**P**	**05 17 17.1**	**-1.1**
	comp=Z,1.3nm,0.8s,mb4.1,baz=107,slow=4.1,SNR=4.6						
BDFB	**Brasilia**	**144.82**	**225**	PKP	PKPdf	05 24 28.6	+2.0
	comp=Z,1.5nm,0.5s,baz=180,slow=9.6,SNR=5.2						
JCT	**Junction City**	**147.46**	**47**	*e*PKP2	PKPab	05 24 35.5	-0.2
MIAR	**Mount Ida**	**148.78**	**34**	*e*PKP2	PKPbc	05 24 38.4	+1.2
WVT	**Waverly**	**150.31**	**25**	*e*PKIKP	PKPbc	05 24 41.9	+1.0
PLAL	**Pickwick Lake**	**151.18**	**26**	*e*PKPbc	PKPbc	05 24 43.4	+0.4

CSEM 22 05:07:26.2, 7985N×2212E, h0km, ML2.8, After BER
NAO 22 05:07:27.4±3.6, 7990N×2066E, h19km±16km, ML2.4
BER 22 05:07:26.2±3.2, 7985N×2212E, h0km±18km, MD2.7, ML2.8, ML2.4(NAO), Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**2.01**	**216**	Pn	Pn	05 07 58.1	-3.2
	baz=39,slow=14						
SPA0				Pg	Pg	05 08 02.0	-2.7
	baz=40,slow=16						
SPA0				Lg		05 08 28.5	
	baz=29,slow=28						
SPA0	**Spitsbergen Ar**	**2.01**	**216**	Pn	Pn	05 07 58.2	-3.2
	baz=39,slow=13,SNR=50						
SPA0	**Spitsbergen Ar**	**2.01**	**216**	Pg	Pg	05 08 02.0	-2.7
	baz=40,slow=14,SNR=90						
SPA0				Lg		05 08 28.5	
	baz=29,slow=23,SNR=30						
KBS	**Kingsbay**	**2.10**	**249**	Pn	Pn	05 07 57.5	-5.1
KBS				Pg	Pg	05 08 02.3	-4.1
KBS				Lg		05 08 26.7	
KBS	**Kingsbay**	**2.10**	**249**	*e*P	Pn	05 07 59.9	-2.7
KBS				*e*S		05 08 26.8	
KBS				AML	AML	05 08 30.5	
	comp=Z,82nm,0.5s						
KBS	**Kingsbay**	**2.10**	**249**	*e*P	Pn	05 07 59.9	-2.7
	SNR=50						
KBS				*e*S		05 08 26.8	
	comp=Z,82nm,0.5s,SNR=50						
HOPEN	**Hopen**	**3.41**	**169**	*e*P	Pn	05 08 19.9	-0.7
HOPEN				*e*S	Sn	05 08 59.3	-2.5
HOPEN				AML	AML	05 09 23.3	
	comp=N,111nm,0.6s						
ARA0	**ARCESS Array S**	**10.41**	**173**	Pn	Pn	05 09 55.4	-1.3
	baz=356,slow=10						
ARA0				Sn	Sn	05 11 43.6	-10
	baz=2.4,slow=22						
ARA0	**ARCESS Array S**	**10.41**	**173**	Pn	Pn	05 09 55.4	-1.3
	baz=356,slow=9.8,SNR=50						
ARA0				Sn	Sn	05 11 43.6	-10
	baz=2.4,slow=22,SNR=50						

ISCJB 22 05:08:24.5±1.3, 4167N±006×7616E±007, h10km, Error ellipse: s-maj=9.5km s-min=6.0km az=122.3
KNET 22 05:08:24.4±0.4, 4174N×7605E, h8km±2km, ml3.1, Error ellipse: s-maj=2.7km s-min=1.6km az=146.0
NNC 22 05:08:25.8±4.8, 4177N×7616E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=35.2km s-min=24.6km az=14.0
ISC 22 05:08:25.3±1.2, 4169N±006×7611E±006, h10km, n14, σ1s31/26, 9C-17D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.56**	**10**	⇓P	**Pg**	**05 08 34.5**	**-1.7**
	124nm,0.1s,SNR=800						
ULHL				⇓S	**Sg**	**05 08 42.8**	**-0.8**
	631nm,0.2s						
KZA	**Kyzart**	**0.75**	**301**	P	**Pg**	**05 08 38.0**	**-1.9**
	141nm,0.2s,SNR=90						
KZA				⇓S	**Sg**	**05 08 48.6**	**-1.1**
	773nm,0.2s						
TKM2	**Tokmak 2**	**1.29**	**343**	⇓P	**Pn**	**05 08 48.1**	**-1.3**
	228nm,0.3s,SNR=281						
TKM2				⇓S	**Sb**	**05 09 06.3**	**+0.1**
	353nm,0.2s						
TKM2	**Tokmak 2**	**1.29**	**343**	⇓P	**Pn**	**05 08 48.1**	**-1.3**
	1.6nm,0.2s						
TKM2				⇑S	**Sb**	**05 09 06.1**	**-0.1**
	4.9nm,0.3s						
KBK	**Karagaybulak**	**1.30**	**318**	⇓P	**Pn**	**05 08 48.3**	**-1.1**
	70nm,0.1s,SNR=60						
KBK				⇑S	**Sb**	**05 09 06.8**	**+0.3**
	416nm,0.2s						
UCH	**Uchtor**	**1.31**	**295**	⇓P	**Pn**	**05 08 47.8**	**-1.8**
	168nm,0.3s,SNR=96						
UCH				⇑S	**Sb**	**05 09 06.5**	**-0.3**
	155nm,0.3s						
AAK	**Ala-Archa**	**1.53**	**309**	⇓P	**Pn**	**05 08 52.1**	**-0.5**
	83nm,0.2s,SNR=35						
AAK				⇑S	**Sn**	**05 09 13.4**	**+0.8**
	144nm,0.3s						
KNDC	**Almaty**	**1.65**	**22**	⇓P	**Pn**	**05 08 54.8**	**+0.5**
	972nm,0.6s						
KNDC				⇑S	**Sn**	**05 09 17.3**	**+1.8**
	3μm,0.4s						
CHMS	**Chumysh**	**1.65**	**323**	⇓P	**Pn**	**05 08 54.5**	**+0.1**
	38nm,0.2s,SNR=36						
CHMS				⇓S	**Sn**	**05 09 17.0**	**+1.4**
	242nm,0.2s						
AML	**Almayashu**	**1.86**	**284**	⇓P	**Pn**	**05 08 57.9**	**+0.7**
	97nm,0.2s,SNR=272						
AML				⇑S	**Sn**	**05 09 23.3**	**+2.5**
	382nm,0.5s						
USP	**Ospenovka**	**1.98**	**323**	⇓P	**Pn**	**05 09 00.2**	**+1.4**
	160nm,0.3s,SNR=162						
USP				⇑S	**Sn**	**05 09 27.1**	**+3.5**
	248nm,0.2s						
EKS2	**Erkin-Say**	**1.99**	**300**	⇓P	**Pn**	**05 09 00.5**	**+1.5**
	28nm,0.2s,SNR=79						
KK31	**Karatay Array**	**4.38**	**291**	⇑Pn	**Pn**	**05 09 33.2**	**+1.3**
	0.4nm,0.5s,baz=124,slow=11,SNR=7.2						
KK31				Pg	**Pg**	**05 09 47.1**	**-2.2**
	2.1nm,0.3s,baz=116,slow=14,SNR=41						
KK31				⇓Lg		05 10 40.4	
	9.0nm,0.4s						
MK02	**Makanchi Array**	**6.75**	**39**	⇑Pn	**Pb**	**05 10 13.1**	**-10**
	1.6nm,0.8s						
MK02				⇓Lg		05 11 52.2	
	2.8nm,0.6s						

ATH 22 05:33:55.4, 34.16N×2522E, h27km±4km, MD3.2/4
NEIC 22 05:33:55.4, 34.16N×2522E, h27km, MD3.2(ATH), After ATH.
ISCJB 22 05:33:57.3±2.1, 3421N±007×252E±02, h24km±28km, Error ellipse: s-maj=24.7km s-min=10.3km az=148.0
CSEM 22 05:33:57.3±0.1, 3422N×2521E, h25km, ML3.0, Error ellipse: s-maj=7.5km s-min=3.6km az=79.0
HLW 22 05:34:02.6, 3401N×2526E, h33km, Mb3.0
ISC 22 05:33:57.5±2.5, 3426N±007×252E±02, h17km±23km, n9, σ0s58/11, 2C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.75**	**36**	*e*PN	**Pg**	**05 34 11.1**	**-1.2**
XRY				*e*SN	**Sg**	**05 34 23.3**	**+1.0**
GVD	**Gavdhos**	**1.06**	**303**	*e*PN	**Pn**	**05 34 17.5**	**0.0**
NPS	**Neapolis**	**1.07**	**20**	*e*PN	**Pn**	**05 34 17.0**	**-0.6**
VAM	**Vamos**	**1.39**	**326**	*e*PN	**Pn**	**05 34 22.5**	**+0.4**
SLUM		**2.76**	**179**	⇓P	**Pn**	**05 34 40.9**	**0.0**
HMAT	**Matruh**	**3.55**	**152**	⇓P	**Pn**	**05 34 51.8**	**0.0**
SWA1		**5.00**	**175**	⇑P	**Pn**	**05 35 12.2**	**+0.4**
SWA1		**5.00**	**175**	P	**Pn**	**05 35 12.1**	**+0.3**
SWA2		**5.01**	**177**	⇑P	**Pn**	**05 35 11.9**	**+0.1**
SWA2				S	**Sn**	**05 36 02.9**	**-6.4**

ISCJB 22 06:09:13.9±0.4, 3823N±002×2657E±003, h8km, Error ellipse: s-maj=3.5km s-min=3.0km az=128.6
CSEM 22 06:09:13.5±0.1, 3821N×2659E, h8km, MD3.3, Error ellipse: s-maj=1.7km s-min=1.5km az=83.0
ATH 22 06:09:14.1, 3821N×2642E, h24km±4km, MD3.6/4
ISK 22 06:09:14.0, 3820N×2661E, h12km, MD3.3
NEIC 22 06:09:14.0, 3820N×2661E, h13km, MD3.3(ISK), MD3.6(ATH), After ISK.
ISC 22 06:09:14.2±0.7, 3821N±002×2655E±004, h7km±4km, n38, σ0s82/55, 2C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.42**	**66**	*i* PG	**Pg**	**06 09 22.2**	**-0.2**
BLCB				*i* SG	**Sg**	**06 09 27.9**	**-0.1**
SMG	**Samos**	**0.55**	**155**	⇑*i*PN	**Pg**	**06 09 25.6**	**+0.

DHMR 22 06:21:42.0±1.2, 1206N×4151E, h14km±77km, ML3.9, 3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**2.80**	**65**	⇓*i*P	Pn	06 22 28.6	+2.3
TRBA				*i* S	Sn	06 23 06.6	+6.8
TRBA				AML	AML	06 23 14.4	
	comp=N,1μm,0.7s						
TRBA	**At Turbah**	**2.80**	**65**	⇓*i*P	Pn	06 22 28.6	+2.3
TRBA				*i* S	Sn	06 23 06.6	+6.8
	comp=N,505nm,0.7s						
UDYN	**Al 'Udayn**	**3.06**	**51**	*i* S	Sn	06 23 13.1	+7.0
UDYN				AML	AML	06 23 30.6	
	comp=N,667nm,0.7s						
DHBB	**Dhamar BB**	**3.75**	**48**	*i* P	Pn	06 22 42.6	+3.2
DHBB				*i* S	Sn	06 23 29.1	+5.8
LBOS		**4.07**	**63**	*i* P	Pn	06 22 46.5	+2.8
LBOS				*i* S	Sn	06 23 36.5	+5.4
HAJJ	**Hajjah**	**4.15**	**29**	*i* P	Pn	06 22 48.0	+3.2
HAJJ				*i* S	Sn	06 23 38.1	+5.1
HAJJ				AML	AML	06 24 03.7	
	comp=E,238nm,0.7s						
HAJJ	**Hajjah**	**4.15**	**29**	*i* P	Pn	06 22 48.0	+3.2
HAJJ				*i* S	Sn	06 23 38.1	+5.0
	comp=E,119nm,0.7s						
BDHA	**Al Bayda'**	**4.39**	**64**	⇓*i*P	Pn	06 22 50.8	+2.6
BDHA				*i* S	Sn	06 23 44.7	+5.7

NEIC ***22*** *07:17:08.0, 3497S×7056W, h19km, ML2.9(GUC), After GUC.*

GUC 22 07:17:08.0±0.6, 3497S×7056W, h19km±2km, MD3.5, ML2.9, 10C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.52**	**314**	⇓*i*P	Pg	07 17 17.8	-0.7
SFDO				*i* S	Sg	07 17 25.9	+0.4
NICH	**Los Niches**	**0.55**	**267**	⇑*i*P	Pb	07 17 18.1	-0.9
NICH				*i* S	Sg	07 17 26.4	-0.1
CICH	**Cipreses**	**0.66**	**10**	⇑*i*P	Pb	07 17 20.4	-0.5
CICH				*i* S	Sb	07 17 30.4	+0.6
CACH	**El Canelo**	**0.86**	**358**	⇑*i*P	Pb	07 17 23.7	-0.6
CACH				*i* S	Sb	07 17 35.7	+0.4
CHCH	**Chadas Angostu**	**1.04**	**356**	⇑*i*P	Pb	07 17 27.3	-0.1
CHCH				*i* S	Sb	07 17 41.6	+0.9
LNV	**Longovilo**	**1.23**	**325**	⇑*i*P	Pn	07 17 30.1	-0.1
LNV				*i* S	Sb	07 17 47.1	+0.9
SJCH	**San Jose de Ma**	**1.34**	**7**	*e*P	Pn	07 17 32.2	+0.5
SJCH				*i* S	Sn	07 17 50.5	+1.5
PCH	**Pirque**	**1.35**	**2**	⇑*i*P	Pn	07 17 32.4	+0.6
PCH				*i* S	Sn	07 17 50.9	+1.7
TACH	**Talagante**	**1.35**	**347**	*e*P	Pn	07 17 32.3	+0.5
TACH				*i* S	Sn	07 17 50.9	+1.6
ANTU	**Antumapu**	**1.40**	**357**	*e*P	Pn	07 17 33.5	+1.0
ANTU				*i* S	Sn	07 17 52.4	+1.9
ANTU				AML	AML	07 17 55.2	
	comp=E,315nm,0.1s						
ANTU	**Antumapu**	**1.40**	**357**	*e*P	Pn	07 17 33.5	+1.0
ANTU				*i* S	Sn	07 17 52.4	+1.9
FSR	**Penalolen**	**1.49**	**1**	AML	AML	07 17 57.7	
	comp=E,193nm,0.7s						
RCDM	**Rinconada Maip**	**1.50**	**352**	*i* P	Pn	07 17 34.7	+0.9
RCDM				*i* S	Sn	07 17 55.1	+2.3
RCDM				AML	AML	07 17 57.8	
	comp=E,313nm,0.5s						
RCDM	**Rinconada Maip**	**1.50**	**352**	*i* P	Pn	07 17 34.7	+0.9
RCDM				*i* S	Sn	07 17 55.1	+2.3
CLCH	**Cerro Calan**	**1.57**	**1**	⇓*i*P	Pn	07 17 36.7	+1.8
CLCH				*e*S	Sn	07 17 57.5	+2.8
CLCH				AML	AML	07 18 00.7	
	comp=E,183nm,0.3s						
FCH	**Farellones**	**1.66**	**8**	⇑*i*P	Pn	07 17 38.6	+2.5
FCH				*i* S	Sn	07 18 01.6	+4.8
FCH				AML	AML	07 18 02.2	
	comp=E,180nm,0.2s						
LCCH	**Las Cruces**	**1.71**	**330**	⇑*i*P	Pn	07 17 38.3	+1.5
LCCH				*i* S	Sn	07 18 01.2	+3.1
PEL	**Peldehue**	**1.83**	**357**	*e*P	Pn	07 17 40.9	+2.5
PEL				*e*S	Sn	07 18 05.6	+4.6
PEL				AML	AML	07 18 07.7	
	comp=N,418nm,0.4s						
PEL	**Peldehue**	**1.83**	**357**	*e*P	Pn	07 17 40.9	+2.5
PEL				*e*S	Sn	07 18 05.6	+4.6
ROCH	**El Roble**	**2.03**	**349**	⇑*i*P	Pn	07 17 44.0	+2.8
ROCH				*i* S	Sn	07 18 12.1	+6.0
JACH	**Jahuel**	**2.29**	**359**	⇑*i*P	Pn	07 17 48.2	+3.6
JACH				*i* S	Sn	07 18 19.0	+6.7

ISCJB ***22*** *07:26:49.2±1.0, 362S±02×100.1W±02, h10km, mb3.7/7, MS3.8/7, Error ellipse: s-maj=24.5km s-min=23.2km az=18.8*
IDC ***22*** *07:26:49.5±1.2, 3618S×10007W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.9/16, mbtmp3.7/6, MS3.8/7, Ms1 3.7/7, ms1mx3.5/22, Error ellipse: s-maj=32.1km s-min=29.5km az=37.0*
NEIC ***22*** *07:26:51.0±0.8, 3617S×10003W, h10km, mb4.0/1, Error ellipse: s-maj=19.8km s-min=18.0km az=200.0*
ISC 22 07:26:50.9±1.0, 362S±02×1001W±02, h10km, n11, σ0s 48/7, mb3.7/7, MS3.8/7, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**23.51**	**110**	P	**P**	**07 32 01.4**	**+0.3**
	3.6nm,0.9s,mb3.8,baz=278,slow=9.2,SNR=5.2						
PLCA				LR	LR	07 38 22.6	
	comp=Z,124nm,18.0s,MS3.4,baz=92,slow=30						
LPAZ	**La Paz**	**34.63**	**63**	P	**P**	**07 33 40.8**	**+0.6**
	2.3nm,0.8s,mb4.1,baz=220,slow=9.1,SNR=9.8						
LPAZ				LR	LR	07 45 27.7	
	comp=Z,55nm,19.4s,MS3.3,baz=250,slow=32						
CPUP	**Villa Florida**	**37.60**	**87**	P	**P**	**07 34 05.5**	**-0.2**
	0.2nm,0.4s,mb3.2,baz=225,slow=10.0,SNR=2.6						
CPUP				LR	LR	07 48 50.0	
	comp=Z,39nm,20.1s,MS3.2,baz=59,slow=35						
SAML	**Samuel**	**43.14**	**60**	*e*P	**P**	**07 34 50.5**	**-0.9**
	3.1nm,1.1s,mb4.0						
BDFB	**Brasilia**	**50.48**	**80**	LR	LR	07 54 43.0	
	comp=Z,94nm,20.6s,MS3.8,baz=101,slow=33						
VNDA	**Vanda**	**56.66**	**195**	P	**P**	**07 36 34.1**	**-0.1**
	1.4nm,1.1s,mb3.9,baz=106,slow=5.7,SNR=4.3						
RPZ	**Rata Peaks**	**65.36**	**233**	LR	LR	07 58 26.3	
	comp=Z,263nm,19.2s,MS4.5,baz=198,slow=29						
NVAR	**Mina Array Bea**	**76.16**	**345**	P	**P**	**07 38 38.9**	**-0.2**
	0.3nm,0.7s,mb3.3,baz=178,slow=7.2,SNR=2.7						
PDAR	**Pinedale Array**	**79.08**	**353**	P	**P**	**07 38 56.0**	**+0.5**
	0.6nm,0.7s,mb3.6,baz=157,slow=4.8,SNR=6.5						
SCHQ	**Schefferville**	**95.08**	**19**	LR	LR	08 15 31.7	
	comp=Z,44nm,20.9s,MS3.9,baz=44,slow=31						
BOSA	**Boshof**	**97.53**	**134**	LR	LR	08 15 33.9	
	comp=Z,100nm,21.4s,MS4.3,baz=181,slow=30						

ISCJB ***22*** *07:41:02.6±0.2, 4742N±001×1049E±002, h10km, Error ellipse: s-maj=1.7km s-min=1.5km az=9.3*
LEDBW ***22*** *07:41:03.6±0.9, 4740N±005×1061E±005, h10km, ML2.9, Error ellipse: s-maj=18.0km s-min=16.0km az=47.0*
PRU ***22*** *07:41:03.4, 4742N×1051E, h0km*
NEIC ***22*** *07:41:03.0, 4740N×1060E, h10km, ML2.8(STR), ML2.9(SZGRF), ML2.9(LEDBW), ML3.0(LDG), After LEDBW.*
VIE ***22*** *07:41:03.6±0.3, 4736N×1053E, h7km±9km, mb2.6/3, ML2.6/6, Error ellipse: s-maj=2.9km s-min=0.7km az=174.0 16 km S of Tannheim*
LDG ***22*** *07:41:04.7±0.2, 4753N×1056E, h4km, Ml3.0/13, Error ellipse: s-maj=3.6km s-min=2.6km az=48.0*
CSEM ***22*** *07:41:04.3±0.1, 4741N×1056E, h10km, ML3.1/15, Error ellipse: s-maj=1.2km s-min=0.8km az=170.0*
IPEC ***22*** *07:41:04.2±0.1, 4740N×1048E, h4km±1km, ML2.7/2, Error ellipse: s-maj=1.7km s-min=0.7km az=172.0*
BGR ***22*** *07:41:05.5±0.5, 4745N×1055E, h10km, ML2.9/11, Error ellipse: s-maj=5.6km s-min=3.3km az=165.0*
ROM ***22*** *07:41:06.2±0.8, 4737N×1043E, h10km, Md3.0/11, Ml2.7/6, Error ellipse: s-maj=11.7km s-min=4.9km az=169.0*
STR ***22*** *07:41:07.4±0.7, 4750N×1033E, h10km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 22 07:41:03.5±0.2, 4742N±001×1051E±001, h5km±2km, n139,

σ1s16/255, **7C-10D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OBER	**Oberstdorf**	**0.15**	**265**	⇑*i*Pg	**Pg**	**07 41 05.9**	**-0.5**
OBER				*e*Sg	**Sg**	07 41 07.9	-0.5
UBR	**Ueberruh**	**0.38**	**314**	P	**Pg**	**07 41 11.8**	**+1.0**
UBR				S	**Sg**	07 41 18.7	+3.0
MOTA	**Moosalm**	**0.41**	**100**	⇓*e*Pg	**Pg**	**07 41 11.1**	**-0.4**
	16nm,0.1s,SNR=30						
MOTA				⇓*i*Sg	**Sg**	07 41 16.9	0.0
	32nm,0.1s						
DAVA	**Damuels**	**0.45**	**253**	⇑⇑*e*Pg	**Pg**	**07 41 12.3**	**+0.1**
	124nm,0.2s,SNR=103						
DAVA				⇓*i*Sg	**Sg**	07 41 18.4	+0.4
	103nm,0.2s						
DAVA	**Damuels**	**0.45**	**253**	Pg	**Pg**	**07 41 12.3**	**+0.2**
	124nm,0.2s,SNR=103						
DAVA				*e*Sg	**Sg**	07 41 18.9	+1.0
SQTA	**Sankt Quirin**	**0.52**	**112**	⇑⇑*e*Pg	**Pg**	**07 41 13.0**	**-0.5**
	40nm,0.2s,SNR=28						
SQTA				⇓*i*Sg	**Sg**	07 41 20.4	+0.2
	40nm,0.2s						
WATA	**Walderalm**	**0.73**	**96**	⇓*i*Pg	**Pg**	**07 41 17.4**	**-0.2**
	2.0nm,0.1s						
WATA				⇓*i*Sg	**Sg**	07 41 27.5	+0.5
	20nm,0.2s						
WATA	**Walderalm**	**0.73**	**96**	⇓*i*Pg	**Pg**	**07 41 17.4**	**-0.2**
WATA				*i* Sg	**Sg**	07 41 27.5	+0.5
DAVOX	**Davos**	**0.77**	**214**	Pg	**Pg**	**07 41 17.7**	**-0.6**
DAVOX				Sg	**Sg**	07 41 30.1	+1.8
WTTA	**Wattenberg**	**0.78**	**101**	⇓⇓*e*Pg	**Pg**	**07 41 18.5**	**-0.1**
	12nm,0.2s,SNR=18						
WTTA				⇓*i*Sg	**Sg**	07 41 28.5	-0.2
	67nm,0.4s						
SCE	**Schlegeis**	**0.90**	**114**	⇑*i*Pg	**Pg**	**07 41 20.2**	**-0.7**
FUR	**Furstenfeldbru**	**0.91**	**34**	*e*Pg	**Pg**	**07 41 22.6**	**+1.6**
	SNR=11						
FUR				*e*Sg	**Sg**	07 41 35.0	+2.2
FUR	**Furstenfeldbru**	**0.91**	**34**	*e*Pg	**Pg**	**07 41 22.6**	**+1.6**
FUR				*e*Sg	**Sg**	07 41 35.0	+2.2
FUR	**Furstenfeldbru**	**0.91**	**34**	*e*Pg	**Pg**	**07 41 22.5**	**+1.5**
FUR				Sg	**Sg**	07 41 35.0	+2.2
APPI	**Appiano**	**1.06**	**152**	Pg	**Pg**	**07 41 25.7**	**+1.8**
	353nm,0.3s						
SISB	**Singen-Schiene**	**1.08**	**285**	P	**Pg**	**07 41 25.3**	**+1.1**
SISB				S	**Sg**	07 41 41.2	+3.0
SISB	**Singen-Schiene**	**1.08**	**285**	P	**Pg**	**07 41 25.8**	**+1.6**
SISB				S	**Sg**	07 41 42.1	+3.9
GUT	**Gutenstein**	**1.14**	**305**	P	**Pg**	**07 41 25.3**	**-0.2**
GUT				Sg	**Sg**	07 41 42.6	+2.3
HDH	**Heidenheim-Cha**	**1.18**	**350**	P	**Pg**	**07 41 25.8**	**-0.4**
HDH				Pg	**Pg**	07 41 26.8	+0.6
HDH				Sg	**Sg**	07 41 43.4	+1.8
HDH	**Heidenheim-Cha**	**1.18**	**350**	Pg	**Pg**	**07 41 26.8**	**+0.6**
HDH	**Heidenheim-Cha**	**1.18**	**350**	Pn	**Pn**	**07 41 25.8**	**-0.9**
HDH				S	**Sg**	07 41 43.4	+1.9
HDH	**Heidenheim-Cha**	**1.18**	**350**	P	**Pg**	**07 41 26.8**	**+0.6**
TUE	**Stuetta**	**1.24**	**220**	Pg	**Pg**	**07 41 26.7**	**-0.5**
	109nm,0.6s						
BUCH	**Bad Urach**	**1.29**	**323**	P	**Pn**	**07 41 28.1**	**-0.1**
BUCH				Pg	**Pg**	07 41 28.7	+0.4
BUCH				Sg	**Sg**	07 41 47.0	+2.0
BUCH	**Bad Urach**	**1.29**	**323**	Pg	**Pg**	**07 41 28.7**	**+0.4**
BUCH	**Bad Urach**	**1.29**	**323**	Pn	**Pn**	**07 41 28.1**	**-0.1**
BUCH				S	**Sg**	07 41 47.0	+2.0
BUCH	**Bad Urach**	**1.29**	**323**	P	**Pn**	**07 41 28.7**	**+0.5**
NORI	**Noerdlinger Ri**	**1.30**	**3**	⇑*i*Pg	**Pg**	**07 41 27.7**	**-0.8**
NORI				*e*Sg	**Sg**	07 41 46.1	+0.6
BHBD	**Braunhartsberg**	**1.31**	**310**	P	**Pn**	**07 41 29.5**	**+1.1**
BHBD				Sx	Sx	07 41 46.8	
SEST	**Monte Rota**	**1.35**	**119**	Pg	**Pg**	**07 41 30.8**	**+1.5**
	201nm,0.7s						
SPAK	**Spaichingen-Ko**	**1.35**	**301**	Pn	**Pn**	**07 41 29.7**	**+0.7**
SPAK	**Spaichingen-Ko**	**1.35**	**301**	Pg	**Pg**	**07 41 30.1**	**+0.7**
SPAK				Sg	**Sg**	07 41 47.8	+1.0
SPAK	**Spaichingen-Ko**	**1.35**	**301**	P	**Pn**	**07 41 30.1**	**+1.1**
MABI	**Malga Bissina**	**1.36**	**180**	Pg	**Pg**	**07 41 29.2**	**-0.5**
	20nm,0.3s						
TUBL	**Tuebingen-Lenn**	**1.46**	**320**	S	**Sn**	**07 41 52.2**	**+2.2**
CTI	**Castel Tesino**	**1.58**	**150**	Pg	**Pg**	**07 41 34.6**	**+0.8**
CTI				Sg	**Sg**	07 41 56.4	+2.1
	139nm,0.3s						
STU	**Stuttgart**	**1.61**	**327**	*e*Pg	**Pg**	**07 41 35.9**	**+1.4**
	SNR=1.4						
STU				*e*Sg	**Sg**	07 41 56.0	+0.6
LBG	**Lerchenberg**	**1.69**	**318**	P	**Pn**	**07 41 33.7**	**-0.1**
LBG				S	**Sn**	07 41 55.0	-0.8
LBG				Sg	**Sg**	07 41 59.3	+1.3
LBG	**Lerchenberg**	**1.69**	**318**	P	**Pn**	**07 41 33.7**	**-0.1**
LBG				S	**Sn**	07 41 55.0	-0.8
LBG	**Lerchenberg**	**1.69**	**318**	Pn	**Pn**	**07 41 33.7**	**-0.1**
LBG				Sn	**Sn**	07 41 55.0	-0.8
LBG				S	**Sn**	07 41 59.3	+3.5
BFO	**Black Forest**	**1.73**	**303**	*e*Pn	**Pn**	**07 41 34.4**	**+0.2**
BFO				*e*Sn	**Sn**	07 41 55.1	-1.5
BFO				*e*Sg	**Sg**	07 42 00.1	+1.1
BFO	**Black Forest**	**1.73**	**303**	*e*Pn	**Pn**	**07 41 34.2**	**0.0**
BFO				*e*Sg	**Sg**	07 42 00.1	+1.1
BFO	**Black Forest**	**1.73**	**303**	*e*Pn	**Pn**	**07 41 34.1**	**-0.1**
BFO				Sn	**Sn**	07 41 55.1	-1.5
BFO				Sg	**Sg**	07 42 00.1	+1.1
BFO	**Black Forest**	**1.73**	**303**	Pn	**Pn**	**07 41 33.8**	**-0.4**
BFO				Sx	Sx	07 41 54.9	
BFO				S	**Sn**	07 41 59.5	+2.9
MDI	**Monti di Nese**	**1.73**	**199**	Pg	**Pg**	**07 41 37.8**	**+1.1**
	140nm,0.8s						
FELD	**Feldberg im Sc**	**1.75**	**286**	Pn	**Pn**	**07 41 33.4**	**-1.2**
FELD	**Feldberg im Sc**	**1.75**	**286**	P	**Pn**	**07 41 33.7**	**-0.9**
FELD	**Feldberg im Sc**	**1.75**	**286**	Pn	**Pn**	**07 41 33.7**	**-0.9**
FVI	**Forni Avoltri**	**1.76**	**117**	Pg	**Pg**	**07 41 36.8**	**-0.5**
	31nm,0.5s						
MUGIO	**Muggio**	**1.81**	**215**	Pg	**Pg**	**07 41 37.3**	**-0.8**
KIZ	**Kirchzarten**	**1.83**	**288**	P	**Pn**	**07 41 34.9**	**-0.7**
KIZ				Sg	**Sg**	07 42 02.4	+0.1
VAI	**Varese**	**1.96**	**218**	Pg	**Pg**	**07 41 39.6**	**-1.5**
	237nm,1.0s						
KBA	**Koelnbreinsper**	**1.96**	**99**	*e*Pg	**Pg**	**07 41 40.9**	**-0.2**
	21nm,0.3s,SNR=59						
KBA				⇑*i*Sg	**Sg**	07 42 07.6	+1.0
	34nm,0.4s						
KBA	**Koelnbreinsper**	**1.96**	**99**	Pg	**Pg**	**07 41 40.9**	**-0.3**
	21nm,0.3s,SNR=59						
KBA				*e*Sg	**Sg**	07 42 07.4	+0.8
BBS	**Basel-Blauen**	**2.04**	**272**	P	**Pn**	**07 41 42.1**	**+3.7**
BBS				Sg	**Sg**	07 42 08.4	-0.5
BBS	**Basel-Blauen**	**2.04**	**272**	Sg	**Sg**	**07 42 08.4**	**-0.5**
BBS	**Basel-Blauen**	**2.04**	**272**	P	**Pn**	**07 41 42.1**	**+3.6**
BBS				S	**Sn**	07 42 08.4	+4.2
GMNA	**Gemona**	**2.19**	**120**	Pg	**Pg**	**07 41 43.1**	**-2.5**
	224nm,1.1s						
PTCC	**Patocco-Chiusa**	**2.20**	**116**	Pg	**Pg**	**07 41 44.0**	**-1.7**
	17nm,0.6s						
MMK	**Mattmark**	**2.22**	**233**	Pg	**Pg**	**07 41 45.1**	**-1.0**
MCGN	**Macugnaga**	**2.27**	**231**	Pg	**Pg**	**07 41 44.3**	**-2.7**
	9.0nm,0.3s						
MOF	**Molkenrain**	**2.32**	**282**	Pn	**Pn**	**07 41 43.3**	**+0.9**
MOF				Sg	**Sg**	07 42 18.4	+0.3
GRA1	**Grafenberg Arr**	**2.32**	**12**	*e*Pg	**Pg**	**07 41 48.3**	**+0.2**
GRA1				*e*Sg	**Sg**	07 42 18.8	+0.6
GRA1	**Grafenberg Arr**	**2.32**	**12**	Pg	**Pg**	**07 41 48.1**	**0.0**
	SNR=6.2						
GRA1				Sg	**Sg**	07 42 18.4	+0.2
GRF	**Grafenberg Arr**	**2.32**	**12**	*e*Pg	**Pg**	**07 41 48.1**	**0.0**
	SNR=6.2						
GRF				*e*Sg	**Sg**	07 42 18.4	+0.2
GRF	**Grafenberg Arr**	**2.32**	**12**	*e*Pg	**Pg**	**07 41 48.3**	**+0.2**
GRF				*e*Sg	**Sg**	07 42 18.8	+0.6
WET	**Wettzell**	**2.34**	**42**	*e*Pn	**Pn**	**07 41 42.6**	**-0.1**
	SNR=8.0						
WET				*e*Sg	**Sg**	07 42 17.8	-1.0
WET	**Wettzell**	**2.34**	**42**	*e*Pn	**Pn**	**07 41 42.3**	**-0.4**
WET				*e*Sg	**Sg**	07 42 18.0	-0.8
WLS	**Welschbruch**	**2.34**	**296**	Pn	**Pn**	**07 41 43.8**	**+1.1**
WLS				Sg	**Sg**	07 42 19.1	+0.3
LANF	**Langenberg**	**2.39**	**312**	Pn	**Pn**	**07 41 42.6**	**-0.7**
CDF	**Champ du Feu**	**2.39**	**296**	*e*Pg	**Pg**	**07 41 49.6**	**+0.3**
CDF				*e*Sg	**Sg**	07 42 20.3	0.0
	18nm,0.4s						
CDF	**Champ du Feu**	**2.39**	**296**	*e*Pn	**Pn**	**07 41 43.7**	**+0.4**
CDF				*e*Pg	**Pg**	07 41 49.6	+0.3
CDF				*e*Sg	**Sg**	07 42 20.3	0.0
CDF	**Champ du Feu**	**2.39**	**296**	*e*Pg	**Pg**	**07 41 49.6**	**+0.3**
CDF				*e*Sg	**Sg**	07 42 20.3	0.0
	9.1nm,0.4s						
SWS	**Schriesheim-Wi**	**2.39**	**330**	Pg	**Pg**	**07 41 43.2**	**-6.2**
SWS				Sg	**Sg**	07 42 10.9	-9.4
SWS	**Schriesheim-Wi**	**2.39**	**330**	P	**Pn**	**07 41 43.1**	**-0.2**
ECH	**Echery**	**2.39**	**291**	Pn	**Pn**	**07 41 43.2**	**-0.2**
TOD	**Tromm**	**2.46**	**333**	Pg	**Pg**	**07 41 44.1**	**-6.7**
TOD	**Tromm**	**2.46**	**333**	Pn	**Pn**	**07 41 43.7**	**-0.6**
TOD	**Tromm**	**2.46**	**333**	P	**Pn**	**07 41 44.0**	**-0.3**
CADS	**Cadrg**	**2.52**	**117**	*i* Pn	**Pn**	**07 41 47.5**	**+2.4**
GEC2	**GERESS Array S**	**2.57**	**55**	*e*Pn	**Pn**	**07 41 46.3**	**+0.5**
	SNR=2.0						
MOA	**Molln**	**2.58**	**79**	⇑*i*Pn	**Pn**	**07 41 46.1**	**+0.2**
	4.7nm,0.4s						
MOA				⇓*i*Sg	**Sg**	07 42 27.9	+1.5
	15nm,0.4s						
GORS	**Gorjuse**	**2.63**	**113**	*i* Pn	**Pn**	**07 41 50.9**	**+4.2**
KHC	**Kasperske Hory**	**2.67**	**49**	*e*PN	**Pn**	**07 41 47.3**	**+0.1**
KHC				*e*PG	**Pg**	07 41 52.5	-2.2
KHC				*e*SN	**Sn**	07 42 19.7	-0.3
KHC				*e*SG	**Sg**	07 42 27.4	-2.0
	87nm,1.1s						
KHC	**Kasperske Hory**	**2.67**	**49**	*e*Pn	**Pn**	**07 41 47.2**	**0.0**
VOJS	**Vojsko**	**2.71**	**120**	*i* Pn	**Pn**	**07 41 50.0**	**+2.3**
VOJS				*e*Sn	**Sn**	07 42 24.0	+3.3
VOY	**Vojsko**	**2.71**	**120**	*e*Pn	**Pn**	**07 41 51.2**	**+3.5**
VOY				*e*Sn	**Sn**	07 42 28.5	+7.6
HAU	**Haudompre**	**2.87**	**283**	*e*Pg	**Pg**	**07 41 58.7**	**+0.2**
HAU				*e*Sg	**Sg**	07 42 36.3	+0.6
	39nm,0.4s						
HAU	**Haudompre**	**2.87**	**283**	*e*Pn	**Pn**	**07 41 49.9**	**0.0**
HAU				*e*Pg	**Pg**	**07 41 58.7**	**+0.2**
HAU				*e*Sg	**Sg**	07 42 36.3	+0.6
HAU	**Haudompre**	**2.87**	**283**	*e*Pg	**Pg**	**07 41 58.7**	**+0.2**
HAU				*e*Sg	**Sg**	07 42 36.3	+0.6
	19nm,0.4s						
OBKA	**Obir**	**2.91**	**107**	*e*Pn	**Pn**	**07 41 52.5**	**+2.0**
NKC	**Novy Kostel**	**3.09**	**24**	*e*PN	**Pn**	**07 41 53.0**	**0.0**
NKC				*e*PG	**Pg**	07 41 59.2	-3.6
NKC				*e*SG	**Sg**	07 42 42.8	-0.1
	18nm,0.5s						
TNS	**Taunus Mts**	**3.12**	**335**	*e*Pn	**Pn**	**07 41 53.6**	**+0.3**
	SNR=3.8						
TNS				*e*Sn	**Sn**	07 42 29.6	-1.4
TNS				*e*Sg	**Sg**	07 42 44.9	+1.2
TNS	**Taunus Mts**	**3.12**	**335**	*e*Pn	**Pn**	**07 41 53.5**	**+0.2**
TNS				*e*Sn	**Sn**	07 42 29.6	-1.4
TNS	**Taunus Mts**	**3.12**	**335**	*e*Pn	**Pn**	**07 41 53.5**	**+0.2**
TNS				Sg	**Sg**	07 42 44.9	+1.2
CABF	**La Chapelle**	**3.13**	**257**	*e*Pg	**Pg**	**07 42 02.7**	**-0.8**
CABF				*e*Sg	**Sg**	07 42 43.7	-0.4
	11nm,0.4s						
CABF	**La Chapelle**	**3.13**	**257**	*e*Pn	**Pn**	**07 41 54.8**	**+1.3**
CABF				*e*Pg	**Pg**	07 42 02.7	-0.8
CABF				*e*Sg	**Sg**	07 42 43.7	-0.4
CABF	**La Chapelle**	**3.13**	**257**	*e*Pg	**Pg**	**07 42 02.7**	**-0.8**
CABF				*e*Sg	**Sg**	07 42 43.7	-0.4
	5.4nm,0.4s						
GUNZ	**Gunzen**	**3.18**	**22**	*e*Pn	**Pn**	**07 41 53.8**	**-0.5**
	SNR=2.7						
GUNZ				*e*Sg	**Sg**	07 42 45.4	-0.4
LPL	**La Plagne**	**3.23**	**235**	*e*Pn	**Pn**	**07 41 55.2**	**+0.3**
LPL				*e*Sg	**Sg**	07 42 48.2	+0.9
	12nm,0.5s						
LPL	**La Plagne**	**3.23**	**235**	*e*Pn	**Pn**	**07 41 55.2**	**+0.3**
LPL				*e*Sg	**Sg**	07 42 48.2	+0.9
	5.8nm,0.5s						
LPG	**La Plagne**	**3.23**	**235**	*e*Pn	**Pn**	**07 41 55.8**	**+0.9**
LPG				*e*Sg	**Sg**	07 42 47.8	+0.5
	18nm,0.6s						
LPG	**La Plagne**	**3.23**	**235**	*e*Pn	**Pn**	**07 41 55.8**	**+0.9**
LPG				*e*Sg	**Sg**	07 42 47.8	+0.5
	9.1nm,0.6s						
WERD	**Werda**	**3.25**	**21**	*e*Pn	**Pn**	**07 41 54.6**	**-0.7**
	SNR=1.6						
WERD				*e*Sg	**Sg**	07 42 47.6	-0.5
TANN	**Tannenbergstha**	**3.26**	**23**	*e*Pn	**Pn**	**07 41 54.3**	**-1.1**
	SNR=3.8						
TANN				*e*Sg	**Sg**	07 42 48.0	-0.3
MOX	**Moxa**	**3.31**	**12**	*e*

ISCJB ***22*** *07:55:53.4±0.2, 44.31N×002×42.72E×003, h10km, mb3.8/13, MS3.1/7, Error ellipse: s-maj=4.0km s-min=2.3km az=71.4*
IDC ***22*** *07:55:54.6±0.7, 44.32N×4250E, h0km, mb3.7/8, mb1 3.9/13, mb1mx3.8/25, mbtmp3.9/13, ML3.7/6, MS3.2/10, Ms1 3.2/10, ms1mx2.9/35, Error ellipse: s-maj=11.6km s-min=8.8km az=19.0*
CSEM ***22*** *07:55:54.6±0.1, 44.28N×4277E, h20km, mb4.1/9, Error ellipse: s-maj=2.5km s-min=1.6km az=33.0*
MOS ***22*** *07:55:54.1±1.4, 44.29N×4264E, h13km, mb4.1/13, Error ellipse: s-maj=6.6km s-min=4.0km az=125.6*
MOS Felt (III-IV) at Karachaevo-Cherkessk.
NEIC ***22*** *07:55:57.3±0.5, 44.58N×4259E, h10km, mb4.1/10, Error ellipse: s-maj=10.0km s-min=6.6km az=169.0*
NEIC Felt [IV] in Karachayevo-Cherkesiya.
NNC ***22*** *07:56:12.8±4.0, 45.16N×4373E, h75km±27km, mb3.5, Error ellipse: s-maj=45.2km s-min=31.8km az=135.0*

ISC 22 07:55:55.4±0.2, 4430N±003×4269E±003, h10km, n142, σ1§34/179, mb3.8/13, MS3.1/7, 15C-22D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BEYR	**Belyy Ugol+**	**0.30**	**163**	*e*Pg		**Pg**	**07 55 59.1**	**-2.2**
KIV	**Kislovodsk**	**0.34**	**181**	*i* PG		**Pg**	**07 55 59.6**	**-2.5**
PYA	**Pyatigorsk**	**0.37**	**135**↑	*i* PG		**Pg**	**07 56 01.6**	**-1.1**
SHAR	**Shatzhatmas**	**0.55**	**182**↓	*i* PG		**Pg**	**07 56 03.6**	**-2.5**
KUBR	**Kubataba**	**0.72**	**134**	*i* Pg		**Pg**	**07 56 08.0**	**-1.2**
GOF	**Gofitskoye**	**0.80**	**18**↓	*i* PG		**Pg**	**07 56 12.9**	**+2.1**
GOF				*e*S		**Sg**	**07 56 27.0**	**+5.8**
GOF				pmax	pmax			
	comp=Z,5μm,0.7s							
GOF				smax				
	comp=E,20μm,0.7s							
PRTR	**Priterechnaya**	**1.27**	**115**↑	*i* PG		**Pg**	**07 56 20.0**	**+0.3**
PRTR				*i* S		**Sb**	**07 56 38.0**	**+2.3**
KMSR	**Komsomolskaya**	**1.48**	**128**	*e*Pg		**Pg**	**07 56 22.3**	**-1.5**
KMSR				*i* Sg		**Sg**	**07 56 42.1**	**-0.9**
DIGR	**Digorskoe uzhe**	**1.54**	**155**↑	*i* PG		**Pg**	**07 56 21.1**	**-3.8**
KORR	**Kora**	**1.57**	**140**	*i* Pg		**Pg**	**07 56 22.5**	**-3.0**
KORR				*i* Sg		**Sg**	**07 56 42.6**	**-3.2**
TRKR	**Terskaya**	**1.58**	**111**↓	*i* PG		**Pg**	**07 56 24.9**	**-0.8**
TRKR				*i* S		**Sn**	**07 56 46.5**	**+2.6**
ARNR	**Ardon**	**1.59**	**133**	*i* Pg		**Pg**	**07 56 23.6**	**-2.4**
ARNR				*e*Sg		**Sg**	**07 56 44.2**	**-2.5**
BTKR	**Batakoyurt**	**1.62**	**124**	*e*PN		**Pn**	**07 56 24.7**	**+0.6**
BTKR				*i* S		**Sn**	**07 56 46.0**	**+1.0**
BTKR	**Batakoyurt**	**1.62**	**124**	*i* Sg		**Sn**	**07 56 46.0**	**+1.0**
ZEI	**Tsey**	**1.76**	**150**	*i* Pn		**Pn**	**07 56 24.5**	**-1.4**
ONI	**Oni**	**1.80**	**162**	P		**Pn**	**07 56 26.6**	**+0.2**
ONI				S		**Sn**	**07 56 48.2**	**-1.2**
ONI	**Oni**	**1.80**	**162**	P		**Pn**	**07 56 26.7**	**+0.2**
ONI				S		**Sn**	**07 56 47.9**	**-1.5**
VLKR	**Vladikavkaz**	**1.91**	**130**↑	*i* PN		**Pn**	**07 56 28.1**	**+0.2**
SNJR	**Sundja**	**1.97**	**128**	*e*PN		**Pn**	**07 56 28.9**	**+0.2**
SOC	**Sochi**	**2.27**	**253**	*e*PN		**Pn**	**07 56 34.6**	**+1.7**
SOC				*e*			07 56 36.4	
SOC				*e*			07 56 37.8	
SOC				*e*			07 57 02.3	
SOC				*e*			07 57 05.7	
SOC				*e*			07 57 09.3	
SOC				pmax	pmax			
	comp=Z,339nm,0.8s							
SOC				pmax	pmax			
	comp=Z,203nm,0.4s							
SOC				smax				
	comp=E,1μm,0.8s							
SOC	**Sochi**	**2.27**	**253**	*e*Pg		**Pg**	**07 56 37.8**	**-1.0**
GOR	**Gori**	**2.53**	**155**	P		**Pn**	**07 56 40.1**	**+3.5**
GOR				S		**Sn**	**07 57 14.1**	**+6.7**
TBLG	**Delisi**	**2.97**	**149**	P		**Pn**	**07 56 43.0**	**+0.5**
TBLG				S		**Sn**	**07 57 26.7**	**+8.5**
TBLG	**Delisi**	**2.97**	**149**	P		**Pn**	**07 56 43.1**	**+0.5**
TBLG				S		**Sn**	**07 57 23.0**	**+4.8**
TBLG	**Delisi**	**2.97**	**149**	PN		**Pn**	**07 56 43.1**	**+0.6**
TBLG				S		**Sn**	**07 57 23.0**	**+4.8**
MTA	**Mtatsminda**	**3.02**	**149**	P		**Pn**	**07 56 43.5**	**+0.3**
MTA				S		**Sn**	**07 57 28.1**	**+8.6**
MTA	**Mtatsminda**	**3.02**	**149**	P		**Pn**	**07 56 43.6**	**+0.3**
MTA				S		**Sn**	**07 57 27.3**	**+7.8**
ANN	**Anapa**	**3.79**	**279**	*e*PN		**Pn**	**07 56 56.2**	**+2.3**
ANN				*i* S		**Sn**	**07 57 43.7**	**+5.1**
ANN				pmax	pmax			
	comp=Z,32nm,0.6s							
GNI	**Garni**	**4.41**	**159**	Pn		**Pn**	**07 57 08.0**	**+5.6**
	comp=Z,1.3nm,0.3s,baz=344,slow=15,SNR=2.9							
GNI				Lg			07 58 13.5	
	comp=Z,4.5nm,0.3s,baz=238,slow=18,SNR=3.4							
GNI				LR		LR	07 59 12.0	
	comp=Z,134nm,20.8s,baz=340,slow=44							
GNI	**Garni**	**4.41**	**159**	*d* PN		**Pn**	**07 57 05.4**	**+3.0**
SUDU	**Sudak**	**5.53**	**279**	*e*P		**Pn**	**07 57 17.9**	**+0.2**
SUDU				*e*S		**Sn**	**07 58 20.9**	**-0.4**
SUDU				pmax	pmax			
	comp=Z,40nm,0.5s							
SUDU				smax				
	comp=N,90nm,0.8s							
SUDU				smax				
	comp=E,80nm,0.7s							
SUDU	**Sudak**	**5.53**	**279**	*e*P		**Pn**	**07 57 17.9**	**+0.2**
	comp=E,40nm,0.5s							
SUDU				*e*S		**Sn**	**07 58 20.9**	**-0.4**
	comp=E,90nm,0.8s							
ALU	**Alushta**	**5.94**	**277**	*e*P		**Pn**	**07 57 30.4**	**+7.0**
ALU				*e*S		**Sn**	**07 58 30.9**	**-0.7**
ALU				smax				
	comp=N,110nm,0.8s							
YAL	**Yalta**	**6.12**	**275**	*e*P		**Pn**	**07 57 28.8**	**+2.9**
YAL				*e*S		**Sn**	**07 58 45.8**	**+10**
YAL				smax				
	comp=E,20nm,0.4s							
SIM	**Simferopol'**	**6.16**	**279**	P		**Pn**	**07 57 31.3**	**+4.9**
SIM				S		**Sn**	**07 58 35.5**	**-1.3**
SIM				pmax	pmax			
	comp=Z,22nm,0.7s							
SEV	**Sevastopol'**	**6.47**	**275**	*e*P		**Pn**	**07 57 29.9**	**-0.7**
SEV				*e*S		**Sn**	**07 58 41.6**	**-2.9**
SEV				pmax	pmax			
	comp=Z,10.0nm,0.3s							
SEV				smax				
	comp=N,40nm,0.6s							
SEV				smax				
	comp=E,10.0nm,0.6s							
SEV	**Sevastopol'**	**6.47**	**275**	*e*P		**Pn**	**07 57 29.9**	**-0.7**
	comp=E,10.0nm,0.3s							
MALT	**Malatya**	**6.79**	**210**↓	*i* P		**Pn**	**07 57 42.7**	**+7.7**
MALT	**Malatya**	**6.79**	**210**	↓P		**Pn**	**07 57 42.6**	**+7.7**
VRSR	**Storozhevoye**	**7.31**	**342**	*c i* P		**Pn**	**07 57 42.8**	**+0.6**
VRSR				*e*S		**Sn**	**07 59 03.1**	**-2.2**
VRSR				pmax	pmax			
	comp=Z,10.0nm,0.5s							
VRSR				pmax	pmax			
	comp=N,30nm,0.6s							
VRSR				pmax	pmax			
	comp=E,10.0nm,0.6s							
VRSR				smax				
	comp=N,50nm,0.5s							
VRSR				smax				
	comp=Z,30nm,0.5s							
VRSR				smax				
	comp=E,360nm,1.0s							
VRSR	**Storozhevoye**	**7.31**	**342**	*i* P		**Pn**	**07 57 42.8**	**+0.6**
	comp=E,10.0nm,0.5s							
VRSR				*e*S		**Sn**	**07 59 03.1**	**-2.2**
VOR	**Voronezh**	**7.80**	**344**	P		**Pn**	**07 57 49.0**	**+0.1**
VOR				pmax	pmax			
	comp=Z,90nm,0.7s							
VOR	**Voronezh**	**7.80**	**344**	P		**Pn**	**07 57 49.0**	**+0.1**
	comp=Z,90nm,0.7s							
BRTR	**Keskin Array B**	**8.14**	**239**	Pn		**Pn**	**07 57 53.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=40,slow=11,SNR=7.0							
BRTR				Sn		**Sn**	**07 59 23.2**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=45,slow=19,SNR=5.8							
TIRR	**Tirgusor**	**10.23**	**276**	↓*i* P		**Pn**	**07 58 21.7**	**-0.5**
TIRR	**Tirgusor**	**10.23**	**276**	↓P		**Pn**	**07 58 21.7**	**-0.5**
HARR	**Harsova**	**10.56**	**277**	↓*i* P		**Pn**	**07 58 28.3**	**+1.6**
HARR	**Harsova**	**10.56**	**277**	↓P		**Pn**	**07 58 28.3**	**+1.6**
AKASG	**Malin Array Be**	**11.13**	**310**	Pn		**Pn**	**07 58 30.5**	**-4.1**
	comp=Z,2.2nm,0.3s,baz=116,slow=11,SNR=8.1							
AKASG				Sn		**Sn**	**08 00 28.8**	**-10**
	comp=Z,0.1nm,0.3s,baz=117,slow=24,SNR=2.7							
AKASG				Lg			08 01 42.2	
	comp=Z,1.6nm,0.3s,baz=114,slow=28,SNR=4.5							
AKBB	**Malin Array Si**	**11.13**	**310**	*e*Pn		**Pn**	**07 58 33.7**	**-0.9**
AKBB				*e*Sn		**Sn**	**08 00 31.5**	**-7.5**
AKBB	**Malin Array Si**	**11.13**	**310**	*e*P		**Pn**	**07 58 33.7**	**-0.9**
VRI	**Vrincioaia**	**11.40**	**284**	↓*i* P		**Pn**	**07 58 39.3**	**+1.0**
VRI	**Vrincioaia**	**11.40**	**284**	↓P		**Pn**	**07 58 39.3**	**+1.1**
PLOR	**Plostina**	**11.46**	**283**	↓*i* P		**Pn**	**07 58 38.7**	**-0.3**
OBN	**Obninsk**	**11.53**	**342**	‖*e*P		**Pn**	**07 58 39.1**	**-0.9**
OBN				*e*S		**Sn**	**08 00 51.2**	**+2.5**
OBN				pmax	pmax			
	comp=Z,9.0nm,0.5s							
OBN				MLR	MLR			
	comp=Z,100nm,19.0s							
OBN	**Obninsk**	**11.53**	**342**	*e*P		**Pn**	**07 58 39.1**	**-0.9**
	comp=Z,100nm,19.0s							
MLR	**Muntele Rosu**	**11.94**	**282**	Pn		**Pn**	**07 58 44.3**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=356,slow=7.8,SNR=3.6							
MLR				Sn		**Sn**	**08 00 52.4**	**-6.5**
	baz=345,slow=20,SNR=3.0							
MLR				LR		LR	08 04 25.8	
	comp=Z,163nm,20.3s,baz=317,slow=43							
MLR	**Muntele Rosu**	**11.94**	**282**	‖*i* P		**Pn**	**07 58 44.3**	**-1.4**
MLR	**Muntele Rosu**	**11.94**	**282**	‖P		**Pn**	**07 58 44.3**	**-1.4**
AKTK	**Aktyubinsk**	**12.06**	**54**	Pn		**Pn**	**07 58 45.6**	**-1.6**
AKTK				Sn		**Sn**	**08 00 55.4**	**-6.4**
AKTK	**Aktyubinsk**	**12.06**	**54**	P		**Pn**	**07 58 45.6**	**-1.6**
	comp=Z,2.0nm,0.3s							
AKTO	**Aktyubinsk**	**12.06**	**54**	⇑P		**Pn**	**07 58 45.4**	**-1.8**
	comp=Z,0.1nm,0.4s							
AKTO				⇓S		**Sn**	**08 00 50.8**	**-11**
	comp=Z,5.0nm,0.6s							
AKTO	**Aktyubinsk**	**12.06**	**54**	Pn		**Pn**	**07 58 45.6**	**-1.6**
	comp=Z,1.6nm,0.3s,baz=236,slow=10.0,SNR=17							
AKTO				Sn		**Sn**	**08 00 55.4**	**-6.4**
	comp=Z,2.4nm,0.3s,baz=87,slow=21,SNR=12							
AKTO	**Aktyubinsk**	**12.06**	**54**	P		**Pn**	**07 58 45.6**	**-1.6**
AKTO							08 00 55.4	
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.3s							
AKTO				smax				
	comp=E,2.0nm,0.3s							
AKTO	**Aktyubinsk**	**12.06**	**54**	P		**Pn**	**07 58 45.4**	**-1.8**
	comp=E,0.1nm,0.4s							
BURAR	**Bucovina Array**	**12.61**	**291**	↑*i* P		**Pn**	**07 58 53.3**	**-1.4**
BURAR	**Bucovina Array**	**12.61**	**291**	↑P		**Pn**	**07 58 53.3**	**-1.5**
AB31	**Akbulak array**	**12.81**	**61**	↓P		**Pn**	**07 58 55.9**	**-1.7**
	comp=E,6.2nm,0.2s,baz=249,slow=10,SNR=167							
AB31				⇓S		**Sn**	**08 01 11.0**	**-9.3**
	comp=E,21nm,0.6s							
AB31	**Akbulak array**	**12.81**	**61**	P		**Pn**	**07 58 55.8**	**-1.8**
	comp=E,6.2nm,0.2s,SNR=167							
DRGR		**14.22**	**287**	↓*i* P		**Pn**	**07 59 14.0**	**-2.8**
DRGR		**14.22**	**287**	↓P		**Pn**	**07 59 14.0**	**-2.8**
ARU	**Arti**	**15.76**	**34**	*e*P		**Pn**	**07 59 37.1**	**-0.3**
ARU				*e*S		**Sn**	**08 02 26.1**	**-6.0**
PSZ	**Piszkesteto**	**16.21**	**291**	*e*P		**Pn**	**07 59 42.8**	**-0.4**
PSZ				pmax	pmax			
	comp=Z,5.0nm,0.9s							
PSZ	**Piszkesteto**	**16.21**	**291**	*e*Pn		**Pn**	**07 59 42.8**	**-0.4**
	comp=Z,4.8nm,0.9s							
PSZ	**Piszkesteto**	**16.21**	**291**	*e*P		**Pn**	**07 59 42.8**	**-0.4**
	comp=Z,5.0nm,0.9s							
KLMR	**Klimovskoe**	**16.69**	**355**	*e*P		**Pn**	**07 59 47.8**	**-1.6**
KLMR				*e*			08 02 57.5	
KLMR				pmax	pmax			
	comp=Z,8.0nm,0.6s							
KLMR	**Klimovskoe**	**16.69**	**355**	*e*P		**Pn**	**07 59 47.8**	**-1.6**
	comp=Z,8.0nm,0.6s							
VRAC	**Vranov**	**18.52**	**295**	LR		LR	08 08 25.3	
	comp=Z,60nm,18.6s,baz=88,slow=41							
ZRNK	**Zerenda**	**19.34**	**54**	⇑P		**Pn**	**08 00 20.6**	**-1.3**
	comp=Z,3.4nm,0.6s							
ZRNK				⇓S		**Sn**	**08 03 41.6**	**-17**
	comp=Z,4.8nm,0.6s							
ZRNK	**Zerenda**	**19.34**	**54**	*e*P		**Pn**	**08 00 20.5**	**-1.4**
ZRNK				pmax	pmax			
	comp=Z,4.0nm,0.5s							
ZRNK	**Zerenda**	**19.34**	**54**	*e*P		**Pn**	**08 00 20.5**	**-1.4**
	comp=Z,4.0nm,0.5s							
FINES	**FINESS Array B**	**19.78**	**336**	P		**Pn**	**08 00 24.0**	**-3.2**
	comp=Z,0.8nm,0.3s,baz=144,slow=12,SNR=20							
FINES	**FINESS Array B**	**19.78**	**336**	*i* P		**Pn**	**08 00 25.6**	**-1.6**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.5s							
FINES	**FINESS Array B**	**19.78**	**336**	P		**Pn**	**08 00 24.0**	**-3.2**
FINES	**FINESS Array B**	**19.78**	**336**	*i* P		**Pn**	**08 00 25.6**	**-1.6**
	comp=Z,2.0nm,0.5s							
JOF	**Joensuu**	**19.78**	**345**	*e*p		**Pn**	**08 00 25.3**	**-1.9**
	comp=Z,2.5nm,0.3s							
JOF	**Joensuu**	**19.78**	**345**	*e*P		**Pn**	**08 00 25.3**	**-1.9**
JOF				pmax	pmax			
	comp=Z,3.0nm,0.3s							
BRVK	**Borovoye**	**20.11**	**54**	*e*P		**P**	**08 00 29.6**	**+0.3**
BRVK				pmax	pmax			
	comp=Z,5.0nm,0.6s							
BRVK	**Borovoye**	**20.11**	**54**	*e*P		**P**	**08 00 29.6**	**+0.3**
	comp=Z,4.8nm,0.6s							
BRVK	**Borovoye**	**20.11**	**54**	*e*P		**P**	**08 00 29.6**	**+0.3**
	comp=Z,4.8nm,0.6s							
KK31	**Karatay Array**	**20.11**	**84**	P		**P**	**08 00 30.1**	**+0.7**
	comp=Z,2.4nm,0.5s,baz=291,slow=11,SNR=22							
KK31				⇑S		**S**	**08 04 07.1**	**-8.1**
	comp=Z,5.3nm,0.8s							
KK31	**Karatay Array**	**20.11**	**84**	P		**P**	**08 00 30.0**	**+0.7**
	comp=Z,2.4nm,0.5s,SNR=22							
BVA0	**Borovoye Array**	**20.16**	**55**	P		**P**	**08 00 30.2**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=252,slow=9.1,SNR=17							
BVA0				⇑S		**S**	**08 03 59.3**	**-17**
	comp=Z,1.1nm,0.9s,baz=256,slow=27,SNR=5.5							
BVAR	**Borovoye Array**	**20.16**	**55**	P		**P**	**08 00 29.9**	**0.0**
	comp=Z,2.2nm,0.4s,baz=249,slow=12,SNR=14							
BVAR				LR		LR	08 10 21.7	
	comp=Z,38nm,18.5s,MS2.8,baz=140,slow=43							
BVAR	**Borovoye Array**	**20.16**	**55**	P		**P**	**08 00 29.9**	**0.0**
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
BVAR				MLR	MLR			
	comp=Z,38nm,18.5s							
KAF	**Kangasniemi**	**20.26**	**337**	*e*p		**P**	**08 00 31.1**	**+0.2**
GERES	**GERESS Array B**	**20.38**	**293**	P		**P**	**08 00 31.3**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=77,slow=12,SNR=3.0							
GERES				LR		LR	08 09 15.8	
	comp=Z,41nm,21.6s,MS2.8,baz=282,slow=40							
VOSK	**Vostochnaya**	**20.44**	**56**	⇑P		**P**	**08 00 32.9**	**0.0**
	comp=Z,3.9nm,0.8s							
VOSK				⇑S		**S**	**08 04 08.9**	**-13**
	comp=Z,6.4nm,0.9s							
CHKZ	**Chkalovo**	**20.47**	**53**	⇑P		**P**	**08 00 33.8**	**+0.7**
	comp=Z,4.1nm,0.7s							
CHKZ				⇓S		**S**	**08 04 07.1**	**-15**
	comp=Z,5.0nm,0.9s							
CHKZ	**Chkalovo**	**20.47**	**53**	*e*P		**P**	**08 00 34.1**	**+1.0**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,0.6s							
CHKZ	**Chkalovo**	**20.47**	**53**	*e*P		**P**	**08 00 34.0**	**+0.9**
	comp=Z,4.5nm,0.6s							
CHKZ				*e*S		**S**	**08 04 06.9**	**-15**
DAVOX	**Davos**	**23.03**	**288**	P		**P**	**08 01 01.1**	**+0.5**
	comp=Z,2.4nm,0.5s,mb3.9,baz=18,slow=16,SNR=4.2							
DAVOX				LR		LR	08 11 25.9	
	comp=Z,73nm,18.8s,MS3.1,baz=82,slow=41							
AAK	**Ala-Archa**	**23.07**	**83**	*e*P		**P**	**08 01 02.0**	**+1.0**
AAK				pmax	pmax			
	comp=Z,6.0nm,1.7s,mb3.8							
HFS	**Hagfors**	**23.53**	**323**	P		**P**	**08 01 05.7**	**-0.1**
	comp=Z,2.7nm,0.6s,mb3.9,baz=118,slow=12,SNR=14							
HFS				LR		LR	08 10 28.0	
	comp=Z,67nm,18.0s,MS3.1,baz=118,slow=37							
HFS	**Hagfors**	**23.53**	**323**	P		**P**	**08 01 05.7**	**-0.2**
HFS				pmax	pmax			
	comp=Z,3.0nm,0.6s							
HFS				MLR	MLR			
	comp=Z,67nm,18.0s							
PGF	**Pioggiola**	**24.44**	**278**	*e*P		**P**	**08 01 15.8**	**+1.6**
CDF	**Champ du Feu**	**24.65**	**292**	*e*P		**P**	**08 01 15.6**	**-0.5**
NB2	**NORSAR Subarra**	**25.04**	**323**	P		**P**	**08 01 19.0**	**-0.7**
	comp=Z,1.1nm,0.6s,mb3.6,baz=118,slow=8.6							
NOA	**NORSAR Array B**	**25.04**	**323**	P		**P**	**08 01 19.9**	**+0.2**
	comp=Z,1.5nm,0.6s,mb3.7,baz=119,slow=8.6,SNR=12							
NOA				LR		LR	08 11 14.8	
	comp=Z,49nm,20.5s,MS3.0,baz=125,slow=37							
NOA	**NORSAR Array B**	**25.04**	**323**	P		**P**	**08 01 19.9**	**+0.2**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
NOA				MLR	MLR			
	comp=Z,49nm,20.5s							
SBF	**Sospel**	**25.22**	**281**	*e*P		**P**	**08 01 22.3**	**+1.0**
	comp=Z,21nm,0.9s,mb4.3							
SBF	**Sospel**	**25.22**	**281**	*e*P		**P**	**08 01 22.3**	**+1.0**
SBF				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.3							
SBF	**Sospel**	**25.22**	**281**	*e*P		**P**	**08 01 22.3**	**+1.0**
	comp=Z,10nm,0.9s,mb4.3							
HAU	**Haudompre**	**25.30**	**291**	*e*P		**P**	**08 01 21.7**	**-0.3**
LPG	**La Plagne**	**25.36**	**285**	*e*P		**P**	**08 01 24.1**	**+1.5**
	comp=Z,6.6nm,0.6s,mb4.1							
LPG	**La Plagne**	**25.36**	**285**	*e*P		**P**	**08 01 24.1**	**+1.5**
LPG				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.0							
LPG	**La Plagne**	**25.36**	**285**	*e*P		**P**	**08 01 24.1**	**+1.5**
	comp=Z,3.3nm,0.6s,mb4.1							
LPL	**La Plagne**	**25.37**	**286**	*e*P		**P**	**08 01 23.8**	**+1.1**
	comp=Z,4.6nm,0.5s,mb4.0							
LPL	**La Plagne**	**25.37**	**286**	*e*P		**P**	**08 01 23.8**	**+1.1**
LPL				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb3.9							
LPL	**La Plagne**	**25.37**	**286**	*e*P		**P**	**08 01 23.8**	**+1.1**
	comp=Z,2.3nm,0.5s,mb4.0							
MBDF	**Montbardon**	**25.50**	**284**	*e*P		**P**	**08 01 25.1**	**+1.3**
	comp=Z,10nm,0.9s,mb4.1							
MBDF	**Montbardon**	**25.50**	**284**	*e*P		**P**	**08 01 25.1**	**+1.3**
MBDF				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.0							
MBDF	**Montbardon**	**25.50**	**284**	*e*P		**P**	**08 01 25.1**	**+1.3**
	comp=Z,5.2nm,0.9s,mb4.1							
CABF	**La Chapelle**	**25.64**	**288**	*e*P		**P**	**08 01 25.2**	**+0.1**
	comp=Z,8.8nm,0.8s,mb4.0							
CABF	**La Chapelle**	**25.64**	**288**	*e*P		**P**	**08 01 25.2**	**+0.1**
CABF				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.0							
CABF	**La Chapelle**	**25.64**	**288**	*e*P		**P**	**08 01 25.2**	**+0.1**
	comp=Z,4.4nm,0.8s,mb4.0							
FRF	**La Foret Royal**	**25.85**	**281**	*e*P		**P**	**08 01 28.4**	**+1.4**
	comp=Z,5.7nm,0.7s,mb3.9							
FRF	**La Foret Royal**	**25.85**	**281**	*e*P		**P**	**08 01 28.4**	**+1.4**
FRF				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.0							
FRF	**La Foret Royal**	**25.85**	**281**	*e*P		**P**	**08 01 28.4**	**+1.4**
	comp=Z,2.8nm,0.7s,mb3.9							
ORIF	**Oris-en-Rattie**	**26.08**	**284**	*e*P		**P**	**08 01 30.2**	**+1.1**
SMRF	**Simiane la Rot**	**26.50**	**282**	*e*P		**P**	**08 01 34.4**	**+1.5**
ARCES	**ARCESS Array B**	**26.78**	**347**	P		**P**	**08 01 36.3**	**+0.9**
	comp=Z,0.9nm,0.5s,mb3.5,baz=153,slow=9.3,SNR=8.8							
ARCES	**ARCESS Array B**	**26.78**	**347**	P		**P**	**08 01 36.3**	**+0.9**
ARCES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
LOR	**Lormes**	**27.06**	**290**	*e*P		**P**	**08 01 38.1**	**+0.2**
SSF	**Saint Saulge**	**27.33**	**290**	*e*P		**P**	**08 01 40.9**	**+0.6**
MKAR	**Makanchi Array**	**27.64**	**71**	P		**P**	**08 01 45.1**	**+1.9**
	comp=Z,0.2nm,0.3s,mb3.3,baz=278,slow=11,SNR=2.6							
LASF	**Ste Croix**	**27.68**	**283**	*e*P		**P**	**08 01 45.1**	**+1.6**
ETSF	**Etsaut**	**31.09**	**283**	*e*P		**P**	**08 02 15.4**	**+1.6**
SJPF	**Ste Jean**	**31.49**	**283**	*e*P		**P**	**08 02 19.0**	**+1.7**
SONM	**Songino Array**	**43.23**	**62**	LR		LR	08 24 11.8	
	comp=Z,70nm,18.3s,MS3.6,baz=244,slow=39							
TORD	**Torodi Ar. Bea**	**46.75**	**241**	P		**P**	**08 04 24.0**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.6,baz=30,slow=8.1,SNR=5.1							
YKA	**Yellowknife Ar**	**72.01**	**349**	LR		LR	08 39 20.2	
	comp=Z,15nm,18.4s,MS3.3,baz=355,slow=36							

CASC 22 08:09:56.7±2.6, 1202N×8792W, h0km±4km, MD4.1, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LEON	**Leon**	**1.08**	**68**	*e*P		Pg	08 10 18.2	+0.7
LEON				*e*S		Sg	08 10 33.5	+2.1
CNCH	**Conchagua**	**1.25**	**4**	*e*P		x	08 10 47.4	
CNCH				*e*S		x	08 11 05.4	
COPN	**Copaltepe**	**1.31**	**83**	*e*P		Pg	08 10 22.6	+0.7
COPN				*e*S		Sg	08 10 40.3	+1.4
MOMJ	**Momotombo**	**1.41**	**74**‖	*e*P		Pn	08 10 24.4	+0.9
VSM	**San Miguel**	**1.44**	**346**	*e*P		x	08 10 52.8	
VS

DLBC	**Dease Lake**	**29.82**	**68**	P		**P**		**08 37 59.3**	**+1.4**
	comp=Z,2.3nm,0.8s,mb4.0,baz=305,slow=8.4,SNR=5.4								
DLBC	**Dease Lake**	**29.82**	**68**	*e*P		**P**		**08 37 57.7**	**-0.2**
MJAR	**Matsushiro Arr**	**31.57**	**231**	P		**P**		**08 38 11.8**	**-1.6**
	comp=Z,4.1nm,0.9s,mb4.2,baz=20,slow=7.9,SNR=9.8								
MJAR	**Matsushiro Arr**	**31.57**	**231**	P		**P**		**08 38 11.8**	**-1.6**
MJAR				pmax		pmax			
	comp=Z,4.0nm,0.9s								
MJAR	**Matsushiro Arr**	**31.57**	**231**	P		**P**		**08 38 11.8**	**-1.6**
YKA	**Yellowknife Ar**	**33.97**	**54**	P		**P**		**08 38 34.1**	**-0.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=304,slow=8.3,SNR=6.4								
YKA	**Yellowknife Ar**	**33.97**	**54**	P		**P**		**08 38 34.1**	**-0.3**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
SONM	**Songino Array**	**36.84**	**277**	P		**P**		**08 39 00.5**	**+1.4**
	comp=Z,1.1nm,1.0s,mb3.6,baz=51,slow=7.8,SNR=5.2								
SONM				LR		LR		08 56 25.6	
	comp=Z,30nm,18.6s,MS3.1,baz=263,slow=40								
SONM	**Songino Array**	**36.84**	**277**	P		**P**		**08 39 00.5**	**+1.4**
SONM				pmax		pmax			
	comp=Z,1.0nm,1.0s								
SONM				MLR		MLR			
	comp=Z,30nm,18.6s								
HHC	**Hu-ho-hao-te**	**39.63**	**265**	*e*P		**P**		**08 39 22.8**	**+0.2**
HHC				AP		pP		08 39 27.3	+0.1
HHC				XP		sP		08 39 30.3	+1.2
HHC				PP		PP		08 40 56.9	+3.3
HHC				PCP		PcP		08 41 29.1	-0.3
HHC				SCP		ScP		08 45 20.6	+2.9
HHC				S		**S**		**08 45 24.3**	**-0.8**
HHC				XS		sS		08 45 31.1	-1.6
HHC				SS		SS		08 48 09.9	-10
HHC				SCS		ScS		08 49 29.0	-1.1
HHC				AMB		AMB			
	comp=Z,17nm,0.4s,mb5.1								
HHC				AMB		AMB			
	comp=Z,117nm,5.4s								
HHC				LR		LR			
	comp=N,126nm,8.8s								
HHC				LR		LR			
	comp=E,116nm,14.1s								
HHC				LR		LR			
	comp=Z,88nm,4.5s								
EDM	**Edmonton**	**40.39**	**65**	*e*P		**P**		**08 39 29.0**	**+0.1**
BMO	**Blue Mountains**	**44.74**	**77**	*e*P		**P**		**08 40 04.0**	**-0.2**
	comp=Z,4.2nm,1.1s,mb4.2								
EGMT	**Eagleton**	**45.74**	**68**	*e*P		**P**		**08 40 11.6**	**-0.6**
	comp=Z,2.0nm,0.7s,mb4.2								
KURK	**Kurchatov**	**47.13**	**300**	*e*P		**P**		**08 40 22.6**	**-0.5**
KURK				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb4.0								
KURK	**Kurchatov**	**47.13**	**300**	*e*P		**P**		**08 40 22.6**	**-0.5**
	comp=Z,0.9nm,0.5s,mb4.0								
GCMT	**Greycliff**	**47.49**	**70**	*e*P		**P**		**08 40 25.5**	**-0.4**
CHKZ	**Chkalovo**	**48.01**	**308**	*e*P		**P**		**08 40 29.1**	**-0.8**
CHKZ				pmax		pmax			
	comp=Z,1.0nm,0.8s,mb3.9								
CHKZ	**Chkalovo**	**48.01**	**308**	*e*P		**P**		**08 40 29.1**	**-0.8**
	comp=Z,1.4nm,0.8s,mb4.0								
FLWY	**Flagg Ranch**	**48.35**	**72**	*e*P		**P**		**08 40 33.5**	**+1.0**
	comp=Z,6.1nm,0.9s,mb4.6								
IMW	**Indian Meadow**	**48.38**	**73**	*e*P		**P**		**08 40 33.9**	**+1.0**
	comp=Z,0.9nm,0.6s,mb4.0								
WMQ	**Urumqi**	**48.51**	**287**	P		**P**		**08 40 36.0**	**+2.2**
WMQ				AP		pP		08 40 40.5	+2.0
WMQ				XP		sP		08 40 43.0	+2.7
WMQ				PP		PP		08 42 28.3	+1.7
WMQ				AMB		AMB			
	comp=Z,3.0nm,0.9s,mb4.3								
WMQ				AMB		AMB			
	comp=Z,25nm,4.3s								
WMQ				LR		LR			
	comp=N,67nm,13.7s,MS3.9								
WMQ				LR		LR			
	comp=E,50nm,12.6s,MS3.9								
WMQ				LR		LR			
	comp=Z,67nm,14.2s,MS3.8								
BVAR	**Borovoye Array**	**48.61**	**307**	P		**P**		**08 40 34.3**	**-0.2**
	comp=Z,2.3nm,0.7s,mb4.3,baz=57,slow=9.0,SNR=13								
BVAR	**Borovoye Array**	**48.61**	**307**	P		**P**		**08 40 34.3**	**-0.2**
BVAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ZRNK	**Zerenda**	**49.19**	**308**	*e*P		**P**		**08 40 38.5**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.6								
NVAR	**Mina Array Bea**	**49.29**	**83**	P		**P**		**08 40 38.8**	**-0.9**
	comp=Z,1.6nm,0.8s,mb4.1,baz=306,slow=7.6,SNR=13								
ULM	**Lac du Bonnet**	**49.85**	**57**	P		**P**		**08 40 43.9**	**-0.2**
	comp=Z,2.1nm,0.7s,mb4.2,baz=330,slow=9.3,SNR=4.0								
ULM	**Lac du Bonnet**	**49.85**	**57**	*e*P		**P**		**08 40 43.9**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.3								
PDAR	**Pinedale Array**	**49.90**	**72**	P		**P**		**08 40 44.0**	**-0.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=319,slow=4.8,SNR=24								
SRU	**San Rafael**	**52.37**	**76**	*e*P		**P**		**08 41 03.5**	**+0.6**
SRU				pmax		pmax			
	comp=Z,9.0nm,1.1s,mb4.6								
SRU	**San Rafael**	**52.37**	**76**	*e*P		**P**		**08 41 03.5**	**+0.6**
	comp=Z,9.1nm,1.1s,mb4.6								
WUAZ	**Wupatki**	**54.89**	**79**	*e*P		**P**		**08 41 22.4**	**+1.0**
	comp=Z,2.7nm,0.6s,mb4.5								
NOA	**NORSAR Array B**	**56.23**	**347**	P		**P**		**08 41 30.8**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.7,baz=13,slow=7.3,SNR=2.8								
NOA	**NORSAR Array B**	**56.23**	**347**	P		**P**		**08 41 30.8**	**-0.3**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
KMI	**Kunming**	**56.73**	**261**	P		**P**		**08 41 36.8**	**+2.2**
KMI				AP		pP		08 41 41.0	+1.6
KMI				XP		sP		08 41 43.3	+2.1
KMI				PP		PP		08 43 45.0	+4.2
KMI				S		**S**		**08 49 27.4**	**+0.6**
KMI				SS		SS		08 53 15.0	+0.4
KMI				AMB		AMB			
	comp=Z,14nm,0.7s,mb5.1								
KMI				AMB		AMB			
	comp=Z,60nm,6.8s								
KMI				LR		LR			
	comp=N,111nm,19.0s,MS4.1								
KMI				LR		LR			
	comp=E,110nm,18.4s,MS4.1								
KMI				LR		LR			
	comp=Z,176nm,16.6s,MS4.2								
GERES	**GERESS Array B**	**67.84**	**342**	P		**P**		**08 42 49.2**	**+0.1**
	comp=Z,0.3nm,0.4s,mb3.7,baz=26,slow=6.5,SNR=5.9								
AFI	**Afiamalu**	**77.09**	**160**	LR		LR		09 13 36.3	
	comp=Z,98nm,18.3s,MS4.2,baz=90,slow=33								
WRA	**Warramunga Arr**	**85.91**	**212**	P		**P**		**08 44 27.3**	**-3.6**
	comp=Z,1.2nm,0.8s,mb4.2,baz=20,slow=5.6,SNR=7.4								
WRA	**Warramunga Arr**	**85.91**	**212**	P		**P**		**08 44 27.3**	**-3.6**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.9s								
QSPA	**South Pole Qui**	**151.60**	**180**	*e*PKPdf		PKPdf		08 51 38.9	-0.1

*IDC **22** 09:00:43.7±0.9, 23.17S×178.43W, h0km, mb3.9/7, mb1 4.2/7, mb1mx4.1/12, mbtmp3.9/7, MS3.7/6, Ms1 3.7/6, ms1mx3.3/23, Error ellipse: s-maj=35.8km s-min=23.6km az=145.0*

*NEIC **22** 09:00:53.1±5.4, 23.15S×178.58W, h76km±47km, mb4.5/9, Error ellipse: s-maj=22.8km s-min=19.3km az=114.0*

*ISCJB **22** 09:00:54.1±0.5, 232S±0.1×1786W±0.1, h100km, mb4.1/14, Error ellipse: s-maj=20.8km s-min=12.5km az=60.5*

ISC 22 09:00:57.1±5.6, 232S±01×1786W±02, h115km±50km, n41, σ0§79/21, mb4.1/14, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**6.05**	**175**	LR		LR	09 03 35.6	
	comp=Z,264nm,18.3s,baz=139,slow=28							
SNZO	**South Karori**	**18.92**	**196**	*e*Pn		**Pn**	**09 05 10.8**	**0.0**
	23nm,0.8s							
TBI	**Tubuai**	**26.71**	**96**	*e*LR		LR	09 12 23.8	
	218nm,29.0s,baz=248							
PPT	**Papeete**	**27.70**	**84**	*e*LR		LR	09 12 49.9	
	251nm,28.5s,baz=254							
CTA	**Charters Tower**	**32.81**	**269**	LR		LR	09 18 44.3	
	comp=Z,76nm,21.6s,baz=236,slow=33							
STKA	**Stephens Creek**	**36.22**	**247**	P		**P**	**09 07 51.0**	**+2.3**
	1.8nm,1.0s,mb4.0,baz=100,slow=12,SNR=2.3							
STKA				LR		LR	09 20 37.2	
	comp=Z,106nm,20.1s,baz=27,slow=33							
STKA	**Stephens Creek**	**36.22**	**247**	*e*P		**P**	**09 07 48.4**	**-0.4**
STKA				LR		LR	09 20 37.2	
RKT	**Rikitea**	**39.95**	**99**	*e*LR		LR	09 18 32.6	
	160nm,28.8s							
ASAR	**Alice Springs**	**43.46**	**260**	P		**P**	**09 08 48.7**	**0.0**
	1.0nm,0.9s,mb3.5,baz=85,slow=8.4,SNR=7.5							
ASAR				LR		LR	09 27 07.5	
	comp=Z,133nm,19.7s,baz=285,slow=36							
WRA	**Warramunga Arr**	**43.79**	**265**	P		**P**	**09 08 50.3**	**-1.0**
	0.7nm,0.7s,mb3.5,baz=104,slow=7.9,SNR=5.9							
WRA				LR		LR	09 26 29.3	
	comp=Z,113nm,22.0s,baz=235,slow=35							
SBA	**Scott Base**	**55.15**	**184**	*e*P		**P**	**09 10 17.6**	**+0.1**
	5.2nm,0.9s,mb4.6							
VNDA	**Vanda**	**55.19**	**185**	P		**P**	**09 10 17.1**	**-0.7**
	0.8nm,0.8s,mb3.8,baz=8.1,slow=7.8,SNR=5.1							
VNDA	**Vanda**	**55.19**	**185**	*e*P		**P**	**09 10 17.5**	**-0.3**
VNDA				*e*PcP		PcP	09 11 18.8	+1.3
VNDA				*e*PP		PP	09 12 22.7	+0.4
NWAO	**Narrogin (SRO)**	**56.73**	**245**	LR		LR	09 34 15.3	
	comp=Z,181nm,21.6s,baz=114,slow=35							
CASY	**Casey**	**61.32**	**206**	*e*P		**P**	**09 11 01.0**	**+0.6**
	6.3nm,0.8s,mb4.7							
QSPA	**South Pole Qui**	**66.88**	**180**	*e*P		**P**	**09 11 36.3**	**-0.5**
	3.0nm,0.8s,mb4.2							
QSPA				*e*			09 11 51.8	
QSPA				*e*			09 12 54.2	
MAW	**Mawson**	**78.86**	**200**	P		**P**	**09 12 49.8**	**+2.3**
	3.9nm,0.7s,mb4.3,baz=113,slow=8.5,SNR=9.7							
MAW	**Mawson**	**78.86**	**200**	*e*P		**P**	**09 12 48.5**	**+1.0**
	3.1nm,0.7s,mb4.2							
MAW				*e*PcP		PcP	09 12 57.5	+1.7
MAW				*e*			09 13 01.2	
NVAR	**Mina Array Bea**	**83.33**	**43**	P		**P**	**09 13 11.9**	**+0.8**
	1.1nm,1.0s,mb3.6,baz=215,slow=7.5,SNR=5.4							
SNAA	**Sanae**	**85.33**	**179**	*e*		**P**	**09 13 20.3**	**-1.0**
SNAA				*e*			09 13 26.4	
SNAA	**Sanae**	**85.33**	**179**	*e*P		**P**	**09 13 20.2**	**-1.1**
	3.9nm,0.9s,mb4.3							
VNA1	**Neumayer--Stat**	**86.16**	**177**	*e*		**P**	**09 13 25.3**	**0.0**
VNA1				*e*			09 13 31.4	
ANMO	**Albuquerque**	**89.48**	**51**	*e*P		**P**	**09 13 40.9**	**-0.3**
	3.9nm,1.4s,mb4.2							
PV01	**Paradox Valley**	**89.57**	**48**	*e*P		**P**	**09 13 41.7**	**+0.1**
MCK	**McKinley**	**89.71**	**13**	*e*P		**P**	**09 13 43.0**	**+0.7**
	2.5nm,0.8s,mb4.4							
PDAR	**Pinedale Array**	**91.27**	**43**	P		**P**	**09 13 49.8**	**+0.3**
	0.9nm,0.8s,mb4.0,baz=242,slow=2.5,SNR=8.5							
INK	**Inuvik**	**97.00**	**15**	*e*P		**P**	**09 14 14.4**	**-1.3**
	1.6nm,0.9s,mb4.5							
MCWV	**Mont Chateau**	**110.89**	**55**	*e*PKPdf		PKiKP	09 19 19.4	+2.8
FINES	**FINESS Array B**	**138.20**	**343**	PKP		PKPdf	09 20 11.3	+2.8
	0.7nm,0.6s,baz=172,slow=3.9,SNR=4.8							
NOA	**NORSAR Array B**	**141.59**	**352**	PKP		PKPdf	09 20 17.5	+2.8
	1.0nm,0.9s,baz=14,slow=4.0,SNR=3.6							
KOLS	**Kolonicke sedl**	**149.50**	**332**	*e*PKP		PKPab	09 20 38.2	+0.1
KOLS				*e*			09 20 46.3	
CRVS	**Cervenica-Dubn**	**149.86**	**333**	*e*PKP		PKPab	09 20 39.0	-0.5
CRVS	**Cervenica-Dubn**	**149.86**	**333**	*e*P		PKPdf	09 20 29.8	+1.0
CRVS				*e*			09 20 39.0	
CLL	**Collm**	**150.55**	**345**	*e*PKIKP		PKPdf	09 20 29.0	-0.8
	logA/T=0.8							
CLL				*i* PKP2		PKPab	09 20 39.8	-2.6
CLL	**Collm**	**150.55**	**345**	*e*PKPdf		PKPdf	09 20 29.0	-0.8
	comp=Z,6.0nm,0.9s							
CLL				⇓*i* PKPab		PKPab	09 20 39.8	-2.6
	comp=Z,18nm,1.0s							
MORC	**Moravsky Berou**	**150.62**	**339**	*e*PKPdf		PKPdf	09 20 30.2	+0.2
MORC				*e*PKPbc		PKPbc	09 20 36.4	+0.9
MORC				*e*PKPab		PKPab	09 20 40.7	-2.0
BRG	**Berggiesshubel**	**150.72**	**344**	*e*P		PKPdf	09 20 30.0	-0.1
	comp=Z,1.9nm,0.9s							
BRG				*i*			09 20 40.4	
	comp=Z,5.1nm,0.7s							
VYHS	**Vyhne**	**151.23**	**336**	*e*PKP		PKPdf	09 20 30.7	-0.2
VYHS				*e*			09 20 40.9	
VYHS	**Vyhne**	**151.23**	**336**	*e*P		PKPdf	09 20 30.7	-0.2
VYHS				*e*			09 20 40.9	
GERES	**GERESS Array B**	**152.63**	**342**	PKPbc		PKPbc	09 20 44.5	+4.4
	comp=Z,0.5nm,0.8s,baz=62,slow=3.2,SNR=5.6							
TORD	**Torodi Ar. Bea**	**170.00**	**181**	PKPab		PKPab	09 22 07.3	+0.5
	comp=Z,1.1nm,0.9s,baz=197,slow=3.3,SNR=4.4							

IDC 22 09:18:55.0±2.0, 951S×12611E, h0km, mb3.7/1, mb1 3.4/3, mb1mx3.3/13, mbtmp3.2/3, ML2.8/2, Error ellipse: s-maj=125.3km s-min=29.6km az=57.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**8.56**	**183**	Pn		Pn	09 20 44.0	-16
	0.1nm,0.3s,baz=207,slow=8.2,SNR=17							
FITZ				Sn		Sn	09 22 14.2	-23
	0.2nm,0.3s,baz=128,slow=16,SNR=7.2							
WRA	**Warramunga Arr**	**13.07**	**143**	Pn		Pn	09 22 03.6	+1.8
	0.1nm,0.3s,baz=317,slow=14,SNR=5.6							
WRA				Sn		Sn	09 24 30.2	+2.3
	0.0nm,0.3s,baz=322,slow=24,SNR=3.0							
ASAR	**Alice Springs**	**15.93**	**153**	Pn		Pn	09 22 38.5	-1.9
	0.1nm,0.3s,baz=326,slow=12,SNR=3.0							
MKAR	**Makanchi Array**	**68.30**	**329**	P		P	09 29 58.0	+0.2
	0.4nm,0.6s,baz=126,slow=6.2,SNR=4.0							

*CSEM **22** 09:22:32.9±0.2, 35.71N×46.16E, h5km, ML3.5, Error ellipse: s-maj=5.5km s-min=2.1km az=77.0*

*ISCJB **22** 09:22:34.2±1.2, 35.69N±0.05×46.08E±0.06, h12km±10km, Error ellipse: s-maj=10.6km s-min=5.0km az=90.7*

*THR **22** 09:22:35.5±1.2, 35.70N×46.29E, h14km±13km, ML3.4*

*TEH **22** 09:22:48.1, 35.46N×46.39E, h10km, Mn3.5*

ISC 22 09:22:34.2±1.0, 35.71N±0.05×46.07E±0.06, h3km±9km, n24, σ1§29/30, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IDHR	**Dehrash**	**1.04**	**165**	*e*Sg		**Sg**	**09 23 08.9**	**+1.2**
ILIN	**Laeen**	**1.08**	**137**	*e*Pg		**Pg**	**09 22 53.0**	**-1.9**
ILIN				*e*Sg		**Sg**	**09 23 10.0**	**+1.2**
SNGE	**Sanandaj**	**1.21**	**120**	*e*PG		**Pn**	**09 22 54.7**	**-3.4**
SNGE				*e*Sg		**Sn**	**09 23 10.5**	**-4.5**
SNGE				AML		AML	09 23 18.7	
	comp=N,1μm,0.4s							
SNGE	**Sanandaj**	**1.21**	**120**	*e*Pg		**Pn**	**09 22 54.7**	**-3.4**
	SNR=90							
SNGE				*e*Sg		**Sn**	**09 23 10.5**	**-4.5**
	SNR=90							
IVIS	**Veys**	**1.34**	**151**	*e*Pg		**Pn**	**09 22 58.2**	**-1.7**
IGHG	**Ghaleghazi**	**1.44**	**163**	*e*Pg		**Pn**	**09 23 00.5**	**-0.7**
IKOM	**Komasi**	**1.94**	**142**	*e*Pn		**Pn**	**09 23 09.4**	**+1.3**
IAZR	**Azarshahr**	**1.97**	**358**	*e*Pn		**Pn**	**09 23 08.6**	**+0.1**
MSL	**Mosul**	**2.48**	**284**	*ex*		x	09 23 20.0	
MSL				*i* x		x	09 23 24.5	
MSL				*i* x		x	09 23 57.0	
CUKT	**Cukurca**	**2.51**	**308**	PN		**Pn**	**09 23 16.2**	**+0.3**
HAKT	**HAKKARI**	**2.65**	**315**	*i* P		**Pn**	**09 23 19.4**	**+1.6**
HAKT				*i* S		**Sg**	**09 23 58.2**	**-1.0**
BHD	**Baghdad**	**2.80**	**210**	*ex*		x	09 23 55.0	
GRMI	**Germi**	**3.42**	**25**	*e*Pn		**Pn**	**09 23 29.4**	**+1.0**
GRMI				Sn		**Sn**	**09 24 09.4**	**-0.1**
ASAO	**Ashtian**	**3.44**	**109**	*e*Pn		**Pn**	**09 23 28.5**	**-0.3**
ASAO				*e*Sg		**Sb**	**09 24 17.0**	**-1.1**
ASAO				AML		AML	09 24 38.0	
	comp=E,65nm,0.7s							
ASAO				AML		AML	09 24 38.3	
	comp=N,64nm,0.7s							
ASAO	**Ashtian**	**3.44**	**109**	*e*Pn		**Pn**	**09 23 28.5**	**-0.3**
	SNR=52							
ASAO				*e*Sg		**Sb**	**09 24 17.0**	**-1.2**
	comp=N,64nm,0.7s,SNR=90							
VANB	**Van**	**3.59**	**324**	*e*PN		**Pn**	**09 23 28.2**	**-2.5**
MAKU	**Maku**	**3.80**	**344**	*e*Pn		**Pn**	**09 23 36.9**	**+3.2**
CLDR	**Caldiran**	**3.83**	**334**	*e*Pn		**Pn**	**09 23 35.4**	**+1.3**
CHTH	**Charan**	**4.12**	**86**	*e*Pn		**Pn**	**09 23 37.7**	**-0.3**
SHGR	**Shooshtar-Gavs**	**4.25**	**147**	*e*PN		**Pn**	**09 23 40.5**	**+0.7**
SHGR				AML		AML	09 24 39.0	
	comp=E,65nm,0.3s							
SHGR				AML		AML	09 24 39.1	
	comp=N,69nm,0.3s							
BTMT	**Batman**	**4.42**	**305**	*e*PN		**Pn**	**09 23 40.4**	**-1.9**
MARD	**Mardin**	**4.55**	**292**	*i* P		**Pn**	**09 23 43.8**	**-0.2**
MARD				*i* S		**Sg**	**09 25 00.4**	**0.0**
GNI	**Garni**	**4.55**	**347**	*e*PN		**Pn**	**09 23 46.6**	**+2.6**
IPIR	**Pirpir**	**5.01**	**126**	*e*Pn		**Pn**	**09 23 50.8**	**+0.5**

*ISCJB **22** 09:37:60.0±0.5, 51.44N±0.03×16.19E±0.03, h0km, Error ellipse: s-maj=4.1km s-min=2.6km az=62.9*

*CSEM **22** 09:38:01.9±0.1, 51.46N×16.21E, h2km, ML3.2/4, Error ellipse: s-maj=2.1km s-min=1.4km az=46.0*

*NEIC **22** 09:38:01.5±0.5, 51.50N×16.20E, h5km, ML2.7(CLL), ML2.9(SZGRF), Error ellipse: s-maj=6.0km s-min=4.6km az=70.0*

*IPEC **22** 09:38:01.8±0.3, 51.47N×16.21E, h0km±1km, ML2.2/3, Error ellipse: s-maj=2.0km s-min=0.9km az=19.0*

*IDC **22** 09:38:02.9±0.8, 51.44N×16.18E, h0km, mb1 3.2/6, mb1mx3.1/22, mbtmp3.1/6, ML2.8/5, Error ellipse: s-maj=20.3km s-min=7.2km az=95.0*

*WAR **22** 09:38:02.9, 51.45N×16.17E, ML2.7, Mining Induced*

*PRU **22** 09:38:03.4, 51.39N×16.15E, h0km*

ISC 22 09:38:01.1±0.4, 5146N±002×1620E±003, h0km, n47, σ1§08/84, 2C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.62**	**174**	*e*Pg		**Pg**	**09 38 14.1**	**+1.0**
KSP				*e*Sg		**Sg**	**09 38 22.2**	**+1.0**
KSP	**Ksiaz**	**0.62**	**174**	⇓*i*Pg		**Pg**	**09 38 14.1**	**+1.0**
KSP				*e*Sg		**Sg**	**09 38 22.2**	**+1.0**
KSP	**Ksiaz**	**0.62**	**174**	*e*Pg		**Pg**	**09 38 14.1**	**+1.0**
KSP				*e*Sg		**Sg**	**09 38 21.9**	**+0.7**
UPC	**Upice**	**0.96**	**187**	*e*PG		**Pg**	**09 38 20.4**	**+0.8**
UPC	**Upice**	**0.96**	**187**	*e*Pg		**Pg**	**09 38 20.3**	**+0.7**
DPC	**Dobruska-Polom**	**1.12**	**176**	*e*PG		**Pg**	**09 38 23.0**	**+0.5**
DPC				*e*SG		**Sg**	**09 38 37.1**	**+0.1**
	56nm,0.5s							
DPC	**Dobruska-Polom**	**1.12**	**176**	*e*Pg		**Pg**	**09 38 22.9**	**+0.4**
DPC				*e*Sg		**Sg**	**09 38 37.1**	**+0.1**
PVCC	**Panska Ves**	**1.39**	**228**	*e*Pg		**Pg**	**09 38 28.5**	**+0.7**
PVCC				*e*Sg		**Sg**	**09 38 47.1**	**+1.3**
BRG	**Berggiesshubel**	**1.54**	**248**	PN		**Pn**	**09 38 29.2**	**-0.6**
BRG				PG		**Pg**	**09 38 30.9**	**+0.4**
BRG				SG		**Sg**	**09 38 51.4**	**+0.8**
	32nm,0.3s							
BRG	**Berggiesshubel**	**1.54**	**248**	*e*Pn		**Pn**	**09 38 29.3**	**-0.5**
BRG	**Berggiesshubel**	**1.54**	**248**	Pg		**Pg**	**09 38 31.0**	**+0.4**
BRG				*e*Sg		**Sg**	**09 38 50.6**	**+0.1**
RUE	**Ruedersdorf**	**1.81**	**305**	*e*Pn		**Pn**	**09 38 33.1**	**-0.4**
RUE	**Ruedersdorf**	**1.81**	**305**	*e*Pn		**Pn**	**09 38 33.1**	**-0.4**
PRU	**Pruhonice**	**1.81**	**216**	*e*PG		**Pg**	**09 38 35.4**	**-0.5**
PRU				*e*SG		**Sg**	**09 38 58.8**	**-0.6**
	47nm,0.4s							
PRU	**Pruhonice**	**1.81**	**216**	*e*Pn		**Pn**	**09 38 34.3**	**+0.7**
PRU	**Pruhonice**	**1.81**	**216**	*e*Pg		**Pg**	**09 38 35.4**	**-0.5**
PRU				*e*Sg		**Sg**	**09 38 58.8**	**-0.6**
MORC	**Moravsky Berou**	**1.89**	**153**	*e*Pn		**Pn**	**09 38 34.6**	**-0.1**
MORC				*e*Sn		**Sn**	**09 39 00.8**	**+1.6**
MORC	**Moravsky Berou**	**1.89**	**153**	*e*Pn		**Pn**	**09 38 34.6**	**-0.1**
MORC				*e*Sg		**Sg**	**09 39 00.7**	**-1.2**
	20nm,0.3s							
MORC				*e*Sn		**Sn**	**09 39 00.8**	**+1.6**
CLL	**Collm**	**2.01**	**267**	*i* Pg		**Pg**	**09 38 39.0**	**-0.6**
CLL				*e*Sg		**Sg**	**09 39 06.0**	**+0.4**
	comp=Z,32nm,0.5s							
CLL	**Collm**	**2.01**	**267**	*e*Pn		**Pn**	**09 38 36.2**	**0.0**
CLL	**Collm**	**2.01**	**267**	*i* Pg		**Pg**	**09 38 39.0**	**-0.6**
CLL				*e*Sg		**Sg**	**09 39 06.0**	**+0.4**
OKC	**Ostrava-Krasne**	**2.05**	**142**	*e*PN		**Pn**	**09 38 37.1**	**+0.3**
OKC				*e*PG		**Pg**	**09 38 41.6**	**+1.3**
OKC				*e*SG		**Sg**	**09 39 05.5**	**-1.4**
VRAC	**Vranov**	**2.17**	**173**	Pn		**Pn**	**09 38 40.3**	**+1.8**
	comp=Z,2.1nm,0.3s,baz=341,slow=14,SNR=8.1							
VRAC				Sn		**Sn**	**09 39 06.1**	**0.0**
	comp=Z,1.8nm,0.3s,baz=32,slow=21,SNR=5.3							
VRAC				Lg			09 39 11.0	
	comp=Z,7.7nm,0.3s,baz=68,slow=20,SNR=9.9							
VRAC	**Vranov**	**2.17**	**173**	*e*Pn		**Pn**	**09 38 40.2**	**+1.7**
VRAC				Sn		**Sn**	**09 39 06.1**	**0.0**
VRAC				*e*Sg		**Sg**	**09 39 09.8**	**-1.1**
	comp=Z,16nm,0.3s							
TREC	**Trest**	**2.22**	**192**	*e*PN		**Pn**	**09 38 40.8**	**+1.7**
TREC				*e*PG		**Pg**	**09 38 43.0**	**-0.6**
**

s59,c93;Mantle waves: s86,c145; Half duration: 0
Moment tensor: Scale 10^{16}Nm; M_T2.38±.20;
M_{90}-1.68±.16; M_{90}-0.70±.19; M_{RR}-1.21±.10; M_{90}-2.65±.16;
M_{RT}-6.20±.10; Best double couple: $M_0$7.16800×10^{16}
NP1:ϕ_{90}82.00000°,δ23.00000°,λ154.00000°. NP2:
ϕ_S196.00000°,δ80.00000°,λ69.00000°. Principal axes: T 7.2840, Plg51.0000°, Azm83.0000°; N -0.2320, Plg21.0000°, Azm200.0000°; P -7.0510, Plg32.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISCJB ***22*** *09:57:20.1±0.1, 6.15S×003×15454E±003, h73km, mb5.0/68 Error ellipse: s-maj=4.7km s-min=3.7km az=174.2*

NEIC ***22*** *09:57:20.9±0.2, 6.10S×154 59E, mb5.1/32, Error ellipse: s-maj=5.6km s-min=5.2km az=128.0*

IDC ***22*** *09:57:21.2±1.4, 6.02S×154 65E, h78km±11km, mb4.8/17, mb1 4.9/21, mb1mx4.9/22, mbtmp5.1/21, MS4.1/19, Ms1 4.1/19, ms1mx4.0/22, Error ellipse: s-maj=11.5km s-min=9.6km az=162.0*

ISC 22 09:57:22.1±0.1, 6.16S±003×15459E±003, h75km, h75km±1.3km; pP-P, n295, σ982/296, mb5.0/68, 65C-62D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
HNR	**Honiara**	**6.23**	**122**	P	**Pn**		**09 58 52.5**	**+1.1**
	9.0nm,0.3s,baz=263,slow=2.3,SNR=7.6							
HNR				S	**Sn**		**10 00 03.6**	**+2.5**
	55nm,0.3s,baz=280,slow=8.6,SNR=9.5							
HNR				LR	LR		10 00 36.9	
	comp=Z,1μm,20.8s,baz=356,slow=31							
HNR	**Honiara**	**6.23**	**122**	P	**Pn**		**09 58 52.5**	**+1.1**
HNR				S	**Sn**		**10 00 03.6**	**+2.5**
HNR				pmax	pmax			
	comp=Z,9.0nm,0.3s							
HNR				smax				
	comp=E,55nm,0.3s							
HNR				MLR	MLR			
	comp=Z,1μm,20.8s							
HNR	**Honiara**	**6.23**	**122**	*e*Pn	**Pn**		**09 58 51.8**	**+0.5**
	comp=Z,419nm,0.8s							
HNR				*e*Sn	**Sn**		**10 00 04.7**	**+3.6**
PMG	**Port Moresby**	**8.04**	**246**	P	**Pn**		**09 59 17.7**	**+1.7**
	comp=Z,35nm,0.3s,baz=56,slow=9.6,SNR=85							
PMG				S	**Sn**		**10 00 50.1**	**+4.8**
	comp=Z,48nm,0.3s,baz=160,slow=22,SNR=8.1							
PMG				LR	LR		10 02 32.6	
	comp=Z,1μm,18.9s,baz=235,slow=38							
PMG	**Port Moresby**	**8.04**	**246**	P	**Pn**		**09 59 17.7**	**+1.7**
PMG				S	**Sn**		**10 00 50.1**	**+4.8**
PMG				pmax	pmax			
	comp=Z,35nm,0.3s							
PMG				smax				
	comp=E,48nm,0.3s							
PMG				MLR	MLR			
	comp=Z,1μm,18.9s							
PMG	**Port Moresby**	**8.04**	**246**	*e*Pn	**Pn**		**09 59 15.8**	**-0.2**
	comp=Z,962nm,0.8s							
PMG				*e*Sn	**Sn**		**10 00 45.4**	**0.0**
CTA	**Charters Tower**	**16.04**	**210**	*e*P	**Pn**		**10 01 06.9**	**+3.9**
	comp=Z,16nm,0.8s							
CTA	**Charters Tower**	**16.04**	**210**	P	**Pn**		**10 01 05.0**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=36,slow=11,SNR=11							
CTA	**Charters Tower**	**16.04**	**210**	*e*P	**Pn**		**10 01 06.9**	**+3.9**
CTA				pmax	pmax			
	comp=Z,16nm,0.8s							
CTAO	**Charters Tower**	**16.04**	**210**	*e*P	**Pn**		**10 01 02.9**	**-0.1**
CTAO				pmax	pmax			
	comp=Z,22nm,0.8s							
CTAO	**Charters Tower**	**16.04**	**210**	*e*Pn	**Pn**		**10 01 02.9**	**-0.2**
	comp=Z,22nm,0.8s							
DZM	**Mont Dzumac**	**19.54**	**145**	*e*P	**Pn**		**10 01 43.1**	**-2.4**
DZM	**Mont Dzumac**	**19.54**	**145**	P	**Pn**		**10 01 43.7**	**-1.8**
	comp=Z,10nm,0.3s,baz=346,slow=10,SNR=61							
DZM				LR	LR		10 08 14.3	
	comp=Z,934nm,18.3s,baz=16,slow=33							
GUMO	**Guam**	**21.86**	**334**	LR	LR		10 09 26.1	
	comp=Z,276nm,21.9s,baz=172,slow=33							
KAKA	**Kakadu**	**22.79**	**252**	*e*P	**P**		**10 02 17.2**	**-1.1**
	comp=Z,268nm,1.4s,mb5.4							
KAKA				*e*S	S		10 06 43.8	+22
WRAB	**Tennant Creek**	**23.96**	**233**	P	**P**		**10 02 29.0**	**-0.4**
	comp=Z,1μm,1.2s,mb6.1,SNR=79							
WRAB	**Tennant Creek**	**23.96**	**233**	⇓*i*P	**P**		**10 02 29.7**	**+0.3**
WB2	**Warramunga Arr**	**23.96**	**233**	⇓*i*P	**P**		**10 02 29.6**	**+0.2**
WB2				*e*S	**S**		**10 06 42.8**	**+2.1**
WB2				*es*S	sS		10 07 27.5	+17
WB2				*e*SCP	ScP		10 09 41.5	0.0
WRA	**Warramunga Arr**	**23.97**	**233**	P	**P**		**10 02 30.3**	**+0.8**
	comp=Z,140nm,0.8s,mb5.3,baz=55,slow=9.3,SNR=204							
WRA				S	**S**		**10 06 45.4**	**+4.5**
	comp=Z,10nm,1.1s,baz=54,slow=15,SNR=7.9							
WRA				ScP	ScP		10 09 41.6	+0.1
	comp=Z,9.1nm,0.9s,baz=58,slow=3.0,SNR=13							
WRA				LR	LR		10 11 26.2	
	comp=Z,557nm,18.2s,baz=55,slow=35							
WRA	**Warramunga Arr**	**23.97**	**233**	P	**P**		**10 02 30.3**	**+0.8**
WRA				S	**S**		**10 06 45.4**	**+4.5**
WRA				pmax	pmax			
	comp=Z,140nm,0.8s							
WRA				smax				
	comp=E,10.0nm,1.1s							
WRA				pmax	pmax			
	comp=E,9.0nm,0.9s							
WRA				MLR	MLR			
	comp=Z,557nm,18.2s							
ARMA	**Armidale**	**24.30**	**186**	*e*P	**P**		**10 02 32.7**	**+0.3**
AS31	**Alice Springs**	**26.43**	**227**	*e*P	**P**		**10 02 51.7**	**-0.1**
ASAR	**Alice Springs**	**26.43**	**227**	P	**P**		**10 02 51.8**	**-0.1**
	comp=Z,35nm,0.7s,mb4.9,baz=56,slow=9.5,SNR=574							
ASAR				PcP	PcP		10 06 14.4	-0.9
	comp=Z,5.4nm,0.9s,baz=45,slow=4.2,SNR=5.5							
ASAR				S	**S**		**10 07 20.5**	**+0.5**
	comp=Z,3.2nm,1.0s,baz=54,slow=13,SNR=4.6							
ASAR				ScP	ScP		10 09 48.7	+0.2
	comp=Z,4.3nm,0.7s,baz=35,slow=3.4,SNR=10							
ASAR				LR	LR		10 13 34.0	
	comp=Z,299nm,19.1s,baz=32,slow=37							
ASAR	**Alice Springs**	**26.43**	**227**	P	**P**		**10 02 51.8**	**0.0**
ASAR							10 06 14.5	
ASAR				S	**S**		**10 07 20.5**	**+0.5**
ASAR				pmax	pmax			
	comp=Z,35nm,0.7s							
ASAR				pmax	pmax			
	comp=Z,5.0nm,0.9s							
ASAR				smax				
	comp=E,3.0nm,1.0s							
ASAR				pmax	pmax			
	comp=E,4.0nm,0.7s							
ASAR				MLR	MLR			
	comp=Z,299nm,19.1s							
ASPA	**Alice Springs**	**26.44**	**227**	*e*P	**P**		**10 02 51.7**	**-0.1**
RIV	**Riverview**	**27.72**	**186**	*e*P	**P**		**10 03 03.3**	**0.0**
STKA	**Stephens Creek**	**28.32**	**204**	⇑*i*P	**P**		**10 03 07.9**	**-0.8**
	comp=Z,8.3nm,0.6s,mb4.4							
STKA				*e*PCP	PcP		10 06 19.7	-0.2
STKA				*i* SCP	ScP		10 09 55.0	+0.7
STKA	**Stephens Creek**	**28.32**	**204**	P	**P**		**10 03 08.1**	**-0.6**
	comp=Z,12nm,0.7s,mb4.5,baz=16,slow=9.0,SNR=27							
STKA				PcP	PcP		10 06 19.2	-0.6
	comp=Z,5.5nm,0.7s,baz=61,slow=4.5,SNR=3.5							
STKA				ScP	ScP		10 09 55.1	+0.8
	comp=Z,14nm,1.0s,baz=30,slow=4.2,SNR=9.7							
STKA				LR	LR		10 14 49.3	
	comp=Z,210nm,21.0s,baz=22,slow=37							
CNB	**Canberra Magne**	**29.41**	**189**	*e*P	**P**		**10 03 18.6**	**+0.2**
	comp=Z,30nm,1.1s,mb4.8							
FITZ	**Fitzroy Crossi**	**30.63**	**245**	⇓*i*P	**P**		**10 03 28.4**	**-0.7**
	comp=Z,148nm,0.8s,mb5.8							
FITZ				*e*			10 04 05.1	
FITZ	**Fitzroy Crossi**	**30.63**	**245**	P	**P**		**10 03 28.7**	**-0.4**
	comp=Z,83nm,0.8s,mb5.5,baz=79,slow=9.1,SNR=165							
FITZ				LR	LR		10 15 28.3	
	comp=Z,441nm,21.5s,baz=49,slow=35							
TOO	**Toolangi**	**32.35**	**194**	*e*P	**P**		**10 03 44.2**	**0.0**
	comp=Z,6.9nm,0.8s,mb4.4							
TOO	**Toolangi**	**32.35**	**194**	*e*P	**P**		**10 03 44.2**	**0.0**
TOO				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.4							
AFI	**Afiamalu**	**33.97**	**106**	P	**P**		**10 03 56.7**	**-1.7**
	comp=Z,79nm,0.9s,mb5.5,baz=104,slow=19,SNR=8.2							
AFI				LR	LR		10 15 15.7	
	comp=Z,559nm,19.6s,baz=302,slow=32							
MBWA	**Marble Bar**	**36.89**	**243**	*e*P	**P**		**10 04 22.7**	**-0.7**
	comp=Z,17nm,0.6s,mb5.2							
TAU	**Tasmania Unive**	**37.16**	**189**	P	**P**		**10 04 26.2**	**+0.5**
	comp=Z,491nm,1.0s,SNR=5.8							
TAU	**Tasmania Unive**	**37.16**	**189**	*e*P	**P**		**10 04 25.4**	**-0.3**
TAU				pmax	pmax			
	comp=Z,152nm,1.4s,mb5.7							
TAU	**Tasmania Unive**	**37.16**	**189**	*e*P	**P**		**10 04 25.4**	**-0.3**
	comp=Z,152nm,1.4s,mb5.7							
URZ	**Urewera**	**37.93**	**151**	P	**P**		**10 04 31.7**	**-0.5**
	comp=Z,59nm,0.7s,mb5.5,baz=8.5,slow=4.3,SNR=18							
URZ				LR	LR		10 18 01.7	
	comp=Z,260nm,20.8s,baz=143,slow=33							
TSM	**Tawau**	**38.10**	**285**	P	**P**		**10 04 33.4**	**-0.1**
RPZ	**Rata Peaks**	**40.12**	**161**	P	**P**		**10 04 50.1**	**-0.3**
	comp=Z,78nm,0.8s,mb5.6,baz=275,slow=2.4,SNR=17							
RPZ				LR	LR		10 18 33.4	
	comp=Z,647nm,20.2s,baz=332,slow=32							
RPZ	**Rata Peaks**	**40.12**	**161**	P	**P**		**10 04 50.1**	**-0.3**
RPZ				LR	LR		10 18 33.4	
KKM	**Kota Kinabalu**	**40.17**	**287**	P	**P**		**10 04 51.7**	**+0.9**
KKM	**Kota Kinabalu**	**40.17**	**287**	*e*P	**P**		**10 04 51.1**	**+0.2**
KLBR	**Kellerberrin**	**42.72**	**229**	*e*P	**P**		**10 05 11.0**	**-0.7**
	comp=Z,16nm,0.5s,mb5.0							
NWAO	**Narrogin (SRO)**	**43.75**	**228**	LR	LR		10 24 43.9	
	comp=Z,538nm,18.1s,baz=52,slow=37							
NACB	**Ninganchiao**	**44.08**	**314**	*e*P	**P**		**10 05 22.3**	**-0.4**
NACB				*e*pP	pP		10 05 39.7	-1.4
YHNB	**Yeheng**	**44.55**	**315**	*e*P	**P**		**10 05 27.3**	**+0.9**
YHNB				*e*pP	pP		10 05 44.7	-0.1
KSM	**Kuching**	**44.85**	**278**	*e*P	**P**		**10 05 29.1**	**+0.3**
KSM				*e*pP	pP		10 05 46.1	-1.1
MJAR	**Matsushiro Arr**	**45.16**	**341**	P	**P**		**10 05 27.4**	**-3.8**
	comp=Z,0.7nm,0.4s,baz=166,slow=6.5,SNR=4.9							
MJAR				PP	PP		10 07 20.3	+2.3
	comp=Z,1.8nm,1.0s,baz=168,slow=8.7,SNR=4.0							
MJAR				LR	LR		10 21 54.1	
	comp=Z,110nm,19.6s,baz=185,slow=33							
MJAR	**Matsushiro Arr**	**45.16**	**341**	P	**P**		**10 05 27.4**	**-3.9**
MJAR							10 07 20.3	
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
MJAR				pmax	pmax			
	comp=Z,2.0nm,1.0s							
MJAR	**Matsushiro Arr**	**45.16**	**341**	P	**P**		**10 05 27.4**	**-3.8**
MJAR				PP	PP		10 07 20.3	+2.3
MJAR				LR	LR		10 21 54.1	
MAT	**Matsushiro**	**45.16**	**341**	P	**P**		**10 05 29.0**	**-2.3**
MAT				*e*S	**S**		**10 12 19.0**	**+14**
RAR	**Rarotonga**	**46.61**	**113**	P	**P**		**10 05 40.6**	**-2.0**
	comp=Z,18nm,1.0s,mb4.8,baz=223,slow=6.6,SNR=4.6							
RAR	**Rarotonga**	**46.61**	**113**	P	**P**		**10 05 40.6**	**-2.1**
RAR				pmax	pmax			
	comp=Z,18nm,1.0s							
QZH	**Quanzhou**	**46.71**	**313**	⇓*i*P	**P**		**10 05 44.0**	**+0.5**
QZH				AP	pP		10 06 00.8	-1.2
QZH				S	**S**		**10 12 25.0**	**-2.6**
QZH				AMB	AMB			
	comp=Z,120nm,0.9s,mb5.6							
SSE	**Sheshan**	**48.90**	**321**	*e*P	**P**		**10 06 00.3**	**-0.1**
SSE				AP	pP		10 06 21.0	+2.0
SSE				XP	sP		10 06 28.9	+1.4
SSE				PCP	PcP		10 07 24.8	+1.1
SSE				PP	PP		10 07 51.9	-2.4
SSE				S	**S**		**10 12 57.9**	**-0.6**
SSE				XS	sS		10 13 33.3	+3.0
SSE				AMB	AMB			
	comp=Z,29nm,0.7s,mb5.3							
SSE				AMB	AMB			
	comp=Z,74nm,4.3s							
SSE				LR	LR			
	comp=N,176nm,33.3s							
SSE				LR	LR			
	comp=E,159nm,33.4s							
SSE				LR	LR			
	comp=Z,280nm,35.5s							
GZH	**Guangzhou**	**49.69**	**307**	P	**P**		**10 06 05.8**	**-0.6**
GZH				S	**S**		**10 13 09.9**	**+0.4**
GZH				LR	LR			
	comp=N,124nm,15.9s							
GZH				LR	LR			
	comp=E,363nm,18.7s							
GZH				LR	LR			
	comp=Z,548nm,28.3s							
QIZ	**Qiongzhong**	**50.68**	**301**	P	**P**		**10 06 14.9**	**+1.0**
QIZ				AP	pP		10 06 33.9	+1.2
QIZ				XP	sP		10 06 42.5	+1.4
QIZ				S	**S**		**10 13 22.9**	**-0.5**
QIZ				XS	sS		10 13 55.5	+0.2
QIZ				SCS	ScS		10 15 56.8	-0.8
QIZ				SS	SS		10 16 58.9	+0.4
QIZ				AMB	AMB			
	comp=Z,15nm,1.2s,mb4.9							
QIZ				LR	LR			
	comp=E,174nm,23.9s							
QIZ				LR	LR			
	comp=Z,396nm,36.9s							
KGM	**Kluang**	**51.83**	**277**	P	**P**		**10 06 23.0**	**+0.6**
WHN	**Wuhan**	**53.06**	**316**	⇑P	**P**		**10 06 32.5**	**+1.0**
WHN				AP	pP		10 06 50.3	-0.1
IPM	**Ipoh**	**54.51**	**280**	P	**P**		**10 06 43.3**	**+1.1**
MDJ	**Mudanjiang**	**55.31**	**338**	P	**P**		**10 06 46.9**	**-1.0**
MDJ				AP	pP		10 07 05.3	-1.7
MDJ				XP	sP		10 07 12.1	-3.3
MDJ				PCP	PcP		10 07 46.1	-1.7
MDJ				PP	PP		10 08 54.8	+2.6
MDJ				SCP	ScP		10 11 37.5	-2.3
MDJ				PCS	PcS		10 11 47.6	-0.3
MDJ				S	**S**		**10 14 27.6**	**+1.3**
MDJ				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.8							
MDJ				AMB	AMB			
	comp=Z,78nm,5.9s							
MDJ				LR	LR			
	comp=N,126nm,30.7s							
MDJ				LR	LR			
	comp=E,42nm,27.6s							
MDJ				LR	LR			
	comp=Z,169nm,31.6s							
PPT	**Papeete**	**55.63**	**107**	*e*S	**S**		**10 14 37.7**	**+7.2**
	comp=Z,185nm,28.0s							
PPT				*e*LQ			10 20 49.5	
	comp=Z,215nm,25.5s							
PPT				*e*LR	LR		10 23 00.7	
	comp=Z,671nm,32.8s							
CN2	**Changchun**	**56.26**	**335**	*e*P	**P**		**10 06 53.9**	**-0.8**
CN2				*e*S	**S**		**10 14 37.3**	**-1.6**
CN2				AMB	AMB			
	comp=Z,20nm,0.9s,mb5.2							
CN2				AMB	AMB			
	comp=Z,200nm,3.0s							
CN2				LR	LR			
	comp=N,200nm,17.0s							
CN2				LR	LR			
	comp=E,200nm,17.0s							
CN2				LR	LR			
	comp=Z,200nm,18.0s							
PSI	**Prapat**	**56.29**	**277**	P	**P**		**10 06 55.2**	**+0.3**
	comp=Z,8.4nm,0.6s,mb5.0,baz=79,slow=12,SNR=12							
PSI				LR	LR		10 29 19.5	
	comp=Z,258nm,20.1s,baz=248,slow=34							
PSI	**Prapat**	**56.29**	**277**	P	**P**		**10 06 55.2**	**+0.3**
PSI				LR	LR		10 29 19.5	
TBI	**Tubuai**	**56.38**	**114**	*e*S	**S**		**10 14 47.9**	**+7.4**
	comp=Z,194nm,34.8s							
TBI				*e*LQ			10 21 10.5	
	comp=Z,354nm,34.8s							
TBI				*e*LR	LR		10 23 31.3	
	comp=Z,2μm,33.2s							
GYA	**Guiyang**	**56.62**	**307**	⇑*i*P	**P**		**10 06 58.6**	**+1.3**
GYA				AP	pP		10 07 18.8	+2.4
GYA				XP	sP		10 07 27.3	+2.5
GYA				PP	PP		10 09 06.9	+3.0
GYA				S	**S**		**10 14 42.8**	**-0.9**
GYA				XS	sS		10 15 16.0	-0.1
GYA				SS	SS		10 18 32.1	-0.1
GYA				AMB	AMB			
	comp=Z,20nm,1.0s,mb5.1							
GYA				AMB	AMB			
	comp=Z,250nm,8.0s							
GYA				LR	LR			
	comp=N,430nm,18.9s							
GYA				LR	LR			
	comp=E,410nm,18.8s							
GYA				LR	LR			
	comp=Z,450nm,19.0s							
PMOR	**Pomariorio Ree**	**57.09**	**104**	*e*P	**P**		**10 07 00.4**	**-0.2**
	comp=Z,108nm,1.0s,mb5.8							
VAH	**Vaihoa**	**57.35**	**104**	*e*P	**P**		**10 07 01.5**	**-0.9**
	comp=Z,66nm,1.0s,mb5.6							
BJI	**Beijing**	**58.00**	**326**	*e*P	**P**		**10 07 06.3**	**-0.7**
BJI				PP	PP		10 09 19.4	+3.3
BJI				S	**S**		**10 15 03.6**	**+1.8**
BJI				AMB	AMB			
	comp=Z,8.0nm,0.9s,mb4.8							
BJI				LR	LR			
	comp=N,182nm,24.8s							
BJI				LR	LR			
	comp=E,149nm,27.5s							
NST	**Nakhon Sawan**	**58.11**	**293**	P	**P**		**10 07 07.8**	**0.0**
NANT	**Nan**	**58.60**	**296**	⇓P	**P**		**10 07 12.0**	**+0.9**
	comp=E,244nm,0.6s							
KLR	**Kul'dur**	**58.65**	**343**	*e*P	**P**		**10 07 06.9**	**-4.6**
KLR				*e*	pP		10 07 25.2	-5.5
KLR				pmax	pmax			
	comp=E,20nm,1.2s							
KLR				pmax	pmax			
	comp=Z,34nm,1.2s,mb5.2							
XAN	**Xi'an**	**58.82**	**316**	P	**P**		**10 07 12.0**	**-0.7**
XAN				AP	pP		10 07 29.6	-2.3
XAN				AMB	AMB			
	comp=Z,16nm,1.1s,mb5.0							
XAN				LR	LR			
	comp=N,104nm,19.7s							
XAN				LR	LR			
	comp=E,123nm,18.3s							
XAN				LR	LR			
	comp=Z,285nm,31.0s							
KMI	**Kunming**	**59.21**	**304**	P	**P**		**10 07 17.3**	**+1.9**
KMI				AP	pP		10 07 39.6	+5.0
KMI				XP	sP		10 07 48.8	+5.8
KMI				PCP	PcP		10 08 04.5	+1.4
KMI				PP	PP		10 09 31.6	+4.7
KMI				PPP			10 10 56.8	
KMI				S	**S**		**10 15 18.3**	**+0.8**
KMI				XS	sS		10 15 54.3	+4.2
KMI				SCS	ScS		10 16 56.0	-2.5
KMI				SS	SS		10 19 11.1	-1.8
KMI				AMB	AMB			
	comp=Z,69nm,1.0s,mb5.6							
KMI				AMB	AMB			
	comp=Z,167nm,3.1s							
KMI				LR	LR			
	comp=N,136nm,16.3s							
KMI				LR	LR			
	comp=E,243nm,18.6s							
KMI				LR	LR			
	comp=Z,443nm,21.2s							
CHG	**Chiang Mai**	**60.17**	**296**	P	**P**		**10 07 22.8**	**+0.8**
	comp=Z,49nm,1.2s,mb5.4							
CD2	**Chengdu**	**60.96**	**310**	*e*P	**P**		**10 07 27.3**	**-0.1**
CD2				AP	pP		10 07 48.8	+2.1
CD2				XP	sP		10 07 55.3	+0.3
CD2				PCP	PcP		10 08 09.5	-0.6
CD2				PP	PP		10 09 44.5	+2.2
CD2				SCP	ScP		10 12 02.8	-2.0
CD2				PCS	PcS		10 12 11.3	-1.5
CD2				S	**S**		**10 15 36.8**	**-3.1**
CD2				XS	sS		10 16 14.3	+1.6
CD2				SCS	ScS		10 17 07.4	-4.2
CD2				SS	SS		10 19 39.3	-1.0
CD2				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.2							
CD2				AMB	AMB			
	comp=Z,80nm,6.2s							
CD2				LR	LR			
	comp=E,330nm,22.6s							
CD2				LR	LR			
	comp=Z,200nm,23.8s							
HHC	**Hu-ho-hao-te**	**61.18**	**324**	*e*P	**P**		**10 07 31.8**	**+3.0**
HHC				AP	pP		10 07 51.3	+3.2
HHC				XP	sP		10 07 59.8	+3.3
HHC				PP	PP		10 09 48.1	+3.8
HHC				PCS	PcS		10 12 14.8	+1.0
HHC				S	**S**		**10 15 42.5**	**-0.2**
HHC				PS			10 16 11.6	
HHC				XS	sS		10 16 18.9	+3.4
HHC				AMB	AMB			
	comp=Z,20nm,0.4s,mb5.5							
HHC				AMB	AMB			
	comp=Z,103nm,4.0s							
HHC				LR	LR			
	comp=N,146nm,18.1s							
HHC				LR	LR			
	comp=E,181nm,24.0s							
HHC				LR	LR			
	comp=Z,245nm,24.9s							
LZH	**Lanzhou**	**63.44**	**315**	*e*P	**P**		**10 07 45.0**	**+1.1**
LZH				AP	pP		10 08 04.0	+0.7
LZH				XP	sP		10 08 13.0	+1.4
LZH				PP	PP		10 10 07.3	+3.2
LZH				*e*S	**S**		**10 16 11.3**	**+0.3**
LZH				XS	sS		10 16 44.6	+0.6
LZH				*e*SS	SS		10 20 21.5	+2.5
LZH				AMB	AMB			
	comp=Z,30nm,1.2s,mb5.1							
LZH				AMB	AMB			
	comp=Z,126nm,5.1s							
LZH				LR	LR			
	comp=E,1μm,14.8s							
LZH				LR	LR			
	comp=Z,1μm,15.8s							
TAOE	**Nuku Hiva Isla**	**64.70**	**97**	*e*LR	LR		10 27 19.3	
	comp=Z,2μm,33.9s							
CASY	**Casey**	**67.26**	**198**	*e*P	**P**		**10 08 07.5**	**-1.1**
GTA	**Gaotai**	**67.85**	**317**	*e*P	**P**		**10 08 13.3**	**+1.0**
GTA				AP	pP		10 08 35.3	+3.3
GTA				XP	sP		10 08 43.6	+3.4
GTA				PP	PP		10 10 47.9	+5.2
GTA				S	S		10 17 05.6	+0.8
GTA				SS	SS		10 21 31.8	+4.2
GTA				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.6							
GTA				AMB	AMB			
	comp=Z,86nm,4.2s							
GTA				LR	LR			
	comp=N,93nm,20.2s							
GTA				LR	LR			
	comp=E,134nm,23.2s							
GTA				LR	LR			
	comp=Z,305nm,23.6s							
ULN	**Ulaanbaatar**	**68.08**	**328**	⇑*e*P	**P**		**10 08 12.9**	**-0.9**
ULN	**Ulaanbaatar**	**68.08**	**328**	*e*P	**P**		**10 08 13.6**	**-0.2**
	comp=Z,4.4nm,1.1s,mb4.2							
SONM	**Songino Array**	**68.41**	**327**	P	**P**		**10 08 14.9**	**-0.9**
	comp=Z,2.4nm,0.4s,mb4.3,baz=135,slow=6.0,SNR=20							
SONM				LR	LR		10 37 23.4	
	comp=Z,94nm,20.8s,baz=80,slow=35							
RKT	**Rikitea**	**69.63**	**112**	*e*S	S		10 17 32.2	+6.3
	comp=Z,225nm,27.8s							
RKT				*e*LQ			10 26 35.2	
	comp=Z,131nm,38.8s							
RKT				*e*LR	LR		10 29 38.6	
	comp=Z,1μm,32.2s							
YAK	**Yakutsk**	**70.66**	**348**	*e*P	**P**		**10 08 29.2**	**-0.4**
YAK				*e*	pP		10 08 47.4	-2.0
YAK				pmax	pmax			
	comp=N,4.0nm,1.1s							
YAK				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.6							
YA

ZAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
ZAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
ZAK pmax pmax
comp=Z,11nm,1.3s,mb4.5
BOD Bodaibo 71.69 338 *e*P **P 10 08 33.0 -2.9**
BOD *e* pP 10 08 53.2 -2.5
BOD pmax pmax
comp=Z,5.0nm,1.2s,mb4.2
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
MIR Mirnyy 73.32 202 *c i*P **P 10 08 46.5 +0.9**
MIR pmax pmax
comp=Z,250nm,1.3s,mb5.9
JIRN Jiri 74.01 301 *e*P **P 10 08 50.7 +1.1**
GUN Gumba 74.34 301 *e*P **P 10 08 52.5 +1.0**
comp=Z,149nm,1.2s,mb5.6
PKI Pulchoki 74.65 301 *e*P **P 10 08 53.6 +0.3**
comp=Z,95nm,1.1s,mb5.4
PKI Pulchoki 74.65 301 *e*P **P 10 08 53.6 +0.3**
PKI pmax pmax
comp=Z,95nm,1.1s,mb5.4
KKN Kakani 74.82 301 *e*P **P 10 08 54.6 +0.3**
comp=Z,138nm,1.4s,mb5.5
KKN Kakani 74.82 301 *e*P **P 10 08 54.6 +0.3**
KKN pmax pmax
comp=Z,138nm,1.4s,mb5.5
DMN Daman 74.92 301 *e*P **P 10 08 55.9 +1.0**
comp=Z,215nm,1.1s,mb5.8
GKN Gorkha 75.42 301 *e*P **P 10 08 58.3 +0.5**
comp=Z,166nm,1.1s,mb5.7
KOLN Koldanda 76.25 300 *e*P **P 10 09 02.3 -0.2**
SVW2 Sparrevohn 77.38 22 *e*P **P 10 09 09.0 +0.1**
SVW2 *e* pP 10 09 28.0 -0.8
WMQ Urumqi 77.94 317 P **P 10 09 12.3 +0.3**
WMQ AP pP 10 09 32.5 +0.5
WMQ XP sP 10 09 41.0 +0.8
WMQ PP PP 10 12 10.8 +2.1
WMQ S S 10 18 57.4 -1.9
WMQ AMB AMB
comp=Z,44nm,1.6s,mb4.9
WMQ AMB AMB
comp=Z,253nm,5.8s
WMQ LR LR
comp=N,646nm,18.2s
WMQ LR LR
comp=E,484nm,17.1s
WMQ LR LR
comp=Z,600nm,18.7s
HYB Hyderabad 78.61 289 *i* P **P 10 09 16.5 +0.8**
HYB *e*pP pP 10 09 34.5 -1.2
HYB Hyderabad 78.61 289 *e*P **P 10 09 15.5 -0.2**
SML Sawmill 80.63 24 *e*P **P 10 09 16.7 -10**
SML *e* pP 10 09 34.0 -13
MKAR Makanchi Array 82.51 319 P **P 10 09 35.2 -1.3**
comp=Z,4.3nm,0.8s,mb4.3,baz=98,slow=6.4,SNR=30
MKAR Makanchi Array 82.51 319 *i* P **P 10 09 35.4 -1.1**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
QSPA South Pole Qui 83.81 180⇑ *i*P **P 10 09 42.5 -0.7**
comp=Z,107nm,1.0s,mb5.6
NVS Novosibirsk 84.43 327 *i* P **P 10 09 44.4 -2.0**
MAW Mawson 85.01 203 *e*P **P 10 09 48.3 -1.0**
comp=Z,12nm,0.9s,mb4.8
MAW Mawson 85.01 203 P **P 10 09 48.5 -0.8**
comp=Z,14nm,0.8s,mb5.0,baz=89,slow=6.4,SNR=29
MAW LR LR 10 42 25.1
comp=Z,101nm,21.4s,baz=245,slow=32
MAW Mawson 85.01 203 *e*P **P 10 09 48.3 -1.0**
MAW pmax pmax
comp=Z,12nm,0.9s
KSH Kashi 85.16 310 *e*P **P 10 09 50.8 +0.8**
KSH *e*AP pP 10 10 10.9 +0.6
KSH *e*XP sP 10 10 20.0 +1.5
KSH *e*PP PP 10 13 11.3 +3.1
KSH *e*SKS 10 20 05.4
KSH *e*S 10 20 12.5
KSH *e*XS sS 10 20 47.8 -0.7
KURK Kurchatov 85.92 322 P **P 10 09 52.9 -0.9**
comp=Z,30nm,0.8s,mb5.3,SNR=5.3
KURK Kurchatov 85.92 322 *e*P **P 10 09 51.9 -1.9**
KURK pmax pmax
comp=Z,14nm,1.4s,mb4.7
KURK Kurchatov 85.92 322 *e*P **P 10 09 51.9 -1.9**
comp=Z,14nm,1.4s,mb4.7
KURK *e*pP pP 10 10 13.0 -1.2
KURK *e*sP sP 10 10 24.4 +2.1
AAK Ala-Archa 86.88 313⇑ *e*P **P 10 09 57.1 -1.4**
AAK pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
P01C Double 8 Ranch 87.78 50⇑P **P 10 09 60.0 -2.9**
baz=88
HOPS Hopland 87.91 51⇑P **P 10 10 01.7 -1.7**
baz=88
L02A Cave Junction 88.05 47⇓P **P 10 10 04.6 +0.5**
baz=88
I02A Mapleton 88.21 46⇓P **P 10 10 05.2 +0.4**
baz=88
BNLO Ben Lomond (Sa 88.31 53⇑P **P 10 10 05.3 -0.1**
baz=88
O02C Red Bluff 88.32 49⇑P **P 10 10 05.7 +0.3**
baz=88
MNRC McLaughlin Nat 88.37 51⇑P **P 10 10 05.8 +0.2**
baz=88
M02C Callahan 88.47 48⇓P **P 10 10 06.2 +0.1**
baz=88
WDC Whiskeytown Da 88.57 49⇑P **P 10 10 06.8 +0.2**
baz=89
HUMO Hull Mountain 88.60 47⇑P **P 10 10 07.0 +0.3**
baz=89
YBH Yreka Blue Hor 88.63 48 P **P 10 10 05.6 -1.3**
comp=Z,2.2nm,0.6s,mb4.4,baz=236,slow=12,SNR=6.1
YBH Yreka Blue Hor 88.63 48 P **P 10 10 05.6 -1.3**
YBH pmax pmax
comp=Z,2.0nm,0.6s
YBH Yreka Blue Hor 88.63 48⇑P **P 10 10 07.5 +0.6**
baz=89
Q03C Winters 88.67 51⇑P **P 10 10 07.4 +0.3**
baz=89
HAST UC Hastings Re 88.69 53⇑P **P 10 10 07.9 +0.8**
baz=89
WENL Wente Brothers 88.71 52⇓P **P 10 10 07.9 +0.6**
baz=89
F03A Seaside 88.74 44⇓P **P 10 10 07.0 -0.4**
baz=89
O03C Acorn Hollow, 88.87 50⇓P **P 10 10 07.6 -0.4**
baz=89
SUTB Sutter Butte 88.93 51⇑P **P 10 10 08.2 -0.1**
baz=89
PACP Pacheco Peak 88.99 53 P **P 10 10 09.7 +1.1**
baz=89,SNR=6.0
S04C Ingram Canyon, 89.03 52⇑P **P 10 10 08.8 +0.1**
baz=89
ORV Oroville 89.20 50⇑P **P 10 10 09.4 -0.1**
baz=89
U04C Hernandez Rese 89.30 53⇑P **P 10 10 09.8 -0.2**
baz=89,SNR=5.3
L04A Klamath Falls 89.31 48⇑P **P 10 10 10.6 +0.6**
baz=89
G04A Mulino 89.36 45⇑P **P 10 10 10.3 0.0**
baz=89
HATC Hat Creek Radi 89.42 49⇓P **P 10 10 10.0 -0.5**
baz=89
PKD Parkfield 89.44 54⇑P **P 10 10 11.0 +0.3**
baz=90,SNR=7.2
C04A Brinnon 89.44 42⇑P **P 10 10 10.6 -0.1**
baz=90
R04C Big Horse Banc 89.44 52⇑P **P 10 10 10.4 -0.2**
baz=90
H04A Detroit Lake 89.48 45⇑P **P 10 10 09.6 -1.2**
baz=90
K04A Chiluquin 89.49 47⇑P **P 10 10 10.1 -0.8**
baz=90
F04A Amboy 89.52 44⇓P **P 10 10 10.2 -0.8**
baz=90
O04C Chester 89.63 50⇓P **P 10 10 11.3 -0.2**
baz=90,SNR=8.1
PTRM Twissleman Ran 89.66 54 *e*P **P 10 10 12.9 +1.2**
LAVA Lava Cap Winer 89.67 51⇑P **P 10 10 11.5 -0.2**
baz=90
O05C Quincy 89.70 50⇓P **P 10 10 11.5 -0.4**
baz=90
M05C Lookout 89.73 49⇑P **P 10 10 11.5 -0.5**
baz=90
S05C Merced 89.80 53⇑P **P 10 10 11.6 -0.7**
baz=90
U05C Westside ANR, 89.83 54⇓P **P 10 10 12.5 0.0**
baz=90
CMB Columbia Colle 89.85 52⇓P **P 10 10 12.3 -0.3**
baz=90
P05C Yuba Gap, Truc 89.85 51⇑P **P 10 10 12.7 +0.2**
baz=90,SNR=5.4
SNCC San Nicolas Is 89.91 57⇓P **P 10 10 13.0 +0.2**
baz=90
J05A Fort Rock 89.95 47⇓P **P 10 10 12.6 -0.4**
baz=90
D05A Enumclaw 90.01 43⇑P **P 10 10 13.1 -0.3**
baz=90
I05A Bend 90.05 46⇓P **P 10 10 12.9 -0.7**
baz=90
L05A Lakeview 90.07 48⇑P **P 10 10 12.8 -0.8**
baz=90
E05A Randle 90.07 43⇓P **P 10 10 13.1 -0.5**
baz=90
H05A Madras 90.15 45⇑P **P 10 10 13.2 -0.8**
baz=90
R05C Kirkwood Meado 90.17 51 P **P 10 10 14.2 +0.1**
baz=90,SNR=9.2
F05A White Salmon 90.18 44⇓P **P 10 10 13.5 -0.6**
baz=90
G05A Wamic 90.18 45⇑P **P 10 10 13.7 -0.4**
baz=90
M06C Likely Place G 90.21 49⇓P **P 10 10 14.2 -0.1**
baz=90
A05A Maple Falls 90.23 41⇑P **P 10 10 14.1 -0.2**
baz=90
T06C Millerton Lake 90.24 53⇓P **P 10 10 14.4 0.0**
baz=90
S06C San Francisco 90.25 52⇑P **P 10 10 14.3 -0.1**
baz=90,SNR=11
C05A Tolt Reservoir 90.29 42⇑P **P 10 10 13.9 -0.7**
baz=90
MOD Modoc 90.44 48⇓P **P 10 10 14.5 -0.8**
baz=90
P06A Stead Airport, 90.44 50⇓P **P 10 10 15.5 +0.2**
baz=90
WCN Washoe City 90.50 51 P **P 10 10 16.2 +0.5**
baz=90,SNR=16
O06A Flanigan 90.56 50⇓P **P 10 10 15.5 -0.3**
baz=91,SNR=7.7
KCC Kaiser Creek 90.59 53⇓P **P 10 10 15.8 -0.2**
baz=91
K06A Valley Falls 90.60 47⇓P **P 10 10 15.6 -0.4**
baz=91
N06A Buffalo Meadow 90.64 49⇑P **P 10 10 16.0 -0.3**
baz=91,SNR=6.5
R06C Coleville 90.64 51⇑P **P 10 10 16.6 +0.4**
baz=91,SNR=8.0
J06A Christmas Vall 90.73 47⇑P **P 10 10 15.7 -0.9**
baz=91
OSI Osito Adit 90.74 55⇑P **P 10 10 17.0 +0.3**
baz=91
I06A Prineville 90.78 46⇓P **P 10 10 16.5 -0.4**
baz=91
PAHR Pah Rah Range 90.84 50 *e*P **P 10 10 16.8 -0.4**
comp=Z,15nm,1.2s,mb5.0
R07C Lee Vining 90.90 52⇓P **P 10 10 18.0 +0.6**
baz=91
ISA Isabella 91.07 54 P **P 10 10 18.5 +0.3**
baz=91,SNR=7.1
L07A Adell 91.16 48⇑P **P 10 10 18.9 +0.3**
baz=91,SNR=6.1
Q07A Schurz 91.19 51⇓P **P 10 10 19.1 +0.3**
baz=91,SNR=5.2
MTUM Tungsten Hills 91.19 53 *e*P **P 10 10 19.4 +0.6**
M07A Soldier Meadow 91.21 49⇑P **P 10 10 18.9 0.0**
baz=91,SNR=5.2
O07A Toulon 91.28 50⇓P **P 10 10 19.0 -0.2**
baz=91,SNR=9.4
CHKZ Chkalovo 91.34 324 *e*P **P 10 10 16.5 -3.0**
CHKZ pmax pmax
comp=Z,8.0nm,1.3s,mb4.7
CHKZ Chkalovo 91.34 324 *e*P **P 10 10 16.4 -3.1**
comp=Z,7.8nm,1.3s,mb4.7
J07A Hines 91.35 47⇓P **P 10 10 19.1 -0.4**
baz=91
TIN Tinemaha 91.42 53⇑P **P 10 10 20.5 +0.6**
baz=91
CWC Cottonwood Cre 91.47 54⇓P **P 10 10 20.1 0.0**
baz=92
NVAR Mina Array Bea 91.52 52 P **P 10 10 20.6 +0.2**
comp=Z,16nm,1.0s,mb5.2,baz=249,slow=4.1,SNR=82
MNV Mina 91.64 52 *e*P **P 10 10 21.2 +0.3**
MNV pmax pmax
comp=Z,28nm,1.1s,mb5.4
MNV Mina 91.64 52 *e*P **P 10 10 21.2 +0.3**
comp=Z,28nm,1.1s,mb5.4
WVOR Wild Horse Val 91.73 48 *e*P **P 10 10 21.2 -0.1**
WVOR pmax pmax
comp=Z,12nm,1.5s,mb4.9
WVOR Wild Horse Val 91.73 48 *e*P **P 10 10 21.2 -0.2**
comp=Z,12nm,1.5s,mb4.9
M08A Happy Creek Ra 91.81 49⇓P **P 10 10 21.7 +0.1**
baz=92
P08A Dixie Valley 91.84 50⇓P **P 10 10 22.3 +0.5**
baz=92
Q08A Gabbs 91.86 51⇑P **P 10 10 21.8 -0.1**
baz=92,SNR=23
109C Camp Elliot, M 91.88 57⇑P **P 10 10 22.4 +0.4**
baz=92
ZRNK Zerenda 92.20 323 *e*P **P 10 10 20.2 -3.3**
ZRNK pmax pmax
comp=Z,3.0nm,1.0s,mb4.5
ZRNK Zerenda 92.20 323 *e*P **P 10 10 20.2 -3.3**
comp=Z,3.4nm,1.0s,mb4.5
S09A Goldfield 92.30 52 P **P 10 10 24.4 +0.4**
baz=92,SNR=27
GSC Goldstone 92.38 55⇑P **P 10 10 24.5 +0.2**
baz=92,SNR=10
N09A Rock Creek Ran 92.39 49⇓P **P 10 10 24.5 +0.2**
baz=92
L09A Wilkinson Ranc 92.40 48⇑P **P 10 10 23.9 -0.5**
baz=92
R09A Tonopah 92.47 52⇑P **P 10 10 24.7 0.0**
baz=92,SNR=23
PFO Pinyon Flat Ob 92.50 57 P **P 10 10 26.0 +1.1**
comp=Z,121nm,0.9s,SNR=7.4
PFO Pinyon Flat Ob 92.50 57 *e*P **P 10 10 25.9 +1.0**
PFO pmax pmax
comp=Z,23nm,1.0s,mb5.5
PFO Pinyon Flat Ob 92.50 57 *e*P **P 10 10 25.9 +1.0**
comp=Z,23nm,1.0s,mb5.5
PFO Pinyon Flat Ob 92.50 57⇓P **P 10 10 25.4 +0.5**
baz=92,SNR=12
M09A Mazel Ranch, 92.50 49⇑P **P 10 10 25.0 +0.2**
baz=92
O09A Fish Creek Ran 92.57 50⇑P **P 10 10 25.4 +0.2**
baz=93,SNR=9.9
U10A Ash Meadows, A 92.88 54⇓P **P 10 10 27.3 +0.7**
baz=93,SNR=9.8
SYO Syowa Base 92.98 199‖ *e*P **P 10 10 25.0 -2.1**
SYO Syowa Base 92.98 199‖ *e*PcP PcP 10 10 28.6 +0.9
TPNV Topopah Spring 92.99 53 *e*P **P 10 10 27.2 +0.1**
TPNV pmax pmax
comp=Z,27nm,1.3s,mb5.4
TPNV Topopah Spring 92.99 53 *e*P **P 10 10 27.1 0.0**
comp=Z,27nm,1.3s,mb5.4
P10A Eureka 93.08 51⇓P **P 10 10 27.6 +0.1**
baz=93
R10A Warm Springs 93.08 52⇑P **P 10 10 28.0 +0.5**
baz=93
TUQ Turquoise Mtn. 93.11 55⇓P **P 10 10 28.0 +0.3**
baz=93,SNR=5.7
N10A Dunphy 93.14 50⇓P **P 10 10 27.6 -0.2**
baz=93
NEW Newport 93.41 42 *e*P **P 10 10 27.9 -1.1**
NEW pmax pmax
comp=Z,8.0nm,1.1s
NEW Newport 93.41 42 *e*P **P 10 10 27.9 -1.1**
comp=Z,8.4nm,1.1s,mb5.0
V11A Goodsprings 93.55 54⇑P **P 10 10 30.2 +0.5**
baz=94,SNR=13
P11A Circle Ranch, 93.61 51⇓P **P 10 10 30.4 +0.4**
baz=94
Q11A Duckwater 93.63 51 P **P 10 10 30.6 +0.5**
baz=94,SNR=22
U11A Corn Creek 93.64 54⇓P **P 10 10 30.8 +0.7**
baz=94
O11A Cowboy Ranch, 93.73 50⇑P **P 10 10 30.8 +0.3**
baz=94,SNR=7.7
M11A Holland Ranch, 93.75 49⇓P **P 10 10 30.8 +0.2**
baz=94
GLA Glamis 93.81 57⇓P **P 10 10 31.9 +1.0**
baz=94,SNR=8.8
W12A Cal Nev Ari 93.96 55⇓P **P 10 10 32.1 +0.6**
baz=94
V12A Nelson 94.01 55⇓P **P 10 10 32.3 +0.5**
baz=94,SNR=8.0
Y12C Blythe 94.12 57⇓P **P 10 10 33.0 +0.7**
baz=94,SNR=6.6
P12A McGill 94.26 51⇑P **P 10 10 33.3 +0.3**
baz=94
N12A Clover Valley, 94.26 50⇑P **P 10 10 33.1 +0.2**
baz=94,SNR=6.5
Q12A Willow Creek R 94.28 51⇑P **P 10 10 33.4 +0.4**
baz=94,SNR=8.2
U12A Valley of Fire 94.31 54⇑P **P 10 10 33.5 +0.3**
baz=94
M12A Wells 94.40 49⇑P **P 10 10 33.8 +0.2**
baz=94
O12A Currie 94.44 50⇓P **P 10 10 33.8 +0.1**
baz=94
Y13A Salome 94.70 57⇓P **P 10 10 35.6 +0.7**
baz=95
W13A Hualapai Mount 94.74 55⇑P **P 10 10 35.9 +0.8**
baz=95
X13A Yucca 94.75 56⇑P **P 10 10 35.7 +0.5**
baz=95,SNR=10
N13A Wendover, West 94.90 50⇓P **P 10 10 36.1 +0.3**
baz=95
M13A Montello 94.96 49⇓P **P 10 10 36.7 +0.5**
baz=95
ARUT Antelope Range 95.29 53 *e*P **P 10 10 38.7 +1.0**
Y14A Wickenburg 95.39 57⇓P **P 10 10 38.7 +0.6**
baz=95
Z14A Wintersburg 95.40 57⇓P **P 10 10 38.8 +0.7**
baz=95
W14A Seligman 95.41 55⇑P **P 10 10 39.3 +1.1**
baz=95
X14A Yava 95.52 56 P **P 10 10 39.9 +1.2**
baz=96,SNR=5.7
WALA Waterton Lakes 95.59 41 *e*P **P 10 10 38.2 -0.8**
comp=Z,3.1nm,1.0s,mb4.7
YKA Yellowknife Ar 95.79 28 P **P 10 10 38.0 -1.9**
comp=Z,0.9nm,0.8s,mb4.3,baz=259,slow=5.4,SNR=4.5
YKA LR LR 10 49 23.4
comp=Z,81nm,21.3s,baz=310,slow=33
YKA Yellowknife Ar 95.79 28 P **P 10 10 38.0 -1.9**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 95.79 28 P **P 10 10 38.0 -1.9**
YKA LR LR 10 49 23.4
115A Sonoran Desert 95.96 58⇓P **P 10 10 41.9 +1.1**
baz=96
X15A Humboldt 96.06 56⇓P **P 10 10 42.4 +1.3**
baz=96,SNR=6.0
W15A Williams 96.07 55⇑P **P 10 10 42.6 +1.3**
baz=96
MSU Marysvale 96.32 52 *e*P **P 10 10 43.4 +1.0**
116A Eloy 96.40 58⇓P **P 10 10 43.8 +1.1**
baz=96
WUAZ Wupatki 96.82 55 *e*P **P 10 10 45.0 +0.4**
comp=Z,7.1nm,1.1s,mb5.0
BOZ Bozeman (W) 97.00 45 *e*P **P 10 10 45.0 -0.5**
BOZ pmax pmax
comp=Z,1.0nm,0.8s,mb4.3
BOZ Bozeman (W) 97.00 45 *e*P **P 10 10 45.0 -0.5**
comp=Z,1.2nm,0.8s,mb4.4
SRU San Rafael 97.64 51 *e*P **P 10 10 48.1 -0.2**
SRU pmax pmax
comp=Z,1.0nm,0.6s,mb4.5
SRU San Rafael 97.64 51 *e*P **P 10 10 48.1 -0.2**
comp=Z,1.4nm,0.6s,mb4.7
ARU Arti 98.43 326 *e*P **P 10 10 47.9 -4.0**
ARU pmax pmax
comp=Z,2.0nm,1.0s,mb4.6
PDAR Pinedale Array 98.44 48 P **P 10 10 50.8 -1.1**
comp=Z,1.6nm,0.9s,mb4.5,baz=225,slow=2.3,SNR=11
PDAR LR LR 10 48 13.1
comp=Z,93nm,21.9s,baz=268,slow=31
PV01 Paradox Valley 99.15 52 *e*P **P 10 10 55.2 +0.2**
SNAA Sanae 100.92 187 *e*Pdiff Pdif 10 11 00.7 -2.3
SNAA *e* 10 11 06.3
VNA1 Neumayer--Stat 102.49 186 *e*Pdiff Pdif 10 11 08.4 -1.5
VNA1 *e* 10 11 15.1
OBN Obninsk 110.83 327‖ *i*PKIKP PKiKP 10 15 40.0 -6.4
OBN *e* 10 16 23.2
OBN *e*SS SS 10 31 54.8 +5.5
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN MLR MLR
comp=Z,100nm,18.0s
FINES FINESS Array B 113.01 336 PKKPbc PKKPbc 10 26 35.4 -1.7
comp=Z,0.3nm,0.3s,baz=197,slow=3.2,SNR=7.5
OTAV Otavalo 126.75 94 *e*PKPdf PKPdf 10 16 16.9 -0.1
ROSC El Rosal 131.31 89 PKP PKPdf 10 16 27.1 +1.5
comp=Z,7.6nm,0.5s,baz=99,slow=21,SNR=6.4
LPAZ La Paz 132.21 118 PKP PKPdf 10 16 28.6 +1.3
comp=Z,9.1nm,1.2s,baz=345,slow=2.2,SNR=19
LPAZ La Paz 132.21 118 PKIKP PKPdf 10 16 28.6 +1.3
LPAZ pmax pmax
comp=Z,9.0nm,1.2s
LPAZ La Paz 132.21 118 *e*PKPdf PKPdf 10 16 28.3 +1.0
CPUP Villa Florida 135.27 138 PKP PKPdf 10 16 33.0 0.0
comp=Z,1.6nm,0.7s,baz=163,slow=1.3,SNR=5.6
CPUP Villa Florida 135.27 138 *e*PKPdf PKPdf 10 16 32.4 -0.6
CAM4 Nova Friburgo 147.06 150 (P) PKPdf 10 16 54.6 +0.4
CAM4 *i* 10 16 57.5
CAM4 *i* 10 17 02.0
CAM4 *i* 10 17 18.7
BDFB Brasilia 148.85 134 PKPbc PKPdf 10 16 58.7 +1.7
comp=Z,7.7nm,0.8s,baz=243,slow=2.9,SNR=9.6
BDFB Brasilia 148.85 134 PKIKP PKPdf 10 16 58.7 +1.6
BDFB pmax pmax
comp=Z,8.0nm,0.8s
TOA0 Torodi Ar. Sit 152.41 287 *e*PKPbc PKPbc 10 17 09.1 -0.3
TORD Torodi Ar. Bea 152.41 287 PKPbc PKPbc 10 17 08.8 -0.7
comp=Z,3.3nm,0.8s,baz=80,slow=1.9,SNR=17
TORD PKPab PKPab 10 17 22.5 +2.7
comp=Z,11nm,1.0s,baz=54,slow=2.2,SNR=7.9
DBIC Dimbokro 159.56 273 PKPab PKPab 10 17 51.1 +0.5
comp=Z,4.4nm,0.7s,baz=54,slow=7.2,SNR=5.5
DBIC Dimbokro 159.56 273 PKP2 PKPab 10 17 51.1 +0.5
DBIC pmax pmax
comp=Z,4.0nm,0.7s

IDC 22 10:05:40.6±1.5, 999S×12394E, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.7/13, mbtmp3.7/5, ML3.6/3, Error ellipse: s-maj=111.8km s-min=25.1km az=65.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**8.23**	**169**	Pn	Pn	10 07 42.8	+1.5
	1.1nm,0.3s,baz=351,slow=11,SNR=22						
FITZ				Sn	Sn	10 09 10.3	-4.6
	1.7nm,0.3s,baz=160,slow=6.3,SNR=8.6						
WRA	**Warramunga Arr**	**14.09**	**136**	Pn	Pn	10 09 00.8	-0.7
	0.2nm,0.3s,baz=301,slow=13,SNR=7.6						
WRA				Sn	Sn	10 11 32.3	-6.3
	0.4nm,0.3s,baz=182,slow=28,SNR=5.9						
ASAR	**Alice Springs**	**16.60**	**146**	Pn	Pn	10 09 33.8	-0.9
	0.2nm,0.3s,baz=322,slow=12,SNR=5.8						
ASAR				Sn	Sn	10 12 34.4	-5.1
	0.1nm,0.3s,baz=318,slow=23,SNR=4.5						
SONM	**Songino Array**	**59.64**	**346**	P	P	10 15 48.3	+1.9
	0.3nm,0.3s,baz=168,slow=7.4,SNR=1.9						
MKAR	**Makanchi Array**	**67.64**	**330**	P	P	10 16 38.1	-1.2
	0.7nm,0.5s,baz=119,slow=7.1,SNR=5.1						

IDC 22 10:20:45.7±26.0, 494S×12595E, h421km±123km, mb2.9/2, mb1 3.0/4, mb1mx2.8/16, mbtmp3.8/4, Error ellipse: s-maj=308.3km s-min=105.0km az=161.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**10.03**	**141**	*e*P	P	10 23 02.3	-0.8
	5.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**13.08**	**181**	P	P	10 23 37.6	+1.0
	0.1nm,0.3s,baz=1.5,slow=12,SNR=11						
WRA	**Warramunga Arr**	**17.00**	**152**	P	P	10 24 18.4	-0.3
	0.3nm,0.3s,baz=328,slow=11,SNR=29						
WB2	**Warramunga Arr**	**17.00**	**152**	*e*P	P	10 24 20.6	+1.8
ASAR	**Alice Springs**	**20.13**	**158**	P	P	10 24 50.3	+0.4
	1.3nm,0.4s,baz=344,slow=14,SNR=34						
ASPA	**Alice Springs**	**20.13**	**158**	*e*P	P	10 24 51.6	+1.7
STKA	**Stephens Creek**	**30.54**	**153**	P	P	10 26 22.4	-0.2
	0.8nm,0.5s,baz=326,slow=11,SNR=4.3						

*CSEM **22** 10:23:57.9±0.2, 3441N×3682E, h2km, Mc1.5, Error ellipse: s-maj=6.9km s-min=3.3km az=92.0*
*GRAL **22** 10:23:57.3±1.9, 3449N×3688E, h0km±498km, MD3.2*
*ISCJB **22** 10:24:00.6±0.7, 3442N±002×3667E±006, h10km, Error ellipse: s-maj=7.4km s-min=3.2km az=15.9*
*NSSC **22** 10:24:00.9, 3443N×3654E, h9km±4km*

ISC 22 10:24:00.4±0.8, 3443N±002×3671E±006, h10km, n17, σ0§99/34, 2D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FKH	**Fakeheh**	**0.32**	**233**	*e*Pg	**Pg**	**10 24 04.7**	**-2.1**
FKH				*e*Sg	**Sg**	**10 24 10.6**	**-0.5**
MARH	**Ras Al Marh**	**0.45**	**206**	⇑P	**Pg**	**10 24 08.8**	**-0.3**
MARH				⇑S	**Sg**	**10 24 15.6**	**+0.6**
MARH	**Ras Al Marh**	**0.45**	**206**	⇑*i*P	**Pg**	**10 24 08.8**	**-0.3**
MARH				⇑*i*S	**Sg**	**10 24 15.6**	**+0.6**
HWQ	**Hawqa**	**0.65**	**257**	*e*Pg	**Pg**	**10 24 12.2**	**-0.8**
HWQ				*e*Sg	**Sg**	**10 24 22.3**	**+0.8**
BIDA	**Albida**	**0.67**	**331**	⇑P	**Pg**	**10 24 13.3**	**+0.1**
BIDA				⇑S	**Sg**	**10 24 22.8**	**+0.8**
BIDA	**Albida**	**0.67**	**331**	⇑*i*P	**Pg**	**10 24 13.3**	**0.0**
BIDA				⇑*i*S	**Sg**	**10 24 22.8**	**+0.8**
QASN	**Qassioun**	**0.96**	**202**	⇑P	**Pg**	**10 24 18.4**	**-0.5**
QASN				⇑S	**Sg**	**10 24 31.7**	**+0.2**
QASN	**Qassioun**	**0.96**	**202**	⇑*i*P	**Pg**	**10 24 18.4**	**-0.5**
QASN				⇑*i*S	**Sg**	**10 24 31.7**	**+0.2**
BHL	**Bhannes**	**1.02**	**239**	*e*Pg	**Pg**	**10 24 18.6**	**-1.4**
BHL				*e*Sg	**Sg**	**10 24 34.6**	**+1.2**
WRDH	**Warideh**	**1.10**	**347**	⇑P	**Pb**	**10 24 20.9**	**-0.7**
WRDH				⇓S	**Sg**	**10 24 36.2**	**+0.3**
WRDH	**Warideh**	**1.10**	**347**	⇑*i*P	**Pb**	**10 24 20.9**	**-0.7**
WRDH				⇓*i*S	**Sg**	**10 24 36.2**	**+0.2**
RCY	**Rachaya**	**1.20**	**219**	*e*Pg	**Pn**	**10 24 21.2**	**-2.0**
RCY				*e*Sg	**Sg**	**10 24 39.6**	**+0.6**
RCY	**Rachaya**	**1.20**	**219**	*e*Pg	**Pn**	**10 24 21.2**	**-2.0**
RCY				*e*Sg	**Sg**	**10 24 39.6**	**+0.6**
SLNF	**Slenfeh**	**1.23**	**341**	⇑P	**Pn**	**10 24 23.4**	**-0.3**
SLNF				⇑S	**Sb**	**10 24 40.5**	**+0.9**
SLNF	**Slenfeh**	**1.23**	**341**	⇑*i*P	**Pn**	**10 24 23.4**	**-0.2**
SLNF				⇑*i*S	**Sb**	**10 24 40.5**	**+0.9**
SALA	**Sala**	**1.71**	**179**	⇑P	**Pn**	**10 24 31.2**	**+0.9**
SALA				⇑S	**Sn**	**10 24 54.2**	**+2.0**
SALA	**Sala**	**1.71**	**179**	⇑*i*P	**Pn**	**10 24 31.2**	**+0.9**
SALA				⇑*i*S	**Sn**	**10 24 54.2**	**+2.0**

*ISCJB **22** 11:03:30.0±1.7, 379N±0.1×755E±0.1, h10km, Error ellipse: s-maj=15.4km s-min=11.5km az=143.1*
*BJI **22** 11:03:35.7, 3802N×7631E, h12km, ML3.3*

ISC 22 11:03:32.9±1.8, 380N±01×7531E±008, h10km, n9, σ0§65/13, 2C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.62**	**18**	PG	**Pg**	**11 04 02.8**	**-1.1**
KSH				SG	**Sg**	**11 04 25.5**	**+0.6**
KSH				Smax			
	comp=N,620nm,0.4s						
KSH				Smax			
	comp=E,527nm,0.6s						
KZA	**Kyzart**	**4.09**	**359**	P	**Pn**	**11 04 35.7**	**+0.2**
	SNR=18						
UCH	**Uchtor**	**4.29**	**352**	P	**Pn**	**11 04 39.0**	**+0.8**
	SNR=16						
ULHL	**Ulahol**	**4.32**	**9**	P	**Pn**	**11 04 38.3**	**-0.3**
	SNR=11						
AML	**Almayashu**	**4.33**	**344**	P	**Pn**	**11 04 39.8**	**+1.1**
	SNR=12						
TKM2	**Tokmak 2**	**4.94**	**2**	P	**Pn**	**11 04 47.4**	**+0.2**
	SNR=5.5						
TKM2	**Tokmak 2**	**4.94**	**2**	⇓P	**Pn**	**11 04 47.3**	**+0.1**
	comp=E,0.1nm,0.4s						
TKM2				⇑S	**Sn**	**11 05 53.7**	**+9.4**
	comp=E,1.4nm,0.8s						
KK31	**Karatay Array**	**6.29**	**326**	⇓P	**Pn**	**11 05 05.6**	**-0.1**
	comp=E,0.4nm,0.2s,baz=143,slow=11,SNR=31						
KK31				⇑S	**Sn**	**11 06 16.6**	**-0.9**
	comp=E,5.3nm,0.4s,baz=212,slow=37						
WMQ	**Urumqi**	**11.03**	**54**	P	**Pn**	**11 06 10.4**	**-0.4**
WMQ				S	**Sn**	**11 08 14.1**	**-0.1**

NNC 22 11:23:20.0±3.2, 5413N×8689E, h0km, mb3.6, mpv3.2, 7C-3D, Error ellipse: s-maj=25.8km s-min=17.3km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.10**	**239**	⇑Pn	Pn	11 24 51.6	+0.1
	2.8nm,1.5s						
KURK				⇓Sn	Sn	11 26 03.7	+1.8
	1.8nm,1.0s						
KURK				⇑Lg		11 26 36.6	
	9.7nm,1.2s						
MK06	**Makanchi Array**	**7.92**	**203**	⇑Pn	Pn	11 25 15.9	-0.4
	0.3nm,0.1s						
MK06				⇓Sn	Sn	11 26 47.4	+0.8
	1.8nm,0.8s						
MK06				⇑Lg		11 27 28.2	
	4.8nm,0.9s						
VOSK	**Vostochnaya**	**9.60**	**268**	⇑Pn	Pn	11 25 38.7	-0.8
	1.2nm,0.6s						
CHKZ	**Chkalovo**	**9.62**	**274**	⇓Pn	Pn	11 25 41.4	+1.7
CHKZ				⇑Sn	Sn	11 27 28.3	-0.2
	2.6nm,1.1s						
ZRNK	**Zerenda**	**10.71**	**271**	⇑Sn	Sn	11 27 54.1	-1.2
	6.4nm,1.6s						

CASC 22 11:54:02.3±1.5, 1560N×8958W, h5km±9km, MD3.9, 1C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RBDL	**Robledal**	**1.48**	**184**	*e*P	x	11 54 48.6	
RBDL				*e*S	x	11 55 10.0	
TP2	**Tecpan 2**	**1.61**	**240**	*e*P	Pn	11 54 31.1	-0.4
TP2				*e*S	Sn	11 54 54.6	+2.0
IXG	**Ixpaco**	**1.65**	**211**	*e*P	Pn	11 54 31.5	-0.5
IXG				*e*S	Sn	11 54 55.3	+1.7
RTR	**El Retiro**	**1.70**	**182**	*e*P	x	11 54 52.3	
RTR				*e*S	x	11 55 16.2	
SNJE	**San Jose**	**1.72**	**181**	*e*P	x	11 54 52.7	
SBLS	**San Blas**	**1.75**	**181**	⇑*e*P	x	11 54 53.5	
SBLS				*e*S	x	11 55 18.0	
BOQS	**Boqueron**	**1.88**	**171**	*e*P	x	11 54 55.6	
BOQS				*e*S	x	11 55 20.9	
LCBS	**La Ceiba**	**2.02**	**163**	*e*P	x	11 54 57.5	
LCBS				*e*S	x	11 55 24.1	
LFRS	**El Faro**	**2.03**	**166**	*e*P	x	11 54 57.7	
LFRS				*e*S	x	11 55 25.0	
SNVI	**San Vicente**	**2.10**	**160**	*e*P	x	11 54 59.1	
SNVI				*e*S	x	11 55 27.0	

*IDC **22** 12:07:34.6±0.9, 5127N×17924W, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.0/22, mbtmp4.0/14, ML4.3/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/25, Error ellipse: s-maj=27.6km s-min=17.2km az=175.0*
*MOS **22** 12:07:38.3±1.0, 5141N×17930W, h33km, mb4.3/14, Error ellipse: s-maj=25.0km s-min=12.4km az=77.3*
*ISCJB **22** 12:07:40.6±0.9, 514N±0.1×17920W±007, h53km±7km, mb4.0/21, MS3.2/2, Error ellipse: s-maj=17.4km s-min=6.7km az=156.2*
*NEIC **22** 12:07:41.6±0.9, 5118N×17927W, h57km±7km, mb3.9/8, ML3.8(AEIC), Error ellipse: s-maj=15.2km s-min=6.3km az=174.0*

ISC 22 12:07:41.8±0.9, 513N±01×17923W±007, h55km±7km, n64, σ1§15/64, mb4.0/21, MS3.2/2, 1C-1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.93**	**276**	P	**Pn**	**12 07 56.1**	**-2.6**
AMKA				S	**Sn**	**12 08 10.9**	**-0.2**
ATKA	**Atka Island**	**3.26**	**72**	P	**Pn**	**12 08 29.8**	**-0.6**
SMY	**Shemya**	**4.37**	**292**	*e*Pn	**Pn**	**12 08 47.4**	**+1.8**
SMY				*e*Sn	**Sn**	**12 09 46.7**	**+12**
SPIA	**Saint Paul Isl**	**7.90**	**38**	*e*Pn	**Pn**	**12 09 36.1**	**+2.2**
SPIA				*e*Sn	**Sn**	**12 11 00.5**	**-1.4**
AKUT	**Akutan**	**8.65**	**66**	*e*Pn	**Pn**	**12 09 46.0**	**+1.7**
SDPT	**Sand Point**	**11.92**	**63**	*e*Pn	**Pn**	**12 10 26.1**	**-2.8**
SVW2	**Sparrevohn**	**16.32**	**44**	*e*P	**Pn**	**12 11 30.1**	**+2.9**
KDAK	**Kodiak Island**	**16.70**	**57**	Pn	**Pn**	**12 11 29.5**	**-2.4**
	1.2nm,0.3s,baz=259,slow=7.0,SNR=7.5						
KDAK	**Kodiak Island**	**16.70**	**57**	*e*P	**Pn**	**12 11 29.0**	**-2.9**
SLKM	**Skilak Lake**	**18.55**	**49**	*e*P	**Pn**	**12 11 54.6**	**-0.1**
PMR	**Palmer**	**19.38**	**46**	*e*P	**Pn**	**12 12 06.3**	**+1.7**
PMR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PMR	**Palmer**	**19.38**	**46**	*e*P	**Pn**	**12 12 06.3**	**+1.6**
	comp=Z,2.9nm,0.8s						
MCK	**McKinley**	**20.24**	**40**	*e*P	**P**	**12 12 12.4**	**0.0**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MCK	**McKinley**	**20.24**	**40**	*e*P	**P**	**12 12 12.4**	**0.0**
	comp=Z,2.2nm,0.7s						
EYAK	**Cordova Ski Ar**	**20.70**	**50**	*e*P	**P**	**12 12 18.7**	**+1.3**
COLA	**College**	**21.14**	**38**	*e*P	**P**	**12 12 22.2**	**0.0**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.8						
COLA	**College**	**21.14**	**38**	*e*P	**P**	**12 12 22.2**	**+0.1**
	comp=Z,4.4nm,0.9s,mb3.8						
MENT	**Mentasta**	**22.20**	**45**	*e*P	**P**	**12 12 34.4**	**+1.0**
DAWY	**Dawson**	**24.35**	**43**	*e*P	**P**	**12 12 53.4**	**-1.1**
INK	**Inuvik**	**27.68**	**35**	P	**P**	**12 13 23.3**	**-1.3**
	comp=Z,0.6nm,0.4s,mb3.6,baz=263,slow=6.0,SNR=6.7						
INK	**Inuvik**	**27.68**	**35**	*e*P	**P**	**12 13 23.2**	**-1.4**
YKA	**Yellowknife Ar**	**35.48**	**46**	P	**P**	**12 14 32.7**	**-0.3**
	comp=Z,1.1nm,0.3s,mb4.2,baz=286,slow=7.4,SNR=10						
YKA				LR	LR	12 31 09.2	
	comp=Z,30nm,20.3s,MS3.0,baz=90,slow=40						
YKA	**Yellowknife Ar**	**35.48**	**46**	P	**P**	**12 14 32.7**	**-0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA				MLR	MLR		
	comp=Z,30nm,20.3s						
YKA	**Yellowknife Ar**	**35.48**	**46**	P	**P**	**12 14 32.7**	**-0.3**
YKA				LR	LR	12 31 09.2	
NEW	**Newport**	**39.16**	**69**	P	**P**	**12 15 03.6**	**-0.6**
	comp=Z,1.2nm,0.5s,mb3.9,baz=316,slow=7.3,SNR=3.6						
NEW	**Newport**	**39.16**	**69**	P	**P**	**12 15 03.6**	**-0.6**
NEW				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WALA	**Waterton Lakes**	**40.65**	**67**	*e*P	**P**	**12 15 16.1**	**-0.5**
	comp=Z,1.9nm,0.7s,mb3.8						
HLID	**Hailey**	**43.22**	**74**	*e*P	**P**	**12 15 37.5**	**-0.1**
	comp=Z,2.2nm,1.0s,mb3.8						
MCMT	**McKenzie Canyo**	**43.46**	**71**	*e*P	**P**	**12 15 39.2**	**-0.2**
BOZ	**Bozeman (W)**	**43.73**	**70**	*e*P	**P**	**12 15 41.4**	**-0.2**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
BOZ	**Bozeman (W)**	**43.73**	**70**	*e*P	**P**	**12 15 41.4**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.0						
NVAR	**Mina Array Bea**	**43.83**	**82**	P	**P**	**12 15 43.3**	**+0.9**
	comp=Z,0.5nm,0.7s,mb3.3,baz=285,slow=10.0,SNR=3.6						
SONM	**Songino Array**	**46.44**	**296**	P	**P**	**12 16 04.6**	**+1.5**
	comp=Z,0.7nm,0.6s,mb3.8,baz=66,slow=6.6,SNR=6.4						
SONM	**Songino Array**	**46.44**	**296**	P	**P**	**12 16 04.6**	**+1.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**46.59**	**72**	P	**P**	**12 16 04.7**	**+0.4**
	comp=Z,2.0nm,0.5s,mb4.3,baz=324,slow=3.9,SNR=24						
PV01	**Cerro Pan Valley**	**50.01**	**76**	*e*P	**P**	**12 16 31.0**	**+0.4**
ARCES	**ARCESS Array B**	**58.13**	**350**	P	**P**	**12 17 29.5**	**-0.2**
	comp=Z,3.1nm,0.9s,mb4.3,baz=22,slow=8.1,SNR=10						
ARCES	**ARCESS Array B**	**58.13**	**350**	P	**P**	**12 17 29.5**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**58.13**	**350**	P	**P**	**12 17 29.5**	**-0.2**
KURK	**Kurchatov**	**58.88**	**313**	P	**P**	**12 17 33.6**	**-1.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
KURK	**Kurchatov**	**58.88**	**313**	P	**P**	**12 17 33.6**	**-1.4**
	comp=Z,1.4nm,0.6s,mb4.2						
MKAR	**Makanchi Array**	**59.88**	**308**	P	**P**	**12 17 42.0**	**+0.2**
	comp=Z,1.2nm,0.3s,mb4.4,baz=47,slow=6.7,SNR=22						
MKAR	**Makanchi Array**	**59.88**	**308**	P	**P**	**12 17 42.0**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JOF	**Joensuu**	**63.61**	**345**	*e*p	**P**	**12 18 06.0**	**-1.0**
	comp=Z,0.9nm,0.3s,mb4.3						
JOF	**Joensuu**	**63.61**	**345**	*e*P	**P**	**12 18 06.0**	**-1.0**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
KAF	**Kangasniemi**	**65.13**	**347**	*e*p	**P**	**12 18 15.6**	**-1.3**
	comp=Z,1.6nm,0.4s,mb4.4,baz=14,slow=5.8						
KAF	**Kangasniemi**	**65.13**	**347**	*e*P	**P**	**12 18 15.6**	**-1.3**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
FINES	**FINESS Array B**	**65.81**	**347**	P	**P**	**12 18 20.8**	**-0.5**
	comp=Z,0.8nm,0.4s,mb4.2,baz=16,slow=6.7,SNR=26						
FINES				LR	LR	12 52 46.6	
	comp=Z,19nm,19.0s,MS3.3,baz=349,slow=41						
NB2	**NORSAR Subarra**	**67.70**	**355**	P	**P**	**12 18 33.1**	**-0.3**
	comp=Z,0.8nm,0.9s,mb3.8,baz=9.2,slow=6.5						
NOA	**NORSAR Array B**	**67.70**	**355**	P	**P**	**12 18 33.2**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.9,baz=337,slow=4.7,SNR=5.3						
NOA	**NORSAR Array B**	**67.70**	**355**	P	**P**	**12 18 33.2**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**67.70**	**355**	P	**P**	**12 18 33.2**	**-0.2**
AKASG	**Malin Array Be**	**75.55**	**342**	P	**P**	**12 19 20.6**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BURAR	**Bucovina Array**	**79.26**	**343**	⇑*i*P	**P**	**12 19 42.0**	**+0.8**
GERES	**GERESS Array B**	**79.63**	**351**	P	**P**	**12 19 42.9**	**-0.4**
	comp=Z,0.7nm,0.5s,mb3.8,baz=20,slow=4.3,SNR=4.1						
GERES	**GERESS Array B**	**79.63**	**351**	P	**P**	**12 19 42.9**	**-0.3**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MLR	**Muntele Rosu**	**81.17**	**342**	⇓*i*P	**P**	**12 19 54.1**	**+2.6**
BRTR	**Keskin Array B**	**84.91**	**335**	P	**P**	**12 20 11.5**	**+0.7**
	comp=Z,1.0nm,0.6s,mb4.1,baz=50,slow=1.9,SNR=5.2						
BRTR	**Keskin Array B**	**84.91**	**335**	P	**P**	**12 20 11.5**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**85.24**	**222**	P	**P**	**12 20 12.0**	**-0.5**
	comp=Z,0.2nm,0.5s,mb3.5,baz=19,slow=5.6,SNR=4.9						
TSUM	**Tsumeb**	**145.33**	**331**	PKPbc	PKPbc	12 27 13.6	+0.3
	comp=Z,1.6nm,0.6s,baz=14,slow=4.2,SNR=4.4						
MAW	**Mawson**	**146.25**	**218**	PKPbc	PKPbc	12 27 14.4	-1.8
	comp=Z,0.6nm,0.6s,baz=128,slow=12,SNR=3.0						
MAW	**Mawson**	**146.25**	**218**	PKP2	PKPbc	12 27 14.4	-1.8
MAW				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*CSEM **22** 12:19:25.8±1.0, 3737N×2468W, h5km, ML3.2, Error ellipse: s-maj=5.1km s-min=2.4km az=71.0, After PDA*
*PDA **22** 12:19:25.8±1.0, 3737N×2468W, h5km, MD3.1, ML3.2, Error ellipse: s-maj=5.1km s-min=2.4km az=71.0*

SVSA 22 12:19:25.8±1.0, 3737N-2468W, h5km, MD3.1, ML3.2, Error ellipse: s-maj=5.1km s-min=2.4km az=71.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.48**	**221**	*i*P	Pg	12 19 33.9	-1.1
PSMN				*e*S	Sg	12 19 40.2	-1.0
PSMN	**Pico do Norte,**	**0.48**	**221**	*e*S	Sg	12 19 40.2	-1.0
MIRA	**Miradouro**	**0.64**	**311**	*i*P	Pg	12 19 36.2	-1.8
FRA1	**Furnas**	**0.66**	**305**	*e*P	Pg	12 19 36.5	-1.9
PFAD	**Fenais da Ajud**	**0.70**	**313**	*e*P	Pg	12 19 37.1	-2.1
PFAD				*e*S	Sg	12 19 45.6	-2.6
PCNG	**Congro**	**0.70**	**305**	*e*S	Sg	12 19 45.8	-2.5
PCNG							
	8.9nm,0.1s						
VIF	**Vila Franca**	**0.71**	**302**	*e*P	Pg	12 19 37.7	-1.8
VIF				*e*S	Sg	12 19 46.6	-2.2
VIF							
	164nm,0.3s						
VIF	**Vila Franca**	**0.71**	**302**	*e*P	Pg	12 19 37.7	-1.8
VIF				*e*S	Sg	12 19 46.6	-2.2
PRCH	**Ribeira Ch**	**0.73**	**300**	*e*P	Pg	12 19 37.7	-2.2
PRCH				*e*S	Sg	12 19 46.4	-3.0
PRCH							
	479nm,0.2s						
PRCH	**Ribeira Ch**	**0.73**	**300**	*e*P	Pg	12 19 37.7	-2.2
PRCH				*e*S	Sg	12 19 46.4	-3.0
MESC	**Monte Escuro**	**0.74**	**305**	*e*P	Pg	12 19 38.1	-2.0
MESC				*e*S	Sg	12 19 47.2	-2.6
LFA	**Lagoa do Fogo**	**0.76**	**303**	*e*P	Pg	12 19 38.3	-2.1
PMAT	**Coroa da Mata**	**0.77**	**306**	*e*S	Sg	12 19 47.8	-2.9
PMAT							
	137nm,0.2s						
PVER	**Pico Vermelho**	**0.79**	**303**	*e*S	Sg	12 19 48.5	-2.8
PVER							
	214nm,0.3s						
CML	**Cha da Macela**	**0.80**	**301**	*e*P	Pg	12 19 38.9	-2.3
CML				*e*S	Sg	12 19 48.4	-3.1
PDA	**Ponta Delgada**	**0.87**	**296**	*e*P	Pg	12 19 39.2	-3.3
PDA				*e*S	Sg	12 19 49.8	-4.0
FAC	**Faja de Cima**	**0.87**	**298**	*e*P	Pg	12 19 40.1	-2.5
FAC				*e*S	Sg	12 19 50.2	-3.7
PSET	**Sete Cidades**	**0.95**	**299**	*e*P	Pg	12 19 40.5	-3.5
PSET				*e*S	Sg	12 19 51.8	-4.4
PSET							
	385nm,0.2s						
PSET	**Sete Cidades**	**0.95**	**299**	*e*P	Pg	12 19 40.5	-3.5
PSET				*e*S	Sg	12 19 51.8	-4.4
PSAN	**Santo Antonio**	**0.96**	**300**	*e*P	Pg	12 19 41.5	-2.8
PSAN				*e*S	Sg	12 19 52.9	-3.9
PFET	**Feteiras**	**0.99**	**297**	*e*P	Pg	12 19 41.9	-2.9
SET2	**Ginetes**	**1.02**	**298**	*e*P	Pg	12 19 42.2	-3.1
SET4	**Mosteiros**	**1.02**	**300**	*e*P	Pg	12 19 41.8	-3.7
PFAV	**Pico das Favas**	**2.33**	**306**	*e*S	Sn	12 20 26.1	-7.6
PFAV							
	30nm,0.1s						
RIB2	**Ribeirinha**	**2.36**	**304**	*e*S	Sn	12 20 26.7	-7.9
RIB2							
	32nm,0.2s						
PVNV	**Vila Nova**	**2.40**	**306**	*e*S	Sn	12 20 27.6	-8.0
PVNV							
	27nm,0.2s						
PPAD	**Pico dos Padre**	**2.45**	**304**	*e*S	Sn	12 20 28.9	-7.9
PPAD							
	17nm,0.1s						
PBIS	**Biscoitos**	**2.46**	**305**	*e*S	Sn	12 20 28.9	-8.2
PBIS							
	12nm,0.1s						
ASBA	**Santa Barbara**	**2.49**	**304**	*e*S	Sn	12 20 29.8	-7.9
ASBA							
	25nm,0.1s						
PSBA	**Serra de Santa**	**2.52**	**305**	*e*P	Pn	12 20 02.8	-4.5
PSBA				*e*S	Sn	12 20 30.4	-7.9
PSBA							
	118nm,0.4s						
PSBA	**Serra de Santa**	**2.52**	**305**	*e*P	Pn	12 20 02.8	-4.5
PSBA				*e*S	Sn	12 20 30.4	-7.9
PID	**Ribeirinha**	**2.93**	**293**	*e*S	Sn	12 20 40.4	-8.1
PMAN	**Manadas**	**2.98**	**296**	*e*P	Pn	12 20 09.0	-4.7
PMAN				*e*S	Sn	12 20 41.3	-8.4
PMAN							
	23nm,0.2s						
PMAN	**Manadas**	**2.98**	**296**	*e*P	Pn	12 20 09.0	-4.7
PMAN				*e*S	Sn	12 20 41.3	-8.4
PAMA	**Santo Amaro**	**3.06**	**296**	*e*P	Pn	12 20 09.9	-4.9
ROSA	**Rosais**	**3.12**	**297**	*e*P	Pn	12 20 11.2	-4.5
ROSA				*e*S	Sn	12 20 45.2	-8.1
PICO	**Pico**	**3.17**	**292**	*e*P	Pn	12 20 12.2	-4.2
PICO				*e*S	Sn	12 20 46.4	-8.2

NNC 22 12:24:19.7±1.3, 4874N×7730E, h0km, mb3.6, mpv3.2, 13C-6D, Error ellipse: s-maj=11.2km s-min=10.7km az=89.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**2.15**	**23**	⇑P	Pn	12 24 58.8	+1.9
	13nm,0.8s						
KURK				⇑S	Sn	12 25 25.1	+0.9
	16nm,0.4s						
MK09	**Makanchi Array**	**3.89**	**119**	⇓Pn	Pn	12 25 20.7	-0.1
	0.5nm,0.2s						
MK09				⇑Pg	Pg	12 25 28.0	-6.4
	4.4nm,0.5s						
MK09				⇓Lg		12 26 18.0	
	3.7nm,0.3s						
VOSK	**Vostochnaya**	**5.65**	**317**	⇑Pn	Pn	12 25 47.3	+2.3
	0.3nm,0.1s						
VOSK				⇑Sn	Sn	12 26 49.9	-0.7
	1.4nm,0.2s						
VOSK				⇑Lg		12 27 18.3	
	3.9nm,0.6s						
TKM2	**Tokmak 2**	**5.94**	**192**	⇓Lg		12 27 27.5	
	0.5nm,0.7s						
BVA0	**Borovoye Array**	**6.12**	**317**	Sn	Sn	12 27 04.1	+1.9
	0.3nm,0.6s,baz=116,slow=15,SNR=3.9						
BVA0				⇓Lg		12 27 33.1	
	0.7nm,0.6s,baz=126,slow=27,SNR=4.0						
CHKZ	**Chkalovo**	**6.48**	**322**	⇑Pn	Pn	12 25 59.1	+2.7
	1.0nm,0.2s						
CHKZ				⇑Sn	Sn	12 27 08.3	-2.7
	1.3nm,0.2s						
CHKZ				⇑Lg		12 27 43.3	
	3.4nm,0.8s						
ZRNK	**Zerenda**	**6.73**	**312**	⇑Pn	Pn	12 26 02.2	+2.5
	0.7nm,0.4s						
ZRNK				⇓Sn	Sn	12 27 15.7	-1.4
	1.5nm,0.6s						
ZRNK				⇑Lg		12 27 52.1	
	3.0nm,0.5s						
KK31	**Karatay Array**	**7.36**	**223**	⇑Pn	Pn	12 26 11.5	+3.1
	baz=0.0,slow=0.1,SNR=4.3						
KK31				⇓Sn	Sn	12 27 32.2	-0.4
	0.3nm,0.3s						
KK31				⇑Lg		12 28 14.0	
	1.2nm,0.6s						

IDC 22 12:42:48.7±3.2, 979S×10771E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.7/5, Error ellipse: s-maj=141.8km s-min=22.4km az=52.0, South of Jawa

| Code |

BRG					*e*Sg	**Sg**	**12 55 50.4**	**+0.9**
PRU	**Pruhonice**	**1.79**	**212**		*e*PG	**Pg**	**12 55 35.9**	**-1.2**
PRU					*e*SG	**Sg**	**12 56 00.1**	**-0.2**
	16nm,0.5s							
CLL	**Collm**	**1.90**	**265**		*e*Pg	**Pg**	**12 55 38.0**	**-1.2**
CLL					*i* Sg	**Sg**	**12 56 03.8**	**0.0**
	comp=Z,18nm,0.5s							
MORC	**Moravsky Berou**	**1.99**	**150**		*e*Pn	**Pn**	**12 55 37.3**	**-0.4**
MORC					*e*Pg	**Pg**	**12 55 41.7**	**+0.7**
MORC	**Moravsky Berou**	**1.99**	**150**		*e*Pn	**Pn**	**12 55 37.2**	**-0.5**
MORC	**Moravsky Berou**	**1.99**	**150**		*e*Pg	**Pg**	**12 55 41.7**	**+0.7**
MORC					*e*Sg	**Sg**	**12 56 05.6**	**-1.2**
	comp=Z,7.5nm,0.3s							
OKC	**Ostrava-Krasne**	**2.15**	**140**		*e*PG	**Pg**	**12 55 43.3**	**-0.9**
OKC					*e*SG	**Sg**	**12 56 11.6**	**-0.5**
VRAC	**Vranov**	**2.23**	**170**		*e*Pn	**Pn**	**12 55 42.0**	**+0.9**
VRAC					*e*Sg	**Sg**	**12 56 15.6**	**+0.9**
	comp=Z,5.6nm,0.2s							
TREC	**Trest**	**2.24**	**189**		*e*PN	**Pn**	**12 55 42.3**	**+1.1**
TREC					*e*PG	**Pg**	**12 55 45.2**	**-0.7**
KRUC	**Moravsky**	**2.46**	**174**		*e*Pn	**Pn**	**12 55 45.4**	**+1.1**
NKC	**Novy Kostel**	**2.59**	**242**		*e*PN	**Pn**	**12 55 45.8**	**-0.3**
NKC					*e*SG	**Sg**	**12 56 26.4**	**+0.1**
	comp=Z,22nm,0.6s							
NKC	**Novy Kostel**	**2.59**	**242**		*e*Pn	**Pn**	**12 55 45.8**	**-0.3**
NKC					*e*Sg	**Sg**	**12 56 26.1**	**-0.2**
OJC	**Ojcow**	**2.72**	**117**		*e*Pg	**Pg**	**12 55 54.3**	**-0.8**
OJC					*e*Sg	**Sg**	**12 56 30.5**	**+0.1**
KHC	**Kasperske Hory**	**2.85**	**214**		*e*PN	**Pn**	**12 55 50.1**	**+0.6**
KHC					*e*PG	**Pg**	**12 55 56.5**	**-0.9**
KHC					*e*SN	**Sn**	**12 56 24.5**	**0.0**
KHC					*e*SG	**Sg**	**12 56 34.4**	**0.0**
	comp=Z,7.5nm,0.3s							
KHC	**Kasperske Hory**	**2.85**	**214**		*e*Pn	**Pn**	**12 55 49.9**	**+0.4**
JAVC	**Velka Javorina**	**2.86**	**157**		*e*Pn	**Pn**	**12 55 51.4**	**+1.7**
GEC2	**GERESS Array S**	**3.05**	**210**		*e*Pn	**Pn**	**12 55 53.2**	**+0.8**
GEC2					*e*Sg	**Sg**	**12 56 40.1**	**-0.9**
WET	**Wettzell**	**3.10**	**222**		*e*Pn	**Pn**	**12 55 53.3**	**+0.2**
WET					*e*Sg	**Sg**	**12 56 41.1**	**-1.6**
VYHS	**Vyhne**	**3.52**	**148**		*e*PG	**Pg**	**12 56 09.3**	**-1.1**
CONA	**Conrad Observa**	**3.58**	**182**		*i*Pn	**Pn**	**12 55 58.7**	**-1.0**
CONA					⇑*i*Sg	**Sg**	**12 56 56.1**	**-2.0**
	comp=Z,4.0nm,0.3s							
MOA	**Molln**	**3.83**	**198**		⇑*i*Pn	**Pn**	**12 56 03.5**	**+0.4**
MOA					⇑*i*Sg	**Sg**	**12 57 06.8**	**+0.7**
	comp=Z,2.1nm,0.3s							

IDC 22 12:58:12.2±3.4, 975S×10704E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/18, mbtmp3.8/5, MS3.6/3, Ms1 3.6/3, ms1mx2.9/32, Error ellipse: s-maj=147.9km s-min=21.7km az=53.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.86**	**117**	*e*P			Pn	13 02 47.7	+1.4
	4.1nm,0.9s								
FITZ	**Fitzroy Crossi**	**19.86**	**117**	P			Pn	13 02 44.4	-1.9
	0.3nm,0.3s,baz=308,slow=9.7,SNR=12								
ASAR	**Alice Springs**	**29.14**	**122**	P			P	13 04 15.3	+0.4
	0.7nm,0.8s,baz=304,slow=8.8,SNR=4.0								
STKA	**Stephens Creek**	**38.82**	**130**	P			P	13 05 39.4	+0.6
	2.1nm,0.8s,baz=325,slow=12,SNR=4.3								
SONM	**Songino Array**	**57.33**	**359**	P			P	13 08 02.7	+0.7
	0.3nm,0.5s,baz=161,slow=9.2,SNR=3.2								
DZM	**Mont Dzumac**	**58.11**	**110**	LR		LR		13 30 28.5	
	comp=Z,153nm,19.0s,baz=199,slow=33								
MKAR	**Makanchi Array**	**60.47**	**341**	P			P	13 08 23.3	-0.5
	0.7nm,0.5s,baz=138,slow=7.4,SNR=6.9								
BRTR	**Keskin Array B**	**83.68**	**312**	LR		LR		13 54 32.0	
	comp=Z,13nm,18.5s,baz=260,slow=40								
ARCES	**ARCESS Array B**	**96.11**	**340**	LR		LR		14 05 24.6	
	comp=Z,23nm,18.8s,baz=311,slow=42								

IDC 22 13:09:44.4±1.1, 2351S×17732W, h0km, mb3.8/6, mb1 4.1/6, mb1mx4.0/12, mbtmp3.8/6, MS3.3/1, Ms1 3.3/1, ms1mx2.7/22, Error ellipse: s-maj=43.2km s-min=28.7km az=145.0

ISCJB 22 13:09:48.1±0.9, 236S±02×1774W±02, h33km, mb3.7/6, Error ellipse: s-maj=34.5km s-min=23.0km az=110.3

ISC 22 13:09:50.0±0.9, 236S±02×1773W±02, h35km, n10, σ0s73/6, mb3.7/6, 2C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.04**	**273**	LR		LR		13 17 08.4	
	comp=Z,121nm,20.5s,baz=17,slow=30								
ASAR	**Alice Springs**	**44.50**	**260**	P			**P**	**13 17 58.5**	**+0.5**
	0.9nm,0.9s,mb3.6,baz=101,slow=7.8,SNR=5.9								
WRA	**Warramunga Arr**	**44.88**	**265**	P			**P**	**13 18 00.6**	**-0.3**
	1.0nm,0.7s,mb3.7,baz=104,slow=8.2,SNR=5.4								
VNDA	**Vanda**	**54.91**	**185**	P			**P**	**13 19 17.8**	**+0.6**
	0.8nm,0.9s,mb3.8,baz=6.2,slow=10,SNR=3.5								
MAW	**Mawson**	**78.89**	**200**	P			**P**	**13 21 48.7**	**-0.9**
	2.1nm,0.8s,mb4.1,baz=107,slow=5.5,SNR=4.9								
NVAR	**Mina Array Bea**	**82.84**	**43**	P			**P**	**13 22 10.9**	**+0.2**
	0.3nm,0.7s,mb3.4,baz=235,slow=11,SNR=3.9								
PDAR	**Pinedale Array**	**90.78**	**43**	P			**P**	**13 22 49.4**	**-0.1**
	0.5nm,0.8s,mb3.9,baz=224,slow=2.5,SNR=4.8								
CLL	**Collm**	**151.20**	**346**	⇑P			PKPbc	13 29 39.2	-0.3
	logA/T=1.0								
CLL	**Collm**	**151.20**	**346**	⇑*i*PKP			PKPbc	13 29 39.2	-0.3
	comp=Z,9.0nm,1.0s								
BRG	**Berggiesshubel**	**151.39**	**345**	*e*P			PKPbc	13 29 39.8	-0.2
	comp=Z,3.8nm,1.2s								
BRG				*e*				13 29 44.6	
	comp=Z,2.0nm,0.7s								
BRG				*e*				13 29 50.7	
	comp=Z,1.1nm,0.8s								

SZGRF 22 13:12:49.1, 2002N×9466E, h33km, mb4.9, Myanmar
BJI 22 13:12:55.3, 2061N×9441E, h92km, mB4.7, mb4.5
MOS 22 13:12:57.6±0.7, 2111N×9458E, h80km, mb4.6/50, Error ellipse: s-maj=15.3km s-min=4.5km az=127.0
ISCJB 22 13:12:59.0±0.2, 2107N±004×9457E±003, h93km, mb4.5/74, Error ellipse: s-maj=5.6km s-min=4.1km az=44.0
NEIC 22 13:13:00.6±0.2, 2107N×9450E, mb4.6/43, Error ellipse: s-maj=7.8km s-min=3.3km az=222.0
IDC 22 13:13:00.9±0.7, 2108N×9453E, h93km, 5km, mb4.0/19, mb1 4.0/20, mb1mx4.0/23, mbtmp4.3/20, MS3.4/4, Ms1 3.4/4, ms1mx2.9/33, Error ellipse: s-maj=16.2km s-min=9.6km az=51.0

ISC 22 13:13:01.2±0.2, 2109N±004×9455E±004, h95km, h95km±2.1km: pP-P, n245, σ0s97/254, mb4.5/74, 8C-5D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHG	**Chiang Mai**	**4.71**	**118**	⇓P			**Pn**	**13 14 08.0**	**-1.9**
	150nm,0.8s								
CHTO	**Chiang Mai**	**4.71**	**118**	⇑P			**Pn**	**13 14 08.8**	**-1.2**
	SNR=13								
CHTO	**Chiang Mai**	**4.71**	**118**	*e*Pn			**Pn**	**13 14 08.3**	**-1.7**
CM31	**Chiang Mai Arr**	**4.89**	**122**	*e*Pn			**Pn**	**13 14 10.9**	**-1.5**
NST	**Nakhon Sawan**	**7.55**	**135**	P			**Pn**	**13 14 46.0**	**-2.6**
	68nm,0.4s								
KMI	**Kunming**	**8.54**	**60**	P			**Pn**	**13 15 05.6**	**+3.6**
KMI				XP				13 15 27.6	
KMI				S			**Sn**	**13 16 38.1**	**+1.5**
KMI				AMB		AMB			
	comp=Z,298nm,3.1s								
KMI				LR		LR			
	comp=N,439nm,5.1s								
KMI				LR		LR			
	comp=E,188nm,5.8s								
KMI				LR		LR			
	comp=Z,149nm,11.2s								
JIRN	**Jiri**	**10.04**	**312**	*e*Pn			**Pn**	**13 15 21.0**	**-1.4**
JIRN				*e*Sn			**Sn**	**13 17 07.4**	**-5.8**
	comp=Z,266nm,0.5s								
GUN	**Gumba**	**10.41**	**312**	*e*Pn			**Pn**	**13 15 26.1**	**-1.4**
GUN				*e*Sn			**Sn**	**13 17 15.8**	**-6.4**
	comp=Z,216nm,0.5s								
PKI	**Pulchoki**	**10.54**	**310**	*e*Pn			**Pn**	**13 15 27.2**	**-2.0**
PKI				*e*Sn			**Sn**	**13 17 18.8**	**-6.5**
	comp=Z,192nm,0.6s								
KKN	**Kakani**	**10.76**	**310**	*e*Pn			**Pn**	**13 15 30.1**	**-2.1**
KKN				*e*Sn			**Sn**	**13 17 24.4**	**-6.3**
	comp=Z,124nm,0.5s								
DMN	**Daman**	**10.78**	**309**	*e*Pn			**Pn**	**13 15 30.5**	**-2.0**
DMN				*e*Sn			**Sn**	**13 17 23.9**	**-7.3**
	comp=Z,301nm,0.8s								
GKN	**Gorkha**	**11.35**	**309**	*e*Pn			**Pn**	**13 15 37.8**	**-2.4**
GKN				*e*Sn			**Sn**	**13 17 37.0**	**-7.9**
	comp=Z,142nm,0.4s								
KOLN	**Koldanda**	**11.99**	**306**	*e*Pn			**Pn**	**13 15 46.3**	**-2.5**
KOLN				*e*Sn			**Sn**	**13 17 51.1**	**-9.4**
	comp=Z,209nm,0.4s								
GYA	**Guiyang**	**12.31**	**62**	P			**Pn**	**13 15 53.3**	**+0.2**
GYA				AMB		AMB			
	comp=Z,10.0nm,0.9s								
GYA				AMB		AMB			
	comp=Z,50nm,5.3s								
CD2	**Chengdu**	**12.81**	**38**	*e*P			**Pn**	**13 15 56.5**	**-3.2**
CD2				PP				13 16 09.5	
CD2				S			**Sn**	**13 18 16.9**	**-3.5**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.6s								
CD2				LR		LR			
	comp=E,100nm,9.6s								
CD2				LR		LR			
	comp=Z,90nm,8.4s								
QIZ	**Qiongzhong**	**14.51**	**95**	Pn			**Pn**	**13 16 26.3**	**+4.4**
	comp=Z,23nm,1.3s								
HYB	**Hyderabad**	**15.54**	**259**	*i* P			**Pn**	**13 16 35.0**	**+0.1**
HYB				*e*S			**S**	**13 19 24.0**	**-12**
HYB	**Hyderabad**	**15.54**	**259**	*e*P			**Pn**	**13 16 38.5**	**+3.6**
HYB				*e*S			**S**	**13 19 18.0**	**-18**
LZH	**Lanzhou**	**17.01**	**27**	*e*P			**Pn**	**13 16 53.5**	**+0.4**
LZH				AP			pP	13 17 12.0	+0.6
LZH				XP			sP	13 17 19.5	-3.8
LZH				AMB		AMB			
	comp=Z,20nm,1.0s								
XAN	**Xi'an**	**18.10**	**42**	P			**Pn**	**13 17 06.8**	**+0.4**
XAN				AMB		AMB			
	comp=Z,12nm,1.0s								
PSI	**Prapat**	**18.67**	**166**	P			**Pn**	**13 17 13.3**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=342,slow=16,SNR=3.4								
PSI				LR		LR		13 25 12.5	
	comp=Z,122nm,18.8s,baz=192,slow=39								
PSI	**Prapat**	**18.67**	**166**	P			**Pn**	**13 17 13.3**	**+0.1**
PSI				LR		LR		13 25 12.5	
GTA	**Gaotai**	**18.81**	**13**	⇑P			**Pn**	**13 17 13.8**	**-1.0**
GTA				XP			sP	13 17 50.8	+7.6
GTA				AMB		AMB			
	comp=Z,6.0nm,0.6s								
WHN	**Wuhan**	**20.13**	**58**	P			**P**	**13 17 28.5**	**+0.9**
WMQ	**Urumqi**	**23.38**	**347**	P			**P**	**13 18 01.3**	**-0.1**
WMQ				AP				13 18 22.3	
WMQ				XP			sP	13 18 34.1	+1.5
WMQ				PP				13 18 37.4	
WMQ				AMB		AMB			
	comp=Z,13nm,1.0s,mb4.2								
WMQ				AMB		AMB			
	comp=Z,123nm,3.9s								
WMQ				LR		LR			
	comp=N,398nm,12.3s								
WMQ				LR		LR			
	comp=E,298nm,11.2s								
WMQ				LR		LR			
	comp=Z,419nm,12.8s								
HHC	**Hu-ho-hao-te**	**24.43**	**32**	*e*P			**P**	**13 18 08.3**	**-2.6**
HHC				AP				13 18 29.8	
HHC				sP				13 18 41.4	-1.6
HHC				PP				13 18 47.8	
HHC				PcP		PcP		13 21 47.8	+0.3
HHC				S		S		**13 22 15.8**	**-8.2**
HHC				PCS		PcS		13 25 23.8	-3.7
HHC				SCS		ScS		13 29 02.5	-2.8
HHC				AMB		AMB			
	comp=Z,14nm,0.4s,mb4.6								
HHC				AMB		AMB			
	comp=Z,68nm,4.5s								
HHC				LR		LR			
	comp=N,124nm,6.1s								
HHC				LR		LR			
	comp=E,121nm,5.9s								
HHC				LR		LR			
	comp=Z,67nm,4.7s								
ULHL	**Ulahol**	**26.12**	**328**	P			**P**	**13 18 28.3**	**+2.0**
	SNR=13								
KZA	**Kyzart**	**26.50**	**327**	P			**P**	**13 18 31.8**	**+2.1**
	SNR=6.3								
TKM2	**Tokmak 2**	**26.94**	**328**	P			**P**	**13 18 35.4**	**+1.8**
	SNR=11								
UCH	**Uchtor**	**26.99**	**326**	P			**P**	**13 18 36.1**	**+2.1**
	SNR=10.0								
KBK	**Karagaybulak**	**27.07**	**327**	P			**P**	**13 18 36.9**	**+2.1**
	SNR=8.5								
AAK	**Ala-Archa**	**27.29**	**326**	P			**P**	**13 18 39.1**	**+2.4**
	SNR=8.8								
AAK	**Ala-Archa**	**27.29**	**326**	⇓P			**P**	**13 18 38.1**	**+1.4**
	SNR=13								
AAK	**Ala-Archa**	**27.29**	**326**	*e*P			**P**	**13 18 37.7**	**+1.0**
AAK				*e**PP			pP	13 18 59.1	+1.2
AAK				pmax		pmax			
	comp=Z,30nm,1.2s,mb4.7								
AAK	**Ala-Archa**	**27.29**	**326**	*e*P			**P**	**13 18 37.6**	**+0.9**
	comp=Z,30nm,1.2s,mb4.7								
AAK				*e*pP			pP	13 18 59.1	+1.2
AML	**Almayashu**	**27.35**	**325**	P			**P**	**13 18 39.7**	**+2.3**
	SNR=9.8								
MK31	**Makanchi Array**	**27.52**	**342**	P			**P**	**13 18 39.0**	**+0.2**
MK31				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.0								
MKAR	**Makanchi Array**	**27.52**	**342**	P			**P**	**13 18 39.5**	**+0.7**
	comp=Z,5.1nm,0.6s,mb4.2,baz=152,slow=8.2,SNR=44								
MKAR				ScP		ScP		13 25 27.4	+0.9
	comp=Z,1.0nm,0.6s,baz=101,slow=6.3,SNR=6.6								
MKAR	**Makanchi Array**	**27.52**	**342**	*i* P			**P**	**13 18 39.5**	**+0.7**
MKAR				pmax		pmax			
	comp=Z,5.0nm,0.6s								
MKAR	**Makanchi Array**	**27.52**	**342**	P			**P**	**13 18 39.5**	**+0.7**
MKAR				ScP		ScP		13 25 27.4	+0.9
EKS2	**Erkin-Say**	**27.68**	**326**	P			**P**	**13 18 42.9**	**+2.6**
	SNR=12								
SONM	**Songino Array**	**28.34**	**17**	P			**P**	**13 18 46.2**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=194,slow=11,SNR=3.9								
SONM				ScP		ScP		13 25 29.7	+0.6
	comp=Z,1.1nm,0.5s,baz=186,slow=2.7,SNR=9.2								
KK31	**Karatay Array**	**29.75**	**323**	*i* P			**P**	**13 18 59.3**	**+0.7**
KK31				pmax		pmax			
	comp=Z,1.0nm,0.3s,mb3.9								
KKAR	**Karatay Array**	**29.75**	**323**	P			**P**	**13 18 59.3**	**+0.7**
JOW	**Kunigami**	**31.28**	**73**	P			**P**	**13 19 13.2**	**+1.1**
	comp=Z,2.5nm,0.3s,mb4.5,baz=126,slow=22,SNR=6.3								
KURK	**Kurchatov**	**32.12**	**341**	⇓P			**P**	**13 19 20.0**	**+0.5**
	SNR=5.8								
KURK	**Kurchatov**	**32.12**	**341**	⇓*e*P			**P**	**13 19 18.8**	**-0.6**
KURK				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.4								
KURK	**Kurchatov**	**32.12**	**341**	*e*P			**P**	**13 19 19.5**	**0.0**
	comp=Z,18nm,0.8s,mb4.8								
KURK				*e*pP			pP	13 19 40.0	-0.9
ZAL	**Zalesovo**	**33.63**	**350**	P			**P**	**13 19 33.0**	**+0.4**
	comp=Z,8.8nm,0.6s,mb4.8,baz=306,slow=6.8,SNR=27								
NVS	**Novosibirsk**	**34.77**	**349**	*i* P			**P**	**13 19 42.4**	**-0.1**
VOSK	**Vostochnaya**	**36.44**	**336**	P			**P**	**13 19 56.4**	**-0.3**
VOSK				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
BVA0	**Borovoye Array**	**36.90**	**336**	P			**P**	**13 19 59.6**	**-1.0**
BVAR	**Borovoye Array**	**36.90**	**336**	P			**P**	**13 19 59.3**	**-1.4**
	comp=Z,0.9nm,0.3s,mb4.1,baz=106,slow=9.2,SNR=6.3								
BVAR				pP		pP		13 20 23.0	+0.5
	comp=Z,3.4nm,0.6s,baz=133,slow=10,SNR=8.9								
BVAR				PcP		PcP		13 22 20.5	+0.2
	comp=Z,2.8nm,0.7s,baz=153,slow=5.4,SNR=5.7								
BVAR				ScP		ScP		13 25 58.5	0.0
	comp=Z,1.2nm,0.7s,baz=129,slow=4.0,SNR=4.5								
BVAR	**Borovoye Array**	**36.90**	**336**	P			**P**	**13 19 59.3**	**-1.3**
BVAR				*PP		pP		13 20 23.0	+0.6
BVAR								13 22 20.5	
CHKZ	**Chkalovo**	**37.32**	**337**	*e*P			**P**	**13 20 03.9**	**-0.3**
CHKZ				*e**PP		pP		13 20 25.1	-0.9
CHKZ				pmax		pmax			
	comp=Z,20nm,0.8s,mb5.1								
CHKZ	**Chkalovo**	**37.32**	**337**	*e*P			**P**	**13 20 03.9**	**-0.3**
	comp=Z,20nm,0.8s,mb5.1								
CHKZ				*e*pP			pP	13 20 25.1	-0.9
ZRNK	**Zerenda**	**37.38**	**335**	*e*P			**P**	**13 20 04.6**	**-0.2**
ZRNK				*e**PP			pP	13 20 25.5	-1.1
ZRNK				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.6								
ZRNK	**Zerenda**	**37.38**	**335**	*e*P			**P**	**13 20 04.6**	**-0.2**
	comp=Z,6.0nm,0.8s,mb4.6								
ZRNK				*e*pP			pP	13 20 25.5	-1.1
AB31	**Akbulak array**	**39.30**	**324**	P			**P**	**13 20 21.8**	**+0.9**
AB31				pmax		pmax			
	comp=Z,14nm,0.7s,mb4.9								
MJAR	**Matsushiro Arr**	**40.87**	**58**	P			**P**	**13 20 33.1**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=274,slow=11,SNR=4.1								
MJAR				ScP		ScP		13 26 13.4	-0.4
	comp=Z,3.0nm,1.0s,baz=252,slow=5.0,SNR=6.4								
AKTO	**Aktyubinsk**	**40.99**	**325**	*i* P			**P**	**13 20 35.0**	**+0.2**
AKTO				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.2								
QRN	**Al-Qurain**	**42.76**	**290**	*e*P			**P**	**13 20 49.9**	**+0.7**
QRN				AMb		AMB		13 20 51.0	
	comp=Z,87nm,0.6s,mb5.7								
UMR	**Umm Al-Rimmam**	**42.93**	**291**	*e*P			**P**	**13 20 51.5**	**+0.9**
UMR				AMb		AMB		13 20 52.5	
	comp=Z,83nm,0.6s								
KBD	**Kabd**	**42.95**	**291**	*e*P			**P**	**13 20 51.8**	**+1.0**
KBD				AMb		AMB		13 20 52.9	
	comp=Z,159nm,0.7s								
RDF	**Al-Radifah**	**43.08**	**290**	*e*P			**P**	**13 20 52.8**	**+1.0**
RDF				AMb		AMB		13 20 53.9	
	comp=Z,116nm,0.7s								
MIB	**Mutribah**	**43.26**	**291**	*e*P			**P**	**13 20 54.5**	**+1.3**
MIB				AMb		AMB		13 20 55.5	
	comp=Z,148nm,0.7s								
NAY	**Al-Naaiem**	**43.35**	**291**	*e*P			**P**	**13 20 54.9**	**+1.0**
NAY				AMb		AMB		13 20 56.1	
	comp=Z,71nm,0.6s								
ARU	**Arti**	**44.18**	**332**	*e*P			**P**	**13 20 59.9**	**-0.7**
ARU				pmax		pmax			
	comp=Z,15nm,1.3s,mb4.6								
ARU	**Arti**	**44.18**	**332**	*e*P			**P**	**13 20 56.8**	**-3.8**
	comp=Z,12nm,0.4s,mb5.0								
GNI	**Garni**	**46.24**	**306**	*e*P			**P**	**13 21 18.9**	**+2.0**
GNI				pmax		pmax			
	comp=Z,9.0nm,1.0s								
ZEI	**Tsey**	**47.31**	**309**	*e*P			**P**	**13 21 27.3**	**+2.0**
ZEI				pmax		pmax			
	comp=Z,36nm,0.9s,mb5.1								
FITZ	**Fitzroy Crossi**	**49.45**	**140**	P			**P**	**13 21 41.1**	**-0.5**
	comp=Z,2.5nm,0.9s,mb4.2,baz=356,slow=14,SNR=6.1								
MALT	**Malatya**	**50.93**	**303**	⇑*i*P			**P**	**13 21 55.2**	**+2.4**
MALT	**Malatya**	**50.93**	**303**	*e*P			**P**	**13 21 53.0**	**+0.2**
MALT				pmax		pmax			
	comp=Z,3.0nm,0.5s,mb4.6								
MALT	**Malatya**	**50.93**	**303**	*e*P			**P**	**13 21 53.0**	**+0.2**
	comp=Z,2.7nm,0.5s,mb4.5								
EIL	**Elat**	**54.03**	**292**	*e*P			**P**	**13 22 16.6**	**+0.9**
	comp=Z,203nm,0.6s								
BR131	**Keskin Array S**	**54.70**	**304**	*e*P			**P**	**13 22 21.3**	**+0.7**
	comp=Z,2.4nm,0.8s,mb4.3,baz=111,slow=6.8,SNR=10.0								
BRTR	**Keskin Array B**	**54.70**	**304**	P			**P**	**13 22 21.1**	**+0.6**
	comp=Z,2.4nm,0.8s,mb4.3,baz=111,slow=6.8,SNR=10.0								
OBN	**Obninsk**	**54.74**	**323**	⇑*e*P			**P**	**13 22 20.1**	**-0.8**
OBN				*e**PP		pP		13 22 43.7	-0.3
OBN				*e*				13 24 23.6	
OBN				*e*S			**S**	**13 30 00.8**	**+6.6**
OBN				pmax		pmax			
	comp=Z,7.0nm,0.5s,mb5.0								
OBN	**Obninsk**	**54.74**	**323**	P			**P**	**13 22 20.0**	**-0.9**
KLMR	**Klimovskoe**	**54.98**	**331**	*e*P			**P**	**13 22 20.2**	**-2.4**
KLMR				pmax		pmax			
	comp=Z,20nm,1.6s,mb4.9								
WRA	**Warramunga Arr**	**56.37**	**134**	P			**P**	**13 22 32.8**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=318,slow=7.5,SNR=23								
WRAB	**Tennant Creek**	**56.37**	**134**	P			**P**	**13 22 32.5**	**0.0**
WRAB				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.6								
WRAB	**Tennant Creek**	**56.37**	**134**	P			**P**	**13 22 32.5**	**-0.1**
	comp=Z,5.2nm,0.8s,mb4.6								
WB2	**Warramunga Arr**	**56.38**	**134**	*e*P			**P**	**13 22 32.2**	**-0.4**
AKASG	**Malin Array Be**	**58.40**	**317**	P			**P**	**13 22 45.4**	**-1.4**
	comp=Z,4.7nm,0.4s,mb4.8,baz=82,slow=6.4,SNR=20								
AKBB	**Malin Array Si**	**58.40**	**317**	*e*P			**P**	**13 22 45.6**	**-1.2**
ASPA	**Alice Springs**	**58.71**	**137**	*e*P			**P**	**13 22 49.1**	**+0.1**
AS31	**Alice Springs**	**58.71**	**137**	*e*P			**P**	**13 22 49.1**	**+0.1**
ASAR	**Alice Springs**	**58.71**	**137**	P			**P**	**13 22 49.0**	**+0.1**
	comp=Z,1.0nm,0.6s,mb4.0,baz=316,slow=6.8,SNR=30								
JOF	**Joensuu**	**59.30**	**332**	*e*p			**P**	**13 22 52.0**	**-1.1**
	comp=Z,4.4nm,0.5s,mb4.7								
JOF	**Joensuu**	**59.30**	**332**	*e*P			**P**	**13 22 52.0**	**-1.1**
JOF				pmax		pmax			
	comp=Z,4.0nm,0.5s,mb4.7								

NKC	**Novy Kostel**	**69.11 317**	*eP*	**P**	**13 23 57.0**	**-0.1**		
STKA	**Stephens Creek**	**69.30 138**	P	**P**	**13 23 58.6**	**+0.3**		
	comp=Z,1.0nm,0.3s,mb4.1,baz=297,slow=6.8,SNR=3.1							
STKA	**Stephens Creek**	**69.30 138**	P	**P**	**13 23 58.7**	**+0.4**		
ROTZ	**Rotzenmuhle**	**69.33 317**	*eP*	**P**	**13 23 59.2**	**+0.7**		
MANZ	**Manzenberg**	**69.36 317**	*eP*	**P**	**13 23 59.6**	**+0.9**		
MOX	**Moxa**	**69.58 318**	*eP*	**P**	**13 24 00.4**	**+0.4**		
	comp=Z,8.0nm,1.1s,mb4.5							
MOX	**Moxa**	**69.58 318**	*eP*	**P**	**13 23 59.6**	**-0.4**		
	comp=Z,9.0nm,1.1s,mb4.5							
MOX	**Moxa**	**69.58 318**	*eP*	**P**	**13 23 59.6**	**-0.4**		
MOX			pmax	pmax				
	comp=Z,9.0nm,1.1s,mb4.5							
BSEG	**Bad Segeberg**	**69.88 321**	*eP*	**P**	**13 24 02.2**	**+0.3**		
	comp=Z,11nm,0.9s,mb4.7							
BSEG	**Bad Segeberg**	**69.88 321**	*eP*	**P**	**13 24 02.2**	**+0.3**		
BSEG			pmax	pmax				
	comp=Z,11nm,0.9s,mb4.7							
GRA1	**Grafenberg Arr**	**69.97 317**	*eP*	**P**	**13 24 02.8**	**+0.4**		
	comp=Z,24nm,1.4s,mb4.8							
GRF	**Grafenberg Arr**	**69.97 317**	*eP*	**P**	**13 24 02.8**	**+0.4**		
	comp=Z,24nm,1.4s,mb4.8							
GRF	**Grafenberg Arr**	**69.97 317**	*eP*	**P**	**13 24 02.8**	**+0.4**		
GRF			pmax	pmax				
	comp=Z,24nm,1.4s,mb4.8							
GRF	**Grafenberg Arr**	**69.97 317**	*eP*	**P**	**13 24 02.8**	**+0.4**		
GRF			pmax	pmax				
	comp=Z,24nm,1.4s,mb4.8							
CLZ	**Clausthal**	**70.17 319**	*eP*	**P**	**13 24 03.9**	**+0.3**		
	comp=Z,17nm,1.4s,mb4.7							
CLZ	**Clausthal**	**70.17 319**	*eP*	**P**	**13 24 03.9**	**+0.3**		
CLZ			pmax	pmax				
	comp=Z,17nm,1.4s,mb4.7							
HNR	**Honiara**	**71.01 108**	P	**P**	**13 24 09.8**	**+1.0**		
	comp=Z,48nm,0.4s,baz=286,slow=23,SNR=13							
HNR	**Honiara**	**71.01 108**	P	**P**	**13 24 10.1**	**+1.4**		
HNR			pmax	pmax				
	comp=Z,35nm,0.7s,mb5.3							
HNR	**Honiara**	**71.01 108**	P	**P**	**13 24 10.1**	**+1.3**		
	comp=Z,35nm,0.7s,mb5.3							
STU	**Stuttgart**	**71.44 316**	*eP*	**P**	**13 24 12.0**	**+0.7**		
TNS	**Taunus Mts**	**71.65 318**	*eP*	**P**	**13 24 13.1**	**+0.5**		
	comp=Z,10.0nm,1.0s,mb4.6							
TNS	**Taunus Mts**	**71.65 318**	*eP*	**P**	**13 24 13.1**	**+0.5**		
TNS			pmax	pmax				
	comp=Z,10.0nm,1.0s,mb4.6							
IBBN	**Ibbenburen**	**71.68 320**	*eP*	**P**	**13 24 13.1**	**+0.4**		
BFO	**Black Forest**	**72.09 316**	*eP*	**P**	**13 24 14.9**	**-0.3**		
	comp=Z,4.0nm,0.9s,mb4.2							
BFO	**Black Forest**	**72.09 316**	*eP*	**P**	**13 24 14.9**	**-0.3**		
BFO			pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.2							
BUG	**Bochum--Univer**	**72.14 319**	*eP*	**P**	**13 24 15.9**	**+0.4**		
	comp=Z,12nm,1.1s,mb4.6							
CDF	**Champ du Feu**	**72.76 316**	*eP*	**P**	**13 24 18.9**	**-0.3**		
	comp=Z,12nm,0.7s,mb4.5							
CDF	**Champ du Feu**	**72.76 316**	*eP*	**P**	**13 24 18.9**	**-0.3**		
CDF			pmax	pmax				
	comp=Z,6.0nm,0.7s,mb4.5							
CDF	**Champ du Feu**	**72.76 316**	*eP*	**P**	**13 24 18.9**	**-0.3**		
	comp=Z,5.8nm,0.7s,mb4.5							
PGF	**Pioggiola**	**72.87 310**	*eP*	**P**	**13 24 19.2**	**-0.7**		
	comp=Z,30nm,1.1s,mb4.7							
PGF	**Pioggiola**	**72.87 310**	*eP*	**P**	**13 24 19.2**	**-0.7**		
PGF			pmax	pmax				
	comp=Z,15nm,1.1s,mb4.7							
PGF	**Pioggiola**	**72.87 310**	*eP*	**P**	**13 24 19.2**	**-0.7**		
	comp=Z,15nm,1.1s,mb4.7							
WLF	**Walferdange**	**73.21 317**	*eP*	**P**	**13 24 22.7**	**+0.8**		
WLF	**Walferdange**	**73.21 317**	P	**P**	**13 24 23.1**	**+1.3**		
HAU	**Haudompre**	**73.46 316**	*eP*	**P**	**13 24 23.0**	**-0.3**		
LPG	**La Plagne**	**73.77 313**	*eP*	**P**	**13 24 25.5**	**+0.4**		
	comp=Z,13nm,0.8s,mb4.4							
LPG	**La Plagne**	**73.77 313**	*eP*	**P**	**13 24 25.5**	**+0.4**		
LPG			pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.4							
LPG	**La Plagne**	**73.77 313**	*eP*	**P**	**13 24 25.5**	**+0.4**		
	comp=Z,6.3nm,0.8s,mb4.4							
LPL	**La Plagne**	**73.78 313**	*eP*	**P**	**13 24 25.6**	**+0.4**		
	comp=Z,14nm,0.6s,mb4.6							
LPL	**La Plagne**	**73.78 313**	*eP*	**P**	**13 24 25.6**	**+0.4**		
LPL			pmax	pmax				
	comp=Z,7.0nm,0.6s,mb4.6							
LPL	**La Plagne**	**73.78 313**	*eP*	**P**	**13 24 25.6**	**+0.4**		
	comp=Z,7.0nm,0.6s,mb4.6							
BNI	**Bardonecchia**	**73.93 313**	*eP*	**P**	**13 24 25.7**	**-0.4**		
MBDF	**Montbardon**	**73.94 312**	*eP*	**P**	**13 24 25.7**	**-0.4**		
CABF	**La Chapelle**	**73.96 314**	*eP*	**P**	**13 24 26.3**	**+0.1**		
	comp=Z,22nm,0.9s,mb4.6							
CABF	**La Chapelle**	**73.96 314**	*eP*	**P**	**13 24 26.3**	**+0.1**		
CABF			pmax	pmax				
	comp=Z,11nm,0.9s,mb4.6							
CABF	**La Chapelle**	**73.96 314**	*eP*	**P**	**13 24 26.3**	**+0.1**		
	comp=Z,11nm,0.9s,mb4.6							
DOU	**Dourbes**	**74.09 318**	P	**P**	**13 24 27.1**	**+0.1**		
MEZF	**Maizieres J'vi**	**74.19 316**	*eP*	**P**	**13 24 27.4**	**-0.2**		
FRF	**La Foret Royal**	**74.31 311**	*eP*	**P**	**13 24 28.2**	**-0.1**		
	comp=Z,11nm,0.7s,mb4.4							
FRF	**La Foret Royal**	**74.31 311**	*eP*	**P**	**13 24 28.2**	**-0.1**		
FRF			pmax	pmax				
	comp=Z,6.0nm,0.7s,mb4.4							
FRF	**La Foret Royal**	**74.31 311**	*eP*	**P**	**13 24 28.2**	**-0.1**		
	comp=Z,5.7nm,0.7s,mb4.4							
BAIF	**Baives**	**74.34 318**	*eP*	**P**	**13 24 28.6**	**+0.1**		
	comp=Z,15nm,0.9s,mb4.4							
BAIF	**Baives**	**74.34 318**	*eP*	**P**	**13 24 28.6**	**+0.1**		
BAIF			pmax	pmax				
	comp=Z,7.0nm,0.9s,mb4.4							
BAIF	**Baives**	**74.34 318**	*eP*	**P**	**13 24 28.6**	**+0.1**		
	comp=Z,7.3nm,0.9s,mb4.4							
LMR	**La Mourre**	**74.46 311**	*eP*	**P**	**13 24 29.2**	**0.0**		
	comp=Z,36nm,1.0s,mb4.7							
LMR	**La Mourre**	**74.46 311**	*eP*	**P**	**13 24 29.2**	**0.0**		
LMR			pmax	pmax				
	comp=Z,18nm,1.0s,mb4.8							
LMR	**La Mourre**	**74.46 311**	*eP*	**P**	**13 24 29.2**	**0.0**		
	comp=Z,18nm,1.0s,mb4.8							
ORIF	**Oris-en-Rattie**	**74.51 313**	*eP*	**P**	**13 24 29.2**	**-0.2**		
SMRF	**Simiane la Rot**	**74.96 312**	*eP*	**P**	**13 24 31.9**	**-0.1**		
LOR	**Lormes**	**75.27 315**	*eP*	**P**	**13 24 33.4**	**-0.4**		
	comp=Z,5.6nm,0.7s,mb4.1							
LOR	**Lormes**	**75.27 315**	*eP*	**P**	**13 24 33.4**	**-0.4**		
LOR			pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.1							
LOR	**Lormes**	**75.27 315**	*eP*	**P**	**13 24 33.4**	**-0.4**		
	comp=Z,2.8nm,0.7s,mb4.1							
VIVF	**Saint-Julien-l**	**75.36 313**	*eP*	**P**	**13 24 34.1**	**-0.2**		
SMF	**Signal de Mont**	**75.45 315**	*eP*	**P**	**13 24 34.5**	**-0.3**		
	comp=Z,19nm,0.6s,mb4.7							
SMF	**Signal de Mont**	**75.45 315**	*eP*	**P**	**13 24 34.5**	**-0.3**		
SMF			pmax	pmax				
	comp=Z,10.0nm,0.6s,mb4.7							
SMF	**Signal de Mont**	**75.45 315**	*eP*	**P**	**13 24 34.5**	**-0.3**		
	comp=Z,9.6nm,0.6s,mb4.7							
SSF	**Saint Saulge**	**75.56 315**	*eP*	**P**	**13 24 35.3**	**-0.2**		
	comp=Z,20nm,0.8s,mb4.6							
SSF	**Saint Saulge**	**75.56 315**	*eP*	**P**	**13 24 35.3**	**-0.2**		
SSF			pmax	pmax				
	comp=Z,10.0nm,0.8s,mb4.6							
SSF	**Saint Saulge**	**75.56 315**	*eP*	**P**	**13 24 35.3**	**-0.2**		
	comp=Z,10nm,0.8s,mb4.6							
AVF	**Avril sur Loir**	**75.73 315**	*eP*	**P**	**13 24 36.1**	**-0.4**		
	comp=Z,13nm,0.6s,mb4.5							
AVF	**Avril sur Loir**	**75.73 315**	*eP*	**P**	**13 24 36.1**	**-0.4**		
AVF			pmax	pmax				
	comp=Z,7.0nm,0.6s,mb4.6							
AVF	**Avril sur Loir**	**75.73 315**	*eP*	**P**	**13 24 36.1**	**-0.4**		
	comp=Z,6.7nm,0.6s,mb4.5							
LASF	**Ste Croix**	**76.13 312**	*eP*	**P**	**13 24 38.6**	**-0.1**		
	comp=Z,17nm,1.0s,mb4.4							
BGF	**Bois d'Agland**	**76.13 315**	*eP*	**P**	**13 24 38.4**	**-0.3**		
TCF	**Toulx Ste Croi**	**76.63 315**	*eP*	**P**	**13 24 41.7**	**+0.2**		
	comp=Z,30nm,1.0s,mb4.7							
TCF	**Toulx Ste Croi**	**76.63 315**	*eP*	**P**	**13 24 41.7**	**+0.2**		
TCF			pmax	pmax				
	comp=Z,15nm,1.0s,mb4.7							
CAF	**Calviac**	**77.12 313**	*eP*	**P**	**13 24 44.2**	**-0.1**		
RJF	**Les Rejaudoux**	**77.38 314**	*eP*	**P**	**13 24 45.6**	**-0.1**		
LDF	**La Druitiere**	**77.47 317**	*eP*	**P**	**13 24 45.9**	**-0.3**		
	comp=Z,10.0nm,0.7s,mb4.3							
LDF	**La Druitiere**	**77.47 317**	*eP*	**P**	**13 24 45.9**	**-0.3**		
LDF			pmax	pmax				
	comp=Z,5.0nm,0.7s,mb4.3							
LDF	**La Druitiere**	**77.47 317**	*eP*	**P**	**13 24 45.9**	**-0.3**		
	comp=Z,5.0nm,0.7s,mb4.3							
MTLF	**Montolieu**	**77.47 312**	*eP*	**P**	**13 24 46.3**	**0.0**		
	comp=Z,6.9nm,0.8s,mb4.2							
MTLF	**Montolieu**	**77.47 312**	*eP*	**P**	**13 24 46.3**	**0.0**		
MTLF			pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.1							
MTLF	**Montolieu**	**77.47 312**	*eP*	**P**	**13 24 46.3**	**0.0**		
	comp=Z,3.5nm,0.8s,mb4.1							
LFF	**La Frestale**	**78.01 314**	*eP*	**P**	**13 24 48.8**	**-0.5**		
MFF	**Saint Martin d**	**78.09 315**	*eP*	**P**	**13 24 49.5**	**-0.2**		
SGMF	**Saint Gilles**	**79.11 318**	*eP*	**P**	**13 24 55.4**	**+0.1**		
	comp=Z,26nm,0.9s,mb4.7							
SGMF	**Saint Gilles**	**79.11 318**	*eP*	**P**	**13 24 55.4**	**+0.1**		
SGMF			pmax	pmax				
	comp=Z,13nm,0.9s,mb4.8							
SGMF	**Saint Gilles**	**79.11 318**	*eP*	**P**	**13 24 55.4**	**+0.1**		
	comp=Z,13nm,0.9s,mb4.8							
ROSF	**Rostrenen**	**79.54 318**	*eP*	**P**	**13 24 57.6**	**0.0**		
	comp=Z,21nm,0.8s,mb4.7							
ROSF	**Rostrenen**	**79.54 318**	*eP*	**P**	**13 24 57.6**	**0.0**		
ROSF			pmax	pmax				
	comp=Z,10.0nm,0.8s,mb4.7							
ROSF	**Rostrenen**	**79.54 318**	*eP*	**P**	**13 24 57.6**	**0.0**		
	comp=Z,10nm,0.8s,mb4.7							
ETSF	**Etsaut**	**79.55 312**	*eP*	**P**	**13 24 57.6**	**-0.1**		
	comp=Z,4.3nm,0.5s,mb4.2							
ETSF	**Etsaut**	**79.55 312**	*eP*	**P**	**13 24 57.6**	**-0.1**		
ETSF			pmax	pmax				
	comp=Z,2.0nm,0.5s,mb4.2							
ETSF	**Etsaut**	**79.55 312**	*eP*	**P**	**13 24 57.6**	**-0.1**		
	comp=Z,2.2nm,0.5s,mb4.2							
SJPF	**Ste Jean**	**79.94 312**	*eP*	**P**	**13 24 59.4**	**-0.4**		
LBTB	**Lobatse**	**81.15 239**	P	**P**	**13 25 05.8**	**-0.5**		
LBTB			pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.3							
LBTB	**Lobatse**	**81.15 239**	P	**P**	**13 25 05.8**	**-0.5**		
	comp=Z,2.8nm,0.6s,mb4.3							
ESDC	**Sonseca Array**	**83.07 310**	P	**P**	**13 25 15.8**	**-0.5**		
	comp=Z,1.1nm,0.6s,mb3.9,baz=45,slow=7.7,SNR=4.9							
ESLA	**Sonseca Array**	**83.07 310**	*eP*	**P**	**13 25 14.8**	**-1.4**		
	comp=Z,2.5nm,1.1s,mb4.0							
BOSA	**Boshof**	**83.12 236**	P	**P**	**13 25 17.1**	**+0.6**		
	comp=Z,2.9nm,0.7s,mb4.2,baz=140,slow=20,SNR=5.3							
BOSA	**Boshof**	**83.12 236**	*eP*	**P**	**13 25 16.8**	**+0.3**		
BOSA			pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.3							
BOSA	**Boshof**	**83.12 236**	*eP*	**P**	**13 25 16.8**	**+0.3**		
	comp=Z,4.1nm,0.8s,mb4.3							
INK	**Inuvik**	**84.26 16**	*eP*	**P**	**13 25 20.8**	**-1.5**		
INK			pmax	pmax				
	comp=Z,6.0nm,1.2s							
INK	**Inuvik**	**84.26 16**	*eP*	**P**	**13 25 20.8**	**-1.6**		
	comp=Z,6.4nm,1.2s,mb4.3							
CASY	**Casey**	**87.93 174**	P	**P**	**13 25 39.1**	**-1.3**		
	comp=Z,2.1nm,0.8s,mb4.2							
TOA0	**Torodi Ar. Sit**	**87.97 283**	*eP*	**P**	**13 25 40.8**	**+0.2**		
TORD	**Torodi Ar. Bea**	**87.97 283**	P	**P**	**13 25 41.5**	**+0.9**		
	comp=Z,2.4nm,0.8s,mb4.3,baz=70,slow=4.2,SNR=15							
TORD			PP	PP	13 29 06.9	-1.1		
	comp=Z,1.4nm,0.9s,baz=56,slow=4.1,SNR=6.5							
TORD			LR	LR	14 03 58.4			
	comp=Z,46nm,19.8s,baz=125,slow=35							
VNDA	**Vanda**	**105.71 168**	*eP*	PKiKP	13 31 09.2	-4.3		
BDFB	**Brasilia**	**144.12 272**	PKP	PKPdf	13 32 25.6	-0.2		
	comp=Z,3.5nm,0.7s,baz=266,slow=2.3,SNR=3.9							
ROSC	**El Rosal**	**152.00 336**	PKPbc	PKPbc	13 32 47.5	+2.2		
	comp=Z,4.5nm,0.4s,baz=83,slow=23,SNR=4.6							
CPUP	**Villa Florida**	**153.76 253**	PKPbc	PKPbc	13 32 49.1	-0.1		
	comp=Z,2.6nm,0.6s,baz=94,slow=2.9,SNR=11							

*CSEM **22** 13:22:22.7±0.2, 3693N×297E, h8km, ML3.6, Error ellipse: s-maj=6.7km s-min=4.2km az=20.0*
*NEIC **22** 13:22:22.5±1.1, 3672N×3.11E, h10km, mb3.7/2, Error ellipse: s-maj=13.7km s-min=5.7km az=154.0*
NEIC Felt at Algiers.
*ISCJB **22** 13:22:23.2±0.4, 3700N±003×298E±003, h10km, mb3.5/2, Error ellipse: s-maj=4.8km s-min=3.2km az=63.5*
*CRAAG **22** 13:22:23.5, 3680N×309E, Ml3.6*
*MDD **22** 13:22:24.2±0.4, 3681N×304E, h8km±3km, mb4.0/7, Error ellipse: s-maj=6.7km s-min=4.5km az=33.0, PRXIMO*

ISC 22 13:22:25.1±1.0, 3699N±004×301E±004, h15km±9km, n68, σ1§39/106, mb3.5/2, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.18**	**175**	P	**Pg**	**13 22 25.6**	**-3.9**
ABMS	**Boumerdes**	**0.44**	**122**	P	**Pg**	**13 22 30.8**	**-3.1**
EMHD	**Djebel Mahouad**	**0.79**	**184**	P	**Pg**	**13 22 35.0**	**-5.3**
ADJB	**Djebel Djouab**	**0.90**	**157**	P	**Pg**	**13 22 37.4**	**-5.0**
AKF	**Akfadou**	**1.29**	**105**	P	**Pn**	**13 22 47.0**	**-1.6**
EBNR	**Beni Rached**	**1.38**	**240**	P	**Pn**	**13 22 50.6**	**+0.8**
ATAF	**Djebel Tarf**	**1.51**	**137**	P	**Pn**	**13 22 47.2**	**-4.3**
ECHA	**Ech Chlef**	**1.57**	**238**	P	**Pn**	**13 22 53.0**	**+0.6**
ECHF	**Ech Chlef**	**1.58**	**239**	P	**Pn**	**13 22 53.0**	**+0.4**
EANR	**'Ain N'Sour**	**1.86**	**237**	P	**Pn**	**13 22 58.0**	**+1.6**
SET	**Setif**	**2.08**	**112**	P	**Pg**	**13 23 03.0**	**-1.9**
ETRT	**Tiaret**	**2.11**	**222**	P	**Pn**	**13 23 02.0**	**+2.1**
CKHR	**Kef el Ahmar**	**2.23**	**115**	P	**Pg**	**13 23 06.0**	**-1.9**
DFRA	**Djebel Bou Aff**	**2.34**	**100**	P	**Pn**	**13 23 03.0**	**0.0**
EIBI	**Ibiza**	**2.43**	**328**	P	**Pn**	**13 23 05.5**	**+1.3**
	3.9nm,0.1s,SNR=23						
EIBI				S	**Sn**	**13 23 33.8**	**+0.2**
	19nm,0.1s,SNR=9.8						
EIBI				T		13 25 05.7	
EIBI	**Ibiza**	**2.43**	**328**	P	**Pn**	**13 23 05.1**	**+0.9**
EIBI				S	**Sn**	**13 23 33.8**	**+0.2**
EIBI	**Ibiza**	**2.43**	**328**	P	**Pn**	**13 23 05.1**	**+0.9**
	3.9nm,0.1s,SNR=23						
EIBI				S	**Sn**	**13 23 33.8**	**+0.2**
	19nm,0.1s,SNR=9.8						
ETOS	**Mallorca**	**2.78**	**357**	P	**Pn**	**13 23 09.9**	**+0.8**
	6.2nm,0.2s,SNR=34						
ETOS				S	**Sn**	**13 23 42.5**	**+0.1**
	3.6nm,0.2s						
ETOS				T		13 25 17.4	
ETOS	**Mallorca**	**2.78**	**357**	P	**Pn**	**13 23 09.7**	**+0.6**
ETOS				S	**Sn**	**13 23 42.5**	**+0.1**
ETOS	**Mallorca**	**2.78**	**357**	P	**Pn**	**13 23 09.7**	**+0.6**
	6.2nm,0.2s,SNR=34						
ETOS				S	**Sn**	**13 23 42.5**	**+0.1**
	3.6nm,0.2s						
CASM	**Ain Smara**	**2.89**	**103**	P	**Pn**	**13 23 11.0**	**+0.5**
EBEN	**Beniarda**	**3.08**	**305**	P	**Pn**	**13 23 13.4**	**+0.2**
	1.1nm,0.1s,SNR=14						
EBEN				S	**Sn**	**13 23 49.0**	**-0.8**
	1.5nm,0.1s						
EBEN				T		13 25 26.4	
EBEN	**Beniarda**	**3.08**	**305**	P	**Pn**	**13 23 13.3**	**0.0**
EBEN				S	**Sn**	**13 23 49.0**	**-0.8**
EMUR	**La Murta**	**3.49**	**285**	P	**Pn**	**13 23 18.9**	**0.0**
	1.6nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**13 23 58.8**	**-1.1**
	4.2nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.49**	**285**	P	**Pn**	**13 23 18.9**	**+0.1**
	1.6nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**13 23 58.8**	**-1.1**
	4.2nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.97**	**296**	P	**Pn**	**13 23 26.7**	**+1.2**
	15nm,0.3s,SNR=54						
ETOB				S	**Sn**	**13 24 11.0**	**-0.8**
	4.9nm,0.2s						
ETOB	**Tobarra**	**3.97**	**296**	S	**Sn**	**13 24 11.0**	**-0.8**
	4.9nm,0.2s						
ECHE	**Chera**	**4.07**	**311**	P	**Pn**	**13 23 29.0**	**+2.2**
	1.6nm,0.2s,SNR=7.1						
ECHE				S	**Sn**	**13 24 13.5**	**-0.6**
	0.9nm,0.2s,SNR=4.0						
ECHE	**Chera**	**4.07**	**311**	P	**Pn**	**13 23 28.4**	**+1.6**
ECHE				S	**Sn**	**13 24 13.5**	**-0.6**
ECHE	**Chera**	**4.07**	**311**	P	**Pn**	**13 23 28.4**	**+1.6**
	1.6nm,0.2s,SNR=7.1						
ECHE				S	**Sn**	**13 24 13.5**	**-0.7**
	0.9nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**4.34**	**322**	P	**Pn**	**13 23 32.1**	**+1.6**
	1.3nm,0.1s,SNR=17						
EMOS				S	**Sn**	**13 24 19.7**	**-1.0**
	3.3nm,0.2s						
EMOS	**Mosqueruela**	**4.34**	**322**	P	**Pn**	**13 23 32.0**	**+1.5**
EMOS				S	**Sn**	**13 24 19.7**	**-1.0**
EMOS	**Mosqueruela**	**4.34**	**322**	P	**Pn**	**13 23 32.0**	**+1.5**
	1.3nm,0.1s,SNR=17						
EMOS				S	**Sn**	**13 24 19.7**	**-1.0**
	3.3nm,0.2s						
ERTA	**Horta de San J**	**4.48**	**333**	P	**Pn**	**13 23 33.9**	**+1.5**
	0.3nm,0.1s,SNR=7.9						
ERTA				S	**Sn**	**13 24 22.7**	**-1.6**
	2.3nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**4.61**	**342**	P	**Pn**	**13 23 35.9**	**+1.6**
	0.6nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**13 24 26.4**	**-1.2**
	0.8nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**4.61**	**342**	P	**Pn**	**13 23 35.8**	**+1.6**
	0.6nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**13 24 26.4**	**-1.1**
	0.8nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**4.67**	**292**	P	**Pn**	**13 23 35.0**	**-0.1**
	0.7nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**13 24 28.2**	**-0.7**
	2.7nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**4.67**	**292**	P	**Pn**	**13 23 34.8**	**-0.2**
EVIA				S	**Sn**	**13 24 28.2**	**-0.7**
EBER	**Berja**	**4.73**	**271**	P	**Pn**	**13 23 35.5**	**-0.3**
	0.8nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**13 24 27.2**	**-3.3**
	4.1nm,0.4s,SNR=7.9						
EBER	**Berja**	**4.73**	**271**	P	**Pn**	**13 23 35.5**	**-0.4**
EBER				S	**Sn**	**13 24 27.2**	**-3.2**
EBER	**Berja**	**4.73**	**271**	P	**Pn**	**13 23 35.5**	**-0.3**
EBER				S	**Sn**	**13 24 27.2**	**-3.2**
	4.1nm,0.4s,SNR=7.9						
EQES	**Quesada**	**4.91**	**281**	P	**Pn**	**13 23 39.3**	**+1.0**
	7.1nm,0.3s,SNR=9.8						
EQES				S	**Sn**	**13 24 34.4**	**-0.5**
	5.6nm,0.3s						
EQES	**Quesada**	**4.91**	**281**	P	**Pn**	**13 23 39.3**	**+0.9**
	7.1nm,0.3s,SNR=9.8						
EQES				S	**Sn**	**13 24 34.4**	**-0.5**
	5.6nm,0.3s						
EQUE	**Quentar**	**5.16**	**274**	P	**Pn**	**13 23 43.6**	**+1.8**
	0.3nm,0.1s,SNR=4.6						
EQUE				S	**Sn**	**13 24 38.7**	**-2.4**
	1.5nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**5.46**	**359**	P	**Pn**	**13 23 47.4**	**+1.6**
	0.5nm,0.1s,SNR=4.0						
EJON	**La Jonquera**	**5.46**	**359**	P	**Pn**	**13 23 47.4**	**+1.6**
	0.5nm,0.1s,SNR=4.0						
VSL	**Villasalto**	**5.60**	**61**	*e*Pn	**Pn**	**13 23 46.4**	**-1.4**
VSL				*e*Sn	**Sn**	**13 24 46.8**	**-5.1**
VSL	**Villasalto**	**5.60**	**61**	*e*Pn	**Pn**	**13 23 46.4**	**-1.4**
ELUQ	**Luque**	**5.83**	**278**	P	**Pn**	**13 23 52.1**	**+1.1**
	1.4nm,0.3s,SNR=4.0						
EBIE	**Bielsa**	**6.11**	**340**	P	**Pn**	**13 23 56.5**	**+1.8**
	0.1nm,0.1s,SNR=4.0						
EBIE				S	**Sn**	**13 25 02.8**	**-1.6**
	0.3nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**6.11**	**340**	P	**Pn**	**13 23 56.4**	**+1.7**
EBIE				S	**Sn**	**13 25 02.8**	**-1.6**
EBIE	**Bielsa**	**6.11**	**340**	P	**Pn**	**13 23 56.4**	**+1.6**
	0.1nm,0.1s,SNR=4.0						
ESDC	**Sonseca Array**	**6.11**	**298**	P	**Pn**	**13 23 55.6**	**+0.8**
	0.7nm,0.1s,baz=115,slow=13,SNR=3.9						
ESDC				S	**Sn**	**13 25 01.8**	**-2.5**
	1.7nm,0.4s,baz=115,slow=25,SNR=4.5						
ESDC	**Sonseca Array**	**6.11**	**298**	P	**Pn**	**13 23 55.6**	**+0.8**
	0.7nm,0.1s,SNR=3.9						
ESLA	**Sonseca Array**	**6.11**	**298**	Pn	**Pn**	**13 23 55.3**	**+0.5**
ESLA				*e*Sn	**Sn**	**13 25 03.6**	**-0.7**
ESLA				*e*Sb	**Sb**	**13 25 15.3**	**-8.7**
ESLA				*e*Sg	**Sg**	**13 25 31.2**	**-10**
EADA	**Adamuz**	**6.14**	**283**	P	**Pn**	**13 23 55.0**	**-0.2**
	0.2nm,0.1s,SNR=4.0						
EADA				S

IDC 22 13:45:04.0±2.0, 666N×7700W, h0km, mb3.6/1, mb1 3.6/2, mb1mx3.3/19, mbtmp3.7/2, ML2.6/1, Error ellipse: s-maj=82.4km s-min=45.1km az=16.0, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.21**	**124**	Pn	Pn	13 45 56.2	+0.6
	14nm,0.3s,baz=275,slow=12,SNR=15						
TORD	**Torodi Ar. Bea**	**77.55**	**78**	P	P	13 57 02.5	+0.9
	0.5nm,0.9s,baz=291,slow=6.2,SNR=4.1						
ASAR	**Alice Springs**	**145.84**	**237**	PKPbc	PKPbc	14 04 45.3	+0.2
	0.2nm,0.5s,baz=120,slow=4.0,SNR=4.5						

IDC 22 13:51:05.3±2.7, 987S×108.14E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/17, mbtmp3.8/6, ML3.2/1, Error ellipse: s-maj=111.1km s-min=21.1km az=52.0
NEIC 22 13:51:05.7±0.9, 994S×10808E, h10km, mb4.3/6, Error ellipse: s-maj=38.5km s-min=12.4km az=55.0
ISCJB 22 13:51:07.0±1.0, 99S±02×108.1E±02, h33km, mb4.0/9, Error ellipse: s-maj=39.7km s-min=12.1km az=106.5

ISC 22 13:51:09.2±1.0, 100S±02×1080E±02, h35km, n12, σ1§18/12, mb4.0/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.86**	**136**	*e*Pn	**Pn**	**13 54 45.0**	**-4.7**
	5.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.91**	**117**	P	**Pn**	**13 55 27.1**	**-0.6**
	0.1nm,0.3s,baz=258,slow=9.6,SNR=3.0						
NWAO	**Narrogin (SRO)**	**24.40**	**161**	P	**P**	**13 56 24.4**	**+0.1**
	9.5nm,1.1s,mb4.1						
WRA	**Warramunga Arr**	**27.27**	**114**	P	**P**	**13 56 50.3**	**+0.1**
	1.4nm,0.8s,mb3.6,baz=285,slow=12,SNR=7.8						
ASAR	**Alice Springs**	**28.22**	**122**	P	**P**	**13 57 00.8**	**+2.1**
	0.5nm,0.7s,mb3.3,baz=294,slow=9.1,SNR=7.8						
STKA	**Stephens Creek**	**37.96**	**130**	P	**P**	**13 58 23.6**	**+0.1**
	3.9nm,0.8s,mb4.2,baz=287,slow=8.7,SNR=6.6						
CTAO	**Charters Tower**	**38.20**	**110**	*e*P	**P**	**13 58 23.9**	**-1.6**
	58nm,1.4s,mb5.1						
SONM	**Songino Array**	**57.54**	**359**	P	**P**	**14 00 56.0**	**+0.9**
	0.7nm,0.6s,mb3.9,baz=178,slow=8.3,SNR=6.1						
ULN	**Ulaanbaatar**	**57.56**	**359**	*e*P	**P**	**14 00 55.6**	**+0.3**
	1.1nm,0.6s,mb4.1						
MKAR	**Makanchi Array**	**60.98**	**340**	P	**P**	**14 01 20.4**	**+1.5**
	0.2nm,0.3s,mb3.7,baz=140,slow=5.0,SNR=3.7						
BRVK	**Borovoye**	**70.52**	**337**	P	**P**	**14 02 18.0**	**-2.4**
ZRNK	**Zerenda**	**70.94**	**336**	*e*P	**P**	**14 02 22.0**	**-1.0**
	0.8nm,0.6s,mb3.8						

PGC 22 14:04:11.2, 6941N×11800W, h30km, MN2.6/4, 212km northwest of Coppermine, Nt North coast of Northwest Territories., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**5.72**	**266**	Pn	Pn	14 05 32.8	-1.3
INK				Sn	Sn	14 06 33.2	-5.4
INK				Trac		14 06 42.0	
	comp=Z,1.0nm,0.1s						
INK				Trac		14 06 42.0	
	comp=Z,1.0nm,0.1s						
YKW3	**Yellowknife Ar**	**7.01**	**167**	Trac		14 07 57.2	
	comp=Z,4.0nm,0.3s						
YKW3				Trac		14 07 57.2	
	comp=Z,4.0nm,0.3s						
YKW3	**Yellowknife Ar**	**7.01**	**167**	Pn	Pn	14 05 51.0	-0.8
YKW3				Sn	Sn	14 07 02.4	-8.1
YKW3				Sn	Sn	14 07 03.3	-7.2
YKW3				Trac		14 07 08.0	
	comp=Z,1.0nm,0.1s						
YKW3				Trac		14 07 08.0	
	comp=Z,1.0nm,0.1s						
YKW3				Sg	Sn	14 07 46.4	+36
YKW3				Sg	Sn	14 07 47.2	+37
RES	**Resolute Bay**	**8.82**	**43**	Pn	Pn	14 06 15.2	-1.4
RES				Sn	Sn	14 07 45.8	-9.2
RES				Trac		14 07 53.2	
	comp=Z,1.0nm,0.3s						
RES				Trac		14 07 53.2	
	comp=Z,1.0nm,0.3s						
DAWY	**Dawson**	**9.97**	**248**	Pn	Pn	14 06 30.2	-2.1
DAWY				Trac		14 08 12.4	
	comp=Z,1.0nm,0.1s						
HYT	**Haines Junctio**	**11.83**	**233**	Pn	Pn	14 06 56.4	-1.5

ISCJB 22 14:06:37.5±6.4, 212S±0.1×1765W±0.2, h112km±56km, mb4.2/16, Error ellipse: s-maj=28.8km s-min=18.5km az=92.1
IDC 22 14:06:42.2±8.7, 2117S×17646W, h143km±74km, mb3.7/8, mb1 3.9/9, mb1mx3.8/15, mbtmp4.1/9, Error ellipse: s-maj=31.5km s-min=23.5km az=45.0
NEIC 22 14:06:45.3±5.2, 2128S×17650W, h173km±45km, mb4.2/11, Error ellipse: s-maj=21.0km s-min=13.2km az=45.0

ISC 22 14:06:38.0±5.9, 212S±01×1765W±02, h101km±52km, n37, σ0§77/26, mb4.2/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.87**	**197**	P	**Pn**	**14 10 39.4**	**-0.6**
	1.1nm,0.3s,baz=324,slow=6.8,SNR=8.4						
RPZ	**Rata Peaks**	**24.73**	**202**	P	**P**	**14 11 50.4**	**+0.5**
	11nm,0.7s,mb4.4,baz=54,slow=14,SNR=8.1						
CTA	**Charters Tower**	**34.86**	**265**	*e*P	**P**	**14 13 21.2**	**+1.7**
	4.1nm,0.6s,mb4.4						
CTA	**Charters Tower**	**34.86**	**265**	P	**P**	**14 13 20.6**	**+1.2**
	4.1nm,0.6s,mb4.5,baz=97,slow=8.3,SNR=7.0						
CTAO	**Charters Tower**	**34.86**	**265**	*e*P	**P**	**14 13 20.3**	**+0.9**
	5.2nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**38.79**	**245**	*e*P	**P**	**14 13 54.1**	**+1.4**
	2.1nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**38.79**	**245**	P	**P**	**14 13 53.5**	**+0.8**
	2.0nm,0.5s,mb4.2,baz=83,slow=11,SNR=10.0						
STKA				PcP	PcP	14 16 01.3	-0.9
	0.6nm,0.4s,baz=356,slow=19,SNR=3.1						
STKA	**Stephens Creek**	**38.79**	**245**	*e*P	**P**	**14 13 53.7**	**+1.0**
AS31	**Alice Springs**	**45.76**	**257**	*e*P	**P**	**14 14 49.4**	**+0.1**
ASAR	**Alice Springs**	**45.76**	**257**	P	**P**	**14 14 49.6**	**+0.3**
	4.0nm,0.8s,mb4.2,baz=88,slow=8.6,SNR=42						
ASAR				PcP	PcP	14 16 24.2	-1.2
	0.9nm,0.6s,baz=103,slow=3.7,SNR=7.8						
ASPA	**Alice Springs**	**45.76**	**257**	*e*P	**P**	**14 14 49.4**	**+0.1**
WB2	**Warramunga Arr**	**45.92**	**262**	*e*P	**P**	**14 14 50.4**	**-0.2**
WRAB	**Tennant Creek**	**45.92**	**262**	*e*P	**P**	**14 14 49.6**	**-1.0**
	3.3nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**45.93**	**262**	P	**P**	**14 14 50.5**	**-0.2**
	1.3nm,0.3s,mb4.1,baz=94,slow=7.8,SNR=72						
KAKA	**Kakadu**	**49.43**	**271**	*e*P	**P**	**14 15 17.6**	**-0.1**
	3.3nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**54.36**	**262**	*e*P	**P**	**14 15 54.4**	**+0.1**
	3.7nm,1.0s,mb4.4						
SBA	**Scott Base**	**57.26**	**184**	*e*P	**P**	**14 16 16.5**	**+1.5**
	1.3nm,0.7s,mb4.1						
VNDA	**Vanda**	**57.33**	**185**	P	**P**	**14 16 15.4**	**0.0**
	0.6nm,0.8s,mb3.6,baz=360,slow=8.9,SNR=2.7						
VNDA	**Vanda**	**57.33**	**185**	*e*P	**P**	**14 16 14.2**	**-1.2**
	1.3nm,1.0s,mb3.9						
MBWA	**Marble Bar**	**59.10**	**257**	*e*P	**P**	**14 16 26.6**	**-1.3**
	3.4nm,0.5s,mb4.6						
CASY	**Casey**	**63.94**	**206**	*e*P	**P**	**14 16 59.5**	**-0.8**
	5.3nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	**68.85**	**180**	*e*P	**P**	**14 17 31.4**	**-0.3**
	2.1nm,0.6s,mb4.1						
MJAR	**Matsushiro Arr**	**71.64**	**323**	P	**P**	**14 17 47.5**	**-1.1**
	0.5nm,0.4s,mb3.7,baz=157,slow=6.4,SNR=4.4						
MAJO	**Matsushiro**	**71.65**	**323**	P	**P**	**14 17 49.6**	**+0.9**
	12nm,1.4s,mb4.5						
NVAR	**Mina Array Bea**	**80.56**	**43**	P	**P**	**14 18 39.5**	**+0.2**
	0.4nm,0.7s,mb3.4,baz=217,slow=9.2,SNR=3.9						
NVAR	**Mina Array Bea**	**80.56**	**43**	P	**P**	**14 18 39.5**	**+0.2**
MKAR	**Makanchi Array**	**112.74**	**313**	PKiKP	PKiKP	14 25 00.9	-1.9
	0.5nm,0.4s,baz=17,slow=1.1,SNR=6.9						
ARCES	**ARCESS Array B**	**129.88**	**350**	PKP	PKPdf	14 25 33.8	-1.9
	2.1nm,0.8s,baz=27,slow=3.0,SNR=7.1						
FINES	**FINESS Array B**	**136.86**	**344**	PKP	PKPdf	14 25 47.7	-1.1
	0.5nm,0.5s,baz=122,slow=2.5,SNR=4.0						
AKASG	**Malin Array Be**	**144.33**	**332**	PKP	PKPdf	14 25 58.6	-3.6
	0.7nm,0.3s,baz=40,slow=4.2,SNR=8.0						
BRTR	**Keskin Array B**	**148.39**	**312**	PKPbc	PKPbc	14 26 11.6	-1.1
	2.0nm,0.5s,baz=133,slow=4.9,SNR=9.8						
KOLS	**Kolonicke sedl**	**148.56**	**336**	*e*	PKPab	14 26 20.2	+3.3
CRVS	**Cervenica-Dubn**	**148.89**	**337**	*e*PKP	PKPbc	14 26 12.9	-1.1
CLL	**Collm**	**149.07**	**348**	*e*PKPbc	PKPbc	14 26 13.0	-1.4
	comp=Z,13nm,1.4s						
BRG	**Berggiesshubel**	**149.30**	**347**	*i* P	PKPbc	14 26 14.5	-0.4
	comp=Z,3.3nm,0.9s						
VYHS	**Vyhne**	**150.15**	**339**	*e*PKP	PKPbc	14 26 16.0	-1.1
GERES	**GERESS Array B**	**151.26**	**346**	PKPbc	PKPbc	14 26 18.4	-1.3
	comp=Z,0.3nm,0.4s,baz=46,slow=3.9,SNR=5.9						

ISCJB 22 14:21:37.3±1.6, 175S±02×1789W±02, h518km±33km, mb4.0/12, Error ellipse: s-maj=35.8km s-min=19.5km az=49.0
IDC 22 14:21:38.2±2.2, 1767S×17882W, h512km±35km, mb3.4/5, mb1 3.6/6, mb1mx3.3/16, mbtmp4.4/6, Error ellipse: s-maj=32.3km s-min=23.2km az=133.0
NEIC 22 14:21:38.0±1.3, 1752S×17892W, h514km±22km, mb4.1/8, Error ellipse: s-maj=22.3km s-min=17.2km az=193.0

ISC 22 14:21:38.8±1.5, 176S±02×1788W±02, h524km±33km, n21, σ0§87/20, mb4.0/12, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.69**	**63**	P	**P**	**14 23 32.6**	**+0.1**
	7.8nm,0.3s,baz=341,slow=23,SNR=13						
URZ	**Urewera**	**20.92**	**189**	P	**P**	**14 25 43.1**	**-1.3**
	13nm,1.1s,baz=348,slow=12,SNR=7.9						
CNB	**Canberra Magne**	**33.33**	**232**	*e*P	**P**	**14 27 34.4**	**+1.4**
	6.0nm,0.6s,mb4.3						
PMG	**Port Moresby**	**34.03**	**279**	P	**P**	**14 27 44.9**	**+6.0**
	37nm,1.0s,mb4.9						
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**	**14 28 16.7**	**+1.2**
	2.3nm,0.3s,mb4.2,baz=83,slow=8.4,SNR=5.6						
STKA	**Stephens Creek**	**38.46**	**241**	*e*P	**P**	**14 28 16.1**	**+0.6**
WB2	**Warramunga Arr**	**44.31**	**259**	*i* P	**P**	**14 29 01.1**	**-0.7**
WRAB	**Tennant Creek**	**44.31**	**259**	*e*P	**P**	**14 28 58.8**	**-3.0**
WRA	**Warramunga Arr**	**44.32**	**259**	P	**P**	**14 29 01.4**	**-0.5**
	0.6nm,0.3s,mb3.7,baz=95,slow=7.8,SNR=17						
AS31	**Alice Springs**	**44.52**	**254**	*e*P	**P**	**14 29 03.3**	**-0.1**
ASAR	**Alice Springs**	**44.52**	**254**	P	**P**	**14 29 03.6**	**+0.2**
	12nm,0.8s,mb4.5,baz=88,slow=8.1,SNR=142						
ASPA	**Alice Springs**	**44.52**	**254**	*i* P	**P**	**14 29 03.6**	**+0.1**
KAKA	**Kakadu**	**47.21**	**269**	*e*P	**P**	**14 29 24.3**	**+0.3**
	6.1nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**52.71**	**260**	*e*P	**P**	**14 30 05.0**	**+0.7**
	3.2nm,0.9s,mb3.6						
FITZ	**Fitzroy Crossi**	**52.71**	**260**	P	**P**	**14 30 05.0**	**+0.7**
	0.4nm,0.3s,mb3.2,baz=90,slow=10,SNR=11						
SBA	**Scott Base**	**60.73**	**183**	*e*P	**P**	**14 31 00.6**	**+1.2**
	2.2nm,0.9s,mb3.5						
VNDA	**Vanda**	**60.74**	**185**	*e*P	**P**	**14 30 59.5**	**0.0**
	5.7nm,1.6s,mb3.6						
CASY	**Casey**	**66.28**	**205**	*e*P	**P**	**14 31 34.2**	**-0.7**
	2.1nm,0.8s,mb3.7						
QSPA	**South Pole Qui**	**72.48**	**180**	*e*P	**P**	**14 32 12.7**	**+0.6**
	3.0nm,0.6s,mb3.9						
MAW	**Mawson**	**84.05**	**200**	P	**P**	**14 33 13.1**	**-0.9**
	12nm,1.6s,mb4.2						
GERES	**GERESS Array B**	**147.19**	**345**	PKPbc	PKPbc	14 40 23.3	+0.3
	0.5nm,0.5s,baz=46,slow=3.9,SNR=5.2						

LDG 22 14:23:32.4±0.1, 4833N×667E, h9km, Md2.0/3, Ml2.1/4, Error ellipse: s-maj=1.4km s-min=0.9km az=154.0

STR 22 14:23:32.0±0.3, 4833N×666E, h10km±1km, MI1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.35**	**109**	Pg	Pg	14 23 39.2	+0.2
ECH				Sg	Sg	14 23 43.9	+0.2
HAU	**Haudompre**	**0.39**	**213**	*e*Pg	Pg	14 23 40.0	+0.4
HAU				*e*Sg	Sg	14 23 44.8	+0.1
	13nm,0.3s						
CDF	**Champ du Feu**	**0.42**	**78**	*e*Pg	Pg	14 23 40.4	+0.2
CDF				*e*Sg	Sg	14 23 46.3	+0.5
	2.9nm,0.2s						
THEF	**They Montfort**	**0.46**	**257**	Pg	Pg	14 23 41.1	+0.1
THEF				Sg	Sg	14 23 47.0	-0.1
WLS	**Welschbruch**	**0.47**	**80**	Pg	Pg	14 23 41.3	+0.1
WLS				Sg	Sg	14 23 47.6	+0.2
HINF	**Hinteralfeld**	**0.53**	**166**	*e*Pg	Pg	14 23 42.4	+0.1
HINF				*e*Sg	Sg	14 23 49.5	+0.2
	10nm,0.2s						
MOF	**Molkenrain**	**0.57**	**146**	Pg	Pg	14 23 44.3	+1.2
RFYF	**Reffroy**	**0.84**	**291**	*e*Sg	Sg	14 23 59.3	0.0
	14nm,0.2s						
LANF	**Langenberg**	**1.00**	**49**	Pg	Pg	14 23 51.3	+0.1
MEZF	**Maizieres J'vi**	**1.08**	**280**	*e*Sg	Sg	14 24 07.7	+0.7
	6.2nm,0.4s						
SFTF	**Sexfontaines**	**1.09**	**264**	*e*Pg	Pg	14 23 52.9	-0.1
	4.9nm,0.3s						
SFTF				*e*Sg	Sg	14 24 07.6	+0.5
BFO	**Black Forest**	**1.11**	**89**	*e*Pg	Pg	14 23 53.7	+0.2
BFO				*e*Sg	Sg	14 24 05.7	-2.2
CABF	**La Chapelle**	**1.76**	**193**	*e*Pg	Pg	14 24 05.3	-0.5
CABF				*e*Sg	Sg	14 24 28.3	-0.4
LOR	**Lormes**	**2.17**	**242**	*e*Pn	Pn	14 24 06.7	-1.4
LOR	**Lormes**	**2.17**	**242**	*e*Pg	Pg	14 24 12.9	-0.6
LOR				*e*Sg	Sg	14 24 40.8	-0.8
	1.4nm,0.2s						
SMF	**Signal de Mont**	**2.55**	**230**	*e*Sg	Sg	14 24 53.0	-0.9
AVF	**Avril sur Loir**	**2.72**	**237**	*e*Sg	Sg	14 24 58.1	-1.2

IDC 22 14:28:09.6±0.8, 280S×138.19E, h0km, mb4.3/8, mb1 4.4/12, mb1mx4.4/14, mbtmp4.4/12, ML3.9/4, MS4.1/13, Ms1 4.1/13, ms1mx3.9/23, Error ellipse: s-maj=21.8km s-min=11.3km az=97.0
ISCJB 22 14:28:11.5±2.2, 268S±004×13846E±008, h32km±16km, mb4.5/31, MS4.1/14, Error ellipse: s-maj=14.1km s-min=6.8km az=178.9
MOS 22 14:28:11.8±0.7, 270S×13829E, h32km, mb4.8/13, Error ellipse: s-maj=20.2km s-min=8.7km az=106.2
BJI 22 14:28:13.2, 302S×13864E, h65km, mB5.1, mb4.5, Ms4.5, Msz4.2
NEIC 22 14:28:15.2±1.6, 268S×13836E, h46km±15km, mb4.5/14, Error ellipse: s-maj=13.1km s-min=9.1km az=78.0

ISC 22 14:28:15.7±1.3, 272S±005×13842E±008, h51km±13km, n74, σ1§01/73, mb4.5/31, MS4.1/14, 1C, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.93**	**128**	Pn	**Pn**	**14 30 49.6**	**+0.2**
	1.4nm,0.3s,baz=309,slow=10,SNR=6.6						
PMG	**Port Moresby**	**10.93**	**128**	*e*Pn	**Pn**	**14 30 50.5**	**+1.1**
KAKA	**Kakadu**	**11.55**	**210**	*e*P	**Pn**	**14 30 58.8**	**+0.9**
	24nm,0.4s						
WRAB	**Tennant Creek**	**17.56**	**193**	*e*P	**Pn**	**14 32 15.6**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,35nm,0.8s						
WRAB	**Tennant Creek**	**17.56**	**193**	*e*Pn	**Pn**	**14 32 15.6**	**-1.1**
	comp=Z,35nm,0.8s						
WRAB				*e*Sn	Sn	14 35 07.8	-24
WB2	**Warramunga Arr**	**17.57**	**193**	*e*P	**Pn**	**14 32 15.8**	**-1.1**
WRA	**Warramunga Arr**	**17.57**	**193**	P	**Pn**	**14 32 15.9**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=15,slow=12,SNR=22						
WRA				S	**S**	**14 35 27.0**	**-10**
	baz=13,slow=22,SNR=5.2						
WRA				LR	LR	14 39 34.7	
	comp=Z,1μm,19.0s,baz=20,slow=39						
WRA	**Warramunga Arr**	**17.57**	**193**	P	**Pn**	**14 32 15.9**	**-1.0**
WRA				S	**S**	**14 35 27.0**	**-10**
CTA	**Charters Tower**	**18.88**	**157**	P	**Pn**	**14 32 33.7**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=353,slow=7.2,SNR=3.6						
CTA				LR	LR	14 39 59.3	
	comp=Z,666nm,18.8s,baz=347,slow=38						
CTAO	**Charters Tower**	**18.88**	**157**	*e*P	**Pn**	**14 32 33.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**19.76**	**218**	*e*P	**Pn**	**14 32 43.0**	**-0.3**
	comp=Z,15nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.76**	**218**	P	**Pn**	**14 32 40.8**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=44,slow=11,SNR=13						
FITZ				S	**S**	**14 36 21.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=180,slow=17,SNR=3.5						
FITZ				LR	LR	14 41 04.3	
	comp=Z,105nm,20.1s,baz=41,slow=40						
AS31	**Alice Springs**	**21.27**	**191**	*e*P	**P**	**14 32 58.4**	**+0.7**
ASAR	**Alice Springs**	**21.27**	**191**	P	**P**	**14 32 57.9**	**+0.2**
	comp=Z,5.9nm,0.7s,mb4.0,baz=19,slow=11,SNR=38						
ASAR				S	**S**	**14 36 54.7**	**+3.5**
	comp=Z,2.1nm,0.9s,baz=16,slow=24,SNR=4.8						
ASAR				LR	LR	14 41 42.9	
	comp=Z,899nm,19.3s,MS4.2,baz=20,slow=38						
ASAR	**Alice Springs**	**21.27**	**191**	P	**P**	**14 32 57.9**	**+0.2**
ASAR				S	**S**	**14 36 54.7**	**+3.5**
ASAR				LR	LR	14 41 42.9	
ASPA	**Alice Springs**	**21.27**	**191**	*e*P	**P**	**14 32 58.4**	**+0.7**
KKM	**Kota Kinabalu**	**23.82**	**291**	*e*P	**P**	**14 33 22.3**	**-1.6**
MBWA	**Marble Bar**	**25.82**	**223**	*e*P	**P**	**14 33 44.0**	**+1.9**
	comp=Z,15nm,1.1s,mb4.4						
STKA	**Stephens Creek**	**29.15**	**174**	P	**P**	**14 34 11.1**	**-0.8**
	comp=Z,1.2nm,0.3s,mb4.1,baz=328,slow=13,SNR=2.5						
STKA				LR	LR	14 47 00.2	
	comp=Z,746nm,19.3s,MS4.3,baz=358,slow=39						
CBIJ	**Chichi jima**	**29.87**	**7**	LR	LR	14 44 15.8	
	comp=Z,126nm,19.3s,MS3.6,baz=142,slow=32						
JOW	**Kunigami**	**30.97**	**342**	LR	LR	14 44 17.7	
	comp=Z,278nm,19.2s,MS3.9,baz=150,slow=31						
NWAO	**Narrogin (SRO)**	**36.02**	**211**	P	**P**	**14 35 11.6**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,17nm,1.3s						
NWAO	**Narrogin (SRO)**	**36.02**	**211**	P	**P**	**14 35 11.6**	**-0.3**
	comp=Z,18nm,1.3s,mb4.8						
MJAR	**Matsushiro Arr**	**39.06**	**360**	LR	LR	14 49 51.7	
	comp=Z,177nm,18.4s,MS3.9,baz=195,slow=33						
KMI	**Kunming**	**44.31**	**311**	P	**P**	**14 36 21.8**	**+1.3**
KMI				AP	pP	14 36 34.8	+0.7
KMI				PP	PP	14 38 07.1	+2.6
KMI				S	**S**	**14 42 53.1**	**+2.3**
KMI				SS	SS	14 46 02.8	-7.8
KMI				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.2						
KMI				AMB	AMB		
	comp=Z,77nm,4.1s						
KMI				LR	LR		
	comp=N,133nm,16.5s						
KMI				LR	LR		
	comp=E,138nm,21.6s						
KMI				LR	LR		
	comp=Z,141nm,21.6s						
XAN	**Xi'an**	**45.92**	**325**	P	**P**	**14 36 34.3**	**+1.0**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
CD2	**Chengdu**	**47.00**	**318**	*e*P	**P**	**14 36 40.8**	**-0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
BJT	**Baijiatuan**	**47.17**	**337**	P	**P**	**14 36 43.2**	**+0.1**
BJI	**Beijing**	**47.19**	**337**	*e*P	**P**	**14 36 43.3**	**+0.1**
BJI				PP	PP	14 38 32.6	-1.9
BJI				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.5						
BJI				LR	LR		
	comp=N,206nm,22.1s,MS4.1						
BJI				LR	LR		
	comp=E,119nm,20.5s,MS4.1						
BJI				LR	LR		
	comp=Z,180nm,26.0s						
CN2	**Changchun**	**47.76**	**347**	*e*P	**P**	**14 36 52.0**	**+4.4**
CN2				LR	LR		
	comp=N,200nm,17.0s,MS4.3						
CN2				LR	LR		
	comp=E,200nm,17.0s,MS4.3						
CN2				LR	LR		
	comp=Z,200nm,22.0s,MS4.0						
HHC	**Hu-ho-hao-te**	**49.81**	**333**	*e*P	**P**	**14 37 03.5**	**+0.1**
HHC				PCP	PcP	14 38 23.6	+0.1
HHC				PP	PP	14 38 58.4	0.0
HHC				PCS	PcS	14 42 19.3	-1.1
HHC				S	**S**	**14 44 09.1**	**-0.1**
HHC				SCS	ScS	14 46 49.3	-1.0
HHC				SS	SS	14 47 39.3	-2.9
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb5.4						
HHC				AMB	AMB		
	comp=Z,107nm,4.9s						
HHC				LR	LR		
	comp=N,150nm,19.6s,MS4.3						
HHC				LR	LR		
	comp=E,221nm,16.3s,MS4.3						
HHC				LR	LR		
	comp=Z,184nm,19.0s,MS4.1						
URZ	**Urewera**	**49.99**	**140**	LR	LR	14 56 09.6	
	comp=Z,184nm,21.0s,MS4.1,baz=198,slow=34						
RPZ	**Rata Peaks**	**50.03**	**149**	P	**P**	**14 37 05.8**	**+0.8**
	comp=Z,53nm,1.1s,mb5.5,baz=218,slow=5.2,SNR=5.8						
LZH	**Lanzhou**	**50.32**	**323**	*e*P	**P**	**14 37 13.5**	**+6.3**
LZH				AP	pP	14 37 23.5	+2.4
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb5.0						
GTA	**Gaotai**	**54.91**	**324**	*e*P	**P**	**14 37 41.8**	**+0.7**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.4						
ULN	**Ulaanbaatar**	**57.36**	**335**	*e*P	**P**	**14 37 58.7**	**+0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**57.36**	**335**	*e*P	**P**	**14 37 58.7**	**+0.1**
	comp=Z,3.3nm,0.8s,mb4.4						
SONM	**Songino Array**	**57.61**	**335**	P	**P**	**14 38 01.3**	**+1.0**
	comp=Z,0.7nm,0.6s,mb3.9,baz=151,slow=9.2,SNR=6.1						
SONM				LR	LR	15 01 18.1	
	comp=Z,180nm,20.6s,MS4.2,baz=136,slow=34						
ZAK	**Zakamensk**	**60.88**	**335**	*i* P	**P**	**14 38 24.1**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
BOD	**Bodaibo**	**63.45**	**346**	*e*P	**P**	**14 38 36.8**	**-3.4**
BOD				pmax	pmax		
	comp=Z,4.0nm,2.0s,mb4.2						
WMQ	**

comp=Z,4.0nm,1.0s,mb4.3
CHKZ Chkalovo 79.25 326 *e*P **P** **14 40 14.9 -0.6**
comp=Z,4.1nm,1.0s,mb4.3
ZRNK Zerenda 79.92 325 *e*P **P** **14 40 18.7 -0.5**
ZRNK pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
ZRNK Zerenda 79.92 325 *e*P **P** **14 40 18.7 -0.4**
comp=Z,8.2nm,1.2s,mb4.5
MAW Mawson 82.00 202 P **P** **14 40 31.9 +1.7**
comp=Z,3.9nm,1.0s,mb4.3,baz=85,slow=7.6,SNR=3.5
MAW LR LR 15 16 02.9
comp=Z,155nm,18.7s,MS4.4,baz=248,slow=35
MAW Mawson 82.00 202 *e*P **P** **14 40 30.2 0.0**
MAW pmax pmax
comp=Z,9.0nm,1.3s
MAW Mawson 82.00 202 *e*P **P** **14 40 30.2 -0.1**
comp=Z,9.2nm,1.3s,mb4.5
AB31 Akbulak array 84.54 320 *i*P **P** **14 40 43.2 -0.1**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
QSPA South Pole Qui 87.22 180 *e*P **P** **14 40 55.9 -0.6**
DAWY Dawson 89.01 26 *e*P **P** **14 41 03.1 -1.9**
INK Inuvik 91.79 22 LR LR 15 18 25.0
comp=Z,50nm,19.7s,MS4.0,baz=279,slow=33
LPAZ La Paz 147.67 127 PKPbc PKPbc 14 47 57.7 +3.2
comp=Z,1.7nm,0.7s,baz=331,slow=0.4,SNR=7.2
LPAZ La Paz 147.67 127 *e*P PKPdf 14 47 55.7 +4.0

NEIC ***22*** *14:30:18.0±0.6, 4.16S×130.11E, h35km, mb4.2/5, Error ellipse: s-maj=48.4km s-min=8.4km az=74.0*
ISCJB ***22*** *14:30:22.0±0.6, 4.3S±0.1×1303E±0.4, h100km, mb4.0/8, Error ellipse: s-maj=55.5km s-min=9.2km az=149.3*
IDC ***22*** *14:30:53.5±3.5, 4.82S×132.01E, h476km±44km, mb3.2/4, mb1 3.4/6, mb1mx3.3/12, mbtmp4.1/6, Error ellipse: s-maj=55.8km s-min=18.4km az=75.0*

ISC 22 14:30:24.0±0.6, 43S±01×1304E±0.4, h100km, n14, σ0s50/13, mb4.0/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRAB	**Tennant Creek**	**16.05**	**166**	*e*P		**Pn**	**14 34 04.1**	**+0.3**
	11nm,0.8s							
WRA	**Warramunga Arr**	**16.06**	**166**	P		**Pn**	**14 34 04.6**	**+0.7**
	0.6nm,0.3s,baz=348,slow=11,SNR=5.2							
AS31	**Alice Springs**	**19.59**	**170**	*e*P		**P**	**14 34 43.8**	**-0.3**
ASAR	**Alice Springs**	**19.59**	**170**	P		**P**	**14 34 43.8**	**-0.3**
	2.5nm,0.3s,baz=350,slow=10,SNR=22							
ASPA	**Alice Springs**	**19.59**	**170**	*e*P		**P**	**14 34 43.8**	**-0.3**
MJAR	**Matsushiro Arr**	**41.25**	**10**	P		**P**	**14 37 58.6**	**-0.5**
	0.3nm,0.3s,mb3.6,baz=183,slow=8.5,SNR=4.8							
ULN	**Ulaanbaatar**	**55.80**	**341**	*e*P		**P**	**14 39 51.1**	**+0.5**
	2.2nm,0.9s,mb4.2							
SONM	**Songino Array**	**55.98**	**341**	P		**P**	**14 39 52.7**	**+0.8**
	0.8nm,0.9s,mb3.8,baz=148,slow=6.3,SNR=3.7							
MKAR	**Makanchi Array**	**66.16**	**326**	P		**P**	**14 41 01.4**	**+0.6**
	2.7nm,0.3s,mb4.5,baz=106,slow=7.7,SNR=20							
AAK	**Ala-Archa**	**68.71**	**319**	P		**P**	**14 41 16.1**	**-0.7**
	1.9nm,0.9s,mb3.9							
ZAL	**Zalesovo**	**69.31**	**333**	P		**P**	**14 41 20.8**	**+0.2**
	1.1nm,0.7s,mb3.8,baz=42,slow=5.0,SNR=3.9							
KURK	**Kurchatov**	**70.39**	**328**	*e*P		**P**	**14 41 27.1**	**-0.1**
	6.1nm,1.0s,mb4.4							
ZRNK	**Zerenda**	**76.68**	**327**	*e*P		**P**	**14 42 03.2**	**-0.7**
	2.4nm,0.9s,mb3.9							
LPAZ	**La Paz**	**152.59**	**139**	PKPbc		PKPdf	14 49 53.4	-8.3
	0.7nm,0.3s,baz=192,slow=8.7,SNR=9.0							

ISC 22 14:41:52.1±0.8, 3857N±005×3166E±005, h10km, n5, σ1s26/9, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KIZT	**Kizilcal**	**0.35**	**29**	PG		**Pg**	**14 41 58.0**	**-1.0**
KIZT				*e*SG		**Sg**	**14 42 04.7**	**+1.0**
KDHN	**Kadinhani**	**0.36**	**98**	*i*P		**Pg**	**14 41 58.9**	**-0.3**
KDHN				*i*S		**Sg**	**14 42 05.3**	**+1.2**
KONT	**Konya--Tatoy**	**0.84**	**138**	*e*PG		**Pg**	**14 42 07.0**	**-1.2**
ESKT	**Eskisehir**	**1.14**	**327**	*i*P		**Pb**	**14 42 10.7**	**-3.1**
ESKT				*i*S		**Sb**	**14 42 28.9**	**+0.3**
TKTP	**Tekketepe**	**1.18**	**244**	*i*P		**Pb**	**14 42 14.2**	**-0.4**
TKTP				*i*S		**Sb**	**14 42 32.4**	**+2.5**

ISCJB ***22*** *14:53:08.5±0.3, 1199S±005×7406W±006, h23km, mb4.5/40, MS3.2/4, Error ellipse: s-maj=10.0km s-min=5.3km az=100.1*
MOS ***22*** *14:53:10.4±1.1, 1201S×7427W, h33km, mb4.6/10, Error ellipse: s-maj=23.4km s-min=9.3km az=119.9*
NEIC ***22*** *14:53:12.2±0.9, 1205S×7414W, h37km±8km, mb4.6/31, ML4.0(LIM), Error ellipse: s-maj=9.8km s-min=5.9km az=57.0*
NEIC Felt [III] at Campo Armino.
BJI ***22*** *14:53:13.0, 1271S×7471W, h54km, mB5.1*
IDC ***22*** *14:53:14.1±2.4, 1215S×7426W, h53km±22km, mb4.0/15, mb1 4.2/18, mb1mx4.1/22, mbtmp4.3/18, ML4.2/3, MS3.4/7, Ms1 3.4/7, ms1mx3.2/28, Error ellipse: s-maj=24.3km s-min=13.2km az=55.0*

ISC 22 14:53:10.8±0.3, 1207S±006×7411W±006, h24km, h24km±5km: pP-P, n101, σ0s99/85, mb4.5/40, MS3.2/4, 3C, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNA	**Nana**	**2.67**	**272**	*e*Pn		**Pn**	**14 53 52.0**	**-0.2**
ARE	**Arequipa**	**5.05**	**150**	*e*P		**Pn**	**14 54 27.0**	**+2.0**
ATAH	**Atahualpa**	**6.57**	**320**	P		**Pn**	**14 54 46.1**	**+0.3**
	3.9nm,0.3s,baz=177,slow=9.7,SNR=18							
ATAH				S		**Sn**	**14 56 05.3**	**+5.2**
	1.7nm,0.3s,baz=86,slow=23,SNR=2.3							
ATAH				LR		LR	14 57 39.0	
	comp=Z,473nm,19.3s,baz=267,slow=41							
LPAZ	**La Paz**	**7.16**	**127**	P		**Pn**	**14 54 58.9**	**+5.0**
	1.4nm,0.3s,baz=303,slow=12,SNR=47							
LPAZ				Lg			14 56 59.3	
	1.5nm,0.3s,baz=232,slow=25,SNR=3.0							
LPAZ				LR		LR	14 58 30.6	
	comp=Z,226nm,19.8s,baz=320,slow=44							
LPAZ	**La Paz**	**7.16**	**127**	*e*P		**Pn**	**14 54 58.4**	**+4.5**
LPAZ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
LPAZ	**La Paz**	**7.16**	**127**	*e*Pn		**Pn**	**14 54 58.4**	**+4.5**
	comp=Z,0.7nm,0.3s							
SAML	**Samuel**	**11.19**	**75**	*e*Pn		**Pn**	**14 55 49.6**	**+0.5**
	comp=Z,5.0nm,1.6s							
LVC	**Limon Verde**	**11.60**	**155**	P		**Pn**	**14 55 58.2**	**+3.5**
	comp=Z,0.5nm,0.3s,baz=350,slow=12,SNR=4.7							
LVC				S		**Sn**	**14 57 58.6**	**-4.8**
	comp=Z,0.2nm,0.3s,baz=196,slow=18,SNR=3.8							
LVC				LR		LR	15 01 03.2	
	comp=Z,266nm,18.8s,baz=317,slow=40							
LVC	**Limon Verde**	**11.60**	**155**	*e*Pn		**Pn**	**14 55 57.5**	**+2.7**
OTAV	**Otavalo**	**12.96**	**340**	*e*Pn		**Pn**	**14 56 18.3**	**+4.9**
	comp=Z,14nm,0.9s							
SIV	**San Ignacio**	**13.24**	**109**	P		**Pn**	**14 56 16.1**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=315,slow=15,SNR=7.3							
SIV				S		**Sn**	**14 58 41.8**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=179,slow=23,SNR=2.2							
CFAA	**Coronel Fontan**	**20.18**	**165**	P		**P**	**14 57 43.0**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=346,slow=8.5,SNR=8.6							
CFAA				LR		LR	15 04 51.5	
	comp=Z,15nm,21.8s,MS2.3,baz=10,slow=35							
MDZ	**Mendoza**	**21.27**	**168**	*e*P		**P**	**14 57 58.7**	**+3.4**
PCRV	**Puerto La Cruz**	**24.02**	**23**	LR		LR	15 08 26.3	
	comp=Z,189nm,19.1s,MS3.6,baz=25,slow=38							
BDFB	**Brasilia**	**25.58**	**101**	P		**P**	**14 58 40.2**	**+2.3**
	comp=Z,3.1nm,0.5s,mb4.1,baz=249,slow=7.7,SNR=3.6							
TRQA	**Tornquist**	**28.06**	**159**	*e*P		**P**	**14 58 59.1**	**-1.1**
	comp=Z,10nm,1.0s,mb4.4							
PLCA	**Paso Flores**	**28.72**	**174**	P		**P**	**14 59 04.7**	**-1.4**
	comp=Z,5.5nm,1.0s,mb4.2,baz=348,slow=12,SNR=3.0							
PLCA				LR		LR	15 10 16.9	
	comp=Z,94nm,18.6s,MS3.4,baz=91,slow=36							
PLCA	**Paso Flores**	**28.72**	**174**	P		**P**	**14 59 05.2**	**-0.9**
PLCA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
PLCA	**Paso Flores**	**28.72**	**174**	P		**P**	**14 59 05.2**	**-0.9**
	comp=Z,5.9nm,0.9s,mb4.3							
SJG	**San Juan**	**31.00**	**15**	LR		LR	15 14 10.5	
	comp=Z,98nm,18.5s,MS3.5,baz=186,slow=40							
TEIG	**Tepich**	**34.99**	**336**	*e*P		**P**	**15 00 00.7**	**-0.5**
	comp=Z,8.2nm,0.9s,mb4.7							
LRAL	**Lakeview Retre**	**46.51**	**345**	P		**P**	**15 01 34.3**	**-1.8**
	comp=Z,10nm,0.9s,mb4.8							
LRAL				*e*		pP	15 01 41.7	-1.8
PLAL	**Pickwick Lake**	**48.63**	**345**	*e*P		**P**	**15 01 57.3**	**+4.7**
	comp=Z,4.3nm,0.9s,mb4.5							
ELN	**Prospectdale**	**49.43**	**353**	P		**P**	**15 02 00.0**	**+1.3**
ELN				*e*		pP	15 02 05.6	-0.5
WVT	**Waverly**	**49.66**	**345**	*e*P		**P**	**15 01 58.0**	**-2.4**
WVT				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.4							
WVT	**Waverly**	**49.66**	**345**	*e*P		**P**	**15 01 58.0**	**-2.4**
	comp=Z,3.3nm,0.8s,mb4.4							
MIAR	**Mount Ida**	**49.91**	**339**	*e*P		**P**	**15 02 01.7**	**-0.6**
MIAR				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.6							
MIAR	**Mount Ida**	**49.91**	**339**	*e*P		**P**	**15 02 01.7**	**-0.6**
	comp=Z,3.7nm,0.7s,mb4.5							
BINY	**Binghamton**	**54.03**	**358**	*e*P		**P**	**15 02 31.9**	**-1.1**
	comp=Z,35nm,1.1s,mb5.2							
BINY				*e*		pP	15 02 40.4	-0.1
LAZ	**Ladron**	**55.86**	**327**	*e*P		**P**	**15 02 46.9**	**+0.6**
LAZ				*e*		pP	15 02 54.0	+0.3
ANMO	**Albuquerque**	**55.92**	**328**	P		**P**	**15 02 47.6**	**+0.9**
	comp=Z,2.0nm,0.7s,mb4.3,baz=153,slow=6.9,SNR=8.5							
ANMO	**Albuquerque**	**55.92**	**328**	*e*P		**P**	**15 02 47.1**	**+0.4**
ANMO				*e*		pP	15 02 53.8	-0.4
ANMO				pmax		pmax		
	comp=Z,3.0nm,0.9s							
ANMO	**Albuquerque**	**55.92**	**328**	*e*P		**P**	**15 02 47.1**	**+0.4**
	comp=Z,3.0nm,0.9s,mb4.3							
ANMO				*e*		pP	15 02 53.8	-0.4
WUAZ	**Wupatki**	**59.01**	**325**	*e*P		**P**	**15 03 09.0**	**+0.6**
	comp=Z,8.2nm,0.9s,mb4.8							
WUAZ				*e*		pP	15 03 16.0	0.0
ISCO	**Idaho Springs**	**59.33**	**332**	*e*P		**P**	**15 03 08.7**	**-2.0**
ISCO				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.5							
ISCO	**Idaho Springs**	**59.33**	**332**	*e*P		**P**	**15 03 08.7**	**-2.1**
	comp=Z,4.4nm,0.9s,mb4.5							
PV01	**Paradox Valley**	**59.45**	**329**	*e*P		**P**	**15 03 12.1**	**+0.6**
PV01				*e*		pP	15 03 18.9	-0.2
SMCO	**Snowmass**	**59.48**	**331**	*e*P		**P**	**15 03 12.2**	**+0.5**
	comp=Z,5.3nm,0.8s,mb4.6							
MSU	**Marysvale**	**61.62**	**327**	*e*P		**P**	**15 03 27.1**	**+0.8**
MSU				*e*		pP	15 03 34.2	+0.3
DAU	**Daniels Canyon**	**62.54**	**329**	*e*P		**P**	**15 03 32.9**	**+0.4**
DAU				*e*		pP	15 03 40.3	+0.2
TPNV	**Topopah Spring**	**62.82**	**323**	*e*P		**P**	**15 03 35.5**	**+1.1**
TPNV				*e*		pP	15 03 43.3	+1.3
TPNV				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.4							
TPNV	**Topopah Spring**	**62.82**	**323**	*e*P		**P**	**15 03 35.5**	**+1.1**
	comp=Z,2.9nm,0.9s,mb4.4							
TPNV				*e*		pP	15 03 43.3	+1.3
TCUT	**Toone Canyon**	**63.14**	**329**	*e*P		**P**	**15 03 36.8**	**+0.3**
TCUT				*e*		pP	15 03 42.7	-1.4
DUG	**Dugway**	**63.18**	**328**	*e*P		**P**	**15 03 37.4**	**+0.6**
DUG				*e*		pP	15 03 44.3	-0.1
DUG				pmax		pmax		
	comp=Z,12nm,1.2s,mb4.9							
DUG	**Dugway**	**63.18**	**328**	*e*P		**P**	**15 03 37.4**	**+0.7**
	comp=Z,12nm,1.2s,mb4.9							
DUG				*e*		pP	15 03 44.2	-0.1
PDAR	**Pinedale Array**	**63.50**	**331**	P		**P**	**15 03 38.7**	**-0.2**
	comp=Z,1.1nm,0.5s,mb4.2,baz=119,slow=8.9,SNR=14							
HWUT	**Hardware Ranch**	**63.58**	**329**	*e*P		**P**	**15 03 39.3**	**-0.2**
	comp=Z,7.7nm,0.6s,mb4.9							
HWUT				*e*		pP	15 03 46.0	-1.0
REDW	**Red Top Meadow**	**64.56**	**331**	*e*P		**P**	**15 03 45.0**	**-0.8**
	comp=Z,1.7nm,0.6s,mb4.2							
RRI2	**Red Ridge**	**64.77**	**331**	*e*P		**P**	**15 03 47.5**	**+0.3**
	comp=Z,12nm,0.7s,mb5.0							
MOOW	**Moose Ponds**	**64.81**	**331**	*e*P		**P**	**15 03 46.3**	**-1.1**
	comp=Z,7.0nm,0.8s,mb4.7							
ULM	**Lac du Bonnet**	**64.92**	**345**	P		**P**	**15 03 47.5**	**-0.7**
	comp=Z,7.8nm,0.7s,mb4.9,baz=153,slow=6.6,SNR=24							
ULM	**Lac du Bonnet**	**64.92**	**345**	*e*P		**P**	**15 03 46.6**	**-1.6**
	comp=Z,19nm,0.9s,mb5.1							
ULM				*e*		pP	15 03 53.7	-2.1
NVAR	**Mina Array Bea**	**65.02**	**323**	P		**P**	**15 03 50.0**	**+1.1**
	comp=Z,1.2nm,0.8s,mb4.0,baz=169,slow=7.9,SNR=10							
HLID	**Hailey**	**66.45**	**329**	*e*P		**P**	**15 03 58.5**	**+0.4**
	comp=Z,2.0nm,0.7s,mb4.3							
PAHR	**Pah Rah Range**	**66.49**	**323**	*e*P		**P**	**15 03 57.1**	**-1.2**
	comp=Z,6.9nm,1.2s,mb4.6							
MCMT	**McKenzie Canyo**	**66.61**	**331**	*e*P		**P**	**15 03 59.8**	**+0.7**
MCMT				*e*		pP	15 04 06.5	-0.2
DLMT	**Dillon**	**66.89**	**332**	*e*P		**P**	**15 04 00.8**	**0.0**
	comp=Z,6.2nm,1.1s,mb4.5							
DLMT				*e*		pP	15 04 07.9	-0.6
MOD	**Modoc**	**68.45**	**325**	*e*P		**P**	**15 04 11.0**	**+0.3**
	comp=Z,2.3nm,0.6s,mb4.4							
MOD				*e*		pP	15 04 18.6	+0.2
MSO	**Missoula**	**68.61**	**332**	*e*P		**P**	**15 04 11.8**	**+0.1**
	comp=Z,5.5nm,1.1s,mb4.4							
MSO				*e*		pP	15 04 19.1	-0.2
YBH	**Yreka Blue Hor**	**69.73**	**323**	P		**P**	**15 04 18.3**	**-0.4**
	comp=Z,2.2nm,0.8s,mb4.2,baz=89,slow=7.8,SNR=4.6							
VNA1	**Neumayer--Stat**	**70.77**	**161**	*i*P		**P**	**15 04 25.5**	**+0.5**
VNA1				*e*			15 04 27.9	
VNA1				*e*			15 04 30.3	
VNA1				*e*			15 04 43.1	
VNA1				*e*			15 04 44.2	
DBIC	**Dimbokro**	**71.33**	**79**	P		**P**	**15 04 29.2**	**+0.8**
	comp=Z,2.2nm,0.5s,mb4.3,baz=356,slow=3.1,SNR=4.4							
DBIC	**Dimbokro**	**71.33**	**79**	*e*P		**P**	**15 04 28.5**	**+0.1**
DBIC				pmax		pmax		
	comp=Z,5.0nm,0.9s							
DBIC	**Dimbokro**	**71.33**	**79**	*e*P		**P**	**15 04 28.5**	**+0.1**
	comp=Z,5.1nm,0.9s,mb4.5							
SNAA	**Sanae**	**72.75**	**162**	*i*P		**P**	**15 04 36.4**	**-0.6**
SNAA				*e*			15 04 37.8	
SNAA				*e*			15 04 53.7	
SNAA	**Sanae**	**72.75**	**162**	*e*P		**P**	**15 04 36.3**	**-0.7**
SNAA				pmax		pmax		
	comp=Z,2.0nm,0.4s							
SNAA	**Sanae**	**72.75**	**162**	*e*P		**P**	**15 04 36.3**	**-0.7**
	comp=Z,1.7nm,0.4s,mb4.3							
EDM	**Edmonton**	**73.17**	**337**	*e*P		**P**	**15 04 38.6**	**-0.8**
EDM				*e*		pP	15 04 45.4	-1.7
QSPA	**South Pole Qui**	**78.06**	**180**	*e*P		**P**	**15 05 07.6**	**+0.2**
	comp=Z,4.9nm,0.7s,mb4.5							
TOA0	**Torodi Ar. Sit**	**79.24**	**74**	*e*P		**P**	**15 05 14.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**79.24**	**74**	P		**P**	**15 05 14.6**	**+0.6**
	comp=Z,4.4nm,0.8s,mb4.5,baz=356,slow=5.2,SNR=20							
TORD	**Torodi Ar. Bea**	**79.24**	**74**	P		**P**	**15 05 14.6**	**+0.6**
YKA	**Yellowknife Ar**	**80.71**	**342**	P		**P**	**15 05 21.3**	**-0.6**
	comp=Z,5.1nm,0.7s,mb4.5,baz=136,slow=5.4,SNR=19							
ESDC	**Sonseca Array**	**82.86**	**47**	P		**P**	**15 05 35.2**	**+1.9**
	comp=Z,0.2nm,0.3s,mb3.6,baz=257,slow=4.7,SNR=4.7							
VNDA	**Vanda**	**85.20**	**190**	P		**P**	**15 05 44.5**	**-0.7**
	comp=Z,1.1nm,0.9s,mb4.0,baz=143,slow=3.8,SNR=5.4							
VNDA	**Vanda**	**85.20**	**190**	*e*P		**P**	**15 05 44.5**	**-0.6**
VNDA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
VNDA	**Vanda**	**85.20**	**190**	*e*P		**P**	**15 05 44.5**	**-0.6**
	comp=Z,1.8nm,0.9s,mb4.2							
SYO	**Syowa Base**	**87.01**	**161**	*e*PcP		PcP	15 05 53.2	-3.0
SUMG	**Summit**	**87.63**	**10**	*e*P		**P**	**15 05 58.1**	**+1.0**
	comp=Z,10nm,1.0s,mb5.0							
SUMG				*e*		pP	15 06 04.7	-0.2
TSUM	**Tsumeb**	**87.68**	**109**	P		**P**	**15 05 57.6**	**+0.4**
	comp=Z,2.9nm,0.7s,mb4.6							
TSUM				*e*		pP	15 06 05.7	+0.5
INK	**Inuvik**	**90.45**	**341**	P		**P**	**15 06 09.7**	**-0.6**
	comp=Z,1.8nm,0.7s,mb4.5,baz=86,slow=3.9,SNR=5.3							
INK	**Inuvik**	**90.45**	**341**	*e*P		**P**	**15 06 09.2**	**-1.1**
INK				*e*		pP	15 06 16.5	-1.7
INK				pmax		pmax		
	comp=Z,7.0nm,1.1s							
INK	**Inuvik**	**90.45**	**341**	*e*P		**P**	**15 06 09.2**	**-1.1**
	comp=Z,7.4nm,1.1s,mb4.9							
INK				*e*		pP	15 06 16.5	-1.7
MAW	**Mawson**	**94.71**	**165**	P		**P**	**15 06 29.7**	**-0.3**
	comp=Z,2.1nm,0.9s,mb4.5,baz=259,slow=10,SNR=4.2							
GERES	**GERESS Array B**	**97.55**	**42**	P		**P**	**15 06 44.1**	**+1.2**
	comp=Z,0.1nm,0.3s,mb3.8,baz=256,slow=5.4,SNR=4.6							
STKA	**Stephens Creek**	**124.51**	**217**	PKP		PKPdf	15 12 07.6	-0.3
	comp=Z,1.1nm,0.7s,baz=337,slow=22,SNR=4.6							
ASAR	**Alice Springs**	**135.14**	**218**	PKP		PKPdf	15 12 28.1	+0.1
	comp=Z,1.2nm,0.7s,baz=128,slow=2.1,SNR=12							
WB2	**Warramunga Arr**	**137.61**	**222**	*e*P		PKPdf	15 12 33.1	+0.5
WRA	**Warramunga Arr**	**137.61**	**222**	PKP		PKPdf	15 12 33.0	+0.3
	comp=Z,1.5nm,0.7s,baz=135,slow=2.0,SNR=16							
MDJ	**Mudanjiang**	**141.73**	**332**	PKP		PKPdf	15 12 39.0	-1.1
MJAR	**Matsushiro Arr**	**142.08**	**316**	PKhKP			15 12 35.6	
	comp=Z,2.9nm,0.8s,baz=82,slow=2.5,SNR=12							
CN2	**Changchun**	**144.16**	**336**	*e*PKP		PKPdf	15 12 45.0	+0.6
FITZ	**Fitzroy Crossi**	**144.24**	**213**	*e*P		PKPdf	15 12 42.8	-1.8
	comp=Z,5.4nm,1.6s							
ULN	**Ulaanbaatar**	**144.31**	**359**	*e*PKIKP		PKPdf	15 12 44.4	-0.3
ULN				*e*			15 12 51.5	
SONM	**Songino Array**	**144.35**	**359**	PKP		PKPdf	15 12 44.4	-0.3
	comp=Z,5.6nm,0.7s,baz=326,slow=2.7,SNR=37							
WMQ	**Urumqi**	**144.69**	**23**	PKP		PKPdf	15 12 46.3	+0.9
SNY	**Shenyang**	**146.57**	**336**	*e*PKP		PKPdf	15 12 50.3	+1.7
HHC	**Hu-ho-hao-te**	**150.90**	**351**	*e*PKP		PKPdf	15 12 55.5	-0.1
HHC				APKP			15 13 06.3	
HHC				PKS			15 16 30.8	
HHC				PP		PP	15 16 42.4	+3.9
HHC				SKS		SKSdf	15 19 58.9	-2.8
HHC				SKKS		SKKSac	15 23 27.0	-1.0
LZH	**Lanzhou**	**156.02**	**4**	*e*PKP		PKPdf	15 13 03.3	+0.4
LZH				APKP			15 13 14.3	
SSE	**Sheshan**	**156.37**	**326**	*e*PKP		PKPdf	15 13 03.1	-0.3
KMI	**Kunming**	**166.68**	**12**	PKP		PKPdf	15 13 15.8	+1.7

NEIC ***22*** *15:27:24.3, 1842N×6829W, h150km, MD3.6(RSPR), After RSPR.*

RSPR 22 15:27:24.3, 1842N×6829W, h150km±1km, MD3.6/12, MD3.6/12, 8C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSP	**Las Mesas**	**1.17**	**102**	⇓*e*P		Pn	15 27 50.8	+0.3
LSP				*e*S		Sn	15 28 10.8	+0.3
CRPR	**Cabo Rojo, PR**	**1.20**	**110**	⇑*e*P		Pn	15 27 50.5	-0.2
CRPR				*e*S		Sn	15 28 11.0	0.0
MGP	**Maguayo**	**1.22**	**110**	⇓*e*P		Pn	15 27 51.0	+0.1
MGP				*e*S		Sn	15 28 11.5	+0.2
LRS	**Lares**	**1.38**	**95**	⇑*e*P		Pn	15 27 52.7	+0.2
LRS				*e*S		Sn	15 28 14.8	+0.7
AOPR	**Arecibo Observ**	**1.47**	**93**	⇑*e*P		Pn	15 27 53.7	+0.3
AOPR				*e*S		Sn	15 28 16.0	+0.3
OBIP	**Obispado Ponce**	**1.65**	**103**	⇑*e*P		Pn	15 27 55.4	0.0
OBIP				*e*S		Sn	15 28 19.9	+0.8
CELP	**Cerrillos**	**1.66**	**102**	⇑*e*P		Pn	15 27 55.3	-0.2
CELP				*e*S		Sn	15 28 19.6	+0.1
ICM	**Isla Caja Muer**	**1.76**	**107**	⇓*e*P		Pn	15 27 56.3	-0.4
ICM				*e*S		Sn	15 28 21.5	0.0
SJG	**San Juan**	**2.06**	**98**	⇑*e*P		Pn	15 28 00.3	+0.3
SJG				*e*S		Sn	15 28 27.8	+0.3
HUMP	**Col San Antoni**	**2.34**	**96**	⇑*e*P		Pn	15 28 03.4	0.0
HUMP				*e*S		Sn	15 28 33.6	+0.2
CULB	**Culebra**	**2.81**	**92**	*e*S		Sn	15 28 45.1	+1.2
CULB	**Culebra**	**2.81**	**92**	⇑*e*P		Pn	15 28 09.9	+0.6

IDC 22 15:32:55.7±2.2, 691S×12700E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.4/13, mbtmp3.3/4, ML2.8/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/15, Error ellipse: s-maj=122.7km s-min=29.1km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.21**	**187**	Pn		Pn	15 35 37.0	-0.1
	0.1nm,0.3s,baz=10.0,slow=15,SNR=4.8							
FITZ				Sn		Sn	15 37 39.2	-3.9
	0.2nm,0.3s,baz=335,slow=21,SNR=7.2							
WRA	**Warramunga Arr**	**14.78**	**152**	Pn		Pn	15 36 25.1	-0.9
	0.0nm,0.3s,baz=318,slow=14,SNR=3.3							
WRA				Sn		Sn	15 39 01.6	-8.9
	0.1nm,0.3s,baz=344,slow=20,SNR=4.2							
ASAR	**Alice Springs**	**17.93**	**159**	P		Pn	15 37 07.8	+1.3
	0.0nm,0.3s,baz=338,slow=14,SNR=4.

mb1mx3.8/13,mbtmp3.7/7,ML3.7/1,MS3.6/3,Ms1 3.5/3, ms1mx2.8/18,Error ellipse: s-maj=68.5km s-min=19.7km az=87.0

ISCJB ***22*** *16:30:52.9±6.4, 27S±02.2×1386E±04, h41km±51km, mb3.8/6,MS3.5/2,Error ellipse: s-maj=69.4km s-min=21.3km az=150.2*

NEIC ***22*** *16:30:53.4±3.8, 271S×13886E, h36km±30km, mb4.0/4, Error ellipse: s-maj=44.2km s-min=11.9km az=75.0*

ISC 22 16:30:53.9±5.9, 27S±02×1389E±04, h38km±46km, n18, σ0§31/16, mb3.8/6, MS3.5/2, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**11.79**	**212**	*e*P	**Pn**	**16 33 39.4**	**-0.1**
	7.1nm,0.5s						
WRAB	**Tennant Creek**	**17.68**	**194**	*e*P	**Pn**	**16 34 57.1**	**0.0**
	17nm,1.1s						
WB2	**Warramunga Arr**	**17.69**	**194**	*e*P	**Pn**	**16 34 57.6**	**+0.4**
WB2	**Warramunga Arr**	**17.69**	**194**	*e*P	**Pn**	**16 34 56.9**	**-0.3**
WRA	**Warramunga Arr**	**17.69**	**194**	P	**Pn**	**16 34 57.2**	**0.0**
	0.3nm,0.3s,baz=15,slow=11,SNR=18						
CTA	**Charters Tower**	**18.73**	**158**	LR	LR	16 41 38.5	
	comp=Z,112nm,20.9s,baz=1.8,slow=35						
FITZ	**Fitzroy Crossi**	**20.05**	**219**	*e*P	**P**	**16 35 23.6**	**-0.1**
	2.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.05**	**219**	P	**P**	**16 35 23.7**	**0.0**
	0.8nm,0.5s,baz=63,slow=18,SNR=8.9						
AS31	**Alice Springs**	**21.38**	**193**	*e*P	**P**	**16 35 38.1**	**+0.1**
ASAR	**Alice Springs**	**21.38**	**193**	P	**P**	**16 35 38.1**	**+0.1**
	0.8nm,0.5s,mb3.3,baz=13,slow=11,SNR=16						
ASAR				LR	LR	16 44 00.9	
	comp=Z,129nm,19.5s,MS3.3,baz=1.4,slow=37						
ASPA	**Alice Springs**	**21.38**	**193**	*e*P	**P**	**16 35 38.1**	**0.0**
STKA	**Stephens Creek**	**29.13**	**175**	LR	LR	16 49 44.6	
	comp=Z,193nm,21.1s,MS3.7,baz=26,slow=39						
SONM	**Songino Array**	**57.77**	**335**	P	**P**	**16 40 41.3**	**+0.2**
	0.2nm,0.5s,mb3.4,baz=153,slow=6.9,SNR=2.8						
MKAR	**Makanchi Array**	**69.87**	**322**	P	**P**	**16 42 00.8**	**0.0**
	0.5nm,0.4s,mb3.8,baz=114,slow=8.8,SNR=9.4						
VNDA	**Vanda**	**75.77**	**175**	P	**P**	**16 42 36.0**	**+0.3**
	0.4nm,0.5s,mb3.6,baz=331,slow=9.0,SNR=5.9						
VNDA	**Vanda**	**75.77**	**175**	*e*P	**P**	**16 42 34.4**	**-1.3**
	2.1nm,1.2s,mb3.9						
BVAR	**Borovoye Array**	**79.39**	**325**	P	**P**	**16 42 55.6**	**-0.3**
	0.7nm,0.5s,mb3.9,baz=121,slow=7.6,SNR=8.3						
QSPA	**South Pole Qui**	**87.24**	**180**	*e*P	**P**	**16 43 36.7**	**+0.4**
	6.7nm,1.3s,mb4.7						

BJI ***22*** *16:39:53.9, 3662N×7054E, h150km, mB4.8, mb4.5*

MOS ***22*** *16:39:53.0±0.9, 3654N×7051E, h152km, mb4.2/19, Error ellipse: s-maj=10.7km s-min=5.4km az=93.2*

ISCJB ***22*** *16:39:53.6±0.4, 3652N±002×7051E±004, h157km±5km, mb4.1/27, Error ellipse: s-maj=5.0km s-min=3.3km az=166.2*

NEIC ***22*** *16:39:54.1±1.3, 3655N×7056E, h147km±15km, mb4.4/18, Error ellipse: s-maj=9.6km s-min=6.4km az=65.0*

IDC ***22*** *16:39:56.0±1.0, 3657N×7060E, h169km±7km, mb3.7/11, mb1 3.9/16, mb1mx3.8/24, mbtmp4.3/16, Error ellipse: s-maj=18.0km s-min=10.4km az=130.0*

NNC ***22*** *16:40:00.7±3.5, 3706N×7023E, h170km±29km, mb3.6, mpv4.6, Error ellipse: s-maj=35.9km s-min=25.5km az=57.0*

ISC 22 16:39:54.6±0.3, 3653N±002×7053E±004, h154km±5km, h157km±7.2km; pP-P, n142, σ1§11/178, mb4.1/27, 13C-15D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.93**	**157**	⇑P	**Pn**	**16 40 43.0**	**+1.8**
CHCP	**Chirah Chowk**	**3.64**	**141**	⇑P	**Pn**	**16 40 51.9**	**+1.7**
THW	**Thamme Wali**	**3.86**	**165**	⇑P	**Pn**	**16 40 54.2**	**+1.1**
SBDP	**Sheikh Budin**	**4.23**	**177**	⇑P	**Pn**	**16 40 58.3**	**+0.4**
DRP	**Derazinda**	**4.78**	**183**	⇑P	**Pn**	**16 41 06.0**	**+0.8**
SARP	**Sargodha**	**4.93**	**158**	⇓*i*P	**Pn**	**16 41 07.2**	**+0.1**
KSH	**Kashi**	**5.23**	**54**	⇓*i*P	**Pn**	**16 41 13.5**	**+2.4**
KSH				S	**Sn**	**16 42 11.4**	**+0.5**
DLH	**Dalhousie**	**6.00**	**130**	*e*P	**Pn**	**16 41 21.0**	**-0.3**
DLH				*e*S	**Sn**	**16 42 25.0**	**-4.1**
AML	**Almayashu**	**6.11**	**23**	P	**Pn**	**16 41 23.6**	**+0.8**
	SNR=182						
PONG	**Pong**	**6.40**	**134**	*e*P	**Pn**	**16 41 27.0**	**+0.3**
PONG				*e*S	**Sn**	**16 42 36.0**	**-2.8**
UCH	**Uchtor**	**6.47**	**27**	P	**Pn**	**16 41 28.4**	**+0.8**
	SNR=194						
KK31	**Karatay Array**	**6.57**	**360**	⇓P	**Pn**	**16 41 29.1**	**+0.3**
	116nm,0.6s,baz=203,slow=20,SNR=1819						
KK31				⇓S	**Sn**	**16 42 38.0**	**-4.7**
	221nm,0.7s						
KK31	**Karatay Array**	**6.57**	**360**	*i* PN	**Pn**	**16 41 29.1**	**+0.3**
KK31				pmax	pmax		
	comp=Z,59nm,0.3s						
KKAR	**Karatay Array**	**6.57**	**360**	*i* PN	**Pn**	**16 41 29.1**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,21nm,0.4s						
EKS2	**Erkin-Say**	**6.62**	**21**	P	**Pn**	**16 41 30.2**	**+0.7**
	SNR=56						
KZA	**Kyzart**	**6.64**	**32**	P	**Pn**	**16 41 30.1**	**+0.3**
	SNR=76						
AAK	**Ala-Archa**	**6.82**	**25**	P	**Pn**	**16 41 28.0**	**-4.2**
	SNR=33						
AAK	**Ala-Archa**	**6.82**	**25**	⇑P	**Pn**	**16 41 32.4**	**+0.2**
	SNR=23						
AAK	**Ala-Archa**	**6.82**	**25**	*e*PN	**Pn**	**16 41 31.8**	**-0.4**
AAK				*e*		16 42 47.6	
AAK				pmax	pmax		
	comp=Z,54nm,0.6s						
AAK	**Ala-Archa**	**6.82**	**25**	*e*Pn	**Pn**	**16 41 31.8**	**-0.5**
	comp=Z,54nm,0.6s						
AAK				*e*Sn	**Sn**	**16 42 47.5**	**-1.3**
KBK	**Karagaybulak**	**7.01**	**28**	P	**Pn**	**16 41 35.6**	**+0.9**
	SNR=38						
FRU	**Bishkek**	**7.04**	**25**	⇓*i* PN	**Pn**	**16 41 34.5**	**-0.6**
FRU				*i* S	**Sn**	**16 42 55.0**	**+0.9**
FRU				smax			
	comp=N,250nm,1.5s						
BHK	**Bhakra**	**7.07**	**134**	*ex*	x	16 41 55.2	
ULHL	**Ulahol**	**7.22**	**36**	P	**Pn**	**16 41 38.4**	**+0.8**
	SNR=14						
CHMS	**Chumysh**	**7.23**	**25**	P	**Pn**	**16 41 38.0**	**+0.3**
	SNR=61						
SDNR	**Sundarnagar**	**7.33**	**131**	*e*P	**Pn**	**16 41 39.0**	**0.0**
SDNR				*e*S	**Sn**	**16 42 55.0**	**-6.1**
USP	**Ospenovka**	**7.39**	**23**	P	**Pn**	**16 41 39.6**	**-0.2**
	SNR=20						
TKM2	**Tokmak 2**	**7.48**	**30**	P	**Pn**	**16 41 41.6**	**+0.6**
	SNR=114						
TKM2	**Tokmak 2**	**7.48**	**30**	⇓P	**Pn**	**16 41 41.5**	**+0.4**
	comp=N,6.2nm,0.6s						
TKM2	**Tokmak 2**	**7.48**	**30**	*i* PN	**Pn**	**16 41 41.4**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,110nm,0.7s						
SMLA	**Simla**	**7.71**	**132**	*e*P	**Pn**	**16 41 43.6**	**-0.5**
SMLA				*e*S	**Sn**	**16 43 05.0**	**-5.3**
SMLA				AML	AML	16 43 10.9	
	comp=N,459nm,0.3s						
SMLA				AML	AML	16 43 15.8	
	comp=E,390nm,0.3s						
KLP	**Kalpa**	**8.12**	**126**	*e*P	**Pn**	**16 41 48.4**	**-1.1**
KLP				*e*S	**Sn**	**16 43 16.4**	**-3.6**
KLP				AML	AML	16 43 23.3	
	comp=N,447nm,0.6s						
KLP				AML	AML	16 43 23.9	
	comp=E,360nm,0.7s						
BHGR	**Bahadurgarh**	**9.51**	**144**	*e*P	**Pn**	**16 42 07.4**	**-0.5**
BHGR				*e*S	**Sn**	**16 43 44.7**	**-8.6**
JASL	**Jaisalmer**	**9.58**	**178**	*e*P	**Pn**	**16 42 06.4**	**-2.6**
NDI	**New Delhi**	**9.64**	**142**	*e*P	**Pn**	**16 42 08.7**	**-1.1**
NDI				*e*S	**Sn**	**16 43 49.3**	**-7.3**
NDI				AML	AML	16 43 52.5	
	comp=E,146nm,0.6s						
NDI				AML	AML	16 43 53.3	
	comp=N,94nm,0.3s						
AYAN	**Aya Nagar**	**9.77**	**143**	*e*P	**Pn**	**16 42 10.0**	**-1.4**
AYAN				*e*S	**Sn**	**16 43 51.2**	**-8.4**
ASOR	**Ausora**	**9.87**	**140**	*e*P	**Pn**	**16 42 12.8**	**+0.1**
AJM	**Ajmer**	**10.62**	**160**	*i* P	**Pn**	**16 42 22.0**	**-0.6**
AJM				*i* S	**Sn**	**16 44 11.0**	**-9.1**
LGTI	**Lohaghat**	**10.79**	**128**	*i* P	**Pn**	**16 42 24.3**	**-0.6**
LGTI				*e*S	**Sn**	**16 44 14.5**	**-10**
AGRA	**Agra**	**11.21**	**144**	*e*P	**Pn**	**16 42 30.1**	**-0.3**
AGRA				*e*S	**Sn**	**16 44 25.5**	**-8.8**
AGRA				AML	AML	16 44 43.8	
	comp=E,89nm,0.7s						
AGRA				AML	AML	16 44 44.6	
	comp=N,128nm,0.5s						
MKAR	**Makanchi Array**	**13.49**	**37**	P	**Pn**	**16 42 58.7**	**-1.2**
	comp=N,0.8nm,0.3s,baz=218,slow=14,SNR=35						
MKAR	**Makanchi Array**	**13.49**	**37**	*e*P	**Pn**	**16 42 59.5**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MKAR	**Makanchi Array**	**13.49**	**37**	P	**Pn**	**16 42 58.7**	**-1.2**
KOLN	**Koldanda**	**14.09**	**125**	*e*P	**Pn**	**16 43 05.9**	**-1.6**
	comp=Z,24nm,0.5s						
GKN	**Gorkha**	**14.64**	**121**	*e*P	**Pn**	**16 43 13.3**	**-1.0**
	comp=Z,56nm,0.3s						
AB31	**Akbulak array**	**14.88**	**332**	⇑P	**Pn**	**16 43 15.3**	**-2.0**
	comp=Z,5.7nm,0.5s						
AB31				⇓S	**Sn**	**16 45 50.6**	**-12**
	comp=Z,8.1nm,0.6s,baz=155,slow=22,SNR=6.0						
AB31	**Akbulak array**	**14.88**	**332**	P	**Pn**	**16 43 15.2**	**-2.0**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
WMQ	**Urumqi**	**14.99**	**56**	P	**Pn**	**16 43 19.5**	**+0.8**
WMQ				XP	sP	16 44 02.1	-3.9
WMQ				S	**Sn**	**16 46 00.4**	**-4.9**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,141nm,4.5s						
WMQ				LR	LR		
	comp=N,470nm,11.0s						
WMQ				LR	LR		
	comp=E,352nm,9.9s						
WMQ				LR	LR		
	comp=Z,462nm,11.5s						
DMN	**Daman**	**15.21**	**122**	*e*P	**Pn**	**16 43 21.4**	**0.0**
	comp=Z,38nm,0.3s						
KKN	**Kakani**	**15.22**	**121**	*e*P	**Pn**	**16 43 20.7**	**-0.8**
	comp=Z,153nm,0.5s						
KKN	**Kakani**	**15.22**	**121**	*e*P	**Pn**	**16 43 20.7**	**-0.8**
KKN				pmax	pmax		
	comp=Z,153nm,0.5s						
KURK	**Kurchatov**	**15.33**	**20**	⇓P	**Pn**	**16 43 25.1**	**+2.3**
	SNR=7.1						
KURK	**Kurchatov**	**15.33**	**20**	⇑*e*P	**Pn**	**16 43 20.5**	**-2.3**
KURK	**Kurchatov**	**15.33**	**20**	*e*Pn	**Pn**	**16 43 24.6**	**+1.8**
	comp=Z,21nm,1.0s						
PKI	**Pulchoki**	**15.45**	**121**	*e*P	**Pn**	**16 43 23.6**	**-0.7**
	comp=Z,142nm,0.6s						
PKI	**Pulchoki**	**15.45**	**121**	*e*P	**Pn**	**16 43 23.6**	**-0.7**
PKI				pmax	pmax		
	comp=Z,142nm,0.6s						
GUN	**Gumba**	**15.56**	**119**	*e*P	**Pn**	**16 43 26.4**	**+0.7**
	comp=Z,55nm,0.4s						
JIRN	**Jiri**	**15.93**	**119**	*e*P	**Pn**	**16 43 31.1**	**+0.8**
	comp=Z,100nm,0.5s						
VOSK	**Vostochnaya**	**16.20**	**1**	⇓P	**Pn**	**16 43 32.2**	**-1.2**
	comp=Z,24nm,1.1s						
VOSK				⇓S	**S**	**16 46 25.4**	**-8.3**
	comp=Z,5.0nm,0.9s						
ZRNK	**Zerenda**	**16.45**	**357**	⇓P	**Pn**	**16 43 35.2**	**-1.4**
	comp=Z,18nm,0.8s						
ZRNK	**Zerenda**	**16.45**	**357**	*e*P	**Pn**	**16 43 35.3**	**-1.3**
ZRNK				*e*S	**S**	**16 46 28.6**	**-11**
ZRNK				pmax	pmax		
	comp=Z,20nm,0.8s						
ZRNK	**Zerenda**	**16.45**	**357**	*e*Pn	**Pn**	**16 43 35.3**	**-1.3**
	comp=Z,20nm,0.8s						
ZRNK				*e*S	**S**	**16 46 28.6**	**-11**
BVA0	**Borovoye Array**	**16.49**	**360**	⇑P	**Pn**	**16 43 35.5**	**-1.6**
	comp=Z,2.8nm,0.8s						
BVA0	**Borovoye Array**	**16.49**	**360**	P	**Pn**	**16 43 35.5**	**-1.6**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**16.49**	**360**	P	**Pn**	**16 43 35.6**	**-1.5**
	comp=Z,1.8nm,0.3s,baz=172,slow=13,SNR=49						
BVAR				S	**S**	**16 46 38.0**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=165,slow=22,SNR=3.8						
BVAR	**Borovoye Array**	**16.49**	**360**	P	**Pn**	**16 43 35.6**	**-1.5**
BVAR				S	**S**	**16 46 38.0**	**-2.5**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BRVK	**Borovoye**	**16.53**	**359**	P	**Pn**	**16 43 36.8**	**-0.7**
	SNR=9.7						
BRVK	**Borovoye**	**16.53**	**359**	*e*P	**Pn**	**16 43 36.3**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BRVK	**Borovoye**	**16.53**	**359**	*e*Pn	**Pn**	**16 43 36.3**	**-1.2**
	comp=Z,8.2nm,0.7s						
AKTK	**Aktyubinsk**	**16.57**	**331**	P	**Pn**	**16 43 38.2**	**+0.2**
AKTK				S	**S**	**16 46 36.4**	**-5.8**
AKTO	**Aktyubinsk**	**16.57**	**331**	⇓P	**Pn**	**16 43 37.7**	**-0.3**
	comp=Z,1.0nm,0.9s						
AKTO				⇑S	**S**	**16 46 33.1**	**-9.1**
	comp=Z,0.7nm,1.1s						
AKTO	**Aktyubinsk**	**16.57**	**331**	P	**Pn**	**16 43 38.2**	**+0.2**
	comp=Z,3.0nm,0.3s,baz=146,slow=12,SNR=115						
AKTO				S	**S**	**16 46 36.4**	**-5.8**
	comp=Z,0.5nm,0.3s,baz=54,slow=19,SNR=5.8						
AKTO	**Aktyubinsk**	**16.57**	**331**	P	**Pn**	**16 43 38.2**	**+0.2**
AKTO				S	**S**	**16 46 36.4**	**-5.8**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKTO				smax			
	comp=E,1.0nm,0.3s						
WSAR	**Wadi Sarin**	**16.77**	**221**	P	**Pn**	**16 43 41.7**	**+1.3**
	comp=E,0.5nm,0.3s,baz=31,slow=11,SNR=6.0						
WSAR	**Wadi Sarin**	**16.77**	**221**	P	**Pn**	**16 43 41.7**	**+1.3**
CHKZ	**Chkalovo**	**17.15**	**0**	⇓P	**Pn**	**16 43 43.7**	**-1.2**
	comp=E,13nm,1.2s						
CHKZ				⇑S	**S**	**16 46 49.8**	**-5.0**
	comp=E,15nm,1.9s						
CHKZ	**Chkalovo**	**17.15**	**0**	*e*P	**Pn**	**16 43 43.4**	**-1.5**
CHKZ				*e*S	**S**	**16 46 49.3**	**-5.5**
CHKZ				pmax	pmax		
	comp=Z,13nm,0.8s						
CHKZ	**Chkalovo**	**17.15**	**0**	*e*P	**Pn**	**16 43 43.4**	**-1.6**
	comp=Z,13nm,0.8s						
CHKZ				*e*S	**S**	**16 46 49.3**	**-5.5**
ZAL	**Zalesovo**	**20.03**	**25**	P	**P**	**16 44 15.8**	**+0.3**
	comp=Z,10nm,0.3s,baz=252,slow=7.4,SNR=73						
ZAL				S	**S**	**16 47 48.7**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=162,slow=19,SNR=2.2						
ZAL	**Zalesovo**	**20.03**	**25**	P	**P**	**16 44 15.9**	**+0.4**
ZAL				S	**S**	**16 47 48.7**	**-3.5**
ZAL				pmax	pmax		
	comp=Z,10.0nm,0.3s						
NVS	**Novosibirsk**	**20.29**	**22**	⇓*i*P	**P**	**16 44 18.4**	**+0.1**
NVS				*e*S	**S**	**16 47 47.9**	**-9.4**
NVS				pmax	pmax		
	comp=N,22nm,1.1s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.0s						
NVS				smax			
	comp=N,11nm,1.5s						
NVS				smax			
	comp=E,4.0nm,1.2s						
HYB	**Hyderabad**	**20.32**	**157**	*i* P	**P**	**16 44 22.0**	**+3.4**
HYB				*e*S	**S**	**16 47 57.0**	**-0.9**
HYB				*e*PcP	PcP	16 48 28.0	+2.7
HYB	**Hyderabad**	**20.32**	**157**	*e*P	**P**	**16 44 22.0**	**+3.4**
HYB				*e*S	PcP	16 48 28.0	+2.7
KBD	**Kabd**	**20.51**	**256**	*e*P	**P**	**16 44 20.6**	**0.0**
KBD				AMb	AMB	16 44 22.8	
	comp=Z,82nm,1.1s						
MIB	**Mutribah**	**20.51**	**258**	*e*P	**P**	**16 44 20.9**	**+0.3**
MIB				AMb	AMB	16 44 24.6	
	comp=Z,32nm,0.7s						
GNI	**Garni**	**20.52**	**288**	P	**P**	**16 44 21.0**	**+0.2**
	comp=Z,14nm,0.6s,baz=135,slow=5.7,SNR=6.6						
GNI	**Garni**	**20.52**	**288**	*e*P	**P**	**16 44 23.4**	**+2.6**
GNI				pmax	pmax		
	comp=Z,21nm,1.0s						
GNI	**Garni**	**20.52**	**288**	P	**P**	**16 44 21.3**	**+0.5**
	comp=Z,34nm,1.0s						
NAY	**Al-Naaiem**	**20.83**	**256**	*e*P	**P**	**16 44 24.1**	**+0.1**
NAY				AMb	AMB	16 44 26.2	
	comp=Z,22nm,1.1s						
RST	**Umm Al-Ruwaisa**	**20.91**	**257**	*e*P	**P**	**16 44 24.9**	**0.0**
RST				AMb	AMB	16 44 28.5	
	comp=Z,52nm,0.8s						
ARU	**Arti**	**21.48**	**342**	⇓*i*P	**P**	**16 44 29.7**	**-1.3**
ARU				*e*		16 45 04.0	
ARU				*e*S	**S**	**16 48 14.8**	**-5.1**
ARU				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.3						
ARU	**Arti**	**21.48**	**342**	*e*P	**P**	**16 44 30.0**	**-1.0**
	comp=Z,18nm,0.9s,mb4.4						
GTA	**Gaotai**	**23.22**	**74**	*e*P	**P**	**16 44 50.9**	**+2.9**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb3.7						
MALT	**Malatya**	**25.49**	**284**	*e*P	**P**	**16 45 06.9**	**-1.6**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
MALT	**Malatya**	**25.49**	**284**	*e*P	**P**	**16 45 06.9**	**-1.6**
	comp=Z,4.0nm,0.9s,mb4.0						
LZH	**Lanzhou**	**26.78**	**81**	*e*P	**P**	**16 45 22.1**	**+2.0**
LZH				AP	pP	16 45 55.3	+3.1
LZH				XP	sP	16 46 14.1	+4.1
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.6						
SONM	**Songino Array**	**28.63**	**55**	P	**P**	**16 45 37.3**	**+0.7**
	comp=Z,0.5nm,0.6s,mb3.4,baz=255,slow=5.7,SNR=4.2						
SONM				pP	pP	16 46 11.9	+3.0
	comp=Z,1.3nm,0.8s,baz=251,slow=9.1,SNR=4.6						
SONM	**Songino Array**	**28.63**	**55**	P	**P**	**16 45 37.3**	**+0.7**
SONM				*PP	pP	16 46 11.9	+3.0
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BR131	**Keskin Array S**	**29.06**	**288**	*e*P	**P**	**16 45 42.3**	**+1.9**
	comp=Z,2.0nm,0.6s,mb4.0						
BRTR	**Keskin Array B**	**29.06**	**288**	P	**P**	**16 45 42.1**	**+1.7**
	comp=Z,2.4nm,0.7s,mb4.0,baz=100,slow=8.8,SNR=14						
BRTR	**Keskin Array B**	**29.06**	**288**	*i* P	**P**	**16 45 42.0**	**+1.6**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ULN	**Ulaanbaatar**	**29.07**	**56**	P	**P**	**16 45 41.0**	**+0.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
ULN	**Ulaanbaatar**	**29.07**	**56**	P	**P**	**16 45 41.0**	**+0.5**
	comp=Z,1.7nm,1.0s,mb3.7						
OBN	**Obninsk**	**29.67**	**320**	⇑*e*P	**P**	**16 45 45.3**	**-0.4**
OBN				*e**PP	pP	16 46 13.3	-4.8
OBN				*e*		16 46 42.3	
OBN				*e*S	**S**	**16 50 37.5**	**+7.5**
OBN				pmax	pmax		
	comp=Z,10.0nm,1.8s,mb4.2						
KMI	**Kunming**	**29.78**	**103**	P	**P**	**16 45 49.3**	**+2.6**
KMI				AP	pP	16 46 18.6	-0.5
KMI				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.3						
HHC	**Hu-ho-hao-te**	**32.11**	**70**	*e*P	**P**	**16 46 09.6**	**+2.4**
HHC				AP	pP	16 46 39.8	0.0
HHC				XP	sP	16 46 55.9	-1.5
HHC				PP	PP	16 47 20.1	-2.7
HHC				S	**S**	**16 51 11.6**	**+3.5**
HHC				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,98nm,4.5s						
HHC				LR	LR		
	comp=N,93nm,4.1s						
HHC				LR	LR		
	comp=E,93nm,6.3s						
HHC				LR	LR		
	comp=Z,113nm,9.2s						
AKASG	**Malin Array Be**	**32.63**	**309**	P	**P**	**16 46 11.6**	**-0.1**
	comp=Z,1.6nm,0.4s,mb4.1,baz=83,slow=7.2,SNR=23						
AKASG	**Malin Array Be**	**32.63**	**309**	*i* P	**P**	**16 46 10.3**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
JOF	**Joensuu**	**35.65**	**330**	*ep*	**P**	**16 46 37.4**	**-0.4**
	comp=Z,3.1nm,0.5s,mb4.2						
JOF	**Joensuu**	**35.65**	**330**	*e*P	**P**	**16 46 37.4**	**-0.4**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
KWP	**Kalwaria**	**36.68**	**306**	P	**P**	**16 46 47.6**	**+1.1**
KWP				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.5						
KWP	**Kalwaria**	**36.68**	**306**	P	**P**	**16 46 47.6**	**+1.0**
	comp=Z,7.9nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**37.25**	**326**	P	**P**	**16 46 51.8**	**+0.5**
	comp=Z,2.0nm,0.5s,mb4.0,baz=102,slow=10,SNR=26						
FINES	**FINESS Array B**	**37.25**	**326**	*i* P	**P**	**16 46 51.7**	**+0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KAF	**Kangasniemi**	**37.40**	**327**	*ep*	**P**	**16 46 52.1**	**-0.4**
	comp=Z,0.5nm,0.3s,mb3.6,baz=113,slow=8.4						
KAF	**Kangasniemi**	**37.40**	**327**	*e*P	**P**	**16 46 52.1**	**-0.4**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.9						
VYHS	**Vyhne**	**39.23**	**304**	*e*P	**P**	**16 47 08.6**	**+0.8**
NJ2	**Nanjing**	**39.85**	**82**	*e*P	**P**	**16 47 15.3**	**+2.3**
NJ2				PP	PP	16 48 56.0	+8.3
NJ2				S	**S**	**16 53 05.0**	**-1.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,110nm,3.6s						
NJ2				LR	LR		
	comp=N,190nm,24.6s						
NJ2				LR	LR		
	comp=E,340nm,23.6s						
NJ2				LR	LR		
	comp=Z,80nm,25.9s						
MORC	**Moravsky Berou**	**40.04**	**306**	*e*P	**P**	**16 47 15.6**	**+1.1**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
MORC	**Moravsky Berou**	**40.04**	**306**	*e*P	**P**	**16 47 15.6**	**+1.1**
	comp=Z,1.9nm,0.6s,mb3.9						
ARCES	**ARCESS Array B**	**40.97**	**338**	P	**P**	**16 47 21.9**	**-0.3**
	comp=Z,3.4nm,0.7s,mb4.1,baz=112,slow=8.0,SNR=8.5						
ARCES	**ARCESS Array B**	**40.97**	**338**	P	**P**	**16 47 21.9**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SSE	**Sheshan**	**42.05**	**82**	*e*P	**P**	**16 47 32.4**	**+1.4**
S

YAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
YAK Yakutsk 44.16 36 *e*P **P 16 47 47.3 -0.6**
comp=Z,8.8nm,0.7s,mb4.5
KMBO Kilima Mbogo 48.57 227 P **P 16 48 22.8 +0.5**
comp=Z,0.9nm,0.6s,mb3.6,baz=34,slow=18,SNR=4.4
KMBO Kilima Mbogo 48.57 227 P **P 16 48 22.8 +0.5**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 48.57 227 P **P 16 48 22.8 +0.5**
TOA0 Torodi Ar. Sit 65.34 268 *e*P **P 16 50 19.2 -1.0**
TORD Torodi Ar. Bea 65.34 268 P **P 16 50 19.2 -1.0**
comp=Z,4.9nm,0.6s,mb4.5,baz=46,slow=5.6,SNR=36
BOSA Boshof 77.52 220 P **P 16 51 33.3 +0.1**
comp=Z,4.6nm,0.9s,mb4.1,baz=173,slow=19,SNR=6.6
BOSA Boshof 77.52 220 P **P 16 51 33.3 0.0**
BOSA pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
YKA Yellowknife Ar 81.23 2 P **P 16 51 53.0 -0.4**
comp=Z,2.3nm,1.1s,mb3.7,baz=7.8,slow=5.7,SNR=4.2
YKA pP pP 16 52 34.2 +2.8
comp=Z,0.7nm,0.5s,baz=352,slow=5.2,SNR=3.4
YKA Yellowknife Ar 81.23 2 P **P 16 51 53.0 -0.4**
YKA *PP pP 16 52 34.2 +2.7
YKA pmax pmax
comp=Z,2.0nm,1.1s
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 81.23 2 P **P 16 51 53.0 -0.4**
YKA pP pP 16 52 34.2 +2.8

BJI ***22*** *16:42:52.7, 52.0S×102.7E, h66km, mB5.0, mb5.0, Ms4.6, Ms2.4*
MOS ***22*** *16:42:52.3±1.0, 47.0S×102.4E, h33km, mb5.2/31, Error ellipse: s-maj=11.7km s-min=5.7km az=109.1*
ISCJB ***22*** *16:42:53.4±0.2, 48.7S±0.04×102.2E±0.04, h46km, mb5.0/83, MS4.3/35, Error ellipse: s-maj=6.8km s-min=4.3km az=104.4*
NEIC ***22*** *16:42:54.7±0.2, 48.5S×102.5E, mb5.0/35, Error ellipse: s-maj=8.3km s-min=5.4km az=59.0*
NEIC Felt [III] at Bengkulu.
IDC ***22*** *16:42:57.2±2.7, 48.7S×102.5E, h64km±24km, mb4.4/21, mb1 4.4/21, mb1mx4.4/23, mbtmp4.7/21, MS4.1/19, Ms1 4.1/19, ms1mx3.9/31, Error ellipse: s-maj=18.7km s-min=8.9km az=49.0*
ISC 22 16:42:55.5±0.2, 49.0S±0.04×102.0E±0.004, h48km, h48km±2.1km; pP-P, n222, σ1§14/214, mb5.0/83, MS4.3/35, 14C-15D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.30**	**17**	P		**Pn**	**16 43 15.6**	**-1.6**
	3μm,0.9s							
PPI	**Padang Panjang**	**4.76**	**338**	P		**Pn**	**16 44 06.1**	**+1.4**
	252nm,0.8s							
LEM	**Lembang**	**5.72**	**110**	P		**Pn**	**16 44 19.5**	**+1.7**
	442nm,1.1s							
KGM	**Kluang**	**6.96**	**9**	P		**Pn**	**16 44 37.3**	**+2.6**
BJII	**Banjamegara**	**7.85**	**108**	P		**Pn**	**16 44 50.3**	**+3.3**
	75nm,1.1s							
PSI	**Prapat**	**8.32**	**337**	P		**Pn**	**16 44 49.8**	**-3.7**
	1.3nm,0.3s,baz=167,slow=11,SNR=16							
PSI				LR		LR	16 48 29.4	
	comp=Z,2μm,19.6s,baz=148,slow=40							
COCO	**West Island**	**8.98**	**216**	*e*Pn		**Pn**	**16 44 59.3**	**-3.2**
	223nm,0.8s							
IPM	**Ipoh**	**9.39**	**353**	P		**Pn**	**16 45 12.1**	**+4.0**
KULM	**Kulim**	**10.24**	**351**	*e*Pn		**Pn**	**16 45 18.4**	**-1.3**
KSM	**Kuching**	**10.28**	**52**	*e*Pn		**Pn**	**16 45 23.3**	**+3.0**
KKM	**Kota Kinabalu**	**17.72**	**52**	P		**Pn**	**16 47 02.7**	**+4.1**
KKM	**Kota Kinabalu**	**17.72**	**52**	*e*Pn		**Pn**	**16 46 58.7**	**+0.1**
PCI	**Palu**	**18.05**	**78**	P		**Pn**	**16 47 03.8**	**+1.1**
	321nm,1.1s							
TSM	**Tawau**	**18.12**	**60**	P		**Pn**	**16 47 04.9**	**+1.3**
UBT	**Ubonrachathani**	**20.20**	**8**	⇓P		**P**	**16 47 24.2**	**-2.0**
NST	**Nakhon Sawan**	**20.54**	**354**	P		**P**	**16 47 28.0**	**-1.9**
KKTK	**Khon Kaen**	**21.11**	**2**	P		**P**	**16 47 35.6**	**-0.4**
	617nm,0.9s,mb5.9							
CM31	**Chiang Mai Arr**	**23.43**	**352**	*e*P		**P**	**16 47 57.6**	**-2.8**
	84nm,0.9s,mb5.2							
MBWA	**Marble Bar**	**23.47**	**135**	*e*P		**P**	**16 47 59.4**	**-1.3**
	18nm,1.2s,mb4.4							
CHG	**Chiang Mai**	**23.78**	**352**	⇓P		**P**	**16 48 02.5**	**-1.1**
	48nm,1.1s,mb4.8							
CHTO	**Chiang Mai**	**23.78**	**352**	*e*P		**P**	**16 48 01.8**	**-1.8**
CHTO				pmax		pmax		
	comp=Z,41nm,0.9s,mb4.9							
CHTO	**Chiang Mai**	**23.78**	**352**	*e*P		**P**	**16 48 01.8**	**-1.8**
	comp=Z,41nm,0.9s,mb4.9							
CHRT	**Chiangrai**	**24.73**	**355**	⇑P		**P**	**16 48 11.0**	**-1.3**
	comp=Z,313nm,1.1s,mb5.8							
QIZ	**Qiongzhong**	**24.94**	**17**	P		**P**	**16 48 15.0**	**+0.8**
QIZ				S		**S**	**16 52 35.4**	**+1.1**
QIZ				AMB		AMB		
	comp=Z,107nm,1.0s,mb5.3							
QIZ				AMB		AMB		
	comp=Z,113nm,5.0s							
QIZ				LR		LR		
	comp=N,487nm,16.1s							
QIZ				LR		LR		
	comp=Z,573nm,16.1s,MS4.2							
QIZ	**Qiongzhong**	**24.94**	**17**	*e*P		**P**	**16 48 15.8**	**+1.6**
	comp=Z,104nm,1.0s,mb5.3							
FITZ	**Fitzroy Crossi**	**26.40**	**122**	⇓*i*P		**P**	**16 48 26.4**	**-1.0**
	comp=Z,33nm,0.8s,mb4.9							
FITZ	**Fitzroy Crossi**	**26.40**	**122**	P		**P**	**16 48 27.4**	**-0.1**
	comp=Z,13nm,0.9s,mb4.4,baz=286,slow=6.1,SNR=21							
FITZ				LR		LR	16 58 59.7	
	comp=Z,232nm,19.9s,MS3.7,baz=299,slow=36							
TGY	**Tagaytay City**	**26.49**	**44**	P		**P**	**16 48 29.8**	**+1.6**
	comp=Z,118nm,0.9s,baz=221,slow=9.6,SNR=3.7							
KMI	**Kunming**	**29.84**	**1**	P		**P**	**16 48 59.4**	**+1.3**
KMI				PP		PP	16 49 58.0	-8.1
KMI				S		**S**	**16 53 53.8**	**+2.1**
KMI				SS		ScP	16 55 33.8	-4.7
KMI				AMB		AMB		
	comp=Z,15nm,0.9s,mb4.7							
KMI				AMB		AMB		
	comp=Z,153nm,5.4s							
KMI				LR		LR		
	comp=N,476nm,18.1s,MS4.3							
KMI				LR		LR		
	comp=E,456nm,16.4s,MS4.3							
KMI				LR		LR		
	comp=Z,531nm,17.7s,MS4.2							
GZH	**Guangzhou**	**29.87**	**21**	P		**P**	**16 49 02.5**	**+4.2**
GZH				LR		LR		
	comp=N,271nm,18.6s,MS4.1							
GZH				LR		LR		
	comp=E,338nm,20.2s,MS4.1							
GZH				LR		LR		
	comp=Z,601nm,17.7s,MS4.3							
KAKA	**Kakadu**	**30.85**	**107**	*e*P		**P**	**16 49 02.2**	**-4.8**
	comp=Z,14nm,0.6s,mb5.0							
NWAO	**Narrogin (SRO)**	**31.22**	**155**	P		**P**	**16 49 10.5**	**+0.2**
	comp=Z,8.6nm,1.0s,mb4.5,baz=333,slow=9.0,SNR=2.6							
NWAO				LR		LR	17 00 24.1	
	comp=Z,628nm,18.1s,MS4.3,baz=151,slow=34							
GYA	**Guiyang**	**31.47**	**8**	P		**P**	**16 49 12.3**	**-0.2**
GYA				PP		PP	16 50 16.3	-7.8
GYA				S		**S**	**16 54 17.6**	**+0.5**
GYA				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.9							
GYA				AMB		AMB		
	comp=Z,110nm,5.0s							
GYA				LR		LR		
	comp=N,480nm,16.4s,MS4.4							
GYA				LR		LR		
	comp=E,470nm,16.7s,MS4.4							
GYA				LR		LR		
	comp=Z,460nm,17.0s,MS4.2							
WRA	**Warramunga Arr**	**34.66**	**118**	P		**P**	**16 49 40.1**	**-0.2**
	comp=Z,11nm,0.8s,mb4.8,baz=292,slow=10,SNR=46							
WRA				S		**S**	**16 55 06.4**	**-0.3**
	comp=Z,2.2nm,1.0s,baz=296,slow=15,SNR=5.0							
WRAB	**Tennant Creek**	**34.67**	**118**	P		**P**	**16 49 40.6**	**+0.2**
	comp=Z,125nm,0.8s,mb5.9,SNR=6.6							
WRAB	**Tennant Creek**	**34.67**	**118**	⇑*i*P		**P**	**16 49 39.3**	**-1.1**
WRAB	**Tennant Creek**	**34.67**	**118**	*e*P		**P**	**16 49 40.3**	**-0.1**
	comp=Z,27nm,0.9s,mb5.2							
WB2	**Warramunga Arr**	**34.67**	**118**	*e*P		**P**	**16 49 40.1**	**-0.3**
WB2				*e*S		**S**	**16 55 06.5**	**-0.4**
YHNB	**Yeheng**	**34.81**	**32**	*e*P		**P**	**16 49 41.7**	**+0.1**
CD2	**Chengdu**	**35.63**	**2**	⇓*i*P		**P**	**16 49 48.3**	**-0.4**
CD2				PP		PP	16 51 09.5	-0.7
CD2				S		**S**	**16 55 24.0**	**+2.4**
CD2				SS		SS	16 57 45.1	-13
CD2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.8							
CD2				AMB		AMB		
	comp=Z,40nm,6.4s							
CD2				LR		LR		
	comp=N,900nm,20.4s							
CD2				LR		LR		
	comp=Z,450nm,20.4s,MS4.2							
ASPA	**Alice Springs**	**35.79**	**125**	*e*P		**P**	**16 49 50.5**	**+0.4**
ASPA				*e*S		**S**	**16 55 20.2**	**-3.8**
AS31	**Alice Springs**	**35.80**	**125**	*e*P		**P**	**16 49 50.5**	**+0.4**
AS31				*e*S		**S**	**16 55 20.2**	**-3.9**
ASAR	**Alice Springs**	**35.80**	**125**	P		**P**	**16 49 50.5**	**+0.4**
	comp=Z,111nm,0.9s,mb4.8,baz=295,slow=8.1,SNR=99							
ASAR				S		**S**	**16 55 23.9**	**-0.1**
	comp=Z,2.7nm,1.1s,baz=295,slow=17,SNR=7.9							
ASAR				LR		LR	17 05 02.0	
	comp=Z,367nm,18.9s,MS4.2,baz=307,slow=37							
ASAR	**Alice Springs**	**35.80**	**125**	P		**P**	**16 49 50.5**	**+0.4**
ASAR				S		**S**	**16 55 24.0**	**-0.1**
XAN	**Xi'an**	**39.24**	**9**	P		**P**	**16 50 18.1**	**-1.1**
XAN				AMB		AMB		
	comp=Z,22nm,0.8s,mb4.9							
XAN				LR		LR		
	comp=N,382nm,15.3s,MS4.4							
XAN				LR		LR		
	comp=E,275nm,14.6s,MS4.4							
XAN				LR		LR		
	comp=Z,795nm,15.0s,MS4.7							
SSE	**Sheshan**	**40.12**	**26**	*e*P		**P**	**16 50 26.6**	**+0.1**
SSE				PP		PP	16 52 00.1	+0.7
SSE				PCP		PcP	16 52 31.5	+1.2
SSE				S		**S**	**16 56 32.6**	**+3.1**
SSE				AMB		AMB		
	comp=Z,34nm,0.8s,mb5.1							
SSE				AMB		AMB		
	comp=Z,53nm,4.8s							
SSE				LR		LR		
	comp=N,207nm,16.5s,MS4.1							
SSE				LR		LR		
	comp=E,116nm,16.6s,MS4.1							
SSE				LR		LR		
	comp=Z,270nm,16.4s,MS4.2							
JOW	**Kunigami**	**40.39**	**37**	P		**P**	**16 50 28.7**	**0.0**
	comp=Z,11nm,0.8s,mb4.6,baz=270,slow=20,SNR=3.6							
LZH	**Lanzhou**	**40.80**	**2**	*e*P		**P**	**16 50 32.3**	**+0.2**
LZH				AP		pP	16 50 43.3	-1.6
LZH				PP		PP	16 52 10.0	+3.2
LZH				*e*S		**S**	**16 56 43.0**	**+3.4**
LZH				*e*SS		SS	16 59 42.0	+0.1
LZH				AMB		AMB		
	comp=Z,80nm,1.2s,mb5.2							
LZH				AMB		AMB		
	comp=Z,250nm,4.5s							
LZH				LR		LR		
	comp=N,1μm,14.0s							
LZH				LR		LR		
	comp=Z,2μm,15.0s,MS5.0							
NDI	**New Delhi**	**41.14**	**326**	*e*P		**P**	**16 50 29.0**	**-6.0**
GTA	**Gaotai**	**44.14**	**357**	⇑P		**P**	**16 50 59.8**	**+0.5**
GTA				PP		PP	16 52 43.5	+0.8
GTA				S		**S**	**16 57 32.8**	**+4.0**
GTA				SS		SS	17 00 46.8	-0.8
GTA				AMB		AMB		
	comp=Z,13nm,1.0s,mb4.6							
GTA				AMB		AMB		
	comp=Z,87nm,5.0s							
GTA				LR		LR		
	comp=N,484nm,19.0s,MS4.5							
GTA				LR		LR		
	comp=E,202nm,17.1s,MS4.5							
GTA				LR		LR		
	comp=Z,659nm,17.1s,MS4.6							
PMG	**Port Moresby**	**44.80**	**98**	*e*P		**P**	**16 51 03.8**	**-0.8**
PMG				pmax		pmax		
	comp=Z,39nm,0.9s							
PMG	**Port Moresby**	**44.80**	**98**	*e*P		**P**	**16 51 03.8**	**-0.8**
	comp=Z,39nm,0.9s,mb5.2							
CTA	**Charters Tower**	**45.41**	**113**	*e*P		**P**	**16 51 09.8**	**+0.4**
	comp=Z,18nm,0.9s,mb4.9							
CTA	**Charters Tower**	**45.41**	**113**	P		**P**	**16 51 09.9**	**+0.5**
	comp=Z,24nm,0.9s,mb5.0,baz=287,slow=8.9,SNR=11							
CTA				LR		LR	17 12 27.2	
	comp=Z,157nm,19.1s,MS4.0,baz=51,slow=39							
CTA	**Charters Tower**	**45.41**	**113**	*e*P		**P**	**16 51 09.8**	**+0.4**
CTA				pmax		pmax		
	comp=Z,19nm,0.9s							
CTAO	**Charters Tower**	**45.41**	**113**	*e*P		**P**	**16 51 09.5**	**+0.1**
CTAO				pmax		pmax		
	comp=Z,38nm,1.1s,mb5.1							
CTAO	**Charters Tower**	**45.41**	**113**	*e*P		**P**	**16 51 09.5**	**+0.1**
	comp=Z,38nm,1.1s,mb5.1							
STKA	**Stephens Creek**	**45.60**	**131**	*e*P		**P**	**16 51 11.5**	**+0.6**
	comp=Z,16nm,0.6s,mb5.1							
STKA	**Stephens Creek**	**45.60**	**131**	P		**P**	**16 51 11.7**	**+0.9**
	comp=Z,4.7nm,0.6s,mb4.6,baz=312,slow=8.8,SNR=12							
STKA				LR		LR	17 11 27.8	
	comp=Z,302nm,22.0s,MS4.2,baz=16,slow=38							
HHC	**Hu-ho-hao-te**	**46.33**	**10**	*e*P		**P**	**16 51 17.6**	**+1.0**
HHC				PCP		PcP	16 52 53.8	+2.6
HHC				PP		PP	16 53 05.8	-0.1
HHC				PCS		PcS	16 56 44.3	-1.5
HHC				S		**S**	**16 58 03.0**	**+2.7**
HHC				SS		SS	17 01 23.8	-2.4
HHC				AMB		AMB		
	comp=Z,30nm,0.7s,mb5.3							
HHC				AMB		AMB		
	comp=Z,99nm,5.3s							
HHC				LR		LR		
	comp=N,204nm,27.6s							
HHC				LR		LR		
	comp=E,302nm,17.7s							
HHC				LR		LR		
	comp=Z,322nm,17.1s							
BJT	**Baijiatuan**	**46.51**	**15**	*e*P		**P**	**16 51 17.1**	**-0.9**
BJT				pmax		pmax		
	comp=Z,12nm,0.8s							
BJT	**Baijiatuan**	**46.51**	**15**	*e*P		**P**	**16 51 17.1**	**-0.9**
	comp=Z,12nm,0.8s,mb4.9							
BJI	**Beijing**	**46.53**	**15**	*e*P		**P**	**16 51 17.8**	**-0.4**
BJI				AMB		AMB		
	comp=Z,13nm,0.9s,mb4.9							
BJI				LR		LR		
	comp=N,468nm,20.6s,MS4.5							
BJI				LR		LR		
	comp=E,210nm,16.3s,MS4.5							
BJI				LR		LR		
	comp=Z,500nm,19.4s,MS4.5							
WMQ	**Urumqi**	**50.23**	**346**	P		**P**	**16 51 48.3**	**+1.6**
WMQ				PCP		PcP	16 53 07.5	+2.3
WMQ				PP		PP	16 53 44.4	+2.1
WMQ				S		**S**	**16 58 58.5**	**+3.0**
WMQ				AMB		AMB		
	comp=Z,31nm,1.1s,mb5.2							
WMQ				AMB		AMB		
	comp=Z,228nm,5.1s							
WMQ				LR		LR		
	comp=N,1μm,16.8s,MS5.1							
WMQ				LR		LR		
	comp=E,924nm,15.7s,MS5.1							
WMQ				LR		LR		
	comp=Z,1μm,17.3s,MS5.0							
KSH	**Kashi**	**50.38**	**334**	*e*P		**P**	**16 51 49.8**	**+2.0**
KSH				*e*PCP		PcP	16 53 08.0	+2.2
KSH				*e*PP		PP	16 53 47.1	+3.4
KSH				*e*S		**S**	**16 59 00.8**	**+3.2**
KSH				*e*SS		SS	17 02 33.5	+1.8
SNY	**Shenyang**	**50.42**	**21**	⇑P		**P**	**16 51 48.4**	**+0.3**
SNY				S		**S**	**16 59 02.0**	**+3.9**
SNY				XS		sS	16 59 29.6	+10
SNY				SS		SS	17 02 24.8	-7.5
SNY				AMB		AMB		
	comp=Z,9.0nm,2.5s,mb4.4							
SNY				AMB		AMB		
	comp=Z,110nm,4.0s							
SNY				LR		LR		
	comp=E,275nm,14.7s							
SNY				LR		LR		
	comp=Z,286nm,14.9s,MS4.4							
ULHL	**Ulahol**	**52.53**	**336**	P		**P**	**16 52 04.3**	**+0.4**
	SNR=10							
SONM	**Songino Array**	**52.64**	**4**	P		**P**	**16 52 05.5**	**+0.8**
	comp=Z,60nm,0.9s,mb5.5,baz=182,slow=7.4,SNR=239							
SONM				LR		LR	17 19 25.3	
	comp=Z,214nm,19.7s,MS4.2,baz=352,slow=42							
ULN	**Ulaanbaatar**	**52.71**	**4**	⇑*i*P		**P**	**16 52 05.0**	**-0.2**
ULN	**Ulaanbaatar**	**52.71**	**4**	*e*P		**P**	**16 52 05.5**	**+0.3**
	comp=Z,57nm,1.0s,mb5.5							
KZA	**Kyzart**	**52.80**	**335**	P		**P**	**16 52 06.9**	**+1.0**
	SNR=12							
CN2	**Changchun**	**52.81**	**21**	*e*P		**P**	**16 52 04.8**	**-1.2**
CN2				*e*S		**S**	**16 59 31.9**	**+0.9**
CN2				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.1							
CN2				AMB		AMB		
	comp=Z,200nm,4.0s							
CN2				LR		LR		
	comp=N,200nm,17.0s,MS4.5							
CN2				LR		LR		
	comp=E,300nm,17.0s,MS4.5							
CN2				LR		LR		
	comp=Z,200nm,18.0s,MS4.2							
MAJO	**Matsushiro**	**53.21**	**36**	*e*P		**P**	**16 52 06.4**	**-2.5**
MAT	**Matsushiro**	**53.21**	**36**	P		**P**	**16 52 07.0**	**-1.9**
MAT	**Matsushiro**	**53.21**	**36**	*e*P		**P**	**16 52 07.0**	**-1.9**
MJAR	**Matsushiro Arr**	**53.21**	**36**	P		**P**	**16 52 07.7**	**-1.2**
	comp=Z,7.0nm,0.8s,mb4.6,baz=217,slow=7.5,SNR=32							
MJAR				LR		LR	17 15 38.7	
	comp=Z,95nm,19.5s,MS3.9,baz=220,slow=37							
UCH	**Uchtor**	**53.23**	**334**	P		**P**	**16 52 10.1**	**+1.0**
	SNR=7.2							
TKM2	**Tokmak 2**	**53.35**	**336**	P		**P**	**16 52 10.6**	**+0.6**
	SNR=22							
KBK	**Karagaybulak**	**53.40**	**335**	P		**P**	**16 52 11.8**	**+1.4**
	SNR=8.3							
AML	**Almayashu**	**53.51**	**334**	P		**P**	**16 52 12.0**	**+0.9**
	SNR=10.0							
AAK	**Ala-Archa**	**53.57**	**335**	⇓*i*P		**P**	**16 52 11.1**	**-0.5**
AAK				pmax		pmax		
	comp=Z,10.0nm,1.5s,mb4.5							
AAK				MLR		MLR		
	comp=Z,400nm,21.0s,MS4.5							
AAK	**Ala-Archa**	**53.57**	**335**	*e*P		**P**	**16 52 11.2**	**-0.3**
	comp=Z,6.2nm,0.8s,mb4.6							
FRU	**Bishkek**	**53.69**	**335**	*e*P		**P**	**16 52 13.0**	**+0.6**
FRU				*e*		pP	16 52 25.0	-0.6
EKS2	**Erkin-Say**	**53.91**	**334**	P		**P**	**16 52 15.0**	**+1.0**
	SNR=28							
USP	**Ospenovka**	**54.09**	**335**	P		**P**	**16 52 15.9**	**+0.5**
	SNR=8.9							
MK31	**Makanchi Array**	**54.40**	**343**	P		**P**	**16 52 17.0**	**-0.6**
MK31				pmax		pmax		
	comp=Z,49nm,1.0s,mb5.4							
MKAR	**Makanchi Array**	**54.40**	**343**	P		**P**	**16 52 17.4**	**-0.2**
	comp=Z,25nm,0.8s,mb5.2,baz=145,slow=7.2,SNR=115							
ZAK	**Zakamensk**	**55.06**	**1**	⇓*i*P		**P**	**16 52 22.2**	**-0.2**
ZAK				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.8							
MDJ	**Mudanjiang**	**55.08**	**24**	P		**P**	**16 52 22.0**	**-0.5**
MDJ				PCP		PcP	16 53 21.5	-2.0
MDJ				PP		PP	16 54 25.5	-0.5
MDJ				PCS		PcS	16 57 24.6	+1.2
MDJ				S		**S**	**17 00 05.9**	**+4.3**
MDJ				SS		SS	17 03 46.4	+0.6
MDJ				AMB		AMB		
	comp=Z,13nm,1.6s,mb4.7							
MDJ				AMB		AMB		
	comp=Z,69nm,3.2s							
MDJ				LR		LR		
	comp=N,73nm,21.1s,MS3.8							
MDJ				LR		LR		
	comp=E,41nm,23.0s,MS3.8							
MDJ				LR		LR		
	comp=Z,97nm,24.9s,MS3.8							
MDJ	**Mudanjiang**	**55.08**	**24**	*e*P		**P**	**16 52 22.2**	**-0.3**
	comp=Z,34nm,1.5s,mb5.2							
KK31	**Karatay Array**	**55.72**	**332**	*i* P		**P**	**16 52 26.4**	**-0.7**
KKAR	**Karatay Array**	**55.72**	**332**	*i* P		**P**	**16 52 26.4**	**-0.7**
HIA	**Hailar**	**56.06**	**14**	*e*P		**P**	**16 52 28.5**	**-1.1**
HIA				pmax		pmax		
	comp=Z,13nm,0.9s							
HIA	**Hailar**	**56.06**	**14**	*e*P		**P**	**16 52 28.4**	**-1.1**
	comp=Z,14nm,0.9s,mb5.0							
TLY	**Talaya**	**56.37**	**1**	P		**P**	**16 52 32.2**	**+0.4**
	comp=Z,161nm,0.8s,mb6.1,SNR=8.7							
TLY	**Talaya**	**56.37**	**1**	⇑*i*P		**P**	**16 52 32.5**	**+0.7**
TLY				pmax		pmax		
	comp=Z,28nm,0.9s,mb5.3							
IRK	**Irkutsk**	**56.95**	**2**	*e*P		**P**	**16 52 36.0**	**+0.1**
IRK				*e*		pP	16 52 49.0	-0.2
IRK				pmax		pmax		
	comp=Z,31nm,1.4s,mb5.2							
CIT	**Chita**	**57.52**	**8**	*e*P		**P**	**16 52 40.3**	**+0.4**
CIT				*e*		pP	16 52 54.7	+1.5
CIT				pmax		pmax		
	comp=Z,49nm,1.2s,mb5.4							
KURK	**Kurchatov**	**59.00**	**343**	P		**P**	**16 52 49.1**	**-1.1**
	comp=Z,185nm,0.8s,mb6.2,SNR=6.7							
KURK	**Kurchatov**	**59.00**	**343**	⇑*i*P		**P**	**16 52 49.9**	**-0.3**
KURK	**Kurchatov**	**59.00**	**343**	*e*P		**P**	**16 52 49.7**	**-0.5**
	comp=Z,28nm,0.9s,mb5.3							
ABKT	**Ailbek**	**59.06**	**320**	P		**P**	**16 52 51.1**	**+0.4**
	comp=Z,78nm,1.0s,mb5.7,SNR=7.2							
KLR	**Kul'dur**	**59.72**	**22**	*e*P		**P**	**16 52 51.4**	**-3.8**
KLR				pmax		pmax		
	comp=Z,32nm,1.0s,mb5.3							
KLR				MLR		MLR		
	comp=Z,500nm,15.0s,MS4.8							
ZAL	**Zalesovo**	**60.41**	**348**	P		**P**	**16 52 59.5**	**-0.5**
	comp=Z,21nm,0.8s,mb5.2,baz=297,slow=4.7,SNR=65							
ZAL				LR		LR	17 23 21.6	
	comp=Z,264nm,21.3s,MS4.3,baz=322,slow=40							
ZAL	**Zalesovo**	**60.41**	**348**	P		**P**	**16 52 59.5**	**-0.6**
ZAL				LR		LR	17 23 21.6	
HABR	**Khabarovsk**	**60.41**	**25**	*e*P		**P**	**16 52 57.4**	**-2.5**
HABR				*e*S		**S**	**17 01 10.6**	**-0.9**
NVS	**Novosibirsk**	**61.58**	**348**	*i* P		**P**	**16 53 07.0**	**-0.9**
NVS				*i* S		**S**	**17 01 24.0**	**-2.3**
NVS				pmax		pmax		
	comp=E,4.0nm,1.2s							
NVS				smax				
	comp=N,9.0nm,1.1s							
NVS				smax				
	comp=E,9.0nm,1.8s							
YSS	**Yuzh-Sakhalins**	**62.81**	**30**	⇑*e*P		**P**	**16 53 15.0**	**-1.1**
YSS				*e*		pP	16 53 28.0	-1.6
YSS				*e*			16 53 54.2	
YSS				pmax		pmax		
	comp=Z,60nm,1.0s,mb5.7							
YSS	**Yuzh-Sakhalins**	**62.81**	**30**	*e*P		**P**	**16 53 15.4**	**-0.7**
	comp=Z,65nm,1.0s,mb5.7							
VOSK	**Vostochnaya**	**63.19**	**339**	P		**P**	**16 53 17.3**	**-1.3**
VOSK				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb5.0							
BOD	**Bodaib

AB31	**Akbulak array**	**65.22**	**331**	*i* P		**P**	**16 53 31.5**	**-0.4**
AB31				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.9							
AKTK	**Aktyubinsk**	**66.94**	**331**	P		**P**	**16 53 42.4**	**-0.6**
AKTO	**Aktyubinsk**	**66.94**	**331**	P		**P**	**16 53 42.4**	**-0.6**
	comp=Z,3.5nm,0.8s,mb4.5,baz=129,slow=6.3,SNR=8.9							
AKTO	**Aktyubinsk**	**66.94**	**331**	*i* P		**P**	**16 53 42.0**	**-0.9**
AKTO				pmax		pmax		
	comp=Z,2.0nm,1.1s,mb4.1							
MAW	**Mawson**	**68.06**	**195**	P		**P**	**16 53 50.2**	**+0.2**
	comp=Z,1.8nm,0.8s,mb4.1,baz=357,slow=7.7,SNR=4.3							
MAW				LR		LR	17 19 21.8	
	comp=Z,315nm,18.0s,MS4.6,baz=54,slow=32							
MAW	**Mawson**	**68.06**	**195**	*e*P		**P**	**16 53 50.4**	**+0.4**
MAW				pmax		pmax		
	comp=Z,5.0nm,1.0s							
MAW	**Mawson**	**68.06**	**195**	*e*P		**P**	**16 53 50.4**	**+0.4**
	comp=Z,5.1nm,1.0s,mb4.5							
YAK	**Yakutsk**	**70.00**	**13***c*	*i* P		**P**	**16 54 01.0**	**-1.1**
YAK				pmax		pmax		
	comp=Z,73nm,1.1s,mb5.5							
YAK				pmax		pmax		
	comp=N,24nm,1.4s							
YAK				pmax		pmax		
	comp=E,8.0nm,1.0s							
YAK	**Yakutsk**	**70.00**	**13**	*e*P		**P**	**16 54 00.2**	**-1.8**
	comp=E,104nm,0.8s,mb5.8							
ARU	**Arti**	**70.73**	**336**	P		**P**	**16 54 06.4**	**-0.1**
	comp=E,116nm,1.0s,mb5.8,SNR=6.1							
ARU	**Arti**	**70.73**	**336**⇑	*i*P		**P**	**16 54 06.1**	**-0.4**
ARU				*e*			16 54 24.8	
ARU				*e*			16 56 41.2	
ARU				*e*S		S	17 03 20.7	+3.3
ARU				*e*SS		SS	17 07 51.2	+1.2
ARU				pmax		pmax		
	comp=Z,22nm,1.0s,mb5.0							
ARU	**Arti**	**70.73**	**336**	*e*P		**P**	**16 54 05.5**	**-1.0**
	comp=Z,21nm,1.0s,mb5.0							
ZEI	**Tsey**	**70.84**	**318**	*e*P		**P**	**16 54 08.4**	**+1.2**
ZEI				*e*PP		pP	16 54 15.2	-5.7
ZEI				pmax		pmax		
	comp=Z,11nm,0.4s,mb5.1							
RPZ	**Rata Peaks**	**71.39**	**134**	LR		LR	17 24 06.5	
	comp=Z,358nm,20.3s,MS4.6,baz=229,slow=35							
ASF	**Jabal al Asfar**	**72.06**	**306**	P		**P**	**16 54 16.2**	**+1.7**
	comp=Z,1.7nm,0.7s,mb4.1,baz=192,slow=20,SNR=4.3							
MALT	**Malatya**	**72.90**	**312**⇑	*i*P		**P**	**16 54 21.2**	**+1.7**
MALT	**Malatya**	**72.90**	**312**	*e*P		**P**	**16 54 20.8**	**+1.3**
MALT				*e*		pP	16 54 33.9	+0.6
MALT				pmax		pmax		
	comp=Z,14nm,1.3s,mb4.7							
MALT	**Malatya**	**72.90**	**312**	*e*P		**P**	**16 54 20.8**	**+1.2**
	comp=Z,14nm,1.3s,mb4.7							
MALT				*e*		pP	16 54 33.9	+0.7
PET	**Petropavlovsk**	**74.63**	**31***c*	*i*P		**P**	**16 54 28.7**	**-1.0**
PET				pmax		pmax		
	comp=Z,72nm,1.2s,mb5.5							
PET	**Petropavlovsk**	**74.63**	**31**	*e*P		**P**	**16 54 28.6**	**-1.0**
	comp=Z,52nm,0.8s,mb5.5							
MA2	**Magadan**	**74.78**	**23**	*e*P		**P**	**16 54 30.9**	**+0.4**
MA2				*e*S		S	17 04 02.4	-1.1
MA2				*e*PS			17 04 55.3	
MA2				pmax		pmax		
	comp=Z,100nm,1.1s,mb5.7							
MA2				MLR		MLR		
	comp=Z,1μm,22.7s,MS5.2							
MA2	**Magadan**	**74.78**	**23**	*e*P		**P**	**16 54 30.2**	**-0.3**
	comp=Z,65nm,1.0s,mb5.5							
URZ	**Urewera**	**75.14**	**128**	LR		LR	17 25 25.5	
	comp=Z,195nm,19.2s,MS4.4,baz=249,slow=34							
VRHR	**Novokhopersk**	**75.94**	**326**	*e*P		**P**	**16 54 37.2**	**0.0**
VRHR				pmax		pmax		
	comp=Z,30nm,0.8s,mb5.3							
VRHR				pmax		pmax		
	comp=N,7.0nm,0.4s							
VRHR				pmax		pmax		
	comp=E,20nm,0.6s							
BOSA	**Boshof**	**76.22**	**242**	LR		LR	17 22 47.7	
	comp=E,291nm,18.1s,MS4.6,baz=173,slow=31							
BR131	**Keskin Array S**	**76.89**	**313**	*e*P		**P**	**16 54 42.5**	**-0.1**
	comp=E,3.2nm,0.7s,mb4.4							
BRTR	**Keskin Array B**	**76.89**	**313**	P		**P**	**16 54 42.8**	**+0.2**
	comp=E,2.9nm,0.8s,mb4.3,baz=132,slow=8.0,SNR=16							
BRTR				LR		LR	17 32 16.9	
	comp=E,50nm,18.1s,MS3.9,baz=289,slow=38							
VRSR	**Storozhevoye**	**77.38**	**325**	*e*P		**P**	**16 54 44.8**	**-0.5**
VRSR				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
VRSR				pmax		pmax		
	comp=N,30nm,2.4s							
VRSR				pmax		pmax		
	comp=E,20nm,0.8s							
TIXI	**Tiksi**	**78.37**	**8**⇑	*i*P		**P**	**16 54 49.3**	**-1.5**
TIXI				pmax		pmax		
	comp=Z,29nm,1.5s,mb5.0							
TIXI	**Tiksi**	**78.37**	**8**	*e*P		**P**	**16 54 49.4**	**-1.4**
VNDA	**Vanda**	**78.91**	**169**	P		**P**	**16 54 53.2**	**-0.6**
	comp=Z,1.9nm,0.9s,mb4.0,baz=297,slow=7.0,SNR=8.9							
VNDA				LR		LR	17 24 45.5	
	comp=Z,98nm,18.4s,MS4.2,baz=307,slow=32							
VNDA	**Vanda**	**78.91**	**169**	*e*P		**P**	**16 54 53.7**	**-0.1**
VNDA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
VNDA	**Vanda**	**78.91**	**169**	*e*P		**P**	**16 54 53.7**	**-0.1**
	comp=Z,2.8nm,1.0s,mb4.2							
SBA	**Scott Base**	**80.01**	**169**	*e*P		**P**	**16 55 00.6**	**+0.8**
SBA				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.3							
SBA	**Scott Base**	**80.01**	**169**	*e*P		**P**	**16 55 00.6**	**+0.8**
	comp=Z,4.1nm,1.0s,mb4.3							
OBN	**Obninsk**	**80.40**	**328**⇑	*e*P		**P**	**16 55 01.5**	**-0.4**
OBN				*e*			16 58 03.7	
OBN				pmax		pmax		
	comp=Z,23nm,1.2s,mb5.0							
OBN	**Obninsk**	**80.40**	**328**	P		**P**	**16 55 01.3**	**-0.6**
	comp=Z,16nm,0.8s,mb5.0							
KLMR	**Klimovskoe**	**81.38**	**334**	*e*P		**P**	**16 55 06.9**	**-0.2**
KLMR				pmax		pmax		
	comp=Z,20nm,1.5s,mb4.8							
AKASG	**Malin Array Be**	**83.11**	**322**	P		**P**	**16 55 15.2**	**-0.9**
	comp=Z,5.1nm,0.8s,mb4.6,baz=88,slow=4.8,SNR=12							
VRI	**Vrincioaia**	**83.46**	**317**⇓	*i*P		**P**	**16 55 19.7**	**+1.8**
VRI	**Vrincioaia**	**83.46**	**317**	⇓P		**P**	**16 55 19.7**	**+1.8**
MLR	**Muntele Rosu**	**83.90**	**317**⇓	*i*P		**P**	**16 55 21.9**	**+1.7**
MLR	**Muntele Rosu**	**83.90**	**317**	⇓P		**P**	**16 55 21.9**	**+1.7**
BURAR	**Bucovina Array**	**84.87**	**319**⇓	*i*P		**P**	**16 55 27.4**	**+2.3**
BURAR	**Bucovina Array**	**84.87**	**319**	⇓P		**P**	**16 55 27.4**	**+2.3**
JOF	**Joensuu**	**85.76**	**334**	*e*p		**P**	**16 55 29.1**	**-0.5**
	comp=Z,6.9nm,0.8s,mb4.9							
JOF	**Joensuu**	**85.76**	**334**	*e*P		**P**	**16 55 29.1**	**-0.5**
JOF				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.9							
LVV	**L'vov**	**86.12**	**321**	*e*P		sP	16 55 50.1	-0.5
APA	**Apatity**	**86.56**	**339**⇓	*i*P		**P**	**16 55 33.5**	**0.0**
APA				pmax		pmax		
	comp=Z,27nm,1.4s,mb5.3							
KOLS	**Kolonicke sedl**	**87.07**	**319**	*e*P		**P**	**16 55 37.6**	**+1.6**
KOLS				*e*sP		sP	16 55 54.1	-1.2
KOLS	**Kolonicke sedl**	**87.07**	**319**	*e*P		**P**	**16 55 37.6**	**+1.6**
KOLS				*e*		pP	16 55 54.2	+4.2
KOLS				pmax		pmax		
	comp=Z,17nm,1.7s,mb5.0							
KOLS	**Kolonicke sedl**	**87.07**	**319**	*e*P		**P**	**16 55 37.6**	**+1.6**
	comp=Z,16nm,1.7s,mb5.0							
KOLS				*e*		pP	16 55 54.2	+4.2
SUW	**Suwalki**	**87.50**	**325**	*e*P		**P**	**16 55 38.5**	**+0.4**
CRVS	**Cervenica-Dubn**	**87.59**	**319**	*e*P		**P**	**16 55 37.1**	**-1.4**
CRVS				*e*pP		pP	16 55 51.2	-1.3
FINES	**FINESS Array B**	**87.68**	**332**	P		**P**	**16 55 39.1**	**+0.1**
	comp=Z,4.2nm,0.9s,mb4.7,baz=94,slow=7.8,SNR=14							
FINES	**FINESS Array B**	**87.68**	**332**	*i* P		**P**	**16 55 39.0**	**+0.1**
FINES				pmax		pmax		
	comp=Z,4.0nm,0.9s							
KAF	**Kangasniemi**	**87.75**	**333**	*e*p		**P**	**16 55 39.1**	**-0.1**
	comp=Z,11nm,0.9s,mb5.1,baz=99,slow=4.3							
KAF	**Kangasniemi**	**87.75**	**333**	*e*P		**P**	**16 55 39.1**	**-0.1**
KAF				pmax		pmax		
	comp=Z,11nm,0.9s,mb5.1							
PKSM	**Moragy**	**89.05**	**316**⇓	*i*P		**P**	**16 55 46.7**	**+1.3**
PKSM	**Moragy**	**89.05**	**316**	⇓P		**P**	**16 55 46.7**	**+1.3**
LIKS	**Likavka**	**89.14**	**319**	*e*P		**P**	**16 55 43.0**	**-2.8**
LIKS	**Likavka**	**89.14**	**319**	*e*P		**P**	**16 55 43.1**	**-2.7**
VYHS	**Vyhne**	**89.24**	**319**	*e*P		**P**	**16 55 46.7**	**+0.4**
VYHS				*e*pP		pP	16 55 59.8	-0.6
VYHS	**Vyhne**	**89.24**	**319**	*e*P		**P**	**16 55 46.7**	**+0.4**
VYHS				*e*		pP	16 55 59.8	-0.6
VYHS				pmax		pmax		
	comp=Z,4.0nm,1.3s,mb4.6							
VYHS	**Vyhne**	**89.24**	**319**	*e*P		**P**	**16 55 46.7**	**+0.4**
	comp=Z,3.9nm,1.3s,mb4.6							
VYHS				*e*		pP	16 55 59.8	-0.6
ARCES	**ARCESS Array B**	**89.93**	**340**	P		**P**	**16 55 48.7**	**-0.8**
	comp=Z,4.2nm,0.9s,mb4.8,baz=51,slow=12,SNR=6.6							
ARCES				LR		LR	17 41 03.1	
	comp=Z,126nm,21.0s,MS4.3,baz=102,slow=39							
ARCES	**ARCESS Array B**	**89.93**	**340**	P		**P**	**16 55 48.7**	**-0.8**
ARCES				LR		LR	17 41 03.1	
SNAA	**Sanae**	**90.08**	**198**	LR		LR	17 31 42.2	
	comp=Z,42nm,19.0s,MS3.9,baz=37,slow=32							
SNAA	**Sanae**	**90.08**	**198**	P		**P**	**16 55 50.5**	**+0.3**
SNAA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
SNAA	**Sanae**	**90.08**	**198**	P		**P**	**16 55 50.5**	**+0.3**
	comp=Z,4.2nm,1.1s,mb4.7							
MORC	**Moravsky Berou**	**90.25**	**320**	*e*P		**P**	**16 55 51.5**	**+0.5**
ZST	**Bratislava**	**90.35**	**318**	*e*pP		pP	16 56 03.8	-1.7
GOLS	**Golise**	**91.11**	**316**	*e*P		**P**	**16 55 56.5**	**+1.5**
PERS	**Pernice**	**91.52**	**316**	*e*P		**P**	**16 55 58.1**	**+1.2**
PERS				*e*pP		pP	16 56 11.3	+0.3
PDKS	**Podkum**	**91.55**	**316**	*e*P		**P**	**16 55 58.5**	**+1.5**
PDKS				*e*pP		pP	16 56 11.5	+0.4
GERES	**GERESS Array B**	**92.66**	**319**	P		**P**	**16 56 02.4**	**+0.3**
	comp=Z,1.1nm,0.7s,mb4.4,baz=90,slow=5.3,SNR=12							
NB2	**NORSAR Subarra**	**94.73**	**331**	P		**P**	**16 56 10.8**	**-0.9**
	comp=Z,0.5nm,0.7s,mb4.0,baz=96,slow=5.3							
NOA	**NORSAR Array B**	**94.73**	**331**	P		**P**	**16 56 11.0**	**-0.7**
	comp=Z,1.3nm,0.9s,mb4.4,baz=95,slow=4.6,SNR=3.6							
NOA				LR		LR	17 43 29.8	
	comp=Z,45nm,21.9s,MS3.9,baz=115,slow=38							
HAWA	**Hanford**	**125.16**	**34**	*e*PKPdf		PKPdf	17 01 50.7	+0.1
HAWA				*e*PKiKP		PKiKP	17 01 51.6	+0.6
MSO	**Missoula**	**127.89**	**31**	*e*PKPdf		PKPdf	17 01 56.2	+0.3
DLMT	**Dillon**	**129.57**	**31**	*e*PKPdf		PKPdf	17 02 01.2	+2.2
BOZ	**Bozeman (W)**	**129.87**	**31**	*e*PKIKP		PKPdf	17 02 01.0	+1.4
NVAR	**Mina Array Bea**	**130.35**	**42**	PKP		PKPdf	17 02 02.5	+2.0
	comp=Z,0.4nm,0.5s,baz=342,slow=1.9,SNR=4.1							
ULM	**Lac du Bonnet**	**132.31**	**16**	PKP		PKPdf	17 02 04.0	-0.3
	comp=Z,2.2nm,0.7s,baz=319,slow=5.8,SNR=6.5							
ULM	**Lac du Bonnet**	**132.31**	**16**	*e*PKPdf		PKPdf	17 02 03.8	-0.4
ULM				*e*SKP			17 05 26.5	
PDAR	**Pinedale Array**	**132.94**	**32**	PKP		PKPdf	17 02 06.2	+0.8
	comp=Z,0.4nm,0.6s,baz=329,slow=1.7,SNR=4.6							
PDAR				PP		PP	17 04 32.0	+0.8
	comp=Z,0.5nm,0.8s,baz=20,slow=4.7,SNR=3.9							
MSU	**Marysvale**	**134.24**	**38**	*e*PKIKP		PKPdf	17 02 11.5	+3.6
ACSO	**Alum Creek Sta**	**144.51**	**7**	*e*PKPdf		PKPdf	17 02 25.6	-0.9
WMOK	**Wichita Mounta**	**144.51**	**31**	*e*PKIKP		PKPdf	17 02 25.3	-1.2
CCM	**Cathedral Cave**	**144.79**	**19**	*e*PKIKP		PKPdf	17 02 25.0	-2.0
CCM				*e*			17 02 38.1	
FVM	**French Village**	**145.11**	**18**	*e*PKIKP		PKPdf	17 02 26.9	-0.7
MCWV	**Mont Chateau**	**145.35**	**3**	*e*PKPbc		PKbc	17 02 28.0	+0.1
SIUC	**Southern Illin**	**145.71**	**16**	*e*PKPdf		PKPdf	17 02 29.6	+1.0
WCI	**Wyandotte Cave**	**145.93**	**12**	*e*PKP2		PKPab	17 02 30.1	-0.2
MIAR	**Mount Ida**	**147.07**	**24**	*e*PKP2		PKPab	17 02 33.3	-1.4
JCT	**Junction City**	**147.17**	**37**	*e*PKP2		PKPab	17 02 34.0	-1.1
PLAL	**Pickwick Lake**	**148.59**	**16**	*e*PKPbc		PKbc	17 02 36.6	-0.5
HKT	**Hockley**	**149.81**	**32**	*e*PKP2		PKPab	17 02 41.7	-4.0
LRAL	**Lakeview Retre**	**150.72**	**16**	*e*PKPbc		PKbc	17 02 40.7	-1.6
LVC	**Limon Verde**	**151.31**	**197**	*e*PKPbc		PKPab	17 02 59.2	+7.3

IDC 22 17:08:53.9±5.2, 3024S×17807W, h47km±45km, mb3.5/3, mb1 3.6/3, mb1mx3.4/10, mbtmp3.7/3, Error ellipse: s-maj=72.6km s-min=38.6km az=129.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.99**	**8**	P	Pn	17 09 11.2	-0.2
	84nm,0.3s,baz=56,slow=22,SNR=2.8						
RAO				S	Sn	17 09 24.9	+0.5
	164nm,0.3s,baz=284,slow=23,SNR=4.1						
STKA	**Stephens Creek**	**34.45**	**257**	P	P	17 15 38.1	+1.0
	1.2nm,0.6s,baz=110,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**43.06**	**267**	P	P	17 16 49.0	0.0
	0.3nm,0.3s,baz=103,slow=7.2,SNR=8.2						
WRA	**Warramunga Arr**	**44.03**	**272**	P	P	17 16 56.7	-0.2
	0.8nm,0.6s,baz=111,slow=8.1,SNR=13						
FINES	**FINESS Array B**	**144.97**	**340**	PKP	PKPdf	17 28 24.7	-1.2
	0.6nm,0.5s,baz=36,slow=5.2,SNR=8.7						

IDC 22 17:20:27.5±3.1, 625S×14721E, h0km, mb3.1/1, mb1 3.6/3, mb1mx3.4/13, mbtmp3.5/3, ML2.6/1, Error ellipse: s-maj=71.0km s-min=31.8km az=84.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.14**	**181**	Pn	Pn	17 21 19.0	+0.9
	6.4nm,0.3s,baz=15,slow=8.6,SNR=40						
PMG				Pg	Pg	17 21 23.8	-3.8
	26nm,0.3s,baz=23,slow=9.2,SNR=51						
PMG				Sn	Sn	17 21 53.8	-2.5
	15nm,0.3s,baz=175,slow=20,SNR=7.5						
WRA	**Warramunga Arr**	**18.48**	**221**	P	Pn	17 24 45.5	+0.5
	0.1nm,0.3s,baz=46,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**21.53**	**215**	P	P	17 25 18.5	+0.3
	0.6nm,0.4s,baz=52,slow=8.6,SNR=25						
ASPA	**Alice Springs**	**21.54**	**215**	*e*P	P	17 25 18.8	+0.6
TORD	**Torodi Ar. Bea**	**145.35**	**284**	PKPbc	PKPbc	17 40 07.2	+0.1
	0.4nm,0.5s,baz=69,slow=3.8,SNR=6.0						

IDC 22 17:20:54.1±2.3, 1006S×10833E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.8/17, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=97.4km s-min=18.9km az=52.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.58**	**117**	*e*P	Pn	17 25 15.0	+2.2
	2.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.58**	**117**	P	Pn	17 25 13.6	+0.8
	0.1nm,0.3s,baz=306,slow=6.1,SNR=9.6						
WRA	**Warramunga Arr**	**26.94**	**114**	P	P	17 26 37.3	+0.2
	1.4nm,0.7s,baz=285,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**27.90**	**122**	P	P	17 26 46.0	+0.3
	0.5nm,0.6s,baz=296,slow=9.6,SNR=7.1						
STKA	**Stephens Creek**	**37.65**	**130**	P	P	17 28 10.8	0.0
	1.6nm,0.9s,baz=315,slow=14,SNR=3.0						
SONM	**Songino Array**	**57.66**	**358**	P	P	17 30 46.7	+0.5
	1.7nm,0.6s,baz=176,slow=8.1,SNR=11						
MKAR	**Makanchi Array**	**61.19**	**340**	P	P	17 31 10.4	-0.2
	1.8nm,0.6s,baz=138,slow=7.3,SNR=22						

IDC 22 17:23:40.2±4.8, 982S×10683E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=199.2km s-min=25.9km az=49.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.01**	**116**	P	P	17 28 16.7	+2.3
	1.5nm,0.8s,baz=266,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**29.28**	**121**	P	P	17 29 43.2	-0.9
	0.5nm,0.7s,baz=297,slow=8.8,SNR=4.9						
SONM	**Songino Array**	**57.40**	**360**	P	P	17 33 29.9	-0.5
	0.2nm,0.4s,baz=186,slow=7.0,SNR=3.6						
MKAR	**Makanchi Array**	**60.47**	**341**	P	P	17 33 52.4	+0.6
	0.9nm,0.8s,baz=138,slow=7.4,SNR=5.9						

IDC 22 17:23:55.1±19.0, 1778S×17842W, h514km±188km, mb3.1/4, mb1 3.3/4, mb1mx3.0/14, mbtmp4.0/4, Error ellipse: s-maj=121.6km s-min=86.5km az=113.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.68**	**241**	P	P	17 30 34.2	-0.1
	1.1nm,0.6s,baz=103,slow=12,SNR=5.9						
WRA	**Warramunga Arr**	**44.64**	**259**	P	P	17 31 21.1	-0.4
	0.7nm,0.7s,baz=94,slow=7.1,SNR=13						
ASAR	**Alice Springs**	**44.81**	**254**	P	P	17 31 23.6	+0.8
	7.2nm,0.5s,baz=89,slow=8.0,SNR=179						
ASAR				PcP	PcP	17 32 53.8	0.0
	0.4nm,0.4s,baz=102,slow=3.6,SNR=5.1						
ASPA	**Alice Springs**	**44.81**	**254**	*e*P	P	17 31 23.5	+0.7
FITZ	**Fitzroy Crossi**	**53.04**	**260**	P	P	17 32 24.5	+0.7
	1.1nm,0.9s,baz=101,slow=16,SNR=3.8						
GERES	**GERESS Array B**	**147.49**	**345**	PKPbc	PKPbc	17 42 40.7	-0.5
	0.4nm,0.5s,baz=46,slow=3.9,SNR=5.1						
DAVOX	**Davos**	**150.28**	**348**	PKPbc	PKPbc	17 42 48.1	+0.1
	2.6nm,0.7s,baz=182,slow=6.8,SNR=3.8						

IDC 22 17:36:04.4±12.0, 1535S×16600E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, ML3.9/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/23, Error ellipse: s-maj=213.2km s-min=34.4km az=59.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.70**	**176**	*e*P	Pn	17 37 44.8	+0.8
DZM				*e*S	Sn	17 38 59.8	-1.3
DZM	**Mont Dzumac**	**6.70**	**176**	Pn	Pn	17 37 45.0	+1.0
	2.4nm,0.3s,baz=27,slow=17,SNR=34						
DZM				Sn	Sn	17 38 59.9	-1.2
	2.6nm,0.3s,baz=54,slow=21,SNR=6.9						
STKA	**Stephens Creek**	**27.66**	**229**	P	P	17 41 53.6	-0.3
	1.0nm,0.7s,baz=63,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**30.49**	**257**	P	P	17 42 19.5	+0.4
	0.6nm,1.0s,baz=84,slow=8.4,SNR=5.8						
ASAR	**Alice Springs**	**31.31**	**250**	P	P	17 42 26.9	+0.6
	0.7nm,0.5s,baz=77,slow=8.9,SNR=35						
ASPA	**Alice Springs**	**31.31**	**250**	*e*P	P	17 42 26.6	+0.3
FITZ	**Fitzroy Crossi**	**38.70**	**260**	P	P	17 43 30.4	+0.4
	0.8nm,0.8s,baz=113,slow=13,SNR=5.4						
CBIJ	**Chichi jima**	**48.11**	**331**	LR	LR	18 03 36.5	
	comp=Z,21nm,18.3s,baz=80,slow=34						
JHJ	**Hachijo jima 2**	**54.31**	**333**	LR	LR	18 04 26.0	
	comp=Z,82nm,21.7s,baz=41,slow=31						

IDC 22 17:42:07.0±3.1, 975S×10855E, h33km±7km, mb3.3/3, mb1 3.4/4, mb1mx3.3/17, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=137.1km s-min=19.6km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.54**	**118**	P	Pn	17 46 21.4	+0.3
	0.1nm,0.3s,baz=294,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**27.88**	**123**	P	P	17 47 53.5	-0.2
	0.3nm,1.0s,baz=302,slow=9.2,SNR=4.7						
ASAR				pP	pP	17 48 04.1	+0.8
	0.3nm,0.9s,baz=304,slow=10,SNR=1.8						
SONM	**Songino Array**	**57.36**	**358**	P	P	17 51 52.1	+0.3
	0.4nm,0.5s,baz=169,slow=8.2,SNR=3.2						
SONM				pP	pP	17 52 02.1	+0.1
	0.9nm,0.7s,baz=169,slow=8.9,SNR=4.5						
MKAR	**Makanchi Array**	**60.98**	**340**	P	P	17 52 17.0	+0.1
	0.4nm,0.5s,baz=142,slow=6.9,SNR=7.1						
MKAR				pP	pP	17 52 27.1	-0.1
	0.7nm,0.5s,baz=146,slow=8.6,SNR=8.2						

*ISCJB **22** 17:45:26.4±0.3, 17.15N±004×94.56W±003, h135km±2km, mb4.2/44, Error ellipse: s-maj=6.5km s-min=4.0km az=7.8*
*NEIC **22** 17:45:26.8±0.5, 17.10N×9439W, h126km±4km, mb4.4/41, Error ellipse: s-maj=6.5km s-min=6.0km az=225.0*
*IDC **22** 17:45:27.8±0.7, 17.15N×9436W, h128km±7km, mb3.8/14, mb1 4.0/14, mb1mx3.9/20, mbtmp4.2/14, Error ellipse: s-maj=25.8km s-min=13.4km az=65.0*
*MEX **22** 17:45:29.7±1.1, 1709N×9459W, h127km±8km, MD4.6*

ISC 22 17:45:27.4±0.3, 1715N±004×9455W±003, h131km±2km, h138km±2.8km: pP-P, n125, σ1s15/138, mb4.2/44, 3C-1D, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.32**	**261**	P	**Pn**	**17 45 46.1**	**+0.4**
	baz=110,slow=4.5						
CMIG				S	**Sn**	**17 45 59.3**	**-0.3**
	530nm,0.3s,baz=294,slow=19,SNR=285						
CMIG	**Matias Romero**	**0.32**	**261**⇓	*i*P	**Pn**	**17 45 46.2**	**+0.4**
CMIG				*i* S	**Sn**	**17 45 58.4**	**-1.2**
CMIG	**Matias Romero**	**0.32**	**261**	P	**Pn**	**17 45 46.1**	**+0.4**
CMIG				*i* S	**Sn**	**17 45 58.4**	**-1.2**
CMIG		

	14nm,1.2s,mb4.5							
MWC	**Mount Wilson**	**27.06**	**313**	*e*P		**P**	**17 51 01.5**	**+3.9**
ISA	**Isabella**	**28.15**	**316**	*e*P		**P**	**17 51 08.6**	**+1.4**
	5.2nm,0.5s,mb4.5							
PDAR	**Pinedale Array**	**28.56**	**336**	pP		pP	17 51 41.1	+2.1
	0.9nm,0.9s,baz=133,slow=11,SNR=6.0							
REDW	**Red Top Meadow**	**29.57**	**335**	*e*P		**P**	**17 51 22.0**	**+2.2**
	17nm,1.3s,mb4.6							
REDW				*e*			17 51 37.5	
REDW				*e*pP		pP	17 51 51.1	+3.1
SNOW	**Snow King Moun**	**29.62**	**336**	*e*P		**P**	**17 51 23.2**	**+3.0**
	8.1nm,0.7s,mb4.6							
SNOW				*e*pP		pP	17 51 50.4	+2.0
NVAR	**Mina Array Bea**	**29.70**	**320**	P		**P**	**17 51 23.9**	**+3.0**
	1.0nm,0.6s,mb3.7,baz=129,slow=8.9,SNR=10							
NVAR				pP		pP	17 51 51.9	+2.8
	1.6nm,0.8s,baz=121,slow=9.7,SNR=4.7							
TPAW	**Teton Pass**	**29.72**	**336**	*e*P		**P**	**17 51 22.3**	**+1.2**
	5.8nm,1.2s,mb4.2							
TPAW				*e*pP		pP	17 51 52.1	+2.8
RRI2	**Red Ridge**	**29.75**	**335**	*e*pP		pP	17 51 54.7	+5.1
MOOW	**Moose Ponds**	**29.86**	**336**	*e*P		**P**	**17 51 24.4**	**+2.1**
IMW	**Indian Meadow**	**30.05**	**336**	*e*P		**P**	**17 51 24.1**	**0.0**
	4.9nm,1.1s,mb4.2							
DLMT	**Dillon**	**31.93**	**336**	P		**P**	**17 51 40.4**	**-0.2**
	11nm,1.3s,mb4.4							
DLMT				*e*pP		pP	17 52 11.8	+2.9
ULM	**Lac du Bonnet**	**33.04**	**358**	P		**P**	**17 51 49.1**	**-1.1**
	5.4nm,0.8s,mb4.3,baz=184,slow=9.7,SNR=11							
SAML	**Samuel**	**40.42**	**128**	*e*P		**P**	**17 52 51.6**	**-1.1**
	1.9nm,0.9s,mb3.7							
LPAZ	**La Paz**	**42.21**	**141**	P		**P**	**17 53 09.2**	**+1.8**
	3.7nm,0.6s,mb4.2,baz=332,slow=7.8,SNR=24							
LPAZ	**La Paz**	**42.21**	**141**	*e*P		**P**	**17 53 08.9**	**+1.5**
	3.1nm,0.7s,mb4.0							
LVC	**Limon Verde**	**46.80**	**147**	*e*P		**P**	**17 53 46.4**	**+2.6**
	3.8nm,0.8s,mb4.1							
YKA	**Yellowknife Ar**	**47.43**	**348**	P		**P**	**17 53 48.5**	**-0.2**
	1.6nm,0.7s,mb3.7,baz=150,slow=7.6,SNR=5.2							
YKA				pP		pP	17 54 19.9	+1.3
	3.7nm,1.0s,baz=157,slow=7.1,SNR=5.6							
YKA	**Yellowknife Ar**	**47.43**	**348**	P		**P**	**17 53 48.5**	**-0.2**
YKA				pP		pP	17 54 19.9	+1.3
PLCA	**Paso Flores**	**61.75**	**159**	P		**P**	**17 55 33.0**	**+1.1**
	7.2nm,1.0s,mb4.5,baz=314,slow=7.6,SNR=5.6							
PLCA	**Paso Flores**	**61.75**	**159**	*e*P		**P**	**17 55 33.0**	**+1.1**
	11nm,1.1s,mb4.6							
TRQA	**Tornquist**	**62.86**	**151**	P		**P**	**17 55 40.0**	**+0.7**
ROSF	**Rostrenen**	**78.23**	**43**	*e*P		**P**	**17 57 12.5**	**0.0**
	38nm,1.3s,mb4.5							
ROSF	**Rostrenen**	**78.23**	**43**	*e*P		**P**	**17 57 12.5**	**0.0**
	19nm,1.3s,mb4.6							
QUIF	**Quistinic**	**78.39**	**43**	*e*P		**P**	**17 57 13.3**	**-0.1**
	117nm,1.8s,mb4.9							
QUIF	**Quistinic**	**78.39**	**43**	*e*P		**P**	**17 57 13.3**	**-0.1**
	58nm,1.8s,mb4.9							
ESDC	**Sonseca Array**	**79.70**	**52**	P		**P**	**17 57 21.2**	**+0.6**
	1.7nm,0.7s,mb3.8,baz=290,slow=5.5,SNR=14							
ESLA	**Sonseca Array**	**79.70**	**52**	*e*P		**P**	**17 57 20.6**	**0.0**
	2.1nm,1.2s,mb3.6							
GRR	**Gorron**	**79.78**	**43**	*e*P		**P**	**17 57 20.8**	**-0.2**
GRR				*e*pP		sP	17 58 11.4	+3.6
LDF	**La Druitiere**	**80.21**	**42**	*e*P		**P**	**17 57 23.1**	**-0.2**
	8.8nm,0.7s,mb4.2							
MFF	**Saint Martin d**	**80.70**	**44**	*e*P		**P**	**17 57 25.5**	**-0.4**
SJPF	**Ste Jean**	**80.86**	**48**	*e*P		**P**	**17 57 26.0**	**-0.8**
	18nm,1.0s,mb4.3							
SJPF				*e*pP		sP	17 58 19.0	+5.4
ETSF	**Etsaut**	**81.39**	**48**	*e*P		**P**	**17 57 29.7**	**+0.2**
	8.6nm,0.8s,mb4.1							
ETSF	**Etsaut**	**81.39**	**48**	*e*P		**P**	**17 57 29.7**	**+0.2**
	4.3nm,0.8s,mb4.1							
LFF	**La Frestale**	**81.74**	**46**	*e*P		**P**	**17 57 31.2**	**-0.2**
EPF	**Esparros**	**81.98**	**48**	*e*P		**P**	**17 57 32.4**	**-0.3**
RJF	**Les Rejaudoux**	**82.17**	**45**	*e*P		**P**	**17 57 33.2**	**-0.5**
	20nm,1.0s,mb4.4							
RJF	**Les Rejaudoux**	**82.17**	**45**	*e*P		**P**	**17 57 33.2**	**-0.5**
	9.8nm,1.0s,mb4.4							
TCF	**Toulx Ste Croi**	**82.36**	**44**	*e*P		**P**	**17 57 34.3**	**-0.3**
	7.8nm,0.8s,mb4.1							
TCF	**Toulx Ste Croi**	**82.36**	**44**	*e*P		**P**	**17 57 34.3**	**-0.3**
	3.9nm,0.8s,mb4.1							
BAIF	**Baives**	**82.52**	**40**	*e*P		**P**	**17 57 35.5**	**0.0**
	18nm,1.1s,mb4.4							
BAIF	**Baives**	**82.52**	**40**	*e*P		**P**	**17 57 35.5**	**0.0**
	9.1nm,1.1s,mb4.4							
NB2	**NORSAR Subarra**	**82.56**	**28**	P		**P**	**17 57 36.0**	**+0.3**
	comp=Z,4.7nm,0.9s,mb4.2,baz=294,slow=5.3							
NOA	**NORSAR Array B**	**82.56**	**28**	P		**P**	**17 57 36.1**	**+0.4**
	comp=Z,3.1nm,0.8s,mb4.1,baz=293,slow=5.2,SNR=18							
CAF	**Calviac**	**82.65**	**45**	*e*P		**P**	**17 57 35.9**	**-0.2**
	comp=Z,6.0nm,0.8s,mb4.1							
CAF	**Calviac**	**82.65**	**45**	*e*P		**P**	**17 57 35.9**	**-0.2**
	comp=Z,3.0nm,0.8s,mb4.1							
BGF	**Bois d'Agland**	**82.70**	**44**	*e*P		**P**	**17 57 36.0**	**-0.4**
	comp=Z,25nm,0.9s,mb4.7							
BGF	**Bois d'Agland**	**82.70**	**44**	*e*P		**P**	**17 57 36.0**	**-0.4**
	comp=Z,13nm,0.9s,mb4.7							
AVF	**Avril sur Loir**	**82.96**	**43**	*e*P		**P**	**17 57 37.5**	**-0.3**
AVF				*e*pP		sP	17 58 29.3	+4.5
SSF	**Saint Saulge**	**82.98**	**43**	*e*P		**P**	**17 57 37.3**	**-0.6**
LOR	**Lormes**	**83.15**	**43**	*e*P		**P**	**17 57 38.5**	**-0.2**
MTLF	**Montolieu**	**83.21**	**47**	*e*P		**P**	**17 57 38.9**	**-0.2**
SMF	**Signal de Mont**	**83.33**	**43**	*e*P		**P**	**17 57 38.9**	**-0.7**
ARCES	**ARCESS Array B**	**83.92**	**18**	P		**P**	**17 57 42.5**	**-0.1**
	comp=Z,2.9nm,0.7s,mb4.1,baz=316,slow=5.1,SNR=7.2							
LASF	**Ste Croix**	**84.13**	**46**	*e*P		**P**	**17 57 43.3**	**-0.4**
VIVF	**Saint-Julien-l**	**84.44**	**45**	*e*P		**P**	**17 57 44.9**	**-0.4**
CABF	**La Chapelle**	**84.81**	**43**	*e*P		**P**	**17 57 46.8**	**-0.3**
HINF	**Hinteralfeld**	**84.89**	**42**	*e*P		**P**	**17 57 47.3**	**-0.3**
CDF	**Champ du Feu**	**84.96**	**41**	*e*P		**P**	**17 57 47.4**	**-0.5**
	comp=Z,11nm,1.1s,mb4.2							
CDF	**Champ du Feu**	**84.96**	**41**	*e*P		**P**	**17 57 47.4**	**-0.5**
	comp=Z,5.7nm,1.1s,mb4.2							
ORIF	**Oris-en-Rattie**	**85.23**	**45**	*e*P		**P**	**17 57 48.7**	**-0.5**
LPL	**La Plagne**	**85.59**	**44**	*e*P		**P**	**17 57 51.0**	**0.0**
LPG	**La Plagne**	**85.61**	**44**	*e*P		**P**	**17 57 51.1**	**0.0**
MBDF	**Montbardon**	**85.89**	**44**	*e*P		**P**	**17 57 52.1**	**-0.4**
	comp=Z,15nm,1.0s,mb4.3							
MBDF	**Montbardon**	**85.89**	**44**	*e*P		**P**	**17 57 52.1**	**-0.4**
	comp=Z,7.3nm,1.0s,mb4.4							
LMR	**La Mourre**	**86.19**	**46**	*e*P		**P**	**17 57 53.5**	**-0.5**
	comp=Z,25nm,1.1s,mb4.6							
LMR	**La Mourre**	**86.19**	**46**	*e*P		**P**	**17 57 53.5**	**-0.5**
	comp=Z,13nm,1.1s,mb4.6							
FRF	**La Foret Royal**	**86.20**	**46**	*e*P		**P**	**17 57 53.4**	**-0.6**
SBF	**Sospel**	**86.64**	**45**	*e*P		**P**	**17 57 56.1**	**-0.1**
DBIC	**Dimbokro**	**87.77**	**84**	P		**P**	**17 58 02.5**	**+0.8**
	comp=Z,1.5nm,0.4s,mb4.2,baz=274,slow=8.3,SNR=3.8							
PGF	**Pioggiola**	**88.17**	**46**	*e*P		**P**	**17 58 03.0**	**-0.5**
	comp=Z,11nm,0.9s,mb4.4							
PGF	**Pioggiola**	**88.17**	**46**	*e*P		**P**	**17 58 03.0**	**-0.5**
	comp=Z,6.6nm,0.9s,mb4.4							
FINES	**FINESS Array B**	**88.69**	**24**	P		**P**	**17 58 08.0**	**+2.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=318,slow=5.1,SNR=7.8							
GERES	**GERESS Array B**	**88.73**	**39**	P		**P**	**17 58 05.3**	**-0.8**
	comp=Z,0.6nm,0.8s,mb3.6,baz=320,slow=4.0,SNR=5.9							
TORD	**Torodi Ar. Bea**	**92.01**	**76**	P		**P**	**17 58 22.0**	**+0.6**
	comp=Z,0.3nm,0.6s,mb3.5,baz=292,slow=4.8,SNR=4.3							
MKAR	**Makanchi Array**	**116.30**	**2**	PKP	PKPdf		18 03 53.9	-1.5
	comp=Z,0.2nm,0.6s,baz=300,slow=1.0,SNR=3.6							
STKA	**Stephens Creek**	**127.38**	**243**	PKP	PKPdf		18 04 17.7	+1.1
	comp=Z,1.9nm,0.8s,baz=126,slow=23,SNR=3.6							
STKA	**Stephens Creek**	**127.38**	**243**	PKP	PKPdf		18 04 17.7	+1.1
WRA	**Warramunga Arr**	**133.69**	**259**	PKP	PKPdf		18 04 29.1	+0.6
	comp=Z,0.7nm,0.5s,baz=6.0,slow=0.8,SNR=14							
ASAR	**Alice Springs**	**134.29**	**253**	PKP	PKPdf		18 04 30.9	+1.2
	comp=Z,0.7nm,0.8s,baz=93,slow=1.9,SNR=10							

*TIF **22** 17:49:16.7, 4270N×4638E, h12km±8km*
*MOS **22** 17:49:18.8±2.4, 4272N×4635E, h20km, mb4.1/1, Error ellipse: s-maj=14.3km s-min=8.6km az=18.9*
MOS Felt (II) at Botlikh.
*CSEM **22** 17:49:18.8, 4272N×4635E, h20km, mb4.1, After OBN*
*ISCJB **22** 17:49:19.7±0.5, 4274N±004×4650E±007, h27km±10km, Error ellipse: s-maj=8.9km s-min=5.7km az=146.2*

ISC 22 17:49:18.6±0.4, 4274N±004×4632E±003, h7km±5km, n25, σ1$ϕ$25/48, 1C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
XNZR	**Khunzakh**	**0.35**	**125**	*i*Pg		**Pg**	**17 49 25.2**	**-0.2**
XNZR				*i* S		**Sg**	**17 49 30.8**	**+0.8**
XNZR				pmax		pmax		
	comp=Z,181nm,0.2s							
XNZR	**Khunzakh**	**0.35**	**125**	*i*Pg		**Pg**	**17 49 25.2**	**-0.2**
	comp=Z,181nm,0.2s							
XNZR				*i* Sg		**Sg**	**17 49 30.8**	**+0.8**
KRNR	**Karanay**	**0.44**	**79**	*e*Pg		**Pg**	**17 49 25.0**	**-2.2**
KRNR				*i* S		**Sg**	**17 49 33.0**	**0.0**
KRNR				pmax		pmax		
	comp=Z,50nm,0.2s							
KRNR	**Karanay**	**0.44**	**79**	*e*Pg		**Pg**	**17 49 25.0**	**-2.2**
	comp=Z,50nm,0.2s							
KRNR				*i* Sg		**Sg**	**17 49 33.0**	**0.0**
DBC	**Dubki**	**0.47**	**53**	*e*PG		**Pg**	**17 49 27.0**	**-0.7**
BUJR	**Buynaksk**	**0.59**	**82**	*e*Pg		**Pg**	**17 49 33.0**	**+3.0**
BUJR				*i* Sg		**Sg**	**17 49 43.2**	**+5.6**
GNBR	**Gunib**	**0.59**	**126**	*e*Pg		**Pg**	**17 49 31.0**	**+0.9**
GNBR				*e*Sg		**Sg**	**17 49 39.0**	**+1.2**
MAK	**Makhachkala**	**0.90**	**75**	*e*PG		**Pg**	**17 49 42.0**	**+6.1**
MAK				*e*			17 49 53.9	
MAK				pmax		pmax		
	comp=Z,96nm,0.3s							
MAK				smax				
	comp=E,393nm,0.5s							
MAK				smax				
	comp=N,265nm,0.4s							
MAK	**Makhachkala**	**0.90**	**75**	*e*Pg		**Pg**	**17 49 42.0**	**+6.1**
	comp=N,96nm,0.3s							
MAK				*e*Sg		**Sg**	**17 49 53.9**	**+6.3**
	comp=N,265nm,0.4s							
SNJR	**Sundja**	**1.15**	**287**	*e*Pg		**Pg**	**17 49 40.2**	**-0.6**
SNJR				*e*Sg		**Sg**	**17 49 59.4**	**+3.6**
VLKR	**Vladikavkaz**	**1.24**	**285**	*e*Pg		**Pg**	**17 49 41.7**	**-0.8**
VLKR				*e*Sg		**Sg**	**17 50 02.2**	**+3.6**
BTKR	**Batakoyurt**	**1.45**	**296**	*e*Pg		**Pg**	**17 49 44.8**	**-1.6**
BTKR				*e*Sg		**Sg**	**17 50 07.4**	**+2.2**
DGRG	**David-gareji**	**1.47**	**209**	P		**Pn**	**17 49 45.1**	**-0.5**
DGRG				S		**Sn**	**17 50 06.7**	**+1.7**
DGRG	**David-gareji**	**1.47**	**209**	P		**Pn**	**17 49 44.9**	**-0.7**
DGRG				S		**Sn**	**17 50 06.3**	**+1.3**
TRKR	**Terskaya**	**1.52**	**311**	*e*Pg		**Pg**	**17 49 45.4**	**-2.4**
TRKR				*e*Sg		**Sg**	**17 50 08.5**	**+1.0**
MTA	**Mtatsminda**	**1.54**	**228**	P		**Pn**	**17 49 45.9**	**-0.6**
MTA				S		**Sn**	**17 50 06.9**	**+0.1**
MTA	**Mtatsminda**	**1.54**	**228**	P		**Pn**	**17 49 46.1**	**-0.5**
MTA				S		**Sn**	**17 50 06.4**	**-0.4**
TBLG	**Delisi**	**1.55**	**230**	P		**Pn**	**17 49 45.5**	**-1.1**
TBLG				S		**Sn**	**17 50 08.6**	**+1.7**
TBLG	**Delisi**	**1.55**	**230**	P		**Pn**	**17 49 46.1**	**-0.6**
TBLG				S		**Sn**	**17 50 06.9**	**0.0**
TBLG	**Delisi**	**1.55**	**230**	Pg		**Pg**	**17 49 46.1**	**-2.2**
TBLG				Sg		**Sg**	**17 50 06.9**	**-1.5**
KMSR	**Komsomolskaya**	**1.61**	**294**	*e*Pn		**Pn**	**17 49 47.3**	**-0.2**
KMSR				*e*Sg		**Sg**	**17 50 11.8**	**+1.3**
KORR	**Kora**	**1.69**	**283**	*e*Pn		**Pn**	**17 49 48.5**	**-0.1**
KORR				*e*Sg		**Sg**	**17 50 14.0**	**+1.1**
ZEI	**Tsey**	**1.78**	**272**	*e*Pn		**Pn**	**17 49 49.8**	**0.0**
ZEI				*e*Sg		**Sg**	**17 50 16.3**	**+0.4**
PRTR	**Priterechnaya**	**1.80**	**305**	*e*Pn		**Pn**	**17 49 49.3**	**-0.8**
PRTR				*e*Sg		**Sg**	**17 50 15.5**	**-0.9**
ONI	**Oni**	**2.12**	**267**	P		**Pn**	**17 49 54.8**	**+0.2**
ONI				S		**Sn**	**17 50 24.9**	**+3.8**

*ISCJB **22** 17:55:14.2±0.5, 4545N±003×10.11E±002, h9km±3km, Error ellipse: s-maj=5.7km s-min=2.9km az=176.0*
*CSEM **22** 17:55:14.4±0.2, 4527N×1031E, h12km, ML2.5/5, Error ellipse: s-maj=4.7km s-min=3.2km az=154.0*
*LDG **22** 17:55:14.8±0.4, 4524N×1026E, h10km, Ml2.4/5, Error ellipse: s-maj=7.5km s-min=5.0km az=86.0*
*ROM **22** 17:55:18.0±0.2, 4564N×1020E, h5km, Md2.7/7, Ml2.2/5, Error ellipse: s-maj=4.2km s-min=2.2km az=6.0*
*VIE **22** 17:55:19.4±0.7, 4569N×1023E, h8km, ML2.4/3, Error ellipse: s-maj=3.9km s-min=2.8km az=2.0 60 km SSE of Sondrio*

ISC 22 17:55:15.3±0.5, 4542N±003×1018E±002, h12km±3km, n42, σ1$ϕ$34/73, 7C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SALO	**Salr**	**0.31**	**51**	Pg		**Pg**	**17 55 22.8**	**+1.2**
	687nm,0.6s							
MDI	**Monti di Nese**	**0.48**	**317**	Pg		**Pg**	**17 55 25.1**	**+0.3**
MDI				Sg		**Sg**	**17 55 31.7**	**+0.5**
	134nm,0.3s							
MABI	**Malga Bissina**	**0.67**	**20**	Pg		**Pg**	**17 55 27.6**	**-0.8**
MABI				Sg		**Sg**	**17 55 35.3**	**-2.0**
MUGIO	**Muggio**	**0.94**	**302**	Pg		**Pg**	**17 55 34.2**	**+0.7**
MUGIO				Sg		**Sg**	**17 55 47.1**	**+1.3**
ERBM	**Eremo**	**1.02**	**171**	Pg		**Pg**	**17 55 41.8**	**+6.8**
	7.0nm,0.2s							
TEOL	**Teolo**	**1.05**	**93**	↑*i*Pg		**Pg**	**17 55 38.1**	**+2.5**
TEOL				*i* Sg		**Sg**	**17 55 51.9**	**+2.6**
BRMO	**Bormio**	**1.06**	**7**	Pg		**Pg**	**17 55 35.4**	**-0.4**
	30nm,0.6s							
VAI	**Varese**	**1.08**	**295**	Pg		**Pg**	**17 55 38.5**	**+2.3**
VAI				Sg		**Sg**	**17 55 53.4**	**+3.0**
	23nm,0.4s							
TUE	**Stuetta**	**1.20**	**331**	Pg		**Pg**	**17 55 37.9**	**-0.5**
	53nm,0.5s							
CTI	**Castel Tesino**	**1.20**	**58**	Pg		**Pg**	**17 55 39.2**	**+0.7**
CTI				Sg		**Sg**	**17 55 54.1**	**-0.1**
	194nm,0.4s							
CGRP	**Cima Grappa**	**1.22**	**68**	↑*i*Pg		**Pg**	**17 55 40.1**	**+1.2**
CGRP				*i* Sg		**Sg**	**17 55 56.1**	**+1.3**
DAVOX	**Davos**	**1.37**	**351**	Pg		**Pg**	**17 55 40.9**	**-0.8**
SQTA	**Sankt Quirin**	**1.93**	**21**	↑*i*Pg		**Pg**	**17 55 52.3**	**-0.1**
SQTA				↑↑*i*Sg		**Sg**	**17 56 14.8**	**-2.7**
	5.7nm,0.3s							
SQTA	**Sankt Quirin**	**1.93**	**21**	Pg		**Pg**	**17 55 52.3**	**-0.1**
SQTA				Sg		**Sg**	**17 56 14.8**	**-2.7**
	5.7nm,0.3s							
MOTA	**Moosalm**	**2.02**	**18**	↑*i*Pg		**Pg**	**17 55 52.7**	**-1.5**
MOTA				↑↑*i*Sg		**Sg**	**17 56 18.0**	**-2.4**
	1.8nm,0.2s							
WTTA	**Wattenberg**	**2.10**	**28**	↑*i*Pg		**Pg**	**17 55 55.0**	**-0.5**
WTTA				↑↑*i*Sg		**Sg**	**17 56 20.8**	**-2.0**
	5.1nm,0.3s							
WTTA	**Wattenberg**	**2.10**	**28**	Pg		**Pg**	**17 55 55.0**	**-0.6**
WTTA				Sg		**Sg**	**17 56 20.8**	**-2.0**
	5.1nm,0.3s							
LPG	**La Plagne**	**2.41**	**273**	*e*Pg		**Pg**	**17 56 00.6**	**-1.0**
LPG				*e*Sg		**Sg**	**17 56 32.8**	**-0.1**
	4.1nm,0.4s							
LPG	**La Plagne**	**2.41**	**273**	*e*Pg		**Pg**	**17 56 00.6**	**-1.0**
LPG				*e*Sg		**Sg**	**17 56 32.8**	**-0.1**
	2.0nm,0.4s							
LPL	**La Plagne**	**2.43**	**273**	*e*Pg		**Pg**	**17 56 01.2**	**-0.7**
LPL				*e*Sg		**Sg**	**17 56 33.7**	**+0.3**
	5.8nm,0.4s							
LPL	**La Plagne**	**2.43**	**273**	*e*Pg		**Pg**	**17 56 01.2**	**-0.7**
LPL				*e*Sg		**Sg**	**17 56 33.7**	**+0.3**
	2.9nm,0.4s							
MBDF	**Montbardon**	**2.51**	**255**	*e*Pg		**Pg**	**17 56 01.5**	**-2.0**
VOY	**Vojsko**	**2.67**	**76**	*e*		**Sn**	**17 56 32.9**	**+2.5**
VOY				*e*Sg		**Sg**	**17 56 40.1**	**-1.1**
VOY	**Vojsko**	**2.67**	**76**	*e*Sg		**Sg**	**17 56 40.1**	**-1.1**
PGF	**Pioggiola**	**3.00**	**197**	*e*Pn		**Pn**	**17 55 58.9**	**-3.8**
PGF	**Pioggiola**	**3.00**	**197**	*e*Pg		**Pg**	**17 56 06.9**	**-5.9**
PGF	**Pioggiola**	**3.00**	**197**	*e*Pg		**Pg**	**17 56 06.9**	**-5.9**
ORIF	**Oris-en-Rattie**	**3.08**	**262**	*e*Pg		**Pg**	**17 56 10.5**	**-3.9**
ORIF				*e*Sg		**Sg**	**17 56 52.3**	**-2.1**
	3.7nm,0.6s							
ORIF	**Oris-en-Rattie**	**3.08**	**262**	*e*Pg		**Pg**	**17 56 10.5**	**-3.9**
ORIF				*e*Sg		**Sg**	**17 56 52.3**	**-2.1**
	1.9nm,0.6s							
CABF	**La Chapelle**	**3.09**	**294**	*e*Pn		**Pn**	**17 56 04.2**	**+0.3**
CABF	**La Chapelle**	**3.09**	**294**	*e*Pg		**Pg**	**17 56 14.8**	**+0.3**
CABF				*e*Sn		**Sn**	**17 56 41.4**	**+0.7**
CABF				*e*Sg		**Sg**	**17 56 57.3**	**+2.7**
HINF	**Hinteralfeld**	**3.31**	**317**	*e*Pn		**Pn**	**17 56 08.0**	**+1.0**
HINF	**Hinteralfeld**	**3.31**	**317**	*e*Pg		**Pg**	**17 56 18.5**	**-0.3**
HINF				*e*Sg		**Sg**	**17 57 03.5**	**+1.7**
	2.8nm,0.3s							
HINF	**Hinteralfeld**	**3.31**	**317**	*e*Pg		**Pg**	**17 56 18.5**	**-0.3**
HINF				*e*Sg		**Sg**	**17 57 03.5**	**+1.7**
	1.4nm,0.3s							
CDF	**Champ du Feu**	**3.59**	**327**	*e*Pn		**Pn**	**17 56 12.2**	**+1.4**
CDF	**Champ du Feu**	**3.59**	**327**	*e*Pg		**Pg**	**17 56 23.5**	**-0.6**
CDF				*e*Sn		**Sn**	**17 56 53.2**	**+0.1**
CDF				*e*Sg		**Sg**	**17 57 12.6**	**+1.9**
HAU	**Haudompre**	**3.69**	**316**	*e*Pn		**Pn**	**17 56 13.6**	**+1.4**
HAU				*e*Sn		**Sn**	**17 56 55.8**	**+0.2**
HAU				*e*Sg		**Sg**	**17 57 14.9**	**+1.1**
	2.2nm,0.2s							
HAU	**Haudompre**	**3.69**	**316**	*e*Pn		**Pn**	**17 56 13.6**	**+1.4**
HAU				*e*Sn		**Sn**	**17 56 55.8**	**+0.2**
HAU				*e*Sg		**Sg**	**17 57 14.9**	**+1.1**
	1.1nm,0.2s							
VIVF	**Saint-Julien-l**	**3.94**	**264**	*e*Pn		**Pn**	**17 56 14.2**	**-1.4**
SMF	**Signal de Mont**	**4.58**	**288**	*e*Pg		**Pg**	**17 56 41.4**	**-1.7**
SMF				*e*Sn		**Sn**	**17 57 16.3**	**-1.2**
LASF	**Ste Croix**	**4.70**	**256**	*e*Pn		**Pn**	**17 56 24.6**	**-1.5**
LOR	**Lormes**	**4.75**	**295**	*e*Pn		**Pn**	**17 56 26.2**	**-0.5**
LOR				*e*Sn		**Sn**	**17 57 21.0**	**-0.7**

*ISCJB **22** 18:00:00.9±1.2, 4322N±010×1469E±01, h78km±9km, mb3.5/5, Error ellipse: s-maj=16.2km s-min=12.6km az=146.1*
*JMA **22** 18:00:02.4±0.2, 4324N×14682E, h63km±2km, M3.6*
*IDC **22** 18:00:24.9±37.0, 4796N×14398E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, Error ellipse: s-maj=827.9km s-min=50.1km az=148.0*

ISC 22 18:00:02.0±1.3, 4323N±010×1469E±01, h73km±10km, n19, σ0$ϕ$84/29, mb3.5/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NEM2	**Nemuro 2**	**0.84**	**280**	P		**Pn**	**18 00 18.2**	**-0.5**
NEM2				*e*S		**Sn**	**18 00 30.0**	**-1.1**
JRA	**Rausu**	**1.46**	**300**	P		**Pn**	**18 00 26.3**	**-0.2**
JRA				*e*S		**Sn**	**18 00 44.4**	**-0.6**
JNK	**Nakash**	**1.62**	**283**	P		**Pn**	**18 00 28.1**	**-0.5**
JNK				*e*S		**Sn**	**18 00 47.4**	**-1.2**
JAK	**Akkeshi**	**1.62**	**262**	P		**Pn**	**18 00 28.4**	**-0.2**
JAK				*e*S		**Sn**	**18 00 48.2**	**-0.5**
JOB	**Onbets**	**2.26**	**263**	P		**Pn**	**18 00 37.4**	**+0.3**
JOB				*e*S		**Sn**	**18 01 03.4**	**-0.6**
JAR	**Ashorobuto**	**2.27**	**273**	P		**Pn**	**18 00 37.9**	**+0.5**
JAR				*e*S		**Sn**	**18 01 04.9**	**+0.5**
JTKR	**Abashiri--Toko**	**2.28**	**290**	P		**Pn**	**18 00 38.2**	**+0.7**
JTKR				*e*S		**Sn**	**18 01 04.8**	**+0.1**
JCH	**Churui**	**2.66**	**258**	P		**Pn**	**18 00 42.5**	**0.0**
JCH				*e*S		**Sn**	**18 01 12.1**	**-1.6**
JMP	**Maruseppu**	**2.67**	**288**	P		**Pn**	**18 00 43.7**	**+0.9**
JMP				*e*S		**Sn**	**18 01 14.9**	**+0.8**
JKK2	**Kamakawa 2**	**3.07**	**284**	P		**Pn**	**18 00 49.5**	**+1.3**
JFR	**Furan**	**3.14**	**270**	P		**Pn**	**18 00 50.3**	**+1.2**
JFR				*e*S		**Sn**	**18 01 26.2**	**+0.8**
JNBK	**Urakawa-nobuka**	**3.19**	**254**	P		**Pn**	**18 00 50.0**	**+0.3**
ASAJ	**Asahikawa**	**3.23**	**287**	P		**Pn**	**18 00 52.0**	**+1.6**
SONM	**Songino Array**	**28.50**	**294**	P

0.1nm,0.3s,baz=350,slow=24,SNR=4.1
MKAR Makanchi Array 69.17 327 P P 18 18 33.4 +0.2
1.8nm,0.4s,baz=113,slow=8.1,SNR=34

SZGRF ***22*** *18:08:15.0, 4545N×1013E, h10km, mb3.3, Northern Italy*
CSEM ***22*** *18:08:16.4±0.1, 4555N×1016E, h2km, ML3.7/5, Error ellipse: s-maj=1.3km s-min=1.2km az=103.0*
ISCJB ***22*** *18:08:16.5±0.2, 45634N±0010×1008E±002, h7km±2km, Error ellipse: s-maj=1.9km s-min=1.7km az=3.7*
ZUR ***22*** *18:08:16.6, 4555N×1020E, h5km±3km, ML3.1/11*
LDG ***22*** *18:08:17.8±0.1, 4559N×1024E, h2km, Ml3.3/15, Error ellipse: s-maj=3.1km s-min=2.4km az=52.0*
ROM ***22*** *18:08:17.2±0.1, 4562N×1018E, h2km, Md3.2/33, Ml3.0/17, Error ellipse: s-maj=2.1km s-min=1.5km az=134.0*
NEIC ***22*** *18:08:17.2, 4562N×1018E, h2km, ML2.6(LJU), ML2.8(STR), ML3.0(ROM), ML3.1(ZUR), ML3.3(LDG), ML3.3(SZGRF), After ROM.*
NEIC Felt [IV] at Brescia.
PRU ***22*** *18:08:18.4, 4559N×1036E, h0km*
GEN ***22*** *18:08:18.4, 4562N×1009E, h4km, ML3.0*
STR ***22*** *18:08:27.1±1.6, 4518N×939E, h5km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 22 18:08:17.8±0.2, 45596N±0010×1012E±002, h10km±1km, n177, σ1°15/271, 16C-15D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SALO	**Salr**	**0.28**	**85**	Pg	**Pg**	**18 08 22.6**	**-0.9**
	6µm,0.6s						
MDI	**Monti di Nese**	**0.34**	**302**	Pg	**Pg**	**18 08 24.9**	**+0.4**
MDI				Sg	**Sg**	**18 08 31.7**	**+2.6**
	1µm,0.3s						
MABI	**Malga Bissina**	**0.54**	**31**	Pg	**Pg**	**18 08 27.4**	**-0.8**
	117nm,0.4s						
SBPO	**S.Benedetto Po**	**0.78**	**134**	Pg	**Pg**	**18 08 33.0**	**+0.1**
SBPO				Sg	**Sg**	**18 08 44.5**	**+1.4**
	307nm,0.4s						
BERNI	**Berninapass**	**0.82**	**355**	⇓*iP*	**Pg**	**18 08 33.8**	**+0.2**
MUGIO	**Muggio**	**0.82**	**294**	⇓*iPn*	**Pg**	**18 08 33.4**	**-0.2**
	1µm,0.4s						
MUGIO	**Muggio**	**0.82**	**294**	Pg	**Pg**	**18 08 33.5**	**-0.1**
MUGIO				Sg	**Sg**	**18 08 46.7**	**+2.3**
BRMO	**Bormio**	**0.90**	**11**	Pg	**Pg**	**18 08 34.6**	**-0.5**
	279nm,0.6s						
NOVE	**Novellara**	**0.90**	**152**	Pg	**Pg**	**18 08 35.6**	**+0.5**
NOVE				Sg	**Sg**	**18 08 49.2**	**+2.3**
	1µm,0.5s						
BOB	**Bobbio (Coli)**	**0.96**	**210**	Pg	**Pg**	**18 08 36.2**	**0.0**
BOB				Sg	**Sg**	**18 08 52.5**	**+3.9**
	354nm,0.6s						
VAI	**Varese**	**0.99**	**286**	Pg	**Pg**	**18 08 37.2**	**+0.5**
VAI				Sg	**Sg**	**18 08 53.4**	**+3.8**
VDL	**Val di Lei**	**1.00**	**333**	*e*Pn	**Pn**	**18 08 36.2**	**-1.6**
	901nm,0.6s						
VDL	**Val di Lei**	**1.00**	**333**	*e*P	**Pg**	**18 08 37.2**	**+0.2**
FUORN	**Ofenpass**	**1.03**	**5**	*e*P	**Pg**	**18 08 33.8**	**-3.8**
	647nm,0.5s						
FUORN	**Ofenpass**	**1.03**	**5**	*e*P	**Pg**	**18 08 37.5**	**-0.1**
TUE	**Stuetta**	**1.03**	**329**	Pg	**Pg**	**18 08 37.7**	**+0.1**
	335nm,0.3s						
RAVA	**Ravarino**	**1.10**	**140**	Pg	**Pg**	**18 08 39.3**	**+0.4**
	1µm,0.6s						
GRAM		**1.10**	**182**	P	**Pb**	**18 08 39.3**	**+0.3**
GRAM				S	**Sg**	**18 08 53.1**	**-0.3**
CTI	**Castel Tesino**	**1.16**	**67**	Pg	**Pg**	**18 08 39.0**	**-1.1**
	1µm,0.4s						
APPI	**Appiano**	**1.17**	**41**	Pg	**Pg**	**18 08 39.2**	**-1.1**
APPI				Sg	**Sg**	**18 08 55.6**	**+0.1**
ERBM	**Eremo**	**1.20**	**170**	Pg	**Pg**	**18 08 41.4**	**+0.7**
	135nm,0.4s						
DAVOX	**Davos**	**1.20**	**352**	⇓*iP*	**Pb**	**18 08 37.2**	**-3.3**
	1µm,0.7s						
DAVOX	**Davos**	**1.20**	**352**	⇓*iP*	**Pb**	**18 08 40.7**	**+0.2**
DAVOX	**Davos**	**1.20**	**352**	Pg	**Pg**	**18 08 40.6**	**-0.2**
CODM		**1.22**	**189**	P	**Pn**	**18 08 41.1**	**+0.2**
CODM				S	**Sb**	**18 08 56.6**	**-0.1**
VALM		**1.25**	**176**	P	**Pn**	**18 08 41.8**	**+0.5**
VALM				S	**Sb**	**18 08 57.6**	**0.0**
SC2M	**Scurtabr**	**1.26**	**199**	P	**Pn**	**18 08 42.0**	**+0.6**
SC2M				S	**Sb**	**18 08 57.7**	**-0.2**
GSCL	**Gusciola**	**1.29**	**165**	Pg	**Pg**	**18 08 42.4**	**-0.1**
	40nm,0.4s						
BACM		**1.32**	**182**	P	**Pn**	**18 08 42.6**	**+0.4**
BACM				S	**Sb**	**18 08 58.8**	**-0.7**
ZCCA	**Zocca**	**1.39**	**154**	Pg	**Pg**	**18 08 44.0**	**-0.4**
	84nm,0.3s						
SARO	**Sassorosso**	**1.43**	**172**	P	**Pn**	**18 08 44.2**	**+0.5**
VLC	**Villacollemand**	**1.45**	**172**	*e*Pn	**Pn**	**18 08 44.6**	**+0.6**
VLC				*e*Sn	**Sn**	**18 08 03.9**	**+0.9**
VLC	**Villacollemand**	**1.45**	**172**	*e*Pn	**Pn**	**18 08 44.6**	**+0.6**
VLC	**Villacollemand**	**1.45**	**172**	Pg	**Pg**	**18 08 44.9**	**-0.7**
	127nm,1.1s						
VLC				*e*Sn	**Sn**	**18 09 03.9**	**+0.9**
VINC	**Vinca**	**1.46**	**179**	P	**Pn**	**18 08 44.6**	**+0.5**
LLS	**Linth-Limmern**	**1.47**	**329**	*e*Pn	**Pn**	**18 08 40.7**	**-3.6**
	455nm,0.5s						
LLS	**Linth-Limmern**	**1.47**	**329**	*e*P	**Pn**	**18 08 46.0**	**+1.7**
ORO	**Oropa**	**1.50**	**272**	Pg	**Pg**	**18 08 44.2**	**-2.4**
	175nm,0.3s						
MCGN	**Macugnaga**	**1.54**	**284**	Pg	**Pg**	**18 08 47.1**	**-0.2**
	42nm,0.2s						
PCP	**Pian Castagno**	**1.54**	**227**	P	**Pn**	**18 08 45.3**	**+0.1**
PLONS	**Plons**	**1.54**	**341**	⇑*eP*	**Pn**	**18 08 43.0**	**-2.3**
	357nm,0.9s						
PLONS	**Plons**	**1.54**	**341**	⇑*eP*	**Pn**	**18 08 47.1**	**+1.8**
PZZT	**Monte Pizzetto**	**1.56**	**160**	Pg	**Pg**	**18 08 46.0**	**-1.6**
	105nm,0.3s						
BDI	**Bagni Di Lucca**	**1.57**	**167**	Pg	**Pg**	**18 08 47.2**	**-0.7**
	116nm,0.4s						
MMK	**Mattmark**	**1.57**	**288**	Pg	**Pg**	**18 08 46.7**	**-1.3**
FNVD	**Fontana Vidola**	**1.60**	**153**	Pg	**Pg**	**18 08 46.4**	**-2.0**
	136nm,0.3s						
TRAV		**1.67**	**268**	P	**Pn**	**18 08 46.3**	**-0.7**
DAVA	**Damuels**	**1.70**	**354**	⇓*iSn*	**Sg**	**18 09 13.3**	**+0.9**
DAVA	**Damuels**	**1.70**	**354**	*e*Pg	**Pg**	**18 08 50.1**	**-0.3**
	SNR=42						
DAVA				⇓*iSg*	**Sg**	**18 09 13.3**	**+0.9**
MAIM		**1.70**	**171**	P	**Pn**	**18 08 48.0**	**+0.5**
MUO	**Muotathal**	**1.71**	**324**	*e*P	**Pn**	**18 08 46.7**	**-1.0**
	2µm,0.6s						
MUO	**Muotathal**	**1.71**	**324**	*e*P	**Pn**	**18 08 50.6**	**+2.9**
BNALP	**Bannalp**	**1.74**	**318**	⇑*ePn*	**Pn**	**18 08 47.1**	**-0.8**
	584nm,0.9s						
BNALP	**Bannalp**	**1.74**	**318**	⇑*eP*	**Pn**	**18 08 50.6**	**+2.7**
SEI	**Scarperia**	**1.77**	**150**	Pg	**Pg**	**18 08 51.6**	**-0.2**
	167nm,0.3s						
SQTA	**Sankt Quirin**	**1.79**	**24**	⇓*iSn*	**Sg**	**18 09 15.0**	**-0.4**
SQTA	**Sankt Quirin**	**1.79**	**24**	⇓*ePn*	**Pn**	**18 08 50.4**	**+1.7**
	SNR=68						
SQTA				⇓*iSg*	**Sg**	**18 09 15.0**	**-0.4**
SCE	**Schlegeis**	**1.81**	**37**	*e*Pn	**Pn**	**18 08 49.4**	**+0.4**
MOTA	**Moosalm**	**1.88**	**21**	⇑*ePg*	**Pg**	**18 08 52.2**	**-1.5**
	SNR=52						
MOTA				⇓*iSn*	**Sn**	**18 09 16.7**	**+3.1**
PII	**Pisa**	**1.90**	**171**	Pg	**Pn**	**18 08 50.6**	**+0.5**
	100nm,0.2s						
VMG	**Vicchio**	**1.92**	**148**	Pg	**Pn**	**18 08 51.1**	**+0.6**
	78nm,0.4s						
FIN	**Finale Ligure**	**1.94**	**225**	Pg	**Pn**	**18 08 51.9**	**+1.1**
	74nm,0.4s						
FIN	**Finale Ligure**	**1.94**	**225**	P	**Pn**	**18 08 50.5**	**-0.3**
FIN	**Finale Ligure**	**1.94**	**225**	Pg	**Pn**	**18 08 51.9**	**+1.1**
	74nm,0.4s						
DIX	**Grande Dixence**	**1.96**	**285**	Pg	**Pg**	**18 08 54.6**	**-0.7**
WTTA	**Wattenberg**	**1.97**	**32**	⇑*ePn*	**Pn**	**18 08 52.9**	**+1.7**
	SNR=18						
WTTA				⇑*iSn*	**Sn**	**18 09 19.2**	**+3.3**
WATA	**Walderalm**	**2.01**	**29**	⇓*ePn*	**Pn**	**18 08 53.2**	**+1.5**
	SNR=14						
WATA				⇑*iSn*	**Sn**	**18 09 20.1**	**+3.2**
ROB	**Roburent**	**2.06**	**232**	P	**Pn**	**18 08 52.9**	**+0.5**
RSP	**Reno Superiore**	**2.07**	**259**	P	**Pn**	**18 08 51.1**	**-1.4**
RORO		**2.08**	**225**	P	**Pn**	**18 08 52.1**	**-0.6**
SFI	**Santa Sofia**	**2.09**	**143**	Pg	**Pn**	**18 08 53.3**	**+0.5**
	41nm,0.5s						
MRGE	**Morge**	**2.15**	**276**	Pg	**Pg**	**18 08 57.4**	**-1.6**
	83nm,0.6s						
FENE	**Fenestrelle**	**2.23**	**256**	P	**Pn**	**18 08 54.1**	**-0.7**
MONE	**Monesi**	**2.27**	**229**	P	**Pn**	**18 08 55.4**	**+0.2**
GMNA	**Gemona**	**2.28**	**72**	Pg	**Pn**	**18 08 54.1**	**-1.3**
	386nm,1.0s						
CSNT	**Castellina Chi**	**2.28**	**158**	Pg	**Pn**	**18 08 55.1**	**-0.4**
	24nm,0.3s						
IMI	**Imperia**	**2.32**	**224**	Pg	**Pn**	**18 08 56.6**	**+0.7**
	18nm,0.2s						
AIGLE	**Aigle**	**2.33**	**290**	*e*P	**Pn**	**18 08 58.1**	**+2.0**
ENR	**Entracque**	**2.36**	**235**	P	**Pn**	**18 08 56.3**	**-0.2**
CRE	**Caprese Michel**	**2.37**	**146**	Pg	**Pn**	**18 08 57.5**	**+0.9**
	18nm,0.3s						
LPG	**La Plagne**	**2.37**	**269**	*e*Pn	**Pn**	**18 09 00.5**	**+3.8**
LPG				*e*Sg	**Sg**	**18 09 32.7**	**-1.2**
	22nm,0.3s						
LPL	**La Plagne**	**2.38**	**269**	*e*Pn	**Pn**	**18 08 59.1**	**+2.3**
LPL				*e*Sg	**Sg**	**18 09 34.2**	**-0.1**
	56nm,0.4s						
LPL	**La Plagne**	**2.38**	**269**	*e*Pn	**Pn**	**18 08 59.1**	**+2.3**
LPL				*e*Sg	**Sg**	**18 09 34.2**	**-0.1**
	28nm,0.4s						
PTCC	**Patocco-Chiusa**	**2.39**	**69**	Pg	**Pn**	**18 08 56.8**	**-0.2**
	27nm,0.2s						
STV	**Sta Anna Valdi**	**2.40**	**237**	P	**Pn**	**18 08 57.1**	**0.0**
BALST	**Balsthal**	**2.42**	**317**	*e*P	**Pn**	**18 08 58.6**	**+1.3**
SAOF	**Saorge**	**2.44**	**230**	Pn	**Pn**	**18 08 56.6**	**-1.0**
SLE	**Schleitheim**	**2.44**	**333**	⇑*iPn*	**Pn**	**18 08 58.1**	**+0.4**
SLE	**Schleitheim**	**2.44**	**333**	⇑*iP*	**Pn**	**18 08 58.5**	**+0.8**
RRL	**Cesana Torines**	**2.45**	**255**	P	**Pn**	**18 08 58.5**	**+0.7**
RSL	**Roselend**	**2.45**	**273**	Pn	**Pn**	**18 09 00.7**	**+2.9**
RSL				Sg	**Sg**	**18 09 32.3**	**-4.3**
AUTN	**L'Aution**	**2.50**	**231**	Pn	**Pn**	**18 08 58.1**	**-0.3**
MBDF	**Montbardon**	**2.52**	**251**	*e*Pn	**Pn**	**18 08 59.5**	**+0.7**
MBDF				*e*Sg	**Sg**	**18 09 39.3**	**+0.4**
	17nm,0.3s						
MBDF	**Montbardon**	**2.52**	**251**	*e*Pn	**Pn**	**18 08 59.5**	**+0.7**
MBDF				*e*Sg	**Sg**	**18 09 39.3**	**+0.4**
	8.3nm,0.3s						
BADI	**Badiali**	**2.58**	**143**	Pg	**Pn**	**18 08 59.7**	**+0.2**
	113µm,42.0s						
SBF	**Sospel**	**2.58**	**229**	*e*Pn	**Pn**	**18 09 00.5**	**+0.9**
TOUF	**Mont Tournerai**	**2.58**	**233**	Pn	**Pn**	**18 08 59.5**	**-0.1**
CADS	**Cadrg**	**2.60**	**75**	*i* Pn	**Pn**	**18 08 58.9**	**-0.9**
CADS				*e*Sn	**Sn**	**18 09 30.8**	**-0.7**
CADS				*i* Sg	**Sg**	**18 09 38.4**	**-3.0**
CADS							
	comp=Z,38nm,0.3s						
CADS	**Cadrg**	**2.60**	**75**	Pn	**Pn**	**18 08 58.9**	**-1.0**
CADS				*i* Sg	**Sg**	**18 09 38.4**	**-3.0**
	comp=Z,38nm,0.3s						
LUCF	**Luceram**	**2.61**	**230**	Pn	**Pn**	**18 09 00.0**	**0.0**
VOJS	**Vojsko**	**2.67**	**79**	*i* Pn	**Pn**	**18 08 60.0**	**-0.8**
VOJS				*i* Sg	**Sg**	**18 09 40.0**	**-3.4**
VOJS	**Vojsko**	**2.67**	**79**	*i* Pn	**Pn**	**18 09 00.0**	**-0.7**
VOJS				*i* Sg	**Sg**	**18 09 40.0**	**-3.4**
KBA	**Koelnbreinsper**	**2.68**	**55**	⇑*iPn*	**Pn**	**18 09 02.0**	**+1.1**
KBA				⇓*iSn*	**Sn**	**18 09 35.5**	**+2.0**
BOURR	**Bourrignon**	**2.69**	**313**	⇓*iPn*	**Pn**	**18 08 58.5**	**-2.5**
BOURR	**Bourrignon**	**2.69**	**313**	⇓*iP*	**Pn**	**18 09 02.2**	**+1.2**
FUR	**Furstenfeldbru**	**2.69**	**17**	*e*Sg	**Sg**	**18 09 44.6**	**+0.4**
MVIF	**Mont Vial**	**2.71**	**232**	Pn	**Pn**	**18 09 01.9**	**+0.5**
JAVS	**Javornik**	**2.78**	**82**	*i* Pn	**Pn**	**18 09 01.4**	**-0.9**
CABF	**La Chapelle**	**2.98**	**291**	*e*Pn	**Pn**	**18 09 06.6**	**+1.5**
CABF				*e*Sn	**Sn**	**18 09 40.3**	**-0.6**
CABF				*e*Sg	**Sg**	**18 09 55.4**	**+1.8**
	comp=Z,16nm,0.4s						
CABF	**La Chapelle**	**2.98**	**291**	*e*Pn	**Pn**	**18 09 06.6**	**+1.5**
CABF				*e*Sn	**Sn**	**18 09 40.3**	**-0.6**
CABF				*e*Sg	**Sg**	**18 09 55.4**	**+1.8**
	comp=Z,7.9nm,0.4s						
BFO	**Black Forest**	**3.00**	**336**	*e*Pn	**Pn**	**18 09 06.2**	**+0.9**
BFO				*e*Sn	**Sn**	**18 09 41.3**	**0.0**
BFO				*e*Sg	**Sg**	**18 09 55.1**	**+1.0**
BFO	**Black Forest**	**3.00**	**336**	*e*Pn	**Pn**	**18 09 06.2**	**+0.9**
BFO				*e*Sn	**Sn**	**18 09 41.3**	**0.0**
ORIF	**Oris-en-Rattie**	**3.07**	**259**	*e*Pn	**Pn**	**18 09 04.9**	**-1.4**
ORIF				*e*Sg	**Sg**	**18 09 56.5**	**+0.1**
PGF	**Pioggiola**	**3.15**	**195**	*e*Pn	**Pn**	**18 09 07.3**	**-0.1**
PGF				*e*Sn	**Sn**	**18 09 42.7**	**-2.4**
HINF	**Hinteralfeld**	**3.16**	**316**	*e*Pn	**Pn**	**18 09 08.2**	**+0.7**
HINF				*e*Sn	**Sn**	**18 09 44.2**	**-1.1**
HINF				*e*Sg	**Sg**	**18 09 59.6**	**+0.3**
	comp=Z,28nm,0.4s						
HINF	**Hinteralfeld**	**3.16**	**316**	*e*Pn	**Pn**	**18 09 08.2**	**+0.7**
HINF				*e*Sn	**Sn**	**18 09 44.2**	**-1.1**
HINF				*e*Sg	**Sg**	**18 09 59.6**	**+0.3**
	comp=Z,14nm,0.4s						
FRF	**La Foret Royal**	**3.21**	**232**	*e*Pn	**Pn**	**18 09 09.1**	**+0.9**
FRF				*e*Sn	**Sn**	**18 09 45.2**	**-1.3**
STU	**Stuttgart**	**3.24**	**349**	*e*Pn	**Pn**	**18 09 09.2**	**+0.6**
STU				*e*Pg	**Pg**	**18 09 19.8**	**-0.1**
STU				*e*Sg	**Sg**	**18 10 02.5**	**+0.7**
STU	**Stuttgart**	**3.24**	**349**	*e*Pn	**Pn**	**18 09 09.2**	**+0.6**
STU	**Stuttgart**	**3.24**	**349**	*e*Pg	**Pg**	**18 09 19.8**	**0.0**
VISS	**Visnje**	**3.31**	**85**	*e*Pn	**Pn**	**18 09 09.0**	**-0.6**
VISS				*e*Sn	**Sn**	**18 09 46.1**	**-3.0**
VISS							
	comp=Z,21nm,0.3s						
VISS	**Visnje**	**3.31**	**85**	*e*Pn	**Pn**	**18 09 09.0**	**-0.6**
VISS				*e*Sn	**Sn**	**18 09 46.1**	**-2.9**
	comp=Z,21nm,0.3s						
CORF	**Corte**	**3.37**	**192**	Pn	**Pn**	**18 09 10.8**	**+0.4**
CDF	**Champ du Feu**	**3.42**	**326**	*e*Pn	**Pn**	**18 09 11.6**	**+0.4**
CDF				*e*Pg	**Pg**	**18 09 21.2**	**-2.2**
CDF				*e*Sn	**Sn**	**18 09 50.0**	**-1.8**
LMR	**La Mourre**	**3.44**	**230**	*e*Pn	**Pn**	**18 09 11.5**	**+0.2**
LMR				*e*Sn	**Sn**	**18 09 51.3**	**-0.8**
PDKS	**Podkum**	**3.44**	**80**	*e*Pn	**Pn**	**18 09 10.7**	**-0.7**
PDKS				*e*Sn	**Sn**	**18 09 50.2**	**-1.9**
PDKS							
	comp=Z,12nm,0.2s						
PDKS	**Podkum**	**3.44**	**80**	*e*Pn	**Pn**	**18 09 10.7**	**-0.7**
PDKS				*e*Sn	**Sn**	**18 09 50.2**	**-1.9**
PDKS	**Podkum**	**3.44**	**80**	*e*Pn	**Pn**	**18 09 10.6**	**-0.8**
PDKS				*e*Sn	**Sn**	**18 09 50.2**	**-2.0**
HAU	**Haudompre**	**3.54**	**314**	*e*Pg	**Pg**	**18 09 25.6**	**0.0**
HAU				*e*Sn	**Sn**	**18 09 53.8**	**-0.8**
HAU				*e*Sg	**Sg**	**18 10 11.5**	**+0.1**
	comp=Z,31nm,0.5s						
HAU	**Haudompre**	**3.54**	**314**	*e*Pn	**Pn**	**18 09 13.6**	**+0.9**
HAU				*e*Pg	**Pg**	**18 09 25.6**	**0.0**
HAU				*e*Sn	**Sn**	**18 09 53.8**	**-0.8**
HAU				*e*Sg	**Sg**	**18 10 11.5**	**+0.1**
HAU	**Haudompre**	**3.54**	**314**	*e*Pg	**Pg**	**18 09 25.6**	**0.0**
HAU				*e*Sn	**Sn**	**18 09 53.8**	**-0.8**
HAU				*e*Sg	**Sg**	**18 10 11.5**	**+0.1**
	comp=Z,16nm,0.5s						
MOA	**Molln**	**3.63**	**50**	⇑*iPn*	**Pn**	**18 09 15.1**	**+1.1**
MOA				⇑*iSn*	**Sn**	**18 09 59.4**	**+2.4**
MOA	**Molln**	**3.63**	**50**	⇑*iPn*	**Pn**	**18 09 15.1**	**+1.1**
MOA				*i* Sn	**Sn**	**18 09 59.4**	**+2.4**
MOA	**Molln**	**3.63**	**50**	⇑*iPn*	**Pn**	**18 09 15.1**	**+1.1**
MOA				*i* Sn	**Sn**	**18 09 59.3**	**+2.3**
VIVF	**Saint-Julien-l**	**3.92**	**261**	*e*Pn	**Pn**	**18 09 18.7**	**+0.7**
VIVF				*e*Sn	**Sn**	**18 10 02.5**	**-1.5**
VIVF				*e*Sg	**Sg**	**18 10 22.8**	**-0.9**
WET	**Wettzell**	**4.01**	**27**	*e*Pn	**Pn**	**18 09 19.2**	**-0.1**
WET				*e*Sg	**Sg**	**18 10 26.6**	**-0.1**
GEC2	**GERESS Array S**	**4.06**	**36**	*e*Pn	**Pn**	**18 09 19.6**	**-0.4**
GEC2				*e*Sn	**Sn**	**18 10 06.7**	**-0.9**
ARSA	**Arzberg**	**4.09**	**64**	⇑*iPn*	**Pn**	**18 09 20.6**	**+0.3**
ARSA				⇓*iSn*	**Sn**	**18 10 08.7**	**+0.6**
GRF	**Grafenberg Arr**	**4.17**	**10**	*e*Sg	**Sg**	**18 10 33.5**	**+2.0**
KHC	**Kasperske Hory**	**4.25**	**32**	*e*PN	**Pn**	**18 09 22.6**	**+0.1**
KHC				*ex*	x	18 09 49.5	
KHC				*e*SN	**Sn**	**18 10 12.6**	**+0.6**
KHC				*e*SG	**Sg**	**18 10 29.7**	**-4.4**
	comp=Z,18nm,0.8s						
SMF	**Signal de Mont**	**4.49**	**286**	*e*Pn	**Pn**	**18 09 26.7**	**+0.9**
SMF				*e*Sn	**Sn**	**18 10 15.5**	**-2.6**
	comp=Z,16nm,0.2s						
SMF	**Signal de Mont**	**4.49**	**286**	*e*Pn	**Pn**	**18 09 26.7**	**+0.9**
SMF				*e*Sn	**Sn**	**18 10 15.5**	**-2.6**
	comp=Z,7.8nm,0.2s						
MEZF	**Maizieres J'vi**	**4.52**	**312**	*e*Pn	**Pn**	**18 09 27.4**	**+1.1**
MEZF				*e*Sn	**Sn**	**18 10 18.8**	**-0.1**
	comp=Z,11nm,0.4s						
MEZF	**Maizieres J'vi**	**4.52**	**312**	*e*Pn	**Pn**	**18 09 27.4**	**+1.1**
MEZF				*e*Sn	**Sn**	**18 10 18.8**	**-0.1**
	comp=Z,5.7nm,0.4s						
LOR	**Lormes**	**4.64**	**293**	*e*Pn	**Pn**	**18 09 28.9**	**+1.0**
LOR				*e*Sn	**Sn**	**18 10 19.1**	**-2.7**
	comp=Z,22nm,0.4s						
LOR	**Lormes**	**4.64**	**293**	*e*Pn	**Pn**	**18 09 28.9**	**+1.0**
LOR				*e*Sn	**Sn**	**18 10 19.1**	**-2.7**
	comp=Z,11nm,0.4s						
LASF	**Ste Croix**	**4.71**	**253**	*e*Pn	**Pn**	**18 09 30.1**	**+1.3**
LASF				*e*Sn	**Sn**	**18 10 20.7**	**-2.7**
TNS	**Taunus Mts**	**4.76**	**347**	*e*Pn	**Pn**	**18 09 30.6**	**+1.0**
TNS				*e*Sn	**Sn**	**18 10 24.9**	**+0.1**
TNS				*e*Sg	**Sg**	**18 10 50.7**	**0.0**
TNS	**Taunus Mts**	**4.76**	**347**	*e*Pn	**Pn**	**18 09 30.6**	**+1.0**
TNS				*e*Sn	**Sn**	**18 10 24.9**	**+0.1**
SSF	**Saint Saulge**	**4.81**	**290**	*e*Pn	**Pn**	**18 09 31.1**	**+0.9**
SSF				*e*Sn	**Sn**	**18 10 22.8**	**-3.2**
	comp=Z,6.2nm,0.4s						
SSF	**Saint Saulge**	**4.81**	**290**	*e*Pn	**Pn**	**18 09 31.1**	**+0.9**
SSF				*e*Sn	**Sn**	**18 10 22.8**	**-3.2**
	comp=Z,3.1nm,0.4s						
AVF	**Avril sur Loir**	**4.85**	**287**	*e*Pn	**Pn**	**18 09 31.5**	**+0.7**
AVF				*e*Sn	**Sn**	**18 10 25.3**	**-1.6**
	comp=Z,2.7nm,0.3s						
AVF	**Avril sur Loir**	**4.85**	**287**	*e*Pn	**Pn**	**18 09 31.5**	**+0.7**
AVF				*e*Sn	**Sn**	**18 10 25.3**	**-1.6**
	comp=Z,1.4nm,0.3s						
WLF	**Walferdange**	**4.88**	**328**	*e*Sg	**Sg**	**18 10 53.8**	**-0.5**
NKC	**Novy Kostel**	**4.90**	**18**	*e*PN	**Pn**	**18 09 33.2**	**+1.8**
NKC				*e*SG	**Sg**	**18 10 52.5**	**-2.5**
	comp=Z,9.1nm,0.6s						
MOX	**Moxa**	**5.15**	**11**	*e*PG	**Pg**	**18 09 58.4**	**+2.0**
MOX				*e*SG	**Sn**	**18 10 34.3**	**-0.1**
MOX	**Moxa**	**5.15**	**11**	*e*SG	**Sg**	**18 11 08.2**	**+5.1**
BGF	**Bois d'Agland**	**5.15**	**283**	*e*Pn	**Pn**	**18 09 35.4**	**+0.5**
BGF				*e*Sn	**Sn**	**18 10 32.8**	**-1.6**
	comp=Z,11nm,0.3s						
BGF	**Bois d'Agland**	**5.15**	**283**	*e*Pn	**Pn**	**18 09 35.4**	**+0.5**
BGF				*e*Sn	**Sn**	**18 10 32.8**	**-1.6**
	comp=Z,5.6nm,0.3s						
TREC	**Trest**	**5.19**	**43**	*e*SN	**Sn**	**18 10 33.0**	**-2.3**
PRU	**Pruhonice**	**5.31**	**33**	*e*SG	**Sg**	**18 11 05.6**	**-2.6**
	comp=Z,4.2nm,0.5s						
HYF	**Humbligny**	**5.44**	**291**	*e*Pn	**Pn**	**18 09 38.1**	**-0.7**
TCF	**Toulx Ste Croi**	**5.56**	**280**	*e*Pn	**Pn**	**18 09 41.2**	**+0.7**
TCF				*e*Sn	**Sn**	**18 10 43.0**	**-1.5**
	comp=Z,5.6nm,0.3s						
TCF	**Toulx Ste Croi**	**5.56**	**280**	*e*Pn	**Pn**	**18 09 41.2**	**+0.7**
TCF				*e*Sn	**Sn**	**18 10 43.0**	**-1.5**
	comp=Z,2.8nm,0.3s						
CAF	**Calviac**	**5.73**	**266**	*e*Pn	**Pn**	**18 09 43.7**	**+0.9**
BRG	**Berggiesshubel**	**5.87**	**24**	SG	**Sg**	**18 11 23.7**	**-2.3**
	comp=Z,2.0nm,0.6s						
CLL	**Collm**	**6.03**	**17**	*e*SG	**Sg**	**18 11 30.0**	**-1.3**
CLL				*i* L		18 11 43.9	
CLL	**Collm**	**6.03**	**17**	*e*Sg	**Sg**	**18 11 30.0**	**-1.3**
	comp=Z,12nm,1.1s						
MTLF	**Montolieu**	**6.09**	**251**	*e*Pn	**Pn**	**18 09 47.7**	**-0.1**
DPC	**Dobruska-Polom**	**6.32**	**39**	*e*SG	**Sg**	**18 11 34.8**	**-5.8**
	comp=Z,3.7nm,0.6s						
MFF	**Saint Martin d**	**7.21**	**282**	*e*Pn	**Pn**	**18 10 05.0**	**+1.8**
MFF				*e*Sn	**Sn**	**18 11 22.6**	**-2.5**
	comp=Z,4.4nm,0.5s						
MFF	**Saint Martin d**	**7.21**	**282**	*e*Pn	**Pn**	**18 10 05.0**	**+1.8**
MFF				*e*Sn	**Sn**	**18 11 22.6**	**-2.5**

CSS				SG	Sn	18 57 38.5	+0.6		
CSS	**Prodhromos**	**0.14**	**149**	*e*P	Pn	18 57 30.9	0.0		
	20nm,0.4s								
CSS				*e*Sg	Sn	18 57 38.5	+0.6		
SZAC	**Souni-Zanaja**	**0.44**	**222**	P	Pn	18 57 33.3	+0.3		
	28nm,0.2s								
SZAC				S	Sn	18 57 41.4	-0.1		
ALFC	**Alevga**	**0.53**	**278**	⇓P	Pn	18 57 33.0	-0.9		
PHNC	**Paralimni**	**0.65**	**97**	P	Pn	18 57 36.2	+1.0		
PPCY	**Paphos**	**0.76**	**255**	*i* P	Pn	18 57 36.6	+0.1		
IKL	**Isikli**	**1.21**	**17**	PN	Pn	18 57 40.6	-1.6		
MERS	**Mersin**	**2.06**	**30**	PN	Pn	18 57 53.2	-0.4		
HNTI	**Hanita**	**2.56**	**141**	Pn	Sn	18 58 00.4	0.0		
HNTI				Sn	Sn	18 58 29.6	-0.8		
KARA	**Karaisali**	**2.62**	**33**	*e*PN	Pn	18 58 01.0	-0.2		
MMA4	**Mount Meron ar**	**2.73**	**138**	Pn	Pn	18 58 02.9	+0.2		
MMA4				Sn	Sn	18 58 34.4	-0.2		
MMA0	**Mount Meron ar**	**2.73**	**138**	Pn	Pn	18 58 03.3	+0.5		
KSDI	**Kefar Szold**	**2.75**	**133**	Pn	Pn	18 58 03.3	+0.3		
OFRI	**'Ofer**	**2.85**	**149**	Pn	Pn	18 58 04.5	+0.1		
KONT	**Konya--Tatoy**	**2.94**	**346**	*e*PN	Pn	18 58 01.5	-4.1		
GLH	**Golan-Tel Qazi**	**3.10**	**139**	Pn	Pn	18 58 08.9	+1.2		
GLH				Sn	Sn	18 58 42.6	-1.0		
KOZT	**Kozan**	**3.17**	**40**	*e*PN	Pn	18 58 08.0	-0.8		
MMLI	**Mount Malkishu**	**3.20**	**145**	Pn	Pn	18 58 10.0	+0.8		
MMLI				Sn	Sn	18 58 44.9	-1.3		
SLTI	**Sal'it**	**3.21**	**152**	Pn	Pn	18 58 09.4	+0.2		
SLTI				Sn	Sn	18 58 45.0	-1.3		
HMDT	**Nahal Hemdat**	**3.41**	**145**	Pn	Pn	18 58 13.1	+1.1		
AMAZ	**Amatzia**	**3.81**	**158**	Pn	Pn	18 58 18.4	+0.9		
AMAZ				Sn	Sn	18 58 59.7	-1.3		
MKRJ	**Makawir**	**4.05**	**150**	Pn	Pn	18 58 22.5	+1.6		
MZDA	**Masada**	**4.16**	**154**	Pn	Pn	18 58 23.1	+0.8		
MZDA				Sn	Sn	18 59 08.8	-0.9		
KZIT	**Kziot**	**4.28**	**167**	Pn	Pn	18 58 24.9	+1.1		
KZIT				Sn	Sn	18 59 11.0	-1.5		
MASH	**Mash'abbe Sade**	**4.28**	**162**	Pn	Pn	18 58 24.9	+1.0		
MASH				Sn	Sn	18 59 12.2	-0.3		
AMAG	**Maghara**	**4.43**	**180**	⇑P	Pn	18 58 26.3	+0.3		
HNKL	**Nakhl**	**5.18**	**173**	P	Pn	18 58 36.7	+0.5		
HRFI	**Mount Harif**	**5.26**	**163**	Pn	Pn	18 58 38.2	+0.9		
HRFI				Sn	Sn	18 59 35.5	-1.0		
MBH	**Mount Berech**	**5.46**	**165**	Pn	Pn	18 58 41.6	+1.5		
HDHB	**Dhahab**	**6.45**	**169**	⇓P	Pn	18 58 54.3	+0.7		
HMAT	**Matruh**	**6.51**	**234**	⇓P	Pn	18 58 53.9	-0.6		
HMAT				S	Sn	19 00 01.4	-5.9		
HKAT	**Jabal Katrina**	**6.57**	**174**	P	Pn	18 58 56.2	+0.9		
SWA1		**8.62**	**230**	P	Pn	18 59 22.9	-0.5		
SWA2		**8.80**	**231**	⇓P	Pn	18 59 24.6	-1.2		

JMA 22 18:57:46.5±0.6, 4450N×14864E, h30km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**2.38**	**243**	P	Pn	18 58 22.2	-1.3
NEM2				*e*S	Sn	18 58 48.0	-3.6
JRA	**Rausu**	**2.59**	**259**	P	Pn	18 58 27.3	+1.0
JRA				*e*S	Sn	18 58 58.2	+1.4
JNK	**Nakash**	**2.97**	**253**	P	Pn	18 58 31.9	+0.3
JNK				*e*S	Sn	18 59 05.8	-0.4
JAK	**Akkeshi**	**3.23**	**244**	P	Pn	18 58 34.3	-0.8
JAK				*e*S	Sn	18 59 09.6	-2.9
JTKR	**Abashiri--Toko**	**3.44**	**263**	P	Pn	18 58 40.4	+2.4
JAR	**Ashorobuto**	**3.72**	**253**	P	Pn	18 58 43.1	+1.2
JAR				*e*S	Sn	18 59 25.4	+0.7
JMP	**Maruseppu**	**3.83**	**264**	P	Pn	18 58 45.1	+1.8
JOB	**Onbets**	**3.83**	**247**	P	Pn	18 58 44.5	+1.1
JOB				*e*S	Sn	18 59 26.9	-0.5
JCH	**Churui**	**4.27**	**246**	P	Pn	18 58 50.0	+0.5
JCH				*e*S	Sn	18 59 37.4	-0.9
JNBK	**Urakawa-nobuka**	**4.83**	**245**	P	Pn	18 58 56.7	-0.4
JNBK				*e*S	Sn	18 59 49.9	-2.1
JBT2	**Biratori 2**	**4.87**	**251**	P	Pn	18 58 59.0	+1.3
JNB	**Noboribetsu**	**5.89**	**252**	P	Pn	18 59 12.8	+1.1
JNB				*e*S	Sn	19 00 18.2	0.0
JKB	**Kayabe**	**6.14**	**247**	P	Pn	18 59 15.2	0.0
JKB				*e*S	Sn	19 00 20.2	-4.2
JANG	**Nango**	**6.69**	**234**	*e*S	Sn	19 00 28.8	-9.1
JTH	**Tanohata**	**6.79**	**230**	*e*S	Sn	19 00 29.2	-11
OFUJ	**Ofunato**	**7.51**	**226**	*e*S	Sn	19 00 48.4	-10
JRG	**Rokugo**	**7.85**	**232**	*e*S	Sn	19 00 59.8	-6.5
JIO	**Ouri**	**8.15**	**225**	*e*S	Sn	19 01 01.5	-12

*ISCJB **22** 18:59:34.3±0.9, 478S±0.1×16520E±009, h33km, mb3.6/4, Error ellipse: s-maj=16.4km s-min=6.6km az=138.5*
*IDC **22** 18:59:34.7±1.5, 4747S×16504E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.7/11, mbtmp3.6/5, ML3.1/1, Error ellipse: s-maj=29.5km s-min=26.9km az=56.0*
*NEIC **22** 18:59:36.6±1.0, 4774S×16531E, h35km, mb3.6/1, Error ellipse: s-maj=21.7km s-min=11.5km az=155.0*

ISC 22 18:59:35.9±1.0, 479S±01×16523E±009, h35km, n22, σ1§32/29, mb3.6/4, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APZ	**The Paps**	**2.13**	**63**	*e*PN	**Pn**	**19 00 08.5**	**-0.5**
APZ				SN	**Sn**	**19 00 34.8**	**+0.5**
WHZ	**Wether Hill Ro**	**2.70**	**45**	*e*PN	**Pn**	**19 00 14.6**	**-2.2**
WHZ				SN	**Sn**	**19 00 50.5**	**+2.3**
WHZ	**Wether Hill Ro**	**2.70**	**45**	*e*P	**Pn**	**19 00 14.7**	**-2.1**
SYZ	**Scrubby Hill**	**2.97**	**65**	*e*PN	**Pn**	**19 00 21.0**	**+0.5**
SYZ				SN	**Sn**	**19 00 55.8**	**+0.9**
MLZ	**Mavora Lakes**	**3.22**	**40**	*e*PN	**Pn**	**19 00 21.5**	**-2.4**
MLZ				*e*SN	**Sn**	**19 01 01.9**	**+0.8**
MLZ	**Mavora Lakes**	**3.22**	**40**	*e*P	**Pn**	**19 00 21.5**	**-2.5**
MLZ				S	**Sn**	**19 01 04.4**	**+3.3**
TUZ	**Tuapeka**	**3.56**	**60**	*e*PN	**Pn**	**19 00 28.3**	**-0.4**
TUZ				*e*SN	**Sn**	**19 01 10.9**	**+1.4**
TUZ	**Tuapeka**	**3.56**	**60**	*e*P	**Pn**	**19 00 28.3**	**-0.4**
MSZ	**Milford Sound**	**3.69**	**32**	*e*PN	**Pn**	**19 00 29.9**	**-0.5**
MSZ	**Milford Sound**	**3.69**	**32**	*e*P	**Pn**	**19 00 34.7**	**+4.4**
EAZ	**Earnscleugh**	**3.84**	**49**	*e*PN	**Pn**	**19 00 29.8**	**-2.7**
EAZ	**Earnscleugh**	**3.84**	**49**	*e*P	**Pn**	**19 00 31.6**	**-0.9**
WKZ	**Wanaka**	**4.00**	**42**	*e*PN	**Pn**	**19 00 33.4**	**-1.3**
JCZ	**Jackson Bay**	**4.50**	**34**	*e*PN	**Pn**	**19 00 40.8**	**-0.8**
ODZ	**Otahua Downs**	**4.68**	**55**	*e*PN	**Pn**	**19 00 41.1**	**-2.9**
RPZ	**Rata Peaks**	**5.80**	**47**	Pn	**Pn**	**19 01 00.9**	**+1.5**
	0.6nm,0.3s,baz=195,slow=20,SNR=3.7						
RPZ				Sn	**Sn**	**19 02 04.1**	**-0.6**
	1.7nm,0.3s,baz=32,slow=18,SNR=9.3						
STKA	**Stephens Creek**	**24.01**	**303**	P	**P**	**19 04 47.9**	**+0.5**
	3.2nm,0.9s,mb3.7,baz=166,slow=8.3,SNR=5.4						
STKA	**Stephens Creek**	**24.01**	**303**	*e*P	**P**	**19 04 47.4**	**0.0**
VNDA	**Vanda**	**29.81**	**181**	P	**P**	**19 05 46.0**	**+6.6**
	0.5nm,0.5s,mb3.5,baz=72,slow=10,SNR=6.8						
VNDA	**Vanda**	**29.81**	**181**	P	**P**	**19 05 40.4**	**+0.9**
	0.5nm,0.4s,mb3.6						
ASAR	**Alice Springs**	**34.65**	**303**	P	**P**	**19 06 23.1**	**+1.3**
	0.4nm,0.5s,mb3.6,baz=136,slow=6.9,SNR=9.7						
WRA	**Warramunga Arr**	**37.40**	**307**	P	**P**	**19 06 46.4**	**+1.0**
	0.3nm,0.5s,mb3.4,baz=138,slow=8.1,SNR=8.2						

*ISCJB **22** 19:03:16.4±2.9, 141N±0.1×1459E±03, h90km±21km, mb3.5/7, Error ellipse: s-maj=48.7km s-min=20.5km az=5.0*
*NEIC **22** 19:03:17.4±2.4, 1410N×14604E, h88km±19km, Error ellipse: s-maj=37.6km s-min=15.5km az=93.0*
*IDC **22** 19:03:21.1±2.6, 1406N×14533E, h103km±12km, mb3.4/7, mb1 3.6/7, mb1mx3.5/18, mbtmp3.7/7, Error ellipse: s-maj=72.4km s-min=18.3km az=87.0*

ISC 22 19:03:17.4±2.7, 141N±01×1459E±03, h83km±21km, n11, σ1§10/12, mb3.5/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.14**	**243**	P	**Pn**	**19 03 39.7**	**+1.4**
	358nm,0.3s,baz=96,slow=2.5,SNR=124						
GUMO				S	**Sn**	**19 03 52.6**	**-1.4**
	805nm,0.3s,baz=5.4,slow=22,SNR=105						
MJAR	**Matsushiro Arr**	**23.37**	**344**	P	**P**	**19 08 20.4**	**+1.8**
	0.3nm,0.4s,mb2.9,baz=231,slow=13,SNR=5.8						
WRA	**Warramunga Arr**	**35.71**	**199**	P	**P**	**19 10 07.8**	**0.0**
	1.2nm,0.9s,mb3.8,baz=22,slow=9.3,SNR=8.2						
ASAR	**Alice Springs**	**39.34**	**198**	P	**P**	**19 10 39.4**	**+0.9**
	0.3nm,0.6s,mb3.3,baz=20,slow=13,SNR=5.6						
SONM	**Songino Array**	**46.89**	**324**	P	**P**	**19 11 40.2**	**+0.8**
	0.2nm,0.5s,mb3.1,baz=125,slow=9.0,SNR=3.1						
NIKO	**Nikolski**	**52.69**	**33**	P	**P**	**19 12 21.8**	**-1.5**
MKAR	**Makanchi Array**	**61.82**	**316**	P	**P**	**19 13 26.7**	**-0.9**
	0.2nm,0.3s,mb3.6,baz=89,slow=9.0,SNR=7.0						
MKAR	**Makanchi Array**	**61.82**	**316**	P	**P**	**19 13 26.7**	**-0.9**
ARCES	**ARCESS Array B**	**86.89**	**342**	P	**P**	**19 15 52.5**	**-0.5**
	1.9nm,0.8s,mb4.1,baz=35,slow=3.0,SNR=6.7						
ARCES	**ARCESS Array B**	**86.89**	**342**	P	**P**	**19 15 52.5**	**-0.5**
FINES	**FINESS Array B**	**91.11**	**335**	P	**P**	**19 16 12.1**	**-0.7**
	0.7nm,0.5s,mb4.1,baz=79,slow=4.0,SNR=15						

*ISCJB **22** 19:08:29.4±0.5, 4109N±002×086W±004, h7km±4km, Error ellipse: s-maj=4.8km s-min=3.1km az=5.6*
*LDG **22** 19:08:32.2±0.4, 4108N×084W, h2km, Ml2.4/5, Error ellipse: s-maj=6.8km s-min=6.3km az=62.0*
*CSEM **22** 19:08:33.0±0.1, 4108N×079W, h15km, ML2.5/17, Error ellipse: s-maj=2.1km s-min=1.6km az=103.0*
*MDD **22** 19:08:33.0±0.4, 4107N×081W, h11km, mbLg2.0/14, Error ellipse: s-maj=3.7km s-min=3.0km az=85.0, PRXIMO*

ISC 22 19:08:30.9±0.5, 4108N±002×083W±003, h12km±3km, n55, σ1§12/97, 1C, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMOS	**Mosqueruela**	**0.77**	**159**	Pg	**Pg**	**19 08 46.6**	**+0.9**
	2.1nm,0.1s,SNR=21						
EMOS				Lg		19 08 57.2	
	11nm,0.2s,SNR=5.0						
EMOS	**Mosqueruela**	**0.77**	**159**	Pg	**Pg**	**19 08 46.6**	**+0.8**
	2.1nm,0.1s,SNR=21						
ERTA	**Horta de San J**	**0.89**	**98**	Pg	**Pg**	**19 08 48.9**	**+0.8**
	4.5nm,0.1s,SNR=26						
ERTA				Lg		19 09 01.1	
	22nm,0.1s,SNR=12						
ERTA	**Horta de San J**	**0.89**	**98**	Pg	**Pg**	**19 08 49.0**	**+0.9**
	4.5nm,0.1s,SNR=26						
EPOB	**Poblet**	**1.47**	**79**	⇑Pg	**Pg**	**19 08 58.6**	**-0.5**
	3.4nm,0.1s,SNR=18						
EPOB				Lg		19 09 18.2	
	5.1nm,0.1s,SNR=8.5						
EPOB	**Poblet**	**1.47**	**79**	Pg	**Pg**	**19 08 58.6**	**-0.5**
	3.4nm,0.1s,SNR=42						
ECHE	**Chera**	**1.49**	**184**	Pg	**Pg**	**19 09 00.4**	**+0.8**
	0.9nm,0.2s,SNR=7.9						
ECHE				Sn	**Sn**	**19 09 17.1**	**+0.1**
	0.9nm,0.2s,SNR=4.0						
ECHE				Lg		19 09 18.4	
	1.6nm,0.1s,SNR=6.5						
ECHE	**Chera**	**1.49**	**184**	Pg	**Pg**	**19 09 00.4**	**+0.8**
	0.9nm,0.2s,SNR=7.9						
ECHE				Sn	**Sn**	**19 09 17.1**	**+0.1**
	0.9nm,0.2s,SNR=4.0						
IUNC	**Unciti**	**1.75**	**344**	Pg	**Pg**	**19 09 05.2**	**+0.7**
	0.6nm,0.1s,SNR=7.9						
IUNC				Lg		19 09 27.5	
	3.0nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**1.75**	**344**	Pg	**Pg**	**19 09 05.2**	**+0.8**
	0.6nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**1.76**	**24**	Pg	**Pg**	**19 09 04.9**	**+0.2**
	2.1nm,0.2s,SNR=11						
EBIE				Lg		19 09 28.5	
	1.6nm,0.1s,SNR=8.9						
EBIE	**Bielsa**	**1.76**	**24**	Pg	**Pg**	**19 09 04.9**	**+0.2**
	2.1nm,0.2s,SNR=11						
ETSF	**Etsaut**	**1.83**	**6**	*e*Pg	**Pg**	**19 09 06.3**	**+0.3**
ETSF				*e*Sn	**Sn**	**19 09 25.2**	**-0.1**
ETSF				*e*Sg	**Sg**	**19 09 28.9**	**-0.8**
	4.3nm,0.2s						
ETSF	**Etsaut**	**1.83**	**6**	*e*Pg	**Pg**	**19 09 06.3**	**+0.3**
ETSF				*e*Sn	**Sn**	**19 09 25.2**	**-0.1**
ETSF				*e*Sg	**Sg**	**19 09 28.9**	**-0.8**
	2.2nm,0.2s						
IUSE	**Utxeti**	**1.94**	**344**	Lg		19 09 34.7	
	0.7nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**2.05**	**352**	*e*Pn	**Pn**	**19 09 06.2**	**+0.9**
SJPF	**Ste Jean**	**2.05**	**352**	*e*Pg	**Pg**	**19 09 09.6**	**-0.7**
SJPF				*e*Sg	**Sg**	**19 09 37.0**	**+0.1**
	6.5nm,0.4s						
SJPF	**Ste Jean**	**2.05**	**352**	Pn	**Pn**	**19 09 06.2**	**+0.9**
SJPF				Pg	**Pg**	**19 09 09.6**	**-0.7**
SJPF				Lg		19 09 37.0	
	3.2nm,0.4s						
SJPF	**Ste Jean**	**2.05**	**352**	*e*Pg	**Pg**	**19 09 09.6**	**-0.7**
SJPF				*e*Sg	**Sg**	**19 09 37.0**	**+0.1**
	3.2nm,0.4s						
EPF	**Esparros**	**2.13**	**24**	*e*Pg	**Pg**	**19 09 11.6**	**-0.3**
EPF				*e*Sn	**Sn**	**19 09 32.7**	**-0.1**
EPF				*e*Sg	**Sg**	**19 09 39.9**	**+0.4**
	9.4nm,0.2s						
EPF	**Esparros**	**2.13**	**24**	*e*Pg	**Pg**	**19 09 11.6**	**-0.3**
EPF				*e*Sn	**Sn**	**19 09 32.7**	**-0.1**
EPF				*e*Sg	**Sg**	**19 09 39.9**	**+0.4**
	4.7nm,0.2s						
EALK	**Alkurruntz**	**2.19**	**347**	Pn	**Pn**	**19 09 09.0**	**+1.7**
	0.1nm,0.1s,SNR=7.9						
EALK				Sn	**Sn**	**19 09 34.6**	**+0.3**
	1.5nm,0.1s,SNR=4.6						
EALK				Lg		19 09 41.6	
	4.2nm,0.2s,SNR=7.0						
EALK	**Alkurruntz**	**2.19**	**347**	Pn	**Pn**	**19 09 09.0**	**+1.7**
	0.1nm,0.1s,SNR=7.9						
EALK				Sn	**Sn**	**19 09 34.6**	**+0.2**
	1.5nm,0.1s,SNR=4.6						
EBEN	**Beniarda**	**2.42**	**169**	Pg	**Pg**	**19 09 15.5**	**-1.8**
	0.2nm,0.1s,SNR=4.0						
EBEN				Sn	**Sn**	**19 09 40.0**	**0.0**
	0.5nm,0.2s,SNR=7.9						
EBEN				Lg		19 09 47.9	
	0.4nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**2.42**	**169**	Pg	**Pg**	**19 09 15.5**	**-1.8**
	0.2nm,0.1s,SNR=4.0						
EBEN				Sn	**Sn**	**19 09 40.0**	**+0.1**
	0.5nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**2.50**	**193**	Pn	**Pn**	**19 09 12.9**	**+1.5**
	0.1nm,0.1s,SNR=7.9						
ETOB				Sn	**Sn**	**19 09 41.4**	**-0.4**
	0.4nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**2.50**	**193**	Pn	**Pn**	**19 09 12.6**	**+1.2**
	0.1nm,0.1s,SNR=7.9						
ETOB				Sn	**Sn**	**19 09 41.4**	**-0.4**
	0.4nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**2.56**	**261**	Pn	**Pn**	**19 09 14.1**	**+1.8**
	0.9nm,0.2s,SNR=6.4						
GUD				Sn	**Sn**	**19 09 43.8**	**+0.4**
	1.1nm,0.2s,SNR=6.6						
GUD				Lg		19 09 51.6	
	1.8nm,0.2s,SNR=5.0						
GUD	**Guadarrama**	**2.56**	**261**	Pn	**Pn**	**19 09 14.1**	**+1.8**
	0.9nm,0.2s,SNR=6.4						
GUD				Sn	**Sn**	**19 09 43.8**	**+0.5**
	1.1nm,0.2s,SNR=6.6						
ESDC	**Sonseca Array**	**2.78**	**241**	Pg	**Pg**	**19 09 22.6**	**-1.5**
	1.7nm,0.1s,baz=57,slow=17,SNR=7.8						
ESDC				Sn	**Sn**	**19 09 47.0**	**-1.7**
	1.1nm,0.1s,baz=60,slow=24,SNR=11						
ESDC				Lg		19 09 58.8	
	3.8nm,0.1s,baz=58,slow=30,SNR=12						
ESDC	**Sonseca Array**	**2.78**	**241**	Pg	**Pg**	**19 09 22.6**	**-1.5**
	1.7nm,0.1s,SNR=7.8						
ESDC				Sn	**Sn**	**19 09 47.0**	**-1.7**
	1.1nm,0.1s,SNR=11						
ELAN	**Lanestosa**	**2.89**	**319**	Pn	**Pn**	**19 09 18.1**	**+1.3**
	0.1nm,0.1s,SNR=7.9						
ELAN				Pg	**Pg**	**19 09 25.7**	**-0.6**
	0.4nm,0.1s,SNR=7.9						
ELAN				Sn	**Sn**	**19 09 52.3**	**+0.8**
	0.9nm,0.2s,SNR=4.0						
ELAN				Lg		19 10 04.0	
	3.2nm,0.2s,SNR=5.0						
ELAN	**Lanestosa**	**2.89**	**319**	Pn	**Pn**	**19 09 18.1**	**+1.3**
	0.1nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**2.89**	**319**	Pg	**Pg**	**19 09 25.7**	**-0.7**
	0.4nm,0.1s,SNR=7.9						
ELAN				Sn	**Sn**	**19 09 52.3**	**+0.7**
	0.9nm,0.2s,SNR=4.0						
ETOS	**Mallorca**	**3.08**	**114**	Pn	**Pn**	**19 09 20.0**	**+0.6**
	0.1nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**19 09 54.4**	**-1.7**
	0.1nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.08**	**114**	Pn	**Pn**	**19 09 20.0**	**+0.6**
	0.1nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**19 09 54.4**	**-1.7**
	0.1nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**3.20**	**44**	*e*Pn	**Pn**	**19 09 21.8**	**+0.8**
MTLF	**Montolieu**	**3.20**	**44**	*e*Pg	**Pg**	**19 09 31.4**	**-0.8**
MTLF				*e*Sg	**Sg**	**19 10 12.3**	**-1.3**
	1.7nm,0.3s						
MTLF	**Montolieu**	**3.20**	**44**	Pn	**Pn**	**19 09 21.8**	**+0.8**
MTLF				Pg	**Pg**	**19 09 31.4**	**-0.8**
MTLF				Lg		19 10 12.3	
	0.9nm,0.3s						
MTLF	**Montolieu**	**3.20**	**44**	*e*Pg	**Pg**	**19 09 31.4**	**-0.8**
MTLF				*e*Sg	**Sg**	**19 10 12.3**	**-1.3**
	0.9nm,0.3s						
EMUR	**La Murta**	**3.25**	**186**	Pn	**Pn**	**19 09 24.0**	**+2.2**
	0.5nm,0.1s,SNR=7.9						
EMUR				Sn	**Sn**	**19 09 54.5**	**-6.0**
	2.4nm,0.3s,SNR=4.0						
EMUR	**La Murta**	**3.25**	**186**	Pn	**Pn**	**19 09 24.0**	**+2.2**
	0.5nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.71**	**209**	Pn	**Pn**	**19 09 28.8**	**+0.8**
	0.3nm,0.2s,SNR=4.0						
EQES	**Quesada**	**3.71**	**209**	Pn	**Pn**	**19 09 28.8**	**+0.8**
	0.3nm,0.2s,SNR=4.0						
EARI	**Arriondas**	**3.94**	**306**	Pn	**Pn**	**19 09 33.0**	**+1.8**
	0.1nm,0.1s,SNR=4.0						
EARI				Sn	**Sn**	**19 10 16.6**	**-0.8**
	0.2nm,0.2s,SNR=7.9						
EARI				Lg		19 10 39.0	
	0.4nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**3.94**	**306**	Pn	**Pn**	**19 09 33.0**	**+1.8**
	0.1nm,0.1s,SNR=4.0						
EARI				Sn	**Sn**	**19 10 16.6**	**-0.8**
	0.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**4.10**	**226**	Pn	**Pn**	**19 09 34.2**	**+0.6**
	0.1nm,0.1s,SNR=7.9						
EADA				Pg	**Pg**	**19 09 48.2**	**-1.3**
	0.0nm,0.0s,SNR=7.9						
EADA				Sn	**Sn**	**19 10 19.3**	**-2.1**
	1.3nm,0.1s,SNR=7.9						
EADA				Lg		19 10 41.3	
	0.6nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.10**	**226**	Pn	**Pn**	**19 09 34.2**	**+0.7**
	0.1nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**19 10 19.3**	**-2.2**
	1.3nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.13**	**257**	Pn	**Pn**	**19 09 34.8**	**+1.0**
	0.4nm,0.1s,SNR=7.9						
EPLA				Sn	**Sn**	**19 10 19.6**	**-2.4**
	1.0nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.13**	**257**	Pn	**Pn**	**19 09 34.8**	**+1.0**
	0.4nm,0.1s,SNR=7.9						
EPLA				Sn	**Sn**	**19 10 19.6**	**-2.4**
	1.0nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**4.52**	**283**	Pn	**Pn**	**19 09 40.7**	**+1.5**
	1.2nm,0.1s,SNR=8.5						
ECAL				Sn	**Sn**	**19 10 30.2**	**-1.5**
	1.3nm,0.1s,SNR=7.9						
ECAL				Lg		19 10 56.8	
	2.8nm,0.5s,SNR=4.0						
ECAL	**Calabor**	**4.52**	**283**	Pn	**Pn**	**19 09 40.7**	**+1.5**
	1.2nm,0.1s,SNR=8.5						
ECAL				Sn	**Sn**	**19 10 30.2**	**-1.5**
	1.3nm,0.1s,SNR=7.9						
RJF	**Les Rejaudoux**	**4.55**	**21**	*e*Sn	**Sn**	**19 10 30.6**	**-2.0**
RJF				*e*Sg	**Sg**	**19 10 56.7**	**-0.5**
	1.9nm,0.3s						
RJF	**Les Rejaudoux**	**4.55**	**21**	*e*Sn	**Sn**	**19 10 30.6**	**-2.0**
RJF				*e*Sg	**Sg**	**19 10 56.7**	**-0.5**
	0.9nm,0.3s						
EBAD	**Badajoz**	**5.29**	**246**	Sn	**Sn**	**19 10 46.6**	**-4.2**
	0.3nm,0.1s,SNR=7.9						
EBAD				Lg		19 11 15.0	
	0.7nm,0.2s,SNR=7.9						

IDC 22 19:16:03.2±7.2, 3067S×17824W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/12, mbtmp3.7/2, Error ellipse: s-maj=304.5km s-min=54.0km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.89**	**267**	P	P	19 24 03.2	-0.1
	0.4nm,0.5s,baz=106,slow=7.3,SNR=15						
WB2	**Warramunga Arr**	**43.89**	**273**	*e*P	P	19 24 11.9	+0.5
WRA	**Warramunga Arr**	**43.90**	**273**	P	P	19 24 12.0	+0.5
	0.6nm,0.3s,baz=111,slow=8.1,SNR=19						
FINES	**FINESS Array B**	**145.32**	**340**	PKPbc	PKPbc

DBIC Dimbokro 25.59 20 P **P 19 53 11.2 -1.0**
comp=Z,14nm,1.1s,mb4.4,baz=160,slow=8.2,SNR=5.5
DBIC LR LR 20 00 46.6
comp=Z,2μm,19.9s,MS4.6,baz=168,slow=31
DBIC Dimbokro 25.59 20 *eP* **P 19 53 11.3 -1.0**
DBIC pmax pmax
comp=Z,77nm,1.8s
DBIC Dimbokro 25.59 20 *eP* **P 19 53 11.3 -1.0**
comp=Z,77nm,1.8s,mb4.9
TSUM Tsumeb 29.31 98 P **P 19 53 44.3 -1.3**
comp=Z,3.0nm,0.9s,mb4.0,baz=333,slow=14,SNR=2.5
TSUM LR LR 20 02 15.6
comp=Z,1μm,21.0s,MS4.5,baz=257,slow=30
TSUM Tsumeb 29.31 98 *eP* **P 19 53 45.4 -0.2**
comp=Z,26nm,1.5s,mb4.8
BDFB Brasilia 33.30 268 P **P 19 54 22.9 +2.1**
comp=Z,2.0nm,0.6s,mb4.3,baz=128,slow=11,SNR=2.8
BDFB LR LR 20 04 53.5
comp=Z,1μm,21.6s,MS4.6,baz=103,slow=31
TOA0 Torodi Ar. Sit 34.02 27 *eP* **P 19 54 26.6 -0.5**
TORD Torodi Ar. Bea 34.02 27 P **P 19 54 27.0 0.0**
comp=Z,16nm,0.7s,mb5.1,baz=204,slow=7.2,SNR=71
TORD LR LR 20 05 41.8
comp=Z,2μm,20.3s,MS4.9,baz=205,slow=32
LBTB Lobatse 36.85 108 P **P 19 54 50.4 -0.9**
comp=Z,2.1nm,0.6s,mb4.2,baz=265,slow=13,SNR=6.1
LBTB Lobatse 36.85 108 *eP* **P 19 54 49.3 -2.0**
LBTB pmax pmax
comp=Z,22nm,1.4s,mb4.8
LBTB Lobatse 36.85 108 *eP* **P 19 54 49.3 -2.0**
comp=Z,22nm,1.4s,mb4.8
BOSA Boshof 36.92 114 P **P 19 54 50.7 -1.3**
comp=Z,4.7nm,1.0s,mb4.3,baz=350,slow=6.1,SNR=3.9
BOSA LR LR 20 07 15.9
comp=Z,1μm,20.1s,MS4.7,baz=280,slow=32
BOSA Boshof 36.92 114 P **P 19 54 50.3 -1.7**
LSZ Lusaka 39.79 93 P **P 19 55 17.3 +1.2**
comp=Z,4.2nm,0.7s,mb4.2,baz=255,slow=6.8,SNR=14
LSZ Lusaka 39.79 93 *eP* **P 19 55 16.5 +0.4**
LSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
LSZ Lusaka 39.79 93 *eP* **P 19 55 16.5 +0.4**
comp=Z,6.6nm,0.9s,mb4.4
CPUP Villa Florida 41.56 250 P **P 19 55 31.6 +0.8**
comp=Z,2.3nm,0.7s,mb3.9,baz=79,slow=9.0,SNR=8.8
CPUP LR LR 20 09 14.5
comp=Z,432nm,19.2s,MS4.3,baz=79,slow=31
CPUP Villa Florida 41.56 250 *eP* **P 19 55 31.1 +0.4**
CPUP pmax pmax
comp=Z,12nm,0.9s
CPUP Villa Florida 41.56 250 *eP* **P 19 55 31.1 +0.3**
comp=Z,12nm,0.9s,mb4.5
TRQA Tornquist 46.99 234 *eP* **P 19 56 14.5 +0.3**
comp=Z,18nm,1.1s,mb4.9
SAML Samuel 49.20 273 *eP* **P 19 56 25.5 -5.8**
comp=Z,12nm,1.3s,mb4.8
KMBO Kilima Mbogo 52.29 77 P **P 19 56 56.0 +1.4**
comp=Z,0.9nm,0.5s,mb4.0,baz=80,slow=4.3,SNR=4.9
KMBO LR LR 20 18 05.7
comp=Z,396nm,21.3s,MS4.4,baz=280,slow=35
LPAZ La Paz 52.31 263 LR LR 20 16 51.2
comp=Z,390nm,19.2s,MS4.5,baz=101,slow=33
VNA1 Neumayer--Stat 53.04 178 *e* **P 19 56 57.5 -2.6**
VNA1 *e* 19 57 07.4
VNA1 *e* 19 57 13.8
VNA1 *e* 19 57 25.1
PLCA Paso Flores 53.98 232 P **P 19 57 05.8 -1.3**
comp=Z,3.3nm,0.9s,mb4.3,baz=124,slow=2.2,SNR=4.4
PLCA LR LR 20 16 12.0
comp=Z,720nm,18.9s,MS4.8,baz=83,slow=32
PLCA Paso Flores 53.98 232 P **P 19 57 05.0 -2.0**
PLCA pmax pmax
comp=Z,15nm,1.3s
PLCA Paso Flores 53.98 232 P **P 19 57 05.0 -2.0**
comp=Z,15nm,1.3s,mb4.8
SNAA Sanae 54.33 176 P **P 19 57 09.9 +0.3**
comp=Z,1.3nm,0.9s,mb3.9,baz=335,slow=8.9,SNR=9.8
SNAA Sanae 54.33 176 *e* **P 19 57 09.1 -0.5**
SNAA *e* 19 57 24.2
SNAA *e* 19 57 35.0
SNAA Sanae 54.33 176 *eP* **P 19 57 09.0 -0.6**
SNAA pmax pmax
comp=Z,15nm,1.2s
SNAA Sanae 54.33 176 *eP* **P 19 57 09.0 -0.6**
comp=Z,15nm,1.2s,mb4.8
MAIT Maitri 55.18 170 *eP* **P 19 57 08.0 -7.7**
ESDC Sonseca Array 57.72 9 P **P 19 57 35.1 +1.2**
comp=Z,1.0nm,0.7s,mb4.0,baz=186,slow=7.3,SNR=12
ESDC LR LR 20 21 14.3
comp=Z,461nm,19.3s,MS4.6,baz=195,slow=35
ESLA Sonseca Array 57.72 9 *eP* **P 19 57 31.4 -2.5**
comp=Z,0.6nm,0.8s,mb3.7
ETSF Etsaut 61.41 11 *eP* **P 19 57 59.7 +0.4**
comp=Z,15nm,1.2s,mb4.7
ETSF Etsaut 61.41 11 *eP* **P 19 57 59.7 +0.4**
ETSF pmax pmax
comp=Z,7.0nm,1.2s,mb4.7
ETSF Etsaut 61.41 11 *eP* **P 19 57 59.7 +0.4**
comp=Z,7.3nm,1.2s,mb4.7
SJPF Ste Jean 61.51 10 *eP* **P 19 58 00.2 +0.2**
comp=Z,18nm,1.1s,mb4.8
SJPF Ste Jean 61.51 10 *eP* **P 19 58 00.2 +0.2**
SJPF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
SJPF Ste Jean 61.51 10 *eP* **P 19 58 00.2 +0.2**
comp=Z,9.1nm,1.1s,mb4.8
EPF Esparros 61.70 11 *eP* **P 19 58 01.6 +0.3**
MTLF Montolieu 62.37 13 *eP* **P 19 58 06.2 +0.4**
ATD Arta Tunnel 62.57 66 LR LR 20 23 03.6
comp=Z,491nm,18.5s,MS4.7,baz=130,slow=34
PGF Pioggiola 63.36 18 *eP* **P 19 58 12.0 -0.3**
comp=Z,17nm,1.2s,mb4.8
PGF Pioggiola 63.36 18 *eP* **P 19 58 12.0 -0.3**
PGF pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
PGF Pioggiola 63.36 18 *eP* **P 19 58 12.0 -0.3**
comp=Z,8.6nm,1.2s,mb4.8
LASF Ste Croix 63.43 14 *eP* **P 19 58 13.2 +0.4**
comp=Z,53nm,1.8s,mb5.7
LFF La Frestale 63.62 11 *eP* **P 19 58 14.3 +0.2**
FRF La Foret Royal 63.63 16 *eP* **P 19 58 15.1 +1.0**
SMRF Simiane la Rot 63.74 15 *eP* **P 19 58 15.4 +0.5**
comp=Z,23nm,1.2s,mb4.8
SMRF Simiane la Rot 63.74 15 *eP* **P 19 58 15.4 +0.5**
comp=Z,23nm,1.3s,mb5.0
CAF Calviac 63.86 12 *eP* **P 19 58 15.6 -0.1**
comp=Z,3.7nm,0.8s,mb4.2
CAF Calviac 63.86 12 *eP* **P 19 58 15.6 -0.1**
CAF pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
CAF Calviac 63.86 12 *eP* **P 19 58 15.6 -0.1**
comp=Z,1.9nm,0.8s,mb4.2
RJF Les Rejaudoux 64.12 12 *eP* **P 19 58 17.0 -0.4**
RJF *eR* 19 58 17.0
comp=Z,1μm,19.5s
RJF Les Rejaudoux 64.12 12 *eP* **P 19 58 17.0 -0.4**
RJF LR LR
comp=Z,1μm,19.5s,MS5.0
ROSC El Rosal 64.24 285 LR LR 20 26 11.5
comp=Z,895nm,18.3s,MS5.0,baz=167,slow=36
VIVF Saint-Julien-l 64.36 14 *eP* **P 19 58 19.5 +0.6**
ORIF Oris-en-Rattie 64.70 15 *eP* **P 19 58 22.1 +0.9**
comp=Z,11nm,1.1s,mb4.5
ORIF *eR* 19 58 22.1
comp=Z,1μm,21.2s
ORIF Oris-en-Rattie 64.70 15 *eP* **P 19 58 22.1 +0.9**
ORIF pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
ORIF Oris-en-Rattie 64.70 15 *eP* **P 19 58 22.1 +0.9**
comp=Z,5.3nm,1.1s,mb4.5
MBDF Montbardon 64.75 16 *eP* **P 19 58 22.3 +0.8**
comp=Z,12nm,1.0s,mb4.6
MBDF Montbardon 64.75 16 *eP* **P 19 58 22.3 +0.8**
MBDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MBDF Montbardon 64.75 16 *eP* **P 19 58 22.3 +0.8**
comp=Z,5.9nm,1.0s,mb4.6
MFF Saint Martin d 65.08 10 *eP* **P 19 58 23.8 +0.2**
comp=Z,23nm,1.2s,mb4.8
MFF Saint Martin d 65.08 10 *eP* **P 19 58 23.8 +0.2**
MFF pmax pmax
comp=Z,11nm,1.2s,mb4.8
MFF Saint Martin d 65.08 10 *eP* **P 19 58 23.8 +0.2**
comp=Z,11nm,1.2s,mb4.8
TCF Toulx Ste Croi 65.20 12 *eP* **P 19 58 24.8 +0.4**
comp=Z,5.3nm,0.9s,mb4.2
TCF Toulx Ste Croi 65.20 12 *eP* **P 19 58 24.8 +0.4**
TCF pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
TCF Toulx Ste Croi 65.20 12 *eP* **P 19 58 24.8 +0.4**
comp=Z,2.7nm,0.9s,mb4.3
LPG La Plagne 65.46 15 *eP* **P 19 58 27.1 +1.0**
LPL La Plagne 65.48 15 *eP* **P 19 58 27.0 +0.8**
comp=Z,6.5nm,0.7s,mb4.5
LPL La Plagne 65.48 15 *eP* **P 19 58 27.0 +0.8**
LPL pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
LPL La Plagne 65.48 15 *eP* **P 19 58 27.0 +0.8**
comp=Z,3.3nm,0.7s,mb4.5
SMF Signal de Mont 65.87 13 *eP* **P 19 58 28.8 0.0**
AVF Avril sur Loir 65.91 12 *eP* **P 19 58 28.8 -0.2**
QUIF Quistinic 65.93 7 *eP* **P 19 58 28.8 -0.3**
EIL Elat 66.18 45 *eP* **P 19 58 31.4 +0.6**
comp=Z,131nm,0.8s
SSF Saint Saulge 66.20 12 *eP* **P 19 58 31.1 +0.2**
ROSF Rostrenen 66.33 7 *eP* **P 19 58 31.3 -0.4**
CABF La Chapelle 66.34 14 *eP* **P 19 58 31.6 -0.2**
comp=Z,19nm,1.1s,mb4.7
CABF La Chapelle 66.34 14 *eP* **P 19 58 31.6 -0.2**
CABF pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
CABF La Chapelle 66.34 14 *eP* **P 19 58 31.6 -0.2**
comp=Z,9.6nm,1.1s,mb4.7
LOR Lormes 66.47 13 *eP* **P 19 58 32.8 +0.2**
LOR *eR* 19 58 32.8
comp=Z,689nm,20.2s
LOR Lormes 66.47 13 *eP* **P 19 58 32.8 +0.2**
LOR LR LR
comp=Z,690nm,20.3s,MS4.9
OTAV Otavalo 66.47 278 P **P 19 58 30.9 -1.7**
comp=Z,7.4nm,1.1s,mb4.6
LDF La Druitiere 67.02 9 *eP* **P 19 58 35.6 -0.5**
MEZF Maizieres J'vi 67.89 13 *eP* **P 19 58 41.8 +0.2**
CDF Champ du Feu 68.31 15 *eP* **P 19 58 44.7 +0.4**
BFO Black Forest 68.50 15 *eP* **P 19 58 45.7 +0.3**
MAW Mawson 68.51 156 P **P 19 58 46.1 +0.6**
comp=Z,2.7nm,0.8s,mb4.2,baz=269,slow=6.1,SNR=7.6
MAW LR LR 20 23 44.7
comp=Z,317nm,18.4s,MS4.6,baz=290,slow=32
MAW Mawson 68.51 156 *eP* **P 19 58 45.9 +0.4**
MAW pmax pmax
comp=Z,9.0nm,1.0s
MAW Mawson 68.51 156 *eP* **P 19 58 45.9 +0.4**
comp=Z,8.5nm,1.0s,mb4.6
ASF Jabal al Asfar 69.04 44 LR LR 20 28 24.9
comp=Z,314nm,18.1s,MS4.6,baz=95,slow=35
BAIF Baives 69.20 12 *eP* **P 19 58 49.5 -0.3**
comp=Z,4.8nm,0.8s,mb4.2
BAIF Baives 69.20 12 *eP* **P 19 58 49.5 -0.3**
BAIF pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BAIF Baives 69.20 12 *eP* **P 19 58 49.5 -0.3**
comp=Z,2.4nm,0.8s,mb4.2
GEC2 GERESS Array S 70.46 19 *eP* **P 19 58 56.7 -0.8**
GERES GERESS Array B 70.46 19 P **P 19 58 57.5 -0.1**
comp=Z,0.4nm,0.6s,mb3.5,baz=193,slow=5.5,SNR=5.9
GERES LR LR 20 31 04.2
comp=Z,474nm,18.8s,MS4.8,baz=219,slow=37
GERES GERESS Array B 70.46 19 P **P 19 58 57.5 -0.1**
GERES LR LR 20 31 04.2
GRA1 Grafenberg Arr 70.51 17 *eP* **P 19 58 55.3 -2.5**
GRA1 *eS* S 20 08 09.1 -2.0
GRA1 LR LR
comp=Z,400nm,21.4s,MS4.6
GRF Grafenberg Arr 70.51 17 *eP* **P 19 58 55.3 -2.5**
comp=Z,22nm,17.5s
GRF *eS* S 20 08 09.1 -2.0
GRF *eL* 20 27 56.8
comp=Z,402nm,21.4s
KHC Kasperske Hory 70.67 18 *eP* **P 19 59 00.7 +1.8**
KHC *eS* S 20 08 06.9 -6.1
KHC AMS AMS 20 26 30.0
comp=Z,900nm,22.4s
NKC Novy Kostel 71.33 17 *eS* S 20 08 22.7 +2.0
TREC Trest 71.41 19 *eP* **P 19 59 02.6 -0.7**
TREC *eS* S 20 08 20.7 -0.9
TREC AMS AMS 20 29 30.0
comp=Z,1μm,20.0s
MOX Moxa 71.48 16 *eP* **P 19 59 08.5 +4.8**
MOX Moxa 71.48 16 *e*(P) **P 19 59 11.8 +8.1**
MOX
comp=Z,500nm,21.0s
PRU Pruhonice 71.73 19 *eP* **P 19 59 07.2 +2.0**
PRU *eS* S 20 08 26.8 +1.6
PRU AMS AMS 20 28 00.0
comp=Z,500nm,20.4s
PSZ Piszkesteto 71.74 23 P **P 19 59 03.9 -1.4**
PSZ pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
PSZ Piszkesteto 71.74 23 P **P 19 59 03.9 -1.5**
comp=Z,3.0nm,0.9s,mb4.2
VRAC Vranov 71.78 20 LR LR 20 29 56.8
comp=Z,918nm,20.9s,MS5.0,baz=211,slow=35
VYHS Vyhne 71.84 22 *eP* **P 19 59 05.4 -0.5**
BR131 Keskin Array S 71.95 36 *eP* **P 19 59 07.8 +1.3**
comp=Z,2.3nm,0.7s,mb4.2
BRTR Keskin Array B 71.95 36 P **P 19 59 08.2 +1.6**
comp=Z,2.4nm,0.7s,mb4.2,baz=205,slow=5.7,SNR=13
BRTR LR LR 20 30 48.2
comp=Z,96nm,20.5s,MS4.0,baz=229,slow=36
MLR Muntele Rosu 72.25 28 LR LR 20 31 34.5
comp=Z,475nm,20.3s,MS4.8,baz=222,slow=36
CLL Collm 72.46 17 *eS* S 20 08 36.0 +2.4
CLL *ePS* 20 09 10.0
CLL *eSS* SS 20 13 11.0 -1.0
CLL *eSSS* 20 16 43.0
QSPA South Pole Qui 72.49 180 *eP* **P 19 59 10.2 +0.4**
comp=Z,10nm,1.2s,mb4.6
MORC Moravsky Berou 72.49 20 *eP* **P 19 59 08.1 -1.7**
MORC pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
MORC Moravsky Berou 72.49 20 *eP* **P 19 59 08.1 -1.7**
comp=Z,4.3nm,1.1s,mb4.3
DPC Dobruska-Polom 72.59 19 *eP* **P 19 59 10.0 -0.4**
DPC *eS* S 20 08 36.6 +1.4
DPC AMS AMS 20 28 50.0
comp=Z,500nm,21.9s
OKC Ostrava-Krasne 72.75 21 *eS* S 20 08 38.9 +1.9
OKC AMS AMS 20 30 50.0
comp=Z,900nm,19.1s
CRVS Cervenica-Dubn 73.14 23 *epP* *pP* 19 59 18.4 +1.4
MALT Malatya 73.85 40 P **P 19 59 19.3 +1.5**
MALT pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
MALT Malatya 73.85 40 P **P 19 59 19.3 +1.5**
comp=Z,4.5nm,1.2s,mb4.3
BSEG Bad Segeberg 74.16 14 *eP* **P 19 59 18.2 -1.4**
BSEG *ePP* PP 20 02 09.8 +4.7
RGN Rugen 75.45 16 P **P 19 59 26.9 -0.2**
comp=Z,27nm,1.0s,mb5.1
AKASG Malin Array Be 77.65 26 P **P 19 59 38.5 -1.1**
comp=Z,3.1nm,0.7s,mb4.3,baz=224,slow=5.1,SNR=15
AKASG LR LR 20 31 47.4
comp=Z,156nm,20.6s,MS4.3,baz=215,slow=34
AKBB Malin Array Si 77.65 26 *eP* **P 19 59 38.1 -1.5**
GNI Garni 78.87 42 LR LR 20 33 13.0
comp=Z,207nm,21.0s,MS4.4,baz=51,slow=35
BER Bergen 79.24 9 *eS* S 20 09 49.6 +1.1
BER *eSS* SS 20 14 53.4 -1.5
BER AMS AMS 20 33 50.0
comp=Z,313nm,20.0s,MS4.7
KONO Kongsberg 79.29 12 *eS* S 20 09 47.5 -1.5
KONO *eSS* SS 20 14 53.6 -2.0
HFS Hagfors 80.57 13 LR LR 20 34 13.2
comp=Z,387nm,20.6s,MS4.7,baz=201,slow=35
NOA NORSAR Array B 80.89 12 P **P 19 59 57.4 +0.1**
comp=Z,0.4nm,0.7s,baz=205,slow=9.7,SNR=2.8
NOA LR LR 20 37 44.4
comp=Z,289nm,18.0s,MS4.7,baz=205,slow=37
WSAR Wadi Sarin 81.16 62 LR LR 20 35 36.4
comp=Z,897nm,18.9s,MS5.2,baz=232,slow=36
SBA Scott Base 84.65 180 *eP* **P 20 00 18.6 +1.8**
SBA pmax pmax
comp=Z,19nm,1.4s,mb5.0
SBA Scott Base 84.65 180 *eP* **P 20 00 18.6 +1.7**
comp=Z,19nm,1.4s,mb5.0
FINES FINESS Array B 84.87 18 P **P 20 00 18.1 +0.2**
comp=Z,0.8nm,0.7s,mb4.0,baz=225,slow=10,SNR=3.6
FINES LR LR 20 38 00.3
comp=Z,349nm,20.6s,MS4.7,baz=213,slow=36
VNDA Vanda 84.95 179 P **P 20 00 19.4 +1.0**
comp=Z,1.4nm,0.9s,mb4.1,baz=201,slow=4.6,SNR=6.9
VNDA LR LR 20 33 54.3
comp=Z,325nm,20.6s,MS4.7,baz=182,slow=33
VNDA Vanda 84.95 179 *eP* **P 20 00 19.3 +1.0**
VNDA pmax pmax
comp=Z,7.0nm,1.3s
VNDA Vanda 84.95 179 *eP* **P 20 00 19.2 +0.9**
comp=Z,6.5nm,1.3s,mb4.6
SCHQ Schefferville 85.33 332 LR LR 20 34 45.7
comp=Z,150nm,19.2s,MS4.4,baz=112,slow=33
CASY Casey 86.48 160 *eP* **P 20 00 27.8 +1.9**
comp=Z,4.3nm,1.0s,mb4.6
PLAL Pickwick Lake 88.11 308 *eP* **P 20 00 33.2 -0.6**
comp=Z,9.8nm,1.0s,mb5.0
WVT Waverly 88.37 309 *eP* **P 20 00 34.5 -0.5**
WVT *e* 20 00 42.7
WVT pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
WVT Waverly 88.37 309 *eP* **P 20 00 34.5 -0.5**
comp=Z,1.8nm,0.7s,mb4.4
WVT *e* 20 00 42.7
JMIC Jan Mayen 88.51 2 *eS* 20 11 21.8
JMIC *eSS* SS 20 17 11.8 -0.1
JMIC AMS AMS 20 42 08.6
comp=Z,153nm,16.0s,MS4.5
SFJD Kangerlussuaq 88.84 346 LR LR 20 32 11.9
comp=Z,150nm,21.3s,MS4.4,baz=136,slow=30
TRO Tromso 90.03 11 AMS AMS 20 38 17.3
comp=Z,214nm,22.5s,MS4.5
ARCES ARCESS Array B 91.22 13 LR LR 20 41 35.5
comp=Z,320nm,21.0s,MS4.7,baz=224,slow=36
AKTO Aktyubinsk 92.10 37 LR LR 20 42 58.3
comp=Z,175nm,20.6s,MS4.5,baz=60,slow=36
KBS Kingsbay 97.44 5 AMS AMS 20 47 23.6
comp=Z,75nm,15.1s,MS4.3
ULM Lac du Bonnet 98.78 320 LR LR 20 37 14.2
comp=Z,146nm,21.7s,MS4.4,baz=130,slow=30
RKT Rikitea 110.07 237 *ePS* PS 20 15 49.0 -28
comp=Z,741nm,36.0s
RKT Rikitea 110.07 237 *eLR* LR 20 38 41.2
comp=Z,512nm,28.8s
KMI Kunming 120.44 71 PKP PKPdf 20 06 32.0 -2.6
TBI Tubuai 120.87 228 *eSS* SS 20 24 35.0 -0.3
comp=Z,115nm,28.0s
TBI *eLQ* 20 38 38.3
comp=Z,238nm,40.8s
TBI *eLR* LR 20 43 43.5
comp=Z,382nm,37.2s
CD2 Chengdu 121.80 64 *ePKP* PKPdf 20 06 34.4 -2.8
LZH Lanzhou 121.95 58 *ePKP* PKPdf 20 06 33.3 -4.2
LZH LR LR
comp=N,245nm,19.3s
LZH LR LR
comp=Z,412nm,20.4s,MS5.1
SONM Songino Array 122.77 44 PKP PKPdf 20 06 39.0 -0.1
comp=Z,0.4nm,0.8s,baz=208,slow=2.8,SNR=3.6
PPT Papeete 124.53 233 *eSS* SS 20 25 42.6 +21
comp=Z,172nm,27.2s
PPT *eLR* LR 20 45 25.4
comp=Z,572nm,32.0s
HHC Hu-ho-hao-te 127.59 52 *ePKP* PKPdf 20 06 49.0 +0.7
HHC PP PP 20 08 57.1 +8.0
HHC PKS 20 10 23.0
HHC SKS SKSdf 20 13 55.1 -5.0
HHC SKKS SKKSac 20 15 42.5 -4.4
HHC LR LR
comp=N,175nm,15.7s
HHC LR LR
comp=E,162nm,22.2s
HHC LR LR
comp=Z,230nm,26.5s
ASAR Alice Springs 127.89 141 PKP PKPdf 20 06 52.6 +3.7
comp=Z,0.9nm,0.9s,baz=195,slow=3.9,SNR=4.3
MJAR Matsushiro Arr 148.62 48 PKPbc PKPbc 20 07 30.2 0.0
comp=Z,2.1nm,0.9s,baz=285,slow=2.0,SNR=12

CSEM ***22*** *20:02:10.6±0.1, 4231N×24.13E, h5km, MD3.1, Error ellipse: s-maj=2.5km s-min=1.7km az=10.0*
SOF ***22*** *20:02:10.4, 4224N×24.14E, h20km, MD3.1*
ISCJB ***22*** *20:02:11.0±0.3, 4227N±002×24.13E±003, h10km, Error ellipse: s-maj=3.7km s-min=2.8km az=120.6*
NEIC ***22*** *20:02:11.8, 4228N×24.14E, h2km, MD3.1(SOF), ML3.2(THE), After THE.*
THE ***22*** *20:02:11.8, 4228N×24.14E, h1km, ML3.4*
ISC 22 20:02:11.4±0.3, 4227N±003×2415E±003, h10km, n47, σ1♀03/60, 5C-11D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PGB	**Panagyurishte**	**0.28**	**3**	*i*	Pg		**Pg**	**20 02 17.6**	**+0.6**
PLD	**Plovdiv**	**0.45**	**112**	*e*	Pg		**Pg**	**20 02 20.2**	**+0.1**
PLD				*e*	Sg		**Sg**	**20 02 26.5**	**+0.5**
PLD	**Plovdiv**	**0.45**	**112**	*i*	Pg		**Pg**	**20 02 20.2**	**+0.1**
PLD				*e*	Sg		**Sg**	**20 02 26.5**	**+0.5**
RZN	**Rozhen**	**0.72**	**144**	*i*	Pg		**Pg**	**20 02 24.9**	**-0.4**
MMB	**Musomiste**	**0.75**	**205**	*e*	Pg		**Pg**	**20 02 25.9**	**0.0**
MMB				*e*	Sg		**Sg**	**20 02 35.7**	**0.0**
MMB	**Musomiste**	**0.75**	**205**	*i*	Pg		**Pg**	**20 02 25.9**	**0.0**
MMB				*e*	Sg		**Sg**	**20 02 35.7**	**0.0**
VTS	**Vitosha**	**0.77**	**295**	*e*	Pg		**Pg**	**20 02 25.9**	**-0.2**
VTS				*e*	Sg		**Sg**	**20 02 36.6**	**+0.4**
VTS	**Vitosha**	**0.77**	**295**	↓	*i*	P	**Pg**	**20 02 26.0**	**-0.1**
VTS	**Vitosha**	**0.77**	**295**	*i*	Pg		**Pg**	**20 02 25.9**	**-0.2**
VTS				*e*	Sg		**Sg**	**20 02 36.6**	**+0.5**
KKB	**Krupnik**	**0.89**	**243**	*i*	Pg		**Pg**	**20 02 28.0**	**-0.5**
DIM	**Dimitrovgrad**	**1.05**	**102**	*i*	Pg		**Pg**	**20 02 32.3**	**+0.7**
KDZ	**Kurdzhali**	**1.13**	**123**	*i*	Pg		**Pg**	**20 02 31.6**	**-1.5**
PVL	**Pavlikeni**	**1.29**	**42**	*i*	Pn		**Pn**	**20 02 34.2**	**-1.2**
KNT	**Kendrikon**	**1.45**	**221**	*e*	Pg		**Pg**	**20 02 38.1**	**-1.1**
VAY	**Valandovo**	**1.52**	**232**	*e*	Pg		**Pg**	**20 02 39.6**	**-0.9**
VAY				*e*	Sg		**Sg**	**20 02 59.5**	**-0.6**
VAY	**Valandovo**	**1.52**	**232**	*i*	Pn		**Pn**	**20 02 39.6**	**+1.1**
VAY	**Valandovo**	**1.52**	**232**	*i*	Pn		**Pn**	**20 02 39.6**	**+1.1**
VAY				*e*	Sg		**Sg**	**20 02 59.5**	**-0.6**
SOH	**Sokhos**	**1.57**	**203**	*e*	Pg		**Pg**	**20 02 40.3**	**-1.1**
STIP	**Stip**	**1.57**	**249**	*e*	Pg		**Pn**	**20 02 40.1**	**+0.7**
STIP				*e*	Sg		**Sg**	**20 03 01.4**	**-0.6**
STIP	**Stip**	**1.57**	**249**	*i*	Pn		**Pn**	**20 02 40.3**	**+1.0**
STIP	**Stip**	**1.57**	**249**	*i*	Pn		**Pn**	**20 02 40.3**	**+1.0**
STIP				*e*	Sg		**Sg**	**20 03 01.4**	**-0.5**
SZH	**Strazhica**	**1.65**	**52**	*i*	Pg		**Pg**	**20 02 42.8**	**-0.2**
ZIMR		**1.65**	**32**	↑	*i*	P	**Pn**	**20 02 43.6**	**+3.2**
ZIMR		**1.65**	**32**	↑	P		**Pn**	**20 02 43.6**	**+3.2**
JMB	**Yambol**	**1.81**	**83**	*e*	Pb		**Pn**	**20 02 43.4**	**+0.8**
JMB				*e*	Sb		**Sb**	**20 03 07.3**	**-0.1**
JMB	**Yambol**	**1.81**	**83**	*i*	Pg		**Pn**	**20 02 43.6**	**+0.9**
HORT	**Hortiatis**	**1.85**	**206**	*e*	Pb		**Pn**	**20 02 44.2**	**+1.1**
HORT				*e*	Sb		**Sb**	**20 03 09.1**	**+0.7**
GRG	**Griva**	**1.85**	**225**	*e*	Pb		**Pb**	**20 02 44.3**	**-1.1**
GRG				*e*	Sb		**Sb**	**20 03 09.4**	**+0.8**
THE	**Thessaloniki**	**1.86**	**209**	*e*	Pb		**Pb**	**20 02 44.5**	**-1.0**
OUR	**Ouranopolis**	**1.94**	**184**	*e*	Pb		**Pn**	**20 02 44.9**	**+0.5**
ALN	**Alexandroupoli**	**1.98**	**133**	*e*	Pn		**Pn**	**20 02 46.0**	**+1.1**
PAIG	**Paliouri**	**2.37**	**189**	*e*	Pn		**Pn**	**20 02 50.8**	**+0.5**
XOR	**Xorichti**	**2.99**	**194**	*e*	Pn		**Pn**	**20 02 59.5**	**+0.7**
XOR	**Xorichti**	**2.99**	**194**	*e*	Pn		**Pn**	**20 02 59.5**	**+0.7**
GZR	**Gura Zlata**	**3.27**	**343**	↓	*i*	P	**Pb**	**20 03 07.4**	**-2.2**
GZR	**Gura Zlata**	**3.27**	**343**	↓	P		**Pb**	**20 03 07.4**	**-2.2**
MLR	**Muntele Rosu**	**3.47**	**21**	↓	*i*	P	**Pb**	**20 03 09.1**	**-3.8**
MLR	**Muntele Rosu**	**3.47**	**21**	↓	P		**Pb**	**20 03 09.1**	**-3.8**
TIRR	**Tirgusor**	**3.80**	**53**	↓	*i*	P	**Pg**	**20 03 22.0**	**-2.2**
BZS	**Buzias**	**3.81**	**332**	↑	*i*	P	**Pn**	**20 03 13.0**	**+2.9**
BZS	**Buzias**	**3.81**	**332**	↑	P		**Pn**	**20 03 13.0**	**+2.9**
PLOR	**Plostina**	**4.01**	**26**	↑	*i*	P	**Pb**	**20 03 21.0**	**-1.0**
VRI	**Vrincioaia**	**4.05**	**26**	↓	*i*	P	**Pn**	**20 03 17.7**	**+4.4**
VRI	**Vrincioaia**	**4.05**	**26**	↓	P		**Pn**	**20 03 17.7**	**+4.4**
CFR	**Carcaliu**	**4.10**	**44**	↓	*i*	P	**Pb**	**20 03 24.2**	**+0.6**
PKSM	**Moragy**	**5.58**	**317**	↓	*i*	P	**Pn**	**20 03 36.0**	**+1.6**
PKSM	**Moragy**	**5.58**	**317**	↓	P		**Pn**	**20 03 36.0**	**+1.6**

CSEM ***22*** *20:05:13.7±1.5, 3750N×2487W, h0km±8km, ML2.8, Error ellipse: s-maj=14.7km s-min=3.0km az=74.0, After PDA*
PDA ***22*** *20:05:13.7±1.5, 3750N×2487W, h0km±8km, MD2.9, ML2.8, Error ellipse: s-maj=14.7km s-min=3.0km az=74.0*
SVSA 22 20:05:13.7±1.5, 3750N×2487W, h0km±8km, MD2.9, ML2.8, Error ellipse: s-maj=14.7km s-min=3.0km az=74.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MIRA	**Miradouro**	**0.44**	**312**	*eP*			Pg	20 05 21.5	-0.5

MIRA				eS		Sg	20 05 27.4 -0.3
FRA1	**Furnas**	**0.46**	**303**	*e*P		Pg	20 05 22.1 -0.4
FRA1				eS		Sg	20 05 28.2 -0.3
PFAD	**Fenais da Ajud**	**0.50**	**314**	*e*P		Pg	20 05 22.4 -0.8
PFAD				eS		Sg	20 05 29.4 -0.3
PCNG	**Congro**	**0.50**	**303**	*e*S		Sg	20 05 29.8 +0.1
PCNG							
	11nm,0.1s						
PSMN	**Pico do Norte,**	**0.52**	**198**	*e*P		Pg	20 05 22.9 -0.7
PSMN				eS		Sg	20 05 29.7 -0.6
VIF	**Vila Franca**	**0.52**	**299**	*e*P		Pg	20 05 23.1 -0.5
VIF				eS		Sg	20 05 30.0 -0.3
VIF							
	201nm,0.2s						
VIF	**Vila Franca**	**0.52**	**299**	*e*P		Pg	20 05 23.1 -0.5
VIF				eS		Sg	20 05 30.0 -0.3
PRCH	**Ribeira Ch**	**0.54**	**296**	*e*P		Pg	20 05 23.6 -0.4
PRCH				eS		Sg	20 05 30.3 -0.7
PRCH							
	344nm,0.2s						
PRCH	**Ribeira Ch**	**0.54**	**296**	*e*P		Pg	20 05 23.6 -0.4
PRCH				eS		Sg	20 05 30.3 -0.7
MESC	**Monte Escuro**	**0.55**	**303**	*e*P		Pg	20 05 23.5 -0.7
MESC				eS		Sg	20 05 30.8 -0.4
LFA	**Lagoa do Fogo**	**0.56**	**300**	*i* P		Pg	20 05 23.9 -0.6
PMAT	**Coroa da Mata**	**0.57**	**304**	*e*P		Pg	20 05 23.9 -0.8
PMAT				eS		Sg	20 05 31.3 -0.9
PMAT							
	176nm,0.2s						
PMAT	**Coroa da Mata**	**0.57**	**304**	*e*P		Pg	20 05 23.9 -0.8
PMAT				eS		Sg	20 05 31.3 -0.9
PVER	**Pico Vermelho**	**0.59**	**301**	*e*P		Pg	20 05 24.4 -0.7
PVER				eS		Sg	20 05 32.3 -0.5
PVER							
	140nm,0.3s						
PVER	**Pico Vermelho**	**0.59**	**301**	*e*P		Pg	20 05 24.4 -0.7
PVER				eS		Sg	20 05 32.3 -0.5
CML	**Cha da Macela**	**0.60**	**297**	*e*P		Pg	20 05 24.4 -0.9
CML				eS		Sg	20 05 32.4 -0.7
FAC	**Faja de Cima**	**0.68**	**294**	*e*P		Pg	20 05 25.6 -1.1
FAC				eS		Sg	20 05 34.0 -1.6
PSAN	**Santo Antonio**	**0.77**	**298**	*e*P		Pg	20 05 26.4 -2.0
PFET	**Feteiras**	**0.80**	**294**	*e*P		Pg	20 05 26.7 -2.3
SET2	**Ginetes**	**0.82**	**295**	*e*P		Pg	20 05 26.9 -2.6
SET4	**Mosteiros**	**0.83**	**297**	*e*P		Pg	20 05 27.9 -1.7
PFAV	**Pico das Favas**	**2.13**	**305**	*e*P		Pn	20 05 45.9 -4.5
PFAV				eS		Sn	20 06 10.0 -7.5
PFAV							
	22nm,0.1s						
PFAV	**Pico das Favas**	**2.13**	**305**	*e*P		Pn	20 05 45.9 -4.5
PFAV				eS		Sn	20 06 10.0 -7.5
RIB2	**Ribeirinha**	**2.17**	**304**	*e*P		Pn	20 05 46.5 -4.4
RIB2				eS		Sn	20 06 10.3 -8.1
RIB2							
	28nm,0.2s						
RIB2	**Ribeirinha**	**2.17**	**304**	*e*P		Pn	20 05 46.5 -4.4
RIB2				eS		Sn	20 06 10.3 -8.1
PVNV	**Vila Nova**	**2.20**	**306**	*e*P		Pn	20 05 46.5 -5.0
PVNV				eS		Sn	20 06 11.2 -8.2
PVNV							
	23nm,0.1s						
PVNV	**Vila Nova**	**2.20**	**306**	*e*P		Pn	20 05 46.5 -5.0
PVNV				eS		Sn	20 06 11.2 -8.2
PPAD	**Pico dos Padre**	**2.26**	**303**	*e*P		Pn	20 05 47.6 -4.6
PPAD				eS		Sn	20 06 12.7 -8.0
PPAD							
	12nm,0.1s						
PPAD	**Pico dos Padre**	**2.26**	**303**	*e*P		Pn	20 05 47.6 -4.6
PPAD				eS		Sn	20 06 12.7 -8.0
PBIS	**Biscoitos**	**2.27**	**305**	*e*S		Sn	20 06 13.7 -7.2
PBIS							
	9.5nm,0.1s						
ASBA	**Santa Barbara**	**2.29**	**303**	*e*P		Pn	20 05 47.2 -5.5
ASBA				eS		Sn	20 06 13.9 -7.7
ASBA							
	25nm,0.1s						
ASBA	**Santa Barbara**	**2.29**	**303**	*e*P		Pn	20 05 47.2 -5.5
ASBA				eS		Sn	20 06 13.9 -7.7
PSBA	**Serra de Santa**	**2.32**	**304**	*e*P		Pn	20 05 47.7 -5.3
PSBA				eS		Sn	20 06 13.6 -8.6
PSBA							
	60nm,0.3s						
PSBA	**Serra de Santa**	**2.32**	**304**	*e*P		Pn	20 05 47.7 -5.3
PSBA				eS		Sn	20 06 13.6 -8.6
PID	**Ribeirinha**	**2.74**	**291**	*e*P		Pn	20 05 54.9 -3.9
PMAN	**Manadas**	**2.78**	**295**	*e*rx			20 06 25.5
ROSA	**Rosais**	**2.93**	**296**	*e*P		Pn	20 05 56.9 -4.5
ROSA				eS		Sn	20 06 29.2 -8.1
PICO	**Pico**	**2.98**	**291**	*e*P		Pn	20 05 58.3 -3.9
PICO				eS		Sn	20 06 31.0 -7.6
PCED	**Cedros**	**3.23**	**292**	*e*P		Pn	20 06 01.4 -4.2
PCED				eS		Sn	20 06 36.5 -8.2
PCED							
	17nm,0.4s						
PCED	**Cedros**	**3.23**	**292**	*e*P		Pn	20 06 01.4 -4.2
PCED				eS		Sn	20 06 36.5 -8.2

MOS **22** *20:15:29.4±1.7, 5204N×178.14E, h33km, mb4.3/13, Error ellipse: s-maj=20.6km s-min=15.4km az=77.2*
BJI **22** *20:15:36.8, 5274N×17807E, h92km, mB4.9, mb4.6*
ISCJB **22** *20:15:38.5±0.4, 5200N±007×17842E±007, h124km, mb4.1/21, Error ellipse: s-maj=10.2km s-min=5.9km az=165.2*
NEIC **22** *20:15:39.6±0.4, 5198N×17841E, mb4.2/4, Error ellipse: s-maj=12.1km s-min=6.6km az=165.0*
IDC **22** *20:15:40.1±0.8, 5202N×17841E, h122km±7km, mb3.8/15, mb1 4.0/16, mb1mx3.8/25, mbtmp4.2/16, MS3.5/2, Ms1 3.6/2, ms1mx2.8/35, Error ellipse: s-maj=17.4km s-min=11.5km az=170.0*

ISC 22 20:15:39.8±0.4, 5196N±008×17844E±007, h126km, h126km±3.3km: pP-P, n61, σ1§12/54, mb4.1/21, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.79**	**137**	P		**Pn**	**20 15 59.2**	**-1.3**
AMKA				S		**Sn**	**20 16 13.5**	**-2.6**
SMY	**Shemya**	**2.77**	**288**	*e*Pn		**Pn**	**20 16 20.9**	**-2.4**
SMY				*e*Sn		**Sn**	**20 16 50.0**	**-6.8**
ATKA	**Atka Island**	**4.55**	**84**	P		**Pn**	**20 16 46.3**	**-0.5**
SPIA	**Saint Paul Isl**	**8.40**	**47**	*e*Pn		**Pn**	**20 17 40.1**	**+1.5**
SDPT	**Sand Point**	**12.95**	**66**	*e*Pn		**Pn**	**20 18 36.8**	**-2.3**
SKR	**Severo-Kuril's**	**14.01**	**274**	*e*P		**Pn**	**20 18 52.9**	**+0.1**
SVW2	**Sparrevohn**	**16.89**	**47**	*e*Pn		**Pn**	**20 19 30.2**	**+1.6**
TTA	**Tatalina**	**17.46**	**41**	*e*P		**Pn**	**20 19 35.5**	**0.0**
TTA				pmax	pmax			
	comp=Z,14nm,0.9s							
TTA	**Tatalina**	**17.46**	**41**	*e*Pn		**Pn**	**20 19 35.5**	**0.0**
	comp=Z,14nm,0.9s							
KDAK	**Kodiak Island**	**17.58**	**59**	P		**Pn**	**20 19 34.3**	**-2.6**
	comp=Z,3.5nm,0.3s,baz=284,slow=2.9,SNR=14							
SLKM	**Skilak Lake**	**19.24**	**51**	*e*P		**P**	**20 19 54.7**	**+0.5**
YSS	**Yuzh-Sakhalins**	**23.57**	**272**	*e*P		**P**	**20 20 39.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**23.57**	**272**	*e*P		**P**	**20 20 39.1**	**+0.3**
	comp=Z,17nm,0.8s,mb4.4							
DAWY	**Dawson**	**24.88**	**45**	*e*P		**P**	**20 20 51.1**	**+0.3**
ASAJ	**Asahikawa**	**25.01**	**266**	P		**P**	**20 20 51.9**	**0.0**
	comp=Z,10nm,0.8s,mb4.3,baz=89,slow=6.1,SNR=6.6							
ASAJ	**Asahikawa**	**25.01**	**266**	P		**P**	**20 20 51.9**	**0.0**
ASAJ				pmax	pmax			
	comp=Z,10.0nm,0.8s							
INK	**Inuvik**	**27.99**	**36**	P		**P**	**20 21 18.6**	**-0.1**
	comp=Z,1.2nm,0.6s,mb3.6,baz=265,slow=5.2,SNR=6.0							
INK	**Inuvik**	**27.99**	**36**	P		**P**	**20 21 18.6**	**-0.1**
INK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MDJ	**Mudanjiang**	**32.79**	**277**	P		**P**	**20 22 00.1**	**-0.8**
MDJ				AMB	AMB			
	comp=Z,4.0nm,1.0s,mb4.2							
YKA	**Yellowknife Ar**	**36.08**	**47**	P		**P**	**20 22 29.2**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.1,baz=283,slow=7.9,SNR=4.2							
YKA	**Yellowknife Ar**	**36.08**	**47**	P		**P**	**20 22 29.2**	**-0.1**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**36.08**	**47**	P		**P**	**20 22 29.2**	**-0.1**
BOD	**Bodaibo**	**36.25**	**305**	*e*P		**P**	**20 22 26.7**	**-4.0**
CBIJ	**Chichi jima**	**36.80**	**242**	LR		LR	20 36 11.7	
	comp=Z,26nm,19.0s,baz=138,slow=34							
YBH	**Yreka Blue Hor**	**40.49**	**81**	P		**P**	**20 23 07.5**	**+1.3**
	comp=Z,1.5nm,0.7s,mb3.9,baz=292,slow=4.9,SNR=3.8							
YBH	**Yreka Blue Hor**	**40.49**	**81**	P		**P**	**20 23 07.5**	**+1.3**
YBH				pmax	pmax			
	comp=Z,2.0nm,0.7s							
BJI	**Beijing**	**43.58**	**280**	*e*P		**P**	**20 23 33.3**	**+2.1**
BJI				AMB	AMB			
	comp=Z,5.0nm,0.7s,mb4.3							
SONM	**Songino Array**	**44.85**	**295**	P		**P**	**20 23 42.0**	**+0.7**
	comp=Z,1.8nm,0.6s,mb4.0,baz=63,slow=8.1,SNR=21							
SONM				pP	pP		20 24 09.9	-0.1
	comp=Z,0.5nm,0.7s,baz=60,slow=7.2,SNR=2.4							
SONM				PcP	PcP		20 25 21.4	+0.4
	comp=Z,0.3nm,0.5s,baz=62,slow=2.1,SNR=3.7							
SONM				ScP	ScP		20 29 02.2	+0.6
	comp=Z,0.6nm,0.8s,baz=30,slow=2.4,SNR=4.2							
SONM	**Songino Array**	**44.85**	**295**	P		**P**	**20 23 42.0**	**+0.7**
SONM							20 25 21.4	
SONM				pmax	pmax			
	comp=Z,2.0nm,0.6s							
SONM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
SONM				pmax	pmax			
	comp=E,1.0nm,0.8s							
NVAR	**Mina Array Bea**	**45.18**	**81**	P		**P**	**20 23 45.3**	**+1.4**
	comp=E,1.4nm,0.5s,mb4.0,baz=290,slow=8.8,SNR=7.9							
NVAR				pP	pP		20 24 13.2	+0.5
	comp=E,0.9nm,0.7s,baz=286,slow=5.7,SNR=2.6							
PDAR	**Pinedale Array**	**47.76**	**71**	P		**P**	**20 24 03.8**	**-0.3**
	comp=E,0.9nm,0.5s,mb3.8,baz=325,slow=4.4,SNR=13							
PDAR				pP	pP		20 24 35.6	+2.5
	comp=E,0.8nm,0.6s,baz=295,slow=4.5,SNR=4.4							
PDAR				LR	LR		20 42 57.0	
	comp=E,163nm,21.7s,baz=111,slow=34							
GTA	**Gaotai**	**53.75**	**290**	P		**P**	**20 24 50.0**	**+1.0**
GTA				PP	PP		20 26 55.3	+4.1
GTA				S	S		**20 32 16.9**	**+3.3**
GTA				AMB	AMB			
	comp=Z,4.0nm,0.6s,mb4.6							
GTA				AMB	AMB			
	comp=Z,86nm,3.8s							
GTA				LR	LR			
	comp=N,168nm,22.1s							
GTA				LR	LR			
	comp=E,167nm,18.6s							
GTA				LR	LR			
	comp=Z,274nm,21.3s							
ARCES	**ARCESS Array B**	**57.21**	**349**	P		**P**	**20 25 14.1**	**+0.3**
	comp=Z,2.2nm,0.8s,mb4.2,baz=35,slow=8.0,SNR=4.8							
ARCES	**ARCESS Array B**	**57.21**	**349**	P		**P**	**20 25 14.1**	**+0.3**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KURK	**Kurchatov**	**57.37**	**312**	*e*P		**P**	**20 25 13.7**	**-1.1**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.2							
KURK	**Kurchatov**	**57.37**	**312**	*e*P		**P**	**20 25 13.7**	**-1.2**
	comp=Z,1.7nm,0.8s,mb4.1							
MKAR	**Makanchi Array**	**58.32**	**307**	P		**P**	**20 25 20.8**	**-0.7**
	comp=Z,0.7nm,0.5s,mb4.0,baz=41,slow=7.0,SNR=16							
MKAR				pP	pP		20 25 50.4	-1.1
	comp=Z,0.4nm,0.6s,baz=62,slow=8.5,SNR=2.8							
MKAR	**Makanchi Array**	**58.32**	**307**	P		**P**	**20 25 20.8**	**-0.7**
MKAR				pP	pP		20 25 50.4	-1.1
BVAR	**Borovoye Array**	**59.32**	**318**	P		**P**	**20 25 28.5**	**0.0**
	comp=Z,1.6nm,0.4s,mb4.4,baz=58,slow=6.6,SNR=17							
BVAR				pP	pP		20 25 57.2	-1.4
	comp=Z,0.8nm,0.5s,baz=58,slow=6.1,SNR=2.9							
BVAR	**Borovoye Array**	**59.32**	**318**	P		**P**	**20 25 28.5**	**+0.1**
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZRNK	**Zerenda**	**59.95**	**319**	*e*P		**P**	**20 25 31.8**	**-0.9**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1							
ZRNK	**Zerenda**	**59.95**	**319**	*e*P		**P**	**20 25 31.8**	**-0.9**
	comp=Z,1.1nm,0.5s,mb4.1							
FINES	**FINESS Array B**	**64.82**	**346**	pP		pP	20 26 33.2	-2.5
	comp=Z,1.0nm,0.7s,baz=1.1,slow=7.4,SNR=2.5							
AKTK	**Aktyubinsk**	**66.20**	**323**	P		**P**	**20 26 13.4**	**-0.6**
AKTO	**Aktyubinsk**	**66.20**	**323**	P		**P**	**20 26 13.4**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.2,baz=61,slow=8.6,SNR=5.4							
AKTO	**Aktyubinsk**	**66.20**	**323**	P		**P**	**20 26 13.4**	**-0.6**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.1							
NOA	**NORSAR Array B**	**66.89**	**353**	pP		pP	20 26 46.2	-2.9
	comp=Z,1.0nm,0.7s,baz=8.1,slow=6.5,SNR=4.1							
AKASG	**Malin Array Be**	**74.45**	**340**	pP		pP	20 27 37.7	+2.2
	comp=Z,2.5nm,0.5s,baz=19,slow=5.8,SNR=5.0							
MAK	**Makhachkala**	**76.36**	**325**	*e*P		**P**	**20 27 11.0**	**-4.1**
WRA	**Warramunga Arr**	**81.27**	**221**	P		**P**	**20 27 42.1**	**+0.2**
	comp=Z,2.8nm,0.7s,mb4.2,baz=32,slow=6.2,SNR=17							
WRA	**Warramunga Arr**	**81.27**	**221**	P		**P**	**20 27 42.1**	**+0.2**
WRA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
FITZ	**Fitzroy Crossi**	**83.50**	**230**	P		**P**	**20 27 54.2**	**+0.8**
	comp=Z,0.8nm,0.4s,mb3.9,baz=219,slow=24,SNR=5.8							
ASAR	**Alice Springs**	**84.78**	**220**	P		**P**	**20 28 00.8**	**+0.8**
	comp=Z,1.3nm,0.7s,mb4.0,baz=24,slow=5.8,SNR=14							
ASAR	**Alice Springs**	**84.78**	**220**	P		**P**	**20 28 00.8**	**+0.8**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
STKA	**Stephens Creek**	**89.51**	**211**	P		**P**	**20 28 24.1**	**+1.4**
	comp=Z,3.2nm,0.6s,mb4.6,baz=329,slow=5.9,SNR=7.3							
TORD	**Torodi Ar. Bea**	**115.11**	**356**	PKP		PKiKP	20 34 05.8	-0.2
	comp=Z,0.3nm,0.5s,baz=356,slow=1.5,SNR=8.5							
MAW	**Mawson**	**145.88**	**218**	PKPbc		PKPdf	20 35 03.0	-0.6
	comp=Z,3.1nm,0.6s,baz=118,slow=3.3,SNR=13							
MAW	**Mawson**	**145.88**	**218**	PKIKP		PKPdf	20 35 03.0	-0.6
MAW				pmax	pmax			
	comp=Z,3.0nm,0.6s							
BOSA	**Boshof**	**149.29**	**309**	PKPbc		PKPbc	20 35 14.3	+0.6
	comp=Z,2.3nm,0.7s,baz=350,slow=3.5,SNR=7.1							
BOSA	**Boshof**	**149.29**	**309**	PKP2		PKPbc	20 35 14.3	+0.6
BOSA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
BOSA	**Boshof**	**149.29**	**309**	PKPbc		PKPbc	20 35 14.3	+0.6

IDC **22** *20:20:37.2±2.1, 975S×108.13E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.9/7, ML4.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/24, Error ellipse: s-maj=95.4km s-min=17.3km az=50.0*

NEIC 22 20:20:37.9±1.4, 996S×10790E, h10km, mb3.9/1, Error ellipse: s-maj=71.5km s-min=10.4km az=48.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.01**	**117**	P		Pn	20 24 59.8	-0.6
	0.3nm,0.3s,baz=295,slow=9.0,SNR=16							
FITZ				LR	LR		20 31 16.0	
	comp=Z,100nm,19.1s,baz=272,slow=34							
WRA	**Warramunga Arr**	**27.37**	**114**	P		P	20 26 23.1	-0.1
	1.9nm,1.0s,baz=289,slow=11,SNR=8.2							
ASAR	**Alice Springs**	**28.32**	**122**	P		P	20 26 32.5	+0.8
	0.1nm,0.3s,baz=299,slow=9.1,SNR=3.4							
STKA	**Stephens Creek**	**38.04**	**130**	P		P	20 27 56.9	+0.6
	2.0nm,0.5s,baz=299,slow=9.7,SNR=6.1							
SONM	**Songino Array**	**57.55**	**359**	P		P	20 30 28.2	+0.7
	1.7nm,0.7s,baz=173,slow=8.7,SNR=16							
MKAR	**Makanchi Array**	**60.95**	**340**	P		P	20 30 50.9	-0.2
	0.6nm,0.6s,baz=147,slow=7.2,SNR=9.5							
BVAR	**Borovoye Array**	**70.42**	**337**	P		P	20 31 52.1	-0.1
	1.1nm,0.6s,baz=134,slow=8.4,SNR=9.8							
CHKZ	**Chkalovo**	**70.84**	**338**	*e*P		P	20 31 54.4	-0.3
	0.5nm,0.5s							

PRU **22** *20:29:11.6, 4325N×1844E, h0km*
CSEM **22** *20:29:12.6±0.1, 4337N×1877E, h2km, MD3.5/4, Error ellipse: s-maj=2.0km s-min=1.5km az=106.0*
ISCJB **22** *20:29:12.5±0.3, 4334N±001×1872E±002, h6km±3km, mb3.5/1, Error ellipse: s-maj=3.1km s-min=2.3km az=31.4*
LDG **22** *20:29:12.4±0.1, 4329N×1879E, h2km, Ml3.4/2, Error ellipse: s-maj=3.1km s-min=2.3km az=10.0*
NEIC **22** *20:29:13.7, 4326N×1869E, h11km, ML3.0(PDG), After PDG.*
PDG **22** *20:29:13.7±0.2, 4326N×1869E, h11km±1km*
IDC **22** *20:29:15.7±1.4, 4327N×1797E, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.2/21, mbtmp3.2/4, ML2.8/3, Error ellipse: s-maj=21.9km s-min=16.4km az=58.0*
ROM **22** *20:29:16.9±0.5, 4313N×1853E, h10km, Md3.5/4, Ml3.2/31, Error ellipse: s-maj=8.6km s-min=4.1km az=130.0*
ISC 22 20:29:13.5±0.4, 4333N±002×1872E±003, h4km±4km, n116, σ1§21/148, mb3.5/1, 25C-15D, Northwestern Balkan

Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
UPM	**Unac-Piva**	**0.19**	**133**	⇑*i*	Pg	**Pg**	**20 29 17.4**	**+0.2**
UPM					eSg	**Sg**	**20 29 20.1**	**+0.3**
BRY	**Bratogost**	**0.45**	**196**	⇓*i*	Pg	**Pg**	**20 29 20.9**	**-1.3**
BRY					eSg	**Sg**	**20 29 26.9**	**-1.2**
PLE	**Pljevlja**	**0.49**	**90**	⇓*i*	Pg	**Pg**	**20 29 23.3**	**+0.3**
PLE					eSg	**Sg**	**20 29 31.0**	**+1.6**
NKY	**Niksic**	**0.56**	**158**	⇓*i*	Pg	**Pg**	**20 29 22.9**	**-1.4**
NKY					eSg	**Sg**	**20 29 30.7**	**-0.8**
TREB	**Trebinje**	**0.67**	**204**	P		**Pg**	**20 29 25.0**	**-1.4**
BBLS	**Bajina Basta -**	**0.73**	**43**	*i*	Pg	**Pg**	**20 29 28.8**	**+1.2**
BBLS					Sg	**Sg**	**20 29 42.6**	**+5.5**
STON	**Ston**	**0.88**	**239**	⇓*i*	Pg	**Pg**	**20 29 28.1**	**-2.2**
STON				*i*	Sg	**Sg**	**20 29 42.9**	**+1.2**
SJES	**Sjenica**	**0.90**	**94**	Pn		**Pn**	**20 29 31.5**	**-1.3**
HCY	**Herceg Novi**	**0.90**	**190**	⇑*i*	Pg	**Pg**	**20 29 28.9**	**-1.9**
HCY					eSg	**Sg**	**20 29 41.8**	**-0.6**
IVA	**Berane**	**0.98**	**118**	⇓*i*	Pg	**Pg**	**20 29 31.8**	**-0.6**
IVA					eSg	**Sg**	**20 29 46.1**	**+1.0**
TTG	**Podgorica**	**0.99**	**156**	⇓*i*	Pg	**Pg**	**20 29 30.3**	**-2.2**
TTG					eSg	**Sg**	**20 29 45.7**	**+0.4**
BUM	**Brajici-Budva**	**1.04**	**173**	⇑*i*	Pg	**Pg**	**20 29 31.3**	**-2.2**
BUM					eSg	**Sg**	**20 29 47.2**	**+0.2**
PVY	**Plav**	**1.18**	**128**	⇓*i*	Pg	**Pg**	**20 29 35.4**	**-0.8**
PVY					eSg	**Sg**	**20 29 53.1**	**+1.6**
DIVS	**Divcibare**	**1.20**	**50**	*i*	Pg	**Pg**	**20 29 36.8**	**+0.3**
DIVS					Sg	**Sg**	**20 29 56.6**	**+4.5**
ULC	**Ulcinj**	**1.43**	**164**	⇓*i*	Pg	**Pg**	**20 29 39.3**	**-1.6**
ULC					eSg	**Sg**	**20 30 00.2**	**+0.9**
GRUS	**Gruza**	**1.55**	**68**	*i*	Pg	**Pg**	**20 29 41.2**	**-2.0**
GRUS					Sg	**Sg**	**20 30 06.9**	**+3.5**
GRUS	**Gruza**	**1.55**	**68**	Pg		**Pg**	**20 29 41.2**	**-2.1**
BLY	**Banja Luka**	**1.79**	**323**	P		**Pn**	**20 29 45.8**	**+0.6**
BLY				S		**Sn**	**20 30 12.6**	**+4.2**
FGSL	**Fruska Gora**	**1.98**	**23**	Pn		**Pn**	**20 29 47.0**	**-0.8**
QSH	**Qafa e Shtames**	**2.01**	**154**	*i*	Pg	**Pg**	**20 29 53.0**	**+0.9**
SVIS	**Svilajnac**	**2.05**	**61**	*i*	Pg	**Pg**	**20 29 51.9**	**-1.0**
TIR	**Tirane**	**2.16**	**156**	Pn		**Pn**	**20 29 52.7**	**+2.5**
RHK3	**Tenkes**	**2.58**	**353**	⇑*e*P		**Pn**	**20 29 55.7**	**-0.2**
RHK3				*e*S		**Sn**	**20 30 26.2**	**-1.5**
	0.3nm,0.2s							
FGMS	**Monte Sant'Ang**	**2.61**	**232**	Pn		**Pn**	**20 29 56.1**	**-0.3**
	72nm,0.5s							
MSAG	**Monte S. Angel**	**2.63**	**233**	Pn		**Pn**	**20 29 55.9**	**-0.8**
	143nm,0.4s							
SGRT	**San Giovanni R**	**2.71**	**235**	Pn		**Pn**	**20 29 56.8**	**-0.9**
	115nm,0.8s							
OHR	**Ohrid**	**2.71**	**144**	*e*Pn		**Pg**	**20 30 06.8**	**+1.4**
NOCI	**Noci**	**2.83**	**206**	Pn		**Pn**	**20 29 58.6**	**-0.8**
NOCI				Sn		**Sn**	**20 30 31.8**	**-2.0**
	130nm,0.6s							
RGNG	**Rignano Grg**	**2.85**	**235**	Pn		**Pn**	**20 29 58.7**	**-1.0**
PKSM	**Moragy**	**2.88**	**359**	⇓*i*	P	**Pn**	**20 29 59.5**	**-0.6**
PKSM	**Moragy**	**2.88**	**359**	⇓*e*	Pn	**Pn**	**20 29 59.5**	**-0.6**
PKSM				*e*	Sn	**Sg**	**20 30 46.4**	**+0.4**
AMUR	**Altamura**	**2.89**	**214**	Pn		**Pn**	**20 29 59.2**	**-1.1**
AMUR				Sn		**Sn**	**20 30 33.7**	**-1.7**
	106nm,0.5s							
LCI	**Lecce**	**3.03**	**189**	Pn		**Pn**	**20 30 02.4**	**+0.2**
	12nm,0.2s							
BZS	**Buzias**	**3.08**	**41**	⇓*i*	P	**Pn**	**20 30 02.1**	**-0.8**
BZS	**Buzias**	**3.08**	**41**	⇓P		**Pn**	**20 30 02.1**	**-0.9**
PKS9	**Tamasi**	**3.27**	**355**	⇑*i*	P	**Pn**	**20 30 05.6**	**+0.1**
FG5	**Orsara di Pugl**	**3.28**	**232**	Pn		**Pn**	**20 30 06.2**	**+0.6**
	33nm,0.5s							
CIGN	**Sant'Elia a Pi**	**3.28**	**241**	Pn		**Pn**	**20 30 05.8**	**+0.2**
	35nm,0.7s							
BOJS	**Bojanci**	**3.30**	**312**	*i*	Pn	**Pn**	**20 30 06.4**	**+0.5**
VULT	**Monte Vulture**	**3.31**	**225**	Pn		**Pn**	**20 30 07.1**	**+1.0**
	179nm,0.7s							
SGTA	**Sant Agata di**	**3.32**	**230**	Pn		**Pn**	**20 30 06.2**	**0.0**
	74nm,0.6s							
VTS	**Vitosha**	**3.38**	**101**	*e*P		**Pn**	**20 30 06.0**	**-1.0**
VTS	**Vitosha**	**3.38**	**101**	⇓*i*	P	**Pn**	**20 30 07.4**	**+0.4**
TRIV	**Trivento**	**3.45**	**244**	Pn		**

VYHS	Vyhne	5.16	1	*e*PN		Pn	20 30 31.0	-0.5	
VYHS				*e*			20 31 31.4		
VYHS	Vyhne	5.16	1	*e*Pn		Pn	20 30 31.0	-0.5	
VYHS				*e*Sn		Sn	20 31 31.5	0.0	
KBA	Koelnbreinsper	5.33	316	⇑*i*Pn		Pn	20 30 34.0	+0.2	
KBA				⇑*i*Sn		Sn	20 31 34.6	-1.1	
MOA	Molln	5.49	327	⇑*i*Pn		Pn	20 30 37.3	+1.3	
	SNR=6.8								
MOA				⇑*i*Sn		Sn	20 31 36.9	-2.6	
MLR	Muntele Rosu	5.61	65	Pn		Pb	20 30 48.7	-3.2	
	0.2nm,0.3s,baz=288,slow=23,SNR=3.2								
CRVS	Cervenica-Dubn	5.89	18	*e*PN		Pn	20 30 41.1	-0.3	
GERES	GERESS Array B	6.52	329	Pn		Pn	20 30 51.8	+1.6	
	0.2nm,0.3s,baz=154,slow=13,SNR=7.4								
GERES				Sn		Sn	20 32 02.4	-2.6	
	0.5nm,0.3s,baz=137,slow=26,SNR=6.0								
MOTA	Moosalm	6.70	309	⇓*i*Pn		Pn	20 30 53.1	+0.5	
MOTA				⇑*i*Sn		Sn	20 32 08.3	-1.0	
KHC	Kasperske Hory	6.80	330	*e*Pn		Pn	20 30 55.0	+0.9	
KHC				*e*SN		Sn	20 32 05.7	-6.2	
KHC				*e*SG		Sg	20 32 58.0	+6.0	
DAVOX	Davos	7.14	302	Pn		Pn	20 30 59.6	+0.9	
	0.6nm,0.3s,baz=153,slow=21,SNR=6.5								
PGF	Pioggiola	7.17	267	*e*Pn		Pn	20 30 56.5	-2.6	
PRU	Pruhonice	7.25	338	*e*SN		Sn	20 32 19.0	-3.9	
MBDF	Montbardon	8.72	283	*e*Pn		Pn	20 31 18.5	-1.8	
FRF	La Foret Royal	8.79	276	*e*Pn		Pn	20 31 18.2	-3.1	
LPG	La Plagne	8.84	288	*e*Pn		Pn	20 31 19.7	-2.2	
LPG				*e*Sn		Sn	20 32 55.1	-6.8	
	5.2nm,0.7s								
LPL	La Plagne	8.85	288	*e*Pn		Pn	20 31 20.3	-1.8	
LPL				*e*Sn		Sn	20 32 56.6	-5.7	
	3.9nm,0.5s								
LMR	La Mourre	8.90	274	*e*Pn		Pn	20 31 20.8	-2.0	
ORIF	Oris-en-Rattie	9.37	284	*e*Pn		Pn	20 31 26.1	-3.1	
FINES	FINESS Array B	18.66	11	P		Pn	20 33 36.4	+3.8	
	0.0nm,0.3s,baz=205,slow=20,SNR=2.9								
TORD	Torodi Ar. Bea	33.47	211	P		P	20 35 53.4	-0.2	
	0.3nm,0.5s,mb3.5,baz=14,slow=9.4,SNR=10								

IDC ***22*** *20:37:22.2±2.2,3921N×7755E,h0km,mb3.1/2,mb1 3.2/4, mb1mx3.1/22,mbtmp3.2/4,ML3.3/2,Error ellipse: s-maj=47.3km s-min=27.1km az=143.0*
BJI ***22*** *20:37:27.4,3960N×7736E,h33km,ML3.7*
NNC ***22*** *20:37:27.2±4.0,3979N×7730E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=26.4km s-min=13.1km az=162.0*
NEIC ***22*** *20:37:29.7±2.6,3957N×7746E,h35km,Error ellipse: s-maj=35.2km s-min=12.6km az=182.0*
ISCJB ***22*** *20:37:30.2±0.9,3951N±004×772E±0.1,h74km±13km, mb2.9/2,Error ellipse: s-maj=15.0km s-min=6.3km az=33.4*

ISC 22 20:37:30.5±0.8,3954N±004×774E±01,h51km±15km,n31, σ1♀14/33,mb3.0/2,4C-7D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KSH	Kashi	1.12	269	⇑*i*Pg		Pn	20 37 47.9	-1.8
KSH				SG		Sn	20 38 03.9	-0.1
KSH				Smax				
	comp=N,4μm,0.4s							
KSH				Smax				
	comp=E,4μm,0.3s							
ULHL	Ulahol	2.85	342	P		Pn	20 38 15.9	+2.5
	SNR=102							
KZA	Kyzart	3.02	328	P		Pn	20 38 16.6	+0.8
	SNR=40							
UCH	Uchtor	3.47	322	P		Pn	20 38 21.9	-0.1
	SNR=48							
KBK	Karagaybulak	3.63	330	P		Pn	20 38 24.5	+0.3
	SNR=27							
TKM2	Tokmak 2	3.65	339	P		Pn	20 38 25.0	+0.6
	SNR=5.6							
KNDC	Almaty	3.69	355	⇑Pn		Pn	20 38 20.4	-4.6
	comp=E,21nm,0.4s							
KNDC				⇓Lg			20 39 20.1	
	comp=E,561nm,0.5s							
AAK	Ala-Archa	3.80	325	P		Pn	20 38 26.3	-0.1
	SNR=7.5							
AAK	Ala-Archa	3.80	325	*e*Pn		Pn	20 38 26.0	-0.5
AAK				*e*Sn		Sn	20 39 05.8	-4.1
AML	Almayashu	3.83	314	P		Pn	20 38 26.7	-0.2
	SNR=25							
CHMS	Chumysh	4.00	331	P		Pn	20 38 29.0	-0.2
	SNR=13							
EKS2	Erkin-Say	4.16	320	P		Pn	20 38 31.9	+0.6
	SNR=34							
USP	Ospenovka	4.32	330	P		Pn	20 38 34.4	+0.8
	SNR=9.1							
KK31	Karatay Array	6.30	307	Pn		Pn	20 38 59.9	-0.9
	comp=E,0.6nm,0.3s,baz=140,slow=12,SNR=16							
KK31				⇓Pg		Pn	20 39 17.7	+17
	comp=E,6.8nm,0.6s,baz=158,slow=28,SNR=30							
KK31				⇓Lg			20 40 40.6	
	comp=E,11nm,0.5s							
KK31	Karatay Array	6.30	307	Pn		Pn	20 38 59.9	-0.9
KK31				Pg		Pn	20 39 17.6	+17
KK31				Lg			20 40 40.6	
CHCP	Chirah Chowk	6.75	211	P		Pn	20 39 08.2	+1.3
CEP	Cherat	7.21	219	P		Pn	20 39 13.8	+0.5
CEP				S		Sn	20 40 36.0	+2.2
MK02	Makanchi Array	8.06	25	⇓Pn		Pn	20 39 23.4	-1.5
	comp=E,1.2nm,0.5s							
MK02				⇑Lg			20 41 37.1	
	comp=E,5.6nm,0.8s							
MKAR	Makanchi Array	8.08	25	Pn		Pn	20 39 23.5	-1.6
	comp=E,0.3nm,0.3s,baz=188,slow=12,SNR=20							
MKAR				Lg			20 41 38.2	
	comp=E,0.6nm,0.3s,baz=204,slow=28,SNR=5.7							
THW	Thamme Wali	8.14	216	P		Pn	20 39 25.6	-0.4
SARP	Sargodha	8.52	208	P		Pn	20 39 30.2	-0.9
WMQ	Urumqi	8.80	58	P		Pn	20 39 39.3	+4.3
WMQ				S		Sn	20 41 22.3	+10
WMQ				Smax				
	comp=N,32nm,1.3s							
WMQ				Smax				
	comp=E,48nm,1.3s							
SBDP	Sheikh Budin	8.99	219	P		Pn	20 39 36.9	-0.7
DRP	Derazinda	9.74	219	P		Pn	20 39 46.4	-1.4
KURK	Kurchatov	11.21	4	⇓Lg			20 43 12.8	
	comp=E,10nm,1.1s							
VOSK	Vostochnaya	13.91	344	⇓Lg			20 44 35.5	
	comp=E,11nm,1.4s							
BVAR	Borovoye Array	14.33	343	Pn		Pn	20 40 50.1	-0.3
	comp=E,0.2nm,0.3s,baz=149,slow=12,SNR=4.2							
BVAR				Lg			20 44 54.2	
	comp=E,0.1nm,0.3s,baz=149,slow=20,SNR=3.9							
ZRNK	Zerenda	14.61	339	⇓Lg			20 44 58.4	
	comp=E,22nm,2.4s							
CHKZ	Chkalovo	14.88	344	⇑Lg			20 45 09.1	
	comp=E,12nm,1.4s							
SONM	Songino Array	22.44	59	P		P	20 42 25.2	+0.3
	comp=E,0.3nm,0.5s,mb3.0,baz=252,slow=10,SNR=5.1							
TORD	Torodi Ar. Bea	70.79	271	P		P	20 48 41.1	-0.4
	comp=E,0.1nm,0.5s,mb3.0,baz=65,slow=4.8,SNR=6.7							

ISCJB ***22*** *20:38:35.4±0.5,941S±0.10×1090E±0.1,h33km,mb4.4/24, MS3.8/1,Error ellipse: s-maj=19.1km s-min=7.9km az=99.9*
BJI ***22*** *20:38:35.2,940S×10890E,h33km,mB5.0,mb4.6,Ms4.0, Msz3.8*
IDC ***22*** *20:38:37.5±0.7,942S×10893E,h34km±4km,mb4.1/11, mb11 4.1/12,mb1mx4.0/19,mbtmp4.2/12,ML3.6/1,Error ellipse: s-maj=30.7km s-min=11.7km az=53.0*
NEIC ***22*** *20:38:37.2±0.4,942S×10894E,mb4.3/6,Error ellipse: s-maj=17.8km s-min=5.8km az=48.0*
MOS ***22*** *20:38:39.3±0.6,868S×10880E,h33km,mb4.8/5,Error ellipse: s-maj=61.4km s-min=17.1km az=109.3*

ISC 22 20:38:37.4±0.5,949S±009×10886E±010,h35km, h35km±.6km:pP-P,n40,σ0♀76/42,mb4.4/24,MS3.8/1,3C-2D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BJII	Banjamegara	2.30	21	⇓*i*P		Pn	20 39 14.5	+1.7
BJII				*i*S		Sn	20 39 45.7	+5.8
FITZ	Fitzroy Crossi	18.39	120	*e*P		Pn	20 42 48.7	-0.8
	5.2nm,0.8s							
FITZ	Fitzroy Crossi	18.39	120	P		Pn	20 42 48.7	-0.8
	0.1nm,0.3s,baz=262,slow=7.6,SNR=10							
FITZ				S		Sn	20 45 59.9	-14
	0.2nm,0.3s,baz=206,slow=16,SNR=6.6							
WRA	Warramunga Arr	26.70	116	P		P	20 44 13.6	+0.3
	4.3nm,0.9s,mb4.0,baz=288,slow=11,SNR=16							
WRA				pP		pP	20 44 23.7	+0.5
	2.1nm,0.7s,baz=289,slow=11,SNR=5.6							
WRAB	Tennant Creek	26.71	116	*i*P		P	20 44 18.8	+5.5
WRAB	Tennant Creek	26.71	116	*e*P		P	20 44 12.5	-0.8
	6.7nm,0.9s,mb4.2							
WB2	Warramunga Arr	26.71	116	*e*P		P	20 44 14.0	+0.7
ASAR	Alice Springs	27.77	124	P		P	20 44 23.1	+0.3
	1.2nm,0.8s,mb3.6,baz=299,slow=9.2,SNR=13							
ASAR				PcP		PcP	20 47 40.1	+1.4
	0.6nm,0.8s,baz=319,slow=2.5,SNR=4.7							
ASAR				Sn		S	20 49 41.0	+38
	0.2nm,0.6s,baz=304,slow=25,SNR=3.3							
QIZ	Qiongzhong	28.35	2	P		P	20 44 29.0	+1.0
QIZ				*e*S		S	20 49 09.8	-2.6
QIZ				LR		LR		
	comp=N,204nm,14.8s							
QIZ				LR		LR		
	comp=Z,195nm,17.9s,MS3.8							
STKA	Stephens Creek	37.62	131	P		P	20 45 49.5	+0.7
	comp=Z,4.3nm,0.7s,mb4.3,baz=299,slow=9.1,SNR=13							
STKA				pP		pP	20 45 59.1	+0.2
	comp=Z,2.1nm,0.6s,baz=307,slow=9.2,SNR=3.7							
JOW	Kunigami	40.73	27	P		P	20 46 15.2	+0.6
	comp=Z,10nm,0.7s,mb4.6,baz=265,slow=12,SNR=4.4							
PKI	Pulchoki	43.28	329	*e*P		P	20 46 36.0	+0.4
DMN	Daman	43.47	329	*e*P		P	20 46 36.8	-0.3
KKN	Kakani	43.53	329	*e*P		P	20 46 37.9	+0.3
GKN	Gorkha	44.03	329	*e*P		P	20 46 42.0	+0.4
KOLN	Koldanda	44.39	327	*e*P		P	20 46 44.8	+0.4
	comp=Z,33nm,0.9s,mb5.1							
MJAR	Matsushiro Arr	53.46	29	P		P	20 47 52.0	-1.9
	comp=Z,1.6nm,0.7s,mb4.0,baz=206,slow=8.0,SNR=6.0							
SONM	Songino Array	57.11	358	P		P	20 48 20.7	+0.4
	comp=Z,2.7nm,0.7s,mb4.4,baz=177,slow=8.2,SNR=25							
SONM				pP		pP	20 48 31.0	+0.2
	comp=Z,1.6nm,0.6s,baz=180,slow=8.1,SNR=8.0							
ULN	Ulaanbaatar	57.12	359	*e*P		P	20 48 20.7	+0.4
	comp=Z,3.6nm,1.0s,mb4.4							
ULN				*e*pP		pP	20 48 30.0	-0.9
ZAK	Zakamensk	59.82	356	*e*P		P	20 48 38.9	-0.3
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.4s,mb4.0							
MK31	Makanchi Array	60.84	339	P		P	20 48 45.7	-0.5
MK31				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.7							
MKAR	Makanchi Array	60.84	339	P		P	20 48 46.0	-0.1
	comp=Z,3.8nm,0.6s,mb4.7,baz=134,slow=6.9,SNR=40							
MKAR				pP		pP	20 48 56.5	-0.3
	comp=Z,2.8nm,0.6s,baz=143,slow=6.9,SNR=14							
MKAR	Makanchi Array	60.84	339	⇑*e*P		P	20 48 46.0	-0.2
KURK	Kurchatov	65.46	339	⇑*e*P		P	20 49 16.5	-0.3
ZAL	Zalesovo	66.39	345	P		P	20 49 21.9	-0.9
	comp=Z,2.0nm,0.7s,mb4.3,baz=339,slow=3.3,SNR=11							
ZAL	Zalesovo	66.39	345	*i*P		P	20 49 22.2	-0.6
ZAL				pmax		pmax		
	comp=Z,2.0nm,0.7s							
BOD	Bodaibo	67.20	3	*e*P		P	20 49 26.3	-1.6
BOD				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb4.2							
BVAR	Borovoye Array	70.37	336	P		P	20 49 47.4	-0.2
	comp=Z,3.3nm,0.8s,mb4.3,baz=145,slow=8.5,SNR=16							
BVAR				pP		pP	20 49 58.0	-0.4
	comp=Z,1.8nm,0.7s,baz=141,slow=9.6,SNR=6.1							
BRVK	Borovoye	70.43	336	*e*P		P	20 49 47.4	-0.7
	comp=Z,1.9nm,0.9s,mb4.0							
CHKZ	Chkalovo	70.78	337	*e*P		P	20 49 50.1	0.0
	comp=Z,6.7nm,0.9s,mb4.6							
CHKZ				*e*pP		pP	20 50 00.9	0.0
AB31	Akbulak array	72.48	329	*i*P		P	20 49 59.9	-0.5
AB31				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.0							
YAK	Yakutsk	73.12	10	*e*P		P	20 50 03.4	-0.8
YAK				pmax		pmax		
	comp=Z,14nm,0.9s,mb4.9							
VNDA	Vanda	73.20	170	P		P	20 50 04.4	-0.3
	comp=Z,1.2nm,0.9s,mb3.8,baz=281,slow=3.8,SNR=5.8							
ANN	Anapa	83.76	317	*e*P		P	20 51 02.6	-0.3
ANN				pmax		pmax		
	comp=Z,123nm,7.7s							
BRTR	Keskin Array B	84.85	312	P		P	20 51 09.6	+1.2
	comp=Z,2.2nm,0.9s,mb4.3,baz=133,slow=7.3,SNR=7.8							
BRTR				pP		pP	20 51 19.5	+0.1
	comp=Z,2.0nm,0.8s,baz=123,slow=6.3,SNR=7.2							
BRTR	Keskin Array B	84.85	312	⇑*e*P		P	20 51 09.6	+1.2
VRSR	Storozhevoye	84.94	324	*e*P		P	20 51 09.6	+0.7
VRSR				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.8							
VRSR				pmax		pmax		
	comp=N,3.0nm,1.0s							
VRSR				pmax		pmax		
	comp=E,7.0nm,0.8s							
OBN	Obninsk	87.80	327	⇓*e*P		P	20 51 23.5	+0.6
OBN				*e*			20 54 50.9	
OBN				*e*S			21 01 47.4	
OBN				*e*SS		SS	21 07 40.0	-10
OBN				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb5.0							
KLMR	Klimovskoe	88.42	333	*e*P		P	20 51 25.8	0.0
KLMR				pmax		pmax		
	comp=Z,10.0nm,1.6s,mb4.8							
JCT	Junction City	146.09	48	*e*PKPdf		PKPdf	20 58 14.1	+1.4

MEX 22 20:59:10.5±0.8,1627N×9917W,h16km±999km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
ACX	Acapulco	0.93	310	*i*P		Pb	20 59 25.0	-3.3
ACX				*i*S		Sb	20 59 35.0	-5.4
CAIG	El Cayaco	1.31	307	*i*P		Pn	20 59 31.2	-2.8
CAIG				*i*S		Sn	20 59 46.0	-5.2
MEIG	Mezcala	1.71	345	*i*P		Pn	20 59 36.1	-3.4
MEIG				*i*S		Sn	20 59 56.9	-4.2
UTMO	Huajuapan	2.03	40	*i*P		Pn	20 59 40.6	-3.4
UTMO				*i*S		Sn	21 00 04.0	-5.0

NEIC ***22*** *21:04:30.2,3847S×17576E,h153km,MG3.8(WEL),After WEL.*

WEL 22 21:04:30.7±0.3,3848S×17578E,h148km±2km,ML3.9/11, 4C,Error ellipse: s-maj=1.7km s-min=1.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
RATZ	Rangitukua	0.39	181	PN		Pn	21 04 51.3	0.0
RATZ	Rangitukua	0.39	181	P		Pn	21 04 51.4	+0.1
TWVZ	Taurewa	0.65	204	PN		Pn	21 04 52.6	-0.1
TWVZ	Taurewa	0.65	204	P		Pn	21 04 52.6	-0.1
WTVZ	West Tongariro	0.65	193	PN		Pn	21 04 52.8	+0.1
WTVZ	West Tongariro	0.65	193	P		Pn	21 04 52.8	+0.1
NGZ	Ngauruhoe	0.71	191	PN		Pn	21 04 53.5	+0.5
NGZ	Ngauruhoe	0.71	191	P		Pn	21 04 53.5	+0.4
HIZ	Hauiti	0.73	267	PN		Pn	21 04 52.7	-0.5
HIZ				SN		Sn	21 05 10.4	+0.1
WPVZ	Whakapapa	0.75	194	PN		Pn	21 04 53.6	+0.3
TUVZ	Tukino	0.79	187	⇑PN		Pn	21 04 54.0	+0.4
TUVZ	Tukino	0.79	187	P		Pn	21 04 54.0	+0.3
FWVZ	Far West T-bar	0.79	193	PN		Pn	21 04 54.1	+0.4
WNVZ	Wahianoa	0.86	190	PN		Pn	21 04 54.4	+0.3
WNVZ	Wahianoa	0.86	190	P		Pn	21 04 54.5	+0.4
PKVZ	Pokaka	0.88	203	PN		Pn	21 04 54.2	-0.1
BKZ	Black Stump Fm	0.88	141	PN		Pn	21 04 54.3	0.0
BKZ				SN		Sn	21 05 12.1	-0.2
BKZ	Black Stump Fm	0.88	141	P		Pn	21 04 54.4	+0.1
BKZ				S		Sn	21 05 12.0	-0.3
MOVZ	Moawhango	0.93	181	PN		Pn	21 04 54.5	-0.1
MOVZ	Moawhango	0.93	181	P		Pn	21 04 54.5	-0.2
MTVZ	Mangateitei	0.94	195	PN		Pn	21 04 54.9	+0.1
VRZ	Vera Road	1.03	231	PN		Pn	21 04 55.4	-0.1
VRZ	Vera Road	1.03	231	P		Pn	21 04 55.3	-0.2
URZ	Urewera	1.07	78	⇑PN		Pn	21 04 55.9	0.0
URZ				SN		Sn	21 05 14.9	-0.2
MWZ	Matawai	1.38	84	PN		Pn	21 04 59.0	+0.1
MWZ	Matawai	1.38	84	*e*P		Pn	21 04 59.0	+0.1
WAZ	Wanganui	1.42	206	PN		Pn	21 04 59.0	-0.2
WAZ	Wanganui	1.42	206	P		Pn	21 04 59.1	-0.1
KNZ	Kokohu	1.57	111	PN		Pn	21 05 01.4	+0.4
KNZ	Kokohu	1.57	111	*e*P		Pn	21 05 01.4	+0.5
TSZ	Takapari Road	1.58	175	⇑PN		Pn	21 05 00.7	-0.3
TSZ	Takapari Road	1.58	175	P		Pn	21 05 00.7	-0.3
PXZ	Pawanui	1.76	152	⇑PN		Pn	21 05 02.9	-0.1
MRZ	Mangatainoka R	2.18	184	PN		Pn	21 05 06.4	-1.5
MXZ	Matakaoa Point	2.19	66	PN		Pn	21 05 08.2	+0.2

IDC 22 21:09:06.5±1.9,083N×12528E,h0km,mb3.4/3,mb1 3.6/3, mb1mx3.4/16,mbtmp3.4/3,Error ellipse: s-maj=183.6km s-min=25.8km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.47	157	P		P	21 14 07.3	0.0
	0.7nm,0.5s,baz=335,slow=11,SNR=13							
ASAR	Alice Springs	25.75	162	P		P	21 14 39.2	+0.5
	0.9nm,0.9s,baz=344,slow=7.7,SNR=9.1							
MKAR	Makanchi Array	59.14	327	P		P	21 19 09.1	+0.1
	0.1nm,0.4s,baz=128,slow=8.0,SNR=5.1							

IDC ***22*** *21:48:14.8±1.3,4288S×8368W,h0km,mb4.0/7,mb1 4.0/8, mb1mx3.9/17,mbtmp3.9/8,ML2.9/1,MS4.3/18,Ms1 4.3/18, ms1mx4.2/22,Error ellipse: s-maj=47.0km s-min=25.3km az=156.0*
ISCJB ***22*** *21:48:16.5±0.8,428S±0.1×833W±0.1,h10km,mb4.4/17, MS4.3/16,Error ellipse: s-maj=19.5km s-min=15.2km az=155.0*
HRVD ***22*** *21:48:17.5±0.4,4266S×8369W,h14km±1km,MW4.9/52, Centroid moment Tensor Solution. LP body waves: s22,c25;Mantle waves: s52,c70; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.59±.19; Mθθ0.21±.10; Mθφ2.38±.14; Mrθ1.16±.31; Mθφ-0.54±.10; Mφf1.00±.30; Best double couple: Mo2.92600×10¹⁶ NP1:φs328.00000°,δ41.00000°,λ-124.00000°. NP2: φs190.00000°,δ57.00000°,λ-65.00000°. Principal axes: T 2.6180, Plg9.0000°, Azm262.0000°; N 0.6180, Plg21.0000°, Azm355.0000°; P -3.2330, Plg67.0000°, Azm150.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***22*** *21:48:17.5±0.6,4287S×8332W,h10km,mb4.7/13 Error ellipse: s-maj=16.3km s-min=13.3km az=165.0*

ISC 22 21:48:17.7±0.8,429S±01×834W±01,h10km,n53,σ0♀91/27, mb4.4/17,MS4.3/16,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
PLCA	Paso Flores	9.79	82	LR		LR	21 53 49.4	
	comp=Z,3μm,18.5s,baz=175,slow=33							
CFAA	Coronel Fontan	16.43	52	Pn		Pn	21 52 08.1	-0.2
	0.0nm,0.3s,baz=230,slow=16,SNR=2.7							
CFAA				LR		LR	21 57 26.8	
	comp=Z,152nm,18.0s,baz=217,slow=33							
LVC	Limon Verde	23.50	35	P		P	21 53 26.7	-1.0
	4.5nm,0.8s,mb3.9,baz=220,slow=10,SNR=8.0							
LVC				LR		LR	22 00 22.2	
	comp=Z,425nm,20.2s,MS3.9,baz=218,slow=31							
LVC	Limon Verde	23.50	35	*e*P		P	21 53 27.9	+0.1
	10nm,0.8s,mb4.3							
LVC				LR		LR	22 00 22.2	
RPN	Rapa Nui	26.30	298	LR		LR	22 01 23.4	
	comp=Z,1μm,20.0s,MS4.4,baz=111,slow=30							
CPUP	Villa Florida	26.88	61	P		P	21 54 00.5	+2.0
	0.6nm,0.5s,mb3.4,baz=214,slow=8.5,SNR=5.0							
CPUP				LR		LR	22 04 27.4	
	comp=Z,1μm,18.9s,MS4.5,baz=221,slow=36							
CPUP	Villa Florida	26.88	61	*e*P		P	21 54 00.0	+1.4
	4.5nm,0.5s,mb4.2							
CPUP				LR		LR	22 04 27.4	
LPAZ	La Paz	29.50	31	P		P	21 54 22.3	+0.2
	1.1nm,0.9s,mb3.6,baz=199,slow=7.8,SNR=8.9							
LPAZ				LR		LR	22 04 05.4	
	comp=Z,114nm,18.9s,MS3.5,baz=307,slow=32							
LPAZ	La Paz	29.50	31	*e*P		P	21 54 22.6	+0.6
	6.6nm,1.3s,mb4.2							
LPAZ				LR		LR	22 04 05.4	
SAML	Samuel	38.12	33	*e*P		P	21 55 35.8	-1.0
	16nm,1.6s,mb4.5							
BDFB	Brasilia	40.58	59	P		P	21 55 57.2	-0.1
	5.3nm,1.0s,mb4.1,baz=231,slow=7.1,SNR=6.3							
BDFB				LR		LR	22 13 10.1	
	comp=Z,862nm,18.8s,MS4.6,baz=230,slow=37							
OTAV	Otavalo	43.13	7	*e*P		P	21 56 19.0	+0.8
	25nm,1.4s,mb4.8							
RKT	Rikitea	46.78	278	*e*LR		LR	22 09 49.6	
	473nm,25.8s							
SNAA	Sanae	47.06	155	*e*P		P	21 56 49.5	+0.1
	18nm,1.8s,mb4.7							
ROSC	El Rosal	48.19	12	P		P	21 56 58.9	+0.6
	2.6nm,0.4s,mb4.6,baz=73,slow=21,SNR=7.0							
VNDA	Vanda	53.53	194	LR		LR	22 17 37.6	
	comp=Z,254nm,18.2s,MS4.3,baz=100,slow=33							
RCBR	Riachuelo	55.73	62	*e*P		P	21 57 53.5	-0.9
	19nm,1.1s,mb5.0							
TBI	Tubuai	57.27	267	*e*LR		LR	22 14 35.9	
	379nm,27.8s,baz=124							
TAOE	Nuku Hiva Isla	59.90	287	*e*LR		LR	22 15 54.3	
	1μm,25.1s							
PPT	Papeete	60.92	273	*e*PP		PP	22 00 35.5	-9.3
	124nm,27.5s							
PPT	Papeete	60.92	273	*e*S		S	22 06 37.3	-11
	102nm,27.2s							
PPT				*e*SS		SS	22 10 29.1	-19
	41nm,25.2s							
PPT				*

SCHQ	**Schefferville**	**98.33**	**10**	LR	LR	22 45 44.8			
	comp=Z,38nm,20.6s,MS3.9,baz=191,slow=35								
GERES	**GERESS Array B**	**124.64**	**53**	PKP	PKPdf	22 07 15.5	-1.9		
	0.3nm,0.7s,baz=22,slow=1.4,SNR=5.4								
NOA	**NORSAR Array B**	**128.35**	**38**	PKP	PKPdf	22 07 27.0	+2.5		
	1.0nm,0.9s,baz=250,slow=1.4,SNR=3.1								
NOA	**NORSAR Array B**	**128.35**	**38**	PKP	PKPdf	22 07 27.0	+2.5		
MJAR	**Matsushiro Arr**	**147.66**	**273**	PKPbc	PKPbc	22 07 58.9	-3.5		
	3.1nm,0.9s,baz=160,slow=3.5,SNR=9.8								
MAT	**Matsushiro**	**147.66**	**273**	P	PKPdf	22 07 59.7	+0.1		
AKTK	**Aktyubinsk**	**152.67**	**60**	PKPbc	PKPbc	22 08 12.2	-2.3		
AKTO	**Aktyubinsk**	**152.67**	**60**	PKPbc	PKPbc	22 08 12.2	-2.3		
	1.9nm,0.9s,baz=219,slow=0.6,SNR=3.7								
MKAR	**Makanchi Array**	**169.07**	**64**	PKPab	PKPab	22 09 37.6	+1.1		
	0.5nm,0.8s,baz=306,slow=4.2,SNR=5.8								
SONM	**Songino Array**	**171.53**	**309**	PKPab	PKPab	22 09 44.4	-3.1		
	0.6nm,0.9s,baz=349,slow=1.5,SNR=4.6								

IDC 22 22:00:09.0±7.8, 190S×13597E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.4/11, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=123.4km s-min=95.0km az=136.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.00**	**185**	P	Pn	22 04 19.8	-0.8
	0.1nm,0.3s,baz=7.8,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**21.73**	**185**	P	P	22 05 00.7	-1.1
	0.9nm,0.7s,baz=7.1,slow=12,SNR=9.0						
LEM	**Lembang**	**28.68**	**259**	P	P	22 06 05.9	-1.7
	0.0nm,0.0s						
STKA	**Stephens Creek**	**30.28**	**170**	P	P	22 06 23.3	+1.5
	0.6nm,0.3s,baz=18,slow=3.2,SNR=2.8						

IDC ***22*** *22:05:17.6±0.4, 963S×1074E, h0km, mb4.5/19, mb1 4.5/20, mb1mx4.5/23, mbtmp4.5/20, ML4.0/1, MS3.7/13, Ms1 3.7/13, ms1mx3.6/22, Error ellipse: s-maj=18.8km s-min=12.2km az=50.0*

ISCJB ***22*** *22:05:20.9±0.3, 972S±004×1074 2E±004, h35km, mb4.9/56, MS4.1/18, Error ellipse: s-maj=6.6km s-min=5.5km az=125.6*

BJI ***22*** *22:05:20.2, 960S×1075 0E, h28km, mB5.1, mb5.0, Ms4.5, Msz4.3*

MOS ***22*** *22:05:20.9±1.0, 959S×1076 3E, h33km, mb5.3/11, Error ellipse: s-maj=14.6km s-min=7.8km az=111.1*

NEIC ***22*** *22:05:22.2±2.8, 963S×1074 9E, h29km±19km, mb4.8/21, Error ellipse: s-maj=10.1km s-min=5.2km az=48.0*

ISC 22 22:05:23.2±0.3, 973S±004×1074 3E±004, h38km, h38km±3.6km: pP-P, n145, σ0 99/131, mb4.9/56, MS4.1/18, 13C-17D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**3.28**	**44**	P	**Pn**	**22 06 11.2**	**-0.9**
	0.0nm,0.0s						
BJII	**Banjamegara**	**3.28**	**44**	⇓*i*P	**Pn**	**22 06 11.7**	**-0.4**
BJII				*i* S	**Sn**	**22 06 50.6**	**+0.7**
KSI	**Kapahiang**	**7.71**	**321**	P	**Pn**	**22 07 09.5**	**-3.5**
	0.0nm,0.0s						
KGM	**Kluang**	**12.36**	**340**	P	**Pn**	**22 08 18.3**	**+1.7**
PSI	**Prapat**	**15.05**	**325**	Pn	**Pn**	**22 08 52.4**	**-0.8**
	0.4nm,0.3s,baz=165,slow=20,SNR=4.3						
PSI				LR	LR	22 15 39.4	
	comp=Z,228nm,18.9s,baz=130,slow=42						
PCI	**Palu**	**15.14**	**55**	P	**Pn**	**22 08 54.6**	**+0.3**
	53nm,1.8s						
IPM	**Ipoh**	**15.49**	**335**	P	**Pn**	**22 09 03.2**	**+4.4**
KULM	**Kulim**	**16.38**	**335**	*e*Pn	**Pn**	**22 09 04.1**	**-6.1**
MBWA	**Marble Bar**	**16.41**	**135**	*e*Pn	**Pn**	**22 09 05.9**	**-4.8**
	9.6nm,0.5s						
MBWA				*e*Sn	**Sn**	**22 11 54.7**	**-17**
KKM	**Kota Kinabalu**	**17.95**	**30**	P	**Pn**	**22 09 33.1**	**+3.3**
FITZ	**Fitzroy Crossi**	**19.53**	**117**	*e*P	**Pn**	**22 09 49.1**	**+0.3**
	15nm,0.9s						
FITZ				*e*S	**S**	**22 13 09.8**	**-16**
FITZ	**Fitzroy Crossi**	**19.53**	**117**	P	**Pn**	**22 09 48.6**	**-0.2**
	0.3nm,0.3s,baz=264,slow=6.7,SNR=16						
FITZ				Sn	**Sn**	**22 13 09.0**	**-18**
	0.2nm,0.3s,baz=165,slow=23,SNR=2.6						
FITZ				LR	LR	22 16 25.6	
	comp=Z,70nm,19.1s,baz=180,slow=34						
KAKA	**Kakadu**	**24.71**	**99**	*e*P	**P**	**22 10 41.8**	**+1.1**
	22nm,0.6s,mb4.8						
NWAO	**Narrogin (SRO)**	**24.80**	**160**	P	**P**	**22 10 42.0**	**+0.4**
	15nm,0.9s,mb4.5,baz=330,slow=9.8,SNR=6.5						
NWAO				LR	LR	22 18 52.2	
	comp=Z,226nm,21.7s,MS3.6,baz=146,slow=33						
NWAO	**Narrogin (SRO)**	**24.80**	**160**	*e*P	**P**	**22 10 41.8**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,13nm,0.9s						
NWAO	**Narrogin (SRO)**	**24.80**	**160**	*e*P	**P**	**22 10 41.8**	**+0.2**
	comp=Z,13nm,0.9s,mb4.5						
NWAO				LR	LR	22 18 52.2	
NST	**Nakhon Sawan**	**26.25**	**344**	P	**P**	**22 10 53.8**	**-0.9**
KKTK	**Khon Kaen**	**26.29**	**350**	⇑P	**P**	**22 10 55.6**	**+0.5**
WRA	**Warramunga Arr**	**27.89**	**114**	P	**P**	**22 11 09.1**	**-0.3**
	comp=Z,2.7nm,0.6s,mb4.1,baz=286,slow=12,SNR=70						
WRA				PcP	PcP	22 14 25.1	+0.7
	comp=Z,1.2nm,0.6s,baz=302,slow=2.1,SNR=7.4						
WRA				LR	LR	22 22 28.6	
	comp=Z,19nm,18.3s,baz=280,slow=37						
WRA	**Warramunga Arr**	**27.89**	**114**	P	**P**	**22 11 09.1**	**-0.3**
WRA						22 14 25.1	
WRAB	**Tennant Creek**	**27.89**	**114**	*e*P	**P**	**22 11 10.1**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**27.89**	**114**	*e*P	**P**	**22 11 10.1**	**+0.6**
	comp=Z,5.8nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**27.90**	**114**	*e*P	**P**	**22 11 10.0**	**+0.5**
WB2	**Warramunga Arr**	**27.90**	**114**	*e*P	**P**	**22 11 09.8**	**+0.3**
QIZ	**Qiongzhong**	**28.67**	**5**	P	**P**	**22 11 17.6**	**+1.2**
QIZ				*e*S	**S**	**22 16 03.9**	**+1.2**
QIZ				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.4						
QIZ				LR	LR		
	comp=N,239nm,15.2s						
QIZ				LR	LR		
	comp=Z,284nm,15.2s,MS4.0						
ASAR	**Alice Springs**	**28.83**	**122**	P	**P**	**22 11 17.4**	**-0.4**
	comp=Z,1.8nm,0.7s,mb3.9,baz=297,slow=8.4,SNR=17						
ASAR				PcP	PcP	22 14 28.1	+1.4
	comp=Z,1.4nm,0.6s,baz=299,slow=1.9,SNR=12						
ASAR				LR	LR	22 21 21.6	
	comp=Z,177nm,19.6s,MS3.7,baz=82,slow=33						
ASAR	**Alice Springs**	**28.83**	**122**	P	**P**	**22 11 17.4**	**-0.4**
ASAR						22 14 28.2	
AS31	**Alice Springs**	**28.83**	**122**	*e*P	**P**	**22 11 17.1**	**-0.7**
CM31	**Chiang Mai Arr**	**29.23**	**343**	*e*P	**P**	**22 11 21.6**	**+0.3**
	comp=Z,6.2nm,0.8s,mb4.4						
CHG	**Chiang Mai**	**29.57**	**344**	⇓P	**P**	**22 11 24.5**	**+0.1**
	comp=Z,18nm,1.0s,mb4.8						
CHTO	**Chiang Mai**	**29.57**	**344**	⇑P	**P**	**22 11 24.9**	**+0.6**
	SNR=7.8						
CHTO	**Chiang Mai**	**29.57**	**344**	*e*P	**P**	**22 11 24.5**	**+0.1**
CHTO				*e*	pP	22 11 36.1	+1.1
CHTO				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.8						
CHTO	**Chiang Mai**	**29.57**	**344**	*e*P	**P**	**22 11 24.5**	**+0.1**
	comp=Z,20nm,1.1s,mb4.8						
CHTO				*e*	pP	22 11 36.1	+1.1
KMI	**Kunming**	**34.94**	**353**	⇓P	**P**	**22 12 13.5**	**+2.1**
KMI				AP	pP	22 12 22.8	+0.6
KMI				XP	sP	22 12 28.1	+1.3
KMI				AMB	AMB		
	comp=Z,18nm,1.5s,mb4.8						
KMI				AMB	AMB		
	comp=Z,102nm,3.5s						
KMI				LR	LR		
	comp=N,368nm,13.3s,MS4.3						
KMI				LR	LR		
	comp=E,236nm,15.1s,MS4.3						
KMI				LR	LR		
	comp=Z,397nm,13.3s,MS4.3						
GYA	**Guiyang**	**35.98**	**359**	⇓*i*P	**P**	**22 12 21.1**	**+0.8**
GYA				AP	pP	22 12 25.8	-5.3
GYA				PP	PP	22 13 42.3	-0.2
GYA				PCP	PcP	22 14 48.9	+2.5
GYA				S	**S**	**22 17 57.3**	**+1.1**
GYA				SCP	ScP	22 18 33.3	+3.8
GYA				SS	SS	22 20 18.1	-16
GYA				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.3						
GYA				AMB	AMB		
	comp=Z,150nm,5.5s						
GYA				LR	LR		
	comp=N,490nm,14.9s,MS4.6						
GYA				LR	LR		
	comp=E,510nm,15.2s,MS4.6						
GYA				LR	LR		
	comp=Z,480nm,15.0s,MS4.4						
STKA	**Stephens Creek**	**38.54**	**130**	*e*P	**P**	**22 12 43.3**	**+1.3**
	comp=Z,5.7nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**38.54**	**130**	P	**P**	**22 12 43.3**	**+1.3**
	comp=Z,6.6nm,0.6s,mb4.5,baz=294,slow=7.8,SNR=32						
PMG	**Port Moresby**	**39.17**	**93**	LR	LR	22 30 57.2	
	comp=Z,141nm,18.4s,MS3.8,baz=235,slow=39						
WHN	**Wuhan**	**40.59**	**9**	⇑P	**P**	**22 12 59.8**	**+0.7**
JOW	**Kunigami**	**41.60**	**29**	LR	LR	22 29 46.8	
	comp=Z,109nm,18.6s,MS3.8,baz=122,slow=35						
JIRN	**Jiri**	**42.48**	**332**	*e*P	**P**	**22 13 15.5**	**+0.9**
	comp=Z,199nm,0.8s,mb5.8						
PKI	**Pulchoki**	**42.78**	**331**	*e*P	**P**	**22 13 17.2**	**+0.2**
	comp=Z,49nm,0.8s,mb5.3						
PKI	**Pulchoki**	**42.78**	**331**	*e*P	**P**	**22 13 17.2**	**+0.2**
PKI				pmax	pmax		
	comp=Z,49nm,0.8s,mb5.3						
GUN	**Gumba**	**42.84**	**331**	*e*P	**P**	**22 13 18.2**	**+0.7**
	comp=Z,171nm,0.8s,mb5.8						
DMN	**Daman**	**42.95**	**330**	*e*P	**P**	**22 13 18.8**	**+0.4**
	comp=Z,116nm,0.8s,mb5.7						
NJ2	**Nanjing**	**42.96**	**14**	*e*P	**P**	**22 13 17.0**	**-1.4**
NJ2				AP	pP	22 13 27.8	-1.6
NJ2				XP	sP	22 13 30.9	-3.1
NJ2				S	**S**	**22 19 39.0**	**-1.9**
NJ2				XS	sS	22 19 56.0	-3.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,90nm,5.1s						
NJ2				LR	LR		
	comp=N,310nm,14.0s,MS4.5						
NJ2				LR	LR		
	comp=E,150nm,11.3s,MS4.5						
KKN	**Kakani**	**43.02**	**331**	*e*P	**P**	**22 13 19.2**	**+0.2**
	comp=E,110nm,0.8s,mb5.6						
KKN	**Kakani**	**43.02**	**331**	*e*P	**P**	**22 13 19.2**	**+0.2**
KKN				pmax	pmax		
	comp=Z,110nm,0.8s,mb5.6						
GKN	**Gorkha**	**43.51**	**330**	*e*P	**P**	**22 13 23.1**	**+0.2**
XAN	**Xi'an**	**43.55**	**2**	P	**P**	**22 13 22.9**	**-0.3**
XAN				AP	pP	22 13 34.5	+0.3
XAN				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.7						
XAN				LR	LR		
	comp=N,157nm,16.3s,MS4.1						
XAN				LR	LR		
	comp=E,112nm,13.4s,MS4.1						
XAN				LR	LR		
	comp=Z,273nm,16.0s,MS4.2						
GUMO	**Guam**	**43.79**	**59**	LR	LR	22 30 15.5	
	comp=Z,61nm,19.0s,MS3.5,baz=238,slow=34						
KOLN	**Kolkanda**	**43.84**	**329**	*e*P	**P**	**22 13 26.1**	**+0.5**
	comp=Z,101nm,0.8s,mb5.6						
LZH	**Lanzhou**	**45.69**	**356**	*e*P	**P**	**22 13 41.0**	**+0.7**
LZH				AP	pP	22 13 53.0	+1.6
LZH				XP	sP	22 13 57.5	+1.6
LZH				AMB	AMB		
	comp=Z,43nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,170nm,4.7s						
LZH				LR	LR		
	comp=N,651nm,14.2s						
LZH				LR	LR		
	comp=Z,1μm,15.0s,MS5.0						
NDI	**New Delhi**	**48.06**	**324**	*e*P	**P**	**22 13 56.5**	**-2.3**
GTA	**Gaotai**	**49.40**	**352**	*e*P	**P**	**22 14 10.3**	**+1.2**
GTA				AP	pP	22 14 16.6	-3.6
GTA				PCP	PcP	22 15 32.0	+1.0
GTA				PP	PP	22 16 05.8	+2.5
GTA				PPP		22 16 59.8	
GTA				SCP	ScP	22 19 26.1	+2.8
GTA				S	**S**	**22 21 18.3**	**+5.0**
GTA				XS	sS	22 21 25.9	-5.8
GTA				SCS	ScS	22 24 00.8	+3.0
GTA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GTA				AMB	AMB		
	comp=Z,128nm,3.8s						
GTA				LR	LR		
	comp=N,182nm,17.1s,MS4.2						
GTA				LR	LR		
	comp=E,121nm,14.8s,MS4.2						
GTA				LR	LR		
	comp=Z,179nm,15.2s,MS4.2						
BJI	**Beijing**	**50.17**	**9**	*e*P	**P**	**22 14 14.5**	**-0.5**
BJI				S	**S**	**22 21 20.8**	**-3.4**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
BJI				LR	LR		
	comp=N,263nm,14.9s,MS4.4						
BJI				LR	LR		
	comp=E,122nm,14.9s,MS4.4						
BJI				LR	LR		
	comp=Z,68nm,22.9s						
MAJO	**Matsushiro**	**54.37**	**30**	*e*P	**P**	**22 14 44.0**	**-2.1**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
MAJO	**Matsushiro**	**54.37**	**30**	*e*P	**P**	**22 14 44.0**	**-2.1**
	comp=Z,5.5nm,0.8s,mb4.5						
MAT	**Matsushiro**	**54.37**	**30**	P	**P**	**22 14 43.4**	**-2.7**
MAT	**Matsushiro**	**54.37**	**30**	*e*P	**P**	**22 14 43.0**	**-3.1**
MJAR	**Matsushiro Arr**	**54.37**	**30**	P	**P**	**22 14 43.9**	**-2.2**
	comp=Z,7.6nm,0.9s,mb4.6,baz=207,slow=8.3,SNR=24						
CN2	**Changchun**	**55.74**	**16**	*e*P	**P**	**22 14 55.1**	**-0.9**
SONM	**Songino Array**	**57.31**	**359**	P	**P**	**22 15 07.5**	**+0.3**
	comp=Z,6.9nm,0.8s,mb4.7,baz=169,slow=7.7,SNR=48						
SONM				LR	LR	22 41 31.8	
	comp=Z,172nm,19.7s,MS4.2,baz=354,slow=38						
ULN	**Ulaanbaatar**	**57.34**	**360**	⇓P	**P**	**22 15 07.8**	**+0.4**
	SNR=9.9						
ULN	**Ulaanbaatar**	**57.34**	**360**	*d*P	**P**	**22 15 07.6**	**+0.2**
ULN	**Ulaanbaatar**	**57.34**	**360**	*e*P	**P**	**22 15 07.7**	**+0.3**
	comp=Z,9.5nm,0.8s,mb4.9						
DZM	**Mont Dzumac**	**57.76**	**110**	P	**P**	**22 15 10.6**	**+0.3**
	comp=Z,11nm,0.7s,mb5.0,baz=200,slow=11,SNR=3.6						
OPO	**Ambohidratompo**	**58.85**	**254**	P	**P**	**22 15 19.7**	**+1.8**
	comp=Z,2.1nm,0.8s,mb4.2,baz=2.0,slow=5.7,SNR=5.7						
MKAR	**Makanchi Array**	**60.58**	**340**	P	**P**	**22 15 29.5**	**-0.4**
	comp=Z,16nm,0.7s,mb5.2,baz=134,slow=6.9,SNR=116						
MKAR	**Makanchi Array**	**60.58**	**340**	⇑*e*P	**P**	**22 15 29.5**	**-0.4**
TLY	**Talaya**	**61.24**	**357**	⇓*i*P	**P**	**22 15 34.9**	**+0.5**
IRK	**Irkutsk**	**61.78**	**358**	*e*P	**P**	**22 15 38.3**	**+0.3**
IRK				pmax	pmax		
	comp=Z,28nm,2.4s,mb5.0						
KLR	**Kul'dur**	**62.48**	**18**	*e*P	**P**	**22 15 38.0**	**-4.7**
HABR	**Khabarovsk**	**62.87**	**20**	*e*P	**P**	**22 15 45.0**	**-0.3**
HABR				S	**S**	**22 24 13.4**	**+1.2**
HABR				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.3						
YSS	**Yuzh-Sakhalins**	**64.62**	**26**	*d*P	**P**	**22 15 56.3**	**-0.5**
YSS				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.3						
YSS	**Yuzh-Sakhalins**	**64.62**	**26**	*e*P	**P**	**22 15 56.4**	**-0.4**
	comp=Z,20nm,0.9s,mb5.2						
MAW	**Mawson**	**64.90**	**197**	P	**P**	**22 15 59.0**	**+0.4**
	comp=Z,2.8nm,0.7s,mb4.4,baz=43,slow=6.7,SNR=12						
MAW				LR	LR	22 40 10.4	
	comp=Z,110nm,18.1s,MS4.1,baz=247,slow=32						
KURK	**Kurchatov**	**65.19**	**340**	⇑P	**P**	**22 16 00.9**	**+0.4**
	SNR=7.5						
KURK	**Kurchatov**	**65.19**	**340**	⇓*i*P	**P**	**22 16 00.3**	**-0.2**
KURK	**Kurchatov**	**65.19**	**340**	*e*P	**P**	**22 15 60.0**	**-0.6**
	comp=Z,19nm,0.9s,mb5.1						
BOD	**Bodaibo**	**67.52**	**4**	*e*P	**P**	**22 16 14.5**	**-0.9**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
RDF	**Al-Radifah**	**69.33**	**306**	*e*P	**P**	**22 16 25.5**	**-1.3**
RDF				AMb	AMB	22 16 27.3	
	comp=Z,21nm,0.6s,mb5.3						
UMR	**Umm Al-Rimmam**	**69.46**	**307**	*e*P	**P**	**22 16 26.1**	**-1.4**
UMR				AMb	AMB	22 16 28.2	
	comp=Z,23nm,0.7s,mb5.2						
NAY	**Al-Naaiem**	**69.71**	**306**	*e*P	**P**	**22 16 28.3**	**-0.8**
NAY				AMb	AMB	22 16 31.5	
	comp=Z,7.5nm,1.0s,mb4.6						
RST	**Umm Al-Ruwaisa**	**70.01**	**306**	*e*P	**P**	**22 16 29.8**	**-1.1**
RST				AMb	AMB	22 16 31.2	
	comp=Z,23nm,0.8s,mb5.2						
BVAR	**Borovoye Array**	**70.03**	**337**	P	**P**	**22 16 30.8**	**-0.2**
	comp=Z,5.8nm,0.6s,mb4.7,baz=143,slow=8.6,SNR=30						
BRVK	**Borovoye**	**70.09**	**337**	*e*P	**P**	**22 16 30.5**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BRVK	**Borovoye**	**70.09**	**337**	*e*P	**P**	**22 16 30.5**	**-0.9**
	comp=Z,2.7nm,0.7s,mb4.3						
KMBO	**Kilima Mbogo**	**70.27**	**272**	P	**P**	**22 16 33.1**	**+0.6**
	comp=Z,2.5nm,0.9s,mb4.1,baz=76,slow=9.1,SNR=6.5						
KMBO	**Kilima Mbogo**	**70.27**	**272**	⇑*e*P	**P**	**22 16 33.5**	**+1.0**
CHKZ	**Chkalovo**	**70.45**	**338**	*e*P	**P**	**22 16 33.4**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
CHKZ	**Chkalovo**	**70.45**	**338**	*e*P	**P**	**22 16 33.4**	**-0.2**
	comp=Z,8.9nm,0.8s,mb4.8						
ZRNK	**Zerenda**	**70.51**	**336**	*e*P	**P**	**22 16 33.7**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**70.51**	**336**	*e*P	**P**	**22 16 33.7**	**-0.3**
	comp=Z,4.6nm,0.6s,mb4.6						
VNDA	**Vanda**	**73.23**	**169**	P	**P**	**22 16 50.0**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=305,slow=9.1,SNR=3.8						
YAK	**Yakutsk**	**73.61**	**11**	*d*P	**P**	**22 16 51.7**	**-0.9**
YAK				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.1						
AKTK	**Aktyubinsk**	**73.67**	**330**	P	**P**	**22 16 52.4**	**-0.5**
AKTO	**Aktyubinsk**	**73.67**	**330**	P	**P**	**22 16 52.4**	**-0.5**
	comp=Z,2.6nm,0.7s,mb4.2,baz=101,slow=21,SNR=10						
PET	**Petropavlovsk**	**76.16**	**29**	⇑*e*P	**P**	**22 17 07.1**	**-0.2**
PET				pmax	pmax		
	comp=Z,28nm,1.6s,mb4.9						
ARU	**Arti**	**77.25**	**335**	⇓*i*P	**P**	**22 17 13.2**	**-0.2**
ARU				*e*		22 17 20.3	
ARU				*e*		22 20 08.0	
ARU				*e*S	S	22 27 02.8	+2.4
ARU				*e*SS	SS	22 32 02.7	+4.0
ARU				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.1						
BOSA	**Boshof**	**78.58**	**243**	P	**P**	**22 17 21.8**	**+1.0**
	comp=Z,2.4nm,0.7s,mb4.2,baz=92,slow=9.8,SNR=5.0						
BOSA				LR	LR	22 44 34.0	
	comp=Z,116nm,21.0s,MS4.2,baz=286,slow=30						
ASF	**Jabal al Asfar**	**79.06**	**305**	P	**P**	**22 17 24.8**	**+1.4**
	comp=Z,4.7nm,0.7s,mb4.5,baz=25,slow=3.6,SNR=11						
MALT	**Malatya**	**79.96**	**312**	⇑*i*P	**P**	**22 17 29.4**	**+1.1**
MALT	**Malatya**	**79.96**	**312**	⇑P	**P**	**22 17 29.4**	**+1.0**
ANN	**Anapa**	**82.98**	**318**	*e*P	**P**	**22 17 26.6**	**-18**
ANN				pmax	pmax		
	comp=Z,72nm,1.0s,mb5.7						
BR131	**Keskin Array S**	**83.95**	**312**	*e*P	**P**	**22 17 49.4**	**+0.1**
	comp=Z,2.0nm,0.7s,mb4.4						
BRTR	**Keskin Array B**	**83.95**	**312**	P	**P**	**22 17 49.1**	**-0.2**
	comp=Z,2.4nm,0.7s,mb4.4,baz=141,slow=6.0,SNR=15						
BRTR	**Keskin Array B**	**83.95**	**312**	*e*P	**P**	**22 17 49.5**	**+0.2**
SNAA	**Sanae**	**87.06**	**197**	*e*P	**P**	**22 18 03.9**	**-0.9**
SNAA				*e*		22 18 06.1	
SNAA				*e*	pP	22 18 14.3	-2.4
SNAA				*e*		22 18 18.8	
OBN	**Obninsk**	**87.23**	**327**	*c*e*P	**P**	**22 18 04.9**	**-0.7**
OBN				*e*SS	PP	22 21 26.1	-3.7
OBN				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.3						
KLMR	**Klimovskoe**	**87.99**	**333**	*e*P	**P**	**22 18 08.3**	**-0.9**
KLMR				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.5						
VNA1	**Neumayer--Stat**	**89.09**	**197**	*e*P	**P**	**22 18 13.9**	**-0.5**
VNA1				*e*		22 18 15.4	
VNA1				*e*	pP	22 18 25.4	-0.9
VNA1				*e*	pP	22 18 28.3	+2.0
CFR	**Carcaliu**	**89.38**	**316**	⇓*i*P	**P**	**22 18 17.1**	**+1.3**
CFR	**Carcaliu**	**89.38**	**316**	⇓P	**P**	**22 18 17.1**	**+1.3**
AKASG	**Malin Array Be**	**90.08**	**322**	PP	PP	22 21 49.1	-3.5
	comp=Z,0.2nm,0.4s,baz=91,slow=6.4,SNR=5.0						
MLR	**Muntele Rosu**	**90.95**	**316**	P	**P**	**22 18 23.5**	**+0.4**
	comp=Z,2.5nm,0.5s,mb4.8,baz=279,slow=1.1,SNR=8.0						
MLR	**Muntele Rosu**	**90.95**	**316**	⇓*i*P	**P**	**22 18 24.5**	**+1.4**
MLR	**Muntele Rosu**	**90.95**	**316**	⇓P	**P**	**22 18 24.5**	**+1.4**
BURAR	**Bucovina Array**	**91.90**	**318**	⇓*i*P	**P**	**22 18 29.2**	**+1.7**
BURAR	**Bucovina Array**	**91.90**	**318**	⇓P	**P**	**22 18 29.2**	**+1.7**
BZS	**Buzias**	**93.96**	**315**	⇑*i*P	**P**	**22 18 35.0**	**-2.0**
BZS	**Buzias**	**93.96**	**315**	⇑P	**P**	**22 18 35.0**	**-2.0**
FINES	**FINESS Array B**	**94.36**	**332**	P	**P**	**22 18 38.2**	**-0.7**
	comp=Z,1.1nm,0.9s,mb4.3,baz=116,slow=4.4,SNR=4.0						
FINES				LR	LR	23 09 17.2	
	comp=Z,68nm,19.7s,MS4.1,baz=59,slow=41						
FINES	**FINESS Array B**	**94.36**	**332**	*i* P	**P**	**22 18 38.7**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	**FINESS Array B**	**94.36**	**332**	P	**P**	**22 18 38.2**	**-0.7**
FINES				LR	LR	23 09 17.2	
ARCES	**ARCESS Array B**	**96.22**	**339**	LR	LR	23 05 50.5	
	comp=Z,67nm,20.4s,MS4.1,baz=20,slow=

SNR=5.4
TKM2 Tokmak 2 6.67 31 P **Pn 22 13 49.2 +0.2**
SNR=16

*IDC **22** 22:14:23.1±1.0, 665S×13172E, h0km, mb4.4/3, mb1 4.6/7, mb1mx4.4/12, mbtmp4.6/7, ML4.7/5, Error ellipse: s-maj=35.7km s-min=18.0km az=72.0*
*ISCJB **22** 22:14:25.2±0.6, 672S±006×13184E±009, h33km, mb4.2/6, Error ellipse: s-maj=13.3km s-min=7.6km az=143.2*
*NEIC **22** 22:14:27.4±0.7, 667S×13186E, h35km, mb4.5/6, Error ellipse: s-maj=17.4km s-min=10.3km az=62.0*
ISC 22 22:14:27.6±0.6, 670S±006×13189E±009, h35km, n22, σ1s09/32, mb4.2/6, 1C-1D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.00**	**175**	⇓*i*P	**Pn**	**22 15 57.4**	**+3.5**
	43nm,0.3s						
KAKA				*e*S	**Sn**	22 17 01.1	-0.2
FITZ	**Fitzroy Crossi**	**12.87**	**208**	*e*P	**Pn**	**22 17 28.4**	**+0.4**
	5.6nm,0.2s						
FITZ				*e*		22 17 30.5	
FITZ				*e*S	**Sn**	**22 19 42.5**	**-7.5**
FITZ	**Fitzroy Crossi**	**12.87**	**208**	Pn	**Pn**	**22 17 27.5**	**-0.5**
	22nm,0.3s,baz=37,slow=12,SNR=293						
FITZ				Sn	**Sn**	**22 19 42.4**	**-7.6**
	14nm,0.3s,baz=192,slow=14,SNR=16						
WRAB	**Tennant Creek**	**13.37**	**170**	*e*Pn	**Pn**	**22 17 34.0**	**-0.8**
	22nm,0.4s						
WRAB				*e*Sn	**Sn**	**22 19 55.3**	**-6.9**
WRA	**Warramunga Arr**	**13.38**	**170**	Pn	**Pn**	**22 17 33.9**	**-1.0**
	4.8nm,0.3s,baz=348,slow=14,SNR=98						
WRA				Sn	**Sn**	**22 19 53.8**	**-8.5**
	14nm,0.3s,baz=349,slow=24,SNR=11						
WB2	**Warramunga Arr**	**13.38**	**170**	⇑*i*P	**Pn**	**22 17 33.9**	**-1.1**
WB2				*e*S	**Sn**	**22 19 53.7**	**-8.7**
PMG	**Port Moresby**	**15.35**	**101**	Pn	**Pn**	**22 18 01.9**	**+0.4**
	1.6nm,0.3s,baz=170,slow=4.3,SNR=3.8						
PMG				Sn	**Sn**	**22 20 38.3**	**-12**
	1.6nm,0.3s,baz=202,slow=20,SNR=3.4						
ASAR	**Alice Springs**	**16.98**	**174**	P	**Pn**	**22 18 21.6**	**-0.8**
	2.6nm,0.3s,baz=353,slow=14,SNR=54						
ASAR				S	**S**	**22 21 19.2**	**-20**
	3.9nm,0.3s,baz=358,slow=28,SNR=14						
ASPA	**Alice Springs**	**16.98**	**174**	*e*P	**Pn**	**22 18 22.0**	**-0.4**
ASPA				*e*S	**S**	**22 21 20.7**	**-18**
MBWA	**Marble Bar**	**18.58**	**218**	*e*P	**Pn**	**22 18 42.7**	**+0.7**
	15nm,0.6s						
MBWA				*e*S	**S**	**22 21 58.1**	**-13**
CTA	**Charters Tower**	**19.27**	**135**	*e*P	**Pn**	**22 18 51.8**	**+1.4**
	12nm,0.6s						
CTA	**Charters Tower**	**19.27**	**135**	P	**Pn**	**22 18 51.8**	**+1.4**
	1.4nm,0.3s,baz=316,slow=13,SNR=11						
CTAO	**Charters Tower**	**19.27**	**135**	*e*P	**Pn**	**22 18 51.3**	**+1.0**
	44nm,1.1s						
KKM	**Kota Kinabalu**	**20.12**	**309**	*e*P	**P**	**22 18 59.1**	**+0.7**
STKA	**Stephens Creek**	**26.64**	**161**	*e*P	**P**	**22 20 03.7**	**+0.8**
	2.8nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**26.64**	**161**	P	**P**	**22 20 03.9**	**+1.0**
	1.9nm,0.3s,mb4.0,baz=350,slow=11,SNR=8.0						
KLBR	**Kellerberrin**	**28.07**	**206**	*e*P	**P**	**22 20 17.3**	**+1.6**
	28nm,1.2s,mb4.8						
NWAO	**Narrogin (SRO)**	**29.44**	**206**	P	**P**	**22 20 29.9**	**+2.0**
	3.1nm,0.6s,mb4.2,baz=23,slow=9.9,SNR=6.3						
NACB	**Ninganchiao**	**32.28**	**342**	*e*P	**P**	**22 20 50.4**	**-2.5**
PALK	**Pallekele**	**52.91**	**284**	P	**P**	**22 23 38.9**	**-1.2**
	9.3nm,1.1s,mb4.6						
SONM	**Songino Array**	**58.77**	**340**	P	**P**	**22 24 22.2**	**+0.1**
	0.4nm,0.8s,mb3.5,baz=156,slow=7.6,SNR=3.1						
MKAR	**Makanchi Array**	**69.02**	**326**	P	**P**	**22 25 29.7**	**+0.2**
	0.7nm,0.5s,mb3.9,baz=110,slow=8.0,SNR=20						

CASC 22 22:18:12.1±2.6, 1506N×8974W, h0km±24km, MD3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**1.12**	**219**	*e*P	Pg	22 18 31.2	-2.3
RTR	**El Retiro**	**1.15**	**176**	*e*P	x	22 19 02.9	
RTR				*e*S	x	22 19 20.7	
SNJE	**San Jose**	**1.19**	**174**	*e*P	x	22 19 03.4	
SNJE				*e*S	x	22 19 21.4	
SBLS	**San Blas**	**1.21**	**175**	*e*P	x	22 19 03.1	
SBLS				*e*S	x	22 19 21.0	
TP2	**Tecpan 2**	**1.27**	**258**	*e*P	Pg	22 18 37.6	+1.1
TP2				*e*S	Sg	22 18 55.9	+2.9
LFRS	**El Faro**	**1.57**	**155**	*e*P	x	22 19 10.7	
LFRS				*e*S	x	22 19 33.6	

*NIED **22** 23:01:00, 3370N×135.10E, h38km, Mw3.6 Best double couple: M○2.68000×10^14 NP1:φs249.00000°, δ76.00000°, λ36.00000°. NP2:φs149.00000°, δ55.00000°, λ163.00000°.*
JMA 22 23:01:36.7, 3374N×13511E, h43km±1km, M3.5, 4C-2D Broadband fault plane solution: P waves. NP1: φs258.00000°, δ66.00000°, λ10.00000°. **NP2:** φs164.00000°, δ81.00000°, λ155.00000°. **Principal axes:** T Plg24.0000°, Azm118.0000°; N Plg64.0000°, Azm324.0000°; P Plg10.0000°, Azm213.0000°; **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWM	**Minabe**	**0.23**	**62**	⇓P	Pn	23 01 44.6	+0.1
JWM				*e*S	Sn	23 01 50.0	0.0
JWZ	**Kozaga**	**0.55**	**112**	⇑P	Pn	23 01 47.9	-0.2
JWZ				S	Sn	23 01 56.1	-0.2
JAI	**Aioi**	**0.55**	**276**	⇑P	Pn	23 01 48.2	0.0
JAI				S	Sn	23 01 56.1	-0.3
JWY	**Kouya**	**0.62**	**40**	⇓P	Pn	23 01 49.3	+0.1
JWY				S	Sn	23 01 58.0	-0.1
JAJ2	**Tsuna**	**0.70**	**345**	⇑P	Pn	23 01 50.5	+0.3
JAJ2				S	Sn	23 01 59.9	-0.1
JMN	**Monobe**	**1.03**	**270**	⇑P	Pn	23 01 54.4	-0.2
JMN				S	Sn	23 02 07.1	-0.7
MAT	**Matsushiro**	**3.78**	**41**	P	Pn	23 02 33.5	+1.1
MAT				*e*S	Sn	23 03 18.3	+2.8

*CSEM **22** 23:20:32.4±0.4, 37.14N×143.7W, h0km±1km, ML3.5/3 Error ellipse: s-maj=8.4km s-min=6.3km az=179.0*
*NEIC **22** 23:20:36.3±1.8, 37.10N×143.0W, h10km, MG3.6(MDD), Error ellipse: s-maj=208.0km s-min=18.6km az=60.0*
*MDD **22** 23:20:41.8±2.8, 3723N×1383W, h0km, mb3.9/7, Error ellipse: s-maj=26.1km s-min=20.8km az=39.0, PRXIMO*
*INMG **22** 23:20:42.7±0.8, 3695N×1423W, h10km, ML2.1, Error ellipse: s-maj=7.3km s-min=2.1km az=127.0*
*ISCJB **22** 23:20:45.3±0.7, 3751N±005×1343W±006, h10km, Error ellipse: s-maj=9.0km s-min=5.3km az=100.8*
ISC 22 23:20:47.5±0.8, 3754N±005×1342W±006, h10km, n33, σ1s20/54, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**3.73**	**88**	*e*Pn	**Pn**	**23 21 44.1**	**-1.1**
PTEO				*e*Sn	**Sn**	**23 22 29.6**	**+0.4**
MOE	**Montemor**	**4.12**	**75**	*e*Sg	**Sb**	**23 22 51.5**	**+1.5**
PBEJ	**Beja**	**4.42**	**82**	*e*Pn	**Pn**	**23 21 54.0**	**-0.7**
PBEJ				*e*Sn	**Sn**	**23 22 47.4**	**+1.1**
PBEJ							
	1.2nm,0.1s						
PBEJ	**Beja**	**4.42**	**82**	*e*Pn	**Pn**	**23 21 54.0**	**-0.7**
PBEJ				*e*Sn	**Sn**	**23 22 47.4**	**+1.1**
	1.2nm,0.1s						
PTOM	**Tomar**	**4.44**	**61**	*e*Pn	**Pn**	**23 21 55.5**	**+0.6**
PTOM				*e*Sn	**Sn**	**23 22 50.4**	**+3.7**
PTOM							
	2.8nm,0.1s						
PTOM	**Tomar**	**4.44**	**61**	*e*Pn	**Pn**	**23 21 55.5**	**+0.6**
PTOM				*e*Sn	**Sn**	**23 22 50.4**	**+3.7**
	2.8nm,0.1s						
EGRO	**El Granado**	**4.72**	**88**	P	**Pn**	**23 21 58.5**	**-0.3**
	0.7nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**23 22 51.9**	**-1.6**
	0.9nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.72**	**88**	P	**Pn**	**23 21 58.0**	**-0.8**
EGRO				S	**Sn**	**23 22 51.9**	**-1.6**
EGRO	**El Granado**	**4.72**	**88**	P	**Pn**	**23 21 58.0**	**-0.7**
PESTR	**Estremoz**	**4.78**	**72**	*e*Pn	**Pn**	**23 21 59.4**	**-0.2**
PESTR				*e*Sn	**Sn**	**23 22 57.4**	**+2.4**
PMPS	**Porto Santo**	**5.07**	**209**	*e*Sn	**Pg**	**23 22 25.2**	**+0.6**
PMPS							
	7.2nm,0.2s						
PMPS	**Porto Santo**	**5.07**	**209**	*e*Sn	**Pg**	**23 22 25.2**	**+0.6**
	7.2nm,0.2s						
PCBR	**Castelo Branco**	**5.19**	**62**	*e*Pn	**Pn**	**23 22 06.3**	**+1.1**
PCBR				*e*Sn	**Sn**	**23 23 08.3**	**+3.3**
EBAD	**Badajoz**	**5.19**	**74**	P	**Pn**	**23 22 04.6**	**-0.7**
	0.7nm,0.1s,SNR=6.0						
EBAD				S	**Sn**	**23 23 05.1**	**-0.1**
	2.7nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.19**	**74**	P	**Pn**	**23 22 05.0**	**-0.3**
EBAD				S	**Sn**	**23 23 05.1**	**-0.1**
EBAD	**Badajoz**	**5.19**	**74**	P	**Pn**	**23 22 05.0**	**-0.3**
	0.7nm,0.1s,SNR=6.0						
PVIS	**Viseu**	**5.34**	**52**	*e*Sn	**Sn**	**23 23 12.9**	**+4.1**
EMIN	**Mina Concepcio**	**5.36**	**85**	P	**Pn**	**23 22 06.9**	**-0.6**
	0.4nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**23 23 07.7**	**-1.6**
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.36**	**85**	P	**Pn**	**23 22 06.2**	**-1.4**
EMIN				S	**Sn**	**23 23 07.7**	**-1.6**
EMIN	**Mina Concepcio**	**5.36**	**85**	P	**Pn**	**23 22 06.9**	**-0.6**
	0.4nm,0.1s,SNR=7.9						
PMAR	**Madeira**	**5.59**	**212**	*e*Sn	**Pg**	**23 22 38.2**	**+3.6**
PCAB	**Cabril**	**5.89**	**43**	*e*Pn	**Pn**	**23 22 15.4**	**+0.6**
PCAB				*e*Sn	**Sn**	**23 23 25.4**	**+3.0**
PCAB							
	1.5nm,0.1s						
ELOB	**Lobios**	**5.98**	**42**	P	**Pn**	**23 22 16.2**	**+0.1**
	0.3nm,0.0s,SNR=7.9						
ELOB				S	**Sn**	**23 23 24.3**	**-0.3**
	0.5nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.38**	**31**	P	**Pn**	**23 22 20.5**	**-1.1**
	0.7nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**23 23 32.6**	**-2.0**
	0.4nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.38**	**31**	P	**Pn**	**23 22 20.5**	**-1.1**
EMAZ				S	**Sn**	**23 23 32.1**	**-2.5**
EMAZ	**Mazaricos**	**6.38**	**31**	P	**Pn**	**23 22 20.5**	**-1.1**
	0.7nm,0.1s,SNR=7.9						
PBRG	**Bragança**	**6.68**	**48**	*e*Pn	**Pn**	**23 22 26.4**	**+0.6**
ECAL	**Calabor**	**6.77**	**47**	P	**Pn**	**23 22 27.0**	**0.0**
	0.6nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**23 23 44.6**	**+0.5**
	0.5nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.77**	**47**	P	**Pn**	**23 22 26.8**	**-0.1**
ECAL				S	**Sn**	**23 23 42.7**	**-1.4**
ECAL	**Calabor**	**6.77**	**47**	P	**Pn**	**23 22 27.0**	**+0.1**
	0.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.02**	**82**	P	**Pn**	**23 22 29.9**	**-0.6**
	0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**23 23 50.4**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**7.02**	**82**	P	**Pn**	**23 22 29.9**	**-0.6**
EADA				S	**Sn**	**23 23 47.3**	**-3.0**
EADA	**Adamuz**	**7.02**	**82**	P	**Pn**	**23 22 29.9**	**-0.5**
	0.4nm,0.1s,SNR=7.9						

*ISCJB **22** 23:39:58.7±0.3, 1821N±005×6624W±003, h131km±2km, mb3.8/14, Error ellipse: s-maj=8.7km s-min=5.0km az=8.6*
*IDC **22** 23:39:59.2±0.5, 1810N×6622W, h122km±3km, mb3.6/14, mb1 3.8/14, mb1mx3.7/20, mbtmp4.0/14, MS2.6/1, Ms1 2.6/1, ms1mx2.3/21, Error ellipse: s-maj=18.4km s-min=11.8km az=89.0*
*RSPR **22** 23:40:00.9, 1838N×6621W, h116km, MD3.8/16, MD3.8/16*
*NEIC **22** 23:40:00.9, 1838N×6621W, h116km, MD3.8(RSPR), After RSPR.*
NEIC Felt [IV] at Humacao. Also felt at Guaynabo, Ponce, San Juan and Utuado.
ISC 22 23:39:59.8±0.3, 1822N±005×6625W±003, h125km±2km, n54, σ0s89/72, mb3.9/14, 9C-15D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**0.15**	**140**	⇑*e*P	**Pn**	**23 40 16.7**	**-0.1**
SJG	**San Juan**	**0.15**	**140**	*e*S	**Sn**	**23 40 29.1**	**-0.6**
SJG	**San Juan**	**0.15**	**140**	P	**Pn**	**23 40 16.8**	**0.0**
	508nm,0.3s,baz=328,slow=5.2,SNR=305						
SJG				S	**Sn**	**23 40 29.3**	**-0.4**
	578nm,0.3s,baz=235,slow=23,SNR=29						
SJG	**San Juan**	**0.15**	**140**	⇑*e*P	**Pn**	**23 40 16.7**	**-0.1**
SJG				*e*S	**Sn**	**23 40 29.1**	**-0.6**
CELP	**Cerrillos**	**0.35**	**245**	⇓*i*P	**Pn**	**23 40 18.0**	**+0.6**
CPD	**Cerro la Pandu**	**0.37**	**120**	⇓*e*P	**Pn**	**23 40 17.9**	**+0.4**
CPD				*e*S	**Sn**	**23 40 30.8**	**-0.1**
CBYP	**Canovanas**	**0.38**	**83**	⇓*e*P	**Pn**	**23 40 17.2**	**-0.4**
CBYP				*e*S	**Sn**	**23 40 30.5**	**-0.5**
OBIP	**Obispado Ponce**	**0.38**	**242**	⇓*i*P	**Pn**	**23 40 18.3**	**+0.6**
OBIP				*e*S	**Sn**	**23 40 31.3**	**+0.2**
HUMP	**Col San Antoni**	**0.39**	**102**	⇓*e*P	**Pn**	**23 40 17.8**	**+0.1**
HUMP				*e*S	**Sn**	**23 40 30.7**	**-0.5**
ICM	**Isla Caja Muer**	**0.42**	**218**	⇓*e*P	**Pn**	**23 40 18.4**	**+0.6**
ICM				*e*S	**Sn**	**23 40 31.6**	**+0.2**
AOPR	**Arecibo Observ**	**0.49**	**284**	⇓*e*P	**Pn**	**23 40 18.1**	**-0.1**
AOPR				*e*S	**Sn**	**23 40 31.8**	**-0.3**
LRS	**Lares**	**0.57**	**277**	⇓*i*P	**Pn**	**23 40 18.8**	**+0.1**
MTP	**Monte Pirata**	**0.67**	**101**	⇑*e*P	**Pn**	**23 40 19.6**	**+0.2**
MTP				*e*S	**Sn**	**23 40 34.1**	**-0.1**
LSP	**Las Mesas**	**0.80**	**267**	⇑*e*P	**Pn**	**23 40 21.0**	**+0.7**
MGP	**Maguayo**	**0.83**	**255**	⇓*i*P	**Pn**	**23 40 21.5**	**+0.9**
CRPR	**Cabo Rojo, PR**	**0.85**	**255**	⇑*e*P	**Pn**	**23 40 21.7**	**+0.9**
CRPR				*e*S	**Sn**	**23 40 37.1**	**+0.4**
MPR	**Mayaguez**	**0.85**	**269**	⇑*e*P	**Pn**	**23 40 22.1**	**+1.3**
CULB	**Culebra**	**0.88**	**84**	⇑*e*P	**Pn**	**23 40 20.8**	**-0.3**
CULB	**Culebra**	**0.88**	**84**	*e*S	**Sn**	**23 40 36.0**	**-1.2**
STVI	**Sint Thomas**	**1.23**	**84**	⇑*e*P	**Pn**	**23 40 23.9**	**-0.6**
STVI				*e*S	**Sn**	**23 40 42.5**	**-0.8**
STAT	**Sint Eustatius**	**3.20**	**103**	*e*P	**Pn**	**23 40 51.2**	**+2.4**
STAT				*e*S	**Sn**	**23 41 13.8**	**-13**
CDVI	**St. Croix**	**1.49**	**108**	⇑*e*P	**Pn**	**23 40 26.7**	**-0.7**
CDVI				*e*S	**Sn**	**23 40 47.8**	**-0.5**
SABT	**Saba**	**2.92**	**101**	*e*P	**Pn**	**23 40 45.4**	**+0.1**
SABT				*e*S	**Sn**	**23 41 12.9**	**-7.3**
STMA	**St. Maarten, A**	**2.99**	**93**	*e*P	**Pn**	**23 40 46.1**	**0.0**
STMA				*e*S	**Sn**	**23 41 17.5**	**-4.3**
STAT	**Sint Eustatius**	**3.20**	**103**	*e*P	**Pn**	**23 40 51.2**	**+2.4**
STAT				*e*S	**Sn**	**23 41 13.8**	**-13**
LZG	**Guadaloupe-1**	**4.75**	**115**	⇓*i*P	**Pn**	**23 41 09.7**	**+0.3**
SEG	**Port Louis**	**4.88**	**111**	⇓*e*P	**Pn**	**23 41 11.7**	**+0.5**
SCG	**Saint Claude**	**4.88**	**116**	⇓*e*P	**Pn**	**23 41 11.4**	**+0.2**
HMG	**Houelmont**	**4.89**	**116**	⇓*e*P	**Pn**	**23 41 11.5**	**+0.2**
TBG	**Guadaloupe-3**	**5.00**	**117**	⇓*e*P	**Pn**	**23 41 12.7**	**0.0**
MGG	**Marie-Galante**	**5.25**	**115**	⇓*e*P	**Pn**	**23 41 16.8**	**+0.8**
MASC	**Masc**	**7.79**	**286**	*e*P	**Pn**	**23 41 47.9**	**-2.5**
MASC				*e*S	**Sn**	**23 43 10.6**	**-6.3**
	comp=N,1μm,0.2s						
MASC				*e*			
	comp=E,2μm,0.3s						
PCRV	**Puerto La Cruz**	**8.15**	**169**	P	**Pn**	**23 41 57.8**	**+2.5**
	comp=E,0.8nm,0.3s,baz=315,slow=1.4,SNR=3.4						
MOAC	**Moa**	**8.57**	**288**	*e*P	**Pn**	**23 41 56.3**	**-4.6**
MOAC				*e*S	**Sn**	**23 43 26.1**	**-10**
	comp=N,5.0nm,0.5s						
MOAC				*e*			
	comp=E,4.8nm,0.5s						
RCC	**Rio Carpintero**	**9.10**	**283**	*e*P	**Pn**	**23 42 04.6**	**-3.5**
RCC				*e*S	**Sn**	**23 43 40.5**	**-8.2**
	comp=N,12nm,0.6s						
RCC				*e*			
	comp=E,20nm,0.5s						
HLGC	**Holguin**	**9.62**	**288**	*e*P	**Pn**	**23 42 12.7**	**-2.4**
HLGC				*e*S	**Sn**	**23 43 46.5**	**-15**
	comp=N,5.0nm,0.4s						
HLGC				*e*			
	comp=E,5.8nm,0.4s						
SDV	**Santo Domingo**	**10.21**	**205**	P	**Pn**	**23 42 27.2**	**+4.2**
	comp=E,0.5nm,0.3s,baz=55,slow=12,SNR=5.6						
SDV				S	**Sn**	**23 44 13.8**	**-1.8**
	comp=E,0.9nm,0.3s,baz=37,slow=18,SNR=2.7						
SDV				LR	LR	23 46 30.9	
	comp=E,31nm,19.1s,baz=191,slow=39						
ROSC	**El Rosal**	**15.46**	**212**	P	**Pn**	**23 43 35.6**	**+4.6**
	comp=E,1.7nm,0.3s,baz=82,slow=22,SNR=6.3						
LPAZ	**La Paz**	**34.34**	**183**	P	**P**	**23 46 34.5**	**0.0**
	comp=E,4.1nm,0.8s,mb4.3,baz=355,slow=7.0,SNR=13						
SCHQ	**Schefferville**	**36.54**	**359**	P	**P**	**23 46 53.7**	**+0.4**
	comp=E,1.3nm,0.5s,mb4.2,baz=251,slow=13,SNR=6.3						
BDFB	**Brasilia**	**38.15**	**151**	P	**P**	**23 47 06.8**	**-0.1**
	comp=E,4.3nm,0.7s,mb4.4,baz=302,slow=8.1,SNR=7.4						
ULM	**Lac du Bonnet**	**39.76**	**330**	P	**P**	**23 47 20.4**	**+0.2**
	comp=E,0.8nm,0.4s,mb3.9,baz=72,slow=7.0,SNR=3.2						
PDAR	**Pinedale Array**	**43.98**	**313**	P	**P**	**23 47 55.8**	**+1.3**
	comp=E,0.2nm,0.3s,mb3.3,baz=98,slow=13,SNR=3.1						
PDAR				PcP	PcP	23 49 37.6	-0.4
	comp=E,0.8nm,0.6s,baz=106,slow=4.3,SNR=7.1						
CPUP	**Villa Florida**	**45.13**	**169**	P	**P**	**23 48 01.5**	**-2.2**
	comp=E,4.4nm,0.5s,mb4.4,baz=336,slow=8.2,SNR=28						
YKA	**Yellowknife Ar**	**55.35**	**335**	P	**P**	**23 49 20.5**	**-0.2**
	comp=E,1.4nm,0.6s,mb4.2,baz=116,slow=7.4,SNR=5.5						
ESDC	**Sonseca Array**	**57.40**	**54**	P	**P**	**23 49 35.9**	**+0.7**
	comp=E,0.8nm,0.6s,mb4.0,baz=270,slow=6.8,SNR=13						
PLCA	**Paso Flores**	**58.79**	**184**	P	**P**	**23 49 43.5**	**-1.4**
	comp=E,0.9nm,0.5s,mb4.1,baz=17,slow=6.6,SNR=5.4						
TORD	**Torodi Ar. Bea**	**65.30**	**84**	P	**P**	**23 50 28.0**	**-0.3**
	comp=E,1.0nm,0.8s,mb3.7,baz=295,slow=6.7,SNR=7.0						
NB2	**NORSAR Subarra**	**68.16**	**31**	P	**P**	**23 50 47.1**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.5,baz=268,slow=6.5						
NOA	**NORSAR Array B**	**68.16**	**31**	P	**P**	**23 50 47.4**	**+0.9**
	comp=Z,0.7nm,0.7s,mb3.6,baz=268,slow=6.4,SNR=5.9						
GERES	**GERESS Array B**	**69.94**	**44**	P	**P**	**23 50 56.9**	**-0.6**
	comp=Z,0.2nm,0.6s,mb3.2,baz=260,slow=5.3,SNR=3.9						
ARCES	**ARCESS Array B**	**73.70**	**21**	P	**P**	**23 51 19.9**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.0,baz=303,slow=5.3,SNR=7.8						
FINES	**FINESS Array B**	**75.28**	**30**	P	**P**	**23 51 29.4**	**+0.3**
	comp=Z,0.5nm,0.3s,mb3.7,baz=272,slow=4.9,SNR=13						
STKA	**Stephens Creek**	**151.44**	**236**	PKPbc	PKPbc	23 59 39.0	+0.1
	comp=Z,6.0nm,0.8s,baz=83,slow=3.3,SNR=11						
ASAR	**Alice Springs**	**160.42**	**251**	PKP	PKPdf	23 59 44.9	+0.4
	comp=Z,0.4nm,0.7s,baz=98,slow=1.6,SNR=6.3						
ASAR				PKPab	PKPab	00 00 25.9	-0.3
	comp=Z,0.5nm,0.4s,baz=102,slow=4.1,SNR=9.0						

IDC 23 00:34:34.3±9.6, 455S×15323E, h161km±64km, mb3.6/2, mb1 3.9/3, mb1mx3.4/13, mbtmp4.2/3, Error ellipse: s-maj=134.7km s-min=53.7km az=116.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.72**	**231**	P	Pn	00 36 24.0	+0.1
	7.6nm,0.3s,baz=38,slow=9.4,SNR=14						
PMG				S	Sn	00 37 51.2	+1.0
	1.5nm,0.3s,baz=305,slow=18,SNR=2.7						
WRA	**Warramunga Arr**	**23.93**	**229**	P	P	00 39 33.9	+0.4
	4.4nm,0.7s,baz=53,slow=9.7,SNR=21						
WRA				pP	pP	00 40 02.3	-2.7
	1.7nm,0.8s,baz=55,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**25.62**	**223**	P	P	00 39 57.9	+0.2
	1.0nm,0.7s,baz=57,slow=8.9,SNR=10						
TORD	**Torodi Ar. Bea**	**150.64**	**289**	PKPbc	PKPbc	00 54 08.0	+0.9
	0.6nm,0.8s,baz=69,slow=1.4,SNR=11						
TORD				pPKPbc	pPKPbc	00 54 40.9	-8.4
	0.7nm,0.8s,baz=66,slow=2.2,SNR=3.3						

*IDC **23** 00:37:36.0±0.5, 4079S×17358E, h174km±4km, mb4.1/5, mb1 4.3/7, mb1mx4.1/13, mbtmp4.7/7, MS2.7/1, Ms1 2.7/1, ms1mx2.5/19, Error ellipse: s-maj=17.3km s-min=8.8km az=132.0*
*ISCJB **23** 00:37:36.6±0.2, 4063S±003×17322E±005, h179km±3km, mb4.3/17, Error ellipse: s-maj=7.0km s-min=3.4km az=63.8*
*NEIC **23** 00:37:37.9, 4060S×17326E, h180km, mb4.3/15, After WEL.*
NEIC Felt in lower North Island and upper South Island.
*WEL **23** 00:37:38.6±0.2, 4060S×17329E, h173km±1km, ML5.5/24, Error ellipse: s-maj=1.4km s-min=0.9km az=90.0, reported intensity MM 5.*
WEL Felt from Taranaki to Canterbury, and from West Coast to Hawke's Bay, maximum.
ISC 23 00:37:37.5±0.2, 4063S±003×17325E±005, h175km±3km, h179km±2.3km: pP-P, n183, σ0s97/171, mb4.3/17, 32C-33D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.54**	**109**	⇑PN	**Pn**	**00 38 02.9**	**+1.0**
DUWZ				*e*SN	**Sn**	**00 38 20.6**	**0.0**
QRZ	**Quartz Range**	**0.58**	**250**	⇑PN	**Pn**	**00 38 03.0**	**+0.9**
QRZ				SN	**Sn**	**00 38 20.7**	**+0.3**
QRZ	**Quartz Range**	**0.58**	**250**	P	**Pn**	**00 38 03.0**	**+0.9**
QRZ				S	**Sn**	**00 38 20.7**	**+0.3**
NNZ	**Nelson**	**0.59**	**171**	⇑PN	**Pn**	**00 38 03.1**	**+0.9**
NNZ				*e*SN	**Sn**	**00 38 21.2**	**+0.2**
NNZ	**Nelson**	**0.59**	**171**	P	**Pn**	**00 38 03.1**	**+1.0**
NNZ				S	**Sn**	**00 38 21.5**	**+0.4**
TUWZ	**Tuamarina**	**0.95**	**147**	⇑PN	**Pn**	**00 38 05.5**	**+1.2

OTVZ	**Oturere**	**2.37**	**52**	⇓PN		**Pn**	**00 38 18.2**	**-0.1**	
KRVZ	**Karewarewa**	**2.40**	**51**	⇓PN		**Pn**	**00 38 18.2**	**-0.5**	
HIZ	**Hauiti**	**2.45**	**31**	P		**Pn**	**00 38 18.7**	**-0.6**	
KATZ	**Kakaramea**	**2.50**	**49**	⇓PN		**Pn**	**00 38 19.6**	**-0.4**	
KATZ	**Kakaramea**	**2.50**	**49**	P		**Pn**	**00 38 19.6**	**-0.3**	
RITZ	**Rihia Road**	**2.60**	**51**	P		**Pn**	**00 38 20.8**	**-0.3**	
RATZ	**Rangitukua**	**2.62**	**49**	⇓PN		**Pn**	**00 38 21.0**	**-0.3**	
RATZ	**Rangitukua**	**2.62**	**49**	P		**Pn**	**00 38 21.4**	**+0.1**	
WATZ	**Wairara**	**2.71**	**46**	P		**Pn**	**00 38 22.1**	**-0.3**	
HATZ	**Hinemaiaia**	**2.79**	**52**	P		**Pn**	**00 38 22.4**	**-1.0**	
BKZ	**Black Stump Fm**	**2.89**	**61**	P		**Pn**	**00 38 23.7**	**-0.8**	
CRLZ	**Canterbury Las**	**2.98**	**189**	P		**Pn**	**00 38 25.2**	**-0.4**	
WVZ	**Waitaha Valley**	**3.08**	**217**	⇑PN		**Pn**	**00 38 26.5**	**-0.4**	
WVZ	**Waitaha Valley**	**3.08**	**217**	P		**Pn**	**00 38 26.6**	**-0.3**	
MQZ	**McQueen's Vall**	**3.10**	**188**	⇑PN		**Pn**	**00 38 26.0**	**-1.2**	
MQZ	**McQueen's Vall**	**3.10**	**188**	P		**Pn**	**00 38 26.2**	**-1.0**	
PATZ	**Paeroa**	**3.23**	**47**	P		**Pn**	**00 38 28.2**	**-0.6**	
UTU	**Utuhina**	**3.35**	**44**	P		**Pn**	**00 38 29.7**	**-0.5**	
TOZ	**Tahuroa Road**	**3.38**	**32**	⇑PN		**Pn**	**00 38 29.3**	**-1.3**	
TOZ	**Tahuroa Road**	**3.38**	**32**	P		**Pn**	**00 38 29.4**	**-1.2**	
TAZ	**Tarawera**	**3.48**	**47**	P		**Pn**	**00 38 30.9**	**-0.9**	
RPZ	**Rata Peaks**	**3.49**	**207**	P		**Pn**	**00 38 31.3**	**-0.6**	
	129nm,0.3s,baz=301,slow=1.5,SNR=442								
RPZ				S		**Sn**	**00 39 11.6**	**-2.8**	
	694nm,0.3s,baz=157,slow=18,SNR=33								
RPZ	**Rata Peaks**	**3.49**	**207**	⇑PN		**Pn**	**00 38 31.0**	**-0.9**	
RPZ	**Rata Peaks**	**3.49**	**207**	P		**Pn**	**00 38 31.3**	**-0.6**	
EDZ	**Edgecumbe**	**3.69**	**48**	P		**Pn**	**00 38 33.4**	**-1.1**	
TGRZ	**Tauranga**	**3.72**	**40**	⇓PN		**Pn**	**00 38 33.9**	**-1.0**	
TGRZ	**Tauranga**	**3.72**	**40**	P		**Pn**	**00 38 34.0**	**-0.9**	
URZ	**Urewera**	**3.81**	**53**	P		**Pn**	**00 38 33.8**	**-2.2**	
	120nm,0.3s,baz=251,slow=8.2,SNR=579								
URZ				S		**Sn**	**00 39 17.6**	**-4.1**	
	391nm,0.3s,baz=98,slow=22,SNR=34								
URZ				LR		LR	00 39 44.6		
	comp=Z,123nm,21.2s,baz=286,slow=34								
URZ	**Urewera**	**3.81**	**53**	⇓PN		**Pn**	**00 38 33.7**	**-2.3**	
URZ	**Urewera**	**3.81**	**53**	P		**Pn**	**00 38 33.8**	**-2.2**	
MKAZ	**Moumakai**	**3.82**	**24**	⇓PN		**Pn**	**00 38 36.0**	**-0.1**	
MKAZ	**Moumakai**	**3.82**	**24**	P		**Pn**	**00 38 36.1**	**0.0**	
WTAZ	**Waiatarua**	**3.84**	**16**	⇓PN		**Pn**	**00 38 36.8**	**+0.5**	
OTAZ	**Otara**	**3.90**	**20**	⇓PN		**Pn**	**00 38 37.4**	**+0.2**	
OTAZ	**Otara**	**3.90**	**20**	P		**Pn**	**00 38 37.6**	**+0.4**	
FOZ	**Fox Glacier**	**3.95**	**221**	P		**Pn**	**00 38 35.8**	**-2.0**	
KAAZ	**Kauri Point**	**3.97**	**17**	⇓PN		**Pn**	**00 38 38.3**	**+0.3**	
KAAZ	**Kauri Point**	**3.97**	**17**	P		**Pn**	**00 38 38.6**	**+0.6**	
MWZ	**Matawai**	**4.03**	**57**	*e*P		**Pn**	**00 38 36.8**	**-1.9**	
MTAZ	**Motutapu**	**4.05**	**19**	⇑PN		**Pn**	**00 38 39.1**	**0.0**	
MTAZ	**Motutapu**	**4.05**	**19**	P		**Pn**	**00 38 39.4**	**+0.3**	
KUZ	**Kuaotunu**	**4.33**	**27**	P		**Pn**	**00 38 42.0**	**-0.7**	
LBZ	**Lake Benmore**	**4.38**	**210**	*e*P		**Pn**	**00 38 42.1**	**-1.2**	
WCZ	**Waipu Caves**	**4.76**	**11**	⇓PN		**Pn**	**00 38 48.4**	**+0.1**	
WCZ	**Waipu Caves**	**4.76**	**11**	P		**Pn**	**00 38 48.4**	**+0.2**	
JCZ	**Jackson Bay**	**4.79**	**223**	P		**Pn**	**00 38 47.7**	**-0.8**	
ODZ	**Otahua Downs**	**4.81**	**203**	⇑PN		**Pn**	**00 38 48.1**	**-0.7**	
ODZ	**Otahua Downs**	**4.81**	**203**	P		**Pn**	**00 38 48.2**	**-0.6**	
MXZ	**Matakaoa Point**	**4.98**	**54**	P		**Pn**	**00 38 48.9**	**-2.2**	
WKZ	**Wanaka**	**5.22**	**215**	P		**Pn**	**00 38 52.4**	**-1.8**	
OUZ	**Omahuta**	**5.41**	**3**	*e*P		**Pn**	**00 38 57.2**	**+0.5**	
EAZ	**Earnscleugh**	**5.43**	**211**	*e*P		**Pn**	**00 38 55.0**	**-1.9**	
HHSZ	**Highcliff Hill**	**5.60**	**199**	⇓PN		**Pn**	**00 38 59.1**	**0.0**	
TUZ	**Tuapeka**	**5.94**	**205**	*e*P		**Pn**	**00 39 02.5**	**-1.1**	
MLZ	**Mavora Lakes**	**6.01**	**217**	*e*P		**Pn**	**00 39 03.8**	**-0.7**	
WHZ	**Wether Hill Ro**	**6.53**	**215**	*e*P		**Pn**	**00 39 09.3**	**-2.0**	
DCZ	**Deep Cove**	**6.59**	**221**	*e*P		**Pn**	**00 39 09.2**	**-2.9**	
TAU	**Tasmania Unive**	**19.45**	**255**	P		**P**	**00 41 50.9**	**+0.3**	
	15nm,1.0s								
CNB	**Canberra Magne**	**19.55**	**278**	*e*P		**P**	**00 41 55.0**	**+3.4**	
	9.5nm,0.7s								
TOO	**Toolangi**	**21.73**	**269**	*e*P		**P**	**00 42 16.9**	**+2.1**	
	4.3nm,0.6s,mb4.1								
STKA	**Stephens Creek**	**26.87**	**279**	*e*P		pP	00 43 41.5	+3.7	
	3.6nm,0.8s								
STKA	**Stephens Creek**	**26.87**	**279**	P		**P**	**00 43 04.1**	**+2.3**	
	2.7nm,0.8s,mb3.9,baz=80,slow=8.7,SNR=4.9								
AS31	**Alice Springs**	**37.01**	**285**	*e*P		**P**	**00 44 30.6**	**+0.5**	
ASAR	**Alice Springs**	**37.01**	**285**	P		**P**	**00 44 30.5**	**+0.4**	
	2.4nm,0.4s,mb4.2,baz=122,slow=7.1,SNR=67								
ASAR				pP		pP	00 45 07.6	+0.3	
	1.2nm,0.8s,baz=107,slow=6.4,SNR=1.5								
ASPA	**Alice Springs**	**37.01**	**285**	*e*P		**P**	**00 44 30.6**	**+0.5**	
VNDA	**Vanda**	**37.30**	**184**	*e*P		**P**	**00 44 33.5**	**+1.0**	
	3.5nm,0.8s,mb4.0								
SBA	**Scott Base**	**37.42**	**182**	*e*P		**P**	**00 44 36.0**	**+2.4**	
	11nm,1.1s,mb4.4								
FORT	**Forrest**	**37.64**	**271**	*e*P		**P**	**00 44 36.2**	**+0.8**	
	11nm,0.6s,mb4.7								
PMG	**Port Moresby**	**38.76**	**316**	P		**P**	**00 44 46.3**	**+1.5**	
	11nm,0.7s,mb4.6,baz=202,slow=15,SNR=4.1								
PMG	**Port Moresby**	**38.76**	**316**	*e*P		**P**	**00 44 46.6**	**+1.8**	
	56nm,1.2s,mb5.1								
WB2	**Warramunga Arr**	**39.00**	**290**	⇑*i*P		**P**	**00 44 46.2**	**-0.6**	
WB2	**Warramunga Arr**	**39.00**	**290**	*e*P		**P**	**00 44 47.1**	**+0.3**	
WRAB	**Tennant Creek**	**39.01**	**290**	*e*P		**P**	**00 44 47.1**	**+0.3**	
	14nm,0.5s,mb4.8								
WRA	**Warramunga Arr**	**39.01**	**290**	P		**P**	**00 44 47.4**	**+0.5**	
	6.3nm,0.4s,mb4.6,baz=127,slow=8.4,SNR=48								
CASY	**Casey**	**42.75**	**212**	*e*P		**P**	**00 45 15.3**	**-2.0**	
	8.5nm,0.9s,mb4.4								
NWAO	**Narrogin (SRO)**	**44.87**	**261**	*e*P		**P**	**00 45 34.4**	**+0.1**	
	7.7nm,0.8s,mb4.4								
KLBR	**Kellerberrin**	**45.09**	**263**	⇓*i*P		**P**	**00 45 35.9**	**-0.1**	
	10.0nm,0.5s,mb4.7								
FITZ	**Fitzroy Crossi**	**46.51**	**284**	⇑*i*P		**P**	**00 45 47.7**	**+0.6**	
	4.0nm,0.9s,mb4.0								
QSPA	**South Pole Qui**	**49.49**	**180**	⇓*e*P		**P**	**00 46 11.3**	**+1.3**	
QSPA				*ep*P		pP	00 46 52.1	+2.9	
SNAA	**Sanae**	**67.97**	**181**	*e*P		**P**	**00 48 16.2**	**-1.3**	
	1.5nm,0.4s,mb4.1								
SNAA				*ep*P		pP	00 48 58.5	-0.5	
PLCA	**Paso Flores**	**80.42**	**136**	P		**P**	**00 49 31.1**	**+1.5**	
	1.6nm,0.5s,mb3.9								
MJAR	**Matsushiro Arr**	**83.27**	**332**	P		**P**	**00 49 44.0**	**-0.4**	
	3.1nm,0.8s,mb4.1,baz=167,slow=6.5,SNR=9.6								
MAJO	**Matsushiro**	**83.27**	**332**	*e*P		**P**	**00 49 42.0**	**-2.4**	
	6.5nm,0.8s,mb4.4								
MKAR	**Makanchi Array**	**118.69**	**308**	PKP		PKPdf	00 56 02.5	-2.1	
	0.3nm,0.4s,baz=120,slow=4.4,SNR=3.8								
MKAR				pPKP		pPKPdf	00 56 47.5	-3.0	
	0.9nm,0.9s,baz=116,slow=4.7,SNR=3.2								
MKAR	**Makanchi Array**	**118.69**	**308**	PKP		PKPdf	00 56 02.5	-2.1	
MKAR				pPKP		pPKPdf	00 56 47.5	-3.0	
KEV	**Kevo**	**145.93**	**340**	*e*pkp		PKPdf	00 56 50.9	-4.4	
DBIC	**Dimbokro**	**146.14**	**183**	PKPbc		PKPbc	00 56 55.6	-1.3	
	1.7nm,0.5s,baz=55,slow=11,SNR=5.5								
ARCES	**ARCESS Array B**	**146.47**	**340**	PKPbc		PKPbc	00 56 55.7	-2.2	
	2.7nm,0.7s,baz=75,slow=2.3,SNR=18								
ARCES				pPKPbc		pPKPbc	00 57 39.9	-3.3	
	2.2nm,0.7s,baz=47,slow=1.8,SNR=1.8								
ARCES	**ARCESS Array B**	**146.47**	**340**	PKPbc		PKPbc	00 56 55.7	-2.2	
ARCES				pPKPbc		pPKPbc	00 57 39.9	-3.3	
JOF	**Joensuu**	**148.32**	**327**	*e*pkp		PKPdf	00 56 58.9	-0.4	
BRTR	**Keskin Array B**	**149.32**	**282**	PKPbc		PKPbc	00 57 03.8	-1.7	
	1.3nm,0.8s,baz=144,slow=6.9,SNR=8.5								
BRTR				pPKPbc		pPKPbc	00 57 50.0	-0.9	
	1.4nm,0.7s,baz=123,slow=4.6,SNR=3.4								
KAF	**Kangasniemi**	**150.74**	**328**	*e*pkp		PKPdf	00 57 04.7	+1.6	
FINES	**FINESS Array B**	**151.19**	**327**	PKPbc		PKPbc	00 57 07.3	-2.6	
	1.3nm,0.5s,baz=67,slow=3.5,SNR=20								
FINES				PKPab		PKPab	00 57 16.5	-1.9	
	3.2nm,0.6s,baz=66,slow=4.5,SNR=12								
FINES				pPKPbc		pPKPbc	00 57 53.4	-2.2	
	2.8nm,1.0s,baz=196,slow=3.4,SNR=2.9								
TORD	**Torodi Ar. Bea**	**151.63**	**198**	PKPbc		PKPbc	00 57 08.9	-2.0	
	0.4nm,0.4s,baz=129,slow=2.5,SNR=25								
TORD				PKPab		PKPab	00 57 19.3	-1.0	
	0.3nm,0.3s,baz=153,slow=2.4,SNR=7.3								
TORD				pPKPbc		pPKPbc	00 57 55.8	-0.8	
	0.5nm,0.6s,baz=150,slow=2.2,SNR=1.8								
TORD	**Torodi Ar. Bea**	**151.63**	**198**	PKPbc		PKPbc	00 57 08.9	-2.0	
TORD				PKPab		PKPab	00 57 19.3	-1.0	
TORD				pPKPbc		pPKPbc	00 57 55.8	-0.8	
AKASG	**Malin Array Be**	**153.17**	**304**	PKPbc		PKPbc	00 57 13.5	-0.8	
	0.1nm,0.3s,baz=53,slow=6.1,SNR=3.1								
AKASG				PKPab		PKPab	00 57 25.5	-1.2	
	1.0nm,0.5s,baz=67,slow=3.8,SNR=9.7								
AKASG				pPKPbc		pPKPbc	00 57 58.6	-1.5	
	0.4nm,0.5s,baz=72,slow=2.4,SNR=2.5								
AKASG	**Malin Array Be**	**153.17**	**304**	PKPbc		PKPbc	00 57 13.5	-0.8	
AKASG				PKPab		PKPab	00 57 25.5	-1.2	
AKASG				pPKPbc		pPKPbc	00 57 58.6	-1.5	
NB2	**NORSAR Subarra**	**156.78**	**338**	PKP		PKPab	00 57 40.5	-1.7	
	comp=Z,4.7nm,0.9s,baz=35,slow=4.4								
NOA	**NORSAR Array B**	**156.78**	**338**	PKPab		PKPab	00 57 40.9	-1.3	
	comp=Z,2.9nm,0.9s,baz=39,slow=4.6,SNR=11								
BRG	**Berggiesshubel**	**162.36**	**312**	*e*(P)		PKPab	00 58 05.8	-0.7	
	comp=Z,2.3nm,1.0s								
GERES	**GERESS Array B**	**163.35**	**306**	PKPab		PKPab	00 58 10.5	-0.3	
	comp=Z,1.6nm,0.9s,baz=60,slow=6.5,SNR=13								
GRF	**Grafenberg Arr**	**164.46**	**312**	*e*P		PKPab	00 58 15.7	0.0	
	comp=Z,4.0nm,1.0s								

MAN 23 00:41:42.7, 1010N×12496E, h30km, mb2.2, ML3.8, MS4.8, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.11**	**288**	*e*P	Pb	00 41 48.4	+0.3
MSLP				*e*S	Sb	00 41 51.1	-0.6
LLP	**Lapu-Lapu**	**1.00**	**282**	*e*P	Pn	00 42 01.0	+0.4
LLP				*e*S	Sn	00 42 14.1	+0.3

*IDC **23** 00:55:58.9±0.6, 895S×10802E, h0km, mb4.4/12, mb1 4.5/13, mb1mx4.4/20, mbtmp4.4/13, ML4.0/1, MS3.8/3, Ms1 3.8/3, ms1mx3.1/26, Error ellipse: s-maj=22.3km s-min=14.2km az=56.0*

*ISCJB **23** 00:56:01.6±0.3, 893S±006×10801E±007, h31km, mb4.5/37, MS3.9/4, Error ellipse: s-maj=12.0km s-min=6.1km az=104.6*

*MOS **23** 00:56:01.8±0.8, 889S×10801E, h33km, mb4.7/12, Error ellipse: s-maj=20.9km s-min=9.4km az=113.6*

*BJI **23** 00:56:01.0, 900S×10800E, h26km, mB5.0, mb4.8, Ms4.4, Msz4.1*

*NEIC **23** 00:56:03.0±0.2, 896S×10796E, mb4.8/16, Error ellipse: s-maj=10.2km s-min=5.5km az=50.0*

ISC 23 00:56:04.0±0.3, 895S±006×10801E±007, h33km, h33km±2.5km:pP-P, n74, σ0≤80/69, mb4.5/37, MS3.9/4, 6C-3D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**16.58**	**138**	*e*Pn	**Pn**	**00 59 49.4**	**-4.6**
	5.1nm,0.4s						
MBWA				*e*Sn	Sn	01 02 34.4	-23
KKM	**Kota Kinabalu**	**16.99**	**29**	*e*Pn	**Pn**	**00 59 60.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**19.39**	**120**	⇑*i*P	**Pn**	**01 00 28.2**	**-0.2**
	13nm,0.9s						
FITZ				*e*S	**Sn**	**01 03 51.2**	**-14**
FITZ	**Fitzroy Crossi**	**19.39**	**120**	P	**Pn**	**01 00 28.2**	**-0.2**
	0.4nm,0.3s,baz=277,slow=6.8,SNR=15						
FITZ				S	**Sn**	**01 03 51.4**	**-13**
	0.1nm,0.3s,baz=172,slow=19,SNR=3.4						
KAKA	**Kakadu**	**24.28**	**101**	*e*P	**P**	**01 01 18.8**	**+0.6**
	7.2nm,0.5s,mb4.4						
NWAO	**Narrogin (SRO)**	**25.34**	**162**	P	**P**	**01 01 26.6**	**-1.3**
	13nm,1.1s,mb4.4,baz=332,slow=15,SNR=3.0						
WRA	**Warramunga Arr**	**27.69**	**116**	P	**P**	**01 01 49.4**	**+0.3**
	3.4nm,0.5s,mb4.3,baz=285,slow=11,SNR=14						
WRA				PcP	PcP	01 05 06.3	+0.8
	0.9nm,0.6s,baz=298,slow=2.0,SNR=5.5						
WRAB	**Tennant Creek**	**27.70**	**116**	*e*P	**P**	**01 01 49.4**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**27.70**	**116**	*e*P	**P**	**01 01 49.4**	**+0.3**
	comp=Z,7.4nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**27.70**	**116**	⇑*i*P	**P**	**01 01 49.3**	**+0.1**
ASPA	**Alice Springs**	**28.76**	**124**	*e*P	**P**	**01 01 58.5**	**-0.1**
AS31	**Alice Springs**	**28.76**	**124**	*e*P	**P**	**01 01 58.5**	**-0.1**
ASAR	**Alice Springs**	**28.76**	**124**	P	**P**	**01 01 58.6**	**0.0**
	comp=Z,3.2nm,0.9s,mb4.1,baz=302,slow=7.6,SNR=23						
ASAR				PcP	PcP	01 05 09.6	+1.4
	comp=Z,1.2nm,0.5s,baz=302,slow=2.0,SNR=9.8						
ASAR	**Alice Springs**	**28.76**	**124**	PcP	PcP	01 05 09.6	+1.4
CTA	**Charters Tower**	**38.55**	**111**	*e*P	**P**	**01 03 25.6**	**+2.1**
	comp=Z,6.2nm,1.2s,mb4.2						
CTA	**Charters Tower**	**38.55**	**111**	*e*P	**P**	**01 03 25.6**	**+2.1**
CTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
STKA	**Stephens Creek**	**38.61**	**131**	⇓*i*P	**P**	**01 03 23.6**	**-0.4**
	comp=Z,6.3nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**38.61**	**131**	P	**P**	**01 03 24.1**	**+0.2**
	comp=Z,7.7nm,0.8s,mb4.5,baz=302,slow=8.2,SNR=17						
STKA				PcP	PcP	01 05 37.1	+1.2
	comp=Z,4.4nm,0.8s,baz=307,slow=6.7,SNR=4.9						
STKA				LR	LR	01 18 08.1	
	comp=Z,130nm,20.9s,MS3.7,baz=344,slow=34						
STKA	**Stephens Creek**	**38.61**	**131**	*e*P	**P**	**01 03 24.4**	**+0.4**
STKA				*ep*PKPdf		01 03 34.4	
SSE	**Sheshan**	**41.77**	**17**	*e*P	**P**	**01 03 49.4**	**-0.8**
SSE				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.6						
SSE				AMB	AMB		
	comp=Z,109nm,5.2s						
NJ2	**Nanjing**	**42.06**	**14**	*e*P	**P**	**01 03 51.3**	**-1.3**
NJ2				AP	pP	01 04 01.5	-0.8
NJ2				XP	sP	01 04 05.4	-0.8
NJ2				PP	PP	01 05 33.0	+2.8
NJ2				S	**S**	**01 10 05.0**	**-4.7**
NJ2				XS	sS	01 10 24.0	-1.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,160nm,5.4s						
NJ2				LR	LR		
	comp=N,290nm,18.8s,MS4.4						
NJ2				LR	LR		
	comp=E,300nm,14.1s,MS4.4						
NJ2				LR	LR		
	comp=Z,50nm,15.9s,MS3.5						
JIRN	**Jiri**	**42.08**	**331**	*e*P	**P**	**01 03 52.7**	**0.0**
	comp=Z,26nm,0.6s,mb5.0						
PKI	**Pulchoki**	**42.39**	**330**	*e*P	**P**	**01 03 55.2**	**-0.1**
GUN	**Gumba**	**42.44**	**330**	*e*P	**P**	**01 03 56.4**	**+0.7**
	comp=Z,41nm,0.7s,mb5.2						
DMN	**Daman**	**42.57**	**329**	*e*P	**P**	**01 03 56.9**	**+0.1**
	comp=Z,39nm,0.8s,mb5.2						
KKN	**Kakani**	**42.64**	**330**	*e*P	**P**	**01 03 57.5**	**+0.2**
	comp=Z,34nm,0.9s,mb5.1						
KKN	**Kakani**	**42.64**	**330**	*e*P	**P**	**01 03 57.5**	**+0.2**
KKN				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.1						
GKN	**Gorkha**	**43.13**	**329**	*e*P	**P**	**01 04 01.6**	**+0.3**
KOLN	**Koldanda**	**43.48**	**328**	*e*P	**P**	**01 04 04.4**	**+0.3**
	comp=Z,79nm,0.7s,mb5.5						
LZH	**Lanzhou**	**44.96**	**355**	*e*P	**P**	**01 04 17.5**	**+1.6**
LZH				AP	pP	01 04 30.1	+4.4
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.8						
GTA	**Gaotai**	**48.71**	**352**	*e*P	**P**	**01 04 46.6**	**+1.4**
GTA				AP	pP	01 04 59.1	+4.1
GTA				XP	sP	01 05 03.9	+5.0
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.6						
SNY	**Shenyang**	**52.51**	**15**	⇓P	**P**	**01 05 14.3**	**+0.4**
SNY				AMB	AMB		
	comp=Z,11nm,0.5s,mb5.0						
MJAR	**Matsushiro Arr**	**53.41**	**30**	P	**P**	**01 05 18.9**	**-1.6**
	comp=Z,3.2nm,0.8s,mb4.3,baz=200,slow=8.9,SNR=11						
SONM	**Songino Array**	**56.55**	**359**	P	**P**	**01 05 43.7**	**+0.4**
	comp=Z,6.1nm,0.6s,mb4.8,baz=175,slow=8.0,SNR=54						
SONM				LR	LR	01 32 21.6	
	comp=Z,74nm,19.9s,MS3.8,baz=40,slow=39						
WSAR	**Wadi Sarin**	**57.92**	**305**	P	**P**	**01 05 55.0**	**+2.1**
	comp=Z,5.3nm,1.0s,mb4.5,baz=76,slow=13,SNR=4.2						
ZAK	**Zakamensk**	**59.22**	**356**	*e*P	**P**	**01 06 01.9**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
OPO	**Ambohidratompo**	**59.62**	**254**	P	**P**	**01 06 05.2**	**+0.5**
	comp=Z,2.8nm,1.1s,mb4.2,baz=85,slow=6.0,SNR=3.6						
AAK	**Ala-Archa**	**59.76**	**332**	⇓*e*P	**P**	**01 06 05.1**	**-0.6**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.9s,mb4.2						
MK31	**Makanchi Array**	**60.05**	**340**	P	**P**	**01 06 07.2**	**-0.5**
MK31				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
MKAR	**Makanchi Array**	**60.05**	**340**	P	**P**	**01 06 07.6**	**0.0**
	comp=Z,9.9nm,0.7s,mb5.0,baz=134,slow=6.9,SNR=63						
MKAR	**Makanchi Array**	**60.05**	**340**	⇑*e*P	**P**	**01 06 07.5**	**-0.2**
KLR	**Kul'dur**	**61.56**	**17**	*e*P	**P**	**01 06 14.1**	**-3.9**
KK31	**Karatay Array**	**62.04**	**330**	*i*P	**P**	**01 06 21.0**	**-0.2**
KKAR	**Karatay Array**	**62.04**	**330**	P	**P**	**01 06 21.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**63.66**	**26**	*e*P	**P**	**01 06 32.0**	**0.0**
YSS				*e*	pP	01 06 43.0	+0.9
KURK	**Kurchatov**	**64.66**	**340**	*e*P	**P**	**01 06 38.4**	**-0.1**
KURK				*e**SP	sP	01 06 49.9	-2.5
KURK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
KURK	**Kurchatov**	**64.66**	**340**	*e*P	**P**	**01 06 38.4**	**-0.1**
	comp=Z,11nm,0.9s,mb4.9						
KURK				pP	pP	01 06 46.1	-2.5
KURK				*es*P	sP	01 06 49.9	-2.6
MAW	**Mawson**	**65.81**	**197**	⇑*i*P	**P**	**01 06 45.3**	**-0.7**
	comp=Z,2.3nm,0.6s,mb4.4						
MAW	**Mawson**	**65.81**	**197**	P	**P**	**01 06 45.2**	**-0.8**
	comp=Z,2.9nm,0.7s,mb4.4,baz=46,slow=7.5,SNR=9.9						
MAW	**Mawson**	**65.81**	**197**	⇑*i*P	**P**	**01 06 45.3**	**-0.7**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BOD	**Bodaibo**	**66.71**	**3**	*e*P	**P**	**01 06 49.8**	**-2.0**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
VOSK	**Vostochnaya**	**69.08**	**337**	P	**P**	**01 07 05.9**	**-0.7**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BVA0	**Borovoye Array**	**69.54**	**337**	*i*P	**P**	**01 07 09.3**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
BRVK	**Borovoye**	**69.61**	**337**	*e*P	**P**	**01 07 09.6**	**-0.3**
BRVK				*e**PP	pP	01 07 17.9	-2.2
BRVK				*e**SP	sP	01 07 22.5	-1.4
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**69.61**	**337**	*e*P	**P**	**01 07 09.6**	**-0.3**
	comp=Z,2.5nm,0.8s,mb4.2						
BRVK				*ep*P	pP	01 07 17.9	-2.1
BRVK				*es*P	sP	01 07 22.5	-1.4
CHKZ	**Chkalovo**	**69.95**	**337**	*i*P	**P**	**01 07 11.7**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
CHKZ	**Chkalovo**	**69.95**	**337**	*e*P	**P**	**01 07 11.9**	**-0.1**
	comp=Z,13nm,0.5s,mb5.1						
ZRNK	**Zerenda**	**70.03**	**336**	*e*P	**P**	**01 07 12.2**	**-0.3**
ZRNK				*e**PP	pP	01 07 20.4	-2.3
ZRNK				*e**SP	sP	01 07 24.7	-1.8
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
ZRNK	**Zerenda**	**70.03**	**336**	*e*P	**P**	**01 07 12.2**	**-0.4**
	comp=Z,10nm,0.8s,mb4.8						
ZRNK				*ep*P	pP	01 07 20.4	-2.2

DBC				pmax	pmax			
	comp=Z,29nm,0.2s							
DBC	**Dubki**	**0.91**	**126**	*e*Pg	Pg	01 31 31.5	-0.4
	comp=Z,29nm,0.2s							
DBC				*e*Sg	Sg	01 31 45.0	+1.1
BTKR	**Batakoyurt**	**0.95**	**259**	*e*Pg	Pg	01 31 32.5	-0.1
BTKR				*e*Sg	Sg	01 31 48.2	+3.0
VLKR	**Vladikavkaz**	**0.99**	**239**	*i* Pg	Pg	01 31 32.7	-0.5
VLKR				*i* Sg	Sg	01 31 48.5	+2.3
KRNR	**Karanay**	**1.08**	**133**	*e*PG	Pg	01 31 34.0	-1.0
KRNR				*e*S	Sb	01 31 49.7	+1.5
KRNR				pmax	pmax			
	comp=Z,40nm,0.2s							
KRNR	**Karanay**	**1.08**	**133**	*e*Pg	Pg	01 31 34.0	-1.0
	comp=Z,40nm,0.2s							
KRNR				*e*Sg	Sg	01 31 49.7	+0.5
UNCR	**Uncukul**	**1.11**	**140**	*e*PG	Pg	01 31 34.0	-1.5
UNCR				*i* S	Sb	01 31 49.0	+0.1
UNCR				pmax	pmax			
	comp=Z,21nm,0.2s							
UNCR	**Uncukul**	**1.11**	**140**	*e*Pg	Pg	01 31 34.0	-1.5
	comp=Z,21nm,0.2s							
UNCR				*i* Sg	Sg	01 31 49.0	-1.0
KMSR	**Komsomolskaya**	**1.13**	**261**	*i* Pg	Pg	01 31 35.2	-0.8
KMSR				*i* Sg	Sg	01 31 53.0	+2.1
PRTR	**Priterechnaya**	**1.14**	**280**	*e*Pg	Pg	01 31 35.2	-0.9
PRTR				*e*Sg	Sg	01 31 53.1	+2.2
ARNR	**Ardon**	**1.19**	**252**	*i* Pg	Pg	01 31 35.8	-1.3
ARNR				*i* Sg	Sg	01 31 54.1	+1.5
XNZR	**Khunzakh**	**1.21**	**147**	*e*PG	Pg	01 31 38.8	+1.4
XNZR				*i* S	Sb	01 31 55.8	+4.0
XNZR				pmax	pmax			
	comp=Z,33nm,0.3s							
XNZR	**Khunzakh**	**1.21**	**147**	*e*Pg	Pg	01 31 38.8	+1.4
	comp=Z,33nm,0.3s							
XNZR				*i* Sg	Sg	01 31 55.8	+2.5
KORR	**Kora**	**1.37**	**250**	*i* Pg	Pg	01 31 38.3	-2.2
KORR				*i* Sg	Sg	01 31 58.3	-0.1
ZEI	**Tsey**	**1.62**	**241**	*e*Pg	Pg	01 31 41.5	-3.7
ZEI				*e*Sg	Sg	01 32 03.8	-2.5
KMKR	**Kumukh**	**1.71**	**146**	*e*PN	Pn	01 31 44.0	+0.9
KMKR				*e*S	Sn	01 32 07.5	+2.9
KMKR				pmax	pmax			
	comp=Z,18nm,0.3s							
KMKR	**Kumukh**	**1.71**	**146**	*e*Pn	Pn	01 31 44.0	+0.9
	comp=Z,18nm,0.3s							
KMKR				*e*Sg	Sg	01 32 07.5	-1.8
KUBR	**Kubataba**	**1.77**	**278**	*e*Pn	Pn	01 31 45.9	+2.0
KUBR				*i* Sg	Sg	01 32 10.6	-0.5
DIGR	**Digorskoe uzhe**	**1.77**	**249**	Pn	Pn	01 31 45.5	+1.6
ONI	**Oni**	**2.00**	**241**	P	Pn	01 31 49.2	+2.1
ONI				S	Sn	01 32 15.4	+3.7
TBLG	**Delisi**	**2.00**	**204**	P	Pn	01 31 50.5	+3.4
TBLG				S	Sn	01 32 17.4	+5.7
TBLG	**Delisi**	**2.00**	**204**	P	Pn	01 31 50.9	+3.8
TBLG				S	Sn	01 32 17.3	+5.6
TBLG	**Delisi**	**2.00**	**204**	Pn	Pn	01 31 50.9	+3.8
TBLG				Sg	Sg	01 32 17.3	-1.2
MTA	**Mtatsminda**	**2.02**	**203**	P	Pn	01 31 50.3	+2.9
MTA				S	Sn	01 32 18.8	+6.6
MTA	**Mtatsminda**	**2.02**	**203**	P	Pn	01 31 50.9	+3.6
MTA				S	Sn	01 32 16.9	+4.7
PYA	**Pyatigorsk**	**2.06**	**284**	PN	Pn	01 31 50.4	+2.5
DGRG	**David-gareji**	**2.14**	**189**	P	Pn	01 31 54.3	+5.3
DGRG				S	Sn	01 32 25.9	+11
DGRG	**David-gareji**	**2.14**	**189**	S	Pn	01 31 55.1	+6.1
DGRG				S	Sn	01 32 24.2	+9.1
BEYR	**Belyy Ugol+**	**2.22**	**283**	*e*Pn	Pn	01 31 52.0	+1.8
BEYR				*e*Sn	Sn	01 32 21.4	+4.2
SHAR	**Shatzhatmas**	**2.30**	**276**	*e*PN	Pn	01 31 53.5	+2.3
SHAR				*e*S	Sn	01 32 23.5	+4.4
KIV	**Kislovodsk**	**2.31**	**281**↑	*e*PN	Pn	01 31 53.7	+2.4
KIV				*e*S	Sn	01 32 24.0	+4.7

*ISCJB **23** 02:00:38.7±0.6, 2292S×004×6627W×008, h257km±11km, mb3.6/2, Error ellipse: s-maj=12.5km s-min=6.8km az=11.2*
*IDC **23** 02:00:39.8±1.1, 2285S×6623W, h254km×18km, mb3.4/1, mb1 3.4/7, mb1mx3.2/19, mbtmp4.0/7, Error ellipse: s-maj=27.6km s-min=14.9km az=96.0*
*NEIC **23** 02:00:39.8±0.6, 2286S×6622W, h249km±11km, mb4.0/3, Error ellipse: s-maj=12.6km s-min=8.4km az=84.0*
*GUC **23** 02:00:40.7±0.9, 2341S×6659W, h290km, MD3.9*

ISC 23 02:00:39.6±0.6, 2290S, 005×6624W, 009, h244km±11km, n21, σ1℘14/32, mb3.6/2, 1C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.48**	**276**	P	**Pn**	**02 01 28.5**	**+2.3**
	88nm,0.3s,baz=98,slow=5.7,SNR=876						
LVC				S	**S**	**02 02 02.5**	**-0.4**
	29nm,0.3s,baz=253,slow=18,SNR=4.1						
CEN1	**Los Morros**	**3.67**	**262**↑	*i*P	**Pn**	**02 01 42.6**	**+3.3**
CEN1				*i* S	**S**	**02 02 28.9**	**+2.3**
ANCH	**Antofagasta**	**3.91**	**258**↓	*i*P	**Pn**	**02 01 43.4**	**+1.4**
ANCH				*i* S	**S**	**02 02 30.4**	**-1.2**
CPN1	**Cerro Paranal**	**4.18**	**245**	*e*P	**Pn**	**02 01 46.5**	**+1.2**
CPN1				*i* S	**S**	**02 02 36.1**	**-1.3**
CPCH	**Copiapo**	**5.79**	**219**	*i* P	**Pn**	**02 02 03.4**	**-1.6**
CPCH				*i* S	**S**	**02 03 07.4**	**-5.8**
CDCH	**Caldera**	**5.88**	**224**↓	*i*P	**Pn**	**02 02 05.0**	**-1.0**
CDCH				*i* S	**S**	**02 03 09.1**	**-6.1**
LPAZ	**La Paz**	**6.81**	**345**	P	**Pn**	**02 02 19.2**	**+1.4**
	3.5nm,0.3s,baz=158,slow=8.8,SNR=78						
LPAZ				S	**S**	**02 03 35.6**	**-0.9**
	1.3nm,0.3s,baz=280,slow=22,SNR=9.0						
LPAZ	**La Paz**	**6.81**	**345**	*e*Pn	**Pn**	**02 02 18.6**	**+0.8**
LPAZ				*e*S	**S**	**02 03 34.7**	**-1.8**
ARE	**Arequipa**	**8.09**	**321**	*e*P	**Pn**	**02 02 33.0**	**-1.0**
ARE				*e*S	**S**	**02 04 01.0**	**-5.0**
SIV	**San Ignacio**	**8.43**	**36**	P	**Pn**	**02 02 37.9**	**-0.4**
	6.3nm,0.3s,baz=223,slow=8.7,SNR=203						
CPUP	**Villa Florida**	**8.80**	**115**	P	**Pn**	**02 02 43.4**	**+0.4**
	0.3nm,0.3s,baz=266,slow=9.3,SNR=5.2						
CPUP	**Villa Florida**	**8.80**	**115**	P	**Pn**	**02 02 43.4**	**+0.4**
CFAA	**Coronel Fontan**	**8.85**	**191**	P	**Pn**	**02 02 43.4**	**-0.2**
	0.2nm,0.3s,baz=10.0,slow=12,SNR=64						
CFAA				S	**S**	**02 04 18.0**	**-5.8**
	1.5nm,0.3s,baz=129,slow=19,SNR=40						
CFAA	**Coronel Fontan**	**8.85**	**191**	P	**Pn**	**02 02 43.4**	**-0.2**
CFAA				S	**S**	**02 04 18.0**	**-5.8**
SAML	**Samuel**	**14.18**	**12**	*e*P	**Pn**	**02 03 49.8**	**-0.2**
	6.0nm,0.8s						
NNA	**Nana**	**14.82**	**315**	*e*P	**Pn**	**02 03 58.3**	**+0.5**
	13nm,0.7s						
TRQA	**Tornquist**	**15.54**	**167**	*e*P	**Pn**	**02 04 05.7**	**-0.8**
	6.0nm,0.8s						
PLCA	**Paso Flores**	**18.15**	**191**	P	**P**	**02 04 34.1**	**0.0**
	0.1nm,0.3s,baz=3.5,slow=19,SNR=2.4						
SNAA	**Sanae**	**60.16**	**161**	*e*P	**P**	**02 10 22.8**	**+1.2**
	0.8nm,0.4s,mb3.7						
TORD	**Torodi Ar. Bea**	**75.53**	**69**	P	**P**	**02 11 56.9**	**-0.3**
	0.5nm,0.3s,mb3.5,baz=258,slow=6.1,SNR=24						
TORD	**Torodi Ar. Bea**	**75.53**	**69**	P	**P**	**02 11 56.9**	**-0.3**

IDC 23 02:07:43.7±3.7, 480N×12421E, h557km±31km, mb2.6/3, mb1 2.8/3, mb1mx2.5/18, mbtmp3.6/3, Error ellipse: s-maj=285.9km s-min=20.4km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.52**	**158**	P	P	02 12 36.9	-0.5
	0.5nm,0.3s,baz=337,slow=9.7,SNR=12						
ASAR	**Alice Springs**	**29.82**	**162**	P	P	02 13 07.2	+1.0
	0.2nm,0.3s,baz=343,slow=7.1,SNR=8.8						
ASAR				ScP	ScP	02 18 41.9	+0.9
	0.3nm,0.5s,baz=335,slow=2.9,SNR=5.7						
MKAR	**Makanchi Array**	**55.27**	**326**	P	P	02 16 25.2	+0.4
	0.6nm,0.5s,baz=109,slow=9.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**120.20**	**288**	PKP	PKPdf	02 25 31.4	-0.2
	0.5nm,1.1s,baz=64,slow=1.6,SNR=5.2						

MOS 23 02:24:44.6±1.1, 4349N×4540E, h14km, mb4.0/1, 3C-1D, Error ellipse: s-maj=16.8km s-min=9.1km az=163.8, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRKR	**Terskaya**	**0.53**	**296**↑	*i*PG	Pg	02 24 54.7	-0.4
TRKR				*e*S	Sg	02 25 07.3	+5.1
SNJR	**Sundja**	**0.60**	**225**↑	*i*PG	Pg	02 24 57.7	+1.3
BTKR	**Batakoyurt**	**0.63**	**259**	*e*PG	Pg	02 24 57.9	+0.9
BTKR				*i* S	Sg	02 25 13.0	+7.7
VLKR	**Vladikavkaz**	**0.69**	**230**↑	*i*PG	Pg	02 24 59.0	+1.0
VLKR				*i* S	Sg	02 25 14.9	+7.8
KMSR	**Komsomolskaya**	**0.81**	**262**	*e*PG	Pg	02 25 00.5	+0.1
KMSR				*i* S	Sg	02 25 17.4	+6.4
PRTR	**Priterechnaya**	**0.85**	**288**	*e*PG	Pg	02 24 59.8	-1.3
PRTR				*e*S	Sg	02 25 16.2	+4.0
ARNR	**Ardon**	**0.87**	**250**	*e*PG	Pg	02 25 01.5	+0.1
ARNR				*i* S	Sg	02 25 19.2	+6.4
KORR	**Kora**	**1.05**	**248**	*e*PG	Pg	02 25 04.0	-0.9
KORR				*e*S	Sb	02 25 23.5	+5.3
ZEI	**Tsey**	**1.31**	**237**	*e*PG	Pg	02 25 07.5	-2.3
ZEI				*e*S	Sb	02 25 29.6	+3.9
DIGR	**Digorskoe uzhe**	**1.45**	**247**	*e*PG	Pg	02 25 09.6	-2.9
DIGR				*e*S	Sn	02 25 33.1	+3.8
KUBR	**Kubataba**	**1.47**	**283**↓	*e*PG	Pg	02 25 12.6	-0.3
KUBR				*e*S	Sn	02 25 36.7	+6.9
ONI	**Oni**	**1.69**	**238**	P	Pn	02 25 15.8	+2.1
ONI				S	Sn	02 25 42.1	+7.0
TBLG	**Delisi**	**1.83**	**196**	S	Sn	02 25 44.8	+6.3
MTA	**Mtatsminda**	**1.85**	**194**	S	Sn	02 25 45.3	+6.2
SHAR	**Shatzhatmas**	**2.00**	**278**	PN	Pn	02 25 20.5	+2.6
SHAR				S	Sn	02 25 50.3	+7.6
SHAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KIV	**Kislovodsk**	**2.02**	**284**	PN	Pn	02 25 20.3	+2.1
KIV				S	Sn	02 25 50.7	+7.5
KIV				smax			
	comp=N,21nm,0.4s						
KIV				smax			
	comp=N,139nm,0.5s						
DGRG	**David-gareji**	**2.04**	**180**	P	Pn	02 25 22.7	+4.2
DGRG				S	Sn	02 25 45.7	+2.0

*IDC **23** 02:26:37.8±1.8, 274N×9575E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/20, mbtmp3.8/6, ML3.4/1, Error ellipse: s-maj=51.0km s-min=20.3km az=49.0*
*ISCJB **23** 02:26:39.8±5.9, 28N×02×957E±01, h26km±41km, mb3.9/6, Error ellipse: s-maj=30.5km s-min=14.6km az=53.5*
*NEIC **23** 02:26:42.4±0.9, 277N×9579E, h30km, mb4.1/1, Error ellipse: s-maj=20.7km s-min=11.2km az=218.0*

ISC 23 02:26:41.1±5.8, 28N×02×9574E×009, h20km±36km, n10, σ0℘36/11, mb3.9/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.18**	**90**	Pn	**Pn**	**02 27 30.6**	**+0.5**
	4.0nm,0.3s,baz=302,slow=7.7,SNR=25						
PSI				Sn	**Sn**	**02 28 07.4**	**+0.1**
	2.3nm,0.3s,baz=37,slow=23,SNR=4.8						
KULM	**Kulim**	**5.49**	**63**	*e*Pn	**Pn**	**02 28 01.4**	**-0.5**
WRA	**Warramunga Arr**	**44.10**	**123**	P	**P**	**02 34 47.5**	**-0.5**
	0.6nm,0.6s,mb3.5,baz=300,slow=9.1,SNR=4.3						
MKAR	**Makanchi Array**	**45.38**	**347**	P	**P**	**02 34 58.7**	**+0.5**
	1.5nm,0.5s,mb4.1,baz=159,slow=7.8,SNR=15						
MKAR	**Makanchi Array**	**45.38**	**347**	P	**P**	**02 34 58.7**	**+0.5**
ASAR	**Alice Springs**	**45.50**	**127**	P	**P**	**02 34 59.2**	**+0.1**
	0.3nm,0.6s,mb3.4,baz=297,slow=7.5,SNR=5.0						
SONM	**Songino Array**	**45.82**	**10**	P	**P**	**02 35 01.4**	**-0.2**
	1.5nm,0.7s,mb4.0,baz=183,slow=9.3,SNR=9.6						
ZAL	**Zalesovo**	**51.78**	**352**	P	**P**	**02 35 47.2**	**-0.3**
	1.0nm,0.4s,mb4.1,baz=308,slow=5.6,SNR=3.8						
ZAL	**Zalesovo**	**51.78**	**352**	P	**P**	**02 35 47.2**	**-0.3**
CHKZ	**Chkalovo**	**54.78**	**342**	*e*P	**P**	**02 36 09.7**	**+0.2**
	0.8nm,0.4s,mb4.1						

IDC 23 02:28:06.4±1.7, 056N×12538E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=187.6km s-min=26.3km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.18**	**157**	P	P	02 33 04.2	+0.1
	0.3nm,0.5s,baz=336,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**25.48**	**162**	P	P	02 33 36.4	+0.3
	0.4nm,0.6s,baz=333,slow=7.8,SNR=8.4						
ASAR				PcP	PcP	02 37 08.7	+0.6
	0.4nm,0.5s,baz=352,slow=2.1,SNR=6.5						
MKAR	**Makanchi Array**	**59.42**	**327**	P	P	02 38 10.8	0.0
	0.3nm,0.3s,baz=133,slow=7.8,SNR=5.0						

IDC 23 02:36:07.7±7.2, 3297N×9604E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.5/21, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=132.9km s-min=70.2km az=154.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**16.78**	**25**	Pn	Pn	02 40 04.3	+0.2
	0.2nm,0.3s,baz=206,slow=15,SNR=7.7						
MKAR	**Makanchi Array**	**17.34**	**327**	P	Pn	02 40 11.3	+0.3
	0.2nm,0.3s,baz=138,slow=13,SNR=7.7						
FINES	**FINESS Array B**	**52.16**	**325**	P	P	02 45 18.6	-1.3
	0.9nm,0.9s,baz=93,slow=8.2,SNR=10						
NB2	**NORSAR Subarra**	**59.33**	**326**	P	P	02 46 09.2	-2.2
	comp=Z,0.3nm,0.5s,baz=76,slow=6.9						
NOA	**NORSAR Array B**	**59.33**	**326**	P	P	02 46 12.2	+0.8
	comp=Z,0.6nm,0.7s,baz=76,slow=6.8,SNR=4.6						

*ISCJB **23** 03:06:57.7±0.5, 6027N×004×58.13W×009, h10km, mb3.4/4, MS2.8/1, Error ellipse: s-maj=6.9km s-min=5.0km az=42.7*
*IDC **23** 03:07:00.8±0.9, 6028N×5751W, h0km, mb3.6/5, mb1 3.9/8, mb1mx3.6/26, mbtmp3.8/8, ML3.8/3, MS2.7/2, Ms1 2.7/2, ms1mx2.2/28, Error ellipse: s-maj=26.7km s-min=14.1km az=145.0*
*NEIC **23** 03:07:02.7, 6032N×5775W, h18km, mb3.9/1, ML3.9(OTT), After OTT.*
*OTT **23** 03:07:02.7±0.4, 6032N×5775W, h18km, ML3.9/9, LAlbertaRADOR Sea Seismic Zone. 390km east from Killiniq, Qc*

ISC 23 03:06:59.7±0.5, 6029N×004×5810W×009, h10km, n50, σ0℘89/80, mb3.4/4, MS2.8/1, Davis Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUQ	**Kuujjuuaa**	**5.73**	**252**	PN	**Pn**	**03 08 28.8**	**+3.9**
KUQ				SN	**Sn**	**03 09 30.9**	**+0.3**
KUQ				Trac		03 09 34.9	
	comp=Z,15nm,0.2s						
KUQ	**Kuujjuuaa**	**5.73**	**252**	Pn	**Pn**	**03 08 28.8**	**+3.9**
KUQ				Sn	**Sn**	**03 09 30.9**	**+0.3**
FRB	**Frobisher Bay**	**6.01**	**310**	Pn	**Pn**	**03 08 32.4**	**+3.6**
	1.1nm,0.3s,baz=175,slow=15,SNR=5.4						
FRB				Sn	**Sn**	**03 09 36.5**	**-1.1**
	7.2nm,0.3s,baz=33,slow=16,SNR=9.1						
FRB	**Frobisher Bay**	**6.01**	**310**	PN	**Pn**	**03 08 32.5**	**+3.8**
FRB				SN	**Sn**	**03 09 36.7**	**-0.9**
FRB				Trac		03 09 39.9	
	comp=Z,15nm,0.2s						
SCHQ	**Schefferville**	**7.21**	**224**	Pn	**Pn**	**03 08 49.4**	**+4.3**
	9.2nm,0.3s,baz=41,slow=9.4,SNR=214						
SCHQ				Sn	**Sn**	**03 10 07.7**	**+0.7**
	0.6nm,0.3s,baz=253,slow=19,SNR=1.8						
SCHQ				LR	LR	03 11 30.7	
	comp=Z,44nm,20.8s,baz=26,slow=36						
SCHQ	**Schefferville**	**7.21**	**224**	PN	**Pn**	**03 08 49.2**	**+4.2**
SCHQ				SN	**Sn**	**03 10 06.9**	**-0.1**
SCHQ				Trac		03 10 12.2	
	comp=Z,4.5nm,0.1s						
SCHQ	**Schefferville**	**7.21**	**224**	*e*Pn	**Pn**	**03 08 49.1**	**+4.0**
SCHQ				Sn	**Sn**	**03 10 07.7**	**+0.7**
SCHQ				LR	LR	03 11 30.7	
SFJD	**Kangerlussuaq**	**7.50**	**23**	Pn	**Pn**	**03 08 49.7**	**+0.5**
	6.9nm,0.3s,baz=185,slow=11,SNR=25						
SFJD				Sn	**Sn**	**03 10 07.4**	**-6.8**
	4.1nm,0.3s,baz=297,slow=18,SNR=3.0						
SFJD	**Kangerlussuaq**	**7.50**	**23**	*i* P	**Pn**	**03 08 49.3**	**+0.2**
	11nm,0.2s						
SFJD				*i* S	**Sn**	**03 10 06.4**	**-7.9**
SFJD	**Kangerlussuaq**	**7.50**	**23**	PN	**Pn**	**03 08 49.8**	**+0.7**
SFJD				SN	**Sn**	**03 10 07.3**	**-6.9**
SFJD				Trac		03 10 10.6	
	comp=Z,14nm,0.5s						
YOSQ	**Ashton Mining**	**10.74**	**232**	PN	**Pn**	**03 09 35.2**	**+1.7**
YOSQ				SN	**Sn**	**03 11 29.9**	**-4.0**
YOSQ				Trac		03 11 35.3	
	comp=Z,6.4nm,0.2s						
YOSQ	**Ashton Mining**	**10.74**	**232**	Pn	**Pn**	**03 09 35.2**	**+1.7**
YOSQ				Sn	**Sn**	**03 11 29.9**	**-4.0**
DRLN	**Deer Lake**	**11.06**	**178**	PN	**Pn**	**03 09 37.6**	**-0.4**
DRLN				SN	**Sn**	**03 11 32.2**	**-10**
DRLN				Trac		03 11 37.6	
	comp=Z,5.5nm,0.5s						
DRLN	**Deer Lake**	**11.06**	**178**	Pn	**Pn**	**03 09 37.6**	**-0.4**
DRLN				Sn	**Sn**	**03 11 32.2**	**-10**
SMQ	**Clarke City**	**11.21**	**210**	PN	**Pn**	**03 09 40.1**	**+0.2**
SMQ				SN	**Sn**	**03 11 38.7**	**-6.6**
SMQ				Trac		03 11 40.7	
	comp=Z,1.6nm,0.1s						
SMQ	**Clarke City**	**11.21**	**210**	Pn	**Pn**	**03 09 40.1**	**+0.2**
SMQ				Sn	**Sn**	**03 11 38.7**	**-6.6**
MNQ	**Manicouagan**	**11.49**	**216**	PN	**Pn**	**03 09 44.3**	**+0.6**
MNQ				SN	**Sn**	**03 11 46.3**	**-5.8**
MNQ				Trac		03 11 56.9	
	comp=Z,3.1nm,0.2s						
MNQ	**Manicouagan**	**11.49**	**216**	Pn	**Pn**	**03 09 44.3**	**+0.6**
MNQ				Sn	**Sn**	**03 11 46.3**	**-5.8**
ICQ	**Pointe Anglais**	**12.00**	**210**	PN	**Pn**	**03 09 50.2**	**-0.5**
ICQ				SN	**Sn**	**03 11 54.6**	**-10**
ICQ	**Pointe Anglais**	**12.00**	**210**	Pn	**Pn**	**03 09 50.2**	**-0.6**
ICQ				Sn	**Sn**	**03 11 54.6**	**-10**
CNQ	**Baie Comeau**	**12.40**	**212**	PN	**Pn**	**03 09 56.3**	**0.0**
WEMQ	**Wemindji, Queb**	**13.07**	**245**	PN	**Pn**	**03 10 05.3**	**-0.2**
WEMQ				SN	**Sn**	**03 12 22.0**	**-8.8**
WEMQ				Trac		03 12 25.7	
	comp=Z,7.8nm,0.5s						
WEMQ	**Wemindji, Queb**	**13.07**	**245**	Pn	**Pn**	**03 10 05.3**	**-0.2**
WEMQ				Sn	**Sn**	**03 12 22.0**	**-8.8**
SJNN	**Saint John's**	**13.11**	**164**	PN	**Pn**	**03 10 04.9**	**-1.0**
SJNN				SN	**Sn**	**03 12 23.1**	**-8.7**
ILON	**Igloolik, Nuna**	**13.48**	**322**	PN	**Pn**	**03 10 11.9**	**+0.9**
ILON				SN	**Sn**	**03 12 32.0**	**-8.9**
ILON				Trac		03 12 35.5	
	comp=Z,3.2nm,0.4s						
ILON	**Igloolik, Nuna**	**13.48**	**322**	Pn	**Pn**	**03 10 11.9**	**+0.9**
ILON				Sn	**Sn**	**03 12 32.0**	**-8.9**
SRLN	**Sarcpa Lake, N**	**13.57**	**318**	PN	**Pn**	**03 10 13.1**	**+0.9**
SRLN				SN	**Sn**	**03 12 29.9**	**-13**
SRLN				Trac		03 12 37.5	
	comp=Z,6.1nm,0.4s						
SRLN	**Sarcpa Lake, N**	**13.57**	**318**	Pn	**Pn**	**03 10 13.1**	**+0.9**
SRLN				Sn	**Sn**	**03 12 29.9**	**-13**
GIFN	**Gifford Fjord,**	**13.76**	**325**	PN	**Pn**	**03 10 14.4**	**-0.4**
GIFN				SN	**Sn**	**03 12 36.6**	**-11**
GIFN				Trac		03 12 42.1	
	comp=Z,5.0nm,0.5s						
GIFN	**Gifford Fjord,**	**13.76**	**325**	Pn	**Pn**	**03 10 14.4**	**-0.4**
GIFN				Sn	**Sn**	**03 12 36.6**	**-11**
QILN	**Qililugaq Expl**	**14.04**	**309**	PN	**Pn**	**03 10 18.6**	**0.0**
AP3N	**Apex site 3 Nu**	**14.34**	**321**	PN	**Pn**	**03 10 22.1**	**-0.6**
SUMG	**Summit**	**14.50**	**24**	*e*Pn	**Pn**	**03 10 23.8**	**-1.1**
DAQ	**Lac Daran**	**14.51**	**218**	PN	**Pn**	**03 10 23.7**	**-1.4**
VIMO	**Victor Mine**	**15.91**	**253**	PN	**Pn**	**03 10 42.7**	**-1.0**
MALO	**McAlpine Lake**	**16.01**	**240**	PN	**Pn**	**03 10 43.4**	**-1.5**
VLDQ	**Val d'Or**	**16.56**	**231**	PN	**Pn**	**03 10 51.8**	**-0.1**
VLDQ				SN	**Sn**	**03 13 46.1**	**-10**
VLDQ	**Val d'Or**	**16.56**	**231**	Pn	**Pn**	**03 10 51.8**	**-0.1**
VLDQ				Sn	**Sn**	**03 13 46.1**	**-10**
OTRO	**Otter Rapids**	**16.71**	**243**	PN	**Pn**	**03 10 54.4**	**+0.6**
KILO	**Kirkland Lake**	**17.16**	**236**	PN	**Pn**	**03 10 58.7**	**-0.9**
KAPO	**Kapuskasing**	**17.63**	**243**	PN	**Pn**	**03 11 06.2**	**+0.8**
KAPO	**Kapuskasing**	**17.63**	**243**	Pn	**Pn**	**03 11 06.2**	**+0.8**
NCB	**Newcomb**	**19.02**	**218**	*e*P	**Pn**	**03 11 22.8**	**+0.5**
	8.2nm,1.0s						
SADO	**Sadowa**	**19.99**	**228**	P	**Pn**	**03 11 35.8**	**+1.8**
	1.6nm,0.4s,baz=22,slow=10,SNR=3.7						
ARCES	**ARCESS Array B**	**33.78**	**39**	LR	LR	03 27 32.8	
	comp=Z,18nm,19.4s,MS2.8,baz=35,slow=37						
PDAR	**Pinedale Array**	**35.39**	**264**	P	**P**	**03 14 01.2**	**+5.6**
	0.3nm,0.6s,mb3.4,baz=61,slow=11,SNR=3.2						
FINES	**FINESS Array B**	**38.30**	**50**	P	**P**	**03 14 21.4**	**+1.0**
	1.1nm,1.0s,mb3.5,baz=290,slow=5.8,SNR=4.8						
FINES	**FINESS Array B**	**38.30**	**50**	P	**P**	**03 14 21.4**	**+1.0**
AKASG	**Malin Array Be**	**46.84**	**61**	P	**P**	**03 15 29.6**	**-0.2**
	0.1nm,0.3s,baz=313,slow=6.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**63.89**	**110**	P	**P**	**03 17 32.9**	**+0.3**
	0.3nm,0.6s,mb3.5,baz=326,slow=7.7,SNR=7.0						

*ISCJB **23** 03:11:09.2±2.4, 927S×009×1074E±01, h5km±15km, mb4.4/28, MS3.9/5, Error ellipse: s-maj=23.2km s-min=10.4km az=109.6*
*BJI **23** 03:11:09.1, 977S×10763E

	comp=E,87nm,16.7s,MS4.0								
GTA					LR	LR			
	comp=Z,187nm,15.6s,MS4.2								
HHC	**Hu-ho-hao-te**	**50.05**	**4**	*e*P	**P**		03 20 08.4	**+1.6**	
HHC				AP	pP		03 20 13.0	+0.1	
HHC				XP	sP		03 20 15.5	+0.2	
HHC				PCP	PcP		03 21 28.8	+2.4	
HHC				PP	PP		03 22 05.5	+3.6	
HHC				S	**S**		**03 27 17.3**	**+0.4**	
HHC				SCS	ScS		03 29 54.8	-2.3	
HHC				SS	SS		03 30 47.6	-2.4	
HHC				AMB	AMB				
	comp=Z,12nm,0.5s,mb5.2								
HHC				AMB	AMB				
	comp=Z,91nm,5.1s								
HHC				LR	LR				
	comp=N,120nm,4.4s								
HHC				LR	LR				
	comp=E,124nm,5.3s								
HHC				LR	LR				
	comp=Z,125nm,5.1s								
MJAR	**Matsushiro Arr**	**54.04**	**31**	P	**P**		**03 20 36.8**	**+0.3**	
	comp=Z,0.6nm,0.5s,mb3.8,baz=245,slow=7.7,SNR=2.7								
WMQ	**Urumqi**	**55.82**	**343**	P	**P**		**03 20 50.4**	**+1.1**	
WMQ				AP	pP		03 20 55.0	-0.5	
WMQ				PP	PP		03 22 56.1	+2.2	
WMQ				AMB	AMB				
	comp=Z,5.0nm,1.2s,mb4.4								
WMQ				AMB	AMB				
	comp=Z,56nm,5.0s								
WMQ				LR	LR				
	comp=N,134nm,17.2s,MS4.2								
WMQ				LR	LR				
	comp=E,100nm,16.1s,MS4.2								
WMQ				LR	LR				
	comp=Z,134nm,17.7s,MS4.1								
SONM	**Songino Array**	**56.90**	**359**	P	**P**		**03 20 56.4**	**-0.6**	
	comp=Z,2.7nm,1.0s,mb4.2,baz=174,slow=6.5,SNR=11								
SONM				LR	LR		03 47 20.6		
	comp=Z,80nm,19.2s,MS3.8,baz=109,slow=38								
MDJ	**Mudanjiang**	**57.31**	**19**	P	**P**		**03 20 58.6**	**-1.3**	
MDJ				PCP	PcP		03 21 53.6	-0.4	
MDJ				PP	PP		03 23 05.5	-1.7	
MDJ				PCS	PcS		03 25 54.1	-0.9	
MDJ				S	**S**		**03 28 54.3**	**-0.9**	
MDJ				AMB	AMB				
	comp=Z,6.0nm,1.4s,mb4.4								
MDJ				AMB	AMB				
	comp=Z,35nm,4.6s								
MDJ				LR	LR				
	comp=Z,38nm,25.6s,MS3.4								
MKAR	**Makanchi Array**	**60.17**	**340**	P	**P**		**03 21 19.2**	**-0.6**	
	comp=Z,2.0nm,0.6s,mb4.3,baz=134,slow=7.0,SNR=15								
KURK	**Kurchatov**	**64.78**	**340**	*e*P	**P**		**03 21 49.8**	**-0.9**	
	comp=Z,4.4nm,0.8s,mb4.5								
MAW	**Mawson**	**65.28**	**197**	P	**P**		**03 21 53.3**	**-0.6**	
	comp=Z,1.0nm,0.7s,mb4.0,baz=52,slow=8.6,SNR=7.8								
ZAL	**Zalesovo**	**65.84**	**346**	P	**P**		**03 21 56.7**	**-0.8**	
	comp=Z,1.0nm,0.4s,mb4.2,baz=325,slow=4.4,SNR=5.0								
ZAL	**Zalesovo**	**65.84**	**346**	P	**P**		**03 21 56.7**	**-0.8**	
BRVK	**Borovoye**	**69.69**	**337**	*e*P	**P**		**03 22 21.6**	**-0.2**	
	comp=Z,1.6nm,0.7s,mb4.1								
CHKZ	**Chkalovo**	**70.04**	**338**	*e*P	**P**		**03 22 23.2**	**-0.7**	
	comp=Z,4.3nm,0.7s,mb4.5								
ZRNK	**Zerenda**	**70.10**	**336**	*e*P	**P**		**03 22 23.4**	**-0.9**	
	comp=Z,4.1nm,0.8s,mb4.4								
ZRNK				*e*pP	pP		03 22 35.1	+4.5	
VNDA	**Vanda**	**73.64**	**169**	P	**P**		**03 22 45.2**	**-0.3**	
	comp=Z,1.3nm,0.9s,mb3.9,baz=295,slow=7.4,SNR=6.2								
VNDA	**Vanda**	**73.64**	**169**	*e*P	**P**		**03 22 45.2**	**-0.4**	
	comp=Z,2.6nm,1.1s,mb4.1								
BRTR	**Keskin Array B**	**83.63**	**312**	P	**P**		**03 23 39.8**	**-0.8**	
	comp=Z,0.6nm,0.8s,mb3.8,baz=66,slow=4.4,SNR=2.4								
WMOK	**Wichita Mounta**	**145.16**	**39**	*e*PKPdf	PKPdf		03 30 50.0	+0.4	
BDFB	**Brasilia**	**145.23**	**225**	PKPbc	PKPbc		03 30 50.6	+1.2	
	comp=Z,2.4nm,0.8s,baz=194,slow=4.2,SNR=6.5								
JCT	**Junction City**	**147.05**	**46**	*e*PKPbc	PKPbc		03 30 55.1	+0.3	
LVC	**Limon Verde**	**148.07**	**186**	*e*PKPbc	PKPbc		03 30 58.6	+1.0	
WCI	**Wyandotte Cave**	**148.69**	**21**	*e*PKPbc	PKPbc		03 30 59.5	+0.2	
WVT	**Waverly**	**149.93**	**25**	*e*PKPbc	PKPbc		03 31 02.7	+0.3	

JMA 23 03:13:25.7±0.5, 4437N×14885E, h30km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.46**	**247**	P	Pn	03 14 02.9	-0.9
NEM2				*e*S	Sn	03 14 30.1	-2.7
JRA	**Rausu**	**2.72**	**262**	P	Pn	03 14 08.6	+1.3
JRA				*e*S	Sn	03 14 40.2	+1.1
JNK	**Nakash**	**3.08**	**257**	P	Pn	03 14 12.6	+0.3
JAK	**Akkeshi**	**3.31**	**247**	P	Pn	03 14 14.7	-0.7
JTKR	**Abashiri--Toko**	**3.58**	**265**	P	Pn	03 14 20.5	+1.4
JAR	**Ashorobuto**	**3.83**	**255**	P	Pn	03 14 23.3	+0.7
JAR				*e*S	Sn	03 15 05.9	-0.7
JOB	**Onbets**	**3.92**	**250**	P	Pn	03 14 24.2	+0.3
JOB				*e*S	Sn	03 15 07.4	-1.5
JMP	**Maruseppu**	**3.97**	**267**	P	Pn	03 14 26.0	+1.6
JCH	**Churui**	**4.36**	**248**	P	Pn	03 14 29.8	-0.1
JCH				*e*S	Sn	03 15 17.8	-1.9
JBT2	**Biratori 2**	**4.97**	**254**	P	Pn	03 14 39.1	+0.8
JNB	**Noboribetsu**	**6.00**	**254**	P	Pn	03 14 52.8	+0.4
JKB	**Kayabe**	**6.24**	**249**	P	Pn	03 14 55.1	-0.5
JKB				*e*S	Sn	03 16 01.2	-4.6
JYM2	**Yakumo 2**	**6.59**	**253**	P	Pn	03 15 00.4	-0.1
JYM2				*e*S	Sn	03 16 10.2	-4.4
JANG	**Nango**	**6.74**	**236**	*e*S	Sn	03 16 09.8	-8.5
JTM	**Tenmabayashi**	**6.77**	**241**	*e*S	Sn	03 16 12.4	-6.6
JTH	**Tanohata**	**6.82**	**232**	*e*S	Sn	03 16 11.0	-9.3
JRG	**Rokugo**	**7.89**	**234**	*e*S	Sn	03 16 39.8	-6.8

*ISCJB **23** 03:33:41.2±5.5, 47S±05×1537E±04, h157km±37km, mb4.3/7, Error ellipse: s-maj=87.3km s-min=43.3km az=106.7*
*NEIC **23** 03:33:44.9±5.3, 454S×15336E, h163km±30km, mb4.3/2, Error ellipse: s-maj=67.1km s-min=39.5km az=106.0*
*IDC **23** 03:33:46.5±8.4, 446S×153.17E, h169km±57km, mb3.7/3, mb1 4.0/4, mb1mx3.5/15, mbtmp4.4/4, MS3.1/1, Ms1 3.1/1, ms1mx2.4/21, Error ellipse: s-maj=110.1km s-min=51.5km az=118.0*

ISC 23 03:33:41.8±6.0, 44S±04×1536E±04, h148km±38km, n12, σ0§62/11, mb4.3/7, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.05**	**232**	P	**Pn**	**03 35 35.8**	**0.0**
	17nm,0.3s,baz=48,slow=4.4,SNR=33						
PMG				S	**Sn**	**03 37 05.4**	**-0.1**
	4.7nm,0.3s,baz=117,slow=20,SNR=4.4						
PMG				LR	LR	03 38 37.0	
	comp=Z,124nm,19.1s,baz=223,slow=38						
KAKA	**Kakadu**	**22.43**	**247**	*e*P	**P**	**03 38 29.1**	**+0.7**
	12nm,1.0s,mb4.3						
WRAB	**Tennant Creek**	**24.25**	**229**	*e*P	**P**	**03 38 45.2**	**+0.2**
	8.5nm,0.7s,mb4.4						
WB2	**Warramunga Arr**	**24.25**	**229**	⇑*i*P	**P**	**03 38 45.5**	**+0.5**
WRA	**Warramunga Arr**	**24.26**	**229**	P	**P**	**03 38 46.1**	**+1.0**
	5.5nm,0.7s,mb4.2,baz=53,slow=9.7,SNR=34						
WRA				pP		03 39 14.4	
	3.8nm,0.9s,baz=55,slow=11,SNR=6.3						
AS31	**Alice Springs**	**26.93**	**223**	*e*P	**P**	**03 39 09.2**	**0.0**
ASAR	**Alice Springs**	**26.94**	**223**	P	**P**	**03 39 09.3**	**+0.1**
	1.2nm,0.5s,mb3.8,baz=56,slow=8.7,SNR=16						
FITZ	**Fitzroy Crossi**	**30.51**	**241**	P	**P**	**03 39 39.6**	**-1.2**
	2.7nm,0.6s,mb4.2,baz=68,slow=8.8,SNR=3.9						
FORT	**Forrest**	**35.55**	**220**	*e*P	**P**	**03 40 24.4**	**-0.3**
	8.9nm,0.5s,mb4.7						
KLBR	**Kellerberrin**	**43.11**	**227**	*e*P	**P**	**03 41 26.3**	**-1.0**
	50nm,1.9s,mb4.8						
TORD	**Torodi Ar. Bea**	**150.91**	**289**	PKPbc	PKPbc	03 53 19.4	+2.6
	0.3nm,0.4s,baz=63,slow=1.9,SNR=17						
TORD				pPKPbc	pPKPbc	03 53 53.6	-2.2
	1.9nm,0.8s,baz=68,slow=2.0,SNR=7.4						
TORD	**Torodi Ar. Bea**	**150.91**	**289**	PKPbc	PKPbc	03 53 19.4	+2.6
TORD				pPKPbc	pPKPbc	03 53 53.6	-2.2

*IDC **23** 03:34:37.2±1.8, 10.12S×10868E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/17, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=84.5km s-min=18.9km az=47.0*
*NEIC **23** 03:34:38.9±0.9, 10.11S×10870E, h10km, mb4.1/3, Error ellipse: s-maj=47.4km s-min=9.1km az=225.0*
*ISCJB **23** 03:34:40.9±1.3, 100S±03×1089E±03, h33km, mb3.8/8, Error ellipse: s-maj=67.3km s-min=12.8km az=88.9*

ISC 23 03:34:42.9±1.3, 100S±03×1088E±03, h35km, n11, σ0§21/11, mb3.8/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.26**	**138**	*e*Pn	**Pn**	**03 38 09.7**	**-6.0**
FITZ	**Fitzroy Crossi**	**18.19**	**118**	*e*P	**Pn**	**03 38 52.6**	**0.0**
	3.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.19**	**118**	P	**Pn**	**03 38 52.6**	**0.0**
	0.2nm,0.3s,baz=134,slow=21,SNR=13						
WRA	**Warramunga Arr**	**26.53**	**115**	P	**P**	**03 40 17.0**	**-0.3**
	0.8nm,0.6s,mb3.4,baz=285,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**27.53**	**123**	P	**P**	**03 40 26.2**	**0.0**
	0.3nm,0.6s,mb3.1,baz=295,slow=8.6,SNR=3.4						
STKA	**Stephens Creek**	**37.32**	**131**	P	**P**	**03 41 52.1**	**+0.3**
	0.9nm,0.5s,mb3.9,baz=347,slow=11,SNR=3.0						
SONM	**Songino Array**	**57.66**	**358**	P	**P**	**03 44 30.0**	**+0.4**
	0.9nm,0.5s,mb4.0,baz=177,slow=8.3,SNR=7.9						
MKAR	**Makanchi Array**	**61.33**	**340**	P	**P**	**03 44 55.0**	**-0.1**
	1.0nm,0.6s,mb4.1,baz=134,slow=6.9,SNR=10						
CHKZ	**Chkalovo**	**71.25**	**337**	*e*P	**P**	**03 45 58.5**	**-0.1**
	3.1nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**71.33**	**336**	*e*P	**P**	**03 45 58.9**	**-0.2**
	1.1nm,0.6s,mb4.0						
BRTR	**Keskin Array B**	**85.16**	**312**	P	**P**	**03 47 15.5**	**0.0**
	0.6nm,0.6s,mb3.9,baz=141,slow=6.8,SNR=3.9						

*ISCJB **23** 03:38:16.0±0.7, 1762S±006×6932W±007, h157km±8km, mb4.1/2, Error ellipse: s-maj=11.4km s-min=9.9km az=38.2*
*IDC **23** 03:38:18.2±1.7, 1769S×6909W, h148km±8km, mb3.7/3, mb1 3.5/5, mb1mx3.2/18, mbtmp4.1/5, Error ellipse: s-maj=32.5km s-min=10.8km az=106.0*
*NEIC **23** 03:38:18.2±1.6, 1760S×6916W, h153km±10km, mb3.5/1, Error ellipse: s-maj=33.7km s-min=13.6km az=108.0*

ISC 23 03:38:17.2±0.7, 1762S±006×6932W±007, h149km±8km, n9, σ1§00/14, mb4.1/2, 1C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.75**	**41**	P	**Pn**	**03 38 50.8**	**+1.5**
	21nm,0.3s,baz=231,slow=7.7,SNR=871						
LPAZ				S	**Sn**	**03 39 14.4**	**+0.4**
	baz=34,slow=18						
LPAZ	**La Paz**	**1.75**	**41**	⇓*i*Pn	**Pn**	**03 38 50.8**	**+1.4**
LPAZ				S	**Sn**	**03 39 14.4**	**+0.4**
ARE	**Arequipa**	**2.37**	**299**	⇑*i*P	**Pn**	**03 38 55.9**	**-0.8**
ARE				*e*S	**Sn**	**03 39 27.0**	**-0.1**
LVC	**Limon Verde**	**4.98**	**176**	P	**Pn**	**03 39 31.7**	**+1.4**
	3.0nm,0.3s,baz=350,slow=11,SNR=76						
LVC				S	**Sn**	**03 40 26.5**	**-0.7**
	2.7nm,0.3s,baz=77,slow=22,SNR=13						
SIV	**San Ignacio**	**8.06**	**80**	P	**Pn**	**03 40 09.6**	**-1.8**
	1.3nm,0.3s,baz=272,slow=10,SNR=23						
SIV				S	**Sn**	**03 41 37.3**	**-3.9**
	0.1nm,0.3s,baz=72,slow=19,SNR=2.8						
SAML	**Samuel**	**10.49**	**35**	*e*Pn	**Pn**	**03 40 43.0**	**-0.6**
	0.6nm,0.4s						
BDFB	**Brasilia**	**20.51**	**88**	P	**P**	**03 42 44.4**	**+0.7**
	1.8nm,0.4s,baz=257,slow=6.7,SNR=8.6						
DBIC	**Dimbokro**	**68.06**	**75**	P	**P**	**03 49 00.7**	**0.0**
	6.5nm,1.2s,mb4.2,baz=216,slow=8.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**76.46**	**71**	P	**P**	**03 49 50.9**	**+0.4**
	2.2nm,0.6s,mb4.0,baz=256,slow=5.5,SNR=73						

*ISCJB **23** 03:56:57.6±1.0, 4308N±007×040W±004, h9km±7km, Error ellipse: s-maj=12.6km s-min=5.3km az=4.9*
*STR **23** 03:56:57.8±0.0, 4301N×040W, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **23** 03:56:57.7±0.9, 4266N×061W, h0km, mbLg0.6/1, Error ellipse: s-maj=7.4km s-min=3.6km az=28.0, PRXIMO SIN SOLUCIN*
*CSEM **23** 03:56:58.4±0.2, 4307N×042W, h3km±1km, ML2.1*
*LDG **23** 03:56:58.4±0.1, 4307N×042W, h3km, Md2.1/2, Error ellipse: s-maj=4.0km s-min=1.9km az=178.0*

ISC 23 03:56:58.1±1.0, 4307N±007×040W±004, h7km±8km, n7, σ0§37/13, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.01**	**111**	Pg	**Pg**	**03 56 59.2**	**-0.2**
REYF				Sg	**Sg**	**03 57 00.3**	**0.0**
ETSF	**Etsaut**	**0.21**	**214**	*e*Pg	**Pg**	**03 57 02.3**	**0.0**
ETSF				*e*Sg	**Sg**	**03 57 05.5**	**+0.4**
ATE	**Arette**	**0.22**	**274**	Pg	**Pg**	**03 57 02.3**	**-0.2**
ATE				Sg	**Sg**	**03 57 05.6**	**+0.1**
EPF	**Esparros**	**0.55**	**94**	*e*Pg	**Pg**	**03 57 09.4**	**+0.8**
EPF				*e*Sg	**Sg**	**03 57 15.8**	**+0.1**
EBIE	**Bielsa**	**0.56**	**134**	Pg	**Pg**	**03 57 08.0**	**-0.8**
	0.1nm,0.1s,SNR=7.9						
EBIE				Lg		03 57 15.5	
	0.2nm,0.0s,SNR=7.2						
SJPF	**Ste Jean**	**0.60**	**274**	*e*Pg	**Pg**	**03 57 09.5**	**-0.3**
SJPF				*e*Sg	**Sg**	**03 57 17.8**	**+0.1**
	0.4nm,0.2s						
SJPF	**Ste Jean**	**0.60**	**274**	*e*Pg	**Pg**	**03 57 09.5**	**-0.3**
SJPF				*e*Sg	**Sg**	**03 57 17.8**	**+0.1**
	0.2nm,0.2s						

*NIED **23** 04:27:00, 4390N×14760E, h89km, Mw3.7 Best double couple: M0 3.69000×10^14 NP1:φs 162.00000°, δ57.00000°, λ-65.00000°. NP2:φs 301.00000°, δ41.00000°, λ-123.00000°.*
*ISCJB **23** 04:27:40.1±1.1, 4422N±009×1477E±01, h96km±8km, Error ellipse: s-maj=19.6km s-min=6.8km az=87.7*
*MOS **23** 04:27:40.9±0.7, 4441N×14751E, h101km, mb3.7/2, Error ellipse: s-maj=38.7km s-min=21.4km az=134.4*
*SKHL **23** 04:27:42.5±0.3, 4392N×14780E, h76km±44km, mb4.9/2*
*JMA **23** 04:27:43.1±0.2, 4392N×14763E, h94km, M4.1*

ISC 23 04:27:41.2±1.1, 4422N±009×1477E±01, h90km±8km, n20, σ1§13/33, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.02**	**7**	*e*P	**Pn**	**04 28 00.5**	**-0.6**
KUR				AMB	AMB	04 28 03.0	
	80nm,0.5s						
KUR				AMB	AMB	04 28 03.0	
	90nm,0.5s						
KUR				AMB	AMB	04 28 03.0	
	190nm,0.5s						
KUR				*i* S	**Sn**	**04 28 15.5**	**-0.5**
KUR				A		04 28 16.0	
	6μm,1.0s						
KUR				A		04 28 16.8	
	2μm,0.5s						
KUR				A		04 28 16.8	
	2μm,0.5s						
KUR	**Kuril'sk**	**1.02**	**7**	*e*PN	**Pn**	**04 28 00.5**	**-0.6**
KUR				*i* S	**Sn**	**04 28 15.5**	**-0.5**
KUR				pmax	pmax		
	comp=N,180nm,0.5s						
KUR				pmax	pmax		
	comp=Z,190nm,0.5s						
KUR				smax			
	comp=N,5500μm,1.0s						
KUR				smax			
	comp=E,5500μm,1.0s						
KUR				smax			
	comp=N,2μm,0.5s						
KUR				smax			
	comp=E,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.34**	**263**	*e*P	**Pn**	**04 28 04.9**	**0.0**
YUK				AMB	AMB	04 28 05.8	
	comp=E,250nm,0.2s						
YUK				AMB	AMB	04 28 05.8	
	comp=E,960nm,0.2s						
YUK				*i* S	**Sn**	**04 28 21.5**	**-1.2**
YUK				A		04 28 23.5	
	comp=E,5μm,0.5s						
YUK				A		04 28 23.5	
	comp=E,4μm,0.5s						
YUK				A		04 28 23.7	
	comp=E,8μm,1.0s						
YUK				A		04 28 23.7	
	comp=E,6μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**1.34**	**263**	*e*PN	**Pn**	**04 28 04.9**	**0.0**
YUK				*i* S	**Sn**	**04 28 21.5**	**-1.2**
YUK				pmax	pmax		
	comp=Z,960nm,0.3s						
YUK				pmax	pmax		
	comp=N,250nm,0.2s						
YUK				smax			
	comp=N,5μm,0.4s						
YUK				smax			
	comp=E,4μm,0.5s						
YUK				smax			
	comp=N,8μm,0.8s						
YUK				smax			
	comp=E,6μm,0.8s						
NEM2	**Nemuro 2**	**1.65**	**240**	P	**Pn**	**04 28 08.9**	**0.0**
NEM2				*e*S	**Sn**	**04 28 28.4**	**-1.5**
JRA	**Rausu**	**1.88**	**262**	P	**Pn**	**04 28 13.2**	**+1.4**
JRA				*e*S	**Sn**	**04 28 36.2**	**+1.1**
JNK	**Nakash**	**2.25**	**255**	P	**Pn**	**04 28 17.4**	**+0.8**
JNK				*e*S	**Sn**	**04 28 43.0**	**-0.7**
JAK	**Akkeshi**	**2.50**	**242**	P	**Pn**	**04 28 20.0**	**0.0**
JAK				*e*S	**Sn**	**04 28 48.2**	**-1.5**
JTKR	**Abashiri--Toko**	**2.74**	**266**	P	**Pn**	**04 28 24.4**	**+1.2**
JTKR				*e*S	**Sn**	**04 28 56.0**	**+0.4**
JAR	**Ashorobuto**	**2.99**	**253**	P	**Pn**	**04 28 28.0**	**+1.4**
JAR				*e*S	**Sn**	**04 29 02.2**	**+0.6**
JCH	**Churui**	**3.54**	**245**	P	**Pn**	**04 28 34.0**	**0.0**
JCH				*e*S	**Sn**	**04 29 12.8**	**-2.1**
JKK2	**Kamakawa 2**	**3.59**	**266**	P	**Pn**	**04 28 36.2**	**+1.6**
JSE	**Soyaes**	**3.73**	**283**	P	**Pn**	**04 28 37.7**	**+1.2**
JFR	**Furan**	**3.85**	**256**	P	**Pn**	**04 28 39.7**	**+1.5**
JNBK	**Urakawa-nobuka**	**4.10**	**244**	P	**Pn**	**04 28 41.1**	**-0.5**
JNBK				*e*S	**Sn**	**04 29 24.9**	**-3.5**
YSS	**Yuzh-Sakhalins**	**4.42**	**310**	*e*PN	**Pn**	**04 28 44.0**	**-1.9**
YSS				*e*		04 29 33.0	
YSS				pmax	pmax		
	comp=E,30nm,0.9s						
JEW	**Eniwo**	**4.75**	**255**	P	**Pn**	**04 28 51.8**	**+1.4**
JKB	**Kayabe**	**5.41**	**247**	P	**Pn**	**04 28 59.4**	**0.0**
JKB				*e*S	**Sn**	**04 29 55.8**	**-4.5**
MKAR	**Makanchi Array**	**44.72**	**297**	*i* P	**P**	**04 35 44.0**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.64**	**333**	*i* P	**P**	**04 38 08.6**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*INMG **23** 04:41:23.3±0.6, 4392N×1456W, h10km, ML2.2, Error ellipse: s-maj=5.7km s-min=3.6km az=79.0*
*CSEM **23** 04:41:24.2±0.4, 4344N×1380W, h10km, mb4.3/3, Error ellipse: s-maj=9.8km s-min=7.7km az=175.0*

MDD 23 04:41:22.1±2.5, 4382N×1406W, h0km, mb4.3/3, 2D, Error ellipse: s-maj=23.1km s-min=21.0km az=80.0, PRXIMO, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**3.80**	**101**	⇓P	Pn	04 42 20.7	-1.3
	6.3nm,0.1s,SNR=18						
EMAZ				S	Sn	04 43 02.7	-4.7
	1.2nm,0.2s,SNR=7.4						
EMAZ	**Mazaricos**	**3.80**	**101**	P	Pn	04 42 20.7	-1.3
	6.3nm,0.1s,SNR=25						
EMAZ				S	Sn	04 43 02.7	-4.7
	1.2nm,0.2s,SNR=7.4						
STS	**Santiago**	**4.12**	**101**	⇓P	Pn	04 42 25.2	-1.1
	14nm,0.1s,SNR=18						
STS				S	Sn	04 43 11.8	-3.4
	1.1nm,0.3s						
STS	**Santiago**	**4.12**	**101**	P	Pn	04 42 25.3	-1.0
	14nm,0.1s,SNR=6.3						
STS				S	Sn	04 43 11.8	-3.4
	1.1nm,0.3s						
ELOB	**Lobios**	**4.82**	**112**	P	Pn	04 42 34.8	-1.1
	4.4nm,0.2s,SNR=23						
ELOB				S	Sn	04 43 29.0	-3.5
	6.2nm,1.0s						
ELOB	**Lobios**	**4.82**	**112**	P	Pn	04 42 34.9	-1.0
	4.4nm,0.2s,SNR=23						
ELOB				S	Sn	04 43 29.0	-3.5
	6.2nm,1.0s						
PCAB	**Cabril**	**4.91**	**113**	*e*Pn	Pn	04 42 36.3	-0.9
PCAB				*e*Sn	Sn	04 43 30.8	-4.0
PCAB							
	1.4nm,0.1s						
PCAB	**Cabril**	**4.91**	**113**	*e*P	Pn	04 42 36.3	-0.9
PCAB				*e*S	Sn	04 43 30.8	-4.0
	1.4nm,0.1s						
EPON	**Pontenova**	**5.04**	**93**	P	Pn	04 42 37.4	-1.6
	0.5nm,0.1s,SNR=7.9						
EPON				S	Sn	04 43 32.8	-5.2
	3.9nm,0.7s,SNR=6.5						
EPON	**Pontenova**	**5.04**	**93**	P	Pn	04 42 37.2	-1.8
	0.5nm,0.1s,SNR=7.9						
EPON				S	Sn	04 43 32.8	-5.1
	3.9nm,0.7s,SNR=6.5						
PVIS	**Viseu**	**5.52**	**122**	*e*Pn	Pn	04 42 44.5	-1.1
PVIS				*e*Sn	Sn	04 43 45.1	-4.7
ECAL	**Calabor**	**5.70**	**107**	P	Pn	04 42 47.1	-0.9
	0.8nm,0.1s,SNR=7.1						
ECAL				S	Sn	04 43 49.7	-4.4
	1.0nm,0.2s						
ECAL	**Calabor**	**5.70**	**107**	P	Pn	04 42 47.1	-0.9
	0.8nm,0.1s,SNR=7.1						
ECAL				S	Sn	04 43 49.7	-4.3
	1.0nm,0.2s						
PBRG	**Braganca**	**5.75**	**108**	*e*Pn	Pn	04 42 48.0	-0.6
PTOM	**Tomar**	**5.95**	**133**	*e*Sn	Sn	04 43 55.7	-4.7
PTOM							
	3.5nm,0.1s						
PTOM	**Tomar**	**5.95**	**133**	Sn	Sn	04 43 55.7	-4.7
	1.8nm,0.1s						
PLOU	**Loures**	**6.16**	**142**	*e*Sn	Sn	04 43 59.0	-6.4
PCBR	**Castelo Branco**	**6.32**	**127**	*e*Pn	Pn	04 42 55.1	-1.4
PCBR				*e*Sn	Sn	04 44 03.7	-5.7
PCBR							
	0.6nm,0.3s						
EARI	**Arriondas**	**6.45**	**92**	P	Pn	04 42 56.8	-1.5
	1.2nm,0.2s,SNR=18						
EARI				S	Sn	04 44 05.8	-6.8
	36nm,1.6s						
EARI	**Arriondas**	**6.45**	**92**	P	Pn	04 42 57.0	-1.3
	1.2nm,0.2s,SNR=18						
EARI				S	Sn	04 44 05.8	-6.8
	36nm,1.6s						
PESTR	**Estremoz**	**6.94**	**133**	*e*Pn	Pn	04 43

EADA	**Adamuz**		**9.12 125**	P	Pn	04 43 33.7	-1.3
	0.7nm,0.1s,SNR=12							
EADA	**Adamuz**		**9.12 125**	P	Pn	04 43 33.7	-1.3
	0.7nm,0.1s,SNR=12							

ISCJB ***23*** *05:08:03.6±0.4, 3655N×002×155E±004, h10km, Error ellipse: s-maj=4.1km s-min=3.6km az=7.9*
CSEM ***23*** *05:08:03.9±0.1, 3642N×159E, h20km, ML3.7, Error ellipse: s-maj=2.5km s-min=2.3km az=15.0*
MDD ***23*** *05:08:04.9±0.8, 3646N×164E, h7km±11km, mb3.9/15, Error ellipse: s-maj=10.0km s-min=4.9km az=154.0, PRXIMO*
NEIC ***23*** *05:08:04.4, 3639N×174E, h16km, MG3.9(MDD), After MDD.*
CRAAG ***23*** *05:08:05.6, 3623N×168E, Ml3.7*

ISC 23 05:08:04.2±0.5, 3651N±003×160E±004, h10km, n66, σ1°20/105, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EBNR	**Beni Rached**	**0.22**	**194**	P	**Pg**	**05 08 09.0**	**+0.2**
ECHA	**Ech Chlef**	**0.40**	**208**	P	**Pg**	**05 08 12.0**	**-0.1**
ECHF	**Ech Chlef**	**0.41**	**211**	P	**Pg**	**05 08 12.0**	**-0.2**
EANR	**'Ain N'Sour**	**0.69**	**216**	P	**Pg**	**05 08 17.2**	**-0.3**
OKGL	**Djebel Kef Gue**	**0.90**	**239**	P	**Pg**	**05 08 22.0**	**+0.4**
EMHD	**Djebel Mahouad**	**1.14**	**105**	P	**Pb**	**05 08 25.2**	**-0.7**
ETRT	**Tiaret**	**1.14**	**192**	P	**Pb**	**05 08 25.0**	**-1.0**
ABA	**Alger-Bouzarea**	**1.19**	**75**	P	**Pb**	**05 08 26.0**	**-0.9**
OJGS	**Djebel Guires**	**1.21**	**215**	P	**Pn**	**05 08 21.0**	**-6.2**
ODJA	**Bouhanifia**	**1.84**	**231**	P	**Pn**	**05 08 40.0**	**+4.1**
USTO	**Oran**	**1.90**	**247**	P	**Pg**	**05 08 49.0**	**+8.3**
EIBI	**Ibiza**	**2.52**	**355**	P	**Pn**	**05 08 45.7**	**+0.5**
	6.3nm,0.1s,SNR=40						
EIBI				S	**Sn**	**05 09 14.2**	**-1.9**
	8.3nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.52**	**355**	P	**Pn**	**05 08 45.7**	**+0.4**
	6.3nm,0.1s,SNR=40						
EIBI				S	**Sn**	**05 09 14.2**	**-1.9**
	8.3nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**2.63**	**327**	P	**Pn**	**05 08 47.3**	**+0.6**
	4.1nm,0.2s,SNR=26						
EBEN				S	**Sn**	**05 09 18.8**	**+0.1**
	2.1nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**2.63**	**327**	P	**Pn**	**05 08 47.3**	**+0.6**
	4.1nm,0.2s,SNR=26						
EBEN				S	**Sn**	**05 09 18.8**	**+0.2**
	2.1nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**2.63**	**301**	P	**Pn**	**05 08 46.2**	**-0.5**
	5.1nm,0.4s,SNR=11						
EMUR				S	**Sn**	**05 09 17.5**	**-1.2**
	1.4nm,0.1s,SNR=4.9						
EMUR	**La Murta**	**2.63**	**301**	P	**Pn**	**05 08 46.2**	**-0.5**
	5.1nm,0.4s,SNR=11						
EMUR				S	**Sn**	**05 09 17.5**	**-1.2**
	1.4nm,0.1s,SNR=4.9						
ENIJ	**Nijar**	**3.09**	**280**	P	**Pn**	**05 08 52.6**	**-0.5**
	1.6nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**05 09 28.5**	**-1.6**
	0.9nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.29**	**311**	P	**Pn**	**05 08 56.8**	**+1.1**
	0.5nm,0.1s,SNR=15						
ETOB				S	**Sn**	**05 09 35.8**	**+0.9**
	2.0nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.29**	**311**	P	**Pn**	**05 08 56.8**	**+1.1**
ETOB				S	**Sn**	**05 09 37.6**	**+2.7**
ETOB	**Tobarra**	**3.29**	**311**	P	**Pn**	**05 08 56.8**	**+1.1**
	0.5nm,0.1s,SNR=15						
ETOB				S	**Sn**	**05 09 37.6**	**+2.7**
	2.0nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.40**	**16**	P	**Pn**	**05 08 56.8**	**-0.5**
	1.7nm,0.2s,SNR=8.0						
ETOS				S	**Sn**	**05 09 34.8**	**-2.7**
	1.2nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.40**	**16**	P	**Pn**	**05 08 56.8**	**-0.5**
ETOS				S	**Sn**	**05 09 35.6**	**-2.0**
ETOS	**Mallorca**	**3.40**	**16**	P	**Pn**	**05 08 56.8**	**-0.4**
	1.7nm,0.2s,SNR=8.0						
ETOS				S	**Sn**	**05 09 35.6**	**-1.9**
	1.2nm,0.1s,SNR=7.9						
EBER	**Berja**	**3.63**	**278**	P	**Pn**	**05 09 00.2**	**-0.2**
	6.5nm,0.2s,SNR=24						
EBER				S	**Sn**	**05 09 41.9**	**-1.4**
	0.9nm,0.1s,SNR=7.9						
EBER	**Berja**	**3.63**	**278**	P	**Pn**	**05 09 00.2**	**-0.2**
	6.5nm,0.2s,SNR=24						
EBER				S	**Sn**	**05 09 41.9**	**-1.4**
	0.9nm,0.1s,SNR=7.9						
ECHE	**Chera**	**3.69**	**327**	P	**Pn**	**05 09 02.6**	**+1.4**
	2.6nm,0.2s,SNR=14						
ECHE				S	**Sn**	**05 09 45.3**	**+0.5**
	1.6nm,0.2s,SNR=7.9						
ECHE	**Chera**	**3.69**	**327**	P	**Pn**	**05 09 02.6**	**+1.3**
ECHE				S	**Sn**	**05 09 45.3**	**+0.5**
EALB	**Alboran**	**3.79**	**263**	P	**Pn**	**05 09 03.4**	**+0.7**
	2.0nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**05 09 46.2**	**-1.0**
	29nm,0.5s,SNR=7.9						
EALB	**Alboran**	**3.79**	**263**	P	**Pn**	**05 09 03.3**	**+0.7**
EALB				S	**Sn**	**05 09 46.2**	**-1.0**
	29nm,0.5s,SNR=7.9						
EVIA	**Vianos**	**3.89**	**304**	P	**Pn**	**05 09 05.6**	**+1.5**
	2.5nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**05 09 51.0**	**+1.2**
	1.7nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**3.89**	**304**	P	**Pn**	**05 09 05.6**	**+1.6**
EVIA				S	**Sn**	**05 09 51.5**	**+1.7**
EVIA	**Vianos**	**3.89**	**304**	P	**Pn**	**05 09 05.6**	**+1.5**
	2.5nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**05 09 51.5**	**+1.7**
	1.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.95**	**291**	P	**Pn**	**05 09 06.2**	**+1.4**
	1.4nm,0.1s,SNR=9.2						
EQES				S	**Sn**	**05 09 51.2**	**0.0**
	5.8nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.95**	**291**	P	**Pn**	**05 09 06.2**	**+1.4**
	1.4nm,0.1s,SNR=9.2						
EQUE	**Quentar**	**4.10**	**281**	P	**Pn**	**05 09 07.5**	**+0.6**
	4.7nm,0.4s,SNR=18						
EQUE				S	**Sn**	**05 09 55.3**	**+0.3**
	1.2nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**4.16**	**276**	P	**Pn**	**05 09 08.3**	**+0.5**
	1.2nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**4.16**	**276**	P	**Pn**	**05 09 08.4**	**+0.6**
EGUA	**Guajares**	**4.16**	**276**	P	**Pn**	**05 09 08.4**	**+0.6**
	1.2nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.18**	**338**	P	**Pn**	**05 09 09.5**	**+1.5**
	4.6nm,0.2s,SNR=63						
EMOS				S	**Sn**	**05 09 55.1**	**-1.8**
	0.4nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.18**	**338**	P	**Pn**	**05 09 09.5**	**+1.5**
EMOS				S	**Sn**	**05 09 56.2**	**-0.8**
EMOS	**Mosqueruela**	**4.18**	**338**	P	**Pn**	**05 09 09.5**	**+1.5**
	4.6nm,0.2s,SNR=63						
EMOS				S	**Sn**	**05 09 56.2**	**-0.7**
	0.4nm,0.1s,SNR=7.9						
ECOG	**Cogollos-Vega**	**4.21**	**282**	P	**Pn**	**05 09 10.1**	**+1.6**
	1.5nm,0.2s,SNR=4.0						
ECOG				S	**Sn**	**05 10 01.9**	**+4.2**
	0.9nm,0.2s,SNR=4.0						
ECOG	**Cogollos-Vega**	**4.21**	**282**	P	**Pn**	**05 09 09.9**	**+1.5**
ECOG				S	**Sn**	**05 09 58.8**	**+1.1**
ECOG	**Cogollos-Vega**	**4.21**	**282**	P	**Pn**	**05 09 09.9**	**+1.5**
	1.5nm,0.2s,SNR=4.0						
ERTA	**Horta de San J**	**4.55**	**348**	P	**Pn**	**05 09 14.8**	**+1.6**
	1.0nm,0.2s,SNR=6.0						
ERTA				S	**Sn**	**05 10 04.0**	**-2.1**
	0.5nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**4.55**	**348**	P	**Pn**	**05 09 14.8**	**+1.7**
	1.0nm,0.2s,SNR=6.0						
ERTA				S	**Sn**	**05 10 04.0**	**-2.1**
	0.5nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**4.60**	**293**	P	**Pn**	**05 09 15.1**	**+1.3**
	0.8nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**05 10 05.4**	**-1.9**
	1.9nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**4.86**	**355**	P	**Pn**	**05 09 17.6**	**+0.2**
	1.3nm,0.2s,SNR=5.8						
EPOB				S	**Sn**	**05 10 12.7**	**-0.9**
	0.3nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**4.86**	**355**	P	**Pn**	**05 09 17.6**	**+0.3**
	1.3nm,0.2s,SNR=5.8						
EPOB				S	**Sn**	**05 10 12.7**	**-0.9**
	0.3nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**5.13**	**273**	P	**Pn**	**05 09 19.6**	**-1.5**
	1.0nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**05 10 17.3**	**-3.1**
	1.5nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**5.13**	**273**	P	**Pn**	**05 09 19.6**	**-1.5**
EMIJ				S	**Sn**	**05 10 17.3**	**-3.1**
EADA	**Adamuz**	**5.19**	**290**	P	**Pn**	**05 09 22.1**	**+0.2**
	0.4nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**05 10 21.2**	**-0.7**
	2.0nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**5.19**	**290**	P	**Pn**	**05 09 22.1**	**+0.2**
	0.4nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**05 10 21.2**	**-0.7**
	SNR=7.9						
ESDC	**Sonseca Array**	**5.41**	**307**	P	**Pn**	**05 09 24.0**	**-0.9**
	1.4nm,0.3s,baz=125,slow=14,SNR=4.0						
ESDC	**Sonseca Array**	**5.41**	**307**	P	**Pn**	**05 09 24.0**	**-0.9**
	1.4nm,0.3s,SNR=4.0						
EMIN	**Mina Concepcio**	**6.73**	**283**	P	**Pn**	**05 09 42.8**	**-0.2**
	0.5nm,0.3s,SNR=4.0						
EMIN				S	**Sn**	**05 10 56.5**	**-3.2**
	0.5nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.73**	**283**	P	**Pn**	**05 09 42.8**	**-0.2**
	0.5nm,0.3s,SNR=4.0						
EALK	**Alkurruntz**	**7.12**	**341**	P	**Pn**	**05 09 51.1**	**+2.7**
	0.7nm,0.3s,SNR=4.0						
EALK	**Alkurruntz**	**7.12**	**341**	P	**Pn**	**05 09 51.7**	**+3.3**
EALK	**Alkurruntz**	**7.12**	**341**	P	**Pn**	**05 09 51.7**	**+3.3**
ELAN	**Lanestosa**	**7.75**	**332**	P	**Pn**	**05 09 59.6**	**+2.5**
	1.3nm,0.1s,SNR=16						
ELAN	**Lanestosa**	**7.75**	**332**	P	**Pn**	**05 09 59.8**	**+2.7**
ELAN	**Lanestosa**	**7.75**	**332**	P	**Pn**	**05 09 59.8**	**+2.7**
ECAL	**Calabor**	**8.44**	**313**	P	**Pn**	**05 10 08.4**	**+1.9**
	1.1nm,0.2s,SNR=4.0						
ECAL	**Calabor**	**8.44**	**313**	P	**Pn**	**05 10 08.4**	**+1.9**

IDC 23 05:24:54.2±3.1, 967S×10892E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/17, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=141.8km s-min=27.4km az=46.0, South of Java

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.25**	**119**	P	Pn	05 29 08.6	-0.3
	0.2nm,0.3s,baz=315,slow=13,SNR=7.2						
FITZ				Sn	Sn	05 32 12.2	-21
	0.1nm,0.3s,baz=201,slow=16,SNR=2.7						
WRA	**Warramunga Arr**	**26.57**	**115**	P	P	05 30 32.8	-1.1
	0.7nm,0.7s,baz=285,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**27.62**	**123**	P	P	05 30 45.5	+2.1
	0.4nm,0.7s,baz=304,slow=9.4,SNR=4.8						
MKAR	**Makanchi Array**	**61.03**	**339**	P	P	05 35 09.6	0.0
	0.5nm,0.5s,baz=134,slow=6.9,SNR=4.5						

IPEC ***23*** *05:29:00.7±0.2, 5040N×1893E, h1km±1km, ML2.3/3, Error ellipse: s-maj=2.3km s-min=0.8km az=171.0*
NEIC ***23*** *05:29:00.8±0.9, 5035N×1892E, h5km, MG2.7(WAR), Error ellipse: s-maj=13.2km s-min=6.9km az=193.0*
CSEM ***23*** *05:29:01.4±0.1, 5033N×1895E, h2km, ML2.3/3, Error ellipse: s-maj=3.1km s-min=1.5km az=8.0*
VIE ***23*** *05:29:05.7±0.6, 4981N×1887E, h0km, mb1.6/3, ML2.7/4, Error ellipse: s-maj=3.8km s-min=3.5km az=172.0 44 km E of Ostrava Suspected Mining induced.*

WAR 23 05:29:01.2, 5035N×1898E, ML2.7, 3C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.54**	**103**	*i* Pg	Pg	05 29 11.7	+0.1
OJC				*i* Sg	Sg	05 29 19.6	+1.0
OJC	**Ojcow**	**0.54**	**103**	*i* Pg	Pg	05 29 11.7	+0.1
OJC				*e*Sg	Sg	05 29 19.5	+0.9
OKC	**Ostrava-Krasne**	**0.74**	**227**	*e*PG	Pg	05 29 15.3	-0.1
OKC				*e*SG	Sg	05 29 25.3	+0.4
	25nm,0.3s						
OKC	**Ostrava-Krasne**	**0.74**	**227**	*e*Pg	Pg	05 29 15.0	-0.4
OKC				*e*Sg	Sg	05 29 24.4	-0.5
MORC	**Moravsky Berou**	**1.09**	**239**	*e*Pg	Pg	05 29 21.4	-0.7
MORC				*e*Sg	Sg	05 29 35.2	-0.9
MORC	**Moravsky Berou**	**1.09**	**239**	*e*Pg	Pg	05 29 21.4	-0.6
MORC				*e*Sg	Sg	05 29 35.2	-0.9
NIE	**Niedzica**	**1.27**	**137**	*e*Pg	Pg	05 29 25.2	-0.3
NIE				*e*Sg	Sg	05 29 42.7	+0.8
DPC	**Dobruska-Polom**	**1.70**	**271**	*e*PG	Pg	05 29 31.1	-2.7
DPC				*e*SG	Sg	05 29 53.7	-2.2
	21nm,0.5s						
DPC	**Dobruska-Polom**	**1.70**	**271**	*e*Pn	Pn	05 29 30.9	-1.2
DPC	**Dobruska-Polom**	**1.70**	**271**	*e*Pg	Pg	05 29 31.1	-2.7
DPC				*e*Sg	Sg	05 29 53.7	-2.2
KSP	**Ksiaz**	**1.78**	**287**	Pn	Pn	05 29 32.6	-0.6
KSP				Pg	Pg	05 29 34.3	-1.1
KSP				*e*Sg	Sg	05 29 58.1	-0.4
KSP	**Ksiaz**	**1.78**	**287**	*e*Pn	Pn	05 29 32.6	-0.6
KSP				*e*Pg	Pg	05 29 34.7	-0.7
KSP				*e*Sg	Sg	05 29 58.1	-0.4
VYHS	**Vyhne**	**1.85**	**183**	*e*PN	Pn	05 29 33.0	-1.2
VYHS				*e*SN	Sn	05 29 57.3	-1.1
VRAC	**Vranov**	**1.86**	**237**	*e*Pn	Pn	05 29 33.6	-0.7
VRAC				*e*Sg	Sg	05 29 59.1	-1.9
UPC	**Upice**	**1.91**	**276**	*e*PG	Pg	05 29 34.6	-3.1
UPC				*e*SG	Sg	05 29 59.7	-2.7
KRUC	**Moravsky**	**2.11**	**234**	*e*Pn	Pn	05 29 37.5	-0.3
KRUC				*e*Sn	Sn	05 30 05.4	+0.7
	8.1nm,0.2s						
CRVS	**Cervenica-Dubn**	**2.17**	**131**	*e*PN	Pn	05 29 41.0	+2.5
CRVS				*e*SN	Sn	05 30 11.3	+5.3
KOLS	**Kolonicke sedl**	**2.56**	**122**	*e*PN	Pn	05 29 49.5	+5.5
PRU	**Pruhonice**	**2.88**	**265**	*e*PG	Pg	05 29 52.2	-4.1
PRU				*e*SG	Sg	05 30 29.6	-4.0
	12nm,0.9s						
CONA	**Conrad Observa**	**3.17**	**221**	⇑ *i* Pn	Pn	05 29 50.5	-1.8
CONA				⇓ *i* Sg	Sg	05 30 36.0	-7.0
	3.9nm,0.3s						
KHC	**Kasperske Hory**	**3.71**	**253**	*e*PG	Pg	05 30 08.9	-3.4
KHC				*e*SG	Sg	05 30 57.1	-3.2
	11nm,0.5s						
CLL	**Collm**	**3.91**	**287**	*e*Pg	Pg	05 30 14.0	-2.1
CLL				*i* Sg	Sg	05 31 07.2	+0.4
	comp=Z,8.0nm,0.7s						
MOA	**Molln**	**3.98**	**233**	⇑ *i* Pn	Pn	05 30 02.8	-0.6
MOA				⇑ *i* Sg	Sg	05 31 05.0	-4.0
	comp=Z,4.6nm,0.5s						

IDC ***23*** *06:17:23.1±1.4, 2851N×5339E, h0km, mb3.7/6, mb1 3.7/8, mb1mx3.5/24, mbtmp3.7/8, ML3.3/2, Error ellipse: s-maj=34.3km s-min=23.5km az=63.0*
THR ***23*** *06:17:24.6±0.8, 2864N×5351E, h14km±7km, ML3.3*
CSEM ***23*** *06:17:24.6, 2864N×5351E, h14km, ML3.3, After THR*
ISCJB ***23*** *06:17:25.7±0.8, 2854N±006×5341E±008, h34km±11km, mb3.7/7, Error ellipse: s-maj=13.9km s-min=8.0km az=104.1*

ISC 23 06:17:27.0±1.6, 2855N±007×5338E±008, h29km±14km, n17, σ0°81/21, mb3.7/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.44**	**233**	*e*PG	**Pb**	**06 17 36.0**	**-0.3**
GHIR				AML	AML	06 17 58.7	
	comp=N,2μm,0.4s						
BNDS	**Bandar-Abbas**	**2.72**	**114**	*e*Pn	**Pn**	**06 18 09.0**	**+0.3**
BNDS				AML	AML	06 19 05.4	
	comp=E,69nm,0.7s						
BNDS				AML	AML	06 19 12.9	
	comp=N,122nm,0.7s						
KRBR	**Kerman**	**3.28**	**63**	*e*PN	**Pn**	**06 18 16.4**	**0.0**
KRBR				*e*Sg	**Sn**	**06 19 02.7**	**+8.2**
KRBR				AML	AML	06 19 09.9	
	comp=N,85nm,0.6s						
KRBR				AML	AML	06 19 14.2	
	comp=E,101nm,0.6s						
KRBR	**Kerman**	**3.28**	**63**	*e*Pn	**Pn**	**06 18 16.4**	**0.0**
	SNR=52						
KRBR				*e*Sg	**Sn**	**06 19 02.7**	**+8.2**
	comp=E,101nm,0.6s,SNR=90						
NASN	**Na'in**	**4.27**	**353**	*e*PN	**Pn**	**06 18 30.2**	**+0.2**
NASN	**Na'in**	**4.27**	**353**	*e*Pn	**Pn**	**06 18 30.2**	**+0.2**
	SNR=52						
ASAO	**Ashtian**	**6.63**	**335**	*e*PN	**Pn**	**06 19 03.5**	**+1.0**
ASAO				Sn	**Sn**	**06 20 16.4**	**-0.8**
WSAR	**Wadi Sarin**	**7.09**	**137**	Pn	**Pn**	**06 19 08.2**	**-0.6**
	comp=E,0.8nm,0.3s,baz=98,slow=23,SNR=16						
WSAR				Sn	**Sn**	**06 20 28.2**	**-0.1**
	comp=E,0.6nm,0.3s,baz=31,slow=20,SNR=3.5						
BRTR	**Keskin Array B**	**19.74**	**310**	P	**Pn**	**06 21 56.0**	**-0.1**
	comp=E,0.1nm,0.3s,baz=132,slow=14,SNR=4.2						
AKTO	**Aktyubinsk**	**22.14**	**8**	P	**P**	**06 22 20.6**	**+0.3**
	comp=E,1.0nm,0.5s,mb3.5,baz=153,slow=14,SNR=3.3						
JOF	**Joensuu**	**37.27**	**343**	*ep*	**P**	**06 24 35.7**	**-0.5**
	comp=E,0.6nm,0.3s,mb3.9						
FINES	**FINESS Array B**	**37.58**	**339**	P	**P**	**06 24 38.2**	**-0.6**
	comp=E,0.8nm,0.5s,mb3.7,baz=145,slow=11,SNR=12						
KAF	**Kangasniemi**	**38.01**	**340**	*ep*	**P**	**06 24 41.1**	**-1.4**
HFS	**Hagfors**	**41.37**	**331**	P	**P**	**06 25 10.0**	**-0.5**
	comp=E,0.6nm,0.4s,mb3.6,baz=111,slow=8.1,SNR=12						
NOA	**NORSAR Array B**	**42.89**	**331**	P	**P**	**06 25 23.0**	**+0.1**
	comp=E,0.3nm,0.6s,mb3.2,baz=123,slow=8.6,SNR=2.7						
ARCES	**ARCESS Array B**	**44.07**	**346**	P	**P**	**06 25 34.6**	**+2.2**
	comp=E,1.7nm,0.8s,mb3.8,baz=153,slow=8.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**50.30**	**263**	P	**P**	**06 26 21.9**	**+0.9**
	comp=E,2.1nm,0.7s,mb4.3,baz=58,slow=7.3,SNR=16						

MAN 23 06:25:29.8, 1019N×12593E, h8km, mb2.7, ML4.2, MS3.1, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.60**	**227**	*e*P	Pg	06 25 41.9	+0.6
SCPH				*e*S	Sg	06 25 54.3	+5.2
MSLP	**Maasin**	**1.06**	**267**	*e*P	Pg	06 25 51.5	+1.4
MSLP				*e*S	Sg	06 26 06.8	+2.9
BUTP	**Butuan**	**1.25**	**194**	*e*P	Pn	06 25 59.0	+5.4
PLP	**Palo**	**1.35**	**316**	*e*P	Pn	06 25 53.2	-1.7
PLP				*e*S	Sb	06 26 13.8	+1.2
LLP	**Lapu-Lapu**	**1.94**	**274**	*e*P	Pn	06 26 02.8	-0.2
LLP				*e*S	Sn	06 26 28.0	+0.4
BUKP	**Musuan**	**2.45**	**201**	*e*P	Pn	06 26 10.0	-0.2
PAGZ	**Pagadian**	**3.43**	**227**	*e*P	Pn	06 26 25.4	+1.8

INMG ***23*** *06:46:40.0±0.8, 3650N×1104W, h10km, ML1.9, Error ellipse: s-maj=7.9km s-min=4.8km az=93.0*

MDD 23 06:46:39.0±2.5, 3660N×1104W, h0km, mbLg2.3/4, Error ellipse: s-maj=21.2km s-min=17.5km az=78.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**2.08**	**62**	*e*Pn	Pn	06 47 14.1	-1.0
PTEO				*e*Sn	Sn	06 47 39.3	-2.4
PTEO							
	5.9nm,0.2s						
PBEJ	**Beja**	**2.90**	**60**	*e*Pn	Pn	06 47 24.9	-1.5
PBEJ				*e*Sn	Sn	06 47 58.5	-3.5
PBEJ							
	1.7nm,0.2s						
EGRO	**El Granado**	**2.99**	**71**	P	Pn	06 47 26.8	-0.9
	0.6nm,0.2s,SNR=7.9						
EGRO				S	Sn	06 48 01.5	-2.8
	2.4nm,0.3s,SNR=7.9						
PESTR	**Estremoz**	**3.55**	**49**	*e*Pn	Pn	06 47 34.2	-1.1
PESTR				*e*Sn	Sn	06 48 14.5	-3.5
PESTR							
	1.2nm,0.1s						
PTOM	**Tomar**	**3.66**	**34**	*e*Sn	Sn	06 48 17.8	-2.9
PTOM							
	2.8nm,0.1s						
PTOM	**Tomar**	**3.66**	**34**	Sn	Sn	06 48 17.8	-2.9
	1.4nm,0.1s						
EMIN	**Mina Concepcio**	**3.67**	**70**	P	Pn	06 47 36.1	-0.9
	0.1nm,0.3s,SNR=7.9						
EMIN				S		06 48 17.9	-3.2
	1.0nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.85**	**55**	P	Pn	06 47 38.7	-0.8
	0.1nm,0.3s,SNR=7.9						
EBAD				S	Sn	06 48 22.3	-3.1
	5.3nm,0.2s,SNR=7.9						
ESPR	**Espera**	**4.17**	**85**	P	Pn	06 47 42.6	-1.2
	1.5nm,0.2s,SNR=7.9						
ESPR				S	Sn	06 48 29.2	-4.0
	1.2nm,0.3s,SNR=7.9						
PCBR	**Castelo Branco**	**4.28**	**40**	*e*Pn	Pn	06 47 44.1	-1.3
PCBR				*e*Sn	Sn	06 48 32.2	-3.8
PCBR							
	1.3nm,0.3s						
MTE	**Manteigas**	**4.68**	**35**	*e*Sn	Sn	06 48 41.8	-4.1
MTE							
	1.4nm,0.3s						
MTE	**Manteigas**	**4.68**	**35**	Sn	Sn	06 48 41.8	-4.1
	0.7nm,0.3s						
PVIS	**Viseu**	**4.79**	**30**	*e*Sn	Sn	06 48 44.4	-4.2
PVIS							
	2.0nm,0.1s						
PVIS	**Viseu**	**4.79**	**30**	Sn	Sn	06 48 44.4	-4.2
	1.0nm,0.1s						
EPLA	**Plasencia**	**5.21**	**47**	S	Sn	06 48 55.3	-3.7
	SNR=7.9						
PVRL	**Vila Real**	**5.34**	**28**	*e*Sn	Sn	06 48 57.8	-4.3
PVRL							
	1.9nm,0.1s						
PVRL	**Vila Real**	**5.34**	**28**	Sn	Sn	06 48 57.8	-4.3
	0.9nm,0.1s						
EADA	**Adamuz**	**5.38**	**71**	P	Pn	06 47 58.4	-2.1
	0.2nm,0.2s,SNR=7.9						
EADA				S

ARA0				Sn	**Sn**	**06 52 50.5**	**-8.6**
	baz=350,slow=22								
ARCES	**ARCESS Array B**	**10.42**	**141**	Pn	**Pn**	**06 51 01.8**	**-0.5**
	0.3nm,0.3s,baz=341,slow=12,SNR=10								
ARCES				Sn	**Sn**	**06 52 49.0**	**-10**
	0.2nm,0.3s,baz=342,slow=17,SNR=3.5								
ARCES	**ARCESS Array B**	**10.42**	**141**	Pn	**Pn**	**06 51 01.8**	**-0.5**
ARCES				Sn	**Sn**	**06 52 49.0**	**-10**
SUMG	**Summit**	**12.35**	**265**	*e*Pn	**Pn**	**06 51 29.1**	**+0.3**
	4.7nm,0.5s								
SUMG				*e*Sn	**Sn**	**06 53 40.8**	**-5.7**
FINES	**FINESS Array B**	**18.30**	**149**	P	**Pn**	**06 52 46.5**	**-0.3**
	0.0nm,0.3s,baz=352,slow=12,SNR=3.6								
HFS	**Hagfors**	**18.72**	**169**	P	**Pn**	**06 52 52.0**	**0.0**
	0.1nm,0.3s,baz=353,slow=10,SNR=3.8								
HFS	**Hagfors**	**18.72**	**169**	P	**Pn**	**06 52 52.8**	**+0.8**
	baz=351,slow=9.3								
MKAR	**Makanchi Array**	**41.78**	**92**	P	**P**	**06 56 25.2**	**+2.7**
	0.4nm,0.7s,mb3.2,baz=325,slow=6.2,SNR=4.3								
MKAR	**Makanchi Array**	**41.78**	**92**	P	**P**	**06 56 25.2**	**+2.7**
ULM	**Lac du Bonnet**	**43.61**	**295**	LR	LR	07 16 17.9	
	comp=Z,16nm,18.6s,MS3.0,baz=39,slow=38								
TORD	**Torodi Ar. Bea**	**65.53**	**185**	P	**P**	**06 59 18.0**	**+1.5**
	0.3nm,0.4s,mb3.6,baz=359,slow=7.0,SNR=7.3								

IDC ***23*** *06:53:28.9±0.7, 9.98S×10.871E, h0km, mb4.4/9, mb1 4.5/10, mb1mx4.3/17, mbtmp4.4/10, ML4.5/1, MS3.6/7, Ms1 3.6/7, ms1mx3.2/27, Error ellipse: s-maj=28.3km s-min=16.3km az=57.0*

ISCJB ***23*** *06:53:31.7±0.4, 1006S±006×10870E±008, h33km, mb4.7/38, MS3.9/10, Error ellipse: s-maj=13.2km s-min=6.6km az=109.0*

BJI ***23*** *06:53:31.2, 1000S×10870E, h18km, mB5.2, mb4.9, Ms4.8, Msz4.4*

MOS ***23*** *06:53:31.9±1.1, 9.91S×10.880E, h33km, mb5.0/11, Error ellipse: s-maj=22.8km s-min=9.6km az=115.8*

NEIC ***23*** *06:53:31.3±5.5, 1001S×10.868E, h18km±33km, mb5.0/14, Error ellipse: s-maj=23.3km s-min=8.0km az=49.0*

ISC 23 06:53:33.9±0.4, 1007S±007×10867E±008, h35km, (h28km±8.0km: pP-P), n88, σ1§05/72, mb4.7/38, MS3.9/10, 4C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**2.91**	**21**	P	**Pn**	**06 54 18.4**	**+0.7**
	0.0nm,0.0s						
LEM	**Lembang**	**3.39**	**342**	P	**Pn**	**06 54 24.1**	**-0.2**
	0.0nm,0.0s						
KSI	**Kapahiang**	**8.78**	**316**	P	**Pn**	**06 55 35.2**	**-3.1**
	0.0nm,0.0s						
MBWA	**Marble Bar**	**15.32**	**137**	*e*Pn	**Pn**	**06 57 03.0**	**-4.5**
	22nm,0.8s						
PSI	**Prapat**	**16.05**	**322**	Pn	**Pn**	**06 57 08.2**	**-8.8**
	0.8nm,0.3s,baz=142,slow=16,SNR=3.4						
KULM	**Kulim**	**17.22**	**332**	*e*P	**Pn**	**06 57 28.0**	**-3.7**
FITZ	**Fitzroy Crossi**	**18.28**	**118**	*e*P	**Pn**	**06 57 44.8**	**+0.1**
	16nm,0.9s						
FITZ				*e*S	S	07 00 50.7	-21
FITZ	**Fitzroy Crossi**	**18.28**	**118**	P	**Pn**	**06 57 44.1**	**-0.7**
	1.3nm,0.3s,baz=306,slow=7.1,SNR=39						
FITZ				Sn	**Sn**	**07 00 50.9**	**-17**
	0.6nm,0.3s,baz=128,slow=22,SNR=4.6						
FITZ				LR	LR	07 03 08.3	
	comp=Z,102nm,21.1s,baz=265,slow=32						
NWAO	**Narrogin (SRO)**	**24.08**	**162**	LR	LR	07 08 20.2	
	comp=Z,86nm,18.2s,MS3.3,baz=313,slow=37						
WRA	**Warramunga Arr**	**26.63**	**115**	P	**P**	**06 59 09.8**	**+0.6**
	5.5nm,0.9s,mb4.1,baz=284,slow=11,SNR=31						
WRA				Sn	S	07 04 08.9	+27
	0.9nm,0.8s,baz=290,slow=25,SNR=4.5						
WRAB	**Tennant Creek**	**26.64**	**115**	*e*P	**P**	**06 59 06.8**	**-2.4**
WB2	**Warramunga Arr**	**26.64**	**115**	*e*P	**P**	**06 59 10.1**	**+0.9**
WB2				*e*S	S	07 04 09.0	+27
NST	**Nakhon Sawan**	**26.94**	**342**	P	**P**	**06 59 12.1**	**+0.2**
ASPA	**Alice Springs**	**27.61**	**122**	*e*P	**P**	**06 59 22.2**	**+4.3**
ASPA				*e*S	S	07 04 37.3	+40
ASAR	**Alice Springs**	**27.61**	**122**	P	**P**	**06 59 19.1**	**+1.1**
	2.8nm,0.7s,mb4.0,baz=296,slow=9.1,SNR=29						
ASAR				PcP	PcP	07 02 36.8	+1.9
	1.5nm,0.6s,baz=314,slow=2.1,SNR=7.1						
ASAR				Sn	S	07 04 32.9	+36
	0.6nm,0.7s,baz=303,slow=25,SNR=3.6						
ASAR				LR	LR	07 10 31.9	
	comp=Z,180nm,21.6s,MS3.6,baz=351,slow=37						
ASAR	**Alice Springs**	**27.61**	**122**	P	**P**	**06 59 19.1**	**+1.1**
ASAR						07 02 36.8	
AS31	**Alice Springs**	**27.61**	**122**	*e*P	**P**	**06 59 17.0**	**-1.0**
AS31				*e*S	S	07 04 37.3	+40
QIZ	**Qiongzhong**	**28.94**	**2**	P	**P**	**06 59 31.4**	**+1.6**
QIZ				*e*S	**S**	**07 04 24.5**	**+6.4**
QIZ				AMB	AMB		
	comp=Z,11nm,1.6s,mb4.3						
QIZ				LR	LR		
	comp=E,188nm,15.3s						
QIZ				LR	LR		
	comp=Z,134nm,15.6s,MS3.7						
QIZ	**Qiongzhong**	**28.94**	**2**	*e*P	**P**	**06 59 31.0**	**+1.2**
CHG	**Chiang Mai**	**30.26**	**341**	⇑P	**P**	**06 59 42.9**	**+1.4**
	comp=Z,14nm,0.9s,mb4.7						
CHTO	**Chiang Mai**	**30.26**	**341**	*e*P	**P**	**06 59 41.1**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.7						
CHTO	**Chiang Mai**	**30.26**	**341**	*e*P	**P**	**06 59 41.1**	**-0.4**
	comp=Z,16nm,1.1s,mb4.7						
KMI	**Kunming**	**35.46**	**351**	P	**P**	**07 00 29.8**	**+3.0**
KMI				AMB	AMB		
	comp=Z,22nm,1.2s,mb5.0						
GYA	**Guiyang**	**36.36**	**357**	⇑*i*P	**P**	**07 00 36.6**	**+2.0**
GYA				AP	pP	07 00 40.8	-4.0
GYA				XP	sP	07 00 43.8	-5.2
GYA				PP	PP	07 01 57.8	+0.1
GYA				PCP	PcP	07 03 04.4	+5.8
GYA				S	**S**	**07 06 12.8**	**-0.6**
GYA				SCP	ScP	07 06 48.8	+6.4
GYA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
GYA				AMB	AMB		
	comp=Z,170nm,4.0s						
GYA				LR	LR		
	comp=N,570nm,14.9s,MS4.6						
GYA				LR	LR		
	comp=E,470nm,14.7s,MS4.6						
GYA				LR	LR		
	comp=Z,460nm,15.0s,MS4.4						
STKA	**Stephens Creek**	**37.39**	**130**	*e*P	**P**	**07 00 44.6**	**+1.3**
	comp=Z,9.6nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**37.39**	**130**	P	**P**	**07 00 43.4**	**+0.1**
	comp=Z,11nm,0.8s,mb4.8,baz=304,slow=7.1,SNR=18						
STKA				LR	LR	07 16 12.9	
	comp=Z,82nm,21.0s,MS3.5,baz=2.6,slow=36						
HYB	**Hyderabad**	**40.39**	**312**	*i* P	**P**	**07 01 09.5**	**+1.0**
SSE	**Sheshan**	**42.66**	**16**	*e*P	**P**	**07 01 25.6**	**-1.5**
SSE				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.8						
SSE				AMB	AMB		
	comp=Z,137nm,3.5s						
NJ2	**Nanjing**	**43.00**	**13**	*e*P	**P**	**07 01 28.9**	**-0.9**
NJ2				AP	pP	07 01 38.9	-1.3
NJ2				XP	sP	07 01 42.8	-1.5
NJ2				PP	PP	07 03 10.1	+0.1
NJ2				S	**S**	**07 07 50.0**	**-2.9**
NJ2				XS	sS	07 08 06.0	-3.9
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,140nm,3.8s						
NJ2				LR	LR		
	comp=N,590nm,13.2s,MS4.6						
NJ2				LR	LR		
	comp=E,210nm,16.1s,MS4.6						
JIRN	**Jiri**	**43.37**	**330**	*e*P	**P**	**07 01 33.8**	**+1.0**
PKI	**Pulchoki**	**43.68**	**330**	*e*P	**P**	**07 01 35.6**	**+0.3**
GUN	**Gumba**	**43.73**	**330**	*e*P	**P**	**07 01 36.7**	**+1.0**
	comp=E,92nm,0.7s,mb5.6						
DMN	**Daman**	**43.87**	**329**	*e*P	**P**	**07 01 37.3**	**+0.5**
	comp=E,67nm,0.8s,mb5.4						
XAN	**Xi'an**	**43.87**	**0**	P	**P**	**07 01 36.3**	**-0.5**
XAN				AP	pP	07 01 45.9	-1.2
XAN				AMB	AMB		
	comp=Z,17nm,0.7s,mb4.9						
KKN	**Kakani**	**43.93**	**330**	*e*P	**P**	**07 01 37.7**	**+0.4**
	comp=Z,73nm,1.0s,mb5.4						
KKN	**Kakani**	**43.93**	**330**	*e*P	**P**	**07 01 37.7**	**+0.4**
KKN				pmax	pmax		
	comp=Z,73nm,1.0s,mb5.4						
GKN	**Gorkha**	**44.43**	**329**	*e*P	**P**	**07 01 41.4**	**+0.1**
	comp=Z,83nm,1.1s,mb5.4						
KOLN	**Koldanda**	**44.77**	**328**	*e*P	**P**	**07 01 44.5**	**+0.5**
	comp=Z,63nm,0.8s,mb5.5						
LZH	**Lanzhou**	**46.13**	**355**	*e*P	**P**	**07 01 56.3**	**+1.5**
LZH				AP	pP	07 02 08.3	+3.1
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.0						
GTA	**Gaotai**	**49.91**	**351**	⇑P	**P**	**07 02 26.0**	**+2.0**
GTA				AP	pP	07 02 29.8	-4.7
GTA				XP	sP	07 02 32.4	-6.2
GTA				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,135nm,4.6s						
GTA				LR	LR		
	comp=N,139nm,17.1s,MS4.2						
GTA				LR	LR		
	comp=E,146nm,17.9s,MS4.2						
GTA				LR	LR		
	comp=Z,86nm,17.1s,MS3.8						
BJI	**Beijing**	**50.34**	**7**	P	**P**	**07 02 27.8**	**+0.5**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
SNY	**Shenyang**	**53.43**	**14**	⇑P	**P**	**07 02 50.9**	**+0.6**
SNY				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb5.0						
MJAR	**Matsushiro Arr**	**54.06**	**29**	P	**P**	**07 02 52.8**	**-2.1**
	comp=Z,4.9nm,0.9s,mb4.4,baz=206,slow=7.8,SNR=12						
SONM	**Songino Array**	**57.68**	**358**	P	**P**	**07 03 21.4**	**+0.5**
	comp=Z,5.3nm,0.5s,mb4.8,baz=177,slow=8.0,SNR=24						
SONM				LR	LR	07 31 05.9	
	comp=Z,57nm,19.4s,MS3.7,baz=259,slow=39						
ZAK	**Zakamensk**	**60.38**	**356**	*e*P	**P**	**07 03 39.8**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
AAK	**Ala-Archa**	**61.05**	**332**	*e*P	**P**	**07 03 42.4**	**-1.7**
MK31	**Makanchi Array**	**61.32**	**340**	P	**P**	**07 03 45.7**	**-0.2**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
MKAR	**Makanchi Array**	**61.32**	**340**	P	**P**	**07 03 46.4**	**+0.4**
	comp=Z,5.8nm,0.7s,mb4.8,baz=142,slow=7.8,SNR=83						
KLR	**Kul'dur**	**62.44**	**17**	*e*P	**P**	**07 03 49.0**	**-4.5**
KKAR	**Karatay Array**	**63.33**	**330**	*i* P	**P**	**07 03 58.3**	**-1.1**
MAW	**Mawson**	**64.94**	**198**	P	**P**	**07 04 10.0**	**+0.1**
	comp=Z,1.2nm,0.6s,mb4.1,baz=53,slow=7.0,SNR=4.0						
MAW				LR	LR	07 30 03.3	
	comp=Z,43nm,18.1s,MS3.7,baz=88,slow=34						
KURK	**Kurchatov**	**65.93**	**340**	*e*P	**P**	**07 04 15.1**	**-1.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
KURK	**Kurchatov**	**65.93**	**340**	*e*P	**P**	**07 04 15.1**	**-1.3**
	comp=Z,4.4nm,0.7s,mb4.6						
BOD	**Bodaibo**	**67.79**	**3**	*e*P	**P**	**07 04 27.4**	**-0.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
VOSK	**Vostochnaya**	**70.36**	**337**	P	**P**	**07 04 43.8**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
BVA0	**Borovoye Array**	**70.82**	**337**	*i* P	**P**	**07 04 47.0**	**+0.1**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BRVK	**Borovoye**	**70.89**	**337**	*e*P	**P**	**07 04 47.1**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
BRVK	**Borovoye**	**70.89**	**337**	*e*P	**P**	**07 04 47.1**	**-0.2**
	comp=Z,9.4nm,1.1s,mb4.6						
CHKZ	**Chkalovo**	**71.23**	**337**	*e*P	**P**	**07 04 48.9**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
CHKZ	**Chkalovo**	**71.23**	**337**	*e*P	**P**	**07 04 48.9**	**-0.6**
	comp=Z,19nm,0.8s,mb5.1						
ZRNK	**Zerenda**	**71.31**	**336**	*e*P	**P**	**07 04 50.0**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
ZRNK	**Zerenda**	**71.31**	**336**	*e*P	**P**	**07 04 50.0**	**0.0**
	comp=Z,17nm,0.8s,mb5.0						
AB31	**Akbulak array**	**72.88**	**329**	*i* P	**P**	**07 04 59.1**	**-0.2**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
AKTO	**Aktyubinsk**	**74.59**	**329**	P	**P**	**07 05 08.9**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.9						
BOSA	**Boshof**	**79.51**	**243**	LR	LR	07 34 27.7	
	comp=Z,71nm,20.1s,MS4.0,baz=2.8,slow=31						
BR131	**Keskin Array S**	**85.09**	**312**	*e*P	**P**	**07 06 03.4**	**-2.7**
	comp=Z,4.1nm,0.9s,mb4.6						
BRTR	**Keskin Array B**	**85.09**	**312**	P	**P**	**07 06 06.1**	**0.0**
	comp=Z,4.8nm,1.1s,mb4.6,baz=126,slow=6.3,SNR=14						
BRTR				PP	PP	07 09 21.1	-2.4
	comp=Z,0.8nm,1.0s,baz=86,slow=3.8,SNR=3.7						
VRSR	**Storozhevoye**	**85.29**	**324**	*e*P	**P**	**07 06 07.0**	**-0.1**
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
VRSR				pmax	pmax		
	comp=N,2.0nm,0.6s						
VRSR				pmax	pmax		
	comp=E,10.0nm,1.7s						
SNAA	**Sanae**	**87.10**	**197**	P	**P**	**07 06 16.5**	**+0.5**
	comp=E,0.8nm,1.1s,mb3.9,baz=159,slow=5.0,SNR=3.7						
KLMR	**Klimovskoe**	**88.85**	**333**	*e*P	**P**	**07 06 23.2**	**-1.2**
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb5.0						
YKA	**Yellowknife Ar**	**119.13**	**21**	PKP	PKPdf	07 12 19.2	+0.1
	comp=Z,0.8nm,0.6s,baz=341,slow=2.0,SNR=11						
YKA	**Yellowknife Ar**	**119.13**	**21**	PKP	PKPdf	07 12 19.2	+0.1
NVAR	**Mina Array Bea**	**129.44**	**48**	PKP	PKPdf	07 12 41.5	+2.7
	comp=Z,0.4nm,0.6s,baz=231,slow=2.0,SNR=3.8						
SCHQ	**Schefferville**	**135.21**	**356**	PKP	PKPdf	07 12 50.8	+1.1
	comp=Z,0.9nm,0.5s,baz=154,slow=15,SNR=5.9						
WMOK	**Wichita Mounta**	**144.91**	**41**	*e*PKIKP	PKPdf	07 13 08.3	+1.1
LONY	**Lake Ozonia**	**145.47**	**4**	*e*PKPdf	PKPdf	07 13 07.9	-0.3
JCT	**Junction City**	**146.62**	**48**	*e*PKPbc	PKPbc	07 13 13.7	+1.9
JCT				*e*PKPab	PKPab	07 13 15.5	+2.6
CCM	**Cathedral Cave**	**146.89**	**29**	*e*PKP2	PKPab	07 13 13.5	-0.4
ACSO	**Alum Creek Sta**	**148.23**	**17**	*e*PKPbc	PKPbc	07 13 13.5	-2.7
ACSO				*e*PKPab	PKPab	07 13 17.3	-1.9
MIAR	**Mount Ida**	**148.27**	**36**	*e*PKP2	PKPab	07 13 18.3	-1.1
PARMO	**Parma**	**148.71**	**29**	*e*PKPbc	PKPbc	07 13 17.2	-0.3
MCWV	**Mont Chateau**	**149.58**	**13**	*e*PKPdf	PKPdf	07 13 13.8	-1.2
MCWV				*e*PKPbc	PKPbc	07 13 19.5	-0.1
MCWV				*e*PKPab	PKPab	07 13 25.0	+0.3
WVT	**Waverly**	**150.05**	**27**	*e*PKP2	PKPbc	07 13 22.3	+1.6
PLAL	**Pickwick Lake**	**150.87**	**29**	*e*PKPbc	PKPbc	07 13 23.7	+1.0
ELN	**Prospectdale**	**151.66**	**16**	*e*PKPbc	PKPbc	07 13 23.5	-1.0
CPCT	**Cooper Cave**	**152.03**	**23**	*e*PKPbc	PKPbc	07 13 24.5	-0.8
LRAL	**Lakeview Retre**	**152.97**	**30**	*e*PKPdf	PKPdf	07 13 19.9	-0.3
LRAL				*e*PKPbc	PKPbc	07 13 29.2	+1.8
LRAL				*e*PKPab	PKPab	07 13 41.4	+2.6
LPAZ	**La Paz**	**153.62**	**187**	PKPbc	PKPbc	07 13 32.1	+3.2
	comp=Z,0.8nm,0.6s,baz=70,slow=3.8,SNR=6.5						

ISCJB ***23*** *07:08:28.8±1.0, 5076N±007×1576E±0.1, h49km±6km, mb4.2/24, Error ellipse: s-maj=15.4km s-min=5.9km az=95.1*

MOS ***23*** *07:08:28.4±0.9, 5072N×15754E, h46km, mb4.6/13, Error ellipse: s-maj=15.2km s-min=6.1km az=86.3*

KRSC ***23*** *07:08:29, 5076N×15801E, h32km, ML4.5*

NEIC ***23*** *07:08:31.5±0.9, 5086N×15752E, h56km±7km, mb4.4/16, Error ellipse: s-maj=8.5km s-min=5.2km az=131.0*

IDC ***23*** *07:08:34.3±5.0, 5089N×15752E, h85km±47km, mb3.5/8, mb1 3.7/10, mb1mx3.5/21, mbtmp3.9/10, ML3.8/2, MS2.8/2, Ms1 2.9/2, ms1mx2.5/29, Error ellipse: s-maj=26.7km s-min=17.2km az=120.0*

ISC 23 07:08:29.7±0.9, 5079N±007×1575E±01, h45km±6km, n91, σ0§77/98, mb4.2/24, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.89**	**264**	*i* PN	**Pn**	**07 08 44.2**	**-1.6**
SKR				*i* S	**Sn**	**07 08 57.5**	**-0.1**
SKR				pmax	pmax		
	comp=Z,1μm,0.5s						
SKR				pmax	pmax		
	comp=N,260nm,0.2s						
SKR				pmax	pmax		
	comp=E,810nm,0.2s						
SKR				pmax	pmax		
	comp=Z,1μm,1.0s						
SKR				smax			
	comp=N,17μm,0.2s						
SKR				smax			
	comp=E,12μm,0.2s						
SKR				smax			
	comp=Z,2μm,0.5s						
RUS	**Russkaya**	**1.77**	**20**	P	**Pn**	**07 08 58.0**	**+0.2**
RUS				S	**Sn**	**07 09 19.0**	**0.0**
PET	**Petropavlovsk**	**2.35**	**17**	P	**Pn**	**07 09 07.2**	**+1.4**
PET				S	**Sn**	**07 09 35.0**	**+1.6**
PET	**Petropavlovsk**	**2.35**	**17**	⇓*i*PN	**Pn**	**07 09 06.9**	**+1.1**
PET				*e*S	**Sn**	**07 09 35.0**	**+1.6**
PET				pmax	pmax		
	comp=Z,80nm,0.5s						
PET				smax			
	comp=N,452nm,0.6s						
PET				smax			
	comp=E,297nm,0.4s						
PET				MLR	MLR		
	comp=Z,200nm,14.0s						
PET	**Petropavlovsk**	**2.35**	**17**	*e*Pn	**Pn**	**07 09 06.8**	**+1.0**
PET				*e*Sn	**Sn**	**07 09 35.1**	**+1.6**
NLC	**Nalytchevo**	**2.65**	**25**	P	**Pn**	**07 09 09.3**	**-0.5**
NLC				S	**Sn**	**07 09 38.5**	**-2.2**
MKZ	**Mys Kozlova**	**4.57**	**33**	P	**Pn**	**07 09 36.2**	**0.0**
MKZ				S	**Sn**	**07 10 25.7**	**-2.3**
KOZ	**Kozyrevsk**	**5.47**	**14**	P	**Pn**	**07 09 52.3**	**+3.7**
KOZR	**Kozyr**	**5.48**	**14**	PN	**Pn**	**07 09 52.3**	**+3.6**
KLY	**Klyuchi**	**5.85**	**17**	P	**Pn**	**07 09 58.5**	**+4.7**
KBTR	**Krutoberegovo**	**6.29**	**28**	P	**Pn**	**07 10 01.1**	**+1.3**
YSS	**Yuzh-Sakhalins**	**10.45**	**254**	*e*PN	**Pn**	**07 11 02.0**	**+5.2**
ASAJ	**Asahikawa**	**12.09**	**242**	P	**Pn**	**07 11 24.6**	**+5.4**
	comp=Z,1.1nm,0.3s,baz=78,slow=12,SNR=8.2						
ASAJ				LR	LR	07 16 47.2	
	comp=Z,23nm,18.5s,baz=349,slow=41						
ASAJ	**Asahikawa**	**12.09**	**242**	PN	**Pn**	**07 11 24.6**	**+5.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,23nm,18.5s						
YAK	**Yakutsk**	**18.90**	**317**	⇓*e*P	**Pn**	**07 12 50.1**	**+2.8**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YAK				MLR	MLR		
	comp=Z,100nm,17.0s						
MJAR	**Matsushiro Ar**	**19.86**	**232**	P	**Pn**	**07 12 58.6**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=26,slow=9.9,SNR=10						
MAJO	**Matsushiro**	**19.86**	**232**	*e*P	**Pn**	**07 12 58.6**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAJO	**Matsushiro**	**19.86**	**232**	*e*P	**Pn**	**07 12 58.6**	**-0.2**
	comp=Z,3.1nm,0.6s						
INK	**Inuvik**	**36.68**	**36**	*e*P	**P**	**07 15 32.1**	**0.0**
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	**Inuvik**	**36.68**	**36**	*e*P	**P**	**07 15 32.1**	**0.0**
	comp=Z,3.5nm,0.8s,mb4.2						
YKA	**Yellowknife Ar**	**45.96**	**40**	P	**P**	**07 16 48.2**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=290,slow=7.9,SNR=5.1						
YKA	**Yellowknife Ar**	**45.96**	**40**	P	**P**	**07 16 48.2**	**+0.1**
KURK	**Kurchatov**	**47.61**	**302**	⇑*i*P	**P**	**07 17 01.6**	**+0.6**
KURK	**Kurchatov**	**47.61**	**302**	*e*P	**P**	**07 17 01.3**	**+0.3**
	comp=Z,3.8nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**47.72**	**296**	P	**P**	**07 17 01.8**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.9,baz=61,slow=6.5,SNR=11						
MKAR	**Makanchi Array**	**47.72**	**296**	*i* P	**P**	**07 17 02.0**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHKZ	**Chkalovo**	**50.09**	**309**	*e*P	**P**	**07 17 18.8**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**50.09**	**309**	*e*P	**P**	**07 17 18.8**	**-1.4**
	comp=Z,2.0nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**51.30**	**309**	*e*P	**P**	**07 17 28.3**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**51.30**	**309**	*e*P	**P**	**07 17 28.3**	**-0.9**
	comp=Z,1.1nm,0.4s,mb4.1						
EDM	**Edmonton**	**51.46**	**50**	*e*P	**P**	**07 17 30.7**	**+0.3**
JOF	**Joensuu**	**58.98**	**334**	*e*p	**P**	**07 18 24.1**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.9						
BW06	**Boulder Array**	**60.08**	**58**	*e*P	**P**	**07 18 31.6**	**-0.5**
	comp=Z,1.1nm,0.8s,mb3.9						
BW06				*e*pP	pP	07 18 43.7	-1.3
PDAR	**Pinedale Array**	**60.08**	**58**	P	**P**	**07 18 31.4**	**-0.7**
	comp=Z,0.9nm,0.8s,mb3.9,baz=321,slow=3.9,SNR=10						
KAF	**Kangasniemi**	**60.97**	**336**	*e*p	**P**	**07 18 37.2**	**-1.0**
	baz=32,slow=6.3						
FINES	**FINESS Array B**	**61.59**	**336**	P	**P**	**07 18 41.3**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.9,baz=49,slow=5.9,SNR=12						
FINES	**FINESS Array B**	**61.59**	**336**	*i* P	**P**	**07 18 42.2**	**-0.2**
NB2	**NORSAR Subarra**	**65.29**	**343**	P	**P**	**07 19 06.4**	**-0.5**
	comp=Z,0.4nm,0.4s,mb3.8,baz=24,slow=6.9						
NOA	**NORSAR Array B**	**65.29**	**343**	P	**P**	**07 19 06.0**	**-0.8**
	comp=Z,0.4nm,0.4s,mb3.8,baz=22,slow=6.6,SNR=6.4						
NOA				LR	LR	07 54 29.6	
	comp=Z,14nm,

LPG	**La Plagne**	**80.81**	**340**	*e*P	**P**	**07 20 39.1**	**+0.5**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LPG	**La Plagne**	**80.81**	**340**	*e*P	**P**	**07 20 39.1**	**+0.5**
	comp=Z,4.3nm,0.6s,mb4.6						
TCF	**Toulx Ste Croi**	**80.98**	**343**	*e*P	**P**	**07 20 39.9**	**+0.4**
MFF	**Saint Martin d**	**81.09**	**345**	*e*P	**P**	**07 20 40.1**	**0.0**
	comp=Z,13nm,0.9s,mb4.6						
MFF	**Saint Martin d**	**81.09**	**345**	*e*P	**P**	**07 20 40.1**	**0.0**
MFF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
MFF	**Saint Martin d**	**81.09**	**345**	*e*P	**P**	**07 20 40.1**	**0.0**
	comp=Z,6.7nm,0.9s,mb4.6						
MBDF	**Montbardon**	**81.54**	**339**	*e*P	**P**	**07 20 42.5**	**+0.1**
ORIF	**Oris-en-Rattie**	**81.55**	**340**	*e*P	**P**	**07 20 42.8**	**+0.3**
VIVF	**Saint-Julien-l**	**81.87**	**341**	*e*P	**P**	**07 20 44.2**	**0.0**
RJF	**Les Rejaudoux**	**82.06**	**343**	*e*P	**P**	**07 20 45.1**	**-0.1**
CAF	**Calviac**	**82.32**	**343**	*e*P	**P**	**07 20 46.7**	**+0.2**
SMRF	**Simiane la Rot**	**82.52**	**340**	*e*P	**P**	**07 20 47.6**	**0.0**
LFF	**La Frestale**	**82.55**	**344**	*e*P	**P**	**07 20 47.6**	**-0.1**
LMR	**La Mourre**	**82.92**	**339**	*e*P	**P**	**07 20 49.7**	**0.0**
MTLF	**Montolieu**	**83.82**	**342**	*e*P	**P**	**07 20 53.7**	**-0.6**
SJPF	**Ste Jean**	**84.67**	**345**	*e*P	**P**	**07 20 58.5**	**-0.1**
ETSF	**Etsaut**	**84.76**	**344**	*e*P	**P**	**07 20 59.3**	**+0.3**

CSEM ***23*** *07:16:07.9, 43.19N×4564E, h17km, mb3.8, After OBN*
MOS 23 07:16:07.9±2.4, 4319N×4564E, h17km, mb3.8/1, 2C, Error ellipse: s-maj=25.8km s-min=9.5km az=9.9, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNJR	**Sundja**	**0.62**	**259**	*i* Pg	Pg	07 16 21.4	+1.3
SNJR				*i* Sg	Sg	07 16 33.8	+5.4
VLKR	**Vladikavkaz**	**0.72**	**259**	*e*Pg	Pg	07 16 22.9	+0.9
VLKR				*e*Sg	Sg	07 16 36.4	+4.8
BTKR	**Batakoyurt**	**0.82**	**283**	*e*Pg	Pg	07 16 22.0	-1.9
BTKR				*e*Sg	Sg	07 16 34.7	-0.1
ARNR	**Ardon**	**1.00**	**270**	*e*Pg	Pg	07 16 25.8	-1.4
ARNR				*e*Sg	Sg	07 16 41.4	+1.1
KRNR	**Karanay**	**1.00**	**111**	*e*PG	Pg	07 16 26.5	-0.8
KRNR				*e*S	Sb	07 16 42.5	+2.9
KMSR	**Komsomolskaya**	**1.00**	**281**	*e*Pg	Pg	07 16 24.9	-2.4
KMSR				*e*Sg	Sg	07 16 39.7	-0.7
PRTR	**Priterechnaya**	**1.14**	**300**	*e*Pg	Pg	07 16 24.8	-5.1
ZEI	**Tsey**	**1.35**	**252**	*e*Pg	Pg	07 16 31.8	-2.1
ZEI				*e*Sg	Sg	07 16 51.8	+0.4
DIGR	**Digorskoe uzhe**	**1.54**	**260**	*e*Pg	Pg	07 16 34.0	-3.5
DIGR				*e*Sg	Sg	07 16 55.5	-2.1
KUBR	**Kubataba**	**1.73**	**291**	Pn	Pn	07 16 40.9	+3.7
SHAR	**Shatzhatmas**	**2.23**	**285**⇑	*e*PN	Pn	07 16 48.4	+4.3
SHAR				*e*S	Sn	07 17 14.3	+3.0
KIV	**Kislovodsk**	**2.28**	**291**⇑	*e*PN	Pn	07 16 48.6	+3.9
KIV				*e*S	Sn	07 17 14.2	+1.8

IDC 23 07:22:04.9±2.7, 991S×10870E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.6/17, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=114.8km s-min=20.6km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.33**	**118**	P	Pn	07 26 22.1	+1.6
	0.2nm,0.3s,baz=271,slow=21,SNR=12						
FITZ				Sn	Sn	07 29 27.9	-18
	0.1nm,0.3s,baz=228,slow=8.4,SNR=3.0						
WRA	**Warramunga Arr**	**26.67**	**115**	P	P	07 27 44.7	-0.7
	0.5nm,0.6s,baz=286,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**27.67**	**123**	P	P	07 27 54.3	-0.1
	0.3nm,0.8s,baz=297,slow=9.1,SNR=3.2						
STKA	**Stephens Creek**	**37.47**	**131**	P	P	07 29 20.9	+0.9
	1.2nm,0.7s,baz=302,slow=8.2,SNR=3.4						
SONM	**Songino Array**	**57.52**	**358**	P	P	07 31 56.9	+0.9
	0.5nm,0.5s,baz=173,slow=8.4,SNR=3.3						
MKAR	**Makanchi Array**	**61.18**	**340**	P	P	07 32 20.7	-0.6
	0.4nm,0.5s,baz=137,slow=8.9,SNR=7.9						

INMG ***23*** *07:41:32.0±0.7, 4175N×859W, h0km, ML1.1, Error ellipse: s-maj=5.3km s-min=2.2km az=112.0*
MDD 23 07:41:32.2±1.0, 4174N×857W, h0km, mbLg1.3/4, 1C, Error ellipse: s-maj=7.9km s-min=6.5km az=130.0, PRXIMO, Portugal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELOB	**Lobios**	**0.40**	**72**	⇑Pg	Pg	07 41 39.6	-0.3
	1.2nm,0.1s,SNR=18						
ELOB				Lg		07 41 45.0	
	2.0nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**0.41**	**95**	*e*Pg	Pg	07 41 39.9	-0.1
PCAB				*e*Sg	Sg	07 41 45.2	-0.1
PCAB							
	7.1nm,0.1s						
PVIS	**Viseu**	**1.15**	**153**	*e*P	Pg	07 41 52.9	-1.3
PVIS				*e*S	Sg	07 42 09.2	+0.2
PVIS							
	4.3nm,0.1s						
PBRG	**Braganca**	**1.37**	**87**	*e*P	Pg	07 41 56.8	-1.6
PBRG				*e*S	Sg	07 42 15.3	-0.9
PBRG							
	1.1nm,0.2s						
ECAL	**Calabor**	**1.38**	**81**	Pg	Pg	07 41 56.2	-2.5
	0.5nm,0.2s,SNR=7.9						
ECAL				Lg		07 42 16.7	
	1.2nm,0.2s,SNR=7.9						

CSEM ***23*** *07:49:49.3±0.2, 4174N×860W, h15km, ML1.4, Error ellipse: s-maj=5.5km s-min=3.7km az=80.0*
INMG ***23*** *07:49:50.4±0.8, 4173N×855W, h0km, ML1.4, Error ellipse: s-maj=4.7km s-min=1.6km az=107.0*
MDD 23 07:49:49.3±0.6, 4176N×861W, h0km, mbLg1.6/11, 1C, Error ellipse: s-maj=4.4km s-min=3.2km az=95.0, PRXIMO, Portugal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELOB	**Lobios**	**0.42**	**76**	⇑Pg	Pg	07 49 57.3	-0.1
	1.9nm,0.0s,SNR=18						
ELOB				Lg		07 50 03.1	
	1.4nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**0.42**	**76**	Pg	Pg	07 49 57.3	-0.1
	1.9nm,0.0s,SNR=18						
PCAB	**Cabril**	**0.44**	**97**	*e*Pg	Pg	07 49 57.6	-0.1
PCAB				*e*Sg	Sg	07 50 02.9	-0.6
PCAB							
	12nm,0.1s						
PCAB	**Cabril**	**0.44**	**97**	*e*Sg	Sg	07 50 02.9	-0.6
	12nm,0.1s						
PTO	**Porto**	**0.62**	**179**	*e*Sg	Sg	07 50 09.5	+0.1
PTO							
	26nm,0.2s						
PTO	**Porto**	**0.62**	**179**	*e*Sg	Sg	07 50 09.5	+0.1
	26nm,0.2s						
PVRL	**Vila Real**	**0.83**	**126**	*e*P	Pg	07 50 04.7	-0.5
PVRL				*e*S	Sg	07 50 15.3	-0.7
PVRL							
	17nm,0.1s						
STS	**Santiago**	**1.12**	**2**	Pg	Pg	07 50 09.8	-1.0
	3.1nm,0.1s,SNR=7.9						
STS				Lg		07 50 24.4	
	5.4nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**1.18**	**152**	*e*P	Pg	07 50 10.7	-1.2
PVIS				*e*S	Sg	07 50 26.7	-0.5
PVIS							
	8.6nm,0.1s						
PVIS	**Viseu**	**1.18**	**152**	*e*P	Pg	07 50 10.7	-1.2
PVIS				*e*S	Sg	07 50 26.7	-0.5
	8.6nm,0.1s						
EMAZ	**Mazaricos**	**1.21**	**347**	Pg	Pg	07 50 11.4	-1.2
	0.8nm,0.1s,SNR=7.9						
EMAZ				Lg		07 50 26.7	
	2.1nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**1.21**	**347**	Pg	Pg	07 50 11.4	-1.2
	0.8nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**1.40**	**88**	*e*P	Pn	07 50 15.0	-1.1
PBRG				*e*S	Sg	07 50 33.0	-1.3
PBRG							
	2.2nm,0.2s						
PBRG	**Braganca**	**1.40**	**88**	*e*P	Pn	07 50 15.0	-1.1
PBRG				*e*S	Sg	07 50 33.0	-1.3
	2.2nm,0.2s						

ECAL	**Calabor**	**1.41**	**82**	Pg	Pg	07 50 14.9	-1.4
	0.7nm,0.1s,SNR=7.9						
ECAL				Lg		07 50 33.8	
	4.7nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**1.41**	**82**	Pg	Pg	07 50 14.9	-1.4
	0.7nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**1.58**	**149**	*e*Sn	Sn	07 50 37.5	-2.3
MTE							
	6.2nm,0.5s						
MTE	**Manteigas**	**1.58**	**149**	Sn	Sn	07 50 37.5	-2.3
	3.1nm,0.5s						
EPON	**Pontenova**	**1.90**	**34**	Pg	Pg	07 50 23.0	-2.7
	0.1nm,0.1s,SNR=7.9						
EPON				Lg		07 50 49.0	
	2.4nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**1.90**	**34**	Pg	Pg	07 50 23.0	-2.7
	0.1nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**2.11**	**155**	*e*Pg	Pg	07 50 27.6	-2.1
PCBR				*e*Sg	Sg	07 50 55.9	-1.1
PCBR							
	1.9nm,0.4s						
PTOM	**Tomar**	**2.15**	**176**	*e*Sg	Sg	07 50 56.0	-2.4
PTOM							
	3.3nm,0.3s						
PTOM	**Tomar**	**2.15**	**176**	Lg		07 50 56.0	
	1.6nm,0.3s						
EPLA	**Plasencia**	**2.56**	**131**	Lg		07 51 10.1	
	0.5nm,0.3s,SNR=7.9						
PESTR	**Estremoz**	**3.00**	**165**	*e*Sg	Sg	07 51 24.5	-1.1

IDC ***23*** *07:51:56.8±1.0, 4132S×17289E, h129km±17km, mb2.7/2, mb1 3.0/4, mb1mx2.9/12, mbtmp3.2/4, Error ellipse: s-maj=36.0km s-min=9.2km az=131.0*
ISCJB ***23*** *07:51:58.3±0.6, 4130S±006×17274E±007, h144km±5km, mb2.8/2, Error ellipse: s-maj=11.1km s-min=7.2km az=125.2*
WEL ***23*** *07:51:59.7±0.3, 4128S×17277E, h142km±2km, ML3.7/13, Error ellipse: s-maj=1.9km s-min=1.9km az=90.0*
ISC 23 07:51:59.0±0.6, 4130S±006×17278E±006, h144km±5km, n24, σ0=85/38, mb2.8/2, 1C, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNZ	**Nelson**	**0.46**	**80**	PN	**Pn**	**07 52 19.8**	**+0.5**
NNZ				SN	**Sn**	**07 52 35.1**	**+0.2**
NNZ				SN	**Sn**	**07 52 35.1**	**+0.2**
THZ	**Tophouse**	**0.47**	**169**	PN	**Pn**	**07 52 20.4**	**+1.0**
THZ				SN	**Sn**	**07 52 35.1**	**+0.1**
THZ				SN	**Sn**	**07 52 35.6**	**+0.6**
QRZ	**Quartz Range**	**0.51**	**338**	PN	**Pn**	**07 52 20.1**	**+0.5**
QRZ				eSN	**Sn**	**07 52 34.2**	**-1.1**
QRZ				SN	**Sn**	**07 52 34.6**	**-0.7**
DSZ	**Denniston Nort**	**0.86**	**238**	PN	**Pn**	**07 52 22.5**	**+0.6**
DSZ				SN	**Sn**	**07 52 38.2**	**-1.2**
DSZ				SN	**Sn**	**07 52 38.2**	**-1.2**
TUWZ	**Tuamarina**	**0.89**	**99**	PN	**Pn**	**07 52 22.8**	**+0.7**
TUWZ				SN	**Sn**	**07 52 39.9**	**+0.1**
TUWZ				SN	**Sn**	**07 52 40.0**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.92**	**117**	⇑PN	**Pn**	**07 52 23.2**	**+0.7**
DUWZ	**D'Urville Isla**	**1.00**	**61**	PN	**Pn**	**07 52 23.7**	**+0.6**
DUWZ				SN	**Sn**	**07 52 41.5**	**+0.1**
TCW	**Tory Channel**	**1.13**	**86**	PN	**Pn**	**07 52 25.0**	**+0.7**
CMWZ	**Cape Campbell**	**1.17**	**113**	PN	**Pn**	**07 52 25.5**	**+0.9**
KHZ	**Kahutara**	**1.25**	**153**	PN	**Pn**	**07 52 26.3**	**+0.8**
KHZ				SN	**Sn**	**07 52 44.8**	**-0.9**
MRW	**Makara Radio**	**1.45**	**88**	PN	**Pn**	**07 52 27.7**	**+0.2**
SNZO	**South Karori**	**1.45**	**91**	PN	**Pn**	**07 52 27.8**	**+0.1**
WEL	**Wellington**	**1.50**	**90**	PN	**Pn**	**07 52 28.2**	**+0.2**
LTZ	**Lake Taylor**	**1.53**	**194**	PN	**Pn**	**07 52 29.2**	**+0.9**
BHW	**Baring Head**	**1.58**	**95**	PN	**Pn**	**07 52 28.9**	**0.0**
KIW	**Kapiti Island**	**1.67**	**76**	PN	**Pn**	**07 52 30.0**	**+0.1**
CAW	**Cannon Point**	**1.74**	**84**	PN	**Pn**	**07 52 30.5**	**-0.1**
MSWZ	**Moikau Station**	**1.86**	**94**	PN	**Pn**	**07 52 32.0**	**-0.1**
MTW	**Mount Morrison**	**2.06**	**87**	PN	**Pn**	**07 52 34.0**	**-0.4**
MTW				SN	**Sn**	**07 52 59.8**	**-1.8**
RPZ	**Rata Peaks**	**2.73**	**207**	P	**Pn**	**07 52 42.0**	**-0.6**
	3.2nm,0.3s,baz=23,slow=14,SNR=50						
RPZ				S	**Sn**	**07 53 13.7**	**-2.7**
	4.1nm,0.3s,baz=25,slow=19,SNR=23						
URZ	**Urewera**	**4.51**	**49**	P	**Pn**	**07 53 03.1**	**-2.6**
	0.4nm,0.3s,baz=248,slow=11,SNR=3.2						
URZ				S	**Sn**	**07 53 53.9**	**-3.8**
	7.2nm,0.3s,baz=46,slow=20,SNR=32						
ASAR	**Alice Springs**	**36.84**	**286**	P	**P**	**07 58 53.6**	**+0.4**
	0.1nm,0.5s,mb2.7,baz=127,slow=7.0,SNR=4.5						
WRA	**Warramunga Arr**	**38.91**	**291**	P	**P**	**07 59 10.4**	**-0.1**
	0.2nm,0.6s,mb2.9,baz=128,slow=8.4,SNR=6.4						
TORD	**Torodi Ar. Bea**	**150.89**	**198**	PKPbc	PKPbc	08 11 34.0	-0.5
	0.1nm,0.4s,baz=142,slow=2.0,SNR=4.3						

IDC 23 07:55:24.3±4.1, 1241N×13964E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=294.5km s-min=34.4km az=87.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.56**	**189**	P	P	08 01 56.9	-0.2
	1.3nm,0.8s,baz=10,slow=9.6,SNR=7.0						
ASAR	**Alice Springs**	**36.28**	**189**	P	P	08 02 30.1	+0.7
	0.3nm,0.5s,baz=20,slow=12,SNR=8.0						
FINES	**FINESS Array B**	**90.02**	**334**	P	P	08 08 25.6	-0.2
	0.6nm,0.7s,baz=66,slow=6.8,SNR=5.1						

NIED ***23*** *08:01:00, 2290N×12580E, h8km, Mw3.8 Best double couple: M0=4.73000×10^14 NP1:φs307.00000°, δ81.00000°, λ-88.00000°. NP2:φs112.00000°, δ9.00000°, λ-105.00000°.*
JMA 23 08:01:21.2±0.3, 2287N×12581E, h63km, M3.6, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.92**	**349**	P	Pn	08 01 52.3	+0.7
JMJ	**Miyako jima 2**	**1.99**	**346**	P	Pn	08 01 53.4	+0.8
JTJ	**Tarama**	**2.03**	**330**	P	Pn	08 01 54.0	+0.9
JTJ				S	Sn	08 02 18.8	+1.3
JIJ	**Ishigaki jima**	**2.13**	**315**	P	Pn	08 01 55.2	+0.7
JIJ				S	Sn	08 02 20.2	+0.3
JKRS	**Kuro-shima**	**2.14**	**310**	P	Pn	08 01 55.6	+1.0
JKRS				*e*S	Sn	08 02 21.2	+1.1
HATJ	**Hateruma jima**	**2.19**	**303**	*e*S	Sn	08 02 21.6	+0.4
IRIF	**Iriomote-Funau**	**2.40**	**308**	P	Pn	08 01 58.9	+0.8
IRIF				*e*S	Sn	08 02 27.5	+1.1
YOJ	**Yonaguni jima**	**3.02**	**302**	P	Pn	08 02 07.6	+1.1
YOJ				*e*S	Sn	08 02 41.7	+0.2
JKE	**Kume jima 2**	**3.55**	**14**	P	Pn	08 02 12.9	-1.0
JKE				*e*S	Sn	08 02 53.4	-1.2
JAGN	**Aguni-jima**	**3.92**	**19**	*e*S	Sn	08 03 02.5	-1.2
JOW	**Kunigami**	**4.54**	**29**	P	Pn	08 02 26.1	-1.2
JOW				*e*S	Sn	08 03 16.6	-2.1

IDC 23 08:03:34.5±2.5, 2070S×16805E, h34km±6km, mb3.7/4, mb1 3.8/5, mb1mx3.6/12, mbtmp3.8/5, ML3.0/1, Error ellipse: s-maj=80.2km s-min=22.4km az=132.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.03**	**227**	*e*P	Pn	08 04 05.0	-1.2
DZM				*e*S	Sn	08 04 33.0	+2.6
DZM	**Mont Dzumac**	**2.03**	**227**	Pn	Pn	08 04 04.8	-1.4
	5.5nm,0.3s,baz=102,slow=21,SNR=96						
DZM				Sn	Sn	08 04 30.7	+0.3
	24nm,0.3s,baz=25,slow=22,SNR=6.3						
NOUC	**Port Laguerre**	**2.15**	**229**	*e*P	Pn	08 04 08.0	+0.1
STKA	**Stephens Creek**	**26.14**	**239**	P	P	08 09 06.1	+0.7
	1.5nm,0.7s,baz=105,slow=8.4,SNR=4.3						
WRA	**Warramunga Arr**	**31.59**	**265**	P	P	08 09 54.1	+0.2
	0.2nm,0.5s,baz=94,slow=8.5,SNR=5.3						
WRA				pP	pP	08 10 03.9	+0.2
	0.2nm,0.5s,baz=81,slow=6.0,SNR=1.5						
ASAR	**Alice Springs**	**31.72**	**258**	P	P	08 09 55.8	+0.7
	2.3nm,0.7s,baz=83,slow=9.2,SNR=33						
ASAR				pP	pP	08 10 05.7	+0.8
	1.5nm,0.7s,baz=74,slow=8.8,SNR=6.5						
SONM	**Songino Array**	**87.72**	**324**	P	P	08 16 19.8	+0.1
	0.4nm,0.4s,baz=134,slow=6.2,SNR=3.1						
GERES	**GERESS Array B**	**145.22**	**330**	PKPbc	PKPbc	08 23 07.3	-0.9
	1.5nm,0.8s,baz=45,slow=4.0,SNR=16						
GERES				pPKPbc	pPKPbc	08 23 18.5	-0.7
	1.4nm,0.8s,baz=46,slow=3.9,SNR=8.5						

MAN 23 08:05:52.6, 1866N×12051E, h10km, mb2.8, ML4.3, MS2.4, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.35**	**162**⇑	*e*P	Pg	08 06 00.3	+0.8
PIP				*e*S	Sg	08 06 11.7	+7.6
ABRA	**Dolores**	**1.02**	**169**	*e*P	Pg	08 06 16.4	+4.1
APYP	**Conner**	**1.05**	**138**	*e*P	Pg	08 06 11.7	-1.2
CVP	**Callao Caves**	**1.57**	**127**⇓	*e*P	Pn	08 06 20.0	-0.5
BALP	**Baler**	**3.07**	**160**	*e*P	Pn	08 06 41.9	+0.7

CASC 23 08:09:36.5±3.5, 1356N×9151W, h78km±116km, MD3.9, 2C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.76**	**351**⇑	*e*P	Pn	08 09 52.2	-0.5
TER	**Terranova**	**1.09**	**47**⇓	*e*P	Pn	08 09 57.2	+0.7
TER				*e*S	Sn	08 10 12.0	+0.6
FUG	**Fuego 3**	**1.09**	**36**⇓	*e*P	Pn	08 09 57.2	+0.6
IXG	**Ixpaco**	**1.19**	**59**⇓	*e*P	Pn	08 09 58.1	+0.3
IXG				*e*S	Sn	08 10 16.6	+2.9
RBDL	**Robledal**	**1.85**	**73**⇑	*e*P	x	08 10 37.2	
RBDL				*e*S	x	08 11 00.3	
SBLS	**San Blas**	**1.85**	**81**	*e*P	x	08 10 38.3	
SBLS				*e*S	x	08 11 00.5	
SNJE	**San Jose**	**1.87**	**80**⇓	*e*P	x	08 10 37.1	
SNJE				*e*S	x	08 11 02.4	
BOQS	**Boqueron**	**2.17**	**85**	*e*P	x	08 10 42.7	
BOQS				*e*S	x	08 11 08.9	
LFRS	**El Faro**	**2.38**	**88**	*e*P	x	08 10 45.0	
LFRS				*e*S	x	08 11 14.3	
LCBS	**La Ceiba**	**2.46**	**88**⇓	*e*P	x	08 10 46.2	
LCBS				*e*S	x	08 11 15.9	
SNVI	**San Vicente**	**2.59**	**89**	*e*P	x	08 10 49.3	
SNVI				*e*S	x	08 11 20.2	

NIED ***23*** *08:13:00, 24.10N×122.40E, h20km, Mw4.2 Best double couple: M0=2.04000×10^15 NP1:φs68.00000°, δ88.00000°, λ78.00000°. NP2:φs328.00000°, δ12.00000°, λ170.00000°.*
BJI ***23*** *08:13:08.8, 2375N×122.70E, h32km, mb4.4, ML3.9, Ms4.0, Msz3.9*
IDC ***23*** *08:13:10.0±0.8, 2409N×122.45E, h0km, mb4.0/10, mb1 4.1/11, mb1mx4.0/20, mbtmp4.0/11, ML3.5/1, MS5.1/1, Ms1 5.1/1, ms1mx3.4/35, Error ellipse: s-maj=28.9km s-min=17.0km az=63.0*
JMA ***23*** *08:13:14.8±0.2, 2408N×122.40E, h36km, M4.2*
ISCJB ***23*** *08:13:14.7±0.6, 2407N±007×12239E±003, h44km±6km, mb4.1/19, MS5.1/1, Error ellipse: s-maj=11.6km s-min=4.7km az=8.4*
NEIC ***23*** *08:13:15.3±0.8, 2405N×122.45E, h36km±7km, mb4.4/8, Error ellipse: s-maj=11.1km s-min=7.8km az=217.0*
ISC 23 08:13:15.4±0.7, 2405N±007×12238E±003, h35km±7km, n40, σ0=92/48, mb4.1/19, MS5.1/1, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.71**	**54**	P	**Pn**	**08 13 27.8**	**-1.2**
YOJ				S	**Sn**	**08 13 37.0**	**-1.6**
NACB	**Ninganchiao**	**0.73**	**280**	*e*Pn	**Pn**	**08 13 28.7**	**-0.5**
YHNB	**Yeheng**	**1.11**	**304**	*e*Pn	**Pn**	**08 13 35.4**	**+1.0**
YHNB				*e*Sn	**Sn**	**08 13 53.2**	**+4.7**
TATO	**Taipei**	**1.23**	**319**	*e*Pn	**Pn**	**08 13 37.9**	**+1.7**
IRIF	**Iriomote-Funau**	**1.27**	**77**	P	**Pn**	**08 13 36.5**	**-0.1**
IRIF				S	**Sn**	**08 13 52.4**	**0.0**
HATJ	**Hateruma jima**	**1.30**	**89**	P	**Pn**	**08 13 36.8**	**-0.3**
HATJ				S	**Sn**	**08 13 53.8**	**+0.5**
JKRS	**Kuro-shima**	**1.50**	**82**	P	**Pn**	**08 13 39.9**	**+0.1**
JKRS				*e*S	**Sn**	**08 13 57.9**	**-0.3**
JIJ	**Ishigaki jima**	**1.64**	**79**	P	**Pn**	**08 13 41.2**	**-0.6**
JIJ				*e*S	**Sn**	**08 14 01.6**	**0.0**
JTJ	**Tarama**	**2.20**	**74**	P	**Pn**	**08 13 49.6**	**+0.2**
JTJ				*e*S	**Sn**	**08 14 15.8**	**+0.4**
JMJ	**Miyako jima 2**	**2.76**	**73**	*e*S	**Sn**	**08 14 30.6**	**+1.3**
QZH	**Quanzhou**	**3.56**	**285**⇑	*i*P	**Pn**	**08 14 08.5**	**+0.3**
QZH				S	**Sn**	**08 14 47.8**	**-1.3**
QZH				Smax			
	comp=N,280nm,0.8s						
QZH				Smax			
	comp=E,240nm,1.0s						
JKE	**Kume jima 2**	**4.59**	**59**	P	**Pn**	**08 14 24.2**	**+1.9**
JOW	**Kunigami**	**6.01**	**61**	Pn	**Pn**	**08 14 40.7**	**-1.1**
	comp=E,2.6nm,0.3s,baz=143,slow=16,SNR=9.7						
JOW				Sn	**Sn**	**08 15 50.4**	**+1.0**
	comp=E,0.6nm,0.3s,baz=0.0,slow=19,SNR=2.6						
JOW	**Kunigami**	**6.01**	**61**	P	**Pn**	**08 14 40.6**	**-1.2**
JTK	**Tokunoshima**	**6.99**	**56**	P	**Pn**	**08 14 53.5**	**-1.8**
SSE	**Sheshan**	**7.10**	**352**	*e*P	**Pn**	**08 14 57.3**	**+0.5**
LZH	**Lanzhou**	**20.00**	**311**	⇓P	**Pn**	**08 17 42.5**	**-4.3**
LZH				AP	pP	08 17 50.6	-3.5
LZH				AMB	AMB		
	comp=Z,22nm,1.3s						
LZH				LR	LR		
	comp=N,319nm,13.6s						
LZH				LR	LR		
	comp=Z,375nm,17.5s						
GTA	**Gaotai**	**24.46**	**314**	*e*P	**P**	**08 18 32.9**	**+1.9**
GTA				AP		08 18 36.3	
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.0						
SONM	**Songino Array**	**26.93**	**336**	P	**P**	**08 18 53.4**	**+0.1**
	comp=Z,4.1nm,0.9s,mb4.0,baz=149,slow=9.8,SNR=16						
MKAR	**

Moment tensor: Scale 10^{18}Nm; M_{rr}0.55±.01; $M_{\theta\theta}$0.20±.01; $M_{\phi\phi}$-0.75±.01; $M_{r\theta}$0.68±.01; $M_{\theta\phi}$-0.43±.01; $M_{r\phi}$-0.20±.01; Best double couple: $M_0$1.04700×10^{18} NP1:ϕ_s168.00000°, δ55.00000°, λ37.00000°. NP2:ϕ_s55.00000°, δ61.00000°, λ139.00000°. Principal axes: T 1.1690, Plg49.0000°, Azm19.0000°; N -0.2440, Plg41.0000°, Azm206.0000°; P -0.9250, Plg3.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

NEIC ***23*** *08:22:04.2±0.1, 034.5×123.29E, h28^{km}, mb5.8/57, ME5.8, MS5.4/151, MW5.9 Error ellipse: s-maj=6.7km s-min=4.2km az=62.0, Moment Tensor Solution. s25 Moment tensor: Scale 10^{18}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{r\phi}$0.00; Best double couple: $M_0$1.00000×10^{18} NP1:ϕ_s54.00000°, δ70.00000°, λ153.00000°. NP2:ϕ_s154.00000°, δ65.00000°, λ22.00000°. Principal axes: T 1.0600, Plg33.0000°, Azm13.0000°; N -0.0400, Plg57.0000°, Azm201.0000°; P -1.0100, Plg4.0000°, Azm105.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s154.00000°, δ67.00000°, λ22.00000°. NP2:ϕ_s55.00000°, δ70.00000°, λ155.00000°. Principal axes: T Plg32.0000°, Azm14.0000°; N Plg0.0000°, Azm0.0000°; P Plg2.0000°, Azm105.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Gorontalo and [III] at Luwuk.

ISCJB ***23*** *08:22:04.0±0.1, 0.40S±002×12324E±003, h41^{km}, mb5.7/152, MS5.4/206 Error ellipse: s-maj=4.4km s-min=2.8km az=141.4*

BJI ***23*** *08:22:04.1, 030S×12330E, h28^{km}, mB6.2, mb5.7, Ms5.6, Msz5.4*

IDC ***23*** *08:22:07.1±1.3, 028S×123.15E, h51^{km}±10^{km}, mb5.0/30, mb1 5.0/30, mb1mx5.0/31, mbtmp5.3/30, MS5.4/21, Ms1 5.4/21, ms1mx5.2/29, Error ellipse: s-maj=12.5km s-min=8.4km az=68.0*

ISC 23 08:22:06.1±0.1, 039S±002×12333E±003, h43^{km}, h43^{km}±2.6^{km}: pP-P, n829, σ1§38/441, mb5.7/151, MS5.4/206, 98C-67D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**3.54**	**262**	P	**Pn**	**08 22 59.6**	**+1.1**
	0.0nm,0.0s						
TSM	**Tawau**	**7.17**	**311**	P	**Pn**	**08 23 50.6**	**+2.2**
KCP	**Kidapawan**	**7.56**	**13**	*e*P	**Pn**	**08 23 59.0**	**+5.3**
DMPH	**Davao City--Mi**	**7.73**	**16**	*i*P	**Pn**	**08 24 01.8**	**+5.6**
DAV	**Davao City (W)**	**7.74**	**17**	*e*Pn	**Pn**	**08 24 00.7**	**+4.5**
DAV				*e*Sn	**Sn**	**08 25 26.5**	**+3.9**
MATI	**Mati**	**7.85**	**22**	*e*P	**Pn**	**08 24 00.4**	**+2.7**
IPIL	**Ipil**	**8.16**	**355**	*e*P	**Pn**	**08 24 04.7**	**+2.7**
IPIL	**Ipil**	**8.16**	**355**	*e*P	**Pn**	**08 24 08.4**	**+2.9**
PAGZ	**Pagadian**	**8.18**	**0**	*e*P	**Pn**	**08 24 04.0**	**+1.8**
BUKP	**Musuan**	**8.39**	**12**	*e*P	**Pn**	**08 24 09.0**	**+3.8**
CGP	**Cagayan de Oro**	**8.89**	**9**	*e*P	**Pn**	**08 24 14.6**	**+2.6**
KKM	**Kota Kinabalu**	**9.56**	**312**	P	**Pn**	**08 24 25.8**	**+4.7**
KKM	**Kota Kinabalu**	**9.56**	**312**	*e*Pn	**Pn**	**08 24 22.5**	**+1.4**
BUTP	**Butuan**	**9.57**	**14**	*e*P	**Pn**	**08 24 27.2**	**+5.9**
SNPH	**Sibulan**	**9.67**	**359**	*e*P	**Pn**	**08 24 27.0**	**+4.4**
SCPH	**Surigao**	**10.33**	**12**	*e*P	**Pn**	**08 24 37.2**	**+5.5**
SCPH				*e*S	**Sn**	**08 26 20.7**	**-5.4**
MSLP	**Maasin**	**10.56**	**8**	*e*P	**Pn**	**08 24 42.0**	**+7.1**
LLP	**Lapu-Lapu**	**10.66**	**3**	*e*P	**Pn**	**08 24 42.8**	**+6.7**
	991μm,1.7s						
BATP	**Bataraza**	**10.66**	**329**	*e*P	**Pn**	**08 24 41.1**	**+4.9**
GUIM	**Jordan**	**10.97**	**356**	*e*P	**Pn**	**08 24 44.6**	**+4.2**
CUYO	**Cuyo Island**	**11.40**	**348**	*e*P	**Pn**	**08 24 51.5**	**+5.2**
PLP	**Palo**	**11.60**	**8**	*e*P	**Pn**	**08 24 56.1**	**+7.1**
ENPP	**El Nido**	**12.16**	**341**	*e*P	**Pn**	**08 25 00.7**	**+4.0**
OTRP	**Odiongan**	**12.74**	**354**	*e*P	**Pn**	**08 25 09.9**	**+5.3**
KSM	**Kuching**	**13.16**	**278**	*e*Pn	**Pn**	**08 25 12.7**	**+2.4**
BOAC	**Boac**	**13.84**	**354**	*e*P	**Pn**	**08 25 24.4**	**+4.8**
PVCP	**Virac**	**13.92**	**3**	*e*P	**Pn**	**08 25 27.0**	**+6.3**
GQP	**Guinayangan**	**14.23**	**356**	⇓*e*P	**Pn**	**08 25 31.1**	**+6.2**
	200μm,25.0s						
LUBP	**Lubang**	**14.36**	**348**	*e*P	**Pn**	**08 25 30.5**	**+3.8**
LQP	**Lukban**	**14.52**	**353**	*e*P	**Pn**	**08 25 35.2**	**+6.4**
TGY	**Tagaytay City**	**14.59**	**351**	P	**Pn**	**08 25 40.8**	**+11**
	64nm,0.3s,baz=225,slow=2.4,SNR=29						
TGY	**Tagaytay City**	**14.59**	**351**	P	**Pn**	**08 25 40.8**	**+11**
TGY				pmax	pmax		
	comp=Z,65nm,0.3s						
POLP	**Polillo Island**	**15.08**	**355**	*e*P	**Pn**	**08 25 44.5**	**+8.3**
KAKA	**Kakadu**	**15.21**	**144**	*e*P	**Pn**	**08 25 37.5**	**-0.4**
	comp=Z,2μm,1.8s						
KAKA				*i* SCP	ScP	08 34 14.0	+1.4
BJII	**Banjamegara**	**15.24**	**243**	P	**Pn**	**08 25 40.6**	**+2.4**
	comp=Z,0.0nm,0.0s						
BALP	**Baler**	**16.12**	**354**	*e*P	**Pn**	**08 25 56.6**	**+6.9**
SCZP	**Santa Cruz**	**16.41**	**348**	*e*P	**Pn**	**08 25 57.6**	**+4.3**
BCPH	**Baguio City Da**	**16.89**	**351**	⇓*e*P	**Pn**	**08 26 03.9**	**+4.7**
LEM	**Lembang**	**16.93**	**247**	P	**Pn**	**08 26 02.8**	**+3.0**
	comp=Z,404nm,1.0s						
BOLP	**Bolinao**	**17.00**	**349**	*e*P	**Pn**	**08 26 03.7**	**+3.0**
CAUP	**Cauayan**	**17.29**	**355**	*e*P	**Pn**	**08 26 09.6**	**+5.3**
PALP	**Palanan**	**17.37**	**357**	*e*P	**Pn**	**08 26 09.7**	**+4.4**
PALP	**Palanan**	**17.37**	**357**	⇓*e*P	**Pn**	**08 26 10.4**	**+5.1**
FITZ	**Fitzroy Crossi**	**17.75**	**173**	⇓*i*P	**Pn**	**08 26 08.3**	**-1.6**
	comp=Z,175nm,1.0s						
FITZ				*e*S	**S**	**08 29 23.4**	**-8.8**
FITZ				*i* SCP	ScP	08 34 18.3	+0.7
FITZ				*e*SCS	ScS	08 37 56.5	-1.4
FITZ	**Fitzroy Crossi**	**17.75**	**173**	P	**Pn**	**08 26 08.5**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=6.6,slow=11,SNR=37						
FITZ				S	**S**	**08 29 23.5**	**-8.7**
	comp=Z,0.4nm,0.3s,baz=101,slow=12,SNR=3.5						
FITZ				LR	LR	08 33 00.9	
	comp=Z,7μm,21.5s,baz=357,slow=37						
FITZ				ScP	ScP	08 34 18.4	+0.8
	comp=Z,0.7nm,0.3s,baz=325,slow=2.2,SNR=6.7						
CVP	**Callao Caves**	**18.04**	**355**	⇑*e*P	**Pn**	**08 26 17.0**	**+3.5**
APYP	**Conner**	**18.25**	**354**	*e*P	**Pn**	**08 26 19.7**	**+3.6**
KGM	**Kluang**	**20.15**	**277**	P	**P**	**08 26 39.4**	**+2.6**
MBWA	**Marble Bar**	**20.94**	**189**	*e*P	**P**	**08 26 46.0**	**+0.8**
	comp=Z,240nm,1.0s						
MBWA				*e*ScP	ScP	08 34 25.6	+0.7
MBWA				LR	LR		
	comp=Z,10μm,19.0s,MS5.2						
KSI	**Kapahiang**	**20.98**	**261**	P	**P**	**08 26 49.3**	**+3.7**
	comp=Z,610nm,1.5s						
WRAB	**Tennant Creek**	**22.22**	**152**	P	**P**	**08 26 58.6**	**-0.3**
	comp=Z,3μm,1.1s,mb6.7						
WRAB	**Tennant Creek**	**22.22**	**152**	*e*P	**P**	**08 26 58.4**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,1μm,1.2s,mb6.2						
WRAB				MLR	MLR		
	comp=Z,17μm,21.0s,MS5.5						
WRAB	**Tennant Creek**	**22.22**	**152**	*e*P	**P**	**08 26 58.4**	**-0.4**
	comp=Z,1μm,1.2s,mb6.2						
WRAB				*e*ScP	ScP	08 34 29.4	+1.3
WRAB				LR	LR		
	comp=Z,17μm,21.0s,MS5.5						
WRA	**Warramunga Arr**	**22.22**	**152**	P	**P**	**08 26 58.5**	**-0.4**
	comp=Z,564nm,1.2s,mb5.9,baz=330,slow=10,SNR=214						
WRA				S	**S**	**08 30 58.5**	**-2.7**
	comp=Z,88nm,1.3s,baz=332,slow=17,SNR=5.4						
WRA				ScP	ScP	08 34 29.4	+1.3
	comp=Z,118nm,1.0s,baz=334,slow=3.1,SNR=45						
WRA				LR	LR	08 36 03.8	
	comp=Z,9μm,21.8s,MS5.1,baz=320,slow=37						
WRA				ScS	ScS	08 38 10.3	-2.7
	comp=Z,12nm,1.1s,baz=300,slow=4.1,SNR=4.6						
WRA	**Warramunga Arr**	**22.22**	**152**	*i* P	**P**	**08 26 57.7**	**-1.2**
WRA				pmax	pmax		
	comp=Z,564nm,1.2s						
WB2	**Warramunga Arr**	**22.23**	**152**	*e*P	**P**	**08 26 57.9**	**-1.1**
WB2				*e*S	**S**	**08 30 51.0**	**-10**
WB2				*i* SCP	ScP	08 34 29.2	+1.1
WB2				*e*SCS	ScS	08 38 10.7	-2.3
IPM	**Ipoh**	**22.81**	**282**	P	**P**	**08 27 07.2**	**+2.1**
PPI	**Padang Panjang**	**22.94**	**270**	P	**P**	**08 27 07.3**	**+0.8**
	comp=Z,674nm,1.1s,mb6.0						
KULM	**Kulim**	**23.35**	**284**	*e*P	**P**	**08 27 11.4**	**+0.6**
QIZ	**Qiongzhong**	**23.41**	**326**	P	**P**	**08 27 12.8**	**+1.5**
QIZ				AMB	AMB		
	comp=Z,689nm,1.9s,mb5.8						
QIZ				AMB	AMB		
	comp=Z,7μm,4.5s						
QIZ	**Qiongzhong**	**23.41**	**326**	P	**P**	**08 27 13.2**	**+1.9**
QIZ	**Qiongzhong**	**23.41**	**326**	*e*P	**P**	**08 27 13.3**	**+2.0**
	comp=Z,3μm,1.8s,mb6.3						
QIZ				LR	LR		
	comp=Z,9μm,22.0s,MS5.2						
UBT	**Ubonrachathani**	**23.86**	**311**	⇑P	**P**	**08 27 18.0**	**+2.6**
	comp=Z,486nm,0.8s,mb6.0						
SNG	**Songkhla**	**23.88**	**289**	P	**P**	**08 27 17.0**	**+1.4**
	comp=Z,620nm,0.9s,mb6.0						
HKC	**Hong Kong**	**24.26**	**339**	⇑*i*P	**P**	**08 27 22.0**	**+2.9**
HKC				*i* S	**S**	**08 31 40.0**	**+5.0**
NACB	**Ninganchiao**	**24.48**	**356**	*e*P	**P**	**08 27 22.6**	**+1.5**
PSI	**Prapat**	**24.61**	**278**	P	**P**	**08 27 22.6**	**+0.4**
	comp=Z,74nm,1.0s,mb5.2,baz=106,slow=5.6,SNR=31						
PSI				S	**S**	**08 31 34.1**	**-6.4**
	comp=Z,9.5nm,0.8s,baz=22,slow=11,SNR=1.6						
PSI				ScP	ScP	08 34 34.0	-0.4
	comp=Z,28nm,0.9s,baz=106,slow=1.5,SNR=7.2						
PSI				LR	LR	08 37 28.7	
	comp=Z,22μm,21.5s,MS5.6,baz=227,slow=38						
PSI				ScS	ScS	08 38 19.0	-3.3
	comp=Z,6.5nm,0.9s,baz=133,slow=17,SNR=7.7						
PSI	**Prapat**	**24.61**	**278**	P	**P**	**08 27 22.7**	**+0.4**
PSI				S	**S**	**08 31 34.1**	**-6.5**
PSI						08 38 19.0	
YHNB	**Yeheng**	**24.98**	**356**	*e*P	**P**	**08 27 26.8**	**+1.1**
GZH	**Guangzhou**	**25.28**	**338**	P	**P**	**08 27 28.0**	**-0.4**
GZH				LR	LR		
	comp=N,6μm,19.0s,MS5.3						
GZH				LR	LR		
	comp=E,5μm,14.9s,MS5.3						
GZH				LR	LR		
	comp=Z,11μm,18.3s,MS5.4						
TATO	**Taipei**	**25.28**	**356**	*e*P	**P**	**08 27 29.5**	**+1.1**
TATO				LR	LR		
	comp=Z,10μm,20.0s,MS5.3						
AS31	**Alice Springs**	**25.31**	**157**	*e*P	**P**	**08 27 29.5**	**+0.8**
AS31				*e*S	**S**	**08 31 50.1**	**-1.6**
AS31				*i* ScP	ScP	08 34 37.7	+1.3
AS31				*e*ScS	ScS	08 38 23.1	-2.1
ASAR	**Alice Springs**	**25.31**	**157**	P	**P**	**08 27 29.4**	**+0.8**
	comp=Z,49nm,0.4s,mb5.4,baz=334,slow=8.4,SNR=291						
ASAR				PcP	PcP	08 31 01.6	+0.8
	comp=Z,25nm,0.9s,baz=341,slow=2.3,SNR=8.0						
ASAR				S	**S**	**08 31 49.9**	**-1.9**
	comp=Z,21nm,1.1s,baz=356,slow=26,SNR=3.2						
ASAR				ScP	ScP	08 34 37.5	+1.1
	comp=Z,64nm,1.0s,baz=340,slow=2.6,SNR=31						
ASAR				LR	LR	08 38 22.7	
	comp=Z,14μm,19.1s,MS5.5,baz=336,slow=38						
ASAR				ScS	ScS	08 38 23.8	-1.4
	comp=Z,7.3nm,1.0s,baz=326,slow=4.4,SNR=4.3						
ASAR	**Alice Springs**	**25.31**	**157**	P	**P**	**08 27 29.5**	**+0.8**
ASAR				*i*P	**P**	**08 27 32.6**	**+1.3**
ASAR				S	**S**	**08 31 49.9**	**-1.8**
ASAR						08 38 23.8	
ASPA	**Alice Springs**	**25.31**	**157**	*e*P	**P**	**08 27 29.5**	**+0.8**
ASPA				*e*S	**S**	**08 31 50.1**	**-1.6**
ASPA				*i* SCP	ScP	08 34 37.7	+1.3
ASPA				*e*SCS	ScS	08 38 23.1	-2.1
PMG	**Port Moresby**	**25.35**	**111**	P	**P**	**08 27 31.2**	**+2.2**
	comp=Z,240nm,0.8s,mb5.8,baz=309,slow=4.8,SNR=37						
PMG	**Port Moresby**	**25.35**	**111**	⇓*e*P	**P**	**08 27 30.9**	**+1.9**
PMG	**Port Moresby**	**25.35**	**111**	*e*P	**P**	**08 27 30.8**	**+1.8**
PMG				*e*		08 27 49.9	
PMG				LR	LR		
	comp=Z,7μm,21.0s,MS5.2						
GUMO	**Guam**	**25.46**	**56**	P	**P**	**08 27 30.5**	**+0.5**
	comp=Z,301nm,1.0s,mb5.8,baz=199,slow=6.4,SNR=16						
GUMO	**Guam**	**25.46**	**56**	P	**P**	**08 27 30.5**	**+0.5**
GUMO				pmax	pmax		
	comp=Z,301nm,1.0s,mb5.8						
QZH	**Quanzhou**	**25.60**	**350**	⇑*i*P	**P**	**08 27 32.6**	**+1.3**
QZH				PP		08 28 14.6	
QZH				S	**S**	**08 31 56.0**	**-0.3**
QZH				AMB	AMB		
	comp=Z,1μm,1.1s,mb6.3						
QZH				AMB	AMB		
	comp=Z,9μm,4.6s						
QZH				LR	LR		
	comp=N,6μm,13.4s,MS5.5						
QZH				LR	LR		
	comp=E,7μm,14.2s,MS5.5						
QZH				LR	LR		
	comp=Z,17μm,20.3s						
KKTK	**Khon Kaen**	**26.19**	**310**	P	**P**	**08 27 29.0**	**-7.6**
	comp=Z,432nm,0.5s,mb6.2						
NNT	**Nongplab**	**26.73**	**300**	P	**P**	**08 27 37.0**	**-4.5**
JOW	**Kunigami**	**27.48**	**10**	P	**P**	**08 27 49.4**	**+1.1**
	comp=Z,59nm,1.0s,mb5.1,baz=190,slow=8.2,SNR=13						
JOW				ScP	ScP	08 34 42.8	0.0
	comp=Z,12nm,1.0s,baz=171,slow=4.2,SNR=4.2						
JOW				LR	LR	08 38 31.9	
	comp=Z,6μm,19.8s,MS5.2,baz=188,slow=36						
NST	**Nakhon Sawan**	**27.93**	**306**	⇓P	**P**	**08 27 54.8**	**+2.6**
	comp=Z,208nm,1.1s,mb5.7						
COCO	**West Island**	**28.79**	**245**	PFAKE		08 28 10.0	+10
COCO				LR	LR		
	comp=Z,8μm,20.0s,MS5.3						
NANT	**Nan**	**29.29**	**312**	⇑P	**P**	**08 28 07.0**	**+2.6**
	comp=Z,2μm,0.3s						
CTA	**Charters Tower**	**29.77**	**133**	*e*P	**P**	**08 28 10.7**	**+2.1**
	comp=Z,30nm,1.0s,mb5.0						
CTA				*e*S	**S**	**08 33 02.6**	**+0.5**
CTA				*i* SCP	ScP	08 34 51.6	+1.6
CTA				*e*SS	SS	08 35 12.8	+3.1
CTA				*e*SCS	ScS	08 38 47.7	+2.6
CTA	**Charters Tower**	**29.77**	**133**	P	**P**	**08 28 11.3**	**+2.6**
	comp=Z,43nm,1.1s,mb5.1,baz=311,slow=11,SNR=16						
CTA				ScP	ScP	08 34 52.2	+2.2
	comp=Z,87nm,1.1s,baz=290,slow=3.1,SNR=12						
CTA				LR	LR	08 40 51.0	
	comp=Z,9μm,21.7s,MS5.4,baz=209,slow=38						
CTA	**Charters Tower**	**29.77**	**133**	*e*P	**P**	**08 28 10.7**	**+2.1**
CTA				*e*S	**S**	**08 33 02.6**	**+0.5**
CTA				*i*		08 34 51.6	
CTA				*e*SS	SS	08 35 12.8	+3.1
CTA				*e*		08 38 47.7	
CTA				pmax	pmax		
	comp=Z,30nm,1.0s						
CTAO	**Charters Tower**	**29.77**	**133**	*e*P	**P**	**08 28 10.5**	**+1.9**
CTAO				MLR	MLR		
	comp=Z,10μm,20.0s,MS5.5						
CM31	**Chiang Mai Arr**	**30.42**	**309**	*e*P	**P**	**08 28 17.4**	**+3.1**
	comp=Z,213nm,1.4s,mb5.7						
CM31				*e*		08 28 38.4	
CM31				LR	LR		
	comp=Z,10μm,20.0s,MS5.5						
FORT	**Forrest**	**30.55**	**172**	⇑*i*P	**P**	**08 28 15.9**	**+0.4**
	comp=Z,71nm,0.7s,mb5.6						
FORT				*e*S	**S**	**08 33 08.7**	**-5.6**
FORT				*e*SCP	ScP	08 34 53.9	+1.3
CHG	**Chiang Mai**	**30.63**	**310**	⇑P	**P**	**08 28 18.1**	**+1.9**
	comp=Z,150nm,1.0s,mb5.8						
CHG				SG	**S**	**08 33 00.6**	**-15**
CHTO	**Chiang Mai**	**30.63**	**310**	⇓P	**P**	**08 28 19.1**	**+2.9**
SNR=117							
CHTO	**Chiang Mai**	**30.63**	**310**	*e*P	**P**	**08 28 18.6**	**+2.4**
CHTO				pmax	pmax		
	comp=Z,311nm,1.0s,mb6.1						
CHTO				MLR	MLR		
	comp=Z,11μm,20.0s,MS5.5						
CHTO	**Chiang Mai**	**30.63**	**310**	*e*P	**P**	**08 28 18.6**	**+2.4**
	comp=Z,311nm,1.0s,mb6.1						
CHTO				LR	LR		
	comp=Z,11μm,20.0s,MS5.5						
GYA	**Guiyang**	**31.16**	**330**	P	**P**	**08 28 23.0**	**+2.1**
GYA				S	**S**	**08 33 25.5**	**+1.7**
GYA				AMB	AMB		
	comp=Z,80nm,0.8s,mb5.6						
GYA				AMB	AMB		
	comp=Z,1μm,3.6s						
GYA				LR	LR		
	comp=N,10μm,14.1s,MS5.8						
GYA				LR	LR		
	comp=E,14μm,15.0s,MS5.8						
GYA				LR	LR		
	comp=Z,3μm,10.2s,MS5.2						
SSE	**Sheshan**	**31.38**	**356**	⇑P	**P**	**08 28 24.6**	**+1.8**
SSE				PCP	PcP	08 31 16.0	+0.3
SSE				S	**S**	**08 33 25.9**	**-1.3**
SSE				AMB	AMB		
	comp=Z,141nm,2.3s,mb5.4						
SSE				AMB	AMB		
	comp=Z,1μm,4.1s						
SSE				LR	LR		
	comp=N,3μm,31.0s,MS5.1						
SSE				LR	LR		
	comp=E,5μm,31.1s,MS5.1						
SSE				LR	LR		
	comp=Z,8μm,34.0s,MS5.1						
KLBR	**Kellerberrin**	**31.48**	**189**	⇑*i*P	**P**	**08 28 24.8**	**+1.1**
	comp=Z,114nm,1.3s,mb5.5						
KLBR				*e*SCP	ScP	08 34 56.2	+0.6
WHN	**Wuhan**	**31.93**	**345**	⇓P	**P**	**08 28 31.0**	**+3.4**
WHN				S	**S**	**08 33 36.3**	**+0.5**
WHN				LR	LR		
	comp=Z,17μm,18.8s,MS5.8						
KMI	**Kunming**	**32.26**	**323**	P	**P**	**08 28 33.8**	**+3.3**
KMI				PP	PP	08 29 43.8	-0.1
KMI				PCS	PcS	08 35 04.1	+1.1
KMI				AMB	AMB		
	comp=Z,240nm,1.6s,mb5.8						
KMI				AMB	AMB		
	comp=Z,2μm,6.4s						
KMI				LR	LR		
	comp=N,3μm,17.9s,MS5.3						
KMI				LR	LR		
	comp=E,5μm,18.7s,MS5.3						
KMI				LR	LR		
	comp=Z,5μm,18.7s,MS5.2						
NJ2	**Nanjing**	**32.54**	**353**	*e*P	**P**	**08 28 34.6**	**+1.6**
NJ2				XP	sP	08 28 50.0	+0.3
NJ2				PP	PP	08 29 45.6	-1.5
NJ2				AMB	AMB		
	comp=Z,110nm,0.7s,mb5.9						
NJ2				AMB	AMB		
	comp=Z,2μm,3.9s						
NJ2				LR	LR		
	comp=N,13μm,21.0s,MS5.7						
NJ2				LR	LR		
	comp=E,8μm,21.8s,MS5.7						
NJ2				LR	LR		
	comp=Z,4μm,21.7s,MS5.1						
CBIJ	**Chichi jima**	**32.80**	**32**	P	**P**	**08 28 36.6**	**+1.3**
	comp=Z,1μm,0.8s,baz=169,slow=2.3,SNR=58						
CBIJ				LR	LR	08 39 58.0	
	comp=Z,6μm,21.4s,MS5.3,baz=192,slow=33						
NWAO	**Narrogin (SRO)**	**32.87**	**189**	P	**P**	**08 28 37.2**	**+1.3**
	comp=Z,13nm,0.8s,mb4.9,baz=352,slow=10,SNR=8.1						
NWAO				LR	LR	08 43 28.1	
	comp=Z,8μm,20.5s,MS5.4,baz=7.1,slow=39						
NWAO	**Narrogin (SRO)**	**32.87**	**189**	*e*P	**P**	**08 28 37.2**	**+1.3**
NWAO				LR	LR		
	comp=Z,6μm,21.0s,MS5.3						
STKA	**Stephens Creek**	**35.76**	**153**	⇓*i*P	**P**	**08 29 01.5**	**+0.6**
	comp=Z,48nm,1.0s,mb5.4						
STKA				*e*S	**S**	**08 34 34.9**	**-0.2**
STKA				*i* SCP	ScP	08 35 10.9	+0.2
STKA	**Stephens Creek**	**35.76**	**153**	P	**P**	**08 29 01.6**	**+0.7**
	comp=Z,24nm,0.8s,mb5.2,baz=324,slow=9.1,SNR=38						
STKA				S	**S**	**08 34 33.4**	**-1.7**
	comp=Z,8.0nm,1.0s,baz=184,slow=17,SNR=1.7						
STKA				ScP	ScP	08 35 12.1	+1.5
	comp=Z,82nm,1.0s,baz=327,slow=5.5,SNR=13						
CD2	**Chengdu**	**36.26**	**331**	⇑*i*P	**P**	**08 29 06.3**	**+1.1**
CD2				XP	sP	08 29 24.4	+2.5
CD2				PP	PP	08 30 31.8	+3.6
CD2				PCP	PcP	08 31 29.4	-0.2
CD2				AMB	AMB		
	comp=Z,480nm,1.0s,mb6.4						
CD2				AMB	AMB		
	comp=Z,1μm,6.3s						
CD2				LR	LR		
	comp=N,4μm,13.2s						
CD2				LR	LR		
	comp=Z,3μm,21.6s						
JHJ	**Hachijo jima 2**	**36.76**	**23**	P	**P**	**08 29 09.7**	**+0.2**
	comp=Z,125nm,0.6s,mb5.9,baz=226,slow=20,SNR=6.2						
JHJ				LR	LR	08 42 29.7	
	comp=Z,5μm,20.0s,MS5.3,baz=256,slow=33						
XAN	**Xi'an**	**36.83**	**340**	P	**P**	**08 29 10.3**	**+0.3**
XAN				AP	pP	08 29 20.6	-1.1
XAN				AMB	AMB		
	comp=Z,251nm,1.4s,mb5.8						
XAN				AMB	AMB		
	comp=Z,2μm,7.4s						
XAN				LR	LR		
	comp=N,3μm,16.9s,MS5.3						
XAN				LR	LR		
	comp=E,3μm,16.4s,MS5.3						
XAN				LR	LR		
	comp=Z,6μm,15.0s,MS5.5						
TIA	**Tai'an**	**36.87**	**352**	*e*P	**P**	**08 29 09.8**	**-0.6**
TIA				LR	LR		
	comp=E,2μm,10.0s						
ADE	**Adelaide**	**37.27**	**159**	*e*P	**P**	**08 29 15.2**	**+1.4**
HNR	**Honiara**	**37.53**	**105**	P	**P**	**08 29 17.8**	**+1.8**
	comp=E,399nm,0.8s,mb6.2,baz=252,slow=1.6,SNR=14						
HNR	**Honiara**	**37.53**	**105**	*e*P	**P**	**08 29 17.9**	**+1.9**
HNR				pmax	pmax		
	comp=Z,453nm,1.0s,mb6.2						
HNR				MLR	MLR		
	comp=Z,3μm,22.0s,MS5.1						
HNR	**Honiara**	**37.53**	**105**	*e*P	**P**	**08 29 17.9**	**+1.9**
	comp=Z,452nm,1.0s,mb6.2						
HNR				LR	LR		
	comp=Z,3μm,22.0s,MS5.1						
INCN	**Inchon**	**37.81**	**4**	PFAKE		08 29 30.0	+12
INCN				LR	LR		
	comp=Z,6μm,22.0s,MS5.4						
DL2	**Dalian**	**39.14**	**358**	⇑*i*P	**P**	**08 29 29.3**	**-0.2**
DL2				PP	PP	08 31 00.5	+0.8
DL2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.3						
DL2				AMB	AMB		
	comp=Z,660nm,6.2s						
DL2				LR	LR		
	comp=N,1μm,17.6s,MS5.0						
DL2				LR	LR		

BJT Baijiatuau 40.74 352 *e*P **P 08 29 43.1 +0.3**
BJT *e* 08 30 00.3
BJT pmax pmax
comp=Z,44nm,0.8s
BJT MLR MLR
comp=Z,7μm,22.0s
BJT Baijiatuau 40.74 352 *e*P **P 08 29 43.1 +0.2**
comp=Z,44nm,0.8s,mb5.1
BJT *e* 08 30 00.3
BJT LR LR
comp=Z,7μm,22.0s,MS5.5
BJI Beijing 40.77 352 P **P 08 29 42.9 -0.1**
BJI PP PP 08 31 20.4 +2.9
BJI AMB AMB
comp=Z,71nm,1.5s,mb5.1
BJI AMB AMB
comp=Z,2μm,4.3s
BJI LR LR
comp=N,3μm,19.4s,MS5.4
BJI LR LR
comp=E,4μm,20.0s,MS5.4
BJI LR LR
comp=Z,6μm,22.1s,MS5.4
SNY Shenyang 42.02 0 ⇑P **P 08 29 52.4 -0.9**
SNY PP PP 08 31 31.9 +0.8
SNY XS sS 08 36 29.3 +0.3
SNY AMB AMB
comp=Z,103nm,1.9s,mb5.1
SNY AMB AMB
comp=Z,2μm,12.0s
SNY LR LR
comp=N,4μm,27.0s
SNY LR LR
comp=Z,6μm,24.3s,MS5.4
TOO Toolangi 42.27 154 ⇓*i*P **P 08 29 57.3 +2.0**
comp=Z,50nm,1.1s,mb5.1
TOO *i* SCP ScP 08 35 38.2 +2.5
TOO Toolangi 42.27 154 ⇓*i*P **P 08 29 57.3 +2.0**
TOO pmax pmax
comp=Z,50nm,1.1s,mb5.1
CNB Canberra Magne 42.38 148 *e*P **P 08 29 57.7 +1.5**
comp=Z,52nm,0.9s,mb5.2
CNB *i* SCP ScP 08 35 38.2 +2.1
HHC Hu-ho-hao-te 42.42 347 *e*P **P 08 29 56.0 -0.5**
HHC PP PP 08 31 41.0 +5.7
HHC AMB AMB
comp=Z,68nm,2.2s,mb4.9
HHC AMB AMB
comp=Z,928nm,4.7s
HHC LR LR
comp=N,3μm,26.1s,MS5.2
HHC LR LR
comp=E,3μm,25.5s,MS5.2
HHC LR LR
comp=Z,6μm,28.0s,MS5.4
BTO Baotou 42.57 345 *e*P **P 08 29 56.6 -1.1**
PALK Pallekele 43.20 281 PFAKE 08 30 10.0 +7.2
PALK LR LR
comp=Z,13μm,22.0s,MS5.8
VIS Vishakhapatnam 43.28 297 *e*P **P 08 30 02.9 -0.6**
BOK Bokaro 43.58 306 *e*P **P 08 30 05.3 -0.6**
BOK AMb AMB 08 30 23.9
comp=Z,231nm,1.2s,mb5.8
VLA Vladivostok 43.99 9 *d i*P **P 08 30 08.8 -0.4**
VLA *e* pP 08 30 19.6 -1.5
VLA *e* 08 31 52.6
VLA *e*S **S 08 36 35.2 -3.0**
VLA pmax pmax
comp=Z,183nm,1.7s,mb5.5
VLA MLR MLR
comp=Z,2μm,19.3s,MS5.1
VLA Vladivostok 43.99 9 *i*P **P 08 30 09.6 +0.4**
CN2 Changchun 44.04 2 *e*P **P 08 30 09.3 -0.3**
CN2 *e*S **S 08 36 41.8 +3.0**
CN2 AMB AMB
comp=Z,30nm,1.4s,mb4.8
CN2 AMB AMB
comp=Z,1μm,8.0s
CN2 LR LR
comp=N,4μm,21.0s,MS5.3
CN2 LR LR
comp=E,2μm,21.0s,MS5.3
CN2 LR LR
comp=Z,5μm,21.0s,MS5.4
MDRS Chennai 44.76 289 *ex* **P 08 30 07.9 -7.5**
MDRS *ex* x 08 30 21.1
GTA Gaotai 45.09 334 *e*P **P 08 30 19.1 +1.1**
GTA SCP ScP 08 35 46.5 -0.6
GTA AMB AMB
comp=Z,275nm,1.7s,mb5.8
GTA AMB AMB
comp=Z,2μm,3.8s
GTA LR LR
comp=N,3μm,19.8s,MS5.5
GTA LR LR
comp=E,4μm,20.2s,MS5.5
GTA LR LR
comp=Z,5μm,19.8s,MS5.5
MDJ Mudanjiang 45.16 6 P **P 08 30 18.5 0.0**
MDJ AP pP 08 30 31.8 +1.4
MDJ PP PP 08 32 04.8 +0.2
MDJ SCP ScP 08 35 45.9 -1.5
MDJ PCS PcS 08 35 51.5 -0.7
MDJ XS sS 08 37 17.4 +2.5
MDJ SCS ScS 08 40 10.8 -1.0
MDJ AMB AMB
comp=Z,109nm,2.2s,mb5.3
MDJ AMB AMB
comp=Z,1μm,5.5s
MDJ LR LR
comp=N,4μm,32.1s,MS5.3
MDJ LR LR
comp=E,3μm,28.1s,MS5.3
MDJ LR LR
comp=Z,6μm,34.1s
MDJ Mudanjiang 45.16 6 *e*P **P 08 30 18.3 -0.2**
comp=Z,223nm,1.4s,mb5.8
MDJ *e* pP 08 30 31.7 +1.2
MDJ LR LR
comp=Z,3μm,21.0s,MS5.2
JIRN Jiri 45.26 311 *e*P **P 08 30 21.2 +1.9**
comp=Z,303nm,0.7s,mb6.3
GUN Gumba 45.62 311 *e*P **P 08 30 23.9 +1.7**
comp=Z,819nm,0.8s,mb6.7
PKI Pulchoki 45.80 310 *e*P **P 08 30 25.0 +1.4**
comp=Z,141nm,0.7s,mb6.0
PKI Pulchoki 45.80 310 *e*P **P 08 30 25.0 +1.4**
PKI pmax pmax
comp=Z,141nm,0.7s,mb6.0
BLSP Bilaspur 45.97 302 *e*P **P 08 30 25.0 +0.1**
BLSP *e*P 08 30 26.3
KKN Kakani 46.02 311 *e*P **P 08 30 25.0 -0.3**
comp=Z,369nm,1.0s,mb6.3
KKN Kakani 46.02 311 *e*P **P 08 30 25.0 -0.3**
KKN pmax pmax
comp=Z,369nm,1.0s,mb6.3
DMN Daman 46.05 310 *e*P **P 08 30 26.6 +1.0**
comp=Z,502nm,1.0s,mb6.4
GKN Gorkha 46.61 310 *e*P **P 08 30 30.5 +0.5**
comp=Z,454nm,0.9s,mb6.4
WAKE Wake Island 46.77 63 PFAKE 08 30 40.0 +8.8
WAKE LR LR
comp=Z,2μm,20.0s,MS5.1
TRD Trivandrum 47.05 282 *e*P **P 08 30 33.2 -0.1**
KOLN Koldanda 47.29 310 *e*P **P 08 30 36.0 +0.7**
comp=Z,528nm,0.9s,mb6.5
TAU Tasmania Unive 47.48 156 *e*P **P 08 30 37.8 +1.0**
TAU MLR MLR
comp=Z,7μm,20.0s,MS5.6
HYB Hyderabad 47.50 294 *i* P **P 08 30 38.0 +1.1**
HYB *e*S **S 08 37 30.0 +1.4**
HYB Hyderabad 47.50 294 *e*P **P 08 30 37.0 +0.1**
HYB *e*S **S 08 37 22.0 -6.6**
ASAJ Asahikawa 47.53 19 P **P 08 30 37.7 +0.6**
comp=Z,159nm,0.7s,mb6.1,baz=233,slow=12,SNR=111
ASAJ PP PP 08 32 26.6 -2.2
comp=Z,36nm,1.1s,baz=215,slow=13,SNR=2.9
ASAJ Asahikawa 47.53 19 P **P 08 30 37.7 +0.6**
ASAJ 08 32 26.6
ASAJ pmax pmax
comp=Z,159nm,0.7s
ASAJ pmax pmax
comp=Z,36nm,1.1s
JBP Jabalpur 48.20 302 ⇑*e*P **P 08 30 43.4 +1.0**
JBP *e*S **S 08 37 39.1 +0.6**

NGP Nagpur 48.26 299 *e*P **P 08 30 42.7 -0.1**
NGP *e*S **S 08 37 40.4 +1.0**
YUK Yuzh-Kuril'sk 48.58 22 ⇑*i*P **P 08 30 46.0 +0.7**
YUK *e*PPP 08 32 35.9
YUK pmax pmax
comp=N,4μm,3.0s
YUK pmax pmax
comp=E,2μm,3.0s
YUK pmax pmax
comp=Z,4μm,3.0s
HIA Hailar 49.56 357 *e*P **P 08 30 52.3 -0.5**
HIA pmax pmax
comp=Z,490nm,1.8s
HIA MLR MLR
comp=Z,4μm,20.0s
HIA Hailar 49.56 357 *e*P **P 08 30 52.3 -0.4**
comp=Z,490nm,1.8s,mb6.2
HIA LR LR
comp=Z,4μm,20.0s,MS5.4
LATR Latur 49.60 295 *ex* **P 08 30 57.5 +4.4**
HABR Khabarovsk 49.72 10 ⇑*i*P **P 08 30 53.9 -0.1**
HABR *e*S **S 08 37 59.6 -0.3**
HABR pmax pmax
comp=Z,363nm,1.7s,mb6.1
AKL Akola 49.90 298 *e*P **P 08 30 55.6 +0.3**
AKL AMb AMB 08 31 00.3
comp=Z,115nm,0.9s,mb5.9
KLR Kul'dur 49.96 7 *e*P **P 08 30 51.2 -4.6**
KLR *e* 08 32 20.0
KLR *e* 08 33 49.0
KLR *e*S **S 08 37 57.0 -6.2**
KLR pmax pmax
comp=E,54nm,2.0s
KLR pmax pmax
comp=Z,270nm,2.0s,mb5.9
KLR pmax pmax
comp=N,1μm,7.0s
KLR pmax pmax
comp=Z,2μm,7.0s
KLR MLR MLR
comp=E,700nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.3
YSS Yuzh-Sakhalins 50.12 17 *α i*P **P 08 30 56.0 -1.1**
YSS *e* pP 08 31 08.0 -1.1
YSS *e* 08 32 54.0
YSS *e*S **S 08 37 58.0 -7.6**
YSS pmax pmax
comp=Z,140nm,1.1s,mb5.9
YSS pmax pmax
comp=Z,1μm,4.0s
YSS MLR MLR
comp=Z,1μm,20.0s,MS4.9
YSS MLR MLR
comp=N,2μm,21.0s
YSS Yuzh-Sakhalins 50.12 17 *e*P **P 08 30 57.3 +0.2**
comp=N,134nm,0.8s,mb6.0
YSS *e*pP pP 08 31 05.2 -3.9
YSS LR LR
comp=Z,2μm,22.0s,MS5.1
SONM Songino Array 50.24 345 P **P 08 30 57.9 0.0**
comp=Z,42nm,0.7s,mb5.6,baz=160,slow=7.0,SNR=88
SONM PP PP 08 32 57.0 +3.4
comp=Z,20nm,1.1s,baz=163,slow=5.4,SNR=2.3
SONM ScP ScP 08 36 06.0 -2.8
comp=Z,3.5nm,0.8s,baz=147,slow=3.4,SNR=4.4
SONM LR LR 08 52 39.8
comp=Z,4μm,18.7s,MS5.4,baz=163,slow=37
SONM PKPPKP 09 01 53.3
comp=Z,0.8nm,0.8s,baz=284,slow=2.4,SNR=3.8
SONM PKP2ab 09 02 41.6
comp=Z,2.8nm,1.1s,baz=323,slow=2.2,SNR=5.7
SONM Songino Array 50.24 345 P **P 08 30 57.9 -0.1**
SONM 08 32 57.0
SONM Songino Array 50.24 345 P **P 08 30 57.9 0.0**
SONM PP PP 08 32 57.0 +3.4
SONM ScP ScP 08 36 06.0 -2.8
SONM LR LR 08 52 39.8
SONM P'P' 09 01 53.3
SONM P'P'ab 09 02 41.6
KUR Kuril'sk 50.36 22 *e*P **P 08 30 55.0 -3.8**
KUR *e*S 08 32 54.0
KUR pmax pmax
comp=Z,190nm,1.0s,mb6.1
BHPL Bhopal 50.41 301 *e*P **P 08 30 59.9 +0.7**
LGTI Lohaghat 50.68 310 *e*P **P 08 31 01.0 -0.2**
DGAR Diego Garcia 51.20 261 PFAKE 08 31 20.0 +15
DGAR LR LR
comp=Z,6μm,22.0s,MS5.6
KAD Karad 51.48 293 *e*P **P 08 31 06.9 -0.3**
AGRA Agra 51.52 306 *e*P **P 08 31 07.3 -0.3**
AGRA AMb AMB 08 31 11.3
comp=Z,118nm,0.9s,mb5.8
JOSI Joshimath 51.73 311 *ex* x 08 30 56.8
JOSI *ex* x 08 30 59.2
JOSI AMb AMB 08 31 04.8
comp=Z,1μm,0.9s,mb6.8
POO Poona 52.10 294 ⇓*ix* x 08 31 41.0
comp=Z,150nm,1.0s
POO *ex* x 08 33 31.5
POO *ex* x 08 38 36.0
ASOR Ausora 52.30 308 *e*P **P 08 31 13.0 -0.4**
BISR Bishrakh 52.49 307 *e*P **P 08 31 14.9 +0.1**
AYAN Aya Nagar 52.70 307 *e*P **P 08 31 14.5 -1.8**
AYAN AMb AMB 08 31 23.0
comp=Z,113nm,1.2s,mb5.7
NDI New Delhi 52.71 307 *e*P **P 08 31 15.6 -0.8**
CIT Chita 52.87 352 *e*P **P 08 31 17.2 -0.4**
CIT *e* pP 08 31 29.9 +0.2
CIT *e* 08 32 25.1
CIT *e* 08 33 20.6
CIT pmax pmax
comp=Z,439nm,2.0s,mb6.0
BHGR Bahadurgarh 52.94 307 *e*P **P 08 31 17.6 -0.4**
BHGR AMb AMB 08 31 27.7
comp=Z,266nm,1.2s,mb6.0
KUDL Kundal 53.07 306 *e*P **P 08 31 18.5 -0.6**
KUDL AMb AMB 08 31 23.7
comp=Z,169nm,2.0s,mb5.6
KLP Kalpa 53.17 311 *e*P **P 08 31 20.0 +0.2**
KLP AMb AMB 08 31 24.1
comp=Z,415nm,1.9s,mb6.0
ZAK Zakamensk 53.40 344 *e*P **P 08 31 21.1 -0.4**
ZAK *e* 08 33 24.6
ZAK pmax pmax
comp=Z,41nm,1.5s,mb5.1
ZAK pmax pmax
comp=Z,42nm,2.1s,mb5.0
ZAK pmax pmax
comp=Z,12nm,1.9s
KHET Khetri 53.59 306 *e*P **P 08 31 22.9 -0.1**
SMLA Simla 53.81 310 *e*P **P 08 31 25.6 +1.1**
AJM Ajmer 53.94 304 *e*P **P 08 31 24.6 -0.9**
AJM AMb AMB 08 31 32.3
comp=Z,117nm,1.2s,mb5.7
SDNR Sundarnagar 54.13 310 *e*P **P 08 31 28.0 +1.2**
SDNR *ex* x 08 39 10.0
TLY Talaya 54.49 345 P **P 08 31 29.7 +0.3**
comp=Z,384nm,1.2s,mb6.2,SNR=31
TLY Talaya 54.49 345 *c i*P **P 08 31 29.1 -0.3**
TLY pmax pmax
comp=Z,88nm,1.7s,mb5.4
TLY Talaya 54.49 345 ⇑*i*P **P 08 31 29.2 -0.2**
IRK Irkutsk 54.84 346 *e*P **P 08 31 31.3 -0.7**
IRK *e* 08 33 33.3
IRK *e*S **S 08 39 07.9 -2.2**
IRK *e* 08 41 13.6
IRK pmax pmax
comp=Z,291nm,3.2s
PONG Pong 55.11 310 *e*P **P 08 31 35.0 +1.1**
MOY Mondy 55.20 343 *e*P **P 08 31 35.0 +0.5**
MOY pmax pmax
comp=Z,446nm,3.2s
FUNA Funafuti 56.22 100 *e*P **P 08 31 44.3 +2.5**
FUNA LR LR
comp=Z,5μm,20.0s,MS5.6
CLNS Chul'man 57.06 1 *e*P **P 08 31 47.0 -0.9**
CLNS *e**PP pP 08 31 52.1 -8.0
CLNS *e* 08 32 43.3
CLNS *e*S **S 08 39 33.0 -6.6**
CLNS pmax pmax
comp=N,59nm,1.1s
CLNS pmax pmax
comp=Z,83nm,1.1s,mb5.7
CLNS pmax pmax
comp=E,10.0nm,0.7s
CLNS pmax pmax
comp=Z,38nm,1.1s,mb5.3
CLNS pmax pmax
comp=N,50nm,0.9s
CLNS pmax pmax
comp=E,28nm,1.0s
CLNS smax
comp=N,1μm,13.2s
CLNS smax
comp=Z,465nm,11.3s
CLNS smax
comp=E,361nm,11.9s
JASL Jaisalmer 57.23 303 *e*P **P 08 31 47.4 -1.6**
JASL AMb AMB 08 31 54.5
comp=Z,137nm,1.4s,mb5.8
NIL Nilore 57.89 311 P **P 08 31 54.1 +0.4**
comp=Z,151nm,0.7s,mb6.1,SNR=5.9
SKR Severo-Kuril's 58.02 24 *e*P **P 08 31 48.0 -6.6**
SKR *e*S **S 08 39 46.0 -6.1**
SKR *e*PS 08 40 09.0
SKR pmax pmax
comp=N,1μm,4.0s
SKR pmax pmax
comp=E,1μm,4.0s
SKR pmax pmax
comp=Z,2μm,4.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.1
SKR smax
comp=N,1μm,10.0s
SKR smax
comp=E,1μm,10.0s
SKR smax
comp=Z,1μm,10.0s
BOD Bodaibo 58.51 354 *e*P **P 08 31 56.9 -1.1**
BOD *e* 08 41 38.6
BOD pmax pmax
comp=Z,104nm,1.5s,mb5.6
KSH Kashi 58.69 318 ⇑P **P 08 32 00.8 +1.5**
KSH *e*PCP PcP 08 32 49.0 +0.2
KSH *e*PP PP 08 34 12.8 +3.5
KSH *e*PCS PcS 08 36 48.0 -2.6
KSH AMB AMB
comp=Z,3μm,7.3s
KSH LR LR
comp=N,4μm,16.3s,MS5.8
KSH LR LR
comp=E,3μm,13.2s,MS5.8
KSH LR LR
comp=Z,7μm,16.6s,MS5.9
MK31 Makanchi Array 59.12 328 P **P 08 32 01.3 -0.9**
MK31 pmax pmax
comp=Z,65nm,1.0s,mb5.6
MKAR Makanchi Array 59.12 328 P **P 08 32 01.6 -0.7**
comp=Z,17nm,0.5s,mb5.3,baz=121,slow=8.6,SNR=38
MKAR PP PP 08 34 15.8 +2.6
comp=Z,11nm,0.8s,baz=142,slow=7.2,SNR=1.8
MKAR ScP ScP 08 36 46.0 -1.7
comp=Z,13nm,0.9s,baz=126,slow=5.4,SNR=4.6
MKAR PKP2bc 09 01 45.3
comp=Z,2.2nm,1.0s,baz=311,slow=2.6,SNR=5.5
MKAR Makanchi Array 59.12 328 P **P 08 32 01.6 -0.6**
MKAR 08 34 15.8
MKAR Makanchi Array 59.12 328 P **P 08 32 01.6 -0.7**
MKAR PP PP 08 34 15.8 +2.6
MKAR ScP ScP 08 36 46.0 -1.7
MKAR ⇑*e* 09 01 45.3
ULHL Ulahol 59.94 321 P **P 08 32 08.3 +0.4**
SNR=9.3
AAA Alma-Ata 60.05 322 *i* P **P 08 32 09.0 +0.3**
AAA *i* S **S 08 40 19.4 +0.9**
AAA pmax pmax
comp=Z,10μm,3.1s
AAA smax
comp=N,28μm,8.9s
KZA Kyzart 60.48 320 P **P 08 32 12.2 +0.6**
SNR=30
TKM2 Tokmak 2 60.70 321 P **P 08 32 13.3 +0.2**
SNR=48
TKM2 Tokmak 2 60.70 321 *i* P **P 08 32 13.3 +0.2**
PET Petropavlovsk 60.83 24 *α i*P **P 08 32 14.5 +0.6**
PET *i* S **S 08 40 29.3 +1.0**
PET pmax pmax
comp=Z,230nm,1.0s,mb6.3
PET pmax pmax
comp=N,107nm,1.0s
PET pmax pmax
comp=Z,2μm,2.8s,mb6.8
PET pmax pmax
comp=N,600nm,18.2s
PET pmax pmax
comp=Z,1μm,18.1s
PET pmax pmax
comp=E,400nm,18.3s
PET Petropavlovsk 60.83 24 *e*P **P 08 32 14.6 +0.6**
PET LR LR
comp=Z,1μm,22.0s,MS5.0
KBK Karagaybulak 60.97 321 P **P 08 32 18.9 +4.0**
SNR=15
UCH Uchtor 61.02 320 P **P 08 32 16.2 +0.9**
SNR=39
AAK Ala-Archa 61.24 321 P **P 08 32 17.5 +0.7**
SNR=17
AAK Ala-Archa 61.24 321 P **P 08 32 16.6 -0.2**
comp=Z,250nm,1.6s,mb6.1,SNR=16
AAK Ala-Archa 61.24 321 ⇑P **P 08 32 16.6 -0.1**
SNR=45
AAK Ala-Archa 61.24 321 *c i*P **P 08 32 15.9 -0.9**
AAK pmax pmax
comp=Z,91nm,1.7s,mb5.6
AAK Ala-Archa 61.24 321 *e*P **P 08 32 16.1 -0.7**
AAK LR LR
comp=Z,3μm,22.0s,MS5.3
FRU Bishkek 61.27 321 *i* P **P 08 32 16.0 -0.9**
FRU *e* pP 08 32 28.0 -1.3
FRU *e* 08 40 34.0
FRU pmax pmax
comp=Z,120nm,2.0s,mb5.7
KRAR Krasnoyarsk 61.41 341 ⇑*e*P **P 08 32 15.9 -2.0**
KRAR pmax pmax
comp=Z,156nm,1.7s,mb5.9
AML Almayashu 61.50 320 P **P 08 32 19.2 +0.7**
SNR=29
USP Ospenovka 61.56 321 P **P 08 32 18.8 -0.1**
SNR=25
SNZO South Karori 61.66 138 *e*P **P 08 32 19.9 +0.3**
comp=Z,94nm,0.8s,mb6.0
SNZO *e*pP pP 08 32 26.7 -5.2
SNZO LR LR
comp=Z,6μm,22.0s,MS5.7
EKS2 Erkin-Say 61.71 320 P **P 08 32 20.3 +0.4**
SNR=39
YAK Yakutsk 62.45 3 *c i*P **P 08 32 24.2 -0.7**
YAK *e**PP pP 08 32 42.4 +5.2
YAK *e* 08 33 03.3
YAK *e* 08 34 45.4
YAK *e*S **S 08 40 46.4 -2.5**
YAK *e* 08 42 07.7
YAK pmax pmax
comp=Z,111nm,0.8s,mb6.0
YAK pmax pmax
comp=N,88nm,1.4s
YAK pmax pmax
comp=E,38nm,1.5s
YAK pmax pmax
comp=Z,23nm,1.0s,mb5.3
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,23nm,1.4s
YAK smax
comp=N,16nm,1.5s
YAK smax
comp=Z,9.0nm,1.3s
YAK smax
comp=E,12nm,1.5s
YAK MLR MLR
comp=N,811nm,21.0s,MS5.0
YAK MLR MLR
comp=Z,1μm,21.0s,MS5.0
YAK MLR MLR
comp=E,733nm,19.0s,MS5.0
YAK Yakutsk 62.45 3 *e*P **P 08 32 23.9 -0.9**
YAK *e* 08 32 31.4

YAK LR LR
comp=Z,2µm,20.0s,MS5.2
ZAL Zalesovo 62.80 336 P **P** **08 32 25.6 -1.7**
comp=Z,9.8nm,0.5s,mb5.2,baz=347,slow=6.1,SNR=56
ZAL S **S** **08 40 50.9 -2.4**
comp=Z,8.2nm,1.2s,baz=67,slow=22,SNR=6.3
ZAL LR LR 09 01 09.5
comp=Z,3µm,19.7s,MS5.4,baz=96,slow=37
ZAL PKP2bc 09 01 33.5
comp=Z,1.4nm,0.3s,baz=297,slow=2.3,SNR=5.2
ZAL Zalesovo 62.80 336 P **P** **08 32 25.6 -1.7**
ZAL S **S** **08 40 50.9 -2.5**
ZAL Zalesovo 62.80 336 P **P** **08 32 25.6 -1.7**
ZAL S **S** **08 40 50.9 -2.4**
ZAL LR LR 09 01 09.5
ZAL ⇑*e* 09 01 33.5
RAO Raoul Island 62.83 123 PFAKE 08 32 40.0 +13
RAO LR LR
comp=Z,2µm,19.0s,MS5.4
MIDW Midway 63.42 58 PFAKE 08 32 40.0 +8.6
MIDW LR LR
comp=Z,2µm,19.0s,MS5.2
KURK Kurchatov 63.48 330 P **P** **08 32 30.2 -1.5**
comp=Z,730nm,0.7s,SNR=44
KURK Kurchatov 63.48 330 ⇑P **P** **08 32 30.7 -1.0**
SNR=55
KURK Kurchatov 63.48 330 *e*P **P** **08 32 30.5 -1.2**
KURK *e* 08 32 38.5
KURK pmax pmax
comp=Z,229nm,1.3s,mb6.2
KURK MLR MLR
comp=Z,3µm,22.0s,MS5.4
KURK Kurchatov 63.48 330 *e*P **P** **08 32 30.5 -1.3**
comp=Z,229nm,1.3s,mb6.2
KURK *e* 08 32 38.5
KURK LR LR
comp=Z,3µm,22.0s,MS5.4
MA2 Magadan 63.52 15*c i*P **P** **08 32 32.4 +0.4**
MA2 *e* 08 33 15.7
MA2 *e*S **S** **08 40 54.8 -7.5**
MA2 pmax pmax
comp=N,100nm,1.2s
MA2 pmax pmax
comp=E,100nm,1.2s
MA2 pmax pmax
comp=Z,500nm,1.2s,mb6.4
MA2 MLR MLR
comp=Z,4µm,18.2s,MS5.6
MA2 Magadan 63.52 15 *e*P **P** **08 32 32.5 +0.5**
MA2 LR LR
comp=Z,2µm,21.0s,MS5.2
KK31 Karatay Array 64.03 320 *i* P **P** **08 32 33.7 -1.6**
KK31 pmax pmax
comp=Z,19nm,0.7s,mb5.2
KK31 Karatay Array 64.03 320 *i* P **P** **08 32 33.8 -1.5**
KKAR Karatay Array 64.03 320 *i* P **P** **08 32 33.7 -1.6**
KKAR pmax pmax
comp=Z,14nm,0.8s,mb5.0
NVS Novosibirsk 64.09 336⇑*i*P **P** **08 32 33.6 -2.2**
NVS *e* 08 33 14.0
NVS *i* 08 34 57.7
NVS *e*PPP 08 36 33.9
NVS *i*S **S** **08 41 04.8 -4.6**
NVS *e*PS 08 41 38.9
NVS pmax pmax
comp=Z,206nm,1.6s,mb5.9
NVS pmax pmax
comp=N,185nm,1.7s
NVS pmax pmax
comp=E,152nm,1.6s
NVS pmax pmax
comp=Z,550nm,2.3s,mb6.2
NVS pmax pmax
comp=N,215nm,2.1s
NVS pmax pmax
comp=E,235nm,2.3s
NVS smax
comp=N,88nm,2.4s
NVS smax
comp=E,134nm,2.1s
AFI Afiamalu 65.56 105 PFAKE 08 33 00.0 +15
AFI LR LR
comp=Z,2µm,21.0s,MS5.3
CASY Casey 66.38 186 *e*P **P** **08 32 50.5 -0.1**
CASY *e*S S 08 41 36.7 -0.7
WSAR Wadi Sarin 67.02 295 P **P** **08 32 52.7 -2.0**
comp=Z,5.5nm,0.7s,baz=63,slow=15,SNR=4.0
WSAR PKPPKP 09 01 18.8
comp=Z,3.6nm,0.8s,baz=338,slow=11,SNR=2.0
WSAR LR LR 09 03 23.3
comp=Z,2µm,21.2s,MS5.2,baz=86,slow=37
WSAR Wadi Sarin 67.02 295 P **P** **08 32 52.7 -2.0**
WSAR P'P' 09 01 18.8
WSAR LR LR 09 03 23.3
DRV Dumont d'Urvil 67.18 173 P **P** **08 32 59.0 +3.3**
DRV *e*S S 08 41 55.0 +7.9
DRV L 08 50 00.0
DRV R 08 54 00.0
SMY Shemya 67.71 31 *e*P **P** **08 33 00.3 +1.3**
VOSK Vostochnaya 68.52 329 P **P** **08 33 02.0 -2.1**
VOSK pmax pmax
comp=Z,64nm,1.5s,mb5.3
BVA0 Borovoye Array 68.99 329 *i* P **P** **08 33 05.0 -2.0**
BVA0 pmax pmax
comp=Z,24nm,1.5s,mb4.9
BVAR Borovoye Array 68.99 329 P **P** **08 33 05.5 -1.6**
comp=Z,42nm,1.1s,mb5.3,baz=126,slow=7.5,SNR=30
BRVK Borovoye 69.06 329 P **P** **08 33 05.9 -1.6**
comp=Z,331nm,1.2s,mb6.1,SNR=22
BRVK Borovoye 69.06 329 *e*P **P** **08 33 06.1 -1.4**
BRVK LR LR
comp=Z,1µm,20.0s,MS5.1
CHKZ Chkalovo 69.21 330 *i* P **P** **08 33 06.5 -1.9**
CHKZ pmax pmax
comp=Z,66nm,1.4s,mb5.4
CHKZ Chkalovo 69.21 330 *e*P **P** **08 33 06.8 -1.7**
MIR Mirnyy 69.41 192*d i*P **P** **08 33 12.0 +2.4**
MIR *e* 08 33 29.0
MIR *e*PS 08 42 14.0
MIR *e* 08 43 04.0
MIR pmax pmax
comp=Z,610nm,1.5s,mb6.3
MIR pmax pmax
comp=Z,1µm,10.0s
MIR MLR MLR
comp=N,1µm,20.0s,MS5.3
MIR MLR MLR
comp=E,1µm,20.0s,MS5.3
MIR MLR MLR
comp=Z,3µm,20.0s,MS5.5
ZRNK Zerenda 69.67 328 *i* P **P** **08 33 09.0 -2.2**
ZRNK pmax pmax
comp=Z,96nm,1.4s,mb5.5
ZRNK Zerenda 69.67 328 *e*P **P** **08 33 09.5 -1.7**
comp=Z,114nm,1.3s,mb5.6
ABKT Ailbek 70.89 311 P **P** **08 33 18.6 -0.1**
comp=Z,256nm,1.0s,mb6.1,SNR=11
TIXI Tiksi 72.01 2 *e*P **P** **08 33 22.4 -3.0**
TIXI *e*S S 08 42 33.8 -10
TIXI *e* 08 43 11.1
TIXI pmax pmax
comp=Z,396nm,1.5s,mb6.1
TIXI pmax pmax
comp=N,31nm,1.0s
TIXI pmax pmax
comp=Z,141nm,1.0s,mb5.8
TIXI pmax pmax
comp=E,21nm,1.3s
TIXI MLR MLR
comp=Z,3µm,22.0s,MS5.4
TIXI Tiksi 72.01 2⇑*i*P **P** **08 33 23.2 -2.2**
TIXI LR LR
comp=Z,3µm,22.0s,MS5.5
AB31 Akbulak array 73.24 322⇑*e*P **P** **08 33 30.7 -2.1**
AKTK Aktyubinsk 74.82 323 P **P** **08 33 40.5 -1.4**
AKTK LR LR 09 12 23.6
AKTO Aktyubinsk 74.82 323 P **P** **08 33 40.5 -1.4**
comp=Z,17nm,0.9s,mb5.0,baz=107,slow=5.6,SNR=30
AKTO LR LR 09 12 23.6
comp=Z,2µm,19.9s,MS5.3,baz=295,slow=40
AKTO Aktyubinsk 74.82 323 *i* P **P** **08 33 39.9 -2.1**
AKTO pmax pmax
comp=Z,17nm,1.6s,mb4.7
SVE Sverdlovsk 75.73 330 *e*P **P** **08 33 39.0 -8.2**
SVE *e* 08 34 04.0
SVE *e* 08 36 38.0
SVE *e*S S 08 43 44.0 +18
SVE MLR MLR
comp=N,200nm,18.0s,MS5.0
SVE MLR MLR
comp=E,600nm,18.0s,MS5.0
SVE MLR MLR
comp=Z,2µm,18.0s,MS5.3
ARU Arti 76.64 329 P **P** **08 33 50.8 -1.6**
comp=Z,221nm,1.1s,mb6.0,SNR=5.7
ARU Arti 76.64 329⇑*i*P **P** **08 33 50.0 -2.4**
ARU *e* pP 08 34 01.2 -3.8
ARU *e* 08 36 43.1
ARU *e*PPP 08 38 28.4
ARU *e*S S 08 43 33.0 -2.7
ARU *e* 08 43 59.4
ARU pmax pmax
comp=Z,71nm,1.7s,mb5.3
ARU MLR MLR
comp=Z,2µm,23.0s,MS5.4
ARU MLR MLR
comp=N,900nm,20.0s,MS5.3
ARU MLR MLR
comp=E,1µm,22.0s,MS5.3
ARU Arti 76.64 329 *e*P **P** **08 33 52.0 -0.3**
comp=E,136nm,1.6s,mb5.6
ARU LR LR
comp=Z,2µm,20.0s,MS5.4
SPIA Saint Paul Isl 77.75 31 *e*P **P** **08 33 58.0 -0.6**
UNV Unalaska Valle 78.72 35 PFAKE 08 34 20.0 +16
UNV LR LR
comp=Z,8µm,22.0s,MS6.0
MAW Mawson 78.75 200 *e*P **P** **08 34 04.4 +0.3**
comp=Z,63nm,1.4s,mb5.3
MAW *e*S S 08 43 58.8 +0.3
MAW Mawson 78.75 200 P **P** **08 34 05.1 +1.0**
comp=Z,82nm,1.2s,mb5.5,baz=59,slow=6.7,SNR=69
MAW PKKPbc PKKPbc 08 52 57.4 -0.7
comp=Z,2.4nm,0.6s,baz=190,slow=3.6,SNR=8.9
MAW LR LR 09 03 45.8
comp=Z,1µm,21.1s,MS5.2,baz=52,slow=32
AKUT Akutan 79.21 34 *e*P **P** **08 34 06.5 -0.2**
comp=Z,493nm,1.0s,mb6.4
AKUT LR LR
comp=Z,3µm,23.0s,MS5.6
KIP Kipapa 79.58 68⇑*i*P **P** **08 34 10.8 +2.1**
KIP Kipapa 79.58 68 *e*P **P** **08 34 11.1 +2.5**
comp=Z,269nm,1.7s,mb5.9
KIP *e* 08 34 36.4
KIP LR LR
comp=Z,3µm,21.0s,MS5.5
HON Honolulu 79.58 68 *e*P **P** **08 34 11.7 +3.0**
HON *e* pP 08 34 26.4 +5.0
VNDA Vanda 79.82 172 P **P** **08 34 10.3 +0.3**
comp=Z,6.0nm,0.6s,mb4.7,baz=314,slow=5.5,SNR=32
VNDA S S 08 44 07.3 -2.5
comp=Z,0.7nm,0.6s,baz=148,slow=7.6,SNR=7.2
VNDA PKKPbc PKKPbc 08 52 55.4 -0.4
comp=Z,1.1nm,0.9s,baz=135,slow=1.4,SNR=2.9
VNDA LR LR 09 08 54.9
comp=Z,4µm,20.1s,MS5.7,baz=326,slow=35
VNDA Vanda 79.82 172 P **P** **08 34 10.3 +0.3**
VNDA S S 08 44 07.3 -2.5
VNDA pmax pmax
comp=Z,6.0nm,0.6s
VNDA smax
comp=E,1.0nm,0.6s
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA MLR MLR
comp=Z,4µm,20.1s
VNDA Vanda 79.82 172 *e*P **P** **08 34 10.0 +0.1**
comp=Z,33nm,1.0s,mb5.2
VNDA LR LR
comp=Z,4µm,21.0s,MS5.7
MAK Makhachkala 79.92 314 *e*P **P** **08 34 04.0 -6.5**
MAK *e**PP pP 08 34 20.7 -2.5
MAK *e* 08 37 14.3
MAK *e*S S 08 43 57.9 -13
MAK *e* 08 44 21.7
MAK *e*SSS 08 52 39.5
MAK pmax pmax
comp=Z,331nm,1.0s,mb6.2
FALS False Pass 80.73 34 *e*P **P** **08 34 15.1 +0.2**
ATD Arta Tunnel 80.76 282 P **P** **08 34 15.4 +0.4**
comp=Z,11nm,0.8s,mb4.8,baz=97,slow=16,SNR=3.8
SBA Scott Base 80.77 172 *e*P **P** **08 34 16.3 +1.2**
SBA *e* pP 08 34 29.4 +1.6
SBA pmax pmax
comp=Z,127nm,1.7s,mb5.6
SBA MLR MLR
comp=Z,4µm,19.0s,MS5.8
SBA Scott Base 80.77 172 *e*P **P** **08 34 16.3 +1.2**
comp=Z,127nm,1.7s,mb5.6
SBA *e* pP 08 34 29.4 +1.6
SBA LR LR
comp=Z,4µm,19.0s,MS5.8
BHD Baghdad 80.98 304 *ex* x 08 34 09.0
BHD *ex* x 08 43 50.0
BHD *ex* x 08 44 14.0
DGRG David-gareji 81.24 312 P **P** **08 34 18.9 +1.3**
DGRG David-gareji 81.24 312 P **P** **08 34 18.9 +1.3**
GNI Garni 81.53 311 P **P** **08 34 18.8 -0.4**
comp=Z,3.4nm,0.4s,mb4.7,baz=189,slow=8.8,SNR=11
GNI Garni 81.53 311*c i*P **P** **08 34 18.4 -0.7**
GNI pmax pmax
comp=Z,119nm,2.5s
GNI Garni 81.53 311 *e*P **P** **08 34 18.5 -0.6**
GNI LR LR
comp=Z,1µm,21.0s,MS5.2
TNA Tin City 81.68 23 *e*P **P** **08 34 19.6 -0.3**
TNA LR LR
comp=Z,825nm,20.0s,MS5.1
MTA Mtatsminda 81.70 312 P **P** **08 34 19.0 -1.0**
MTA Mtatsminda 81.70 312 P **P** **08 34 19.0 -1.0**
MTA S S 08 44 24.8 -4.7
TBLG Delisi 81.75 312 P **P** **08 34 21.2 +0.9**
TBLG Delisi 81.75 312 P **P** **08 34 21.2 +0.9**
POHA Pohakuloa 81.78 70 PFAKE 08 34 30.0 +10
POHA LR LR
comp=Z,1µm,20.0s,MS5.3
MSL Mosul 82.36 307 *ex* x 08 34 24.5
MSL Mosul 82.36 307 *ex* x 08 44 33.5
MSL *ex* x 08 44 42.5
SDPT Sand Point 82.48 34 *e*P **P** **08 34 24.1 0.0**
comp=Z,510nm,0.7s,mb6.6
SDPT LR LR
comp=Z,4µm,23.0s,MS5.7
ZEI Tsey 82.51 313 *e*P **P** **08 34 23.1 -1.1**
ZEI *e**PP pP 08 34 37.3 +0.3
ZEI *e* 08 37 30.0
ZEI pmax pmax
comp=Z,100nm,1.4s,mb5.7
ONI Oni 82.81 313 P **P** **08 34 35.3 +9.4**
ONI S S 08 44 37.4 -3.5
GOF Gofitskoye 83.42 315 *e*P **P** **08 34 30.9 +1.9**
GOF *e*S S 08 44 39.4 -7.6
GOF pmax pmax
comp=Z,60nm,1.3s,mb5.5
CHGN Chignik 83.81 33 *e*P **P** **08 34 31.4 +0.4**
PECR Pechory 84.36 327 *e*P **P** **08 34 30.8 -3.0**
PECR *e*S S 08 44 47.0 -9.5
PECR *e*PS 08 45 45.0
PECR *e* 08 46 07.0
PECR pmax pmax
comp=Z,160nm,2.0s,mb5.8
PECR pmax pmax
comp=Z,500nm,8.0s
PECR smax
comp=N,700nm,4.0s
PECR smax
comp=E,400nm,4.0s
PECR MLR MLR
comp=Z,4µm,26.0s,MS5.7
PECR MLR MLR
comp=N,700nm,18.0s
PECR MLR MLR
comp=E,600nm,18.0s
VRHR Novokhopersk 85.09 321 *e*P **P** **08 34 35.0 -2.4**
VRHR pmax pmax
comp=Z,30nm,0.8s,mb5.5
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,30nm,1.2s
VRHR MLR MLR
comp=Z,3µm,21.0s,MS5.6
VRHR MLR MLR
comp=N,3µm,20.0s
VRHR MLR MLR
comp=E,4µm,26.0s
SOC Sochi 85.63 314*d i*P **P** **08 34 37.9 -2.3**
SOC *e**PP pP 08 34 54.1 +1.1
SOC *e* 08 37 57.7
SOC *e*PPP 08 39 57.5
SOC *i*S SKSac 08 44 56.9 -5.2
SOC *e*SS SS 08 50 43.0 -2.7
SOC *e*SSS 08 54 16.9
SOC pmax pmax
comp=Z,85nm,1.1s,mb5.9
SVW2 Sparrevohn 86.02 29 *e*P **P** **08 34 42.2 +0.1**
SVW2 *e* 08 34 51.2
KMBO Kilima Mbogo 86.08 269 P **P** **08 34 41.8 -0.5**
comp=Z,17nm,1.0s,mb5.2,baz=54,slow=5.3,SNR=13
KMBO LR LR 09 10 06.1
comp=Z,4µm,21.2s,MS5.8,baz=90,slow=34
KMBO Kilima Mbogo 86.08 269⇑*e*P **P** **08 34 41.7 -0.6**
TTA Tatalina 86.08 27 *e*P **P** **08 34 42.0 -0.4**
MALT Malatya 86.24 308 *e*P **P** **08 34 42.0 -1.1**
MALT pmax pmax
comp=Z,96nm,1.3s,mb5.9
MALT Malatya 86.24 308 *e*P **P** **08 34 42.4 -0.8**
comp=Z,96nm,1.4s,mb5.8
MALT *e* 08 34 51.0
VRSR Storozhevoye 86.62 321 *e*P **P** **08 34 42.7 -2.3**
VRSR *e**PP pP 08 35 00.3 +2.4
VRSR *e*S SKSac 08 45 01.6 -6.7
VRSR *e*SS SS 08 50 54.9 -5.4
VRSR pmax pmax
comp=Z,60nm,1.4s,mb5.6
VRSR pmax pmax
comp=N,8.0nm,2.5s
VRSR pmax pmax
comp=E,30nm,1.3s
VRSR smax
comp=N,10.0nm,1.3s
VRSR smax
comp=Z,10.0nm,4.0s
VRSR smax
comp=E,8.0nm,1.3s
VRSR MLR MLR
comp=N,2µm,23.0s,MS5.7
VRSR MLR MLR
comp=Z,2µm,23.0s,MS5.5
VRSR MLR MLR
comp=E,2µm,22.0s,MS5.7
VOR Voronezh 86.66 322 *e*P **P** **08 34 43.0 -2.2**
VOR *e* pP 08 34 55.0 -3.1
VOR *e*S S 08 45 13.0 -6.1
VOR pmax pmax
comp=N,50nm,1.8s
VOR pmax pmax
comp=E,40nm,1.8s
VOR pmax pmax
comp=Z,220nm,1.8s,mb6.1
VOR smax
comp=N,120nm,2.0s
VOR smax
comp=E,120nm,2.0s
PPT Papeete 87.11 107 *e*S S 08 45 25.9 +2.4
comp=E,3µm,31.5s
PPT *e*LQ 08 58 53.4
comp=E,3µm,34.5s
PPT *e*LR LR 09 02 42.1
comp=E,4µm,30.2s
KDAK Kodiak Island 87.16 32 P **P** **08 34 48.5 +0.8**
comp=E,338nm,0.6s,mb6.8,SNR=14
KDAK Kodiak Island 87.16 32 *e*P **P** **08 34 47.1 -0.5**
KDAK *e*pP pP 08 34 56.5 -4.0
KDAK LR LR
comp=Z,396nm,22.0s,MS4.8
ASF Jabal al Asfar 87.19 302 P **P** **08 34 47.6 -0.2**
comp=Z,53nm,1.3s,mb5.6,baz=0.6,slow=1.4,SNR=27
TBI Tubuai 87.28 113 *e*PP PP 08 38 10.6 -2.0
comp=Z,245nm,30.5s
TBI Tubuai 87.28 113 *e*S S 08 45 28.0 +2.9
comp=Z,2µm,25.5s
TBI *e*LR LR 09 02 48.6
comp=Z,2µm,26.0s
KLMR Klimovskoe 87.32 331*c i*P **P** **08 34 45.5 -2.9**
KLMR *e* 08 38 12.2
KLMR *e*S SKSac 08 45 04.9 -7.6
KLMR pmax pmax
comp=Z,120nm,1.6s,mb5.9
KLMR pmax pmax
comp=Z,230nm,9.2s
ANN Anapa 87.36 315 *e*P **P** **08 34 45.7 -2.9**
ANN *e**PP pP 08 34 58.5 -3.0
ANN *e*S SKSac 08 45 07.1 -5.7
ANN pmax pmax
comp=Z,360nm,1.5s,mb6.4
IMA2 Indian Mountai 87.50 24 *e*P **P** **08 34 49.1 -0.2**
MOS Moscow 87.89 326*α i*P **P** **08 34 48.6 -2.6**
MOS *e* pP 08 35 00.9 -3.2
MOS *e* 08 38 11.0
MOS *e* 08 45 13.8
MOS *i*S S 08 45 24.7 -6.3
MOS pmax pmax
comp=Z,300nm,2.4s,mb6.1
MOS pmax pmax
comp=Z,129nm,1.4s,mb6.0
MOS smax
comp=N,1µm,7.1s
MOS smax
comp=E,400nm,5.8s
OBN Obninsk 88.46 325 P **P** **08 34 51.5 -2.3**
comp=E,236nm,1.0s,mb6.4,SNR=6.6
OBN Obninsk 88.46 325 *e*P **P** **08 34 51.3 -2.5**
OBN *e* 08 34 56.6
OBN *e* 08 38 20.2
OBN *i*S SKSac 08 45 10.2 -9.2
OBN *e*PS 08 46 42.7
OBN pmax pmax
comp=Z,55nm,1.8s,mb5.5
OBN Obninsk 88.46 325 *e*P **P** **08 34 52.2 -1.6**
comp=Z,89nm,1.2s,mb5.9
OBN LR LR
comp=Z,1µm,19.0s,MS5.4
MMAI Mount Meron Ar 88.47 303 P **P** **08 34 53.6 -0.3**
comp=Z,7.1nm,0.6s,mb5.0,baz=82,slow=6.0,SNR=19
SLKM Skilak Lake 88.58 30 *e*P **P** **08 34 53.2 -1.2**
SLKM *e* pP 08 35 03.2 -4.1
SLKM Skilak Lake 88.58 30 *e*P **P** **08 34 53.2 -1.2**
SLKM *e* pP 08 35 03.2 -4.1
SLKM *e* 08 35 16.2
PMOR Pomariorio Ree 88.71 105 *e*P **P** **08 34 58.5 +3.5**
comp=Z,115nm,1.1s,mb6.1
EIL Elat 88.78 300 *e*P **P** **08 34 54.4 -1.0**
VAH Vaihoa 88.97 105 *e*P **P** **08 34 59.3 +3.0**
comp=Z,159nm,1.1s,mb6.2
PMR Palmer 89.16 29 *e*P **P** **08 34 55.7 -1.4**
PMR pmax pmax
comp=Z,40nm,1.0s,mb5.7
PMR MLR MLR
comp=Z,1µm,21.0s,MS5.2
PMR Palmer 89.16 29 *e*P **P** **08 34 55.7 -1.4**
comp=Z,40nm,1.0s,mb5.7
PMR LR LR
comp=Z,1µm,21.0s,MS5.2
MCK McKinley 89.34 26 *e*P **P** **08 34 56.9 -1.1**
MCK pmax pmax
comp=Z,35nm,1.0s,mb5.6
MCK MLR MLR
comp=Z,530nm,22.0s,MS4.9
MCK McKinley 89.34 26 *e*P **P** **08 34 56.9 -1.1**
comp=Z,35nm,1.0s,mb5.6
MCK LR LR
comp=Z,530nm,22.0s,MS4.9
QSPA South Pole Qui 89.55 180 *e*P **P** **08 34 59.4 +0.5**
comp=Z,103nm,1.4s,mb6.0
QSPA LR LR
comp=Z,3µm,19.0s,MS5.8
SIM Simferopol' 89.72 315 *e*P **P** **08 34 57.2 -2.6**
SIM *e**PP pP 08 35 10.6 -2.1
SIM *e*S SKSac 08 45 28.0 +1.1
SIM pmax pmax
comp=Z,25nm,0.8s,mb5.6
COLA College 89.84 25 *e*P **P** **08 34 58.9 -1.4**
COLA *e**PP pP 08 35 08.9 -4.4
COLA pmax pmax

comp=Z,9.0nm,0.7s,mb5.2
COLA MLR MLR
comp=Z,852nm,21.0s,MS5.2
COLA College 89.84 25 *e*P **P** **08 34 58.9 -1.5**
comp=Z,9.4nm,0.7s,mb5.2
COLA *e*pP pP 08 35 08.9 -4.4
COLA LR LR
comp=Z,852nm,21.0s,MS5.2
BR131 Keskin Array S 90.01 310 *e*P **P** **08 34 59.5 -1.6**
comp=Z,7.1nm,0.8s,mb5.0
BR131 *e*pP pP 08 35 08.2 -5.9
BR131 LR LR
comp=Z,1μm,21.0s,MS5.3
BRTR Keskin Array B 90.01 310 P **P** **08 34 59.1 -2.0**
comp=Z,7.3nm,1.1s,mb4.9,baz=113,slow=3.2,SNR=21
BRTR PKKPbc PKKPbc 08 52 36.9 +5.1
comp=Z,0.8nm,0.8s,baz=225,slow=3.3,SNR=4.0
BRTR LR LR 09 23 44.1
comp=Z,715nm,18.9s,MS5.1,baz=88,slow=41
BRTR Keskin Array B 90.01 310⇑ *e*P **P** **08 34 59.0 -2.1**
CSS Prodhromos 90.22 305 *e*P **P** **08 35 00.8 -1.3**
comp=Z,35nm,0.9s,mb5.7
CSS *e*pP pP 08 35 06.9 -8.1
APA Apatity 90.33 337 *e*P **P** **08 35 02.0 -0.6**
APA *i* *PP pP 08 35 19.0 +3.5
APA *i* 08 38 39.0
APA *i* 08 45 28.0
APA *i* S S 08 45 52.0 -1.8
APA pmax pmax
comp=Z,18nm,1.0s,mb5.4
APA MLR MLR
comp=Z,500nm,16.0s,MS5.0
ANTO Ankara 90.66 310 PFAKE 08 35 20.0 +16
ANTO LR LR
comp=Z,934nm,22.0s,MS5.2
EYAK Cordova Ski Ar 90.79 30 *e*P **P** **08 35 04.3 -0.4**
JOF Joensuu 91.27 333 *e*p **P** **08 35 03.6 -3.4**
comp=Z,5.4nm,0.4s,mb5.2
MENT Mentasta 91.69 27 *e*P **P** **08 35 09.1 +0.2**
ISP Isparta 92.47 308 *d* *i*P **P** **08 35 10.1 -2.4**
ISP Isparta 92.47 308 *e*P **P** **08 35 10.8 -1.8**
ISP *e* 08 35 19.8
KEV Kevo 92.56 340 *e*P **P** **08 35 08.3 -4.7**
KEV pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
KEV MLR MLR
comp=Z,2μm,21.0s,MS5.6
KEV Kevo 92.56 340 *e*P **P** **08 35 08.3 -4.7**
comp=Z,8.6nm,0.9s,mb5.2
KEV LR LR
comp=Z,2μm,21.0s,MS5.6
MBAR Mbarara 92.59 269⇓ *i*P **P** **08 35 11.9 -1.2**
AKASG Malin Array Be 92.91 321 P **P** **08 35 12.1 -2.4**
comp=Z,3.2nm,0.5s,mb5.0,baz=75,slow=3.9,SNR=18
AKASG LR LR 09 24 45.8
comp=Z,725nm,18.9s,MS5.2,baz=80,slow=40
AKASG Malin Array Be 92.91 321 *i* P **P** **08 35 12.3 -2.3**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 92.91 321 *e*P **P** **08 35 12.4 -2.2**
ARCES ARCESS Array B 93.11 340 P **P** **08 35 13.0 -2.5**
comp=Z,6.7nm,0.8s,mb5.1,baz=91,slow=4.8,SNR=16
ARCES PKiKP PKiKP 08 40 03.5 +1.1
comp=Z,7.6nm,1.2s,baz=158,slow=2.9,SNR=4.4
ARCES PKKP PKKPbc 08 52 23.9 -0.1
comp=Z,3.5nm,1.0s,baz=305,slow=4.3,SNR=4.6
ARCES LR LR 09 24 06.1
comp=Z,2μm,19.7s,MS5.5,baz=88,slow=40
ARCES ARCESS Array B 93.11 340 P **P** **08 35 13.0 -2.5**
ARE0 ARCESS Array S 93.11 340 *e*P **P** **08 35 15.6 +0.1**
KIS Kishinev 93.37 317 *e*P **P** **08 35 15.0 -1.7**
KIS *e* 08 39 04.0
KIS *e* 08 45 44.0
KIS *e*S S 08 46 15.0 -6.2
KIS *e*PPS 08 48 08.0
KIS *e*SS SS 08 52 37.0 -1.0
MNK Minsk 93.52 324 *e*P **P** **08 35 12.0 -5.4**
DAWY Dawson 93.54 26 *e*P **P** **08 35 17.4 0.0**
KAF Kangasniemi 93.64 332 *e*p **P** **08 35 14.2 -3.7**
comp=Z,2.1nm,0.4s,mb4.9,baz=79,slow=4.2
KAF Kangasniemi 93.64 332 *e*P **P** **08 35 14.2 -3.7**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.9
VSU Vasula 93.79 328⇓ *e*P **P** **08 35 16.0 -2.6**
VSU Vasula 93.79 328⇓ *e*P **P** **08 35 16.1 -2.5**
FIA1 FINESS Array S 93.82 331 *e*P **P** **08 35 17.3 -1.4**
FIA1 *e* 08 35 26.8
FINES FINESS Array B 93.82 331 P **P** **08 35 16.1 -2.7**
comp=Z,1.9nm,0.5s,mb4.8,baz=81,slow=4.8,SNR=15
FINES PKiKP PKiKP 08 40 03.4 -0.2
comp=Z,1.3nm,0.6s,baz=106,slow=4.5,SNR=2.6
FINES FINESS Array B 93.82 331 *i* P **P** **08 35 17.8 -1.0**
FINES pmax pmax
comp=Z,2.0nm,0.5s
SPB4 Spitsbergen Ar 93.83 349 *e*P **P** **08 35 16.6 -2.2**
BJO Bjornoya 94.14 345 AMS AMS 09 26 02.7
comp=Z,1μm,21.6s,MS5.4
KBS Kingsbay 94.42 350 *e*P **P** **08 35 19.1 -2.4**
KBS *e*PP PP 08 39 08.3 -0.9
KBS AMS AMS 09 22 05.6
comp=Z,1μm,23.6s,MS5.3
KBS Kingsbay 94.42 350 *e*P **P** **08 35 19.1 -2.4**
KBS *e*PP PP 08 39 08.3 -0.9
LSZ Lusaka 94.86 255⇓ P **P** **08 35 23.9 +0.4**
SNR=9.5
LSZ Lusaka 94.86 255 *e*P **P** **08 35 23.1 -0.4**
LSZ pmax pmax
comp=Z,78nm,1.3s,mb6.0
LSZ MLR MLR
comp=Z,6μm,21.0s,MS6.0
LSZ Lusaka 94.86 255 *e*P **P** **08 35 23.1 -0.5**
comp=Z,78nm,1.3s,mb6.0
LSZ LR LR
comp=Z,6μm,21.0s,MS6.0
INK Inuvik 95.21 21 PP PP 08 38 57.3 -18
comp=Z,9.6nm,1.3s,baz=272,slow=6.1,SNR=4.1
INK S SKSac 08 45 53.4 -4.1
comp=Z,2.9nm,1.1s,baz=266,slow=33,SNR=11
INK PKKP PKKPbc 08 52 20.5 +2.1
comp=Z,1.6nm,0.6s,baz=124,slow=2.8,SNR=5.4
INK Inuvik 95.21 21 *e*P **P** **08 35 24.0 -1.1**
INK pmax pmax
comp=Z,40nm,0.9s
INK Inuvik 95.21 21 *e*P **P** **08 35 24.0 -1.1**
comp=Z,40nm,0.9s,mb5.8
TRO Tromso 95.36 340 *e*P **P** **08 35 20.9 -5.0**
TRO *e*PP PP 08 39 08.8 -7.7
TRO AMS AMS 09 30 05.6
comp=Z,1μm,12.3s,MS5.6
SKAG Skagway 96.10 30 *e*P **P** **08 35 29.8 +0.6**
comp=Z,63nm,0.8s,mb6.1
SKAG LR LR
comp=Z,2μm,23.0s,MS5.4
SUW Suwalki 96.29 324 *e*P **P** **08 35 27.7 -2.3**
SUW *e*pP pP 08 35 48.1 +5.1
SUW L 09 18 51.0
comp=Z,2.7nm,28.0s
LVV L'vov 96.31 320 *i* P **P** **08 35 28.1 -2.0**
LVV *i* 08 39 29.1
LVV *i* S S 08 46 39.1 -7.6
LVV *i* SS SS 08 53 26.7 +7.0
TAOE Nuku Hiva Isla 96.38 99 *e*LQ 09 02 49.9
comp=Z,5μm,33.2s
TAOE Nuku Hiva Isla 96.38 99 *e*PP PP 08 39 26.6 +2.2
comp=Z,2μm,31.9s
TAOE Nuku Hiva Isla 96.38 99 *e*PS PS 08 48 08.6 -3.8
comp=Z,2μm,29.6s
TAOE Nuku Hiva Isla 96.38 99 *e*SS SS 08 53 40.8 +20
comp=Z,2μm,32.3s
TAOE *e*LR LR 09 07 08.8
comp=Z,5μm,35.3s
SIT Sitka 96.49 33 *e*P **P** **08 35 31.6 +0.6**
SIT pmax pmax
comp=Z,124nm,1.7s,mb6.1
SIT MLR MLR
comp=Z,1μm,21.0s,MS5.3
SIT Sitka 96.49 33 *e*P **P** **08 35 31.6 +0.6**
comp=Z,124nm,1.7s,mb6.1
SIT LR LR
comp=Z,1μm,21.0s,MS5.3
NVL N'lazarevskaya 96.61 198⇑ *i*P **P** **08 35 32.0 +0.5**
NVL *i* S SKSac 08 46 02.1 -2.7
NVL pmax pmax
comp=Z,19nm,1.4s,mb5.3
NVL MLR MLR
comp=Z,2μm,19.0s,MS5.7
NVL MLR MLR
comp=N,334nm,19.0s,MS5.5
NVL MLR MLR
comp=E,2μm,19.0s,MS5.5
LBTB Lobatse 96.85 245 PFAKE 08 35 40.0 +7.4
LBTB LR LR
comp=Z,3μm,20.0s,MS5.7
BOSA Boshof 96.91 241 P **P** **08 35 33.0 +0.2**
comp=Z,7.8nm,1.1s,mb5.0,baz=76,slow=7.1,SNR=6.0
BOSA LR LR 09 18 43.6
comp=Z,2μm,19.0s,MS5.6,baz=100,slow=35
KWP Kalwaria 97.18 320 *e*P **P** **08 35 36.6 +2.5**
KWP *e*PP PP 08 39 31.8 +1.2
KWP L 09 17 28.9
comp=Z,2.4nm,27.9s
KWP Kalwaria 97.18 320 *e*P **P** **08 35 36.6 +2.5**
KWP *e*PP PP 08 39 31.8 +1.2
KOLS Kolonicke sedl 97.56 319 *e*P **P** **08 35 36.2 +0.4**
KOLS *e* 08 35 41.3
KOLS *e* 08 36 09.4
KOLS *e*PP PP 08 39 39.8 +6.3
KOLS Kolonicke sedl 97.56 319 *e*P **P** **08 35 36.2 +0.4**
KOLS *e* 08 39 39.8
KOLS pmax pmax
comp=Z,18nm,1.3s,mb5.4
KOLS MLR MLR
comp=Z,1μm,26.8s,MS5.3
KOLS Kolonicke sedl 97.56 319 *e*P **P** **08 35 36.2 +0.4**
comp=Z,18nm,1.3s,mb5.4
KOLS *e* 08 36 09.4
KOLS *e*PP PP 08 39 39.8 +6.3
KOLS LR LR
comp=Z,1μm,26.8s,MS5.3
CRVS Cervenica-Dubn 98.10 319 *e*P **P** **08 35 37.1 -1.1**
CRVS *e*pP pP 08 35 44.9 -6.3
CRVS *e*PP PP 08 39 44.4 +6.8
CRVS Cervenica-Dubn 98.10 319 *e*P **P** **08 35 37.1 -1.1**
CRVS *e* 08 35 44.9
CRVS *e* 08 39 44.4
CRVS pmax pmax
comp=Z,7.0nm,1.0s,mb5.2
CRVS MLR MLR
comp=Z,1μm,25.4s,MS5.2
CRVS Cervenica-Dubn 98.10 319 *e*P **P** **08 35 37.1 -1.1**
comp=Z,6.9nm,1.0s,mb5.1
CRVS *e* 08 35 44.9
CRVS *e*PP PP 08 39 44.4 +6.8
CRVS LR LR
comp=Z,1μm,25.4s,MS5.2
NIE Niedzica 98.76 320 *e*P **P** **08 35 40.6 -0.6**
NIE *e*PP PP 08 39 50.6 +7.9
OJC Ojcow 98.95 321 *e*P **P** **08 35 39.8 -2.2**
OJC *e*PP PP 08 39 49.6 +5.5
OJC *e*SKSac SKSac 08 46 23.5 +6.7
OJC L 09 25 58.0
comp=Z,7.6nm,22.3s
OJC Ojcow 98.95 321⇑ *e*P **P** **08 35 39.8 -2.2**
OJC *e* 08 39 49.6
OJC MLR MLR
comp=Z,8μm,22.3s,MS6.1
PSZ Piszkesteto 99.28 318⇓ *e*P **P** **08 35 42.2 -1.3**
NSS Namsos 99.42 336 *e*P **P** **08 35 40.1 -4.0**
NSS AMS AMS 09 27 21.9
comp=Z,3μm,24.2s,MS5.6
VYHS Vyhne 99.88 319 *e*P Pdif 08 35 43.3 -2.9
VYHS *e* 08 38 54.3
VYHS *e*PP PP 08 39 55.1 +3.9
VYHS Vyhne 99.88 319 *e*P Pdif 08 35 43.3 -2.9
VYHS *e* 08 39 55.1
VYHS pmax pmax
comp=Z,8.0nm,1.6s,mb4.9
VYHS MLR MLR
comp=Z,2μm,25.1s,MS5.4
VYHS Vyhne 99.88 319 *e*P Pdif 08 35 43.3 -2.9
comp=Z,7.7nm,1.6s
VYHS *e* 08 38 54.3
VYHS *e*PP PP 08 39 55.1 +3.9
VYHS LR LR
comp=Z,2μm,25.1s,MS5.4
HFS Hagfors 100.03 331 P Pdif 08 35 43.8 -3.0
comp=Z,2.5nm,0.4s,baz=106,slow=4.8,SNR=23
HFS PP PP 08 39 44.3 -8.0
comp=Z,2.5nm,0.9s,baz=110,slow=7.8,SNR=2.8
OKC Ostrava-Krasne 100.07 321 *e*PDIF Pdif 08 35 45.9 -1.1
OKC *ex* x 08 39 36.0
OKC *e*SKKS SKKSac 08 47 00.2 +4.4
OKC AMS AMS 09 24 30.0
comp=Z,1μm,23.7s
OKC Ostrava-Krasne 100.07 321 *e*Pdif Pdif 08 35 45.9 -1.1
OKC *e*PP PP 08 39 36.0 -17
OKC *e* 08 47 00.2
SRO Srobarova 100.35 319 *e*PP PP 08 40 01.0 +6.2
SNAA Sanae 100.39 195⇓ *i*Pdiff Pdif 08 35 49.5 +1.1
SNAA *e* 08 36 13.4
SNAA *e* 08 36 21.9
SNAA *e* 08 36 35.1
SNAA Sanae 100.39 195 *e*P Pdif 08 35 48.2 -0.2
SNAA pmax pmax
comp=Z,15nm,1.3s
SNAA Sanae 100.39 195 *e*Pdif Pdif 08 35 48.2 -0.2
comp=Z,15nm,1.3s
PKSM Moragy 100.43 317 *e*P Pdif 08 35 49.7 +1.1
MORC Moravsky Berou 100.46 321 *e*P Pdif 08 35 47.4 -1.3
MORC pmax pmax
comp=Z,13nm,1.4s
MORC Moravsky Berou 100.46 321 *e*Pdif Pdif 08 35 47.4 -1.3
comp=Z,13nm,1.4s
RKT Rikitea 100.60 113 *e*PS PS 08 48 49.7 -8.3
comp=Z,1μm,26.2s
RKT Rikitea 100.60 113 *e*SKSac SKSac 08 46 26.3 +1.4
comp=Z,575nm,27.2s
RKT *e*LR LR 09 09 01.1
comp=Z,2μm,28.2s
BSD Bornholm Skovb 100.78 326 *i* P Pdif 08 35 47.9 -2.3
BSD *i* 08 39 35.0
BSD *i* S Sdif 08 47 18.3 -6.3
BSD *i* 08 54 09.1
BSD
comp=Z,2μm,20.0s
BSD Bornholm Skovb 100.78 326 *i* P Pdif 08 35 47.9 -2.3
BSD *i* S Sdif 08 47 18.3 -6.3
BSD Bornholm Skovb 100.78 326 *i* P Pdif 08 35 47.9 -2.3
BSD *i* 08 39 35.0
BSD *i* S Sdif 08 47 18.3 -6.3
BSD *i* 08 54 09.1
DAG Danmarks Havn 100.84 352⇓ *i*P Pdif 08 35 47.7 -2.7
comp=Z,10.0nm,0.9s
DAG Danmarks Havn 100.84 352⇓ *e*P Pdif 08 35 47.7 -2.7
DAG pmax pmax
comp=Z,10.0nm,0.9s
DAG Danmarks Havn 100.84 352⇓ *e*P Pdif 08 35 47.7 -2.7
comp=Z,10nm,0.9s
NB2 NORSAR Subarra100.91 333 P Pdif 08 35 47.2 -3.5
comp=Z,2.1nm,0.8s,baz=73,slow=4.4
NOA NORSAR Array B100.91 333 P Pdif 08 35 47.1 -3.6
comp=Z,1.5nm,0.8s,baz=73,slow=4.5,SNR=10
KSP Ksiaz 101.01 322 *e*P Pdif 08 35 50.0 -1.2
KSP *e*S Sdif 08 47 20.0 -6.5
KSP *e*PS PS 08 49 04.0 +1.6
KSP *e*PPS 08 49 38.0
KSP MLR MLR
comp=Z,5μm,24.5s,MS5.9
KSP Ksiaz 101.01 322 *e*Pdif Pdif 08 35 50.0 -1.2
KSP *e*Sdif Sdif 08 47 20.0 -6.5
KSP *e*PS PS 08 49 04.0 +1.6
KSP *e*PPS 08 49 38.0
KSP *e* 08 55 15.5
KSP LR LR
comp=Z,5μm,24.5s,MS5.9
ZST Bratislava 101.07 319 *e*PP PP 08 39 59.1 -1.1
DPC Dobruska-Polom 101.11 321 *e*PDIF Pdif 08 35 48.1 -3.5
DPC *ex* x 08 39 45.3
DPC *e*SDIF Sdif 08 47 22.7 -4.6
DPC *ex* x 08 55 03.4
DPC AMS AMS 09 24 30.0
comp=Z,3μm,23.1s
DPC Dobruska-Polom 101.11 321 *e*P Pdif 08 35 48.1 -3.5
DPC *e* 08 47 22.7
DPC MLR MLR
comp=Z,3μm,23.1s,MS5.7
NAO01 NORSAR Array S 101.12 333 PFAKE 08 36 00.0 +8.3
NAO01 LR LR
comp=Z,3μm,21.0s,MS5.7
UPC Upice 101.26 322 *e*PDIF Pdif 08 35 51.7 -0.6
UPC *ex* x 08 36 07.3
TREC Trest 101.87 320 *e*PDIF Pdif 08 35 54.0 -1.0
TREC AMS AMS 09 25 00.0
comp=Z,2μm,19.4s
CONA Conrad Observa 101.94 319⇑ *i*Pdiff Pdif 08 35 51.4 -3.9
comp=Z,2.1nm,1.2s
MOL Molde 101.97 335 AMS AMS 09 29 21.9
comp=Z,3μm,18.9s,MS5.8
COP Copenhagen 101.98 327 *i* P Pdif 08 35 54.5 -1.0
COP *i* 08 40 12.7
COP *i* S Sdif 08 47 31.6 -3.0
COP
comp=Z,890nm,20.0s
COP Copenhagen 101.98 327 *e*P Pdif 08 35 54.5 -1.0
COP *i* 08 40 12.7
COP *i* S Sdif 08 47 31.6 -3.0
COP LR LR
comp=Z,900nm,20.0s,MS5.3
KONO Kongsberg 102.14 332 *e*P Pdif 08 35 51.2 -5.0
KONO *e*PP PP 08 40 09.1 +0.9
KONO *e*SS SS 08 54 36.2 -5.1
KONO Kongsberg 102.14 332 *e*P Pdif 08 35 51.2 -5.0
KONO *e*PP PP 08 40 09.1 +0.9
KONO *e*SS SS 08 54 36.2 -5.1
KONO LR LR
comp=Z,3μm,22.0s,MS5.8
PVCC Panska Ves 102.15 322 *e*PDIF Pdif 08 35 54.9 -1.4
PVCC *ex* x 08 40 00.3
PVCC *ex* x 08 54 53.2
PVCC AMS AMS 09 25 00.0
comp=Z,2μm,23.2s
PRU Pruhonice 102.30 321 *e*PDIF Pdif 08 35 59.0 +2.1
PRU *e*PP PP 08 40 07.7 -1.8
PRU *ex* x 08 47 28.7
PRU *e*SS SS 08 54 56.6 +13
PRU AMS AMS 09 24 00.0
comp=Z,2μm,22.7s
ARSA Arzberg 102.32 318⇑ *i*Pdiff Pdif 08 35 59.2 +2.2
comp=Z,4.5nm,1.3s
VNA1 Neumayer--Stat 102.41 195⇓ *i*Pdiff Pdif 08 35 58.8 +1.4
VNA1 *e* 08 36 19.6
VNA1 *e* 08 36 31.4
VNA1 *e* 08 36 45.3
GCIS Gornji Cirnik 102.55 317 *e*Pdiff Pdif 08 35 59.7 +1.6
PERS Pernice 102.73 318 *e*PP PP 08 40 18.5 +5.8
PERS *e* 08 49 22.4
CLL Collm 102.91 323 *e*Pdiff Pdif 08 36 01.6 +2.0
comp=Z,6.0nm,1.3s
CLL *e*PP PP 08 40 15.8 +1.8
CLL *e*PPP 08 42 30.0
CLL *e*PPPP 08 44 07.7
CLL *e*Sdiff Sdif 08 47 37.0 -5.3
CLL *e*PS PS 08 49 26.3 +3.8
CLL *e*PPS 08 50 21.6
CLL *e*PKKPbc PKKPbc 08 51 57.8 +1.0
CLL *e*PKKPdf PKKPdf 08 52 02.3 -2.1
CLL *e*SS SS 08 54 50.0 -1.9
CLL *e*sSS 08 55 34.6
CLL *e*SSS 08 58 50.2
CLL *e*L 09 29 10.5
comp=Z,2μm,22.0s
CLL Collm 102.91 323 *e*PDIF Pdif 08 36 02.0 +2.4
CLL *e* 08 39 17.0
CLL *i* PP PP 08 40 18.8 +4.8
CLL *e*PPP 08 42 19.0
CLL *e* 08 44 06.0
CLL *e* 08 46 56.0
CLL *e* 08 47 36.0
CLL *e* 08 49 30.0
CLL *e*PPS 08 50 14.0
CLL *e*PKKP PKKPbc 08 51 58.0 +1.2
CLL *e*SS SS 08 54 54.0 +2.1
CLL *e* 08 55 30.0
CLL *e*SSS 08 58 48.0
CLL *e* 08 59 37.0
CLL *e* 09 00 24.0
CLL *e* 09 04 44.0
CLL Collm 102.91 323 *e*Pdif Pdif 08 36 02.0 +2.4
CLL *ex* x 08 39 17.0
CLL *i* PP PP 08 40 18.8 +4.8
CLL *e*PPP 08 42 19.0
CLL *e*PPPP 08 44 06.0
CLL *e*sSKSac 08 46 56.0
CLL *e*Sdif Sdif 08 47 36.0 -6.3
CLL *e*pPS 08 49 30.0
CLL *e*PPS 08 50 14.0
CLL *e*PKKPbc PKKPbc 08 51 58.0 +1.2
CLL *e*SS SS 08 54 54.0 +2.1
CLL *ex* x 08 55 30.0
CLL *e*SSS 08 58 48.0
CLL *e*SSS 08 58 48.0
CLL *ex* x 08 59 37.0
CLL *ex* x 09 00 24.0
CLL *ex* x 09 04 44.0
CLL LmV 09 28 00.0
comp=Z,2μm,21.4s
CLL Collm 102.91 323 *e*P Pdif 08 36 02.0 +2.4
CLL *i* 08 40 18.8
CLL MLR MLR
comp=Z,2μm,21.4s,MS5.7
CLL Collm 102.91 323 *e*Pdif Pdif 08 36 02.0 +2.4
CLL *i* PP PP 08 40 18.8 +4.8
CLL *e*PKKP PKKPbc 08 51 58.0 +1.2
CLL LR LR
comp=Z,2μm,21.4s,MS5.7
JMIC Jan Mayen 103.01 345 *e*P Pdif 08 35 58.8 -1.3
JMIC AMS AMS 09 25 47.6
comp=Z,928nm,21.3s,MS5.3
MOA Molln 103.01 319⇑ *i*Pdiff Pdif 08 36 02.6 +2.5
comp=Z,9.6nm,1.2s
GEC2 GERESS Array S 103.12 320 *e*Pdiff Pdif 08 35 56.2 -4.4
GEC2 *e*PP PP 08 40 13.6 -2.0
GERES GERESS Array B 103.12 320 P Pdif 08 35 59.4 -1.2
comp=Z,0.7nm,0.8s,baz=72,slow=5.7,SNR=8.7
GERES PP PP 08 40 00.1 -16
comp=Z,1.7nm,1.0s,baz=64,slow=6.7,SNR=3.2
GERES PKiKP PKiKP 08 40 19.9 -0.2
comp=Z,1.1nm,0.7s,baz=83,slow=5.6,SNR=5.3
GERES GERESS Array B 103.12 320 P Pdif 08 35 59.4 -1.2
GERES PP PP 08 40 00.1 -16
KHC Kasperske Hory 103.13 321 *e*PDIF Pdif 08 35 58.3 -2.3
KHC *ex* x 08 36 26.3
KHC *e*PP PP 08 40 14.5 -1.2
KHC *ex* x 08 40 25.0
KHC *ex* x 08 47 35.2
KHC *e*SS SS 08 55 05.9 +11
KHC AMS AMS 09 25 40.0
comp=Z,2μm,18.6s
KHC Kasperske Hory 103.13 321 *e*P Pdif 08 35 58.3 -2.3
KHC *e* 08 40 14.5
KHC *e* 08 47 35.2
KHC *e* 08 55 05.9
KHC MLR MLR
comp=Z,2μm,18.6s,MS5.6
LJU Ljubljana 103.26 317 *e*PP PP 08 40 18.1 +1.5
MUD Monsted U'grnd 103.47 329 *i* P Pdif 08 36 01.0 -1.1
MUD *e* 08 39 26.3
MUD *i* 08 40 20.1
MUD *i* 08 40 24.1
MUD *i* S PS 08 49 28.3 -0.1
MUD *i* 08 55 09.1
MUD
comp=Z,2μm,20.0s
MUD Monsted U'grnd 103.47 329 *i* P Pdif 08 36 01.0 -1.1
MUD *e* 08 39 26.3
MUD *i* 08 40 20.1
MUD *i* 08 40 24.1
MUD *i* S PS 08 49 28.3 -0.1
MUD *i* 08 55 09.1
TANN Tannenbergstha 103.48 322 *e*Pdiff Pdif 08 35 59.0 -3.2
TANN *e*PP PP 08 40 17.5 -0.8
WET Wettzell 103.57 321 *e*Pdiff Pdif 08 35 59.1 -3.5
WET *e*PP PP 08 40 17.9 -1.1
BSEG Bad Segeberg 103.69 326 *e*Pdiff Pdif 08 35 59.0 -4.1
BSEG *e*PP PP 08 40 17.4 -2.5
MANZ Manzenberg 103.82 322 *e*Pdiff Pdif 08 36 00.5 -3.2
MANZ *e*PP PP 08 40 20.1 -0.7
ROTZ Rotzenmuhle 103.82 321 *e*Pdiff Pdif 08 36 00.4 -3.3
ROTZ *e*PP PP 08 40 20.0 -0.8
BER Bergen 103.83 333 *e*P Pdif 08 35 58.8 -4.9
BER *e*PP PP 08 40 17.4 -3.5
BER *e*SKS 08 46 33.0

BER AMS AMS 09 28 35.2
comp=Z,2µm,18.5s,MS5.6
MOX Moxa 103.94 322 *e*Pdiff Pdif 08 36 00.8 -3.4
MOX *e*PP PP 08 40 20.8 -0.9
MOX Moxa 103.94 322 *e*(P) Pdif 08 36 04.9 +0.7
MOX *e* 08 39 15.9
MOX
comp=Z,900nm,20.0s
CLZ Clausthal 104.32 324 *e*Pdiff Pdif 08 36 02.3 -3.6
CLZ *e*PP PP 08 40 23.2 -1.4
GRA1 Grafenberg Arr 104.45 322 *e*Pdif Pdif 08 36 03.1 -3.4
GRA1 *e*PP PP 08 40 24.3 -1.3
GRA1 *e*PPP 08 42 40.7
GRA1 *e*SKSac SKSac 08 46 39.7 -3.3
GRA1 *e*PS PS 08 49 42.4 +3.7
GRA1 *e*SS SS 08 55 09.8 -3.4
GRA1 LR LR
comp=Z,2µm,19.9s,MS5.6
GRF Grafenberg Arr 104.45 322 *e*Pdiff Pdif 08 36 03.1 -3.4
GRF *e*PP PP 08 40 24.3 -1.3
GRF *e*PPP 08 42 40.7
GRF *e*SKSac SKSac 08 46 39.7 -3.3
GRF *e*PS PS 08 49 42.4 +3.7
GRF *e*SS SS 08 55 09.8 -3.4
GRF *e*L 09 31 29.4
comp=Z,2µm,19.9s
GRF Grafenberg Arr 104.45 322 *e*P Pdif 08 36 03.1 -3.4
GRF *e* 08 40 24.3
GRF *e*PPP 08 42 40.7
GRF *e*SS SS 08 55 09.8 -3.4
GRF MLR MLR
comp=Z,2µm,19.9s,MS5.6
YKA Yellowknife Ar 104.62 24 Pdiff Pdif 08 36 06.8 -0.4
comp=Z,2.9nm,0.7s,baz=298,slow=4.3,SNR=22
YKA PKiKP PKiKP 08 40 22.3 -0.6
comp=Z,2.4nm,0.5s,baz=293,slow=2.1,SNR=18
YKA PKKPbc PKKPbc 08 51 49.9 -1.8
comp=Z,2.5nm,0.9s,baz=119,slow=3.6,SNR=12
YKA Yellowknife Ar 104.62 24 Pdif Pdif 08 36 06.8 -0.4
TSUM Tsumeb 104.73 250 PFAKE 08 36 20.0 +12
TSUM LR LR
comp=Z,4µm,21.0s,MS6.0
FUR Furstenfeldbru 104.86 320 *e*Pdiff Pdif 08 36 04.2 -4.1
FUR *e*PP PP 08 40 26.4 -2.2
UBBA Unterbreizbach 104.86 323 *e*Pdiff Pdif 08 36 04.8 -3.5
UBBA *e*PP PP 08 40 27.3 -1.3
WTTA Wattenberg 104.88 319 I/Pdiff Pdif 08 36 07.8 -0.6
comp=Z,13nm,1.4s
IBBN Ibbenburen 105.69 325 *e*Pdiff Pdif 08 36 08.5 -3.5
IBBN *e*PP PP 08 40 31.9 -2.8
TNS Taunus Mts 105.99 323 *e*Pdiff Pdif 08 36 10.3 -3.0
TNS *e*PP PP 08 40 35.2 -1.7
STU Stuttgart 106.00 321 *e*Pdiff Pdif 08 36 10.1 -3.3
STU *e*PP PP 08 40 34.7 -2.3
E03A Lebam 106.00 41 ⇓P PKiKP 08 40 28.1 +2.7
baz=106
C04A Brinnon 106.04 40 ⇑P PKiKP 08 40 27.1 +1.6
baz=106
DAVOX Davos 106.17 319 Pdiff Pdif 08 36 13.1 -1.0
comp=Z,1.7nm,0.7s,baz=199,slow=2.0,SNR=3.1
DAVOX PKKPbc PKKPbc 08 51 45.6 -1.4
comp=Z,2.8nm,0.8s,baz=333,slow=4.5,SNR=3.5
GNW Green Mountain 106.18 40 *e*Pdif Pdif 08 36 16.2 +2.1
BUG Bochum--Univer 106.28 324 *e*Pdiff Pdif 08 36 11.7 -2.9
BUG *e*PP PP 08 40 36.4 -2.6
B05A Bryant 106.43 39 ⇓P PKiKP 08 40 27.1 +0.9
baz=106
BFO Black Forest 106.69 321 *e*Pdiff Pdif 08 36 13.0 -3.4
BFO *e*PP PP 08 40 39.7 -2.3
H03A Soap Creek Ran 106.72 43 ⇑P PKiKP 08 40 27.9 +1.1
baz=107
COR Corvallis 106.74 43 PFAKE 08 40 40.0 +13
COR LR LR
comp=Z,2µm,22.0s,MS5.6
E05A Randle 107.19 41 ⇑P PKiKP 08 40 27.6 0.0
baz=107
CDF Champ du Feu 107.32 321 *e*PKiKP PKiKP 08 40 29.8 +2.0
HUMO Hull Mountain 107.54 45 *e*PKPdf PKiKP 08 40 27.5 -0.7
HUMO *e*PP PP 08 40 49.9 +1.6
HUMO LR LR
comp=Z,1µm,22.0s,MS5.4
HUMO Hull Mountain 107.54 45 ⇑P PKiKP 08 40 28.7 +0.4
baz=108
WLF Walferdange 107.58 323 *e*Pdiff Pdif 08 36 17.8 -2.6
WLF *e*PP PP 08 40 46.7 -1.9
HINF Hinteralfeld 107.79 321 *e*PKiKP PKiKP 08 40 30.6 +1.9
M02C Callahan 107.95 46 ⇑P PKiKP 08 40 30.7 +1.7
baz=108
YBH Yreka Blue Hor 107.96 46 *e*PKPdf PKiKP 08 40 28.4 -0.6
YBH LR LR
comp=Z,1µm,22.0s,MS5.5
YBH Yreka Blue Hor 107.96 46 ⇓P PKiKP 08 40 28.9 -0.1
baz=108
HAU Haudompre 108.04 321 *e*PKiKP PKiKP 08 40 31.1 +1.9
comp=Z,8.5nm,0.7s
HAU *e*R
comp=Z,696nm,19.8s
HAU Haudompre 108.04 321 *e*PKPdf PKiKP 08 40 31.1 +1.9
HAU LR LR
comp=Z,700nm,19.8s,MS5.2
H05A Madras 108.14 43 ⇑P PKiKP 08 40 29.2 -0.1
baz=108
GIVF Givet 108.21 323 *e*PKiKP PKiKP 08 40 31.5 +2.0
I05A Bend 108.26 43 ⇑P PKiKP 08 40 31.1 +1.5
baz=108
O02C Red Bluff 108.33 48 ⇑P PKiKP 08 40 30.9 +1.1
baz=108
WDC Whiskeytown Da 108.40 47 PFAKE 08 40 40.0 +10
WDC LR LR
comp=Z,2µm,22.0s,MS5.6
WDC Whiskeytown Da 108.40 47 ⇑P PKiKP 08 40 30.6 +0.8
baz=108
L04A Klamath Falls 108.42 45 ⇓P PKiKP 08 40 29.8 -0.1
baz=108
HOPS Hopland 108.43 49 PFAKE 08 40 40.0 +10
HOPS LR LR
comp=Z,996nm,20.0s,MS5.4
J05A Fort Rock 108.55 44 ⇑P PKiKP 08 40 31.1 +0.9
baz=108
BAIF Baives 108.60 324 *e*PKiKP PKiKP 08 40 32.0 +1.8
LPG La Plagne 108.64 318 *e*PKiKP PKiKP 08 40 32.7 +2.4
LPL La Plagne 108.64 318 *e*PKiKP PKiKP 08 40 32.6 +2.3
CABF La Chapelle 108.69 320 *e*PKiKP PKiKP 08 40 32.3 +1.9
comp=Z,24nm,1.2s
HAWA Hanford 108.70 41 *e*PKPdf PKiKP 08 40 29.9 -0.5
MNRC McLaughlin Nat 108.93 49 ⇓P PKiKP 08 40 32.2 +1.3
baz=109
O03C Acorn Hollow, 108.94 48 ⇓P PKiKP 08 40 31.6 +0.8
baz=109
I06A Prineville 109.06 43 ⇓P PKiKP 08 40 32.4 +1.3
baz=109
CVS Carmenet Viney 109.06 49 ⇑P PKiKP 08 40 32.4 +1.3
baz=109
HATC Hat Creek Radi 109.12 47 ⇓P PKiKP 08 40 31.6 +0.4
baz=109
M05C Lookout 109.19 46 ⇓P PKiKP 08 40 31.6 +0.2
baz=109
L05A Lakeview 109.21 45 ⇑P PKiKP 08 40 32.0 +0.6
baz=109
J06A Christmas Vall 109.32 44 ⇑P PKiKP 08 40 31.8 +0.2
baz=109
FRF La Foret Royal 109.34 316 *e*PKiKP PKiKP 08 40 33.7 +2.1
K06A Valley Falls 109.39 44 ⇑P PKiKP 08 40 32.6 +0.9
baz=109
ORIF Oris-en-Rattie 109.41 318 *e*PKiKP PKiKP 08 40 34.0 +2.3
ORIF *e*R
comp=Z,2µm,21.2s
ORV Oroville 109.45 48 ⇑P PKiKP 08 40 32.4 +0.6
baz=109
JRSC Jasper Ridge 109.47 50 ⇑P PKiKP 08 40 33.0 +1.2
baz=109
OHCM Honcut 109.53 48 *e*P PKiKP 08 40 32.2 +0.3
OHCM *e*PP PP 08 41 03.3 +0.5
O04C Chester 109.54 47 ⇑P PKiKP 08 40 33.0 +1.0
baz=110
NEW Newport 109.54 38 *e*P Pdif 08 36 29.7 +0.6
BNLO Ben Lomond (Sa 109.60 51 ⇓P PKiKP 08 40 33.3 +1.2
baz=110
EDM Edmonton 109.61 32 *e*P Pdif 08 36 32.3 +2.9
MOD Modoc 109.63 45 *e*PKPdf PKiKP 08 40 33.0 +0.8
MOD LR LR
comp=Z,713nm,22.0s,MS5.2
MOD Modoc 109.63 45 ⇓P PKiKP 08 40 32.9 +0.8
baz=110
ELFS Eagle Lake Fie 109.72 47 ⇑P PKiKP 08 40 32.2 -0.1
baz=110
O05C Quincy 109.77 47 ⇓P PKiKP 08 40 32.8 +0.4
baz=110
J07A Hines 109.86 44 ⇓P PKiKP 08 40 33.5 +0.9
baz=110
LOR Lormes 109.88 321 *e*PKiKP PKiKP 08 40 35.0 +2.4
comp=Z,15nm,1.0s
LOR *e*R
comp=Z,2µm,20.5s
LOR Lormes 109.88 321 *e*PKPdf PKiKP 08 40 35.0 +2.4
LOR LR LR
comp=Z,2µm,20.5s,MS5.6
SMF Signal de Mont 110.13 320 *e*PKiKP PKiKP 08 40 35.0 +1.9
S04C Ingram Canyon, 110.15 50 ⇑P PKiKP 08 40 34.6 +1.5
baz=110
SSF Saint Saulge 110.18 321 *e*PKiKP PKiKP 08 40 35.0 +1.8
comp=Z,29nm,1.1s
P05C Yuba Gap, Truc 110.19 48 ⇑P PKiKP 08 40 33.8 +0.6
baz=110
ESK Eskdalemuir 110.24 331 PFAKE 08 40 40.0 +6.7
ESK LR LR
comp=Z,2µm,21.0s,MS5.7
VIVF Saint-Julien-l 110.24 318 *e*PKiKP PKiKP 08 40 35.3 +2.0
LAVA Lava Cap Winer 110.25 49 ⇓P PKiKP 08 40 33.9 +0.6
baz=110
SAO San Andreas Ge 110.25 51 PFAKE 08 40 50.0 +17
SAO LR LR
comp=Z,900nm,20.0s,MS5.3
HAST UC Hastings Re 110.27 51 ⇑P PKiKP 08 40 34.2 +0.8
baz=110
L07A Adell 110.28 45 ⇓P PKiKP 08 40 34.3 +0.9
baz=110
N06A Buffalo Meadow 110.32 46 ⇓P PKiKP 08 40 34.4 +0.9
baz=110
AVF Avril sur Loir 110.38 321 *e*PKiKP PKiKP 08 40 35.7 +2.1
O06A Flanigan 110.51 47 ⇓P PKiKP 08 40 33.3 -0.5
baz=110
M07A Soldier Meadow 110.60 45 ⇓P PKiKP 08 40 34.2 +0.2
baz=110
WVOR Wild Horse Val 110.64 44 *e*PKiKP PKiKP 08 40 33.4 -0.7
WVOR MLR MLR
comp=Z,2µm,22.0s,MS5.6
LRV Little Rabbit 110.68 51 *e*PKPdf PKiKP 08 40 34.8 +0.7
BMO Blue Mountains 110.70 42 *e*PKPdf PKiKP 08 40 33.3 -0.9
BMO *e*PP PP 08 40 59.4 -12
BMO LR LR
comp=Z,989nm,22.0s,MS5.3
CMB Columbia Colle 110.72 49 *e*PKiKP PKiKP 08 40 34.9 +0.7
CMB Columbia Colle 110.72 49 *e*Pdif Pdif 08 36 37.4 +3.0
CMB *e*PKPdf PKiKP 08 40 34.9 +0.7
CMB LR LR
comp=Z,774nm,20.0s,MS5.3
CMB Columbia Colle 110.72 49 ⇑P PKiKP 08 40 34.6 +0.4
baz=111
R05C Kirkwood Meado 110.76 48 ⇓P PKiKP 08 40 34.7 +0.4
baz=111
WCN Washoe City 110.82 48 ⇓P PKiKP 08 40 35.4 +1.0
baz=111
BORG Borgarnes 110.86 345 PFAKE 08 40 50.0 +16
BORG LR LR
comp=Z,1µm,20.0s,MS5.4
S05C Merced 110.95 50 ⇑P PKiKP 08 40 35.3 +0.6
baz=111
PAHR Pah Rah Range 110.97 47 *e*P PKiKP 08 40 34.5 -0.2
LASF Ste Croix 111.06 318 *e*PKiKP PKiKP 08 40 37.2 +2.3
BSMT Bassoo Peak 111.14 38 *e*Pdif Pdif 08 36 38.0 +1.8
WALA Waterton Lakes 111.16 36 *e*Pdif Pdif 08 36 42.2 +5.9
WALA *e*PKPdf PKiKP 08 40 35.6 +0.6
S06C San Francisco 111.17 49 ⇓P PKiKP 08 40 36.2 +1.1
baz=111
PKD Parkfield 111.18 51 ⇓P PKiKP 08 40 36.2 +1.2
baz=111
R06C Coleville 111.28 48 ⇓P PKiKP 08 40 37.1 +1.8
baz=111
TCF Toulx Ste Croi 111.30 320 *e*PKiKP PKiKP 08 40 37.4 +2.1
comp=Z,14nm,1.0s
L09A Wilkinson Ranc 111.45 44 ⇑P PKiKP 08 40 36.7 +1.1
baz=111
T06C Millerton Lake 111.53 50 ⇑P PKiKP 08 40 36.4 +0.6
baz=112
M09A Marrel Ranch, 111.81 45 ⇑P PKiKP 08 40 36.7 +0.4
baz=112
CAF Calviac 111.93 319 *e*PKiKP PKiKP 08 40 38.9 +2.4
N09A Rock Creek Ran 111.95 46 ⇑P PKiKP 08 40 36.4 -0.1
baz=112
MSO Missoula 112.09 39 *e*PKPdf PKiKP 08 40 36.4 -0.4
MSO *e*PP PP 08 41 20.6 -0.6
MSO LR LR
comp=Z,512nm,21.0s,MS5.1
NVAR Mina Array Bea 112.17 48 Pdiff Pdif 08 36 43.1 +2.3
comp=Z,0.4nm,0.6s,baz=280,slow=3.3,SNR=5.2
NVAR PKiKP PKiKP 08 40 38.6 +1.7
comp=Z,6.9nm,0.8s,baz=224,slow=1.2,SNR=16
NVAR PP PP 08 41 23.6 +1.8
comp=Z,3.9nm,0.8s,baz=274,slow=4.5,SNR=5.0
NVAR PKKPbc PKKPbc 08 51 30.6 +2.7
comp=Z,0.9nm,0.9s,baz=124,slow=5.7,SNR=4.9
MNV Mina 112.28 48 *e*PKiKP PKiKP 08 40 37.5 +0.3
MNV *e* 08 41 20.9
MNV MLR MLR
comp=Z,1µm,22.0s,MS5.4
MTUM Tungsten Hills 112.30 49 *e*PKPdf PKiKP 08 40 38.7 +1.5
Q08A Gabbs 112.31 48 ⇑P PKiKP 08 40 38.0 +0.8
baz=112
BMN Battle Mountai 112.31 46 *e*PKiKP PKiKP 08 40 37.2 0.0
BMN MLR MLR
comp=Z,894nm,21.0s,MS5.3
O09A Fish Creek Ran 112.42 46 ⇓P PKiKP 08 40 37.5 0.0
baz=112
MTLF Montolieu 112.44 317 *e*PKiKP PKiKP 08 40 40.2 +2.7
comp=Z,17nm,1.1s
CHMT Chamberlain Mo 112.48 38 *e*PKPdf PKiKP 08 40 37.6 0.0
MFF Saint Martin d 112.66 321 *e*PKiKP PKiKP 08 40 40.4 +2.5
comp=Z,30nm,1.0s
ISA Isabella 112.87 51 PFAKE 08 40 50.0 +12
ISA LR LR
comp=Z,204nm,20.0s,MS4.7
ISA Isabella 112.87 51 ⇓P PKiKP 08 40 38.7 +0.4
baz=113
M11A Holland Ranch, 112.97 45 ⇓P PKiKP 08 40 40.0 +1.5
baz=113
TPH Tonopah 113.08 48 PFAKE 08 40 50.0 +11
TPH LR LR
comp=Z,880nm,19.0s,MS5.4
HLID Hailey 113.11 42 *e*PKPdf PKiKP 08 40 40.2 +1.5
HLID LR LR
comp=Z,1µm,22.0s,MS5.5
R09A Tonopah 113.14 48 ⇑P PKiKP 08 40 39.8 +1.0
baz=113
S09A Goldfield 113.20 49 ⇑P PKiKP 08 40 40.1 +1.1
baz=113
N11A Elko Archery C 113.23 45 ⇓P PKiKP 08 40 40.3 +1.3
baz=113
DAC Darwin (Calif) 113.37 50 PFAKE 08 40 50.0 +11
DAC LR LR
comp=Z,1µm,20.0s,MS5.5
HRY Holter Researc 113.45 38 *e*PKPdf PKiKP 08 40 39.3 -0.1
HRY *e*PP PP 08 41 31.6 +0.7
O11A Cowboy Ranch, 113.54 46 ⇑P PKiKP 08 40 40.7 +1.1
baz=114
DLMT Dillon 113.56 40 *e*PKPdf PKiKP 08 40 40.9 +1.3
M12A Wells 113.59 44 ⇓P PKiKP 08 40 40.6 +0.9
baz=114
ELK Elko 113.61 45 *e*PKiKP PKiKP 08 40 41.0 +1.3
ELK MLR MLR
comp=Z,919nm,21.0s
MCMT McKenzie Canyo 113.63 40 *e*PKPdf PKiKP 08 40 40.7 +0.9
N12A Clover Valley, 113.72 45 ⇑P PKiKP 08 40 40.7 +0.7
baz=114
ROSF Rostrenen 113.76 324 *e*PKiKP PKiKP 08 40 42.1 +2.1
EPF Esparros 113.82 318 *e*PKiKP PKiKP 08 40 42.3 +2.2
comp=Z,21nm,1.3s
Q11A Duckwater 113.99 47 ⇓P PKiKP 08 40 41.4 +0.9
baz=114
BOZ Bozeman (W) 114.05 39 *e*PKiKP PKiKP 08 40 41.3 +0.7
BOZ *e* 08 41 36.2
BOZ MLR MLR
comp=Z,862nm,21.0s,MS5.3
EGMT Eagleton 114.09 36 *e*PKPdf PKiKP 08 40 40.8 +0.1
EGMT LR LR
comp=Z,195nm,21.0s,MS4.7
M13A Montello 114.14 44 ⇑P PKiKP 08 40 41.8 +1.1
baz=114
O12A Currie 114.14 45 ⇑P PKiKP 08 40 41.6 +0.9
baz=114
TPNV Topopah Spring 114.18 49 *e*PKiKP PKiKP 08 40 41.8 +1.0
TPNV *e* 08 41 34.1
TPNV MLR MLR
comp=Z,917nm,20.0s,MS5.4
GSC Goldstone 114.28 51 ⇑P PKiKP 08 40 42.5 +1.5
baz=114
U10A Ash Meadows, A 114.29 50 ⇑P PKiKP 08 40 43.2 +2.2
baz=114
P12A McGill 114.31 46 ⇓P PKiKP 08 40 43.1 +2.0
baz=114
FFC Flin Flon 114.42 27 *e*PKiKP PKiKP 08 40 40.9 -0.4
FFC *e* 08 41 36.5
FFC MLR MLR
comp=Z,1µm,21.0s,MS5.5
ETSF Etsaut 114.48 318 *e*PKiKP PKiKP 08 40 43.9 +2.5
comp=Z,12nm,0.9s
Q12A Willow Creek R 114.52 47 ⇑P PKiKP 08 40 42.0 +0.6
baz=114
QLMT Earthquake Lak 114.54 40 *e*PKPdf PKiKP 08 40 42.0 +0.5
PMSA Palmer Station 114.76 177 PFAKE 08 40 50.0 +8.1
PMSA LR LR
comp=Z,3µm,20.0s,MS5.8
TUQ Turquoise Mtn. 114.92 51 ⇓P PKiKP 08 40 42.6 +0.4
baz=115
HVU Hansel Valley 114.93 43 *e*PKiKP PKiKP 08 40 43.3 +1.1
PFO Pinyon Flat Ob 115.06 53 *e*PKiKP PKiKP 08 40 44.3 +1.8
PFO MLR MLR
comp=Z,943nm,20.0s,MS5.4
PFO Pinyon Flat Ob 115.06 53 ⇑P PKiKP 08 40 44.0 +1.5
baz=115
YFT Old Faithful 115.08 40 *e*PKPdf PKiKP 08 40 45.0 +2.4
YFT *e*PP PP 08 41 45.7 +3.2
BGU Big Grassy Mou 115.10 44 *e*PKPdf PKiKP 08 40 43.2 +0.7
V11A Goodsprings 115.17 50 ⇑P PKiKP 08 40 43.8 +1.1
baz=115
GCMT Greycliff 115.21 38 *e*PKPdf PKiKP 08 40 43.4 +0.6
RRI2 Red Ridge 115.25 41 *e*PKPdf PKPdf 08 40 43.9 +1.1
IMW Indian Meadow 115.26 40 *e*PKPdf PKPdf 08 40 43.5 +0.6
LKWY Lake 115.31 40 *e*PKiKP PKPdf 08 40 43.2 +0.2
LKWY *e* 08 41 45.9
LKWY MLR MLR
comp=Z,1µm,22.0s,MS5.5
FLWY Flagg Ranch 115.34 40 *e*PKPdf PKPdf 08 40 42.6 -0.4
SPUT South Promonto 115.35 44 *e*PKPdf PKPdf 08 40 43.5 +0.5
EMOS Mosqueruela 115.44 315 PKP PKPdf 08 40 44.5 +1.3
TPAW Teton Pass 115.44 41 *e*PKPdf PKPdf 08 40 44.8 +1.6
MOOW Moose Ponds 115.46 41 *e*PKPdf PKPdf 08 40 43.9 +0.6
DUG Dugway 115.53 45 *e*PKiKP PKPdf 08 40 44.7 +1.3
DUG MLR MLR
comp=Z,435nm,20.0s,MS5.1
REDW Red Top Meadow 115.56 41 *e*PKPdf PKPdf 08 40 44.2 +0.8
SNOW Snow King Moun 115.58 41 *e*PKPdf PKPdf 08 40 44.8 +1.3
SNOW *e*PP PP 08 41 48.2 +2.3
U12A Valley of Fire 115.65 49 ⇓P PKPdf 08 40 45.5 +1.8
baz=116
V12A Nelson 115.65 50 ⇑P PKPdf 08 40 45.5 +1.8
baz=116
AHID Auburn Hatcher 115.65 42 *e*PKPdf PKPdf 08 40 43.7 0.0
AHID LR LR
comp=Z,782nm,22.0s,MS5.3
W12A Cal Nev Ari 115.78 51 ⇓P PKPdf 08 40 46.1 +2.2
baz=116
HWUT Hardware Ranch 115.83 43 *e*PKPdf PKPdf 08 40 44.2 +0.3
HWUT *e*PP PP 08 41 49.1 +1.4
HWUT LR LR
comp=Z,2µm,22.0s,MS5.6
NOQ North Oquirrh 115.84 44 *e*PKPdf PKPdf 08 40 45.5 +1.5
NOQ *e*PP PP 08 41 48.7 +0.9
ARUT Antelope Range 115.99 48 *e*PKiKP PKPdf 08 40 44.3 0.0
CTU Camp Tracy 116.08 44 *e*PKPdf PKPdf 08 40 45.4 +1.0
ECHE Chera 116.09 315 PKiKP PKPdf 08 40 47.6 +3.1
CCUT Cedar City 116.14 48 *e*PKPdf PKPdf 08 40 44.8 +0.2
TCUT Toone Canyon 116.14 43 *e*PKPdf PKPdf 08 40 45.1 +0.5
NLU North Lily Min 116.15 45 *e*PKPdf PKPdf 08 40 45.3 +0.7
ELAN Lanestosa 116.24 319 PKP PKPdf 08 40 45.6 +0.9
MPU Maple Canyon 116.44 45 *e*PKPdf PKPdf 08 40 45.5 +0.3
MPU LR LR
comp=Z,2µm,22.0s,MS5.7
GLA Glamis 116.53 53 ⇓P PKPdf 08 40 46.3 +1.0
baz=116
DAU Daniels Canyon 116.54 44 *e*PKiKP PKPdf 08 40 45.6 +0.3
DAU *e* 08 41 54.8
Y12C Blythe 116.55 52 ⇑P PKPdf 08 40 47.2 +1.8
baz=116
W13A Hualapai Mount 116.60 50 ⇓P PKPdf 08 40 47.5 +2.0
baz=116
MVU Marysvale 116.62 46 PFAKE 08 41 00.0 +15
MVU LR LR
comp=Z,1µm,21.0s,MS5.4
MSU Marysvale 116.64 46 *e*PKiKP PKPdf 08 40 46.8 +1.3
BW06 Boulder Array 116.67 41 PFAKE 08 41 00.0 +14
BW06 LR LR
comp=Z,1µm,22.0s,MS5.5
PDAR Pinedale Array 116.67 41 PKP PKPdf 08 40 45.9 +0.3
comp=Z,6.1nm,1.0s,baz=297,slow=0.3,SNR=25
PDAR PKKPab PKKPab 08 51 17.2 +0.3
comp=Z,3.1nm,0.9s,baz=109,slow=5.4,SNR=13
LAO LASA Array 116.84 36 *e*PKPdf PKPdf 08 40 46.7 +0.8
LAO LR LR
comp=Z,826nm,22.0s,MS5.3
TMUT Trail Mountain 117.03 45 *e*PKPdf PKPdf 08 40 47.9 +1.6
W14A Seligman 117.18 50 ⇑P PKPdf 08 40 48.6 +2.0
baz=117
EVIA Vianos 117.56 314 PKiKP PKPdf 08 40 49.4 +2.1
SRU San Rafael 117.59 45 *e*PKiKP PKPdf 08 40 47.3 -0.1
X14A Yava 117.59 51 ⇓P PKPdf 08 40 49.5 +2.2
baz=118
Y14A Wickenburg 117.68 51 ⇓P PKPdf 08 40 49.2 +1.6
baz=118
W15A Williams 117.82 50 ⇓P PKPdf 08 40 50.5 +2.7
baz=118
GUD Guadarrama 117.87 317 PKiKP PKPdf 08 40 48.8 +0.9
Z14A Wintersburg 117.92 52 ⇑P PKPdf 08 40 50.0 +2.0
baz=118
ENIJ Nijar 118.01 312 PKiKP PKPdf 08 40 52.0 +3.8
X15A Humboldt 118.09 51 ⇓P PKPdf 08 40 49.6 +1.3
baz=118
ESDC Sonseca Array 118.16 316 PKP PKPdf 08 40 48.2 -0.2
comp=Z,4.1nm,0.9s,baz=18,slow=3.7,SNR=17
ESDC PP PP 08 42 02.7 -1.3
comp=Z,1.7nm,0.8s,baz=56,slow=5.9,SNR=5.5
ESDC PKKPab PKKPab 08 51 13.3 +3.0
comp=Z,0.3nm,0.4s,baz=239,slow=3.6,SNR=6.9
ESDC Sonseca Array 118.16 316 PKP PKPdf 08 40 49.0 +0.5
ESLA Sonseca Array 118.16 316 PFAKE 08 41 00.0 +12
ESLA LR LR
comp=Z,8µm,22.0s,MS6.3
WUAZ Wupatki 118.37 49 *e*PKPdf PKPdf 08 40 50.7 +1.9
WUAZ LR LR
comp=Z,195nm,21.0s,MS4.7
EBER Berja 118.54 313 PKP PKPdf 08 40 51.0 +1.8
115A Sonoran Desert 118.71 52 ⇑P PKPdf 08 40 50.6 +1.1
baz=119
RWWY Rawlins 118.71 41 *e*PKPdf PKPdf 08 40 50.1 +0.6
PV10 Paradox Valley 118.95 45 *e*PKPdf PKPdf 08 40 51.2 +1.2
ECAL Calabor 119.00 319 PKP PKPdf 08 40 54.2 +4.1
PBRG Braganca 119.07 319 *e*PKPdf PKPdf 08 40 50.1 -0.1
ERON Agron 119.16 313 PKP PKPdf 08 40 53.1 +2.7
EADA Adamuz 119.24 315 PKP PKPdf 08 40 53.0 +2.5
ELUQ Luque 119.27 314 PKiKP PKPdf 08 40 53.6 +3.0
ELOJ Sierra Loja 119.36 313 PKiKP PKPdf 08 40 53.8 +3.0
PV01 Paradox Valley 119.39 45 *e*PKPdf PKPdf 08 40 52.0 +1.2
EPLA Plasencia 119.45 317 PKiKP PKPdf 08 40 52.2 +1.3
RSSD Black Hills 119.50 38 *e*PKiKP PKPdf 08 40 50.9 -0.1
RSSD MLR MLR
comp=Z,998nm,22.0s,MS5.4
MVCO Mesa Verde 119.83 46 *e*PKPdf PKPdf 08 40 53.2 +1.5
PCAB Cabril 119.95 320 *e*PKPdf PKPdf 08 40 54.3 +2.4
PVRL Vila Real 119.96 319 *e*PKPdf PKPdf 08 40 52.3 +0.4
TUC Tucson 119.99 52 PKPdf PKPdf 08 40 53.6 +1.6
TUC Tucson 119.99 52 *e*PKPdf PKPdf 08 40 52.9 +0.9
TUC LR LR
comp=Z,688nm,19.0s,MS5.3
PHWY Pilot Hill 120.05 41 *e*PKPdf PKPdf 08 40 52.5 +0.4
ULM Lac du Bonnet 120.17 28 PKP PKPdf 08 40 51.4 -1.0
comp=Z,34nm,0.9s,baz=304,slow=2.9,SNR=26
ULM PKKPbc PKKPbc 08 50 59.4 -0.4
comp=Z,2.3nm,0.8s,baz=75,slow=2.2,SNR=3.9
ULM Lac du Bonnet 120.17 28 *e*PKPdf PKPdf 08 40 51.1 -1.2
ULM LR LR
comp=Z,1µm,22.0s,MS5.5
MTE Manteigas 120.28 318 *e*PKPdf PKPdf 08 40 53.4 +0.9
MTE Manteigas 120.28 318 *e*PP PP 08 42 19.5 +1.0
MTE Manteigas 120.28 318 *e*SS SS 08 58 45.9 +2.7
MTE Manteigas 120.28 318 *e*LR LR 09 21 37.2

comp=Z,1μm,25.8s
MTE Manteigas 120.28 318 *e*PKPdf PKPdf 08 40 52.0 -0.5
PCBR Castelo Branco 120.50 317 *e*PKPdf PKPdf 08 40 53.5 +0.5
EJIF Jimena Fronter 120.61 313 PKIKP PKPdf 08 40 53.8 +0.6
ISCO Idaho Springs 120.68 42 *e*PKIKP PKPdf 08 40 54.3 +1.0
ISCO MLR MLR
comp=Z,2μm,20.0s,MS5.6
EBAD Badajoz 120.69 316 PKP PKPdf 08 40 52.3 -1.0
ESPR Espera 120.72 314 PKP PKPdf 08 40 54.0 +0.6
TOAO Torodi Ar. Sit 120.83 285 *e*PKPdf PKPdf 08 40 53.5 -0.1
TORD Torodi Ar. Bea 120.83 285 PKP PKPdf 08 40 53.6 +0.1
comp=Z,18nm,0.8s,baz=85,slow=1.4,SNR=52
TORD SKP 08 44 25.4
comp=Z,8.2nm,1.0s,baz=51,slow=1.6,SNR=5.6
TORD PKKPab PKKPab 08 51 01.5 +2.8
comp=Z,9.2nm,1.1s,baz=261,slow=2.3,SNR=17
TORD Torodi Ar. Bea 120.83 285 PKP PKPdf 08 40 53.6 +0.1
TORD SKP 08 44 25.4
TORD PKKPab PKKPab 08 51 01.5 +2.8
EMIN Mina Concepcio 120.90 315 PKP PKPdf 08 40 54.1 +0.4
PESTR Estremoz 121.04 316 *e*PKPdf PKPdf 08 40 54.3 +0.3
PTOM Tomar 121.24 318 *e*PKPdf PKPdf 08 40 55.5 +1.1
PBEJ Beja 121.62 316 *e*PKPdf PKPdf 08 40 55.9 +0.8
MOE Montemor 121.72 316 *e*- 08 41 08.5
SDCO Great Sand Dun 121.73 45 PFAKE 08 41 10.0 +15
SDCO LR LR
comp=Z,1μm,20.0s,MS5.6
LAZ Ladron 122.01 49 *e*PKPdf PKPdf 08 40 56.9 +1.1
LENM Lemitar 122.23 49 *e*PKPdf PKPdf 08 40 56.9 +0.6
ANMO Albuquerque 122.28 48 *e*PKPdf PKPdf 08 40 58.1 +1.7
ANMO Albuquerque 122.28 48 *c i*PKIKP PKPdf 08 40 56.3 -0.1
ANMO Albuquerque 122.28 48 *e*PKPdf PKPdf 08 40 58.2 +1.8
ANMO LR LR
comp=Z,618nm,21.0s,MS5.2
Y22C IRIS PASSCAL I 122.31 49 ⇑P PKPdf 08 40 58.3 +1.9
baz=122
LPM Los Pinos Moun 122.43 49 *e*PKPdf PKPdf 08 40 55.6 -1.0
BNM Barren Site 122.50 49 *e*PKPdf PKPdf 08 40 58.5 +1.7
RPN Rapa Nui 122.51 123 PFAKE 08 41 10.0 +13
RPN LR LR
comp=Z,2μm,22.0s,MS5.6
HOPE Hope Point 123.02 194 PFAKE 08 41 10.0 +12
HOPE LR LR
comp=Z,3μm,21.0s,MS5.9
EYMN Ely 123.84 28 *e*PKPdf PKPdf 08 40 59.1 -0.3
EYMN LR LR
comp=Z,1μm,22.0s,MS5.5
SCHQ Schefferville 125.10 7 PKP PKPdf 08 41 01.5 -0.3
comp=Z,39nm,0.9s,baz=7.7,slow=1.6,SNR=23
SCHQ Schefferville 125.10 7 *e*PKPdf PKPdf 08 41 01.1 -0.7
SCHQ LR LR
comp=Z,968nm,20.0s,MS5.5
AMTX Amarillo 125.80 46 *e*PKPdf PKPdf 08 41 04.2 +1.1
AMTX LR LR
comp=Z,724nm,22.0s,MS5.3
SCIA State Center 127.17 34 *e*PKPdf PKPdf 08 41 06.1 +0.3
WMOK Wichita Mounta 127.93 44 *e*PKIKP PKPdf 08 41 07.9 +0.7
WMOK MLR MLR
comp=Z,490nm,19.0s,MS5.2
DBIC Dimbokro 127.95 278 PKP PKPdf 08 41 07.6 +0.4
comp=Z,12nm,0.7s,baz=56,slow=2.1,SNR=20
DBIC Dimbokro 127.95 278 *e*PKPdf PKPdf 08 41 07.5 +0.2
DBIC LR LR
comp=Z,2μm,20.0s,MS5.8
JFWS Jewell Farm 128.07 31 *e*PKIKP PKPdf 08 41 07.3 -0.2
JFWS MLR MLR
comp=Z,1μm,21.0s,MS5.5
LIC Lamto 128.15 278 *e*PKIKP PKPdf 08 41 07.8 +0.2
comp=Z,33nm,0.8s
LIC *e*R
comp=Z,3μm,22.2s
LIC Lamto 128.15 278 *e*PKPdf PKPdf 08 41 07.8 +0.2
LIC LR LR
comp=Z,2μm,22.3s,MS5.7
JCT Junction City 129.30 50 *e*PKIKP PKPdf 08 41 08.6 -1.2
JCT MLR MLR
comp=Z,509nm,19.0s,MS5.2
CCM Cathedral Cave 130.85 36 *e*PKIKP PKPdf 08 41 12.7 0.0
CCM MLR MLR
comp=Z,599nm,20.0s,MS5.3
FVM French Village 131.38 36 *e*PKIKP PKPdf 08 41 14.5 +0.8
MIAR Mount Ida 131.59 42 *e*PKIKP PKPdf 08 41 15.1 +1.0
MIAR MLR MLR
comp=Z,785nm,22.0s,MS5.4
AAM Ann Arbor 131.73 27 *e*PKIKP PKPdf 08 41 14.3 -0.1
AAM MLR MLR
comp=Z,613nm,20.0s,MS5.3
KVTX Kingsville 132.14 52 *e*PKPdf PKPdf 08 41 14.9 -0.2
UALR University of 132.26 40 *e*PKPdf PKPdf 08 41 15.9 +0.5
NATX Nacogdoches 132.44 45 *e*PKPdf PKPdf 08 41 14.4 -1.4
NATX LR LR
comp=Z,765nm,21.0s,MS5.4
HKT Hockley 132.55 48 *e*PKIKP PKPdf 08 41 15.7 -0.3
HKT MLR MLR
comp=Z,977nm,20.0s,MS5.5
PARMO Parma 132.66 37 *e*PKPdf PKPdf 08 41 16.5 +0.4
BLO Bloomington 132.72 32 *e*PKIKP PKPdf 08 41 16.2 -0.1
USIN University of 132.97 34 *e*PKPdf PKPdf 08 41 17.5 +0.8
LONY Lake Ozonia 133.18 18 *e*PKPdf PKPdf 08 41 17.4 +0.3
GLAT Glass 133.21 37 *e*PKPdf PKPdf 08 41 18.1 +0.9
FRNY Flat Rock 133.27 17 *e*PKPdf PKPdf 08 41 17.4 0.0
UTMT University of 133.41 36 *e*PKPdf PKPdf 08 41 18.4 +0.8
ERPA Erie 133.45 24 *e*PKPdf PKPdf 08 41 17.6 -0.1
ERPA LR LR
comp=Z,859nm,22.0s,MS5.4
WCI Wyandotte Cave 133.53 32 *e*PKIKP PKPdf 08 41 18.6 +0.8
WCI MLR MLR
comp=Z,947nm,21.0s,MS5.5
ACSO Alum Creek Sta 133.68 28 *e*PKPdf PKPdf 08 41 18.2 +0.1
ACSO LR LR
comp=Z,408nm,22.0s,MS5.1
ALLY Alegheny Colle 133.78 24 *e*PKPdf PKPdf 08 41 17.8 -0.5
NCB Newcomb 133.87 18 *e*PKPdf PKPdf 08 41 19.1 +0.6
NCB LR LR
comp=Z,947nm,22.0s,MS5.5
MIV Mineville/With 133.98 17 *e*PKPdf PKPdf 08 41 18.4 -0.2
WVT Waverly 134.16 36 *e*PKIKP PKPdf 08 41 19.2 +0.2
WVT MLR MLR
comp=Z,1μm,22.0s,MS5.6
LBNH Lisbon 134.28 15 PFAKE 08 41 30.0 +11
LBNH LR LR
comp=Z,1μm,22.0s,MS5.6
OXF Oxford 134.30 39 *e*PKIKP PKPdf 08 41 19.7 +0.5
OXF MLR MLR
comp=Z,1μm,22.0s,MS5.6
ACCN Adirondack Com 134.57 17 *e*PKPdf PKPdf 08 41 20.3 +0.6
HNH Hanover 134.68 16 *e*PKPdf PKPdf 08 41 19.8 -0.2
PLAL Pickwick Lake 134.80 37 *e*PKPdf PKPdf 08 41 20.1 -0.1
PLAL LR LR
comp=Z,808nm,21.0s,MS5.4
BINY Binghamton 134.89 20 *e*PKPdf PKPdf 08 41 20.4 0.0
BINY LR LR
comp=Z,1μm,22.0s,MS5.6
SSPA Standing Stone 135.54 23 *e*PKPdf PKPdf 08 41 21.8 +0.3
SSPA LR LR
comp=Z,754nm,21.0s,MS5.4
MCWV Mont Chateau 135.56 26 *e*PKPdf PKPdf 08 41 21.8 +0.2
MCWV LR LR
comp=Z,1μm,22.0s,MS5.6
HRV Harvard--Oak R 135.99 16 PFAKE 08 41 30.0 +7.6
HRV LR LR
comp=Z,1μm,22.0s,MS5.6
WES Weston 136.16 16 PFAKE 08 41 30.0 +7.3
WES LR LR
comp=Z,1μm,22.0s,MS5.6
TZTN Tazewell 136.24 32 *e*PKPdf PKPdf 08 41 23.1 +0.2
CPCT Cooper Cave 136.53 34 *e*PKPdf PKPdf 08 41 24.4 +1.0
PAL Palisades 136.66 19 *e*PKIKP PKPdf 08 41 24.0 +0.4
MVL Millersville 136.69 22 *e*PKPdf PKPdf 08 41 23.8 +0.1
LRAL Lakeview Retre 136.78 38 *e*PKPdf PKPdf 08 41 24.5 +0.6
LRAL LR LR
comp=Z,1μm,21.0s,MS5.5
FWV Forest Hill 136.81 28 *e*PKPdf PKPdf 08 41 24.6 +0.7
CPNY Central Park 136.83 19 *e*PKPdf PKPdf 08 41 24.2 +0.3
ASCN Ascension 137.02 258 PFAKE 08 41 40.0 +16
ASCN LR LR
comp=Z,2μm,21.0s,MS5.8
MYNC Murphy 137.03 34 *e*PKIKP PKPdf 08 41 24.7 +0.4
MYNC MLR MLR
comp=Z,817nm,19.0s,MS5.5
ELN Prospectdale 137.12 29 *e*PKPdf PKPdf 08 41 24.8 +0.3
PLCA Paso Flores 137.16 164 PKP PKPdf 08 41 25.2 +0.6
comp=Z,15nm,1.0s,baz=183,slow=4.2,SNR=8.3
PLCA SKP 08 44 56.6
comp=Z,23nm,1.1s,baz=180,slow=4.9,SNR=10.0
PLCA SKPab 08 45 04.8
comp=Z,10nm,0.8s,baz=63,slow=3.4,SNR=8.0
PLCA Paso Flores 137.16 164 PKP PKPdf 08 41 25.2 +0.7
PLCA SKP 08 44 56.6
PLCA SKPab 08 45 04.8
PLCA LR LR
comp=Z,2μm,22.0s,MS5.7
BLA Blacksburg 137.29 28 *e*PKIKP PKPdf 08 41 24.1 -0.7
BLA MLR MLR
comp=Z,80nm,22.0s,MS4.4
CBN Corbin 137.82 25 *e*PKPdf PKPdf 08 41 26.6 +0.8
CBN LR LR
comp=Z,1μm,22.0s,MS5.6
TRQA Tornquist 141.43 173 *e*PKPdf PKPdf 08 41 31.9 -0.4
TRQA LR LR
comp=Z,2μm,19.0s,MS5.8
TEIG Tepich 143.33 56 PKPdf PKPdf 08 41 34.0 -1.8
TEIG Tepich 143.33 56 *e*PKPdf PKPdf 08 41 34.0 -1.7
TEIG LR LR
comp=Z,370nm,20.0s,MS5.2
DWPF Disney 143.63 39 *e*PKPdf PKPdf 08 41 34.8 -1.5
DWPF LR LR
comp=Z,924nm,21.0s,MS5.5
CLCH Cerro Calan 143.95 160 ⇑*i*P PKPdf 08 41 36.0 -0.8
FCH Farellones 144.09 160 ⇑*i*P PKPdf 08 41 36.9 -0.2
MDZ Mendoza 144.97 162 *e*P PKPdf 08 41 39.7 +1.1
MDZ *e* 08 42 25.0
CMCH Combarbala 145.79 158 ⇑*i*P PKPdf 08 41 41.4 +1.4
PAYG Puerto Ayora 146.36 92 *e*PKPbc PKPbc 08 41 45.1 +2.8
PAYG LR LR
comp=Z,1μm,20.0s,MS5.6
TLL Tololo Astrono 146.76 157 ⇑*i*P PKPdf 08 41 44.7 +3.0
BBSR BB Station 147.30 13 *e*PKPbc PKPbc 08 41 46.0 +1.1
BBSR *e*PKPab PKPab 08 41 49.1 +2.3
BBSR LR LR
comp=Z,791nm,22.0s,MS5.5
LCO Las Campanas 147.83 156 ⇑*i*P PKPdf 08 41 48.2 +4.8
CPUP Villa Florida 153.43 179 PKP PKPdf 08 41 53.5 +1.5
comp=Z,10nm,1.1s,baz=112,slow=0.6,SNR=14
CPUP PKPbc PKPbc 08 42 01.2 +1.5
comp=Z,11nm,0.5s,baz=128,slow=1.0,SNR=39
CPUP PKPab PKPab 08 42 14.3 +2.3
comp=Z,18nm,0.9s,baz=72,slow=0.9,SNR=5.8
CPUP Villa Florida 153.43 179 *e*PKPdf PKPdf 08 41 53.2 +1.2
CPUP *e*PKPbc PKPbc 08 42 00.1 +0.3
CPUP *e*PKPab PKPab 08 42 10.9 -1.1
CPUP LR LR
comp=Z,260nm,19.0s,MS5.1
CAM4 Nova Friburgo 153.54 210 *e*P PKPdf 08 41 54.1 +1.8
CAM4 *i* 08 41 59.0
CAM4 *i* 08 42 01.5
CAM4 *i* 08 42 05.0
CAM4 *i* 08 42 15.0
CAM4 *i* 08 42 21.9
CAM4 *i* 08 42 42.2
CAM4 *i* 08 42 51.0
LVC Limon Verde 154.21 153 *e*PKPdf PKPdf 08 41 54.5 +1.3
LVC *e*PKPbc PKPbc 08 42 01.5 +0.1
LVC LR LR
comp=Z,1μm,20.0s,MS5.7
NNA Nana 156.49 122 *e*PKPdf PKPdf 08 41 57.4 +1.1
NNA LR LR
comp=Z,1μm,19.0s,MS5.8
OTAV Otavalo 158.22 90 *e*PKPdf PKPdf 08 42 00.4 +2.0
OTAV LR LR
comp=Z,2μm,22.0s,MS5.8
RCBR Riachuelo 158.37 253 PFAKE 08 42 10.0 +11
RCBR LR LR
comp=Z,3μm,22.0s,MS6.1
LPAZ La Paz 159.93 146 PKP PKPdf 08 42 03.5 +3.0
comp=Z,12nm,1.1s,baz=54,slow=1.3,SNR=34
LPAZ PKPab PKPab 08 42 43.8 +3.8
comp=Z,8.2nm,0.8s,baz=160,slow=5.3,SNR=5.0
LPAZ La Paz 159.93 146 PKIKP PKPdf 08 42 03.5 +3.0
LPAZ pmax pmax
comp=Z,12nm,1.1s
LPAZ pmax pmax
comp=Z,8.0nm,0.8s
LPAZ La Paz 159.93 146 *e*PKPdf PKPdf 08 42 01.3 +0.8
LPAZ LR LR
comp=Z,887nm,21.0s,MS5.6
SJG San Juan 160.07 27 PFAKE 08 42 10.0 +9.4
SJG LR LR
comp=Z,2μm,22.0s
ROSC El Rosal 161.81 76 PKP PKPdf 08 42 04.7 +2.2
comp=Z,16nm,0.9s,baz=103,slow=2.6,SNR=24
ROSC PKPab PKPab 08 42 51.6 +3.4
comp=Z,38nm,0.9s,baz=107,slow=10,SNR=6.6
BDFB Brasilia 161.92 208 PKP PKPdf 08 42 04.4 +1.8
comp=Z,10nm,1.1s,baz=55,slow=2.0,SNR=9.6
BDFB PKPab PKPab 08 42 50.8 +2.1
comp=Z,18nm,1.0s,baz=164,slow=1.0,SNR=9.4
SDV Santo Domingo 163.73 58 *e*PKPdf PKPdf 08 42 05.3 +0.9
SDV LR LR
comp=Z,1μm,20.0s
SAML Samuel 168.68 145 *e*PKPdf PKPdf 08 42 09.3 +1.0
SAML LR LR
comp=Z,2μm,22.0s

IDC ***23*** *08:31:19.7±0.6, 0.50S×123.53E, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.3/22, mbtmp4.4/14, ML3.7/1, Error ellipse: s-maj=24.2km s-min=12.8km az=68.0*
ISCJB ***23*** *08:31:23.1±0.4, 0.46S±0.06×123.52E±0.08, h33km, mb4.7/24, Error ellipse: s-maj=13.8km s-min=6.1km az=110.7*
BJI ***23*** *08:31:23.4, 0.65S×123.04E, h24km, mb4.9*
NEIC ***23*** *08:31:24.7±2.9, 0.49S×123.54E, h31km±21km, mb5.1/10, Error ellipse: s-maj=14.3km s-min=5.3km az=58.0*
ISC 23 08:31:25.4±1.6, 0.48S±0.07°×123.56E±0.09, h35km±16km, n41, σ0.9s74/36, mb4.7/24, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**9.78**	**312**	*e*Pn	**Pn**	**08 33 44.5**	**+0.9**
KKM				*e*Sn	**Sn**	**08 35 31.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**17.64**	**173**	P	**Pn**	**08 35 26.7**	**-1.6**
	0.2nm,0.3s,baz=348,slow=9.3,SNR=3.5						
WRAB	**Tennant Creek**	**22.04**	**152**	*e*P	**P**	**08 36 17.1**	**+0.3**
	33nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**22.04**	**152**	P	**P**	**08 36 16.6**	**-0.2**
	22nm,0.8s,mb4.6,baz=332,slow=10,SNR=15						
QIZ	**Qiongzhong**	**23.60**	**326**	*e*P	**P**	**08 36 32.6**	**-0.5**
	38nm,1.3s,mb4.7						
PSI	**Prapat**	**24.84**	**278**	P	**P**	**08 36 44.0**	**-0.4**
	6.7nm,0.8s,mb4.2,baz=128,slow=18,SNR=2.7						
PSI	**Prapat**	**24.84**	**278**	P	**P**	**08 36 44.0**	**-0.4**
YHNB	**Yeheng**	**25.09**	**355**	*e*P	**P**	**08 36 47.6**	**+1.0**
PMG	**Port Moresby**	**25.11**	**111**	P	**P**	**08 36 46.6**	**-0.2**
	26nm,0.8s,mb4.8,baz=246,slow=14,SNR=3.9						
AS31	**Alice Springs**	**25.14**	**157**	*e*P	**P**	**08 36 48.5**	**+1.4**
ASAR	**Alice Springs**	**25.14**	**157**	P	**P**	**08 36 47.6**	**+0.5**
	3.6nm,0.5s,mb4.2,baz=339,slow=8.5,SNR=31						
ASAR				PcP	PcP	08 40 19.9	-0.6
	0.9nm,0.5s,baz=337,slow=2.6,SNR=4.7						
CHTO	**Chiang Mai**	**30.85**	**310**	*e*P	**P**	**08 37 39.0**	**+0.8**
	18nm,0.9s,mb4.9						
CBIJ	**Chichi jima**	**32.75**	**32**	P	**P**	**08 37 53.9**	**-0.9**
	58nm,0.5s,mb5.8,baz=270,slow=16,SNR=4.5						
STKA	**Stephens Creek**	**35.58**	**153**	P	**P**	**08 38 19.7**	**+0.3**
	4.1nm,0.8s,mb4.4,baz=20,slow=12,SNR=3.1						
MJAR	**Matsushiro Arr**	**39.26**	**19**	P	**P**	**08 38 50.1**	**-0.4**
	3.2nm,0.8s,mb4.1,baz=190,slow=9.4,SNR=7.3						
GTA	**Gaotai**	**45.26**	**334**	*e*P	**P**	**08 39 40.0**	**+0.6**
GTA				AP	pP	08 39 47.1	-2.7
GTA				XP	sP	08 39 51.0	-3.0
GTA				AMB	AMB		
	comp=Z,17nm,1.4s,mb4.7						
JIRN	**Jiri**	**45.48**	**311**	*e*P	**P**	**08 39 41.3**	**+0.1**
	comp=Z,84nm,1.2s,mb5.4						
GUN	**Gumba**	**45.85**	**311**	*e*P	**P**	**08 39 44.3**	**+0.2**
	comp=Z,51nm,0.7s,mb5.6						
PKI	**Pulchoki**	**46.03**	**310**	*e*P	**P**	**08 39 45.4**	**-0.1**
KKN	**Kakani**	**46.24**	**311**	*e*P	**P**	**08 39 47.7**	**+0.6**
	comp=Z,17nm,0.6s,mb5.2						
DMN	**Daman**	**46.28**	**310**	*e*P	**P**	**08 39 47.6**	**+0.2**
GKN	**Gorkha**	**46.84**	**310**	*e*P	**P**	**08 39 51.8**	**0.0**
	comp=Z,34nm,0.7s,mb5.4						
KOLN	**Koldanda**	**47.52**	**309**	*e*P	**P**	**08 39 57.4**	**+0.3**
	comp=Z,29nm,0.6s,mb5.5						
ASAJ	**Asahikawa**	**47.54**	**19**	P	**P**	**08 39 58.0**	**+0.7**
	comp=Z,8.3nm,0.7s,mb4.9,baz=218,slow=14,SNR=6.9						
SONM	**Songino Array**	**50.38**	**345**	P	**P**	**08 40 18.9**	**-0.2**
	comp=Z,2.9nm,0.7s,mb4.4,baz=156,slow=7.6,SNR=6.7						
MKAR	**Makanchi Array**	**59.31**	**328**	P	**P**	**08 41 24.2**	**+0.6**
	comp=Z,1.6nm,0.5s,mb4.3,baz=122,slow=9.2,SNR=8.8						
MKAR				PcP	PcP	08 42 11.0	-0.4
	comp=Z,2.5nm,0.8s,baz=124,slow=6.0,SNR=3.8						
MKAR	**Makanchi Array**	**59.31**	**328**	P	**P**	**08 41 24.2**	**+0.6**
MKAR				PcP	PcP	08 42 11.0	-0.5
ZAL	**Zalesovo**	**62.98**	**335**	P	**P**	**08 41 48.2**	**-0.2**
	comp=Z,8.6nm,1.1s,mb4.8,baz=313,slow=4.8,SNR=4.2						
KURK	**Kurchatov**	**63.66**	**330**	*e*P	**P**	**08 41 52.2**	**-0.9**
BVAR	**Borovoye Array**	**69.18**	**329**	P	**P**	**08 42 28.5**	**+0.2**
	comp=Z,3.6nm,1.0s,mb4.3,baz=147,slow=8.8,SNR=6.1						
AKTK	**Aktyubinsk**	**75.02**	**323**	P	**P**	**08 43 02.2**	**-1.1**
AKTO	**Aktyubinsk**	**75.02**	**323**	P	**P**	**08 43 02.2**	**-1.1**
	comp=Z,2.6nm,0.7s,mb4.3,baz=112,slow=5.6,SNR=5.2						
MAW	**Mawson**	**78.74**	**200**	*e*P	**P**	**08 43 25.6**	**+1.3**
	comp=Z,6.9nm,1.2s,mb4.5						
VNDA	**Vanda**	**79.70**	**172**	P	**P**	**08 43 27.8**	**-1.6**
	comp=Z,0.9nm,0.8s,mb3.8,baz=302,slow=9.4,SNR=3.7						
VNDA	**Vanda**	**79.70**	**172**	*e*P	**P**	**08 43 28.1**	**-1.3**
	comp=Z,2.1nm,0.9s,mb4.1						
SRU	**San Rafael**	**117.49**	**45**	*e*PKPdf	PKPdf	08 50 12.1	+4.7
SRU				*e*PP	PP	08 51 10.3	-9.1
PV01	**Paradox Valley**	**119.28**	**46**	*e*PKPdf	PKPdf	08 50 13.4	+2.5
TORD	**Torodi Ar. Bea**	**121.07**	**285**	PKP	PKPdf	08 50 16.6	+2.3
	comp=Z,0.5nm,0.6s,baz=94,slow=1.9,SNR=5.6						
CFAA	**Coronel Fontan**	**146.19**	**162**	PKPbc	PKPbc	08 51 01.5	-0.4
	comp=Z,1.1nm,1.3s,baz=214,slow=3.3,SNR=7.7						
CPUP	**Villa Florida**	**153.34**	**178**	PKP	PKPdf	08 51 12.5	+0.4
	comp=Z,2.6nm,1.0s,baz=180,slow=7.4,SNR=3.3						
CPUP				PKPbc	PKPbc	08 51 19.2	-0.5
	comp=Z,1.1nm,0.8s,baz=149,slow=5.9,SNR=2.9						
CPUP	**Villa Florida**	**153.34**	**178**	PKP	PKPdf	08 51 12.5	+0.4
CPUP				PKPbc	PKPbc	08 51 19.2	-0.5

IDC ***23*** *08:45:15.8±0.4, 0.28S×123.17E, h0km, mb4.5/22, mb1 4.6/23, mb1mx4.6/25, mbtmp4.5/23, ML3.9/1, MS4.7/3, Ms1 4.7/3, ms1mx4.0/27, Error ellipse: s-maj=21.9km s-min=10.9km az=65.0*
BJI ***23*** *08:45:15.3, 1.40S×123.51E, h45km, mB5.3, mb4.8, Ms5.1, Msz4.8*
MOS ***23*** *08:45:19.8±1.3, 0.34S×123.11E, h33km, mb5.0/17, Error ellipse: s-maj=13.6km s-min=7.0km az=110.2*
ISCJB ***23*** *08:45:21.6±0.2, 0.49S±0.03×123.31E±0.05, h43km, mb4.8/67, MS4.8/10, Error ellipse: s-maj=7.8km s-min=4.0km az=139.7*
NEIC ***23*** *08:45:22.8±0.2, 0.41S×123.23E, mb5.0/31, Error ellipse: s-maj=10.6km s-min=5.5km az=65.0*
HRVD ***23*** *08:45:22.8±0.4, 0.38S×123.17E, h39km, MW5.2/51, Centroid moment Tensor Solution. LP body waves: s21,c26; Mantle waves: s51,c82; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.98±.05; $M_{\theta\theta}$-0.23±.03; $M_{\phi\phi}$-0.74±.03; $M_{r\theta}$0.24±.02; $M_{\theta\phi}$-0.10±.02; $M_{\phi r}$-0.14±.03; Best double couple: M0.90600×10^{17} NP1: ϕ_s21.00000°, δ43.00000°, λ107.00000°. NP2: ϕ_s179.00000°, δ49.00000°, λ75.00000°. Principal axes: T 1.0400, Plg78.0000°, Azm25.0000°; N -0.2680, Plg12.0000°, Azm189.0000°; P -0.7720, Plg3.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 23 08:45:23.9±0.2, 0.48S±0.03°×123.38E±0.05, h45km, h45±2.3km; pP-P, n175, σ1.1s56/148, mb4.8/68, MS4.8/10, 12C-7D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSM	**Tawau**	**7.26**	**311**	P	**Pn**	**08 47 08.6**	**+1.2**
DAV	**Davao City (W)**	**7.81**	**16**	*e*Pn	**Pn**	**08 47 22.3**	**+7.3**
	876nm,0.8s						
IPIL	**Ipil**	**8.25**	**354**	*e*P	**Pn**	**08 47 21.9**	**+0.9**
PAGZ	**Pagadian**	**8.27**	**0**	*e*P	**Pn**	**08 47 23.4**	**+2.1**
BUKP	**Musuan**	**8.47**	**11**	*e*P	**Pn**	**08 47 27.9**	**+3.9**
CGP	**Cagayan de Oro**	**8.97**	**8**	*e*P	**Pn**	**08 47 37.6**	**+6.8**
KKM	**Kota Kinabalu**	**9.65**	**312**	P	**Pn**	**08 47 43.7**	**+3.6**
KKM	**Kota Kinabalu**	**9.65**	**312**	*e*Pn	**Pn**	**08 47 42.5**	**+2.4**
CUYO	**Cuyo Island**	**11.50**	**348**	*e*P	**Pn**	**08 48 09.3**	**+3.9**
KSM	**Kuching**	**13.21**	**278**	*e*Pn	**Pn**	**08 48 31.2**	**+2.5**
PVCP	**Virac**	**14.01**	**3**	*e*P	**Pn**	**08 48 48.1**	**+8.5**
LUBP	**Lubang**	**14.46**	**348**	*e*P	**Pn**	**08 48 54.0**	**+8.2**
KAKA	**Kakadu**	**15.11**	**144**	*e*P	**Pn**	**08 48 55.3**	**+1.0**
	26nm,0.6s						
BJII	**Banjamegara**	**15.23**	**243**	P	**Pn**	**08 48 58.0**	**+2.1**
	0.0nm,0.0s						
BALP	**Baler**	**16.22**	**354**	*e*P	**Pn**	**08 49 14.8**	**+6.3**
BOLP	**Bolinao**	**17.10**	**349**	*e*P	**Pn**	**08 49 18.8**	**-0.7**
CAUP	**Cauayan**	**17.38**	**355**	*e*P	**Pn**	**08 49 27.4**	**+4.3**
FITZ	**Fitzroy Crossi**	**17.65**	**173**	⇑*i*P	**Pn**	**08 49 26.7**	**+0.3**
	20nm,0.8s						
FITZ	**Fitzroy Crossi**	**17.65**	**173**	P	**Pn**	**08 49 26.8**	**+0.4**
	0.3nm,0.3s,baz=5.9,slow=9.5,SNR=10						
CVP	**Callao Saves**	**18.13**	**355**	⇓*e*P	**Pn**	**08 49 35.0**	**+2.7**
KGM	**Kluang**	**20.21**	**277**	P	**P**	**08 49 56.4**	**+1.5**
MBWA	**Marble Bar**	**20.86**	**190**	*e*P	**P**	**08 50 02.3**	**+0.4**
	43nm,1.0s						
KSI	**Kapahiang**	**21.01**	**261**	P	**P**	**08 50 09.5**	**+6.0**
	182nm,1.0s,mb5.4						
WRAB	**Tennant Creek**	**22.12**	**152**	*d i*P	**P**	**08 50 16.8**	**+1.4**
WRAB	**Tennant Creek**	**22.12**	**152**	*e*P	**P**	**08 50 15.1**	**-0.3**
	57nm,0.6s,mb5.2						
WRA	**Warramunga Arr**	**22.12**	**152**	P	**P**	**08 50 15.0**	**-0.4**
	35nm,0.7s,mb4.9,baz=339,slow=11,SNR=101						
WB2	**Warramunga Arr**	**22.12**	**152**	⇑*i*P	**P**	**08 50 14.5**	**-1.0**
IPM	**Ipoh**	**22.87**	**283**	P	**P**	**08 50 25.3**	**+2.0**
KULM	**Kulim**	**23.41**	**284**	*e*P	**P**	**08 50 28.6**	**-0.3**
QIZ	**Qiongzhong**	**23.51**	**326**	P	**P**	**08 50 31.0**	**+1.2**
QIZ				AMB	AMB		
	comp=Z,23nm,1.5s,mb4.4						
QIZ	**Qiongzhong**	**23.51**	**326**	*e*P	**P**	**08 50 31.6**	**+1.8**
	comp=Z,32nm,0.9s,mb4.8						
QIZ				*e*		08 50 43.9	
SNG	**Songkhla**	**23.95**	**289**	P	**P**	**08 50 30.5**	**-3.3**
	comp=Z,110nm,0.9s,mb5.3						
UBT	**Ubonrachathani**	**23.95**	**311**	P	**P**	**08 50 36.0**	**+2.2**
PSI	**Prapat**	**24.66**	**278**	P	**P**	**08 50 38.2**	**-2.1**
	comp=Z,20nm,1.0s,mb4.6,baz=176,slow=5.4,SNR=6.3						
PSI				LR	LR	09 00 07.7	
	comp=Z,2μm,21.8s,MS4.6,baz=118,slow=36						
YHNB	**Yeheng**	**25.08**	**356**	*e*P	**P**	**08 50 46.1**	**+2.0**
AS31	**Alice Springs**	**25.21**	**157**	*e*P	**P**	**08 50 45.6**	**+0.3**
ASAR	**Alice Springs**	**25.21**	**157**	P	**P**	**08 50 45.7**	**+0.4**
	comp=Z,12nm,0.4s,mb4.7,baz=338,slow=7.5,SNR=125						
ASAR				PcP	PcP	08 54 17.8	-0.1
	comp=Z,3.9nm,0.5s,baz=344,slow=2.3,SNR=6.7						
ASPA	**Alice Springs**	**25.21**	**157**	*e*P	**P**	**08 50 45.6**	**+0.3**
PMG	**Port Moresby**	**25.27**	**111**	P	**P**	**08 50 46.7**	**+0.8**
	comp=Z,33nm,0.8s,mb4.9,baz=303,slow=4.5,SNR=6.1						
PMG	**Port Moresby**	**25.27**	**111**	*e*P	**P**	**08 50 47.4**	**+1.5**
PMG				*e*	pP	08 50 57.3	-0.4
PMG				pmax	pmax		
	comp=Z,35nm,0.8s						
PMG	**Port Moresby**	**25.27**	**111**	*e*P	**P**	**08 50 47.4**	**+1.5**
	comp=Z,35nm,0.8s,mb4.9						
PMG				*e*	pP	08 50 57.3	-0.4
NST	**Nakhon Sawan**	**28.02**	**306**	P	**P**	**08 51 14.2**	**+3.7**
CTA	**Charters Tower**	**29.68**	**132**	*e*P	pP	08 51 36.6

GYA LR LR
comp=Z,420nm,15.0s,MS4.2
KLBR Kellerberrin 31.40 189 *e*P **P 08 51 40.3 -0.2**
comp=Z,48nm,1.8s,mb5.0
SSE Sheshan 31.47 356 *e*P **P 08 51 43.5 +2.4**
SSE AMB AMB
comp=Z,26nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,227nm,4.7s
KMI Kunming 32.35 323 P **P 08 51 52.0 +3.1**
KMI AMB AMB
comp=Z,16nm,1.1s,mb4.8
NJ2 Nanjing 32.64 353 *e*P **P 08 51 51.0 -0.4**
NJ2 AP pP 08 52 00.5 -2.9
NJ2 PP PP 08 53 01.3 -4.4
NJ2 S **S 08 57 05.0 +0.8**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,1μm,3.7s
NJ2 LR LR
comp=N,2μm,26.3s
NJ2 LR LR
comp=E,2μm,17.2s
NJ2 LR LR
comp=Z,7μm,24.5s,MS5.3
NWAO Narrogin (SRO) 32.79 190 P **P 08 51 51.1 -1.6**
comp=Z,3.4nm,0.5s,mb4.5,baz=11,slow=5.2,SNR=3.9
NWAO LR LR 09 06 26.0
comp=Z,1μm,18.4s,MS4.7,baz=189,slow=38
CBIJ Chichi jima 32.85 32 LR LR 09 03 11.8
comp=Z,799nm,18.4s,MS4.5,baz=333,slow=33
STKA Stephens Creek 35.66 153⇑ *i*P **P 08 52 17.6 0.0**
comp=Z,7.2nm,0.6s,mb4.8
STKA Stephens Creek 35.66 153 P **P 08 52 17.7 +0.1**
comp=Z,5.9nm,0.5s,mb4.8,baz=317,slow=9.0,SNR=14
CD2 Chengdu 36.36 331⇓ *i*P **P 08 52 23.5 0.0**
CD2 XP sP 08 52 46.0 +5.0
CD2 PP PP 08 53 49.9 +3.1
CD2 S **S 08 57 57.1 -4.5**
CD2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
CD2 AMB AMB
comp=Z,540nm,9.5s
XAN Xi'an 36.92 340 P **P 08 52 28.3 0.0**
XAN AP pP 08 52 40.9 +0.4
XAN AMB AMB
comp=Z,12nm,1.3s,mb4.6
MAJO Matsushiro 39.33 19 *e*P **P 08 52 47.8 -0.8**
MAJO *e**PP pP 08 52 59.1 -1.7
MAJO pmax pmax
comp=Z,23nm,0.8s,mb5.0
MAJO Matsushiro 39.33 19 *e*P **P 08 52 47.8 -0.8**
comp=Z,23nm,0.8s,mb5.0
MAJO *ep*P pP 08 52 59.1 -1.7
MAT Matsushiro 39.33 19 P **P 08 52 47.6 -1.0**
MAT Matsushiro 39.33 19 *e*P **P 08 52 48.0 -0.6**
MJAR Matsushiro Arr 39.33 19 P **P 08 52 45.8 -2.8**
comp=Z,10.0nm,0.7s,mb4.7,baz=194,slow=8.9,SNR=18
MJAR ScP ScP 08 58 46.6 +5.3
comp=Z,1.2nm,0.7s,baz=214,slow=4.5,SNR=4.1
ARMA Armidale 40.08 141 *e*P **P 08 52 56.9 +2.0**
LZH Lanzhou 40.67 335 *e*P **P 08 53 00.8 +1.1**
LZH XP sP 08 53 22.5 +5.2
LZH PP PP 08 54 39.3 +5.3
LZH *e*S **S 08 59 04.6 -2.0**
LZH AMB AMB
comp=Z,36nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,128nm,6.3s
LZH LR LR
comp=E,1μm,13.9s
LZH LR LR
comp=Z,1μm,17.6s,MS4.9
BJI Beijing 40.86 352 P **P 08 53 02.5 +1.2**
BJI AMB AMB
comp=Z,12nm,1.3s,mb4.4
SNY Shenyang 42.11 0⇑ P **P 08 53 16.9 +5.4**
SNY AMB AMB
comp=Z,12nm,0.5s,mb4.8
TOO Toolangi 42.17 154 *e*P **P 08 53 13.9 +1.9**
comp=Z,3.3nm,0.6s,mb4.1
TOO Toolangi 42.17 154 *e*P **P 08 53 13.9 +1.9**
TOO pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
CNB Canberra Magne 42.27 148⇑ *i*P **P 08 53 15.0 +2.1**
comp=Z,27nm,1.3s,mb4.7
HHC Hu-ho-hao-te 42.52 347 *e*P **P 08 53 17.1 +2.3**
HHC XP sP 08 53 38.5 +6.0
HHC S **S 08 59 31.5 -2.4**
HHC AMB AMB
comp=Z,17nm,0.4s,mb5.1
HHC LR LR
comp=N,585nm,17.1s,MS4.7
HHC LR LR
comp=E,555nm,14.3s,MS4.7
HHC LR LR
comp=Z,436nm,13.5s,MS4.5
GTA Gaotai 45.19 334 *e*P **P 08 53 37.3 +1.1**
GTA XP sP 08 53 59.5 +5.6
GTA SCP ScP 08 59 03.3 -1.4
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.3
MDJ Mudanjiang 45.24 6 P **P 08 53 38.4 +1.7**
MDJ XP sP 08 53 59.9 +5.5
MDJ PCP PcP 08 55 15.1 -1.0
MDJ SCP ScP 08 58 59.9 -5.1
MDJ PCS PcS 08 59 09.8 -0.2
MDJ S **S 09 00 13.5 -0.1**
MDJ AMB AMB
comp=Z,4.0nm,0.6s,mb4.4
MDJ AMB AMB
comp=Z,352nm,8.9s
MDJ LR LR
comp=N,581nm,23.6s,MS4.8
MDJ LR LR
comp=E,945nm,20.6s,MS4.8
MDJ LR LR
comp=Z,913nm,18.8s,MS4.7
MDJ Mudanjiang 45.24 6 *e*P **P 08 53 38.2 +1.6**
comp=Z,16nm,1.0s,mb4.8
JIRN Jiri 45.35 311 *e*P **P 08 53 37.2 -0.4**
comp=Z,85nm,0.7s,mb5.7
PKI Pulchoki 45.90 310 *e*P **P 08 53 41.4 -0.5**
comp=Z,62nm,1.0s,mb5.5
PKI Pulchoki 45.90 310 *e*P **P 08 53 41.4 -0.5**
PKI pmax pmax
comp=Z,62nm,1.0s,mb5.5
KKN Kakani 46.11 311 *e*P **P 08 53 43.4 -0.1**
comp=Z,76nm,0.8s,mb5.7
KKN Kakani 46.11 311 *e*P **P 08 53 43.4 -0.1**
KKN pmax pmax
comp=Z,76nm,0.8s,mb5.7
DMN Daman 46.15 310 *e*P **P 08 53 43.7 -0.1**
comp=Z,127nm,0.9s,mb5.8
GKN Gorkha 46.70 311 *e*P **P 08 53 47.6 -0.6**
comp=Z,136nm,1.0s,mb5.8
KOLN Koldanda 47.38 310 *e*P **P 08 53 53.1 -0.4**
comp=Z,78nm,0.7s,mb5.8
HABR Khabarovsk 49.80 10 P **P 08 54 11.6 -0.5**
HABR S **S 09 01 21.1 +2.8**
KLR Kul'dur 50.04 7 *e*P **P 08 54 10.0 -3.9**
YSS Yuzh-Sakhalins 50.20 17 *e*P **P 08 54 14.0 -1.1**
YSS *e* pP 08 54 28.0 +0.3
YSS Yuzh-Sakhalins 50.20 17 *e*P **P 08 54 15.2 +0.1**
comp=Z,9.3nm,0.6s,mb5.0
YSS *ep*P pP 08 54 28.1 +0.5
SONM Songino Array 50.34 345 P **P 08 54 14.2 -1.9**
comp=Z,3.5nm,0.7s,mb4.5,baz=163,slow=8.6,SNR=14
LGTI Lohaghat 50.77 310 *e*P **P 08 54 21.5 +2.1**
ZAK Zakamensk 53.50 344 *e*P **P 08 54 37.7 -2.0**
ZAK *e* 08 55 49.6
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
WMQ Urumqi 54.40 329 P **P 08 54 47.3 +1.1**
WMQ PP PP 08 56 52.3 +3.7
WMQ AMB AMB
comp=Z,7.0nm,1.3s,mb4.4
WMQ AMB AMB
comp=Z,69nm,4.8s
WMQ LR LR
comp=N,713nm,17.6s,MS4.9
WMQ LR LR
comp=E,535nm,16.5s,MS4.9
WMQ LR LR
comp=Z,717nm,18.1s,MS4.8
TLY Talaya 54.58 345⇑ *i*P **P 08 54 47.9 +0.3**
TLY pmax pmax
comp=Z,6.0nm,1.7s,mb4.3
BOD Bodaibo 58.60 354 *e*P **P 08 55 12.9 -3.2**
BOD pmax pmax
comp=Z,11nm,1.2s,mb4.8
KSH Kashi 58.79 318 *e*P **P 08 55 19.0 +1.6**
KSH *e*PCP PcP 08 56 08.3 +1.6
KSH *e*PP PP 08 57 32.5 +4.8
KSH *e*SCP ScP 08 59 57.9 -5.5
KSH *e*PCS PcS 09 00 09.1 +0.7
KSH *e*S **S 09 03 14.9 -4.5**
KSH *e*SCS ScS 09 04 56.6 -6.9
KSH LR LR
comp=N,2μm,11.0s,MS5.6
KSH LR LR
comp=E,3μm,14.3s,MS5.6
KSH LR LR
comp=Z,734nm,11.6s,MS5.0
MK31 Makanchi Array 59.22 328 P **P 08 55 17.7 -2.7**
MK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
MKAR Makanchi Array 59.22 328 P **P 08 55 18.2 -2.2**
comp=Z,1.6nm,0.3s,mb4.5,baz=124,slow=8.1,SNR=17
MKAR Makanchi Array 59.22 328 P **P 08 55 18.2 -2.2**
AAK Ala-Archa 61.34 321⇑ *e*P **P 08 55 33.2 -1.7**
AAK pmax pmax
comp=Z,7.0nm,1.7s,mb4.5
AAK Ala-Archa 61.34 321 *e*P **P 08 55 34.6 -0.3**
comp=Z,5.9nm,0.8s,mb4.8
YAK Yakutsk 62.53 3 *e*P **P 08 55 41.4 -1.5**
YAK *e* pP 08 55 53.5 -2.3
YAK pmax pmax
comp=Z,20nm,1.1s,mb5.2
YAK pmax pmax
comp=N,8.0nm,1.5s
YAK pmax pmax
comp=E,4.0nm,1.5s
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=Z,34nm,1.2s,mb5.3
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK Yakutsk 62.53 3 *e*P **P 08 55 43.7 +0.8**
comp=E,40nm,0.8s,mb5.6
ZAL Zalesovo 62.90 336 P **P 08 55 41.8 -3.6**
comp=E,1.4nm,0.3s,mb4.5,baz=43,slow=5.2,SNR=2.4
KURK Kurchatov 63.58 330⇑ P **P**
SNR=7.4 **08 55 47.0 -2.9**
KURK Kurchatov 63.58 330⇓ *e*P **P 08 55 47.2 -2.7**
KURK Kurchatov 63.58 330 *e*P **P 08 55 46.7 -3.2**
comp=E,17nm,0.8s,mb5.1
MA2 Magadan 63.60 15 *e*P **P 08 55 50.2 +0.2**
MA2 *e**PP pP 08 56 04.0 +1.1
MA2 pmax pmax
comp=Z,27nm,0.8s,mb5.3
MA2 Magadan 63.60 15 *e*P **P 08 55 50.2 +0.2**
comp=Z,27nm,0.8s,mb5.3
MA2 *ep*P pP 08 56 04.0 +1.0
NVS Novosibirsk 64.19 336 *e*P pP 08 56 03.3 -3.5
CASY Casey 66.29 186 *e*P **P 08 56 05.5 -2.0**
BVAR Borovoye Array 69.09 329 P **P 08 56 21.9 -3.2**
comp=Z,0.7nm,0.4s,mb3.9,baz=146,slow=10,SNR=3.8
BRVK Borovoye 69.16 329 *e*P **P 08 56 27.1 +1.6**
BRVK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BRVK Borovoye 69.16 329 *e*P **P 08 56 27.1 +1.5**
comp=Z,5.7nm,1.0s,mb4.5
CHKZ Chkalovo 69.31 330 *e*P **P 08 56 23.1 -3.4**
CHKZ *e**PP pP 08 56 36.0 -3.6
CHKZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CHKZ Chkalovo 69.31 330 *e*P **P 08 56 23.1 -3.4**
comp=Z,6.1nm,0.9s,mb4.5
CHKZ *ep*P pP 08 56 36.0 -3.5
ZRNK Zerenda 69.77 328 *e*P **P 08 56 26.0 -3.3**
ZRNK *e**PP pP 08 56 39.0 -3.4
ZRNK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ZRNK Zerenda 69.77 328 *e*P **P 08 56 26.0 -3.4**
comp=Z,7.8nm,0.8s,mb4.7
ZRNK *ep*P pP 08 56 39.0 -3.4
TIXI Tiksi 72.10 2 *d i*P **P 08 56 43.1 -0.3**
TIXI pmax pmax
comp=Z,15nm,1.0s,mb4.9
AKTK Aktyubinsk 74.92 323 P **P 08 56 57.2 -2.8**
AKTO Aktyubinsk 74.92 323 P **P 08 56 57.2 -2.8**
comp=Z,3.5nm,0.8s,mb4.4,baz=108,slow=9.7,SNR=3.6
ARU Arti 76.73 329⇑ *i*P **P 08 57 07.6 -2.8**
ARU pmax pmax
comp=Z,24nm,1.1s,mb5.0
MAW Mawson 78.68 200 *e*P **P 08 57 21.3 +0.1**
comp=Z,14nm,1.0s,mb4.9
MAW Mawson 78.68 200 P **P 08 57 21.0 -0.2**
comp=Z,8.8nm,1.0s,mb4.7,baz=59,slow=7.8,SNR=12
MAW Mawson 78.68 200 *e*P **P 08 57 21.3 +0.1**
MAW pmax pmax
comp=Z,14nm,1.0s
VNDA Vanda 79.72 172 P **P 08 57 26.8 -0.1**
comp=Z,4.7nm,0.7s,mb4.5,baz=313,slow=6.6,SNR=22
VNDA Vanda 79.72 172 *e*P **P 08 57 25.5 -1.4**
VNDA pmax pmax
comp=Z,6.0nm,0.8s
VNDA Vanda 79.72 172 *e*P **P 08 57 25.5 -1.4**
comp=Z,5.8nm,0.8s,mb4.6
FALS False Pass 80.78 34 *e*P **P 08 57 30.0 -2.6**
GNI Garni 81.62 311 P **P 08 57 34.2 -2.9**
comp=Z,3.0nm,0.4s,mb4.5,baz=331,slow=19,SNR=2.8
GNI Garni 81.62 311⇑ *e*P **P 08 57 33.2 -3.9**
GNI pmax pmax
comp=Z,3.0nm,0.5s
GOF Gofitskoye 83.51 315 *e*P pP 08 57 55.0 -5.3
KMBO Kilima Mbogo 86.12 269 P **P 08 57 58.3 -1.7**
comp=Z,2.2nm,0.9s,mb4.4,baz=126,slow=14,SNR=5.2
TTA Tatalina 86.14 27 *e*P **P 08 57 59.1 -1.0**
ASF Jabal al Asfar 87.27 302 P **P 08 58 03.4 -2.2**
comp=Z,1.4nm,0.4s,mb4.5,baz=117,slow=3.6,SNR=4.1
SYO Syowa Base 87.32 201⇑ *e*P **P 08 58 05.0 -0.9**
KLMR Klimovskoe 87.42 331 *e*P **P 08 58 03.8 -2.5**
KLMR pmax pmax
comp=Z,10.0nm,1.4s,mb4.8
IMA2 Indian Mountai 87.56 24 *e*P **P 08 58 05.8 -1.3**
OBN Obninsk 88.56 325 *e*P **P 08 58 07.5 -4.3**
OBN pmax pmax
comp=Z,5.0nm,0.4s,mb5.2
QSPA South Pole Qui 89.45 180 *e*P **P 08 58 15.7 -0.3**
comp=Z,9.7nm,1.1s,mb5.0
BRTR Keskin Array B 90.10 310 P **P 08 58 15.3 -3.7**
comp=Z,1.8nm,1.1s,mb4.3,baz=134,slow=5.3,SNR=5.2
BRTR Keskin Array B 90.10 310⇓ *e*P **P 08 58 15.3 -3.7**
AKASG Malin Array Be 93.01 321 P **P 08 58 28.7 -3.8**
comp=Z,0.2nm,0.3s,mb4.0,baz=73,slow=4.6,SNR=2.8
AKASG Malin Array Be 93.01 321 P **P 08 58 28.7 -3.8**
ARCES ARCESS Array B 93.21 340 P **P 08 58 29.6 -3.8**
comp=Z,1.6nm,0.7s,mb4.5,baz=84,slow=3.6,SNR=7.0
FINES FINESS Array B 93.92 331 P **P 08 58 33.3 -3.4**
comp=Z,1.3nm,1.0s,mb4.3,baz=45,slow=3.0,SNR=4.6
FINES FINESS Array B 93.92 331 *i* P **P 08 58 33.9 -2.8**
FINES pmax pmax
comp=Z,1.0nm,1.0s
YKA Yellowknife Ar 104.69 24 PKiKP PKiKP 09 03 37.8 -2.6
comp=Z,0.2nm,0.4s,baz=298,slow=1.8,SNR=7.4
YKA PKKPbc PKKPbc 09 15 05.3 -3.7
comp=Z,0.2nm,0.5s,baz=116,slow=3.7,SNR=4.4
NVAR Mina Array Bea 112.19 48 PKiKP PKiKP 09 03 54.6 +0.2
comp=Z,0.7nm,0.8s,baz=238,slow=1.6,SNR=5.3
HLID Hailey 113.15 42 *e*PKPdf PKiKP 09 03 56.5 +0.3
EGMT Eagleton 114.14 36 *e*PKPdf PKiKP 09 03 57.4 -0.8
REDW Red Top Meadow 115.59 41 *e*PKPdf PKPdf 09 04 01.2 +0.2
SNOW Snow King Moun 115.61 41 *e*PKPdf PKPdf 09 04 01.3 +0.3
MSU Marysvale 116.67 46 *e*PKIKP PKPdf 09 04 03.5 +0.5
PDAR Pinedale Array 116.71 41 PKP PKPdf 09 04 01.5 -1.6
comp=Z,0.5nm,0.5s,baz=50,slow=0.7,SNR=6.5
PDAR PKKPbc PKKPbc 09 14 31.4 +1.6
comp=Z,0.5nm,0.8s,baz=115,slow=6.5,SNR=5.2
LAO LASA Array 116.88 36 *e*PKPdf PKPdf 09 04 02.7 -0.8
SRU San Rafael 117.62 45 *e*PKIKP PKPdf 09 04 04.7 -0.2
PV01 Paradox Valley 119.42 45 *e*PKPdf PKPdf 09 04 08.6 +0.3
RSSD Black Hills 119.55 38 *e*PKIKP PKPdf 09 04 07.2 -1.4
MVCO Mesa Verde 119.86 46 *e*PKPdf PKPdf 09 04 09.5 +0.3
ULM Lac du Bonnet 120.23 28 PKP PKPdf 09 04 07.7 -2.2
comp=Z,1.5nm,0.5s,baz=344,slow=1.6,SNR=5.3
ISCO Idaho Springs 120.72 43 *e*PKIKP PKPdf 09 04 09.7 -1.1
TORD Torodi Ar. Bea 120.90 285 PKP PKPdf 09 04 09.8 -1.4
comp=Z,1.8nm,0.8s,baz=85,slow=1.5,SNR=16
TORD PKKPbc PKKPbc 09 14 16.8 +2.2
comp=Z,0.8nm,0.7s,baz=249,slow=4.4,SNR=4.7
TORD Torodi Ar. Bea 120.90 285 PKP PKPdf 09 04 09.8 -1.4
TORD PKKPbc PKKPbc 09 14 16.8 +2.2
ANMO Albuquerque 122.31 48⇓ *i* PKIKP PKPdf 09 04 14.3 +0.4
ANMO Albuquerque 122.31 48 *e*PKPdf PKPdf 09 04 14.4 +0.6
SCHQ Schefferville 125.18 7 PKP PKPdf 09 04 18.2 -1.1
comp=Z,2.1nm,0.7s,baz=7.5,slow=3.1,SNR=6.8
SCIA State Center 127.22 34 *e*PKPdf PKPdf 09 04 23.0 -0.2
JCT Junction City 129.32 50 *e*PKIKP PKPdf 09 04 27.9 +0.6
MIAR Mount Ida 131.63 42 *e*PKIKP PKPdf 09 04 32.3 +0.6
ACSO Alum Creek Sta 133.73 28 *e*PKPdf PKPdf 09 04 35.1 -0.5
LRAL Lakeview Retre 136.82 38 *e*PKPdf PKPdf 09 04 40.9 -0.5
CFAA Coronel Fontan 146.24 162 PKPbc PKPbc 09 04 59.7 +0.4
baz=216,slow=3.7
CPUP Villa Florida 153.34 179 PKPbc PKPbc 09 05 17.4 +0.4
comp=Z,1.2nm,0.4s,baz=152,slow=1.3,SNR=12
CPUP Villa Florida 153.34 179 *e*PKPbc PKPbc 09 05 17.2 +0.3
LPAZ La Paz 159.84 146 PKP PKPdf 09 05 19.6 +1.8
comp=Z,1.6nm,0.9s,baz=309,slow=2.2,SNR=6.6
BDFB Brasilia 161.86 208 PKPab PKPab 09 06 07.0 +1.1
comp=Z,3.1nm,0.8s,baz=27,slow=2.0,SNR=3.7

MOS ***23*** *08:47:09.0± 1.0, 033S× 123.15E, h33km, mb5.0/4, Error ellipse: s-maj=28.5km s-min=13.7km az=119.9*
ISCJB ***23*** *08:47:11.3± 2.3, 042S× 007× 1232E± 0.1, h54km± 22km, mb4.7/14, MS5.6/1, Error ellipse: s-maj=19.0km s-min=8.8km az=130.8*
NEIC ***23*** *08:47:11.1± 0.3, 038S× 123.30E, mb4.8/7, Error ellipse: s-maj=14.2km s-min=6.9km az=64.0*
BJI ***23*** *08:47:11.3, 071S× 123.12E, h58km, mb5.0*
IDC ***23*** *08:47:12.8± 2.6, 038S× 123.17E, h55km± 21km, mb4.4/9, mb1 4.5/10, mb1mx4.2/19, mbtmp4.6/10, ML3.8/1, Error ellipse: s-maj=28.9km s-min=14.4km az=79.0*
ISC 23 08:47:14.0± 1.7, 045S± 007× 1232E± 01, h63km± 18km, n49, σ 0 92/30, mb4.7/14, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**9.51**	**313**	*e*Pn	**Pn**	**08 49 27.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**17.71**	**172**	P	**Pn**	**08 51 15.8**	**-0.4**
	0.2nm,0.3s,baz=0.0,slow=4.0,SNR=2.9						
MBWA	**Marble Bar**	**20.87**	**189**	*e*P	**P**	**08 51 50.6**	**-0.1**
	23nm,0.9s						
WRAB	**Tennant Creek**	**22.23**	**151**	*e*P	**P**	**08 52 05.4**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,47nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**22.23**	**151**	*e*P	**P**	**08 52 05.4**	**+0.2**
	comp=Z,47nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**22.23**	**151**	P	**P**	**08 52 05.6**	**+0.4**
	comp=Z,16nm,0.6s,mb4.7,baz=330,slow=10,SNR=5.2						
WRA				ScP	ScP	08 59 33.0	+1.6
	comp=Z,3.1nm,1.0s,baz=324,slow=2.5,SNR=7.4						
KULM	**Kulim**	**23.25**	**284**	*e*P	**P**	**08 52 16.5**	**+0.7**
QIZ	**Qiongzhong**	**23.39**	**327**	*e*P	**P**	**08 52 16.5**	**-0.7**
	comp=Z,8.6nm,0.5s,mb4.4						
YHNB	**Yeheng**	**25.03**	**356**	*e*P	**P**	**08 52 33.8**	**+1.7**
ASAR	**Alice Springs**	**25.31**	**157**	P	**P**	**08 52 36.4**	**+1.8**
	comp=Z,6.6nm,0.4s,mb4.5,baz=346,slow=12,SNR=6.2						
ASAR				PcP	PcP	08 56 06.2	+0.1
	comp=Z,4.2nm,0.6s,baz=348,slow=2.2,SNR=5.4						
ASAR				ScP	ScP	08 59 41.6	+1.9
	comp=Z,1.3nm,0.9s,baz=343,slow=2.4,SNR=4.2						
ASAR	**Alice Springs**	**25.31**	**157**	P	**P**	**08 52 36.4**	**+1.8**
ASAR						08 56 06.2	
PMG	**Port Moresby**	**25.44**	**111**	P	**P**	**08 52 35.5**	**-0.2**
	comp=Z,31nm,0.8s,mb4.9,baz=270,slow=3.0,SNR=3.6						
PMG	**Port Moresby**	**25.44**	**111**	*e*P	**P**	**08 52 35.5**	**-0.3**
PMG				pmax	pmax		
	comp=Z,28nm,0.7s						
PMG	**Port Moresby**	**25.44**	**111**	*e*P	**P**	**08 52 35.5**	**-0.3**
	comp=Z,28nm,0.7s,mb4.9						
CHTO	**Chiang Mai**	**30.57**	**310**	*e*P	**P**	**08 53 22.7**	**+1.1**
GYA	**Guiyang**	**31.15**	**330**	P	**P**	**08 53 28.8**	**+2.1**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
CBIJ	**Chichi jima**	**32.91**	**32**	P	**P**	**08 53 41.9**	**-0.2**
	comp=Z,302nm,0.8s,baz=207,slow=2.3,SNR=9.6						
STKA	**Stephens Creek**	**35.77**	**153**	*e*P	**P**	**08 54 06.3**	**-0.5**
STKA				*e*	pP	08 54 18.3	-4.2
MJAR	**Matsushiro Arr**	**39.35**	**19**	P	**P**	**08 54 36.6**	**-0.5**
	comp=Z,6.0nm,0.8s,mb4.4,baz=190,slow=8.7,SNR=4.1						
SONM	**Songino Array**	**50.27**	**345**	P	**P**	**08 56 04.1**	**+0.2**
	comp=Z,4.1nm,0.8s,mb4.5,baz=165,slow=9.5,SNR=3.2						
MKAR	**Makanchi Array**	**59.10**	**328**	P	**P**	**08 57 07.1**	**-0.7**
	comp=Z,3.6nm,0.6s,mb4.6,baz=120,slow=8.6,SNR=3.6						
KURK	**Kurchatov**	**63.47**	**330**	*e*P	**P**	**08 57 35.3**	**-2.0**
KURK				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.1						
KURK	**Kurchatov**	**63.47**	**330**	*e*P	**P**	**08 57 35.3**	**-2.0**
	comp=Z,21nm,1.2s,mb5.1						
MAW	**Mawson**	**78.65**	**200**	P	**P**	**08 59 09.3**	**+0.2**
	comp=Z,9.0nm,1.0s,mb4.7,baz=60,slow=8.9,SNR=4.7						
MAW	**Mawson**	**78.65**	**200**	P	**P**	**08 59 09.3**	**+0.2**
MAW				LR	LR		
	comp=Z,3μm,22.0s						
VNDA	**Vanda**	**79.78**	**172**	P	**P**	**08 59 15.1**	**-0.2**
	comp=Z,2.8nm,0.8s,mb4.2,baz=317,slow=10,SNR=3.1						
VNDA	**Vanda**	**79.78**	**172**	*e*P	**P**	**08 59 14.8**	**-0.5**
VNDA				*e*		08 59 26.1	
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VNDA	**Vanda**	**79.78**	**172**	*e*P	**P**	**08 59 14.8**	**-0.5**
	comp=Z,3.8nm,0.9s,mb4.3						
VNDA				*e*		08 59 26.1	
ASF	**Jabal al Asfar**	**87.11**	**302**	P	**P**	**08 59 52.2**	**-0.7**
	comp=Z,2.0nm,0.6s,mb4.6,baz=276,slow=2.6,SNR=3.3						
QSPA	**South Pole Qui**	**89.49**	**180**	*e*P	**P**	**09 00 03.5**	**-0.7**
	comp=Z,8.9nm,1.1s,mb5.0						
YKA	**Yellowknife Ar**	**104.72**	**24**	PKiKP	PKiKP	09 05 26.6	-1.7
	comp=Z,0.5nm,0.7s,baz=305,slow=1.8,SNR=4.2						
NVAR	**Mina Array Bea**	**112.29**	**48**	PKiKP	PKiKP	09 05 43.9	+1.3
	comp=Z,0.8nm,0.7s,baz=236,slow=1.6,SNR=4.8						
SNOW	**Snow King Moun**	**115.69**	**41**	*e*PKPdf	PKPdf	09 05 49.6	+0.5
MSU	**Marysvale**	**116.77**	**46**	*e*PKIKP	PKPdf	09 05 51.6	+0.5
MSU				*e*		09 06 07.1	
PDAR	**Pinedale Array**	**116.79**	**41**	PKP	PKPdf	09 05 51.2	0.0
	comp=Z,0.7nm,0.6s,baz=164,slow=2.3,SNR=4.5						
SRU	**San Rafael**	**117.71**	**45**	*e*PKIKP	PKPdf	09 05 52.7	-0.2
PV10	**Paradox Valley**	**119.07**	**45**	*e*PKPdf	PKPdf	09 05 56.5	+1.0
RSSD	**Black Hills**	**119.62**	**37**	*e*PKIKP	PKPdf	09 05 55.5	-1.1
MVCO	**Mesa Verde**	**119.95**	**46**	*e*PKPdf	PKPdf	09 05 57.6	+0.4
ULM	**Lac du Bonnet**	**120.28**	**28**	PKP	PKPdf	09 05 55.9	-2.0
	comp=Z,3.5nm,0.8s,baz=273,slow=3.2,SNR=5.3						
TORD	**Torodi Ar. Bea**	**120.73**	**285**	PKP	PKPdf	09 05 58.5	-0.3
	comp=Z,2.5nm,0.7s,baz=63,slow=2.0,SNR=6.8						
TORD	**Torodi Ar. Bea**	**120.73**	**285**	PKP	PKPdf	09 05 58.5	-0.3
ISCO	**Idaho Springs**	**120.80**	**42**	*e*PKIKP	PKPdf	09 05 59.1	+0.2
ANMO	**Albuquerque**	**122.41**	**48**	*e*PKIKP	PKPdf	09 06 02.7	+0.7
SCHQ	**Schefferville**	**125.17**	**7**	PKP	PKPdf	09 06 06.4	-0.8
	comp=Z,4.2nm,0.8s,baz=38,slow=0.5,SNR=5.4						
JCT	**Junction City**	**129.43**	**50**	*e*PKIKP	PKPdf	09 06 15.4	0.0
MIAR	**Mount Ida**	**131.71**	**41**	*e*PKIKP	PKPdf	09 06 20.6	+0.9
CPUP	**Villa Florida**	**153.38**	**179**	PKPbc	PKPbc	09 07 06.0	+1.0
	comp=Z,3.1nm,0.6s,baz=183,slow=4.3,SNR=4.0						
CPUP	**Villa Florida**	**153.38**	**179**	PKPbc	PKPbc	09 07 06.0	+1.0

IDC 23 08:58:51.6± 1.7, 169S× 12489E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=179.3km s-min=24.8km az=63.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.36**	**154**	P	P	09 03 31.5	+1.9
	1.2nm,0.7s,baz=332,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**23.53**	**159**	P	P	09 04 02.6	-0.9
	0.4nm,0.4s,baz=345,slow=11,SNR=16						
MKAR	**Makanchi Array**	**61.03**	**328**	P	P	09 09 07.1	+0.2
	0.2nm,0.4s,baz=122,slow=5.2,SNR=2.9						

CSEM ***23*** *09:03:30.0± 0.4, 3858N× 2852W, h1km± 2km, ML0.8, Error ellipse: s-maj=3.0km s-min=2.4km az=80.0, After PDA*
PDA ***23*** *09:03:30.0± 0.4, 3858N× 2852W, h1km± 2km, MD2.9, ML0.8, Error ellipse: s-maj=3.0km s-min=2.4km az=80.0*
SVSA 23 09:03:30.0± 0.4, 3858N× 2852W, h1km± 2km, MD2.9, ML0.8, Error ellipse: s-maj=3.0km s-min=2.4km az=80.0,

Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICO	**Pico**	**0.11**	**135**	*eP*	Pg	09 03 32.2	+0.2
PICO				*eS*	Sg	09 03 33.9	+0.5
PCND	**Candelaria**	**0.12**	**157**	*eP*	Pg	09 03 32.4	+0.2
PCND				*eS*	Sg	09 03 34.0	+0.3
PCND	18nm,0.1s						
PTEI	**Pico do Teixo**	**0.15**	**122**	*eS*	Sg	09 03 35.4	+0.5
PTEI	11nm,0.2s						
PBOI	**Pico dos Bois**	**0.18**	**141**	*eS*	Sg	09 03 36.3	+0.5
PBOI	12nm,0.1s						
PID	**Ribeirinha**	**0.34**	**113**	*eP*	Pg	09 03 36.3	-0.3
PID				*eS*	Sg	09 03 41.0	0.0

IDC 23 09:06:21.3±1.2, 038S×12355E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.6/16, mbtmp3.5/5, Error ellipse: s-maj=68.2km s-min=20.4km az=71.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.13**	**152**	P	P	09 11 18.3	-0.1
	0.9nm,0.8s,baz=331,slow=9.9,SNR=5.1						
ASAR	**Alice Springs**	**25.24**	**157**	P	P	09 11 49.4	+0.5
	0.5nm,0.5s,baz=344,slow=14,SNR=12						
MJAR	**Matsushiro Arr**	**39.18**	**19**	P	P	09 13 50.9	+0.1
	1.3nm,0.8s,baz=196,slow=8.7,SNR=5.2						
SONM	**Songino Array**	**50.29**	**345**	P	P	09 15 19.7	+0.2
	0.7nm,0.8s,baz=156,slow=7.6,SNR=4.4						
MKAR	**Makanchi Array**	**59.22**	**328**	P	P	09 16 24.4	+0.1
	0.2nm,0.5s,baz=116,slow=6.6,SNR=2.4						

IDC 23 09:34:30.8±1.6, 1812N×14800E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML4.4/1, Error ellipse: s-maj=168.2km s-min=25.4km az=118.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.42**	**214**	Pn	Pn	09 35 54.2	+1.4
	12nm,0.3s,baz=0.0,slow=20,SNR=5.0						
GUMO				Sn	Sn	09 36 57.5	+1.6
	14nm,0.3s,baz=182,slow=23,SNR=4.2						
WRA	**Warramunga Arr**	**40.13**	**200**	P	P	09 42 08.2	-0.1
	0.4nm,0.7s,baz=21,slow=9.3,SNR=6.2						
ASAR	**Alice Springs**	**43.75**	**199**	P	P	09 42 37.9	0.0
	0.5nm,0.9s,baz=15,slow=6.7,SNR=3.2						
YKA	**Yellowknife Ar**	**77.47**	**28**		P	09 46 28.0	0.0
	0.3nm,0.7s,baz=289,slow=5.6,SNR=4.4						

IDC 23 09:42:17.8±2.8, 911S×10814E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.8/4, Error ellipse: s-maj=128.3km s-min=23.9km az=52.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.51**	**116**	P	P	09 48 06.1	+0.2
	0.7nm,0.8s,baz=287,slow=11,SNR=3.7						
STKA	**Stephens Creek**	**38.41**	**131**	P	P	09 49 41.1	+0.3
	1.8nm,0.9s,baz=323,slow=10,SNR=3.6						
SONM	**Songino Array**	**56.71**	**359**	P	P	09 52 04.0	+0.9
	0.6nm,0.5s,baz=163,slow=8.0,SNR=4.1						
MKAR	**Makanchi Array**	**60.24**	**340**	P	P	09 52 27.4	-0.4
	1.9nm,0.7s,baz=148,slow=8.0,SNR=15						

IDC 23 09:46:49.9±4.3, 927S×10753E, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.8/4, ML3.2/1, Error ellipse: s-maj=170.2km s-min=26.1km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.65**	**118**	P	Pn	09 51 20.2	-1.3
	0.1nm,0.3s,baz=293,slow=8.7,SNR=2.8						
WRA	**Warramunga Arr**	**27.98**	**115**	P	P	09 52 42.7	+0.5
	0.8nm,1.0s,baz=286,slow=10,SNR=3.6						
SONM	**Songino Array**	**56.86**	**359**	P	P	09 56 36.6	+0.3
	0.7nm,0.5s,baz=165,slow=7.9,SNR=5.7						
MKAR	**Makanchi Array**	**60.18**	**340**	P	P	09 56 59.4	-0.1
	1.4nm,0.5s,baz=139,slow=8.2,SNR=15						

*GII **23** 09:50:39.7±1.1, 2990N×3614E, h0km±5km, ML2.5/5*
*ISCJB **23** 09:50:43.3±1.0, 2995N±005×3608E±006, h10km, Error ellipse: s-maj=7.7km s-min=6.1km az=59.8*
*HLW **23** 09:50:44.6, 2983N×3630E, h15km, Mb3.1*

ISC 23 09:50:43.4±1.1, 2995N±005×3611E±006, h10km, n17, σ1§70/24, 5C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**0.93**	**275**	Pg	**Pg**	**09 50 58.9**	**-2.5**
HRFI				Sg	**Sg**	**09 51 13.7**	**+0.2**
HRFI	**Mount Harif**	**0.93**	**275**	Pg	**Pg**	**09 50 58.8**	**-2.6**
HRFI				Sg	**Sg**	**09 51 13.7**	**+0.2**
ZFRI	**Zfri**	**1.00**	**307**	Pg	**Pg**	**09 51 00.0**	**-2.7**
PRNI	**Paran**	**1.03**	**293**	Pg	**Pg**	**09 51 01.0**	**-2.3**
PRNI				Sg	**Sg**	**09 51 17.0**	**+0.2**
EIL	**Elat**	**1.04**	**255**	Pg	**Pg**	**09 51 00.6**	**-2.9**
EIL				Sg	**Sg**	**09 51 16.6**	**-0.5**
MBH	**Mount Berech**	**1.05**	**262**	Pg	**Pg**	**09 51 01.1**	**-2.5**
KMTI	**Karmit**	**1.21**	**278**	Sg	**Sg**	**09 51 22.0**	**-0.4**
HBST	**Basata**	**1.40**	**239**	⇑P	**Pn**	**09 51 09.9**	**+0.8**
MZDA	**Masada**	**1.50**	**335**	Pn	**Pn**	**09 51 08.7**	**-1.6**
YTIR	**Yattir**	**1.65**	**329**	Pn	**Pn**	**09 51 10.9**	**-1.5**
YTIR				Sn	**Sn**	**09 51 35.5**	**+2.0**
DSI	**Dead Sea**	**1.73**	**339**	Pn	**Pn**	**09 51 12.3**	**-1.3**
DSI				Sn	**Sn**	**09 51 36.8**	**+1.2**
KZIT	**Kziot**	**1.76**	**303**	Sn	**Sn**	**09 51 37.8**	**+1.5**
HDHB	**Dhahab**	**1.79**	**227⇑**	*eP*	**Pn**	**09 51 14.9**	**+0.6**
HNKL	**Nakhl**	**1.85**	**270**	⇑P	**Pn**	**09 51 17.7**	**+2.5**
HNKL				S	**Sn**	**09 51 41.4**	**+2.9**
HKAT	**Jabal Katrina**	**2.33**	**233**	⇓P	**Pn**	**09 51 22.7**	**+0.8**
AMAG	**Maghara**	**2.60**	**286**	⇑P	**Pn**	**09 51 28.1**	**+2.6**
SUZ		**2.85**	**269**	⇑P	**Pn**	**09 51 31.3**	**+2.4**

IDC 23 09:52:19.2±16.0, 2157S×17518W, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.0/16, mbtmp4.3/5, MS3.9/1, Ms1 3.9/1, ms1mx2.9/29, 1D, Error ellipse: s-maj=310.9km s-min=138.5km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**24.87**	**204**	LR	LR	10 07 29.1	
	comp=Z,251nm,18.3s,baz=165,slow=37						
CTA	**Charters Tower**	**36.01**	**265⇓**	*iP*	P	09 59 23.9	+1.9
	3.6nm,0.4s						
CTA	**Charters Tower**	**36.01**	**265**	P	P	09 59 24.1	+2.1
	4.5nm,0.4s,baz=97,slow=12,SNR=11						
STKA	**Stephens Creek**	**39.72**	**246**	*eP*	P	09 59 51.7	-1.6
	1.2nm,0.4s						
STKA	**Stephens Creek**	**39.72**	**246**	P	P	09 59 51.9	-1.4
	1.8nm,0.6s,baz=86,slow=9.2,SNR=7.1						
ASAR	**Alice Springs**	**46.84**	**257**	P	P	10 00 50.2	-0.6
	1.6nm,0.5s,baz=95,slow=7.4,SNR=33						
ASPA	**Alice Springs**	**46.85**	**257**	*eP*	P	10 00 50.2	-0.7
WB2	**Warramunga Arr**	**47.05**	**262**	*eP*	P	10 00 52.2	-0.3
WRA	**Warramunga Arr**	**47.06**	**262**	P	P	10 00 52.5	-0.1
	1.4nm,0.3s,baz=92,slow=8.3,SNR=195						
FITZ	**Fitzroy Crossi**	**55.49**	**262**	*eP*	P	10 01 57.3	+1.5
	3.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**55.49**	**262**	P	P	10 01 57.2	+1.4
	2.0nm,0.6s,baz=90,slow=7.1,SNR=17						

*MEX **23** 10:03:12.5±0.5, 1712N×9232W, h153km±7km, MD4.6*
*NEIC **23** 10:03:13.5, 1717N×9233W, h145km, mb4.0/6, MD4.5(MEX), After MEX.*
*CASC **23** 10:03:14.2±1.9, 1801N×9231W, h145km, MD4.6, mb4.0(NEIC)*
*IDC **23** 10:03:15.0±1.1, 1772N×9259W, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.7/21, mbtmp3.9/5, ML2.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.7/27, Error ellipse: s-maj=23.1km s-min=15.6km az=176.0*
*ISCJB **23** 10:03:17.3±0.4, 1775N±004×9265W±004, h33km, mb4.0/5, Error ellipse: s-maj=5.5km s-min=4.6km az=58.7*

ISC 23 10:03:19.1±0.4, 1772N±004×9260W±003, h35km, n31, σ1§32/45, mb4.0/5, 3D, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**0.98**	**182**	*i* P	**Pn**	**10 03 33.0**	**-3.3**
SCX				*i* S	**Sn**	**10 03 49.0**	**+0.1**
SCIG		**1.83**	**47**	*i* P	**Pn**	**10 03 47.8**	**-0.2**
SCIG				*i* S	**Sn**	**10 04 16.0**	**+6.1**
CMIG	**Matias Romero**	**2.27**	**254**	Pn	**Pn**	**10 03 52.3**	**-1.7**
	1.8nm,0.3s,baz=76,slow=11,SNR=47						
CMIG				Pg	**Pn**	**10 03 57.3**	**+3.3**
	19nm,0.3s,baz=83,slow=15,SNR=154						
CMIG				Lg		10 04 27.0	
	50nm,0.3s,baz=166,slow=17,SNR=14						
CMIG				LR	LR	10 04 32.4	
	comp=Z,276nm,21.0s,baz=66,slow=34						
CMIG	**Matias Romero**	**2.27**	**254**	*eP*	**Pn**	**10 03 52.5**	**-1.5**
CMIG				*i* S	**Sn**	**10 04 22.7**	**+2.0**
CMIG	**Matias Romero**	**2.27**	**254**	Pn	**Pn**	**10 03 52.3**	**-1.7**
CMIG				*eP*		10 03 52.7	
CMIG				Pg	**Pn**	**10 03 57.3**	**+3.3**
CMIG				*i* S	**Sn**	**10 04 22.7**	**+2.0**
CMIG				Lg		10 04 27.0	
CMIG				LR	LR	10 04 32.4	
TP2	**Tecpan 2**	**3.29**	**152⇓**	*eP*	**Pn**	**10 04 07.8**	**-0.2**
JAT	**Jato**	**3.50**	**165**	*eP*	**Pn**	**10 04 13.0**	**+2.0**
FUG	**Fuego 3**	**3.66**	**152**	*eP*	**Pn**	**10 04 13.4**	**+0.2**
TER	**Terranova**	**3.86**	**151**	*eP*	**Pn**	**10 04 15.4**	**-0.5**
HUIG	**Huatulco**	**3.88**	**241**	*eP*	**Pn**	**10 04 13.9**	**-2.3**
HUIG				*i* S	**Sn**	**10 04 54.4**	**-6.1**
HUIG	**Huatulco**	**3.88**	**241**	*eP*	**Pn**	**10 04 15.0**	**-1.1**
HUIG				*i* S	**Sn**	**10 04 57.4**	**-3.1**
OXX	**Oaxaca**	**3.99**	**261**	*eP*	**Pn**	**10 04 18.5**	**+0.8**
VHO	**Vista Hermosa**	**4.00**	**261**	*i* P	**Pn**	**10 04 15.3**	**-2.5**
VHO				*i* S	**Sn**	**10 05 02.9**	**-0.5**
VHO	**Vista Hermosa**	**4.00**	**261**	*i* P	**Pn**	**10 04 17.4**	**-0.4**
VHO				*i* S	**Sn**	**10 05 02.9**	**-0.5**
IXG	**Ixpaco**	**4.08**	**149⇓**	*eP*	**Pn**	**10 04 18.2**	**-0.8**
IXG				*eS*	**Sn**	**10 05 09.3**	**+3.8**
TPIG	**Tehuac#an**	**4.58**	**279**	*i* P	**Pn**	**10 04 24.7**	**-1.1**
TEIG	**Tepich**	**4.79**	**58**	*i* P	**Pn**	**10 04 28.5**	**-0.2**
TEIG				*i* S	**Sn**	**10 05 21.8**	**-1.2**
TEIG	**Tepich**	**4.79**	**58⇓**	*iP*	**Pn**	**10 04 28.3**	**-0.4**
TEIG				*i* S	**Sn**	**10 05 20.5**	**-2.5**
UTMO	**Huajuapan**	**4.96**	**272**	*i* P	**Pn**	**10 04 31.6**	**+0.5**
UTMO				*i* S	**Sn**	**10 05 26.9**	**-0.3**
JCT	**Junction City**	**14.30**	**334**	*ePn*	**Pn**	**10 06 35.4**	**-3.5**
	6.6nm,0.8s						
JCT				*eSn*	**Sn**	**10 09 10.1**	**-6.2**
MIAR	**Mount Ida**	**16.78**	**357**	*ePn*	**Pn**	**10 07 10.7**	**-0.6**
	7.9nm,1.0s						
UALR	**University of**	**16.99**	**1**	*eP*	**Pn**	**10 07 16.7**	**+2.8**
	8.3nm,0.9s						
WMOK	**Wichita Mounta**	**17.83**	**343**	*eP*	**Pn**	**10 07 16.2**	**-8.1**
	4.7nm,0.8s						
AMTX	**Amarillo**	**18.92**	**336**	*eP*	**Pn**	**10 07 38.2**	**+0.7**
	9.7nm,0.8s						
CCM	**Cathedral Cave**	**20.30**	**3**	*eP*	**P**	**10 07 52.5**	**+0.7**
	5.8nm,0.9s						
SDV	**Santo Domingo**	**23.09**	**110**	P	**P**	**10 08 25.3**	**+3.6**
	3.8nm,0.7s,mb4.0,baz=350,slow=6.1,SNR=3.1						
NVAR	**Mina Array Bea**	**30.48**	**318**	P	**P**	**10 09 30.3**	**+1.7**
	0.8nm,0.7s,mb3.6,baz=142,slow=7.8,SNR=8.1						
SIV	**San Ignacio**	**45.68**	**135**	P	**P**	**10 11 36.1**	**-0.3**
	1.4nm,0.7s,mb4.0,baz=310,slow=8.5,SNR=12						
YKA	**Yellowknife Ar**	**47.39**	**346**	P	**P**	**10 11 49.4**	**+0.3**
	0.6nm,0.6s,mb3.7,baz=148,slow=7.6,SNR=14						
PLCA	**Paso Flores**	**61.66**	**161**	P	**P**	**10 13 36.6**	**+3.3**
	4.1nm,1.0s,mb4.5,baz=323,slow=7.5,SNR=4.0						
WRA	**Warramunga Arr**	**135.63**	**259**	PKP	PKPdf	10 22 40.0	+4.4
	0.4nm,0.6s,baz=96,slow=3.0,SNR=5.4						

IDC 23 10:11:41.8±5.8, 972S×10897E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=204.5km s-min=29.4km az=54.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.19**	**119**	P	Pn	10 15 56.1	+0.5
	0.3nm,0.3s,baz=300,slow=12,SNR=7.2						
WRA	**Warramunga Arr**	**26.51**	**115**	P	P	10 17 21.1	+0.2
	0.7nm,0.6s,baz=286,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**27.55**	**123**	P	P	10 17 30.7	+0.4
	0.6nm,0.9s,baz=294,slow=9.1,SNR=4.3						
SONM	**Songino Array**	**57.35**	**358**	P	P	10 21 31.8	+0.1
	0.4nm,0.6s,baz=170,slow=9.0,SNR=4.6						

CASC 23 10:15:22.2±1.3, 1388N×9157W, h25km±6km, MD3.7, 2C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TP2	**Tecpan 2**	**1.04**	**31⇓**	*eP*	Pn	10 15 41.5	+0.3
TP2				*eS*	Sb	10 15 56.6	+1.9
IXG	**Ixpaco**	**1.12**	**75**	*iP*	Pn	10 15 42.8	+0.5
IXG				*eS*	Sn	10 15 58.4	+1.5
RBDL	**Robledal**	**1.84**	**83⇑**	*eP*	x	10 16 23.0	
RBDL				*eS*	x	10 16 47.5	
RTR	**El Retiro**	**1.87**	**89⇑**	*eP*	x	10 16 23.6	
RTR				*eS*	x	10 16 48.0	
SBLS	**San Blas**	**1.89**	**91**	*eP*	x	10 16 23.4	
SBLS				*eS*	x	10 16 47.9	
SNJE	**San Jose**	**1.91**	**90**	*eP*	x	10 16 23.8	
SNJE				*eS*	x	10 16 48.1	
LFRS	**El Faro**	**2.45**	**96⇓**	*eP*	x	10 16 31.7	
LFRS				*eS*	x	10 17 01.4	
LCBS	**La Ceiba**	**2.53**	**95**	*eP*	x	10 16 32.8	
LCBS				*eS*	x	10 17 03.7	

*IDC **23** 10:31:45.2±3.7, 923S×10737E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, Error ellipse: s-maj=151.7km s-min=20.8km az=50.0*
*NEIC **23** 10:31:46.5±2.0, 931S×10728E, h10km, mb4.8/2, Error ellipse: s-maj=93.3km s-min=11.5km az=46.0*
*ISCJB **23** 10:31:48.1±2.6, 925S±006×1074E±006, h33km, mb4.0/6, Error ellipse: s-maj=123.0km s-min=15.5km az=93.2*

ISC 23 10:31:50.5±2.7, 925S±006×1074E±006, h35km, n7, σ0§52/7, mb4.0/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.75**	**118**	P	**Pn**	**10 36 18.1**	**-0.9**
	0.1nm,0.3s,baz=274,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**28.09**	**115**	P	**P**	**10 37 39.8**	**+1.0**
	0.7nm,0.9s,mb3.3,baz=286,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**29.09**	**123**	P	**P**	**10 37 47.7**	**0.0**
	0.3nm,0.8s,mb3.1,baz=297,slow=7.8,SNR=4.0						
SONM	**Songino Array**	**56.83**	**359**	P	**P**	**10 41 31.5**	**+0.1**
	1.3nm,0.5s,mb4.2,baz=174,slow=8.4,SNR=14						
MKAR	**Makanchi Array**	**60.12**	**340**	P	**P**	**10 41 54.3**	**-0.1**
	1.4nm,0.5s,mb4.3,baz=146,slow=8.2,SNR=21						
CHKZ	**Chkalovo**	**70.00**	**338**	*eP*	**P**	**10 42 58.5**	**0.0**
	7.3nm,0.5s,mb4.9						
ZRNK	**Zerenda**	**70.06**	**336**	*eP*	**P**	**10 42 58.6**	**-0.2**
	3.4nm,0.7s,mb4.4						

*IDC **23** 11:07:18.8±2.3, 944S×10793E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.7/18, mbtmp3.7/7, ML3.5/1, Error ellipse: s-maj=83.7km s-min=19.2km az=54.0*
*NEIC **23** 11:07:20.0±1.4, 947S×10785E, h10km, mb4.3/1, Error ellipse: s-maj=54.5km s-min=12.7km az=52.0*
*ISCJB **23** 11:07:21.5±1.7, 944S±003×1080E±004, h33km, mb3.7/7, Error ellipse: s-maj=63.4km s-min=14.9km az=103.6*

ISC 23 11:07:23.9±1.7, 95S±003×1079E±004, h35km, n8, σ0§56/8, mb3.7/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.23**	**118**	P	**Pn**	**11 11 46.1**	**0.0**
	0.1nm,0.3s,baz=311,slow=9.3,SNR=8.7						
WRA	**Warramunga Arr**	**27.57**	**115**	P	**P**	**11 13 07.7**	**+0.3**
	0.3nm,0.8s,mb3.0,baz=288,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**28.57**	**123**	P	**P**	**11 13 16.1**	**-0.3**
	0.5nm,1.1s,mb3.2,baz=297,slow=9.2,SNR=2.9						
STKA	**Stephens Creek**	**38.35**	**130**	P	**P**	**11 14 41.5**	**+0.2**
	2.6nm,1.1s,mb3.9,baz=358,slow=7.3,SNR=3.3						
MJAR	**Matsushiro Arr**	**53.91**	**30**	P	**P**	**11 16 43.1**	**-0.7**
	1.5nm,0.9s,mb3.9,baz=215,slow=7.5,SNR=4.8						
SONM	**Songino Array**	**57.06**	**359**	P	**P**	**11 17 07.7**	**+1.3**
	0.8nm,0.7s,mb3.9,baz=175,slow=7.8,SNR=6.4						
MKAR	**Makanchi Array**	**60.50**	**340**	P	**P**	**11 17 30.1**	**-0.1**
	0.8nm,0.4s,mb4.1,baz=153,slow=8.3,SNR=14						
CHKZ	**Chkalovo**	**70.39**	**338**	*eP*	**P**	**11 18 33.6**	**-0.6**
	1.9nm,0.7s,mb4.1						

*CSEM **23** 11:10:53.1±1.1, 3845N×2841W, h6km±7km, ML0.4, Error ellipse: s-maj=5.4km s-min=4.2km az=43.0, After PDA*
*PDA **23** 11:10:53.1±1.1, 3845N×2841W, h6km±7km, MD2.7, ML0.4, Error ellipse: s-maj=5.4km s-min=4.2km az=43.0*

SVSA 23 11:10:53.1±1.1, 3845N×2841W, h6km±7km, MD2.7, ML0.4, Error ellipse: s-maj=5.4km s-min=4.2km az=43.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBOI	**Pico dos Bois**	**0.03**	**109**	*eP*	Pg	11 10 53.9	-0.3
PBOI				*eS*	Sg	11 10 55.3	+0.3
PBOI	16nm,0.1s						
PCND	**Candelaria**	**0.05**	**299**	*eP*	Pg	11 10 54.6	+0.1
PCND				*eS*	Sg	11 10 55.7	+0.2
PCND	8.6nm,0.1s						
PICO	**Pico**	**0.06**	**346**	*eP*	Pg	11 10 54.5	-0.1
PICO				*eS*	Sg	11 10 55.6	0.0
PTEI	**Pico do Teixo**	**0.06**	**39**	*eP*	Pg	11 10 55.1	+0.4
PTEI				*eS*	Sg	11 10 55.9	+0.1
PTEI	10.0nm,0.2s						
HOR	**Horta**	**0.19**	**295**	*erx*		11 11 14.9	

HLW 23 11:13:17.8, 3484N×2828E, h48km, Mb3.7, 14C-2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLUM		**4.21**	**218**	⇑P	Pn	11 14 18.5	-1.0
SLUM				S	Sn	11 15 04.3	-3.1
HBRG	**Burj al 'Arab**	**4.45**	**162**	⇑P	Pn	11 14 22.3	-0.5
HMYD	**Mayadein**	**5.46**	**156**	⇑P	Pn	11 14 36.0	-0.6
SQR		**5.53**	**153**	⇑P	Pn	11 14 36.5	-1.0
FYM	**Al Fayyum**	**5.64**	**155**	⇑P	Pn	11 14 38.6	-0.4
KOT	**Kottamia**	**5.74**	**148**	⇑P	Pn	11 14 39.1	-1.3
HHAG	**Hagoal**	**5.84**	**145**	⇑P	Pn	11 14 40.5	-1.3
HSAF	**As Saff**	**5.90**	**151**	⇑P	Pn	11 14 41.4	-1.1
SWA1		**5.97**	**202**	P	Pn	11 14 42.8	-0.8
SWA1				S	Sn	11 15 45.6	-5.1
GLL	**Jalalah**	**6.00**	**150**	⇑P	Pn	11 14 43.0	-0.9
SWA2		**6.07**	**204**	⇑P	Pn	11 14 44.0	-1.0
SUZ		**6.30**	**141**	⇓P	Pn	11 14 46.9	-1.2
ZAF		**6.62**	**146**	⇓P	Pn	11 14 51.2	-1.2
ZNM		**6.70**	**143**	⇑P	Pn	11 14 52.3	-1.2
HRDS	**Abu Rudays**	**7.45**	**144**	⇑P	Pn	11 15 03.0	-0.9
HBST	**Basata**	**7.84**	**134**	⇑P	Pn	11 15 07.3	-1.8
HDHB	**Dhahab**	**8.14**	**137**	⇑P	Pn	11 15 12.1	-1.2

IDC 23 11:35:27.2±2.7, 960S×10816E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/17, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=116.0km s-min=19.9km az=52.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.95**	**118**	P	Pn	11 39 51.8	+1.4
	0.2nm,0.3s,baz=306,slow=11,SNR=6.7						
WRA	**Warramunga Arr**	**27.29**	**115**	P	P	11 41 13.7	+0.4
	1.5nm,0.7s,baz=288,slow=11,SNR=45						
ASAR	**Alice Springs**	**28.29**	**123**	P	P	11 41 22.4	+0.1
	0.9nm,0.6s,baz=297,slow=8.8,SNR=4.2						
STKA	**Stephens Creek**	**38.08**	**131**	P	P	11 42 47.1	-0.5
	2.1nm,0.5s,baz=307,slow=12,SNR=7.9						
SONM	**Songino Array**	**57.20**	**359**	P	P	11 45 16.7	+0.7
	0.6nm,0.5s,baz=177,slow=8.8,SNR=5.8						
MKAR	**Makanchi Array**	**60.70**	**340**	P	P	11 45 40.1	-0.2
	0.3nm,0.4s,baz=142,slow=7.2,SNR=4.6						

MEX 23 11:47:26.1±0.9, 1731N×9924W, h16km±14km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.72**	**329**	*i* P	Pg	11 47 37.3	-2.9
MEIG				*i* S	Sg	11 47 46.2	-3.4
ACX	**Acapulco**	**0.78**	**236**	*eP*	Pb	11 47 38.5	-2.8
ACX				*i* S	Sb	11 47 47.5	-4.2
CAIG	**El Cayaco**	**1.02**	**256**	*i* P	Pb	11 47 42.0	-3.4
CAIG				*i* S	Sb	11 47 54.9	-3.5
PLIG	**Platanillo**	**1.11**	**347**	*i* P	Pb	11 47 44.7	-2.2
PLIG				*i* S	Sb	11 47 58.4	-2.8
IIZ	**Mezontepec**	**1.87**	**360**	*i* P	Pn	11 47 55.3	-2.2
IIZ				*i* S	Sn	11 48 15.0	-5.7
TPIG	**Tehuac#an**	**2.10**	**58**	*i* P	Pn	11 47 57.9	-2.7
TPIG				*i* S	Sn	11 48 21.7	-4.7

*IDC **23** 11:57:25.3±0.9, 920S×10743E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.9/18, mbtmp3.9/8, ML3.4/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/36, Error ellipse: s-maj=34.8km s-min=18.9km az=51.0*
*NEIC **23** 11:57:26.8±0.6, 921S×10744E, h10km, mb4.4/1, Error ellipse: s-maj=25.7km s-min=11.1km az=51.0*
*ISCJB **23** 11:57:28.1±0.8, 925S±002×1075E±002, h33km, mb3.9/8, Error ellipse: s-maj=33.4km s-min=14.0km az=95.8*

ISC 23 11:57:30.5±0.8, 925S±002×1075E±002, h35km, n12, σ0§58/9, mb3.9/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**14.67**	**324**	LR	LR	12 07 39.7	
	comp=Z,144nm,18.6s,baz=308,slow=42						
FITZ	**Fitzroy Crossi**	**19.72**	**119**	P	**Pn**	**12 01 57.4**	**-1.2**
	0.1nm,0.3s,baz=193,slow=4.0,SNR=

*IDC **23** 12:05:57.7±1.9,0.44S×12330E,h52km±15km,mb4.1/12, mb1 4.2/13,mb1mx4.0/20,mbtmp4.3/13,ML3.9/1,MS3.9/1, Ms1 3.9/1,ms1mx2.7/35,Error ellipse: s-maj=25.2km s-min=11.9km az=76.0*

ISC 23 12:05:58.6±1.1,050S×12337E×007,h52km±11km, n69,σ1§09/66,mb4.7/31,5C-4D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSM	**Tawau**	**7.27**	**311**	P	**Pn**	**12 07 42.0**	**-0.2**
KKM	**Kota Kinabalu**	**9.66**	**312**	*e*P	**Pn**	**12 08 15.2**	**+0.3**
KKM				*e*S	**Sn**	**12 10 00.1**	**-1.8**
KSM	**Kuching**	**13.20**	**279**	*e*P	**Pn**	**12 09 05.6**	**+2.3**
KAKA	**Kakadu**	**15.10**	**144**	*e*P	**Pn**	**12 09 28.4**	**-0.2**
	20nm,0.7s						
FITZ	**Fitzroy Crossi**	**17.63**	**173**	*e*P	**Pn**	**12 10 00.3**	**-0.2**
	14nm,1.7s						
FITZ	**Fitzroy Crossi**	**17.63**	**173**	P	**Pn**	**12 10 00.0**	**-0.5**
	0.3nm,0.3s,baz=352,slow=8.8,SNR=13						
FITZ				ScP	ScP	12 18 08.1	+0.3
	0.1nm,0.3s,baz=219,slow=8.7,SNR=6.3						
MBWA	**Marble Bar**	**20.83**	**190**	*e*P	**P**	**12 10 35.1**	**-0.7**
WRAB	**Tennant Creek**	**22.10**	**152**	*d i*P	**P**	**12 10 50.6**	**+1.2**
WRAB	**Tennant Creek**	**22.10**	**152**	*e*P	**P**	**12 10 48.9**	**-0.6**
	89nm,1.0s,mb5.2						
WRA	**Warramunga Arr**	**22.11**	**152**	P	**P**	**12 10 48.6**	**-0.9**
	30nm,0.7s,mb4.8,baz=332,slow=10,SNR=134						
WRA				ScP	ScP	12 18 18.4	+0.3
	3.0nm,0.7s,baz=324,slow=2.6,SNR=35						
WB2	**Warramunga Arr**	**22.11**	**152**	*e*P	**P**	**12 10 48.6**	**-0.9**
WB2				*e*		12 10 51.0	
KULM	**Kulim**	**23.41**	**285**	*e*P	**P**	**12 11 04.2**	**+1.3**
QIZ	**Qiongzhong**	**23.52**	**326**	*e*P	**P**	**12 11 04.8**	**+0.9**
PSI	**Prapat**	**24.65**	**278**	P	**P**	**12 11 14.3**	**0.0**
	8.1nm,0.8s,mb4.3,baz=97,slow=3.4,SNR=4.3						
PSI				LR	LR	12 20 43.0	
	comp=Z,260nm,18.8s,baz=293,slow=36						
YHNB	**Yeheng**	**25.10**	**356**	*e*P	**P**	**12 11 18.8**	**+0.5**
AS31	**Alice Springs**	**25.19**	**157**	*e*P	**P**	**12 11 19.5**	**+0.3**
ASAR	**Alice Springs**	**25.19**	**157**	P	**P**	**12 11 19.6**	**+0.4**
	6.8nm,0.4s,mb4.5,baz=340,slow=8.1,SNR=143						
ASAR				PcP	PcP	12 14 51.7	-0.1
	1.0nm,0.5s,baz=344,slow=2.0,SNR=6.3						
ASAR				ScP	ScP	12 18 27.2	+0.7
	1.5nm,0.8s,baz=340,slow=2.8,SNR=11						
ASAR	**Alice Springs**	**25.19**	**157**	P	**P**	**12 11 19.7**	**+0.5**
ASAR						12 14 51.7	
ASPA	**Alice Springs**	**25.19**	**157**	*e*P	**P**	**12 11 19.5**	**+0.3**
NANT	**Nan**	**29.39**	**312**	P	**P**	**12 11 58.0**	**+1.2**
CHG	**Chiang Mai**	**30.72**	**310**	P	**P**	**12 12 10.5**	**+1.9**
CHTO	**Chiang Mai**	**30.72**	**310**	*e*P	**P**	**12 12 08.7**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
CHTO	**Chiang Mai**	**30.72**	**310**	*e*P	**P**	**12 12 08.7**	**+0.1**
	comp=Z,8.3nm,0.9s,mb4.6						
SSE	**Sheshan**	**31.49**	**356**	*e*P	**P**	**12 12 16.4**	**+1.0**
SSE				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,83nm,4.7s						
NJ2	**Nanjing**	**32.66**	**353**	*e*P	**P**	**12 12 27.0**	**+1.4**
NJ2				AP	pP	12 12 36.4	-2.6
NJ2				XP	sP	12 12 39.9	-5.3
NJ2				PP	PP	12 13 36.1	-4.0
NJ2				S	**S**	**12 17 39.0**	**+1.0**
NJ2				XS	sS	12 17 55.0	-5.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CBIJ	**Chichi jima**	**32.88**	**32**	P	**P**	**12 12 27.4**	**-0.2**
	comp=Z,127nm,0.5s,baz=236,slow=1.8,SNR=14						
STKA	**Stephens Creek**	**35.65**	**153**	*e*P	**P**	**12 12 52.0**	**+0.5**
	comp=Z,4.3nm,1.2s,mb4.2						
STKA	**Stephens Creek**	**35.65**	**153**	P	**P**	**12 12 51.7**	**+0.2**
	comp=Z,2.0nm,0.5s,mb4.3,baz=321,slow=7.3,SNR=9.8						
CD2	**Chengdu**	**36.37**	**331**	P	**P**	**12 12 56.8**	**-0.9**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
MAJO	**Matsushiro**	**39.35**	**19**	*e*P	**P**	**12 13 21.2**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
MAJO	**Matsushiro**	**39.35**	**19**	*e*P	**P**	**12 13 21.2**	**-1.7**
	comp=Z,4.8nm,0.6s,mb4.4						
MAT	**Matsushiro**	**39.35**	**19**	P	**P**	**12 13 21.7**	**-1.1**
MAT	**Matsushiro**	**39.35**	**19**	*e*P	**P**	**12 13 22.0**	**-0.8**
MJAR	**Matsushiro Arr**	**39.35**	**19**	P	**P**	**12 13 21.6**	**-1.2**
	comp=Z,5.9nm,0.8s,mb4.4,baz=194,slow=8.9,SNR=23						
ARMA	**Armidale**	**40.07**	**141**	*e*P	**P**	**12 13 31.2**	**+2.4**
SNY	**Shenyang**	**42.14**	**0**	⇓P	**P**	**12 13 47.8**	**+2.0**
SNY				AMB	AMB		
	comp=Z,21nm,0.5s,mb5.0						
VLA	**Vladivostok**	**44.10**	**9**	*i* P	**P**	**12 14 02.5**	**+0.9**
GTA	**Gaotai**	**45.20**	**334**	*e*P	**P**	**12 14 11.3**	**+0.9**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb4.0						
JIRN	**Jiri**	**45.36**	**311**	*e*P	**P**	**12 14 11.8**	**+0.2**
	comp=Z,23nm,0.7s,mb5.1						
GUN	**Gumba**	**45.72**	**311**	*e*P	**P**	**12 14 14.2**	**-0.3**
	comp=Z,34nm,0.6s,mb5.5						
PKI	**Pulchoki**	**45.90**	**311**	*e*P	**P**	**12 14 15.2**	**-0.7**
	comp=Z,16nm,0.8s,mb5.0						
PKI	**Pulchoki**	**45.90**	**311**	*e*P	**P**	**12 14 15.2**	**-0.7**
PKI				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
KKN	**Kakani**	**46.11**	**311**	*e*P	**P**	**12 14 17.1**	**-0.5**
DMN	**Daman**	**46.15**	**310**	*e*P	**P**	**12 14 17.2**	**-0.7**
	comp=Z,8.7nm,0.4s,mb5.0						
GKN	**Gorkha**	**46.71**	**311**	*e*P	**P**	**12 14 21.1**	**-1.2**
KOLN	**Koldanda**	**47.39**	**310**	*e*P	**P**	**12 14 27.0**	**-0.6**
	comp=Z,23nm,0.8s,mb5.2						
ASAJ	**Asahikawa**	**47.62**	**19**	P	**P**	**12 14 28.3**	**-1.1**
	comp=Z,9.2nm,0.7s,mb4.9,baz=204,slow=10,SNR=12						
YSS	**Yuzh-Sakhalins**	**50.22**	**17**	*c*eP	**P**	**12 14 51.4**	**+2.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
SONM	**Songino Array**	**50.36**	**345**	P	**P**	**12 14 49.2**	**-1.1**
	comp=Z,2.2nm,0.7s,mb4.3,baz=162,slow=8.7,SNR=13						
ZAK	**Zakamensk**	**53.52**	**344**	*e*P	**P**	**12 15 08.6**	**-5.2**
ZAK				pmax	pmax		
	comp=Z,1.0nm,2.1s						
BOD	**Bodaibo**	**58.62**	**354**	*e*P	**P**	**12 15 45.3**	**-5.0**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**59.23**	**328**	P	**P**	**12 15 52.5**	**-2.0**
	comp=Z,1.0nm,0.5s,mb4.1,baz=119,slow=8.3,SNR=11						
MKAR				ScP	ScP	12 20 35.2	-3.4
	comp=Z,0.5nm,0.6s,baz=129,slow=4.9,SNR=4.2						
MKAR	**Makanchi Array**	**59.23**	**328**	*i* P	**P**	**12 15 52.2**	**-2.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**59.23**	**328**	P	**P**	**12 15 52.5**	**-2.0**
MKAR				ScP	ScP	12 20 35.2	-3.4
AAK	**Ala-Archa**	**61.35**	**321**	⇓*e*P	**P**	**12 16 11.8**	**+2.9**
AAK				pmax	pmax		
	comp=Z,8.0nm,2.5s,mb4.4						
YAK	**Yakutsk**	**62.55**	**3**	⇑*i*P	**P**	**12 16 17.0**	**-0.1**
YAK				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.1						
ZAL	**Zalesovo**	**62.92**	**336**	P	**P**	**12 16 19.1**	**-0.3**
	comp=Z,1.3nm,0.3s,mb4.6,baz=345,slow=5.2,SNR=6.1						
KURK	**Kurchatov**	**63.59**	**330**	⇑*e*P	**P**	**12 16 25.2**	**+1.3**
KURK	**Kurchatov**	**63.59**	**330**	*e*P	**P**	**12 16 24.4**	**+0.5**
	comp=Z,9.1nm,0.8s,mb4.9						
MA2	**Magadan**	**63.62**	**15**	*d i*P	**P**	**12 16 24.5**	**+0.4**
MA2				pmax	pmax		
	comp=Z,29nm,1.7s,mb5.0						
BVAR	**Borovoye Array**	**69.10**	**329**	P	**P**	**12 16 57.6**	**-1.5**
	comp=Z,0.7nm,0.8s,mb3.6,baz=128,slow=9.6,SNR=3.9						
VNDA	**Vanda**	**79.70**	**172**	P	**P**	**12 17 59.8**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.7,baz=270,slow=8.1,SNR=3.9						
ARCES	**ARCESS Array B**	**93.22**	**340**	P	**P**	**12 19 04.0**	**-3.3**
	comp=Z,3.8nm,1.0s,mb4.8,baz=77,slow=5.6,SNR=3.9						
KBS	**Kingsbay**	**94.54**	**350**	⇑*i*P	**P**	**12 19 13.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**120.89**	**285**	PKP	PKPdf	12 24 43.9	-1.1
	comp=Z,0.9nm,0.7s,baz=82,slow=1.8,SNR=5.1						
ANMO	**Albuquerque**	**122.34**	**48**	⇑*i*PKIKP	PKPdf	12 24 48.7	+0.9
SCHQ	**Schefferville**	**125.21**	**7**	PKP	PKPdf	12 24 51.3	-2.0
	comp=Z,2.9nm,1.0s,baz=333,slow=4.5,SNR=2.9						
CFAA	**Coronel Fontan**	**146.23**	**162**	PKPbc	PKPbc	12 25 33.8	+0.6
	baz=224,slow=3.9						
CPUP	**Villa Florida**	**153.31**	**179**	PKPbc	PKPbc	12 25 50.6	-0.2
	comp=Z,0.1nm,0.3s,baz=214,slow=2.2,SNR=3.3						

*MOS **23** 12:16:46.3±0.8, 723S×12863E, h97km, mb4.9/21, Error ellipse: s-maj=13.1km s-min=6.5km az=114.0*

*ISCJB **23** 12:16:46.4±1.1, 738S×004×12874E±005, h104km±11km, mb5.0/69, Error ellipse: s-maj=8.4km s-min=5.3km az=125.1*

*BJI **23** 12:16:49.7, 752S×12903E, h155km, mB4.9, mb5.1*

*IDC **23** 12:16:49.4±2.5, 737S×12859E, h112km±22km, mb4.6/18, mb1 4.6/21,mb1mx4.6/25,mbtmp5.0/21,MS3.5/6, Ms1 3.5/6,ms1mx3.1/30,Error ellipse: s-maj=15.1km s-min=8.6km az=68.0*

*HRVD **23** 12:16:51.7±0.6, 757S×12853E, h155km±4km, MW4.9/43, Centroid moment Tensor Solution. LP body waves: s17,c17;Mantle waves: s43,c57; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.27±.13; $M_{\theta\theta}$-1.61±.14; $M_{\phi\phi}$-0.65±.18; $M_{r\theta}$0.52±.12; $M_{\theta\phi}$1.29±.13; $M_{\phi r}$0.30±.15; Best double couple: M_o2.47000×10^{16} NP1:ϕ8318.00000°,δ44.00000°,λ110.00000°. NP2: ϕ8111.00000°,δ50.00000°,λ72.00000°. Principal axes: T 2.4160, Plg76.0000°, Azm317.0000°; N 0.1070, Plg14.0000°, Azm124.0000°; P -2.5230, Plg3.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **23** 12:16:51.7±0.8, 736S×12864E, h137km±7km, mb4.9/32 Error ellipse: s-maj=6.9km s-min=4.0km az=61.0*

ISC 23 12:16:48.1±1.0,738S×004×12875E×006,h101km±10km, n231,σ1§08/170,mb5.0/69,16C-10D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.42**	**146**	*e*P	**Pn**	**12 18 23.8**	**+3.7**
	303nm,0.3s						
KAKA				*e*S	**Sn**	**12 19 31.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**11.08**	**196**	⇓*i*P	**Pn**	**12 19 22.0**	**-1.4**
	416nm,0.8s						
FITZ				*e*S	**Sn**	**12 21 17.0**	**-8.2**
FITZ	**Fitzroy Crossi**	**11.08**	**196**	P	**Pn**	**12 19 22.3**	**-1.1**
	24nm,0.3s,baz=28,slow=11,SNR=283						
FITZ				S	**Sn**	**12 21 17.2**	**-8.1**
	22nm,0.3s,baz=50,slow=17,SNR=7.1						
FITZ				LR	LR	12 24 10.2	
	comp=Z,188nm,21.9s,baz=17,slow=40						
WRAB	**Tennant Creek**	**13.61**	**157**	*e*P	**Pn**	**12 19 55.8**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,109nm,0.8s						
WRAB	**Tennant Creek**	**13.61**	**157**	*e*Pn	**Pn**	**12 19 55.8**	**-1.0**
	comp=Z,109nm,0.8s						
WRAB				*e*Sn	**Sn**	**12 22 19.2**	**-7.3**
WRA	**Warramunga Arr**	**13.61**	**157**	P	**Pn**	**12 19 55.1**	**-1.8**
	comp=Z,4.3nm,0.3s,baz=339,slow=10,SNR=191						
WRA				S	**Sn**	**12 22 17.4**	**-9.2**
	comp=Z,14nm,0.3s,baz=330,slow=24,SNR=17						
WB2	**Warramunga Arr**	**13.62**	**157**	*e*P	**Pn**	**12 19 55.8**	**-1.1**
WB2				*e*S	**Sn**	**12 22 18.0**	**-8.8**
TSM	**Tawau**	**15.88**	**317**	P	**Pn**	**12 20 31.9**	**+6.2**
MBWA	**Marble Bar**	**16.24**	**212**	*e*Pn	**Pn**	**12 20 29.6**	**-0.6**
	comp=Z,36nm,0.5s						
MBWA				*e*Sn	**Sn**	**12 23 18.3**	**-12**
AS31	**Alice Springs**	**16.93**	**164**	*e*P	**Pn**	**12 20 38.7**	**0.0**
AS31				*e*S	**S**	**12 23 38.0**	**-12**
ASPA	**Alice Springs**	**16.93**	**164**	*e*P	**Pn**	**12 20 38.7**	**0.0**
ASPA				*e*S	**S**	**12 23 38.0**	**-12**
ASAR	**Alice Springs**	**16.93**	**164**	P	**Pn**	**12 20 38.5**	**-0.1**
	comp=Z,3.4nm,0.3s,baz=335,slow=9.5,SNR=175						
ASAR				S	**S**	**12 23 38.2**	**-12**
	comp=Z,3.5nm,0.3s,baz=324,slow=22,SNR=6.7						
ASAR				LR	LR	12 26 43.1	
	comp=Z,153nm,21.2s,baz=351,slow=35						
ASAR	**Alice Springs**	**16.93**	**164**	P	**Pn**	**12 20 38.6**	**-0.1**
ASAR				S	**S**	**12 23 38.3**	**-12**
KKM	**Kota Kinabalu**	**18.28**	**317**	P	**P**	**12 20 57.8**	**+4.0**
KKM	**Kota Kinabalu**	**18.28**	**317**	*e*P	**P**	**12 20 57.0**	**+3.2**
PMG	**Port Moresby**	**18.32**	**98**	P	**P**	**12 20 57.0**	**+2.8**
	comp=Z,0.8nm,0.3s,baz=281,slow=10,SNR=3.2						
PMG				S	**S**	**12 24 12.7**	**-5.6**
	comp=Z,0.7nm,0.3s,baz=166,slow=22,SNR=6.4						
PMG				LR	LR	12 27 21.4	
	comp=Z,127nm,21.0s,baz=223,slow=34						
PMG	**Port Moresby**	**18.32**	**98**	P	**P**	**12 20 57.0**	**+2.7**
PMG				S	**S**	**12 24 12.7**	**-5.7**
PMG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PMG				smax			
	comp=E,1.0nm,0.3s						
PMG				MLR	MLR		
	comp=Z,127nm,21.0s						
PMG	**Port Moresby**	**18.32**	**98**	*e*P	**P**	**12 20 57.2**	**+2.9**
	comp=Z,33nm,0.8s						
KSM	**Kuching**	**20.39**	**295**	*e*P	**P**	**12 21 17.7**	**+0.9**
CTA	**Charters Tower**	**21.15**	**128**	*e*P	**P**	**12 21 27.8**	**+2.9**
	comp=Z,7.4nm,0.8s,mb4.1						
CTA	**Charters Tower**	**21.15**	**128**	P	**P**	**12 21 27.8**	**+2.9**
	comp=Z,10nm,0.8s,mb4.2,baz=309,slow=12,SNR=8.6						
CTA				LR	LR	12 30 27.3	
	comp=Z,142nm,19.6s,baz=68,slow=38						
CTA	**Charters Tower**	**21.15**	**128**	*e*P	**P**	**12 21 27.8**	**+2.9**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CTAO	**Charters Tower**	**21.15**	**128**	*e*P	**P**	**12 21 27.3**	**+2.4**
CTAO				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.3						
CTAO	**Charters Tower**	**21.15**	**128**	*e*P	**P**	**12 21 27.3**	**+2.4**
	comp=Z,17nm,1.0s,mb4.3						
TGY	**Tagaytay City**	**22.71**	**340**	P	**P**	**12 21 42.2**	**+0.8**
	comp=Z,117nm,0.6s,baz=279,slow=2.3,SNR=6.1						
FORT	**Forrest**	**23.29**	**182**	*e*P	**P**	**12 21 47.5**	**+0.7**
	comp=Z,35nm,0.5s,mb4.9						
FORT				*e*		12 21 59.1	
FORT				*e*S	**S**	**12 26 02.1**	**+11**
KLBR	**Kellerberrin**	**26.19**	**202**	*e*P	**P**	**12 22 13.6**	**+0.5**
	comp=Z,19nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**27.16**	**156**	*e*P	**P**	**12 22 22.6**	**+0.8**
	comp=Z,20nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**27.16**	**156**	P	**P**	**12 22 22.6**	**+0.8**
	comp=Z,23nm,0.7s,mb4.8,baz=327,slow=9.4,SNR=53						
STKA				PcP	PcP	12 25 39.5	-0.2
	comp=Z,6.1nm,0.5s,baz=59,slow=1.4,SNR=3.1						
NWAO	**Narrogin (SRO)**	**27.58**	**201**	P	**P**	**12 22 26.0**	**+0.4**
	comp=Z,3.8nm,0.3s,mb4.4,baz=34,slow=8.7,SNR=13						
NWAO				LR	LR	12 34 27.3	
	comp=Z,134nm,21.2s,baz=19,slow=38						
NWAO	**Narrogin (SRO)**	**27.58**	**201**	*e*P	**P**	**12 22 25.8**	**+0.3**
KULM	**Kulim**	**30.73**	**293**	*e*P	**P**	**12 22 54.1**	**+0.6**
HNR	**Honiara**	**30.92**	**96**	LR	LR	12 34 16.6	
	comp=Z,146nm,18.4s,baz=359,slow=34						
ARMA	**Armidale**	**31.39**	**140**	*e*P	**P**	**12 23 02.8**	**+3.5**
PSI	**Prapat**	**31.44**	**288**	P	**P**	**12 22 59.6**	**-0.1**
	comp=Z,16nm,0.8s,mb4.8,baz=146,slow=8.3,SNR=9.7						
QIZ	**Qiongzhong**	**32.19**	**325**	P	**P**	**12 23 07.1**	**+0.8**
QIZ				*e*S	**S**	**12 28 12.9**	**+1.2**
QIZ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
QIZ				AMB	AMB		
	comp=Z,111nm,3.4s						
YHNB	**Yeheng**	**32.66**	**347**	*e*P	**P**	**12 23 09.7**	**-0.6**
QZH	**Quanzhou**	**33.62**	**343**	⇓*i*P	**P**	**12 23 19.3**	**+0.6**
QZH				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.5						
CNB	**Canberra Magne**	**33.63**	**149**	*e*P	**P**	**12 23 20.7**	**+1.9**
	comp=Z,10nm,1.1s,mb4.6						
TOO	**Toolangi**	**33.68**	**156**	⇑*i*P	**P**	**12 23 21.8**	**+2.5**
	comp=Z,12nm,0.5s,mb5.0						
TOO	**Toolangi**	**33.68**	**156**	⇑*i*P	**P**	**12 23 21.8**	**+2.5**
TOO				pmax	pmax		
	comp=Z,12nm,0.5s,mb5.0						
GZH	**Guangzhou**	**33.82**	**334**	P	**P**	**12 23 18.8**	**-1.7**
JOW	**Kunigami**	**34.01**	**359**	P	**P**	**12 23 23.2**	**+1.1**
	comp=Z,44nm,0.8s,mb5.4,baz=177,slow=6.5,SNR=14						
SSE	**Sheshan**	**38.94**	**350**	*e*P	**P**	**12 24 02.8**	**-1.2**
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,136nm,3.5s						
DZM	**Mont Dzumac**	**39.13**	**116**	P	**P**	**12 24 07.7**	**+2.1**
	comp=Z,6.0nm,0.4s,mb4.8,baz=282,slow=9.6,SNR=11						
CHTO	**Chiang Mai**	**39.26**	**312**	⇑P	**P**	**12 24 07.7**	**+1.0**
	SNR=11						
CHTO	**Chiang Mai**	**39.26**	**312**	*e*P	**P**	**12 24 06.8**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.1						
CHTO	**Chiang Mai**	**39.26**	**312**	*e*P	**P**	**12 24 06.8**	**+0.1**
	comp=Z,29nm,1.0s,mb5.1						
GYA	**Guiyang**	**39.88**	**328**	⇑*i*P	**P**	**12 24 12.8**	**+0.9**
GYA				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.4						
WHN	**Wuhan**	**40.16**	**341**	*e*P	**P**	**12 24 15.0**	**+0.9**
NJ2	**Nanjing**	**40.33**	**347**	*e*P	**P**	**12 24 15.8**	**+0.2**
NJ2				PP	PP	12 25 53.0	+2.7
NJ2				S	**S**	**12 30 20.0**	**+4.2**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,1μm,3.7s						
NJ2				LR	LR		
	comp=N,510nm,19.0s						
NJ2				LR	LR		
	comp=E,220nm,16.0s						
NJ2				LR	LR		
	comp=Z,3μm,13.3s						
KMI	**Kunming**	**41.05**	**323**	P	**P**	**12 24 23.6**	**+2.1**
KMI				AMB	AMB		
	comp=Z,47nm,1.1s,mb5.2						
MAJO	**Matsushiro**	**44.58**	**11**	P	**P**	**12 24 47.7**	**-2.3**
MAJO				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8						
MAJO	**Matsushiro**	**44.58**	**11**	P	**P**	**12 24 47.7**	**-2.2**
	comp=Z,16nm,0.8s,mb4.8						
MAT	**Matsushiro**	**44.58**	**11**	P	**P**	**12 24 49.2**	**-0.8**
MAT	**Matsushiro**	**44.58**	**11**	*e*P	**P**	**12 24 49.0**	**-1.0**
MAT				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
MAT	**Matsushiro**	**44.58**	**11**	*e*P	**P**	**12 24 49.0**	**-1.0**
	comp=Z,12nm,1.0s,mb4.6						
MJAR	**Matsushiro Arr**	**44.58**	**11**	P	**P**	**12 24 49.3**	**-0.7**
	comp=Z,13nm,0.8s,mb4.7,baz=188,slow=9.3,SNR=44						
MJAR				PcP	PcP	12 26 31.1	-0.1
	comp=Z,2.4nm,0.8s,baz=183,slow=4.1,SNR=4.2						
CD2	**Chengdu**	**44.97**	**329**	⇑*i*P	**P**	**12 24 52.8**	**-0.3**
CD2				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.4						
XAN	**Xi'an**	**45.28**	**337**	P	**P**	**12 24 55.0**	**-0.5**
XAN				AMB	AMB		
	comp=Z,88nm,0.8s,mb5.5						
DL2	**Dalian**	**46.52**	**352**	P	**P**	**12 25 05.8**	**+0.5**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
BJT	**Baijiatuau**	**48.57**	**347**	*e*P	**P**	**12 25 20.7**	**-0.4**
BJT				pmax	pmax		
	comp=Z,28nm,0.7s						
BJT	**Baijiatuau**	**48.57**	**347**	*e*P	**P**	**12 25 20.7**	**-0.4**
	comp=Z,28nm,0.7s,mb5.3						
BJI	**Beijing**	**48.59**	**347**	P	**P**	**12 25 21.3**	**0.0**
BJI				AMB	AMB		
	comp=Z,45nm,0.8s,mb5.5						
LZH	**Lanzhou**	**49.17**	**333**	⇑P	**P**	**12 25 26.5**	**+0.8**
LZH				AMB	AMB		
	comp=Z,85nm,1.2s,mb5.5						
LZH				AMB	AMB		
	comp=Z,107nm,6.5s						
LZH				LR	LR		
	comp=N,257nm,13.5s						
LZH				LR	LR		
	comp=Z,398nm,18.2s						
SNY	**Shenyang**	**49.19**	**355**	⇓P	**P**	**12 25 27.8**	**+1.9**
SNY				AMB	AMB		
	comp=Z,15nm,0.5s,mb5.2						
HHC	**Hu-ho-hao-te**	**50.53**	**343**	*e*P	**P**	**12 25 36.8**	**+0.8**
HHC				PCP	PcP	12 26 52.3	-0.2
HHC				PP	PP	12 27 35.9	+3.3
HHC				SCP	ScP	12 30 34.8	-4.4
HHC				PCS	PcS	12 30 49.3	-0.6
HHC				S	**S**	**12 32 39.8**	**-2.6**
HHC				SCS	ScS	12 35 11.8	-5.1
HHC				SS	SS	12 36 14.9	-2.6
HHC				AMB	AMB		
	comp=Z,22nm,0.6s,mb5.4						
HHC				AMB	AMB		
	comp=Z,71nm,6.7s						
HHC				LR	LR		
	comp=N,120nm,7.7s						
HHC				LR	LR		
	comp=E,167nm,9.4s						
HHC				LR	LR		
	comp=Z,178nm,5.4s						
RPZ	**Rata Peaks**	**51.70**	**142**	P	**P**	**12 25 46.5**	**+1.8**
	comp=Z,14nm,0.5s,mb5.2,baz=22,slow=7.5,SNR=7.8						
MDJ	**Mudanjiang**	**51.76**	**1**	P	**P**	**12 25 45.4**	**+0.2**
MDJ				PCP	PcP	12 26 56.8	-0.3
MDJ				PP	PP	12 27 44.5	+0.8
MDJ				PCS	PcS	12 30 54.8	-0.4
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,70nm,3.9s						
MDJ				LR	LR		
	comp=N,54nm,5.9s						
MDJ				LR	LR		
	comp=E,37nm,5.7s						
MDJ				LR	LR		
	com

MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
MA2 pmax pmax
comp=Z,30nm,1.0s,mb5.1
MA2 Magadan 69.01 12⇑ *i*P **P 12 27 42.0 -0.6**
YAK Yakutsk 69.20 0 *c i*P **P 12 27 43.2 -0.6**
YAK pmax pmax
comp=Z,95nm,0.8s,mb5.7
YAK Yakutsk 69.20 0 *e*P **P 12 27 43.1 -0.7**
comp=Z,80nm,0.8s,mb5.6
KZA Kyzart 69.27 320 P **P 12 27 45.7 +1.5**
SNR=22
TKM2 Tokmak 2 69.49 321 P **P 12 27 46.4 +0.8**
SNR=24
UCH Uchtor 69.81 320 P **P 12 27 48.9 +1.3**
SNR=25
AAK Ala-Archa 70.03 320 P **P 12 27 46.0 -2.9**
SNR=13
AAK Ala-Archa 70.03 320 P **P 12 27 49.0 +0.1**
SNR=14
AAK Ala-Archa 70.03 320 *c i*P **P 12 27 46.9 -2.0**
AAK pmax pmax
comp=Z,51nm,1.3s,mb5.2
AAK Ala-Archa 70.03 320 *e*P **P 12 27 48.8 -0.1**
comp=Z,56nm,1.3s,mb5.2
FRU Bishkek 70.06 321 *e*P **P 12 27 48.0 -1.1**
FRU *e* pP 12 28 15.0 +0.4
CHMS Chumysh 70.06 321 P **P 12 27 49.4 +0.3**
SNR=6.3
AML Almayashu 70.29 320 P **P 12 27 51.7 +1.2**
SNR=28
USP Ospenovka 70.36 321 P **P 12 27 51.5 +0.6**
SNR=31
EKS2 Erkin-Say 70.50 320 P **P 12 27 52.8 +1.0**
SNR=21
ZAL Zalesovo 71.38 334 P **P 12 27 56.4 -0.7**
comp=Z,16nm,0.6s,mb5.0,baz=343,slow=5.0,SNR=62
KURK Kurchatov 72.20 329 P **P 12 28 02.1 +0.1**
SNR=18
KURK Kurchatov 72.20 329 *c i*P **P 12 28 01.7 -0.3**
KURK Kurchatov 72.20 329 *e*P **P 12 28 01.1 -0.9**
comp=Z,30nm,0.8s,mb5.2
VNDA Vanda 72.23 173 P **P 12 28 01.6 -0.5**
comp=Z,3.5nm,0.6s,mb4.4,baz=321,slow=6.6,SNR=27
VNDA Vanda 72.23 173 *e*P **P 12 28 01.4 -0.7**
VNDA pmax pmax
comp=Z,7.0nm,1.1s
VNDA Vanda 72.23 173 *e*P **P 12 28 01.4 -0.7**
comp=Z,7.0nm,1.1s,mb4.4
NVS Novosibirsk 72.67 334 *i*P **P 12 28 03.0 -1.8**
NVS pmax pmax
comp=N,13nm,1.0s
NVS pmax pmax
comp=Z,21nm,1.0s,mb4.9
NVS pmax pmax
comp=E,7.0nm,0.8s
KK31 Karatay Array 72.81 319 *i*P **P 12 28 05.4 -0.2**
KKAR Karatay Array 72.81 319 *i*P **P 12 28 05.3 -0.3**
KKAR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
SBA Scott Base 73.13 172 *e*P **P 12 28 07.5 0.0**
MAW Mawson 74.15 201 *e*P **P 12 28 13.5 +0.1**
comp=Z,6.6nm,0.8s,mb4.4
MAW Mawson 74.15 201 P **P 12 28 13.6 +0.1**
comp=Z,12nm,1.0s,mb4.6,baz=70,slow=7.6,SNR=19
MAW Mawson 74.15 201 *e*P **P 12 28 13.5 +0.1**
MAW pmax pmax
comp=Z,7.0nm,0.8s
WSAR Wadi Sarin 74.92 296 P **P 12 28 17.5 -0.4**
comp=Z,8.5nm,0.8s,mb4.5,baz=208,slow=6.5,SNR=6.3
VOSK Vostochnaya 77.26 328 P **P 12 28 30.2 -1.0**
VOSK pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
BVA0 Borovoye Array 77.73 328 *i*P **P 12 28 33.2 -0.6**
BVA0 pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
BVAR Borovoye Array 77.73 328 P **P 12 28 32.8 -1.0**
comp=Z,8.0nm,0.5s,mb4.7,baz=130,slow=6.0,SNR=66
BRVK Borovoye 77.80 328 ⇓P **P 12 28 33.9 -0.2**
SNR=8.0
BRVK Borovoye 77.80 328 *e*P **P 12 28 33.4 -0.8**
BRVK pmax pmax
comp=Z,11nm,0.8s,mb4.6
BRVK Borovoye 77.80 328 *e*P **P 12 28 33.4 -0.8**
comp=Z,11nm,0.8s,mb4.6
CHKZ Chkalovo 77.94 329 *i*P **P 12 28 34.0 -0.9**
CHKZ pmax pmax
comp=Z,12nm,0.8s,mb4.7
CHKZ Chkalovo 77.94 329 *e*P **P 12 28 33.8 -1.2**
comp=Z,14nm,0.8s,mb4.8
ZRNK Zerenda 78.42 328 *e*P **P 12 28 36.7 -0.9**
ZRNK pmax pmax
comp=Z,27nm,0.9s,mb5.0
ZRNK Zerenda 78.42 328 *e*P **P 12 28 36.7 -0.9**
comp=Z,28nm,0.9s,mb5.0
TIXI Tiksi 78.86 0 *d i*P **P 12 28 38.9 -1.1**
TIXI pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
TIXI Tiksi 78.86 0 *i*P **P 12 28 38.0 -2.0**
OPO Ambohidratompo 79.72 252 P **P 12 28 45.0 +0.2**
comp=Z,1.6nm,0.6s,mb4.0,baz=73,slow=7.1,SNR=6.4
AB31 Akbulak array 82.04 322 *e*P **P 12 28 56.1 -0.9**
QSPA South Pole Qui 82.60 180 *e*P **P 12 28 58.9 -1.0**
comp=Z,14nm,0.7s,mb4.9
SYO Syowa Base 82.86 201 ⇓ *i*P **P 12 29 00.6 -0.7**
AKTK Aktyubinsk 83.62 323 *i*P **P 12 29 04.1 -1.1**
AKTO Aktyubinsk 83.62 323 *i*P **P 12 29 04.1 -1.1**
ARU Arti 85.37 328⇑ *i*P **P 12 29 12.7 -1.3**
SVW2 Sparrevohn 89.55 28 *e*P **P 12 29 35.1 +1.0**
KMBO Kilima Mbogo 91.34 269⇑ *e*P **P 12 29 43.9 +1.5**
MCK McKinley 93.17 26 *e*P **P 12 29 48.8 -2.0**
MCK pmax pmax
comp=Z,6.0nm,1.5s,mb4.7
MCK McKinley 93.17 26 *e*P **P 12 29 48.8 -2.0**
comp=Z,6.1nm,1.5s,mb4.7
COLA College 93.82 25 *e*P **P 12 29 51.8 -2.0**
ANN Anapa 96.08 314 *e*P **P 12 30 01.9 -2.2**
ANN *e* 12 40 35.1
ANN pmax pmax
comp=Z,26nm,1.2s,mb5.5
VNA1 Neumayer--Stat 96.98 193 *e*P **P 12 30 08.0 -0.3**
VNA1 *e* 12 30 18.9
VNA1 *e* 12 30 23.7
OBN Obninsk 97.25 325 *d i*P **P 12 30 07.1 -2.3**
OBN pmax pmax
comp=Z,8.0nm,0.6s,mb5.3
ARCES ARCESS Array B 101.50 340 P Pdif 12 30 27.4 -1.0
comp=Z,2.9nm,0.7s,baz=74,slow=5.4,SNR=8.4
ARCES PKiKP PKiKP 12 34 50.6 -1.2
comp=Z,1.2nm,0.7s,baz=11,slow=1.8,SNR=5.7
ARCES PKKPbc PKKPbc 12 46 34.5 -1.3
comp=Z,1.6nm,0.6s,baz=259,slow=2.5,SNR=9.0
ARCES ARCESS Array B 101.50 340 P Pdif 12 30 27.4 -1.0
AKASG Malin Array Be 101.70 320 P Pdif 12 30 27.6 -1.7
comp=Z,1.0nm,0.6s,baz=69,slow=4.7,SNR=4.9
AKASG Malin Array Be 101.70 320 *i*P Pdif 12 30 27.0 -2.3
AKASG pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 102.50 331 PKiKP PKiKP 12 34 52.4 -1.4
comp=Z,0.9nm,0.8s,baz=353,slow=6.1,SNR=4.1
YKA Yellowknife Ar 108.63 26 PKiKP PKiKP 12 35 03.4 -1.6
comp=Z,0.4nm,0.5s,baz=297,slow=1.9,SNR=12
YKA PKKPbc PKKPbc 12 46 13.0 -1.1
comp=Z,0.3nm,0.4s,baz=114,slow=3.6,SNR=5.6
YKA PKKPbc PKKPbc 12 46 25.3 +11
comp=Z,0.4nm,0.7s,baz=106,slow=5.2,SNR=4.7
YKA Yellowknife Ar 108.63 26 PKPdf PKiKP 12 35 03.4 -1.6
YKA PKKPbc PKKPbc 12 46 13.1 -1.1
YKA PKKP PKKPbc 12 46 25.3 +11
NB2 NORSAR Subarra109.55 333 PKiK 12 35 05.2
comp=Z,1.6nm,0.9s,baz=69,slow=1.9
NOA NORSAR Array B109.55 333 PKiKP PKiKP 12 35 05.6 -1.2
comp=Z,1.5nm,0.8s,baz=262,slow=3.2,SNR=4.9
NOA NORSAR Array B109.55 333 PKPdf PKiKP 12 35 05.6 -1.2
CLL Collm 111.70 323 *i* PKiKP PKiKP 12 35 10.0 -0.8
comp=Z,logA/T=0.8
CLL Collm 111.70 323 *i* PKPdf PKiKP 12 35 10.0 -0.8
comp=Z,4.0nm,0.6s
GERES GERESS Array B 111.91 320 PKiKP PKiKP 12 35 10.5 -0.7
comp=Z,1.8nm,0.5s,baz=65,slow=2.5,SNR=23
KHC Kasperske Hory 111.92 320⇑ *e*PKiKP PKiKP 12 35 11.4 +0.2
GRA1 Grafenberg Arr 113.25 321 *e*PKP PKiKP 12 35 12.7 -1.1
GRF Grafenberg Arr 113.25 321 *e*PKiKP PKiKP 12 35 12.7 -1.1
HLID Hailey 114.40 45 *e*PKPdf PKiKP 12 35 16.7 +0.8
CDF Champ du Feu 116.11 321 *e*PKiKP PKPdf 12 35 17.8 -1.5
HINF Hinteralfeld 116.58 320 *e*PKiKP PKPdf 12 35 18.6 -1.6
comp=Z,8.1nm,0.6s
PGF Pioggiola 116.72 314 *e*PKiKP PKPdf 12 35 19.3 -1.1
comp=Z,19nm,0.9s
IMW Indian Meadow 116.74 44 *e*PKPdf PKPdf 12 35 21.7 +1.2
HAU Haudompre 116.84 321 *e*PKiKP PKPdf 12 35 19.4 -1.3
REDW Red Top Meadow 116.95 45 *e*PKPdf PKPdf 12 35 21.6 +0.7
SNOW Snow King Moun 116.99 45 *e*PKPdf PKPdf 12 35 21.9 +1.0
BAIF Baives 117.39 323 *e*PKiKP PKPdf 12 35 20.5 -1.2
LPG La Plagne 117.41 318 *e*PKiKP PKPdf 12 35 21.1 -0.7
comp=Z,6.4nm,0.6s
LPL La Plagne 117.42 318 *e*PKiKP PKPdf 12 35 21.0 -0.8
comp=Z,7.3nm,0.6s
CABF La Chapelle 117.48 319 *e*PKiKP PKPdf 12 35 21.1 -0.8
comp=Z,18nm,0.6s
MBDF Montbardon 117.64 317 *e*PKiKP PKPdf 12 35 21.0 -1.2
comp=Z,5.8nm,0.8s
PDAR Pinedale Array 118.03 45 PKP PKPdf 12 35 23.2 +0.2
comp=Z,1.3nm,0.8s,baz=306,slow=0.9,SNR=12
FRF La Foret Royal 118.09 316 *e*PKiKP PKPdf 12 35 22.0 -1.1
ORIF Oris-en-Rattie 118.18 317 *e*PKiKP PKPdf 12 35 22.3 -0.9
comp=Z,6.7nm,0.5s
LMR La Mourre 118.25 316 *e*PKiKP PKPdf 12 35 22.2 -1.2
comp=Z,21nm,1.1s
LOR Lormes 118.67 320 *e*PKiKP PKPdf 12 35 23.0 -1.2
comp=Z,4.9nm,0.7s
SMRF Simiane la Rot 118.69 316 *e*PKiKP PKPdf 12 35 23.2 -1.0
comp=Z,5.8nm,0.6s
SMF Signal de Mont 118.92 320 *e*PKiKP PKPdf 12 35 23.3 -1.4
SSF Saint Saulge 118.97 320 *e*PKiKP PKPdf 12 35 23.7 -1.1
comp=Z,11nm,0.7s
VIVF Saint-Julien-l 119.01 318 *e*PKiKP PKPdf 12 35 23.8 -1.0
comp=Z,7.1nm,0.8s
AVF Avril sur Loir 119.17 320 *e*PKiKP PKPdf 12 35 23.7 -1.4
BGF Bois d'Agland 119.58 320 *e*PKiKP PKPdf 12 35 25.1 -0.8
comp=Z,16nm,0.7s
PV10 Paradox Valley 119.63 50 *e*PKPdf PKPdf 12 35 27.2 +1.2
LASF Ste Croix 119.83 317 *e*PKiKP PKPdf 12 35 25.1 -1.3
PV01 Paradox Valley 120.05 50 *e*PKPdf PKPdf 12 35 28.1 +1.3
TCF Toulx Ste Croi 120.10 320 *e*PKiKP PKPdf 12 35 26.0 -0.9
comp=Z,13nm,0.9s
CAF Calviac 120.71 318 *e*PKiKP PKPdf 12 35 27.2 -0.9
comp=Z,8.8nm,0.9s
GRR Gorron 121.11 323 *e*PKiKP PKPdf 12 35 27.8 -1.1
MTLF Montolieu 121.20 317 *e*PKiKP PKPdf 12 35 28.1 -0.9
RSSD Black Hills 121.37 42 *e*PKiKP PKPdf 12 35 28.7 -0.7
MFF Saint Martin d 121.45 321 *e*PKiKP PKPdf 12 35 28.7 -0.8
comp=Z,12nm,0.7s
LFF La Frestale 121.58 319 *e*PKiKP PKPdf 12 35 28.9 -0.9
SGMF Saint Gilles 122.17 324 *e*PKiKP PKPdf 12 35 29.8 -1.1
FRB Frobisher Bay 122.37 9 PKP PKPdf 12 35 29.7 -1.6
comp=Z,7.3nm,0.7s,baz=10,slow=1.4
ANMO Albuquerque 122.52 53 ⇓ *i*PKiKP PKPdf 12 35 32.8 +1.2
ROSF Rostrenen 122.55 324 *e*PKiKP PKPdf 12 35 30.4 -1.2
comp=Z,48nm,1.4s
EPF Esparros 122.59 317 *e*PKiKP PKPdf 12 35 30.6 -1.1
comp=Z,4.6nm,0.6s
QUIF Quistinic 122.69 324 *e*PKiKP PKPdf 12 35 30.8 -1.1
comp=Z,20nm,1.0s
ETSF Etsaut 123.25 317 *e*PKiKP PKPdf 12 35 32.0 -1.0
comp=Z,7.4nm,0.8s
ULM Lac du Bonnet 123.43 33 PKP PKPdf 12 35 31.9 -1.5
comp=Z,1.4nm,0.5s,baz=132,slow=3.3,SNR=4.9
SJPF Ste Jean 123.61 318 *e*PKiKP PKPdf 12 35 32.8 -0.9
ESDC Sonseca Array 126.90 315 PKP PKPdf 12 35 39.5 -0.4
comp=Z,2.0nm,0.9s,baz=17,slow=3.4,SNR=12
TORD Torodi Ar. Bea 127.67 281 PKP PKPdf 12 35 41.7 +0.3
comp=Z,4.8nm,0.8s,baz=62,slow=1.9,SNR=20
TORD Torodi Ar. Bea 127.67 281 PKP PKPdf 12 35 41.7 +0.3
PLCA Paso Flores 128.93 161 PKP PKPdf 12 35 44.9 +1.1
comp=Z,4.4nm,0.9s,baz=212,slow=3.7,SNR=5.6
PLCA Paso Flores 128.93 161 PKP PKPdf 12 35 44.9 +1.1
SCHQ Schefferville 131.06 12 PKP PKPdf 12 35 47.8 0.0
comp=Z,1.9nm,0.5s,baz=284,slow=4.0,SNR=7.5
DBIC Dimbokro 133.97 272 PKP PKPdf 12 35 54.8 +1.4
comp=Z,2.3nm,0.9s,baz=175,slow=2.8,SNR=5.0
CFAA Coronel Fontan 137.97 158 PKP PKPdf 12 36 02.3 +1.5
comp=Z,0.8nm,0.4s,baz=60,slow=0.2,SNR=6.7
LVC Limon Verde 145.54 150 PKPbc PKPbc 12 36 16.5 +1.9
comp=Z,21nm,0.7s,baz=236,slow=3.1,SNR=16
LVC Limon Verde 145.54 150 *e*PKP PKPdf 12 36 16.8 +2.5
CPUP Villa Florida 145.98 170 PKPbc PKPbc 12 36 16.4 +0.5
comp=Z,8.2nm,0.6s,baz=177,slow=1.9,SNR=27
CPUP Villa Florida 145.98 170 *e*PKPdf PKPdf 12 36 16.2 +1.2
NNA Nana 148.09 127 *e*PKPbc PKPbc 12 36 22.2 +0.3
ATAH Atahualpa 149.39 117 PKPbc PKPbc 12 36 27.8 +2.6
comp=Z,22nm,0.7s,baz=330,slow=4.0,SNR=17
LPAZ La Paz 151.15 145 PKPbc PKPbc 12 36 31.2 +1.8
comp=Z,8.2nm,0.4s,baz=60,slow=2.2,SNR=17
LPAZ PKPab PKPab 12 36 40.1 +2.6
comp=Z,11nm,0.6s,baz=226,slow=4.3,SNR=16
LPAZ La Paz 151.15 145 *e*PKPdf PKPdf 12 36 25.4 +2.0
LPAZ *e*PKPbc PKPbc 12 36 31.3 +1.9
LPAZ *e*PKPab PKPab 12 36 40.2 +2.7
SIV San Ignacio 154.83 157 PKP PKPdf 12 36 29.8 +1.1
comp=Z,2.0nm,0.9s,baz=170,slow=1.9,SNR=7.6
SIV PKPbc PKPbc 12 36 38.2 +0.8
comp=Z,3.1nm,0.7s,baz=215,slow=2.0,SNR=12
SIV PKPab PKPab 12 36 54.0 +1.0
comp=Z,5.4nm,0.5s,baz=200,slow=5.3,SNR=19
BDFB Brasilia 156.91 188 PKPab PKPab 12 37 02.5 +0.6
comp=Z,2.4nm,0.8s,baz=173,slow=16,SNR=3.1
BDFB Brasilia 156.91 188 PKP2 PKPab 12 37 02.5 +0.6
BDFB pmax pmax
comp=Z,2.0nm,0.8s

WEL 23 12:25:38.9±0.8,**3573S**×17986E,**h306**km±6km,**ML3.7/6,**
Error ellipse: s-maj=31.4km s-min=21.7km az=90.0,Off
east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.22**	**214**	PN	Pn	12 26 28.4	+0.5
MXZ				SN	S	12 27 06.6	-0.4
MWZ	**Matawai**	**3.21**	**215**	PN	Pn	12 26 37.6	+0.5
MWZ				SN	S	12 27 23.5	0.0
URZ	**Urewera**	**3.35**	**220**	PN	Pn	12 26 37.3	-1.3
URZ				SN	S	12 27 25.9	-0.4
BKZ	**Black Stump Fm**	**4.36**	**217**	PN	Pn	12 26 49.4	+0.1
TSZ	**Takapari Road**	**5.31**	**214**	PN	Pn	12 27 00.4	+0.2
TSZ				SN	S	12 28 05.8	+0.1
MRZ	**Mangatainoka R**	**5.97**	**213**	PN	Pn	12 27 07.6	-0.4
MRZ				SN	S	12 28 19.8	-0.1
NNZ	**Nelson**	**7.48**	**221**	PN	Pn	12 27 26.2	+0.1

*ISCJB **23** 12:30:06.8±0.6,2398S×007×669W±0.1,h204km±16km, mb3.5/1, Error ellipse: s-maj=15.3km s-min=10.8km az=18.4*
*IDC **23** 12:30:07.7±1.1,2395S×6682W,h194km±22km,mb3.4/1, mb1 3.3/7,mb1mx3.2/19,mbtmp3.8/7, Error ellipse: s-maj=26.0km s-min=19.4km az=73.0*
*NEIC **23** 12:30:07.7±0.5,2395S×6677W,h196km±14km,mb3.6/1, Error ellipse: s-maj=13.4km s-min=8.4km az=89.0*
*GUC **23** 12:30:10.7±0.5,2424S×6745W,h230km,MD3.9,ML4.1*

ISC 23 12:30:07.8±0.6,**2399S**×007×**668W**×01,**h194**km±16km,**n16,**
σ1§07/22,mb3.5/1,4C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.35**	**305**	P	**Pn**	**12 30 50.9**	**+1.4**
	26nm,0.3s,baz=130,slow=5.7,SNR=283						
LVC				S	**Sn**	**12 31 22.5**	**+0.4**
	45nm,0.3s,baz=282,slow=20,SNR=34						
LVC	**Limon Verde**	**2.35**	**305**	⇑ *i*Pn	**Pn**	**12 30 50.8**	**+1.3**
LVC				*e*Sn	**Sn**	**12 31 22.8**	**+0.7**
CEN1	**Los Morros**	**3.14**	**280**	⇓ *e*P	**Pn**	**12 31 00.5**	**+1.8**
CEN1				*i* S	**Sn**	**12 31 38.7**	**+0.1**
CEN1				AML	AML	12 31 42.5	
	comp=N,182nm,0.3s						
ANCH	**Antofagasta**	**3.29**	**275**	⇑ *i*P	**Pn**	**12 31 01.3**	**+0.8**
ANCH				*i* S	**Sn**	**12 31 39.3**	**-2.5**
ANCH				AML	AML	12 31 42.9	
	comp=N,449nm,0.1s						
ANCH	**Antofagasta**	**3.29**	**275**	⇑ *i*P	**Pn**	**12 31 01.3**	**+0.8**
ANCH				*i* S	**Sn**	**12 31 40.1**	**-1.7**
CPN1	**Cerro Paranal**	**3.32**	**258**	⇑ *e*P	**Pn**	**12 31 01.6**	**+0.7**
CPN1				*i* S	**Sn**	**12 31 40.2**	**-2.2**
CPN1				AML	AML	12 31 45.3	
	comp=E,286nm,0.6s						
CDCH	**Caldera**	**4.74**	**229**	*i* S	**Sn**	**12 32 09.4**	**-5.0**
CFAA	**Coronel Fontan**	**7.69**	**189**	P	**Pn**	**12 31 57.1**	**+0.2**
	comp=E,0.2nm,0.3s,baz=0.4,slow=12,SNR=35						
LPAZ	**La Paz**	**7.76**	**351**	P	**Pn**	**12 31 58.1**	**+0.4**
	comp=E,1.0nm,0.3s,baz=169,slow=9.2,SNR=29						
LPAZ	**La Paz**	**7.76**	**351**	*e*P	**Pn**	**12 31 57.9**	**+0.2**
CPUP	**Villa Florida**	**8.92**	**107**	P	**Pn**	**12 32 12.4**	**-0.5**
	comp=E,0.2nm,0.3s,baz=260,slow=11,SNR=2.7						
SIV	**San Ignacio**	**9.62**	**35**	P	**Pn**	**12 32 20.6**	**-1.5**
	comp=E,0.5nm,0.3s,baz=233,slow=13,SNR=9.7						
TRQA	**Tornquist**	**14.63**	**165**	*e*P	**Pn**	**12 33 25.6**	**0.0**
SAML	**Samuel**	**15.36**	**14**	*e*P	**Pn**	**12 33 33.3**	**-1.1**
	comp=E,1.5nm,0.5s						
BDFB	**Brasilia**	**19.54**	**68**	P	**Pn**	**12 34 21.3**	**+0.7**
	comp=E,0.7nm,0.3s,baz=245,slow=11,SNR=17						
TORD	**Torodi Ar. Bea**	**76.42**	**69**	P	**P**	**12 41 35.9**	**+0.1**
	comp=E,0.9nm,0.8s,mb3.5,baz=245,slow=5.3,SNR=3.8						

*MDD **23** 12:35:16.8±1.6,4255N×1132W,h0km,mbLg2.7/12, Error ellipse: s-maj=14.8km s-min=8.8km az=111.0,PRXIMO*
*NEIC **23** 12:35:16.9,4258N×1130W,h0km,MN2.7(MDD),After MDD.*
*ISCJB **23** 12:35:17.4±1.0,4235N±004×11.16W±007,h10km,Error ellipse: s-maj=7.9km s-min=5.0km az=31.8*
*INMG **23** 12:35:17.8±0.9,4269N×1180W,h10km,ML2.2,Error ellipse: s-maj=5.4km s-min=3.0km az=106.0*
*CSEM **23** 12:35:18.1±0.6,4233N×1110W,h10km,ML2.2,Error ellipse: s-maj=10.4km s-min=8.9km az=104.0*

ISC 23 12:35:18.4±1.0,**4243N**±004×**1115W**±007,**h10**km,**n47,**
σ1§07/91,4C,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMAZ	**Mazaricos**	**1.69**	**72**	⇑P	**Pn**	**12 35 46.8**	**-1.1**
	2.2nm,0.0s,SNR=18						
EMAZ				S	**Sn**	**12 36 08.4**	**-1.1**
	16nm,0.1s,SNR=16						
STS	**Santiago**	**1.97**	**76**	⇑P	**Pn**	**12 35 51.3**	**-0.6**
	8.7nm,0.1s,SNR=18						
STS				S	**Sn**	**12 36 16.9**	**+0.3**
	26nm,0.1s,SNR=9.3						
STS	**Santiago**	**1.97**	**76**	⇑P	**Pn**	**12 35 51.3**	**-0.6**
STS				S	**Sn**	**12 36 16.9**	**+0.3**
ELOB	**Lobios**	**2.37**	**103**	P	**Pn**	**12 35 58.5**	**+1.2**
	0.3nm,0.0s,SNR=7.9						
ELOB				S	**Sn**	**12 36 28.5**	**+2.1**
	9.5nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**2.37**	**103**	P	**Pn**	**12 35 58.4**	**+1.1**
ELOB				S	**Sn**	**12 36 28.5**	**+2.1**
ELOB	**Lobios**	**2.37**	**103**	P	**Pn**	**12 35 58.4**	**+1.1**
	0.3nm,0.0s,SNR=7.9						
ELOB				S	**Sn**	**12 36 28.5**	**+2.1**
	9.5nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**2.44**	**106**	*e*Pn	**Pn**	**12 35 59.6**	**+1.3**
PCAB				*e*Sn	**Sn**	**12 36 30.3**	**+2.2**
PCAB							
	16nm,0.1s						
PCAB	**Cabril**	**2.44**	**106**	*e*P	**Pn**	**12 35 59.6**	**+1.3**
PCAB				*e*S	**Sn**	**12 36 30.3**	**+2.2**
	16nm,0.1s						
PVRL	**Vila Real**	**2.82**	**113**	*e*Pn	**Pn**	**12 36 04.5**	**+1.0**
PVRL				*e*Sn	**Sn**	**12 36 39.0**	**+1.5**
PVRL							
	13nm,0.1s						
PVRL	**Vila Real**	**2.82**	**113**	*e*P	**Pn**	**12 36 04.5**	**+1.0**
PVRL				*e*S	**Sn**	**12 36 39.0**	**+1.5**
	13nm,0.1s						
EPON	**Pontenova**	**3.08**	**72**	P	**Pn**	**12 36 06.0**	**-1.0**
	1.4nm,0.1s,SNR=15						
EPON				S	**Sn**	**12 36 41.8**	**-2.1**
	18nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**3.08**	**72**	P	**Pn**	**12 36 06.0**	**-1.0**
	1.4nm,0.1s,SNR=15						
ECAL	**Calabor**	**3.32**	**97**	P	**Pn**	**12 36 11.6**	**+1.2**
	0.4nm,0.1s,SNR=9.1						
ECAL				S	**Sn**	**12 36 50.1**	**+0.3**
	8.0nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**3.32**	**97**	P	**Pn**	**12 36 11.6**	**+1.2**
	0.4nm,0.1s,SNR=9.1						
ECAL				S	**Sn**	**12 36 50.1**	**+0.2**
	8.0nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**3.34**	**99**	*e*Sn	**Sn**	**12 36 51.2**	**+0.8**
PBRG							
	3.6nm,0.2s						
PBRG	**Braganca**	**3.34**	**99**	*e*S	**Sn**	**12 36 51.2**	**+0.8**
	3.6nm,0.2s						
MTE	**Manteigas**	**3.39**	**126**	*e*Pn	**Pn**	**12 36 12.0**	**+0.6**
MTE				*e*Sn	**Sn**	**12 36 52.6**	**+0.9**
MTE							
	4.3nm,0.6s						
MTE	**Manteigas**	**3.39**	**126**	*e*P	**Pn**	**12 36 12.0**	**+0.6**
MTE				*e*S	**Sn**	**12 36 52.6**	**+0.9**
	4.3nm,0.6s						
PTOM	**Tomar**	**3.50**	**143**	*e*Pn	**Pn**	**12 36 12.9**	**+0.1**
PTOM				*e*Sn	**Sn**	**12 36 53.7**	**-0.5**
PCBR	**Castelo Branco**	**3.80**	**132**	*e*Pn	**Pn**	**12 36 17.4**	**+0.4**
PCBR				*e*Sn	**Sn**	**12 37 01.8**	**+0.1**
PCBR							
	2.1nm,0.2s						
PCBR	**Castelo Branco**	**3.80**	**132**	*e*P	**Pn**	**12 36 17.4**	**+0.4**
PCBR				*e*S	**Sn**	**12 37 01.8**	**+0.1**
	2.1nm,0.2s						
EARI	**Arriondas**	**4.45**	**77**	P	**Pn**	**12 36 26.3**	**+0.3**
	1.6nm,0.1s,SNR=34						
EARI				S	**Sn**	**12 37 15.1**	**-2.8**
	1.0nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**4.45**	**77**	P	**Pn**	**12 36 26.3**	**+0.3**
	1.6nm,0.1s,SNR=34						
EARI				S	**Sn**	**12 37 15.1**	**-2.8**
	1.0nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**4.48**	**142**	*e*Pn	**Pn**	**12 36 25.9**	**-0.4**
PESTR				*e*Sn	**Sn**	**12 37 17.9**	**-0.5**
PESTR							
	1.9nm,0.3s						
EPLA	**Plasencia**	**4.50**	**120**	P	**Pn**	**12 36 27.5**	**+0.9**
	1.0nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**12 37 19.3**	**+0.4**
	2.2nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.50**	**120**	P	**Pn**	**12 36 27.5**	**+0.9**
EPLA				S	**Sn**	**12 37 19.3**	**+0.4**
EPLA	**Plasencia**	**4.50**	**120**	P	**Pn**	**12 36 27.5**	**+0.9**
	1.0nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**12 37 19.3**	**+0.3**
	2.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.84**	**138**	P	**Pn**	**12 36 31.1**	**-0.2**
	1.2nm,0.1s,SNR=16						
EBAD				S	**Sn**	**12 37 27.2**	**-0.2**
	4.0nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.84**	**138**	P	**Pn**	**12 36 31.1**	**-0.2**
EBAD				S	**Sn**	**12 37 27.2**	**-0.2**
EBAD	**Badajoz**	**4.84**	**138**	P	**Pn**	**12 36 31.1**	**-0.2**
	1.2nm,0.1s,SNR=16						
EBAD				S	**Sn**	**12 37 27.2**	**-0.2**
	4.0nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**5.07**	**149**	*e*Pn	**Pn**	**12 36 34.6**	**+0.1**
PBEJ				*e*Sn	**Sn**	**12 37 31.6**	**-1.5**
PTEO	**Sao Teotonio**	**5.23**	**158**	*e*Pn	**Pn**	**12 36 36.3**	**-0.3**
PTEO				*e*Sn	**Sn**	**12 37 34.4**	**-2.5**
PTEO							
	5.6nm,0.5s						
GUD	**Guadarrama**	**5.55**	**106**	P	**Pn**	**12 36 43.2**	**+2.1**
	0.5nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**12 37 44.7**	**-0.2**
	1.1nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**5.55**	**106**	P	**Pn**	**12 36 42.3**	**+1.3**
GUD				S	**Sn**	**12 37 44.7**	**-0.2**
GUD	**Guadarrama**	**5.55**	**106**	P	**Pn**	**12 36 42.3**	**+1.3**
	0.5nm,0.2s,SNR=7.9				

EMIN	**Mina Concepcio**	**5.79**	**142**	P		**Pn**	**12 36 44.4**	**0.0**
	0.9nm,0.3s,SNR=9.3							
EMIN				S		**Sn**	**12 37 48.9**	**-1.9**
	0.7nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.79**	**142**	P		**Pn**	**12 36 44.6**	**+0.3**
EMIN				S		**Sn**	**12 37 49.0**	**-1.9**
EMIN	**Mina Concepcio**	**5.79**	**142**	P		**Pn**	**12 36 44.6**	**+0.2**
	0.9nm,0.3s,SNR=9.3							
EMIN				S		**Sn**	**12 37 49.0**	**-1.8**
ESDC	**Sonseca Array**	**6.09**	**115**	P		**Pn**	**12 36 48.9**	**+0.3**
	0.3nm,0.1s,baz=303,slow=13,SNR=7.9							
ESDC				S		**Sn**	**12 37 57.8**	**-0.5**
	1.2nm,0.2s,baz=300,slow=24,SNR=7.9							
ESDC	**Sonseca Array**	**6.09**	**115**	P		**Pn**	**12 36 48.9**	**+0.4**
	0.3nm,0.1s,SNR=7.9							
ESDC				S		**Sn**	**12 37 57.8**	**-0.5**
	1.2nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**6.59**	**128**	⇑P		**Pn**	**12 36 56.0**	**+0.6**
	3.0nm,0.1s,SNR=18							
EADA				S		**Sn**	**12 38 09.5**	**-1.0**
	0.8nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**6.59**	**128**	P		**Pn**	**12 36 56.0**	**+0.7**
	3.0nm,0.1s,SNR=18							
EADA				S		**Sn**	**12 38 09.5**	**-1.0**
	0.8nm,0.1s,SNR=7.9							

IDC 23 12:40:43.5±28.0, 2179S×17370W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/15, mbtmp3.9/4, Error ellipse: s-maj=516.9km s-min=160.3km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.37**	**265**	P	P	12 47 59.2	+1.4
	2.8nm,0.7s,baz=90,slow=9.1,SNR=3.0						
STKA	**Stephens Creek**	**40.89**	**246**	P	P	12 48 25.6	-1.6
	0.7nm,0.5s,baz=81,slow=10,SNR=3.6						
ASAR	**Alice Springs**	**48.14**	**257**	P	P	12 49 25.4	+0.1
	0.9nm,1.0s,baz=91,slow=7.8,SNR=14						
WRA	**Warramunga Arr**	**48.40**	**262**	P	P	12 49 28.1	+0.8
	0.7nm,0.4s,baz=93,slow=8.4,SNR=21						

SZGRF ***23*** *12:43:50.3, 2855N×10286E, h33km, mb4.9, Sichuan, China*

ISCJB ***23*** *12:44:30.7±0.1, 3298N±002×9604E±002, h10km, mb4.6/99, MS4.0/32, Error ellipse: s-maj=3.2km s-min=2.6km az=28.5*

BJI ***23*** *12:44:30.8, 3294N×9603E, h7km, mB4.7, mb4.7, ML4.5, Ms4.5, Msz4.3*

HRVD ***23*** *12:44:32.7±0.4, 3299N×9617E, h27km±1km, MW4.8/59, Centroid moment Tensor Solution. LP body waves: s15,c16;Mantle waves: s59,c88; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.46±.15; $M_{\theta\theta}$0.94±.12; $M_{\phi\phi}$-0.48±.11; $M_{r\theta}$0.44±.19; $M_{\theta\phi}$2.11±.09; $M_{\phi r}$-0.42±.17; Best double couple: M○2.33300×10^{16} NP1:ϕ_s11.00000°,δ75.00000°,λ-168.00000°. NP2: ϕ_s278.00000°,δ78.00000°,λ-15.00000°. Principal axes: T 2.4630, Plg2.0000°, Azm325.0000°; N -0.2600, Plg71.0000°, Azm61.0000°; P -2.2030, Plg19.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***23*** *12:44:32.6±0.2, 3306N×9603E, h10km, mb4.8/50 Error ellipse: s-maj=4.3km s-min=3.8km az=38.0*

IDC ***23*** *12:44:33.9±4.3, 3301N×9606E, h19km±27km, mb4.3/26, mb1 4.4/28, mb1mx4.4/30, mbtmp4.5/28, ML4.4/2, MS3.9/21, Ms1 3.9/21, ms1mx3.8/31, Error ellipse: s-maj=16.6km s-min=10.7km az=39.0*

MOS ***23*** *12:44:34.6±0.8, 3302N×9605E, h39km, mb4.8/49, Error ellipse: s-maj=7.7km s-min=4.3km az=120.8*

ISC 23 12:44:32.8±0.1, 3305N±002×9602E±002, h10km, n300, σ1f11/317, mb4.6/99, MS4.0/32, 22C-13D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**6.91**	**106**	P	**Pn**	**12 46 15.8**	**+1.7**
CD2				PG	**Pg**	**12 46 38.1**	**-7.0**
CD2				SG	**Sg**	**12 48 07.9**	**-6.6**
CD2				Smax			
	comp=N,180nm,1.2s						
CD2				Smax			
	comp=E,130nm,1.0s						
CD2				LR	LR		
	comp=E,6μm,9.0s						
CD2				LR	LR		
	comp=Z,1μm,7.8s						
GTA	**Gaotai**	**7.05**	**25**	⇑P	**Pn**	**12 46 18.5**	**+2.5**
GTA				S	**Sn**	**12 47 40.1**	**+3.9**
GTA				LR	LR		
	comp=N,3μm,10.3s						
GTA				LR	LR		
	comp=E,6μm,12.2s						
GTA				LR	LR		
	comp=Z,2μm,11.0s						
LZH	**Lanzhou**	**7.13**	**63**	*e*P	**Pn**	**12 46 17.3**	**+0.2**
LZH				*e*S	**Sn**	**12 47 36.3**	**-1.8**
LZH				Smax			
	comp=N,399nm,1.2s						
LZH				Smax			
	comp=E,267nm,1.1s						
LZH				LR	LR		
	comp=N,3μm,8.3s						
LZH				LR	LR		
	comp=Z,3μm,10.6s						
SHL	**Shillong**	**8.28**	**207**	*e*P	**Pn**	**12 46 33.5**	**+0.6**
SHL				*e*S	**Sn**	**12 47 59.8**	**-6.8**
KMI	**Kunming**	**9.84**	**142**	P	**Pn**	**12 46 54.3**	**0.0**
KMI				AP		12 46 59.6	
KMI				PP		12 47 01.5	
KMI				XP		12 47 05.1	
KMI				PPP		12 47 08.4	
KMI				S	**Sn**	**12 48 44.8**	**0.0**
KMI				XS		12 48 55.1	
KMI				SS		12 48 57.5	
KMI				SSS		12 49 08.8	
KMI				AMB	AMB		
	comp=Z,49nm,0.7s						
KMI				AMB	AMB		
	comp=Z,40nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,9.0s						
KMI				LR	LR		
	comp=E,2μm,7.5s						
KMI				LR	LR		
	comp=Z,1μm,10.4s						
JIRN	**Jiri**	**10.05**	**240**	*e*P	**Pn**	**12 46 59.6**	**+2.5**
	comp=Z,139nm,0.5s						
GUN	**Gumba**	**10.14**	**242**	*e*P	**Pn**	**12 46 59.5**	**+1.1**
	comp=Z,233nm,0.6s						
KKN	**Kakani**	**10.65**	**243**	*e*P	**Pn**	**12 47 05.6**	**+0.2**
	comp=Z,113nm,0.4s						
KKN	**Kakani**	**10.65**	**243**	*e*P	**Pn**	**12 47 05.6**	**+0.2**
KKN				pmax	pmax		
	comp=Z,113nm,0.4s						
PKI	**Pulchoki**	**10.67**	**242**	*e*P	**Pn**	**12 47 06.2**	**+0.5**
	comp=Z,212nm,0.4s						
PKI	**Pulchoki**	**10.67**	**242**	*e*P	**Pn**	**12 47 06.2**	**+0.5**
PKI				pmax	pmax		
	comp=Z,212nm,0.4s						
XAN	**Xi'an**	**10.81**	**81**	P	**Pn**	**12 47 08.8**	**+1.2**
XAN				AP		12 47 15.8	
XAN				AMB	AMB		
	comp=Z,11nm,1.0s						
XAN				LR	LR		
	comp=N,515nm,5.7s						
XAN				LR	LR		
	comp=E,563nm,6.8s						
XAN				LR	LR		
	comp=Z,774nm,7.3s						
DMN	**Daman**	**10.88**	**243**	*e*P	**Pn**	**12 47 08.7**	**+0.2**
	comp=Z,131nm,0.7s						
GKN	**Gorkha**	**11.03**	**246**	*e*P	**Pn**	**12 47 10.3**	**-0.3**
	comp=Z,116nm,0.6s						
GYA	**Guiyang**	**11.34**	**123**	P	**Pn**	**12 47 13.5**	**-1.3**
GYA				AP		12 47 20.8	
GYA				XP		12 47 25.8	
GYA				S	**Sn**	**12 49 21.8**	**+0.3**
GYA				AMB	AMB		
	comp=Z,20nm,0.6s						
GYA				AMB	AMB		
	comp=Z,210nm,3.9s						
GYA				LR	LR		
	comp=N,1μm,7.7s						
GYA				LR	LR		
	comp=E,1μm,7.4s						
GYA				LR	LR		
	comp=Z,1μm,8.3s						
KOLN	**Koldanda**	**11.94**	**247**	*e*P	**Pn**	**12 47 22.8**	**-0.3**
	comp=Z,121nm,0.7s						
CAL	**Calcutta**	**12.48**	**215**	*ex*	x	12 48 26.3	
CAL				*ex*	x	12 51 40.2	
WMQ	**Urumqi**	**12.57**	**331**	P	**Pn**	**12 47 36.0**	**+4.3**
WMQ				AP		12 47 44.3	
WMQ				PP		12 47 47.0	
WMQ				S	**Sn**	**12 49 55.8**	**+4.0**
WMQ				AMB	AMB		
	comp=Z,51nm,1.2s						
WMQ				AMB	AMB		
	comp=Z,116nm,4.0s						
WMQ				LR	LR		
	comp=N,1μm,12.3s						
WMQ				LR	LR		
	comp=E,1μm,10.2s						
WMQ				LR	LR		
	comp=Z,1μm,12.4s						
BOK	**Bokaro**	**12.82**	**227**	*e*P	**Pn**	**12 47 33.5**	**-1.5**
BTO	**Baotou**	**13.50**	**52**	*e*P	**Pn**	**12 47 41.9**	**-2.5**
LGTI	**Lohaghat**	**13.96**	**259**	*e*P	**Pn**	**12 47 51.5**	**+0.8**
CHG	**Chiang Mai**	**14.41**	**169**	⇑P	**Pn**	**12 47 57.3**	**+0.4**
	comp=Z,22nm,0.9s						
CHTO	**Chiang Mai**	**14.41**	**169**	⇓P	**Pn**	**12 47 57.7**	**+0.9**
	SNR=6.2						
CHTO	**Chiang Mai**	**14.41**	**169**	*e*P	**Pn**	**12 47 57.3**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,16nm,0.8s						
CHTO	**Chiang Mai**	**14.41**	**169**	*e*P	**Pn**	**12 47 57.3**	**+0.4**
	comp=Z,16nm,0.8s						
HHC	**Hu-ho-hao-te**	**14.65**	**53**	*e*P	**Pn**	**12 48 00.8**	**+0.7**
HHC				AP	pP	12 48 08.1	-1.2
HHC				XP	sP	12 48 13.4	+2.8
HHC				S	**Sn**	**12 50 43.9**	**+1.4**
HHC				XS	sS	12 50 52.8	-13
HHC				AMB	AMB		
	comp=Z,22nm,0.6s						
HHC				AMB	AMB		
	comp=Z,133nm,3.9s						
HHC				LR	LR		
	comp=N,440nm,10.6s						
HHC				LR	LR		
	comp=E,643nm,5.4s						
HHC				LR	LR		
	comp=Z,103nm,5.7s						
CM31	**Chiang Mai Arr**	**14.76**	**169**	*e*P	**Pn**	**12 48 02.1**	**+0.5**
NANT	**Nan**	**14.79**	**162**	P	**Pn**	**12 48 02.0**	**0.0**
WHN	**Wuhan**	**15.78**	**94**	P	**Pn**	**12 48 14.0**	**-1.1**
WHN				S	**Sn**	**12 51 12.8**	**+2.7**
WHN				LR	LR		
	comp=Z,2μm,14.4s						
SMLA	**Simla**	**16.10**	**268**	*e*P	**Pn**	**12 48 19.8**	**+0.6**
BLSP	**Bilaspur**	**16.41**	**232**	*e*P	**Pn**	**12 48 21.6**	**-1.6**
NDI	**New Delhi**	**16.72**	**260**	*e*P	**Pn**	**12 48 28.2**	**+1.1**
NDI				AMb	AMB	12 48 32.2	
	comp=Z,43nm,1.4s						
SONM	**Songino Array**	**16.72**	**25**	Pn	**Pn**	**12 48 27.6**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=203,slow=9.6,SNR=39						
SONM				LR	LR	12 55 24.8	
	comp=Z,697nm,18.8s,baz=209,slow=39						
MK31	**Makanchi Array**	**17.27**	**327**	P	**Pn**	**12 48 33.8**	**-0.2**
MK31				pmax	pmax		
	comp=Z,97nm,1.1s						
MKAR	**Makanchi Array**	**17.27**	**327**	P	**Pn**	**12 48 33.2**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=134,slow=12,SNR=117						
MKAR	**Makanchi Array**	**17.27**	**327**	P	**Pn**	**12 48 33.2**	**-0.8**
KSH	**Kashi**	**17.39**	**297**	*e*P	**Pn**	**12 48 37.5**	**+2.0**
KSH				*e*AP	pP	12 48 45.3	+5.6
KSH				*e*XP	sP	12 48 50.6	+10
KSH				*e*PP		12 48 53.8	
KSH				*e*S	**Sn**	**12 51 47.4**	**-1.7**
KSH				*e*XS	sS	12 51 54.9	-7.2
KSH				*e*PCP	PcP	12 53 14.6	-2.4
KSH				LR	LR		
	comp=N,2μm,7.4s						
KSH				LR	LR		
	comp=E,4μm,7.8s						
KSH				LR	LR		
	comp=Z,1μm,24.0s						
BJT	**Baijiatuan**	**17.60**	**61**	*e*P	**Pn**	**12 48 41.1**	**+2.9**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJT	**Baijiatuan**	**17.60**	**61**	*e*P	**Pn**	**12 48 41.0**	**+2.9**
	comp=Z,6.5nm,0.6s						
BJI	**Beijing**	**17.61**	**61**	P	**Pn**	**12 48 41.8**	**+3.5**
BJI				S	**Sn**	**12 52 02.1**	**+7.6**
BJI				AMB	AMB		
	comp=Z,11nm,0.8s						
BJI				AMB	AMB		
	comp=Z,170nm,5.9s						
BJI				LR	LR		
	comp=N,971nm,16.2s						
BJI				LR	LR		
	comp=E,416nm,17.2s						
BJI				LR	LR		
	comp=Z,575nm,25.7s						
NST	**Nakhon Sawan**	**17.70**	**167**	P	**Pn**	**12 48 41.0**	**+1.7**
KKTK	**Khon Kaen**	**17.74**	**158**	⇓P	**Pn**	**12 48 40.0**	**+0.2**
	comp=Z,247nm,0.7s						
ULHL	**Ulahol**	**18.12**	**306**	P	**Pn**	**12 48 47.9**	**+3.3**
	SNR=19						
ZAK	**Zakamensk**	**18.13**	**15**	*e*P	**Pn**	**12 48 44.3**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GZH	**Guangzhou**	**18.20**	**119**	P	**Pn**	**12 48 40.8**	**-4.7**
GZH				S	**Sn**	**12 51 57.3**	**-11**
GZH				LR	LR		
	comp=N,625nm,10.9s						
GZH				LR	LR		
	comp=E,1μm,11.1s						
GZH				LR	LR		
	comp=Z,2μm,11.0s						
QIZ	**Qiongzhong**	**18.66**	**135**	P	**Pn**	**12 48 49.1**	**-2.0**
QIZ				XP	sP	12 49 03.0	+8.1
QIZ				PP		12 49 09.5	
QIZ				S	**Sn**	**12 52 11.3**	**-8.4**
QIZ				AMB	AMB		
	comp=Z,20nm,1.0s						
QIZ				AMB	AMB		
	comp=Z,109nm,9.3s						
QIZ				LR	LR		
	comp=N,1μm,17.6s						
QIZ				LR	LR		
	comp=E,1μm,18.0s						
QIZ				LR	LR		
	comp=Z,1μm,9.0s						
QIZ	**Qiongzhong**	**18.66**	**135**	*e*P	**Pn**	**12 48 48.8**	**-2.3**
	comp=Z,34nm,1.2s						
KZA	**Kyzart**	**18.74**	**305**	P	**Pn**	**12 48 55.6**	**+3.6**
	SNR=39						
TKM2	**Tokmak 2**	**18.84**	**307**	P	**Pn**	**12 48 56.1**	**+2.8**
	SNR=11						
VIS	**Vishakhapatnam**	**19.06**	**220**	*e*P	**Pn**	**12 48 54.1**	**-1.9**
VIS				AMb	AMB	12 48 57.5	
	comp=Z,42nm,1.2s						
BHPL	**Bhopal**	**19.06**	**244**	*e*P	**Pn**	**12 48 54.0**	**-2.1**
BHPL				AMb	AMB	12 49 00.8	
	comp=Z,107nm,1.4s						
KBK	**Karagaybulak**	**19.17**	**306**	P	**Pn**	**12 48 59.7**	**+2.4**
	SNR=11						
NGP	**Nagpur**	**19.17**	**236**	*e*P	**Pn**	**12 48 55.9**	**-1.4**
NGP				AMb	AMB	12 48 57.9	
	comp=Z,66nm,1.0s						
NJ2	**Nanjing**	**19.27**	**87**	*e*P	**Pn**	**12 48 59.6**	**+1.1**
NJ2				XP	sP	12 49 09.6	+7.9
NJ2				PP		12 49 18.1	
NJ2				S	**Sn**	**12 52 30.0**	**-4.5**
NJ2				AMB	AMB		
	comp=Z,30nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,140nm,3.8s						
NJ2				LR	LR		
	comp=N,1μm,12.1s						
NJ2				LR	LR		
	comp=E,2μm,19.6s						
NJ2				LR	LR		
	comp=Z,2μm,17.2s						
UCH	**Uchtor**	**19.30**	**305**	P	**Pn**	**12 49 01.3**	**+2.4**
	SNR=20						
TLY	**Talaya**	**19.43**	**14**	⇑*e*P	**Pn**	**12 48 58.1**	**-2.4**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FRU	**Bishkek**	**19.46**	**306**	*e*P	**Pn**	**12 49 02.0**	**+1.2**
AAK	**Ala-Archa**	**19.47**	**306**	P	**Pn**	**12 49 03.3**	**+2.5**
	SNR=12						
AAK	**Ala-Archa**	**19.47**	**306**	⇑P	**Pn**	**12 49 02.3**	**+1.4**
	SNR=21						
AAK	**Ala-Archa**	**19.47**	**306**	⇓*e*P	**Pn**	**12 49 01.1**	**+0.2**
AAK				pmax	pmax		
	comp=Z,41nm,1.3s						
AAK	**Ala-Archa**	**19.47**	**306**	*e*P	**Pn**	**12 49 01.5**	**+0.6**
	comp=Z,27nm,0.9s						
AJM	**Ajmer**	**19.66**	**256**	*e*P	**Pn**	**12 49 01.1**	**-2.1**
AJM				AMb	AMB	12 49 09.5	
	comp=Z,68nm,0.9s						
USP	**Ospenovka**	**19.71**	**307**	P	**Pn**	**12 49 05.6**	**+1.8**
	SNR=7.7						
AML	**Almayashu**	**19.84**	**304**	P	**Pn**	**12 49 07.2**	**+1.9**
	SNR=16						
EKS2	**Erkin-Say**	**19.97**	**305**	P	**Pn**	**12 49 08.1**	**+1.2**
	SNR=13						
IRK	**Irkutsk**	**20.09**	**15**	*e*P	**P**	**12 49 07.2**	**+0.7**
IRK				*e*		12 49 26.7	
IRK				pmax	pmax		
	comp=Z,53nm,1.6s						
AKL	**Akola**	**20.90**	**239**	*e*P	**P**	**12 49 15.9**	**+0.6**
AKL				AMb	AMB	12 49 19.7	
	comp=Z,96nm,1.6s						
QZH	**Quanzhou**	**21.30**	**106**	⇓*i*P	**P**	**12 49 21.8**	**+2.2**
QZH				S	**S**	**12 53 14.9**	**-1.2**
QZH				AMB	AMB		
	comp=Z,160nm,0.9s,mb5.3						
QZH				LR	LR		
	comp=N,4μm,13.0s,MS5.0						
QZH				LR	LR		
	comp=E,2μm,12.8s,MS5.0						
QZH				LR	LR		
	comp=Z,2μm,8.6s						
SSE	**Sheshan**	**21.40**	**88**	*e*P	**P**	**12 49 21.6**	**+0.9**
SSE				AP		12 49 31.8	
SSE				S	**S**	**12 53 17.3**	**-0.8**
SSE				SCS	ScS	13 00 40.4	-4.8
SSE				AMB	AMB		
	comp=Z,40nm,1.1s,mb4.7						
SSE				AMB	AMB		
	comp=Z,61nm,3.5s						
SSE				LR	LR		
	comp=N,976nm,18.2s,MS4.3						
SSE				LR	LR		
	comp=E,364nm,18.2s,MS4.3						
SSE				LR	LR		
	comp=Z,710nm,16.4s,MS4.1						
DL2	**Dalian**	**21.50**	**67**	P	**P**	**12 49 26.8**	**+5.1**
DL2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.6						
DL2				LR	LR		
	comp=N,250nm,11.7s,MS4.2						
DL2				LR	LR		
	comp=E,510nm,13.1s,MS4.2						
DL2				LR	LR		
	comp=Z,560nm,14.8s,MS4.1						
KURK	**Kurchatov**	**21.80**	**329**	⇑P	**P**	**12 49 25.4**	**+0.4**
	SNR=22						
KURK	**Kurchatov**	**21.80**	**329**	*c*P	**P**	**12 49 24.9**	**-0.1**
KURK	**Kurchatov**	**21.80**	**329**	*e*P	**P**	**12 49 24.8**	**-0.2**
	comp=Z,39nm,0.9s,mb4.8						
HYB	**Hyderabad**	**22.13**	**230**	*i* P	**P**	**12 49 30.0**	**+1.5**
HYB	**Hyderabad**	**22.13**	**230**	*e*P	**P**	**12 49 28.5**	**0.0**
ZAL	**Zalesovo**	**22.36**	**342**	P	**P**	**12 49 30.9**	**0.0**
	comp=Z,5.7nm,0.9s,mb4.0,baz=319,slow=11,SNR=29						
ZAL				LR	LR	12 59 36.5	
	comp=Z,269nm,22.0s,MS3.6,baz=311,slow=40						
ZAL	**Zalesovo**	**22.36**	**342**	*i* P	**P**	**12 49 30.8**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KK31	**Karatay Array**	**22.38**	**304**	*i* P	**P**	**12 49 32.1**	**+1.0**
KK31				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.6						
KKAR	**Karatay Array**	**22.38**	**304**	P	**P**	**12 49 32.1**	**+1.0**
KKAR				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.5						
CIT	**Chita**	**22.83**	**29**	*e*P	**P**	**12 49 33.7**	**-2.3**
CIT				*e*		12 53 34.3	
CIT				pmax	pmax		
	comp=Z,36nm,2.8s,mb4.3						
SNY	**Shenyang**	**23.49**	**60**	⇑P	**P**	**12 49 45.8**	**+2.9**
SNY				XP	sP	12 49 56.3	+9.2
SNY				PP		12 50 18.4	
SNY				S	**S**	**12 53 59.5**	**+3.3**
SNY				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
SNY				AMB	AMB		
	comp=Z,239nm,5.2s						
SNY				LR	LR		
	comp=N,623nm,12.3s						
SNY				LR	LR		
	comp=Z,458nm,14.5s,MS4.1						
NVS	**Novosibirsk**	**23.58**	**341**	*i* P	**P**	**12 49 42.2**	**-1.6**
NVS				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.3						
NVS				pmax	pmax		
	comp=N,14nm,1.5s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.3s						
YHNB	**Yeheng**	**23.68**	**104**	*e*P	**P**	**12 49 46.5**	**+1.8**
HIA	**Hailar**	**23.96**	**40**	*d*P	**P**	**12 49 50.6**	**+3.3**
HIA	**Hailar**	**23.96**	**40**	*e*P	**P**	**12 49 48.6**	**+1.4**
	comp=E,45nm,1.4s,mb4.7						
NACB	**Ninganchiao**	**24.08**	**105**	*e*P	**P**	**12 49 50.5**	**+2.2**
POO	**Poona**	**24.58**	**239**	*e*P	**P**	**12 49 51.0**	**-1.9**
CN2	**Changchun**	**25.30**	**56**	*e*P	**P**	**12 49 59.1**	**-0.4**
CN2				*e*S	**S**	**12 54 21.4**	**-4.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,500nm,15.0s,MS4.3						
CN2				LR	LR		
	comp=E,600nm,15.0s,MS4.3						
CN2				LR	LR		
	comp=Z,700nm,16.0s,MS4.3						
INCN	**Inchon**	**25.32**	**71**	*e*P	**P**	**12 50 01.4**	**+1.7**
	comp=Z,23nm,0.7s,mb4.8						
VOSK	**Vostochnaya**	**26.66**	**325**	P	**P**	**12 50 12.4**	**+0.6**
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
BVA0	**Borovoye Array**	**27.13**	**325**	P	**P**	**12 50 16.4**	**+0.4**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.6						
BVAR	**Borovoye Array**	**27.13**	**325**	P	**P**	**12 50 16.8**	**+0.7**
	comp=Z,3.4nm,0.8s,mb3.9,baz=129,slow=12,SNR=11						
BVAR				ScP	ScP	12 57 15.8	-1.1
	comp=Z,0.8nm,0.7s,baz=157,slow=4.6,SNR=4.6						
BVAR				LR	LR	13 01 14.7	
	comp=Z,239nm,19.6s,MS3.8,baz=229,slow=37						
BRVK	**Borovoye**	**27.20**	**325**	*e*P	**P**	**12 50 16.6**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.3						
BRVK	**Borovoye**	**27.20**	**325**	*e*P	**P**	**12 50 16.6**	**-0.1**
	comp=Z,11nm,1.2s,mb4.3						
CHKZ	**Chkalovo**	**27.43**	**326**	*i* P	**P**	**12 50 19.0**	**+0.3**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb3.9						
CHKZ	**Chkalovo**	**27.43**	**326**	*e*P	**P**	**12 50 18.2**	**-0.4**
	comp=Z,7.2nm,0.9s,mb4.2						
BOD	**Bodaibo**	**27.62**	**21**	*e*P	**P**	**12 50 19.5**	**-0.9**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.0						
ZRNK	**Zerenda**	**27.77**	**324**	*i* P	**P**	**12 50 21.7**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
ZRNK	**Zerenda**	**27.77**	**324**	*e*P	**P**	**12 50 21.4**	**-0.3**
	comp=Z,4.6nm,0.8s,mb4.2						
MDJ	**Mudanjiang**	**28.39**	**56**	P	**P**	**12 50 28.0**	**+0.7**
MDJ				AP	pP	12 50 36.8	+6.4
MDJ				XP	sP	12 50 40.8	+9.2
MDJ				S	**S**	**12 55 12.8**	**-1.4**
MDJ				XS	sS	12 55 28.3	+9.1
MDJ				SCP	ScP	12 57 17.9	-2.9
MDJ				PCS	PcS	12 57 22.3	+0.4
MDJ				SCS	ScS	13 01 11.6	-2.1
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,48nm,4.2s						
MDJ				LR	LR		

comp=N,330nm,13.3s,MS4.2
MDJ LR LR
comp=E,152nm,13.0s,MS4.2
MDJ LR LR
comp=Z,344nm,15.7s,MS4.0
JOW Kunigami 28.55 94 LR LR 13 04 04.3
comp=Z,343nm,19.3s,MS4.0,baz=226,slow=41
KLR Kul'dur 31.04 48 *e*P **P 12 50 47.6 -3.1**
KLR MLR MLR
comp=E,800nm,15.0s
KLR MLR MLR
comp=Z,900nm,15.0s,MS4.5
AB31 Akbulak array 31.27 312 P **P 12 50 53.5 +0.8**
AB31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
AKTK Aktyubinsk 32.81 313 P **P 12 51 07.1 +0.8**
AKTO Aktyubinsk 32.81 313 P **P 12 51 07.1 +0.8**
comp=Z,9.3nm,0.8s,mb4.8,baz=110,slow=8.7,SNR=36
HABR Khabarovsk 32.93 50 *e*P **P 12 51 09.1 +1.7**
HABR S **S 12 56 23.3 -1.9**
WSAR Wadi Sarin 34.24 263 P **P 12 51 20.1 +1.4**
comp=Z,11nm,1.1s,mb4.7,baz=68,slow=14,SNR=4.0
MJAR Matsushiro Arr 34.62 72 P **P 12 51 23.1 +1.1**
comp=Z,2.3nm,1.0s,mb4.1,baz=281,slow=9.3,SNR=7.8
MJAR LR LR 13 05 56.1
comp=Z,182nm,19.8s,MS3.8,baz=275,slow=37
ARU Arti 34.75 324⇑ *i*P **P 12 51 23.7 +0.5**
ARU *e* 12 52 39.6
ARU *e*PPP 12 52 53.6
ARU *e*SS **S 12 56 52.2 -1.2**
ARU *e*SS SS 12 59 07.3 -17
ARU pmax pmax
comp=Z,22nm,0.9s,mb5.1
YAK Yakutsk 36.08 26*de*P **P 12 51 33.5 -1.1**
YAK pmax pmax
comp=Z,46nm,0.8s,mb5.5
YAK Yakutsk 36.08 26 *e*P **P 12 51 33.3 -1.3**
comp=Z,37nm,0.8s,mb5.4
ASAJ Asahikawa 37.59 59 P **P 12 51 48.9 +1.3**
comp=Z,9.7nm,0.7s,mb4.7,baz=246,slow=11,SNR=12
ASAJ Asahikawa 37.59 59 P **P 12 51 48.9 +1.4**
ASAJ pmax pmax
comp=Z,10.0nm,0.7s
YSS Yuzh-Sakhalins 37.84 54*ce*P **P 12 51 49.5 -0.1**
YSS pmax pmax
comp=Z,40nm,1.7s,mb4.9
YSS Yuzh-Sakhalins 37.84 54 *e*P **P 12 51 48.5 -1.0**
comp=Z,24nm,1.0s,mb4.9
UMR Umm Al-Rimmam 41.14 279 *e*P **P 12 52 17.4 +0.3**
UMR AMb AMB 12 52 24.5
comp=Z,32nm,0.9s,mb5.0
KBD Kabd 41.27 278 *e*P **P 12 52 18.5 +0.3**
KBD AMb AMB 12 52 20.1
comp=Z,42nm,0.6s,mb5.3
GNI Garni 41.30 295 P **P 12 52 20.0 +1.6**
comp=Z,3.4nm,0.4s,mb4.3,baz=112,slow=12,SNR=3.2
GNI Garni 41.30 295*c i*P **P 12 52 20.7 +2.3**
GNI pmax pmax
comp=Z,20nm,1.3s
MIB Mutribah 41.38 279 *e*P **P 12 52 18.7 -0.4**
MIB AMb AMB 12 52 21.0
comp=Z,18nm,0.5s,mb5.0
RDF Al-Radifah 41.47 278 *e*P **P 12 52 20.0 +0.1**
RDF AMb AMB 12 52 27.2
comp=Z,46nm,1.1s,mb5.0
NAY Al-Naaiem 41.63 278 *e*P **P 12 52 21.0 -0.1**
NAY AMb AMB 12 52 22.8
comp=Z,7.5nm,0.4s,mb4.7
GOF Gofitskoye 42.16 303 *e*P **P 12 52 25.6 +0.1**
GOF pmax pmax
comp=Z,40nm,0.8s,mb5.1
TIXI Tiksi 42.41 15*ce*P **P 12 52 28.6 +1.1**
TIXI pmax pmax
comp=Z,17nm,1.7s,mb4.4
KIV Kislovodsk 42.47 301 *e*P **P 12 52 30.5 +2.5**
KIV pmax pmax
comp=Z,15nm,1.1s,mb4.5
KIV MLR MLR
comp=Z,116nm,17.0s,MS3.8
VRSR Storozhevoye 44.69 312 *e*P **P 12 52 45.9 0.0**
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,20nm,0.9s
KLMR Klimovskoe 45.56 325 *e*P **P 12 52 52.8 0.0**
KLMR pmax pmax
comp=Z,50nm,1.0s,mb5.4
MOS Moscow 45.85 318 *e*P **P 12 52 54.6 -0.5**
MOS *i* 12 53 02.9
MOS *e* 12 54 43.8
MOS pmax pmax
comp=Z,38nm,1.0s,mb5.3
ANN Anapa 46.15 303 *e*P **P 12 52 57.0 -0.5**
ANN *e* 12 54 45.2
ANN *e*S **S 12 59 42.4 -1.0**
ANN pmax pmax
comp=Z,37nm,1.2s,mb5.2
OBN Obninsk 46.41 317*d i*P **P 12 52 59.3 -0.2**
OBN *e*S **S 12 59 44.6 -2.6**
OBN pmax pmax
comp=Z,27nm,1.2s,mb5.0
OBN MLR MLR
comp=Z,100nm,13.0s,MS4.0
GUMO Guam 48.38 102 LR LR 13 12 10.1
comp=Z,78nm,18.4s,MS3.7,baz=90,slow=34
ASF Jabal al Asfar 49.22 286 P **P 12 53 22.7 +1.4**
comp=Z,4.5nm,0.7s,mb4.6,baz=277,slow=8.4,SNR=6.7
JOF Joensuu 49.70 327 *ep* **P 12 53 24.1 -0.9**
comp=Z,16nm,0.7s,mb5.2
BR131 Keskin Array S 49.78 296 *e*P **P 12 53 26.0 +0.4**
comp=Z,2.4nm,0.7s,mb4.3
BRTR Keskin Array B 49.78 296 P **P 12 53 26.0 +0.5**
comp=Z,2.7nm,0.8s,mb4.3,baz=92,slow=5.8,SNR=11
AKASG Malin Array Be 51.00 311 P **P 12 53 34.5 -0.3**
comp=Z,4.4nm,0.6s,mb4.6,baz=76,slow=6.5,SNR=17
AKASG Malin Array Be 51.00 311 P **P 12 53 34.5 -0.3**
AKBB Malin Array Si 51.00 311 *e*P **P 12 53 33.9 -0.9**
EIL Elat 51.62 284 *e*P **P 12 53 39.7 +0.3**
comp=Z,148nm,0.8s
VSU Vasula 51.84 321*c i*P **P 12 53 41.0 -0.1**
KAF Kangasniemi 51.98 326 *ep* **P 12 53 41.2 -0.9**
comp=Z,9.5nm,0.8s,mb4.8,baz=89,slow=7.4
KAF Kangasniemi 51.98 326 *e*P **P 12 53 41.2 -0.9**
KAF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
FIA1 FINESS Array S 52.09 325 *e*P **P 12 53 42.6 -0.3**
FINES FINESS Array B 52.09 325 P **P 12 53 42.3 -0.7**
comp=Z,8.0nm,0.7s,mb4.8,baz=86,slow=7.8,SNR=50
FINES LR LR 13 16 56.3
comp=Z,70nm,19.0s,MS3.7,baz=146,slow=37
FINES FINESS Array B 52.09 325 *i* P **P 12 53 43.0 0.0**
FINES pmax pmax
comp=Z,8.0nm,0.7s
KEV Kevo 52.16 336 *ep* **P 12 53 42.9 -0.5**
comp=Z,1.7nm,0.5s,mb4.2
KEV Kevo 52.16 336 *e*P **P 12 53 42.9 -0.5**
KEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
ARCES ARCESS Array B 52.66 335 P **P 12 53 46.6 -0.6**
comp=Z,1.8nm,0.5s,mb4.3,baz=85,slow=7.7,SNR=28
ARCES PcP PcP 12 54 55.2 -1.9
comp=Z,3.2nm,0.7s,baz=74,slow=4.4,SNR=5.9
ARCES LR LR 13 18 41.1
comp=Z,290nm,18.1s,MS4.4,baz=292,slow=39
ARCES ARCESS Array B 52.66 335 P **P 12 53 46.6 -0.6**
ARCES 12 54 55.2
ARCES ARCESS Array B 52.66 335 P **P 12 53 46.6 -0.6**
ARCES PcP PcP 12 54 55.2 -1.9
ARCES LR LR 13 18 41.1
ARE0 ARCESS Array S 52.66 335 *e*P **P 12 53 47.2 0.0**
VRI Vrincioaia 53.43 306⇓ *i*P **P 12 53 53.9 +1.0**
VRI Vrincioaia 53.43 306 ⇓P **P 12 53 53.9 +1.1**
MLR Muntele Rosu 54.05 305⇓ *i*P **P 12 53 58.5 +1.1**
MLR Muntele Rosu 54.05 305 ⇓P **P 12 53 58.5 +1.1**
BURAR Bucovina Array 54.09 308⇑ *i*P **P 12 53 58.1 +0.4**
BURAR Bucovina Array 54.09 308 ⇑P **P 12 53 58.1 +0.4**
SUW Suwalki 54.24 316 *e*P **P 12 53 59.1 +0.3**
KWP Kalwaria 55.31 311 *e*P **P 12 54 07.3 +0.8**
KOLS Kolonicke sedl 55.74 310 *e*P **P 12 54 08.0 -1.6**
KOLS pmax pmax
comp=Z,32nm,2.8s,mb4.9
KOLS Kolonicke sedl 55.74 310 *e*P **P 12 54 08.0 -1.6**
comp=Z,32nm,2.8s,mb4.9
DRGR 55.94 307⇓ *i*P **P 12 54 11.9 +0.8**
VYHS Vyhne 58.05 310 *e*P **P 12 54 26.3 +0.3**
VYHS pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
VYHS Vyhne 58.05 310 *e*P **P 12 54 26.3 +0.3**
comp=Z,2.9nm,1.1s,mb4.2
FITZ Fitzroy Crossi 58.21 146 *e*P **P 12 54 25.9 -1.2**
comp=Z,5.0nm,0.9s,mb4.5
FITZ Fitzroy Crossi 58.21 146 P **P 12 54 25.6 -1.5**
comp=Z,2.6nm,0.8s,mb4.3,baz=325,slow=5.8,SNR=5.7
FITZ LR LR 13 22 39.7
comp=Z,90nm,20.2s,MS3.9,baz=172,slow=39
MORC Moravsky Berou 58.53 312 *e*P **P 12 54 29.6 +0.2**
MORC pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
MORC Moravsky Berou 58.53 312 *e*P **P 12 54 29.6 +0.2**
comp=Z,5.2nm,1.1s,mb4.5
NB2 NORSAR Subarra 59.26 326 P **P 12 54 33.6 -0.9**
comp=Z,87nm,0.9s,mb4.8,baz=76,slow=6.9
NOA NORSAR Array B 59.26 326 P **P 12 54 33.0 -1.5**
comp=Z,6.8nm,0.8s,mb4.7,baz=76,slow=6.9,SNR=26
NOA LR LR 13 21 46.9
comp=Z,121nm,20.1s,MS4.0,baz=70,slow=38
NAO01 NORSAR Array S 59.46 325 *e*P **P 12 54 34.4 -1.5**
comp=Z,1.5nm,0.4s,mb4.4
KONO Kongsberg 60.39 324*c i*P **P 12 54 41.5 -0.7**
GROS Grobnik 60.80 309 *e*P **P 12 54 45.0 0.0**
GOLS Golise 60.87 308 *i* P **P 12 54 45.8 +0.3**
CLL Collm 60.88 315⇑⇑P **P 12 54 45.4 -0.2**
comp=Z,logA/T=0.7,mb4.6
CLL *e*S **S 13 03 10.0 +6.6**
CLL Collm 60.88 315⇑ *i*P **P 12 54 45.4 -0.2**
comp=Z,5.0nm,0.9s,mb4.6
CLL *e*S **S 13 03 10.0 +6.6**
KHC Kasperske Hory 61.20 312⇑ *e*P **P 12 54 48.8 +1.1**
GERES GERESS Array B 61.21 312 P **P 12 54 48.0 +0.2**
comp=Z,2.0nm,0.8s,mb4.3,baz=77,slow=5.9,SNR=18
GERES LR LR 13 24 09.1
comp=Z,87nm,18.4s,MS3.9,baz=271,slow=39
PDKS Podkum 61.26 308 *e*P **P 12 54 48.3 +0.2**
GRA1 Grafenberg Arr 62.48 313 *e*P **P 12 54 56.7 +0.4**
comp=Z,10.0nm,1.0s,mb4.9
GRF Grafenberg Arr 62.48 313 *e*P **P 12 54 56.7 +0.4**
GRF Grafenberg Arr 62.48 313 *e*P **P 12 54 56.7 +0.4**
comp=Z,10.0nm,1.0s,mb4.9
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
GRF Grafenberg Arr 62.48 313 *e*P **P 12 54 56.7 +0.4**
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
JMIC Jan Mayen 63.66 339 LR LR 13 23 22.8
comp=Z,83nm,21.8s,MS3.9,baz=111,slow=37
WRAB Tennant Creek 64.15 140⇓ *i*P **P 12 55 10.9 +3.5**
WRAB Tennant Creek 64.15 140 *e*P **P 12 55 07.5 +0.1**
comp=Z,8.3nm,0.8s,mb4.8
WRA Warramunga Arr 64.16 140 P **P 12 55 06.9 -0.6**
comp=Z,2.0nm,0.5s,mb4.5,baz=312,slow=11,SNR=29
WB2 Warramunga Arr 64.16 140 *e*P **P 12 55 06.5 -1.0**
PMG Port Moresby 64.41 122*c i*P **P 12 55 12.7 +3.6**
PMG Port Moresby 64.41 122 *e*P **P 12 55 11.9 +2.8**
comp=Z,44nm,1.3s,mb5.3
BFO Black Forest 64.74 312 *e*P **P 12 55 10.9 -0.4**
KMBO Kilima Mbogo 64.86 251 P **P 12 55 11.8 -0.3**
comp=Z,3.0nm,0.6s,mb4.5,baz=46,slow=16,SNR=8.4
KMBO LR LR 13 25 04.3
comp=Z,61nm,20.6s,MS3.8,baz=89,slow=38
KMBO Kilima Mbogo 64.86 251⇑ *e*P **P 12 55 12.3 +0.2**
KMBO Kilima Mbogo 64.86 251 P **P 12 55 11.8 -0.3**
KMBO LR LR 13 25 04.3
CDF Champ du Feu 65.36 313 *e*P **P 12 55 14.8 -0.5**
comp=Z,11nm,1.1s,mb4.5
CDF Champ du Feu 65.36 313 *e*P **P 12 55 14.8 -0.5**
CDF pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
CDF Champ du Feu 65.36 313 *e*P **P 12 55 14.8 -0.5**
comp=Z,5.5nm,1.1s,mb4.5
WLF Walferdange 65.56 314 P **P 12 55 17.6 +1.0**
WLF Walferdange 65.56 314 *e*P **P 12 55 17.5 +0.9**
WLF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
WLF Walferdange 65.56 314 *e*P **P 12 55 17.5 +0.9**
comp=Z,10nm,0.9s,mb4.8
HINF Hinteralfeld 65.85 312 *e*P **P 12 55 17.9 -0.6**
comp=Z,1.9nm,0.4s,mb4.1
HINF Hinteralfeld 65.85 312 *e*P **P 12 55 17.9 -0.6**
HINF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
HINF Hinteralfeld 65.85 312 *e*P **P 12 55 17.9 -0.6**
comp=Z,0.9nm,0.4s,mb4.2
HAU Haudompre 66.09 313 *e*P **P 12 55 19.8 -0.2**
HAU *e*R
comp=Z,68nm,18.8s
HAU Haudompre 66.09 313 *e*P **P 12 55 19.8 -0.2**
HAU LR LR
comp=Z,70nm,18.8s,MS3.9
PGF Pioggiola 66.55 306 *e*P **P 12 55 22.6 -0.4**
BAIF Baives 66.56 315 *e*P **P 12 55 22.5 -0.5**
comp=Z,13nm,1.2s,mb4.5
BAIF Baives 66.56 315 *e*P **P 12 55 22.5 -0.5**
BAIF pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
BAIF Baives 66.56 315 *e*P **P 12 55 22.5 -0.5**
comp=Z,6.7nm,1.2s,mb4.5
CABF La Chapelle 66.81 311 *e*P **P 12 55 24.3 -0.3**
LPG La Plagne 66.84 310 *e*P **P 12 55 25.2 +0.4**
comp=Z,19nm,0.7s,mb5.0
LPG La Plagne 66.84 310 *e*P **P 12 55 25.2 +0.4**
LPG pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
LPG La Plagne 66.84 310 *e*P **P 12 55 25.2 +0.4**
comp=Z,9.6nm,0.7s,mb4.9
LPL La Plagne 66.84 310 *e*P **P 12 55 25.0 +0.2**
comp=Z,19nm,0.8s,mb4.9
LPL La Plagne 66.84 310 *e*P **P 12 55 25.0 +0.2**
LPL pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
LPL La Plagne 66.84 310 *e*P **P 12 55 25.0 +0.2**
comp=Z,9.7nm,0.8s,mb4.9
ASPA Alice Springs 66.97 142 *e*P **P 12 55 24.8 -0.8**
AS31 Alice Springs 66.97 142 *e*P **P 12 55 24.8 -0.9**
ASAR Alice Springs 66.97 142 P **P 12 55 24.8 -0.9**
comp=Z,3.7nm,0.4s,mb4.7,baz=326,slow=6.4,SNR=51
SBF Sospel 67.06 308 *e*P **P 12 55 25.9 -0.3**
comp=Z,32nm,0.9s,mb5.0
SBF Sospel 67.06 308 *e*P **P 12 55 25.9 -0.3**
SBF pmax pmax
comp=Z,16nm,0.9s,mb5.0
SBF Sospel 67.06 308 *e*P **P 12 55 25.9 -0.3**
comp=Z,16nm,0.9s,mb5.0
MBDF Montbardon 67.14 309 *e*P **P 12 55 26.0 -0.7**
comp=Z,9.3nm,0.8s,mb4.6
MBDF Montbardon 67.14 309 *e*P **P 12 55 26.0 -0.7**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MBDF Montbardon 67.14 309 *e*P **P 12 55 26.0 -0.7**
comp=Z,4.7nm,0.8s,mb4.6
ORIF Oris-en-Rattie 67.64 310 *e*P **P 12 55 29.3 -0.6**
comp=Z,8.5nm,0.6s,mb4.7
ORIF *e*R
comp=Z,135nm,19.2s
ORIF Oris-en-Rattie 67.64 310 *e*P **P 12 55 29.3 -0.6**
ORIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ORIF Oris-en-Rattie 67.64 310 *e*P **P 12 55 29.3 -0.6**
comp=Z,4.3nm,0.6s,mb4.7
FRF La Foret Royal 67.71 308 *e*P **P 12 55 29.5 -0.8**
LMR La Mourre 67.89 308 *e*P **P 12 55 30.8 -0.7**
comp=Z,19nm,0.9s,mb4.8
LMR La Mourre 67.89 308 *e*P **P 12 55 30.8 -0.7**
LMR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LMR La Mourre 67.89 308 *e*P **P 12 55 30.8 -0.7**
comp=Z,9.6nm,0.9s,mb4.8
LOR Lormes 67.92 313 *e*P **P 12 55 30.8 -0.9**
comp=Z,6.8nm,0.9s,mb4.4
LOR *e*R
comp=Z,57nm,18.8s
LOR Lormes 67.92 313 *e*P **P 12 55 30.8 -0.9**
LOR pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
LOR MLR MLR
comp=Z,60nm,18.8s,MS3.9
LOR Lormes 67.92 313 *e*P **P 12 55 30.8 -0.9**
comp=Z,3.4nm,0.9s,mb4.4
LOR LR LR
comp=Z,60nm,18.8s,MS3.9
SMF Signal de Mont 68.20 312 *e*P **P 12 55 32.7 -0.7**
comp=Z,28nm,1.3s,mb4.8
SMF Signal de Mont 68.20 312 *e*P **P 12 55 32.7 -0.7**
SMF pmax pmax
comp=Z,14nm,1.3s,mb4.8
SMF Signal de Mont 68.20 312 *e*P **P 12 55 32.7 -0.7**
comp=Z,14nm,1.3s,mb4.8
SSF Saint Saulge 68.23 313 *e*P **P 12 55 33.0 -0.6**
AVF Avril sur Loir 68.44 312 *e*P **P 12 55 34.2 -0.7**
comp=Z,19nm,1.0s,mb4.8
AVF Avril sur Loir 68.44 312 *e*P **P 12 55 34.2 -0.7**
AVF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
AVF Avril sur Loir 68.44 312 *e*P **P 12 55 34.2 -0.7**
comp=Z,9.6nm,1.0s,mb4.8
VIVF Saint-Julien-l 68.44 310 *e*P **P 12 55 34.4 -0.5**
BGF Bois d'Agland 68.86 312 *e*P **P 12 55 37.1 -0.4**
comp=Z,5.3nm,0.5s,mb4.4
BGF Bois d'Agland 68.86 312 *e*P **P 12 55 37.1 -0.4**
BGF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
BGF Bois d'Agland 68.86 312 *e*P **P 12 55 37.1 -0.4**
comp=Z,2.7nm,0.5s,mb4.4
LASF Ste Croix 69.31 310 *e*P **P 12 55 39.3 -1.0**
TCF Toulx Ste Croi 69.37 312 *e*P **P 12 55 40.4 -0.3**
comp=Z,19nm,0.9s,mb4.7
TCF Toulx Ste Croi 69.37 312 *e*P **P 12 55 40.4 -0.3**
TCF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
TCF Toulx Ste Croi 69.37 312 *e*P **P 12 55 40.4 -0.3**
comp=Z,9.4nm,0.9s,mb4.7
LDF La Druitiere 69.75 315 *e*P **P 12 55 42.6 -0.4**
SVW2 Sparrevohn 69.78 29 *e*P **P 12 55 42.8 -0.4**
MBAR Mbarara 69.79 255⇑ *e*P **P 12 55 46.9 +3.6**
FLN La Foliniere 69.88 316 *e*P **P 12 55 43.2 -0.7**
CAF Calviac 70.08 311 *e*P **P 12 55 44.6 -0.4**
comp=Z,7.8nm,0.8s,mb4.4
CAF Calviac 70.08 311 *e*P **P 12 55 44.6 -0.4**
CAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CAF Calviac 70.08 311 *e*P **P 12 55 44.6 -0.4**
comp=Z,3.9nm,0.8s,mb4.4
RJF Les Rejaudoux 70.25 312 *e*P **P 12 55 46.3 +0.2**
comp=Z,24nm,1.1s,mb4.7
RJF *e*R
comp=Z,121nm,22.8s
RJF Les Rejaudoux 70.25 312 *e*P **P 12 55 46.3 +0.2**
RJF pmax pmax
comp=Z,12nm,1.1s,mb4.7
RJF MLR MLR
comp=Z,120nm,22.8s,MS4.1
RJF Les Rejaudoux 70.25 312 *e*P **P 12 55 46.3 +0.2**
comp=Z,12nm,1.1s,mb4.7
RJF LR LR
comp=Z,120nm,22.8s,MS4.1
GRR Gorron 70.28 315 *e*P **P 12 55 45.6 -0.7**
comp=Z,15nm,0.7s,mb4.7
GRR Gorron 70.28 315 *e*P **P 12 55 45.6 -0.7**
GRR pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
GRR Gorron 70.28 315 *e*P **P 12 55 45.6 -0.7**
comp=Z,7.6nm,0.7s,mb4.7
COLA College 70.56 24⇑ *i*P **P 12 55 46.3 -1.7**
COLA College 70.56 24 P **P 12 55 46.2 -1.8**
comp=Z,3.7nm,0.7s,mb4.4
MTLF Montolieu 70.70 310 *e*P **P 12 55 48.4 -0.5**
comp=Z,3.0nm,0.7s,mb4.1
MTLF Montolieu 70.70 310 *e*P **P 12 55 48.4 -0.5**
MTLF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MTLF Montolieu 70.70 310 *e*P **P 12 55 48.4 -0.5**
comp=Z,1.5nm,0.6s,mb4.1
SGMF Saint Gilles 71.34 316 *e*P **P 12 55 52.3 -0.4**
comp=Z,7.0nm,0.6s,mb4.5
SGMF Saint Gilles 71.34 316 *e*P **P 12 55 52.3 -0.4**
SGMF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
SGMF Saint Gilles 71.34 316 *e*P **P 12 55 52.3 -0.4**
comp=Z,3.5nm,0.6s,mb4.5
CTA Charters Tower 71.36 130 P **P 12 55 53.4 +0.5**
comp=Z,3.3nm,0.7s,mb4.4,baz=344,slow=7.4,SNR=3.4
ROSF Rostrenen 71.72 316 *e*P **P 12 55 54.4 -0.6**
comp=Z,25nm,0.9s,mb4.8
ROSF Rostrenen 71.72 316 *e*P **P 12 55 54.4 -0.6**
ROSF pmax pmax
comp=Z,13nm,0.9s,mb4.9
ROSF Rostrenen 71.72 316 *e*P **P 12 55 54.4 -0.6**
comp=Z,13nm,0.9s,mb4.8
QUIF Quistinic 71.86 316 *e*P **P 12 55 55.1 -0.8**
EPF Esparros 72.06 310 *e*P **P 12 55 56.2 -0.9**
PMR Palmer 72.07 27 *e*P **P 12 55 55.2 -1.9**
PMR pmax pmax
comp=Z,11nm,0.8s,mb4.8
PMR Palmer 72.07 27 *e*P **P 12 55 55.2 -1.9**
comp=Z,11nm,0.8s,mb4.8
INK Inuvik 72.47 17 LR LR 13 32 35.0
comp=Z,94nm,18.6s,MS4.1,baz=346,slow=40
INK Inuvik 72.47 17 *e*P **P 12 55 58.0 -1.5**
INK pmax pmax
comp=Z,8.0nm,0.9s
INK Inuvik 72.47 17 *e*P **P 12 55 58.0 -1.5**
comp=Z,7.9nm,0.9s,mb4.6
ETSF Etsaut 72.70 310 *e*P **P 12 56 00.4 -0.5**
comp=Z,7.4nm,0.7s,mb4.4
ETSF Etsaut 72.70 310 *e*P **P 12 56 00.4 -0.5**
ETSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ETSF Etsaut 72.70 310 *e*P **P 12 56 00.4 -0.5**
comp=Z,3.7nm,0.7s,mb4.4
KDAK Kodiak Island 72.89 31 P **P 12 56 00.7 -1.4**
comp=Z,12nm,0.7s,mb4.9,baz=314,slow=1.9,SNR=7.0
HNR Honiara 73.98 113 LR LR 13 26 04.1
comp=Z,75nm,19.1s,MS4.0,baz=357,slow=34
ESDC Sonseca Array 76.54 309 P **P 12 56 22.9 -0.3**
comp=Z,1.1nm,0.8s,mb3.9,baz=41,slow=5.7,SNR=10.0
STKA Stephens Creek 77.59 142 P **P 12 56 28.3 -0.8**
comp=Z,1.3nm,0.4s,mb4.2,baz=332,slow=3.7,SNR=5.6
SKAG Skagway 78.53 24 *e*P **P 12 56 33.8 -0.5**
LSZ Lusaka 80.58 245 *e*P **P 12 56 45.9 +0.4**
LSZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LSZ Lusaka 80.58 245 *e*P **P 12 56 45.9 +0.4**
comp=Z,4.2nm,0.6s,mb4.5
LSZ *e* pP 12 56 49.8 +1.1
YKA Yellowknife Ar 81.66 14 P **P 12 56 49.7 -1.4**
comp=Z,1.8nm,0.7s,mb4.1,baz=336,slow=4.7,SNR=15
YKA LR LR 13 33 16.5
comp=Z,57nm,19.2s,MS4.0,baz=0.0,slow=36
YKA Yellowknife Ar 81.66 14 P **P 12 56 49.7 -1.5**
YKA LR LR 13 33 16.4
TORD Torodi Ar. Bea 86.51 283 P **P 12 57 16.2 +0.3**
comp=Z,2.3nm,0.6s,mb4.6,baz=53,slow=4.7,SNR=15
TORD LR LR 13 39 14.0
comp=Z,52nm,19.9s,MS3.9,baz=55,slow=38
BOSA Boshof 90.88 236 P **P 12 57 36.8 +0.2**
comp=Z,3.0nm,0.8s,mb4.7,baz=99,slow=8.1,SNR=4.2
BOSA LR LR 13 36 01.0
comp=Z,104nm,18.8s,MS4.3,baz=0.6,slow=34
SCHQ Schefferville 91.24 350 P **P 12 57 37.4 -0.9**
comp=Z,2.3nm,0.9s,mb4.5,baz=25,slow=19,SNR=2.7
SCHQ LR LR 13 40 55.0
comp=Z,65nm,21.3s,MS4.0,baz=82,slow=37
DBIC Dimbokro 95.44 282 LR LR 13 44 56.0
comp=Z,99nm,19.4s,MS4.3,baz=30,slow=38
ULM Lac du Bonnet 96.40 8 LR LR 13 43 20.2
comp=Z,84nm,20.0s,MS4.2,baz=7.3,slow=37
OTAV Otavalo 146.49 350 *e*PKP PKPdf 13 04 13.9 +1.1

*ISCJB **23** 12:48:15.4±0.3, 46°33.N±002×12°59.E±002, h8km, Error ellipse: s-maj=3.0km s-min=2.1km az=45.7*
*CSEM **23** 12:48:15.3±0.1, 46°33.N×12°63.E, h20km, ML2.6/6, Error ellipse: s-maj=2.1km s-min=1.2km az=16.0*
*ROM **23** 12:48:15.9±0.1, 46°36.N×12°66.E, h10km, Md2.4/5, Ml1.7/4, Error ellipse: s-maj=2.2km s-min=1.5km az=13.0*
*VIE **23** 12:48:16.1±0.2, 46°37.N×12°61.E, h8km, mb1.5/1, ML2.1/5, Error ellipse: s-maj=2.1km s-min=0.7km az=21.0 16 km WSW of Ampezzo*

ISC 23 12:48:15.7±0.6, 46°32.N±002×12°59.E±002, h13km±7km, n27, s0°68/51, 15C-8D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLNI	**Malnisio**	**0.17**	**176**	⇓ *i*Pg	**Pg**	**12 48 19.2**	**-0.4**
MLNI				*i* Sg	**Sg**	**12 48 22.4**	**+0.1**

CSO	**Casso**	**0.19**	**257**	⇑	*e*Pg		**Pg**	**12 48 19.4**	**-0.6**
CSO					*e*Sg		**Sg**	**12 48 22.4**	**-0.5**
CSMI	**Casera Mimoias**	**0.20**	**12**	⇑	*i*Pg		**Pg**	**12 48 20.0**	**-0.2**
CSMI					*i* Sg		**Sg**	**12 48 23.0**	**-0.1**
MPRI	**Monte Prat**	**0.28**	**105**	⇑	*i*Pg		**Pg**	**12 48 21.2**	**-0.4**
MPRI					*i* Sg		**Sg**	**12 48 25.8**	**+0.3**
FVI	**Forni Avoltri**	**0.31**	**25**		Pg		**Pg**	**12 48 21.9**	**-0.1**
FVI					Sg		**Sg**	**12 48 26.6**	**+0.3**
	199nm,0.2s								
BOO	**Bordano**	**0.35**	**89**	⇓	*i*Pg		**Pg**	**12 48 22.1**	**-0.7**
BOO					*i* Sg		**Sg**	**12 48 27.6**	**+0.1**
ZOU	**Zoufplan**	**0.36**	**47**	⇑	*i*Pg		**Pg**	**12 48 22.7**	**-0.1**
ZOU					*i* Sg		**Sg**	**12 48 28.1**	**+0.4**
BUA	**Buia**	**0.38**	**105**	⇑	*e*Pg		**Pg**	**12 48 23.2**	**-0.1**
BUA					*e*Sg		**Sg**	**12 48 29.7**	**+1.2**
FAU	**Forcella Aurin**	**0.43**	**259**	⇑	*e*Pg		**Pg**	**12 48 23.9**	**-0.4**
GMNA	**Gemona**	**0.45**	**95**		Pg		**Pg**	**12 48 23.1**	**-1.5**
GMNA					Sg		**Sg**	**12 48 29.2**	**-1.4**
	120nm,0.3s								
PLRO	**Paularo**	**0.45**	**58**	⇓	*i*Pg		**Pg**	**12 48 24.4**	**-0.2**
PLRO					*i* Sg		**Sg**	**12 48 31.2**	**+0.6**
BAD	**Bernadia**	**0.46**	**100**	⇑	*i*Pg		**Pg**	**12 48 24.2**	**-0.6**
BAD					*i* Sg		**Sg**	**12 48 31.7**	**+0.8**
SEST	**Monte Rota**	**0.51**	**329**		Pg		**Pg**	**12 48 25.8**	**+0.1**
SEST					Sg		**Sg**	**12 48 33.2**	**+0.8**
	34nm,0.2s								
PTCC	**Patocco-Chiusa**	**0.53**	**80**		Pg		**Pg**	**12 48 25.5**	**-0.7**
PTCC					Sg		**Sg**	**12 48 32.9**	**-0.4**
	12nm,0.2s								
COLI	**Coloredo**	**0.57**	**108**	⇓	*e*Pg		**Pg**	**12 48 26.5**	**-0.4**
COLI					*e*Sg		**Sg**	**12 48 36.0**	**+1.4**
CTI	**Castel Tesino**	**0.71**	**248**		Pg		**Pg**	**12 48 30.4**	**+0.9**
	40nm,0.3s								
KBA	**Koelnbreinsper**	**0.92**	**34**	⇑	*i*Pg		**Pg**	**12 48 33.3**	**-0.2**
KBA				⇑	*i*Sg		**Sg**	**12 48 45.4**	**-0.1**
	7.2nm,0.1s								
KBA	**Koelnbreinsper**	**0.92**	**34**		Pg		**Pg**	**12 48 33.3**	**-0.2**
KBA					Sg		**Sg**	**12 48 45.4**	**-0.2**
	7.2nm,0.1s								
VOY	**Vojsko**	**0.95**	**107**		*e*Pg		**Pg**	**12 48 34.6**	**+0.6**
VOY					*e*Sg		**Sg**	**12 48 48.2**	**+1.8**
WTTA	**Wattenberg**	**1.15**	**326**	⇓	*i*Pg		**Pg**	**12 48 37.9**	**0.0**
WTTA				⇑	*i*Sg		**Sg**	**12 48 53.3**	**+0.3**
	8.8nm,0.3s								
WATA	**Walderalm**	**1.24**	**326**	⇑	*i*Pg		**Pg**	**12 48 39.4**	**-0.1**
WATA				⇓	*i*Sg		**Sg**	**12 48 55.7**	**+0.1**
	2.6nm,0.2s								
SQTA	**Sankt Quirin**	**1.31**	**314**	⇑	*i*Pg		**Pg**	**12 48 40.7**	**-0.2**
SQTA				⇑	*i*Sg		**Sg**	**12 48 58.8**	**+0.8**
	4.5nm,0.3s								
SQTA	**Sankt Quirin**	**1.31**	**314**		Pg		**Pg**	**12 48 40.7**	**-0.3**
SQTA					Sg		**Sg**	**12 48 58.8**	**+0.7**
	4.5nm,0.3s								
MOTA	**Moosalm**	**1.45**	**316**	⇑	*i*Pg		**Pg**	**12 48 43.2**	**-0.4**
MOTA				⇓	*i*Sg		**Sg**	**12 49 03.4**	**+1.0**
	3.3nm,0.2s								
MABI	**Malga Bissina**	**1.47**	**261**		Pg		**Pg**	**12 48 44.2**	**+0.3**
	3.0nm,0.2s								
MOA	**Molln**	**1.91**	**36**	⇑	*i*Pg		**Pg**	**12 48 51.0**	**-1.4**
MOA				⇓	*i*Sg		**Sg**	**12 49 16.7**	**-0.5**
	3.8nm,0.3s								
MOA	**Molln**	**1.91**	**36**		Pg		**Pg**	**12 48 51.0**	**-1.4**
MOA					Sg		**Sg**	**12 49 16.7**	**-0.5**
	3.8nm,0.3s								

CSEM ***23*** *12:49:25.7±0.4,41°71'N×8°62'W,h20km,ML1.2, Error ellipse: s-maj=10.4km s-min=6.1km az=68.0*
INMG ***23*** *12:49:25.2±1.1,41°78'N×8°67'W,h0km,ML1.2, Error ellipse: s-maj=5.2km s-min=2.5km az=76.0*

MDD 23 12:49:25.7±0.8, 41°78'N×8°63'W, h0km, mbLg1.6/8, 1C, Error ellipse: s-maj=6.3km s-min=4.5km az=57.0, PRXIMO, Portugal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELOB	**Lobios**	**0.44**	**79**	⇑Pg	Pg	12 49 33.8	-0.3
	1.8nm,0.1s,SNR=18						
ELOB				Lg		12 49 39.4	
	6.8nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**0.44**	**79**	Pg	Pg	12 49 33.8	-0.2
	1.8nm,0.1s,SNR=18						
ELOB				Lg		12 49 39.4	
	6.8nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**0.46**	**99**	*e*Pg	Pg	12 49 34.1	-0.4
PCAB				*e*Sg	Sg	12 49 40.6	+0.2
PCAB							
	8.4nm,0.1s						
PCAB	**Cabril**	**0.46**	**99**	*e*Pg	Pg	12 49 34.1	-0.4
PCAB				*e*Sg	Sg	12 49 40.6	+0.2
	8.4nm,0.1s						
PVRL	**Vila Real**	**0.85**	**126**	*e*P	Pg	12 49 41.3	-0.8
PVRL				*e*S	Sg	12 49 52.9	-0.2
PVRL							
	10nm,0.1s						
PVRL	**Vila Real**	**0.85**	**126**	*e*P	Pg	12 49 41.3	-0.8
PVRL				*e*S	Sg	12 49 52.9	-0.2
	10nm,0.1s						
STS	**Santiago**	**1.10**	**3**	Lg		12 49 59.9	
	5.7nm,0.1s,SNR=4.0						
EMAZ	**Mazaricos**	**1.19**	**348**	Pg	Pg	12 49 47.9	-0.7
	0.5nm,0.1s,SNR=4.0						
EMAZ				Lg		12 50 02.9	
	1.5nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**1.19**	**348**	Pg	Pg	12 49 47.9	-0.7
	0.5nm,0.1s,SNR=4.0						
PVIS	**Viseu**	**1.20**	**152**	*e*P	Pg	12 49 47.2	-1.5
PVIS				*e*S	Sg	12 50 03.4	-0.9
PVIS							
	5.7nm,0.1s						
PVIS	**Viseu**	**1.20**	**152**	*e*P	Pg	12 49 47.2	-1.5
PVIS				*e*S	Sg	12 50 03.4	-0.9
	5.7nm,0.1s						
PBRG	**Braganca**	**1.41**	**88**	*e*P	Pn	12 49 51.2	-1.5
PBRG				*e*S	Sg	12 50 10.4	-0.7
ECAL	**Calabor**	**1.43**	**83**	Pg	Pg	12 49 52.0	-1.0
	0.5nm,0.1s,SNR=5.5						
ECAL				Lg		12 50 10.4	
	3.2nm,0.2s,SNR=9.1						
ECAL	**Calabor**	**1.43**	**83**	Pg	Pg	12 49 52.0	-1.0
	0.5nm,0.1s,SNR=5.5						
EPON	**Pontenova**	**1.89**	**35**	Pg	Pg	12 50 00.8	-1.2
	0.3nm,0.1s,SNR=7.9						
EPON				Lg		12 50 26.0	
	1.3nm,0.2s,SNR=4.0						
EPON	**Pontenova**	**1.89**	**35**	Pg	Pg	12 50 00.8	-1.2
	0.3nm,0.1s,SNR=7.9						

IDC 23 13:06:23.2±9.8, 1527S×17682W, h302km±222km, mb3.6/3, mb1 3.8/4, mb1mx3.3/14, mbtmp4.3/4, Error ellipse: s-maj=192.0km s-min=116.3km az=91.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.07**	**75**	P	Pn	13 07 42.5	+1.0
	7.8nm,0.3s,baz=252,slow=20,SNR=18						
AFI				S	S	13 08 44.7	+0.2
	1.9nm,0.3s,baz=66,slow=20,SNR=3.1						
STKA	**Stephens Creek**	**41.26**	**239**	P	P	13 13 39.1	-0.3
	0.7nm,0.3s,baz=75,slow=11,SNR=6.5						
WB2	**Warramunga Arr**	**46.65**	**257**	*e*P	P	13 14 22.9	+1.0
WRA	**Warramunga Arr**	**46.66**	**257**	P	P	13 14 22.2	+0.1
	1.9nm,1.0s,baz=90,slow=7.7,SNR=29						
ASAR	**Alice Springs**	**47.01**	**252**	P	P	13 14 25.5	+0.8
	12nm,0.7s,baz=87,slow=8.2,SNR=208						
ASPA	**Alice Springs**	**47.02**	**252**	*e*P	P	13 14 25.4	+0.6
FORT	**Forrest**	**52.53**	**243**	*e*P	P	13 15 05.2	-0.8
	7.0nm,0.5s						

IDC 23 13:10:43.3±2.1, 158N×12635E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/15, mbtmp3.5/3, Error ellipse: s-maj=177.2km s-min=26.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.78**	**160**	P	P	13 15 47.3	+0.1
	0.8nm,0.5s,baz=339,slow=11,SNR=12						
ASAR	**Alice Springs**	**26.14**	**164**	P	P	13 16 19.7	+0.6
	0.1nm,0.4s,baz=343,slow=8.9,SNR=4.7						
MKAR	**Makanchi Array**	**59.11**	**326**	P	P	13 20 45.6	+0.1
	0.3nm,0.3s,baz=122,slow=7.7,SNR=3.9						

BJI ***23*** *13:29:44.7, 092N×98.16E, h46km, mB4.8, mb4.8, Ms4.5, Ms2.4.3*
ISCJB ***23*** *13:29:46.3±0.3, 125N±004×9809E±005, h34km, mb4.7/65, MS4.0/19, Error ellipse: s-maj=7.5km s-min=4.6km az=117.2*
MOS ***23*** *13:29:46.3±1.4, 143N×9846E, h33km, mb4.9/16, Error ellipse: s-maj=14.9km s-min=6.9km az=102.5*
NEIC ***23*** *13:29:47.5±0.3, 124N×98.15E, h30km, mb5.0/19, Error ellipse: s-maj=9.9km s-min=5.8km az=56.0*
NEIC Felt [II] at Gunungsitoli, Nias.
IDC ***23*** *13:29:47.9±6.0, 122N×98.11E, h33km±45km, mb4.2/18, mb1 4.3/18, mb1mx4.2/23, mbtmp4.4/18, MS3.7/11, Ms1 3.7/11, ms1mx3.6/22, Error ellipse: s-maj=22.6km s-min=12.1km az=61.0*

ISC 23 13:29:48.7±0.3, 127N±004×9811E±005, h36km, h36km±2.1km: pP-P, n120, σ1°22/126, mb4.7/65, MS4.0/19, 5C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.73**	**28**	Pn	**Pn**	**13 30 15.7**	**-0.5**
	113nm,0.3s,baz=187,slow=8.7,SNR=80						
PSI				LR	LR	13 30 47.6	
	comp=Z,1μm,20.0s,baz=285,slow=36						
PPI	**Padang Panjang**	**2.86**	**127**	P	**Pn**	**13 30 33.1**	**+1.4**
	1μm,0.9s						
IPM	**Ipoh**	**4.32**	**42**	P	**Pn**	**13 30 53.6**	**+1.7**
KULM	**Kulim**	**4.74**	**32**	*e*Pn	**Pn**	**13 30 58.2**	**+0.7**
KGM	**Kluang**	**5.26**	**82**	P	**Pn**	**13 31 06.9**	**+2.1**
SNG	**Songkhla**	**6.38**	**23**	P	**Pn**	**13 31 21.5**	**+1.3**
	700nm,0.9s						
KSI	**Kapahiang**	**6.63**	**137**	P	**Pn**	**13 31 25.8**	**+2.2**
	200nm,1.1s						
BJII	**Banjamegara**	**14.39**	**127**	P	**Pn**	**13 33 10.9**	**+1.2**
	41nm,0.9s						
NST	**Nakhon Sawan**	**14.46**	**8**	P	**Pn**	**13 33 16.0**	**+5.4**
CM31	**Chiang Mai Arr**	**17.11**	**3**	*e*P	**Pn**	**13 33 43.6**	**-1.3**
CHG	**Chiang Mai**	**17.46**	**3**	P	**Pn**	**13 33 50.2**	**+1.0**
CHTO	**Chiang Mai**	**17.46**	**3**	*e*P	**Pn**	**13 33 47.8**	**-1.4**
PALK	**Pallekele**	**18.34**	**289**	*e*P	**Pn**	**13 34 01.0**	**+0.9**
KKM	**Kota Kinabalu**	**18.68**	**75**	P	**Pn**	**13 34 05.8**	**+1.6**
KKM	**Kota Kinabalu**	**18.68**	**75**	*e*P	**Pn**	**13 34 05.7**	**+1.5**
TSM	**Tawau**	**19.97**	**81**	P	**Pn**	**13 34 18.7**	**-0.9**
QIZ	**Qiongzhong**	**21.07**	**32**	P	**P**	**13 34 34.0**	**+4.4**
QIZ				*e*S	**S**	**13 38 24.8**	**+2.7**
QIZ				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.5						
QIZ				LR	LR		
	comp=N,184nm,14.4s						
QIZ				LR	LR		
	comp=Z,211nm,20.1s						
KMI	**Kunming**	**24.14**	**10**	P	**P**	**13 35 01.3**	**+0.2**
KMI				AP		13 35 10.6	
KMI				XP	sP	13 35 14.5	-1.3
KMI				PP		13 35 38.9	
KMI				S	**S**	**13 39 19.4**	**+2.9**
KMI				XS	sS	13 39 35.3	+1.8
KMI				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.5						
KMI				AMB	AMB		
	comp=Z,164nm,5.8s						
KMI				LR	LR		
	comp=N,305nm,14.9s,MS4.0						
KMI				LR	LR		
	comp=E,209nm,15.6s,MS4.0						
KMI				LR	LR		
	comp=Z,369nm,16.3s,MS4.0						
HYB	**Hyderabad**	**25.04**	**311**	*i* P	**P**	**13 35 12.5**	**+3.1**
HYB				*e*pP	pP	13 35 20.5	+0.9
HYB	**Hyderabad**	**25.04**	**311**	*e*P	**P**	**13 35 13.5**	**+4.1**
GYA	**Guiyang**	**26.37**	**17**	P	**P**	**13 35 20.5**	**-0.8**
GYA				AP	pP	13 35 29.8	-1.8
GYA				XP	sP	13 35 33.9	-2.1
GYA				PP		13 36 03.8	
GYA				S	**S**	**13 39 49.6**	**-2.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
GYA				AMB	AMB		
	comp=Z,90nm,3.8s						
GYA				LR	LR		
	comp=N,380nm,14.6s,MS4.3						
GYA				LR	LR		
	comp=E,490nm,14.5s,MS4.3						
GYA				LR	LR		
	comp=Z,390nm,15.0s,MS4.1						
JIRN	**Jiri**	**28.62**	**338**	*e*P	**P**	**13 35 42.8**	**+1.3**
	comp=Z,13nm,0.3s,mb5.1						
PKI	**Pulchoki**	**28.85**	**336**	*e*P	**P**	**13 35 45.1**	**+1.5**
	comp=Z,22nm,0.6s,mb5.1						
PKI	**Pulchoki**	**28.85**	**336**	*e*P	**P**	**13 35 45.1**	**+1.5**
PKI				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.1						
GUN	**Gumba**	**28.96**	**337**	*e*P	**P**	**13 35 45.8**	**+1.2**
	comp=Z,52nm,0.6s,mb5.4						
DMN	**Daman**	**29.01**	**336**	*e*P	**P**	**13 35 46.8**	**+1.8**
	comp=Z,23nm,0.7s,mb5.0						
KKN	**Kakani**	**29.09**	**336**	*e*P	**P**	**13 35 46.4**	**+0.7**
	comp=Z,37nm,0.8s,mb5.2						
KKN	**Kakani**	**29.09**	**336**	*e*P	**P**	**13 35 46.4**	**+0.7**
KKN				pmax	pmax		
	comp=Z,37nm,0.8s,mb5.2						
GKN	**Gorkha**	**29.55**	**335**	*e*P	**P**	**13 35 50.4**	**+0.6**
	comp=Z,44nm,0.7s,mb5.3						
KOLN	**Koldanda**	**29.79**	**333**	*e*P	**P**	**13 35 53.0**	**+1.1**
	comp=Z,42nm,0.8s,mb5.2						
CD2	**Chengdu**	**29.97**	**10**	*e*P	**P**	**13 35 52.3**	**-1.2**
CD2				AP	pP	13 36 01.9	-1.9
CD2				XP	sP	13 36 05.9	-2.3
CD2				PP	PP	13 36 51.4	-10
CD2				S	**S**	**13 40 48.3**	**-0.4**
CD2				SS	SS	13 42 27.4	-30
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
CD2				AMB	AMB		
	comp=Z,40nm,6.4s						
CD2				LR	LR		
	comp=E,240nm,21.6s						
CD2				LR	LR		
	comp=Z,190nm,15.6s						
LGTI	**Lohaghat**	**32.79**	**330**	*i* P	**P**	**13 36 19.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**33.24**	**127**	*e*P	**P**	**13 36 20.3**	**-1.9**
	comp=Z,3.4nm,0.6s,mb4.5						
XAN	**Xi'an**	**34.14**	**16**	P	**P**	**13 36 28.3**	**-1.8**
XAN				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.9						
LZH	**Lanzhou**	**35.05**	**8**	⇑P	**P**	**13 36 37.5**	**-0.5**
LZH				AP	pP	13 36 46.6	-1.8
LZH				XP	sP	13 36 50.5	-2.3
LZH				PP	PP	13 37 57.1	-0.7
LZH				*e*S	**S**	**13 42 08.6**	**+0.8**
LZH				SS	SS	13 44 27.3	-14
LZH				AMB	AMB		
	comp=Z,24nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,108nm,4.9s						
LZH				LR	LR		
	comp=N,785nm,13.5s						
LZH				LR	LR		
	comp=Z,1μm,17.6s,MS4.7						
NJ2	**Nanjing**	**36.34**	**31**	*e*P	**P**	**13 36 45.1**	**-3.9**
NJ2				AP	pP	13 36 58.4	-1.1
NJ2				S	**S**	**13 42 22.0**	**-5.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,140nm,6.5s						
NJ2				LR	LR		
	comp=N,320nm,14.5s,MS4.3						
NJ2				LR	LR		
	comp=E,250nm,13.7s,MS4.3						
KAKA	**Kakadu**	**36.79**	**113**	*e*P	**P**	**13 36 51.0**	**-1.9**
	comp=E,6.8nm,0.4s,mb4.8						
SSE	**Sheshan**	**36.85**	**34**	*e*P	**P**	**13 36 48.8**	**-4.5**
SSE				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,99nm,3.6s						
KLBR	**Kellerberrin**	**37.62**	**152**	*e*P	**P**	**13 37 01.2**	**+1.3**
	comp=Z,37nm,1.5s,mb4.9						
GTA	**Gaotai**	**38.00**	**2**	⇑P	**P**	**13 37 02.5**	**-0.6**
GTA				AP	pP	13 37 12.5	-1.0
GTA				XP	sP	13 37 16.3	-1.6
GTA				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.8						
GTA				AMB	AMB		
	comp=Z,72nm,4.9s						
GTA				LR	LR		
	comp=N,112nm,14.8s,MS4.0						
GTA				LR	LR		
	comp=E,152nm,15.2s,MS4.0						
GTA				LR	LR		
	comp=Z,103nm,13.3s,MS3.8						
NWAO	**Narrogin (SRO)**	**38.51**	**154**	P	**P**	**13 37 08.3**	**+0.9**
	comp=Z,11nm,1.0s,mb4.6,baz=302,slow=12,SNR=4.4						
NWAO	**Narrogin (SRO)**	**38.51**	**154**	P	**P**	**13 37 08.3**	**+0.9**
JOW	**Kunigami**	**38.54**	**46**	P	**P**	**13 37 07.6**	**0.0**
	comp=Z,12nm,0.7s,mb4.8,baz=184,slow=5.8,SNR=5.5						
JOW				LR	LR	13 53 10.8	
	comp=Z,68nm,18.2s,MS3.5,baz=158,slow=36						
HHC	**Hu-ho-hao-te**	**41.25**	**16**	*e*P	**P**	**13 37 31.4**	**+1.3**
HHC				AP	pP	13 37 41.8	+1.1
HHC				XP	sP	13 37 45.1	+0.1
HHC				PP	PP	13 39 11.3	+5.6
HHC				PCP	PcP	13 39 29.8	+1.3
HHC				PCS	PcS	13 43 20.6	+1.0
HHC				S	**S**	**13 43 43.0**	**+1.6**
HHC				SS	SS	13 46 45.8	+0.3
HHC				SCS	ScS	13 47 31.1	-0.2
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,78nm,5.1s						
HHC				LR	LR		
	comp=Z,229nm,17.4s,MS4.1						
WRA	**Warramunga Arr**	**41.30**	**123**	P	**P**	**13 37 29.5**	**-1.1**
	comp=Z,9.1nm,0.4s,mb4.7,baz=303,slow=8.9,SNR=220						
WRAB	**Tennant Creek**	**41.31**	**123**	*ce*P	**P**	**13 37 29.7**	**-0.9**
WRAB	**Tennant Creek**	**41.31**	**123**	*e*P	**P**	**13 37 29.9**	**-0.8**
	comp=Z,16nm,0.5s,mb4.9						
WB2	**Warramunga Arr**	**41.31**	**123**	*e*P	**P**	**13 37 29.6**	**-1.1**
BJI	**Beijing**	**41.95**	**21**	P	**P**	**13 37 36.8**	**+0.9**
BJI				AMB	AMB		
	comp=Z,14nm,0.6s,mb4.8						
ASPA	**Alice Springs**	**42.71**	**128**	*e*P	**P**	**13 37 41.2**	**-0.9**
AS31	**Alice Springs**	**42.72**	**128**	*e*P	**P**	**13 37 41.2**	**-0.9**
ASAR	**Alice Springs**	**42.72**	**128**	P	**P**	**13 37 41.2**	**-0.9**
	comp=Z,2.9nm,0.4s,mb4.3,baz=300,slow=8.0,SNR=140						
ASAR				PcP	PcP	13 39 34.1	+0.8
	comp=Z,1.4nm,0.8s,baz=296,slow=2.8,SNR=5.8						
ASAR				LR	LR	13 54 30.5	
	comp=Z,132nm,21.0s,MS3.8,baz=359,slow=35						
ASAR	**Alice Springs**	**42.72**	**128**	P	**P**	**13 37 41.2**	**-0.9**
ASAR						13 39 34.1	
ASAR	**Alice Springs**	**42.72**	**128**	P	**P**	**13 37 41.2**	**-0.9**
ASAR				PcP	PcP	13 39 34.1	+0.8
ASAR				LR	LR	13 54 30.4	
FORT	**Forrest**	**42.75**	**141**	*e*P	**P**	**13 37 43.6**	**+1.3**
	comp=Z,26nm,0.5s,mb5.2						
WMQ	**Urumqi**	**43.37**	**349**	P	**P**	**13 37 48.0**	**+0.6**
WMQ				AP	pP	13 37 57.9	-0.1
WMQ				XP	sP	13 38 01.8	-0.6
WMQ				PP	PP	13 39 31.3	+2.7
WMQ				S	**S**	**13 44 13.4**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,116nm,4.2s						
WMQ				LR	LR		
	comp=N,704nm,15.1s,MS4.8						
WMQ				LR	LR		
	comp=E,528nm,14.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,725nm,15.6s,MS4.7						
WSAR	**Wadi Sarin**	**44.07**	**303**	P	**P**	**13 37 52.1**	**-0.9**
	comp=Z,5.4nm,1.0s,mb4.2,baz=231,slow=19,SNR=2.4						
AAK	**Ala-Archa**	**46.30**	**336**	*e*P	**P**	**13 38 11.8**	**+1.1**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.4						
SNY	**Shenyang**	**46.44**	**26**	⇓P	**P**	**13 38 11.3**	**-0.5**
SNY				AMB	AMB		
	comp=Z,12nm,0.5s,mb5.1						
SONM	**Songino Array**	**46.94**	**8**	P	**P**	**13 38 15.9**	**+0.2**
	comp=Z,11nm,0.7s,mb4.9,baz=190,slow=9.6,SNR=76						
SONM				LR	LR	13 59 45.4	
	comp=Z,96nm,19.9s,MS3.8,baz=189,slow=38						
SONM	**Songino Array**	**46.94**	**8**	P	**P**	**13 38 15.9**	**+0.2**
SONM				LR	LR	13 59 45.4	
MK31	**Makanchi Array**	**47.40**	**345**	P	**P**	**13 38 18.9**	**-0.4**
MK31				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
MKAR	**Makanchi Array**	**47.40**	**345**	P	**P**	**13 38 19.3**	**0.0**
	comp=Z,14nm,0.5s,mb5.1,baz=154,slow=7.1,SNR=67						
MKAR	**Makanchi Array**	**47.40**	**345**	P	**P**	**13 38 19.3**	**-0.1**
ZAK	**Zakamensk**	**49.13**	**4**	*e*P	**P**	**13 38 31.8**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb4.1						
TLY	**Talaya**	**50.45**	**4**	*ce*P	**P**	**13 38 42.5**	**-0.2**
MAT	**Matsushiro**	**51.03**	**42**	P	**P**	**13 38 46.0**	**-1.1**
MAT	**Matsushiro**	**51.03**	**42**	*e*P	**P**	**13 38 46.0**	**-1.1**
MJAR	**Matsushiro Arr**	**51.03**	**42**	P	**P**	**13 38 46.4**	**-0.7**
	comp=Z,6.5nm,0.8s,mb4.6,baz=228,slow=6.3,SNR=29						
MJAR				LR	LR	14 03 04.3	
	comp=Z,56nm,18.9s,MS3.6,baz=240,slow=39						
IRK	**Irkutsk**	**51.06**	**5**	*e*P	pP	13 38 57.1	-1.0
IRK				pmax	pmax		
	comp=Z,19nm,1.7s,mb4.8						
HIA	**Hailar**	**51.29**	**18**	⇓*e*P	**P**	**13 38 45.7**	**-3.3**
MDJ	**Mudanjiang**	**51.37**	**29**	P	**P**	**13 38 49.5**	**-0.1**
MDJ				AP	pP	13 38 58.6	-1.8
MDJ				XP	sP	13 39 02.3	-2.4
MDJ				PP	PP	13 40 46.8	-0.1
MDJ				SCP	ScP	13 43 57.6	0.0
MDJ				S	**S**	**13 46 08.8**	**+2.2**
MDJ				XS	sS	13 46 23.0	-1.4
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,39nm,5.4s						
MDJ				LR	LR		
	comp=N,161nm,17.8s,MS4.1						
MDJ				LR	LR		
	comp=E,87nm,18.9s,MS4.1		

comp=Z,4.1nm,0.6s,mb4.6
HABR Khabarovsk 56.76 29 *e*P **P** **13 39 24.4 -4.5**
HABR *e*S **S** **13 47 13.1 -6.2**
ZRNK Zerenda 56.90 339 *i* P **P** **13 39 29.3 -0.6**
ZRNK pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ZRNK Zerenda 56.90 339 *e*P **P** **13 39 28.5 -1.5**
comp=Z,5.9nm,0.7s,mb4.7
CHKZ Chkalovo 56.96 341 *i* P **P** **13 39 29.7 -0.6**
CHKZ pmax pmax
comp=Z,13nm,0.9s,mb5.0
CHKZ Chkalovo 56.96 341 *e*P **P** **13 39 29.4 -0.9**
comp=Z,14nm,0.7s,mb5.1
BOD Bodaibo 57.78 10 *e*P **P** **13 39 36.0 -0.1**
BOD pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
AB31 Akbulak array 57.88 331 *i* P **P** **13 39 36.3 -0.5**
AB31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ASAJ Asahikawa 58.07 36 P **P** **13 39 38.4 +0.3**
comp=Z,2.7nm,0.4s,mb4.7,baz=212,slow=5.4,SNR=10
AKTO Aktyubinsk 59.60 331 *i* P **P** **13 39 51.9 +3.1**
AKTO pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
YSS Yuzh-Sakhalins 59.79 34 *e*P **P** **13 39 49.0 -1.0**
YSS *e* pP 13 40 01.0 0.0
YSS Yuzh-Sakhalins 59.79 34 *e*P **P** **13 39 49.1 -0.9**
comp=Z,53nm,1.3s,mb5.4
ARMA Armidale 59.84 127 *e*P **P** **13 39 52.4 +2.0**
YAK Yakutsk 65.11 16 *e*P **P** **13 40 29.2 +3.6**
YAK *e* 13 40 35.3
YAK pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,15nm,1.2s,mb4.9
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK pmax pmax
comp=E,7.0nm,1.5s
BRTR Keskin Array B 69.74 312 P **P** **13 40 55.2 +0.4**
comp=E,0.6nm,0.7s,mb3.6,baz=121,slow=7.4,SNR=3.3
PET Petropavlovsk 71.67 34 *e*P **P** **13 41 05.6 -1.0**
PET pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
PET Petropavlovsk 71.67 34 *e*P **P** **13 41 05.6 -1.1**
comp=Z,6.1nm,0.6s,mb4.7
TIXI Tiksi 72.97 10 *i* P **P** **13 41 10.4 -4.0**
MAW Mawson 72.98 193 P **P** **13 41 12.7 -1.7**
comp=Z,0.4nm,0.3s,mb3.8,baz=38,slow=2.6,SNR=2.3
MAW LR LR 14 05 44.1
comp=Z,78nm,21.0s,MS4.0,baz=238,slow=30
OBN Obninsk 73.04 328 *e*P **P** **13 41 20.0 +5.2**
OBN pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BOSA Boshof 75.60 240 LR LR 14 09 01.3
comp=Z,130nm,18.9s,MS4.3,baz=1.8,slow=31
AKASG Malin Array Be 75.76 322 P **P** **13 41 32.0 +1.4**
comp=Z,1.3nm,0.5s,mb4.1,baz=85,slow=5.2,SNR=8.1
AKASG Malin Array Be 75.76 322 *i* P **P** **13 41 35.9 +5.3**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
JOF Joensuu 78.47 335 *ep* **P** **13 41 46.6 +0.8**
comp=Z,1.6nm,0.5s,mb4.2
FINES FINESS Array B 80.36 332 P **P** **13 41 55.4 -0.7**
comp=Z,0.6nm,0.4s,mb3.9,baz=108,slow=6.1,SNR=10
FINES FINESS Array B 80.36 332 *i* P **P** **13 41 56.7 +0.6**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 80.36 332 P **P** **13 41 55.4 -0.7**
KAF Kangasniemi 80.43 333 *ep* **P** **13 41 57.7 +1.2**
comp=Z,4.5nm,0.7s,mb4.5,baz=103,slow=5.0
KAF Kangasniemi 80.43 333 *e*P **P** **13 41 57.7 +1.2**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ARCES ARCESS Array B 82.78 340 P **P** **13 42 08.4 -0.5**
comp=Z,1.2nm,0.5s,mb4.2,baz=103,slow=5.4,SNR=12
ARCES LR LR 14 20 48.8
comp=Z,35nm,20.7s,MS3.7,baz=54,slow=37
GERES GERESS Array B 85.36 319 P **P** **13 42 23.1 +1.1**
comp=Z,0.2nm,0.3s,mb3.7,baz=104,slow=5.6,SNR=5.1
VNDA Vanda 85.71 169 LR LR 14 17 05.9
comp=Z,49nm,21.9s,MS3.9,baz=238,slow=33
NB2 NORSAR Subarra 87.39 331 P **P** **13 42 31.3 -0.7**
comp=Z,1.9nm,1.1s,mb4.2,baz=96,slow=4.6
NOA NORSAR Array B 87.39 331 P **P** **13 42 31.5 -0.5**
comp=Z,1.4nm,1.0s,mb4.2,baz=95,slow=4.9,SNR=4.4
NOA LR LR 14 23 18.3
comp=Z,22nm,21.9s,MS3.5,baz=175,slow=37
NOA NORSAR Array B 87.39 331 P **P** **13 42 31.5 -0.5**
NOA LR LR 14 23 18.3
NVAR Mina Array Bea 128.20 36 PKP PKPdf 13 48 51.8 +0.8
comp=Z,0.3nm,0.6s,baz=333,slow=1.3,SNR=3.6
ATAH Atahualpa 173.32 211 PKP PKPdf 13 49 54.8 +0.9
comp=Z,6.5nm,0.4s,baz=256,slow=4.2,SNR=4.5

*NEIC **23** 13:30:03.7, 1927N×6464W, h25km, MD3.5(RSPR), After RSPR.*
RSPR 23 13:30:03.7, 1927N×6464W, h25km±12km**, MD3.5**/13**, MD3.5**/13**, 10C-4D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.86**	**178**⇓	*e*P	Pb	13 30 17.8	-2.1
TBVI				*e*S	Sb	13 30 28.5	-2.5
STVI	**Saint Thomas**	**0.96**	**199**⇑	*e*P	Pn	13 30 18.6	-3.0
STVI				*e*S	Sb	13 30 31.5	-2.5
CULB	**Culebra**	**1.16**	**215**⇑	*e*P	Pn	13 30 22.5	-1.8
MTP	**Monte Pirata**	**1.46**	**217**⇑	*e*P	Pn	13 30 26.3	-2.2
MTP				*e*S	Sn	13 30 43.7	-3.1
CDVI	**St. Croix**	**1.52**	**185**⇑	*e*P	Pn	13 30 28.1	-1.2
CDVI				*e*S	Sn	13 30 45.6	-2.5
CBYP	**Canovanas**	**1.52**	**229**⇑	*e*P	Pn	13 30 27.3	-2.0
CBYP				*e*S	Sn	13 30 45.6	-2.7
HUMP	**Col San Antoni**	**1.60**	**226**⇑	*e*P	Pn	13 30 28.1	-2.3
HUMP				*e*S	Sn	13 30 47.8	-2.6
CPD	**Cerro la Pandu**	**1.72**	**225**⇓	*e*P	Pn	13 30 30.2	-1.9
CPD				*e*S	Sn	13 30 50.8	-2.5
SJG	**San Juan**	**1.84**	**231**⇓	*e*P	Pn	13 30 31.8	-1.9
SJG				*e*S	Sn	13 30 53.5	-2.6
CELP	**Cerrillos**	**2.19**	**237**⇑	*e*P	Pn	13 30 36.6	-1.9
CELP				*e*S	Sn	13 31 02.5	-2.3
AOPR	**Arecibo Observ**	**2.20**	**246**⇓	*e*P	Pn	13 30 36.4	-2.3
AOPR				*e*S	Sn	13 31 02.7	-2.4
OBIP	**Obispado Ponce**	**2.23**	**237**⇑	*e*P	Pn	13 30 37.3	-1.7
OBIP				*e*S	Sn	13 31 03.5	-2.3
LRS	**Lares**	**2.31**	**245**⇑	*e*P	Pn	13 30 38.2	-1.9
LSP	**Las Mesas**	**2.56**	**245**⇑	*e*P	Pn	13 30 42.0	-1.6
LSP				*e*S	Sn	13 31 11.4	-2.5

*ISCJB **23** 13:39:45.8±0.7, 3463N±005×13990E±007, h99km±5km, mb3.5/2, Error ellipse: s-maj=10.0km s-min=6.3km az=112.7*
*JMA **23** 13:39:46.2±0.2, 3462N×13990E, h89km±2km, M2.9*
*IDC **23** 13:39:48.8±2.1, 3452N×13943E, h107km±8km, mb3.1/2, mb1 3.3/3, mb1mx3.0/20, mbtmp3.3/3, Error ellipse: s-maj=113.1km s-min=6.1km az=71.0*
ISC 23 13:39:46.9±0.6**, 3463N**±004×**13989E**±006**, h92**km±6km**, n17**, σ0**91/27, mb3.5/2, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIM2	**Oshima 3**	**0.39**	**283**	P	**Pn**	**13 40 00.1**	**-0.9**
TATJ	**Tateyama 2**	**0.40**	**360**	P	**Pn**	**13 40 00.8**	**-0.2**
TATJ				S	**Sn**	**13 40 12.1**	**+0.5**
BSO4	**Boso 4**	**0.51**	**46**	P	**Pn**	**13 40 01.6**	**-0.3**
BSO4				S	**Sn**	**13 40 14.3**	**+1.3**
BSO3	**Boso 3**	**0.54**	**72**	P	**Pn**	**13 40 01.4**	**-0.7**
KTJJ	**Kamata 2**	**0.74**	**293**	P	**Pn**	**13 40 03.0**	**-0.9**
KTJJ				*e*S	**Sn**	**13 40 15.1**	**-1.5**
JIZS	**Izushimoda**	**0.84**	**276**	P	**Pn**	**13 40 04.6**	**-0.3**
JIZS				S	**Sn**	**13 40 17.7**	**-0.7**
BSO1	**Boso 1**	**0.90**	**88**	P	**Pn**	**13 40 04.3**	**-1.2**
JOD2	**Odawara 2**	**0.91**	**314**	P	**Pn**	**13 40 04.9**	**-0.8**
JOD2				S	**Sn**	**13 40 18.4**	**-1.3**
JYN	**Shimob**	**1.40**	**308**	P	**Pn**	**13 40 11.9**	**+0.5**
JYN				S	**Sn**	**13 40 31.3**	**+1.3**
SHZ3	**Shizuoka 3**	**1.45**	**288**	P	**Pn**	**13 40 12.6**	**+0.6**
JHJ	**Hachijo jima 2**	**1.51**	**183**	P	**Pn**	**13 40 13.9**	**+1.1**
JHJ	78nm,0.3s,baz=88,slow=1.8,SNR=27			S	**Sn**	**13 40 34.1**	**+1.6**
JHJ2	59nm,0.3s,baz=230,slow=23,SNR=14 **Mitsune**	**1.52**	**182**	P	**Pn**	**13 40 13.4**	**+0.5**
JRY	**Ryogami san**	**1.60**	**330**	P	**Pn**	**13 40 14.0**	**+0.1**
JRY				S	**Sn**	**13 40 33.7**	**-0.7**
MJAR	**Matsushiro Arr**	**2.35**	**325**	P	**Pn**	**13 40 24.1**	**+0.4**
MJAR	5.6nm,0.3s,baz=156,slow=11,SNR=61			S	**Sn**	**13 40 52.6**	**+0.8**
MAT	8.6nm,0.3s,baz=169,slow=20,SNR=19 **Matsushiro**	**2.35**	**325**	P	**Pn**	**13 40 24.5**	**+0.8**
MAT				S	**Sn**	**13 40 53.6**	**+1.7**
WRA	**Warramunga Arr**	**54.53**	**186**	P	**P**	**13 49 04.6**	**-0.7**
ASAR	0.2nm,0.3s,mb3.6,baz=4.2,slow=7.7,SNR=19 **Alice Springs**	**58.26**	**186**	P	**P**	**13 49 31.1**	**-0.7**
	0.2nm,0.6s,mb3.3,baz=2.1,slow=7.3,SNR=7.2						

*NEIC **23** 13:42:48.0, 1902N×6467W, h69km, MD3.6(RSPR), After RSPR.*
RSPR 23 13:42:48.0, 1902N×6467W, h69km±2km**, MD3.6**/15**, MD3.6**/15**, 11C-4D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.42**	**132**⇑	*e*P	Pn	13 42 59.6	-0.4
ABV	**Anegada**	**0.42**	**132**	*e*S	Sn	13 43 08.2	-0.5
TBVI	**Tortola**	**0.60**	**175**⇑	*e*P	Pn	13 43 00.9	-0.8
TBVI				*e*S	Sn	13 43 11.4	-0.5
STVI	**Saint Thomas**	**0.72**	**203**⇑	*e*P	Pn	13 43 01.8	-1.1
STVI				*e*S	Sn	13 43 13.3	-0.6
CULB	**Culebra**	**0.94**	**222**	*e*S	Sn	13 43 18.7	-0.1
CULB	**Culebra**	**0.94**	**222**⇑	*e*P	Pn	13 43 04.2	-1.5
MTP	**Monte Pirata**	**1.25**	**223**⇓	*e*P	Pn	13 43 08.8	-0.7
MTP				*e*S	Sn	13 43 24.9	-0.7
CBYP	**Canovanas**	**1.35**	**237**⇑	*e*P	Pn	13 43 09.9	-1.0
CBYP				*e*S	Sn	13 43 27.1	-1.0
HUMP	**Col San Antoni**	**1.42**	**232**⇑	*e*P	Pn	13 43 11.6	-0.2
HUMP				*e*S	Sn	13 43 29.5	-0.2
CPD	**Cerro la Pandu**	**1.53**	**231**⇑	*e*P	Pn	13 43 12.8	-0.5
CPD				*e*S	Sn	13 43 32.2	-0.3
SJG	**San Juan**	**1.67**	**238**⇑	*e*P	Pn	13 43 14.6	-0.6
SJG				*e*S	Sn	13 43 35.0	-0.7
CELP	**Cerrillos**	**2.04**	**243**⇓	*e*P	Pn	13 43 19.4	-0.7
CELP				*e*S	Sn	13 43 44.4	-0.3
OBIP	**Obispado Ponce**	**2.08**	**243**⇑	*e*P	Pn	13 43 20.4	-0.2
OBIP				*e*S	Sn	13 43 45.3	-0.3
AOPR	**Arecibo Observ**	**2.08**	**252**⇑	*e*P	Pn	13 43 19.9	-0.8
AOPR				*e*S	Sn	13 43 46.1	+0.4
LRS	**Lares**	**2.19**	**251**⇑	*e*P	Pn	13 43 21.3	-0.8
LSP	**Las Mesas**	**2.44**	**250**⇓	*e*P	Pn	13 43 25.3	-0.2
LSP				*e*S	Sn	13 43 53.9	-0.4
MGP	**Maguayo**	**2.51**	**247**⇓	*e*P	Pn	13 43 26.4	-0.1
MGP				*e*S	Sn	13 43 55.8	-0.2

*NEIC **23** 13:56:26.6, 45.12S×167.34E, h137km, MG4.0(WEL), After WEL.*
WEL 23 13:56:27.2±0.3**, 4513S×16740E, h133**km±2km**, ML4.0**/11**, Error ellipse: s-maj=2.9km s-min=1.6km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.39**	**206**	PN	Pn	13 56 45.5	-0.5
DCZ				SN	Sn	13 56 59.0	-1.2
DCZ	**Deep Cove**	**0.39**	**206**	P	Pn	13 56 45.5	-0.5
DCZ				S	Sn	13 56 59.0	-1.2
MSZ	**Milford Sound**	**0.59**	**40**	PN	Pn	13 56 47.2	+0.1
MSZ				SN	Sn	13 57 02.1	-0.1
MSZ	**Milford Sound**	**0.59**	**40**	P	Pn	13 56 47.2	+0.1
MSZ				S	Sn	13 57 02.1	-0.1
MLZ	**Mavora Lakes**	**0.59**	**112**	PN	Pn	13 56 47.0	-0.1
MLZ				SN	Sn	13 57 01.9	-0.2
MLZ	**Mavora Lakes**	**0.59**	**112**	P	Pn	13 56 47.0	-0.1
MLZ				S	Sn	13 57 01.9	-0.3
WHZ	**Wether Hill Ro**	**0.86**	**153**	PN	Pn	13 56 49.1	0.0
WHZ				SN	Sn	13 57 05.4	-0.3
WHZ	**Wether Hill Ro**	**0.86**	**153**	P	Pn	13 56 49.1	0.0
WKZ	**Wanaka**	**1.19**	**76**	PN	Pn	13 56 52.4	+0.2
WKZ				SN	Sn	13 57 10.9	-0.3
WKZ	**Wanaka**	**1.19**	**76**	P	Pn	13 56 52.4	+0.2
EAZ	**Earnscleugh**	**1.36**	**95**	PN	Pn	13 56 53.8	-0.1
EAZ				SN	Sn	13 57 12.6	-1.6
EAZ	**Earnscleugh**	**1.36**	**95**	P	Pn	13 56 53.8	-0.1
JCZ	**Jackson Bay**	**1.43**	**43**	PN	Pn	13 56 54.4	-0.3
JCZ				SN	Sn	13 57 14.6	-1.1
JCZ	**Jackson Bay**	**1.43**	**43**	P	Pn	13 56 54.4	-0.3
JCZ				S	Sn	13 57 14.6	-1.1
APZ	**The Paps**	**1.76**	**167**	PN	Pn	13 56 58.1	-0.3
APZ				SN	Sn	13 57 21.3	-0.9
TUZ	**Tuapeka**	**1.78**	**119**	PN	Pn	13 56 58.6	-0.1
TUZ	**Tuapeka**	**1.78**	**119**	P	Pn	13 56 58.6	0.0
SYZ	**Scrubby Hill**	**1.87**	**140**	PN	Pn	13 56 59.4	-0.2
LBZ	**Lake Benmore**	**2.12**	**71**	PN	Pn	13 57 01.3	-1.5
LBZ	**Lake Benmore**	**2.12**	**71**	*e*P	Pn	13 57 01.3	-1.5
FOZ	**Fox Glacier**	**2.27**	**47**	PN	Pn	13 57 03.8	-0.8
FOZ	**Fox Glacier**	**2.27**	**47**	*e*P	Pn	13 57 03.8	-0.8
ODZ	**Otahua Downs**	**2.30**	**89**	PN	Pn	13 57 04.0	-1.1
ODZ	**Otahua Downs**	**2.30**	**89**	P	Pn	13 57 04.0	-1.0
RPZ	**Rata Peaks**	**2.98**	**63**	PN	Pn	13 57 11.6	-1.9
RPZ	**Rata Peaks**	**2.98**	**63**	*e*P	Pn	13 57 11.6	-2.0
WVZ	**Waitaha Valley**	**3.16**	**51**	PN	Pn	13 57 13.6	-2.4
WVZ	**Waitaha Valley**	**3.16**	**51**	*e*P	Pn	13 57 13.6	-2.4
MQZ	**McQueen's Vall**	**4.03**	**71**	PN	Pn	13 57 26.1	-1.2
MQZ	**McQueen's Vall**	**4.03**	**71**	*e*P	Pn	13 57 26.1	-1.2
CRLZ	**Canterbury Las**	**4.06**	**69**	*e*P	Pn	13 57 26.7	-1.0
LTZ	**Lake Taylor**	**4.23**	**58**	*e*P	Pn	13 57 27.4	-2.6
DSZ	**Denniston Nort**	**4.66**	**45**	*e*P	Pn	13 57 33.3	-2.5
THZ	**Tophouse**	**5.23**	**52**	*e*P	Pn	13 57 40.7	-2.7
QRZ	**Quartz Range**	**5.71**	**43**	*e*P	Pn	13 57 47.5	-2.4
NNZ	**Nelson**	**5.87**	**50**	*e*P	Pn	13 57 50.5	-1.4

*ISCJB **23** 14:13:03.9±0.6, 2400S±007×668W±0.1, h221km±16km, mb3.3/1, Error ellipse: s-maj=16.0km s-min=10.8km az=46.8*
*IDC **23** 14:13:04.7±1.1, 2392S×6674W, h213km±20km, mb3.2/1, mb1 3.2/6, mb1mx3.0/17, mbtmp3.6/6, Error ellipse: s-maj=25.6km s-min=20.4km az=73.0*
*NEIC **23** 14:13:04.9±0.6, 2394S×6672W, h217km±15km, Error ellipse: s-maj=14.3km s-min=11.0km az=89.0*
*GUC **23** 14:13:06.0±0.6, 2415S×6704W, h220km, ML4.2*
ISC 23 14:13:04.9±0.6**, 2401S**±007×**667W**±01**, h209**km±16km**, n15**, σ1**01/21, mb3.3/1, 1C-1D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.43**	**304**	P	**Pn**	**14 13 49.7**	**+1.1**
LVC	16nm,0.3s,baz=126,slow=6.5,SNR=289			S	**Sn**	**14 14 22.7**	**-0.1**
LVC	34nm,0.3s,baz=258,slow=20,SNR=21 **Limon Verde**	**2.43**	**304**	*e*Pn	**Pn**	**14 13 49.7**	**+1.1**
LVC				*e*S	**Sn**	**14 14 21.7**	**-1.1**
CEN1	**Los Morros**	**3.23**	**280**	*e*P	**Pn**	**14 13 59.7**	**+2.0**
CEN1				*i* S	**Sn**	**14 14 39.7**	**+0.5**
CEN1	comp=N,175nm,0.3s			AML	AML	14 14 44.2	
ANCH	**Antofagasta**	**3.38**	**275**⇓	*e*P	**Pn**	**14 13 59.6**	**+0.2**
ANCH				*i* S	**Sn**	**14 14 41.0**	**-1.2**
ANCH	**Antofagasta**	**3.38**	**275**⇑	*i* P	**Pn**	**14 13 59.4**	**0.0**
ANCH				*i* S	**Sn**	**14 14 41.0**	**-1.2**
CPN1	**Cerro Paranal**	**3.40**	**259**	*e*P	**Pn**	**14 14 00.7**	**+1.1**
CPN1				*i* S	**Sn**	**14 14 42.3**	**-0.4**
CPN1	comp=E,332nm,0.5s			AML	AML	14 14 45.0	
CDCH	**Caldera**	**4.79**	**230**	*i* S	**Sn**	**14 15 11.6**	**-2.0**
CFAA	**Coronel Fontan**	**7.68**	**190**	P	**Pn**	**14 15 55.4**	**+1.5**
LPAZ	comp=E,0.0nm,0.3s,baz=342,slow=13,SNR=7.7 **La Paz**	**7.79**	**350**	P	**Pn**	**14 14 55.0**	**-0.5**
	comp=E,0.4nm,0.3s,baz=164,slow=7.4,SNR=13						
LPAZ	**La Paz**	**7.79**	**350**	*e*P	**Pn**	**14 14 54.9**	**-0.5**
CPUP	**Villa Florida**	**8.83**	**107**	P	**Pn**	**14 15 08.3**	**-0.6**
	comp=E,0.2nm,0.3s,baz=278,slow=11,SNR=5.2						
CPUP	**Villa Florida**	**8.83**	**107**	P	**Pn**	**14 15 08.3**	**-0.6**
SIV	**San Ignacio**	**9.59**	**35**	P	**Pn**	**14 15 18.5**	**-0.2**
	comp=E,0.3nm,0.3s,baz=240,slow=12,SNR=6.6						
BDFB	**Brasilia**	**19.47**	**68**	P	**P**	**14 17 15.3**	**-0.6**
	comp=E,0.3nm,0.3s,baz=238,slow=12,SNR=5.9						
TORD	**Torodi Ar. Bea**	**76.35**	**69**	P	**P**	**14 24 30.6**	**-0.2**
	comp=E,0.5nm,0.6s,mb3.3,baz=259,slow=6.0,SNR=6.5						

*LDG **23** 14:20:06.6±0.2, 4477N×771E, h9km, Md2.4/1, Ml2.0/7, Error ellipse: s-maj=4.2km s-min=2.1km az=72.0*
*ISCJB **23** 14:20:07.4±1.1, 4475N±004×764E±009, h24km±6km, Error ellipse: s-maj=11.7km s-min=4.6km az=135.2*
*STR **23** 14:20:10.8±1.4, 4445N×686E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 23 14:20:06.5±1.0**, 4477N**±003×**767E**±007**, h20**km±4km**, n13**, σ0**77/26, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG22	**Abries**	**0.52**	**276**	Pg	**Pg**	**14 20 17.6**	**+0.7**
OG22				Sg	**Sg**	**14 20 24.2**	**+0.3**
MBDF	**Montbardon**	**0.64**	**267**	*e*Pg	**Pg**	**14 20 19.7**	**+0.6**
MBDF				*e*Sg	**Sg**	**14 20 28.4**	**+0.7**
SAOF	**Saorge**	**0.79**	**186**	Pg	**Pg**	**14 20 25.5**	**+3.6**
SAOF				Sg	**Sg**	**14 20 32.2**	**-0.2**
AUTN	**L'Aution**	**0.79**	**193**	Pg	**Pg**	**14 20 22.0**	**0.0**
TOUF	**Mont Tournerai**	**0.81**	**202**	Pg	**Pg**	**14 20 19.8**	**-2.6**
TOUF				Sg	**Sg**	**14 20 28.6**	**-4.6**
SBF	**Sospel**	**0.92**	**190**	*e*Pn	**Pn**	**14 20 24.0**	**-0.3**
SBF	5.6nm,0.3s			*e*Sg	**Sg**	**14 20 36.4**	**-0.2**
SBF				*e*Sn	**Sn**	**14 20 38.7**	**+1.8**
LPG	**La Plagne**	**0.97**	**319**	*e*Pg	**Pg**	**14 20 25.6**	**+0.2**
LPG				*e*Sg	**Sg**	**14 20 37.6**	**-0.7**
LPL	2.8nm,0.3s **La Plagne**	**1.00**	**319**	*e*Pg	**Pg**	**14 20 26.0**	**+0.1**
LPL				*e*Sg	**Sg**	**14 20 38.3**	**-0.7**
ORIF	4.1nm,0.4s **Oris-en-Rattie**	**1.28**	**277**	*e*Pg	**Pg**	**14 20 31.5**	**+0.3**
ORIF				*e*Sg	**Sg**	**14 20 48.1**	**+0.2**
FRF	4.8nm,0.3s **La Foret Royal**	**1.41**	**212**	*e*Pn	**Pn**	**14 20 31.5**	**+0.4**
FRF				*e*Sn	**Sn**	**14 20 48.9**	**-0.2**
LMR	2.4nm,0.2s **La Mourre**	**1.66**	**211**	*e*Pn	**Pn**	**14 20 34.4**	**0.0**
LMR				*e*Sn	**Sn**	**14 20 54.2**	**-1.0**
SMRF	2.2nm,0.2s **Simiane la Rot**	**1.70**	**243**	*e*Sn	**Sn**	**14 20 55.7**	**-0.4**
SMRF				*e*Sg	**Sg**	**14 21 00.9**	**-0.3**
VIVF	3.7nm,0.5s **Saint-Julien-l**	**2.13**	**273**	*e*Pn	**Pn**	**14 20 41.7**	**+0.8**
VIVF				*e*Sn	**Sn**	**14 21 06.3**	**-0.5**

IDC 23 14:43:43.0±1.2**, 266N×9337E, h42**km±9km**, mb3.4/5, mb1 3.7/6, mb1mx3.4/21, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=28.5km s-min=16.4km az=36.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.55**	**88**	P	Pn	14 45 03.6	+0.5
PSI	2.3nm,0.3s,baz=273,slow=9.8,SNR=9.6			S	Sn	14 46 06.8	+1.3
MKAR	2.6nm,0.3s,baz=166,slow=21,SNR=7.9 **Makanchi Array**	**45.00**	**349**	P	P	14 51 53.1	-1.1
WRA	2.7nm,0.6s,baz=170,slow=7.7,SNR=14 **Warramunga Arr**	**46.06**	**121**	P	P	14 52 02.6	0.0
WRA	0.6nm,0.6s,baz=298,slow=9.0,SNR=7.5			pP	pP	14 52 14.7	+0.2
SONM	1.0nm,0.8s,baz=297,slow=8.8,SNR=5.1 **Songino Array**	**46.38**	**12**	P	P	14 52 05.8	+0.7
SONM	0.5nm,0.8s,baz=188,slow=8.7,SNR=3.7			pP	pP	14 52 17.1	0.0
ASAR	0.2nm,0.3s,baz=190,slow=7.3,SNR=1.9 **Alice Springs**	**47.34**	**126**	P	P	14 52 12.6	0.0
ASAR	0.3nm,0.7s,baz=296,slow=7.5,SNR=4.7			pP	pP	14 52 25.4	+0.8
GERES	0.6nm,0.9s,baz=295,slow=7.6,SNR=4.0 **GERESS Array B**	**81.20**	**319**	P	P	14 55 55.8	+1.5
	0.4nm,0.6s,baz=98,slow=5.5,SNR=4.4						

*IDC **23** 14:46:12.4±1.0, 1744N×8365W, h0km, mb3.9/7, mb1 4.2/8, mb1mx3.9/21, mbtmp3.9/8, ML3.9/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/27, Error ellipse: s-maj=34.1km s-min=20.6km az=50.0*
*ISCJB **23** 14:46:16.3±0.6, 1759N±010×835W±02, h33km, mb4.0/17, MS3.2/2, Error ellipse: s-maj=24.3km s-min=9.9km az=124.7*
*NEIC **23** 14:46:16.1±3.7, 1743N×8369W, h23km±27km, mb4.1/16, Error ellipse: s-maj=18.4km s-min=9.4km az=66.0*
ISC 23 14:46:18.6±0.6**, 1751N**±008×**837W**±01**, h35**km**, n34**, σ1**01/29, mb4.0/17, MS3.2/2, North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**5.09**	**303**	*e*P	**Pn**	**14 47 30.3**	**-2.1**
CMIG	30nm,0.4s **Matias Romero**	**10.67**	**269**	Pn	**Pn**	**14 48 47.2**	**-1.6**
CMIG	0.8nm,0.3s,baz=52,slow=12,SNR=6.1			LR	LR	14 52 44.2	
SJG	comp=Z,108nm,19.2s,baz=66,slow=36 **San Juan**	**16.74**	**85**	LR	LR	14 56 05.8	
OXF	comp=Z,134nm,20.7s,baz=90,slow=36 **Oxford**	**17.68**	**344**	*e*P	**Pn**	**14 50 21.0**	**-1.0**
OTAV	27nm,1.0s **Otavalo**	**17.93**	**163**	*e*P	**Pn**	**14 50 24.8**	**-0.2**
WVT	7.8nm,1.3s **Waverly**	**18.90**	**350**	*e*P	**Pn**	**14 50 35.6**	**-1.2**
MIAR	3.6nm,0.8s **Mount Ida**	**19.11**	**334**	*e*P	**Pn**	**14 50 38.4**	**-1.0**
JCT	6.3nm,1.1s **Junction City**	**19.53**	**314**	*e*P	**Pn**	**14 50 44.6**	**+0.2**
CCM	11nm,0.6s **Cathedral Cave**	**21.51**	**344**	*e*P	**P**	**14 51 03.5**	**-0.9**
WMOK	9.4nm,0.7s,mb4.3 **Wichita Mounta**	**21.80**	**325**	*e*P	**P**	**14 51 07.9**	**+0.5**
AMTX	3.2nm,0.8s,mb3.8 **Amarillo**	**23.58**	**321**	*e*P	**P**	**14 51 26.4**	**+0.4**
ANMO	12nm,0.9s,mb4.3 **Albuquerque**	**26.69**	**315**	P	**P**	**14 51 55.5**	**+1.2**
SADO	2.3nm,0.9s,mb3.7,baz=145,slow=9.9,SNR=5.2 **Sadowa**	**27.45**	**7**	LR	LR	15 03 05.4	
BW06	comp=Z,54nm,19.7s,MS3.1,baz=264,slow=37 **Boulder Array**	**33.41**	**324**	*e*P	**P**	**14 52 54.6**	**+0.8**
PDAR	3.

s-min=23.3km az=6.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**14.34**	**1**	LR	LR	14 55 22.4	
	comp=Z,87nm,18.6s,baz=54,slow=33						
ATD	**Arta Tunnel**	**15.57**	**281**	LR	LR	14 55 51.4	
	comp=Z,65nm,20.3s,baz=23,slow=32						
KMBO	**Kilima Mbogo**	**23.30**	**246**	P	P	14 52 38.2	-0.1
	1.5nm,0.7s,baz=60,slow=10,SNR=4.4						
KMBO				LR	LR	15 02 38.2	
	comp=Z,50nm,18.5s,baz=90,slow=39						
BRTR	**Keskin Array B**	**37.91**	**328**	P	P	14 54 48.8	+1.1
	0.3nm,0.4s,baz=145,slow=8.9,SNR=4.0						
BOSA	**Boshof**	**49.10**	**220**	LR	LR	15 14 27.6	
	comp=Z,79nm,18.9s,baz=3.1,slow=33						
ZAL	**Zalesovo**	**49.73**	**20**	P	P	14 56 21.8	-1.0
	1.0nm,0.5s,baz=244,slow=9.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**55.77**	**280**	P	P	14 57 08.8	+1.4
	0.6nm,0.7s,baz=102,slow=5.6,SNR=4.0						
SONM	**Songino Array**	**56.05**	**37**	P	P	14 57 09.9	+0.4
	0.3nm,0.4s,baz=230,slow=7.7,SNR=4.4						
DBIC	**Dimbokro**	**62.68**	**273**	LR	LR	15 24 39.7	
	comp=Z,51nm,19.6s,baz=119,slow=36						
ESDC	**Sonseca Array**	**63.23**	**310**	P	P	14 57 58.7	-0.2
	0.5nm,0.7s,baz=90,slow=6.0,SNR=6.4						
NWAO	**Narrogin (SRO)**	**69.63**	**130**	LR	LR	15 21 47.5	
	comp=Z,89nm,21.7s,baz=134,slow=30						
WRA	**Warramunga Arr**	**79.94**	**112**	P	P	14 59 40.7	+1.0
	0.7nm,0.9s,baz=299,slow=4.6,SNR=5.0						
ASAR	**Alice Springs**	**80.42**	**116**	P	P	14 59 43.0	+0.8
	0.4nm,0.9s,baz=291,slow=5.2,SNR=4.5						
ASAR				LR	LR	15 27 55.3	
	comp=Z,88nm,19.2s,baz=6.0,slow=30						

CASC 23 14:56:15.1±2.3, 1206N×8429W, h5km, MD3.7, ML3.1, mb4.1 (NEIC), 2C-1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**1.40**	**250**	↑*e*P	Pn	14 56 40.0	-1.2
LIM1	**Limonal**	**1.65**	**215**	*e*P	Pn	14 56 44.2	-0.5
LIM1				*e*S	Sn	14 57 06.8	+0.5
SSNN	**San Juan del S**	**1.71**	**244**	*i* P	Pn	14 56 44.6	-0.9
SSNN				*e*S	Sn	14 57 08.3	+0.5
MGAN	**Managua**	**1.92**	**273**	*i*	Sn	14 57 14.4	+1.5
	comp=N,213nm,0.3s						
APYN	**Apoyeque**	**2.02**	**275**	↓*e*P	Pn	14 56 52.0	+2.1
APYN				*e*S	Sn	14 57 17.6	+2.1
CGA2	**Cerro Gallo 2**	**2.04**	**185**	*e*S	Sn	14 57 17.4	+1.6
PRS1	**Puriscal**	**2.06**	**181**	↑*e*P	Pn	14 56 51.0	+0.6
PRS1				*e*S	Sn	14 57 21.9	+5.5
LCR2	**La Lucha 2**	**2.32**	**173**	*e*P	Pn	14 56 53.2	-0.7
LCR2				*e*S	Sn	14 57 25.2	+2.5
JCR	**Jicaral**	**2.34**	**200**	*e*P	Pn	14 56 54.2	0.0
BUS	**Buena Vista**	**2.54**	**168**	*e*P	Pn	14 56 58.7	+1.8
BUS				*e*S	Sn	14 57 32.8	+4.5

IDC 23 14:57:41.9±2.3, 998S×10845E, h42km±9km, mb3.4/4, mb1 3.5/4, mb1mx3.3/16, mbtmp3.6/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/17, Error ellipse: s-maj=95.3km s-min=18.2km az=49.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**15.84**	**323**	LR	LR	15 07 44.8	
	comp=Z,53nm,18.1s,baz=346,slow=38						
WRA	**Warramunga Arr**	**26.87**	**115**	P	P	15 03 18.6	0.0
	0.7nm,0.8s,baz=284,slow=12,SNR=5.6						
WRA				pP	pP	15 03 29.1	-0.8
	0.7nm,0.7s,baz=284,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**27.85**	**122**	P	P	15 03 28.2	+0.8
	0.2nm,0.5s,baz=295,slow=9.5,SNR=8.5						
ASAR				pP	pP	15 03 40.2	+1.5
	0.4nm,0.7s,baz=297,slow=9.1,SNR=4.2						
SONM	**Songino Array**	**57.58**	**358**	P	P	15 07 27.7	+0.3
	0.7nm,0.6s,baz=181,slow=7.9,SNR=9.1						
MKAR	**Makanchi Array**	**61.15**	**340**	P	P	15 07 51.7	-0.3
	1.0nm,0.7s,baz=132,slow=7.2,SNR=8.2						
MKAR				pP	pP	15 08 04.5	+0.3
	0.5nm,0.6s,baz=150,slow=5.6,SNR=3.3						

IDC 23 15:10:30.4±4.5, 663S×12868E, h261km±46km, mb3.4/1, mb1 3.2/4, mb1mx3.0/14, mbtmp3.9/4, Error ellipse: s-maj=57.1km s-min=18.5km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.78**	**194**	P	Pn	15 13 09.8	-1.1
	0.6nm,0.3s,baz=26,slow=13,SNR=21						
FITZ				S	S	15 15 21.1	-1.1
	0.2nm,0.3s,baz=298,slow=23,SNR=2.7						
WRA	**Warramunga Arr**	**14.32**	**158**	P	Pn	15 13 40.9	-1.1
	0.2nm,0.3s,baz=340,slow=11,SNR=18						
WRA				S	S	15 16 18.1	-2.2
	0.3nm,0.3s,baz=332,slow=24,SNR=6.3						
ASAR	**Alice Springs**	**17.66**	**164**	P	P	15 14 20.5	+1.9
	0.3nm,0.3s,baz=343,slow=12,SNR=42						
ASAR				S	S	15 17 29.0	+0.8
	0.1nm,0.3s,baz=346,slow=23,SNR=8.9						
MKAR	**Makanchi Array**	**67.21**	**327**	P	P	15 20 56.6	0.0
	0.6nm,0.4s,baz=128,slow=7.7,SNR=4.2						

NIED ***23*** *15:12:00, 3490N×13790E, h240km, Mw3.9 Best double couple: M0 7.10000×10^14 NP1: ϕs 62.00000°, δ 78.00000°, λ -136.00000°. NP2: ϕs 321.00000°, δ 47.00000°, λ -16.00000°.*

MOS ***23*** *15:12:39.9±1.1, 3485N×13807E, h262km, mb3.8/7, Error ellipse: s-maj=21.5km s-min=9.7km az=104.9*

ISCJB ***23*** *15:12:40.6±0.3, 3485N±003×13795E±004, h260km±2km, mb3.7/20, Error ellipse: s-maj=5.7km s-min=5.4km az=168.1*

BJI ***23*** *15:12:40.2, 3498N×13829E, h273km, mB4.2, mb4.0*

IDC ***23*** *15:12:41.4±0.5, 3492N×13812E, h258km±8km, mb3.4/13, mb1 3.5/16, mb1mx3.5/23, mbtmp4.1/16, Error ellipse: s-maj=33.0km s-min=6.9km az=71.0*

NEIC ***23*** *15:12:41.4±0.4, 3489N×13820E, h261km±5km, mb4.0/3, Error ellipse: s-maj=19.7km s-min=6.9km az=77.0*

JMA ***23*** *15:12:41.4±0.2, 3490N×13794E, h258km±2km, M3.5*

ISC 23 15:12:41.5±0.3, 3487N±003×13794E±004, h255km±2km, n71, σ0§88/91, mb3.7/20, 5C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKKG	**Kakegawa**	**0.09**	**161**	P	**Pn**	**15 13 14.8**	**+0.5**
JHMK	**Hamakita**	**0.16**	**249**	P	**Pn**	**15 13 14.5**	**+0.2**
JHMK				S	**S**	**15 13 39.5**	**-0.6**
HMMJ	**Hamamatsu 2**	**0.18**	**265**	P	**Pn**	**15 13 14.6**	**+0.3**
HMMJ				S	**S**	**15 13 40.1**	**-0.1**
JYN	**Shimodo**	**0.80**	**38**	P	**Pn**	**15 13 16.7**	**+0.6**
JOD2	**Odawara 2**	**1.02**	**67**	P	**Pn**	**15 13 17.7**	**+0.5**
JOD2				S	**S**	**15 13 46.2**	**+0.9**
JIE	**Ise**	**1.12**	**245**	P	**Pn**	**15 13 18.2**	**+0.4**
JIE				S	**S**	**15 13 46.3**	**0.0**
TK01	**Tokai 1**	**1.14**	**195**	*e*S	**S**	**15 13 47.7**	**+1.2**
JIM2	**Oshima 3**	**1.24**	**97**	P	**Pn**	**15 13 18.8**	**+0.3**
JGM	**Miyama**	**1.29**	**310**	P	**Pn**	**15 13 19.3**	**+0.4**
JGM				S	**S**	**15 13 48.2**	**-0.1**
JRY	**Ryogami san**	**1.39**	**34**	P	**Pn**	**15 13 20.4**	**+0.9**
JRY				S	**S**	**15 13 49.8**	**+0.4**
MJAR	**Matsushiro Arr**	**1.68**	**7**	P	**Pn**	**15 13 22.0**	**+0.3**
	32nm,0.3s,baz=188,slow=8.9,SNR=615						
MJAR				S	**S**	**15 13 52.5**	**-0.9**
	2.4nm,0.3s,baz=188,slow=16,SNR=15						
MAJO	**Matsushiro**	**1.68**	**7**	↑*i*P	**Pn**	**15 13 21.9**	**+0.2**
MAJO				*e*S	**S**	**15 13 52.7**	**-0.7**
MAT	**Matsushiro**	**1.68**	**7**	P	**Pn**	**15 13 22.0**	**+0.3**
MAT				S	**S**	**15 13 53.5**	**+0.1**
MAT	**Matsushiro**	**1.68**	**7**	P	**Pn**	**15 13 22.0**	**+0.3**
MAT				S	**S**	**15 13 53.1**	**-0.3**
MAT	**Matsushiro**	**1.68**	**7**	*e*P	**Pn**	**15 13 22.0**	**+0.3**
MAT				*e*S	**S**	**15 13 54.0**	**+0.6**
JKG	**Kaga**	**1.92**	**317**	P	**Pn**	**15 13 23.9**	**+0.2**
JAG	**Ashikaga**	**1.98**	**38**	P	**Pn**	**15 13 23.8**	**-0.4**
JWY	**Kouya**	**2.04**	**252**	S	**S**	**15 13 58.1**	**-0.8**
JWT	**Wachi**	**2.12**	**282**	P	**Pn**	**15 13 25.8**	**+0.3**
JWT				S	**S**	**15 13 59.3**	**-0.9**
JWZ	**Kozaga**	**2.28**	**235**	S	**S**	**15 14 02.4**	**-0.4**
JHJ	**Hachijo jima 2**	**2.33**	**138**	P	**Pn**	**15 13 27.8**	**+0.4**
	32nm,0.3s,baz=244,slow=23,SNR=13						
JHJ				S	**S**	**15 14 04.8**	**+1.1**
	84nm,0.3s,baz=255,slow=24,SNR=6.9						
JHJ2	**Mitsune**	**2.35**	**138**	P	**Pn**	**15 13 28.6**	**+1.0**
BSO1	**Boso 1**	**2.51**	**94**	P	**Pn**	**15 13 28.4**	**-0.8**
BSO1				S	**S**	**15 14 05.4**	**-1.6**
JSZ	**Suzu**	**2.61**	**350**	P	**Pn**	**15 13 30.4**	**+0.1**
JSZ				S	**S**	**15 14 08.8**	**0.0**
JAI	**Aioi**	**3.08**	**251**	P	**Pn**	**15 13 34.9**	**-0.2**
JAI				S	**S**	**15 14 16.2**	**-1.4**
JHG	**Hegura jima**	**3.08**	**345**	P	**Pn**	**15 13 35.4**	**+0.2**
JNS	**Sasagawa**	**3.15**	**20**	P	**Pn**	**15 13 35.9**	**0.0**
CBIJ	**Chichi jima**	**8.56**	**154**	P	**Pn**	**15 14 40.5**	**-1.4**
	12nm,0.3s,baz=291,slow=21,SNR=4.7						
CBIJ				S	**S**	**15 16 06.2**	**-13**
	15nm,0.3s,baz=258,slow=23,SNR=6.3						
ASAJ	**Asahikawa**	**9.91**	**20**	P	**Pn**	**15 14 56.0**	**-2.8**
	3.1nm,0.3s,baz=231,slow=13,SNR=29						
ASAJ	**Asahikawa**	**9.91**	**20**	P	**Pn**	**15 14 56.1**	**-2.7**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MDJ	**Mudanjiang**	**11.65**	**329**	P	**Pn**	**15 15 20.3**	**-0.3**
MDJ				XP		15 16 21.1	
MDJ				S	**S**	**15 17 30.9**	**+0.2**
MDJ				PCP	PcP	15 20 45.1	-2.0
MDJ				SCP	ScP	15 23 52.6	-2.7
MDJ				PCS	PcS	15 24 19.8	-1.3
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,36nm,3.6s						
YSS	**Yuzh-Sakhalins**	**12.60**	**15**	*de*P	**Pn**	**15 15 30.9**	**-1.5**
YSS				pmax	pmax		
	comp=Z,49nm,0.6s						
YSS	**Yuzh-Sakhalins**	**12.60**	**15**	*e*Pn	**Pn**	**15 15 30.4**	**-2.0**
	comp=Z,58nm,0.4s						
HIA	**Hailar**	**19.66**	**323**	↓*e*P	**P**	**15 16 48.8**	**-2.7**
HHC	**Hu-ho-hao-te**	**21.62**	**294**	*e*P	**P**	**15 17 11.8**	**+0.3**
HHC				S	**S**	**15 20 50.3**	**-2.5**
HHC				PCP	PcP	15 21 02.8	+0.2
HHC				SCP	ScP	15 24 15.9	+0.8
HHC				PCS	PcS	15 24 34.4	-6.7
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb4.6						
HHC				AMB	AMB		
	comp=Z,91nm,4.3s						
HHC				LR	LR		
	comp=N,85nm,4.7s						
HHC				LR	LR		
	comp=E,129nm,5.3s						
HHC				LR	LR		
	comp=Z,110nm,8.4s						
SONM	**Songino Array**	**26.78**	**309**	P	**P**	**15 17 58.8**	**+0.6**
	comp=Z,1.8nm,0.7s,mb3.6,baz=113,slow=8.7,SNR=14						
CD2	**Chengdu**	**28.89**	**272**	*e*P	**P**	**15 18 18.5**	**+1.7**
ZAK	**Zakamensk**	**29.52**	**312**	*e*P	**P**	**15 18 22.8**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.1						
TLY	**Talaya**	**29.74**	**315**	*de*P	**P**	**15 18 25.5**	**+1.2**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
KMI	**Kunming**	**31.86**	**262**	P	**P**	**15 18 45.8**	**+3.0**
KMI				AP	pP	15 19 37.6	+4.2
KMI				PP	PP	15 20 03.8	+3.3
KMI				XP	sP	15 20 06.9	+4.0
KMI				S	**S**	**15 23 38.0**	**+3.8**
KMI				XS	sS	15 25 11.5	+6.4
KMI				SS	SS	15 25 51.8	-5.2
KMI				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb3.8						
KMI				AMB	AMB		
	comp=Z,78nm,9.7s						
KMI				LR	LR		
	comp=N,68nm,17.2s						
KMI				LR	LR		
	comp=E,72nm,18.2s						
KMI				LR	LR		
	comp=Z,62nm,14.5s						
WMQ	**Urumqi**	**39.35**	**299**	P	**P**	**15 19 48.6**	**+2.3**
ZAL	**Zalesovo**	**41.35**	**314**	P	**P**	**15 20 03.0**	**+0.3**
	comp=Z,1.3nm,0.3s,mb3.6,baz=18,slow=9.4,SNR=6.2						
ZAL	**Zalesovo**	**41.35**	**314**	*i* P	**P**	**15 20 03.0**	**+0.3**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**42.92**	**304**	P	**P**	**15 20 15.9**	**+0.6**
	comp=Z,1.9nm,0.4s,mb3.6,baz=84,slow=10,SNR=19						
MKAR	**Makanchi Array**	**42.92**	**304**	↑*e*P	**P**	**15 20 16.1**	**+0.8**
KURK	**Kurchatov**	**45.08**	**309**	*e* P	**P**	**15 20 32.5**	**+0.1**
KURK	**Kurchatov**	**45.08**	**309**	*e*P	**P**	**15 20 32.1**	**-0.3**
	comp=Z,6.2nm,0.9s,mb3.8						
AAK	**Ala-Archa**	**49.05**	**299**	↑*e*P	**P**	**15 21 01.8**	**-1.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5						
FITZ	**Fitzroy Crossi**	**53.96**	**195**	*e*P	**P**	**15 21 39.5**	**+0.3**
	comp=Z,3.6nm,0.9s,mb3.7						
FITZ	**Fitzroy Crossi**	**53.96**	**195**	P	**P**	**15 21 39.0**	**-0.2**
	comp=Z,1.9nm,0.8s,mb3.5,baz=338,slow=6.8,SNR=8.4						
WRAB	**Tennant Creek**	**54.61**	**184**	*e*P	**P**	**15 21 42.9**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.2						
WRAB	**Tennant Creek**	**54.61**	**184**	*e*P	**P**	**15 21 42.9**	**-0.9**
	comp=Z,3.2nm,0.3s,mb4.2						
WB2	**Warramunga Arr**	**54.62**	**184**	*e*P	**P**	**15 21 43.1**	**-0.8**
WRA	**Warramunga Arr**	**54.62**	**184**	P	**P**	**15 21 43.1**	**-0.8**
	comp=Z,1.8nm,0.3s,mb4.0,baz=360,slow=7.5,SNR=57						
WRA	**Warramunga Arr**	**54.62**	**184**	*i* P	**P**	**15 21 43.0**	**-0.9**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AS31	**Alice Springs**	**58.34**	**184**	*e*P	**P**	**15 22 09.6**	**-0.5**
ASAR	**Alice Springs**	**58.34**	**184**	P	**P**	**15 22 09.7**	**-0.4**
	comp=Z,6.6nm,0.4s,mb3.4,baz=352,slow=4.3,SNR=14						
ASPA	**Alice Springs**	**58.34**	**184**	*e*P	**P**	**15 22 09.6**	**-0.5**
KBS	**Kingsbay**	**62.29**	**350**	↓*e*P	**P**	**15 22 38.1**	**+1.4**
ARCES	**ARCESS Array B**	**65.01**	**339**	P	**P**	**15 22 53.9**	**-0.5**
	comp=Z,1.9nm,0.8s,mb3.8,baz=53,slow=8.2,SNR=4.9						
ARCES	**ARCESS Array B**	**65.01**	**339**	P	**P**	**15 22 53.9**	**-0.5**
STKA	**Stephens Creek**	**66.48**	**177**	P	**P**	**15 23 03.9**	**+0.1**
	comp=Z,1.2nm,0.8s,mb3.7,baz=337,slow=18,SNR=3.3						
FINES	**FINESS Array B**	**69.39**	**332**	P	**P**	**15 23 21.9**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.6,baz=104,slow=6.3,SNR=8.1						
FINES	**FINESS Array B**	**69.39**	**332**	*i* P	**P**	**15 23 21.8**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**74.25**	**321**	P	**P**	**15 23 49.6**	**-1.1**
	comp=Z,0.5nm,0.4s,mb3.5,baz=47,slow=6.6,SNR=6.1						
AKASG	**Malin Array Be**	**74.25**	**321**	*i* P	**P**	**15 23 50.2**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**75.06**	**336**	P	**P**	**15 23 55.2**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.4,baz=43,slow=5.6						
NOA	**NORSAR Array B**	**75.06**	**336**	P	**P**	**15 23 55.0**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.5,baz=43,slow=5.5,SNR=5.0						
BRTR	**Keskin Array B**	**78.13**	**310**	P	**P**	**15 24 13.7**	**+1.2**
	comp=Z,0.4nm,0.6s,mb3.3,baz=60,slow=3.4,SNR=4.2						
BRTR	**Keskin Array B**	**78.13**	**310**	↑*e*P	**P**	**15 24 14.0**	**+1.5**
GERES	**GERESS Array B**	**83.01**	**327**	P	**P**	**15 24 38.7**	**+0.4**
	comp=Z,0.2nm,0.5s,mb3.2,baz=64,slow=4.6,SNR=3.6						

NEIC ***23*** *15:47:31.7, 3157S×6974W, h137km, MG3.9(GUC), After GUC.*

GUC 23 15:47:31.7±0.7, 3157S×6974W, h137km±6km, MD3.7, ML3.9, 9C-8D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.15**	**290**	↑*i*P	Pn	15 47 57.5	+0.9
CMCH				*i* S	Sn	15 48 16.3	+0.7
CMCH				AML	AML	15 48 18.2	
	comp=E,7μm,0.5s						
CMCH	**Combarbala**	**1.15**	**290**	↑*i*P	Pn	15 47 57.5	+0.9
CMCH				*i* S	Sn	15 48 16.3	+0.7
JACH	**Jahuel**	**1.32**	**213**	*i* P	Pn	15 47 59.0	+0.7
JACH				*i* S	Sn	15 48 19.5	+0.8
CHNG	**Los Chungos**	**1.53**	**258**	*i* P	Pn	15 48 02.2	+1.6
CHNG				*i* S	Sn	15 48 23.0	+0.3
CHNG				AML	AML	15 48 31.9	
	comp=E,621nm,0.5s						
OVCH	**Ovalle**	**1.58**	**307**	↑*i*P	Pn	15 48 01.8	+0.7
OVCH				*i* S	Sn	15 48 24.1	+0.5
OVCH				AML	AML	15 48 27.4	
	comp=E,838nm,0.6s						
OVCH	**Ovalle**	**1.58**	**307**	↑*i*P	Pn	15 48 01.8	+0.7
OVCH				*i* S	Sn	15 48 24.1	+0.5
TLL	**Tololo Astrono**	**1.67**	**326**	↓*i*P	Pn	15 48 03.5	+1.3
TLL				*i* S	Sn	15 48 27.0	+1.5
TLL				AML	AML	15 48 30.4	
	comp=N,951nm,0.6s						
TLL	**Tololo Astrono**	**1.67**	**326**	↓*i*P	Pn	15 48 03.5	+1.3
TLL				*i* S	Sn	15 48 27.0	+1.5
PACH	**Papudo**	**1.73**	**236**	↓*i*P	Pn	15 48 03.3	+0.5
PACH				*i* S	Sn	15 48 26.9	+0.2
PEL	**Peldehue**	**1.76**	**207**	↓*i*P	Pn	15 48 03.7	+0.5
PEL				*i* S	Sn	15 48 28.0	+0.7
PEL				AML	AML	15 48 29.4	
	comp=E,839nm,0.3s						
PEL	**Peldehue**	**1.76**	**207**	↓*i*P	Pn	15 48 03.7	+0.5
PEL				*i* S	Sn	15 48 28.0	+0.7
ROCH	**El Roble**	**1.77**	**217**	↑*i*P	Pn	15 48 03.9	+0.7
ROCH				*i* S	Sn	15 48 28.4	+1.0
FCH	**Farellones**	**1.81**	**195**	↑*i*P	Pn	15 48 05.1	+1.3
FCH				*i* S	Sn	15 48 30.2	+1.8
FCH				AML	AML	15 48 34.4	
	comp=E,639nm,0.2s						
CLCH	**Cerro Calan**	**1.94**	**200**	↑*i*P	Pn	15 48 06.0	+0.7
CLCH				*i* S	Sn	15 48 31.5	+0.5
CLCH				AML	AML	15 48 35.4	
	comp=E,1μm,0.6s						
CLCH				AML	AML	15 48 36.0	
	comp=E,1μm,0.6s						
STL	**Santa Lucia**	**2.01**	**202**	*i* P	Pn	15 48 06.2	0.0
STL				*i* S	Sn	15 48 33.0	+0.5
RCDM	**Rinconada Maip**	**2.12**	**205**	↓*i*P	Pn	15 48 08.0	+0.6
RCDM				*i* S	Sn	15 48 35.8	+1.0
RCDM				AML	AML	15 48 36.4	
	comp=N,1μm,0.4s						
RCDM	**Rinconada Maip**	**2.12**	**205**	↓*i*P	Pn	15 48 08.0	+0.6
RCDM				*i* S	Sn	15 48 35.8	+1.0
ANTU	**Antumapu**	**2.13**	**201**	*i* P	Pn	15 48 08.1	+0.5
ANTU				*i* S	Sn	15 48 36.1	+0.9
ANTU				AML	AML	15 48 38.2	
	comp=N,820nm,0.5s						
ANTU	**Antumapu**	**2.13**	**201**	*i* P	Pn	15 48 08.1	+0.5
ANTU				*i* S	Sn	15 48 36.1	+0.9
PCH	**Pirque**	**2.15**	**198**	*i* P	Pn	15 48 08.5	+0.7
PCH				*i* S	Sn	15 48 36.5	+1.0
TACH	**Talagante**	**2.31**	**206**	↑*i*P	Pn	15 48 09.9	+0.1
TACH				*i* S	Sn	15 48 39.9	+0.8
LCCH	**Las Cruces**	**2.45**	**219**	*i* P	Pn	15 48 12.1	+0.5
LCCH				*i* S	Sn	15 48 42.7	+0.5
CHCH	**Chadas Angostu**	**2.48**	**198**	↓*i*P	Pn	15 48 12.4	+0.5
CHCH				*i* S	Sn	15 48 43.7	+0.8
CACH	**El Canelo**	**2.64**	**196**	↑*i*P	Pn	15 48 14.9	+1.0
CACH				*i* S	Sn	15 48 48.3	+1.8
LCO	**Las Campanas**	**2.68**	**342**	*i* P	Pn	15 48 15.5	+1.0
LCO				*i* S	Sn	15 48 48.6	+1.2
CICH	**Cipreses**	**2.80**	**192**	*i* P	Pn	15 48 16.9	+0.9
CICH				*i* S	Sn	15 48 51.1	+0.9

IDC ***23*** *15:57:23.5±1.5, 3031S×17735W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/12, mbtmp3.9/4, Error ellipse: s-maj=33.4km s-min=22.6km az=72.0*

ISCJB ***23*** *15:57:25.8±6.9, 3043S±0.10×1775W±0.02, h23km±50km, mb3.9/5, Error ellipse: s-maj=30.8km s-min=16.5km az=171.0*

NEIC ***23*** *15:57:29.8±3.5, 3016S×17743W, h47km±32km, mb4.0/1, Error ellipse: s-maj=44.1km s-min=22.2km az=175.0*

ISC 23 15:57:25.2±3.9, 3034S±008×1774W±02, h10km±24km, n12, σ0§73/12, mb3.9/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.17**	**338**	Pn	**Pn**	**15 57 47.6**	**0.0**
	307nm,0.3s,baz=264,slow=23,SNR=10						
RAO				Sn	**Sn**	**15 58 03.8**	**+0.2**
	279nm,0.3s,baz=67,slow=23,SNR=7.7						
RAO	**Raoul Island**	**1.17**	**338**	*e*P	**Pb**	**15 57 47.5**	**0.0**
RAO				Sn	**Sn**	**15 58 03.8**	**+0.2**
STKA	**Stephens Creek**	**34.99**	**257**	P	**P**	**16 04 19.8**	**+2.2**
	1.7nm,0.7s,mb4.1,baz=94,slow=12,SNR=7.4						
STKA	**Stephens Creek**	**34.99**	**257**	*e*P	**P**	**16 04 19.6**	**+2.1**
AS31	**Alice Springs**	**43.63**	**267**	P	**P**	**16 05 29.9**	**+0.2**
ASAR	**Alice Springs**	**43.63**	**267**	P	**P**	**16 05 29.3**	**-0.3**
	0.4nm,0.5s,mb3.4,baz=106,slow=7.2,SNR=13						
WB2	**Warramunga Arr**	**44.60**	**272**	*e*P	**P**	**16 05 36.8**	**-0.7**
WRAB	**Tennant Creek**	**44.60**	**272**	*e*P	**P**	**16 05 36.6**	**-0.9**
	1.1nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**44.61**	**272**	P	**P**	**16 05 37.2**	**-0.3**
	0.6nm,0.4s,mb3.8,baz=111,slow=8.0,SNR=14						
PLCA	**Paso Flores**	**82.17**	**133**	P	**P**	**16 09 46.3**	**+0.1**
	2.8nm,0.9s,mb4.2,baz=225,slow=2.9,SNR=3.0						
FINES	**FINESS Array B**	**145.26**	**340**	PKPbc	PKPbc	16 17 01.5	-1.2
	1.1nm,0.5s,baz=52,slow=3.1,SNR=10						
FINES	**FINESS Array B**	**145.26**	**340**	PKPbc	PKPbc	16 17 01.5	-1.2

MAN 23 15:58:33.1, 1514N×12039E, h1km, mb2.4, ML4.0, MS1.3, 1C, Luzon

| Code |

ISA				*e*Pg	**Pg**	**15 59 30.7**	**0.0**
ISA				*e*Sg	**Sg**	**15 59 57.2**	**-0.3**
ISA	**Isabella**	**2.07**	**337**	⇓P	**Pn**	**15 59 26.6**	**-0.2**
	baz=2.1,SNR=127						
TUQ	**Turquoise Mtn.**	**2.12**	**37**	⇓P	**Pn**	**15 59 27.3**	**-0.2**
	baz=2.1,SNR=9.6						
GLA	**Glamis**	**2.34**	**107**	*e*Pn	**Pn**	**15 59 29.2**	**-1.3**
GLA				*e*Pg	**Pg**	**15 59 36.6**	**+0.9**
GLA				*e*Sg	**Sg**	**16 00 05.7**	**-0.3**
GLA	**Glamis**	**2.34**	**107**	⇑P	**Pn**	**15 59 29.3**	**-1.2**
	baz=2.3						
Y12C	**Blythe**	**2.48**	**89**	⇑P	**Pn**	**15 59 31.2**	**-1.3**
	baz=2.5,SNR=16						
U10A	**Ash Meadows, A**	**2.83**	**19**	⇓P	**Pn**	**15 59 37.7**	**+0.4**
	baz=2.8,SNR=39						
V05C	**Boulder Hill,**	**2.90**	**318**	⇑S	**Sn**	**16 00 15.6**	**+1.9**
	baz=2.9						
PTRM	**Twissleman Ran**	**2.94**	**311**	*e*Pg	**Pg**	**15 59 45.7**	**-1.5**
V12A	**Nelson**	**2.94**	**47**	⇓P	**Pn**	**15 59 39.2**	**+0.4**
	baz=2.9,SNR=9.6						
W13A	**Hualapai Mount**	**3.27**	**65**	P	**Pn**	**15 59 43.8**	**+0.5**
	baz=3.3,SNR=49						
W13A				⇓S	**Sn**	**16 00 22.0**	**-0.8**
	baz=3.3						
PKD	**Parkfield**	**3.33**	**312**	⇑P	**Pn**	**15 59 43.4**	**-0.7**
	baz=3.4						
TPNV	**Topopah Spring**	**3.35**	**17**	*e*Pn	**Pn**	**15 59 45.5**	**+1.1**
TPNV				*e*Pg	**Pg**	**15 59 56.7**	**+1.6**
TPNV				*e*Sg	**Sg**	**16 00 37.3**	**-1.2**
V04C	**Ramage Ranch,**	**3.36**	**305**	⇓P	**Pn**	**15 59 43.1**	**-1.5**
	baz=3.4,SNR=15						
U12A	**Valley of Fire**	**3.61**	**41**	⇑P	**Pn**	**15 59 49.0**	**+1.1**
	baz=3.6						
MTUM	**Tungsten Hills**	**3.70**	**347**	*e*Pn	**Pn**	**15 59 50.4**	**+1.2**
MTUM				*e*Sg	**Sg**	**16 00 49.9**	**+0.1**
Y14A	**Wickenburg**	**3.75**	**86**	⇑P	**Pn**	**15 59 49.5**	**-0.3**
	baz=3.7						
V03C	**Hunter Liggett**	**3.82**	**307**	⇑P	**Pn**	**15 59 49.6**	**-1.3**
	baz=3.8,SNR=12						
V03C				⇓S	**Sn**	**16 00 35.2**	**-1.3**
	baz=3.8						
X14A	**Yava**	**3.89**	**78**	⇓P	**Pn**	**15 59 52.0**	**+0.2**
	baz=3.9						
X14A				⇓S	**Sn**	**16 00 38.2**	**+0.1**
	baz=3.9						
W14A	**Seligman**	**3.93**	**67**	⇓P	**Pn**	**15 59 52.3**	**0.0**
	baz=3.9,SNR=9.7						
W14A				⇓S	**Sn**	**16 00 38.6**	**-0.5**
	baz=3.9						
LRV	**Little Rabbit**	**3.93**	**314**	*e*Pn	**Pn**	**15 59 52.5**	**+0.1**
S09A	**Goldfield**	**3.97**	**3**	⇓S	**Sn**	**16 00 39.8**	**-0.4**
	baz=4.0						
HAST	**UC Hastings Re**	**4.24**	**309**	⇑P	**Pn**	**15 59 55.2**	**-1.5**
	baz=4.3,SNR=14						
HAST				⇑S	**Sn**	**16 00 45.3**	**-1.6**
	baz=4.3						
S05C	**Merced**	**4.27**	**328**	⇑P	**Pn**	**15 59 56.9**	**-0.2**
	baz=4.3,SNR=7.2						
TPH	**Tonopah**	**4.32**	**3**	*e*Pn	**Pn**	**15 59 59.5**	**+1.7**
TPH				*e*Pg	**Pg**	**16 00 11.4**	**-2.3**
SAO	**San Andreas Ge**	**4.42**	**314**	*e*Pn	**Pn**	**15 59 59.3**	**+0.2**
X15A	**Humboldt**	**4.42**	**79**	⇓S	**Sn**	**16 00 51.6**	**+0.3**
	baz=4.4						
PACP	**Pacheco Peak**	**4.49**	**317**	⇓S	**Sn**	**16 00 51.8**	**-1.2**
	baz=4.5						
R09A	**Tonopah**	**4.49**	**4**	⇓S	**Sn**	**16 00 53.0**	**-0.1**
	baz=4.5						
115A	**Sonoran Desert**	**4.53**	**102**	⇑S	**Sn**	**16 00 52.8**	**-1.3**
	baz=4.5						
S06C	**San Francisco**	**4.54**	**336**	⇓P	**Pn**	**16 00 01.9**	**+1.0**
	baz=4.6						
MNV	**Mina**	**4.70**	**354**	*e*Pn	**Pn**	**16 00 04.9**	**+1.8**
CMB	**Columbia Colle**	**4.88**	**332**	*e*Pn	**Pn**	**16 00 06.0**	**+0.6**
CMB				*e*Sg	**Sn**	**16 01 17.8**	**+15**
CMB	**Columbia Colle**	**4.88**	**332**	⇓P	**Pn**	**16 00 05.8**	**+0.4**
	baz=4.9						
CCUT	**Cedar City**	**5.07**	**40**	*e*Pn	**Pn**	**16 00 10.4**	**+2.4**
ARUT	**Antelope Range**	**5.21**	**38**	*e*Pn	**Pn**	**16 00 11.4**	**+1.5**
WUAZ	**Wupatki**	**5.34**	**69**	*e*Pn	**Pn**	**16 00 13.8**	**+2.0**
	7.6nm,0.5s						
WUAZ				*e*Sg	**Sg**	**16 01 39.8**	**-2.7**
MSU	**Marysvale**	**6.41**	**41**	*e*Pn	**Pn**	**16 00 29.3**	**+2.9**
MSU				*e*Pg	**Pg**	**16 00 49.2**	**-4.5**
ELK	**Elko**	**7.21**	**14**	Pn	**Pn**	**16 00 39.1**	**+1.7**
	1.0nm,0.6s						
ELK				*e*Pg	**Pg**	**16 01 07.8**	**-1.2**
BGU	**Big Grassy Mou**	**8.00**	**25**	*e*Pg	**Pg**	**16 01 20.3**	**-3.7**

IDC 23 16:30:27.8±68.0, 1731S×17666E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/12, mbtmp4.0/3, Error ellipse: s-maj=1201.0km s-min=139.0km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.85**	**239**	P	P	16 37 20.6	0.0
	0.9nm,0.4s,baz=85,slow=11,SNR=7.1						
WRA	**Warramunga Arr**	**40.12**	**259**	P	P	16 38 05.4	+0.2
	0.6nm,0.7s,baz=92,slow=7.9,SNR=13						
ASAR	**Alice Springs**	**40.44**	**254**	P	P	16 38 08.4	+0.6
	3.0nm,0.5s,baz=89,slow=7.9,SNR=114						
ASPA	**Alice Springs**	**40.44**	**254**	*e*P	P	16 38 08.3	+0.5

*ISCJB **23** 17:10:48.0±0.7, 1015N±004×6257W±003, h21km±7km, Error ellipse: s-maj=7.4km s-min=4.2km az=150.3*
*FUNV **23** 17:10:47.6, 1033N×6245W, h7km, MW3.4*
*NEIC **23** 17:10:49.5, 1009N×6244W, h21km, MD3.6(TRN), After TRN.*
*TRN **23** 17:10:51.5, 1027N×6237W, h10km, MD3.6*

ISC 23 17:10:48.1±0.7, 1034N±005×6255W±003, h11km±5km, n15, σ1§35/28, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUNV	**Guanoco**	**0.42**	**245**	*e*P	**Pg**	**17 10 57.0**	**+0.6**
GUNV				*e*S	**Sg**	**17 11 04.8**	**+2.6**
GUIV	**Guiria**	**0.44**	**47**	*e*P	**Pg**	**17 10 55.5**	**-1.3**
GUIV				*e*S	**Sg**	**17 11 01.0**	**-1.7**
CRUV	**Carupano**	**0.75**	**296**	*e*P	**Pg**	**17 11 01.8**	**-0.8**
CRUV				*e*S	**Sg**	**17 11 13.1**	**+0.7**
TPP	**Pointe-a-Pierr**	**1.08**	**91**	*e*P	**Pb**	**17 11 09.1**	**+0.2**
TRN	**Trinidad (W)**	**1.17**	**75**	*e*P	**Pb**	**17 11 12.5**	**+2.2**
TRN				*e*S	**Sb**	**17 11 25.5**	**0.0**
TRN	**Trinidad (W)**	**1.17**	**75**	*e*P	**Pb**	**17 11 09.3**	**-1.1**
TRN				*e*		17 11 12.5	
TRN				*e*S	**Sb**	**17 11 25.5**	**0.0**
TBH	**Brigand Hill**	**1.47**	**84**	*e*P	**Pn**	**17 11 13.8**	**-0.7**
ORIV	**Oritupano**	**1.52**	**214**	*e*P	**Pn**	**17 11 16.1**	**+0.9**
ORIV				*e*S	**Sn**	**17 11 36.6**	**+1.6**
TPR	**Prospect**	**1.93**	**64**	*e*P	**Pn**	**17 11 22.9**	**+2.0**
TPR				*e*S	**Sn**	**17 11 46.3**	**+1.1**
GRW	**Mount Saint Ca**	**2.00**	**26**	*e*P	**Pn**	**17 11 25.0**	**+3.1**
GRW				*e*S	**Sn**	**17 11 51.1**	**+4.2**
CUPV	**Cœpira**	**3.20**	**265**	*e*P	**Pn**	**17 11 38.6**	**+0.3**
CUPV				*e*S	**Sn**	**17 12 16.1**	**-0.3**
BIRV	**Birongo**	**3.66**	**272**	*e*P	**Pn**	**17 11 45.4**	**+0.8**
BIRV				*e*S	**Sn**	**17 12 26.7**	**-1.1**
MERV	**Las Mercedes**	**3.85**	**254**	*e*P	**Pn**	**17 11 47.6**	**+0.4**
MERV				*e*S	**Sn**	**17 12 30.9**	**-1.5**
LUEV	**Luepa**	**4.60**	**166**	*e*P	**Pn**	**17 11 55.2**	**-2.4**
LUEV				*e*S	**Sn**	**17 12 45.8**	**-5.1**
CAOV	**Caicara del Or**	**4.78**	**231**	*e*P	**Pn**	**17 11 59.0**	**-1.1**
CAOV				*e*S	**Sn**	**17 12 52.6**	**-2.8**

CASC 23 17:18:39.6±2.1, 1064N×8668W, h79km±41km, MD3.7, ML2.9,5C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.04**	**51⇑**	*e*P	Pn	17 18 58.8	-0.3
SSNN				*e*S	Sn	17 19 13.6	0.0
MADN	**Villa Maderas**	**1.36**	**56⇑**	*e*P	Pn	17 19 03.4	+0.4
CONN	**Concepcion**	**1.38**	**48**	*e*P	Pn	17 19 03.8	+0.5
APON	**Apoyo**	**1.40**	**25**	*e*P	Pn	17 19 04.6	+1.0
TICN	**Ticuantepe**	**1.45**	**17**	*e*P	Pn	17 19 05.4	+1.2
COPN	**Copaltepe**	**1.54**	**3**	⇑*i*P	Pn	17 19 05.4	+0.1
COPN				*i*		17 19 32.1	
	comp=Z,150nm,0.5s						
APYN	**Apoyeque**	**1.62**	**11**	*e*P	Pn	17 19 06.5	+0.1
MOMJ	**Momotombo**	**1.76**	**4**	⇓*i*P	Pn	17 19 08.5	+0.2
MOMJ				*e*S	Sn	17 19 30.9	+0.8
MIRN	**Miramar**		**1.79 359**	⇑*i*P	Pn	17 19 08.5	-0.2
CGA2	**Cerro Gallo 2**		**2.26 106**	*e*P	Pn	17 19 16.3	+1.4
CGA2				*e*S	Sn	17 19 44.2	+2.3
PRS1	**Puriscal**		**2.42 105**	⇓*e*P	Pn	17 19 18.2	+1.2
PRS1				*e*S	Sn	17 19 46.2	+0.5
LCR2	**La Lucha 2**		**2.78 108**	*e*P	Pn	17 19 23.1	+1.2
LCR2				*e*S	Sn	17 19 56.2	+1.8
ICR	**Volcan Irazu**		**2.88 103**	*e*P	Pn	17 19 26.2	+3.0
BUS	**Buena Vista**		**3.07 110**	⇑*i*P	Pn	17 19 26.8	+1.0
BUS				*e*S	Sn	17 20 02.9	+1.4

*ISCJB **23** 17:19:49.9±0.7, 248S±005×1394E±02, h33km, mb4.3/13, MS3.6/2, Error ellipse: s-maj=24.5km s-min=7.5km az=3.6*
*NEIC **23** 17:19:49.9±5.2, 241S×13943E, h21km±37km, mb4.5/12, Error ellipse: s-maj=18.6km s-min=11.3km az=74.0*
*IDC **23** 17:19:51.8±4.4, 244S×13954E, h37km±38km, mb4.1/6, mb1 4.4/8, mb1mx4.2/12, mbtmp4.4/8, ML4.2/2, MS3.6/4, Ms1 3.6/4, ms1mx3.2/25, Error ellipse: s-maj=39.5km s-min=12.1km az=91.0*

ISC 23 17:19:51.9±0.7, 244S±005×1395E±02, h35km, n32, σ0§67/27, mb4.3/13, MS3.6/2, 1C-2D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.36**	**214**	⇑*i*P	**Pn**	**17 22 44.3**	**-1.0**
	60nm,0.6s						
GUMO	**Guam**	**16.80**	**18**	LR	LR	17 29 49.4	
	comp=Z,156nm,18.5s,baz=220,slow=36						
WRAB	**Tennant Creek**	**18.10**	**196**	*e*P	**Pn**	**17 23 59.5**	**-0.9**
	51nm,0.8s						
WB2	**Warramunga Arr**	**18.10**	**196**	*e*P	**Pn**	**17 23 59.9**	**-0.6**
WRA	**Warramunga Arr**	**18.11**	**196**	P	**Pn**	**17 24 00.2**	**-0.3**
	1.2nm,0.3s,baz=18,slow=12,SNR=71						
WRA				S	**S**	**17 27 14.2**	**-12**
	0.2nm,0.3s,baz=14,slow=21,SNR=3.8						
CTA	**Charters Tower**	**18.75**	**160**	*e*P	**Pn**	**17 24 09.2**	**+0.9**
	5.9nm,0.9s						
CTA	**Charters Tower**	**18.75**	**160**	P	**Pn**	**17 24 08.8**	**+0.4**
	0.2nm,0.3s,baz=348,slow=15,SNR=5.9						
CTA				LR	LR	17 31 40.8	
	comp=Z,222nm,18.7s,baz=173,slow=38						
CTAO	**Charters Tower**	**18.75**	**160**	*e*P	**Pn**	**17 24 08.6**	**+0.3**
	8.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.65**	**220**	*e*P	**P**	**17 24 28.9**	**+0.5**
	45nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.65**	**220**	P	**P**	**17 24 29.2**	**+0.8**
	29nm,0.8s,baz=42,slow=12,SNR=50						
AS31	**Alice Springs**	**21.78**	**194**	⇓*i*P	**P**	**17 24 40.1**	**-0.5**
ASAR	**Alice Springs**	**21.78**	**194**	P	**P**	**17 24 40.5**	**-0.1**
	14nm,0.8s,mb4.4,baz=25,slow=9.9,SNR=99						
ASAR				S	**S**	**17 28 40.8**	**+1.3**
	3.2nm,0.9s,baz=13,slow=25,SNR=5.7						
ASPA	**Alice Springs**	**21.78**	**194**	⇓*i*P	**P**	**17 24 40.1**	**-0.5**
MBWA	**Marble Bar**	**26.76**	**224**	*e*P	**P**	**17 25 28.6**	**+0.3**
	18nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**29.35**	**176**	*e*P	**P**	**17 25 51.6**	**+0.2**
	2.5nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**29.35**	**176**	P	**P**	**17 25 51.1**	**-0.3**
	3.1nm,0.7s,mb4.2,baz=315,slow=9.3,SNR=9.9						
FORT	**Forrest**	**30.19**	**200**	*e*P	**P**	**17 26 00.5**	**+1.7**
	18nm,0.7s,mb4.9						
JOW	**Kunigami**	**31.04**	**340**	LR	LR	17 37 28.1	
	comp=Z,106nm,20.9s,MS3.5,baz=126,slow=34						
DZM	**Mont Dzumac**	**32.67**	**129**	LR	LR	17 36 34.9	
	comp=Z,179nm,21.7s,MS3.7,baz=307,slow=31						
KLBR	**Kellerberrin**	**35.50**	**213**	*e*P	**P**	**17 26 45.4**	**+0.2**
	56nm,1.7s,mb5.2						
MJAR	**Matsushiro Arr**	**38.80**	**358**	P	**P**	**17 27 12.2**	**-0.9**
	0.5nm,0.7s,mb3.4,baz=187,slow=10,SNR=4.7						
SONM	**Songino Array**	**57.80**	**334**	P	**P**	**17 29 39.0**	**-0.6**
	0.1nm,0.4s,mb3.2,baz=317,slow=45,SNR=2.8						
MKAR	**Makanchi Array**	**70.04**	**322**	P	**P**	**17 31 01.1**	**+1.0**
	3.8nm,0.8s,mb4.4,baz=104,slow=7.6,SNR=19						
ZAL	**Zalesovo**	**72.09**	**330**	P	**P**	**17 31 12.8**	**+0.2**
	0.8nm,0.4s,mb4.0,baz=9.1,slow=11,SNR=4.9						
KURK	**Kurchatov**	**73.94**	**325**	*e*P	**P**	**17 31 23.6**	**+0.1**
	3.3nm,0.8s,mb4.3						
BRVK	**Borovoye**	**79.60**	**325**	*e*P	**P**	**17 31 55.8**	**+0.3**
	4.2nm,0.9s,mb4.4						
CHKZ	**Chkalovo**	**79.61**	**326**	*e*P	**P**	**17 31 55.3**	**-0.2**
	3.5nm,1.1s,mb4.2						
ZRNK	**Zerenda**	**80.30**	**325**	*e*P	**P**	**17 31 59.2**	**0.0**
	1.6nm,0.6s,mb4.1						
DBIC	**Dimbokro**	**144.21**	**278**	PKP	PKPdf	17 39 22.9	-1.0
	6.0nm,0.8s,baz=29,slow=7.1,SNR=8.2						
DBIC	**Dimbokro**	**144.21**	**278**	*e*PKP	PKPdf	17 39 22.7	-1.3
LPAZ	**La Paz**	**146.98**	**125**	PKPbc	PKPbc	17 39 31.8	+1.0
	1.2nm,0.8s,baz=25,slow=3.0,SNR=7.0						
LPAZ	**La Paz**	**146.98**	**125**	*e*PKPbc	PKPbc	17 39 32.2	+1.5

*ISCJB **23** 17:23:42.5±0.3, 966S±005×10739E±005, h13km, mb4.9/62, MS4.3/17, Error ellipse: s-maj=8.0km s-min=5.8km az=116.3*
*IDC **23** 17:23:42.4±0.5, 960S×10742E, h0km, mb4.4/13, mb1 4.5/15, mb1mx4.5/20, mbtmp4.4/15, ML4.2/1, MS3.8/6, Ms1 3.8/6, ms1mx3.5/24, Error ellipse: s-maj=23.3km s-min=13.5km az=53.0*
*BJI **23** 17:23:45.7, 960S×10740E, h19km, mB5.1, mb4.8, Ms4.7, Msz4.4*
*MOS **23** 17:23:45.7±0.9, 953S×10750E, h33km, mb5.3/19, Error ellipse: s-maj=15.0km s-min=7.2km az=108.5*
*NEIC **23** 17:23:45.7±3.3, 958S×10744E, h19km±19km, mb5.1/20, Error ellipse: s-maj=11.0km s-min=5.4km az=47.0*

ISC 23 17:23:44.6±0.3, 967S±005×10740E±005, h14km, h14km±1.6km:pP-P, n154, σ1§06/128, mb4.9/62, MS4.3/17, 12C-14D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.84**	**4**	P	**Pn**	**17 24 27.4**	**-2.1**
	1μm,1.0s						
BJII	**Banjamegara**	**3.26**	**45**	P	**Pn**	**17 24 35.6**	**+0.3**
	247nm,1.0s						
KSI	**Kapahiang**	**7.65**	**321**	P	**Pn**	**17 25 33.8**	**-1.8**
	84nm,0.8s						
PSI	**Prapat**	**14.99**	**325**	Pn	**Pn**	**17 27 15.1**	**-1.0**
	baz=332,slow=19,SNR=4.4						
PSI				LR	LR	17 34 14.8	
	comp=Z,187nm,19.3s,baz=135,slow=43						
PCI	**Palu**	**15.13**	**56**	P	**Pn**	**17 27 19.2**	**+1.3**
	97nm,1.6s						
KKM	**Kota Kinabalu**	**17.91**	**30**	*e*P	**Pn**	**17 27 52.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**19.57**	**117**	*e*P	**Pn**	**17 28 13.8**	**+0.4**
	23nm,0.8s						
FITZ				*e*S	**Sn**	**17 31 36.8**	**-16**
FITZ	**Fitzroy Crossi**	**19.57**	**117**	P	**Pn**	**17 28 11.9**	**-1.5**
	0.6nm,0.3s,baz=302,slow=7.2,SNR=8.2						
NNT	**Nongplab**	**23.39**	**341**	P	**P**	**17 28 56.0**	**+2.9**
KAKA	**Kakadu**	**24.75**	**99**	*e*P	**P**	**17 29 06.3**	**+0.7**
	24nm,0.8s,mb4.8						
NST	**Nakhon Sawan**	**26.19**	**344**	P	**P**	**17 29 19.7**	**+1.0**
KKTK	**Khon Kaen**	**26.24**	**350**	⇑P	**P**	**17 29 20.0**	**+0.9**
WRA	**Warramunga Arr**	**27.93**	**115**	P	**P**	**17 29 34.8**	**+0.4**
	4.4nm,0.8s,mb4.2,baz=308,slow=12,SNR=12						
WRA				PcP	PcP	17 32 50.4	+0.8
	1.0nm,0.6s,baz=296,slow=2.1,SNR=5.2						
WB2	**Warramunga Arr**	**27.94**	**114**	*e*P	**P**	**17 29 34.9**	**+0.4**
QIZ	**Qiongzhong**	**28.62**	**5**	P	**P**	**17 29 41.8**	**+1.3**
QIZ				AP	pP	17 29 45.1	+0.3
QIZ				XP	sP	17 29 47.8	+1.2
QIZ				PP	PP	17 30 33.5	-12
QIZ				S	**S**	**17 34 26.8**	**-1.8**
QIZ				AMB	AMB		
	comp=Z,11nm,1.6s,mb4.3						
QIZ				LR	LR		
	comp=N,210nm,14.2s						
QIZ				LR	LR		
	comp=Z,315nm,14.7s,MS4.0						
ASAR	**Alice Springs**	**28.88**	**122**	P	**P**	**17 29 42.5**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.0,baz=302,slow=8.8,SNR=7.4						
ASAR				PcP	PcP	17 32 52.9	+0.9
	comp=Z,1.1nm,0.5s,baz=317,slow=2.0,SNR=6.5						
CHG	**Chiang Mai**	**29.51**	**344**	⇑P	**P**	**17 29 48.2**	**-0.2**
	comp=Z,14nm,1.0s,mb4.7						
CHTO	**Chiang Mai**	**29.51**	**344**	⇑P	**P**	**17 29 49.4**	**+1.0**
	SNR=7.0						
CHTO	**Chiang Mai**	**29.51**	**344**	P	**P**	**17 29 48.7**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
CHTO	**Chiang Mai**	**29.51**	**344**	P	**P**	**17 29 48.7**	**+0.3**
	comp=Z,12nm,1.0s,mb4.6						
GZH	**Guangzhou**	**33.07**	**10**	P	**P**	**17 30 25.4**	**+5.6**
GZH				S	**S**	**17 35 47.8**	**+10**
GZH				LR	LR		
	comp=N,204nm,9.0s						
GZH				LR	LR		
	comp=E,155nm,9.9s						
GZH				LR	LR		
	comp=Z,270nm,14.3s,MS4.1						
KMI	**Kunming**	**34.88**	**353**	P	**P**	**17 30 37.8**	**+2.3**
KMI				AP	pP	17 30 40.8	+1.0
KMI				PP	PP	17 31 55.9	+1.3
KMI				S	**S**	**17 36 09.1**	**+2.9**
KMI				SS	SS	17 38 23.3	-14
KMI				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
KMI				AMB	AMB		
	comp=Z,125nm,3.6s						
KMI				LR	LR		
	comp=N,382nm,14.8s,MS4.3						
KMI				LR	LR		
	comp=E,184nm,14.6s,MS4.3						
KMI				LR	LR		
	comp=Z,353nm,14.6s,MS4.2						
GYA	**Guiyang**	**35.92**	**359**	P	**P**	**17 30 45.8**	**+1.4**
GYA				AP	pP	17 30 50.0	+1.2
GYA				XP	sP	17 30 53.4	+2.9
GYA				PP	PP	17 32 07.6	+1.5
GYA				PCP	PcP	17 33 12.5	+1.2
GYA				S	**S**	**17 36 23.4**	**+1.2**
GYA				SCP	ScP	17 36 57.0	0.0
GYA				SS	SS	17 38 45.6	-13
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,240nm,3.1s						
GYA				LR	LR		
	comp=N,540nm,14.9s,MS4.6						
GYA				LR	LR		
	comp=E,480nm,14.8s,MS4.6						
GYA				LR	LR		
	comp=Z,570nm,15.0s,MS4.5						
STKA	**Stephens Creek**	**38.60**	**130**	*e*P	**P**	**17 31 07.7**	**+0.6**
	comp=Z,9.9nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**38.60**	**130**	P	**P**	**17 31 07.9**	**+0.8**
	comp=Z,12nm,0.9s,mb4.6,baz=305,slow=9.3,SNR=17						
CTA	**Charters Tower**	**38.86**	**110**	*e*P	**P**	**17 31 11.4**	**+2.0**
	comp=Z,6.4nm,0.8s,mb4.4						
CTA	**Charters Tower**	**38.86**	**110**	P	**P**	**17 31 10.8**	**+1.5**
	comp=Z,11nm,0.9s,mb4.6,baz=282,slow=11,SNR=8.2						
CTA	**Charters Tower**	**38.86**	**110**	*e*P	**P**	**17 31 11.4**	**+2.0**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CD2	**Chengdu**	**40.50**	**355**	*e*P	**P**	**17 31 23.4**	**+0.4**
CD2				AP	pP	17 31 27.9	+0.5
CD2				XP	sP	17 31 30.4	+1.3
CD2				PP	PP	17 33 00.8	+4.5
CD2				S	**S**	**17 37 32.3**	**+0.9**
CD2				XS	sS	17 37 39.8	+1.2
CD2				SS	SS	17 40 26.9	-4.1
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.3						
CD2				AMB	AMB		
	comp=Z,80nm,5.2s						
CD2				LR	LR		
	comp=N,150nm,13.2s						
CD2				AMB	AMB		
	comp=Z,170nm,13.2s						
WHN	**Wuhan**	**40.54**	**9**	*e*P	**P**	**17 31 24.5**	**+1.2**
JIRN	**Jiri**	**42.42**	**332**	*e*P	**P**	**17 31 40.0**	**+1.3**
	comp=Z,148nm,0.9s,mb5.6						
SSE	**Sheshan**	**42.64**	**18**	*e*P	**P**	**17 31 38.6**	**-1.9**
SSE				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,77nm,3.7s						
PKI	**Pulchoki**	**42.72**	**331**	*e*P	**P**	**17 31 41.9**	**+0.8**
	comp=Z,38nm,0.8s,mb5.2						
PKI	**Pulchoki**	**42.72**	**331**	*e*P	**P**	**17 31 41.9**	**+0.8**
PKI				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.2						
GUN	**Gumba**	**42.78**	**331**	*e*P	**P**	**17 31 42.7**	**+1.1**
	comp=Z,166nm,1.0s,mb5.7						
DMN	**Daman**	**42.89**	**330**	*e*P	**P**	**17 31 43.5**	**+0.9**
	comp=Z,88nm,0.9s,mb5.5						
NJ2	**Nanjing**	**42.91**	**14**	*e*P	**P**	**17 31 44.0**	**+1.3**
NJ2				AP	pP	17 31 54.5	+7.4
NJ2				XP	sP	17 31 58.5	+10
NJ2				PP	PP	17 33 26.1	+3.8
NJ2				S	**S**	**17 38 04.0**	**-3.1**
NJ2				XS	sS	17 38 19.0	+4.7
NJ2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,150nm,3.8s						
NJ2				LR	LR		
	comp=N,510nm,12.5s,MS4.7						
NJ2				LR	LR		
	comp=E,450nm,14.4s,MS4.7						
NJ2				LR	LR		
	comp=Z,3μm,14.5s,MS5.2						
KKN	**Kakani**	**42.96**	**331**	*e*P	**P**	**17 31 43.8**	**+0.7**
	comp=Z,84nm,0.9s,mb5.5						
KKN	**Kakani**	**42.96**	**331**	*e*P	**P**	**17 31 43.8**	**+0.7**
KKN				pmax	pmax		
	comp=Z,84nm,0.9s,mb5.5	

HHC PP PP 17 34 38.6 +1.5
HHC PCS PcS 17 37 56.1 -0.9
HHC S **S** **17 39 51.4 -3.1**
HHC PS 17 40 06.0
HHC SCS ScS 17 42 26.3 -6.0
HHC AMB AMB
comp=Z,111nm,0.8s,mb4.9
HHC AMB AMB
comp=Z,97nm,6.7s
HHC LR LR
comp=N,167nm,15.5s,MS4.3
HHC LR LR
comp=E,161nm,16.6s,MS4.3
HHC LR LR
comp=Z,131nm,15.5s,MS4.0
SNY Shenyang 53.36 15 ⇑P **P 17 33 04.1 +0.6**
SNY AMB AMB
comp=Z,6.0nm,0.6s,mb4.7
MAT Matsushiro 54.34 31 P **P 17 33 08.5 -2.1**
MAT Matsushiro 54.34 31 *e*P **P 17 33 09.0 -1.6**
MJAR Matsushiro Arr 54.34 31 P **P 17 33 08.8 -1.8**
comp=Z,111nm,1.0s,mb4.8,baz=205,slow=8.1,SNR=37
CN2 Changchun 55.69 16 *e*P **P 17 33 19.5 -0.9**
CN2 *e*S **S** **17 41 04.9 -1.5**
CN2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.7
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,16.0s,MS4.5
CN2 LR LR
comp=E,200nm,16.0s,MS4.5
CN2 LR LR
comp=Z,300nm,17.0s,MS4.4
WMQ Urumqi 56.17 343 P **P 17 33 26.0 +2.1**
WMQ AP pP 17 33 30.6 +2.2
WMQ XP sP 17 33 33.0 +2.9
WMQ PCP PcP 17 34 23.8 +2.2
WMQ PP PP 17 35 32.6 +3.6
WMQ S **S** **17 41 12.8 +0.1**
WMQ AMB AMB
comp=Z,42nm,1.5s,mb5.2
WMQ AMB AMB
comp=Z,237nm,5.3s
WMQ LR LR
comp=N,1μm,17.6s,MS5.1
WMQ LR LR
comp=E,807nm,16.5s,MS5.1
WMQ LR LR
comp=Z,1μm,18.1s,MS5.0
KSH Kashi 56.97 331 *e*P **P 17 33 29.3 -0.3**
KSH *e*PCP PcP 17 34 24.3 -0.4
KSH *e*PP PP 17 35 34.8 -1.4
KSH *e*S **S** **17 41 20.0 -3.4**
KSH *e*SCS ScS 17 43 13.0 -5.6
KSH AMB AMB
comp=Z,38nm,1.1s,mb5.3
KSH LR LR
comp=N,375nm,5.5s
KSH LR LR
comp=E,391nm,5.2s
KSH LR LR
comp=Z,1μm,24.0s,MS4.8
SONM Songino Array 57.26 359 P **P 17 33 32.3 +0.7**
comp=Z,5.5nm,0.8s,mb4.7,baz=175,slow=6.7,SNR=46
SONM LR LR 18 00 07.0
comp=Z,160nm,20.4s,MS4.1,baz=170,slow=38
MDJ Mudanjiang 57.65 19 P **P 17 33 33.8 -0.5**
MDJ PCP PcP 17 34 26.9 -0.5
MDJ PP PP 17 35 41.3 -0.8
MDJ SCP ScP 17 38 26.8 -0.1
MDJ PCS PcS 17 38 28.3 -0.3
MDJ AMB AMB
comp=Z,7.0nm,1.5s,mb4.5
MDJ AMB AMB
comp=Z,53nm,3.7s
KZA Kyzart 59.33 333 P **P 17 33 47.0 +0.9**
SNR=9.4
TKM2 Tokmak 2 59.85 333 P **P 17 33 49.4 -0.3**
SNR=12
ZAK Zakamensk 59.91 357 *e*P **P 17 33 50.5 +0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
KBK Karagaybulak 59.93 333 P **P 17 33 50.5 +0.3**
SNR=7.1
AML Almayashu 60.09 332 P **P 17 33 51.4 +0.1**
SNR=7.0
AAK Ala-Archa 60.12 332⇑*e*P **P 17 33 51.0 -0.5**
AAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
EKS2 Erkin-Say 60.47 332 P **P 17 33 54.4 +0.5**
SNR=9.7
MK31 Makanchi Array 60.52 340 P **P 17 33 53.8 -0.4**
MK31 pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
MKAR Makanchi Array 60.52 340 P **P 17 33 54.1 -0.1**
comp=Z,9.3nm,0.6s,mb5.1,baz=143,slow=8.0,SNR=48
TLY Talaya 61.19 357 *de*P **P 17 33 59.4 +0.6**
MOY Mondy 61.34 355 *e*P **P 17 34 00.7 +0.9**
MOY pmax pmax
comp=Z,28nm,1.7s,mb5.1
CIT Chita 61.67 4 *e*P **P 17 34 02.0 -0.1**
CIT *e* 17 34 13.6
CIT *e* 17 34 18.7
IRK Irkutsk 61.72 358 *e*P **P 17 34 02.5 +0.1**
IRK pmax pmax
comp=Z,30nm,2.2s,mb5.0
KLR Kul'dur 62.43 18 *e*P **P 17 34 02.6 -4.6**
KLR pmax pmax
comp=Z,45nm,1.6s,mb5.3
HABR Khabarovsk 62.83 20 *e*P **P 17 34 09.0 -0.8**
HABR S **S** **17 42 33.7 -5.1**
HABR pmax pmax
comp=Z,27nm,1.1s,mb5.3
YSS Yuzh-Sakhalins 64.58 26 *e*P **P 17 34 20.4 -1.0**
YSS *e* 17 34 31.9
YSS pmax pmax
comp=Z,50nm,1.1s,mb5.5
YSS Yuzh-Sakhalins 64.58 26 *e*P **P 17 34 20.4 -1.0**
comp=Z,50nm,1.1s,mb5.5
YSS *e* 17 34 31.9
MAW Mawson 64.94 197 P **P 17 34 24.8 +1.0**
comp=Z,2.4nm,0.7s,mb4.4,baz=64,slow=13,SNR=6.0
KURK Kurchatov 65.13 340 ⇓P **P 17 34 25.0 0.0**
SNR=8.9
KURK Kurchatov 65.13 340 *d*/P **P 17 34 24.7 -0.3**
KURK Kurchatov 65.13 340 *e*P **P 17 34 24.4 -0.6**
comp=Z,19nm,0.9s,mb5.1
ZAL Zalesovo 66.20 346 P **P 17 34 31.2 -0.6**
comp=Z,5.5nm,1.1s,mb4.5,baz=345,slow=1.8,SNR=14
NVS Novosibirsk 67.41 345 *i*P **P 17 34 37.8 -1.8**
NVS pmax pmax
comp=Z,12nm,1.6s,mb4.7
NVS pmax pmax
comp=N,12nm,1.7s
NVS pmax pmax
comp=E,10.0nm,1.7s
BOD Bodaibo 67.47 4 *e*P **P 17 34 39.5 -0.5**
BOD pmax pmax
comp=Z,27nm,1.9s,mb5.0
VOSK Vostochnaya 69.51 337 P **P 17 34 51.8 -0.9**
VOSK pmax pmax
comp=Z,14nm,1.2s,mb4.8
BVA0 Borovoye Array 69.97 337 *i*P **P 17 34 55.0 -0.5**
BVA0 pmax pmax
comp=Z,7.0nm,1.9s,mb4.3
BRVK Borovoye 70.03 337 ⇓P **P 17 34 55.8 -0.2**
SNR=5.9
BRVK Borovoye 70.03 337 *e*P **P 17 34 55.4 -0.5**
BRVK pmax pmax
comp=Z,13nm,1.4s,mb4.7
BRVK Borovoye 70.03 337 *e*P **P 17 34 55.4 -0.5**
comp=Z,13nm,1.4s,mb4.7
KMBO Kilima Mbogo 70.24 272 P **P 17 34 58.5 +1.3**
comp=Z,1.1nm,0.6s,mb3.9,baz=42,slow=19,SNR=3.9
KMBO Kilima Mbogo 70.24 272⇑*e*P **P 17 34 58.9 +1.7**
KMBO Kilima Mbogo 70.24 272 P **P 17 34 58.5 +1.3**
CHKZ Chkalovo 70.39 338 *e*P **P 17 34 57.9 -0.2**
CHKZ *e* 17 35 09.4
CHKZ pmax pmax
comp=Z,24nm,1.1s,mb5.0
CHKZ Chkalovo 70.39 338 *e*P **P 17 34 57.9 -0.2**
comp=Z,24nm,1.1s,mb5.0
CHKZ *e* 17 35 09.4
ZRNK Zerenda 70.45 336 *e*P **P 17 34 57.9 -0.6**
ZRNK pmax pmax
comp=Z,18nm,1.2s,mb4.9
ZRNK Zerenda 70.45 336 *e*P **P 17 34 57.9 -0.6**
comp=Z,18nm,1.2s,mb4.9
AB31 Akbulak array 71.90 329 *i*P **P 17 35 07.0 -0.3**
AB31 pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
SYO Syowa Base 73.15 200⇓*e*P **P 17 35 13.6 -1.1**
SYO Syowa Base 73.15 200⇓*e*PcP PcP 17 35 32.8 +1.5
VNDA Vanda 73.28 169 P **P 17 35 14.1 -1.4**
comp=Z,0.5nm,0.5s,baz=300,slow=9.0,SNR=3.6
YAK Yakutsk 73.56 11⇓*e*P **P 17 35 14.8 -2.4**
YAK pmax pmax
comp=Z,40nm,1.7s,mb5.1
YAK Yakutsk 73.56 11 *e*P **P 17 35 15.2 -1.9**
comp=Z,32nm,1.4s,mb5.1
YAK *e* 17 35 27.1
MBAR Mbarara 76.75 272⇑*i*P **P 17 35 36.6 +1.1**
ARU Arti 77.19 335⇓*i*P **P 17 35 37.8 -0.2**
ARU *e* 17 35 48.7
ARU *e* 17 38 30.7
ARU *e*PPP 17 40 15.7
ARU *e*S S 17 45 23.8 -3.2
ARU *e*SS SS 17 50 19.7 -4.9
ARU pmax pmax
comp=Z,23nm,1.1s,mb5.0
ARU Arti 77.19 335 *e*P **P 17 35 37.8 -0.2**
comp=Z,33nm,1.3s,mb5.1
MA2 Magadan 77.23 21 *d*/P **P 17 35 37.1 -1.1**
MA2 pmax pmax
comp=Z,33nm,1.7s,mb5.0
BOSA Boshof 78.58 243 LR LR 18 02 48.5
comp=Z,141nm,19.5s,MS4.3,baz=281,slow=30
KIV Kislovodsk 79.12 318 *e*P **P 17 35 46.7 -2.0**
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
TIXI Tiksi 82.40 7 *c*/P **P 17 36 05.6 -0.6**
TIXI pmax pmax
comp=Z,24nm,1.7s,mb4.8
VRHR Novokhopersk 82.79 325 *e*P **P 17 36 07.8 -0.4**
VRHR pmax pmax
comp=Z,20nm,0.7s,mb5.3
VRHR pmax pmax
comp=N,7.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.6s
MAIT Maitri 82.80 199 *e*P pP 17 36 19.6 +6.6
BR131 Keskin Array S 83.89 312 *e*P **P 17 36 13.8 -0.1**
comp=E,3.0nm,0.9s,mb4.4
BRTR Keskin Array B 83.89 312 P **P 17 36 13.8 -0.1**
comp=E,4.2nm,1.0s,mb4.5,baz=134,slow=7.1,SNR=16
VRSR Storozhevoye 84.23 324 *e*P **P 17 36 15.1 -0.6**
VRSR pmax pmax
comp=Z,10.0nm,1.3s,mb4.8
VRSR pmax pmax
comp=N,8.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,1.3s
MOS Moscow 86.84 328 *e*P pP 17 36 40.2 +6.8
OBN Obninsk 87.17 327 *de*P **P 17 36 29.9 -0.4**
OBN *e* 17 36 39.8
OBN *e*SS SS 17 52 47.7 -5.3
OBN pmax pmax
comp=Z,39nm,1.6s,mb5.4
KLMR Klimovskoe 87.93 333 *e*P **P 17 36 33.6 -0.3**
KLMR pmax pmax
comp=Z,40nm,1.4s,mb5.5
VNA1 Neumayer--Stat 89.14 197 *e*P **P 17 36 39.5 -0.1**
VNA1 *e* 17 36 41.2
VNA1 *e* pP 17 36 43.3 -1.0
VNA1 *e* pP 17 36 44.3 0.0
AKASG Malin Array Be 90.02 322 P **P 17 36 42.9 -0.9**
comp=Z,0.1nm,0.3s,baz=92,slow=4.1,SNR=6.3
AKASG PP PP 17 40 15.1 -1.7
comp=Z,0.7nm,0.7s,baz=90,slow=6.6,SNR=6.2
FINES FINESS Array B 94.30 332 LR LR 18 29 45.7
comp=Z,36nm,18.1s,MS3.9,baz=194,slow=42
ARCES ARCESS Array B 96.16 339 LR LR 18 23 21.2
comp=Z,35nm,18.8s,MS3.9,baz=287,slow=37
YKA Yellowknife Ar 119.21 21 PKP PKPdf 17 42 31.8 -1.4
comp=Z,1.3nm,0.8s,baz=288,slow=1.7,SNR=4.8
O05C Quincy 127.64 46 ⇓P PKPdf 17 42 51.5 +2.1
baz=128
N06A Buffalo Meadow 128.11 45 ⇑P PKPdf 17 42 52.9 +2.6
baz=128
O06A Flanigan 128.34 46 ⇓P PKPdf 17 42 53.2 +2.5
baz=128
R05C Kirkwood Meado 128.71 48 ⇓P PKPdf 17 42 53.8 +2.4
baz=129
MSO Missoula 129.03 36 *e*PKPdf PKPdf 17 42 52.5 +0.4
MSO *e* 17 43 04.2
V04C Ramage Ranch, 129.16 52 ⇓P PKPdf 17 42 53.5 +1.2
baz=129
S06C San Francisco 129.17 49 ⇑P PKPdf 17 42 54.5 +2.2
baz=129
NVAR Mina Array Bea 130.10 47 PKP PKPdf 17 42 55.5 +1.5
comp=Z,0.8nm,0.8s,baz=261,slow=2.9,SNR=6.7
BOZ Bozeman (W) 131.02 36 *e*PKIKP PKPdf 17 42 58.2 +2.4
BOZ *e* 17 43 09.3
PDAR Pinedale Array 133.88 38 PKP PKPdf 17 43 03.6 +2.4
comp=Z,0.5nm,0.7s,baz=94,slow=1.9,SNR=5.2
RSSD Black Hills 136.20 33 *e*PKIKP PKPdf 17 43 06.3 +0.8
PV10 Paradox Valley 136.61 43 *e*PKPdf PKPdf 17 43 08.5 +2.2
ANMO Albuquerque 140.16 46⇑*i*PKIKP PKPdf 17 43 17.0 +4.2
AMTX Amarillo 143.46 42 *e*PKPdf PKPdf 17 43 18.0 -0.7
BDFB Brasilia 144.99 224 PKP PKPdf 17 43 22.2 +0.8
comp=Z,3.8nm,0.6s,baz=228,slow=3.3,SNR=6.4
LONY Lake Ozonia 145.14 2 *e*PKPdf PKPdf 17 43 21.2 -0.5
LONY *e* 17 43 32.8
WMOK Wichita Mounta 145.43 40 *e*PKIKP PKPdf 17 43 23.2 +1.1
WMOK *e* 17 43 34.6
NCB Newcomb 145.80 2 *e*PKP PKPdf 17 43 23.8 +1.0
NCB *e* 17 43 35.1
CCM Cathedral Cave 147.14 28 *e*PKP PKPdf 17 43 26.5 +1.5
CCM *e* 17 43 37.6
JCT Junction City 147.28 47 *e*PKPbc PKPbc 17 43 29.3 +1.7
JCT *e* 17 43 40.6
ACSO Alum Creek Sta 148.20 15 *e*PKPbc PKPbc 17 43 30.2 +0.2
ACSO *e* 17 43 41.6
MIAR Mount Ida 148.67 35 *e*PKP2 PKPab 17 43 32.5 -2.4
SSPA Standing Stone 148.81 8 *e*PKPbc PKPbc 17 43 32.0 +0.3
WCI Wyandotte Cave 149.02 21 *e*PKPbc PKPbc 17 43 32.8 +0.6
WCI *e* 17 43 43.6
WVT Waverly 150.25 25 *e*PKIKP PKPbc 17 43 36.1 +0.9
WVT *e* 17 43 47.3
HKT Hockley 150.37 44 *e*PKIKP PKPbc 17 43 37.9 +2.4
OXF Oxford 150.88 29 *e*PKIKP PKPbc 17 43 37.2 +0.5
PLAL Pickwick Lake 151.11 27 *e*PKPbc PKPbc 17 43 37.0 -0.3
PLAL *e* 17 43 48.5
TZTN Tazewell 151.47 19 *e*PKPbc PKPbc 17 43 39.0 +0.9
TZTN *e* 17 43 50.0
ELN Prospectdale 151.59 14 *e*PKPbc PKPbc 17 43 38.7 +0.4
LPAZ La Paz 153.83 190 PKPbc PKPbc 17 43 45.9 +2.6
comp=Z,1.3nm,0.7s,baz=195,slow=3.4,SNR=6.6
LPAZ La Paz 153.83 190 PKPbc PKPbc 17 43 45.9 +2.6

*IDC **23** 17:43:41.6±0.9, 697S×156°23E, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.1/15, mbtmp4.1/10, ML3.3/2, MS3.4/6, Ms1 3.4/6, ms1mx3.1/20, Error ellipse: s-maj=31.0km s-min=18.8km az=90.0*
*NEIC **23** 17:43:42.9±0.7, 700S×156°26E, h10km, mb4.7/5, Error ellipse: s-maj=15.5km s-min=13.9km az=104.0*
*ISCJB **23** 17:43:45.7±0.9, 69S±0.1×156°E±0.2, h33km, mb4.2/13, MS3.5/4, Error ellipse: s-maj=22.6km s-min=15.0km az=42.5*

ISC 23 17:43:47.3±0.9, 70S±0.1×156°1E±0.1, h35km, n31, σ0°95/24, mb4.2/13, MS3.5/4, 3C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						Op	ISC	h m s	ISC
HNR	**Honiara**	**4.53**	**123**	Pn		**Pn**		**17 44 39.9**	**-13**
	15nm,0.3s,baz=137,slow=0.8,SNR=14								
HNR				LR		LR		17 45 55.0	
	comp=Z,107nm,19.3s,baz=358,slow=30								
HNR				Sn		Sn		17 46 04.3	+20
	36nm,0.3s,baz=82,slow=13,SNR=3.8								
HNR	**Honiara**	**4.53**	**123**	*e*Pn		**Pn**		**17 44 40.2**	**-13**
HNR				*e*Pg		**Pn**		**17 45 05.8**	**+13**
HNR				LR		LR		17 45 55.0	
HNR				Sn		Sn		17 46 04.3	+20
PMG	**Port Moresby**	**9.18**	**254**	Pn		**Pn**		**17 45 58.0**	**+0.8**
	1.5nm,0.3s,baz=353,slow=18,SNR=5.5								
PMG				LR		LR		17 49 10.1	
	comp=Z,176nm,20.9s,baz=64,slow=35								
PMG	**Port Moresby**	**9.18**	**254**	P		**Pn**		**17 45 59.4**	**+2.2**
PMG				LR		LR		17 49 10.1	
DZM	**Mont Dzumac**	**18.03**	**147**	P		**Pn**		**17 47 51.1**	**-3.9**
	0.1nm,0.3s,baz=131,slow=23,SNR=1.6								
WRAB	**Tennant Creek**	**24.73**	**236**	*e*P		**P**		**17 49 04.9**	**-0.4**
	7.0nm,0.6s,mb4.4								
WB2	**Warramunga Arr**	**24.74**	**236**	*e*P		**P**		**17 49 05.6**	**+0.3**
WRA	**Warramunga Arr**	**24.75**	**236**	P		**P**		**17 49 05.4**	**-0.1**
	2.7nm,0.6s,mb4.0,baz=62,slow=10,SNR=48								
WRA				PcP		PcP		17 52 43.5	+1.9
	0.6nm,0.4s,baz=63,slow=2.6,SNR=9.2								
AS31	**Alice Springs**	**27.02**	**230**⇑	*i*P		**P**		**17 49 25.5**	**-0.5**
ASAR	**Alice Springs**	**27.03**	**230**	P		**P**		**17 49 25.6**	**-0.5**
	0.7nm,0.5s,mb3.4,baz=59,slow=9.5,SNR=34								
ASAR				PcP		PcP		17 52 48.2	+1.5
	0.6nm,0.6s,baz=71,slow=2.7,SNR=4.6								
ASAR				LR		LR		17 58 36.8	
	comp=Z,132nm,19.0s,MS3.5,baz=186,slow=33								
ASAR	**Alice Springs**	**27.03**	**230**	P		**P**		**17 49 25.6**	**-0.5**
ASAR				PcP		PcP		17 52 48.2	+1.5
ASAR				LR		LR		17 58 36.8	
ASPA	**Alice Springs**	**27.03**	**230**⇑	*i*P		**P**		**17 49 25.5**	**-0.6**
STKA	**Stephens Creek**	**28.25**	**207**	P		**P**		**17 49 38.3**	**+1.3**
	1.2nm,0.7s,mb3.6,baz=46,slow=14,SNR=3.0								
STKA				LR		LR		17 59 08.9	
	comp=Z,139nm,21.0s,MS3.5,baz=26,slow=33								
FITZ	**Fitzroy Crossi**	**31.68**	**247**⇑	*i*P		**P**		**17 50 06.1**	**-1.2**
	7.8nm,0.7s,mb4.7								
FITZ	**Fitzroy Crossi**	**31.68**	**247**	LR		LR		18 02 41.5	
	comp=Z,77nm,20.0s,MS3.4,baz=90,slow=36								
FORT	**Forrest**	**35.38**	**224**	*e*P		**P**		**17 50 39.5**	**0.0**
	5.6nm,0.6s,mb4.7								
KLBR	**Kellerberrin**	**43.35**	**230**	*e*P		**P**		**17 51 45.3**	**-0.7**
	58nm,1.7s,mb5.0								
MJAR	**Matsushiro Arr**	**46.42**	**340**	P		**P**		**17 52 09.4**	**-1.0**
	0.9nm,1.5s,mb3.9,baz=163,slow=7.7,SNR=6.8								
SONM	**Songino Array**	**69.91**	**327**	P		**P**		**17 54 55.8**	**+1.1**
	1.3nm,0.7s,mb4.0,baz=143,slow=5.8,SNR=19								
VNDA	**Vanda**	**70.58**	**179**	P		**P**		**17 54 57.4**	**-1.4**
	0.4nm,0.9s,mb3.3,baz=51,slow=6.5,SNR=2.1								
VNDA	**Vanda**	**70.58**	**179**	P		**P**		**17 54 57.4**	**-1.4**
QSPA	**South Pole Qui**	**83.01**	**180**	*e*P		**P**		**17 56 10.5**	**+1.6**
	3.2nm,0.5s,mb4.6								
MAW	**Mawson**	**84.85**	**203**	P		**P**		**17 56 19.3**	**+1.0**
	2.2nm,0.6s,mb4.5,baz=115,slow=4.2,SNR=8.8								
PDAR	**Pinedale Array**	**97.86**	**48**	LR		LR		18 36 31.1	
	comp=Z,26nm,19.1s,MS3.7,baz=64,slow=32								
FINES	**FINESS Array B**	**114.36**	**336**	PKP		PKiKP		18 02 23.2	0.0
	0.3nm,0.3s,baz=108,slow=2.7,SNR=9.8								
NOA	**NORSAR Array B**	**120.03**	**341**	PKP		PKPdf		18 02 34.1	0.0
	0.4nm,0.6s,baz=44,slow=1.9,SNR=3.5								
BOSA	**Boshof**	**120.90**	**231**	PKP		PKPdf		18 02 37.0	+1.2
	2.3nm,0.8s,baz=135,slow=8.6,SNR=3.1								
BOSA	**Boshof**	**120.90**	**231**	PKP		PKPdf		18 02 37.0	+1.2
TORD	**Torodi Ar. Bea**	**154.08**	**286**	PKPbc		PKPbc		18 03 44.1	+0.8
	0.6nm,0.5s,baz=34,slow=1.6,SNR=11								
TORD				PKPab		PKPab		18 03 57.4	+0.5
	1.5nm,0.7s,baz=72,slow=3.5,SNR=9.7								
DBIC	**Dimbokro**	**161.09**	**270**	PKPab		PKPab		18 04 28.1	+0.9
	1.7nm,0.5s,baz=83,slow=7.3,SNR=3.7								

PRE 23 17:45:15.9±0.9, 2106S×3353E, h5km, ML3.7, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
MSNA	**Messina**	**3.50**	**248**	*e*P		Pn	17 46 12.8	+1.8
MSNA				*e*S		Sn	17 46 53.0	+0.1
MSNA				AML		AML	17 47 09.3	
	comp=Z,69nm,0.3s							
POGA	**Pongola**	**6.52**	**195**	*e*P		Pn	17 46 52.4	0.0
POGA				*e*S		Sn	17 48 03.6	-3.6
POGA				AML		AML	17 48 48.2	
	comp=Z,15nm,0.7s							
BOSA	**Boshof**	**10.63**	**223**	*e*P		Pn	17 47 49.9	+1.1
BOSA				*e*S		Sn	17 49 43.1	-5.0
BOSA				AML		AML	17 50 59.4	
	comp=Z,4.5nm,0.6s							

*ISCJB **23** 18:18:35.7±0.5, 6326N±004×144.15W±008, h5km, Error ellipse: s-maj=6.5km s-min=4.9km az=160.4*
*NEIC **23** 18:18:37.3±0.6, 6326N×144.26W, h5km, ML3.7(PMR), Error ellipse: s-maj=8.1km s-min=7.4km az=199.0*
*PGC **23** 18:18:37.3, 6321N×144.49W, h5km, ML3.3/3, 240km southeast of Fairbanks, Ak Eastern Alaska.*

ISC 23 18:18:37.2±1.2, 6321N±004×14421W±009, h5km±10km, n14, σ1°90/24, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
MENT	**Mentasta**	**0.36**	**141**	*e*P		**Pg**	**18 18 44.4**	**+0.3**
MCK	**McKinley**	**2.18**	**286**	*e*Pn		**Pn**	**18 19 14.6**	**+0.5**
MCK				*e*Sn		**Sn**	**18 19 45.8**	**+4.4**
COLA	**College**	**2.31**	**318**	*e*Pn		**Pn**	**18 19 14.2**	**-1.7**
COLA				*e*S		**Sn**	**18 19 50.6**	**+6.0**
DAWY	**Dawson**	**2.31**	**66**	Pn		**Pn**	**18 19 17.2**	**+1.3**
DAWY				Pg		**Pg**	**18 19 21.3**	**-0.3**
DAWY				Sg		**Sg**	**18 19 52.8**	**+1.2**
DAWY				Trac			18 19 55.3	
	comp=Z,106nm,0.1s							
DAWY	**Dawson**	**2.31**	**66**	*e*Pn		**Pn**	**18 19 16.6**	**+0.7**
DAWY				*e*Sn		**Sn**	**18 19 52.3**	**+7.6**
EYAK	**Cordova Ski Ar**	**2.77**	**196**	*e*Pn		**Pn**	**18 19 22.6**	**+0.4**
PMR	**Palmer**	**2.81**	**237**	*e*P		**Pn**	**18 19 23.1**	**+0.4**
SLKM	**Skilak Lake**	**3.93**	**229**	*e*Pn		**Pn**	**18 19 38.5**	**+0.4**
HYT	**Haines Junctio**	**3.97**	**124**	Pn		**Pn**	**18 19 39.1**	**+0.6**
HYT				Pg		**Pg**	**18 19 49.9**	**-3.2**
HYT				Sg		**Sg**	**18 20 45.1**	**+0.6**
HYT				Trac			18 20 53.2	
	comp=Z,17nm,0.3s							
IMA2	**Indian Mountai**	**4.98**	**309**	*e*Pn		**Pn**	**18 19 50.9**	**-1.6**
WHY	**Whitehorse**	**5.10**	**116**	Pn		**Pn**	**18 19 54.2**	**0.0**
WHY				Sg		**Sg**	**18 21 18.8**	**-2.1**
WHY				Trac			18 21 34.2	
	comp=Z,7.0nm,0.3s							
TTA	**Tatalina**	**5.37**	**272**	*e*P		**Pn**	**18 19 58.6**	**+0.7**
INK	**Inuvik**	**6.74**	**36**	Pn		**Pn**	**18 20 17.0**	**+0.3**
INK				Sn		**Sn**	**18 21 33.0**	**-0.8**
INK				Sg		**Sg**	**18 22 14.1**	**+0.6**
INK				Trac			18 22 23.9	
	comp=Z,17nm,0.7s							
INK	**Inuvik**	**6.74**	**36**	*e*Pn		**Pn**	**18 20 16.7**	**0.0**
	3.3nm,0.6s							

*ISCJB **23** 18:54:05.6±0.5, 549S±005×150.85E±0.06, h10km±3km, mb4.6/30, MS4.3/18, Error ellipse: s-maj=11.2km s-min=5.3km az=79.3*
*HRVD **23** 18:54:05.1±0.3, 552S×150.89E, h12km, MW4.9/58, Centroid moment Tensor Solution. LP body waves: s26,c39;Mantle waves: s58,c110; Half duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}-2.08±.09; $M_{\theta\theta}$2.64±.06; $M_{\phi\phi}$-0.56±.09; $M_{r\theta}$0.35±.20; $M_{\theta\phi}$0.83±.07; $M_{\phi r}$-0.78±.29; Best double couple: $M_0$2.67300×10^16 NP1:ϕ_s52.00000°, δ49.00000°, λ-126.00000°. NP2: ϕ_s280.00000°, δ52.00000°, λ-56.00000°. Principal axes: T 2.8490, Plg2.0000°, Azm347.0000°; N -0.3560, Plg26.0000°, Azm78.0000°; P -2.4970, Plg64.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 18:54:05.1±1.4, 538S×150.82E, h3km±8km, mb4.9/12 Error ellipse: s-maj=12.1km s-min=7.4km az=136.0*
*BJI **23** 18:54:09.2, 507S×150.55E, h2km, mB5.1, mb4.6, Ms4.6, Msz4.4*
*IDC **23** 18:54:11.4±3.0, 540S×150.67E, h42km±27km, mb4.1/13, mb1 4.3/15, mb1mx4.2/18, mbtmp4.4/15, ML3.5/2, MS4.3/15, Ms1 4.2/15, ms1mx4.1/20, Error ellipse: s-maj=18.7km s-min=13.2km az=115.0*

ISC 23 18:54:06.0±0.9, 557S±004×150.90E±005, h0km±5km, n59, σ1°34/57, mb4.7/30, MS4.3/18, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
PGKAI	**Kaiamu**	**0.10**	**7**	P		**Pg**	**18 54 07.3**	**-0.7**
PGKAI				S		**Sg**	**18 54 09.2**	**-0.2**

PGMAR **Marapu** **0.13 265** P **Pg** **18 54 07.8 -0.8**
PGMAR S **Sg** **18 54 11.1 +0.8**
PGBAU **Baubata** **0.24 33** P **Pg** **18 54 09.9 -0.7**
PGBAU S **Sg** **18 54 14.4 +0.6**
PMG **Port Moresby** **5.32 224** P **Pn** **18 55 29.2 +2.6**
9.3nm,0.3s,baz=53,slow=8.7,SNR=22
PMG S **Sn** **18 56 33.5 +4.9**
18nm,0.3s,baz=351,slow=18,SNR=9.0
PMG LR LR 18 57 48.6
comp=Z,3µm,20.0s,baz=51,slow=41
PMG **Port Moresby** **5.32 224** *eP* **Pn** **18 55 29.3 +2.7**
154nm,0.9s
HNR **Honiara** **9.75 114** LR LR 18 59 56.2
comp=Z,2µm,18.3s,baz=359,slow=34
CTA **Charters Tower** **15.12 197** *eP* **Pn** **18 57 44.6 +3.8**
15nm,1.2s
CTA **Charters Tower** **15.12 197** P **Pn** **18 57 42.7 +1.9**
0.1nm,0.3s,baz=17,slow=17,SNR=2.7
CTA LR LR 19 02 48.3
comp=Z,1µm,22.0s,baz=14,slow=34
CTAO **Charters Tower** **15.12 197** *eP* **Pn** **18 57 43.6 +2.8**
169nm,1.8s
KAKA **Kakadu** **19.55 247** *eP* **Pn** **18 58 35.5 -0.8**
1.6nm,0.1s
GUMO **Guam** **19.95 343** LR LR 19 04 57.6
comp=Z,556nm,18.1s,baz=129,slow=33
WRAB **Tennant Creek** **21.52 227** *eP* **P** **18 58 56.5 0.0**
197nm,1.5s,mb5.3
WB2 **Warramunga Arr** **21.52 227** *eP* **P** **18 58 56.5 0.0**
WB2 *e* 18 59 03.2
WB2 *eS* **S** **19 02 52.0 -3.8**
WRA **Warramunga Arr** **21.53 227** P **P** **18 58 56.1 -0.5**
24nm,1.1s,mb4.6,baz=52,slow=10,SNR=50
WRA S **S** **19 02 53.2 -2.8**
2.7nm,1.2s,baz=48,slow=20,SNR=7.6
DZM **Mont Dzumac** **22.25 139** P **P** **18 59 06.3 +2.0**
22nm,0.9s,mb4.6,baz=38,slow=12,SNR=6.0
DZM LR LR 19 06 41.5
comp=Z,2µm,20.0s,MS4.5,baz=0.4,slow=33
AS31 **Alice Springs** **24.32 221** *eP* **P** **18 59 25.1 -0.1**
ASAR **Alice Springs** **24.32 221** P **P** **18 59 25.1 -0.2**
8.0nm,0.8s,mb4.3,baz=54,slow=8.1,SNR=49
ASAR LR LR 19 09 14.4
comp=Z,235nm,21.0s,MS3.6,baz=48,slow=37
ASPA **Alice Springs** **24.32 221** *eP* **P** **18 59 25.1 -0.1**
STKA **Stephens Creek** **27.58 197** *eP* **P** **18 59 53.6 -1.1**
2.9nm,0.6s,mb4.3
STKA **Stephens Creek** **27.58 197** P **P** **18 59 56.2 +1.4**
5.0nm,0.8s,mb4.4,baz=32,slow=11,SNR=13
STKA LR LR 19 10 50.5
comp=Z,967nm,20.8s,MS4.4,baz=19,slow=36
FITZ **Fitzroy Crossi** **27.63 241** *eP* **P** **18 59 54.8 -0.4**
37nm,0.8s,mb5.3
FITZ **Fitzroy Crossi** **27.63 241** P **P** **18 59 54.5 -0.7**
21nm,0.7s,mb5.1,baz=76,slow=8.7,SNR=46
FITZ LR LR 19 11 01.6
comp=Z,217nm,21.7s,MS3.7,baz=69,slow=37
FORT **Forrest** **33.01 218** *eP* **P** **19 00 43.1 +0.4**
30nm,1.0s,mb5.2
MBWA **Marble Bar** **33.95 240** *eP* **P** **19 00 49.7 -1.2**
20nm,0.8s,mb5.1
KLBR **Kellerberrin** **40.41 226** *eP* **P** **19 01 44.5 -1.3**
33nm,1.1s,mb4.9
NWAO **Narrogin (SRO)** **41.51 225** LR LR 19 18 43.9
comp=Z,475nm,18.9s,MS4.4,baz=48,slow=36
YHNB **Yeheng** **41.59 318** P **P** **19 01 57.0 +1.5**
RPZ **Rata Peaks** **41.93 158** P **P** **19 02 00.1 +1.8**
6.6nm,0.6s,mb4.5,baz=348,slow=6.8,SNR=6.2
MJAR **Matsushiro Arr** **43.54 345** P **P** **19 02 09.4 -2.0**
1.7nm,0.9s,mb3.8,baz=165,slow=7.4,SNR=6.1
MJAR LR LR 19 20 00.6
comp=Z,232nm,18.8s,MS4.1,baz=165,slow=36
QZH **Quanzhou** **43.68 315** P **P** **19 02 14.8 +2.3**
QZH AMB AMB
comp=Z,160nm,1.4s,mb5.6
QIZ **Qiongzhong** **47.25 302** P **P** **19 02 42.4 +1.6**
QIZ S **S** **19 09 29.6 -5.3**
QIZ AMB AMB
comp=Z,8.0nm,1.4s,mb4.7
QIZ LR LR
comp=E,298nm,22.1s
QIZ LR LR
comp=Z,436nm,26.5s,MS4.3
INCN **Inchon** **48.44 334** *eP* **P** **19 02 50.8 +0.8**
comp=Z,96nm,1.3s,mb5.8
ASAJ **Asahikawa** **50.02 352** LR LR 19 22 56.9
comp=Z,232nm,21.9s,MS4.2,baz=182,slow=35
MDJ **Mudanjiang** **53.50 341** P **P** **19 03 31.1 +3.0**
MDJ PCP PcP 19 04 36.6 +1.5
MDJ PP PP 19 05 32.8 +4.3
MDJ PCS PcS 19 08 35.3 +1.2
MDJ S **S** **19 11 02.8 +0.9**
MDJ AMB AMB
comp=Z,8.0nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,55nm,4.3s
MDJ LR LR
comp=N,197nm,34.2s,MS4.0
MDJ LR LR
comp=E,141nm,31.6s,MS4.0
MDJ LR LR
comp=Z,262nm,32.5s,MS4.1
CN2 **Changchun** **54.25 337** *eP* **P** **19 03 35.3 +1.7**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
BJI **Beijing** **55.51 328** P **P** **19 03 42.5 -0.2**
BJI AMB AMB
comp=Z,14nm,1.6s,mb4.7
BJI AMB AMB
comp=Z,201nm,4.7s
BJI LR LR
comp=N,181nm,20.3s,MS4.4
BJI LR LR
comp=E,256nm,20.9s,MS4.4
BJI LR LR
comp=Z,272nm,23.1s,MS4.3
KMI **Kunming** **55.87 305** P **P** **19 03 50.1 +4.8**
KMI PP PP 19 05 54.8 +5.0
KMI S **S** **19 11 27.5 -6.1**
KMI SS SS 19 15 11.1 -8.1
KMI AMB AMB
comp=Z,3.0nm,1.0s,mb4.3
KMI AMB AMB
comp=Z,67nm,4.0s
KMI LR LR
comp=N,175nm,18.1s,MS4.3
KMI LR LR
comp=E,222nm,22.1s,MS4.3
KMI LR LR
comp=Z,259nm,22.1s,MS4.3
XAN **Xi'an** **55.90 318** P **P** **19 03 45.3 -0.2**
XAN AMB AMB
comp=Z,3.0nm,1.0s,mb4.3
HHC **Hu-ho-hao-te** **58.59 326** *eP* **P** **19 04 06.3 +1.8**
HHC PP PP 19 06 19.0 +5.0
HHC S **S** **19 12 03.3 -6.2**
HHC SS SS 19 15 59.5 -2.5
HHC AMB AMB
comp=Z,13nm,1.9s,mb4.6
HHC AMB AMB
comp=Z,148nm,4.0s
HHC LR LR
comp=N,156nm,15.5s,MS4.5
HHC LR LR
comp=E,221nm,16.7s,MS4.5
HHC LR LR
comp=Z,284nm,19.4s,MS4.4
PPT **Papeete** **59.30 107** *e*LR LR 19 21 37.9
comp=Z,97nm,25.2s
TBI **Tubuai** **59.98 114** *e*LQ 19 19 39.6
comp=Z,373nm,31.8s
TBI *e*LR LR 19 22 10.9
comp=Z,314nm,32.2s
LZH **Lanzhou** **60.48 317** *eP* **P** **19 04 18.8 +1.2**
LZH PP PP 19 06 34.6 +3.9
LZH AMB AMB
comp=Z,24nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,81nm,7.4s
LZH LR LR
comp=N,406nm,15.4s
LZH LR LR
comp=Z,617nm,18.1s,MS4.8
SONM **Songino Array** **65.98 329** P **P** **19 04 51.6 -2.5**
comp=Z,0.6nm,0.5s,mb4.0,baz=114,slow=5.4,SNR=1.7
SONM LR LR 19 33 00.3
comp=Z,320nm,21.4s,MS4.5,baz=135,slow=35

VNDA **Vanda** **72.14 178** P **P** **19 05 31.6 -0.8**
comp=Z,1.3nm,0.8s,mb4.1,baz=326,slow=5.8,SNR=6.3
VNDA LR LR 19 35 02.2
comp=Z,156nm,19.0s,MS4.3,baz=358,slow=34
VNDA **Vanda** **72.14 178** *eP* **P** **19 05 30.5 -1.8**
comp=Z,4.3nm,1.3s,mb4.4
WMQ **Urumqi** **75.03 318** P **P** **19 05 50.9 +1.5**
WMQ PP PP 19 08 41.6 +4.5
WMQ AMB AMB
comp=Z,15nm,1.7s,mb4.8
WMQ AMB AMB
comp=Z,127nm,5.9s
WMQ LR LR
comp=N,349nm,18.4s,MS4.8
WMQ LR LR
comp=E,262nm,17.3s,MS4.8
WMQ LR LR
comp=Z,330nm,18.9s,MS4.7
MKAR **Makanchi Array** **79.67 319** P **P** **19 06 13.3 -2.1**
comp=Z,1.6nm,0.9s,mb4.0,baz=130,slow=7.7,SNR=2.4
MKAR **Makanchi Array** **79.67 319** P **P** **19 06 13.3 -2.1**
KURK **Kurchatov** **83.21 322** *eP* **P** **19 06 32.3 -1.8**
comp=Z,8.3nm,1.2s,mb4.8
MAW **Mawson** **84.14 203** P **P** **19 06 38.5 -0.4**
comp=Z,2.4nm,0.8s,mb4.5,baz=103,slow=7.6,SNR=5.3
MAW LR LR 19 41 40.5
comp=Z,277nm,19.4s,MS4.7,baz=71,slow=34
QSPA **South Pole Qui** **84.39 180** *eP* **P** **19 06 38.6 -1.6**
comp=Z,6.5nm,0.7s,mb5.0
BVAR **Borovoye Array** **88.72 323** P **P** **19 06 59.3 -2.0**
comp=Z,0.8nm,0.8s,mb4.0,baz=145,slow=5.4,SNR=7.0
NVAR **Mina Array Bea** **94.05 52** P **P** **19 07 25.1 -1.0**
comp=Z,0.6nm,0.7s,mb4.0,baz=244,slow=9.9,SNR=5.9
YKA **Yellowknife Ar** **96.98 28** LR LR 19 45 56.5
comp=Z,78nm,21.8s,MS4.2,baz=290,slow=32
GERES **GERESS Array B** **123.70 327** PKP PKPdf 19 13 03.4 -2.2
comp=Z,0.1nm,0.3s,baz=11,slow=1.0,SNR=2.8
LPAZ **La Paz** **135.70 120** *e*PKPdf PKPdf 19 13 32.0 +3.6
SAML **Samuel** **143.09 113** *e*PKPpre PKPdf 19 13 39.4 -2.4
TORD **Torodi Ar. Bea** **148.72 286** PKPbc PKPbc 19 13 53.0 -2.2
comp=Z,2.0nm,0.7s,baz=50,slow=2.7,SNR=17
BDFB **Brasilia** **151.80 139** PKP PKPdf 19 13 58.0 +1.8
comp=Z,2.9nm,0.7s,baz=95,slow=2.1,SNR=5.6
BDFB PKPbc PKPbc 19 14 05.1 +2.5
comp=Z,6.6nm,0.9s,baz=224,slow=2.3,SNR=8.9

NEIC ***23*** *18:58:58.4±1.6, 1042S×10758E, h10km, mb4.3/1, Error ellipse: s-maj=72.8km s-min=11.4km az=48.0*
IDC ***23*** *18:58:59.2±2.0, 990S×10808E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.9/18, mbtmp4.0/7, ML3.8/1, MS4.1/2, Ms1 4.2/2, ms1mx3.2/22, Error ellipse: s-maj=94.1km s-min=17.4km az=50.0*
ISCJB ***23*** *18:59:01.9±1.8, 99S±04×108.1E±04, h33km, mb4.0/7, MS4.3/2, Error ellipse: s-maj=85.4km s-min=12.1km az=93.4*
ISC 23 18:59:04.1±1.8, 99S±04×1080E±04, h35km, n15, σ0$45/14, mb4.0/7, MS4.3/2, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.84**	**136**	*e*Pn	**Pn**		**19 02 38.9**	**-5.5**
FITZ	**Fitzroy Crossi**	**18.89**	**117**	P	**Pn**		**19 03 21.6**	**-0.7**
	0.2nm,0.3s,baz=284,slow=8.3,SNR=9.0							
FITZ				S	**S**		**19 06 33.9**	**-20**
	0.1nm,0.3s,baz=121,slow=22,SNR=2.6							
WRA	**Warramunga Arr**	**27.25**	**114**	P	**P**		**19 04 44.9**	**+0.1**
	1.8nm,0.6s,mb3.8,baz=285,slow=11,SNR=7.8							
WRAB	**Tennant Creek**	**27.25**	**114**	*eP*	**P**		**19 04 44.8**	**-0.1**
WB2	**Warramunga Arr**	**27.26**	**114**	*eP*	**P**		**19 04 45.1**	**+0.1**
AS31	**Alice Springs**	**28.20**	**122**	*eP*	**P**		**19 04 53.4**	**0.0**
ASAR	**Alice Springs**	**28.20**	**122**	P	**P**		**19 04 53.9**	**+0.5**
	1.3nm,0.6s,mb3.7,baz=299,slow=9.1,SNR=14							
STKA	**Stephens Creek**	**37.94**	**130**	P	**P**		**19 06 18.5**	**+0.3**
	5.3nm,0.7s,mb4.4,baz=296,slow=9.4,SNR=15							
SONM	**Songino Array**	**57.54**	**359**	P	**P**		**19 08 50.5**	**+0.5**
	1.6nm,0.6s,mb4.2,baz=180,slow=7.6,SNR=13							
MKAR	**Makanchi Array**	**60.98**	**340**	P	**P**		**19 09 14.3**	**+0.5**
	0.7nm,0.5s,mb4.0,baz=140,slow=7.6,SNR=7.1							
MKAR	**Makanchi Array**	**60.98**	**340**	P	**P**		**19 09 14.3**	**+0.5**
BVAR	**Borovoye Array**	**70.46**	**337**	P	**P**		**19 10 14.9**	**-0.1**
	0.9nm,0.7s,mb3.8,baz=148,slow=8.7,SNR=6.2							
CHKZ	**Chkalovo**	**70.88**	**338**	*eP*	**P**		**19 10 16.4**	**-1.0**
	2.5nm,0.9s,mb4.1							
FINES	**FINESS Array B**	**94.83**	**331**	LR	LR		20 00 40.3	
	comp=Z,92nm,21.8s,MS4.2,baz=224,slow=39							
ARCES	**ARCESS Array B**	**96.64**	**339**	LR	LR		19 59 48.3	
	comp=Z,110nm,21.1s,MS4.3,baz=40,slow=38							

ISCJB ***23*** *18:59:09.4±0.3, 4035N±001×120W±002, h4km±2km, Error ellipse: s-maj=2.7km s-min=2.0km az=80.4*
CSEM ***23*** *18:59:12.8±0.0, 4032N×105W, h10km, ML3.1/32, Error ellipse: s-maj=1.2km s-min=0.8km az=124.0*
LDG ***23*** *18:59:12.5±0.1, 4031N×106W, h2km, Ml3.1/9, Error ellipse: s-maj=1.8km s-min=1.2km az=125.0*
INMG ***23*** *18:59:12.9±1.3, 4030N×108W, h9km±4km, ML2.6, Error ellipse: s-maj=2.5km s-min=2.1km az=93.0*
MDD ***23*** *18:59:13.2±0.3, 4030N×105W, h11km, mbLg2.6/44, Error ellipse: s-maj=2.4km s-min=1.7km az=146.0, PRXIMO I ALDEHUELA CASTRALVO*
MDD EMS: II TERUEL VILLAESPESA VILLASTAR.
NEIC ***23*** *18:59:13.8, 4029N×102W, h16km, ML3.1(LDG), ML3.6(STR), MN2.6(MDD), After MDD.*
NEIC Felt [II] at Teruel, Villaspesa and Villastar; [I] at Aldehuela and Castralvo.
STR ***23*** *18:59:19.3±1.7, 4085N×110W, h10km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 23 18:59:11.2±0.3, 4032N±001×109W±002, h10km±2km, n142, σ1$18/278, 4C-2D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EMOS	**Mosqueruela**	**0.48**	**85**	⇑Pg	**Pg**		**18 59 21.6**	**+1.2**
	27nm,0.1s,SNR=18							
EMOS				Lg			18 59 28.1	
	285nm,0.2s,SNR=30							
EMOS	**Mosqueruela**	**0.48**	**85**	Pg	**Pg**		**18 59 21.6**	**+1.1**
	152nm,0.2s,SNR=18							
ECHE	**Chera**	**0.74**	**172**	⇓Pg	**Pg**		**18 59 26.0**	**+0.6**
	38nm,0.2s,SNR=18							
ECHE				Lg			18 59 36.2	
	102nm,0.3s,SNR=14							
ERTA	**Horta de San J**	**1.26**	**59**	⇑Pg	**Pg**		**18 59 35.8**	**+0.5**
	26nm,0.1s,SNR=18							
ERTA				Lg			18 59 52.5	
	127nm,0.2s,SNR=5.0							
ERTA	**Horta de San J**	**1.26**	**59**	Pg	**Pg**		**18 59 35.8**	**+0.5**
	26nm,0.1s,SNR=18							
ETOB	**Tobarra**	**1.71**	**192**	⇓Pn	**Pn**		**18 59 41.5**	**+0.5**
	0.8nm,0.1s,SNR=18							
ETOB				Pg	**Pg**		**18 59 44.3**	**+0.3**
	7.3nm,0.1s,SNR=9.9							
ETOB				Sn	**Sn**		**19 00 02.8**	**-0.2**
	9.7nm,0.1s,SNR=9.5							
ETOB				Lg			19 00 06.2	
	17nm,0.3s,SNR=4.0							
ETOB	**Tobarra**	**1.71**	**192**	Pn	**Pn**		**18 59 41.5**	**+0.5**
	0.8nm,0.1s,SNR=18							
ETOB	**Tobarra**	**1.71**	**192**	Pg	**Pg**		**18 59 44.3**	**+0.3**
	7.3nm,0.1s,SNR=9.9							
ETOB				Sn	**Sn**		**19 00 02.8**	**-0.2**
	9.7nm,0.1s,SNR=9.5							
EBEN	**Beniarda**	**1.75**	**157**	Pg	**Pg**		**18 59 43.1**	**-1.6**
	5.1nm,0.3s,SNR=17							
EBEN				Sn	**Sn**		**19 00 02.9**	**-1.0**
	7.6nm,0.2s,SNR=8.3							
EBEN				Lg			19 00 06.3	
	10nm,0.3s,SNR=4.0							
EBEN	**Beniarda**	**1.75**	**157**	Pg	**Pg**		**18 59 43.2**	**-1.5**
EBEN				Sn	**Sn**		**19 00 02.9**	**-1.0**
	7.6nm,0.2s,SNR=8.3							
EPOB	**Poblet**	**1.94**	**57**	Pn	**Pn**		**18 59 45.3**	**+1.1**
	0.9nm,0.1s,SNR=40							
EPOB				Pg	**Pg**		**18 59 47.6**	**-0.8**
	12nm,0.2s,SNR=9.2							
EPOB				Sn	**Sn**		**19 00 07.1**	**-1.5**
	5.9nm,0.2s,SNR=5.0							
EPOB				Lg			19 00 13.1	
	18nm,0.2s,SNR=5.0							
EPOB	**Poblet**	**1.94**	**57**	Pn	**Pn**		**18 59 45.3**	**+1.1**
	0.9nm,0.1s,SNR=40							
EPOB	**Poblet**	**1.94**	**57**	Pg	**Pg**		**18 59 47.6**	**-0.8**
	12nm,0.2s,SNR=9.2							
EPOB				Sn	**Sn**		**19 00 07.1**	**-1.6**
	5.9nm,0.2s,SNR=5.0							
EVIA	**Vianos**	**2.00**	**213**	Pn	**Pn**		**18 59 45.7**	**+0.6**
	0.6nm,0.1s,SNR=12							
EVIA				Pg	**Pg**		**18 59 50.0**	**+0.4**
	24nm,0.3s,SNR=40							
EVIA				Lg			19 00 15.0	
	26nm,0.4s,SNR=5.0							
EIBI	**Ibiza**	**2.28**	**124**	Pn	**Pn**		**18 59 49.0**	**+0.1**
	2.0nm,0.1s,SNR=7.2							
EIBI				Sn	**Sn**		**19 00 14.7**	**-2.3**
	7.5nm,0.2s,SNR=5.0							
EIBI	**Ibiza**	**2.28**	**124**	Pn	**Pn**		**18 59 49.0**	**+0.1**
	2.0nm,0.1s,SNR=7.2							
EIBI				Sn	**Sn**		**19 00 14.7**	**-2.3**
	7.5nm,0.2s,SNR=5.0							
ESDC	**Sonseca Array**	**2.30**	**255**	Pn	**Pn**		**18 59 50.0**	**+0.9**
	1.8nm,0.1s,baz=73,slow=14,SNR=4.7							
ESDC				Pg	**Pg**		**18 59 55.0**	**-0.2**
	18nm,0.2s,baz=77,slow=17,SNR=10							
ESDC				Sn	**Sn**		**19 00 16.0**	**-1.5**
	13nm,0.2s,baz=76,slow=24,SNR=11							
ESDC				Lg			19 00 23.5	
	23nm,0.4s,baz=74,slow=30,SNR=16							
ESDC	**Sonseca Array**	**2.30**	**255**	Pn	**Pn**		**18 59 50.0**	**+0.9**
ESDC				Pg	**Pg**		**18 59 55.0**	**-0.2**
ESDC				Sn	**Sn**		**19 00 15.9**	**-1.5**
ESDC				Lg			19 00 23.4	
ESDC	**Sonseca Array**	**2.30**	**255**	Pn	**Pn**		**18 59 50.0**	**+0.9**
	1.8nm,0.1s,SNR=4.7							
ESDC	**Sonseca Array**	**2.30**	**255**	Pg	**Pg**		**18 59 55.0**	**-0.2**
	18nm,0.2s,SNR=10							
ESDC				Sn	**Sn**		**19 00 16.0**	**-1.4**
	13nm,0.2s,SNR=11							
ESLA	**Sonseca Array**	**2.30**	**255**	*e*Pn	**Pn**		**18 59 49.7**	**+0.6**
ESLA				*e*Pg	**Pg**		**18 59 55.0**	**-0.2**
ESLA				*e*Sg	**Sg**		**19 00 24.9**	**-0.1**
ESLA	**Sonseca Array**	**2.30**	**255**	*e*Pn	**Pn**		**18 59 49.7**	**+0.6**
ESLA	**Sonseca Array**	**2.30**	**255**	*e*Pg	**Pg**		**18 59 55.0**	**-0.2**
GUD	**Guadarrama**	**2.36**	**279**	⇑Pn	**Pn**		**18 59 51.2**	**+1.3**
	1.5nm,0.3s,SNR=18							
GUD				Pg	**Pg**		**18 59 56.4**	**0.0**
	9.1nm,0.4s,SNR=27							
GUD				Sn	**Sn**		**19 00 20.3**	**+1.4**
	13nm,0.4s,SNR=9.1							
GUD				Lg			19 00 26.2	
	31nm,0.3s,SNR=5.0							
GUD	**Guadarrama**	**2.36**	**279**	Pg	**Pg**		**18 59 56.4**	**+0.1**
	9.1nm,0.4s,SNR=27							
GUD				Sn	**Sn**		**19 00 20.3**	**+1.4**
	13nm,0.4s,SNR=9.1							
IUNC	**Unciti**	**2.45**	**353**	Pg	**Pg**		**18 59 58.3**	**+0.1**
	2.3nm,0.2s,SNR=7.9							
IUNC				Lg			19 00 29.9	
	12nm,0.2s,SNR=7.9							
IUNC	**Unciti**	**2.45**	**353**	Pg	**Pg**		**18 59 58.3**	**+0.2**
	2.3nm,0.2s,SNR=7.9							
EARA	**Aranguren**	**2.48**	**352**	Lg			19 00 30.5	
	22nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**2.48**	**183**	Pn	**Pn**		**18 59 52.1**	**+0.5**
	0.3nm,0.2s,SNR=25							
EMUR				Pg	**Pg**		**18 59 58.6**	**-0.1**
	5.3nm,0.2s,SNR=7.9							
EMUR				Sn	**Sn**		**19 00 21.1**	**-0.8**
	6.7nm,0.4s,SNR=6.1							
EMUR				Lg			19 00 30.6	
	10.0nm,0.3s,SNR=7.9							
EMUR	**La Murta**	**2.48**	**183**	Pn	**Pn**		**18 59 52.1**	**+0.5**
EMUR				Pg	**Pg**		**18 59 58.6**	**-0.1**
EMUR				Sn	**Sn**		**19 00 21.1**	**-0.8**
EMUR				Lg			19 00 27.9	
EMUR	**La Murta**	**2.48**	**183**	Pn	**Pn**		**18 59 52.1**	**+0.5**
	0.3nm,0.2s,SNR=25							
EMUR	**La Murta**	**2.48**	**183**	Pg	**Pg**		**18 59 58.6**	**-0.1**
	5.3nm,0.2s,SNR=7.9							
EMUR				Sn	**Sn**		**19 00 21.1**	**-0.8**
	6.7nm,0.4s,SNR=6.1							
IPRE	**Itoiz**	**2.49**	**356**	Pg	**Pg**		**18 59 58.6**	**-0.3**
	5.1nm,0.3s,SNR=7.9							
IPRE				Lg			19 00 31.6	
	13nm,0.4s,SNR=7.9							
IPRE	**Itoiz**	**2.49**	**356**	Pg	**Pg**		**18 59 58.6**	**-0.3**
	5.1nm,0.3s,SNR=7.9							
EBIE	**Bielsa**	**2.54**	**21**	Pn	**Pn**		**18 59 54.2**	**+1.8**
	1.0nm,0.2s,SNR=8.1							
EBIE				Pg	**Pg**		**18 59 58.9**	**-0.9**
	3.5nm,0.2s,SNR=16							
EBIE				Sn	**Sn**		**19 00 23.6**	**+0.2**
	2.2nm,0.1s,SNR=10							
EBIE				Lg			19 00 33.1	
	24nm,0.4s,SNR=7.9							
EBIE	**Bielsa**	**2.54**	**21**	Pn	**Pn**		**18 59 54.2**	**+1.8**
EBIE				Pg	**Pg**		**18 59 58.9**	**-0.9**
EBIE				Sn	**Sn**		**19 00 23.6**	**+0.2**
EBIE				Lg			19 00 32.1	
EBIE	**Bielsa**	**2.54**	**21**	Pn	**Pn**		**18 59 54.2**	**+1.8**
	1.0nm,0.2s,SNR=8.1							
EBIE	**Bielsa**	**2.54**	**21**	Pg	**Pg**		**18 59 58.9**	**-0.9**
	3.5nm,0.2s,SNR=16							
EBIE				Sn	**Sn**		**19 00 23.6**	**+0.3**
	2.2nm,0.1s,SNR=10							
ETSF	**Etsaut**	**2.60**	**9**	*e*Pg	**Pg**		**19 00 00.8**	**-0.3**
ETSF				*e*Sg	**Sg**		**19 00 34.9**	**0.0**
	16nm,0.3s							
ETSF	**Etsaut**	**2.60**	**9**	Pn	**Pn**		**18 59 54.9**	**+1.6**
ETSF				Pg	**Pg**		**19 00 00.8**	**-0.3**
ETSF				Lg			19 00 34.9	
	7.8nm,0.3s							
ETSF	**Etsaut**	**2.60**	**9**	*e*Pn	**Pn**		**18 59 54.9**	**+1.6**
ETSF				*e*Pg	**Pg**		**19 00 00.8**	**-0.3**
ETSF				*e*Sg	**Sg**		**19 00 34.9**	**0.0**
ETSF	**Etsaut**	**2.60**	**9**	*e*Pg	**Pg**		**19 00 00.8**	**-0.3**
ETSF				*e*Sg	**Sg**		**19 00 34.9**	**0.0**
	7.8nm,0.3s							
IUSE	**Utxeti**	**2.65**	**353**	Pn	**Pn**		**18 59 55.5**	**+1.6**
	0.2nm,0.2s,SNR=5.0							
IUSE				Pg	**Pg**		**19 00 02.0**	**+0.1**
	2.1nm,0.2s,SNR=7.9							
IUSE				Sn	**Sn**		**19 00 26.2**	**+0.3**
	1.8nm,0.3s,SNR=4.0							
IUSE				Lg			19 00 36.1	
	8.9nm,0.3s,SNR=7.9							
IUSE	**Utxeti**	**2.65**	**353**	Pg	**Pg**		**19 00 02.0**	**+0.1**
	2.1nm,0.2s,SNR=7.9							
IUSE				Sn	**Sn**		**19 00 26.2**	**+0.2**
	1.8nm,0.3s,SNR=4.0							
VIEF	**Viey**	**2.69**	**18**	P	**Pn**		**18 59 56.0**	**+1.5**
SJPF	**Ste Jean**	**2.79**	**358**	*e*Pg	**Pg**		**19 00 04.3**	**-0.3**
SJPF				*e*Sg	**Sg**		**19 00 40.2**	**-0.6**
	37nm,0.6s							
SJPF	**Ste Jean**	**2.79**	**358**	Pn	**Pn**		**18 59 56.0**	**+0.1**
SJPF				Pg	**Pg**		**19 00 04.3**	**-0.3**
SJPF				Lg			19 00 40.2	
	19nm,0.6s							
SJPF	**Ste Jean**	**2.79**	**358**	*e*Pn	**Pn**		**18 59 56.0**	**+0.1**
SJPF				*e*Pg	**Pg**		**19 00 04.3**	**-0.3**
SJPF				*e*Sg	**Sg**		**19 00 40.2**	**-0.6**
SJPF	**Ste Jean**	**2.79**	**358**	*e*Pg	**Pg**		**19 00 04.3**	**-0.3**
SJPF				*e*Sg	**Sg**		**19 00 40.2**	**-0.6**
	19nm,0.6s							
ELIZ	**Elizondo**	**2.86**	**354**	Pg	**Pg**		**19 00 05.8**	**-0.1**
	3.6nm,0.2s,SNR=7.0							
ELIZ				Lg			19 00 42.7	
	10nm,0.3s,SNR=6.5							
LABF	**Labassere**	**2.86**	**17**	P	**Pn**		**18 59 58.2**	**+1.4**
LABF				S	**Sn**		**19 00 31.5**	**+0.2**
MELF	**Melles**	**2.90**	**28**	P	**Pn**		**18 59 59.8**	**+2.4**
MELF				S	**Sn**		**19 00 33.0**	**+0.7**
EPF	**Esparros**	**2.91**	**21**	*e*Pg	**Pg**		**19 00 05.1**	**-1.9**
EPF				*e*Sg	**Sg**		**19 00 43.9**	**-0.8**
	31nm,0.3s							
EPF	**Esparros**	**2.91**	**21**	Pn	**Pn**		**18 59 58.7**	**+1.2**
EPF				Pg	**Pg**		**19 00 05.1**	**-1.9**
EPF				Lg			19 00 43.9	
	16nm,0.3s							
EPF	**Esparros**	**2.91**	**21**	*e*Pn	**Pn**		**18 59 58.7**	**+1.2**
EPF				*e*Pg	**Pg**		**19 00 05.1**	**-1.9**
EPF				*e*Sg	**Sg**		**19 00 43.9**	**-0

EALK				Sn		**Sn**	**19 00 33.1**	**+0.6**	
	40nm,0.6s,SNR=4.8								
EALK				Lg			19 00 44.8		
	26nm,0.3s,SNR=6.4								
EALK	**Alkurruntz**	**2.91**	**354**	Pn		**Pn**	**19 00 00.3**	**+2.8**	
EALK				Pg		**Pg**	**19 00 06.4**	**-0.5**	
EALK				Sn		**Sn**	**19 00 33.1**	**+0.6**	
EALK				Lg			19 00 43.5		
EALK	**Alkurruntz**	**2.91**	**354**	Pg		**Pg**	**19 00 06.4**	**-0.6**	
	7.7nm,0.4s,SNR=10								
EALK				Sn		**Sn**	**19 00 33.2**	**+0.6**	
	40nm,0.6s,SNR=4.8								
OSSF	**Osses**	**2.93**	**358**	P		**Pn**	**19 00 00.8**	**+3.0**	
OSSF				S		**Sn**	**19 00 27.9**	**-5.2**	
EQES	**Quesada**	**2.95**	**212**	Pn		**Pn**	**18 59 59.0**	**+0.9**	
	1.0nm,0.2s,SNR=4.7								
EQES				Pg		**Pg**	**19 00 07.4**	**-0.3**	
	25nm,0.4s,SNR=9.3								
EQES				Lg			19 00 45.6		
	13nm,0.3s,SNR=5.0								
EQES	**Quesada**	**2.95**	**212**	Pn		**Pn**	**18 59 59.0**	**+0.9**	
EQES				Pg		**Pg**	**19 00 07.4**	**-0.3**	
EQES				Lg			19 00 44.4		
EQES	**Quesada**	**2.95**	**212**	Pn		**Pn**	**18 59 59.0**	**+0.9**	
	1.0nm,0.2s,SNR=4.7								
EQES	**Quesada**	**2.95**	**212**	Pg		**Pg**	**19 00 07.4**	**-0.3**	
	25nm,0.4s,SNR=9.3								
SALF	**Salau**	**2.98**	**34**	P		**Pn**	**18 59 59.7**	**+1.3**	
EBAN	**Banos Encina**	**3.00**	**225**	Pn		**Pn**	**18 59 59.6**	**+0.9**	
	1.1nm,0.1s,SNR=7.9								
EBAN				Pg		**Pg**	**19 00 07.9**	**-0.8**	
	34nm,0.6s,SNR=16								
EBAN				Sn		**Sn**	**19 00 34.1**	**-0.7**	
	3.0nm,0.2s,SNR=7.9								
EBAN				Lg			19 00 46.6		
	5.7nm,0.2s,SNR=7.9								
EBAN	**Banos Encina**	**3.00**	**225**	Pg		**Pg**	**19 00 07.9**	**-0.8**	
	34nm,0.6s,SNR=16								
EBAN				Sn		**Sn**	**19 00 34.1**	**-0.7**	
	3.0nm,0.2s,SNR=7.9								
ETOS	**Mallorca**	**3.05**	**99**	Pn		**Pn**	**18 59 59.8**	**+0.3**	
	1.7nm,0.2s,SNR=7.6								
ETOS				Sn		**Sn**	**19 00 34.0**	**-2.0**	
	3.1nm,0.2s,SNR=7.9								
ETOS	**Mallorca**	**3.05**	**99**	Pn		**Pn**	**18 59 59.8**	**+0.4**	
	1.7nm,0.2s,SNR=7.6								
ETOS				Sn		**Sn**	**19 00 34.0**	**-2.0**	
	3.1nm,0.2s,SNR=7.9								
MLS	**Moulis**	**3.10**	**31**	P		**Pn**	**19 00 03.0**	**+2.9**	
VALF	**Valcebollere**	**3.13**	**47**	P		**Pn**	**19 00 02.5**	**+2.0**	
VALF				S		**Sn**	**19 00 39.9**	**+1.9**	
ELAN	**Lanestosa**	**3.39**	**330**	Pn		**Pn**	**19 00 06.0**	**+1.9**	
	2.0nm,0.2s,SNR=7.8								
ELAN				Pg		**Pg**	**19 00 15.2**	**-1.0**	
	1.8nm,0.2s,SNR=5.9								
ELAN				Sn		**Sn**	**19 00 44.0**	**-0.4**	
	1.6nm,0.2s,SNR=7.9								
ELAN				Lg			19 01 02.3		
	5.4nm,0.2s,SNR=4.0								
ELAN	**Lanestosa**	**3.39**	**330**	Pn		**Pn**	**19 00 06.0**	**+1.9**	
ELAN				Pg		**Pg**	**19 00 15.2**	**-1.0**	
ELAN				Sn		**Sn**	**19 00 44.0**	**-0.4**	
ELAN				Lg			19 00 58.8		
ELAN	**Lanestosa**	**3.39**	**330**	Pn		**Pn**	**19 00 06.1**	**+1.9**	
	2.0nm,0.2s,SNR=7.8								
ELAN	**Lanestosa**	**3.39**	**330**	Pg		**Pg**	**19 00 15.2**	**-1.0**	
	1.8nm,0.2s,SNR=5.9								
ELAN				Sn		**Sn**	**19 00 44.0**	**-0.5**	
	1.6nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**3.46**	**233**	Pn		**Pn**	**19 00 05.4**	**+0.4**	
	0.9nm,0.1s,SNR=6.7								
EADA				Pg		**Pg**	**19 00 16.5**	**-0.9**	
	6.1nm,0.2s,SNR=22								
EADA				Sn		**Sn**	**19 00 44.4**	**-1.6**	
	9.1nm,0.2s,SNR=5.6								
EADA				Lg			19 01 01.1		
	10nm,0.3s,SNR=5.0								
EADA	**Adamuz**	**3.46**	**233**	Pn		**Pn**	**19 00 05.4**	**+0.4**	
EADA				Pg		**Pg**	**19 00 16.5**	**-0.9**	
EADA				Sn		**Sn**	**19 00 44.4**	**-1.6**	
EADA				Lg			19 01 00.7		
EADA	**Adamuz**	**3.46**	**233**	Pn		**Pn**	**19 00 05.4**	**+0.4**	
	0.9nm,0.1s,SNR=6.7								
EADA	**Adamuz**	**3.46**	**233**	Pg		**Pg**	**19 00 16.5**	**-0.9**	
	6.1nm,0.2s,SNR=22								
EADA				Sn		**Sn**	**19 00 44.4**	**-1.6**	
	9.1nm,0.2s,SNR=5.6								
ENIJ	**Nijar**	**3.46**	**195**	Pg		**Pg**	**19 00 17.2**	**-0.2**	
	3.2nm,0.3s,SNR=4.0								
ECOG	**Cogollos-Vega**	**3.60**	**213**	Lg			19 01 07.0		
	4.5nm,0.4s,SNR=6.7								
EQUE	**Quentar**	**3.61**	**211**	Pn		**Pn**	**19 00 08.6**	**+1.4**	
	0.9nm,0.4s,SNR=5.4								
EQUE				Pg		**Pg**	**19 00 20.3**	**-0.1**	
	3.8nm,0.3s,SNR=8.9								
EQUE				Lg			19 01 06.5		
	12nm,0.5s,SNR=7.9								
EJON	**La Jonquera**	**3.67**	**53**	Lg			19 01 08.3		
	2.6nm,0.2s,SNR=7.9								
EBER	**Berja**	**3.70**	**203**	Pn		**Pn**	**19 00 11.2**	**+2.9**	
	2.4nm,0.2s,SNR=7.9								
EBER				Pg		**Pg**	**19 00 21.7**	**-0.3**	
	3.5nm,0.3s,SNR=6.6								
EBER				Lg			19 01 11.8		
	9.6nm,0.5s,SNR=5.0								
EBER	**Berja**	**3.70**	**203**	Pn		**Pn**	**19 00 11.2**	**+2.9**	
EBER				Pg		**Pg**	**19 00 21.7**	**-0.3**	
EBER				Lg			19 01 07.9		
EBER	**Berja**	**3.70**	**203**	Pn		**Pn**	**19 00 11.2**	**+2.9**	
	2.4nm,0.2s,SNR=7.9								
EBER	**Berja**	**3.70**	**203**	Pg		**Pg**	**19 00 21.7**	**-0.3**	
	3.5nm,0.3s,SNR=6.6								
ELUQ	**Luque**	**3.71**	**223**	Pg		**Pg**	**19 00 21.4**	**-0.8**	
	2.7nm,0.3s,SNR=7.9								
ELUQ				Sn		**Sn**	**19 00 50.2**	**-2.0**	
	2.4nm,0.3s,SNR=7.9								
ELUQ				Lg			19 01 11.2		
	3.2nm,0.3s,SNR=7.9								
ELUQ	**Luque**	**3.71**	**223**	Pg		**Pg**	**19 00 21.4**	**-0.8**	
ELUQ				Sn		**Sn**	**19 00 50.2**	**-2.0**	
ELUQ				Lg			19 01 09.0		
ELUQ	**Luque**	**3.71**	**223**	Pg		**Pg**	**19 00 21.4**	**-0.8**	
	2.7nm,0.3s,SNR=7.9								
ELUQ				Sn		**Sn**	**19 00 50.2**	**-1.9**	
	2.4nm,0.3s,SNR=7.9								
EPLA	**Plasencia**	**3.83**	**268**	Pn		**Pn**	**19 00 10.9**	**+0.8**	
	3.5nm,0.3s,SNR=7.9								
EPLA				Pg		**Pg**	**19 00 23.1**	**-1.4**	
	4.1nm,0.3s,SNR=7.9								
EPLA				Sn		**Sn**	**19 00 54.0**	**-1.2**	
	12nm,0.2s,SNR=7.9								
EPLA				Lg			19 01 13.2		
	16nm,0.4s,SNR=7.9								
EPLA	**Plasencia**	**3.83**	**268**	Pg		**Pg**	**19 00 23.1**	**-1.4**	
	4.1nm,0.3s,SNR=7.9								
EPLA				Sn		**Sn**	**19 00 54.0**	**-1.2**	
	12nm,0.2s,SNR=7.9								
MTLF	**Montolieu**	**3.90**	**38**	*e*Pg		**Pg**	**19 00 24.7**	**-1.2**	
MTLF				*e*Sg		**Sg**	**19 01 14.1**	**-2.3**	
	7.8nm,0.3s								
MTLF	**Montolieu**	**3.90**	**38**	*e*Pg		**Pg**	**19 00 24.7**	**-1.2**	
MTLF				*e*Sg		**Sg**	**19 01 14.1**	**-2.3**	
	3.9nm,0.3s								
EARI	**Arriondas**	**4.28**	**315**	Pn		**Pn**	**19 00 18.2**	**+1.9**	
	0.4nm,0.1s,SNR=6.5								
EARI				Sn		**Sn**	**19 01 06.2**	**-0.1**	
	1.2nm,0.3s,SNR=7.9								
EARI				Lg			19 01 29.5		
	1.2nm,0.2s,SNR=7.9								
EARI	**Arriondas**	**4.28**	**315**	Pn		**Pn**	**19 00 18.2**	**+1.9**	
EARI				Sn		**Sn**	**19 01 06.2**	**-0.1**	
EARI				Lg			19 01 28.2		
EARI	**Arriondas**	**4.28**	**315**	Pn		**Pn**	**19 00 18.2**	**+1.9**	
	0.4nm,0.1s,SNR=6.5								
EARI				Sn		**Sn**	**19 01 06.2**	**-0.1**	
	1.2nm,0.3s,SNR=7.9								
PBRG	**Braganca**	**4.52**	**291**	*e*Pn		**Pn**	**19 00 20.5**	**+0.9**	
PBRG				*e*Sn		**Sn**	**19 01 12.1**	**-0.1**	
PBRG				*e*Sg		**Sg**	**19 01 36.0**	**-0.3**	
PBRG									
	9.7nm,0.6s								
PBRG	**Braganca**	**4.52**	**291**	*e*Pn		**Pn**	**19 00 20.5**	**+0.9**	
PBRG				*e*Sn		**Sn**	**19 01 12.1**	**-0.1**	
PBRG				*e*Sg		**Sg**	**19 01 36.0**	**-0.3**	
	9.7nm,0.6s								
ECAL	**Calabor**	**4.56**	**293**	⇑Pn		**Pn**	**19 00 21.1**	**+0.9**	
	8.3nm,0.3s,SNR=18								
ECAL				Sn		**Sn**	**19 01 11.8**	**-1.4**	
	12nm,0.3s,SNR=7.9								
ECAL				Lg			19 01 37.1		
	15nm,0.3s,SNR=5.0								
ECAL	**Calabor**	**4.56**	**293**	Pn		**Pn**	**19 00 21.1**	**+0.9**	
	8.3nm,0.3s,SNR=18								
ECAL				Sn		**Sn**	**19 01 11.8**	**-1.4**	
	12nm,0.3s,SNR=7.9								
EMIJ	**Mijas**	**4.74**	**219**	Sn		**Sn**	**19 01 15.5**	**-2.1**	
	3.6nm,0.4s,SNR=4.0								
EMIJ				Lg			19 01 45.4		
	0.3nm,0.2s,SNR=4.0								
LFF	**La Frestale**	**4.81**	**16**	*e*Pn		**Pn**	**19 00 23.5**	**-0.1**	
LFF				*e*Sn		**Sn**	**19 01 16.8**	**-2.6**	
	11nm,0.4s								
LFF	**La Frestale**	**4.81**	**16**	*e*Pn		**Pn**	**19 00 23.5**	**-0.1**	
LFF				*e*Sn		**Sn**	**19 01 16.8**	**-2.6**	
	5.4nm,0.4s								
EBAD	**Badajoz**	**4.84**	**253**	Lg			19 01 46.6		
	6.8nm,0.3s,SNR=4.0								
PCBR	**Castelo Branco**	**4.92**	**266**	*e*Pn		**Pn**	**19 00 26.3**	**+1.1**	
PCBR				*e*Sn		**Sn**	**19 01 19.6**	**-2.5**	
PCBR				*e*Sg		**Sg**	**19 01 50.5**	**+1.3**	
PCBR									
	8.1nm,0.6s								
PCBR	**Castelo Branco**	**4.92**	**266**	*e*Pn		**Pn**	**19 00 26.3**	**+1.1**	
PCBR				*e*Sn		**Sn**	**19 01 19.6**	**-2.5**	
PCBR				*e*Sg		**Sg**	**19 01 50.5**	**+1.3**	
	8.1nm,0.6s								
MTE	**Manteigas**	**4.93**	**273**	*e*Sn		**Sn**	**19 01 21.5**	**-0.8**	
MTE				*e*Sg		**Sg**	**19 01 50.4**	**+1.0**	
MTE									
	13nm,0.5s								
MTE	**Manteigas**	**4.93**	**273**	*e*Sn		**Sn**	**19 01 21.5**	**-0.8**	
MTE				*e*Sg		**Sg**	**19 01 50.4**	**+1.0**	
	13nm,0.5s								
EMIN	**Mina Concepcio**	**5.04**	**241**	Pn		**Pn**	**19 00 28.3**	**+1.5**	
	0.1nm,0.1s,SNR=7.9								
EMIN				Sn		**Sn**	**19 01 21.0**	**-4.0**	
	0.5nm,0.2s,SNR=4.0								
EMIN				Lg			19 01 50.6		
	8.3nm,0.6s,SNR=7.9								
EMIN	**Mina Concepcio**	**5.04**	**241**	Pn		**Pn**	**19 00 28.3**	**+1.5**	
EMIN				Sn		**Sn**	**19 01 21.0**	**-4.0**	
EMIN				Lg			19 01 49.1		
EMIN	**Mina Concepcio**	**5.04**	**241**	Pn		**Pn**	**19 00 28.3**	**+1.6**	
	0.1nm,0.1s,SNR=7.9								
ESPR	**Espera**	**5.08**	**229**	Pn		**Pn**	**19 00 28.6**	**+1.3**	
	1.0nm,0.1s,SNR=4.0								
ESPR				Sn		**Sn**	**19 01 26.6**	**+0.6**	
	3.5nm,0.3s,SNR=4.0								
ESPR	**Espera**	**5.08**	**229**	Pn		**Pn**	**19 00 28.6**	**+1.3**	
	1.0nm,0.1s,SNR=4.0								
ESPR				Sn		**Sn**	**19 01 26.6**	**+0.5**	
	3.5nm,0.3s,SNR=4.0								
PVRL	**Vila Real**	**5.12**	**283**	*e*Pn		**Pn**	**19 00 28.6**	**+0.8**	
PVRL				*e*Sn		**Sn**	**19 01 26.4**	**-0.5**	
CAF	**Calviac**	**5.16**	**26**	*e*Pn		**Pn**	**19 00 28.2**	**-0.2**	
CAF				*e*Sn		**Sn**	**19 01 26.3**	**-1.6**	
CAF				*e*Sg		**Sg**	**19 01 55.0**	**-1.7**	
	6.3nm,0.4s								
CAF	**Calviac**	**5.16**	**26**	*e*Pn		**Pn**	**19 00 28.2**	**-0.2**	
CAF				*e*Sn		**Sn**	**19 01 26.3**	**-1.6**	
CAF				*e*Sg		**Sg**	**19 01 55.0**	**-1.7**	
	3.2nm,0.4s								
PVIS	**Viseu**	**5.20**	**277**	*e*Pn		**Pn**	**19 00 29.6**	**+0.6**	
PVIS				*e*Sn		**Sn**	**19 01 28.2**	**-0.8**	
PVIS				*e*Sg		**Sg**	**19 01 57.5**	**-0.6**	
PVIS									
	4.7nm,0.5s								
PVIS	**Viseu**	**5.20**	**277**	*e*Pn		**Pn**	**19 00 29.6**	**+0.6**	
PVIS				*e*Sn		**Sn**	**19 01 28.2**	**-0.8**	
PVIS				*e*Sg		**Sg**	**19 01 57.5**	**-0.6**	
	4.7nm,0.5s								
PESTR	**Estremoz**	**5.22**	**256**	*e*Pn		**Pn**	**19 00 29.9**	**+0.6**	
PESTR				*e*Sn		**Sn**	**19 01 26.3**	**-3.3**	
PESTR				*e*Sg		**Sg**	**19 02 00.7**	**+1.8**	
PESTR									
	6.4nm,0.6s								
PESTR	**Estremoz**	**5.22**	**256**	*e*Pn		**Pn**	**19 00 29.9**	**+0.6**	
PESTR				*e*Sn		**Sn**	**19 01 26.3**	**-3.3**	
PESTR				*e*Sg		**Sg**	**19 02 00.7**	**+1.8**	
	6.4nm,0.6s								
LASF	**Ste Croix**	**5.25**	**43**	*e*Pg		**Pg**	**19 00 49.4**	**-2.4**	
LASF				*e*Sn		**Sn**	**19 01 27.5**	**-2.8**	
LASF				*e*Sg		**Sg**	**19 01 56.2**	**-3.6**	
	6.9nm,0.6s								
LASF	**Ste Croix**	**5.25**	**43**	Pn		**Pn**	**19 00 30.2**	**+0.5**	
LASF				Pg		**Pg**	**19 00 49.4**	**-2.4**	
LASF				Sn		**Sn**	**19 01 27.5**	**-2.8**	
LASF				Lg			19 01 56.2		
	3.5nm,0.6s								
LASF	**Ste Croix**	**5.25**	**43**	*e*Pn		**Pn**	**19 00 30.2**	**+0.5**	
LASF				*e*Pg		**Pg**	**19 00 49.4**	**-2.4**	
LASF				*e*Sn		**Sn**	**19 01 27.5**	**-2.8**	
LASF				*e*Sg		**Sg**	**19 01 56.2**	**-3.6**	
LASF	**Ste Croix**	**5.25**	**43**	*e*Pg		**Pg**	**19 00 49.4**	**-2.4**	
LASF				*e*Sn		**Sn**	**19 01 27.5**	**-2.8**	
LASF				*e*Sg		**Sg**	**19 01 56.2**	**-3.6**	
	3.5nm,0.6s								
RJF	**Les Rejaudoux**	**5.34**	**20**	*e*Pn		**Pn**	**19 00 30.9**	**0.0**	
RJF				*e*Sn		**Sn**	**19 01 28.8**	**-3.6**	
	5.4nm,0.3s								
RJF	**Les Rejaudoux**	**5.34**	**20**	*e*Pn		**Pn**	**19 00 30.9**	**0.0**	
RJF				*e*Sn		**Sn**	**19 01 28.8**	**-3.6**	
	2.7nm,0.3s								
PCAB	**Cabril**	**5.42**	**287**	*e*Sn		**Sn**	**19 01 33.5**	**-1.1**	
PCAB				*e*Sg		**Sg**	**19 02 04.8**	**-0.5**	
PCAB									
	8.2nm,0.3s								
EPON	**Pontenova**	**5.43**	**306**	Pn		**Pn**	**19 00 33.1**	**+0.9**	
	0.6nm,0.2s,SNR=7.9								
EPON				Sn		**Sn**	**19 01 32.7**	**-2.0**	
	1.2nm,0.3s,SNR=4.0								
EPON				Lg			19 02 04.1		
	2.1nm,0.3s,SNR=7.9								
EPON	**Pontenova**	**5.43**	**306**	Pn		**Pn**	**19 00 33.1**	**+0.9**	
EPON				Sn		**Sn**	**19 01 32.7**	**-2.0**	
EPON				Lg			19 02 02.9		
EPON	**Pontenova**	**5.43**	**306**	Pn		**Pn**	**19 00 33.1**	**+1.0**	
EPON				Sn		**Sn**	**19 01 32.7**	**-2.0**	
ELOB	**Lobios**	**5.49**	**289**	Pn		**Pn**	**19 00 33.5**	**+0.6**	
	1.0nm,0.2s,SNR=5.0								
ELOB				Sn		**Sn**	**19 01 34.3**	**-1.7**	
	12nm,0.4s,SNR=7.1								
ELOB				Lg			19 02 06.6		
	2.9nm,0.5s,SNR=5.0								
ELOB	**Lobios**	**5.49**	**289**	Pn		**Pn**	**19 00 33.5**	**+0.6**	
ELOB				Sn		**Sn**	**19 01 34.3**	**-1.7**	
ELOB				Lg			19 02 04.4		
ELOB	**Lobios**	**5.49**	**289**	Pn		**Pn**	**19 00 33.5**	**+0.6**	
ELOB				Sn		**Sn**	**19 01 34.3**	**-1.8**	
PTOM	**Tomar**	**5.67**	**265**	*e*Pn		**Pn**	**19 00 36.2**	**+0.8**	
PTOM				*e*Sn		**Sn**	**19 01 38.6**	**-1.9**	
VIVF	**Saint-Julien-l**	**6.21**	**41**	*e*Sg		**Sg**	**19 02 26.5**	**-4.2**	
	3.5nm,0.5s								
VIVF	**Saint-Julien-l**	**6.21**	**41**	*e*Sg		**Sg**	**19 02 26.5**	**-4.2**	
	1.8nm,0.5s								
TCF	**Toulx Ste Croi**	**6.43**	**21**	*e*Pn		**Pn**	**19 00 46.6**	**+0.7**	
TCF				*e*Sn		**Sn**	**19 01 54.4**	**-4.9**	
EMAZ	**Mazaricos**	**6.46**	**297**	Pn		**Pn**	**19 00 46.4**	**+0.1**	
	0.5nm,0.1s,SNR=4.0								
EMAZ	**Mazaricos**	**6.46**	**297**	Pn		**Pn**	**19 00 46.4**	**+0.1**	
SMF	**Signal de Mont**	**7.27**	**28**	*e*Pn		**Pn**	**19 00 56.9**	**-0.5**	
QUIF	**Quistinic**	**7.74**	**350**	*e*Pn		**Pn**	**19 01 04.4**	**+0.6**	

MOS ***23*** *18:59:35.0±1.2,56.10N×111.05E,h8km,mb4.3/1,Error ellipse: s-maj=12.0km s-min=8.3km az=67.3*

ISCJB ***23*** *18:59:36.4±0.6,5604N±003×111.18E±005,h5km±4km, mb3.3/2,Error ellipse: s-maj=6.2km s-min=3.1km az=109.0*

BYKL ***23*** *18:59:37.0±0.3,5605N×111.14E,h3km±3km*

IDC ***23*** *18:59:38.7±4.7,5603N×111.12E,h0km,mb3.2/3, mb1 3.4/4,mb1mx3.2/22,mbtmp3.3/4,ML3.2/1,Error ellipse: s-maj=82.6km s-min=28.1km az=96.0*

ISC 23 18:59:37.0±0.6,5604N±003×11121E±004,h2km±4km,n46,σ1§17/77,mb3.3/2,10C,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.15**	**182**	⇑*i*Pg	**Pg**	**18 59 40.0**	**0.0**

KMO				*e*Sg		**Sg**	**18 59 42.6**	**+0.6**	
KMO				Pmax					
	1μm,0.2s								
KMO				Smax					
	12μm,0.6s								
KMO	**Kumora**	**0.15**	**182**	*e*PG		**Pg**	**18 59 40.0**	**0.0**	
KMO				*e*			18 59 42.5		
KMO				pmax		pmax			
	comp=Z,1μm,0.2s								
KMO				smax					
	comp=N,12μm,0.6s								
YOA	**Uoyan**	**0.30**	**72**	⇑*i*Pg		**Pg**	**18 59 43.0**	**+0.2**	
YOA				*e*Sg		**Sg**	**18 59 48.9**	**+2.1**	
YOA				Pmax					
	comp=N,743nm,0.2s								
YOA				Smax					
	comp=N,7μm,0.6s								
YOA	**Uoyan**	**0.30**	**72**	⇑*i*PG		**Pg**	**18 59 42.9**	**+0.1**	
YOA				*i*			18 59 49.0		
YOA				pmax		pmax			
	comp=Z,790nm,0.5s								
YOA				smax					
	comp=N,7μm,0.5s								
NIZ	**Nizh Angarsk**	**0.98**	**255**	⇑*i*Pg		**Pg**	**18 59 54.2**	**-1.6**	
NIZ				*e*Sg		**Sg**	**19 00 07.6**	**-0.8**	
NIZ				*e*Sb		**Sb**	**19 00 11.2**	**+1.1**	
NIZ				Pmax					
	comp=N,96nm,0.4s								
NIZ				Smax					
	comp=N,415nm,0.7s								
NIZ	**Nizh Angarsk**	**0.98**	**255**	*e*PG		**Pg**	**18 59 54.2**	**-1.6**	
NIZ				*e*			19 00 07.5		
NIZ				pmax		pmax			
	comp=Z,96nm,0.4s								
NIZ				smax					
	comp=N,415nm,0.7s								
YLYR	**Ulyunkhan**	**1.17**	**181**	⇑*i*Pg		**Pg**	**18 59 58.3**	**-1.1**	
YLYR				*e*Sg		**Sg**	**19 00 14.5**	**-0.1**	
YLYR				*e*			19 00 19.8		
YLYR				Pmax					
	comp=N,163nm,0.3s								
YLYR				max					
	comp=N,567nm,0.2s								
YLYR	**Ulyunkhan**	**1.17**	**181**	⇑*i*PG		**Pg**	**18 59 58.3**	**-1.1**	
YLYR				*e*			19 00 13.5		
YLYR				pmax		pmax			
	comp=Z,167nm,0.3s								
YLYR				smax					
	comp=E,698nm,0.3s								
SVKR	**Severomuysk**	**1.32**	**86**	*e*Pg		**Pg**	**19 00 01.6**	**-0.7**	
SVKR				*e*Sg		**Sg**	**19 00 20.2**	**+0.8**	
SVKR				Pmax					
	comp=E,156nm,0.3s								
SVKR				Smax					
	comp=E,3μm,0.6s								
SVKR	**Severomuysk**	**1.32**	**86**	*e*PG		**Pg**	**19 00 01.5**	**-0.8**	
SVKR				*e*			19 00 20.0		
SVKR				pmax		pmax			
	comp=Z,154nm,0.4s								
SVKR				smax					
	comp=N,3μm,0.9s								
UKT	**Uakit**	**1.47**	**111**	⇑*i*Pg		**Pn**	**19 00 04.3**	**-0.3**	
UKT				*e*Sg		**Sg**	**19 00 24.2**	**-0.2**	
UKT				Pmax					
	comp=N,136nm,0.8s								
UKT				Smax					
	comp=N,373nm,1.0s								
UKT	**Uakit**	**1.47**	**111**	⇑*i*PG		**Pn**	**19 00 04.3**	**-0.3**	
UKT				*e*			19 00 24.1		
UKT				pmax		pmax			
	comp=Z,114nm,0.3s								
UKT				smax					
	comp=E,358nm,0.4s								
BOD	**Bodaibo**	**2.35**	**40**	*e*Pn		**Pn**	**19 00 16.5**	**-0.2**	
BOD				*e*Pg		**Pb**	**19 00 18.5**	**-1.6**	
BOD				*e*Sg		**Sb**	**19 00 49.1**	**-0.5**	
BOD				Pmax					
	comp=E,55nm,0.4s								
BOD				Smax					
	comp=E,220nm,0.6s								
BOD	**Bodaibo**	**2.35**	**40**	*e*PN		**Pn**	**19 00 16.3**	**-0.4**	
BOD				*e*			19 00 18.2		
BOD				*e*			19 00 49.2		
BOD				pmax		pmax			
	comp=Z,56nm,0.4s								
BOD				smax					
	comp=N,220nm,0.8s								
SYVR	**Suvo**	**2.49**	**197**	*e*Pn		**Pn**	**19 00 18.7**	**+0.1**	
SYVR				*e*Pg		**Pb**	**19 00 21.8**	**-0.7**	
SYVR				*e*Sg		**Sg**	**19 00 55.0**	**-2.0**	
SYVR				Pmax					
	comp=N,53nm,0.6s								
SYVR				Smax					
	comp=N,230nm,0.4s								
SYVR	**Suvo**	**2.49**	**197**	*e*PN		**Pb**	**19 00 21.2**	**-1.3**	
SYVR				*e*			19 00 52.6		
SYVR				pmax		pmax			
	comp=Z,49nm,0.6s								
SYVR				smax					
	comp=N,199nm,0.5s								
NLYR	**Nelyaty**	**2.55**	**78**	*e*Pn		**Pn**	**19 00 20.6**	**+

TRTB				*e*Sn	**Sn**	**19 01 34.3**	**-1.4**
TRTB				*e*Sg	Sx	19 01 50.6	
TRTB				Pmax			
	comp=E,15nm,0.7s						
TRTB				Smax			
	comp=E,53nm,1.3s						
HRMR	**Khuramsha**	**5.09**	**211**	*e*Pn	**Pn**	**19 00 54.6**	**+0.3**
HRMR				*e*Pg	**Pb**	**19 01 07.3**	**+0.5**
HRMR				*e*Sg	Sx	19 02 14.4	
HRMR				Pmax			
	comp=E,19nm,0.5s						
HRMR				Smax			
	comp=E,121nm,0.6s						
TUP	**Tupik**	**5.26**	**104**	*e*Pn	**Pn**	**19 00 56.5**	**-0.2**
TUP				*e*Sn	**Sn**	**19 01 54.3**	**-3.6**
TUP				*e*Sg	Sx	19 02 21.1	
TUP				Smax			
	comp=E,130nm,1.0s						
TUP	**Tupik**	**5.26**	**104**	*e*PN	**Pn**	**19 00 56.5**	**-0.2**
TUP				*e*		19 01 12.1	
TUP				*e*		19 02 20.9	
TUP				pmax	pmax		
	comp=Z,5.0nm,0.3s						
TUP				smax			
	comp=N,130nm,1.2s						
IRK	**Irkutsk**	**5.58**	**230**	*e*PN	**Pb**	**19 01 17.3**	**+2.2**
IRK				*e*S	**Sn**	**19 02 02.2**	**-3.5**
IRK				*e*		19 02 28.9	
IRK				pmax	pmax		
	comp=Z,29nm,0.7s						
IRK				smax			
	comp=N,102nm,1.0s						
LSTR	**Listvyanka**	**5.62**	**225**	*e*Pn	**Pn**	**19 01 01.5**	**-0.2**
LSTR				*e*		19 01 19.0	
LSTR				*e*Sn	**Sn**	**19 02 04.0**	**-2.9**
LSTR				*e*Sg	Sx	19 02 29.8	
LSTR				Smax			
	comp=N,33nm,1.8s						
LSTR	**Listvyanka**	**5.62**	**225**	*e*PN	**Pn**	**19 01 01.4**	**-0.3**
LSTR				*e*		19 01 18.9	
LSTR				*e*S	**Sn**	**19 02 03.5**	**-3.4**
LSTR				*e*		19 02 29.8	
LSTR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LSTR				smax			
	comp=N,33nm,1.3s						
KPC	**Khapcheranga**	**6.39**	**173**	*e*Pn	**Pn**	**19 01 11.4**	**-0.8**
KPC				*e*Pg	**Pb**	**19 01 31.4**	**+2.5**
KPC				*e*Sg	Sx	19 02 54.4	
KPC				Pmax			
	comp=N,7.0nm,1.0s						
KPC				Smax			
	comp=N,67nm,0.8s						
KPC	**Khapcheranga**	**6.39**	**173**	*e*PN	**Pn**	**19 01 11.6**	**-0.6**
KPC				*e*		19 01 31.3	
KPC				*e*		19 02 54.6	
KPC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KPC				smax			
	comp=E,67nm,0.9s						
ARS	**Arshan**	**6.62**	**235**	*e*Pn	**Pn**	**19 01 15.2**	**-0.2**
ARS				*e*Sn	**Sn**	**19 02 26.3**	**-5.2**
ARS				*e*Sg	Sx	19 03 01.4	
ARS				Smax			
	comp=E,108nm,0.9s						
ARS	**Arshan**	**6.62**	**235**	*e*PN	**Pb**	**19 01 32.8**	**-0.2**
ARS				*e*		19 02 58.7	
ARS				pmax	pmax		
	comp=Z,10.0nm,0.4s						
ARS				smax			
	comp=E,108nm,0.8s						
ZAK	**Zakamensk**	**7.40**	**223**	*e*PN	**Pn**	**19 01 25.2**	**-0.9**
ZAK				*e*S	Sx	19 03 24.3	
ZAK				smax			
	comp=N,26nm,1.9s						
MOY	**Mondy**	**7.46**	**238**	*e*Pn	**Pn**	**19 01 28.1**	**+1.2**
MOY				*e*Sn	**Sn**	**19 02 48.6**	**-3.5**
MOY				*e*Sg	Sx	19 03 27.4	
MOY				Smax			
	comp=N,41nm,1.9s						
MOY	**Mondy**	**7.46**	**238**	*e*PN	**Pn**	**19 01 27.6**	**+0.7**
MOY				*e*		19 01 47.6	
ORL	**Orlik**	**7.54**	**247**	*e*PN	**Pn**	**19 01 28.2**	**+0.2**
ORL				*e*S	**Sn**	**19 02 49.8**	**-4.2**
SONM	**Songino Array**	**8.74**	**202**	Pn	**Pn**	**19 01 46.7**	**+2.2**
	comp=N,0.3nm,0.3s,baz=13,slow=13,SNR=13						
SONM				Lg		19 04 13.2	
	comp=N,0.4nm,0.3s,baz=13,slow=28,SNR=13						
MKAR	**Makanchi Array**	**20.14**	**255**	P	**P**	**19 04 13.1**	**+0.7**
	comp=N,0.3nm,0.4s,baz=42,slow=9.8,SNR=12						
BVAR	**Borovoye Array**	**23.63**	**280**	P	**P**	**19 04 52.0**	**+2.2**
	comp=N,0.4nm,0.6s,mb3.0,baz=72,slow=9.3,SNR=3.3						
NB2	**NORSAR Subarra**	**47.50**	**319**	P	**P**	**19 08 13.2**	**-0.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=47,slow=7.9						
NOA	**NORSAR Array B**	**47.50**	**319**	P	**P**	**19 08 13.7**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=49,slow=7.5,SNR=3.9						

*ISCJB **23** 19:07:23.6±1.2, 93S±02×1077E±02, h10km, mb3.8/8, Error ellipse: s-maj=44.5km s-min=12.0km az=101.4*
*IDC **23** 19:07:24.4±1.6, 929S×10775E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=60.3km s-min=18.0km az=52.0*
*NEIC **23** 19:07:25.8±0.8, 933S×10771E, h10km, mb4.2/2, Error ellipse: s-maj=31.8km s-min=8.4km az=51.0*
ISC 23 19:07:25.8±1.2, 93S±02×1077E±03, h10km, n13, σ0§53/12, mb3.8/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**16.51**	**137**	*e*P	**Pn**	**19 11 12.1**	**-5.3**
FITZ	**Fitzroy Crossi**	**19.47**	**118**	P	**Pn**	**19 11 53.2**	**-0.7**
	0.1nm,0.3s,baz=260,slow=12,SNR=5.3						
TGY	**Tagaytay City**	**26.74**	**30**	P	**P**	**19 13 05.2**	**-0.3**
	205nm,0.4s,baz=173,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**27.81**	**115**	P	**P**	**19 13 14.9**	**-0.1**
	0.7nm,0.7s,mb3.4,baz=286,slow=11,SNR=6.3						
AS31	**Alice Springs**	**28.81**	**123**	*e*P	**P**	**19 13 24.4**	**+0.4**
ASAR	**Alice Springs**	**28.81**	**123**	P	**P**	**19 13 24.9**	**+0.9**
	0.5nm,0.7s,mb3.4,baz=300,slow=9.5,SNR=7.4						
STKA	**Stephens Creek**	**38.59**	**130**	P	**P**	**19 14 48.6**	**-0.3**
	2.3nm,0.8s,mb4.0,baz=288,slow=11,SNR=4.2						
SONM	**Songino Array**	**56.93**	**359**	P	**P**	**19 17 12.2**	**+1.1**
	0.3nm,0.7s,mb3.5,baz=183,slow=8.6,SNR=5.1						
MKAR	**Makanchi Array**	**60.31**	**340**	P	**P**	**19 17 34.8**	**+0.1**
	1.2nm,0.6s,mb4.1,baz=141,slow=8.4,SNR=13						
KURK	**Kurchatov**	**64.92**	**340**	*e*P	**P**	**19 18 05.2**	**-0.2**
	1.7nm,0.8s,mb4.1						
BVAR	**Borovoye Array**	**69.78**	**337**	P	**P**	**19 18 35.6**	**-0.5**
	0.7nm,0.6s,mb3.8,baz=134,slow=10,SNR=5.3						
CHKZ	**Chkalovo**	**70.19**	**338**	*e*P	**P**	**19 18 38.4**	**-0.3**
	1.8nm,1.0s,mb4.0						
JCT	**Junction City**	**146.84**	**47**	*e*PKPbc	PKPbc	19 27 09.3	+1.1

*IDC **23** 19:09:06.4±0.9, 905S×10784E, h0km, mb4.0/9, mb1 4.0/10, mb1mx3.8/19, mbtmp3.9/10, ML3.0/1, Error ellipse: s-maj=35.1km s-min=16.3km az=58.0*
*NEIC **23** 19:09:08.0±6.2, 908S×10781E, h11km±39km, mb4.8/9, Error ellipse: s-maj=19.1km s-min=6.7km az=53.0*
*ISCJB **23** 19:09:09.4±0.6, 9.1S±0.1×1079E±0.2, h33km, mb4.3/18, Error ellipse: s-maj=27.9km s-min=7.9km az=98.9*
ISC 23 19:09:11.7±0.6, 91S±01×1079E±02, h35km, n25, σ0§77/23, mb4.3/18, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**16.58**	**138**	*e*P	**Pn**	**19 12 59.6**	**-1.8**
FITZ	**Fitzroy Crossi**	**19.45**	**119**	P	**Pn**	**19 13 35.6**	**-1.0**
	0.0nm,0.3s,baz=235,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**27.77**	**116**	P	**P**	**19 14 57.7**	**+0.5**
	0.3nm,0.4s,mb3.2,baz=287,slow=11,SNR=5.3						
WB2	**Warramunga Arr**	**27.78**	**116**	*e*P	**P**	**19 14 58.3**	**+1.0**
ASAR	**Alice Springs**	**28.82**	**123**	P	**P**	**19 15 07.2**	**+0.7**
	0.5nm,0.6s,mb3.4,baz=297,slow=7.4,SNR=7.4						
AS31	**Alice Springs**	**28.82**	**123**	*e*P	**P**	**19 15 08.2**	**+1.8**
STKA	**Stephens Creek**	**38.63**	**131**	P	**P**	**19 16 31.8**	**+0.1**
	1.2nm,0.6s,mb3.8,baz=308,slow=9.6,SNR=3.6						
JIRN	**Jiri**	**42.12**	**331**	*e*P	**P**	**19 17 01.2**	**+0.7**
	24nm,0.8s,mb4.9						
GUN	**Gumba**	**42.48**	**331**	*e*P	**P**	**19 17 03.7**	**+0.3**
DMN	**Daman**	**42.61**	**330**	*e*P	**P**	**19 17 04.7**	**+0.2**
	19nm,0.7s,mb4.9						
KKN	**Kakani**	**42.68**	**330**	*e*P	**P**	**19 17 05.0**	**0.0**
	14nm,0.8s,mb4.8						
GKN	**Gorkha**	**43.17**	**329**	*e*P	**P**	**19 17 08.9**	**-0.1**
	15nm,0.7s,mb4.8						
KOLN	**Koldanda**	**43.52**	**328**	*e*P	**P**	**19 17 12.1**	**+0.3**
	20nm,0.6s,mb5.0						
MJAR	**Matsushiro Arr**	**53.61**	**30**	P	**P**	**19 18 27.8**	**-1.5**
	0.4nm,0.4s,mb3.7,baz=204,slow=7.6,SNR=4.3						
SONM	**Songino Array**	**56.68**	**359**	P	**P**	**19 18 52.5**	**+0.9**
	1.6nm,0.6s,mb4.3,baz=178,slow=9.1,SNR=15						
MKAR	**Makanchi Array**	**60.12**	**340**	P	**P**	**19 19 15.4**	**-0.1**
	4.1nm,0.6s,mb4.7,baz=148,slow=7.9,SNR=28						
KURK	**Kurchatov**	**64.74**	**340**	*e*P	**P**	**19 19 46.0**	**-0.4**
	5.4nm,0.9s,mb4.6						
KURK				*e*	pP	19 19 57.0	-0.1
MAW	**Mawson**	**65.63**	**197**	P	**P**	**19 19 51.9**	**-0.3**
	0.7nm,0.5s,mb3.9,baz=34,slow=6.4,SNR=6.1						
ZAL	**Zalesovo**	**65.75**	**345**	P	**P**	**19 19 52.4**	**-0.5**
	0.9nm,0.5s,mb4.0,baz=19,slow=6.0,SNR=2.7						
BVAR	**Borovoye Array**	**69.61**	**337**	P	**P**	**19 20 17.0**	**-0.3**
	2.6nm,0.6s,mb4.3,baz=142,slow=8.5,SNR=12						
BRVK	**Borovoye**	**69.67**	**337**	P	**P**	**19 20 17.8**	**+0.1**
	1.3nm,0.5s,mb4.1						
CHKZ	**Chkalovo**	**70.02**	**337**	*e*P	**P**	**19 20 19.4**	**-0.4**
	4.6nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**70.09**	**336**	*e*P	**P**	**19 20 19.7**	**-0.5**
	3.3nm,0.7s,mb4.4						
MDZ	**Mendoza**	**138.15**	**184**	*e*P	PKPdf	19 28 33.0	+0.1
WMOK	**Wichita Mounta**	**144.69**	**40**	*e*PKPdf	PKPdf	19 28 45.0	+0.4

*IDC **23** 19:14:36.2±1.2, 931S×10826E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/18, mbtmp3.8/7, MS3.7/1, Ms1 3.6/1, ms1mx3.0/30, Error ellipse: s-maj=60.8km s-min=18.9km az=56.0*
*NEIC **23** 19:14:37.7±0.7, 932S×10822E, h10km, mb4.5/1, Error ellipse: s-maj=34.4km s-min=10.0km az=50.0*
*ISCJB **23** 19:14:39.3±1.0, 93S±02×1083E±03, h33km, mb3.7/8, MS3.7/1, Error ellipse: s-maj=46.3km s-min=13.5km az=100.4*
ISC 23 19:14:41.4±1.0, 94S±02×1082E±03, h35km, n10, σ0§47/10, mb3.7/8, MS3.7/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.38**	**116**	P	**P**	**19 20 23.1**	**-0.2**
	0.5nm,0.8s,mb3.1,baz=286,slow=12,SNR=4.2						
WRAB	**Tennant Creek**	**27.39**	**116**	*e*P	**P**	**19 20 24.4**	**+0.9**
WB2	**Warramunga Arr**	**27.39**	**116**	*e*P	**P**	**19 20 23.3**	**-0.1**
ASAR	**Alice Springs**	**28.41**	**123**	P	**P**	**19 20 31.8**	**-0.8**
	0.4nm,0.6s,mb3.2,baz=297,slow=8.9,SNR=7.8						
STKA	**Stephens Creek**	**38.23**	**131**	P	**P**	**19 21 57.9**	**0.0**
	1.3nm,0.8s,mb3.7,baz=302,slow=9.5,SNR=3.0						
STKA				LR	LR	19 36 34.9	
	comp=Z,122nm,21.1s,MS3.7,baz=207,slow=34						
SONM	**Songino Array**	**56.96**	**359**	P	**P**	**19 24 23.4**	**+0.3**
	0.7nm,0.6s,mb3.9,baz=168,slow=7.9,SNR=8.5						
MKAR	**Makanchi Array**	**60.48**	**340**	P	**P**	**19 24 48.0**	**+0.4**
	0.3nm,0.2s,mb3.9,baz=142,slow=7.3,SNR=5.2						
BVAR	**Borovoye Array**	**69.97**	**337**	P	**P**	**19 25 48.9**	**-0.3**
	1.0nm,0.6s,mb3.9,baz=145,slow=8.0,SNR=6.7						
CHKZ	**Chkalovo**	**70.38**	**337**	*e*P	**P**	**19 25 51.3**	**-0.4**
	2.4nm,0.6s,mb4.3						
VNDA	**Vanda**	**73.46**	**169**	P	**P**	**19 26 10.4**	**+0.3**
	0.6nm,0.4s,mb3.8,baz=295,slow=6.8,SNR=4.0						

*ISCJB **23** 19:16:10.5±1.7, 3829N±007×203E±0.1, h10km, Error ellipse: s-maj=15.7km s-min=6.0km az=111.6*
*CSEM **23** 19:16:10.9±0.5, 3828N×2027E, h2km, MD3.4, Error ellipse: s-maj=11.7km s-min=4.2km az=50.0*
*ATH **23** 19:16:10.7, 3821N×2045E, h25km±4km, MD3.4/4*
*NEIC **23** 19:16:10.7, 3821N×2045E, h25km, MD3.4(ATH), After ATH.*
*THE **23** 19:16:12.6, 3826N×2012E, h21km, ML3.0*
ISC 23 19:16:10.8±1.7, 3827N±007×203E±01, h10km, n9, σ1§18/13, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.26**	**110**	*i*PB	**Pg**	**19 16 15.8**	**-0.2**
VLS				*e*SB	**Sg**	**19 16 19.4**	**-0.1**
RLS	**Riolos of Patr**	**0.95**	**102**	*e*PN	**Pg**	**19 16 26.9**	**-2.2**
IGT	**Igoumenitsa**	**1.27**	**2**	*e*Pg	**Pg**	**19 16 33.8**	**-1.2**
IGT				*e*Sg	**Sg**	**19 16 50.3**	**-1.2**
EVR	**Evrytania**	**1.36**	**61**	*e*PB	**Pn**	**19 16 34.0**	**-1.8**
JAN	**Janina**	**1.46**	**17**	*e*PN	**Pn**	**19 16 38.0**	**+0.9**
KEK	**Kerkira**	**1.49**	**345**	*e*PN	**Pn**	**19 16 39.1**	**+1.5**
MEV	**Metsovon**	**1.69**	**26**	*e*Pb	**Pn**	**19 16 39.9**	**-0.4**
MEV				*e*Sb	**Sn**	**19 17 02.2**	**+0.3**
AGG	**Agios Georgios**	**1.77**	**64**	*e*Pb	**Pn**	**19 16 42.9**	**+1.5**
AGG				*e*Sb	**Sn**	**19 17 05.4**	**+1.4**
XOR	**Xorichti**	**2.52**	**63**	*e*Pn	**Pn**	**19 16 52.8**	**+1.0**

*ISCJB **23** 19:28:02.6±0.5, 3830N±003×2240E±004, h5km, Error ellipse: s-maj=5.0km s-min=4.4km az=101.1*
*ATH **23** 19:28:02.9, 3829N×2237E, h21km±2km, MD3.2/10, ML3.1*
*NEIC **23** 19:28:02.9, 3829N×2237E, h21km, ML3.1(ATH), After ATH.*
*CSEM **23** 19:28:03.1±0.1, 3828N×2240E, h5km, ML3.1, Error ellipse: s-maj=2.5km s-min=2.3km az=120.0*
*THE **23** 19:28:05.5, 3841N×2244E, h10km*
ISC 23 19:28:02.6±0.8, 3827N±004×2238E±004, h3km±8km, n16, σ0§61/20, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKR	**Lokris**	**0.61**	**52**	*e*PN	**Pg**	**19 28 14.8**	**+0.4**
LKR				*e*SN	**Sg**	**19 28 23.1**	**+0.7**
MGER	**Gerania Oros**	**0.75**	**112**	*e*PN	**Pg**	**19 28 18.0**	**+1.1**
AGG	**Agios Georgios**	**0.75**	**357**	*e*Pg	**Pg**	**19 28 17.0**	**-0.1**
AGG				*e*Sg	**Sg**	**19 28 25.9**	**-0.9**
RLS	**Riolos of Patr**	**0.75**	**254**	*e*PN	**Pg**	**19 28 17.5**	**+0.4**
EVR	**Evrytania**	**0.79**	**325**	*e*PN	**Pg**	**19 28 17.7**	**-0.1**
ATH	**Athens Observa**	**1.09**	**105**	*e*PN	**Pn**	**19 28 24.8**	**0.0**
ITM	**Ithomi**	**1.15**	**199**	*e*PN	**Pn**	**19 28 24.8**	**-0.7**
KVR	**Kavouri**	**1.18**	**112**	*e*PN	**Pn**	**19 28 26.0**	**0.0**
PTL	**Penteli**	**1.19**	**100**	*e*PN	**Pn**	**19 28 26.0**	**-0.1**
NEO	**Neokhori**	**1.23**	**32**	*e*PN	**Pn**	**19 28 26.6**	**0.0**
XOR	**Xorichti**	**1.26**	**30**	*e*Pg	**Pg**	**19 28 26.8**	**0.0**
XOR				*e*Sg	**Sg**	**19 28 43.8**	**+0.6**
VLS	**Valsamata**	**1.42**	**267**	*e*PN	**Pn**	**19 28 29.0**	**-0.2**
VLS				*e*SN	**Sn**	**19 28 49.6**	**+1.2**
AOS	**Alonnisos**	**1.48**	**52**	*e*Pg	**Pg**	**19 28 29.9**	**-1.0**
VLI	**Veliai**	**1.61**	**164**	*e*PB	**Pb**	**19 28 31.9**	**-1.0**
MEV	**Metsovon**	**1.76**	**330**	*e*Pb	**Pb**	**19 28 35.1**	**-0.5**
IGT	**Igoumenitsa**	**2.04**	**309**	*e*Pn	**Pb**	**19 28 40.6**	**+0.3**

*BJI **23** 19:39:12.6, 1048S×10785E, h20km, mB5.0, mb4.8, Ms4.7, Msz4.6*
*IDC **23** 19:39:17.2±0.6, 971S×10756E, h0km, mb4.4/11, mb1 4.5/13, mb1mx4.3/20, mbtmp4.4/13, ML4.0/2, MS3.9/10, Ms1 3.9/10, ms1mx3.5/41, Error ellipse: s-maj=23.9km s-min=14.4km az=52.0*
*HRVD **23** 19:39:20.5±0.8, 982S×10749E, h12km±2km, MW4.7/52, Centroid moment Tensor Solution. LP body waves: s9,c10;Mantle waves: s52,c69; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.33±.16; $M_{\theta\theta}$0.94±.11; $M_{\phi\phi}$0.39±.11; $M_{r\theta}$0.71±.34; $M_{r\phi}$-0.57±.06; $M_{\theta\phi}$0.63±.28; Best double couple: $M_0$1.57000×10^{16} NP1:ϕ_s143.00000°, δ44.00000°, λ-51.00000°. NP2:ϕ_s276.00000°, δ57.00000°, λ-121.00000°. Principal axes: T 1.3350, Plg8.0000°, Azm27.0000°; N 0.4750, Plg25.0000°, Azm293.0000°; P -1.8050, Plg63.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **23** 19:39:20.7±1.3, 971S±006×10761E±007, h37km±10km, mb4.7/57, MS4.2/18 Error ellipse: s-maj=12.3km s-min=7.9km az=101.4*
*NEIC **23** 19:39:20.5±3.3, 966S×10764E, h21km±22km, mb4.9/22, Error ellipse: s-maj=13.2km s-min=6.2km az=49.0*
*MOS **23** 19:39:20.3±1.0, 961S×10775E, h33km, mb5.0/17, Error ellipse: s-maj=16.2km s-min=7.7km az=110.9*
ISC 23 19:39:22.6±1.1, 972S±006×10759E±006, h35km±9km, h37km±1.1km: pP-P, n109, σ0§97/94, mb4.7/57, MS4.2/18,

2C-8D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**2.87**	**0**	P	**Pn**	**19 40 06.2**	**+0.4**
	2µm,0.8s						
BJII	**Banjamegara**	**3.16**	**42**	P	**Pn**	**19 40 09.9**	**+0.1**
	370nm,1.1s						
KSI	**Kapahiang**	**7.81**	**320**	P	**Pn**	**19 41 12.5**	**-1.1**
	87nm,0.9s						
PCI	**Palu**	**15.00**	**55**	P	**Pn**	**19 42 52.8**	**+0.9**
	121nm,1.2s						
PSI	**Prapat**	**15.14**	**325**	Pn	**Pn**	**19 42 51.8**	**-2.0**
	0.5nm,0.3s,baz=326,slow=21,SNR=3.1						
PSI				LR	LR	19 48 20.0	
	comp=Z,412nm,20.8s,baz=140,slow=36						
MBWA	**Marble Bar**	**16.31**	**136**	*e*Pn	**Pn**	**19 43 03.7**	**-5.1**
	14nm,0.7s						
KULM	**Kulim**	**16.43**	**335**	*e*Pn	**Pn**	**19 43 05.6**	**-4.8**
KKM	**Kota Kinabalu**	**17.86**	**29**	P	**Pn**	**19 43 23.3**	**-4.8**
FITZ	**Fitzroy Crossi**	**19.39**	**117**	*e*P	**Pn**	**19 43 47.3**	**+0.6**
	22nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.39**	**117**	P	**Pn**	**19 43 47.3**	**+0.6**
	0.3nm,0.3s,baz=285,slow=6.8,SNR=27						
BATP	**Bataraza**	**21.01**	**29**	*e*P	**P**	**19 44 03.4**	**+0.3**
BUKP	**Musuan**	**24.66**	**45**	*e*P	**P**	**19 44 41.5**	**+1.6**
NWAO	**Narrogin (SRO)**	**24.75**	**160**	LR	LR	19 55 12.9	
	comp=Z,159nm,18.6s,MS3.5,baz=161,slow=39						
WRA	**Warramunga Arr**	**27.74**	**115**	P	**P**	**19 45 06.9**	**-0.8**
	5.6nm,1.0s,mb4.2,baz=285,slow=11,SNR=16						
WRAB	**Tennant Creek**	**27.75**	**115**	*e*P	**P**	**19 45 06.6**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.7						
WRAB	**Tennant Creek**	**27.75**	**115**	*e*P	**P**	**19 45 06.6**	**-1.2**
	comp=Z,20nm,1.1s,mb4.7						
WB2	**Warramunga Arr**	**27.75**	**115**	*e*P	**P**	**19 45 07.6**	**-0.2**
QIZ	**Qiongzhong**	**28.65**	**4**	P	**P**	**19 45 15.8**	**0.0**
QIZ				*e*S	**S**	**19 50 01.8**	**-0.3**
QIZ				AMB	AMB		
	comp=Z,7.0nm,1.8s,mb4.1						
QIZ				LR	LR		
	comp=N,213nm,16.6s,MS4.1						
QIZ				LR	LR		
	comp=E,311nm,17.5s,MS4.1						
QIZ				LR	LR		
	comp=Z,330nm,16.2s,MS4.0						
ASAR	**Alice Springs**	**28.70**	**122**	P	**P**	**19 45 17.1**	**+0.8**
	comp=Z,1.1nm,0.6s,mb3.8,baz=295,slow=7.8,SNR=7.8						
ASAR				PcP	PcP	19 48 27.4	+1.2
	comp=Z,1.4nm,0.9s,baz=289,slow=1.8,SNR=6.0						
CHTO	**Chiang Mai**	**29.60**	**343**	P	**P**	**19 45 21.9**	**-2.4**
CHTO				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
CHTO	**Chiang Mai**	**29.60**	**343**	P	**P**	**19 45 21.9**	**-2.4**
	comp=Z,15nm,1.0s,mb4.7						
KMI	**Kunming**	**34.95**	**352**	P	**P**	**19 46 14.1**	**+3.0**
KMI				PP	PP	19 47 31.6	+0.9
KMI				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,110nm,3.1s						
KMI				LR	LR		
	comp=N,225nm,20.4s,MS4.2						
KMI				LR	LR		
	comp=E,322nm,17.7s,MS4.2						
KMI				LR	LR		
	comp=Z,223nm,23.1s						
GYA	**Guiyang**	**35.97**	**359**	⇓*i*P	**P**	**19 46 21.3**	**+1.4**
GYA				PP	PP	19 47 42.5	+0.6
GYA				PCP	PcP	19 48 48.0	+2.0
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
GYA				AMB	AMB		
	comp=Z,130nm,4.1s						
GYA				LR	LR		
	comp=N,480nm,14.6s,MS4.6						
GYA				LR	LR		
	comp=E,510nm,15.0s,MS4.6						
GYA				LR	LR		
	comp=Z,460nm,14.8s,MS4.4						
STKA	**Stephens Creek**	**38.42**	**130**	P	**P**	**19 46 42.0**	**+1.4**
	comp=Z,5.0nm,0.8s,mb4.3,baz=314,slow=9.1,SNR=10						
STKA				LR	LR	20 03 30.2	
	comp=Z,176nm,20.5s,MS3.9,baz=356,slow=38						
STKA	**Stephens Creek**	**38.42**	**130**	*e*P	**P**	**19 46 41.2**	**+0.5**
STKA				*e*	pP	19 46 51.5	+0.5
JIRN	**Jiri**	**42.55**	**331**	*e*P	**P**	**19 47 16.0**	**+1.2**
	comp=Z,64nm,0.9s,mb5.3						
SSE	**Sheshan**	**42.62**	**17**	*e*P	**P**	**19 47 13.6**	**-1.8**
SSE				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,79nm,4.7s						
PKI	**Pulchoki**	**42.85**	**330**	*e*P	**P**	**19 47 17.9**	**+0.7**
	comp=Z,17nm,0.6s,mb4.9						
PKI	**Pulchoki**	**42.85**	**330**	*e*P	**P**	**19 47 17.9**	**+0.7**
PKI				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.0						
NJ2	**Nanjing**	**42.91**	**14**	*e*P	**P**	**19 47 17.3**	**-0.4**
NJ2				AP	pP	19 47 27.1	-0.9
NJ2				PP	PP	19 48 59.0	+1.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,160nm,3.7s						
NJ2				LR	LR		
	comp=N,340nm,14.6s,MS4.5						
NJ2				LR	LR		
	comp=E,290nm,14.9s,MS4.5						
NJ2				LR	LR		
	comp=Z,610nm,17.6s,MS4.5						
GUN	**Gumba**	**42.91**	**331**	*e*P	**P**	**19 47 18.8**	**+1.1**
	comp=Z,80nm,1.0s,mb5.4						
DMN	**Daman**	**43.03**	**330**	*e*P	**P**	**19 47 19.4**	**+0.7**
	comp=Z,68nm,1.0s,mb5.3						
KKN	**Kakani**	**43.09**	**331**	*e*P	**P**	**19 47 19.9**	**+0.7**
	comp=Z,40nm,0.9s,mb5.1						
KKN	**Kakani**	**43.09**	**331**	*e*P	**P**	**19 47 19.9**

HHC PP PP 19 50 15.6 +3.1
HHC AMB AMB
comp=Z,14nm,0.6s,mb5.2
HHC AMB AMB
comp=Z,116nm,5.1s
HHC LR LR
comp=N,236nm,14.9s,MS4.5
HHC LR LR
comp=E,183nm,13.7s,MS4.5
HHC LR LR
comp=Z,192nm,14.7s,MS4.2
SNY Shenyang 53.35 15 ⇓P **P 19 48 39.0 +0.7**
SNY AMB AMB
comp=Z,14nm,0.5s,mb5.2
MAJO Matsushiro 54.28 30 *e*P **P 19 48 43.3 -1.8**
MAJO pmax pmax
comp=Z,11nm,1.0s,mb4.7
MAJO Matsushiro 54.28 30 *e*P **P 19 48 43.3 -1.8**
comp=Z,11nm,1.0s,mb4.7
MAT Matsushiro 54.28 30 P **P 19 48 43.1 -2.0**
MAT Matsushiro 54.28 30 *e*P **P 19 48 43.0 -2.1**
MJAR Matsushiro Arr 54.28 30 P **P 19 48 43.6 -1.6**
comp=Z,9.7nm,1.0s,mb4.7,baz=203,slow=8.1,SNR=26
MJAR LR LR 20 10 16.2
comp=Z,63nm,21.7s,MS3.6,baz=20,slow=34
WMQ Urumqi 56.27 343 P **P 19 49 00.9 +1.4**
WMQ PP PP 19 51 07.5 +2.6
WMQ AMB AMB
comp=Z,11nm,1.2s,mb4.8
WMQ AMB AMB
comp=Z,114nm,5.1s
WMQ LR LR
comp=N,525nm,17.2s,MS4.8
WMQ LR LR
comp=E,394nm,16.1s,MS4.8
WMQ LR LR
comp=Z,525nm,17.7s,MS4.7
SONM Songino Array 57.30 359 P **P 19 49 07.9 +1.1**
comp=Z,4.8nm,1.0s,mb4.5,baz=173,slow=7.3,SNR=25
SONM LR LR 20 18 05.9
comp=Z,217nm,18.7s,MS4.3,baz=171,slow=41
MDJ Mudanjiang 57.62 18 P **P 19 49 08.8 -0.3**
MDJ PCP PcP 19 50 01.9 -0.1
MDJ PP PP 19 51 16.4 -0.6
MDJ AMB AMB
comp=Z,5.0nm,2.4s,mb4.1
MDJ AMB AMB
comp=Z,51nm,3.7s
ZAK Zakamensk 59.96 357 *e*P **P 19 49 25.2 -0.1**
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
TKM2 Tokmak 2 59.97 333 *i* P **P 19 49 24.7 -0.7**
TKM2 pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
MK31 Makanchi Array 60.62 340 P **P 19 49 29.5 -0.3**
MK31 pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
MKAR Makanchi Array 60.62 340 P **P 19 49 30.1 +0.3**
comp=Z,7.4nm,0.8s,mb4.8,baz=134,slow=6.9,SNR=27
KLR Kul'dur 62.41 18 *e*P **P 19 49 38.0 -3.9**
YSS Yuzh-Sakhalins 64.53 26⇑*e*P **P 19 49 56.0 +0.1**
YSS *e* pP 19 50 06.8 +0.1
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 64.53 26 *e*P **P 19 49 55.3 -0.6**
comp=Z,23nm,1.0s,mb5.2
MAW Mawson 64.96 197 P **P 19 49 57.4 -1.3**
comp=Z,2.3nm,0.6s,mb4.4,baz=34,slow=5.1,SNR=8.9
KURK Kurchatov 65.24 340*d* *i*P **P 19 50 00.6 +0.1**
KURK Kurchatov 65.24 340 *e*P **P 19 50 00.5 0.0**
comp=Z,12nm,1.0s,mb4.9
ZAL Zalesovo 66.29 346 P **P 19 50 07.3 0.0**
comp=Z,1.9nm,0.3s,mb4.6,baz=2.2,slow=4.5,SNR=6.5
ZAL LR LR 20 24 27.0
comp=Z,69nm,19.3s,MS3.9,baz=91,slow=41
ZAL Zalesovo 66.29 346 *i* P **P 19 50 08.0 +0.7**
ZAL pmax pmax
comp=Z,2.0nm,0.3s
ZAL Zalesovo 66.29 346 P **P 19 50 07.3 0.0**
ZAL LR LR 20 24 27.0
NVS Novosibirsk 67.50 345 *e*P **P 19 50 14.9 -0.1**
NVS pmax pmax
comp=Z,11nm,1.9s,mb4.6
NVS pmax pmax
comp=N,10.0nm,1.6s
BOD Bodaibo 67.50 4 *e*P **P 19 50 14.4 -0.6**
BOD pmax pmax
comp=Z,5.0nm,1.6s,mb4.3
VOSK Vostochnaya 69.62 337 P **P 19 50 26.8 -1.4**
VOSK pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
BVA0 Borovoye Array 70.08 337 *i* P **P 19 50 31.0 0.0**
BVA0 pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
BVAR Borovoye Array 70.08 337 P **P 19 50 31.0 -0.1**
comp=Z,3.4nm,0.8s,mb4.3,baz=142,slow=7.5,SNR=20
BVAR LR LR 20 25 07.4
comp=Z,72nm,19.1s,MS3.9,baz=135,slow=39
BRVK Borovoye 70.15 337 *e*P **P 19 50 31.5 +0.1**
BRVK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BRVK Borovoye 70.15 337 *e*P **P 19 50 31.5 0.0**
comp=Z,5.5nm,1.1s,mb4.4
KMBO Kilima Mbogo 70.44 272 P **P 19 50 34.8 +1.6**
comp=Z,0.5nm,0.2s,mb4.0,baz=166,slow=4.2,SNR=2.3
CHKZ Chkalovo 70.50 338 *i* P **P 19 50 33.5 -0.1**
CHKZ pmax pmax
comp=Z,13nm,1.3s,mb4.7
CHKZ Chkalovo 70.50 338 *e*P **P 19 50 33.1 -0.5**
comp=Z,11nm,1.0s,mb4.8
ZRNK Zerenda 70.56 336 *i* P **P 19 50 33.7 -0.3**
ZRNK pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
ZRNK Zerenda 70.56 336 *e*P **P 19 50 33.0 -1.0**
comp=Z,8.6nm,1.0s,mb4.6
AB31 Akbulak array 72.03 329 *i* P **P 19 50 42.8 -0.1**
AB31 pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
SYO Syowa Base 73.17 200⇑*e*P **P 19 50 50.0 +0.4**
VNDA Vanda 73.21 169 LR LR 20 20 39.5
comp=Z,94nm,20.1s,MS4.1,baz=319,slow=34
VNDA Vanda 73.21 169 P **P 19 50 50.1 +0.3**
VNDA pmax pmax
comp=Z,2.0nm,1.1s
VNDA Vanda 73.21 169 P **P 19 50 50.1 +0.2**
comp=Z,2.2nm,1.1s,mb4.0
YAK Yakutsk 73.57 11 *e*P **P 19 50 51.5 -0.5**
YAK pmax pmax
comp=Z,11nm,1.2s,mb4.7
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK Yakutsk 73.57 11 *e*P **P 19 50 51.2 -0.8**
comp=E,16nm,1.3s,mb4.8
AKTO Aktyubinsk 73.75 330 *i* P **P 19 50 53.3 +0.3**
AKTO pmax pmax
comp=Z,2.0nm,1.9s,mb3.7
PET Petropavlovsk 76.07 29⇓*i*P **P 19 51 00.9 -5.6**
PET pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
ARU Arti 77.31 335⇓*i*P **P 19 51 13.5 +0.1**
ARU *e* pP 19 51 24.5 0.0
ARU *e* 19 54 08.3
ARU ePPP 19 55 57.8
ARU *e*S S 20 01 03.1 +2.1
ARU *e*SS SS 20 06 01.2 +1.7
ARU pmax pmax
comp=Z,14nm,1.0s,mb4.8
ARU Arti 77.31 335 *e*P **P 19 51 12.1 -1.3**
comp=Z,16nm,1.0s,mb4.9
GOF Gofitskoye 79.52 319 *e*P **P 19 51 34.0 +8.4**
TIXI Tiksi 82.42 7*d* *i*P **P 19 51 37.9 -3.2**
TIXI pmax pmax
comp=Z,15nm,1.0s,mb4.9
BR131 Keskin Array S 84.06 312 *e*P **P 19 51 49.6 +0.1**
comp=Z,1.7nm,0.9s,mb4.2
BRTR Keskin Array B 84.06 312 P **P 19 51 49.6 +0.1**
comp=Z,2.7nm,1.0s,mb4.3,baz=116,slow=5.6,SNR=9.3
VRSR Storozhevoye 84.38 324 *e*P **P 19 51 51.0 -0.2**
VRSR pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
VRSR pmax pmax
comp=N,6.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.9s

SNAA Sanae 87.12 197 LR LR 20 24 43.3
comp=E,48nm,20.7s,MS3.9,baz=209,slow=31
OBN Obninsk 87.31 327*d* *i*P **P 19 52 05.9 +0.2**
OBN pmax pmax
comp=Z,15nm,1.2s,mb5.1
KLMR Klimovskoe 88.05 333 *e*P **P 19 52 08.6 -0.6**
KLMR pmax pmax
comp=Z,20nm,1.1s,mb5.3
ARCES ARCESS Array B 96.27 339 LR LR 20 44 18.6
comp=Z,88nm,20.2s,MS4.2,baz=29,slow=40
BDFB Brasilia 145.09 224 PKPbc PKPbc 19 58 56.1 +0.4
comp=Z,3.2nm,0.9s,baz=116,slow=9.6,SNR=4.5
LONY Lake Ozonia 145.18 3 *e*PKP PKPdf 19 58 56.6 +0.3
WMOK Wichita Mounta 145.34 40 *e*PKIKP PKPdf 19 58 57.2 +0.6
NCB Newcomb 145.84 2 *e*PKP PKPdf 19 58 58.9 +1.5
CCM Cathedral Cave 147.09 28 *e*PKP2 PKPbc 19 59 01.7 0.0
JCT Junction City 147.17 47 *e*PKP2 PKPab 19 59 03.8 +0.2
MIAR Mount Ida 148.60 35 *e*PKP2 PKPbc 19 59 06.9 +1.2
SSPA Standing Stone 148.83 8 *e*PKPbc PKPbc 19 59 06.3 0.0
WVT Waverly 150.20 26 *e*PKIKP PKPbc 19 59 10.9 +1.2
OXF Oxford 150.82 30 PKIKP PKPbc 19 59 12.2 +1.0
PLAL Pickwick Lake 151.06 27 *e*PKPbc PKPbc 19 59 12.3 +0.5
TZTN Tazewell 151.44 19 *e*PKPbc PKPbc 19 59 13.9 +1.2

*ISCJB **23** 19:43:01.3±1.5, 9.59S±0.06×107.44E±0.06, h9km±9km, mb4.8/59, MS4.4/9, Error ellipse: s-maj=12.3km s-min=7.1km az=90.1*
*IDC **23** 19:43:01.7±0.5, 9.61S×107.38E, h0km, mb4.4/15, mb1 4.5/17, mb1mx4.5/21, mbtmp4.4/17, ML4.1/2, Error ellipse: s-maj=23.0km s-min=12.9km az=51.0*
*BJI **23** 19:43:03.2, 9.60S×107.40E, h15km, mB5.0, mb4.8, Ms4.7, Msz4.5*
*NEIC **23** 19:43:04.3±3.2, 9.59S×107.44E, h15km±19km, mb5.0/20, Error ellipse: s-maj=10.9km s-min=4.5km az=45.0*
*MOS **23** 19:43:05.1±1.0, 9.48S×107.55E, h33km, mb5.2/15, Error ellipse: s-maj=13.9km s-min=7.1km az=116.0*
ISC 23 19:43:05.2±1.5, 9.61S±0.06×107.43E±0.06, h21km±11km, h21km±3.5km: pP-P, n130, σ0.94/117, mb4.8/59, MS4.4/9, 14C-7D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**7.62**	**321**	P		**Pn**	**19 44 52.8**	**-2.1**
	100nm,0.9s							
PSI	**Prapat**	**14.96**	**325**	Pn		**Pn**	**19 46 35.0**	**-0.3**
	0.5nm,0.3s,baz=150,slow=20,SNR=2.2							
PCI	**Palu**	**15.07**	**56**	P		**Pn**	**19 46 38.0**	**+1.2**
	82nm,1.6s							
KULM	**Kulim**	**16.27**	**335**	Pn		**Pn**	**19 46 48.6**	**-3.6**
MBWA	**Marble Bar**	**16.50**	**136**	*e*Pn		**Pn**	**19 46 50.2**	**-5.1**
KKM	**Kota Kinabalu**	**17.84**	**30**	*e*Pn		**Pn**	**19 47 06.7**	**-5.3**
FITZ	**Fitzroy Crossi**	**19.58**	**118**	*e*P		**Pn**	**19 47 32.9**	**-0.2**
	25nm,0.8s							
FITZ				*e*S		**Sn**	**19 50 54.6**	**-18**
FITZ	**Fitzroy Crossi**	**19.58**	**118**	P		**Pn**	**19 47 33.0**	**-0.1**
	0.6nm,0.3s,baz=249,slow=5.2,SNR=11							
FITZ				S		**Sn**	**19 50 54.8**	**-17**
	0.1nm,0.3s,baz=161,slow=19,SNR=3.1							
KAKA	**Kakadu**	**24.73**	**99**	*e*P		**P**	**19 48 25.6**	**+0.7**
	23nm,0.7s,mb4.8							
WRA	**Warramunga Arr**	**27.93**	**115**	P		**P**	**19 48 53.6**	**-0.2**
	7.9nm,0.8s,mb4.4,baz=286,slow=10,SNR=16							
WRA				PcP		PcP	19 52 09.6	+0.7
	1.2nm,0.7s,baz=297,slow=2.0,SNR=6.6							
WRAB	**Tennant Creek**	**27.94**	**115**	*c* *i*P		**P**	**19 48 54.0**	**+0.1**
WRAB	**Tennant Creek**	**27.94**	**115**	*e*P		**P**	**19 48 53.8**	**-0.1**
	14nm,0.8s,mb4.6							
WB2	**Warramunga Arr**	**27.94**	**115**	*e*P		**P**	**19 48 53.9**	**-0.1**
ASPA	**Alice Springs**	**28.89**	**122**	*e*P		**P**	**19 49 07.0**	**+4.6**
AS31	**Alice Springs**	**28.89**	**122**	P		**P**	**19 49 02.8**	**+0.4**
ASAR	**Alice Springs**	**28.89**	**122**	P		**P**	**19 49 01.8**	**-0.6**
	2.0nm,0.9s,mb3.8,baz=296,slow=7.3,SNR=5.8							
ASAR				PcP		PcP	19 52 12.1	+0.7
	1.3nm,0.6s,baz=303,slow=2.1,SNR=9.0							
CHTO	**Chiang Mai**	**29.45**	**343**	*e*P		**P**	**19 49 07.3**	**-0.1**
CHTO				*e*			19 49 19.0	
CHTO				pmax		pmax		
	comp=Z,16nm,1.2s,mb4.6							
CHTO	**Chiang Mai**	**29.45**	**343**	*e*P		**P**	**19 49 07.2**	**-0.1**
	comp=Z,16nm,1.2s,mb4.6							
CHTO				*e*			19 49 19.0	
KMI	**Kunming**	**34.82**	**353**	P		**P**	**19 49 57.1**	**+2.7**
KMI				AP		pP	19 50 02.5	+1.6
KMI				XP		sP	19 50 06.9	+3.3
KMI				PP		PP	19 51 13.8	+0.3
KMI				PPP			19 51 31.9	
KMI				S		**S**	**19 55 25.0**	**+1.0**
KMI				XS		sS	19 55 35.1	+0.4
KMI				SS		SS	19 57 35.8	-20
KMI				SSS			19 58 03.3	
KMI				AMB		AMB		
	comp=Z,12nm,1.3s,mb4.7							
KMI				AMB		AMB		
	comp=Z,69nm,4.1s							
KMI				LR		LR		
	comp=N,410nm,14.8s,MS4.4							
KMI				LR		LR		
	comp=E,282nm,13.6s,MS4.4							
KMI				LR		LR		
	comp=Z,449nm,13.6s,MS4.4							
GYA	**Guiyang**	**35.86**	**359**	P		**P**	**19 50 04.6**	**+1.3**
GYA				AP		pP	19 50 08.6	-1.3
GYA				XP		sP	19 50 11.9	-0.6
GYA				PP		PP	19 51 26.4	+1.5
GYA				PCP		PcP	19 52 31.3	+0.9
GYA				S		**S**	**19 55 42.3**	**+2.4**
GYA				SCP		ScP	19 56 15.8	+0.5
GYA				SS		SS	19 58 02.5	-14
GYA				AMB		AMB		
	comp=Z,40nm,0.9s,mb5.3							
GYA				AMB		AMB		
	comp=Z,140nm,4.5s							
GYA				LR		LR		
	comp=N,510nm,15.4s,MS4.5							
GYA				LR		LR		
	comp=E,480nm,14.8s,MS4.5							
GYA				LR		LR		
	comp=Z,540nm,15.0s,MS4.4							
STKA	**Stephens Creek**	**38.62**	**130**	*e*P		**P**	**19 50 27.0**	**+0.2**
	comp=Z,11nm,0.8s,mb4.6							
STKA				*e*			19 50 37.7	
STKA	**Stephens Creek**	**38.62**	**130**	P		**P**	**19 50 27.1**	**+0.4**
	comp=Z,15nm,0.8s,mb4.8,baz=300,slow=7.9,SNR=16							
CTA	**Charters Tower**	**38.86**	**110**	*e*P		**P**	**19 50 30.3**	**+1.5**
	comp=Z,6.4nm,0.6s,mb4.5							
CTA	**Charters Tower**	**38.86**	**110**	P		**P**	**19 50 30.5**	**+1.7**
	comp=Z,7.7nm,0.7s,mb4.5,baz=278,slow=8.9,SNR=12							
CTA	**Charters Tower**	**38.86**	**110**	*e*P		**P**	**19 50 30.3**	**+1.5**
CTA				pmax		pmax		
	comp=Z,6.0nm,0.6s							
CTAO	**Charters Tower**	**38.86**	**110**	*e*P		**P**	**19 50 30.0**	**+1.2**
CTAO				pmax		pmax		
	comp=Z,11nm,0.8s,mb4.6							
CTAO	**Charters Tower**	**38.86**	**110**	*e*P		**P**	**19 50 30.0**	**+1.2**
	comp=Z,11nm,0.8s,mb4.6							
CD2	**Chengdu**	**40.44**	**355**	*e*P		**P**	**19 50 40.9**	**-1.0**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.6							
CD2				AMB		AMB		
	comp=Z,40nm,5.2s							
JIRN	**Jiri**	**42.38**	**332**	*e*P		**P**	**19 50 59.0**	**+1.2**
	comp=Z,132nm,0.7s,mb5.7							
SSE	**Sheshan**	**42.57**	**18**	*e*P		**P**	**19 50 58.3**	**-1.1**
SSE				AMB		AMB		
	comp=Z,22nm,0.7s,mb5.0							
SSE				AMB		AMB		
	comp=Z,116nm,5.1s							
PKI	**Pulchoki**	**42.67**	**331**	*e*P		**P**	**19 51 00.9**	**+0.6**
	comp=Z,38nm,0.9s,mb5.2							
PKI	**Pulchoki**	**42.67**	**331**	*e*P		**P**	**19 51 00.9**	**+0.6**
PKI				pmax		pmax		
	comp=Z,38nm,0.9s,mb5.1							
GUN	**Gumba**	**42.73**	**331**	*e*P		**P**	**19 51 01.8**	**+1.1**
	comp=Z,110nm,0.7s,mb5.7							
NJ2	**Nanjing**	**42.84**	**14**	*e*P		**P**	**19 51 01.8**	**+0.2**
NJ2				AP		pP	19 51 12.0	+3.8
NJ2				XP		sP	19 51 15.4	+4.6
NJ2				PP		PP	19 52 43.8	+2.7
NJ2				S		**S**	**19 57 25.0**	**+0.2**
NJ2				XS		sS	19 57 42.0	+6.3
NJ2				AMB		AMB		
	comp=Z,30nm,0.8s,mb5.1							
NJ2				AMB		AMB		
	comp=Z,160nm,6.3s							
NJ2				LR		LR		
	comp=N,320nm,15.2s,MS4.5							
NJ2				LR		LR		
	comp=E,290nm,14.9s,MS4.5							
NJ2				LR		LR		
	comp=Z,2μm,16.7s,MS5.0							
DMN	**Daman**	**42.85**	**330**	*e*P		**P**	**19 51 02.3**	**+0.6**
	comp=Z,83nm,0.8s,mb5.5							
KKN	**Kakani**	**42.92**	**331**	*e*P		**P**	**19 51 03.0**	**+0.8**
	comp=Z,86nm,0.9s,mb5.5							
KKN	**Kakani**	**42.92**	**331**	*e*P		**P**	**19 51 03.0**	**+0.8**
KKN				pmax		pmax		
	comp=Z,86nm,0.9s,mb5.5							
GKN	**Gorkha**	**43.41**	**330**	*e*P		**P**	**19 51 06.8**	**+0.6**
	comp=Z,60nm,0.9s,mb5.3							
XAN	**Xi'an**	**43.43**	**2**	P		**P**	**19 51 06.3**	**-0.1**
XAN				AP		pP	19 51 14.8	+1.8
XAN				AMB		AMB		
	comp=Z,15nm,0.9s,mb4.7							
XAN				LR		LR		
	comp=N,159nm,17.6s,MS4.2							
XAN				LR		LR		
	comp=E,181nm,14.2s,MS4.2							
XAN				LR		LR		
	comp=Z,1μm,16.3s,MS5.0							
KOLN	**Koldanda**	**43.74**	**329**	*e*P		**P**	**19 51 09.5**	**+0.6**
	comp=Z,80nm,0.8s,mb5.5							
LZH	**Lanzhou**	**45.57**	**356**	*e*P		**P**	**19 51 24.6**	**+1.1**
LZH				AP		pP	19 51 27.9	-2.2
LZH				XP		sP	19 51 31.4	-1.4
LZH				PP		PP	19 53 11.3	+1.0
LZH				*e*S		**S**	**19 58 04.8**	**+0.2**
LZH				*e*SS		SS	20 01 18.5	-10
LZH				AMB		AMB		
	comp=Z,21nm,1.3s,mb4.9							
LZH				AMB		AMB		
	comp=Z,75nm,6.5s							
LZH				LR		LR		
	comp=N,296nm,13.6s							
LZH				LR		LR		
	comp=Z,669nm,17.8s,MS4.6							
GTA	**Gaotai**	**49.28**	**352**⇑*i*P			**P**	**19 51 54.3**	**+2.0**
GTA				AP		pP	19 52 04.9	+5.9
GTA				XP		sP	19 52 09.1	+7.5
GTA				PP		PP	19 53 43.8	-2.4
GTA				AMB		AMB		
	comp=Z,18nm,1.1s,mb5.0							
GTA				AMB		AMB		
	comp=Z,66nm,4.6s							
GTA				LR		LR		
	comp=N,194nm,17.6s,MS4.3							
GTA				LR		LR		
	comp=E,193nm,19.1s,MS4.3							
GTA				LR		LR		
	comp=Z,267nm,15.7s,MS4.3							
BJT	**Baijiatuao**	**50.03**	**9**	*e*P		**P**	**19 51 54.6**	**-3.5**
BJT				pmax		pmax		
	comp=Z,11nm,0.8s							
BJT	**Baijiatuao**	**50.03**	**9**	*e*P		**P**	**19 51 54.6**	**-3.5**
	comp=Z,11nm,0.8s,mb4.9							
HHC	**Hu-ho-hao-te**	**50.35**	**4**	*e*P		**P**	**19 52 01.9**	**+1.4**
HHC				AP		pP	19 52 06.8	-0.4
HHC				XP		sP	19 52 09.5	-0.3
HHC				PCP		PcP	19 53 21.3	+2.4
HHC				PP		PP	19 53 58.1	+2.1
HHC				PCS		PcS	19 57 15.5	-0.6
HHC				S		**S**	**19 59 10.3**	**-1.9**
HHC				SCS		ScS	20 01 48.3	-2.0
HHC				SS		SS	20 02 45.5	-0.5
HHC				AMB		AMB		
	comp=Z,13nm,0.3s,mb5.4							
HHC				AMB		AMB		
	comp=Z,136nm,5.5s							
HHC				LR		LR		
	comp=N,236nm,14.7s,MS4.4							
HHC				LR		LR		
	comp=E,183nm,14.7s,MS4.4							
HHC				LR		LR		
	comp=Z,232nm,15.7s,MS4.3							
MAJO	**Matsushiro**	**54.27**	**31**	*e*P		**P**	**19 52 27.8**	**-1.8**
MAJO				pmax		pmax		
	comp=Z,20nm,1.3s,mb4.9							
MAJO	**Matsushiro**	**54.27**	**31**	*e*P		**P**	**19 52 27.8**	**-1.8**
	comp=Z,20nm,1.3s,mb4.9							
MAT	**Matsushiro**	**54.27**	**31**	P		**P**	**19 52 27.5**	**-2.1**
MAT	**Matsushiro**	**54.27**	**31**	*e*P		**P**	**19 52 28.0**	**-1.6**
MJAR	**Matsushiro Arr**	**54.27**	**31**	P		**P**	**19 52 28.3**	**-1.3**
	comp=Z,8.3nm,0.9s,mb4.7,baz=207,slow=7.8,SNR=25							
CN2	**Changchun**	**55.62**	**16**	*e*P		**P**	**19 52 39.3**	**-0.1**
CN2				AMB		AMB		
	comp=Z,10.0nm,1.3s,mb4.7							
WMQ	**Urumqi**	**56.12**	**343**	P		**P**	**19 52 44.3**	**+1.4**
WMQ				AP		pP	19 52 48.8	-0.9
WMQ				XP		sP	19 52 51.3	-1.0
WMQ				PP		PP	19 54 50.3	+2.3
WMQ				S		**S**	**20 00 29.1**	**-1.6**
WMQ				AMB		AMB		
	comp=Z,8.0nm,1.2s,mb4.6							
WMQ				AMB		AMB		
	comp=Z,91nm,5.1s							
WMQ				LR		LR		
	comp=N,209nm,17.0s,MS4.4							
WMQ				LR		LR		
	comp=E,156nm,15.9s,MS4.4							
WMQ				LR		LR		
	comp=Z,208nm,17.5s,MS4.3							
SONM	**Songino Array**	**57.19**	**359**	P		**P**	**19 52 51.5**	**+1.0**
	comp=Z,6.3nm,0.7s,mb4.7,baz=175,slow=7.4,SNR=24							
MDJ	**Mudanjiang**	**57.57**	**19**	P		**P**	**19 52 52.9**	**-0.3**
MDJ				PP		PP	19 55 00.3	-0.7
MDJ				SCP		ScP	19 57 46.8	+1.7
MDJ				PCS		PcS	19 57 47.9	+0.3
MDJ				S		**S**	**20 00 50.3**	**+0.4**
MDJ				AMB		AMB		
	comp=Z,8.0nm,1.4s,mb4.6							
MDJ				AMB		AMB		
	comp=Z,91nm,5.5s							
MDJ				LR		LR		
	comp=N,24nm,25.9s,MS3.5							
MDJ				LR		LR		
	comp=E,40nm,22.5s,MS3.5							
MDJ				LR		LR		
	comp=Z,48nm,23.7s,MS3.5							
KZA	**Kyzart**	**59.29**	**333**	P		**P**	**19 53 05.8**	**+0.6**
	SNR=5.5							
TKM2	**Tokmak 2**	**59.80**	**333**	P		**P**	**19 53 08.7**	**-0.1**
	SNR=12							
TKM2	**Tokmak 2**	**59.80**	**333**	P		**P**	**19 53 08.6**	**-0.2**
TKM2				pmax		pmax		
	comp=Z,6.0nm,0.7s,mb4.7							
ZAK	**Zakamensk**	**59.84**	**357**	*e*P		**P**	**19 53 09.3**	**+0.3**
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.4							
KBK	**Karagaybulak**	**59.88**	**333**	P		**P**	**19 53 10.0**	**+0.7**
	SNR=7.8							
AML	**Almayashu**	**60.05**	**332**	P		**P**	**19 53 11.0**	**+0.5**
	SNR=5.5							
AAK	**Ala-Archa**	**60.07**	**332***de*	P		**P**	**19 53 09.5**	**-1.1**
AAK				pmax		pmax		
	comp=Z,5.0nm,1.3s,mb4.4							
AAK	**Ala-Archa**	**60.07**	**332**	*e*P		**P**	**19 53 09.4**	**-1.2**
EKS2	**Erkin-Say**	**60.42**	**332**	P		**P**	**19 53 13.0**	**0.0**
	SNR=8.3							
MK31	**Makanchi Array**	**60.47**	**340**	P		**P**	**19 53 12.8**	**-0.5**
MK31				pmax		pmax		
	comp=Z,9.0nm,0.6s,mb5.0							
MKAR	**Makanchi Array**	**60.47**	**340**	P		**P**	**19 53 13.2**	**-0.1**
	comp=Z,13nm,0.7s,mb5.1,baz=134,slow=6.9,SNR=41							
MKAR	**Makanchi Array**	**60.47**	**340**⇑*e*P			**P**	**19 53 13.1**	**-0.2**
TLY	**Talaya**	**61.12**	**357**⇓*i*P			**P**	**19 53 17.5**	**-0.3**
TLY				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.7							
KLR	**Kul'dur**	**62.36**	**18**	*e*P		**P**	**19 53 21.2**	**-4.9**
YSS	**Yuzh-Sakhalins**	**64.51**	**26**	*e*P		**P**	**19 53 40.0**	**-0.3**
YSS				*e*			19 53 51.0	
YSS				pmax		pmax		
	comp=Z,40nm,1.0s,mb5.4							
YSS	**Yuzh-Sakhalins**	**64.51**	**26**	*e*P		**P**	**19 53 40.4**	**+0.1**
	comp=Z,30nm,0.9s,mb5.3							
MAW	**Mawson**	**65.01**	**197**	P		**P**	**19 53 42.9**	**-0.7**
	comp=Z,2.8nm,1.0s,mb4.2,baz=61,slow=11,SNR=4.8							
KURK	**Kurchatov**	**65.08**	**340***d*	*i*P		**P**	**19 53 43.8**	**-0.2**
KURK	**Kurchatov**	**65.08**	**340**	*e*P		**P**	**19 53 43.9**	**-0.1**
ZAL	**Zalesovo**	**66.14**	**346**	P		**P**	**19 53 50.4**	**-0.5**

comp=Z,2.1nm,0.7s,mb4.3,baz=330,slow=4.5,SNR=8.6
KRAR Krasnoyarsk 66.49 351⇑ *e*P **P** **19 53 50.6 -2.5**
KRAR pmax pmax
comp=Z,24nm,1.0s,mb5.2
BOD Bodaibo 67.40 4 *e*P **P** **19 53 58.6 -0.3**
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
VOSK Vostochnaya 69.46 337 P **P** **19 54 10.2 -1.6**
VOSK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BVA0 Borovoye Array 69.92 337 *i* P **P** **19 54 14.4 -0.2**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
BVAR Borovoye Array 69.92 337 P **P** **19 54 14.4 -0.2**
comp=Z,5.8nm,0.6s,mb4.7,baz=143,slow=9.0,SNR=28
BRVK Borovoye 69.98 337 *e*P **P** **19 54 15.0 0.0**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRVK Borovoye 69.98 337 *e*P **P** **19 54 15.0 0.0**
comp=Z,2.8nm,0.8s,mb4.2
KMBO Kilima Mbogo 70.27 272 P **P** **19 54 17.1 +0.3**
comp=Z,1.3nm,0.6s,mb4.1,baz=33,slow=7.0,SNR=5.0
KMBO Kilima Mbogo 70.27 272⇑ *e*P **P** **19 54 18.8 +2.0**
CHKZ Chkalovo 70.34 338 *e*P **P** **19 54 17.2 0.0**
ZRNK Zerenda 70.40 336 *e*P **P** **19 54 17.3 -0.3**
AB31 Akbulak array 71.86 329 *i* P **P** **19 54 25.8 -0.6**
AB31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
SYO Syowa Base 73.22 200⇑ *es*P sP 19 54 44.0 0.0
VNDA Vanda 73.34 169 P **P** **19 54 34.5 -0.7**
comp=Z,0.8nm,0.6s,mb3.8,baz=312,slow=6.9,SNR=4.2
YAK Yakutsk 73.50 11*d i*P **P** **19 54 35.0 -1.1**
YAK pmax pmax
comp=Z,35nm,1.7s,mb5.0
AKTO Aktyubinsk 73.57 330 P **P** **19 54 35.2 -1.4**
AKTO pmax pmax
comp=Z,1.0nm,1.1s,mb3.7
GNI Garni 76.09 315 *i* P **P** **19 54 50.9 -0.3**
MBAR Mbarara 76.78 272⇑ *i*P **P** **19 54 55.7 +0.7**
ARU Arti 77.14 335⇓ *i*P **P** **19 54 57.0 -0.1**
ARU *e* 19 55 08.7
ARU *e* 19 57 50.6
ARU *e*PPP 19 59 39.6
ARU *e*S S 20 04 44.4 -0.7
ARU *e*SS SS 20 09 39.0 -3.7
ARU pmax pmax
comp=Z,21nm,1.0s,mb5.0
ARU Arti 77.14 335 *e*P **P** **19 54 57.0 -0.1**
comp=Z,19nm,1.0s,mb5.0
MA2 Magadan 77.16 21 *e*P **P** **19 54 57.5 +0.3**
MA2 S S 20 04 43.4 -1.8
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
TIXI Tiksi 82.33 7*d i*P **P** **19 55 24.1 -1.1**
TIXI pmax pmax
comp=Z,18nm,1.0s,mb5.0
BRTR Keskin Array B 83.87 312 P **P** **19 55 33.1 -0.1**
comp=Z,2.9nm,0.9s,mb4.4,baz=132,slow=6.8,SNR=11
BR131 Keskin Array S 83.87 312 *e*P **P** **19 55 33.1 -0.1**
comp=Z,3.6nm,0.9s,mb4.5
VRSR Storozhevoye 84.20 324 *e*P **P** **19 55 34.5 -0.4**
VRSR pmax pmax
comp=N,8.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
OBN Obninsk 87.13 327*d i*P **P** **19 55 49.2 -0.2**
OBN pmax pmax
comp=Z,18nm,1.2s,mb5.2
KLMR Klimovskoe 87.88 333 *e*P **P** **19 55 52.2 -0.9**
KLMR pmax pmax
comp=Z,30nm,1.2s,mb5.4
AKASG Malin Array Be 89.99 322 P **P** **19 56 02.8 -0.2**
comp=Z,0.2nm,0.3s,mb4.0,baz=82,slow=7.8,SNR=4.3
AKASG PP PP 19 59 33.9 -2.1
comp=Z,0.4nm,0.4s,baz=85,slow=6.2,SNR=4.1
VRI Vrincioaia 90.42 316⇑ *i*P **P** **19 56 06.1 +1.1**
VRI Vrincioaia 90.42 316⇑ P **P** **19 56 06.1 +1.1**
MLR Muntele Rosu 90.86 316⇑ *i*P **P** **19 56 07.8 +0.7**
MLR Muntele Rosu 90.86 316⇑ P **P** **19 56 07.8 +0.7**
BURAR Bucovina Array 91.81 318⇑ *i*P **P** **19 56 12.1 +0.6**
BURAR Bucovina Array 91.81 318⇑ P **P** **19 56 12.1 +0.6**
FINES FINESS Array B 94.25 332 P **P** **19 56 23.6 +0.9**
comp=Z,0.3nm,0.5s,mb4.0,baz=128,slow=12,SNR=3.8
NVAR Mina Array Bea 130.04 47 PKP PKPdf 20 02 14.3 +1.0
comp=Z,0.7nm,0.8s,baz=250,slow=2.7,SNR=4.4
NVAR Mina Array Bea 130.04 47 PKP PKPdf 20 02 14.3 +1.0
PDAR Pinedale Array 133.81 38 PKP PKPdf 20 02 21.9 +1.6
comp=Z,0.5nm,0.7s,baz=270,slow=1.4,SNR=4.0
ULM Lac du Bonnet 135.12 21 PKP PKPdf 20 02 23.6 +0.7
comp=Z,1.9nm,0.8s,baz=225,slow=5.7,SNR=3.2
ANMO Albuquerque 140.09 46 PKP PKPdf 20 02 34.2 +2.2
comp=Z,0.9nm,0.6s,baz=164,slow=2.9,SNR=3.5
ANMO Albuquerque 140.09 46⇑ *i*PKIKP PKPdf 20 02 36.3 +4.3
ANMO Albuquerque 140.09 46 PKP PKPdf 20 02 34.2 +2.2
SADO Sadowa 144.51 8 PKP PKPdf 20 02 38.6 -1.2
comp=Z,5.4nm,1.0s,baz=334,slow=8.8,SNR=3.1
BDFB Brasilia 145.06 224 PKPbc PKPbc 20 02 41.5 +1.3
comp=Z,4.6nm,0.7s,baz=159,slow=3.0,SNR=7.5
WMOK Wichita Mounta 145.36 40 *e*PKIKP PKPdf 20 02 42.4 +1.1
NCB Newcomb 145.74 2 *e*PKP PKPdf 20 02 43.0 +1.0
NCB *e* 20 02 53.8
JCT Junction City 147.21 47 *e*PKP2 PKPab 20 02 48.7 +0.2
ACSO Alum Creek Sta 148.13 15 *e*PKPbc PKPbc 20 02 49.9 +0.6
MIAR Mount Ida 148.60 35 *e*PKP2 PKPbc 20 02 51.7 +1.2
WCI Wyandotte Cave 148.94 21 *e*PKPbc PKPbc 20 02 52.1 +0.8
WCI *e* 20 03 03.0
WVT Waverly 150.18 25 *e*PKIKP PKPbc 20 02 55.3 +0.9
WVT *e* 20 03 05.8
OXF Oxford 150.81 29 *e*PKIKP PKPdf 20 02 52.4 +2.1
OXF *e* 20 02 56.9
PLAL Pickwick Lake 151.04 27 *e*PKPbc PKPbc 20 02 56.7 +0.3
TZTN Tazewell 151.40 19 *e*PKPbc PKPbc 20 02 58.2 +1.0
CPCT Cooper Cave 152.06 21 *e*PKPbc PKPbc 20 03 00.1 +1.3
LPAZ La Paz 153.90 190 PKPbc PKPbc 20 03 04.7 +1.9
comp=Z,1.8nm,1.1s,baz=149,slow=2.2,SNR=4.9

ISCJB ***23*** *19:50:54.2± 0.3, 4033N×001×121W×002, h8km±2km, Error ellipse: s-maj=2.9km s-min=1.8km az=57.6*
CSEM ***23*** *19:50:57.8± 0.0, 4032N×103W, h20km, ML3.2/38, Error ellipse: s-maj=1.1km s-min=0.7km az=114.0*
INMG ***23*** *19:50:57.1± 1.3, 4030N×109W, h13km±4km, ML2.8, Error ellipse: s-maj=2.3km s-min=1.8km az=93.0*
NEIC ***23*** *19:50:57.8, 4029N×102W, h15km, ML3.2(LDG), ML3.6(STR), MN2.7(MDD), After MDD.*
NEIC Felt [II] at Teruel, Villaspesa and Villastar; [I] at Aldehuela and Castralvo.
MDD ***23*** *19:50:57.5± 0.2, 4029N×104W, h11km, mbLg2.6/43, Error ellipse: s-maj=2.3km s-min=1.7km az=148.0, PRXIMO I ALDEHUELA CASTRALVO*
MDD EMS: II TERUEL VILLAESPESA VILLASTAR.
LDG ***23*** *19:50:57.0± 0.1, 4029N×111W, h2km, Ml3.2/8, Error ellipse: s-maj=2.1km s-min=1.5km az=128.0*
STR ***23*** *19:51:02.3± 0.6, 4064N×084W, h10km±1km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 23 19:50:55.5±0.3, 4031N±001×118W±002, h8km±2km, n156, σ1§14/320, 5C, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
EMOS	**Mosqueruela**	**0.54**	**84**	⇑Pg	**Pg**	**19 51 05.7**	**-0.3**
	134nm,0.3s,SNR=18						
EMOS				Lg		19 51 12.0	
	442nm,0.3s,SNR=29						
EMOS	**Mosqueruela**	**0.54**	**84**	Pg	**Pg**	**19 51 05.7**	**-0.3**
	134nm,0.3s,SNR=657						
ECHE	**Chera**	**0.74**	**167**	⇑Pg	**Pg**	**19 51 10.0**	**+0.2**
	68nm,0.4s,SNR=18						
ECHE				Lg		19 51 19.9	
	64nm,0.2s,SNR=5.0						
ECHE	**Chera**	**0.74**	**167**	Pg	**Pg**	**19 51 10.2**	**+0.4**
ECHE				Lg		19 51 19.9	
ECHE	**Chera**	**0.74**	**167**	Pg	**Pg**	**19 51 10.2**	**+0.5**
	68nm,0.4s,SNR=112						
ERTA	**Horta de San J**	**1.32**	**60**	Pg	**Pg**	**19 51 19.9**	**-0.9**
	24nm,0.3s,SNR=144						
ERTA				Lg		19 51 36.0	
	186nm,0.4s,SNR=27						
ERTA	**Horta de San J**	**1.32**	**60**	Pg	**Pg**	**19 51 19.9**	**-0.9**
	24nm,0.3s,SNR=144						

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
ETOB	**Tobarra**	**1.69**	**190**	Pn	**Pn**	**19 51 25.5**	**+0.2**
	1.0nm,0.1s,SNR=25						
ETOB				⇑Pg	**Pg**	**19 51 28.5**	**+0.6**
	7.8nm,0.2s,SNR=18						
ETOB				Sn	**Sn**	**19 51 46.2**	**-0.9**
	15nm,0.2s,SNR=5.0						
ETOB				Lg		19 51 50.5	
	9.2nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**1.69**	**190**	Pn	**Pn**	**19 51 25.5**	**+0.2**
ETOB				Pg	**Pg**	**19 51 28.6**	**+0.6**
ETOB				Sn	**Sn**	**19 51 46.2**	**-0.9**
ETOB				Lg		19 51 50.5	
ETOB	**Tobarra**	**1.69**	**190**	Pn	**Pn**	**19 51 25.5**	**+0.2**
	7.8nm,0.3s,SNR=25						
ETOB	**Tobarra**	**1.69**	**190**	Pg	**Pg**	**19 51 28.6**	**+0.7**
	12nm,0.3s,SNR=9.6						
ETOB				Sn	**Sn**	**19 51 46.2**	**-0.9**
	20nm,0.3s,SNR=5.0						
EBEN	**Beniarda**	**1.77**	**155**	Pn	**Pn**	**19 51 26.4**	**0.0**
	0.3nm,0.2s,SNR=11						
EBEN				Pg	**Pg**	**19 51 28.8**	**-0.6**
	6.3nm,0.3s,SNR=21						
EBEN				Sn	**Sn**	**19 51 47.2**	**-1.8**
	13nm,0.3s,SNR=8.3						
EBEN				Lg		19 51 50.2	
	14nm,0.3s,SNR=4.0						
EBEN	**Beniarda**	**1.77**	**155**	Pn	**Pn**	**19 51 26.4**	**0.0**
	13nm,0.6s,SNR=11						
EBEN	**Beniarda**	**1.77**	**155**	Pg	**Pg**	**19 51 28.8**	**-0.6**
	6.3nm,0.3s,SNR=21						
EBEN				Sn	**Sn**	**19 51 47.2**	**-1.8**
	15nm,0.3s,SNR=8.3						
EVIA	**Vianos**	**1.96**	**212**	Pn	**Pn**	**19 51 29.7**	**+0.7**
	1.1nm,0.2s,SNR=16						
EVIA				Pg	**Pg**	**19 51 33.8**	**+0.7**
	37nm,0.3s,SNR=52						
EVIA				Sn	**Sn**	**19 51 53.1**	**-0.6**
	14nm,0.4s,SNR=6.8						
EVIA				Lg		19 51 59.6	
	15nm,0.2s,SNR=6.3						
EVIA	**Vianos**	**1.96**	**212**	Pn	**Pn**	**19 51 29.7**	**+0.7**
EVIA				Pg	**Pg**	**19 51 33.8**	**+0.7**
EVIA				Sn	**Sn**	**19 51 53.1**	**-0.6**
EVIA				Lg		19 51 58.8	
EVIA				Lg		19 51 59.6	
EVIA	**Vianos**	**1.96**	**212**	Pg	**Pg**	**19 51 33.8**	**+0.7**
	37nm,0.3s,SNR=52						
EVIA				Sn	**Sn**	**19 51 53.1**	**-0.7**
	30nm,0.4s,SNR=6.8						
EPOB	**Poblet**	**2.00**	**58**	Pn	**Pn**	**19 51 29.5**	**-0.1**
	1.6nm,0.1s,SNR=38						
EPOB				Pg	**Pg**	**19 51 31.2**	**-2.7**
	10nm,0.3s,SNR=12						
EPOB				Lg		19 51 56.4	
	16nm,0.1s,SNR=9.5						
EPOB	**Poblet**	**2.00**	**58**	Pn	**Pn**	**19 51 29.5**	**-0.1**
	10nm,0.3s,SNR=38						
EPOB	**Poblet**	**2.00**	**58**	Pg	**Pg**	**19 51 31.2**	**-2.7**
	8.2nm,0.3s,SNR=12						
ESDC	**Sonseca Array**	**2.23**	**254**	Pn	**Pn**	**19 51 34.0**	**+1.2**
	1.6nm,0.3s,baz=75,slow=14,SNR=44						
ESDC				Pg	**Pg**	**19 51 39.2**	**+1.0**
	5.6nm,0.6s,baz=77,slow=17,SNR=6.1						
ESDC				Sn	**Sn**	**19 52 02.4**	**+1.9**
	2.0nm,0.1s,baz=75,slow=24,SNR=63						
ESDC				Lg		19 52 09.6	
	9.4nm,0.2s,baz=77,slow=30,SNR=7.7						
ESDC	**Sonseca Array**	**2.23**	**254**	Pn	**Pn**	**19 51 34.0**	**+1.3**
	1.6nm,0.3s,SNR=44						
ESDC	**Sonseca Array**	**2.23**	**254**	Pg	**Pg**	**19 51 39.2**	**+0.9**
	5.6nm,0.6s,SNR=6.1						
ESDC				Sn	**Sn**	**19 52 02.4**	**+1.9**
	2.0nm,0.1s,SNR=63						
ESLA	**Sonseca Array**	**2.23**	**254**	*e*Pn	**Pn**	**19 51 34.0**	**+1.2**
ESLA				*e*Pg	**Pg**	**19 51 39.2**	**+0.9**
ESLA	**Sonseca Array**	**2.23**	**254**	*e*Pn	**Pn**	**19 51 34.0**	**+1.3**
ESLA	**Sonseca Array**	**2.23**	**254**	*e*Pg	**Pg**	**19 51 39.2**	**+0.9**
GUD	**Guadarrama**	**2.29**	**279**	Pn	**Pn**	**19 51 35.2**	**+1.6**
	1.8nm,0.3s,SNR=8.4						
GUD				Pg	**Pg**	**19 51 40.5**	**+1.0**
	5.8nm,0.3s,SNR=8.4						
GUD				Sn	**Sn**	**19 52 02.9**	**+0.9**
	17nm,0.3s,SNR=12						
GUD				Lg		19 52 10.4	
	42nm,0.3s,SNR=14						
GUD	**Guadarrama**	**2.29**	**279**	Pn	**Pn**	**19 51 35.2**	**+1.6**
GUD				Pg	**Pg**	**19 51 40.5**	**+1.0**
GUD				Sn	**Sn**	**19 52 02.9**	**+0.9**
GUD				Lg		19 52 09.7	
GUD	**Guadarrama**	**2.29**	**279**	Pg	**Pg**	**19 51 40.5**	**+1.0**
	5.8nm,0.3s,SNR=8.4						
GUD				Sn	**Sn**	**19 52 02.9**	**+0.9**
	17nm,0.3s,SNR=12						
EIBI	**Ibiza**	**2.33**	**123**	Pn	**Pn**	**19 51 33.0**	**-1.1**
	13nm,1.1s,SNR=12						
EIBI				Sn	**Sn**	**19 51 58.7**	**-4.2**
	12nm,0.6s,SNR=5.0						
EIBI	**Ibiza**	**2.33**	**123**	Pn	**Pn**	**19 51 33.0**	**-1.1**
	13nm,1.1s,SNR=12						
EIBI				Sn	**Sn**	**19 51 58.7**	**-4.3**
	12nm,0.6s,SNR=5.0						
IUNC	**Unciti**	**2.45**	**354**	Pn	**Pn**	**19 51 37.2**	**+1.4**
	0.9nm,0.2s,SNR=7.9						
IUNC				Pg	**Pg**	**19 51 41.9**	**-0.6**
	2.0nm,0.1s,SNR=7.9						
IUNC				Sn	**Sn**	**19 52 06.3**	**+0.4**
	5.1nm,0.2s,SNR=7.9						
IUNC				Lg		19 52 13.2	
	15nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**2.45**	**354**	Pg	**Pg**	**19 51 41.9**	**-0.6**
	2.0nm,0.1s,SNR=7.9						
IUNC				Sn	**Sn**	**19 52 06.3**	**+0.4**
	5.1nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.47**	**181**	Pn	**Pn**	**19 51 37.1**	**+1.1**
	0.2nm,0.1s,SNR=7.9						
EMUR				Pg	**Pg**	**19 51 41.5**	**-1.3**
	12nm,0.3s,SNR=42						
EMUR				Sn	**Sn**	**19 52 04.4**	**-1.9**
	1.5nm,0.2s,SNR=7.9						
EMUR				Lg		19 52 13.8	
	2.8nm,0.3s,SNR=4.8						
EMUR	**La Murta**	**2.47**	**181**	Pn	**Pn**	**19 51 37.1**	**+1.1**
EMUR				Pg	**Pg**	**19 51 41.5**	**-1.3**
EMUR				Pg	**Pg**	**19 51 43.0**	**+0.2**
EMUR				Sn	**Sn**	**19 52 04.4**	**-1.9**
EMUR				Lg		19 52 12.4	
EMUR				Lg		19 52 13.8	
EMUR	**La Murta**	**2.47**	**181**	Pn	**Pn**	**19 51 37.1**	**+1.1**
	0.2nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**2.47**	**181**	Pg	**Pg**	**19 51 41.5**	**-1.3**
	12nm,0.3s,SNR=42						
EMUR				Sn	**Sn**	**19 52 04.4**	**-1.9**
	1.5nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**2.48**	**353**	Pg	**Pg**	**19 51 42.5**	**-0.4**
	10nm,0.6s,SNR=4.7						
EARA				Sn	**Sn**	**19 52 06.5**	**0.0**
	3.3nm,0.1s,SNR=7.9						
EARA				Lg		19 52 14.2	
	8.9nm,0.1s,SNR=4.9						
EARA	**Aranguren**	**2.48**	**353**	Pg	**Pg**	**19 51 42.5**	**-0.5**
	10nm,0.6s,SNR=4.7						
EARA				Sn	**Sn**	**19 52 06.5**	**0.0**
	3.3nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**2.49**	**357**	Pg	**Pg**	**19 51 42.5**	**-0.8**
	6.2nm,0.7s,SNR=4.2						
IPRE				Lg		19 52 15.5	
	2.9nm,0.3s,SNR=5.5						
IPRE	**Itoiz**	**2.49**	**357**	Pg	**Pg**	**19 51 42.5**	**-0.8**
	6.2nm,0.7s,SNR=4.2						
EBIE	**Bielsa**	**2.57**	**22**	Pn	**Pn**	**19 51 38.4**	**+1.0**
	1.1nm,0.3s,SNR=11						
EBIE				Pg	**Pg**	**19 51 43.4**	**-1.3**
	9.4nm,0.4s,SNR=19						
EBIE				Sn	**Sn**	**19 52 08.2**	**-0.7**
	1.5nm,0.1s,SNR=4.5						
EBIE				Lg		19 52 16.5	
	54nm,0.5s,SNR=5.0						
EBIE	**Bielsa**	**2.57**	**22**	Pn	**Pn**	**19 51 38.4**	**+1.0**
EBIE				Pg	**Pg**	**19 51 43.5**	**-1.3**
EBIE				Sn	**Sn**	**19 52 08.2**	**-0.7**
EBIE				Lg		19 52 14.5	
EBIE	**Bielsa**	**2.57**	**22**	Pn	**Pn**	**19 51 38.4**	**+1.0**
	1.1nm,0.3s,SNR=11						
EBIE	**Bielsa**	**2.57**	**22**	Pg	**Pg**	**19 51 43.4**	**-1.4**
	9.4nm,0.4s,SNR=19						
EBIE				Sn	**Sn**	**19 52 08.2**	**-0.7**
	12nm,0.3s,SNR=4.5						

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
ETSF	**Etsaut**	**2.62**	**10**	*e*Pg	**Pg**	**19 51 47.4**	**+1.6**
ETSF				*e*Sg	**Sg**	**19 52 20.8**	**+0.9**
	30nm,0.3s						
ETSF	**Etsaut**	**2.62**	**10**	Pn	**Pn**	**19 51 39.3**	**+1.1**
ETSF				Pg	**Pg**	**19 51 47.4**	**+1.6**
ETSF				Lg		19 52 20.8	
	15nm,0.3s						
ETSF	**Etsaut**	**2.62**	**10**	*e*Pn	**Pn**	**19 51 39.3**	**+1.1**
ETSF				*e*Pg	**Pg**	**19 51 47.4**	**+1.6**
ETSF				*e*Sg	**Sg**	**19 52 20.8**	**+0.9**
ETSF	**Etsaut**	**2.62**	**10**	*e*Pg	**Pg**	**19 51 47.4**	**+1.6**
ETSF				*e*Sg	**Sg**	**19 52 20.8**	**+0.9**
	15nm,0.3s						
IUSE	**Utxeti**	**2.65**	**354**	Pg	**Pg**	**19 51 45.9**	**-0.4**
	1.6nm,0.1s,SNR=7.9						
IUSE				Lg		19 52 20.8	
	12nm,0.4s,SNR=7.9						
IUSE	**Utxeti**	**2.65**	**354**	Pg	**Pg**	**19 51 45.9**	**-0.3**
	1.6nm,0.1s,SNR=7.9						
VIEF	**Viey**	**2.72**	**19**	P	**Pn**	**19 51 39.9**	**+0.4**
VIEF				S	**Sn**	**19 52 11.9**	**-0.7**
EHUE	**Huescar**	**2.73**	**204**	Pg	**Pg**	**19 51 47.0**	**-0.7**
	2.7nm,0.3s,SNR=7.9						
EHUE				Sn	**Sn**	**19 52 12.4**	**-0.2**
	4.1nm,0.2s,SNR=7.9						
EHUE				Lg		19 52 23.0	
	1.2nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**2.73**	**204**	Pg	**Pg**	**19 51 47.0**	**-0.8**
	2.7nm,0.3s,SNR=7.9						
EHUE				Sn	**Sn**	**19 52 12.4**	**-0.3**
	4.1nm,0.2s,SNR=7.9						
RESF	**Ens**	**2.74**	**24**	P	**Pn**	**19 51 40.7**	**+1.0**
ATE	**Arette**	**2.79**	**7**	P	**Pn**	**19 51 47.8**	**+7.3**
ATE				S	**Sn**	**19 52 13.8**	**-0.6**
SJPF	**Ste Jean**	**2.80**	**359**	*e*Pg	**Pg**	**19 51 50.6**	**+1.5**
SJPF				*e*Sn	**Sn**	**19 52 13.9**	**-0.6**
SJPF				*e*Sg	**Sg**	**19 52 25.7**	**+0.3**
	45nm,0.5s						
SJPF	**Ste Jean**	**2.80**	**359**	Pn	**Pn**	**19 51 42.5**	**+2.0**
SJPF				Pg	**Pg**	**19 51 50.6**	**+1.5**
SJPF				Sn	**Sn**	**19 52 13.9**	**-0.6**
SJPF				Lg		19 52 25.7	
	22nm,0.5s						
SJPF	**Ste Jean**	**2.80**	**359**	*e*Pn	**Pn**	**19 51 42.5**	**+2.0**
SJPF				*e*Pg	**Pg**	**19 51 50.6**	**+1.5**
SJPF				*e*Sn	**Sn**	**19 52 13.9**	**-0.6**
SJPF				*e*Sg	**Sg**	**19 52 25.7**	**+0.3**
SJPF	**Ste Jean**	**2.80**	**359**	*e*Pg	**Pg**	**19 51 50.6**	**+1.5**
SJPF				*e*Sn	**Sn**	**19 52 13.9**	**-0.6**
SJPF				*e*Sg	**Sg**	**19 52 25.7**	**+0.3**
	22nm,0.5s						
REYF	**Montagne du Re**	**2.82**	**12**	P	**Pn**	**19 51 41.4**	**+0.6**
ELIZ	**Elizondo**	**2.86**	**355**	Pn	**Pn**	**19 51 43.7**	**+2.3**
	0.4nm,0.1s,SNR=11						
ELIZ				Pg	**Pg**	**19 51 49.1**	**-1.2**
	6.2nm,0.4s,SNR=8.7						
ELIZ				Lg		19 52 25.9	
	15nm,0.4s,SNR=8.8						
ELIZ	**Elizondo**	**2.86**	**355**	Pn	**Pn**	**19 51 42.7**	**+1.3**
ELIZ				Pg	**Pg**	**19 51 49.1**	**-1.2**
ELIZ				Lg		19 52 25.9	
ELIZ	**Elizondo**	**2.86**	**355**	Pn	**Pn**	**19 51 42.7**	**+1.3**
	3.5nm,0.2s,SNR=11						
LABF	**Labassere**	**2.89**	**19**	P	**Pn**	**19 51 42.5**	**+0.7**
LABF				S	**Sn**	**19 52 15.9**	**-0.8**
EQES	**Quesada**	**2.91**	**211**	Pn	**Pn**	**19 51 43.8**	**+1.7**
	1.9nm,0.4s,SNR=4.8						
EQES				⇑Pg	**Pg**	**19 51 52.0**	**+0.7**
	24nm,0.3s,SNR=18						
EQES				Sn	**Sn**	**19 52 16.0**	**-1.1**
	5.7nm,0.5s,SNR=9.1						
EQES				Lg		19 52 28.6	
	17nm,0.3s,SNR=5.0						
EQES	**Quesada**	**2.91**	**211**	Pn	**Pn**	**19 51 43.8**	**+1.7**
EQES				Pg	**Pg**	**19 51 50.2**	**-1.0**
EQES				Sn	**Sn**	**19 52 16.0**	**-1.1**
EQES				Lg		19 52 28.6	
EQES	**Quesada**	**2.91**	**211**	Pn	**Pn**	**19 51 43.8**	**+1.8**
	1.9nm,0.4s,SNR=4.8						
EQES	**Quesada**	**2.91**	**211**	Pg	**Pg**	**19 51 50.2**	**-1.0**
	27nm,0.3s,SNR=54						
EQES				Sn	**Sn**	**19 52 16.0**	**-1.1**
	14nm,0.4s,SNR=9.1						
EALK	**Alkurruntz**	**2.92**	**355**	Pn	**Pn**	**19 51 43.6**	**+1.5**
	2.6nm,0.4s,SNR=6.0						
EALK				Pg	**Pg**	**19 51 50.2**	**-1.2**
	9.1nm,0.3s,SNR=12						
EALK				Sn	**Sn**	**19 52 16.4**	**-0.9**
	18nm,0.5s,SNR=6.5						
EALK				Lg		19 52 29.1	
	96nm,0.5s,SNR=6.0						
EALK	**Alkurruntz**	**2.92**	**355**	Pn	**Pn**	**19 51 43.6**	**+1.5**
	2.6nm,0.4s,SNR=6.0						
EALK	**Alkurruntz**	**2.92**	**355**	Pg	**Pg**	**19 51 50.2**	**-1.2**
	9.1nm,0.3s,SNR=12						
EALK				Sn	**Sn**	**19 52 16.4**	**-0.9**
	18nm,0.5s,SNR=6.5						
MELF	**Melles**	**2.94**	**29**	P	**Pn**	**19 51 43.7**	**+1.2**
MELF				S	**Sn**	**19 52 18.0**	**0.0**
OSSF	**Osses**	**2.94**	**359**	P	**Pn**	**19 51 47.0**	**+4.5**
EPF	**Esparros**	**2.94**	**22**	*e*Pg	**Pg**	**19 51 51.9**	**0.0**
EPF				*e*Sg	**Sg**	**19 52 28.6**	**-1.5**
	41nm,0.3s						
EPF	**Esparros**	**2.94**	**22**	Pn	**Pn**	**19 51 43.9**	**+1.3**
EPF				Pg	**Pg**	**19 51 51.9**	**0.0**
EPF				Lg		19 52 28.6	
	20nm,0.3s						
EPF	**Esparros**	**2.94**	**22**	*e*Pn	**Pn**	**19 51 43.9**	**+1.3**
EPF				*e*Pg	**Pg**	**19 51 51.9**	**0.0**
EPF				*e*Sg	**Sg**	**19 52 28.6**	**-1.5**
EPF	**Esparros**	**2.94**	**22**	*e*Pg	**Pg**	**19 51 51.9**	**0.0**
EPF				*e*Sg	**Sg**	**19 52 28.6**	**-1.5**
	20nm,0.3s						
EBAN	**Banos Encina**	**2.95**	**224**	Pn	**Pn**	**19 51 43.3**	**+0.7**
	1.2nm,0.2s,SNR=23						
EBAN				Pg	**Pg**	**19 51 52.6**	**+0.6**
	4.2nm,0.2s,SNR=6.3						
EBAN				Sn	**Sn**	**19 52 18.0**	**-0.2**
	5.2nm,0.2s,SNR=7.9						
EBAN				Lg		19 52 31.0	
	15nm,0.4s,SNR=6.5						
EBAN	**Banos Encina**	**2.95**	**224**	Pn	**Pn**	**19 51 42.8**	**+0.2**
EBAN				Pg	**Pg**	**19 51 51.0**

14nm,0.6s,SNR=5.0
EADA Adamuz 3.40 232 Pn Pn 19 51 49.7 +0.9
EADA Pg Pg 19 52 00.5 -0.1
EADA Sn Sn 19 52 28.6 -0.7
EADA Lg 19 52 44.7
EADA Adamuz 3.40 232 Pn Pn 19 51 49.7 +0.9
1.3nm,0.3s,SNR=14
EADA Adamuz 3.40 232 Pg Pg 19 52 00.5 -0.1
12nm,0.4s,SNR=18
EADA Sn Sn 19 52 28.5 -0.8
6.2nm,0.2s,SNR=7.9
CARF Carcanieres 3.44 45 P Pn 19 51 50.2 +0.8
CARF S Sn 19 52 29.9 -0.4
ECOG Cogollos-Vega 3.56 212 Pn Pn 19 51 51.9 +0.9
1.8nm,0.1s,SNR=7.9
ECOG Pg Pg 19 52 01.7 -2.0
1.1nm,0.1s,SNR=7.9
ECOG Lg 19 52 50.0
9.1nm,0.4s,SNR=7.9
ECOG Cogollos-Vega 3.56 212 Pn Pn 19 51 51.9 +0.9
ECOG Pg Pg 19 52 01.7 -2.0
ECOG Lg 19 52 47.3
EQUE Quentar 3.57 210 Pn Pn 19 51 52.9 +1.8
1.9nm,0.4s,SNR=9.3
EQUE Pg Pg 19 52 04.0 +0.1
4.6nm,0.4s,SNR=12
EQUE Sn Sn 19 52 32.5 -1.0
1.3nm,0.2s,SNR=7.9
EQUE Lg 19 52 48.5
0.9nm,0.2s,SNR=7.9
FILF Fillols 3.60 50 P Pn 19 51 51.1 -0.4
EBER Berja 3.66 202 Pn Pn 19 51 54.3 +1.8
0.5nm,0.3s,SNR=13
EBER Pg Pg 19 52 03.4 -2.3
1.0nm,0.2s,SNR=9.8
EBER Sn Sn 19 52 35.3 -0.5
1.3nm,0.3s,SNR=7.9
EBER Lg 19 52 52.3
1.3nm,0.2s,SNR=7.9
EBER Berja 3.66 202 Pn Pn 19 51 54.3 +1.9
0.5nm,0.3s,SNR=13
EBER Berja 3.66 202 Pg Pg 19 52 03.4 -2.3
1.0nm,0.2s,SNR=9.8
EBER Sn Sn 19 52 35.3 -0.5
1.3nm,0.3s,SNR=7.9
EPLA Plasencia 3.76 268 Pn Pn 19 51 55.2 +1.4
0.9nm,0.1s,SNR=7.9
EPLA Sn Sn 19 52 37.8 -0.4
10nm,0.2s,SNR=7.9
EPLA Lg 19 52 57.0
4.1nm,0.2s,SNR=7.9
EPLA Plasencia 3.76 268 Pn Pn 19 51 55.2 +1.4
0.9nm,0.1s,SNR=7.9
EPLA Sn Sn 19 52 37.8 -0.4
10nm,0.2s,SNR=7.9
EGUA Guajares 3.94 209 Lg 19 55 21.3
0.5nm,0.1s,SNR=7.9
MTLF Montolieu 3.95 39 *e*Pg Pg 19 52 10.2 -1.0
MTLF *e*Sn Sn 19 52 41.3 -1.6
MTLF *e*Sg Sg 19 52 59.7 -2.6
18nm,0.5s
MTLF Montolieu 3.95 39 Pn Pn 19 51 56.6 +0.2
MTLF Pg Pg 19 52 10.2 -1.0
MTLF Sn Sn 19 52 41.3 -1.6
MTLF Lg 19 52 59.7
8.8nm,0.5s
MTLF Montolieu 3.95 39 *e*Pn Pn 19 51 56.6 +0.2
MTLF *e*Pg Pg 19 52 10.2 -1.0
MTLF *e*Sn Sn 19 52 41.3 -1.6
MTLF *e*Sg Sg 19 52 59.7 -2.6
MTLF Montolieu 3.95 39 *e*Pg Pg 19 52 10.2 -1.0
MTLF *e*Sn Sn 19 52 41.3 -1.6
MTLF *e*Sg Sg 19 52 59.7 -2.6
8.8nm,0.5s
EARI Arriondas 4.24 316 Pn Pn 19 52 02.4 +2.0
1.9nm,0.4s,SNR=7.9
EARI Sn Sn 19 52 49.9 -0.1
0.8nm,0.2s,SNR=7.9
EARI Lg 19 53 11.4
6.1nm,0.5s,SNR=5.0
EARI Arriondas 4.24 316 Pn Pn 19 52 02.4 +2.0
1.9nm,0.4s,SNR=7.9
EARI Sn Sn 19 52 49.9 -0.2
0.8nm,0.2s,SNR=7.9
PBRG Braganca 4.46 291 *e*Pn Pn 19 52 04.4 +1.0
PBRG *e*Sn Sn 19 52 55.3 -0.2
PBRG *e*Sg Sg 19 53 18.5 -0.3
PBRG
15nm,0.6s
PBRG Braganca 4.46 291 *e*Pn Pn 19 52 04.4 +1.0
PBRG *e*Sn Sn 19 52 55.3 -0.2
PBRG *e*Sg Sg 19 53 18.5 -0.3
15nm,0.6s
ECAL Calabor 4.50 293 Pn Pn 19 52 05.2 +1.2
3.4nm,0.1s,SNR=38
ECAL Sn Sn 19 52 55.8 -0.7
12nm,0.4s,SNR=6.2
ECAL Lg 19 53 19.8
15nm,0.5s,SNR=5.0
ECAL Calabor 4.50 293 Pn Pn 19 52 05.2 +1.2
3.4nm,0.1s,SNR=38
ECAL Sn Sn 19 52 55.8 -0.7
12nm,0.4s,SNR=6.2
EMIJ Mijas 4.69 218 Pn Pn 19 52 08.1 +1.6
0.3nm,0.3s,SNR=7.9
EMIJ Sn Sn 19 52 59.7 -1.3
1.0nm,0.3s,SNR=7.9
EMIJ Lg 19 53 23.9
0.4nm,0.2s,SNR=7.9
EMIJ Mijas 4.69 218 Pn Pn 19 52 08.1 +1.6
0.3nm,0.3s,SNR=7.9
EMIJ Sn Sn 19 52 59.7 -1.3
1.0nm,0.3s,SNR=7.9
EBAD Badajoz 4.77 253 Pn Pn 19 52 10.0 +2.4
0.6nm,0.1s,SNR=7.9
EBAD Sn Sn 19 53 01.8 -1.3
3.3nm,0.4s,SNR=5.1
EBAD Lg 19 53 27.9
9.4nm,0.5s,SNR=7.3
EBAD Badajoz 4.77 253 Pn Pn 19 52 10.0 +2.3
0.6nm,0.1s,SNR=7.9
EBAD Sn Sn 19 53 01.8 -1.3
3.3nm,0.4s,SNR=5.1
LFF La Frestale 4.84 16 *e*Pn Pn 19 52 09.3 +0.7
LFF *e*Sn Sn 19 53 01.5 -3.2
6.3nm,0.3s
LFF La Frestale 4.84 16 *e*Pn Pn 19 52 09.3 +0.7
LFF *e*Sn Sn 19 53 01.5 -3.2
3.2nm,0.3s
PCBR Castelo Branco 4.85 266 *e*Pn Pn 19 52 10.3 +1.5
PCBR *e*Sn Sn 19 53 03.2 -2.0
PCBR *e*Sg Sg 19 53 30.7 -0.7
PCBR
12nm,0.5s
PCBR Castelo Branco 4.85 266 *e*Pn Pn 19 52 10.3 +1.5
PCBR *e*Sn Sn 19 53 03.2 -2.0
PCBR *e*Sg Sg 19 53 30.7 -0.7
12nm,0.5s
MTE Manteigas 4.86 273 *e*Pn Pn 19 52 09.8 +0.9
MTE *e*Sn Sn 19 53 04.3 -1.1
MTE *e*Sg Sg 19 53 30.2 -1.5
MTE
22nm,0.6s
MTE Manteigas 4.86 273 *e*Pn Pn 19 52 09.8 +0.9
MTE *e*Sn Sn 19 53 04.3 -1.1
MTE *e*Sg Sg 19 53 30.2 -1.5
22nm,0.6s
EMIN Mina Concepcio 4.97 241 Pn Pn 19 52 12.1 +1.7
0.2nm,0.2s,SNR=7.9
EMIN Lg 19 53 33.1
6.0nm,0.6s,SNR=5.8
EMIN Mina Concepcio 4.97 241 Pn Pn 19 52 12.1 +1.6
0.2nm,0.2s,SNR=7.9
ESPR Espera 5.02 228 Pn Pn 19 52 13.1 +2.0
1.4nm,0.3s,SNR=4.9
ESPR Sn Sn 19 53 08.0 -1.4
1.0nm,0.3s,SNR=7.9
ESPR Lg 19 53 34.8
5.9nm,0.8s,SNR=5.0
ESPR Espera 5.02 228 Pn Pn 19 52 13.1 +2.0
1.4nm,0.3s,SNR=4.9
ESPR Sn Sn 19 53 08.0 -1.4
1.0nm,0.3s,SNR=7.9
PVRL Vila Real 5.05 283 *e*Pn Pn 19 52 12.8 +1.3
PVRL *e*Sn Sn 19 53 09.6 -0.5
PVRL *e*Sg Sg 19 53 36.1 -1.7
PVRL
15nm,0.7s
PVRL Vila Real 5.05 283 *e*Pn Pn 19 52 12.8 +1.3
PVRL *e*Sn Sn 19 53 09.6 -0.5
PVRL *e*Sg Sg 19 53 36.1 -1.7
15nm,0.7s
PVIS Viseu 5.13 277 *e*Pn Pn 19 52 13.7 +1.0
PVIS *e*Sn Sn 19 53 11.2 -0.9
PVIS *e*Sg Sg 19 53 38.3 -2.1
PVIS
6.7nm,0.6s
PVIS Viseu 5.13 277 *e*Pn Pn 19 52 13.7 +1.0
PVIS *e*Sn Sn 19 53 11.2 -0.9
PVIS *e*Sg Sg 19 53 38.3 -2.1
6.7nm,0.6s
PESTR Estremoz 5.16 256 *e*Pn Pn 19 52 14.1 +1.1
PESTR *e*Sn Sn 19 53 10.3 -2.4
PESTR *e*Sg Sg 19 53 37.4 -3.7
PESTR
9.3nm,0.6s
PESTR Estremoz 5.16 256 *e*Pn Pn 19 52 14.1 +1.1
PESTR *e*Sn Sn 19 53 10.3 -2.4
PESTR *e*Sg Sg 19 53 37.4 -3.7
9.3nm,0.6s
CAF Calviac 5.19 26 *e*Pn Pn 19 52 14.2 +0.7
CAF *e*Sn Sn 19 53 10.4 -3.2
CAF *e*Sg Sg 19 53 42.0 -0.3
8.7nm,0.4s
CAF Calviac 5.19 26 *e*Pn Pn 19 52 14.2 +0.7
CAF *e*Sn Sn 19 53 10.4 -3.2
CAF *e*Sg Sg 19 53 42.0 -0.3
4.3nm,0.4s
LASF Ste Croix 5.30 43 *e*Pn Pn 19 52 14.8 -0.2
PCAB Cabril 5.37 287 *e*Pn Pn 19 52 16.8 +1.0
PCAB *e*Sn Sn 19 53 16.6 -1.2
PCAB *e*Sg Sg 19 53 46.5 -1.3
PCAB
14nm,0.6s
PCAB Cabril 5.37 287 Pn Pn 19 52 16.8 +1.0
PCAB Sn Sn 19 53 16.6 -1.2
PCAB Lg 19 53 46.5
7.1nm,0.6s
RJF Les Rejaudoux 5.37 21 *e*Pn Pn 19 52 15.4 -0.5
RJF *e*Sn Sn 19 53 13.3 -4.5
7.3nm,0.4s
RJF Les Rejaudoux 5.37 21 *e*Pn Pn 19 52 15.4 -0.5
RJF *e*Sn Sn 19 53 13.3 -4.5
3.7nm,0.4s
EPON Pontenova 5.38 306 Pn Pn 19 52 17.1 +1.0
0.6nm,0.2s,SNR=7.9
EPON Sn Sn 19 53 17.3 -0.9
1.3nm,0.3s,SNR=7.9
EPON Lg 19 53 47.5
1.5nm,0.3s,SNR=7.9
EPON Pontenova 5.38 306 Pn Pn 19 52 17.1 +1.0
0.6nm,0.2s,SNR=7.9
EPON Sn Sn 19 53 17.3 -0.9
1.3nm,0.3s,SNR=7.9
ELOB Lobios 5.43 289 Pn Pn 19 52 17.8 +1.1
3.3nm,0.6s,SNR=7.4
ELOB Sn Sn 19 53 18.1 -1.2
5.8nm,0.4s,SNR=8.9
ELOB Lg 19 53 48.9
9.6nm,0.7s,SNR=4.5
ELOB Lobios 5.43 289 Pn Pn 19 52 17.8 +1.1
3.3nm,0.6s,SNR=7.4
ELOB Sn Sn 19 53 18.1 -1.2
5.8nm,0.4s,SNR=8.9
PTOM Tomar 5.60 265 *e*Pn Pn 19 52 20.4 +1.4
PTOM *e*Sn Sn 19 53 22.7 -0.8
PTOM
13nm,0.7s
PBEJ Beja 5.67 248 *e*Sn Sn 19 53 24.7 -0.7
PBEJ
2.9nm,0.4s
PBEJ Beja 5.67 248 Sn Sn 19 53 24.7 -0.7
1.4nm,0.4s
STS Santiago 6.09 297 Pn Pn 19 52 28.3 +2.4
1.1nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.41 297 Pn Pn 19 52 30.8 +0.7
0.6nm,0.1s,SNR=7.9
EMAZ Sn Sn 19 53 41.9 -1.5
1.0nm,0.3s,SNR=7.9
EMAZ Mazaricos 6.41 297 Pn Pn 19 52 30.8 +0.7
EMAZ Sn Sn 19 53 41.9 -1.6
TCF Toulx Ste Croi 6.46 21 *e*Pn Pn 19 52 30.7 -0.2
TCF *e*Sn Sn 19 53 40.0 -4.8
SMF Signal de Mont 7.31 28 *e*Pn Pn 19 52 42.0 -0.5
QUIF Quistinic 7.74 350 *e*Pn Pn 19 52 48.6 +0.2
LOR Lormes 7.85 26 *e*Pn Pn 19 52 49.8 -0.1

*ISCJB **23** 20:08:03.1±0.5, 729N×009×3620W×009, h10^km, mb3.9/11, MS3.7/14, Error ellipse: s-maj=15.9km s-min=10.2km az=96.2*
*IDC **23** 20:08:03.4±0.9, 731N×36.16W, h0^km, mb4.0/6, mb1 4.1/6, mb1mx3.8/21, mbtmp4.0/6, MS3.7/14, Ms1 3.7/14, ms1mx3.4/41, Error ellipse: s-maj=38.5km s-min=20.2km az=139.0*
*NEIC **23** 20:08:04.8±0.4, 733N×3623W, h10^km, mb4.2/6, Error ellipse: s-maj=12.2km s-min=7.9km az=137.0*
ISC 23 20:08:05.3±0.5, 732N±009×3618W±009, h10^km, n29, σ0^s 84/18, mb3.9/11, MS3.7/14, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**13.06**	**179**	*e*Pn	**Pn**	**20 11 11.6**	**+0.8**
RCBR				*e*Sn	**Sn**	**20 13 28.8**	**-7.4**
BDFB	**Brasilia**	**25.65**	**207**	P	**P**	**20 13 35.4**	**+0.3**
	9.4nm,0.8s,mb4.3,baz=36,slow=11,SNR=13						
BDFB				LR	LR	20 23 20.5	
	comp=Z,183nm,18.0s,MS3.6,baz=114,slow=36						
SJG	**San Juan**	**31.09**	**293**	LR	LR	20 24 10.8	
	comp=Z,90nm,21.3s,MS3.4,baz=90,slow=31						
DBIC	**Dimbokro**	**31.09**	**89**	P	**P**	**20 14 20.7**	**-3.0**
SAML	**Samuel**	**31.39**	**239**	*e*P	**P**	**20 14 25.1**	**-1.1**
	2.4nm,0.7s,mb4.1						
SIV	**San Ignacio**	**33.82**	**227**	LR	LR	20 27 44.0	
	comp=Z,229nm,18.3s,MS3.9,baz=125,slow=35						
SDV	**Santo Domingo**	**34.14**	**275**	*e*P	**P**	**20 14 49.9**	**-0.5**
	2.5nm,0.5s,mb4.4						
TOA0	**Torodi Ar. Sit**	**37.69**	**78**	*e*P	**P**	**20 15 22.1**	**+1.3**
TORD	**Torodi Ar. Bea**	**37.69**	**78**	P	**P**	**20 15 20.2**	**-0.5**
	1.3nm,0.9s,mb3.7,baz=274,slow=9.8,SNR=5.8						
CPUP	**Villa Florida**	**39.25**	**211**	LR	LR	20 32 28.4	
	comp=Z,137nm,18.2s,MS3.8,baz=48,slow=37						
LPAZ	**La Paz**	**39.37**	**233**	P	**P**	**20 15 35.5**	**+0.7**
	4.1nm,0.8s,mb4.2,baz=48,slow=7.4,SNR=10						
LPAZ				LR	LR	20 31 55.1	
	comp=Z,84nm,18.3s,MS3.6,baz=210,slow=36						
LPAZ	**La Paz**	**39.37**	**233**	*e*P	**P**	**20 15 35.2**	**+0.3**
	3.4nm,0.7s,mb4.2						
LPAZ				LR	LR	20 31 55.1	
SFS	**San Fernando**	**39.86**	**39**	P	**P**	**20 15 39.1**	**+0.1**
MTE	**Manteigas**	**41.70**	**33**	P	**P**	**20 15 54.6**	**+0.4**
OTAV	**Otavalo**	**42.73**	**262**	*e*P	**P**	**20 16 02.7**	**+0.1**
	0.4nm,0.3s,mb3.6						
ATAH	**Atahualpa**	**44.44**	**252**	LR	LR	20 36 37.2	
	comp=Z,91nm,18.0s,MS3.7,baz=177,slow=38						
TRQA	**Tornquist**	**51.15**	**206**	*e*P	**P**	**20 17 08.2**	**-0.1**
	1.0nm,0.6s,mb3.9						
SADO	**Sadowa**	**52.70**	**322**	LR	LR	20 34 18.0	
	comp=Z,31nm,20.7s,MS3.3,baz=157,slow=30						
DAVOX	**Davos**	**55.60**	**37**	LR	LR	20 39 24.1	
	comp=Z,98nm,18.1s,MS3.9,baz=261,slow=34						
CMIG	**Matias Romero**	**58.01**	**286**	LR	LR	20 39 26.4	
	comp=Z,29nm,18.9s,MS3.4,baz=259,slow=32						
GERES	**GERESS Array B**	**58.85**	**36**	LR	LR	20 39 40.5	
	comp=Z,81nm,19.5s,MS3.9,baz=255,slow=32						
TSUM	**Tsumeb**	**59.15**	**117**	LR	LR	20 38 09.2	
	comp=Z,93nm,18.9s,MS3.9,baz=303,slow=30						
VRAC	**Vranov**	**60.76**	**37**	LR	LR	20 39 50.4	
	comp=Z,42nm,21.3s,MS3.5,baz=91,slow=31						
NOA	**NORSAR Array B**	**64.06**	**23**	LR	LR	20 41 18.6	
	comp=Z,68nm,18.8s,MS3.9,baz=200,slow=31						
HFS	**Hagfors**	**64.56**	**25**	LR	LR	20 42 55.4	
	comp=Z,84nm,18.3s,MS4.0,baz=274,slow=32						
LBTB	**Lobatse**	**68.14**	**121**	*e*P	**P**	**20 19 04.7**	**-0.8**
	1.0nm,0.5s,mb4.1						
BRTR	**Keskin Array B**	**69.85**	**50**	P	**P**	**20 19 17.1**	**+1.0**
	0.9nm,1.0s,mb3.7,baz=245,slow=3.0,SNR=3.6						
FINES	**FINESS Array B**	**70.56**	**27**	P	**P**	**20 19 19.8**	**-0.6**
	1.2nm,0.8s,mb3.9,baz=285,slow=3.7,SNR=5.6						
PDAR	**Pinedale Array**	**72.87**	**312**	P	**P**	**20 19 34.9**	**+0.5**
	0.3nm,0.8s,mb3.3,baz=101,slow=3.8,SNR=2.0						

*ISCJB **23** 20:10:12.7±2.1, 56.16S×008×267W±0.1, h50^km±19^km, mb4.4/19, Error ellipse: s-maj=16.4km s-min=8.5km az=90.3*
*IDC **23** 20:10:15.0±5.8, 5620S×2651W, h58^km±52^km, mb4.2/10, mb1 4.2/11, mb1mx4.0/18, mbtmp4.4/11, ML3.9/1, MS4.0/2, Ms1 4.0/2, ms1mx3.2/28, Error ellipse: s-maj=27.2km s-min=14.6km az=55.0*
*NEIC **23** 20:10:15.6±1.6, 56.16S×2657W, h63^km±14^km, mb4.6/14, Error ellipse: s-maj=11.8km s-min=7.3km az=51.0*
ISC 23 20:10:14.6±1.7, 5621S±008×266W±01, h54^km±16^km, n44, σ0^s 95/35, mb4.4/19, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.97**	**285**	*e*Pn	**Pn**	**20 11 40.8**	**+0.4**
	88nm,0.9s						
HOPE				*e*Sn	**Sn**	**20 12 45.9**	**-1.4**
VNA1	**Neumayer--Stat**	**16.52**	**158**	*e*	**Pn**	**20 14 03.3**	**+0.6**
VNA1				*e*		20 14 04.3	
VNA1				*e*		20 14 08.9	
VNA1				*e*		20 14 19.0	
SNAA	**Sanae**	**18.46**	**156**	P	**Pn**	**20 14 27.0**	**+0.5**
	0.4nm,0.3s,baz=312,slow=16,SNR=4.5						
SNAA	**Sanae**	**18.46**	**156**	*e*P	**Pn**	**20 14 26.7**	**+0.2**
	3.1nm,0.3s						
PMSA	**Palmer Station**	**20.03**	**229**	*e*P	**P**	**20 14 45.6**	**+2.5**
	18nm,0.6s						
TRQA	**Tornquist**	**29.68**	**293**	*e*P	**P**	**20 16 15.5**	**+0.2**
	2.5nm,0.5s,mb4.2						
PLCA	**Paso Flores**	**32.34**	**280**	P	**P**	**20 16 38.7**	**0.0**
QSPA	**South Pole Qui**	**34.04**	**180**	*e*P	**P**	**20 16 53.3**	**-0.1**
	9.2nm,0.5s,mb5.0						
CPUP	**Villa Florida**	**37.16**	**311**	P	**P**	**20 17 19.7**	**-0.5**
	2.4nm,0.5s,mb4.3,baz=132,slow=6.3,SNR=11						
CPUP				PcP	PcP	20 19 38.5	-0.9
	0.5nm,0.4s,baz=213,slow=2.6,SNR=3.3						
CPUP	**Villa Florida**	**37.16**	**311**	*e*P	**P**	**20 17 20.2**	**-0.1**
	13nm,0.5s,mb5.0						
CPUP				PcP	PcP	20 19 38.5	-0.9
CFAA	**Coronel Fontan**	**37.92**	**293**	P	**P**	**20 17 23.8**	**-2.8**
	0.2nm,0.3s,mb3.3,baz=168,slow=10.0,SNR=10						
MAW	**Mawson**	**39.83**	**143**	P	**P**	**20 17 41.3**	**-1.4**
	1.1nm,0.5s,mb3.9,baz=236,slow=7.1,SNR=5.2						
MAW	**Mawson**	**39.83**	**143**	*e*P	**P**	**20 17 42.4**	**-0.2**
	2.2nm,0.6s,mb4.1						
SUR	**Sutherland**	**40.38**	**74**	P	**P**	**20 17 47.0**	**-0.2**
LVC	**Limon Verde**	**45.66**	**300**	P	**P**	**20 18 30.6**	**+0.8**
	7.7nm,0.4s,mb5.0,baz=136,slow=5.0,SNR=27						
LVC	**Limon Verde**	**45.66**	**300**	*e*P	**P**	**20 18 30.7**	**+0.9**
	6.9nm,0.3s,mb5.1						
SBA	**Scott Base**	**45.94**	**184**	P	**P**	**20 18 32.0**	**0.0**
VNDA	**Vanda**	**46.42**	**183**	P	**P**	**20 18 35.0**	**-0.9**
	2.2nm,0.6s,mb4.3,baz=181,slow=5.7,SNR=13						
VNDA	**Vanda**	**46.42**	**183**	*e*P	**P**	**20 18 35.1**	**-0.8**
	2.6nm,0.5s,mb4.4						
SIV	**San Ignacio**	**47.92**	**313**	P	**P**	**20 18 46.9**	**-0.6**
	1.7nm,0.6s,mb4.3,baz=165,slow=8.7,SNR=8.7						
TSUM	**Tsumeb**	**49.49**	**60**	*e*P	**P**	**20 19 00.3**	**+0.8**
	0.2nm,0.4s,mb3.5						
LPAZ	**La Paz**	**50.73**	**305**	P	**P**	**20 19 10.5**	**+1.5**
	11nm,0.5s,mb5.1,baz=107,slow=5.3,SNR=71						
LPAZ	**La Paz**	**50.73**	**305**	*e*P	**P**	**20 19 10.4**	**+1.5**
	11nm,0.3s,mb5.2						
CASY	**Casey**	**53.65**	**160**	P	**P**	**20 19 30.1**	**-0.5**
SAML	**Samuel**	**55.14**	**314**	*e*P	**P**	**20 19 41.5**	**+0.1**
	8.5nm,1.1s,mb4.7						
SAML				*e*	pP	20 19 52.9	-3.2
NNA	**Nana**	**58.61**	**298**	*e*P	**P**	**20 20 05.8**	**-0.2**
	5.4nm,0.3s,mb5.1						
DBIC	**Dimbokro**	**65.18**	**24**	P	**P**	**20 20 49.1**	**-1.0**
	2.3nm,0.8s,mb4.2,baz=210,slow=8.5,SNR=4.6						
OTAV	**Otavalo**	**70.01**	**303**	*e*P	**P**	**20 21 22.7**	**+2.2**
	3.2nm,0.6s,mb4.4						
TORD	**Torodi Ar. Bea**	**73.04**	**29**	P	**P**	**20 21 38.7**	**-0.1**
	1.6nm,0.4s,mb4.3,baz=200,slow=6.2,SNR=46						
TORD	**Torodi Ar. Bea**	**73.04**	**29**	P	**P**	**20 21 38.7**	**-0.1**
SDV	**Santo Domingo**	**74.35**	**315**	*e*P	**P**	**20 21 47.0**	**+0.6**
	2.5nm,0.4s,mb4.5						
SJG	**San Juan**	**81.17**	**322**	*e*P	**P**	**20 22 24.9**	**+0.5**
	4.3nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**91.69**	**170**	P	**P**	**20 23 15.4**	**-0.7**
	1.0nm,0.5s,mb4.4,baz=333,slow=4.6,SNR=5.2						
ASAR	**Alice Springs**	**98.74**	**162**	P	**P**	**20 23 47.1**	**-1.1**
	0.5nm,0.5s,mb4.3,baz=179,slow=3.9,SNR=9.9						
FINES	**FINESS Array B**	**124.38**	**28**	PKP	PKPdf	20 29 05.2	-2.3
	0.5nm,0.5s,baz=156,slow=3.0,SNR=9.8						
FINES	**FINESS Array B**	**124.38**	**28**	PKP	PKPdf	20 29 05.2	-2.3
ARCES	**ARCESS Array B**	**130.98**	**22**	PKP	PKPdf	20 29 17.4	-2.6
	3.7nm,1.0s,baz=254,slow=0.9,SNR=5.0						
ARCES	**ARCESS Array B**	**130.98**	**22**	PKP	PKPdf	20 29 17.4	-2.6
BVAR	**Borovoye Array**	**134.60**	**57**	PKP	PKPdf	20 29 26.7	-0.2
	0.6nm,0.5s,baz=199,slow=2.1,SNR=4.6						
YKA	**Yellowknife Ar**	**136.50**	**318**	PKP	PKPdf	20 29 28.4	-2.0
	0.6nm,0.5s,baz=124,slow=2.6,SNR=5.7						
YKA	**Yellowknife Ar**	**136.50**	**318**	PKP	PKPdf	20 29 28.4	-2.0
INK	**Inuvik**	**146.13**	**320**	PKPbc	PKPbc	20 29 46.3	-2.4
	5.1nm,0.6s,baz=20,slow=1.9,SNR=19						
SONM	**Songino Array**	**150.42**	**86**	PKPbc	PKPbc	20 29 58.5	-1.5
	1.4nm,0.6s,baz=214,slow=3.6,SNR=12						
KDAK	**Kodiak Island**	**151.18**	**296**	PKPbc	PKPbc	20 30 00.4	-1.4
	7.7nm,0.4s,baz=118,slow=2.6,SNR=14						

*SZGRF **23** 20:17:03.3, 34.39N×154E, h33^km, mb4.2, MS4.0, Northern Algeria*
*IDC **23** 20:17:13.9±0.4, 3597N×067E, h0^km, mb4.4/33, mb1 4.5/37, mb1mx4.5/39, mbtmp4.4/37, ML4.5/4, MS3.5/10, Ms1 3.5/10, ms1mx3.2/41, Error ellipse: s-maj=12.0km s-min=10.6km az=127.0*
*LDG **23** 20:17:13.6±0.2, 3570N×062E, h19^km, Ml4.2/8, Error ellipse: s-maj=5.5km s-min=3.3km az=1.0*
*SFS **23** 20:17:13.0, 3569N×074E, h7^km, ML5.2*
*ISCJB **23** 20:17:14.5±0.1, 3596N±001×063E±001, h10^km, mb4.5/74, MS3.6/7, Error ellipse: s-maj=2.1km s-min=1.5km az=1.5*
*INMG **23** 20:17:14.7±1.8, 3563N×082E, h31^km, Mb5.1, ML3.9, Error ellipse: s-maj=6.8km s-min=4.1km az=139.0*
*CSEM **23** 20:17:15.6±0.1, 3585N×065E, h30^km, mb4.4/12, Error ellipse: s-maj=1.5km s-min=1.0km az=1.0*
*MDD **23** 20:17:15.9±0.5, 3583N×069E, h7^km±6^km, mb5.2/46, Error ellipse: s-maj=5.8km s-min=3.4km az=160.0, PRXIMO*
*NEIC **23** 20:17:17.0±1.1, 3583N×062E, h22^km±8^km, mb4.5/32, Error ellipse: s-maj=5.1km s-min=2.6km az=171.0*
*CRAAG **23** 20:17:17.2, 3577N×093E, Ml5.2*
*BJI **23** 20:17:18.0, 3664N×084E, h22^km, mB5.1, mb4.9*
*IGIL **23** 20:17:18.3, 3570N×050E, h31^km, mb5.9*
*MOS **23** 20:17:18.0±1.3, 3599N×065E, h39^km, mb4.9/25, Error ellipse: s-maj=4.7km s-min=2.3km az=68.5*
*STR **23** 20:17:28.1±1.2, 3668N×080E, h10^km±1^km, Ml4.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 23 20:17:16.0±0.1, 3593N±001×062E±001, h10^km, (h13^km±4^km: pP-P), n592, σ1^s 29/712, mb4.5/74, MS3.6/7, 59C-58D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EANR	**'Ain N'Sour**	**0.39**	**87**	P	**Pg**	**20 17 23.0**	**-0.6**
ECHF	**Ech Chlef**	**0.62**	**69**	P	**Pg**	**20 17 27.0**	**-1.1**
ECHA	**Ech Chlef**	**0.64**	**70**	P	**Pg**	**20 17 27.0**	**-1.4**
ETRT	**Tiaret**	**0.77**	**134**	P	**Pg**	**20 17 28.0**	**-2.9**
EBNR	**Beni Rached**	**0.82**	**64**	P	**Pg**	**20 17 31.0**	**-0.8**
ODJA	**Bouhanifia**	**0.87**	**227**	P	**Pg**	**20 17 33.0**	**+0.3**
USTO	**Oran**	**0.97**	**259**	P	**Pg**	**20 17 35.0**	**+0.3**
OTSS	**Djebel Tessala**	**1.32**	**241**	P	**Pn**	**20 17 40.0**	**-0.5**
ODZI	**Dziouia**	**1.64**	**248**	P	**Pn**	**20 17 45.0**	**+0.2**
EMHD	**Djebel Mahouad**	**1.91**	**81**	P	**Pn**	**20 17 46.5**	**-2.0**
CART	**Cartagena**	**2.10**	**322**	⇑P	**Pn**	**20 17 49.0**	**-2.3**
CART				S	**Sn**	**20 18 13.9**	**-3.6**
CART	**Cartagena**	**2.10**	**322**	*e*Pn	**Pn**	**20 17 50.0**	**-1.2**
CART				*e*Sn	**Sn**	**20 18 12.2**	**-5.2**
CART	**Cartagena**	**2.10**	**322**	/ P	**Pn**	**20 17 49.0**	**-2.2**
CART	**Cartagena**	**2.10**	**322**	*e*Pn	**Pn**	**20 17 50.0**	**-1.2**
CART				*e*Sn	**Sn**	**20 18 12.2**	**-5.3**
CART				*e*S	**Sn**	**20 18 13.9**	**-3.6**
EMUR	**La Murta**	**2.42**	**323**	⇑P	**Pn**	**20 17 54.7**	**-0.9**
	124nm,0.3s,SNR=18						
EMUR				S	**Sn**	**20 18 24.4**	**-1.0**
	230nm,0.4s,SNR=9.2						

EMUR La Murta 2.42 323 P Pn 20 17 54.7 -0.9
124nm,0.3s,SNR=74
EMUR S Sn 20 18 24.4 -0.9
230nm,0.4s,SNR=9.2
ENIJ Nijar 2.51 295 ⇓P Pn 20 17 55.5 -1.3
206nm,0.5s,SNR=18
ENIJ S Sn 20 18 24.1 -3.3
640nm,0.5s,SNR=13
ENIJ Nijar 2.51 295 P Pn 20 17 55.6 -1.2
ENIJ S Sn 20 18 24.1 -3.3
ENIJ Nijar 2.51 295 P Pn 20 17 55.6 -1.2
206nm,0.5s,SNR=70
ENIJ S Sn 20 18 24.1 -3.3
640nm,0.5s,SNR=13
AKET Djebel Ketaf 2.65 87 P Pn 20 17 57.0 -1.7
EBEN Beniarda 2.85 347 P Pn 20 18 02.2 +0.7
23nm,0.1s,SNR=212
EBEN S Sn 20 18 37.5 +1.7
162nm,0.4s,SNR=7.1
EBEN Beniarda 2.85 347 P Pn 20 18 02.2 +0.7
23nm,0.1s,SNR=212
EBEN S Sn 20 18 37.5 +1.7
162nm,0.4s,SNR=7.1
ZAI Zaio 2.91 252 eP Pn 20 18 00.0 -2.3
EALB Alboran 2.97 271 P Pn 20 18 01.9 -1.2
93nm,0.3s,SNR=7.9
EALB S Sn 20 18 37.4 -1.4
360nm,0.4s,SNR=7.9
EALB Alboran 2.97 271 P Pn 20 18 01.9 -1.2
93nm,0.3s,SNR=7.9
EALB S Sn 20 18 37.4 -1.3
360nm,0.4s,SNR=7.9
EBER Berja 2.99 290 P Pn 20 18 02.2 -1.2
225nm,0.1s,SNR=1069
EBER S Sn 20 18 39.0 -0.4
461nm,0.4s,SNR=7.0
EBER Berja 2.99 290 P Pn 20 18 02.2 -1.2
224nm,0.1s,SNR=1000
EBER S Sn 20 18 39.0 -0.4
461nm,0.4s,SNR=7.0
EIBI Ibiza 3.14 10 ⇑P Pn 20 18 05.3 -0.2
202nm,0.2s,SNR=18
EIBI S Sn 20 18 43.3 +0.2
100nm,0.2s,SNR=5.1
EIBI Ibiza 3.14 10 P Pn 20 18 05.3 -0.2
202nm,0.2s,SNR=124
EIBI S Sn 20 18 43.3 +0.2
97nm,0.6s,SNR=5.1
EHUE Huescar 3.19 307 P Pn 20 18 06.7 +0.5
24nm,0.1s,SNR=7.9
EHUE S Sn 20 18 45.9 +1.6
253nm,1.0s,SNR=7.9
EHUE Huescar 3.19 307 P Pn 20 18 06.9 +0.8
EHUE S Sn 20 18 45.9 +1.6
EHUE Huescar 3.19 307 P Pn 20 18 06.9 +0.7
24nm,0.1s,SNR=7.9
EHUE S Sn 20 18 45.9 +1.6
253nm,1.0s,SNR=7.9
ETOB Tobarra 3.21 328 P Pn 20 18 07.4 +0.9
162nm,0.1s,SNR=379
ETOB S Sn 20 18 46.5 +1.6
474nm,0.4s
ETOB Tobarra 3.21 328 P Pn 20 18 07.4 +0.9
162nm,0.1s,SNR=379
ETOB S Sn 20 18 46.5 +1.6
474nm,0.4s
AKF Akfadou 3.26 76 P Pn 20 17 58.0 -9.2
EGUA Guajares 3.50 286 P Pn 20 18 08.9 -1.5
18nm,0.2s,SNR=7.9
EGUA S Sn 20 18 51.6 -0.2
55nm,0.4s,SNR=7.9
EGUA Guajares 3.50 286 P Pn 20 18 09.4 -1.0
EGUA S Sn 20 18 51.6 -0.2
EGUA Guajares 3.50 286 P Pn 20 18 09.4 -1.0
18nm,0.2s,SNR=7.9
EGUA S Sn 20 18 51.6 -0.2
55nm,0.4s,SNR=7.9
EQES Quesada 3.50 303 P Pn 20 18 12.1 +1.7
650nm,0.3s,SNR=483
EQES S Sn 20 18 52.3 +0.3
1µm,0.4s,SNR=11
EQES Quesada 3.50 303 P Pn 20 18 12.1 +1.7
650nm,0.3s,SNR=483
EQES S Sn 20 18 52.3 +0.4
1µm,0.4s,SNR=11
EQUE Quentar 3.51 292 ⇓P Pn 20 18 11.1 +0.5
449nm,0.5s,SNR=18
EQUE S Sn 20 18 52.4 +0.3
358nm,0.5s,SNR=7.5
ECOG Cogollos-Vega 3.63 293 P Pn 20 18 12.9 +0.7
55nm,0.2s,SNR=86
ECOG S Sn 20 18 55.2 +0.2
303nm,0.5s,SNR=6.5
EVIA Vianos 3.68 318 P Pn 20 18 13.5 +0.6
135nm,0.3s,SNR=76
EVIA S Sn 20 18 57.2 +1.0
603nm,0.5s,SNR=20
ERON Agron 3.73 288 P Pn 20 18 13.6 0.0
235nm,0.5s,SNR=121
ERON S Sn 20 18 57.0 -0.5
208nm,0.5s
MPAL Palemas 3.79 261 eP Pn 20 18 10.0 -4.4
ECHE Chera 3.87 341 P Pn 20 18 16.2 +0.8
179nm,0.4s,SNR=128
ECHE S Sn 20 19 01.2 +0.3
385nm,0.7s
SET Setif 3.88 85 P Pn 20 18 14.0 -1.7
CKHR Kef el Ahmar 3.97 87 P Pn 20 18 17.0 +0.1
ELOJ Sierra Loja 4.03 289 P Pn 20 18 18.3 +0.6
39nm,0.3s,SNR=117
ELOJ S Sn 20 19 04.4 -0.7
350nm,0.8s
ELOJ Sierra Loja 4.03 289 P Pn 20 18 18.5 +0.8
ELOJ S Sn 20 19 04.4 -0.7
ELOJ Sierra Loja 4.03 289 P Pn 20 18 18.5 +0.8
39nm,0.3s,SNR=117
ELOJ S Sn 20 19 04.4 -0.6
350nm,0.8s
MAL Malaga 4.14 283 i P Pn 20 18 17.8 -1.4
EBAN Banos Encina 4.17 304 P Pn 20 18 20.3 +0.6
44nm,0.2s,SNR=36
EBAN S Sn 20 19 09.0 +0.5
144nm,0.4s
ETOS Mallorca 4.21 24 P Pn 20 18 18.3 -1.8
33nm,0.3s,SNR=99
ETOS S Sn 20 19 08.6 -0.7
108nm,0.8s,SNR=4.5
ETOS Mallorca 4.21 24 P Pn 20 18 18.4 -1.7
ETOS S Sn 20 19 08.6 -0.7
108nm,0.8s,SNR=4.5
ELUQ Luque 4.25 294 ⇓P Pn 20 18 21.7 +1.0
69nm,0.4s,SNR=18
ELUQ S Sn 20 19 09.7 -0.7
306nm,1.3s,SNR=7.9
DFRA Djebel Bou Aff 4.29 80 P Pn 20 18 20.0 -1.3
CMER Merouana 4.30 93 P Pn 20 18 24.0 +2.5
TZK Tazeka 4.35 246 i P Pn 20 18 22.0 -0.1
EMIJ Mijas 4.41 280 P Pn 20 18 20.5 -2.4
47nm,0.3s,SNR=135
EMIJ S Sn 20 19 10.7 -3.6
87nm,0.3s,SNR=6.5
EMOS Mosqueruela 4.51 349 ⇑P Pn 20 18 25.4 +1.1
54nm,0.4s,SNR=18
EMOS S Sn 20 19 17.1 +0.3
172nm,0.7s
EMOS Mosqueruela 4.51 349 P Pn 20 18 25.4 +1.1
54nm,0.4s,SNR=118
EMOS S Sn 20 19 17.1 +0.3
172nm,0.7s
CTEI Djebel Teioual 4.69 87 P Pn 20 18 27.0 +0.2
EADA Adamuz 4.72 300 P Pn 20 18 27.0 -0.2
40nm,0.3s,SNR=93
EADA S Sn 20 19 20.9 -1.0
156nm,0.6s
EADA Adamuz 4.72 300 P Pn 20 18 27.0 -0.2
40nm,0.3s,SNR=93
EADA S Sn 20 19 20.9 -1.1
156nm,0.6s
CASM Ain Smara 4.76 84 P Pn 20 18 26.0 -1.8
EJIF Jimena Fronter 4.95 278 P Pn 20 18 30.1 -0.3
57nm,0.7s,SNR=15
EJIF S Sn 20 19 25.4 -2.3
39nm,0.4s,SNR=6.5
CKFL Kef-Lekhel 4.96 83 P Pn 20 18 29.0 -1.4
LIJA Lijar 4.96 283 P Pn 20 18 32.8 +2.3
LIJA Lijar 4.96 283 i P Pn 20 18 32.8 +2.4
TGT Taghat 5.01 250 i P Pn 20 18 32.0 +0.7

ERTA Horta de San J 5.02 358 ⇑P Pn 20 18 31.8 +0.4
53nm,0.6s,SNR=18
ERTA S Sn 20 19 27.9 -1.6
330nm,1.3s,SNR=9.1
ERTA Horta de San J 5.02 358 P Pn 20 18 31.4 0.0
ERTA S Sn 20 19 27.9 -1.6
ERTA Horta de San J 5.02 358 P Pn 20 18 31.4 0.0
53nm,0.6s,SNR=18
ERTA S Sn 20 19 27.9 -1.6
330nm,1.3s,SNR=9.1
CAEH 'Ain El Ouahch 5.10 79 P Pn 20 18 30.5 -1.9
ESDC Sonseca Array 5.21 317 Pn Pn 20 18 34.1 +0.2
26nm,0.3s,baz=134,slow=13,SNR=234
ESDC Sn Sn 20 19 30.6 -3.5
30nm,0.3s,baz=128,slow=23,SNR=9.3
ESDC Lg 20 19 47.2
38nm,0.3s,baz=137,slow=29,SNR=7.6
ESDC LR LR 20 20 28.3
comp=Z,562nm,21.5s,baz=135,slow=37
ESDC Sonseca Array 5.21 317 P Pn 20 18 34.1 +0.2
106nm,0.4s,baz=135,slow=13,SNR=205
ESDC S Sn 20 19 33.1 -1.0
31nm,0.4s,baz=128,slow=23,SNR=6.6
ESDC Sonseca Array 5.21 317 P Pn 20 18 34.1 +0.2
106nm,0.4s,SNR=205
ESDC S Sn 20 19 33.1 -1.0
31nm,0.4s,SNR=6.6
ESLA Sonseca Array 5.21 317 eP Pn 20 18 34.0 +0.1
8.9nm,0.6s
ESLA eSn Sn 20 19 30.7 -3.4
ESLA Sonseca Array 5.21 317 eP Pn 20 18 34.0 +0.1
8.9nm,0.6s
ESLA eSn Sn 20 19 30.7 -3.4
ESPR Espera 5.31 282 P Pn 20 18 35.7 +0.4
19nm,0.4s,SNR=23
ESPR S Sn 20 19 33.9 -2.6
48nm,0.4s,SNR=4.5
ESPR Espera 5.31 282 P Pn 20 18 35.7 +0.4
ESPR S Sn 20 19 34.5 -2.0
ESPR Espera 5.31 282 P Pn 20 18 35.7 +0.4
19nm,0.4s,SNR=23
ESPR S Sn 20 19 34.5 -2.0
58nm,0.9s,SNR=4.5
EPOB Poblet 5.43 4 P Pn 20 18 37.4 +0.5
44nm,0.3s,SNR=32
EPOB S Sn 20 19 39.5 +0.1
26nm,0.6s,SNR=5.3
EPOB Poblet 5.43 4 P Pn 20 18 37.4 +0.5
44nm,0.3s,SNR=32
EPOB S Sn 20 19 39.5 +0.1
26nm,0.6s,SNR=5.3
MIF Mishlifen 5.44 244 i P Pn 20 18 36.0 -1.1
CZD Col de Zad 5.50 240 i P Pn 20 18 40.0 +2.1
CGMA Guelma 5.51 83 P Pn 20 18 37.5 -0.6
CMAH Djebel Manchou 5.54 81 P Pn 20 18 35.9 -2.5
ABSA Djebel Ababsia 5.56 84 P Pn 20 18 37.5 -1.3
CABS Djebel Ababsia 5.56 84 P Pn 20 18 37.5 -1.3
ZFT Errachidia 5.67 228 i P Pn 20 18 39.5 -0.8
GUD Guadarrama 6.02 323 P Pn 20 18 46.0 +0.9
34nm,0.5s,SNR=40
GUD S Sn 20 19 52.9 -1.1
87nm,0.5s,SNR=8.2
EMIN Mina Concepcio 6.13 290 P Pn 20 18 45.4 -1.2
6.1nm,0.1s,SNR=56
EMIN S Sn 20 19 54.5 -2.2
54nm,0.9s,SNR=7.9
EMIN Mina Concepcio 6.13 290 P Pn 20 18 45.4 -1.2
6.1nm,0.1s,SNR=56
KIB El Ksiba 6.45 241 i P Pn 20 18 53.0 +2.0
VALF Valcebollere 6.55 9 P Pn 20 18 53.6 +1.2
EGRO El Granado 6.70 286 P Pn 20 18 53.0 -1.5
22nm,0.4s,SNR=15
EGRO S Sn 20 20 07.0 -3.9
80nm,1.0s,SNR=7.9
EGRO El Granado 6.70 286 P Pn 20 18 53.0 -1.4
22nm,0.4s,SNR=15
EBAD Badajoz 6.70 297 P Pn 20 18 54.0 -0.5
38nm,0.4s,SNR=54
EBAD S Sn 20 20 07.8 -3.0
112nm,1.1s,SNR=7.9
EBAD Badajoz 6.70 297 P Pn 20 18 53.3 -1.1
EBAD S Sn 20 20 07.8 -3.0
EBAD Badajoz 6.70 297 P Pn 20 18 53.3 -1.2
38nm,0.4s,SNR=54
EPLA Plasencia 6.71 310 P Pn 20 18 54.6 +0.1
40nm,0.5s,SNR=7.9
EPLA S Sn 20 20 09.3 -1.7
46nm,0.8s,SNR=7.9
EBIE Bielsa 6.76 357 P Pn 20 18 56.6 +1.4
14nm,0.5s,SNR=10.0
EBIE S Sn 20 20 10.2 -2.0
25nm,0.8s,SNR=4.6
EBIE Bielsa 6.76 357 P Pn 20 18 56.6 +1.4
14nm,0.5s,SNR=10.0
FILF Fillols 6.79 12 P Pn 20 18 56.0 +0.4
FILF S Sn 20 20 11.4 -1.6
SALF Salau 6.83 4 P Pn 20 18 57.6 +1.3
RESF Ens 6.87 358 P Pn 20 19 01.5 +4.7
CARF Carcanieres 6.87 9 P Pn 20 18 58.3 +1.5
MELF Melles 6.93 1 P Pn 20 18 59.2 +1.6
VIEF Viey 6.96 356 P Pn 20 18 59.6 +1.6
IUNC Unciti 7.01 347 P Pn 20 18 58.8 +0.1
16nm,0.3s,SNR=7.9
IUNC S Sn 20 20 16.9 -1.5
26nm,0.7s,SNR=7.9
IUNC Unciti 7.01 347 P Pn 20 18 58.8 +0.1
16nm,0.3s,SNR=7.9
ETSF Etsaut 7.02 353 eP Pn 20 19 00.5 +1.7
ETSF eSn Sn 20 20 16.3 -2.3
149nm,1.0s
ETSF Etsaut 7.02 353 Pn Pn 20 19 00.5 +1.7
ETSF Sn Sn 20 20 16.3 -2.3
75nm,1.0s
MLS Moulis 7.03 3 P Pn 20 19 00.4 +1.5
IPRE Itoiz 7.04 348 P Pn 20 18 59.9 +0.9
19nm,0.7s,SNR=4.6
IPRE S Sn 20 20 17.5 -1.5
9.6nm,0.5s,SNR=4.2
IPRE Itoiz 7.04 348 P Pn 20 18 59.9 +0.9
19nm,0.7s,SNR=4.6
EARA Aranguren 7.04 347 P Pn 20 18 59.5 +0.4
27nm,0.6s,SNR=4.8
EARA S Sn 20 20 17.8 -1.4
56nm,0.6s,SNR=5.0
EPF Esparros 7.09 358 eP Pn 20 19 01.4 +1.6
EPF eSn Sn 20 20 17.0 -3.5
91nm,0.9s
EPF Esparros 7.09 358 Pn Pn 20 19 01.4 +1.6
EPF Sn Sn 20 20 17.0 -3.5
46nm,0.9s
PBEJ Beja 7.11 290 ePn Pn 20 18 59.5 -0.5
PBEJ eSn Sn 20 20 18.9 -1.9
PBEJ
24nm,0.7s
PBEJ Beja 7.11 290 ePn Pn 20 18 59.5 -0.5
PBEJ eSn Sn 20 20 18.9 -1.9
24nm,0.7s
LABF Labassere 7.12 357 P Pn 20 19 01.7 +1.5
AVE Averroes 7.12 251 P Pn 20 19 00.5 +0.3
LRDF Laroque-de-Fa 7.15 11 P Pn 20 19 01.7 +1.1
PESTR Estremoz 7.16 297 ePn Pn 20 19 00.6 -0.2
PESTR eSn Sn 20 20 17.5 -4.7
PESTR
72nm,0.7s
PESTR Estremoz 7.16 297 ePn Pn 20 19 00.6 -0.2
PESTR eSn Sn 20 20 17.5 -4.7
72nm,0.7s
REYF Montagne du Re 7.17 354 P Pn 20 19 02.9 +2.0
IUSE Utxeti 7.21 347 P Pn 20 19 02.0 +0.7
9.2nm,0.6s,SNR=4.0
IUSE S Sn 20 20 22.3 -1.0
37nm,1.3s,SNR=7.9
IUSE Utxeti 7.21 347 P Pn 20 19 02.0 +0.7
9.2nm,0.6s,SNR=4.0
LARF Larrau 7.21 351 P Pn 20 19 03.5 +2.1
ATE Arette 7.22 352 P Pn 20 19 02.9 +1.4
ATE S Sn 20 20 22.3 -1.2
SJPF Ste Jean 7.31 349 eP Pn 20 19 04.4 +1.6
SJPF eSn Sn 20 20 22.5 -3.4
60nm,0.8s
SJPF Ste Jean 7.31 349 Pn Pn 20 19 04.4 +1.6
SJPF Sn Sn 20 20 22.5 -3.4
30nm,0.8s
ELIZ Elizondo 7.41 348 P Pn 20 19 06.2 +2.1
15nm,0.2s,SNR=30
ELIZ S Sn 20 20 27.1 -1.2

24nm,0.8s
OSSF Osses 7.46 349 P Pn 20 19 06.7 +1.9
OSSF S Sn 20 20 25.0 -4.5
EALK Alkurruntz 7.46 348 P Pn 20 19 06.8 +1.9
47nm,0.5s,SNR=30
EALK S Sn 20 20 28.3 -1.2
62nm,0.8s
PCBR Castelo Branco 7.50 304 ePn Pn 20 19 05.9 +0.5
PCBR eSn Sn 20 20 26.2 -4.2
PCBR
52nm,0.7s
PCBR Castelo Branco 7.50 304 ePn Pn 20 19 05.9 +0.5
PCBR eSn Sn 20 20 26.2 -4.2
52nm,0.7s
MTLF Montolieu 7.50 9 ePn Pn 20 19 06.4 +1.0
MORF Marmelete 7.58 283 eP Pn 20 19 03.5 -3.0
MORF eS Sn 20 20 20.0 -13
MORF eS Sn 20 20 20.0 -12
MORF AMb AMB 20 20 35.0
comp=E,67nm,0.8s
MORF Marmelete 7.58 283 eP Pn 20 19 03.5 -3.0
MORF eS Sn 20 20 20.0 -12
MOE Montemor 7.61 293 ePn Pn 20 19 15.4 +8.5
MOE eSn Sn 20 20 36.7 +3.5
PTEO Sao Teotonio 7.67 285 ePn Pn 20 19 06.9 -0.9
PTEO eSn Sn 20 20 28.7 -6.1
PTEO
comp=E,56nm,0.5s
PTEO Sao Teotonio 7.67 285 ePn Pn 20 19 06.9 -0.9
PTEO eSn Sn 20 20 28.7 -6.1
comp=E,56nm,0.5s
VSL Villasalto 7.80 60 ePn Pn 20 19 07.0 -2.4
comp=E,57nm,0.6s
VSL eSn Sn 20 20 35.0 -2.8
VSL Villasalto 7.80 60 ePn Pn 20 19 07.1 -2.4
comp=E,57nm,0.6s
MTE Manteigas 7.83 307 ePn Pn 20 19 10.7 +0.8
MTE eSn Sn 20 20 36.0 -2.5
MTE
comp=E,90nm,0.6s
MTE Manteigas 7.83 307 ePn Pn 20 19 10.5 +0.7
comp=E,60nm,1.0s
MTE eSn Sn 20 20 37.4 -1.1
MTE Manteigas 7.83 307 ePn Pn 20 19 10.7 +0.8
MTE eSn Sn 20 20 36.0 -2.5
comp=E,90nm,0.6s
ELAN Lanestosa 7.93 338 P Pn 20 19 13.0 +1.6
comp=E,19nm,0.3s,SNR=29
ELAN S Sn 20 20 39.5 -1.7
comp=E,64nm,1.1s
ELAN Lanestosa 7.93 338 P Pn 20 19 13.0 +1.7
comp=E,19nm,0.3s,SNR=29
ALMR Almeirim 7.98 297 eP Pn 20 19 09.2 -2.8
ALMR eS Sn 20 20 30.1 -12
ALMR eS Sn 20 20 30.2 -12
ALMR AMb AMB 20 20 39.9
comp=N,2µm,1.3s
ALMR Almeirim 7.98 297 eP Pn 20 19 09.2 -2.8
ALMR eS Sn 20 20 30.1 -12
PTOM Tomar 8.04 300 ePn Pn 20 19 12.9 +0.1
PTOM eSn Sn 20 20 39.5 -4.3
PTOM
comp=N,78nm,0.4s
PTOM Tomar 8.04 300 ePn Pn 20 19 12.9 +0.1
PTOM eSn Sn 20 20 39.5 -4.3
comp=N,78nm,0.4s
PBRG Braganca 8.21 318 ePn Pn 20 19 16.5 +1.4
PBRG eSn Sn 20 20 45.0 -2.8
PBRG
comp=N,37nm,0.7s
PBRG Braganca 8.21 318 ePn Pn 20 19 16.5 +1.4
PBRG eSn Sn 20 20 45.0 -2.8
comp=N,37nm,0.7s
PVIS Viseu 8.22 308 ePn Pn 20 19 16.4 +1.1
PVIS eSn Sn 20 20 46.2 -2.0
PVIS
comp=N,34nm,0.4s
ECAL Calabor 8.30 319 P Pn 20 19 17.2 +0.9
comp=N,177nm,0.8s,SNR=95
ECAL S Sn 20 20 47.7 -2.4
comp=N,62nm,0.6s
ECAL Calabor 8.30 319 P Pn 20 19 17.2 +0.9
comp=N,177nm,0.8s,SNR=95
PVRL Vila Real 8.43 312 ePn Pn 20 19 19.8 +1.7
PVRL eSn Sn 20 20 49.8 -3.5
PVRL
comp=N,33nm,0.5s
OUK Oukaimeden 8.50 239 eP Pn 20 19 18.0 -1.2
LASF Ste Croix 8.51 16 ePn Pn 20 19 19.3 +0.1
EARI Arriondas 8.62 330 P Pn 20 19 22.0 +1.1
comp=N,54nm,0.6s,SNR=35
EARI S Sn 20 20 55.7 -2.5
comp=N,20nm,0.6s
EARI Arriondas 8.62 330 P Pn 20 19 22.0 +1.2
comp=N,54nm,0.6s,SNR=35
LMR La Mourre 8.68 30 ePn Pn 20 19 20.8 -0.7
LMR eSn Sn 20 20 54.8 -4.6
PCAB Cabril 8.88 313 ePn Pn 20 19 25.5 +1.2
PCAB eSn Sn 20 21 02.5 -1.8
PCAB
comp=N,37nm,0.6s
SMRF Simiane la Rot 8.89 24 eP Pn 20 19 26.0 +1.6
PTO Porto 8.90 309 ePn Pn 20 19 25.3 +0.7
PTO eSn Sn 20 21 01.7 -3.2
FRF La Foret Royal 8.92 29 ePn Pn 20 19 24.3 -0.6
FRF eSn Sn 20 20 59.9 -5.5
comp=N,16nm,0.5s
FRF La Foret Royal 8.92 29 Pn Pn 20 19 24.3 -0.6
FRF Sn Sn 20 20 59.9 -5.5
comp=N,7.9nm,0.5s
ELOB Lobios 8.99 314 P Pn 20 19 26.2 +0.3
comp=N,27nm,0.4s,SNR=17
ELOB S Sn 20 21 03.1 -4.1
comp=N,47nm,0.8s
ELOB Lobios 8.99 314 P Pn 20 19 26.2 +0.3
comp=N,27nm,0.4s,SNR=17
LFF La Frestale 9.00 1 ePn Pn 20 19 26.5 +0.5
LFF eSn Sn 20 20 57.5 -10
LFF La Frestale 9.00 1 Pn Pn 20 19 26.5 +0.5
LFF Sn Sn 20 21 05.1 -2.3
CAF Calviac 9.05 7 eP Pn 20 19 28.1 +1.4
CAF eSn Sn 20 21 03.5 -5.1
comp=N,14nm,0.7s
CAF Calviac 9.05 7 Pn Pn 20 19 28.1 +1.4
CAF Sn Sn 20 21 03.5 -5.1
comp=N,7.1nm,0.7s
PGF Pioggiola 9.27 42 ePn Pn 20 19 27.9 -1.7
PGF eSn Sn 20 21 06.4 -7.5
comp=N,21nm,0.6s
PGF Pioggiola 9.27 42 Pn Pn 20 19 27.9 -1.7
PGF Sn Sn 20 21 06.4 -7.5
comp=N,11nm,0.6s
RJF Les Rejaudoux 9.39 4 ePn Pn 20 19 32.1 +0.8
RJF Les Rejaudoux 9.39 4 Pn Pn 20 19 32.1 +0.8
RJF Sn Sn 20 21 14.1 -2.8
comp=N,9.1nm,0.7s
MVIF Mont Vial 9.40 30 P Pn 20 19 31.6 +0.1
VIVF Saint-Julien-l 9.43 18 ePn Pn 20 19 31.9 0.0
SBF Sospel 9.49 31 ePn Pn 20 19 32.8 +0.1
SBF eSn Sn 20 21 14.0 -5.5
comp=N,9.3nm,0.4s
SBF Sospel 9.49 31 Pn Pn 20 19 32.8 +0.1
SBF Sn Sn 20 21 14.0 -5.5
comp=N,4.7nm,0.4s
EPON Pontenova 9.51 323 P Pn 20 19 33.8 +0.9
comp=N,23nm,0.4s,SNR=7.9
EPON S Sn 20 21 15.6 -4.3
comp=N,30nm,0.7s,SNR=5.2
EPON Pontenova 9.51 323 P Pn 20 19 33.8 +0.9
comp=N,23nm,0.4s,SNR=7.9
TOUF Mont Tournerai 9.54 30 P Pn 20 19 33.8 +0.5
AUTN L'Aution 9.60 31 P Pn 20 19 35.3 +1.2
ORIF Oris-en-Rattie 9.83 22 Pn Pn 20 19 37.6 +0.3
ORIF Pg Pn 20 20 19.9 +43
ORIF Oris-en-Rattie 9.83 22 eP Pn 20 19 38.9 +1.6
ORIF ePg Pn 20 20 19.9 +43
STS Santiago 9.93 317 P Pn 20 19 39.6 +0.9
comp=N,14nm,0.4s,SNR=11
STS S Sn 20 21 26.2 -3.9
comp=N,14nm,0.6s
STS Santiago 9.93 317 P Pn 20 19 39.6 +0.9
STS S Sn 20 21 26.2 -3.9
STS pmax pmax
comp=Z,15nm,0.4s

MBDF Montbardon 9.96 26 *e*P **Pn 20 19 40.7 +1.6**
MBDF Montbardon 9.96 26 Pn **Pn 20 19 39.8 +0.7**
EMAZ Mazaricos 10.20 316 P **Pn 20 19 43.2 +0.8**
comp=Z,62nm,0.9s,SNR=14
EMAZ S **Sn 20 21 32.7 -4.2**
comp=Z,7.5nm,0.4s,SNR=11
EMAZ Mazaricos 10.20 316 P **Pn 20 19 43.2 +0.7**
comp=Z,62nm,0.9s
TCF Toulx Ste Croi 10.42 6 *e*Pn **Pn 20 19 45.0 -0.4**
TCF Toulx Ste Croi 10.42 6 Pn **Pn 20 19 44.8 -0.6**
LPG La Plagne 10.62 24 *e*P **Pn 20 19 50.9 +2.7**
LPL La Plagne 10.63 24 *e*P **Pn 20 19 50.6 +2.2**
MFF Saint Martin d 10.68 357 *e*Pn **Pn 20 19 48.5 -0.5**
BGF Bois d'Agland 10.75 8 *e*Pn **Pn 20 19 48.9 -1.0**
SMF Signal de Mont 10.97 12 *e*P **Pn 20 19 56.5 +3.5**
SMF Signal de Mont 10.97 12 *e*Pn **Pn 20 19 51.6 -1.4**
SMF *e*P 20 19 56.5
SMF Signal de Mont 10.97 12 *e*P **Pn 20 19 56.5 +3.5**
AVF Avril sur Loir 11.04 10 *e*P **Pn 20 19 55.0 +1.1**
AVF Avril sur Loir 11.04 10 Pn **Pn 20 19 54.7 +0.8**
VAE Valguarnera 11.18 78 LR LR 20 24 31.9
comp=Z,122nm,18.0s,baz=124,slow=40
SSF Saint Saulge 11.33 10 *e*P **Pn 20 19 59.6 +1.7**
comp=Z,5.9nm,0.5s
SSF Saint Saulge 11.33 10 Pn **Pn 20 19 57.0 -0.9**
SSF Saint Saulge 11.33 10 *e*P **Pn 20 19 59.6 +1.7**
SSF pmax pmax
comp=Z,3.0nm,0.5s
SSF Saint Saulge 11.33 10 *e*P **Pn 20 19 59.6 +1.7**
comp=Z,3.0nm,0.5s
CABF La Chapelle 11.43 19 *e*P **Pn 20 20 00.6 +1.3**
CABF La Chapelle 11.43 19 Pn **Pn 20 19 58.9 -0.4**
LOR Lormes 11.58 11 *e*Pn **Pn 20 19 59.9 -1.4**
QUIF Quistinic 12.30 348 *e*Pn **Pn 20 20 11.2 0.0**
TUE Stuetta 12.40 29 P **Pn 20 20 15.8 +3.2**
GRR Gorron 12.50 355 *e*Sn **Sn 20 22 24.6 -8.5**
comp=Z,28nm,1.0s
GRR Gorron 12.50 355 Sn **Sn 20 22 24.6 -8.5**
comp=Z,14nm,1.0s
SGMF Saint Gilles 12.54 350 *e*Pn **Pn 20 20 14.9 +0.5**
LDF La Druitiere 12.67 358 *e*Pn **Pn 20 20 15.3 -0.9**
ROSF Rostrenen 12.73 348 *e*Pn **Pn 20 20 14.5 -2.5**
HAU Haudompre 12.79 18 *e*P **Pn 20 20 20.7 +2.9**
HAU Haudompre 12.79 18 Pn **Pn 20 20 16.3 -1.5**
FLN La Foliniere 12.85 357 *e*Pn **Pn 20 20 19.2 +0.5**
DAVOX Davos 12.87 30 Pn **Pn 20 20 20.2 +1.3**
comp=Z,0.7nm,0.3s,baz=230,slow=7.9,SNR=10
DAVOX LR LR 20 25 11.8
comp=Z,299nm,18.4s,baz=77,slow=37
THEF They Montfort 12.91 16 P **Pn 20 20 23.7 +4.2**
MEZF Maizieres J'vi 12.98 13 *e*P **Pn 20 20 24.3 +3.9**
MEZF Maizieres J'vi 12.98 13 Pn **Pn 20 20 19.6 -0.8**
FELD Feldberg im Sc 13.13 22 P **Pn 20 20 25.6 +3.1**
DAVA Damuels 13.28 28⇑ *i*P **Pn 20 20 27.5 +2.9**
comp=Z,19nm,1.2s
CDF Champ du Feu 13.41 19 *e*P **Pn 20 20 28.8 +2.6**
CDF Champ du Feu 13.41 19 Pn **Pn 20 20 24.6 -1.6**
BFO Black Forest 13.64 22 P **Pn 20 20 30.7 +1.3**
SQTA Sankt Quirin 13.77 32⇓ *i*P **Pn 20 20 35.3 +4.1**
comp=Z,21nm,1.2s
SQTA Sankt Quirin 13.77 32⇓ *i*P **Pn 20 20 35.3 +4.1**
SQTA pmax pmax
comp=Z,21nm,1.2s
MOTA Moosalm 13.82 31⇓ *i*P **Pn 20 20 35.1 +3.2**
comp=Z,26nm,1.1s
MOTA Moosalm 13.82 31⇓ *i*P **Pn 20 20 35.1 +3.2**
MOTA pmax pmax
comp=Z,26nm,1.1s
WTTA Wattenberg 13.99 33⇑ *i*P **Pn 20 20 37.3 +3.1**
comp=Z,42nm,1.9s
WTTA Wattenberg 13.99 33⇑ *i*P **Pn 20 20 37.3 +3.1**
WTTA pmax pmax
comp=Z,42nm,1.9s
WLF Walferdange 14.31 15 *e*P **Pn 20 20 42.1 +3.5**
WLF pmax pmax
comp=Z,13nm,0.8s
WLF Walferdange 14.31 15 *e*Pn **Pn 20 20 42.1 +3.5**
comp=Z,13nm,0.8s
BAIF Baives 14.36 9 *e*P **Pn 20 20 41.3 +2.0**
GIVF Givet 14.49 11 *e*P **Pn 20 20 43.8 +2.8**
GIVF Givet 14.49 11 P **Pn 20 20 44.7 +3.7**
FUR Furstenfeldbru 14.54 30 *e*P **Pn 20 20 42.1 +0.3**
comp=Z,45nm,1.3s
LJU Ljubljana 14.55 42 *e*Pn **Pn 20 20 43.7 +1.9**
LJU *e*P 20 20 49.2
VISS Visnje 14.57 43 *e*Pn **Pn 20 20 43.1 +1.0**
VISS *e*P 20 20 48.8
KBA Koelnbreinsper 14.64 37⇑ *i*P **Pn 20 20 45.2 +2.1**
comp=Z,9.7nm,0.8s
KBA Koelnbreinsper 14.64 37⇑ *i*P **Pn 20 20 45.2 +2.1**
KBA pmax pmax
comp=Z,10.0nm,0.8s
HCY Herceg Novi 15.30 59⇑ *i*P **Pn 20 20 55.6 +3.6**
HGN Heimansgroeve 15.31 13 *e*P **Pn 20 20 53.2 +1.1**
comp=Z,19nm,1.3s
TNS Taunus Mts 15.37 19 *e*P **Pn 20 20 54.4 +1.5**
comp=Z,14nm,0.9s
BRY Bratogost 15.49 58⇑ *i*P **Pn 20 20 58.1 +3.7**
BUM Brajici-Budva 15.54 60⇑ *i*P **Pn 20 20 58.1 +3.1**
KEK Kerkira 15.62 70 P **Pn 20 20 57.4 +1.3**
MOA Molln 15.62 36⇑ *i*P **Pn 20 20 56.8 +0.6**
comp=Z,24nm,1.1s
ULC Ulcinj 15.68 62⇑ *i*P **Pn 20 20 59.2 +2.2**
NKY Niksic 15.77 59⇑ *i*P **Pn 20 21 01.9 +3.8**
GRA1 Grafenberg Arr 15.78 26 *e*P **Pn 20 20 58.9 +0.7**
comp=Z,111nm,2.0s
GRF Grafenberg Arr 15.78 26 *e*P **Pn 20 20 58.9 +0.7**
comp=Z,111nm,2.0s
GRF *e*L 20 28 20.8
comp=Z,517nm,10.5s
TTG Podgorica 15.83 60⇑ *i*P **Pn 20 21 02.3 +3.4**
UPM Unac-Piva 15.85 57⇑ *i*P **Pn 20 21 03.3 +4.2**
ARSA Arzberg 15.85 40⇑ *i*P **Pn 20 21 00.9 +1.8**
comp=Z,38nm,1.1s
WET Wettzell 15.97 30 *e*P **Pn 20 20 59.3 -1.4**
comp=Z,35nm,1.7s
GEC2 GERESS Array S 16.09 33 *e*P **Pn 20 21 01.1 -1.1**
comp=Z,18nm,0.7s
GERES GERESS Array B 16.09 33 Pn **Pn 20 21 01.8 -0.5**
comp=Z,0.7nm,0.3s,baz=215,slow=11,SNR=47
GERES PcP PcP 20 25 56.4 -1.8
comp=Z,0.1nm,0.3s,baz=180,slow=2.4,SNR=5.0
GERES LR LR 20 27 36.4
comp=Z,178nm,18.7s,baz=240,slow=39
GERES GERESS Array B 16.09 33 PcP PcP 20 25 56.4 -1.8
ROTZ Rotzenmuhle 16.20 28 *e*P **Pn 20 21 05.0 +1.3**
comp=Z,14nm,1.0s
BUG Bochum--Univer 16.22 15 *e*P **Pn 20 21 05.6 +1.7**
comp=Z,16nm,1.1s
PLE Pljevlja 16.22 57⇑ *i*P **Pn 20 21 05.8 +1.8**
KHC Kasperske Hory 16.25 32 *e*P **Pn 20 21 03.6 -0.7**
KHC AMS AMS 20 29 30.0
comp=Z,500nm,10.6s
KHC Kasperske Hory 16.25 32 *c i*P **Pn 20 21 03.4 -0.9**
MANZ Manzenberg 16.34 27 *e*P **Pn 20 21 05.3 -0.2**
comp=Z,17nm,1.2s
UBBA Unterbreizbach 16.35 22 *e*P **Pn 20 21 06.4 +0.9**
comp=Z,7.0nm,1.2s
PVY Plav 16.38 60⇑ *i*P **Pn 20 21 08.3 +2.3**
IVA Berane 16.41 59 *e*P **Pn 20 21 07.7 +1.3**
CONA Conrad Observa 16.46 39⇑ *i*Pn **Pn 20 21 03.9 -3.1**
comp=Z,28nm,1.5s
OHR Ohrid 16.61 66 *i* P **Pn 20 21 08.1 -0.7**
WTSB Winterswijk 16.63 13 *e*P **Pn 20 21 10.2 +1.2**
comp=Z,15nm,1.2s
WTSB *e*P 20 21 20.7
NKC Novy Kostel 16.67 27 *e*P **Pn 20 21 10.4 +0.7**
NKC AMS AMS 20 28 50.0
comp=Z,600nm,11.6s
MOX Moxa 16.71 25 *e*P **Pn 20 21 11.3 +1.1**
comp=Z,13nm,1.2s
MOX Moxa 16.71 25 *e*P **Pn 20 21 12.0 +1.8**
comp=Z,22nm,1.5s
MOX
comp=Z,300nm,16.0s
TANN Tannenbergstha 16.82 27 *e*P **Pn 20 21 11.6 0.0**
comp=Z,13nm,1.4s
DIVS Divcibare 16.91 55 *e*P **Pn 20 21 11.2 -1.5**
DIVS Divcibare 16.91 55 *e*P **Pn 20 21 11.1 -1.5**
BIA Bitola 16.98 66 *e*P **Pn 20 21 14.5 +1.0**
PKSM Moragy 17.00 47⇑ *i*P **Pn 20 21 15.9 +2.2**
PKSM Moragy 17.00 47⇓ *e*P **Pn 20 21 14.2 +0.5**
IBBN Ibbenburen 17.14 15 *e*P **Pn 20 21 16.8 +1.2**
comp=Z,25nm,1.0s
IBBN Ibbenburen 17.14 15 P **Pn 20 21 17.9 +2.3**
TREC Trest 17.22 35 *e*P **Pn 20 21 14.7 -1.9**
TREC AMS AMS 20 29 40.0
comp=Z,300nm,10.7s
TREC Trest 17.22 35 *e*P **Pn 20 21 14.7 -1.9**
comp=Z,300nm,10.7s
SKO Skopje 17.26 63 *i* P **Pn 20 21 17.4 +0.3**
SKO Skopje 17.26 63 *i* P **Pn 20 21 17.3 +0.2**
ZST Bratislava 17.27 40 *e*P **Pn 20 21 18.8 +1.6**
ZST pmax pmax
comp=Z,18nm,1.5s
ZST Bratislava 17.27 40 *e*P **Pn 20 21 18.8 +1.6**
comp=Z,18nm,1.5s
PRU Pruhonice 17.31 31 *e*P **Pn 20 21 17.0 -0.7**
PRU AMS AMS 20 29 20.0
comp=Z,500nm,11.0s
CLZ Clausthal 17.36 21 *e*P **Pn 20 21 19.2 +0.9**
comp=Z,9.0nm,0.9s
KRUC Moravsky 17.49 37 P **Pn 20 21 21.3 +1.4**
AGG Agios Georgios 17.50 73 *e*P **Pn 20 21 18.2 -1.8**
SRO Srobarova 17.69 42 *e*P **Pn 20 21 22.8 +0.4**
SRO pmax pmax
comp=Z,21nm,0.8s
SRO Srobarova 17.69 42 *e*P **Pn 20 21 22.8 +0.4**
comp=Z,21nm,0.8s
SRO2 Moca 17.70 43 *e*P **Pn 20 21 23.9 +1.3**
SRO2 *e* 20 21 24.7
SRO2 Moca 17.70 43 *e*P **Pn 20 21 23.9 +1.3**
SRO2 pmax pmax
comp=Z,17nm,0.7s
SRO2 Moca 17.70 43 *e*P **Pn 20 21 23.9 +1.3**
comp=Z,17nm,0.7s
LIT Litokhoron 17.72 70 P **Pn 20 21 24.4 +1.6**
PVCC Panska Ves 17.73 30 *e*P **Pn 20 21 21.8 -1.2**
PVCC AMS AMS 20 30 20.0
comp=Z,500nm,10.4s
STIP Stip 17.75 65 *e*P **Pn 20 21 21.9 -1.3**
STIP Stip 17.75 65 *e*P **Pn 20 21 21.8 -1.3**
VRAC Vranov 17.75 36 P **Pn 20 21 22.4 -0.7**
comp=Z,0.3nm,0.3s,baz=229,slow=11,SNR=21
VRAC LR LR 20 27 45.9
comp=Z,77nm,21.4s,baz=241,slow=36
VRAC Vranov 17.75 36⇓ *i*P **Pn 20 21 22.8 -0.4**
VRAC Vranov 17.75 36 *e*P **Pn 20 21 23.9 +0.7**
VRAC Vranov 17.75 36 *e*P **Pn 20 21 22.8 -0.4**
CLL Collm 17.75 26 P **Pn 20 21 23.0 -0.2**
comp=Z,logA/T=0.8
CLL *i* *SP sP 20 21 31.8 +3.7
CLL Collm 17.75 26 *e*P **Pn 20 21 23.0 -0.2**
comp=Z,7.0nm,1.2s
CLL *i* sP sP 20 21 31.8 +3.7
comp=Z,15nm,1.4s
GRG Griva 17.77 67 *e*P **Pn 20 21 21.8 -1.6**
BUD Budapest 17.89 44⇓ *e*P **Pn 20 21 26.8 +1.9**
VAY Valandovo 17.96 66 *i* P **Pn 20 21 23.3 -2.4**
VAY Valandovo 17.96 66 *i* P **Pn 20 21 23.2 -2.5**
DLF Lyons Farm 18.08 346 *e*P **Pn 20 21 28.6 +1.4**
KNT Kendrikon 18.18 67 *e*P **Pn 20 21 26.9 -1.5**
XOR Xorichti 18.19 72 *e*P **Pn 20 21 27.7 -0.9**
DCN Croghan 18.27 345 *e*P **Pn 20 21 28.0 -1.6**
UPC Upice 18.33 33 *e*P **Pn 20 21 29.7 -0.6**
DPC Dobruska-Polom 18.36 33 *e*P **Pn 20 21 29.3 -1.3**
DPC AMS AMS 20 29 30.0
comp=Z,300nm,14.2s
DPC Dobruska-Polom 18.36 33 *e*P **Pn 20 21 29.3 -1.3**
DPC P 20 21 32.4
VYHS Vyhne 18.37 41 *i* P **Pn 20 21 30.8 0.0**
VYHS pmax pmax
comp=Z,12nm,1.4s
VYHS Vyhne 18.37 41 *i* P **Pn 20 21 30.8 0.0**
comp=Z,12nm,1.4s
KKB Krupnik 18.44 64 *e*P **Pn 20 21 30.7 -0.9**
SOH Sokhos 18.46 68 P **Pn 20 21 31.4 -0.5**
MORC Moravsky Berou 18.52 36⇑ *i*P **Pn 20 21 32.2 -0.4**
MORC Moravsky Berou 18.52 36 P **Pn 20 21 32.8 +0.2**
BZS Buzias 18.57 52⇑ *i*P **Pn 20 21 32.7 -0.5**
BZS Buzias 18.57 52 P **Pn 20 21 32.9 -0.3**
PSZ Piszkesteto 18.62 44⇓ *i*P **Pn 20 21 34.2 +0.3**
PSZ Piszkesteto 18.62 44⇑ *e*P **Pn 20 21 34.1 +0.2**
VTS Vitosha 18.68 62 *e*P **Pn 20 21 27.7 -6.9**
VTS Vitosha 18.68 62⇓ *i*P **Pn 20 21 33.9 -0.7**
VTS Vitosha 18.68 62 P **Pn 20 21 27.7 -6.9**
VTS *e*P 20 21 34.0
VTS Vitosha 18.68 62 *e*P **Pn 20 21 34.0 -0.6**
SRS Serrai 18.68 67 *e*P **Pn 20 21 27.7 -6.9**
SRS Serrai 18.68 67 P **Pn 20 21 27.7 -6.9**
SRS P 20 21 34.0
SRS Serrai 18.68 67 P **Pn 20 21 34.0 -0.6**
KSP Ksiaz 18.70 32 *e*P **Pn 20 21 38.0 +3.2**
KSP L 20 29 40.9
comp=Z,0.5nm,14.7s
KSP Ksiaz 18.70 32 *e*P **Pn 20 21 35.9 +1.1**
OKC Ostrava-Krasne 18.86 37 *e*P **Pn 20 21 36.4 -0.3**
OKC AMS AMS 20 30 40.0
comp=Z,300nm,10.8s
MMB Musomiste 18.86 66 *e*P **Pn 20 21 27.7 -9.1**
MMB Musomiste 18.86 66 P **Pn 20 21 27.7 -9.1**
MMB *e*P 20 21 34.0
MMB Musomiste 18.86 66 *e*P **Pn 20 21 34.0 -2.8**
RUE Ruedersdorf 18.99 25 P **Pn 20 21 39.6 +1.3**
RUE Ruedersdorf 18.99 25 P **Pn 20 21 39.6 +1.3**
GZR Gura Zlata 19.23 54⇓ *i*P **Pn 20 21 41.2 0.0**
GZR Gura Zlata 19.23 54⇓ P **Pn 20 21 41.2 0.0**
BSEG Bad Segeberg 19.23 18 *e*P **Pn 20 21 40.9 -0.3**
comp=Z,24nm,0.8s
PGB Panagyurishte 19.37 63 *e*P **Pn 20 21 40.9 -1.9**
ESK Eskdalemuir 19.57 353 P **Pn 20 21 46.8 +1.6**
EKA Eskdalemuir Ar 19.58 354 P **Pn 20 21 44.2 -1.1**
comp=Z,0.5nm,0.3s,baz=166,slow=11,SNR=22
RZN Rozhen 19.61 66 *e*P **Pn 20 21 42.7 -3.0**
PLD Plovdiv 19.67 64 P **Pn 20 21 44.6 -1.9**
NIE Niedzica 19.70 41 *e*P **Pn 20 21 47.1 +0.2**
DRGR 19.75 50⇓ *i*P **Pn 20 21 46.2 -1.2**
DRGR 19.75 50⇓ P **Pn 20 21 46.2 -1.2**
OJC Ojcow 19.92 38 *e*P **Pn 20 21 47.7 -1.8**
CRVS Cervenica-Dubn 20.04 43 *e*P **P 20 21 53.6 +4.5**
CRVS pmax pmax
comp=Z,9.0nm,1.0s
CRVS Cervenica-Dubn 20.04 43 *e*P **P 20 21 53.6 +4.5**
comp=Z,9.1nm,1.0s
KDZ Kurdzhali 20.12 66 *e*P **P 20 21 48.0 -2.0**
PVL Pavlikeni 20.35 62 *e*P **P 20 21 51.0 -1.4**
KOLS Kolonicke sedl 20.51 44 *e*P **P 20 21 56.7 +2.5**
KOLS pmax pmax
comp=Z,11nm,1.1s
KOLS Kolonicke sedl 20.51 44 *e*P **P 20 21 56.7 +2.5**
comp=Z,11nm,1.1s
VOIR 20.75 55⇓ *i*P **P 20 21 56.9 +0.1**
VOIR 20.75 55⇓ P **P 20 21 56.9 +0.1**
GKP Gorka Klasztor 20.90 29 *e*P **P 20 21 59.2 +0.8**
GKP L 20 31 47.0
comp=Z,0.5nm,12.6s
GKP Gorka Klasztor 20.90 29 *e*P **P 20 21 59.2 +0.8**
comp=Z,500nm,12.6s
JMB Yambol 21.11 64 P **P 20 22 00.3 -0.3**
KWP Kalwaria 21.12 43 P **P 20 21 51.9 -8.9**
KWP pmax pmax
comp=Z,38nm,1.0s,mb4.7
KWP Kalwaria 21.12 43 P **P 20 21 51.9 -8.8**
comp=Z,38nm,1.0s,mb4.7
MUD Monsted U'grnd 21.33 13 *i* P **P 20 22 03.6 +0.5**
comp=Z,14nm,1.0s,mb4.2
MUD *i* S S 20 26 19.9 +20
MUD *i* 20 26 27.9
MUD
comp=Z,140nm,16.0s
MUD Monsted U'grnd 21.33 13 *i* P **P 20 22 03.6 +0.5**
MUD *i* S S 20 26 19.9 +20
MUD pmax pmax
comp=Z,14nm,1.0s,mb4.2
MUD Monsted U'grnd 21.33 13 *i* P **P 20 22 03.6 +0.5**
comp=Z,14nm,1.0s,mb4.2
MUD *i* S S 20 26 19.9 +20
MUD *i* 20 26 27.9
MLR Muntele Rosu 21.36 56 P **P 20 22 03.5 0.0**
comp=Z,20nm,0.7s,mb4.5,baz=181,slow=6.2,SNR=19
MLR LR LR 20 30 38.3
comp=Z,237nm,20.2s,MS3.6,baz=235,slow=38
MLR Muntele Rosu 21.36 56⇓ *i*P **P 20 22 03.4 0.0**
MLR Muntele Rosu 21.36 56 P **P 20 22 03.9 +0.4**
BSD Bornholm Skovb 21.56 23 *i* P **P 20 22 05.6 +0.1**
comp=Z,27nm,0.8s,mb4.7
BSD *i* S **S 20 26 10.9 +6.5**
BSD
comp=Z,50nm,19.0s
BSD Bornholm Skovb 21.56 23 *i* P **P 20 22 05.6 +0.1**
comp=Z,27nm,0.8s,mb4.7
BSD *i* S **S 20 26 10.9 +6.5**
BURAR Bucovina Array 21.64 50⇓ *i*P **P 20 22 06.6 +0.2**
BURAR Bucovina Array 21.64 50⇓ P **P 20 22 06.6 +0.2**
LVV L'vov 21.95 44 *i* P **P 20 22 11.1 +1.4**
LVV *e*S **S 20 26 12.3 +0.3**
LVV *e*SS 20 26 49.1
LVV *e*SSS 20 26 59.3
LVV MLR MLR
comp=Z,200nm,10.0s,MS3.8
VRI Vrincioaia 22.00 55⇓ *i*P **P 20 22 11.2 +0.9**
VRI Vrincioaia 22.00 55⇓ P **P 20 22 11.2 +0.9**
TOA0 Torodi Ar. Sit 22.70 177 *e*P **P 20 22 16.3 -1.4**
TOA0 *e* 20 22 19.4
TOA0 Torodi Ar. Sit 22.70 177 *e*P **P 20 22 16.3 -1.5**
TORD Torodi Ar. Bea 22.70 177 P **P 20 22 16.4 -1.4**
comp=Z,6.4nm,0.6s,mb4.2,baz=352,slow=10,SNR=38
KMPD K-Podol'skiy 22.79 48 P **P 20 22 18.0 -0.7**
SUW Suwalki 23.94 34 *e*P **P 20 22 29.0 -1.2**
SUW L 20 33 33.4
comp=Z,0.2nm,14.4s
SUW Suwalki 23.94 34 *e*P **P 20 22 28.8 -1.5**
SUW Suwalki 23.94 34 *e*P **P 20 22 28.8 -1.4**
KONO Kongsberg 24.44 11 *e*P **P 20 22 34.1 -0.7**
KONO pmax pmax
comp=Z,5.0nm,0.4s,mb4.3
KONO Kongsberg 24.44 11 *e*P **P 20 22 34.1 -0.7**
comp=Z,4.9nm,0.4s,mb4.3
KONO *e* 20 22 38.9
KONO Kongsberg 24.44 11 *e*P **P 20 22 34.1 -0.7**
comp=Z,5.0nm,0.4s,mb4.3
KIEV Kiev 25.30 45 P **P 20 22 41.0 -1.6**
AKASG Malin Array Be 25.31 45 P **P 20 22 40.0 -2.7**
comp=Z,4.2nm,0.6s,mb4.2,baz=244,slow=10,SNR=10
AKASG Malin Array Be 25.31 45 *i* P **P 20 22 40.0 -2.7**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 25.31 45 *i* P **P 20 22 40.0 -2.7**
comp=Z,4.0nm,0.6s,mb4.1
HFS Hagfors 25.65 15 P **P 20 22 43.6 -2.2**
comp=Z,6.4nm,0.5s,mb4.4,baz=205,slow=6.6,SNR=44
NAO01 NORSAR Array S 25.78 12 *e*P **P 20 22 46.4 -0.6**
comp=Z,7.2nm,1.0s,mb4.2
NB2 NORSAR Subarra 26.02 12 P **P 20 22 48.3 -0.9**
comp=Z,0.5nm,0.6s,mb3.2,baz=187,slow=11
NOA NORSAR Array B 26.02 12 P **P 20 22 47.9 -1.3**
comp=Z,2.8nm,0.6s,mb4.0,baz=195,slow=9.1,SNR=17
NOA PcP PcP 20 26 15.5 -1.6
comp=Z,0.7nm,0.7s,baz=192,slow=2.3,SNR=3.5
NOA NORSAR Array B 26.02 12 PcP PcP 20 26 15.5 -1.6
BR131 Keskin Array S 26.27 72 P **P 20 22 50.9 -0.5**
BR131 Keskin Array S 26.27 72 P **P 20 22 50.9 -0.5**
BRTR Keskin Array B 26.27 72 P **P 20 22 50.2 -1.1**
comp=Z,2.2nm,0.7s,mb3.8,baz=270,slow=7.9,SNR=11
BRTR PcP PcP 20 26 16.8 -0.9
comp=Z,0.5nm,0.7s,baz=304,slow=1.3,SNR=3.1
SIM Simferopol' 26.88 60 *e*P **P 20 22 59.3 +2.4**
SIM pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
VSU Vasula 28.35 29*c i*P **P 20 23 08.3 -1.8**
VSU Vasula 28.35 29 *i* P **P 20 23 08.3 -1.8**
MMAI Mount Meron Ar 28.73 86 P **P 20 23 14.2 +0.7**
comp=Z,9.0nm,0.6s,mb4.7,baz=292,slow=8.9,SNR=25
ANN Anapa 29.21 61 *e*P **P 20 23 14.1 -3.6**
ANN pmax pmax
comp=Z,29nm,1.2s,mb4.9
DBIC Dimbokro 29.55 191 P **P 20 23 21.0 +0.2**
comp=Z,1.3nm,0.5s,mb4.0,baz=349,slow=8.0,SNR=5.4
DBIC LR LR 20 37 26.0
comp=Z,69nm,18.1s,MS3.3,baz=354,slow=41
MALT Malatya 30.10 74 P **P 20 23 25.1 -0.5**
FINES FINESS Array B 30.18 24 P **P 20 23 24.9 -1.4**
comp=Z,3.7nm,0.6s,mb4.3,baz=208,slow=7.4,SNR=45
FINES PcP PcP 20 26 25.6 -1.7
comp=Z,1.0nm,0.6s,baz=126,slow=2.6,SNR=5.8
ASF Jabal al Asfar 30.18 87 P **P 20 23 27.6 +1.3**
comp=Z,2.2nm,0.6s,mb4.1,baz=161,slow=10,SNR=5.7
KAF Kangasniemi 30.74 23 *e*p **P 20 23 29.4 -1.9**
comp=Z,1.7nm,0.4s,mb4.2
KAF Kangasniemi 30.74 23 *e*P **P 20 23 29.4 -1.9**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
OBN Obninsk 31.17 41 *e*P **P 20 23 33.5 -1.5**
OBN *e* 20 24 35.1
OBN *e* 20 26 29.2
OBN pmax pmax
comp=Z,11nm,1.2s,mb4.6
OBN MLR MLR
comp=Z,100nm,15.0s,MS3.6
OBN Obninsk 31.17 41 *e*P **P 20 23 33.5 -1.5**
comp=Z,11nm,1.2s,mb4.6
BORG Borgarnes 31.72 342 LR LR 20 35 54.6
comp=Z,144nm,19.1s,MS3.7,baz=174,slow=35
JOF Joensuu 32.98 25 *e*p **P 20 23 49.7 -1.2**
comp=Z,11nm,0.7s,mb4.9
GOF Gofitskoye 33.19 61 *e*P **P 20 23 50.2 -2.6**
MSL Mosul 34.11 77 *ex* x 20 24 05.5
KLMR Klimovskoe 35.05 32 *e*P **P 20 24 06.9 -2.0**
KLMR pmax pmax
comp=Z,40nm,1.4s,mb5.2
KLMR Klimovskoe 35.05 32 *e*P **P 20 24 06.9 -2.0**
comp=Z,40nm,1.4s,mb5.2
JMIC Jan Mayen 35.46 355 LR LR 20 37 33.1
comp=Z,70nm,20.6s,MS3.4,baz=317,slow=34
ARE0 ARCESS Array S 36.31 14 *e*P **P 20 24 19.4 -0.4**
ARE0 ARCESS Array S 36.31 14 *e*P **P 20 24 19.4 -0.3**
ARCES ARCESS Array B 36.31 14 P **P 20 24 17.9 -1.8**
comp=Z,4.7nm,0.7s,mb4.6,baz=198,slow=7.6,SNR=18
ARCES PcP PcP 20 26 42.7 -1.8
comp=Z,1.7nm,0.6s,baz=224,slow=3.3,SNR=4.7
ARCES ARCESS Array B 36.31 14 P **P 20 24 17.9 -1.8**
ARCES PcP PcP 20 26 42.7 -1.8
MAK Makhachkala 36.49 64 *i* P **P 20 24 21.2 -0.1**
AKTK Aktyubinsk 43.21 52 P **P 20 25 15.9 -1.3**
AKTK Aktyubinsk 43.21 52 *i* P **P 20 25 16.0 -1.2**
comp=Z,1.0nm,0.8s,mb3.6
AKTO Aktyubinsk 43.21 52 P **P 20 25 15.9 -1.3**
comp=Z,3.4nm,0.7s,mb4.2,baz=277,slow=8.5,SNR=11
AKTO Aktyubinsk 43.21 52 *i* P **P 20 25 16.0 -1.2**
AKTO pmax pmax
comp=Z,1.0nm,0.8s,mb3.6
ARU Arti 43.52 43⇑ *i*P **P 20 25 18.1 -1.6**
ARU *e* 20 27 04.0
ARU *e*PPP 20 27 34.7
ARU *e*S **S 20 31 46.4 -2.1**
ARU pmax pmax
comp=Z,11nm,0.7s,mb4.7
ARU Arti 43.52 43 P **P 20 25 17.4 -2.3**
ARU Arti 43.52 43 *i* P **P 20 25 18.1 -1.6**
comp=Z,11nm,0.7s,mb4.7
AB31 Akbulak array 44.55 53 *e*P **P 20 25 26.5 -1.4**
MBAR Mbarara 45.90 136 *i* P **P 20 25 37.0 -1.6**
SCHQ Schefferville 48.96 315 P **P 20 26 01.5 -1.0**
comp=Z,1.9nm,0.5s,mb4.4,baz=82,slow=12,SNR=6.5
ZRNK Zerenda 49.76 47 *e*P **P 20 26 07.6 -0.9**
ZRNK pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
ZRNK Zerenda 49.76 47 *e*P **P 20 26 07.6 -0.9**
comp=Z,8.3nm,0.7s,mb4.9
ZRNK Zerenda 49.76 47 *e*P **P 20 26 07.6 -0.9**
comp=Z,8.3nm,0.7s,mb4.9
KMBO Kilima Mbogo 50.23 129 P **P 20 26 10.9 -1.2**
comp=Z,2.6nm,0.6s,mb4.4,baz=239,slow=23,SNR=6.2
KMBO Kilima Mbogo 50.23 129⇑ *e*P **P 20 26 12.0 -0.1**
BRVK Borovoye 50.50 47 *i* P **P 20 26 13.8 -0.4**
BVA0 Borovoye Array 50.57 47 *i* P **P 20 26 13.9 -0.8**
BVA0 pmax pmax
comp=Z,2.0nm,1.3s,mb3.9
BVA0 Borovoye Array 50.57 47 *i* P **P 20 26 13.9 -0.8**
comp=Z,2.0nm,1.3s,mb3.9
BVAR Borovoye Array 50.57 47 P **P 20 26 13.8 -0.9**
comp=Z,1.0nm,0.5s,mb4.0,baz=283,slow=7.4,SNR=12
CHKZ Chkalovo 50.60 46 *i* P **P 20 26 13.5 -1.4**
CHKZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CHKZ Chkalovo 50.60 46 *i* P **P 20 26 13.6 -1.3**
WSAR Wadi Sarin 51.34 88 P **P 20 26 19.8 -0.7**
comp=Z,13nm,1.1s,mb4.8,baz=304,slow=7.3,SNR=3.0
KK31 Karatay Array 52.98 59 *i* P **P 20 26 31.5 -1.2**
AAK Ala-Archa 55.90 59⇓ *e*P **P 20 26 53.0 -1.0**
KURK Kurchatov 56.07 49⇑ *i*P **P 20 26 53.8 -1.3**
LSZ Lusaka 57.22 148 P **P 20 27 02.9 -0.4**

comp=Z,3.0nm,0.6s,mb4.5,baz=332,slow=7.0,SNR=12
NVS Novosibirsk 57.53 43 *i* P **P** **20 27 04.7 -0.8**
NVS pmax pmax
comp=E,8.0nm,1.0s
NVS pmax pmax
comp=Z,18nm,1.0s,mb5.1
ZAL Zalesovo 58.68 44 P **P** **20 27 12.8 -0.8**
comp=Z,6.2nm,0.6s,mb4.8,baz=184,slow=6.7,SNR=28
ZAL LR LR 20 53 53.0
comp=Z,54nm,20.0s,MS3.7,baz=90,slow=38
MKAR Makanchi Array 59.65 52 P **P** **20 27 19.3 -1.0**
MKAR Makanchi Array 59.65 52⇑ *e*P **P** **20 27 19.2 -1.1**
MKAR Makanchi Array 59.65 52 P **P** **20 27 19.3 -1.0**
comp=Z,8.5nm,0.7s,mb4.9,baz=297,slow=5.3,SNR=48
KRAR Krasnoyarsk 62.26 39⇓ *e*P **P** **20 27 34.7 -3.3**
KRAR pmax pmax
comp=Z,21nm,1.0s,mb5.2
ULM Lac du Bonnet 67.11 316 P **P** **20 28 08.7 -1.0**
comp=Z,3.6nm,0.8s,mb4.5,baz=80,slow=9.0,SNR=4.4
BOSA Boshof 68.27 157 P **P** **20 28 17.0 0.0**
comp=Z,3.1nm,0.9s,mb4.3,baz=32,slow=5.5,SNR=3.1
BOSA Boshof 68.27 157 P **P** **20 28 17.0 0.0**
MOY Mondy 68.53 41 *e*P **P** **20 28 19.0 +0.4**
BDFB Brasilia 68.89 231 P **P** **20 28 21.8 +1.0**
comp=Z,3.0nm,0.7s,mb4.3,baz=33,slow=2.3,SNR=4.9
KOLN Koldanda 68.98 70 *e*P **P** **20 28 20.6 -0.9**
comp=Z,10nm,0.9s,mb4.8
YKA Yellowknife Ar 69.10 333 P **P** **20 28 21.5 -0.6**
comp=Z,2.6nm,0.7s,mb4.3,baz=52,slow=6.3,SNR=9.6
GKN Gorkha 69.66 70 *e*P **P** **20 28 24.4 -1.2**
comp=Z,28nm,0.9s,mb5.2
SDV Santo Domingo 69.67 266 P **P** **20 28 26.6 +0.8**
comp=Z,3.1nm,0.4s,mb4.6,baz=63,slow=3.6,SNR=4.5
TLY Talaya 69.92 40*c* *i*P **P** **20 28 27.6 +0.3**
TLY pmax pmax
comp=Z,13nm,1.3s,mb4.7
TLY Talaya 69.92 40⇑ *i*P **P** **20 28 27.7 +0.4**
DMN Daman 70.21 70 *e*P **P** **20 28 28.3 -0.8**
comp=Z,44nm,1.0s,mb5.3
KKN Kakani 70.25 70 *e*P **P** **20 28 28.7 -0.6**
comp=Z,26nm,0.8s,mb5.2
KKN Kakani 70.25 70 *e*P **P** **20 28 28.7 -0.6**
KKN pmax pmax
comp=Z,26nm,0.8s,mb5.2
ZAK Zakamensk 70.43 42⇓ *i*P **P** **20 28 30.3 -0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
ZAK pmax pmax
comp=Z,1.0nm,1.5s,mb3.5
PKI Pulchoki 70.46 70 *e*P **P** **20 28 30.0 -0.6**
INK Inuvik 70.60 344 P **P** **20 28 30.3 -1.1**
comp=Z,2.2nm,0.5s,mb4.3,baz=26,slow=8.5,SNR=20
INK Inuvik 70.60 344 *e*P **P** **20 28 30.6 -0.8**
GUN Gumba 70.65 69 *e*P **P** **20 28 31.7 0.0**
comp=Z,65nm,1.2s,mb5.5
JIRN Jiri 71.01 69 *e*P **P** **20 28 33.7 -0.2**
comp=Z,26nm,0.9s,mb5.2
BOD Bodaibo 71.27 31⇑ *i*P **P** **20 28 34.1 -1.4**
BOD pmax pmax
comp=Z,12nm,0.9s,mb4.8
SONM Songino Array 73.56 43 P **P** **20 28 48.9 -0.3**
comp=Z,2.9nm,0.6s,mb4.4,baz=279,slow=9.1,SNR=28
MIAR Mount Ida 73.69 301 *e*P **P** **20 28 49.7 -0.2**
MIAR pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MIAR Mount Ida 73.69 301 *e*P **P** **20 28 49.7 -0.3**
comp=Z,7.8nm,0.9s,mb4.6
YAK Yakutsk 74.09 22*d* *i*P **P** **20 28 51.5 -0.8**
YAK pmax pmax
comp=Z,29nm,1.3s,mb5.0
YAK Yakutsk 74.09 22⇓ *i*P **P** **20 28 51.6 -0.7**
GTA Gaotai 74.40 53⇑ P **P** **20 28 54.0 -0.1**
GTA AMB AMB
comp=Z,9.0nm,0.6s,mb4.9
DAWY Dawson 75.45 343 *e*P **P** **20 29 00.7 +0.6**
DAWY *e* pP 20 29 04.4 +0.9
IMA2 Indian Mountai 76.41 350 *e*P **P** **20 29 06.3 +0.7**
IMA2 *e* pP 20 29 10.4 +1.5
COLA College 76.53 347*c* *i*P **P** **20 29 07.4 +1.1**
WMOK Wichita Mounta 77.16 304 *e*P **P** **20 29 09.5 -0.4**
WMOK pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
WMOK Wichita Mounta 77.16 304 *e*P **P** **20 29 09.5 -0.4**
comp=Z,5.7nm,1.1s,mb4.4
WALA Waterton Lakes 77.39 322 *e*P **P** **20 29 11.1 -0.1**
comp=Z,5.7nm,0.9s,mb4.5
WALA *e* pP 20 29 14.7 +0.3
SIV San Ignacio 77.87 240 P **P** **20 29 14.3 +0.5**
comp=Z,1.8nm,0.8s,mb4.0,baz=70,slow=5.3,SNR=6.0
BOZ Bozeman (W) 78.42 318 P **P** **20 29 17.6 +0.7**
BOZ pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
BOZ Bozeman (W) 78.42 318 P **P** **20 29 17.6 +0.8**
comp=Z,5.8nm,1.2s,mb4.4
ISCO Idaho Springs 78.60 311 *e*P **P** **20 29 18.3 +0.4**
ISCO pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
ISCO Idaho Springs 78.60 311 *e*P **P** **20 29 18.3 +0.5**
comp=Z,5.7nm,1.1s,mb4.4
LZH Lanzhou 78.92 53 *e*P **P** **20 29 20.3 +0.7**
LZH AMB AMB
comp=Z,21nm,1.3s,mb4.9
PDAR Pinedale Array 79.10 315 P **P** **20 29 20.4 -0.2**
comp=Z,4.5nm,0.9s,mb4.4,baz=49,slow=6.8,SNR=23
DLMT Dillon 79.12 319 *e*P **P** **20 29 21.4 +0.7**
comp=Z,9.6nm,1.2s,mb4.6
NEW Newport 79.50 323 P **P** **20 29 22.5 -0.3**
comp=Z,2.5nm,0.8s,mb4.2,baz=337,slow=7.8,SNR=3.7
PV10 Paradox Valley 81.57 312 *e*P **P** **20 29 34.9 +1.0**
MA2 Magadan 81.68 15⇑ *e*P **P** **20 29 35.5 +1.0**
MA2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
SRU San Rafael 82.00 313 *e*P **P** **20 29 36.4 +0.3**
SRU pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SRU San Rafael 82.00 313 *e*P **P** **20 29 36.4 +0.2**
comp=Z,4.2nm,0.7s,mb4.5
SRU *e* pP 20 29 40.3 +0.9
C05A Tolt Reservoir 82.09 325⇑ P **P** **20 29 35.9 -0.7**
baz=82
ANMO Albuquerque 82.11 308 P **P** **20 29 37.6 +0.9**
comp=Z,2.8nm,1.1s,mb4.1,baz=42,slow=2.8,SNR=5.1
ANMO Albuquerque 82.11 308*d* *e*P **P** **20 29 37.9 +1.2**
D05A Enumclaw 82.59 325⇓ P **P** **20 29 39.1 -0.2**
baz=82
CPUP Villa Florida 82.60 230 P **P** **20 29 39.0 -0.3**
comp=Z,0.3nm,0.3s,mb3.8,baz=43,slow=4.4,SNR=4.9
B04A Port Angeles 82.66 326⇓ P **P** **20 29 39.3 -0.3**
baz=82
E05A Randle 82.94 324⇑ P **P** **20 29 41.0 -0.1**
baz=83
M12A Wells 83.00 317⇓ P **P** **20 29 41.3 -0.1**
baz=83
LPAZ La Paz 83.13 244 P **P** **20 29 44.1 +2.1**
comp=Z,0.8nm,0.8s,mb3.8,baz=45,slow=3.3,SNR=4.2
MSU Marysvale 83.36 313 *e*P **P** **20 29 44.0 +0.7**
N12A Clover Valley, 83.45 317⇑ P **P** **20 29 44.3 +0.6**
baz=83
M11A Holland Ranch, 83.47 317⇑ P **P** **20 29 44.2 +0.4**
baz=83
G05A Wamic 83.68 323⇑ P **P** **20 29 44.8 -0.1**
baz=84
O12A Currie 83.68 316⇓ P **P** **20 29 45.6 +0.7**
baz=84
F04A Amboy 83.71 324⇑ P **P** **20 29 44.6 -0.5**
baz=84
M10A I.L. Ranch, Tu 83.83 318⇑ P **P** **20 29 46.5 +0.9**
baz=84
I06A Prineville 84.06 321⇓ P **P** **20 29 48.7 +1.8**
baz=84
L09A Wilkinson Ranc 84.09 319⇓ P **P** **20 29 48.6 +1.6**
baz=84
O11A Cowboy Ranch, 84.29 316⇑ P **P** **20 29 49.4 +1.4**
baz=84
P12A McGill 84.31 315⇓ P **P** **20 29 49.0 +0.9**
baz=84
WVOR Wild Horse Val 84.31 320 *e*P **P** **20 29 47.6 -0.5**
WVOR pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
WVOR Wild Horse Val 84.31 320 *e*P **P** **20 29 47.5 -0.6**
comp=Z,8.6nm,1.1s,mb4.8
M09A Marrel Ranch, 84.39 318⇓ P **P** **20 29 49.0 +0.5**
baz=84
I05A Bend 84.44 322⇓ P **P** **20 29 50.5 +1.8**
baz=84
J06A Christmas Vall 84.52 321 P **P** **20 29 50.3 +1.1**
baz=84,SNR=14

N09A Rock Creek Ran 84.82 318⇓ P **P** **20 29 51.7 +1.0**
baz=85
K06A Valley Falls 84.89 321 P **P** **20 29 52.2 +1.2**
baz=85,SNR=5.6
L07A Adell 84.98 320⇑ P **P** **20 29 53.2 +1.7**
baz=85
J05A Fort Rock 85.06 321⇓ P **P** **20 29 53.3 +1.4**
baz=85
P10A Eureka 85.09 316⇓ P **P** **20 29 53.5 +1.4**
baz=85
O09A Fish Creek Ran 85.11 317 P **P** **20 29 53.6 +1.4**
baz=85,SNR=12
Q11A Duckwater 85.16 315 P **P** **20 29 53.4 +1.0**
baz=85,SNR=8.4
M07A Soldier Meadow 85.33 319⇑ P **P** **20 29 54.7 +1.4**
baz=85
MOD Modoc 85.56 320 *e*P **P** **20 29 52.9 -1.5**
comp=Z,3.5nm,1.1s,mb4.5
MOD *e* 20 29 59.1
MOD Modoc 85.56 320⇓ P **P** **20 29 54.6 +0.2**
baz=85
L05A Lakeview 85.73 320 P **P** **20 29 57.1 +1.9**
baz=86,SNR=6.6
R10A Warm Springs 85.91 315 P **P** **20 29 58.1 +2.0**
baz=86,SNR=7.5
O07A Toulon 86.05 318⇑ P **P** **20 29 57.6 +0.8**
baz=86,SNR=6.3
X15A Humboldt 86.05 310 P **P** **20 29 58.6 +1.7**
baz=86,SNR=5.1
W14A Seligman 86.09 311 P **P** **20 29 58.8 +1.7**
baz=86,SNR=5.1
N06A Buffalo Meadow 86.14 319⇑ P **P** **20 29 58.1 +0.9**
baz=86
M06C Likely Place G 86.16 320⇑ P **P** **20 29 58.1 +0.8**
baz=86
R09A Tonopah 86.38 316⇓ P **P** **20 29 58.8 +0.3**
baz=86,SNR=13
M05C Lookout 86.39 320⇓ P **P** **20 29 59.8 +1.3**
baz=86
HUMO Hull Mountain 86.41 322⇓ P **P** **20 30 01.5 +2.9**
baz=86
Q08A Gabbs 86.44 317⇑ P **P** **20 29 57.0 -1.7**
baz=86
X14A Yava 86.47 311⇓ P **P** **20 29 59.1 +0.2**
baz=86
O06A Flanigan 86.56 319⇓ P **P** **20 30 00.7 +1.3**
baz=86
W13A Hualapai Mount 86.66 312⇑ P **P** **20 29 58.9 -0.9**
baz=86
V12A Nelson 86.81 313⇓ P **P** **20 30 01.9 +1.4**
baz=87
S09A Goldfield 86.83 315 P **P** **20 30 01.7 +1.1**
baz=87,SNR=9.2
NVAR Mina Array Bea 86.94 316 P **P** **20 30 01.7 +0.5**
comp=Z,6.6nm,0.7s,mb3.9,baz=44,slow=5.5,SNR=3.0
V11A Goodsprings 87.08 313⇑ P **P** **20 30 02.9 +1.0**
baz=87
U10A Ash Meadows, A 87.21 314⇓ P **P** **20 30 03.1 +0.6**
baz=87
115A Sonoran Desert 87.23 309⇓ P **P** **20 30 02.0 -0.6**
baz=87
R06C Coleville 87.52 317⇑ P **P** **20 30 04.8 +0.8**
baz=87
P05C Yuba Gap, Truc 87.59 318⇑ P **P** **20 30 04.4 0.0**
baz=87
R07C Lee Vining 87.60 317⇑ P **P** **20 30 05.7 +1.3**
baz=87
TUQ Turquoise Mtn. 87.65 313⇓ P **P** **20 30 05.6 +0.9**
baz=88
Y12C Blythe 87.95 311⇓ P **P** **20 30 07.1 +1.1**
baz=88
O02C Red Bluff 88.11 320⇑ P **P** **20 30 07.9 +1.1**
baz=88
S06C San Francisco 88.19 317⇓ P **P** **20 30 08.6 +1.4**
baz=88
GSC Goldstone 88.26 313⇑ P **P** **20 30 07.9 +0.4**
baz=88
Q04C Lincoln 88.34 319⇓ P **P** **20 30 11.6 +3.7**
baz=88
T06C Millerton Lake 88.74 316⇓ P **P** **20 30 11.0 +1.3**
baz=88
S05C Merced 88.84 317⇓ P **P** **20 30 10.5 +0.3**
baz=89
MNRC McLaughlin Nat 88.88 319⇓ P **P** **20 30 11.9 +1.5**
baz=89
ISA Isabella 88.98 315⇓ P **P** **20 30 12.5 +1.6**
baz=89
SSE Sheshan 93.08 48 *e*P **P** **20 30 27.1 -2.9**
SSE AMB AMB
comp=Z,15nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,114nm,5.6s
WRA Warramunga Arr 136.53 81 PKP PKPdf 20 36 37.2 -1.0
comp=Z,1.2nm,0.7s,baz=317,slow=1.7,SNR=16
ASAR Alice Springs 138.02 86 PKhKP
comp=Z,0.2nm,0.6s,baz=299,slow=2.9,SNR=3.3
ASAR PKP PKPdf 20 36 40.0 -1.0
comp=Z,0.6nm,0.6s,baz=312,slow=1.2,SNR=10
CTA Charters Tower 146.01 72 ePKP2 PKPbc 20 36 55.6 -0.4
comp=Z,12nm,1.0s,baz=269,slow=4.4,SNR=8.7
CTAO Charters Tower 146.01 72 ePKP2 PKPab 20 36 56.0 -0.5
STKA Stephens Creek 147.50 94 PKPbc PKPbc 20 36 59.5 -0.8
comp=Z,18nm,0.7s,baz=318,slow=4.1,SNR=59

*ISCJB **23** 20:19:29.6±4.2, 56S±0.1×150.8E±0.2, h90km±32km, mb3.8/7, Error ellipse: s-maj=38.1km s-min=24.2km az=4.0*
*IDC **23** 20:19:29.9±8.3, 5.47S×150.73E, h75km±61km, mb3.5/3, mb1 3.8/4, mb1mx3.5/14, mbtmp3.9/4, ML2.8/1, MS3.3/5, Ms1 3.3/5, ms1mx3.0/25, Error ellipse: s-maj=94.1km s-min=54.9km az=127.0*
*NEIC **23** 20:19:31.8±3.0, 5.55S×150.63E, h90km±22km, mb4.0/5, Error ellipse: s-maj=26.8km s-min=16.8km az=83.0*
ISC 23 20:19:30.1±4.0, 5.55S±01×150.8E±0.2, h82km±30km, n20, σ0.76/15, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.31**	**223**	P	**Pn**	**20 20 46.5**	**-0.4**
	2.3nm,0.3s,baz=73,slow=4.3,SNR=7.0						
PMG				S	**Sn**	**20 21 47.4**	**+0.7**
	0.6nm,0.3s,baz=248,slow=23,SNR=1.9						
PMG				LR	LR	20 22 39.7	
	comp=Z,156nm,21.6s,baz=205,slow=36						
CTA	**Charters Tower**	**15.15**	**197**	LR	LR	20 27 26.7	
	comp=Z,105nm,19.6s,baz=20,slow=31						
GUMO	**Guam**	**19.88**	**343**	LR	LR	20 29 54.4	
	comp=Z,92nm,18.9s,baz=53,slow=32						
WRAB	**Tennant Creek**	**21.50**	**227**	*e*P	**P**	**20 24 12.3**	**+0.2**
	5.8nm,0.8s,mb4.0						
WB2	**Warramunga Arr**	**21.51**	**227**	*e*P	**P**	**20 24 11.6**	**-0.6**
WB2	**Warramunga Arr**	**21.51**	**227**	*e*P	**P**	**20 24 11.8**	**-0.4**
WRA	**Warramunga Arr**	**21.51**	**227**	P	**P**	**20 24 11.0**	**-1.3**
	5.2nm,0.9s,mb3.9,baz=53,slow=11,SNR=13						
DZM	**Mont Dzumac**	**22.34**	**139**	LR	LR	20 31 23.9	
	comp=Z,174nm,19.6s,baz=19,slow=32						
ASAR	**Alice Springs**	**24.32**	**220**	P	**P**	**20 24 40.5**	**+0.6**
	1.4nm,0.8s,mb3.3,baz=52,slow=8.7,SNR=12						
FITZ	**Fitzroy Crossi**	**27.60**	**241**	*e*P	**P**	**20 25 09.4**	**-0.2**
	6.1nm,0.7s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.60**	**241**	P	**P**	**20 25 09.5**	**-0.1**
	2.1nm,0.8s,mb3.7,baz=184,slow=12,SNR=4.8						
STKA	**Stephens Creek**	**27.62**	**197**	P	**P**	**20 25 09.5**	**-0.3**
TAU	**Tasmania Unive**	**37.37**	**184**	P	**P**	**20 26 35.3**	**+0.5**
MJAR	**Matsushiro Arr**	**43.47**	**345**	LR	LR	20 44 02.0	
	comp=Z,31nm,18.5s,baz=205,slow=34						
KULM	**Kulim**	**51.24**	**281**	*e*P	**P**	**20 28 25.2**	**-0.1**
KURK	**Kurchatov**	**83.12**	**322**	*e*P	**P**	**20 31 48.8**	**+1.9**
	0.8nm,0.5s,mb3.8						
CHKZ	**Chkalovo**	**88.62**	**324**	*e*P	**P**	**20 32 14.0**	**0.0**
	0.4nm,0.4s,mb3.8						
ZRNK	**Zerenda**	**89.44**	**323**	*e*P	**P**	**20 32 16.9**	**-1.0**
	0.5nm,0.3s,mb4.0						
SIV	**San Ignacio**	**141.88**	**125**	PKP	PKPdf	20 38 55.0	+2.7
	1.2nm,0.9s,baz=246,slow=3.9,SNR=5.2						
TORD	**Torodi Ar. Bea**	**148.64**	**286**	PKPbc	PKPbc	20 39 09.2	+1.5
	0.9nm,0.7s,baz=81,slow=3.0,SNR=7.6						

*ISCJB **23** 20:19:34.5±0.7, 159S±02×174.0W±02, h100km, mb4.2/6, Error ellipse: s-maj=35.3km s-min=8.3km az=107.3*
*IDC **23** 20:19:36.5±3.4, 1.589S×173.82W, h116km±31km, mb3.8/3, mb1 4.0/4, mb1mx3.6/14, mbtmp4.2/4, Error ellipse: s-maj=175.8km s-min=25.5km az=139.0*

*NEIC **23** 20:19:38.6±1.6, 1.573S×173.88W, h133km±19km, mb4.1/3, Error ellipse: s-maj=31.8km s-min=20.5km az=149.0*
ISC 23 20:19:36.4±0.8, 1.59S±02×173.9W±02, h100km, n14, σ0.80/13, mb4.2/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.88**	**47**	P	**Pn**	**20 20 21.7**	**+1.2**
	41nm,0.3s,baz=161,slow=1.5,SNR=50						
AFI				S	**Sn**	**20 20 53.6**	**-0.9**
	84nm,0.3s,baz=36,slow=20,SNR=19						
PMG	**Port Moresby**	**38.47**	**275**	*e*P	**P**	**20 26 50.5**	**+2.0**
	5.1nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**43.34**	**240**	P	**P**	**20 27 28.2**	**-0.3**
	0.7nm,0.4s,mb3.8,baz=161,slow=11,SNR=2.8						
WB2	**Warramunga Arr**	**49.22**	**257**	*e*P	**P**	**20 28 14.0**	**-0.5**
WRAB	**Tennant Creek**	**49.22**	**257**	*e*P	**P**	**20 28 14.1**	**-0.5**
	1.0nm,0.3s,mb4.2						
WRA	**Warramunga Arr**	**49.23**	**257**	P	**P**	**20 28 13.5**	**-1.1**
	0.5nm,0.3s,mb3.9,baz=98,slow=6.6,SNR=31						
AS31	**Alice Springs**	**49.47**	**252**	*e*P	**P**	**20 28 16.1**	**-0.3**
ASAR	**Alice Springs**	**49.47**	**252**	P	**P**	**20 28 16.3**	**-0.1**
	8.1nm,0.5s,mb4.9,baz=88,slow=7.7,SNR=159						
ASPA	**Alice Springs**	**49.47**	**252**	*e*P	**P**	**20 28 16.1**	**-0.3**
MBWA	**Marble Bar**	**62.73**	**254**	*e*P	**P**	**20 29 51.2**	**+0.4**
VNDA	**Vanda**	**62.82**	**186**	*e*P	**P**	**20 29 51.7**	**+0.3**
	0.2nm,0.3s,mb3.5						
NWAO	**Narrogin (SRO)**	**63.93**	**241**	P	**P**	**20 29 59.1**	**+0.4**
BRTR	**Keskin Array B**	**146.23**	**320**	PKPbc	PKPbc	20 39 04.0	-1.1
	0.9nm,0.9s,baz=49,slow=4.4,SNR=4.8						
GERES	**GERESS Array B**	**146.57**	**351**	PKPbc	PKPbc	20 39 03.3	-2.8
	0.2nm,0.6s,baz=54,slow=6.8,SNR=3.5						

*IDC **23** 20:40:27.0±0.4, 9.50S×107.42E, h0km, mb4.5/17, mb1 4.6/18, mb1mx4.5/22, mbtmp4.5/18, ML3.9/1, MS3.9/4, Ms1 3.9/4, ms1mx3.3/38, Error ellipse: s-maj=20.4km s-min=10.5km az=62.0*
*BJI **23** 20:40:28.7, 9.60S×107.40E, h10km, mB5.0, mb4.9, Ms4.5, Msz4.3*
*NEIC **23** 20:40:28.7±0.2, 9.59S×107.40E, h10km, mb4.9/26, Error ellipse: s-maj=8.1km s-min=4.6km az=52.0*
*MOS **23** 20:40:29.9±1.1, 9.51S×107.51E, h29km, mb5.1/22, Error ellipse: s-maj=12.7km s-min=7.4km az=109.0*
*ISCJB **23** 20:40:30.6±0.3, 9.64S±004×107.44E±005, h36km, mb4.8/63, MS4.2/9, Error ellipse: s-maj=7.8km s-min=5.3km az=120.6*
ISC 23 20:40:32.7±0.3, 9.65S±004×107.43E±005, h38km, h38km±1.5km: pP-P, n156, σ0.92/139, mb4.8/63, MS4.2/9, 10C-12D, South of Java

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**2.81**	**4**	P	**Pn**	**20 41 14.7**	**-0.5**
	2um,0.9s						
BJII	**Banjamegara**	**3.22**	**45**	P	**Pn**	**20 41 20.9**	**+0.1**
	251nm,0.9s						
KSI	**Kapahiang**	**7.65**	**321**	P	**Pn**	**20 42 17.8**	**-3.8**
	161nm,0.8s						
COCO	**West Island**	**10.70**	**255**	*e*Pn	**Pn**	**20 42 58.0**	**-5.5**
PSI	**Prapat**	**14.99**	**325**	Pn	**Pn**	**20 44 02.2**	**+0.4**
	0.7nm,0.3s,baz=324,slow=17,SNR=6.4						
PSI				LR	LR	20 50 13.9	
	comp=Z,295nm,18.8s,baz=140,slow=40						
PCI	**Palu**	**15.09**	**56**	P	**Pn**	**20 44 03.7**	**+0.5**
	121nm,1.7s						
KULM	**Kulim**	**16.30**	**335**	*e*Pn	**Pn**	**20 44 13.7**	**-5.1**
MBWA	**Marble Bar**	**16.47**	**135**	*e*Pn	**Pn**	**20 44 16.2**	**-4.7**
	9.3nm,0.4s						
MBWA				*e*		20 44 24.8	
KKM	**Kota Kinabalu**	**17.88**	**30**	*e*Pn	**Pn**	**20 44 28.7**	**-10**
FITZ	**Fitzroy Crossi**	**19.56**	**117**⇓	*i*P	**Pn**	**20 44 58.2**	**-0.5**
	20nm,0.8s						
FITZ				*e*		20 45 08.6	
FITZ				*e*S	**S**	**20 48 20.9**	**-15**
FITZ	**Fitzroy Crossi**	**19.56**	**117**	P	**Pn**	**20 44 57.8**	**-0.9**
	0.3nm,0.3s,baz=294,slow=8.0,SNR=21						
FITZ				S	**S**	**20 48 20.6**	**-15**
	0.2nm,0.3s,baz=172,slow=21,SNR=3.7						
NNT	**Nongplab**	**23.38**	**341**	P	**P**	**20 45 39.7**	**+1.6**
KAKA	**Kakadu**	**24.72**	**99**	*e*P	**P**	**20 45 51.5**	**+1.1**
	28nm,0.8s,mb4.8						
NWAO	**Narrogin (SRO)**	**24.87**	**160**	P	**P**	**20 45 52.9**	**+1.2**
	15nm,0.9s,mb4.5,baz=338,slow=8.5,SNR=2.9						
NWAO				S	**S**	**20 50 20.9**	**+8.7**
	8.0nm,1.0s,baz=172,slow=9.5,SNR=2.4						
NWAO	**Narrogin (SRO)**	**24.87**	**160**	*e*P	**P**	**20 45 52.5**	**+0.8**
NWAO				S	**S**	**20 50 20.9**	**+8.7**
NST	**Nakhon Sawan**	**26.18**	**344**	P	**P**	**20 46 04.7**	**+1.1**
KKTK	**Khon Kaen**	**26.22**	**350**	⇑P	**P**	**20 46 04.0**	**+0.1**
WRA	**Warramunga Arr**	**27.92**	**115**	P	**P**	**20 46 19.1**	**-0.1**
	6.1nm,0.7s,mb4.3,baz=287,slow=11,SNR=53						
WRA				PcP	PcP	20 49 34.7	+0.6
	0.8nm,0.5s,baz=301,slow=2.0,SNR=6.6						
WRA				S	S	20 51 43.3	+43
	1.1nm,0.8s,baz=290,slow=24,SNR=3.6						
WRA	**Warramunga Arr**	**27.92**	**115**	P	**P**	**20 46 19.1**	**-0.1**
WRA						20 49 34.7	
WRAB	**Tennant Creek**	**27.92**	**115**	*e*P	**P**	**20 46 19.6**	**+0.3**
WRAB				*e*	pP	20 46 29.9	+0.1
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**27.92**	**115**	*e*P	**P**	**20 46 19.6**	**+0.4**
	comp=Z,7.8nm,0.6s,mb4.5						
WRAB				*e*	pP	20 46 29.9	+0.1
WB2	**Warramunga Arr**	**27.93**	**115**	*e*P	**P**	**20 46 19.2**	**-0.1**
QIZ	**Qiongzhong**	**28.60**	**5**	P	**P**	**20 46 26.6**	**+1.3**
QIZ				*e*S	**S**	**20 51 11.3**	**+0.3**
QIZ				AMB	AMB		
	comp=Z,13nm,1.6s,mb4.4						
QIZ				LR	LR		
	comp=N,239nm,14.4s						
QIZ				LR	LR		
	comp=Z,361nm,14.7s,MS4.1						
QIZ	**Qiongzhong**	**28.60**	**5**	*e*P	**P**	**20 46 26.5**	**+1.3**
	comp=Z,26nm,1.6s,mb4.7						
ASPA	**Alice Springs**	**28.87**	**122**	*e*P	**P**	**20 46 28.3**	**+0.6**
ASAR	**Alice Springs**	**28.87**	**122**	P	**P**	**20 46 27.6**	**0.0**
	comp=Z,1.6nm,0.9s,mb3.8,baz=308,slow=9.2,SNR=18						
ASAR				PcP	PcP	20 49 37.6	+1.2
	comp=Z,1.2nm,0.6s,baz=300,slow=2.3,SNR=6.8						
ASAR				Sn	S	20 52 03.3	+48
	comp=Z,1.1nm,0.9s,baz=292,slow=23,SNR=4.2						
ASAR	**Alice Springs**	**28.87**	**122**	P	**P**	**20 46 27.7**	**0.0**
ASAR						20 49 37.6	
AS31	**Alice Springs**	**28.87**	**122**	*e*P	**P**	**20 46 28.3**	**+0.6**
CHG	**Chiang Mai**	**29.49**	**344**	⇓P	**P**	**20 46 33.3**	**+0.1**
	comp=Z,16nm,1.0s,mb4.7						
CHTO	**Chiang Mai**	**29.49**	**344**	⇑P	**P**	**20 46 33.7**	**+0.5**
	SNR=5.5						
CHTO	**Chiang Mai**	**29.49**	**344**	*e*P	**P**	**20 46 33.4**	**+0.2**
CHTO				*e*	pP	20 46 44.9	+1.1
CHTO				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.7						
CHTO	**Chiang Mai**	**29.49**	**344**	*e*P	**P**	**20 46 33.4**	**+0.1**
	comp=Z,14nm,0.9s,mb4.7						
CHTO				*e*	pP	20 46 44.9	+1.0
KMI	**Kunming**	**34.86**	**353**	P	**P**	**20 47 22.3**	**+2.0**
KMI				AP	pP	20 47 31.8	+0.8
KMI				XP	sP	20 47 35.3	-0.2
KMI				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
KMI				LR	LR		
	comp=N,401nm,14.4s,MS4.3						
KMI				LR	LR		
	comp=E,172nm,15.5s,MS4.3						
KMI				LR	LR		
	comp=Z,405nm,12.8s,MS4.4						
GYA	**Guiyang**	**35.90**	**359**	P	**P**	**20 47 30.0**	**+0.8**
GYA				AP	pP	20 47 34.8	-5.1
GYA				XP	sP	20 47 37.6	-6.8
GYA				PP	PP	20 48 51.4	+0.3
GYA				PCP	PcP	20 50 02.6	+6.9
GYA				S	**S**	**20 53 07.4**	**+2.8**
GYA				SCP	ScP	20 53 41.3	+2.5
GYA				SS	SS	20 55 30.4	-12
GYA				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.3						
GYA				AMB	AMB		
	comp=Z,140nm,4.3s						
GYA				LR	LR		
	comp=N,580nm,15.4s,MS4.6						
GYA				LR	LR		
	comp=E,490nm,15.0s,MS4.6						

GYA LR LR
comp=Z,570nm,14.8s,MS4.5
YHNB Yeheng 36.72 22 P P 20 47 36.2 0.0
STKA Stephens Creek 38.59 130 *e*P P 20 47 52.3 +0.3
comp=Z,13nm,0.9s,mb4.7
STKA Stephens Creek 38.59 130 P P 20 47 52.2 +0.2
comp=Z,10nm,0.8s,mb4.6,baz=307,slow=8.5,SNR=13
STKA PcP PcP 20 50 03.5 -0.4
comp=Z,1.2nm,0.4s,baz=209,slow=7.9,SNR=2.5
CTA Charters Tower 38.84 110 P P 20 47 55.4 +1.3
comp=Z,7.6nm,0.9s,mb4.4,baz=279,slow=12,SNR=6.3
CTAO Charters Tower 38.84 110 *e*P P 20 47 56.0 +1.9
CTAO *e**PP pP 20 48 06.7 +1.8
CTAO pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
CTAO Charters Tower 38.84 110 *e*P P 20 47 56.0 +1.9
comp=Z,7.2nm,0.7s,mb4.5
CTAO *ep*P pP 20 48 06.7 +1.8
JOW Kunigami 41.53 29 LR LR 21 04 44.8
comp=Z,193nm,19.9s,MS4.0,baz=342,slow=35
JIRN Jiri 42.41 332 *e*P P 20 48 24.3 +0.7
SSE Sheshan 42.61 18 *e*P P 20 48 24.5 -0.6
SSE AMB AMB
comp=Z,23nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,133nm,5.1s
PKI Pulchoki 42.71 331 *e*P P 20 48 25.0 -1.0
GUN Gumba 42.77 331 *e*P P 20 48 27.1 +0.6
comp=Z,101nm,0.7s,mb5.7
NJ2 Nanjing 42.88 14 *e*P P 20 48 28.0 +0.6
NJ2 AP pP 20 48 37.9 -0.4
NJ2 XP sP 20 48 41.3 -1.5
NJ2 PP PP 20 50 10.3 +3.0
NJ2 S **S** **20 54 51.0 +1.6**
NJ2 XS sS 20 55 05.0 -2.4
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,130nm,6.0s
NJ2 LR LR
comp=N,320nm,15.9s,MS4.5
NJ2 LR LR
comp=E,340nm,15.0s,MS4.5
DMN Daman 42.89 330 *e*P P 20 48 27.7 +0.3
comp=E,86nm,0.9s,mb5.5
KKN Kakani 42.95 331 *e*P P 20 48 28.0 0.0
comp=E,81nm,0.9s,mb5.5
KKN Kakani 42.95 331 *e*P P 20 48 28.0 0.0
KKN pmax pmax
comp=Z,81nm,0.9s,mb5.5
GKN Gorkha 43.45 330 *e*P P 20 48 31.7 -0.2
comp=Z,20nm,0.3s,mb5.3
XAN Xi'an 43.47 2 P P **20 48 31.9 -0.2**
XAN AP pP 20 48 41.4 -1.6
XAN AMB AMB
comp=Z,15nm,0.8s,mb4.8
KOLN Koldanda 43.77 329 *e*P P 20 48 34.9 +0.3
comp=Z,58nm,0.7s,mb5.4
LZH Lanzhou 45.61 356 *e*P P 20 48 49.8 +0.6
LZH AP pP 20 49 01.6 +1.4
LZH PP PP 20 50 36.9 +0.5
LZH AMB AMB
comp=Z,27nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,73nm,6.5s
LZH LR LR
comp=N,379nm,15.2s
LZH LR LR
comp=Z,415nm,18.3s,MS4.4
NDI New Delhi 47.99 323 *e*P P 20 49 06.0 -1.9
GTA Gaotai 49.32 352 ⇓P P 20 49 19.3 +1.3
GTA AP pP 20 49 25.8 -3.3
GTA XP sP 20 49 29.1 -4.4
GTA PP PP 20 51 15.9 +3.8
GTA S **S** **20 56 27.8 +6.0**
GTA XS sS 20 56 37.6 -2.5
GTA AMB AMB
comp=Z,22nm,1.1s,mb5.1
GTA AMB AMB
comp=Z,123nm,4.2s
GTA LR LR
comp=N,215nm,14.9s,MS4.3
GTA LR LR
comp=E,152nm,18.0s,MS4.3
GTA LR LR
comp=Z,236nm,14.9s,MS4.3
CBIJ Chichi jima 49.70 42 LR LR 21 07 47.6
comp=Z,143nm,21.7s,MS3.9,baz=343,slow=33
BTO Baotou 50.06 3 *e*P P 20 49 23.3 -0.3
BJI Beijing 50.10 9 P P **20 49 22.9 -1.0**
BJI AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
HHC Hu-ho-hao-te 50.39 4 *e*P P 20 49 26.6 +0.5
HHC AP pP 20 49 30.6 -6.6
HHC XP sP 20 49 34.3 -7.4
HHC PP PP 20 51 23.0 +1.1
HHC AMB AMB
comp=Z,15nm,1.0s,mb5.0
HHC AMB AMB
comp=Z,134nm,6.7s
SNY Shenyang 53.33 15 ⇑P P 20 49 49.1 +1.0
SNY AMB AMB
comp=Z,23nm,0.5s,mb5.4
MAJO Matsushiro 54.30 30 *e*P P 20 49 53.3 -1.9
MAJO *e**PP pP 20 50 05.2 -1.1
MAJO pmax pmax
comp=Z,12nm,0.9s,mb4.8
MAJO Matsushiro 54.30 30 *e*P P 20 49 53.3 -1.8
comp=Z,12nm,0.9s,mb4.8
MAJO *ep*P pP 20 50 05.2 -1.2
MAT Matsushiro 54.30 30 P P **20 49 53.1 -2.1**
MAT Matsushiro 54.30 30 *e*P P 20 49 53.0 -2.2
MJAR Matsushiro Arr 54.30 30 P P **20 49 53.3 -1.9**
comp=Z,12nm,0.9s,mb4.8,baz=204,slow=7.9,SNR=38
CN2 Changchun 55.66 16 *e*P P 20 50 04.6 -0.4
CN2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.7
KSH Kashi 56.97 331 *e*P P 20 50 15.0 +0.7
KSH *ea*P pP 20 50 26.3 +0.8
KSH *e*XP sP 20 50 30.3 +0.3
KSH *e*S **S** **20 57 59.5 -6.3**
KSH LR LR
comp=N,231nm,4.1s
KSH LR LR
comp=E,231nm,6.5s
SONM Songino Array 57.23 359 P P 20 50 16.2 0.0
comp=E,5.9nm,0.7s,mb4.7,baz=175,slow=7.5,SNR=59
ZAK Zakamensk 59.89 357 *e*P P 20 50 34.3 -0.4
ZAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
AAK Ala-Archa 60.11 332 *de*P P 20 50 34.8 -1.4
AAK pmax pmax
comp=Z,7.0nm,1.7s,mb4.4
MKAR Makanchi Array 60.51 340 P P 20 50 38.6 -0.3
comp=Z,12nm,0.5s,mb5.2,baz=139,slow=7.3,SNR=106
MKAR Makanchi Array 60.51 340 ⇑*e*P P 20 50 38.5 -0.4
TLY Talaya 61.17 357 *e*P P 20 50 44.4 +1.0
TLY pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
TLY Talaya 61.17 357 *e*P P 20 50 44.4 +1.0
comp=Z,5.0nm,1.0s,mb4.6
MOY Mondy 61.32 355 *e*P P 20 50 45.4 +1.0
MOY pmax pmax
comp=Z,21nm,1.5s,mb5.0
CIT Chita 61.65 4 *e*P P 20 50 45.4 -1.2
CIT pmax pmax
comp=Z,31nm,2.2s,mb5.0
KLR Kul'dur 62.40 18 *e*P P 20 50 47.2 -4.5
KLR pmax pmax
comp=Z,45nm,1.6s,mb5.3
HABR Khabarovsk 62.80 20 *e*P P 20 50 53.4 -1.0
HABR *e*S **S** **20 59 21.6 +0.8**
YSS Yuzh-Sakhalins 64.55 26 ⇓*e*P P 20 51 05.0 -0.9
YSS *e* pP 20 51 16.0 -1.3
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 64.55 26 *e*P P 20 51 05.6 -0.2
comp=Z,44nm,1.0s,mb5.5
YSS *ep*P pP 20 51 16.2 -1.1
MAW Mawson 64.97 197 P P **20 51 07.8 -0.8**
comp=Z,6.6nm,1.0s,mb4.6,baz=43,slow=7.9,SNR=10
MAW Mawson 64.97 197 *e*P P 20 51 08.1 -0.5
MAW *e**PP pP 20 51 19.6 -0.4
MAW pmax pmax
comp=Z,5.0nm,0.7s
MAW Mawson 64.97 197 *e*P P 20 51 08.1 -0.6
comp=Z,4.7nm,0.7s,mb4.6
MAW *ep*P pP 20 51 19.6 -0.5
KURK Kurchatov 65.12 340 ⇑P P 20 51 09.5 -0.1
SNR=9.2
KURK Kurchatov 65.12 340 *e*P P 20 51 08.8 -0.8
KURK *e**PP pP 20 51 20.3 -0.7
KURK pmax pmax
comp=Z,19nm,0.9s,mb5.1
KURK Kurchatov 65.12 340 *e*P P 20 51 08.8 -0.8
comp=Z,19nm,0.9s,mb5.1
KURK *ep*P pP 20 51 20.3 -0.7
ZAL Zalesovo 66.18 346 P P **20 51 15.1 -1.4**
comp=Z,2.1nm,0.5s,mb4.5,baz=350,slow=2.6,SNR=13
ZAL Zalesovo 66.18 346 P P **20 51 15.1 -1.4**
BOD Bodaibo 67.45 4 *e*P P 20 51 22.8 -1.7
BOD pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
BVAR Borovoye Array 69.96 337 P P **20 51 39.8 -0.3**
comp=Z,7.3nm,0.5s,mb4.8,baz=145,slow=8.9,SNR=22
BVAR LR LR 21 26 04.2
comp=Z,68nm,18.7s,MS3.9,baz=159,slow=39
BRVK Borovoye 70.02 337 ⇑P P 20 51 39.2 -1.3
SNR=6.2
BRVK Borovoye 70.02 337 *e*P P 20 51 39.6 -0.9
BRVK pmax pmax
comp=Z,11nm,1.2s,mb4.7
BRVK Borovoye 70.02 337 *e*P P 20 51 39.5 -1.0
comp=Z,11nm,1.2s,mb4.7
CHKZ Chkalovo 70.38 338 *e*P P 20 51 42.6 -0.1
CHKZ *e**PP pP 20 51 53.7 -0.5
CHKZ pmax pmax
comp=Z,11nm,0.5s,mb5.0
CHKZ Chkalovo 70.38 338 *e*P P 20 51 42.6 -0.1
comp=Z,11nm,0.5s,mb5.0
CHKZ *ep*P pP 20 51 53.6 -0.6
ZRNK Zerenda 70.44 336 *e*P P 20 51 42.7 -0.4
ZRNK *e**PP pP 20 51 53.8 -0.8
ZRNK pmax pmax
comp=Z,20nm,1.0s,mb5.0
ZRNK Zerenda 70.44 336 *e*P P 20 51 42.7 -0.4
comp=Z,20nm,1.0s,mb5.0
ZRNK *ep*P pP 20 51 53.8 -0.7
VNDA Vanda 73.30 169 P P **20 51 58.7 -1.6**
VNDA *e**PP pP 20 52 11.1 -0.7
VNDA pmax pmax
comp=Z,8.0nm,1.5s
VNDA Vanda 73.30 169 P P **20 51 58.7 -1.6**
comp=Z,7.6nm,1.5s,mb4.4
VNDA *ep*P pP 20 52 11.1 -0.7
YAK Yakutsk 73.54 11 *e*P P 20 52 01.1 -0.5
YAK pmax pmax
comp=Z,14nm,1.1s,mb4.8
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.6s
YAK pmax pmax
comp=Z,15nm,0.8s,mb5.0
YAK pmax pmax
comp=N,6.0nm,1.2s
AKTK Aktyubinsk 73.61 330 P P **20 52 01.5 -0.5**
AKTO Aktyubinsk 73.61 330 P P **20 52 01.5 -0.5**
comp=N,2.3nm,0.5s,mb4.4,baz=131,slow=5.9,SNR=14
PET Petropavlovsk 76.09 29 ⇓*e*P P 20 52 16.4 0.0
PET pmax pmax
comp=Z,34nm,1.7s,mb5.0
MBAR Mbarara 76.78 272 ⇑*e*P P 20 52 21.0 +0.7
ARU Arti 77.18 335 ⇓*i*P P 20 52 22.4 -0.2
ARU *e* pP 20 52 32.8 -1.4
ARU *e* 20 55 16.6
ARU *e*PPP 20 57 01.6
ARU *e*S S 21 02 10.8 +1.6
ARU *e*SS SS 21 07 09.6 +2.4
ARU pmax pmax
comp=Z,23nm,1.2s,mb5.0
ARU Arti 77.18 335 *e*P P 20 52 22.3 -0.2
comp=Z,42nm,1.4s,mb5.2
MA2 Magadan 77.19 21 *e*P P 20 52 23.0 +0.4
MA2 pmax pmax
comp=Z,30nm,1.0s,mb5.2
LSZ Lusaka 77.22 256 *e*P P 20 52 24.1 +1.3
LSZ *e**PP pP 20 52 35.1 +0.7
LSZ *e**SP sP 20 52 40.7 +2.0
LSZ pmax pmax
comp=Z,18nm,1.5s,mb4.8
LSZ Lusaka 77.22 256 *e*P P 20 52 24.1 +1.3
comp=Z,18nm,1.5s,mb4.8
LSZ *ep*P pP 20 52 35.1 +0.7
LSZ *es*P sP 20 52 40.7 +1.9
BOSA Boshof 78.61 243 P P **20 52 31.6 +1.1**
comp=Z,2.6nm,1.0s,mb4.1,baz=109,slow=9.5,SNR=3.8
KIV Kislovodsk 79.12 318 *e*P P 20 52 34.6 +1.3
KIV pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
GOF Gofitskoye 79.36 319 *e*P P 20 52 36.3 +1.7
GOF pmax pmax
comp=Z,20nm,0.7s,mb5.2
EIL Elat 79.84 303 P P **20 52 37.8 +0.6**
QSPA South Pole Qui 80.36 180 *e*P P 20 52 40.2 +0.2
comp=Z,1.9nm,0.6s,mb4.2
TIXI Tiksi 82.37 7 *d*iP P 20 52 49.6 -1.1
TIXI pmax pmax
comp=Z,13nm,0.8s,mb4.9
BR131 Keskin Array S 83.90 312 *e*P P 20 52 58.3 -0.3
comp=Z,4.1nm,0.9s,mb4.6
BR131 *ep*P pP 20 53 09.8 -0.5
BRTR Keskin Array B 83.90 312 P P **20 52 58.1 -0.5**
comp=Z,1.9nm,0.8s,mb4.3,baz=134,slow=5.3,SNR=11
VRSR Storozhevoye 84.23 324 *e*P P 20 53 00.0 -0.3
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
VRSR pmax pmax
comp=N,5.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,1.0s
SNAA Sanae 87.14 197 *e*P P 20 53 15.0 +0.3
SNAA *e**PP pP 20 53 26.4 -0.1
OBN Obninsk 87.17 327 *d*iP P 20 53 14.4 -0.4
OBN *e* pP 20 53 23.7 -2.9
OBN pmax pmax
comp=Z,38nm,1.6s,mb5.4
OBN Obninsk 87.17 327 *e*P P 20 53 14.6 -0.2
comp=Z,42nm,1.4s,mb5.5
OBN *ep*P pP 20 53 26.5 -0.1
OBN *es*P sP 20 53 31.5 +0.6
KLMR Klimovskoe 87.92 333 *d*iP P 20 53 18.0 -0.4
KLMR pmax pmax
comp=Z,50nm,1.5s,mb5.5
VNA1 Neumayer--Stat 89.17 197 *e*P P 20 53 22.8 -1.5
VNA1 *e* 20 53 25.1
VNA1 *e* pP 20 53 31.7 -4.5
VNA1 *e* pP 20 53 36.0 -0.2
AKASG Malin Array Be 90.02 322 P P **20 53 27.4 -1.0**
comp=Z,0.1nm,0.3s,mb3.6,baz=87,slow=4.9,SNR=6.2
AKASG PP PP 20 56 58.4 -3.2
comp=Z,0.1nm,0.3s,baz=94,slow=6.2,SNR=6.0
AKASG Malin Array Be 90.02 322 P P **20 53 27.4 -1.0**
AKASG PP PP 20 56 58.4 -3.2
MLR Muntele Rosu 90.90 316 ⇓*i*P P 20 53 32.6 +0.2
MLR Muntele Rosu 90.90 316 ⇑P P 20 53 32.6 +0.2
BURAR Bucovina Array 91.85 318 ⇓*i*P P 20 53 37.8 +1.0
BURAR Bucovina Array 91.85 318 ⇓P P 20 53 37.8 +1.0
FINES FINESS Array B 94.29 332 P P **20 53 47.3 -0.7**
comp=Z,0.5nm,0.8s,mb4.0,baz=108,slow=6.2,SNR=3.4
ARCES ARCESS Array B 96.15 339 P P **20 53 56.0 -0.5**
comp=Z,5.3nm,1.1s,mb4.9,baz=101,slow=9.3,SNR=5.6
HFS Hagfors 100.15 330 PP PP 20 58 20.4 0.0
comp=Z,2.1nm,0.9s,baz=81,slow=9.6,SNR=3.7
COLA College 104.93 25 P Pdif 20 54 34.9 -0.9
YKA Yellowknife Ar 119.18 21 PKP PKPdf 20 59 17.3 -0.3
comp=Z,0.5nm,0.5s,baz=324,slow=2.4,SNR=5.0
PDAR Pinedale Array 133.84 38 PKP PKPdf 20 59 46.7 +1.1
comp=Z,0.4nm,0.7s,baz=0.0,slow=1.9,SNR=3.5
ANMO Albuquerque 140.12 46 ⇑*i*PKIKP PKPdf 21 00 02.0 +4.8
BDFB Brasilia 145.03 224 PKPbc PKPbc 21 00 06.3 +1.0
comp=Z,3.8nm,0.6s,baz=0.8,slow=3.1,SNR=5.4
LONY Lake Ozonia 145.12 3 *e*PKP PKPdf 21 00 06.1 0.0
WMOK Wichita Mounta 145.39 40 *e*PKIKP PKPdf 21 00 07.8 +1.3
WMOK *e* 21 00 18.9
NCB Newcomb 145.78 2 *e*PKP PKPdf 21 00 08.3 +1.1
NCB *ep*PKP pPKPdf 21 00 19.3 -0.1
CCM Cathedral Cave 147.10 28 *e*PKP PKPdf 21 00 11.1 +1.7
CCM *ep*PKP pPKPdf 21 00 22.2 +0.6
JCT Junction City 147.24 47 *e*PKP PKPdf 21 00 12.5 +2.8
JCT *ep*PKP pPKPdf 21 00 24.8 +3.0
BINY Binghamton 147.44 5 *e*PKPdf PKPdf 21 00 11.5 +1.5
BINY *ep*PKPdf pPKPdf 21 00 24.3 +2.1
LVC Limon Verde 147.74 186 PKPbc PKPbc 21 00 15.5 +2.2
comp=Z,2.1nm,0.6s,baz=127,slow=1.1,SNR=3.7
ACSO Alum Creek Sta 148.17 15 *e*PKPbc PKPbc 21 00 14.8 +0.3
MIAR Mount Ida 148.63 35 *e*PKP2 PKPab 21 00 17.1 -2.2
SSPA Standing Stone 148.78 8 *e*PKPbc PKPbc 21 00 16.1 +0.1
WCI Wyandotte Cave 148.98 21 *e*PKIKP PKPdf 21 00 12.9 +0.4
WCI *e* 21 00 17.3
UALR University of 149.14 33 *e*PKPbc PKPbc 21 00 18.5 +1.6
MVL Millersville 149.59 6 *e*PKPbc PKPbc 21 00 19.0 +1.0
MVL *e* 21 00 30.1
WVT Waverly 150.21 25 *e*PKIKP PKPbc 21 00 20.4 +0.8
HKT Hockley 150.34 44 *e*PKIKP PKPbc 21 00 22.1 +2.2
PLAL Pickwick Lake 151.07 27 *e*PKPbc PKPbc 21 00 21.9 +0.3
PLAL *e* 21 00 33.2
TZTN Tazewell 151.43 19 *e*PKPbc PKPbc 21 00 23.6 +1.1
SIV San Ignacio 152.10 204 PKP PKPdf 21 00 18.7 +1.4
comp=Z,1.0nm,0.9s,baz=254,slow=5.7,SNR=3.3
SIV PKPbc PKPbc 21 00 24.9 +1.0
comp=Z,1.3nm,0.6s,baz=215,slow=3.9,SNR=4.7
LPAZ La Paz 153.86 190 PKPbc PKPbc 21 00 31.4 +3.6
comp=Z,0.3nm,0.5s,baz=229,slow=4.6,SNR=4.2

CSEM ***23*** *20:49:47.7, 1883S×17920W, h33km, mb6.1*
MOS ***23*** *20:50:48.8±0.8, 1782S×17859W, h562km, mb5.6/40, Error ellipse: s-maj=7.8km s-min=6.1km az=55.0*
BJI ***23*** *20:50:50.7, 1740S×17847W, h574km, mB5.3, mb5.5*
BGS ***23*** *20:50:50.6±7.2, 1792S×17862W, h587km, mb5.6(NEIC)*
IDC ***23*** *20:50:50.1±0.6, 1795S×17853W, h572km±6km, mb5. 1/29, mb1 5.1/32, mb1mx5.1/32, mbtmp6.0/32, Error ellipse: s-maj=8.5km s-min=7.1km az=143.0*
ISCJB ***23*** *20:50:50.6±0.1, 1789S±0.003×17866W±0.002, h586km, mb5.5/120, Error ellipse: s-maj=4.7km s-min=2.6km az=128.7*
NEIC ***23*** *20:50:51.3±0.1, 1793S×17861W, h587km, mb5.6/74, ME5.4, MW5.7, Error ellipse: s-maj=5.4km s-min=3.2km az=149.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.93; $M_{\theta\theta}$3.59; $M_{\phi\phi}$-2.66; $M_{r\theta}$1.01; $M_{\theta\phi}$-0.19; $M_{r\phi}$-3.62; Best double couple: $M_0$4.80000×10^{17} NP1:ϕ_s316.00000°,δ79.00000°,λ-44.00000°. NP2: ϕ_s57.00000°,δ47.00000°,λ-164.00000°. Principal axes: T 4.0100, Plg20.0000°, Azm13.0000°; N 1.5300, Plg45.0000°, Azm124.0000°; P -5.5400, Plg39.0000°, Azm266.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s62.00000°,δ31.00000°,λ-161.00000°. NP2: ϕ_s315.00000°,δ80.00000°,λ-60.00000°. Principal axes: T Plg29.0000°, Azm21.0000°; N Plg0.0000°, Azm0.0000°; P Plg47.0000°, Azm256.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
HRVD ***23*** *20:50:51.3±0.2, 1797S×17842W, h598km±1km, MW5.8/88, Centroid moment Tensor Solution. LP body waves: s88,c169;Mantle waves: s32,c35; Half duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.43±.06; $M_{\theta\theta}$3.66±.09; $M_{\phi\phi}$-2.24±.10; $M_{r\theta}$2.12±.09; $M_{\theta\phi}$-1.57±.09; $M_{r\phi}$-3.91±.09; Best double couple: $M_0$5.69700×10^{17} NP1:ϕ_s66.00000°,δ37.00000°,λ-165.00000°. NP2: ϕ_s323.00000°,δ81.00000°,λ-54.00000°. Principal axes: T 5.6210, Plg27.0000°, Azm26.0000°; N 0.1420, Plg35.0000°, Azm137.0000°; P -5.7730, Plg43.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
SZGRF ***23*** *20:50:51.0, 1883S×17891W, h598km, Fiji Islands region*

ISC 23 20:50:52.0±0.1,1791S±003×17860W±002,h588km, h588km±1.1km;pP-P,n1035,σ0s81/536,mb5.5/118,
139C-174D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.67**	**60**	P	P	**P**	**20 52 43.9**	**-3.8**
	131nm,0.3s,baz=56,slow=0.9,SNR=92							
AFI				S	S	**S**	**20 54 14.6**	**-8.0**
	78nm,0.3s,baz=357,slow=21,SNR=4.7							
FUNA	**Funafuti**	**9.57**	**347**	*e*P	P	**P**	**20 53 04.5**	**-1.7**
	426nm,0.8s							
RAO	**Raoul Island**	**11.30**	**177**	P	P	**P**	**20 53 20.0**	**-3.6**
	180nm,0.3s,baz=265,slow=22,SNR=12							
RAO				S	S	**S**	**20 55 26.0**	**-2.2**
	107nm,0.3s,baz=265,slow=23,SNR=4.3							
DZM	**Mont Dzumac**	**14.65**	**251**	*e*P	P	**P**	**20 53 55.2**	**-2.2**
DZM				*e*S	S	**S**	**20 56 27.7**	**-1.2**
DZM	**Mont Dzumac**	**14.65**	**251**	P	P	**P**	**20 53 56.6**	**-0.8**
	30nm,0.3s,baz=86,slow=16,SNR=155							
DZM				S	S	**S**	**20 56 31.2**	**+2.4**
	baz=359,slow=24,SNR=6.5							
DZM				ScP	ScP	ScP	21 01 07.4	+3.0
	0.7nm,0.3s,baz=21,slow=19,SNR=6.7							
OUZ	**Omahuta**	**18.59**	**200**	PN	P	**P**	**20 54 35.2**	**+1.8**
WCZ	**Waipu Caves**	**19.02**	**198**	PN	P	**P**	**20 54 39.0**	**+1.6**
URZ	**Urewera**	**20.62**	**190**	P	P	**P**	**20 54 48.6**	**-3.2**
	95nm,0.6s,baz=3.3,slow=4.9,SNR=37							
URZ				S	S	**S**	**20 57 56.9**	**-8.4**
	18nm,0.9s,baz=188,slow=21,SNR=3.8							
URZ	**Urewera**	**20.62**	**190**	PN	P	**P**	**20 54 48.5**	**-3.2**
HNR	**Honiara**	**22.47**	**289**	P	P	**P**	**20 55 07.4**	**-1.0**
	534nm,0.8s,mb6.2,baz=260,slow=3.3,SNR=13							
SNZO	**South Karori**	**24.02**	**192**	*e*P	P	**P**	**20 55 21.4**	**-0.6**
	292nm,1.5s,mb5.7							
THZ	**Tophouse**	**24.86**	**195**	PN	P	**P**	**20 55 28.0**	**-1.5**
THZ				SN	S	**S**	**20 59 06.7**	**-5.4**
RPZ	**Rata Peaks**	**27.17**	**197**	P	P	**P**	**20 55 47.0**	**-2.8**
	21nm,0.5s,mb5.0,baz=274,slow=0.3,SNR=18							
PAE	**Paea**	**27.62**	**94**	*e*P	P	**P**	**20 55 52.8**	**-0.9**
	208nm,1.3s,mb5.6							
PAE				*ep*P			20 57 20.6	
	158nm,1.3s							
PPT	**Papeete**	**27.63**	**94**	*e*P	P	**P**	**20 55 53.2**	**-0.6**
	113nm,1.3s,mb5.3							
PPT	**Papeete**	**27.63**	**94**	P	P	**P**	**20 55 51.5**	**-2.3**
	32nm,0.6s,mb5.1,baz=222,slow=16,SNR=3.5							
TVO	**Taravao**	**27.92**	**94**	*e*P	P	**P**	**20 55 55.9**	**-0.5**
	165nm,1.0s,mb5.6							
JCZ	**Jackson Bay**	**28.17**	**200**	PN	P	**P**	**20 55 57.3**	**-1.3**
JCZ				sP			20 57 35.4	
PMOR	**Pomariorio Ree**	**29.57**	**89**	*e*P	P	**P**	**20 56 10.0**	**-0.6**
	267nm,1.2s,mb5.8							
ARMA	**Armidale**	**29.78**	**240**	⇓*i*P	P	**P**	**20 56 13.5**	**+1.1**
ARMA				*e*S	S	**S**	**21 00 30.5**	**+1.9**
ARMA				*e*SCP	ScP	ScP	21 01 48.0	+4.3
VAH	**Vaihoa**	**29.79**	**89**	*e*P	P	**P**	**20 56 11.4**	**-1.1**
	163nm,1.3s,mb5.5							
RIV	**Riverview**	**31.34**	**234**	⇓*i*P	P	**P**	**20 56 26.4**	**+0.6**
RIV				*e*			20 56 37.4	
CTA	**Charters Tower**	**33.27**	**261**	⇓*i*P	P	**P**	**20 56 42.2**	**+0.2**
	483nm,0.8s,mb6.2							
CTA				*e*PCP	PcP	PcP	20 59 05.0	-1.5
CTA				*e*SCP	ScP	ScP	21 01 58.8	+3.2
CTA				*es*S	sS	sS	21 04 30.0	+9.3
CTA	**Charters Tower**	**33.27**	**261**	P	P	**P**	**20 56 42.0**	**-0.1**
	494nm,0.8s,mb6.2,baz=87,slow=10,SNR=333							
CTA				PcP	PcP	PcP	20 59 06.0	-0.5
	38nm,0.7s,baz=80,slow=4.1,SNR=4.3							
CTA				ScP	ScP	ScP	21 01 59.0	+3.3
	44nm,0.9s,baz=29,slow=1.2,SNR=12							
CTA	**Charters Tower**	**33.27**	**261**	⇓*i*P	P	**P**	**20 56 42.2**	**+0.2**
CTA				*e*			20 59 05.0	
CTA				pmax	pmax			
	comp=Z,483nm,0.8s							
CTAO	**Charters Tower**	**33.27**	**261**	P	P	**P**	**20 56 42.1**	**+0.1**
CTAO				ScP	ScP	ScP	21 01 58.7	+3.1
CTAO	**Charters Tower**	**33.27**	**261**	*e*P	P	**P**	**20 56 42.3**	**+0.2**
CNB	**Canberra Magne**	**33.28**	**232**	⇓*i*P	P	**P**	**20 56 43.1**	**+0.9**
	comp=Z,1μm,0.6s							
CNB				*e*PCP	PcP	PcP	20 59 07.8	+1.3
CNB				*e*S	S	**S**	**21 01 22.7**	**+0.8**
CNB				*e*SCP	ScP	ScP	21 01 59.6	+3.9
CNB				*e*SCS	ScS	ScS	21 06 03.3	+5.0
PMG	**Port Moresby**	**34.28**	**280**	P	P	**P**	**20 56 51.7**	**+1.1**
	comp=Z,2μm,0.9s,baz=85,slow=6.2,SNR=231							
PMG				ScP	ScP	ScP	21 02 01.6	+2.3
	comp=Z,21nm,0.8s,baz=25,slow=4.8,SNR=4.0							
PMG	**Port Moresby**	**34.28**	**280**	*e*P	P	**P**	**20 56 51.8**	**+1.3**
TOO	**Toolangi**	**37.03**	**231**	⇓*i*P	P	**P**	**20 57 13.8**	**+0.6**
	comp=Z,583nm,0.7s,mb6.2							
TOO				*e*S	S	**S**	**21 02 18.5**	**+0.6**
TOO	**Toolangi**	**37.03**	**231**	⇓*i*P	P	**P**	**20 57 13.8**	**+0.6**

TOO eS S 21 02 18.5 +0.6
TOO pmax pmax
comp=Z,583nm,0.7s,mb6.2
TAU Tasmania Unive 38.12 222 eP P 20 57 22.0 0.0
TAU pmax pmax
comp=Z,221nm,0.9s,mb5.7
TAU Tasmania Unive 38.12 222 eP P 20 57 22.0 0.0
comp=Z,221nm,0.9s,mb5.7
TAOE Nuku Hiva Isla 38.41 82 eP P 20 57 23.8 -0.5
comp=Z,2µm,1.1s,mb6.6
STKA Stephens Creek 38.47 241 ⇓iP P 20 57 25.6 +0.7
comp=Z,625nm,0.6s,mb6.3
STKA ePCP PcP 20 59 23.2 +0.9
STKA eSCP ScP 21 02 18.6 +3.7
STKA eS S 21 02 39.0 -0.1
STKA eSCS ScS 21 06 32.0 +4.5
STKA Stephens Creek 38.47 241 P P 20 57 25.7 +0.8
comp=Z,1µm,0.9s,mb6.4,baz=81,slow=8.2,SNR=966
STKA PcP PcP 20 59 22.9 +0.6
comp=Z,69nm,0.8s,baz=124,slow=3.6,SNR=3.2
STKA ScP ScP 21 02 18.1 +3.1
comp=Z,33nm,0.9s,baz=95,slow=4.7,SNR=4.0
WAKE Wake Island 39.70 338 eP P 20 57 34.5 -0.2
ADE Adelaide 41.48 237 eP P 20 57 49.8 +0.9
HPO Honuapo 43.18 33 eP P 20 58 01.7 -0.4
KKH Kailua Kona 43.42 32 eP P 20 58 03.8 -0.2
HON Honolulu 43.91 28 eP P 20 58 07.4 -0.3
KIP Kipapa 43.99 28 *d* iP P 20 58 07.9 -0.5
KIP Kipapa 43.99 28 eP P 20 58 07.5 -0.8
HKL Haleakala 44.20 31 eP P 20 58 10.2 +0.3
WB2 Warramunga Arr 44.44 260 ⇓iP P 20 58 11.3 -0.5
WB2 ePCP PcP 20 59 42.7 +0.4
WB2 eSCP ScP 21 02 41.7 +2.8
WB2 eS S 21 04 03.1 -1.7
WB2 eSCS ScS 21 07 07.1 +2.5
WRAB Tennant Creek 44.44 260 eP P 20 58 11.2 -0.7
WRA Warramunga Arr 44.45 260 P P 20 58 11.5 -0.5
comp=Z,503nm,0.8s,mb6.1,baz=94,slow=7.1,SNR=1001
WRA PcP PcP 20 59 42.7 +0.3
comp=Z,76nm,0.8s,baz=91,slow=4.1,SNR=7.4
WRA ScP ScP 21 02 41.7 +2.8
comp=Z,34nm,1.0s,baz=90,slow=4.3,SNR=12
WRA S S 21 04 02.4 -2.6
comp=Z,15nm,0.7s,baz=98,slow=13,SNR=5.4
WRA ScS ScS 21 07 06.9 +2.2
comp=Z,3.3nm,0.8s,baz=92,slow=5.1,SNR=5.3
WRA P4KPbc 21 35 54.8
comp=Z,1.7nm,0.8s,baz=90,slow=4.1,SNR=16
WRA Warramunga Arr 44.45 260 P P 20 58 11.5 -0.4
WRA 20 59 42.7
WRA S S 21 04 02.4 -2.6
WRA 21 07 06.9
WRA Warramunga Arr 44.45 260 P P 20 58 11.5 -0.5
WRA PcP PcP 20 59 42.7 +0.3
WRA ScP ScP 21 02 41.7 +2.8
WRA S S 21 04 02.4 -2.6
WRA ScS ScS 21 07 06.9 +2.2
AS31 Alice Springs 44.62 254 ⇓iP P 20 58 13.3 +0.1
AS31 ePCP PcP 20 59 43.3 +0.4
AS31 eS S 21 04 06.0 -1.3
AS31 eScS ScS 21 07 07.6 +1.8
ASAR Alice Springs 44.62 254 P P 20 58 13.4 +0.2
comp=Z,3µm,0.7s,baz=88,slow=8.4
ASAR PcP PcP 20 59 43.4 +0.4
comp=Z,89nm,0.7s,baz=105,slow=3.9,SNR=5.6
ASAR ScP ScP 21 02 41.9 +2.2
comp=Z,25nm,0.8s,baz=91,slow=4.2,SNR=8.5
ASAR S S 21 04 07.0 -0.3
comp=Z,66nm,1.1s,baz=85,slow=16,SNR=19
ASAR ScS ScS 21 07 07.8 +2.0
comp=Z,10nm,1.0s,baz=88,slow=7.6,SNR=7.0
ASAR P4KPbc 21 35 56.2
comp=Z,1.1nm,0.8s,baz=92,slow=4.7,SNR=12
ASAR Alice Springs 44.62 254 P P 20 58 13.4 +0.2
ASAR 20 59 43.4
ASAR S S 21 04 07.0 -0.3
ASAR 21 07 07.8
ASAR Alice Springs 44.62 254 P P 20 58 13.4 +0.2
ASAR PcP PcP 20 59 43.4 +0.4
ASAR ScP ScP 21 02 41.9 +2.2
ASAR S S 21 04 07.0 -0.3
ASAR ScS ScS 21 07 07.8 +2.0
ASPA Alice Springs 44.62 254 ⇓iP P 20 58 13.3 +0.1
ASPA ePCP PcP 20 59 43.3 +0.3
ASPA eS S 21 04 06.0 -1.3
ASPA eSCS ScS 21 07 07.6 +1.8
KAKA Kakadu 47.40 269 ⇓iP P 20 58 34.1 -0.1
comp=Z,841nm,0.6s,mb6.5
KAKA eSCP ScP 21 02 52.5 +1.2
KAKA eS S 21 04 46.0 0.0
GUMO Guam 47.74 309 P P 20 58 37.3 +0.5
comp=Z,1µm,0.8s,mb6.5,baz=164,slow=7.6,SNR=53
FORT Forrest 49.84 245 ⇓iP P 20 58 51.7 -0.6
comp=Z,770nm,0.5s,mb6.4
FORT ePCP PcP 21 00 02.2 +0.3
FORT eS S 21 05 17.4 -1.9
FITZ Fitzroy Crossi 52.85 261 ⇓iP P 20 59 14.1 +0.2
comp=Z,739nm,2.0s,mb5.7
FITZ eS S 21 06 00.5 +1.1
FITZ eSCS ScS 21 08 04.0 +2.0
FITZ Fitzroy Crossi 52.85 261 P P 20 59 14.2 +0.3
comp=Z,128nm,0.8s,mb5.3,baz=97,slow=5.8,SNR=243
MBWA Marble Bar 57.90 256 P P 20 59 48.9 +0.1
SNR=33
MBWA Marble Bar 57.90 256 eP P 20 59 48.7 -0.2
comp=Z,447nm,0.8s,mb5.7
KLBR Kellerberrin 58.66 244 ⇓iP P 20 59 53.4 -0.6
comp=Z,840nm,0.7s,mb6.0
CBIJ Chichi jima 58.73 319 P P 20 59 53.5 -0.9
comp=Z,136nm,0.8s,mb5.1,baz=276,slow=18,SNR=6.2
NWAO Narrogin (SRO) 59.05 242 P P 20 59 56.3 -0.3
comp=Z,222nm,0.7s,mb5.4,baz=96,slow=6.3,SNR=132
NWAO Narrogin (SRO) 59.05 242 eP P 20 59 56.3 -0.3
NWAO pmax pmax
comp=Z,273nm,0.9s
NWAO Narrogin (SRO) 59.05 242 eP P 20 59 56.3 -0.3
comp=Z,273nm,0.9s,mb5.4
MATI Mati 59.77 289 eP P 21 00 00.2 -1.1
SBA Scott Base 60.40 184 eP P 21 00 06.2 +0.7
SBA *e**PP pP 21 02 00.5 +0.8
VNDA Vanda 60.42 185 P P 21 00 05.6 -0.1
comp=Z,15nm,0.6s,baz=5.3,slow=7.0,SNR=49
VNDA PcP PcP 21 00 42.6 -0.6
comp=Z,21nm,1.1s,baz=150,slow=4.2,SNR=5.6
DAV Davao City (W) 60.43 289 P P 21 00 06.9 +1.1
SNR=6.1
DAV Davao City (W) 60.43 289 eP P 21 00 06.6 +0.8
BUTP Butuan 61.21 291 eP P 21 00 11.0 +0.1
BUKP Musuan 61.24 290 eP P 21 00 11.4 +0.4
SCPH Surigao 61.68 292 eP P 21 00 13.1 -0.8
CTBH Cotabato--PC H 61.69 289 ⇓iP P 21 00 14.5 +0.6
CGP Cagayan de Oro 61.81 290 eP P 21 00 14.8 +0.1
MSLP Maasin 62.39 292 eP P 21 00 18.7 +0.2
PAGZ Pagadian 62.73 289 eP P 21 00 21.3 +0.6
PLP Palo 62.75 293 eP P 21 00 19.7 -1.1
OCLP Ormoc 63.02 293 eP P 21 00 22.1 -0.4
LLP Lapu-Lapu 63.26 292 eP P 21 00 24.7 +0.6
comp=Z,466µm,1.3s
IPIL Ipil 63.44 289 eP P 21 00 25.8 +0.6
IPIL Ipil 63.44 289 ⇓eP P 21 00 25.6 +0.4
SNPH Sibulan 63.49 290 eP P 21 00 25.5 0.0
JHJ Hachijo jima 2 64.46 322 P P 21 00 31.4 -0.3
comp=Z,787nm,0.9s,mb6.0,baz=181,slow=6.6,SNR=13
PVCP Virac 64.57 295 eP P 21 00 32.7 +0.4
AUQP San Andres 65.72 294 eP P 21 01 41.2 +1.6
OTRP Odiongan 65.87 293 eP P 21 00 39.8 -0.7
CASY Casey 66.06 205 ⇓iP P 21 00 40.8 -0.8
CASY epP pP 21 02 40.9 +2.1
CASY eS S 21 08 42.4 -2.0
CUYO Cuyo Island 66.11 291 eP P 21 00 41.9 0.0
TSM Tawau 66.39 283 P P 21 00 44.7 +0.9
BUSP Coron 67.32 292 eP P 21 00 49.5 +0.1
TGY Tagaytay City 67.58 294 P P 21 00 51.4 +0.4
comp=Z,572nm,0.9s,baz=179,slow=11,SNR=8.0
PALP Palanan 67.65 298 eP P 21 00 52.1 +0.7
PALP Palanan 67.65 298 eP P 21 00 52.0 +0.6
ENPP El Nido 67.67 291 eP P 21 00 52.0 +0.4
BALP Baler 67.76 296 eP P 21 00 52.2 +0.1
MJAR Matsushiro Arr 67.80 323 P P 21 00 51.4 -1.0
comp=Z,84nm,0.8s,mb5.2,baz=158,slow=5.8,SNR=276
MJAR PcP PcP 21 01 14.4 +0.6
comp=Z,18nm,0.8s,baz=153,slow=5.5,SNR=4.7
MAJO Matsushiro 67.80 323 eP P 21 00 51.9 -0.5
MAJO pmax pmax
comp=Z,93nm,0.8s,mb5.3
MAJO Matsushiro 67.80 323 *e*P P 21 00 51.9 -0.4
comp=Z,96nm,0.8s,mb5.3
MAT Matsushiro 67.80 323 P P 21 00 51.8 -0.6
MAT S S 21 09 03.0 -1.8
MAT Matsushiro 67.80 323 *e*P P 21 00 52.0 -0.4
MAT *e*S S 21 09 04.0 -0.8
MAT pmax pmax
comp=Z,73nm,0.7s,mb5.2
MAT Matsushiro 67.80 323 eP P 21 00 52.0 -0.4
comp=Z,73nm,0.7s,mb5.2
MAT *e*S S 21 09 04.0 -0.8
LUBP Lubang 68.02 293 eP P 21 00 52.1 -1.6
JOW Kunigami 68.08 310 P P 21 00 54.8 +0.7
comp=Z,145nm,0.8s,mb5.4,baz=148,slow=5.9,SNR=18
CAUP Cauayan 68.11 297 eP P 21 00 55.2 +1.1
BATP Bataraza 68.16 287 eP P 21 00 55.2 +0.7
SGCP Mt. Cagua 68.52 299 eP P 21 00 58.2 +1.5
KKM Kota Kinabalu 68.57 284 P P 21 00 58.0 +1.0
KKM Kota Kinabalu 68.57 284 eP P 21 00 57.5 +0.6
APYP Conner 69.02 298 eP P 21 01 00.1 +0.4
ABRA Dolores 69.37 297 eP P 21 01 01.9 +0.2
SMY Shemya 70.63 355 eP P 21 01 06.8 -2.4
SMY pmax pmax
comp=Z,189nm,0.9s,mb5.6
SMY Shemya 70.63 355 eP P 21 01 06.8 -2.5
comp=Z,198nm,0.9s,mb5.6
NIKO Nikolski 71.09 6 eP P 21 01 10.2 -1.7
ASAJ Asahikawa 71.19 332 P P 21 01 13.1 +0.6
comp=Z,38nm,0.7s,mb5.0,baz=212,slow=6.5,SNR=36
ASAJ Asahikawa 71.19 332 P P 21 01 13.1 +0.6
ASAJ pmax pmax
comp=Z,38nm,0.7s
NACB Ninganchiao 71.77 304 eP P 21 01 15.1 -0.8
SKR Severo-Kuril's 71.83 343 eP P 21 01 09.5 -6.7
SKR *e* 21 01 34.0
SKR eS S 21 09 47.0 -3.6
SKR ePS 21 10 15.0
SKR *e* 21 10 32.0
SKR pmax pmax
comp=Z,220nm,1.0s,mb5.6
SKR smax
comp=N,1µm,12.0s
SKR smax
comp=E,2µm,12.0s
SKR smax
comp=Z,1µm,14.0s
QSPA South Pole Qui 72.14 180 eP P 21 01 17.7 -0.3
comp=Z,127nm,0.7s,mb5.6
QSPA ePcP PcP 21 01 32.6 +0.3
YHNB Yeheng 72.19 304 eP P 21 01 18.3 0.0
TATO Taipei 72.25 304 eP P 21 01 17.7 -0.9
KSM Kuching 72.51 277 eP P 21 01 21.1 +1.0
AKUT Akutan 72.59 8 eP P 21 01 18.6 -2.1
comp=Z,114nm,0.8s,mb5.5
AKUT ePcP PcP 21 01 35.6 +1.4
MIR Mirnyy 73.09 205 *d* iP P 21 01 24.0 +0.5
MIR pmax pmax
comp=Z,2µm,1.0s,mb6.5
PET Petropavlovsk 73.33 346 eP P 21 01 23.2 -1.7
PET *e**PP pP 21 03 25.3 -0.2
PET *i* S S 21 10 06.2 -1.0
PET eSS SS 21 15 08.1 +2.4
PET pmax pmax
comp=Z,46nm,0.7s,mb5.1
PET smax
comp=E,1µm,6.9s
PET smax
comp=E,1µm,18.1s
PET Petropavlovsk 73.33 346 eP P 21 01 23.8 -1.1
YSS Yuzh-Sakhalins 73.34 333 ⇓eP P 21 01 25.0 +0.1
YSS *e* 21 01 32.2
YSS *i* S S 21 10 10.0 +2.8
YSS *e* 21 10 44.0
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.1
YSS smax
comp=N,1µm,9.0s
YSS smax
comp=E,2µm,9.0s
YSS Yuzh-Sakhalins 73.34 333 eP P 21 01 25.3 +0.4
FALS False Pass 73.63 9 eP P 21 01 24.6 -2.0
QZH Quanzhou 74.53 303 ⇓iP P 21 01 32.3 +0.7
QZH AMB AMB
comp=Z,560nm,0.8s,mb6.2
SDPT Sand Point 74.58 11 eP P 21 01 29.1 -2.8
SPIA Saint Paul Isl 75.13 5 eP P 21 01 33.8 -1.1
INCN Inchon 75.42 318 P P 21 01 37.7 +1.1
SNR=6.1
INCN Inchon 75.42 318 eP P 21 01 36.5 0.0
SSE Sheshan 75.60 310 ⇓P P 21 01 37.6 0.0
SSE PCP PcP 21 01 47.8 +0.6
SSE AP pP 21 03 49.5 +1.3
SSE PP PP 21 04 36.6 -1.3
SSE XP sP 21 04 40.0 +0.6
SSE S S 21 10 28.9 -2.9
SSE SCS ScS 21 10 55.3 -1.9
SSE AMB AMB
comp=Z,81nm,0.9s,mb5.2
VLA Vladivostok 75.85 325 *c* iP P 21 01 36.5 -2.4
VLA *e* 21 01 44.6
VLA pmax pmax
comp=Z,76nm,1.1s,mb5.0
FARB Farallon Islan 76.08 42 P P 21 01 40.1 -0.1
baz=76,SNR=19
V03C Hunter Liggett 76.27 45 ⇑P P 21 01 41.7 +0.4
baz=76,SNR=31
HAST UC Hastings Re 76.27 44 ⇑P P 21 01 41.5 +0.3
baz=76,SNR=146
HAST ⇓S S 21 10 42.2 +3.3
baz=76
BNLO Ben Lomond (Sa 76.29 43 P P 21 01 41.3 0.0
baz=76,SNR=22
BNLO ⇑S S 21 10 41.5 +2.5
baz=76
V04C Ramage Ranch, 76.31 45 ⇓P P 21 01 41.7 +0.2
baz=76,SNR=34
SAC San Andreas 76.39 43 eP P 21 01 41.9 0.0
JRSC Jasper Ridge 76.40 43 ⇓P P 21 01 42.0 0.0
baz=77,SNR=17
MCCM Marconi Confer 76.42 42 eP P 21 01 41.7 -0.4
comp=Z,327nm,1.4s,mb5.6
MCCM Marconi Confer 76.42 42 ⇓P P 21 01 41.8 -0.3
baz=77,SNR=8.6
SBC Santa Barbara 76.43 47 ⇑P P 21 01 42.5 +0.3
baz=77,SNR=6.7
SAO San Andreas Ge 76.55 44 eP P 21 01 42.9 +0.1
SAO pmax pmax
comp=Z,277nm,0.9s,mb5.7
SAO San Andreas Ge 76.55 44 eP P 21 01 42.9 +0.1
comp=Z,280nm,0.9s,mb5.7
LRV Little Rabbit 76.64 44 eP P 21 01 44.1 +0.8
PKD Parkfield 76.70 45 P P 21 01 43.7 +0.1
baz=77,SNR=55
PTRM Twisselman Ran 76.76 45 eP P 21 01 44.2 +0.3
U04C Hernandez Rese 76.77 45 ⇑P P 21 01 44.7 +0.7
baz=77,SNR=97
PACP Pacheco Peak 76.80 44 ⇓P P 21 01 44.6 +0.5
baz=77,SNR=105
PACP ⇓S S 21 10 46.7 +2.2
baz=77
HOPS Hopland 76.80 41 eP P 21 01 44.3 +0.2
comp=Z,209nm,1.1s,mb5.5
HOPS Hopland 76.80 41 ⇑P P 21 01 44.2 0.0
baz=77,SNR=21
HOPS ⇑S S 21 10 47.1 +2.6
baz=77
CVS Carmenet Viney 76.81 42 ⇓P P 21 01 43.9 -0.2
baz=77,SNR=37
WENL Wente Brothers 76.84 43 ⇑P P 21 01 44.6 +0.2
baz=77,SNR=25
P01C Double 8 Ranch 76.91 41 ⇑P P 21 01 44.7 -0.1
baz=77,SNR=18
BDM Black Diamond 76.96 43 ⇑P P 21 01 45.3 +0.2
baz=77,SNR=13
O01C Eel River Cons 77.02 40 ⇑P P 21 01 45.8 +0.5
baz=77,SNR=25
O01C ⇑S S 21 10 49.1 +2.3
baz=77
KIPM Iron Peak 77.03 40 eP P 21 01 45.3 -0.1
KIPM epP pP 21 03 49.1 +1.4
KIPM esP sP 21 04 46.0 -1.6
FMP Fort Macarthur 77.04 48 ⇓P P 21 01 45.4 -0.1
baz=77
S04C Ingram Canyon, 77.05 43 P P 21 01 45.8 +0.3
baz=77,SNR=89
S04C ⇑S S 21 10 50.1 +3.0
baz=77
V05C Boulder Hill, 77.09 45 ⇓P P 21 01 46.4 +0.7
baz=77,SNR=11
MNRC McLaughlin Nat 77.13 42 ⇓P P 21 01 46.3 +0.4
baz=77,SNR=59
MNRC ⇓S S 21 10 51.0 +3.1
baz=77
T05C Eagle Field, D 77.14 44 ⇑P P 21 01 46.5 +0.5
baz=77,SNR=24
U05C Westside ANR, 77.20 45 ⇑P P 21 01 46.7 +0.4
baz=77
OSI Osito Adit 77.22 47 ⇓P P 21 01 46.2 -0.2
baz=77,SNR=6.3
JCC Jacoby Creek 77.30 39 ⇑P P 21 01 46.9 +0.1
baz=78,SNR=9.3
JCC ⇑S S 21 10 53.5 +3.7
baz=78
GASB Alder Springs 77.40 41 ⇓P P 21 01 48.2 +0.8
baz=78,SNR=52
GASB ⇑S S 21 10 54.7 +3.9
baz=78
109C Camp Elliot, M 77.46 49 P P 21 01 47.7 0.0
baz=78,SNR=17
109C ⇑S S 21 10 54.1 +2.7
baz=78
MWC Mount Wilson 77.47 48 eP P 21 01 47.6 -0.2
KHMM Horse Mountain 77.51 39 eP P 21 01 48.7 +0.7
S05C Merced 77.62 44 P P 21 01 48.5 -0.1
baz=78,SNR=56
S05C ⇑S S 21 10 55.4 +2.3
baz=78
BAR Barrett 77.67 50 eP P 21 01 48.7 -0.1
O02C Red Bluff 77.67 40 P P 21 01 49.5 +0.6
baz=78,SNR=86
O02C ⇑S S 21 10 56.6 +2.9
baz=78
R04C Big Horse Ranc 77.73 43 ⇑P P 21 01 48.4 -0.8
baz=78
R04C ⇓S S 21 10 56.2 +1.9
baz=78
N02C Big Bar 77.73 40 P P 21 01 49.3 +0.1
baz=78,SNR=28
N02C ⇓S S 21 10 56.3 +2.0
baz=78
SUTB Sutter Butte 77.74 42 P P 21 01 48.6 -0.6
baz=78,SNR=24
SUTB ⇓S S 21 10 55.9 +1.5
baz=78
Q04C Lincoln 77.78 42 P P 21 01 49.3 -0.1
baz=78,SNR=23
Q04C ⇓S S 21 10 57.2 +2.4
baz=78
KRMB Red Mountain 77.80 39 eP P 21 01 49.9 +0.4
KRMB epP pP 21 03 52.8 +0.6
NJ2 Nanjing 77.80 310 eP P 21 01 49.3 -0.3
NJ2 S S 21 10 53.0 -2.0
NJ2 SKS 21 11 02.0
NJ2 AMB AMB
comp=Z,180nm,0.9s,mb5.5
T06C Millerton Lake 77.84 45 P P 21 01 49.6 -0.2
baz=78,SNR=61
T06C ⇓S S 21 10 56.6 +1.1
baz=78
M01C Crescent City 77.87 38 ⇑P P 21 01 50.2 +0.3
baz=78,SNR=11
HABR Khabarovsk 77.93 330 eP P 21 01 50.8 +0.6
HABR eS S 21 10 59.6 +3.3
HABR pmax pmax
comp=Z,133nm,1.0s,mb5.3
ISA Isabella 77.95 46 eP P 21 01 50.5 +0.2
ISA pmax pmax
comp=Z,256nm,1.0s,mb5.6
ISA Isabella 77.95 46 eP P 21 01 50.5 +0.2
comp=Z,0.4nm,1.0s
ISA Isabella 77.95 46 P P 21 01 50.6 +0.3
baz=78,SNR=134
ISA ⇓S S 21 11 00.0 +3.5
baz=78
CMB Columbia Colle 77.97 43 eP P 21 01 50.2 -0.2
CMB pmax pmax
comp=Z,181nm,1.0s,mb5.5
CMB Columbia Colle 77.97 43 eP P 21 01 50.2 -0.2
comp=Z,181nm,1.0s,mb5.5
CMB Columbia Colle 77.97 43 P P 21 01 50.3 -0.2
baz=78,SNR=218
CMB ⇑S S 21 10 58.6 +1.9
baz=78
OHCM Honcut 78.00 42 eP P 21 01 50.0 -0.6
OHCM epP pP 21 03 54.2 +0.9
O03C Acorn Hollow, 78.04 41 ⇑P P 21 01 50.6 -0.2
baz=78
WDC Whiskeytown Da 78.06 40 eP P 21 01 50.9 -0.1
WDC pmax pmax
comp=Z,248nm,1.4s,mb5.5
WDC Whiskeytown Da 78.06 40 eP P 21 01 50.9 -0.1
comp=Z,251nm,1.4s,mb5.5
WDC Whiskeytown Da 78.06 40 P P 21 01 51.0 0.0
baz=78,SNR=72
WDC ⇑S S 21 10 59.6 +1.8
baz=78
MDJ Mudanjiang 78.09 325 P P 21 01 51.5 +0.4
MDJ AP pP 21 03 53.1 -0.7
MDJ XP sP 21 04 52.4 -1.2
MDJ PP PP 21 04 58.3 -0.1
MDJ S S 21 11 01.4 +3.4
MDJ SCS ScS 21 11 17.4 0.0
MDJ AMB AMB
comp=Z,173nm,1.1s,mb5.4
MDJ AMB AMB
comp=Z,132nm,3.7s
MDJ Mudanjiang 78.09 325 P P 21 01 51.8 +0.7
MDJ S S 21 11 03.2 +5.2
MDJ Mudanjiang 78.09 325 eP P 21 01 51.2 +0.1
comp=Z,156nm,0.9s,mb5.4
MDJ epP pP 21 03 54.1 +0.4
ORV Oroville 78.11 42 P P 21 01 51.0 -0.3
baz=78,SNR=96
ORV ⇓S S 21 11 00.1 +1.8
baz=78
LAVA Lava Cap Winer 78.14 43 P P 21 01 51.1 -0.3
baz=78,SNR=62
LAVA ⇓S S 21 10 60.0 +1.4
baz=78
S06C San Francisco 78.23 44 P P 21 01 51.7 -0.2
baz=78,SNR=82
S06C ⇑S S 21 11 00.7 +1.2
baz=78
K01A Sixes 78.25 38 ⇑P P 21 01 52.0 0.0
baz=78
KCC Kaiser Creek 78.28 44 P P 21 01 52.2 +0.2
baz=78,SNR=56
KCC ⇑S S 21 11 02.5 +2.5
baz=78
PFO Pinyon Flat Ob 78.30 49 eP P 21 01 52.0 -0.2
PFO Pinyon Flat Ob 78.30 49 ⇓P P 21 01 52.2 0.0
baz=78,SNR=37
PFO ⇑S S 21 11 01.6 +1.5
baz=78
M02C Callahan 78.35 39 ⇓P P 21 01 52.9 +0.4
baz=79,SNR=67
M02C ⇓S S 21 11 03.6 +2.8
baz=79
L02A Cave Junction 78.37 38 ⇓P P 21 01 52.9 +0.3
baz=79,SNR=14
L02A ⇓S S 21 11 03.0 +2.0
baz=79
KEBM Edson Butte 78.37 38 eP P 21 01 52.8 +0.2
KDAK Kodiak Island 78.45 14 P P 21 01 51.4 -1.7
comp=Z,139nm,0.8s,mb5.4,baz=186,slow=2.9,SNR=29
KDAK Kodiak Island 78.45 14 eP P 21 01 51.3 -1.7
P05C Yuba Gap, Truc 78.53 42 P P 21 01 53.7 +0.3
baz=79,SNR=121
P05C ⇓S S 21 11 04.1 +1.4
baz=79
R05C Kirkwood Meado 78.54 43 P P 21 01 53.7 +0.2
baz=79,SNR=96
R05C ⇓S S 21 11 05.6 +3.0
baz=79
LPIG La Paz 78.60 60 eP P 21 02 05.2 +11
CWC Cottonwood Cre 78.63 46 P P 21 01 54.2 +0.2
baz=79,SNR=57
YBH Yreka Blue Hor 78.64 39 eP P 21 01 54.3 +0.3
YBH pmax pmax
comp=Z,168nm,0.9s
YBH Yreka Blue Hor 78.64 39 eP P 21 01 54.3 +0.3

comp=Z,168nm,0.9s,mb5.4
YBH Yreka Blue Hor 78.64 39 P P 21 01 54.4 +0.4
baz=79,SNR=113
YBH ⇑S S 21 11 06.9 +3.1
baz=79
O05C Quincy 78.71 41 P P 21 01 54.5 +0.1
baz=79,SNR=74
O05C ⇑S S 21 11 04.8 +0.3
baz=79
MLAC Mammoth Lakes 78.77 44 P P 21 01 55.4 +0.7
baz=79,SNR=24
MLAC ⇓S S 21 11 07.9 +2.9
baz=79
MTUM Tungsten Hills 78.80 45 eP P 21 01 55.2 +0.3
MTUM epP pP 21 03 57.4 -0.5
MTUM epP pP 21 04 00.0 +2.2
K02A Glendale 78.80 38 ⇓P P 21 01 54.8 -0.1
baz=79,SNR=27
K02A ⇓S S 21 11 06.8 +1.4
baz=79
O04C Chester 78.81 41 ⇓P P 21 01 54.9 0.0
baz=79,SNR=33
O04C ⇓S S 21 11 07.5 +2.0
baz=79
R06C Coleville 78.85 43 P P 21 01 55.6 +0.5
baz=79,SNR=136
R06C ⇓S S 21 11 08.4 +2.5
baz=79
WAKR Walker 78.85 43 eP P 21 01 55.4 +0.3
TIN Tinemaha 78.86 45 ⇑P P 21 01 55.4 +0.2
baz=79,SNR=10
HATC Hat Creek Radi 78.87 41 ⇑P P 21 01 55.3 +0.1
baz=79,SNR=70
HATC ⇓S S 21 11 08.3 +2.1
baz=79
R07C Lee Vining 78.88 44 ⇓P P 21 01 55.6 +0.3
baz=79,SNR=40
GSC Goldstone 78.92 47 eP P 21 01 55.4 -0.1
GSC Goldstone 78.92 47 P P 21 01 55.5 0.0
baz=79,SNR=58
GSC ⇑S S 21 11 08.7 +2.1
baz=79
HUMO Hull Mountain 79.02 38 eP P 21 01 56.2 +0.2
comp=Z,201nm,1.0s,mb5.4
HUMO Hull Mountain 79.02 38 P P 21 01 56.3 +0.3
baz=79,SNR=80
HUMO ⇓S S 21 11 09.1 +1.4
baz=79
WCN Washoe City 79.08 43 P P 21 01 56.8 +0.4
baz=79,SNR=72
WCN ⇓S S 21 11 10.9 +2.6
baz=79
J02A Umpqua 79.12 37 ⇓P P 21 01 56.3 -0.3
baz=79,SNR=30
J02A ⇓S S 21 11 11.6 +2.9
baz=79
GLA Glamis 79.19 50 eP P 21 01 57.4 +0.4
GLA Glamis 79.19 50 ⇑P P 21 01 57.5 +0.5
baz=79,SNR=101
GLA ⇓S S 21 11 12.3 +2.9
baz=79
M04C Macdoel 79.20 40 ⇓P P 21 01 57.2 +0.2
baz=79,SNR=85
M04C ⇓S S 21 11 12.4 +3.0
baz=79
P06A Stead Airport, 79.20 42 ⇓P P 21 01 57.3 +0.2
baz=79,SNR=24
P06A ⇓S S 21 11 12.9 +3.3
baz=79
ELFS Eagle Lake Fie 79.21 41 P P 21 01 57.2 +0.1
baz=79,SNR=32
ELFS ⇑S S 21 11 12.5 +2.9
baz=79
BUOR Burton Butte 79.25 39 P P 21 01 57.4 +0.2
QIZ Qiongzhong 79.29 294 P P 21 01 58.3 +0.8
QIZ S S 21 11 10.1 -0.3
QIZ SS SS 21 16 39.3 +4.9
QIZ AMB AMB
comp=Z,61nm,1.3s,mb4.8
QIZ Qiongzhong 79.29 294 P P 21 01 58.2 +0.8
QIZ S S 21 11 15.0 +4.6
QIZ Qiongzhong 79.29 294 eP P 21 01 57.1 -0.4
comp=Z,188nm,1.5s,mb5.2
KGM Kluang 79.29 276 P P 21 01 58.4 +1.0
I02A Mapleton 79.35 37 ⇓P P 21 01 57.7 -0.1
baz=80,SNR=25
M05C Lookout 79.37 40 P P 21 01 58.1 +0.2
baz=80,SNR=126
M05C ⇑S S 21 11 14.0 +2.7
baz=80
L04A Klamath Falls 79.39 39 P P 21 01 58.2 +0.2
baz=80,SNR=85
L04A ⇓S S 21 11 13.5 +2.0
baz=80
DL2 Dalian 79.47 317 i P P 21 01 58.8 +0.4
DL2 S S 21 11 16.1 +3.8
DL2 SS SS 21 16 38.1 +1.0
DL2 AMB AMB
comp=Z,70nm,0.8s,mb5.0
DL2 AMB AMB
comp=Z,150nm,3.1s
J03A Ideyld Park 79.47 38 P P 21 01 58.6 +0.2
baz=80,SNR=33
Q07A Schurz 79.50 43 ⇑P P 21 01 58.6 +0.1
baz=80,SNR=7.8
Q07A ⇑S S 21 11 15.1 +2.5
baz=80
O06A Flanigan 79.52 42 P P 21 01 58.9 +0.2
baz=80,SNR=272
O06A ⇑S S 21 11 15.4 +2.7
baz=80
HOG Hogback Mounta 79.55 39 P P 21 01 58.9 +0.1
PAHR Pah Rah Range 79.55 42 eP P 21 01 58.9 +0.1
comp=Z,229nm,1.0s,mb5.5
NVAR Mina Array Bea 79.55 44 P P 21 01 59.0 +0.1
comp=Z,133nm,0.8s,mb5.3,baz=215,slow=7.1,SNR=464
NVAR pP pP 21 04 01.2 -1.0
comp=Z,11nm,1.1s,baz=230,slow=4.8,SNR=3.3
NVAR PP PP 21 05 07.3 -3.0
comp=Z,6.6nm,0.9s,baz=234,slow=11,SNR=3.1
NVAR PKKPbc PKKPbc 21 20 42.4 +1.2
comp=Z,0.9nm,0.8s,baz=74,slow=2.1,SNR=5.2
NVAR PKPPKP 21 28 40.0
comp=Z,0.8nm,0.8s,baz=114,slow=4.5,SNR=4.7
NVAR Mina Array Bea 79.55 44 P P 21 01 59.0 +0.1
NVAR pP pP 21 04 01.2 -1.0
NVAR PP PP 21 05 07.3 -3.0
NVAR PKKPbc PKKPbc 21 20 42.4 +1.2
NVAR P'P' 21 28 40.0
TUQ Turquoise Mtn. 79.60 48 P P 21 01 59.3 +0.2
baz=80,SNR=88
TUQ ⇑S S 21 11 15.6 +2.0
baz=80
I03A Eugene 79.65 37 P P 21 01 59.3 0.0
baz=80,SNR=10
MNV Mina 79.65 44 eP P 21 01 59.3 -0.1
MNV pmax pmax
comp=Z,230nm,1.0s,mb5.5
MNV Mina 79.65 44 eP P 21 01 59.3 -0.1
comp=Z,230nm,1.0s,mb5.5
H02A Toledo 79.67 36 ⇑P P 21 01 59.6 +0.2
baz=80
M06C Likely Place G 79.69 41 P P 21 01 60.0 +0.4
baz=80,SNR=141
M06C ⇓S S 21 11 16.4 +1.8
baz=80
K04A Chilquin 79.75 39 ⇓P P 21 01 59.8 -0.1
baz=80,SNR=9.9
K04A ⇑S S 21 11 17.1 +2.0
baz=80
Y12C Blythe 79.76 50 P P 21 02 00.3 +0.4
baz=80,SNR=73
Y12C ⇓S S 21 11 18.4 +3.1
baz=80
MPOR Mary's Peak 79.82 37 P P 21 02 00.4 +0.2
U10A Ash Meadows, A 79.83 46 ⇑P P 21 02 00.6 +0.3
baz=80,SNR=74
U10A ⇑S S 21 11 19.2 +3.3
baz=80
N06A Buffalo Meadow 79.85 41 P P 21 02 00.5 +0.1
baz=80,SNR=147
N06A ⇑S S 21 11 18.2 +2.1
baz=80
S09A Goldfield 79.90 45 P P 21 02 00.4 -0.2
baz=80,SNR=74
S09A ⇓S S 21 11 18.0 +1.4
baz=80
CN2 Changchun 79.91 322 ⇓P P 21 02 00.8 +0.1
CN2 eS S 21 11 16.3 -0.5
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.5
CN2 AMB AMB
comp=Z,200nm,4.0s
L05A Lakeview 79.97 40 ⇑P P 21 02 01.3 +0.3
baz=80,SNR=95
L05A ⇑S S 21 11 19.3 +1.9
baz=80
COR Corvallis 80.01 37 eP P 21 02 01.5 +0.3
COR pmax pmax
comp=Z,329nm,1.3s,mb5.5
COR Corvallis 80.01 37 eP P 21 02 01.5 +0.2
comp=Z,329nm,1.3s,mb5.5
KLR Kul'dur 80.02 330 eP P 21 01 57.0 -4.3
KLR eS S 21 11 19.5 +1.6
KLR e 21 16 43.5
KLR pmax pmax
comp=Z,57nm,1.6s,mb4.7
Q08A Gabbs 80.03 44 P P 21 02 01.4 +0.1
baz=80,SNR=142
Q08A ⇓S S 21 11 21.0 +2.9
baz=80
H03A Soap Creek Ran 80.07 37 P P 21 02 01.7 +0.1
baz=80,SNR=27
H03A ⇓S S 21 11 20.1 +1.6
baz=80
O07A Toulon 80.12 42 P P 21 02 01.9 +0.1
baz=80,SNR=219
O07A ⇓S S 21 11 20.8 +1.8
baz=80
HBO Huckleberry Mo 80.13 38 P P 21 02 01.7 -0.2
TPNV Topopah Spring 80.15 46 eP P 21 02 02.1 +0.1
TPNV e*PP pP 21 04 05.2 -0.4
TPNV pmax pmax
comp=Z,202nm,1.1s,mb5.4
TPNV Topopah Spring 80.15 46 eP P 21 02 02.1 +0.1
comp=Z,198nm,1.1s,mb5.4
TPNV epP pP 21 04 05.2 -0.3
MOD Modoc 80.20 40 eP P 21 02 02.2 0.0
comp=Z,146nm,0.8s,mb5.4
MOD epP pP 21 04 06.6 +0.7
MOD ePP PP 21 05 13.6 -2.1
MOD Modoc 80.20 40 P P 21 02 02.3 +0.1
baz=80,SNR=241
MOD ⇑S S 21 11 21.9 +2.1
baz=80
R09A Tonopah 80.27 45 P P 21 02 02.7 +0.1
baz=80,SNR=46
R09A ⇑S S 21 11 22.9 +2.4
baz=80
W12A Cal Nev Ari 80.28 48 P P 21 02 03.0 +0.4
baz=80,SNR=32
W12A ⇑S S 21 11 22.9 +2.3
baz=80
Y13A Salome 80.29 50 ⇓P P 21 02 03.3 +0.6
baz=80,SNR=28
Y13A ⇑S S 21 11 24.9 +4.3
baz=80
P08A Dixie Valley 80.38 43 ⇓P P 21 02 03.5 +0.4
baz=81,SNR=25
P08A ⇑S S 21 11 25.4 +3.9
baz=81
J05A Fort Rock 80.43 39 ⇓P P 21 02 03.7 +0.3
baz=81,SNR=279
J05A ⇑S S 21 11 23.7 +1.7
baz=81
WHN Wuhan 80.46 306 ⇓P P 21 02 04.3 +0.7
G03A Yamhill 80.47 36 ⇓P P 21 02 03.3 -0.3
baz=81,SNR=14
G03A ⇑S S 21 11 24.1 +1.7
baz=81
U11A Corn Creek 80.48 47 ⇑P P 21 02 03.7 0.0
baz=81,SNR=14
U11A ⇑S S 21 11 25.9 +3.3
baz=81
V12A Nelson 80.51 48 P P 21 02 04.0 +0.2
baz=81,SNR=57
V12A ⇑S S 21 11 26.5 +3.6
baz=81
WIFE Three Sisters- 80.55 38 P P 21 02 04.1 0.0
M07A Soldier Meadow 80.62 41 P P 21 02 04.7 +0.3
baz=81,SNR=204
M07A ⇑S S 21 11 25.3 +1.3
baz=81
SSOR Sweet Springs 80.65 37 P P 21 02 04.1 -0.5
O08A Rochester Mine 80.65 42 ⇑P P 21 02 04.7 +0.2
baz=81,SNR=6.3
O08A ⇓S S 21 11 26.9 +2.5
baz=81
SHPR Sheep Range 80.68 47 eP P 21 02 04.9 +0.2
F03A Seaside 80.68 35 ⇑P P 21 02 04.6 -0.1
baz=81,SNR=8.9
F03A ⇓S S 21 11 26.4 +1.7
baz=81
H04A Detroit Lake 80.70 37 ⇑P P 21 02 04.3 -0.5
baz=81,SNR=25
H04A ⇓S S 21 11 26.9 +2.1
baz=81
Z14A Wintersburg 80.72 51 P P 21 02 05.5 +0.6
baz=81,SNR=56
Z14A ⇓S S 21 11 28.5 +3.5
baz=81
K06A Valley Falls 80.75 39 P P 21 02 05.2 +0.1
baz=81,SNR=223
K06A ⇓S S 21 11 26.7 +1.4
baz=81
R10A Warm Springs 80.81 45 P P 21 02 05.9 +0.5
baz=81,SNR=255
R10A ⇑S S 21 11 29.8 +3.9
baz=81
G04A Mulino 80.85 36 P P 21 02 05.3 -0.3
baz=81,SNR=19
G04A ⇓S S 21 11 29.2 +2.9
baz=81
L07A Adell 80.86 40 P P 21 02 06.2 +0.5
baz=81,SNR=160
L07A ⇓S S 21 11 28.8 +2.3
baz=81
W13A Hualapai Mount 80.88 49 ⇓P P 21 02 06.2 +0.4
baz=81,SNR=74
W13A ⇑S S 21 11 28.8 +2.2
baz=81
SVW2 Sparrevohn 80.88 11 eP P 21 02 04.0 -1.7
SVW2 epP pP 21 04 09.3 -0.3
P09A Austin 80.92 43 ⇑P P 21 02 06.0 +0.1
baz=81
P09A ⇑S S 21 11 28.9 +1.8
baz=81
I05A Bend 80.93 38 P P 21 02 06.1 +0.1
baz=81,SNR=48
I05A ⇓S S 21 11 28.5 +1.4
baz=81
115A Sonoran Desert 80.94 51 ⇑P P 21 02 06.6 +0.5
baz=81,SNR=47
115A ⇑S S 21 11 31.6 +4.3
baz=81
E03A Lebam 81.06 35 ⇓P P 21 02 06.3 -0.4
baz=81,SNR=27
E03A ⇓S S 21 11 30.1 +1.6
baz=81
J06A Christmas Vall 81.06 39 P P 21 02 06.4 -0.3
baz=81,SNR=212
J06A ⇓S S 21 11 29.6 +1.1
baz=81
U12A Valley of Fire 81.07 47 ⇓P P 21 02 07.0 +0.2
baz=81,SNR=102
U12A ⇑S S 21 11 31.4 +2.8
baz=81
TIA Tai'an 81.12 312 eP P 21 02 07.1 +0.1
TIA AMB AMB
comp=Z,59nm,1.0s,mb5.0
MA2 Magadan 81.15 345 eP P 21 02 05.5 -1.6
MA2 i S S 21 11 26.9 -2.5
MA2 eSP 21 12 17.1
MA2 pmax pmax
comp=Z,50nm,1.0s,mb4.9
MA2 Magadan 81.15 345 eP P 21 02 05.4 -1.7
O09A Fish Creek Ran 81.22 43 P P 21 02 07.5 +0.1
baz=81,SNR=136
O09A ⇓S S 21 11 31.0 +1.0
baz=81
H05A Madras 81.24 37 ⇑P P 21 02 07.2 -0.4
baz=82,SNR=34
H05A ⇓S S 21 11 31.4 +1.2
baz=82
COCO West Island 81.24 260 eP P 21 02 09.2 +1.7
116A Eloy 81.27 52 ⇑P P 21 02 08.4 +0.6
baz=81,SNR=82
116A ⇓S S 21 11 34.1 +3.6
baz=81
X14A Yava 81.29 50 P P 21 02 08.6 +0.7
baz=82,SNR=99
X14A ⇑S S 21 11 35.1 +4.4
baz=82
D03A Wishkah Elem. 81.30 34 ⇓P P 21 02 08.2 +0.3
baz=82,SNR=13
F04A Amboy 81.32 36 P P 21 02 07.5 -0.5
baz=82,SNR=26
BMN Battle Mountai 81.33 43 eP P 21 02 08.3 +0.2
BMN pmax pmax
comp=Z,245nm,1.0s,mb5.6
BMN Battle Mountai 81.33 43 eP P 21 02 08.3 +0.2
comp=Z,245nm,1.0s,mb5.6
N09A Rock Creek Ran 81.37 42 P P 21 02 08.5 +0.3
baz=82,SNR=76
N09A ⇑S S 21 11 33.8 +2.3
baz=82
HOOD Mount Hood Mea 81.39 37 eP P 21 02 08.0 -0.3
C03A Quillayute Air 81.39 33 ⇑P P 21 02 08.7 +0.3
baz=82,SNR=7.0
P10A Eureka 81.40 44 ⇓P P 21 02 08.5 +0.1
baz=82,SNR=44
P10A ⇓S S 21 11 33.7 +1.9
baz=82
I06A Prineville 81.42 38 P P 21 02 08.8 +0.3
baz=82,SNR=107
I06A ⇓S S 21 11 33.0 +0.9
baz=82
SLKM Skilak Lake 81.44 14 eP P 21 02 06.9 -1.7
SLKM epP pP 21 04 12.9 +0.2
MAIG Mazatlaan 81.46 62 i P P 21 02 09.3 +0.6
W14A Seligman 81.51 49 P P 21 02 09.8 +0.9
baz=82,SNR=122
W14A ⇓S S 21 11 37.4 +4.4
baz=82
WVOR Wild Horse Val 81.53 40 P P 21 02 09.2 +0.1
G05A Wamic 81.53 37 P P 21 02 08.9 -0.1
baz=82,SNR=29
Q11A Duckwater 81.54 45 ⇑P P 21 02 09.2 +0.1
baz=82,SNR=193
Q11A ⇑S S 21 11 35.3 +2.1
baz=82
E04A Onalaska 81.55 35 ⇓P P 21 02 09.4 +0.3
baz=82,SNR=11
E04A ⇓S S 21 11 34.1 +0.8
baz=82
J07A Hines 81.64 39 P P 21 02 09.6 0.0
baz=82,SNR=138
J07A ⇑S S 21 11 36.1 +1.8
baz=82
M09A Marrel Ranch, 81.72 42 P P 21 02 10.6 +0.6
baz=82,SNR=91
M09A ⇑S S 21 11 37.1 +2.1
baz=82
X15A Humboldt 81.78 50 ⇑P P 21 02 11.1 +0.8
baz=82,SNR=209
X15A ⇓S S 21 11 38.9 +3.3
baz=82
D04A Dobbs Creek Ra 81.82 35 ⇓P P 21 02 10.6 +0.1
baz=82
F05A White Salmon 81.83 36 P P 21 02 10.3 -0.2
baz=82,SNR=68
F05A ⇓S S 21 11 34.8 -1.3
baz=82
P11A Circle Ranch, 81.83 44 ⇑P P 21 02 10.8 +0.2
baz=82,SNR=37
P11A ⇓S S 21 11 38.4 +2.2
baz=82
TUC Tucson 81.85 52 P P 21 02 11.6 +0.9
TUC pP pP 21 04 14.2 -0.8
TUC SKKSac SKKSac 21 11 39.4 -0.5
TUC Tucson 81.85 52 eP P 21 02 11.6 +0.9
TUC pmax pmax
comp=Z,220nm,1.2s,mb5.6
TUC Tucson 81.85 52 eP P 21 02 11.6 +0.9
comp=Z,220nm,1.2s,mb5.6
N10A Dunphy 81.95 43 ⇑P P 21 02 11.6 +0.4
baz=82,SNR=19
N10A ⇑S S 21 11 38.1 +0.8
baz=82
B04A Port Angeles 82.02 34 P P 21 02 11.5 -0.1
baz=82,SNR=20
B04A ⇑S S 21 11 36.2 -1.8
baz=82
E05A Randle 82.06 36 P P 21 02 11.2 -0.5
baz=82,SNR=69
E05A ⇑S S 21 11 35.8 -2.7
baz=82
W15A Williams 82.08 49 ⇑P P 21 02 12.7 +0.9
baz=82,SNR=44
W15A ⇓S S 21 11 40.7 +2.1
baz=82
GNW Green Mountain 82.08 34 eP P 21 02 11.5 -0.4
GNW epP pP 21 04 16.7 +0.4
LON Longmire 82.15 36 P P 21 02 11.2 -1.0
UBT Ubonrachathani 82.16 289 ⇓P P 21 02 18.5 +6.3
comp=Z,819nm,0.5s,mb6.5
Q12A Willow Creek R 82.19 45 ⇓P P 21 02 12.5 +0.2
baz=82,SNR=92
Q12A ⇓S S 21 11 41.5 +1.8
baz=82
O11A Cowboy Ranch, 82.19 44 ⇓P P 21 02 12.7 +0.3
baz=82
O11A ⇓S S 21 11 40.4 +0.7
baz=82
IPM Ipoh 82.24 277 P P 21 02 13.6 +0.9
D05A Enumclaw 82.31 35 ⇓P P 21 02 13.0 0.0
baz=82,SNR=46
D05A ⇓S S 21 11 38.6 -2.3
baz=82
M10A I.L. Ranch, Tu 82.35 42 ⇓P P 21 02 13.8 +0.5
baz=83,SNR=38
M10A ⇑S S 21 11 41.6 +0.3
baz=83
CCUT Cedar City 82.45 47 eP P 21 02 14.3 +0.6
CCUT epP pP 21 04 19.0 +0.7
N11A Elko Archery C 82.50 43 ⇓P P 21 02 13.9 0.0
baz=83,SNR=9.5
N11A ⇑S S 21 11 41.9 -0.8
baz=83
ARUT Antelope Range 82.51 46 eP P 21 02 14.4 +0.4
ARUT e 21 02 32.8
TTA Tatalina 82.51 10 eP P 21 02 13.0 -1.0
TTA e*PP pP 21 04 17.6 -1.0
EYAK Cordova Ski Ar 82.56 16 eP P 21 02 12.4 -1.8
EYAK epP pP 21 04 18.3 -0.5
EYAK esP sP 21 05 08.0 -10
CRAG Craig 82.59 24 eP P 21 02 14.2 -0.2
comp=Z,158nm,1.1s,mb5.5
PMR Palmer 82.65 14 eP P 21 02 12.8 -1.9
PMR pmax pmax
comp=Z,170nm,1.0s,mb5.5
PMR Palmer 82.65 14 eP P 21 02 12.4 -2.3
comp=Z,255nm,1.4s,mb5.6
PMR epP pP 21 04 19.3 0.0
PMR esP sP 21 05 20.2 +1.6
C05A Tolt Reservoir 82.77 35 ⇓P P 21 02 14.7 -0.7
baz=83,SNR=77
C05A ⇓S S 21 11 40.0 -5.5
baz=83
M11A Holland Ranch, 82.78 42 P P 21 02 15.8 +0.5
baz=83,SNR=55
M11A ⇓S S 21 11 45.8 +0.2
baz=83
A04A Legoe Bay, Lum 82.84 34 P P 21 02 15.7 0.0
baz=83,SNR=26
A04A ⇑S S 21 11 41.7 -4.5
baz=83
KULM Kulim 82.86 278 eP P 21 02 16.7 +1.0
KULM epP pP 21 04 18.7 -1.7
KULM esP sP 21 05 21.7 +2.0
O12A Currie 82.86 44 P P 21 02 15.9 +0.2
baz=83,SNR=110
O12A ⇓S S 21 11 46.2 -0.2
baz=83
WUAZ Wupatki 82.88 49 eP P 21 02 16.4 +0.6
comp=Z,254nm,1.1s,mb5.7
B05A Bryant 82.89 34 P P 21 02 15.7 -0.3
baz=83,SNR=50
B05A ⇑S S 21 11 42.6 -4.0
baz=83
TWW Teanaway 82.90 36 P P 21 02 16.1 +0.1

SIT Sitka 82.95 22 *e*P **P 21 02 15.7 -0.5**
SIT pmax pmax
comp=Z,148nm,1.3s,mb5.4
SIT Sitka 82.95 22 *e*P **P 21 02 15.7 -0.5**
comp=Z,148nm,1.3s,mb5.4
N12A Clover Valley, 82.97 43 P **P 21 02 16.4 +0.1**
baz=83,SNR=104
N12A ⇑S S 21 11 44.9 -2.5
baz=83
TBM Table Mountain 83.06 36 P **P 21 02 16.3 -0.5**
HAWA Hanford 83.22 37 *e*P **P 21 02 17.4 -0.2**
SFJM Santa Fe 83.32 66 *i* P **P 21 02 19.0 +0.9**
M12A Wells 83.34 43 P **P 21 02 18.4 +0.2**
baz=84,SNR=117
M12A ⇑S S 21 11 48.3 -2.7
baz=84
A05A Maple Falls 83.34 34 ⇑P **P 21 02 17.2 -1.0**
baz=84,SNR=6.4
A05A ⇓S S 21 11 44.8 -6.3
baz=84
SNG Songkhla 83.49 280 P **P 21 02 21.0 +2.1**
comp=Z,1μm,1.0s,mb6.4
N13A Wendover, West 83.52 44 ⇑P **P 21 02 19.2 +0.2**
baz=84,SNR=63
N13A ⇑S S 21 11 50.5 -2.3
baz=84
TNA Tin City 83.61 4 *e*P **P 21 02 18.4 -1.1**
comp=Z,185nm,1.5s,mb5.4
TNA *e*pP pP 21 04 24.2 -0.3
BJT Baijiatuau 83.66 315 P **P 21 02 20.0 +0.3**
BJT Baijiatuau 83.66 315 *e*P **P 21 02 19.8 +0.1**
BJT pmax pmax
comp=Z,164nm,1.0s
BJT Baijiatuau 83.66 315 *e*P **P 21 02 19.8 +0.1**
comp=Z,164nm,1.0s,mb5.5
BJT *e*pP pP 21 04 26.2 +1.4
BMO Blue Mountains 83.66 39 *e*P **P 21 02 19.1 -0.6**
BJI Beijing 83.66 315 P **P 21 02 19.3 -0.5**
BJI AP pP 21 04 21.6 -3.2
BJI S S 21 11 57.1 +2.9
BJI AMB AMB
comp=Z,142nm,1.1s,mb5.4
BJI AMB AMB
comp=Z,618nm,6.2s
PSI Prapat 83.70 275 P **P 21 02 19.9 -0.1**
comp=Z,340nm,0.9s,mb5.9,baz=141,slow=3.6,SNR=202
PSI PP PP 21 05 43.5 -0.4
comp=Z,51nm,0.9s,baz=123,slow=4.9,SNR=12
MAW Mawson 83.79 200 ⇓*i*P **P 21 02 19.8 -0.6**
comp=Z,79nm,0.9s,mb5.2
MAW *e*pP pP 21 04 25.9 +0.4
MAW *e*S S 21 11 46.0 -9.5
MAW Mawson 83.79 200 P **P 21 02 19.9 -0.5**
comp=Z,101nm,0.9s,mb5.4,baz=127,slow=5.3,SNR=191
MAW Mawson 83.79 200 ⇓*i*P **P 21 02 19.8 -0.6**
MAW *e**PP pP 21 04 25.9 +0.4
MAW *e*S S 21 11 46.0 -9.5
MAW pmax pmax
comp=Z,79nm,0.9s
M13A Montello 83.80 43 P **P 21 02 20.4 0.0**
baz=84,SNR=211
M13A ⇓S S 21 11 52.3 -3.2
baz=84
DUG Dugway 84.11 45 *e*P **P 21 02 21.6 -0.4**
BGU Big Grassy Mou 84.32 44 *e*P **P 21 02 22.6 -0.4**
BGU *e*pP pP 21 04 27.8 -0.5
NLU North Lily Min 84.49 45 *e*P **P 21 02 23.8 -0.1**
NLU *e*pP pP 21 04 28.7 -0.4
NLU *e*PP PP 21 05 47.7 -2.4
KKTK Khon Kaen 84.52 289 P **P 21 02 25.0 +1.1**
comp=Z,1μm,0.5s
CAIG El Cayaco 84.54 70 *i* P **P 21 02 24.6 +0.6**
MCK McKinley 84.58 13 *e*P **P 21 02 22.3 -2.0**
MCK pmax pmax
comp=Z,91nm,0.9s,mb5.4
MCK McKinley 84.58 13 *e*P **P 21 02 22.2 -2.0**
comp=Z,91nm,0.9s,mb5.4
MOIG Morelia 84.65 67 *i* P **P 21 02 25.4 +0.8**
HLID Hailey 84.75 41 *e*P **P 21 02 25.2 +0.1**
comp=Z,119nm,0.9s,mb5.5
HLID *e*pP pP 21 04 29.9 -0.7
HLID *e*PP PP 21 05 49.8 -2.4
SKAG Skagway 84.77 21 *e*P **P 21 02 24.5 -0.7**
comp=Z,334nm,1.6s,mb5.7
TMUT Trail Mountain 84.77 46 *e*P **P 21 02 25.9 +0.8**
NOQ North Oquirrh 84.79 44 *e*P **P 21 02 28.2 +2.9**
NOQ *e*PP PP 21 05 50.6 -2.0
MPU Maple Canyon 84.82 45 *e*P **P 21 02 25.6 +0.2**
GYA Guiyang 84.88 300 ⇓*i*P **P 21 02 26.5 +0.8**
GYA AP pP 21 04 35.0 +3.8
GYA PP PP 21 05 54.3 +1.0
GYA SKS 21 11 49.4
GYA S 21 11 56.9
GYA AMB AMB
comp=Z,160nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,2μm,8.7s
SPUT South Promonto 84.89 44 *e*P **P 21 02 28.8 +3.0**
SPUT *e*pP pP 21 04 32.6 +1.3
SPUT *e*PP PP 21 05 51.2 -2.2
HVU Hansel Valley 84.91 43 *e*P **P 21 02 28.1 +2.2**
CTU Camp Tracy 85.06 45 *e*P **P 21 02 28.9 +2.3**
CTU *e*PP PP 21 05 49.8 -4.9
MENT Mentasta 85.10 15 *e*P **P 21 02 25.5 -1.3**
SRU San Rafael 85.15 46 *e*P **P 21 02 28.0 +1.0**
DAU Daniels Canyon 85.26 45 *e*P **P 21 02 27.6 +0.1**
DAU *e* 21 05 54.2
TCUT Toone Canyon 85.49 44 *e*P **P 21 02 31.0 +2.3**
TCUT *e*pP pP 21 04 36.8 +2.4
LAZ Ladron 85.50 52 *e*P **P 21 02 29.0 +0.3**
LAZ *e*pP pP 21 04 35.0 +0.5
LAZ *e*PP PP 21 05 56.3 -1.9
LENM Lemitar 85.53 52 *e*P **P 21 02 29.1 +0.3**
LENM *e*pP pP 21 04 35.7 +1.1
Y22C IRIS PASSCAL I 85.53 52 ⇑P **P 21 02 29.6 +0.8**
baz=86
Y22C ⇑S 21 12 01.8
baz=86
HWUT Hardware Ranch 85.62 44 *e*P **P 21 02 28.8 -0.4**
NEW Newport 85.62 36 P **P 21 02 28.3 -1.0**
comp=Z,68nm,0.8s,mb5.3,baz=235,slow=3.8,SNR=103
NEW PP PP 21 05 56.0 -3.2
comp=Z,9.1nm,1.0s,baz=237,slow=7.1,SNR=4.8
NEW Newport 85.62 36 P **P 21 02 28.3 -1.0**
NEW 21 05 56.0
NEW pmax pmax
comp=Z,69nm,0.8s
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW Newport 85.62 36 *e*P **P 21 02 28.1 -1.2**
comp=Z,88nm,0.9s,mb5.4
PLIG Platanillo 85.69 69 *i* P **P 21 02 30.7 +1.1**
MVCO Mesa Verde 85.72 49 *e*P **P 21 02 29.3 -0.4**
comp=Z,25nm,0.9s,mb4.8
MVCO *e*PP PP 21 05 56.7 -3.2
BNM Barren Site 85.78 52 *e*P **P 21 02 32.2 +2.2**
BNM *e*pP pP 21 04 36.9 +1.0
IMA2 Indian Mountai 85.81 10 *e*P **P 21 02 28.3 -1.8**
IMA2 *e*pP pP 21 04 35.8 -0.2
COLA College 85.82 13 *e*P **P 21 02 27.8 -2.4**
COLA *e* 21 05 57.0
COLA pmax pmax
comp=Z,196nm,1.2s,mb5.6
COLA College 85.82 13 *e*P **P 21 02 27.8 -2.4**
comp=Z,196nm,1.2s,mb5.6
COLA *e*pP pP 21 04 35.7 -0.4
COLA *e*PP PP 21 05 57.0 -3.8
LPM Los Pinos Moun 85.84 52 *e*P **P 21 02 30.5 +0.2**
LPM *e*pP pP 21 04 38.9 +2.6
PV10 Paradox Valley 85.85 48 *e*P **P 21 02 30.0 -0.3**
PV10 *e*pP pP 21 04 37.7 +1.4
NNT Nongplab 86.07 284 P **P 21 02 33.0 +1.6**
PV01 Paradox Valley 86.07 48 *e*P **P 21 02 30.9 -0.5**
PV01 *e*pP pP 21 04 39.0 +1.5
PV01 *e*PP PP 21 05 58.1 -4.7
XAN Xi'an 86.12 307 P **P 21 02 32.3 +0.7**
XAN AMB AMB
comp=Z,363nm,1.1s,mb5.9
XAN AMB AMB
comp=Z,338nm,6.6s
ANMO Albuquerque 86.24 52 P **P 21 02 32.1 -0.1**
comp=Z,70nm,1.0s,mb5.2,baz=232,slow=4.7,SNR=119
ANMO pP pP 21 04 36.6 -1.7
comp=Z,6.5nm,1.0s,baz=265,slow=1.5,SNR=2.3
ANMO PP PP 21 06 02.0 -2.0
comp=Z,6.6nm,1.1s,baz=231,slow=9.6,SNR=3.7
ANMO Albuquerque 86.24 52 P **P 21 02 32.2 0.0**
ANMO *PP pP 21 04 36.6 -1.7
ANMO 21 06 02.1
ANMO pmax pmax
comp=Z,70nm,1.0s
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ANMO pmax pmax
comp=Z,7.0nm,1.2s
ANMO Albuquerque 86.24 52 *e*P **P 21 02 32.3 +0.1**
comp=Z,94nm,1.1s,mb5.3
ANMO *e*pP pP 21 04 39.6 +1.3
HIA Hailar 86.27 325 *e*P **P 21 02 31.9 -0.4**
HIA pmax pmax
comp=Z,122nm,1.4s
HIA Hailar 86.27 325 *e*P **P 21 02 31.9 -0.4**
comp=Z,122nm,1.4s,mb5.3
MCMT McKenzie Canyo 86.36 41 *e*P **P 21 02 33.0 +0.2**
MCMT *e*pP pP 21 04 38.4 -0.5
MCMT *e*PP PP 21 06 02.5 -2.5
AHID Auburn Hatcher 86.47 43 *e*P **P 21 02 26.8 -6.5**
comp=Z,106nm,1.1s,mb5.4
RRI2 Red Ridge 86.61 42 *e*P **P 21 02 34.2 +0.3**
RRI2 *e*pP pP 21 04 40.9 +0.7
MSO Missoula 86.70 38 *e*P **P 21 02 37.0 +2.6**
PPM Popocatepetl 86.70 69 *e*P **P 21 02 36.0 +1.6**
GDL2 Guadalupe Moun 86.72 55 *e*P **P 21 02 35.1 +0.6**
NST Nakhon Sawan 86.72 288 ⇑P **P 21 02 36.5 +2.0**
comp=Z,83nm,1.1s,mb5.4
BSMT Bassoo Peak 86.73 37 *e*P **P 21 02 33.7 -0.8**
BSMT *e*pP pP 21 04 41.3 +0.5
DLMT Dillon 86.78 40 *e*P **P 21 02 34.8 +0.1**
comp=Z,160nm,0.9s,mb5.8
TPAW Teton Pass 86.91 42 *e*P **P 21 02 35.7 +0.4**
comp=Z,159nm,1.0s,mb5.7
TPAW *e*pP pP 21 04 42.5 +0.8
REDW Red Top Meadow 86.91 43 *e*P **P 21 02 35.5 +0.1**
comp=Z,328nm,1.1s,mb6.0
REDW *e*pP pP 21 04 42.5 +0.8
REDW *e*sP sP 21 05 40.7 +0.1
REDW *e*PP PP 21 06 04.9 -4.5
SNOW Snow King Moun 87.02 42 *e*P **P 21 02 36.4 +0.5**
SNOW *e*pP pP 21 04 42.5 +0.2
SNOW *e*pP pP 21 04 44.1 +1.8
LRM Limekiln Ridge 87.09 40 *e*P **P 21 02 35.9 -0.3**
LRM *e*pP pP 21 04 43.7 +1.0
IMW Indian Meadow 87.11 42 *e*P **P 21 02 36.0 -0.3**
IMW *e*pP pP 21 04 44.2 +1.5
HHC Hu-ho-hao-te 87.15 315 *e*P **P 21 02 37.3 +0.8**
HHC PP PP 21 06 12.1 +0.9
HHC S 21 12 32.5
HHC SS SS 21 18 32.3 +3.3
HHC AMB AMB
comp=Z,111nm,1.3s,mb5.4
HHC AMB AMB
comp=Z,270nm,4.1s
CHMT Chamberlain Mo 87.15 39 *e*P **P 21 02 35.7 -0.8**
MOOW Moose Ponds 87.16 42 *e*P **P 21 02 36.5 0.0**
comp=Z,88nm,1.1s,mb5.4
MOOW *e*pP pP 21 04 44.2 +1.2
MOOW *e*pP pP 21 04 44.6 +1.6
QLMT Earthquake Lak 87.24 41 *e*P **P 21 02 37.6 +0.7**
QLMT *e*pP pP 21 04 44.6 +1.2
QLMT *e*pP pP 21 04 45.0 +1.6
NANT Nan 87.26 291 ⇓P **P 21 02 37.0 0.0**
comp=Z,500nm,0.4s,mb6.6
FLWY Flagg Ranch 87.35 42 *e*P **P 21 02 38.0 +0.6**
FLWY *e*pP pP 21 04 44.5 +0.6
YFT Old Faithful 87.44 42 *e*P **P 21 02 39.5 +1.7**
BW06 Boulder Array 87.48 43 *e*P **P 21 02 37.5 -0.5**
comp=Z,108nm,0.9s,mb5.6
BW06 *e*pP pP 21 04 43.6 -0.9
PDAR Pinedale Array 87.48 43 P **P 21 02 37.5 -0.6**
comp=Z,76nm,0.8s,mb5.5,baz=218,slow=3.1,SNR=525
PDAR pP pP 21 04 42.4 -2.2
comp=Z,5.2nm,1.0s,baz=199,slow=3.1,SNR=4.4
PDAR PKKP PKKPbc 21 20 21.9 -1.2
comp=Z,2.9nm,0.9s,baz=108,slow=4.8,SNR=9.8
BOZ Bozeman (W) 87.51 40 *e*P **P 21 02 37.8 -0.4**
BOZ *e**PP pP 21 04 45.2 +0.5
BOZ pmax pmax
comp=Z,112nm,1.2s,mb5.5
BOZ Bozeman (W) 87.51 40 *e*P **P 21 02 37.8 -0.4**
comp=Z,112nm,1.2s,mb5.5
BOZ *e*pP pP 21 04 45.2 +0.5
SMCO Snowmass 87.65 48 *e*P **P 21 02 38.2 -0.6**
comp=Z,92nm,1.2s,mb5.4
KMI Kunming 87.67 297 P **P 21 02 40.8 +1.9**
KMI AP pP 21 04 48.5 +3.0
KMI XP sP 21 05 46.4 +2.0
KMI PP PP 21 06 19.6 +4.2
KMI PPP 21 08 21.9
KMI SKS 21 12 11.9
KMI S 21 12 32.6
KMI XS sS 21 16 18.6 +0.7
KMI SS SS 21 18 41.3 +4.7
KMI SSS 21 22 20.6
KMI AMB AMB
comp=Z,142nm,1.3s,mb5.5
KMI AMB AMB
comp=Z,547nm,3.2s
VHO Vista Hermosa 87.73 71 *i* P **P 21 02 40.4 +1.2**
OXX Oaxaca 87.74 71 *e*P **P 21 02 40.0 +0.8**
LKWY Lake 87.77 42 *e*P **P 21 02 37.7 -1.7**
WALA Waterton Lakes 87.85 37 *e*P **P 21 02 39.1 -0.6**
comp=Z,91nm,0.9s,mb5.5
HRY Holter Researc 87.90 39 *e*P **P 21 02 39.7 -0.3**
HRY *e*pP pP 21 04 47.6 +1.0
BTO Baotou 88.09 314 *e*P **P 21 02 40.0 -0.9**
RWWY Rawlins 88.56 45 *e*P **P 21 02 42.9 -0.1**
RWWY *e*pP pP 21 04 49.7 -0.3
GCMT Greycliff 88.79 41 *e*P **P 21 02 44.0 -0.1**
GCMT *e*PP PP 21 06 23.8 -0.4
CHG Chiang Mai 88.83 290 ⇓P **P 21 02 45.6 +1.3**
comp=Z,150nm,0.9s,mb5.8
CHTO Chiang Mai 88.83 290 *e*P **P 21 02 45.4 +1.1**
CHTO *e* 21 06 24.7
CHTO pmax pmax
comp=Z,121nm,0.9s,mb5.7
CHTO Chiang Mai 88.83 290 *e*P **P 21 02 45.4 +1.1**
comp=Z,123nm,0.9s,mb5.7
CHTO *e*PP PP 21 06 24.7 +0.2
CHTO *e* 21 06 30.5
ISCO Idaho Springs 88.87 47 *e*P **P 21 02 44.6 +0.1**
ISCO pmax pmax
comp=Z,71nm,1.4s,mb5.3
ISCO Idaho Springs 88.87 47 *e*P **P 21 02 44.6 +0.1**
comp=Z,66nm,1.4s,mb5.3
CD2 Chengdu 88.92 303 *e*P **P 21 02 45.4 +0.7**
CD2 AP pP 21 04 53.6 +1.9
CD2 PP PP 21 06 28.0 +2.8
CD2 SKS 21 12 17.3
CD2 S 21 12 41.4
CD2 XS sS 21 16 28.4 -1.8
CD2 SS SS 21 18 56.3 +1.9
CD2 AMB AMB
comp=Z,40nm,1.1s,mb5.2
CD2 AMB AMB
comp=Z,140nm,5.9s
SYO Syowa Base 89.11 193 ⇑*i*P **P 21 02 43.5 -2.1**
YAK Yakutsk 89.51 338 ⇑*i*P **P 21 02 45.2 -2.3**
YAK pmax pmax
comp=Z,18nm,0.7s,mb5.0
YAK Yakutsk 89.51 338 *e*P **P 21 02 46.3 -1.2**
PHWY Pilot Hill 89.60 46 *e*P **P 21 02 47.7 -0.1**
JCT Junction City 89.69 58 *e*P **P 21 02 48.0 -0.3**
JCT pmax pmax
comp=Z,83nm,0.9s,mb5.6
JCT Junction City 89.69 58 *e*P **P 21 02 48.0 -0.3**
comp=Z,83nm,0.9s,mb5.6
AMTX Amarillo 89.82 53 *e*P **P 21 02 48.4 -0.5**
KVTX Kingsville 90.23 61 *e*P **P 21 02 50.7 -0.1**
comp=Z,28nm,0.6s,mb5.3
KVTX *e*pP pP 21 04 58.9 +0.8
EDM Edmonton 90.26 33 *e*P **P 21 02 49.5 -1.4**
EDM *e**PP pP 21 04 57.4 -0.8
SNAA Sanae 90.60 179 P **P 21 02 50.8 -1.7**
comp=Z,18nm,0.7s,mb5.1,baz=202,slow=5.8,SNR=41
LZH Lanzhou 90.75 308 ⇓*i*P **P 21 02 54.1 +0.9**
LZH AP pP 21 05 02.3 +1.8
LZH XP sP 21 05 59.8 +0.7
LZH PP PP 21 06 42.6 +3.2
LZH PPP 21 08 47.3
LZH SKS 21 12 29.8
LZH S 21 12 58.5
LZH PS 21 15 35.6
LZH XS sS 21 16 46.8 -1.0
LZH SS SS 21 19 25.8 +5.3
LZH AMB AMB
comp=Z,306nm,1.3s,mb6.1
LZH AMB AMB
comp=Z,2μm,9.4s
CIT Chita 91.06 325 *e*P **P 21 02 54.6 0.0**
CIT pmax pmax
comp=Z,125nm,1.3s,mb5.7
NVL N'lazarevskaya 91.25 183 *d*iP **P 21 02 53.4 -2.1**
NVL pmax pmax
comp=Z,93nm,1.2s,mb5.6
NVL pmax pmax
comp=N,37nm,1.5s
NVL pmax pmax
comp=E,14nm,1.5s
LAO LASA Array 91.33 41 *e*P **P 21 02 56.2 +0.4**
LAO *e*pP pP 21 05 04.9 +1.6
VNA1 Neumayer--Stat 91.41 177 ⇓*i*P **P 21 02 55.4 -0.8**
VNA1 *e* 21 02 56.0
VNA1 *e* 21 06 01.9
PLCA Paso Flores 91.46 134 P **P 21 02 56.9 +0.4**
comp=E,6.1nm,1.0s,mb4.5,baz=259,slow=6.2,SNR=5.9
PLCA PKKPbc PKKPbc 21 20 12.9 -0.4
comp=E,3.9nm,0.9s,baz=321,slow=7.8,SNR=3.1
RSSD Black Hills 91.69 44 *e*P **P 21 02 57.1 -0.4**
RSSD pmax pmax
comp=Z,75nm,0.9s,mb5.7
RSSD Black Hills 91.69 44 *e*P **P 21 02 57.1 -0.4**
comp=Z,68nm,0.9s,mb5.7
INK Inuvik 91.94 15 PKKPbc PKKPbc 21 20 11.1 -1.0
comp=Z,1.2nm,0.7s,baz=46,slow=10.0,SNR=4.1
INK Inuvik 91.94 15 *e*P **P 21 02 56.5 -2.2**
INK pmax pmax
comp=Z,92nm,1.0s
INK Inuvik 91.94 15 *e*P **P 21 02 56.5 -2.2**
comp=Z,3μm,1.0s
WMOK Wichita Mounta 91.99 54 *e*P **P 21 02 57.8 -1.1**
HKT Hockley 92.74 60 *e*P **P 21 03 03.1 +0.8**
HKT pmax pmax
comp=Z,59nm,1.5s,mb5.4
HKT Hockley 92.74 60 *e*P **P 21 03 03.1 +0.8**
comp=Z,59nm,1.5s,mb5.4
SONM Songino Array 93.44 319 P **P 21 03 04.6 -0.9**
comp=Z,9.5nm,0.9s,mb4.8,baz=126,slow=4.0,SNR=66
SONM PKKPbc PKKPbc 21 20 07.2 -1.1
comp=Z,1.0nm,1.1s,baz=258,slow=3.2,SNR=3.5
BOD Bodaibo 93.58 330 ⇓*i*P **P 21 03 04.5 -1.7**
BOD *e* 21 07 00.8
BOD *e* 21 12 41.2
BOD pmax pmax
comp=Z,8.0nm,1.3s,mb4.7
NATX Nacogdoches 94.27 58 *e*P **P 21 03 10.6 +1.3**
YKA Yellowknife Ar 94.41 25 P **P 21 03 08.3 -1.7**
comp=Z,24nm,0.9s,mb5.3,baz=243,slow=4.4,SNR=58
YKA PP PP 21 06 57.1 -11
comp=Z,7.9nm,1.0s,baz=244,slow=7.2,SNR=4.9
YKA PKKPbc PKKPbc 21 20 03.4 -2.4
comp=Z,0.8nm,0.5s,baz=42,slow=2.1,SNR=7.8
YKA Yellowknife Ar 94.41 25 P **P 21 03 08.3 -1.6**
YKA PP PP 21 06 57.1 -11
YKA PKKPbc PKKPbc 21 20 03.4 -2.4
YKW3 Yellowknife Ar 94.44 25 *e*P **P 21 03 08.4 -1.7**
GTA Gaotai 94.90 310 ⇓*i*P **P 21 03 12.3 +0.1**
GTA AP pP 21 05 23.0 +3.1
GTA PP PP 21 07 15.8 +4.5
GTA SKS 21 12 52.6
GTA S 21 13 36.0
GTA AMB AMB
comp=Z,36nm,1.0s,mb5.5
GTA AMB AMB
comp=Z,128nm,5.0s
MIAR Mount Ida 95.99 56 *e*P **P 21 03 17.0 -0.1**
MIAR *e**PP pP 21 05 20.8 -4.1
ZAK Zakamensk 96.28 321 *e*P **P 21 03 16.5 -1.9**
ZAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.8
ZAK pmax pmax
comp=Z,8.0nm,1.5s,mb4.7
TLY Talaya 96.52 322 *d*iP **P 21 03 17.8 -1.6**
TLY pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
TLY Talaya 96.52 322 *e*P **P 21 03 18.4 -1.0**
comp=Z,9.1nm,1.0s,mb5.0
CFAA Coronel Fontan 97.08 126 P **P 21 03 21.4 -0.6**
comp=Z,0.3nm,0.6s,baz=285,slow=6.4,SNR=2.7
SCIA State Center 98.41 49 *e*Pdif Pdif 21 03 27.0 -0.8
comp=Z,32nm,1.1s
CCM Cathedral Cave 98.80 53 *e*Pdif Pdif 21 03 27.1 -2.5
CCM *e*pP pP 21 05 37.1 -0.7
CCM *e*PP PP 21 07 28.7 -12
ULM Lac du Bonnet 99.03 40 P Pdif 21 03 28.0 -2.6
comp=Z,2.4nm,0.4s,baz=264,slow=7.1,SNR=5.6
ULM Lac du Bonnet 99.03 40 P Pdif 21 03 28.0 -2.6
ULM *e*PP PP 21 07 36.6 -6.0
SIUC Southern Illin 100.26 54 *e*Pdif Pdif 21 03 37.3 +1.2
JFWS Jewell Farm 100.79 48 *e*P Pdif 21 03 37.6 -0.9
JIRN Jiri 102.58 295 *e*P PKiKP 21 08 00.6 -3.1
comp=Z,280nm,1.7s
WCI Wyandotte Cave 102.62 54 *e*PKiKP PKiKP 21 08 03.5 -0.2
comp=Z,14nm,0.9s
GUN Gumba 102.91 295 *e*P PKiKP 21 08 01.3 -3.0
comp=Z,322nm,1.5s
PKI Pulchoki 103.24 295 *e*P PKiKP 21 08 04.0 -0.8
comp=Z,235nm,1.7s
KKN Kakani 103.40 295 *e*P Pdif 21 03 50.7 +0.7
comp=Z,16nm,0.8s
KKN Kakani 103.40 295 *e*P PKiKP 21 08 04.8 -0.3
comp=Z,339nm,1.9s
KKN Kakani 103.40 295 *e*P Pdif 21 03 50.7 +0.7
KKN pmax pmax
comp=Z,16nm,0.8s
DMN Daman 103.51 295 *e*P Pdif 21 03 51.3 +0.8
comp=Z,46nm,1.1s
DMN Daman 103.51 295 *e*P PKiKP 21 08 05.2 -0.1
comp=Z,264nm,1.5s
LPAZ La Paz 103.56 112 PKKPbc PKKPbc 21 19 40.3 -0.3
comp=Z,2.9nm,0.7s,baz=45,slow=3.7,SNR=10
GKN Gorkha 104.00 295 *e*P Pdif 21 03 52.6 -0.1
comp=Z,22nm,0.8s
GKN Gorkha 104.00 295 *e*P PKiKP 21 08 06.6 +0.3
comp=Z,225nm,1.5s
KOLN Koldanda 104.84 295 *e*P Pdif 21 03 56.1 -0.4
comp=Z,14nm,0.8s
KOLN Koldanda 104.84 295 *e*P PKiKP 21 08 10.4 +2.6
comp=Z,362nm,1.6s
HYB Hyderabad 107.04 283 *i* PKP PKiKP 21 08 11.5 -0.4
HYB Hyderabad 107.04 283 *e*P PKiKP 21 08 11.5 -0.4
ZAL Zalesovo 108.14 322 Pdiff Pdif 21 04 10.5 -0.6
comp=Z,0.9nm,0.4s,baz=16,slow=5.8,SNR=6.0
ZAL PKiKP PKiKP 21 08 11.0 -3.0
comp=Z,4.0nm,0.6s,baz=310,slow=2.0,SNR=18
MKAR Makanchi Array 109.01 314 Pdiff Pdif 21 04 14.2 -0.8
comp=Z,1.5nm,0.6s,baz=79,slow=6.3,SNR=11
MKAR PKiKP PKiKP 21 08 13.6 -1.9
comp=Z,8.5nm,0.6s,baz=264,slow=0.1,SNR=44
SSPA Standing Stone 109.45 52 *e*PP PP 21 08 57.6 -0.9
SIV San Ignacio 109.85 115 PKKPbc PKKPbc 21 19 19.9 -1.6
comp=Z,6.7nm,0.8s,baz=78,slow=4.9,SNR=21
BINY Binghamton 111.04 51 *e*PP PP 21 09 06.6 -3.2
KURK Kurchatov 111.71 318 *d*iPKiKP PKiKP 21 08 18.5 -2.2
KURK Kurchatov 111.71 318 *e*PKiKP PKiKP 21 08 18.0 -2.7
KSH Kashi 112.93 306 *e*PKP PKiKP 21 08 24.1 +1.1
KSH *e*PPP 21 11 24.4
KSH *e*XPKP 21 11 35.3
TKM2 Tokmak 2 113.45 310 P PKiKP 21 08 22.9 -1.1
SNR=19
TKM2 Tokmak 2 113.45 310 *i* PKiKP PKiKP 21 08 22.7 -1.3
TKM2 pmax pmax
comp=Z,18nm,0.7s
KBK Karagaybulak 113.91 309 P PKiKP 21 08 24.1 -0.7
SNR=11
CHMS Chumysh 114.07 310 P PKiKP 21 08 24.1 -1.1
SNR=9.0
FRU Bishkek 114.16 309 *e*PKiKP PKiKP 21 08 24.0 -1.4
UCH Uchtor 114.21 309 P PKiKP 21 08 25.4 -0.1
SNR=16
AAK Ala-Archa 114.25 309 *c* *i* PKiKP PKiKP 21 08 23.9 -1.6
AAK Ala-Archa 114.25 309 *e*PKiKP PKiKP 21 08 23.0 -2.5
USP Ospenovka 114.27 310 P PKiKP 21 08 24.8 -0.8

SNR=16
EKS2 Erkin-Say 114.78 309 P PKPdf 21 08 26.3 -0.3
SNR=13
AML Almayashu 114.82 309 P PKPdf 21 08 26.8 +0.2
SNR=8.9
CHKZ Chkalovo 116.53 322 *i* PKIKP PKPdf 21 08 27.5 -2.4
CHKZ pmax pmax
comp=Z,17nm,0.8s
CHKZ Chkalovo 116.53 322 *e*PKPdf PKPdf 21 08 27.9 -2.0
BVAR Borovoye Array 116.73 321 PKP PKPdf 21 08 28.7 -1.6
comp=Z,20nm,0.5s,baz=112,slow=1.0,SNR=77
BRVK Borovoye 116.80 321 *e*PKIKP PKPdf 21 08 28.6 -1.8
KK31 Karatay Array 117.18 310 *i* PKIKP PKPdf 21 08 29.6 -1.6
KK31 pmax pmax
comp=Z,13nm,0.6s
ZRNK Zerenda 117.58 321 *e*PKIKP PKPdf 21 08 30.2 -1.7
BDFB Brasilia 120.99 121 PKP PKPdf 21 08 38.3 -0.2
comp=Z,0.6nm,0.3s,baz=165,slow=9.4,SNR=3.3
BDFB PKKPbc PKKPbc 21 18 44.0 +0.4
comp=Z,10nm,0.9s,baz=87,slow=4.7,SNR=12
ARU Arti 122.75 326 *i* PKIKP PKPdf 21 08 40.2 -1.7
ARU *e* 21 10 25.7
ARU Arti 122.75 326 *e*PKPdf PKPdf 21 08 40.4 -1.5
ARU *e*PP PP 21 10 33.1 +3.2
AKTK Aktyubinsk 124.75 319 PKP PKPdf 21 08 44.3 -1.4
AKTO Aktyubinsk 124.75 319 PKP PKPdf 21 08 44.3 -1.4
comp=Z,24nm,0.8s,baz=83,slow=2.6,SNR=79
AKTO Aktyubinsk 124.75 319 *i* PKIKP PKPdf 21 08 44.2 -1.5
AKTO pmax pmax
comp=Z,6.0nm,0.8s
ARCES ARCESS Array B 126.29 350 PKP PKPdf 21 08 47.1 -1.6
comp=Z,15nm,0.8s,baz=22,slow=1.3,SNR=23
ARCES PKKPbc 21 18 22.1
comp=Z,2.5nm,0.7s,baz=204,slow=2.7,SNR=6.8
APA Apatity 126.31 345 ||*i* PKIKP PKPdf 21 08 46.5 -2.2
APA *e* 21 10 50.0
APA *e*SSS 21 27 12.0
APA pmax pmax
comp=Z,36nm,1.2s
BOSA Boshof 128.31 207 PKP PKPdf 21 08 53.1 +0.6
comp=Z,25nm,0.9s,baz=140,slow=2.3,SNR=22
BOSA SKPbc 21 11 19.3
comp=Z,17nm,0.8s,baz=156,slow=2.7,SNR=10
KLMR Klimovskoe 129.29 337 *i* PKIKP PKPdf 21 08 52.3 -2.1
KLMR pmax pmax
comp=Z,80nm,1.5s
JOF Joensuu 130.51 343 *ep* PKPdf 21 08 54.2 -2.5
KAF Kangasniemi 132.52 344 *ep* PKPdf 21 08 57.4 -3.1
FIA1 FINESS Array S 133.14 344 *e*PKPdf PKPdf 21 09 00.0 -1.6
FINES FINESS Array B 133.14 344 PKHKP 21 08 45.2
comp=Z,1.1nm,0.6s,baz=101,slow=3.9,SNR=8.7
FINES PKP PKPdf 21 08 58.8 -2.9
comp=Z,10.0nm,0.8s,baz=90,slow=1.9,SNR=23
FINES SKPbc SKPbc 21 11 35.5 +0.2
comp=Z,17nm,0.8s,baz=62,slow=4.5,SNR=21
FINES SKKPbc 21 20 53.1
comp=Z,1.3nm,0.8s,baz=239,slow=1.1,SNR=3.4
FINES FINESS Array B 133.14 344 PKHKP 21 08 45.2
FINES 21 08 58.8
FINES 21 11 35.5
FINES FINESS Array B 133.14 344 PKP 21 08 45.2
FINES PKP PKPdf 21 08 58.8 -2.9
FINES SKPbc SKPbc 21 11 35.5 +0.2
FINES SKKPbc 21 20 53.1
MOS Moscow 133.36 333 *e*PKIKP PKPdf 21 08 59.0 -3.0
MOS *i* 21 11 36.5
MOS pmax pmax
comp=Z,73nm,1.5s
OBN Obninsk 134.22 333 *d* *i* PKIKP PKPdf 21 09 01.7 -2.0
OBN *i* 21 11 38.5
OBN pmax pmax
comp=Z,77nm,1.6s
OBN Obninsk 134.22 333 *e*PKPdf PKPdf 21 09 02.5 -1.2
VRSR Storozhevoye 135.31 327 *i* PKIKP PKPdf 21 09 04.4 -1.3
VRSR pmax pmax
comp=Z,40nm,1.3s
VRSR pmax pmax
comp=N,9.0nm,0.5s
VRSR pmax pmax
comp=E,80nm,2.9s
GOF Gofitskoye 136.06 317 *e*PKIKP PKPdf 21 09 06.4 -0.7
GOF pmax pmax
comp=Z,50nm,1.3s
TBLG Delisi 136.14 312 PKHKP 21 08 46.9
NB2 NORSAR Subarra 136.36 353 PKP 21 08 58.7
comp=Z,10.0nm,1.2s,baz=16,slow=3.2
NOA NORSAR Array B 136.36 353 PKHKP 21 08 56.8
comp=Z,4.5nm,0.8s,baz=19,slow=2.8,SNR=26
NOA PKP PKPdf 21 09 05.9 -1.8
comp=Z,4.4nm,0.8s,baz=13,slow=4.0,SNR=13
NOA SKPbc SKPbc 21 11 45.9 +0.6
comp=Z,19nm,1.0s,baz=17,slow=4.6,SNR=18
NOA NORSAR Array B 136.36 353 PKHKP 21 08 56.8
NOA 21 09 05.9
GNI Garni 136.65 310 ||*i* PKIKP PKPdf 21 09 09.2 +1.0
GNI Garni 136.65 310 *e*PKPdf PKPdf 21 09 05.6 -2.6
GNI *e*SKP 21 11 48.1
KIV Kislovodsk 136.73 316 *e*PKIKP PKPdf 21 09 04.0 -4.3
KIV *e* 21 11 55.6
KIV *e*SS SS 21 29 13.3 -3.9
KIV pmax pmax
comp=Z,36nm,1.1s
ONI Oni 136.74 314 P PKPdf 21 09 08.0 -0.3
CLDR Calditan 137.56 309 *e*P PKPdf 21 09 14.1 +4.3
LSZ Lusaka 137.75 220 *e*PKPdf PKPdf 21 09 01.8 -8.4
LSZ *e*SKPbc SKPbc 21 11 52.1 +2.8
CUKT Cukurca 138.34 306 *e*P PKPdf 21 09 01.6 -10
BHD Baghdad 138.63 300 *ex* x 21 09 01.0
BHD *ex* x 21 11 51.0
SOC Sochi 138.84 317 *i* PKIKP PKPdf 21 09 12.2 0.0
SOC *e* 21 12 10.6
SOC *e* 21 15 32.1
SOC pmax pmax
comp=Z,30nm,0.9s
MSL Mosul 138.99 305 *ex* x 21 09 07.5
MSL *ex* x 21 09 15.0
MSL *ex* x 21 11 57.5
ORE Reay 139.25 4 *e*P PKPdf 21 09 04.6 -8.3
ORE Reay 139.25 4 *e*P PKPdf 21 09 04.6 -8.3
TSUM Tsumeb 139.84 204 *e*PKPdf PKPdf 21 09 08.3 -5.7
TSUM *e*SKPbc SKPbc 21 11 57.7 +2.7
TSUM *e*SKPab 21 12 10.2
BEST Besiri 139.92 308 *i* P PKPdf 21 09 07.9 -6.2
KMBO Kilima Mbogo 139.96 246 PKHKP 21 09 08.0
comp=Z,12nm,0.8s,baz=81,slow=4.8,SNR=25
KMBO SKPbc SKPbc 21 11 57.5 +2.1
comp=Z,43nm,1.2s,baz=356,slow=2.8,SNR=13
KMBO Kilima Mbogo 139.96 246 PKP PKPdf 21 09 08.0 -6.2
KMBO SKPbc SKPbc 21 11 57.5 +2.1
KAC Achnashellach 140.16 6 *e*P PKPdf 21 09 06.4 -8.1
KAC Achnashellach 140.16 6 *e*P PKPdf 21 09 06.4 -8.1
SUW Suwalki 140.23 340 *e*PKP PKPdf 21 09 10.6 -4.1
EZC Erzincan 140.34 311 *e*P PKPdf 21 09 11.2 -3.7
MARD Mardin 140.47 307 *i* P PKPdf 21 09 08.3 -6.8
AKASG Malin Array Be 140.48 332 PKHKP 21 09 07.5
comp=Z,8.6nm,0.6s,baz=44,slow=4.1,SNR=85
AKASG SKPbc SKPbc 21 11 55.9 -0.8
comp=Z,3.2nm,0.6s,baz=43,slow=3.3,SNR=5.7
AKASG SKKPbc 21 20 24.5
comp=Z,2.6nm,0.9s,baz=237,slow=4.2,SNR=14
AKASG Malin Array Be 140.48 332 PKP PKPdf 21 09 07.5 -7.7
AKASG SKPbc SKPbc 21 11 55.9 -0.8
AKASG SKKPbc 21 20 24.5
AKBB Malin Array Si 140.48 332 *e*PKPdf PKPdf 21 09 07.6 -7.5
AKBB *e*SKPbc SKPbc 21 11 57.4 +0.6
AKBB *e*SKPab 21 12 09.4
MUD Monsted U'grnd 141.08 353 *i* P PKPdf 21 09 09.6 -6.6
comp=Z,11nm,1.1s
MUD *i* 21 11 59.2
DRBT Darb Altahta 141.35 307 P PKPdf 21 09 16.0 -0.7
BSD Bornholm Skovb 141.45 348 *i* P PKPdf 21 09 11.0 -5.9
comp=Z,28nm,1.0s
BSD *i* 21 11 59.9
BSD *i* S SKKSac 21 18 22.2 +0.2
BSD *i* 21 30 11.5
BSD *e* 21 57 51.7
BSD Bornholm Skovb 141.45 348 *i* P PKPdf 21 09 11.0 -5.9
BSD *i* 21 11 59.9
BSD *i* S SKKSac 21 18 22.2 +0.2
BSD *i* 21 30 11.5
EAB Aberfoyle 141.54 5 *e*P PKPdf 21 09 11.6 -5.4
EAB Aberfoyle 141.54 5 *e*P PKPdf 21 09 11.6 -5.4
SIM Simferopol' 141.64 322 *de*PKHKP 21 09 12.9
SIM pmax pmax
comp=Z,59nm,0.9s
MALT Malatya 141.88 310 ||*i* P PKPdf 21 09 13.1 -4.5
MALT Malatya 141.88 310 *e*PKPdf PKPdf 21 09 14.2 -3.4
MALT *e*SKPbc SKPbc 21 12 02.1 +1.8
URFA Urfa 141.90 308 *e*P PKPdf 21 09 14.6 -3.1
ESY Stoneypath 141.94 4 *e*P PKPdf 21 09 12.1 -5.6
ESY Stoneypath 141.94 4 *e*P PKPdf 21 09 12.1 -5.6
EAU Auchinoon 141.96 4 *e*P PKPdf 21 09 12.7 -5.1
EAU Auchinoon 141.96 4 *e*P PKPdf 21 09 12.7 -5.1
EBL Broad Law 142.06 4 *e*P PKPdf 21 09 12.8 -5.2
EBL Broad Law 142.06 4 *e*P PKPdf 21 09 12.8 -5.2
SVSK Karacayir 142.26 313 *e*P PKPdf 21 09 16.1 -2.2
WAR Warsaw 142.43 340 *e*PKP PKPdf 21 09 16.3 -2.3
GKP Gorka Klasztor 142.62 344 *e*PKP PKPdf 21 09 16.3 -2.7
JHLN Al Jahlan 142.78 306 ⇑P PKPdf 21 09 16.6 -2.7
GZT Gaziantep 142.87 309 *i* P PKPdf 21 09 17.3 -2.1
BOYT Boyabat 143.00 316 *i* P PKPdf 21 09 18.1 -1.5
BYBT Boyabat 143.06 317 *e*P PKPdf 21 09 17.6 -2.1
GAZ Gaziantep 143.20 309 *e*P PKPdf 21 09 19.0 -1.0
CKE Keswick 143.23 4 *e*P PKPdf 21 09 15.2 -4.8
CKE Keswick 143.23 4 *e*P PKPdf 21 09 15.2 -4.8
KIS Kishinev 143.26 328 *d* *i* PKHKP 21 09 16.0
KIS *i* 21 09 22.0
XDE Dent Fell 143.28 5 *e*P PKPdf 21 09 16.8 -3.3
XDE Dent Fell 143.28 5 *e*P PKPdf 21 09 16.8 -3.3
LVV L'vov 143.34 335 ⇑*i* PKIKP PKPdf 21 09 17.9 -2.3
LVV *e*SS SS 21 30 34.0 +0.6
BSEG Bad Segeberg 143.39 351 *e*PKPdf PKPdf 21 09 18.1 -2.2
CTKT Corum 143.46 315 *i* P PKPdf 21 09 19.6 -0.8
BNN Bunyan 143.52 312 *e*P PKPdf 21 09 20.0 -0.5
WIM Isle of Man 143.53 6 *e*P PKPdf 21 09 17.2 -3.3
WIM Isle of Man 143.53 6 *e*P PKPdf 21 09 17.2 -3.3
IAS Iasi 143.75 329 PKIKP PKPdf 21 09 19.9 -1.0
TOS Tosya 143.76 316 *e*P PKPdf 21 09 21.2 +0.2
CORM Corum 143.77 315 *e*P PKPdf 21 09 21.1 +0.1
DRWC Darouich 143.80 308 ⇑P PKPdf 21 09 20.8 -0.2
BALT Daday 143.93 318 *i* P PKPdf 21 09 20.4 -0.9
DCN Croghan 144.00 9 ⇑*i* P PKPdf 21 09 19.6 -1.8
DCN Croghan 144.00 9 *e*P PKPdf 21 09 18.0 -3.4
DCN ⇑*i* P 21 09 19.6
KWP Kalwaria 144.00 336 *e*PKP PKPdf 21 09 20.5 -0.9
KWP Kalwaria 144.00 336 *e*PKP PKPdf 21 09 20.3 -1.0
KWP *e*PKP PKPdf 21 09 20.5 -0.9
KWP *ep*PKPdf pPKPdf 21 11 37.1 -0.5
KWP *e*SKPbc SKPbc 21 12 07.0 +1.7
KOZT Kozan 144.10 310 *e*P PKPdf 21 09 21.2 -0.3
ROSS tl alroos 144.14 304 ⇑P PKPdf 21 09 21.4 -0.2
COBT Iskenderun 144.15 308 *i* P PKPdf 21 09 21.9 +0.2
DLF Lyons Farm 144.15 8 ⇑*i* P PKPdf 21 09 20.2 -1.4
DLF Lyons Farm 144.15 8 *e*P PKPdf 21 09 18.8 -2.8
DLF ⇑*i* P 21 09 20.2
RUE Ruedersdorf 144.16 347 *e*PKPbc PKPdf 21 09 20.6 -1.0
BTCH Batrach 144.17 307 ⇑P PKPdf 21 09 21.4 -0.3
KFRA Kufra 144.19 306 ⇑P PKPdf 21 09 21.8 +0.1
CDAG Cicekdag 144.21 314 *i* P PKPdf 21 09 21.2 -0.5
DSB Dublin 144.22 8 *e*PKP PKPdf 21 09 20.5 -1.3
CANT Cankiri 144.24 316 *e*P PKPdf 21 09 22.5 +0.7
AVNT Avonos 144.25 312 *i* P PKPdf 21 09 20.1 -1.7
WCB1 Church Bay 144.31 6 *e*P PKPdf 21 09 20.2 -1.7
WCB1 Church Bay 144.31 6 *e*P PKPdf 21 09 20.2 -1.7
WME Myndd Eilian 144.31 6 *e*P PKPdf 21 09 20.4 -1.5
WME Myndd Eilian 144.31 6 *e*P PKPdf 21 09 20.4 -1.5
CEYT Ceyhan 144.34 309 *e*P PKPdf 21 09 22.6 +0.6
LHO Holmfirth 144.35 4 *e*P PKPdf 21 09 20.5 -1.4
LHO Holmfirth 144.35 3 *e*P PKPdf 21 09 20.5 -1.4
HTY Hatay 144.38 308 *e*P PKPdf 21 09 21.1 -0.9
WRDH Warideh 144.39 306 ⇑P PKPdf 21 09 22.1 0.0
WLF1 Llynfaes 144.41 6 *e*P PKPdf 21 09 20.8 -1.2
WLF1 Llynfaes 144.41 6 *e*P PKPdf 21 09 20.8 -1.2
ELDT Eldivan 144.43 316 *i* P PKPdf 21 09 21.5 -0.6
YRC Rhoscolyn 144.43 6 *e*P PKPdf 21 09 20.9 -1.2
YRC Rhoscolyn 144.43 6 *e*P PKPdf 21 09 20.9 -1.2
ZALF Zalf 144.47 302 ⇑P PKPdf 21 09 22.9 +0.7
WPM1 Penmaenmawr 144.49 5 *e*P PKPdf 21 09 21.3 -0.9
WPM1 Penmaenmawr 144.49 5 *e*P PKPdf 21 09 21.3 -0.9
SLNF Slenfeh 144.51 307 ⇑P PKPdf 21 09 23.2 +0.9
SAFT Safranbolu 144.53 318 *e*P PKPdf 21 09 22.1 -0.2
BURAR Bucovina Array 144.53 332 ⇑*i* P PKPdf 21 09 22.4 +0.1
BURAR Bucovina Array 144.53 332 ⇑P PKPdf 21 09 22.4 +0.1
OJC Ojcow 144.55 340 *e*PKP PKPdf 21 09 21.9 -0.4
YLL Llanberis 144.58 6 *e*P PKPdf 21 09 21.4 -1.0
YLL Llanberis 144.58 6 *e*P PKPdf 21 09 21.4 -1.0
ARNB Al Aynab 144.60 307 ⇑P PKPdf 21 09 22.7 +0.3
BIDA Albida 144.63 306 ⇑P PKPdf 21 09 22.7 +0.2
BR131 Keskin Array S 144.66 315 *e*PKPdf PKPdf 21 09 21.8 -0.7
BRTR Keskin Array B 144.66 315 PKP PKPdf 21 09 21.9 -0.6
comp=Z,126nm,0.9s,baz=138,slow=3.9,SNR=381
BRTR SKKPbc 21 20 09.6
comp=Z,3.4nm,0.9s,baz=223,slow=5.1,SNR=13
HAWK Haweek 144.73 305 ⇑P PKPdf 21 09 23.4 +0.8
KOLS Kolonicke sedl 144.74 336 *e*PKP PKPdf 21 09 22.5 -0.1
KARA Karaisali 144.75 310 *e*P PKPdf 21 09 23.5 +0.8
KAMT Kaman 144.78 314 *e*P PKPdf 21 09 22.5 -0.2
FKH Fakeheh 144.82 304 *e*P PKPdf 21 09 23.8 +1.0
VAL Valentia 144.82 13 *e*P PKPdf 21 09 23.1 +0.3
MAMH Ras Al Marh 144.82 304 ⇑P PKPdf 21 09 23.5 +1.7
CFR Carcaliu 144.84 326 ⇑*i* P PKPdf 21 09 22.4 -0.4
CFR Carcaliu 144.84 326 ⇑P PKPdf 21 09 22.4 -0.4
SBD1 Bryn Du 144.89 5 *e*P PKPdf 21 09 21.0 -1.9
SBD1 Bryn Du 144.89 5 *e*P PKPdf 21 09 21.0 -1.9
WIT Witteveen 144.93 354 *e*PKP PKPdf 21 09 23.2 +0.2
SALA Sala 145.01 302 ⇑P PKPdf 21 09 23.8 +0.7
NIE Niedzica 145.06 338 *e*PKP PKPdf 21 09 23.1 -0.1
KSP Ksiaz 145.06 343 *e*PKP PKPdf 21 09 23.0 -0.2
KSP Ksiaz 145.06 343 *e*PKP PKPdf 21 09 22.7 -0.5
KSP *e* 21 09 33.5
KSP *ep*PKP pPKPdf 21 11 39.0 -0.5
KSP *e*SS SS 21 30 48.0 -4.9
TOTH TOTAH 145.07 303 ⇑P PKPdf 21 09 23.5 +0.3
CRVS Cervenica-Dubn 145.07 337 *e*PKP PKPdf 21 09 23.1 -0.1
VRI Vrincioaia 145.09 329 ||*i* P PKPdf 21 09 23.8 +0.6
VRI Vrincioaia 145.09 329 P PKPdf 21 09 22.6 -0.7
ABA1 Baconsthorpe 145.10 0 *e*P PKPdf 21 09 22.5 -0.8
ABA1 Baconsthorpe 145.10 0 *e*P PKPdf 21 09 22.5 -0.8
PLOR Plostina 145.14 329 ⇑*i* P PKPdf 21 09 23.9 +0.6
QASN Qassioun 145.14 303 ⇑P PKPdf 21 09 22.1 -1.2
ANTO Ankara 145.16 315 *e*P PKPdf 21 09 22.6 -0.8
ANTO Ankara 145.16 315 ||*i* P PKPdf 21 09 22.6 -0.8
ANTO Ankara 145.16 315 *e*PKPdf PKPdf 21 09 22.5 -0.8
ANTO *ep*PKPdf pPKPdf 21 11 39.1 -0.6
ANTO *e*SKPbc SKPbc 21 12 09.9 +1.9
LOD Lodumlu 145.17 315 *e*P PKPdf 21 09 25.2 +1.9
TIRR Tirgusor 145.17 325 ||*i* P PKPdf 21 09 23.9 +0.5
TIRR Tirgusor 145.17 325 *e*PKPdf PKPdf 21 09 23.1 -0.3
TIRR *p*PKPdf pPKPdf 21 11 40.5 +0.8
HARR Harsova 145.28 326 ||*i* P PKPdf 21 09 24.7 +1.1
HARR Harsova 145.28 326 ||P PKPdf 21 09 24.7 +1.1
SGKT Sivrigoynuk 145.28 317 *i* P PKPdf 21 09 23.2 -0.4
MERS Mersin 145.30 310 *e*P PKPdf 21 09 24.9 +1.3
HLM1 Long Mynd 145.31 5 *e*P PKPdf 21 09 23.3 -0.3
HLM1 Long Mynd 145.31 5 *e*P PKPdf 21 09 23.3 -0.3
IBBN Ibbenburen 145.32 353 *e*PKPdf PKPdf 21 09 23.0 -0.6
AEU East Anglia Un 145.37 0 *e*P PKPdf 21 09 24.2 +0.5
AEU East Anglia Un 145.37 0 *e*P PKPdf 21 09 24.2 +0.5
CLZ Clausthal 145.41 350 *e*PKPdf PKPdf 21 09 23.3 -0.5
OKC Ostrava-Krasne 145.42 341 *e*PKP PKPdf 21 09 23.3 -0.5
OKC *ex* x 21 30 46.1
CLL Collm 145.43 347 *e*PKPdf PKPdf 21 09 23.4 -0.4
CLL *e*PKPbc PKPbc 21 09 24.5 -0.7
comp=Z,119nm,1.0s
CLL *e* 21 09 34.0
CLL *ep*PKPdf pPKPdf 21 11 39.5 -0.6
CLL *e*SKPbc SKPbc 21 12 10.3 +1.7
CLL *e*PP PP 21 12 50.9 -0.4
CLL Collm 145.43 347 *i* PKPdf PKPdf 21 09 23.3 -0.5
CLL *i* PKPbc PKPbc 21 09 24.5 -0.7
comp=Z,117nm,1.0s
CLL *i* x x 21 09 34.0
CLL *i* pPKPdf pPKPdf 21 11 38.8 -1.3
CLL *i* SKPbc SKPbc 21 12 10.4 +1.8
comp=Z,21nm,0.9s
CLL *e*PP PP 21 12 50.0 -1.3
CLL *e*SS SS 21 30 56.0 -1.0
CLL *e*SSS 21 36 30.0
CLL Collm 145.43 347 *i* PKIKP PKPdf 21 09 23.3 -0.5
CLL *i* 21 09 24.5
CLL pmax pmax
comp=Z,117nm,1.0s
CLL Collm 145.43 347 *i* PKP PKPdf 21 09 23.3 -0.5
CLL *i* PKP PKPdf 21 09 24.5 +0.7
CLL *i* pPKP pPKPdf 21 11 38.8 -1.3
CLL *i* SKP 21 12 10.4
BRBR Barbar 145.44 303 ⇑P PKPdf 21 09 25.7 +1.9
UPC Upice 145.44 344 *e*PKP PKPdf 21 09 23.6 -0.2
UPC *ep*PKP pPKPdf 21 11 44.0 +3.9
DPC Dobruska-Polom 145.50 343 *e*PKP PKPdf 21 09 23.8 -0.1
DPC *ep*PKP pPKPdf 21 11 40.4 +0.2
BHL Bhannes 145.52 304 *e*P PKPdf 21 09 25.7 +1.7
RCY Rachaya 145.52 303 *e*P PKPdf 21 09 25.8 +1.8
TCHB Talchebab 145.64 302 ⇑P PKPdf 21 09 26.2 +2.1
MORC Moravsky Berou 145.66 341 ⇑*i* P PKPdf 21 09 23.4 -0.8
MORC Moravsky Berou 145.66 341 P PKPdf 21 09 23.6 -0.6
MEST Erdemli 145.69 309 *i* P PKPdf 21 09 24.0 -0.2
HTR Trewern Hill 145.71 5 *e*P PKPdf 21 09 24.4 +0.2
HTR Trewern Hill 145.71 5 *e*P PKPdf 21 09 24.4 +0.2
KSDI Kefar Szold 145.74 303 P PKPdf 21 09 23.8 -0.5
MLR Muntele Rosu 145.74 329 ||*i* P PKPdf 21 09 23.1 -1.2
MLR Muntele Rosu 145.74 329 ||PKIKP PKPdf 21 09 23.2 -1.1
MLR Muntele Rosu 145.74 329 P PKPdf 21 09 23.6 -0.7
WTSB Winterswijk 145.75 354 *e*PKP PKPdf 21 09 23.0 -1.4
comp=Z,62nm,1.4s
MBAR Mbarara 145.77 241 *d* *i* PKIKP PKPdf 21 09 26.4 +2.0
LIKS Likavka 145.79 339 *e*PKP PKPdf 21 09 26.5 +2.1
PSN Preselentsi 145.80 324 *e*P PKPdf 21 09 27.0 +2.6
PVCC Panska Ves 145.80 345 *e*PKP PKPdf 21 09 23.9 -0.5
PVCC *ex* x 21 30 56.4
MCH1 Michaelchurch 145.81 5 *e*P PKPdf 21 09 24.0 -0.5
MCH1 Michaelchurch 145.81 5 *e*P PKPdf 21 09 24.0 -0.5
HENT Hendek 145.89 318 *i* P PKPdf 21 09 23.1 -1.5
HMDT Nahal Hemdat 146.12 301 P PKPdf 21 09 24.9 -0.1
MMLI Mount Malkishu 146.15 302 P PKPdf 21 09 25.1 +0.1
IKL Isikli 146.17 309 *e*P PKPdf 21 09 27.4 +2.3
HGH Gray Hill 146.19 5 *e*P PKPdf 21 09 23.8 -1.3
HGH Gray Hill 146.19 5 *e*P PKPdf 21 09 23.8 -1.3
VOIR 146.22 329 ⇑*i* P PKPdf 21 09 27.0 +1.9
VOIR 146.22 329 ⇑P PKPdf 21 09 27.0 +1.8
BUG Bochum--Univer 146.22 353 *e*PKPdf PKPdf 21 09 24.6 -0.6
KIZT Kizilcal 146.26 315 *e*P PKPdf 21 09 28.0 +2.7
DRGR 146.26 333 ⇑*i* P PKPdf 21 09 27.0 +1.8
DRGR 146.26 333 P PKPdf 21 09 24.6 -0.7
PRU Pruhonice 146.30 345 *e*PKP PKPdf 21 09 24.7 -0.6
PRU *ep*PKP pPKPdf 21 11 43.8 +2.2
PRU *ex* x 21 30 56.4
MOX Moxa 146.34 348 *e*PKPdf PKPdf 21 09 25.0 -0.3
MOX *e*PKPbc PKPbc 21 09 27.1 -0.7
MOX *e*PKPab PKPab 21 09 29.5 -0.8
MOX Moxa 146.34 348 *e*PKP PKPdf 21 09 24.6 -0.7
comp=Z,54nm,1.3s
VYHS Vyhne 146.36 339 *e*PKP PKPdf 21 09 24.5 -0.9
VYHS *i* 21 09 26.9
VYHS *e* 21 11 40.2
VRAC Vranov 146.36 342 ||*i* P PKPdf 21 09 24.4 -1.0
VRAC Vranov 146.36 342 P PKPdf 21 09 25.4 0.0
MTUR Matau 146.37 329 PKP2 PKPab 21 09 27.8 -2.6
TANN Tannenbergstha 146.39 347 *e*PKPdf PKPdf 21 09 24.9 -0.5
TANN *e*PKPbc PKPbc 21 09 27.5 -0.4
OFRI 'Ofer 146.45 302 P PKPdf 21 09 25.1 -0.4
UBBA Unterbreizbach 146.46 350 *e*PKPdf PKPdf 21 09 24.8 -0.8
PSZ Piszkesteto 146.47 337 ||*e*PKP PKPdf 21 09 23.2 -2.4
PSZ Piszkesteto 146.47 337 ||*i* P PKPdf 21 09 25.2 -0.4
PSZ Piszkesteto 146.47 337 *e*PKPdf PKPdf 21 09 23.8 -1.8
PSZ *e*PKPbc PKPbc 21 09 27.7 -0.5
BUC1 Bucharest 146.50 327 PKP2 PKPab 21 09 27.2 -3.3
MZDA Masada 146.51 300 P PKPdf 21 09 25.6 0.0
SLTI Sal'it 146.52 302 P PKPdf 21 09 25.7 +0.1
PRD Provadia 146.54 324 *e*P PKPdf 21 09 28.3 +2.6
NKC Novy Kostel 146.56 347 *e*PKP PKPdf 21 09 24.7 -1.0
ERMK Ermenek 146.57 310 *i* P PKPdf 21 09 27.9 +2.2
ESKT Eskisehir 146.62 316 *i* P PKPdf 21 09 25.0 -0.8
PCED Cedros 146.64 46 *e*PKP PKPdf 21 09 28.8 +3.0
HRT Hereke 146.67 319 *e*P PKPdf 21 09 24.6 -1.3
BORA Eskisehir 146.69 317 *i* P PKPdf 21 09 26.1 +0.2
SMOL Smolenice 146.81 340 *e*PKP PKPdf 21 09 29.6 +3.5
ADVT Abdulvahap 146.84 319 *e*P PKPdf 21 09 28.0 +1.8
ZFRI Zfri 146.86 299 P PKPdf 21 09 26.8 +0.6
MANZ Manzenberg 146.87 347 *e*PKPdf PKPdf 21 09 25.7 -0.5
MANZ *e*PKPbc PKPbc 21 09 28.9 -0.3
SRBC Serra Branca 146.88 44 *e*PKP PKPdf 21 09 32.7 +6.5
PICO Pico 146.89 46 *e*PKP PKPdf 21 09 29.8 +3.5
ROSA Rosais 146.91 45 *e*PKP PKPdf 21 09 29.5 +3.2
CSS Prodhromos 146.94 307 P PKPdf 21 09 25.9 -0.4
comp=Z,1.2nm,0.9s
CSS Prodhromos 146.94 307 *e*P PKPdf 21 09 23.6 -2.8
MAMC Mammari 146.94 308 P PKPdf 21 09 25.8 -0.6
YLV Yalova 147.00 319 *e*P PKPdf 21 09 28.7 +2.2
BEBN Eben Emael 147.02 355 PKP PKPdf 21 09 25.9 -0.6
BEBN PKPbc PKPbc 21 09 29.0 -0.5
HGN Heimansgroeve 147.03 355 *e*PKP PKPdf 21 09 25.9 -0.6
comp=Z,25nm,1.3s
PMAN Manadas 147.05 45 *e*PKP PKPdf 21 09 30.4 +3.9
ROTZ Rotzenmuhle 147.05 347 *e*PKPdf PKPdf 21 09 26.2 -0.3
ROTZ *e*PKPbc PKPbc 21 09 29.3 -0.4
UCC Uccle 147.11 357 PKP PKPdf 21 09 25.9 -0.7
UCC PKPbc PKPbc 21 09 29.0 -0.8
UCC E 21 09 38.9
SRO Srobarova 147.12 339 *e*PKP PKPdf 21 09 26.6 -0.1
SRO *e* 21 09 29.8
PID Ribeirinha 147.13 45 *e*PKP PKPdf 21 09 33.7 +7.0
SRO2 Moca 147.14 339 *e*PKP PKPdf 21 09 29.9 +3.2
BUD Budapest 147.15 338 ||*e*PKP PKPdf 21 09 29.6 +2.9
MEM Membach 147.17 355 PKP PKPdf 21 09 25.6 -1.1
MEM PKPbc PKPbc 21 09 29.1 -0.9
MEM PKPab PKPab 21 09 31.9 -1.8
GEMT Gemlik 147.19 319 *e*P PKPdf 21 09 26.9 +0.1
ZST Bratislava 147.19 340 *e*PKP PKPdf 21 09 26.3 -0.5
ZST *e* 21 09 30.1
ZST *e* 21 11 43.8
ZST Bratislava 147.19 340 *e*PKIKP PKPdf 21 09 26.3 -0.5
ZST *e* 21 09 30.1
SRO1 Iza 147.19 339 *e*PKP PKPdf 21 09 30.2 +3.4
CSA1 St Austell 147.25 7 *e*P PKPdf 21 09 27.1 +0.3
CSA1 St Austell 147.25 7 *e*P PKPdf 21 09 27.1 +0.3
EIL Elat 147.26 297 P PKPdf 21 09 27.6 +0.7
MBH Mount Berech 147.26 297 P PKPdf 21 09 26.6 -0.3
TNS Taunus Mts 147.28 352 *e*PKPdf PKPdf 21 09 26.6 -0.3
TNS *e*PKPab PKPab 21 09 33.7 -0.4
GRA1 Grafenberg Arr 147.32 348 *e*PKPdf PKPdf 21 09 26.7 -0.3
GRA1 *e*PKPbc PKPbc 21 09 29.9 -0.5
GRA1 *e*PKPab PKPab 21 09 33.8 -0.5
GRA1 *ep*PKPbc pPKPbc 21 11 46.7 +2.3
GRF Grafenberg Arr 147.32 348 *e*PKPdf PKPdf 21 09 26.7 -0.3
GRF *e*PKPbc PKPbc 21 09 29.9 -0.5
GRF *e*PKPab PKPab 21 09 33.8 -0.5
GRF *ep*PKPbc pPKPbc 21 11 46.7 +2.3
GRF Grafenberg Arr 147.32 348 *e*PKIKP PKPdf 21 09 26.7 -0.3
GRF *e* 21 09 33.8
GRF Grafenberg Arr 147.32 348 *e*PKIKP PKPdf 21 09 26.7 -0.3
GRF *e* 21 09 33.8
PKSN Nyarlorinc 147.33 336 ⇑*e*P PKPdf 21 09 30.6 +3.6
KHC Kasperske Hory 147.34 345 *e*PKP PKPdf 21 09 26.0 -1.0
KHC *ex* x 21 09 30.0
KHC *x* x 21 09 40.0
KHC *ep*PKP pPKPdf 21 11 45.0 +1.6
KHC *ex* x 21 31 08.6
KHC Kasperske Hory 147.34 345 *e*PKP PKPdf 21 09 26.0 -1.0
KHC *e* 21 09 30.0
KHC *e* 21 09 40.0
KHC *e* 21 11 45.0
KHC *e* 21 31 08.6
ULDT Uludag 147.39 319 *i* P PKPdf 21 09 26.6 -0.5
CRQ2 Rosemanowes 2 147.39 8 *e*P PKPdf 21 09 28.0 +0.9
CRQ2 Rosemanowes 2 147.39 8 *e*P PKPdf 21 09 28.0 +0.9
SNF Seneffe 147.40 357 PKP PKPdf 21 09 26.8 -0.3
SNF PKPbc PKPbc 21 09 29.9 -0.6
SNF PKPab PKPab 21 09 33.7 -0.9
ALFC Alevga 147.41 308 ||P PKPdf 21 09 25.8 -1.3
comp=Z,9.4nm,0.8s
KZIT Kziot 147.42 300 P PKPdf 21 09 27.0 -0.1
BCLA Clavier 147.42 355 PKP PKPdf 21 09 26.1 -1.1
BCLA PKPbc PKPbc 21 09 29.6 -1.0
JMB Yambol 147.48 324 *e*P PKPdf 21 09 26.4 -0.8
JMB Yambol 147.48 324 *e*P PKPdf 21 09 20.8 -6.4
JMB P 21 09 26.4
WET Wettzell 147.49 346 *e*PKPdf PKPdf 21 09 26.7 -0.6
WET *e*PKPbc PKPbc 21 09 30.0 -0.8

GEC2 ePKPbc PKPbc 21 09 30.4 -0.6
GERES GERESS Array B 147.57 345 PKP PKPdf 21 09 26.5 -0.9
comp=Z,37nm,0.8s,baz=48,slow=1.5,SNR=42
GERES PKPbc PKPbc 21 09 30.3 -0.7
comp=Z,38nm,0.8s,baz=83,slow=1.4,SNR=126
PVL Pavlikeni 147.65 326 eP PKPdf 21 09 28.0 +0.5
BZS Buzias 147.66 333 ⇑iP PKPdf 21 09 26.3 -1.2
BZS Buzias 147.66 333 P PKPdf 21 09 26.7 -0.8
PKS6 Bocsa 147.69 336 ⇑eP PKPdf 21 09 31.4 +3.8
ISP Isparta 147.71 314 eP PKPdf 21 09 30.4 +2.8
ISP Isparta 147.71 314 ⇑iP PKPdf 21 09 30.1 +2.5
ISP Isparta 147.71 314 P PKPdf 21 09 30.1 +2.5
PPCY Paphos 147.71 308 P PKPdf 21 09 26.0 -1.6
TKTP Tekketepe 147.74 314 iP PKPdf 21 09 26.1 -1.6
GDZ Gediz 147.75 317 iP PKPdf 21 09 22.9 -4.8
GIVF Givet 147.77 356 ePKIKP PKPdf 21 09 27.2 -0.5
DOU Dourbes 147.79 356 PKP PKPdf 21 09 26.9 -0.8
DOU PKPbc PKPbc 21 09 30.9 -0.6
DOU E 21 09 39.5
EDRB Edirne 147.79 323 eP PKPdf 21 09 31.3 +3.5
PKS8 Sarbogard 147.79 338 ⇑eP PKPdf 21 09 31.1 +3.4
CONA Conrad Observa 147.81 342 iPKPdf PKPdf 21 09 23.7 -4.1
comp=Z,8.3nm,1.0s,SNR=82
CONA ⇓iPKPbc PKPbc 21 09 28.3 -3.3
comp=Z,180nm,1.7s
TOD Tromm 147.83 351 PKHKP 21 09 27.3
BCK Bucak 147.84 313 eP PKPdf 21 09 30.3 +2.5
BAIF Baives 147.85 357 ePKIKP PKPdf 21 09 27.3 -0.5
RUP Ruppelstein 147.96 353 PKHKP 21 09 27.5
BNT Bandirma 148.02 320 eP PKPbc 21 09 32.1 0.0
WLF Walferdange 148.10 354 ePKPdf PKPdf 21 09 28.0 -0.2
WLF ePKPbc PKPbc 21 09 32.1 -0.2
WLF Walferdange 148.10 354 PKP PKPdf 21 09 28.2 -0.1
WLF PKPbc PKPbc 21 09 32.3 0.0
WLF PKPab PKPab 21 09 37.0 -0.5
WLF Walferdange 148.10 354 ePKPdf PKPdf 21 09 28.2 0.0
WLF ePKPbc PKPbc 21 09 32.0 -0.3
MOA Molln 148.34 343 ⇑i PKPbc 21 09 32.9 -0.1
comp=Z,55nm,1.0s
MOA Molln 148.34 343 iPKPdf PKPdf 21 09 27.7 -0.9
comp=Z,6.0nm,1.1s,SNR=47
MOA ⇑iPKiKP PKiKP 21 09 32.9 -1.2
comp=Z,55nm,1.0s
PKSM Moragy 148.37 337 ⇓iP PKPdf 21 09 27.0 -1.7
PKSM Moragy 148.37 337 P PKPdf 21 09 28.2 -0.4
PKSM ⇓eP 21 09 32.3
ARSA Arzberg 148.52 341 ⇑i PKPbc 21 09 33.1 -0.3
comp=Z,51nm,1.1s
ARSA Arzberg 148.52 341 iPKPdf PKPdf 21 09 28.1 -0.8
comp=Z,4.4nm,0.9s,SNR=35
ARSA ⇑iPKiKP PKiKP 21 09 33.1 -1.3
comp=Z,51nm,1.1s
STU Stuttgart 148.57 350 ePKPdf PKPdf 21 09 28.4 -0.6
STU ePKPbc PKPbc 21 09 32.9 -0.6
STU Stuttgart 148.57 350 ePKPdf PKPdf 21 09 28.8 -0.2
STU ePKPbc PKPbc 21 09 33.0 -0.5
LANF Langenberg 148.58 352 PKP PKPdf 21 09 27.1 -1.9
KDZ Kurdzhali 148.67 324 eP PKPdf 21 09 29.0 -0.2
CANB Canakkale 148.75 320 eP PKPdf 21 09 32.6 +3.3
DENT Denizli 148.76 315 eP PKPbc 21 09 34.7 +0.8
FUR Furstenfeldbru 148.77 347 ePKPdf PKPdf 21 09 28.3 -1.0
FUR ePKPbc PKPbc 21 09 33.4 -0.6
DNZL Cakiroluk 148.78 315 iP PKPdf 21 09 33.5 +4.2
ALN Alexandroupoli 148.81 322 eP PKPdf 21 09 27.7 -1.7
ENEZ Enez 148.84 322 eP PKPbc 21 09 33.5 -0.7
RDO Rodhopi 148.94 323 eP PKPdf 21 09 28.1 -1.5
BFO Black Forest 149.14 351 ePKPdf PKPdf 21 09 28.7 -1.2
BFO ePKPbc PKPbc 21 09 34.2 -0.7
FLN La Foliniere 149.19 2 ePKIKP PKPdf 21 09 29.4 -0.6
comp=Z,57nm,1.1s
PERS Pernice 149.20 341 ePKPdf PKPdf 21 09 28.5 -1.5
PERS ePKPbc PKPbc 21 09 33.9 -1.1
PERS epPKPbc pPKPbc 21 11 55.4 +5.6
VTS Vitosha 149.20 328 eP PKPdf 21 09 29.1 -0.9
VTS Vitosha 149.20 328 eP PKPdf 21 09 30.0 0.0
VTS Vitosha 149.20 328 PKHKP 21 09 29.9
CDF Champ du Feu 149.21 352 ePKIKP PKPdf 21 09 29.6 -0.4
KBA Koelnbreinsper 149.30 344 ⇑i PKPbc 21 09 34.7 -0.6
comp=Z,50nm,0.8s
KBA Koelnbreinsper 149.30 344 ⇑iPKPdf PKPdf 21 09 29.4 -0.8
comp=Z,10nm,0.8s,SNR=12
KBA ⇑iPKiKP PKiKP 21 09 34.7 -1.4
comp=Z,50nm,0.8s
GADA Gvkgeada 149.34 321 eP PKPbc 21 09 33.3 -2.1
LDF La Druitiere 149.37 2 ePKIKP PKPdf 21 09 29.3 -1.0
comp=Z,25nm,0.9s
ECH Echery 149.41 352 PKP PKPdf 21 09 30.1 -0.2
OBKA Obir 149.48 342 ⇑i PKPbc 21 09 35.1 -0.6
comp=Z,41nm,1.1s
OBKA Obir 149.48 342 ⇑iPKPdf PKPdf 21 09 29.7 -0.7
comp=Z,6.1nm,1.2s,SNR=14
OBKA ⇑iPKiKP PKiKP 21 09 35.1 -1.4
comp=Z,41nm,1.1s
WATA Walderalm 149.49 346 ⇓i PKPbc 21 09 35.0 -0.7
comp=Z,58nm,1.1s
WATA Walderalm 149.49 346 ⇑iPKPdf PKPdf 21 09 29.7 -0.8
comp=Z,16nm,1.3s,SNR=9.3
WATA ⇓iPKPbc PKPbc 21 09 35.0 -0.7
comp=Z,58nm,1.1s
THEF They Montfort 149.53 354 PKP PKPdf 21 09 29.3 -1.2
WTTA Wattenberg 149.54 346 ⇓i PKPdf 21 09 35.5 +5.0
comp=Z,138nm,1.1s
WTTA Wattenberg 149.54 346 ⇓iPKPdf PKPdf 21 09 29.5 -1.0
comp=Z,48nm,1.5s,SNR=9.0
WTTA ⇓iPKiKP PKiKP 21 09 35.5 -1.0
comp=Z,138nm,1.1s
GRR Gorron 149.55 3 ePKIKP PKPdf 21 09 29.8 -0.8
comp=Z,39nm,1.1s
DIVS Divcibare 149.56 333 eP PKPdf 21 09 29.8 -0.8
SGMF Saint Gilles 149.57 5 ePKIKP PKPdf 21 09 29.9 -0.7
comp=Z,41nm,1.1s
KDAG Bornova 149.57 317 iP PKPbc 21 09 34.8 -1.1
IZM Izmir 149.58 317 eP PKPbc 21 09 35.8 -0.1
AYDN Tasoluk 149.58 316 iP PKPbc 21 09 35.2 -0.7
MOTA Moosalm 149.58 347 ⇓i PKPbc 21 09 35.4 -0.6
comp=Z,56nm,1.0s
MOTA Moosalm 149.58 347 iPKPdf PKPdf 21 09 29.9 -0.7
comp=Z,19nm,1.1s,SNR=26
MOTA ⇓iPKiKP PKiKP 21 09 35.4 -1.3
comp=Z,56nm,1.0s
YER Yerkesik 149.59 314 eP PKPbc 21 09 36.1 +0.1
FELD Feldberg im Sc 149.63 351 ⇑eP PKPdf 21 09 30.3 -0.4
MMB Musomiste 149.64 326 eP PKPdf 21 09 29.4 -1.2
MMB Musomiste 149.64 326 eP PKPdf 21 09 29.0 -1.7
SQTA Sankt Quirin 149.68 347 ⇓i PKPbc 21 09 35.7 -0.5
comp=Z,50nm,1.0s
SQTA Sankt Quirin 149.68 347 iPKPdf PKPdf 21 09 30.2 -0.6
comp=Z,17nm,1.1s,SNR=37
SQTA ⇓iPKiKP PKiKP 21 09 35.7 -1.2
comp=Z,50nm,1.0s
HAU Haudompre 149.72 353 ePKIKP PKPdf 21 09 29.9 -0.9
NVR Nevrokopi 149.73 325 eP PKPbc 21 09 35.4 -0.9
MOF Molkenrain 149.77 352 PKP PKPdf 21 09 29.9 -1.0
SISC Sisak 149.82 339 P PKPbc 21 09 36.3 -0.2
QUIF Quistinic 149.84 6 ePKIKP PKPdf 21 09 30.4 -0.6
HINF Hinteralfeld 149.84 353 ePKIKP PKPdf 21 09 30.1 -0.9
comp=Z,16nm,0.9s
MLSB Milas 149.85 315 eP PKPbc 21 09 36.5 -0.1
DAVA Damuels 149.89 348 ⇓i PKPbc 21 09 36.4 -0.3
comp=Z,76nm,1.0s
DAVA Damuels 149.89 348 ⇑iPKPdf PKPdf 21 09 30.4 -0.6
comp=Z,11nm,0.9s,SNR=13
DAVA ⇓iPKiKP PKiKP 21 09 36.4 -0.9
comp=Z,76nm,1.0s
LJU Ljubljana 149.91 342 ePKPdf PKPdf 21 09 30.3 -0.8
LJU iPKPbc PKPbc 21 09 36.1 -0.6
LJU epPKPbc pPKPbc 21 11 57.7 +6.1
LIA Limnos Island 149.95 322 eP PKPbc 21 09 35.8 -1.0
SRS Serrai 150.04 325 eP PKPdf 21 09 28.8 -2.5
BBS Basel-Blauen 150.10 352 PKIKP PKPdf 21 09 30.4 -1.0
VOY Vojsko 150.10 342 ePKPdf PKPdf 21 09 30.5 -0.9
VOY ePKPbc PKPbc 21 09 35.9 -1.3
VOY ePKPab PKPab 21 09 45.7 -0.1
BOJS Bojanci 150.16 340 ePKPdf PKPdf 21 09 30.7 -0.8
BOJS iPKPbc PKPbc 21 09 37.0 -0.3
BOJS ePKPab PKPab 21 09 47.1 +1.1
CEY Cerknica 150.21 341 iPKPdf PKPdf 21 09 30.7 -0.9
CEY ePKPbc PKPbc 21 09 36.6 -0.8
CEY ePKPab PKPab 21 09 45.5 -0.8
SMG Samos 150.24 317 eP PKPbc 21 09 36.7 -0.8
DAT Datca 150.29 314 eP PKPbc 21 09 37.3 -0.3
BODT Bodrum 150.29 315 eP PKPbc 21 09 37.1 -0.5
LOMF Lomont 150.31 353 PKP PKPdf 21 09 30.1 -1.6

OUR Ouranopolis 150.36 324 eP PKPdf 21 09 30.1 -1.7
STIP Stip 150.37 327 eP PKPdf 21 09 30.3 -1.6
STIP Stip 150.37 327 iPKP PKPbc 21 09 36.8 -1.0
KNT Kendrikon 150.38 326 eP PKPdf 21 09 30.0 -1.9
PLE Pljevlja 150.44 333 ePKP PKPdf 21 09 30.5 -1.4
VAY Valandovo 150.44 327 eP PKPdf 21 09 34.1 +2.1
VAY Valandovo 150.44 327 ⇓iPKP PKPbc 21 09 36.3 -1.6
SKO Skopje 150.54 329 eP PKPdf 21 09 31.4 -0.7
SKO Skopje 150.54 329 ⇓iPKP PKPbc 21 09 38.3 +0.1
IVA Berane 150.58 332 ePKP PKPdf 21 09 30.9 -1.2
LOR Lormes 150.66 357 ePKIKP PKPdf 21 09 31.5 -0.8
HORT Hortiatis 150.67 325 eP PKPdf 21 09 30.4 -1.9
THE Thessaloniki 150.72 325 eP PKPdf 21 09 29.7 -2.6
UPM Unac-Piva 150.75 333 ePKP PKPdf 21 09 30.8 -1.7
PVY Piav 150.76 331 ⇑iPKP PKPdf 21 09 31.2 -1.3
GRG Griva 150.79 326 eP PKPdf 21 09 30.8 -1.6
PAIG Paliouri 150.80 323 eP PKPdf 21 09 30.3 -2.2
SSF Saint Saulge 150.88 357 ePKIKP PKPdf 21 09 31.9 -0.7
comp=Z,36nm,1.1s
NKY Niksic 151.03 333 ePKP PKPdf 21 09 31.5 -1.3
CABF La Chapelle 151.12 353 ePKIKP PKPdf 21 09 32.5 -0.5
comp=Z,71nm,1.4s
BRY Bratogost 151.15 333 ePKP PKPdf 21 09 31.4 -1.6
AVF Avril sur Loir 151.16 357 ePKIKP PKPdf 21 09 32.4 -0.6
AOS Alonnisos 151.19 322 eP PKPdf 21 09 31.2 -1.9
KARP Karpathos 151.19 313 eP PKPbc 21 09 38.3 -1.4
TTG Podgorica 151.22 332 ⇑iPKP PKPdf 21 09 32.0 -1.1
SMF Signal de Mont 151.28 357 ePKIKP PKPdf 21 09 32.9 -0.3
BIA Bitola 151.31 328 iPKP PKPbc 21 09 38.4 -1.5
LIT Litokhoron 151.35 325 eP PKPdf 21 09 34.5 +1.1
MFF Saint Martin d 151.36 2 ePKIKP PKPdf 21 09 33.4 +0.1
comp=Z,50nm,1.0s
BGF Bois d'Agland 151.41 358 ePKIKP PKPdf 21 09 32.8 -0.6
FNA Florina 151.45 327 eP PKPdf 21 09 32.0 -1.5
XOR Xorichti 151.46 323 eP PKPdf 21 09 31.9 -1.5
BUM Brajici-Budva 151.48 332 ⇑iPKP PKPdf 21 09 32.2 -1.3
OHR Ohrid 151.50 328 eP PKPdf 21 09 31.7 -1.8
OHR Ohrid 151.50 328 ⇓iPKP PKPbc 21 09 39.0 -1.4
HCY Herceg Novi 151.54 333 ⇑iPKP PKPdf 21 09 32.2 -1.4
ULC Ulcinj 151.59 331 ⇑iPKP PKPdf 21 09 32.4 -1.3
TCF Toulx Ste Croi 151.70 359 ePKIKP PKPdf 21 09 33.1 -0.7
comp=Z,21nm,1.0s
OG05 Jujurieux 151.75 354 PKP PKPdf 21 09 33.2 -0.7
TIR Tirane 151.78 330 eP PKPdf 21 09 32.5 -1.5
RSL Roselend 151.97 352 PKP PKPdf 21 09 33.7 -0.5
LKR Lokris 152.05 322 eP PKPbc 21 09 39.9 -1.7
ATH Athens Observa 152.06 320 eP PKPbc 21 09 40.2 -1.4
LPL La Plagne 152.12 352 ePKIKP PKPdf 21 09 34.0 -0.5
LPG La Plagne 152.14 352 ePKIKP PKPdf 21 09 34.1 -0.4
comp=Z,28nm,1.2s
AGG Agios Georgios 152.18 323 eP PKPdf 21 09 33.0 -1.5
EVR Evrytania 152.55 324 eP PKPbc 21 09 42.1 -0.6
RJF Les Rejaudoux 152.69 360 ePKIKP PKPdf 21 09 34.5 -0.8
comp=Z,37nm,1.1s
ORIF Oris-en-Rattie 152.81 353 ePKIKP PKPdf 21 09 34.9 -0.6
comp=Z,21nm,1.1s
MBDF Montbardon 152.89 352 ePKIKP PKPdf 21 09 35.0 -0.6
VIVF Saint-Julien-l 153.00 355 ePKIKP PKPdf 21 09 35.1 -0.6
comp=Z,59nm,1.5s
LFF La Frestale 153.05 1 ePKIKP PKPdf 21 09 35.1 -0.7
comp=Z,12nm,0.7s
CAF Calviac 153.06 359 ePKIKP PKPdf 21 09 35.2 -0.6
comp=Z,40nm,1.5s
SAOF Saorge 153.49 350 PKP PKPdf 21 09 35.7 -0.7
AUTN L'Aution 153.51 350 PKP PKPdf 21 09 35.8 -0.6
AQU L'Aquila 153.58 340 ePKIKP PKPbc 21 09 42.3 -2.6
LUCF Luceram 153.62 350 PKP PKPbc 21 09 35.5 -1.1
SBF Sospel 153.63 350 ePKIKP PKPdf 21 09 35.8 -0.8
SMRF Simiane la Rot 153.78 353 ePKIKP PKPdf 21 09 36.2 -0.6
comp=Z,48nm,1.5s
LASF Ste Croix 153.84 356 ePKIKP PKPdf 21 09 36.1 -0.8
FRF La Foret Royal 154.05 351 ePKIKP PKPdf 21 09 36.4 -0.8
comp=Z,14nm,0.9s
LMR La Mourre 154.29 351 ePKIKP PKPdf 21 09 36.7 -0.8
PGF Pioggiola 154.61 347 ePKIKP PKPdf 21 09 36.9 -1.1
comp=Z,88nm,1.3s
MTLF Montolieu 154.64 359 ePKIKP PKPdf 21 09 37.2 -0.8
comp=Z,35nm,1.3s
SJPF Ste Jean 154.78 5 ePKIKP PKPdf 21 09 37.4 -0.8
EPF Esparros 154.95 2 ePKIKP PKPdf 21 09 37.7 -0.7
PCAB Cabril 154.95 17 ePKPab PKPab 21 10 05.9 -0.5
ETSF Etsaut 155.04 3 ePKIKP PKPdf 21 09 37.9 -0.7
comp=Z,17nm,0.9s
PBRG Braganca 155.19 15 ePKPab PKPab 21 10 06.7 -0.8
PTO Porto 155.31 18 ePKPab PKPab 21 10 07.5 -0.5
PVRL Vila Real 155.44 17 ePKPab PKPab 21 10 08.1 -0.4
PVIS Viseu 155.91 18 ePKPdf PKPdf 21 09 39.7 0.0
PVIS Viseu 155.91 18 ePKPab PKPab 21 10 10.0 -0.5
MTE Manteigas 156.30 17 ePKPdf PKPdf 21 09 39.9 -0.3
MTE Manteigas 156.30 17 ePKPab PKPab 21 10 11.3 -0.9
PTOM Tomar 156.76 19 ePKPdf PKPdf 21 09 41.0 +0.2
PTOM Tomar 156.76 19 ePKPab PKPab 21 10 13.4 -0.8
PCBR Castelo Branco 156.84 18 ePKPdf PKPdf 21 09 41.1 +0.2
PCBR Castelo Branco 156.84 18 ePKPab PKPab 21 10 13.8 -0.8
PLOU Loures 157.17 22 ePKPab PKPab 21 10 15.4 -0.6
PESTR Estremoz 157.70 19 ePKPdf PKPdf 21 09 41.5 -0.5
PESTR Estremoz 157.70 19 ePKPab PKPab 21 10 17.2 -1.1
MOE Montemor 157.77 21 ePKPab PKPab 21 10 26.4 +7.8
ESDC Sonseca Array 157.82 11 PKP PKPdf 21 09 41.8 -0.3
comp=Z,2.2nm,0.9s,baz=353,slow=2.9,SNR=14
ESDC PKPab PKPab 21 10 17.7 -1.2
comp=Z,15nm,0.9s,baz=342,slow=4.0,SNR=37
ESDC PP PP 21 13 51.6 -9.2
comp=Z,0.5nm,0.5s,baz=341,slow=5.5,SNR=3.1
PMAR Madeira 157.88 45 ePKPab PKPab 21 10 19.4 +0.3
PMPS Porto Santo 158.06 43 ePKPab PKPab 21 10 19.5 -0.4
PBEJ Beja 158.38 20 ePKPdf PKPdf 21 09 42.8 0.0
PBEJ Beja 158.38 20 ePKPab PKPab 21 10 20.5 -0.8
PTEO Sao Teotonio 158.51 22 ePKPab PKPab 21 10 21.1 -0.8
LIC Lamto 166.79 151 ePKIKP PKPdf 21 09 50.2 -0.7
comp=Z,150nm,1.4s
DBIC Dimbokro 167.27 151 PKP PKPdf 21 09 50.3 -0.9
comp=Z,12nm,0.9s,baz=175,slow=1.5,SNR=11
TOA0 Torodi Ar. Sit 175.25 183 ePKPdf PKPdf 21 09 54.4 -0.8
TORD Torodi Ar. Bea 175.25 183 PKP PKPdf 21 09 54.3 -0.8
comp=Z,18nm,1.0s,baz=330,slow=1.5,SNR=66
TORD PKPab PKPab 21 11 35.3 -0.6
comp=Z,9.1nm,0.9s,baz=182,slow=2.8,SNR=15
TORD PP PP 21 15 27.3 -1.7
comp=Z,12nm,1.2s,baz=172,slow=3.9,SNR=9.4
TORD Torodi Ar. Bea 175.25 183 PKP PKPdf 21 09 54.3 -0.8
TORD PKPab PKPab 21 11 35.3 -0.6
TORD PP PP 21 15 27.3 -1.7

*BJI **23** 21:11:00.2, 38.04N×72.43E, h16km, mB4.8, mb4.3, ML4.4, Ms3.9, Msz3.5*
*ISCJB **23** 21:11:03.3±1.3, 38.14N±0.003×73.10E±0.005, h10km±8km, mb4.2/38, Error ellipse: s-maj=6.2km s-min=4.6km az=151.2*
*NEIC **23** 21:11:06.1±2.3, 38.11N×73.09E, h16km≤15km, mb4.5/23, Error ellipse: s-maj=7.3km s-min=4.1km az=51.0*
*NNC **23** 21:11:06.4±2.9, 38.12N×71.08E, h0km, mb4.2, mpv4.3, Error ellipse: s-maj=23.1km s-min=17.3km az=8.0*
*MOS **23** 21:11:07.2±0.8, 38.15N×73.06E, h38km, mb4.6/21, Error ellipse: s-maj=9.3km s-min=5.6km az=112.6*
*IDC **23** 21:11:13.6±4.2, 38.31N×73.13E, h75km≤37km, mb3.7/16, mb1 3.9/18, mb1mx3.8/25, mbtmp4.0/18, ML3.7/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/36, Error ellipse: s-maj=25.9km s-min=13.3km az=8.0*

ISC 23 21:11:04.6±1.2, 3810N±003×7310E±004, h8km±7km, n145, σ1§13/159, mb4.2/38, 11C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.66**	**57**	⇑P		**Pg**	**21 11 52.8**	**-2.7**
KSH				S		**Sg**	**21 12 28.9**	**-1.0**
KSH				Smax				
	comp=N,1μm,0.6s							
KSH				Smax				
	comp=E,927nm,0.6s							
AML	**Almayashu**	**4.05**	**6**	P		**Pn**	**21 12 08.7**	**+1.7**
	SNR=24							
UCH	**Uchtor**	**4.26**	**14**	P		**Pn**	**21 12 12.2**	**+2.4**
	SNR=10							
KZA	**Kyzart**	**4.30**	**22**	P		**Pb**	**21 12 20.5**	**0.0**
	SNR=7.8							
CEP	**Cherat**	**4.38**	**193**	P		**Pb**	**21 12 21.2**	**-0.6**
CHCP	**Chirah Chowk**	**4.43**	**178**	⇑P		**Pb**	**21 12 21.1**	**-1.7**
AAK	**Ala-Archa**	**4.65**	**13**	P		**Pn**	**21 12 17.6**	**+2.4**
	SNR=9.9							
AAK	**Ala-Archa**	**4.65**	**13**	ePn		**Pn**	**21 12 16.5**	**+1.3**
AAK					Sn	**Sn**	**21 13 08.4**	**-0.9**
KBK	**Karagaybulak**	**4.76**	**17**	P		**Pn**	**21 12 19.9**	**+3.2**
	SNR=7.1							
FRU	**Bishkek**	**4.87**	**13**	ePN		**Pn**	**21 12 20.0**	**+1.9**
FRU					pmax	pmax		
	comp=Z,160nm,1.4s							
TKM2	**Tokmak 2**	**5.18**	**21**	P		**Pn**	**21 12 27.0**	**+4.6**
	SNR=6.4							
TKM2	**Tokmak 2**	**5.18**	**21**	⇑Pn		**Pg**	**21 12 36.5**	**-7.3**
	comp=Z,14nm,1.4s							
TKM2				⇓Sn		**Sg**	**21 13 44.7**	**-6.2**
	comp=Z,32nm,1.2s							
KK31	**Karatay Array**	**5.37**	**339**	⇑Pn		**Pn**	**21 12 25.3**	**+0.3**
	comp=Z,10nm,0.4s,baz=175,slow=14,SNR=12							
KK31				⇓Sn		**Sn**	**21 13 27.9**	**+0.9**
	comp=Z,28nm,0.5s,baz=173,slow=25,SNR=3.9							
THW	**Thamme Wali**	**5.41**	**192**	P		**Pn**	**21 12 34.4**	**+8.8**
KNDC	**Almaty**	**5.90**	**29**	⇑Pn		**Pb**	**21 12 49.8**	**+2.2**
	comp=Z,109nm,1.1s							
KNDC				⇓Sn		**Sb**	**21 14 05.8**	**+7.3**
	comp=Z,372nm,1.1s							
SBDP	**Sheikh Budin**	**6.08**	**199**	P		**Pn**	**21 12 43.0**	**+8.1**
SARP	**Sargodha**	**6.17**	**183**	P		**Pn**	**21 12 42.6**	**+6.5**
DRP	**Derazinda**	**6.77**	**201**	P		**Pn**	**21 12 51.0**	**+6.7**
DRP						**Sn**	**21 14 09.0**	**+7.4**
SDNR	**Sundarnagar**	**7.32**	**153**	eP		**Pn**	**21 12 58.0**	**+6.2**
SDNR				eS		**Sn**	**21 14 23.0**	**+8.0**
MKAR	**Makanchi Array**	**11.02**	**35**	P		**Pn**	**21 13 45.0**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=224,slow=15,SNR=13							
MKAR	**Makanchi Array**	**11.02**	**35**	P		**Pn**	**21 13 45.0**	**+2.4**
KURK	**Kurchatov**	**13.21**	**16**	⇓Pn		**Pn**	**21 14 20.2**	**+7.8**
	comp=Z,3.2nm,1.4s							
KURK	**Kurchatov**	**13.21**	**16**	Pn		**Pn**	**21 14 13.9**	**+1.4**
KOLN	**Koldanda**	**13.55**	**136**	eP		**Pn**	**21 14 18.6**	**+1.4**
	comp=Z,22nm,0.6s							
KOLN				eS		**Sn**	**21 16 47.3**	**-0.6**
GKN	**Gorkha**	**13.95**	**133**	eP		**Pn**	**21 14 22.8**	**+0.1**
	comp=Z,27nm,0.4s							
GKN				eS		**Sn**	**21 16 55.9**	**-1.9**
KKN	**Kakani**	**14.49**	**132**	eP		**Pn**	**21 14 31.0**	**+1.0**
	comp=Z,18nm,0.5s							
KKN				eS		**Sn**	**21 17 08.4**	**-2.4**
KKN	**Kakani**	**14.49**	**132**	eP		**Pn**	**21 14 31.0**	**+1.0**
KKN				eS		**Sn**	**21 17 08.4**	**-2.4**
KKN				pmax		pmax		
	comp=Z,18nm,0.5s							
DMN	**Daman**	**14.52**	**133**	eP		**Pn**	**21 14 31.3**	**+0.9**
	comp=Z,22nm,0.7s							
AB31	**Akbulak array**	**14.63**	**324**	Pn		**Pn**	**21 14 20.9**	**-11**
	comp=Z,3.0nm,0.6s,baz=131,slow=11,SNR=30							
AB31				⇑Sn		**Sn**	**21 17 01.2**	**-13**
	comp=Z,4.1nm,0.8s,baz=154,slow=21,SNR=4.2							
VOSK	**Vostochnaya**	**14.70**	**355**	⇑Pn		**Pn**	**21 14 30.2**	**-2.6**
	comp=Z,3.2nm,0.8s							
VOSK				⇓Lg			21 18 45.3	
	comp=Z,10nm,1.0s							
PKI	**Pulchoki**	**14.73**	**132**	eP		**Pn**	**21 14 34.0**	**+0.8**
	comp=Z,23nm,0.7s							
PKI	**Pulchoki**	**14.73**	**132**	eP		**Pn**	**21 14 34.0**	**+0.8**
PKI				pmax		pmax		
	comp=Z,23nm,0.7s							
GUN	**Gumba**	**14.76**	**130**	eP		**Pn**	**21 14 34.0**	**+0.4**
BVA0	**Borovoye Array**	**15.04**	**354**	⇑Pn		**Pn**	**21 14 40.8**	**+3.2**
	comp=Z,0.8nm,0.6s,baz=159,slow=12,SNR=19							
BVAR	**Borovoye Array**	**15.04**	**354**	P		**Pn**	**21 14 38.6**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=163,slow=10,SNR=10							
BRVK	**Borovoye**	**15.09**	**353**	eP		**Pn**	**21 14 38.2**	**+0.1**
BRVK				pmax		pmax		
	comp=Z,6.0nm,0.8s							
BRVK	**Borovoye**	**15.09**	**353**	ePn		**Pn**	**21 14 38.2**	**+0.1**
	comp=Z,6.0nm,0.8s							
ZRNK	**Zerenda**	**15.12**	**350**	⇑Pn		**Pn**	**21 14 33.9**	**-4.7**
	comp=Z,7.4nm,1.6s							
ZRNK				⇑Lg			21 18 57.2	
	comp=Z,26nm,1.9s							
ZRNK	**Zerenda**	**15.12**	**350**	ePn		**Pn**	**21 14 34.2**	**-4.4**
ZRNK				eSn		**Sn**	**21 17 23.3**	**-2.9**
JIRN	**Jiri**	**15.13**	**130**	eP		**Pn**	**21 14 38.3**	**-0.4**
CHKZ	**Chkalovo**	**15.67**	**355**	⇓Pn		**Pn**	**21 14 42.7**	**-3.0**
	comp=Z,7.3nm,1.6s							
CHKZ	**Chkalovo**	**15.67**	**355**	ePn		**Pn**	**21 14 44.6**	**-1.2**
AKTK	**Aktyubinsk**	**16.35**	**324**	P		**Pn**	**21 14 53.5**	**-1.1**
AKTO	**Aktyubinsk**	**16.35**	**324**	⇓Pn		**Pn**	**21 14 45.5**	**-9.0**
	comp=Z,0.5nm,1.1s							
AKTO				⇑Sn		**Sn**	**21 17 39.6**	**-17**
	comp=Z,0.5nm,1.6s							
AKTO	**Aktyubinsk**	**16.35**	**324**	P		**Pn**	**21 14 53.5**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=128,slow=12,SNR=16							
ZAL	**Zalesovo**	**17.76**	**23**	P		**Pn**	**21 15 10.6**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=266,slow=11,SNR=8.1							
ZAL	**Zalesovo**	**17.76**	**23**	P		**Pn**	**21 15 10.6**	**-1.7**
ARU	**Arti**	**20.74**	**337**	eP		**P**	**21 15 43.2**	**-2.5**
GTA	**Gaotai**	**20.86**	**78**	eP		**P**	**21 15 50.8**	**+3.9**
GTA				AP			21 15 57.4	
GTA				XP		sP	21 15 59.8	+10
GTA				AMB		AMB		
	comp=Z,4.0nm,0.9s							
GTA				LR		LR		
	comp=N,376nm,16.4s							
GTA				LR		LR		
	comp=E,184nm,16.4s							
GTA				LR		LR		
	comp=Z,128nm,13.8s							
GNI	**Garni**	**22.06**	**284**	P		**P**	**21 16 02.7**	**+2.9**
	comp=Z,3.5nm,0.6s,mb4.0,baz=98,slow=15,SNR=1.9							
GNI	**Garni**	**22.06**	**284**	eP		**P**	**21 15 56.3**	**-3.5**
GNI							21 16 02.7	
GNI				pmax		pmax		
	comp=Z,43nm,1.3s							
GNI	**Garni**	**22.06**	**284**	eP		**P**	**21 15 56.3**	**-3.6**
	comp=Z,43nm,1.3s,mb4.7							
GNI				P			21 16 02.7	
ZAK	**Zakamensk**	**24.68**	**50**	eP		**P**	**21 16 27.3**	**+1.3**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb3.7							
SONM	**Songino Array**	**26.06**	**57**	P		**P**	**21 16 39.9**	**+1.4**
	comp=Z,3.1nm,0.9s,baz=257,slow=11,SNR=16							
SONM				LR		LR	21 28 50.2	
	comp=Z,76nm,18.4s,baz=296,slow=41							
MALT	**Malatya**	**27.15**	**281**	eP		**P**	**21 16 48.2**	**-0.2**
MALT				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb3.7							
MALT	**Malatya**	**27.15**	**281**	eP		**P**	**21 16 48.2**	**-0.1**
	comp=Z,2.2nm,0.8s,mb3.7							
OBN	**Obninsk**	**29.87**	**317**	e

comp=Z,5.4nm,0.9s,mb4.6
HINF Hinteralfeld 48.08 304 *e*P **P** 21 19 43.5 -1.2
HAU Haudompre 48.36 304 *e*P **P** 21 19 46.8 0.0
SBF Sospel 48.74 299 *e*P **P** 21 19 50.0 +0.2
comp=Z,27nm,0.9s,mb5.0
SBF Sospel 48.74 299 *e*P **P** 21 19 50.0 +0.2
SBF pmax pmax
comp=Z,13nm,0.9s,mb5.0
SBF Sospel 48.74 299 *e*P **P** 21 19 50.0 +0.2
comp=Z,13nm,0.9s,mb5.0
LPG La Plagne 48.74 301 *e*P **P** 21 19 50.2 +0.4
comp=Z,13nm,0.9s,mb4.7
LPG La Plagne 48.74 301 *e*P **P** 21 19 50.2 +0.4
LPG pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
LPG La Plagne 48.74 301 *e*P **P** 21 19 50.2 +0.4
comp=Z,6.3nm,0.9s,mb4.7
LPL La Plagne 48.75 301 *e*P **P** 21 19 50.3 +0.4
comp=Z,6.5nm,0.7s,mb4.5
LPL La Plagne 48.75 301 *e*P **P** 21 19 50.3 +0.4
LPL pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
LPL La Plagne 48.75 301 *e*P **P** 21 19 50.3 +0.4
comp=Z,3.3nm,0.7s,mb4.5
CABF La Chapelle 48.89 303 *e*P **P** 21 19 51.4 +0.5
comp=Z,10nm,1.1s,mb4.5
CABF La Chapelle 48.89 303 *e*P **P** 21 19 51.4 +0.5
CABF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
CABF La Chapelle 48.89 303 *e*P **P** 21 19 51.4 +0.5
comp=Z,5.2nm,1.0s,mb4.5
MBDF Montbardon 48.95 300 *e*P **P** 21 19 51.7 +0.3
MEZF Maizieres J'vi 49.08 305 *e*P **P** 21 19 52.3 -0.1
BAIF Baives 49.23 307 *e*P **P** 21 19 53.5 -0.1
comp=Z,29nm,1.5s,mb4.8
BAIF Baives 49.23 307 *e*P **P** 21 19 53.5 -0.1
BAIF pmax pmax
comp=Z,14nm,1.5s,mb4.8
BAIF Baives 49.23 307 *e*P **P** 21 19 53.5 -0.1
comp=Z,14nm,1.5s,mb4.8
FRF La Foret Royal 49.38 299 *e*P **P** 21 19 54.9 +0.3
comp=Z,15nm,0.9s,mb4.7
FRF La Foret Royal 49.38 299 *e*P **P** 21 19 54.9 +0.3
FRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
FRF La Foret Royal 49.38 299 *e*P **P** 21 19 54.9 +0.3
comp=Z,7.4nm,0.9s,mb4.7
ORIF Oris-en-Rattie 49.50 301 *e*P **P** 21 19 55.9 +0.3
SMRF Simiane la Rot 49.99 299 *e*P **P** 21 19 59.7 +0.4
LOR Lormes 50.18 304 *e*P **P** 21 20 00.8 +0.1
VIVF Saint-Julien-l 50.34 301 *e*P **P** 21 20 02.2 +0.2
comp=Z,6.5nm,0.8s,mb4.4
VIVF Saint-Julien-l 50.34 301 *e*P **P** 21 20 02.2 +0.2
VIVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
VIVF Saint-Julien-l 50.34 301 *e*P **P** 21 20 02.2 +0.2
comp=Z,3.3nm,0.8s,mb4.4
SMF Signal de Mont 50.37 303 *e*P **P** 21 20 02.0 -0.2
comp=Z,8.2nm,1.0s,mb4.4
SMF Signal de Mont 50.37 303 *e*P **P** 21 20 02.0 -0.2
SMF pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
SMF Signal de Mont 50.37 303 *e*P **P** 21 20 02.0 -0.2
comp=Z,4.1nm,1.0s,mb4.4
SSF Saint Saulge 50.47 304 *e*P **P** 21 20 03.1 +0.2
AVF Avril sur Loir 50.65 304 *e*P **P** 21 20 03.8 -0.5
comp=Z,7.8nm,0.8s,mb4.4
AVF Avril sur Loir 50.65 304 *e*P **P** 21 20 03.8 -0.5
AVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
AVF Avril sur Loir 50.65 304 *e*P **P** 21 20 03.8 -0.5
comp=Z,3.9nm,0.8s,mb4.4
MJAR Matsushiro Arr 50.83 70 P **P** 21 20 05.9 +0.3
comp=Z,1.0nm,0.8s,mb3.8,baz=288,slow=10,SNR=7.0
BGF Bois d'Agland 51.05 303 *e*P **P** 21 20 07.3 0.0
LASF Ste Croix 51.13 300 *e*P **P** 21 20 08.5 +0.5
comp=Z,26nm,1.2s,mb4.7
TCF Toulx Ste Croi 51.55 303 *e*P **P** 21 20 10.9 -0.2
comp=Z,8.9nm,1.1s,mb4.3
TCF Toulx Ste Croi 51.55 303 *e*P **P** 21 20 10.9 -0.2
TCF pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
TCF Toulx Ste Croi 51.55 303 *e*P **P** 21 20 10.9 -0.2
comp=Z,4.4nm,1.1s,mb4.3
CAF Calviac 52.07 302 *e*P **P** 21 20 15.1 +0.1
RJF Les Rejaudoux 52.32 302 *e*P **P** 21 20 16.7 -0.1
MTLF Montolieu 52.50 300 *e*P **P** 21 20 18.5 +0.3
comp=Z,9.5nm,1.0s,mb4.4
MTLF Montolieu 52.50 300 *e*P **P** 21 20 18.5 +0.3
MTLF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MTLF Montolieu 52.50 300 *e*P **P** 21 20 18.5 +0.3
comp=Z,4.8nm,1.0s,mb4.4
GRR Gorron 52.89 307 *e*P **P** 21 20 20.3 -0.7
comp=Z,13nm,1.0s,mb4.5
GRR Gorron 52.89 307 *e*P **P** 21 20 20.3 -0.7
GRR pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
GRR Gorron 52.89 307 *e*P **P** 21 20 20.3 -0.7
comp=Z,6.3nm,1.0s,mb4.5
LFF La Frestale 52.96 302 *e*P **P** 21 20 22.0 +0.4
comp=Z,4.9nm,0.6s,mb4.3
LFF La Frestale 52.96 302 *e*P **P** 21 20 22.0 +0.4
LFF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
LFF La Frestale 52.96 302 *e*P **P** 21 20 22.0 +0.4
comp=Z,2.5nm,0.6s,mb4.3
MFF Saint Martin d 52.99 304 *e*P **P** 21 20 21.3 -0.5
EPF Esparros 53.89 300 *e*P **P** 21 20 29.0 +0.6
SGMF Saint Gilles 54.00 307 *e*P **P** 21 20 29.4 +0.2
ETSF Etsaut 54.56 300 *e*P **P** 21 20 33.8 +0.5
ESDC Sonseca Array 58.19 298 P **P** 21 20 59.4 +0.3
comp=Z,0.9nm,0.7s,mb3.9,baz=64,slow=7.7,SNR=4.5
TORD Torodi Ar. Bea 67.42 269 P **P** 21 22 00.8 +0.2
comp=Z,1.3nm,0.8s,mb4.0,baz=48,slow=5.2,SNR=4.7
INK Inuvik 72.05 10 P **P** 21 22 28.1 -1.1
comp=Z,3.3nm,0.6s,mb4.4,baz=14,slow=8.2,SNR=15
INK Inuvik 72.05 10 *e*P **P** 21 22 28.9 -0.3
INK pmax pmax
comp=Z,3.0nm,0.5s
INK Inuvik 72.05 10 *e*P **P** 21 22 28.9 -0.3
comp=Z,2.8nm,0.5s,mb4.5
COLA College 72.47 17 *e*P **P** 21 22 30.4 -1.3
COLA *e* 21 22 48.2
COLA pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
COLA College 72.47 17 *e*P **P** 21 22 30.4 -1.3
comp=Z,4.4nm,0.8s,mb4.4
COLA *e*PcP PcP 21 22 48.2 -1.3
YKA Yellowknife Ar 79.56 4 P **P** 21 23 10.4 -1.8
comp=Z,1.6nm,0.6s,mb4.1,baz=347,slow=5.6,SNR=6.8
WRA Warramunga Arr 81.45 123 P **P** 21 23 22.5 +0.2
comp=Z,1.2nm,0.6s,mb4.0,baz=326,slow=5.1,SNR=18
WRAB Tennant Creek 81.45 123 *e*P **P** 21 23 23.2 +0.9
WRAB pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
WRAB Tennant Creek 81.45 123 *e*P **P** 21 23 23.2 +0.9
comp=Z,1.7nm,0.6s,mb4.2
WB2 Warramunga Arr 81.45 123 *e*P **P** 21 23 23.1 +0.8
ASAR Alice Springs 83.83 126 P **P** 21 23 35.7 +1.0
comp=Z,0.4nm,0.7s,mb3.7,baz=308,slow=4.9,SNR=4.2

*STR **23** 21:26:35.7±1.1, 4771N×735E, h5km±1km, Ml1.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ISCJB **23** 21:26:36.7±1.2, 4780N±005×730E±008, h13km±6km, Error ellipse: s-maj=10.1km s-min=6.2km az=69.4*
*LDG **23** 21:26:37.3±0.6, 4778N×734E, h8km, Md1.9/2, Ml1.9/4, Error ellipse: s-maj=9.8km s-min=4.7km az=127.0*
ISC 23 21:26:36.9±1.3**, 4777N**±005×**731E**±009**, h13**km±8km**, n11,** σ1°**00/17, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF	**Molkenrain**			**0.15 305** Pg	**Pg**	**21 26 39.9**	**-0.6**
MOF				Sg	**Sg**	**21 26 42.5**	**-0.6**
HINF	**Hinteralfeld**			**0.32 279** *e*Pg	**Pg**	**21 26 43.2**	**-0.1**
HINF				*e*Sg	**Sg**	**21 26 47.6**	**-0.1**
	4.6nm,0.3s						
CDF	**Champ du Feu**			**0.65 358** *e*Pg	**Pg**	**21 26 49.7**	**+0.2**
CDF				*e*Sg	**Sg**	**21 26 56.0**	**-2.0**
	2.6nm,0.3s						
CDF				*e*Sn	**Sg**	**21 27 00.3**	**+2.3**
WLS	**Welschbruch**	**0.65**	**2**	Pg	**Pg**	**21 26 50.0**	**+0.5**
HAU	**Haudompre**			**0.69 290** *e*Pg	**Pg**	**21 26 50.5**	**+0.2**
HAU	**Haudompre**			**0.69 290** *e*Pn	**Pn**	**21 26 51.8**	**-0.5**
HAU				*e*Sg	**Sg**	**21 27 00.8**	**+1.3**
	3.1nm,0.3s						
THEF	**They Montfort**			**1.00 298** Pg	**Pg**	**21 26 56.2**	**0.0**
THEF				Sg	**Sg**	**21 27 10.1**	**+0.8**
CABF	**La Chapelle**			**1.43 216** *e*Sg	**Sg**	**21 27 25.1**	**+2.2**
SFTF	**Sexfontaines**			**1.59 287** *e*Sg	**Sg**	**21 27 28.1**	**0.0**
	1.5nm,0.2s						
LOR	**Lormes**			**2.40 259** *e*Sg	**Sg**	**21 27 52.8**	**-1.0**
	1.5nm,0.4s						
AVF	**Avril sur Loir**			**2.87 252** *e*Pg	**Pg**	**21 27 30.0**	**-1.9**

*ISCJB **23** 21:38:20.2±1.5, 103S±03×1074E±04, h10km, mb3.8/9, Error ellipse: s-maj=70.8km s-min=10.6km az=93.7*
*NEIC **23** 21:38:22.0±1.4, 1040S×10738E, h10km, mb3.9/5, Error ellipse: s-maj=71.0km s-min=10.5km az=47.0*
*IDC **23** 21:38:23.5±2.6, 984S×10801E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/17, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=108.0km s-min=20.8km az=52.0*
ISC 23 21:38:22.2±1.5**, 104S**±03×**1074E**±04**, h10**km**, n14,** σ1°**03/14, mb3.8/9, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**			**15.99 134** *e*Pn	**Pn**	**21 42 05.5**	**-1.7**
	1.1nm,0.3s						
FITZ	**Fitzroy Crossi**			**19.27 116** P	**Pn**	**21 42 47.8**	**-0.1**
	0.1nm,0.3s,baz=302,slow=15,SNR=3.4						
WRA	**Warramunga Arr**			**27.66 113** P	**P**	**21 44 09.9**	**-0.2**
	0.9nm,0.7s,mb3.5,baz=285,slow=11,SNR=7.6						
WRAB	**Tennant Creek**			**27.66 113** P	**P**	**21 44 09.3**	**-0.8**
ASAR	**Alice Springs**			**28.52 121** P	**P**	**21 44 18.6**	**+0.8**
	0.6nm,0.7s,mb3.4,baz=298,slow=8.0,SNR=4.3						
STKA	**Stephens Creek**			**38.16 129** P	**P**	**21 45 43.5**	**+1.8**
	1.8nm,0.5s,mb4.1,baz=310,slow=6.7,SNR=9.2						
CTAO	**Charters Tower**			**38.63 109** P	**P**	**21 45 46.6**	**+1.0**
SONM	**Songino Array**			**57.95 359** P	**P**	**21 48 14.2**	**-0.5**
	0.5nm,0.5s,mb3.8,baz=178,slow=8.3,SNR=5.9						
MKAR	**Makanchi Array**			**61.17 341** P	**P**	**21 48 38.0**	**+1.1**
	0.3nm,0.3s,mb4.0,baz=158,slow=7.4,SNR=4.4						
MKAR	**Makanchi Array**			**61.17 341** P	**P**	**21 48 38.0**	**+1.1**
KURK	**Kurchatov**			**65.78 340** *e*P	**P**	**21 49 07.5**	**+0.1**
	0.3nm,0.4s,mb3.7						
BRVK	**Borovoye**			**70.67 337** *e*P	**P**	**21 49 35.9**	**-2.2**
	0.7nm,0.6s,mb3.8						
CHKZ	**Chkalovo**			**71.03 338** *e*P	**P**	**21 49 40.9**	**+0.7**
	0.6nm,0.4s,mb3.9						
ZRNK	**Zerenda**			**71.08 337** *e*P	**P**	**21 49 40.4**	**-0.1**
	0.4nm,0.4s,mb3.7						

*BJI **23** 21:48:01.1, 950S×10740E, h10km, mb4.1*
*NEIC **23** 21:48:01.1±0.4, 953S×10736E, h10km, mb4.6/8, Error ellipse: s-maj=17.0km s-min=6.1km az=46.0*
*ISCJB **23** 21:48:02.9±0.5, 96S±0.1×1074E±0.1, h38km, mb4.2/19, Error ellipse: s-maj=22.6km s-min=7.3km az=98.3*
*IDC **23** 21:48:05.4±0.7, 952S×10742E, h38km±5km, mb3.8/11, mb1 3.9/12, mb1mx3.8/20, mbtmp4.0/12, ML3.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/33, Error ellipse: s-maj=26.0km s-min=11.4km az=51.0*
ISC 23 21:48:05.0±0.5**, 96S**±01×**1074E**±01**, h38**km**, (h40**km±1.3km**: pP-P), n35,** σ1°**00/33, mb4.2/19, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**			**14.93 325** LR	LR	21 56 55.5	
	comp=Z,133nm,19.7s,baz=350,slow=36						
KULM	**Kulim**			**16.25 335** *e*P	**Pn**	**21 51 46.6**	**-3.8**
MBWA	**Marble Bar**			**16.53 135** Pn	**Pn**	**21 51 51.6**	**-2.3**
FITZ	**Fitzroy Crossi**			**19.62 117** P	**Pn**	**21 52 30.4**	**-1.3**
	0.1nm,0.3s,baz=270,slow=5.8,SNR=7.9						
WRA	**Warramunga Arr**			**27.97 115** P	**P**	**21 53 50.9**	**-1.1**
	1.5nm,0.8s,mb3.6,baz=289,slow=10,SNR=13						
WRA				pP	pP	21 54 03.0	+0.4
	6.6nm,1.0s,baz=286,slow=11,SNR=15						
WRA				PcP	PcP	21 57 07.9	+1.4
	0.3nm,0.6s,baz=298,slow=2.2,SNR=4.9						
WRA				pPcP		21 57 18.9	
	1.0nm,0.7s,baz=298,slow=2.5,SNR=6.0						
WRAB	**Tennant Creek**			**27.98 115** *e*P	**P**	**21 53 53.0**	**+1.0**
	13nm,1.2s,mb4.4						
WRAB				*e*	pP	21 54 04.0	+1.3
WB2	**Warramunga Arr**			**27.98 115** *e*P	**P**	**21 53 52.3**	**+0.2**
WB2				*e*	pP	21 54 02.9	+0.3
QIZ	**Qiongzhong**	**28.56**	**5**	P	**P**	**21 53 58.3**	**+1.1**
ASAR	**Alice Springs**			**28.93 122** P	**P**	**21 54 02.1**	**+1.6**
	1.4nm,0.9s,mb3.7,baz=298,slow=9.3,SNR=8.0						
ASAR				PcP	PcP	21 57 10.7	+1.8
	0.8nm,0.9s,baz=298,slow=1.7,SNR=5.3						
ASAR				pPcP		21 57 21.7	
	1.0nm,0.7s,baz=299,slow=1.3,SNR=7.2						
STKA	**Stephens Creek**			**38.65 130** P	**P**	**21 55 25.1**	**+0.3**
	2.9nm,0.8s,mb4.1,baz=314,slow=8.0,SNR=8.4						
STKA				pP	pP	21 55 36.2	+0.7
	5.2nm,0.8s,baz=304,slow=9.5,SNR=6.6						
CTA	**Charters Tower**			**38.90 110** P	**P**	**21 55 28.4**	**+1.6**
	3.7nm,0.8s,mb4.2,baz=260,slow=11,SNR=3.3						
CTA				pP	pP	21 55 39.4	+1.8
	6.7nm,0.8s,baz=284,slow=12,SNR=3.3						
CTAO	**Charters Tower**			**38.90 110** *e*P	**P**	**21 55 29.5**	**+2.7**
	2.6nm,0.6s,mb4.1						
JIRN	**Jiri**			**42.36 332** *e*P	**P**	**21 55 56.1**	**+0.7**
PKI	**Pulchoki**			**42.65 331** *e*P	**P**	**21 55 57.7**	**-0.1**
GUN	**Gumba**			**42.71 331** *e*P	**P**	**21 55 58.4**	**+0.1**
DMN	**Daman**			**42.83 330** *e*P	**P**	**21 55 59.6**	**+0.4**
KKN	**Kakani**			**42.90 331** *e*P	**P**	**21 55 59.1**	**-0.7**
GKN	**Gorkha**			**43.39 330** *e*P	**P**	**21 56 04.1**	**+0.4**
XAN	**Xi'an**	**43.43**	**2**	P	**P**	**21 56 03.3**	**-0.8**
XAN				AP	pP	21 56 14.1	-0.9
XAN				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.0						
KOLN	**Koldanda**			**43.72 329** *e*P	**P**	**21 56 06.7**	**+0.3**
	comp=Z,16nm,0.7s,mb4.9						
GTA	**Gaotai**			**49.27 352** *e*P	**P**	**21 56 51.6**	**+1.7**
GTA				AP	pP	21 56 59.0	-2.0
GTA				XP	sP	21 57 03.0	-2.5
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.2						
MJAR	**Matsushiro Arr**			**54.29 31** P	**P**	**21 57 26.4**	**-0.9**
	comp=Z,0.8nm,0.6s,mb3.9,baz=218,slow=7.7,SNR=3.6						
MJAR	**Matsushiro Arr**			**54.29 31** P	**P**	**21 57 26.4**	**-0.9**
SONM	**Songino Array**			**57.20 359** P	**P**	**21 57 48.7**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.8,baz=176,slow=6.2,SNR=5.7						
SONM				pP	pP	21 57 59.7	+0.3
	comp=Z,2.4nm,0.7s,baz=180,slow=6.0,SNR=14						
MKAR	**Makanchi Array**			**60.45 340** P	**P**	**21 58 09.7**	**-1.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=149,slow=7.8,SNR=7.4						
MKAR				pP	pP	21 58 22.2	+0.1
	comp=Z,1.7nm,0.4s,baz=149,slow=7.9,SNR=10.0						
MAW	**Mawson**			**65.00 197** P	**P**	**21 58 41.6**	**+0.5**
	comp=Z,3.9nm,0.8s,mb4.5,baz=30,slow=5.9,SNR=12						
MAW	**Mawson**			**65.00 197** *e*P	**P**	**21 58 42.0**	**+1.0**
	comp=Z,7.5nm,1.0s,mb4.7						
MAW				*e*pP	pP	21 58 52.6	+0.1
KURK	**Kurchatov**			**65.07 340** *e*P	**P**	**21 58 40.5**	**-1.0**
	comp=Z,5.9nm,1.1s,mb4.5						
KURK				*e*pP	pP	21 58 52.7	-0.2
ZAL	**Zalesovo**			**66.13 346** P	**P**	**21 58 49.9**	**+1.4**
	comp=Z,1.7nm,0.4s,mb4.4,baz=225,slow=13,SNR=5.6						
BVAR	**Borovoye Array**			**69.90 337** P	**P**	**21 59 11.4**	**-0.7**
	comp=Z,1.4nm,0.8s,mb4.0,baz=151,slow=9.0,SNR=7.1						
BVAR				pP	pP	21 59 22.9	-0.7
	comp=Z,1.4nm,0.5s,baz=141,slow=8.5,SNR=7.5						
BVAR				PcP	PcP	21 59 33.1	-1.3
	comp=Z,1.1nm,0.7s,baz=143,slow=8.4,SNR=4.4						
BRVK	**Borovoye**			**69.97 337** *e*P	**P**	**21 59 11.9**	**-0.6**
	comp=Z,0.8nm,0.6s,mb3.8						
BRVK				*e*pP	pP	21 59 23.4	-0.6
CHKZ	**Chkalovo**			**70.33 338** *e*P	**P**	**21 59 14.0**	**-0.6**
	comp=Z,2.7nm,0.6s,mb4.3						
CHKZ				*e*pP	pP	21 59 25.6	-0.6
ZRNK	**Zerenda**			**70.38 336** *e*P	**P**	**21 59 14.4**	**-0.6**
	comp=Z,4.2nm,1.0s,mb4.3						
ZRNK				*e*pP	pP	21 59 25.9	-0.6
BRTR	**Keskin Array B**			**83.84 312** P	**P**	**22 00 30.2**	**-0.3**
	comp=Z,1.2nm,1.0s,mb4.0,baz=128,slow=5.2,SNR=5.3						
BDFB	**Brasilia**			**145.02 224** PKPbc	PKPbc	22 07 39.8	+2.3
	comp=Z,3.7nm,0.9s,baz=164,slow=5.9,SNR=4.0						

*BJI **23** 21:56:27.6, 1063S×10775E, h10km, mB5.0, mb4.7, Ms4.5, Msz4.1*
*IDC **23** 21:56:34.7±0.8, 967S×10760E, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.3/19, mbtmp4.3/11, ML4.0/1, MS3.8/9, Ms1 3.8/9, ms1mx3.4/30, Error ellipse: s-maj=30.4km s-min=14.9km az=55.0*
*NEIC **23** 21:56:36.6±0.3, 970S×10759E, h10km, mb4.8/16, Error ellipse: s-maj=12.9km s-min=6.2km az=53.0*
*ISCJB **23** 21:56:37.9±0.4, 970S±006×10764E±007, h33km, mb4.7/48, MS4.0/13, Error ellipse: s-maj=11.3km s-min=6.6km az=115.2*
*MOS **23** 21:56:37.9±1.0, 965S×10771E, h33km, mb5.0/20, Error ellipse: s-maj=16.2km s-min=7.6km az=108.4*
ISC 23 21:56:40.5±0.4**, 972S**±006×**1076E**±007**, h38**km**, h38**km±3.0km**: pP-P, n93,** σ0°**93/85, mb4.7/48, MS4.0/13, 8C-5D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**			**15.17 325** Pn	**Pn**	**22 00 11.9**	**0.0**
	0.4nm,0.3s,baz=149,slow=19,SNR=2.6						
PSI				LR	LR	22 06 04.1	
	comp=Z,288nm,20.1s,baz=138,slow=38						
MBWA	**Marble Bar**			**16.28 136** *e*Pn	**Pn**	**22 00 21.3**	**-4.9**
	5.5nm,0.3s						
KULM	**Kulim**			**16.46 335** *e*Pn	**Pn**	**22 00 24.7**	**-3.8**
KKM	**Kota Kinabalu**			**17.85 29** *e*Pn	**Pn**	**22 00 45.2**	**-0.6**
FITZ	**Fitzroy Crossi**			**19.35 117** P	**Pn**	**22 01 03.6**	**-0.4**
	0.4nm,0.3s,baz=282,slow=7.9,SNR=25						
FITZ				S	**S**	**22 04 19.6**	**-20**
	0.1nm,0.3s,baz=54,slow=20,SNR=2.6						
NWAO	**Narrogin (SRO)**			**24.73 160** LR	LR	22 09 57.9	
	comp=Z,219nm,20.1s,MS3.6,baz=189,slow=32						
NWAO	**Narrogin (SRO)**			**24.73 160** P	**P**	**22 01 57.7**	**-0.6**
WRA	**Warramunga Arr**			**27.70 115** P	**P**	**22 02 24.8**	**-0.3**
	3.0nm,0.7s,mb4.0,baz=285,slow=11,SNR=14						
WRAB	**Tennant Creek**			**27.71 115** ‖ *iP*	**P**	**22 02 27.3**	**+2.1**
WRAB	**Tennant Creek**			**27.71 115** *e*P	**P**	**22 02 27.1**	**+1.9**
	4.5nm,0.6s,mb4.3						
WB2	**Warramunga Arr**			**27.72 115** *e*P	**P**	**22 02 27.0**	**+1.9**
QIZ	**Qiongzhong**	**28.65**	**4**	P	**P**	**22 02 34.5**	**+1.0**
QIZ				S	**S**	**22 07 21.0**	**+1.3**
QIZ				LR	LR		
	comp=N,190nm,13.9s						
QIZ				LR	LR		
	comp=Z,235nm,14.1s,MS3.9						
ASAR	**Alice Springs**			**28.66 122** P	**P**	**22 02 34.8**	**+1.2**
	comp=Z,2.5nm,0.7s,mb4.0,baz=297,slow=9.0,SNR=17						
ASAR				PcP	PcP	22 05 44.2	+0.6
	comp=Z,0.9nm,0.9s,baz=287,slow=1.2,SNR=4.5						
AS31	**Alice Springs**			**28.66 122** *e*P	**P**	**22 02 37.5**	**+3.9**
CHTO	**Chiang Mai**			**29.62 343** *e*P	**P**	**22 02 42.4**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
CHTO	**Chiang Mai**			**29.62 343** *e*P	**P**	**22 02 42.4**	**+0.3**
	comp=Z,10.0nm,1.0s,mb4.5						
KMI	**Kunming**			**34.96 352** P	**P**	**22 03 31.3**	**+2.4**
KMI				AP	pP	22 03 41.4	+1.8
KMI				PCP	PcP	22 05 51.8	-8.9
KMI				S	**S**	**22 09 14.1**	**+16**
KMI				SCS	ScS	22 13 40.6	-6.2
KMI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.7						
KMI				LR	LR		
	comp=N,307nm,14.5s,MS4.2						
KMI				LR	LR		
	comp=E,193nm,16.4s,MS4.2						
KMI				LR	LR		
	comp=Z,355nm,15.1s,MS4.2						
NACB	**Ninganchiao**	**36.35**	**22**	P	**P**	**22 03 41.0**	**+0.3**
STKA	**Stephens Creek**	**38.39**	**130**	P	**P**	**22 03 58.4**	**+0.3**
	comp=Z,3.7nm,0.7s,mb4.2,baz=292,slow=9.7,SNR=8.6						
JIRN	**Jiri**	**42.57**	**331**	*e*P	**P**	**22 04 33.6**	**+1.0**
	comp=Z,60nm,0.9s,mb5.3						
SSE	**Sheshan**	**42.62**	**17**	*e*P	**P**	**22 04 32.3**	**-0.7**
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,176nm,6.1s						
PKI	**Pulchoki**	**42.87**	**330**	*e*P	**P**	**22 04 35.8**	**+0.7**
NJ2	**Nanjing**	**42.90**	**14**	*e*P	**P**	**22 04 35.3**	**0.0**
NJ2				AP	pP	22 04 44.4	-1.9
NJ2				XP	sP	22 04 48.9	-1.9
NJ2				PP	PP	22 06 17.1	+1.8
NJ2				S	**S**	**22 10 57.0**	**-0.5**
NJ2				XS	sS	22 11 14.0	-1.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,120nm,3.9s						
NJ2				LR	LR		
	comp=N,420nm,15.6s,MS4.7						
NJ2				LR	LR		
	comp=E,650nm,15.2s,MS4.7						
NJ2				LR	LR		
	comp=Z,260nm,20.4s						
GUN	**Gumba**	**42.93**	**331**	*e*P	**P**	**22 04 36.5**	**+1.0**
DMN	**Daman**	**43.05**	**330**	*e*P	**P**	**22 04 37.2**	**+0.7**
	comp=Z,57nm,1.0s,mb5.3						
KKN	**Kakani**	**43.12**	**330**	*e*P	**P**	**22 04 37.5**	**+0.5**
	comp=Z,33nm,0.9s,mb5.1						
KKN	**Kakani**	**43.12**	**330**	*e*P	**P**	**22 04 37.5**	**+0.5**
KKN				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.1						
XAN	**Xi'an**	**43.54**	**2**	P	**P**	**22 04 40.3**	**-0.1**
XAN				AP	pP	22 04 51.8	+0.4
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
GKN	**Gorkha**	**43.61**	**330**	*e*P	**P**	**22 04 41.5**	**+0.5**
	comp=Z,19nm,0.4s,mb5.1						
GUMO	**Guam**	**43.62**	**59**	LR	LR	22 21 22.1	
	comp=Z,62nm,21.3s,MS3.5,baz=240,slow=34						
KOLN	**Koldanda**	**43.94**	**329**	*e*P	**P**	**22 04 44.3**	**+0.6**
	comp=Z,16nm,0.5s,mb5.0						
LZH	**Lanzhou**	**45.70**	**356**	*e*P	**P**	**22 04 58.3**	**+0.6**
LZH				AP	pP	22 05 09.1	+0.4
LZH				XP	sP	22 05 12.8	-0.4
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.9						
GTA	**Gaotai**	**49.42**	**352**	*e*P	**P**	**22 05 28.0**	**+1.5**
GTA				AP	pP	22 05 34.0	-3.7
GTA				XP	sP	22 05 37.5	-4.7
GTA				PP	PP	22 07 23.3	+2.5
GTA				S	**S**	**22 12 35.8**	**+4.9**
GTA				XS	sS	22 12 46.0	-3.3
GTA				SS	SS	22 16 04.5	+

comp=Z,2.0nm,1.7s,mb3.9
TKM2 Tokmak 2 60.00 333 *i* P **P** **22 06 43.0 -0.2**
TKM2 pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
AAK Ala-Archa 60.27 332⇑ *i*P **P** **22 06 44.4 -0.6**
AAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.3
MKAR Makanchi Array 60.64 340 P **P** **22 06 47.7 +0.1**
comp=Z,2.9nm,0.4s,mb4.8,baz=142,slow=7.5,SNR=24
MKAR Makanchi Array 60.64 340 P **P** **22 06 47.7 +0.1**
TLY Talaya 61.25 357⇑ *i*P **P** **22 06 52.9 +1.2**
TLY pmax pmax
comp=Z,3.0nm,1.7s,mb4.2
HABR Khabarovsk 62.80 20 *e*P **P** **22 06 59.8 -2.3**
HABR *e*S **S** **22 15 26.9 -1.7**
YSS Yuzh-Sakhalins 64.53 26⇑ *i*P **P** **22 07 13.3 -0.2**
YSS pmax pmax
comp=Z,20nm,1.0s,mb5.1
MAW Mawson 64.96 197 P **P** **22 07 15.8 -0.5**
comp=Z,3.6nm,1.0s,mb4.4,baz=36,slow=11,SNR=6.6
MAW LR LR 22 31 43.4
comp=Z,99nm,19.3s,MS4.0,baz=254,slow=32
MAW Mawson 64.96 197 *e*P **P** **22 07 15.5 -0.8**
MAW pmax pmax
comp=Z,7.0nm,1.2s
MAW Mawson 64.96 197 *e*P **P** **22 07 15.5 -0.8**
comp=Z,6.9nm,1.2s,mb4.6
KURK Kurchatov 65.26 340 *e*P **P** **22 07 17.6 -0.6**
KURK *e* pP 22 07 30.5 +0.8
KURK pmax pmax
comp=Z,14nm,1.0s,mb5.0
KURK Kurchatov 65.26 340 *e*P **P** **22 07 17.6 -0.7**
comp=Z,14nm,1.0s,mb5.0
KURK *e* pP 22 07 30.5 +0.8
ZAL Zalesovo 66.30 345 P **P** **22 07 24.0 -1.0**
comp=Z,2.7nm,0.3s,mb4.7,baz=338,slow=2.2,SNR=5.3
ZAL Zalesovo 66.30 345 P **P** **22 07 24.0 -1.0**
KRAR Krasnoyarsk 66.64 351⇓ *i*P **P** **22 07 26.5 -0.6**
KRAR pmax pmax
comp=Z,20nm,1.0s,mb5.1
BOD Bodaibo 67.51 4 *e*P **P** **22 07 31.2 -1.4**
BOD pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
BVAR Borovoye Array 70.10 337 P **P** **22 07 48.7 -0.1**
comp=Z,2.1nm,0.7s,mb4.2,baz=156,slow=7.8,SNR=14
BRVK Borovoye 70.17 337 *e*P **P** **22 07 49.7 +0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRVK Borovoye 70.17 337 *e*P **P** **22 07 49.7 +0.5**
comp=Z,2.9nm,0.8s,mb4.3
CHKZ Chkalovo 70.52 338 *e*P **P** **22 07 51.5 +0.1**
CHKZ *e* 22 08 07.4
CHKZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CHKZ Chkalovo 70.52 338 *e*P **P** **22 07 51.5 +0.1**
comp=Z,8.7nm,0.8s,mb4.7
CHKZ *e* 22 08 07.4
ZRNK Zerenda 70.58 336 *e*P **P** **22 07 51.6 -0.1**
ZRNK *e* 22 08 08.5
ZRNK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ZRNK Zerenda 70.58 336 *e*P **P** **22 07 51.6 -0.1**
comp=Z,6.3nm,1.0s,mb4.5
ZRNK *e* 22 08 08.5
SYO Syowa Base 73.18 200⇑ *e*P pP 22 08 17.0 -1.9
VNDA Vanda 73.19 169 LR LR 22 37 35.5
comp=Z,81nm,19.4s,MS4.0,baz=39,slow=34
YAK Yakutsk 73.57 11⇓ *i*P **P** **22 08 09.3 -0.3**
YAK pmax pmax
comp=Z,12nm,0.7s,mb4.9
AKTO Aktyubinsk 73.77 330 *i* P **P** **22 08 10.3 -0.5**
AKTO pmax pmax
comp=Z,1.0nm,1.2s,mb3.6
PET Petropavlovsk 76.06 29⇑ *i*P **P** **22 08 24.1 +0.1**
PET pmax pmax
comp=Z,15nm,1.3s,mb4.8
MA2 Magadan 77.19 21⇑ *i*P **P** **22 08 30.7 +0.3**
MA2 pmax pmax
comp=Z,14nm,1.7s,mb4.6
ARU Arti 77.33 335⇓ *i*P **P** **22 08 31.2 0.0**
ARU *e* pP 22 08 41.6 -1.3
ARU *e* 22 11 25.8
ARU *e*PPP 22 13 14.4
ARU *e*S S 22 18 19.3 +0.7
ARU *e*SS SS 22 23 21.9 +4.6
ARU pmax pmax
comp=Z,14nm,1.0s,mb4.8
ARU Arti 77.33 335 *e*P **P** **22 08 31.2 +0.1**
comp=Z,17nm,1.1s,mb4.9
ARU *e*PcP PcP 22 08 40.2 -1.4
BOSA Boshof 78.75 243 LR LR 22 36 59.1
comp=Z,93nm,19.1s,MS4.1,baz=185,slow=31
KIV Kislovodsk 79.31 318 *e*P **P** **22 08 42.9 +0.8**
KIV pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GOF Gofitskoye 79.55 319 *e*P **P** **22 08 40.1 -3.3**
TIXI Tiksi 82.42 7⇑ *i*P **P** **22 08 57.8 -0.9**
TIXI pmax pmax
comp=Z,14nm,1.0s,mb4.8
ANN Anapa 83.11 318 *e*P **P** **22 09 00.5 -1.8**
ANN pmax pmax
comp=Z,33nm,1.1s,mb5.3
BR131 Keskin Array S 84.09 312 *e*P **P** **22 09 06.7 -0.6**
comp=Z,0.7nm,0.6s,mb4.0
BR131 *e* pP 22 09 19.4 +0.2
BRTR Keskin Array B 84.09 312 P **P** **22 09 07.0 -0.3**
comp=Z,1.9nm,0.8s,mb4.2,baz=133,slow=5.4,SNR=11
SNAA Sanae 87.13 197 *e*P **P** **22 09 21.7 -0.7**
SNAA pmax pmax
comp=Z,1.0nm,0.6s
SNAA Sanae 87.13 197 *e*P **P** **22 09 21.7 -0.7**
comp=Z,1.3nm,0.6s,mb4.3
OBN Obninsk 87.33 327⇓ *i*P **P** **22 09 23.5 +0.1**
OBN pmax pmax
comp=Z,19nm,1.6s,mb5.1
KLMR Klimovskoe 88.07 333 *e*P **P** **22 09 26.7 -0.2**
KLMR pmax pmax
comp=Z,30nm,1.8s,mb5.2
ARCES ARCESS Array B 96.29 339 LR LR 22 59 29.7
comp=Z,38nm,19.0s,MS3.9,baz=197,slow=39
SRU San Rafael 135.12 43 PKIKP PKPdf 22 15 58.1 +2.4
NCB Newcomb 145.84 2 *e*PKP PKPdf 22 16 16.7 +1.6
JCT Junction City 147.15 47 *e*PKP2 PKPab 22 16 21.4 +0.3
BINY Binghamton 147.50 5 *e*PKPbc PKPbc 22 16 21.4 +1.0
MIAR Mount Ida 148.58 35 *e*PKP2 PKPab 22 16 24.8 -2.1
WCI Wyandotte Cave 148.98 22 *e*PKP2 PKPbc 22 16 25.2 +0.9
WVT Waverly 150.19 26 *e*PKIKP PKPbc 22 16 28.2 +0.9
TZTN Tazewell 151.44 19 *e*PKPbc PKPbc 22 16 30.9 +0.7

NEIC ***23*** *22:13:25.8±1.4, 3555N×074E, h10km, MN3.3(MDD), Error ellipse: s-maj=17.5km s-min=5.5km az=157.0*
STR ***23*** *22:13:26.6±1.5, 3546N×260E, h10km±1km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
IDC ***23*** *22:13:27.3±1.1, 3586N×055E, h0km, mb3.7/8, mb1 3.9/11, mb1mx3.7/27, mbtmp3.7/11, ML4.1/3, Error ellipse: s-maj=27.4km s-min=20.4km az=85.0*
ISCJB ***23*** *22:13:28.9±0.3, 3600N±002×054E±002, h10km, mb3.6/8, Error ellipse: s-maj=3.4km s-min=2.3km az=3.3*
CSEM ***23*** *22:13:28.9±0.1, 3584N×058E, h25km, ML3.5/3, Error ellipse: s-maj=3.0km s-min=1.7km az=169.0*
SFS ***23*** *22:13:29.0, 3569N×067E, h15km, ML4.5*
CRAAG ***23*** *22:13:29.5, 3573N×083E, Ml4.5*
LDG ***23*** *22:13:29.5±0.3, 3591N×049E, h15km, Ml3.5/6, Error ellipse: s-maj=7.6km s-min=3.4km az=155.0*
MDD ***23*** *22:13:30.3±0.3, 3580N×069E, h18km±4km, mb4.5/27, Error ellipse: s-maj=4.7km s-min=3.5km az=149.0, PRXIMO*
INMG ***23*** *22:13:30.2±1.9, 3571N×067E, h31km±5km, Mb4.2, ML3.0, Error ellipse: s-maj=6.7km s-min=4.3km az=141.0*

ISC 23 22:13:29.9±0.3, 3594N±002×057E±002, h10km, n181, σ1ᵍ33/265, mb3.6/8, 6C-1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
OKGL	**Djebel Kef Gue**	**0.11**	**33**	P		**Sg**	**22 13 35.0**	**+0.3**
OJBR	**Djebel Berber**	**0.40**	**207**	P		**Pg**	**22 13 39.0**	**+1.2**
EANR	**´Ain N'Sour**	**0.43**	**89**	P		**Pg**	**22 13 37.5**	**-0.9**
OJGS	**Djebel Guires**	**0.46**	**161**	P		**Pg**	**22 13 36.0**	**-2.9**
ECHF	**Ech Chlef**	**0.66**	**71**	P		**Pg**	**22 13 41.8**	**-0.9**
ECHA	**Ech Chlef**	**0.68**	**72**	P		**Pg**	**22 13 41.8**	**-1.3**
ETRT	**Tiaret**	**0.81**	**132**	P		**Pg**	**22 13 41.5**	**-4.1**
ODJA	**Bouhanifia**	**0.84**	**224**	P		**Pg**	**22 13 46.0**	**-0.2**
EBNR	**Beni Rached**	**0.85**	**66**	P		**Pg**	**22 13 45.0**	**-1.4**
OTSS	**Djebel Tessala**	**1.29**	**240**	P		**Pn**	**22 13 55.0**	**+1.0**
ODZI	**Dziouia**	**1.60**	**247**	P		**Pn**	**22 13 58.0**	**-0.3**
EMHD	**Djebel Mahouad**	**1.95**	**82**	P		**Pn**	**22 14 01.0**	**-2.1**
CART	**Cartagena**	**2.07**	**323**	⇑P		**Pn**	**22 14 03.2**	**-1.5**
CART				S		**Sn**	**22 14 28.4**	**-2.1**
CART	**Cartagena**	**2.07**	**323**	*i* P		**Pn**	**22 14 03.2**	**-1.5**
CART	**Cartagena**	**2.07**	**323**	*e*Pn		**Pn**	**22 14 04.3**	**-0.4**
CART				*e*S		**Sn**	**22 14 28.4**	**-2.1**
ABA	**Alger-Bouzarea**	**2.17**	**66**	P		**Pn**	**22 14 01.4**	**-4.7**
ADJB	**Djebel Djouab**	**2.34**	**84**	P		**Pn**	**22 14 06.1**	**-2.3**
EMUR	**La Murta**	**2.39**	**323**	⇑P		**Pn**	**22 14 08.7**	**-0.3**
EMUR	10.0nm,0.2s,SNR=18			S		**Sn**	**22 14 38.3**	**-0.1**
EMUR	51nm,0.3s,SNR=5.0 **La Murta**	**2.39**	**323**	⇑P		**Pn**	**22 14 08.8**	**-0.2**
EMUR	51nm,0.3s,SNR=5.0			S		**Sn**	**22 14 38.3**	**0.0**
ENIJ	**Nijar**	**2.46**	**295**	⇑P		**Pn**	**22 14 09.4**	**-0.7**
ENIJ	22nm,0.3s,SNR=18			S		**Sn**	**22 14 39.7**	**-0.5**
ENIJ	59nm,0.3s,SNR=5.1 **Nijar**	**2.46**	**295**	P		**Pn**	**22 14 09.5**	**-0.6**
ENIJ				S		**Sn**	**22 14 39.7**	**-0.5**
ENIJ	**Nijar**	**2.46**	**295**	P		**Pn**	**22 14 09.5**	**-0.6**
ENIJ	22nm,0.3s,SNR=75			S		**Sn**	**22 14 39.7**	**-0.5**
AKET	59nm,0.3s,SNR=5.1 **Djebel Ketaf**	**2.69**	**87**	P		**Pb**	**22 14 22.5**	**+4.3**
EBEN	**Beniarda**	**2.83**	**347**	P		**Pn**	**22 14 16.2**	**+1.1**
EBEN	8.8nm,0.3s,SNR=46			S		**Sn**	**22 14 49.4**	**+0.2**
EBEN	44nm,0.4s,SNR=4.8 **Beniarda**	**2.83**	**347**	P		**Pn**	**22 14 16.2**	**+1.1**
EBEN	8.8nm,0.3s,SNR=46			S		**Sn**	**22 14 49.4**	**+0.2**
EALB	44nm,0.4s,SNR=4.8 **Alboran**	**2.92**	**271**	P		**Pn**	**22 14 15.1**	**-1.3**
EALB	6.5nm,0.1s,SNR=7.9			S		**Sn**	**22 14 50.4**	**-1.1**
EALB	21nm,0.2s,SNR=7.9 **Alboran**	**2.92**	**271**	P		**Pn**	**22 14 15.1**	**-1.3**
EALB	SNR=7.9			S		**Sn**	**22 14 50.4**	**-1.2**
EBER	21nm,0.2s,SNR=7.9 **Berja**	**2.95**	**290**	P		**Pn**	**22 14 16.3**	**-0.4**
EBER	121nm,0.3s,SNR=799			S		**Sn**	**22 14 51.6**	**-0.6**
EBER	68nm,0.3s,SNR=5.7 **Berja**	**2.95**	**290**	P		**Pn**	**22 14 16.3**	**-0.4**
EBER	121nm,0.3s,SNR=799			S		**Sn**	**22 14 51.6**	**-0.6**
EIBI	47nm,0.4s,SNR=5.7 **Ibiza**	**3.14**	**11**	P		**Pn**	**22 14 19.3**	**-0.2**
EIBI	40nm,0.3s,SNR=45			S		**Sn**	**22 14 54.9**	**-2.0**
EIBI	40nm,0.4s,SNR=5.7 **Ibiza**	**3.14**	**11**	P		**Pn**	**22 14 19.3**	**-0.1**
EIBI	40nm,0.3s,SNR=45			S		**Sn**	**22 14 54.9**	**-2.1**
EHUE	40nm,0.4s,SNR=5.7 **Huescar**	**3.15**	**307**	P		**Pn**	**22 14 19.1**	**-0.4**
EHUE	9.4nm,0.2s,SNR=7.9			S		**Sn**	**22 14 57.4**	**+0.3**
ETOB	6.1nm,0.1s,SNR=7.9 **Tobarra**	**3.18**	**329**	P		**Pn**	**22 14 21.4**	**+1.4**
ETOB	46nm,0.5s,SNR=252			S		**Sn**	**22 14 58.5**	**+0.6**
ETOB	95nm,0.4s,SNR=6.7 **Tobarra**	**3.18**	**329**	P		**Pn**	**22 14 21.4**	**+1.4**
ETOB	46nm,0.5s,SNR=252			S		**Sn**	**22 14 58.5**	**+0.6**
EGUA	95nm,0.4s,SNR=6.7 **Guajares**	**3.45**	**286**	P		**Pn**	**22 14 22.9**	**-0.8**
EGUA	2.1nm,0.3s,SNR=7.9			S		**Sn**	**22 15 03.2**	**-1.4**
EQES	1.2nm,0.2s,SNR=7.9 **Quesada**	**3.46**	**304**	P		**Pn**	**22 14 25.6**	**+1.8**
EQES	138nm,0.3s,SNR=572			S		**Sn**	**22 15 04.7**	**-0.1**
EQES	115nm,0.4s,SNR=6.2 **Quesada**	**3.46**	**304**	P		**Pn**	**22 14 25.6**	**+1.8**
EQES	138nm,0.3s,SNR=572			S		**Sn**	**22 15 04.7**	**-0.1**
EQUE	115nm,0.4s,SNR=6.2 **Quentar**	**3.46**	**293**	⇑P		**Pn**	**22 14 24.8**	**+1.0**
EQUE	159nm,0.5s,SNR=18			S		**Sn**	**22 15 04.3**	**-0.6**
ECOG	25nm,0.3s,SNR=4.3 **Cogollos-Vega**	**3.58**	**293**	P		**Pn**	**22 14 26.7**	**+1.2**
ECOG	62nm,0.3s,SNR=58			S		**Sn**	**22 15 06.6**	**-1.2**
ECOG	30nm,0.4s **Cogollos-Vega**	**3.58**	**293**	P		**Pn**	**22 14 26.2**	**+0.7**
ECOG				S		**Sn**	**22 15 06.6**	**-1.2**
ECOG	**Cogollos-Vega**	**3.58**	**293**	P		**Pn**	**22 14 26.2**	**+0.7**
ECOG	62nm,0.3s,SNR=58			S		**Sn**	**22 15 06.6**	**-1.2**
EVIA	30nm,0.4s **Vianos**	**3.64**	**319**	⇓P		**Pn**	**22 14 27.6**	**+1.3**
EVIA	21nm,0.2s,SNR=18			S		**Sn**	**22 15 09.9**	**+0.6**
EVIA	38nm,0.4s **Vianos**	**3.64**	**319**	P		**Pn**	**22 14 27.6**	**+1.3**
EVIA				S		**Sn**	**22 15 09.9**	**+0.6**
ERON	**Agron**	**3.68**	**288**	P		**Pn**	**22 14 27.4**	**+0.6**
ECHE	100nm,0.4s,SNR=108 **Chera**	**3.84**	**342**	P		**Pn**	**22 14 30.3**	**+1.2**
ECHE	24nm,0.3s,SNR=48			S		**Sn**	**22 15 14.3**	**+0.1**
ECHE	35nm,0.5s,SNR=5.9 **Chera**	**3.84**	**342**	P		**Pn**	**22 14 30.3**	**+1.3**
ECHE				S		**Sn**	**22 15 14.3**	**+0.1**
SET	**Setif**	**3.92**	**85**	P		**Pn**	**22 14 33.0**	**+2.8**
ELOJ	**Sierra Loja**	**3.98**	**289**	P		**Pn**	**22 14 32.5**	**+1.4**
ELOJ	28nm,0.4s,SNR=77 **Sierra Loja**	**3.98**	**289**	P		**Pn**	**22 14 31.6**	**+0.6**
ELOJ	**Sierra Loja**	**3.98**	**289**	P		**Pn**	**22 14 31.6**	**+0.6**
CKHR	28nm,0.4s,SNR=77 **Kef el Ahmar**	**4.01**	**88**	P		**Pn**	**22 14 35.0**	**+3.6**
MAL	**Malaga**	**4.09**	**282**	*i* P		**Pn**	**22 14 32.0**	**-0.5**
MAL				*e*S		**Sn**	**22 15 16.7**	**-3.8**
EBAN	**Banos Encina**	**4.13**	**304**	P		**Pn**	**22 14 34.0**	**+1.0**
EBAN	34nm,0.4s,SNR=14			S		**Sn**	**22 15 22.4**	**+1.1**
ELUQ	13nm,0.6s **Luque**	**4.20**	**294**	P		**Pn**	**22 14 35.7**	**+1.7**
ELUQ	5.4nm,0.2s,SNR=4.0			S		**Sn**	**22 15 20.9**	**-2.3**
ELUQ	5.1nm,0.2s,SNR=7.9 **Luque**	**4.20**	**294**	P		**Pn**	**22 14 34.1**	**0.0**
ELUQ				S		**Sn**	**22 15 20.9**	**-2.3**
ELUQ	**Luque**	**4.20**	**294**	P		**Pn**	**22 14 34.1**	**+0.1**
ELUQ	5.4nm,0.2s,SNR=4.0			S		**Sn**	**22 15 20.9**	**-2.3**
ETOS	5.1nm,0.2s,SNR=7.9 **Mallorca**	**4.21**	**24**	P		**Pn**	**22 14 32.7**	**-1.4**
ETOS	5.0nm,0.3s,SNR=16			S		**Sn**	**22 15 22.4**	**-1.0**
ETOS	7.5nm,0.5s **Mallorca**	**4.21**	**24**	P		**Pn**	**22 14 32.7**	**-1.5**
ETOS	5.0nm,0.3s,SNR=16			S		**Sn**	**22 15 22.4**	**-1.0**
DFRA	7.5nm,0.5s **Djebel Bou Aff**	**4.33**	**80**	P		**Pn**	**22 14 36.0**	**+0.2**
CMER	**Merouana**	**4.35**	**93**	P		**Pb**	**22 14 47.0**	**+0.6**
EMIJ	**Mijas**	**4.36**	**280**	P		**Pn**	**22 14 34.4**	**-1.8**
EMIJ	19nm,0.3s,SNR=75			S		**Sn**	**22 15 23.3**	**-3.8**
EMOS	23nm,0.8s **Mosqueruela**	**4.49**	**350**	P		**Pn**	**22 14 39.4**	**+1.5**
EMOS	17nm,0.5s,SNR=24			S		**Sn**	**22 15 29.3**	**-0.9**
EMOS	78nm,1.2s **Mosqueruela**	**4.49**	**350**	P		**Pn**	**22 14 39.4**	**+1.4**
EMOS	17nm,0.5s,SNR=24			S		**Sn**	**22 15 29.3**	**-0.9**
EADA	78nm,1.2s **Adamuz**	**4.67**	**300**	⇑P		**Pn**	**22 14 40.9**	**+0.4**
EADA	7.6nm,0.3s,SNR=18			S		**Sn**	**22 15 32.8**	**-2.0**
EADA	15nm,0.4s **Adamuz**	**4.67**	**300**	P		**Pn**	**22 14 40.9**	**+0.4**
EADA	7.6nm,0.3s,SNR=18			S		**Sn**	**22 15 32.8**	**-2.0**
	15nm,0.4s							
CTEI	**Djebel Teioual**	**4.74**	**87**	P		**Pn**	**22 14 50.0**	**+8.6**
CASM	**Ain Smara**	**4.81**	**84**	P		**Pn**	**22 14 49.0**	**+6.7**
EJIF	**Jimena Fronter**	**4.91**	**278**	P		**Pn**	**22 14 43.7**	**0.0**
LIJA	5.4nm,0.3s,SNR=14 **Lijar**	**4.91**	**283**	P		**Pn**	**22 14 49.0**	**+5.3**
ERTA	**Horta de San J**	**5.01**	**358**	P		**Pn**	**22 14 46.4**	**+1.3**
ERTA	14nm,0.5s,SNR=14			S		**Sn**	**22 15 41.8**	**-1.3**
ERTA	8.6nm,0.5s,SNR=6.6 **Horta de San J**	**5.01**	**358**	P		**Pn**	**22 14 46.4**	**+1.3**
ERTA	14nm,0.5s,SNR=14			S		**Sn**	**22 15 41.8**	**-1.3**
ESDC	11nm,0.5s,SNR=6.6 **Sonseca Array**	**5.17**	**317**	Pn		**Pn**	**22 14 48.1**	**+0.8**
ESDC	13nm,0.3s,baz=134,slow=13,SNR=109			Sn		**Sn**	**22 15 46.2**	**-0.8**
ESDC	5.2nm,0.3s,baz=136,slow=23,SNR=5.8			Lg			22 16 01.6	
ESDC	8.9nm,0.3s,baz=138,slow=30,SNR=9.6 **Sonseca Array**	**5.17**	**317**	P		**Pn**	**22 14 47.6**	**+0.3**
ESDC	8.5nm,0.2s,baz=140,slow=12,SNR=103			S		**Sn**	**22 15 45.7**	**-1.3**
ESDC	1.7nm,0.3s,baz=131,slow=16,SNR=4.5 **Sonseca Array**	**5.17**	**317**	P		**Pn**	**22 14 47.6**	**+0.3**
ESDC	8.5nm,0.2s,SNR=103			S		**Sn**	**22 15 45.7**	**-1.3**
ESLA	1.7nm,0.3s,SNR=4.5 **Sonseca Array**	**5.17**	**317**	*e*Pn		**Pn**	**22 14 48.3**	**+1.0**
ESLA	1.8nm,0.4s **Sonseca Array**	**5.17**	**317**	*e*Pn		**Pn**	**22 14 48.3**	**+1.0**
ESPR	1.8nm,0.4s **Espera**	**5.26**	**282**	P		**Pn**	**22 14 49.6**	**+1.0**
ESPR	4.3nm,0.3s,SNR=6.8 **Espera**	**5.26**	**282**	P		**Pn**	**22 14 49.6**	**+1.0**
EPOB	4.3nm,0.3s,SNR=6.8 **Poblet**	**5.42**	**4**	P		**Pn**	**22 14 51.5**	**+0.7**
EPOB	5.4nm,0.3s,SNR=14			S		**Sn**	**22 15 50.5**	**-2.6**
EPOB	3.0nm,0.3s,SNR=8.4 **Poblet**	**5.42**	**4**	P		**Pn**	**22 14 51.5**	**+0.8**
CMAH	5.4nm,0.3s,SNR=14 **Djebel Manchou**	**5.58**	**81**	P		**Pn**	**22 14 51.0**	**-1.9**
GUD	**Guadarrama**	**5.98**	**323**	P		**Pn**	**22 15 00.2**	**+1.7**
GUD	5.4nm,0.4s,SNR=14			S		**Sn**	**22 16 05.7**	**-1.3**
EMIN	15nm,0.6s **Mina Concepcio**	**6.08**	**290**	P		**Pn**	**22 14 59.1**	**-0.8**
EMIN	4.9nm,0.3s,SNR=24			S		**Sn**	**22 16 06.5**	**-3.0**
EMIN	1.7nm,0.2s,SNR=7.0 **Mina Concepcio**	**6.08**	**290**	P		**Pn**	**22 14 59.1**	**-0.8**
EGRO	4.9nm,0.3s,SNR=24 **El Granado**	**6.66**	**286**	P		**Pn**	**22 15 06.3**	**-1.4**
EGRO	11nm,0.3s,SNR=21			S		**Sn**	**22 16 19.4**	**-4.3**
EGRO	2.5nm,0.3s,SNR=5.1 **El Granado**	**6.66**	**286**	P		**Pn**	**22 15 06.3**	**-1.4**
EBAD	11nm,0.3s,SNR=21 **Badajoz**	**6.66**	**297**	P		**Pn**	**22 15 07.7**	**-0.1**
EBAD	8.8nm,0.3s,SNR=35			S		**Sn**	**22 16 19.4**	**-4.2**
EBAD	7.4nm,0.2s,SNR=4.5 **Badajoz**	**6.66**	**297**	P		**Pn**	**22 15 07.7**	**-0.1**
EPLA	8.8nm,0.3s,SNR=35 **Plasencia**	**6.67**	**310**	P		**Pn**	**22 15 08.6**	**+0.8**
EPLA	0.8nm,0.3s,SNR=7.9			S		**Sn**	**22 16 20.0**	**-3.9**
EPLA	1.7nm,0.3s,SNR=7.9 **Plasencia**	**6.67**	**310**	P		**Pn**	**22 15 08.6**	**+0.7**
EBIE	0.8nm,0.3s,SNR=7.9 **Bielsa**	**6.74**	**357**	P		**Pn**	**22 15 11.9**	**+3.0**
EBIE	0.5nm,0.6s,SNR=8.0 **Bielsa**	**6.74**	**357**	P		**Pn**	**22 15 11.9**	**+3.0**
FILF	0.5nm,0.6s,SNR=8.0 **Fillols**	**6.79**	**13**	Pn		**Pn**	**22 15 10.1**	**+0.6**
SALF	**Salau**	**6.83**	**4**	Pn		**Pn**	**22 15 14.9**	**+4.8**
RESF	**Ens**	**6.86**	**359**	Pn		**Pn**	**22 15 16.3**	**+5.8**
RESF				Sg		**Sn**	**22 16 48.5**	**+20**
IUNC	**Unciti**	**6.99**	**347**	P		**Pn**	**22 15 14.4**	**+2.1**
IUNC	1.2nm,0.2s,SNR=4.0 **Unciti**	**6.99**	**347**	P		**Pn**	**22 15 14.4**	**+2.1**
ETSF	1.2nm,0.2s,SNR=7.9 **Etsaut**	**7.00**	**353**	*e*P		**Pn**	**22 15 14.6**	**+2.1**
ETSF	5.1nm,0.4s			*e*Sn		**Sn**	**22 16 25.5**	**-6.6**
ETSF	42nm,1.2s **Etsaut**	**7.00**	**353**	Pn		**Pn**	**22 15 14.6**	**+2.1**
ETSF				Sn		**Sn**	**22 16 30.3**	**-1.8**
ETSF	21nm,1.2s **Etsaut**	**7.00**	**353**	*e*P		**Pn**	**22 15 14.6**	**+2.1**
ETSF	2.5nm,0.4s			*e*Sn		**Sn**	**22 16 25.5**	**-6.6**
MLS	21nm,1.2s **Moulis**	**7.02**	**3**	Pn		**Pn**	**22 15 16.2**	**+3.5**
PBEJ	**Beja**	**7.06**	**290**	*e*Pn		**Pn**	**22 15 13.3**	**0.0**
EPF	**Esparros**	**7.08**	**359**	*e*P		**Pn**	**22 15 16.2**	**+2.6**
EPF	10nm,0.5s			*e*Sn		**Sn**	**22 16 26.6**	**-7.5**
EPF	9.5nm,0.8s **Esparros**	**7.08**	**359**	Pn		**Pn**	**22 15 15.5**	**+1.9**
EPF				Sn		**Sn**	**22 16 32.0**	**-2.1**
EPF	4.8nm,0.8s **Esparros**	**7.08**	**359**	*e*P		**Pn**	**22 15 16.2**	**+2.6**
PESTR	5.2nm,0.5s **Estremoz**	**7.12**	**297**	*e*Pn		**Pn**	**22 15 14.2**	**+0.1**
PESTR	7.9nm,0.9s							
PESTR	**Estremoz**	**7.12**	**297**	*e*Pn		**Pn**	**22 15 14.2**	**+0.1**
SJPF	7.9nm,0.9s **Ste Jean**	**7.29**	**350**	*e*P		**Pn**	**22 15 19.4**	**+2.9**
SJPF	8.3nm,0.3s **Ste Jean**	**7.29**	**350**	Pn		**Pn**	**22 15 18.8**	**+2.3**
SJPF	**Ste Jean**	**7.29**	**350**	*e*P		**Pn**	**22 15 19.4**	**+2.9**
ELIZ	4.2nm,0.3s **Elizondo**	**7.39**	**348**	P		**Pn**	**22 15 19.6**	**+1.8**
EALK	4.7nm,0.4s,SNR=16 **Alkurruntz**	**7.44**	**348**	P		**Pn**	**22 15 20.1**	**+1.5**
EALK	14nm,0.5s,SNR=13			S		**Sn**	**22 16 39.8**	**-3.1**
EALK	1.9nm,0.3s,SNR=5.7 **Alkurruntz**	**7.44**	**348**	P		**Pn**	**22 15 20.0**	**+1.5**
PCBR	14nm,0.5s,SNR=13 **Castelo Branco**	**7.46**	**304**	*e*Pn		**Pn**	**22 15 19.8**	**+1.1**
PCBR				*e*Sn		**Sn**	**22 16 41.5**	**-1.8**
PCBR	6.6nm,0.5s **Castelo Branco**	**7.46**	**304**	*e*Pn		**Pn**	**22 15 19.8**	**+1.1**
PCBR				*e*Sn		**Sn**	**22 16 41.5**	**-1.8**
MTLF	6.6nm,0.5s **Montolieu**	**7.50**	**9**	*e*Pn		**Pn**	**22 15 16.9**	**-2.4**
MTLF	**Montolieu**	**7.50**	**9**	Pn		**Pn**	**22 15 19.7**	**+0.4**
MOE	**Montemor**	**7.56**	**293**	*e*Pn		**Pn**	**22 15 29.3**	**+9.1**
MOE				*e*Sn		**Sn**	**22 16 51.0**	**+5.0**
PTEO	**Sao Teotonio**	**7.63**	**285**	*e*Pn		**Pn**	**22 15 21.0**	**-0.1**
PTEO				*e*Sn		**Sn**	**22 16 43.7**	**-3.9**
MTE	**Manteigas**	**7.78**	**307**	*e*Pn		**Pn**	**22 15 24.7**	**+1.5**
MTE				*e*Sn		**Sn**	**22 16 49.9**	**-1.5**
MTE	7.4nm,0.9s **Manteigas**	**7.78**	**307**	*e*Pn		**Pn**	**22 15 24.7**	**+1.5**
MTE				*e*Sn		**Sn**	**22 16 49.9**	**-1.5**
VSL	7.4nm,0.9s **Villasalto**	**7.83**	**60**	*e*Pn		**Pn**	**22 15 21.1**	**-2.8**
VSL	6.7nm,0.4s **Villasalto**	**7.83**	**60**	*e*Pn		**Pn**	**22 15 21.0**	**-2.9**
ELAN	6.7nm,0.4s **Lanestosa**	**7.91**	**338**	P		**Pn**	**22 15 26.9**	**+2.0**
ELAN	10nm,0.6s,SNR=25			S		**Sn**	**22 16 50.0**	**-4.4**
ELAN	2.8nm,0.5s,SNR=6.7 **Lanestosa**	**7.91**	**338**	P		**Pn**	**22 15 26.9**	**+2.0**
PTOM	10nm,0.6s,SNR=25 **Tomar**	**8.00**	**300**	*e*Pn		**Pn**	**22 15 26.9**	**+0.7**
PTOM				*e*Sn		**Sn**	**22 16 54.0**	**-2.7**

PVIS				*e*Sn		**Sn**	**22 17 00.4**	**-0.7**
	6.4nm,0.4s							
ECAL	**Calabor**	**8.26**	**319**	P		**Pn**	**22 15 31.1**	**+1.4**
	18nm,0.5s,SNR=34							
ECAL				S		**Sn**	**22 16 59.5**	**-3.6**
	5.7nm,0.5s							
ECAL	**Calabor**	**8.26**	**319**	P		**Pn**	**22 15 31.1**	**+1.4**
	18nm,0.5s,SNR=34							
PVRL	**Vila Real**	**8.39**	**312**	*e*Pn		**Pn**	**22 15 33.1**	**+1.6**
PVRL				*e*Sn		**Sn**	**22 17 05.5**	**-0.7**
LASF	**Ste Croix**	**8.51**	**16**	*e*Pn		**Pn**	**22 15 30.8**	**-2.3**
EARI	**Arriondas**	**8.59**	**331**	P		**Pn**	**22 15 36.0**	**+1.7**
	11nm,0.5s,SNR=14							
EARI				S		**Sn**	**22 17 06.4**	**-4.8**
	35nm,1.4s							
EARI	**Arriondas**	**8.59**	**331**	P		**Pn**	**22 15 36.0**	**+1.7**
	11nm,0.5s,SNR=14							
LMR	**La Mourre**	**8.69**	**30**	*e*Pn		**Pn**	**22 15 34.7**	**-0.9**
LMR				*e*Sn		**Sn**	**22 17 05.1**	**-8.5**
	1.4nm,0.3s							
LMR	**La Mourre**	**8.69**	**30**	Pn		**Pn**	**22 15 34.7**	**-0.9**
LMR				Sn		**Sn**	**22 17 07.7**	**-5.9**
	0.7nm,0.3s							
PCAB	**Cabril**	**8.84**	**313**	*e*Pn		**Pn**	**22 15 39.5**	**+1.8**
PCAB				*e*Sn		**Sn**	**22 17 17.2**	**-0.1**
PCAB								
	4.8nm,0.6s							
PTO	**Porto**	**8.86**	**309**	*e*Pn		**Pn**	**22 15 39.2**	**+1.2**
FRF	**La Foret Royal**	**8.93**	**30**	*e*Pn		**Pn**	**22 15 39.2**	**+0.2**
FRF				*e*Sn		**Sn**	**22 17 12.5**	**-7.1**
	5.6nm,0.6s							
FRF	**La Foret Royal**	**8.93**	**30**	Pn		**Pn**	**22 15 39.2**	**+0.2**
FRF				Sn		**Sn**	**22 17 12.5**	**-7.1**
	2.8nm,0.6s							
ELOB	**Lobios**	**8.95**	**314**	P		**Pn**	**22 15 39.9**	**+0.7**
	1.3nm,0.2s,SNR=7.9							
ELOB				S		**Sn**	**22 17 15.6**	**-4.6**
	2.6nm,0.3s,SNR=7.3							
ELOB	**Lobios**	**8.95**	**314**	P		**Pn**	**22 15 39.9**	**+0.6**
	1.3nm,0.2s,SNR=7.9							
LFF	**La Frestale**	**8.99**	**1**	*e*P		**Pn**	**22 15 43.5**	**+3.8**
	6.6nm,0.4s							
LFF				*e*Sn		**Sn**	**22 17 11.4**	**-10**
	3.1nm,0.4s							
LFF	**La Frestale**	**8.99**	**1**	Pn		**Pn**	**22 15 41.0**	**+1.3**
LFF				Sn		**Sn**	**22 17 17.9**	**-3.1**
	8.8nm,1.0s							
LFF	**La Frestale**	**8.99**	**1**	*e*P		**Pn**	**22 15 43.5**	**+3.8**
	3.3nm,0.4s							
LFF				*e*Sn		**Sn**	**22 17 11.4**	**-10**
	1.5nm,0.4s							
CAF	**Calviac**	**9.04**	**7**	*e*P		**Pn**	**22 15 43.0**	**+2.5**
	4.0nm,0.3s							
CAF	**Calviac**	**9.04**	**7**	Pn		**Pn**	**22 15 41.7**	**+1.2**
CAF	**Calviac**	**9.04**	**7**	*e*P		**Pn**	**22 15 43.0**	**+2.5**
	2.0nm,0.3s							
PGF	**Pioggiola**	**9.29**	**42**	*e*Pn		**Pn**	**22 15 41.6**	**-2.2**
PGF				*e*Sn		**Sn**	**22 17 19.7**	**-8.6**
	2.2nm,0.4s							
PGF	**Pioggiola**	**9.29**	**42**	*e*Pn		**Pn**	**22 15 41.6**	**-2.2**
PGF				*e*Sn		**Sn**	**22 17 19.7**	**-8.6**
	1.1nm,0.4s							
RJF	**Les Rejaudoux**	**9.38**	**4**	Pn		**Pn**	**22 15 45.9**	**+0.8**
VIVF	**Saint-Julien-l**	**9.44**	**18**	*e*P		**Pn**	**22 15 48.2**	**+2.3**
VIVF	**Saint-Julien-l**	**9.44**	**18**	Pn		**Pn**	**22 15 46.5**	**+0.6**
EPON	**Pontenova**	**9.47**	**323**	P		**Pn**	**22 15 47.4**	**+1.1**
	1.6nm,0.3s,SNR=7.9							
EPON				S		**Sn**	**22 17 28.3**	**-4.6**
	2.0nm,0.3s,SNR=5.6							
EPON	**Pontenova**	**9.47**	**323**	P		**Pn**	**22 15 47.5**	**+1.1**
EMAZ	**Mazaricos**	**10.16**	**316**	P		**Pn**	**22 15 56.7**	**+0.8**
	1.6nm,0.3s,SNR=7.9							
TCF	**Toulx Ste Croi**	**10.41**	**6**	Pn		**Pn**	**22 15 59.5**	**+0.3**
LPG	**La Plagne**	**10.63**	**24**	*e*P		**Pn**	**22 16 06.4**	**+4.1**
	3.0nm,0.5s							
LPG	**La Plagne**	**10.63**	**24**	Pn		**Pn**	**22 16 02.7**	**+0.4**
LPG	**La Plagne**	**10.63**	**24**	*e*P		**Pn**	**22 16 06.4**	**+4.1**
	1.5nm,0.5s							
LPL	**La Plagne**	**10.64**	**24**	*e*P		**Pn**	**22 16 06.3**	**+3.9**
	4.2nm,0.7s							
LPL	**La Plagne**	**10.64**	**24**	*e*P		**Pn**	**22 16 06.3**	**+3.9**
	2.1nm,0.7s							
MFF	**Saint Martin d**	**10.66**	**357**	Pn		**Pn**	**22 16 03.4**	**+0.7**
BGF	**Bois d'Agland**	**10.74**	**8**	Pn		**Pn**	**22 16 04.1**	**+0.3**
AVF	**Avril sur Loir**	**11.04**	**10**	P		**Pn**	**22 16 13.1**	**+5.3**
QUIF	**Quistinic**	**12.28**	**348**	Pn		**Pn**	**22 16 26.9**	**+2.1**
ROSF	**Rostrenen**	**12.71**	**348**	Pn		**Pn**	**22 16 32.4**	**+1.8**
GERES	**GERESS Array B**	**16.10**	**33**	Pn		**Pn**	**22 17 15.6**	**-0.7**
	0.2nm,0.3s,baz=216,slow=11,SNR=15							
EKA	**Eskdalemuir Ar**	**19.56**	**354**	P		**Pn**	**22 17 58.9**	**-0.2**
	0.1nm,0.3s,baz=175,slow=13,SNR=4.3							
MLR	**Muntele Rosu**	**21.39**	**56**	P		**P**	**22 18 18.4**	**+0.7**
	2.6nm,0.6s,mb3.7,baz=281,slow=8.6,SNR=5.8							
TORD	**Torodi Ar. Bea**	**22.72**	**177**	P		**P**	**22 18 29.4**	**-2.5**
	1.6nm,0.8s,mb3.5,baz=354,slow=11,SNR=14							
HFS	**Hagfors**	**25.65**	**15**	P		**P**	**22 18 58.6**	**-1.2**
	1.0nm,0.5s,mb3.6,baz=185,slow=7.3,SNR=6.9							
NB2	**NORSAR Subarra**	**26.02**	**12**	P		**P**	**22 19 02.2**	**-0.9**
	comp=Z,0.5nm,0.7s,mb3.1,baz=200,slow=9.3							
NOA	**NORSAR Array B**	**26.02**	**12**	P		**P**	**22 19 02.0**	**-1.0**
	comp=Z,0.4nm,0.8s,mb3.0,baz=179,slow=9.6,SNR=3.4							
FINES	**FINESS Array B**	**30.18**	**24**	P		**P**	**22 19 39.0**	**-1.3**
	comp=Z,0.6nm,0.5s,mb3.5,baz=229,slow=7.3,SNR=6.0							
ZAL	**Zalesovo**	**58.70**	**44**	P		**P**	**22 23 27.0**	**-0.6**
	comp=Z,0.9nm,0.4s,mb4.2,baz=212,slow=4.3,SNR=4.8							
MKAR	**Makanchi Array**	**59.68**	**52**	P		**P**	**22 23 33.8**	**-0.6**
	comp=Z,0.7nm,0.5s,mb3.9,baz=308,slow=6.0,SNR=5.1							
PDAR	**Pinedale Array**	**79.06**	**315**	P		**P**	**22 25 34.4**	**0.0**
	comp=Z,0.4nm,0.8s,mb3.4,baz=64,slow=6.8,SNR=3.8							
STKA	**Stephens Creek**	**147.55**	**94**	PKPbc		PKPbc	22 33 13.4	-0.9
	comp=Z,3.1nm,0.6s,baz=335,slow=3.5,SNR=6.8							

IDC 23 22:27:57.1±4.6, 902S×10852E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML3.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/30, Error ellipse: s-maj=156.5km s-min=28.4km az=55.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.92**	**120**	P	Pn	22 32 20.7	+0.9
	0.2nm,0.3s,baz=255,slow=15,SNR=7.2						
FITZ				LR	LR	22 39 14.3	
	comp=Z,53nm,20.8s,baz=262,slow=36						
WRA	**Warramunga Arr**	**27.21**	**116**	P	P	22 33 41.0	-1.5
	0.6nm,0.8s,baz=286,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**28.31**	**124**	P	P	22 33 54.2	+1.9
	0.6nm,0.7s,baz=308,slow=9.8,SNR=5.4						
SONM	**Songino Array**	**56.63**	**358**	P	P	22 37 42.0	+0.1
	0.7nm,0.8s,baz=186,slow=6.0,SNR=5.1						

*IDC **23** 22:32:26.5±2.3, 930S×10784E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/16, mbtmp4.0/5, MS3.4/1, Ms1 3.4/1, ms1mx2.6/30, Error ellipse: s-maj=79.3km s-min=23.4km az=54.0*

*NEIC **23** 22:32:26.7±4.1, 933S×10773E, h5km±26km, mb4.5/8, Error ellipse: s-maj=14.5km s-min=5.3km az=56.0*

*ISCJB **23** 22:32:27.9±5.1, 93S±0.1×1078E±0.1, h25km±38km, mb4.3/14, Error ellipse: s-maj=28.4km s-min=10.5km az=111.5*

ISC 23 22:32:28.2±7.0, 93S±01×1078E±01, h12km±45km, n22, σ0§46/22, mb4.3/14, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**16.16**	**334**	Pn	**Pn**	**22 36 15.0**	**-0.1**
MBWA	**Marble Bar**	**16.47**	**137**	Pn	**Pn**	**22 36 19.0**	**0.0**
KKM	**Kota Kinabalu**	**17.45**	**29**	*e*Pn	**Pn**	**22 36 31.1**	**-0.3**
NWAO	**Narrogin (SRO)**	**25.06**	**161**	*e*P	**P**	**22 37 52.1**	**-0.2**
WRA	**Warramunga Arr**	**27.75**	**115**	P	**P**	**22 38 17.7**	**+1.1**
	0.3nm,0.4s,mb3.3,baz=287,slow=11,SNR=3.6						
WRAB	**Tennant Creek**	**27.76**	**115**	*e*P	**P**	**22 38 16.4**	**-0.2**
	1.2nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**38.54**	**131**	P	**P**	**22 39 49.5**	**-1.1**
	1.5nm,0.6s,mb3.9,baz=323,slow=10,SNR=3.2						
STKA	**Stephens Creek**	**38.54**	**131**	*e*P	**P**	**22 39 50.7**	**+0.2**
JIRN	**Jiri**	**42.30**	**331**	*e*P	**P**	**22 40 22.3**	**+0.7**
	12nm,0.4s,mb4.8						
PKI	**Pulchoki**	**42.60**	**330**	*e*P	**P**	**22 40 24.1**	**0.0**
GUN	**Gumba**	**42.65**	**331**	*e*P	**P**	**22 40 24.6**	**+0.1**
	18nm,0.6s,mb5.0						
DMN	**Daman**	**42.78**	**330**	*e*P	**P**	**22 40 25.6**	**+0.1**
	20nm,1.0s,mb4.8						
KKN	**Kakani**	**42.84**	**330**	*e*P	**P**	**22 40 26.1**	**+0.1**
GKN	**Gorkha**	**43.34**	**330**	*e*P	**P**	**22 40 30.1**	**+0.1**
KOLN	**Koldanda**	**43.68**	**328**	*e*P	**P**	**22 40 32.9**	**+0.1**
	6.8nm,0.5s,mb4.6						
MJAR	**Matsushiro Arr**	**53.87**	**30**	P	**P**	**22 41 50.7**	**-0.4**
	1.7nm,0.9s,mb4.0,baz=204,slow=8.3,SNR=5.2						
SONM	**Songino Array**	**56.93**	**359**	P	**P**	**22 42 14.0**	**+0.9**
	0.9nm,0.7s,mb3.9,baz=177,slow=8.1,SNR=9.1						
SONM				LR	LR	23 08 48.6	
	comp=Z,34nm,18.8s,baz=348,slow=38						
MKAR	**Makanchi Array**	**60.32**	**340**	P	**P**	**22 42 36.8**	**0.0**
	2.0nm,0.6s,mb4.3,baz=135,slow=7.1,SNR=17						
KURK	**Kurchatov**	**64.94**	**340**	*e*P	**P**	**22 43 07.6**	**+0.1**
	1.1nm,0.4s,mb4.2						
BRVK	**Borovoye**	**69.86**	**337**	*e*P	**P**	**22 43 38.3**	**-0.5**
	1.5nm,0.3s,mb4.4						
CHKZ	**Chkalovo**	**70.21**	**338**	*e*P	**P**	**22 43 40.6**	**-0.2**
	1.6nm,0.4s,mb4.3						
ZRNK	**Zerenda**	**70.28**	**336**	*e*P	**P**	**22 43 40.5**	**-0.8**
	1.2nm,0.4s,mb4.2						

MAN 23 22:33:49.7, 930N×12542E, h3km, mb2.0, ML3.8, MS0.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.38**	**149**	*e*P	Pg	22 33 57.5	+0.5
SCPH	**Surigao**	**0.48**	**8**	*e*P	Pg	22 33 59.5	+0.5
SCPH				*e*S	Sg	22 34 12.3	+7.0
BUKP	**Musuan**	**1.45**	**194**	*e*P	Pn	22 34 16.2	-0.6

*IDC **23** 23:06:58.0±1.3, 3582N×057E, h0km, mb3.6/9, mb1 3.8/11, mb1mx3.7/26, mbtmp3.7/11, ML4.6/1, Error ellipse: s-maj=37.0km s-min=21.7km az=97.0*

*ISCJB **23** 23:06:58.9±0.3, 3595N±002×060E±002, h10km, mb3.5/9, Error ellipse: s-maj=3.0km s-min=2.1km az=15.2*

*SFS **23** 23:06:58.0, 3573N×079E, h0km, ML4.4*

*CSEM **23** 23:06:59.4±0.1, 3589N×062E, h20km, ML4.2, Error ellipse: s-maj=1.7km s-min=1.3km az=1.0*

*LDG **23** 23:06:59.5±0.4, 3594N×058E, h10km, Ml3.2/4, Error ellipse: s-maj=7.8km s-min=3.5km az=157.0*

*NEIC **23** 23:06:59.4±0.5, 3575N×064E, h10km, MG4.4(MDD), Error ellipse: s-maj=6.8km s-min=4.1km az=163.0*

*MDD **23** 23:07:00.8±0.4, 3581N×068E, h11km±4km, mb4.4/28, Error ellipse: s-maj=4.1km s-min=3.3km az=174.0, PRXIMO*

*CRAAG **23** 23:07:00.5, 3580N×074E, Ml4.2*

*INMG **23** 23:07:00.4±1.9, 3573N×080E, h31km±5km, Mb4.3, ML3.1, Error ellipse: s-maj=7.0km s-min=4.1km az=131.0*

*MOS **23** 23:07:02.1±1.0, 3594N×060E, h53km, mb3.7/1, Error ellipse: s-maj=8.2km s-min=4.5km az=98.3*

ISC 23 23:07:00.5±0.3, 3593N±002×061E±002, h10km, n180, σ1§42/270, mb3.5/9, 2C-4D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKGL	**Djebel Kef Gue**	**0.11**	**14**	P	**Sg**	**23 07 05.0**	**-0.1**
EANR	**'Ain N'Sour**	**0.40**	**87**	P	**Pg**	**23 07 07.9**	**-0.4**
OJBR	**Djebel Berber**	**0.41**	**212**	P	**Pg**	**23 07 09.0**	**+0.5**
OJGS	**Djebel Guires**	**0.44**	**165**	P	**Pg**	**23 07 06.0**	**-3.2**
ECHF	**Ech Chlef**	**0.63**	**69**	P	**Pg**	**23 07 12.5**	**-0.2**
ECHA	**Ech Chlef**	**0.65**	**70**	P	**Pg**	**23 07 12.5**	**-0.6**
ETRT	**Tiaret**	**0.78**	**134**	P	**Pg**	**23 07 13.0**	**-2.6**
EBNR	**Beni Rached**	**0.83**	**64**	P	**Pg**	**23 07 16.0**	**-0.4**
ODJA	**Bouhanifia**	**0.86**	**226**	P	**Pg**	**23 07 08.0**	**-9.1**
USTO	**Oran**	**0.96**	**258**	P	**Pg**	**23 07 22.0**	**+3.0**
OTSS	**Djebel Tessala**	**1.32**	**241**	P	**Pn**	**23 07 27.0**	**+2.1**
ODZI	**Dzioua**	**1.63**	**247**	P	**Pn**	**23 07 37.0**	**+7.8**
EMHD	**Djebel Mahouad**	**1.92**	**81**	P	**Pn**	**23 07 31.5**	**-1.7**
CART	**Cartagena**	**2.10**	**322**	P	**Pn**	**23 07 34.5**	**-1.1**
CART				S	**Sn**	**23 07 59.3**	**-2.5**
CART	**Cartagena**	**2.10**	**322**	*e*Pn	**Pn**	**23 07 35.2**	**-0.4**
CART				Sn	**Sn**	**23 07 59.9**	**-1.9**
CART	**Cartagena**	**2.10**	**322**	*i* P	**Pn**	**23 07 34.5**	**-1.2**
CART	**Cartagena**	**2.10**	**322**	*e*Pn	**Pn**	**23 07 35.2**	**-0.5**
CART				*e*S	**Sn**	**23 07 59.3**	**-2.5**
CART				Sn	**Sn**	**23 07 59.9**	**-1.9**
ABA	**Alger-Bouzarea**	**2.14**	**65**	P	**Pn**	**23 07 39.6**	**+3.3**
ADJB	**Djebel Djouab**	**2.30**	**84**	P	**Pn**	**23 07 36.8**	**-1.7**
EMUR	**La Murta**	**2.42**	**323**	⇓P	**Pn**	**23 07 39.6**	**-0.4**
	24nm,0.3s,SNR=18						
EMUR				S	**Sn**	**23 08 09.3**	**-0.4**
	54nm,0.3s,SNR=5.0						
EMUR	**La Murta**	**2.42**	**323**	⇓P	**Pn**	**23 07 39.7**	**-0.4**
EMUR				S	**Sn**	**23 08 09.3**	**-0.4**
EMUR	**La Murta**	**2.42**	**323**	P	**Pn**	**23 07 39.7**	**-0.3**
	24nm,0.3s,SNR=18						
EMUR				S	**Sn**	**23 08 09.3**	**-0.3**
	54nm,0.3s,SNR=5.0						
ENIJ	**Nijar**	**2.50**	**295**	⇑P	**Pn**	**23 07 40.4**	**-0.7**
	27nm,0.2s,SNR=18						
ENIJ				S	**Sn**	**23 08 10.2**	**-1.5**
	86nm,0.3s,SNR=9.5						
AKET	**Djebel Ketaf**	**2.66**	**87**	P	**Pn**	**23 07 41.2**	**-2.2**
EBEN	**Beniarda**	**2.84**	**347**	P	**Pn**	**23 07 47.0**	**+1.0**
	7.3nm,0.3s,SNR=22						
EBEN				S	**Sn**	**23 08 20.3**	**+0.1**
	68nm,0.7s						
EBEN	**Beniarda**	**2.84**	**347**	P	**Pn**	**23 07 47.0**	**+1.1**
	7.3nm,0.3s,SNR=22						
EBEN				S	**Sn**	**23 08 20.3**	**+0.1**
	68nm,0.7s						
ZAI	**Zaio**	**2.90**	**252**	*e*P	**Pn**	**23 07 47.0**	**+0.3**
EALB	**Alboran**	**2.96**	**271**	P	**Pn**	**23 07 46.6**	**-0.9**
	11nm,0.2s,SNR=7.9						
EALB				S	**Sn**	**23 08 21.2**	**-1.8**
	88nm,0.2s,SNR=7.9						
EALB	**Alboran**	**2.96**	**271**	P	**Pn**	**23 07 46.6**	**-0.9**
	11nm,0.2s,SNR=7.9						
EALB				S	**Sn**	**23 08 21.2**	**-1.8**
	88nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.98**	**290**	P	**Pn**	**23 07 47.0**	**-0.8**
	54nm,0.3s,SNR=12						
EBER				S	**Sn**	**23 08 23.0**	**-0.6**
	63nm,0.3s,SNR=6.5						
EBER	**Berja**	**2.98**	**290**	P	**Pn**	**23 07 47.0**	**-0.8**
	54nm,0.3s,SNR=12						
EBER				S	**Sn**	**23 08 23.0**	**-0.6**
	63nm,0.3s,SNR=6.5						
EIBI	**Ibiza**	**3.14**	**10**	P	**Pn**	**23 07 50.3**	**+0.2**
	23nm,0.3s,SNR=19						
EIBI				S	**Sn**	**23 08 24.2**	**-3.5**
	30nm,0.3s,SNR=5.0						
EIBI	**Ibiza**	**3.14**	**10**	P	**Pn**	**23 07 50.3**	**+0.3**
	23nm,0.3s,SNR=19						
EIBI				S	**Sn**	**23 08 24.2**	**-3.4**
	30nm,0.3s,SNR=5.0						
EHUE	**Huescar**	**3.18**	**307**	P	**Pn**	**23 07 51.6**	**+1.1**
	8.8nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**23 08 28.0**	**-0.5**
	24nm,0.9s,SNR=7.9						
ETOB	**Tobarra**	**3.21**	**328**	⇓P	**Pn**	**23 07 52.2**	**+1.3**
	32nm,0.3s,SNR=18						
ETOB				S	**Sn**	**23 08 29.6**	**+0.4**
	49nm,0.4s,SNR=4.8						
ETOB	**Tobarra**	**3.21**	**328**	P	**Pn**	**23 07 52.2**	**+1.3**
	32nm,0.3s,SNR=18						
ETOB				S	**Sn**	**23 08 29.6**	**+0.4**
	49nm,0.4s,SNR=4.8						
EGUA	**Guajares**	**3.49**	**286**	P	**Pn**	**23 07 53.9**	**-0.9**
	5.9nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**23 08 35.5**	**-0.5**
	9.3nm,0.4s,SNR=7.9						
EQES	**Quesada**	**3.49**	**303**	P	**Pn**	**23 07 56.7**	**+1.8**
	130nm,0.3s,SNR=268						
EQES				S	**Sn**	**23 08 36.5**	**+0.3**
	179nm,0.3s						
EQES	**Quesada**	**3.49**	**303**	P	**Pn**	**23 07 56.7**	**+1.9**
	130nm,0.3s,SNR=268						
EQES				S	**Sn**	**23 08 36.5**	**+0.3**
	179nm,0.3s						
EQUE	**Quentar**	**3.50**	**292**	⇓P	**Pn**	**23 07 55.8**	**+0.8**
	93nm,0.3s,SNR=18						
EQUE				S	**Sn**	**23 08 35.3**	**-1.1**
	42nm,0.4s,SNR=6.5						
ECOG	**Cogollos-Vega**	**3.62**	**293**	P	**Pn**	**23 07 58.3**	**+1.7**
	21nm,0.2s,SNR=24						
ECOG				S	**Sn**	**23 08 39.0**	**-0.3**
	26nm,0.3s,SNR=6.0						
EVIA	**Vianos**	**3.67**	**318**	P	**Pn**	**23 07 58.5**	**+1.2**
	18nm,0.3s,SNR=38						
EVIA				S	**Sn**	**23 08 41.0**	**+0.4**
	81nm,0.3s						
ERON	**Agron**	**3.72**	**288**	P	**Pn**	**23 07 58.6**	**+0.6**
	38nm,0.3s,SNR=31						
ERON				S	**Sn**	**23 08 42.5**	**+0.6**
	23nm,0.4s,SNR=5.6						
ECHE	**Chera**	**3.86**	**342**	⇑P	**Pn**	**23 08 01.1**	**+1.2**
	23nm,0.4s,SNR=18						
ECHE				S	**Sn**	**23 08 45.8**	**+0.5**
	28nm,0.4s,SNR=6.1						
SET	**Setif**	**3.89**	**85**	P	**Pn**	**23 08 00.0**	**-0.3**
CKHR	**Kef el Ahmar**	**3.98**	**87**	P	**Pn**	**23 08 02.0**	**+0.5**
ELOJ	**Sierra Loja**	**4.02**	**289**	P	**Pn**	**23 08 03.5**	**+1.4**
	16nm,0.4s,SNR=31						
ELOJ				S	**Sn**	**23 08 48.3**	**-1.0**
	12nm,0.4s						
MAL	**Malaga**	**4.13**	**283**	*i* P	**Pn**	**23 08 02.8**	**-0.8**
MAL				*e*S	**Sn**	**23 08 47.6**	**-4.4**
EBAN	**Banos Encina**	**4.16**	**304**	P	**Pn**	**23 08 04.9**	**+0.8**
	18nm,0.3s,SNR=20						
EBAN				S	**Sn**	**23 08 53.4**	**+0.7**
	21nm,0.3s						
ETOS	**Mallorca**	**4.21**	**24**	P	**Pn**	**23 08 03.4**	**-1.2**
	6.1nm,0.3s,SNR=13						
ETOS				S	**Sn**	**23 08 51.2**	**-2.7**
	7.6nm,0.3s,SNR=6.1						
ETOS	**Mallorca**	**4.21**	**24**	P	**Pn**	**23 08 03.4**	**-1.3**
	6.1nm,0.3s,SNR=13						
ETOS				S	**Sn**	**23 08 51.2**	**-2.7**
	5.6nm,0.3s,SNR=6.1						
ELUQ	**Luque**	**4.24**	**294**	P	**Pn**	**23 08 06.8**	**+1.7**
	4.9nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**23 08 54.7**	**0.0**
	9.8nm,0.5s,SNR=7.9						
ELUQ	**Luque**	**4.24**	**294**	P	**Pn**	**23 08 07.2**	**+2.1**
ELUQ				S	**Sn**	**23 08 57.9**	**+3.2**
ELUQ	**Luque**	**4.24**	**294**	P	**Pn**	**23 08 07.2**	**+2.1**
ELUQ				S	**Sn**	**23 08 54.7**	**0.0**
	9.8nm,0.5s,SNR=7.9						
DFRA	**Djebel Bou Aff**	**4.30**	**80**	P	**Pn**	**23 08 04.0**	**-2.0**
CMER	**Merouana**	**4.31**	**93**	P	**Pg**	**23 08 20.0**	**-3.1**
TZK	**Tazeka**	**4.34**	**246**	*i* P	**Pn**	**23 08 07.0**	**+0.5**
EMIJ	**Mijas**	**4.40**	**280**	P	**Pn**	**23 08 05.4**	**-1.9**
	14nm,0.3s,SNR=14						
EMIJ				S	**Sn**	**23 08 54.0**	**-4.5**
	14nm,0.3s,SNR=4.6						
EMOS	**Mosqueruela**	**4.50**	**349**	P	**Pn**	**23 08 10.3**	**+1.5**
	7.7nm,0.4s,SNR=23						
EMOS				S	**Sn**	**23 09 00.6**	**-0.6**
	13nm,0.5s						
EMOS	**Mosqueruela**	**4.50**	**349**	P	**Pn**	**23 08 10.3**	**+1.5**
	7.7nm,0.4s,SNR=23						
EMOS				S	**Sn**	**23 09 00.6**	**-0.6**
	13nm,0.5s						
CTEI	**Djebel Teioual**	**4.70**	**87**	P	**Pn**	**23 08 15.0**	**+3.5**
EADA	**Adamuz**	**4.71**	**300**	P	**Pn**	**23 08 11.8**	**+0.2**
	5.3nm,0.4s,SNR=41						
EADA				S	**Sn**	**23 09 04.2**	**-2.1**
	17nm,0.5s						
EADA	**Adamuz**	**4.71**	**300**	P	**Pn**	**23 08 11.8**	**+0.2**
	5.3nm,0.4s,SNR=41						
EADA				S	**Sn**	**23 09 04.2**	**-2.1**
	17nm,0.5s						
CASM	**Ain Smara**	**4.77**	**84**	P	**Pn**	**23 08 12.0**	**-0.5**
EJIF	**Jimena Fronter**	**4.94**	**278**	P	**Pn**	**23 08 14.8**	**0.0**
	2.5nm,0.3s,SNR=10						
EJIF				S	**Sn**	**23 09 10.2**	**-1.8**
	4.8nm,0.4s						
EJIF	**Jimena Fronter**	**4.94**	**278**	P	**Pn**	**23 08 14.8**	**0.0**
EJIF				P		23 08 18.2	
EJIF				S	**Sn**	**23 09 10.2**	**-1.8**
EJIF				S	**Sn**	**23 09 12.9**	**+0.8**
EJIF	**Jimena Fronter**	**4.94**	**278**	P	**Pn**	**23 08 14.8**	**0.0**
	2.5nm,0.3s,SNR=10						
EJIF				S	**Sn**	**23 09 12.9**	**+0.9**
LIJA	**Lijar**	**4.95**	**283**	P	**Pn**	**23 08 18.5**	**+3.7**
ERTA	**Horta de San J**	**5.02**	**358**	P	**Pn**	**23 08 17.2**	**+1.3**
	10nm,0.7s,SNR=13						
ERTA				S	**Sn**	**23 09 12.7**	**-1.2**
	15nm,0.7s						
ERTA	**Horta de San J**	**5.02**	**358**	P	**Pn**	**23 08 17.2**	**+1.3**
	10nm,0.7s,SNR=13						
ERTA				S	**Sn**	**23 09 12.7**	**-1.2**
	15nm,0.7s						
ESDC	**Sonseca Array**

PESTR *e*Sn **Sn** 23 10 03.6 -2.9
PESTR
6.2nm,0.8s
PESTR Estremoz 7.15 297 *e*Pn **Pn** 23 08 45.5 +0.4
PESTR *e*Sn **Sn** 23 10 03.6 -2.9
6.2nm,0.8s
SJPF Ste Jean 7.31 349 *e*P **Pn** 23 08 49.5 +2.2
ELIZ Elizondo 7.41 348 P **Pn** 23 08 50.9 +2.3
3.7nm,0.3s,SNR=18
ELIZ S **Sn** 23 10 15.1 +2.4
1.2nm,0.6s,SNR=7.9
ELIZ Elizondo 7.41 348 P **Pn** 23 08 49.7 +1.1
ELIZ Elizondo 7.41 348 P **Pn** 23 08 49.7 +1.1
3.7nm,0.3s,SNR=18
EALK Alkurruntz 7.46 348 P **Pn** 23 08 50.2 +0.8
9.0nm,0.6s,SNR=9.4
EALK S **Sn** 23 10 14.7 +0.7
3.6nm,0.3s,SNR=7.9
PCBR Castelo Branco 7.49 304 *e*Pn **Pn** 23 08 50.8 +1.0
PCBR *e*Sn **Sn** 23 10 12.3 -2.4
PCBR
8.4nm,0.4s
PCBR Castelo Branco 7.49 304 *e*Pn **Pn** 23 08 50.8 +1.0
PCBR *e*Sn **Sn** 23 10 12.3 -2.4
8.4nm,0.4s
MTLF Montolieu 7.50 9 *e*P **Pn** 23 08 52.6 +2.7
MTLF Montolieu 7.50 9 Pn **Pn** 23 08 52.6 +2.7
MTLF Sn **Sn** 23 10 13.1 -1.9
2.8nm,0.8s
MOE Montemor 7.60 293 *e*Pn **Pn** 23 09 00.4 +9.1
MOE *e*Sn **Sn** 23 10 22.3 +4.8
PTEO Sao Teotonio 7.67 285 *e*Pn **Pn** 23 08 52.1 -0.1
PTEO *e*Sn **Sn** 23 10 16.8 -2.3
PTEO
8.1nm,0.4s
PTEO Sao Teotonio 7.67 285 *e*Pn **Pn** 23 08 52.1 -0.1
PTEO *e*Sn **Sn** 23 10 16.8 -2.3
8.1nm,0.4s
MTE Manteigas 7.82 307 *e*Pn **Pn** 23 08 55.6 +1.3
MTE *e*Sn **Sn** 23 10 21.9 -0.9
MTE
8.5nm,0.8s
MTE Manteigas 7.82 307 *e*Pn **Pn** 23 08 55.6 +1.3
MTE *e*Sn **Sn** 23 10 21.9 -0.9
8.5nm,0.8s
ELAN Lanestosa 7.93 338 P **Pn** 23 08 57.3 +1.5
8.4nm,0.6s,SNR=7.8
ELAN S **Sn** 23 10 22.2 -3.4
21nm,1.3s,SNR=7.9
ELAN Lanestosa 7.93 338 P **Pn** 23 08 57.3 +1.5
8.4nm,0.6s,SNR=7.8
PTOM Tomar 8.03 300 *e*Pn **Pn** 23 08 57.8 +0.6
PTOM
10nm,0.6s
PTOM Tomar 8.03 300 *e*Pn **Pn** 23 08 57.8 +0.6
10nm,0.6s
PBRG Braganca 8.20 318 *e*Pn **Pn** 23 09 01.1 +1.6
PVIS Viseu 8.21 308 *e*Pn **Pn** 23 09 01.0 +1.3
PVIS *e*Sn **Sn** 23 10 31.8 -0.7
PVIS
5.0nm,0.4s
ECAL Calabor 8.29 319 P **Pn** 23 09 02.4 +1.7
15nm,0.4s,SNR=19
ECAL S **Sn** 23 10 31.6 -2.8
4.3nm,0.3s,SNR=9.4
ECAL Calabor 8.29 319 P **Pn** 23 09 02.4 +1.7
15nm,0.4s,SNR=19
PVRL Vila Real 8.42 312 *e*Pn **Pn** 23 09 04.2 +1.7
PVRL *e*Sn **Sn** 23 10 38.0 +0.4
EARI Arriondas 8.62 330 P **Pn** 23 09 07.1 +1.8
9.4nm,0.8s,SNR=9.2
EARI S **Sn** 23 10 39.3 -3.1
0.8nm,0.5s,SNR=6.1
EARI Arriondas 8.62 330 P **Pn** 23 09 07.1 +1.8
EARI S **Sn** 23 10 40.0 -2.4
EARI Arriondas 8.62 330 P **Pn** 23 09 07.1 +1.9
9.4nm,0.8s,SNR=9.2
LMR La Mourre 8.68 30 *e*Pn **Pn** 23 09 05.4 -0.7
LMR *e*Sn **Sn** 23 10 36.1 -7.8
0.8nm,0.3s
LMR La Mourre 8.68 30 Pn **Pn** 23 09 05.4 -0.7
LMR Sn **Sn** 23 10 36.1 -7.8
0.4nm,0.3s
PCAB Cabril 8.87 313 *e*Pn **Pn** 23 09 10.0 +1.3
PCAB *e*Sn **Sn** 23 10 46.9 -1.7
PCAB
5.0nm,0.5s
SMRF Simiane la Rot 8.89 24 *e*Pn **Pn** 23 09 05.4 -3.6
FRF La Foret Royal 8.92 30 *e*P **Pn** 23 09 10.5 +1.1
FRF *e*Sn **Sn** 23 10 43.9 -6.1
1.0nm,0.3s
FRF La Foret Royal 8.92 30 Pn **Pn** 23 09 10.5 +1.1
FRF Sn **Sn** 23 10 43.9 -6.1
0.5nm,0.3s
ELOB Lobios 8.98 314 P **Pn** 23 09 11.6 +1.3
4.1nm,0.4s,SNR=9.8
ELOB S **Sn** 23 10 48.9 -2.6
2.3nm,0.2s,SNR=4.6
ELOB Lobios 8.98 314 P **Pn** 23 09 11.6 +1.3
ELOB S **Sn** 23 10 48.0 -3.5
ELOB Lobios 8.98 314 P **Pn** 23 09 11.6 +1.3
4.1nm,0.4s,SNR=9.8
LFF La Frestale 9.00 1 *e*Pn **Pn** 23 09 06.6 -3.8
CAF Calviac 9.05 7 *e*P **Pn** 23 09 13.9 +2.7
PGF Pioggiola 9.27 42 *e*Pn **Pn** 23 09 12.8 -1.4
PGF *e*Sn **Sn** 23 10 49.8 -8.7
1.2nm,0.3s
PGF Pioggiola 9.27 42 Pn **Pn** 23 09 12.8 -1.4
PGF Sn **Sn** 23 10 49.8 -8.7
0.6nm,0.3s
RJF Les Rejaudoux 9.39 4 *e*P **Pn** 23 09 18.0 +2.2
RJF Les Rejaudoux 9.39 4 *e*Pn **Pn** 23 09 12.2 -3.6
RJF *e*P 23 09 18.0
RJF Les Rejaudoux 9.39 4 *e*P **Pn** 23 09 18.0 +2.2
EPON Pontenova 9.50 323 P **Pn** 23 09 18.8 +1.4
3.5nm,0.3s,SNR=12
EPON S **Sn** 23 10 58.6 -5.6
0.7nm,0.2s,SNR=4.8
EPON Pontenova 9.50 323 P **Pn** 23 09 18.8 +1.5
3.5nm,0.3s,SNR=12
ORIF Oris-en-Rattie 9.83 22 *e*Pn **Pn** 23 09 18.8 -3.1
STS Santiago 9.92 317 P **Pn** 23 09 23.4 +0.4
1.7nm,0.4s,SNR=7.9
STS Santiago 9.92 317 P **Pn** 23 09 23.4 +0.3
STS pmax pmax
comp=Z,2.0nm,0.4s
EMAZ Mazaricos 10.20 316 P **Pn** 23 09 27.1 +0.3
comp=Z,4.2nm,0.4s,SNR=5.1
EMAZ Mazaricos 10.20 316 P **Pn** 23 09 27.1 +0.2
comp=Z,4.2nm,0.4s
TCF Toulx Ste Croi 10.41 6 *e*P **Pn** 23 09 31.0 +1.1
LPG La Plagne 10.63 24 *e*P **Pn** 23 09 36.6 +3.8
MFF Saint Martin d 10.68 357 *e*P **Pn** 23 09 35.6 +2.2
BGF Bois d'Agland 10.75 8 *e*P **Pn** 23 09 36.7 +2.3
AVF Avril sur Loir 11.04 10 *e*P **Pn** 23 09 41.6 +3.2
SSF Saint Saulge 11.33 10 *e*Pn **Pn** 23 09 38.5 -3.9
QUIF Quistinic 12.30 348 *e*P **Pn** 23 09 58.1 +2.5
QUIF *e*Sn **Sn** 23 12 02.8 -10
comp=Z,0.6nm,0.2s
QUIF Quistinic 12.30 348 Pn **Pn** 23 09 58.1 +2.5
QUIF Sn **Sn** 23 12 08.8 -3.9
comp=Z,0.3nm,0.2s
GRR Gorron 12.49 355 *e*P **Pn** 23 09 58.6 +0.3
SGMF Saint Gilles 12.53 350 *e*P **Pn** 23 09 59.7 +0.8
SGMF Saint Gilles 12.53 350 *e*Pn **Pn** 23 09 54.2 -4.7
SGMF *e*P 23 09 59.7
SGMF Saint Gilles 12.53 350 *e*P **Pn** 23 09 59.7 +0.8
LDF La Druitiere 12.66 358 *e*P **Pn** 23 10 01.7 +1.1
ROSF Rostrenen 12.72 348 *e*P **Pn** 23 10 02.7 +1.3
GERES GERESS Array B 16.09 33 Pn **Pn** 23 10 49.2 +2.4
comp=Z,0.2nm,0.3s,baz=214,slow=12,SNR=13
MLR Muntele Rosu 21.37 56 P **P** 23 11 49.6 +1.6
comp=Z,2.4nm,0.8s,mb3.6,baz=139,slow=21,SNR=7.0
TORD Torodi Ar. Bea 22.71 177 P **P** 23 12 01.0 -1.3
comp=Z,1.8nm,0.8s,mb3.6,baz=347,slow=9.5,SNR=14
AKASG Malin Array Be 25.32 45 P **P** 23 12 27.6 +0.3
comp=Z,0.7nm,0.7s,mb3.3,baz=243,slow=11,SNR=3.3
HFS Hagfors 25.65 15 P **P** 23 12 30.2 -0.1
comp=Z,1.0nm,0.6s,mb3.5,baz=188,slow=9.0,SNR=4.9
NB2 NORSAR Subarra 26.02 12 P **P** 23 12 32.5 -1.2
comp=Z,0.7nm,0.8s,mb3.2,baz=200,slow=9.3
NOA NORSAR Array B 26.02 12 P **P** 23 12 33.3 -0.3
comp=Z,0.5nm,0.7s,mb3.2,baz=200,slow=8.4,SNR=3.9
FINES FINESS Array B 30.18 24 P **P** 23 13 09.6 -1.2
comp=Z,0.6nm,0.7s,mb3.5,baz=243,slow=8.4,SNR=5.5

ZAL Zalesovo 58.68 44 P **P** 23 16 57.9 -0.2
comp=Z,1.0nm,0.9s,mb3.8,baz=170,slow=4.7,SNR=5.1
MKAR Makanchi Array 59.66 52 P **P** 23 17 04.2 -0.6
comp=Z,0.9nm,0.7s,mb3.9,baz=286,slow=6.2,SNR=5.1
SONM Songino Array 73.56 43 P **P** 23 18 32.2 -1.5
comp=Z,0.4nm,0.5s,mb3.6,baz=286,slow=9.1,SNR=3.9
STKA Stephens Creek 147.51 94 PKPbc PKPbc 23 26 42.7 -2.1
comp=Z,1.6nm,0.4s,baz=343,slow=8.9,SNR=5.2
STKA Stephens Creek 147.51 94 PKPbc PKPbc 23 26 42.7 -2.1

*ISCJB **23** 23:18:08.5±0.7, 3898N×003×2061E±005, h12km±8km, Error ellipse: s-maj=7.2km s-min=4.6km az=142.9*
*ATH **23** 23:18:08.6, 3897N×2058E, h38km±4km, MD3.1/4*
*NEIC **23** 23:18:08.3, 3897N×2058E, h29km, MD3.1(ATH), After ATH.*
*CSEM **23** 23:18:09.2±0.2, 3898N×2059E, h0km±1km, ML2.2, Error ellipse: s-maj=3.9km s-min=2.9km az=43.0*
*THE **23** 23:18:09.9, 3899N×2063E, h1km, ML2.2*

ISC 23 23:18:09.1±0.7, 3897N±003×2059E±006, h19km±7km, n12, σ0s80/20, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.60**	**340**	*e*Pg	**Pg**	**23 18 19.9**	**-1.1**
IGT				*e*Sg	**Sg**	**23 18 29.0**	**-0.1**
JAN	**Janina**	**0.72**	**16**	*e*PN	**Pg**	**23 18 22.5**	**-0.7**
JAN				*e*SN	**Sg**	**23 18 33.5**	**+0.7**
VLS	**Valsamata**	**0.79**	**180**	*e*PN	**Pg**	**23 18 24.3**	**-0.3**
VLS				*e*SN	**Sg**	**23 18 36.5**	**+1.4**
EVR	**Evrytania**	**0.95**	**93**	*e*PN	**Pg**	**23 18 26.6**	**-1.0**
EVR				*e*SN	**Sg**	**23 18 40.5**	**+0.4**
EVR	**Evrytania**	**0.95**	**93**	*e*Pn	**Pg**	**23 18 26.5**	**-1.1**
EVR				*e*Sn	**Sg**	**23 18 40.7**	**+0.6**
MEV	**Metsovon**	**0.95**	**31**	*e*Pg	**Pg**	**23 18 26.7**	**-0.9**
KEK	**Kerkira**	**0.97**	**321**	*e*PN	**Pn**	**23 18 27.0**	**-0.6**
RLS	**Riolos of Patr**	**1.14**	**143**	*e*PN	**Pn**	**23 18 30.0**	**0.0**
LSK	**Leskovik**	**1.18**	**0**	*i* Pn	**Pn**	**23 18 30.9**	**+0.3**
LSK				*i* Sn	**Sg**	**23 18 53.2**	**+5.8**
AGG	**Agios Georgios**	**1.35**	**87**	*e*Pg	**Pg**	**23 18 34.5**	**-0.8**
AGG				*e*Sg	**Sg**	**23 18 53.1**	**+0.1**
FNA	**Florina**	**1.91**	**18**	*e*Pb	**Pb**	**23 18 44.0**	**+0.7**
OHR	**Ohrid**	**2.15**	**4**	*e*Pn	**Pg**	**23 18 50.5**	**+0.2**
OHR				*i* Sg	**Sg**	**23 19 19.9**	**+1.7**

*ISCJB **23** 23:21:40.3±0.4, 6780N±002×2021E±006, h0km, Error ellipse: s-maj=3.4km s-min=2.8km az=167.4*
*CSEM **23** 23:21:40.9±0.1, 6786N×2043E, h1km, ML2.5, Error ellipse: s-maj=4.4km s-min=2.9km az=65.0, Mining explosion.*
*UPP **23** 23:21:40.9, 6782N×2019E, h0km, ML2.5, Mining explosion.*
*HEL **23** 23:21:41.8±0.1, 6784N×2019E, h0km, ML2.0, ML2.5(UPP), ML1.7(BER), Explosion*
*NAO **23** 23:21:41.0±2.1, 6785N×2014E, ML2.0*
*BER **23** 23:21:43.3±4.8, 6787N×2006E, h0km, ML1.7, ML2.0(NAO), Suspected explosion*

ISC 23 23:21:41.3±0.3, 6782N±002×2023E±006, h0km, n31, σ0s72/52, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**16**	*i* P	**Pg**	**23 21 43.9**	**0.0**
KUA				*i* S	**Sg**	**23 21 46.0**	**+0.2**
NIKU	**Nikkaluokta**	**0.46**	**276**	*i* P	**Pg**	**23 21 49.3**	**-0.7**
NIKU				*i* S	**Sg**	**23 21 55.6**	**-0.3**
LANU	**Lannavaara**	**0.70**	**70**	*i* P	**Pg**	**23 21 54.4**	**-0.3**
LANU				*i* S	**Sg**	**23 22 04.0**	**+0.2**
DUNU	**Dundret**	**0.72**	**169**	*i* P	**Pg**	**23 21 54.3**	**-0.7**
DUNU				*i* S	**Sg**	**23 22 04.5**	**+0.2**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	**Pg**	**23 22 04.1**	**-0.3**
KIF				*e*S	**Sg**	**23 22 20.2**	**+0.1**
KIF	**Kilpisjarvi**	**1.21**	**10**	P	**Pg**	**23 22 04.1**	**-0.3**
KIF				S	**Sg**	**23 22 20.1**	**0.0**
PAJU	**Pajala**	**1.37**	**124**	*e*P	**Pg**	**23 22 06.1**	**-1.4**
PAJU				*e*S	**Sg**	**23 22 24.8**	**-0.6**
ERTU	**Ertsjaerv**	**1.48**	**148**	*e*P	**Pn**	**23 22 09.1**	**-0.1**
ERTU				*e*S	**Sg**	**23 22 29.3**	**+0.3**
KTK1	**Kautokeino**	**1.63**	**42**	*e*P	**Pn**	**23 22 12.0**	**+0.8**
KTK1				*e*SN	**Sg**	**23 22 33.6**	**-0.1**
KTK1				AML	AML	23 22 36.5	
comp=Z,10nm,0.0s							
KTK1	**Kautokeino**	**1.63**	**42**	*e*P	**Pn**	**23 22 12.0**	**+0.8**
SNR=50							
KTK1				*e*Sg	**Sg**	**23 22 33.6**	**-0.1**
SNR=90							
TRO	**Tromso**	**1.88**	**346**	*e*P	**Pn**	**23 22 13.8**	**-0.9**
TRO				*e*S	**Sn**	**23 22 38.7**	**-0.4**
TRO				AML	AML	23 22 41.6	
comp=Z,10nm,0.2s							
TRO	**Tromso**	**1.88**	**346**	*e*P	**Pn**	**23 22 13.8**	**-0.9**
SNR=50							
TRO				*e*Sg	**Sn**	**23 22 38.7**	**-0.4**
SNR=90							
SJUU	**Sjulsmark**	**2.39**	**166**	*e*P	**Pn**	**23 22 22.3**	**+0.6**
LOF	**Lofoten**	**2.54**	**280**	*e*SG	**Sg**	**23 23 02.6**	**-0.3**
LOF				AML	AML	23 23 04.2	
comp=Z,8.5nm,0.6s							
ARA0	**ARCESS Array S**	**2.58**	**46**	Pn	**Pn**	**23 22 24.4**	**+0.1**
baz=228,slow=16							
ARA0				Sn	**Sn**	**23 22 57.4**	**+0.9**
baz=231,slow=28							
ARA0	**ARCESS Array S**	**2.58**	**46**	*e*P	**Pn**	**23 22 24.4**	**+0.1**
ARA0				*e*S	**Sn**	**23 22 57.4**	**+0.9**
MOR8	**Moi Rana**	**2.81**	**237**	*e*SG	**Sn**	**23 23 04.1**	**+2.0**
MOR8				AML	AML	23 23 06.1	
comp=Z,18nm,0.6s							
KEV	**Kevo**	**3.13**	**49**	*e*P	**Pn**	**23 22 32.6**	**+0.7**
KEV				*e*S	**Sn**	**23 23 09.5**	**-0.5**
KEV				MSG		23 23 17.6	
comp=Z,4.0nm,0.3s							
KEV	**Kevo**	**3.13**	**49**	P	**Pn**	**23 22 32.6**	**+0.7**
KEV				S	**Sn**	**23 23 09.5**	**-0.6**
comp=Z,4.0nm,0.3s							
OUL	**Oulu**	**3.57**	**138**	*e*P	**Pn**	**23 22 38.7**	**+0.9**
OUL				*e*S	**Sn**	**23 23 20.4**	**-0.3**
OUL				MSG		23 23 41.2	
comp=Z,3.1nm,0.4s							
OUL	**Oulu**	**3.57**	**138**	P	**Pn**	**23 22 38.7**	**+0.9**
OUL				S	**Sn**	**23 23 20.3**	**-0.4**
comp=Z,3.1nm,0.4s							
MSF	**Maaselka**	**3.97**	**115**	*e*P	**Pn**	**23 22 44.1**	**+0.7**
MSF				*e*S	**Sn**	**23 23 29.9**	**-0.8**
MSF				MSG		23 23 48.7	
comp=Z,2.6nm,0.3s							
MSF	**Maaselka**	**3.97**	**115**	P	**Pn**	**23 22 44.1**	**+0.7**
MSF				S	**Sn**	**23 23 29.8**	**-0.8**
comp=Z,2.6nm,0.3s							
NSS	**Namsos**	**4.71**	**229**	*e*SG	**Sn**	**23 24 06.7**	**+18**
VAF	**Ylistaro**	**4.91**	**167**	*e*P	**Pn**	**23 22 57.5**	**+1.2**
VAF				*e*S	**Sn**	**23 23 52.5**	**-1.3**
VAF				MSG		23 24 18.0	
comp=Z,1.1nm,0.3s							
FIA0	**FINESS Array S**	**6.88**	**156**	Pn	**Pn**	**23 23 24.3**	**+1.0**
baz=3.1,slow=9.3							
FIA0				Sn	**Sn**	**23 24 42.5**	**+0.2**
baz=342,slow=22							
FIA0				Lg		23 25 14.7	
baz=350,slow=28							
FIA0	**FINESS Array S**	**6.88**	**156**	*e*P	**Pn**	**23 23 24.3**	**+1.0**
FIA0				*e*S	**Sn**	**23 24 42.5**	**+0.2**
FIA0				*e*SG	**Sg**	**23 25 14.7**	**-7.4**
NB2	**NORSAR Subarra**	**7.84**	**214**	*e*P	**Pn**	**23 23 35.8**	**-0.7**
HFS	**Hagfors**	**8.23**	**203**	Lg		23 25 59.9	
baz=17,slow=28							
HFS	**Hagfors**	**8.23**	**203**	*e*		23 25 59.9	
HFS	**Hagfors**	**8.23**	**203**	Lg		23 25 59.9	
baz=17,slow=28							

CASC 23 23:33:07.9±3.0, 1384N×8988W, h20km±16km, MD3.5, ML3.7, 3C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
RTR	**El Retiro**	**0.23**	**75**	*e*P	x	23 33 13.0	
SBLS	**San Blas**	**0.25**	**90**	⇓*i*P	x	23 33 13.2	
SBLS				*e*S	x	23 33 20.1	
SNJE	**San Jose**	**0.26**	**83**	⇓*i*P	x	23 33 13.5	
RBDL	**Robledal**	**0.33**	**34**	⇑*e*P	x	23 33 15.8	
RBDL				*e*S	x	23 33 20.6	
BOQS	**Boqueron**	**0.59**	**100**	⇑*e*P	x	23 33 19.8	
LFU	**La Fuente**	**0.75**	**97**	*e*P	x	23 33 22.6	
LFU				*e*S	x	23 33 32.0	
MTO2	**Montecristo 2**	**0.75**	**42**	⇑*i*P	x	23 33 22.3	
MTO2				*e*S	x	23 33 33.7	
LFRS	**El Faro**	**0.82**	**105**	⇓*e*P	x	23 33 23.6	
LFRS				*e*S	x	23 33 35.4	

KRSC 23 23:50:01, 5483N×16303E, h10km, ML3.7, Off east coast of Kamchatka Peninsula

IDC 23 23:58:08.6±5.2, 1890S×17669W, h611km±70km, mb3.1/3, mb1 3.4/5, mb1mx3.1/16, mbtmp4.4/5, Error ellipse: s-maj=54.4km s-min=25.2km az=177.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
RAR	**Rarotonga**	**16.06**	**101**	P	P	00 01 25.8	-0.2
1.7nm,0.3s,baz=278,slow=15,SNR=2.4							
DZM	**Mont Dzumac**	**16.11**	**256**	P	P	00 01 28.5	+2.1
0.4nm,0.3s,baz=21,slow=17,SNR=4.1							
URZ	**Urewera**	**20.03**	**194**	P	P	00 02 02.0	0.0
4.7nm,0.4s,baz=298,slow=7.8,SNR=5.7							
WRA	**Warramunga Ar**	**46.06**	**260**	P	P	00 05 38.0	-1.2
0.9nm,0.8s,baz=90,slow=6.9,SNR=6.4							
ASAR	**Alice Springs**	**46.10**	**255**	P	P	00 05 40.4	+0.9
2.5nm,0.5s,baz=86,slow=8.3,SNR=30							
GERES	**GERESS Array B**	**148.97**	**347**	PKPbc	PKPbc	00 16 48.8	+0.1
1.0nm,1.0s,baz=56,slow=2.5,SNR=6.0							

IDC 24 00:09:59.2±9.0, 2049S×6947W, h102km±41km, mb3.2/2, mb1 3.3/4, mb1mx3.1/17, mbtmp3.6/4, Error ellipse: s-maj=126.3km s-min=39.6km az=61.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
LPAZ	**La Paz**	**4.37**	**17**	P	P	00 11 04.1	+0.6
0.8nm,0.3s,baz=188,slow=7.6,SNR=22							
LPAZ				S	Sn	00 11 46.2	-7.1
0.5nm,0.3s,baz=112,slow=18,SNR=3.7							
CPUP	**Villa Florida**	**12.57**	**120**	P	P	00 12 54.4	+0.1
0.6nm,0.3s,baz=285,slow=20,SNR=6.5							
BDFB	**Brasilia**	**20.96**	**80**	P	P	00 14 34.4	+0.4
1.1nm,0.4s,baz=257,slow=11,SNR=3.4							
TORD	**Torodi Ar. Bea**	**77.52**	**71**	P	P	00 21 44.4	+0.7
0.2nm,0.4s,baz=253,slow=5.6,SNR=14							

IDC 24 00:18:11.8±7.1, 1857S×17707W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/13, mbtmp3.4/2, Error ellipse: s-maj=371.3km s-min=54.3km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.77**	**260**	P	P	00 26 35.4	+0.4
0.2nm,0.3s,baz=96,slow=7.2,SNR=8.5							
ASAR	**Alice Springs**	**45.84**	**255**	P	P	00 26 35.8	+0.3
0.2nm,0.3s,baz=96,slow=9.2,SNR=4.9							
GERES	**GERESS Array B**	**148.57**	**346**	PKPbc	PKPbc	00 38 00.2	-0.4
0.2nm,0.3s,baz=45,slow=4.0,SNR=4.1							

*IDC **24** 00:58:03.9±0.4, 950S×10745E, h0km, mb4.7/21, mb1 4.7/22, mb1mx4.7/24, mbtmp4.7/22, ML4.1/1, MS3.8/8, Ms1 3.8/8, ms1mx3.5/24, Error ellipse: s-maj=16.9km s-min=11.6km az=58.0*
*BJI **24** 00:58:05.4, 1015S×10742E, h53km, mB5.1, mb5.0, Ms4.6, Msz4.4*
*ISCJB **24** 00:58:06.0±1.5, 957S±004×10748E±004, h25km±10km, mb4.9/89, MS4.1/18, Error ellipse: s-maj=7.7km s-min=5.5km az=130.6*
*MOS **24** 00:58:07.2±1.0, 947S×10751E, h32km, mb5.2/32, Error ellipse: s-maj=11.8km s-min=6.3km az=115.1*
*NEIC **24** 00:58:08.1±2.3, 954S×10747E, h25km±15km, mb5.1/32, Error ellipse: s-maj=7.2km s-min=4.2km az=53.0*

ISC 24 00:58:08.0±1.4, 958S±003×10747E±004, h25km±10km, h34km±1.7km:pP-P, n212, σ0s92/188, mb4.9/89, MS4.1/18, 16C-13D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
LEM	**Lembang**	**2.74**	**3**	P	**Pn**	**00 58 50.2**	**-0.2**
6μm,0.8s							
BJII	**Banjamegara**	**3.14**	**45**	⇑*i*P	**Pn**	**00 58 55.7**	**-0.2**
BJII				*i* S	**Sn**	**00 59 37.1**	**+4.5**
COCO	**West Island**	**10.77**	**255**	*e*Pn	**Pn**	**01 00 37.0**	**-3.5**
KSM	**Kuching**	**11.34**	**15**	*e*Pn	**Pn**	**01 00 45.7**	**-2.7**
PSI	**Prapat**	**14.96**	**325**	Pn	**Pn**	**01 01 38.3**	**+0.5**
0.9nm,0.3s,baz=127,slow=6.4,SNR=11							
PSI				LR	LR	01 07 53.7	
comp=Z,172nm,21.8s,baz=12,slow=40							
PCI	**Palu**	**15.02**	**56**	P	**Pn**	**01 01 39.7**	**+1.1**
113nm,1.1s							
IPM	**Ipoh**	**15.37**	**335**	P	**Pn**	**01 01 48.0**	**+4.8**
KULM	**Kulim**	**16.26**	**335**	*e*Pn	**Pn**	**01 01 49.6**	**-5.1**
MBWA	**Marble Bar**	**16.48**	**136**	*e*Pn	**Pn**	**01 01 55.5**	**-2.1**
39nm,0.9s							
TSM	**Tawau**	**17.24**	**37**	P	**Pn**	**01 02 08.7**	**+1.6**
KKM	**Kota Kinabalu**	**17.80**	**30**	P	**Pn**	**01 02 14.8**	**+0.8**
KKM	**Kota Kinabalu**	**17.80**	**30**	*e*Pn	**Pn**	**01 02 12.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**19.55**	**118**	⇓*i*P	**Pn**	**01 02 35.0**	**-0.2**
41nm,0.8s							
FITZ				*e*S	**Sn**	**01 05 57.0**	**-17**
FITZ	**Fitzroy Crossi**	**19.55**	**118**	P	**Pn**	**01 02 35.4**	**+0.2**
0.4nm,0.3s,baz=290,slow=7.8,SNR=36							
FITZ				Sn	**Sn**	**01 05 58.3**	**-16**
0.3nm,0.3s,baz=78,slow=18,SNR=5.2							
KAKA	**Kakadu**	**24.69**	**100**	*e*P	**P**	**01 03 27.6**	**+0.7**
27nm,0.8s,mb4.8							
NWAO	**Narrogin (SRO)**	**24.92**	**160**	P	**P**	**01 03 29.0**	**0.0**
27nm,0.9s,mb4.8,baz=346,slow=10,SNR=11							
NWAO				LR	LR	01 11 41.8	
comp=Z,265nm,21.8s,MS3.7,baz=223,slow=33							
NWAO	**Narrogin (SRO)**	**24.92**	**160**	*e*P	**P**	**01 03 29.2**	**+0.2**
NWAO				pmax	pmax		
comp=Z,19nm,0.8s							
NWAO	**Narrogin (SRO)**	**24.92**	**160**	*e*P	**P**	**01 03 29.2**	**+0.1**
comp=Z,19nm,0.8s,mb4.7							
NST	**Nakhon Sawan**	**26.12**	**344**	P	**P**	**01 03 39.0**	**-0.9**
comp=Z,67nm,0.8s,mb5.2							
KKTK	**Khon Kaen**	**26.16**	**350**	P	**P**	**01 03 40.5**	**+0.2**
WRA	**Warramunga Arr**	**27.90**	**115**	P	**P**	**01 03 56.3**	**+0.4**
comp=Z,18nm,1.0s,mb4.7,baz=286,slow=11,SNR=27							
WRA				PcP	PcP	01 07 12.2	+1.0
comp=Z,3.0nm,0.6s,baz=297,slow=2.1,SNR=13							
WRAB	**Tennant Creek**	**27.91**	**115**	P	**P**	**01 03 56.9**	**+0.9**
comp=Z,106nm,0.9s,mb5.5,SNR=5.4							
WRAB	**Tennant Creek**	**27.91**	**115**	*c* *i*P	**P**	**01 03 56.8**	**+0.8**
WRAB	**Tennant Creek**	**27.91**	**115**	*e*P	**P**	**01 03 56.6**	**+0.6**
comp=Z,32nm,1.0s,mb4.9							
WB2	**Warramunga Arr**	**27.91**	**115**	*e*P	**P**	**01 03 55.6**	**-0.5**
WB2	**Warramunga Arr**	**27.91**	**115**	*e*P	**P**	**01 03 56.1**	**0.0**
QIZ	**Qiongzhong**	**28.52**	**5**	P	**P**	**01 04 02.0**	**+0.5**
QIZ				*e*S	**S**	**01 08 49.5**	**+1.7**
QIZ				AMB	AMB		
comp=Z,8.0nm,1.3s,mb4.3							
QIZ				LR	LR		
comp=E,278nm,14.2s							
QIZ				LR	LR		
comp=Z,217nm,19.2s,MS3.8							
ASAR	**Alice Springs**	**28.87**	**122**	P	**P**	**01 04 03.8**	**-0.7**
comp=Z,1.4nm,0.5s,mb3.9,baz=300,slow=8.8,SNR=13							
ASAR				PcP	PcP	01 07 14.8	+1.3
comp=Z,4.1nm,0.8s,baz=302,slow=1.9,

CHTO pmax pmax
comp=Z,59nm,1.1s,mb5.2
CHTO Chiang Mai 29.44 343 *e*P **P 01 04 09.5 -0.1**
comp=Z,59nm,1.1s,mb5.2
CHTO *e* 01 04 21.2
GZH Guangzhou 32.97 10 P **P 01 04 38.9 -1.8**
GZH S **S 01 09 54.8 -2.6**
GZH LR LR
comp=N,455nm,19.6s,MS4.2
GZH LR LR
comp=E,272nm,20.2s,MS4.2
GZH LR LR
comp=Z,304nm,12.7s
KMI Kunming 34.80 352 P **P 01 04 59.0 +2.4**
KMI PP PP 01 06 18.4 +2.7
KMI S **S 01 10 31.8 +6.1**
KMI SS SS 01 12 44.1 -13
KMI SSS 01 13 09.8
KMI AMB AMB
comp=Z,34nm,0.9s,mb5.3
KMI AMB AMB
comp=Z,71nm,4.6s
KMI LR LR
comp=N,278nm,13.7s
KMI LR LR
comp=E,217nm,18.9s
KMI LR LR
comp=Z,348nm,11.2s,MS4.3
GYA Guiyang 35.83 359⇑ *i*P **P 01 05 06.0 +0.5**
GYA PP PP 01 06 27.4 +0.4
GYA PCP PcP 01 07 32.8 +0.2
GYA AMB AMB
comp=Z,50nm,0.8s,mb5.5
GYA AMB AMB
comp=Z,180nm,4.3s
GYA LR LR
comp=N,730nm,14.8s,MS4.7
GYA LR LR
comp=E,640nm,15.0s,MS4.7
GYA LR LR
comp=Z,660nm,14.6s,MS4.5
VIS Vishakhapatnam 36.12 319 *e*P **P 01 05 07.7 -0.3**
VIS AMb AMB 01 05 22.5
comp=Z,38nm,1.4s,mb5.1
NACB Ninganchiao 36.27 22 P **P 01 05 10.7 +1.4**
SHL Shillong 38.09 337 *e*P **P 01 05 26.0 +1.3**
SHL AMb AMB 01 05 32.9
comp=Z,38nm,0.2s,mb5.8
STKA Stephens Creek 38.60 130⇓ *i*P **P 01 05 29.6 +0.6**
comp=Z,20nm,0.8s,mb4.9
STKA Stephens Creek 38.60 130 P **P 01 05 29.8 +0.8**
comp=Z,23nm,0.8s,mb5.0,baz=302,slow=8.2,SNR=38
STKA PcP PcP 01 07 41.7 +0.6
comp=Z,2.4nm,0.5s,baz=306,slow=11,SNR=3.9
STKA LR LR 01 20 51.9
comp=Z,136nm,18.2s,MS3.8,baz=19,slow=35
STKA Stephens Creek 38.60 130 *e*P **P 01 05 29.7 +0.7**
CTA Charters Tower 38.83 110 *e*P **P 01 05 32.8 +1.9**
comp=Z,10nm,0.8s,mb4.6
CTA Charters Tower 38.83 110 *e*P **P 01 05 32.8 +1.9**
CTA pmax pmax
comp=Z,10.0nm,0.8s
CTAO Charters Tower 38.83 110 *e*P **P 01 05 32.1 +1.2**
CTAO *e* 01 05 43.8
CTAO pmax pmax
comp=Z,22nm,1.0s,mb4.8
CTAO Charters Tower 38.83 110 *e*P **P 01 05 32.1 +1.3**
comp=Z,22nm,1.0s,mb4.8
CTAO *e* 01 05 43.8
HYB Hyderabad 39.20 313 *i*P **P 01 05 36.0 +2.0**
HYB Hyderabad 39.20 313 *e*P pP 01 05 46.0 +4.5
BOK Bokaro 39.31 328 *e*P **P 01 05 35.5 +0.5**
BOK AMb AMB 01 05 37.8
comp=Z,34nm,0.6s,mb5.2
CD2 Chengdu 40.41 355 P **P 01 05 44.1 0.0**
CD2 PP PP 01 07 21.4 +4.1
CD2 S **S 01 11 53.0 +2.1**
CD2 AMB AMB
comp=Z,20nm,1.1s,mb4.8
CD2 AMB AMB
comp=Z,80nm,5.6s
CD2 LR LR
comp=E,80nm,13.2s
CD2 LR LR
comp=Z,70nm,11.2s,MS3.8
WHN Wuhan 40.44 9⇓ P **P 01 05 45.0 +0.7**
WHN AP pP 01 05 56.3 +4.5
NGP Nagpur 41.38 318 *e*P **P 01 05 52.5 +0.4**
NGP AMb AMB 01 06 05.2
comp=Z,43nm,0.8s,mb5.1
JOW Kunigami 41.45 29 P **P 01 05 53.0 +0.4**
comp=Z,16nm,0.7s,mb4.8,baz=280,slow=11,SNR=2.8
JOW LR LR 01 22 25.2
comp=Z,247nm,21.1s,MS4.0,baz=164,slow=35
JIRN Jiri 42.37 331 *e*P **P 01 06 00.9 +0.7**
comp=Z,57nm,0.6s,mb5.4
AKL Akola 42.45 315 *e*P **P 01 06 01.2 +0.4**
AKL AMb AMB 01 06 15.6
comp=Z,46nm,2.2s,mb4.7
SSE Sheshan 42.53 18 P **P 01 06 02.5 +1.1**
SSE AP pP 01 06 11.3 +2.3
SSE PP PP 01 07 41.3 +1.1
SSE S **S 01 12 22.9 +0.6**
SSE AMB AMB
comp=Z,31nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,105nm,6.8s
SSE LR LR
comp=N,43nm,19.0s,MS3.5
SSE LR LR
comp=E,42nm,19.0s,MS3.5
SSE LR LR
comp=Z,71nm,21.4s,MS3.5
PKI Pulchoki 42.67 331 *e*P **P 01 06 02.8 +0.2**
comp=Z,29nm,0.8s,mb5.1
PKI Pulchoki 42.67 331 *e*P **P 01 06 02.8 +0.2**
PKI pmax pmax
comp=Z,29nm,0.8s,mb5.1
GUN Gumba 42.73 331 *e*P **P 01 06 04.0 +0.9**
comp=Z,90nm,0.6s,mb5.7
NJ2 Nanjing 42.80 14 *e*P **P 01 06 03.5 -0.2**
NJ2 AP pP 01 06 13.1 +1.9
NJ2 PP PP 01 07 46.3 +3.2
NJ2 S **S 01 12 25.0 -1.3**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
NJ2 AMB AMB
comp=Z,260nm,8.1s
NJ2 LR LR
comp=N,310nm,10.6s
NJ2 LR LR
comp=E,210nm,19.6s
DMN Daman 42.85 330 *e*P **P 01 06 04.5 +0.5**
comp=E,119nm,1.0s,mb5.6
KKN Kakani 42.92 331 *e*P **P 01 06 05.0 +0.4**
comp=E,74nm,0.8s,mb5.5
KKN Kakani 42.92 331 *e*P **P 01 06 05.0 +0.4**
KKN pmax pmax
comp=Z,74nm,0.8s,mb5.5
XAN Xi'an 43.40 2 P **P 01 06 08.0 -0.5**
XAN AP pP 01 06 19.3 +3.2
XAN S **S 01 12 39.9 +4.9**
XAN AMB AMB
comp=Z,40nm,0.8s,mb5.2
XAN LR LR
comp=N,128nm,14.2s,MS4.2
XAN LR LR
comp=E,131nm,13.1s,MS4.2
XAN LR LR
comp=Z,250nm,11.5s,MS4.4
GKN Gorkha 43.41 330 *e*P **P 01 06 08.9 +0.3**
comp=Z,139nm,1.1s,mb5.6
KOLN Koldanda 43.74 329 *e*P **P 01 06 11.7 +0.5**
comp=Z,105nm,0.8s,mb5.6
BHPL Bhopal 43.91 318 *e*P **P 01 06 13.2 +0.5**
BHPL AMb AMB 01 06 28.9
comp=Z,25nm,1.2s,mb4.8
LZH Lanzhou 45.55 356⇑ P **P 01 06 26.5 +0.8**
LZH AP pP 01 06 36.4 +3.1
LZH PP PP 01 08 14.5 +2.1
LZH AMB AMB
comp=Z,35nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,167nm,6.4s
LZH LR LR
comp=N,1μm,14.5s
LZH LR LR
comp=Z,1μm,17.6s,MS4.9
BHV Bhavnagar 46.60 312 *ex* x 01 05 46.0
LGTI Lohaghat 46.84 327 *ex* x 01 06 34.0
NDI New Delhi 47.97 323 *e*P **P 01 06 43.6 -0.9**
NDI AMb AMB 01 06 47.8
comp=Z,40nm,0.6s,mb5.6
TAU Tasmania Unive 48.05 141 *e*P **P 01 06 46.1 +0.9**
GTA Gaotai 49.26 352 *e*P **P 01 06 55.4 +0.9**
GTA AP pP 01 07 05.1 +2.9
GTA PP PP 01 08 52.3 +3.9
GTA AMB AMB
comp=Z,23nm,0.8s,mb5.3
GTA AMB AMB
comp=Z,125nm,5.0s
GTA LR LR
comp=N,153nm,20.2s,MS4.2
GTA LR LR
comp=E,170nm,18.7s,MS4.2
GTA LR LR
comp=Z,163nm,14.5s,MS4.2
SMLA Simla 49.83 326 *e*P **P 01 06 60.0 +1.1**
SMLA AMb AMB 01 07 02.6
comp=Z,58nm,0.0s
BJT Baijiatuan 50.00 9 *e*P **P 01 06 59.6 -0.6**
BJT *e* 01 07 11.2
BJT pmax pmax
comp=Z,16nm,0.8s
BJT Baijiatuan 50.00 9 *e*P **P 01 06 59.6 -0.5**
comp=Z,16nm,0.8s,mb5.1
BJT *e* 01 07 11.2
HHC Hu-ho-hao-te 50.32 4 *e*P **P 01 07 01.8 -0.8**
HHC PP PP 01 08 58.1 0.0
HHC AMB AMB
comp=Z,8.0nm,0.8s,mb4.8
HHC AMB AMB
comp=Z,141nm,5.8s
HHC LR LR
comp=N,235nm,14.9s,MS4.4
HHC LR LR
comp=E,144nm,13.7s,MS4.4
HHC LR LR
comp=Z,151nm,17.2s,MS4.1
HNR Honiara 51.71 94 P **P 01 07 14.3 +1.3**
SNY Shenyang 53.25 15⇓ P **P 01 07 23.8 -0.7**
SNY AMB AMB
comp=Z,12nm,1.0s,mb4.8
MAJO Matsushiro 54.22 30 *e*P **P 01 07 31.1 -0.5**
MAJO *e* 01 07 40.9
MAJO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MAJO Matsushiro 54.22 30 *e*P **P 01 07 31.1 -0.5**
comp=Z,10nm,0.9s,mb4.8
MAJO *e* 01 07 40.9
MAT Matsushiro 54.22 30 P **P 01 07 30.0 -1.6**
MAT Matsushiro 54.22 30 *e*P **P 01 07 30.0 -1.6**
MJAR Matsushiro Arr 54.22 30 P **P 01 07 29.6 -1.9**
comp=Z,9.3nm,0.9s,mb4.7,baz=208,slow=8.2,SNR=18
CN2 Changchun 55.58 16 *e*P **P 01 07 40.3 -1.1**
WMQ Urumqi 56.10 343 P **P 01 07 46.8 +1.6**
WMQ PCP PcP 01 08 44.9 +1.9
WMQ PP PP 01 09 53.1 +2.8
WMQ S **S 01 15 32.8 +0.3**
WMQ AMB AMB
comp=Z,34nm,1.2s,mb5.2
WMQ AMB AMB
comp=Z,223nm,5.0s
WMQ LR LR
comp=N,1μm,17.1s,MS5.1
WMQ LR LR
comp=E,783nm,16.0s,MS5.1
WMQ LR LR
comp=Z,1μm,17.6s,MS5.0
CASY Casey 56.66 179 P **P 01 07 49.1 0.0**
SONM Songino Array 57.17 359 P **P 01 07 52.9 +0.2**
comp=Z,7.7nm,0.8s,mb4.8,baz=173,slow=7.4,SNR=42
SONM LR LR 01 34 05.4
comp=Z,145nm,21.3s,MS4.0,baz=161,slow=38
MDJ Mudanjiang 57.53 19 P **P 01 07 57.0 +1.7**
MDJ AMB AMB
comp=Z,5.0nm,0.6s,mb4.7
MDJ AMB AMB
comp=Z,69nm,4.2s
WSAR Wadi Sarin 57.85 305 P **P 01 07 58.0 +0.5**
comp=Z,2.9nm,0.5s,mb4.5,baz=147,slow=5.6
WSAR Wadi Sarin 57.85 305 P **P 01 07 58.0 +0.5**
OPO Ambohidratompo 58.93 254 P **P 01 08 06.4 +1.3**
comp=Z,5.7nm,0.9s,mb4.6,baz=100,slow=3.7,SNR=6.7
HIA Hailar 59.58 9 P **P 01 08 08.9 -0.6**
ZAK Zakamensk 59.82 357⇑ *i*P **P 01 08 11.2 0.0**
ZAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
AAK Ala-Archa 60.07 332 *d i*P **P 01 08 12.4 -0.5**
AAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
AAK Ala-Archa 60.07 332 *e*P **P 01 08 12.7 -0.2**
comp=Z,2.0nm,0.4s,mb4.5
MK31 Makanchi Array 60.46 340 P **P 01 08 14.7 -0.9**
MK31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
MKAR Makanchi Array 60.46 340 P **P 01 08 15.2 -0.3**
comp=Z,8.1nm,0.5s,mb5.0,baz=134,slow=6.9,SNR=39
TLY Talaya 61.10 357 P **P 01 08 20.5 +0.6**
MOY Mondy 61.25 355 *e*P **P 01 08 21.7 +0.7**
MOY pmax pmax
comp=Z,40nm,3.3s
CIT Chita 61.57 4 *e*P **P 01 08 29.8 +6.7**
KK31 Karatay Array 62.31 330 *i*P **P 01 08 26.9 -1.2**
KK31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
KKAR Karatay Array 62.31 330 *i*P **P 01 08 26.9 -1.2**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
KLR Kul'dur 62.32 18 *e*P **P 01 08 24.0 -4.2**
KLR *e* 01 08 34.8
KLR pmax pmax
comp=Z,38nm,1.4s,mb5.3
YSS Yuzh-Sakhalins 64.46 26 *e*P **P 01 08 41.0 -1.4**
YSS *e* 01 08 53.0
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS pmax pmax
comp=Z,90nm,1.2s,mb5.7
YSS Yuzh-Sakhalins 64.46 26 *e*P **P 01 08 41.5 -0.9**
comp=Z,11nm,0.6s,mb5.0
YSS *e* 01 08 52.5
MAW Mawson 65.05 197 P **P 01 08 46.3 +0.1**
comp=Z,26nm,0.7s,mb5.3,baz=50,slow=6.9,SNR=62
KURK Kurchatov 65.07 340 P **P 01 08 46.8 +0.5**
comp=Z,98nm,0.9s,mb5.8,SNR=18
KURK Kurchatov 65.07 340⇓ P **P 01 08 46.4 +0.1**
SNR=19
KURK Kurchatov 65.07 340 *e*P **P 01 08 45.8 -0.5**
KURK *e* 01 08 57.4
KURK pmax pmax
comp=Z,44nm,1.1s,mb5.4
KURK Kurchatov 65.07 340 *e*P **P 01 08 45.8 -0.5**
comp=Z,44nm,1.1s,mb5.4
KURK *e* 01 08 57.4
NVS Novosibirsk 67.33 345 *e*P **P 01 09 00.3 -0.5**
NVS *e* 01 11 30.3
NVS pmax pmax
comp=N,20nm,1.7s
NVS pmax pmax
comp=E,31nm,1.7s
NVS pmax pmax
comp=Z,21nm,1.7s,mb4.9
BOD Bodaibo 67.37 4 *e*P **P 01 09 00.2 -0.9**
BOD *e* 01 09 11.4
BOD pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
BOD pmax pmax
comp=Z,20nm,1.5s,mb4.9
BVA0 Borovoye Array 69.91 337 *i*P **P 01 09 16.5 -0.4**
BVAR Borovoye Array 69.91 337 P **P 01 09 16.5 -0.4**
comp=Z,5.7nm,0.6s,mb4.7,baz=144,slow=8.7,SNR=40
BVAR LR LR 01 45 12.3
comp=Z,68nm,18.4s,MS3.9,baz=321,slow=40
BRVK Borovoye 69.98 337 P **P 01 09 17.1 -0.2**
comp=Z,80nm,0.9s,mb5.7,SNR=6.9
BRVK Borovoye 69.98 337⇑ P **P 01 09 17.2 -0.1**
SNR=8.0
BRVK Borovoye 69.98 337 *e*P **P 01 09 16.7 -0.6**
BRVK *e* 01 09 26.9
BRVK pmax pmax
comp=Z,13nm,1.1s,mb4.8
BRVK Borovoye 69.98 337 *e*P **P 01 09 16.7 -0.6**
comp=Z,13nm,1.1s,mb4.8
BRVK *e* 01 09 21.2
BRVK *e* 01 09 26.9
KMBO Kilima Mbogo 70.31 272 P **P 01 09 20.0 +0.7**
comp=Z,2.6nm,0.9s,mb4.2,baz=65,slow=5.9,SNR=5.7
KMBO Kilima Mbogo 70.31 272⇑ *e*P **P 01 09 18.7 -0.7**
KMBO Kilima Mbogo 70.31 272 P **P 01 09 20.0 +0.7**
CHKZ Chkalovo 70.33 338 *e*P **P 01 09 19.3 -0.2**
CHKZ *e* 01 09 30.9
CHKZ pmax pmax
comp=Z,33nm,1.0s,mb5.2
CHKZ Chkalovo 70.33 338 *e*P **P 01 09 19.3 -0.2**
comp=Z,33nm,1.0s,mb5.2
CHKZ *e* 01 09 23.8
CHKZ *e* 01 09 30.9
ZRNK Zerenda 70.39 336 *e*P **P 01 09 19.6 -0.2**
ZRNK *e* 01 09 30.1
ZRNK pmax pmax
comp=Z,19nm,0.9s,mb5.0
ZRNK Zerenda 70.39 336 *e*P **P 01 09 19.6 -0.3**
comp=Z,19nm,0.9s,mb5.0
ZRNK *e* 01 09 24.3
ZRNK *e* 01 09 30.1
AB31 Akbulak array 71.86 329 *i*P **P 01 09 28.0 -0.7**
AB31 pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
RAO Raoul Island 71.99 118 P **P 01 09 30.0 +0.5**
SYO Syowa Base 73.26 200⇑ *e*P **P 01 09 36.0 -1.1**
SYO Syowa Base 73.26 200⇓ *e*P pP 01 09 47.8 +2.7
VNDA Vanda 73.36 169 P **P 01 09 37.1 -0.6**
comp=Z,3.5nm,0.9s,mb4.3,baz=295,slow=5.2,SNR=9.2
VNDA LR LR 01 35 55.9
comp=Z,85nm,20.9s,MS4.0,baz=343,slow=31
YAK Yakutsk 73.46 11 *c i*P **P 01 09 37.7 -0.6**
YAK pmax pmax
comp=Z,30nm,1.0s,mb5.2
YAK Yakutsk 73.46 11 P **P 01 09 37.2 -1.0**
AKTK Aktyubinsk 73.57 330 P **P 01 09 37.8 -1.1**
AKTO Aktyubinsk 73.57 330 P **P 01 09 37.8 -1.1**
comp=Z,1.2nm,0.5s,mb4.1,baz=159,slow=4.3,SNR=7.0
SBA Scott Base 74.44 169 *e*P **P 01 09 44.2 +0.2**
SBA pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
SBA Scott Base 74.44 169 *e*P **P 01 09 44.2 +0.3**
comp=Z,2.6nm,0.6s,mb4.3
PET Petropavlovsk 76.01 29⇑ *i*P pP 01 10 04.1 +3.0
PET pmax pmax
comp=Z,55nm,1.3s,mb5.3
GNI Garni 76.10 315 P **P 01 09 53.9 +0.3**
MBAR Mbarara 76.82 272⇑ *e*P **P 01 09 58.7 +1.1**
MA2 Magadan 77.11 21 *e*P **P 01 09 59.3 0.0**
MA2 *i* 01 10 10.6
MA2 *e* 01 14 34.2
MA2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MA2 Magadan 77.11 21 *e*P **P 01 09 59.4 +0.2**
comp=Z,46nm,1.1s,mb5.3
MA2 *e*PcP PcP 01 10 10.4 +0.3
ARU Arti 77.14 335⇑ *i*P **P 01 09 59.0 -0.4**
ARU *e* 01 10 10.3
ARU *e* 01 12 53.0
ARU *e*PPP 01 14 37.8
ARU *e*S S 01 19 47.0 0.0
ARU *e*SS SS 01 24 44.9 +0.3
ARU pmax pmax
comp=Z,12nm,1.3s,mb4.7
ARU Arti 77.14 335 *e*P **P 01 09 59.4 0.0**
comp=Z,26nm,1.4s,mb5.0
ARU *e*PcP PcP 01 10 10.3 +0.2
ZEI Tsey 77.80 318 *e*P **P 01 10 03.2 +0.1**
ZEI *e**PP pP 01 10 11.3 +0.2
ZEI pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
BOSA Boshof 78.69 243 P **P 01 10 08.8 +0.8**
comp=Z,4.3nm,0.9s,mb4.4,baz=124,slow=8.5,SNR=4.2
BOSA Boshof 78.69 243 *e*P **P 01 10 08.7 +0.7**
BOSA pmax pmax
comp=Z,13nm,1.3s,mb4.7
BOSA Boshof 78.69 243 *e*P **P 01 10 08.7 +0.7**
comp=Z,13nm,1.3s,mb4.7
ASF Jabal al Asfar 79.02 305 P **P 01 10 10.3 +0.5**
comp=Z,1.8nm,0.5s,mb4.3,baz=19,slow=2.4,SNR=5.7
KIV Kislovodsk 79.10 318 *e*P **P 01 10 16.8 +6.5**
KIV pmax pmax
comp=Z,12nm,1.2s,mb4.7
GOF Gofitskoye 79.34 319 *e*P **P 01 10 19.8 +8.2**
GOF pmax pmax
comp=Z,30nm,0.9s,mb5.2
EIL Elat 79.84 303 *e*P **P 01 10 14.4 +0.1**
EIL *e*PcP PcP 01 10 21.8 -0.1
MALT Malatya 79.90 312 *e*P **P 01 10 15.3 +0.7**
MALT *e* 01 10 25.3
QSPA South Pole Qui 80.43 180 *e*P **P 01 10 17.2 -0.3**
comp=Z,12nm,1.0s,mb4.8
TIXI Tiksi 82.30 7 *e*P **P 01 10 26.2 -1.2**
TIXI *e* 01 10 36.1
TIXI pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
VRHR Novokhopersk 82.75 325 *e*P **P 01 10 29.3 -0.5**
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,4.0nm,0.3s
BR131 Keskin Array S 83.89 312 *e*P **P 01 10 35.5 -0.1**
comp=E,3.5nm,0.8s,mb4.5
BR131 *e* 01 10 46.1
BRTR Keskin Array B 83.89 312 P **P 01 10 34.6 -1.0**
comp=E,1.7nm,0.9s,mb4.2,baz=126,slow=7.8,SNR=9.4
BRTR Keskin Array B 83.89 312⇑ *e*P **P 01 10 35.5 -0.1**
VRSR Storozhevoye 84.20 324 *e*P **P 01 10 36.8 -0.4**
VRSR pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
VRSR pmax pmax
comp=N,20nm,2.6s
VRSR pmax pmax
comp=E,40nm,4.1s
SIM Simferopol' 85.17 317 *e*P **P 01 10 49.0 +6.9**
SIM pmax pmax
comp=Z,14nm,0.6s,mb5.3
MOS Moscow 86.80 328 *e*P **P 01 10 46.7 -3.5**
MOS *e* 01 11 00.5
MOS pmax pmax
comp=Z,41nm,1.6s,mb5.4
OBN Obninsk 87.13 327 *d i*P **P 01 10 51.4 -0.4**
OBN *i* 01 11 03.3
OBN *e*S 01 21 26.9
OBN pmax pmax
comp=Z,34nm,1.6s,mb5.3
OBN Obninsk 87.13 327 P **P 01 10 51.6 -0.1**
comp=Z,77nm,1.4s,mb5.7
SNAA Sanae 87.22 197⇑ *i*P **P 01 10 52.6 +0.4**
SNAA *e* 01 10 54.8
SNAA *e* 01 11 04.7
SNAA Sanae 87.22 197 *e*P **P 01 10 52.5 +0.3**
SNAA *e* 01 11 03.9
SNAA pmax pmax
comp=Z,6.0nm,1.1s
SNAA Sanae 87.22 197 *e*P **P 01 10 52.5 +0.3**
comp=Z,6.5nm,1.1s,mb4.8
SNAA *e* 01 11 03.9
KLMR Klimovskoe 87.88 333 *e*P **P 01 10 54.9 -0.5**
KLMR pmax pmax
comp=Z,70nm,1.4s,mb5.7
TIRR Tirgusor 88.93 315⇓ *i*P pP 01 11 10.4 +1.9
VNA1 Neumayer--Stat 89.25 197⇑ *i*P **P 01 11 02.9 +1.1**
VNA1 *e* 01 11 04.2
VNA1 *e* 01 11 15.4
VNA1 *e* 01 16 09.9
CFR Carcaliu 89.30 316⇓ *i*P **P 01 11 01.9 -0.2**
AKASG Malin Array Be 89.99 321 P **P 01 11 03.7 -1.6**
comp=Z,0.1nm,0.3s,mb3.7,baz=81,slow=5.0,SNR=4.8
AKASG PP PP 01 14 38.9 +0.5
comp=Z,1.6nm,0.8s,baz=85,slow=6.8,SNR=6.5
AKASG Malin Array Be 89.99 321 P **P 01 11 03.7 -1.6**
AKASG PP PP 01 14 38.9 +0.5
VRI Vrincioaia 90.43 316⇓ *i*P **P 01 11 08.0 +0.7**
MLR Muntele Rosu 90.88 316 P **P 01 11 08.7 -0.8**
comp=Z,2.3nm,0.5s,mb4.7,baz=164,slow=2.7,SNR=6.8
MLR Muntele Rosu 90.88 316⇑ *i*P **P 01 11 08.0 -1.4**
JOF Joensuu 92.24 334 *ep* **P 01 11 14.7 -1.0**

comp=Z,1.7nm,0.5s,mb4.6
FINES FINESS Array B 94.25 332 P **P 01 11 23.9 -1.0**
comp=Z,0.5nm,0.6s,mb4.1,baz=99,slow=4.8,SNR=4.6
FINES FINESS Array B 94.25 332 *i* P **P 01 11 24.5 -0.5**
FINES pmax pmax
comp=Z,1.0nm,0.6s
KAF Kangasniemi 94.28 332 *ep* **P 01 11 25.7 +0.5**
comp=Z,2.3nm,0.8s,mb4.7,baz=93,slow=4.1
KAF Kangasniemi 94.28 332 *eP* **P 01 11 25.7 +0.5**
KAF pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
ARCES ARCESS Array B 96.10 339 P **P 01 11 31.8 -1.7**
comp=Z,1.7nm,0.7s,mb4.6,baz=97,slow=7.4,SNR=7.1
PMR Palmer 104.74 29 P Pdif 01 12 12.8 +0.7
COLA College 104.84 25 P Pdif 01 12 11.8 -0.7
TORD Torodi Ar. Bea 107.37 281 PKiKP PKiKP 01 16 32.0 -0.3
comp=Z,0.4nm,0.8s,baz=55,slow=1.0,SNR=7.5
YKA Yellowknife Ar 119.10 21 PKP PKPdf 01 16 53.0 -1.6
comp=Z,0.3nm,0.5s,baz=333,slow=0.1,SNR=4.9
YKA Yellowknife Ar 119.10 21 *i* PKIKP PKPdf 01 16 54.0 -0.6
YKA Yellowknife Ar 119.10 21 PKP PKPdf 01 16 53.0 -1.6
NVAR Mina Array Bea 129.99 47 PKP PKPdf 01 17 18.1 +2.6
comp=Z,0.6nm,0.6s,baz=262,slow=1.2,SNR=6.0
ELK Elko 131.15 43 *e*PKIKP PKPdf 01 17 19.0 +1.3
BW06 Boulder Array 133.76 38 PKPdf PKPdf 01 17 23.1 +0.5
PDAR Pinedale Array 133.76 38 PKP PKPdf 01 17 24.8 +2.2
comp=Z,0.3nm,0.6s,baz=21,slow=4.9,SNR=3.8
PV10 Paradox Valley 136.49 43 *e*PKPdf PKPdf 01 17 30.4 +2.7
PV01 Paradox Valley 136.93 43 *e*PKPdf PKPdf 01 17 30.4 +1.9
LONY Lake Ozonia 145.04 3 *e*PKPab PKPab 01 17 42.9 +0.4
LONY *e* 01 17 54.5 -
BAO Brasilia Array 145.10 224 PKPdf PKPdf 01 17 43.0 -0.2
BDFB Brasilia 145.11 224 PKPbc PKPbc 01 17 44.7 +2.0
comp=Z,20nm,0.7s,baz=139,slow=2.5,SNR=34
WMOK Wichita Mounta 145.31 40 *e*PKIKP PKPdf 01 17 44.5 +1.0
WMOK *e* 01 17 55.6
NCB Newcomb 145.71 2 *e*PKP PKPdf 01 17 45.0 +0.8
NCB *e*PKP 01 17 56.8
CCM Cathedral Cave 147.02 28 *e*PKP PKPdf 01 17 48.9 +2.5
CCM *e* 01 18 00.3
JCT Junction City 147.16 47 *e*PKP2 01 18 01.2
LVC Limon Verde 147.81 186 *e*PKPbc PKPbc 01 17 52.9 +2.2
ACSO Alum Creek Sta 148.09 15 *e*PKPbc PKPbc 01 17 51.7 +0.3
ACSO *e* 01 18 03.1
MIAR Mount Ida 148.55 35 *e*PKPbc PKPbc 01 17 53.8 +1.1
MIAR *e* 01 18 05.7
HKT Hockley 150.25 44 *e*PKIKP PKPbc 01 17 59.2 +2.3
HKT *e* 01 18 10.8
PLAL Pickwick Lake 150.99 27 *e*PKPbc PKPbc 01 17 58.9 +0.3
PLAL *e* 01 18 09.8
TZTN Tazewell 151.35 19 *e*PKPbc PKPbc 01 18 00.1 +0.6
TZTN *e* 01 18 10.8
CPCT Cooper Cave 152.02 21 *e*PKPbc PKPbc 01 18 02.0 +1.0
CPCT *e*PKPab PKPab 01 18 11.4 +1.0
MYNC Murphy 152.50 21 *e*PKIKP PKPbc 01 18 02.9 +0.9
LPAZ La Paz 153.93 190 PKP PKPdf 01 17 59.5 +2.3
comp=Z,1.4nm,0.9s,baz=41,slow=5.0,SNR=5.8
LPAZ PKPbc PKPbc 01 18 07.5 +2.3
comp=Z,1.5nm,0.6s,baz=137,slow=2.5,SNR=11
LPAZ PKPab PKPab 01 18 19.9 +1.5
comp=Z,2.7nm,0.7s,baz=191,slow=3.2,SNR=8.5
LPAZ La Paz 153.93 190 *e*PKPdf PKPdf 01 18 00.0 +2.8
LPAZ *e*PKPbc PKPbc 01 18 07.4 +2.2

IDC ***24*** *01:02:46.3±1.0, 9.43S×107.47E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/17, mbtmp4.0/6, MS3.5/1, Ms1 3.5/1, ms1mx2.8/26, Error ellipse: s-maj=41.7km s-min=20.6km az=63.0*
NEIC ***24*** *01:02:48.5±1.1, 9.30S×107.64E, h10km, mb3.9/1, Error ellipse: s-maj=50.4km s-min=10.2km az=50.0*
ISCJB ***24*** *01:02:49.2±0.8, 9.4S±0.1×107.5E±0.2, h33km, mb3.9/7, Error ellipse: s-maj=31.5km s-min=12.0km az=112.0*
ISC 24 01:02:51.5±0.8, 95S±01×1073E±01, h35km, n14, σ1§05/14, mb3.9/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**16.08**	**335**	Pn		**Pn**	**01 06 34.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**19.77**	**118**	Sn		**Sn**	**01 11 02.8**	**+1.6**
	0.2nm,0.3s,baz=162,slow=20,SNR=3.1							
WRA	**Warramunga Arr**	**28.12**	**115**	P		**P**	**01 08 39.1**	**-1.0**
	0.7nm,0.6s,mb3.5,baz=288,slow=11,SNR=3.1							
WB2	**Warramunga Arr**	**28.13**	**115**	*eP*		**P**	**01 08 38.5**	**-1.7**
QIZ	**Qiongzhong**	**28.42**	**5**	*eP*		**P**	**01 08 42.2**	**-0.6**
STKA	**Stephens Creek**	**38.82**	**130**	P		**P**	**01 10 12.1**	**-0.8**
	1.7nm,0.5s,mb4.0,baz=306,slow=10,SNR=4.4							
SONM	**Songino Array**	**57.05**	**359**	P		**P**	**01 12 33.8**	**-0.2**
	0.8nm,0.5s,mb4.0,baz=178,slow=9.2,SNR=5.2							
MKAR	**Makanchi Array**	**60.28**	**340**	P		**P**	**01 12 56.2**	**-0.3**
	1.0nm,0.5s,mb4.2,baz=156,slow=7.4,SNR=3.0							
MKAR	**Makanchi Array**	**60.28**	**340**	P		**P**	**01 12 56.2**	**-0.3**
KURK	**Kurchatov**	**64.89**	**340**	*eP*		**P**	**01 13 26.7**	**-0.5**
KURK				*e*			01 13 40.1	
MAW	**Mawson**	**65.11**	**197**	P		**P**	**01 13 28.8**	**+0.2**
	2.0nm,0.9s,mb4.1,baz=41,slow=6.4,SNR=6.1							
BVAR	**Borovoye Array**	**69.73**	**337**	P		**P**	**01 13 59.1**	**+1.3**
	0.5nm,0.5s,mb3.7,baz=149,slow=6.6,SNR=3.6							
BRVK	**Borovoye**	**69.80**	**337**	*eP*		**P**	**01 14 00.2**	**+1.9**
	0.5nm,0.5s,mb3.7							
CHKZ	**Chkalovo**	**70.15**	**338**	*eP*		**P**	**01 14 01.6**	**+1.1**

ISCJB ***24*** *01:03:10.2±3.1, 9.53S±0.07×107.49E±0.09, h8km±19km, mb4.7/31, MS4.2/4, Error ellipse: s-maj=17.8km s-min=7.5km az=109.8*
IDC ***24*** *01:03:10.5±0.6, 9.49S×107.45E, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.3/19, mbtmp4.4/12, ML3.8/1, Error ellipse: s-maj=25.0km s-min=15.3km az=58.0*
BJI ***24*** *01:03:11.3, 9.80S×107.64E, h27km, mB5.1, mb4.8, Ms4.4, Msz4.2*
NEIC ***24*** *01:03:13.1±4.8, 9.53S×107.46E, h15km±29km, mb4.8/19, Error ellipse: s-maj=13.5km s-min=5.5km az=55.0*
ISC 24 01:03:12.7±3.4, 955S±007×10746E±009, h12km±21km, h31km±4.4km; pP-P, n54, σ0§88/47, mb4.7/31, MS4.2/4, 2C-2D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**16.23**	**335**	Pn		**Pn**	**01 06 58.7**	**-1.8**
MBWA	**Marble Bar**	**16.52**	**136**	*ePn*		**Pn**	**01 07 03.9**	**-0.3**
	21nm,0.8s							
KKM	**Kota Kinabalu**	**17.78**	**30**	*ePn*		**Pn**	**01 07 19.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.58**	**118**	*eP*		**Pn**	**01 07 41.6**	**-0.3**
	27nm,0.9s							
FITZ	**Fitzroy Crossi**	**19.58**	**118**	P		**Pn**	**01 07 41.4**	**-0.5**
	0.2nm,0.3s,baz=268,slow=6.2,SNR=6.6							
NST	**Nakhon Sawan**	**26.09**	**344**	P		**P**	**01 08 45.8**	**-0.4**
WRA	**Warramunga Arr**	**27.93**	**115**	P		**P**	**01 09 03.0**	**+0.2**
	10.0nm,0.9s,mb4.4,baz=287,slow=11,SNR=12							
WRA					PcP	PcP	01 12 18.4	+0.3
	1.9nm,0.7s,baz=296,slow=2.1,SNR=6.1							
WRAB	**Tennant Creek**	**27.94**	**115**	*eP*		**P**	**01 09 03.2**	**+0.4**
	16nm,1.0s,mb4.6							
WB2	**Warramunga Arr**	**27.94**	**115**	*eP*		**P**	**01 09 03.1**	**+0.2**
WB2	**Warramunga Arr**	**27.94**	**115**	*eP*		**P**	**01 09 03.1**	**+0.2**
ASAR	**Alice Springs**	**28.90**	**122**	P		**P**	**01 09 10.9**	**-0.5**
	1.2nm,0.8s,mb3.7,baz=306,slow=9.3,SNR=4.6							
ASAR					PcP	PcP	01 12 21.4	+0.9
	1.7nm,0.7s,baz=323,slow=1.7,SNR=7.6							
CHG	**Chiang Mai**	**29.41**	**343**	⇓P		**P**	**01 09 16.8**	**+0.8**
	11nm,1.0s,mb4.5							
CHTO	**Chiang Mai**	**29.41**	**343**	*eP*		**P**	**01 09 16.6**	**+0.7**
	9.9nm,0.9s,mb4.5							
CHTO				*e*			01 09 27.5	
GYA	**Guiyang**	**35.80**	**359**	⇓*i*P		**P**	**01 10 12.1**	**+0.2**
GYA					AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9							
STKA	**Stephens Creek**	**38.63**	**130**	*eP*		**P**	**01 10 35.8**	**-0.1**
	comp=Z,10nm,0.8s,mb4.6							
STKA	**Stephens Creek**	**38.63**	**130**	P		**P**	**01 10 36.3**	**+0.4**
	comp=Z,13nm,0.8s,mb4.7,baz=301,slow=8.6,SNR=19							
STKA	**Stephens Creek**	**38.63**	**130**	*eP*		**P**	**01 10 35.9**	**+0.1**
CTA	**Charters Tower**	**38.85**	**110**	⇑*i*P		**P**	**01 10 39.6**	**+1.9**
	comp=Z,7.5nm,0.8s,mb4.5							
CTAO	**Charters Tower**	**38.85**	**110**	*eP*		**P**	**01 10 38.8**	**+1.1**
	comp=Z,13nm,1.3s,mb4.5							
PMG	**Port Moresby**	**39.15**	**93**	LR		LR	01 29 56.4	
	comp=Z,62nm,20.3s,MS3.4,baz=196,slow=42							
JIRN	**Jiri**	**42.34**	**331**	*eP*		**P**	**01 11 06.7**	**+0.2**
	comp=Z,31nm,0.8s,mb5.0							
PKI	**Pulchoki**	**42.64**	**331**	*eP*		**P**	**01 11 08.7**	**-0.3**
GUN	**Gumba**	**42.70**	**331**	*eP*		**P**	**01 11 10.8**	**+1.3**
	comp=Z,111nm,0.9s,mb5.6							
DMN	**Daman**	**42.82**	**330**	*eP*		**P**	**01 11 10.7**	**+0.3**
	comp=Z,80nm,1.0s,mb5.4							
KKN	**Kakani**	**42.88**	**331**	*eP*		**P**	**01 11 11.5**	**+0.5**
	comp=Z,75nm,1.0s,mb5.4							
GKN	**Gorkha**	**43.38**	**330**	*eP*		**P**	**01 11 16.4**	**+1.5**
	comp=Z,62nm,0.9s,mb5.3							
KOLN	**Koldanda**	**43.70**	**329**	*eP*		**P**	**01 11 18.8**	**+1.2**
	comp=Z,76nm,0.9s,mb5.4							
LZH	**Lanzhou**	**45.52**	**356**	⇑P		**P**	**01 11 32.5**	**+0.4**
LZH					AP	pP	01 11 42.6	+6.8
LZH					XP	sP	01 11 46.4	+9.2
LZH					PP	PP	01 13 19.5	+0.9
LZH				*e*	S	**S**	**01 18 13.4**	**-0.4**
LZH					XS	sS	01 18 29.5	+10
LZH					SS	SS	01 21 29.3	-8.4
LZH					AMB	AMB		
	comp=Z,32nm,1.3s,mb5.1							
LZH					AMB	AMB		
	comp=Z,163nm,6.5s							
LZH					LR	LR		
	comp=N,998nm,14.3s							
LZH					LR	LR		
	comp=Z,1μm,17.7s,MS5.0							
TAU	**Tasmania Unive**	**48.08**	**141**	P		**P**	**01 11 53.1**	**+0.9**
	comp=Z,1.8nm,0.4s,mb4.5							
GTA	**Gaotai**	**49.23**	**352**	*eP*		**P**	**01 12 02.8**	**+1.9**
GTA					AP	pP	01 12 08.5	+3.9
GTA					XP	sP	01 12 11.9	+5.8
GTA					AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.8							
GTA					AMB	AMB		
	comp=Z,109nm,4.2s							
GTA					LR	LR		
	comp=N,153nm,19.8s,MS4.2							
GTA					LR	LR		
	comp=E,170nm,17.1s,MS4.2							
GTA					LR	LR		
	comp=Z,161nm,13.7s,MS4.2							
HHC	**Hu-ho-hao-te**	**50.29**	**4**	*eP*		**P**	**01 12 08.8**	**-0.3**
HHC					AP	pP	01 12 18.8	+6.1
HHC					XP	sP	01 12 22.3	+8.1
HHC					PP	PP	01 14 05.3	+0.9
HHC					S	**S**	**01 19 15.6**	**-5.8**
HHC					PS		01 19 33.8	
HHC					SCS	ScS	01 21 54.0	-6.2
HHC					SS	SS	01 22 49.9	-5.0
HHC					AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1							
HHC					AMB	AMB		
	comp=Z,150nm,5.9s							
HHC					LR	LR		
	comp=N,235nm,19.0s,MS4.3							
HHC					LR	LR		
	comp=E,122nm,18.4s,MS4.3							
HHC					LR	LR		
	comp=Z,151nm,17.8s,MS4.0							
HNR	**Honiara**	**51.73**	**94**	P		**P**	**01 12 19.6**	**-0.3**
MJAR	**Matsushiro Ar**	**54.21**	**31**	P		**P**	**01 12 36.3**	**-1.8**
	comp=Z,2.3nm,0.7s,mb4.2,baz=205,slow=7.3,SNR=5.2							
SONM	**Songino Array**	**57.14**	**359**	P		**P**	**01 12 59.3**	**+0.1**
	comp=Z,2.9nm,0.7s,mb4.4,baz=172,slow=7.4,SNR=8.7							
MKAR	**Makanchi Array**	**60.42**	**340**	P		**P**	**01 13 21.6**	**-0.4**
	comp=Z,2.3nm,0.4s,mb4.5,baz=138,slow=7.5,SNR=6.9							
KURK	**Kurchatov**	**65.04**	**340**	*eP*		**P**	**01 13 52.4**	**-0.5**
	comp=Z,19nm,1.0s,mb5.1							
MAW	**Mawson**	**65.07**	**197**	P		**P**	**01 13 53.0**	**0.0**
	comp=Z,9.7nm,0.8s,mb4.9,baz=41,slow=7.0,SNR=16							
BVAR	**Borovoye Array**	**69.88**	**337**	P		**P**	**01 14 22.5**	**-0.9**
	comp=Z,3.6nm,0.8s,mb4.4,baz=150,slow=8.1,SNR=5.7							
BRVK	**Borovoye**	**69.94**	**337**	*eP*		**P**	**01 14 25.6**	**+1.8**
	comp=Z,2.0nm,0.9s,mb4.0							
BRVK				*e*			01 14 34.2	
CHKZ	**Chkalovo**	**70.30**	**338**	*eP*		**P**	**01 14 24.5**	**-1.5**
	comp=Z,4.5nm,0.6s,mb4.6							
ZRNK	**Zerenda**	**70.36**	**336**	*eP*		**P**	**01 14 25.9**	**-0.5**
	comp=Z,14nm,1.0s,mb4.8							
ZRNK				*e*			01 14 37.2	
VNDA	**Vanda**	**73.39**	**169**	P		**P**	**01 14 43.9**	**-0.8**
	comp=Z,1.4nm,0.8s,mb3.9,baz=317,slow=7.0,SNR=4.7							
ARU	**Arti**	**77.11**	**335**	*eP*		**P**	**01 15 05.5**	**-0.5**
	comp=Z,2.6nm,0.8s,mb4.2							
ASF	**Jabal al Asfar**	**78.99**	**305**	P		**P**	**01 15 16.7**	**+0.3**
	comp=Z,1.7nm,0.7s,mb4.1,baz=295,slow=9.1,SNR=3.8							
QSPA	**South Pole Qui**	**80.45**	**180**	*eP*		**P**	**01 15 23.8**	**-0.6**
	comp=Z,4.9nm,1.0s,mb4.4							
BRTR	**Keskin Array B**	**83.85**	**312**	P		**P**	**01 15 40.7**	**-1.6**
	comp=Z,1.1nm,1.0s,mb4.0,baz=140,slow=7.8,SNR=5.0							
NVAR	**Mina Array Bea**	**129.98**	**47**	PKP		PKPdf	01 22 24.4	+2.0
	comp=Z,0.3nm,0.6s,baz=261,slow=1.3,SNR=3.7							
BDFB	**Brasilia**	**145.12**	**224**	PKPbc		PKPbc	01 22 50.9	+1.3
	comp=Z,9.6nm,0.8s,baz=222,slow=0.5,SNR=12							
WMOK	**Wichita Mounta**	**145.30**	**40**	*e*PKP		PKPdf	01 22 51.2	+0.8
WMOK				*e*			01 23 01.6	
JCT	**Junction City**	**147.16**	**47**	*e*PKPab		PKPab	01 22 56.9	-0.4
MIAR	**Mount Ida**	**148.54**	**35**	*e*PKPbc		PKPbc	01 23 00.2	+0.8
HKT	**Hockley**	**150.25**	**44**	*e*PKPbc		PKPbc	01 23 05.4	+1.7
HKT				*e*			01 23 16.2	
PLAL	**Pickwick Lake**	**150.98**	**27**	*e*PKPbc		PKPbc	01 23 05.4	0.0
PLAL				*e*			01 23 17.2	
LPAZ	**La Paz**	**153.96**	**190**	PKPbc		PKPbc	01 23 13.3	+1.2
	comp=Z,1.1nm,0.8s,baz=201,slow=8.8,SNR=5.0							
LPAZ					PKPab	PKPab	01 23 25.8	+0.4
	comp=Z,1.4nm,0.7s,baz=227,slow=3.4,SNR=5.7							

IDC ***24*** *01:23:24.3±0.5, 9.76S×108.07E, h0km, mb4.6/17, mb1 4.6/19, mb1mx4.6/23, mbtmp4.6/19, ML3.8/2, MS3.9/6, Ms1 3.8/6, ms1mx3.5/20, Error ellipse: s-maj=19.2km s-min=12.3km az=54.0*
NEIC ***24*** *01:23:26.0±0.2, 9.71S×108.10E, h10km, mb5.1/33, Error ellipse: s-maj=7.0km s-min=4.5km az=53.0*
BJI ***24*** *01:23:26.0, 9.70S×108.10E, h10km, mB5.2, mb5.0, Ms4.8, Msz4.5*
ISCJB ***24*** *01:23:27.6±0.2, 9.71S±004×108.12E±004, h34km, mb5.0/87, MS4.3/16, Error ellipse: s-maj=6.8km s-min=4.8km az=110.6*
MOS ***24*** *01:23:27.9±1.1, 9.63S×108.16E, h33km, mb5.3/28, Error ellipse: s-maj=10.7km s-min=6.4km az=111.5*
ISC 24 01:23:29.9±0.2, 973S±004×10811E±004, h36km, h36km±1.3km; pP-P, n207, σ1§01/181, mb5.0/87, MS4.3/16, 14C-7D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BJI	**Banjamegara**	**2.85**	**34**	P		**Pn**	**01 24 11.9**	**-1.0**
	232nm,1.7s							
BJI	**Banjamegara**	**2.85**	**34**	⇑*i*P		**Pn**	**01 24 14.0**	**+1.1**
BJI				*i* S		**Sn**	**01 24 40.3**	**-5.7**
LEM	**Lembang**	**2.92**	**350**	P		**Pn**	**01 24 14.2**	**+0.4**
	2μm,0.8s							
KSM	**Kuching**	**11.34**	**11**	Pn		**Pn**	**01 26 07.9**	**-1.4**
COCO	**West Island**	**11.34**	**256**	*ePn*		**Pn**	**01 26 04.2**	**-5.2**
KGM	**Kluang**	**12.60**	**337**	P		**Pn**	**01 26 25.6**	**-1.0**
PCI	**Palu**	**14.59**	**54**	P		**Pn**	**01 26 55.4**	**+1.7**
	130nm,1.2s							
PSI	**Prapat**	**15.45**	**323**	Pn		**Pn**	**01 27 02.9**	**-2.1**
	0.2nm,0.3s,baz=113,slow=18,SNR=3.7							
PSI	**Prapat**	**15.45**	**323**	Pn		**Pn**	**01 27 02.9**	**-2.1**
IPM	**Ipoh**	**15.78**	**333**	P		**Pn**	**01 27 12.2**	**+2.8**
MBWA	**Marble Bar**	**15.94**	**137**	*ePn*		**Pn**	**01 27 05.6**	**-5.8**
	19nm,0.8s							
KULM	**Kulim**	**16.67**	**333**	*ePn*		**Pn**	**01 27 15.4**	**-5.2**
TSM	**Tawau**	**16.98**	**35**	P		**Pn**	**01 27 28.4**	**+3.8**
KKM	**Kota Kinabalu**	**17.62**	**28**	P		**Pn**	**01 27 32.4**	**-0.1**
KKM	**Kota Kinabalu**	**17.62**	**28**	*ePn*		**Pn**	**01 27 31.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**18.93**	**118**	⇑*i*P		**Pn**	**01 27 48.1**	**-0.3**
	29nm,0.9s							
FITZ				*e*S		**S**	**01 30 59.0**	**-21**
FITZ	**Fitzroy Crossi**	**18.93**	**118**	P		**Pn**	**01 27 48.1**	**-0.3**
	0.3nm,0.3s,baz=302,slow=12,SNR=9.4							
FITZ					Sn	**Sn**	**01 31 02.4**	**-17**
	0.8nm,0.3s,baz=176,slow=20,SNR=6.5							
KAKA	**Kakadu**	**24.04**	**99**	*eP*		**P**	**01 28 40.8**	**-0.7**
	24nm,0.7s,mb4.7							
NWAO	**Narrogin (SRO)**	**24.58**	**161**	P		**P**	**01 28 44.8**	**-1.6**
	17nm,0.9s,mb4.6,baz=29,slow=13,SNR=3.7							
NWAO					LR	LR	01 37 31.7	
	comp=Z,198nm,21.9s,MS3.6,baz=204,slow=34							
NWAO	**Narrogin (SRO)**	**24.58**	**161**	*eP*		**P**	**01 28 44.9**	**-1.5**
KKTK	**Khon Kaen**	**26.42**	**349**	P		**P**	**01 29 03.0**	**-0.1**
	370nm,0.7s,mb6.0							
NST	**Nakhon Sawan**	**26.44**	**343**	P		**P**	**01 29 02.2**	**-1.1**
WRA	**Warramunga Arr**	**27.27**	**115**	P		**P**	**01 29 10.4**	**-0.4**
	5.5nm,0.9s,mb4.1,baz=286,slow=11,SNR=11							
WRA					Sn	S	01 34 22.1	+34
	2.4nm,0.8s,baz=285,slow=24,SNR=4.5							
WRAB	**Tennant Creek**	**27.28**	**115**	⇑*e*P		**P**	**01 29 10.7**	**-0.1**
WRAB	**Tennant Creek**	**27.28**	**115**	*eP*		**P**	**01 29 11.1**	**+0.2**
	8.3nm,0.8s,mb4.3							
WB2	**Warramunga Arr**	**27.28**	**115**	*eP*		**P**	**01 29 09.9**	**-1.0**
WB2				*eS*		S	01 34 23.7	+36
AS31	**Alice Springs**	**28.26**	**123**	*eP*		**P**	**01 29 20.8**	**+1.2**
ASAR	**Alice Springs**	**28.26**	**123**	P		**P**	**01 29 19.3**	**-0.3**
	0.9nm,0.6s,baz=310,slow=9.6,SNR=7.7							
ASAR					Sn	S	01 34 46.4	+43
	5.3nm,0.9s,baz=300,slow=23,SNR=11							
QIZ	**Qiongzhong**	**28.62**	**3**	P		**P**	**01 29 23.8**	**+1.0**
QIZ					AP	pP	01 29 27.8	-5.2
QIZ					S	**S**	**01 34 09.1**	**+0.2**
QIZ					AMB	AMB		
	comp=Z,21nm,1.3s,mb4.7							
QIZ					LR	LR		
	comp=N,321nm,13.3s							
QIZ					LR	LR		
	comp=Z,270nm,14.9s,MS4.0							
QIZ	**Qiongzhong**	**28.62**	**3**	*eP*		**P**	**01 29 24.5**	**+1.6**
	comp=Z,82nm,1.9s,mb5.1							
CHG	**Chiang Mai**	**29.77**	**342**	⇑P		**P**	**01 29 33.0**	**0.0**
	comp=Z,36nm,0.8s,mb5.2							
CHTO	**Chiang Mai**	**29.77**	**342**	P		**P**	**01 29 34.3**	**+1.4**
	SNR=24							
CHTO	**Chiang Mai**	**29.77**	**342**	*eP*		**P**	**01 29 33.0**	**0.0**
CHTO				*e*		pP	01 29 44.2	+1.0
CHTO					pmax	pmax		
	comp=Z,83nm,1.0s,mb5.4							
CHTO	**Chiang Mai**	**29.77**	**342**	*eP*		**P**	**01 29 33.0**	**0.0**
	comp=Z,84nm,1.0s,mb5.4							
CHTO				*e*		pP	01 29 44.2	+1.0
PALK	**Pallekele**	**32.10**	**301**	*eP*		**P**	**01 29 53.0**	**-0.6**
	comp=Z,9.7nm,0.8s,mb4.7							
GZH	**Guangzhou**	**33.01**	**9**	P		**P**	**01 30 06.3**	**+4.8**
GZH					S	**S**	**01 35 27.8**	**+10**
GZH					LR	LR		
	comp=N,291nm,13.7s,MS4.3							
GZH					LR	LR		
	comp=E,192nm,10.3s,MS4.3							
GZH					LR	LR		
	comp=Z,333nm,12.7s,MS4.2							
KMI	**Kunming**	**35.03**	**351**	P		**P**	**01 30 21.4**	**+2.4**
KMI					AP	pP	01 30 26.4	-3.0
KMI					XP	sP	01 30 29.0	-4.7
KMI					PP	PP	01 31 42.5	+3.7
KMI					PPP		01 32 00.0	
KMI					S	**S**	**01 35 53.9**	**+5.1**
KMI					XS	sS	01 35 59.6	-6.2
KMI					SS	SS	01 38 11.4	-10
KMI					AMB	AMB		
	comp=Z,30nm,1.4s,mb5.0							
KMI					AMB	AMB		
	comp=Z,146nm,3.1s							
KMI					LR	LR		
	comp=N,447nm,13.6s,MS4.4							
KMI					LR	LR		
	comp=E,256nm,17.7s,MS4.4							
KMI					LR	LR		
	comp=Z,511nm,12.9s,MS4.5							
DGAR	**Diego Garcia**	**35.33**	**271**	P		**P**	**01 30 22.2**	**+0.6**
GYA	**Guiyang**	**35.99**	**358**	⇑*i*P		**P**	**01 30 28.8**	**+1.5**
GYA					AP	pP	01 30 32.8	-4.9
GYA					XP	sP	01 30 35.9	-6.1
GYA					PP	PP	01 31 49.9	+0.4
GYA					PCP	PcP	01 32 55.4	+2.0
GYA					S	**S**	**01 36 06.5**	**+2.9**
GYA					SCP	ScP	01 36 39.9	+3.1
GYA					SS	SS	01 38 26.4	-15
GYA					AMB	AMB		
	comp=Z,70nm,0.8s,mb5.6							
GYA					AMB	AMB		
	comp=Z,180nm,4.5s							
GYA					LR	LR		
	comp=N,780nm,15.4s,MS4.7							
GYA					LR	LR		
	comp=E,660nm,14.9s,MS4.7							
GYA					LR	LR		
	comp=Z,640nm,15.0s,MS4.5							
NACB	**Ninganchiao**	**36.17**	**21**	*eP*		**P**	**01 30 28.4**	**-0.4**
YHNB	**Yeheng**	**36.55**	**21**	*eP*		**P**	**01 30 31.0**	**-1.1**
VIS	**Vishakhapatnam**	**36.65**	**318**	*eP*		**P**	**01 30 33.1**	**+0.2**
VIS					AMb	AMB	01 30 38.9	
	comp=Z,29nm,1.9s,mb4.8							
STKA	**Stephens Creek**	**38.03**	**130**	*eP*		**P**	**01 30 44.5**	**-0.1**
	comp=Z,13nm,0.9s,mb4.7							
STKA				*e*		pP	01 30 55.2	+0.2
STKA	**Stephens Creek**	**38.03**	**130**	P		**P**	**01 30 44.6**	**0.0**
	comp=Z,14nm,0.8s,mb4.7,baz=302,slow=7.6,SNR=23							
STKA	**Stephens Creek**	**38.03**	**130**	*eP*		**P**	**01 30 44.5**	**-0.1**
STKA				*e*		pP	01 30 55.5	+0.5
CTAO	**Char

XAN AMB AMB
comp=Z,23nm,0.8s,mb5.0
GKN Gorkha 43.85 329 *e*P **P** **01 31 32.7 +0.2**
comp=Z,63nm,0.9s,mb5.4
KOLN Koldanda 44.19 328 *e*P **P** **01 31 35.5 +0.2**
comp=Z,105nm,0.8s,mb5.6
BHPL Bhopal 44.44 318 *e*P **P** **01 31 35.1 -2.2**
BHPL AMb AMB 01 31 42.2
comp=Z,25nm,1.0s,mb4.9
LZH Lanzhou 45.74 355 ⇑P **P** **01 31 47.5 -0.1**
LZH AP pP 01 31 57.3 -0.9
LZH XP sP 01 32 01.6 -0.8
LZH PP PP 01 33 35.8 +0.7
LZH *e*S **S** **01 38 27.5 -1.0**
LZH XS sS 01 38 45.8 -0.1
LZH SS SS 01 41 45.5 -7.6
LZH AMB AMB
comp=Z,81nm,1.4s,mb5.5
LZH AMB AMB
comp=Z,273nm,6.7s
LZH LR LR
comp=N,1μm,14.6s
LZH LR LR
comp=Z,2μm,17.8s,MS5.1
LGTI Lohaghat 47.31 326 *ex* x 01 31 55.0
TAU Tasmania Unive 47.54 141 P **P** **01 32 03.1 +1.4**
NDI New Delhi 48.46 323 *e*P **P** **01 32 08.5 -0.3**
NDI AMb AMB 01 32 14.9
comp=Z,33nm,1.8s,mb5.1
GTA Gaotai 49.49 352 ⇓P **P** **01 32 17.9 +1.2**
GTA AP pP 01 32 24.1 -3.2
GTA XP sP 01 32 27.6 -4.0
GTA AMB AMB
comp=Z,9.0nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,210nm,3.8s
GTA LR LR
comp=N,162nm,16.0s,MS4.2
GTA LR LR
comp=E,106nm,13.3s,MS4.2
GTA LR LR
comp=Z,171nm,14.5s,MS4.2
BJT Baijiatuao 50.05 8 *e*P **P** **01 32 21.2 +0.3**
BJT *e* pP 01 32 32.0 +0.4
BJT pmax pmax
comp=Z,15nm,1.0s
BJT Baijiatuao 50.05 8 *e*P **P** **01 32 21.2 +0.2**
comp=Z,15nm,1.0s,mb5.0
BJT *e* pP 01 32 32.0 +0.4
BTO Baotou 50.11 2 *e*P **P** **01 32 20.8 -0.6**
SMLA Simla 50.30 325 *e*P **P** **01 32 22.8 0.0**
SMLA AMb AMB 01 32 37.6
comp=Z,72nm,0.6s,mb5.9
HHC Hu-ho-hao-te 50.42 3 *e*P **P** **01 32 24.9 +1.2**
HHC AP pP 01 32 34.9 +0.5
HHC XP sP 01 32 38.5 -0.1
HHC PCP PcP 01 33 45.8 +4.1
HHC PP PP 01 34 20.3 +0.8
HHC S **S** **01 39 30.0 -4.7**
HHC SCS ScS 01 42 11.3 -0.6
HHC AMB AMB
comp=Z,18nm,0.9s,mb5.1
HHC AMB AMB
comp=Z,158nm,6.5s
HHC LR LR
comp=N,241nm,20.8s,MS4.2
HHC LR LR
comp=E,119nm,21.4s,MS4.2
HHC LR LR
comp=Z,160nm,17.3s,MS4.1
HNR Honiara 51.07 94 *e*P **P** **01 32 28.8 +0.2**
HNR pmax pmax
comp=Z,21nm,0.6s,mb5.2
HNR Honiara 51.07 94 *e*P **P** **01 32 28.8 +0.2**
comp=Z,21nm,0.6s,mb5.2
PONG Pong 51.61 325 *ex* x 01 31 47.0
MAJO Matsushiro 54.03 30 *e*P **P** **01 32 48.9 -1.6**
MAJO *e* pP 01 32 59.6 -1.7
MAJO pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MAJO Matsushiro 54.03 30 *e*P **P** **01 32 48.9 -1.7**
comp=Z,10nm,0.8s,mb4.8
MAJO *e* pP 01 32 59.6 -1.6
MAT Matsushiro 54.03 30 P **P** **01 32 48.5 -2.0**
MAT Matsushiro 54.03 30 *e*P **P** **01 32 49.0 -1.5**
MAT pmax pmax
comp=Z,16nm,1.2s,mb4.8
MAT Matsushiro 54.03 30 *e*P **P** **01 32 49.0 -1.5**
comp=Z,16nm,1.2s,mb4.8
MJAR Matsushiro Arr 54.03 30 P **P** **01 32 49.0 -1.5**
comp=Z,9.4nm,0.8s,mb4.7,baz=208,slow=7.5,SNR=18
MJAR PcP PcP 01 33 56.3 +1.1
comp=Z,2.7nm,0.8s,baz=189,slow=3.6,SNR=2.3
MJAR LR LR 01 56 46.6
comp=Z,66nm,18.4s,MS3.7,baz=45,slow=37
MJAR Matsushiro Arr 54.03 30 P **P** **01 32 49.0 -1.5**
MJAR 01 33 56.3
CN2 Changchun 55.55 15 *e*P **P** **01 33 00.1 -1.5**
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
WMQ Urumqi 56.43 342 P **P** **01 33 10.4 +2.5**
WMQ AP pP 01 33 15.0 -3.6
WMQ XP sP 01 33 17.4 -5.5
WMQ PCP PcP 01 34 07.3 +2.8
WMQ PP PP 01 35 17.5 +3.9
WMQ S **S** **01 40 58.9 +2.6**
WMQ AMB AMB
comp=Z,37nm,1.3s,mb5.2
WMQ AMB AMB
comp=Z,241nm,5.4s
WMQ LR LR
comp=N,1μm,17.6s,MS5.1
WMQ LR LR
comp=E,799nm,16.5s,MS5.1
WMQ LR LR
comp=Z,1μm,18.1s,MS5.0
VLA Vladivostok 56.89 21 ⇓*i*P **P** **01 33 10.4 -0.7**
VLA pmax pmax
comp=Z,30nm,0.8s,mb5.4
SONM Songino Array 57.32 359 P **P** **01 33 14.9 +0.8**
comp=Z,17nm,0.7s,mb5.2,baz=172,slow=8.0,SNR=113
SONM LR LR 01 59 32.6
comp=Z,153nm,21.0s,MS4.1,baz=167,slow=38
MDJ Mudanjiang 57.47 18 P **P** **01 33 14.8 -0.4**
MDJ AMB AMB
comp=Z,9.0nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,68nm,5.0s
MDJ Mudanjiang 57.47 18 *e*P **P** **01 33 14.9 -0.3**
comp=Z,5.4nm,0.6s,mb4.8
BIDO Bidbid 58.99 305 ⇓P pP 01 33 36.5 -0.1
SNR=7.1
HIA Hailar 59.62 9 *e*P **P** **01 33 30.2 0.0**
HIA pmax pmax
comp=Z,7.0nm,0.3s
HIA Hailar 59.62 9 *e*P **P** **01 33 30.2 0.0**
comp=Z,6.6nm,0.3s,mb5.1
ZAK Zakamensk 60.00 356 ⇑*i*P **P** **01 33 32.9 +0.1**
ZAK *e* pP 01 33 43.5 -0.2
ZAK pmax pmax
comp=Z,11nm,1.1s,mb4.8
ZAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
AAK Ala-Archa 60.49 332 ⇑*i*P **P** **01 33 37.6 +1.4**
AAK pmax pmax
comp=Z,16nm,1.3s,mb4.9
AAK Ala-Archa 60.49 332 *e*P **P** **01 33 38.8 +2.6**
comp=Z,19nm,1.0s,mb5.1
MK31 Makanchi Array 60.81 340 P **P** **01 33 37.9 -0.4**
MK31 pmax pmax
comp=Z,19nm,0.9s,mb5.2
MKAR Makanchi Array 60.81 340 P **P** **01 33 38.0 -0.3**
comp=Z,9.4nm,0.7s,mb5.0,baz=134,slow=6.9,SNR=20
MKAR Makanchi Array 60.81 340 P **P** **01 33 38.0 -0.3**
TLY Talaya 61.27 357 *e*P **P** **01 33 42.2 +0.7**
TLY *e* pP 01 33 52.4 0.0
TLY pmax pmax
comp=Z,11nm,0.8s,mb5.0
TLY Talaya 61.27 357 *e*P **P** **01 33 42.2 +0.7**
comp=Z,12nm,0.8s,mb5.1
TLY *e* pP 01 33 52.4 +0.1
MOY Mondy 61.45 355 *e*P **P** **01 33 43.6 +0.9**
MOY pmax pmax
comp=Z,44nm,2.0s,mb5.2
CIT Chita 61.67 4 *e*P **P** **01 33 44.4 +0.2**
CIT *e* pP 01 33 55.6 +0.5
CIT pmax pmax
comp=Z,65nm,1.7s,mb5.5
HABR Khabarovsk 62.64 20 *e*P **P** **01 33 50.3 -0.3**
HABR *e*S **S** **01 42 17.5 +1.2**
HABR pmax pmax
comp=Z,40nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 64.32 26 *e*P **P** **01 34 00.0 -1.7**
YSS *e* pP 01 34 12.0 -0.7
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 64.32 26 *e*P **P** **01 34 00.6 -1.1**
comp=Z,8.3nm,0.4s,mb5.1
MAW Mawson 65.10 197 *e*P **P** **01 34 05.5 -1.4**
comp=Z,4.1nm,0.9s,mb4.5
MAW *e* pP 01 34 15.8 -2.0
MAW Mawson 65.10 197 P **P** **01 34 05.8 -1.0**
comp=Z,4.9nm,0.8s,mb4.6,baz=33,slow=7.6,SNR=12
MAW LR LR 01 54 51.1
comp=Z,103nm,20.2s,MS4.0,baz=255,slow=29
MAW Mawson 65.10 197 *e*P **P** **01 34 05.5 -1.4**
MAW *e* pP 01 34 15.8 -2.0
MAW pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 65.42 340 P **P** **01 34 08.4 -0.5**
comp=Z,112nm,1.1s,mb5.8,SNR=7.5
KURK Kurchatov 65.42 340 P **P** **01 34 09.2 +0.3**
SNR=7.0
KURK Kurchatov 65.42 340 *d*/P **P** **01 34 08.5 -0.4**
KURK Kurchatov 65.42 340 *e*P **P** **01 34 08.9 0.0**
comp=Z,9.1nm,0.8s,mb4.9
KURK *e* pP 01 34 19.7 -0.1
BOD Bodaibo 67.48 3 *e*P **P** **01 34 21.5 -0.6**
BOD pmax pmax
comp=Z,24nm,0.9s,mb5.2
CLNS Chul'man 67.76 10 *e*P **P** **01 34 22.9 -0.9**
CLNS pmax pmax
comp=Z,25nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,23nm,1.4s
CLNS pmax pmax
comp=E,7.0nm,0.7s
QRN Al-Qurain 69.51 306 *e*P pP 01 34 44.2 -1.6
QRN AMb AMB 01 34 47.1
comp=Z,55nm,1.0s,mb5.4
NAY Al-Naaiem 70.26 306 *e*P pP 01 34 47.9 -2.5
NAY AMb AMB 01 34 52.2
comp=Z,18nm,0.8s,mb5.1
BVA0 Borovoye Array 70.29 337 *i*P **P** **01 34 39.2 -0.3**
BVA0 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BVAR Borovoye Array 70.29 337 P **P** **01 34 39.3 -0.2**
comp=Z,8.5nm,0.6s,mb4.8,baz=141,slow=7.3,SNR=16
BRVK Borovoye 70.36 337 *e*P **P** **01 34 39.2 -0.8**
BRVK *e* pP 01 34 50.2 -0.8
BRVK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BRVK Borovoye 70.36 337 *e*P **P** **01 34 39.2 -0.7**
comp=Z,6.2nm,0.7s,mb4.7
BRVK *e* pP 01 34 50.1 -0.9
MIB Mutribah 70.41 306 *e*P pP 01 34 49.9 -1.4
MIB AMb AMB 01 34 54.3
comp=Z,23nm,0.7s,mb5.2
RST Umm Al-Ruwaisa 70.56 306 *e*P pP 01 34 49.8 -2.4
RST AMb AMB 01 34 53.1
comp=Z,48nm,0.7s,mb5.5
CHKZ Chkalovo 70.70 337 *e*P **P** **01 34 41.9 -0.2**
CHKZ *e* 01 34 45.9
CHKZ *e* pP 01 34 53.1 -0.1
CHKZ *e* 01 34 56.4
ZRNK Zerenda 70.78 336 *e*P **P** **01 34 42.3 -0.2**
ZRNK *e* pP 01 34 53.1 -0.5
ZRNK *e* 01 34 56.8
ZRNK pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ZRNK Zerenda 70.78 336 *e*P **P** **01 34 42.3 -0.2**
comp=Z,9.8nm,0.7s,mb4.8
ZRNK *e* 01 34 46.7
ZRNK *e* pP 01 34 53.1 -0.4
ZRNK *e* 01 34 56.8
KMBO Kilima Mbogo 70.95 272 LR LR 01 59 42.0
comp=Z,50nm,18.6s,MS3.8,baz=103,slow=31
RAO Raoul Island 71.37 118 *e*P **P** **01 34 47.1 +1.0**
RAO pmax pmax
comp=Z,127nm,0.2s
RAO Raoul Island 71.37 118 *e*P **P** **01 34 47.0 +1.0**
comp=Z,127nm,0.2s
AB31 Akbulak array 72.30 329 *i*P **P** **01 34 51.6 -0.1**
AB31 pmax pmax
comp=Z,13nm,0.6s,mb5.0
VNDA Vanda 73.10 169 P **P** **01 34 55.0 -1.5**
comp=Z,1.2nm,0.7s,mb3.9,baz=325,slow=4.3,SNR=5.5
YAK Yakutsk 73.49 10 *e*P **P** **01 34 58.5 -0.2**
YAK *e* pP 01 35 09.9 +0.1
YAK pmax pmax
comp=Z,42nm,1.1s,mb5.3
YAK pmax pmax
comp=N,13nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,40nm,0.8s,mb5.4
YAK pmax pmax
comp=N,14nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK Yakutsk 73.49 10 *e*P **P** **01 34 58.0 -0.7**
comp=E,43nm,0.7s,mb5.5
YAK *e* pP 01 35 07.6 -2.2
SBA Scott Base 74.18 169 P **P** **01 35 02.8 0.0**
PET Petropavlovsk 75.83 29 ⇑*i*P **P** **01 35 12.5 +0.2**
PET pmax pmax
comp=Z,26nm,1.7s,mb4.9
GNI Garni 76.65 315 P **P** **01 35 15.7 -1.3**
MA2 Magadan 77.02 21 *e*P **P** **01 35 19.7 +0.6**
MA2 *i* pP 01 35 30.3 +0.1
MA2 pmax pmax
comp=Z,30nm,0.8s,mb5.3
MA2 Magadan 77.02 21 *e*P **P** **01 35 19.7 +0.7**
comp=Z,12nm,0.8s,mb4.9
MA2 *e*PcP PcP 01 35 30.0 +0.1
ARU Arti 77.54 334 P **P** **01 35 21.7 -0.3**
comp=Z,171nm,1.1s,mb5.9,SNR=5.8
ARU Arti 77.54 334 ⇓*i*P **P** **01 35 21.8 -0.2**
ARU *e* pP 01 35 32.3 -0.8
ARU *e* 01 38 17.2
ARU *e*PPP 01 40 07.0
ARU *e*S S 01 45 12.4 +1.8
ARU *e*SS SS 01 50 13.4 +3.2
ARU pmax pmax
comp=Z,30nm,1.0s,mb5.2
ARU Arti 77.54 334 *e*P **P** **01 35 21.7 -0.2**
comp=Z,27nm,0.9s,mb5.2
ARU *e* pP 01 35 32.5 -0.6
BOSA Boshof 79.18 243 P **P** **01 35 32.0 +1.0**
comp=Z,3.7nm,1.0s,mb4.3,baz=44,slow=7.3,SNR=3.3
BOSA LR LR 02 03 28.4
comp=Z,108nm,18.9s,MS4.2,baz=314,slow=30
BOSA Boshof 79.18 243 *e*P **P** **01 35 32.2 +1.1**
BOSA *e*PcP PcP 01 35 40.4 +1.1
LBTB Lobatse 79.22 246 *e*P **P** **01 35 32.2 +1.0**
LBTB *e* pP 01 35 42.5 +0.1
LBTB pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
LBTB Lobatse 79.22 246 *e*P **P** **01 35 32.2 +1.0**
comp=Z,2.2nm,0.7s,mb4.2
LBTB *e*PcP PcP 01 35 42.5 +3.0
ASF Jabal al Asfar 79.61 305 P **P** **01 35 34.6 +1.2**
comp=Z,3.9nm,0.9s,mb4.3,baz=326,slow=2.9,SNR=9.0
KIV Kislovodsk 79.63 318 *e*P **P** **01 35 34.4 +0.9**
KIV pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GOF Gofitskoye 79.86 319 *e*P **P** **01 35 33.6 -1.1**
EIL Elat 80.45 302 *e*P **P** **01 35 38.3 +0.4**
comp=Z,66nm,0.9s,mb5.6
MALT Malatya 80.47 312 *e*P **P** **01 35 37.6 -0.4**
MALT *e*PcP PcP 01 35 44.6 -0.3
MALT *e* pP 01 35 49.5 +0.3
MMAI Mount Meron Ar 81.07 306 P **P** **01 35 42.5 +1.3**
comp=Z,1.9nm,0.6s,mb4.2,baz=103,slow=9.7,SNR=6.4
SOC Sochi 81.46 317 *e*P **P** **01 35 41.9 -1.4**
SOC *e*S S 01 45 48.9 -3.3
SOC *e*SSS 01 54 28.6
SOC pmax pmax
comp=Z,11nm,0.7s,mb4.9
TIXI Tiksi 82.37 7 *e*P **P** **01 35 46.3 -1.7**
TIXI *e* pP 01 35 57.0 -2.3
TIXI pmax pmax
comp=Z,23nm,0.9s,mb5.1
BRTR Keskin Array B 84.45 312 P **P** **01 35 58.8 0.0**
comp=Z,4.6nm,1.0s,mb4.6,baz=126,slow=6.4,SNR=15
BRTR Keskin Array B 84.45 312⇑*e*P **P** **01 35 58.7 -0.1**
VRSR Storozhevoye 84.69 324 *e*P **P** **01 35 59.9 -0.1**
VRSR pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
VRSR pmax pmax
comp=N,30nm,3.4s
VRSR pmax pmax
comp=E,20nm,0.9s
SIM Simferopol' **85.71 317** *e*P **P** **01 36 05.0 -0.1**
SIM pmax pmax
comp=Z,17nm,0.9s,mb5.3
MOS Moscow 87.26 328 *e*P **P** **01 36 13.3 +0.6**
MOS pmax pmax
comp=Z,30nm,1.2s,mb5.4
SNAA Sanae 87.27 197 *e*P **P** **01 36 22.5 +10**
SNAA *e* 01 36 24.2
SNAA *e* 01 36 36.9
SNAA Sanae 87.27 197 P **P** **01 36 12.7 0.0**
SNAA *e* pP 01 36 23.6 -0.4
OBN Obninsk 87.60 327 *de*P **P** **01 36 14.0 -0.3**
OBN *i* pP 01 36 25.0 -0.6
OBN pmax pmax
comp=Z,39nm,1.6s,mb5.4
OBN Obninsk 87.60 327 *e*P **P** **01 36 14.0 -0.3**
comp=Z,16nm,0.6s,mb5.4
OBN *e* pP 01 36 24.9 -0.7
BILL Bilibino 87.70 19 *e*P **P** **01 36 14.0 -0.8**
BILL *e* pP 01 36 22.7 -3.4
BILL Bilibino 87.70 19 *e*P **P** **01 36 13.9 -0.8**
BILL *e* pP 01 36 22.7 -3.4
KLMR Klimovskoe 88.29 333 *e*P **P** **01 36 17.3 -0.3**
KLMR pmax pmax
comp=Z,40nm,1.4s,mb5.5
VNA1 Neumayer--Stat 89.30 197 *e*P **P** **01 36 24.0 +1.7**
VNA1 *e* 01 36 25.3
VNA1 *e* pP 01 36 33.1 -0.6
VNA1 *e* pP 01 36 37.4 +3.7
VNA1 *e* 01 36 43.2
AKASG Malin Array Be 90.50 321 P **P** **01 36 26.8 -1.1**
comp=Z,2.4nm,0.9s,mb4.5,baz=89,slow=4.3,SNR=8.7
AKBB Malin Array Si 90.50 321 *e*P **P** **01 36 24.7 -3.2**
AKBB *e* pP 01 36 36.7 -2.6
VRI Vrincioaia 90.97 316 ⇑*i*P **P** **01 36 30.0 -0.1**
MLR Muntele Rosu 91.42 316 P **P** **01 36 32.8 +0.6**
comp=Z,4.2nm,0.8s,mb4.8,baz=103,slow=10,SNR=6.6
MLR Muntele Rosu 91.42 316 ⇑*i*P **P** **01 36 32.9 +0.7**
BZS Buzias 94.43 315 ⇑*i*P **P** **01 36 46.0 -0.1**
KEV Kevo 95.98 340 *e*p **P** **01 36 44.8 -8.4**
WLF Walferdange 105.09 319 P Pdif 01 37 42.2 +8.3
EDM Edmonton 125.33 29 *e*PKIKP PKPdf 01 42 27.5 +0.7
EDM *e* 01 42 38.0
NVAR Mina Array Bea 129.62 48 PKP PKPdf 01 42 37.6 +2.6
comp=Z,0.8nm,0.8s,baz=310,slow=0.9,SNR=4.9
ELK Elko 130.82 44 *e*PKIKP PKPdf 01 42 38.9 +1.6
ELK *e* 01 42 50.1
BW06 Boulder Array 133.48 38 PKPdf PKPdf 01 42 43.5 +1.2
RSSD Black Hills 135.85 33 *e*PKIKP PKPdf 01 42 47.7 +1.0
RSSD *e* 01 42 59.9
PV10 Paradox Valley 136.16 43 *e*P PKPdf 01 42 49.1 +1.8
PV10 *e* 01 43 02.0
PV01 Paradox Valley 136.60 43 *e*PKPdf PKPdf 01 42 49.7 +1.6
PV01 *e* 01 43 01.5
ANMO Albuquerque 139.68 46 ⇓*i*PKIKP PKPdf 01 42 54.7 +0.9
CPUP Villa Florida 141.47 201 PKP PKPdf 01 42 57.9 +0.9
comp=Z,1.6nm,0.8s,baz=61,slow=2.2,SNR=3.1
MSNY Massena 144.76 4 *e*PKPdf PKPdf 01 43 02.1 -0.7
MSNY *e* 01 43 13.3
FRNY Flat Rock 144.99 2 *e*PKPdf PKPdf 01 43 02.6 -0.7
FRNY *e* 01 43 13.6
WMOK Wichita Mounta 145.01 41 *e*PKIKP PKPdf 01 43 04.3 +1.0
WMOK *e* 01 43 14.9
BDFB Brasilia 145.44 223 PKPbc PKPbc 01 43 05.0 +1.0
comp=Z,4.6nm,0.7s,baz=117,slow=3.9,SNR=7.4
LBNH Lisbon 145.61 0 *e*PKP PKPdf 01 43 06.5 +2.2
LBNH *e* 01 43 16.0
AAM Ann Arbor 145.94 16 *e*PKP PKPdf 01 43 06.9 +2.1
AAM *e* 01 43 15.9
SLM Saint Louis 146.84 27 *e*PKP2 PKPdf 01 43 07.0 +0.6
CCM Cathedral Cave 146.85 29 *e*PKPdf PKPdf 01 43 08.6 +2.2
CCM *e* 01 43 19.7
FVM French Village 147.29 28 *e*PKP2 PKPab 01 43 12.0 +0.7
ALLY Alegheny Colle 147.38 12 *e*PKPab PKPab 01 43 12.2 +0.5
ALLY *e* 01 43 21.1
BINY Binghamton 147.45 6 *e*PKPdf PKPdf 01 43 10.1 +2.7
BINY *e* 01 43 21.4
LVC Limon Verde 147.73 185 *e*PKP PKPab 01 43 13.9 +0.8
BLO Bloomington 147.89 22 *e*PKP PKPdf 01 43 11.4 +3.3
BLO *e* 01 43 23.1
ACSO Alum Creek Sta 148.06 16 *e*PKPbc PKPbc 01 43 11.8 +0.3
ACSO *e* 01 43 22.6
SSPA Standing Stone 148.76 9 *e*PKPbc PKPbc 01 43 14.0 +0.6
SSPA *e* 01 43 24.7
PAL Palisades 148.79 3 *e*PKP2 PKPab 01 43 18.1 +0.7
WCI Wyandotte Cave 148.80 22 *e*PKPbc PKPbc 01 43 14.2 +0.7
WCI *e* 01 43 24.7
MCWV Mont Chateau 149.36 12 *e*PKPab PKPab 01 43 20.7 +1.1
MCWV *e* 01 43 31.7
ELN Prospectdale 151.47 15 *e*PKPbc PKPbc 01 43 20.3 +0.4
ELN *e*PKPab PKPab 01 43 29.3 +0.9
LPAZ La Paz 153.89 188 PKP PKPdf 01 43 19.1 +1.8
comp=Z,0.6nm,0.8s,baz=229,slow=6.5,SNR=3.8
LPAZ PKPbc PKPbc 01 43 28.6 +3.3
comp=Z,1.2nm,0.6s,baz=196,slow=1.6,SNR=9.8
LPAZ PKPab PKPab 01 43 39.3 +0.8
comp=Z,1.4nm,0.6s,baz=194,slow=7.5,SNR=9.6
LPAZ La Paz 153.89 188 PKP PKPdf 01 43 19.1 +1.8
LPAZ PKPbc PKPbc 01 43 28.6 +3.3
LPAZ *e*PKPbc PKPbc 01 43 29.9 +4.6
LPAZ PKPab PKPab 01 43 39.3 +0.8

GUC 24 01:29:05.2±0.6,3252S×7195W,h12km±2km,MD3.7, ML2.3,3C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
PACH	**Papudo**	**0.43**	**92**	⇓*i*P		Pg	01 29 14.3	+0.6
PACH				*i* S		Sg	01 29 21.4	+1.9
CHNG	**Los Chungos**	**0.74**	**31**	*e*P		Pg	01 29 18.7	-0.8
CHNG				*i* S		Sg	01 29 29.7	+0.4
ROCH	**El Roble**	**0.91**	**120**	⇑*i*P		Pg	01 29 22.0	-0.7
ROCH				*i* S		Sg	01 29 35.0	+0.4
LCCH	**Las Cruces**	**1.00**	**162**	*e*P		Pg	01 29 23.3	-1.2
JACH	**Jahuel**	**1.16**	**98**	*e*P		Pb	01 29 25.7	-1.4
JACH				*i* S		Sb	01 29 42.2	+0.1
PEL	**Peldehue**	**1.23**	**121**	*e*P		Pn	01 29 27.0	-1.2
PEL				*i* S		Sb	01 29 43.9	-0.4
PEL				AML		AML	01 29 49.7	
	comp=N,200nm,0.3s							
RCDM	**Rinconada Maip**	**1.36**	**135**	⇓*e*P		Pn	01 29 28.8	-1.2
RCDM				*i* S		Sb	01 29 47.0	-1.0
RCDM				AML		AML	01 29 51.3	
	comp=E,68nm,0.3s							
TACH	**Talagante**	**1.41**	**143**	⇑*i*P		Pn	01 29 30.0	-0.7
TACH				*i* S		Sn	01 29 48.3	-1.0
FCH	**Farellones**	**1.61**	**120**	*e*P		Pn	01 29 33.7	+0.3
FCH				*i* S		Sn	01 29 54.9	+0.7
FCH				AML		AML	01 29 56.3	
	comp=E,61nm,0.2s							
PCH	**Pirque**	**1.63**	**133**	⇑*i*P		Pn	01 29 33.6	-0.1
CHCH	**Chadas Angostu**	**1.78**	**143**	⇓*i*P		Pn	01 29 35.7	-0.1
CHCH				*i* S		Sn	01 29 58.9	+0.6

*IDC **24** 01:29:00.4±1.1,3604N×7128E,h0km,mb4.1/10, mb1 4.2/13,mb1mx4.0/24,mbtmp4.0/13,ML4.0/3,Error ellipse: s-maj=26.4km s-min=23.2km az=34.0*
*MOS **24** 01:29:05.3±1.1,3632N×7111E,h33km,mb4.3/4,Error ellipse: s-maj=13.4km s-min=6.4km az=104.7*
*NEIC **24** 01:29:09.8±1.4,3641N×7129E,h63km±15km,mb3.8/7, Error ellipse: s-maj=14.1km s-min=6.7km az=53.0*
*ISCJB **24** 01:29:11.5±0.5,3648N±003×7139E±006,h99km±7km, mb4.0/15, Error ellipse: s-maj=8.1km s-min=4.6km az=165.6*
*NNC **24** 01:29:16.3±7.1,3731N×7059E,h0km,mb4.0,mpv3.7,*

Error ellipse: s-maj=76.4km s-min=40.4km az=8.0

ISC 24 01:29:13.1±0.5,3646N±003×7140E±006,h101km±6km, n76,σ1836/81,mb4.0/15,**5C-3D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.67**	**171**	⇑P	**Pn**	**01 29 55.4**	**+1.0**
CHCP	**Chirah Chowk**	**3.19**	**151**	P	**Pn**	**01 30 03.8**	**+2.4**
THW	**Thamme Wali**	**3.67**	**175**	⇑P	**Pn**	**01 30 08.3**	**+0.5**
SBDP	**Sheikh Budin**	**4.18**	**187**	P	**Pn**	**01 30 14.4**	**-0.3**
SARP	**Sargodha**	**4.65**	**167**	P	**Pn**	**01 30 20.3**	**-0.8**
DRP	**Derazinda**	**4.81**	**192**	P	**Pn**	**01 30 23.1**	**-0.1**
AML	**Almayashu** SNR=53	**5.93**	**17**	P	**Pn**	**01 30 39.8**	**+1.3**
UCH	**Uchtor** SNR=18	**6.24**	**22**	P	**Pn**	**01 30 44.6**	**+2.0**
EKS2	**Erkin-Say** SNR=21	**6.46**	**16**	P	**Pn**	**01 30 47.1**	**+1.5**
AAK	**Ala-Archa** SNR=15	**6.61**	**20**	P	**Pn**	**01 30 49.4**	**+1.7**
AAK	**Ala-Archa**	**6.61**	**20**	*e*PN	**Pn**	**01 30 45.0**	**-2.6**
AAK	comp=Z,23nm,0.4s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,23nm,0.4s	**6.61**	**20**	*e*Pn	**Pn**	**01 30 45.0**	**-2.7**
AAK				*e*Sn	**Sn**	**01 32 00.2**	**-1.2**
KK31	**Karatay Array** comp=Z,9.9nm,0.5s,baz=181,slow=13,SNR=129	**6.67**	**354**	Pn	**Pn**	**01 30 47.8**	**-0.6**
KK31	comp=Z,38nm,0.7s			⇓Sn	**Sn**	**01 31 57.8**	**-5.1**
KKAR	**Karatay Array**	**6.67**	**354**	PN	**Pn**	**01 30 47.8**	**-0.6**
KKAR	comp=Z,1.0nm,0.2s			pmax	pmax		
KBK	**Karagaybulak** SNR=7.3	**6.76**	**23**	P	**Pn**	**01 30 52.6**	**+2.9**
SDNR	**Sundarnagar**	**6.77**	**135**	*ex*	**Pn**	**01 30 58.5**	**+8.6**
SDNR				*ex*	**Sn**	**01 32 04.4**	**-1.1**
ULHL	**Ulahol** SNR=5.9	**6.88**	**32**	P	**Pn**	**01 30 53.9**	**+2.5**
CHMS	**Chumysh** SNR=9.0	**7.02**	**21**	P	**Pn**	**01 30 54.5**	**+1.3**
SMLA	**Simla**	**7.16**	**136**	*e*P	**Pn**	**01 30 51.8**	**-3.4**
SMLA				*e*S	**Sn**	**01 32 05.9**	**-9.1**
SMLA	comp=N,126nm,0.4s			AML	AML	01 32 43.1	
SMLA	comp=E,114nm,0.2s			AML	AML	01 32 45.3	
USP	**Ospenovka** SNR=13	**7.20**	**18**	P	**Pn**	**01 30 56.5**	**+0.8**
TKM2	**Tokmak 2** SNR=14	**7.21**	**25**	P	**Pn**	**01 30 58.0**	**+2.1**
TKM2	**Tokmak 2** comp=E,1.1nm,0.6s	**7.21**	**25**	⇓Pn	**Pn**	**01 30 57.0**	**+1.1**
TKM2	comp=E,4.5nm,0.9s			⇓Sn	**Sn**	**01 32 15.1**	**-1.2**
MK02	**Makanchi Array** comp=E,2.3nm,0.6s	**13.12**	**35**	⇑P	**Pn**	**01 32 20.5**	**+5.0**
MK31	**Makanchi Array**	**13.13**	**35**	P	**Pn**	**01 32 20.5**	**+4.9**
MK31	comp=Z,1.0nm,0.6s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,0.2nm,0.3s,baz=223,slow=15,SNR=4.2	**13.13**	**35**	Pn	**Pn**	**01 32 14.7**	**-0.9**
GKN	**Gorkha**	**14.01**	**123**	*e*P	**Pn**	**01 32 26.0**	**-1.1**
GKN				*e*S	**Sn**	**01 34 50.2**	**-11**
DMN	**Daman**	**14.58**	**123**	*e*P	**Pn**	**01 32 34.4**	**0.0**
KKN	**Kakani**	**14.58**	**122**	*e*P	**Pn**	**01 32 33.3**	**-1.1**
PKI	**Pulchoki**	**14.81**	**123**	*e*P	**Pn**	**01 32 36.8**	**-0.5**
KURK	**Kurchatov**	**15.16**	**18**	*e*P	**Pn**	**01 32 43.2**	**+1.4**
KURK	comp=Z,3.0nm,0.6s			pmax	pmax		
KURK	**Kurchatov** comp=Z,2.8nm,0.6s	**15.16**	**18**	*e*Pn	**Pn**	**01 32 43.2**	**+1.4**
AB31	**Akbulak array** comp=Z,1.5nm,0.4s,baz=144,slow=13,SNR=50	**15.27**	**330**	P	**Pn**	**01 32 39.2**	**-3.9**
AB31	**Akbulak array**	**15.27**	**330**	*i* P	**Pn**	**01 32 39.2**	**-4.0**
JIRN	**Jiri**	**15.29**	**121**	*e*P	**Pn**	**01 32 42.5**	**-0.9**
JIRN				*e*S	S	01 35 18.7	-23
VOSK	**Vostochnaya** comp=Z,3.7nm,0.8s	**16.26**	**359**	⇑Pn	**Pn**	**01 32 52.7**	**-2.8**
ZRNK	**Zerenda**	**16.57**	**355**	*e*P	**Pn**	**01 32 56.7**	**-2.6**
ZRNK	comp=Z,7.0nm,0.7s			pmax	pmax		
ZRNK	**Zerenda** comp=Z,7.0nm,0.7s	**16.57**	**355**	*e*Pn	**Pn**	**01 32 56.7**	**-2.6**
BVA0	**Borovoye Array** comp=Z,1.0nm,1.0s,baz=161,slow=12,SNR=15	**16.58**	**358**	P	**Pn**	**01 32 57.4**	**-2.0**
BVAR	**Borovoye Array** comp=Z,0.7nm,0.3s,baz=161,slow=12,SNR=12	**16.58**	**358**	Pn	**Pn**	**01 32 56.7**	**-2.6**
BRVK	**Borovoye** comp=Z,3.0nm,0.6s	**16.61**	**358**	*e*P	**Pn**	**01 32 58.3**	**-1.5**
BRVK				pmax	pmax		
BRVK	**Borovoye** comp=Z,2.7nm,0.6s	**16.61**	**358**	*e*Pn	**Pn**	**01 32 58.3**	**-1.5**
AKTK	**Aktyubinsk**	**16.98**	**330**	P	**Pn**	**01 33 02.5**	**-1.7**
AKTO	**Aktyubinsk** comp=Z,1.1nm,0.3s,baz=137,slow=11,SNR=26	**16.98**	**330**	P	**Pn**	**01 33 02.5**	**-1.7**
CHKZ	**Chkalovo** comp=Z,2.2nm,0.7s	**17.22**	**358**	⇑P	**Pn**	**01 33 05.3**	**-1.9**
CHKZ	**Chkalovo**	**17.22**	**358**	*e*P	**Pn**	**01 33 05.6**	**-1.6**
CHKZ	comp=Z,3.0nm,0.5s			pmax	pmax		
CHKZ	**Chkalovo** comp=Z,2.6nm,0.5s	**17.22**	**358**	*e*Pn	**Pn**	**01 33 05.6**	**-1.7**
NVS	**Novosibirsk**	**20.10**	**20**	*e*P	**P**	**01 33 37.9**	**-0.8**
NVS	comp=N,6.0nm,0.7s			pmax	pmax		
NVS	comp=E,4.0nm,0.7s			pmax	pmax		
NVS	comp=Z,8.0nm,0.7s			pmax	pmax		
GNI	**Garni** comp=Z,2.5nm,0.4s,mb3.9,baz=43,slow=12,SNR=3.8	**21.21**	**288**	P	**P**	**01 33 52.5**	**+1.9**
GNI	**Garni**	**21.21**	**288**	*e*P	**P**	**01 33 52.5**	**+1.9**
GNI	comp=Z,4.0nm,0.5s			pmax	pmax		
GNI	**Garni** comp=Z,3.6nm,0.5s,mb4.0	**21.21**	**288**	*e*P	**P**	**01 33 52.5**	**+1.9**
ARU	**Arti**	**21.77**	**341**	*e*P	**P**	**01 33 57.0**	**+0.4**
ARU	comp=Z,8.0nm,0.6s,mb4.2			pmax	pmax		
ARU	**Arti** comp=Z,8.2nm,0.6s,mb4.2	**21.77**	**341**	*e*P	**P**	**01 33 57.0**	**+0.4**
MALT	**Malatya**	**26.19**	**284**	*e*P	**P**	**01 34 36.5**	**-1.7**
OBN	**Obninsk**	**30.18**	**319**	P	**P**	**01 35 13.5**	**-0.1**
AKASG	**Malin Array Be** comp=Z,2.1nm,0.6s,mb4.1,baz=81,slow=7.2,SNR=16	**33.22**	**309**	P	**P**	**01 35 41.1**	**+0.7**
TIRR	**Tirgusor**	**33.35**	**297**	P	**P**	**01 35 39.9**	**-1.6**
MLR	**Muntele Rosu** comp=Z,2.6nm,0.8s,mb4.1,baz=198,slow=0.7,SNR=6.3	**35.08**	**299**	P	**P**	**01 35 57.9**	**+1.5**
JOF	**Joensuu** comp=Z,4.0nm,0.3s,mb4.8	**36.06**	**330**	*ep*	**P**	**01 36 05.3**	**+0.5**
HIA	**Hailar**	**37.05**	**54**	P	**P**	**01 36 14.7**	**+1.5**
KWP	**Kalwaria**	**37.29**	**306**	*e*P	**P**	**01 36 16.3**	**+1.1**
KWP	comp=Z,1.0nm,0.5s,mb4.0			pmax	pmax		
KWP	**Kalwaria** comp=Z,1.4nm,0.5s,mb4.2	**37.29**	**306**	*e*P	**P**	**01 36 16.3**	**+1.1**
FINES	**FINESS Array B** comp=Z,1.3nm,0.4s,mb4.1,baz=115,slow=9.2,SNR=22	**37.70**	**326**	P	**P**	**01 36 19.6**	**+0.9**
KAF	**Kangasniemi** comp=Z,0.8nm,0.4s,mb3.9	**37.83**	**327**	*ep*	**P**	**01 36 20.7**	**+0.9**
ARCES	**ARCESS Array B** comp=Z,5.6nm,0.6s,mb4.6,baz=110,slow=7.6,SNR=26	**41.30**	**338**	P	**P**	**01 36 50.0**	**+1.4**
ARE0	**ARCESS Array S**	**41.30**	**338**	*e*P	**P**	**01 36 49.8**	**+1.3**
TIP	**Timpagrande**	**42.70**	**291**	P	**P**	**01 36 57.5**	**-2.5**
GERES	**GERESS Array B** comp=Z,0.2nm,0.5s,mb3.1,baz=92,slow=4.5,SNR=4.1	**43.22**	**305**	P	**P**	**01 37 04.1**	**0.0**
NB2	**NORSAR Subarra** comp=Z,4.4nm,0.6s,mb4.4,baz=95,slow=7.9	**44.60**	**323**	P	**P**	**01 37 15.5**	**+0.3**
NOA	**NORSAR Array B** comp=Z,5.6nm,0.8s,mb4.4,baz=96,slow=7.8,SNR=29	**44.60**	**323**	P	**P**	**01 37 15.7**	**+0.5**
EKA	**Eskdalemuir Ar** comp=Z,1.7nm,0.8s,mb4.1,baz=108,slow=7.2,SNR=5.6	**52.54**	**316**	P	**P**	**01 38 16.6**	**+0.7**
TORD	**Torodi Ar. Bea** comp=Z,1.2nm,0.6s,mb3.9,baz=52,slow=5.5,SNR=19	**66.04**	**269**	P	**P**	**01 39 48.0**	**-0.9**
YKA	**Yellowknife Ar** comp=Z,1.8nm,0.6s,mb4.1,baz=351,slow=5.4,SNR=6.9	**81.27**	**3**	P	**P**	**01 41 18.9**	**+0.9**
YKA	**Yellowknife Ar**	**81.27**	**3**	P	**P**	**01 41 18.9**	**+0.9**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.5s,mb3.4,baz=328,slow=4.6,SNR=3.3	**81.70**	**122**	P	**P**	**01 41 21.0**	**+0.7**
WB2	**Warramunga Arr**	**81.70**	**122**	P	**P**	**01 41 21.4**	**+1.1**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.7s,baz=355,slow=1.8,SNR=4.5	**101.14**	**1**	P	Pdif	01 42 54.2	+2.3

IDC ***24*** *01:38:02.5±0.5, 1109N×8579W, h0km, mb4.4/14, mb1 4.6/16, mb1mx4.5/20, mbtmp4.4/16, ML4.5/2, MS4.4/18, Ms1 4.4/18, ms1mx4.2/26, Error ellipse: s-maj=24.6km s-min=13.9km az=58.0*

ISCJB ***24*** *01:38:04.7±0.2, 1097N±004×8573W±003, h28km, mb4.7/89, MS4.5/24, Error ellipse: s-maj=6.4km s-min=3.6km az=57.5*

CASC ***24*** *01:38:04.8±2.5, 1058N×8630W, h0km±4km, MD4.3, ML5.1, mb4.7(NEIC)*

MOS ***24*** *01:38:06.7±0.9, 1125N×8560W, h33km, mb4.8/36, MS4.6/5, Error ellipse: s-maj=10.0km s-min=6.0km az=106.3*

NEIC ***24*** *01:38:06.3±0.2, 1097N×8574W, mb4.7/73, MS4.6/5, ML4.8(UCR), Error ellipse: s-maj=7.0km s-min=3.5km az=224.0*

NEIC Felt [III] at Playa El Coco. Also felt at Filadelfia.

HRVD ***24*** *01:38:06.3±0.3, 1048N×8643W, h32km±1km, MW5.0/59, Centroid moment Tensor Solution. LP body waves: s48,c69;Mantle waves: s59,c91; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.86±.17; Mθθ-2.11±.10; Mϕϕ-0.74±.13; Mrθ2.22±.14; Mrϕ2.04±.08; Mθr-1.05±.21; Best double couple: M○4.05600×10^16 NP1:ϕs316.00000°, δ27.00000°, λ106.00000°. NP2: ϕs118.00000°, δ64.00000°, λ82.00000°. Principal axes: T 3.7250, Plg70.0000°, Azm12.0000°; N 0.6670, Plg7.0000°, Azm122.0000°; P -4.3880, Plg19.0000°, Azm214.0000°; nsta1 refers to body wave values, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***24*** *01:38:06.3, 1100N×8570W, h28km, mB5.5, Ms5.1, Msz4.9*

ISC 24 01:38:06.7±0.2,1092N±004×8573W±003,h30km, h30km±4km:pP-P,n444,σ0985/404,mb4.7/89,MS4.5/24, 81C-71D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.38**	**342**	⇓*i*P	**Pb**	**01 38 22.2**	**+7.0**
MADN	**Villa Maderas**	**0.52**	**22**	⇓*i*P	**Pb**	**01 38 27.4**	**+10**
LIM1	**Limonal**	**0.52**	**115**	⇓*e*P	**Pb**	**01 38 25.4**	**+8.0**
LIM1				*e*S	**Sb**	**01 38 39.9**	**+15**
CONN	**Concepcion**	**0.64**	**9**	⇓*i*P	**Pb**	**01 38 28.0**	**+8.5**
VCR	**Vista de Mar**	**0.80**	**173**	⇓*i*P	**Pn**	**01 38 21.6**	**-0.3**
VCR	**Vista de Mar**	**0.80**	**173**	⇓*e*P	**Pn**	**01 38 21.5**	**-0.4**
APON	**Apoyo**	**1.04**	**342**	⇑*i*P	**Pn**	**01 38 30.3**	**+5.1**
MASN	**Masaya**	**1.13**	**339**	⇑*e*P	**Pn**	**01 38 29.9**	**+3.4**
MASN	comp=N,99μm,0.5s			*i*		01 38 58.2	
FORC	**Fortuna**	**1.14**	**113**	*e*P	**Pn**	**01 38 34.0**	**+7.4**
TICN	**Ticuantepe**	**1.21**	**336**	⇑*i*P	**Pn**	**01 38 31.8**	**+4.3**
JCR	**Jicaral**	**1.23**	**150**	*e*P	**Pn**	**01 38 30.0**	**+2.2**
JCR	**Jicaral**	**1.23**	**150**	*e*P	**Pn**	**01 38 30.0**	**+2.2**
MGAN	**Managua**	**1.31**	**338**	⇑*i*P	**Pn**	**01 38 33.2**	**+4.2**
MGAN	comp=Z,13μm,0.7s			*i*		01 39 01.7	
TISN	**Laguna Tiscapa**	**1.32**	**337**	⇓*i*P	**Pn**	**01 38 33.2**	**+4.1**
XAVN	**Gruta Xavier**	**1.35**	**335**	⇑*i*P	**Pn**	**01 38 33.4**	**+3.9**
APYN	**Apoyeque**	**1.44**	**335**	⇓*i*P	**Pn**	**01 38 34.5**	**+3.8**
COPN	**Copaltepe**	**1.50**	**326**	⇓*i*P	**Pn**	**01 38 33.9**	**+2.3**
CGA2	**Cerro Gallo 2**	**1.54**	**126**	⇓*e*P	**Pn**	**01 38 38.1**	**+6.1**
CGA2	**Cerro Gallo 2**	**1.54**	**126**	*e*P	**Pn**	**01 38 38.3**	**+6.2**
MOMJ	**Momotombo**	**1.67**	**332**	*e*P	**Pn**	**01 38 36.6**	**+2.7**
MOMJ				*e*S	**Sn**	**01 39 01.7**	**+7.4**
PRS1	**Puriscal**	**1.68**	**124**	⇓*e*P	**Pn**	**01 38 40.0**	**+5.9**
PRS1	**Puriscal**	**1.68**	**124**	*e*P	**Pn**	**01 38 40.0**	**+6.0**
MIRN	**Miramar**	**1.79**	**328**	⇓*i*P	**Pn**	**01 38 37.8**	**+2.3**
CNGN	**Cerro Negro**	**1.83**	**329**	⇑*e*P	**Pn**	**01 38 38.4**	**+2.4**
CNGN	comp=N,24μm,0.6s			*i*		01 39 14.0	
LEON	**Leon**	**1.87**	**323**	⇑*i*P	**Pn**	**01 38 38.0**	**+1.4**
SJS	**Escuela Geolog**	**1.92**	**121**	*e*P	**Pn**	**01 38 44.3**	**+7.0**
SJS	**Escuela Geolog**	**1.92**	**121**	*e*P	**Pb**	**01 38 44.5**	**+3.5**
SJS				*e*S	**Sb**	**01 39 22.3**	**+18**
TELN	**Telica**	**1.99**	**327**	⇑*e*P	**Pn**	**01 38 40.4**	**+2.1**
TELN				*e*S	**Sn**	**01 39 08.9**	**+6.8**
LCR2	**La Lucha 2**	**2.07**	**124**	⇓*e*P	**Pn**	**01 38 45.5**	**+6.1**
LCR2	**La Lucha 2**	**2.07**	**124**	*e*P	**Pn**	**01 38 45.6**	**+6.2**
ICR	**Volcan Irazu**	**2.09**	**116**	*e*P	**Pn**	**01 38 48.6**	**+8.9**
ICR	**Volcan Irazu**	**2.09**	**116**	*e*P	**Pn**	**01 38 49.5**	**+10**
CRIN	**San Cristobal**	**2.19**	**324**	⇑*e*P	**Pn**	**01 38 42.5**	**+1.5**
CRIN				*e*S	**Sn**	**01 39 13.7**	**+6.7**
URSC	**Urasca**	**2.21**	**119**	⇑*e*P	**Pn**	**01 38 48.6**	**+7.3**
URSC	**Urasca**	**2.21**	**119**	*e*P	**Pn**	**01 38 48.5**	**+7.2**
BUS	**Buena Vista**	**2.37**	**125**	*e*P	**Pn**	**01 38 50.0**	**+6.4**
BUS	**Buena Vista**	**2.37**	**125**	*e*P	**Pn**	**01 38 49.7**	**+6.1**
BLLM	**Bellamira**	**3.50**	**316**	⇓*e*P	x	01 39 33.9	
BLLM				*e*S	x	01 40 18.4	
VSM	**San Miguel**	**3.52**	**315**	*e*P	x	01 39 34.1	
VSM				*e*S	x	01 40 18.4	
LCBS	**La Ceiba**	**4.17**	**311**	*e*P	x	01 39 41.8	
LCBS				*e*S	x	01 40 33.7	
BOQS	**Boqueron**	**4.45**	**309**	*e*P	x	01 39 45.1	
BOQS				*e*S	x	01 40 37.4	
RTR	**El Retiro**	**4.83**	**308**	*e*P	x	01 39 52.3	
RTR				*e*S	x	01 40 48.4	
RBDL	**Robledal**	**5.00**	**310**	⇓*e*P	x	01 39 54.0	
RBDL				*e*S	x	01 40 54.5	
TEIG	**Tepich** comp=N,29nm,0.9s	**9.57**	**345**	*e*Pn	**Pn**	**01 40 28.8**	**+6.4**
CMIG	**Matias Romero** comp=N,7.0nm,0.3s,baz=98,slow=7.8,SNR=66	**10.79**	**306**	Pn	**Pn**	**01 40 37.4**	**-1.7**
CMIG	comp=N,0.3nm,0.3s,baz=246,slow=20,SNR=1.9			Sn	**Sn**	**01 42 42.5**	**+3.8**
VHO	**Vista Hermosa**	**12.30**	**301**	*i* P	**Pn**	**01 40 59.5**	**-0.2**
MGV	**Manicaragua**	**12.41**	**26**	*e*P	**Pn**	**01 41 10.5**	**+9.2**
ROSC	**El Rosal** comp=N,1μm,20.9s,baz=178,slow=36	**12.80**	**117**	LR	LR	01 45 48.9	
OTAV	**Otavalo** comp=N,12nm,1.2s	**12.85**	**145**	Pn	**Pn**	**01 41 08.0**	**+0.8**
RCC	**Rio Carpintero** baz=220	**13.22**	**46**	*e*P	**Pn**	**01 41 19.5**	**+7.2**
RCC	comp=N,2μm,18.7s			*e*S	**Sn**	**01 43 38.5**	**+0.3**
RCC	comp=E,3μm,17.0s			*e*			
MOAC	**Moa**	**14.18**	**46**	*e*P	**Pn**	**01 41 27.0**	**+1.7**
SDV	**Santo Domingo** comp=E,1.2nm,0.3s,baz=4.1,slow=14,SNR=2.1	**15.01**	**96**	Pn	**Pn**	**01 41 39.1**	**+2.4**
SDV	**Santo Domingo**	**15.01**	**96**	Pn	**Pn**	**01 41 37.1**	**+0.4**
SDV				*e*PcP	PcP	01 46 47.0	+2.9
PLIG	**Platanillo**	**15.24**	**301**	*i* P	**Pn**	**01 41 39.3**	**-0.4**
MOIG	**Morelia**	**17.25**	**302**	*i* P	**Pn**	**01 42 05.0**	**-0.3**
DWPF	**Disney**	**17.57**	**13**	Pn	**Pn**	**01 42 15.7**	**+6.4**
ATAH	**Atahualpa** comp=E,1.0nm,0.3s,baz=312,slow=11,SNR=4.2	**19.25**	**157**	P	**Pn**	**01 42 38.4**	**+8.7**
ATAH				LR	LR	01 49 12.1	
	comp=E,2μm,18.4s,baz=157,slow=34						
KVTX	**Kingsville**	**20.10**	**327**	*e*P	**P**	**01 42 38.5**	**+0.6**
SJG	**San Juan** comp=E,18nm,0.7s,baz=232,slow=12,SNR=6.5	**20.25**	**67**	P	**P**	**01 42 46.8**	**+7.3**
SJG	comp=E,429nm,21.6s,MS3.8,baz=90,slow=35			LR	LR	01 49 48.4	
SJG	**San Juan** comp=E,16nm,0.6s	**20.25**	**67**	*e*P	**P**	**01 42 46.5**	**+7.0**
SJG				pmax	pmax		
SJG	**San Juan** comp=E,16nm,0.6s	**20.25**	**67**	*e*P	**P**	**01 42 46.5**	**+7.0**
PCRV	**Puerto La Cruz** comp=E,29nm,0.8s,baz=256,slow=5.5,SNR=6.6	**20.75**	**90**	P	**P**	**01 42 51.6**	**+6.7**
HKT	**Hockley**	**21.14**	**335**	*e*P	**P**	**01 42 49.8**	**+0.7**
HKT						01 46 56.4	
HKT	comp=E,312nm,1.6s,mb5.4			pmax	pmax		
HKT	**Hockley** comp=E,312nm,1.6s,mb5.4	**21.14**	**335**	*e*P	**P**	**01 42 49.8**	**+0.6**
HKT				PcP	PcP	01 46 56.4	+2.1
LRAL	**Lakeview Retre** comp=Z,93nm,0.8s,mb5.3	**22.04**	**357**	*e*P	**P**	**01 43 01.7**	**+2.9**
NATX	**Nacogdoches** comp=Z,133nm,0.8s,mb5.4	**22.32**	**340**	*e*P	**P**	**01 43 02.8**	**+1.1**
NATX				*e*PcP	PcP	01 46 59.4	+2.7
JCT	**Junction City**	**23.44**	**328**	*e*P	**P**	**01 43 09.7**	**-3.9**
JCT				*e*		01 46 59.7	
JCT	comp=Z,92nm,1.1s,mb5.1			pmax	pmax		
JCT	**Junction City** comp=Z,92nm,1.1s,mb5.1	**23.44**	**328**	*e*P	**P**	**01 43 09.7**	**-3.9**
JCT				*e*PcP	PcP	01 46 59.7	+0.8
PLAL	**Pickwick Lake** comp=Z,80nm,0.9s,mb5.2	**24.04**	**355**	*e*P	**P**	**01 43 18.6**	**-0.5**
PLAL				*e*PcP	PcP	01 47 00.5	+0.3
CPCT	**Cooper Cave**	**24.44**	**2**	*e*P	**P**	**01 43 23.0**	**+0.2**
CPCT				*e*PcP	PcP	01 47 03.5	+2.4
UALR	**University of** comp=Z,82nm,0.8s,mb5.2	**24.50**	**347**	P	**P**	**01 43 23.8**	**+0.6**
MIAR	**Mount Ida**	**24.58**	**344**	*e*P	**P**	**01 43 23.5**	**-0.5**
MIAR	comp=Z,95nm,0.8s,mb5.4			pmax	pmax		
MIAR	**Mount Ida** comp=Z,96nm,0.8s,mb5.4	**24.58**	**344**	*e*P	**P**	**01 43 23.5**	**-0.5**
HBAR	**Harrisburg**	**24.93**	**350**	P	**P**	**01 43 28.1**	**+0.9**
GNAR	**Gosnell** comp=Z,326nm,0.6s	**25.23**	**352**	*e*P	**P**	**01 43 32.8**	**+2.8**
CNNC	**Cliffs of the**	**25.23**	**15**	*e*P	**P**	**01 43 32.3**	**+2.4**
GLAT	**Glass**	**25.44**	**353**	*e*P	**P**	**01 43 31.7**	**-0.1**
UTMT	**University of** comp=Z,118nm,0.9s,mb5.4	**25.46**	**354**	*e*P	**P**	**01 43 32.0**	**0.0**
PARMO	**Parma**	**25.88**	**353**	P	**P**	**01 43 37.4**	**+1.6**
USIN	**University of** comp=Z,39nm,0.8s,mb5.0	**26.98**	**357**	*e*P	**P**	**01 43 46.7**	**+1.0**
USIN				*e*	pP	01 43 55.4	+1.0
USIN				*e*		01 43 59.7	
FVM	**French Village**	**27.27**	**352**	*e*P	**P**	**01 43 48.1**	**-0.2**
FVM				*e*	pP	01 43 56.6	-0.4
FVM	comp=Z,12nm,0.7s,mb4.5			pmax	pmax		
FVM	**French Village** comp=Z,12nm,0.7s,mb4.5	**27.27**	**352**	*e*P	**P**	**01 43 48.1**	**-0.3**
FVM				*e*	pP	01 43 56.6	-0.4
AMTX	**Amarillo** comp=Z,43nm,1.0s,mb5.0	**27.93**	**331**	*e*P	**P**	**01 43 53.3**	**-0.9**
AMTX				*e*PcP	PcP	01 47 10.7	+1.5
BLO	**Bloomington**	**28.14**	**359**	*e*P	**P**	**01 43 57.2**	**+1.1**
BLO				*e*	pP	01 44 05.6	+0.9
BLO				*e*		01 44 09.5	
BLO	comp=Z,12nm,0.5s,mb4.8			pmax	pmax		
BLO	**Bloomington** comp=Z,12nm,0.5s,mb4.8	**28.14**	**359**	*e*P	**P**	**01 43 57.2**	**+1.1**
BLO				*e*	pP	01 44 05.5	+0.8
BLO				*e*		01 44 09.5	
ACSO	**Alum Creek Sta** comp=Z,35nm,0.6s,mb5.3	**29.29**	**4**	*e*P	**P**	**01 44 08.2**	**+1.8**
ACSO				*e*	pP	01 44 16.8	+1.8
ACSO				*e*		01 44 20.7	
SAML	**Samuel**	**29.88**	**130**	*e*P	**P**	**01 44 13.2**	**+1.6**
SAML				*ep*P	pP	01 44 21.8	+1.6
SAML				*e*PcP	PcP	01 47 16.1	+2.0
BNM	**Barren Site**	**29.99**	**324**	*e*P	**P**	**01 44 11.9**	**-0.6**
BNM				*ep*P	pP	01 44 20.3	-0.9
BNM				*es*P	sP	01 44 25.7	+0.9
LPM	**Los Pinos Moun**	**30.11**	**324**	*e*P	**P**	**01 44 12.6**	**-0.9**
LPM				*ep*P	pP	01 44 22.1	-0.1
LPM				*es*P	sP	01 44 27.0	+1.2
Y22C	**IRIS PASSCAL I** baz=30	**30.11**	**323**	⇑P	**P**	**01 44 13.2**	**-0.3**
LENM	**Lemitar**	**30.20**	**323**	*e*P	**P**	**01 44 14.9**	**+0.5**
LENM				*ep*P	pP	01 44 23.2	+0.1
LENM				*es*P	sP	01 44 27.8	+1.1
LAZ	**Ladron**	**30.46**	**323**	*e*P	**P**	**01 44 17.2**	**+0.5**
LAZ				*ep*P	pP	01 44 25.9	+0.5
LAZ				*es*P	sP	01 44 30.8	+1.8
ANMO	**Albuquerque**	**30.47**	**325**	*e*P	**P**	**01 44 17.3**	**+0.5**
ANMO				*e**PP	pP	01 44 25.3	-0.1
ANMO				*e**SP	sP	01 44 30.1	+1.1
ANMO	comp=Z,16nm,0.9s			pmax	pmax		
ANMO	**Albuquerque** comp=Z,16nm,0.9s,mb4.7	**30.47**	**325**	*e*P	**P**	**01 44 17.3**	**+0.6**
ANMO				*ep*P	pP	01 44 25.3	-0.1
ANMO				*es*P	sP	01 44 30.1	+1.0
TUC	**Tucson**	**31.40**	**317**	*e*P	**P**	**01 44 24.8**	**-0.2**
TUC				*e**PP	pP	01 44 32.0	-1.6
TUC				*e**SP	sP	01 44 37.2	-0.1
TUC	comp=Z,11nm,1.1s,mb4.6			pmax	pmax		
TUC	**Tucson** comp=Z,10nm,1.1s,mb4.6	**31.40**	**317**	*e*P	**P**	**01 44 24.8**	**-0.1**
TUC				*ep*P	pP	01 44 32.0	-1.6
TUC				*es*P	sP	01 44 37.2	0.0
SCIA	**State Center**	**31.55**	**349**	*e*P	**P**	**01 44 26.3**	**0.0**
SCIA				*ep*P	pP	01 44 34.1	-0.9
SCIA				*es*P	sP	01 44 38.4	-0.2
JFWS	**Jewell Farm**	**32.11**	**354**	*e*P	**P**	**01 44 30.9**	**-0.3**
JFWS				*e**PP	pP	01 44 39.3	-0.6
JFWS				*e**SP	sP	01 44 43.8	+0.3
JFWS	comp=Z,61nm,0.8s,mb5.5			pmax	pmax		
JFWS	**Jewell Farm** comp=Z,61nm,0.8s,mb5.5	**32.11**	**354**	*e*P	**P**	**01 44 30.9**	**-0.4**
JFWS				*ep*P	pP	01 44 39.3	-0.6
JFWS				*es*P	sP	01 44 43.8	+0.2
LPAZ	**La Paz** comp=Z,608nm,19.6s,MS4.3,baz=327,slow=38	**32.16**	**147**	LR	LR	01 58 20.1	
116A	**Eloy** baz=32,SNR=8.1	**32.17**	**316**	⇓P	**P**	**01 44 31.5**	**-0.3**
BINY	**Binghamton** comp=Z,36nm,0.9s,mb5.2	**32.30**	**14**	*e*P	**P**	**01 44 34.9**	**+2.0**
BINY				*ep*P	pP	01 44 42.3	+0.8
115A	**

SRU ePcP PcP 01 47 31.4 +1.2
SRU e 01 47 38.9
RWWY Rawlins 35.98 332 eP **P** **01 45 04.8 +0.1**
comp=Z,18nm,0.9s,mb5.0
RWWY epP pP 01 45 12.6 -0.9
PFO Pinyon Flat Ob 36.07 314 eP **P** **01 45 06.7 +1.2**
PFO e*PP pP 01 45 14.6 +0.3
PFO e*SP sP 01 45 19.0 +1.1
PFO pmax pmax
comp=Z,16nm,1.1s,mb4.9
PFO Pinyon Flat Ob 36.07 314 eP **P** **01 45 06.7 +1.2**
comp=Z,16nm,1.1s,mb4.9
PFO epP pP 01 45 14.6 +0.3
PFO esP sP 01 45 19.0 +1.1
PFO Pinyon Flat Ob 36.07 314 ⇑P **P** **01 45 05.9 +0.4**
baz=36,SNR=8.3
V12A Nelson 36.14 318 ⇑P **P** **01 45 06.3 +0.2**
baz=36,SNR=7.6
109C Camp Elliot, M 36.17 312 ⇓P **P** **01 45 06.5 +0.1**
baz=36
TMUT Trail Mountain 36.22 326 ePcP PcP 01 47 33.5 +1.8
MVU Marysvale 36.25 324 P **P** **01 44 51.3 -16**
CCUT Cedar City 36.31 322 eP **P** **01 45 07.8 +0.2**
CCUT epP pP 01 45 16.9 +0.6
CCUT esP sP 01 45 21.5 +1.5
CCUT ePcP PcP 01 47 34.3 +2.3
CCUT e 01 47 42.6
U12A Valley of Fire 36.35 319 ⇑P **P** **01 45 08.5 +0.5**
baz=36
ARUT Antelope Range 36.51 322 eP **P** **01 45 10.1 +0.8**
ARUT e*PP pP 01 45 18.2 +0.1
ARUT e*SP sP 01 45 22.9 +1.2
ARUT e 01 47 35.4
V11A Goodsprings 36.59 318 ⇑P **P** **01 45 10.7 +0.7**
baz=37
RSSD Black Hills 36.66 338 eP **P** **01 45 10.9 +0.3**
RSSD e*PP pP 01 45 17.6 -1.8
RSSD e 01 47 34.4
RSSD pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
RSSD Black Hills 36.66 338 eP **P** **01 45 10.9 +0.3**
comp=Z,7.8nm,0.9s,mb4.5
RSSD epP pP 01 45 17.6 -1.8
RSSD ePcP PcP 01 47 34.4 +1.3
TUQ Turquoise Mtn. 36.69 317 ⇑P **P** **01 45 11.1 +0.3**
baz=37,SNR=6.0
MPU Maple Canyon 36.96 326 eP **P** **01 45 12.4 -0.7**
comp=Z,18nm,0.9s,mb4.9
MPU epP pP 01 45 21.1 -0.7
MPU ePcP PcP 01 47 35.7 +1.8
MPU e 01 47 43.8
DAU Daniels Canyon 37.03 327 eP **P** **01 45 14.3 +0.5**
DAU e*PP pP 01 45 21.8 -0.7
DAU e*SP sP 01 45 27.6 +1.5
DAU e 01 47 36.0
NLU North Lily Min 37.16 326 eP **P** **01 45 14.8 0.0**
NLU epP pP 01 45 23.6 0.0
NLU esP sP 01 45 26.9 -0.3
LVC Limon Verde 37.18 154 LR LR 02 00 34.8
comp=Z,437nm,18.4s,MS4.3,baz=320,slow=36
LVC Limon Verde 37.18 154 eP **P** **01 45 15.8 +0.8**
comp=Z,11nm,1.1s,mb4.6
LVC epP pP 01 45 25.0 +1.2
GSC Goldstone 37.22 316 ⇓P **P** **01 45 15.9 +0.6**
baz=37
U10A Ash Meadows, A 37.52 318 ⇑P **P** **01 45 18.7 +0.8**
baz=38,SNR=8.7
TCUT Toone Canyon 37.62 328 eP **P** **01 45 19.3 +0.6**
TCUT epP pP 01 45 26.9 -0.6
TCUT esP sP 01 45 30.9 -0.2
DUG Dugway 37.73 325 eP **P** **01 45 20.1 +0.4**
DUG e*PP pP 01 45 28.3 -0.2
DUG e*SP sP 01 45 32.2 +0.1
DUG e 01 47 38.8
DUG pmax pmax
comp=Z,13nm,1.1s,mb4.6
DUG Dugway 37.73 325 eP **P** **01 45 20.1 +0.3**
comp=Z,13nm,1.1s,mb4.6
DUG epP pP 01 45 28.2 -0.2
DUG esP sP 01 45 32.1 +0.1
DUG ePcP PcP 01 47 38.8 +2.5
PDAR Pinedale Array 37.91 331 P **P** **01 45 20.4 -0.8**
comp=Z,4.1nm,0.6s,mb4.3,baz=129,slow=9.4,SNR=39
PDAR PcP PcP 01 47 37.9 +1.0
comp=Z,5.1nm,0.8s,baz=138,slow=5.5,SNR=11
PDAR ScP ScP 01 51 25.3 +3.0
comp=Z,1.1nm,0.9s,baz=143,slow=5.2,SNR=7.4
PDAR LR LR 02 04 04.4
comp=Z,479nm,21.6s,MS4.3,baz=139,slow=41
HWUT Hardware Ranch 38.05 328 eP **P** **01 45 22.0 -0.4**
comp=Z,19nm,0.9s,mb4.8
HWUT epP pP 01 45 30.3 -0.8
HWUT esP sP 01 45 35.7 +0.9
HWUT ePcP PcP 01 47 38.9 +1.6
Q12A Willow Creek R 38.15 322 ⇑P **P** **01 45 23.7 +0.5**
baz=38
SPUT South Promonto 38.30 327 eP **P** **01 45 24.4 -0.1**
SPUT epP pP 01 45 32.2 -1.1
SPUT esP sP 01 45 38.0 +1.1
SPUT ePcP PcP 01 47 39.3 +1.2
SPUT e 01 47 47.2
BGU Big Grassy Mou 38.35 326 eP **P** **01 45 24.5 -0.4**
BGU epP pP 01 45 33.1 -0.6
BGU esP sP 01 45 37.2 -0.1
BGU ePcP PcP 01 47 38.6 +0.4
P12A McGill 38.47 323 ⇑P **P** **01 45 26.1 +0.2**
baz=38
Q11A Duckwater 38.53 321 ⇓P **P** **01 45 26.4 0.0**
baz=38,SNR=7.2
ISA Isabella 38.56 315 ⇑P **P** **01 45 27.2 +0.6**
baz=39,SNR=5.5
R10A Warm Springs 38.59 320 ⇓P **P** **01 45 27.6 +0.7**
baz=39
HVU Hansel Valley 38.81 327 eP **P** **01 45 29.1 +0.3**
HVU e*PP pP 01 45 37.7 +0.1
HVU e*SP sP 01 45 42.1 +0.9
HVU e 01 47 41.1
HVU pmax pmax
comp=Z,12nm,0.9s,mb4.6
HVU Hansel Valley 38.81 327 eP **P** **01 45 29.1 +0.3**
comp=Z,12nm,0.9s,mb4.6
HVU epP pP 01 45 37.6 +0.1
HVU esP sP 01 45 42.1 +1.0
HVU ePcP PcP 01 47 41.1 +1.4
HVU e 01 47 48.5
S09A Goldfield 38.85 319 ⇑P **P** **01 45 29.7 +0.6**
baz=39,SNR=7.9
O12A Currie 38.88 324 ⇑P **P** **01 45 29.4 0.0**
baz=39,SNR=10.0
N13A Wendover, West 38.96 325 ⇓P **P** **01 45 30.2 +0.2**
baz=39,SNR=11
REDW Red Top Meadow 38.98 331 eP **P** **01 45 29.9 -0.2**
comp=Z,44nm,1.0s,mb5.1
REDW epP pP 01 45 38.1 -0.9
REDW esP sP 01 45 43.7 +1.1
REDW ePcP PcP 01 47 41.3 +1.1
SNOW Snow King Moun 39.01 331 eP **P** **01 45 30.4 0.0**
comp=Z,40nm,1.0s,mb5.1
SNOW epP pP 01 45 37.9 -1.3
SNOW esP sP 01 45 42.8 0.0
R09A Tonopah 39.05 319 ⇑P **P** **01 45 31.3 +0.5**
baz=39,SNR=5.7
TPAW Teton Pass 39.12 331 eP **P** **01 45 31.5 +0.1**
comp=Z,37nm,1.3s,mb5.0
TPAW epP pP 01 45 40.1 -0.1
TPAW esP sP 01 45 44.0 +0.2
TPAW ePP PP 01 47 01.1 -0.3
RRI2 Red Ridge 39.20 330 eP **P** **01 45 32.8 +0.8**
comp=Z,22nm,1.1s,mb4.8
RRI2 epP pP 01 45 40.0 -0.8
RRI2 esP sP 01 45 45.8 +1.4
MOOW Moose Ponds 39.22 331 eP **P** **01 45 31.6 -0.6**
comp=Z,7.7nm,0.9s,mb4.4
MOOW ePcP PcP 01 47 41.9 +1.0
M13A Montello 39.28 326 ⇓P **P** **01 45 33.3 +0.6**
baz=39
O11A Cowboy Ranch, 39.33 323 ⇑P **P** **01 45 33.5 +0.4**
baz=39
IMW Indian Meadow 39.42 331 eP **P** **01 45 33.2 -0.6**
comp=Z,20nm,1.3s,mb4.7
IMW epP pP 01 45 42.7 0.0
IMW esP sP 01 45 46.8 +0.5
IMW ePcP PcP 01 47 41.4 -0.2
IMW eScP ScP 01 51 32.2 +4.1

N12A Clover Valley, 39.44 324 ⇓P **P** **01 45 34.3 +0.3**
baz=40,SNR=15
FLWY Flagg Ranch 39.45 331 eP **P** **01 45 34.2 +0.1**
comp=Z,16nm,0.9s,mb4.8
FLWY epP pP 01 45 42.1 -0.8
FLWY ePcP PcP 01 47 43.3 +1.6
ELK Elko 39.48 324 eP **P** **01 45 34.4 0.0**
ELK e*PP pP 01 45 43.2 0.0
ELK e*SP sP 01 45 48.2 +1.4
ELK e 01 47 42.9
ELK pmax pmax
comp=Z,15nm,0.9s
ELK Elko 39.48 324 eP **P** **01 45 34.4 0.0**
comp=Z,15nm,0.9s,mb4.7
ELK epP pP 01 45 43.2 +0.1
ELK esP sP 01 45 48.2 +1.4
ELK ePcP PcP 01 47 42.9 +1.2
ELK e 01 47 51.5
P10A Eureka 39.50 322 ⇑P **P** **01 45 34.8 +0.3**
baz=40
M12A Wells 39.73 325 ⇓P **P** **01 45 36.3 -0.2**
baz=40,SNR=8.3
PTRM Twissleman Ran 39.77 314 P **P** **01 45 38.1 +1.3**
YFT Old Faithful 39.79 332 eP **P** **01 45 38.4 +1.5**
YFT epP pP 01 45 45.7 -0.1
YFT ePcP PcP 01 47 44.1 +1.3
N11A Elko Archery C 39.81 324 ⇑P **P** **01 45 37.2 0.0**
baz=40,SNR=11
MLAC Mammoth Lakes 39.85 317 ⇑P **P** **01 45 37.4 -0.1**
baz=40
P09A Austin 39.87 321 ⇓P **P** **01 45 37.8 +0.1**
baz=40
NVAR Mina Array Bea 39.95 319 P **P** **01 45 38.7 +0.4**
comp=Z,3.9nm,0.5s,mb4.4,baz=147,slow=6.5,SNR=36
NVAR PcP PcP 01 47 45.2 +2.0
comp=Z,15nm,0.7s,baz=126,slow=5.0,SNR=31
NVAR Mina Array Bea 39.95 319 P **P** **01 45 38.7 +0.4**
NVAR PcP PcP 01 47 45.2 +1.9
Q08A Gabbs 39.96 320 ⇑P **P** **01 45 38.7 +0.4**
baz=40,SNR=17
KCC Kaiser Creek 40.01 317 ⇓P **P** **01 45 39.0 +0.2**
baz=40,SNR=5.1
ULM Lac du Bonnet 40.09 350 P **P** **01 45 37.6 -1.8**
comp=Z,23nm,0.8s,mb5.0,baz=167,slow=8.9,SNR=30
ULM PcP PcP 01 47 44.4 +0.6
comp=Z,9.8nm,0.7s,baz=232,slow=2.7,SNR=6.0
ULM LR LR 02 03 58.0
comp=Z,225nm,19.6s,MS4.0,baz=47,slow=39
T06C Millerton Lake 40.11 316 ⇓P **P** **01 45 39.2 -0.4**
baz=40
PKD Parkfield 40.15 314 ⇓P **P** **01 45 39.6 -0.3**
baz=40
N10A Dunphy 40.21 323 ⇑P **P** **01 45 40.7 +0.3**
baz=40
M11A Holland Ranch, 40.24 324 ⇓P **P** **01 45 40.7 0.0**
baz=40
R07C Lee Vining 40.25 318 ⇓P **P** **01 45 41.6 +0.9**
baz=40
O09A Fish Creek Ran 40.28 322 ⇑P **P** **01 45 41.2 +0.2**
baz=40,SNR=20
GCMT Greycliff 40.31 334 eP **P** **01 45 40.7 -0.5**
GCMT epP pP 01 45 48.7 -1.4
GCMT ePcP PcP 01 47 45.9 +1.5
QLMT Earthquake Lak 40.36 332 eP **P** **01 45 43.0 +1.4**
QLMT ePcP PcP 01 47 44.4 -0.2
BMN Battle Mountai 40.45 322 eP **P** **01 45 42.7 +0.2**
BMN e*PP pP 01 45 51.1 -0.2
BMN e*SP sP 01 45 56.3 +1.4
BMN pmax pmax
comp=Z,27nm,1.0s,mb4.9
BMN Battle Mountai 40.45 322 eP **P** **01 45 42.6 +0.2**
comp=Z,27nm,1.0s,mb4.9
BMN epP pP 01 45 51.1 -0.2
BMN esP sP 01 45 56.3 +1.4
U04C Hernandez Rese 40.52 314 ⇓P **P** **01 45 42.6 -0.5**
baz=40
P08A Dixie Valley 40.54 321 ⇓P **P** **01 45 43.9 +0.8**
baz=41
S06C San Francisco 40.67 317 ⇓P **P** **01 45 44.4 +0.2**
baz=41,SNR=8.4
V03C Hunter Liggett 40.68 314 ⇑P **P** **01 45 44.5 +0.2**
baz=41
S05C Merced 40.71 316 ⇑P **P** **01 45 44.4 -0.1**
baz=41,SNR=7.7
R06C Coleville 40.75 318 ⇓P **P** **01 45 45.3 +0.4**
baz=41,SNR=12
N09A Rock Creek Ran 40.89 322 ⇑P **P** **01 45 46.2 +0.1**
baz=41,SNR=27
HLID Hailey 40.92 328 eP **P** **01 45 45.6 -0.7**
comp=Z,6.6nm,0.6s,mb4.4
HLID epP pP 01 45 55.8 +0.6
HLID esP sP 01 46 00.2 +1.5
HLID ePcP PcP 01 47 48.3 +1.9
MCMT McKenzie Canyo 41.03 330 eP **P** **01 45 47.7 +0.5**
MCMT epP pP 01 45 55.8 -0.2
MCMT esP sP 01 46 01.6 +2.0
MCMT ePcP PcP 01 47 49.3 +2.1
BOZ Bozeman (W) 41.07 332 eP **P** **01 45 47.5 0.0**
BOZ e*PP pP 01 45 55.1 -1.2
BOZ e*SP sP 01 46 00.6 +0.7
BOZ e 01 47 24.0
BOZ pmax pmax
comp=Z,11nm,0.8s,mb4.5
BOZ Bozeman (W) 41.07 332 eP **P** **01 45 47.5 0.0**
comp=Z,11nm,0.8s,mb4.5
BOZ epP pP 01 45 55.1 -1.2
BOZ esP sP 01 46 00.6 +0.7
BOZ ePP PP 01 47 24.0 +1.5
HAST UC Hastings Re 41.08 314 ⇓P **P** **01 45 47.8 +0.2**
baz=41
CMB Columbia Colle 41.11 317 eP **P** **01 45 48.2 +0.4**
CMB e*PP pP 01 45 57.1 +0.4
CMB e*SP sP 01 46 01.4 +1.1
CMB pmax pmax
comp=Z,11nm,1.1s,mb4.4
CMB Columbia Colle 41.11 317 eP **P** **01 45 48.2 +0.4**
comp=Z,11nm,1.1s,mb4.4
CMB epP pP 01 45 57.0 +0.4
CMB esP sP 01 46 01.4 +1.1
CMB Columbia Colle 41.11 317 ⇓P **P** **01 45 47.5 -0.4**
baz=41,SNR=9.8
PACP Pacheco Peak 41.20 315 ⇓P **P** **01 45 48.5 -0.1**
baz=41
M09A Marrel Ranch, 41.20 323 ⇓P **P** **01 45 48.9 +0.3**
baz=41
R05C Kirkwood Meado 41.26 318 ⇑P **P** **01 45 49.9 +0.9**
baz=41,SNR=9.1
DLMT Dillon 41.30 331 eP **P** **01 45 49.2 -0.2**
comp=Z,19nm,1.1s,mb4.6
DLMT epP pP 01 45 57.1 -1.2
DLMT esP sP 01 46 01.9 0.0
DLMT ePcP PcP 01 47 49.7 +2.1
O07A Toulon 41.31 321 ⇑P **P** **01 45 49.2 -0.3**
baz=41,SNR=14
PAHR Pah Rah Range 41.37 320 eP **P** **01 45 50.2 +0.2**
comp=Z,17nm,1.2s,mb4.5
PAHR ePcP pP 01 45 59.1 +0.3
PAHR esP sP 01 46 03.5 +1.1
WCN Washoe City 41.38 319 ⇑P **P** **01 45 49.9 -0.2**
baz=41
S04C Ingram Canyon, 41.47 316 ⇑P **P** **01 45 51.1 +0.2**
baz=42
R04C Big Horse Ranc 41.59 317 ⇑P **P** **01 45 52.4 +0.6**
baz=42
P06A Stead Airport, 41.68 319 ⇓P **P** **01 45 52.9 +0.4**
baz=42
L09A Wilkinson Ranc 41.70 324 ⇑P **P** **01 45 52.4 -0.4**
baz=42
LAVA Lava Cap Winer 41.72 318 ⇑P **P** **01 45 52.5 -0.4**
baz=42,SNR=8.1
WENL Wanta Brothers 41.83 316 ⇑P **P** **01 45 54.4 +0.6**
baz=42
O06A Flanigan 41.91 320 ⇑P **P** **01 45 54.5 +0.1**
baz=42,SNR=7.2
P05C Yuba Gap, Truc 41.93 318 ⇑P **P** **01 45 54.9 +0.3**
baz=42,SNR=7.6
HRY Holter Researc 41.97 333 eP **P** **01 45 54.6 -0.3**
HRY epP pP 01 46 02.0 -1.7
HRY ePcP PcP 01 47 51.4 +1.6
BDM Black Diamond 42.07 316 ⇓P **P** **01 45 56.7 +1.0**
baz=42
Q04C Lincoln 42.19 317 ⇑P **P** **01 45 57.4 +0.7**
baz=42,SNR=9.4
M07A Soldier Meadow 42.21 322 ⇓P **P** **01 45 56.1 -0.7**
baz=42,SNR=14

N06A Buffalo Meadow 42.24 321 ⇑P **P** **01 45 57.0 -0.2**
baz=42,SNR=8.7
O05C Quincy 42.49 319 ⇑P **P** **01 45 59.7 +0.6**
baz=42
Q03C Winters 42.51 317 ⇓P **P** **01 46 00.0 +0.7**
baz=42
WVOR Wild Horse Val 42.52 323 eP **P** **01 45 58.8 -0.6**
WVOR e*PP pP 01 46 07.8 -0.5
WVOR e*SP sP 01 46 12.4 +0.6
WVOR pmax pmax
comp=Z,44nm,1.0s,mb5.1
WVOR Wild Horse Val 42.52 323 eP **P** **01 45 58.8 -0.6**
comp=Z,44nm,1.0s,mb5.1
WVOR epP pP 01 46 07.8 -0.5
WVOR esP sP 01 46 12.4 +0.6
ORV Oroville 42.65 318 ⇑P **P** **01 46 00.8 +0.3**
baz=43,SNR=12
SUTB Sutter Butte 42.67 318 ⇓P **P** **01 46 00.6 0.0**
baz=43,SNR=13
CVS Carmenet Viney 42.67 316 ⇑P **P** **01 46 00.3 -0.3**
baz=43
L07A Adell 42.69 323 ⇑P **P** **01 46 00.7 -0.1**
baz=43,SNR=8.3
CHMT Chamberlain Mo 42.76 332 eP **P** **01 46 00.6 -0.7**
CHMT epP pP 01 46 08.9 -1.4
CHMT ePcP PcP 01 47 53.6 +1.2
O04C Chester 42.79 319 ⇓P **P** **01 46 01.4 -0.2**
baz=43
NSHM Saint Helena R 42.86 316 eP **P** **01 46 03.3 +1.2**
NSHM epP pP 01 46 11.2 +0.2
NSHM esP sP 01 46 16.2 +1.6
NSHM e 01 46 21.2
MCCM Marconi Confer 42.86 316 ⇑P **P** **01 46 01.8 -0.4**
baz=43
MNRC McLaughlin Nat 42.92 317 ⇓P **P** **01 46 02.5 -0.2**
baz=43
MSO Missoula 43.02 332 eP **P** **01 46 02.6 -0.8**
comp=Z,6.6nm,0.9s,mb4.4
MSO epP pP 01 46 10.8 -1.5
MOD Modoc 43.20 322 eP **P** **01 46 04.6 -0.3**
comp=Z,2.6nm,0.8s,mb4.0
MOD epP pP 01 46 12.2 -1.6
MOD esP sP 01 46 16.9 -0.4
MOD Modoc 43.20 322 ⇓P **P** **01 46 04.8 -0.1**
baz=43
O03C Acorn Hollow, 43.23 318 ⇓P **P** **01 46 04.9 -0.3**
baz=43
M05C Lookout 43.41 321 ⇑P **P** **01 46 06.5 -0.1**
baz=43
J07A Hines 43.49 324 ⇑P **P** **01 46 07.0 -0.2**
baz=44
GASB Alder Springs 43.50 318 ⇓P **P** **01 46 07.1 -0.3**
baz=44,SNR=8.2
K06A Valley Falls 43.69 323 ⇓P **P** **01 46 08.4 -0.4**
baz=44
O02C Red Bluff 43.82 318 ⇑P **P** **01 46 08.8 -1.1**
baz=44
P01C Double 8 Ranch 43.82 317 ⇑P **P** **01 46 10.6 +0.7**
baz=44
J06A Christmas Vall 43.90 323 P **P** **01 46 09.5 -1.1**
baz=44,SNR=5.6
M04C Macdoel 44.08 321 ⇓P **P** **01 46 11.3 -0.7**
baz=44
L04A Klamath Falls 44.33 321 ⇑P **P** **01 46 14.0 +0.1**
baz=44,SNR=5.3
I06A Prineville 44.35 324 ⇑P **P** **01 46 14.2 0.0**
baz=44
K04A Chilquin 44.47 322 ⇑P **P** **01 46 15.1 0.0**
baz=44
N02C Big Bar 44.49 319 ⇑P **P** **01 46 15.5 +0.3**
baz=44
M02C Callahan 44.50 320 ⇑P **P** **01 46 16.5 +1.2**
baz=44
J05A Fort Rock 44.56 323 ⇑P **P** **01 46 16.0 +0.2**
baz=45
YBH Yreka Blue Hor 44.59 320 ⇑P **P** **01 46 15.7 -0.4**
baz=45
WALA Waterton Lakes 44.66 334 eP **P** **01 46 15.9 -0.7**
comp=Z,7.4nm,0.9s,mb4.5
WALA epP pP 01 46 24.6 -0.9
WALA esP sP 01 46 29.0 -0.1
KHMM Horse Mountain 44.80 319 eP **P** **01 46 18.1 +0.4**
KHMM epP pP 01 46 26.5 -0.1
KHMM esP sP 01 46 31.3 +1.1
JCC Jacoby Creek 44.96 318 ⇓P **P** **01 46 18.7 -0.3**
baz=45
I05A Bend 45.10 324 ⇓P **P** **01 46 19.5 -0.6**
baz=45
HUMO Hull Mountain 45.22 321 ⇑P **P** **01 46 20.6 -0.5**
baz=45
L02A Cave Junction 45.38 320 ⇓P **P** **01 46 21.3 -1.0**
baz=45
HAWA Hanford 45.51 327 eP **P** **01 46 21.9 -1.5**
comp=Z,1.4nm,1.0s,mb3.9
HAWA epP pP 01 46 30.4 -1.9
HAWA esP sP 01 46 35.7 -0.2
HAWA ePcP PcP 01 48 03.2 +1.3
HBO Huckleberry Mo 45.53 323 P **P** **01 46 22.9 -0.6**
FFC Flin Flon 45.55 347 eP **P** **01 46 22.9 -0.8**
FFC e*PP pP 01 46 30.7 -1.9
FFC e*SP sP 01 46 35.1 -1.0
FFC pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
FFC Flin Flon 45.55 347 eP **P** **01 46 22.9 -0.8**
comp=Z,4.5nm,0.8s,mb4.5
FFC epP pP 01 46 30.7 -1.8
FFC esP sP 01 46 35.1 -1.0
IRO Indian Ridge 45.58 323 P **P** **01 46 23.0 -0.9**
K02A Glendale 45.64 321 ⇑P **P** **01 46 24.0 -0.4**
baz=46
J03A Ideyld Park 45.65 322 ⇓P **P** **01 46 25.6 +1.1**
baz=46
BDFB Brasilia 45.73 125 P **P** **01 46 28.3 +3.2**
comp=Z,26nm,0.8s,mb5.2,baz=297,slow=8.3,SNR=33
BDFB PcP PcP 01 48 04.2 +1.6
comp=Z,4.9nm,0.7s,baz=261,slow=3.4,SNR=3.9
BDFB LR LR 02 06 35.0
comp=Z,642nm,18.3s,MS4.6,baz=58,slow=37
BDFB Brasilia 45.73 125 P **P** **01 46 28.3 +3.2**
BDFB 01 48 04.2
BAO Brasilia Array 45.75 125 P **P** **01 46 28.0 +2.8**
G05A Wamic 45.77 325 ⇓P **P** **01 46 25.2 -0.2**
baz=46
BROR Big Rock Looko 45.85 323 P **P** **01 46 25.0 -1.1**
H04A Detroit Lake 45.94 324 ⇑P **P** **01 46 26.1 -0.7**
baz=46,SNR=6.1
J02A Umpqua 46.02 322 ⇑P **P** **01 46 26.5 -0.9**
baz=46
I03A Eugene 46.17 322 ⇑P **P** **01 46 28.1 -0.5**
baz=46
CPUP Villa Florida 46.19 144 P **P** **01 46 30.4 +1.7**
comp=Z,1.9nm,0.7s,mb4.2,baz=312,slow=5.6,SNR=6.9
CPUP PcP PcP 01 48 06.2 +2.0
comp=Z,0.7nm,0.4s,baz=240,slow=4.5,SNR=3.4
CPUP LR LR 02 07 56.5
comp=Z,308nm,18.7s,MS4.3,baz=307,slow=39
CPUP Villa Florida 46.19 144 eP **P** **01 46 30.3 +1.5**
CPUP e*SP sP 01 46 42.1 +0.8
CPUP e 01 46 46.1
CPUP 01 48 06.3
CPUP Villa Florida 46.19 144 eP **P** **01 46 30.3 +1.5**
CPUP epP pP 01 46 37.7 0.0
CPUP esP sP 01 46 42.1 +0.8
CPUP e 01 46 46.0
CPUP ePcP PcP 01 48 05.9 +1.7
CPUP PcP PcP 01 48 06.2 +2.0
F05A White Salmon 46.24 326 ⇓P **P** **01 46 29.1 0.0**
baz=46,SNR=6.3
SCHQ Schefferville 46.28 15 P **P** **01 46 29.6 +0.2**
comp=Z,6.4nm,0.4s,mb4.9,baz=220,slow=5.8,SNR=52
SCHQ PcP PcP 01 48 05.0 +0.5
comp=Z,1.3nm,0.3s,baz=181,slow=13,SNR=3.7
SCHQ LR LR 02 06 37.4
comp=Z,483nm,19.1s,MS4.5,baz=202,slow=37
EBG Ellensburg 46.39 327 P **P** **01 46 30.4 0.0**
G04A Mulino 46.41 324 ⇑P **P** **01 46 30.2 -0.3**
baz=46
I02A Mapleton 46.52 322 ⇓P **P** **01 46 31.2 -0.1**
baz=46
WTV Waterville 46.58 328 P **P** **01 46 31.4 -0.3**
H03A Soap Creek Ran 46.58 323 ⇑P **P** **01 46 31.6 -0.2**
baz=47
F04A Amboy 46.80 325 ⇓P **P** **01 46 33.5 -0.1**
baz=47
E05A Randle 46.82 326 ⇓P **P** **01 46 33.8 +0.2**
baz=47

G03A	**Yamhill**	**46.93**	**324**	⇓P		**P**	**01 46 34.7**	**+0.1**
	baz=47								
D05A	**Enumclaw**	**47.32**	**327**	⇓P		**P**	**01 46 37.5**	**-0.2**
	baz=47								
E04A	**Onalaska**	**47.36**	**326**	⇓P		**P**	**01 46 38.1**	**+0.2**
	baz=47								
F03A	**Seaside**	**47.45**	**324**	⇑P		**P**	**01 46 38.5**	**-0.1**
	baz=48								
PNT	**Penticton**	**47.47**	**330**	P		**P**	**01 46 38.3**	**-0.5**
C05A	**Tolt Reservoir**	**47.48**	**327**	⇓P		**P**	**01 46 37.9**	**-0.9**
	baz=48								
EDM	**Edmonton**	**47.65**	**338**	*e*P		**P**	**01 46 38.8**	**-1.3**
EDM				*e*			01 48 30.5		
E03A	**Lebam**	**47.81**	**325**	⇓P		**P**	**01 46 40.1**	**-1.2**
	baz=48								
B05A	**Bryant**	**48.05**	**328**	⇑P		**P**	**01 46 41.5**	**-1.7**
	baz=48								
C04A	**Brinnon**	**48.17**	**327**	P		**P**	**01 46 43.3**	**-0.9**
	baz=48								
A04A	**Legoe Bay, Lum**	**48.65**	**328**	⇑P		**P**	**01 46 47.3**	**-0.5**
	baz=49								
B04A	**Port Angeles**	**48.67**	**327**	⇓P		**P**	**01 46 47.7**	**-0.3**
	baz=49								
PLCA	**Paso Flores**	**53.28**	**166**	P		**P**	**01 47 23.4**	**+0.7**
	comp=Z,3.2nm,0.7s,mb4.3,baz=335,slow=12,SNR=6.4								
PLCA	**Paso Flores**	**53.28**	**166**	P		**P**	**01 47 23.4**	**+0.7**
YKA	**Yellowknife Ar**	**55.52**	**344**	P		**P**	**01 47 36.4**	**-2.6**
	comp=Z,6.4nm,0.7s,mb4.7,baz=140,slow=7.2,SNR=16								
YKA				PcP		PcP	01 48 39.1	+0.4	
	comp=Z,1.8nm,0.6s,baz=139,slow=4.3,SNR=6.4								
RES	**Resolute Bay**	**63.95**	**357**	*e*P		**P**	**01 48 35.1**	**-1.9**
RES				*e**PP		pP	01 48 45.6	-0.6	
RES				*e**SP		sP	01 48 48.4	-1.3	
RES				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.6								
RES	**Resolute Bay**	**63.95**	**357**	*e*P		**P**	**01 48 35.0**	**-1.9**
	comp=Z,4.9nm,0.8s,mb4.6								
RES				*e*pP		pP	01 48 45.6	-0.6	
RES				*e*sP		sP	01 48 48.4	-1.3	
DAWY	**Dawson**	**64.85**	**337**	*e*P		**P**	**01 48 40.8**	**-2.0**
DAWY				*e*pP		pP	01 48 51.5	-0.6	
DAWY				*e*PcP		PcP	01 49 15.4	-0.7	
INK	**Inuvik**	**65.16**	**342**	*e*P		**P**	**01 48 43.9**	**-1.0**
INK				*e**PP		pP	01 48 52.4	-1.7	
INK				*e*			01 48 56.0		
INK				*e*			01 49 18.3		
INK				pmax		pmax			
	comp=Z,10.0nm,1.2s								
INK	**Inuvik**	**65.16**	**342**	*e*P		**P**	**01 48 43.9**	**-0.9**
	comp=Z,10nm,1.2s,mb4.7								
INK				*e*pP		pP	01 48 52.4	-1.8	
INK				*e*			01 48 56.0		
INK				*e*PcP		PcP	01 49 18.3	+1.0	
SLKM	**Skilak Lake**	**68.10**	**331**	*e*P		**P**	**01 49 02.4**	**-1.3**
SLKM				*e**PP		pP	01 49 11.1	-1.8	
COLA	**College**	**68.51**	**336**	*e i*P		**P**	**01 49 04.7**	**-1.5**
COLA	**College**	**68.51**	**336**	*e*P		**P**	**01 49 04.6**	**-1.6**
	comp=Z,4.2nm,0.7s,mb4.5								
MCK	**McKinley**	**68.55**	**335**	*e*P		**P**	**01 49 05.5**	**-1.0**
MCK				*e**PP		pP	01 49 13.7	-2.1	
MCK				pmax		pmax			
	comp=Z,11nm,1.0s,mb4.7								
MCK	**McKinley**	**68.55**	**335**	*e*P		**P**	**01 49 05.5**	**-1.0**
	comp=Z,10nm,1.0s,mb4.7								
MCK				*e*pP		pP	01 49 13.7	-2.0	
PPT	**Papeete**	**69.11**	**246**	*e*S		S	01 58 16.2	+2.7	
	comp=Z,98nm,24.0s								
PPT				eLR		LR	02 09 59.6		
	comp=Z,269nm,25.2s,baz=58								
PPT	**Papeete**	**69.11**	**246**	LR		LR	02 12 30.4		
	comp=Z,218nm,20.4s,MS4.4,baz=55,slow=30								
SVW2	**Sparrevohn**	**70.80**	**331**	*e*P		**P**	**01 49 18.4**	**-1.9**
SVW2				pP		pP	01 49 28.9	-0.7	
TBI	**Tubuai**	**71.01**	**241**	*e*S		S	01 58 38.5	+2.8	
	comp=Z,166nm,28.0s								
TBI				eLR		LR	02 10 56.6		
	comp=Z,220nm,24.8s,baz=61								
IMA2	**Indian Mountai**	**71.20**	**336**	*e*P		**P**	**01 49 21.1**	**-1.6**
TTA	**Tatalina**	**71.39**	**333**	P		**P**	**01 49 22.3**	**-1.6**
TTA				pmax		pmax			
	comp=Z,30nm,1.1s,mb5.1								
TTA	**Tatalina**	**71.39**	**333**	P		**P**	**01 49 22.3**	**-1.6**
	comp=Z,30nm,1.1s,mb5.1								
FALS	**False Pass**	**74.05**	**324**	*e*P		**P**	**01 49 38.9**	**-0.8**
FALS				*e*pP		pP	01 49 48.3	-0.8	
AKUT	**Akutan**	**75.39**	**323**	*e*P		**P**	**01 49 47.1**	**-0.4**
AKUT				*e*PcP		PcP	01 50 01.5	+0.9	
ESDC	**Sonseca Array**	**76.81**	**52**	P		**P**	**01 49 56.3**	**+0.8**
	comp=Z,12nm,0.7s,mb4.0,baz=283,slow=5.7,SNR=14								
ROSF	**Rostrenen**	**76.92**	**43**	*e*P		**P**	**01 49 56.0**	**-0.2**
	comp=Z,15nm,1.0s,mb4.6								
ROSF	**Rostrenen**	**76.92**	**43**	*e*P		**P**	**01 49 56.0**	**-0.2**
ROSF				pmax		pmax			
	comp=Z,7.0nm,1.0s,mb4.5								
ROSF	**Rostrenen**	**76.92**	**43**	*e*P		**P**	**01 49 56.0**	**-0.2**
	comp=Z,7.4nm,1.0s,mb4.6								
QUIF	**Quistinic**	**77.01**	**43**	*e*P		**P**	**01 49 56.3**	**-0.4**
SGMF	**Saint Gilles**	**77.41**	**43**	*e*P		**P**	**01 49 58.5**	**-0.4**
	comp=Z,7.3nm,0.9s,mb4.3								
SGMF	**Saint Gilles**	**77.41**	**43**	*e*P		**P**	**01 49 58.5**	**-0.4**
SGMF				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.3								
SGMF	**Saint Gilles**	**77.41**	**43**	*e*P		**P**	**01 49 58.5**	**-0.4**
	comp=Z,3.7nm,0.9s,mb4.3								
GRR	**Gorron**	**78.53**	**43**	*e*P		**P**	**01 50 04.7**	**-0.4**
	comp=Z,15nm,0.8s,mb4.7								
GRR	**Gorron**	**78.53**	**43**	*e*P		**P**	**01 50 04.7**	**-0.4**
GRR				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb4.7								
GRR	**Gorron**	**78.53**	**43**	*e*P		**P**	**01 50 04.7**	**-0.4**
	comp=Z,7.5nm,0.8s,mb4.7								
SJPF	**Ste Jean**	**78.64**	**48**	*e*P		**P**	**01 50 05.5**	**-0.2**
	comp=Z,6.6nm,0.7s,mb4.4								
SJPF	**Ste Jean**	**78.64**	**48**	*e*P		**P**	**01 50 05.5**	**-0.2**
SJPF				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.3								
SJPF	**Ste Jean**	**78.64**	**48**	*e*P		**P**	**01 50 05.5**	**-0.2**
	comp=Z,3.3nm,0.7s,mb4.4								
FLN	**La Foliniere**	**78.76**	**42**	*e*P		**P**	**01 50 06.1**	**-0.3**
	comp=Z,9.5nm,0.9s,mb4.4								
FLN	**La Foliniere**	**78.76**	**42**	*e*P		**P**	**01 50 06.1**	**-0.3**
FLN				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.4								
FLN	**La Foliniere**	**78.76**	**42**	*e*P		**P**	**01 50 06.1**	**-0.3**
	comp=Z,4.8nm,0.9s,mb4.4								
LDF	**La Druitiere**	**79.01**	**42**	*e*P		**P**	**01 50 06.6**	**-1.1**
	comp=Z,16nm,1.1s,mb4.6								
LDF	**La Druitiere**	**79.01**	**42**	*e*P		**P**	**01 50 06.6**	**-1.1**
LDF				pmax		pmax			
	comp=Z,8.0nm,1.1s,mb4.6								
LDF	**La Druitiere**	**79.01**	**42**	*e*P		**P**	**01 50 06.6**	**-1.1**
	comp=Z,8.1nm,1.1s,mb4.6								
MFF	**Saint Martin d**	**79.14**	**44**	*e*P		**P**	**01 50 08.3**	**-0.1**
	comp=Z,6.1nm,0.6s,mb4.4								
MFF	**Saint Martin d**	**79.14**	**44**	*e*P		**P**	**01 50 08.3**	**-0.1**
MFF				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.4								
MFF	**Saint Martin d**	**79.14**	**44**	*e*P		**P**	**01 50 08.3**	**-0.1**
	comp=Z,3.0nm,0.6s,mb4.4								
ETSF	**Etsaut**	**79.14**	**48**	*e*P		**P**	**01 50 08.2**	**-0.3**
	comp=Z,7.7nm,1.0s,mb4.3								
ETSF	**Etsaut**	**79.14**	**48**	*e*P		**P**	**01 50 08.2**	**-0.3**
ETSF				pmax		pmax			
	comp=Z,4.0nm,1.0s,mb4.3								
ETSF	**Etsaut**	**79.14**	**48**	*e*P		**P**	**01 50 08.2**	**-0.3**
	comp=Z,3.8nm,1.0s,mb4.3								
LIC	**Lamto**	**79.75**	**86**	*e*P		**P**	**01 50 12.6**	**+0.8**
	comp=Z,23nm,0.8s,mb4.8								
LIC				*e*R					
	comp=Z,143nm,18.0s								
LIC	**Lamto**	**79.75**	**86**	*e*P		**P**	**01 50 12.6**	**+0.8**
	comp=Z,11nm,0.8s,mb4.8								
LIC				LR		LR			
	comp=Z,70nm,18.0s,MS4.0								
EPF	**Esparros**	**79.78**	**48**	*e*P		**P**	**01 50 11.7**	**-0.3**
DBIC	**Dimbokro**	**79.84**	**85**	LR		LR	02 25 16.3		
	comp=Z,140nm,18.9s,MS4.3,baz=253,slow=36								
LFF	**La Frestale**	**79.89**	**46**	*e*P		**P**	**01 50 12.0**	**-0.6**
RJF	**Les Rejaudoux**	**80.41**	**46**	*e*P		**P**	**01 50 15.0**	**-0.3**
RJF				*e*R					
	comp=Z,296nm,19.5s								
RJF	**Les Rejaudoux**	**80.41**	**46**	*e*P		**P**	**01 50 15.0**	**-0.3**
RJF				LR		LR			
	comp=Z,300nm,19.5s,MS4.7								
TCF	**Toulx Ste Croi**	**80.79**	**45**	*e*P		**P**	**01 50 16.7**	**-0.7**
	comp=Z,1.8nm,0.4s,mb4.0								
TCF	**Toulx Ste Croi**	**80.79**	**45**	*e*P		**P**	**01 50 16.7**	**-0.7**
TCF				pmax		pmax			
	comp=Z,1.0nm,0.4s,mb4.1								
TCF	**Toulx Ste Croi**	**80.79**	**45**	*e*P		**P**	**01 50 16.7**	**-0.7**
	comp=Z,0.9nm,0.4s,mb4.0								
MTLF	**Montolieu**	**81.12**	**48**	*e*P		**P**	**01 50 18.8**	**-0.3**
	comp=Z,6.5nm,1.0s,mb4.2								
MTLF	**Montolieu**	**81.12**	**48**	*e*P		**P**	**01 50 18.8**	**-0.3**
MTLF				pmax		pmax			
	comp=Z,3.0nm,1.0s,mb4.2								
MTLF	**Montolieu**	**81.12**	**48**	*e*P		**P**	**01 50 18.8**	**-0.3**
	comp=Z,3.3nm,1.0s,mb4.2								
BGF	**Bois d'Agland**	**81.19**	**44**	*e*P		**P**	**01 50 18.8**	**-0.7**
AVF	**Avril sur Loir**	**81.51**	**44**	*e*P		**P**	**01 50 20.5**	**-0.7**
SSF	**Saint Saulge**	**81.59**	**44**	*e*P		**P**	**01 50 20.8**	**-0.8**
	comp=Z,6.8nm,1.1s,mb4.2								
SSF	**Saint Saulge**	**81.59**	**44**	*e*P		**P**	**01 50 20.8**	**-0.8**
SSF				pmax		pmax			
	comp=Z,3.0nm,1.1s,mb4.1								
SSF	**Saint Saulge**	**81.59**	**44**	*e*P		**P**	**01 50 20.8**	**-0.8**
	comp=Z,3.4nm,1.1s,mb4.2								
BAIF	**Baives**	**81.69**	**41**	*e*P		**P**	**01 50 21.2**	**-0.9**
LOR	**Lormes**	**81.80**	**43**	*e*P		**P**	**01 50 22.1**	**-0.6**
	comp=Z,1.8nm,0.6s,mb3.9								
LOR				*e*R					
	comp=Z,380nm,19.5s								
LOR	**Lormes**	**81.80**	**43**	*e*P		**P**	**01 50 22.1**	**-0.6**
LOR				pmax		pmax			
	comp=Z,1.0nm,0.6s,mb3.9								
LOR				MLR		MLR			
	comp=Z,380nm,19.5s,MS4.8								
LOR	**Lormes**	**81.80**	**43**	*e*P		**P**	**01 50 22.1**	**-0.6**
	comp=Z,0.9nm,0.6s,mb3.9								
LOR				LR		LR			
	comp=Z,380nm,19.5s,MS4.8								
VIVF	**Saint-Julien-l**	**82.68**	**46**	*e*P		**P**	**01 50 26.4**	**-1.0**
	comp=Z,6.1nm,0.9s,mb4.3								
VIVF	**Saint-Julien-l**	**82.68**	**46**	*e*P		**P**	**01 50 26.4**	**-1.0**
VIVF				pmax		pmax			
	comp=Z,3.0nm,0.9s,mb4.3								
VIVF	**Saint-Julien-l**	**82.68**	**46**	*e*P		**P**	**01 50 26.4**	**-1.0**
	comp=Z,3.0nm,0.9s,mb4.3								
HAU	**Haudompre**	**83.36**	**43**	*e*P		**P**	**01 50 30.2**	**-0.7**
	comp=Z,6.9nm,0.8s,mb4.4								
HAU				*e*R					
	comp=Z,388nm,20.2s								
HAU	**Haudompre**	**83.36**	**43**	*e*P		**P**	**01 50 30.2**	**-0.7**
HAU				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.4								
HAU				MLR		MLR			
	comp=Z,390nm,20.3s,MS4.8								
HAU	**Haudompre**	**83.36**	**43**	*e*P		**P**	**01 50 30.2**	**-0.7**
	comp=Z,3.5nm,0.8s,mb4.4								
HAU				LR		LR			
	comp=Z,390nm,20.3s,MS4.8								
ORIF	**Oris-en-Rattie**	**83.52**	**46**	*e*P		**P**	**01 50 31.0**	**-0.7**
ORIF				*e*R					
	comp=Z,292nm,20.8s								
HINF	**Hinteralfeld**	**83.73**	**43**	*e*P		**P**	**01 50 31.4**	**-1.4**
	comp=Z,3.2nm,0.7s,mb4.3								
HINF	**Hinteralfeld**	**83.73**	**43**	*e*P		**P**	**01 50 31.4**	**-1.4**
HINF				pmax		pmax			
	comp=Z,2.0nm,0.7s,mb4.4								
HINF	**Hinteralfeld**	**83.73**	**43**	*e*P		**P**	**01 50 31.4**	**-1.4**
	comp=Z,1.6nm,0.7s,mb4.3								
NOA	**NORSAR Array B**	**83.88**	**29**	P		**P**	**01 50 33.6**	**+0.1**
	comp=Z,0.7nm,0.9s,mb3.8,baz=284,slow=5.0,SNR=2.9								
NOA				LR		LR	02 24 23.1		
	comp=Z,188nm,21.2s,MS4.4,baz=290,slow=33								
CDF	**Champ du Feu**	**83.91**	**42**	*e*P		**P**	**01 50 32.5**	**-1.2**
LPL	**La Plagne**	**84.02**	**45**	*e*P		**P**	**01 50 33.4**	**-0.9**
LPG	**La Plagne**	**84.04**	**45**	*e*P		**P**	**01 50 33.4**	**-0.9**
MBDF	**Montbardon**	**84.18**	**46**	*e*P		**P**	**01 50 34.1**	**-1.0**
AMKA	**Amchitka**	**84.64**	**321**	*e*P		**P**	**01 50 37.9**	**+0.5**
AMKA				*e*pP		pP	01 50 46.3	-0.6	
TORD	**Torodi Ar. Bea**	**85.10**	**78**	P		**P**	**01 50 40.1**	**+0.4**
	comp=Z,1.2nm,0.8s,mb4.1,baz=290,slow=4.0,SNR=17								
TORD				LR		LR	02 28 25.5		
	comp=Z,164nm,18.2s,MS4.5,baz=280,slow=36								
PGF	**Pioggiola**	**86.16**	**48**	*e*P		**P**	**01 50 44.0**	**-1.0**
	comp=Z,9.3nm,1.0s,mb4.7								
PGF	**Pioggiola**	**86.16**	**48**	*e*P		**P**	**01 50 44.0**	**-1.0**
PGF				pmax		pmax			
	comp=Z,5.0nm,1.0s,mb4.7								
PGF	**Pioggiola**	**86.16**	**48**	*e*P		**P**	**01 50 44.0**	**-1.0**
	comp=Z,4.7nm,1.0s,mb4.7								
CLL	**Collm**	**86.97**	**38**	P		**P**	**01 50 49.0**	**+0.1**
	comp=Z,logA/T=0.7,mb4.7								
CLL				*e**PP		pP	01 50 57.0	-1.4	
CLL				*e**SS		sS	02 01 37.0	-4.3	
CLL				*e*PS			02 02 35.0		
CLL				*e**SSS			02 07 36.0		
CLL	**Collm**	**86.97**	**38**	*e*P		**P**	**01 50 49.0**	**+0.1**
CLL				*e*S		S	02 01 18.0	-7.5	
CLL				pmax		pmax			
	comp=Z,6.0nm,1.3s,mb4.7								
CLL				MLR		MLR			
	comp=Z,200nm,19.7s,MS4.5								
CLL	**Collm**	**86.97**	**38**	*e*P		**P**	**01 50 49.0**	**+0.1**
	comp=Z,6.0nm,1.3s,mb4.7								
CLL				*e*S		S	02 01 18.0	-7.5	
CLL				LR		LR			
	comp=Z,200nm,19.7s,MS4.5								
ARCES	**ARCESS Array B**	**87.07**	**19**	P		**P**	**01 50 47.9**	**-1.6**
	comp=Z,2.8nm,0.9s,mb4.5,baz=311,slow=6.8,SNR=3.0								
ARCES				LR		LR	02 32 29.2		
	comp=Z,202nm,18.6s,MS4.6,baz=190,slow=38								
KHC	**Kasperske Hory**	**87.84**	**40**	⇓*i*P		**P**	**01 50 52.5**	**-0.7**
GERES	**GERESS Array B**	**87.99**	**41**	P		**P**	**01 50 53.1**	**-0.8**
	comp=Z,0.6nm,0.8s,mb3.9,baz=284,slow=0.6,SNR=5.8								
GERES				LR		LR	02 27 48.3		
	comp=Z,290nm,19.4s,MS4.7,baz=271,slow=34								
FINES	**FINESS Array B**	**90.58**	**26**	P		**P**	**01 51 05.7**	**-0.4**
	comp=Z,0.7nm,0.8s,mb4.0,baz=326,slow=7.2,SNR=2.8								
FINES				LR		LR	02 29 21.5		
	comp=Z,221nm,20.1s,MS4.6,baz=326,slow=34								
VSU	**Vasula**	**92.13**	**29**	⇑*i*P		**P**	**01 51 11.9**	**-1.3**
TIXI	**Tiksi**	**94.44**	**350**	*de*P		**P**	**01 51 24.3**	**+0.5**
TIXI				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb5.2								
PET	**Petropavlovsk**	**96.11**	**327**	⇑*e*P		**P**	**01 51 31.8**	**+0.3**
PET				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb5.2								
AKASG	**Malin Array Be**	**96.79**	**35**	LR		LR	02 36 07.6		
	comp=Z,166nm,19.2s,MS4.5,baz=260,slow=36								
SNAA	**Sanae**	**98.06**	**162**	*e*P		**P**	**01 51 45.2**	**+4.9**
OBN	**Obninsk**	**98.48**	**29**	*de*P		**P**	**01 51 42.0**	**-0.1**
OBN				*e*		pP	01 51 52.2	+0.5	
OBN				*e*			01 52 00.9		
OBN				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb5.1								
OBN				MLR		MLR			
	comp=Z,200nm,20.0s,MS4.6								
BOSA	**Boshof**	**113.52**	**116**	PKiKP		PKiKP	01 56 44.2	+2.3	
	comp=Z,3.8nm,0.7s,baz=306,slow=3.7,SNR=6.6								
BOSA	**Boshof**	**113.52**	**116**	PKPdf		PKiKP	01 56 44.2	+2.3	
CN2	**Changchun**	**118.59**	**335**	*e*PKP		PKPdf	01 56 54.4	+2.8	
MAW	**Mawson**	**119.68**	**167**	PKP		PKPdf	01 56 55.4	+1.7	
	comp=Z,2.0nm,0.8s,baz=55,slow=4.1,SNR=4.0								
SONM	**Songino Array**	**120.52**	**351**	PKP		PKPdf	01 56 55.4	+0.1	
	comp=Z,2.4nm,0.7s,baz=354,slow=1.0,SNR=15								
MKAR	**Makanchi Array**	**121.55**	**10**	PKP		PKPdf	01 56 56.9	-0.4	
	comp=Z,1.3nm,0.4s,baz=283,slow=3.3,SNR=12								
AAK	**Ala-Archa**	**123.71**	**17**	⇓*i*PKiKP		PKPdf	01 57 02.4	+1.0	
WMQ	**Urumqi**	**125.19**	**6**	PKP		PKPdf	01 57 05.4	+1.1	
GTA	**Gaotai**	**129.66**	**354**	*e*PKP		PKPdf	01 57 14.5	+1.7	
GTA				XPKP			01 57 23.0		
NJ2	**Nanjing**	**131.22**	**332**	*e*PKP		PKPdf	01 57 18.3	+2.6	
NJ2				PP		PP	01 59 39.0	+5.5	
NJ2				PKS			02 00 53.0		
NJ2				SKS		SKSdf	02 04 18.0	-7.1	
NJ2				PP		PP			
	comp=Z,440nm,6.2s								
NJ2				LR		LR			
	comp=N,370nm,24.2s,MS5.2								
NJ2				LR		LR			
	comp=E,420nm,24.0s,MS5.2								
NJ2				LR		LR			
	comp=Z,250nm,19.9s,MS4.9								
STKA	**Stephens Creek**	**131.71**	**237**	PKP		PKPdf	01 57 15.8	-0.9	
	comp=Z,2.3nm,0.8s,baz=359,slow=7.9,SNR=4.5								
LZH	**Lanzhou**	**132.38**	**349**	*e*PKP		PKPdf	01 57 19.0	+1.1	
LZH				APKP			01 57 51.3		
LZH				*e*PP		PP	01 59 45.1	+4.1	
LZH				PP		PP			
	comp=Z,83nm,8.6s								
LZH				LR		LR			
	comp=N,139nm,18.3s								
LZH				LR		LR			
	comp=Z,209nm,20.2s,MS4.8								
XAN	**Xi'an**	**133.17**	**343**	PKP		PKPdf	01 57 20.4	+1.0	
OPO	**Ambohidratompo**	**133.95**	**105**	PKP		PKPdf	01 57 24.5	+3.6	
	comp=Z,1.3nm,0.7s,baz=304,slow=8.8,SNR=5.1								
CD2	**Chengdu**	**137.42**	**348**	*e*PKP		PKPdf	01 57 24.0	-3.4	
GKN	**Gorkha**	**140.20**	**13**	*e*P		PKPdf	01 57 32.6	+0.2	
	comp=Z,30nm,0.7s								
ASAR	**Alice Springs**	**140.23**	**246**	PKhKP			01 57 30.2		
	comp=Z,1.4nm,0.7s,baz=115,slow=3.3,SNR=5.9								
ASAR				PKP		PKPdf	01 57 33.8	+1.3	
	comp=Z,3.4nm,0.7s,baz=100,slow=1.7,SNR=23								
WB2	**Warramunga Arr**	**140.42**	**252**	*e*P		PKPdf	01 57 26.0	-6.8	
WRAB	**Tennant Creek**	**140.42**	**252**	⇑*i*PKiKP		PKPdf	01 57 33.6	+0.8	
WRA	**Warramunga Arr**	**140.43**	**252**	PKhKP			01 57 25.5		
	comp=Z,0.7nm,0.7s,baz=96,slow=2.9,SNR=5.6								
WRA				PKP		PKPdf	01 57 33.9	+1.1	
	comp=Z,4.6nm,0.7s,baz=87,slow=1.6,SNR=19								
KKN	**Kakani**	**140.54**	**13**	*e*P		PKPdf	01 57 32.2	-0.9	
	comp=Z,10nm,0.5s								
GUN	**Gumba**	**140.55**	**12**	*e*P		PKPdf	01 57 32.3	-0.8	
	comp=Z,18nm,0.5s								
DMN	**Daman**	**140.68**	**13**	*e*P		PKPdf	01 57 32.6	-0.7	
PKI	**Pulchoki**	**140.78**	**12**	*e*P		PKPdf	01 57 31.9	-1.6	
KMI	**Kunming**	**143.23**	**347**	PKP		PKPdf	01 57 35.0	-2.9	
QIZ	**Qiongzhong**	**146.51**	**333**	PKP		PKPab	01 57 46.8	+0.8	
QIZ	**Qiongzhong**	**146.51**	**333**	*e*PKP		PKPdf	01 57 43.8	+0.3	
QIZ				*e*			01 57 55.4		
FITZ	**Fitzroy Crossi**	**148.84**	**253**	*e*P		PKPdf	01 57 49.6	+2.2	
	comp=Z,12nm,0.8s								
FITZ	**Fitzroy Crossi**	**148.84**	**253**	PKPbc		PKPbc	01 57 51.2	-0.1	
	comp=Z,6.9nm,0.8s,baz=127,slow=2.2,SNR=12								
CHG	**Chiang Mai**	**150.09**	**351**	P		PKPbc	01 57 55.8	+1.4	
CHTO	**Chiang Mai**	**150.09**	**351**	*e*PKPdf		PKPdf	01 57 51.2	+1.8	
CHTO				*e*PKPbc		PKPbc	01 57 55.4	+1.0	
KKTK	**Khon Kaen**	**151.62**	**343**	P		PKPdf	01 57 51.0	-0.7	

BJI ***24*** *01:38:49.9, 1000S×10874E, h12km, mB4.9, mb4.6, Ms4.5, Msz4.3*
IDC ***24*** *01:38:51.0±0.6, 982S×1080SE, h0km, mb4.1/10, mb1 4.1/12, mb1mx4.1/18, mbtmp4.0/12, ML3.8/2, MS3.8/4, Ms1 3.8/4, ms1mx3.3/21, Error ellipse: s-maj=26.5km s-min=15.3km az=57.0*
ISCJB ***24*** *01:38:55.4±0.5, 952S±008×1085E±0.1, h28km, mb4.3/25, MS4.0/10, Error ellipse: s-maj=17.8km s-min=6.9km az=105.8*
NEIC ***24*** *01:38:56.2±4.1, 927S×10873E, h13km±25km, mb4.6/8, Error ellipse: s-maj=13.7km s-min=7.0km az=60.0*
ISC 24 01:38:57.9±0.6, 950S±008×1085E±01, h30km, h30km±1.7km:pP-P,n55,σ1ˢ25/49,mb4.3/25,MS4.0/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**11.05**	**9**	*e*Pn	**Pn**	**01 41 30.4**	**-3.4**
PSI	**Prapat**	**15.52**	**322**	Pn	**Pn**	**01 42 30.5**	**-4.0**
	0.6nm,0.3s,baz=162,slow=16,SNR=2.8						
PSI				LR	LR	01 48 18.9	
	comp=Z,308nm,19.4s,baz=133,slow=37						
MBWA	**Marble Bar**	**15.84**	**138**	*e*Pn	**Pn**	**01 42 39.9**	**+1.2**
	1.8nm,0.3s						
KULM	**Kulim**	**16.66**	**332**	*e*Pn	**Pn**	**01 42 48.4**	**-0.7**

	comp=E,150nm,19.0s,MS4.2							
HHC					LR	LR		
	comp=Z,154nm,19.0s,MS4.0							
HNR	**Honiara**	**50.69**	**94**		P	**P**	**01 47 55.2**	**+0.7**
MJAR	**Matsushiro Arr**	**53.64**	**30**		P	**P**	**01 48 17.0**	**+0.5**
	comp=Z,0.6nm,0.3s,mb4.0,baz=212,slow=8.6,SNR=5.1							
WMQ	**Urumqi**	**56.34**	**342**		P	**P**	**01 48 38.6**	**+2.6**
WMQ					AP	pP	01 48 45.6	+0.4
WMQ					PP	PP	01 50 45.4	+3.8
WMQ					AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.6							
WMQ					AMB	AMB		
	comp=Z,76nm,5.4s							
WMQ					LR	LR		
	comp=N,174nm,18.0s,MS4.3							
WMQ					LR	LR		
	comp=E,130nm,16.9s,MS4.3							
WMQ					LR	LR		
	comp=Z,174nm,18.5s,MS4.2							
SONM	**Songino Array**	**57.11**	**358**		P	**P**	**01 48 41.7**	**+0.3**
	comp=Z,2.3nm,0.6s,mb4.4,baz=165,slow=7.3,SNR=18							
SONM					LR	LR	02 14 59.8	
	comp=Z,140nm,18.7s,MS4.1,baz=164,slow=38							
MDJ	**Mudanjiang**	**57.14**	**18**		P	**P**	**01 48 42.3**	**+0.6**
MDJ					AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.4							
MDJ					AMB	AMB		
	comp=Z,64nm,5.1s							
AAK	**Ala-Archa**	**60.48**	**332**	*e*	P	**P**	**01 49 05.7**	**+0.8**
MKAR	**Makanchi Array**	**60.74**	**340**		P	**P**	**01 49 06.0**	**-0.6**
	comp=Z,1.5nm,0.7s,mb4.3,baz=140,slow=6.4,SNR=8.2							
KURK	**Kurchatov**	**65.35**	**340**	*e*	P	**P**	**01 49 37.1**	**-0.2**
	comp=Z,6.7nm,1.0s,mb4.6							
KURK				*e*		pP	01 49 46.7	+0.1
MAW	**Mawson**	**65.43**	**198**		P	**P**	**01 49 32.0**	**-5.8**
	comp=Z,1.6nm,0.8s,mb4.1,baz=51,slow=15,SNR=3.7							
MAW	**Mawson**	**65.43**	**198**	*e*	P	**P**	**01 49 42.0**	**+4.2**
	comp=Z,3.2nm,0.8s,mb4.4							
BVAR	**Borovoye Array**	**70.24**	**337**		P	**P**	**01 50 06.8**	**-1.2**
	comp=Z,1.4nm,0.6s,mb4.1,baz=134,slow=6.4,SNR=7.5							
BRVK	**Borovoye**	**70.31**	**337**	*e*	P	**P**	**01 50 08.3**	**-0.2**
BRVK				*e*		pP	01 50 17.8	-0.1
CHKZ	**Chkalovo**	**70.66**	**337**	*e*	P	**P**	**01 50 09.8**	**-0.8**
	comp=Z,6.3nm,0.8s,mb4.6							
CHKZ				*e*		pP	01 50 19.8	-0.2
ZRNK	**Zerenda**	**70.74**	**336**	*e*	P	**P**	**01 50 10.0**	**-1.1**
	comp=Z,3.9nm,0.8s,mb4.4							
ZRNK				*e*		pP	01 50 20.3	-0.2
YAK	**Yakutsk**	**73.20**	**10**		P	**P**	**01 50 23.4**	**-2.5**
GNI	**Garni**	**76.77**	**315**	*e*	P	**P**	**01 50 47.4**	**+0.9**
ARU	**Arti**	**77.51**	**334**	*e*	P	**P**	**01 50 50.1**	**-0.5**
	comp=Z,14nm,1.4s,mb4.7							
ARU				*e*		pP	01 50 59.8	-0.3
BRTR	**Keskin Array B**	**84.60**	**312**		P	**P**	**01 51 25.6**	**-2.7**
	comp=Z,1.1nm,0.9s,mb4.0,baz=128,slow=6.9,SNR=6.0							
BILL	**Bilibino**	**87.36**	**19**	*e*	P	**P**	**01 51 41.5**	**-0.5**
AKASG	**Malin Array Be**	**90.58**	**321**		P	**P**	**01 51 54.6**	**-2.5**
	comp=Z,0.1nm,0.2s,mb3.8,baz=98,slow=5.1,SNR=3.8							
HRY	**Holter Researc**	**129.52**	**35**		Pdif	Pdif	01 54 54.6	+3.3
WMOK	**Wichita Mounta**	**144.58**	**41**	*e*	PKPdf	PKPdf	01 58 31.1	-0.3
WMOK				*e*			01 58 42.1	
LONY	**Lake Ozonia**	**144.91**	**4**	*e*	PKPdf	PKPdf	01 58 32.4	+0.4
LONY				*e*			01 58 41.4	
BDFB	**Brasilia**	**145.88**	**223**		PKPbc	PKPdf	01 58 30.9	-2.7
	comp=Z,4.3nm,0.9s,baz=250,slow=3.1,SNR=4.7							
JCT	**Junction City**	**146.35**	**48**	*e*	PKPdf	PKPbc	01 58 36.7	+1.0
CCM	**Cathedral Cave**	**146.47**	**29**	*e*	PKP	PKPbc	01 58 37.5	+1.5
CCM				*e*			01 58 46.9	
MIAR	**Mount Ida**	**147.90**	**36**	*e*	PKPdf	PKPbc	01 58 40.0	0.0
WVT	**Waverly**	**149.61**	**27**	*e*	PKP	PKPbc	01 58 44.1	-0.3
WVT				*e*			01 58 55.3	
PLAL	**Pickwick Lake**	**150.45**	**28**	*e*	PKPbc	PKPbc	01 58 46.6	+0.2
PLAL				*e*			01 58 56.5	
SIV	**San Ignacio**	**152.65**	**202**		PKPbc	PKPbc	01 58 48.9	-2.5
	comp=Z,3.1nm,0.9s,baz=192,slow=11,SNR=6.0							
SIV					PKPab	PKPab	01 58 58.9	-3.2
	comp=Z,1.9nm,0.8s,baz=241,slow=2.7,SNR=4.8							
LPAZ	**La Paz**	**154.16**	**187**		PKPbc	PKPbc	01 58 54.6	-0.2
	comp=Z,0.7nm,0.9s,baz=37,slow=3.5,SNR=3.8							
LPAZ					PKPab	PKPab	01 59 06.5	-2.1
	comp=Z,0.4nm,0.7s,baz=180,slow=9.1,SNR=3.4							
LPAZ	**La Paz**	**154.16**	**187**		PKPbc	PKPbc	01 58 54.6	-0.2
LPAZ					PKPab	PKPab	01 59 06.5	-2.1

CASC 24 01:44:05.8±2.7, 1068N×8624W, h1km±7km, MD3.5, ML2.7, 5C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.72**	**32**	*e*P	Pg	01 44 21.0	+1.4
SSNN				*e*S	Sg	01 44 33.6	+4.7
SSNN				*i*		01 44 34.0	
	comp=Z,264nm,0.3s						
LIM1	**Limonal**	**0.97**	**88**↑	*e*P	Pg	01 44 24.1	-0.3
LIM1				*e*S	Sg	01 44 38.4	+1.4
MADN	**Villa Maderas**	**1.01**	**44**↑	*e*P	Pg	01 44 26.2	+1.1
MADN				*i*		01 44 48.2	
	comp=Z,138nm,0.5s						
CONN	**Concepcion**	**1.07**	**34**↑	*e*P	Pg	01 44 26.7	+0.4
CONN				*e*S	Sg	01 44 43.9	+3.7
APON	**Apoyo**	**1.25**	**8**	*e*P	Pg	01 44 30.0	+0.3
TICN	**Ticuantepe**	**1.35**	**0**↑	*e*P	Pg	01 44 31.2	-0.5
TICN				*e*S	Sg	01 44 50.3	+1.1
JCR	**Jicaral**	**1.38**	**126**	*e*P	Pn	01 44 33.3	+1.0
JCR				*e*S	Sg	01 44 52.1	+2.0
MGAN	**Managua**	**1.46**	**360**	*e*P	Pn	01 44 32.8	-0.6
XAVN	**Gruta Xavier**	**1.47**	**357**	*e*P	Pn	01 44 32.5	-0.9
COPN	**Copaltepe**	**1.54**	**347**↑	*e*P	Pn	01 44 32.6	-1.7
COPN				*e*S	Sn	01 44 54.2	-0.7
MIRN	**Miramar**	**1.81**	**345**	*e*P	Pn	01 44 37.9	-0.3
LEON	**Leon**	**1.84**	**340**	*e*P	Pn	01 44 38.5	-0.1
CGA2	**Cerro Gallo 2**	**1.87**	**110**	*e*P	Pn	01 44 38.9	0.0
PRS1	**Puriscal**	**2.02**	**110**	*e*P	Pn	01 44 40.9	-0.1
URSC	**Urasca**	**2.56**	**109**	*e*P	Pn	01 44 51.1	+2.6

CASC 24 02:01:48.9±2.2, 1067N×8625W, h0km±5km, MD3.7, ML3.1, 5C-6D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.73**	**32**↑	*e*P	Pg	02 02 04.5	+1.7
SSNN				*i*		02 02 17.7	
	comp=Z,488nm,0.3s						
VCR	**Vista de Mar**	**0.81**	**132**	*e*P	Pg	02 02 05.0	+0.6
LIM1	**Limonal**	**0.97**	**88**↑	*i*P	Pg	02 02 07.7	+0.1
LIM1				*e*S	Sg	02 02 21.5	+1.3
MADN	**Villa Maderas**	**1.01**	**43**↓	*e*P	Pg	02 02 09.7	+1.4
MADN				*e*S	Sg	02 02 24.4	+2.8
CONN	**Concepcion**	**1.08**	**34**↓	*e*P	Pg	02 02 10.3	+0.7
CONN				*e*S	Sg	02 02 25.3	+1.8
APON	**Apoyo**	**1.25**	**8**↑	*e*P	Pg	02 02 13.3	+0.3
TICN	**Ticuantepe**	**1.36**	**1**↓	*e*P	Pg	02 02 14.9	0.0
JCR	**Jicaral**	**1.38**	**126**	*e*P	Pn	02 02 12.6	-2.8
JCR				*e*S	Sg	02 02 35.3	+2.0
TISN	**Laguna Tiscapa**	**1.47**	**359**	*e*P	Pn	02 02 15.8	-0.7
MGAN	**Managua**	**1.47**	**360**	*e*P	Pn	02 02 16.2	-0.4
MGAN				*i*		02 02 43.6	
	comp=N,356nm,0.6s						
XAVN	**Gruta Xavier**	**1.47**	**357**↓	*e*P	Pn	02 02 15.8	-0.8
COPN	**Copaltepe**	**1.54**	**347**↑	*e*P	Pn	02 02 16.4	-1.2
COPN				*e*S	Sn	02 02 38.9	+0.7
APYN	**Apoyeque**	**1.56**	**356**↓	*e*P	Pn	02 02 17.8	0.0
MOMJ	**Momotombo**	**1.75**	**351**↓	*e*P	Pn	02 02 20.2	-0.3
MIRN	**Miramar**	**1.82**	**345**	*e*P	Pn	02 02 20.1	-1.2
LEON	**Leon**	**1.85**	**340**↑	*e*P	Pn	02 02 20.4	-1.4
CGA2	**Cerro Gallo 2**	**1.87**	**110**	*e*P	Pn	02 02 22.6	+0.5
CGA2				*e*S	Sn	02 02 49.3	+3.0
PRS1	**Puriscal**	**2.02**	**109**	*e*P	Pn	02 02 23.9	-0.2
PRS1				*e*S	Sn	02 02 52.0	+1.9
LCR2	**La Lucha 2**	**2.39**	**112**	*e*P	Pn	02 02 29.7	+0.4
BUS	**Buena Vista**	**2.69**	**114**	*e*P	Pn	02 02 36.7	+3.3

*IDC **24** 02:27:12.5±0.6, 6065N×15168E, h0km, mb5.0/13, mb1 5.2/13, mb1mx5.1/14, mbtmp5.0/13, MS3.9/12, Ms1 3.9/12, ms1mx3.8/21, Error ellipse: s-maj=16.6km s-min=12.9km az=118.0*
*MOS **24** 02:27:16.5±0.9, 585S×15161E, h33km, mb5.0/11, Error ellipse: s-maj=14.7km s-min=8.9km az=78.3*
*BJI **24** 02:27:17.5, 6.13S×15202E, h75km, mB5.1, mb4.9, Ms4.9, Msz5.0*

*ISCJB **24** 02:27:18.6±0.3, 598S±004×15168E±006, h56km, mb4.8/39, MS4.2/15, Error ellipse: s-maj=8.5km s-min=5.3km az=44.9*
*NEIC **24** 02:27:20.0±0.2, 599S×15169E, mb5.2/17, Error ellipse: s-maj=8.8km s-min=5.4km az=112.0*
ISC 24 02:27:20.4±0.3, 600S±004×15174E±006, h58km, h58km±3.8km: pP-P, n102, σ0§99/95, mb4.8/39, MS4.2/15, 7C-6D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.67**	**233**	Pn	**Pn**	**02 28 43.4**	**+1.4**
	21nm,0.3s,baz=45,slow=7.4,SNR=43						
PMG				Sn	**Sn**	**02 29 46.5**	**+0.8**
	225nm,0.3s,baz=196,slow=17,SNR=14						
PMG	**Port Moresby**	**5.67**	**233**	*e*Pn	**Pn**	**02 28 42.6**	**+0.6**
PMG				*e*Sn	**Sn**	**02 29 47.5**	**+1.8**
HNR	**Honiara**	**8.82**	**113**	LR	LR	02 31 51.4	
	comp=Z,203nm,19.1s,baz=359,slow=32						
CTA	**Charters Tower**	**14.99**	**200**	*e*P	**Pn**	**02 30 50.3**	**+1.6**
	13nm,0.8s						
CTA	**Charters Tower**	**14.99**	**200**	Pn	**Pn**	**02 30 48.5**	**-0.3**
	0.3nm,0.3s,baz=20,slow=17,SNR=3.9						
CTAO	**Charters Tower**	**14.99**	**200**	*e*P	**Pn**	**02 30 52.5**	**+3.8**
KAKA	**Kakadu**	**20.17**	**249**	*e*P	**P**	**02 31 49.4**	**-0.6**
	167nm,0.6s						
GUMO	**Guam**	**20.62**	**341**	P	**P**	**02 31 55.4**	**+0.6**
	225nm,1.0s,baz=153,slow=7.3,SNR=6.7						
GUMO				LR	LR	02 38 23.7	
	comp=Z,204nm,21.3s,MS3.5,baz=73,slow=32						
DZM	**Mont Dzumac**	**21.39**	**140**	P	**P**	**02 32 02.7**	**-0.4**
	4.5nm,0.5s,mb4.0,baz=303,slow=16,SNR=7.5						
WRAB	**Tennant Creek**	**21.86**	**229**	P	**P**	**02 32 08.4**	**+0.3**
	845nm,0.6s,SNR=8.1						
WRAB	**Tennant Creek**	**21.86**	**229**	*e*P	**P**	**02 32 07.7**	**-0.4**
WB2	**Warramunga Arr**	**21.86**	**229**	↓*i*P	**P**	**02 32 07.5**	**-0.7**
WB2	**Warramunga Arr**	**21.86**	**229**	*e*P	**P**	**02 32 07.7**	**-0.4**
WRA	**Warramunga Arr**	**21.87**	**229**	P	**P**	**02 32 07.7**	**-0.6**
	94nm,0.7s,mb5.3,baz=55,slow=10,SNR=132						
WRA				S	**S**	**02 36 07.4**	**+0.8**
	2.5nm,0.9s,baz=49,slow=18,SNR=5.0						
WRA				ScP	ScP	02 39 46.3	+8.2
	0.6nm,0.5s,baz=50,slow=3.0,SNR=6.0						
WRA				LR	LR	02 40 56.9	
	comp=Z,226nm,20.0s,MS3.6,baz=50,slow=38						
WRA	**Warramunga Arr**	**21.87**	**229**	P	**P**	**02 32 07.7**	**-0.6**
WRA				S	**S**	**02 36 07.4**	**+0.9**
ARMA	**Armidale**	**24.30**	**180**	*e*P	**P**	**02 32 31.1**	**-1.2**
AS31	**Alice Springs**	**24.56**	**223**	*e*P	**P**	**02 32 34.6**	**-0.1**
ASAR	**Alice Springs**	**24.56**	**223**	P	**P**	**02 32 34.8**	**+0.1**
	127nm,0.7s,mb5.5,baz=57,slow=9.0,SNR=441						
ASAR				ScP	ScP	02 39 54.9	+10
	0.5nm,0.7s,baz=65,slow=2.9,SNR=6.4						
ASAR				LR	LR	02 41 35.8	
	comp=Z,319nm,19.4s,MS3.8,baz=38,slow=35						
ASPA	**Alice Springs**	**24.57**	**223**	*e*P	**P**	**02 32 34.8**	**+0.1**
STKA	**Stephens Creek**	**27.44**	**199**	*e*P	**P**	**02 32 58.7**	**-2.0**
	12nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**27.44**	**199**	P	**P**	**02 32 59.5**	**-1.2**
	13nm,0.7s,mb4.6,baz=19,slow=10,SNR=20						
STKA				LR	LR	02 43 56.4	
	comp=Z,253nm,20.9s,MS3.8,baz=141,slow=37						
STKA	**Stephens Creek**	**27.44**	**199**	*e*P	**P**	**02 32 59.3**	**-1.4**
FITZ	**Fitzroy Crossi**	**28.17**	**242**	↓*i*P	**P**	**02 33 07.3**	**+0.1**
	88nm,0.6s,mb5.6						
FITZ	**Fitzroy Crossi**	**28.17**	**242**	P	**P**	**02 33 07.3**	**+0.1**
	47nm,0.6s,mb5.3,baz=73,slow=8.0,SNR=223						
FITZ				LR	LR	02 45 01.0	
	comp=Z,132nm,20.6s,MS3.5,baz=96,slow=38						
FORT	**Forrest**	**33.20**	**219**	*e*P	**P**	**02 33 51.0**	**-0.6**
	59nm,0.7s,mb5.6						
MBWA	**Marble Bar**	**34.47**	**241**	*e*P	**P**	**02 34 02.7**	**+0.1**
	45nm,1.0s,mb5.3						
URZ	**Urewera**	**39.52**	**148**	P	**P**	**02 34 45.1**	**-0.3**
	9.2nm,0.7s,mb4.7,baz=279,slow=1.7,SNR=9.3						
URZ				LR	LR	02 48 22.8	
	comp=Z,249nm,20.3s,MS4.0,baz=63,slow=32						
RPZ	**Rata Peaks**	**41.23**	**159**	P	**P**	**02 34 58.4**	**-1.1**
	6.7nm,0.6s,mb4.5,baz=239,slow=5.9,SNR=3.7						
RPZ				LR	LR	02 48 51.6	
	comp=Z,478nm,21.9s,MS4.3,baz=187,slow=32						
MJAR	**Matsushiro Arr**	**44.17**	**344**	P	**P**	**02 35 20.5**	**-2.9**
	1.5nm,0.6s,mb3.9,baz=166,slow=7.3,SNR=4.4						
MJAR				LR	LR	02 52 55.6	
	comp=Z,108nm,19.7s,MS3.8,baz=225,slow=35						
MJAR	**Matsushiro Arr**	**44.17**	**344**	P	**P**	**02 35 20.5**	**-2.9**
MJAR				LR	LR	02 52 55.6	
NJ2	**Nanjing**	**49.12**	**322**	*e*P	**P**	**02 36 02.0**	**-0.1**
NJ2				AP	pP	02 36 25.8	+8.5
NJ2				PP	PP	02 37 57.3	+1.2
NJ2				S	**S**	**02 42 59.0**	**-4.0**
NJ2				XS	sS	02 43 39.0	+10
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,170nm,6.6s						
NJ2				LR	LR		
	comp=N,430nm,17.2s,MS4.6						
NJ2				LR	LR		
	comp=E,290nm,13.5s,MS4.6						
NJ2				LR	LR		
	comp=Z,2μm,16.5s,MS5.1						
MDJ	**Mudanjiang**	**54.18**	**341**	P	**P**	**02 36 41.3**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,46nm,3.8s						
CN2	**Changchun**	**54.96**	**337**	*e*P	**P**	**02 36 49.9**	**+4.4**
BJI	**Beijing**	**56.31**	**328**	P	**P**	**02 36 59.0**	**+3.8**
KMI	**Kunming**	**56.79**	**305**	P	**P**	**02 36 59.8**	**+1.2**
KMI				AP	pP	02 37 20.1	+6.0
KMI				S	**S**	**02 44 44.8**	**-2.6**
CD2	**Chengdu**	**58.72**	**312**	P	**P**	**02 37 11.3**	**-0.8**
CD2				XP	sP	02 37 42.3	+8.0
CD2				PCP	PcP	02 38 00.4	-1.0
CD2				PP	PP	02 39 23.8	+1.4
CD2				SCP	ScP	02 41 52.5	-4.3
CD2				PCS	PcS	02 42 00.6	-2.6
CD2				S	**S**	**02 45 06.8**	**-5.8**
CD2				XS	sS	02 45 43.8	+4.9
CD2				SCS	ScS	02 46 50.1	-6.7
CD2				SS	SS	02 49 02.3	-4.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,8.5s						
CD2				LR	LR		
	comp=E,140nm,14.4s						
CD2				LR	LR		
	comp=Z,280nm,10.8s,MS4.7						
LZH	**Lanzhou**	**61.36**	**317**	*e*P	**P**	**02 37 32.8**	**+2.6**
LZH				AP	pP	02 37 53.8	+7.9
LZH				XP	sP	02 38 02.5	+10
LZH				PP	PP	02 39 50.8	+5.1
LZH				*e*S	**S**	**02 45 44.6**	**-1.9**
LZH				PS		02 46 11.8	
LZH				XS	sS	02 46 19.8	+6.9
LZH				*e*SS	SS	02 49 50.3	+2.6
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,176nm,7.6s						
LZH				LR	LR		
	comp=N,1μm,15.2s						
LZH				LR	LR		
	comp=Z,1μm,18.3s,MS5.1						
HIA	**Hailar**	**61.70**	**337**	*c*↓*i*P	**P**	**02 37 31.7**	**-0.7**
HIA	**Hailar**	**61.70**	**337**	*e*P	**P**	**02 37 31.4**	**-1.0**
	comp=Z,13nm,0.5s,mb5.3						
MA2	**Magadan**	**65.37**	**359**	*e*P	**P**	**02 37 55.0**	**-1.6**
MA2				*e*	pP	02 38 06.8	-5.7
MA2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
MA2	**Magadan**	**65.37**	**359**	*e*P	**P**	**02 37 54.6**	**-2.0**
	comp=Z,12nm,0.7s,mb5.0						
GTA	**Gaotai**	**65.82**	**318**	*e*P	**P**	**02 38 00.0**	**+0.4**
GTA				AP	pP	02 38 21.1	+5.6
GTA				XP	sP	02 38 29.8	+7.8
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.6						
CIT	**Chita**	**66.33**	**335**	*e*P	**P**	**02 38 03.3**	**+0.5**
SONM	**Songino Array**	**66.78**	**329**	P	**P**	**02 38 06.0**	**+0.3**
	comp=Z,3.3nm,0.6s,mb4.6,baz=134,slow=5.7,SNR=22						
YAK	**Yakutsk**	**69.93**	**349**	*de*P	**P**	**02 38 24.9**	**-0.5**
YAK				pmax	pmax		
ZAK	**Zakamensk**	**69.97**	**329**↑	*i*P	**P**	**02 38 25.5**	**-0.1**
ZAK				*e*	pP	02 38 40.9	-0.7
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
SPIA	**Saint Paul Isl**	**70.14**	**21**	*e*P	**P**	**02 38 27.0**	**+0.4**
BOD	**Bodaibo**	**70.53**	**340**	*e*P	**P**	**02 38 27.8**	**-1.3**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
TLY	**Talaya**	**70.59**	**331**	*c i*P	**P**	**02 38 29.2**	**-0.2**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
TLY	**Talaya**	**70.59**	**331**	P	**P**	**02 38 28.8**	**-0.6**
	comp=Z,2.7nm,0.8s,mb4.2						
FALS	**False Pass**	**71.15**	**26**	*e*P	**P**	**02 38 32.4**	**-0.4**
VNDA	**Vanda**	**71.68**	**178**	P	**P**	**02 38 35.9**	**-0.2**
	comp=Z,7.3nm,0.8s,mb4.7,baz=323,slow=6.5,SNR=25						
SBA	**Scott Base**	**72.25**	**177**	*e*P	**P**	**02 38 40.0**	**+0.6**
MIR	**Mirnyy**	**72.44**	**201**	*c i*P	**P**	**02 38 42.5**	**+1.9**
MIR				pmax	pmax		
	comp=Z,190nm,1.0s						
WMQ	**Urumqi**	**75.91**	**318**	P	**P**	**02 39 01.6**	**+0.8**
WMQ				XP	sP	02 39 26.8	+3.4
WMQ				PP	PP	02 41 54.8	+3.2
WMQ				S	S	02 48 33.8	-5.1
WMQ				AMB	AMB		
	comp=Z,32nm,1.7s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,172nm,5.7s						
WMQ				LR	LR		
	comp=N,891nm,19.0s,MS5.2						
WMQ				LR	LR		
	comp=E,668nm,17.9s,MS5.2						
WMQ				LR	LR		
	comp=Z,850nm,19.5s,MS5.1						
SVW2	**Sparrevohn**	**78.33**	**23**	*e*P	**P**	**02 39 15.8**	**+1.5**
SVW2				*e*PcP	PcP	02 39 23.6	+0.1
TTA	**Tatalina**	**79.26**	**22**	*e*P	**P**	**02 39 20.6**	**+1.2**
SLKM	**Skilak Lake**	**80.19**	**25**	*e*P	**P**	**02 39 24.9**	**+0.4**
SLKM				*e*		02 39 32.8	
MKAR	**Makanchi Array**	**80.53**	**319**↑	*e*P	**P**	**02 39 26.2**	**-0.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=96,slow=7.7,SNR=7.6						
MKAR	**Makanchi Array**	**80.53**	**319**↑	*e*P	**P**	**02 39 26.7**	**+0.4**
PMR	**Palmer**	**81.20**	**25**	*e*P	**P**	**02 39 30.4**	**+0.5**
PMR				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
PMR	**Palmer**	**81.20**	**25**	*e*P	**P**	**02 39 30.4**	**+0.5**
	comp=Z,15nm,0.9s,mb4.9						
IMA2	**Indian Mountai**	**81.92**	**20**	*e*P	**P**	**02 39 34.6**	**+0.9**
MCK	**McKinley**	**82.36**	**23**	*e*P	**P**	**02 39 35.7**	**-0.3**
MCK				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.2						
MCK	**McKinley**	**82.36**	**23**	*e*P	**P**	**02 39 35.7**	**-0.3**
	comp=Z,32nm,0.9s,mb5.2						
COLA	**College**	**83.34**	**22**	*c i*P	**P**	**02 39 41.4**	**+0.3**
COLA	**College**	**83.34**	**22**	*e*P	**P**	**02 39 39.2**	**-1.9**
	comp=Z,32nm,0.8s,mb5.4						
QSPA	**South Pole Qui**	**83.97**	**180**↓	*i*P	**P**	**02 39 43.9**	**-0.4**
	comp=Z,44nm,1.1s,mb5.5						
KURK	**Kurchatov**	**84.06**	**322**	*c i*P	**P**	**02 39 43.7**	**-1.0**
KURK	**Kurchatov**	**84.06**	**322**	*e*P	**P**	**02 39 45.1**	**+0.4**
KURK				*e*pP	pP	02 40 01.0	-0.1
MAW	**Mawson**	**84.07**	**203**	P	**P**	**02 39 44.6**	**-0.2**
	comp=Z,4.2nm,0.5s,mb4.8,baz=97,slow=6.4,SNR=24						
MAW				LR	LR	03 14 13.2	
	comp=Z,175nm,19.6s,MS4.5,baz=70,slow=34						
AAK	**Ala-Archa**	**84.72**	**314**↓	*e*P	**P**	**02 39 48.4**	**+0.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
AAK	**Ala-Archa**	**84.72**	**314**	*e*P	**P**	**02 39 47.9**	**-0.2**
	comp=Z,3.7nm,0.7s,mb4.6						
DAWY	**Dawson**	**86.30**	**24**	*e*P	**P**	**02 39 57.0**	**+1.1**
DAWY				*e*pP	pP	02 40 12.6	+0.2
CHKZ	**Chkalovo**	**89.55**	**324**	*e*P	**P**	**02 40 09.3**	**-2.1**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.9						
CHKZ	**Chkalovo**	**89.55**	**324**	*e*P	**P**	**02 40 09.3**	**-2.1**
	comp=Z,3.3nm,0.5s,mb4.9						
BRVK	**Borovoye**	**89.63**	**323**	*e*P	**P**	**02 40 11.3**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.6						
BRVK	**Borovoye**	**89.63**	**323**	*e*P	**P**	**02 40 11.3**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.5						
INK	**Inuvik**	**89.94**	**21**	*e*P	**P**	**02 40 13.0**	**-0.3**
INK				*e**PP	pP	02 40 29.4	-0.4
INK				pmax	pmax	

OHR				*e*Sg		**Sg**	02 47 00.9	+1.3
OHR	**Ohrid**	0.28	85	⇑*i*Pg		**Pg**	02 46 55.1	-0.6
OHR				⇓*i*Sg		**Sg**	02 47 00.9	+1.3
OHR				*e*Lg			02 47 01.0	
	comp=N,394nm,0.3s							
OHR				*e*Lg			02 47 01.2	
	comp=E,242nm,0.4s							
OHR	**Ohrid**	0.28	85	⇑*i*Pg		**Pg**	02 46 55.1	-0.7
OHR				⇓*i*Sg		**Sg**	02 47 00.9	+1.3
TIR	**Tirane**	0.49	302	*e*Pg		**Pg**	02 46 57.1	-2.6
TIR				*e*Sg		**Sg**	02 47 04.2	-2.1
KBN	**Korca**	0.54	149	*i*Pg		**Pg**	02 47 00.1	-0.5
KBN				*i*Sg		**Sg**	02 47 11.7	+4.0
KBN	**Korca**	0.54	149	*e*Pg		**Pg**	02 47 00.1	-0.5
KBN				*e*Sg		**Sg**	02 47 11.7	+4.0
QSH	**Qafa e Shtames**	0.58	318	*i*Pg		**Pg**	02 46 58.5	-2.9
QSH				*i*Sg		**Sg**	02 47 10.0	+1.0
PHP	**Peshkopia**	0.59	1	*i*Pg		**Pg**	02 46 59.7	-1.9
PHP				*i*Sg		**Sg**	02 47 09.5	+0.1
BIA	**Bitola**	0.68	96	*i*Pg		**Pg**	02 47 01.9	-1.4
BIA				*i*Sg		**Sg**	02 47 12.9	+0.6
BIA	**Bitola**	0.68	96	*e*Pg		**Pg**	02 47 01.9	-1.4
FNA	**Florina**	0.78	113	*e*Pg		**Pg**	02 47 04.5	-0.7
FNA				*e*Sg		**Sg**	02 47 17.3	+1.9
LSK	**Leskovik**	0.95	172	*i*Pn		**Pn**	02 47 06.9	-2.7
LSK				*i*Sn		**Sn**	02 47 25.2	+2.0
LSK	**Leskovik**	0.95	172	*e*Pn		**Pn**	02 47 06.9	-2.7
LSK				*e*Sn		**Sn**	02 47 25.2	+2.0
KKS	**Kukesi**	0.98	359	*i*Pg		**Pg**	02 47 06.8	-2.3
KKS				*i*Sg		**Sg**	02 47 22.0	+0.1
KKS	**Kukesi**	0.98	359	*e*Pg		**Pg**	02 47 06.8	-2.3
KKS				*e*Sg		**Sg**	02 47 22.0	+0.1
ULC	**Ulcinj**	1.24	315	⇑*i*Pg		**Pg**	02 47 11.1	-2.8
ULC				*e*Sg		**Sg**	02 47 30.9	+0.9
SRN	**Sarande**	1.25	195	*i*Pn		**Pn**	02 47 14.0	+0.3
SRN				*i*Sn		**Sn**	02 47 34.7	+4.0
MEV	**Metsovon**	1.44	154	*e*Pg		**Pg**	02 47 18.0	+0.2
MEV				*e*Sg		**Sg**	02 47 37.8	+1.4
STIP	**Stip**	1.46	65	*e*Pg		**Pg**	02 47 16.1	-2.0
STIP				*e*Sg		**Sg**	02 47 37.0	0.0
STIP	**Stip**	1.46	65	*i*Pg		**Pg**	02 47 16.5	-1.6
GRG	**Griva**	1.50	94	*e*Pg		**Pg**	02 47 16.8	-2.2
GRG				*e*Sg		**Sg**	02 47 38.7	+0.3
PVY	**Plav**	1.54	348	⇓*i*Pg		**Pg**	02 47 17.8	-1.9
PVY				*e*Sg		**Sg**	02 47 40.0	+0.3
IGT	**Igoumenitsa**	1.56	183	*e*Pg		**Pg**	02 47 17.7	-1.3
IGT				*e*Sg		**Sg**	02 47 39.9	-0.3
IGT	**Igoumenitsa**	1.56	183	*e*Pg		**Pg**	02 47 18.7	-1.3
IGT				*e*Sg		**Sg**	02 47 39.8	-0.4
TTG	**Podgorica**	1.60	327	⇓*i*Pg		**Pg**	02 47 17.7	-3.0
TTG				*e*Sg		**Sg**	02 47 42.4	+0.9
VAY	**Valandovo**	1.64	81	*e*Pg		**Pn**	02 47 19.4	+0.4
BUM	**Brajici-Budva**	1.66	317	⇓*i*Pn		**Pn**	02 47 18.8	-0.7
BUM				*e*Sn		**Sn**	02 47 43.1	+2.3
IVA	**Berane**	1.82	348	⇑*i*Pn		**Pn**	02 47 22.1	+0.5
IVA				*e*Sn		**Sn**	02 47 47.7	+2.9
KNT	**Kendrikon**	1.87	87	*e*Pb		**Pb**	02 47 21.9	-2.5
KNT				*e*Sb		**Sb**	02 47 48.3	+0.4
HCY	**Herceg Novi**	1.98	314	⇑*i*Pn		**Pn**	02 47 23.2	-0.6
HCY				*e*Sn		**Sn**	02 47 50.1	+1.5
NKY	**Niksic**	2.02	329	⇑*i*Pn		**Pn**	02 47 24.4	+0.1
NKY				*e*Sn		**Sn**	02 47 52.1	+2.4
BRY	**Bratogost**	2.29	323	⇑*i*Pn		**Pn**	02 47 27.6	-0.4
BRY				*e*Sn		**Sn**	02 47 57.9	+1.6
PLE	**Pljevlja**	2.37	341	⇑*i*Pn		**Pn**	02 47 29.0	-0.1
PLE				*e*Sn		**Sn**	02 47 59.6	+1.4
UPM	**Unac-Piva**	2.39	332	⇓*i*Pn		**Pn**	02 47 29.9	+0.4
UPM				*e*Sn		**Sn**	02 48 00.6	+1.7
AGG	**Agios Georgios**	2.53	144	*e*Pn		**Pn**	02 47 31.8	+0.4
AGG				*e*Sn		**Sn**	02 48 05.8	+3.6
XOR	**Xorichti**	2.73	128	*e*Pn		**Pn**	02 47 35.3	+1.2

*NEIC **24** 02:59:17.0, 3945N×1955E, h38km, MD3.8(ATH), After ATH.*
*ATH **24** 02:59:17.0, 3945N×1955E, h38km±3km, MD3.8/11, ML4.1*
*ISCJB **24** 02:59:17.5±0.3, 3950N±002×1956E±003, h40km, mb3.2/5, Error ellipse: s-maj=3.5km s-min=2.3km az=78.1*
*PDG **24** 02:59:18.7±0.7, 3957N×1966E, h29km±3km*
*CSEM **24** 02:59:19.4±0.1, 3953N×1966E, h42km, ML4.1, Error ellipse: s-maj=2.0km s-min=1.4km az=35.0*
*IDC **24** 02:59:20.6±3.0, 3960N×1966E, h62km±32km, mb3.0/6, mb1 3.3/10, mb1mx3.2/24, mbtmp3.4/10, ML3.7/3, Error ellipse: s-maj=30.2km s-min=18.4km az=121.0*
*THE **24** 02:59:21.4, 3958N×1981E, h40km, ML3.5*
*TIR **24** 02:59:24.8, 3983N×2007E, h28km*
*HLW **24** 02:59:38.1, 3824N×2181E, h33km, Mb3.9*

ISC 24 02:59:18.7±0.5, 3950N±002×1960E±003, h32km±3km, n100, σ1§05/143, mb3.2/5, 10C-10D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.26**	**36**	⇓*i*PB	**Pb**	**02 59 26.1**	**+0.2**
KEK				*e*SB	**Sb**	02 59 31.9	+1.2
SRN	**Sarande**	**0.49**	**39**	*i*Pg	**Pb**	**02 59 29.2**	**+0.2**
SRN				*i*Sg	**Sb**	02 59 36.9	+0.8
IGT	**Igoumenitsa**	**0.57**	**87**	*e*Pg	**Pb**	**02 59 29.8**	**-0.5**
IGT				*e*Sg	**Sb**	02 59 37.9	-0.4
TPE	**Tepelena**	**0.85**	**22**	*e*Pg	**Pn**	**02 59 35.4**	**+1.0**
TPE				*i*Sg	**Sn**	02 59 48.1	+2.3
TPE	**Tepelena**	**0.85**	**22**	*e*Pg	**Pn**	**02 59 35.4**	**+1.0**
TPE				*e*Sg	**Sn**	02 59 48.1	+2.3
JAN	**Janina**	**0.98**	**81**	⇑*i*PN	**Pn**	**02 59 36.5**	**+0.3**
JAN				*e*SN	**Sn**	02 59 50.6	+1.7
LSK	**Leskovik**	**1.00**	**50**	*e*Pg	**Pn**	**02 59 36.4**	**-0.1**
LSK				*i*Sg	**Sn**	02 59 52.9	+3.4
LSK	**Leskovik**	**1.00**	**50**	*e*Pn	**Pn**	**02 59 36.4**	**-0.1**
LSK				*e*Sn	**Sn**	02 59 52.9	+3.4
MEV	**Metsovon**	**1.29**	**77**	*e*Pg	**Pn**	**02 59 41.8**	**+1.4**
KBN	**Korca**	**1.44**	**39**	*i*Pn	**Pn**	**02 59 44.2**	**+1.6**
KBN				*i*Sn	**Sn**	03 00 07.5	+7.1
KBN	**Korca**	**1.44**	**39**	*e*Pn	**Pn**	**02 59 44.2**	**+1.6**
VLS	**Valsamata**	**1.53**	**149**	*e*PB	**Pb**	**02 59 43.1**	**-3.4**
EVR	**Evrytania**	**1.81**	**108**	*e*PB	**Pb**	**02 59 48.8**	**-2.4**
OHR	**Ohrid**	**1.85**	**29**	*e*Pb	**Pb**	**02 59 49.3**	**-2.6**
OHR				*e*Sb	**Sb**	03 00 09.6	-5.0
OHR	**Ohrid**	**1.85**	**29**	*i*Pn	**Pn**	**02 59 49.5**	**+1.4**
KZN	**Kozani**	**1.85**	**64**	*e*PN	**Pn**	**02 59 49.1**	**+0.9**
TIR	**Tirane**	**1.85**	**6**	*e*Pb	**Pb**	**02 59 49.4**	**-2.5**
FNA	**Florina**	**1.87**	**46**	*e*Pb	**Pb**	**02 59 50.0**	**-2.2**
BIA	**Bitola**	**2.01**	**40**	*e*Pb	**Pb**	**02 59 51.1**	**-3.4**
BIA	**Bitola**	**2.01**	**40**	*i*Pn	**Pn**	**02 59 50.7**	**+0.4**
QSH	**Qafa e Shtames**	**2.03**	**6**	*i*pn?	**Pn**	**02 59 51.0**	**+0.4**
QSH				*i*Sn		03 00 29.0	
QSH	**Qafa e Shtames**	**2.03**	**6**	*e*Pn	**Pn**	**02 59 51.0**	**+0.4**
RLS	**Riolos of Patr**	**2.05**	**134**	*e*PN	**Pn**	**02 59 51.3**	**+0.4**
AGG	**Agios Georgios**	**2.17**	**102**	*e*Pn	**Pn**	**02 59 54.0**	**+1.4**
AGG				*e*Sn	**Sn**	03 00 18.0	-0.3
PHP	**Peshkopia**	**2.27**	**16**	*e*pn?	**Pn**	**02 59 54.9**	**+0.9**
LIT	**Litokhoron**	**2.30**	**74**	*e*Pn	**Pn**	**02 59 54.7**	**+0.3**
LIT				*e*Sn	**Sn**	03 00 21.4	-0.2
ULC	**Ulcinj**	**2.47**	**354**	⇑*i*Pn	**Pn**	**02 59 56.4**	**-0.3**
ULC				*e*Sn	**Sn**	03 00 27.1	+1.3
GRG	**Griva**	**2.59**	**55**	*e*Pn	**Pn**	**02 59 58.9**	**+0.6**
GRG				*e*Sn	**Sn**	03 00 27.6	-1.0
SG1	**Sgolgore (BA)**	**2.61**	**302**	*e*Pn	**Pn**	**02 59 59.4**	**+0.8**
BAI	**Bari**	**2.63**	**308**	*e*Pn	**Pn**	**02 59 59.2**	**+0.3**
KKS	**Kukesi**	**2.64**	**13**	*e*pn?	**Pn**	**03 00 00.5**	**+1.4**
LKR	**Lokris**	**2.78**	**107**	*e*PN	**Pn**	**03 00 01.4**	**+0.5**
XOR	**Xorichti**	**2.78**	**92**	*e*Pn	**Pn**	**03 00 01.6**	**+0.6**
XOR				*e*Sn	**Sn**	03 00 32.8	-0.7
NEO	**Neokhori**	**2.81**	**93**	*e*PN	**Pn**	**03 00 01.6**	**+0.2**
THE	**Thessaloniki**	**2.82**	**65**	*e*Pn	**Pn**	**03 00 01.7**	**+0.2**
BUM	**Brajici-Budva**	**2.84**	**349**	⇑*i*Pn	**Pn**	**03 00 01.6**	**-0.2**
BUM				*e*Sn	**Sn**	03 00 36.0	+1.0
BUM	**Brajici-Budva**	**2.84**	**349**	⇑*i*Pn	**Pn**	**03 00 01.6**	**-0.2**
BUM				*e*Sn	**Sn**	03 00 36.0	+1.0
HORT	**Hortiatis**	**2.90**	**67**	*e*Pn	**Pn**	**03 00 02.6**	**+0.1**
HORT				*e*Sn	**Sn**	03 00 34.8	-1.5
VAY	**Valandovo**	**2.90**	**50**	*e*Pn	**Pn**	**03 00 02.5**	**-0.1**
VAY	**Valandovo**	**2.90**	**50**	*i*Pn	**Pn**	**03 00 02.6**	**0.0**
VAY	**Valandovo**	**2.90**	**50**	*e*Pn	**Pn**	**03 00 02.5**	**-0.2**
TTG	**Podgorica**	**2.94**	**355**	⇓*i*Pn	**Pn**	**03 00 02.8**	**-0.3**
TTG				*i*Sn	**Sn**	03 00 37.9	+0.7
STIP	**Stip**	**2.94**	**41**	*e*Pn	**Pn**	**03 00 04.1**	**+0.9**
ITM	**Ithomi**	**2.95**	**141**	*e*PN	**Pn**	**03 00 03.6**	**+0.3**
CDT	**Castel del Mon**	**2.99**	**303**	*e*Pn	**Pn**	**03 00 04.7**	**+0.8**
KNT	**Kendrikon**	**3.02**	**56**	*e*Pn	**Pn**	**03 00 04.4**	**+0.2**
KNT				*e*Sn	**Sn**	03 00 37.4	-1.8
HCY	**Herceg Novi**	**3.06**	**344**	⇑*i*Pn	**Pn**	**03 00 04.2**	**-0.6**
HCY				*e*Sn	**Sn**	03 00 41.2	+1.0
PLG	**Polygyros**	**3.08**	**72**	*e*PN	**Pn**	**03 00 05.0**	**-0.1**
PVY	**Plav**	**3.10**	**5**	*e*Pn	**Pn**	**03 00 06.1**	**+0.7**
PVY				*e*Sn	**Sn**	03 00 41.7	+0.4
SOH	**Sokhos**	**3.16**	**64**	*e*Pn	**Pn**	**03 00 06.2**	**0.0**
SOH				*e*Sn	**Sn**	03 00 42.5	-0.3
PAIG	**Paliouri**	**3.17**	**81**	*e*Pn	**Pn**	**03 00 05.6**	**-0.8**
AOS	**Alonnisos**	**3.33**	**94**	*e*Pn	**Pn**	**03 00 08.6**	**0.0**
AOS				*e*Sn	**Sn**	03 00 46.0	-1.0
NKY	**Niksic**	**3.34**	**352**	⇓*i*Pn	**Pn**	**03 00 08.8**	**+0.2**
NKY				*i*Sn	**Sn**	03 00 47.6	+0.5
TREB	**Trebinje**	**3.35**	**344**	P	**Pn**	**03 00 07.9**	**-0.8**
TREB				S	**Sn**	03 00 44.8	-2.6
IVA	**Berane**	**3.37**	**4**	*e*Pn	**Pn**	**03 00 09.9**	**+0.8**
IVA				*e*Sn	**Sn**	03 00 48.2	+0.2
SRS	**Serrai**	**3.45**	**61**	*e*Pn	**Pn**	**03 00 09.9**	**-0.3**
SRS				*e*Sn	**Sn**	03 00 48.1	-1.8
BRY	**Bratogost**	**3.49**	**347**	⇑*i*Pn	**Pn**	**03 00 10.1**	**-0.5**
BRY				*e*Sn	**Sn**	03 00 51.1	+0.3
NAIG	**Nisos Aigina**	**3.51**	**119**	*e*PN	**Pn**	**03 00 11.0**	**0.0**
KKB	**Krupnik**	**3.55**	**47**	P	**Pn**	**03 00 12.5**	**+1.0**
MS1	**Monte Sant'Ang**	**3.55**	**309**	*e*Pn	**Pn**	**03 00 12.6**	**+1.1**
ATH	**Athens Observa**	**3.56**	**114**	*e*PN	**Pn**	**03 00 11.5**	**-0.2**
STON	**Ston**	**3.66**	**338**	*i*Pn	**Pn**	**03 00 12.2**	**-0.8**
STON				*i*Sn	**Sn**	03 00 52.2	-2.9
STON	**Ston**	**3.66**	**338**	*i*Pn	**Pn**	**03 00 12.2**	**-0.8**
STON				*i*Sn	**Sn**	03 00 52.1	-2.9
KVR	**Kavouri**	**3.67**	**116**	*e*PN	**Pn**	**03 00 13.0**	**-0.1**
UPM	**Unac-Piva**	**3.73**	**352**	⇓*i*Pn	**Pn**	**03 00 14.6**	**+0.5**
UPM				*i*Sn	**Sn**	03 00 57.1	+0.2
VLI	**Veliai**	**3.83**	**136**	*e*PN	**Pn**	**03 00 16.1**	**+0.7**
VTS	**Vitosha**	**4.12**	**40**	P	**Pn**	**03 00 15.0**	**-4.3**
KYTH	**Kithira**	**4.21**	**139**	*e*PN	**Pn**	**03 00 21.5**	**+0.9**
VAE	**Valguarnera**	**4.55**	**245**	P	**Pn**	**03 00 28.6**	**+3.3**
	0.2nm,0.3s,baz=67,slow=13,SNR=2.2						
VAE				S	**Sn**	**03 01 15.2**	**-1.8**
	1.5nm,0.3s,baz=101,slow=17,SNR=3.8						
VAE	**Valguarnera**	**4.55**	**245**	P	**Pn**	**03 00 28.6**	**+3.3**
VAE				S	**Sn**	**03 01 15.2**	**-1.8**
DIVS	**Divcibare**	**4.60**	**4**	*e*Pn	**Pn**	**03 00 25.7**	**-0.3**
ALN	**Alexandroupoli**	**5.13**	**72**	*e*Pn	**Pn**	**03 00 33.3**	**+0.1**
KARN	**Karanos**	**5.34**	**139**	*e*Pn	**Pn**	**03 00 37.7**	**+1.5**
BZS	**Buzias**	**6.29**	**13**	⇑*i*P	**Pn**	**03 00 44.0**	**-1.2**
BZS				S	**Sn**	03 01 52.6	-7.3
CRES	**Cresnjev**	**7.02**	**336**	*i*Pn	**Pn**	**03 00 59.0**	**-0.2**
CRES				*i*Sn	**Sn**	03 02 12.5	-5.3
CEY	**Cerknica**	**7.30**	**330**	*i*Pn	**Pn**	**03 01 03.2**	**0.0**
CEY				*i*Sn	**Sn**	03 02 22.2	-2.7
MLR	**Muntele Rosu**	**7.60**	**36**	P	**Pn**	**03 01 07.6**	**+0.4**
	0.2nm,0.3s,baz=180,slow=14,SNR=3.5						
DRGR		**7.63**	**16**	S	**Sn**	**03 02 27.0**	**-5.9**
VOY	**Vojsko**	**7.76**	**329**	*e*Pn	**Pn**	**03 01 09.2**	**-0.1**
VOY				*e*Sn	**Sn**	03 02 31.7	-4.3
OBKA	**Obir**	**7.92**	**334**	⇓*i*Sn	**Sn**	**03 02 34.8**	**-5.2**
OBKA	**Obir**	**7.92**	**334**	⇑*i*Pn	**Pn**	**03 01 11.1**	**-0.4**
OBKA				⇓*i*Sn	**Sn**	03 02 38.4	-1.6
OBKA	**Obir**	**7.92**	**334**	⇑*i*Pn	**Pn**	**03 01 11.1**	**-0.4**
OBKA				*i*Sn	**Sn**	03 02 34.8	-5.2
CADS	**Cadrg**	**7.98**	**329**	*i*Pn	**Pn**	**03 01 12.1**	**-0.3**
CADS				*i*Sn	**Sn**	03 02 36.5	-5.0
ARSA	**Arzberg**	**8.29**	**340**	⇓*i*Pn	**Pn**	**03 01 16.3**	**-0.4**
ARSA	**Arzberg**	**8.29**	**340**	⇓*i*Pn	**Pn**	**03 01 16.3**	**-0.4**
MOA	**Molln**	**9.19**	**337**	⇓*i*Pn	**Pn**	**03 01 29.0**	**0.0**
MOA				⇓*i*Sn	**Sn**	03 03 06.2	-5.1
SLUM		**9.21**	**149**	P	**Pn**	**03 01 22.6**	**-6.6**
WTTA	**Wattenberg**	**9.68**	**326**	⇑*i*Pn	**Pn**	**03 01 36.2**	**+0.5**
DAVOX	**Davos**	**10.16**	**319**	P	**Pn**	**03 01 44.3**	**+2.0**
	0.5nm,0.3s,baz=193,slow=14,SNR=6.1						
DAVOX				S	**Sn**	**03 03 29.5**	**-5.6**
	0.2nm,0.3s,baz=105,slow=19,SNR=2.2						
GERES	**GERESS Array B**	**10.25**	**338**	P	**Pn**	**03 01 43.0**	**-0.6**
	0.7nm,0.3s,baz=161,slow=14,SNR=24						
HMAT	**Matruh**	**10.38**	**142**	P	**Pn**	**03 01 37.6**	**-7.7**
SWA2		**11.32**	**153**	P	**Pn**	**03 01 53.1**	**-5.0**
SWA1		**11.39**	**152**	P	**Pn**	**03 01 54.0**	**-5.1**
HFS	**Hagfors**	**20.98**	**352**	P	**P**	**03 03 57.3**	**-1.9**
	0.4nm,0.4s,baz=172,slow=11,SNR=10						
EKA	**Eskdalemuir Ar**	**21.93**	**324**	P	**P**	**03 04 08.6**	**-0.8**
	1.2nm,0.7s,mb3.5,baz=126,slow=8.4,SNR=5.8						
NB2	**NORSAR Subarra**	**22.18**	**349**	P	**P**	**03 04 11.8**	**-0.2**
	comp=Z,0.2nm,0.4s,mb2.9,baz=155,slow=10						
NOA	**NORSAR Array B**	**22.18**	**349**	P	**P**	**03 04 10.9**	**-1.1**
	comp=Z,0.3nm,0.6s,mb2.9,baz=160,slow=12,SNR=4.0						
FINES	**FINESS Array B**	**22.33**	**8**	P	**P**	**03 04 10.5**	**-3.0**
	comp=Z,0.5nm,0.7s,mb3.1,baz=187,slow=9.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**30.64**	**216**	P	**P**	**03 05 29.9**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.4,baz=26,slow=9.8,SNR=6.7						
MKAR	**Makanchi Array**	**45.23**	**59**	P	**P**	**03 07 31.1**	**-1.8**
	comp=Z,0.2nm,0.5s,mb3.2,baz=280,slow=7.9,SNR=3.7						

*ISCJB **24** 03:25:06.7±1.4, 39N±02×1222E±02, h635km±19km, mb3.9/15, Error ellipse: s-maj=39.3km s-min=9.6km az=113.8*
*IDC **24** 03:25:06.5±1.6, 4.12N×12255E, h605km±20km, mb3.3/11, mb1 3.4/11, mb1mx3.2/20, mbtmp4.3/11, Error ellipse: s-maj=62.2km s-min=8.1km az=63.0*
*NEIC **24** 03:25:06.8±1.3, 4.13N×12249E, h613km±18km, mb4.4/3, Error ellipse: s-maj=51.1km s-min=8.2km az=57.0*

ISC 24 03:25:08.2±1.3, 39N±01×1221E±02, h634km±17km, n22, σ0§95/23, mb4.0/15, 1C-1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**6.27**	**290**	P	**P**	**03 26 53.3**	**0.0**
KKM	**Kota Kinabalu**	**6.27**	**290**	⇑*i*P	**P**	**03 26 53.1**	**-0.2**
KGM	**Kluang**	**18.89**	**265**	P	**P**	**03 28 49.5**	**-0.8**
WRAB	**Tennant Creek**	**26.56**	**154**	*e*P	**P**	**03 29 57.8**	**-0.6**
	6.3nm,0.3s,mb4.7						
WRA	**Warramunga Arr**	**26.57**	**154**	P	**P**	**03 29 58.0**	**-0.4**
	2.4nm,0.3s,mb4.3,baz=334,slow=9.6,SNR=71						
WRA				PcP	PcP	03 33 02.5	+2.1
	0.2nm,0.4s,baz=330,slow=2.5,SNR=4.6						
WRA				S	**S**	**03 33 49.0**	**-1.6**
	0.4nm,0.5s,baz=336,slow=16,SNR=4.6						
WRA				ScP	ScP	03 35 46.6	+5.2
	0.7nm,0.8s,baz=335,slow=2.9,SNR=6.1						
WB2	**Warramunga Arr**	**26.57**	**154**	*e*P	**P**	**03 29 58.0**	**-0.5**
ASAR	**Alice Springs**	**29.71**	**158**	P	**P**	**03 30 26.7**	**+1.1**
	0.9nm,0.5s,mb3.7,baz=340,slow=7.0,SNR=14						
ASAR				S	**S**	**03 34 42.2**	**+3.0**
	1.2nm,0.7s,baz=349,slow=19,SNR=7.8						
ASAR				ScP	ScP	03 35 57.0	+5.5
	1.0nm,0.7s,baz=352,slow=3.2,SNR=7.1						
CTA	**Charters Tower**	**33.62**	**136**	P	**P**	**03 30 58.6**	**+0.1**
	2.7nm,0.7s,mb4.0,baz=317,slow=17,SNR=3.1						
STKA	**Stephens Creek**	**40.12**	**154**	P	**P**	**03 31 52.7**	**+1.3**
	0.6nm,0.4s,mb3.5,baz=162,slow=19,SNR=3.7						
SONM	**Songino Array**	**45.81**	**345**	P	**P**	**03 32 34.5**	**-0.9**
	1.4nm,0.5s,mb3.7,baz=161,slow=9.1,SNR=10						
MKAR	**Makanchi Array**	**54.86**	**327**	P	**P**	**03 33 42.3**	**+1.4**
	3.4nm,0.4s,mb4.1,baz=124,slow=7.5,SNR=42						
MKAR				PcP	PcP	03 34 34.2	+1.3
	1.6nm,0.6s,baz=128,slow=4.0,SNR=10.0						
MKAR	**Makanchi Array**	**54.86**	**327**	P	**P**	**03 33 42.3**	**+1.4**
MKAR				PcP	PcP	03 34 34.2	+1.3
KURK	**Kurchatov**	**59.19**	**329**	⇓*e*P	**P**	**03 34 10.9**	**+0.7**
	9.1nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	**64.72**	**328**	P	**P**	**03 34 46.0**	**+0.2**
	1.3nm,0.6s,mb3.5,baz=128,slow=9.6,SNR=7.2						
AKTK	**Aktyubinsk**	**70.70**	**322**	P	**P**	**03 35 23.5**	**+1.4**
AKTO	**Aktyubinsk**	**70.70**	**322**	P	**P**	**03 35 23.5**	**+1.4**
	2.4nm,0.4s,mb4.0,baz=110,slow=5.7,SNR=9.8						
JOF	**Joensuu**	**86.92**	**333**	*ep*	**P**	**03 36 46.5**	**-1.0**
	1.3nm,0.5s,mb3.9						
ARCES	**ARCESS Array B**	**88.69**	**340**	P	**P**	**03 36 54.8**	**-0.9**
	2.9nm,0.9s,mb4.1,baz=86,slow=5.5,SNR=3.2						
KAF	**Kangasniemi**	**89.30**	**332**	*ep*	**P**	**03 36 57.5**	**-1.1**
	2.6nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**89.50**	**331**	P	**P**	**03 36 59.1**	**-0.4**
	1.7nm,0.8s,mb4.0,baz=72,slow=6.2,SNR=11						
NOA	**NORSAR Array B**	**96.56**	**333**	P	**P**	**03 37 31.2**	**-0.5**
	0.6nm,1.0s,mb3.8,baz=34,slow=7.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**118.50**	**287**	PKP	PKPdf	03 42 48.3	+2.9
	0.7nm,0.7s,baz=72,slow=1.7,SNR=11						

IDC 24 03:28:20.4±3.7, 1009S×10712E, h0km, mb3.9/4, mb1 3.9/5, mb1mx3.6/19, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=213.8km s-min=22.7km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.64**	**116**	P	Pn	03 32 50.0	-1.9
	0.1nm,0.3s,baz=294,slow=13,SNR=7.4						
ASAR	**Alice Springs**	**28.90**	**121**	P	P	03 34 22.9	+1.9
	0.5nm,0.5s,baz=304,slow=8.9,SNR=5.1						
STKA	**Stephens Creek**	**38.55**	**129**	P	P	03 35 43.9	-0.9
	1.9nm,0.7s,baz=302,slow=5.8,SNR=3.2						
MKAR	**Makanchi Array**	**60.81**	**341**	P	P	03 38 34.1	-0.2
	0.5nm,0.4s,baz=156,slow=7.9,SNR=5.8						
BVAR	**Borovoye Array**	**70.24**	**337**	P	P	03 39 35.5	+0.2
	0.7nm,0.6s,baz=148,slow=6.8,SNR=3.8						

*BJI **24** 03:38:11.7, 1028S×10831E, h36km, mb4.3*
*IDC **24** 03:38:12.4±0.8, 954S×10807E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.0/19, mbtmp4.1/10, ML3.7/1, MS3.8/4, Ms1 3.8/4, ms1mx3.2/19, Error ellipse: s-maj=33.7km s-min=15.4km az=53.0*
*NEIC **24** 03:38:14.2±0.6, 956S×10807E, h10km, mb4.4/5, Error ellipse: s-maj=27.5km s-min=10.6km az=49.0*
*ISCJB **24** 03:38:15.1±0.9, 97S±02×1080E±02, h33km, mb4.1/15, MS3.8/4, Error ellipse: s-maj=37.9km s-min=10.4km az=96.5*

ISC 24 03:38:16.7±0.9, 98S±02×1079E±02, h35km, n29, σ1§31/21, mb4.1/15, MS3.8/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.99**	**136**	*e*Pn	**Pn**	**03 41 55.2**	**-3.6**
	4.3nm,0.6s						
MBWA				*e*Sn	**Sn**	**03 44 38.9**	**-16**
FITZ	**Fitzroy Crossi**	**19.04**	**117**	P	**Pn**	**03 42 38.0**	**+1.4**
	0.2nm,0.3s,baz=123,slow=20,SNR=6.3						
FITZ				Sn	**Sn**	**03 45 51.7**	**-17**
	0.1nm,0.3s,baz=164,slow=18,SNR=3.4						
NWAO	**Narrogin (SRO)**	**24.53

MAN 24 04:49:21.4, 1051N×12547E, h9km, mb2.5, ML4.1, MS1.4, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.71**	**238**	*eP*	Pg	04 49 35.1	0.0
SCPH	**Surigao**	**0.72**	**179**	*eP*	Pg	04 49 35.1	-0.3
SCPH				*eS*	Sg	04 49 49.4	+4.6
PLP	**Palo**	**0.81**	**323**	*i* P	Pg	04 49 36.9	-0.1
PLP				*eS*	Sg	04 49 51.4	+3.9
BESP	**Borongan**	**1.08**	**358**	*eP*	Pg	04 49 41.0	-1.2

MAN 24 04:50:31.9, 1306N×12273E, h22km, mb3.4, ML4.6, MS1.5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.27**	**349**	*eP*	Pb	04 50 39.6	+1.3
BOAC	**Boac**	**0.95**	**295**	*eP*	Pb	04 50 48.9	-0.8
BOAC				*eS*	Sb	04 51 03.2	+1.4
OTRP	**Odiongan**	**0.98**	**225**	*eP*	Pb	04 50 49.4	-0.7
OTRP				*eS*	Sb	04 51 02.6	0.0

*IDC **24** 05:13:34.6±2.7, 929S×108.12E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=110.6km s-min=20.7km az=53.0*
*NEIC **24** 05:13:35.0±2.8, 984S×10764E, h10km, mb3.8/1, Error ellipse: s-maj=143.0km s-min=22.2km az=47.0*

ISC 24 05:13:36.6±2.4, 104S±05×1073E±05, h35km, n7, σ1§24/8, mb3.8/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**16.06**	**133**	*e*Pn	**Pn**	**05 17 18.1**	**-1.6**
	4.2nm,0.6s						
MBWA				*e*Sn	**Sn**	**05 20 01.5**	**-15**
FITZ	**Fitzroy Crossi**	**19.38**	**115**	P	**Pn**	**05 18 00.5**	**-0.1**
	0.2nm,0.3s,baz=316,slow=12,SNR=14						
WRA	**Warramunga Arr**	**27.77**	**113**	P	**P**	**05 19 22.0**	**0.0**
	0.8nm,0.6s,mb3.6,baz=285,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**28.62**	**121**	P	**P**	**05 19 33.2**	**+3.7**
	1.0nm,0.7s,mb3.7,baz=297,slow=9.4,SNR=10						
STKA	**Stephens Creek**	**38.24**	**129**	P	**P**	**05 20 55.4**	**+2.2**
	2.4nm,0.9s,mb3.9,baz=307,slow=10,SNR=4.8						
SONM	**Songino Array**	**58.00**	**359**	P	**P**	**05 23 20.2**	**-5.5**
	0.6nm,0.6s,mb3.8,baz=170,slow=7.0,SNR=2.8						
MKAR	**Makanchi Array**	**61.17**	**341**	P	**P**	**05 23 47.1**	**-0.5**
	0.4nm,0.5s,mb3.6,baz=150,slow=8.1,SNR=4.2						

*IDC **24** 05:23:10.6±10.0, 796S×113358E, h93km±90km, mb3.3/4, mb1 3.4/5, mb1mx3.2/17, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=138.2km s-min=29.1km az=53.0*

NEIC 24 05:23:02.7±1.1, 859S×11264E, h35km, Error ellipse: s-maj=39.0km s-min=16.6km az=51.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.78**	**128**	P	Pn	05 26 43.3	+1.1
	0.2nm,0.3s,baz=317,slow=19,SNR=7.9						
FITZ				S		05 29 22.0	-28
	0.1nm,0.3s,baz=209,slow=19,SNR=3.9						
WRA	**Warramunga Arr**	**23.83**	**121**	P	P	05 28 12.4	-0.2
	0.4nm,0.4s,baz=298,slow=11,SNR=7.1						
NWAO	**Narrogin (SRO)**	**24.59**	**171**	P	P	05 28 19.6	+0.2
	478nm,2.2s						
ASAR	**Alice Springs**	**25.28**	**129**	P	P	05 28 25.4	-0.3
	0.3nm,0.3s,baz=307,slow=9.2,SNR=4.4						
ASAR				PcP	PcP	05 31 58.5	+0.3
	0.3nm,0.4s,baz=306,slow=1.3,SNR=4.3						
STKA	**Stephens Creek**	**35.50**	**135**	P	P	05 29 56.3	+0.3
	0.8nm,0.3s,baz=336,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**61.41**	**337**	P	P	05 33 15.6	+0.3
	0.3nm,0.3s,baz=148,slow=7.0,SNR=3.8						

IDC 24 05:40:07.2±3.8, 829S×10727E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.7/3, MS3.6/1, Ms1 3.6/1, ms1mx2.9/25, Error ellipse: s-maj=148.5km s-min=29.7km az=49.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.65**	**117**	P	P	05 46 06.0	+0.5
	0.7nm,0.8s,baz=286,slow=12,SNR=5.9						
CTA	**Charters Tower**	**39.47**	**112**	LR	LR	06 04 11.4	
	comp=Z,86nm,19.9s,baz=48,slow=37						
SONM	**Songino Array**	**55.88**	**359**	P	P	05 49 46.1	-0.5
	0.6nm,0.5s,baz=168,slow=8.5,SNR=5.8						
MKAR	**Makanchi Array**	**59.18**	**340**	P	P	05 50 10.3	+0.5
	0.8nm,0.6s,baz=145,slow=7.9,SNR=8.1						

*GRAL **24** 06:41:28.2±0.4, 3306N×3521E, h0km±545km, MD2.6*
*ISCJB **24** 06:41:31.6±0.6, 3324N±003×3535E±007, h10km, Error ellipse: s-maj=8.6km s-min=3.5km az=42.9*
*GII **24** 06:41:31.0±0.4, 3324N×3538E, h0km*

ISC 24 06:41:32.1±0.6, 3323N±003×3534E±007, h10km, n14, σ1§06/19, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	**Hanita**	**0.21**	**223**	Pg	**Pg**	**06 41 36.1**	**-0.3**
HNTI				Sg	**Sg**	**06 41 40.8**	**+1.4**
MMC7	**Mount Meron ar**	**0.22**	**169**	Pg	**Pg**	**06 41 36.3**	**-0.3**
MMA0	**Mount Meron ar**	**0.22**	**167**	Pg	**Pg**	**06 41 36.4**	**-0.4**
MMA3	**Mount Meron ar**	**0.23**	**168**	Pg	**Pg**	**06 41 36.4**	**-0.5**
MMA3	**Mount Meron ar**	**0.23**	**168**	Pg	**Pg**	**06 41 36.3**	**-0.5**
MMB2	**Mount Meron ar**	**0.23**	**169**	Pg	**Pg**	**06 41 36.5**	**-0.3**
MATL	**Matirih**	**0.25**	**357**	*e*Pg	**Pg**	**06 41 36.0**	**-1.3**
KSDI	**Kefar Szold**	**0.27**	**99**	Pg	**Pg**	**06 41 36.8**	**-0.7**
RCY	**Rachaya**	**0.47**	**58**	*e*Pg	**Pg**	**06 41 39.9**	**-1.4**
RCY				*e*Sg	**Sg**	**06 41 48.9**	**+1.4**
BHL	**Bhannes**	**0.72**	**21**	*e*Sg	**Sg**	**06 41 56.9**	**+1.6**
MMLI	**Mount Malkishu**	**0.80**	**175**	Pg	**Pg**	**06 41 47.7**	**+0.2**
MMLI				Sg	**Sg**	**06 41 59.7**	**+1.8**
HMDT	**Nahal Hemdat**	**0.99**	**171**	Pg	**Pg**	**06 41 50.6**	**-0.6**
HWQ	**Hawqa**	**1.16**	**26**	*e*Pg	**Pg**	**06 41 52.9**	**-1.5**
HWQ				*e*Sg	**Sg**	**06 42 10.6**	**+1.2**
HWQ	**Hawqa**	**1.16**	**26**	*e*Pg	**Pg**	**06 41 52.8**	**-1.5**
HWQ				*e*Sg	**Sg**	**06 42 10.6**	**+1.3**

IDC 24 06:42:25.2±2.2, 3210S×17702W, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.9/14, mbtmp3.9/4, ML3.8/2, MS3.5/2, Ms1 3.5/2, ms1mx3.0/21, Error ellipse: s-maj=63.9km s-min=34.7km az=132.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.95**	**345**	Sn	Sn	06 43 44.5	-4.7
	257nm,0.3s,baz=128,slow=21,SNR=9.6						
URZ	**Urewera**	**7.80**	**216**	Pn	Pn	06 44 19.5	-0.4
	0.8nm,0.3s,baz=30,slow=18,SNR=6.2						
URZ				Sn	Sn	06 45 43.1	-5.7
	0.8nm,0.3s,baz=139,slow=20,SNR=3.7						
RPZ	**Rata Peaks**	**14.91**	**216**	Pn	Pn	06 45 55.2	-2.0
	0.8nm,0.3s,baz=7.1,slow=16,SNR=3.5						
CTA	**Charters Tower**	**34.92**	**281**	LR	LR	06 59 47.9	
	comp=Z,72nm,21.7s,baz=201,slow=30						
STKA	**Stephens Creek**	**34.95**	**259**	LR	LR	07 02 17.7	
	comp=Z,84nm,18.8s,baz=209,slow=34						
ASAR	**Alice Springs**	**43.88**	**268**	P	P	06 50 34.0	+0.7
	1.0nm,0.7s,baz=107,slow=7.1,SNR=9.1						
WRA	**Warramunga Arr**	**45.02**	**273**	P	P	06 50 42.5	+0.1
	1.2nm,0.5s,baz=112,slow=8.0,SNR=30						
FINES	**FINESS Array B**	**147.03**	**340**	PKPbc	PKPbc	07 02 08.9	-0.9
	2.2nm,1.0s,baz=39,slow=5.3,SNR=4.4						
NB2	**NORSAR Subarra**	**150.56**	**352**	PKP	PKPbc	07 02 18.9	0.0
	comp=Z,0.5nm,0.6s,baz=12,slow=2.6						
NOA	**NORSAR Array B**	**150.56**	**352**	PKPbc	PKPbc	07 02 17.4	-1.5
	comp=Z,1.0nm,0.7s,baz=14,slow=4.2,SNR=5.9						

*ISCJB **24** 06:56:16.4±1.6, 194S±02×1776W±02, h534km±38km, mb3.8/8, Error ellipse: s-maj=36.2km s-min=24.8km az=75.4*
*NEIC **24** 06:56:17.6±1.0, 1938S×17752W, h543km±14km, mb4.0/5, Error ellipse: s-maj=17.6km s-min=13.4km az=145.0*
*IDC **24** 06:56:21.3±3.0, 1970S×17756W, h583km±35km, mb3.1/4, mb1 3.3/5, mb1mx3.1/15, mbtmp4.2/5, Error ellipse: s-maj=32.6km s-min=20.8km az=167.0*

ISC 24 06:56:17.2±1.8, 195S±02×1776W±02, h523km±42km, n15, σ0§59/13, mb3.8/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.89**	**46**	P	**P**	**06 58 12.7**	**-0.3**
	3.8nm,0.3s,baz=259,slow=21,SNR=5.4						
URZ	**Urewera**	**19.22**	**193**	P	**P**	**07 00 06.8**	**-0.6**
	1.5nm,0.3s,baz=302,slow=2.8,SNR=13						
CTA	**Charters Tower**	**33.98**	**263**	P	**P**	**07 02 17.6**	**+0.6**
	2.7nm,0.4s,mb4.1,baz=96,slow=11,SNR=5.6						
CTAO	**Charters Tower**	**33.98**	**263**	*e*P	**P**	**07 02 17.9**	**+0.9**
	2.5nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**38.56**	**243**	P	**P**	**07 02 55.0**	**+0.1**
	1.2nm,0.5s,mb3.7,baz=84,slow=9.7,SNR=3.7						
STKA	**Stephens Creek**	**38.56**	**243**	P	**P**	**07 02 55.0**	**+0.1**
WRAB	**Tennant Creek**	**45.12**	**261**	*e*P	**P**	**07 03 46.7**	**+0.1**
	4.5nm,0.9s,mb4.0						
ASAR	**Alice Springs**	**45.12**	**256**	P	**P**	**07 03 47.1**	**+0.5**
	2.2nm,0.7s,mb3.8,baz=87,slow=8.9,SNR=20						
ASAR				PcP	PcP	07 05 15.2	-0.9
	0.8nm,0.6s,baz=103,slow=4.1,SNR=6.5						
ASAR				S	**S**	**07 09 44.6**	**-2.9**
	0.9nm,0.7s,baz=92,slow=16,SNR=7.4						
WRA	**Warramunga Arr**	**45.12**	**261**	P	**P**	**07 03 46.5**	**-0.2**
	0.7nm,0.3s,mb3.7,baz=97,slow=7.6,SNR=33						
WRA				PcP	PcP	07 05 14.7	-1.4
	0.5nm,1.0s,baz=93,slow=3.2,SNR=4.6						
MBWA	**Marble Bar**	**58.45**	**257**	*e*P	**P**	**07 05 22.3**	**-0.4**
	16nm,1.3s,mb4.1						
VNDA	**Vanda**	**58.90**	**185**	*e*P	**P**	**07 05 26.2**	**+0.5**
	0.6nm,0.5s,mb3.1						
QSPA	**South Pole Qui**	**70.53**	**180**	*e*P	**P**	**07 06 39.4**	**+0.2**
	3.9nm,0.9s,mb3.9						
ARCES	**ARCESS Array B**	**128.04**	**350**	PKP	PKPdf	07 14 20.9	-2.8
	2.0nm,0.8s,baz=357,slow=2.7,SNR=5.7						
BRTR	**Keskin Array B**	**146.47**	**314**	PKPbc	PKPbc	07 14 57.4	-2.2
	0.9nm,0.6s,baz=127,slow=3.3,SNR=3.9						
GERES	**GERESS Array B**	**149.38**	**345**	PKPbc	PKPbc	07 15 05.3	-1.7
	0.8nm,0.6s,baz=29,slow=3.0,SNR=6.9						

IDC 24 07:10:05.1±2.9, 1557S×17302W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.8/16, mbtmp3.6/4, ML1.3/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/25, Error ellipse: s-maj=144.1km s-min=20.7km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.04**	**36**	Pn	Pn	07 10 40.4	-0.3
	6.0nm,0.3s,baz=29,slow=20,SNR=5.0						
AFI				Sn	Sn	07 11 07.5	+0.7
	20nm,0.3s,baz=160,slow=23,SNR=8.2						
AFI				LR	LR	07 11 10.3	
	comp=Z,382nm,21.9s,baz=248,slow=32						
RAO	**Raoul Island**	**14.35**	**198**	LR	LR	07 16 54.2	
	comp=Z,127nm,19.4s,baz=152,slow=28						
WRA	**Warramunga Arr**	**50.16**	**257**	P	P	07 19 03.0	+0.7
	1.2nm,1.3s,baz=96,slow=7.7,SNR=5.4						
ASAR	**Alice Springs**	**50.41**	**252**	P	P	07 19 04.3	+0.1
	2.0nm,0.8s,baz=89,slow=8.5,SNR=23						
NVAR	**Mina Array Bea**	**74.21**	**42**	P	P	07 21 44.5	+0.9
	0.3nm,0.7s,baz=220,slow=7.7,SNR=3.6						

*NEIC **24** 07:17:05.5±1.5, 973S×107.17E, h10km, mb4.5/3, Error ellipse: s-maj=87.0km s-min=11.6km az=51.0*
*ISCJB **24** 07:17:07.3±1.7, 965S±04×1073E±05, h33km, mb4.0/9, Error ellipse: s-maj=92.9km s-min=12.1km az=102.8*
*IDC **24** 07:17:09.7±2.7, 942S×10745E, h30km±6km, mb3.8/6, mb1 3.9/6, mb1mx3.7/17, mbtmp3.9/6, Error ellipse: s-maj=115.8km s-min=16.5km az=51.0*

ISC 24 07:17:09.3±1.8, 98S±04×1072E±05, h35km, (h32km±1.4km:pP-P), n12, σ0§98/11, mb4.0/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**16.58**	**135**	Pn	**Pn**	**07 20 56.8**	**-2.2**
MBWA				*e*Sn	**Sn**	**07 23 47.1**	**-15**
WRA	**Warramunga Arr**	**28.12**	**114**	P	**P**	**07 22 58.6**	**+0.8**
	0.8nm,0.7s,mb3.5,baz=286,slow=11,SNR=5.4						
WRA				pP	pP	07 23 06.8	-1.0
	1.3nm,0.7s,baz=289,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**29.04**	**122**	P	**P**	**07 23 06.4**	**+0.4**
	0.6nm,0.9s,mb3.3,baz=308,slow=8.6,SNR=4.5						
STKA	**Stephens Creek**	**38.73**	**130**	P	**P**	**07 24 31.4**	**+1.4**
	1.8nm,0.8s,mb3.8,baz=302,slow=13,SNR=2.6						
SONM	**Songino Array**	**57.33**	**359**	P	**P**	**07 26 52.7**	**-1.1**
	1.7nm,0.5s,mb4.3,baz=174,slow=7.5,SNR=11						
SONM				pP	pP	07 27 01.9	-2.5
	1.3nm,0.4s,baz=173,slow=9.1,SNR=6.7						
MKAR	**Makanchi Array**	**60.51**	**341**	P	**P**	**07 27 15.1**	**-0.7**
	0.7nm,0.5s,mb4.0,baz=154,slow=7.4,SNR=12						
MKAR				pP	pP	07 27 25.1	-1.3
	1.0nm,0.5s,baz=146,slow=6.8,SNR=6.4						
KURK	**Kurchatov**	**65.12**	**340**	*e*P	**P**	**07 27 47.5**	**+1.0**
	4.5nm,1.1s,mb4.4						
ZAL	**Zalesovo**	**66.21**	**346**	P	**P**	**07 27 53.5**	**0.0**
	0.8nm,0.3s,mb4.2,baz=340,slow=6.4,SNR=3.0						
CHKZ	**Chkalovo**	**70.37**	**338**	*e*P	**P**	**07 28 19.9**	**+0.3**
	3.7nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**70.42**	**337**	*e*P	**P**	**07 28 19.7**	**-0.2**
	2.2nm,0.8s,mb4.1						
PV10	**Paradox Valley**	**136.82**	**43**	*e*PKPdf	PKPdf	07 36 29.9	+1.9
PV01	**Paradox Valley**	**137.27**	**43**	*e*PKPdf	PKPdf	07 36 28.0	-0.9

*IDC **24** 07:36:15.4±1.1, 0.17S×125.67E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.9/17, mbtmp3.9/6, ML3.7/1, Error ellipse: s-maj=99.5km s-min=18.1km az=69.0*
*ISCJB **24** 07:36:18.2±0.8, 02S±02×1258E±04, h33km, mb3.9/8, Error ellipse: s-maj=64.9km s-min=11.8km az=139.9*
*NEIC **24** 07:36:19.1±0.7, 020S×125.78E, h25km, mb4.1/3, Error ellipse: s-maj=57.9km s-min=10.4km az=70.0*

ISC 24 07:36:20.7±0.8, 02S±02×1257E±04, h35km, n10, σ0§84/10, mb3.9/8, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.77**	**180**	P	**Pn**	**07 40 24.8**	**-0.5**
	0.2nm,0.3s,baz=12,slow=14,SNR=6.6						
WRAB	**Tennant Creek**	**21.34**	**157**	*e*P	**P**	**07 41 04.2**	**-0.5**
	7.3nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**21.34**	**157**	P	**P**	**07 41 04.0**	**-0.7**
	3.4nm,0.6s,mb3.9,baz=335,slow=11,SNR=59						
ASAR	**Alice Springs**	**24.62**	**162**	P	**P**	**07 41 38.6**	**+0.9**
	1.8nm,0.9s,mb3.6,baz=335,slow=7.4,SNR=14						
STKA	**Stephens Creek**	**34.88**	**156**	P	**P**	**07 43 09.7**	**+1.0**
	2.1nm,0.5s,mb4.3,baz=316,slow=9.8,SNR=9.1						
STKA	**Stephens Creek**	**34.88**	**156**	*e*P	**P**	**07 43 09.7**	**+1.0**
SONM	**Songino Array**	**50.73**	**343**	P	**P**	**07 45 15.8**	**-1.2**
	0.2nm,0.4s,mb3.4,baz=162,slow=10.0,SNR=2.3						
MKAR	**Makanchi Array**	**60.25**	**327**	P	**P**	**07 46 25.8**	**+0.3**
	0.5nm,0.4s,mb3.9,baz=121,slow=6.4,SNR=8.1						
KURK	**Kurchatov**	**64.55**	**329**	*e*P	**P**	**07 46 55.4**	**+1.3**
	2.0nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**70.79**	**328**	*e*P	**P**	**07 47 33.0**	**-0.5**
	1.0nm,0.6s,mb3.9						

*IDC **24** 08:07:57.7±1.1, 939S×10739E, h0km, mb4.1/6, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/30, Error ellipse: s-maj=41.1km s-min=19.1km az=56.0*
*BJI **24** 08:07:57.7, 940S×10750E, h10km, mb4.7*
*NEIC **24** 08:07:59.7±0.5, 941S×10746E, h10km, mb4.7/4, Error ellipse: s-maj=26.8km s-min=8.4km az=49.0*
*ISCJB **24** 08:08:01.2±0.7, 94S±01×1075E±02, h33km, mb4.3/14, MS3.5/1, Error ellipse: s-maj=28.0km s-min=9.7km az=105.2*

ISC 24 08:08:03.6±0.7, 94S±01×1075E±02, h35km, (h22km±6.2km:pP-P), n22, σ0§83/20, mb4.3/14, MS3.5/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.60**	**118**	P	**Pn**	**08 12 30.5**	**+0.4**
	0.1nm,0.3s,baz=257,slow=9.6,SNR=3.8						
WRA	**Warramunga Arr**	**27.94**	**115**	P	**P**	**08 13 50.6**	**+0.1**
	0.9nm,0.7s,mb3.5,baz=290,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**28.93**	**123**	P	**P**	**08 13 59.7**	**+0.4**
	0.9nm,0.9s,mb3.5,baz=291,slow=8.1,SNR=5.6						
STKA	**Stephens Creek**	**38.68**	**130**	P	**P**	**08 15 23.9**	**+0.1**
	2.5nm,0.7s,mb4.0,baz=318,slow=13,SNR=4.3						
CD2	**Chengdu**	**40.24**	**355**	*e*P	**P**	**08 15 37.1**	**+0.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
JIRN	**Jiri**	**42.24**	**331**	*e*P	**P**	**08 15 54.5**	**+1.2**
GUN	**Gumba**	**42.60**	**331**	*e*P	**P**	**08 15 56.3**	**+0.1**
DMN	**Daman**	**42.72**	**330**	*e*P	**P**	**08 15 58.3**	**+1.1**
	comp=Z,20nm,0.9s,mb4.9						
KKN	**Kakani**	**42.78**	**330**	*e*P	**P**	**08 15 59.1**	**+1.4**
XAN	**Xi'an**	**43.22**	**2**	P	**P**	**08 16 00.3**	**-0.9**
XAN				AP	pP	08 16 07.8	-3.7
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
GKN	**Gorkha**	**43.28**	**330**	*e*P	**P**	**08 16 02.3**	**+0.6**
LZH	**Lanzhou**	**45.38**	**356**	*e*P	**P**	**08 16 17.3**	**-1.2**
LZH				AP	pP	08 16 26.5	-2.3
LZH				XP	sP	08 16 30.4	-2.6
LZH				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.9						
GTA	**Gaotai**	**49.09**	**352**	*e*P	**P**	**08 16 48.3**	**+0.9**
GTA				AP	pP	08 16 53.0	-4.8
GTA				XP	sP	08 16 55.6	-6.4
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.5						
SONM	**Songino Array**	**56.99**	**359**	P	**P**	**08 17 45.3**	**-0.3**
	comp=Z,2.7nm,0.6s,mb4.4,baz=175,slow=7.8,SNR=16						
SONM				LR	LR	08 47 33.4	
	comp=Z,32nm,18.8s,MS3.5,baz=108,slow=42						
MKAR	**Makanchi Array**	**60.30**	**340**	P	**P**	**08 18 07.6**	**-1.1**
	comp=Z,2.4nm,0.6s,mb4.4,baz=144,slow=7.3,SNR=16						
MKAR	**Makanchi Array**	**60.30**	**340**	P	**P**	**08 18 07.6**	**-1.1**
KURK	**Kurchatov**	**64.92**	**340**	*e*P	**P**	**08 18 39.1**	**-0.3**
	comp=Z,4.1nm,0.8s,mb4.5						
MAW	**Mawson**	**65.23**	**197**	P	**P**	**08 18 40.8**	**-0.7**
	comp=Z,0.8nm,0.5s,mb4.0,baz=74,slow=9.8,SNR=4.3						
CHKZ	**Chkalovo**	**70.19**	**338**	*e*P	**P**	**08 19 11.6**	**-1.1**
	comp=Z,5.2nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**70.25**	**336**	*e*P	**P**	**08 19 11.9**	**-1.2**
	comp=Z,4.0nm,0.9s,mb4.3						
JCT	**Junction City**	**147.01**	**47**	*e*PKPab	PKPab	08 27 44.1	+0.1
MIAR	**Mount Ida**	**148.38**	**35**	*e*PKPbc	PKPbc	08 27 47.1	+0.9

IDC 24 08:52:15.9±2.6, 988S×10784E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, Error ellipse: s-maj=109.7km s-min=20.8km az=53.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.10**	**117**	P	Pn	08 56 44.5	+3.7
	0.1nm,0.3s,baz=162,slow=3.2,SNR=4.7						
WRA	**Warramunga Arr**	**27.45**	**114**	P	P	08 58 03.5	0.0
	0.5nm,0.5s,baz=284,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**28.40**	**122**	P	P	08 58 12.5	+0.5
	0.6nm,0.6s,baz=302,slow=9.1,SNR=10						
STKA	**Stephens Creek**	**38.13**	**130**	P	P	08 59 37.0	+0.4
	1.5nm,0.6s,baz=306,slow=7.9,SNR=7.3						
SONM	**Songino Array**	**57.47**	**359**	P	P	09 02 07.2	+0.6
	1.1nm,0.6s,baz=174,slow=8.3,SNR=8.7						
MKAR	**Makanchi Array**	**60.86**	**340**	P	P	09 02 29.7	-0.4
	0.8nm,0.5s,baz=144,slow=8.3,SNR=7.4						

*ISCJB **24** 09:00:27.9±0.8, 6470N±003×307E±01, h0km, Error ellipse: s-maj=7.9km s-min=4.4km az=5.5*
*IDC **24** 09:00:28.6±3.3, 6469N×3153E, h0km, mb1 3.0/4, mb1mx2.9/21, mbtmp2.9/4, ML2.9/3, Error ellipse: s-maj=47.1km s-min=10.9km az=100.0*
*HEL **24** 09:00:29.3±0.1, 6470N×3077E, h0km, ML1.9, Explosion*

ISC 24 09:00:28.6±0.8, 6473N±003×307E±01, h0km, n13, σ0§84/22, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSF	**Maaselka**	**1.38**	**330**	*e*P	**Pg**	**09 00 54.5**	**-0.6**
MSF				*e*S	**Sg**	**09 01 12.7**	**-0.3**
KJN	**Kajaani**	**1.45**	**245**	*e*P	**Pn**	**09 00 55.2**	**-0.9**
KJN				*e*S	**Sg**	**09 01 14.0**	**-1.3**
KU4	**Liikasenvaara**	**1.71**	**345**	*e*P	**Pn**	**09 00 59.9**	**+0.2**
KU4				*e*S	**Sn**	**09 01 22.8**	**+0.5**
JOF	**Joensuu**	**1.84**	**171**	*e*P	**Pn**	**09 01 01.2**	**-0.2**
JOF				*e*S	**Sn**	**09 01 24.1**	**-1.3**
OUL	**Oulu**	**2.08**	**282**	*e*P	**Pn**	**09 01 05.9**	**+1.1**
OUL				*e*S	**Sn**	**09 01 32.5**	**+1.0**
SUF	**Sumiainen**	**2.86**	**227**	*e*P	**Pn**	**09 01 16.3**	**+0.9**
SUF				*e*S	**Sn**	**09 01 50.5**	**-0.1**
SUF				MSG		09 01 58.8	
	comp=Z,3.7nm,0.3s						
KEF	**Keuruu**	**3.67**	**228**	*e*P	**Pn**	**09 01 28.1**	**+1.5**
KEF				*e*S	**Sn**	**09 02 10.5**	**-0.1**
KEF				MSG		09 02 24.7	
	comp=Z,2.4nm,0.4s						
FIA0	**FINESS Array S**	**3.91**	**215**	MSG		09 02 32.4	
	comp=Z,1.8nm,0.3s						
FINES	**FINESS Array B**	**3.91**	**215**	Pn	**Pn**	**09 01 31.2**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=39,slow=14,SNR=4.1						
FINES				Pg	**Pg**	**09 01 39.4**	**-4.2**
	comp=Z,0.3nm,0.3s,baz=33,slow=16,SNR=9.7						
FINES				Lg		09 02 28.6	
	comp=Z,0.8nm,0.3s,baz=41,slow=26,SNR=11						
VAF	**Ylistaro**	**3.94**	**248**

HORT				*e*Sg		**Sn**	**09 04 18.9**	**-0.2**	
XOR	**Xorichti**	**1.19**	**236**	*e*Pg		**Pg**	**09 04 02.7**	**-1.4**	
NEO	**Neokhori**	**1.21**	**233**	*e*PB		**Pn**	**09 04 02.6**	**-0.9**	
RDO	**Rodhopi**	**1.38**	**36**	*e*PB		**Pn**	**09 04 04.7**	**-1.1**	
ALN	**Alexandroupoli**	**1.48**	**54**	*e*Pg		**Pn**	**09 04 07.5**	**+0.2**	
ALN				*e*Sg		**Sn**	**09 04 29.3**	**+2.9**	
KNT	**Kendrikon**	**1.64**	**314**	*e*Pg		**Pn**	**09 04 09.4**	**0.0**	
KNT				*e*Sg		**Sn**	**09 04 30.1**	**-0.2**	
KNT	**Kendrikon**	**1.64**	**314**	*e*Pg		**Pn**	**09 04 09.4**	**0.0**	
KNT				*e*Sg		**Sn**	**09 04 30.1**	**-0.2**	
MMB	**Musomiste**	**1.65**	**340**	*e*Pg		**Pn**	**09 04 08.4**	**-1.1**	
MMB				*e*Sg		**Sn**	**09 04 31.7**	**+1.2**	
MMB	**Musomiste**	**1.65**	**340**	*e*Pg		**Pn**	**09 04 08.4**	**-1.2**	
MMB				*e*Sg		**Sn**	**09 04 31.7**	**+1.2**	

*NEIC **24** 09:04:25.5, 3347S×7172W, h28km, ML3.0(GUC), After GUC.*

GUC 24 09:04:25.5±0.8, 3347S×7172W, h28km±4km, MD3.7, ML3.0, 10C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCCH	**Las Cruces**	**0.12**	**93**	⇑*i*P	Pb	09 04 31.2	+0.4
LCCH				*i* S	Sb	09 04 34.6	+0.3
IHA	**Instituto Hidr**	**0.45**	**8**	⇓*i*P	Pb	09 04 34.7	-0.3
IHA				*i* S	Sb	09 04 41.4	-0.1
LNV	**Longovilo**	**0.55**	**152**	⇓*i*P	Pb	09 04 35.9	-0.7
LNV				*i* S	Sb	09 04 43.5	-0.7
TACH	**Talagante**	**0.68**	**106**	⇑*i*P	Pb	09 04 38.4	-0.3
TACH				*i* S	Sb	09 04 47.6	-0.2
RCDM	**Rinconada Maip**	**0.76**	**92**	⇑*i*P	Pb	09 04 39.7	-0.5
RCDM				*i* S	Sb	09 04 49.8	-0.3
RCDM				AML	AML	09 04 50.1	
	comp=N,1μm,0.1s						
RCDM	**Rinconada Maip**	**0.76**	**92**	⇑*i*P	Pb	09 04 39.7	-0.5
RCDM				*i* S	Sb	09 04 49.8	-0.3
ROCH	**El Roble**	**0.77**	**50**	⇑*i*P	Pb	09 04 40.2	-0.2
ROCH				*i* S	Sb	09 04 51.1	+0.6
SAN	**Santiago**	**0.88**	**89**	*i* S	Sb	09 04 54.0	+0.4
SAN				AML	AML	09 04 58.9	
	comp=N,1μm,0.3s						
STL	**Santa Lucia**	**0.90**	**88**	⇓*i*P	Pn	09 04 41.6	-0.6
STL				*i* S	Sb	09 04 54.1	0.0
STL				AML	AML	09 04 58.4	
	comp=N,656nm,0.3s						
ANTU	**Antumapu**	**0.91**	**97**	*e*P	Pn	09 04 42.5	+0.2
ANTU				*e*S	Sb	09 04 54.5	0.0
ANTU				AML	AML	09 04 59.6	
	comp=E,692nm,0.4s						
ANTU	**Antumapu**	**0.91**	**97**	*e*P	Pn	09 04 42.5	+0.2
ANTU				*e*S	Sb	09 04 54.5	0.0
PEL	**Peldehue**	**0.92**	**70**	⇑*i*P	Pn	09 04 42.9	+0.3
PEL				*i* S	Sb	09 04 55.5	+0.7
PEL				AML	AML	09 04 57.6	
	comp=N,1μm,0.3s						
PEL	**Peldehue**	**0.92**	**70**	⇑*i*P	Pn	09 04 42.9	+0.3
PEL				*i* S	Sb	09 04 55.5	+0.7
PACH	**Papudo**	**0.96**	**14**	⇑*i*P	Pn	09 04 42.9	-0.2
PACH				*i* S	Sn	09 04 55.3	-0.5
DSCH	**Colegio Aleman**	**0.96**	**86**	⇑*i*P	Pn	09 04 42.7	-0.4
DSCH				*i* S	Sn	09 04 55.8	-0.1
CLCH	**Cerro Calan**	**0.99**	**86**	⇓*i*P	Pn	09 04 43.9	+0.4
CLCH				*i* S	Sn	09 04 57.0	+0.5
CLCH				AML	AML	09 05 04.0	
	comp=E,891nm,0.6s						
CLCH				AML	AML	09 05 04.2	
	comp=N,930nm,0.6s						
CHCH	**Chadas Angostu**	**1.00**	**118**	*e*P	Pn	09 04 43.4	-0.3
PCH	**Pirque**	**1.01**	**99**	*e*P	Pn	09 04 44.1	+0.3
PCH				*i* S	Sn	09 04 57.7	+0.5
CACH	**El Canelo**	**1.13**	**125**	⇓*i*P	Pn	09 04 46.2	+0.7
CACH				*i* S	Sn	09 05 02.0	+2.0
SJCH	**San Jose de Ma**	**1.15**	**99**	⇓*i*P	Pn	09 04 45.7	0.0
SJCH				*i* S	Sn	09 05 01.3	+0.8
SJCH				AML	AML	09 05 03.9	
	comp=E,348nm,0.3s						
SJCH	**San Jose de Ma**	**1.15**	**99**	⇓*i*P	Pn	09 04 45.7	0.0
SJCH				*i* S	Sn	09 05 01.3	+0.8
FCH	**Farellones**	**1.20**	**84**	⇓*i*P	Pn	09 04 47.6	+1.2
FCH				*i* S	Sn	09 05 04.0	+2.3
FCH				AML	AML	09 05 05.8	
	comp=N,939nm,0.2s						
JACH	**Jahuel**	**1.23**	**50**	⇓*i*P	Pn	09 04 47.4	+0.7
JACH				*i* S	Sn	09 05 03.5	+1.1
SFDO	**San Fernando**	**1.28**	**153**	*e*P	Pn	09 04 47.4	-0.1
SFDO				*i* S	Sn	09 05 04.6	+0.9
CICH	**Cipreses**	**1.37**	**129**	⇑*i*P	Pn	09 04 49.3	+0.6
CICH				*i* S	Sn	09 05 07.5	+1.6
NICH	**Los Niches**	**1.58**	**165**	⇓*i*P	Pn	09 04 53.9	+2.3
NICH				*i* S	Sn	09 05 14.8	+3.7
CHNG	**Los Chungos**	**1.59**	**7**	⇓*i*P	Pn	09 04 51.8	0.0
CHNG				*i* S	Sn	09 05 12.9	+1.5

*CSEM **24** 09:16:04.2, 3489N×2626E, h57km, MD3.5/5, After ATH*
*NEIC **24** 09:16:04.2, 3489N×2626E, h57km, MD3.5(ATH), After ATH.*

ATH 24 09:16:04.2, 3489N×2626E, h57km±5km, MD3.5/5, 2C, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.47**	**268**	⇑*i*P	Pn	09 16 16.0	+0.5
NPS	**Neapolis**	**0.65**	**305**	⇑*i*P	Pn	09 16 18.2	+0.6
KARP	**Karpathos**	**0.99**	**48**	*e*P	Pn	09 16 23.0	+1.1
KARP				*e*S	Sn	09 16 36.5	+1.5
APE	**Apeiranthos**	**2.25**	**345**	*e*P	Pn	09 16 40.5	+1.5
VLI	**Veliai**	**3.26**	**305**	*e*P	Pn	09 16 54.7	+1.9

*IDC **24** 09:26:52.3±1.2, 958S×10791E, h0km, mb4.1/6, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, ML3.6/1, Error ellipse: s-maj=66.9km s-min=17.2km az=49.0*
*NEIC **24** 09:26:54.0±0.7, 974S×10784E, h10km, mb4.4/4, Error ellipse: s-maj=31.0km s-min=12.0km az=46.0*
*ISCJB **24** 09:26:55.5±0.7, 97S±02×1079E±02, h33km, mb4.1/10, Error ellipse: s-maj=31.9km s-min=12.5km az=90.7*

ISC 24 09:26:57.9±0.7, 98S±02×1079E±02, h35km, n14, σ0§90/14, mb4.1/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.13**	**118**	P	**Pn**	**09 31 18.7**	**-0.2**
	0.1nm,0.3s,baz=261,slow=13,SNR=6.0						
FITZ				S	**S**	**09 34 36.1**	**-17**
	0.1nm,0.3s,baz=135,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**27.48**	**115**	P	**P**	**09 32 40.4**	**-0.3**
	0.9nm,0.6s,mb3.5,baz=287,slow=11,SNR=8.9						
WRA				PcP	PcP	09 35 59.1	+0.6
	0.3nm,0.6s,baz=301,slow=1.9,SNR=4.9						
WRAB	**Tennant Creek**	**27.49**	**115**	*e*P	**P**	**09 32 41.4**	**+0.6**
	5.3nm,1.0s,mb4.0						
ASAR	**Alice Springs**	**28.45**	**122**	P	**P**	**09 32 49.2**	**-0.1**
	1.0nm,0.6s,mb3.7,baz=301,slow=8.9,SNR=23						
ASAR				PcP	PcP	09 36 01.6	+0.8
	0.4nm,0.6s,baz=320,slow=2.1,SNR=5.5						
STKA	**Stephens Creek**	**38.20**	**130**	P	**P**	**09 34 14.7**	**+0.6**
	4.4nm,0.6s,mb4.4,baz=281,slow=7.2,SNR=22						
STKA				PcP	PcP	09 36 28.3	+0.2
	0.8nm,0.4s,baz=342,slow=6.4,SNR=3.8						
STKA	**Stephens Creek**	**38.20**	**130**	*e*P	**P**	**09 34 14.5**	**+0.4**
STKA				PcP	PcP	09 36 28.3	+0.2
SONM	**Songino Array**	**57.34**	**359**	P	**P**	**09 36 41.4**	**-1.0**
	1.5nm,0.5s,mb4.3,baz=172,slow=7.9,SNR=14						
MKAR	**Makanchi Array**	**60.74**	**340**	P	**P**	**09 37 04.5**	**-1.5**
	3.5nm,0.6s,mb4.7,baz=132,slow=6.7,SNR=30						
MKAR	**Makanchi Array**	**60.74**	**340**	P	**P**	**09 37 04.5**	**-1.5**
MAW	**Mawson**	**65.01**	**197**	*e*P	**P**	**09 37 33.7**	**-0.6**
	2.1nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**70.63**	**338**	*e*P	**P**	**09 38 10.3**	**+0.5**
	2.1nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**70.70**	**336**	*e*P	**P**	**09 38 12.4**	**+2.2**
	4.6nm,1.5s,mb4.2						
BRTR	**Keskin Array B**	**84.28**	**312**	P	**P**	**09 39 26.4**	**+0.3**
	0.5nm,0.8s,mb3.7,baz=50,slow=4.5,SNR=2.8						
WMOK	**Wichita Mounta**	**145.19**	**40**	*e*PKPdf	PKPdf	09 46 31.7	+0.1

IDC 24 10:16:52.1±5.5, 2395S×17755W, h0km, mb4.4/3, mb1 4.6/3, mb1mx4.0/13, mbtmp4.4/3, 1D, Error ellipse: s-maj=228.8km s-min=55.6km az=153.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.72**	**269**	P	P	10 23 37.0	+1.9
	5.7nm,0.4s,baz=96,slow=10,SNR=18						
ASAR	**Alice Springs**	**44.24**	**260**	P	P	10 25 03.2	+0.1
	1.5nm,0.7s,baz=96,slow=7.0,SNR=26						
WB2	**Warramunga Arr**	**44.63**	**265**	⇓*i*P	P	10 25 05.1	-1.2
WRA	**Warramunga Arr**	**44.64**	**265**	P	P	10 25 05.4	-1.0
	1.7nm,0.4s,baz=102,slow=8.4,SNR=87						
AKASG	**Malin Array Be**	**146.20**	**329**	PKPbc	PKPbc	10 36 33.6	-0.8
	0.5nm,0.3s,baz=44,slow=4.3,SNR=5.6						

*NEIC **24** 10:24:57.4±12.0, 515S×15407E, h40km±49km, mb4.4/1, Error ellipse: s-maj=186.4km s-min=21.5km az=191.0*
*IDC **24** 10:24:58.9±5.4, 557S×15398E, h25km±30km, mb3.6/3, mb1 3.9/4, mb1mx3.6/15, mbtmp3.9/4, ML3.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/25, Error ellipse: s-maj=41.9km s-min=31.0km az=177.0*
*ISCJB **24** 10:25:03.1±5.5, 615S±05×1540E±01, h47km±36km, mb3.6/3, MS3.5/1, Error ellipse: s-maj=83.0km s-min=22.0km az=175.5*

ISC 24 10:25:04.4±5.3, 59S±05×1539E±01, h61km±32km, n8, σ1§01/6, mb3.6/3, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.96**	**121**	LR	LR	10 29 13.0	
	comp=Z,131nm,21.6s,baz=181,slow=36						
PMG	**Port Moresby**	**7.57**	**242**	Pn	**Pn**	**10 26 52.0**	**0.0**
	3.2nm,0.3s,baz=40,slow=9.2,SNR=10						
PMG				Sn	**Sn**	**10 28 16.1**	**-0.3**
	0.9nm,0.3s,baz=120,slow=20,SNR=3.0						
DZM	**Mont Dzumac**	**20.17**	**144**	P	**P**	**10 29 33.8**	**+0.2**
	7.9nm,0.5s,baz=318,slow=20,SNR=15						
WRA	**Warramunga Arr**	**23.63**	**232**	P	**P**	**10 30 10.1**	**+0.2**
	0.7nm,0.8s,mb3.1,baz=57,slow=9.9,SNR=6.2						
ASAR	**Alice Springs**	**26.17**	**225**	P	**P**	**10 30 33.9**	**+0.9**
	0.8nm,0.9s,mb3.3,baz=57,slow=9.2,SNR=9.6						
ASAR				ScP	ScP	10 37 37.6	+4.6
	0.3nm,0.6s,baz=63,slow=2.9,SNR=4.5						
RAO	**Raoul Island**	**35.35**	**135**	LR	LR	10 43 03.0	
	comp=Z,96nm,22.0s,baz=117,slow=30						
QSPA	**South Pole Qui**	**84.12**	**180**	*e*P	**P**	**10 37 27.6**	**-1.0**
	2.2nm,0.8s,mb4.3						
TORD	**Torodi Ar. Bea**	**151.68**	**287**	PKPbc	PKPbc	10 44 51.1	-0.7
	0.6nm,1.1s,baz=84,slow=1.8,SNR=4.7						
TORD				PKPab	PKPab	10 45 01.0	+0.3
	0.6nm,0.7s,baz=98,slow=2.7,SNR=4.8						

*GRAL **24** 10:29:44.0±1.6, 3374N×3720E, h33km±63km, MD3.4*
*ISCJB **24** 10:29:47.0±0.6, 3377N±002×3692E±004, h10km, Error ellipse: s-maj=5.0km s-min=3.5km az=155.1*
*NSSC **24** 10:29:46.9, 3377N×3688E, h7km±3km*
*GII **24** 10:29:47.0±1.6, 3382N×3689E, h1km±30km, ML2.3/2*

ISC 24 10:29:47.1±0.6, 3376N±002×3693E±004, h10km, n24, σ1§15/39, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROOS	**tl_alroos**	**0.51**	**36**	⇑P	**Pg**	**10 29 57.5**	**+0.4**
ROOS	**tl_alroos**	**0.51**	**36**	⇑*i*P	**Pg**	**10 29 57.5**	**+0.4**
TOTH	**TOTAH**	**0.57**	**227**	⇑P	**Pg**	**10 29 57.5**	**-0.8**
QASN	**Qassioun**	**0.59**	**248**	⇑P	**Pg**	**10 29 57.9**	**-0.7**
FKH	**Fakeheh**	**0.65**	**318**	*e*Pg	**Pg**	**10 29 59.4**	**-0.3**
FKH				*e*Sg	**Sg**	**10 30 10.1**	**+1.8**
BRBR	**Barbar**	**0.89**	**248**	⇑P	**Pg**	**10 30 03.5**	**-0.7**
BRBR				⇑S	**Sg**	**10 30 15.5**	**-0.3**
ZALF	**Zalf**	**0.90**	**158**	⇑P	**Pg**	**10 30 04.7**	**+0.3**
ZALF				⇑S	**Sg**	**10 30 17.7**	**+1.6**
ZALF	**Zalf**	**0.90**	**158**	⇑*i*P	**Pg**	**10 30 04.7**	**+0.3**
ZALF				⇑*i*S	**Sg**	**10 30 17.7**	**+1.6**
RCY	**Rachaya**	**0.97**	**254**	*e*Pg	**Pg**	**10 30 03.9**	**-1.8**
RCY				*e*Sg	**Sg**	**10 30 21.0**	**+2.7**
HWQ	**Hawqa**	**0.97**	**303**	*e*Pg	**Pg**	**10 30 05.0**	**-0.8**
HWQ				*e*Sg	**Sg**	**10 30 19.6**	**+1.2**
SALA	**Sala**	**1.05**	**189**	⇑P	**Pg**	**10 30 06.1**	**-1.3**
SALA				⇑S	**Sg**	**10 30 20.9**	**-0.2**
SALA	**Sala**	**1.05**	**189**	⇑*i*P	**Pg**	**10 30 06.1**	**-1.3**
SALA				⇑*i*S	**Sg**	**10 30 20.9**	**-0.2**
BHL	**Bhannes**	**1.07**	**278**	*e*Pg	**Pg**	**10 30 06.4**	**-1.4**
BHL				*e*Sg	**Sg**	**10 30 22.2**	**+0.4**
HRI	**Mount Hermon**	**1.11**	**244**	Pg	**Pg**	**10 30 07.2**	**-1.3**
KSHT	**Keshet**	**1.21**	**231**	Pg	**Pg**	**10 30 09.1**	**-1.4**
BIDA	**Albida**	**1.35**	**338**	⇑P	**Pn**	**10 30 11.7**	**-0.4**
BIDA				⇑S	**Sb**	**10 30 29.6**	**-0.3**
BIDA	**Albida**	**1.35**	**338**	⇑*i*P	**Pn**	**10 30 11.7**	**-0.4**
BIDA				⇑*i*S	**Sb**	**10 30 29.6**	**-0.3**
MMA0	**Mount Meron ar**	**1.48**	**240**	Pn	**Pn**	**10 30 14.4**	**+0.7**
MMA0				Sn	**Sn**	**10 30 36.4**	**+3.3**
HNTI	**Hanita**	**1.61**	**246**	Pn	**Pn**	**10 30 16.8**	**+1.1**
WRDH	**Warideh**	**1.80**	**346**	⇑P	**Pn**	**10 30 17.9**	**-0.3**
WRDH				⇑S	**Sn**	**10 30 40.6**	**-0.6**
WRDH	**Warideh**	**1.80**	**346**	⇑*i*P	**Pn**	**10 30 18.0**	**-0.2**
WRDH				⇑*i*S	**Sn**	**10 30 40.6**	**-0.5**
MMLI	**Mount Malkishu**	**1.82**	**224**	Pn	**Pn**	**10 30 18.8**	**+0.3**
SLTI	**Sal'it**	**2.19**	**227**	Pn	**Pn**	**10 30 26.1**	**+2.4**
SLTI				Sn	**Sn**	**10 30 54.8**	**+4.0**
SLTI	**Sal'it**	**2.19**	**227**	Pn	**Pn**	**10 30 26.0**	**+2.4**

*ISCJB **24** 10:38:16.6±0.8, 370S±004×151.13E±006, h468km±10km, mb4.6/53, Error ellipse: s-maj=8.9km s-min=6.9km az=23.5*
*BJI **24** 10:38:16.2, 367S×15171E, h495km, mB4.7, mb4.7*
*NEIC **24** 10:38:17.7±0.7, 367S×151.10E, h468km±7km, mb4.8/32, Error ellipse: s-maj=6.4km s-min=5.2km az=83.0*
*IDC **24** 10:38:17.6±1.0, 369S×15102E, h464km±10km, mb4.1/20, mb1 4.2/23, mb1mx4.2/24, mbtmp4.9/23, Error ellipse: s-maj=10.6km s-min=7.6km az=94.0*

ISC 24 10:38:17.7±0.8, 370S±004×15117E±006, h466km±9km, n124, σ1§03/101, mb4.6/52, 1C-13D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.93**	**215**	P	**P**	**10 40 01.9**	**-0.2**
	8.9nm,0.3s,baz=27,slow=7.0,SNR=36						
PMG				S	**S**	**10 41 27.0**	**-0.6**
	4.3nm,0.3s,baz=18,slow=6.4,SNR=4.4						
HNR	**Honiara**	**10.41**	**124**	P	**P**	**10 40 39.7**	**+0.5**
	39nm,0.3s,baz=258,slow=2.2,SNR=13						
CTA	**Charters Tower**	**16.98**	**196**	⇓*i*P	**P**	**10 41 50.7**	**+1.4**
	76nm,0.6s						
CTA				*e*S	**S**	**10 44 46.8**	**+2.9**
CTA	**Charters Tower**	**16.98**	**196**	P	**P**	**10 41 50.9**	**+1.6**
	8.6nm,0.3s,baz=15,slow=11,SNR=81						
CTA				S	**S**	**10 44 45.3**	**+1.4**
	baz=143,slow=20,SNR=7.7						
CTAO	**Charters Tower**	**16.98**	**196**	*e*P	**P**	**10 41 50.9**	**+1.6**
	88nm,0.6s						
KAKA	**Kakadu**	**20.57**	**243**	⇓*i*P	**P**	**10 42 22.4**	**-0.9**
	73nm,0.4s						
KAKA				*e*S	**S**	**10 45 45.3**	**+2.2**
WRAB	**Tennant Creek**	**23.01**	**224**	*e*P	**P**	**10 42 45.2**	**-0.2**
	43nm,0.5s,mb5.1						
WB2	**Warramunga Arr**	**23.02**	**224**	⇓*i*P	**P**	**10 42 45.1**	**-0.3**
WB2				*e*S	**S**	**10 46 20.3**	**-1.6**
WRA	**Warramunga Arr**	**23.03**	**224**	P	**P**	**10 42 45.3**	**-0.2**
	22nm,0.5s,mb4.8,baz=47,slow=9.1,SNR=378						
WRA				S	**S**	**10 46 19.8**	**-2.2**
	4.8nm,0.8s,baz=44,slow=17,SNR=5.8						
WRA				ScP	ScP	10 49 12.1	+0.4
	4.9nm,0.9s,baz=47,slow=3.0,SNR=7.5						
DZM	**Mont Dzumac**	**23.52**	**142**	P	**P**	**10 42 50.7**	**+0.8**
	60nm,0.8s,mb5.1,baz=336,slow=7.7,SNR=17						
AS31	**Alice Springs**	**25.93**	**218**	⇓*i*P	**P**	**10 43 10.8**	**-0.5**
AS31				*e*S	**S**	**10 47 02.6**	**-5.1**
ASAR	**Alice Springs**	**25.93**	**218**	P	**P**	**10 43 10.9**	**-0.4**
	22nm,0.7s,mb4.7,baz=51,slow=8.4,SNR=419						
ASAR				PcP	PcP	10 46 25.5	+0.5
	3.7nm,0.7s,baz=47,slow=2.6,SNR=6.0						
ASAR				S	**S**	**10 47 06.3**	**-1.3**
	3.1nm,0.7s,baz=46,slow=14,SNR=4.2						
ASPA	**Alice Springs**	**25.93**	**219**	⇓*i*P	**P**	**10 43 10.8**	**-0.6**
ASPA				*e*S	**S**	**10 47 02.6**	**-5.1**
ARMA	**Armidale**	**26.58**	**179**	*e*P	**P**	**10 43 18.4**	**+1.3**
FITZ	**Fitzroy Crossi**	**28.81**	**238**	*e*P	**P**	**10 43 34.9**	**-1.8**
	38nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**28.81**	**238**	P	**P**	**10 43 36.1**	**-0.6**
	23nm,0.6s,mb4.8,baz=70,slow=8.5,SNR=100						
STKA	**Stephens Creek**	**29.44**	**197**	*e*P	**P**	**10 43 41.3**	**-0.9**
	5.9nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**29.44**	**197**	P	**P**	**10 43 41.6**	**-0.6**
	6.7nm,0.5s,mb4.3,baz=359,slow=8.8,SNR=11						
STKA				PcP	PcP	10 46 34.1	+0.5
	3.5nm,0.7s,baz=129,slow=6.5,SNR=3.0						
CNB	**Canberra Magne**	**31.50**	**183**	*e*P	**P**	**10 44 01.1**	**+1.1**
	6.7nm,0.5s,mb4.3						
FORT	**Forrest**	**34.66**	**216**	⇓*i*P	**P**	**10 44 25.8**	**-1.0**
	48nm,0.5s,mb5.2						
MBWA	**Marble Bar**	**35.15**	**238**	*e*P	**P**	**10 44 29.8**	**-1.1**
	54nm,1.2s,mb4.8						
JOW	**Kunigami**	**37.56**	**325**	P	**P**	**10 44 50.5**	**-0.4**
	33nm,0.8s,mb4.8,baz=136,slow=7.7,SNR=6.0						
AFI	**Afiamalu**	**37.93**	**108**	P	**P**	**10 44 55.2**	**+1.2**
	39nm,0.8s,mb4.9,baz=14,slow=23,SNR=4.7						
YHNB	**Yeheng**	**40.42**	**316**	P	**P**	**10 45 15.2**	**+1.0**
KSM	**Kuching**	**41.17**	**276**	*e*P	**P**	**10 45 21.1**	**+0.9**
URZ	**Urewera**	**41.76**	**149**	P	**P**	**10 45 25.8**	**+0.9**
	5.0nm,0.5s,mb4.2,baz=337,slow=8.6,SNR=9.4						
MJAR	**Matsushiro Arr**	**41.82**	**344**	P	**P**	**10 45 24.0**	**-1.4**
	6.9nm,0.8s,mb4.1,baz=169,slow=7.6,SNR=17						
MJAR				PcP	PcP	10 47 10.9	0.0
	2.1nm,0.5s,baz=159,slow=5.2,SNR=5.9						
MAJO	**Matsushiro**	**41.82**	**344**	*e*P	**P**	**10 45 24.0**	**-1.4**
	8.4nm,0.3s,mb4.7						
MAJO				*e*PcP	PcP	10 47 10.7	-0.2
MAT	**Matsushiro**	**41.82**	**344**	P	**P**	**10 45 24.3**	**-1.1**
MAT	**Matsushiro**	**41.82**	**344**	*e*P	**P**	**10 45 24.0**	**-1.4**
	6.8nm,0.7s,mb4.2						
KLBR	**Kellerberrin**	**41.91**	**225**	*e*P	**P**	**10 45 24.0**	**-2.1**
	12nm,0.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**43.03**	**223**	P	**P**	**10 45 33.0**	**-2.0**
	9.7nm,0.9s,mb4.2,baz=52,slow=14,SNR=3.8						
RPZ	**Rata Peaks**	**43.56**	**159**	P	**P**	**10 45 39.7**	**+0.6**
	11nm,0.7s,mb4.4,baz=73,slow=1.9,SNR=7.8						
INCN	**Inchon**	**46.90**	**333**	⇑P	**P**	**10 46 05.8**	**+1.0**
	SNR=6.6						
INCN	**Inchon**	**46.90**	**333**	*e*P	**P**	**10 46 05.7**	**+1.0**
	59nm,0.9s,mb5.0						
ASAJ	**Asahikawa**	**48.22**	**352**	P	**P**	**10 46 13.8**	**-1.0**
	12nm,0.7s,mb4.4,baz=196,slow=8.0,SNR=13						
YSS	**Yuzh-Sakhalins**	**50.98**	**353**	P	**P**	**10 46 34.8**	**-0.4**
KULM	**Kulim**	**51.25**	**280**	*e*P	**P**	**10 46 37.2**	**0.0**
MDJ	**Mudanjiang**	**51.84**	**340**	P	**P**	**10 46 41.4**	**0.0**
	7.3nm,0.7s,mb4.1						
CN2	**Changchun**	**52.64**	**337**	*e*P	**P**	**10 46 46.5**	**-0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.0						
NST	**Nakhon Sawan**	**54.04**	**292**	P	**P**	**10 46 58.5**	**+1.3**
	comp=Z,42nm,0.5s,mb5.0						
XAN	**Xi'an**	**54.71**	**317**	P	**P**	**10 47 01.9**	**-0.1**
XAN				AMB	AMB		
	comp=Z,21nm,0.7s,mb4.6						
CHG	**Chiang Mai**	**56.05**	**295**	⇓P	**P**	**10 47 12.4**	**+1.1**
	comp=Z,12nm,0.9s,mb4.2						
CHTO	**Chiang Mai**	**56.05**	**295**	⇓P	**P**	**10 47 12.4**	**+1.1**
	SNR=5.3						
CD2	**Chengdu**	**56.79**	**311**	P	**P**	**10 47 17.3**	**+0.8**
CD2				AMB	AMB		
	comp=Z,40nm,0.6s,mb4.9						
LZH	**Lanzhou**	**59.32**	**316**	⇓P	**P**	**10 47 34.8**	**+1.2**
LZH				AMB	AMB		
	comp=Z,37nm,1.2s,mb4.6						
HIA	**Hailar**	**59.38**	**337**	*e*P	**P**	**10 47 34.1**	**+0.1**
	comp=Z,18nm,0.6s,mb4.6						
MA2	**Magadan**	**63.08**	**360**	P	**P**	**10 47 57.6**	**-0.9**
	comp=Z,15nm,0.6s,mb4.7						
GTA	**Gaotai**	**63.75**	**318**	⇓*i*P	**P**	**10 48 04.0**	**+1.2**
GTA				AMB	AMB		
	comp=Z,23nm,0.8s,mb4.8						
SONM	**Songino Array**	**64.54**	**328**	P	**P**	**10 48 08.5**	**+0.8**
	comp=Z,12nm,0.6s,mb4.7,baz=145,slow=5.2,SNR=77						
SONM				PcP	PcP	10 48 37.2	-0.1
	comp=Z,2.9nm,0.6s,baz=141,slow=3.4,SNR=7.1						
JIRN	**Jiri**	**69.83**	**301**	*e*P	**P**	**10 48 41.4**	**+0.9**
	comp=Z,42nm,0.7s,mb5.1						
GUN	**Gumba**	**70.17**	**301**	*e*P	**P**	**10 48 43

HAU	**Haudompre**	**126.53**	**331**	*e*PKIKP	PKPdf	10 56 26.9	-0.2	
CABF	**La Chapelle**	**127.63**	**330**	*e*PKIKP	PKPdf	10 56 29.8	+0.6	
	comp=Z,11nm,0.8s							
LPL	**La Plagne**	**128.05**	**329**	*e*PKIKP	PKPdf	10 56 30.9	+0.9	
LPG	**La Plagne**	**128.06**	**329**	*e*PKIKP	PKPdf	10 56 31.0	+1.0	
LOR	**Lormes**	**128.24**	**332**	*e*PKIKP	PKPdf	10 56 31.0	+0.7	
	comp=Z,4.0nm,0.5s							
SSF	**Saint Saulge**	**128.55**	**332**	*e*PKIKP	PKPdf	10 56 32.0	+1.1	
	comp=Z,3.4nm,0.5s							
MBDF	**Montbardon**	**128.56**	**328**	*e*PKIKP	PKPdf	10 56 31.7	+0.8	
PGF	**Pioggiola**	**128.73**	**324**	*e*PKIKP	PKPdf	10 56 31.3	0.0	
	comp=Z,14nm,0.9s							
ORIF	**Oris-en-Rattie**	**128.90**	**329**	*e*PKIKP	PKPdf	10 56 32.2	+0.6	
	comp=Z,4.9nm,0.6s							
ATAH	**Atahualpa**	**129.40**	**102**	PKP	PKPdf	10 56 36.1	+3.6	
	comp=Z,3.5nm,0.4s,baz=344,slow=5.2,SNR=3.9							
ATAH				SKPbc		10 59 16.7		
	comp=Z,13nm,0.8s,baz=186,slow=3.3,SNR=9.3							
FRF	**La Foret Royal**	**129.41**	**327**	*e*PKIKP	PKPdf	10 56 32.6	+0.1	
	comp=Z,13nm,0.8s							
VIVF	**Saint-Julien-l**	**129.56**	**329**	*e*PKIKP	PKPdf	10 56 33.1	+0.3	
	comp=Z,3.8nm,0.6s							
TCF	**Toulx Ste Croi**	**129.73**	**332**	*e*PKIKP	PKPdf	10 56 33.5	+0.4	
	comp=Z,8.7nm,0.8s							
SGMF	**Saint Gilles**	**130.22**	**337**	*e*PKIKP	PKPdf	10 56 34.0	-0.1	
LASF	**Ste Croix**	**130.53**	**329**	*e*PKIKP	PKPdf	10 56 34.5	-0.2	
	comp=Z,5.0nm,0.8s							
LPAZ	**La Paz**	**136.36**	**118**	PKP	PKPdf	10 56 48.4	+2.8	
	comp=Z,1.5nm,0.6s,baz=304,slow=3.8,SNR=5.8							
LPAZ				SKP		10 59 38.5		
	comp=Z,1.7nm,1.0s,baz=343,slow=4.7,SNR=6.0							
SIV	**San Ignacio**	**142.58**	**122**	PKhKP		10 56 54.6		
	comp=Z,1.9nm,0.6s,baz=253,slow=3.6,SNR=8.0							
SIV				SKPbc	SKPbc	10 59 54.1	+3.8	
	comp=Z,4.3nm,0.9s,baz=278,slow=1.7,SNR=10							
SAML	**Samuel**	**143.52**	**110**	*e*PKPdf	PKPdf	10 56 57.4	-1.1	
TOA0	**Torodi Ar. Sit**	**148.42**	**289**	*e*PKPdf	PKPdf	10 57 07.4	+0.6	
TOA0				*e*PKPbc	PKPbc	10 57 11.1	+0.2	
TOA0				*e*PKPab	PKPab	10 57 16.5	+0.6	
TORD	**Torodi Ar. Bea**	**148.42**	**289**	PKPbc	PKPbc	10 57 11.2	-0.2	
	comp=Z,16nm,0.7s,baz=81,slow=2.1,SNR=205							
BDFB	**Brasilia**	**152.98**	**136**	PKP	PKPdf	10 57 16.2	+2.5	
	comp=Z,1.3nm,0.5s,baz=217,slow=5.5,SNR=3.0							
BDFB				PKPbc	PKPbc	10 57 22.4	+0.9	
	comp=Z,3.4nm,0.5s,baz=248,slow=0.6,SNR=3.9							
DBIC	**Dimbokro**	**155.95**	**278**	PKPab	PKPab	10 57 48.4	+0.6	
	comp=Z,9.0nm,0.8s,baz=119,slow=7.2,SNR=9.0							
LIC	**Lamto**	**156.16**	**277**	*e*PKIKP	PKPdf	10 57 14.7	-3.4	
	comp=Z,17nm,1.1s							

*ISCJB **24** 10:40:29.1±0.8, 389N±0.1×149E±0.1, h313km±10km, mb3.4/3, Error ellipse: s-maj=23.8km s-min=14.7km az=117.6*
*ROM **24** 10:40:29.0±0.6, 3872N×1473E, h309km±8km, Ml3.3/8, Error ellipse: s-maj=12.1km s-min=6.2km az=158.0*
*IDC **24** 10:40:50.3±16.0, 4072N×1487E, h360km±48km, mb3.1/2, mb1 2.9/6, mb1mx2.7/24, mbtmp3.7/6, Error ellipse: s-maj=215.7km s-min=67.7km az=6.0*
ISC 24 10:40:30.0±0.8, **389N**±01×**148E**±01, **h306**km±10km, **n23, σ0§97/27, mb3.4/3, 1C-5D, Sicily**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLNA	**Salina**	**0.31**	**177**	Pg	**Pn**	**10 41 09.6**	**+0.7**
	133nm,0.3s						
IFIL	**Filicudi i Eol**	**0.37**	**212**	Pg	**Pn**	**10 41 09.3**	**+0.3**
	241nm,0.6s						
LLI	**Lipari**	**0.44**	**166**	Pg	**Pn**	**10 41 10.0**	**+0.9**
	391nm,0.6s						
VPL	**Vulcano Piano**	**0.52**	**165**	⇓*i*Pg	**Pn**	**10 41 09.5**	**+0.2**
	73nm,0.6s						
MSRU	**Castanea**	**0.82**	**138**	Pg	**Pn**	**10 41 10.0**	**-0.2**
	120nm,0.4s						
MMME	**Mongiuffi-Meli**	**1.00**	**160**	Pg	**Pn**	**10 41 11.2**	**+0.2**
	42nm,0.5s						
CEL	**Celeste**	**1.05**	**126**	⇓*e*Pg	**Pn**	**10 41 11.2**	**0.0**
CEL				Sg	**S**	**10 41 43.1**	**-0.9**
	67nm,0.5s						
GIB	**Gibilmanna**	**1.08**	**215**	Pg	**Pn**	**10 41 10.4**	**-0.9**
CSLB	**Castelbuono**	**1.11**	**213**	⇑*i*Pg	**Pn**	**10 41 11.1**	**-0.4**
MTTG	**Motta San Giov**	**1.11**	**141**	Pg	**Pn**	**10 41 12.0**	**+0.5**
	47nm,0.6s						
GRI	**Girifalco**	**1.26**	**92**	Pg	**Pn**	**10 41 13.4**	**+1.2**
SOI	**Samo**	**1.26**	**129**	⇓*e*Pg	**Pn**	**10 41 12.6**	**+0.3**
SOI				Sg	**S**	**10 41 44.8**	**-1.2**
	38nm,0.5s						
PLAC	**Placanica**	**1.34**	**108**	⇓*i*Pg	**Pn**	**10 41 13.5**	**+0.8**
PLAC				Sg	**S**	**10 41 45.5**	**-1.3**
SERS	**Sersale**	**1.47**	**83**	⇓*i*Pg	**Pn**	**10 41 14.9**	**+1.4**
SERS				Sg	**S**	**10 41 48.1**	**-0.1**
	72nm,0.4s						
CORL	**Corleone**	**1.54**	**231**	Pg	**Pn**	**10 41 13.3**	**-0.6**
RAFF	**Raffo Rosso**	**1.69**	**192**	Pg	**Pn**	**10 41 14.8**	**-0.1**
PZI	**Palazzolo**	**1.82**	**177**	Pn	**Pn**	**10 41 16.4**	**+0.5**
DAVOX	**Davos**	**8.69**	**337**	P	**Pn**	**10 42 34.5**	**+2.5**
	0.7nm,0.3s,baz=171,slow=17,SNR=5.2						
GERES	**GERESS Array B**	**10.00**	**356**	P	**Pn**	**10 42 45.5**	**-2.5**
	0.1nm,0.3s,baz=184,slow=13,SNR=2.1						
AKASG	**Malin Array Be**	**15.60**	**36**	P	**P**	**10 43 54.4**	**+1.2**
	1.9nm,0.3s,baz=227,slow=9.4,SNR=7.7						
HFS	**Hagfors**	**21.29**	**358**	P	**P**	**10 44 51.5**	**-1.5**
	0.3nm,0.3s,mb3.1,baz=187,slow=12,SNR=8.1						
FINES	**FINESS Array B**	**23.65**	**14**	P	**P**	**10 45 14.4**	**0.0**
	0.8nm,0.3s,mb3.5,baz=184,slow=9.6,SNR=19						
ARCES	**ARCESS Array B**	**31.25**	**7**	P	**P**	**10 46 20.5**	**-1.3**
	2.0nm,1.0s,mb3.6,baz=182,slow=9.0,SNR=4.1						

*ISCJB **24** 10:50:48.7±0.6, 2760S±004×6920W±008, h93km±8km, mb3.9/6, Error ellipse: s-maj=11.5km s-min=6.5km az=168.8*
*GUC **24** 10:50:49.6±0.9, 2762S×6929W, h92km±21km, ML4.5*
*IDC **24** 10:50:49.4±1.8, 2765S×6931W, h87km±15km, mb3.8/6, mb1 3.7/11, mb1mx3.6/20, mbtmp3.9/11, MS3.6/1, Ms1 3.6/1, ms1mx2.5/23, Error ellipse: s-maj=29.1km s-min=11.9km az=87.0*
*NEIC **24** 10:50:49.6, 2762S×6929W, h92km, MG4.5(GUC), After GUC.*
ISC 24 10:50:50.0±0.5, **2760S**±004×**6925W**±007, **h90**km±8km, **n25, σ0§64/28, mb3.9/6, 6C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.01**	**283**	⇑*i*P	**Pn**	**10 51 09.6**	**-0.2**
CPCH				*i*S	**Sn**	**10 51 24.4**	**-0.2**
CPCH				AML	AML	10 51 25.6	
	comp=N,49μm,0.1s						
CPCH	**Copiapo**	**1.01**	**283**	⇑*i*P	**Pn**	**10 51 09.6**	**-0.2**
CPCH				*i*S	**Sn**	**10 51 24.4**	**-0.2**
CDCH	**Caldera**	**1.50**	**290**	⇑*i*P	**Pn**	**10 51 15.5**	**-0.2**
CDCH				*i*S	**Sn**	**10 51 34.5**	**-0.6**
LCO	**Las Campanas**	**1.91**	**222**	⇑*i*P	**Pn**	**10 51 21.3**	**+0.4**
LCO				*i*S	**Sn**	**10 51 44.7**	**+0.2**
TLL	**Tololo Astrono**	**2.90**	**208**	⇑*i*P	**Pn**	**10 51 34.4**	**+0.3**
TLL				*i*S	**Sn**	**10 52 09.0**	**+0.8**
TLL				AML	AML	10 52 17.7	
	comp=N,580nm,0.4s						
TLL	**Tololo Astrono**	**2.90**	**208**	⇑*i*P	**Pn**	**10 51 34.4**	**+0.3**
TLL				*i*S	**Sn**	**10 52 09.0**	**+0.8**
CFAA	**Coronel Fontan**	**4.09**	**168**	P	**Pn**	**10 51 50.9**	**+0.7**
	comp=N,2.4nm,0.3s,baz=349,slow=13,SNR=173						
CFAA				S	**Sn**	**10 52 35.6**	**-1.4**
	comp=N,2.3nm,0.3s,baz=264,slow=22,SNR=15						
LVC	**Limon Verde**	**4.97**	**4**	P	**Pn**	**10 52 03.4**	**+1.2**
	comp=N,6.4nm,0.3s,baz=188,slow=8.6,SNR=82						
LVC				S	**Sn**	**10 52 42.9**	**-15**
	comp=N,7.3nm,0.3s,baz=184,slow=9.6,SNR=16						
MDZ	**Mendoza**	**5.28**	**176**	*e*P	**Pn**	**10 52 06.2**	**-0.2**
FCH	**Farellones**	**5.78**	**189**	*e*P	**Pn**	**10 52 13.3**	**+0.1**
CPUP	**Villa Florida**	**10.71**	**86**	P	**Pn**	**10 53 20.5**	**+0.2**
	comp=N,0.7nm,0.3s,baz=249,slow=6.6,SNR=3.9						
CPUP	**Villa Florida**	**10.71**	**86**	P	**Pn**	**10 53 20.5**	**+0.2**
LPAZ	**La Paz**	**11.30**	**5**	P	**Pn**	**10 53 28.0**	**-0.4**
	comp=N,0.1nm,0.3s,baz=183,slow=5.8,SNR=4.1						
SIV	**San Ignacio**	**13.81**	**35**	P	**Pn**	**10 54 00.9**	**-0.8**
	comp=N,0.2nm,0.3s,baz=247,slow=14,SNR=4.1						
ROSC	**El Rosal**	**32.63**	**351**	LR	LR	11 11 47.9	
	comp=N,89nm,18.4s,baz=347,slow=38						
SNAA	**Sanae**	**56.67**	**160**	P	**P**	**11 00 23.1**	**-0.8**
	comp=N,0.3nm,0.6s,mb3.5,baz=262,slow=9.7,SNR=7.4						
DBIC	**Dimbokro**	**70.86**	**71**	P	**P**	**11 01 58.0**	**+0.9**
	comp=N,3.4nm,0.6s,mb4.4,baz=180,slow=2.0,SNR=4.9						
MAW	**Mawson**	**78.61**	**163**	P	**P**	**11 02 41.3**	**-0.6**
	comp=N,1.3nm,0.5s,mb4.0,baz=221,slow=9.3,SNR=5.1						
PDAR	**Pinedale Array**	**79.24**	**331**	P	**P**	**11 02 45.8**	**+0.5**
	comp=N,0.3nm,0.6s,mb3.3,baz=137,slow=11,SNR=3.5						
TORD	**Torodi Ar. Bea**	**79.74**	**69**	P	**P**	**11 02 48.6**	**+0.6**
	comp=N,2.5nm,0.5s,mb4.3,baz=273,slow=6.3,SNR=35						
ULM	**Lac du Bonnet**	**81.02**	**343**	P	**P**	**11 02 54.2**	**-0.7**
	comp=N,0.7nm,0.5s,mb3.8,baz=154,slow=9.9,SNR=2.9						
ASAR	**Alice Springs**	**124.35**	**206**	PKP	PKPdf	11 09 37.5	-0.8
	comp=N,0.4nm,0.4s,baz=133,slow=1.7,SNR=12						
WRA	**Warramunga Arr**	**127.52**	**208**	PKP	PKPdf	11 09 44.2	-0.2
	comp=N,1.0nm,0.5s,baz=157,slow=1.8,SNR=33						
ZAL	**Zalesovo**	**147.51**	**29**	PKPbc	PKPbc	11 10 23.4	-0.2
	comp=N,2.9nm,0.5s,baz=185,slow=8.8,SNR=9.4						
MKAR	**Makanchi Array**	**150.56**	**42**	PKPbc	PKPbc	11 10 31.2	-0.1
	comp=N,3.7nm,0.7s,baz=336,slow=2.7,SNR=13						

*MOS **24** 11:05:45.6±1.0, 5435N×16072E, h89km, mb3.7/4, Error ellipse: s-maj=23.1km s-min=9.3km az=72.6*
*ISCJB **24** 11:05:46.1±0.4, 5441N±004×16067E±009, h92km±4km, mb3.8/8, Error ellipse: s-maj=9.2km s-min=4.5km az=54.6*
*KRSC **24** 11:05:46, 5442N×16060E, h74km, ML4.5*
*NEIC **24** 11:05:48.4±1.5, 5441N×16045E, h104km±15km, mb4.8/1, Error ellipse: s-maj=24.0km s-min=14.5km az=116.0*
*IDC **24** 11:05:54.0±6.9, 5491N×15965E, h160km±66km, mb3.4/7, mb1 3.7/8, mb1mx3.4/20, mbtmp3.9/8, Error ellipse: s-maj=37.9km s-min=15.0km az=142.0*
ISC 24 11:05:47.0±0.4, **5442N**±003×**16064E**±008, **h87**km±4km, **n29, σ0§90/39, mb3.8/8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.65**	**77**	P	**Pn**	**11 06 02.3**	**-0.4**
MKZ				S	**Sn**	**11 06 13.9**	**-0.6**
KII	**Karymskiy**	**0.80**	**242**	P	**Pn**	**11 06 04.3**	**+0.1**
KII				S	**Sn**	**11 06 17.3**	**+0.2**
NLC	**Nalytchevo**	**1.47**	**212**	P	**Pn**	**11 06 12.2**	**+0.1**
NLC				S	**Sn**	**11 06 31.2**	**0.0**
KOZ	**Kozyrevsk**	**1.70**	**345**	P	**Pn**	**11 06 15.7**	**+0.6**
KOZ				S	**Sn**	**11 06 36.7**	**+0.2**
KOZR	**Kozyr**	**1.70**	**346**	PN	**Pn**	**11 06 15.7**	**+0.5**
KOZR				S	**Sn**	**11 06 36.7**	**+0.1**
PET	**Petropavlovsk**	**1.83**	**221**	P	**Pn**	**11 06 17.3**	**+0.5**
PET				S	**Sn**	**11 06 39.9**	**+0.4**
PET	**Petropavlovsk**	**1.83**	**221**	*e*Pn	**Pn**	**11 06 17.2**	**+0.4**
PET				*e*Sn	**Sn**	**11 06 41.4**	**+1.9**
KLY	**Klyuchi**	**1.90**	**0**	P	**Pn**	**11 06 18.5**	**+0.8**
KLY				S	**Sn**	**11 06 41.5**	**+0.4**
KBTR	**Krutoberegovo**	**2.18**	**34**	P	**Pn**	**11 06 21.5**	**0.0**
KBTR				S	**Sn**	**11 06 46.7**	**-1.1**
RUS	**Russkaya**	**2.36**	**213**	P	**Pn**	**11 06 23.9**	**+0.1**
RUS				S	**Sn**	**11 06 51.1**	**-1.0**
SKR	**Severo-Kuril's**	**4.65**	**218**	*e*PN	**Pn**	**11 06 51.3**	**-3.4**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
MA2	**Magadan**	**7.46**	**318**	*e*PN	**Pn**	**11 07 34.5**	**+1.4**
MA2				pmax	pmax		
	comp=Z,40nm,0.8s						
MA2	**Magadan**	**7.46**	**318**	*e*Pn	**Pn**	**11 07 34.3**	**+1.2**
	comp=Z,22nm,0.7s						
MA2				*e*Sn	**Sn**	**11 08 54.5**	**-1.6**
YSS	**Yuzh-Sakhalins**	**13.55**	**244**	*e*P	**Pn**	**11 08 54.0**	**-1.4**
ASAJ	**Asahikawa**	**15.60**	**236**	P	**Pn**	**11 09 22.8**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=90,slow=11,SNR=9.3						
ASAJ	**Asahikawa**	**15.60**	**236**	P	**Pn**	**11 09 22.8**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**23.64**	**230**	P	**P**	**11 10 50.0**	**-0.1**
	comp=Z,1.5nm,0.7s,mb3.5,baz=30,slow=7.7,SNR=4.5						
IMA2	**Indian Mountai**	**24.85**	**44**	*e*P	**P**	**11 11 00.6**	**-0.6**
MKAR	**Makanchi Array**	**47.88**	**295**	P	**P**	**11 14 09.5**	**-6.6**
	comp=Z,0.5nm,0.7s,mb3.5,baz=101,slow=6.3,SNR=3.7						
MKAR	**Makanchi Array**	**47.88**	**295**	*i* P	**P**	**11 14 10.8**	**-5.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**55.00**	**71**	P	**P**	**11 15 11.2**	**+1.9**
	comp=Z,2.1nm,0.7s,mb4.3,baz=310,slow=6.0,SNR=27						
PDAR	**Pinedale Array**	**56.60**	**62**	P	**P**	**11 15 21.9**	**+1.2**
	comp=Z,0.5nm,0.6s,mb3.7,baz=310,slow=3.3,SNR=5.8						
ULM	**Lac du Bonnet**	**57.68**	**48**	P	**P**	**11 15 28.4**	**+0.1**
	comp=Z,1.3nm,0.6s,mb4.2,baz=303,slow=7.0,SNR=5.0						
NOA	**NORSAR Array B**	**62.36**	**344**	P	**P**	**11 15 58.4**	**-1.9**
	comp=Z,0.8nm,0.8s,mb3.8,baz=19,slow=6.5,SNR=3.0						
WRA	**Warramunga Arr**	**77.42**	**205**	P	**P**	**11 17 31.9**	**-0.6**
	comp=Z,0.9nm,0.6s,mb3.7,baz=20,slow=6.0,SNR=13						
WRA	**Warramunga Arr**	**77.42**	**205**	*i* P	**P**	**11 17 31.8**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**81.10**	**205**	P	**P**	**11 17 52.5**	**0.0**
	comp=Z,1.0nm,0.6s,mb3.8,baz=18,slow=4.9,SNR=16						
ASAR	**Alice Springs**	**81.10**	**205**	*e*P	**P**	**11 17 52.5**	**0.0**
QSPA	**South Pole Qui**	**144.17**	**180**	*e*P	PKPdf	11 25 07.9	-4.6

*ISCJB **24** 11:07:14.5±1.1, 23N±01×964E±01, h29km, mb3.9/6, Error ellipse: s-maj=22.5km s-min=12.9km az=92.3*
*NEIC **24** 11:07:15.5±0.9, 2.11N×9639E, mb4.3/1, Error ellipse: s-maj=18.9km s-min=12.5km az=218.0*
*IDC **24** 11:07:16.0±1.5, 2.16N×9651E, h29km±6km, mb3.6/5, mb1 3.8/6, mb1mx3.5/20, mbtmp3.8/6, ML3.3/1, Error ellipse: s-maj=50.3km s-min=16.0km az=56.0*
ISC 24 11:07:16.6±1.1, **23N**±01×**964E**±01, **h31**km, **h31**km±1.0km**:pP-P, n10, σ0§81/11, mb3.9/6, 1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.50**	**129**	⇓*e*P	**Pn**	**11 07 43.0**	**+1.6**
GSI				*e*S	**Sn**	**11 08 19.0**	**+19**
PSI	**Prapat**	**2.58**	**78**	Pn	**Pn**	**11 07 55.9**	**-0.3**
	6.4nm,0.3s,baz=274,slow=10.0,SNR=26						
PSI	**Prapat**	**2.58**	**78**	Pn	**Pn**	**11 07 55.9**	**-0.3**
KULM	**Kulim**	**5.21**	**54**	*e*Pn	**Pn**	**11 08 32.6**	**+0.3**
WRA	**Warramunga Arr**	**43.26**	**122**	P	**P**	**11 15 14.1**	**-1.1**
	0.4nm,0.5s,mb3.4,baz=301,slow=9.1,SNR=6.6						
WRA				pP	pP	11 15 22.3	-2.2
	0.8nm,0.5s,baz=302,slow=9.1,SNR=5.3						
ASAR	**Alice Springs**	**44.66**	**127**	P	**P**	**11 15 25.4**	**-0.9**
	0.3nm,0.5s,mb3.4,baz=300,slow=7.8,SNR=7.8						
ASAR				pP	pP	11 15 34.0	-1.7
	0.4nm,0.6s,baz=302,slow=7.3,SNR=3.2						
MKAR	**Makanchi Array**	**46.04**	**347**	P	**P**	**11 15 37.9**	**+0.6**
	1.7nm,0.5s,mb4.3,baz=156,slow=8.3,SNR=14						
MKAR				pP	pP	11 15 47.8	+1.1
	2.0nm,0.8s,baz=153,slow=8.2,SNR=6.5						
SONM	**Songino Array**	**46.23**	**9**	P	**P**	**11 15 38.0**	**-0.8**
	0.5nm,0.5s,mb3.7,baz=181,slow=13,SNR=4.3						
SONM				pP	pP	11 15 47.3	-0.9
	1.1nm,0.5s,baz=193,slow=9.2,SNR=5.8						
ZAL	**Zalesovo**	**52.40**	**351**	P	**P**	**11 16 26.3**	**+0.4**
	2.9nm,0.6s,mb4.4,baz=320,slow=5.8,SNR=11						
CHKZ	**Chkalovo**	**55.49**	**342**	*e*P	**P**	**11 16 48.7**	**+0.2**
	2.4nm,0.7s,mb4.3						
CHKZ				*e*pP	pP	11 16 57.2	-0.8

*ISCJB **24** 11:12:49.6±1.6, 4524N±007×1483E±005, h7km, Error ellipse: s-maj=10.7km s-min=5.5km az=8.2*
*CSEM **24** 11:12:50.4±0.4, 4525N×1481E, h2km, ML1.5, Error ellipse: s-maj=6.8km s-min=3.3km az=2.0*
*VIE **24** 11:12:50.5±0.5, 4527N×1481E, h7km, mb1.8/1, ML2.5/1, Error ellipse: s-maj=2.9km s-min=1.6km az=175.0 32 km ESE of Rijeka*
*LJU **24** 11:12:50.7, 4528N×1482E, h8km, ML1.5*
ISC 24 11:12:49.8±1.9, **4521N**±008×**1484E**±006, **h7**km, **n9, σ0§76/17, 4C-1D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOJS	**Bojanci**	**0.41**	**44**	⇑*i*Pg	**Pg**	**11 12 58.5**	**+0.7**
BOJS				*i* Sg	**Sg**	**11 13 03.9**	**+0.7**
BOJS							
	comp=Z,80nm,0.5s						
BOJS	**Bojanci**	**0.41**	**44**	⇑*i*Pg	**Pg**	**11 12 58.5**	**+0.7**
BOJS				*i* Sg	**Sg**	**11 13 03.9**	**+0.6**
	comp=Z,80nm,0.5s						
KNDS	**Knezji Dol**	**0.46**	**315**	⇑*i*Pg	**Pg**	**11 12 58.6**	**-0.1**
KNDS				*i* Sg	**Sg**	**11 13 03.2**	**-1.4**
CEY	**Cerknica**	**0.61**	**331**	*i* Pg	**Pg**	**11 13 01.0**	**-0.5**
CEY				*i* Sg	**Sg**	**11 13 09.3**	**-0.1**
PDKS	**Podkum**	**0.86**	**7**	*i* Pg	**Pg**	**11 13 05.9**	**-0.4**
PDKS				*i* Sg	**Sg**	**11 13 17.1**	**-0.4**
VOY	**Vojsko**	**1.06**	**321**	*e*Pg	**Pg**	**11 13 10.3**	**+0.2**
VOY				*e*		11 13 11.9	
VOY				*e*Sg	**Sg**	**11 13 25.1**	**+1.2**
OBKA	**Obir**	**1.32**	**351**	⇑*i*Pg	**Pg**	**11 13 14.3**	**-0.8**
OBKA				⇓*i*Sg	**Sg**	**11 13 31.9**	**-0.3**
	comp=Z,22nm,0.3s						
ROBS	**Robic**	**1.40**	**319**	*e*Pg	**Pg**	**11 13 16.6**	**+0.1**
ROBS				*e*Sg	**Sg**	**11 13 36.5**	**+1.8**
PERS	**Pernice**	**1.44**	**8**	*e*Pg	**Pg**	**11 13 17.0**	**-0.4**

*ISCJB **24** 11:16:57.2±0.5, 4834N±004×666E±003, h10km, Error ellipse: s-maj=6.2km s-min=2.9km az=171.1*
*STR **24** 11:16:57.9±0.1, 4831N×667E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **24** 11:16:58.2±0.1, 4833N×667E, h2km, Md2.1/3, Ml2.2/2, Error ellipse: s-maj=1.2km s-min=0.8km az=2.0*
ISC 24 11:16:57.9±0.5, **4833N**±004×**667E**±003, **h10**km, **n10, σ0§34/17, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.35**	**110**	Pg	**Pg**	**11 17 04.9**	**+0.2**
ECH				Sg	**Sg**	**11 17 09.5**	**+0.1**
HAU	**Haudompre**	**0.39**	**213**	*e*Pg	**Pg**	**11 17 05.8**	**+0.2**
HAU				*e*Sg	**Sg**	**11 17 11.1**	**+0.3**
	4.8nm,0.2s						
CDF	**Champ du Feu**	**0.41**	**79**	*e*Pg	**Pg**	**11 17 06.2**	**+0.2**
CDF				*e*Sg	**Sg**	**11 17 11.8**	**+0.4**
	7.8nm,0.3s						
WLS	**Welschbruch**	**0.46**	**80**	Pg	**Pg**	**11 17 07.1**	**+0.2**
WLS				Sg	**Sg**	**11 17 13.3**	**+0.3**
THEF	**They Montfort**	**0.47**	**257**	Pg	**Pg**	**11 17 07.0**	**0.0**
THEF				Sg	**Sg**	**11 17 13.1**	**-0.1**
HINF	**Hinteralfeld**	**0.53**	**167**	*e*Pg	**Pg**	**11 17 08.2**	**0.0**
HINF				*e*Sg	**Sg**	**11 17 15.0**	**-0.2**
	3.8nm,0.1s						
RFYF	**Reffroy**	**0.85**	**291**	*e*Pg	**Pg**	**11 17 14.0**	**-0.2**
MEZF	**Maizieres J'vi**	**1.09**	**279**	*e*Sg	**Sg**	**11 17 33.2**	**+0.2**
	4.8nm,0.3s						
SFTF	**Sexfontaines**	**1.10**	**264**	*e*Pg	**Pg**	**11 17 18.7**	**-0.3**
SFTF				*e*Sg	**Sg**	**11 17 33.1**	**-0.1**
	8.3nm,0.3s						
BFO	**Black Forest**	**1.11**	**90**	*e*Sg	**Sg**	**11 17 32.4**	**-1.1**

IDC 24 11:38:13.9±4.7, **949S**×**10812E, h0**km, **mb3.5/3, mb1 3.6/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=213.5km s-min=31.2km az=52.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**28.38**	**123**	P	P	11 44 10.2	+0.4
	0.2nm,0.7s,baz=298,slow=9.7,SNR=4.5						
SONM	**Songino Array**	**57.09**	**359**	P	P	11 48 02.2	+0.2
	0.7nm,0.8s,baz=165,slow=8.7,SNR=4.2						
MKAR	**Makanchi Array**	**60.58**	**340**	P	P	11 48 26.2	0.0
	0.7nm,0.7s,baz=131,slow=5.0,SNR=7.3						

*ISCJB **24** 11:41:28.2±0.5, 97S±01×1076E±01, h10km, mb4.7/40, MS3.7/3, Error ellipse: s-maj=19.3km s-min=7.2km az=90.0*
*IDC **24** 11:41:28.5±0.7, 963S×10756E, h0km, mb4.3/10, mb1 4.4/12, mb1mx4.2/20, mbtmp4.3/12, ML3.8/2, MS3.5/5, Ms1 3.5/5, ms1mx3.2/23, Error ellipse: s-maj=27.0km s-min=14.6km az=53.0*
*MOS **24** 11:41:29.9±1.2, 966S×108.12E, h33km, mb5.1/12, Error ellipse: s-maj=21.0km s-min=9.0km az=108.9*
*BJI **24** 11:41:30.2, 960S×10760E, h10km, mB5.0, mb4.9*
*NEIC **24** 11:41:30.2±0.4, 964S×10761E, h10km, mb5.2/11, Error ellipse: s-maj=17.0km s-min=5.7km az=45.0*
ISC 24 11:41:30.0±0.5, **97S**±01×**1075E**±01, **h10**km, **(h33**km±5.5km**:pP-P), n63

MKAR	**Makanchi Array**	**60.60**	**340**	P		**P**		**11 51 40.7**	**-0.1**
KLR	**Kul'dur**	**62.42**	**18**	*e*P		**P**		**11 51 48.3**	**-4.8**
YSS	**Yuzh-Sakhalins**	**64.55**	**26**⇑	*i*P		**P**		**11 52 02.0**	**-5.2**
YSS				pmax	pmax				
	comp=Z,20nm,1.6s,mb4.9								
MAW	**Mawson**	**64.95**	**197**	P		**P**		**11 52 09.9**	**0.0**
	comp=Z,1.3nm,0.5s,mb4.2,baz=62,slow=5.9,SNR=8.5								
KURK	**Kurchatov**	**65.21**	**340**	*d* iP		**P**		**11 52 11.5**	**0.0**
KURK	**Kurchatov**	**65.21**	**340**	*e*P		**P**		**11 52 11.3**	**-0.2**
	comp=Z,10nm,1.0s,mb4.8								
ZAL	**Zalesovo**	**66.26**	**346**	P		**P**		**11 52 17.6**	**-0.7**
	comp=Z,1.7nm,0.3s,mb4.5,baz=328,slow=3.8,SNR=6.0								
BOD	**Bodaibo**	**67.49**	**4**	*e*P		**P**		**11 52 24.7**	**-1.5**
BOD				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb4.4								
VOSK	**Vostochnaya**	**69.59**	**337**	P		**P**		**11 52 37.6**	**-1.7**
VOSK				pmax	pmax				
	comp=Z,14nm,1.7s,mb4.6								
BVA0	**Borovoye Array**	**70.05**	**337**	P		**P**		**11 52 41.6**	**-0.5**
BVA0				pmax	pmax				
	comp=Z,1.0nm,0.8s,mb3.8								
KMBO	**Kilima Mbogo**	**70.39**	**272**⇑	*e*P		pP		11 52 51.7	+4.3
CHKZ	**Chkalovo**	**70.47**	**338**	*i* P		**P**		**11 52 43.7**	**-1.0**
CHKZ				pmax	pmax				
	comp=Z,8.0nm,0.8s,mb4.7								
CHKZ	**Chkalovo**	**70.47**	**338**	*e*P		**P**		**11 52 44.6**	**0.0**
	comp=Z,6.4nm,0.6s,mb4.7								
ZRNK	**Zerenda**	**70.53**	**336**	*i* P		**P**		**11 52 44.2**	**-0.8**
ZRNK				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.4								
ZRNK	**Zerenda**	**70.53**	**336**	*e*P		**P**		**11 52 44.8**	**-0.2**
	comp=Z,12nm,1.2s,mb4.7								
AB31	**Akbulak array**	**72.00**	**329**	*i* P		**P**		**11 52 53.4**	**-0.5**
AB31				pmax	pmax				
	comp=Z,10.0nm,0.7s,mb4.8								
YAK	**Yakutsk**	**73.57**	**11**⇑	*i* P		**P**		**11 52 58.6**	**-4.7**
YAK				pmax	pmax				
	comp=Z,17nm,0.8s,mb5.0								
AKTO	**Aktyubinsk**	**73.71**	**330**	*i* P		**P**		**11 53 02.1**	**-2.0**
AKTO				pmax	pmax				
	comp=Z,1.0nm,1.1s,mb3.7								
SVE	**Sverdlovsk**	**76.68**	**336**	*e*P		**P**		**11 53 20.7**	**-0.5**
SVE				pmax	pmax				
	comp=Z,48nm,1.8s,mb5.1								
ARU	**Arti**	**77.28**	**335**⇓	*i* P		**P**		**11 53 24.4**	**-0.2**
ARU				*e*				11 53 35.3	
ARU				*e*				11 56 18.8	
ARU				*e*S		S		12 03 13.2	-1.2
ARU				*e*SS		SS		12 08 14.2	+1.8
ARU				pmax	pmax				
	comp=Z,15nm,0.9s,mb4.9								
BOSA	**Boshof**	**78.69**	**243**	LR		LR		12 22 51.6	
	comp=Z,90nm,20.3s,MS4.1,baz=3.4,slow=32								
TIXI	**Tiksi**	**82.41**	**7**	*e*P		**P**		**11 53 49.2**	**-3.2**
TIXI				pmax	pmax				
	comp=Z,8.0nm,0.7s,mb4.8								
VRHR	**Novokhopersk**	**82.89**	**325**	*e*P		**P**		**11 53 54.6**	**-0.3**
VRHR				pmax	pmax				
	comp=Z,20nm,0.8s,mb5.2								
VRHR				pmax	pmax				
	comp=N,10.0nm,0.5s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.6s								
BRTR	**Keskin Array B**	**84.02**	**312**	P		**P**		**11 54 00.6**	**-0.1**
	comp=E,2.0nm,0.8s,mb4.3,baz=128,slow=5.7,SNR=10								
VRSR	**Storozhevoye**	**84.34**	**324**	*e*P		**P**		**11 54 02.3**	**0.0**
VRSR				pmax	pmax				
	comp=Z,10.0nm,1.0s,mb4.9								
VRSR				pmax	pmax				
	comp=N,4.0nm,0.8s								
VRSR				pmax	pmax				
	comp=E,10.0nm,0.7s								
OBN	**Obninsk**	**87.27**	**327**	*c i*P		**P**		**11 54 17.0**	**+0.1**
OBN				pmax	pmax				
	comp=Z,30nm,1.9s,mb5.2								
KLMR	**Klimovskoe**	**88.02**	**333**	*e*P		**P**		**11 54 18.5**	**-1.9**
KLMR				pmax	pmax				
	comp=Z,30nm,1.4s,mb5.3								
AKASG	**Malin Array Be**	**90.13**	**321**	*i* P		**P**		**11 54 30.8**	**+0.4**
NVAR	**Mina Array Bea**	**130.02**	**47**	PKP		PKPdf		12 00 40.0	0.0
	comp=Z,0.4nm,0.7s,baz=224,slow=1.8,SNR=3.9								
BDFB	**Brasilia**	**145.07**	**224**	PKPbc		PKPbc		12 01 08.7	+1.6
	comp=Z,1.5nm,0.4s,baz=187,slow=7.2,SNR=3.8								

*IDC **24** 12:24:50.7±1.2,5103N×17250W,h0km,mb4.3/14, mb1 4.4/14,mb1mx4.3/23,mbtmp4.3/14,MS3.3/4, Ms1 3.3/4,ms1mx2.9/29,Error ellipse: s-maj=33.2km s-min=17.0km az=9.0*

*BJI **24** 12:24:50.2,5190N×17186W,h12km,mB5.0,mb4.9,Ms4.5, Msz4.4*

*ISCJB **24** 12:24:51.4±2.6,5096N±006×17246W±006,h13km±16km, mb4.4/31,MS3.7/6,Error ellipse: s-maj=10.0km s-min=5.5km az=48.0*

*NEIC **24** 12:24:52.1±0.4,5095N×17248W,h10km,mb4.6/14, ML3.8(AEIC),Error ellipse: s-maj=9.3km s-min=5.6km az=184.0*

*MOS **24** 12:24:59.6±0.7,5196N×17290W,h33km,mb4.8/11,Error ellipse: s-maj=28.3km s-min=10.0km az=85.0*

ISC 24 12:24:53.3±3.0,5100N±006×17251W±006,h17km±18km, n143,σ0§69/144,mb4.4/31,MS3.7/6,23C-29D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.60**	**319**	P	**Pn**	**12 25 20.2**	**-0.6**
ATKA				S	**Sn**	**12 25 41.7**	**+0.7**
NIKO	**Nikolski**	**3.00**	**47**	P	**Pn**	**12 25 41.1**	**+1.1**
NIKO				S	**Sn**	**12 26 15.8**	**+0.2**
OKCE	**Okmok Cone E**	**3.61**	**46**	P	**Pn**	**12 25 49.0**	**+0.5**
OKCD	**Okmok Cone D**	**3.64**	**46**	P	**Pn**	**12 25 49.9**	**+1.1**
AKUT	**Akutan**	**5.17**	**50**	*e*P	**Pn**	**12 26 10.1**	**+0.3**
KDAK	**Kodiak Island**	**13.41**	**52**	Pn	**Pn**	**12 27 59.8**	**-3.0**
	1.4nm,0.3s,baz=138,slow=22,SNR=5.9						
SVW2	**Sparrevohn**	**13.80**	**36**	*e*P	**Pn**	**12 28 09.9**	**+1.8**
PMR	**Palmer**	**16.65**	**41**	*e*P	**Pn**	**12 28 43.8**	**-2.0**
IMA2	**Indian Mountai**	**17.89**	**25**	*e*P	**Pn**	**12 29 01.3**	**0.0**
COLA	**College**	**18.90**	**33**	*e*P	**Pn**	**12 29 11.0**	**-2.7**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
COLA	**College**	**18.90**	**33**	*e*P	**Pn**	**12 29 11.0**	**-2.6**
	comp=Z,4.5nm,0.6s						
SKAG	**Skagway**	**22.56**	**54**	*e*P	**P**	**12 29 53.0**	**+0.4**
INK	**Inuvik**	**25.56**	**33**	P	**P**	**12 30 20.3**	**-1.0**
	comp=Z,6.3nm,0.4s,mb4.5,baz=245,slow=8.3,SNR=23						
INK	**Inuvik**	**25.56**	**33**	*e*P	**P**	**12 30 20.9**	**-0.4**
INK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
INK	**Inuvik**	**25.56**	**33**	*e*P	**P**	**12 30 20.9**	**-0.4**
	comp=Z,10nm,0.7s,mb4.5						
B05A	**Bryant**	**32.25**	**75**	⇑P	**P**	**12 31 20.9**	**+0.1**
	baz=32						
YKA	**Yellowknife Ar**	**32.61**	**47**	P	**P**	**12 31 24.5**	**+0.5**
	comp=Z,2.7nm,0.4s,mb4.5,baz=269,slow=7.7,SNR=17						
YKA				LR	LR	12 45 29.1	
	comp=Z,34nm,18.6s,MS3.1,baz=270,slow=38						
F04A	**Amboy**	**33.07**	**79**	⇑P	**P**	**12 31 28.1**	**+0.1**
	baz=33						
H04A	**Detroit Lake**	**33.80**	**81**	⇑P	**P**	**12 31 34.9**	**+0.5**
	baz=34						
H05A	**Madras**	**34.41**	**80**	⇓P	**P**	**12 31 40.0**	**+0.3**
	baz=34						
J05A	**Fort Rock**	**35.09**	**82**	⇓P	**P**	**12 31 45.9**	**+0.3**
	baz=35						
N02C	**Big Bar**	**35.11**	**87**	⇓P	**P**	**12 31 47.0**	**+1.3**
	baz=35						
NEW	**Newport**	**35.27**	**72**	P	**P**	**12 31 45.0**	**-2.0**
	comp=Z,2.0nm,0.5s,mb4.3,baz=313,slow=8.7,SNR=4.6						
I06A	**Prineville**	**35.40**	**81**	⇑P	**P**	**12 31 48.7**	**+0.5**
	baz=35						
J06A	**Christmas Vall**	**35.79**	**82**	⇓P	**P**	**12 31 51.9**	**+0.3**
	baz=36,SNR=6.8						
K06A	**Valley Falls**	**35.97**	**82**	⇓P	**P**	**12 31 53.6**	**+0.5**
	baz=36						
L05A	**Lakeview**	**36.00**	**84**	⇑P	**P**	**12 31 54.1**	**+0.7**
	baz=36						
J07A	**Hines**	**36.26**	**81**	⇓P	**P**	**12 31 56.4**	**+0.8**
	baz=36						
M06C	**Likely Place G**	**36.68**	**85**	⇓P	**P**	**12 31 59.3**	**+0.1**
	baz=36						
O04C	**Chester**	**36.79**	**86**	⇓P	**P**	**12 31 59.5**	**-0.6**
	baz=37						
L07A	**Adell**	**36.95**	**83**	⇓P	**P**	**12 32 02.2**	**+0.7**
	baz=37						
WVOR	**Wild Horse Val**	**37.17**	**82**	*e*P	**P**	**12 32 03.7**	**+0.4**
WVOR				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
WVOR	**Wild Horse Val**	**37.17**	**82**	*e*P	**P**	**12 32 03.7**	**+0.4**
	comp=Z,13nm,0.9s,mb4.8						
N06A	**Buffalo Meadow**	**37.34**	**85**	⇓P	**P**	**12 32 05.1**	**+0.3**
	baz=37						
M07A	**Soldier Meadow**	**37.40**	**84**	⇓P	**P**	**12 32 05.8**	**+0.5**
	baz=37,SNR=7.2						
O06A	**Flanigan**	**37.67**	**86**	⇑P	**P**	**12 32 07.8**	**+0.2**
	baz=38						
L09A	**Wilkinson Ranc**	**38.00**	**82**	P	**P**	**12 32 11.0**	**+0.7**
	baz=38,SNR=7.2						
WCN	**Washoe City**	**38.21**	**87**	⇓P	**P**	**12 32 11.7**	**-0.4**
	baz=38						
O07A	**Toulon**	**38.27**	**85**	⇓P	**P**	**12 32 13.4**	**+0.7**
	baz=38						
M09A	**Marrel Ranch,**	**38.46**	**82**	⇓P	**P**	**12 32 14.1**	**-0.2**
	baz=38						
PACP	**Pacheco Peak**	**38.62**	**91**	⇓P	**P**	**12 32 15.3**	**-0.3**
	baz=38						
N09A	**Rock Creek Ran**	**38.74**	**83**	⇓P	**P**	**12 32 16.4**	**-0.2**
	baz=39						
S06C	**San Francisco**	**39.00**	**89**	⇑P	**P**	**12 32 19.2**	**+0.4**
	baz=39						
O09A	**Fish Creek Ran**	**39.33**	**84**	⇓P	**P**	**12 32 21.8**	**+0.3**
	baz=39						
MCMT	**McKenzie Canyo**	**39.49**	**75**	*e*P	**P**	**12 32 22.4**	**-0.5**
M11A	**Holland Ranch,**	**39.49**	**81**	⇑P	**P**	**12 32 22.9**	**0.0**
	baz=39,SNR=5.2						
Q08A	**Gabbs**	**39.62**	**86**	⇓P	**P**	**12 32 24.1**	**+0.1**
	baz=40						
NVAR	**Mina Array Bea**	**39.64**	**87**	P	**P**	**12 32 24.5**	**+0.3**
	comp=Z,1.1nm,0.8s,mb3.7,baz=294,slow=7.8,SNR=8.8						
NVAR				PcP	PcP	12 34 30.4	-0.5
	comp=Z,0.8nm,0.8s,baz=227,slow=1.6,SNR=5.5						
NVAR	**Mina Array Bea**	**39.64**	**87**	P	**P**	**12 32 24.5**	**+0.3**
NVAR				PcP	PcP	12 34 30.4	-0.5
KCC	**Kaseki Creek**	**39.67**	**89**	⇓P	**P**	**12 32 24.2**	**-0.2**
	baz=40						
EGMT	**Eagleton**	**39.77**	**69**	*e*P	**P**	**12 32 24.6**	**-0.6**
	comp=Z,4.8nm,0.8s,mb4.3						
BOZ	**Bozeman (W)**	**39.82**	**73**	*e*P	**P**	**12 32 24.7**	**-0.9**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
BOZ	**Bozeman (W)**	**39.82**	**73**	*e*P	**P**	**12 32 24.7**	**-0.8**
	comp=Z,2.4nm,0.7s,mb4.0						
M12A	**Wells**	**40.05**	**81**	⇑P	**P**	**12 32 28.1**	**+0.6**
	baz=40						
P10A	**Eureka**	**40.10**	**84**	⇑P	**P**	**12 32 28.7**	**+0.7**
	baz=40						
N12A	**Clover Valley,**	**40.29**	**82**	P	**P**	**12 32 29.9**	**+0.4**
	baz=40,SNR=8.6						
O11A	**Cowboy Ranch,**	**40.31**	**83**	⇑P	**P**	**12 32 29.8**	**+0.1**
	baz=40						
R09A	**Tonopah**	**40.53**	**86**	⇑P	**P**	**12 32 31.5**	**-0.1**
	baz=40,SNR=5.6						
M13A	**Montello**	**40.55**	**80**	⇑P	**P**	**12 32 31.0**	**-0.6**
	baz=40						
S09A	**Goldfield**	**40.75**	**87**	⇑P	**P**	**12 32 33.3**	**-0.1**
	baz=41						
O12A	**Currie**	**40.80**	**82**	P	**P**	**12 32 34.0**	**+0.2**
	baz=41,SNR=16						
N13A	**Wendover, West**	**40.81**	**81**	⇓P	**P**	**12 32 33.4**	**-0.4**
	baz=41						
CWC	**Cedarwood Cre**	**40.99**	**89**	⇓P	**P**	**12 32 35.0**	**-0.4**
	baz=41						
Q11A	**Duckwater**	**41.07**	**84**	⇑P	**P**	**12 32 36.0**	**+0.1**
	baz=41						
IMW	**Indian Meadow**	**41.15**	**75**	*e*P	**P**	**12 32 36.8**	**+0.2**
	comp=Z,1.6nm,0.6s,mb3.8						
P12A	**McGill**	**41.17**	**83**	⇓P	**P**	**12 32 36.8**	**+0.1**
	baz=41						
ISA	**Isabella**	**41.23**	**90**	⇑P	**P**	**12 32 36.9**	**-0.3**
	baz=41						
BOD	**Bodaibo**	**41.34**	**309**	*e*P	**P**	**12 32 35.8**	**-2.3**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.8						
Q12A	**Willow Creek R**	**41.47**	**84**	⇑P	**P**	**12 32 39.5**	**+0.3**
	baz=41						
CN2	**Changchun**	**41.49**	**285**	*e*P	**P**	**12 32 41.8**	**+2.4**
DUG	**Dugway**	**42.05**	**81**	*e*P	**P**	**12 32 43.8**	**-0.2**
DUG				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3						
DUG	**Dugway**	**42.05**	**81**	*e*P	**P**	**12 32 43.8**	**-0.3**
	comp=Z,8.7nm,1.1s,mb4.3						
GSC	**Goldstone**	**42.51**	**89**	⇓P	**P**	**12 32 47.6**	**-0.2**
	baz=42						
PDAR	**Pinedale Array**	**42.61**	**76**	P	**P**	**12 32 48.1**	**-0.4**
	comp=Z,5.2nm,0.8s,mb4.3,baz=315,slow=4.2,SNR=46						
DAU	**Daniels Canyon**	**42.90**	**80**	*e*P	**P**	**12 32 51.6**	**+0.7**
TUQ	**Turquoise Mtn.**	**42.98**	**89**	⇓P	**P**	**12 32 51.2**	**-0.4**
	baz=43						
V11A	**Goodsprings**	**43.04**	**88**	⇑P	**P**	**12 32 51.6**	**-0.4**
	baz=43						
CCUT	**Cedar City**	**43.28**	**84**	*e*P	**P**	**12 32 54.0**	**0.0**
V12A	**Nelson**	**43.48**	**88**	⇓P	**P**	**12 32 55.8**	**+0.2**
	baz=43						
PFO	**Pinyon Flat Ob**	**43.82**	**91**	⇓P	**P**	**12 32 57.4**	**-0.9**
	baz=44						
SRU	**San Rafael**	**44.12**	**81**	*e*P	**P**	**12 33 00.4**	**-0.3**
SRU				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
SRU	**San Rafael**	**44.12**	**81**	*e*P	**P**	**12 33 00.4**	**-0.4**
	comp=Z,10nm,0.8s,mb4.6						
W13A	**Hualapai Mount**	**44.48**	**87**	⇓P	**P**	**12 33 03.2**	**-0.4**
	baz=44						
W14A	**Seligman**	**44.92**	**87**	⇓P	**P**	**12 33 06.7**	**-0.5**
	baz=45						
Y12C	**Blythe**	**44.95**	**89**	⇓P	**P**	**12 33 06.8**	**-0.6**
	baz=45						
GLA	**Glamis**	**45.22**	**90**	⇑P	**P**	**12 33 09.6**	**+0.1**
	baz=45						
W15A	**Williams**	**45.45**	**86**	⇑P	**P**	**12 33 11.5**	**+0.2**
	baz=45						
PV10	**Paradox Valley**	**45.49**	**80**	*e*P	**P**	**12 33 11.7**	**0.0**
X14A	**Yava**	**45.52**	**87**	⇑P	**P**	**12 33 11.7**	**-0.2**
	baz=45						
X15A	**Humboldt**	**45.91**	**87**	⇑P	**P**	**12 33 14.4**	**-0.6**
	baz=46						
PV01	**Paradox Valley**	**45.93**	**80**	*e*P	**P**	**12 33 14.2**	**-0.9**
ULM	**Lac du Bonnet**	**46.52**	**59**	P	**P**	**12 33 19.2**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=302,slow=9.5,SNR=2.7						
ULM	**Lac du Bonnet**	**46.52**	**59**	P	**P**	**12 33 19.2**	**-0.6**
MVCO	**Mesa Verde**	**46.54**	**81**	*e*P	**P**	**12 33 19.4**	**-0.5**
115A	**Sonoran Desert**	**47.09**	**89**	⇑P	**P**	**12 33 23.9**	**-0.3**
	baz=47						
SONM	**Songino Array**	**50.31**	**300**	P	**P**	**12 33 49.0**	**0.0**
	comp=Z,1.8nm,0.7s,mb4.2,baz=50,slow=7.9,SNR=9.2						
NJ2	**Nanjing**	**52.79**	**277**	*e*P	**P**	**12 34 12.0**	**+4.5**
NJ2				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.0						
SCHQ	**Schefferville**	**57.76**	**41**	P	**P**	**12 34 43.2**	**-0.2**
	comp=Z,4.5nm,0.8s,mb4.5,baz=332,slow=7.1,SNR=6.5						
SCHQ				LR	LR	13 03 17.7	
	comp=Z,25nm,18.3s,MS3.4,baz=151,slow=40						
SCHQ	**Schefferville**	**57.76**	**41**	P	**P**	**12 34 43.2**	**-0.2**
SCHQ				LR	LR	13 03 17.7	
ARCES	**ARCESS Array B**	**59.05**	**353**	P	**P**	**12 34 51.3**	**-1.1**
	comp=Z,4.0nm,0.7s,mb4.5,baz=17,slow=7.4,SNR=9.0						
LZH	**Lanzhou**	**59.26**	**291**	*e*P	**P**	**12 34 53.8**	**0.0**
LZH				AP	pP	12 35 05.3	+6.1
LZH				XP	sP	12 35 08.9	+7.6
LZH				PP	PP	12 37 06.8	+2.1
LZH				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,57nm,7.8s						
LZH				LR	LR		
	comp=N,217nm,15.4s						
LZH				LR	LR		
	comp=Z,298nm,18.2s,MS4.5						
WMQ	**Urumqi**	**62.81**	**307**	P	**P**	**12 35 19.9**	**+2.0**
CD2	**Chengdu**	**62.91**	**286**	*e*P	**P**	**12 35 18.0**	**-0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.1						
MKAR	**Makanchi Array**	**63.30**	**312**	P	**P**	**12 35 20.4**	**-0.8**
	comp=Z,2.6nm,0.7s,mb4.5,baz=46,slow=6.9,SNR=20						
ZRNK	**Zerenda**	**64.23**	**324**	*e*P	**P**	**12 35 27.1**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**64.23**	**324**	*e*P	**P**	**12 35 27.1**	**-0.2**
	comp=Z,3.6nm,0.6s,mb4.6						
FINES	**FINESS Array B**	**66.92**	**350**	P	**P**	**12 35 44.0**	**-0.8**
	comp=Z,1.8nm,0.7s,mb4.2,baz=25,slow=7.4,SNR=8.0						
KMI	**Kunming**	**67.69**	**283**	P	**P**	**12 35 53.4**	**+3.8**
KMI				AP	pP	12 36 03.4	+8.4
KMI				PP	PP	12 38 23.0	+4.2
KMI				S	S	12 44 47.3	+1.0
KMI				XS	sS	12 45 03.6	+8.3
KMI				SS	SS	12 49 07.0	-0.3
KMI				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
KMI				AMB	AMB		
	comp=Z,97nm,4.7s						
KMI				LR	LR		
	comp=N,128nm,11.5s,MS4.5						
KMI				LR	LR		
	comp=E,145nm,13.6s,MS4.5						
KMI				LR	LR		
	comp=Z,160nm,7.6s						
NB2	**NORSAR Subarra**	**68.27**	**358**	P	**P**	**12 35 53.0**	**-0.2**
	comp=Z,1.6nm,0.5s,mb4.3,baz=3.8,slow=6.9						
NOA	**NORSAR Array B**	**68.27**	**358**	P	**P**	**12 35 53.2**	**0.0**
	comp=Z,1.8nm,0.6s,mb4.3,baz=2.6,slow=6.4,SNR=9.9						
NOA				LR	LR	13 04 18.8	
	comp=Z,13nm,21.2s,MS3.1,baz=135,slow=35						
NOA	**NORSAR Array B**	**68.27**	**358**	P	**P**	**12 35 53.2**	**0.0**
NOA				LR	LR	13 04 18.8	
AKASG	**Malin Array Be**	**77.00**	**346**	P	**P**	**12 36 44.2**	**-1.0**
	comp=Z,2.5nm,0.6s,mb4.3,baz=14,slow=5.9,SNR=11						
AKASG	**Malin Array Be**	**77.00**	**346**	P	**P**	**12 36 44.2**	**-1.0**
KHC	**Kasperske Hory**	**80.11**	**356**	*e*P	**P**	**12 37 03.0**	**+0.7**
GERES	**GERESS Array B**	**80.39**	**356**	P	**P**	**12 37 03.9**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=32,slow=7.8,SNR=6.9						
GERES				LR	LR	13 12 35.6	
	comp=Z,35nm,18.3s,MS3.8,baz=105,slow=36						
LDF	**La Druitiere**	**80.57**	**5**	*e*P	**P**	**12 37 04.5**	**-0.3**
ROSF	**Rostrenen**	**80.61**	**7**	*e*P	**P**	**12 37 05.6**	**+0.6**
GRR	**Gorron**	**80.73**	**6**	*e*P	**P**	**12 37 05.6**	**0.0**
CDF	**Champ du Feu**	**80.97**	**0**	*e*P	**P**	**12 37 07.1**	**+0.2**
SSF	**Saint Saulge**	**82.26**	**3**	*e*P	**P**	**12 37 13.9**	**+0.2**
	comp=Z,5.9nm,0.6s,mb4.4						
SSF	**Saint Saulge**	**82.26**	**3**	*e*P	**P**	**12 37 13.9**	**+0.2**
SSF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
SSF	**Saint Saulge**	**82.26**	**3**	*e*P	**P**	**12 37 13.9**	**+0.2**
	comp=Z,3.0nm,0.6s,mb4.4						
AVF	**Avril sur Loir**	**82.53**	**3**	*e*P	**P**	**12 37 15.1**	**0.0**
	comp=Z,7.8nm,0.8s,mb4.5						
AVF	**Avril sur Loir**	**82.53**	**3**	*e*P	**P**	**12 37 15.1**	**0.0**
AVF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
AVF	**Avril sur Loir**	**82.53**	**3**	*e*P	**P**	**12 37 15.1**	**0.0**
	comp=Z,3.9nm,0.8s,mb4.5						
MFF	**Saint Martin d**	**82.56**	**5**	*e*P	**P**	**12 37 15.5**	**+0.2**
	comp=Z,5.1nm,0.6s,mb4.4						
MFF	**Saint Martin d**	**82.56**	**5**	*e*P	**P**	**12 37 15.5**	**+0.2**
MFF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
MFF	**Saint Martin d**	**82.56**	**5**	*e*P	**P**	**12 37 15.5**	**+0.2**
	comp=Z,2.5nm,0.6s,mb4.4						
SMF	**Signal de Mont**	**82.68**	**3**	*e*P	**P**	**12 37 15.9**	**0.0**
CABF	**La Chapelle**	**82.76**	**1**	*e*P	**P**	**12 37 16.3**	**0.0**
LPL	**La Plagne**	**83.86**	**1**	*e*P	**P**	**12 37 22.4**	**+0.4**
LPG	**La Plagne**	**83.88**	**1**	*e*P	**P**	**12 37 22.4**	**+0.3**
	comp=Z,6.9nm,0.8s,mb4.5						
LPG	**La Plagne**	**83.88**	**1**	*e*P	**P**	**12 37 22.4**	**+0.3**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
LPG	**La Plagne**	**83.88**	**1**	*e*P	**P**	**12 37 22.4**	**+0.3**
	comp=Z,3.5nm,0.8s,mb4.5						
MBDF	**Montbardon**	**84.65**	**1**	*e*P	**P**	**12 37 26.5**	**+0.5**
	comp=Z,9.6nm,0.7s,mb4.7						
MBDF	**Montbardon**	**84.65**	**1**	*e*P	**P**	**12 37 26.5**	**+0.5**
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
MBDF	**Montbardon**	**84.65**	**1**	*e*P	**P**	**12 37 26.5**	**+0.5**
	comp=Z,4.8nm,0.7s,mb4.7						
LASF	**Ste Croix**	**85.25**	**3**	*e*P	**P**	**12 37 29.2**	**+0.2**
SBF	**Sospel**	**85.52**	**0**	*e*P	**P**	**12 37 30.5**	**+0.1**
MTLF	**Montolieu**	**85.93**	**4**	*e*P	**P**	**12 37 32.5**	**+0.1**
LMR	**La Mourre**	**86.04**	**1**	*e*P	**P**	**12 37 32.6**	**-0.4**
HYB	**Hyderabad**	**88.01**	**295**	*i* P	**P**	**12 37 43.0**	**+0.5**
MAW	**Mawson**	**148.59**	**217**	PKPbc	PKPbc	12 44 38.2	-1.1
	comp=Z,1.6nm,0.6s,baz=4.0,slow=3.5,SNR=4.5						

*IDC **24** 12:54:16.1±2.5,9665N×10827E,h0km,mb3.8/5,mb1 3.8/6, mb1mx3.7/17,mbtmp3.7/6,ML3.3/1,Error ellipse: s-maj=106.9km s-min=20.1km az=51.0*

*NEIC **24** 12:54:17.1±2.0,9725N×10817E,h10km,mb4.3/2,Error ellipse: s-maj

KOLN	**Koldanda**	**59.94**	**294**	*e*P		**P**	**13 20 20.6**	**+0.2**
	comp=Z,13nm,1.0s,mb4.9							
ZAL	**Zalesovo**	**61.81**	**324**	P		**P**	**13 20 32.2**	**-0.9**
	comp=Z,0.9nm,0.7s,mb4.0,baz=24,slow=10,SNR=4.0							
MKAR	**Makanchi Array**	**62.03**	**315**	P		**P**	**13 20 34.2**	**-0.4**
	comp=Z,2.3nm,0.7s,mb4.5,baz=83,slow=9.9,SNR=19							
MKAR	**Makanchi Array**	**62.03**	**315**	P		**P**	**13 20 34.2**	**-0.4**
KURK	**Kurchatov**	**64.95**	**319**	*e*P		**P**	**13 20 52.6**	**-1.4**
	comp=Z,4.6nm,0.7s,mb4.6							
ZRNK	**Zerenda**	**71.05**	**321**	*e*P		**P**	**13 21 30.3**	**-2.0**
	comp=Z,4.2nm,1.1s,mb4.3							
NVAR	**Mina Array Bea**	**84.38**	**52**	P		**P**	**13 22 48.9**	**+2.3**
	comp=Z,0.5nm,0.6s,mb3.8,baz=266,slow=5.3,SNR=4.5							

IDC 24 13:19:01.9±7.5, 559N×9459E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=380.0km s-min=28.4km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**42.40**	**347**	P		**P**	13 26 57.9	-0.1
	0.6nm,0.5s,baz=170,slow=7.4,SNR=6.7							
WRA	**Warramunga Arr**	**46.60**	**124**	P		**P**	13 27 32.3	+0.6
	0.2nm,0.5s,baz=302,slow=9.8,SNR=4.1							
ASAR	**Alice Springs**	**48.14**	**129**	P		**P**	13 27 43.8	+0.2
	0.2nm,0.6s,baz=298,slow=7.8,SNR=5.2							

ISCJB 24 13:24:40.6±0.8, 1953S±007×693W±0.1, h120km±15km, mb3.4/1, Error ellipse: s-maj=22.3km s-min=8.5km az=138.5
NEIC 24 13:24:41.5±0.9, 1954S×6925W, h103km±11km, mb3.7/1, Error ellipse: s-maj=16.3km s-min=11.1km az=67.0
IDC 24 13:24:45.1±1.3, 1970S×6894W, h122km±11km, mb3.3/1, mb1 3.4/5, mb1mx3.2/20, mbtmp3.7/5, MS3.5/1, Ms1 3.5/1, ms1mx2.5/13, Error ellipse: s-maj=36.3km s-min=9.4km az=97.0

ISC 24 13:24:41.9±0.8, 1951S±007×693W±01, h108km±15km, n10, σ0§58/12, mb3.4/1, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**3.10**	**174**	P		**Pn**	**13 25 29.2**	**+0.1**
	34nm,0.3s,baz=346,slow=9.0,SNR=159							
LVC				S		**Sn**	**13 26 06.1**	**+0.6**
	23nm,0.3s,baz=343,slow=13,SNR=6.7							
LVC	**Limon Verde**	**3.10**	**174**	*e*Pn		**Pn**	**13 25 29.0**	**-0.1**
LVC				S		**Sn**	**13 26 06.2**	**+0.6**
LPAZ	**La Paz**	**3.38**	**19**	P		**Pn**	**13 25 38.1**	**+5.3**
	1.3nm,0.3s,baz=192,slow=7.9,SNR=31							
LPAZ				S		**Sn**	**13 26 20.6**	**+8.4**
	0.7nm,0.3s,baz=191,slow=23,SNR=3.6							
ARE	**Arequipa**	**3.71**	**325**	*e*P		**Pn**	**13 25 37.0**	**-0.2**
ARE				*e*S		**Sn**	**13 26 20.0**	**0.0**
SIV	**San Ignacio**	**8.54**	**67**	P		**Pn**	**13 26 43.1**	**+0.5**
	0.5nm,0.3s,baz=265,slow=9.8,SNR=14							
CPUP	**Villa Florida**	**12.91**	**124**	P		**Pn**	**13 27 40.0**	**-1.2**
	0.5nm,0.3s,baz=278,slow=14,SNR=5.7							
TRQA	**Tornquist**	**19.53**	**163**	*e*P		**P**	**13 29 00.4**	**-0.4**
	2.2nm,0.6s							
PLCA	**Paso Flores**	**21.18**	**183**	LR		LR	13 38 57.8	
	comp=Z,140nm,19.2s,baz=9.0,slow=41							
TORD	**Torodi Ar. Bea**	**77.00**	**71**	P		**P**	**13 36 23.6**	**+0.8**
	0.5nm,0.7s,mb3.4,baz=236,slow=6.8,SNR=4.9							
SONM	**Songino Array**	**151.53**	**6**	PKP		PKPdf	13 44 18.1	+1.1
	0.2nm,0.4s,baz=32,slow=2.6,SNR=2.2							
SONM				PKPbc		PKPbc	13 44 25.6	+2.3
	0.8nm,0.4s,baz=337,slow=0.8,SNR=5.7							

CASC 24 13:34:44.5±2.3, 1060N×8637W, h1km±5km, MD3.9, ML3.4, 4C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SSNN	**San Juan del S**	**0.85**	**37**	*e*P	Pg	13 35 01.1	+0.2
VCR	**Vista de Mar**	**0.87**	**123**	*e*P	Pg	13 35 01.9	+0.7
MADN	**Villa Maderas**	**1.15**	**46↑**	*e*P	Pg	13 35 06.4	-0.1
MADN				*e*S	Sg	13 35 23.7	+2.3
CONN	**Concepcion**	**1.20**	**37↑**	*e*P	Pg	13 35 07.1	-0.5
CONN				*e*S	Sg	13 35 25.7	+2.5
APON	**Apoyo**	**1.34**	**13**	*e*P	Pg	13 35 09.1	-1.1
TICN	**Ticuantepe**	**1.43**	**6**	*e*P	Pn	13 35 10.6	-0.9
JCR	**Jicaral**	**1.45**	**121**	*e*P	Pn	13 35 09.9	-1.9
JCR				*e*S	Sg	13 35 33.5	+2.5
TISN	**Laguna Tiscapa**	**1.53**	**4**	*e*P	Pn	13 35 11.9	-1.1
XAVN	**Gruta Xavier**	**1.54**	**2**	*e*P	Pn	13 35 11.4	-1.6
COPN	**Copaltepe**	**1.58**	**352↑**	*e*P	Pn	13 35 12.6	-1.0
COPN				*e*S	Sn	13 35 35.0	+0.3
APYN	**Apoyeque**	**1.62**	**1↓**	*e*P	Pn	13 35 13.5	-0.7
APYN				*e*S	Sn	13 35 38.6	+2.9
MIRN	**Miramar**	**1.86**	**350**	*e*P	Pn	13 35 17.9	+0.5
MIRN				*e*S	Sn	13 35 41.6	+0.1
MIRN				*i*		13 35 43.3	
	comp=Z,444nm,0.4s						
LEON	**Leon**	**1.87**	**344↑**	*e*P	Pn	13 35 16.7	-1.0
CNGN	**Cerro Negro**	**1.91**	**350**	*e*P	Pn	13 35 17.1	-1.1
CNGN				*e*S	Sn	13 35 43.4	+0.5
CGA2	**Cerro Gallo 2**	**1.96**	**107**	*e*P	Pn	13 35 18.9	0.0
PRS1	**Puriscal**	**2.12**	**107**	*e*P	Pn	13 35 21.0	-0.1
URSC	**Urasca**	**2.67**	**106**	*e*P	Pn	13 35 28.9	+0.4

KISR 24 13:55:05.2±1.3, 2847N×4913E, h33km, MD3.5, ML2.1, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QRN	**Al-Qurain**	**1.10**	**285**	*e*P	Pn	13 55 25.9	+1.7
QRN				*e*S	Sn	13 55 42.1	+3.9
QRN				AML	AML	13 55 45.0	
	comp=Z,58nm,0.3s						
RDF	**Al-Radifah**	**1.46**	**288**	*e*P	Pn	13 55 32.1	+3.0
RDF				*e*S	Sn	13 55 51.4	+4.3
RDF				AML	AML	13 55 58.1	
	comp=Z,32nm,0.5s						
UMR	**Umm Al-Rimmam**	**1.64**	**311**	*e*P	Pn	13 55 33.6	+2.0
UMR				AML	AML	13 55 59.3	
	comp=Z,27nm,0.5s						
NAY	**Al-Naaiem**	**1.82**	**296**	*e*P	Pn	13 55 37.6	+3.3
NAY				*e*S	Sn	13 56 01.4	+5.2
NAY				AML	AML	13 56 05.3	
	comp=Z,6.5nm,0.4s						

ISCJB 24 13:55:08.9±1.5, 4381N±006×764E±0.10, h12km±10km, Error ellipse: s-maj=13.4km s-min=8.5km az=68.0
STR 24 13:55:09.1±0.7, 4381N×765E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG 24 13:55:09.0±0.4, 4385N×770E, h2km, Md1.9/3, Ml1.9/2, Error ellipse: s-maj=5.5km s-min=3.7km az=91.0

ISC 24 13:55:08.8±1.8, 4381N±006×77E±01, h10km±11km, n8, σ0§40/15, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBF	**Sospel**	**0.19**	**285**	*e*Pg	**Pg**	**13 55 12.3**	**-0.6**
SBF				*e*Sg	**Sg**	**13 55 15.2**	**-0.4**
	41nm,0.2s						
SAOF	**Saorge**	**0.20**	**330**	Pg	**Pg**	**13 55 13.5**	**+0.5**
LUCF	**Luceram**	**0.26**	**288**	Pg	**Pg**	**13 55 13.8**	**-0.3**
LUCF				Sg	**Sg**	**13 55 17.7**	**0.0**
AUTN	**L'Aution**	**0.26**	**314**	Pg	**Pg**	**13 55 14.1**	**0.0**
AUTN				Sg	**Sg**	**13 55 17.4**	**-0.3**
TOUF	**Mont Tournerai**	**0.38**	**302**	Pg	**Pg**	**13 55 16.2**	**0.0**
TOUF				Sg	**Sg**	**13 55 22.0**	**+0.7**
FRF	**La Foret Royal**	**0.80**	**252**	*e*Pg	**Pg**	**13 55 24.6**	**+0.4**
FRF				*e*Sg	**Sg**	**13 55 34.1**	**-0.5**
	4.0nm,0.2s						
LMR	**La Mourre**	**0.98**	**241**	*e*Pg	**Pg**	**13 55 27.9**	**+0.2**
LMR				*e*Sg	**Sg**	**13 55 41.0**	**+0.5**
	3.4nm,0.3s						
SMRF	**Simiane la Rot**	**1.54**	**277**	*e*Pn	**Pn**	**13 55 35.8**	**-0.4**
SMRF				*e*Sg	**Sg**	**13 55 58.4**	**+0.1**
	2.1nm,0.4s						

ISCJB 24 14:04:29.9±1.6, 3545N±006×22.7E±02, h10km, Error ellipse: s-maj=27.1km s-min=9.1km az=172.1
CSEM 24 14:04:31.7±0.2, 3548N×2270E, h40km, MD3.1, Error ellipse: s-maj=6.9km s-min=2.3km az=83.0

ATH 24 14:04:37.4, 3606N×2360E, h10km, MD3.1/3
HLW 24 14:04:57.4, 3408N×2382E, h33km, Mb3.1

ISC 24 14:04:31.7±1.4, 3554N±006×228E±02, h10km, n7, σ0§47/7, 2C-1D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**0.76**	**13**	*e*PB	**Pg**	**14 04 47.1**	**+0.7**
VAM	**Vamos**	**1.13**	**96**	*e*PB	**Pb**	**14 04 53.0**	**-0.3**
VLI	**Veliai**	**1.18**	**4**	*e*PB	**Pb**	**14 04 53.5**	**-0.7**
SLUM		**4.50**	**153**	↑P	**Pn**	**14 05 40.5**	**+0.5**
HMAT	**Matruh**	**5.69**	**140**	↓P	**Pn**	**14 05 56.5**	**+0.2**
SWA2		**6.66**	**160**	↑P	**Pn**	**14 06 09.2**	**-0.4**
SWA1		**6.71**	**158**	P	**Pn**	**14 06 10.2**	**-0.1**

NNC 24 14:04:38.7±5.4, 3868N×6955E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=45.1km s-min=30.3km az=4.0
ISCJB 24 14:04:39.6±3.4, 387N±0.1×694E±0.1, h21km±36km, mb3.5/1, Error ellipse: s-maj=24.3km s-min=13.5km az=170.2

ISC 24 14:04:40.7±3.4, 386N±02×6944E±010, h17km±33km, n10, σ0§79/13, mb3.5/1, 4C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.56**	**10**	P	**Pn**	**14 05 49.2**	**+0.4**
	1.7nm,0.3s,baz=194,slow=12,SNR=54						
KK31				↑S	**Sn**	**14 06 41.9**	**+0.6**
	7.8nm,0.7s						
AML	**Almayashu**	**4.79**	**41**	P	**Pn**	**14 05 51.0**	**-0.9**
	SNR=12						
EKS2	**Erkin-Say**	**5.22**	**38**	P	**Pn**	**14 05 59.3**	**+1.5**
	SNR=7.3						
UCH	**Uchtor**	**5.29**	**45**	P	**Pn**	**14 05 59.5**	**+0.6**
	SNR=18						
KZA	**Kyzart**	**5.63**	**50**	P	**Pn**	**14 06 03.6**	**+0.1**
	SNR=29						
USP	**Ospenovka**	**6.02**	**38**	P	**Pn**	**14 06 09.0**	**+0.1**
	SNR=5.1						
TKM2	**Tokmak 2**	**6.35**	**45**	P	**Pn**	**14 06 13.1**	**-0.4**
	SNR=12						
TKM2	**Tokmak 2**	**6.35**	**45**	↑P	**Pn**	**14 06 11.3**	**-2.1**
TKM2	0.5nm,0.5s						
				↑S	**Sn**	**14 07 24.9**	**-0.6**
	1.3nm,0.9s						
AB31	**Akbulak array**	**12.63**	**330**	P	**Pn**	**14 07 38.5**	**-1.0**
	0.6nm,0.5s,baz=116,slow=6.7,SNR=15						
AB31				↑S	**Sn**	**14 09 59.5**	**-0.2**
	0.7nm,0.5s,baz=155,slow=22,SNR=3.7						
NB2	**NORSAR Subarra**	**41.95**	**322**	P	**P**	**14 12 31.0**	**+0.5**
	comp=Z,0.5nm,0.4s,mb3.5,baz=95,slow=8.6						

IDC 24 14:06:56.6±3.3, 965S×10879E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=133.7km s-min=24.6km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.70**	**115**	P	P	14 12 37.0	-0.5
	0.5nm,0.7s,baz=285,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**27.73**	**123**	P	P	14 12 48.2	+1.5
	0.2nm,0.8s,baz=304,slow=10.0,SNR=4.9						
SONM	**Songino Array**	**57.27**	**358**	P	P	14 16 45.9	-0.1
	0.5nm,0.5s,baz=179,slow=7.8,SNR=5.6						
MKAR	**Makanchi Array**	**60.97**	**339**	P	P	14 17 11.8	+0.2
	0.2nm,0.5s,baz=147,slow=6.8,SNR=4.7						

NEIC 24 14:11:55.1, 6033N×15342W, h175km, mb3.9/1, After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVW2	**Sparrevohn**	**1.31**	**307**	P	Pn	14 12 22.9	-2.0
SLKM	**Skilak Lake**	**1.60**	**82**	P	Pn	14 12 26.2	-1.4
FIB	**Fire Island**	**1.80**	**61**	P	Pn	14 12 29.0	-0.7
FIB				S	Sn	14 12 56.8	+0.4
RC01	**Rabbit Creek A**	**1.96**	**66**	P	Pn	14 12 29.9	-1.6
RC01				S	Sn	14 12 58.0	-1.5
SEW	**Seward**	**2.00**	**95**	P	Pn	14 12 30.8	-1.0
PMR	**Palmer**	**2.44**	**57**	P	Pn	14 12 34.8	-2.1
PMR				S	Sn	14 13 06.2	-3.0
KDAK	**Kodiak Island**	**2.59**	**170**	P	Pn	14 12 36.4	-2.2
KDAK				S	Sn	14 13 09.6	-2.7
TTA	**Tatalina**	**2.88**	**336**	*e*P	Pn	14 12 39.9	-2.2
KTH	**Kantishna Hill**	**3.44**	**19**	P	Pn	14 12 47.2	-1.8
TRF	**Thorofare Moun**	**3.46**	**24**	P	Pn	14 12 48.7	-0.5
EYAK	**Cordova Ski Ar**	**3.81**	**83**	P	Pn	14 12 53.1	-0.5
MCK	**McKinley**	**4.01**	**30**	P	Pn	14 12 54.7	-1.5
GCSA	**Galena City Sc**	**4.71**	**342**	P	Pn	14 13 03.4	-1.7
CHGN	**Chignik**	**4.82**	**215**	*e*P	Pn	14 13 04.3	-2.3
COLA	**College**	**5.23**	**27**	P	Pn	14 13 10.1	-1.9
MENT	**Mentasta**	**5.31**	**56**	P	Pn	14 13 12.4	-0.6
IMA2	**Indian Mountai**	**5.76**	**359**	*e*P	Pn	14 13 17.3	-1.6
DAWY	**Dawson**	**7.55**	**54**	*e*P	Pn	14 13 43.1	+0.7
INK	**Inuvik**	**11.71**	**39**	*e*P	Pn	14 14 36.2	-0.6
	3.0nm,0.6s						

IDC 24 14:36:40.2±0.5, 956S×10766E, h0km, mb4.5/16, mb1 4.6/17, mb1mx4.5/20, mbtmp4.5/17, ML4.1/1, MS3.8/16, Ms1 3.8/16, ms1mx3.6/28, Error ellipse: s-maj=21.1km s-min=12.6km az=56.0
ISCJB 24 14:36:43.1±0.3, 964S±004×10770E±005, h30km, mb4.7/58, MS4.0/24, Error ellipse: s-maj=7.8km s-min=5.0km az=125.3
MOS 24 14:36:44.0±1.1, 952S×10782E, h38km, mb5.1/19, Error ellipse: s-maj=13.7km s-min=7.6km az=111.5
BJI 24 14:36:45.5, 960S×10780E, h34km, mB5.1, mb4.9, Ms4.8, Msz4.4
NEIC 24 14:36:45.6±3.6, 955S×10776E, h35km±25km, mb4.9/24, Error ellipse: s-maj=12.2km s-min=5.7km az=58.0
NEIC Felt [III] at Pangandaran.

ISC 24 14:36:45.1±0.3, 965S±004×10770E±005, h30km, h30km±1.5km:pP-P, n128, σ0§97/128, mb4.7/58, MS4.0/24, 6C-5D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**2.80**	**358**	P	**Pn**	**14 37 27.2**	**-0.6**
	6μm,0.8s						
BJII	**Banjamegara**	**3.04**	**41**	P	**Pn**	**14 37 30.6**	**-0.5**
	646nm,0.9s						
KSM	**Kuching**	**11.35**	**13**	*e*P	**Pn**	**14 39 25.2**	**+0.1**
GSI	**Gununguitoli**	**14.83**	**317↓**	*e*P	**Pn**	**14 40 14.5**	**+1.9**
	3.0nm,1.0s						
PCI	**Palu**	**14.87**	**55**	P	**Pn**	**14 40 13.6**	**+0.4**
	126nm,1.1s						
PSI	**Prapat**	**15.14**	**324**	Pn	**Pn**	**14 40 09.5**	**-7.2**
	0.4nm,0.3s,baz=164,slow=15,SNR=1.9						
PSI				LR	LR	14 47 55.9	
	comp=Z,218nm,18.4s,baz=302,slow=45						
IPM	**Ipoh**	**15.53**	**334**	P	**Pn**	**14 40 27.7**	**+6.0**
MBWA	**Marble Bar**	**16.28**	**136**	*e*Pn	**Pn**	**14 40 27.0**	**-4.5**
	11nm,0.7s						
KULM	**Kulim**	**16.42**	**334**	*e*Pn	**Pn**	**14 40 27.9**	**-5.3**
TSM	**Tawau**	**17.16**	**37**	P	**Pn**	**14 40 37.0**	**-5.6**
KKM	**Kota Kinabalu**	**17.75**	**29**	P	**Pn**	**14 40 47.0**	**-2.8**
KKM	**Kota Kinabalu**	**17.75**	**29**	*e*P	**Pn**	**14 40 46.1**	**-3.7**
FITZ	**Fitzroy Crossi**	**19.32**	**118**	*e*P	**Pn**	**14 41 08.5**	**-0.5**
	18nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.32**	**118**	P	**Pn**	**14 41 09.3**	**+0.3**
	0.5nm,0.3s,baz=294,slow=6.4,SNR=21						
FITZ				S	**Sn**	**14 44 30.1**	**-15**
	0.2nm,0.3s,baz=57,slow=5.4,SNR=6.0						
KAKA	**Kakadu**	**24.46**	**99**	*e*P	**P**	**14 42 01.3**	**+0.1**
	19nm,0.6s,mb4.7						
NWAO	**Narrogin (SRO)**	**24.78**	**161**	P	**P**	**14 42 03.8**	**-0.4**
	6.2nm,0.5s,mb4.4,baz=6.3,slow=16,SNR=11						
NWAO				LR	LR	14 50 04.9	
	comp=Z,339nm,20.2s,MS3.8,baz=328,slow=32						
NWAO	**Narrogin (SRO)**	**24.78**	**161**	*e*P	**P**	**14 42 03.7**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**24.78**	**161**	*e*P	**P**	**14 42 03.7**	**-0.5**
	comp=Z,5.6nm,0.6s,mb4.3						
NST	**Nakhon Sawan**	**26.25**	**343**	P	**P**	**14 42 16.0**	**-1.4**
KKTK	**Khon Kaen**	**26.26**	**349**	P	**P**	**14 42 18.0**	**+0.4**
WRA	**Warramunga Arr**	**27.67**	**115**	P	**P**	**14 42 30.3**	**+0.1**
	comp=Z,5.9nm,0.7s,mb4.3,baz=285,slow=11,SNR=25						
WRA				PcP	PcP	14 45 47.9	+1.0
	comp=Z,1.4nm,0.6s,baz=290,slow=2.2,SNR=7.8						
WRAB	**Tennant Creek**	**27.68**	**115**	↑*i*P		**P**	**14 42 30.8**	**+0.5**
WRAB	**Tennant Creek**	**27.68**	**115**	*e*P		**P**	**14 42 30.4**	**+0.1**
	comp=Z,9.0nm,0.7s,mb4.5							
WB2	**Warramunga Arr**	**27.68**	**115**	*e*P		**P**	**14 42 30.6**	**+0.2**
QIZ	**Qiongzhong**	**28.57**	**4**	*e*P		**P**	**14 42 38.8**	**+0.5**
QIZ				*e*S		**S**	**14 47 25.3**	**+0.8**
QIZ				LR	LR			
	comp=Z,232nm,13.8s,MS3.9							
ASPA	**Alice Springs**	**28.64**	**122**	*e*P		**P**	**14 42 40.5**	**+1.6**
ASAR	**Alice Springs**	**28.64**	**122**	P		**P**	**14 42 39.0**	**+0.1**
	comp=Z,2.4nm,0.7s,mb4.0,baz=302,slow=8.3,SNR=21							
ASAR				PcP	PcP	14 45 50.5	+1.3
	comp=Z,1.7nm,0.6s,baz=303,slow=1.9,SNR=9.5							
ASAR				Sn	S	14 48 15.1	+50
	comp=Z,1.8nm,0.9s,baz=301,slow=25,SNR=7.0							
ASAR				LR	LR	14 52 35.3		
	comp=Z,126nm,19.5s,MS3.5,baz=179,slow=33							
ASAR	**Alice Springs**	**28.64**	**122**	P		**P**	**14 42 39.1**	**+0.2**
ASAR							14 45 50.5	
AS31	**Alice Springs**	**28.64**	**122**	*e*P		**P**	**14 42 40.5**	**+1.6**
CHG	**Chiang Mai**	**29.57**	**343**	↓P		**P**	**14 42 47.2**	**+0.1**
	comp=Z,18nm,1.0s,mb4.7							
CHTO	**Chiang Mai**	**29.57**	**343**	*e*P		**P**	**14 42 46.1**	**-1.0**
CHTO				*e*			14 42 56.9	
CHTO				pmax	pmax			
	comp=Z,21nm,1.0s,mb4.8							
CHTO	**Chiang Mai**	**29.57**	**343**	*e*P		**P**	**14 42 46.0**	**-1.1**
	comp=Z,21nm,1.0s,mb4.8							
CHTO				*e*			14 42 56.9	
KMI	**Kunming**	**34.90**	**352**	P		**P**	**14 43 35.5**	**+1.7**
KMI				AP	pP		14 43 41.3	-1.4
KMI				PP	PP		14 44 56.9	+3.7
KMI				PPP			14 45 16.3	
KMI				S		**S**	**14 49 10.9**	**+7.8**
KMI				XS	sS		14 49 20.9	+3.2
KMI				SSS			14 52 00.0	
KMI				AMB	AMB			
	comp=Z,23nm,1.0s,mb5.1							
KMI				LR	LR			
	comp=N,299nm,13.9s							
KMI				LR	LR			
	comp=E,221nm,9.9s							
KMI				LR	LR			
	comp=Z,217nm,13.3s,MS4.1							
GYA	**Guiyang**	**35.90**	**358↑**	*i*P		**P**	**14 43 42.5**	**+0.1**
GYA				AP	pP		14 43 49.8	-1.5
GYA				PP	PP		14 45 03.6	-0.7
GYA				PCP	PcP		14 46 10.3	+1.2
GYA				S	**S**		**14 49 18.8**	**+0.2**
GYA				SCP	ScP		14 49 54.8	+1.8
GYA				SS	SS		14 51 39.5	-16
GYA				AMB	AMB			
	comp=Z,30nm,0.8s,mb5.3							
GYA				AMB	AMB			
	comp=Z,110nm,4.2s							
GYA				LR	LR			
	comp=N,460nm,14.8s,MS4.5							
GYA				LR	LR			
	comp=E,470nm,14.6s,MS4.5							
GYA				LR	LR			
	comp=Z,490nm,15.0s,MS4.4							
STKA	**Stephens Creek**	**38.39**	**130↓**	*i*P		**P**	**14 44 04.1**	**+0.6**
	comp=Z,7.9nm,0.6s,mb4.6							
STKA	**Stephens Creek**	**38.39**	**130**	P		**P**	**14 44 04.2**	**+0.7**
	comp=Z,12nm,0.8s,mb4.7,baz=304,slow=9.1,SNR=26							
STKA				PcP	PcP	14 46 17.4	+0.7	
	comp=Z,3.0nm,0.7s,baz=314,slow=7.0,SNR=3.8							
STKA				LR	LR	15 00 37.7		
	comp=Z,108nm,20.0s,MS3.7,baz=27,slow=37							
CTA	**Charters Tower**	**38.59**	**110**	*e*P		**P**	**14 44 07.0**	**+1.7**
	comp=Z,6.5nm,0.6s,mb4.5							
CTA				*e*			14 44 18.0	
CTA	**Charters Tower**	**38.59**	**110**	P		**P**	**14 44 07.0**	**+1.7**
	comp=Z,7.2nm,0.7s,mb4.5,baz=267,slow=8.8,SNR=12							
CTA				LR	LR		15 00 17.4	
	comp=Z,119nm,20.4s,MS3.7,baz=31,slow=37							
CTA	**Charters Tower**	**38.59**	**110**	*e*P		**P**	**14 44 07.0**	**+1.7**
CTA				*e*			14 44 18.0	
CTA				pmax	pmax			
	comp=Z,7.0nm,0.6s							
PMG	**Port Moresby**	**38.90**	**93**	*e*P		**P**	**14 44 08.2**	**+0.3**
WHN	**Wuhan**	**40.47**	**9**	P		**P**	**14 44 21.3**	**+0.4**
WHN				AP	pP		14 44 31.3	+1.5
CD2	**Chengdu**	**40.50**	**355**	P		**P**	**14 44 21.3**	**+0.1**
CD2				AP	pP		14 44 28.3	-1.8
CD2				PP	PP		14 45 58.6	+3.9
CD2				S	**S**		**14 50 30.8**	**+2.7**
CD2				SS	SS		14 53 26.3	-1.9
CD2				AMB	AMB			
	comp=Z,20nm,0.9s,mb4.8							
CD2				LR	LR			
	comp=E,180nm,13.8s							
CD2				LR	LR			
	comp=Z,120nm,14.2s,MS3.9							
JIRN	**Jiri**	**42.54**	**331**	*e*P		**P**	**14 44 38.8**	**+1.0**
	comp=Z,78nm,0.9s,mb5.4							
NJ2	**Nanjing**	**42.81**	**14**	*e*P		**P**	**14 44 40.1**	**0.0**
NJ2				AP	pP		14 44 49.6	+0.5
NJ2				XP	sP		14 44 53.3	+0.6
NJ2				PP	PP		14 46 21.3	+1.6
NJ2				S	**S**		**14 51 03.0**	**+0.7**
NJ2				XS	sS		14 51 19.0	+1.8
NJ2				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.5							
NJ2				AMB	AMB			
	comp=Z,170nm,4.5s							
NJ2				LR	LR			
	comp=N,830nm,14.9s,MS4.8							
NJ2				LR	LR			
	comp=E,350nm,15.8s,MS4.8							
NJ2				LR	LR			
	comp=Z,450nm,16.1s,MS4.5							
PKI	**Pulchoki**	**42.84**	**330**	*e*P		**P**	**14 44 41.7**	**+1.4**

GTA					LR	LR			
	comp=E,113nm,14.5s,MS4.1								
GTA					LR	LR			
	comp=Z,166nm,13.4s,MS4.2								
BJI	**Beijing**	**50.05**	**8**	P	**P**	**14 45 36.9**	**0.0**		
BJI				AMB	AMB				
	comp=Z,23nm,0.8s,mb5.3								
HHC	**Hu-ho-hao-te**	**50.37**	**4**	*eP*	**P**	**14 45 40.5**	**+1.2**		
HHC				AP	pP	14 45 48.3	-0.1		
HHC				PP	PP	14 47 36.5	+1.6		
HHC				S	**S**	**14 52 54.8**	**+4.4**		
HHC				PS		14 53 05.4			
HHC				SCS	ScS	14 55 25.8	-2.3		
HHC				SS	SS	14 56 25.3	+1.1		
HHC				AMB	AMB				
	comp=Z,12nm,0.7s,mb5.0								
HHC				AMB	AMB				
	comp=Z,104nm,5.6s								
HHC				LR	LR				
	comp=N,202nm,17.8s,MS4.3								
HHC				LR	LR				
	comp=E,190nm,16.6s,MS4.3								
HHC				LR	LR				
	comp=Z,119nm,16.6s,MS4.0								
SNY	**Shenyang**	**53.26**	**15**	⇓P	**P**	**14 46 00.0**	**-0.8**		
SNY				AMB	AMB				
	comp=Z,9.0nm,0.4s,mb5.0								
MAJO	**Matsushiro**	**54.16**	**30**	P	**P**	**14 46 04.4**	**-3.1**		
MAJO				pmax	pmax				
	comp=Z,4.0nm,0.7s,mb4.5								
MAJO	**Matsushiro**	**54.16**	**30**	P	**P**	**14 46 04.4**	**-3.0**		
	comp=Z,4.0nm,0.7s,mb4.5								
MAT	**Matsushiro**	**54.16**	**30**	P	**P**	**14 46 05.1**	**-2.4**		
MAT				S	**S**	**14 53 41.0**	**-1.4**		
MAT	**Matsushiro**	**54.16**	**30**	*eP*	**P**	**14 46 05.0**	**-2.5**		
MAT				*eS*	**S**	**14 53 41.0**	**-1.4**		
MJAR	**Matsushiro Arr**	**54.16**	**30**	P	**P**	**14 46 05.1**	**-2.4**		
	comp=Z,5.8nm,0.9s,mb4.5,baz=206,slow=7.1,SNR=12								
MJAR				LR	LR	15 12 30.0			
	comp=Z,57nm,18.7s,MS3.7,baz=205,slow=40								
CN2	**Changchun**	**55.59**	**16**	*eP*	**P**	**14 46 20.9**	**+3.1**		
WMQ	**Urumqi**	**56.23**	**343**	P	**P**	**14 46 24.1**	**+1.7**		
WMQ				AP	pP	14 46 31.1	-0.6		
WMQ				PP	PP	14 48 30.9	+3.1		
WMQ				S	**S**	**14 54 11.4**	**+1.3**		
WMQ				AMB	AMB				
	comp=Z,15nm,1.3s,mb4.9								
WMQ				AMB	AMB				
	comp=Z,149nm,5.3s								
WMQ				LR	LR				
	comp=N,676nm,17.6s,MS4.9								
WMQ				LR	LR				
	comp=E,507nm,16.5s,MS4.9								
WMQ				LR	LR				
	comp=Z,676nm,18.1s,MS4.8								
SONM	**Songino Array**	**57.24**	**359**	P	**P**	**14 46 29.7**	**+0.2**		
	comp=Z,7.3nm,0.8s,mb4.7,baz=173,slow=8.1,SNR=30								
SONM				LR	LR	15 13 46.3			
	comp=Z,128nm,18.1s,MS4.1,baz=74,slow=39								
MDJ	**Mudanjiang**	**57.53**	**18**	P	**P**	**14 46 32.6**	**+1.0**		
MDJ				AMB	AMB				
	comp=Z,3.0nm,0.7s,mb4.4								
MDJ				AMB	AMB				
	comp=Z,30nm,4.2s								
ZAK	**Zakamensk**	**59.90**	**357**	*eP*	**P**	**14 46 47.6**	**-0.5**		
ZAK				*e*	pP	14 46 58.1	+0.7		
ZAK				pmax	pmax				
	comp=Z,2.0nm,0.9s,mb4.2								
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.0s,mb4.3								
MK31	**Makanchi Array**	**60.59**	**340**	P	**P**	**14 46 52.2**	**-0.6**		
MK31				pmax	pmax				
	comp=Z,10.0nm,0.6s,mb5.1								
MKAR	**Makanchi Array**	**60.59**	**340**	P	**P**	**14 46 52.4**	**-0.4**		
	comp=Z,12nm,0.7s,mb5.1,baz=144,slow=6.8,SNR=52								
MKAR	**Makanchi Array**	**60.59**	**340**	P	**P**	**14 46 52.4**	**-0.4**		
MOY	**Mondy**	**61.34**	**355**	*eP*	**P**	**14 46 58.8**	**+0.9**		
ASAJ	**Asahikawa**	**62.16**	**28**	LR	LR	15 11 27.5			
	comp=Z,43nm,20.8s,MS3.6,baz=172,slow=34								
KLR	**Kul'dur**	**62.32**	**18**	*eP*	**P**	**14 47 01.4**	**-3.1**		
HABR	**Khabarovsk**	**62.70**	**20**	*eP*	**P**	**14 47 06.2**	**-0.8**		
HABR				*eS*	**S**	**14 55 32.7**	**-0.9**		
YSS	**Yuzh-Sakhalins**	**64.43**	**26**	*eP*	**P**	**14 47 18.0**	**-0.4**		
YSS				*e*	pP	14 47 27.5	-0.3		
MAW	**Mawson**	**65.06**	**197**	*eP*	**P**	**14 47 21.8**	**-0.7**		
	comp=Z,9.8nm,0.6s,mb5.0								
MAW	**Mawson**	**65.06**	**197**	P	**P**	**14 47 22.6**	**+0.1**		
	comp=Z,12nm,0.7s,mb5.0,baz=50,slow=7.0,SNR=35								
MAW				LR	LR	15 09 27.1			
	comp=Z,152nm,19.2s,MS4.2,baz=241,slow=30								
MAW	**Mawson**	**65.06**	**197**	*eP*	**P**	**14 47 21.8**	**-0.7**		
MAW				pmax	pmax				
	comp=Z,10.0nm,0.6s								
KURK	**Kurchatov**	**65.21**	**340**	*c iP*	**P**	**14 47 22.8**	**-0.7**		
KURK				pmax	pmax				
	comp=Z,12nm,0.9s,mb4.9								
KURK	**Kurchatov**	**65.21**	**340**	*eP*	**P**	**14 47 22.9**	**-0.6**		
	comp=Z,26nm,0.9s,mb5.2								
ZAL	**Zalesovo**	**66.25**	**345**	P	**P**	**14 47 29.7**	**-0.5**		
	comp=Z,1.3nm,0.5s,mb4.2,baz=310,slow=5.9,SNR=7.0								
ZAL				LR	LR	15 17 53.5			
	comp=Z,60nm,19.3s,MS3.8,baz=110,slow=37								
BOD	**Bodaibo**	**67.42**	**4**	*eP*	**P**	**14 47 36.7**	**-1.0**		
BOD				pmax	pmax				
	comp=Z,7.0nm,1.4s,mb4.5								
VOSK	**Vostochnaya**	**69.60**	**337**	P	**P**	**14 47 50.2**	**-1.1**		
VOSK				pmax	pmax				
	comp=Z,16nm,1.4s,mb4.8								
BVA0	**Borovoye Array**	**70.06**	**337**	*i* P	**P**	**14 47 53.9**	**-0.2**		
BVA0				pmax	pmax				
	comp=Z,1.0nm,0.8s,mb3.8								
BRVK	**Borovoye**	**70.12**	**337**	*eP*	**P**	**14 47 53.7**	**-0.8**		
BRVK				pmax	pmax				
	comp=Z,17nm,1.3s,mb4.8								
BRVK	**Borovoye**	**70.12**	**337**	*eP*	**P**	**14 47 53.6**	**-0.9**		
	comp=Z,17nm,1.3s,mb4.8								
CHKZ	**Chkalovo**	**70.48**	**338**	*eP*	**P**	**14 47 56.2**	**-0.5**		
CHKZ				pmax	pmax				
	comp=Z,14nm,0.6s,mb5.1								
CHKZ	**Chkalovo**	**70.48**	**338**	*eP*	**P**	**14 47 56.2**	**-0.5**		
	comp=Z,14nm,0.6s,mb5.1								
KMBO	**Kilima Mbogo**	**70.54**	**272**	P	**P**	**14 47 57.3**	**+0.3**		
	comp=Z,2.5nm,0.8s,mb4.2,baz=55,slow=7.8,SNR=5.5								
KMBO				LR	LR	15 11 21.4			
	comp=Z,54nm,20.3s,MS3.8,baz=92,slow=30								
ZRNK	**Zerenda**	**70.54**	**336**	*i* P	**P**	**14 47 56.3**	**-0.8**		
ZRNK				pmax	pmax				
	comp=Z,8.0nm,0.7s,mb4.8								
ZRNK	**Zerenda**	**70.54**	**336**	*eP*	**P**	**14 47 56.4**	**-0.7**		
	comp=Z,13nm,0.9s,mb4.9								
AB31	**Akbulak array**	**72.03**	**329**	*i* P	**P**	**14 48 05.3**	**-0.7**		
AB31				pmax	pmax				
	comp=Z,30nm,1.0s,mb5.2								
VNDA	**Vanda**	**73.25**	**169**	P	**P**	**14 48 13.1**	**-0.2**		
	comp=Z,1.7nm,0.7s,mb4.1,baz=299,slow=6.4,SNR=9.9								
VNDA				LR	LR	15 16 15.7			
	comp=Z,95nm,18.5s,MS4.1,baz=276,slow=32								
YAK	**Yakutsk**	**73.48**	**11**	*c iP*	**P**	**14 48 14.1**	**-0.6**		
YAK				*e**PP	pP	14 48 24.0	-0.2		
YAK				pmax	pmax				
	comp=Z,28nm,1.1s,mb5.1								
YAK	**Yakutsk**	**73.48**	**11**	*eP*	**P**	**14 48 13.5**	**-1.2**		
	comp=Z,43nm,1.3s,mb5.2								
YAK				*e*	pP	14 48 23.9	-0.3		
AKTO	**Aktyubinsk**	**73.74**	**329**	*i* P	**P**	**14 48 15.7**	**-0.5**		
AKTO				pmax	pmax				
	comp=Z,2.0nm,1.1s,mb4.0								
SBA	**Scott Base**	**74.33**	**169**	P	**P**	**14 48 18.4**	**-1.2**		
SBA				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb3.9								
SBA	**Scott Base**	**74.33**	**169**	P	**P**	**14 48 18.4**	**-1.2**		
	comp=Z,0.6nm,0.6s,mb3.7								
GNI	**Garni**	**76.31**	**315**	*i* P	**P**	**14 48 29.9**	**-1.1**		
GNI				pmax	pmax				
	comp=Z,5.0nm,0.8s								
SVE	**Sverdlovsk**	**76.69**	**336**	*eP*	**P**	**14 48 32.8**	**-0.4**		
SVE				pmax	pmax				
	comp=Z,40nm,1.7s,mb5.1								
ARU	**Arti**	**77.29**	**334**	⇓*i* P	**P**	**14 48 36.0**	**-0.6**		
ARU				*e*	pP	14 48 46.4	+0.3		
ARU				*e*		14 51 30.9			
ARU				*eS*	S	14 58 25.5	+1.0		
ARU				*e*SS	SS	15 03 24.0	+1.1		
ARU				pmax	pmax				
	comp=Z,10.0nm,1.4s,mb4.5								
LSZ	**Lusaka**	**77.48**	**256**	*eP*	**P**	**14 48 38.3**	**+0.7**		
LSZ				*e*		14 48 49.5			
LSZ				pmax	pmax				
	comp=Z,5.0nm,0.8s,mb4.5								
LSZ	**Lusaka**	**77.48**	**256**	*eP*	**P**	**14 48 38.3**	**+0.8**		
	comp=Z,5.1nm,0.8s,mb4.5								
LSZ				*e*		14 48 49.5			
BOSA	**Boshof**	**78.85**	**243**	LR	LR	15 16 05.1			
	comp=Z,98nm,20.6s,MS4.1,baz=186,slow=30								
QSPA	**South Pole Qui**	**80.36**	**180**	*eP*	**P**	**14 48 53.1**	**-0.3**		
	comp=Z,7.5nm,0.9s,mb4.6								
BRTR	**Keskin Array B**	**84.09**	**312**	P	**P**	**14 49 12.8**	**-0.1**		
	comp=Z,1.7nm,0.8s,mb4.2,baz=148,slow=7.0,SNR=7.2								
BRTR				LR	LR	15 30 27.9			
	comp=Z,14nm,18.2s,MS3.4,baz=261,slow=38								
VRSR	**Storozhevoye**	**84.39**	**324**	*eP*	**P**	**14 49 13.9**	**-0.5**		
VRSR				pmax	pmax				
	comp=Z,7.0nm,0.9s,mb4.8								
VRSR				pmax	pmax				
	comp=N,6.0nm,0.8s								
VRSR				pmax	pmax				
	comp=E,9.0nm,0.8s								
SNAA	**Sanae**	**87.22**	**197**	*eP*	**P**	**14 49 28.2**	**-0.3**		
SNAA				*e*		14 49 30.3			
SNAA				*e*		14 49 32.1			
SNAA				*e*		14 49 33.8			
OBN	**Obninsk**	**87.31**	**327**	*c iP*	**P**	**14 49 28.8**	**-0.1**		
OBN				*e*		14 49 40.1			
OBN				pmax	pmax				
	comp=Z,34nm,1.6s,mb5.3								
VNA1	**Neumayer--Stat**	**89.25**	**197**	*eP*	**P**	**14 49 39.0**	**+0.9**		
VNA1				*e*		14 49 39.5			
VNA1				*e*		14 49 40.0			
VNA1				*e*		14 49 41.7			
VNA1				*e*		14 49 42.9			
AKASG	**Malin Array Be**	**90.18**	**321**	P	**P**	**14 49 41.4**	**-1.0**		
	comp=Z,0.2nm,0.3s,mb3.9,baz=89,slow=3.8,SNR=3.8								
AKASG	**Malin Array Be**	**90.18**	**321**	P	**P**	**14 49 41.4**	**-1.0**		
LVV	**L'vov**	**93.23**	**320**	*eP*	**P**	**14 49 46.9**	**-10**		
LVV				*e*		14 55 40.9			
FINES	**FINESS Array B**	**94.41**	**332**	P	**P**	**14 50 01.7**	**-0.3**		
	comp=Z,1.8nm,0.8s,mb4.6,baz=157,slow=34,SNR=3.8								
ARCES	**ARCESS Array B**	**96.24**	**339**	P	**P**	**14 50 09.3**	**-1.0**		
	comp=Z,2.8nm,0.8s,mb4.7,baz=61,slow=7.3,SNR=3.0								
ARCES				LR	LR	15 39 15.3			
	comp=Z,37nm,20.4s,MS3.9,baz=264,slow=39								
TORD	**Torodi Ar. Bea**	**107.61**	**281**	PKiKP	PKiKP	14 55 09.8	+0.8		
	comp=Z,0.7nm,0.8s,baz=143,slow=1.6,SNR=3.9								
LONY	**Lake Ozonia**	**145.10**	**3**	*e*PKP	PKPdf	14 56 19.3	-0.1		
BDFB	**Brasilia**	**145.22**	**224**	PKPbc	PKPbc	14 56 21.3	+2.0		
	comp=Z,9.2nm,0.7s,baz=172,slow=2.8,SNR=14								
NCB	**Newcomb**	**145.76**	**2**	*e*PKP	PKPdf	14 56 21.5	+0.9		
JCT	**Junction City**	**147.04**	**47**	*e*PKP2	PKPab	14 56 26.6	+0.2		
LVC	**Limon Verde**	**147.77**	**186**	*e*PKPbc	PKPbc	14 56 29.0	+2.2		
MIAR	**Mount Ida**	**148.48**	**35**	*e*PKP2	PKPab	14 56 30.1	-2.0		
PLAL	**Picknick Lake**	**150.95**	**27**	*e*PKPbc	PKPbc	14 56 35.1	+0.3		
TZTN	**Tazewell**	**151.34**	**19**	*e*PKPbc	PKPbc	14 56 36.5	+0.8		
LPAZ	**La Paz**	**153.91**	**189**	PKPbc	PKPbc	14 56 42.6	+1.3		
	comp=Z,1.2nm,0.7s,baz=30,slow=5.0,SNR=6.1								

*IDC **24** 14:44:19.1±1.4, 9.23S×108.24E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/18, mbtmp3.8/7, ML3.1/1, Error ellipse: s-maj=76.8km s-min=18.2km az=47.0*
*NEIC **24** 14:44:21.0±1.2, 9.19S×108.30E, h10km, mb4.6/2, Error ellipse: s-maj=65.6km s-min=12.1km az=46.0*
*ISCJB **24** 14:44:23.0±1.1, 9.1S±0.3×108.5E±0.3, h33km, mb4.0/8, Error ellipse: s-maj=54.0km s-min=9.6km az=83.0*
ISC 24 14:44:25.0±1.3, 92S±03×1084E±03, h35km, n12, σ1$ 21/13, mb4.0/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MBWA	**Marble Bar**	**16.18**	**139**	*eP*	**P**	**n**	**14 48 05.3**	**-4.3**
FITZ	**Fitzroy Crossi**	**18.96**	**120**	P	**P**	**n**	**14 48 42.7**	**-1.4**
	0.1nm,0.3s,baz=273,slow=18,SNR=2.5							
FITZ				S		**S**	**14 52 09.4**	**-7.1**
	0.1nm,0.3s,baz=140,slow=19,SNR=4.1							
WRA	**Warramunga Arr**	**27.27**	**116**	P	**P**		**14 50 06.0**	**0.0**
	1.0nm,0.7s,mb3.5,baz=284,slow=12,SNR=3.1							
WRAB	**Tennant Creek**	**27.28**	**116**	P	**P**		**14 50 07.0**	**+0.9**
ASAR	**Alice Springs**	**28.34**	**124**	P	**P**		**14 50 16.6**	**+1.1**
	0.4nm,0.5s,mb3.3,baz=297,slow=8.7,SNR=7.0							
ASAR				PcP	PcP		14 53 27.5	-0.2
	0.2nm,0.5s,baz=282,slow=0.7,SNR=4.1							
STKA	**Stephens Creek**	**38.19**	**131**	P	**P**	**n**	**14 51 41.2**	**0.0**
	2.0nm,0.6s,mb4.0,baz=293,slow=11,SNR=4.6							
STKA	**Stephens Creek**	**38.19**	**131**	P	**P**		**14 51 41.2**	**0.0**
SONM	**Songino Array**	**56.78**	**358**	P	**P**		**14 54 06.5**	**+0.9**
	0.8nm,0.5s,mb4.0,baz=167,slow=11,SNR=5.3							
MKAR	**Makanchi Array**	**60.38**	**340**	P	**P**		**14 54 29.2**	**-1.4**
	2.1nm,0.6s,mb4.3,baz=139,slow=6.5,SNR=17							
KURK	**Kurchatov**	**64.99**	**340**	*eP*	**P**		**14 54 59.4**	**-2.0**
	4.0nm,0.9s,mb4.5							
CHKZ	**Chkalovo**	**70.30**	**337**	*eP*	**P**		**14 55 36.2**	**+1.4**
	3.6nm,0.6s,mb4.5							
BRTR	**Keskin Array B**	**84.28**	**312**	P	**P**		**14 56 53.6**	**+0.4**
	0.2nm,0.3s,mb3.8,baz=83,slow=4.8,SNR=2.5							

*ISCJB **24** 15:02:38.2±0.8, 5.37S±0.05×81.97W±0.08, h33km, mb4.0/8, MS3.5/4, Error ellipse: s-maj=10.9km s-min=7.2km az=153.6*
*IDC **24** 15:02:39.3±1.0, 5.47S×81.99W, h32km±6km, mb3.7/7, mb1 3.9/9, mb1mx3.8/20, mbtmp4.0/9, ML4.1/2, MS3.5/5, Ms1 3.5/5, ms1mx3.0/33, Error ellipse: s-maj=35.4km s-min=16.3km az=46.0*
*NEIC **24** 15:02:39.2±0.8, 5.48S×81.89W, mb4.5/2, Error ellipse: s-maj=20.2km s-min=12.3km az=63.0*
*IGQ **24** 15:03:40.3, 1.33S×79.58W, h15km, Mb4.1, Ms3.9, Error ellipse: s-maj=4.5km s-min=2.8km az=50.1*
ISC 24 15:02:40.2±0.8, 541S±005×8199W±008, h35km, (h35km±1.6km:pP-P), n26, σ0$ 82/25, mb4.0/8, MS3.5/4, 1C-3D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ATAH	**Atahualpa**	**3.91**	**114**	Pn	**Pn**		**15 03 38.1**	**+0.3**
	9.3nm,0.3s,baz=277,slow=7.0,SNR=14							
ATAH				Sn		**Sn**	**15 04 22.8**	**+0.4**
	8.6nm,0.3s,baz=352,slow=18,SNR=3.1							
TAMB	**Tambo**	**5.91**	**38**	P	**Pn**		**15 04 06.2**	**+1.0**
VC1	**Cotopaxi 1**	**5.93**	**37**	P	**Pn**		**15 04 06.5**	**+1.0**
TERV	**Terraza Guagua**	**6.20**	**33**	⇓P	**Pn**		**15 04 09.2**	**0.0**
GGP	**Refugio Guagua**	**6.20**	**33**	⇓P	**Pn**		**15 04 08.9**	**-0.3**
PINO	**Pino**	**6.21**	**33**	⇑P	**Pn**		**15 04 09.4**	**+0.1**
YANA	**Yana**	**6.26**	**33**	⇓P	**Pn**		**15 04 10.1**	**0.0**
OTAV	**Otavalo**	**6.62**	**32**	*e*Pn	**Pn**		**15 04 14.7**	**-0.3**
	15nm,0.6s							
OTAV				*e*Sn	**Sn**		**15 05 27.9**	**-1.4**
NNA	**Nana**	**8.28**	**142**	*e*Pn	**Pn**		**15 04 33.4**	**-4.4**
	39nm,0.5s							
NNA				*e*S	**Sn**		**15 06 03.7**	**-6.4**
LPAZ	**La Paz**	**17.37**	**130**	P	**Pn**		**15 06 38.5**	**-1.3**
	0.3nm,0.3s,baz=275,slow=10,SNR=15							
LPAZ				LR	LR		15 14 11.3	
	comp=Z,48nm,18.4s,baz=117,slow=40							
LPAZ	**La Paz**	**17.37**	**130**	P	**Pn**		**15 06 38.5**	**-1.3**
LPAZ				LR	LR		15 14 11.3	
SAML	**Samuel**	**18.98**	**102**	*eP*	**Pn**		**15 06 54.4**	**-5.1**
	14nm,0.8s							
LVC	**Limon Verde**	**21.27**	**145**	P	**P**		**15 07 23.1**	**-0.4**
	2.5nm,0.7s,mb3.6,baz=316,slow=9.9,SNR=4.0							
LVC	**Limon Verde**	**21.27**	**145**	*eP*	**P**		**15 07 23.9**	**+0.4**
SIV	**San Ignacio**	**23.06**	**119**	P	**P**		**15 07 42.5**	**-0.1**
	2.0nm,0.5s,mb3.9,baz=312,slow=14,SNR=5.3							
PCRV	**Puerto La Cruz**	**23.20**	**48**	P	**P**		**15 07 45.2**	**+1.2**
	12nm,0.5s,mb4.5,baz=199,slow=6.5,SNR=9.6							
PCRV				LR	LR		15 17 26.8	
	comp=Z,100nm,20.4s,MS3.3,baz=317,slow=38							
CPUP	**Villa Florida**	**31.43**	**134**	LR	LR		15 23 29.0	
	comp=Z,86nm,18.9s,MS3.4,baz=121,slow=40							
BDFB	**Brasilia**	**34.86**	**110**	LR	LR		15 24 11.6	
	comp=Z,103nm,21.0s,MS3.5,baz=270,slow=37							
PDAR	**Pinedale Array**	**54.08**	**335**	P	**P**		**15 12 02.1**	**+0.7**
	0.2nm,0.5s,mb3.3,baz=106,slow=9.4,SNR=4.1							
PDAR				pP	pP		15 12 11.4	-0.5
	0.7nm,0.5s,baz=132,slow=8.8,SNR=5.5							
NVAR	**Mina Array Bea**	**55.10**	**325**	P	**P**		**15 12 09.6**	**+0.9**
	0.4nm,0.7s,mb3.6,baz=131,slow=11,SNR=4.2							
NVAR				pP	pP		15 12 19.8	+0.5
	0.9nm,0.8s,baz=188,slow=7.3,SNR=5.2							
NVAR	**Mina Array Bea**	**55.10**	**325**	P	**P**		**15 12 09.6**	**+0.9**
NVAR				pP	pP		15 12 19.8	+0.5
ULM	**Lac du Bonnet**	**56.72**	**349**	P	**P**		**15 12 18.4**	**-1.9**
	0.7nm,0.4s,mb4.1,baz=188,slow=2.7,SNR=3.3							
ULM				pP	pP		15 12 29.2	-1.7
	1.6nm,0.6s,baz=199,slow=6.5,SNR=3.1							
QSPA	**South Pole Qui**	**84.68**	**180**	*eP*	**P**		**15 15 09.8**	**-0.6**
	4.1nm,0.6s,mb4.7							
TORD	**Torodi Ar. Bea**	**85.09**	**76**	P	**P**		**15 15 12.7**	**+0.2**
	0.8nm,0.6s,mb4.0,baz=276,slow=2.5,SNR=4.2							
TORD				LR	LR		15 52 18.9	
	comp=Z,53nm,18.1s,MS4.0,baz=210,slow=35							
ASAR	**Alice Springs**	**134.60**	**229**	PKP	PKPdf		15 21 54.8	-0.1
	0.4nm,0.7s,baz=112,slow=2.3,SNR=6.4							
WRA	**Warramunga Arr**	**136.29**	**234**	PKP	PKPdf		15 21 58.4	+0.4
	0.3nm,0.6s,baz=114,slow=2.1,SNR=7.5							
WRA				pPKP	pPKPdf		15 22 08.3	-1.2
	0.6nm,0.7s,baz=120,slow=1.4,SNR=4.2							

IDC 24 15:33:11.8±55.0, 1454S×17949E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/13, mbtmp3.8/3, Error ellipse: s-maj=991.8km s-min=155.8km az=74.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.63**	**237**	P	P	15 40 36.2	-0.5
	1.6nm,0.9s,baz=113,slow=13,SNR=3.9						
WRA	**Warramunga Arr**	**43.36**	**256**	P	P	15 41 16.9	+1.1
	0.2nm,0.3s,baz=89,slow=8.2,SNR=18						
ASAR	**Alice Springs**	**43.87**	**251**	P	P	15 41 19.9	+0.1
	1.7nm,0.5s,baz=81,slow=8.8,SNR=66						

*IDC **24** 15:41:23.5±1.3, 5367N×160.10E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=58.7km s-min=24.8km az=160.0*
*MOS **24** 15:41:28.8±1.5, 5.336N×160.34E, h65km, mb4.3/1, Error ellipse: s-maj=23.1km s-min=10.8km az=74.9*
*ISCJB **24** 15:41:29.2±0.7, 5.337N±005×160.4E±0.1, h60km±8km, mb3.6/4, Error ellipse: s-maj=12.8km s-min=4.8km az=61.8*
*KRSC **24** 15:41:30, 5340N×16037E, h52km, ML4.1*
*NEIC **24** 15:41:31.2±1.9, 5357N×16006E, h63km±20km, Error ellipse: s-maj=42.9km s-min=19.3km az=161.0*
ISC 24 15:41:30.0±0.7, 5335N±005×1604E±01, h53km±10km, n16, σ0$ 90/27, mb3.6/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NLC	**Nalytchevo**	**0.66**	**254**	P	**Pn**		**15 41 43.6**	**+0.3**
NLC				S	**Sn**		**15 41 53.5**	**+0.5**
KII	**Karymskiy**	**0.89**	**321**	P	**Pn**		**15 41 45.8**	**-0.5**
KII				S	**Sn**		**15 41 57.3**	**-0.9**
PET	**Petropavlovsk**	**1.10**	**253**	P	**Pn**		**15 41 49.5**	**+0.4**
PET				S	**Sn**		**15 42 03.9**	**+0.6**
PET	**Petropavlovsk**	**1.10**	**253**	*eP*	**Pn**		**15 41 49.5**	**+0.3**
PET				*eS*	**Sn**		**15 42 03.4**	**+0.1**
MKZ	**Mys Kozlova**	**1.44**	**33**	P	**Pn**		**15 41 53.2**	**-0.5**
MKZ				S	**Sn**		**15 42 10.3**	**-1.2**
RUS	**Russkaya**	**1.47**	**232**	P	**Pn**		**15 41 54.6**	**+0.5**
RUS				S	**Sn**		**15 42 12.8**	**+0.6**
KOZ	**Kozyrevsk**	**2.73**	**354**	P	**Pn**		**15 42 12.1**	**+0.8**
KOZ				S	**Sn**		**15 42 43.4**	**+0.3**
KOZR	**Kozyr**	**2.73**	**354**	PN	**Pn**		**15 42 12.1**	**+0.7**
KOZR				S	**Sn**		**15 42 43.4**	**+0.2**
KLY	**Klyuchi**	**2.97**	**3**	P	**Pn**		**15 42 16.1**	**+1.5**
KLY				S	**Sn**		**15 42 49.4**	**+0.4**
KBTR	**Krutoberegovo**	**3.19**	**25**	P	**Pn**		**15 42 17.9**	**+0.3**
KBTR				S	**Sn**		**15 42 53.0**	**-1.3**
SKR	**Severo-Kuril's**	**3.76**	**226**	*e*PN	**Pn**		**15 42 24.6**	**-0.9**
SKR				*e*S	**Sn**		**15 43 06.4**	**-2.0**
SKR				pmax	pmax			
	comp=E,30nm,0.5s							
SKR				pmax	pmax			
	comp=Z,60nm,0.5s							
SKR				smax				
	comp=N,150nm,0.5s							
SKR				smax				
	comp=E,150nm,0.5s							
SKR				smax				
	comp=Z,80nm,0.5s						

KKN	**Kakani**	**17.80**	**340**	*eP*		**Pn**	**15 54 17.1**	**+1.0**
GKN	**Gorkha**	**18.22**	**339**	*eP*		**Pn**	**15 54 22.1**	**+0.9**
KAD	**Karad**	**18.34**	**292**	*eP*		**Pn**	**15 54 24.0**	**+1.4**
KAD					AMb	AMB	15 54 32.8	
	comp=Z,54nm,2.0s							
KOLN	**Koldanda**	**18.40**	**336**	*eP*		**Pn**	**15 54 24.8**	**+1.4**
	comp=Z,22nm,0.6s							
BHPL	**Bhopal**	**18.43**	**313**	*eP*		**Pn**	**15 54 21.8**	**-1.9**
BHPL					AMb	AMB	15 54 38.1	
	comp=Z,20nm,1.2s							
POO	**Poona**	**19.03**	**295**	*eS*		**Sn**	**15 58 04.5**	**+1.1**
AJM	**Ajmer**	**22.43**	**316**	*eP*		**P**	**15 55 08.3**	**+1.5**
AJM					AMb	AMB	15 55 18.7	
	comp=Z,10nm,0.4s,mb4.7							
CD2	**Chengdu**	**22.58**	**27**	P		**P**	**15 55 07.0**	**-1.5**
CD2				AP			15 55 14.0	
CD2				XP		sP	15 55 17.5	-1.2
CD2				PP			15 55 35.4	
CD2				S		**S**	**15 59 08.4**	**-6.7**
CD2				SS			15 59 50.9	
CD2				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.2							
CD2				LR		LR		
	comp=E,110nm,8.4s							
CD2				LR		LR		
	comp=Z,140nm,7.2s							
LZH	**Lanzhou**	**27.14**	**21**	*eP*		**P**	**15 55 53.6**	**+2.4**
LZH				AP		pP	15 56 01.3	+2.7
LZH				XP		sP	15 56 04.5	+2.8
LZH				PP			15 56 41.3	
LZH				AMB		AMB		
	comp=Z,18nm,1.5s,mb4.4							
LZH				AMB		AMB		
	comp=Z,57nm,4.7s							
LZH				LR		LR		
	comp=N,326nm,10.4s							
LZH				LR		LR		
	comp=Z,493nm,14.7s,MS4.2							
GTA	**Gaotai**	**29.09**	**13**	*eP*		**P**	**15 56 09.6**	**+1.0**
GTA				AP		pP	15 56 17.0	+1.0
GTA				XP		sP	15 56 20.3	+1.2
GTA				AMB		AMB		
	comp=Z,3.0nm,0.9s,mb4.0							
WMQ	**Urumqi**	**32.86**	**354**	P		**P**	**15 56 43.0**	**+1.2**
WMQ				AP		pP	15 56 50.3	+1.0
WMQ				XP		sP	15 56 53.6	+1.2
WMQ				PP		PP	15 57 52.9	-3.4
WMQ				AMB		AMB		
	comp=Z,5.0nm,1.0s,mb4.4							
WMQ				AMB		AMB		
	comp=Z,63nm,4.6s							
WMQ				LR		LR		
	comp=N,287nm,15.4s,MS4.2							
WMQ				LR		LR		
	comp=E,215nm,14.3s,MS4.2							
WMQ				LR		LR		
	comp=Z,293nm,15.9s,MS4.1							
WSAR	**Wadi Sarin**	**34.00**	**295**	LR		LR	16 11 57.3	
	comp=Z,34nm,18.5s,MS3.1,baz=259,slow=39							
MKAR	**Makanchi Array**	**36.56**	**349**	P		**P**	**15 57 13.9**	**+0.1**
	comp=Z,3.8nm,0.8s,mb4.3,baz=189,slow=6.9,SNR=8.6							
SONM	**Songino Array**	**38.62**	**16**	P		**P**	**15 57 31.5**	**+0.3**
	comp=Z,0.4nm,0.4s,mb3.5,baz=194,slow=9.6,SNR=6.1							
KURK	**Kurchatov**	**41.05**	**347**	*eP*		**P**	**15 57 49.5**	**-1.9**
ZAL	**Zalesovo**	**43.16**	**354**	P		**P**	**15 58 07.3**	**-1.3**
	comp=Z,1.7nm,0.4s,mb4.1,baz=258,slow=4.2,SNR=5.8							
ZAL	**Zalesovo**	**43.16**	**354**	P		**P**	**15 58 07.3**	**-1.3**
CN2	**Changchun**	**43.59**	**35**	*eP*		**P**	**15 58 19.4**	**+7.3**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.5							
FITZ	**Fitzroy Crossi**	**44.08**	**131**	*eP*		**P**	**15 58 15.7**	**-0.3**
	comp=Z,9.2nm,0.9s,mb4.5							
FITZ	**Fitzroy Crossi**	**44.08**	**131**	P		**P**	**15 58 15.8**	**-0.2**
	comp=Z,5.0nm,0.9s,mb4.2,baz=309,slow=6.3,SNR=9.2							
BVAR	**Borovoye Array**	**45.32**	**342**			**P**	**15 58 24.7**	**-1.2**
	comp=Z,1.0nm,0.6s,mb3.8,baz=129,slow=12,SNR=4.2							
BRVK	**Borovoye**	**45.38**	**342**	*eP*		**P**	**15 58 24.4**	**-2.0**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb3.8							
BRVK	**Borovoye**	**45.38**	**342**	*eP*		**P**	**15 58 24.4**	**-2.0**
	comp=Z,1.4nm,0.7s,mb3.9							
ZRNK	**Zerenda**	**45.70**	**341**	*eP*		**P**	**15 58 28.4**	**-0.5**
ZRNK				*e*		pP	15 58 36.2	-0.3
CHKZ	**Chkalovo**	**45.82**	**342**	*eP*		**P**	**15 58 29.6**	**-0.2**
CHKZ				*e*		pP	15 58 37.5	0.0
CHKZ				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
CHKZ	**Chkalovo**	**45.82**	**342**	*eP*		**P**	**15 58 29.6**	**-0.2**
	comp=Z,5.6nm,0.8s,mb4.5							
CHKZ				*e*		pP	15 58 37.5	0.0
BOD	**Bodaibo**	**49.62**	**15**	*eP*		**P**	**15 58 58.6**	**-0.7**
BOD				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb4.2							
WRA	**Warramunga Arr**	**51.84**	**126**	P		**P**	**15 59 16.0**	**-0.1**
	comp=Z,1.1nm,0.5s,mb4.0,baz=301,slow=10,SNR=26							
WRAB	**Tennant Creek**	**51.84**	**126**	*eP*		**P**	**15 59 16.0**	**-0.1**
WRAB				*e*		pP	15 59 24.2	+0.4
WRAB				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.7							
WRAB	**Tennant Creek**	**51.84**	**126**	*eP*		**P**	**15 59 16.0**	**0.0**
	comp=Z,5.8nm,0.6s,mb4.7							
WRAB				*e*		pP	15 59 24.2	+0.4
WB2	**Warramunga Arr**	**51.85**	**126**	*eP*		**P**	**15 59 16.0**	**-0.1**
AS31	**Alice Springs**	**53.58**	**130**	*eP*		**P**	**15 59 29.1**	**+0.2**
ASAR	**Alice Springs**	**53.58**	**130**	P		**P**	**15 59 29.0**	**+0.1**
	comp=Z,1.1nm,0.8s,mb3.8,baz=306,slow=6.7,SNR=16							
BRTR	**Keskin Array B**	**58.76**	**310**	P		**P**	**16 00 05.2**	**-0.7**
	comp=Z,1.5nm,0.8s,mb4.1,baz=108,slow=7.9,SNR=5.4							
STKA	**Stephens Creek**	**63.83**	**134**	P		**P**	**16 00 40.0**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.2,baz=306,slow=9.0,SNR=3.4							
STKA	**Stephens Creek**	**63.83**	**134**	*eP*		**P**	**16 00 40.3**	**+0.1**
AKASG	**Malin Array Be**	**64.36**	**321**	P		**P**	**16 00 42.4**	**-1.4**
	comp=Z,0.5nm,0.4s,mb3.9,baz=82,slow=5.7,SNR=4.5							
JOF	**Joensuu**	**67.08**	**334**	*ep*		**P**	**16 01 00.4**	**-0.9**
	comp=Z,7.1nm,0.6s,mb4.9							
FINES	**FINESS Array B**	**68.93**	**332**	P		**P**	**16 01 12.5**	**-0.4**
	comp=Z,2.1nm,0.8s,mb4.1,baz=105,slow=8.8,SNR=8.1							
KAF	**Kangasniemi**	**69.01**	**333**	*ep*		**P**	**16 01 12.1**	**-1.3**
	comp=Z,1.4nm,0.5s,mb4.2,baz=105,slow=6.0							
KAF	**Kangasniemi**	**69.01**	**333**	*eP*		**P**	**16 01 12.1**	**-1.3**
KAF				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.0							
ARCES	**ARCESS Array B**	**71.58**	**340**	P		**P**	**16 01 28.9**	**-0.2**
	comp=Z,2.8nm,0.8s,mb4.2,baz=90,slow=6.3,SNR=3.1							
GERES	**GERESS Array B**	**74.06**	**318**	P		**P**	**16 01 43.8**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=78,slow=6.2,SNR=7.9							
BOSA	**Boshof**	**75.50**	**237**	P		**P**	**16 01 53.6**	**+1.5**
	comp=Z,3.7nm,0.8s,mb4.3,baz=28,slow=1.8,SNR=6.8							
NB2	**NORSAR Subarra**	**75.94**	**330**	P		**P**	**16 01 53.7**	**-0.9**
	comp=Z,2.1nm,0.9s,mb4.1,baz=92,slow=5.9							
NOA	**NORSAR Array B**	**75.94**	**330**	P		**P**	**16 01 53.8**	**-0.8**
	comp=Z,1.0nm,0.6s,mb3.9,baz=94,slow=5.6,SNR=6.4							
MAW	**Mawson**	**81.21**	**191**	P		**P**	**16 02 25.1**	**+1.4**
	comp=Z,1.3nm,0.5s,mb4.1,baz=14,slow=4.2,SNR=4.9							
TORD	**Torodi Ar. Bea**	**87.81**	**283**	P		**P**	**16 02 58.5**	**+1.4**
	comp=Z,1.1nm,0.9s,mb4.1,baz=93,slow=4.5,SNR=5.2							
PDAR	**Pinedale Array**	**122.93**	**19**	PKP		PKPdf	16 09 04.2	+0.2
	comp=Z,0.5nm,0.7s,baz=84,slow=6.6,SNR=3.8							
NVAR	**Mina Array Bea**	**123.23**	**28**	PKP		PKPdf	16 09 06.0	+1.4
	comp=Z,0.7nm,0.7s,baz=355,slow=1.9,SNR=4.8							
PLCA	**Paso Flores**	**146.66**	**205**	PKPbc		PKPbc	16 09 49.5	0.0
	comp=Z,2.3nm,0.8s,baz=196,slow=2.9,SNR=4.3							

*NNC **24** 15:53:46.4±7.4, 41.57N×73.04E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=68.3km s-min=30.2km az=3.0*
*ISCJB **24** 15:53:47.3±1.1, 41.70N±0.08×72.87E±0.06, h10km, Error ellipse: s-maj=12.2km s-min=6.5km az=173.4*
*KNET **24** 15:53:49.9±0.7, 41.70N×73.21E, h16km±3km, ml3.6, Error ellipse: s-maj=4.5km s-min=3.3km az=77.0*

ISC 24 15:53:49.8±1.0, 41.71N±0.07×73.05E±0.06, h10km, n19, σ1=20/27, 18C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**0.64**	**49**	P	**Pg**	**15 54 01.3**	**-1.0**
	281nm,0.1s,SNR=799						
AML				⇑S	**Sg**	**15 54 10.3**	**-0.3**
	3μm,0.2s						
EKS2	**Erkin-Say**	**1.10**	**30**	⇑P	**Pb**	**15 54 09.8**	**-1.0**
	69nm,0.1s,SNR=35						
EKS2				⇓S	**Sg**	**15 54 25.1**	**0.0**
	186nm,0.1s						
UCH	**Uchtor**	**1.21**	**64**	P	**Pn**	**15 54 10.9**	**-1.9**
	323nm,0.2s,SNR=1718						
UCH				⇓S	**Sb**	**15 54 26.5**	**-2.0**
	301nm,0.2s						
AAK	**Ala-Archa**	**1.42**	**49**	⇑P	**Pn**	**15 54 15.1**	**-0.5**
	117nm,0.1s,SNR=116						
AAK				⇓S	**Sn**	**15 54 33.9**	**-0.4**
	389nm,0.2s						
KZA	**Kyzart**	**1.69**	**77**	P	**Pn**	**15 54 18.7**	**-0.6**
	419nm,0.2s,SNR=149						
KZA				⇓S	**Sn**	**15 54 40.9**	**0.0**
	317nm,0.2s						
KBK	**Karagaybulak**	**1.70**	**56**	⇑P	**Pn**	**15 54 20.1**	**+0.6**
	341nm,0.1s,SNR=968						
KBK				⇑S	**Sn**	**15 54 43.0**	**+1.7**
	694nm,0.2s						
CHMS	**Chumysh**	**1.81**	**44**	⇑P	**Pn**	**15 54 22.1**	**+1.2**
	403nm,0.3s,SNR=199						
CHMS				⇓S	**Sn**	**15 54 46.4**	**+2.5**
	590nm,0.3s						
USP	**Ospenovka**	**1.89**	**34**	P	**Pn**	**15 54 23.8**	**+1.7**
	162nm,0.2s,SNR=318						
USP				⇓S	**Sn**	**15 54 50.0**	**+4.0**
	971nm,0.3s						
TKM2	**Tokmak 2**	**2.25**	**57**	⇑P	**Pn**	**15 54 28.5**	**+1.4**
	199nm,0.2s,SNR=429						
TKM2	**Tokmak 2**	**2.25**	**57**	⇑Pn	**Pn**	**15 54 28.7**	**+1.7**
	7.7nm,0.3s						
TKM2				⇓Lg		15 54 58.6	
	17nm,0.5s						
KK31	**Karatay Array**	**2.34**	**307**	Pn	**Pn**	**15 54 30.6**	**+2.3**
	22nm,0.3s,baz=217,slow=17,SNR=1103						
KK31				⇑Lg		15 55 04.1	
	75nm,0.3s,baz=215,slow=25,SNR=12						
ULHL	**Ulahol**	**2.44**	**76**	⇑P	**Pn**	**15 54 30.3**	**+0.6**
	134nm,0.2s,SNR=32						
MK02	**Makanchi Array**	**8.35**	**50**	⇑Pn	**Pn**	**15 55 56.0**	**+5.1**
	1.5nm,0.5s						
MK02				⇓Lg		15 58 11.7	
	6.5nm,0.7s						
KURK	**Kurchatov**	**9.80**	**21**	⇑Pn	**Pn**	**15 56 10.4**	**-0.3**
	7.0nm,2.4s						
KURK				⇑Lg		15 59 00.5	
	12nm,0.7s						
VOSK	**Vostochnaya**	**11.11**	**353**	⇑Pn	**Pn**	**15 56 28.1**	**-0.5**
	0.8nm,0.5s						
VOSK				⇓Lg		15 59 41.8	
	15nm,0.9s						
BVA0	**Borovoye Array**	**11.46**	**352**	⇑Pn	**Pn**	**15 56 29.4**	**-4.1**
	1.3nm,2.2s,baz=278,slow=33,SNR=9.0						
BVA0				⇓Lg		15 59 50.7	
	4.3nm,0.9s						
ZRNK	**Zerenda**	**11.57**	**348**	⇑Pn	**Pn**	**15 56 34.7**	**-0.3**
	1.2nm,0.8s						
ZRNK				⇑Lg		15 59 56.8	
	15nm,1.1s						
AB31	**Akbulak array**	**11.88**	**314**	Pn	**Pn**	**15 56 38.0**	**-1.3**
	1.9nm,0.6s,baz=121,slow=13,SNR=20						
CHKZ	**Chkalovo**	**12.08**	**353**	⇑Pn	**Pn**	**15 56 41.2**	**-0.8**
	2.8nm,1.4s						

*IDC **24** 15:59:39.2±12.0, 723S×13053E, h112km±134km, mb3.9/1, mb1 4.0/4, mb1mx3.5/14, mbtmp4.2/4, ML4.2/3, MS3.9/1, Ms1 3.9/1, ms1mx2.8/27, Error ellipse: s-maj=78.0km s-min=51.1km az=24.0*
*NEIC **24** 15:59:39.6±3.0, 7.13S×13036E, h114km±33km, mb3.7/2, Error ellipse: s-maj=34.4km s-min=24.9km az=70.0*
*ISCJB **24** 15:59:42.6±1.8, 7.41S±0.08×1306E±0.1, h173km±20km, mb3.7/3, Error ellipse: s-maj=20.8km s-min=12.8km az=148.4*

ISC 24 15:59:41.4±1.6, 7.34S±0.07×130.4E±0.1, h138km±16km, n13, σ1=38/21, mb3.7/3, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**5.69**	**160**	*eP*	**Pn**	**16 01 04.5**	**+0.6**
	26nm,0.2s						
KAKA				*eS*	**Sn**	**16 02 08.9**	**+0.7**
FITZ	**Fitzroy Crossi**	**11.67**	**203**	*eP*	**Pn**	**16 02 24.8**	**+1.1**
	16nm,0.4s						
FITZ				*eS*	**Sn**	**16 04 31.1**	**-1.3**
FITZ	**Fitzroy Crossi**	**11.67**	**203**	P	**Pn**	**16 02 25.3**	**+1.6**
	2.6nm,0.3s,baz=35,slow=12,SNR=93						
FITZ				S	**Sn**	**16 04 31.8**	**-0.7**
	0.7nm,0.3s,baz=266,slow=23,SNR=4.4						
WRAB	**Tennant Creek**	**13.08**	**163**	*eP*	**Pn**	**16 02 40.6**	**-1.5**
WRAB				*eS*	**Sn**	**16 05 01.7**	**-4.7**
WRA	**Warramunga Arr**	**13.09**	**164**	P	**Pn**	**16 02 40.7**	**-1.4**
	0.9nm,0.3s,baz=346,slow=13,SNR=43						
WRA				S	**Sn**	**16 05 04.5**	**-2.1**
	1.4nm,0.3s,baz=347,slow=20,SNR=13						
WB2	**Warramunga Arr**	**13.09**	**164**	*eP*	**Pn**	**16 02 40.5**	**-1.7**
WB2				*eS*	**Sn**	**16 05 01.0**	**-5.7**
AS31	**Alice Springs**	**16.57**	**169**	*eP*	**Pn**	**16 03 28.2**	**+2.5**
AS31				*eS*	**S**	**16 06 29.9**	**-0.3**
ASAR	**Alice Springs**	**16.57**	**169**	P	**Pn**	**16 03 27.9**	**+2.3**
	0.8nm,0.3s,baz=344,slow=8.5,SNR=75						
ASAR				S	**S**	**16 06 31.6**	**+1.3**
	0.3nm,0.3s,baz=0.3,slow=25,SNR=6.3						
ASPA	**Alice Springs**	**16.57**	**169**	*eP*	**Pn**	**16 03 28.2**	**+2.5**
ASPA				*eS*	**S**	**16 06 29.9**	**-0.3**
JHJ	**Hachijo jima 2**	**41.20**	**12**	LR	LR	16 22 33.1	
	comp=Z,143nm,20.4s,baz=83,slow=33						
MKAR	**Makanchi Array**	**68.74**	**327**	P	**P**	**16 10 30.6**	**+0.4**
	1.2nm,0.4s,mb4.0,baz=110,slow=8.1,SNR=30						
KURK	**Kurchatov**	**73.03**	**329**	P	**P**	**16 10 55.7**	**-0.4**
	1.0nm,0.6s,mb3.7						
CHKZ	**Chkalovo**	**78.77**	**328**	*eP*	**P**	**16 11 27.7**	**-1.1**
	0.8nm,0.7s,mb3.5						

*NIED **24** 16:14:00, 43.50N×147.10E, h59km, Mw4.5 Best double couple: M0 6.33000×10^15 NP1:φs73.00000°, δ81.00000°, λ90.00000°. NP2:φs250.00000°, δ9.00000°, λ87.00000°.*
*MOS **24** 16:14:11.9±0.8, 43.58N×147.16E, h52km, mb5.1/58, Error ellipse: s-maj=7.8km s-min=4.6km az=109.1*
MOS Felt (II) at Yuzhno-Kuril'sk.
*ISCJB **24** 16:14:12.9±0.2, 43.60N±0.03×147.20E±0.03, h59km, mb4.8/123, MS3.9/16, Error ellipse: s-maj=4.7km s-min=2.4km az=138.0*
*BJI **24** 16:14:13.2, 43.78N×147.19E, h63km, mB4.9, mb4.6, Ms4.4, Msz4.2*
*SKHL **24** 16:14:14.0±2.4, 43.80N×147.20E, h72km±30km, mb4.9/9, ms3.8/1*
*NEIC **24** 16:14:14.7±0.1, 43.64N×147.10E, mb4.8/66, Error ellipse: s-maj=4.5km s-min=3.0km az=155.0*
NEIC Felt [II] at Yuzhno-Kuril'sk, Kunashir. Recorded [2 JMA] in eastern Hokkaido.
*JMA **24** 16:14:14.7±0.2, 43.47N×147.13E, h52km±4km, M4.2*
JMA Felt II J1.
*IDC **24** 16:14:14.9±0.5, 43.65N×147.15E, h63km±4km, mb4.3/22, mb1 4.5/24, mb1mx4.4/26, mbtmp4.6/24, MS3.5/9, Ms1 3.5/9, ms1mx3.2/29, Error ellipse: s-maj=12.8km s-min=10.6km az=140.0*
*SZGRF **24** 16:14:16.2, 44.45N×147.71E, h33km, mb5.0, Kuril Islands, Russia*
*BGS **24** 16:14:20.0±1.6, 44.95N×148.74E, h60km, mb5.0*

ISC 24 16:14:14.9±0.2, 43.69N±0.03×147.13E±0.03, h61km, h61km±.7km:pP-P, n394, σ0=88/416, mb4.8/123, 25C-20D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.98**	**291**	⇓*iP*	**Pn**	**16 14 32.8**	**+0.1**
YUK				⇓*iP*		16 14 32.8	
YUK				AMB	AMB	16 14 33.5	
	10μm,3.0s						
YUK				AMB	AMB	16 14 33.5	
	20μm,1.0s						
YUK				AMB	AMB	16 14 34.3	
	5μm,0.5s						
YUK				AMB	AMB	16 14 34.3	
	4μm,0.5s						
YUK				AMB	AMB	16 14 34.3	
	11μm,0.5s						
YUK				*i* S	**Sn**	**16 14 47.0**	**+1.1**
YUK				A		16 14 49.0	
	52μm,1.0s						
YUK				A		16 14 49.0	
	56μm,1.0s						
YUK				A		16 14 49.8	
	19μm,0.2s						
YUK				A		16 14 49.8	
	24μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.98**	**291**	⇓*iPN*	**Pn**	**16 14 32.8**	**+0.1**
YUK				*i* S	**Sn**	**16 14 47.0**	**+1.1**
YUK				pmax	pmax		
	comp=Z,20μm,1.0s						
YUK				pmax	pmax		
	comp=E,10μm,2.5s						
YUK				pmax	pmax		
	comp=Z,11μm,0.3s						
YUK				pmax	pmax		
	comp=N,5μm,0.2s						
YUK				pmax	pmax		
	comp=E,4μm,0.5s						
YUK				smax			
	comp=N,52μm,1.0s						
YUK				smax			
	comp=E,56μm,1.0s						
YUK				smax			
	comp=N,19μm,0.3s						
YUK				smax			
	comp=E,24μm,0.3s						
NEM2	**Nemuro 2**	**1.06**	**253**	P	**Pn**	**16 14 33.0**	**-0.8**
NEM2				*e*S	**Sn**	**16 14 46.4**	**-1.4**
JRA	**Rausu**	**1.48**	**280**	P	**Pn**	**16 14 40.1**	**+0.8**
JRA				*e*S	**Sn**	**16 14 58.4**	**+0.8**
KUR	**Kuril'sk**	**1.63**	**19**	*i* P	**Pn**	**16 14 39.0**	**-2.3**
KUR				AMB	AMB	16 14 44.0	
	comp=E,2μm,1.0s						
KUR				AMB	AMB	16 14 47.5	
	comp=E,490nm,0.4s						
KUR				AMB	AMB	16 14 47.5	
	comp=E,1μm,0.4s						
KUR				*i* S	**Sn**	**16 14 59.5**	**-1.8**
KUR				A		16 15 02.0	
	comp=E,10μm,1.0s						
KUR				A		16 15 02.0	
	comp=E,12μm,1.0s						
KUR	**Kuril'sk**	**1.63**	**19**	⇓*iPN*	**Pn**	**16 14 39.0**	**-2.3**
KUR				*i* S	**Sn**	**16 14 59.5**	**-1.8**
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				pmax	pmax		
	comp=N,490nm,0.4s						
KUR				pmax	pmax		
	comp=E,490nm,0.4s						
KUR				pmax	pmax		
	comp=Z,1μm,0.4s						
KUR				smax			
	comp=N,6μm,0.5s						
KUR				smax			
	comp=E,5μm,0.5s						
KUR				smax			
	comp=N,10μm,1.0s						
KUR				smax			
	comp=E,12μm,1.0s						
JNK	**Nakash**	**1.76**	**267**	P	**Pn**	**16 14 43.0**	**0.0**
JNK				*e*S	**Sn**	**16 15 03.7**	**-0.7**
JAK	**Akkeshi**	**1.91**	**249**	P	**Pn**	**16 14 44.3**	**-0.8**
JAK				*e*S	**Sn**	**16 15 06.3**	**-1.8**
JTKR	**Abashiri--Toko**	**2.35**	**278**	P	**Pn**	**16 14 52.6**	**+1.5**
JAR	**Ashorobuto**	**2.48**	**262**	P	**Pn**	**16 14 53.4**	**+0.5**
JAR				*e*S	**Sn**	**16 15 22.1**	**+0.1**
JOB	**Onbets**	**2.53**	**253**	P	**Pn**	**16 14 53.5**	**-0.1**
JOB				*e*S	**Sn**	**16 15 22.2**	**-1.1**
JMP	**Maruseppu**	**2.75**	**278**	P	**Pn**	**16 14 58.2**	**+1.7**
JCH	**Churui**	**2.96**	**250**	P	**Pn**	**16 14 59.0**	**-0.5**
JCH				*e*S	**Sn**	**16 15 32.1**	**-1.7**
JKK2	**Kamakawa 2**	**3.18**	**275**	P	**Pn**	**16 15 04.4**	**+1.9**
ASAJ	**Asahikawa**	**3.31**	**279**	P	**Pn**	**16 15 06.0**	**+1.8**
	comp=E,6.9nm,0.3s,baz=87,slow=14,SNR=58						
ASAJ				S	**Sn**	**16 15 50.8**	**+8.5**
	comp=E,22nm,0.3s,baz=29,slow=33,SNR=6.5						
ASAJ				LR	LR	16 16 35.0	
	comp=E,585nm,21.4s,baz=150,slow=42						
ASAJ	**Asahikawa**	**3.31**	**279**	P	**Pn**	**16 15 06.3**	**+2.1**
JFR	**Furan**	**3.35**	**262**	P	**Pn**	**16 15 06.3**	**+1.5**
JFR				*e*S	**Sn**	**16 15 44.3**	**+1.0**
JEM	**Erimo**	**3.37**	**242**	P	**Pn**	**16 15 05.6**	**+0.6**
JSE	**Soyaes**	**3.50**	**293**	P	**Pn**	**16 15 08.9**	**+2.1**
JNBK	**Urakawa-nobuka**	**3.51**	**248**	P	**Pn**	**16 15 06.7**	**-0.3**
YSS	**Yuzh-Sakhalins**	**4.49**	**318**	⇓*iP*	**Pn**	**16 15 22.5**	**+2.1**
YSS				AMB	AMB	16 15 23.0	
	comp=E,120nm,0.8s						
YSS				AMB	AMB	16 15 23.0	
	comp=E,70nm,0.8s						
YSS				AMB	AMB	16 15 23.0	
	comp=E,90nm,0.8s						
YSS				*e*S	**Sn**	**16 16 12.0**	**+0.7**
YSS				A		16 16 16.0	
	comp=E,280nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.49**	**318**	⇓*iPN*	**Pn**	**16 15 22.5**	**+2.1**
YSS				*e*S	**Sn**	**16 16 12.0**	**+0.7**
YSS				pmax	pmax		
	comp=N,70nm,0.8s						
YSS				pmax	pmax		
	comp=E,90nm,0.8s						
YSS				pmax	pmax		
	comp=Z,120nm,0.8s						
YSS				smax			
	comp=E,280nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.49**	**318**	⇓*e*Pn	**Pn**	**16 15 22.7**	**+2.3**
YSS				*e*S	**Sn**	**16 16 07.6**	**-3.7**
UGL	**Uglegorsk**	**6.43**	**329**	*e*PN	**Pn**	**16 15 51.0**	**+4.1**
UGL				*e*S	**Sn**	**16 17 03.5**	**+4.7**
UGL				pmax	pmax		
	comp=Z,26nm,0.7s						
UGL				smax			
	comp=N,72nm,0.6s						
UGL				smax			
	comp=E,48nm,0.6s						
UGL				smax			
	comp=Z,42nm,0.7s						
TYV	**Tymovskoe**	**7.79**	**339**	*eP*	**Pn**	**16 16 08.8**	**+3.2**
TYV				AMB	AMB	16 16 12.0	
	comp=Z,5.0nm,0.7s						
TYV				A		16 17 38.0	
	comp=Z,48nm,1.0s						
TYV				A		16 17 38.0	
	comp=Z,66nm,1.0s						
TYV				AMS	AMS	16 19 22.0	
	comp=Z,300nm,17.0s						
SKR	**Severo-Kuril's**	**9.29**	**38**	*eP*	**Pn**	**16 16 20.0**	**-6.0**
SKR				AMB	AMB	16 16 22.5	
	comp=Z,20nm,0.5s						
SKR				AMB	AMB	16 16 22.5	
	comp=Z,80nm,0.5s						
SKR

comp=Z,9.0nm,0.4s
PET AMS AMS 16 20 49.8
comp=Z,230nm,16.0s
PET AMS AMS 16 20 59.7
comp=Z,240nm,18.0s
MDJ Mudanjiang 12.64 280 P **Pn 16 17 11.3 -0.4**
MDJ AMB AMB
comp=Z,4.0nm,0.7s
MDJ AMB AMB
comp=Z,42nm,4.4s
MDJ LR LR
comp=N,106nm,7.5s
MDJ LR LR
comp=E,122nm,6.7s
MDJ LR LR
comp=Z,150nm,10.2s
EKMR Ekimchan 13.28 320 *eP* **Pn 16 17 17.9 -2.6**
EKMR AMB AMB 16 17 20.0
comp=Z,5.0nm,0.6s
CN2 Changchun 15.67 278 *eP* **Pn 16 17 52.5 +0.7**
MA2 Magadan 16.06 7 *eP* **Pn 16 17 56.1 -0.7**
MA2 pmax pmax
comp=Z,20nm,0.6s
KROS Kirovskiy 16.97 316 *eP* **Pn 16 18 05.1 -3.0**
KROS AMB AMB 16 18 11.2
comp=Z,4.0nm,0.5s
SNY Shenyang 17.39 272 ⇓P **Pn 16 18 11.8 -1.5**
SNY AMB AMB
comp=Z,4.0nm,0.2s
CLNS Chul'man 19.25 321 *eP* **Pn 16 18 32.4 -3.4**
CLNS pmax pmax
comp=E,11nm,0.8s
CLNS pmax pmax
comp=Z,11nm,0.8s
CLNS pmax pmax
comp=N,7.0nm,0.7s
YAK Yakutsk 21.05 337 *eP* **P 16 18 50.5 -3.2**
YAK *i* 16 19 11.1
YAK *eS* **S 16 22 41.4 -3.2**
YAK *e**SS sS 16 23 00.6 -5.7
YAK *e* 16 30 11.1
YAK pmax pmax
comp=Z,22nm,0.9s,mb4.5
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK smax
comp=E,13nm,1.4s
YAK smax
comp=Z,6.0nm,0.9s
YAK smax
comp=N,8.0nm,1.5s
YAK Yakutsk 21.05 337 *eP* **P 16 18 49.0 -4.8**
comp=N,45nm,0.6s,mb5.0
BJI Beijing 23.27 272 P **P 16 19 15.5 -1.7**
BOD Bodaibo 24.96 316 *eP* **P 16 19 28.9 -3.7**
BOD pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
NJ2 Nanjing 25.04 252 *eP* **P 16 19 34.8 +1.5**
NJ2 AP pP 16 19 48.0 -0.1
NJ2 XP sP 16 19 55.5 +0.2
NJ2 PP 16 20 10.8
NJ2 S **S 16 23 54.0 +0.8**
NJ2 XS sS 16 24 19.0 +0.5
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
NJ2 AMB AMB
comp=Z,370nm,5.5s
NJ2 LR LR
comp=N,1μm,14.9s
NJ2 LR LR
comp=E,700nm,16.4s
NJ2 LR LR
comp=Z,1μm,15.5s
ULN Ulaanbaatar 28.04 293*d iP* **P 16 20 01.1 +0.8**
SONM Songino Array 28.48 293 P **P 16 20 04.7 +0.5**
comp=Z,9.0nm,0.7s,mb4.5,baz=87,slow=8.7,SNR=58
SONM pP pP 16 20 20.9 +1.8
comp=Z,5.6nm,0.8s,baz=74,slow=8.2,SNR=6.6
SONM LR LR 16 32 35.4
comp=Z,112nm,19.2s,baz=83,slow=39
SONM Songino Array 28.48 293 P **P 16 20 04.7 +0.5**
SONM *PP pP 16 20 20.9 +1.7
SPIA Saint Paul Isl 29.77 48 *eP* **P 16 20 06.7 -9.0**
TLY Talaya 29.97 301*d iP* **P 16 20 18.0 +0.6**
TLY pmax pmax
comp=Z,5.0nm,1.2s,mb4.1
GUMO Guam 30.06 184 LR LR 16 30 34.0
comp=Z,94nm,19.1s,baz=18,slow=33
ZAK Zakamensk 30.27 298 *eP* **P 16 20 18.9 -1.2**
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
TNA Tin City 32.91 33 *eP* **P 16 20 43.9 +0.7**
LZH Lanzhou 33.76 272 *eP* **P 16 20 51.6 +0.9**
LZH AP pP 16 21 06.8 +1.0
LZH XP sP 16 21 13.6 +0.7
LZH PP PP 16 22 06.3 -1.7
LZH *eS* **S 16 26 10.3 +0.4**
LZH XS sS 16 26 34.6 -1.0
LZH *e*SS SS 16 28 18.3 -19
LZH AMB AMB
comp=Z,33nm,1.1s,mb5.2
LZH AMB AMB
comp=Z,118nm,5.4s
LZH LR LR
comp=E,867nm,13.6s
LZH LR LR
comp=Z,2μm,17.4s
GTA Gaotai 35.29 280 *eP* **P 16 21 05.3 +1.4**
GTA AP pP 16 21 20.8 +1.7
GTA XP sP 16 21 26.9 +0.7
GTA PP PP 16 22 26.8 +1.9
GTA PCP PcP 16 23 34.0 +0.7
GTA S **S 16 26 35.8 +2.3**
GTA XS sS 16 27 02.8 +3.6
GTA SCP ScP 16 27 14.3 +0.6
GTA PCS PcS 16 27 21.5 +1.2
GTA SCS ScS 16 31 15.6 -2.4
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb4.4
GTA AMB AMB
comp=Z,124nm,5.7s
GTA LR LR
comp=N,106nm,13.3s
GTA LR LR
comp=E,62nm,15.2s
GTA LR LR
comp=Z,91nm,14.1s
KRAR Krasnoyarsk 36.15 309 *eP* **P 16 21 10.4 -0.8**
KRAR pmax pmax
comp=Z,37nm,1.3s,mb5.2
CD2 Chengdu 36.39 264 P **P 16 21 13.4 +0.1**
CD2 AP pP 16 21 28.6 +0.1
CD2 XP sP 16 21 35.8 +0.2
CD2 PP PP 16 22 38.3 +1.3
CD2 S **S 16 26 49.5 -0.7**
CD2 XS sS 16 27 15.0 -1.1
CD2 SS SS 16 29 16.0 -15
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
CD2 AMB AMB
comp=Z,60nm,4.8s
TTA Tatalina 37.48 39 *eP* **P 16 21 23.6 +1.0**
SVW2 Sparrevohn 37.62 42 *eP* **P 16 21 24.5 +0.8**
IMA2 Indian Mountai 38.73 34 *eP* **P 16 21 33.5 +0.4**
KDAK Kodiak Island 39.30 47 P **P 16 21 37.5 -0.4**
comp=Z,25nm,0.8s,mb5.0,baz=210,slow=2.5,SNR=9.1
SLKM Skilak Lake 40.26 43 *eP* **P 16 21 45.6 -0.2**
KMI Kunming 40.49 258 P **P 16 21 48.1 +0.4**
KMI AP pP 16 22 02.6 -0.5
KMI XP sP 16 22 07.5 -2.7
KMI PP PP 16 23 21.9 0.0
KMI S **S 16 27 51.6 -0.5**
KMI XS sS 16 28 19.1 +0.9
KMI SS SS 16 30 49.9 -3.6
KMI AMB AMB
comp=Z,5.0nm,1.3s,mb4.1
KMI AMB AMB
comp=Z,90nm,5.3s
KMI LR LR
comp=N,132nm,11.3s
KMI LR LR
comp=E,195nm,13.2s
KMI LR LR

comp=Z,129nm,15.7s
MCK McKinley 40.69 38 *eP* **P 16 21 49.8 +0.5**
MCK pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
MCK McKinley 40.69 38 *eP* **P 16 21 49.8 +0.4**
comp=Z,2.6nm,0.6s,mb4.0
ZAL Zalesovo 41.04 307 P **P 16 21 52.1 -0.1**
comp=Z,5.0nm,0.5s,mb4.4,baz=28,slow=7.5,SNR=21
DAV Davao City (W) 41.08 214 *eP* **P 16 21 54.8 +2.2**
COLA College 41.13 36 *eP* **P 16 21 53.5 +0.6**
COLA pmax pmax
comp=Z,16nm,0.8s,mb4.7
COLA College 41.13 36 *eP* **P 16 21 53.5 +0.5**
comp=Z,16nm,0.8s,mb4.7
NVS Novosibirsk 41.75 309 *eP* **P 16 21 56.7 -1.3**
WMQ Urumqi 42.10 292 P **P 16 22 02.5 +1.6**
WMQ AP pP 16 22 17.9 +1.5
WMQ XP sP 16 22 25.1 +1.7
WMQ PP PP 16 23 44.0 +4.7
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
WMQ AMB AMB
comp=Z,103nm,4.0s
WMQ LR LR
comp=N,557nm,11.5s
WMQ LR LR
comp=E,418nm,10.4s
WMQ LR LR
comp=Z,568nm,12.0s
MK31 Makanchi Array 44.60 298 P **P 16 22 21.3 +0.3**
MK31 pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
MKAR Makanchi Array 44.60 298 P **P 16 22 21.6 +0.5**
comp=Z,23nm,0.7s,mb5.1,baz=74,slow=9.1,SNR=199
DAWY Dawson 44.85 37 *eP* **P 16 22 23.6 +0.5**
KURK Kurchatov 45.55 304⇑ *eP* **P 16 22 28.6 0.0**
KURK Kurchatov 45.55 304 *eP* **P 16 22 28.0 -0.6**
INK Inuvik 46.46 30 P **P 16 22 36.2 +0.5**
comp=Z,17nm,0.5s,mb5.3,baz=298,slow=7.2,SNR=66
INK Inuvik 46.46 30 *eP* **P 16 22 36.0 +0.3**
INK pmax pmax
comp=Z,37nm,0.8s
INK Inuvik 46.46 30 *eP* **P 16 22 36.0 +0.3**
comp=Z,37nm,0.8s,mb5.4
CHKZ Chkalovo 49.16 310 *eP* **P 16 22 55.6 -1.0**
CHKZ pmax pmax
comp=Z,17nm,0.9s,mb5.1
CHKZ Chkalovo 49.16 310 *eP* **P 16 22 55.6 -1.1**
comp=Z,17nm,0.9s,mb5.1
BVA0 Borovoye Array 49.53 309 *i* P **P 16 22 58.9 -0.5**
BRVK Borovoye 49.58 309 *eP* **P 16 22 59.5 -0.3**
BRVK pmax pmax
comp=Z,13nm,1.1s,mb4.9
BRVK Borovoye 49.58 309 *eP* **P 16 22 59.5 -0.3**
comp=Z,13nm,1.1s,mb4.9
ZRNK Zerenda 50.33 310 *i* P **P 16 23 05.2 -0.3**
ZRNK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
ZRNK Zerenda 50.33 310 *eP* **P 16 23 04.9 -0.6**
comp=Z,12nm,0.7s,mb5.0
ULHL Ulahol 50.40 294 P **P 16 23 07.6 +1.6**
SNR=10
TKM2 Tokmak 2 50.52 295 P **P 16 23 08.3 +1.4**
SNR=29
JIRN Jiri 50.92 273 *eP* **P 16 23 11.2 +1.2**
comp=Z,22nm,0.7s,mb5.2
GUN Gumba 51.01 273 *eP* **P 16 23 10.8 +0.2**
comp=Z,51nm,0.7s,mb5.6
KBK Karagaybulak 51.06 295 P **P 16 23 12.0 +0.9**
SNR=17
USP Ospenovka 51.08 296 P **P 16 23 12.1 +0.9**
SNR=24
KZA Kyzart 51.13 295 P **P 16 23 14.0 +2.5**
SNR=8.6
FRU Bishkek 51.20 296 *eP* **P 16 23 12.0 0.0**
AAK Ala-Archa 51.37 296*c iP* **P 16 23 13.0 -0.3**
AAK pmax pmax
comp=Z,15nm,1.1s,mb4.8
KKN Kakani 51.51 274 *eP* **P 16 23 15.2 +0.9**
comp=Z,19nm,0.8s,mb5.1
KKN Kakani 51.51 274 *eP* **P 16 23 15.2 +0.9**
KKN pmax pmax
comp=Z,19nm,0.8s,mb5.1
PKI Pulchoki 51.54 273 *eP* **P 16 23 14.9 +0.3**
DMN Daman 51.74 273 *eP* **P 16 23 16.8 +0.7**
comp=Z,36nm,1.0s,mb5.3
EKS2 Erkin-Say 51.83 296 P **P 16 23 17.4 +0.7**
SNR=7.7
GKN Gorkha 51.85 274 *eP* **P 16 23 17.3 +0.4**
comp=Z,12nm,0.3s,mb5.3
AML Almayashu 52.13 295 P **P 16 23 20.6 +1.7**
SNR=12
KOLN Koldanda 52.73 275 *eP* **P 16 23 24.3 +0.9**
comp=Z,29nm,0.8s,mb5.3
SVE Sverdlovsk 53.18 317 *eP* **P 16 23 25.7 -1.0**
SVE pmax pmax
comp=Z,40nm,1.0s,mb5.3
KK31 Karatay Array 53.73 298 *i* P **P 16 23 30.8 +0.1**
KK31 pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
KKAR Karatay Array 53.73 298 *eP* **P 16 23 30.8 +0.1**
KKAR pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
LGTI Lohaghat 54.19 278 *i* P **P 16 23 33.5 -0.6**
ARU Arti 54.38 317⇑ *iP* **P 16 23 34.4 -1.1**
ARU pmax pmax
comp=Z,17nm,0.8s,mb5.0
ARU Arti 54.38 317 *eP* **P 16 23 33.8 -1.7**
comp=Z,14nm,0.6s,mb5.1
KBS Kingsbay 54.84 350⇑ *eP* **P 16 23 37.7 -1.1**
RES Resolute Bay 55.03 17 *eP* **P 16 23 39.2 -1.0**
RES pmax pmax
comp=Z,18nm,0.6s,mb5.3
RES Resolute Bay 55.03 17 *eP* **P 16 23 39.2 -1.0**
comp=Z,18nm,0.6s,mb5.3
YKW3 Yellowknife Ar 55.82 34 *eP* **P 16 23 45.8 0.0**
YKA Yellowknife Ar 55.86 34 P **P 16 23 46.1 0.0**
comp=Z,3.3nm,0.5s,mb4.6,baz=301,slow=6.8,SNR=22
YKA pP pP 16 24 01.6 -0.6
comp=Z,6.3nm,0.8s,baz=304,slow=7.3,SNR=6.6
YKA Yellowknife Ar 55.86 34 P **P 16 23 46.1 0.0**
YKA pP pP 16 24 01.6 -0.6
AB31 Akbulak array 57.09 309 *eP* **P 16 23 54.9 0.0**
AB31 pmax pmax
comp=Z,9.0nm,0.4s,mb5.2
KEV Kevo 58.76 339 *ep* **P 16 24 04.2 -2.4**
comp=Z,1.9nm,0.3s,mb4.6
KEV Kevo 58.76 339 *eP* **P 16 24 04.2 -2.4**
KEV pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
ARCES ARCESS Array B 59.30 340 P **P 16 24 09.1 -1.2**
comp=Z,2.9nm,0.5s,mb4.5,baz=48,slow=6.7,SNR=24
ARCES LR LR 16 53 03.7
comp=Z,34nm,18.7s,baz=117,slow=39
ARE0 ARCESS Array S 59.30 340 *eP* **P 16 24 09.3 -1.0**
EDM Edmonton 61.45 42 *eP* **P 16 24 24.8 -0.2**
EDM *e**PP pP 16 24 40.8 -0.5
JOF Joensuu 62.13 332 *ep* **P 16 24 27.8 -1.8**
comp=Z,6.9nm,0.4s,mb5.1
HYB Hyderabad 62.76 268 *i* P **P 16 24 35.0 +1.2**
HYB Hyderabad 62.76 268 *eP* **P 16 24 34.0 +0.2**
YBH Yreka Blue Hor 62.94 57 P **P 16 24 35.3 +0.4**
comp=Z,1.7nm,0.8s,mb4.2,baz=106,slow=6.9,SNR=4.1
WALA Waterton Lakes 63.63 46 *eP* **P 16 24 39.6 +0.1**
comp=Z,6.1nm,0.7s,mb4.7
WALA *ep*P pP 16 24 55.2 -0.7
BSMT Bassoo Peak 63.89 48 *eP* **P 16 24 41.4 +0.2**
BSMT *ep*P pP 16 24 58.1 +0.5
SUMG Summit 63.97 2 *eP* **P 16 24 42.0 +0.3**
comp=Z,15nm,0.8s,mb5.1
KAF Kangasniemi 64.36 333 *ep* **P 16 24 42.3 -2.0**
comp=Z,6.0nm,0.5s,mb4.9,baz=42,slow=6.3
KAF Kangasniemi 64.36 333 *eP* **P 16 24 42.3 -2.0**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
WB2 Warramunga Arr 64.40 193 *eP* **P 16 24 43.3 -1.2**
WRA Warramunga Arr 64.40 193 P **P 16 24 43.0 -1.6**
comp=Z,4.4nm,0.9s,mb4.5,baz=8.7,slow=6.9,SNR=34
WRA pP pP 16 25 01.5 +0.5
comp=Z,2.0nm,0.7s,baz=15,slow=7.0,SNR=5.1
FITZ Fitzroy Crossi 64.57 203 P **P 16 24 45.0 -0.7**
comp=Z,0.9nm,0.7s,mb3.9,baz=138,slow=2.5,SNR=5.1
FIA1 FINESS Array S 64.92 333 *eP* **P 16 24 46.4 -1.6**
FINES FINESS Array B 64.92 333 P **P 16 24 46.8 -1.2**
comp=Z,11nm,0.6s,mb5.1,baz=47,slow=7.8,SNR=81
FINES LR LR 16 59 19.5

comp=Z,29nm,20.5s,baz=160,slow=42
FINES FINESS Array B 64.92 333 *i* P **P 16 24 46.7 -1.3**
FINES pmax pmax
comp=Z,11nm,0.6s
MSO Missoula 64.97 48 *eP* **P 16 24 49.0 +0.7**
OBN Obninsk 65.36 324*c iP* **P 16 24 50.2 -0.6**
OBN pmax pmax
comp=Z,37nm,1.0s,mb5.4
FFC Flin Flon 65.75 36 *eP* **P 16 24 53.0 -0.3**
FFC *PP pP 16 25 08.4 -1.4
FFC pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
FFC Flin Flon 65.75 36 *eP* **P 16 24 53.0 -0.3**
comp=Z,9.6nm,0.7s,mb4.9
FFC *ep*P pP 16 25 08.4 -1.4
HRY Holter Researc 66.18 48 *eP* **P 16 24 56.5 +0.4**
HRY *ep*P pP 16 25 12.6 +0.1
LRM Limekiln Ridge 66.40 49 *eP* **P 16 24 58.4 +0.9**
LRM *ep*P pP 16 25 14.1 +0.2
EGMT Eagleton 66.44 46 *eP* **P 16 24 57.7 -0.1**
comp=Z,14nm,0.9s,mb5.0
EGMT *ep*P pP 16 25 14.1 -0.1
DLMT Dillon 66.61 49 *eP* **P 16 24 59.5 +0.6**
comp=Z,5.1nm,0.9s,mb4.5
DLMT *ep*P pP 16 25 15.7 +0.3
VRSR Storozhevoye 66.76 319 *eP* **P 16 24 59.7 -0.1**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,1.0s
MCMT McKenzie Canyo 66.81 50 *eP* **P 16 24 57.6 -2.5**
BOZ Bozeman (W) 66.96 48 *eP* **P 16 25 01.8 +0.8**
BOZ *PP pP 16 25 17.8 +0.3
BOZ pmax pmax
comp=Z,5.0nm,0.3s,mb5.0
BOZ Bozeman (W) 66.96 48 *eP* **P 16 25 01.8 +0.8**
comp=Z,4.5nm,0.3s,mb5.0
BOZ *ep*P pP 16 25 17.8 +0.3
QLMT Earthquake Lak 67.59 49 *eP* **P 16 25 05.2 +0.2**
NVAR Mina Array Bea 67.62 58 P **P 16 25 06.1 +0.9**
comp=Z,3.8nm,0.7s,mb4.6,baz=284,slow=8.4,SNR=37
NVAR pP pP 16 25 22.2 +0.5
comp=Z,4.0nm,0.6s,baz=305,slow=5.4,SNR=16
MNV Mina 67.71 58 *eP* **P 16 25 06.2 +0.4**
MNV *PP pP 16 25 22.4 +0.1
MNV pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MNV Mina 67.71 58 *eP* **P 16 25 06.2 +0.3**
comp=Z,4.0nm,0.9s,mb4.5
MNV *ep*P pP 16 25 22.4 0.0
GCMT Greycliff 67.92 47 *eP* **P 16 25 07.4 +0.3**
GCMT *ep*P pP 16 25 23.8 +0.1
AS31 Alice Springs 68.12 193 *eP* **P 16 25 08.0 -0.3**
ASAR Alice Springs 68.12 193 P **P 16 25 08.1 -0.3**
comp=Z,2.1nm,0.8s,mb4.2,baz=9.3,slow=6.4,SNR=19
ASAR pP pP 16 25 25.0 +0.1
comp=Z,1.2nm,0.8s,baz=7.3,slow=6.2,SNR=4.5
ASPA Alice Springs 68.12 193 *eP* **P 16 25 08.0 -0.4**
IMW Indian Meadow 68.46 50 *eP* **P 16 25 11.3 +0.9**
RRI2 Red Ridge 68.60 50 *eP* **P 16 25 12.8 +1.4**
RRI2 *ep*P pP 16 25 28.3 +0.4
MOOW Moose Ponds 68.66 50 *eP* **P 16 25 12.5 +0.8**
MOOW *ep*P pP 16 25 28.7 +0.4
TPAW Teton Pass 68.71 50 *eP* **P 16 25 13.3 +1.2**
comp=Z,11nm,0.8s,mb4.8
TPAW *ep*P pP 16 25 29.1 +0.5
REDW Red Top Meadow 68.85 50 *eP* **P 16 25 14.0 +1.1**
REDW *ep*P pP 16 25 30.7 +1.2
LAO LASA Array 69.13 45 *eP* **P 16 25 14.9 +0.3**
comp=Z,11nm,0.9s,mb4.8
LAO *ep*P pP 16 25 31.4 +0.1
HWUT Hardware Ranch 69.59 52 *eP* **P 16 25 17.6 +0.1**
HWUT *ep*P pP 16 25 34.7 +0.6
NB2 NORSAR Subarra 69.65 339 P **P 16 25 17.2 -0.7**
comp=Z,35nm,1.0s,mb5.2,baz=32,slow=6.5
NOA NORSAR Array B 69.65 339 P **P 16 25 16.9 -1.0**
comp=Z,15nm,0.8s,mb5.0,baz=32,slow=6.2,SNR=70
NOA LR LR 16 59 04.5
comp=Z,30nm,21.6s,baz=340,slow=39
NOA NORSAR Array B 69.65 339 P **P 16 25 16.9 -1.0**
NOA LR LR 16 59 04.5
KIV Kislovodsk 69.79 312 *eP* **P 16 25 19.7 +0.9**
KIV pmax pmax
comp=Z,24nm,0.6s,mb5.3
KIV MLR MLR
comp=Z,41nm,18.0s
TPNV Topopah Spring 69.82 58 *eP* **P 16 25 19.3 +0.4**
TPNV *PP pP 16 25 35.7 +0.2
TPNV pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TPNV Topopah Spring 69.82 58 *eP* **P 16 25 19.3 +0.4**
comp=Z,5.1nm,0.8s,mb4.5
TPNV *ep*P pP 16 25 35.7 +0.2
BW06 Boulder Array 69.96 50 *eP* **P 16 25 19.9 +0.2**
BW06 *ep*P pP 16 25 36.3 -0.1
PDAR Pinedale Array 69.96 50 P **P 16 25 19.6 -0.2**
comp=Z,2.5nm,0.8s,mb4.2,baz=294,slow=3.1,SNR=19
PDAR pP pP 16 25 35.9 -0.5
comp=Z,4.1nm,0.7s,baz=268,slow=0.7,SNR=14
BORG Borgarnes 71.52 355 *eP* **P 16 25 29.7 +0.4**
SUW Suwalki 71.55 329 *eP* **P 16 25 28.9 -0.5**
ULM Lac du Bonnet 71.56 37 P **P 16 25 28.6 -0.9**
comp=Z,1.1nm,0.4s,mb4.1,baz=321,slow=5.4,SNR=5.0
AKASG Malin Array Be 71.62 324 P **P 16 25 29.5 -0.3**
comp=Z,11nm,0.5s,mb5.0,baz=38,slow=6.0,SNR=42
AKASG Malin Array Be 71.62 324 P **P 16 25 29.5 -0.3**
AKBB Malin Array Si 71.62 324 *eP* **P 16 25 29.4 -0.5**
SOC Sochi 71.63 313 *eP* **P 16 25 29.1 -0.8**
SOC *e* pP 16 25 45.7 -0.9
SOC *eS* S 16 34 43.4 -1.3
SOC *e**SS sS 16 35 11.0 -1.9
SOC pmax pmax
comp=Z,14nm,0.6s,mb5.1
SRU San Rafael 71.83 53 *eP* **P 16 25 31.4 +0.3**
SRU *e**PP pP 16 25 47.9 +0.1
RWWY Rawlins 71.97 49 *eP* **P 16 25 31.8 -0.2**
comp=Z,16nm,1.0s,mb4.9
RWWY *ep*P pP 16 25 47.9 -0.7
ANN Anapa 71.98 315 *eP* **P 16 25 31.6 -0.4**
ANN pmax pmax
comp=Z,25nm,0.8s,mb5.2
PV10 Paradox Valley 73.18 53 *eP* **P 16 25 40.4 +1.2**
PV10 *ep*P pP 16 25 56.5 +0.7
SMCO Snowmass 73.82 51 *eP* **P 16 25 43.8 +0.9**
SMCO *ep*P pP 16 26 00.1 +0.5
KWP Kalwaria 75.15 326 *eP* **P 16 25 51.3 +0.7**
BURAR Bucovina Array 75.68 324⇑ *iP* **P 16 25 54.1 +0.5**
BURAR Bucovina Array 75.68 324⇑ P **P 16 25 54.1 +0.4**
OJC Ojcow 75.82 328 *eP* **P 16 25 54.9 +0.4**
KOLS Kolonicke sedl 75.88 326 *eP* **P 16 25 54.7 -0.1**
KOLS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KOLS Kolonicke sedl 75.88 326 *eP* **P 16 25 54.7 -0.1**
comp=Z,4.4nm,0.8s,mb4.4
BSEG Bad Segeberg 75.97 335 *eP* **P 16 25 55.5 +0.2**
comp=Z,11nm,0.7s,mb4.9
MALT Malatya 76.00 310 P **P 16 25 56.5 +1.0**
MALT pmax pmax
comp=Z,13nm,1.1s,mb4.8
MALT Malatya 76.00 310 P **P 16 25 56.5 +1.0**
comp=Z,13nm,1.1s,mb4.8
CRVS Cervenica-Dubn 76.23 327 *eP* **P 16 25 57.0 +0.2**
CFR Carcaliu 76.24 320⇓ *iP* **P 16 25 57.4 +0.6**
CFR Carcaliu 76.24 320⇓ **P 16 25 57.4 +0.5**
VRI Vrincioaia 76.36 322⇓ *iP* **P 16 25 59.4 +1.9**
VRI Vrincioaia 76.36 322⇓ **P 16 25 59.4 +1.9**
UMR Umm Al-Rimmam 76.45 298 *eP* **P 16 25 57.9 -0.1**
UMR AMb AMB 16 25 59.0
comp=Z,26nm,0.6s,mb5.3
MIB Mutribah 76.52 298 *eP* **P 16 25 58.2 -0.2**
MIB AMb AMB 16 26 00.0
comp=Z,32nm,0.9s,mb5.2
KSP Ksiaz 76.61 330 *eP* **P 16 25 59.3 +0.4**
KSP Ksiaz 76.61 330 *eP* **P 16 25 59.1 +0.2**
TIRR Tirgusor 76.65 320⇓ *iP* **P 16 25 59.7 +0.5**
TIRR Tirgusor 76.65 320⇓ **P 16 25 59.6 +0.5**
KBD Kabd 76.72 298 *eP* **P 16 25 59.6 0.0**
KBD AMb AMB 16 26 00.8
comp=Z,67nm,0.7s,mb5.7
QRN Al-Qurain 76.86 297 *eP* **P 16 26 00.2 -0.1**
QRN AMb AMB 16 26 01.5
comp=Z,60nm,0.6s,mb5.7

NAY	**Al-Naaiem**		**76.95 298**	*e*P		**P**	**16 26 00.4**	**-0.5**
NAY				AMb		AMB	16 26 01.9		
	comp=Z,14nm,0.7s,mb5.0								
RDF	**Al-Radifah**		**76.98 297**	*e*P		**P**	**16 26 01.4**	**+0.4**
RDF				AMb		AMB	16 26 02.6		
	comp=Z,48nm,0.6s,mb5.6								
UPC	**Upice**		**76.99 330**	*e*P		**P**	**16 26 00.9**	**-0.2**
MLR	**Muntele Rosu**		**77.00 322**	P		**P**	**16 26 00.7**	**-0.4**
	comp=Z,3.8nm,0.3s,mb4.8,baz=164,slow=13,SNR=9.7								
MLR	**Muntele Rosu**		**77.00 322**	⇓*i*P		**P**	**16 26 00.6**	**-0.5**
MLR	**Muntele Rosu**		**77.00 322**	⇓P		**P**	**16 26 00.6**	**-0.5**
DPC	**Dobruska-Polom**		**77.01 330**	*e*P		**P**	**16 26 01.8**	**+0.6**
MORC	**Moravsky Berou**		**77.03 329**	⇓*i*P		**P**	**16 26 01.9**	**+0.6**
MORC	**Moravsky Berou**		**77.03 329**	⇓P		**P**	**16 26 01.9**	**+0.6**
CLL	**Collm**		**77.36 333**	*e*P		**P**	**16 26 02.6**	**-0.5**
	comp=Z,31nm,0.8s,mb5.3								
CLL	**Collm**		**77.36 333**	⇑P		**P**	**16 26 02.9**	**-0.2**
	comp=Z,logA/T=1.7,mb5.4								
CLL	**Collm**		**77.36 333**	⇑*i*P		**P**	**16 26 02.9**	**-0.2**
	comp=Z,34nm,0.7s,mb5.4								
CLL	**Collm**		**77.36 333**	⇑*i*P		**P**	**16 26 02.9**	**-0.2**
CLL				pmax		pmax			
	comp=Z,34nm,0.7s,mb5.4								
CLL	**Collm**		**77.36 333**	⇑*i*P		**P**	**16 26 02.9**	**-0.2**
	comp=Z,34nm,0.7s,mb5.4								
DRGR			**77.39 324**	⇑*i*P		**P**	**16 26 04.1**	**+0.8**
ESY	**Stoneypath**		**77.52 343**	*e*P		**P**	**16 26 03.6**	**-0.4**
ESY	**Stoneypath**		**77.52 343**	*e*P		**P**	**16 26 03.6**	**-0.4**
FBE	**Freiberg**		**77.57 332**	*e*P		**P**	**16 26 04.2**	**-0.1**
BRTR	**Keskin Array B**		**77.58 314**	P		**P**	**16 26 04.5**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.3,baz=68,slow=3.0,SNR=17								
BRTR	**Keskin Array B**		**77.58 314**	*i* P		**P**	**16 26 05.0**	**+0.7**
BRTR				pmax		pmax			
	comp=Z,3.0nm,0.8s								
VYHS	**Vyhne**		**77.59 328**	*e*P		**P**	**16 26 04.9**	**+0.5**
VYHS				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.4								
VYHS	**Vyhne**		**77.59 328**	*e*P		**P**	**16 26 04.9**	**+0.5**
	comp=Z,3.0nm,0.6s,mb4.4								
EAB	**Aberfoyle**		**77.62 344**	*e*P		**P**	**16 26 04.3**	**-0.3**
EAB	**Aberfoyle**		**77.62 344**	*e*P		**P**	**16 26 04.3**	**-0.3**
PSZ	**Piszkesteto**		**77.64 327**	*e*P		**P**	**16 26 05.1**	**+0.4**
PSZ				pmax		pmax			
	comp=Z,10.0nm,0.8s,mb4.8								
PSZ	**Piszkesteto**		**77.64 327**	*e*P		**P**	**16 26 05.1**	**+0.4**
	comp=Z,10.0nm,0.8s,mb4.8								
SCHQ	**Schefferville**		**77.68 19**	P		**P**	**16 26 04.7**	**-0.3**
	comp=Z,3.3nm,0.5s,mb4.6,baz=265,slow=9.3,SNR=21								
SCHQ				LR		LR	17 02 06.1		
	comp=Z,44nm,18.4s,baz=244,slow=37								
SCHQ	**Schefferville**		**77.68 19**	*e*P		**P**	**16 26 04.6**	**-0.3**
	comp=Z,3.9nm,0.5s,mb4.6								
EBL	**Broad Law**		**77.74 343**	*e*P		**P**	**16 26 04.6**	**-0.7**
EBL	**Broad Law**		**77.74 343**	*e*P		**P**	**16 26 04.6**	**-0.7**
EAU	**Auchinoon**		**77.76 344**	*e*P		**P**	**16 26 05.2**	**-0.2**
EAU	**Auchinoon**		**77.76 344**	*e*P		**P**	**16 26 05.2**	**-0.2**
CLZ	**Clausthal**		**77.76 334**	*e*P		**P**	**16 26 04.8**	**-0.6**
	comp=Z,16nm,0.8s,mb5.0								
CLZ	**Clausthal**		**77.76 334**	*e*P		**P**	**16 26 04.8**	**-0.6**
CLZ				pmax		pmax			
	comp=Z,16nm,0.8s,mb5.0								
VRAC	**Vranov**		**77.77 329**	⇑*i*P		**P**	**16 26 06.7**	**+1.3**
VRAC	**Vranov**		**77.77 329**	⇑P		**P**	**16 26 06.7**	**+1.2**
PRU	**Pruhonice**		**77.94 331**	*e*P		**P**	**16 26 06.4**	**0.0**
SMOL	**Smolenice**		**78.11 328**	*e*P		**P**	**16 26 08.5**	**+1.2**
GTTG	**Gyttingen**		**78.14 334**	*e*P		**P**	**16 26 07.3**	**-0.2**
	comp=Z,16nm,1.0s,mb4.9								
IBBN	**Ibbenburen**		**78.16 336**	*e*P		**P**	**16 26 07.4**	**-0.2**
ESK	**Eskdalemuir**		**78.20 343**	*e*P		**P**	**16 26 07.6**	**-0.2**
ESK	**Eskdalemuir**		**78.20 343**	*e*P		**P**	**16 26 07.6**	**-0.2**
ESK	**Eskdalemuir**		**78.20 343**	*e*P		**P**	**16 26 07.1**	**-0.7**
ESK				pmax		pmax			
	comp=Z,8.0nm,0.6s,mb4.8								
ESK	**Eskdalemuir**		**78.20 343**	*e*P		**P**	**16 26 07.1**	**-0.7**
	comp=Z,7.7nm,0.6s,mb4.8								
MOX	**Moxa**		**78.39 333**	*e*P		**P**	**16 26 08.8**	**0.0**
	comp=Z,7.0nm,0.7s,mb4.7								
MOX	**Moxa**		**78.39 333**	*e*P		**P**	**16 26 08.6**	**-0.2**
	comp=Z,7.0nm,0.7s,mb4.7								
MOX	**Moxa**		**78.39 333**	*e*P		**P**	**16 26 08.6**	**-0.2**
MOX				pmax		pmax			
	comp=Z,7.0nm,0.7s,mb4.7								
BHH	**Howats Hill**		**78.41 343**	*e*P		**P**	**16 26 08.4**	**-0.6**
BHH	**Howats Hill**		**78.41 343**	*e*P		**P**	**16 26 08.4**	**-0.6**
SRO1	**Iza**		**78.42 328**	*e*P		**P**	**16 26 09.0**	**0.0**
SRO1				pmax		pmax			
	comp=Z,72nm,1.0s,mb5.6								
NKC	**Novy Kostel**		**78.46 332**	*e*P		**P**	**16 26 09.1**	**-0.1**
ZST	**Bratislava**		**78.50 328**	*e*P		**P**	**16 26 10.4**	**+0.9**
ZST				pmax		pmax			
	comp=Z,7.0nm,1.0s,mb4.5								
ZST	**Bratislava**		**78.50 328**	*e*P		**P**	**16 26 10.4**	**+0.9**
	comp=Z,6.5nm,1.0s,mb4.5								
WTSB	**Winterswijk**		**78.74 336**	*e*PKP		**P**	**16 26 10.5**	**-0.2**
BBO1	**Bothel**		**78.75 343**	*e*P		**P**	**16 26 10.5**	**-0.3**
BBO1	**Bothel**		**78.75 343**	*e*P		**P**	**16 26 10.5**	**-0.3**
MANZ	**Manzenberg**		**78.79 332**	*e*P		**P**	**16 26 11.2**	**+0.2**
CKE	**Keswick**		**78.86 343**	*e*P		**P**	**16 26 11.5**	**0.0**
CKE	**Keswick**		**78.86 343**	*e*P		**P**	**16 26 11.5**	**0.0**
ROTZ	**Rotzenmuhle**		**78.94 332**	*e*P		**P**	**16 26 12.4**	**+0.5**
KHC	**Kasperske Hory**		**79.01 331**	*e*P		**P**	**16 26 12.5**	**+0.3**
KHC				pP		pP	16 26 27.0	-2.1
KHC	**Kasperske Hory**		**79.01 331**	*e*P		**P**	**16 26 12.5**	**+0.3**
KHC				*e*		pP	16 26 27.0	-2.1
KHC	**Kasperske Hory**		**79.01 331**	*e*P		P	**16 26 12.5**	**+0.3**
KHC				*e*		pP	16 26 27.0	-2.1
XDE	**Dent Fell**		**79.02 343**	*e*P		**P**	**16 26 11.7**	**-0.6**
XDE				AMb		AMB	16 26 17.1		
	comp=Z,26nm,1.3s,mb5.0								
XDE	**Dent Fell**		**79.02 343**	*e*P		**P**	**16 26 11.7**	**-0.6**
XDE				AMb		AMB	16 26 17.1		
	comp=Z,26nm,1.3s,mb5.0								
BUG	**Bochum--Univer**		**79.06 336**	*e*P		**P**	**16 26 12.4**	**-0.1**
	comp=Z,17nm,0.8s,mb5.0								
CONA	**Conrad Observa**		**79.19 329**	⇑*i*P		**P**	**16 26 10.1**	**-3.1**
	comp=Z,4.4nm,1.0s,mb4.3								
GEC2	**GERESS Array S**		**79.20 331**	*e*P		**P**	**16 26 13.4**	**+0.1**
	comp=Z,5.0nm,0.8s,mb4.5								
GEC2	**GERESS Array S**		**79.20 331**	*e*P		**P**	**16 26 13.4**	**+0.1**
GEC2				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
GERES	**GERESS Array B**		**79.20 331**	P		**P**	**16 26 13.3**	**0.0**
	comp=Z,1.7nm,0.4s,mb4.3,baz=44,slow=5.9,SNR=22								
GERES				LR		LR	17 02 48.8		
	comp=Z,43nm,19.2s,baz=82,slow=37								
WET	**Wettzell**		**79.24 331**	*e*P		**P**	**16 26 14.0**	**+0.5**
	comp=Z,10.0nm,1.0s,mb4.7								
WET	**Wettzell**		**79.24 331**	*e*P		**P**	**16 26 14.0**	**+0.5**
WET				pmax		pmax			
	comp=Z,10.0nm,1.0s,mb4.7								
GRA1	**Grafenberg Arr**		**79.33 333**	*e*P		**P**	**16 26 14.6**	**+0.6**
	comp=Z,20nm,1.0s,mb5.0								
GRF	**Grafenberg Arr**		**79.33 333**	*e*P		**P**	**16 26 14.6**	**+0.6**
	comp=Z,20nm,1.0s,mb5.0								
GRF	**Grafenberg Arr**		**79.33 333**	*e*P		**P**	**16 26 14.6**	**+0.6**
GRF				pmax		pmax			
	comp=Z,20nm,1.0s,mb5.0								
GRF	**Grafenberg Arr**		**79.33 333**	*e*P		**P**	**16 26 14.6**	**+0.6**
GRF				pmax		pmax			
	comp=Z,20nm,1.0s,mb5.0								
LHO	**Holmfirth**		**79.55 342**	*e*P		**P**	**16 26 15.3**	**+0.1**
LHO	**Holmfirth**		**79.55 342**	*e*P		**P**	**16 26 15.3**	**+0.1**
WIM	**Isle of Man**		**79.60 344**	*e*P		**P**	**16 26 15.1**	**-0.4**
WIM				AMb		AMB	16 26 19.6		
	comp=Z,36nm,1.3s,mb5.2								
WIM	**Isle of Man**		**79.60 344**	*e*P		**P**	**16 26 15.1**	**-0.4**
WIM				AMb		AMB	16 26 19.6		
	comp=Z,36nm,1.3s,mb5.2								
TNS	**Taunus Mts**		**79.77 334**	*e*P		**P**	**16 26 16.5**	**+0.1**
	comp=Z,12nm,1.2s,mb4.7								
TNS	**Taunus Mts**		**79.77 334**	*e*P		**P**	**16 26 16.5**	**+0.1**
TNS				pmax		pmax			
	comp=Z,12nm,1.2s,mb4.7								
HGN	**Heimansgroeve**		**80.06 336**	*e*PKP		**P**	**16 26 17.5**	**-0.4**
SBD1	**Bryn Du**		**80.46 342**	*e*P		**P**	**16 26 20.3**	**+0.1**
SBD1	**Bryn Du**		**80.46 342**	*e*P		**P**	**16 26 20.3**	**+0.1**
GROS	**Grobnik**		**80.55 328**	*i* P		**P**	**16 26 20.6**	**0.0**
YRE	**Yr Eifl**		**80.64 343**	*e*P		**P**	**16 26 20.9**	**-0.2**
YRE	**Yr Eifl**		**80.64 343**	*e*P		**P**	**16 26 20.9**	**-0.2**
HLM1	**Long Mynd**		**80.74 342**	*e*P		**P**	**16 26 21.7**	**+0.1**
HLM1				AMb		AMB	16 26 23.9		
	comp=Z,23nm,1.0s,mb5.0								
HLM1	**Long Mynd**		**80.74 342**	*e*P		**P**	**16 26 21.7**	**+0.1**
HLM1				AMb		AMB	16 26 23.9		
	comp=Z,23nm,1.0s,mb5.0								
STU	**Stuttgart**		**80.80 333**	*e*P		**P**	**16 26 22.0**	**+0.1**
KBA	**Koelnbreinsper**		**80.83 330**	⇑*i*P		**P**	**16 26 22.5**	**+0.5**
	comp=Z,3.8nm,0.8s,mb4.4								
KBA	**Koelnbreinsper**		**80.83 330**	⇑*i*P		**P**	**16 26 22.5**	**+0.4**
KBA				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
GOLS	**Golise**		**80.88 328**	*i* P		**P**	**16 26 22.2**	**-0.2**
PDKS	**Podkum**		**81.07 328**	*i* P		**P**	**16 26 22.9**	**-0.5**
HAE	**Alders End**		**81.11 342**	*e*P		**P**	**16 26 23.7**	**+0.1**
HAE				AMb		AMB	16 26 25.8		
	comp=Z,27nm,1.1s,mb5.1								
HAE	**Alders End**		**81.11 342**	*e*P		**P**	**16 26 23.7**	**+0.1**
HAE				AMb		AMB	16 26 25.8		
	comp=Z,27nm,1.1s,mb5.1								
HTR	**Trewern Hill**		**81.24 342**	*e*P		**P**	**16 26 24.4**	**+0.2**
HTR				AMb		AMB	16 26 25.1		
	comp=Z,28nm,0.5s,mb5.4								
HTR	**Trewern Hill**		**81.24 342**	*e*P		**P**	**16 26 24.4**	**+0.2**
HTR				AMb		AMB	16 26 25.1		
	comp=Z,28nm,0.5s,mb5.4								
MCH1	**Michaelchurch**		**81.25 342**	*e*P		**P**	**16 26 24.4**	**0.0**
MCH1	**Michaelchurch**		**81.25 342**	*e*P		**P**	**16 26 24.4**	**0.0**
WTTA	**Wattenberg**		**81.28 331**	⇑*i*P		**P**	**16 26 24.9**	**+0.4**
	comp=Z,20nm,1.8s,mb4.8								
WTTA	**Wattenberg**		**81.28 331**	⇑*i*P		**P**	**16 26 24.9**	**+0.4**
WTTA				pmax		pmax			
	comp=Z,20nm,1.8s,mb4.8								
MOTA	**Moosalm**		**81.39 331**	⇑*i*P		**P**	**16 26 25.3**	**+0.2**
	comp=Z,5.8nm,0.9s,mb4.5								
MOTA	**Moosalm**		**81.39 331**	⇑*i*P		**P**	**16 26 25.3**	**+0.2**
MOTA				pmax		pmax			
	comp=Z,6.0nm,0.9s,mb4.5								
SQTA	**Sankt Quirin**		**81.47 331**	⇑*i*P		**P**	**16 26 25.9**	**+0.4**
	comp=Z,4.6nm,1.0s,mb4.4								
SQTA	**Sankt Quirin**		**81.47 331**	⇑*i*P		**P**	**16 26 25.9**	**+0.4**
SQTA				pmax		pmax			
	comp=Z,5.0nm,1.0s,mb4.4								
BFO	**Black Forest**		**81.47 334**	*e*P		**P**	**16 26 25.2**	**-0.3**
	comp=Z,6.0nm,0.8s,mb4.6								
BFO	**Black Forest**		**81.47 334**	*e*P		**P**	**16 26 25.2**	**-0.3**
BFO				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.6								
HGH	**Gray Hill**		**81.54 342**	*e*P		**P**	**16 26 25.9**	**+0.1**
HGH				AMb		AMB	16 26 31.1		
	comp=Z,34nm,1.7s,mb5.0								
HGH	**Gray Hill**		**81.54 342**	*e*P		**P**	**16 26 25.9**	**+0.1**
HGH				AMb		AMB	16 26 31.1		
	comp=Z,34nm,1.7s,mb5.0								
CEY	**Cerknica**		**81.56 329**	*e*P		**P**	**16 26 25.3**	**-0.7**
CDF	**Champ du Feu**		**81.73 334**	*e*P		**P**	**16 26 26.5**	**-0.4**
DAVA	**Damuels**		**81.86 332**	⇑*i*P		**P**	**16 26 27.7**	**+0.2**
	comp=Z,6.3nm,1.1s,mb4.4								
HAU	**Haudompre**		**82.38 335**	*e*P		**P**	**16 26 29.5**	**-0.8**
HAU				eR					
	comp=Z,50nm,21.0s								
HAU	**Haudompre**		**82.38 335**	*e*P		**P**	**16 26 29.5**	**-0.8**
HAU				LR		LR			
	comp=Z,50nm,21.0s								
HINF	**Hinteralfeld**		**82.39 334**	*e*P		**P**	**16 26 30.0**	**-0.3**
	comp=Z,6.5nm,0.6s,mb4.4								
HINF	**Hinteralfeld**		**82.39 334**	*e*P		**P**	**16 26 30.0**	**-0.3**
HINF				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.4								
HINF	**Hinteralfeld**		**82.39 334**	*e*P		**P**	**16 26 30.0**	**-0.3**
	comp=Z,3.3nm,0.6s,mb4.4								
CABF	**La Chapelle**		**83.70 334**	*e*P		**P**	**16 26 36.7**	**-0.4**
LDF	**La Druitiere**		**83.70 339**	*e*P		**P**	**16 26 36.5**	**-0.6**
	comp=Z,6.7nm,0.7s,mb4.6								
LDF	**La Druitiere**		**83.70 339**	*e*P		**P**	**16 26 36.5**	**-0.6**
LDF				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.6								
LDF	**La Druitiere**		**83.70 339**	*e*P		**P**	**16 26 36.5**	**-0.6**
	comp=Z,3.3nm,0.6s,mb4.6								
LOR	**Lormes**		**83.80 336**	*e*P		**P**	**16 26 37.1**	**-0.5**
	comp=Z,15nm,0.8s,mb4.9								
LOR				eR					
	comp=Z,59nm,20.8s								
LOR	**Lormes**		**83.80 336**	*e*P		**P**	**16 26 37.1**	**-0.5**
LOR				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb4.9								
LOR				MLR		MLR			
	comp=Z,60nm,20.8s								
LOR	**Lormes**		**83.80 336**	*e*P		**P**	**16 26 37.1**	**-0.5**
	comp=Z,7.6nm,0.8s,mb4.9								
LOR				LR		LR			
	comp=Z,60nm,20.8s								
GRR	**Gorron**		**84.08 339**	*e*P		**P**	**16 26 38.8**	**-0.2**
	comp=Z,16nm,0.6s,mb5.0								
GRR	**Gorron**		**84.08 339**	*e*P		**P**	**16 26 38.8**	**-0.2**
GRR				pmax		pmax			
	comp=Z,8.0nm,0.6s,mb5.0								
GRR	**Gorron**		**84.08 339**	*e*P		**P**	**16 26 38.8**	**-0.2**
	comp=Z,7.8nm,0.6s,mb5.0								
SSF	**Saint Saulge**		**84.09 336**	*e*P		**P**	**16 26 38.6**	**-0.4**
	comp=Z,10nm,0.7s,mb4.7								
SSF	**Saint Saulge**		**84.09 336**	*e*P		**P**	**16 26 38.6**	**-0.4**
SSF				pmax		pmax			
	comp=Z,5.0nm,0.7s,mb4.8								
SSF	**Saint Saulge**		**84.09 336**	*e*P		**P**	**16 26 38.6**	**-0.4**
	comp=Z,5.1nm,0.7s,mb4.8								
EIL	**Elat**		**84.22 306**	*e*P		**P**	**16 26 40.6**	**+0.9**
SMF	**Signal de Mont**		**84.36 336**	*e*P		**P**	**16 26 40.1**	**-0.3**
	comp=Z,21nm,0.7s,mb5.1								
SMF	**Signal de Mont**		**84.36 336**	*e*P		**P**	**16 26 40.1**	**-0.3**
SMF				pmax		pmax			
	comp=Z,11nm,0.7s,mb5.1								
SMF	**Signal de Mont**		**84.36 336**	*e*P		**P**	**16 26 40.1**	**-0.3**
	comp=Z,11nm,0.7s,mb5.1								
AVF	**Avril sur Loir**		**84.38 336**	*e*P		**P**	**16 26 40.2**	**-0.3**
	comp=Z,12nm,0.7s,mb4.8								
AVF	**Avril sur Loir**		**84.38 336**	*e*P		**P**	**16 26 40.2**	**-0.3**
AVF				pmax		pmax			
	comp=Z,6.0nm,0.7s,mb4.8								
AVF	**Avril sur Loir**		**84.38 336**	*e*P		**P**	**16 26 40.2**	**-0.3**
	comp=Z,5.9nm,0.7s,mb4.8								
LPL	**La Plagne**		**84.46 333**	*e*P		**P**	**16 26 41.2**	**+0.2**
	comp=Z,13nm,0.9s,mb4.8								
LPL	**La Plagne**		**84.46 333**	*e*P		**P**	**16 26 41.2**	**+0.2**
LPL				pmax		pmax			
	comp=Z,7.0nm,0.9s,mb4.8								
LPL	**La Plagne**		**84.46 333**	*e*P		**P**	**16 26 41.2**	**+0.2**
	comp=Z,6.6nm,0.9s,mb4.8								
LPG	**La Plagne**		**84.47 333**	*e*P		**P**	**16 26 41.3**	**+0.3**
	comp=Z,10nm,0.7s,mb4.8								
LPG	**La Plagne**		**84.47 333**	*e*P		**P**	**16 26 41.3**	**+0.3**
LPG				pmax		pmax			
	comp=Z,5.0nm,0.7s,mb4.8								
LPG	**La Plagne**		**84.47 333**	*e*P		**P**	**16 26 41.3**	**+0.3**
	comp=Z,5.1nm,0.7s,mb4.8								
MIAR	**Mount Ida**		**84.52 46**	*e*P		**P**	**16 26 41.0**	**-0.2**
MIAR				*e*PP		pP	16 26 57.1	-1.2
MIAR				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.8								
MIAR	**Mount Ida**		**84.52 46**	*e*P		**P**	**16 26 41.0**	**-0.2**
	comp=Z,6.0nm,0.8s,mb4.8								
MIAR				*e*pP		pP	16 26 57.1	-1.2
SGMF	**Saint Gilles**		**84.63 340**	*e*P		**P**	**16 26 41.9**	**+0.1**
ROSF	**Rostrenen**		**84.73 341**	*e*P		**P**	**16 26 42.5**	**+0.2**
	comp=Z,34nm,0.8s,mb5.2								
ROSF	**Rostrenen**		**84.73 341**	*e*P		**P**	**16 26 42.5**	**+0.2**
ROSF				pmax		pmax			
	comp=Z,17nm,0.8s,mb5.2								
ROSF	**Rostrenen**		**84.73 341**	*e*P		**P**	**16 26 42.5**	**+0.2**
	comp=Z,17nm,0.8s,mb5.2								
QUIF	**Quistinic**		**85.10 340**	*e*P		**P**	**16 26 43.8**	**-0.3**
	comp=Z,8.8nm,0.5s,mb4.8								
QUIF	**Quistinic**		**85.10 340**	*e*P		**P**	**16 26 43.8**	**-0.3**
QUIF				pmax		pmax			
	comp=Z,4.0nm,0.5s,mb4.8								
QUIF	**Quistinic**		**85.10 340**	*e*P		**P**	**16 26 43.8**	**-0.3**
	comp=Z,4.4nm,0.5s,mb4.8								
MBDF	**Montbardon**		**85.15 333**	*e*P		**P**	**16 26 44.5**	**+0.1**
TCF	**Toulx Ste Croi**		**85.17 336**	*e*P		**P**	**16 26 44.5**	**0.0**
	comp=Z,9.5nm,0.7s,mb4.7								
TCF	**Toulx Ste Croi**		**85.17 336**	*e*P		**P**	**16 26 44.5**	**0.0**
TCF				pmax		pmax			
	comp=Z,5.0nm,0.7s,mb4.8								
TCF	**Toulx Ste Croi**		**85.17 336**	*e*P		**P**	**16 26 44.5**	**0.0**
	comp=Z,4.8nm,0.7s,mb4.7								
ORIF	**Oris-en-Rattie**		**85.27 334**	*e*P		**P**	**16 26 45.0**	**0.0**
	comp=Z,8.6nm,0.6s,mb4.8								
ORIF				eR					
	comp=Z,60nm,19.5s								
ORIF	**Oris-en-Rattie**		**85.27 334**	*e*P		**P**	**16 26 45.0**	**0.0**
ORIF				pmax		pmax			
	comp=Z,4.0nm,0.6s,mb4.7								
ORIF	**Oris-en-Rattie**		**85.27 334**	*e*P		**P**	**16 26 45.0**	**0.0**
	comp=Z,4.3nm,0.6s,mb4.8								
MFF	**Saint Martin d**		**85.54 338**	*e*P		**P**	**16 26 46.0**	**-0.4**
	comp=Z,15nm,0.7s,mb5.1								
MFF	**Saint Martin d**		**85.54 338**	*e*P		**P**	**16 26 46.0**	**-0.4**
MFF				pmax		pmax			
	comp=Z,8.0nm,0.6s,mb5.1								
MFF	**Saint Martin d**		**85.54 338**	*e*P		**P**	**16 26 46.0**	**-0.4**
	comp=Z,7.6nm,0.6s,mb5.1								
SBF	**Sospel**		**85.69 332**	*e*P		**P**	**16 26 47.0**	**-0.1**
VIVF	**Saint-Julien-l**		**85.71 334**	*e*P		**P**	**16 26 47.1**	**-0.1**
RJF	**Les Rejaudoux**		**86.26 336**	*e*P		**P**	**16 26 49.8**	**-0.1**
	comp=Z,16nm,0.9s,mb4.9								
RJF				eR					
	comp=Z,50nm,18.9s								
RJF	**Les Rejaudoux**		**86.26 336**	*e*P		**P**	**16 26 49.8**	**-0.1**
RJF				pmax		pmax			
	comp=Z,8.0nm,0.9s,mb5.0								
RJF				MLR		MLR			
	comp=Z,50nm,18.9s								
RJF	**Les Rejaudoux**		**86.26 336**	*e*P		**P**	**16 26 49.8**	**-0.1**
	comp=Z,8.1nm,0.9s,mb5.0								
RJF				LR		LR			
	comp=Z,50nm,18.9s								
CAF	**Calviac**		**86.45 336**	*e*P		**P**	**16 26 50.6**	**-0.2**
LASF	**Ste Croix**		**86.67 334**	*e*P		**P**	**16 26 51.3**	**-0.6**
MTLF	**Montolieu**		**87.84 335**	*e*P		**P**	**16 26 57.1**	**-0.5**
CPCT	**Cooper Cave**		**88.28 40**	*e*P		**P**	**16 26 59.4**	**-0.2**
SJPF	**Ste Jean**		**89.05 337**	*e*P		**P**	**16 27 03.2**	**-0.1**
ETSF	**Etsaut**		**89.06 337**	*e*P		**P**	**16 27 03.4**	**+0.1**
	comp=Z,9.3nm,0.8s,mb4.9								
ETSF	**Etsaut**		**89.06 337**	*e*P		**P**	**16 27 03.4**	**+0.1**
ETSF				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.9								
ETSF	**Etsaut**		**89.06 337**	*e*P		**P**	**16 27 03.4**	**+0.1**
	comp=Z,4.7nm,0.8s,mb4.9								
ESDC	**Sonseca Array**		**93.00 338**	P		**P**	**16 27 21.4**	**-0.3**
	comp=Z,0.3nm,0.3s,mb4.2,baz=20,slow=4.7,SNR=4.3								
TORD	**Torodi Ar. Bea**		**115.23 322**	PKP		PKPdf	16 32 48.8	-0.6
	comp=Z,0.3nm,0.4s,baz=19,slow=2.0,SNR=7.2								
TORD				PP		PP	16 33 49.6	-0.8
	comp=Z,0.7nm,0.7s,baz=7.9,slow=7.8,SNR=4.2								
SNAA	**Sanae**		**148.40 198**	PKPbc		PKPbc	16 33 52.6	-1.8
	comp=Z,0.3nm,0.7s,baz=162,slow=3.4,SNR=4.7								
BDFB	**Brasilia**		**149.21 29**	PKPbc		PKPbc	16 33 57.0	+0.5
	comp=Z,4.7nm,0.6s,baz=300,slow=2.2,SNR=8.4								
PLCA	**Paso Flores**		**152.09 97**	PKPbc		PKPbc	16 34 04.0	+0.7
	comp=Z,2.2nm,0

comp=E,0.4nm,0.5s,mb3.7,baz=34,slow=10,SNR=3.3
NVAR Mina Array Bea 68.08 58 P **P** **16 38 47.9 +0.4**
comp=E,0.8nm,0.6s,mb3.9,baz=290,slow=6.5,SNR=6.3
NVAR Mina Array Bea 68.08 58 P **P** **16 38 47.9 +0.4**
NB2 NORSAR Subarra 70.10 339 P **P** **16 38 59.0 -1.1**
comp=Z,0.6nm,0.4s,mb3.9,baz=31,slow=6.5
NOA NORSAR Array B 70.10 339 P **P** **16 38 58.7 -1.4**
comp=Z,0.7nm,0.4s,mb3.9,baz=32,slow=6.3,SNR=5.6
PDAR Pinedale Array 70.46 49 P **P** **16 39 01.8 -0.5**
comp=Z,0.2nm,0.4s,mb3.4,baz=124,slow=0.5,SNR=3.5

*NEIC **24** 16:33:57.1±0.2,9.55S×107.67E,h10km,mb5.1/24,Error ellipse: s-maj=8.2km s-min=5.1km az=54.0*
*BJI **24** 16:33:57.0,9.60S×107.70E,h10km,mB5.1,mb5.0,Ms4.7,Msz4.3*
*ISCJB **24** 16:33:58.9±0.3,9.60S±004×107.74E±005,h34km,mb4.8/59,MS4.2/19,Error ellipse: s-maj=7.8km s-min=5.3km az=122.8*
*MOS **24** 16:33:58.9±1.1,9.50S×107.80E,h33km,mb5.2/16,Error ellipse: s-maj=13.3km s-min=7.0km az=111.2*
*IDC **24** 16:34:01.1±0.6,9.50S×107.70E,h38km±5km,mb4.3/18,mb1 4.4/19,mb1mx4.3/22,mbtmp4.5/19,ML4.2/1,MS3.9/11,Ms1 3.9/11,ms1mx3.5/31,Error ellipse: s-maj=18.2km s-min=11.0km az=55.0*
ISC 24 16:34:01.1±0.3,9.61S±004×107.74E±005,h36km,
h36km±1.8km;pP-P,n137,σ1§01/132,mb4.8/59,MS4.2/19,
7C-5D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
LEM	**Lembang**	**2.76**	**358**	P		**Pn**	**16 34 42.5**	**-0.4**
	7μm,0.8s							
BJII	**Banjamegara**	**2.98**	**41**	P		**Pn**	**16 34 46.2**	**+0.3**
	787nm,1.1s							
KSM	**Kuching**	**11.30**	**13**	*eP*		**Pn**	**16 36 38.2**	**-1.8**
PCI	**Palu**	**14.82**	**55**	P		**Pn**	**16 37 29.3**	**+1.3**
	170nm,1.1s							
GSI	**Gunungsitoli**	**14.83**	**316**	⇓*eP*		**Pn**	**16 37 30.0**	**+1.9**
	3.5nm,1.2s							
PSI	**Prapat**	**15.13**	**324**	Pn		**Pn**	**16 37 32.8**	**+0.7**
	1.2nm,0.3s,baz=183,slow=8.2,SNR=5.4							
PSI				LR		LR	16 45 12.7	
	comp=Z,253nm,18.7s,baz=131,slow=45							
MBWA	**Marble Bar**	**16.29**	**136**	*eP*		**Pn**	**16 37 42.7**	**-4.4**
	9.0nm,0.5s							
MBWA				*eS*		S	16 40 28.4	-30
KULM	**Kulim**	**16.39**	**334**	*eP*		**Pn**	**16 37 43.0**	**-5.4**
KKM	**Kota Kinabalu**	**17.69**	**29**	P		**Pn**	**16 38 05.5**	**+0.9**
KKM	**Kota Kinabalu**	**17.69**	**29**	*eP*		**Pn**	**16 38 04.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.31**	**118**	*eP*		**Pn**	**16 38 24.2**	**-0.1**
	18nm,0.9s							
FITZ	**Fitzroy Crossi**	**19.31**	**118**	P		**Pn**	**16 38 24.6**	**+0.3**
	0.5nm,0.3s,baz=292,slow=5.5,SNR=19							
FITZ				Sn		**Sn**	**16 41 44.9**	**-15**
	0.2nm,0.3s,baz=204,slow=23,SNR=6.7							
KAKA	**Kakadu**	**24.43**	**100**	*eP*		**P**	**16 39 17.5**	**+1.2**
	19nm,0.7s,mb4.6							
NWAO	**Narrogin (SRO)**	**24.81**	**161**	P		**P**	**16 39 19.6**	**-0.1**
	11nm,0.7s,mb4.5,baz=330,slow=9.4,SNR=7.2							
NWAO				LR		LR	16 47 41.0	
	comp=Z,348nm,18.8s,MS3.9,baz=335,slow=33							
NST	**Nakhon Sawan**	**26.22**	**343**	P		**P**	**16 39 32.5**	**0.0**
KKTK	**Khon Kaen**	**26.23**	**349**	P		**P**	**16 39 33.0**	**+0.4**
WRA	**Warramunga Arr**	**27.66**	**115**	P		**P**	**16 39 45.9**	**+0.5**
	7.4nm,1.0s,mb4.3,baz=286,slow=11,SNR=19							
WRA				PcP		PcP	16 43 03.4	+1.3
	1.5nm,0.7s,baz=298,slow=2.0,SNR=7.2							
WRA				Sn		S	16 45 03.8	+39
	1.5nm,0.9s,baz=292,slow=26,SNR=4.5							
WRA	**Warramunga Arr**	**27.66**	**115**	P		**P**	**16 39 45.9**	**+0.4**
WRA							16 43 03.4	
WRAB	**Tennant Creek**	**27.66**	**115**	*eP*		**P**	**16 39 45.1**	**-0.4**
WRAB				pmax		pmax		
	comp=Z,13nm,0.9s,mb4.6							
WRAB	**Tennant Creek**	**27.66**	**115**	*eP*		**P**	**16 39 45.1**	**-0.4**
	comp=Z,13nm,0.9s,mb4.6							
WB2	**Warramunga Arr**	**27.67**	**115**	*eP*		**P**	**16 39 45.3**	**-0.3**
QIZ	**Qiongzhong**	**28.53**	**4**	P		**P**	**16 40 00.3**	**+7.1**
QIZ				*eS*		**S**	**16 44 44.8**	**+6.1**
QIZ				LR		LR		
	comp=N,274nm,11.7s							
QIZ				LR		LR		
	comp=Z,389nm,13.2s,MS4.2							
AS31	**Alice Springs**	**28.64**	**122**	*eP*		**P**	**16 39 55.3**	**+1.1**
ASAR	**Alice Springs**	**28.64**	**122**	P		**P**	**16 39 54.5**	**+0.3**
	comp=Z,3.6nm,0.8s,mb4.1,baz=298,slow=9.1,SNR=20							
ASAR				pP		pP	16 40 06.8	+2.5
	comp=Z,4.9nm,1.1s,baz=298,slow=9.1,SNR=8.1							
ASAR				PcP		PcP	16 43 06.0	+1.5
	comp=Z,1.7nm,0.7s,baz=305,slow=2.1,SNR=9.0							
ASAR				Sn		S	16 45 26.0	+46
	comp=Z,1.9nm,0.9s,baz=306,slow=24,SNR=8.4							
ASAR	**Alice Springs**	**28.64**	**122**	P		**P**	**16 39 54.5**	**+0.3**
ASAR				*PP		pP	16 40 06.8	+2.5
ASAR							16 43 06.0	
CHG	**Chiang Mai**	**29.54**	**343**	⇑P		**P**	**16 40 02.2**	**0.0**
	comp=Z,24nm,0.9s,mb4.9							
CHTO	**Chiang Mai**	**29.54**	**343**	⇓P		**P**	**16 40 02.6**	**+0.4**
	SNR=5.2							
CHTO	**Chiang Mai**	**29.54**	**343**	*eP*		**P**	**16 40 02.0**	**-0.2**
CHTO				*e*		pP	16 40 12.4	0.0
CHTO				pmax		pmax		
	comp=Z,22nm,1.0s,mb4.8							
CHTO	**Chiang Mai**	**29.54**	**343**	*eP*		**P**	**16 40 02.0**	**-0.2**
	comp=Z,22nm,1.0s,mb4.8							
CHTO				*e*		pP	16 40 12.4	0.0
KMI	**Kunming**	**34.86**	**352**	P		**P**	**16 40 51.0**	**+2.2**
KMI				AP		pP	16 40 56.8	-2.3
KMI				XP		sP	16 40 59.8	-3.6
KMI				PP		PP	16 42 07.1	-1.1
KMI				PPP			16 42 26.4	
KMI				S		**S**	**16 46 21.6**	**+4.2**
KMI				XS		sS	16 46 27.8	-6.6
KMI				SS		SS	16 48 35.6	-14
KMI				AMB		AMB		
	comp=Z,31nm,0.9s,mb5.2							
KMI				AMB		AMB		
	comp=Z,104nm,4.7s							
KMI				LR		LR		
	comp=N,187nm,21.5s,MS4.1							
KMI				LR		LR		
	comp=E,295nm,18.0s,MS4.1							
KMI				LR		LR		
	comp=Z,299nm,9.9s							
GYA	**Guiyang**	**35.86**	**358**	⇑*iP*		**P**	**16 40 57.3**	**-0.1**
GYA				AP		pP	16 41 01.8	-5.9
GYA				XP		sP	16 41 04.6	-7.4
GYA				PP		PP	16 42 18.4	-0.8
GYA				PCP		PcP	16 43 25.1	+0.9
GYA				S		**S**	**16 46 33.5**	**+0.7**
GYA				SCP		ScP	16 47 08.4	+0.9
GYA				SS		SS	16 48 56.3	-14
GYA				AMB		AMB		
	comp=Z,40nm,0.8s,mb5.4							
GYA				AMB		AMB		
	comp=Z,140nm,4.9s							
GYA				LR		LR		
	comp=N,490nm,14.8s,MS4.6							
GYA				LR		LR		
	comp=E,510nm,15.0s,MS4.6							
GYA				LR		LR		
	comp=Z,530nm,14.6s,MS4.4							
STKA	**Stephens Creek**	**38.39**	**130**	⇓*iP*		**P**	**16 41 19.6**	**+0.8**
	comp=Z,9.6nm,0.9s,mb4.5							
STKA	**Stephens Creek**	**38.39**	**130**	P		**P**	**16 41 19.7**	**+0.9**
	comp=Z,12nm,0.8s,mb4.7,baz=305,slow=8.4,SNR=23							
STKA				PcP		PcP	16 43 33.1	+1.2
	comp=Z,1.2nm,0.6s,baz=285,slow=9.4,SNR=3.0							
STKA				LR		LR	16 57 46.8	
	comp=Z,178nm,20.1s,MS3.9,baz=238,slow=37							
CTA	**Charters Tower**	**38.57**	**110**	*eP*		**P**	**16 41 22.7**	**+2.3**
	comp=Z,3.5nm,1.0s,mb4.0							
CTA	**Charters Tower**	**38.57**	**110**	*eP*		**P**	**16 41 22.7**	**+2.3**
CTA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
CTAO	**Charters Tower**	**38.57**	**110**	*eP*		**P**	**16 41 21.6**	**+1.2**
WHN	**Wuhan**	**40.42**	**9**	⇓P		**P**	**16 41 36.9**	**+1.1**
WHN				AP		pP	16 41 47.4	+1.2
CD2	**Chengdu**	**40.46**	**355**	*eP*		**P**	**16 41 36.4**	**+0.2**
CD2				AP		pP	16 41 40.9	-5.6
CD2				XP		sP	16 41 43.4	-7.4
CD2				PP		PP	16 43 13.8	+4.1
CD2				S		**S**	**16 47 45.3**	**+2.9**
CD2				XS		sS	16 47 52.8	-6.7
CD2				SS		SS	16 50 39.9	-2.5
CD2				AMB		AMB		
	comp=Z,20nm,0.8s,mb4.9							
CD2				AMB		AMB		
	comp=Z,120nm,5.2s							
CD2				LR		LR		
	comp=E,350nm,16.2s							
CD2				LR		LR		
	comp=Z,280nm,14.8s,MS4.2							
JOW	**Kunigami**	**41.34**	**28**	LR		LR	16 58 48.1	
	comp=Z,226nm,18.6s,MS4.1,baz=173,slow=36							
JIRN	**Jiri**	**42.52**	**331**	*eP*		**P**	**16 41 53.9**	**+0.9**
	comp=Z,64nm,0.8s,mb5.4							
NJ2	**Nanjing**	**42.76**	**14**	*eP*		**P**	**16 41 53.6**	**-1.4**
NJ2				AP		pP	16 42 03.3	-2.1
NJ2				XP		sP	16 42 06.1	-3.6
NJ2				PP		PP	16 43 35.0	+0.5
NJ2				S		**S**	**16 48 14.0**	**-2.4**
NJ2				XS		sS	16 48 29.0	-4.7
NJ2				AMB		AMB		
	comp=Z,20nm,0.6s,mb5.0							
NJ2				AMB		AMB		
	comp=Z,310nm,4.7s							
NJ2				LR		LR		
	comp=N,480nm,15.5s,MS4.6							
NJ2				LR		LR		
	comp=E,410nm,15.1s,MS4.6							
NJ2				LR		LR		
	comp=Z,100nm,13.7s,MS3.9							
PKI	**Pulchoki**	**42.82**	**330**	*eP*		**P**	**16 41 55.7**	**+0.2**
GUN	**Gumba**	**42.88**	**331**	*eP*		**P**	**16 41 56.5**	**+0.6**
	comp=Z,76nm,0.8s,mb5.5							
DMN	**Daman**	**43.00**	**330**	*eP*		**P**	**16 41 57.4**	**+0.5**
	comp=Z,58nm,0.9s,mb5.3							
KKN	**Kakani**	**43.07**	**330**	*eP*		**P**	**16 41 57.9**	**+0.5**
	comp=Z,59nm,0.9s,mb5.3							
KKN	**Kakani**	**43.07**	**330**	*eP*		**P**	**16 41 57.9**	**+0.5**
KKN				pmax		pmax		
	comp=Z,59nm,0.9s,mb5.3							
XAN	**Xi'an**	**43.42**	**1**	P		**P**	**16 42 00.0**	**-0.3**
XAN				AP		pP	16 42 08.8	-1.9
XAN				AMB		AMB		
	comp=Z,24nm,0.9s,mb4.9							
GUMO	**Guam**	**43.47**	**59**	LR		LR	16 59 10.8	
	comp=Z,65nm,19.4s,MS3.5,baz=241,slow=35							
GKN	**Gorkha**	**43.56**	**330**	*eP*		**P**	**16 42 01.5**	**+0.1**
	comp=Z,67nm,0.9s,mb5.4							
KOLN	**Koldanda**	**43.89**	**328**	*eP*		**P**	**16 42 04.4**	**+0.3**
	comp=Z,77nm,0.7s,mb5.5							
LZH	**Lanzhou**	**45.59**	**356**	*eP*		**P**	**16 42 18.9**	**+1.3**
LZH				AP		pP	16 42 29.4	+1.2
LZH				XP		sP	16 42 33.5	+1.1
LZH				PP		PP	16 44 06.3	+1.6
LZH				*eS*		**S**	**16 49 00.0**	**+2.4**
LZH				XS		sS	16 49 15.6	+0.7
LZH				SS		SS	16 52 16.0	-5.9
LZH				AMB		AMB		
	comp=Z,36nm,1.5s,mb5.1							
LZH				AMB		AMB		
	comp=Z,157nm,6.7s							
LZH				LR		LR		
	comp=N,894nm,15.2s							
LZH				LR		LR		
	comp=Z,1μm,18.3s,MS4.9							
GTA	**Gaotai**	**49.32**	**352**	*eP*		**P**	**16 42 47.9**	**+1.3**
GTA				AP		pP	16 42 51.8	-5.4
GTA				XP		sP	16 42 54.6	-6.8
GTA				PP		PP	16 44 43.6	+2.9
GTA				S		**S**	**16 49 55.3**	**+4.8**
GTA				XS		sS	16 50 02.0	-6.0
GTA				SS		SS	16 53 23.8	+1.5
GTA				AMB		AMB		
	comp=Z,26nm,1.1s,mb5.2							
GTA				AMB		AMB		
	comp=Z,80nm,4.6s							
GTA				LR		LR		
	comp=N,213nm,15.3s,MS4.4							
GTA				LR		LR		
	comp=E,230nm,16.4s,MS4.4							
GTA				LR		LR		
	comp=Z,169nm,16.4s,MS4.1							
BJT	**Baijiatuau**	**49.98**	**8**	*eP*		**P**	**16 42 51.7**	**0.0**
BJT				pmax		pmax		
	comp=Z,36nm,1.0s							
BJT	**Baijiatuau**	**49.98**	**8**	*eP*		**P**	**16 42 51.7**	**0.0**
	comp=Z,36nm,1.0s,mb5.3							
BJI	**Beijing**	**50.01**	**8**	P		**P**	**16 42 51.8**	**0.0**
BJI				AMB		AMB		
	comp=Z,34nm,0.8s,mb5.4							
BJI				LR		LR		
	comp=N,232nm,16.3s,MS4.3							
BJI				LR		LR		
	comp=E,138nm,16.3s,MS4.3							
BJI				LR		LR		
	comp=Z,110nm,21.8s							
SDNR	**Sundarnagar**	**50.38**	**325**	*eP*		**P**	**16 42 57.4**	**+2.7**
MAJO	**Matsushiro**	**54.11**	**30**	*eP*		**P**	**16 43 20.6**	**-1.8**
MAJO				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.8							
MAJO	**Matsushiro**	**54.11**	**30**	*eP*		**P**	**16 43 20.6**	**-1.8**
	comp=Z,7.2nm,0.6s,mb4.8							
MAT	**Matsushiro**	**54.11**	**30**	P		**P**	**16 43 20.7**	**-1.7**
MAT	**Matsushiro**	**54.11**	**30**	*eP*		**P**	**16 43 21.0**	**-1.4**
MJAR	**Matsushiro Arr**	**54.11**	**30**	P		**P**	**16 43 20.3**	**-2.1**
	comp=Z,7.1nm,0.9s,mb4.6,baz=211,slow=7.6,SNR=13							
WMQ	**Urumqi**	**56.20**	**343**	P		**P**	**16 43 39.0**	**+1.5**
WMQ				AP		pP	16 43 43.6	-4.6
WMQ				XP		sP	16 43 46.0	-6.4
WMQ				PCP		PcP	16 44 36.8	+1.9
WMQ				PP		PP	16 45 45.6	+2.8
WMQ				S		**S**	**16 51 25.8**	**+1.3**
WMQ				AMB		AMB		
	comp=Z,34nm,1.2s,mb5.2							
WMQ				AMB		AMB		
	comp=Z,223nm,5.0s							
WMQ				LR		LR		
	comp=N,1μm,17.3s,MS5.1							
WMQ				LR		LR		
	comp=E,791nm,16.2s,MS5.1							
WMQ				LR		LR		
	comp=Z,1μm,17.8s,MS5.0							
SONM	**Songino Array**	**57.20**	**359**	P		**P**	**16 43 44.9**	**+0.4**
	comp=Z,11nm,0.9s,mb4.9,baz=172,slow=6.7,SNR=35							
SONM				pP		pP	16 43 55.3	+0.1
	comp=Z,5.0nm,0.6s,baz=163,slow=7.9,SNR=8.8							
SONM				LR		LR	17 10 52.4	
	comp=Z,171nm,20.2s,MS4.2,baz=338,slow=39							
SONM	**Songino Array**	**57.20**	**359**	P		**P**	**16 43 44.9**	**+0.4**
SONM				*PP		pP	16 43 55.3	0.0
ULN	**Ulaanbaatar**	**57.22**	**359**	⇓P		**P**	**16 43 45.3**	**+0.7**
	SNR=6.1							
ULN	**Ulaanbaatar**	**57.22**	**359**	*eP*		**P**	**16 43 43.4**	**-1.3**
ULN				pmax		pmax		
	comp=Z,13nm,0.9s,mb5.0							
ULN	**Ulaanbaatar**	**57.22**	**359**	*eP*		**P**	**16 43 43.4**	**-1.2**
	comp=Z,13nm,0.9s,mb5.0							
MDJ	**Mudanjiang**	**57.48**	**18**	P		**P**	**16 43 47.0**	**+0.5**
MDJ				AMB		AMB		
	comp=Z,5.0nm,0.5s,mb4.8							
MDJ				AMB		AMB		
	comp=Z,47nm,7.4s							
OPO	**Ambohidratompo**	**59.17**	**254**	P		**P**	**16 43 58.8**	**+0.5**
	comp=Z,8.6nm,1.3s,mb4.6,baz=135,slow=12,SNR=3.3							
ZAK	**Zakamensk**	**59.86**	**357**	*eP*		**P**	**16 44 02.7**	**-0.4**
ZAK				*e*		pP	16 44 13.2	-0.7
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.6s,mb4.1							
ZAK				pmax		pmax		
	comp=Z,3.0nm,2.0s,mb4.0							
AAK	**Ala-Archa**	**60.21**	**332**	P		**P**	**16 44 05.3**	**-0.2**
MKAR	**Makanchi Array**	**60.57**	**340**	P		**P**	**16 44 07.6**	**-0.3**
	comp=Z,21nm,0.7s,mb5.4,baz=134,slow=6.9,SNR=86							
MKAR				pP		pP	16 44 19.1	+0.3
	comp=Z,6.4nm,0.7s,baz=147,slow=7.5,SNR=7.1							
MKAR	**Makanchi Array**	**60.57**	**340**	P		**P**	**16 44 07.6**	**-0.3**
MKAR				pP		pP	16 44 19.1	+0.3
MOY	**Mondy**	**61.30**	**355**	*eP*		**P**	**16 44 13.0**	**+0.1**
CIT	**Chita**	**61.58**	**4**	*eP*		**P**	**16 44 14.6**	**-0.2**
KLR	**Kul'dur**	**62.27**	**18**	*eP*		**P**	**16 44 28.2**	**+0.8**
HABR	**Khabarovsk**	**62.65**	**20**	*eP*		**P**	**16 44 22.1**	**+0.1**
HABR				*eS*		**S**	**16 52 48.2**	**+0.4**
HABR				pmax		pmax		
	comp=Z,11nm,0.7s,mb5.1							
YSS	**Yuzh-Sakhalins**	**64.37**	**26**	*eP*		**P**	**16 44 34.0**	**+0.7**
YSS				*e*		pP	16 44 43.2	-1.0
YSS	**Yuzh-Sakhalins**	**64.37**	**26**	*eP*		**P**	**16 44 32.4**	**-1.0**
	comp=Z,20nm,0.8s,mb5.2							
YSS				*e*		pP	16 44 43.3	-0.9
MAW	**Mawson**	**65.11**	**197**	*eP*		**P**	**16 44 37.6**	**-0.5**
	comp=Z,12nm,0.8s,mb5.0							
MAW	**Mawson**	**65.11**	**197**	P		**P**	**16 44 38.3**	**+0.2**
	comp=Z,14nm,0.8s,mb5.1,baz=41,slow=6.1,SNR=25							
MAW	**Mawson**	**65.11**	**197**	*eP*		**P**	**16 44 37.6**	**-0.5**
MAW				pmax		pmax		
	comp=Z,12nm,0.8s							
KURK	**Kurchatov**	**65.18**	**340**	⇑P		**P**	**16 44 38.4**	**-0.2**
	SNR=13							
KURK	**Kurchatov**	**65.18**	**340**	*c iP*		**P**	**16 44 38.3**	**-0.3**
KURK	**Kurchatov**	**65.18**	**340**	*eP*		**P**	**16 44 38.0**	**-0.5**
	comp=Z,30nm,0.9s,mb5.3							
ZAL	**Zalesovo**	**66.22**	**345**	P		**P**	**16 44 43.4**	**-1.8**
	comp=Z,1.6nm,0.3s,mb4.5,baz=21,slow=2.8,SNR=5.4							
ZAL				LR		LR	17 16 46.6	
	comp=Z,78nm,18.3s,MS4.0,baz=66,slow=39							
ZAL	**Zalesovo**	**66.22**	**345**	P		**P**	**16 44 43.4**	**-1.8**
ZAL				LR		LR	17 16 46.6	
KRAR	**Krasnoyarsk**	**66.54**	**351**	*eP*		**P**	**16 44 46.1**	**-1.2**
BOD	**Bodaibo**	**67.38**	**4**	*eP*		**P**	**16 44 52.2**	**-0.5**
BOD				pmax		pmax		
	comp=Z,8.0nm,1.2s,mb4.6							
BVA0	**Borovoye Array**	**70.03**	**337**	P		**P**	**16 45 08.2**	**-1.0**
BVA0				pmax		pmax		
	comp=Z,8.0nm,1.6s,mb4.4							
BVAR	**Borovoye Array**	**70.03**	**337**	LR		LR	17 15 25.2	
	comp=Z,46nm,22.0s,MS3.7,baz=102,slow=36							
BRVK	**Borovoye**	**70.10**	**337**	*eP*		**P**	**16 45 07.7**	**-1.9**
BRVK				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
BRVK	**Borovoye**	**70.10**	**337**	*eP*		**P**	**16 45 07.7**	**-1.9**
	comp=Z,6.8nm,0.8s,mb4.6							
CHKZ	**Chkalovo**	**70.45**	**338**	*i* P		**P**	**16 45 11.3**	**-0.5**
CHKZ				pmax		pmax		
	comp=Z,11nm,0.6s,mb5.0							
CHKZ	**Chkalovo**	**70.45**	**338**	*eP*		**P**	**16 45 11.4**	**-0.3**
	comp=Z,17nm,0.6s,mb5.2							
ZRNK	**Zerenda**	**70.52**	**336**	*eP*		**P**	**16 45 11.7**	**-0.5**
ZRNK				pmax		pmax		
	comp=Z,17nm,0.9s,mb5.0							
ZRNK	**Zerenda**	**70.52**	**336**	*eP*		**P**	**16 45 11.7**	**-0.5**
	comp=Z,17nm,0.9s,mb5.0							
KMBO	**Kilima Mbogo**	**70.57**	**272**	P		**P**	**16 45 12.8**	**+0.3**
	comp=Z,2.3nm,0.9s,mb4.1,baz=207,slow=23,SNR=5.0							
KMBO				LR		LR	17 10 09.4	
	comp=Z,47nm,18.6s,MS3.8,baz=93,slow=31							
KMBO	**Kilima Mbogo**	**70.57**	**272**	*i* P		**P**	**16 45 12.3**	**-0.2**
KMBO				pmax		pmax		
	comp=Z,2.0nm,0.9s							
KMBO	**Kilima Mbogo**	**70.57**	**272**	P		**P**	**16 45 12.8**	**+0.3**
KMBO				LR		LR	17 10 09.4	
AB31	**Akbulak array**	**72.01**	**329**	*i* P		**P**	**16 45 20.5**	**-0.7**
AB31				pmax		pmax		
	comp=Z,24nm,0.9s,mb5.1							
VNDA	**Vanda**	**73.29**	**169**	P		**P**	**16 45 28.1**	**-0.7**
	comp=Z,2.0nm,0.8s,mb4.1,baz=300,slow=7.5,SNR=10							
VNDA	**Vanda**	**73.29**	**169**	*eP*		**P**	**16 45 28.4**	**-0.4**
YAK	**Yakutsk**	**73.44**	**11**	*eP*		**P**	**16 45 29.2**	**-0.5**
YAK				*e*		pP	16 45 40.4	-0.3
YAK				pmax		pmax		
	comp=Z,19nm,1.2s,mb4.9							
YAK				pmax		pmax		
	comp=N,8.0nm,1.3s							
YAK				pmax		pmax		
	comp=E,6.0nm,1.3s							
YAK				pmax		pmax		
	comp=Z,15nm,0.9s,mb4.9							
YAK	**Yakutsk**	**73.44**	**11**	*eP*		**P**	**16 45 28.4**	**-1.3**
	comp=Z,31nm,1.0s,mb5.2							
YAK				*e*		pP	16 45 39.9	-0.8
AKTK	**Aktyubinsk**	**73.72**	**329**	P		**P**	**16 45 29.3**	**-2.0**
AKTO	**Aktyubinsk**	**73.72**	**329**	P		**P**	**16 45 29.3**	**-2.0**
	comp=Z,3.9nm,0.9s,mb4.3,baz=132,slow=5.0,SNR=5.7							
SVE	**Sverdlovsk**	**76.67**	**336**	⇑*eP*		**P**	**16 45 48.6**	**+0.3**
SVE				*e*			16 46 03.8	
SVE				*e*			16 55 36.0	
SVE				pmax		pmax		
	comp=Z,36nm,1.7s,mb5.0							
MA2	**Magadan**	**77.05**	**21**	*eP*		**P**	**16 45 51.3**	**+0.9**
MA2				*e*		pP	16 46 02.1	+0.6
MA2				*e*			16 46 09.2	
MA2				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
ARU	**Arti**	**77.27**	**334**	⇑*iP*		**P**	**16 45 52.0**	**+0.3**
ARU				*e*		pP	16 46 04.0	+1.2
ARU				*eS*		S	16 56 09.1	+30
ARU				pmax		pmax		
	comp=Z,11nm,1.4s,mb4.6							
ARU	**Arti**	**77.27**	**334**	*eP*		**P**	**16 45 50.2**	**-1.5**
	comp=Z,10nm,0.9s,mb4.8							
LSZ	**Lusaka**	**77.52**	**256**	LR		LR	17 14 01.0	
	comp=Z,106nm,20.2s,MS4.2,baz=112,slow=31							
ZEI	**Tsey**	**77.99**	**317**	*eP*		**P**	**16 45 56.6**	**+0.9**
ZEI				*e*PP		pP	16 46 05.8	-1.0
ZEI				pmax		pmax		
	comp=Z,13nm,0.5s,mb5.1							
BOSA	**Boshof**	**78.91**	**243**	P		**P**	**16 46 01.7**	**+1.0**
	comp=Z,2.0nm,0.9s,mb4.0,baz=88,slow=9.1,SNR=3.1							
BOSA				LR		LR	17 14 41.8	
	comp=Z,113nm,19.0s,MS4.2,baz=178,slow=31							
QSPA	**South Pole Qui**	**80.40**	**180**	*eP*		**P**	**16 46 07.5**	**-1.4**
	comp=Z,9.6nm,1.1s,mb4.6							
SOC	**Sochi**	**81.12**	**317**	*eP*		**P**	**16 46 18.8**	**+6.1**
SOC				*e*PP		pP	16 46 27.

*IDC **24** 16:50:03.8±0.6,954S×10770E,h34km±4km,mb4.2/15, mb1 4.3/15,mb1mx4.2/23,mbtmp4.4/15,MS3.8/10, Ms1 3.8/10,ms1mx3.5/23,Error ellipse: s-maj=19.4km s-min=14.3km az=78.0*

ISC 24 16:50:04.2±0.4,964S±005×10775E±008,h35km, h35km±1.6km:pP-P,n56,σ0§95/53,mb4.7/37,MS4.1/16,1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**14.86**	**316**	*ei*P	**Pn**	**16 53 33.5**	**+1.8**
	2.0nm,1.5s						
MBWA	**Marble Bar**	**16.25**	**136**	*e*P	**Pn**	**16 53 45.6**	**-4.2**
	16nm,0.8s						
KKM	**Kota Kinabalu**	**17.71**	**29**	*e*P	**Pn**	**16 54 07.0**	**-1.1**
NWAO	**Narrogin (SRO)**	**24.77**	**161**	LR	LR	17 04 45.2	
	comp=Z,160nm,20.5s,MS3.5,baz=323,slow=35						
WRA	**Warramunga Arr**	**27.63**	**115**	P	**P**	**16 55 48.9**	**+0.4**
	8.5nm,1.0s,mb4.3,baz=288,slow=11,SNR=5.1						
QIZ	**Qiongzhong**	**28.56**	**4**	P	**P**	**16 55 56.4**	**-0.3**
QIZ				S	**S**	**17 00 46.3**	**+3.8**
QIZ				LR	LR		
	comp=E,216nm,16.9s						
QIZ				LR	LR		
	comp=Z,395nm,13.9s,MS4.2						
ASAR	**Alice Springs**	**28.60**	**122**	LR	LR	17 08 06.0	
	comp=Z,68nm,20.6s,MS3.2,baz=89,slow=38						
CHTO	**Chiang Mai**	**29.58**	**343**	*e*P	**P**	**16 56 04.9**	**-0.9**
	comp=Z,24nm,1.4s,mb4.7						
KMI	**Kunming**	**34.89**	**352**	P	**P**	**16 56 53.6**	**+1.3**
KMI				AP	pP	16 56 58.0	-4.4
KMI				XP	sP	16 57 00.0	-6.6
KMI				PP	PP	16 58 13.1	+1.3
KMI				PPP		16 58 31.6	
KMI				S	**S**	**17 02 26.3**	**+5.1**
KMI				SSS		17 05 06.6	
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
KMI				AMB	AMB		
	comp=Z,315nm,5.2s						
KMI				LR	LR		
	comp=N,551nm,12.1s,MS4.5						
KMI				LR	LR		
	comp=E,272nm,13.1s,MS4.5						
KMI				LR	LR		
	comp=Z,455nm,12.1s,MS4.4						
STKA	**Stephens Creek**	**38.35**	**130**	P	**P**	**16 57 22.9**	**+1.1**
	comp=Z,12nm,0.8s,mb4.7,baz=312,slow=9.4,SNR=10.0						
STKA				LR	LR	17 12 20.7	
	comp=Z,190nm,18.6s,MS3.9,baz=15,slow=35						
CTAO	**Charters Tower**	**38.55**	**110**	P	**P**	**16 57 25.0**	**+1.6**
	comp=Z,7.8nm,1.0s,mb4.4						
CD2	**Chengdu**	**40.50**	**355**	P	**P**	**16 57 39.6**	**-0.1**
CD2				PP	PP	16 59 15.8	+2.6
CD2				S	**S**	**17 03 47.3**	**+1.1**
CD2				SS	SS	17 06 41.9	-4.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				LR	LR		
	comp=E,200nm,15.2s						
CD2				LR	LR		
	comp=Z,190nm,14.2s,MS4.1						
JIRN	**Jiri**	**42.55**	**331**	*e*P	**P**	**16 57 57.5**	**+1.0**
	comp=Z,140nm,1.3s,mb5.5						
PKI	**Pulchoki**	**42.86**	**330**	*e*P	**P**	**16 57 59.4**	**+0.4**
GUN	**Gumba**	**42.91**	**331**	*e*P	**P**	**16 58 00.2**	**+0.8**
	comp=Z,178nm,1.3s,mb5.6						
DMN	**Daman**	**43.04**	**330**	*e*P	**P**	**16 58 00.4**	**0.0**
	comp=Z,66nm,1.2s,mb5.2						
KKN	**Kakani**	**43.10**	**330**	*e*P	**P**	**16 58 01.3**	**+0.3**
	comp=Z,37nm,1.0s,mb5.1						
XAN	**Xi'an**	**43.45**	**1**	P	**P**	**16 58 03.6**	**-0.2**
XAN				AP	pP	16 58 13.6	-0.4
XAN				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
GKN	**Gorkha**	**43.59**	**330**	*e*P	**P**	**16 58 05.2**	**+0.3**
	comp=Z,110nm,1.4s,mb5.4						
KOLN	**Koldanda**	**43.93**	**328**	*e*P	**P**	**16 58 07.6**	**0.0**
	comp=Z,34nm,0.9s,mb5.1						
LZH	**Lanzhou**	**45.63**	**356**	*e*P	**P**	**16 58 21.8**	**+0.7**
LZH				AP	pP	16 58 31.8	+0.3
LZH				XP	sP	16 58 35.6	0.0
LZH				PP	PP	17 00 09.3	+1.0
LZH				*e*S	**S**	**17 05 02.8**	**+1.4**
LZH				XS	sS	17 05 19.3	+0.9
LZH				SS	SS	17 08 18.6	-7.1
LZH				AMB	AMB		
	comp=Z,35nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,163nm,6.6s						
LZH				LR	LR		
	comp=E,902nm,15.3s						
LZH				LR	LR		
	comp=Z,1μm,18.5s,MS4.9						
GTA	**Gaotai**	**49.35**	**352**	*e*P	**P**	**16 58 52.5**	**+2.4**
GTA				AP	pP	16 59 02.8	+2.3
GTA				PP	PP	17 00 46.3	+2.1
GTA				S	**S**	**17 05 53.0**	**-1.3**
GTA				XS	sS	17 06 08.8	-2.6
GTA				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.8						
GTA				AMB	AMB		
	comp=Z,71nm,4.6s						
GTA				LR	LR		
	comp=N,157nm,16.8s,MS4.2						
GTA				LR	LR		
	comp=E,140nm,14.9s,MS4.2						
GTA				LR	LR		
	comp=Z,181nm,15.7s,MS4.2						
BJT	**Baijiatuan**	**50.02**	**8**	*e*P	**P**	**16 58 55.4**	**+0.3**
	comp=Z,13nm,1.0s,mb4.9						
MJAR	**Matsushiro Arr**	**54.13**	**30**	P	**P**	**16 59 24.9**	**-0.8**
	comp=Z,1.8nm,0.8s,mb4.0,baz=207,slow=7.8,SNR=5.8						
MJAR				pP	pP	16 59 34.9	-1.3
	comp=Z,2.3nm,0.8s,baz=202,slow=8.4,SNR=4.8						
MJAR				LR	LR	17 24 00.8	
	comp=Z,59nm,18.2s,MS3.7,baz=185,slow=38						
MJAR	**Matsushiro Arr**	**54.13**	**30**	P	**P**	**16 59 24.9**	**-0.8**
MJAR				pP	pP	16 59 34.9	-1.3
MJAR				LR	LR	17 24 00.8	
WMQ	**Urumqi**	**56.24**	**343**	P	**P**	**16 59 41.8**	**+0.8**
WMQ				AP	pP	16 59 46.3	-5.2
WMQ				XP	sP	16 59 48.8	-6.8
WMQ				PP	PP	17 01 48.3	+1.9
WMQ				S	**S**	**17 07 28.4**	**+0.1**
WMQ				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,114nm,5.1s						
WMQ				LR	LR		
	comp=N,525nm,17.2s,MS4.8						
WMQ				LR	LR		
	comp=E,394nm,16.1s,MS4.8						
WMQ				LR	LR		
	comp=Z,525nm,17.7s,MS4.7						
SONM	**Songino Array**	**57.23**	**359**	P	**P**	**16 59 47.5**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.4,baz=169,slow=8.4,SNR=12						
SONM				pP	pP	16 59 57.8	-0.7
	comp=Z,2.6nm,0.8s,baz=170,slow=9.0,SNR=7.8						
SONM				LR	LR	17 26 32.6	
	comp=Z,180nm,20.3s,MS4.2,baz=60,slow=38						
ULN	**Ulaanbaatar**	**57.25**	**359**	*e*P	**P**	**16 59 47.2**	**-0.9**
	comp=Z,3.6nm,0.8s,mb4.5						
MDJ	**Mudanjiang**	**57.50**	**18**	P	**P**	**16 59 50.9**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,59nm,5.6s						
OPO	**Ambohidratompo**	**59.18**	**254**	P	**P**	**17 00 01.6**	**-0.1**
	comp=Z,6.8nm,1.1s,mb4.6,baz=69,slow=16,SNR=3.1						
MKAR	**Makanchi Array**	**60.60**	**340**	P	**P**	**17 00 10.3**	**-1.0**
	comp=Z,6.6nm,0.5s,mb5.0,baz=144,slow=6.6,SNR=49						
MAW	**Mawson**	**65.08**	**197**	*e*P	**P**	**17 00 40.7**	**-0.5**
	comp=Z,8.9nm,0.9s,mb4.8						
MAW	**Mawson**	**65.08**	**197**	P	**P**	**17 00 40.6**	**-0.5**
	comp=Z,10nm,0.9s,mb4.9,baz=45,slow=7.4,SNR=18						
MAW				LR	LR	17 21 19.0	
	comp=Z,146nm,20.3s,MS4.2,baz=236,slow=29						
KURK	**Kurchatov**	**65.22**	**340**	*e*P	**P**	**17 00 40.8**	**-1.3**
	comp=Z,31nm,1.4s,mb5.2						
ZAL	**Zalesovo**	**66.25**	**345**	LR	LR	17 35 39.5	
	comp=Z,58nm,18.0s,MS3.8,baz=172,slow=41						
ATD	**Arta Tunnel**	**67.86**	**287**	LR	LR	17 25 16.1	
	comp=Z,46nm,20.8s,MS3.7,baz=117,slow=31						
BVAR	**Borovoye Array**	**70.07**	**337**	P	**P**	**17 01 11.6**	**-1.1**
	comp=Z,1.9nm,0.6s,mb4.2,baz=138,slow=9.1,SNR=11						
BVAR				pP	pP	17 01 22.0	-1.5
	comp=Z,3.5nm,0.7s,baz=143,slow=8.6,SNR=11						
BRVK	**Borovoye**	**70.14**	**337**	*e*P	**P**	**17 01 11.0**	**-2.1**
	comp=Z,11nm,1.3s,mb4.6						
CHKZ	**Chkalovo**	**70.49**	**338**	*e*P	**P**	**17 01 14.1**	**-1.2**
	comp=Z,7.4nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**70.55**	**336**	*e*P	**P**	**17 01 13.8**	**-1.8**
	comp=Z,18nm,1.3s,mb4.8						
KMBO	**Kilima Mbogo**	**70.59**	**272**	P	**P**	**17 01 16.4**	**+0.5**
	comp=Z,1.6nm,0.8s,mb4.0,baz=284,slow=0.4,SNR=4.3						
VNDA	**Vanda**	**73.25**	**169**	P	**P**	**17 01 31.3**	**-0.5**
	comp=Z,2.0nm,0.9s,mb4.0,baz=287,slow=7.1,SNR=7.4						
LSZ	**Lusaka**	**77.53**	**256**	P	**P**	**17 01 56.8**	**+0.4**
	comp=Z,2.9nm,0.8s,mb4.3,baz=85,slow=5.3,SNR=7.2						
BOSA	**Boshof**	**78.90**	**243**	LR	LR	17 32 01.5	
	comp=Z,110nm,19.1s,MS4.2,baz=207,slow=32						
QSPA	**South Pole Qui**	**80.37**	**180**	*e*P	**P**	**17 02 11.6**	**-0.3**
	comp=Z,6.7nm,0.9s,mb4.6						
BRTR	**Keskin Array B**	**84.13**	**312**	P	**P**	**17 02 31.2**	**-0.3**
	comp=Z,1.1nm,0.8s,mb4.0,baz=148,slow=7.3,SNR=7.6						
BRTR				pP	pP	17 02 41.8	-0.8
	comp=Z,1.2nm,0.6s,baz=130,slow=6.8,SNR=5.6						
TSUM	**Tsumeb**	**87.04**	**251**	P	**P**	**17 02 46.7**	**+0.6**
	comp=Z,1.1nm,0.3s,mb4.5,baz=123,slow=2.4,SNR=5.6						
SNAA	**Sanae**	**87.25**	**197**	P	**P**	**17 02 47.1**	**+0.1**
	comp=Z,0.9nm,0.9s,mb4.0,baz=90,slow=4.7,SNR=6.8						
SNAA				pP	pP	17 02 58.1	0.0
	comp=Z,1.6nm,1.1s,baz=92,slow=5.6,SNR=5.0						
SNAA	**Sanae**	**87.25**	**197**	*e*	**P**	**17 02 47.6**	**+0.5**
SNAA				*e*	pP	17 02 57.1	-1.0
SNAA				*e*	pP	17 02 59.4	+1.3
SNAA	**Sanae**	**87.25**	**197**	*e*P	**P**	**17 02 46.9**	**-0.1**
	comp=Z,2.7nm,0.9s,mb4.5						
VNA1	**Neumayer--Stat**	**89.28**	**197**	*e*	**P**	**17 02 56.4**	**-0.3**
VNA1				*e*		17 03 00.3	
VNA1				*e*	pP	17 03 08.2	+0.4
MLR	**Muntele Rosu**	**91.11**	**316**	P	**P**	**17 03 04.2**	**-1.1**
	comp=Z,1.7nm,0.6s,mb4.6,baz=169,slow=5.7,SNR=4.1						
ARCES	**ARCESS Array B**	**96.25**	**339**	LR	LR	17 52 14.0	
	comp=Z,66nm,18.4s,MS4.2,baz=96,slow=39						
WMOK	**Wichita Mounta**	**145.18**	**40**	*e*P	PKPbc	17 09 37.2	-0.5
BDFB	**Brasilia**	**145.26**	**224**	PKPbc	PKPbc	17 09 39.6	+1.7
	comp=Z,9.2nm,1.0s,baz=37,slow=2.1,SNR=7.2						
LPAZ	**La Paz**	**153.92**	**189**	PKPbc	PKPbc	17 10 02.4	+2.5
	comp=Z,0.7nm,0.7s,baz=56,slow=6.7,SNR=3.7						

*IDC **24** 16:51:17.8±0.9,736S×13068E,h0km,mb4.3/5, mb1 4.5/10,mb1mx4.3/16,mbtmp4.4/10,ML4.4/5,Error ellipse: s-maj=43.5km s-min=17.5km az=65.0*

*NEIC **24** 16:51:25.2±2.0,750S×13073E,h61km±24km,mb4.0/2, Error ellipse: s-maj=19.9km s-min=11.0km az=204.0*

*ISCJB **24** 16:51:27.9±1.5,783S±005×13073E±009,h121km±16km, mb4.1/6,Error ellipse: s-maj=15.3km s-min=8.7km az=161.2*

ISC 24 16:51:25.3±2.1,77S±01×13065E±009,h69km±25km,n25, σ1§25/31,mb4.1/6,1C,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.32**	**161**	⇑*i*P	**Pn**	**16 52 44.8**	**+2.7**
	224nm,0.6s						
KAKA				*e*S	**Sn**	**16 53 44.0**	**+2.0**
FITZ	**Fitzroy Crossi**	**11.47**	**205**	Pn	**Pn**	**16 54 08.5**	**+2.3**
	8.2nm,0.3s,baz=36,slow=12,SNR=169						
FITZ				Sn	**Sn**	**16 56 11.5**	**-1.0**
	5.5nm,0.3s,baz=183,slow=18,SNR=11						
WRAB	**Tennant Creek**	**12.71**	**164**	*e*P	**Pn**	**16 54 22.3**	**-0.9**
	22nm,0.5s						
WRA	**Warramunga Arr**	**12.72**	**164**	Pn	**Pn**	**16 54 22.1**	**-1.1**
	3.9nm,0.3s,baz=353,slow=13,SNR=93						
WRA				Sn	**Sn**	**16 56 37.0**	**-6.0**
	6.5nm,0.3s,baz=345,slow=22,SNR=16						
WB2	**Warramunga Arr**	**12.72**	**164**	*e*P	**Pn**	**16 54 21.8**	**-1.5**
WB2				*e*S	**Sn**	**16 56 38.3**	**-4.8**
AS31	**Alice Springs**	**16.21**	**169**	*e*P	**Pn**	**16 55 08.1**	**-0.6**
AS31				*e*S	**S**	**16 58 02.5**	**-14**
ASAR	**Alice Springs**	**16.22**	**169**	Pn	**Pn**	**16 55 09.9**	**+1.1**
	2.2nm,0.3s,baz=340,slow=8.6,SNR=116						
ASAR				Sn	**Sn**	**16 58 01.0**	**-6.8**
	0.8nm,0.3s,baz=354,slow=27,SNR=11						
PMG	**Port Moresby**	**16.41**	**97**	Pn	**Pn**	**16 55 10.3**	**-1.0**
	0.6nm,0.3s,baz=239,slow=20,SNR=3.7						
PMG	**Port Moresby**	**16.41**	**97**	*e*Pn	**Pn**	**16 55 10.0**	**-1.2**
CTA	**Charters Tower**	**19.52**	**131**	*e*P	**Pn**	**16 55 50.2**	**+1.3**
	6.3nm,0.9s						
CTA	**Charters Tower**	**19.52**	**131**	P	**Pn**	**16 55 50.1**	**+1.2**
	0.3nm,0.3s,baz=336,slow=14,SNR=6.3						
CTAO	**Charters Tower**	**19.52**	**131**	*e*Pn	**Pn**	**16 55 49.9**	**+1.0**
KKM	**Kota Kinabalu**	**19.82**	**313**	*e*P	**Pn**	**16 55 51.2**	**-1.2**
STKA	**Stephens Creek**	**26.16**	**159**	P	**P**	**16 56 56.0**	**+2.9**
	2.9nm,0.9s,mb3.7,baz=3.8,slow=5.3,SNR=6.2						
CHTO	**Chiang Mai**	**40.86**	**310**	*e*P	**P**	**16 59 00.6**	**+0.2**
ULN	**Ulaanbaatar**	**59.09**	**342**	*e*P	**P**	**17 01 18.5**	**+0.1**
SONM	**Songino Array**	**59.27**	**341**	P	**P**	**17 01 19.6**	**-0.1**
	2.1nm,0.6s,mb4.3,baz=156,slow=7.2,SNR=4.7						
MKAR	**Makanchi Array**	**69.13**	**327**	P	**P**	**17 02 25.0**	**+0.8**
	10nm,0.8s,mb4.7,baz=113,slow=7.1,SNR=19						
MKAR	**Makanchi Array**	**69.13**	**327**	P	**P**	**17 02 25.0**	**+0.8**
ZAL	**Zalesovo**	**72.48**	**334**	P	**P**	**17 02 43.2**	**-1.2**
	1.4nm,0.7s,mb3.9,baz=309,slow=4.4,SNR=4.1						
ZAL	**Zalesovo**	**72.46**	**334**	P	**P**	**17 02 43.2**	**-1.2**
KURK	**Kurchatov**	**73.42**	**328**	*e*P	**P**	**17 02 50.0**	**0.0**
BVAR	**Borovoye Array**	**78.97**	**328**	P	**P**	**17 03 22.1**	**+0.6**
	2.5nm,0.8s,mb4.1,baz=131,slow=6.6,SNR=5.5						
BRVK	**Borovoye**	**79.04**	**328**	*e*P	**P**	**17 03 22.2**	**+0.3**
ZRNK	**Zerenda**	**79.67**	**327**	*e*P	**P**	**17 03 25.8**	**+0.5**
	2.5nm,1.0s,mb4.0						

*BJI **24** 17:16:25.8, 10.14S×108.20E,h38km,mB5.1,mb4.5*

*IDC **24** 17:16:26.1±0.8,955S×10779E,h0km,mb4.1/9, mb1 4.2/11,mb1mx4.1/19,mbtmp4.1/11,ML3.3/2,MS3.5/3, Ms1 3.5/3,ms1mx3.0/28,Error ellipse: s-maj=29.1km s-min=16.1km az=59.0*

*NEIC **24** 17:16:28.0±0.4,952S×10774E,h10km,mb4.8/9,Error ellipse: s-maj=20.1km s-min=6.9km az=48.0*

*ISCJB **24** 17:16:29.3±0.5,96S±01×1078E±01,h33km,mb4.4/20, MS3.6/2,Error ellipse: s-maj=21.3km s-min=7.7km az=101.1*

ISC 24 17:16:31.6±0.5,96S±01×1077E±01,h35km,n34,σ0§95/31, mb4.4/20,MS3.6/2,1C,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**15.10**	**324**	Pn	**Pn**	**17 20 01.2**	**-1.1**
	0.3nm,0.3s,baz=135,slow=20,SNR=3.0						
PSI				LR	LR	17 25 38.7	
	comp=Z,113nm,19.0s,baz=237,slow=37						
MBWA	**Marble Bar**	**16.31**	**136**	*e*Pn	**Pn**	**17 20 09.2**	**-8.7**
FITZ	**Fitzroy Crossi**	**19.34**	**118**	*e*P	**Pn**	**17 20 55.0**	**-0.1**
	17nm,1.7s						
FITZ	**Fitzroy Crossi**	**19.34**	**118**	P	**Pn**	**17 20 52.9**	**-2.2**
	0.0nm,0.3s,baz=285,slow=15,SNR=4.5						
NWAO	**Narrogin (SRO)**	**24.84**	**161**	LR	LR	17 31 49.8	
	comp=Z,118nm,20.0s,MS3.4,baz=236,slow=37						
WRA	**Warramunga Arr**	**27.68**	**115**	P	**P**	**17 22 16.6**	**+0.4**
	2.6nm,0.8s,mb3.9,baz=286,slow=11,SNR=7.9						
WRAB	**Tennant Creek**	**27.69**	**115**	*e*P	**P**	**17 22 16.6**	**+0.3**
WB2	**Warramunga Arr**	**27.69**	**115**	*e*P	**P**	**17 22 17.1**	**+0.7**
ASAR	**Alice Springs**	**28.66**	**122**	P	**P**	**17 22 24.9**	**-0.1**
	0.5nm,0.8s,mb3.3,baz=300,slow=8.6,SNR=5.3						
ASAR				PcP	PcP	17 25 36.5	+1.4
	0.5nm,0.7s,baz=290,slow=0.9,SNR=5.1						
KMI	**Kunming**	**34.84**	**352**	P	**P**	**17 23 21.9**	**+2.7**
KMI				AP	pP	17 23 28.3	-1.0
KMI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**38.41**	**130**	P	**P**	**17 23 48.5**	**-1.1**
	comp=Z,2.7nm,0.8s,mb4.0,baz=272,slow=7.9,SNR=6.9						
STKA	**Stephens Creek**	**38.41**	**130**	*e*P	**P**	**17 23 50.1**	**+0.4**
CTA	**Charters Tower**	**38.60**	**110**	LR	LR	17 37 23.9	
	comp=Z,122nm,19.4s,MS3.7,baz=124,slow=33						
CD2	**Chengdu**	**40.44**	**355**	P	**P**	**17 24 06.6**	**+0.1**
JIRN	**Jiri**	**42.49**	**331**	*e*P	**P**	**17 24 22.0**	**-1.3**
	comp=Z,23nm,0.8s,mb4.9						
GUN	**Gumba**	**42.85**	**331**	*e*P	**P**	**17 24 25.3**	**-0.9**
	comp=Z,26nm,0.7s,mb5.1						
DMN	**Daman**	**42.98**	**330**	*e*P	**P**	**17 24 27.0**	**-0.3**
KKN	**Kakani**	**43.04**	**330**	*e*P	**P**	**17 24 27.3**	**-0.5**
	comp=Z,13nm,0.8s,mb4.7						
XAN	**Xi'an**	**43.40**	**1**	P	**P**	**17 24 29.9**	**-0.8**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
GKN	**Gorkha**	**43.53**	**330**	*e*P	**P**	**17 24 32.1**	**+0.3**
KOLN	**Koldanda**	**43.87**	**328**	*e*P	**P**	**17 24 35.2**	**+0.8**
	comp=Z,20nm,0.7s,mb5.0						
GTA	**Gaotai**	**49.29**	**352**	⇑P	**P**	**17 25 19.3**	**+2.3**
GTA				AP	pP	17 25 25.9	-1.5
GTA				XP	sP	17 25 29.4	-2.2
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.5						
MJAR	**Matsushiro Arr**	**54.10**	**30**	P	**P**	**17 25 51.5**	**-1.3**
	comp=Z,1.9nm,0.8s,mb4.1,baz=206,slow=8.7,SNR=6.2						
SONM	**Songino Array**	**57.18**	**359**	P	**P**	**17 26 14.9**	**0.0**
	comp=Z,2.7nm,0.9s,mb4.3,baz=168,slow=8.3,SNR=12						
ULN	**Ulaanbaatar**	**57.20**	**359**	*e*P	**P**	**17 26 15.3**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**60.54**	**340**	P	**P**	**17 26 38.3**	**0.0**
	comp=Z,5.3nm,0.7s,mb4.8,baz=143,slow=6.8,SNR=33						
MAW	**Mawson**	**65.12**	**197**	P	**P**	**17 27 08.9**	**+0.1**
	comp=Z,5.1nm,0.9s,mb4.5,baz=31,slow=6.6,SNR=9.0						
KURK	**Kurchatov**	**65.16**	**340**	*e*P	**P**	**17 27 08.9**	**0.0**
	comp=Z,7.5nm,0.9s,mb4.7						
CHKZ	**Chkalovo**	**70.43**	**338**	*e*P	**P**	**17 27 41.8**	**-0.3**
	comp=Z,5.2nm,0.7s,mb4.6						
ZRNK	**Zerenda**	**70.49**	**336**	P	**P**	**17 27 45.2**	**+2.7**
	comp=Z,3.2nm,0.8s,mb4.3						
VNDA	**Vanda**	**73.31**	**169**	P	**P**	**17 27 58.8**	**-0.7**
	comp=Z,0.6nm,0.8s,mb3.6,baz=251,slow=1.4,SNR=3.7						
VNDA	**Vanda**	**73.31**	**169**	*e*P	**P**	**17 27 59.8**	**+0.3**
BRTR	**Keskin Array B**	**84.07**	**312**	P	**P**	**17 28 59.0**	**+0.3**
	comp=Z,0.3nm,0.4s,mb3.8,baz=67,slow=11,SNR=3.1						
WMOK	**Wichita Mounta**	**145.16**	**40**	*e*PKP	PKPdf	17 36 06.4	+1.1

*ISCJB **24** 17:20:23.1±0.3,4267N±002×2.14E±002,h1km±4km,Error ellipse: s-maj=2.7km s-min=2.4km az=125.8*

*CSEM **24** 17:20:24.9±0.1,4260N×2.12E,h8km,ML2.6/11,Error ellipse: s-maj=1.1km s-min=0.8km az=129.0*

*STR **24** 17:20:24.4±0.1,4259N×2.10E,h5km±1km,Ml2.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **24** 17:20:24.9±0.1,4260N×2.10E,h2km,Md2.6/2,Ml2.6/11, Error ellipse: s-maj=2.5km s-min=1.3km az=156.0*

*NEIC **24** 17:20:24.4,4259N×2.10E,h5km,ML2.6(LDG), ML2.7(STR),MN2.1(MDD),After STR.*

*MDD **24** 17:20:25.3±0.2,4260N×2.11E,h0km,mbLg2.0/20,Error ellipse: s-maj=1.7km s-min=1.5km az=1.0,PRXIMO*

ISC 24 17:20:24.2±0.3,4263N±001×213E±002,h7km±3km,n73, σ1§06/124,1C-2D,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARF	**Carcanieres**	**0.09**	**350**	Pg	**Pg**	**17 20 27.7**	**+1.3**
CARF				Sg	**Sg**	**17 20 29.8**	**+1.9**
CARF	**Carcanieres**	**0.09**	**350**	P	**Pg**	**17 20 27.8**	**+1.4**
CARF				S	**Sg**	**17 20 29.8**	**+1.9**
CLLI	**Llivia**	**0.18**	**218**	P	**Pg**	**17 20 28.2**	**+0.3**
CLLI				S	**Sg**	**17 20 30.7**	**+0.2**
	103nm,0.1s						
VALF	**Valcebollere**	**0.24**	**200**	Pg	**Pg**	**17 20 29.2**	**+0.3**
VALF				Sg	**Sg**	**17 20 32.0**	**-0.1**
VALF	**Valcebollere**	**0.24**	**200**	P	**Pg**	**17 20 29.3**	**+0.4**
VALF				S	**Sg**	**17 20 32.3**	**+0.2**
FILF	**Fillols**	**0.33**	**101**	Pg	**Pg**	**17 20 29.3**	**-1.3**
FILF				Sg	**Sg**	**17 20 32.7**	**-2.2**
FILF	**Fillols**	**0.33**	**101**	P	**Pg**	**17 20 29.4**	**-1.2**
FILF				S	**Sg**	**17 20 32.8**	**-2.1**
CBRU	**Bruguera**	**0.34**	**174**	P	**Pg**	**17 20 31.1**	**+0.3**
CBRU				S	**Sg**	**17 20 35.6**	**+0.2**
	22nm,0.1s						
LPEF	**Le Peyrat**	**0.36**	**333**	P	**Pg**	**17 20 32.6**	**+1.3**
LPEF				S	**Sg**	**17 20 38.4**	**+2.3**
LRDF	**Laroque-de-Fa**	**0.43**	**44**	Pg	**Pg**	**17 20 33.7**	**+1.1**
LRDF				Sg	**Sg**	**17 20 40.0**	**+1.7**
LRDF	**Laroque-de-Fa**	**0.43**	**44**	P	**Pg**	**17 20 33.6**	**+0.9**
LRDF				S	**Sg**	**17 20 40.2**	**+1.8**
PAND	**Andorre**	**0.44**	**257**	P	**Pg**	**17 20 33.0**	**+0.3**
PAND				S	**Sg**	**17 20 38.8**	**+0.2**
GRBF	**Gourbit**	**0.49**	**297**	P	**Pg**	**17 20 34.2**	**+0.6**
GRBF				S	**Sg**	**17 20 40.2**	**+0.2**
SJAF	**Saint Jean de**	**0.57**	**104**	P	**Pg**	**17 20 35.6**	**+0.3**
SJAF				S	**Sg**	**17 20 43.1**	**+0.4**
EJON	**La Jonquera**	**0.59**	**107**	⇑Pg	**Pg**	**17 20 36.0**	**+0.4**
	9.6nm,0.1s,SNR=18						
EJON				Lg		17 20 43.8	
	14nm,0.1s,SNR=10						
EJON	**La Jonquera**	**0.59**	**107**	Pg	**Pg**	**17 20 36.0**	**+0.5**
	9

FDAF				S		Sn	17 21 28.7	+5.3
ETSF	**Etsaut**	**2.00**	**279**	*e*Pg		**Pg**	17 21 01.9	-0.6
ETSF				*e*Sg		**Sg**	17 21 27.5	-0.9
	16nm,0.3s							
ETSF	**Etsaut**	**2.00**	**279**	*e*Pg		**Pg**	17 21 01.9	-0.6
ETSF				*e*Sg		**Sg**	17 21 27.5	-0.9
	8.1nm,0.3s							
ATE	**Arette**	**2.13**	**283**	S		**Sn**	17 21 32.3	+5.5
ERTA	**Horta de San J**	**2.14**	**219**	Pn		**Pn**	17 21 00.6	+0.4
	0.5nm,0.1s,SNR=7.9							
ERTA				Pg		**Pg**	17 21 03.4	-1.8
	1.9nm,0.2s,SNR=5.7							
ERTA				Lg			17 21 30.5	
	5.8nm,0.2s,SNR=5.5							
ERTA	**Horta de San J**	**2.14**	**219**	Pn		**Pn**	17 21 00.6	+0.4
	0.5nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**2.14**	**219**	Pg		**Pg**	17 21 03.4	-1.8
	1.9nm,0.2s,SNR=5.7							
CAF	**Calviac**	**2.30**	**359**	*e*Pg		**Pg**	17 21 08.3	0.0
CAF				*e*Sn		**Sn**	17 21 29.0	-2.0
CAF				*e*Sg		**Sg**	17 21 37.9	-0.2
	5.1nm,0.2s							
CAF	**Calviac**	**2.30**	**359**	*e*Pg		**Pg**	17 21 08.3	0.0
CAF				*e*Sn		**Sn**	17 21 29.0	-2.0
CAF				*e*Sg		**Sg**	17 21 37.9	-0.2
	2.5nm,0.2s							
SJPF	**Ste Jean**	**2.51**	**282**	*e*Pg		**Pg**	17 21 11.0	-1.3
SJPF				*e*Sg		**Sg**	17 21 42.2	-2.7
	5.0nm,0.3s							
SJPF	**Ste Jean**	**2.51**	**282**	*e*Pg		**Pg**	17 21 11.0	-1.3
SJPF				*e*Sg		**Sg**	17 21 42.2	-2.7
	2.5nm,0.3s							
LFF	**La Frestale**	**2.52**	**337**	*e*Sg		**Sg**	17 21 44.1	-1.1
	7.4nm,0.2s							
LFF	**La Frestale**	**2.52**	**337**	*e*Sg		**Sg**	17 21 44.1	-1.1
	3.7nm,0.2s							
IPRE	**Itoiz**	**2.57**	**275**	Lg			17 21 46.7	
	2.9nm,0.3s,SNR=7.9							
RJF	**Les Rejaudoux**	**2.71**	**351**	*e*Sg		**Sg**	17 21 50.8	-0.6
	4.0nm,0.3s							
RJF	**Les Rejaudoux**	**2.71**	**351**	*e*Sg		**Sg**	17 21 50.8	-0.6
	2.0nm,0.3s							
IUSE	**Utxeti**	**2.73**	**278**	Pg		**Pg**	17 21 15.3	-1.1
	0.5nm,0.1s,SNR=4.0							
IUSE				Lg			17 21 51.6	
	1.5nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**2.73**	**278**	Pg		**Pg**	17 21 15.3	-1.1
	0.5nm,0.1s,SNR=4.0							
EALK	**Alkurruntz**	**2.73**	**284**	Pg		**Pg**	17 21 15.2	-1.4
	1.0nm,0.2s,SNR=4.0							
EALK				Lg			17 21 52.1	
	2.9nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**2.73**	**284**	Pg		**Pg**	17 21 15.2	-1.4
	1.0nm,0.2s,SNR=4.0							
VIVF	**Saint-Julien-l**	**2.89**	**39**	*e*Pg		**Pg**	17 21 19.0	-0.6
VIVF				*e*Sg		**Sg**	17 21 56.5	-0.6
	4.2nm,0.2s							
VIVF	**Saint-Julien-l**	**2.89**	**39**	*e*Pg		**Pg**	17 21 19.0	-0.6
VIVF				*e*Sg		**Sg**	17 21 56.5	-0.6
	2.1nm,0.2s							
EMOS	**Mosqueruela**	**2.99**	**222**	Pg		**Pg**	17 21 19.5	-1.9
	0.7nm,0.2s,SNR=4.0							
EMOS				Lg			17 21 59.0	
	0.9nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**2.99**	**222**	Pg		**Pg**	17 21 19.5	-1.9
	0.7nm,0.2s,SNR=4.0							
FRF	**La Foret Royal**	**3.44**	**73**	*e*Sn		**Sn**	17 21 56.8	-2.3
TCF	**Toulx Ste Croi**	**3.66**	**1**	*e*Sg		**Sg**	17 22 20.7	-1.1
	1.5nm,0.2s							
TCF	**Toulx Ste Croi**	**3.66**	**1**	*e*Sg		**Sg**	17 22 20.7	-1.1
	0.8nm,0.2s							
MFF	**Saint Martin d**	**4.29**	**339**	*e*Sg		**Sg**	17 22 40.1	-2.0
	2.3nm,0.4s							
MFF	**Saint Martin d**	**4.29**	**339**	*e*Sg		**Sg**	17 22 40.1	-2.0
	1.1nm,0.4s							
PGF	**Pioggiola**	**5.07**	**89**	*e*Sn		**Sn**	17 22 34.3	-5.1

IDC ***24*** *17:29:18.2±0.7,2882S×7292W,h0km,mb4.6/10, mb1 4.7/13,mb1mx4.5/18,mbtmp4.6/13,ML5.1/3,MS3.6/13, Ms1 3.6/13,ms1mx3.5/25,Error ellipse: s-maj=24.2km s-min=20.8km az=20.0*

ISCJB ***24*** *17:29:21.0±1.5,2862S±003×7277W±004,h19km±11km, mb4.6/34,MS3.8/9,Error ellipse: s-maj=6.3km s-min=4.4km az=149.0*

GUC ***24*** *17:29:22.9±0.7,2864S×7268W,h30km,ML5.5*

NEIC ***24*** *17:29:24.8±0.7,2862S×7270W,h41km±6km,mb4.7/25, Error ellipse: s-maj=9.9km s-min=5.1km az=86.0*

BJI ***24*** *17:29:24.7,2860S×7270W,h41km,mB5.1,Ms5.0,Msz5.0*

ISC 24 17:29:24.0±1.5,2861S±002×7274W±004,h28km±11km, n167,σ0°79/163,mb4.6/34,MS3.8/9,50C-32D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**1.83**	**103**	*e*P	**Pn**	**17 29 53.9**	**+0.4**
LCO				*i* S	**Sn**	**17 30 17.2**	**+1.5**
CDCH	**Caldera**	**2.28**	**48**	⇓*i*P	**Pn**	**17 29 59.1**	**-0.5**
CDCH				*i* S	**Sn**	**17 30 25.8**	**-1.0**
TLL	**Tololo Astrono**	**2.29**	**133**	*e*P	**Pn**	**17 30 00.7**	**+0.8**
TLL				*i* S	**Sn**	**17 30 28.1**	**+1.1**
TLL				AML	AML	17 30 31.4	
	comp=N,21μm,0.7s						
TLL	**Tololo Astrono**	**2.29**	**133**	*e*P	**Pn**	**17 30 00.7**	**+0.8**
TLL				*i* S	**Sn**	**17 30 28.1**	**+1.1**
CPCH	**Copiapo**	**2.45**	**60**	⇓*i*P	**Pn**	**17 30 01.8**	**-0.2**
CPCH				*i* S	**Sn**	**17 30 31.4**	**+0.4**
CPCH				AML	AML	17 30 33.2	
	comp=E,52μm,0.1s						
CPCH	**Copiapo**	**2.45**	**60**	⇓*i*P	**Pn**	**17 30 01.8**	**-0.2**
CPCH				*i* S	**Sn**	**17 30 31.4**	**+0.4**
JACH	**Jahuel**	**4.46**	**156**	⇓*i*P	**Pn**	**17 30 29.9**	**+0.3**
PEL	**Peldehue**	**4.85**	**159**	⇓*i*P	**Pn**	**17 30 34.8**	**-0.2**
PEL				*i* S	**Sn**	**17 31 29.1**	**-1.1**
CFAA	**Coronel Fontan**	**4.91**	**129**	Pn	**Pn**	**17 30 38.5**	**+2.7**
	comp=E,16nm,0.3s,baz=313,slow=11,SNR=382						
CFAA				Sn	**Sn**	**17 31 34.5**	**+2.8**
	comp=E,16nm,0.3s,baz=63,slow=22,SNR=12						
CFAA				LR	LR	17 32 31.6	
	comp=E,124nm,20.0s,baz=300,slow=39						
CLCH	**Cerro Calan**	**5.13**	**159**	*e*P	**Pn**	**17 30 38.7**	**-0.2**
CLCH				*i* S	**Sn**	**17 31 35.8**	**-1.3**
RCDM	**Rinconada Maip**	**5.14**	**162**	⇑*i*P	**Pn**	**17 30 38.3**	**-0.7**
FCH	**Farellones**	**5.15**	**157**	⇑*i*P	**Pn**	**17 30 39.6**	**+0.5**
FCH				*i* S	**Sn**	**17 31 37.4**	**-0.2**
CHCH	**Chadas Angostu**	**5.60**	**162**	⇓*i*P	**Pn**	**17 30 44.9**	**-0.4**
CACH	**El Canelo**	**5.78**	**162**	⇑*i*P	**Pn**	**17 30 48.1**	**+0.2**
CICH	**Cipreses**	**6.03**	**161**	*e*P	**Pn**	**17 30 51.1**	**-0.1**
CICH				*i* S	**Sn**	**17 31 57.3**	**-1.9**
LVC	**Limon Verde**	**6.90**	**31**	Pn	**Pn**	**17 31 03.8**	**+0.7**
	comp=E,22nm,0.3s,baz=220,slow=8.5,SNR=28						
LVC				Sn	**Sn**	**17 32 20.3**	**-0.3**
	comp=E,88nm,0.3s,baz=62,slow=22,SNR=16						
LVC	**Limon Verde**	**6.90**	**31**	*e*Pn	**Pn**	**17 31 03.5**	**+0.4**
LVC				*e*S	**Sn**	**17 32 19.1**	**-1.5**
ARE	**Arequipa**	**12.14**	**6**	*e*P	**Pn**	**17 32 14.0**	**-1.1**
PLCA	**Paso Flores**	**12.22**	**172**	Pn	**Pn**	**17 32 15.8**	**-0.4**
	comp=E,4.0nm,0.3s,baz=333,slow=11,SNR=93						
PLCA				LR	LR	17 36 35.4	
	comp=E,388nm,20.0s,baz=8.7,slow=36						
PLCA	**Paso Flores**	**12.22**	**172**	*e*P	**Pn**	**17 32 15.0**	**-1.1**
	comp=E,10nm,0.4s						
LPAZ	**La Paz**	**12.98**	**20**	Pn	**Pn**	**17 32 27.2**	**+0.8**
	comp=E,1.7nm,0.3s,baz=210,slow=7.0,SNR=36						
LPAZ				LR	LR	17 35 58.5	
	comp=E,53nm,20.8s,baz=239,slow=30						
LPAZ	**La Paz**	**12.98**	**20**	*e*P	**Pn**	**17 32 27.1**	**+0.7**
	comp=E,48nm,1.2s						
CPUP	**Villa Florida**	**13.87**	**84**	Pn	**Pn**	**17 32 36.9**	**-1.6**
	comp=E,1.5nm,0.3s,baz=243,slow=12,SNR=18						
CPUP				LR	LR	17 38 25.9	
	comp=E,338nm,18.6s,baz=245,slow=39						
CPUP	**Villa Florida**	**13.87**	**84**	Pn	**Pn**	**17 32 36.9**	**-1.6**
CPUP				LR	LR	17 38 25.9	
SIV	**San Ignacio**	**16.54**	**43**	Pn	**Pn**	**17 33 09.4**	**-4.4**
	comp=E,2.8nm,0.3s,baz=243,slow=8.4,SNR=44						
SIV				Sn	**Sn**	**17 36 09.7**	**-6.9**
	comp=E,0.4nm,0.3s,baz=304,slow=22,SNR=6.4						
NNA	**Nana**	**16.98**	**346**	*e*P	**Pn**	**17 33 21.4**	**+2.0**
	comp=E,91nm,1.4s						
ATAH	**Atahualpa**	**22.15**	**345**	P	**P**	**17 34 16.3**	**-1.2**
	comp=E,11nm,0.7s,mb4.4,baz=149,slow=7.7,SNR=12						
ATAH				LR	LR	17 41 05.2	
	comp=E,240nm,20.4s,MS3.6,baz=25,slow=32						

BDFB	**Brasilia**	**26.22**	**66**	P		**P**	17 34 57.5	+1.1
	comp=E,6.0nm,0.5s,mb4.3,baz=245,slow=7.9,SNR=11							
BDFB				LR		LR	17 46 27.3	
	comp=E,196nm,18.5s,MS3.7,baz=72,slow=39							
ROSC	**El Rosal**	**33.31**	**357**	LR		LR	17 50 09.3	
	comp=E,84nm,20.0s,MS3.5,baz=166,slow=37							
PMSA	**Palmer Station**	**36.59**	**174**	*e*P		**P**	**17 36 33.2**	**+5.7**
SDV	**Santo Domingo**	**37.33**	**3**	P		**P**	**17 36 33.2**	**-0.6**
	comp=E,18nm,0.8s,mb4.9							
SJG	**San Juan**	**46.88**	**9**	*e*P		**P**	**17 37 50.0**	**-1.6**
	comp=E,18nm,0.8s,mb5.0							
VNA1	**Neumayer--Stat**	**54.87**	**158**	*e*P		**P**	**17 38 57.5**	**+5.7**
VNA1				*e*		pP	17 39 05.3	+4.9
VNA1				*e*			17 39 18.3	
SNAA	**Sanae**	**56.80**	**159**	*e*P		**P**	**17 39 11.1**	**+5.5**
SNAA				*e*			17 39 12.1	
SNAA				*e*			17 39 16.8	
SNAA				*e*			17 39 33.5	
QSPA	**South Pole Qui**	**61.61**	**180**	*e*P		**P**	**17 39 44.5**	**+5.6**
	comp=E,14nm,1.2s,mb5.0							
JCT	**Junction City**	**64.18**	**334**	*e*P		**P**	**17 39 56.1**	**+0.1**
	comp=E,754nm,0.3s							
PLAL	**Pickwick Lake**	**64.89**	**346**	*e*P		**P**	**17 39 58.4**	**-2.3**
	comp=E,5.2nm,1.1s,mb4.5							
MIAR	**Mount Ida**	**65.83**	**341**	*e*P		**P**	**17 40 05.7**	**-1.0**
	comp=E,4.2nm,0.8s,mb4.5							
WVT	**Waverly**	**65.94**	**347**	*e*P		**P**	**17 40 05.6**	**-1.8**
	comp=E,4.7nm,0.6s,mb4.7							
FWV	**Forest Hill**	**66.28**	**353**	*e*P		**P**	**17 40 07.8**	**-1.8**
ACSO	**Alum Creek Sta**	**69.15**	**352**	*e*P		**P**	**17 40 26.4**	**-1.3**
	comp=E,24nm,1.3s,mb5.0							
LAZ	**Ladron**	**70.61**	**330**	*e*P		**P**	**17 40 37.4**	**+0.7**
116A	**Eloy**	**71.21**	**326**	⇑P		**P**	**17 40 40.8**	**+0.5**
	baz=72							
115A	**Sonoran Desert**	**71.58**	**326**	⇑P		**P**	**17 40 43.2**	**+0.7**
	baz=72							
X15A	**Humboldt**	**73.03**	**327**	⇓P		**P**	**17 40 52.2**	**+1.0**
	baz=73							
GLA	**Glamis**	**73.18**	**324**	⇑P		**P**	**17 40 52.7**	**+0.6**
	baz=74							
X14A	**Yava**	**73.33**	**326**	⇑P		**P**	**17 40 53.3**	**+0.4**
	baz=74							
WUAZ	**Wupatki**	**73.46**	**328**	*e*P		**P**	**17 40 54.3**	**+0.6**
	comp=E,7.6nm,1.1s,mb4.5							
Y12C	**Blythe**	**73.57**	**325**	⇑P		**P**	**17 40 55.0**	**+0.6**
	baz=74							
MVCO	**Mesa Verde**	**73.58**	**331**	*e*P		**P**	**17 40 54.8**	**+0.3**
W15A	**Williams**	**73.61**	**327**	⇑P		**P**	**17 40 55.6**	**+1.0**
	baz=74							
W14A	**Seligman**	**74.02**	**327**	⇑P		**P**	**17 40 57.8**	**+0.8**
	baz=74							
DBIC	**Dimbokro**	**74.10**	**73**	P		**P**	**17 40 58.0**	**+0.5**
	comp=E,10nm,1.1s,mb4.7,baz=219,slow=9.7,SNR=4.6							
DBIC				LR		LR	18 11 28.1	
	comp=E,48nm,18.5s,MS3.8,baz=197,slow=34							
W13A	**Hualapai Mount**	**74.33**	**326**	⇑P		**P**	**17 40 59.5**	**+0.7**
	baz=75							
PV01	**Paradox Valley**	**74.39**	**331**	*e*P		**P**	**17 40 59.7**	**+0.5**
PFO	**Pinyon Flat Ob**	**74.46**	**323**	⇑P		**P**	**17 41 00.2**	**+0.6**
	baz=75							
SMCO	**Snowmass**	**74.62**	**333**	*e*P		**P**	**17 41 01.4**	**+0.9**
	comp=E,14nm,0.8s,mb5.0							
ISCO	**Idaho Springs**	**74.62**	**334**	*e*P		**P**	**17 41 00.7**	**+0.2**
	comp=E,3.2nm,0.8s,mb4.3							
V12A	**Nelson**	**75.30**	**326**	⇑P		**P**	**17 41 04.7**	**+0.2**
	baz=76							
FMP	**Fort Macarthur**	**75.52**	**322**	⇑P		**P**	**17 41 06.1**	**+0.4**
	baz=76							
TUQ	**Turquoise Mtn.**	**75.61**	**325**	⇑P		**P**	**17 41 06.7**	**+0.5**
	baz=76							
U12A	**Valley of Fire**	**75.70**	**326**	⇓P		**P**	**17 41 07.1**	**+0.4**
	baz=76							
GSC	**Goldstone**	**75.96**	**324**	⇓P		**P**	**17 41 08.4**	**+0.2**
	baz=76							
SRU	**San Rafael**	**76.04**	**331**	*e*P		**P**	**17 41 08.5**	**-0.1**
	comp=E,3.9nm,0.6s,mb4.5							
CCUT	**Cedar City**	**76.04**	**328**	*e*P		**P**	**17 41 09.6**	**+0.9**
U10A	**Ash Meadows, A**	**76.58**	**325**	⇑P		**P**	**17 41 12.4**	**+0.7**
	baz=77							
RWWY	**Rawlins**	**76.86**	**334**	*e*P		**P**	**17 41 13.1**	**-0.3**
	comp=E,14nm,1.2s,mb4.8							
TPNV	**Topopah Spring**	**76.96**	**326**	*e*P		**P**	**17 41 12.8**	**-1.1**
	comp=E,8.6nm,1.2s,mb4.6							
ISA	**Isabella**	**77.10**	**323**	⇓P		**P**	**17 41 15.2**	**+0.6**
	baz=77,SNR=5.9							
DAU	**Daniels Canyon**	**77.43**	**331**	*e*P		**P**	**17 41 16.8**	**+0.3**
RSSD	**Black Hills**	**77.84**	**337**	*e*P		**P**	**17 41 18.7**	**-0.1**
	comp=E,3.6nm,0.8s,mb4.3							
Q12A	**Willow Creek R**	**77.92**	**328**	⇑P		**P**	**17 41 19.5**	**+0.2**
	baz=78							
DUG	**Dugway**	**77.93**	**330**	*e*P		**P**	**17 41 19.7**	**+0.4**
	comp=E,3.6nm,0.8s,mb4.3							
R10A	**Warm Springs**	**78.03**	**326**	⇑P		**P**	**17 41 20.7**	**+0.8**
	baz=78,SNR=7.8							
S09A	**Goldfield**	**78.04**	**325**	⇓P		**P**	**17 41 20.3**	**+0.4**
	baz=78,SNR=5.1							
Q11A	**Duckwater**	**78.16**	**327**	⇓P		**P**	**17 41 21.1**	**+0.6**
	baz=78,SNR=5.0							
V04C	**Ramage Ranch,**	**78.37**	**322**	⇑P		**P**	**17 41 22.2**	**+0.5**
	baz=79							
R09A	**Tonopah**	**78.37**	**326**	P		**P**	**17 41 22.2**	**+0.5**
	baz=79,SNR=5.8							
PKD	**Parkfield**	**78.42**	**322**	⇑P		**P**	**17 41 22.3**	**+0.3**
	baz=79							
MAW	**Mawson**	**78.51**	**164**	LR		LR	18 15 12.5	
	comp=E,140nm,20.5s,MS4.3,baz=336,slow=35							
HWUT	**Hawaii Ranch**	**78.55**	**331**	*e*P		**P**	**17 41 22.4**	**-0.4**
	comp=E,15nm,0.8s,mb5.0							
PDAR	**Pinedale Array**	**78.70**	**333**	P		**P**	**17 41 23.1**	**-0.4**
	comp=E,1.3nm,0.5s,mb4.1,baz=142,slow=5.6,SNR=14							
PDAR				LR		LR	18 12 53.2	
	comp=E,51nm,20.4s,MS3.9,baz=338,slow=33							
T06C	**Millerton Lake**	**78.77**	**323**	⇑P		**P**	**17 41 24.3**	**+0.4**
	baz=79							
MLAC	**Mammoth Lakes**	**78.79**	**324**	⇑P		**P**	**17 41 24.3**	**+0.3**
	baz=75							
U04C	**Hernandez Rese**	**78.85**	**322**	⇑P		**P**	**17 41 25.0**	**+0.6**
	baz=79							
O12A	**Currie**	**78.86**	**329**	⇓P		**P**	**17 41 24.6**	**+0.2**
	baz=79							
N13A	**Wendover, West**	**79.09**	**329**	⇑P		**P**	**17 41 25.6**	**-0.1**
	baz=79							
NVAR	**Mina Array Bea**	**79.13**	**325**	P		**P**	**17 41 26.0**	**0.0**
	comp=E,2.8nm,0.8s,mb4.3,baz=159,slow=6.4,SNR=23							
P10A	**Eureka**	**79.15**	**327**	⇑P		**P**	**17 41 26.3**	**+0.3**
	baz=80							
R07C	**Lee Vining**	**79.25**	**324**	⇑P		**P**	**17 41 26.6**	**+0.1**
	baz=80							
Q08A	**Gabbs**	**79.28**	**326**	⇑P		**P**	**17 41 27.1**	**+0.4**
	baz=80							
HAST	**UC Hastings Re**	**79.29**	**322**	⇓P		**P**	**17 41 27.2**	**+0.4**
	baz=80							
N12A	**Clover Valley,**	**79.46**	**329**	⇑P		**P**	**17 41 27.5**	**-0.2**
	baz=80							
ELK	**Elko**	**79.47**	**329**	*e*P		**P**	**17 41 27.6**	**-0.2**
	comp=E,4.8nm,1.1s,mb4.3							
M13A	**Montello**	**79.47**	**330**	⇓P		**P**	**17 41 27.7**	**-0.1**
	baz=80							
S06C	**San Francisco**	**79.50**	**324**	⇓P		**P**	**17 41 28.0**	**0.0**
	baz=80							
PACP	**Pacheco Peak**	**79.61**	**322**	⇓P		**P**	**17 41 28.9**	**+0.3**
	baz=80							
REDW	**Red Top Meadow**	**79.71**	**333**	*e*P		**P**	**17 41 29.2**	**+0.1**
	comp=E,3.9nm,0.9s,mb4.3							
R06C	**Coleville**	**79.78**	**325**	⇑P		**P**	**17 41 29.8**	**+0.4**
	baz=80							
M12A	**Wells**	**79.86**	**329**	⇑P		**P**	**17 41 29.6**	**-0.3**
	baz=80							
TPAW	**Teton Pass**	**79.86**	**333**	*e*P		**P**	**17 41 28.2**	**-1.7**
	comp=E,10nm,1.3s,mb4.6							
RRI2	**Red Ridge**	**79.89**	**332**	*e*P		**P**	**17 41 29.9**	**-0.2**
	comp=E,6.6nm,0.9s,mb4.6							
CMB	**Columbia Colle**	**79.90**	**324**	⇑P		**P**	**17 41 30.3**	**+0.2**
	baz=80							
O09A	**Fish Creek Ran**	**79.93**	**327**	⇑P		**P**	**17 41 30.2**	**-0.1**
	baz=80							
R05C	**Kirkwood Meado**	**80.24**	**324**	⇑P		**P**	**17 41 32.2**	**+0.3**
	baz=80							
FLWY	**Flagg Ranch**	**80.25**	**333**	*e*P		**P**	**17 41 32.1**	**+0.1**
	comp=E,12nm,1.0s,mb4.8							
M11A	**Holland Ranch,**	**80.27**	**329**	⇓P		**P**	**17 41 32.3**	**+0.2**
	baz=81,SNR=6.7							
N09A	**Rock Creek Ran**	**80.62**	**327**	⇑P		**P**	**17 41 34.4**	**+0.4**
	baz=81							
O07A	**Toulon**	**80.74**	**326**	⇑P		**P**	**17 41 34.9**	**+0.2**
	baz=81							
LAO	**LASA Array**	**80.83**	**337**	*e*P		**P**	**17 41 33.4**	**-1.7**
	comp=E,14nm,0.9s,mb4.9							

P05C	**Yuba Gap, Truc**	**80.96**	**324**	⇓P		**P**	**17 41 36.3**	**+0.5**
	baz=81								
ULM	**Lac du Bonnet**	**81.15**	**345**	P		**P**	**17 41 35.4**	**-1.4**
	comp=E,13nm,0.8s,mb4.9,baz=155,slow=4.7,SNR=24								
QLMT	**Earthquake Lak**	**81.17**	**333**	*e*P		**P**	**17 41 36.2**	**-0.7**
Q03C	**Winters**	**81.19**	**323**	⇑P		**P**	**17 41 37.8**	**+0.8**
	baz=82								
O06A	**Flanigan**	**81.22**	**325**	⇓P		**P**	**17 41 37.7**	**+0.5**
	baz=82								
HLID	**Hailey**	**81.36**	**331**	*e*P		**P**	**17 41 37.8**	**-0.1**
	comp=E,8.5nm,1.0s,mb4.6								
L09A	**Wilkinson Ranc**	**81.60**	**328**	⇑P		**P**	**17 41 39.7**	**+0.5**
	baz=82								
MNRC	**McLaughlin Nat**	**81.60**	**323**	⇑P		**P**	**17 41 39.5**	**+0.3**
	baz=82								
ORV	**Oroville**	**81.61**	**324**	⇓P		**P**	**17 41 39.4**	**+0.1**
	baz=82								
O05C	**Quincy**	**81.61**	**325**	⇑P		**P**	**17 41 39.7**	**+0.4**
	baz=82								
N06A	**Buffalo Meadow**	**81.66**	**326**	⇓P		**P**	**17 41 39.6**	**+0.1**
	baz=82								
MCMT	**McKenzie Canyo**	**81.73**	**332**	*e*P		**P**	**17 41 39.8**	**-0.1**
M07A	**Soldier Meadow**	**81.83**	**327**	⇑P		**P**	**17 41 40.3**	**-0.1**
	baz=82								
ELFS	**Eagle Lake Fie**	**82.01**	**325**	⇓P		**P**	**17 41 41.4**	**0.0**
	baz=82								
GASB	**Alder Springs**	**82.31**	**323**	⇑P		**P**	**17 41 43.4**	**+0.4**
	baz=83								
M06C	**Likely Place G**	**82.32**	**326**	⇑P		**P**	**17 41 43.5**	**+0.5**
	baz=83								
L07A	**Adell**	**82.39**	**327**	⇑P		**P**	**17 41 43.8**	**+0.5**
	baz=83								
P01C	**Double 8 Ranch**	**82.51**	**323**	⇓P		**P**	**17 41 44.1**	**+0.1**
	baz=83								
HATC	**Hat Creek Radi**	**82.53**	**325**	⇓P		**P**	**17 41 43.9**	**-0.2**
	baz=83								
TOA0	**Torodi Ar. Sit**	**82.98**	**71**	*e*P		**P**	**17 41 45.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**82.98**	**71**	P		**P**	**17 41 47.0**	**+0.6**
	comp=E,4.3nm,0.6s,mb4.7,baz=270,slow=5.3,SNR=36								
L05A	**Lakeview**	**83.14**	**326**	⇓P		**P**	**17 41 47.4**	**+0.2**
	baz=83								
BOSA	**Boshof**	**83.14**	**119**	P		**P**	**17 41 47.2**	**0.0**
	comp=E,2.5nm,0.7s,mb4.4,baz=217,slow=4.2,SNR=4.0								
SCHQ	**Schefferville**	**83.25**	**3**	P		**P**	**17 41 46.7**	**-1.1**
	comp=E,2.8nm,1.1s,mb4.2,baz=59,slow=2.1,SNR=3.9								
SCHQ				LR		LR	18 15 28.1		
	comp=E,42nm,20.7s,MS3.8,baz=180,slow=33								
J07A	**Hines**	**83.41**	**328**	⇑P		**P**	**17 41 48.7**	**+0.1**
	baz=84								
K06A	**Valley Falls**	**83.42**	**327**	⇑P		**P**	**17 41 48.9**	**+0.2**
	baz=84								
M04C	**Macdoel**	**83.44**	**325**	⇓P		**P**	**17 41 48.5**	**-0.2**
	baz=84								
N02C	**Big Bar**	**83.48**	**324**	⇓P		**P**	**17 41 48.7**	**-0.2**
	baz=84								
J06A	**Christmas Vall**	**83.71**	**327**	⇓P		**P**	**17 41 49.8**	**-0.4**
	baz=84								
YBH	**Yreka Blue Hor**	**83.84**	**325**	LR		LR	18 14 46.1		
	comp=E,52nm,19.3s,MS3.9,baz=174,slow=32								
YBH	**Yreka Blue Hor**	**83.84**	**325**	⇓P		**P**	**17 41 50.4**	**-0.4**
	baz=84								
J05A	**Fort Rock**	**84.26**	**327**	⇑P		**P**	**17 41 52.7**	**-0.3**
	baz=85								
I06A	**Prineville**	**84.27**	**328**	⇓P		**P**	**17 41 53.0**	**0.0**
	baz=85								
K02A	**Glendale**	**84.99**	**325**	⇑P		**P**	**17 41 57.2**

2.0nm,1.1s,baz=97,slow=16,SNR=4.5

*CSEM **24** 18:07:52.9, 1416N×5108E, h8km, ML3.8, After DHMR*
DHMR 24 18:07:52.9±1.0, 1416N×5108E, h9km±212km, ML3.8, 2C, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.00**	**279**	*i* P	Pn	18 08 27.5	+0.6
MUKL				*i* S	Sn	18 08 56.0	+3.9
MUKL				AML	AML	18 08 56.8	
	comp=N,1μm,0.3s						
MUKL	**Al Mukalla**	**2.00**	**279**	*i* P	Pn	18 08 27.5	+0.6
MUKL				*i* S	Sn	18 08 56.0	+3.9
BDHA	**Al Bayda'**	**5.35**	**269⇑**	*e*P	Pn	18 09 15.6	+2.7
BDHA				*i* S	Sn	18 10 19.2	+4.5
LBOS		**5.66**	**268⇑**	*i* P	Pn	18 09 19.7	+2.5
LBOS				*i* S	Sn	18 10 26.9	+4.5

IDC 24 18:19:09.3±3.4, 1024S×10787E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.4/17, mbtmp3.3/5, ML3.0/1, Error ellipse: s-maj=136.5km s-min=21.5km az=49.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.91**	**116**	P	Pn	18 23 31.7	-0.3
	0.0nm,0.3s,baz=274,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**27.28**	**114**	P	P	18 24 55.0	-0.4
	0.3nm,0.8s,baz=284,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**28.19**	**122**	P	P	18 25 04.7	+1.2
	0.2nm,0.7s,baz=290,slow=8.8,SNR=2.9						
SONM	**Songino Array**	**57.83**	**359**	P	P	18 29 03.3	+0.7
	0.4nm,0.7s,baz=181,slow=7.2,SNR=2.6						
MKAR	**Makanchi Array**	**61.21**	**340**	P	P	18 29 25.5	-0.4
	0.2nm,0.5s,baz=148,slow=8.5,SNR=3.5						

*ISCJB **24** 18:43:34.8±2.7, 114S±0.1×1663E±02, h62km±21km, mb4.2/10, Error ellipse: s-maj=29.1km s-min=16.3km az=125.7*
*NEIC **24** 18:43:36.2±2.2, 1128S×16643E, h63km±17km, mb4.3/3, Error ellipse: s-maj=21.3km s-min=15.2km az=64.0*
*IDC **24** 18:43:36.7±4.1, 1130S×16629E, h60km±32km, mb3.9/8, mb1 4.1/10, mb1mx3.9/16, mbtmp4.2/10, ML4.2/2, MS3.4/4, Ms1 3.4/4, ms1mx3.1/21, Error ellipse: s-maj=34.3km s-min=22.0km az=81.0*
ISC 24 18:43:36.7±2.2, 113S±01×1664E±02, h65km±16km, n23, σ0§67/20, mb4.2/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.59**	**286**	P	**Pn**	**18 45 10.7**	**-0.1**
	19nm,0.3s,baz=120,slow=0.6,SNR=12						
HNR				LR	LR	18 47 24.4	
	comp=Z,236nm,19.5s,baz=180,slow=35						
HNR	**Honiara**	**6.59**	**286**	P	**Pn**	**18 45 10.7**	**-0.1**
HNR				LR	LR	18 47 24.4	
DZM	**Mont Dzumac**	**10.69**	**180**	P	**Pn**	**18 46 07.0**	**+0.1**
	0.5nm,0.3s,baz=152,slow=22,SNR=10						
DZM				LR	LR	18 49 33.7	
	comp=Z,168nm,19.5s,baz=332,slow=33						
CTA	**Charters Tower**	**21.21**	**243**	*e*P	**P**	**18 48 20.5**	**+3.5**
	7.0nm,1.1s,mb3.9						
CTA	**Charters Tower**	**21.21**	**243**	P	**P**	**18 48 18.1**	**+1.1**
	5.5nm,0.7s,mb4.0,baz=70,slow=13,SNR=6.1						
CTA				LR	LR	18 55 05.9	
	comp=Z,88nm,20.7s,baz=86,slow=33						
CTAO	**Charters Tower**	**21.21**	**243**	*e*P	**P**	**18 48 20.3**	**+3.3**
STKA	**Stephens Creek**	**30.66**	**224**	P	**P**	**18 49 45.7**	**+0.7**
	1.9nm,0.8s,mb4.0,baz=66,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**30.66**	**224**	*e*P	**P**	**18 49 45.2**	**+0.2**
WRAB	**Tennant Creek**	**31.95**	**250**	*e*P	**P**	**18 49 55.5**	**-0.8**
WB2	**Warramunga Arr**	**31.95**	**250**	*e*P	**P**	**18 49 55.8**	**-0.5**
WRA	**Warramunga Arr**	**31.96**	**250**	P	**P**	**18 49 56.1**	**-0.3**
	3.6nm,0.8s,mb4.2,baz=81,slow=9.1,SNR=22						
WRA				PcP	PcP	18 52 46.5	+1.3
	0.9nm,0.8s,baz=71,slow=2.0,SNR=6.4						
ASAR	**Alice Springs**	**33.21**	**244**	P	**P**	**18 50 06.6**	**-0.8**
	4.0nm,0.8s,mb4.4,baz=67,slow=9.8,SNR=42						
ASAR				PcP	PcP	18 52 50.0	+1.3
	0.9nm,0.7s,baz=69,slow=2.5,SNR=9.6						
ASAR				LR	LR	19 01 29.9	
	comp=Z,86nm,21.9s,baz=14,slow=32						
FITZ	**Fitzroy Crossi**	**39.90**	**255**	*e*P	**P**	**18 51 04.5**	**+0.3**
	4.1nm,0.6s,mb4.3						
MBWA	**Marble Bar**	**45.68**	**252**	*e*P	**P**	**18 51 51.9**	**+0.8**
MJAR	**Matsushiro Arr**	**54.49**	**332**	P	**P**	**18 52 57.1**	**-0.6**
	1.3nm,0.7s,mb4.0,baz=168,slow=9.4,SNR=4.2						
VNDA	**Vanda**	**66.23**	**181**	P	**P**	**18 54 17.9**	**+0.1**
	0.9nm,0.7s,mb3.9,baz=301,slow=3.1,SNR=5.8						
VNDA	**Vanda**	**66.23**	**181**	P	**P**	**18 54 17.9**	**+0.1**
QSPA	**South Pole Qui**	**78.68**	**180**	*e*P	**P**	**18 55 31.1**	**-0.8**
	3.8nm,0.8s,mb4.4						
SONM	**Songino Array**	**79.25**	**324**	P	**P**	**18 55 35.8**	**+0.8**
	0.5nm,0.5s,mb3.7,baz=132,slow=5.7,SNR=4.2						
MKAR	**Makanchi Array**	**94.14**	**317**	P	**P**	**18 56 48.6**	**+0.4**
	1.4nm,0.5s,mb4.6,baz=79,slow=6.0,SNR=23						
ARCES	**ARCESS Array B**	**116.75**	**346**	PKP	PKPdf	19 02 13.0	-0.6
	1.6nm,0.8s,baz=108,slow=1.9,SNR=3.8						
ARCES	**ARCESS Array B**	**116.75**	**346**	PKP	PKPdf	19 02 13.0	-0.6
FINES	**FINESS Array B**	**122.25**	**339**	PKP	PKPdf	19 02 24.0	-0.2
	0.4nm,0.6s,baz=38,slow=17,SNR=3.4						

IDC 24 19:08:45.1±3.8, 958S×10810E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.6/4, Error ellipse: s-maj=185.1km s-min=24.1km az=55.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**28.35**	**123**	P	P	19 14 40.6	-0.1
	0.3nm,0.8s,baz=308,slow=8.1,SNR=2.8						
STKA	**Stephens Creek**	**38.13**	**130**	P	P	19 16 06.8	+0.8
	2.2nm,0.9s,baz=278,slow=7.1,SNR=3.1						
SONM	**Songino Array**	**57.18**	**359**	P	P	19 18 34.2	+0.4
	0.3nm,0.5s,baz=180,slow=8.7,SNR=2.5						
MKAR	**Makanchi Array**	**60.67**	**340**	P	P	19 18 57.8	-0.3
	0.4nm,0.6s,baz=140,slow=7.1,SNR=6.3						

*NEIC **24** 19:39:28.7, 1753N×9798W, h61km, MD4.1(MEX), After MEX.*
MEX 24 19:39:29.3±1.0, 1754N×9800W, h56km±9km, MD4.1, 1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UTMO	**Huajuapan**	**0.34**	**32⇓**	*i*P	Pn	19 39 38.0	-1.4
UTMO				*i* S	Sn	19 39 45.5	-1.2
TPIG	**Tehuac#an**	**1.06**	**34**	*i* P	Pn	19 39 46.6	-1.4
TPIG				*i* S	Sn	19 40 00.6	-1.3
VHO	**Vista Hermosa**	**1.29**	**111**	*i* P	Pn	19 39 50.1	-1.0
VHO				*i* S	Sn	19 40 05.8	-1.5
VHO	**Vista Hermosa**	**1.29**	**111**	*i* P	Pn	19 39 49.8	-1.3
VHO				*i* S	Sn	19 40 04.5	-2.9
OXX	**Oaxaca**	**1.30**	**110**	*i* P	Pn	19 39 50.0	-1.1
OXX				*i* S	Sn	19 40 05.0	-2.5
OXX	**Oaxaca**	**1.30**	**110**	*i* P	Pn	19 39 50.0	-1.1
OXX				*i* S	Sn	19 40 07.0	-0.5
MEIG	**Mezcala**	**1.60**	**284**	*i* P	Pn	19 39 54.5	-0.6
MEIG				*i* S	Sn	19 40 12.3	-2.4
PPM	**Popocatepetl**	**1.63**	**339**	*e*P	Pn	19 39 56.0	+0.3
YAIG	**Yautepec**	**1.66**	**322**	*e*P	Pn	19 39 54.2	-1.9
YAIG				*i* S	Sn	19 40 14.7	-1.7
PLIG	**Platanillo**	**1.67**	**301**	*e*P	Pn	19 39 54.8	-1.4
PLIG				*i* S	Sn	19 40 13.0	-3.4
ACX	**Acapulco**	**1.96**	**250**	*i* P	Pn	19 39 56.5	-3.6
ACX				*i* S	Sn	19 40 23.0	-0.5
ACX	**Acapulco**	**1.96**	**250**	*i* P	Pn	19 39 56.5	-3.6
ACX				*i* S	Sn	19 40 15.0	-8.5
IIZ	**Mezontepec**	**2.02**	**324**	*e*P	Pn	19 40 01.2	+0.2
IIZ				*i* S	Sn	19 40 19.7	-5.4
UNM	**Universidad Na**	**2.10**	**328**	*i* P	Pn	19 40 01.7	-0.4
UNM				*e*P		19 40 06.5	
UNM				*i* S	Sn	19 40 27.1	0.0
CAIG	**El Cayaco**	**2.23**	**258**	*i* P	Pn	19 40 01.3	-2.5
CAIG				*i* S	Sn	19 40 27.7	-2.4
HUIG	**Huatulco**	**2.52**	**134**	*e*P	Pn	19 40 05.7	-2.1
HUIG				*i* S	Sn	19 40 34.2	-3.2
LVIG	**Laguna Verde**	**2.64**	**34**	*i* P	Pn	19 40 05.5	-3.8
LVIG				*i* S	Sn	19 40 35.9	-4.3
CMIG	**Matias Romero**	**3.00**	**98**	*i* P	Pn	19 40 12.1	-2.3
CMIG				*i* S	Sn	19 40 45.2	-3.9
TUIG	**Tuzandepetl**	**3.44**	**81**	*i* P	Pn	19 40 18.1	-2.3
TUIG				*i* S	Sn	19 40 57.6	-2.2

*STR **24** 19:41:48.7±0.1, 4269N×064W, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **24** 19:41:49.7±0.4, 4346N×056W, h2km, Md2.1/3, Ml1.7/1, Error ellipse: s-maj=7.0km s-min=3.4km az=171.0*
MDD 24 19:41:49.8±0.8, 4347N×054W, h0km, mbLg0.9/6, Error ellipse: s-maj=6.1km s-min=3.0km az=8.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.40**	**197**	Pg	Pg	19 41 56.8	-0.7
ATE				Sg	Sg	19 42 02.8	0.0
ATE	**Arette**	**0.40**	**197**	P	Pg	19 41 56.7	-0.9
ATE				S	Sg	19 42 02.9	+0.1
REYF	**Montagne du Re**	**0.42**	**165**	Pg	Pg	19 41 57.2	-0.6
REYF				Sg	Sg	19 42 03.4	+0.2
REYF	**Montagne du Re**	**0.42**	**165**	P	Pg	19 41 57.3	-0.5
REYF				S	Sg	19 42 03.2	+0.1
LARF	**Larrau**	**0.54**	**217**	P	Pg	19 41 59.5	-0.7
LARF				S	Sg	19 42 07.2	-0.1
ETSF	**Etsaut**	**0.57**	**181**	*e*Pg	Pg	19 42 00.1	-0.7
ETSF				*e*Sg	Sg	19 42 07.9	-0.3
	2.4nm,0.2s						
ETSF	**Etsaut**	**0.57**	**181**	Pg	Pg	19 42 00.1	-0.7
ETSF				Lg		19 42 07.9	
	1.2nm,0.2s						
SJPF	**Ste Jean**	**0.62**	**235**	*e*Pg	Pg	19 42 00.9	-0.7
SJPF				*e*Sg	Sg	19 42 09.7	+0.1
	4.4nm,0.3s						
SJPF	**Ste Jean**	**0.62**	**235**	Pg	Pg	19 42 00.9	-0.7
SJPF				Lg		19 42 09.7	
	2.2nm,0.3s						
LABF	**Labassere**	**0.62**	**133**	S	Sg	19 42 10.1	+0.5
EALK	**Alkurruntz**	**0.75**	**251**	Pg	Pg	19 42 03.0	-1.1
	1.0nm,0.2s,SNR=7.9						
EALK				Lg		19 42 13.8	
	3.0nm,0.3s,SNR=6.8						
EPF	**Esparros**	**0.78**	**124**	*e*Pg	Pg	19 42 04.8	+0.1
EPF				*e*Sg	Sg	19 42 14.0	-0.8
	5.1nm,0.3s						
EPF	**Esparros**	**0.78**	**124**	Pg	Pg	19 42 04.8	+0.1
EPF				Lg		19 42 14.0	
	2.5nm,0.3s						
IUSE	**Utxeti**	**0.91**	**235**	Pg	Pg	19 42 07.2	+0.1
	0.7nm,0.1s,SNR=7.9						
IUSE				Lg		19 42 19.7	
	1.0nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.93**	**147**	Pg	Pg	19 42 06.4	-1.2
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg		19 42 20.2	
	1.1nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	**2.01**	**93**	*e*Sg	Sg	19 42 54.2	-0.3
	0.6nm,0.2s						
MTLF	**Montolieu**	**2.01**	**93**	Lg		19 42 54.2	
	0.3nm,0.2s						

*MOS **24** 19:46:30.1±1.0, 1544S×7452W, h33km, mb5.1/27, Error ellipse: s-maj=11.3km s-min=8.4km az=78.4*
*ISCJB **24** 19:46:31.1±0.3, 1555S±004×7450W±006, h43km, mb4.8/80, MS4.0/17, Error ellipse: s-maj=8.8km s-min=4.9km az=111.4*
*BJI **24** 19:46:32.3, 1608S×7468W, h54km, mB5.3, Ms4.7, Msz4.4*
*NEIC **24** 19:46:32.5±0.7, 1554S×7444W, h42km±6km, mb4.9/62, MS4.2/2, Error ellipse: s-maj=6.6km s-min=4.6km az=56.0*
NEIC Felt [III] at Chala and [II] at Arequipa.
*IDC **24** 19:46:32.2±0.5, 1555S×7447W, h39km±3km, mb4.5/14, mb1 4.6/19, mb1mx4.5/21, mbtmp4.6/19, ML4.4/4, MS3.9/19, Ms1 3.9/19, ms1mx3.8/26, Error ellipse: s-maj=18.6km s-min=11.5km az=63.0*
ISC 24 19:46:33.1±0.3, 1556S±004×7442W±005, h44km, h44km±1.9km: pP-P, n220, σ0§97/180, mb4.8/80, MS4.0/17, 7C-2D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.96**	**108⇓**	*i*P	**Pn**	**19 47 19.1**	**+1.6**
ARE				*e*S	**Sn**	**19 47 47.0**	**-4.7**
NNA	**Nana**	**4.26**	**326**	*e*P	**Pn**	**19 47 34.3**	**-1.2**
NNA				*e*S	**Sn**	**19 48 26.6**	**+2.7**
LPAZ	**La Paz**	**6.09**	**98**	Pn	**Pn**	**19 48 04.5**	**+3.9**
	12nm,0.3s,baz=282,slow=0.9,SNR=171						
LPAZ				Sn	**Sn**	**19 49 17.8**	**+8.7**
	baz=322,slow=12,SNR=0.8						
LPAZ				LR	LR	19 50 38.8	
	comp=Z,1μm,21.2s,baz=278,slow=40						
LPAZ	**La Paz**	**6.09**	**98**	*e*P	**Pn**	**19 48 05.2**	**+4.6**
LPAZ				pmax	pmax		
	comp=Z,341nm,0.8s						
LPAZ	**La Paz**	**6.09**	**98**	*e*P	**Pn**	**19 48 05.2**	**+4.6**
	comp=Z,341nm,0.8s						
LVC	**Limon Verde**	**8.73**	**144**	Pn	**Pn**	**19 48 37.1**	**+0.3**
	comp=Z,7.6nm,0.3s,baz=315,slow=9.8,SNR=69						
LVC				Sn	**Sn**	**19 50 09.6**	**-4.3**
	comp=Z,21nm,0.3s,baz=106,slow=17,SNR=6.6						
LVC				Lg		19 51 00.2	
	comp=Z,3.5nm,0.3s,baz=67,slow=24,SNR=4.4						
LVC				LR	LR	19 52 19.0	
	comp=Z,718nm,18.3s,baz=346,slow=40						
LVC	**Limon Verde**	**8.73**	**144**	*e*P	**Pn**	**19 48 36.8**	**0.0**
	comp=Z,177nm,0.6s						
CEN1	**Los Morros**	**8.74**	**154**	*e*P	**Pn**	**19 48 35.0**	**-1.9**
ATAH	**Atahualpa**	**9.36**	**335**	Pn	**Pn**	**19 48 44.7**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=174,slow=9.2,SNR=2.3						
ATAH				Sn	**Sn**	**19 50 41.1**	**+12**
	comp=Z,3.7nm,0.3s,baz=161,slow=22,SNR=7.1						
SAML	**Samuel**	**12.80**	**60**	*e*P	**Pn**	**19 49 31.1**	**-1.3**
	comp=Z,37nm,0.8s						
SIV	**San Ignacio**	**12.86**	**94**	Pn	**Pn**	**19 49 31.7**	**-1.5**
	comp=Z,1.5nm,0.3s,baz=280,slow=11,SNR=29						
TLL	**Tololo Astrono**	**14.91**	**168⇑**	*i*P	**Pn**	**19 50 01.2**	**+0.3**
OTAV	**Otavalo**	**16.20**	**345**	P	**Pn**	**19 50 17.5**	**0.0**
CFAA	**Coronel Fontan**	**16.94**	**162**	Pn	**Pn**	**19 50 27.3**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=340,slow=10,SNR=34						
CFAA				LR	LR	19 56 05.6	
	comp=Z,54nm,18.5s,baz=343,slow=34						
CPUP	**Villa Florida**	**19.20**	**127**	P	**Pn**	**19 50 53.0**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=287,slow=12,SNR=16						
CPUP				LR	LR	19 59 34.4	
	comp=Z,312nm,18.0s,baz=283,slow=41						
CPUP	**Villa Florida**	**19.20**	**127**	P	**Pn**	**19 50 53.0**	**-1.5**
CPUP				LR	LR	19 59 34.4	
ROSC	**El Rosal**	**20.29**	**0**	P	**P**	**19 51 08.9**	**+3.9**
	comp=Z,13nm,0.5s,baz=145,slow=6.4,SNR=4.6						
SDV	**Santo Domingo**	**24.58**	**9**	P	**P**	**19 51 50.8**	**+1.9**
	comp=Z,20nm,0.8s,mb4.7,baz=271,slow=11,SNR=7.8						
SDV	**Santo Domingo**	**24.58**	**9**	*e*P	**P**	**19 51 50.5**	**+1.6**
	comp=Z,33nm,1.0s,mb4.8						
PLCA	**Paso Flores**	**25.30**	**173**	P	**P**	**19 51 55.5**	**0.0**
	comp=Z,25nm,0.9s,mb4.7,baz=346,slow=11,SNR=30						
PLCA				PcP	PcP	19 55 28.0	+0.5
	comp=Z,4.9nm,0.9s,baz=20,slow=3.2,SNR=3.4						
PLCA	**Paso Flores**	**25.30**	**173**	*e*P	**P**	**19 51 55.2**	**-0.3**
PLCA				pmax	pmax		
	comp=Z,38nm,1.1s						
PLCA	**Paso Flores**	**25.30**	**173**	*e*P	**P**	**19 51 55.2**	**-0.3**
	comp=Z,38nm,1.1s,mb4.8						
BDFB	**Brasilia**	**25.43**	**94**	P	**P**	**19 51 57.5**	**+0.8**
	comp=Z,23nm,0.8s,mb4.7,baz=272,slow=11,SNR=26						
BDFB				LR	LR	20 04 10.2	
	comp=Z,120nm,18.8s,MS3.4,baz=266,slow=42						
PCRV	**Puerto La Cruz**	**27.35**	**21**	LR	LR	20 04 04.2	
	comp=Z,242nm,18.4s,MS3.8,baz=194,slow=38						
RPN	**Rapa Nui**	**34.38**	**245**	LR	LR	20 03 39.7	
	comp=Z,246nm,20.2s,MS3.9,baz=113,slow=30						
CMIG	**Matias Romero**	**38.21**	**327**	P	**P**	**19 53 49.8**	**+1.2**
	comp=Z,2.1nm,0.6s,mb4.0,baz=103,slow=5.4,SNR=6.2						
CMIG				pP	pP	19 53 59.4	-1.2
	comp=Z,5.0nm,0.8s,baz=127,slow=6.3,SNR=6.1						
CMIG				LR	LR	20 08 11.7	
	comp=Z,98nm,19.0s,MS3.6,baz=196,slow=34						
GOGA	**Godfrey**	**49.46**	**350**	*e*P	**P**	**19 55 17.5**	**-1.3**
GOGA				pmax	pmax		
	comp=Z,95nm,0.9s,mb5.8						
GOGA	**Godfrey**	**49.46**	**350**	*e*P	**P**	**19 55 17.5**	**-1.4**
	comp=Z,95nm,0.9s,mb5.8						
LRAL	**Lakeview Retre**	**49.80**	**346**	*e*P	**P**	**19 55 20.6**	**-0.8**
	comp=Z,12nm,0.9s,mb4.9						
MYNC	**Murphy**	**51.19**	**350**	*e*P	**P**	**19 55 31.4**	**-0.6**
MYNC				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
MYNC	**Murphy**	**51.19**	**350**	*e*P	**P**	**19 55 31.4**	**-0.5**
	comp=Z,16nm,1.1s,mb4.8						
TZTN	**Tazewell**	**52.54**	**351**	*e*P	**P**	**19 55 40.5**	**-1.5**
WVT	**Waverly**	**52.95**	**346**	*e*P	**P**	**19 55 42.6**	**-2.4**
WVT				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
WVT	**Waverly**	**52.95**	**346**	*e*P	**P**	**19 55 42.6**	**-2.5**
	comp=Z,2.4nm,0.6s,mb4.3						
WCI	**Wyandotte Cave**	**54.66**	**349**	*e*P	**P**	**19 55 56.1**	**-1.4**
WCI				*e*	pP	19 56 07.3	-2.7
WCI				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
WCI	**Wyandotte Cave**	**54.66**	**349**	*e*P	**P**	**19 55 56.1**	**-1.3**
	comp=Z,15nm,0.9s,mb5.0						
WCI				*e*	pP	19 56 07.3	-2.6
BINY	**Binghamton**	**57.49**	**359**	*e*P	**P**	**19 56 17.3**	**-0.4**
	comp=Z,19nm,1.2s,mb5.0						
BNM	**Barren Site**	**58.18**	**329**	*e*P	**P**	**19 56 22.6**	**0.0**
LAZ	**Ladron**	**58.63**	**328**	*e*P	**P**	**19 56 26.0**	**+0.3**
ANMO	**Albuquerque**	**58.73**	**329⇑**	*i*P	**P**	**19 56 26.5**	**+0.1**
PV01	**Paradox Valley**	**62.29**	**330**	*e*P	**P**	**19 56 51.4**	**+0.7**
PV01				*e*	pP	19 57 03.1	-0.2
SRU	**San Rafael**	**64.00**	**329**	*e*P	**P**	**19 57 01.9**	**-0.1**
SRU				*e*PP	pP	19 57 14.4	-0.3
SRU				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7						
SRU	**San Rafael**	**64.00**	**329**	*e*P	**P**	**19 57 01.9**	**-0.1**
	comp=Z,11nm,1.3s,mb4.7						
SRU				*e*pP	pP	19 57 14.4	-0.3
CCUT	**Cedar City**	**64.28**	**326**	*e*P	**P**	**19 57 05.1**	**+1.2**
CCUT				*e*pP	pP	19 57 17.2	+0.6
TAOE	**Nuku Hiva Isla**	**64.39**	**268**	*e*LR	LR	20 16 21.8	
	comp=Z,877nm,24.2s						
RSSD	**Black Hills**	**65.26**	**337**	*e*P	**P**	**19 57 10.1**	**-0.1**
RSSD				*e**PP	pP	19 57 22.3	-0.7
RSSD				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
RSSD	**Black Hills**	**65.26**	**337**	*e*P	**P**	**19 57 10.1**	**-0.1**
	comp=Z,8.0nm,1.1s,mb4.7						
RSSD				*e*pP	pP	19 57 22.3	-0.7
DAU	**Daniels Canyon**	**65.37**	**330**	*e*P	**P**	**19 57 11.7**	**+0.8**
PDAR	**Pinedale Array**	**66.42**	**332**	P	**P**	**19 57 16.9**	**-0.7**
	comp=Z,1.9nm,1.0s,mb4.1,baz=134,slow=6.4,SNR=15						
PDAR				pP	pP	19 57 27.7	-2.7
	comp=Z,1.6nm,1.0s,baz=170,slow=9.0,SNR=5.3						
PDAR				LR	LR	20 25 01.8	
	comp=Z,67nm,20.6s,MS3.8,baz=336,slow=35						
HWUT	**Hardware Ranch**	**66.44**	**330**	*e*P	**P**	**19 57 17.3**	**-0.5**
	comp=Z,20nm,1.3s,mb5.0						
SPUT	**South Promonto**	**66.63**	**330**	*e*P	**P**	**19 57 18.8**	**-0.2**
SPUT				*e*	pP	19 57 30.4	-1.4
MTUM	**Tungsten Hills**	**67.04**	**323**	*e*P	**P**	**19 57 22.6**	**+0.9**
MTUM				*e*pP	pP	19 57 34.7	+0.3
REDW	**Red Top Meadow**	**67.47**	**332**	*e*P	**P**	**19 57 23.9**	**-0.5**
	comp=Z,6.0nm,0.7s,mb4.7						
VNA1	**Neumayer--Stat**	**67.59**	**161⇑**	*i*P	**P**	**19 57 25.7**	**+0.6**
VNA1				*e*		19 57 26.8	
VNA1				*e*	pP	19 57 39.3	+1.4
TPAW	**Teton Pass**	**67.62**	**332**	*e*P	**P**	**19 57 25.6**	**+0.3**
	comp=Z,14nm,1.2s,mb4.8						
RRI2	**Red Ridge**	**67.67**	**332**	*e*P	**P**	**19 57 26.1**	**+0.4**
	comp=Z,21nm,0.8s,mb5.2						
MOOW	**Moose Ponds**	**67.73**	**332**	*e*P	**P**	**19 57 26.1**	**+0.2**
	comp=Z,9.2nm,1.3s,mb4.7						
IMW	**Indian Meadow**	**67.93**	**332**	*e*P	**P**	**19 57 27.6**	**+0.3**
	comp=Z,11nm,1.0s,mb4.8						
FLWY	**Flagg Ranch**	**67.97**	**333**	*e*P	**P**	**19 57 28.0**	**+0.5**
	comp=Z,19nm,0.8s,mb5.2						
ULM	**Lac du Bonnet**	**68.20**	**345**	P	**P**	**19 57 27.0**	**-1.9**
	comp=Z,4.1nm,0.7s,mb4.6,baz=152,slow=6.8,SNR=7.6						
ULM				pP	pP	19 57 39.0	-2.7
	comp=Z,1.9nm,0.4s,baz=110,slow=5.1,SNR=3.0						
ULM				LR	LR	20 31 22.6	
	comp=Z,49nm,18.1s,MS3.8,baz=106,slow=40						
ULM	**Lac du Bonnet**	**68.20**	**345**	*e*P	**P**	**19 57 27.2**	**-1.7**
	comp=Z,17nm,1.4s,mb4.9						
SNAA	**Sanae**	**69.56**	**161⇑**	*i*P	**P**	**19 57 37.2**	**-0.2**
SNAA				*e*		19 57 37.8	
SNAA				*e*	pP	19 57 46.6	-3.6
SNAA				*e*	pP	19 57 51.1	+0.9
SNAA				*e*		19 58 04.5	
SNAA	**Sanae**	**69.56**	**161**	*e*P	**P**	**19 57 37.0**	**-0.4**
SNAA				pmax	pmax		
	comp=Z,33nm,0.9s						
SNAA	**Sanae**	**69.56**	**161**	*e*P	**P**	**19 57 37.0**	**-0.3**
	comp=Z,33nm,0.9s,mb5.3						
SCHQ	**Schefferville**	**70.41**	**5**	P	**P**	**19 57 42.3**	**-0.3**
	comp=Z,3.4nm,0.7s,mb4.4,baz=108,slow=2.1,SNR=6.3						
SCHQ				LR	LR	20 26 54.3	
	comp=Z,36nm,18.2s,MS3

EJIF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
EJIF Jimena Fronter 83.03 49 P **P 19 58 55.9 +2.1**
comp=Z,5.9nm,0.8s,mb4.7
PCBR Castelo Branco 83.08 46 *eP* **P 19 58 55.3 +1.3**
comp=Z,20nm,1.4s,mb5.0
PVIS Viseu 83.19 45 *eP* **P 19 58 56.1 +1.5**
comp=Z,16nm,1.2s,mb4.9
MTE Manteigas 83.29 45 *eP* **P 19 58 56.0 +0.9**
comp=Z,19nm,1.5s,mb4.9
PCAB Cabril 83.56 44 *eP* **P 19 58 57.3 +0.8**
comp=Z,24nm,1.2s,mb5.2
PVRL Vila Real 83.57 44 *eP* **P 19 58 57.5 +1.0**
comp=Z,16nm,1.1s,mb5.1
EMIJ Mijas 83.59 49 P **P 19 58 57.5 +0.9**
comp=Z,8.6nm,0.9s,mb4.9
ELOB Lobios 83.61 44 P **P 19 58 57.0 +0.3**
comp=Z,6.0nm,0.7s,mb4.8
YKA Yellowknife Ar 83.93 342 P **P 19 58 57.1 -1.3**
comp=Z,3.2nm,0.7s,mb4.6,baz=137,slow=5.1,SNR=29
YKA pP pP 19 59 09.1 -2.5
comp=Z,2.6nm,0.8s,baz=138,slow=5.3,SNR=7.5
EPLA Plasencia 84.14 46 P **P 19 59 00.2 +0.7**
EPLA pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
EPLA Plasencia 84.14 46 P **P 19 59 00.2 +0.7**
comp=Z,9.3nm,0.8s,mb5.0
ELOJ Sierra Loja 84.28 49 P **P 19 59 01.9 +1.7**
ELOJ pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ELOJ Sierra Loja 84.28 49 P **P 19 59 01.9 +1.7**
comp=Z,10nm,0.7s,mb5.1
ELUQ Luque 84.37 49 P **P 19 59 02.3 +1.7**
ELUQ pmax pmax
comp=Z,15nm,0.6s,mb5.3
ELUQ Luque 84.37 49 P **P 19 59 02.3 +1.7**
comp=Z,10nm,0.6s,mb5.4
EADA Adamuz 84.39 48 P **P 19 59 01.5 +0.7**
comp=Z,10nm,0.8s,mb5.0
PBRG Braganca 84.46 44 *eP* **P 19 59 02.0 +0.9**
comp=Z,19nm,1.5s,mb5.0
ERON Agron 84.48 49 P **P 19 59 02.2 +1.0**
comp=Z,5.3nm,0.9s,mb4.7
ECAL Calabor 84.52 44 P **P 19 59 02.1 +0.7**
comp=Z,5.1nm,0.6s,mb4.8
ECOG Cogollos-Vega 84.76 49 P **P 19 59 03.5 +0.9**
ECOG pmax pmax
comp=Z,1.0nm,0.8s,mb4.0
ECOG Cogollos-Vega 84.76 49 P **P 19 59 03.5 +0.9**
comp=Z,0.5nm,0.8s,mb3.7
EBAN Banos Encina 84.96 48 P **P 19 59 04.7 +1.1**
EBAN pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
EBAN Banos Encina 84.96 48 P **P 19 59 04.7 +1.1**
comp=Z,2.6nm,0.6s,mb4.5
EBER Berja 85.10 50 P **P 19 59 05.1 +0.8**
comp=Z,6.8nm,1.0s,mb4.7
EQES Quesada 85.33 49 P **P 19 59 06.2 +0.7**
comp=Z,2.6nm,0.6s,mb4.5
ESDC Sonseca Array 85.45 47 P **P 19 59 07.2 +1.1**
comp=Z,3.2nm,0.7s,mb4.5,baz=256,slow=4.9,SNR=18
ESDC Sonseca Array 85.45 47 P **P 19 59 06.6 +0.6**
comp=Z,3.0nm,0.7s,mb4.5
ESLA Sonseca Array 85.45 47 *eP* **P 19 59 07.0 +0.9**
comp=Z,5.6nm,1.3s,mb4.5
EVIA Vianos 86.08 48 P **P 19 59 09.5 +0.3**
EVIA pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
EVIA Vianos 86.08 48 P **P 19 59 09.5 +0.3**
comp=Z,3.3nm,0.7s,mb4.7
ETOB Tobarra 86.77 49 P **P 19 59 13.1 +0.5**
comp=Z,6.6nm,0.7s,mb5.0
TSUM Tsumeb 86.83 109 *eP* **P 19 59 13.9 +1.0**
comp=Z,8.0nm,0.8s,mb5.0
ECHE Chera 87.54 48 P **P 19 59 12.4 -3.9**
ECHE pmax pmax
comp=Z,6.0nm,1.2s,mb4.7
ECHE Chera 87.54 48 P **P 19 59 12.4 -3.9**
comp=Z,5.6nm,1.2s,mb4.7
SJPF Ste Jean 88.71 45 *eP* **P 19 59 21.4 -0.5**
comp=Z,43nm,1.3s,mb5.3
SJPF Ste Jean 88.71 45 *eP* **P 19 59 21.4 -0.5**
SJPF pmax pmax
comp=Z,21nm,1.3s,mb5.3
SJPF Ste Jean 88.71 45 *eP* **P 19 59 21.4 -0.5**
comp=Z,21nm,1.3s,mb5.3
ERTA Horta de San J 88.98 47 P **P 19 59 23.7 +0.6**
comp=Z,6.1nm,0.7s,mb5.0
EIBI Ibiza 89.00 49 P **P 19 59 21.8 -1.4**
comp=Z,11nm,1.6s,mb5.0
ETSF Etsaut 89.08 45 *eP* **P 19 59 23.3 -0.3**
comp=Z,5.6nm,0.8s,mb4.6
ETSF *epP* pP 19 59 38.9 +2.0
ETSF Etsaut 89.08 45 *eP* **P 19 59 23.3 -0.3**
ETSF *e*PP pP 19 59 38.9 +2.0
ETSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
ETSF Etsaut 89.08 45 *eP* **P 19 59 23.3 -0.3**
comp=Z,2.8nm,0.8s,mb4.6
ETSF *epP* pP 19 59 38.9 +2.0
QUIF Quistinic 89.37 40 *eP* **P 19 59 23.7 -1.2**
comp=Z,13nm,1.0s,mb4.9
QUIF Quistinic 89.37 40 *eP* **P 19 59 23.7 -1.2**
QUIF pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
QUIF Quistinic 89.37 40 *eP* **P 19 59 23.7 -1.2**
comp=Z,6.3nm,1.0s,mb4.9
ROSF Rostrenen 89.47 39 *eP* **P 19 59 24.4 -1.0**
EBIE Bielsa 89.48 45 P **P 19 59 25.8 +0.4**
comp=Z,3.4nm,1.2s,mb4.5
BORG Borgarnes 89.58 20 LR LR 20 36 15.5
comp=Z,42nm,19.8s,MS3.9,baz=8.4,slow=33
EPF Esparros 89.75 45 *eP* **P 19 59 26.1 -0.6**
SGMF Saint Gilles 89.88 39 *epP* pP 19 59 44.1 +3.5
ETOS Mallorca 90.33 49 P **P 19 59 30.1 +0.7**
comp=Z,6.3nm,1.0s,mb4.9
LFF La Frestale 90.71 43 *eP* **P 19 59 30.0 -1.2**
comp=Z,20nm,0.8s,mb5.2
LFF La Frestale 90.71 43 *eP* **P 19 59 30.0 -1.2**
LFF pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
LFF La Frestale 90.71 43 *eP* **P 19 59 30.0 -1.2**
comp=Z,10nm,0.8s,mb5.2
MFF Saint Martin d 90.75 42 *eP* **P 19 59 31.1 -0.3**
comp=Z,8.3nm,0.7s,mb4.9
MFF Saint Martin d 90.75 42 *eP* **P 19 59 31.1 -0.3**
MFF pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
MFF Saint Martin d 90.75 42 *eP* **P 19 59 31.1 -0.3**
comp=Z,4.2nm,0.7s,mb4.9
BOSA Boshof 90.88 120 P **P 19 59 32.2 +0.2**
comp=Z,4.8nm,0.9s,mb4.8,baz=238,slow=3.4,SNR=6.8
BOSA LR LR 20 35 57.8
comp=Z,109nm,18.5s,MS4.3,baz=194,slow=33
BOSA Boshof 90.88 120 P **P 19 59 32.2 +0.2**
BOSA LR LR 20 35 57.8
GRR Gorron 90.97 40 *eP* **P 19 59 30.9 -1.5**
comp=Z,15nm,0.9s,mb5.0
GRR Gorron 90.97 40 *eP* **P 19 59 30.9 -1.5**
GRR pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
GRR Gorron 90.97 40 *eP* **P 19 59 30.9 -1.5**
comp=Z,7.3nm,0.9s,mb5.0
SUMG Summit 91.10 10 *eP* **P 19 59 33.4 +0.4**
comp=Z,14nm,0.9s,mb5.3
MTLF Montolieu 91.14 45 *eP* **P 19 59 31.9 -1.3**
FLN La Foliniere 91.35 39 *eP* **P 19 59 33.2 -1.0**
RJF Les Rejaudoux 91.36 43 *eP* **P 19 59 32.9 -1.3**
RJF *eR*
comp=Z,56nm,19.8s
RJF Les Rejaudoux 91.36 43 *eP* **P 19 59 32.9 -1.3**
RJF LR LR
comp=Z,60nm,19.8s,MS4.0
MAW Mawson 91.44 165 ⇑ *iP* **P 19 59 34.1 -0.5**
comp=Z,5.8nm,0.9s,mb4.9
MAW Mawson 91.44 165 P **P 19 59 34.3 -0.2**
comp=Z,6.0nm,0.8s,mb5.0,baz=218,slow=6.4,SNR=13
MAW pP pP 19 59 46.9 -1.0
comp=Z,3.9nm,0.8s,baz=190,slow=6.8,SNR=5.4
MAW LR LR 20 37 55.5
comp=Z,168nm,21.1s,MS4.5,baz=74,slow=34
MAW Mawson 91.44 165 ⇑ *iP* **P 19 59 34.1 -0.5**
MAW pmax pmax
comp=Z,6.0nm,0.9s
LDF La Druitiere 91.50 40 *eP* **P 19 59 33.6 -1.3**
CAF Calviac 91.58 44 *eP* **P 19 59 34.2 -1.1**
comp=Z,8.4nm,0.8s,mb4.8
CAF Calviac 91.58 44 *eP* **P 19 59 34.2 -1.1**
CAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
CAF Calviac 91.58 44 *eP* **P 19 59 34.2 -1.1**
comp=Z,4.2nm,0.8s,mb4.8
TCF Toulx Ste Croi 92.15 42 *eP* **P 19 59 36.4 -1.5**
LASF Ste Croix 92.50 45 *eP* **P 19 59 38.6 -0.9**
comp=Z,5.7nm,1.0s,mb4.7
SSF Saint Saulge 93.25 42 *eP* **P 19 59 42.4 -0.6**
SMF Signal de Mont 93.34 43 *eP* **P 19 59 42.0 -1.3**
comp=Z,5.4nm,0.8s,mb4.7
SMF Signal de Mont 93.34 43 *eP* **P 19 59 42.0 -1.3**
SMF pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
SMF Signal de Mont 93.34 43 *eP* **P 19 59 42.0 -1.3**
comp=Z,2.7nm,0.8s,mb4.7
ORIF Oris-en-Rattie 94.14 45 *eP* **P 19 59 46.8 -0.3**
comp=Z,7.8nm,0.7s,mb5.0
ORIF Oris-en-Rattie 94.14 45 *eP* **P 19 59 46.8 -0.3**
ORIF pmax pmax
comp=Z,4.0nm,0.7s,mb5.0
ORIF Oris-en-Rattie 94.14 45 *eP* **P 19 59 46.8 -0.3**
comp=Z,3.9nm,0.7s,mb5.0
FRF La Foret Royal 94.26 46 *eP* **P 19 59 46.9 -0.7**
MBDF Montbardon 94.69 45 *eP* **P 19 59 49.0 -0.6**
CABF La Chapelle 94.80 43 *eP* **P 19 59 49.7 -0.3**
SBF Sospel 94.90 46 *eP* **P 19 59 49.6 -0.9**
LPL La Plagne 94.90 44 *eP* **P 19 59 50.4 -0.1**
LPL *epP* pP 20 00 06.0 +2.2
LPG La Plagne 94.91 44 *eP* **P 19 59 50.6 0.0**
GIVF Givet 95.06 39 *eP* **P 19 59 50.0 -1.3**
PGF Pioggiola 95.63 48 *eP* **P 19 59 52.9 -0.9**
PGF *epP* pP 20 00 11.0 +3.9
CDF Champ du Feu 96.09 42 *eP* **P 19 59 54.6 -1.4**
DAVOX Davos 97.35 44 LR LR 20 43 41.6
comp=Z,35nm,21.4s,MS3.8,baz=89,slow=35
LSZ Lusaka 97.66 108 LR LR 20 38 54.7
comp=Z,124nm,21.7s,MS4.4,baz=225,slow=32
GERES GERESS Array B 100.33 42 P Pdif 20 00 15.1 +0.1
comp=Z,0.9nm,0.8s,baz=255,slow=4.0,SNR=7.7
SOC Sochi 118.01 49 *i* PKIKP PKPdf 20 05 17.0 +2.0
SOC *e* 20 06 40.4
SOC *e*PPP 20 09 00.2
SOC *e* 20 12 05.9
SOC *e*SS SS 20 22 41.8 +1.1
SOC pmax pmax
comp=Z,31nm,1.1s
STKA Stephens Creek 121.54 216 *eP* PKPdf 20 05 19.8 -2.0
comp=Z,1.9nm,0.7s
STKA Stephens Creek 121.54 216 PKP PKPdf 20 05 21.7 0.0
comp=Z,2.1nm,0.7s,baz=133,slow=4.3,SNR=5.6
ARU Arti 125.93 30 ⇑ *i* PKIKP PKPdf 20 05 32.0 +1.8
CTA Charters Tower 126.58 230 PKP PKPdf 20 05 31.3 -0.2
comp=Z,5.5nm,0.9s,baz=38,slow=6.2,SNR=3.4
CTA Charters Tower 126.58 230 PKP PKPdf 20 05 31.3 -0.2
ASAR Alice Springs 132.18 216 PKP PKPdf 20 05 41.6 -0.5
comp=Z,2.9nm,0.7s,baz=129,slow=2.0,SNR=24
ASAR pPKP pPKPdf 20 05 54.8 -1.0
comp=Z,4.1nm,1.0s,baz=144,slow=2.2,SNR=10
ZRNK Zerenda 132.89 29 *eP* PKPdf 20 05 43.3 -0.1
ZRNK *epP* 20 05 57.2
BVAR Borovoye Array 133.50 29 PKP PKPdf 20 05 45.0 +0.5
comp=Z,0.5nm,0.6s,baz=238,slow=2.8,SNR=6.9
WB2 Warramunga Arr 134.78 220 *eP* PKPdf 20 05 47.2 +0.2
WB2 *e* 20 06 00.0
WRA Warramunga Arr 134.78 220 PKP PKPdf 20 05 47.3 +0.4
comp=Z,4.3nm,0.7s,baz=145,slow=1.7,SNR=38
WRA pPKP pPKPdf 20 06 00.4 -0.3
comp=Z,4.6nm,0.8s,baz=146,slow=1.5,SNR=12
NVS Novosibirsk 137.15 19 *e*PKIKP PKPdf 20 05 50.2 -1.2
ZAL Zalesovo 138.40 18 PKP PKPdf 20 05 53.6 0.0
comp=Z,4.8nm,0.7s,baz=175,slow=2.8,SNR=28
ZAL pPKP pPKPdf 20 06 06.7 -0.7
comp=Z,3.9nm,0.8s,baz=178,slow=2.0,SNR=7.5
ZAL Zalesovo 138.40 18 *i* PKIKP PKPdf 20 05 54.0 +0.3
ZAL pmax pmax
comp=Z,5.0nm,0.7s
ZAL Zalesovo 138.40 18 PKP PKPdf 20 05 53.6 0.0
ZAL pPKP pPKPdf 20 06 06.7 -0.7
KURK Kurchatov 138.76 26 *e*PKIKP PKPdf 20 05 54.7 +0.4
FITZ Fitzroy Crossi 141.14 211 *eP* 20 05 50.7
comp=Z,5.6nm,0.9s
FITZ Fitzroy Crossi 141.14 211 PKhKP 20 05 52.1
comp=Z,1.8nm,0.7s,baz=167,slow=3.3,SNR=5.7
FITZ PKP PKPdf 20 05 58.0 -0.6
comp=Z,3.1nm,0.8s,baz=207,slow=3.9,SNR=5.9
FITZ Fitzroy Crossi 141.14 211 PKP PKPdf 20 05 58.0 -0.6
MKAR Makanchi Array 143.32 27 PKP PKPdf 20 05 59.9 -2.6
comp=Z,2.1nm,0.8s,baz=338,slow=2.9,SNR=18
MKAR Makanchi Array 143.32 27 PKP PKPdf 20 05 59.9 -2.6
MJAR Matsushiro Arr 144.27 312 PKP PKPdf 20 06 01.4 -2.8
comp=Z,2.2nm,0.8s,baz=107,slow=3.0,SNR=7.4
MJAR pPKP pPKPdf 20 06 14.8 -3.1
comp=Z,3.0nm,0.8s,baz=105,slow=2.5,SNR=6.1
ZAK Zakamensk 145.22 3 *i* PKIKP PKPdf 20 06 05.2 -0.6
ZAK *e* 20 06 17.8
ZAK pmax pmax
comp=Z,13nm,1.3s
ZAK pmax pmax
comp=Z,7.0nm,1.4s
CN2 Changchun 147.16 333 *e*PKP PKPdf 20 06 09.3 +0.2
ULN Ulaanbaatar 147.77 358 *e*PKIKP PKPdf 20 06 10.8 +0.7
SONM Songino Array 147.81 359 PKP PKPdf 20 06 10.4 +0.2
comp=Z,7.0nm,0.7s,baz=336,slow=1.4,SNR=45
SONM PKPbc PKPbc 20 06 12.7 -0.4
comp=Z,7.0nm,0.7s,baz=332,slow=2.0,SNR=52
SONM pPKPbc pPKPbc 20 06 26.2 -0.5
comp=Z,5.6nm,1.0s,baz=337,slow=1.2,SNR=6.6
WMQ Urumqi 147.98 25 PKP PKPdf 20 06 10.8 +0.3
SNY Shenyang 149.57 333 *e*PKP PKPdf 20 06 16.3 +3.2
GTA Gaotai 155.71 11 PKP PKPdf 20 06 23.1 +1.0
GTA APKP 20 06 33.3
GTA XPKP 20 06 38.5
GTA PKS 20 09 54.9
GTA SKS SKSdf 20 13 24.3 -0.5
GTA PP PP
comp=Z,125nm,4.2s
LZH Lanzhou 159.50 4 *e*PKP PKPdf 20 06 25.0 -1.8
LZH APKP 20 06 36.3
LZH *e*PP PP 20 10 47.5 +1.2
LZH SKS SKSdf 20 13 25.3 -3.3
LZH SKKS SKKSac 20 17 30.3 -1.2
LZH *e*SS SS 20 30 48.5 -1.0
LZH PP PP
comp=Z,78nm,8.9s
NJ2 Nanjing 159.62 326 *e*PKP PKPdf 20 06 26.4 -0.5
NJ2 PKS 20 09 58.0
NJ2 PP PP 20 10 49.0 +2.1
NJ2 SKS SKSdf 20 13 26.0 -2.7
NJ2 PP PP
comp=Z,440nm,6.2s
CD2 Chengdu 164.63 6 *e*PKP PKPdf 20 06 29.8 -2.2
GYA Guiyang 169.11 355 *e*PKP PKPdf 20 06 37.3 +1.9
GYA APKP 20 06 48.0
GYA XPKP 20 06 51.6
GYA PP PP
comp=Z,110nm,8.2s
KMI Kunming 170.12 15 PKP PKPdf 20 06 34.0 -2.0

MAN 24 19:46:35.0, 1826N×12068E, h21km, mb2.9, ML4.3, MS2.1, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.60**	**177**	*eP*	Pb	19 46 47.1	+0.2
ABRA				*eS*	Sb	19 46 58.4	+3.4
APYP	**Conner**	**0.67**	**126**	*eP*	Pb	19 46 48.2	+0.2
APYP				*eS*	Sb	19 46 59.5	+2.7
CVP	**Callao Caves**	**1.22**	**117**	⇓ *iP*	Pn	19 46 57.0	+0.1
CVP				*eS*	Sn	19 47 13.0	+0.2
SGCP	**Mt. Cagua**	**1.30**	**90**	*eP*	Pn	19 46 57.2	-0.8
SGCP				*eS*	Sn	19 47 15.7	+0.9
CAUP	**Cauayan**	**1.70**	**140**	*eP*	Pn	19 47 04.0	+0.6
PALP	**Palanan**	**2.05**	**125**	*eP*	Pn	19 47 09.3	+1.0
BALP	**Baler**	**2.64**	**161**	*eP*	Pn	19 47 16.6	+0.2

*IDC **24** 19:50:52.8±1.0, 440N×9475E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.7/22, mbtmp3.9/8, ML3.5/1, Error ellipse: s-maj=42.6km s-min=17.9km az=47.0*
*ISCJB **24** 19:50:57.9±3.3, 44N±02×948E±02, h52km±30km, mb4.0/8, Error ellipse: s-maj=42.3km s-min=16.9km az=106.2*

*NEIC **24** 19:50:59.0±2.0, 441N×9481E, h45km±19km, mb4.5/1, Error ellipse: s-maj=24.2km s-min=9.9km az=54.0*
ISC 24 19:51:00.2±3.1, 45N±02×949E±02, h51km±28km, n14, σ0s17/14, mb4.0/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.38**	**112**	Pn	**Pn**	**19 52 04.1**	**0.0**
	2.4nm,0.3s,baz=292,slow=6.5,SNR=8.8						
MKAR	**Makanchi Array**	**43.52**	**347**	P	**P**	**19 58 58.2**	**-0.4**
	1.6nm,0.6s,mb4.0,baz=166,slow=8.0,SNR=26						
WRA	**Warramunga Arr**	**45.76**	**123**	P	**P**	**19 59 16.4**	**0.0**
	1.4nm,0.5s,mb4.2,baz=300,slow=9.4,SNR=16						
WRAB	**Tennant Creek**	**45.76**	**123**	*eP*	**P**	**19 59 16.6**	**+0.1**
ASAR	**Alice Springs**	**47.23**	**128**	P	**P**	**19 59 27.9**	**-0.1**
	0.6nm,0.5s,mb3.8,baz=301,slow=8.1,SNR=18						
KURK	**Kurchatov**	**48.05**	**346**	*eP*	**P**	**19 59 34.4**	**+0.1**
ZAL	**Zalesovo**	**49.97**	**352**	P	**P**	**19 59 49.0**	**-0.1**
	0.7nm,0.5s,mb4.0,baz=290,slow=5.3,SNR=3.5						
ZAL	**Zalesovo**	**49.97**	**352**	P	**P**	**19 59 49.0**	**-0.1**
BVAR	**Borovoye Array**	**52.40**	**342**	P	**P**	**20 00 07.5**	**+0.3**
	1.5nm,0.7s,mb4.0,baz=140,slow=11,SNR=7.8						
BVAR	**Borovoye Array**	**52.40**	**342**	P	**P**	**20 00 07.5**	**+0.2**
CHKZ	**Chkalovo**	**52.89**	**342**	*eP*	**P**	**20 00 11.1**	**+0.2**
	3.3nm,0.6s,mb4.4						
KMBO	**Kilima Mbogo**	**57.84**	**266**	P	**P**	**20 00 46.5**	**0.0**
	1.0nm,0.5s,mb4.1,baz=54,slow=18,SNR=3.5						
FINES	**FINESS Array B**	**76.02**	**333**	P	**P**	**20 02 42.0**	**0.0**
	0.8nm,0.8s,mb3.7,baz=147,slow=11,SNR=4.0						
FINES	**FINESS Array B**	**76.02**	**333**	P	**P**	**20 02 42.0**	**0.0**

IDC 24 19:51:17.8±2.6, 930S×10863E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/17, mbtmp3.7/6, ML3.0/1, Error ellipse: s-maj=113.1km s-min=19.9km az=52.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.68**	**120**	P	**Pn**	**19 55 36.3**	**-1.5**
	0.0nm,0.3s,baz=255,slow=16,SNR=3.9						
WRA	**Warramunga Arr**	**26.99**	**116**	P	P	19 57 03.4	+2.1
	0.3nm,0.7s,baz=290,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**28.06**	**124**	P	P	19 57 10.9	0.0
	0.5nm,0.8s,baz=300,slow=9.0,SNR=2.7						
STKA	**Stephens Creek**	**37.92**	**131**	P	P	19 58 36.4	-0.4
	2.8nm,0.7s,baz=315,slow=10.0,SNR=5.8						
SONM	**Songino Array**	**56.92**	**358**	P	P	20 01 04.9	+0.3
	0.5nm,0.5s,baz=177,slow=7.9,SNR=7.0						
MKAR	**Makanchi Array**	**60.59**	**340**	P	P	20 01 30.0	-0.2
	0.4nm,0.5s,baz=152,slow=7.9,SNR=7.6						

IDC 24 19:55:07.4±33.0, 2048S×17846W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/13, mbtmp3.7/4, MS3.9/2, Ms1 4.0/2, ms1mx3.0/27, Error ellipse: s-maj=634.9km s-min=160.7km az=89.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.41**	**244**	P	P	20 02 21.9	-0.1
	1.6nm,0.9s,baz=86,slow=13,SNR=2.5						
ASAR	**Alice Springs**	**44.11**	**257**	P	P	20 03 17.7	+0.3
	0.8nm,0.7s,baz=106,slow=7.5,SNR=7.9						
WRA	**Warramunga Arr**	**44.18**	**262**	P	P	20 03 18.7	+0.7
	0.3nm,0.3s,baz=97,slow=7.7,SNR=16						
FITZ	**Fitzroy Crossi**	**52.61**	**262**	P	P	20 04 23.1	+0.2
	0.5nm,0.4s,baz=79,slow=10,SNR=7.6						
VNDA	**Vanda**	**57.90**	**185**	LR	LR	20 27 33.0	
	comp=Z,91nm,18.3s,baz=119,slow=34						
JOW	**Kunigami**	**69.82**	**310**	LR	LR	20 33 46.1	
	comp=Z,98nm,19.2s,baz=114,slow=33						

IDC 24 20:08:54.2±2.7, 043S×13176E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.5/16, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=127.4km s-min=26.4km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.57**	**199**	P	Pn	20 13 12.9	+0.2
	0.1nm,0.3s,baz=14,slow=4.2,SNR=5.9						
WRA	**Warramunga Arr**	**19.56**	**173**	P	Pn	20 13 23.7	-1.0
	0.1nm,0.3s,baz=352,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**23.19**	**175**	P	P	20 14 02.8	+0.2
	1.0nm,0.7s,baz=350,slow=9.5,SNR=14						
MKAR	**Makanchi Array**	**63.83**	**324**	P	P	20 19 28.5	+0.2
	0.1nm,0.3s,baz=110,slow=7.8,SNR=4.3						

*IDC **24** 20:12:60.0±0.9, 2864S×7297W, h0km, mb4.2/5, mb1 4.5/9, mb1mx4.2/17, mbtmp4.3/9, ML4.8/4, MS3.1/5, Ms1 3.1/5, ms1mx2.9/29, Error ellipse: s-maj=32.3km s-min=23.9km az=61.0*
*ISCJB **24** 20:13:02.2±1.8, 2863S±003×7283W±006, h25km±14km, mb4.2/8, MS3.6/3, Error ellipse: s-maj=8.4km s-min=5.5km az=166.3*
*NEIC **24** 20:13:04.2±2.8, 2862S×7286W, h28km±20km, mb4.3/2, ML4.8(GUC), Error ellipse: s-maj=16.5km s-min=6.5km az=94.0*
*GUC **24** 20:13:07.1±1.0, 2883S×7259W, h30km, ML4.8*
ISC 24 20:13:04.3±1.8, 2862S±003×7278W±006, h26km±15km, n41, σ1s21/49, mb4.2/8, MS3.6/3, 3C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**1.86**	**103**	⇓ *iP*	**Pn**	**20 13 35.6**	**+1.1**
LCO				*i* S	**Sn**	**20 13 58.2**	**+1.0**
CDCH	**Caldera**	**2.31**	**49**	*eP*	**Pn**	**20 13 40.2**	**-0.4**
CDCH				*i* S	**Sn**	**20 14 06.6**	**-1.6**
TLL	**Tololo Astrono**	**2.31**	**132**	⇓ *iP*	**Pn**	**20 13 41.8**	**+1.1**
TLL				*i* S	**Sn**	**20 14 07.9**	**-0.4**
TLL				AML	AML	20 14 12.4	
	comp=N,6μm,0.8s						
TLL	**Tololo Astrono**	**2.31**	**132**	⇓ *iP*	**Pn**	**20 13 41.8**	**+1.1**
TLL				*i* S	**Sn**	**20 14 07.9**	**-0.4**
OVCH	**Ovalle**	**2.41**	**146**	⇓ *iP*	**Pn**	**20 13 41.3**	**-0.8**
OVCH				*i* S	**Sn**	**20 14 07.7**	**-3.0**
OVCH				AML	AML	20 14 12.6	
	comp=N,5μm,0.8s						
OVCH	**Ovalle**	**2.41**	**146**	⇓ *iP*	**Pn**	**20 13 41.3**	**-0.8**
OVCH				*i* S	**Sn**	**20 14 07.7**	**-3.0**
CPCH	**Copiapo**	**2.48**	**60**	⇓ *iP*	**Pn**	**20 13 43.6**	**+0.6**
CPCH				*i* S	**Sn**	**20 14 13.2**	**+0.7**
CMCH	**Combarbala**	**2.98**	**149**	⇑ *iP*	**Pn**	**20 13 50.1**	**+0.2**
CMCH				*i* S	**Sn**	**20 14 22.4**	**-2.3**
CMCH				AML	AML	20 14 24.8	
	comp=E,12μm,0.6s						
CMCH	**Combarbala**	**2.98**	**149**	⇑ *iP*	**Pn**	**20 13 50.1**	**+0.2**
CMCH				*i* S	**Sn**	**20 14 22.4**	**-2.3**
CHNG	**Los Chungos**	**3.44**	**162**	⇑ *iP*	**Pn**	**20 13 54.8**	**-1.4**
CHNG				*i* S	**Sn**	**20 14 28.6**	**-7.4**
JACH	**Jahuel**	**4.47**	**156**	*eP*	**Pn**	**20 14 10.8**	**+0.5**
CPN1	**Cerro Paranal**	**4.50**	**29**	*eP*	**Pn**	**20 14 09.7**	**-1.2**
CPN1				*i* S	**Sn**	**20 14 58.4**	**-3.9**
CFAA	**Coronel Fontan**	**4.93**	**128**	Pn	**Pn**	**20 14 19.0**	**+2.3**
	comp=E,7.1nm,0.3s,baz=306,slow=12,SNR=180						
CFAA				Sn	**Sn**	**20 15 15.2**	**+2.3**
	comp=E,2.7nm,0.3s,baz=200,slow=23,SNR=3.0						
CLCH	**Cerro Calan**	**5.14**	**159**	*eP*	**Pn**	**20 14 18.8**	**-0.8**
CLCH				*i* S	**Sn**	**20 15 13.3**	**-4.7**
RCDM	**Rinconada Maip**	**5.14**	**161**	*eP*	**Pn**	**20 14 18.8**	**-0.8**
FCH	**Farellones**	**5.16**	**156**	*eP*	**Pn**	**20 14 20.6**	**+0.8**
CEN1	**Los Morros**	**5.70**	**25**	*eP*	**Pn**	**20 14 22.2**	**-5.0**
LVC	**Limon Verde**	**6.92**	**31**	Pn	**Pn**	**20 14 43.9**	**0.0**
	comp=E,9.4nm,0.3s,baz=222,slow=11,SNR=137						
LVC				Sn	**Sn**	**20 15 59.5**	**-2.3**
	comp=E,39nm,0.3s,baz=291,slow=22,SNR=17						
LVC				LR	LR	20 17 01.4	
	comp=E,144nm,21.4s,baz=204,slow=34						
LVC	**Limon Verde**	**6.92**	**31**	*eP*	**Pn**	**20 14 44.0**	**0.0**
	comp=E,29nm,0.4s						
LVC				*eS*	**Sn**	**20 16 00.3**	**-1.6**
PLCA	**Paso Flores**	**12.23**	**172**	Pn	**Pn**	**20 15 56.7**	**0.0**
	comp=E,1.4nm,0.3s,baz=330,slow=11,SNR=37						
PLCA				LR	LR	20 20 33.2	
	comp=E,102nm,21.2s,baz=197,slow=37						
PLCA	**Paso Flores**	**12.23**	**172**	Pn	**Pn**	**20 15 56.7**	**0.0**
PLCA				LR	LR	20 20 33.2	
LPAZ	**La Paz**	**12.99**	**20**	Pn	**Pn**	**20 16 08.2**	**+1.0**
	comp=E,1.5nm,0.3s,baz=211,slow=6.9,SNR=38						
LPAZ				LR	LR	20 19 24.8	
	comp=E,35nm,20.8s,baz=200,slow=29						

LPAZ	La Paz	12.99	20	*e*P		Pn		20 16 08.1	+0.8	
	comp=E,28nm,1.3s									
CPUP	Villa Florida	13.90	84	Pn		Pn		20 16 17.2	-2.4	
	comp=E,1.0nm,0.3s,baz=249,slow=12,SNR=7.2									
CPUP	Villa Florida	13.90	84	*e*P		Pn		20 16 16.4	-3.2	
	comp=E,20nm,0.6s									
SIV	San Ignacio	16.57	43	Pn		Pn		20 16 50.3	-4.5	
	comp=E,1.3nm,0.3s,baz=260,slow=10,SNR=14									
SAML	Samuel	21.55	27	*e*P		P		20 17 52.6	+1.1	
	comp=E,9.8nm,0.9s,mb4.2									
ATAH	Atahualpa	22.14	345	LR		LR		20 24 44.8		
	comp=E,78nm,18.2s,MS3.2,baz=12,slow=32									
BDFB	Brasilia	26.25	66	P		P		20 18 43.5	+6.2	
	comp=E,3.1nm,0.5s,mb4.1,baz=246,slow=8.1,SNR=6.1									
BDFB				LR		LR		20 28 59.7		
	comp=E,63nm,19.2s,MS3.2,baz=238,slow=36									
DBIC	Dimbokro	74.14	73	P		P		20 24 39.4	+1.0	
	comp=E,2.8nm,0.6s,mb4.3,baz=194,slow=4.2,SNR=4.5									
HWUT	Hardware Ranch	78.53	331	*e*P		P		20 25 03.6	+0.3	
	comp=E,3.8nm,1.0s,mb4.3									
PDAR	Pinedale Array	78.68	333	P		P		20 25 04.0	-0.2	
	comp=E,0.4nm,0.5s,mb3.6,baz=148,slow=6.4,SNR=5.6									
NVAR	Mina Array Bea	79.11	325	P		P		20 25 07.6	+1.1	
	comp=E,0.7nm,0.7s,mb3.7,baz=155,slow=6.6,SNR=5.4									
ULM	Lac du Bonnet	81.15	345	P		P		20 25 16.4	-1.0	
	comp=E,5.3nm,0.9s,mb4.5,baz=182,slow=2.7,SNR=7.4									
TORD	Torodi Ar. Bea	83.01	71	P		P		20 25 28.2	+1.0	
	comp=E,2.8nm,0.6s,mb4.5,baz=272,slow=4.9,SNR=50									
RAO	Raoul Island	88.23	238	LR		LR		20 58 03.7		
	comp=E,147nm,19.9s,MS4.4,baz=154,slow=31									
WRA	Warramunga Arr	125.08	212	PKP		PKPdf		20 32 00.9	-1.3	
	comp=E,0.6nm,0.8s,baz=156,slow=1.7,SNR=6.2									
BVAR	Borovoye Array	143.59	38	PKP		PKPdf		20 32 34.1	-2.6	
	comp=E,0.3nm,0.5s,baz=316,slow=4.1,SNR=4.5									
ZAL	Zalesovo	149.86	27	PKPbc		PKPbc		20 32 51.9	-0.2	
	comp=E,4.2nm,0.7s,baz=87,slow=24,SNR=19									
MKAR	Makanchi Array	153.37	40	PKPbc		PKPbc		20 32 59.6	-0.5	
	comp=E,0.6nm,0.6s,baz=332,slow=2.5,SNR=7.7									
MKAR				PKPab		PKPab		20 33 12.7	+0.5	
	comp=E,1.1nm,0.8s,baz=309,slow=4.1,SNR=9.4									
SONM	Songino Array	160.80	2	PKPab		PKPab		20 33 44.5	+0.3	
	comp=E,0.4nm,0.9s,baz=322,slow=1.5,SNR=5.2									

IDC ***24*** *20:26:57.2±1.2, 1.16N×9694E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/22, mbtmp4.0/11, ML3.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.8/26, Error ellipse: s-maj=42.7km s-min=15.7km az=55.0*

BJI ***24*** *20:27:00.3, 077N×9721E, h52km, mB4.9, mb4.6*

NEIC ***24*** *20:27:01.9±0.5, 122N×9704E, h30km, mb4.2/2, Error ellipse: s-maj=13.0km s-min=7.8km az=55.0*

ISCJB ***24*** *20:27:04.3±1.7, 14N±0.1×972E±02, h63km±12km, mb4.1/14, Error ellipse: s-maj=29.7km s-min=12.6km az=125.3*

ISC 24 20:27:04.4±3.2**,13N**±01×**971E**±02**,h47**km±23km**,n22,**
σ0°78/21,mb4.1/14,MS3.9/1,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
GSI	Gunungsitoli	0.46	90	⇑*i*P		Pn	20	27	16.0	+1.0
GSI				*e*S		Sn	20	27	57.0	+35
PSI	Prapat	2.34	51	Pn		Pn	20	27	39.4	-1.0
	6.7nm,0.3s,baz=266,slow=5.2,SNR=21									
KULM	Kulim	5.30	42	*e*P		Pn	20	28	20.2	-0.9
KMI	Kunming	24.29	12	P		P	20	32	18.8	+1.5
KMI				XS		sS	20	36	55.8	+2.3
KMI				AMB		AMB				
	comp=E,10.0nm,1.0s,mb4.2									
FITZ	Fitzroy Crossi	34.06	126	P		P	20	33	42.4	-1.8
	comp=E,1.7nm,0.7s,mb4.1,baz=22,slow=5.4,SNR=3.6									
GTA	Gaotai	38.01	3	*e*P		P	20	34	18.9	+1.0
GTA				AMB		AMB				
	comp=E,4.0nm,0.8s,mb4.2									
WRA	Warramunga Arr	42.16	122	P		P	20	34	52.5	+0.2
	comp=E,1.5nm,0.6s,mb3.8,baz=304,slow=8.8,SNR=18									
WRAB	Tennant Creek	42.17	122	*e*P		P	20	34	52.4	+0.1
ASAR	Alice Springs	43.53	127	P		P	20	35	03.7	+0.3
	comp=E,1.1nm,0.7s,mb3.7,baz=296,slow=8.1,SNR=8.7									
SONM	Songino Array	47.04	9	P		P	20	35	31.8	+0.6
	comp=E,1.8nm,0.7s,mb4.1,baz=188,slow=9.0,SNR=20									
MKAR	Makanchi Array	47.12	346	P		P	20	35	32.1	+0.3
	comp=E,0.8nm,0.4s,mb4.0,baz=158,slow=9.2,SNR=30									
KURK	Kurchatov	51.67	345	*e*P		P	20	36	06.7	+0.2
	comp=E,1.6nm,0.8s,mb4.0									
MJAR	Matsushiro Arr	51.67	42	LR		LR	20	58	27.0	
	comp=E,94nm,18.1s,MS3.9,baz=65,slow=36									
ZAL	Zalesovo	53.43	351	P		P	20	36	19.8	+0.2
	comp=E,3.9nm,0.4s,mb4.7,baz=298,slow=6.2,SNR=9.2									
STKA	Stephens Creek	53.49	132	P		P	20	36	20.8	+0.8
	comp=E,0.7nm,0.5s,mb3.9,baz=323,slow=21,SNR=4.1									
STKA	Stephens Creek	53.49	132	P		P	20	36	20.8	+0.8
BVAR	Borovoye Array	56.12	341	P		P	20	36	38.9	-0.1
	comp=E,2.0nm,0.7s,mb4.2,baz=140,slow=8.8,SNR=13									
BRVK	Borovoye	56.19	341	*e*P		P	20	36	38.8	-0.7
CHKZ	Chkalovo	56.60	341	*e*P		P	20	36	41.7	-0.7
	comp=E,2.4nm,0.6s,mb4.4									
FINES	FINESS Array B	79.87	333	P		P	20	39	07.5	-0.6
	comp=E,0.2nm,0.4s,mb3.4,baz=127,slow=9.2,SNR=3.5									
FINES	FINESS Array B			P		P	20	39	07.5	-0.6
ARCES	ARCESS Array B	82.41	340	P		P	20	39	21.1	-0.4
	comp=E,2.8nm,1.0s,mb4.2,baz=101,slow=2.5,SNR=3.8									

STR ***24*** *20:47:37.5±1.5, 4428N×6.10E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 24 20:47:38.4±0.2**,4433N×635E,h2**km**,Md2.1/3,Ml1.7/4,**
Error ellipse: s-maj=5.4km s-min=2.5km az=55.0,
France

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
SMRF	Simiane la Rot	0.66	238	*e*Pg		Pg	20	47	52.5	+1.5
SMRF				*e*Sg		Sg	20	47	59.6	0.0
	1.9nm,0.2s									
ORIF	Oris-en-Rattie	0.67	331	*e*Pg		Pg	20	47	50.6	-0.7
ORIF				*e*Sg		Sg	20	48	00.5	+0.5
	2.6nm,0.4s									
TOUF	Mont Tournerai	0.72	116	Pg		Pg	20	47	53.1	+0.8
TOUF				Sg		Sg	20	48	05.0	+3.3
FRF	La Foret Royal	0.80	164	*e*Pg		Pg	20	47	53.4	-0.4
FRF				*e*Sg		Sg	20	48	03.7	-0.5
	2.5nm,0.2s									
LUCF	Luceram	0.84	121	Pg		Pg	20	47	55.6	+1.0
LUCF				Sg		Sg	20	48	10.0	+4.5
SBF	Sospel	0.92	121	*e*Sg		Sg	20	48	08.1	+0.3
	4.3nm,0.3s									
SAOF	Saorge	0.94	111	Pg		Pg	20	47	58.9	+2.5
SAOF				Sg		Sg	20	48	13.5	+5.0
LMR	La Mourre	1.01	173	*e*Pg		Pg	20	47	57.6	-0.1
LMR				*e*Sg		Sg	20	48	09.5	-1.2
	1.6nm,0.2s									
VIVF	Saint-Julien-l	1.30	294	*e*Pg		Pg	20	48	03.1	-0.3
VIVF				*e*Sg		Sg	20	48	20.6	+0.3
	1.8nm,0.3s									
LASF	Ste Croix	1.81	263	*e*Sg		Sg	20	48	34.7	-1.8
	0.6nm,0.2s									

ISCJB ***24*** *20:59:25.5±0.9, 212S±0.1×682W±02, h122km±12km, mb3.6/2, Error ellipse: s-maj=35.8km s-min=12.2km az=43.6*

IDC ***24*** *20:59:26.3±1.3, 21.13S×6829W, h118km±12km, mb3.6/2, mb1 3.6/6, mb1mx3.4/16, mbtmp4.0/6, Error ellipse: s-maj=43.1km s-min=14.4km az=113.0*

NEIC ***24*** *20:59:26.1±0.9, 21.10S×6831W, h118km±10km, Error ellipse: s-maj=24.8km s-min=10.7km az=114.0*

ISC 24 20:59:26.7±0.9**,211S**±01×**683W**±02**,h118**km±11km**,n11,**
σ0°75/11,mb3.6/2,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
LVC	Limon Verde	1.58	202	P		Pn	20	59	54.9	0.0
	baz=35,slow=13									
LVC				S		Sn	21	00	16.5	+0.1
	34nm,0.3s,baz=90,slow=20,SNR=26									
LPAZ	La Paz	4.83	1	P		Pn	21	00	37.9	+0.6
	2.1nm,0.3s,baz=205,slow=7.9,SNR=66									
LPAZ	La Paz	4.83	1	*e*P		Pn	21	00	37.4	+0.1
SIV	San Ignacio	8.53	54	P		Pn	21	01	26.2	-1.0
	7.3nm,0.3s,baz=253,slow=12,SNR=131									
CFAA	Coronel Fontan	10.42	180	P		Pn	21	01	48.5	-4.3
	0.1nm,0.3s,baz=355,slow=12,SNR=7.7									
CFAA				S		Sn	21	03	40.2	-7.4
	0.1nm,0.3s,baz=131,slow=19,SNR=2.8									
PLCA	Paso Flores	19.63	185	P		P	21	03	46.0	+0.1
	0.1nm,0.3s,baz=20,slow=9.2,SNR=3.4									
BDFB	Brasilia	19.97	77	P		P	21	03	51.1	+1.5
	0.4nm,0.3s,baz=248,slow=10,SNR=3.7									
TORD	Torodi Ar. Bea	76.67	70	P		P	21	11	04.1	-0.4
	0.7nm,0.7s,mb3.5,baz=255,slow=5.3,SNR=11									
MAW	Mawson	84.50	163	P		P	21	11	45.9	-0.4
	0.7nm,0.5s,mb3.7,baz=214,slow=11,SNR=4.8									
MKAR	Makanchi Array	144.99	36	PKPbc		PKPdf	21	18	48.7	-1.2
	0.4nm,0.4s,baz=352,slow=3.4,SNR=7.6									
MKAR	Makanchi Array	144.99	36	PKPbc		PKPdf	21	18	48.7	-1.2

BJI ***24*** *21:03:07.2, 1046S×10767E, h13km, mB5.0, mb5.0, Ms4.7, Msz4.5*

HRVD ***24*** *21:03:16.5±0.5, 982S×10754E, h12km±1km, MW4.8/47, Centroid moment Tensor Solution. LP body waves: s11,c12;Mantle waves: s47,c69; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.14±.15; Mθθ=1.28±.10; Mϕϕ=0.14±.15; Mrθ=0.82±.25; Mϕθ=0.50±.06; Mϕr=0.72±.35; Best double couple: M0=1.69800×10^16 NP1:ϕs78.00000°,δ65.00000°,λ-122.00000°. Principal axes: T 1.5810, Plg14.0000°, Azm190.0000°; N 0.2340, Plg29.0000°, Azm92.0000°; P -1.8160, Plg57.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***24*** *21:03:16.6±3.3, 949S×10759E, h13km±19km, mb5.1/26 Error ellipse: s-maj=8.3km s-min=4.1km az=53.0*

ISCJB ***24*** *21:03:17.8±0.2, 953S±004×10762E±005, h34km, mb5.0/71, MS4.3/20, Error ellipse: s-maj=7.1km s-min=5.1km az=116.4*

MOS ***24*** *21:03:18.0±1.1, 937S×10768E, h33km, mb5.3/25, Error ellipse: s-maj=12.2km s-min=6.3km az=115.8*

IDC ***24*** *21:03:19.8±0.6, 946S×10758E, h34km±3km, mb4.4/18, mb1 4.5/19, mb1mx4.4/22, mbtmp4.6/19, ML4.0/1, MS3.9/11, Ms1 3.9/11, ms1mx3.7/24, Error ellipse: s-maj=18.0km s-min=10.2km az=55.0*

ISC 24 21:03:19.8±0.2**,956S**±004×**10758E**±005**,h36**km,**
h36km±1.2km**:pP-P,n204,**σ0°**90**/180**,mb5.0**/70**,MS4.3**/20**,**
29C-21D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
LEM	Lembang	2.71	1	P		Pn	21	04	00.7	-0.2
	4μm,0.8s									
BJII	Banjamegara	3.05	44	P		Pn	21	04	05.5	0.0
	326nm,0.8s									
BJII	Banjamegara	3.05	44	⇑*i*P		Pn	21	04	06.4	+0.9
BJII				*i* S		Sn	21	04	23.9	-17
KSM	Kuching	11.29	14	*e*P		Pn	21	05	57.7	-0.8
GSI	Gunungsitoli	14.69	317	⇑*e*P		Pn	21	06	49.0	+4.0
	2.5nm,2.0s									
PCI	Palu	14.91	56	P		Pn	21	06	48.3	+0.3
	11.2nm,1.8s									
PSI	Prapat	15.00	324	Pn		Pn	21	06	44.6	-4.6
	0.7nm,0.3s,baz=162,slow=9.6,SNR=3.0									
PSI				LR		LR	21	12	54.3	
	comp=Z,397nm,20.5s,baz=146,slow=39									
IPM	Ipoh	15.40	335	P		Pn	21	06	59.3	+5.0
KULM	Kulim	16.29	335	*e*P		Pn	21	07	00.4	-5.3
MBWA	Marble Bar	16.43	136	*e*P		Pn	21	07	02.3	-5.3
	64nm,1.4s									
TSM	Tawau	17.16	37	P		Pn	21	07	20.3	+3.6
KKM	Kota Kinabalu	17.72	29	P		Pn	21	07	24.6	+0.9
FITZ	Fitzroy Crossi	19.47	118	*e*P		Pn	21	07	44.1	-0.7
	14nm,0.6s									
FITZ				*e*S		S	21	11	04.9	-17
FITZ	Fitzroy Crossi	19.47	118	P		Pn	21	07	44.3	-0.6
	0.3nm,0.3s,baz=272,slow=7.1,SNR=19									
FITZ				S		S	21	11	05.0	-17
	0.1nm,0.3s,baz=170,slow=19,SNR=4.8									
FITZ				LR		LR	21	14	13.4	
	comp=Z,109nm,22.0s,baz=128,slow=34									
BATP	Bataraza	20.88	29	*e*P		P	21	07	58.8	0.0
KAKA	Kakadu	24.58	100	*e*P		P	21	08	36.7	+0.3
	24nm,0.6s,mb4.9									
UBT	Ubonrachathani	24.77	354	⇑P		P	21	08	34.2	-3.9
NWAO	Narrogin (SRO)	24.91	160	P		P	21	08	39.0	-0.4
	6.9nm,0.7s,mb4.3,baz=4.8,slow=9.7,SNR=6.0									
NWAO				LR		LR	21	18	28.8	
	comp=Z,306nm,18.6s,MS3.8,baz=328,slow=36									
NWAO	Narrogin (SRO)	24.91	160	P		P	21	08	39.0	-0.4
NWAO				LR		LR	21	18	28.8	
NST	Nakhon Sawan	26.13	344	P		P	21	08	50.2	-0.2
	61nm,0.9s,mb5.1									
KKTK	Khon Kaen	26.15	350	P		P	21	08	50.0	-0.7
WRA	Warramunga Arr	27.82	115	P		P	21	09	05.6	+0.1
	3.6nm,0.5s,mb4.3,baz=288,slow=11,SNR=50									
WRA				pP		pP	21	09	16.5	+0.7
	16nm,1.0s,baz=287,slow=11,SNR=22									
WRA				PcP		PcP	21	12	22.2	+1.1
	2.9nm,0.7s,baz=297,slow=2.0,SNR=12									
WRAB	Tennant Creek	27.82	115	*e*P		P	21	09	05.8	+0.2
WRAB				*e*		pP	21	09	16.7	+0.9
WRAB				pmax		pmax				
	comp=Z,34nm,1.1s,mb4.9									
WRAB	Tennant Creek	27.82	115	*e*P		P	21	09	05.8	+0.2
	comp=Z,34nm,1.1s,mb4.9									
WRAB				*e*		pP	21	09	16.7	+0.8
WB2	Warramunga Arr	27.82	115	*e*P		P	21	09	05.3	-0.4
WB2				*i* pP		pP	21	09	16.6	+0.7
WB2				*e*PcP		PcP	21	12	22.5	+1.4
QIZ	Qiongzhong	28.49	4	P		P	21	09	12.4	+0.8
QIZ				*e*S		S	21	13	58.0	+1.2
QIZ				LR		LR				
	comp=E,282nm,16.8s									
QIZ				LR		LR				
	comp=Z,380nm,16.8s,MS4.1									
ASPA	Alice Springs	28.79	122	*e*P		P	21	09	14.6	+0.4
AS31	Alice Springs	28.79	122	*e*P		P	21	09	14.6	+0.3
ASAR	Alice Springs	28.79	122	P		P	21	09	14.1	-0.1
	comp=Z,2.7nm,0.8s,mb4.0,baz=302,slow=8.3,SNR=18									
ASAR				PcP		PcP	21	12	24.8	+1.3
	comp=Z,2.7nm,0.7s,baz=295,slow=2.0,SNR=14									
ASAR				LR		LR	21	21	29.1	
	comp=Z,192nm,19.8s,MS3.7,baz=56,slow=38									
ASAR	Alice Springs	28.79	122	P		P	21	09	14.1	-0.1
ASAR							21	12	24.8	
CHG	Chiang Mai	29.45	343	⇓P		P	21	09	20.3	+0.2
	comp=Z,39nm,1.0s,mb5.1									
CHTO	Chiang Mai	29.45	343	⇑P		P	21	09	20.7	+0.5
	SNR=9.9									
CHTO	Chiang Mai	29.45	343	*e*P		P	21	09	20.2	+0.1
CHTO				pmax		pmax				
	comp=Z,41nm,1.0s,mb5.1									
CHTO	Chiang Mai	29.45	343	*e*P		P	21	09	20.2	+0.1
	comp=Z,41nm,1.0s,mb5.1									
KMI	Kunming	34.79	352	P		P	21	10	08.6	+1.7
KMI				AP		pP	21	10	14.8	-2.4
KMI				XP		sP	21	10	17.8	-3.8
KMI				PP		PP	21	11	28.8	+2.7
KMI				PPP			21	11	40.3	
KMI				S		S	21	15	39.6	+4.6
KMI				XS		sS	21	15	50.3	-1.8
KMI				AMB		AMB				
	comp=Z,43nm,1.0s,mb5.3									
KMI				AMB		AMB				
	comp=Z,195nm,3.1s									
KMI				LR		LR				
	comp=N,585nm,12.5s,MS4.6									
KMI				LR		LR				
	comp=E,338nm,14.4s,MS4.6									
KMI				LR		LR				
	comp=Z,518nm,12.5s,MS4.5									
GYA	Guiyang	35.81	359	⇑*i*P		P	21	10	16.6	+0.9
GYA				AP		pP	21	10	20.8	-5.2
GYA				XP		sP	21	10	24.3	-6.0
GYA				PP		PP	21	11	37.8	+0.4
GYA				S		S	21	15	52.8	+2.1
GYA				SCP		ScP	21	16	28.8	+2.8
GYA				AMB		AMB				
	comp=Z,40nm,0.8s,mb5.4									
GYA				AMB		AMB				
	comp=Z,140nm,4.8s									
GYA				LR		LR				
	comp=N,540nm,14.8s,MS4.6									
GYA				LR		LR				
	comp=E,480nm,14.6s,MS4.6									
GYA				LR		LR				
	comp=Z,470nm,15.0s,MS4.4									
STKA	Stephens Creek	38.53	130	P		P	21	10	39.4	+0.5
	comp=Z,5.9nm,0.5s,mb4.6,baz=301,slow=7.4,SNR=17									
STKA				pP		pP	21	10	50.9	+1.7
	comp=Z,10nm,0.9s,baz=304,slow=8.1,SNR=6.7									
STKA				LR		LR	21	27	30.3	
	comp=Z,212nm,18.1s,MS4.0,baz=289,slow=38									
STKA	Stephens Creek	38.53	130	*e*P		P	21	10	39.4	+0.6
STKA				*e*		pP	21	10	50.1	+0.9
CTA	Charters Tower	38.73	110	*e*P		P	21	10	42.0	+1.5
	comp=Z,5.7nm,0.6s,mb4.5									
CTA				*e*pP		pP	21	10	53.0	+2.1
CTA	Charters Tower	38.73	110	P		P	21	10	42.4	+2.0
	comp=Z,7.1nm,0.6s,mb4.6,baz=281,slow=9.7,SNR=16									
CTA				pP		pP	21	10	53.2	+2.3
	comp=Z,16nm,1.0s,baz=268,slow=12,SNR=4.6									
CTA	Charters Tower	38.73	110	*e*P		P	21	10	42.0	+1.5
CTA				*e**PP		pP	21	10	53.0	+2.1
CTA				pmax		pmax				
	comp=Z,6.0nm,0.6s									
CTAO	Charters Tower	38.73	110	*e*P		P	21	10	41.9	+1.4
CTAO				*e*		pP	21	10	52.8	+1.9
PMG	Port Moresby	39.02	93	P		P	21	10	44.0	+1.1
	comp=Z,11nm,0.7s,mb4.7,baz=298,slow=3.5,SNR=3.8									
HYB	Hyderabad	39.26	313	*i* P		P	21	10	47.0	+2.1
HYB	Hyderabad	39.26	313	*e*P		P	21	10	45.0	+0.1
WHN	Wuhan	40.39	9	⇑P		P	21	10	55.3	+1.0
WHN				AP		pP	21	11	05.1	+0.4
CD2	Chengdu	40.40	355	P		P	21	10	55.4	+1.0
CD2				AP		pP	21	10	59.9	-4.9
CD2				XP		sP	21	11	02.6	-6.5
CD2				PP		PP	21	12	32.8	+5.1
CD2				S		S	21	17	04.3	+4.2
CD2				AMB		AMB				
	comp=Z,20nm,1.1s,mb4.8									
CD2				AMB		AMB				
	comp=Z,80nm,5.6s									
CD2				LR		LR				
	comp=E,270nm,14.4s									
CD2				LR		LR				
	comp=Z,280nm,14.4s,MS4.3									
JIRN	Jiri	42.40	331	*e*P		P	21	11	11.5	+0.7
	comp=Z,145nm,0.8s,mb5.7									
PKI	Pulchoki	42.70	330	*e*P		P	21	11	13.4	+0.2
NJ2	Nanjing	42.75	14	*e*P		P	21	11	12.9	-0.7
NJ2				AP		pP	21	11	22.3	-1.8
NJ2				XP		sP	21	11	24.9	-3.5
NJ2				PP		PP	21	12	53.1	0.0
NJ2				S		S	21	17	33.0	-2.0
NJ2				XS		sS	21	17	48.0	-4.3
NJ2				AMB		AMB				
	comp=Z,20nm,0.6s,mb5.0									
NJ2				AMB		AMB				
	comp=Z,350nm,5.5s									
NJ2				LR		LR				
	comp=N,1μm,14.6s,MS5.0									
NJ2				LR		LR				
	comp=E,260nm,12.0s,MS5.0									
NJ2				LR		LR				
	comp=Z,880nm,16.4s,MS4.7									
GUN	Gumba	42.76	331	*e*P		P	21	11	14.5	+0.8
	comp=Z,127nm,0.7s,mb5.8									
DMN	Daman	42.88	330	*e*P		P	21	11	15.0	+0.3
	comp=Z,121nm,0.8s,mb5.7									
KKN	Kakani	42.95	330	*e*P		P	21	11	15.5	+0.3
	comp=Z,123nm,0.9s,mb5.6									
KKN	Kakani	42.95	330	*e*P		P	21	11	15.5	+0.3
KKN				pmax		pmax				
	comp=Z,123nm,0.9s,mb5.6									
XAN	Xi'an	43.37	2	P		P	21	11	18.0	-0.6
XAN				AP		pP	21	11	27.3	-1.8
XAN				S		S	21	17	58.1	+14
XAN				AMB		AMB				
	comp=Z,43nm,1.0s,mb5.1									
XAN				LR		LR				
	comp=N,238nm,15.1s,MS4.3									
XAN				LR		LR				
	comp=E,145nm,14.6s,MS4.3									
XAN				LR		LR				
	comp=Z,398nm,16.5s,MS4.4									
GKN	Gorkha	43.44	330	*e*P		P	21	11	19.4	+0.2
	comp=Z,100nm,0.8s,mb5.6									
KOLN	Koldanda	43.77	329	*e*P		P	21	11	22.3	+0.4
	comp=Z,133nm,0.7s,mb5.8									
LZH

WMQ S **S** **21 20 43.3 +1.3**
WMQ AMB AMB
comp=Z,39nm,1.4s,mb5.2
WMQ AMB AMB
comp=Z,232nm,5.2s
WMQ LR LR
comp=N,1μm,17.4s,MS5.1
WMQ LR LR
comp=E,798nm,16.3s,MS5.1
WMQ LR LR
comp=Z,1μm,17.9s,MS5.0
VLA Vladivostok 56.92 21 *d* iP pP 21 13 14.3 +2.2
VLA pmax pmax
comp=Z,28nm,0.9s,mb5.3
SONM Songino Array 57.15 359 P **P** **21 13 03.2 +0.3**
comp=Z,4.8nm,0.6s,mb4.7,baz=174,slow=7.4,SNR=32
SONM pP pP 21 13 13.6 -0.1
comp=Z,7.6nm,1.0s,baz=176,slow=7.1,SNR=9.5
SONM LR LR 21 39 37.0
comp=Z,171nm,19.0s,MS4.2,baz=196,slow=38
SONM Songino Array 57.15 359 P **P** **21 13 03.2 +0.3**
SONM *PP pP 21 13 13.6 -0.1
ULN Ulaanbaatar 57.17 360 ⇓P **P** **21 13 03.3 +0.3**
SNR=6.4
ULN Ulaanbaatar 57.17 360 *d* iP **P** **21 13 03.1 +0.1**
MDJ Mudanjiang 57.48 19 P **P** **21 13 06.4 +1.2**
MDJ AMB AMB
comp=Z,3.0nm,0.9s,mb4.3
MDJ AMB AMB
comp=Z,74nm,5.7s
SMDO Samad 58.31 305 ⇓P **P** **21 13 11.8 +0.8**
ZAK Zakamensk 59.80 357⇑ iP **P** **21 13 21.1 -0.3**
ZAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
AAK Ala-Archa 60.10 332 *e*P **P** **21 13 21.3 -2.1**
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
AAK Ala-Archa 60.10 332 *e*P **P** **21 13 21.3 -2.1**
comp=Z,2.9nm,0.6s,mb4.5
FRU Bishkek 60.20 333 *e*P **P** **21 13 23.0 -1.1**
MKAR Makanchi Array 60.47 340 P **P** **21 13 25.6 -0.4**
comp=Z,18nm,0.7s,mb5.2,baz=134,slow=6.9,SNR=179
ASHO Ashiyiah 60.68 305 ⇓P **P** **21 13 27.6 +0.3**
TLY Talaya 61.08 357⇑ iP **P** **21 13 29.3 -0.8**
MOY Mondy 61.24 355 *e*P **P** **21 13 31.7 +0.5**
MOY pmax pmax
comp=Z,25nm,1.8s,mb5.0
CIT Chita 61.54 4 *e*P **P** **21 13 32.6 -0.6**
HABR Khabarovsk 62.66 20 *e*P **P** **21 13 46.9 +6.2**
HABR *e*S **S** **21 22 16.4 +10**
YSS Yuzh-Sakhalins 64.39 26⇑ iP **P** **21 13 51.2 -1.0**
YSS pmax pmax
comp=Z,30nm,0.8s,mb5.4
YSS Yuzh-Sakhalins 64.39 26 *e*P **P** **21 13 51.0 -1.1**
comp=Z,32nm,0.9s,mb5.4
KURK Kurchatov 65.08 340 ⇓P **P** **21 13 56.6 -0.1**
SNR=12
KURK Kurchatov 65.08 340⇑ *e*P **P** **21 13 56.5 -0.2**
KURK Kurchatov 65.08 340 *e*P **P** **21 13 56.3 -0.4**
comp=Z,28nm,0.9s,mb5.3
MAW Mawson 65.11 197 *e*P **P** **21 13 56.8 0.0**
comp=Z,6.2nm,0.6s,mb4.8
MAW *e*pP pP 21 14 07.6 -0.2
MAW Mawson 65.11 197 P **P** **21 13 57.1 +0.3**
comp=Z,7.7nm,0.7s,mb4.8,baz=43,slow=6.3,SNR=30
MAW Mawson 65.11 197 *e*P **P** **21 13 56.8 0.0**
MAW *e*PP pP 21 14 07.6 -0.2
MAW pmax pmax
comp=Z,6.0nm,0.6s
ZAL Zalesovo 66.13 345 P **P** **21 14 02.5 -0.9**
comp=Z,3.4nm,0.3s,mb4.8,baz=316,slow=2.9,SNR=13
NVS Novosibirsk 67.34 345 *e*P **P** **21 14 07.8 -3.3**
NVS pmax pmax
comp=Z,15nm,1.8s,mb4.7
NVS pmax pmax
comp=N,10.0nm,1.7s
NVS pmax pmax
comp=E,9.0nm,1.9s
BOD Bodaibo 67.34 4⇑ iP **P** **21 14 10.1 -1.1**
BOD pmax pmax
comp=Z,16nm,0.9s,mb5.0
BRVK Borovoye 70.00 337 *e*P **P** **21 14 27.1 -0.6**
CHKZ Chkalovo 70.35 338 *e*P **P** **21 14 29.5 -0.4**
CHKZ pmax pmax
comp=Z,22nm,0.8s,mb5.1
CHKZ Chkalovo 70.35 338 *e*P **P** **21 14 29.5 -0.4**
comp=Z,22nm,0.8s,mb5.1
ZRNK Zerenda 70.41 336 *e*P **P** **21 14 29.7 -0.5**
ZRNK pmax pmax
comp=Z,15nm,0.8s,mb5.0
ZRNK Zerenda 70.41 336 *e*P **P** **21 14 29.7 -0.6**
comp=Z,15nm,0.8s,mb5.0
VNDA Vanda 73.36 169 P **P** **21 14 47.7 -0.2**
comp=Z,1.0nm,0.6s,mb3.9,baz=325,slow=5.9,SNR=6.9
VNDA pP pP 21 14 58.3 -0.8
comp=Z,2.1nm,0.9s,baz=300,slow=8.4,SNR=5.1
VNDA LR LR 21 45 09.3
comp=Z,91nm,18.4s,MS4.1,baz=298,slow=34
VNDA Vanda 73.36 169 P **P** **21 14 47.7 -0.3**
VNDA *PP pP 21 14 58.3 -0.8
VNDA Vanda 73.36 169 P **P** **21 14 47.7 -0.2**
VNDA pP pP 21 14 58.3 -0.8
VNDA LR LR 21 45 09.3
YAK Yakutsk 73.42 11 *e*P **P** **21 14 47.4 -0.9**
YAK *e* pP 21 14 58.5 -0.9
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=Z,37nm,1.2s,mb5.2
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,22nm,0.9s,mb5.1
YAK pmax pmax
comp=N,9.0nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK Yakutsk 73.42 11 *i* P **P** **21 14 47.2 -1.1**
PET Petropavlovsk 75.94 29⇑ iP **P** **21 15 02.8 -0.1**
SVE Sverdlovsk 76.56 336 *e*P **P** **21 15 05.0 -1.4**
SVE pmax pmax
comp=Z,60nm,1.7s,mb5.2
MA2 Magadan 77.05 21 *e*P **P** **21 15 09.2 0.0**
MA2 *e* pP 21 15 19.9 -0.4
MA2 pmax pmax
comp=Z,40nm,0.8s,mb5.4
MA2 Magadan 77.05 21 *i* P **P** **21 15 09.3 +0.1**
ARU Arti 77.16 335 ⇓ iP **P** **21 15 09.5 -0.3**
ARU *e* pP 21 15 20.0 -1.0
ARU *e* 21 18 03.1
ARU *e*PPP 21 19 52.1
ARU *e*S S 21 24 56.9 +0.4
ARU pmax pmax
comp=Z,18nm,1.2s,mb4.9
LSZ Lusaka 77.39 256 *e*P **P** **21 15 12.0 +0.9**
LSZ *e* pP 21 15 23.3 +1.1
LSZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
LSZ Lusaka 77.39 256 *e*P **P** **21 15 12.0 +0.9**
comp=Z,7.8nm,1.0s,mb4.6
LSZ *e* pP 21 15 23.2 +1.0
ZEI Tsey 77.86 318 *e*P **P** **21 15 13.4 -0.3**
ZEI pmax pmax
comp=Z,14nm,0.7s,mb5.0
BOSA Boshof 78.79 243 LR LR 21 48 13.0
comp=Z,122nm,18.3s,MS4.3,baz=135,slow=34
KIV Kislovodsk 79.16 318 *e*P **P** **21 15 19.5 -1.3**
KIV pmax pmax
comp=Z,15nm,1.2s,mb4.8
GOF Gofitskoye 79.39 319 *e*P **P** **21 15 21.6 -0.5**
GOF pmax pmax
comp=Z,20nm,0.7s,mb5.2
GZT Gaziantep 80.28 311 *i* P **P** **21 15 27.6 +0.7**
QSPA South Pole Qui 80.45 180 *e*P **P** **21 15 27.6 -0.2**
comp=Z,6.1nm,0.9s,mb4.5
SOC Sochi 80.98 317 *e*P **P** **21 15 30.5 -0.2**
SOC *e* pP 21 15 40.7 -1.2
SOC *e* 21 18 31.8
SOC *e*PPP 21 20 32.8
SOC *e*S S 21 25 36.7 -0.4
SOC *e*SS SS 21 30 50.9 -0.9
SOC *e*SSS 21 34 19.0
SOC pmax pmax
comp=Z,21nm,1.0s,mb5.0
TIXI Tiksi 82.26 7 *e*P **P** **21 15 35.1 -2.3**
TIXI *e* pP 21 15 45.1 -3.6
TIXI pmax pmax
comp=Z,19nm,0.8s,mb5.1
TIXI Tiksi 82.26 7 *i* P **P** **21 15 36.3 -1.1**
VRHR Novokhopersk 82.80 325 *e*P **P** **21 15 39.9 -0.3**
VRHR pmax pmax
comp=Z,60nm,0.7s,mb5.7
VRHR pmax pmax
comp=N,7.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.5s
BR131 Keskin Array S 83.95 312 *e*P **P** **21 15 46.1 0.0**
comp=E,1.7nm,0.6s,mb4.3
BR131 *e* pP 21 15 56.8 -0.6
BRTR Keskin Array B 83.95 312 P **P** **21 15 46.0 -0.1**
comp=E,3.3nm,0.7s,mb4.6,baz=140,slow=6.6,SNR=21
BRTR pP pP 21 15 56.8 -0.7
comp=E,4.1nm,0.8s,baz=132,slow=6.7,SNR=12
BRTR LR LR 21 59 45.3
comp=E,53nm,18.2s,MS4.0,baz=266,slow=40
BRTR Keskin Array B 83.95 312 P **P** **21 15 46.1 -0.1**
BRTR *PP pP 21 15 56.8 -0.6
VRSR Storozhevoye 84.25 324 *d* iP **P** **21 15 47.1 -0.6**
VRSR pmax pmax
comp=N,8.0nm,0.9s
VRSR pmax pmax
comp=E,30nm,0.9s
VRSR pmax pmax
comp=Z,30nm,0.9s,mb5.4
ELDT Eldivan 84.34 312 *i* P **P** **21 15 47.5 -0.7**
BALT Daday 84.68 313 *i* P **P** **21 15 50.6 +0.8**
SIM Simferopol' **85.23 317** *e*P **P** **21 15 53.0 +0.4**
SIM pmax pmax
comp=Z,12nm,0.8s,mb5.1
SGKT Sivrigoynuk 85.36 312 *i* P **P** **21 15 49.2 -4.1**
ESKT Eskisehir 85.95 311 *i* P **P** **21 15 56.5 +0.3**
TKTP Tekketepe 85.96 309 *i* P **P** **21 15 55.9 -0.4**
MOS Moscow 86.84 328 *e*P **P** **21 16 00.3 -0.3**
MOS *e* pP 21 16 10.6 -1.3
MOS pmax pmax
comp=Z,47nm,0.9s,mb5.7
OBN Obninsk 87.17 327 *d* iP **P** **21 16 02.1 -0.1**
OBN *i* pP 21 16 13.0 -0.5
OBN pmax pmax
comp=Z,82nm,1.5s,mb5.7
OBN Obninsk 87.17 327 *e*P **P** **21 16 02.1 -0.1**
comp=Z,26nm,0.7s,mb5.6
OBN *e* pP 21 16 12.6 -0.9
SNAA Sanae 87.27 197 *e*P **P** **21 16 03.0 +0.3**
SNAA *e* 21 16 04.4
SNAA *e* pP 21 16 12.9 -1.1
SNAA *e* 21 16 17.2
SNAA Sanae 87.27 197 *e*P **P** **21 16 02.8 +0.1**
SNAA *e* pP 21 16 13.9 -0.1
SNAA pmax pmax
comp=Z,4.0nm,1.1s
SNAA Sanae 87.27 197 *e*P **P** **21 16 02.8 +0.1**
comp=Z,4.3nm,1.1s,mb4.6
SNAA *e* pP 21 16 13.9 -0.1
ULDT Uludag 87.39 311 *i* P **P** **21 16 03.8 +0.5**
KLMR Klimovskoe 87.91 333 *e*P **P** **21 16 05.4 -0.3**
KLMR pmax pmax
comp=Z,80nm,1.4s,mb5.8
TIRR Tirgusor 88.99 315⇑ *i* P **P** **21 16 11.2 +0.4**
TIRR Tirgusor 88.99 315 *e*P **P** **21 16 10.9 0.0**
TIRR *e* pP 21 16 21.3 -0.9
VNA1 Neumayer--Stat 89.30 197 *e*P **P** **21 16 13.5 +1.2**
VNA1 *e* 21 16 15.4
VNA1 *e* pP 21 16 23.7 +0.1
VNA1 *e* pP 21 16 27.2 +3.6
CFR Carcaliu 89.36 316 ⇓ iP **P** **21 16 13.5 +0.9**
CFR Carcaliu 89.36 316 ⇓P **P** **21 16 13.5 +0.9**
AKASG Malin Array Be 90.04 321 P **P** **21 16 15.1 -0.7**
comp=Z,0.8nm,0.5s,mb4.3,baz=85,slow=4.6,SNR=10
VRI Vrincioaia 90.48 316⇑ iP **P** **21 16 18.8 +1.0**
VRI Vrincioaia 90.48 316⇑P **P** **21 16 18.8 +1.0**
PLOR Plostina 90.53 316⇑ iP **P** **21 16 19.6 +1.5**
MLR Muntele Rosu 90.94 316 P **P** **21 16 20.6 +0.7**
comp=Z,3.7nm,0.6s,mb4.9,baz=182,slow=1.9,SNR=10
MLR Muntele Rosu 90.94 316 ⇑ iP **P** **21 16 20.8 +0.9**
MLR Muntele Rosu 90.94 316 ⇑P **P** **21 16 20.8 +0.9**
BURAR Bucovina Array 91.88 318 ⇑ iP **P** **21 16 25.5 +1.2**
BURAR Bucovina Array 91.88 318 ⇑P **P** **21 16 25.5 +1.2**
JOF Jucuyua 92.26 334 *ep* **P** **21 16 22.6 -3.5**
comp=Z,5.9nm,0.6s,mb5.1
KOLS Kolonicke sedl 94.06 319 *ep*P **P** **21 16 34.8 +0.5**
KOLS Kolonicke sedl 94.06 319 *e*P **P** **21 16 34.9 +0.6**
FINES FINESS Array B 94.28 332 P **P** **21 16 35.0 -0.3**
comp=Z,2.1nm,0.9s,mb4.6,baz=107,slow=6.9,SNR=10
FINES LR LR 22 05 33.1
comp=Z,41nm,18.2s,MS3.9,baz=79,slow=40
KAF Kangasniemi 94.31 332 *ep* **P** **21 16 34.8 -0.7**
comp=Z,9.0nm,0.9s,mb5.2,baz=92,slow=5.2
KAF Kangasniemi 94.31 332 *e*P **P** **21 16 34.8 -0.7**
KAF pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
SUW Suwalki 94.38 324 *e*P **P** **21 16 35.1 -0.7**
PKSM Moragy 96.09 316 ⇓ iP **P** **21 16 43.5 -0.1**
PKSM Moragy 96.09 316 ⇓P **P** **21 16 43.5 -0.1**
ARCES ARCESS Array B 96.12 339 P **P** **21 16 42.8 -1.0**
comp=Z,3.2nm,0.6s,mb4.9,baz=97,slow=6.2,SNR=14
ARCES LR LR 22 06 06.9
comp=Z,58nm,18.5s,MS4.1,baz=143,slow=39
VYHS Vyhne 96.25 318 *e*P **P** **21 16 40.9 -3.4**
GERES GERESS Array B 99.67 318 P Pdif 21 16 59.5 -0.2
comp=Z,0.3nm,0.7s,baz=183,slow=2.0,SNR=3.8
YKA Yellowknife Ar 119.04 21 PKP PKPdf 21 22 04.4 -0.2
comp=Z,1.7nm,0.8s,baz=323,slow=1.8,SNR=12
J05A Fort Rock 125.94 43 ⇓P PKPdf 21 22 20.3 +2.4
baz=126
J06A Christmas Vall 126.67 42 ⇑P PKPdf 21 22 21.4 +2.1
baz=127
K06A Valley Falls 126.80 43 ⇑P PKPdf 21 22 20.9 +1.4
baz=127
J08A Circle Bar Ran 127.74 42 ⇑P PKPdf 21 22 23.9 +2.5
baz=128
N06A Buffalo Meadow 127.90 45 ⇑P PKPdf 21 22 24.0 +2.4
baz=128
O06A Flanigan 128.13 46 ⇓P PKPdf 21 22 24.5 +2.4
baz=128
HAST UC Hastings Re 128.18 51 ⇑P PKPdf 21 22 23.7 +1.5
baz=128
S06C San Francisco 128.96 49 ⇑P PKPdf 21 22 26.4 +2.7
baz=129
NVAR Mina Array Bea 129.89 47 PKP PKPdf 21 22 28.4 +2.9
comp=Z,1.3nm,0.7s,baz=240,slow=3.0,SNR=8.0
R09A Tonopah 130.85 47 ⇓P PKPdf 21 22 30.3 +3.0
baz=131
S09A Goldfield 130.95 48 ⇓P PKPdf 21 22 30.4 +2.9
baz=131
N12A Clover Valley, 131.15 43 ⇑P PKPdf 21 22 31.0 +3.2
baz=131
O12A Currie 131.62 44 ⇓P PKPdf 21 22 31.1 +2.3
baz=132
P12A McGill 131.86 45 ⇑P PKPdf 21 22 31.8 +2.6
baz=132
V12A Nelson 133.49 49 ⇓P PKPdf 21 22 36.0 +3.7
baz=133
PDAR Pinedale Array 133.67 38 PKP PKPdf 21 22 34.2 +1.6
comp=Z,0.6nm,0.7s,baz=178,slow=0.9,SNR=6.8
RSSD Black Hills 136.00 33 *e*PKIKP PKPdf 21 22 37.7 +0.8
ANMO Albuquerque 139.94 46⇑ iPKIKP PKPdf 21 22 48.7 +4.5
LONY Lake Ozonia 145.02 3 *e*PKPdf PKPdf 21 22 52.8 -0.4
LONY *e* 21 23 03.9
BDFB Brasilia 145.20 224 PKPbc PKPbc 21 22 55.3 +2.1
comp=Z,12nm,0.7s,baz=123,slow=2.4,SNR=19
NCB Newcomb 145.68 2 *e*PKPdf PKPdf 21 22 55.0 +0.7
CCM Cathedral Cave 146.95 28 *e*PKP2 PKPab 21 22 58.7 -1.2
JCT Junction City 147.06 47 *e*PKP2 PKPab 21 23 00.5 +0.1
MIAR Mount Ida 148.47 35 *e*PKP2 PKPab 21 23 03.9 -2.1
UALR University of 148.98 33 *e*PKPbc PKPbc 21 23 04.9 +1.0
HKT Hockley 150.16 44 *e*PKPbc PKPbc 21 23 09.4 +2.6
HKT *e* 21 23 21.1
OXF Oxford 150.68 30 *e*PKIKP PKPdf 21 23 09.3 +6.8
PLAL Pickwick Lake 150.92 27 *e*PKPbc PKPbc 21 23 09.2 +0.6
PLAL *e* 21 23 19.8
ELN Prospectdale 151.44 14 *e*PKPbc PKPbc 21 23 10.3 +0.5
LPAZ La Paz 153.97 189 PKP PKPdf 21 23 10.1 +2.7
comp=Z,0.5nm,0.6s,baz=135,slow=1.4,SNR=4.2
LPAZ PKPbc PKPbc 21 23 17.9 +2.5
comp=Z,1.6nm,0.6s,baz=198,slow=6.1,SNR=11
LPAZ La Paz 153.97 189 PKP PKPdf 21 23 10.1 +2.7
LPAZ PKPbc PKPbc 21 23 17.9 +2.5
LPAZ *e*PKPbc PKPbc 21 23 18.9 +3.4
CMIG Matias Romero 156.91 69 PKPab PKPab 21 23 41.8 +0.4
comp=Z,1.0nm,0.3s,baz=343,slow=3.9,SNR=4.0

*ISCJB **24** 21:06:07.5±0.2,3908N±001×11803W±002,h7km, Error ellipse: s-maj=2.3km s-min=2.0km az=77.4*
*NEIC **24** 21:06:08.2,3907N×11806W,h7km,ML3.5(REN), After REN.*

ISC 24 21:06:07.6±0.2,3907N±001×11804W±002,h7km,n87,
σ1ᵖ15/126,38C-42D,Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q08A	**Gabbs**	**0.23**	**157**	P	**Pg**	**21 06 13.1**	**+1.0**
	baz=0.2,SNR=210						
Q08A				⇓S	**Sg**	**21 06 16.8**	**+1.5**
	baz=0.2						
Q07A	**Schurz**	**0.61**	**258**	⇓P	**Pg**	**21 06 19.7**	**+0.4**
	baz=0.6,SNR=29						
Q07A				⇓S	**Sg**	**21 06 28.5**	**+1.2**
	baz=0.6						
P08A	**Dixie Valley**	**0.62**	**357**	⇑P	**Pg**	**21 06 20.6**	**+1.2**
	baz=0.6,SNR=138						
P08A				⇑S	**Sg**	**21 06 30.2**	**+2.8**
	baz=0.6						
MNV	**Mina**	**0.65**	**188**	*e*P	**Pg**	**21 06 20.1**	**+0.2**
MNV				*e*S	**Sg**	**21 06 28.8**	**+0.4**
P09A	**Austin**	**0.85**	**56**	⇑P	**Pg**	**21 06 24.3**	**+0.5**
	baz=0.9,SNR=113						
P09A				⇑S	**Sg**	**21 06 36.4**	**+1.6**
	baz=0.9						
R09A	**Tonopah**	**1.13**	**137**	⇑P	**Pg**	**21 06 29.5**	**+0.3**
	baz=1.1,SNR=1000						
R09A				⇓S	**Sg**	**21 06 44.6**	**+0.7**
	baz=1.1						
TPH	**Tonopah**	**1.19**	**147**	*e*P	**Pg**	**21 06 30.4**	**+0.1**
TPH				*e*S	**Sg**	**21 06 46.9**	**+1.2**
PAHR	**Pah Rah Range**	**1.22**	**302**	*e*P	**Pb**	**21 06 29.5**	**-1.4**
PAHR				*e*S	**Sg**	**21 06 46.6**	**-0.1**
O08A	**Rochester Mine**	**1.22**	**356**	⇑P	**Pb**	**21 06 30.3**	**-0.6**
	baz=1.2						
O08A				⇑S	**Sg**	**21 06 47.1**	**+0.4**
	baz=1.2						
R06C	**Coleville**	**1.23**	**244**	⇑P	**Pb**	**21 06 30.2**	**-0.9**
	baz=1.2,SNR=124						
R06C				⇓S	**Sg**	**21 06 47.0**	**-0.1**
	baz=1.2						
R07C	**Lee Vining**	**1.26**	**219**	⇓P	**Pn**	**21 06 31.2**	**-0.4**
	baz=1.2						
R07C				⇓S	**Sb**	**21 06 48.3**	**+0.2**
	baz=1.2						
O07A	**Toulon**	**1.26**	**329**	⇑P	**Pn**	**21 06 30.5**	**-1.1**
	baz=1.3,SNR=873						
O07A				⇓S	**Sb**	**21 06 48.6**	**+0.5**
	baz=1.3						
O09A	**Fish Creek Ran**	**1.28**	**31**	⇑P	**Pn**	**21 06 31.5**	**-0.3**
	baz=1.3,SNR=252						
O09A				⇓S	**Sb**	**21 06 49.3**	**+0.7**
	baz=1.3						
P10A	**Eureka**	**1.34**	**66**	⇓P	**Pn**	**21 06 33.5**	**+0.8**
	baz=1.4,SNR=26						
WCN	**Washoe City**	**1.35**	**280**	⇓P	**Pn**	**21 06 32.8**	**0.0**
	baz=1.3						
WCN				⇓S	**Sb**	**21 06 50.5**	**-0.1**
	baz=1.3						
BMN	**Battle Mountai**	**1.50**	**25**	*e*P	**Pn**	**21 06 34.0**	**-0.9**
BMN				*e*S	**Sn**	**21 06 54.1**	**-0.5**
S09A	**Goldfield**	**1.50**	**154**	⇓P	**Pn**	**21 06 35.1**	**+0.3**
	baz=1.5,SNR=525						
P06A	**Stead Airport,**	**1.56**	**293**	⇓P	**Pn**	**21 06 36.2**	**+0.4**
	baz=1.5						
MLAC	**Mammoth Lakes**	**1.57**	**204**	⇓P	**Pn**	**21 06 36.6**	**+0.7**
	baz=1.6						
R10A	**Warm Springs**	**1.57**	**119**	⇑P	**Pn**	**21 06 36.8**	**+0.9**
	baz=1.6,SNR=78						
R05C	**Kirkwood Meado**	**1.63**	**257**	⇓P	**Pn**	**21 06 35.7**	**-1.0**
	baz=1.6,SNR=37						
O10A	**Cortez Mining,**	**1.70**	**44**	⇓P	**Pn**	**21 06 37.3**	**-0.4**
	baz=1.7,SNR=37						
O06A	**Flanigan**	**1.76**	**309**	⇑P	**Pn**	**21 06 39.3**	**+0.9**
	baz=1.7						
MTUM	**Tungsten Hills**	**1.77**	**194**	*e*P	**Pn**	**21 06 39.0**	**+0.4**
MTUM				*e*S	**Sn**	**21 07 03.1**	**+1.9**
N09A	**Rock Creek Ran**	**1.82**	**13**	⇑P	**Pn**	**21 06 38.7**	**-0.6**
	baz=1.8,SNR=16						
N09A				⇓S	**Sn**	**21 07 02.3**	**-0.3**
	baz=1.8						
P11A	**Circle Ranch,**	**1.84**	**74**	⇑P	**Pn**	**21 06 39.6**	**+0.1**
	baz=1.9						
S06C	**San Francisco**	**1.85**	**231**	⇑P	**Pn**	**21 06 39.3**	**-0.4**
	baz=1.8,SNR=49						
Q11A	**Duckwater**	**1.88**	**96**	⇓P	**Pn**	**21 06 40.7**	**+0.6**
	baz=1.9,SNR=33						
P05C	**Yuba Gap, Truc**	**2.01**	**277**	⇓P	**Pn**	**21 06 43.8**	**+1.9**
	baz=2.0						
TIN	**Tinemaha**	**2.02**	**184**	⇓P	**Pn**	**21 06 46.0**	**+4.0**
	baz=2.0						
N10A	**Dunphy**	**2.02**	**35**	⇓S	**Sn**	**21 07 07.5**	**-0.1**
	baz=2.0						
CMB	**Columbia Colle**	**2.11**	**241**	*e*Pn	**Pn**	**21 06 42.3**	**-1.0**
CMB				*e*Pg	**Pg**	**21 06 46.2**	**-1.8**
CMB				*e*S	**Sn**	**21 07 13.2**	**+3.4**
CMB	**Columbia Colle**	**2.11**	**241**	⇓P	**Pn**	**21 06 42.6**	**-0.7**
	baz=2.1						
LAVA	**Lava Cap Winer**	**2.13**	**262**	⇓P	**Pn**	**21 06 45.7**	**+2.2**
	baz=2.1						
N06A	**Buffalo Meadow**	**2.17**	**321**	⇓P	**Pn**	**21 06 46.5**	**+2.4**
	baz=2.2						
M09A	**Marrel Ranch,**	**2.39**	**11**	⇓P	**Pn**	**21 06 47.3**	**+0.2**
	baz=2.4						
O05C	**Quincy**	**2.40**	**293**	⇓P	**Pn**	**21 06 50.0**	**+2.8**
	baz=2.4						
R04C	**Big Horse Ranc**	**2.41**	**251**	⇑P	**Pn**	**21 06 46.9**	**-0.4**
	baz=2.4						
M07A	**Soldier Meadow**	**2.47**	**340**	⇑P	**Pn**	**21 06 52.2**	**+4.0**
	baz=2.5						
N11A	**Elko Archery C**	**2.49**	**45**	⇑P	**Pn**	**21 06 48.5**	**+0.1**
	baz=2.5						
S05C	**Merced**	**2.49**	**227**	⇑P	**Pn**	**21 06 53.0**	**+4.5**
	baz=2.5						
Q12A	**Willow Creek R**	**2.50**	**90**	⇑P	**Pn**	**21 06 49.4**	**+0.8**
	baz=2.5						
ELFS	**Eagle Lake Fie**	**2.58**	**308**	⇑P	**Pn**	**21 06 54.0**	**+4.3**
	baz=2.6						
O04C	**Chester**	**2.66**	**299**	⇑P	**Pn**	**21 06 55.0**	**+4.1**
	baz=2.6						
OHCM	**Honcut**	**2.69**	**277**	Pn	**Pn**	**21 06 49.4**	**-1.8**
OHCM				*e*Sn	**Sn**	**21 07 22.8**	**-1.2**
OHCM				*e*Sg	**Sg**	**21 07 31.0**	**-2.9**
M10A	**I.L. Ranch, Tu**	**2.70**	**25**	⇓P	**Pn**	**21 06 51.5**	**+0.1**
	baz=2.7						
ORV	**Oroville**	**2.72**	**281**	⇑P	**Pn**	**21 06 56.3**	**+4.6**
	baz=2.7						
ELK	**Elko**	**2.73**	**51**	*e*Pn	**Pn**	**21 06 51.1**	**-0.7**
ELK				*e*Pg	**Pg**	**21 06 59.4**	**-0.4**
ELK				*e*S	**Sn**	**21 07 32.3**	**+7.3**
O12A	**Currie**	**2.81**	**64**	⇓P	**Pn**	**21 06 52.8**	**-0.1**
	baz=2.8						
DAC	**Darwin (Calif)**	**2.81**	**173**	*e*Pn	**Pn**	**21 06 53.7**	**+0.8**
DAC				*e*Pg	**Pg**	**21 06 58.4**	**-3.1**
DAC				*e*Sg	**Sg**	**21 07 36.1**	**-1.8**
M06C	**Likely Place G**	**2.83**	**319**	⇓P	**Pn**	**21 06 53.9**	**+0.7**
	baz=2.8						
N12A	**Clover Valley,**	**2.91**	**51**	⇑P	**Pn**	**21 06 54.5**	**+0.2**
	baz=2.9						
M11A	**Holland Ranch,**	**2.92**	**36**	⇑P	**Pn**	**21 06 54.3**	**0.0**
	baz=2.9						
M11A				⇑S	**Sn**	**21 07 30.3**	**+0.6**
	baz=2.9						
U10A	**Ash Meadows, A**	**2.98**	**152**	⇑P	**Pn**	**21 06 55.1**	**-0.1**
	baz=3.0						
S04C	**Ingram Canyon,**	**3.03**	**240**	⇓P	**Pn**	**21 07 01.5**	**+5.6**
	baz=3.0						
L07A	**Adell**	**3.10**	**342**	⇓P	**Pn**	**21 07 03.0**	**+6.1**
	baz=3.1						
HATC	**Hat Creek Radi**	**3.15**	**305**	⇓P	**Pn**	**21 06 58.5**	**+0.9**
	baz=3.1						
BDM	**Black Diamond**	**3.20**	**251**	⇑P	**Pn**	**21 07 06.8**	**+8.6**
	baz=3.2						
PACP	**Pacheco Peak**	**3.29**	**232**	⇓P	**Pn**	**21 07 08.2**	**+8.7**
	baz=3.3						
M05C	**Lookout**	**3.30**	**315**	⇓P	**Pn**	**21 07 00.7**	**+1.1**
	baz=3.3						
M12A	**Wells**	**3.35**	**45**	⇓P	**Pn**	**21 07 00.3**	**+0.1**
	baz=3.4						
WVOR	**Wild Horse Val**	**3.39**	**353**	*e*Pg	**Pg**	**21 07 10.2**	**-2.3**
WVOR				*e*Sg	**Sg**	**21 07 53.8**	**-2.6**

ISA	**Isabella**	**3.42**	**186**	ePg	**Pg**	**21 07 10.5**	**-2.6**
ISA				eSg	**Sg**	**21 07 54.9**	**-2.5**
N13A	**Wendover, West**	**3.44**	**58**	⇑P	**Pn**	**21 07 02.0**	**+0.4**
	baz=3.5						
N13A				⇓S	**Sn**	**21 07 43.1**	**+0.4**
	baz=3.5						
U04C	**Hernandez Rese**	**3.47**	**220**	⇑P	**Pn**	**21 07 08.5**	**+6.5**
	baz=3.5						
CVS	**Carmenet Viney**	**3.53**	**259**	⇑P	**Pn**	**21 07 01.3**	**-1.5**
	baz=3.5						
L05A	**Lakeview**	**3.65**	**325**	⇑P	**Pn**	**21 07 03.3**	**-1.2**
	baz=3.6						
JRSC	**Jasper Ridge**	**3.70**	**245**	⇓P	**Pn**	**21 07 06.8**	**+1.6**
	baz=3.7						
PKD	**Parkfield**	**3.70**	**213**	⇑P	**Pn**	**21 07 15.4**	**+10**
	baz=3.7						
M13A	**Montello**	**3.75**	**51**	⇑P	**Pn**	**21 07 06.1**	**+0.3**
	baz=3.8						
U12A	**Valley of Fire**	**3.83**	**132**	⇓P	**Pn**	**21 07 07.8**	**+0.9**
	baz=3.8						
ARUT	**Antelope Range**	**3.84**	**108**	ePn	**Pn**	**21 07 05.2**	**-1.8**
HAST	**UC Hastings Re**	**3.86**	**227**	⇑P	**Pn**	**21 07 15.9**	**+8.6**
	baz=3.8						
GSC	**Goldstone**	**3.89**	**165**	ePg	**Pg**	**21 07 19.6**	**-2.5**
GSC				eSg	**Sg**	**21 08 12.0**	**-0.5**
MCCM	**Marconi Confer**	**3.90**	**258**	⇑S	**Sn**	**21 07 53.2**	**-0.7**
	baz=3.9						
M04C	**Macdoel**	**3.96**	**314**	⇓P	**Pn**	**21 07 10.3**	**+1.5**
	baz=4.0						
CCUT	**Cedar City**	**3.98**	**111**	ePn	**Pn**	**21 07 09.3**	**+0.3**
CCUT				eSg	**Sg**	**21 08 13.6**	**-1.9**
TUQ	**Turquoise Mtn.**	**4.00**	**154**	⇓P	**Pn**	**21 07 10.3**	**+1.0**
	baz=4.0						
K06A	**Valley Falls**	**4.08**	**337**	⇓P	**Pg**	**21 07 21.6**	**-4.1**
	baz=4.1						
DUG	**Dugway**	**4.19**	**73**	ePg	**Pg**	**21 07 26.3**	**-1.5**
DUG				eSg	**Sg**	**21 08 22.5**	**+0.3**
V12A	**Nelson**	**4.20**	**142**	⇑P	**Pg**	**21 07 24.5**	**-3.4**
	baz=4.2						
BGU	**Big Grassy Mou**	**4.27**	**63**	ePn	**Pn**	**21 07 14.5**	**+1.5**
BGU				eSn	**Sn**	**21 08 04.3**	**+1.2**
J08A	**Circle Bar Ran**	**4.29**	**356**	⇑P	**Pg**	**21 07 23.7**	**-6.1**
	baz=4.3						
SPUT	**South Promonto**	**4.83**	**61**	ePg	**Pg**	**21 07 38.4**	**-1.7**
SPUT				eSg	**Sg**	**21 08 41.7**	**-1.0**
HVU	**Hansel Valley**	**4.84**	**54**	ePn	**Pn**	**21 07 25.3**	**+4.5**
HVU				ePg	**Pg**	**21 07 38.5**	**-1.9**
HVU				eS	**Sg**	**21 08 41.3**	**-1.8**
HLID	**Hailey**	**5.25**	**30**	Pn	**Pn**	**21 07 27.6**	**+1.1**
HLID				ePb	**Pb**	**21 07 39.9**	**+0.2**
HLID				ePg	**Pg**	**21 07 47.2**	**-0.9**
HLID				eS	**Sg**	**21 08 49.6**	**-6.6**
HWUT	**Hardware Ranch**	**5.56**	**61**	Pn	**Pn**	**21 07 30.2**	**-0.4**
	4.4nm,0.7s						

MAN 24 21:24:27.9, 1875N×12102E, h9^{km}, mb2.8, ML4.2, MS2.5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APYP	**Conner**	**0.91**	**167**	eP	Pg	21 24 45.4	0.0
SGCP	**Mt. Cagua**	**1.10**	**117**	eP	Pg	21 24 48.1	-0.8
ABRA	**Dolores**	**1.14**	**195**	eP	Pb	21 24 48.1	-1.5
CVP	**Callao Caves**	**1.29**	**144**	eP	Pn	21 24 51.0	-1.1
CVP				eS	Sb	21 25 10.0	+1.0
CAUP	**Cauayan**	**1.95**	**157**	eP	Pn	21 25 03.9	+2.7
PALP	**Palanan**	**2.15**	**141**	eP	Pn	21 25 07.2	+3.3
BALP	**Baler**	**3.04**	**170**	eP	Pn	21 25 19.9	+3.8

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*ISCJB **24** 21:38:48.9±0.5, 3879N±002×2670E±002, h6^{km}±4^{km}, Error ellipse: s-maj=3.2km s-min=2.9km az=96.5*
*THE **24** 21:38:50.0, 3875N×2674E, h6^{km}, ML3.5*
*CSEM **24** 21:38:49.5±0.1, 3879N×2678E, h10^{km}, MD3.5, Error ellipse: s-maj=1.3km s-min=1.1km az=40.0*
*ATH **24** 21:38:49.6, 3878N×2664E, h24^{km}, MD3.5/4*
*NEIC **24** 21:38:50.4, 3878N×2652E, h26^{km}, MD2.9(SOF), MD3.3(ISK), MD3.5(ATH), After ATH.*
*ISK **24** 21:38:50.7, 3876N×2679E, h25^{km}, MD3.4*
*SOF **24** 21:39:02.3, 3961N×2608E, h20^{km}, MD2.9*
ISC 24 21:38:49.9±0.4**, 3879N**±002×**2671E**±002**, h9^{km}**±3^{km}**, n65, σ0^{s}81**/86**, 2C-4D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.52**	**359**	iP	**Pg**	**21 38 59.4**	**-0.7**
AYVA				iS	**Sg**	**21 39 07.3**	**+0.4**
PRK	**Paraskevi**	**0.57**	**324**	ePN	**Pg**	**21 39 00.8**	**-0.2**
PRK				eSN	**Sg**	**21 39 08.7**	**+0.2**
KDAG	**Bornova**	**0.58**	**131**	iP	**Pg**	**21 39 01.1**	**-0.1**
KDAG				iS	**Sg**	**21 39 09.2**	**+0.4**
KDAG	**Bornova**	**0.58**	**131**	iP	**Pg**	**21 39 01.0**	**-0.2**
KDAG				iS	**Sg**	**21 39 09.2**	**+0.4**
IZM	**Izmir**	**0.58**	**132**	PG	**Pg**	**21 39 01.1**	**-0.1**
CHOS	**Chios island**	**0.65**	**232**	ePg	**Pg**	**21 39 02.7**	**+0.2**
CHOS				eSg	**Sg**	**21 39 12.1**	**+1.2**
AKS	**Akhisar**	**0.87**	**83**	PG	**Pg**	**21 39 06.3**	**-0.3**
AKS				SG	**Sg**	**21 39 17.6**	**-0.3**
AKHS	**Akhisar**	**0.87**	**84**	iP	**Pg**	**21 39 06.4**	**-0.3**
AKHS				iS	**Sg**	**21 39 18.0**	**+0.1**
EZN	**Ezine**	**1.08**	**344**	PN	**Pn**	**21 39 10.3**	**-0.9**
SMG	**Samos**	**1.08**	**175**	ePN	**Pb**	**21 39 10.5**	**-0.2**
SMG				eSN	**Sn**	**21 39 25.2**	**-1.1**
SMG	**Samos**	**1.08**	**175**	ePb	**Pb**	**21 39 10.5**	**-0.2**
SMG				eSn	**Sn**	**21 39 27.7**	**+1.4**
BOZC	**Bozcaada**	**1.17**	**334**	iP	**Pb**	**21 39 11.6**	**-0.7**
BOZC				iS	**Sb**	**21 39 27.4**	**-0.2**
BTOK	**Tokmak**	**1.42**	**46**	iP	**Pn**	**21 39 15.6**	**-0.2**
BTOK				iS	**Sn**	**21 39 33.4**	**-1.1**
AYDN	**Tasoluk**	**1.45**	**140**	iP	**Pn**	**21 39 15.6**	**-0.8**
AYDN				iS	**Sn**	**21 39 37.2**	**+1.8**
AYDN	**Tasoluk**	**1.45**	**140**	iP	**Pn**	**21 39 15.6**	**-0.7**
AYDN				iS	**Sn**	**21 39 37.2**	**+1.7**
LIA	**Limnos Island**	**1.62**	**314**	ePN	**Pn**	**21 39 18.3**	**-0.3**
BODT	**Bodrum**	**1.79**	**164**	PN	**Pn**	**21 39 20.1**	**-0.8**
EDC	**Edincik**	**1.80**	**29**	PN	**Pn**	**21 39 21.1**	**0.0**
BNT	**Bandirma**	**1.83**	**30**	PN	**Pn**	**21 39 20.9**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.93**	**11**	PN	**Pn**	**21 39 23.4**	**+0.5**
APE	**Apeiranthos**	**1.95**	**209**	ePb	**Pn**	**21 39 21.6**	**-1.6**
APE				eSb	**Sn**	**21 39 47.0**	**-0.8**
APE	**Apeiranthos**	**1.95**	**209**	ePn	**Pn**	**21 39 23.1**	**-0.1**
MFT	**Murefte**	**2.05**	**12**	PN	**Pn**	**21 39 24.3**	**-0.2**
YER	**Yerkesik**	**2.06**	**142**	PN	**Pn**	**21 39 23.9**	**-0.8**
DENT	**Denizli**	**2.10**	**119**	PN	**Pn**	**21 39 24.3**	**-0.9**
ORLT	**Orhaneli**	**2.11**	**53**	PN	**Pn**	**21 39 25.2**	**-0.2**
DNZL	**Cakiroluk**	**2.14**	**120**	iP	**Pn**	**21 39 25.6**	**-0.2**
DNZL				iS	**Sg**	**21 40 00.2**	**+1.5**
DAT	**Datca**	**2.17**	**161**	PN	**Pn**	**21 39 25.7**	**-0.4**
ALN	**Alexandroupoli**	**2.17**	**347**	ePn	**Pn**	**21 39 25.6**	**-0.6**
ALN				eSn	**Sn**	**21 39 54.7**	**+1.5**
ALN	**Alexandroupoli**	**2.17**	**347**	ePn	**Pn**	**21 39 25.5**	**-0.7**
GDZ	**Gediz**	**2.18**	**81**	iP	**Pb**	**21 39 29.6**	**0.0**
GDZ				iS	**Sg**	**21 39 59.2**	**-0.9**
AOS	**Alonnisos**	**2.24**	**281**	ePn	**Pn**	**21 39 26.2**	**-0.9**
AOS	**Alonnisos**	**2.24**	**281**	ePn	**Pn**	**21 39 26.2**	**-0.9**
ULDT	**Uludag**	**2.32**	**53**	iP	**Pb**	**21 39 30.6**	**-1.2**
ULDT				iS	**Sb**	**21 40 01.2**	**+0.7**
RDO	**Rodhopi**	**2.52**	**339**	ePN	**Pn**	**21 39 31.1**	**+0.1**
RDO				eSN	**Sn**	**21 40 01.6**	**-0.3**
PAIG	**Paliouri**	**2.61**	**297**	ePn	**Pn**	**21 39 31.6**	**-0.7**
OUR	**Ouranopolis**	**2.61**	**307**	ePn	**Pn**	**21 39 32.0**	**-0.3**
CTT	**Catalca**	**2.71**	**29**	PN	**Pn**	**21 39 34.0**	**+0.5**
YLV	**Yalova**	**2.72**	**48**	PN	**Pn**	**21 39 34.4**	**+0.7**
XOR	**Xorichti**	**2.80**	**283**	ePn	**Pn**	**21 39 35.3**	**+0.5**
ISK	**Istanbul-Kandi**	**2.91**	**38**	PN	**Pn**	**21 39 37.2**	**+0.9**
KDZ	**Kurdzhali**	**3.03**	**341**	iP	**Pn**	**21 39 38.0**	**0.0**
KLYT	**Kilyos**	**3.05**	**35**	PN	**Pn**	**21 39 38.6**	**+0.4**
EDRB	**Edirne**	**3.06**	**1**	PN	**Pn**	**21 39 38.6**	**+0.2**
ELL	**Elmali**	**3.25**	**128**	PN	**Pn**	**21 39 41.3**	**+0.3**
RZN	**Rozhen**	**3.27**	**333**	iP	**Pn**	**21 39 41.0**	**-0.4**
ESKT	**Eskisehir**	**3.30**	**76**	iP	**Pg**	**21 39 52.7**	**-0.5**
ESKT				iS	**Sg**	**21 40 36.3**	**+0.3**
HORT	**Hortiatis**	**3.32**	**304**	ePn	**Pn**	**21 39 42.1**	**+0.1**
SRS	**Serrai**	**3.34**	**315**	ePn	**Pn**	**21 39 42.0**	**-0.2**
LIT	**Litokhoron**	**3.52**	**293**	ePn	**Pn**	**21 39 45.6**	**+0.8**
MMB	**Musomiste**	**3.61**	**322**	ePn	**Pn**	**21 39 45.5**	**-0.5**
MMB	**Musomiste**	**3.61**	**322**	P	**Pn**	**21 39 45.8**	**-0.2**
PLD	**Plovdiv**	**3.65**	**336**	P	**Pn**	**21 39 41.9**	**-4.7**
LAST	**Lasithi**	**3.75**	**196**	ePn	**Pn**	**21 39 48.1**	**+0.2**
KNT	**Kendrikon**	**3.77**	**310**	ePn	**Pn**	**21 39 48.7**	**+0.5**
GRG	**Griva**	**3.96**	**305**	ePn	**Pn**	**21 39 51.5**	**+0.7**
KIZT	**Kizilcal**	**4.04**	**87**	ePN	**Pn**	**21 39 52.3**	**+0.4**
SGKT	**Sivrigoynuk**	**4.50**	**65**	iP	**Pn**	**21 40 00.6**	**+2.5**
SGKT				iS	**Sg**	**21 41 19.3**	**+5.0**
VTS	**Vitosha**	**4.64**	**326**	P	**Pn**	**21 39 58.0**	**-2.1**
TIRR	**Tirgusor**	**5.81**	**12**	⇑iP	**Pn**	**21 40 15.3**	**-0.9**
MLR	**Muntele Rosu**	**6.72**	**355**	⇓iP	**Pn**	**21 40 32.1**	**+3.3**
PLOR	**Plostina**	**7.06**	**360**	⇓iP	**Pn**	**21 40 39.2**	**+5.8**
GZR	**Gura Zlata**	**7.22**	**337**	⇓iP	**Pn**	**21 40 38.0**	**+2.4**
BZS	**Buzias**	**7.80**	**333**	⇓iP	**Pn**	**21 40 43.9**	**+0.4**
BURAR	**Bucovina Array**	**8.89**	**353**	⇑iP	**Pn**	**21 41 00.3**	**+1.8**

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*NEIC **24** 21:47:34.9±2.2, 3041S×17737W, h10^{km}, mb4.6/2, Error ellipse: s-maj=43.8km s-min=20.6km az=109.0*
*ISCJB **24** 21:47:41.6±4.8, 302S±03×1781W±07, h33^{km}, mb4.3/5, MS3.6/1, Error ellipse: s-maj=97.8km s-min=10.1km az=59.3*
*IDC **24** 21:47:41.5±7.4, 3018S×17778W, h33^{km}±55^{km}, mb4.2/4, mb1 4.3/4, mb1mx3.9/12, mbtmp4.4/4, MS3.7/1, Ms1 3.7/1, ms1mx2.8/22, Error ellipse: s-maj=41.6km s-min=27.8km az=126.0*
ISC 24 21:47:41.4±5.0**, 302S**±02×**1777W**±07**, h35^{km}, n11, σ0^{s}65**/9**, mb4.3**/5**, MS3.6**/1**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.97**	**351**	Pn	**Pn**	**21 47 58.6**	**+0.1**
	225nm,0.3s,baz=124,slow=15,SNR=14						
RAO				Sn	**Sn**	**21 48 10.9**	**-0.1**
	1μm,0.3s,baz=122,slow=19,SNR=15						
CTA	**Charters Tower**	**33.99**	**279**	P	**P**	**21 54 23.1**	**+1.5**
	4.6nm,0.4s,mb4.7,baz=95,slow=9.5,SNR=8.0						
CTAO	**Charters Tower**	**33.99**	**279**	eP	**P**	**21 54 21.4**	**-0.2**
	6.0nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**34.74**	**257**	P	**P**	**21 54 29.0**	**+0.9**
	3.1nm,0.7s,mb4.4,baz=108,slow=8.5,SNR=8.0						
STKA	**Stephens Creek**	**34.74**	**257**	P	**P**	**21 54 29.0**	**+0.9**
PMG	**Port Moresby**	**38.73**	**295**	LR	LR	22 06 13.4	
	comp=Z,91nm,19.0s,MS3.6,baz=12,slow=29						
ASAR	**Alice Springs**	**43.34**	**267**	P	**P**	**21 55 39.1**	**-0.9**
	1.2nm,0.5s,mb3.9,baz=105,slow=7.3,SNR=17						
WRAB	**Tennant Creek**	**44.31**	**272**	eP	**P**	**21 55 47.3**	**-0.4**
	4.1nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**44.31**	**272**	P	**P**	**21 55 47.6**	**-0.3**
	2.2nm,0.3s,mb4.4,baz=110,slow=8.1,SNR=62						
FINES	**FINESS Array B**	**145.04**	**340**	PKPbc	PKPbc	22 07 12.2	-2.1
	0.8nm,0.5s,baz=67,slow=3.9,SNR=14						
TORD	**Torodi Ar. Bea**	**163.01**	**178**	PKPab	PKPab	22 08 31.7	+2.0
	0.2nm,0.6s,baz=208,slow=1.4,SNR=4.7						

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*IDC **24** 22:17:40.0±1.6, 975S×10808E, h0^{km}, mb3.8/6, mb1 3.9/7, mb1mx3.8/17, mbtmp3.8/7, ML3.2/1, Error ellipse: s-maj=79.6km s-min=18.7km az=46.0*
*NEIC **24** 22:17:40.3±0.9, 1003S×10795E, h10^{km}, mb4.0/4, Error ellipse: s-maj=46.1km s-min=8.2km az=48.0*
*ISCJB **24** 22:17:43.3±1.2, 96S±03×1083E±03, h33^{km}, mb3.8/9, Error ellipse: s-maj=61.1km s-min=10.4km az=91.6*
ISC 24 22:17:45.2±1.2**, 97S**±03×**1082E**±03**, h35^{km}, n14, σ0^{s}89**/15**, mb3.8**/9**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.88**	**137**	ePn	**Pn**	**22 21 21.7**	**-4.4**
	1.1nm,0.4s						
KULM	**Kulim**	**16.71**	**333**	Pn	**Pn**	**22 21 36.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.85**	**118**	P	**Pn**	**22 22 01.2**	**-1.8**
	0.1nm,0.3s,baz=112,slow=19,SNR=2.4						
FITZ				S	**S**	**22 25 18.0**	**-16**
	0.1nm,0.3s,baz=254,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**27.19**	**115**	P	**P**	**22 23 26.2**	**+0.7**
	0.9nm,0.9s,mb3.3,baz=289,slow=10,SNR=4.2						
ASAR	**Alice Springs**	**28.18**	**123**	P	**P**	**22 23 37.2**	**+2.8**
	0.6nm,0.8s,mb3.3,baz=302,slow=9.5,SNR=5.8						
STKA	**Stephens Creek**	**37.96**	**130**	P	**P**	**22 24 59.5**	**+0.1**
	2.5nm,0.8s,mb4.0,baz=296,slow=4.4,SNR=5.1						
CTAO	**Charters Tower**	**38.10**	**110**	eP	**P**	**22 25 01.4**	**+0.7**
	0.7nm,0.4s,mb3.7						
SONM	**Songino Array**	**57.33**	**359**	P	**P**	**22 27 30.3**	**+0.6**
	1.7nm,0.7s,mb4.2,baz=179,slow=8.6,SNR=5.8						
MKAR	**Makanchi Array**	**60.84**	**340**	P	**P**	**22 27 53.7**	**-0.3**
	0.6nm,0.5s,mb4.0,baz=141,slow=6.2,SNR=7.4						
KURK	**Kurchatov**	**65.45**	**340**	eP	**P**	**22 28 24.1**	**-0.5**
	1.6nm,1.0s,mb4.0						
BRVK	**Borovoye**	**70.39**	**337**	P	**P**	**22 28 55.5**	**-0.1**
CHKZ	**Chkalovo**	**70.74**	**337**	eP	**P**	**22 28 57.4**	**-0.3**
	1.8nm,0.7s,mb4.1						
CHKZ				e		22 29 01.7	
ZRNK	**Zerenda**	**70.81**	**336**	eP	**P**	**22 28 57.7**	**-0.5**
ZRNK				e		22 29 02.2	
BRTR	**Keskin Array B**	**84.52**	**312**	P	**P**	**22 30 15.0**	**+0.5**
	0.3nm,0.6s,mb3.6,baz=148,slow=6.6,SNR=3.5						

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*NIED **24** 22:25:00, 3380N×14170E, h11^{km}, Mw3.5 Best double couple: M$_0$2.21000×10^{14} NP1:ϕ_s125.00000°, δ87.00000°, λ-47.00000°. NP2:ϕ_s218.00000°, δ43.00000°, λ-176.00000°.*
*ISCJB **24** 22:25:28.9±1.4, 3370N±009×1417E±02, h42^{km}±12^{km}, mb4.2/5, Error ellipse: s-maj=25.3km s-min=11.0km az=123.1*
*IDC **24** 22:25:28.8±4.5, 3325N×14081E, h0^{km}, mb3.7/2, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=165.7km s-min=24.7km az=68.0*
*JMA **24** 22:25:28.7±0.5, 3376N×14168E, h33^{km}, M3.6*
*NEIC **24** 22:25:33.0±1.0, 3334N×14088E, h35^{km}, mb4.1/2, Error ellipse: s-maj=25.7km s-min=9.4km az=78.0*
ISC 24 22:25:28.8±2.5**, 3369N**±009×**1417E**±02**, h25^{km}**±20^{km}**, n19, σ0^{s}85**/24**, mb4.2**/5**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.15**	**327**	P	**Pn**	**22 25 47.7**	**-1.6**
BSO3	**Boso 3**	**1.50**	**318**	P	**Pn**	**22 25 53.3**	**-0.9**
JHJ2	**Mitsune**	**1.71**	**251**	P	**Pn**	**22 25 57.1**	**+0.1**
BSO4	**Boso 4**	**1.74**	**319**	P	**Pn**	**22 25 57.1**	**-0.3**
JOD2	**Odawara 2**	**2.69**	**306**	P	**Pn**	**22 26 09.9**	**-0.6**
JOD2				eS	**Sn**	**22 26 39.9**	**-2.4**
JYN	**Shimob**	**3.19**	**305**	P	**Pn**	**22 26 17.7**	**+0.3**
JRY	**Ryogami san**	**3.29**	**316**	P	**Pn**	**22 26 18.7**	**0.0**
JAG	**Ashikaga**	**3.31**	**326**	P	**Pn**	**22 26 18.5**	**-0.5**
MJAR	**Matsushiro Arr**	**4.06**	**316**	Pn	**Pn**	**22 26 30.4**	**+1.1**
	2.4nm,0.3s,baz=146,slow=13,SNR=12						
MJAR				Sn	**Sn**	**22 27 16.8**	**+0.8**
	3.4nm,0.3s,baz=122,slow=36,SNR=8.3						
MAJO	**Matsushiro**	**4.06**	**316**	eP	**Pn**	**22 26 30.6**	**+1.4**
MAJO				eSn	**Sn**	**22 27 16.9**	**+0.9**
MAT	**Matsushiro**	**4.06**	**316**	P	**Pn**	**22 26 30.2**	**+0.9**
MAT				S	**Sn**	**22 27 15.8**	**-0.2**
MAT	**Matsushiro**	**4.06**	**316**	eP	**Pn**	**22 26 30.0**	**+0.7**
MAT				eS	**Sn**	**22 27 16.0**	**0.0**
NACB	**Ninganchiao**	**19.99**	**247**	P	**Pn**	**22 29 53.6**	**-7.6**
YAK	**Yakutsk**	**29.39**	**348**	eP	**P**	**22 31 34.3**	**+4.4**
	16nm,0.3s,mb5.2						
MKAR	**Makanchi Array**	**46.18**	**305**	P	**P**	**22 33 52.0**	**+0.6**
	0.4nm,0.5s,mb3.6,baz=81,slow=9.2,SNR=7.1						
KURK	**Kurchatov**	**48.25**	**311**	P	**P**	**22 34 07.6**	**0.0**
BRVK	**Borovoye**	**53.11**	**314**	eP	**P**	**22 34 43.8**	**-0.4**
	0.9nm,0.4s,mb4.0						
WRAB	**Tennant Creek**	**53.79**	**189**	eP	**P**	**22 34 49.0**	**-0.2**
	1.9nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**53.80**	**189**	P	**P**	**22 34 49.3**	**+0.1**
	0.7nm,0.5s,mb3.9,baz=6.2,slow=7.6,SNR=15						

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*IDC **24** 22:29:04.9±1.4, 927S×10776E, h0^{km}, mb4.0/4, mb1 3.9/5, mb1mx3.7/18, mbtmp3.9/5, ML3.5/1, Error ellipse: s-maj=66.5km s-min=21.4km az=52.0*
*NEIC **24** 22:29:06.7±0.3, 930S×10772E, h10^{km}, mb4.4/10, Error ellipse: s-maj=14.7km s-min=5.8km az=50.0*
*ISCJB **24** 22:29:08.3±0.5, 93S±0.1×1078E±0.1, h33^{km}, mb4.2/14, Error ellipse: s-maj=23.3km s-min=8.3km az=100.7*
ISC 24 22:29:10.5±0.5**, 94S**±0.1×**1077E**±0.1**, h35^{km}, n26, σ0^{s}83**/25**, mb4.2**/14**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**16.17**	**334**	Pn	**Pn**	**22 32 57.2**	**+2.2**
MBWA	**Marble Bar**	**16.46**	**137**	ePn	**Pn**	**22 32 54.7**	**-4.0**
	1.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.42**	**118**	P	**Pn**	**22 33 34.3**	**-0.7**
	0.1nm,0.3s,baz=24,slow=10.0,SNR=4.1						
WRAB	**Tennant Creek**	**27.76**	**115**	eP	**P**	**22 34 56.7**	**+0.8**
	4.1nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**27.77**	**115**	P	**P**	**22 34 51.1**	**-4.8**
ASAR	**Alice Springs**	**28.76**	**123**	P	**P**	**22 35 05.5**	**+0.8**
	0.5nm,0.6s,mb3.4,baz=311,slow=8.5,SNR=5.6						
STKA	**Stephens Creek**	**38.54**	**130**	P	**P**	**22 36 28.6**	**-1.1**
	1.2nm,0.4s,mb4.0,baz=314,slow=13,SNR=4.7						
CTAO	**Charters Tower**	**38.65**	**110**	eP	**P**	**22 36 32.2**	**+1.7**
	3.0nm,0.6s,mb4.2						
JIRN	**Jiri**	**42.30**	**331**	eP	**P**	**22 37 01.6**	**+0.9**
PKI	**Pulchoki**	**42.61**	**330**	eP	**P**	**22 37 03.5**	**+0.3**
GUN	**Gumba**	**42.66**	**331**	eP	**P**	**22 37 03.9**	**+0.3**
DMN	**Daman**	**42.79**	**330**	eP	**P**	**22 37 04.1**	**-0.6**
	9.4nm,0.7s,mb4.6						
KKN	**Kakani**	**42.85**	**330**	eP	**P**	**22 37 05.0**	**-0.2**
	13nm,0.8s,mb4.7						
GKN	**Gorkha**	**43.35**	**330**	eP	**P**	**22 37 09.0**	**-0.2**
KOLN	**Koldanda**	**43.69**	**328**	eP	**P**	**22 37 12.1**	**+0.2**
	19nm,0.8s,mb4.9						
HNR	**Honiara**	**51.46**	**95**	P	**P**	**22 38 12.3**	**0.0**
SONM	**Songino Array**	**56.95**	**359**	P	**P**	**22 38 50.8**	**-1.4**
	0.6nm,0.5s,mb3.9,baz=175,slow=8.0,SNR=4.5						
MKAR	**Makanchi Array**	**60.34**	**340**	P	**P**	**22 39 15.4**	**-0.3**
	1.6nm,0.4s,mb4.4,baz=151,slow=8.0,SNR=36						
KURK	**Kurchatov**	**64.95**	**340**	eP	**P**	**22 39 46.0**	**-0.5**
	1.8nm,0.8s,mb4.2						
MAW	**Mawson**	**65.35**	**197**	eP	**P**	**22 39 49.6**	**+0.5**
	1.4nm,0.6s,mb4.2						
BRVK	**Borovoye**	**69.87**	**337**	eP	**P**	**22 40 17.2**	**-0.5**
	0.8nm,0.6s,mb3.8						
CHKZ	**Chkalovo**	**70.22**	**338**	eP	**P**	**22 40 19.3**	**-0.6**
	2.7nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**70.29**	**336**	eP	**P**	**22 40 19.6**	**-0.7**
	1.6nm,0.6s,mb4.1						
SBA	**Scott Base**	**74.61**	**169**	eP	**P**	**22 40 45.5**	**-0.5**
SNAA	**Sanae**	**87.51**	**197**	P	**P**	**22 41 54.8**	**+0.2**
BDFB	**Brasilia**	**145.46**	**224**	PKPbc	PKPbc	22 48 45.6	+0.8
	2.3nm,0.7s,baz=126,slow=4.4,SNR=3.3						

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*IDC **24** 22:35:03.9±1.8, 182N×12798E, h0^{km}, mb3.8/3, mb1 3.9/3, mb1mx3.5/15, mbtmp3.8/3, Error ellipse: s-maj=141.6km s-min=24.3km az=65.0*
*ISCJB **24** 22:35:06.2±1.1, 21N±03×1285E±06, h33^{km}, mb3.9/5, Error ellipse: s-maj=96.9km s-min=16.4km az=127.8*
*NEIC **24** 22:35:08.8±0.8, 201N×12828E, h35^{km}, mb4.1/2, Error ellipse: s-maj=75.1km s-min=12.7km az=64.0*
ISC 24 22:35:08.9±1.1**, 20N**±03×**1283E**±06**, h35^{km}, n8, σ0^{s}59**/8**, mb3.9**/5**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**22.60**	**165**	eP	**P**	**22 40 07.1**	**+0.7**
	2.6nm,0.8s,mb3.7						
WRA	**Warramunga Arr**	**22.61**	**165**	P	**P**	**22 40 06.3**	**-0.2**
	0.3nm,0.4s,mb3.1,baz=344,slow=11,SNR=10						
CTAO	**Charters Tower**	**28.17**	**142**	P	**P**	**22 40 58.2**	**+0.2**
STKA	**Stephens Creek**	**35.99**	**160**	P	**P**	**22 42 04.9**	**-1.5**
	1.4nm,0.6s,mb4.1,baz=333,slow=11,SNR=3.7						
STKA	**Stephens Creek**	**35.99**	**160**	eP	**P**	**22 42 06.2**	**-0.2**
MKAR	**Makanchi Array**	**59.84**	**325**	P	**P**	**22 45 11.3**	**+0.5**
	1.2nm,0.5s,mb4.2,baz=114,slow=7.7,SNR=21						
MKAR	**Makanchi Array**	**59.84**	**325**	P	**P**	**22 45 11.3**	**+0.5**
KURK	**Kurchatov**	**64.01**	**327**	eP	**P**	**22 45 38.5**	**-0.4**
	1.5nm,0.5s,mb4.3						

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*IDC **24** 22:36:08.3±0.8, 934S×10726E, h0^{km}, mb4.2/9, mb1 4.3/10, mb1mx4.1/18, mbtmp4.2/10, ML3.6/1, MS3.6/9, Ms1 3.6/9, ms1mx3.3/29, Error ellipse: s-maj=29.7km s-min=16.5km az=56.0*
*ISCJB **24** 22:36:09.7±3.2, 937S±008×10736E±010, h19^{km}±23^{km}, mb4.5/37, MS3.8/10, Error ellipse: s-maj=19.0km s-min=8.6km az=107.0*
*BJI **24** 22:36:10.4, 940S×10730E, h11^{km}, mB4.8, mb4.5, Ms4.4, Msz3.8*
*NEIC **24** 22:36:10.5±4.7, 935S×10732E, h11^{km}±28^{km}, mb4.7/18, Error ellipse: s-maj=14.9km s-min=5.8km az=52.0*
*MOS **24** 22:36:11.8±1.1, 932S×10738E, h33^{km}, mb4.9/11, Error ellipse: s-maj=20.3km s-min=9.1km az=112.2*
ISC 24 22:36:12.6±3.2**, 939S**±008×**10733E**±010**, h25^{km}**±23^{km}**, h26^{km}**±2.2^{km}**:pP-P, n72, σ1^{s}01**/62**, mb4.5**/37**, MS3.8**/10**, 2C-3D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**14.72**	**325**	LR	LR	22 45 27.1	
	comp=Z,343nm,21.8s,baz=154,slow=38						
KULM	**Kulim**	**16.03**	**335**	Pn	**Pn**	**22 39 54.8**	**-1.5**
MBWA	**Marble Bar**	**16.72**	**136**	eP	**Pn**	**22 40 00.1**	**-5.0**
	5.5nm,0.4s						
KKM	**Kota Kinabalu**	**17.70**	**30**	Pn	**Pn**	**22 40 16.1**	**-1.3**
FITZ	**Fitzroy Crossi**	**19.77**	**118**	eP	**Pn**	**22 40 42.1**	**-0.3**
	8.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.77**	**118**	P	**Pn**	**22 40 42.1**	**-0.3**
	0.1nm,0.3s,baz=250,slow=12,SNR=5.9						
FITZ				LR	LR	22 47 08.6	
	comp=Z,79nm,18.1s,baz=95,slow=33						
NWAO	**Narrogin (SRO)**	**25.15**	**160**	LR	LR	22 50 30.0	
	comp=Z,79nm,19.3s,MS3.2,baz=326,slow=34						
WRA	**Warramunga Arr**	**28.11**	**115**	P	**P**	**22 42 02.7**	**+0.3**
	4.0nm,1.0s,mb4.0,baz=286,slow=10,SNR=8.7						
WRAB	**Tennant Creek**	**28.12**	**115**	eP	**P**	**22 42 02.7**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**28.12**	**115**	eP	**P**	**22 42 02.7**	**+0.2**
	comp=Z,4.1nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**28.12**	**115**	eP	**P**	**22 42 03.4**	**+0.9**
WB2				e		22 42 15.0	
QIZ	**Qiongzhong**	**28.34**	**5**	P	**P**	**22 42 07.1**	**+2.6**
QIZ				S	**S**	**22 46 55.3**	**+5.6**
QIZ				LR	LR		
	comp=Z,182nm,13.9s,MS3.8						
QIZ	**Qiongzhong**	**28.34**	**5**	eP	**P**	**22 42 04.2**	**-0.3**
ASAR	**Alice Springs**	**29.09**	**122**	P	**P**	**22 42 11.9**	**+0.8**
	comp=Z,0.7nm,0.6s,mb3.6,baz=297,slow=8.8,SNR=5.9						
ASAR				LR	LR	22 52 11.0	
	comp=Z,71nm,20.6s,MS3.3,baz=168,slow=33						
CHTO	**Chiang Mai**	**29.22**	**344**	eP	**P**	**22 42 13.4**	**+1.1**
CHTO				e		22 42 25.8	
CHTO				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
CHTO	**Chiang Mai**	**29.22**	**344**	eP	**P**	**22 42 13.4**	**+1.1**
	comp=Z,13nm,1.0s,mb4.6						
CHTO				e		22 42 25.8	
KMI	**Kunming**	**34.59**	**353**	P	**P**	**22 43 04.8**	**+5.4**
KMI				AP	pP	22 43 10.4	+3.6
KMI				XP	sP	22 43 12.5	+2.7
KMI				PP	PP	22 44 18.8	+0.8
KMI				S	**S**	**22 48 27.5**	**+0.3**
KMI				XS	sS	22 48 36.8	-2.5
KMI				AMB	AMB		
	comp=Z,12nm,1.5s,mb4.6						
KMI				AMB	AMB		
	comp=Z,170nm,4.3s						
KMI				LR	LR		
	comp=N,249nm,5.6s						
KMI				LR	LR		
	comp=E,225nm,5.4s						
KMI				LR	LR		
	comp=Z,238nm,11.4s,MS4.2						
STKA	**Stephens Creek**	**38.83**	**130**	eP	**P**	**22 43 35.4**	**-0.2**
	comp=Z,5.3nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**38.83**	**130**	P	**P**	**22 43 35.9**	**+0.3**
	comp=Z,2.7nm,0.6s,mb4.1,baz=294,slow=11,SNR=6.6						
STKA				LR	LR	22 58 15.6	
	comp=Z,100nm,20.4s,MS3.6,baz=24,slow=34						
CTA	**Charters Tower**	**39.02**	**110**	LR	LR	22 59 14.5	
	comp=Z,73nm,18.4s,MS3.5,baz=258,slow=36						
JIRN	**Jiri**	**42.14**	**332**	eP	**P**	**22 44 04.1**	**+1.2**
	comp=Z,43nm,0.9s,mb5.1						
PKI	**Pulchoki**	**42.44**	**331**	eP	**P**	**22 44 06.5**	**+1.2**
GUN	**Gumba**	**42.49**	**331**	eP	**P**	**22 44 06.9**	**+1.1**
	comp=Z,28nm,0.6s,mb5.0						
DMN	**Daman**	**42.61**	**330**	eP	**P**	**22 44 07.3**	**+0.6**
	comp=Z,29nm,0.9s,mb5.0						
KKN	**Kakani**	**42.68**	**331**	eP	**P**	**22 44 07.6**	**+0.3**
	comp=Z,40nm,1.0s,mb5.1						
KKN	**Kakani**	**42.68**	**331**	eP	**P**	**22 44 07.6**	**+0.3**
KKN				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.1						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**43.17**	**330**	*e*P	**P**	**22 44 11.7**	**+0.4**
	comp=Z,47nm,1.1s,mb5.1						
XAN	**Xi'an**	**43.21**	**2**	P	**P**	**22 44 12.3**	**+0.7**
XAN				AP	pP	22 44 21.3	+2.2
XAN				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.6						
KOLN	**Koldanda**	**43.50**	**329**	*e*P	**P**	**22 44 14.8**	**+0.9**
	comp=Z,20nm,0.9s,mb4.9						
LZH	**Lanzhou**	**45.35**	**356**	*e*P	**P**	**22 44 31.3**	**+2.6**
LZH				AP	pP	22 44 38.5	+2.3
LZH				XP	sP	22 44 41.3	+2.1
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.8						
TAU	**Tasmania Unive**	**48.29**	**141**	P	**P**	**22 44 52.4**	**+0.7**
GTA	**Gaotai**	**49.05**	**352**	*e*P	**P**	**22 44 59.5**	**+2.0**
GTA				AP	pP	22 45 07.1	+2.0
GTA				XP	sP	22 45 10.3	+2.2
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,74nm,4.6s						
GTA				LR	LR		
	comp=N,84nm,16.4s,MS4.0						
GTA				LR	LR		
	comp=E,84nm,15.7s,MS4.0						
GTA				LR	LR		
	comp=Z,73nm,13.8s,MS3.8						
MJAR	**Matsushiro Arr**	**54.13**	**31**	P	**P**	**22 45 34.3**	**-1.2**
	comp=Z,3.0nm,0.8s,mb4.3,baz=203,slow=8.3,SNR=7.4						
SONM	**Songino Array**	**56.98**	**359**	P	**P**	**22 45 56.0**	**+0.1**
	comp=Z,2.0nm,0.7s,mb4.2,baz=174,slow=8.4,SNR=9.1						
SONM				LR	LR	23 13 11.8	
	comp=Z,91nm,19.7s,MS3.9,baz=254,slow=39						
ULN	**Ulaanbaatar**	**57.00**	**360**	*e*P	**P**	**22 45 57.5**	**+1.4**
ULN				*e*		22 46 09.0	
ULN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
ULN	**Ulaanbaatar**	**57.00**	**360**	*e*P	**P**	**22 45 57.5**	**+1.4**
	comp=Z,2.2nm,0.5s,mb4.4						
ULN				*e*		22 46 08.9	
MDJ	**Mudanjiang**	**57.40**	**19**	*e*P	**P**	**22 45 58.0**	**-1.0**
	comp=Z,3.5nm,0.3s,mb4.9						
ZAK	**Zakamensk**	**59.62**	**357**	*e*P	**P**	**22 46 14.7**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
AAK	**Ala-Archa**	**59.83**	**332**	P	**P**	**22 46 15.1**	**-0.8**
MKAR	**Makanchi Array**	**60.23**	**340**	P	**P**	**22 46 18.7**	**0.0**
	comp=Z,3.3nm,0.6s,mb4.6,baz=141,slow=7.6,SNR=29						
MKAR	**Makanchi Array**	**60.23**	**340**	P	**P**	**22 46 18.7**	**0.0**
YSS	**Yuzh-Sakhalins**	**64.36**	**26**	⇑*i*P	**P**	**22 46 45.1**	**-1.2**
YSS				pmax	pmax		
	comp=Z,53nm,1.6s,mb5.3						
KURK	**Kurchatov**	**64.84**	**340**	*d*iP	**P**	**22 46 49.4**	**0.0**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**64.84**	**340**	*e*P	**P**	**22 46 49.5**	**0.0**
	comp=Z,7.6nm,0.8s,mb4.8						
KURK				*e*		22 47 04.8	
MAW	**Mawson**	**65.19**	**197**	P	**P**	**22 46 50.4**	**-1.3**
	comp=Z,4.5nm,1.0s,mb4.5,baz=45,slow=7.9,SNR=5.6						
MAW				LR	LR	23 07 02.6	
	comp=Z,98nm,20.7s,MS4.0,baz=82,slow=28						
ZAL	**Zalesovo**	**65.91**	**346**	P	**P**	**22 46 54.0**	**-2.3**
	comp=Z,1.0nm,0.4s,mb4.2,baz=9.0,slow=4.9,SNR=4.5						
BOD	**Bodaibo**	**67.19**	**4**	*e*P	**P**	**22 47 03.7**	**-0.9**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.9s,mb4.1						
BRVK	**Borovoye**	**69.75**	**337**	*e*P	**P**	**22 47 18.4**	**-2.1**
BRVK				*e*		22 47 32.4	
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**69.75**	**337**	*e*P	**P**	**22 47 18.4**	**-2.1**
	comp=Z,2.7nm,0.8s,mb4.2						
BRVK				*e*		22 47 32.4	
CHKZ	**Chkalovo**	**70.10**	**338**	*e*P	**P**	**22 47 22.9**	**+0.2**
CHKZ				*e*		22 47 38.1	
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
CHKZ	**Chkalovo**	**70.10**	**338**	*e*P	**P**	**22 47 22.9**	**+0.2**
	comp=Z,7.9nm,0.7s,mb4.8						
CHKZ				*e*		22 47 38.1	
ZRNK	**Zerenda**	**70.16**	**336**	*e*P	**P**	**22 47 23.0**	**0.0**
ZRNK				*e*		22 47 35.0	
ZRNK				*e*		22 47 38.8	
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
ZRNK	**Zerenda**	**70.16**	**336**	*e*P	**P**	**22 47 23.0**	**-0.1**
	comp=Z,5.9nm,0.8s,mb4.6						
ZRNK				*e*		22 47 35.0	
ZRNK				*e*		22 47 38.8	
YAK	**Yakutsk**	**73.30**	**11**	*e*P	**P**	**22 47 42.2**	**+0.3**
YAK				pmax	pmax		
	comp=Z,14nm,0.5s,mb5.2						
AKTO	**Aktyubinsk**	**73.33**	**330**	*i* P	**P**	**22 47 40.6**	**-1.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,1.8s,mb3.4						
VNDA	**Vanda**	**73.58**	**169**	LR	LR	23 18 03.0	
	comp=Z,86nm,20.2s,MS4.0,baz=266,slow=34						
SVE	**Sverdlovsk**	**76.31**	**336**	*e*P	**P**	**22 48 00.0**	**+0.7**
ARU	**Arti**	**76.90**	**335**	⇓*i*P	**P**	**22 48 02.2**	**-0.5**
ARU				*e*		22 48 13.8	
ARU				*e*		22 50 56.9	
ARU				*e*S	S	22 57 51.3	+2.2
ARU				*e*SS	SS	23 02 49.0	+3.3
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
ARU	**Arti**	**76.90**	**335**	*e*P	**P**	**22 48 02.8**	**+0.1**
	comp=Z,1.7nm,0.5s,mb4.2						
ARU				*e*PcP	PcP	22 48 14.2	+0.5
TIXI	**Tiksi**	**82.12**	**7**	⇓*i*P	**P**	**22 48 30.1**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,11nm,2.3s,mb4.4						
BRTR	**Keskin Array B**	**83.65**	**312**	P	**P**	**22 48 38.7**	**-0.3**
	comp=Z,1.6nm,1.0s,mb4.1,baz=124,slow=7.6,SNR=8.3						
VRSR	**Storozhevoye**	**83.97**	**324**	*e*P	**P**	**22 48 40.4**	**-0.2**
VRSR				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
VRSR				pmax	pmax		
	comp=N,6.0nm,0.7s						
VRSR				pmax	pmax		
	comp=E,7.0nm,0.9s						
OBN	**Obninsk**	**86.89**	**327**	*e*P	**P**	**22 48 53.9**	**-1.3**
OBN				*e*		22 49 07.9	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.2						
KLMR	**Klimovskoe**	**87.64**	**333**	*e*P	**P**	**22 48 58.6**	**-0.3**
KLMR				pmax	pmax		
	comp=Z,30nm,2.0s,mb5.2						
YKA	**Yellowknife Ar**	**118.97**	**21**	⇑*i*PKIKP	PKPdf	22 55 00.4	+1.4
BDFB	**Brasilia**	**145.15**	**225**	PKPbc	PKPbc	22 55 48.6	+1.2
	comp=Z,3.3nm,0.6s,baz=164,slow=2.6,SNR=5.6						
WMOK	**Wichita Mounta**	**145.25**	**39**	*e*PKIKP	PKPdf	22 55 48.9	+0.8
NCB	**Newcomb**	**145.52**	**2**	*e*PKP	PKPdf	22 55 48.9	+0.4
JCT	**Junction City**	**147.13**	**47**	*e*PKP2	PKPab	22 55 55.4	+0.3
MIAR	**Mount Ida**	**148.48**	**34**	*e*PKP2	PKPbc	22 55 58.4	+1.3
WVT	**Waverly**	**150.02**	**25**	*e*PKPbc	PKPbc	22 56 01.6	+0.6
WVT				*e*		22 56 14.0	
PLAL	**Pickwick Lake**	**150.89**	**27**	*e*PKPbc	PKPbc	22 56 02.5	-0.4
PLAL				*e*		22 56 15.1	

BJI **24** *22:51:01.5, 3266N×4899E, h14km, mB4.4, mb4.3, Ms4.2, Msz4.0*
IDC **24** *22:51:06.5±1.4, 3274N×4965E, h0km, mb3.9/10, mb1 4.0/13, mb1mx3.9/23, mbtmp3.9/13, ML3.6/3, MS3.2/7, Ms1 3.3/7, ms1mx2.9/34, Error ellipse: s-maj=28.2km s-min=20.3km az=168.0*
ISCJB **24** *22:51:07.8±0.2, 3268N±003×4967E±002, h16km, mb4.2/41, MS3.5/10, Error ellipse: s-maj=4.4km s-min=3.0km az=12.0*
THR **24** *22:51:09.1±0.9, 3272N×4982E, h14km±6km, ML4.0*
NEIC **24** *22:51:09.1, 3273N×4980E, h14km, mb4.4/23, ML4.0(THR), MN4.0(TEH), After THR.*
CSEM **24** *22:51:09.4±0.1, 3263N×4968E, h35km, mb4.3/28, Ms3.0, Error ellipse: s-maj=2.4km s-min=1.3km az=6.0*
TEH **24** *22:51:10.0, 3264N×4974E, h8km, Mn4.2*
MOS **24** *22:51:11.2±0.9, 3293N×4963E, h33km, mb4.5/20, Error ellipse: s-maj=11.1km s-min=4.7km az=124.8*
ISC 24 22:51:09.9±0.2, 3273N±003×4968E±003, h17km, h17km±3.4km: pP-P, n225, σ1§23/230, mb4.2/41, MS3.5/10, 21C-5D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.97**	**230**	*e*PG	**Pg**	**22 51 28.6**	**-0.1**
SHGR				AML	AML	22 51 50.4	
	comp=E,4μm,0.4s						
SHGR	**Shooshtar-Gavs**	**0.97**	**230**	*e*Pg	**Pg**	**22 51 28.0**	**-0.7**
IPIR	**Pirpir**	**1.02**	**92**	*e*Pg	**Pg**	**22 51 24.5**	**-5.2**
IPIR	**Pirpir**	**1.02**	**92**	Pg	**Pg**	**22 51 24.4**	**-5.3**
IKLH	**Kalahroud**	**1.70**	**69**	*e*Pn	**Pn**	**22 51 36.8**	**-2.0**
ASAO	**Ashtian**	**1.84**	**9**	*e*PG	**Pg**	**22 51 42.8**	**-2.5**
ASAO				*e*SG	**Sg**	**22 52 07.2**	**-1.9**
ASAO				AML	AML	22 52 12.9	
	comp=N,2μm,0.7s						
ASAO				AML	AML	22 52 18.0	
	comp=E,1μm,0.6s						
ASAO	**Ashtian**	**1.84**	**9**	*e*Pg	**Pg**	**22 51 42.0**	**-3.2**
ASAO				*e*Sg	**Sg**	**22 52 06.0**	**-3.1**
ASAO	**Ashtian**	**1.84**	**9**	*e*Pg	**Pg**	**22 51 42.8**	**-2.4**
	SNR=90						
ASAO				*e*Sg	**Sg**	**22 52 07.2**	**-1.9**
	SNR=90						
IZEF	**Zefreh**	**2.24**	**85**	*e*Pn	**Pn**	**22 51 46.5**	**+0.3**
IZEF				*e*Sn	**Sn**	**22 52 13.8**	**+0.4**
IZEF	**Zefreh**	**2.24**	**85**	Pn	**Pn**	**22 51 46.4**	**+0.2**
NASN	**Na'in**	**2.64**	**88**	*e*Pn	**Pn**	**22 51 52.4**	**+0.7**
NASN				*e*SG	**Sg**	**22 52 27.9**	**-6.7**
NASN	**Na'in**	**2.64**	**88**	*e*Pn	**Pn**	**22 51 51.0**	**-0.7**
IRAZ	**Razeghan**	**2.68**	**4**	*e*Pn	**Pg**	**22 52 05.7**	**+4.4**
IVIS	**Veys**	**2.96**	**308**	*e*Pn	**Pn**	**22 51 58.5**	**+2.3**
IVIS	**Veys**	**2.96**	**308**	Pn	**Pn**	**22 51 58.4**	**+2.2**
IGHG	**Ghaleghazi**	**3.05**	**302**	*e*Pn	**Pn**	**22 51 59.6**	**+2.2**
SNGE	**Sanandaj**	**3.05**	**321**	*e*PN	**Pn**	**22 51 59.8**	**+2.4**
SNGE				AML	AML	22 53 05.9	
	comp=E,495nm,0.9s						
SNGE	**Sanandaj**	**3.05**	**321**	*e*Pn	**Pn**	**22 51 59.0**	**+1.6**
IMHD	**Mahdasht**	**3.06**	**15**	*e*Pn	**Pn**	**22 51 58.9**	**+1.4**
ILIN	**Laeen**	**3.15**	**315**	*e*Pn	**Pn**	**22 52 00.8**	**+2.1**
ILIN	**Laeen**	**3.15**	**315**	Pn	**Pn**	**22 52 00.7**	**+2.0**
THKV	**Tehran--Karaj**	**3.33**	**17**	*e*PN	**Pn**	**22 52 03.2**	**+2.0**
THKV				*e*SG	**Sg**	**22 52 52.2**	**-4.7**
THKV				AML	AML	22 53 09.2	
	comp=N,321nm,0.6s						
THKV	**Tehran--Karaj**	**3.33**	**17**	*e*Pn	**Pn**	**22 52 02.0**	**+0.8**
THKV				*e*Sg	**Sg**	**22 52 52.0**	**-4.9**
THKV	**Tehran--Karaj**	**3.33**	**17**	*e*Pn	**Pn**	**22 52 03.2**	**+2.0**
	SNR=52						
THKV				*e*Sg	**Sg**	**22 52 52.2**	**-4.7**
	SNR=90						
IDHR	**Dehrash**	**3.38**	**306**	*e*Pn	**Pn**	**22 52 03.8**	**+1.9**
IDHR	**Dehrash**	**3.38**	**306**	Pn	**Pn**	**22 52 03.7**	**+1.8**
CHTH	**Charan**	**3.39**	**20**	*e*PN	**Pn**	**22 52 03.6**	**+1.6**
CHTH	**Charan**	**3.39**	**20**	*e*Pn	**Pn**	**22 52 03.0**	**+1.0**
IDMV	**Damavand**	**3.45**	**34**	*e*Pn	**Pn**	**22 52 03.6**	**+0.8**
DAMV	**Damavand**	**3.46**	**33**	*e*PN	**Pn**	**22 52 04.1**	**+1.1**
DAMV				AML	AML	22 53 07.3	
	comp=N,250nm,0.7s						
DAMV	**Damavand**	**3.46**	**33**	*e*Pn	**Pn**	**22 52 04.0**	**+1.0**
ISAD	**Sadrabad**	**3.49**	**102**	*e*Pn	**Pn**	**22 52 03.3**	**-0.1**
ISAD	**Sadrabad**	**3.49**	**102**	Pn	**Pn**	**22 52 03.2**	**-0.2**
MIB	**Mutribah**	**3.54**	**215**	*e*P	**Pn**	**22 52 05.8**	**+1.8**
MIB				AML	AML	22 52 54.3	
	comp=Z,130nm,0.4s						
IAFJ	**Afjeh**	**3.54**	**28**	*e*Pn	**Pn**	**22 52 05.4**	**+1.2**
IAFJ	**Afjeh**	**3.54**	**28**	Pn	**Pn**	**22 52 05.3**	**+1.1**
UMR	**Umm Al-Rimmam**	**3.59**	**209**	*e*P	**Pn**	**22 52 06.0**	**+1.2**
UMR				AML	AML	22 53 06.2	
	comp=Z,158nm,0.4s						
IGZV	**Gazvin**	**3.67**	**7**	*e*Pn	**Pn**	**22 52 07.5**	**+1.5**
ILAS	**Lasjerd**	**3.80**	**45**	*e*Pn	**Pn**	**22 52 08.3**	**+0.7**
ILAS	**Lasjerd**	**3.80**	**45**	Pn	**Pn**	**22 52 08.2**	**+0.6**
IFIR	**Firoozkooh**	**3.86**	**40**	*e*Pn	**Pn**	**22 52 09.8**	**+1.3**
IFIR	**Firoozkooh**	**3.86**	**40**	Pn	**Pn**	**22 52 09.7**	**+1.2**
KBD	**Kabd**	**3.93**	**206**	*e*P	**Pn**	**22 52 10.8**	**+1.3**
KBD				AML	AML	22 53 03.2	
	comp=Z,240nm,0.3s						
ICHK	**Chekchek**	**4.02**	**96**	*e*Pn	**Pn**	**22 52 10.7**	**0.0**
ICHK	**Chekchek**	**4.02**	**96**	Pn	**Pn**	**22 52 10.6**	**-0.1**
NAY	**Al-Naaiem**	**4.05**	**212**	*e*P	**Pn**	**22 52 12.6**	**+1.5**
NAY				AML	AML	22 53 05.7	
	comp=Z,51nm,0.6s						
IPRN	**Paran-Amol**	**4.09**	**30**	*e*Pn	**Pn**	**22 52 13.9**	**+2.2**
RDF	**Al-Radifah**	**4.21**	**206**	*e*P	**Pn**	**22 52 15.1**	**+1.7**
RDF				AML	AML	22 53 05.1	
	comp=Z,100nm,0.5s						
QRN	**Al-Qurain**	**4.25**	**201**	*e*P	**Pn**	**22 52 15.2**	**+1.3**
QRN				AML	AML	22 53 06.7	
	comp=Z,119nm,0.3s						
ISHM	**Shahmirzad**	**4.29**	**43**	*e*Pn	**Pn**	**22 52 15.7**	**+1.4**
IMEH	**Mehriz**	**4.39**	**106**	*e*Pn	**Pn**	**22 52 15.1**	**-0.8**
IANJ	**Anjiloo**	**4.45**	**51**	*e*Pn	**Pn**	**22 52 16.8**	**+0.2**
ISRV	**Sarvestan**	**4.45**	**138**	*e*Pn	**Pn**	**22 52 15.3**	**-1.3**
BHD	**Baghdad**	**4.49**	**278**	*e*x	x	22 52 31.0	
BHD				*e*x	x	22 53 41.0	
IMOK	**Mook**	**4.50**	**144**	*e*Pn	**Pn**	**22 52 17.1**	**-0.2**
IGLO	**Galoogah**	**4.76**	**40**	*e*Pn	**Pn**	**22 52 27.3**	**+6.4**
IGLO	**Galoogah**	**4.76**	**40**	Pn	**Pn**	**22 52 27.2**	**+6.3**
IKIA	**Kiasar**	**4.79**	**43**	*e*Pn	**Pn**	**22 52 22.8**	**+1.5**
IBAF	**Bafgh**	**5.12**	**101**	*e*Pn	**Pn**	**22 52 25.9**	**+0.1**
IBAF	**Bafgh**	**5.12**	**101**	Pn	**Pn**	**22 52 25.8**	**0.0**
IBST	**Bostanabad**	**5.46**	**336**	*e*Pn	**Pn**	**22 52 31.8**	**+1.3**
IBST	**Bostanabad**	**5.46**	**336**	Pn	**Pn**	**22 52 31.7**	**+1.2**
IAZR	**Azarshahr**	**5.79**	**330**	*e*Pn	**Pn**	**22 52 36.0**	**+0.9**
ITBZ	**Tabriz**	**6.20**	**333**	*e*Pn	**Pn**	**22 52 43.0**	**+2.3**
GRMI	**Germi**	**6.24**	**347**	*e*Pn	**Pn**	**22 52 43.2**	**+2.0**
MSL	**Mosul**	**6.50**	**305**	*e*x	x	22 52 45.0	
MSL				*e*x	x	22 54 02.5	
IMRD	**Marand**	**6.79**	**333**	*e*Pn	**Pn**	**22 52 51.0**	**+2.2**
IMRD	**Marand**	**6.79**	**333**	Pn	**Pn**	**22 52 50.9**	**+2.1**
HAKT	**HAKKARI**	**6.87**	**316**	*i* P	**Pn**	**22 52 51.7**	**+1.9**
MRVT	**Maraveh tapeh**	**7.19**	**45**	*e*PN	**Pn**	**22 52 54.9**	**+0.7**
TVAN	**Van**	**7.72**	**320**	*i* P	**Pn**	**22 53 05.1**	**+3.7**
ISFR	**Esferayen**	**8.08**	**55**	*e*Pn	**Pn**	**22 53 08.0**	**+1.6**
ISFR	**Esferayen**	**8.08**	**55**	Pn	**Pn**	**22 53 07.9**	**+1.5**
GNI	**Garni**	**8.40**	**333**	LR	LR	22 56 53.1	
	comp=Z,240nm,21.3s,baz=168,slow=41						
GNI	**Garni**	**8.40**	**333**	⇑*i*P	**Pn**	**22 53 09.9**	**-1.0**
GNI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
IPAY	**Payeh**	**8.53**	**62**	*e*Pn	**Pn**	**22 53 13.2**	**+0.6**
BEST	**Besiri**	**8.59**	**309**	*i* P	**Pn**	**22 53 13.0**	**-0.4**
MARD	**Mardin**	**8.61**	**305**	*i* P	**Pn**	**22 53 12.7**	**-1.1**
IMYA	**Miamay**	**9.32**	**64**	*e*Pn	**Pn**	**22 53 23.6**	**+0.1**
MALT	**Malatya**	**10.73**	**304**	*e*P	**Pn**	**22 53 43.7**	**+1.0**
MALT				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MALT	**Malatya**	**10.73**	**304**	*e*Pn	**Pn**	**22 53 43.7**	**+0.9**
	comp=Z,8.1nm,1.1s						
MALT	**Malatya**	**10.73**	**304**	*e*P	**Pn**	**22 53 43.7**	**+1.0**
	comp=Z,8.0nm,1.1s						
ASF	**Jabal al Asfar**	**10.82**	**270**	Pn	**Pn**	**22 53 41.8**	**-2.1**
	comp=Z,1.3nm,0.3s,baz=295,slow=6.9,SNR=15						
GZT	**Gaziantep**	**10.95**	**298**	*i* P	**Pn**	**22 53 50.0**	**+4.2**
MMAI	**Mount Meron Ar**	**12.01**	**275**	LR	LR	22 59 18.8	
	comp=Z,61nm,19.2s,baz=105,slow=41						
WSAR	**Wadi Sarin**	**12.32**	**138**	Pn	**Pn**	**22 54 02.4**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=206,slow=12,SNR=6.1						
KIV	**Kislovodsk**	**12.47**	**336**	*e*P	**Pn**	**22 54 10.4**	**+3.8**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,120nm,11.0s						
KIV	**Kislovodsk**	**12.47**	**336**	*e*P	**Pn**	**22 54 10.4**	**+3.8**
	comp=Z,120nm,11.0s						
BR131	**Keskin Array S**	**14.70**	**303**	*e*Pn	**Pn**	**22 54 43.5**	**+6.5**
	comp=Z,2.3nm,0.8s						
BR131	**Keskin Array S**	**14.70**	**303**	*e*Pn	**Pn**	**22 54 43.5**	**+6.5**
	comp=Z,2.3nm,0.8s						
BRTR	**Keskin Array B**	**14.70**	**303**	Pn	**Pn**	**22 54 38.4**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=102,slow=6.3,SNR=3.3						
ANN	**Anapa**	**15.36**	**325**	*e*P	**Pn**	**22 54 51.0**	**+5.2**
ANN				pmax	pmax		
	comp=Z,15nm,0.9s						
SGKT	**Sivrigoynuk**	**16.15**	**304**	*i* P	**Pn**	**22 54 59.1**	**+3.1**
TKTP	**Tekketepe**	**16.65**	**294**	*i* P	**Pn**	**22 55 07.2**	**+4.8**
AKTK	**Aktyubinsk**	**18.73**	**17**	P	**Pn**	**22 55 26.2**	**-2.0**
AKTK	**Aktyubinsk**	**18.73**	**17**	P	**Pn**	**22 55 26.2**	**-2.0**
AKTO	**Aktyubinsk**	**18.73**	**17**	P	**Pn**	**22 55 26.2**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=208,slow=15,SNR=4.1						
VRSR	**Storozhevoye**	**20.01**	**340**	*e*P	**P**	**22 55 41.0**	**-0.8**
VRSR				pmax	pmax		
	comp=N,5.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,7.0nm,0.9s						
VRSR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CFR	**Carcaliu**	**20.79**	**313**	⇑*i*P	**P**	**22 55 48.0**	**-2.2**
CFR	**Carcaliu**	**20.79**	**313**	⇑P	**P**	**22 55 48.0**	**-2.2**
ATD	**Arta Tunnel**	**22.01**	**198**	LR	LR	23 05 14.5	
	comp=Z,122nm,20.0s,MS3.3,baz=328,slow=38						
PLOR	**Plostina**	**22.03**	**313**	⇑*i*P	**P**	**22 56 04.8**	**+1.3**
MLR	**Muntele Rosu**	**22.30**	**312**	P	**P**	**22 56 07.9**	**+1.5**
	comp=Z,7.7nm,0.8s,mb4.2,baz=334,slow=0.6,SNR=22						
MLR	**Muntele Rosu**	**22.30**	**312**	⇑*i*P	**P**	**22 56 10.5**	**+4.1**
VOIR		**22.84**	**311**	⇑*i*P	**P**	**22 56 12.7**	**+0.5**
VOIR		**22.84**	**311**	⇑P	**P**	**22 56 12.7**	**+0.5**
AKASG	**Malin Array Be**	**23.44**	**326**	P	**P**	**22 56 16.5**	**-1.9**
	comp=Z,0.7nm,0.5s,mb3.4,baz=136,slow=9.4,SNR=13						
AKASG	**Malin Array Be**	**23.44**	**326**	P	**P**	**22 56 16.5**	**-1.9**
AKBB	**Malin Array Si**	**23.44**	**326**	*e*P	**P**	**22 56 16.2**	**-2.3**
BURAR	**Bucovina Array**	**23.75**	**316**	⇑*i*P	**P**	**22 56 20.8**	**-0.6**
BURAR	**Bucovina Array**	**23.75**	**316**	⇑P	**P**	**22 56 20.8**	**-0.6**
OBN	**Obninsk**	**24.21**	**341**	*e*P	**P**	**22 56 24.6**	**-1.0**
OBN				*e*		22 56 37.8	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
OBN	**Obninsk**	**24.21**	**341**	*e*P	**P**	**22 56 24.6**	**-1.0**
	comp=Z,9.0nm,0.8s,mb4.2						
GZR	**Gura Zlata**	**24.29**	**309**	⇑*i*P	**P**	**22 56 26.9**	**+0.6**
GZR	**Gura Zlata**	**24.29**	**309**	⇑P	**P**	**22 56 26.9**	**+0.5**
ARU	**Arti**	**24.49**	**12**	⇓*i*P	**P**	**22 56 26.6**	**-1.5**
ARU				*e*		22 56 55.1	
ARU				*e*S	S	**23 00 50.4**	**+2.7**
ARU				*e*SS		23 01 39.7	
ARU				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.1						
ARU	**Arti**	**24.49**	**12**	*i* P	**P**	**22 56 26.6**	**-1.5**
	comp=Z,9.0nm,1.2s,mb4.1						
ZRNK	**Zerenda**	**24.54**	**29**	*e*P	**P**	**22 56 28.2**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.2						
ZRNK	**Zerenda**	**24.54**	**29**	*e*P	**P**	**22 56 28.2**	**-0.4**
	comp=Z,8.8nm,1.1s,mb4.2						
ZRNK	**Zerenda**	**24.54**	**29**	*e*P	**P**	**22 56 28.2**	**-0.4**
	comp=Z,9.0nm,1.1s,mb4.2						
DRGR		**24.89**	**312**	⇓*i*P	**P**	**22 56 32.5**	**+0.7**
DRGR		**24.89**	**312**	⇓P	**P**	**22 56 32.5**	**+0.8**
BZS	**Buzias**	**25.13**	**309**	⇑*i*P	**P**	**22 56 34.6**	**+0.6**
BRVK	**Borovoye**	**25.14**	**30**	*e*P	**P**	**22 56 34.3**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.0						
BRVK	**Borovoye**	**25.14**	**30**	*e*P	**P**	**22 56 34.3**	**+0.2**
	comp=Z,6.1nm,1.2s,mb4.0						
BRVK	**Borovoye**	**25.14**	**30**	*e*P	**P**	**22 56 34.3**	**+0.2**
	comp=Z,6.0nm,1.2s,mb4.0						
BVAR	**Borovoye Array**	**25.17**	**30**	P	**P**	**22 56 33.9**	**-0.4**
	comp=Z,11nm,1.2s,mb4.2,baz=211,slow=8.3,SNR=15						
BVAR				LR	LR	23 08 25.1	
	comp=Z,101nm,19.0s,MS3.4,baz=144,slow=41						
LVV	**L'vov**	**25.56**	**319**	*e*P	**P**	**22 56 37.1**	**-0.8**
LVV				MLR	MLR		
	comp=Z,180nm,16.0s,MS3.7						
LVV	**L'vov**	**25.56**	**319**	*e*P	**P**	**22 56 37.1**	**-0.8**
	comp=Z,180nm,16.0s						
CHKZ	**Chkalovo**	**25.73**	**29**	*e*P	**P**	**22 56 38.7**	**-0.7**
CHKZ				*e*		22 56 50.8	
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
CHKZ	**Chkalovo**	**25.73**	**29**	*e*P	**P**	**22 56 38.7**	**-0.7**
	comp=Z,1.5nm,0.8s,mb3.6						
CHKZ		

KAF	Kangasniemi	33.00	340	*e*p		P		22 57 42.5	-1.5
VSL	Villasalto	33.04	293	P		P		22 57 45.8	+1.4
	comp=Z,5.8nm,0.8s,mb4.6								
VSL	Villasalto	33.04	293	P		P		22 57 45.8	+1.4
	comp=Z,5.8nm,0.8s,mb4.6								
DAVA	Damuels	33.38	308	⇑ *i*P		P		22 57 46.3	-1.0
	comp=Z,7.7nm,0.9s,mb4.6								
PGF	Pioggiola	33.40	299	*e*P		P		22 57 47.6	+0.1
	comp=Z,35nm,1.6s,mb4.7								
PGF	Pioggiola	33.40	299	*e*P		P		22 57 47.6	+0.1
PGF					pmax	pmax			
	comp=Z,17nm,1.6s,mb4.7								
PGF	Pioggiola	33.40	299	*e*P		P		22 57 47.6	+0.1
	comp=Z,18nm,1.6s,mb4.7								
SBF	Sospel	34.63	301	*e*P		P		22 57 58.6	+0.5
MBDF	Montbardon	35.17	303	*e*P		P		22 58 03.3	+0.5
	comp=Z,15nm,1.0s,mb4.6								
MBDF	Montbardon	35.17	303	*e*P		P		22 58 03.3	+0.5
MBDF					pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5								
MBDF	Montbardon	35.17	303	*e*P		P		22 58 03.3	+0.5
	comp=Z,7.4nm,1.0s,mb4.6								
LPG	La Plagne	35.26	304	*e*P		P		22 58 03.6	0.0
	comp=Z,14nm,0.9s,mb4.6								
LPG	La Plagne	35.26	304	*e*P		P		22 58 03.6	0.0
LPG					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6								
LPG	La Plagne	35.26	304	*e*P		P		22 58 03.6	0.0
	comp=Z,7.2nm,0.9s,mb4.6								
LPL	La Plagne	35.27	304	*e*P		P		22 58 03.7	0.0
	comp=Z,21nm,0.9s,mb4.8								
LPL	La Plagne	35.27	304	*e*P		P		22 58 03.7	0.0
LPL					pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
LPL	La Plagne	35.27	304	*e*P		P		22 58 03.7	0.0
	comp=Z,10nm,0.9s,mb4.8								
CDF	Champ du Feu	35.32	309	*e*P		P		22 58 03.9	-0.2
CABF	La Chapelle	35.84	306	*e*P		P		22 58 08.0	-0.6
	comp=Z,16nm,0.7s,mb4.7								
CABF	La Chapelle	35.84	306	*e*P		P		22 58 08.0	-0.6
CABF					pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.8								
CABF	La Chapelle	35.84	306	*e*P		P		22 58 08.0	-0.6
	comp=Z,8.1nm,0.7s,mb4.7								
SMRF	Simiane la Rot	35.97	301	*e*P		P		22 58 09.2	-0.5
	comp=Z,13nm,1.2s,mb4.4								
SMRF	Simiane la Rot	35.97	301	*e*P		P		22 58 09.2	-0.5
	comp=Z,6.7nm,1.2s,mb4.4								
LASF	Ste Croix	37.22	301	*e*P		P		22 58 19.9	-0.4
SMF	Signal de Mont	37.38	306	*e*P		P		22 58 21.5	-0.3
	comp=Z,6.0nm,0.6s,mb4.3								
SMF	Signal de Mont	37.38	306	*e*P		P		22 58 21.5	-0.3
SMF					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.3								
SMF	Signal de Mont	37.38	306	*e*P		P		22 58 21.5	-0.3
	comp=Z,3.0nm,0.6s,mb4.3								
LOR	Lormes	37.43	307	*e*P		P		22 58 21.8	-0.4
LOR				*e*R					
	comp=Z,39nm,21.8s								
LOR	Lormes	37.43	307	*e*P		P		22 58 21.8	-0.4
LOR				LR		LR			
	comp=Z,40nm,21.8s,MS3.2								
BAIF	Baives	37.59	311	*e*P		P		22 58 23.1	-0.4
SSF	Saint Saulge	37.65	306	*e*P		P		22 58 23.8	-0.2
	comp=Z,5.2nm,0.8s,mb4.0								
SSF	Saint Saulge	37.65	306	*e*P		P		22 58 23.8	-0.2
SSF					pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.1								
SSF	Saint Saulge	37.65	306	*e*P		P		22 58 23.8	-0.2
	comp=Z,2.6nm,0.8s,mb4.2								
NB2	NORSAR Subarra	37.70	330	P		P		22 58 22.2	-2.2
	comp=Z,2.4nm,1.0s,mb3.9,baz=120,slow=8.6								
NOA	NORSAR Array B	37.70	330	P		P		22 58 21.8	-2.7
	comp=Z,1.6nm,1.0s,mb3.7,baz=121,slow=8.1,SNR=4.5								
NOA				LR		LR		23 14 58.3	
	comp=Z,52nm,19.4s,MS3.3,baz=110,slow=38								
AVF	Avril sur Loir	37.73	306	*e*P		P		22 58 24.3	-0.4
	comp=Z,4.6nm,0.8s,mb4.0								
AVF	Avril sur Loir	37.73	306	*e*P		P		22 58 24.3	-0.4
AVF					pmax	pmax			
	comp=Z,2.0nm,0.8s,mb3.9								
AVF	Avril sur Loir	37.73	306	*e*P		P		22 58 24.3	-0.4
	comp=Z,2.3nm,0.8s,mb4.0								
CAF	Calviac	38.52	303	*e*P		P		22 58 30.8	-0.6
ARCES	ARCESS Array B	39.27	347	P		P		22 58 36.6	-1.0
	comp=Z,2.3nm,0.9s,mb3.9,baz=87,slow=2.6,SNR=3.6								
LFF	La Frestale	39.47	303	*e*P		P		22 58 38.5	-0.8
LDF	La Druitiere	40.22	308	*e*P		P		22 58 43.4	-2.1
FLN	La Foliniere	40.47	308	*e*P		P		22 58 45.9	-1.7
SGMF	Saint Gilles	41.82	308	*e*P		P		22 58 57.3	-1.4
QUIF	Quistinic	42.22	307	*e*P		P		22 59 00.0	-2.0
ROSF	Rostrenen	42.30	308	*e*P		P		22 59 01.4	-1.2
LZH	Lanzhou	44.33	70	*e*P		P		22 59 18.5	-0.6
LZH				AP		pP		22 59 19.6	-4.8
LZH				*e*PP		PP		23 01 03.8	+1.3
LZH				AMB		AMB			
	comp=Z,17nm,1.4s,mb4.6								
LZH				AMB		AMB			
	comp=Z,45nm,7.6s								
LZH				LR		LR			
	comp=E,209nm,15.2s								
LZH				LR		LR			
	comp=Z,302nm,17.9s,MS4.3								
ULN	Ulaanbaatar	45.26	53	⇑ *i*P		P		22 59 21.9	-4.6
KMI	Kunming	46.66	85	P		P		22 59 37.8	+0.4
KMI				AP		pP		22 59 42.8	0.0
KMI				XP		sP		22 59 44.5	-0.4
KMI				PP		PP		23 01 26.6	-0.5
KMI				S		**S**		**23 06 24.8**	**-1.2**
KMI				SS		SS		23 09 44.0	-8.1
KMI				AMB		AMB			
	comp=Z,3.0nm,0.7s,mb4.3								
KMI				AMB		AMB			
	comp=Z,57nm,3.4s								
KMI				LR		LR			
	comp=N,91nm,17.9s,MS3.9								
KMI				LR		LR			
	comp=E,78nm,16.7s,MS3.9								
KMI				LR		LR			
	comp=Z,94nm,13.9s,MS3.9								
TORD	Torodi Ar. Bea	47.84	258	P		P		22 59 46.5	-0.2
	comp=Z,0.5nm,0.8s,mb3.6,baz=47,slow=7.7,SNR=5.2								
LIC	Lamto	57.17	255	*e*P		P		23 00 58.0	+2.2
	comp=Z,26nm,1.1s,mb4.9								
LIC				*e*R					
	comp=Z,63nm,19.0s								
LIC	Lamto	57.17	255	*e*P		P		23 00 58.0	+2.2
	comp=Z,13nm,1.1s,mb4.9								
LIC				LR		LR			
	comp=Z,30nm,19.0s,MS3.4								
NJ2	Nanjing	57.41	70	*e*P		P		23 00 53.8	-3.7
NJ2				AP		pP		23 00 59.8	-3.2
NJ2				XP		sP		23 01 02.6	-2.4
NJ2				PP		PP		23 03 03.0	-1.9
NJ2				S		**S**		**23 08 48.0**	**-5.6**
NJ2				AMB		AMB			
	comp=Z,20nm,1.1s,mb5.1								
TGY	Tagaytay City	66.85	88	LR		LR		23 34 43.3	
	comp=Z,6.0nm,21.7s,baz=160,slow=39								
YKA	Yellowknife Ar	84.27	353	P		P		23 03 39.0	-1.7
	comp=Z,1.4nm,0.9s,mb4.1,baz=15,slow=5.4,SNR=6.0								
YKA	Yellowknife Ar	84.27	353	P		P		23 03 39.0	-1.7

*ISCJB **24** 22:53:26.5±0.7, 183S±0.1×3951E±009, h10km, mb3.7/5, Error ellipse: s-maj=20.1km s-min=11.4km az=148.2*
*IDC **24** 22:53:26.5±1.2, 1828S×3946E, h0km, mb3.7/4, mb1 3.8/8, mb1mx3.6/22, mbtmp3.7/8, ML3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/29, Error ellipse: s-maj=39.4km s-min=21.2km az=175.0*
*NEIC **24** 22:53:28.1±0.7, 1820S×3948E, h10km, mb3.2/3, Error ellipse: s-maj=17.8km s-min=10.0km az=170.0*

ISC 24 22:53:28.7±0.7, 183S±01×3948E±008, h10km, n16, σ1§19/19, mb3.7/5, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h	m s	ISC
OPO	Ambohidratompo	7.32	93	Pn		Pn	22 55 14.8		-0.9
	2.6nm,0.3s,baz=264,slow=14,SNR=37								
OPO				Sn		Sn	22 56 31.7		-7.1
	2.0nm,0.3s,baz=124,slow=19,SNR=3.4								
LSZ	Lusaka	11.22	284	Pn		Pn	22 56 06.2		-2.9
	0.3nm,0.3s,baz=127,slow=14,SNR=12								
LSZ				Sn		Sn	22 58 07.0		-7.6
	0.4nm,0.3s,baz=291,slow=17,SNR=3.7								
LSZ	Lusaka	11.22	284	*e*Pn		Pn	22 56 06.5		-2.7
LSZ				*e*Sn		Sn	22 58 07.0		-7.6
LBTB	Lobatse	14.52	240	Pn		Pn	22 56 51.8		-2.4
	0.2nm,0.3s,baz=41,slow=18,SNR=2.4								
LBTB	Lobatse	14.52	240	*e*P		Pn	22 56 55.2		+1.0
BOSA	Boshof	16.58	229	Pn		Pn	22 57 20.8		-0.5
	0.1nm,0.3s,baz=68,slow=19,SNR=3.9								
BOSA	Boshof	16.58	229	*e*Pn		Pn	22 57 21.2		-0.1
	0.4nm,0.3s								
TSUM	Tsumeb	20.75	264	P		P	22 58 10.1		+0.6
	0.9nm,0.7s,baz=72,slow=11,SNR=2.6								
TSUM				LR		LR	23 07 08.5		
	comp=Z,60nm,18.4s,baz=325,slow=40								
TSUM	Tsumeb	20.75	264	*e*P		P	22 58 10.4		+0.9
	0.6nm,0.5s								
SUR	Sutherland	21.88	227	P		P	22 58 22.3		+0.6
	1.0nm,0.5s,mb3.5								
TORD	Torodi Ar. Bea	48.63	307	P		P	23 02 12.5		-0.1
	0.7nm,0.6s,mb3.9,baz=129,slow=7.0,SNR=8.1								
TORD	Torodi Ar. Bea	48.63	307	P		P	23 02 12.5		-0.1
DBIC	Dimbokro	50.28	296	P		P	23 02 25.9		+0.6
GERES	GERESS Array B	70.68	342	P		P	23 04 46.9		+2.3
	0.1nm,0.3s,mb3.2,baz=159,slow=5.9,SNR=2.3								
MKAR	Makanchi Array	75.40	29	P		P	23 05 11.8		-0.7
	1.0nm,0.8s,mb3.8,baz=206,slow=5.3,SNR=9.3								
ASAR	Alice Springs	86.71	114	P		P	23 06 13.3		+0.6
	0.4nm,0.5s,mb3.9,baz=252,slow=5.2,SNR=4.7								

*ISK **24** 23:04:57.2, 3748N×3868E, h5km, MD3.8*
*CSEM **24** 23:04:57.0±0.1, 3750N×3869E, h5km, MD3.8, Error ellipse: s-maj=1.9km s-min=1.2km az=8.0*
*NEIC **24** 23:04:57.0, 3751N×3868E, h7km, ML3.9(ISK), After ISK.*
*ISCJB **24** 23:04:57.6±0.3, 3750N±002×3869E±002, h5km, mb3.2/3, Error ellipse: s-maj=3.3km s-min=2.3km az=152.7*
*MOS **24** 23:04:58.0±2.0, 3752N×3866E, h10km, mb3.6/1, Error ellipse: s-maj=17.2km s-min=12.8km az=96.9*
*IDC **24** 23:04:59.2±1.2, 3747N×3879E, h0km, mb3.3/3, mb1 3.5/7, mb1mx3.4/23, mbtmp3.5/7, ML3.6/4, MS2.9/2, Ms1 2.9/2, ms1mx2.5/17, Error ellipse: s-maj=18.9km s-min=14.5km az=117.0*

ISC 24 23:04:58.5±0.3, 3749N±002×3870E±002, h5km, n70, σ1§11/92, mb3.2/3, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h	m s	ISC
URFA	Urfa	0.10	117	PG		Pg	23 05 00.1		-0.6
ATAB	Bozova	0.33	267	*i* P		Pg	23 05 04.9		0.0
ATAB				*i* S		Sg	23 05 09.7		+0.6
MALT	Malatya	0.85	345	‖ *i*Pg		Pg	23 05 13.5		-1.3
MALT				*e*Sg		Sg	23 05 23.5		-2.5
MALT	Malatya	0.85	345	‖ *i*Pg		Pg	23 05 13.5		-1.4
MALT				*e*Sg		Sg	23 05 23.5		-2.4
MYA	Malataya	0.86	345	*i* PG		Pg	23 05 13.8		-1.3
GZT	Gaziantep	0.92	262	*i* P		Pg	23 05 16.0		-0.1
GZT				*i* S		Sg	23 05 24.0		-4.0
ELZG	Elazig	1.03	12	*i* P		Pg	23 05 16.9		-1.4
ELZG				*i* S		Sg	23 05 33.6		+1.9
GAZ	Gaziantep	1.23	256	*i* PN		Pn	23 05 21.5		-0.9
GAZ				*i* SN		Sn	23 05 37.2		-2.2
DIY	Diyarbakir	1.27	71	*i* PN		Pn	23 05 21.9		-1.1
DIY				*i* SN		Sn	23 05 40.9		+0.5
MARD	Mardin	1.66	95	*i* P		Pn	23 05 27.0		-1.2
MARD				*i* S		Sg	23 05 53.2		+1.3
BINT	Bingol	1.97	45	*i* PN		Pn	23 05 32.3		-0.3
COBT	Iskenderun	2.19	244	*i* P		Pn	23 05 35.2		-0.2
COBT				*i* S		Sn	23 06 05.3		+2.4
COBT	Iskenderun	2.19	244	*i* P		Pn	23 05 35.2		-0.3
COBT				*i* S		Sn	23 06 05.3		+2.4
KOZT	Kozan	2.29	271	*e*PN		Pn	23 05 37.3		+0.4
BTMT	Batman	2.31	71	*i* PN		Pn	23 05 35.0		-2.3
CEYT	Ceyhan	2.41	259	*e*PN		Pn	23 05 37.7		-0.8
BNGL	BINGOL	2.42	52	*i* P		Pn	23 05 38.1		-0.5
BNGL				*i* S		Sb	23 06 13.4		+0.8
EZC	Erzincan	2.42	21	*e*PN		Pn	23 05 37.7		-1.0
HTY	Hatay	2.47	237	PN		Pn	23 05 39.4		0.0
BNN	Bunyan	2.63	302	*i* PN		Pn	23 05 41.7		+0.1
KELT	Kelkit	2.69	9	*i* P		Pn	23 05 42.6		+0.2
KELT				*i* S		Sg	23 06 25.1		+0.1
SVSK	Karacayir	2.77	332	PN		Pn	23 05 44.3		+0.8
KARA	Karaisali	2.92	267	*e*PN		Pn	23 05 44.9		-0.6
EZM	Erzurum	3.19	40	*i* PN		Pn	23 05 49.9		+0.7
ERZM	Erzurum	3.19	40	*i* P		Pn	23 05 49.6		+0.3
ERZM				*i* S		Sn	23 06 30.1		+2.5
TOKT	Tokat	3.29	330	*e*PN		Pn	23 05 50.7		0.0
AVNT	Avonos	3.30	294	*i* P		Pn	23 05 52.6		+1.9
AVNT				*i* S		Sg	23 06 51.3		+6.9
MERS	Mersin	3.40	261	*e*PN		Pn	23 05 51.6		-0.5
YOZ	Yozgat	3.41	310	*e*PN		Pn	23 05 52.5		+0.1
MSL	Mosul	3.71	107	*ex*		x	23 06 07.0		
MSL				*i* x		x	23 06 16.0		
MSL				*i* x		x	23 06 57.5		
MSL				*i* x		x	23 07 08.0		
TVAN	Van	3.86	73	*i* P		Pg	23 06 09.8		-2.6
TVAN				*i* S		Sg	23 07 06.5		+4.1
HWQ	Hawqa	3.91	216	*e*Pn		Pn	23 05 59.3		+0.1
CUKT	Cukurca	3.91	92	*e*PN		Pn	23 06 00.3		+1.0
HAKT	HAKKARI	3.98	87	*i* P		Pn	23 06 00.3		+0.2
HAKT				*i* S		Sb	23 06 56.6		-0.9
CDAG	Cicekdag	4.01	303	*i* P		Pn	23 06 00.5		-0.1
CDAG				*i* S		Sg	23 07 07.9		+0.6
CORM	Corum	4.16	311	*e*PN		Pn	23 06 03.2		+0.5
KAMT	Kaman	4.35	297	*e*PN		Pn	23 06 05.8		+0.6
BHL	Bhannes	4.35	216	*e*Pn		Pn	23 06 06.0		+0.7
CTKT	Corum	4.37	317	*i* P		Pn	23 06 06.1		+0.6
CTKT				*i* S		Sg	23 07 23.8		+5.0
BR131	Keskin Array S	4.55	301	*e*Pn		Pn	23 06 08.0		-0.1
BR131				*e*Pg		Pg	23 06 21.7		-4.1
BR131				*e*Sn		Sn	23 07 01.0		-0.3
BR131	Keskin Array S	4.55	301	*e*Pn		Pn	23 06 08.0		0.0
BR131	Keskin Array S	4.55	301	*e*Pg		Pg	23 06 21.7		-4.0
BRTR	Keskin Array B	4.55	301	Pn		Pn	23 06 09.1		+1.1
	1.5nm,0.3s,baz=275,slow=11,SNR=25								
BRTR				Pg		Pg	23 06 22.4		-3.3
	3.4nm,0.3s,baz=130,slow=18,SNR=21								
BRTR				Lg			23 07 24.8		
	1.1nm,0.3s,baz=127,slow=31,SNR=3.5								
BRTR	Keskin Array B	4.55	301	Pg		Pg	23 06 22.5		-3.2
RCY	Rachaya	4.64	211	*e*Pn		Pn	23 06 10.3		+1.1
BYBT	Boyabat	5.01	324	*e*PN		Pn	23 06 15.2		+0.9
CSS	Prodhromos	5.02	241	*e*Pn		Pn	23 06 15.1		+0.6
CSS				Sn		Sn	23 07 11.7		-1.2
CSS	Prodhromos	5.02	241	*e*Pn		Pn	23 06 15.1		+0.6
CSS				Sn		Sn	23 07 11.6		-1.3
CANT	Cankiri	5.04	310	*e*PN		Pn	23 06 15.3		+0.6
TOS	Tosya	5.07	316	*e*PN		Pn	23 06 16.3		+1.1
ANTO	Ankara	5.20	299	*e*P		Pn	23 06 17.1		+0.2
ANTO					pmax	pmax			
	comp=Z,9.0nm,0.8s								
ANTO	Ankara	5.20	299	*e*Pn		Pn	23 06 17.1		+0.2
	comp=Z,9.1nm,0.8s								
ANTO				*e*Pg		Pg	23 06 35.4		-2.8
ANTO	Ankara	5.20	299	*e*Pn		Pn	23 06 17.1		+0.2
	comp=Z,9.1nm,0.8s								
ANTO	Ankara	5.20	299	*e*Pg		Pg	23 06 35.4		-2.7
MMAI	Mount Meron Ar	5.22	212	Pn		Pn	23 06 19.3		+2.1
	comp=Z,6.7nm,0.3s,baz=53,slow=14,SNR=14								
MMAI				Lg			23 07 47.3		
	comp=Z,21nm,0.3s,baz=21,slow=29,SNR=5.1								
GNI	Garni	5.41	59	*e*Pn		Pn	23 06 19.2		-0.7
GNI				Sn		Sn	23 07 19.0		-3.5
GNI	Garni	5.41	59	*e*P		Pn	23 06 19.2		-0.6
ASF	Jabal al Asfar	5.51	196	Pn		Pn	23 06 21.7		+0.5
	comp=Z,1.4nm,0.3s,baz=272,slow=6.2,SNR=15								
ASF				Pg		Pg	23 06 38.6		-5.4
	comp=Z,2.2nm,0.3s,baz=239,slow=18,SNR=11								
ASF				Lg			23 07 54.1		
	comp=Z,3.5nm,0.3s,baz=253,slow=19,SNR=3.4								
BHD	Baghdad	6.26	131	*ex*		x	23 06 55.0		
BHD				*ex*		x	23 07 55.0		
BHD				*ex*		x	23 08 24.0		
EIL	Elat	8.40	203	Pn		Pn	23 06 59.0		-1.9
EIL	Elat	8.40	203	Pn		Pn	23 06 59.0		-1.9
MLR	Muntele Rosu	12.46	314	LR		LR	23 13 44.9		
	comp=Z,52nm,19.9s,baz=259,slow=42								
AKTK	Aktyubinsk	18.92	41	P		Pn	23 09 20.8		+0.1
AKTK	Aktyubinsk	18.92	41	P		Pn	23 09 20.8		+0.1
AKTO	Aktyubinsk	18.92	41	P		Pn	23 09 20.8		+0.1
	comp=Z,0.1nm,0.3s,baz=228,slow=9.7,SNR=5.7								
MORC	Moravsky Berou	19.55	316	P		Pn	23 09 24.4		-3.9
VRAC	Vranov	19.86	314	LR		LR	23 18 43.8		
	comp=Z,37nm,18.9s,baz=102,slow=41								
GERES	GERESS Array B	21.38	310	P		P	23 09 50.8		+4.0
	comp=Z,0.2nm,0.4s,mb2.8,baz=118,slow=10,SNR=5.7								
BVAR	Borovoye Array	26.89	45	P		P	23 10 42.0		+1.7
	comp=Z,0.5nm,0.5s,mb3.3,baz=224,slow=8.3,SNR=4.0								
MKAR	Makanchi Array	33.26	60	P		P	23 11 37.0		+0.3
	comp=Z,0.5nm,0.8s,mb3.5,baz=262,slow=8.5,SNR=4.0								

*SSNC **24** 23:18:24.9, 1889N×7656W, h50km, MD3.2, ML2.8*

JSN 24 23:18:28.1±1.0, 1859N×7640W, h67km±21km, MD3.8, 3C-2D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h	m s	ISC
GWJ	Greenwich	0.60	211	‖ *i*P		Pn	23 18 41.2		-0.4
STH	Stony Hill	0.64	217	‖ *e*P		Pn	23 18 41.7		-0.4
STH				*e*S		Sn	23 18 50.9		-1.4
HOJ	Hope	0.67	210	‖ *e*P		Pn	23 18 42.4		0.0
MCJ	Malvern	1.39	242	‖ *e*P		Pn	23 18 50.4		-1.0
MCJ				*e*S		Sn	23 19 08.1		-0.9
MBJ	Montego Bay	1.40	263	⇑ *i*P		Pn	23 18 50.4		-1.1
MBJ				*e*S		Sn	23 19 08.4		-0.8
RCC	Rio Carpintero	1.55	25	*e*P		Pn	23 18 47.2		-6.4
	baz=244								
RCC				*e*S		Sn	23 19 01.9		-11
	comp=N,138nm,0.5s								
RCC				*e*					
	comp=E,117nm,0.2s								
LMGC	Las Mercedes	1.58	339	*i* PG		Pn	23 18 45.9		-8.1
	baz=175								
LMGC				*i* SG		Sn	23 18 58.9		-15
	comp=N,478nm,0.1s								
LMGC				*e*					
	comp=E,486nm,0.1s								
HLGC	Holguin	2.31	8	*e*P		Pn	23 18 56.3		-7.6
	baz=205								
HLGC				*e*S		Sn	23 19 13.4		-18
	comp=N,58nm,0.2s								
HLGC				*e*					
	comp=E,44nm,0.3s								
MOAC	Moa	2.47	33	*e*P		Pn	23 19 03.0		-3.0
	baz=219								
MOAC				*e*S		Sn	23 19 30.4		-4.7
	comp=N,276nm,0.3s								
MOAC				*e*					
	comp=E,289nm,0.2s								
MASC	Masc	2.59	52	*e*P		Pn	23 19 03.6		-4.0
	baz=153								
MASC				*e*S		Sn	23 19 24.8		-13
	comp=N,2.7nm,0.2s								
MASC				*e*					
	comp=E,3.1nm,0.2s								

*NEIC **24** 23:27:22.5±0.2, 963S×10787E, h10km, mb4.8/29, Error ellipse: s-maj=7.1km s-min=4.5km az=56.0*
*BJI **24** 23:27:22.4, 960S×10790E, h10km, mB4.9, mb4.9, Ms4.5, Msz3.9*
*ISCJB **24** 23:27:25.0±0.3, 967S±004×10793E±005, h42km, mb4.7/51, MS3.9/13, Error ellipse: s-maj=8.0km s-min=5.5km az=120.0*
*MOS **24** 23:27:24.2±0.9, 957S×10794E, h33km, mb4.9/19, Error ellipse: s-maj=13.2km s-min=8.1km az=112.1*
*IDC **24** 23:27:27.1±0.6, 962S×10789E, h43km±5km, mb4.2/11, mb1 4.3/12, mb1mx4.2/17, mbtmp4.4/12, ML4.0/1, MS3.7/10, Ms1 3.7/10, ms1mx3.4/24, Error ellipse: s-maj=18.2km s-min=12.1km az=51.0*

ISC 24 23:27:27.2±0.3, 968S±004×10792E±005, h44km, h44km±1.6km:pP-P,n127, σ0§88/106, mb4.7/51, MS3.9/13, 3C-3D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h	m s	ISC
LEM	Lembang	2.85	354	P		Pn	23 28 10.1		0.0
	0.0nm,0.0s								
BJI	Banjamegara	2.93	37	P		Pn	23 28 11.6		+0.4
	0.0nm,0.0s								
COCO	West Island	11.16	256	Pn		Pn	23 30 10.0		+5.9
PCI	Palu	14.71	54	P		Pn	23 30 53.6		+1.2
	0.0nm,0.0s								
PSI	Prapat	15.29	324	P		Pn	23 31 01.5		+1.5
	0.7nm,0.3s,baz=175,slow=18,SNR=5.4								
PSI				LR		LR	23 37 45.8		
	comp=Z,226nm,20.0s,baz=164,slow=41								
MBWA	Marble Bar	16.11	136	*e*Pn		Pn	23 31 05.4		-5.2
	9.4nm,0.5s								
KULM	Kulim	16.54	334	*e*Pn		Pn	23 31 19.1		+3.3
KKM	Kota Kinabalu	17.67	28	*e*P		Pn	23 31 28.5		-1.4
FITZ	Fit

CD2 AMB AMB
comp=Z,20nm,0.6s,mb4.9
JIRN Jiri 42.67 331 *e*P **P 23 35 19.0 -0.5**
comp=Z,75nm,0.8s,mb5.5
NJ2 Nanjing 42.79 14 *e*P **P 23 35 19.9 -0.6**
NJ2 AP pP 23 35 29.3 -3.2
NJ2 XP sP 23 35 32.5 -5.1
NJ2 PP PP 23 37 00.3 0.0
NJ2 S **S 23 41 40.0 -1.4**
NJ2 XS sS 23 41 57.0 -4.5
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
NJ2 AMB AMB
comp=Z,290nm,5.0s
NJ2 LR LR
comp=N,960nm,14.0s,MS5.0
NJ2 LR LR
comp=E,820nm,13.5s,MS5.0
NJ2 LR LR
comp=Z,110nm,14.8s,MS3.9
PKI Pulchoki 42.97 330 *e*P **P 23 35 22.0 +0.1**
GUN Gumba 43.02 331 *e*P **P 23 35 22.0 -0.4**
comp=Z,64nm,0.7s,mb5.5
DMN Daman 43.15 330 *e*P **P 23 35 23.6 +0.2**
comp=Z,49nm,0.8s,mb5.3
KKN Kakani 43.22 330 *e*P **P 23 35 24.0 +0.1**
comp=Z,48nm,0.9s,mb5.2
KKN Kakani 43.22 330 *e*P **P 23 35 24.0 +0.1**
KKN pmax pmax
comp=Z,49nm,0.9s,mb5.2
XAN Xi'an 43.48 1 P **P 23 35 26.0 -0.1**
XAN AP pP 23 35 36.5 -1.6
XAN AMB AMB
comp=Z,16nm,0.7s,mb4.9
GKN Gorkha 43.71 330 *e*P **P 23 35 27.9 0.0**
comp=Z,37nm,0.8s,mb5.2
KOLN Koldanda 44.05 328 *e*P **P 23 35 30.8 +0.2**
comp=Z,54nm,0.8s,mb5.3
LZH Lanzhou 45.68 355 *e*P **P 23 35 43.5 -0.1**
LZH AP pP 23 35 53.4 -2.3
LZH XP sP 23 35 57.3 -3.5
LZH PP PP 23 37 30.9 -0.2
LZH AMB AMB
comp=Z,37nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,54nm,7.6s
LZH LR LR
comp=N,375nm,14.6s
LZH LR LR
comp=Z,493nm,17.7s,MS4.5
TAU Tasmania Unive 47.70 141 *e*P **P 23 36 01.0 +1.6**
GTA Gaotai 49.41 352 *e*P **P 23 36 13.9 +1.3**
GTA AP pP 23 36 22.5 -2.3
GTA XP sP 23 36 25.9 -4.0
GTA AMB AMB
comp=Z,6.0nm,1.1s,mb4.5
BJT Baijiatuan 50.03 8 *e*P **P 23 36 18.0 +0.8**
BJT pmax pmax
comp=Z,5.0nm,0.5s
BJT Baijiatuan 50.03 8 *e*P **P 23 36 18.0 +0.8**
comp=Z,4.8nm,0.5s,mb4.8
HNR Honiara 51.27 94 P **P 23 36 27.5 +0.9**
MAT Matsushiro 54.08 30 P **P 23 36 45.7 -1.7**
MAT Matsushiro 54.08 30 *e*P **P 23 36 46.0 -1.4**
MJAR Matsushiro Arr 54.08 30 P **P 23 36 45.6 -1.8**
comp=Z,9.1nm,0.9s,mb4.7,baz=209,slow=8.3,SNR=17
WMQ Urumqi 56.33 343 P **P 23 37 05.3 +1.7**
WMQ AP pP 23 37 09.8 -6.2
WMQ XP sP 23 37 12.3 -8.7
WMQ PCP PcP 23 38 02.8 +2.3
WMQ PP PP 23 39 12.0 +2.8
WMQ SCP ScP 23 42 00.0 +3.8
WMQ S **S 23 44 52.5 +1.8**
WMQ AMB AMB
comp=Z,12nm,1.3s,mb4.8
WMQ AMB AMB
comp=Z,76nm,5.4s
WMQ LR LR
comp=N,170nm,17.6s,MS4.3
WMQ LR LR
comp=E,127nm,16.5s,MS4.3
WMQ LR LR
comp=Z,170nm,18.1s,MS4.2
CASY Casey 56.55 179 *e*P **P 23 37 05.0 -0.1**
comp=Z,2.0nm,0.8s,mb4.2
SONM Songino Array 57.27 359 P **P 23 37 10.9 +0.7**
comp=Z,5.5nm,0.7s,mb4.7,baz=176,slow=7.5,SNR=34
SONM LR LR 00 03 04.7
comp=Z,82nm,19.1s,MS3.9,baz=303,slow=37
ULN Ulaanbaatar 57.29 359 *e*P **P 23 37 10.8 +0.4**
ULN *e* 23 37 16.1
ULN *e* pP 23 37 23.8 +1.0
ULN pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
ULN Ulaanbaatar 57.29 359 *e*P **P 23 37 10.8 +0.4**
comp=Z,9.9nm,0.8s,mb4.9
ULN *e* 23 37 16.1
ULN *e* pP 23 37 23.8 +0.9
MDJ Mudanjiang 57.49 18 P **P 23 37 10.9 -0.8**
ZAK Zakamensk 59.94 357 *e*P **P 23 37 28.7 -0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
AAK Ala-Archa 60.35 332 *e*P **P 23 37 31.1 -0.6**
AAK pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AAK Ala-Archa 60.35 332 *e*P **P 23 37 31.1 -0.6**
comp=Z,1.5nm,0.5s,mb4.3
MKAR Makanchi Array 60.69 340 P **P 23 37 33.6 -0.3**
comp=Z,5.3nm,0.7s,mb4.8,baz=134,slow=6.9,SNR=70
MKAR pP pP 23 37 45.8 -0.8
comp=Z,7.3nm,0.7s,baz=138,slow=7.1,SNR=14
KLR Kul'dur 62.28 17 *e*P **P 23 37 39.8 -4.9**
HABR Khabarovsk 62.66 20 *e*P **P 23 37 46.3 -0.9**
HABR *e*S **S 23 46 13.3 +0.9**
YSS Yuzh-Sakhalins 64.36 26 *e*P **P 23 37 57.9 -0.5**
YSS *e* 23 38 16.5
YSS pmax pmax
comp=Z,8.0nm,0.4s,mb5.1
YSS Yuzh-Sakhalins 64.36 26 *e*P **P 23 37 57.9 -0.5**
comp=Z,8.4nm,0.4s,mb5.1
YSS *e* 23 38 16.5
MAW Mawson 65.09 197 P **P 23 38 02.9 -0.3**
comp=Z,2.4nm,0.7s,mb4.4,baz=27,slow=8.6,SNR=11
MAW pP pP 23 38 15.3 -0.6
comp=Z,4.1nm,0.9s,baz=32,slow=5.6,SNR=5.4
KURK Kurchatov 65.31 340*d* *i*P **P 23 38 03.1 -1.5**
KURK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
KURK Kurchatov 65.31 340 *e*P **P 23 38 04.3 -0.3**
comp=Z,10.0nm,1.0s,mb4.8
KURK *e* pP 23 38 17.1 -0.1
BRVK Borovoye 70.23 337 *e*P **P 23 38 34.4 -1.2**
BRVK pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BRVK Borovoye 70.23 337 *e*P **P 23 38 34.4 -1.3**
comp=Z,1.2nm,0.5s,mb4.1
CHKZ Chkalovo 70.58 338 *e*P **P 23 38 35.9 -1.9**
CHKZ *e* pP 23 38 50.1 -0.4
CHKZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CHKZ Chkalovo 70.58 338 *e*P **P 23 38 35.9 -1.8**
comp=Z,9.2nm,0.9s,mb4.7
CHKZ *e* pP 23 38 50.0 -0.5
ZRNK Zerenda 70.65 336 *e*P **P 23 38 37.9 -0.3**
ZRNK *e* pP 23 38 50.4 -0.6
ZRNK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ZRNK Zerenda 70.65 336 *e*P **P 23 38 37.9 -0.3**
comp=Z,5.1nm,0.8s,mb4.5
ZRNK *e* pP 23 38 50.4 -0.6
KMBO Kilima Mbogo 70.75 272 P **P 23 38 39.2 +0.4**
comp=Z,3.2nm,0.9s,mb4.2,baz=78,slow=6.7,SNR=8.4
KMBO pP pP 23 38 52.1 +0.5
comp=Z,2.6nm,0.9s,baz=48,slow=5.6,SNR=4.9
VNDA Vanda 73.19 169 P **P 23 38 52.1 -1.3**
comp=Z,0.8nm,0.7s,mb3.8,baz=351,slow=3.8,SNR=6.1
VNDA Vanda 73.19 169 *e*P **P 23 38 52.6 -0.7**
VNDA *e*PcP PcP 23 39 12.2 +2.4
YAK Yakutsk 73.47 11 *e*P **P 23 38 54.5 -0.6**
YAK *e* 23 39 01.3
AKTO Aktyubinsk 73.87 329 *i* P **P 23 38 56.7 -0.7**
AKTO pmax pmax
comp=Z,2.0nm,1.7s,mb3.8
SBA Scott Base 74.26 169 *e*P **P 23 38 59.7 0.0**
SBA pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
SBA Scott Base 74.26 169 *e*P **P 23 38 59.7 +0.1**
comp=Z,5.4nm,1.1s,mb4.4
SVE Sverdlovsk 76.81 335 *e*P **P 23 39 13.0 -1.2**
SVE *e* pP 23 39 26.0 -1.1
SVE pmax pmax
comp=Z,40nm,1.8s,mb5.0
MA2 Magadan 77.05 21 *e*P **P 23 39 16.2 +0.6**
MA2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MA2 Magadan 77.05 21 *e*P **P 23 39 16.2 +0.6**
comp=Z,10nm,0.7s,mb4.9
ARU Arti 77.41 334*d* *i*P **P 23 39 17.3 -0.3**
ARU *e* pP 23 39 28.3 -2.3
ARU *e* 23 42 12.0
ARU *e*PPP 23 43 55.0
ARU *e*S S 23 49 06.6 +1.6
ARU *e*SS SS 23 54 01.5 -2.7
ARU pmax pmax
comp=Z,15nm,1.0s,mb4.9
ARU Arti 77.41 334 *e*P **P 23 39 17.3 -0.3**
comp=Z,17nm,1.1s,mb4.9
ARU *e* pP 23 39 29.1 -1.4
BOSA Boshof 79.03 243 LR LR 00 10 13.9
comp=Z,106nm,18.6s,MS4.2,baz=4.8,slow=32
BOSA Boshof 79.03 243 P **P 23 39 27.9 +1.3**
LBTB Lobatse 79.06 246 *e*P **P 23 39 26.9 +0.1**
comp=Z,0.5nm,0.4s,mb3.8
EIL Elat 80.26 302 *e*P **P 23 39 34.0 +0.7**
comp=Z,76nm,0.8s,mb5.7
EIL *e* pP 23 39 46.2 -0.1
MALT Malatya 80.29 312 *e*P **P 23 39 33.9 +0.5**
MALT *e* 23 39 40.8
MALT pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MALT Malatya 80.29 312 *e*P **P 23 39 33.9 +0.5**
comp=Z,2.0nm,0.6s,mb4.2
MALT *e*PcP PcP 23 39 40.8 +0.4
QSPA South Pole Qui 80.33 180 *e*P **P 23 39 33.3 -0.4**
QSPA *e*PcP PcP 23 39 39.7 -1.0
QSPA *e* pP 23 39 45.8 -0.8
TIXI Tiksi 82.34 7*d* *i*P **P 23 39 43.4 -0.9**
TIXI pmax pmax
comp=Z,16nm,0.9s,mb5.0
BR131 Keskin Array S 84.27 312 *e*P **P 23 39 54.4 +0.2**
comp=Z,14nm,1.2s,mb5.0
BRTR Keskin Array B 84.27 312 P **P 23 39 54.0 -0.3**
comp=Z,4.2nm,0.8s,mb4.6,baz=132,slow=6.4,SNR=25
BRTR LR LR 00 23 27.9
comp=Z,25nm,18.1s,MS3.6,baz=281,slow=40
VRSR Storozhevoye 84.54 324 *e*P **P 23 39 55.1 -0.5**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
VRSR pmax pmax
comp=N,7.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,1.0s
SIM Simferopol' 85.54 317 *e*P **P 23 40 01.0 +0.4**
SIM pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
SNAA Sanae 87.26 197 LR LR 00 16 01.8
comp=Z,22nm,21.5s,MS3.5,baz=59,slow=33
SNAA Sanae 87.26 197*d* *i*P **P 23 40 09.0 0.0**
SNAA Sanae 87.26 197 P **P 23 40 09.2 +0.1**
comp=Z,5.0nm,1.4s,mb4.5
OBN Obninsk 87.45 327*c* *i*P **P 23 40 10.1 +0.1**
OBN *e* pP 23 40 22.8 -0.3
OBN pmax pmax
comp=Z,36nm,1.7s,mb5.3
OBN Obninsk 87.45 327 *e*P **P 23 40 09.3 -0.6**
comp=Z,6.1nm,0.7s,mb4.9
KLMR Klimovskoe 88.16 333 *e*P **P 23 40 12.8 -0.5**
KLMR pmax pmax
comp=Z,40nm,1.5s,mb5.4
AKASG Malin Array Be 90.34 321 P **P 23 40 23.6 +0.1**
comp=Z,0.2nm,0.3s,mb4.0,baz=82,slow=5.2,SNR=4.1
FINES FINESS Array B 94.54 332 *i* P **P 23 40 42.5 -0.5**
FINES pmax pmax
comp=Z,1.0nm,1.0s
ARCES ARCESS Array B 96.34 339 LR LR 00 33 41.1
comp=Z,26nm,21.0s,MS3.7,baz=34,slow=41
TORD Torodi Ar. Bea 107.82 281 PKiKP PKiKP 23 45 50.4 +0.7
comp=Z,0.7nm,0.6s,baz=73,slow=1.7,SNR=13
TORD Torodi Ar. Bea 107.82 281 PKPdf PKiKP 23 45 50.4 +0.7
YKA Yellowknife Ar 119.03 21 PKP PKPdf 23 46 10.5 -0.5
comp=Z,1.1nm,0.8s,baz=338,slow=1.9,SNR=6.1
NVAR Mina Array Bea 129.73 48 PKP PKPdf 23 46 34.8 +3.3
comp=Z,0.6nm,0.7s,baz=26,slow=0.3,SNR=4.5
SCHQ Schefferville 134.77 356 PKP PKPdf 23 46 41.7 +0.6
comp=Z,1.4nm,0.6s,baz=50,slow=7.9,SNR=5.2
SCHQ Schefferville 134.77 356 PKP PKPdf 23 46 41.7 +0.6
CPUP Villa Florida 141.44 202 PKhKP 23 46 48.0
comp=Z,0.5nm,0.6s,baz=150,slow=6.9,SNR=3.5
CPUP PKP PKPdf 23 46 54.4 +1.1
comp=Z,0.6nm,0.6s,baz=179,slow=10,SNR=3.3
CPUP Villa Florida 141.44 202 PKP 23 46 48.0
CPUP PKP PKPdf 23 46 54.4 +1.1
WMOK Wichita Mounta 145.10 40 *e*PKiKP PKPdf 23 47 00.7 +1.0
BDFB Brasilia 145.34 224 PKPbc PKPbc 23 47 01.6 +1.6
comp=Z,9.0nm,0.9s,baz=151,slow=0.4,SNR=12
NCB Newcomb 145.78 3 *e*PKPdf PKPdf 23 47 02.2 +1.3
NCB *e* 23 47 16.8
ACCN Adirondack Com 146.39 2 *e*PKP PKPdf 23 47 02.2 +0.3
CCM Cathedral Cave 146.90 28 *e*PKP2 PKPab 23 47 05.4 -0.8
JCT Junction City 146.91 47 *e*PKP2 PKPab 23 47 05.8 -0.4
BINY Binghamton 147.42 5 *e*PKP PKPbc 23 47 06.6 +0.4
ACSO Alum Creek Sta 148.06 16 *e*PKPdf PKPdf 23 47 05.5 +0.8
MIAR Mount Ida 148.38 35 *e*PKP2 PKPab 23 47 10.1 -1.9
SSPA Standing Stone 148.74 9 *e*PKPbc PKPbc 23 47 10.4 +0.8
MVL Millersville 149.56 6 *e*PKPbc PKPbc 23 47 12.5 +0.7
OXF Oxford 150.62 30 *e*PKIKP PKPbc 23 47 15.4 +1.1
OXF *e* 23 47 22.7
TZTN Tazewell 151.30 19 *e*PKPbc PKPbc 23 47 17.1 +1.3
CPCT Cooper Cave 151.95 22 *e*PKPbc PKPbc 23 47 18.8 +1.5
CPCT *e*PKPab PKPab 23 47 28.1 +1.4
LPAZ La Paz 153.91 189 PKPbc PKPbc 23 47 24.1 +2.4
comp=Z,1.1nm,0.7s,baz=199,slow=5.9,SNR=7.5
LPAZ PKPab PKPab 23 47 37.1 +2.2
comp=Z,1.6nm,0.7s,baz=167,slow=6.7,SNR=5.2

IDC ***24*** *23:38:54.7±7.3, 493S×15397E, h127km±54km, mb3.9/7, mb1 4.1/8, mb1mx3.9/14, mbtmpg4.4/8, MS3.8/1, Ms1 3.8/1, ms1mx2.9/20, Error ellipse: s-maj=60.8km s-min=23.3km az=92.0*
ISCJB ***24*** *23:38:57.2±3.8, 49S±0.1×1537E±0.2, h155km±29km, mb4.3/14, Error ellipse: s-maj=30.1km s-min=17.7km az=162.3*
NEIC ***24*** *23:38:57.6±3.0, 486S×15373E, h146km±22km, mb4.5/9, Error ellipse: s-maj=26.8km s-min=12.4km az=83.0*
ISC 24 23:38:57.1±3.7, 49S±01×1538E±02, h141km±28km, n28, σ0s80/27, mb4.3/14, 1C-1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.96**	**235**	P	**Pn**	**23 40 50.3**	**+0.3**
	21nm,0.3s,baz=48,slow=6.8,SNR=36						
PMG				S	**Sn**	**23 42 18.3**	**-0.4**
	4.6nm,0.3s,baz=53,slow=20,SNR=3.8						
CTAO	**Charters Tower**	**16.80**	**205**	Pn	**Pn**	**23 42 43.7**	**-0.4**
KAKA	**Kakadu**	**22.47**	**248**	*e*P	**P**	**23 43 43.8**	**-0.9**
	15nm,0.5s,mb4.7						
WRAB	**Tennant Creek**	**24.12**	**230**	*e*P	**P**	**23 44 00.5**	**+0.7**
	19nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**24.13**	**230**	*e*P	**P**	**23 44 09.7**	**+10**
WB2	**Warramunga Arr**	**24.13**	**230**	*e*P	**P**	**23 44 01.0**	**+1.1**
WB2				*e*P		23 44 09.7	
WRA	**Warramunga Arr**	**24.14**	**230**	P	**P**	**23 44 00.9**	**+0.9**
	12nm,0.7s,mb4.5,baz=53,slow=9.7,SNR=53						
AS31	**Alice Springs**	**26.76**	**224**	*e*P	**P**	**23 44 24.1**	**+0.4**
ASAR	**Alice Springs**	**26.76**	**224**	P	**P**	**23 44 24.2**	**+0.5**
	3.2nm,0.6s,mb4.1,baz=54,slow=8.6,SNR=34						
STKA	**Stephens Creek**	**29.19**	**202**	P	**P**	**23 44 43.1**	**-2.1**
	2.1nm,0.7s,mb4.0,baz=29,slow=14,SNR=4.0						
FITZ	**Fitzroy Crossi**	**30.49**	**242**	*i*P	**P**	**23 44 56.5**	**-0.2**
	10nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.49**	**242**	P	**P**	**23 44 56.6**	**0.0**
	5.2nm,0.6s,mb4.5,baz=64,slow=8.6,SNR=24						
FORT	**Forrest**	**35.35**	**220**	*i*P	**P**	**23 45 39.3**	**+0.3**
	24nm,0.5s,mb5.1						
TAU	**Tasmania Unive**	**38.31**	**188**	P	**P**	**23 46 05.7**	**+1.7**
KKM	**Kota Kinabalu**	**39.04**	**286**	P	**P**	**23 46 10.7**	**+0.6**
URZ	**Urewera**	**39.44**	**151**	LR	LR	00 00 27.5	
	comp=Z,129nm,20.2s,baz=332,slow=33						
KLBR	**Kellerberrin**	**42.97**	**227**	*e*P	**P**	**23 46 41.4**	**-0.8**
	96nm,1.8s,mb5.1						
NWAO	**Narrogin (SRO)**	**44.04**	**226**	P	**P**	**23 46 49.5**	**-1.2**
KULM	**Kulim**	**54.01**	**280**	P	**P**	**23 48 07.3**	**+0.7**
SONM	**Songino Array**	**66.91**	**327**	P	**P**	**23 49 34.3**	**+0.2**
	0.4nm,0.3s,mb3.7,baz=141,slow=5.2,SNR=3.4						
CASY	**Casey**	**68.23**	**197**	P	**P**	**23 49 42.6**	**+0.2**
MKAR	**Makanchi Array**	**81.02**	**319**	P	**P**	**23 50 56.6**	**+0.4**
	0.5nm,0.4s,mb3.5,baz=90,slow=8.2,SNR=11						
KURK	**Kurchatov**	**84.43**	**322**	*e*P	**P**	**23 51 13.8**	**0.0**
	1.4nm,0.8s,mb3.7						
MAW	**Mawson**	**85.88**	**203**	P	**P**	**23 51 20.4**	**-0.6**
	2.0nm,0.7s,mb4.0,baz=89,slow=8.3,SNR=5.7						
MAW	**Mawson**	**85.88**	**203**	*e*P	**P**	**23 51 21.1**	**+0.1**
	2.2nm,0.6s,mb4.1						
CHKZ	**Chkalovo**	**89.84**	**324**	*e*P	**P**	**23 51 38.7**	**-1.2**
	0.8nm,0.5s,mb3.9						
ZRNK	**Zerenda**	**90.70**	**323**	*e*P	**P**	**23 51 43.4**	**-0.5**
	0.7nm,0.4s,mb4.0						
TORD	**Torodi Ar. Bea**	**151.26**	**288**	PKPbc	PKPbc	23 58 34.1	+0.3
	1.1nm,0.4s,baz=76,slow=1.8,SNR=45						
TORD				PKPab	PKPab	23 58 43.4	+1.1
	1.2nm,0.7s,baz=85,slow=3.7,SNR=5.2						
TORD				pPKPbc	pPKPbc	23 59 06.2	-5.0
	1.0nm,0.8s,baz=82,slow=2.1,SNR=4.2						

ISCJB ***24*** *23:41:47.0±0.4, 3693N±002×2779E±004, h12km±3km, Error ellipse: s-maj=4.9km s-min=3.5km az=7.6*
CSEM ***24*** *23:41:46.9±0.1, 3695N×2778E, h10km, MD3.0, Error ellipse: s-maj=2.5km s-min=2.1km az=147.0*
ATH ***24*** *23:41:46.9, 3694N×2779E, h29km, MD3.3/5*
ISK ***24*** *23:41:46.8, 3694N×2778E, h19km, MD3.0*
ISC 24 23:41:47.5±0.4, 3691N±002×2778E±004, h15km±3km, n25, σ0s90/38, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.24**	**222**	PG	**Pg**	**23 41 53.0**	**+0.2**
DAT				SG	**Sg**	**23 41 58.1**	**+1.7**
MLSB	**Milas**	**0.39**	**359**	PG	**Pg**	**23 41 54.5**	**-0.8**
MLSB				SG	**Sg**	**23 42 00.6**	**0.0**
BODT	**Bodrum**	**0.41**	**292**	PG	**Pg**	**23 41 55.4**	**-0.3**
BODT				SG	**Sg**	**23 42 01.9**	**+0.7**
YER	**Yerkesik**	**0.46**	**61**	PG	**Pg**	**23 41 56.6**	**-0.1**
NISR	**Nisiros**	**0.60**	**241**	*e*PN	**Pg**	**23 41 59.5**	**+0.2**
DALT	**Dalyan (Mudla)**	**0.70**	**101**	PG	**Pg**	**23 42 01.0**	**-0.2**
ARG	**Arkhangelos**	**0.74**	**158**	*e*PN	**Pn**	**23 42 02.3**	**-1.2**
ARG				*e*SN	**Sn**	**23 42 13.6**	**-0.9**
ARG	**Arkhangelos**	**0.74**	**158**	*e*Pb	**Pg**	**23 42 02.0**	**0.0**
AYDN	**Tasoluk**	**0.75**	**6**	*i*P	**Pg**	**23 42 01.6**	**-0.6**
AYDN				*i*S	**Sg**	**23 42 11.6**	**-0.5**
FETY	**Fethiye**	**1.08**	**104**	PN	**Pn**	**23 42 07.6**	**-0.5**
SMG	**Samos**	**1.10**	**317**	*e*PN	**Pn**	**23 42 07.6**	**-0.7**
SMG				*e*SN	**Sn**	**23 42 22.7**	**-0.5**
SMG	**Samos**	**1.10**	**317**	*e*Pb	**Pb**	**23 42 08.0**	**-0.2**
DNZL	**Cakiroluk**	**1.27**	**52**	*i*P	**Pn**	**23 42 12.2**	**+1.4**
DNZL				*i*S	**Sb**	**23 42 29.7**	**+2.3**
DENT	**Denizli**	**1.31**	**49**	PN	**Pn**	**23 42 10.7**	**-0.5**
KARP	**Karpathos**	**1.45**	**200**	*e*PN	**Pn**	**23 42 13.7**	**+0.6**
KARP				*e*SN	**Sn**	**23 42 32.8**	**+0.9**
KARP	**Karpathos**	**1.45**	**200**	*e*Pg	**Pg**	**23 42 14.1**	**-1.3**
IZM	**Izmir**	**1.54**	**345**	PN	**Pn**	**23 42 13.5**	**-0.9**
KDAG	**Bornova**	**1.55**	**345**	*i*P	**Pn**	**23 42 14.2**	**-0.3**
KDAG				*i*S	**Sn**	**23 42 29.9**	**-4.4**
APE	**Apeiranthos**	**1.81**	**276**	*e*PN	**Pn**	**23 42 18.6**	**+0.5**
AKHS	**Akhisar**	**1.97**	**1**	*i*P	**Pg**	**23 42 25.1**	**-0.1**
AKHS				*i*S	**Sn**	**23 42 44.6**	**0.0**
TKTP	**Tekketepe**	**2.31**	**60**	*i*P	**Pb**	**23 42 28.7**	**-0.2**
TKTP				*i*S	**Sn**	**23 42 55.3**	**+2.0**
AYVA	**Ayvalik**	**2.54**	**341**	*i*P	**Pg**	**23 42 38.4**	**+2.1**
AYVA				*i*S	**Sg**	**23 43 10.1**	**+0.8**
PRK	**Paraskevi**	**2.62**	**333**	*e*PN	**Pn**	**23 42 29.0**	**-0.2**
PRK	**Paraskevi**	**2.62**	**333**	*e*Pg	**Pg**	**23 42 37.0**	**-0.7**
ULDT	**Uludag**	**3.40**	**18**	*i*P	**Pg**	**23 42 50.8**	**-1.8**
ULDT				*i*S	**Sg**	**23 43 37.0**	**+0.3**

ISCJB ***24*** *23:56:43.9±0.6, 497S±0.1×1142W±0.2, h10km, mb4.3/10, MS4.1/15, Error ellipse: s-maj=17.3km s-min=14.0km az=90.8*
IDC ***24*** *23:56:43.6±0.9, 4977S×11420W, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.0/15, mbtmp4.0/7, MS4.1/15, Ms1 4.1/15, ms1mx4.0/21, Error ellipse: s-maj=34.5km s-min=24.8km az=110.0*
NEIC ***24*** *23:56:46.4±0.6, 4980S×11396W, h10km, mb4.6/5, Error ellipse: s-maj=22.1km s-min=14.5km az=122.0*
ISC 24 23:56:45.3±0.6, 497S±01×1143W±02, h10km, n49, σ1s01/19, mb4.3/10, MS4.1/15, 1C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**22.89**	**11**	LR	LR	00 08 25.5	
	comp=Z,251nm,20.9s,MS3.6,baz=187,slow=31						
RKT	**Rikitea**	**31.14**	**321**	*e*LR	LR	00 11 13.8	
	607nm,30.0s						
PLCA	**Paso Flores**	**31.69**	**90**	LR	LR	00 13 53.1	
	comp=Z,148nm,18.8s,MS3.7,baz=48,slow=32						
PLCA	**Paso Flores**	**31.69**	**90**	P	**P**	**00 03 08.7**	**-0.3**
TBI	**Tubuai**	**38.06**	**301**	*e*LR	LR	00 14 22.0	
	583nm,27.8s,baz=149						
SBA	**Scott Base**	**39.66**	**199**	P	**P**	**00 04 17.8**	**+0.5**
QSPA	**South Pole Qui**	**40.48**	**180**	P	**P**	**00 04 25.9**	**+1.7**
VNDA	**Vanda**	**40.74**	**199**	LR	LR	00 18 48.2	
	comp=Z,332nm,18.6s,MS4.2,baz=95,slow=32						
PPT	**Papeete**	**42.82**	**306**	*e*S	**S**	**00 11 05.7**	**-1.8**
	56nm,20.8s						
PPT				*e*LR	LR	00 16 34.4	
	684nm,24.2s,baz=146						
URZ	**Urewera**	**49.04**	**256**	LR	LR	00 20 39.5	
	comp=Z,349nm,18.9s,MS4.4,baz=91,slow=29						
CPUP	**Villa Florida**	**49.21**	**83**	LR	LR	00 22 36.6	
	comp=Z,149nm,19.7s,MS4.0,baz=213,slow=32						
CPUP	**Villa Florida**	**49.21**	**83**	*e*P	**P**	**00 05 32.4**	**-1.4**
	2.5nm,0.3s,mb4.7						
SNAA	**Sanae**	**49.71**	**157**	P	**P**	**00 05 37.3**	**-0.2**
	1.2nm,1.1s,mb3.8,baz=270,slow=6.1,SNR=2.3						
SNAA	**Sanae**	**49.71**	**157**	P	**P**	**00 05 36.0**	**-1.5**
	6.5nm,1.4s,mb4.5						
LPAZ	**La Paz**	**49.92**	**65**	P	**P**	**00 05 39.5**	**+0.4**
	6.8nm,0.9s,mb4.7,baz=199,slow=6.5,SNR=25						
LPAZ				LR	LR	00 22 59.5	
	comp=Z,84nm,19.0s,MS3.8,baz=244,slow=32						
LPAZ	**La Paz**	**49.92**	**65**	*e*P	**P**	**00 05 40.2**	**+1.1**
	16nm,1.3s,mb4.9						
OTAV	**Otavalo**	**58.47**	**43**	*e*P	**P**	**00 06 42.2**	**+0.8**
	1.5nm,0.4s,mb4.4						
BDFB	**Brasilia**	**62.90**	**82**	P	**P**	**00 07 11.0**	**-0.7**
	2.5nm,0.8s,mb4.4,baz=225,slow=4.3,SNR=4.1						
BDFB				LR	LR	00 30 28.4	
	comp=Z,117nm,19.7s,MS4.1,baz=219,slow=32						
MAW	**Mawson**	**62.98**	**179**	P	**P**	**00 07 11.7**	**-0.5**
	2.0nm,0.9s,mb4.2,baz=186,slow=9.2,SNR=3.3						
MAW				LR	LR	00 34 07.8	
	comp=Z,202nm,18.0s,MS4.3,baz=12,slow=36						
MAW	**Mawson**	**62.98**	**179**	P	**P**	**00 07 11.8**	**-0.4**
MAW				LR	LR	00 34 07.8	
ROSC	**El Rosal**	**64.42**	**45**	LR	LR	00 30 35.5	
	comp=Z,150nm,19.7s,MS4.2,baz=299,slow=32						
DZM	**Mont Dzumac**	**66.66**	**263**	LR	LR	00 29 17.3	
	comp=Z,153nm,18.6s,MS4.2,baz=216,slow=29						
STKA	**Stephens Creek**	**74.63**	**239**	LR	LR	00 38 10.1	
	comp=Z,190nm,18.6s,MS4.4,baz=203,slow=33						
CTA	**Charters Tower**	**80.83**	**250**	LR	LR	00 35 31.9	
	comp=Z,67nm,21.5s,MS4.0,baz=53,slow=29						
CTAO	**Charters Tower**	**80.83**	**250**	*e*P	**P**	**00 08 59.8**	**+0.5**
	8.1nm,1.1s,mb4.6						
ASAR	**Alice Springs**	**85.27**	**239**	P	**P**	**00 09 20.9**	**-1.3**
	0.8nm,0.7s,mb3.9,baz=158,slow=3.3,SNR=5.9						
ASAR				LR	LR	00 43 49.0	
	comp=Z,162nm,19.9s,MS4.4,baz=356,slow=33						
NWAO	**Narrogin (SRO)**	**85.88**	**221**	LR	LR	00 39 45.4	
	comp=Z,158nm,19.9s,MS4.4,baz=95,slow=30						
NVAR	**Mina Array Bea**	**87.85**	**357**	P	**P**	**00 09 36.5**	**+1.5**
	1.0nm,1.0s,mb4.0,baz=186,slow=7.2,SNR=2.7						
NVAR	**Mina Array Bea**	**87.85**	**357**	P	**P**	**00 09 36.5**	**+1.5**
TMUT	**Trail Mountain**	**88.69**	**2**	*e*P	**P**	**00 09 34.1**	**-4.8**
PDAR	**Pinedale Array**	**92.20**	**3**	P	**P**	**

GRA1	**Grafenberg Arr**	**145.42**	**69**	*e*PKP	PKPdf	00 16 23.9	+0.4		
GRF	**Grafenberg Arr**	**145.42**	**69**	*e*PKP	PKPdf	00 16 23.9	+0.4		
CADS	**Cadrg**	**145.60**	**75**	*e*	PKPdf	00 16 29.1	+5.3		
VOJS	**Vojsko**	**145.61**	**76**	*e*	PKPdf	00 16 28.8	+5.0		
NKC	**Novy Kostel**	**146.35**	**68**	*e*PKP	PKPdf	00 16 25.9	+0.8		
GERES	**GERESS Array B**	**146.62**	**71**	PKPbc	PKPbc	00 16 25.3	-1.8		
	1.6nm,0.9s,baz=240,slow=2.6,SNR=13								
KHC	**Kasperske Hory**	**146.65**	**71**	*e*PKP	PKPdf	00 16 24.6	-1.0		
KHC				x	x	00 16 30.5			
KHC	**Kasperske Hory**	**146.65**	**71**	*e*P	PKPdf	00 16 24.6	-1.0		
KHC				*e*		00 16 30.5			
CLL	**Collm**	**147.04**	**67**	*i* PKiKP	PKiKP	00 16 32.2	+1.4		
	comp=Z,12nm,1.5s								
BRG	**Berggiesshubel**	**147.46**	**68**	*e*(P)	PKPdf	00 16 32.9	+5.9		
	comp=Z,1.0nm,0.3s								
PRU	**Pruhonice**	**147.53**	**70**	*e*PKP	PKPdf	00 16 28.8	+1.7		
NOA	**NORSAR Array B**	**148.00**	**48**	PKPbc	PKPbc	00 16 27.5	-3.5		
	comp=Z,0.4nm,0.7s,baz=254,slow=1.4,SNR=2.5								
UPC	**Upice**	**148.59**	**69**	*e*PKP	PKPdf	00 16 30.5	+1.7		
DPC	**Dobruska-Polom**	**148.73**	**70**	*e*PKP	PKPdf	00 16 35.6	+6.5		
VYHS	**Vyhne**	**149.67**	**74**	*e*PKP	PKPdf	00 16 34.1	+3.5		
OKC	**Ostrava-Krasne**	**149.69**	**71**	*e*PKP	PKPdf	00 16 33.8	+3.2		
BRTR	**Keskin Array B**	**155.28**	**102**	PKPab	PKPab	00 17 02.0	-1.9		
	comp=Z,3.6nm,1.1s,baz=198,slow=3.7,SNR=11								

CRAAG ***25*** *00:08:36.4,3653N×129E,Ml2.8*
CSEM ***25*** *00:08:37.8±0.2,3623N×184E,h20km,ML2.8, Error ellipse: s-maj=8.0km s-min=6.0km az=170.0*
ISCJB ***25*** *00:08:38.4±0.7,3632N±008×181E±006,h22km±12km, Error ellipse: s-maj=14.3km s-min=6.9km az=133.7*
MDD ***25*** *00:08:38.6±0.6,3626N×185E,h0km,mb3.3/6, Error ellipse: s-maj=9.2km s-min=5.3km az=158.0,PRXIMO*
NEIC ***25*** *00:08:40.4,3645N×182E,h0km,MG3.3(MDD), After MDD.*

ISC 25 00:08:38.4±0.8, 3627N±007×186E±005, h16km±7km, n20, σ1§19/29, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EBNR	**Beni Rached**	**0.27**	**275**	P	**Pg**	**00 08 45.0**	**+0.8**
ECHA	**Ech Chlef**	**0.41**	**254**	P	**Pg**	**00 08 46.1**	**-0.7**
ECHF	**Ech Chlef**	**0.43**	**255**	P	**Pg**	**00 08 46.1**	**-1.0**
EANR	**'Ain N'Sour**	**0.69**	**243**	P	**Pg**	**00 08 51.5**	**-0.4**
EMHD	**Djebel Mahouad**	**0.89**	**94**	P	**Pb**	**00 08 54.8**	**-0.6**
ETRT	**Tiaret**	**0.98**	**208**	P	**Pb**	**00 08 56.2**	**-0.8**
ABA	**Alger-Bouzarea**	**1.09**	**60**	P	**Pb**	**00 08 59.3**	**+0.5**
EIBI	**Ibiza**	**2.79**	**352**	P	**Pn**	**00 09 23.1**	**+0.8**
	1.0nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**00 09 53.3**	**-2.3**
	2.7nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.79**	**352**	P	**Pn**	**00 09 23.1**	**+0.8**
EIBI				S	**Sn**	**00 09 53.0**	**-2.6**
EIBI	**Ibiza**	**2.79**	**352**	P	**Pn**	**00 09 23.1**	**+0.8**
	1.0nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**00 09 53.0**	**-2.6**
	2.7nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.58**	**12**	P	**Pn**	**00 09 32.8**	**-0.3**
	0.8nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.58**	**12**	P	**Pn**	**00 09 32.8**	**-0.4**
	0.8nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.87**	**281**	P	**Pn**	**00 09 38.6**	**+1.4**
	0.9nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**00 10 20.9**	**-1.4**
	0.2nm,0.1s,SNR=7.9						
EBER	**Berja**	**3.87**	**281**	P	**Pn**	**00 09 38.6**	**+1.4**
	0.9nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**00 10 20.9**	**-1.4**
	0.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.23**	**293**	P	**Pn**	**00 09 43.8**	**+1.7**
	0.2nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**00 10 31.5**	**+0.3**
	2.0nm,0.9s,SNR=7.9						
EQES	**Quesada**	**4.23**	**293**	P	**Pn**	**00 09 43.8**	**+1.6**
	0.2nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**00 10 31.5**	**+0.3**
	2.0nm,0.9s,SNR=7.9						
EQUE	**Quentar**	**4.36**	**284**	P	**Pn**	**00 09 46.5**	**+2.6**
	0.4nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.48**	**337**	P	**Pn**	**00 09 46.6**	**+1.0**
	0.3nm,0.2s,SNR=4.0						
EMOS				S	**Sn**	**00 10 36.0**	**-1.4**
	0.6nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.48**	**337**	P	**Pn**	**00 09 46.6**	**+1.0**
EMOS				S	**Sn**	**00 10 34.3**	**-3.1**
EMOS	**Mosqueruela**	**4.48**	**337**	P	**Pn**	**00 09 46.6**	**+1.0**
	0.3nm,0.2s,SNR=4.0						

BJI ***25*** *00:11:52.8,6.13S×131.24E,h63km,mB4.8,mb4.6,Ms4.5, Msz4.1*
NEIC ***25*** *00:11:55.0±0.4,556S×131.04E,h35km,mb4.6/23, Error ellipse: s-maj=14.2km s-min=6.1km az=66.0*
ISCJB ***25*** *00:11:58.0±0.4,595S±004×13085E±009,h88km, mb4.5/29, Error ellipse: s-maj=12.8km s-min=4.0km az=148.8*
IDC ***25*** *00:12:00.9±0.8,548S×131.23E,h88km±7km,mb4.0/9, mb1 4.1/9,mb1mx4.0/12,mbtmp4.3/9,MS3.8/2,Ms1 3.8/2, ms1mx3.1/15, Error ellipse: s-maj=37.9km s-min=13.9km az=75.0*

ISC 25 00:12:00.2±0.4, 595S±004×13087E±009, h90km, h90km±1.8km:pP-P,n56,σ1§33/65, mb4.5/29, 2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.89**	**167**	⇓*i*P	**Pn**	**00 13 38.8**	**+0.3**
	140nm,0.4s						
KAKA				*e*S	**Sn**	**00 14 54.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**13.11**	**202**	*e*P	**Pn**	**00 15 02.3**	**-0.5**
	48nm,0.4s						
FITZ				*e*S	**Sn**	**00 17 25.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**13.11**	**202**	P	**Pn**	**00 15 02.8**	**+0.1**
	7.2nm,0.3s,baz=39,slow=13,SNR=156						
FITZ				S	**Sn**	**00 17 27.4**	**+0.6**
	1.9nm,0.3s,baz=217,slow=20,SNR=3.1						
WRAB	**Tennant Creek**	**14.30**	**167**	*e*Pn	**Pn**	**00 15 17.1**	**-1.3**
	34nm,0.4s						
WRAB				*e*Sn	**Sn**	**00 17 50.5**	**-5.1**
WRA	**Warramunga Arr**	**14.31**	**167**	P	**Pn**	**00 15 15.7**	**-2.7**
	5.0nm,0.3s,baz=352,slow=13,SNR=42						
WRA				S	**Sn**	**00 17 49.3**	**-6.5**
	11nm,0.3s,baz=353,slow=23,SNR=12						
WB2	**Warramunga Ar**	**14.31**	**167**	*e*P	**Pn**	**00 15 15.3**	**-3.1**
WB2				*e*S	**Sn**	**00 17 49.3**	**-6.6**
WB2	**Warramunga Ar**	**14.31**	**167**	*e*Pn	**Pn**	**00 15 15.9**	**-2.5**
WB2				*e*Sn	**Sn**	**00 17 51.2**	**-4.8**
PMG	**Port Moresby**	**16.50**	**103**	P	**Pn**	**00 15 41.1**	**-5.0**
	1.7nm,0.3s,baz=286,slow=14,SNR=6.5						
PMG	**Port Moresby**	**16.50**	**103**	*e*Pn	**Pn**	**00 15 41.6**	**-4.5**
	20nm,0.8s						
AS31	**Alice Springs**	**17.85**	**171**	*e*P	**Pn**	**00 16 03.4**	**+0.8**
AS31				*e*S	**S**	**00 19 14.6**	**-7.2**
ASAR	**Alice Springs**	**17.85**	**171**	P	**Pn**	**00 16 03.5**	**+0.9**
	4.6nm,0.3s,baz=340,slow=8.8,SNR=111						
ASAR				S	**S**	**00 19 15.2**	**-6.6**
	0.9nm,0.3s,baz=349,slow=23,SNR=4.7						
ASPA	**Alice Springs**	**17.85**	**171**	*e*P	**Pn**	**00 16 03.4**	**+0.8**
ASPA				*e*S	**S**	**00 19 14.6**	**-7.2**
MBWA	**Marble Bar**	**18.57**	**214**	*e*P	**Pn**	**00 16 15.0**	**+3.7**
	33nm,0.5s						
KKM	**Kota Kinabalu**	**18.87**	**309**	*e*P	**Pn**	**00 16 13.3**	**-1.4**
CTA	**Charters Tower**	**20.51**	**135**	*e*P	**P**	**00 16 34.1**	**+3.1**
	10nm,0.8s						
CTA	**Charters Tower**	**20.51**	**135**	P	**P**	**00 16 33.1**	**+2.1**
	6.1nm,0.9s,baz=315,slow=10,SNR=4.4						
CTAO	**Charters Tower**	**20.51**	**135**	*e*P	**P**	**00 16 33.0**	**+2.0**
	5.1nm,0.7s						
CTAO				*e*		00 16 39.5	
FORT	**Forrest**	**24.84**	**186**	*e*P	**P**	**00 17 18.5**	**+4.5**
	52nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**27.67**	**160**	⇓*i*P	**P**	**00 17 42.9**	**+3.3**
	4.3nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**27.67**	**160**	P	**P**	**00 17 43.0**	**+3.4**
	5.6nm,0.5s,mb4.3,baz=337,slow=7.9,SNR=18						
KLBR	**Kellerberrin**	**28.31**	**204**	*e*P	**P**	**00 17 49.7**	**+4.5**
	18nm,0.7s,mb4.7						
HNR	**Honiara**	**29.02**	**99**	*e*P	**P**	**00 17 52.9**	**+1.4**
	63nm,0.8s,mb5.3						
NWAO	**Narrogin (SRO)**	**29.69**	**204**	P	**P**	**00 18 02.5**	**+5.0**
	3.5nm,0.4s,mb4.4,baz=36,slow=9.6,SNR=6.1						
NWAO	**Narrogin (SRO)**	**29.69**	**204**	*e*P	**P**	**00 18 02.6**	**+5.1**
	3.4nm,0.5s,mb4.2						

TAU	**Tasmania Unive**	**39.58**	**161**	P	**P**	**00 19 24.2**	**+1.7**
KMI	**Kunming**	**41.27**	**320**	P	**P**	**00 19 38.0**	**+1.6**
KMI				AP	pP	00 19 48.8	-8.9
KMI				PP	PP	00 21 18.0	+4.7
KMI				S	**S**	**00 25 50.3**	**+6.6**
KMI				SS	SS	00 28 49.5	-0.8
KMI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.8						
KMI				AMB	AMB		
	comp=Z,80nm,4.2s						
KMI				LR	LR		
	comp=N,192nm,12.8s						
KMI				LR	LR		
	comp=E,200nm,12.5s						
KMI				LR	LR		
	comp=Z,80nm,11.7s						
MJAR	**Matsushiro Arr**	**42.83**	**9**	P	**P**	**00 19 44.8**	**-4.3**
	comp=Z,2.2nm,0.7s,mb4.0,baz=185,slow=8.1,SNR=4.9						
MJAR				LR	LR	00 35 57.8	
	comp=Z,64nm,21.1s,baz=180,slow=34						
XAN	**Xi'an**	**44.87**	**334**	P	**P**	**00 20 03.3**	**-2.2**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
CD2	**Chengdu**	**44.90**	**326**	*e*P	**P**	**00 20 06.0**	**+0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
MDJ	**Mudanjiang**	**50.35**	**359**	P	**P**	**00 20 48.0**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,33nm,4.8s						
GTA	**Gaotai**	**53.49**	**330**	*e*P	**P**	**00 21 11.3**	**+0.1**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.5						
JIRN	**Jiri**	**54.57**	**310**	*e*P	**P**	**00 21 19.4**	**+0.4**
GUN	**Gumba**	**54.93**	**310**	*e*P	**P**	**00 21 22.3**	**+0.6**
	comp=Z,26nm,0.4s,mb5.6						
PKI	**Pulchoki**	**55.12**	**310**	*e*P	**P**	**00 21 23.0**	**0.0**
KKN	**Kakani**	**55.33**	**310**	*e*P	**P**	**00 21 24.7**	**+0.2**
	comp=Z,12nm,0.6s,mb5.1						
DMN	**Daman**	**55.37**	**309**	*e*P	**P**	**00 21 25.2**	**+0.4**
	comp=Z,12nm,0.5s,mb5.2						
GKN	**Gorkha**	**55.92**	**310**	*e*P	**P**	**00 21 29.1**	**+0.3**
	comp=Z,13nm,0.4s,mb5.3						
KOLN	**Koldanda**	**56.61**	**309**	*e*P	**P**	**00 21 34.3**	**+0.6**
	comp=Z,19nm,0.5s,mb5.4						
SONM	**Songino Array**	**57.74**	**341**	P	**P**	**00 21 40.7**	**-0.9**
	comp=Z,1.9nm,0.7s,mb4.3,baz=156,slow=6.3,SNR=9.0						
SONM				pP	pP	00 22 03.8	-0.2
	comp=Z,3.7nm,0.7s,baz=161,slow=6.7,SNR=9.3						
CASY	**Casey**	**61.87**	**189**	*e*P	**P**	**00 22 14.0**	**+4.1**
	comp=Z,3.8nm,0.7s,mb4.5						
WMQ	**Urumqi**	**63.00**	**326**	P	**P**	**00 22 19.8**	**+2.3**
WMQ				AP	pP	00 22 29.9	-10
WMQ				PP	PP	00 24 39.5	+2.6
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,57nm,5.6s						
WMQ				LR	LR		
	comp=N,104nm,16.3s						
WMQ				LR	LR		
	comp=E,78nm,15.2s						
WMQ				LR	LR		
	comp=Z,100nm,16.8s						
MKAR	**Makanchi Array**	**67.83**	**326**	P	**P**	**00 22 48.7**	**0.0**
	comp=Z,6.0nm,0.5s,mb4.7,baz=116,slow=8.0,SNR=55						
MKAR				pP	pP	00 23 11.3	-0.3
	comp=Z,6.7nm,0.6s,baz=120,slow=7.2,SNR=8.6						
MKAR	**Makanchi Array**	**67.83**	**326**	P	**P**	**00 22 48.7**	**0.0**
MKAR				pP	pP	00 23 11.3	-0.3
ZAL	**Zalesovo**	**71.04**	**333**	P	**P**	**00 23 06.8**	**-1.6**
	comp=Z,1.7nm,0.6s,mb4.0,baz=8.1,slow=3.4,SNR=11						
ZAL				pP	pP	00 23 29.1	-2.4
	comp=Z,2.1nm,0.6s,baz=357,slow=7.1,SNR=5.5						
KURK	**Kurchatov**	**72.08**	**328**	*e*P	**P**	**00 23 13.6**	**-1.1**
	comp=Z,12nm,0.9s,mb4.7						
VNDA	**Vanda**	**73.38**	**173**	P	**P**	**00 23 25.4**	**+3.1**
	comp=Z,1.2nm,0.9s,mb3.7,baz=302,slow=4.5,SNR=5.0						
VNDA	**Vanda**	**73.38**	**173**	*e*P	**P**	**00 23 25.9**	**+3.6**
	comp=Z,1.1nm,0.8s,mb3.7						
SBA	**Scott Base**	**74.25**	**173**	*e*P	**P**	**00 23 32.0**	**+4.6**
	comp=Z,0.6nm,0.7s,mb3.4						
MAW	**Mawson**	**76.23**	**201**	P	**P**	**00 23 43.2**	**+4.4**
	comp=Z,1.4nm,0.5s,mb3.9,baz=27,slow=7.6,SNR=3.9						
MAW				LR	LR	00 53 27.6	
	comp=Z,123nm,19.1s,baz=240,slow=32						
MAW	**Mawson**	**76.23**	**201**	*e*P	**P**	**00 23 42.8**	**+4.1**
	comp=Z,3.4nm,0.9s,mb4.1						
BRVK	**Borovoye**	**77.72**	**327**	*e*P	**P**	**00 23 46.8**	**-0.3**
	comp=Z,1.7nm,0.9s,mb3.8						
CHKZ	**Chkalovo**	**77.83**	**328**	*e*P	**P**	**00 23 46.9**	**-0.8**
	comp=Z,1.9nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**78.36**	**327**	*e*P	**P**	**00 23 49.8**	**-0.8**
	comp=Z,4.8nm,0.6s,mb4.4						
ZRNK				*e*		00 24 02.6	
QSPA	**South Pole Qui**	**84.02**	**180**	*e*P	**P**	**00 24 23.5**	**+2.9**
	comp=Z,3.4nm,0.8s,mb4.2						
TORD	**Torodi Ar. Bea**	**129.45**	**282**	PKP	PKPdf	00 31 01.9	+3.6
	comp=Z,0.5nm,0.7s,baz=78,slow=2.1,SNR=8.2						
CPUP	**Villa Florida**	**146.94**	**166**	PKPbc	PKPbc	00 31 35.8	+3.5
	comp=Z,0.4nm,0.4s,baz=136,slow=2.5,SNR=4.7						

KRSC 25 00:30:08,5541N×16623E,h28km,ML3.9,Komandorsky Islands region

CSEM ***25*** *00:57:02.6±0.6,3959N×2978W,h10km,ML2.5,Error ellipse: s-maj=18.1km s-min=5.2km az=50.0,After PDA*
PDA ***25*** *00:57:02.6±0.6,3959N×2978W,h10km,MD3.6,ML2.5, Error ellipse: s-maj=18.1km s-min=5.2km az=50.0*

SVSA 25 00:57:02.6±0.6, 3959N×2978W, h10km, MD3.6, ML2.5, Error ellipse: s-maj=18.1km s-min=5.2km az=50.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSA	**Rosais**	**1.47**	**125**	*e*S	Sn	00 57 40.9	-7.6
PICO	**Pico**	**1.51**	**135**	*e*P	Pn	00 57 25.3	-4.4
PICO				*e*S	Sn	00 57 42.1	-7.3
PCND	**Candelaria**	**1.51**	**137**	*e*P	Pn	00 57 25.3	-4.4
PCND				*e*S	Sn	00 57 41.9	-7.6
PCND							
	27nm,0.3s						
PTEI	**Pico do Teixo**	**1.55**	**134**	*e*S	Sn	00 57 43.4	-7.0
PTEI							
	9.2nm,0.2s						
PBOI	**Pico dos Bois**	**1.58**	**136**	*e*S	Sn	00 57 43.7	-7.5
PBOI							
	13nm,0.2s						
PID	**Ribeirinha**	**1.72**	**131**	*e*P	Pn	00 57 27.9	-4.7
PID				*e*S	Sn	00 57 47.2	-7.4

ISCJB ***25*** *01:08:43.6±0.3,2839S±002×7003W±008,h100km±4km, mb3.9/9, Error ellipse: s-maj=11.2km s-min=3.8km az=5.3*
GUC ***25*** *01:08:44.1±0.9,2841S×70.16W,h103km±8km,ML4.6*
NEIC ***25*** *01:08:44.1,2841S×70.16W,h103km,mb4.1/2,After GUC.*
IDC ***25*** *01:08:46.2±0.7,2833S×69.87W,h103km±5km,mb3.7/8, mb1 3.7/12,mb1mx3.6/19,mbtmp4.0/12, Error ellipse: s-maj=22.4km s-min=9.1km az=78.0*

ISC 25 01:08:44.7±0.3, 2838S±002×7005W±007, h94km±4km, h107km±1.2km:pP-P,n39,σ0§90/54, mb3.9/9, 5C-5D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.85**	**222**	*e*P	**Pn**	**01 09 03.2**	**+0.2**
LCO				*i* S	**Sn**	**01 09 18.0**	**+1.3**
CPCH	**Copiapo**	**1.06**	**345**	⇓*i*P	**Pn**	**01 09 05.3**	**0.0**
CPCH				*i* S	**Sn**	**01 09 21.6**	**+0.8**
CDCH	**Caldera**	**1.48**	**332**	⇓*i*P	**Pn**	**01 09 10.6**	**+0.2**
CDCH				*i* S	**Sn**	**01 09 30.1**	**+0.3**
TLL	**Tololo Astrono**	**1.90**	**200**	⇓*i*P	**Pn**	**01 09 16.4**	**+0.7**
TLL				*i* S	**Sn**	**01 09 40.4**	**+1.1**
TLL				AML	AML	01 09 43.0	
	comp=N,4μm,0.5s						
TLL	**Tololo Astrono**	**1.90**	**200**	⇓*i*P	**Pn**	**01 09 16.4**	**+0.7**
TLL				*i* S	**Sn**	**01 09 40.4**	**+1.1**
OVCH	**Ovalle**	**2.43**	**204**	⇑*i*P	**Pn**	**01 09 22.2**	**-0.5**
OVCH				*i* S	**Sn**	**01 09 50.6**	**-1.3**
OVCH				AML	AML	01 09 53.1	
	comp=N,2μm,0.3s						

OVCH	**Ovalle**	**2.43**	**204**	⇑*i*P	**Pn**	**01 09 22.2**	**-0.5**
OVCH				*i* S	**Sn**	**01 09 50.6**	**-1.3**
CMCH	**Combarbala**	**2.90**	**196**	⇑*i*P	**Pn**	**01 09 28.1**	**-0.8**
CMCH				*i* S	**Sn**	**01 10 01.9**	**-1.1**
CMCH				AML	AML	01 10 32.0	
	comp=N,4μm,0.8s						
CMCH	**Combarbala**	**2.90**	**196**	⇑*i*P	**Pn**	**01 09 28.1**	**-0.8**
CMCH				*i* S	**Sn**	**01 10 01.9**	**-1.1**
CFAA	**Coronel Fontan**	**3.57**	**154**	P	**Pn**	**01 09 39.3**	**+1.3**
	comp=N,3.7nm,0.3s,baz=335,slow=12,SNR=371						
CFAA				S	**Sn**	**01 10 20.7**	**+1.5**
	comp=N,12nm,0.3s,baz=194,slow=20,SNR=19						
CFAA	**Coronel Fontan**	**3.57**	**154**	P	**Pn**	**01 09 39.3**	**+1.3**
CFAA				S	**Sn**	**01 10 20.7**	**+1.5**
CHNG	**Los Chungos**	**3.71**	**199**	*e*P	**Pn**	**01 09 38.9**	**-0.9**
CHNG				*i* S	**Sn**	**01 10 20.8**	**-1.7**
JACH	**Jahuel**	**4.31**	**186**	*e*P	**Pn**	**01 09 48.1**	**+0.1**
MDZ	**Mendoza**	**4.60**	**167**	*e*P	**Pn**	**01 09 53.5**	**+1.6**
MDZ				*e*S	**Sn**	**01 10 52.4**	**+8.2**
PEL	**Peldehue**	**4.78**	**186**	⇓*i*P	**Pn**	**01 09 53.8**	**-0.5**
PEL				*i* S	**Sn**	**01 10 47.5**	**-0.8**
FCH	**Farellones**	**4.93**	**182**	*e*P	**Pn**	**01 09 57.3**	**+0.9**
FCH				*i* S	**Sn**	**01 10 52.6**	**+0.4**
CLCH	**Cerro Calan**	**5.01**	**185**	*e*P	**Pn**	**01 09 57.9**	**+0.4**
CLCH				*i* S	**Sn**	**01 10 53.8**	**-0.4**
PCH	**Pirque**	**5.24**	**184**	*e*P	**Pn**	**01 10 00.2**	**-0.3**
LVC	**Limon Verde**	**5.84**	**10**	P	**Pn**	**01 10 07.9**	**-0.8**
	comp=N,5.4nm,0.3s,baz=161,slow=9.2,SNR=218						
LVC				S	**Sn**	**01 11 13.2**	**-1.1**
	comp=N,18nm,0.3s,baz=324,slow=23,SNR=7.2						
CICH	**Cipreses**	**5.93**	**183**	*e*P	**Pn**	**01 10 09.4**	**-0.5**
CPUP	**Villa Florida**	**11.49**	**83**	P	**Pn**	**01 11 23.9**	**-1.7**
	comp=N,0.3nm,0.3s,baz=237,slow=12,SNR=4.0						
LPAZ	**La Paz**	**12.17**	**9**	P	**Pn**	**01 11 33.5**	**-1.2**
	comp=N,0.2nm,0.3s,baz=205,slow=9.1,SNR=5.7						
PLCA	**Paso Flores**	**12.33**	**182**	P	**Pn**	**01 11 36.8**	**-0.1**
	comp=N,0.1nm,0.3s,baz=322,slow=11,SNR=3.9						
SIV	**San Ignacio**	**14.86**	**36**	P	**Pn**	**01 12 08.5**	**-1.4**
	comp=N,0.2nm,0.3s,baz=248,slow=11,SNR=3.3						
SAML	**Samuel**	**20.39**	**20**	*e*P	**P**	**01 13 15.1**	**+1.2**
	comp=N,3.4nm,0.9s						
SAML				*e*		01 13 33.6	
BDFB	**Brasilia**	**23.99**	**63**	P	**P**	**01 13 51.2**	**+0.6**
	comp=N,2.1nm,0.7s,mb3.6,baz=223,slow=8.3,SNR=4.5						
TEIG	**Tepich**	**51.44**	**338**	*e*P	**P**	**01 17 40.6**	**+0.4**
SNAA	**Sanae**	**56.18**	**159**	P	**P**	**01 18 14.6**	**-0.2**
	comp=N,1.8nm,0.5s,mb4.4,baz=284,slow=8.3,SNR=78						
QSPA	**South Pole Qui**	**61.84**	**180**	*e*P	**P**	**01 18 54.2**	**+0.4**
	comp=N,3.1nm,0.6s,mb4.5						
SYO	**Syowa Base**	**70.46**	**159**	⇑*e*P	**P**	**01 19 48.2**	**-0.8**
MAW	**Mawson**	**78.06**	**163**	P	**P**	**01 20 33.3**	**+0.1**
	comp=N,1.8nm,0.5s,mb4.0,baz=198,slow=6.9,SNR=12						
MAW				pP	pP	01 20 59.8	+2.4
	comp=N,1.5nm,0.6s,baz=240,slow=3.3,SNR=3.6						
PDAR	**Pinedale Array**	**79.59**	**332**	P	**P**	**01 20 41.8**	**+0.3**
	comp=N,0.6nm,0.5s,mb3.6,baz=132,slow=7.3,SNR=6.3						
PDAR				pP	pP	01 21 09.2	+3.3
	comp=N,0.3nm,0.6s,baz=145,slow=5.4,SNR=3.1						
NVAR	**Mina Array Bea**	**80.33**	**324**	P	**P**	**01 20 47.5**	**+2.0**
	comp=N,0.6nm,0.8s,mb3.5,baz=159,slow=4.1,SNR=4.1						
NVAR	**Mina Array Bea**	**80.33**	**324**	P	**P**	**01 20 47.5**	**+2.0**
TORD	**Torodi Ar. Bea**	**80.67**	**70**	P	**P**	**01 20 47.9**	**+0.6**
	comp=N,0.8nm,0.8s,mb3.6,baz=274,slow=6.0,SNR=7.7						
TORD				pP	pP	01 21 15.6	+3.8
	comp=N,0.5nm,0.5s,baz=274,slow=6.0,SNR=3.4						
BOSA	**Boshof**	**81.16**	**118**	P	**P**	**01 20 50.4**	**+0.5**
	comp=N,2.4nm,0.6s,mb4.2,baz=236,slow=3.0,SNR=10						
ULM	**Lac du Bonnet**	**81.57**	**344**	P	**P**	**01 20 51.4**	**-0.7**
	comp=N,1.1nm,0.5s,mb4.0,baz=175,slow=2.2,SNR=6.1						
WRA	**Warramunga Arr**	**126.49**	**209**	PKP	PKPdf	01 27 37.1	+0.4
	comp=N,0.2nm,0.3s,baz=153,slow=1.9,SNR=6.2						
MKAR	**Makanchi Array**	**151.62**	**42**	PKPbc	PKPbc	01 28 28.9	+0.9
	comp=N,0.5nm,0.6s,baz=318,slow=1.6,SNR=4.1						
MKAR				pPKPbc	pPKPbc	01 28 55.6	+1.8
	comp=N,1.0nm,0.7s,baz=336,slow=2.7,SNR=4.1						

WEL 25 01:22:24.9±0.3, 4127S×17281E, h129km±2km, ML3.5/8, 4C-1D, Error ellipse: s-maj=1.6km s-min=1.6km az=90.0, South Island

| Code | Station Name

891nm,0.2s
BUA Buia 0.24 167 ⇓*i*Pg Pg 01 38 40.8 -0.3
BUA *i* Sg Sg 01 38 44.9 +0.7
BAD Bernadia 0.25 147 ⇓*i*Pg Pg 01 38 41.0 -0.3
BAD *i* Sg Sg 01 38 45.1 +0.4
CSMI Casera Mimoias 0.28 283 ⇑*e*Pg Pg 01 38 41.9 +0.1
CSMI *e*Sg Sg 01 38 46.2 +0.8
CSMI Casera Mimoias 0.28 283 *e*Pg Pg 01 38 41.9 +0.1
CSMI *e*Sg Sg 01 38 46.2 +0.7
LSR Lussari 0.33 85 ⇑*i*Pg Pg 01 38 42.6 -0.2
LSR *i* Sg Sg 01 38 47.8 +0.6
ROBS Robic 0.38 122 *e*Pg Pg 01 38 43.1 -0.6
ROBS *i* Sg Sg 01 38 48.8 0.0
ROBS
comp=Z,73nm,0.1s
ROBS Robic 0.38 122 *e*Pg Pg 01 38 43.1 -0.6
ROBS *i* Sg Sg 01 38 48.8 0.0
ROBS Robic 0.38 122 *e*Pg Pg 01 38 43.1 -0.6
ROBS *i* Sg Sg 01 38 48.8 +0.1
COLI Coloredo 0.39 144 ⇓*i*Pg Pg 01 38 43.0 -1.0
COLI *i* Sg Sg 01 38 49.3 +0.2
MLNI Malnisio 0.43 225 ⇑*i*Pg Pg 01 38 44.0 -0.6
MLNI *i* Sg Sg 01 38 51.1 +1.0
DRE Drenchia 0.50 124 Pg Pg 01 38 45.1 -0.8
DRE Drenchia 0.50 124 ⇓*e*Pg Pg 01 38 45.0 -0.9
DRE *e*Sg Sg 01 38 53.0 +0.6
CADS Cadrg 0.53 115 *i* Pg Pg 01 38 45.7 -0.8
CADS *i* Sg Sg 01 38 53.8 +0.4
CSO Casso 0.53 251 ⇑*i*Pg Pg 01 38 45.9 -0.6
CSO *i* Sg Sg 01 38 53.7 +0.3
TLI Talmassons 0.53 176 Pg Pg 01 38 45.8 -0.8
TLI Talmassons 0.53 176 ⇓*i*Pg Pg 01 38 45.9 -0.6
AFL Alpe Faloria 0.60 278 ⇓*e*Pg Pg 01 38 48.3 +0.3
SEST Monte Rota 0.65 298 ⇓*i*Pg Pg 01 38 48.6 -0.1
SEST Sg Sg 01 38 57.6 +0.5
comp=Z,113nm,0.3s
KBA Koelnbreinsper 0.66 18 *e*Pg Pg 01 38 49.2 +0.2
SNR=76
KBA ⇑*i*Sg Sg 01 38 58.2 +0.5
comp=Z,67nm,0.2s
KBA Koelnbreinsper 0.66 18 Pg Pg 01 38 49.2 +0.1
comp=Z,76nm,3.0s
KBA Sg Sg 01 38 58.2 +0.6
comp=Z,67nm,0.2s
GORS Gorjuse 0.67 101 *e*Pg Pg 01 38 48.3 -0.9
GORS *i* Sg Sg 01 38 58.5 +0.5
GORS
comp=Z,86nm,0.2s
GORS Gorjuse 0.67 101 *e*Pg Pg 01 38 48.3 -0.9
GORS *i* Sg Sg 01 38 58.5 +0.5
comp=Z,86nm,0.2s
VOJS Vojsko 0.72 125 *e*Pg Pg 01 38 48.9 -1.2
VOJS *i* Sg Sg 01 39 00.4 +1.0
VOY Vojsko 0.72 125 *e*Pg Pg 01 38 48.9 -1.3
VOY *e*Sg Sg 01 39 00.3 +0.7
FAU Forcella Aurin 0.77 254 ⇑*i*Pg Pg 01 38 51.5 +0.3
JAVS Javornik 0.90 128 *i* Pg Pg 01 38 52.2 -1.5
IESO Jesolo 0.99 201 Pg 01 38 56.3 +0.9
CGRP Cima Grappa 1.04 237 Pg 01 38 57.1 +0.9
CGRP Cima Grappa 1.04 237 ⇑*e*Pg Pg 01 38 56.4 +0.1
CGRP *e*Sg Sg 01 39 10.3 +0.6
CGRP Cima Grappa 1.04 237 *e*Pg Pg 01 38 56.3 +0.1
CGRP *e*Sg Sg 01 39 10.3 +0.6
OBKA Obir 1.04 86 *e*Pn Pn 01 38 55.5 -1.9
SNR=17
OBKA ⇓*i*Sn Sn 01 39 10.6 -1.7
comp=Z,24nm,0.2s
OBKA Obir 1.04 86 Pg Pg 01 38 55.5 -0.8
comp=Z,17nm,4.0s
OBKA Sg Sg 01 39 10.6 +0.8
comp=Z,24nm,0.2s
CTI Castel Tesino 1.05 248 Pg Pg 01 38 56.2 -0.3
CTI Sg Sg 01 39 12.7 +2.6
comp=Z,182nm,0.2s
SCE Schlegeis 1.09 303 ⇓*i*Pg Pg 01 38 56.7 -0.6
SCE *i* Sg Sg 01 39 11.2 -0.2
LJU Ljubljana 1.11 111 *i* Pg Pg 01 38 57.1 -0.5
LJU *i* Sg Sg 01 39 14.4 +2.5
CEY Cerknica 1.20 126 *i* Pg Pg 01 38 59.8 +0.5
APPI Appiano 1.26 272 Pg Pg 01 39 00.1 -0.3
WTTA Wattenberg 1.26 311 *e*Pg Pg 01 39 00.1 -0.5
SNR=24
WTTA ⇓*i*Sg Sg 01 39 16.8 -0.2
comp=Z,16nm,0.2s
WTTA Wattenberg 1.26 311 Pg Pg 01 39 00.1 -0.5
comp=Z,23nm,9.0s
WTTA Sg Sg 01 39 16.8 -0.2
comp=Z,16nm,0.2s
WATA Walderalm 1.34 312 ⇑*e*Pg Pg 01 39 01.4 -0.7
SNR=14
WATA ⇓*i*Sg Sg 01 39 19.7 +0.3
comp=Z,19nm,0.3s
PDKS Podkum 1.41 105 *i* Pg Pg 01 39 02.3 -1.1
PDKS *i* Sg Sg 01 39 22.1 +0.4
PDKS
comp=Z,8.0nm,0.1s
PDKS Podkum 1.41 105 *i* Pg Pg 01 39 02.3 -1.1
PDKS *i* Sg Sg 01 39 22.1 +0.4
PDKS Podkum 1.41 105 *i* Pg Pg 01 39 02.3 -1.1
PDKS *i* Sg Sg 01 39 22.0 +0.4
BISS Bistriski jare 1.45 81 *e*Pg Pg 01 39 02.9 -1.3
SQTA Sankt Quirin 1.48 302 ⇑*e*Pg Pg 01 39 03.8 -0.8
SNR=22
SQTA ⇑*i*Sg Sg 01 39 23.9 +0.1
comp=Z,16nm,0.3s
MOTA Moosalm 1.60 305 ⇓*e*Pg Pg 01 39 06.3 -0.8
SNR=20
MOTA ⇓*i*Sg Sg 01 39 28.2 +0.3
comp=Z,16nm,0.4s
MOTA Moosalm 1.60 305 Pg Pg 01 39 06.3 -0.8
comp=Z,19nm,8.0s
MOTA Sg Sg 01 39 28.2 +0.3
comp=Z,16nm,0.4s
MOA Molln 1.63 30 ⇓*e*Pg Pg 01 39 06.8 -0.8
SNR=15
MOA ⇓*i*Sg Sg 01 39 29.6 +0.9
comp=Z,6.2nm,0.2s
MOA Molln 1.63 30 Pg Pg 01 39 06.8 -0.8
comp=Z,15nm,4.0s
MOA *i* Sg Sg 01 39 29.5 +0.8
CRES Cresnjev 1.79 110 *e*Pg Pn 01 39 08.0 +0.2
MABI Malga Bissina 1.80 258 Pg Pg 01 39 09.2 -1.7
MABI Sg Sg 01 39 33.2 -1.0
comp=Z,12nm,0.5s
BRMO Bormio 1.85 272 Pg Pg 01 39 10.0 -1.8
BRMO Sg Sg 01 39 34.7 -1.0
comp=Z,19nm,0.6s
ARSA Arzberg 1.88 64 ⇑*i*Pn Pn 01 39 08.2 -0.8
ARSA ⇑*i*Pg Pg 01 39 11.6 -0.8
ARSA ⇓*i*Sg Sg 01 39 37.9 +1.2
comp=Z,6.5nm,0.5s
ARSA Arzberg 1.88 64 ⇑*i*Pn Pn 01 39 08.2 -0.8
ARSA ⇑*i*Pg Pg 01 39 11.6 -0.8
ARSA *i* Sg Sg 01 39 37.9 +1.2
GCIS Gornji Cirnik 1.89 107 *i* Pg Pn 01 39 10.2 +1.1
SALO Salr 1.94 246 Pg Pn 01 39 10.4 +0.5
FUR Furstenfeldbru 2.10 326 *e*Pn Pn 01 39 13.3 +1.3
FUR *e*Sg Sg 01 39 41.8 -1.9
DAVOX Davos 2.21 280 Pg Pn 01 39 16.0 +2.5
GEC2 GERESS Array S 2.44 10 *e*Pn Pn 01 39 17.5 +0.8
SFI Santa Sofia 2.68 199 Pg Pn 01 39 19.0 -1.0
WET Wettzell 2.70 358 *e*Pn Pn 01 39 21.0 +0.8
KHC Kasperske Hory 2.71 7 *e*PN Pn 01 39 21.2 +0.8
KHC *e*PG Pg 01 39 31.0 +2.8
KHC *e*SN Sn 01 39 55.0 +1.6
KHC *e*SG Sg 01 40 00.6 -2.7
comp=Z,7.0nm,0.6s
SNTG Esanatoglia 3.20 181 Pg Pn 01 39 26.1 -1.0
comp=Z,1.0nm,0.3s
PRU Pruhonice 3.68 15 *e*PN Pn 01 39 35.5 +1.8
PRU *e*SG Sg 01 40 32.9 -1.6
comp=Z,5.0nm,0.5s
BFO Black Forest 3.71 302 *e*Pn Pn 01 39 34.6 +0.4
NKC Novy Kostel 3.81 354 *e*PN Pn 01 39 35.9 +0.4
NKC *e*SN Sn 01 40 20.9 +0.3
NKC *e*SG Sg 01 40 37.3 -1.3
comp=Z,4.3nm,0.3s
MOX Moxa 4.30 348 *e*PN Pn 01 39 42.6 +0.3
MOX *e*SN Sn 01 40 31.6 -1.2
MOX *e*SG Sg 01 40 54.3 -0.3
MOX Moxa 4.30 348 *e*Pn Pn 01 39 42.6 +0.3
MOX *e*Sn Sn 01 40 31.6 -1.2
CDF Champ du Feu 4.38 299 *e*Pn Pn 01 39 44.5 +1.1
CDF *e*Sn Sn 01 40 34.1 -0.6
comp=Z,1.7nm,0.3s
CDF Champ du Feu 4.38 299 *e*Pn Pn 01 39 44.5 +1.1
CDF *e*Sn Sn 01 40 34.1 -0.6
comp=Z,0.9nm,0.3s
HINF Hinteralfeld 4.44 290 *e*Pn Pn 01 39 45.3 +1.1
HINF *e*Sn Sn 01 40 36.3 +0.1
comp=Z,4.2nm,0.3s
HINF Hinteralfeld 4.44 290 *e*Pn Pn 01 39 45.3 +1.1
HINF *e*Sn Sn 01 40 36.3 +0.1
comp=Z,2.1nm,0.3s
BRG Berggiesshubel 4.47 7 SG Sg 01 40 58.7 -1.1
comp=Z,2.2nm,0.9s
DPC Dobruska-Polom 4.47 28 *e*SG Sg 01 40 56.5 -3.4
comp=Z,4.0nm,0.7s
MBDF Montbardon 4.73 251 *e*Pn Pn 01 39 49.8 +1.6
CABF La Chapelle 4.80 274 *e*Pn Pn 01 39 50.2 +1.0
HAU Haudompre 4.82 291 *e*Pn Pn 01 39 50.4 +1.0
HAU *e*Sn Sn 01 40 44.9 -0.7
comp=Z,8.4nm,0.7s
HAU Haudompre 4.82 291 *e*Pn Pn 01 39 50.4 +1.0
HAU *e*Sn Sn 01 40 44.9 -0.7
comp=Z,4.2nm,0.7s
PGF Pioggiola 4.86 218 *e*Sn Sn 01 40 43.1 -3.4
comp=Z,1.2nm,0.3s
PGF Pioggiola 4.86 218 *e*Sn Sn 01 40 43.1 -3.4
comp=Z,0.6nm,0.3s
CLL Collm 4.86 360 *e*SG Sg 01 41 13.0 +0.5
ORIF Oris-en-Rattie 5.25 256 *e*Pn Pn 01 39 57.0 +1.7
FRF La Foret Royal 5.38 240 *e*Pn Pn 01 39 57.7 +0.6
FRF *e*Sn Sn 01 40 58.1 -1.2
comp=Z,0.6nm,0.4s
FRF La Foret Royal 5.38 240 *e*Pn Pn 01 39 57.7 +0.6
FRF *e*Sn Sn 01 40 58.1 -1.2
comp=Z,0.3nm,0.4s
AVF Avril sur Loir 6.69 276 *e*Pn Pn 01 40 15.8 +0.8
BGF Bois d'Agland 7.04 275 *e*P Pn 01 40 26.3 +6.4
BGF *e*Sn Sn 01 41 39.0 -1.3
comp=Z,3.7nm,0.5s
BGF Bois d'Agland 7.04 275 *e*Pn Pn 01 40 19.1 -0.8
BGF *e*P 01 40 26.3
BGF *e*Sn Sn 01 41 39.0 -1.3

ISCJB ***25*** *01:38:55.5±0.2, 1066N±003×8673W±003, h29km, mb4.7/126, MS4.3/26, Error ellipse: s-maj=4.9km s-min=3.4km az=36.8*
MOS ***25*** *01:38:57.8±0.9, 1110N×8650W, h33km, mb5.0/53, MS4.3/4, Error ellipse: s-maj=8.5km s-min=5.3km az=102.0*
HRVD ***25*** *01:38:57.4±0.3, 1071N×8720W, h12km, MW5.0/75, Centroid moment Tensor Solution. LP body waves: s40,c49;Mantle waves: s75,c130; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-3.45±.11; Mθθ2.28±.07; Mϕϕ1.18±.13; Mrθ0.01±.27; Mrϕ-1.69±.07; Mθr-0.52±.35; Best double couple: M⊙3.51800×10^16 NP1:ϑs119.00000°, δ43.00000°, λ-100.00000°. NP2: ϕs313.00000°, δ48.00000°, λ-81.00000°. Principal axes: T 3.5210, Plg3.0000°, Azm36.0000°; N 0.0030, Plg7.0000°, Azm127.0000°; P -3.5140, Plg83.0000°, Azm286.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***25*** *01:38:57.4±0.2, 1075N×8667W, mb4.8/106, ML5.0(UCR) Error ellipse: s-maj=6.1km s-min=3.6km az=205.0*
NEIC Felt [III] at Brasilito and Tamarindo.
IDC ***25*** *01:38:58.9±0.6, 1103N×8659W, h30km±3km, mb4.4/20, mb1 4.6/22, mb1mx4.6/23, mbtmp4.6/22, ML4.5/2, MS3.9/16, Ms1 3.9/16, ms1mx3.7/29, Error ellipse: s-maj=20.8km s-min=10.3km az=60.0*
BJI ***25*** *01:38:58.2, 1132N×8709W, h29km, mB5.5, Ms5.3, Msz4.8*
CASC ***25*** *01:39:00.3±3.1, 1082N×8680W, h20km±11km, MD4.5, ML4.9*
SZGRF ***25*** *01:39:13.0, 1342N×8780W, h33km, mb4.5, Honduras*

ISC 25 01:38:58.0±0.2, 1071N±003×8672W±002, h31km, h31km±.4km: pP-P, n531, σ1°09/482, mb4.7/126, MS4.3/26, 90C-60D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.03**	**56**	⇑*e*P		**Pn**		**01 39 20.0**	**+3.7**
VCR	**Vista de Mar**	**1.22**	**118**	⇑*i*P		**Pn**		**01 39 21.7**	**+2.8**
MADN	**Villa Maderas**	**1.36**	**59**	⇑*i*P		**Pn**		**01 39 24.7**	**+3.9**
APON	**Apoyo**	**1.36**	**28**	⇑*i*P		**Pn**		**01 39 23.0**	**+2.2**
CONN	**Concepcion**	**1.37**	**52**	⇑*e*P		**Pn**		**01 39 24.3**	**+3.3**
MASN	**Masaya**	**1.39**	**24**	⇑*i*P		**Pn**		**01 39 21.9**	**+0.7**
TICN	**Ticuantepe**	**1.40**	**20**	⇑*e*P		**Pn**		**01 39 23.3**	**+1.9**
COPN	**Copaltepe**	**1.47**	**5**	⇓*e*P		**Pn**		**01 39 23.3**	**+1.0**
XAVN	**Gruta Xavier**	**1.48**	**15**	⇑*e*P		**Pn**		**01 39 24.2**	**+1.7**
TISN	**Laguna Tiscapa**	**1.49**	**17**	⇓*i*P		**Pn**		**01 39 24.3**	**+1.7**
MGAN	**Managua**	**1.50**	**18**	⇑*i*P		**Pn**		**01 39 24.6**	**+1.8**
MGAN				*e*S		**Sn**		**01 39 44.3**	**+3.0**
MGAN				*i*				01 39 46.1	
comp=E,61μm,0.4s									
APYN	**Apoyeque**	**1.56**	**14**	⇓*e*P		**Pn**		**01 39 24.9**	**+1.3**
LEON	**Leon**	**1.70**	**354**	⇓*i*P		**Pn**		**01 39 25.6**	**0.0**
MIRN	**Miramar**	**1.72**	**0**	⇓*i*P		**Pn**		**01 39 26.2**	**+0.4**
CNGN	**Cerro Negro**	**1.78**	**1**	⇑*e*P		**Pn**		**01 39 27.0**	**+0.4**
CNGN				*i*				01 39 49.6	
comp=E,15μm,0.3s									
CNGN				*e*S		**Sn**		**01 39 50.7**	**+2.6**
JCR	**Jicaral**	**1.80**	**118**	*e*P		**Pn**		**01 39 29.9**	**+3.0**
JCR				*e*S		**Sn**		**01 39 55.9**	**+7.2**
TEL3	**Telica 3**	**1.85**	**356**	⇓*e*P		**Pn**		**01 39 28.5**	**+0.8**
TEL3				*e*S		**Sn**		**01 39 52.7**	**+2.7**
TELN	**Telica**	**1.89**	**357**	⇑*e*P		**Pn**		**01 39 28.3**	**+0.2**
TELN				*e*S		**Sn**		**01 39 52.0**	**+1.2**
PYTN	**Playitas**	**1.93**	**20**	⇑*e*P		**Pn**		**01 39 30.2**	**+1.5**
PYTN				*e*S		**Sn**		**01 39 56.7**	**+4.9**
CRIN	**San Cristobal**	**2.00**	**351**	⇑*e*P		**Pn**		**01 39 29.8**	**+0.1**
CRIN				*e*S		**Sn**		**01 39 55.0**	**+1.3**
FORC	**Fortuna**	**2.04**	**97**	*e*P		**Pn**		**01 39 34.2**	**+4.1**
CGA2	**Cerro Gallo 2**	**2.33**	**107**	⇑*e*P		**Pn**		**01 39 38.5**	**+4.4**
CGA2				*e*S		**Sn**		**01 40 09.7**	**+8.0**
PRS1	**Puriscal**	**2.48**	**107**	⇓*e*P		**Pn**		**01 39 40.5**	**+4.3**
PRS1				*e*S		**Sn**		**01 40 12.7**	**+7.2**
SJS	**Escuela Geolog**	**2.74**	**106**	⇓*e*P		**Pn**		**01 39 45.7**	**+5.9**
CNCH	**Conchagua**	**2.77**	**337**	⇑*e*P		x		01 39 44.3	
CNCH				*e*S		x		01 40 15.3	
LCR2	**La Lucha 2**	**2.85**	**110**	⇓*e*P		**Pn**		**01 39 45.9**	**+4.6**
ICR	**Volcan Irazu**	**2.94**	**104**	⇓*e*P		**Pn**		**01 39 48.9**	**+6.3**
URSC	**Urasca**	**3.03**	**106**	⇑*e*P		**Pn**		**01 39 49.3**	**+5.5**
URSC				*e*S		**Sn**		**01 40 28.0**	**+9.0**
BLLM	**Bellamira**	**3.09**	**332**	*e*P		x		01 39 48.6	
BLLM				*e*S		x		01 40 22.3	
VSM	**San Miguel**	**3.10**	**331**	⇓*e*P		x		01 39 48.6	
VSM				*e*S		x		01 40 21.8	
BUS	**Buena Vista**	**3.14**	**111**	⇓*e*P		**Pn**		**01 39 50.5**	**+5.2**
BUS				*e*S		**Sn**		**01 40 30.2**	**+8.5**
SNVI	**San Vicente**	**3.55**	**325**	⇓*e*P		x		01 39 54.5	
SNVI				*e*S		x		01 40 33.6	
LCBS	**La Ceiba**	**3.66**	**323**	⇑*e*P		x		01 39 55.7	
LCBS				*e*S		x		01 40 35.1	
LFRS	**El Faro**	**3.69**	**322**	*e*P		x		01 39 55.7	
LFRS				*e*S		x		01 40 37.3	
LBRS	**Las Brisas**	**3.77**	**323**	*e*P		x		01 39 57.9	
LBRS				*e*S		x		01 40 38.2	
BOQS	**Boqueron**	**3.91**	**321**	*e*P		x		01 40 00.1	
SNJE	**San Jose**	**4.22**	**318**	⇑*e*P		x		01 40 03.6	
SNJE				*e*S		x		01 40 49.2	
RTR	**El Retiro**	**4.26**	**318**	*e*P		x		01 40 04.6	
RTR				*e*S		x		01 40 51.4	
RBDL	**Robledal**	**4.45**	**320**	⇑*e*P		x		01 40 07.5	
RBDL				*e*S		x		01 40 55.0	
TEIG	**Tepich**	**9.58**	**351**	*e*Pn		**Pn**		**01 41 14.2**	**+0.5**
comp=E,16nm,0.8s									
CMIG	**Matias Romero**	**10.15**	**310**	Pn		**Pn**		**01 41 19.4**	**-2.1**
comp=E,5.1nm,0.3s,baz=107,slow=9.0,SNR=78									
CMIG				Sn		**Sn**		**01 43 07.3**	**-6.8**
comp=E,0.5nm,0.3s,baz=340,slow=19,SNR=3.6									
CMIG	**Matias Romero**	**10.15**	**310**	Pn		**Pn**		**01 41 19.4**	**-2.1**
CMIG				Sn		**Sn**		**01 43 07.3**	**-6.8**
HUIG	**Huatulco**	**10.43**	**300**	*i* P		**Pn**		**01 41 23.4**	**-1.9**
OXX	**Oaxaca**	**11.59**	**304**	*i* P		**Pn**		**01 41 41.0**	**-0.2**
VHO	**Vista Hermosa**	**11.59**	**304**	⇓*i*P		**Pn**		**01 41 41.1**	**-0.1**
MGV	**Manicaragua**	**13.05**	**29**	*e*P		**Pn**		**01 42 04.5**	**+3.4**
LMGC	**Las Mercedes**	**13.20**	**44**	*e*P		**Pn**		**01 42 08.9**	**+5.7**
OTAV	**Otavalo**	**13.26**	**141**	*e*Pn		**Pn**		**01 42 06.3**	**+2.2**
comp=E,14nm,0.9s									
ROSC	**El Rosal**	**13.58**	**114**	Pn		**Pn**		**01 42 15.1**	**+6.7**
comp=E,0.5nm,0.3s,baz=271,slow=18,SNR=2.3									
ROSC				LR		LR		01 47 30.7	
comp=E,184nm,21.0s,baz=206,slow=38									
PPM	**Popocatepetl**	**14.18**	**307**	*e*P		**Pn**		**01 42 17.0**	**+0.3**
ACX	**Acapulco**	**14.20**	**297**	*e*P		**Pn**		**01 42 17.0**	**+0.2**
YAIG	**Yautepec**	**14.42**	**306**	⇓*i*P		**Pn**		**01 42 19.6**	**-0.3**
PLIG	**Platanillo**	**14.53**	**303**	*i* P		**Pn**		**01 42 21.4**	**0.0**
CAIG	**El Cayaco**	**14.57**	**297**	*i* P		**Pn**		**01 42 23.0**	**+1.0**
MOAC	**Moa**	**15.03**	**47**	*e*P		**Pn**		**01 42 33.6**	**+5.5**
SDV	**Santo Domingo**	**15.96**	**95**	Pn		**Pn**		**01 42 44.0**	**+3.8**
comp=E,4.4nm,0.3s,baz=300,slow=5.1,SNR=63									
SDV	**Santo Domingo**	**15.96**	**95**	*e*pP		**Pn**		**01 42 44.4**	**+4.2**
MOIG	**Morelia**	**16.55**	**304**	*i* P		**Pn**		**01 42 49.5**	**+1.7**
DWPF	**Disney**	**18.01**	**15**	*e*Pn		**Pn**		**01 43 07.2**	**+1.4**
comp=E,45nm,0.9s									
SFJM	**Santa Fe**	**18.46**	**304**	*i* P		**Pn**		**01 43 12.0**	**+0.6**
ATAH	**Atahualpa**	**19.45**	**154**	P		**Pn**		**01 43 29.2**	**+5.9**
comp=E,0.9nm,0.3s,baz=354,slow=12,SNR=9.5									
ATAH				LR		LR		01 50 13.6	
comp=E,422nm,18.6s,baz=147,slow=34									
HKT	**Hockley**	**20.94**	**337**	*e*P		**P**		**01 43 37.4**	**-0.8**
HKT				pmax		pmax			
comp=Z,87nm,1.2s									
HKT	**Hockley**	**20.94**	**337**	*e*P		**P**		**01 43 37.4**	**-0.8**
comp=Z,87nm,1.2s									
SJG	**San Juan**	**21.23**	**67**	P		**P**		**01 43 43.8**	**+2.5**
comp=Z,48nm,0.6s,mb5.0,baz=277,slow=6.9,SNR=17									
SJG	**San Juan**	**21.23**	**67**	*e*P		**P**		**01 43 43.3**	**+2.0**
SJG				pmax		pmax			
comp=Z,78nm,0.9s									
SJG	**San Juan**	**21.23**	**67**	*e*P		**P**		**01 43 43.3**	**+2.1**
comp=Z,78nm,0.9s,mb5.0									
PCRV	**Puerto La Cruz**	**21.73**	**89**	P		**P**		**01 43 49.6**	**+3.0**
comp=Z,55nm,0.4s,mb5.3,baz=251,slow=4.9,SNR=68									
NATX	**Nacogdoches**	**22.20**	**342**	*e*P		**P**		**01 43 51.8**	**+0.2**
LRAL	**Lakeview Retre**	**22.22**	**359**	*e*P		**P**		**01 43 51.9**	**0.0**
comp=Z,63nm,0.9s,mb5.0									
GOGA	**Godfrey**	**22.79**	**7**	*e*P		**P**		**01 43 57.8**	**-0.1**
GOGA				*e*				01 44 06.5	
GOGA				pmax		pmax			
comp=Z,3μm,0.9s									
GOGA	**Godfrey**	**22.79**	**7**	*e*P		**P**		**01 43 57.8**	**-0.2**
comp=Z,3μm,0.9s									
GOGA				*e*				01 44 06.5	
GOGA				*e*S		**S**		**01 48 03.7**	**-1.4**
JCT	**Junction City**	**23.13**	**330**	*e*P		**P**		**01 43 59.0**	**-2.5**
JCT	**Junction City**	**23.13**	**330**	*e*pP		**P**		**01 43 59.0**	**-2.5**
OXF	**Oxford**	**23.82**	**355**	*e*P		**P**		**01 44 06.9**	**-1.3**
OXF				*e*				01 44 16.2	
OXF				pmax		pmax			
comp=Z,84nm,0.8s,mb5.2									
OXF	**Oxford**	**23.82**	**355**	*e*P		**P**		**01 44 06.8**	**-1.3**
comp=Z,84nm,0.8s,mb5.2									
OXF				*e*				01 44 16.2	
PLAL	**Pickwick Lake**	**24.19**	**357**	*e*P		**P**		**01 44 10.9**	**-0.7**
comp=Z,70nm,1.3s,mb4.9									
PLAL				*e*				01 44 18.9	
PLAL				*e*PcP		PcP		01 47 52.8	+1.1
PLAL				*e*				01 48 02.9	
MYNC	**Murphy**	**24.37**	**5**	*e*P		**P**		**01 44 13.1**	**-0.1**
MYNC				*e*				01 44 22.2	
MYNC				pmax		pmax			
comp=Z,90nm,0.9s,mb5.2									
MYNC	**Murphy**	**24.37**	**5**	*e*P		**P**		**01 44 13.1**	**-0.2**
comp=Z,90nm,0.9s,mb5.2									
MYNC				*e*				01 44 22.2	
UALR	**University of**	**24.50**	**349**	*e*P		**P**		**01 44 12.9**	**-1.5**
MIAR	**Mount Ida**	**24.54**	**346**	*e*P		**P**		**01 44 13.1**	**-1.6**
MIAR				*e*				01 44 22.1	
MIAR				pmax		pmax			
comp=Z,58nm,0.8s,mb5.2									
MIAR	**Mount Ida**	**24.54**	**346**	*e*P		**P**		**01 44 13.1**	**-1.6**
comp=Z,58nm,0.8s,mb5.2									
MIAR				*e*				01 44 22.1	
MIAR				*e*				01 48 05.5	
CPCT	**Cooper Cave**	**24.71**	**4**	*e*P		**P**		**01 44 16.9**	**+0.6**
CPCT				*e*				01 44 25.6	
CPCT				*e*S		**S**		**01 48 34.6**	**-1.6**
HBAR	**Harrisburg**	**24.99**	**352**	*e*P		**P**		**01 44 18.4**	**-0.5**
HBAR				*e*				01 44 26.4	
GNAR	**Gosnell**	**25.32**	**354**	*e*pP		sP		01 44 41.7	+7.0
UTMT	**University of**	**25.59**	**356**	*e*P		pP		01 44 31.6	-1.7
comp=Z,112nm,0.9s									
CNNC	**Cliffs of the**	**25.71**	**17**	*e*P		**P**		**01 44 25.6**	**+0.2**
CNNC				*e*		pP		01 44 33.9	-0.5
CNNC				*e*PcP		PcP		01 47 48.1	-7.0
TZTN	**Tazewell**	**25.88**	**6**	*e*P		**P**		**01 44 27.5**	**+0.6**
TZTN				*e*		pP		01 44 35.5	-0.4
PARMO	**Parma**	**25.98**	**354**	P		**P**		**01 44 27.4**	**-0.5**
PARMO				*e*		pP		01 44 35.5	-1.4
WMOK	**Wichita Mounta**	**26.33**	**337**	*e*P		**P**		**01 44 29.6**	**-1.4**
WMOK				pmax		pmax			
comp=Z,92nm,1.0s,mb5.3									
WMOK	**Wichita Mounta**	**26.33**	**337**	*e*P		**P**		**01 44 29.6**	**-1.3**
comp=Z,92nm,1.0s,mb5.3									
ELN	**Prospectdale**	**26.95**	**11**	*e*P		**P**		**01 44 36.9**	**+0.3**
ELN				*e*		pP		01 44 44.7	-0.9
SIUC	**Southern Illin**	**26.98**	**356**	*e*P		**P**		**01 44 36.6**	**-0.3**
comp=Z,55nm,0.8s,mb5.1									
BLA	**Blacksburg**	**26.99**	**11**	*e*P		**P**		**01 44 37.5**	**+0.5**
BLA				*e*		pP		01 44 45.7	-0.3
BLA				pmax		pmax			
comp=Z,8.0nm,0.9s,mb4.2									
BLA	**Blacksburg**	**26.99**	**11**	*e*P		**P**		**01 44 37.5**	**+0.5**
comp=Z,8.3nm,0.9s,mb4.3									
BLA				*e*		pP		01 44 45.7	-0.3
USIN	**University of**	**27.15**	**358**	*e*P		**P**		**01 44 38.9**	**+0.5**
comp=Z,65nm,1.0s,mb5.1									
USIN				*e*pP		sP		01 44 55.6	+4.4
FWV	**Forest Hill**	**27.28**	**10**	*e*P		**P**		**01 44 38.7**	**-0.9**
FWV				*e*		pP		01 44 48.9	+0.3
WCI	**Wyandotte Cave**	**27.40**	**1**	*e*P		**P**		**01 44 39.7**	**-1.0**
WCI				*e*		pP		01 44 48.6	-1.1
WCI				pmax		pmax			
comp=Z,25nm,0.6s,mb4.9									
WCI	**Wyandotte Cave**	**27.40**	**1**	*e*P		**P**		**01 44 39.7**	**-1.0**
comp=Z,25nm,0.6s,mb4.9									
WCI				*e*		pP		01 44 48.6	-1.1
CCM	**Cathedral Cave

ARE Arequipa 30.92 151 *eP* **P** **01 45 17.0 +5.1**
ALLY Alegheny Colle 31.36 9 *eP* **P** **01 45 16.1 +0.3**
ALLY *epP* pP 01 45 24.2 -0.6
AAM Ann Arbor 31.58 4 *eP* pP 01 45 25.5 -1.3
AAM Ann Arbor 31.58 4 *epP* pP 01 45 25.5 -1.3
116A Eloy 31.66 317 ⇑P **P** **01 45 18.6 +0.2**
baz=32,SNR=9.7
BRNJ Basking Ridge 31.73 18 *eP* **P** **01 45 22.5 +3.5**
BRNJ *epP* pP 01 45 29.2 +1.1
ERPA Erie 31.84 10 *eP* **P** **01 45 20.0 0.0**
ERPA *epP* pP 01 45 28.3 -0.8
CPNY Central Park 32.01 18 P **P** **01 45 20.7 -0.8**
115A Sonoran Desert 32.09 317 ⇓P **P** **01 45 22.6 +0.4**
baz=32,SNR=5.0
PAL Palisades 32.22 18 *eP* **P** **01 45 23.0 -0.4**
PAL *e*PP* pP 01 45 32.5 0.0
JFWS Jewell Farm 32.23 355 *eP* **P** **01 45 22.2 -1.2**
JFWS *e*PP* pP 01 45 30.0 -2.5
JFWS *e*SP* sP 01 45 34.7 -1.6
JFWS pmax pmax
comp=Z,62nm,1.0s,mb5.4
JFWS Jewell Farm 32.23 355 *eP* **P** **01 45 22.2 -1.2**
comp=Z,62nm,1.0s,mb5.4
JFWS *epP* pP 01 45 30.0 -2.5
JFWS *esP* sP 01 45 34.7 -1.6
LPAZ La Paz 32.53 145 P **P** **01 45 30.4 +4.4**
comp=Z,5.6nm,0.9s,mb4.5,baz=335,slow=9.1,SNR=20
LPAZ LR LR 01 59 04.6
comp=Z,178nm,21.0s,MS3.7,baz=306,slow=37
BINY Binghamton 32.75 15 *eP* **P** **01 45 28.1 +0.2**
comp=Z,162nm,0.9s
BINY *epP* pP 01 45 36.9 -0.2
BINY *ePcP* PcP 01 48 14.3 +1.5
MVCO Mesa Verde 32.88 327 *eP* **P** **01 45 28.7 -0.4**
MVCO *epP* pP 01 45 38.0 -0.2
MVCO *ePcP* PcP 01 48 14.9 +1.7
MVCO *e* 01 48 25.9
Z14A Wintersburg 32.97 317 ⇑P **P** **01 45 30.4 +0.5**
baz=33
X15A Humboldt 33.20 319 ⇓P **P** **01 45 32.4 +0.4**
baz=33,SNR=8.2
WUAZ Wupatki 33.33 322 *eP* **P** **01 45 33.6 +0.6**
comp=Z,18nm,1.0s,mb5.0
WUAZ *epP* pP 01 45 40.1 -2.0
WUAZ *ePP* PP 01 46 48.2 -0.5
WUAZ *ePcP* PcP 01 48 16.2 +1.7
ISCO Idaho Springs 33.48 333 *eP* **P** **01 45 33.7 -0.6**
ISCO *e*PP* pP 01 45 44.1 +0.7
ISCO *e* 01 48 16.8
ISCO pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ISCO Idaho Springs 33.48 333 *eP* **P** **01 45 33.7 -0.7**
comp=Z,8.0nm,0.9s,mb4.7
ISCO *epP* pP 01 45 44.1 +0.6
ISCO *ePcP* PcP 01 48 16.8 +1.9
PV01 Paradox Valley 33.60 328 *eP* **P** **01 45 35.8 +0.3**
PV01 *epP* pP 01 45 45.4 +0.9
SMCO Snowmass 33.61 331 *eP* **P** **01 45 35.2 -0.2**
comp=Z,29nm,1.1s,mb5.1
SMCO *epP* pP 01 45 44.3 -0.3
SMCO *ePcP* PcP 01 48 18.1 +2.8
SMCO *e* 01 48 28.9
X14A Yava 33.61 319 ⇓P **P** **01 45 36.0 +0.5**
baz=34,SNR=8.3
W15A Williams 33.66 320 ⇑P **P** **01 45 36.4 +0.5**
baz=34
Y13A Salome 33.83 317 ⇑P **P** **01 45 38.1 +0.7**
baz=34,SNR=5.2
QUA2 Belchertown 33.87 19 *eP* **P** **01 45 38.2 +0.4**
comp=Z,92nm,1.1s,mb5.6
QUA2 *epP* pP 01 45 46.3 -0.6
PV10 Paradox Valley 34.03 328 *eP* **P** **01 45 38.4 -0.7**
PV10 *epP* pP 01 45 47.7 -0.5
PV10 *esP* sP 01 45 52.5 +0.5
GLA Glamis 34.07 315 ⇑P **P** **01 45 40.5 +1.0**
baz=34,SNR=16
W14A Seligman 34.20 320 ⇑P **P** **01 45 41.2 +0.5**
baz=34,SNR=10
Y12C Blythe 34.26 316 ⇑P **P** **01 45 41.8 +0.7**
baz=34,SNR=11
ACCN Adirondack Com 34.47 17 *eP* **P** **01 45 43.7 +0.7**
ACCN *epP* pP 01 45 51.7 -0.4
W13A Hualapai Mount 34.64 319 ⇑P **P** **01 45 45.4 +0.9**
baz=35,SNR=12
PHWY Pilot Hill 34.65 335 *eP* **P** **01 45 44.0 -0.5**
PHWY *epP* pP 01 45 54.0 +0.4
NCB Newcomb 34.86 16 *eP* **P** **01 45 45.4 -1.0**
comp=Z,13nm,0.6s,mb5.0
NCB *epP* pP 01 45 54.2 -1.2
NCB *ePcP* PcP 01 48 17.4 -1.5
MIV Mineville/With 35.15 17 *eP* **P** **01 45 48.3 -0.5**
MIV *epP* pP 01 45 56.8 -1.1
FFD Franklin Falls 35.17 19 *eP* **P** **01 45 49.2 +0.3**
comp=Z,68nm,0.9s,mb5.6
FFD *epP* pP 01 45 58.7 +0.6
HNH Hanover 35.18 18 *eP* **P** **01 45 49.7 +0.7**
comp=Z,2.8nm,0.9s,mb4.2
SRU San Rafael 35.35 327 *eP* **P** **01 45 50.6 0.0**
SRU *e*PP* pP 01 45 59.3 -0.4
SRU *e* 01 48 21.4
SRU pmax pmax
comp=Z,19nm,0.5s,mb5.3
SRU San Rafael 35.35 327 *eP* **P** **01 45 50.6 0.0**
comp=Z,19nm,0.5s,mb5.3
SRU *epP* pP 01 45 59.3 -0.4
SRU *ePcP* PcP 01 48 21.4 +1.1
SRU *e* 01 48 32.1
LONY Lake Ozonia 35.37 15 *eP* **P** **01 45 50.1 -0.6**
LONY *epP* pP 01 45 58.8 -1.0
W12A Cal Nev Ari 35.41 318 ⇑P **P** **01 45 51.8 +0.8**
baz=36
PFO Pinyon Flat Ob 35.52 315 ⇑P **P** **01 45 53.0 +1.0**
baz=36,SNR=15
109C Camp Elliot, M 35.59 313 ⇓P **P** **01 45 53.2 +0.5**
baz=36
V12A Nelson 35.65 319 ⇑P **P** **01 45 54.0 +0.9**
baz=36
MSNY Massena 35.66 14 *eP* **P** **01 45 53.3 +0.2**
MSNY *epP* pP 01 46 01.9 -0.4
RWWY Rawlins 35.72 333 *eP* **P** **01 45 53.3 -0.4**
comp=Z,27nm,0.9s,mb5.2
RWWY *epP* pP 01 46 01.9 -0.9
RWWY *ePcP* PcP 01 48 22.4 +1.0
LBNH Lisbon 35.77 18 *eP* **P** **01 45 54.6 +0.4**
LBNH *e*PP* pP 01 46 02.6 -0.7
LBNH pmax pmax
comp=Z,22nm,0.7s,mb5.2
LBNH Lisbon 35.77 18 *eP* **P** **01 45 54.6 +0.5**
comp=Z,22nm,0.7s,mb5.2
LBNH *epP* pP 01 46 02.6 -0.7
LBNH *ePcP* PcP 01 48 14.2 -7.3
FRNY Flat Rock 35.83 16 *eP* **P** **01 45 54.2 -0.5**
FRNY *epP* pP 01 46 02.6 -1.3
FRNY *ePcP* PcP 01 48 23.2 +1.5
FRNY *e* 01 48 32.7
TMUT Trail Mountain 35.85 327 *eP* **P** **01 45 54.9 0.0**
TMUT *epP* pP 01 46 04.5 +0.5
TMUT *esP* sP 01 46 07.1 -0.7
TMUT *ePP* PP 01 47 14.0 -2.6
TMUT *ePcP* PcP 01 48 23.5 +1.8
CCUT Cedar City 35.88 323 *eP* **P** **01 45 55.8 +0.8**
CCUT *epP* pP 01 46 04.7 +0.5
U12A Valley of Fire 35.88 320 ⇑P **P** **01 45 55.6 +0.5**
baz=36
ARUT Antelope Range 36.08 323 *eP* **P** **01 45 57.7 +0.9**
ARUT *e*PP* pP 01 46 05.8 -0.2
V11A Goodsprings 36.09 319 ⇓P **P** **01 45 57.4 +0.5**
baz=36
TUQ Turquoise Mtn. 36.18 318 ⇑P **P** **01 45 58.2 +0.6**
baz=36
RSSD Black Hills 36.50 339 *eP* **P** **01 46 00.8 +0.4**
RSSD *e*PP* pP 01 46 08.3 -1.2
RSSD *e* 01 48 24.0
RSSD pmax pmax
comp=Z,11nm,0.8s,mb4.8
RSSD Black Hills 36.50 339 *eP* **P** **01 46 00.8 +0.5**
comp=Z,11nm,0.8s,mb4.8
RSSD *epP* pP 01 46 08.3 -1.2
RSSD *ePcP* PcP 01 48 23.9 +0.3
MPU Maple Canyon 36.60 327 *eP* **P** **01 46 01.4 +0.2**
comp=Z,27nm,1.0s,mb5.0
MPU *epP* pP 01 46 10.9 +0.5
DAU Daniels Canyon 36.69 328 *eP* **P** **01 46 02.1 +0.1**
DAU *e*PP* pP 01 46 11.6 +0.5
GSC Goldstone 36.69 317 ⇑P **P** **01 46 02.8 +0.8**
baz=37,SNR=7.1
U10A Ash Meadows, A 37.02 319 ⇑P **P** **01 46 06.1 +1.2**
baz=37,SNR=9.0
TCUT Toone Canyon 37.28 329 *eP* **P** **01 46 07.1 +0.1**
TCUT *epP* pP 01 46 16.8 +0.6
TCUT *esP* sP 01 46 19.2 -0.8
TCUT *ePcP* PcP 01 48 28.3 +2.3
TCUT *e* 01 48 34.3
TPNV Topopah Spring 37.29 319 *eP* **P** **01 46 08.4 +1.3**
TPNV *e*PP* pP 01 46 18.7 +2.4
TPNV *e* 01 47 32.6
TPNV *e* 01 48 28.0
TPNV pmax pmax
comp=Z,18nm,0.9s,mb4.9
TPNV Topopah Spring 37.29 319 *eP* **P** **01 46 08.4 +1.3**
comp=Z,18nm,0.9s,mb4.9
TPNV *epP* pP 01 46 18.7 +2.5
TPNV *ePP* PP 01 47 32.6 +0.3
TPNV *ePcP* PcP 01 48 28.0 +1.9
NOQ North Oquirrh 37.31 327 *eP* **P** **01 46 07.4 +0.1**
comp=Z,26nm,0.7s,mb5.2
NOQ *epP* pP 01 46 16.2 -0.2
NOQ *esP* sP 01 46 19.6 -0.7
EYMN Ely 37.33 355 *eP* **P** **01 46 05.2 -2.2**
comp=Z,17nm,0.8s,mb4.9
EYMN *epP* pP 01 46 13.6 -3.0
EYMN *ePcP* PcP 01 48 25.0 -1.2
EYMN *e* 01 48 36.7
DUG Dugway 37.36 326 *eP* **P** **01 46 08.0 +0.3**
DUG *e*PP* pP 01 46 17.2 +0.3
DUG *e* 01 48 27.8
DUG pmax pmax
comp=Z,14nm,1.0s,mb4.8
DUG Dugway 37.36 326 *eP* **P** **01 46 08.0 +0.3**
comp=Z,14nm,1.0s,mb4.7
DUG *epP* pP 01 46 17.1 +0.3
DUG *ePcP* PcP 01 48 27.8 +1.5
DUG *e* 01 48 33.8
PKME Peaks-Kenny Pk 37.54 20 *eP* **P** **01 46 09.4 +0.2**
PKME *epP* pP 01 46 18.1 -0.3
PKME *ePP* PP 01 47 38.0 +2.8
PDAR Pinedale Array 37.63 332 P **P** **01 46 09.1 -0.9**
comp=Z,4.2nm,0.5s,mb4.4,baz=132,slow=9.6,SNR=36
PDAR PcP PcP 01 48 27.2 +0.1
comp=Z,3.7nm,1.0s,baz=134,slow=4.3,SNR=4.9
HWUT Hardware Ranch 37.72 329 *eP* **P** **01 46 10.2 -0.6**
comp=Z,43nm,0.9s,mb5.2
HWUT *epP* pP 01 46 19.5 -0.5
HWUT *e* 01 48 39.6
Q12A Willow Creek R 37.73 323 ⇑P **P** **01 46 11.4 +0.7**
baz=38
SPUT South Promonto 37.96 328 *eP* **P** **01 46 12.3 -0.5**
SPUT *epP* pP 01 46 21.6 -0.3
SPUT *ePcP* PcP 01 48 29.6 +1.4
SPUT *e* 01 48 40.9
BGU Big Grassy Mou 37.99 327 *eP* **P** **01 46 12.4 -0.7**
BGU *epP* pP 01 46 21.4 -0.8
BGU *ePcP* PcP 01 48 30.1 +1.9
BGU *e* 01 48 40.0
ISA Isabella 38.03 316 ⇑P **P** **01 46 14.4 +1.1**
baz=38,SNR=8.7
P12A McGill 38.05 324 ⇓P **P** **01 46 14.1 +0.6**
baz=38,SNR=10
Q11A Duckwater 38.09 322 ⇑P **P** **01 46 14.3 +0.4**
baz=38,SNR=7.4
CWC Cottonwood Cre 38.19 317 ⇑P **P** **01 46 15.5 +0.8**
baz=38
AHID Auburn Hatcher 38.36 331 *eP* **P** **01 46 15.9 -0.2**
comp=Z,22nm,0.7s,mb5.0
AHID *epP* pP 01 46 24.3 -1.0
S09A Goldfield 38.37 320 ⇑P **P** **01 46 16.7 +0.5**
baz=38,SNR=11
HVU Hansel Valley 38.47 328 *eP* **P** **01 46 17.0 0.0**
HVU *e*PP* pP 01 46 26.7 +0.5
HVU *e* 01 48 30.1
HVU pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
HVU Hansel Valley 38.47 328 *eP* **P** **01 46 17.0 0.0**
comp=Z,7.8nm,0.6s,mb4.6
HVU *epP* pP 01 46 26.7 +0.5
HVU *ePcP* PcP 01 48 30.1 +0.4
HVU *e* 01 48 42.0
O12A Currie 38.49 325 ⇓P **P** **01 46 17.4 +0.2**
baz=39,SNR=6.6
N13A Wendover, West 38.58 326 ⇓P **P** **01 46 18.4 +0.4**
baz=39,SNR=11
R09A Tonopah 38.59 320 P **P** **01 46 19.0 +0.9**
baz=39,SNR=7.1
TIN Tinemaha 38.63 318 ⇓P **P** **01 46 19.8 +1.3**
baz=39
REDW Red Top Meadow 38.69 332 *eP* **P** **01 46 18.6 -0.3**
comp=Z,65nm,0.9s,mb5.4
REDW *epP* pP 01 46 27.8 -0.3
SNOW Snow King Moun 38.73 332 *eP* **P** **01 46 19.3 +0.1**
comp=Z,59nm,0.9s,mb5.3
SNOW *epP* pP 01 46 27.8 -0.6
TPAW Teton Pass 38.84 332 *eP* **P** **01 46 20.0 -0.2**
comp=Z,27nm,0.8s,mb5.0
TPAW *epP* pP 01 46 29.7 +0.4
TPAW *ePcP* PcP 01 48 32.2 +1.4
TPAW *e* 01 48 44.0
RRI2 Red Ridge 38.90 331 *eP* **P** **01 46 20.4 -0.3**
comp=Z,18nm,0.8s,mb4.8
RRI2 *epP* pP 01 46 28.4 -1.5
RRI2 *esP* sP 01 46 33.1 -0.6
RRI2 *ePcP* PcP 01 48 32.5 +1.4
M13A Montello 38.91 326 P **P** **01 46 20.6 -0.2**
baz=39,SNR=17
O11A Cowboy Ranch, 38.92 324 ⇓P **P** **01 46 21.1 +0.2**
baz=39
MOOW Moose Ponds 38.94 332 *eP* **P** **01 46 20.1 -0.9**
comp=Z,26nm,0.9s,mb5.0
MOOW *epP* pP 01 46 29.3 -0.9
MOOW *ePcP* PcP 01 48 32.0 +0.8
N12A Clover Valley, 39.05 325 ⇑P **P** **01 46 22.2 +0.3**
baz=39,SNR=11
P10A Eureka 39.07 323 ⇓P **P** **01 46 22.6 +0.5**
baz=39
ELK Elko 39.09 325 *eP* **P** **01 46 22.4 +0.2**
ELK *e*PP* pP 01 46 31.7 +0.3
ELK *e*SP* sP 01 46 34.8 -0.4
ELK pmax pmax
comp=Z,14nm,1.0s
ELK Elko 39.09 325 *eP* **P** **01 46 22.4 +0.1**
comp=Z,14nm,1.0s,mb4.6
ELK *epP* pP 01 46 31.7 +0.2
ELK *esP* sP 01 46 34.8 -0.4
ELK *e* 01 48 45.2
IMW Indian Meadow 39.15 332 *eP* **P** **01 46 22.2 -0.5**
comp=Z,17nm,0.8s,mb4.8
IMW *epP* pP 01 46 30.6 -1.3
IMW *e* 01 48 43.9
FLWY Flagg Ranch 39.18 332 *eP* **P** **01 46 22.8 -0.2**
comp=Z,27nm,0.8s,mb5.0
FLWY *epP* pP 01 46 31.6 -0.6
M12A Wells 39.36 326 ⇑P **P** **01 46 24.7 +0.2**
baz=39
MLAC Mammoth Lakes 39.36 318 ⇑P **P** **01 46 24.9 +0.4**
baz=39
MNV Mina 39.38 320 *eP* **P** **01 46 25.7 +1.0**
MNV *e*PP* pP 01 46 35.0 +1.1
MNV pmax pmax
comp=Z,24nm,1.2s,mb4.8
MNV Mina 39.38 320 *eP* **P** **01 46 25.7 +1.0**
comp=Z,24nm,1.2s,mb4.8
MNV *epP* pP 01 46 35.0 +1.0
P09A Austin 39.43 322 ⇑P **P** **01 46 25.5 +0.4**
baz=40
NVAR Mina Array Bea 39.48 320 P **P** **01 46 26.7 +1.2**
comp=Z,6.6nm,0.7s,mb4.5,baz=132,slow=8.2,SNR=45
NVAR PcP PcP 01 48 34.9 +2.0
comp=Z,7.6nm,0.7s,baz=124,slow=5.1,SNR=17
NVAR Mina Array Bea 39.48 320 P **P** **01 46 26.7 +1.2**
NVAR PcP PcP 01 48 34.9 +2.0
Q08A Gabbs 39.50 321 P **P** **01 46 26.4 +0.8**
baz=40,SNR=14
KCC Kaiser Creek 39.51 318 ⇑P **P** **01 46 26.5 +0.8**
baz=40,SNR=5.8
YFT Old Faithful 39.53 333 P **P** **01 46 26.7 +0.8**
YFT *epP* pP 01 46 35.5 +0.3
T06C Millerton Lake 39.59 317 ⇑P **P** **01 46 25.9 -0.5**
baz=40
PKD Parkfield 39.60 315 ⇓P **P** **01 46 27.0 +0.4**
baz=40
V04C Ramage Ranch, 39.68 314 ⇑P **P** **01 46 27.4 +0.2**
baz=40
N10A Dunphy 39.80 324 ⇓P **P** **01 46 28.3 +0.2**
baz=40
O09A Fish Creek Ran 39.85 323 P **P** **01 46 29.2 +0.6**
baz=40,SNR=17
U04C Hernandez Rese 39.98 315 ⇑P **P** **01 46 30.1 +0.4**
baz=40,SNR=7.0
BMN Battle Mountai 40.03 323 *eP* **P** **01 46 30.6 +0.5**
BMN pmax pmax
comp=Z,12nm,0.7s,mb4.7
BMN Battle Mountai 40.03 323 *eP* **P** **01 46 30.6 +0.5**
comp=Z,12nm,0.7s,mb4.8
GCMT Greycliff 40.08 335 *eP* **P** **01 46 28.9 -1.6**
GCMT *epP* pP 01 46 38.5 -1.2
QLMT Earthquake Lak 40.09 332 P **P** **01 46 31.1 +0.5**
QLMT *epP* pP 01 46 40.2 +0.4
V03C Hunter Liggett 40.13 315 ⇑P **P** **01 46 31.5 +0.6**
baz=40
ULM Lac du Bonnet 40.14 351 P **P** **01 46 29.0 -2.0**
comp=Z,27nm,0.9s,mb5.0,baz=167,slow=8.7,SNR=46
ULM PcP PcP 01 48 35.7 +0.7
comp=Z,6.7nm,0.8s,baz=109,slow=1.7,SNR=3.7
ULM LR LR 02 06 17.4
comp=Z,73nm,18.5s,MS3.6,baz=25,slow=41
ULM Lac du Bonnet 40.14 351 P **P** **01 46 29.0 -2.0**
ULM PcP PcP 01 48 35.7 +0.7
ULM LR LR 02 06 17.4
S06C San Francisco 40.16 318 P **P** **01 46 32.0 +0.8**
baz=40,SNR=8.2
T05C Eagle Field, D 40.19 316 ⇑P **P** **01 46 32.0 +0.6**
baz=40
S05C Merced 40.19 317 ⇑P **P** **01 46 31.9 +0.4**
baz=40,SNR=9.8
R06C Coleville 40.27 319 ⇑P **P** **01 46 33.3 +1.3**
baz=40,SNR=8.3
N09A Rock Creek Ran 40.48 323 ⇑P **P** **01 46 34.1 +0.3**
baz=40,SNR=10
HAST UC Hastings Re 40.53 315 ⇑P **P** **01 46 34.8 +0.6**
baz=41
HLID Hailey 40.59 329 *eP* **P** **01 46 33.8 -0.9**
comp=Z,5.7nm,0.6s,mb4.4
HLID *epP* pP 01 46 43.2 -0.8
HLID *ePcP* PcP 01 48 38.7 +2.3
CMB Columbia Colle 40.60 318 *eP* **P** **01 46 35.5 +0.7**
CMB *e*PP* pP 01 46 42.5 -1.6
CMB *e* 01 48 36.9
CMB pmax pmax
comp=Z,17nm,1.2s,mb4.5
CMB Columbia Colle 40.60 318 *eP* **P** **01 46 35.5 +0.6**
comp=Z,17nm,1.2s,mb4.5
CMB *epP* pP 01 46 42.5 -1.6
CMB *ePcP* PcP 01 48 36.9 +0.4
CMB Columbia Colle 40.60 318 ⇑P **P** **01 46 35.1 +0.3**
baz=41,SNR=14
PACP Pacheco Peak 40.66 316 ⇑P **P** **01 46 35.9 +0.6**
baz=41
MCMT McKenzie Canyo 40.74 331 *eP* **P** **01 46 36.8 +0.8**
MCMT *epP* pP 01 46 45.3 +0.1
MCMT *ePcP* PcP 01 48 39.5 +2.6
R05C Kirkwood Meado 40.77 319 ⇑P **P** **01 46 37.6 +1.4**
baz=41,SNR=11
M09A Marrel Ranch, 40.79 324 ⇑P **P** **01 46 36.2 -0.2**
baz=41
BOZ Bozeman (W) 40.81 333 *eP* **P** **01 46 35.8 -0.7**
BOZ *e*PP* pP 01 46 44.9 -0.9
BOZ *e* 01 48 40.0
BOZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
BOZ Bozeman (W) 40.81 333 *eP* **P** **01 46 35.8 -0.8**
comp=Z,6.2nm,0.6s,mb4.4
BOZ *epP* pP 01 46 44.9 -0.9
BOZ *ePcP* PcP 01 48 40.0 +2.8
O07A Toulon 40.86 321 P **P** **01 46 37.1 +0.2**
baz=41,SNR=8.6
PAHR Pah Rah Range 40.91 321 *eP* **P** **01 46 37.5 +0.2**
comp=Z,11nm,1.2s,mb4.4
WCN Washoe City 40.91 320 ⇓P **P** **01 46 38.1 +0.8**
baz=41
S04C Ingram Canyon, 40.95 316 ⇑P **P** **01 46 38.2 +0.5**
baz=41,SNR=7.1
DLMT Dillon 41.03 332 *eP* **P** **01 46 38.4 0.0**
comp=Z,24nm,1.0s,mb4.8
DLMT *epP* pP 01 46 47.5 -0.1
R04C Big Horse Ranc 41.09 318 ⇓P **P** **01 46 39.7 +0.9**
baz=41
P06A Stead Airport, 41.21 320 ⇓P **P** **01 46 40.0 +0.1**
baz=41
LAVA Lava Cap Winer 41.23 318 ⇓P **P** **01 46 40.4 +0.4**
baz=41,SNR=9.8
L09A Wilkinson Ranc 41.30 325 ⇑P **P** **01 46 41.1 +0.5**
baz=41
P05C Yuba Gap, Truc 41.45 319 ⇓P **P** **01 46 42.7 +0.9**
baz=42,SNR=7.8
O06A Flanigan 41.45 321 ⇓P **P** **01 46 42.4 +0.6**
baz=42
JRSC Jasper Ridge 41.52 316 ⇑P **P** **01 46 43.0 +0.6**
baz=42
BDM Black Diamond 41.55 317 ⇑P **P** **01 46 44.1 +1.5**
baz=42,SNR=5.5
Q04C Lincoln 41.69 318 ⇓P **P** **01 46 44.6 +0.8**
baz=42
HRY Holter Researc 41.72 334 *eP* **P** **01 46 45.5 +1.4**
M07A Soldier Meadow 41.78 323 ⇑P **P** **01 46 44.1 -0.4**
baz=42
N06A Buffalo Meadow 41.80 321 ⇑P **P** **01 46 44.8 +0.2**
baz=42,SNR=16
EGMT Eagleton 41.92 337 *eP* **P** **01 46 43.3 -2.4**
comp=Z,5.9nm,0.7s,mb4.3
EGMT *epP* pP 01 46 53.3 -1.6
Q03C Winters 42.01 317 ⇑P **P** **01 46 47.6 +1.3**
baz=42
O05C Quincy 42.02 320 ⇓P **P** **01 46 47.2 +0.7**
baz=42
OHCM Honcut 42.03 319 *eP* **P** **01 46 46.9 +0.4**
WVOR Wild Horse Val 42.12 324 *eP* **P** **01 46 46.9 -0.4**
WVOR pmax pmax
comp=Z,13nm,0.8s,mb4.6
WVOR Wild Horse Val 42.12 324 *eP* **P** **01 46 46.9 -0.4**
comp=Z,13nm,0.8s,mb4.6
CVS Carmenet Viney 42.15 317 ⇑P **P** **01 46 48.0 +0.5**
baz=42
ORV Oroville 42.16 319 ⇓P **P** **01 46 48.3 +0.7**
baz=42,SNR=14
SUTB Sutter Butte 42.17 318 ⇑P **P** **01 46 48.3 +0.6**
baz=42,SNR=6.2
FARB Farallon Islan 42.19 316 ⇓P **P** **01 46 47.9 0.0**
baz=42
L07A Adell 42.27 323 ⇑P **P** **01 46 48.3 -0.2**
baz=42,SNR=8.1
ELFS Eagle Lake Fie 42.27 321 ⇑P **P** **01 46 49.0 +0.4**
baz=42
O04C Chester 42.33 320 ⇓P **P** **01 46 49.5 +0.6**
baz=42
MCCM Marconi Confer 42.33 316 ⇑P **P** **01 46 49.7 +0.7**
baz=42
NSHM Saint Helena R 42.34 317 *eP* **P** **01 46 50.0 +0.9**
NSHM *ePP* PP 01 48 30.2 +2.8
NSHM *ePcP* PcP 01 48 43.6 +1.4
MNRC McLaughlin Nat 42.42 318 ⇓P **P** **01 46 50.3 +0.6**
baz=42,SNR=8.1
M06C Likely Place G 42.46 322 ⇓P **P** **01 46 50.2 +0.1**
baz=42
CHMT Chamberlain Mo 42.50 333 *eP* **P** **01 46 49.1 -1.3**
CHMT *epP* pP 01 46 58.7 -1.0
J08A Circle Bar Ran 42.62 325 ⇑P **P** **01 46 51.2 -0.2**
baz=43
MSO Missoula 42.75 332 *eP* **P** **01 46 51.7 -0.7**
comp=Z,5.1nm,0.9s,mb4.2
MSO *epP* pP 01 47 00.4 -1.3
MSO *esP* sP 01 47 04.7 -0.7
HATC Hat Creek Radi 42.84 321 ⇑P **P** **01 46 53.5 +0.3**
baz=43
M05C Lookout 42.96 321 ⇑P **P** **01 46 54.3 +0.2**
baz=43
BMO Blue Mountains 42.98 328 *eP* **P** **01 46 52.3 -1.9**
BMO *e*PP* pP 01 47 01.7 -1.8
BMO pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
BMO Blue Mountains 42.98 328 *eP* **P** **01 46 52.2 -2.0**
comp=Z,8.8nm,0.9s,mb4.5
BMO *epP* pP 01 47 01.7 -1.8
BMO *ePcP* PcP 01 48 45.1 +0.8
GASB Alder Springs 43.01 318 ⇓P **P** **01 46 55.7 +1.2**

baz=43,SNR=7.1
J07A Hines 43.10 325 ⇓P **P 01 46 54.8 -0.4**
baz=43
L05A Lakeview 43.17 322 ⇑P **P 01 46 55.2 -0.6**
baz=43
K06A Valley Falls 43.28 324 ⇓P **P 01 46 55.6 -1.1**
baz=43
P01C Double 8 Ranch 43.32 318 ⇑P **P 01 46 57.4 +0.4**
baz=43
O02C Red Bluff 43.33 319 ⇓P **P 01 46 55.9 -1.2**
baz=43
KIPM Iron Peak 43.59 318 *eP* **P 01 46 59.8 +0.6**
KIPM *epP* pP 01 47 08.0 -0.5
M04C Macdoel 43.63 321 ⇑P **P 01 46 59.3 -0.2**
baz=44
L04A Klamath Falls 43.88 322 ⇑P **P 01 47 01.3 -0.3**
baz=44
I06A Prineville 43.96 325 ⇑P **P 01 47 01.7 -0.5**
baz=44
O01C Eel River Cons 43.98 318 ⇓P **P 01 47 03.0 +0.7**
baz=44
N02C Big Bar 44.01 319 ⇓P **P 01 47 02.6 0.0**
baz=44
YBH Yreka Blue Hor 44.14 321 ⇑P **P 01 47 02.1 -1.5**
baz=44
WALA Waterton Lakes 44.43 335 *eP* **P 01 47 06.5 +0.5**
comp=Z,8.6nm,0.9s,mb4.5
WALA *epP* pP 01 47 13.8 -1.4
WALA *ePcP* PcP 01 48 50.5 +1.2
WALA *e* 01 49 01.3
H05A Madras 44.97 325 ⇓P **P 01 47 09.8 -0.4**
baz=45
HAWA Hanford 45.17 328 *eP* **P 01 47 10.7 -1.2**
comp=Z,0.6nm,0.7s
HAWA *epP* pP 01 47 19.7 -1.4
NEW Newport 45.27 332 P **P 01 47 11.5 -1.1**
NEW *e**PP pP 01 47 20.4 -1.5
NEW *e* 01 48 52.4
NEW pmax pmax
comp=Z,5.0nm,0.8s
NEW Newport 45.27 332 P **P 01 47 11.5 -1.1**
comp=Z,4.8nm,0.8s,mb4.4
NEW *epP* pP 01 47 20.4 -1.6
NEW *ePcP* PcP 01 48 52.4 +0.3
G05A Wamic 45.39 326 ⇓P **P 01 47 13.8 +0.2**
baz=45
FFC Flin Flon 45.54 348 *eP* **P 01 47 13.2 -1.5**
FFC *e**PP pP 01 47 21.7 -2.4
FFC *e* 01 48 53.5
FFC *e* 01 49 03.1
FFC pmax pmax
comp=Z,13nm,0.6s,mb5.0
FFC Flin Flon 45.54 348 *eP* **P 01 47 13.2 -1.5**
comp=Z,13nm,0.6s,mb5.0
FFC *epP* pP 01 47 21.7 -2.4
FFC *ePcP* PcP 01 48 53.5 +0.4
FFC *ePP* PP 01 49 03.1 +1.5
H04A Detroit Lake 45.54 325 ⇓P **P 01 47 14.1 -0.6**
baz=46
J02A Umpqua 45.58 322 ⇑P **P 01 47 14.6 -0.5**
baz=46
I03A Eugene 45.75 323 ⇓P **P 01 47 15.8 -0.6**
baz=46
F05A White Salmon 45.87 326 ⇓P **P 01 47 17.5 +0.2**
baz=46,SNR=7.2
G04A Mulino 46.02 325 ⇑P **P 01 47 17.8 -0.7**
baz=46
H03A Soap Creek Ran 46.17 324 ⇓P **P 01 47 20.3 +0.6**
baz=46
BDFB Brasilia 46.42 124 P **P 01 47 25.4 +3.8**
comp=Z,15nm,0.5s,mb5.2,baz=291,slow=9.7,SNR=32
E05A Randle 46.46 327 ⇓P **P 01 47 21.9 -0.1**
baz=46
G03A Yamhill 46.54 325 ⇑P **P 01 47 22.4 -0.2**
baz=47
CPUP Villa Florida 46.61 143 P **P 01 47 25.5 +2.4**
comp=Z,7.4nm,0.9s,mb4.6,baz=312,slow=7.9,SNR=19
CPUP PcP PcP 01 48 59.0 +2.2
comp=Z,2.8nm,0.6s,baz=291,slow=1.4,SNR=3.9
CPUP LR LR 02 08 38.6
comp=Z,147nm,20.0s,MS3.9,baz=302,slow=38
CPUP Villa Florida 46.61 143 P **P 01 47 25.5 +2.3**
CPUP 01 48 59.0
CPUP Villa Florida 46.61 143 P **P 01 47 25.5 +2.4**
CPUP PcP PcP 01 48 59.0 +2.2
CPUP LR LR 02 08 38.6
SCHQ Schefferville 46.74 16 P **P 01 47 22.6 -1.6**
comp=Z,12nm,0.4s,mb5.1,baz=214,slow=6.5,SNR=62
SCHQ pP pP 01 47 30.9 -2.7
comp=Z,32nm,0.8s,baz=216,slow=6.7,SNR=20
SCHQ PcP PcP 01 48 58.3 +1.0
comp=Z,9.8nm,0.6s,baz=215,slow=3.4,SNR=6.4
SCHQ LR LR 02 07 09.8
comp=Z,225nm,21.8s,MS4.1,baz=205,slow=36
D05A Enumclaw 46.97 327 ⇑P **P 01 47 25.0 -1.0**
baz=47
C05A Tolt Reservoir 47.14 328 ⇑P **P 01 47 25.8 -1.5**
baz=47
E03A Lebam 47.43 326 ⇓P **P 01 47 29.0 -0.6**
baz=48
EDM Edmonton 47.48 339 *eP* **P 01 47 28.1 -1.9**
EDM *e**PP pP 01 47 37.2 -2.2
B05A Bryant 47.71 328 ⇑P **P 01 47 29.9 -1.9**
baz=48
C04A Brinnon 47.82 327 ⇑P **P 01 47 31.3 -1.3**
baz=48
A04A Legoe Bay, Lum 48.32 329 ⇑P **P 01 47 34.5 -2.0**
baz=48
BBB Bella Bella 53.17 329 LR LR 02 11 59.4
comp=Z,69nm,21.3s,MS3.7,baz=303,slow=37
PLCA Paso Flores 53.32 165 P **P 01 48 16.6 +2.5**
comp=Z,19nm,0.9s,mb5.0,baz=335,slow=8.5,SNR=34
YKA Yellowknife Ar 55.47 345 P **P 01 48 27.7 -2.0**
comp=Z,7.1nm,0.8s,mb4.7,baz=136,slow=7.4,SNR=20
YKA pP pP 01 48 36.6 -2.6
comp=Z,13nm,0.9s,baz=137,slow=7.7,SNR=14
YKA PcP PcP 01 49 30.2 +0.6
comp=Z,2.6nm,0.6s,baz=149,slow=4.4,SNR=7.7
YKA LR LR 02 17 36.6
comp=Z,51nm,18.9s,MS3.6,baz=140,slow=42
YKA Yellowknife Ar 55.47 345 P **P 01 48 27.8 -1.9**
YKA *PP pP 01 48 36.6 -2.6
YKA 01 49 30.2
YKA Yellowknife Ar 55.47 345 P **P 01 48 27.8 -2.0**
YKA pP pP 01 48 36.6 -2.6
YKA PcP PcP 01 49 30.2 +0.6
YKA LR LR 02 17 36.6
DLBC Dease Lake 57.77 335 P **P 01 48 46.9 +0.7**
comp=Z,8.2nm,0.7s,mb4.8,baz=136,slow=7.8
SFJD Kangerlussuaq 61.19 15 P **P 01 49 08.3 -1.4**
SFJD *e**PP pP 01 49 18.5 -0.8
RES Resolute Bay 64.12 358 *eP* **P 01 49 28.8 -0.4**
RES *e**PP pP 01 49 37.1 -1.8
RES *e**SP sP 01 49 41.1 -1.4
RES pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
RES Resolute Bay 64.12 358 *eP* **P 01 49 28.8 -0.4**
comp=Z,6.2nm,0.8s,mb4.7
RES *epP* pP 01 49 37.1 -1.7
RES *esP* sP 01 49 41.1 -1.5
DAWY Dawson 64.66 337 *eP* **P 01 49 32.2 -0.5**
DAWY *epP* pP 01 49 40.6 -1.8
DAWY *ePP* PP 01 51 54.7 -0.4
INK Inuvik 65.07 343 P **P 01 49 34.9 -0.5**
comp=Z,8.0nm,0.8s,mb4.8,baz=122,slow=7.9,SNR=13
INK pP pP 01 49 43.8 -1.3
comp=Z,11nm,0.8s,baz=136,slow=7.3,SNR=10
SUMG Summit 68.09 14 *eP* **P 01 49 53.5 -1.2**
comp=Z,6.5nm,0.9s,mb4.7
SUMG *epP* pP 01 50 02.1 -2.4
PPT Papeete 68.14 246 *eS* S 01 58 58.0 +5.2
comp=Z,110nm,22.2s
PPT *eLR* LR 02 10 21.9
comp=Z,288nm,28.5s
PPT Papeete 68.14 246 LR LR 02 11 12.6
comp=Z,85nm,18.8s,MS4.0,baz=334,slow=28
KDAK Kodiak Island 68.21 328 P **P 01 49 55.7 +0.2**
comp=Z,9.7nm,0.7s,mb5.0,baz=72,slow=2.8,SNR=6.7
KDAK pP pP 01 50 04.8 -0.4
comp=Z,13nm,0.7s,baz=124,slow=8.7,SNR=3.7
KDAK Kodiak Island 68.21 328 P **P 01 49 55.7 +0.2**
KDAK pP pP 01 50 04.8 -0.4
COLA College 68.31 336 *eP* **P 01 49 55.6 -0.5**
COLA *e**PP pP 01 50 03.7 -2.1
COLA *e**SP sP 01 50 07.7 -1.8
COLA pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
COLA College 68.31 336 *eP* **P 01 49 55.6 -0.5**
comp=Z,6.6nm,0.6s,mb4.8
COLA *epP* pP 01 50 03.7 -2.1
COLA *esP* sP 01 50 07.7 -1.8
MCK McKinley 68.33 335 *eP* **P 01 49 54.7 -1.5**
MCK *e**PP pP 01 50 04.4 -1.5
MCK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MCK McKinley 68.33 335 *eP* **P 01 49 54.7 -1.5**
comp=Z,10nm,0.9s,mb4.8
MCK *epP* pP 01 50 04.4 -1.5
TBI Tubuai 70.06 240 *e*LR LR 02 11 11.1
comp=Z,195nm,31.8s
TTA Tatalina 71.14 333 *eP* **P 01 50 12.6 -0.9**
TTA *e**PP pP 01 50 21.5 -1.8
TTA pmax pmax
comp=Z,19nm,1.1s,mb4.9
TTA Tatalina 71.14 333 *eP* **P 01 50 12.6 -0.9**
comp=Z,19nm,1.1s,mb4.9
TTA *epP* pP 01 50 21.5 -1.8
PVIS Viseu 74.65 51 *eP* **P 01 50 35.4 +1.1**
comp=Z,8.1nm,1.0s,mb4.6
PBEJ Beja 74.74 53 *eP* **P 01 50 36.9 +2.1**
comp=Z,10nm,1.9s,mb4.4
MTE Manteigas 74.92 51 *eP* **P 01 50 37.8 +1.9**
comp=Z,17nm,1.5s,mb4.8
MTE Manteigas 74.92 51 *e*LR LR 02 14 21.6
comp=Z,176nm,17.7s
PCBR Castelo Branco 74.99 52 *eP* **P 01 50 36.2 -0.1**
EMIJ Mijas 77.27 55 P **P 01 50 49.4 +0.2**
comp=Z,6.5nm,0.8s,mb4.6
GUD Guadarrama 77.50 51 P **P 01 50 50.6 +0.1**
GUD pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
GUD Guadarrama 77.50 51 P **P 01 50 50.6 +0.1**
comp=Z,6.5nm,0.8s,mb4.6
ESDC Sonseca Array 77.70 52 P **P 01 50 51.3 -0.4**
comp=Z,3.6nm,0.7s,mb4.4,baz=284,slow=5.5,SNR=23
ESDC LR LR 02 22 42.7
comp=Z,101nm,18.2s,MS4.2,baz=290,slow=34
ESDC Sonseca Array 77.70 52 P **P 01 50 51.3 -0.4**
comp=Z,4.2nm,0.8s,mb4.4
ESLA Sonseca Array 77.70 52 *eP* **P 01 50 51.3 -0.3**
comp=Z,1.1nm,0.8s,mb3.8
ELOJ Sierra Loja 77.73 54 P **P 01 50 52.5 +0.7**
ELOJ pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ELOJ Sierra Loja 77.73 54 P **P 01 50 52.5 +0.7**
comp=Z,3.5nm,0.7s,mb4.4
ROSF Rostrenen 77.74 43 *eP* **P 01 50 50.4 -1.5**
comp=Z,2.7nm,0.5s,mb4.1
ROSF Rostrenen 77.74 43 *eP* **P 01 50 50.4 -1.5**
ROSF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ROSF Rostrenen 77.74 43 *eP* **P 01 50 50.4 -1.5**
comp=Z,1.4nm,0.5s,mb4.2
QUIF Quistinic 77.83 43 *eP* **P 01 50 50.8 -1.6**
comp=Z,10nm,0.7s,mb4.6
QUIF Quistinic 77.83 43 *eP* **P 01 50 50.8 -1.6**
QUIF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
QUIF Quistinic 77.83 43 *eP* **P 01 50 50.8 -1.6**
comp=Z,5.3nm,0.7s,mb4.6
ERON Agron 78.02 54 P **P 01 50 53.6 +0.2**
comp=Z,2.7nm,0.7s,mb4.3
ECOG Cogollos-Vega 78.19 54 P **P 01 50 55.1 +0.8**
ECOG pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
ECOG Cogollos-Vega 78.19 54 P **P 01 50 55.1 +0.8**
comp=Z,6.1nm,0.5s,mb4.8
SGMF Saint Gilles 78.22 43 *eP* **P 01 50 52.8 -1.8**
comp=Z,30nm,1.2s,mb4.8
SGMF Saint Gilles 78.22 43 *eP* **P 01 50 52.8 -1.8**
SGMF pmax pmax
comp=Z,15nm,1.2s,mb4.8
SGMF Saint Gilles 78.22 43 *eP* **P 01 50 52.8 -1.8**
comp=Z,15nm,1.2s,mb4.8
EQES Quesada 78.54 53 P **P 01 50 55.0 -1.3**
comp=Z,10.0nm,1.2s,mb4.6
EBER Berja 78.76 54 P **P 01 50 58.4 +0.9**
comp=Z,7.7nm,0.7s,mb4.7
GRR Gorron 79.35 43 *eP* **P 01 50 59.2 -1.5**
comp=Z,16nm,0.6s,mb4.8
GRR Gorron 79.35 43 *eP* **P 01 50 59.2 -1.5**
GRR pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
GRR Gorron 79.35 43 *eP* **P 01 50 59.2 -1.5**
comp=Z,8.0nm,0.6s,mb4.8
SJPF Ste Jean 79.50 48 *eP* **P 01 51 01.1 -0.5**
comp=Z,13nm,0.7s,mb4.7
SJPF Ste Jean 79.50 48 *eP* **P 01 51 01.1 -0.5**
SJPF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
SJPF Ste Jean 79.50 48 *eP* **P 01 51 01.1 -0.5**
comp=Z,6.4nm,0.7s,mb4.7
FLN La Foliniere 79.57 42 *eP* **P 01 51 00.4 -1.5**
LDF La Druitiere 79.82 42 *eP* **P 01 51 01.6 -1.7**
comp=Z,5.1nm,0.6s,mb4.3
LDF La Druitiere 79.82 42 *eP* **P 01 51 01.6 -1.7**
LDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LDF La Druitiere 79.82 42 *eP* **P 01 51 01.6 -1.7**
comp=Z,2.5nm,0.6s,mb4.3
MFF Saint Martin d 79.97 44 *eP* **P 01 51 02.6 -1.5**
comp=Z,14nm,0.7s,mb4.7
MFF Saint Martin d 79.97 44 *eP* **P 01 51 02.6 -1.5**
MFF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
MFF Saint Martin d 79.97 44 *eP* **P 01 51 02.6 -1.5**
comp=Z,6.8nm,0.7s,mb4.7
ETSF Etsaut 80.01 48 *eP* **P 01 51 03.8 -0.5**
comp=Z,18nm,1.2s,mb4.6
ETSF Etsaut 80.01 48 *eP* **P 01 51 03.8 -0.5**
ETSF pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
ETSF Etsaut 80.01 48 *eP* **P 01 51 03.8 -0.5**
comp=Z,8.9nm,1.2s,mb4.6
EBIE Bielsa 80.54 48 P **P 01 51 06.9 -0.3**
comp=Z,4.2nm,0.6s,mb4.5
EPF Esparros 80.65 48 *eP* **P 01 51 06.6 -1.2**
comp=Z,5.3nm,0.7s,mb4.3
EPF Esparros 80.65 48 *eP* **P 01 51 06.6 -1.2**
EPF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
EPF Esparros 80.65 48 *eP* **P 01 51 06.6 -1.2**
comp=Z,2.7nm,0.7s,mb4.3
LIC Lamto 80.73 85 *eP* **P 01 51 09.5 +1.3**
comp=Z,21nm,0.6s,mb4.9
LIC Lamto 80.73 85 *eP* **P 01 51 09.5 +1.3**
comp=Z,11nm,0.6s,mb5.0
LFF La Frestale 80.74 46 *eP* **P 01 51 06.6 -1.7**
comp=Z,9.9nm,0.7s,mb4.5
LFF La Frestale 80.74 46 *eP* **P 01 51 06.6 -1.7**
LFF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LFF La Frestale 80.74 46 *eP* **P 01 51 06.6 -1.7**
comp=Z,4.9nm,0.7s,mb4.5
DBIC Dimbokro 80.83 85 P **P 01 51 09.9 +1.2**
comp=Z,3.7nm,0.6s,mb4.5,baz=331,slow=9.1,SNR=10
DBIC LR LR 02 23 03.6
comp=Z,67nm,19.8s,MS4.0,baz=271,slow=33
RJF Les Rejaudoux 81.25 46 *eP* **P 01 51 09.5 -1.5**
RJF *eR*
comp=Z,301nm,21.5s
RJF Les Rejaudoux 81.25 46 *eP* **P 01 51 09.5 -1.5**
RJF LR LR
comp=Z,300nm,21.5s,MS4.6
TCF Toulx Ste Croi 81.62 44 *eP* **P 01 51 11.4 -1.5**
comp=Z,4.2nm,0.6s,mb4.3
TCF Toulx Ste Croi 81.62 44 *eP* **P 01 51 11.4 -1.5**
TCF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
TCF Toulx Ste Croi 81.62 44 *eP* **P 01 51 11.4 -1.5**
comp=Z,1.1nm,0.6s,mb4.2
CAF Calviac 81.68 46 *eP* **P 01 51 11.9 -1.3**
MTLF Montolieu 81.98 47 *eP* **P 01 51 12.8 -2.0**
comp=Z,12nm,1.1s,mb4.4
MTLF Montolieu 81.98 47 *eP* **P 01 51 12.8 -2.0**
MTLF pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
MTLF Montolieu 81.98 47 *eP* **P 01 51 12.8 -2.0**
comp=Z,5.8nm,1.1s,mb4.4
BGF Bois d'Agland 82.03 44 *eP* **P 01 51 13.4 -1.7**
comp=Z,7.8nm,0.5s,mb4.6
BGF Bois d'Agland 82.03 44 *eP* **P 01 51 13.4 -1.7**
BGF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
BGF Bois d'Agland 82.03 44 *eP* **P 01 51 13.4 -1.7**
comp=Z,3.9nm,0.5s,mb4.6
AVF Avril sur Loir 82.34 44 *eP* **P 01 51 15.4 -1.3**
comp=Z,1.7nm,0.6s,mb3.9
AVF Avril sur Loir 82.34 44 *eP* **P 01 51 15.4 -1.3**
AVF pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
AVF Avril sur Loir 82.34 44 *eP* **P 01 51 15.4 -1.3**
comp=Z,0.9nm,0.6s,mb3.9
SSF Saint Saulge 82.41 44 *eP* **P 01 51 15.3 -1.8**
comp=Z,3.0nm,0.6s,mb4.1
SSF Saint Saulge 82.41 44 *eP* **P 01 51 15.3 -1.8**
SSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
SSF Saint Saulge 82.41 44 *eP* **P 01 51 15.3 -1.8**
comp=Z,1.5nm,0.6s,mb4.1
BAIF Baives 82.48 41 *eP* **P 01 51 15.8 -1.6**
LOR Lormes 82.62 43 *eP* **P 01 51 16.7 -1.5**
comp=Z,3.5nm,0.7s,mb4.2
LOR *eR* 02 22 00.0
comp=Z,110nm,18.2s
LOR Lormes 82.62 43 *eP* **P 01 51 16.7 -1.5**
LOR pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
LOR MLR MLR
comp=Z,110nm,18.3s,MS4.3
LOR Lormes 82.62 43 *eP* **P 01 51 16.7 -1.5**
comp=Z,1.8nm,0.6s,mb4.3
LOR LR LR
comp=Z,110nm,18.3s,MS4.3
SMF Signal de Mont 82.69 44 *eP* **P 01 51 16.8 -1.8**
comp=Z,5.0nm,0.6s,mb4.4
SMF Signal de Mont 82.69 44 *eP* **P 01 51 16.8 -1.8**
SMF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
SMF Signal de Mont 82.69 44 *eP* **P 01 51 16.8 -1.8**
comp=Z,2.5nm,0.6s,mb4.4
LASF Ste Croix 83.06 47 *eP* **P 01 51 19.1 -1.4**
MEZF Maizieres J'vi 83.25 42 *eP* **P 01 51 19.6 -1.8**
comp=Z,5.6nm,0.6s,mb4.5
MEZF Maizieres J'vi 83.25 42 *eP* **P 01 51 19.6 -1.8**
comp=Z,5.6nm,0.6s,mb4.8
VIVF Saint-Julien-l 83.53 46 *eP* **P 01 51 21.2 -1.7**
HAU Haudompre 84.18 42 *eP* **P 01 51 24.2 -2.0**
HAU *eR*
comp=Z,112nm,20.0s
HAU Haudompre 84.18 42 *eP* **P 01 51 24.2 -2.0**
HAU LR LR
comp=Z,110nm,20.0s,MS4.2
AMKA Amchitka 84.19 321 *eP* **P 01 51 26.1 -0.2**
AMKA *esP* sP 01 51 37.2 -2.6
CABF La Chapelle 84.23 44 *eP* **P 01 51 24.5 -2.0**
SMRF Simiane la Rot 84.30 46 *eP* **P 01 51 25.2 -1.6**
ORIF Oris-en-Rattie 84.36 45 *eP* **P 01 51 25.6 -1.5**
comp=Z,3.0nm,0.7s,mb4.2
ORIF *eR*
comp=Z,220nm,20.5s
ORIF Oris-en-Rattie 84.36 45 *eP* **P 01 51 25.6 -1.5**
ORIF pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
ORIF Oris-en-Rattie 84.36 45 *eP* **P 01 51 25.6 -1.5**
comp=Z,1.5nm,0.7s,mb4.2
NB2 NORSAR Subarra 84.54 29 P **P 01 51 26.8 -1.2**
comp=Z,1.3nm,0.7s,mb4.2,baz=284,slow=5.1
NOA NORSAR Array B 84.54 29 P **P 01 51 27.1 -0.9**
comp=Z,1.6nm,0.7s,mb4.2,baz=284,slow=5.2,SNR=8.2
NOA LR LR 02 25 51.5
comp=Z,83nm,21.2s,MS4.1,baz=255,slow=33
HINF Hinteralfeld 84.55 43 *eP* **P 01 51 26.2 -1.8**
comp=Z,5.9nm,0.6s,mb4.6
HINF Hinteralfeld 84.55 43 *eP* **P 01 51 26.2 -1.8**
HINF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
HINF Hinteralfeld 84.55 43 *eP* **P 01 51 26.2 -1.8**
comp=Z,3.0nm,0.6s,mb4.6
CDF Champ du Feu 84.72 42 *eP* **P 01 51 27.2 -1.7**
comp=Z,1.4nm,0.4s,mb4.1
CDF Champ du Feu 84.72 42 *eP* **P 01 51 27.2 -1.7**
CDF pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
CDF Champ du Feu 84.72 42 *eP* **P 01 51 27.2 -1.7**
comp=Z,0.7nm,0.4s,mb4.1
LPL La Plagne 84.86 45 *eP* **P 01 51 28.2 -1.4**
LPG La Plagne 84.87 45 *eP* **P 01 51 28.5 -1.2**
comp=Z,1.7nm,0.5s,mb4.2
LPG La Plagne 84.87 45 *eP* **P 01 51 28.5 -1.2**
LPG pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
LPG La Plagne 84.87 45 *eP* **P 01 51 28.5 -1.2**
comp=Z,0.9nm,0.5s,mb4.2
MBDF Montbardon 85.02 46 *eP* **P 01 51 28.8 -1.6**
LMR La Mourre 85.08 47 *eP* **P 01 51 28.6 -2.1**
comp=Z,5.8nm,0.9s,mb4.4
LMR La Mourre 85.08 47 *eP* **P 01 51 28.6 -2.1**
LMR pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
LMR La Mourre 85.08 47 *eP* **P 01 51 28.6 -2.1**
comp=Z,2.9nm,0.9s,mb4.4
FRF La Foret Royal 85.14 47 *eP* **P 01 51 29.3 -1.7**
SBF Sospel 85.64 46 *eP* **P 01 51 31.9 -1.7**
TORD Torodi Ar. Bea 86.09 77 P **P 01 51 35.9 +0.1**
comp=Z,0.8nm,0.5s,mb4.2,baz=290,slow=5.4,SNR=21
TORD LR LR 02 30 26.4
comp=Z,61nm,18.8s,MS4.0,baz=285,slow=36
GRA1 Grafenberg Arr 87.01 40 *eP* **pP 01 51 48.0 -2.2**
comp=Z,5.0nm,1.2s
GRF Grafenberg Arr 87.01 40 *eP* pP 01 51 48.0 -2.2
comp=Z,5.0nm,1.2s
GRF Grafenberg Arr 87.01 40 *eP* pP 01 51 48.0 -2.2
GRF pmax pmax
comp=Z,5.0nm,1.2s,mb4.6
GRF Grafenberg Arr 87.01 40 *eP* pP 01 51 48.0 -2.2
GRF pmax pmax
comp=Z,5.0nm,1.2s,mb4.6
PGF Pioggiola 87.02 47 *eP* **P 01 51 38.5 -1.8**
comp=Z,9.7nm,0.9s,mb4.7
PGF Pioggiola 87.02 47 *eP* **P 01 51 38.5 -1.8**
PGF pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
PGF Pioggiola 87.02 47 *eP* **P 01 51 38.5 -1.8**
comp=Z,4.8nm,0.9s,mb4.7
ARCES ARCESS Array B 87.59 19 P **P 01 51 41.2 -1.9**
comp=Z,1.5nm,0.6s,mb4.4,baz=280,slow=5.0,SNR=10
ARCES ARCESS Array B 87.59 19 P **P 01 51 41.2 -1.9**
CLL Collm 87.74 38 ⇓P **P 01 51 44.4 +0.6**
comp=Z,logA/T=0.7,mb4.7
CLL *e**PP pP 01 51 52.0 -1.8
CLL *i* PP PP 01 55 10.4 +0.9
CLL Collm 87.74 38 ⇓*iP* **P 01 51 44.4 +0.6**
comp=Z,3.0nm,0.6s,mb4.7
CLL *epP* pP 01 51 52.0 -1.8
CLL *i* PP PP 01 55 10.4 +0.9
CLL Lm 02 22 00.0
comp=Z,100nm,20.9s
CLL Collm 87.74 38 ⇓*iP* **P 01 51 44.4 +0.6**
CLL *e**PP pP 01 51 52.0 -1.8
CLL pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
CLL MLR MLR
comp=Z,100nm,20.9s,MS4.2
CLL Collm 87.74 38 ⇓*iP* **P 01 51 44.4 +0.6**
comp=Z,3.0nm,0.6s,mb4.7
CLL *epP* pP 01 51 52.0 -1.8
CLL LR LR
comp=Z,100nm,20.9s,MS4.2
GERES GERESS Array B 88.79 41 P **P 01 51 48.4 -0.4**
comp=Z,0.4nm,0.5s,mb4.0,baz=304,slow=3.1,SNR=6.5
GERES PP PP 01 55 20.3 +2.4
comp=Z,0.5nm,0.9s,baz=268,slow=6.4,SNR=3.9
GERES LR LR 02 29 23.1
comp=Z,100nm,19.2s,MS4.2,baz=123,slow=34
GERES GERESS Array B 88.79 41 P **P 01 51 48.4 -0.3**
GERES 01 55 20.3
KAF Kangasniemi 91.02 26 *ep* **P 01 51 56.8 -2.4**
FINES FINESS Array B 91.21 26 P **P 01 51 58.8 -1.2**
comp=Z,1.0nm,0.7s,mb4.2,baz=240,slow=3.8,SNR=6.0
FINES LR LR 02 28 28.8
comp=Z,94nm,21.6s,MS4.2,baz=134,slow=33
JOF Joensuu 92.71 24 *ep* **P 01 52 03.1 -3.9**
VNA1 Neumayer--Stat 96.23 161 *eP* **P 01 52 24.9 +1.8**
VNA1 *e* 01 52 27.6
VNA1 *e* pP 01 52 33.8 +0.6
AKASG Malin Array Be 97.53 35 PP PP 01 56 28.4 +2.0
comp=Z,0.1nm,0.2s,baz=295,slow=7.2,SNR=2.5
AKASG LR LR 02 35 58.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,66nm,18.7s,MS4.2,baz=45,slow=35						
SNAA	**Sanae**	**98.17**	**161**	*e*P	**P**	**01 52 32.6**	**+0.7**
SNAA				*e*		01 52 35.4	
SNAA				*e*	pP	01 52 41.8	-0.1
OBN	**Obninsk**	**99.14**	**29**	*e*P	**P**	**01 52 37.2**	**+1.0**
OBN				*e*		02 03 13.1	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.3						
AKTO	**Aktyubinsk**	**111.79**	**23**	PP	PP	01 58 13.2	+0.9
	comp=Z,1.0nm,0.6s,baz=277,slow=2.0,SNR=4.7						
BVAR	**Borovoye Array**	**113.56**	**15**	PP	PP	01 58 25.9	+0.9
	comp=Z,0.9nm,0.7s,baz=15,slow=6.2,SNR=3.7						
BOSA	**Boshof**	**114.29**	**117**	PKP	PKiKP	01 57 35.5	+1.1
	comp=Z,2.9nm,0.6s,baz=327,slow=6.3,SNR=11						
CN2	**Changchun**	**118.36**	**334**	*e*PKP	PKPdf	01 57 42.5	+0.2
MAW	**Mawson**	**119.69**	**167**	PKP	PKPdf	01 57 43.7	-1.1
	comp=Z,0.6nm,0.3s,baz=270,slow=5.9,SNR=6.4						
ULN	**Ulaanbaatar**	**120.41**	**349**	*e*PKIKP	PKPdf	01 57 47.0	+0.8
ULN				*e*		01 57 56.0	
SONM	**Songino Array**	**120.56**	**350**	PKP	PKPdf	01 57 47.4	+0.9
	comp=Z,1.7nm,0.7s,baz=11,slow=1.3,SNR=5.9						
SONM				pPKP	pPKPdf	01 57 58.6	+1.8
	comp=Z,2.8nm,1.0s,baz=35,slow=1.5,SNR=5.3						
MKAR	**Makanchi Array**	**121.92**	**9**	PKP	PKPdf	01 57 48.9	-0.2
	comp=Z,1.0nm,0.8s,baz=2.9,slow=2.4,SNR=5.7						
MKAR				pPKP	pPKPdf	01 58 00.8	+1.4
	comp=Z,1.0nm,0.8s,baz=345,slow=3.8,SNR=4.8						
MKAR	**Makanchi Array**	**121.92**	**9**	PKP	PKPdf	01 57 48.9	-0.2
MKAR				pPKP	pPKPdf	01 58 00.8	+1.4
AAK	**Ala-Archa**	**124.20**	**17**	*i* PKIKP	PKPdf	01 57 54.1	+0.6
BJI	**Beijing**	**125.22**	**339**	PKP	PKPdf	01 57 56.0	+0.6
BJI				LR	LR		
	comp=N,200nm,17.3s,MS5.0						
BJI				LR	LR		
	comp=E,227nm,18.8s,MS5.0						
BJI				LR	LR		
	comp=Z,356nm,35.7s						
WMQ	**Urumqi**	**125.49**	**5**	PKP	PKPdf	01 57 57.0	+1.0
WMQ				PP	PP	01 59 52.0	+4.9
WMQ				PP	PP		
	comp=Z,102nm,10.2s						
WMQ				LR	LR		
	comp=N,283nm,22.0s,MS5.0						
WMQ				LR	LR		
	comp=E,212nm,20.9s,MS5.0						
WMQ				LR	LR		
	comp=Z,265nm,22.5s,MS4.8						
TOO	**Toolangi**	**126.20**	**231**	*e*P	PKPdf	01 57 58.5	+1.2
	comp=Z,5.2nm,0.6s						
GTA	**Gaotai**	**129.77**	**353**	PKP	PKPdf	01 58 05.8	+1.7
GTA				XPKP		01 58 18.1	
GTA				PP	PP	02 00 21.8	+6.6
GTA				SKS	SKSdf	02 05 12.3	-1.1
GTA				PP	PP		
	comp=Z,106nm,4.6s						
GTA				LR	LR		
	comp=N,66nm,15.6s,MS4.6						
GTA				LR	LR		
	comp=E,84nm,16.3s,MS4.6						
GTA				LR	LR		
	comp=Z,87nm,14.4s,MS4.6						
SSE	**Sheshan**	**130.55**	**328**	PKP	PKPdf	01 58 05.1	-0.5
STKA	**Stephens Creek**	**130.77**	**237**	*e*P	PKPdf	01 58 07.4	+1.4
	comp=Z,4.9nm,1.2s						
STKA	**Stephens Creek**	**130.77**	**237**	PKP	PKPdf	01 58 07.2	+1.2
	comp=Z,6.7nm,1.0s,baz=317,slow=2.6,SNR=5.0						
NJ2	**Nanjing**	**130.94**	**331**	*e*PKP	PKPdf	01 58 06.3	0.0
NJ2				XPKP		01 58 20.6	
NJ2				PP	PP	02 00 25.0	+2.2
NJ2				PKS		02 01 41.0	
NJ2				SKS	SKSdf	02 05 12.0	-3.5
NJ2				SKKS	SKKSac	02 07 12.0	-5.2
NJ2				PP	PP		
	comp=Z,200nm,6.4s						
NJ2				LR	LR		
	comp=N,1μm,22.0s,MS5.6						
NJ2				LR	LR		
	comp=E,640nm,20.5s,MS5.6						
NJ2				LR	LR		
	comp=Z,1μm,22.7s,MS5.5						
LZH	**Lanzhou**	**132.40**	**348**	*e*PKP	PKPdf	01 58 12.0	+2.9
LZH				XPKP		01 58 24.8	
LZH				*e*PP	PP	02 00 37.5	+5.3
LZH				SKS	SKSdf	02 05 18.8	+0.7
LZH				SKKS	SKKSac	02 07 25.6	-0.5
LZH				PP	PP		
	comp=Z,97nm,8.7s						
LZH				LR	LR		
	comp=N,217nm,18.3s						
LZH				LR	LR		
	comp=Z,396nm,20.4s,MS5.1						
CD2	**Chengdu**	**137.41**	**347**	*e*PKP	PKPdf	01 58 16.0	-2.5
ASAR	**Alice Springs**	**139.25**	**246**	PKhKP		01 58 11.7	
	comp=Z,1.0nm,0.7s,baz=118,slow=4.2,SNR=7.8						
ASAR				PKP	PKPdf	01 58 23.4	+1.5
	comp=Z,4.5nm,0.7s,baz=88,slow=2.0,SNR=7.6						
WB2	**Warramunga Arr**	**139.43**	**252**	*e*P		01 58 13.1	
WB2				*i*	PKPdf	01 58 23.9	+1.7
WRAB	**Tennant Creek**	**139.43**	**252**	*e*PKIKP	PKPdf	01 58 24.1	+1.9
WRA	**Warramunga Arr**	**139.44**	**252**	PKhKP		01 58 13.1	
	comp=Z,2.0nm,0.7s,baz=92,slow=2.8,SNR=14						
WRA				PKP	PKPdf	01 58 24.0	+1.8
	comp=Z,8.4nm,0.8s,baz=92,slow=2.1,SNR=28						
GYA	**Guiyang**	**140.83**	**341**	*e*PKP	PKPdf	01 58 25.8	+1.1
GYA				XPKP		01 58 40.4	
GYA				PKS		02 02 01.6	
GYA				PP	PP		
	comp=Z,120nm,7.9s						
GYA				LR	LR		
	comp=N,240nm,20.9s,MS5.0						
GYA				LR	LR		
	comp=E,190nm,21.4s,MS5.0						
GYA				LR	LR		
	comp=Z,170nm,21.6s,MS4.8						
KMI	**Kunming**	**143.21**	**346**	PKP	PKPdf	01 58 31.0	+2.1
KMI				LR	LR		
	comp=Z,77nm,27.2s,MS4.3						
KNA	**Kununurra**	**145.12**	**258**	*e*P	PKPbc	01 58 32.3	+0.5
	comp=Z,11nm,0.6s						
QIZ	**Qiongzhong**	**146.24**	**331**	PKP	PKPbc	01 58 37.6	+2.3
FITZ	**Fitzroy Crossi**	**147.84**	**253**⇓	*i*P	PKPbc	01 58 41.0	+1.2
	comp=Z,33nm,0.9s						
FITZ	**Fitzroy Crossi**	**147.84**	**253**	PKPbc	PKPbc	01 58 41.1	+1.3
	comp=Z,17nm,0.8s,baz=161,slow=2.3,SNR=27						
HYB	**Hyderabad**	**148.49**	**28**	*i* PKP	PKPdf	01 58 37.0	-0.9
HYB				*e*		01 59 15.0	
HYB	**Hyderabad**	**148.49**	**28**	*e*P	PKPdf	01 58 39.5	+1.6
NWAO	**Narrogin (SRO)**	**148.79**	**221**	PKPbc	PKPbc	01 58 43.0	+0.8
	comp=Z,16nm,0.8s,baz=156,slow=3.2,SNR=8.6						
CHRT	**Chiangrai**	**148.94**	**348**	⇓P	PKPbc	01 58 44.0	+1.3
	comp=Z,137nm,1.0s						
CHG	**Chiang Mai**	**150.14**	**349**	⇑P	PKPbc	01 58 56.6	+11
	comp=Z,15nm,0.7s						
CHTO	**Chiang Mai**	**150.14**	**349**	*e*PKPbc	PKPbc	01 58 46.2	+0.6
CHTO				*e*		01 58 56.1	
MBWA	**Marble Bar**	**152.57**	**244**	*e*PKP	PKPbc	01 58 52.1	+0.8
PSI	**Prapat**	**165.45**	**337**	PKP	PKPdf	01 59 00.2	+0.9
	comp=Z,6.3nm,0.9s,baz=163,slow=16,SNR=3.8						
PSI				PKPab	PKPab	01 59 58.2	+0.7
	comp=Z,3.7nm,0.7s,baz=225,slow=1.4,SNR=2.4						
PSI	**Prapat**	**165.45**	**337**	PKP	PKPdf	01 59 00.2	+0.9
PSI				PKPab	PKPab	01 59 58.2	+0.7

*BJI **25** 01:43:54.9, 978S×10852E, h47km, mB5.0, mb4.8, Ms4.6, Msz4.3*
*ISCJB **25** 01:43:56.3±0.3, 931S±004×10846E±005, h36km, mb4.7/53, MS4.1/12, Error ellipse: s-maj=6.7km s-min=5.7km az=146.8*
*MOS **25** 01:43:56.2±0.9, 915S×10856E, h33km, mb4.8/25, Error ellipse: s-maj=16.3km s-min=7.9km az=114.9*
*NEIC **25** 01:43:56.9±1.9, 928S×10847E, h26km±13km, mb4.7/24, Error ellipse: s-maj=7.4km s-min=4.7km az=58.0*
*IDC **25** 01:43:58.3±0.7, 928S×10851E, h36km±5km, mb4.2/13, mb1 4.3/14, mb1mx4.2/19, mbtmp4.4/14, ML4.2/1, MS3.7/3, Ms1 3.7/3, ms1mx3.2/33, Error ellipse: s-maj=24.5km s-min=12.2km az=62.0*
ISC 25 01:43:58.5±0.3**, 931S**±004×**10848E**±005**, h38**km**,** **h38**km±1.1km**:pP-P, n113,** σ1°**00**/107**, mb4.7**/53**, MS4.1**/12**,**
8C-3D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.31**	**32**⇑	*i*P	**Pn**	**01 44 35.6**	**+1.5**
BJII				*i* S	**Sn**	**01 45 06.2**	**+4.9**
BJII	**Banjamegara**	**2.31**	**32**	*e*P	**Pn**	**01 44 43.9**	**+10**
YOGI	**Yogyakarta**	**2.33**	**51**⇓	*e*P	**Pn**	**01 44 34.5**	**+0.1**
YOGI				*e*S	**Sn**	**01 45 01.9**	**+0.1**
LEM	**Lembang**	**2.61**	**341**	P	**Pn**	**01 44 40.1**	**+1.9**
	1μm,1.1s						
KSM	**Kuching**	**10.87**	**10**	Pn	**Pn**	**01 46 30.3**	**-1.2**
COCO	**West Island**	**11.79**	**255**	Pn	**Pn**	**01 46 43.0**	**-1.1**
MBWA	**Marble Bar**	**16.01**	**139**	*e*Pn	**Pn**	**01 47 36.2**	**-4.6**
	5.9nm,0.6s						
MBWA				*e*Sn	Sn	01 50 13.5	-24
KULM	**Kulim**	**16.47**	**331**	*e*Pn	**Pn**	**01 47 47.9**	**+1.2**
FITZ	**Fitzroy Crossi**	**18.81**	**119**	*e*P	**Pn**	**01 48 15.4**	**-0.1**
	7.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.81**	**119**	P	**Pn**	**01 48 15.1**	**-0.5**
	0.5nm,0.3s,baz=281,slow=8.3,SNR=23						
FITZ				Sn	**Sn**	**01 51 27.3**	**-18**
	0.2nm,0.3s,baz=133,slow=17,SNR=3.7						
NWAO	**Narrogin (SRO)**	**24.86**	**162**	P	**P**	**01 49 16.4**	**-1.0**
	5.7nm,0.5s,mb4.4,baz=6.1,slow=10.0,SNR=10						
NWAO				LR	LR	01 58 28.2	
	comp=Z,178nm,18.9s,MS3.6,baz=322,slow=35						
NWAO	**Narrogin (SRO)**	**24.86**	**162**	*e*P	**P**	**01 49 18.2**	**+0.8**
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NWAO	**Narrogin (SRO)**	**24.86**	**162**	*e*P	**P**	**01 49 18.2**	**+0.8**
	comp=Z,5.7nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**27.12**	**116**	P	**P**	**01 49 37.7**	**-0.2**
	comp=Z,2.2nm,0.5s,mb3.9,baz=286,slow=12,SNR=20						
WRA				Sn	S	01 54 45.9	+32
	comp=Z,0.6nm,0.7s,baz=288,slow=21,SNR=4.2						
WRAB	**Tennant Creek**	**27.13**	**116***d*	*i*P	**P**	**01 49 38.7**	**+0.7**
WRAB	**Tennant Creek**	**27.13**	**116**	*e*P	**P**	**01 49 38.4**	**+0.4**
	comp=Z,4.0nm,0.5s,mb4.2						
WB2	**Warramunga Arr**	**27.13**	**116**	*e*P	**P**	**01 49 37.8**	**-0.2**
ASAR	**Alice Springs**	**28.18**	**124**	P	**P**	**01 49 47.5**	**+0.2**
	comp=Z,1.5nm,0.5s,mb3.9,baz=299,slow=7.9,SNR=16						
ASAR				PcP	PcP	01 53 01.8	+1.3
	comp=Z,0.9nm,0.4s,baz=327,slow=1.6,SNR=6.6						
ASAR				Sn	S	01 55 16.9	+47
	comp=Z,1.6nm,0.9s,baz=303,slow=24,SNR=4.0						
ASAR				LR	LR	02 00 44.1	
	comp=Z,112nm,19.4s,MS3.5,baz=151,slow=36						
ASAR	**Alice Springs**	**28.18**	**124**	P	**P**	**01 49 47.6**	**+0.2**
ASAR						01 53 01.8	
ASAR	**Alice Springs**	**28.18**	**124**	P	**P**	**01 49 47.5**	**+0.2**
ASAR				PcP	PcP	01 53 01.8	+1.3
ASAR				Sn	S	01 55 16.9	+47
ASAR				LR	LR	02 00 44.1	
QIZ	**Qiongzhong**	**28.19**	**3**	P	**P**	**01 49 47.9**	**+0.4**
QIZ				S	**S**	**01 54 32.8**	**+2.3**
QIZ				LR	LR		
	comp=Z,246nm,15.2s,MS3.9						
KMI	**Kunming**	**34.68**	**351**	P	**P**	**01 50 49.6**	**+5.1**
KMI				AP	pP	01 50 59.8	+4.6
KMI				XP	sP	01 51 03.8	+4.1
KMI				PP	PP	01 52 07.4	+3.9
KMI				PPP		01 52 26.1	
KMI				S	**S**	**01 56 17.4**	**+5.7**
KMI				XS	sS	01 56 34.9	+5.5
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
KMI				AMB	AMB		
	comp=Z,184nm,4.2s						
KMI				LR	LR		
	comp=N,342nm,15.4s,MS4.3						
KMI				LR	LR		
	comp=E,287nm,16.2s,MS4.3						
KMI				LR	LR		
	comp=Z,396nm,14.7s,MS4.3						
YHNB	**Yeheng**	**36.04**	**20**	P	**P**	**01 50 55.9**	**-0.3**
STKA	**Stephens Creek**	**38.02**	**131**⇑	*i*P	**P**	**01 51 13.1**	**+0.1**
	comp=Z,7.2nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**38.02**	**131**	P	**P**	**01 51 13.3**	**+0.3**
	comp=Z,10nm,0.7s,mb4.7,baz=300,slow=8.2,SNR=24						
STKA				LR	LR	02 08 21.3	
	comp=Z,135nm,20.1s,MS3.8,baz=212,slow=38						
CD2	**Chengdu**	**40.25**	**354**	*e*P	**P**	**01 51 33.5**	**+1.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
SSE	**Sheshan**	**41.98**	**16**	P	**P**	**01 51 45.6**	**-0.3**
SSE				AP	pP	01 51 54.3	-2.4
SSE				S	**S**	**01 58 01.3**	**-0.7**
SSE				AMB	AMB		
	comp=Z,42nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,138nm,5.8s						
SSE				LR	LR		
	comp=N,154nm,19.3s,MS4.1						
SSE				LR	LR		
	comp=E,173nm,19.4s,MS4.1						
SSE				LR	LR		
	comp=Z,147nm,19.5s,MS3.9						
NJ2	**Nanjing**	**42.31**	**13**	*e*P	**P**	**01 51 46.0**	**-2.5**
NJ2				PP	PP	01 53 27.1	+0.2
NJ2				S	**S**	**01 58 03.0**	**-3.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,100nm,3.7s						
NJ2				LR	LR		
	comp=N,1μm,14.8s,MS5.1						
NJ2				LR	LR		
	comp=E,890nm,12.0s,MS5.1						
NJ2				LR	LR		
	comp=Z,890nm,15.7s,MS4.8						
JIRN	**Jiri**	**42.62**	**330**	*e*P	**P**	**01 51 51.6**	**+0.5**
	comp=Z,58nm,1.1s,mb5.2						
PKI	**Pulchoki**	**42.94**	**329**	*e*P	**P**	**01 51 53.5**	**-0.1**
	comp=Z,34nm,1.2s,mb5.0						
PKI	**Pulchoki**	**42.94**	**329**	*e*P	**P**	**01 51 53.5**	**-0.1**
PKI				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.0						
GUN	**Gumba**	**42.98**	**330**	*e*P	**P**	**01 51 54.8**	**+0.8**
	comp=Z,56nm,1.1s,mb5.2						
DMN	**Daman**	**43.12**	**329**	*e*P	**P**	**01 51 55.6**	**+0.5**
	comp=Z,49nm,1.0s,mb5.2						
KKN	**Kakani**	**43.18**	**329**	*e*P	**P**	**01 51 55.6**	**0.0**
	comp=Z,51nm,1.1s,mb5.2						
KKN	**Kakani**	**43.18**	**329**	*e*P	**P**	**01 51 55.6**	**0.0**
KKN				pmax	pmax		
	comp=Z,51nm,1.1s,mb5.2						
GKN	**Gorkha**	**43.68**	**329**	*e*P	**P**	**01 51 59.5**	**-0.1**
KOLN	**Koldanda**	**44.03**	**328**	*e*P	**P**	**01 52 02.4**	**-0.1**
	comp=Z,41nm,0.8s,mb5.2						
LZH	**Lanzhou**	**45.36**	**355**	⇑P	**P**	**01 52 13.9**	**+0.8**
LZH				AP	pP	01 52 24.5	+0.5
LZH				XP	sP	01 52 31.4	+2.9
LZH				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.9						
GTA	**Gaotai**	**49.13**	**351**	⇑P	**P**	**01 52 43.9**	**+1.5**
GTA				PCP	PcP	01 54 06.9	+1.5
GTA				PP	PP	01 54 40.1	+3.8
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,77nm,4.6s						
GTA				LR	LR		
	comp=N,154nm,14.9s,MS4.2						
GTA				LR	LR		
	comp=E,102nm,14.9s,MS4.2						
GTA				LR	LR		
	comp=Z,191nm,18.0s,MS4.1						
HNR	**Honiara**	**50.74**	**95**	P	**P**	**01 52 56.1**	**+1.5**
MJAR	**Matsushiro Arr**	**53.49**	**30**	P	**P**	**01 53 13.6**	**-1.5**
	comp=Z,0.8nm,0.3s,mb4.1,baz=211,slow=11,SNR=4.4						
WMQ	**Urumqi**	**56.15**	**342**	P	**P**	**01 53 36.9**	**+2.6**
WMQ				AP	pP	01 53 47.0	+1.5
WMQ				XP	sP	01 53 50.9	+1.0
WMQ				PP	PP	01 55 43.5	+3.9
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,66nm,5.0s						
WMQ				LR	LR		
	comp=N,161nm,16.7s,MS4.3						
WMQ				LR	LR		
	comp=E,121nm,15.6s,MS4.3						
WMQ				LR	LR		
	comp=Z,160nm,17.2s,MS4.2						
CASY	**Casey**	**56.90**	**179**	*e*P	**P**	**01 53 39.9**	**+0.3**
SONM	**Songino Array**	**56.92**	**358**	P	**P**	**01 53 40.4**	**+0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,2.7nm,0.4s,mb4.6,baz=178,slow=8.8,SNR=16						
SONM				pP	pP	01 53 51.0	0.0
	comp=Z,6.6nm,0.7s,baz=175,slow=8.2,SNR=11						
ULN	**Ulaanbaatar**	**56.94**	**359**	*e*P	**P**	**01 53 40.1**	**+0.2**
ULN				*e**PP	pP	01 53 51.1	0.0
ULN				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**56.94**	**359**	*e*P	**P**	**01 53 40.1**	**+0.2**
	comp=Z,8.5nm,1.0s,mb4.7						
ULN				*e*pP	pP	01 53 51.1	0.0
MDJ	**Mudanjiang**	**56.97**	**18**	P	**P**	**01 53 43.3**	**+3.2**
MDJ				AP	pP	01 53 52.5	+1.2
MDJ				XP	sP	01 53 56.1	+0.3
MDJ				PCP	PcP	01 54 37.3	+2.3
MDJ				PP	PP	01 55 50.5	+3.6
MDJ				S	**S**	**02 01 37.5**	**+5.8**
MDJ				XS	sS	02 01 53.0	+2.8
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.4s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,67nm,4.4s						
MDJ				LR	LR		
	comp=N,216nm,19.0s						
MDJ				LR	LR		
	comp=E,275nm,24.8s						
MDJ				LR	LR		
	comp=Z,308nm,16.5s,MS4.5						
AAK	**Ala-Archa**	**60.30**	**332**⇑	*e*P	**P**	**01 54 02.3**	**-1.0**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
MK31	**Makanchi Array**	**60.55**	**340**	P	**P**	**01 54 03.9**	**-1.1**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.7						
MKAR	**Makanchi Array**	**60.55**	**340**	P	**P**	**01 54 04.7**	**-0.3**
	comp=Z,4.8nm,0.4s,mb5.0,baz=150,slow=7.9,SNR=59						
MKAR				pP	pP	01 54 15.7	-0.6
	comp=Z,6.3nm,0.6s,baz=131,slow=6.6,SNR=14						
KLR	**Kul'dur**	**61.77**	**17**	*e*P	**P**	**01 54 17.0**	**+3.7**
KURK	**Kurchatov**	**65.16**	**340**	*e*P	**P**	**01 54 35.0**	**-0.7**
KURK				*e**PP	pP	01 54 46.6	-0.4
KURK				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
KURK	**Kurchatov**	**65.16**	**340**	*e*P	**P**	**01 54 35.0**	**-0.6**
	comp=Z,14nm,1.0s,mb5.0						
KURK				*e*pP	pP	01 54 46.6	-0.5
MAW	**Mawson**	**65.60**	**197**	P	**P**	**01 54 38.6**	**+0.1**
	comp=Z,2.6nm,0.9s,mb4.3,baz=4.8,slow=4.9,SNR=4.1						
MAW	**Mawson**	**65.60**	**197**	*e*P	**P**	**01 54 38.1**	**-0.4**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAW	**Mawson**	**65.60**	**197**	*e*P	**P**	**01 54 38.1**	**-0.4**
	comp=Z,2.8nm,0.8s,mb4.3						
ZAL	**Zalesovo**	**66.12**	**345**	P	**P**	**01 54 40.9**	**-0.9**
	comp=Z,1.5nm,0.4s,mb4.3,baz=315,slow=5.0,SNR=8.1						
ZAL				pP	pP	01 54 53.0	-0.3
	comp=Z,2.7nm,0.4s,baz=303,slow=4.9,SNR=4.6						
ZAL	**Zalesovo**	**66.12**	**345**	P	**P**	**01 54 40.9**	**-0.9**
ZAL				pP	pP	01 54 53.0	-0.3
BOD	**Bodaibo**	**67.05**	**3**	*e*P	**P**	**01 54 46.7**	**-1.1**
BOD				*e*	pP	01 54 58.5	-0.7
BOD				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.2						
BOD				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.7						
NVS	**Novosibirsk**	**67.34**	**344**	*e*P	**P**	**01 54 47.5**	**-2.1**
NVS				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.8						
NVS				pmax	pmax		
	comp=N,16nm,1.7s						
VOSK	**Vostochnaya**	**69.59**	**337**	P	**P**	**01 55 02.6**	**-1.1**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BVA0	**Borovoye Array**	**70.05**	**337**	*i* P	**P**	**01 55 05.5**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
BVAR	**Borovoye Array**	**70.05**	**337**	P	**P**	**01 55 05.6**	**-1.0**
	comp=Z,3.4nm,0.7s,mb4.4,baz=142,slow=7.3,SNR=4.5						
BRVK	**Borovoye**	**70.12**	**337**	*e*P	**P**	**01 55 06.6**	**-0.3**
BRVK				*e*	pP	01 55 16.8	-1.6
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**70.12**	**337**	*e*P	**P**	**01 55 06.6**	**-0.3**
	comp=Z,4.3nm,0.8s,mb4.4						
BRVK				*e*	pP	01 55 16.8	-1.6
CHKZ	**Chkalovo**	**70.46**	**337**	*e*P	**P**	**01 55 08.8**	**-0.2**
CHKZ				*e**PP	pP	01 55 19.8	-0.7
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
CHKZ	**Chkalovo**	**70.46**	**337**	*e*P	**P**	**01 55 08.8**	**-0.2**
	comp=Z,7.0nm,0.5s,mb4.8						
CHKZ				*e*pP	pP	01 55 19.8	-0.7
ZRNK	**Zerenda**	**70.55**	**336**	*e*P	**P**	**01 55 08.9**	**-0.7**
ZRNK				*e*	pP	01 55 19.7	-1.3
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
ZRNK	**Zerenda**	**70.55**	**336**	*e*P	**P**	**01 55 08.9**	**-0.7**
	comp=Z,6.7nm,0.5s,mb4.8						
ZRNK				*e*	pP	01 55 19.7	-1.3
AB31	**Akbulak array**	**72.13**	**329**	*i* P	**P**	**01 55 18.5**	**-0.6**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
YAK	**Yakutsk**	**73.02**	**10**⇑	*e*P	**P**	**01 55 21.8**	**-2.6**
YAK				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
VNDA	**Vanda**	**73.44**	**170**	P	**P**	**01 55 26.3**	**-0.6**
	comp=Z,3.4nm,0.8s,mb4.3,baz=299,slow=6.2,SNR=14						
SBA	**Scott Base**	**74.51**	**169**	*e*P	**P**	**01 55 33.3**	**+0.1**
SBA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
SBA	**Scott Base**	**74.51**	**169**	*e*P	**P**	**01 55 33.3**	**+0.1**
	comp=Z,2.4nm,0.6s,mb4.3						
GNI	**Garni**	**76.61**	**315**	P	**P**	**01 55 45.6**	**+0.4**
SVE	**Sverdlovsk**	**76.71**	**335**	*e*P	**P**	**01 55 45.0**	**-0.7**
SVE				*e*	pP	01 55 58.0	+0.7
ARU	**Arti**	**77.33**	**334**⇓	*i*P	**P**	**01 55 47.3**	**-1.9**
ARU				*e*	pP	01 55 59.5	-1.3
ARU				*e*		01 58 41.0	
ARU				*e*PPP		02 00 28.3	
ARU				*e*S	S	02 05 34.8	-1.8
ARU				*e*SS	SS	02 10 31.4	-3.8
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
ARU	**Arti**	**77.33**	**334**	*e*P	**P**	**01 55 47.3**	**-1.9**
	comp=Z,7.5nm,1.0s,mb4.6						
KIV	**Kislovodsk**	**79.56**	**318**	*e*P	**P**	**01 56 02.0**	**+0.5**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
KIV				MLR	MLR		
	comp=Z,83nm,19.0s,MS4.1						
BOSA	**Boshof**	**79.69**	**243**	P	**P**	**01 56 03.8**	**+1.6**
LBTB	**Lobatse**	**79.71**	**246**	*e*P	**P**	**01 56 02.9**	**+0.6**
LBTB				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
LBTB	**Lobatse**	**79.71**	**246**	*e*P	**P**	**01 56 02.9**	**+0.6**
	comp=Z,1.3nm,0.6s,mb4.0						
MALT	**Malatya**	**80.46**	**311**	*e*P	**P**	**01 56 06.5**	**+0.1**
MALT				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
MALT	**Malatya**	**80.46**	**311**	*e*P	**P**	**01 56 06.5**	**+0.1**
	comp=Z,4.7nm,1.2s,mb4.3						
EIL	**Elat**	**80.54**	**302**	*e*P	**P**	**01 56 07.8**	**+1.0**
	comp=Z,78nm,0.7s,mb5.8						
QSPA	**South Pole Qui**	**80.69**	**180**	*e*P	**P**	**01 56 07.0**	**-0.7**
	comp=Z,3.6nm,0.4s,mb4.7						
TIXI	**Tiksi**	**81.92**	**6**⇑	*e*P	**P**	**01 56 13.8**	**-0.3**
ANN	**Anapa**	**83.38**	**317**	*e*P	**P**	**01 56 27.2**	**+5.5**
ANN				*i* *PP	pP	01 56 38.1	+4.7
ANN				*e*		01 59 42.8	
ANN				*e*S	S	02 06 47.7	+7.7
ANN				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
BR131	**Keskin Array S**	**84.45**	**312**	*e*P	**P**	**01 56 27.4**	**+0.2**
	comp=Z,7.5nm,1.0s,mb4.8						
BR131				*e*	pP	01 56 39.2	+0.3
BRTR	**Keskin Array B**	**84.45**	**312**	P	**P**	**01 56 27.7**	**+0.5**
	comp=Z,6.3nm,1.1s,mb4.7,baz=124,slow=6.1,SNR=28						
BRTR				pP	pP	01 56 38.9	0.0
	comp=Z,2.8nm,0.9s,baz=124,slow=6.3,SNR=5.9						
VRSR	**Storozhevoye**	**84.57**	**324**	*e*P	**P**	**01 56 27.5**	**-0.3**
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.8						
VRSR				pmax	pmax		
	comp=N,9.0nm,1.2s						
VRSR				pmax	pmax		
	comp=E,10.0nm,1.1s						

SIM	**Simferopol'**	**85.66**	**317**	*e*P		**P**	**01 56 34.7**	**+1.5**
SIM				pmax	pmax			
	comp=Z,9.0nm,0.7s,mb5.3							
OBN	**Obninsk**	**87.45**	**327**	*c i*P		**P**	**01 56 42.2**	**+0.2**
OBN				*e*			02 00 04.5	
OBN				*e*S			02 07 04.9	
OBN				pmax	pmax			
	comp=Z,31nm,1.4s,mb5.3							
OBN				MLR	MLR			
	comp=Z,100nm,18.0s,MS4.3							
OBN	**Obninsk**	**87.45**	**327**	*e*P		**P**	**01 56 42.7**	**+0.7**
SNAA	**Sanae**	**87.77**	**197**	*e*P		**P**	**01 56 44.0**	**+0.5**
SNAA				*e**PP		pP	01 56 53.5	-1.8
SNAA				pmax	pmax			
	comp=Z,8.0nm,1.4s							
SNAA	**Sanae**	**87.77**	**197**	*e*P		**P**	**01 56 44.0**	**+0.5**
	comp=Z,8.1nm,1.4s,mb4.8							
SNAA				*e*pP		pP	01 56 53.5	-1.8
VNA1	**Neumayer--Stat**	**89.80**	**197**	*e*P		**P**	**01 56 54.2**	**+1.1**
VNA1				*e*			01 56 55.6	
AKASG	**Malin Array Be**	**90.40**	**321**	P		**P**	**01 56 55.2**	**-0.7**
	comp=Z,0.2nm,0.3s,mb3.9,baz=92,slow=4.4,SNR=6.8							
AKASG	**Malin Array Be**	**90.40**	**321**	P		**P**	**01 56 55.2**	**-0.7**
COLA	**College**	**104.18**	**25**	P		Pdif	01 57 57.5	-0.7
ESLA	**Sonseca Array**	**113.14**	**309**	*e*PKiKP		PKiKP	02 02 32.1	+0.3
NVAR	**Mina Array Bea**	**129.07**	**48**	PKP		PKPdf	02 03 04.7	+2.3
	comp=Z,0.1nm,0.4s,baz=270,slow=2.7,SNR=4.1							
WMOK	**Wichita Mounta**	**144.47**	**40**	*e*PKIKP		PKPdf	02 03 30.1	-0.6
NCB	**Newcomb**	**145.39**	**3**	*e*PKPdf		PKPdf	02 03 33.0	+0.7
NCB				*e*pPKPdf		pPKPdf	02 03 44.4	-0.1
BDFB	**Brasilia**	**145.99**	**223**	PKPbc		PKPbc	02 03 35.1	+0.9
	comp=Z,1.6nm,0.4s,baz=158,slow=4.0,SNR=4.2							
JCT	**Junction City**	**146.25**	**47**	*e*PKPdf		PKPdf	02 03 35.2	+1.4
JCT				*e*			02 03 47.2	
BINY	**Binghamton**	**147.01**	**6**	*e*PKPbc		PKPbc	02 03 37.7	+0.6
MIAR	**Mount Ida**	**147.76**	**36**	*e*PKP2		PKPab	02 03 40.1	-1.5
WVT	**Waverly**	**149.46**	**27**	*e*PKP2		PKPbc	02 03 44.2	+0.6
OXF	**Oxford**	**150.03**	**31**	*e*PKP2		PKPbc	02 03 45.8	+0.8
PLAL	**Pickwick Lake**	**150.30**	**28**	*e*PKPbc		PKPbc	02 03 45.9	+0.3
LPAZ	**La Paz**	**154.34**	**188**	PKPbc		PKPbc	02 03 57.6	+2.9
	comp=Z,0.9nm,0.9s,baz=146,slow=5.6,SNR=3.5							
LPAZ				PKPab		PKPab	02 04 10.3	+1.4
	comp=Z,0.6nm,0.6s,baz=77,slow=3.6,SNR=5.6							
LPAZ	**La Paz**	**154.34**	**188**	PKPbc		PKPbc	02 03 57.6	+2.9
LPAZ				PKPab		PKPab	02 04 10.3	+1.4

ISCJB ***25*** *01:50:26.6±0.5, 56.1N±0.1×161.9W±0.1, h178km±8km, mb3.6/4, Error ellipse: s-maj=22.9km s-min=6.8km az=127.8*
NEIC ***25*** *01:50:27.4±0.4, 56.17N×161.95W, h174km±6km, MG3.5(AEIC), Error ellipse: s-maj=17.2km s-min=5.2km az=149.0*
IDC ***25*** *01:50:32.6±8.0, 56.32N×161.14W, h188km±45km, mb3.3/4, mb1 3.6/7, mb1mx3.3/23, mbtmp4.0/7, Error ellipse: s-maj=71.8km s-min=40.1km az=74.0*

ISC 25 01:50:27.4±0.5, 562N±01×1619W±01, h173km±8km, n23, σ0°75/26, mb3.6/4, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SDPT	**Sand Point**	**1.14**	**135**	P	**Pn**		**01 50 55.3**	**-0.1**
SDPT				S	**Sn**		**01 51 16.5**	**-0.5**
FALS	**False Pass**	**1.56**	**214**	P	**Pn**		**01 50 59.6**	**+0.3**
CHGN	**Chignik**	**1.95**	**84**	P	**Pn**		**01 51 03.9**	**+0.5**
AKA	**Akutan**	**3.01**	**229**	P	**Pn**		**01 51 16.0**	**+0.3**
AKUT	**Akutan**	**3.01**	**229**	P	**Pn**		**01 51 15.8**	**+0.1**
AKUT				S	**Sn**		**01 51 53.3**	**0.0**
AKGG	**Akutan Green G**	**3.06**	**232**	P	**Pn**		**01 51 16.9**	**+0.5**
AKLV	**Akutan Long Va**	**3.07**	**231**	P	**Pn**		**01 51 16.6**	**+0.1**
OKCD	**Okmok Cone D**	**4.52**	**235**	P	**Pn**		**01 51 34.5**	**-0.3**
OKCE	**Okmok Cone E**	**4.54**	**236**	P	**Pn**		**01 51 34.9**	**-0.3**
NIKO	**Nikolski**	**5.15**	**235**	P	**Pn**		**01 51 42.5**	**-0.6**
KDAK	**Kodiak Island**	**5.35**	**68**	P	**Pn**		**01 51 45.1**	**-0.6**
	8.2nm,0.3s,baz=248,slow=6.6,SNR=62							
KDAK				S	**Sn**		**01 52 42.9**	**-4.2**
	14nm,0.3s,baz=252,slow=22,SNR=16							
KDAK	**Kodiak Island**	**5.35**	**68**	P	**Pn**		**01 51 44.7**	**-1.0**
SLKM	**Skilak Lake**	**7.53**	**50**	P	**Pn**		**01 52 15.1**	**+0.7**
EYAK	**Cordova Ski Ar**	**9.55**	**56**	P	**Pn**		**01 52 40.6**	**-0.5**
DAWY	**Dawson**	**13.67**	**45**	*e*Pn	**Pn**		**01 53 34.9**	**+0.9**
WHY	**Whitehorse**	**14.80**	**61**	P	**Pn**		**01 53 50.0**	**+1.8**
DLBC	**Dease Lake**	**17.29**	**69**	P	**Pn**		**01 54 18.0**	**-0.3**
	0.4nm,0.3s,baz=268,slow=8.8,SNR=9.8							
INK	**Inuvik**	**17.74**	**35**	P	**Pn**		**01 54 20.6**	**-3.2**
	0.5nm,0.3s,baz=216,slow=10,SNR=14							
YKA	**Yellowknife Ar**	**24.46**	**55**	P	**P**		**01 55 29.6**	**-0.6**
	1.2nm,0.3s,mb3.8,baz=271,slow=9.3,SNR=14							
YKA	**Yellowknife Ar**	**24.46**	**55**	P	**P**		**01 55 29.6**	**-0.6**
NVAR	**Mina Array Bea**	**33.77**	**103**	P	**P**		**01 56 52.8**	**+0.2**
	0.5nm,0.5s,mb3.5,baz=312,slow=10,SNR=4.8							
PDAR	**Pinedale Array**	**35.66**	**89**	P	**P**		**01 57 09.6**	**+0.8**
	0.7nm,0.6s,mb3.5,baz=321,slow=5.2,SNR=7.3							
ULM	**Lac du Bonnet**	**38.61**	**70**	P	**P**		**01 57 32.8**	**-0.9**
	0.8nm,0.3s,mb3.8,baz=302,slow=10,SNR=4.8							

ISCJB ***25*** *01:58:48.1±3.1, 390N±02×725E±02, h33km, Error ellipse: s-maj=31.2km s-min=14.6km az=40.8*
NNC ***25*** *01:58:56.2±6.2, 3988N×7249E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=63.8km s-min=33.5km az=7.0*

ISC 25 01:58:49.9±3.2, 389N±02×726E±02, h35km, n11, σ0°77/13, 5C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AML	**Almayashu**	**3.30**	**14**	P	**Pn**		**01 59 39.1**	**+0.1**
	SNR=42							
UCH	**Uchtor**	**3.59**	**23**	P	**Pn**		**01 59 42.8**	**-0.4**
	SNR=16							
EKS2	**Erkin-Say**	**3.83**	**13**	P	**Pn**		**01 59 46.7**	**+0.4**
	SNR=14							
AAK	**Ala-Archa**	**3.96**	**21**	P	**Pn**		**01 59 48.4**	**+0.2**
	SNR=26							
KBK	**Karagaybulak**	**4.12**	**25**	P	**Pn**		**01 59 51.1**	**+0.7**
	SNR=16							
CHMS	**Chumysh**	**4.37**	**21**	P	**Pn**		**01 59 53.5**	**-0.3**
	SNR=19							
KK31	**Karatay Array**	**4.45**	**340**	⇑Pn	**Pn**		**01 59 57.0**	**+2.2**
	9.5nm,0.6s,baz=160,slow=13,SNR=98							
KK31				⇑Sn	**Sn**		**02 00 45.1**	**-0.3**
	14nm,0.5s,baz=160,slow=21,SNR=3.5							
USP	**Ospenovka**	**4.56**	**18**	P	**Pn**		**01 59 56.0**	**-0.4**
	SNR=12							
TKM2	**Tokmak 2**	**4.58**	**29**	P	**Pn**		**01 59 56.2**	**-0.5**
	SNR=12							
TKM2	**Tokmak 2**	**4.58**	**29**	⇓Pn	**Pn**		**01 59 55.8**	**-0.9**
	1.9nm,0.7s							
TKM2				⇑Lg			02 00 56.1	
	7.2nm,1.0s							
AB31	**Akbulak array**	**13.72**	**323**	⇑Pn	**Pn**		**02 02 00.9**	**-1.0**
	0.8nm,0.6s,baz=118,slow=10,SNR=10							
AB31				⇑Sn	**Sn**		**02 04 24.9**	**-8.2**
	2.7nm,0.9s,baz=145,slow=25,SNR=7.8							

IDC ***25*** *02:05:13.8±0.6, 1263N×14398E, h0km, mb4.4/14, mb1 4.5/14, mb1mx4.4/21, mbtmp4.4/14, MS4.1/17, Ms1 4.1/17, ms1mx3.8/39, Error ellipse: s-maj=21.8km s-min=14.3km az=106.0*
ISCJB ***25*** *02:05:14.5±4.5, 1255N±005×1439.7E±007, h13km±28km, mb4.5/47, MS4.2/20, Error ellipse: s-maj=11.3km s-min=7.6km az=37.8*
MOS ***25*** *02:05:17.3±0.8, 1253N×1438.6E, h33km, mb4.8/23, Error ellipse: s-maj=19.5km s-min=9.0km az=107.8*
BJI ***25*** *02:05:18.5, 13.16N×144.12E, h12km, mB5.0, mb4.6, Ms4.5, Msz4.4*
HRVD ***25*** *02:05:19.3±0.3, 1244N×144.11E, h15km±1km, MW4.9/70, Centroid moment Tensor Solution. LP body waves: s22,c27;Mantle waves: s70,c100; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_r=0.87±.14; $M_{\theta\theta}$=0.75±.10; $M_{\phi\phi}$=0.11±.13; $M_{r\theta}$=-0.46±.32; $M_{r\phi}$=-2.82±.10; $M_{\theta\phi}$=-0.10±.34; Best double couple: M_o=2.89$\times10^{16}$ NP1:ϕ_s=356.00000°, δ78.00000°, λ-7.00000°. NP2: ϕ_s=88.00000°, δ83.00000°, λ-168.00000°. Principal axes: T 3.2900, Plg4.0000°, Azm222.0000°; N -0.7960, Plg76.0000°, Azm116.0000°; P -2.4950, Plg13.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *02:05:19.3±0.3, 1260N×14392E, mb4.6/25 Error ellipse: s-maj=12.5km s-min=6.5km az=94.0*

ISC 25 02:05:14.4±5.3, 1259N±005×1440.4E±007, h1km±33km, n93, σ0°84/82, mb4.5/47, MS4.2/20, 1C, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GUMO	**Guam**	**1.28**	**39**	Pn	**Pn**		**02 05 39.3**	**0.0**
	698nm,0.3s,baz=182,slow=1.5,SNR=636							
GUMO				Sn	**Sn**		**02 05 56.3**	**-0.8**
	3μm,0.3s,baz=356,slow=23,SNR=70							
PMG	**Port Moresby**	**22.07**	**172**	*e*P	**P**		**02 10 14.3**	**+3.7**
PMG				pmax	pmax			
	comp=Z,56nm,1.3s							
PMG	**Port Moresby**	**22.07**	**172**	*e*P	**P**		**02 10 14.3**	**+3.6**
	comp=Z,56nm,1.3s,mb4.8							
MJAR	**Matsushiro Arr**	**24.42**	**349**	P	**P**		**02 10 31.8**	**-2.5**
	comp=Z,2.1nm,0.6s,mb3.7,baz=180,slow=10,SNR=5.3							
MJAR				LR	LR		02 18 38.7	
	comp=Z,330nm,21.6s,MS3.8,baz=160,slow=33							
MAJO	**Matsushiro**	**24.42**	**349**	P	**P**		**02 10 34.8**	**+0.5**
MAJO				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.3							
MAJO	**Matsushiro**	**24.42**	**349**	P	**P**		**02 10 34.8**	**+0.4**
	comp=Z,10nm,0.8s,mb4.3							
HNR	**Honiara**	**26.99**	**143**	LR	LR		02 20 04.0	
	comp=Z,214nm,20.6s,MS3.7,baz=358,slow=33							
KAKA	**Kakadu**	**27.64**	**205**	*e*P	**P**		**02 11 02.5**	**-1.0**
	comp=Z,11nm,0.6s,mb4.7							
CTA	**Charters Tower**	**32.55**	**176**	*e*P	**P**		**02 11 46.9**	**0.0**
	comp=Z,11nm,0.8s,mb4.8							
CTA	**Charters Tower**	**32.55**	**176**	*e*P	**P**		**02 11 46.9**	**0.0**
CTA				pmax	pmax			
	comp=Z,11nm,0.8s							
CTAO	**Charters Tower**	**32.55**	**176**	*e*P	**P**		**02 11 46.9**	**0.0**
CTAO				*e**PP			02 11 56.7	
CTAO				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.8							
CTAO	**Charters Tower**	**32.55**	**176**	*e*P	**P**		**02 11 46.9**	**0.0**
	comp=Z,10nm,0.8s,mb4.8							
CTAO				*e*pP			02 11 56.7	
WRAB	**Tennant Creek**	**33.70**	**197**	*e*P	**P**		**02 11 56.6**	**-0.3**
WRAB				*e**PP			02 12 06.9	
WRAB				*e**SP	sP		02 12 11.0	+13
WRAB				pmax	pmax			
	comp=Z,26nm,1.1s,mb5.1							
WRAB	**Tennant Creek**	**33.70**	**197**	*e*P	**P**		**02 11 56.6**	**-0.3**
	comp=Z,26nm,1.1s,mb5.1							
WRAB				*e*pP			02 12 06.9	
WRAB				*e*sP	sP		02 12 11.0	+13
WB2	**Warramunga Arr**	**33.70**	**197**	⇑*i*P	**P**		**02 11 56.3**	**-0.7**
WRA	**Warramunga Arr**	**33.71**	**197**	P	**P**		**02 11 56.7**	**-0.4**
	comp=Z,6.2nm,0.7s,mb4.6,baz=18,slow=9.8,SNR=53							
WRA				LR	LR		02 26 19.2	
	comp=Z,263nm,18.6s,MS4.0,baz=0.0,slow=38							
FITZ	**Fitzroy Crossi**	**35.49**	**211**	*e*P	**P**		**02 12 12.4**	**-0.1**
	comp=Z,6.4nm,1.2s,mb4.4							
AS31	**Alice Springs**	**37.37**	**195**	*e*P	**P**		**02 12 28.5**	**0.0**
ASAR	**Alice Springs**	**37.37**	**195**	P	**P**		**02 12 28.4**	**-0.2**
	comp=Z,4.2nm,0.6s,mb4.4,baz=20,slow=12,SNR=43							
ASAR				LR	LR		02 28 06.8	
	comp=Z,341nm,20.8s,MS4.1,baz=20,slow=37							
ASPA	**Alice Springs**	**37.37**	**195**	*e*P	**P**		**02 12 28.5**	**0.0**
KMI	**Kunming**	**40.86**	**294**	P	**P**		**02 13 01.6**	**+3.9**
KMI				AMB	AMB			
	comp=Z,6.0nm,0.9s,mb4.2							
MBWA	**Marble Bar**	**41.17**	**216**	*e*P	**P**		**02 13 00.2**	**0.0**
	comp=Z,2.6nm,0.5s,mb4.1							
CD2	**Chengdu**	**41.34**	**303**	*e*P	**P**		**02 13 02.4**	**+0.8**
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.5							
LZH	**Lanzhou**	**43.03**	**310**	*e*P	**P**		**02 13 17.3**	**+1.9**
LZH				AP			02 13 24.1	
LZH				XP	sP		02 13 26.0	+10
LZH				AMB	AMB			
	comp=Z,19nm,1.2s,mb4.7							
LZH				LR	LR			
	comp=N,354nm,10.5s							
LZH				LR	LR			
	comp=Z,495nm,14.7s,MS4.5							
STKA	**Stephens Creek**	**44.27**	**183**	*e*P	**P**		**02 13 26.3**	**+0.8**
	comp=Z,7.5nm,0.9s,mb4.4							
STKA	**Stephens Creek**	**44.27**	**183**	P	**P**		**02 13 25.1**	**-0.3**
	comp=Z,5.3nm,0.9s,mb4.3,baz=356,slow=7.3,SNR=6.1							
STKA				LR	LR		02 32 35.1	
	comp=Z,212nm,18.7s,MS4.1,baz=196,slow=37							
ULN	**Ulaanbaatar**	**46.75**	**326**	*e*P	**P**		**02 13 44.0**	**-1.1**
ULN				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
ULN	**Ulaanbaatar**	**46.75**	**326**	*e*P	**P**		**02 13 44.0**	**-1.1**
	comp=Z,3.8nm,0.9s,mb4.3							
SONM	**Songino Array**	**47.09**	**326**	P	**P**		**02 13 47.1**	**-0.6**
	comp=Z,1.5nm,0.7s,mb4.1,baz=145,slow=8.4,SNR=6.4							
GTA	**Gaotai**	**47.24**	**313**	*e*P	**P**		**02 13 50.1**	**+1.2**
GTA				AP			02 14 00.1	
GTA				XP	sP		02 14 04.3	+15
GTA				AMB	AMB			
	comp=Z,5.0nm,0.6s,mb4.6							
GTA				AMB	AMB			
	comp=Z,60nm,5.0s							
GTA				LR	LR			
	comp=N,136nm,14.1s,MS4.1							
GTA				LR	LR			
	comp=E,129nm,18.3s,MS4.1							
GTA				LR	LR			
	comp=Z,139nm,15.6s,MS4.0							
ZAK	**Zakamensk**	**50.22**	**327**	*e*P	**P**		**02 14 11.0**	**-0.8**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.3s,mb4.2							
WMQ	**Urumqi**	**57.24**	**314**	P	**P**		**02 15 06.4**	**+3.1**
WMQ				AP			02 15 16.5	
WMQ				XP	sP		02 15 20.4	+16
WMQ				PP	PP		02 17 15.3	+5.0
WMQ				AMB	AMB			
	comp=Z,13nm,1.2s,mb4.8							
WMQ				AMB	AMB			
	comp=Z,154nm,5.6s							
WMQ				LR	LR			
	comp=N,481nm,16.3s,MS4.8							
WMQ				LR	LR			
	comp=E,360nm,15.2s,MS4.8							
WMQ				LR	LR			
	comp=Z,474nm,16.8s,MS4.7							
MK31	**Makanchi Array**	**61.65**	**317**	P	**P**		**02 15 34.1**	**+0.4**
MK31				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.5							
MKAR	**Makanchi Array**	**61.65**	**317**	P	**P**		**02 15 33.8**	**0.0**
	comp=Z,2.3nm,0.6s,mb4.5,baz=86,slow=9.0,SNR=15							
KURK	**Kurchatov**	**64.83**	**320**	*e*P	**P**		**02 15 55.4**	**+0.6**
KURK				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.8							
KURK	**Kurchatov**	**64.83**	**320**	*e*P	**P**		**02 15 55.4**	**+0.6**
	comp=Z,8.1nm,0.9s,mb4.8							
KKAR	**Karatay Array**	**69.50**	**311**	*i* P	**P**		**02 16 24.8**	**+0.3**
KKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.0							
VOSK	**Vostochnaya**	**69.82**	**322**	P	**P**		**02 16 25.9**	**-0.6**
VOSK				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.9							
CHKZ	**Chkalovo**	**70.14**	**323**	*e*P	**P**		**02 16 28.2**	**-0.2**
CHKZ				*e**PP			02 16 39.0	
CHKZ				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
CHKZ	**Chkalovo**	**70.14**	**323**	*e*P	**P**		**02 16 28.2**	**-0.2**
	comp=Z,2.7nm,0.7s,mb4.3							
CHKZ				*e*pP			02 16 39.0	
BVA0	**Borovoye Array**	**70.21**	**322**	*i* P	**P**		**02 16 28.9**	**+0.1**
BVA0				pmax	pmax			
	comp=Z,1.0nm,0.9s,mb3.8							
BVAR	**Borovoye Array**	**70.21**	**322**	P	**P**		**02 16 29.2**	**+0.3**
	comp=Z,3.9nm,0.5s,mb4.6,baz=102,slow=8.1,SNR=22							
BVAR				LR	LR		02 48 42.6	
	comp=Z,255nm,19.4s,MS4.5,baz=321,slow=37							
BRVK	**Borovoye**	**70.28**	**322**	*e*P	**P**		**02 16 29.7**	**+0.5**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
BRVK	**Borovoye**	**70.28**	**322**	*e*P	**P**		**02 16 29.7**	**+0.4**
	comp=Z,3.4nm,0.8s,mb4.3							
ZRNK	**Zerenda**	**71.04**	**322**	*e*P	**P**		**02 16 34.0**	**+0.1**
ZRNK				*e**PP			02 16 45.9	
ZRNK				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4							
ZRNK	**Zerenda**	**71.04**	**322**	*e*P	**P**		**02 16 34.0**	**+0.1**
	comp=Z,5.5nm,0.9s,mb4.5							
ZRNK				*e*pP			02 16 45.9	

DAWY	**Dawson**	**72.89**	**27**	*e*P		**P**	**02 16 46.0**	**+1.0**
INK	**Inuvik**	**75.59**	**22**	*e*P		**P**	**02 17 00.3**	**-0.5**
INK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
INK	**Inuvik**	**75.59**	**22**	*e*P		**P**	**02 17 00.2**	**-0.5**
	comp=Z,2.4nm,0.8s,mb4.2							
AB31	**Akbulak array**	**76.74**	**318**	P		**P**	**02 17 06.6**	**-0.7**
AB31				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
ARU	**Arti**	**77.12**	**325**	*e*P		**P**	**02 17 09.4**	**-0.1**
ARU				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
ARU	**Arti**	**77.12**	**325**	*e*P		**P**	**02 17 09.4**	**-0.1**
	comp=Z,3.5nm,0.6s,mb4.5							
AKTK	**Aktyubinsk**	**77.89**	**319**	P		**P**	**02 17 13.2**	**-0.6**
AKTK				LR	LR		02 56 30.9	
AKTO	**Aktyubinsk**	**77.89**	**319**	P		**P**	**02 17 13.2**	**-0.6**
	comp=Z,1.4nm,0.5s,mb4.1,baz=82,slow=7.9,SNR=4.3							
AKTO				LR	LR		02 56 30.9	
	comp=Z,87nm,18.4s,MS4.1,baz=268,slow=40							
YKA	**Yellowknife Ar**	**84.11**	**27**	LR	LR		02 57 39.6	
	comp=Z,72nm,18.2s,MS4.1,baz=270,slow=37							
RES	**Resolute Bay**	**85.70**	**13**	*e*P		**P**	**02 17 54.4**	**-0.5**
RES				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.7							
RES	**Resolute Bay**	**85.70**	**13**	*e*P		**P**	**02 17 54.4**	**-0.5**
	comp=Z,4.4nm,0.8s,mb4.7							
NEW	**Newport**	**86.51**	**41**	P		**P**	**02 17 59.1**	**+0.2**
	comp=Z,7.4nm,0.9s,mb4.9,baz=247,slow=3.6,SNR=12							
NEW	**Newport**	**86.51**	**41**	*e*P		**P**	**02 17 58.8**	**-0.1**
NEW				pmax	pmax			
	comp=Z,7.0nm,0.8s							
NEW	**Newport**	**86.51**	**41**	*e*P		**P**	**02 17 58.8**	**-0.2**
	comp=Z,6.7nm,0.8s,mb4.9							
NEW				*e*PcP	PcP		02 18 01.6	+0.2
BMO	**Blue Mountains**	**87.26**	**45**	*e*P		**P**	**02 18 02.5**	**-0.1**
BMO				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.9							
BMO	**Blue Mountains**	**87.26**	**45**	*e*P		**P**	**02 18 02.5**	**-0.1**
	comp=Z,7.8nm,1.0s,mb4.9							
ARCES	**ARCESS Array B**	**87.78**	**342**	P		**P**	**02 18 05.2**	**+0.1**
	comp=Z,2.1nm,0.8s,mb4.4,baz=64,slow=8.5,SNR=5.9							
ARCES				LR	LR		02 56 50.5	
	comp=Z,81nm,19.9s,MS4.1,baz=30,slow=35							
ARCES	**ARCESS Array B**	**87.78**	**342**	P		**P**	**02 18 05.2**	**+0.1**
ARCES				LR	LR		02 56 50.5	
NVAR	**Mina Array Bea**	**88.17**	**51**	P		**P**	**02 18 08.2**	**+1.3**
	comp=Z,3.7nm,0.8s,mb4.7,baz=272,slow=3.5,SNR=22							
MNV	**Mina**	**88.29**	**51**	*e*P		**P**	**02 18 08.2**	**+0.7**
MNV				*e**PP			02 18 19.2	
MNV				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.8							
MNV	**Mina**	**88.29**	**51**	*e*P		**P**	**02 18 08.2**	**+0.7**
	comp=Z,6.8nm,1.1s,mb4.8							
MNV				*e*pP			02 18 19.2	
JOF	**Joensuu**	**88.86**	**335**	*e*p		**P**	**02 18 11.6**	**+1.4**
HLID	**Hailey**	**89.62**	**45**	*e*P		**P**	**02 18 13.8**	**0.0**
	comp=Z,3.8nm,0.9s,mb4.7							
HLID				*e*pP			02 18 28.0	
ELK	**Elko**	**89.84**	**48**	*e*P		**P**	**02 18 15.4**	**+0.6**
ELK				pmax	pmax			
	comp=Z,6.0nm,0.9s							
ELK	**Elko**	**89.84**	**48**	*e*P		**P**	**02 18 15.4**	**+0.6**
	comp=Z,6.1nm,0.9s,mb4.9							
TPNV	**Topopah Spring**	**90.13**	**52**	*e*P		**P**	**02 18 17.1**	**+0.9**
TPNV				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.9							
TPNV	**Topopah Spring**	**90.13**	**52**	*e*P		**P**	**02 18 17.1**	**+0.9**
	comp=Z,4.7nm,0.8s,mb4.9							
MCMT	**McKenzie Canyo**	**90.31**	**44**	*e*P		**P**	**02 18 17.5**	**+0.5**
DLMT	**Dillon**	**90.31**	**43**	*e*P		**P**	**02 18 16.7**	**-0.3**
	comp=Z,3.1nm,1.0s,mb4.6							
DLMT				*e*pP			02 18 27.6	
VNDA	**Vanda**	**90.53**	**176**	LR	LR		02 59 13.2	
	comp=Z,102nm,18.3s,MS4.3,baz=345,slow=36							
QLMT	**Earthquake Lak**	**91.27**	**44**	*e*P		**P**	**02 18 22.1**	**+0.7**
KAF	**Kangasniemi**	**91.29**	**335**	*e*p		**P**	**02 18 17.8**	**-3.7**
	comp=Z,0.6nm,0.4s,mb4.3							
KAF	**Kangasniemi**	**91.29**	**335**	*e*P		**P**	**02 18 17.8**	**-3.7**
KAF				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.5							
FINES	**FINESS Array B**	**91.72**	**335**	P		**P**	**02 18 20.9**	**-2.6**
	comp=Z,0.9nm,0.4s,mb4.4,baz=79,slow=5.8,SNR=22							
GCMT	**Greycliff**	**92.11**	**42**	*e*P		**P**	**02 18 25.2**	**-0.2**
PDAR	**Pinedale Array**	**93.24**	**45**	P		**P**	**02

CTA	**Charters Tower**	**13.85**	**188**	LR	LR	02 40 13.9
	comp=Z,263nm,19.9s,baz=19,slow=37					
KAKA	**Kakadu**	**16.84**	**247**	*e*P	**Pn**	**02 35 42.4 +2.0**
	11nm,0.6s					
WRAB	**Tennant Creek**	**19.13**	**224**	*e*P	**Pn**	**02 36 06.9 -1.6**
	13nm,0.6s					
WB2	**Warramunga Arr**	**19.14**	**224**	*e*P	**Pn**	**02 36 06.8 -1.7**
WRA	**Warramunga Arr**	**19.15**	**224**	P	**Pn**	**02 36 06.9 -1.7**
	1.0nm,0.3s,baz=48,slow=12,SNR=20					
WRA				S	**S**	**02 39 42.4 0.0**
	baz=43,slow=22,SNR=7.2					
GUMO	**Guam**	**20.04**	**350**	LR	LR	02 43 08.3
	comp=Z,70nm,21.4s,MS3.0,baz=89,slow=34					
AS31	**Alice Springs**	**22.10**	**217**	*e*P	**P**	**02 36 39.6 +0.2**
ASAR	**Alice Springs**	**22.11**	**217**	P	**P**	**02 36 39.6 +0.2**
	12nm,0.5s,mb4.6,baz=53,slow=9.3,SNR=99					
ASAR				S	**S**	**02 40 40.7 -0.1**
	7.5nm,1.1s,baz=32,slow=22,SNR=10					
ASAR				LR	LR	02 45 59.8
	comp=Z,182nm,19.7s,MS3.5,baz=36,slow=39					
ASAR	**Alice Springs**	**22.11**	**217**	P	**P**	**02 36 39.6 +0.2**
ASAR				S	**S**	**02 40 40.7 -0.1**
ASAR				LR	LR	02 45 59.8
ASPA	**Alice Springs**	**22.11**	**217**	*e*P	**P**	**02 36 39.6 +0.2**
FITZ	**Fitzroy Crossi**	**24.98**	**240**	*e*P	**P**	**02 37 08.1 +0.6**
	30nm,0.4s,mb5.2					
FITZ	**Fitzroy Crossi**	**24.98**	**240**	P	**P**	**02 37 08.5 +1.0**
	18nm,0.6s,mb4.8,baz=64,slow=9.6,SNR=76					
FITZ				LR	LR	02 47 08.0
	comp=Z,110nm,19.4s,MS3.4,baz=254,slow=37					
STKA	**Stephens Creek**	**26.20**	**193**	*e*P	**P**	**02 37 18.0 -0.5**
	4.1nm,0.4s,mb4.3					
STKA	**Stephens Creek**	**26.20**	**193**	P	**P**	**02 37 18.6 +0.1**
	5.0nm,0.4s,mb4.4,baz=359,slow=8.5,SNR=9.6					
STKA				LR	LR	02 48 54.0
	comp=Z,315nm,19.6s,MS3.9,baz=24,slow=39					
MBWA	**Marble Bar**	**31.31**	**239**	*e*P	**P**	**02 38 03.8 -0.1**
	6.2nm,0.8s,mb4.5					
KLBR	**Kellerberrin**	**38.02**	**225**	*e*P	**P**	**02 39 01.9 0.0**
NWAO	**Narrogin (SRO)**	**39.16**	**223**	LR	LR	02 56 25.1
	comp=Z,169nm,20.6s,MS3.9,baz=294,slow=38					
NWAO	**Narrogin (SRO)**	**39.16**	**223**	P	**P**	**02 39 11.9 +0.5**
	9.3nm,0.8s,mb4.6					
VNDA	**Vanda**	**71.55**	**177**	P	**P**	**02 43 05.0 +0.6**
	0.9nm,0.5s,mb4.0,baz=332,slow=6.3,SNR=13					
QSPA	**South Pole Qui**	**83.67**	**180**	*e*P	**P**	**02 44 12.0 -0.1**
	4.7nm,0.6s,mb4.8					
ZRNK	**Zerenda**	**88.54**	**324**	P	**P**	**02 44 42.9 +6.9**
	1.3nm,0.8s,mb4.3					
SAML	**Samuel**	**145.20**	**115**	*e*PKPdf	PKPdf	02 51 22.8 +2.0
TOA0	**Torodi Ar. Sit**	**146.37**	**284**	*e*PKPdf	PKPbc	02 51 26.8 +2.7
TORD	**Torodi Ar. Bea**	**146.37**	**284**	PKPbc	PKPbc	02 51 26.3 +2.2
	0.9nm,0.4s,baz=60,slow=2.8,SNR=42					
BDFB	**Brasilia**	**152.90**	**144**	PKPbc	PKPbc	02 51 43.1 +2.7
	6.6nm,0.8s,baz=250,slow=1.3,SNR=11					
DBIC	**Dimbokro**	**153.28**	**272**	PKPbc	PKPbc	02 51 44.4 +3.2
	4.6nm,0.9s,baz=185,slow=4.8,SNR=3.6					
DBIC	**Dimbokro**	**153.28**	**272**	PKPbc	PKPbc	02 51 44.4 +3.2

NIED ***25*** *02:34:00, 42.00N× 14.420E, h32km, Mw4.2 Best double couple: M₀2.43000×10¹⁵ NP1:φ≈97.00000°, δ67.00000°, λ90.00000°. NP2:φ≈278.00000°, δ23.00000°, λ91.00000°.*

ISCJB ***25*** *02:34:11.6±0.7, 4199N±004×14425E±005, h37km±5km, mb4.2/37, MS4.2/1, Error ellipse: s-maj=7.9km s-min=4.8km az=97.3*

MOS ***25*** *02:34:11.2±0.9, 4203N×144.19E, h33km, mb4.6/16, Error ellipse: s-maj=12.1km s-min=6.7km az=88.2*

NEIC ***25*** *02:34:12.4, 4204N×14423E, h47km, mb4.4/16, After JMA.*

NEIC Recorded [1 JMA] in south-central Hokkaido.

JMA ***25*** *02:34:12.4±0.1, 4204N×14423E, h47km±2km, M4.3*

JMA Felt I J1.

BJI ***25*** *02:34:13.2, 4195N×144.19E, h47km, mB4.7, mb4.5, Ms4.3, Msz4.1*

IDC ***25*** *02:34:16.0±2.2, 4202N×144.11E, h58km±19km, mb3.9/16, mb1 4.1/18, mb1mx4.0/22, mbtmp4.2/18, ML4.1/2, MS3.6/2, Ms1 3.6/2, ms1mx2.9/29, Error ellipse: s-maj=18.5km s-min=12.5km az=95.0*

ISC 25 02:34:13.3±0.6, 4205N±004×14421E±005, h36km±5km, h33km±2.7km:pP-P,n96,σ0§90/102, mb4.2/37, MS4.2/1, 13C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.78**	**268**	⇑P	**Pn**	**02 34 27.1**	**-0.8**
JCH	**Churui**	**0.84**	**312**	P	**Pn**	**02 34 28.4**	**-0.3**
JCH				*e*S	**Sn**	**02 34 40.2**	**+0.4**
JOB	**Onbets**	**0.89**	**342**	⇑P	**Pn**	**02 34 29.3**	**-0.1**
JAK	**Akkeshi**	**1.01**	**21**	⇑P	**Pn**	**02 34 30.3**	**-0.7**
JAK				*e*S	**Sn**	**02 34 44.4**	**+0.4**
JNBK	**Urakawa-nobuka**	**1.11**	**282**	P	**Pn**	**02 34 32.2**	**-0.1**
JAR	**Ashorobuto**	**1.28**	**346**	⇑P	**Pn**	**02 34 34.4**	**-0.4**
JAR				*e*S	**Sn**	**02 34 51.8**	**+1.1**
JBT2	**Biratori 2**	**1.55**	**299**	P	**Pn**	**02 34 37.8**	**-0.6**
JNK	**Nakash**	**1.58**	**14**	P	**Pn**	**02 34 38.1**	**-0.7**
JNK				*e*S	**Sn**	**02 34 57.8**	**-0.2**
JFR	**Furan**	**1.63**	**314**	⇑P	**Pn**	**02 34 39.5**	**0.0**
NEM2	**Nemuro 2**	**1.73**	**40**	⇑P	**Pn**	**02 34 40.2**	**-0.7**
NEM2				*e*S	**Sn**	**02 35 01.9**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**2.32**	**31**	⇓*i*PN	**Pn**	**02 34 48.6**	**-0.4**
YUK				*e*S	**Sn**	**02 35 16.9**	**+0.6**
YUK				pmax	pmax		
	comp=Z,500nm,0.5s						
YUK				pmax	pmax		
	comp=N,240nm,0.4s						
YUK				pmax	pmax		
	comp=E,170nm,0.4s						
YUK				pmax	pmax		
	comp=N,2μm,1.0s						
YUK				pmax	pmax		
	comp=E,2μm,1.0s						
YUK				pmax	pmax		
	comp=Z,2μm,1.0s						
YUK				smax			
	comp=E,3μm,0.8s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=N,7μm,2.0s						
YUK				smax			
	comp=E,5μm,1.0s						
ASAJ	**Asahikawa**	**2.38**	**331**	P	**Pn**	**02 34 50.8**	**+1.0**
	comp=E,23nm,0.3s,baz=198,slow=14,SNR=38						
ASAJ				S	**Sn**	**02 35 21.8**	**+4.1**
	comp=E,26nm,0.3s,baz=275,slow=32,SNR=5.7						
ASAJ				LR	LR	02 36 16.7	
	comp=E,1μm,18.2s,baz=143,slow=51						
ASAJ	**Asahikawa**	**2.38**	**331**	PN	**Pn**	**02 34 50.8**	**+1.0**
ASAJ				S	**Sn**	**02 35 21.8**	**+4.1**
ASAJ				pmax	pmax		
	comp=Z,23nm,0.3s						
ASAJ				smax			
	comp=E,26nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,18.2s						
KUR	**Kuril'sk**	**4.14**	**39**	*e*PN	**Pn**	**02 35 12.0**	**-2.0**
KUR				*i* S	**Sn**	**02 36 02.0**	**+0.8**
KUR				pmax	pmax		
	comp=Z,280nm,0.9s						
KUR				smax			
	comp=N,720nm,1.0s						
KUR				smax			
	comp=E,490nm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.01**	**349**	⇑*i*PN	**Pn**	**02 35 27.0**	**+1.0**
YSS				MLR	MLR		
	comp=N,600nm,16.0s						
YSS				MLR	MLR		
	comp=E,800nm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.01**	**349**	*e*Pn	**Pn**	**02 35 26.5**	**+0.6**
	comp=Z,17nm,0.5s						
MAJO	**Matsushiro**	**7.20**	**222**	⇑*i*PN	**Pn**	**02 35 56.8**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,47nm,0.7s						
MAJO	**Matsushiro**	**7.20**	**222**	⇑*i*P	**Pn**	**02 35 56.8**	**+0.7**
	comp=Z,47nm,0.7s						
MAT	**Matsushiro**	**7.20**	**222**	P	**Pn**	**02 35 55.9**	**-0.2**
MAT	**Matsushiro**	**7.20**	**222**	*e*PN	**Pn**	**02 35 56.0**	**-0.1**
MAT				pmax	pmax		
	comp=Z,21nm,0.7s						
MAT	**Matsushiro**	**7.20**	**222**	*e*P	**Pn**	**02 35 56.0**	**-0.1**
	comp=Z,20nm,0.7s						
MJAR	**Matsushiro Arr**	**7.20**	**222**	P	**Pn**	**02 35 56.1**	**0.0**
	comp=Z,5.9nm,0.3s,baz=28,slow=14,SNR=50						
MJAR				LR	LR	02 39 24.5	
	comp=Z,444nm,19.1s,baz=40,slow=43						
HABR	**Khabarovsk**	**9.10**	**318**	*e*PN	**Pn**	**02 36 25.5**	**+3.4**
KLR	**Kul'dur**	**11.29**	**314**	*e*PN	**Pn**	**02 36 53.0**	**+1.0**
KLR				MLR	MLR		
	comp=Z,500nm,13.0s						
PET	**Petropavlovsk**	**14.65**	**37**	⇑*e*P	**Pn**	**02 37 43.7**	**+5.7**
MA2	**Magadan**	**18.01**	**11**	*e*P	**Pn**	**02 38 19.6**	**-1.2**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MA2	**Magadan**	**18.01**	**11**	*e*Pn	**Pn**	**02 38 19.6**	**-1.2**
	comp=Z,8.1nm,0.5s						
YAK	**Yakutsk**	**21.81**	**341**	*e*P	**P**	**02 38 57.7**	**-4.6**
YAK				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.7						
BOD	**Bodaibo**	**24.75**	**320**	*e*P	**P**	**02 39 27.8**	**-3.6**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
ULN	**Ulaanbaatar**	**26.74**	**295**	⇑*e*P	**P**	**02 39 53.5**	**+4.0**
ULN	**Ulaanbaatar**	**26.74**	**295**	P	**P**	**02 39 49.2**	**-0.2**
	comp=Z,2.2nm,0.6s,mb3.9						
SONM	**Songino Array**	**27.18**	**295**	P	**P**	**02 39 54.1**	**+0.7**
	comp=Z,2.6nm,0.7s,mb3.9,baz=89,slow=8.2,SNR=6.6						
BILL	**Bilibino**	**28.61**	**17**	P	**P**	**02 40 02.8**	**-3.3**
BILL	**Bilibino**	**28.61**	**17**	P	**P**	**02 40 02.8**	**-3.4**
	comp=Z,0.4nm,0.8s,mb3.2						
TLY	**Talaya**	**29.02**	**303**	P	**P**	**02 40 06.7**	**-3.1**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
TLY	**Talaya**	**29.02**	**303**	P	**P**	**02 40 06.7**	**-3.1**
	comp=Z,2.6nm,0.6s,mb4.1						
GTA	**Gaotai**	**33.46**	**281**	*e*P	**P**	**02 40 50.3**	**+1.4**
GTA				AP	pP	02 41 00.1	+0.9
GTA				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.4						
TTA	**Tatalina**	**40.10**	**38**	*e*P	**P**	**02 41 45.9**	**+0.5**
WMQ	**Urumqi**	**40.72**	**292**	P	**P**	**02 41 51.8**	**+1.3**
WMQ				AP	pP	02 42 01.5	+0.5
WMQ				XP	sP	02 42 05.5	+0.3
WMQ				PP	PP	02 43 29.4	+4.7
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,70nm,5.1s						
WMQ				LR	LR		
	comp=N,200nm,15.3s,MS4.2						
WMQ				LR	LR		
	comp=E,150nm,14.2s,MS4.2						
WMQ				LR	LR		
	comp=Z,207nm,15.8s,MS4.1						
NVS	**Novosibirsk**	**41.12**	**310**	*e*P	**P**	**02 41 57.6**	**+3.8**
IMA2	**Indian Mountai**	**41.29**	**33**	*e*P	**P**	**02 41 55.3**	**+0.1**
KDAK	**Kodiak Island**	**41.98**	**46**	P	**P**	**02 42 01.3**	**+0.4**
	comp=Z,12nm,0.7s,mb4.6,baz=264,slow=4.7,SNR=5.3						
MCK	**McKinley**	**43.29**	**37**	*e*P	**P**	**02 42 11.8**	**+0.3**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
MCK	**McKinley**	**43.29**	**37**	*e*P	**P**	**02 42 11.8**	**+0.3**
	comp=Z,3.4nm,0.9s,mb4.1						
MKAR	**Makanchi Array**	**43.47**	**298**	P	**P**	**02 42 12.9**	**0.0**
	comp=Z,1.1nm,0.5s,mb3.8,baz=75,slow=9.4,SNR=10						
MKAR	**Makanchi Array**	**43.47**	**298**	⇑*e*P	**P**	**02 42 14.3**	**+1.4**
COLA	**College**	**43.71**	**35**	*c* P	**P**	**02 42 15.3**	**+0.5**
COLA	**College**	**43.71**	**35**	*e*P	**P**	**02 42 13.0**	**-1.9**
	comp=Z,8.8nm,0.8s,mb4.5						
KURK	**Kurchatov**	**44.70**	**305**	*e*P	**P**	**02 42 22.2**	**-0.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
KURK	**Kurchatov**	**44.70**	**305**	*e*P	**P**	**02 42 22.2**	**-0.5**
	comp=Z,3.3nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**48.58**	**310**	*e*P	**P**	**02 42 52.6**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**48.58**	**310**	*e*P	**P**	**02 42 52.6**	**-0.6**
	comp=Z,3.8nm,0.8s,mb4.5						
INK	**Inuvik**	**48.95**	**29**	P	**P**	**02 42 56.5**	**+0.5**
	comp=Z,2.9nm,0.4s,mb4.7,baz=296,slow=5.4,SNR=22						
INK	**Inuvik**	**48.95**	**29**	P	**P**	**02 42 56.5**	**+0.5**
INK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
INK	**Inuvik**	**48.95**	**29**	*e*P	**P**	**02 42 56.0**	**0.0**
	comp=Z,2.4nm,0.4s,mb4.6						
BRVK	**Borovoye**	**48.97**	**310**	*e*P	**P**	**02 42 55.1**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
BRVK	**Borovoye**	**48.97**	**310**	*e*P	**P**	**02 42 55.1**	**-1.0**
	comp=Z,1.6nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**49.73**	**310**	*e*P	**P**	**02 43 01.8**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
ZRNK	**Zerenda**	**49.73**	**310**	*e*P	**P**	**02 43 01.8**	**-0.1**
	comp=Z,4.2nm,0.7s,mb4.6						
ARU	**Arti**	**54.11**	**317**	*e*P	**P**	**02 43 33.8**	**-0.8**
ARU				*e**PP	pP	02 43 44.8	-0.5
ARU				*e**SP	sP	02 43 48.7	-0.8
ARU				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
ARU	**Arti**	**54.11**	**317**	*e*P	**P**	**02 43 33.8**	**-0.8**
	comp=Z,7.8nm,1.3s,mb4.5						
ARU				*ep*P	pP	02 43 44.8	-0.5
ARU				*es*P	sP	02 43 48.7	-0.8
RES	**Resolute Bay**	**57.20**	**16**	*e*P	**P**	**02 43 57.4**	**+0.6**
RES				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
RES	**Resolute Bay**	**57.20**	**16**	*e*P	**P**	**02 43 57.4**	**+0.7**
	comp=Z,12nm,0.8s,mb5.0						
YKA	**Yellowknife Ar**	**58.40**	**32**	P	**P**	**02 44 05.4**	**+0.2**
	comp=Z,1.8nm,0.8s,mb4.2,baz=308,slow=6.3,SNR=4.4						
YKA	**Yellowknife Ar**	**58.40**	**32**	P	**P**	**02 44 05.4**	**+0.2**
ARCES	**ARCESS Array B**	**60.08**	**339**	P	**P**	**02 44 16.8**	**0.0**
	comp=Z,1.2nm,0.6s,mb4.1,baz=46,slow=8.7,SNR=7.9						
WRAB	**Tennant Creek**	**62.34**	**190**	*e*P	**P**	**02 44 31.9**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**62.34**	**190**	*e*P	**P**	**02 44 31.9**	**-0.2**
	comp=Z,7.0nm,0.8s,mb4.8						
WRA	**Warramunga Ar**	**62.35**	**190**	P	**P**	**02 44 32.0**	**-0.2**
	comp=Z,2.6nm,0.7s,mb4.5,baz=8.1,slow=6.7,SNR=15						
JOF	**Joensuu**	**62.57**	**332**	*ep*	**P**	**02 44 31.9**	**-1.7**
	comp=Z,2.6nm,0.6s,mb4.5						
JOF	**Joensuu**	**62.57**	**332**	*e*P	**P**	**02 44 31.9**	**-1.7**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
KAF	**Kangasniemi**	**64.84**	**333**	*ep*	**P**	**02 44 45.8**	**-2.8**
	comp=Z,1.4nm,0.5s,mb4.2,baz=46,slow=6.3						
KAF	**Kangasniemi**	**64.84**	**333**	*e*P	**P**	**02 44 45.8**	**-2.8**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**65.39**	**332**	P	**P**	**02 44 51.3**	**-0.9**
	comp=Z,3.6nm,0.6s,mb4.6,baz=50,slow=7.7,SNR=22						
FINES	**FINESS Array B**	**65.39**	**332**	*i* P	**P**	**02 44 51.2**	**-0.9**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ASAR	**Alice Springs**	**66.08**	**190**	P	**P**	**02 44 57.1**	**+0.6**
	comp=Z,1.3nm,0.7s,mb4.1,baz=4.5,slow=6.0,SNR=9.8						
FFC	**Flin Flon**	**68.34**	**35**	*e*P	**P**	**02 45 11.3**	**+0.4**
FFC				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
FFC	**Flin Flon**	**68.34**	**35**	*e*P	**P**	**02 45 11.3**	**+0.4**
	comp=Z,5.3nm,1.1s,mb4.5						
KIV	**Kislovodsk**	**69.26**	**311**	*e*P	**P**	**02 45 07.4**	**-9.3**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
NVAR	**Mina Array Bea**	**70.32**	**56**	P	**P**	**02 45 24.6**	**+1.4**
	comp=Z,1.5nm,0.8s,mb4.0,baz=311,slow=4.5,SNR=7.7						
NB2	**NORSAR Subarra**	**70.38**	**338**	P	**P**	**02 45 22.6**	**-1.0**
	comp=Z,0.2nm,0.6s,mb3.2,baz=39,slow=6.5						
NOA	**NORSAR Array B**	**70.38**	**338**	P	**P**	**02 45 22.9**	**-0.7**
	comp=Z,2.3nm,0.9s,mb4.1,baz=36,slow=6.1,SNR=9.3						
AKASG	**Malin Array Be**	**71.64**	**323**	P	**P**	**02 45 30.6**	**-0.6**
	comp=Z,0.6nm,0.4s,mb3.8,baz=42,slow=5.8,SNR=10						
PDAR	**Pinedale Array**	**72.65**	**48**	P	**P**	**02 45 38.1**	**+0.8**
	comp=Z,0.9nm,0.5s,mb4.0,baz=12,slow=1.1,SNR=12						
STKA	**Stephens Creek**	**73.60**	**182**	P	**P**	**02 45 43.7**	**+0.9**
	comp=Z,0.8nm,0.3s,mb4.1,baz=309,slow=14,SNR=3.2						
ISCO	**Idaho Springs**	**76.85**	**48**	*e*P	**P**	**02 46 03.1**	**+1.6**
ISCO				*e**PP	pP	02 46 14.0	+1.3
ISCO				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
ISCO	**Idaho Springs**	**76.85**	**48**	*e*P	**P**	**02 46 03.1**	**+1.5**
	comp=Z,2.4nm,1.0s,mb4.1						
ISCO				*ep*P	pP	02 46 14.0	+1.3
CLL	**Collm**	**77.79**	**331**	*e*P	**P**	**02 46 07.0**	**+0.2**
KHC	**Kasperske Hory**	**79.36**	**330**	*e*P	**P**	**02 46 16.0**	**+0.5**
KHC				pP	pP	02 46 23.5	-3.1
KHC	**Kasperske Hory**	**79.36**	**330**	*e*P	**P**	**02 46 16.0**	**+0.5**
KHC				*e*		02 46 23.5	
GERES	**GERESS Array B**	**79.55**	**329**	P	**P**	**02 46 16.6**	**+0.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=32,slow=5.2,SNR=4.5						
SCHQ	**Schefferville**	**79.92**	**18**	P	**P**	**02 46 18.4**	**-0.1**
	comp=Z,3.2nm,0.9s,mb4.2,baz=318,slow=8.3,SNR=4.6						
MIV	**Mineville/With**	**87.82**	**26**	P	**P**	**02 46 58.1**	**-0.7**
MIV				pP	pP	02 47 08.0	-2.2
BOSA	**Boshof**	**129.41**	**265**	*e*P	Pdif	02 50 05.2	-0.3
SNAA	**Sanae**	**146.18**	**198**	*e*PKPdf	PKPdf	02 53 49.8	+1.1
SNAA				*e*		02 53 53.2	
VNA1	**Neumayer--Stat**	**148.13**	**197**	*e*PKPdf	PKPdf	02 53 55.7	+3.7
VNA1				*e*		02 54 00.3	

NEIC ***25*** *02:38:25.5±0.6, 965S×10802E, h10km, mb4.8/7, Error ellipse: s-maj=24.9km s-min=10.1km az=55.0*

ISCJB ***25*** *02:38:28.8±0.6, 905S±009×10874E±007, h34km, mb4.2/14, Error ellipse: s-maj=12.4km s-min=10.2km az=27.2*

IDC ***25*** *02:38:29.9±1.0, 935S×10828E, h34km±6km, mb3.7/7, mb1 3.8/7, mb1mx3.6/17, mbtmp3.9/7, Error ellipse: s-maj=46.4km s-min=19.3km az=54.0*

ISC 25 02:38:31.2±0.6, 902S±009×10878E±008, h36km, h36km±.7km:pP-P,n22,σ1§00/21, mb4.2/14, 1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	**Yogyakarta**	**1.92**	**52**	⇓*e*P	**Pn**	**02 38 56.5**	**-4.9**
YOGI				*e*S	**Sn**	**02 39 23.6**	**-0.7**
KSM	**Kuching**	**10.54**	**8**	*e*Pn	**Pn**	**02 41 08.5**	**+8.9**
WRA	**Warramunga Arr**	**26.98**	**117**	P	**P**	**02 44 10.5**	**+1.0**
	0.9nm,0.9s,mb3.3,baz=290,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**28.09**	**124**	P	**P**	**02 44 22.0**	**+2.6**
	0.3nm,0.5s,mb3.2,baz=301,slow=10,SNR=3.9						
ASAR	**Alice Springs**	**28.09**	**124**	P	**P**	**02 44 22.0**	**+2.6**
STKA	**Stephens Creek**	**37.99**	**131**	P	**P**	**02 45 45.0**	**-0.5**
JIRN	**Jiri**	**42.52**	**330**	*e*P	**P**	**02 46 23.7**	**+0.6**
	23nm,0.9s,mb4.9						
PKI	**Pulchoki**	**42.84**	**329**	*e*P	**P**	**02 46 26.0**	**+0.3**
GUN	**Gumba**	**42.88**	**330**	*e*P	**P**	**02 46 26.8**	**+0.8**
	16nm,0.6s,mb4.9						
DMN	**Daman**	**43.03**	**329**	*e*P	**P**	**02 46 27.3**	**+0.1**
	20nm,0.9s,mb4.8						
KKN	**Kakani**	**43.09**	**329**	*e*P	**P**	**02 46 27.6**	**-0.1**
GKN	**Gorkha**	**43.59**	**328**	*e*P	**P**	**02 46 31.7**	**0.0**
	8.7nm,0.5s,mb4.7						
KOLN	**Koldanda**	**43.95**	**327**	*e*P	**P**	**02 46 34.5**	**-0.1**
	25nm,0.9s,mb4.9						
SONM	**Songino Array**	**56.65**	**358**	P	**P**	**02 48 12.4**	**+1.7**
	0.5nm,0.5s,mb3.8,baz=169,slow=9.9,SNR=5.6						
SONM				pP	pP	02 48 22.1	+0.6
	1.8nm,0.7s,baz=178,slow=8.2,SNR=6.5						
MKAR	**Makanchi Array**	**60.38**	**339**	P	**P**	**02 48 36.4**	**-0.3**
	1.2nm,0.5s,mb4.2,baz=147,slow=7.3,SNR=10.0						
MKAR				pP	pP	02 48 47.0	-0.6
	2.7nm,0.6s,baz=134,slow=7.0,SNR=10						
KURK	**Kurchatov**	**65.00**	**339**	*e*P	**P**	**02 49 07.2**	**-0.2**
	3.0nm,1.0s,mb4.3						
BVAR	**Borovoye Array**	**69.91**	**336**	P	**P**	**02 49 37.6**	**-0.9**
	1.0nm,0.5s,mb4.0,baz=152,slow=6.7,SNR=8.3						
BVAR				pP	pP	02 49 48.5	-1.2
	1.7nm,0.7s,baz=155,slow=11,SNR=5.6						
CHKZ	**Chkalovo**	**70.32**	**337**	*e*P	**P**	**02 49 40.5**	**-0.5**
	3.7nm,0.8s,mb4.4						
CHKZ				*ep*P	pP	02 49 51.2	-0.9
VNDA	**Vanda**	**73.67**	**170**	P	**P**	**02 49 57.9**	**-3.2**
	0.2nm,0.4s,mb3.4,baz=282,slow=6.5,SNR=4.0						
BRTR	**Keskin Array B**	**84.48**	**312**	P	**P**	**02 50 59.2**	**-0.9**
	2.2nm,1.0s,mb4.2,baz=126,slow=6.7,SNR=8.9						
BRTR				pP	pP	02 51 10.2	-1.3
	1.3nm,1.0s,baz=133,slow=9.0,SNR=3.6						
WMOK	**Wichita Mounta**	**144.06**	**40**	*e*PKPdf	PKPdf	02 58 01.9	-1.0
HBAR	**Harrisburg**	**148.19**	**31**	*e*PKPdf	PKPdf	02 58 08.5	-1.3

IDC 25 02:48:15.5±2.5, 924S×10878E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, ML3.3/1, Error ellipse: s-maj=125.7km s-min=25.2km az=49.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.58**	**120**	P	Pn	02 52 35.4	+1.3
	0.1nm,0.3s,baz=305,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**26.88**	**116**	P	P	02 53 58.3	+0.4
	0.9nm,0.5s,baz=288,slow=11,SNR=4.5						
ASAR	**

GRG					*e*Sn		**Sn**	**03 05 08.1**	**+1.9**
FNA	**Florina**	**2.25**	**334**		*e*Pn		**Pn**	**03 04 39.6**	**+0.1**
FNA					*e*Sn		**Sn**	**03 05 08.2**	**+0.8**
SRN	**Sarande**	**2.35**	**299**		*i* Pn		**Pn**	**03 04 42.7**	**+1.8**
SRN					*i* Sn		**Sn**	**03 05 14.2**	**+4.3**
KNT	**Kendrikon**	**2.41**	**4**		*e*Pn		**Pn**	**03 04 41.9**	**+0.3**
KNT					*e*Sn		**Sn**	**03 05 13.4**	**+2.3**
SRS	**Serrai**	**2.46**	**16**		*e*Pn		**Pn**	**03 04 41.5**	**-0.9**
SRS					*e*Sn		**Sn**	**03 05 13.6**	**+1.2**
BIA	**Bitola**	**2.48**	**336**		*e*Pn		**Pn**	**03 04 43.5**	**+0.8**
BIA					*e*Sn		**Sn**	**03 05 16.2**	**+3.2**
BIA	**Bitola**	**2.48**	**336**		*i* Pn		**Pn**	**03 04 42.7**	**+0.1**
KYTH	**Kithira**	**2.49**	**173**		*e*PB		**Pn**	**03 04 43.0**	**+0.2**
VAY	**Valandovo**	**2.56**	**358**		*e*Pn		**Pn**	**03 04 43.6**	**-0.1**
VAY	**Valandovo**	**2.56**	**358**		*i* Pn		**Pn**	**03 04 43.1**	**-0.6**
CHOS	**Chios island**	**2.68**	**97**		*e*Pn		**Pn**	**03 04 45.9**	**+0.6**
NVR	**Nevrokopi**	**2.74**	**19**		*e*PN		**Pn**	**03 04 46.3**	**+0.1**
APE	**Apeiranthos**	**2.82**	**126**		*e*Pn		**Pn**	**03 04 47.4**	**+0.1**
MMB	**Musomiste**	**2.94**	**16**		*e*Pn		**Pn**	**03 04 49.0**	**0.0**
RDO	**Rodhopi**	**3.25**	**42**		*e*PN		**Pn**	**03 04 52.5**	**-0.6**
KARN	**Karanos**	**3.50**	**163**		*e*Pn		**Pn**	**03 04 55.7**	**-0.9**
KARN					*e*Sn		**Sn**	**03 05 39.7**	**+1.7**
VAM	**Vamos**	**3.56**	**159**		*e*PN		**Pn**	**03 04 57.0**	**-0.5**
SIVA	**Sivas**	**4.11**	**155**		*e*Pn		**Pn**	**03 05 06.7**	**+1.7**
LAST	**Lasithi**	**4.24**	**147**		*e*Pn		**Pn**	**03 05 07.1**	**+0.3**
ZKR	**Zakros**	**4.61**	**141**		*e*Pn		**Pn**	**03 05 13.9**	**+1.9**
SNX	**Sinaia**	**6.92**	**17**	⇓	*i*P		**Pn**	**03 05 45.1**	**+1.4**

KRSC 25 03:26:05,5425N×16180E,h20km,ML3.5,Near east coast of Kamchatka Peninsula

*ISCJB **25** 03:27:38.3±0.8,3679N±0.10×1355E±0.1,h369km±8km, mb3.4/2,Error ellipse: s-maj=17.8km s-min=15.3km az=56.0*
*IDC **25** 03:27:38.8±3.3,3688N×13525E,h355km±44km,mb3.1/2, mb1 3.3/4,mb1mx2.8/22,mbtmp3.8/4,Error ellipse: s-maj=100.5km s-min=22.3km az=84.0*
*JMA **25** 03:27:40.1±0.4,3684N×13548E,h351km±4km,M2.9*
ISC 25 03:27:38.9±0.9,369N±01×1354E±02,h359km±8km,n16, σ0§67/18,mb3.4/2,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**1.15**	**86**	P		**Pn**	**03 28 26.4**	**+0.2**
JWT	**Wachi**	**1.57**	**178**	P		**Pn**	**03 28 28.7**	**+0.4**
JWT				*e*S		**S**	**03 29 06.8**	**-1.2**
JGM	**Miyama**	**1.60**	**136**	P		**Pn**	**03 28 28.5**	**0.0**
JSZ	**Suzu**	**1.71**	**69**	P		**Pn**	**03 28 29.5**	**+0.3**
MAT	**Matsushiro**	**2.32**	**97**	P		**Pn**	**03 28 33.4**	**+0.1**
MJAR	**Matsushiro Arr**	**2.32**	**97**	P		**Pn**	**03 28 33.9**	**+0.5**
	4.7nm,0.3s,baz=276,slow=9.1,SNR=73							
JSD	**Sado**	**2.60**	**62**	P		**Pn**	**03 28 35.6**	**+0.1**
JIE	**Ise**	**2.69**	**155**	P		**Pn**	**03 28 37.0**	**+0.7**
JYN	**Shimob**	**2.92**	**117**	P		**Pn**	**03 28 38.2**	**0.0**
JRY	**Ryogami san**	**2.98**	**105**	P		**Pn**	**03 28 39.3**	**+0.5**
JOD2	**Odawara 2**	**3.42**	**117**	P		**Pn**	**03 28 43.5**	**+0.7**
BSO1	**Boso 1**	**5.08**	**114**	P		**Pn**	**03 28 57.9**	**-1.8**
BSO1				*e*S		**S**	**03 30 00.6**	**-4.6**
JMK	**Ichinoseki**	**5.09**	**64**	P		**Pn**	**03 28 59.5**	**-0.4**
ASAJ	**Asahikawa**	**9.11**	**35**	P		**Pn**	**03 29 46.2**	**0.0**
	1.3nm,0.3s,baz=227,slow=10.0,SNR=8.2							
WRA	**Warramunga Arr**	**56.50**	**181**	P		**P**	**03 36 45.2**	**+0.5**
	0.7nm,0.4s,mb3.4,baz=359,slow=7.5,SNR=16							
FINES	**FINESS Array B**	**66.64**	**330**	P		**P**	**03 37 51.2**	**-0.6**
	0.7nm,0.8s,mb3.5,baz=59,slow=7.4,SNR=4.0							

MAN 25 03:41:30.1,787N×12506E,h26km,mb2.6,ML4.1,MS1.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.01**	**11**	*e*P		Pb	03 41 34.7	+0.2
BUKP				*e*S		Sb	03 41 39.6	+2.1
CGP	**Cagayan de Oro**	**0.68**	**328**	*e*P		Pb	03 41 43.8	+0.4
CGP				*i* S		Sb	03 41 54.9	+2.4
PAGZ	**Pagadian**	**1.66**	**269**	*e*P		Pn	03 41 57.2	-0.4
PAGZ				*e*S		Sn	03 42 18.9	+0.8

*IDC **25** 03:48:36.1±1.3,1495S×17328W,h0km,mb4.3/5, mb1 4.4/5,mb1mx4.1/16,mbtmp4.3/5,MS3.5/2,Ms1 3.5/2, ms1mx3.1/26,Error ellipse: s-maj=43.7km s-min=23.6km az=148.0*
*ISCJB **25** 03:48:38.6±0.6,149S±0.1×1733W±0.1,h33km,mb4.4/7, MS3.5/2,Error ellipse: s-maj=25.5km s-min=8.1km az=110.1*
*NEIC **25** 03:48:38.4±0.7,1514S×17325W,h10km,mb4.4/1,Error ellipse: s-maj=28.2km s-min=15.9km az=138.0*
ISC 25 03:48:40.7±0.6,150S±01×1732W±01,h35km,n17, σ0§62/12,mb4.4/7,MS3.5/2,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.69**	**52**	Pn		**Pn**	**03 49 08.1**	**+0.5**
	101nm,0.3s,baz=239,slow=0.6,SNR=37							
AFI						Sn	**03 49 27.6**	**-0.4**
	129nm,0.3s,baz=237,slow=20,SNR=7.5							
RAR	**Rarotonga**	**14.15**	**118**	T			04 06 10.6	
	11nm,0.3s,baz=117,slow=8.4,SNR=5.1							
PPT	**Papeete**	**22.77**	**100**	LR		LR	04 00 06.7	
	comp=Z,51nm,18.1s,MS3.0,baz=306,slow=30							
URZ	**Urewera**	**24.76**	**199**	P		**P**	**03 53 58.4**	**-0.6**
	4.7nm,0.6s,mb4.2,baz=276,slow=6.3,SNR=4.3							
STKA	**Stephens Creek**	**44.47**	**240**	P		**P**	**03 56 47.9**	**-0.5**
	2.2nm,0.6s,mb4.1,baz=97,slow=10,SNR=6.3							
WB2	**Warramunga Arr**	**50.17**	**256**	*e*P		**P**	**03 57 33.0**	**+0.2**
WRA	**Warramunga Arr**	**50.19**	**256**	P		**P**	**03 57 33.3**	**+0.4**
	2.5nm,0.6s,mb4.5,baz=91,slow=6.8,SNR=68							
AS31	**Alice Springs**	**50.48**	**252**	*e*P		**P**	**03 57 35.1**	**0.0**
ASAR	**Alice Springs**	**50.48**	**252**	P		**P**	**03 57 35.2**	**+0.1**
	8.7nm,0.7s,mb4.9,baz=88,slow=8.1,SNR=68							
FORT	**Forrest**	**55.84**	**243**	*e*P		**P**	**03 58 14.0**	**-0.5**
	16nm,0.6s,mb5.2							
FITZ	**Fitzroy Crossi**	**58.54**	**258**	LR		LR	04 21 04.8	
	comp=Z,100nm,21.9s,MS3.9,baz=268,slow=33							
SBA	**Scott Base**	**63.71**	**185**	P		**P**	**03 59 07.6**	**-1.1**
	0.8nm,0.3s,mb4.2							
VNDA	**Vanda**	**63.84**	**186**	P		**P**	**03 59 10.4**	**+0.9**
	0.7nm,0.7s,mb3.8,baz=14,slow=6.3,SNR=4.3							
QSPA	**South Pole Qui**	**75.08**	**180**	P		**P**	**04 00 20.0**	**+1.1**
KHC	**Kasperske Hory**	**145.48**	**352**	*e*PKP		PKPdf	04 08 19.5	+4.5
GERES	**GERESS Array B**	**145.74**	**352**	PKPbc		PKPbc	04 08 20.1	+4.2
	0.5nm,0.7s,baz=44,slow=4.5,SNR=5.9							
BRTR	**Keskin Array B**	**145.97**	**322**	PKPbc		PKPbc	04 08 21.4	+4.8
	5.9nm,1.0s,baz=101,slow=2.5,SNR=20							

*IDC **25** 04:08:30.2±1.9,553S×14991E,h0km,mb3.7/5,mb1 4.0/5, mb1mx3.8/12,mbtmp3.8/5,Error ellipse: s-maj=48.6km s-min=31.2km az=97.0*
NEIC 25 04:08:35.6±1.4,556S×14986E,h35km,mb3.9/1,Error ellipse: s-maj=38.0km s-min=21.4km az=108.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.67**	**215**	Pn		Pn	04 09 48.2	+4.7
	0.6nm,0.3s,baz=330,slow=18,SNR=2.2							
PMG						Sn	04 10 48.1	+12
	0.6nm,0.3s,baz=208,slow=19,SNR=2.2							
WRAB	**Tennant Creek**	**20.78**	**225**	*e*P		P	04 13 13.9	+0.4
	3.7nm,0.7s							
WRA	**Warramunga Arr**	**20.79**	**225**	P		P	04 13 13.7	0.0
	0.9nm,0.6s,baz=51,slow=11,SNR=5.9							
ASAR	**Alice Springs**	**23.67**	**219**	P		P	04 13 43.5	-0.5
	1.7nm,0.7s,baz=49,slow=8.6,SNR=14							
FITZ	**Fitzroy Crossi**	**26.74**	**240**	P		P	04 14 13.1	+1.3
	2.5nm,0.8s,baz=55,slow=12,SNR=5.6							
SONM	**Songino Array**	**65.44**	**329**	P		P	04 19 15.0	0.0
	0.7nm,0.8s,baz=134,slow=4.3,SNR=4.1							
VNDA	**Vanda**	**72.19**	**177**	P		P	04 19 56.9	0.0
	0.3nm,0.3s,baz=323,slow=7.2,SNR=6.9							

*CSEM **25** 04:28:59.3±0.9,3782N×2609W,h0km±4km,ML2.1,Error ellipse: s-maj=10.9km s-min=1.5km az=28.0,After PDA*
*PDA **25** 04:28:59.3±0.9,3782N×2609W,h0km±4km,MD2.5,ML2.1, Error ellipse: s-maj=10.9km s-min=1.5km az=28.0*

SVSA 25 04:28:59.3±0.9,3782N×2609W,h0km±4km,MD2.5,ML2.1, Error ellipse: s-maj=10.9km s-min=1.5km az=28.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SET2	**Ginetes**	**0.23**	**84**	*e*P		Pg	04 29 03.7	+0.1
SET4	**Mosteiros**	**0.24**	**77**	*i* P		Pg	04 29 03.5	-0.3
PFET	**Feteiras**	**0.24**	**91**	*e*P		Pg	04 29 03.9	0.0
PSAN	**Santo Antonio**	**0.29**	**84**	*e*P		Pg	04 29 04.6	-0.2
PSET	**Sete Cidades**	**0.29**	**89**	*i* P		Pg	04 29 03.8	-1.1
PSET				*e*S		Sg	04 29 07.9	-0.8
PSET								
	92nm,0.2s							
PSET	**Sete Cidades**	**0.29**	**89**	*e*S		Sg	04 29 07.9	-0.8
FAC	**Faja de Cima**	**0.35**	**98**	*e*P		Pg	04 29 06.0	0.0
CML	**Cha da Macela**	**0.43**	**96**	*e*P		Pg	04 29 07.3	-0.3
PVER	**Pico Vermelho**	**0.46**	**93**	*e*P		Pg	04 29 07.6	-0.4
PVER				*e*S		Sg	04 29 14.2	+0.2
PVER								
	122nm,0.3s							
PVER	**Pico Vermelho**	**0.46**	**93**	*e*P		Pg	04 29 07.6	-0.4
PVER				*e*S		Sg	04 29 14.2	+0.2
LFA	**Lagoa do Fogo**	**0.48**	**96**	*e*P		Pg	04 29 08.2	-0.3
PMAT	**Coroa da Mata**	**0.49**	**90**	*e*P		Pg	04 29 08.1	-0.6
PMAT				*e*S		Sg	04 29 15.2	+0.2
PMAT								
	80nm,0.3s							
PMAT	**Coroa da Mata**	**0.49**	**90**	*e*P		Pg	04 29 08.1	-0.6
PMAT				*e*S		Sg	04 29 15.2	+0.2
PRCH	**Ribeira Ch**	**0.49**	**101**	*e*P		Pg	04 29 08.6	-0.1
PRCH				*e*S		Sg	04 29 15.1	0.0
PRCH								
	88nm,0.2s							
PRCH	**Ribeira Ch**	**0.49**	**101**	*e*P		Pg	04 29 08.6	-0.1
PRCH				*e*S		Sg	04 29 15.1	0.0
MESC	**Monte Escuro**	**0.51**	**93**	*e*P		Pg	04 29 08.5	-0.6
MESC				*e*S		Sg	04 29 15.6	-0.1
VIF	**Vila Franca**	**0.52**	**98**	*e*S		Sg	04 29 16.2	+0.2
VIF								
	31nm,0.2s							
PCNG	**Congro**	**0.55**	**95**	*e*S		Sg	04 29 17.0	0.0
PCNG								
	13nm,0.2s							
FRA1	**Furnas**	**0.58**	**97**	*e*P		Pg	04 29 09.8	-0.7
PFAD	**Fenais da Ajud**	**0.61**	**88**	*e*P		Pg	04 29 09.5	-1.4
MIRA	**Miradouro**	**0.64**	**93**	*e*P		Pg	04 29 10.5	-1.1
PFAV	**Pico das Favas**	**1.19**	**319**	*e*S		Sg	04 29 32.6	-4.8
PFAV								
	7.7nm,0.1s							
RIB2	**Ribeirinha**	**1.20**	**315**	*e*S		Sg	04 29 33.0	-5.0
RIB2								
	16nm,0.2s							
PVNV	**Vila Nova**	**1.26**	**319**	*e*S		Sg	04 29 34.1	-5.7
PVNV								
	9.9nm,0.1s							
PPAD	**Pico dos Padre**	**1.29**	**313**	*e*S		Sg	04 29 35.1	-5.6
PPAD								
	8.1nm,0.1s							

*BJI **25** 05:02:14.8,1746N×14628E,h61km,mB5.1,mb4.7,Ms4.7, Msz4.5*
*NEIC **25** 05:02:16.3±0.2,1757N×14588E,h35km,mb4.9/29,Error ellipse: s-maj=7.5km s-min=5.4km az=141.0*
*MOS **25** 05:02:25.5±0.9,1759N×14559E,h135km,mb4.6/9,Error ellipse: s-maj=15.3km s-min=10.8km az=92.4*
*ISCJB **25** 05:02:32.6±0.8,1753N±004×14556E±005,h197km±7km, mb4.3/50,Error ellipse: s-maj=8.2km s-min=6.1km az=176.8*
*IDC **25** 05:02:34.1±1.1,1747N×14561E,h204km±10km,mb3.9/16, mb1 4.1/20,mb1mx4.0/25,mbtmp4.6/20,MS3.2/2, Ms1 3.2/2,ms1mx2.7/26,Error ellipse: s-maj=15.9km s-min=7.7km az=93.0*
ISC 25 05:02:33.1±0.8,1754N±004×14565E±005,h186km±7km, h44km±4.5km:pP-P,n119,σ0§99/123,mb4.4/50,2C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.00**	**191**	P		**Pn**	**05 03 35.5**	**+1.1**
	49nm,0.3s,baz=132,slow=4.4,SNR=11							
GUMO						**Sn**	**05 04 21.9**	**-0.5**
	67nm,0.3s,baz=28,slow=20,SNR=11							
CBIJ	**Chichi jima**	**10.03**	**342**	P		**Pn**	**05 04 54.1**	**+1.2**
	7.4nm,0.3s,baz=287,slow=19,SNR=3.1							
CBIJ					S	**Sn**	**05 06 42.2**	**-2.5**
	7.9nm,0.3s,baz=252,slow=20,SNR=3.7							
CBIJ					LR	LR	05 08 29.5	
	comp=Z,58nm,20.2s,baz=135,slow=35							
JHJ	**Hachijo jima 2**	**16.38**	**342**	P		**Pn**	**05 06 12.8**	**+0.2**
	5.5nm,0.3s,baz=90,slow=20,SNR=3.0							
JOW	**Kunigami**	**18.54**	**303**	P		**P**	**05 06 34.7**	**-0.9**
	0.8nm,0.3s,baz=149,slow=19,SNR=2.4							
MJAR	**Matsushiro Arr**	**20.04**	**342**	P		**P**	**05 06 53.0**	**+1.3**
	1.4nm,0.4s,baz=157,slow=9.1,SNR=5.4							
MJAR					LR	LR	05 14 05.8	
	comp=Z,131nm,20.3s,baz=165,slow=34							
MAT	**Matsushiro**	**20.04**	**342**	P		**P**	**05 06 42.6**	**-9.2**
MAT				*e*S		**S**	**05 10 43.0**	**+16**
MAT	**Matsushiro**	**20.04**	**342**	*e*P		**P**	**05 06 43.0**	**-8.8**
MAT				S		**S**	**05 10 43.0**	**+16**
YHNB	**Yeheng**	**23.70**	**292**	*e*P		**P**	**05 07 30.1**	**+2.2**
SSE	**Sheshan**	**25.98**	**306**	P		**P**	**05 07 48.5**	**0.0**
SSE				S		**S**	**05 12 15.6**	**+11**
SSE				AMB	AMB			
	comp=Z,34nm,0.7s,mb5.1							
SSE				AMB	AMB			
	comp=Z,269nm,3.7s							
SSE				LR	LR			
	comp=N,1μm,15.4s							
SSE				LR	LR			
	comp=E,1μm,13.9s							
MDJ	**Mudanjiang**	**30.17**	**337**	P		**P**	**05 08 23.8**	**-2.0**
MDJ				AP	pP		05 08 36.6	-28
MDJ				PP	PP		05 09 30.3	-7.4
MDJ				S	S		**05 13 16.8**	**+5.8**
MDJ				AMB	AMB			
	comp=Z,4.0nm,0.6s,mb4.3							
MDJ				AMB	AMB			
	comp=Z,47nm,5.2s							
MDJ				LR	LR			
	comp=N,53nm,9.8s							
MDJ				LR	LR			
	comp=E,64nm,13.8s							
MDJ				LR	LR			
	comp=Z,104nm,9.0s							
KKM	**Kota Kinabalu**	**30.94**	**252**	*e*P		**P**	**05 08 33.6**	**+1.1**
CN2	**Changchun**	**31.25**	**331**	*e*P		**P**	**05 08 35.0**	**-0.2**
KSM	**Kuching**	**38.22**	**249**	P		**P**	**05 09 35.4**	**+0.5**
WRAB	**Tennant Creek**	**38.86**	**197**	*e*P		**P**	**05 09 40.0**	**-0.2**
WRAB				pmax	pmax			
	comp=Z,9.0nm,0.5s,mb4.7							
WRAB	**Tennant Creek**	**38.86**	**197**	*e*P		**P**	**05 09 40.0**	**-0.2**
	comp=Z,9.4nm,0.5s,mb4.7							
WB2	**Warramunga Arr**	**38.87**	**197**	*e*P		**P**	**05 09 39.6**	**-0.7**
WRA	**Warramunga Arr**	**38.87**	**197**	P		**P**	**05 09 39.3**	**-1.0**
	comp=Z,3.3nm,0.4s,mb4.4,baz=12,slow=8.2,SNR=71							
CD2	**Chengdu**	**40.22**	**297**	*e*P		**P**	**05 09 49.5**	**-1.9**
CD2				AP		pP	05 10 03.3	-28
CD2				PP		PP	05 11 26.6	-1.3
CD2				S		**S**	**05 15 54.5**	**+10**
CD2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**40.52**	**210**	⇑ *i*P		**P**	**05 09 53.7**	**-0.2**
	comp=Z,28nm,0.9s,mb4.9							
FITZ	**Fitzroy Crossi**	**40.52**	**210**	P		**P**	**05 09 53.9**	**0.0**
	comp=Z,5.7nm,0.3s,mb4.7,baz=39,slow=10,SNR=226							
KMI	**Kunming**	**40.54**	**288**	P		**P**	**05 09 56.3**	**+2.2**
KMI				AP		pP	05 10 07.6	-26
KMI				AMB	AMB			
	comp=Z,9.0nm,0.8s,mb4.5							
KMI				AMB	AMB			
	comp=Z,150nm,4.0s							
LZH	**Lanzhou**	**41.26**	**305**	*e*P		**P**	**05 10 00.5**	**+0.6**
LZH				AP		pP	05 10 14.8	-25
LZH				PP		PP	05 11 39.6	+0.5
LZH				*e*S		**S**	**05 16 13.3**	**+14**
LZH				*e*SS		SS	05 19 12.4	+1.7
LZH				AMB	AMB			
	comp=Z,21nm,1.5s,mb4.5							
LZH				AMB	AMB			
	comp=Z,85nm,6.2s							
LZH				LR	LR			
	comp=E,678nm,14.7s							
LZH				LR	LR			
	comp=Z,987nm,17.8s							
AS31	**Alice Springs**	**42.53**	**196**	*e*P		**P**	**05 10 09.4**	**-0.9**
ASAR	**Alice Springs**	**42.53**	**196**	P		**P**	**05 10 09.2**	**-1.0**
	comp=Z,2.0nm,0.4s,mb4.1,baz=16,slow=7.0,SNR=30							
ASAR				S		**S**	**05 16 17.0**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=9.7,slow=17,SNR=3.8							
ASAR	**Alice Springs**	**42.53**	**196**	P		**P**	**05 10 09.2**	**-1.0**
ASAR				S		**S**	**05 16 17.0**	**-1.3**
ULN	**Ulaanbaatar**	**43.65**	**323**	*e*P		**P**	**05 10 19.1**	**-0.1**
SONM	**Songino Array**	**44.02**	**322**	P		**P**	**05 10 22.9**	**+0.7**
	comp=Z,2.5nm,0.6s,mb4.0,baz=138,slow=8.0,SNR=13							
GTA	**Gaotai**	**45.22**	**308**	*e*P		**P**	**05 10 35.4**	**+3.8**
GTA				AP		pP	05 10 45.8	-26
GTA				XP		sP	05 10 49.5	-44
GTA				PCP		PcP	05 12 08.5	+0.1
GTA				PP		PP	05 12 24.4	+3.2
GTA				SCP		ScP	05 15 59.0	+16
GTA				AMB	AMB			
	comp=Z,2.0nm,1.2s,mb3.6							
GTA				AMB	AMB			
	comp=Z,100nm,5.3s							
GTA				LR	LR			
	comp=N,155nm,16.7s							
GTA				LR	LR			
	comp=E,85nm,14.8s							
GTA				LR	LR			
	comp=Z,110nm,14.8s							
YAK	**Yakutsk**	**45.84**	**350**	*e*P		**P**	**05 10 34.8**	**-1.7**
YAK				pmax		pmax		
	comp=Z,33nm,0.6s,mb5.1							
YAK	**Yakutsk**	**45.84**	**350**	*e*P		**P**	**05 10 34.8**	**-1.7**
	comp=Z,33nm,0.6s,mb5.1							
MBWA	**Marble Bar**	**46.09**	**214**	*e*P		**P**	**05 10 38.3**	**-0.2**
	comp=Z,9.0nm,0.6s,mb4.6							
BOD	**Bodaibo**	**46.55**	**337**	*e*P		**P**	**05 10 40.1**	**-1.9**
STKA	**Stephens Creek**	**49.29**	**185**	*e*P		**P**	**05 11 01.3**	**-1.7**
	comp=Z,2.1nm,0.4s,mb4.1							
STKA	**Stephens Creek**	**49.29**	**185**	P		**P**	**05 11 01.2**	**-1.8**
	comp=Z,4.5nm,0.8s,mb4.1,baz=352,slow=7.0,SNR=9.8							
WMQ	**Urumqi**	**55.03**	**312**	P		**P**	**05 11 47.5**	**+2.2**
WMQ				AP		pP	05 11 57.6	-30
WMQ				PP		PP	05 13 52.3	+1.9
WMQ				AMB	AMB			
	comp=Z,10.0nm,1.2s,mb4.4							
WMQ				AMB	AMB			
	comp=Z,154nm,5.6s							
WMQ				LR	LR			
	comp=N,513nm,16.3s							
WMQ				LR	LR			
	comp=E,384nm,15.2s							
WMQ				LR	LR			
	comp=Z,511nm,16.8s							
JIRN	**Jiri**	**55.36**	**292**	*e*P		**P**	**05 11 49.7**	**+2.0**
	comp=Z,19nm,0.7s,mb5.0							
PKI	**Pulchoki**	**56.06**	**292**	*e*P		**P**	**05 11 53.7**	**+1.1**
	comp=Z,11nm,0.6s,mb4.9							
PKI	**Pulchoki**	**56.06**	**292**	*e*P		**P**	**05 11 53.7**	**+1.1**
PKI				pmax		pmax		
	comp=Z,11nm,0.6s,mb4.9							
KKN	**Kakani**	**56.16**	**292**	*e*P		**P**	**05 11 54.7**	**+1.3**
DMN	**Daman**	**56.33**	**292**	*e*P		**P**	**05 11 55.8**	**+1.3**
	comp=Z,13nm,0.6s,mb4.9							
GKN	**Gorkha**	**56.72**	**292**	*e*P		**P**	**05 11 58.6**	**+1.3**
	comp=Z,26nm,1.0s,mb5.0							
KOLN	**Koldanda**	**57.65**	**292**	*e*P		**P**	**05 12 04.0**	**+0.2**
	comp=Z,13nm,0.8s,mb4.8							
ZAL	**Zalesovo**	**58.91**	**323**	P		**P**	**05 12 11.5**	**-1.0**
	comp=Z,14nm,0.5s,mb4.0,baz=22,slow=6.8,SNR=7.9							
ZAL	**Zalesovo**	**58.91**	**323**	P		**P**	**05 12 11.5**	**-1.0**
MKAR	**Makanchi Array**	**59.23**	**314**	P		**P**	**05 12 14.4**	**-0.3**
	comp=Z,1.9nm,0.8s,mb4.0,baz=85,slow=9.0,SNR=16							
MKAR				pP		pP	05 12 59.9	+2.3
	comp=Z,2.1nm,0.8s,baz=91,slow=5.1,SNR=5.0							
KDAK	**Kodiak Island**	**60.35**	**33**	P		**P**	**05 12 22.0**	**-0.4**
	comp=Z,3.5nm,0.3s,mb4.6,baz=85,slow=22,SNR=8.3							
KURK	**Kurchatov**	**62.10**	**319**	*e*P		**P**	**05 12 33.8**	**-0.3**
KURK				pmax		pmax		
	comp=Z,11nm,1.1s,mb4.6							
KURK	**Kurchatov**	**62.10**	**319**	*e*P		**P**	**05 12 33.8**	**-0.3**
	comp=Z,11nm,1.1s,mb4.6							
SLKM	**Skilak Lake**	**62.21**	**30**	*e*P		**P**	**05 12 34.1**	**-0.7**
IMA2	**Indian Mountai**	**62.34**	**24**	*e*P		**P**	**05 12 35.3**	**-0.4**
PMR	**Palmer**	**62.98**	**29**	*e*P		**P**	**05 12 38.7**	**-1.2**
CHKZ	**Chkalovo**	**67.21**	**321**	*e*P		**P**	**05 13 05.0**	**-2.2**
CHKZ				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb3.9							
CHKZ	**Chkalovo**	**67.21**	**321**	*e*P		**P**	**05 13 05.0**	**-2.1**
	comp=Z,0.8nm,0.5s,mb3.8							
BRVK	**Borovoye**	**67.40**	**321**	*e*P		**P**	**05 13 07.8**	**-0.5**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.0							
BRVK	**Borovoye**	**67.40**	**321**	*e*P		**P**	**05 13 07.8**	**-0.5**
	comp=Z,2.0nm,0.8s,mb4.0							
DAWY	**Dawson**	**67.80**	**27**	*e*P		**P**	**05 13 10.8**	**-0.1**
ZRNK	**Zerenda**	**68.17**	**321**	*e*P		**P**	**05 13 12.3**	**-0.9**
ZRNK				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb3.9							
ZRNK	**Zerenda**	**68.17

	comp=Z,2.5nm,0.6s,mb4.2							
MOOW	**Moose Ponds**	**87.49**	**45**	*e*P		**P**	**05 14 59.9**	**+0.3**
	comp=Z,4.7nm,1.0s,mb4.3							
REDW	**Red Top Meadow**	**87.56**	**45**	*e*P		**P**	**05 15 00.7**	**+0.8**
HWUT	**Hardware Ranch**	**87.72**	**47**	*e*P		**P**	**05 15 00.2**	**-0.5**
	comp=Z,12nm,0.9s,mb4.7							
FINES	**FINESS Array B**	**87.91**	**335**	P		**P**	**05 14 58.8**	**-2.8**
	comp=Z,0.7nm,0.4s,mb3.8,baz=83,slow=5.2,SNR=10							
NLU	**North Lily Min**	**87.96**	**49**	*e*P		**P**	**05 15 02.0**	**+0.2**
TCUT	**Toone Canyon**	**88.01**	**47**	*e*P		**P**	**05 15 02.6**	**+0.5**
GLA	**Glamis**	**88.28**	**56**	*e*P		**P**	**05 15 03.7**	**+0.3**
DAU	**Daniels Canyon**	**88.38**	**48**	*e*P		**P**	**05 15 04.3**	**+0.5**
PDAR	**Pinedale Array**	**88.67**	**45**	P		**P**	**05 15 04.5**	**-0.7**
	comp=Z,0.8nm,0.4s,mb4.0,baz=271,slow=1.7,SNR=12							
TMUT	**Trail Mountain**	**88.82**	**49**	*e*P		**P**	**05 15 06.8**	**+0.9**
SRU	**San Rafael**	**89.38**	**49**	*e*P		**P**	**05 15 08.7**	**+0.2**
SMCO	**Snowmass**	**91.89**	**48**	*e*P		**P**	**05 15 20.8**	**+0.6**
	comp=Z,12nm,0.8s,mb5.0							
ISCO	**Idaho Springs**	**92.59**	**47**	*e*P		**P**	**05 15 24.0**	**+0.6**
ISCO				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.5							
ISCO	**Idaho Springs**	**92.59**	**47**	*e*P		**P**	**05 15 24.0**	**+0.6**
	comp=Z,4.2nm,0.9s,mb4.6							
BRTR	**Keskin Array B**	**94.88**	**314**	P		**P**	**05 15 31.9**	**-2.0**
	comp=Z,1.2nm,0.8s,mb4.2,baz=100,slow=4.4,SNR=7.5							
BRTR	**Keskin Array B**	**94.88**	**314**	⇑*i*P		**P**	**05 15 32.4**	**-1.5**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**133.13**	**308**	PKP	PKPdf		05 21 26.0	-0.4
	comp=Z,0.3nm,0.4s,baz=31,slow=1.1,SNR=13							
TORD				SKPbc	SKPbc		05 24 31.7	-5.2
	comp=Z,0.7nm,0.7s,baz=50,slow=2.0,SNR=6.6							
TORD	**Torodi Ar. Bea**	**133.13**	**308**	PKP	PKPdf		05 21 26.0	-0.5
TORD				SKPbc	SKPbc		05 24 31.7	-5.2
LPAZ	**La Paz**	**147.68**	**93**	PKPbc	PKPbc		05 21 56.7	+1.1
	comp=Z,4.8nm,0.5s,baz=301,slow=3.1,SNR=40							
LPAZ	**La Paz**	**147.68**	**93**	PKPbc	PKPbc		05 21 56.7	+1.1
SAML	**Samuel**	**150.70**	**77**	*e*PKPbc	PKPbc		05 22 02.1	-1.0
BDFB	**Brasilia**	**166.77**	**84**	PKPab	PKPab		05 23 20.7	+0.4
	comp=Z,0.5nm,0.4s,baz=204,slow=3.3,SNR=4.3							

GUC 25 05:37:21.8±0.4, 3145S×7137W, h46km±1km, MD3.6, ML2.6, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMCH	**Combarbala**	**0.42**	**48**	⇑*i*P		Pn	05 37 32.0	+0.2
CMCH				*i* S		Sn	05 37 40.2	+1.4
CMCH				AML		AML	05 37 40.6	
	comp=E,1µm,0.4s							
CHNG	**Los Chungos**	**0.45**	**195**	⇓*i*P		Pn	05 37 32.4	+0.3
CHNG				*i* S		Sn	05 37 40.1	+0.7
CHNG				AML		AML	05 37 41.0	
	comp=N,334nm,0.5s							
TLL	**Tololo Astrono**	**1.37**	**21**	⇓*i*P		Pn	05 37 45.7	+1.3
TLL				*i* S		Sn	05 38 03.9	+2.5
TLL				AML		AML	05 38 05.5	
	comp=E,151nm,0.3s							
PEL	**Peldehue**	**1.78**	**161**	*i* S		Sn	05 38 13.0	+1.4
PEL				AML		AML	05 38 14.0	
	comp=N,98nm,0.3s							
ANTU	**Antumapu**	**2.20**	**164**	*i* S		Sn	05 38 23.2	+1.4

*IDC **25** 05:53:53.2±11.0, 3620N×7026E, h185km±113km, mb3.3/4, mb1 3.5/7, mb1mx3.2/23, mbtmp3.9/7, Error ellipse: s-maj=62.5km s-min=23.8km az=14.0*
*ISCJB **25** 05:53:56.5±0.5, 3652N±003×7024E±008, h220km±7km, mb3.2/4, Error ellipse: s-maj=10.0km s-min=4.8km az=165.3*
*MOS **25** 05:53:56.4±0.8, 3649N×7016E, h223km, mb3.6/1, Error ellipse: s-maj=20.5km s-min=9.6km az=88.5*
*NEIC **25** 05:53:57.6±2.3, 3649N×7022E, h217km±24km, mb4.3/10, Error ellipse: s-maj=24.5km s-min=8.4km az=55.0*
*NNC **25** 05:53:59.7±2.2, 3677N×7014E, h192km±17km, mb2.8, mpv3.5, Error ellipse: s-maj=20.5km s-min=13.4km az=19.0*

ISC 25 05:53:57.4±0.5, 3653N±003×7025E±008, h208km±6km, n57, σ1§03/63, mb3.2/4, 12C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CEP	**Cherat**	**3.02**	**153**	⇑P		**Pn**	**05 54 48.6**	**+0.9**
CHCP	**Chirah Chowk**	**3.78**	**138**	⇑P		**Pn**	**05 54 57.9**	**+1.1**
THW	**Thamme Wali**	**3.92**	**161**	⇑P		**Pn**	**05 54 58.7**	**+0.2**
THW				S		**Sn**	**05 55 43.0**	**-3.6**
SBDP	**Sheikh Budin**	**4.24**	**174**	⇑P		**Pn**	**05 55 01.4**	**-1.0**
DRP	**Derazinda**	**4.77**	**180**	P		**Pn**	**05 55 09.4**	**+0.3**
SARP	**Sargodha**	**5.01**	**156**	P		**Pn**	**05 55 11.9**	**-0.2**
AML	**Almayashu**	**6.20**	**24**	P		**Pn**	**05 55 27.5**	**+0.2**
	SNR=58							
KK31	**Karatay Array**	**6.57**	**2**	⇑P		**Pn**	**05 55 31.7**	**-0.3**
	1.7nm,0.2s,baz=190,slow=13,SNR=166							
KK31				⇓S		**Sn**	**05 56 44.1**	**-3.2**
	4.3nm,0.3s,baz=204,slow=23,SNR=6.2							
UCH	**Uchtor**	**6.58**	**29**	P		**Pn**	**05 55 32.6**	**+0.4**
	SNR=34							
EKS2	**Erkin-Say**	**6.70**	**23**	P		**Pn**	**05 55 34.4**	**+0.6**
	SNR=22							
KZA	**Kyzart**	**6.76**	**33**	P		**Pn**	**05 55 35.0**	**+0.5**
	SNR=5.1							
AAK	**Ala-Archa**	**6.92**	**27**	P		**Pn**	**05 55 37.4**	**+0.8**
	SNR=9.7							
AAK	**Ala-Archa**	**6.92**	**27**	*e*PN		**Pn**	**05 55 36.1**	**-0.5**
AAK				*e*			05 56 54.7	
AAK				pmax	pmax			
	comp=Z,12nm,0.4s							
AAK	**Ala-Archa**	**6.92**	**27**	*e*Pn		**Pn**	**05 55 36.1**	**-0.5**
	comp=Z,12nm,0.4s							
AAK				*e*Sn		**Sn**	**05 56 54.7**	**-0.8**
KBK	**Karagaybulak**	**7.11**	**29**	P		**Pn**	**05 55 40.0**	**+0.9**
	SNR=9.6							
CHMS	**Chumysh**	**7.33**	**27**	P		**Pn**	**05 55 41.8**	**-0.1**
	SNR=7.0							
ULHL	**Ulahol**	**7.36**	**37**	P		**Pn**	**05 55 42.9**	**+0.6**
	SNR=9.9							
USP	**Ospenovka**	**7.48**	**25**	P		**Pn**	**05 55 43.7**	**-0.1**
	SNR=17							
SDNR	**Sundarnagar**	**7.50**	**130**	*e*P		**Pn**	**05 55 43.0**	**-1.1**
SDNR				*e*S		**Sn**	**05 57 01.0**	**-8.2**
TKM2	**Tokmak 2**	**7.60**	**31**	P		**Pn**	**05 55 45.2**	**-0.1**
	SNR=17							
TKM2	**Tokmak 2**	**7.60**	**31**	⇓P		**Pn**	**05 55 45.5**	**+0.1**
	comp=Z,1.6nm,0.7s							
TKM2				⇑S		**Sn**	**05 57 09.4**	**-2.0**
	comp=Z,2.7nm,0.8s							
NDI	**New Delhi**	**9.78**	**141**	*e*P		**Pn**	**05 56 09.5**	**-4.1**
MK02	**Makanchi Array**	**13.62**	**38**	⇑P		**Pn**	**05 57 01.5**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=229,slow=14							
MKAR	**Makanchi Array**	**13.63**	**37**	P		**Pn**	**05 57 01.9**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=230,slow=11,SNR=19							
AB31	**Akbulak array**	**14.77**	**333**	P		**Pn**	**05 57 15.5**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=154,slow=13,SNR=46							
AB31				⇑S		**S**	**05 59 57.2**	**-3.2**
	comp=Z,0.5nm,0.4s,baz=161,slow=22,SNR=3.0							
GKN	**Gorkha**	**14.83**	**121**	*e*P		**Pn**	**05 57 16.8**	**-0.3**
	comp=Z,7.6nm,0.3s							
DMN	**Daman**	**15.40**	**121**	*e*P		**Pn**	**05 57 24.2**	**+0.1**
	comp=Z,5.5nm,0.3s							
KURK	**Kurchatov**	**15.41**	**20**	⇓P		**Pn**	**05 57 22.8**	**-1.3**
	comp=Z,4.1nm,1.5s							
KURK	**Kurchatov**	**15.41**	**20**	*e*P		**Pn**	**05 57 23.0**	**-1.1**
KURK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KURK	**Kurchatov**	**15.41**	**20**	*e*Pn		**Pn**	**05 57 23.0**	**-1.1**
	comp=Z,3.8nm,0.8s							
KKN	**Kakani**	**15.41**	**120**	*e*P		**Pn**	**05 57 24.7**	**+0.5**
PKI	**Pulchoki**	**15.64**	**121**	*e*P		**Pn**	**05 57 27.5**	**+0.6**
	comp=Z,13nm,0.6s							
PKI	**Pulchoki**	**15.64**	**121**	*e*P		**Pn**	**05 57 27.5**	**+0.6**
PKI				pmax	pmax			
	comp=Z,13nm,0.6s							
JIRN	**Jiri**	**16.13**	**119**	*e*P		**P**	**05 57 34.5**	**+2.4**
	comp=Z,19nm,0.4s							
VOSK	**Vostochnaya**	**16.20**	**2**	⇑P		**P**	**05 57 33.4**	**+0.5**
	comp=Z,5.5nm,1.0s							
ZRNK	**Zerenda**	**16.44**	**357**	⇑P		**P**	**05 57 36.7**	**+1.1**
	comp=Z,2.9nm,0.5s							
ZRNK	**Zerenda**	**16.44**	**357**	*e*P		**P**	**05 57 36.6**	**+1.0**
ZRNK				pmax	pmax			
	comp=Z,6.0nm,0.5s							
ZRNK	**Zerenda**	**16.44**	**357**	*e*Pn		**Pn**	**05 57 36.6**	**+0.1**
	comp=Z,5.8nm,0.5s							
AKTK	**Aktyubinsk**	**16.46**	**331**	P		**P**	**05 57 36.6**	**+0.8**
AKTO	**Aktyubinsk**	**16.46**	**331**	⇑P		**P**	**05 57 36.2**	**+0.4**
	comp=Z,0.1nm,0.9s							
AKTO	**Aktyubinsk**	**16.46**	**331**	P		**P**	**05 57 36.6**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=137,slow=7.3,SNR=13							
BVA0	**Borovoye Array**	**16.50**	**0**	⇑P		**P**	**05 57 38.3**	**+2.2**
	comp=Z,0.4nm,0.5s,baz=168,slow=17,SNR=4.1							
BVAR	**Borovoye Array**	**16.50**	**0**	P		**P**	**05 57 37.2**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=170,slow=9.7,SNR=15							
BRVK	**Borovoye**	**16.53**	**0**	*e*P		**P**	**05 57 37.6**	**+1.1**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BRVK	**Borovoye**	**16.53**	**0**	*e*P		**P**	**05 57 37.5**	**+1.1**
	comp=Z,2.5nm,0.8s							
CHKZ	**Chkalovo**	**17.15**	**1**	⇓P		**P**	**05 57 44.4**	**+1.1**
	comp=Z,2.4nm,0.5s							
CHKZ	**Chkalovo**	**17.15**	**1**	*e*P		**P**	**05 57 44.2**	**+0.9**
CHKZ				pmax	pmax			
	comp=Z,5.0nm,0.7s							
CHKZ	**Chkalovo**	**17.15**	**1**	*e*P		**P**	**05 57 44.2**	**+0.9**
	comp=Z,4.6nm,0.7s							
CHKZ				*e*			05 57 56.8	
ZAL	**Zalesovo**	**20.13**	**26**	P		**P**	**05 58 15.6**	**+0.1**
	comp=Z,3.8nm,0.4s,baz=265,slow=4.7,SNR=8.7							
NVS	**Novosibirsk**	**20.38**	**22**	*e*P		**P**	**05 58 17.9**	**-0.2**
ENH	**Enshi**	**33.18**	**89**	P		**P**	**06 00 14.6**	**+0.3**
	comp=Z,0.4nm,0.3s,mb3.4							
NOA	**NORSAR Array B**	**43.99**	**323**	P		**P**	**06 01 43.7**	**-0.4**
	comp=Z,0.3nm,0.6s,mb2.8,baz=96,slow=7.7,SNR=3.3							
NOA	**NORSAR Array B**	**43.99**	**323**	P		**P**	**06 01 43.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**65.11**	**268**	P		**P**	**06 04 14.3**	**-1.5**
	comp=Z,0.4nm,0.5s,mb3.3,baz=49,slow=5.7,SNR=8.2							
TORD	**Torodi Ar. Bea**	**65.11**	**268**	P		**P**	**06 04 14.3**	**-1.5**
WRA	**Warramunga Arr**	**82.52**	**121**	P		**P**	**06 05 54.6**	**-2.2**
	comp=Z,0.4nm,0.5s,mb3.4,baz=322,slow=5.2,SNR=9.3							
WB2	**Warramunga Arr**	**82.53**	**121**	P		**P**	**06 05 54.7**	**-2.1**

*ISCJB **25** 06:13:37.1±0.2, 4766N±001×120.16W±002, h7km, Error ellipse: s-maj=2.3km s-min=2.0km az=104.6*
*NEIC **25** 06:13:37.9, 4764N×120 21W, h7km, MD3.1(SEA), After SEA.*
NEIC Felt [III] at Entiat and [II] at East Wenatchee. Also felt at Orondo and Wenatchee.
*PNSN **25** 06:13:37.9, 4764N×120 21W, h7km, MD3.1, Fault plane solution: NP1:φs30.00000°, δ35.00000°, NP2: φs256.00000°, δ64.00000°, Principal axes: T Plg63.0000°, Azm205.0000°; P Plg16.0000°, Azm328.0000°;*
*PGC **25** 06:13:38.1, 4764N×120 21W, h7km, MD3.1(SEA), 159km northeast of Seattle, Wa Eastern Washington State.*

ISC 25 06:13:37.4±0.2, 4765N±001×12018W±002, h7km, n91, σ1§07/127, 10C-27D, Washington

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ETW	**Entiat**	**0.11**	**245**	⇑P		**Pg**	**06 13 39.9**	**+0.1**
WTV	**Waterville**	**0.16**	**73**	⇑P		**Pg**	**06 13 41.5**	**+0.8**
CBSW	**Chelan Butte S**	**0.18**	**32**	P		**Pg**	**06 13 41.8**	**+0.7**
SLFW	**Sugar Loaf**	**0.26**	**295**	⇓P		**Pg**	**06 13 42.6**	**+0.2**
DHW2	**Dyer Hill 2**	**0.43**	**40**	P		**Pg**	**06 13 46.5**	**+0.6**
NLW	**Nelson Butte**	**0.44**	**346**	⇓P		**Pg**	**06 13 46.2**	**+0.3**
EPH	**Ephrata**	**0.50**	**127**	⇓P		**Pg**	**06 13 46.9**	**-0.1**
EPH				S		**Sg**	**06 13 54.0**	**+0.5**
LTY	**Liberty**	**0.51**	**220**	⇑P		**Pg**	**06 13 47.1**	**-0.2**
WRW	**Wenatchee Ridg**	**0.51**	**294**	⇓P		**Pg**	**06 13 47.1**	**-0.2**
SAW	**Saint Andrews**	**0.53**	**84**	⇓P		**Pg**	**06 13 47.8**	**+0.2**
TWW	**Teanaway**	**0.69**	**222**	P		**Pg**	**06 13 51.2**	**+0.5**
EBG	**Ellensburg**	**0.79**	**200**	⇓P		**Pg**	**06 13 52.6**	**+0.1**
FHE	**Frenchman Hill**	**0.84**	**146**	⇓P		**Pg**	**06 13 53.5**	**0.0**
BVW	**Beverly**	**0.87**	**166**	⇓P		**Pg**	**06 13 53.7**	**-0.3**
CRF	**Corfu**	**0.99**	**146**	⇓P		**Pg**	**06 13 56.1**	**-0.3**
WAH2	**Wahluke Slope**	**0.99**	**155**	⇓P		**Pg**	**06 13 56.2**	**-0.2**
NAC	**Naches**	**1.02**	**206**	P		**Pg**	**06 13 57.1**	**+0.2**
C05A	**Tolt Reservoir**	**1.02**	**273**	⇑P		**Pg**	**06 13 56.0**	**-0.9**
	baz=1.0							
C05A				⇓S		**Sg**	**06 14 09.2**	**-1.0**
	baz=1.0							
OD2	**Odessa Site #2**	**1.03**	**104**	⇓P		**Pg**	**06 13 56.6**	**-0.6**
LOCW	**Locke Island**	**1.07**	**151**	P		**Pg**	**06 13 57.8**	**-0.1**
MDW	**Midway**	**1.08**	**164**	P		**Pg**	**06 13 57.8**	**-0.3**
MXC	**Moxie City**	**1.08**	**184**	⇓P		**Pg**	**06 13 57.8**	**-0.3**
HTW	**Haystack Looko**	**1.08**	**279**	P		**Pg**	**06 13 56.9**	**-1.2**
WRD	**Warden**	**1.10**	**140**	⇓P		**Pg**	**06 13 55.8**	**-2.8**
GBB	**Gable Butte**	**1.11**	**160**	⇓P		**Pg**	**06 13 58.4**	**-0.3**
RMW	**Rattlesnake Mo**	**1.11**	**261**	P		**Pg**	**06 13 57.9**	**-0.9**
GBL	**Gable Mountain**	**1.16**	**155**	⇓P		**Pg**	**06 13 59.5**	**-0.2**
BRVW	**Black Rock Val**	**1.17**	**174**	P		**Pg**	**06 13 59.6**	**-0.3**
BENWA	**Benson Ranch**	**1.18**	**164**	P		**Pg**	**06 13 59.5**	**-0.5**
OT3	**Othello 3**	**1.18**	**146**	P		**Pg**	**06 13 59.7**	**-0.3**
GSM	**Grass Mountain**	**1.18**	**248**	P		**Pg**	**06 14 00.5**	**+0.5**
RPW	**Rockport**	**1.20**	**312**	⇓P		**Pg**	**06 13 59.4**	**-1.0**
MJ2	**May Junction 2**	**1.23**	**152**	P		**Pb**	**06 14 00.5**	**-0.5**
SNIWA	**Snively Ranch**	**1.24**	**163**	P		**Pb**	**06 14 00.6**	**-0.5**
FMW	**Mount Fremont**	**1.24**	**235**	P		**Pb**	**06 14 00.0**	**-1.2**
BLH	**Bald Hill**	**1.26**	**279**	P		**Pn**	**06 14 00.6**	**-0.9**
JCW	**Jim Creek**	**1.29**	**295**	⇓P		**Pn**	**06 14 00.8**	**-1.1**
D05A	**Enumclaw**	**1.31**	**250**	⇓P		**Pn**	**06 14 02.3**	**+0.2**
	baz=1.3,SNR=105							
D05A				⇑S		**Sb**	**06 14 19.3**	**-0.1**
	baz=1.3							
WPW	**White Pass**	**1.33**	**225**	P		**Pn**	**06 14 01.6**	**-0.8**
HAWA	**Hanford**	**1.34**	**160**	*e*Pn		**Pn**	**06 14 01.6**	**-0.9**
HAWA				*e*S		**Sb**	**06 14 19.8**	**-0.3**
DPW	**Davenport**	**1.35**	**80**	⇑P		**Pn**	**06 14 01.9**	**-0.8**
H2OWA	**Water**	**1.36**	**157**	⇑P		**Pn**	**06 14 02.4**	**-0.4**
WIW	**Wooded Island**	**1.37**	**153**	⇓P		**Pn**	**06 14 02.7**	**-0.2**
ET3	**Eltopia**	**1.37**	**141**	P		**Pn**	**06 14 02.5**	**-0.5**
ATES	**Arlington Traf**	**1.39**	**296**	P		**Pn**	**06 14 03.0**	**-0.3**
RVC	**Mount Rainier-**	**1.41**	**240**	P		**Pn**	**06 14 03.5**	**0.0**
B05A	**Bryant**	**1.43**	**296**	⇓P		**Pn**	**06 14 03.1**	**-0.6**
	baz=1.4							
B05A				⇓S		**Sb**	**06 14 22.0**	**-0.6**
	baz=1.4							
LON	**Longmire**	**1.43**	**231**	P		**Pn**	**06 14 03.9**	**+0.1**
REDWA	**Red Mountain**	**1.45**	**159**	P		**Pn**	**06 14 04.0**	**0.0**
PRW	**Prosser**	**1.48**	**166**	P		**Pn**	**06 14 04.8**	**+0.4**
CMW	**Cultus Mountai**	**1.51**	**301**	⇑P		**Pn**	**06 14 05.0**	**+0.1**
E05A	**Randle**	**1.53**	**225**	⇑P		**Pn**	**06 14 05.0**	**-0.2**
	baz=1.5,SNR=47							
E05A				⇑S		**Sn**	**06 14 25.5**	**+0.1**
	baz=1.5							
GHW	**Garrison Hill**	**1.55**	**248**	P		**Pn**	**06 14 06.0**	**+0.6**
MBW	**Mount Baker**	**1.61**	**315**	P		**Pn**	**06 14 07.0**	**+0.7**
PNT	**Penticton**	**1.71**	**13**	Pn		**Pn**	**06 14 08.1**	**+0.5**
PNT				Pg		**Pg**	**06 14 09.5**	**-0.7**
PNT				Sn		**Sn**	**06 14 31.7**	**+2.0**
PNT				Sg		**Sg**	**06 14 32.4**	**+0.1**
PNT				Trac			06 14 34.5	
	comp=Z,137nm,0.2s							
MEW	**McNeil Island**	**1.73**	**256**	P		**Pn**	**06 14 09.2**	**+1.3**
A05A	**Maple Falls**	**1.85**	**317**	⇑P		**Pn**	**06 14 11.2**	**+1.6**
	baz=1.8,SNR=40							
VDB	**Vedder Mountai**	**1.88**	**318**	Pn		**Pn**	**06 14 11.7**	**+1.8**
VDB				Sg		**Sg**	**06 14 37.5**	**-0.2**
VDB				Trac			06 14 41.8	
	comp=Z,16nm,0.1s							
VDB	**Vedder Mountai**	**1.88**	**318**	P		**Pn**	**06 14 11.8**	**+1.8**
C04A	**Brinnon**	**1.88**	**273**	⇓P		**Pn**	**06 14 10.2**	**+0.2**
	baz=1.9,SNR=9.4							
C04A				⇓S		**Sn**	**06 14 33.3**	**-0.7**
	baz=1.9							
HOPB	**Hope**	**1.92**	**335**	Pn		**Pn**	**06 14 12.2**	**+1.6**
HOPB				Sg		**Sg**	**06 14 37.6**	**-1.5**
HOPB				Trac			06 14 41.5	
	comp=Z,82nm,0.2s							
HDW	**Hoodsport**	**1.94**	**271**	P		**Pn**	**06 14 11.3**	**+0.5**
F05A	**White Salmon**	**1.98**	**207**	⇓P		**Pn**	**06 14 11.7**	**+0.4**
	baz=2.0							
F05A				⇓S		**Sn**	**06 14 37.0**	**+0.6**
	baz=2.0							
E04A	**Onalaska**	**2.03**	**239**	⇑S		**Sn**	**06 14 38.5**	**+0.8**
	baz=2.0							
NEW	**Newport**	**2.15**	**72**	⇑P		**Pn**	**06 14 12.8**	**-0.8**
NEW	**Newport**	**2.15**	**72**	*e*Pn		**Pn**	**06 14 12.4**	**-1.2**
NEW				*e*S		**Sn**	**06 14 44.0**	**+3.4**
VGZ	**Gonzales**	**2.24**	**291**	Pn		**Pn**	**06 14 15.9**	**+1.0**
VGZ				Sg		**Sg**	**06 14 45.5**	**-4.0**
VGZ				Trac			06 14 46.2	
	comp=Z,19nm,0.3s							
B04A	**Port Angeles**	**2.27**	**282**	⇑P		**Pn**	**06 14 15.6**	**+0.2**
	baz=2.3,SNR=8.0							
HNB	**Haney**	**2.28**	**316**	Pn		**Pn**	**06 14 18.2**	**+2.8**
HNB				Sg		**Sg**	**06 14 47.7**	**-2.8**
HNB				Trac			06 14 50.5	
	comp=Z,6.0nm,0.2s							
SNB	**Saturna Island**	**2.29**	**300**	Pn		**Pn**	**06 14 17.1**	**+1.5**
SNB				Sg		**Sg**	**06 14 48.1**	**-2.9**
SNB				Trac			06 14 50.7	
	comp=Z,3.0nm,0.3s							
PGC	**Sidney**	**2.41**	**296**	Pn		**Pn**	**06 14 17.7**	**+0.5**
PGC				Pg		**Pg**	**06 14 18.6**	**-4.8**
PGC				Sn		**Sn**	**06 14 48.6**	**+1.8**
PGC				Sg		**Sg**	**06 14 51.0**	**-3.7**
PGC				Trac			06 14 51.3	
	comp=Z,7.0nm,0.2s							
PGC	**Sidney**	**2.41**	**296**	*e*Pn		**Pn**	**06 14 15.3**	**-1.9**
PGC				*e*Sn		**Sn**	**06 14 47.3**	**+0.4**
G05A	**Wamic**	**2.54**	**198**	⇑P		**Pn**	**06 14 20.0**	**+1.0**
	baz=2.5,SNR=19							
G05A				⇓S		**Sn**	**06 14 51.6**	**+1.4**
	baz=2.5							
GOBB	**Galiano Island**	**2.57**	**302**	Pn		**Pn**	**06 14 21.3**	**+1.8**
GOBB				Sg		**Sg**	**06 14 57.2**	**-2.9**
GOBB				Trac			06 14 59.0	
	comp=Z,4.0nm,0.2s							
LZB	**Mount Lazard**	**2.62**	**293**	Trac			06 14 59.6	
	comp=Z,3.0nm,0.2s							
LZB	**Mount Lazard**	**2.62**	**293**	Pn		**Pn**	**06 14 22.0**	**+1.9**
LZB				Sg		**Sg**	**06 14 55.3**	**-6.3**
BIB	**Bowen Island**	**2.72**	**311**	Pn		**Pn**	**06 14 25.2**	**+3.7**
BIB				Trac			06 15 03.5	
	comp=Z,3.0nm,0.4s							
WPB	**Watts Point**	**2.84**	**316**	Pn		**Pn**	**06 14 26.7**	**+3.5**
WPB				Sg		**Sg**	**06 15 04.4**	**-4.1**
WPB				Trac			06 15 07.7	
	comp=Z,3.0nm,0.2s							
NLLB	**Nanaimo Lost L**	**2.98**	**303**	Pn		**Pn**	**06 14 26.8**	**+1.7**
NLLB				Pg		**Pg**	**06 14 29.4**	**-5.2**
NLLB				Sg		**Sg**	**06 15 06.7**	**-6.5**
NLLB				Trac			06 15 07.8	
	comp=Z,6.0nm,0.5s							
PFB	**Port Renfrew**	**3.00**	**289**	Trac			06 15 09.6	
	comp=Z,1.0nm,0.1s							
PFB	**Port Renfrew**	**3.00**	**289**	Pn		**Pn**	**06 14 28.2**	**+2.8**
PFB				Sn		**Sn**	**06 15 03.1**	**+1.6**
WSLR	**Whistler**	**3.07**	**325**	Pg		**Pg**	**06 14 32.5**	**-3.7**
WSLR				Sg		**Sg**	**06 15 11.1**	**-4.8**
WSLR				Trac			06 15 16.1	
	comp=Z,11nm,0.2s							
SHB	**Sechelt**	**3.13**	**310**	Pn		**Pn**	**06 14 32.3**	**+5.2**
SHB				Trac			06 15 17.6	
	comp=Z,7.0nm,0.2s							
LLLB	**Lillooet**	**3.16**	**340**	Pn		**Pn**	**06 14 27.7**	**+0.1**
LLLB				Pg		**Pg**	**06 14 35.0**	**-3.0**
LLLB				Trac			06 15 17.6	
	comp=Z,16nm,0.3s							
MGB	**Mount Grey**	**3.30**	**296**	Pn		**Pn**	**06 14 31.4**	**+1.9**
MGB				Trac			06 15 23.2	
	comp=Z,4.0nm,0.3s							
BMO	**Blue Mountains**	**3.44**	**143**	*e*Pn		**Pn**	**06 14 30.8**	**-0.6**
TXB	**Texada**	**3.48**	**308**	Pn		**Pn**	**06 14 36.8**	**+4.8**
SLEB	**Sale Mountain**	**3.76**	**20**	Pn		**Pn**	**06 14 36.9**	**+1.1**
SLEB				Pg		**Pg**	**06 14 46.5**	**-3.0**
SLEB				Sn		**Sn**	**06 15 20.6**	**+0.1**
SLEB				Sg		**Sg**	**06 15 34

CFR	**Carcaliu**	**1.21**	**104**	⇑P	Pn	06 37 44.2	+0.4
CFR				S	Sn	06 38 02.2	-0.1
CFR	**Carcaliu**	**1.21**	**104**	⇑*i*P	Pn	06 37 44.2	+0.4
CFR				*i* S	Sn	06 38 02.2	-0.2
HARR	**Harsova**	**1.30**	**127**	⇑*i*P	Pn	06 37 45.2	+0.4
HARR				*i* S	Sn	06 38 04.4	+0.3
HARR	**Harsova**	**1.30**	**127**	⇓P	Pn	06 37 45.4	+0.6
HARR				S	Sn	06 38 04.6	+0.4
TIRR	**Tirgusor**	**1.72**	**126**	⇓*i*P	Pn	06 37 50.0	+0.5
TIRR				*i* S	Sn	06 38 12.5	-0.1
TIRR	**Tirgusor**	**1.72**	**126**	⇓P	Pn	06 37 50.0	+0.5
TIRR				S	Sn	06 38 12.7	+0.2
BURAR	**Bucovina Array**	**2.30**	**338**	⇑*i*P	Pn	06 37 57.4	+0.7
BURAR				*i* S	Sn	06 38 26.4	+1.1
BURAR	**Bucovina Array**	**2.30**	**338**	⇓P	Pn	06 37 57.6	+0.9
BURAR				S	Sn	06 38 25.9	+0.5

GRAL ***25*** *06:41:23.9±0.3, 33°04′N×035°31′E, h0km±308km, MD2.8*
GII ***25*** *06:41:26.2±1.5, 33°24′N×035°39′E, h0km, ML2.3/1*
ISCJB ***25*** *06:41:27.1±0.7, 33°25′N±003°×035°37′E±006, h10km, Error ellipse: s-maj=7.9km s-min=3.2km az=46.2*

ISC 25 06:41:27.8±0.7, 33°23′N±003°×035°38′E±006, h10km±1, n12, σ1§27/19, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMC7	**Mount Meron ar**	**0.21**	**178**	Pg	**Pg**	**06 41 31.1**	**-1.1**
MMA1	**Mount Meron ar**	**0.21**	**175**	Pg	**Pg**	**06 41 31.2**	**-1.1**
MMA1				Sg	**Sg**	**06 41 35.3**	**0.0**
MMA0	**Mount Meron ar**	**0.22**	**176**	Pg	**Pg**	**06 41 31.2**	**-1.1**
HNTI	**Hanita**	**0.23**	**230**	Pg	**Pg**	**06 41 30.8**	**-1.8**
KSDI	**Kefar Szold**	**0.23**	**100**	Pg	**Pg**	**06 41 31.8**	**-0.8**
KSDI				Sg	**Sg**	**06 41 35.8**	**0.0**
RCY	**Rachaya**	**0.44**	**55**	*e*Pg	**Pg**	**06 41 35.0**	**-1.5**
RCY				*e*Sg	**Sg**	**06 41 43.2**	**+0.9**
BHL	**Bhannes**	**0.71**	**18**	*e*Sg	**Sg**	**06 41 52.4**	**+1.7**
MMLI	**Mount Malkishu**	**0.79**	**178**	Pg	**Pg**	**06 41 42.8**	**-0.3**
MMLI				Sg	**Sg**	**06 41 55.6**	**+2.1**
HMDT	**Nahal Hemdat**	**0.98**	**173**	Pg	**Pg**	**06 41 46.1**	**-0.6**
SLTI	**Sal'it**	**1.03**	**196**	Pg	**Pg**	**06 41 47.4**	**-0.2**
SLTI				Sg	**Sg**	**06 42 03.1**	**+2.1**
HWQ	**Hawqa**	**1.14**	**24**	*e*Pg	**Pg**	**06 41 48.1**	**-1.7**
HWQ				*e*Sg	**Sg**	**06 42 06.0**	**+1.4**
AMAZ	**Amatzia**	**1.74**	**193**	Pn	**Pn**	**06 41 58.9**	**+0.8**
AMAZ				Sn	**Sn**	**06 42 22.7**	**+2.3**

IDC ***25*** *06:48:31.7±1.9, 9.10°S×125°22′E, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, ML3.6/3, Error ellipse: s-maj=106.3km s-min=28.5km az=66.0*
ISCJB ***25*** *06:48:34.6±1.5, 9.4°S±0.1°×125°0′E±0.3, h33km, mb3.6/1, Error ellipse: s-maj=37.8km s-min=14.2km az=158.2*

ISC 25 06:48:37.0±1.5, 93°S±01°×125°1′E±03, h35km, n4, σ1§46/6, mb3.6/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.76**	**177**	Pn	**Pn**	**06 50 43.3**	**+2.1**
	0.3nm,0.3s,baz=352,slow=6.4,SNR=16						
FITZ				Sn	**Sn**	**06 52 17.6**	**-1.1**
	0.3nm,0.3s,baz=300,slow=21,SNR=3.9						
WRA	**Warramunga Arr**	**13.82**	**141**	Pn	**Pn**	**06 51 50.2**	**-0.3**
	0.4nm,0.3s,baz=316,slow=15,SNR=51						
WRA				Sn	**Sn**	**06 54 16.1**	**-6.6**
	0.2nm,0.3s,baz=319,slow=25,SNR=5.7						
ASAR	**Alice Springs**	**16.57**	**151**	Pn	**Pn**	**06 52 26.6**	**+0.1**
	0.2nm,0.3s,baz=321,slow=10,SNR=9.8						
MKAR	**Makanchi Array**	**67.63**	**330**	P	**P**	**06 59 29.7**	**-0.6**
	0.4nm,0.6s,mb3.6,baz=134,slow=8.3,SNR=3.7						

ISCJB ***25*** *06:54:02.6±0.6, 21°2S±0.1°×174.7°W±0.1, h0km, mb4.3/12, MS3.6/5, Error ellipse: s-maj=23.5km s-min=15.3km az=90.6*
IDC ***25*** *06:54:04.3±0.8, 21.1°8S×174°63W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.2/14, mbtmp4.1/7, MS3.6/7, Ms1 3.6/7, ms1mx3.3/26, Error ellipse: s-maj=35.2km s-min=23.6km az=137.0*
NEIC ***25*** *06:54:09.6±0.4, 21°20S×174°65W, h35km, mb4.6/5, Error ellipse: s-maj=16.8km s-min=11.0km az=134.0*

ISC 25 06:54:04.0±0.6, 21°1S±01°×176°W±01, h0km, n28, σ1§01/18, mb4.3/12, MS3.6/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.67**	**21**	Pn	**Pn**	**06 55 53.1**	**-3.9**
	3.3nm,0.3s,baz=72,slow=6.4,SNR=3.5						
AFI				Sn	**Sn**	**06 57 11.8**	**-13**
	1.7nm,0.3s,baz=37,slow=20,SNR=2.2						
AFI				LR	LR	06 57 37.9	
	comp=Z,179nm,19.8s,baz=143,slow=28						
AFI				T		07 03 49.5	
	2.4nm,0.3s,baz=192,slow=23,SNR=3.8						
AFI	**Afiamalu**	**7.67**	**21**	Pn	**Pn**	**06 55 53.1**	**-3.9**
AFI				Sn	**Sn**	**06 57 11.8**	**-13**
AFI				LR	LR	06 57 38.0	
RAR	**Rarotonga**	**13.82**	**93**	Pn	**Pn**	**06 57 09.2**	**-12**
	3.8nm,0.3s,baz=245,slow=13,SNR=7.3						
RAR				LR	LR	07 00 37.1	
	comp=Z,266nm,21.5s,baz=109,slow=28						
TBI	**Tubuai**	**23.35**	**100**	*e*LR	LR	07 04 35.3	
	275nm,28.0s						
PPT	**Papeete**	**23.85**	**86**	*e*LQ		07 03 51.5	
	341nm,23.0s						
PPT				*e*LR	LR	07 04 46.9	
	303nm,26.8s						
PPT	**Papeete**	**23.85**	**86**	LR	LR	07 05 56.3	
	comp=Z,76nm,18.3s,MS3.2,baz=143,slow=30						
HNR	**Honiara**	**27.13**	**292**	LR	LR	07 08 28.9	
	comp=Z,88nm,21.8s,MS3.3,baz=180,slow=32						
STKA	**Stephens Creek**	**40.41**	**245**	LR	LR	07 17 25.7	
	comp=Z,119nm,19.0s,MS3.8,baz=26,slow=35						
ASAR	**Alice Springs**	**47.48**	**257**	P	**P**	**07 02 41.3**	**+0.6**
	3.5nm,0.8s,mb4.5,baz=92,slow=8.2,SNR=27						
ASAR				LR	LR	07 21 52.6	
	comp=Z,113nm,21.1s,MS3.8,baz=356,slow=35						
WRAB	**Tennant Creek**	**47.67**	**262**	*e*P	**P**	**07 02 42.2**	**+0.1**
	11nm,1.0s,mb4.9						
WRA	**Warramunga Arr**	**47.67**	**262**	P	**P**	**07 02 42.2**	**0.0**
	2.9nm,0.9s,mb4.4,baz=90,slow=5.8,SNR=44						
VNDA	**Vanda**	**57.58**	**186**	P	**P**	**07 03 55.5**	**0.0**
	0.9nm,0.9s,mb3.8,baz=328,slow=8.0,SNR=3.8						
QSPA	**South Pole Qui**	**68.94**	**180**	*e*P	**P**	**07 05 10.0**	**-0.9**
	9.8nm,1.4s,mb4.8						
MJAR	**Matsushiro Arr**	**72.65**	**322**	P	**P**	**07 05 33.2**	**-0.2**
	1.1nm,0.4s,mb4.4,baz=162,slow=6.3,SNR=5.9						
NVAR	**Mina Array Bea**	**79.33**	**42**	P	**P**	**07 06 12.3**	**+0.7**
	2.0nm,0.8s,mb4.2,baz=214,slow=7.1,SNR=11						
MAW	**Mawson**	**82.03**	**190**	P	**P**	**07 06 24.8**	**-1.2**
	2.1nm,0.9s,mb4.2,baz=201,slow=3.7,SNR=3.7						
HLID	**Hailey**	**84.76**	**39**	*e*P	**P**	**07 06 40.1**	**+0.1**
	1.2nm,0.9s,mb4.1						
ANMO	**Albuquerque**	**85.34**	**50**	*e*P	**P**	**07 06 44.2**	**+1.3**
	2.1nm,1.3s,mb4.2						
PDAR	**Pinedale Array**	**87.27**	**42**	P	**P**	**07 06 53.5**	**+1.0**
	0.4nm,0.9s,mb3.6,baz=198,slow=2.6,SNR=3.3						
PDAR				LR	LR	07 39 06.6	
	comp=Z,46nm,19.5s,MS3.9,baz=72,slow=31						
COLA	**College**	**88.18**	**11**	*e*P	**P**	**07 06 56.3**	**-0.5**
	5.7nm,1.2s,mb4.8						
DAWY	**Dawson**	**89.23**	**15**	*e*P	**P**	**07 07 02.4**	**+0.6**
BVAR	**Borovoye Array**	**121.62**	**320**	PKP	PKPdf	07 12 59.0	-0.6
	0.3nm,0.4s,baz=64,slow=3.4,SNR=3.9						
AKASG	**Malin Array Be**	**145.06**	**333**	PKPbc	PKPbc	07 13 42.5	-0.3
	3.4nm,0.9s,baz=37,slow=3.6,SNR=23						
EKA	**Eskdalemuir Ar**	**145.25**	**9**	PKPbc	PKPbc	07 13 43.6	+0.3
	2.1nm,1.1s,baz=298,slow=1.8,SNR=4.1						
CLL	**Collm**	**149.31**	**351**	*e*PKIKP	PKPdf	07 13 50.0	-0.4
CLL				*e*PKP1	PKPbc	07 13 55.0	+0.3
CLL				*e**PKP		07 14 06.0	
BR131	**Keskin Array S**	**149.61**	**314**	*e*PKPbc	PKPbc	07 13 56.7	+1.3
BRTR	**Keskin Array B**	**149.61**	**314**	*e*PKPbc	PKPbc	07 13 56.0	+0.5
	1.6nm,0.9s,baz=145,slow=3.0,SNR=8.3						
MLR	**Muntele Rosu**	**150.43**	**330**	PKPbc	PKPbc	07 13 58.5	+1.1
	3.4nm,1.0s,baz=193,slow=6.5,SNR=4.9						

IDC ***25*** *07:57:26.4±0.4, 60°60S×25°40W, h0km, mb4.9/20, mb1 4.9/20, mb1mx4.9/21, mbtmp4.9/20, MS4.2/18, Ms1 4.2/18, ms1mx4.1/23, Error ellipse: s-maj=16.3km s-min=12.4km az=29.0*

MOS ***25*** *07:57:30.3±1.2, 60°55S×25°32W, h33km, mb5.2/15, Error ellipse: s-maj=24.7km s-min=11.8km az=101.7*
BJI ***25*** *07:57:31.7, 59°7S×26°03W, h55km, mB5.2, Ms5.3, Msz5.1*
ISCJB ***25*** *07:57:31.1±0.3, 60°55S±0.06°×253°W±0.1, h43km, mb5.0/32, MS4.4/21, Error ellipse: s-maj=10.0km s-min=6.7km az=96.2*
HRVD ***25*** *07:57:33.0±0.2, 60°88S×024°71W, h16km, MW5.1/76, Centroid moment Tensor Solution. LP body waves: s43,c63;Mantle waves: s76,c116; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=-4.34±.17; Mθθ1.07±.13; Mϕϕ3.27±.12; Mrθ0.58±.35; Mϕθ2.00±.08; Mrϕ2.93±.34; Best double couple: M₀5.31500×10¹⁶ NP1:ϑs41.00000°, δ30.00000°, λ-71.00000°. NP2: ϕs200.00000°, δ62.00000°, λ-100.00000°. Principal axes: T 5.2910, Plg17.0000°, Azm297.0000°; N 0.0480, Plg9.0000°, Azm205.0000°; P -5.3390, Plg71.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***25*** *07:57:33.0±0.2, 60°55S×25°27W, mb5.1/22 Error ellipse: s-maj=8.8km s-min=6.6km az=216.0*

ISC 25 07:57:30.4±2.6, 6064S±006°×254°W±01, h26km±17km, h42km±2.8km:pP-P, n220, σ0§97/82, mb5.0/32, MS4.4/21, 33C-33D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.74**	**312**	Pn	**Pn**	**07 59 41.5**	**+6.5**
	3µm,0.9s,SNR=13						
HOPE	**Hope Point**	**8.74**	**312**	*e*Pn	**Pn**	**07 59 41.2**	**+6.1**
	491nm,1.0s						
VNA1	**Neumayer--Stat**	**12.21**	**152**	⇑*i*Pn	**Pn**	**08 00 18.9**	**-3.7**
VNA1				*e*		08 00 20.7	
VNA1				*e*		08 00 23.3	
VNA1				*e*		08 00 25.0	
VNA1				*e*		08 00 26.7	
VNA1				*e*		08 00 32.1	
VNA1				*e*		08 00 34.9	
VNA1				*e*		08 02 25.8	
VNA1				*e*		08 02 28.3	
VNA1				*e*		08 02 31.3	
VNA1				*e*		08 02 35.4	
VNA1				*e*		08 02 37.8	
VNA1				*e*		08 02 40.9	
SNAA	**Sanae**	**14.20**	**150**	Pn	**Pn**	**08 00 46.0**	**-3.6**
	6.5nm,0.3s,baz=316,slow=14,SNR=290						
SNAA				Sn	**Sn**	**08 03 11.1**	**-15**
	3.4nm,0.3s,baz=330,slow=19,SNR=8.3						
SNAA				LR	LR	08 05 34.2	
	comp=Z,354nm,18.2s,baz=280,slow=34						
SNAA	**Sanae**	**14.20**	**150**	⇑*i*Pn	**Pn**	**08 00 45.9**	**-3.8**
SNAA				*e*		08 00 47.7	
SNAA				*e*		08 00 48.5	
SNAA				*e*		08 00 51.4	
SNAA				*e*		08 00 57.2	
SNAA				*e*		08 00 59.7	
SNAA				*e*		08 03 06.7	
SNAA				*e*		08 03 10.4	
SNAA				*e*		08 03 15.4	
SNAA				*e*		08 03 18.6	
SNAA				*e*		08 03 20.7	
SNAA	**Sanae**	**14.20**	**150**	*e*P	**Pn**	**08 00 45.9**	**-3.8**
SNAA				pmax	pmax		
	comp=Z,211nm,0.8s						
SNAA	**Sanae**	**14.20**	**150**	*e*Pn	**Pn**	**08 00 45.9**	**-3.8**
	comp=Z,211nm,0.8s						
SNAA				*e*S	**Sn**	**08 03 12.3**	**-14**
NVL	**N'lazarevskaya**	**18.00**	**140**	⇓*i*P	**Pn**	**08 01 37.7**	**-1.0**
NVL				*i* S	**Sn**	**08 05 06.1**	**+7.5**
NVL				pmax	pmax		
	comp=Z,181nm,1.8s						
NVL				pmax	pmax		
	comp=N,57nm,1.3s						
NVL				pmax	pmax		
	comp=E,164nm,1.8s						
EFI	**East Falkland**	**20.10**	**282**	*e*P	**P**	**08 02 02.3**	**+0.3**
EFI				pmax	pmax		
	comp=Z,88nm,0.7s						
EFI	**East Falkland**	**20.10**	**282**	*e*P	**P**	**08 02 02.3**	**+0.3**
	comp=Z,88nm,0.7s						
SYO	**Syowa Base**	**27.52**	**135**	⇑*e*P	**P**	**08 03 13.2**	**-1.5**
QSPA	**South Pole Qui**	**29.60**	**180**	⇓*e*P	**P**	**08 03 34.6**	**+1.4**
	comp=Z,29nm,0.7s,mb5.1						
QSPA				*e*PcP	PcP	08 06 37.4	-0.2
PLCA	**Paso Flores**	**33.95**	**285**	P	**P**	**08 04 10.3**	**-1.1**
	comp=Z,14nm,1.0s,mb4.8,baz=148,slow=10,SNR=21						
PLCA				PcP	PcP	08 06 50.0	+0.7
	comp=Z,3.0nm,1.0s,baz=98,slow=5.2,SNR=2.4						
PLCA				LR	LR	08 18 21.8	
	comp=Z,625nm,18.7s,MS4.4,baz=140,slow=37						
PLCA	**Paso Flores**	**33.95**	**285**	*e*P	**P**	**08 04 09.9**	**-1.5**
PLCA				*e**PP	pP	08 04 22.1	+2.9
PLCA				pmax	pmax		
	comp=Z,17nm,0.8s						
PLCA	**Paso Flores**	**33.95**	**285**	*e*P	**P**	**08 04 09.9**	**-1.5**
	comp=Z,17nm,0.8s,mb5.0						
PLCA				*e*pP	pP	08 04 22.1	+2.9
MAW	**Mawson**	**35.95**	**139**	⇓*i*P	**P**	**08 04 28.7**	**0.0**
	comp=Z,18nm,0.9s,mb5.0						
MAW	**Mawson**	**35.95**	**139**	P	**P**	**08 04 28.7**	**0.0**
	comp=Z,28nm,1.0s,mb5.1,baz=239,slow=8.8,SNR=43						
MAW				PcP	PcP	08 06 54.8	-0.3
	comp=Z,7.5nm,0.9s,baz=255,slow=4.1,SNR=5.1						
MAW				LR	LR	08 17 16.9	
	comp=Z,364nm,18.3s,MS4.2,baz=242,slow=33						
MAW	**Mawson**	**35.95**	**139**	⇓*i*P	**P**	**08 04 28.7**	**0.0**
MAW				pmax	pmax		
	comp=Z,18nm,0.9s						
CAM4	**Nova Friburgo**	**40.10**	**335**	⇑*i*P	**P**	**08 05 03.0**	**-0.7**
CAM4				*i*		08 05 06.0	
CAM4				*i*		08 05 18.5	
CFAA	**Coronel Fontan**	**40.37**	**296**	P	**P**	**08 05 04.5**	**-1.4**
	comp=Z,3.3nm,0.6s,mb4.2,baz=156,slow=7.6,SNR=67						
CFAA				S	**S**	**08 11 07.0**	**-5.2**
	comp=Z,0.6nm,1.0s,baz=288,slow=16,SNR=5.2						
CFAA	**Coronel Fontan**	**40.37**	**296**	P	**P**	**08 05 04.5**	**-1.4**
CFAA				S	**S**	**08 11 07.0**	**-5.2**
CPUP	**Villa Florida**	**40.62**	**313**	P	**P**	**08 05 06.6**	**-1.4**
	comp=Z,4.4nm,0.3s,mb4.5,baz=134,slow=6.5,SNR=62						
CPUP				LR	LR	08 20 34.3	
	comp=Z,303nm,20.2s,MS4.2,baz=149,slow=34						
SUR	**Sutherland**	**41.19**	**68**	P	**P**	**08 05 12.9**	**+0.2**
	comp=Z,12nm,0.8s,mb4.6,baz=260,slow=4.6,SNR=6.0						
SUR				LR	LR	08 17 26.8	
	comp=Z,316nm,21.7s,MS4.1,baz=194,slow=29						
SUR	**Sutherland**	**41.19**	**68**	*e*P	**P**	**08 05 13.9**	**+1.2**
	comp=Z,17nm,0.8s,mb4.7						
SBA	**Scott Base**	**41.56**	**184**	*e*P	**P**	**08 05 17.2**	**+1.5**
SBA				pmax	pmax		
	comp=Z,55nm,1.6s,mb4.9						
SBA	**Scott Base**	**41.56**	**184**	*e*P	**P**	**08 05 17.2**	**+1.5**
	comp=Z,55nm,1.6s,mb4.9						
VNDA	**Vanda**	**42.02**	**182**	P	**P**	**08 05 20.3**	**+0.8**
	comp=Z,16nm,0.9s,mb4.6,baz=187,slow=6.5,SNR=64						
VNDA				LR	LR	08 22 14.9	
	comp=Z,138nm,21.0s,MS3.8,baz=179,slow=35						
VNDA	**Vanda**	**42.02**	**182**	*e*P	**P**	**08 05 20.9**	**+1.4**
VNDA				*e*		08 07 14.6	
VNDA				pmax	pmax		
	comp=Z,18nm,0.9s						
VNDA	**Vanda**	**42.02**	**182**	*e*P	**P**	**08 05 20.9**	**+1.4**
	comp=Z,18nm,0.9s,mb4.7						
VNDA				*e*PcP	PcP	08 07 14.6	+0.4
TLL	**Tololo Astrono**	**42.73**	**295**	*e*P	**P**	**08 05 25.2**	**-0.1**
TLL	**Tololo Astrono**	**42.73**	**295**	*e*P	**P**	**08 05 25.3**	**0.0**
MIR	**Mirnyy**	**45.28**	**150**	*d*P	**P**	**08 05 47.0**	**+1.3**
MIR				pmax	pmax		
	comp=Z,270nm,1.0s,mb6.0						
BOSA	**Boshof**	**46.41**	**70**	P	**P**	**08 05 54.3**	**-0.3**
	comp=Z,27nm,0.9s,mb5.2,baz=211,slow=7.3,SNR=30						
BOSA				PcP	PcP	08 07 28.5	-0.7
	comp=Z,3.4nm,0.8s,baz=140,slow=3.2,SNR=3.1						
BOSA				LR	LR	08 20 45.8	
	comp=Z,372nm,20.0s,MS4.3,baz=303,slow=30						
BOSA	**Boshof**	**46.41**	**70**	P	**P**	**08 05 54.3**	**-0.3**
BOSA						08 07 28.5	
BOSA				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.2						
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BOSA	**Boshof**	**46.41**	**70**	*e*P	**P**	**08 05 54.0**	**-0.6**
	comp=Z,23nm,0.8s,mb5.2						
BDFB	**Brasilia**	**47.83**	**330**	P	**P**	**08 06 04.9**	**-0.8**
	comp=Z,8.7nm,0.8s,mb4.8,baz=164,slow=4.7,SNR=20						
BDFB				LR	LR	08 24 47.0	
	comp=Z,254nm,18.4s,MS4.2,baz=168,slow=34						
LVC	**Limon Verde**	**48.49**	**302**	*e*P	**P**	**08 06 10.6**	**-0.2**
	comp=Z,42nm,1.1s,mb5.4						
LVC				*e*pP	pP	08 06 23.2	+4.4
LVC				*e*PP	PP	08 08 06.8	+3.1
CASY	**Casey**	**49.27**	**158**	*e*P	**P**	**08 06 17.4**	**+0.6**
LBTB	**Lobatse**	**49.64**	**68**	P	**P**	**08 06 19.3**	**-0.3**
	comp=Z,28nm,1.0s,mb5.2,baz=224,slow=8.2,SNR=28						
LBTB	**Lobatse**	**49.64**	**68**	*e*P	**P**	**08 06 18.9**	**-0.7**
LBTB				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2						
LBTB	**Lobatse**	**49.64**	**68**	*e*P	**P**	**08 06 18.9**	**-0.7**
	comp=Z,19nm,0.8s,mb5.2						
TSUM	**Tsumeb**	**51.29**	**56**	P	**P**	**08 06 32.2**	**+0.1**
	comp=Z,7.4nm,0.9s,mb4.6,baz=190,slow=8.1,SNR=12						
TSUM	**Tsumeb**	**51.29**	**56**	*e*P	**P**	**08 06 31.9**	**-0.1**
	comp=Z,17nm,1.4s,mb4.8						
DRV	**Dumont d'Urvil**	**52.55**	**173**	S	**S**	**08 14 06.0**	**-0.6**
DRV				SS	SS	08 17 46.0	+1.1
DRV				R		08 23 00.0	
LPAZ	**La Paz**	**53.84**	**306**	P	**P**	**08 06 51.5**	**+0.5**
	comp=Z,13nm,0.6s,mb5.0,baz=150,slow=6.2,SNR=107						
LPAZ				S	**S**	**08 14 22.9**	**-1.4**
	comp=Z,1.8nm,1.2s,baz=229,slow=20,SNR=3.0						
LPAZ				LR	LR	08 29 37.6	
	comp=Z,99nm,20.4s,MS3.9,baz=120,slow=36						
LPAZ	**La Paz**	**53.84**	**306**	P	**P**	**08 06 51.5**	**+0.5**
LPAZ				S	**S**	**08 14 22.9**	**-1.4**
LPAZ				pmax	pmax		
	comp=Z,13nm,0.6s						
LPAZ				smax			
	comp=E,2.0nm,1.2s						
LPAZ				MLR	MLR		
	comp=Z,99nm,20.4s						
LPAZ	**La Paz**	**53.84**	**306**	*e*P	**P**	**08 06 50.9**	**-0.1**
	comp=Z,16nm,0.7s,mb5.1						
LSZ	**Lusaka**	**59.31**	**65**	*e*P	**P**	**08 07 29.5**	**-0.3**
LSZ				*e**PP	pP	08 07 40.8	+2.8
LSZ				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
LSZ	**Lusaka**	**59.31**	**65**	*e*P	**P**	**08 07 29.5**	**-0.3**
	comp=Z,12nm,0.8s,mb5.0						
LSZ				*e*pP	pP	08 07 40.8	+2.8
NNA	**Nana**	**61.32**	**299**	*e*P	**P**	**08 07 46.4**	**+2.8**
	comp=Z,29nm,0.8s,mb5.5						
NNA				*e*pP	pP	08 07 55.5	+3.7
ATAH	**Atahualpa**	**66.45**	**300**	P	**P**	**08 08 18.5**	**+1.1**
	comp=Z,13nm,0.9s,mb5.0,baz=114,slow=16,SNR=5.1						
DBIC	**Dimbokro**	**69.01**	**22**	P	**P**	**08 08 34.0**	**+0.5**
	comp=Z,31nm,0.8s,mb5.3,baz=170,slow=8.1,SNR=32						
DBIC	**Dimbokro**	**69.01**	**22**	*e*P	**P**	**08 08 33.6**	**+0.1**
DBIC				pmax	pmax		
	comp=Z,37nm,1.0s						
DBIC	**Dimbokro**	**69.01**	**22**	*e*P	**P**	**08 08 33.5**	**0.0**
	comp=Z,37nm,1.0s,mb5.3						
OTAV	**Otavalo**	**73.00**	**303**	*e*P	**P**	**08 08 59.0**	**+1.3**
	comp=Z,25nm,1.3s,mb5.0						
MBAR	**Mbarara**	**73.50**	**60**	*i* P	**P**	**08 09 01.8**	**+1.1**
ROSC	**El Rosal**	**75.57**	**309**	P	**P**	**08 09 13.8**	**+1.1**
	comp=Z,2.8nm,0.5s,mb4.4,baz=48,slow=23,SNR=3.6						
ROSC				LR	LR	08 42 06.9	
	comp=Z,118nm,20.2s,MS4.2,baz=3.8,slow=36						
KMBO	**Kilima Mbogo**	**75.90**	**66**	P	**P**	**08 09 16.1**	**+1.5**
	comp=Z,2.2nm,0.8s,mb4.1,baz=194,slow=4.9,SNR=4.6						
KMBO				LR	LR	08 39 59.4	
	comp=Z,154nm,18.2s,MS4.3,baz=123,slow=34						
TOA0	**Torodi Ar. Sit**	**76.65**	**27**	*e*P	**P**	**08 09 19.3**	**+0.5**
TORD	**Torodi Ar. Bea**	**76.65**	**27**	P	**P**	**08 09 19.1**	**+0.3**
	comp=Z,47nm,0.8s,mb5.5,baz=194,slow=6.4,SNR=166						
PCRV	**Puerto La Cruz**	**77.12**	**320**	LR	LR	08 43 36.9	
	comp=Z,154nm,18.9s,MS4.3,baz=202,slow=36						
SDV	**Santo Domingo**	**77.92**	**314**	*e*P	**P**	**08 09 25.6**	**-0.3**
	comp=Z,17nm,0.9s,mb5.0						
SDV				*e*pP	pP	08 09 39.5	+5.2
TOO	**Toolangi**	**81.86**	**173**	*e*P	**P**	**08 09 47.4**	**+0.2**
	comp=Z,7.0nm,0.9s,mb4.6						
TOO	**Toolangi**	**81.86**	**173**	*e*P	**P**	**08 09 47.4**	**+0.2**
TOO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
TBI	**Tubuai**	**84.90**	**230**	*e*LR	LR	08 37 08.2	
	comp=Z,128nm,25.8s						
SJG	**San Juan**	**85.06**	**321**	LR	LR	08 49 07.8	
	comp=Z,98nm,20.6s,MS4.2,baz=90,slow=36						
FORT	**Forrest**	**86.35**	**157**	*e*P	**P**	**08 10 10.2**	**+0.1**
	comp=Z,32nm,1.0s,mb5.5						
STKA	**Stephens Creek**	**87.20**	**169**	⇓*i*P	**P**	**08 10 14.2**	**-0.1**
	comp=Z,8.9nm,1.0s,mb5.0						
STKA	**Stephens Creek**	**87.20**	**169**	P	**P**	**08 10 14.4**	**+0.1**
	comp=Z,10nm,0.9s,mb5.0,baz=174,slow=5.8,SNR=11						
STKA				LR	LR	08 50 09.8	
	comp=Z,227nm,18.2s,MS4.

P12A	**McGill**	**123.22**	**292**	⇓P		PKPdf	08 16 25.6	+0.9
	baz=123								
R09A	**Tonopah**	**123.22**	**290**	⇑P		PKPdf	08 16 25.1	+0.4
	baz=123								
HWUT	**Hardware Ranch**	**123.44**	**296**	*e*PKPdf		PKPdf	08 16 24.6	-0.6
PDAR	**Pinedale Array**	**123.50**	**299**	PKP		PKPdf	08 16 24.2	-1.0
	comp=Z,1.1nm,0.7s,baz=128,slow=4.3,SNR=10								
DMN	**Daman**	**123.64**	**93**	*e*P		PKPdf	08 16 24.6	-0.9
	comp=Z,19nm,0.9s								
GKN	**Gorkha**	**123.74**	**92**	*e*P		PKPdf	08 16 24.5	-1.2
	comp=Z,25nm,0.9s								
PKI	**Pulchoki**	**123.76**	**93**	*e*P		PKPdf	08 16 24.9	-0.8
	comp=Z,18nm,0.8s								
O12A	**Currie**	**123.79**	**293**	⇑P		PKPdf	08 16 26.5	+0.7
	baz=124								
KKN	**Kakani**	**123.88**	**93**	*e*P		PKPdf	08 16 25.2	-0.8
	comp=Z,16nm,0.8s								
NVAR	**Mina Array Bea**	**123.95**	**289**	PKP		PKPdf	08 16 27.1	+0.9
	comp=Z,2.3nm,0.9s,baz=118,slow=3.2,SNR=13								
N13A	**Wendover, West**	**124.02**	**294**	⇑P		PKPdf	08 16 27.5	+1.3
	baz=124								
R07C	**Lee Vining**	**124.02**	**288**	⇓P		PKPdf	08 16 27.2	+0.9
	baz=124								
O11A	**Cowboy Ranch,**	**124.10**	**292**	⇑P		PKPdf	08 16 26.8	+0.4
	baz=124								
Q08A	**Gabbs**	**124.12**	**290**	⇑P		PKPdf	08 16 27.2	+0.8
	baz=124								
ULM	**Lac du Bonnet**	**124.17**	**313**	PKP		PKPdf	08 16 24.8	-1.7
	comp=Z,2.4nm,0.6s,baz=124,slow=2.3,SNR=6.9								
ULM	**Lac du Bonnet**	**124.17**	**313**	PKP		PKPdf	08 16 24.8	-1.7
JIRN	**Jiri**	**124.22**	**94**	*e*P		PKPdf	08 16 26.1	-0.5
	comp=Z,33nm,0.9s								
S06C	**San Francisco**	**124.23**	**287**	⇑P		PKPdf	08 16 26.9	+0.2
	baz=124								
GUN	**Gumba**	**124.27**	**93**	*e*P		PKPdf	08 16 26.5	-0.2
N12A	**Clover Valley,**	**124.39**	**293**	⇑P		PKPdf	08 16 27.7	+0.7
	baz=125								
ELK	**Elko**	**124.40**	**293**	*e*PKIKP		PKPdf	08 16 27.4	+0.4
REDW	**Red Top Meadow**	**124.55**	**298**	*e*PKPdf		PKPdf	08 16 26.3	-0.9
R06C	**Coleville**	**124.56**	**288**	⇓P		PKPdf	08 16 28.8	+1.6
	baz=125								
NB2	**NORSAR Subarra**	**124.57**	**21**	PKPdf		PKPdf	08 16 25.7	-1.6
	comp=Z,1.2nm,0.7s,baz=202,slow=1.9								
NOA	**NORSAR Array B**	**124.57**	**21**	PKP		PKPdf	08 16 25.1	-2.2
	comp=Z,2.1nm,0.8s,baz=187,slow=1.6,SNR=9.1								
SNOW	**Snow King Moun**	**124.58**	**298**	*e*PKPdf		PKPdf	08 16 26.9	-0.4
CMB	**Columbia Colle**	**124.61**	**287**	⇓P		PKPdf	08 16 28.0	+0.7
	baz=125								
S04C	**Ingram Canyon,**	**124.63**	**286**	⇓P		PKPdf	08 16 28.0	+0.6
	baz=125								
TPAW	**Teton Pass**	**124.69**	**298**	*e*PKPdf		PKPdf	08 16 27.8	+0.2
M12A	**Wells**	**124.79**	**294**	⇓P		PKPdf	08 16 28.4	+0.7
	baz=125								
MOOW	**Moose Ponds**	**124.81**	**298**	*e*PKPdf		PKPdf	08 16 27.6	-0.2
O09A	**Fish Creek Ran**	**124.83**	**291**	⇑P		PKPdf	08 16 28.5	+0.7
	baz=125								
R05C	**Kirkwood Meado**	**125.00**	**288**	⇑P		PKPdf	08 16 29.4	+1.3
	baz=125								
IMW	**Indian Meadow**	**125.01**	**298**	*e*PKPdf		PKPdf	08 16 28.4	+0.2
FLWY	**Flagg Ranch**	**125.06**	**299**	*e*PKPdf		PKPdf	08 16 28.4	+0.2
FLWY				*ep*PKPdf		pPKPdf	08 16 44.5	+7.5
M11A	**Holland Ranch,**	**125.20**	**293**	⇓P		PKPdf	08 16 29.7	+1.2
	baz=125								
LAO	**LASA Array**	**125.26**	**304**	*e*PKPdf		PKPdf	08 16 28.1	-0.5
WCN	**Washoe City**	**125.33**	**289**	⇓P		PKPdf	08 16 29.9	+1.1
	baz=126								
LAVA	**Lava Cap Winer**	**125.35**	**287**	⇑P		PKPdf	08 16 29.7	+0.9
	baz=126								
OBN	**Obninsk**	**125.37**	**38**	*e*PKIKP		PKPdf	08 16 26.8	-2.0
OBN				pmax		pmax			
	comp=Z,4.0nm,0.6s								
N09A	**Rock Creek Ran**	**125.53**	**291**	⇓P		PKPdf	08 16 30.1	+1.0
	baz=126								
O07A	**Toulon**	**125.60**	**290**	⇓P		PKPdf	08 16 30.5	+1.2
	baz=126								
P05C	**Yuba Gap, Truc**	**125.72**	**288**	⇑P		PKPdf	08 16 30.8	+1.3
	baz=126								
CVS	**Carmenet Viney**	**125.84**	**286**	⇑P		PKPdf	08 16 30.4	+0.7
	baz=126								
M09A	**Marrel Ranch,**	**125.94**	**292**	⇓P		PKPdf	08 16 31.4	+1.4
	baz=126								
QLMT	**Earthquake Lak**	**125.97**	**299**	*e*PKPdf		PKPdf	08 16 30.9	+0.9
GCMT	**Greycliff**	**125.98**	**301**	*e*PKPdf		PKPdf	08 16 29.8	-0.2
O06A	**Flanigan**	**126.05**	**289**	⇓P		PKPdf	08 16 31.3	+1.2
	baz=126								
MNRC	**McLaughlin Nat**	**126.25**	**286**	⇓P		PKPdf	08 16 31.9	+1.4
	baz=126								
ORV	**Oroville**	**126.34**	**287**	⇓P		PKPdf	08 16 32.0	+1.3
	baz=127								
M08A	**Happy Creek Ra**	**126.39**	**291**	P		PKPdf	08 16 32.1	+1.3
	baz=127								
O05C	**Quincy**	**126.39**	**288**	⇑P		PKPdf	08 16 32.1	+1.3
	baz=127								
N06A	**Buffalo Meadow**	**126.51**	**290**	⇑P		PKPdf	08 16 31.8	+0.8
	baz=127								
L09A	**Wilkinson Ranc**	**126.52**	**292**	⇓P		PKPdf	08 16 31.9	+0.9
	baz=127								
MCMT	**McKenzie Canyo**	**126.58**	**298**	*e*PKPdf		PKPdf	08 16 31.6	+0.5
BOZ	**Bozeman (W)**	**126.70**	**299**	*e*PKIKP		PKPdf	08 16 31.5	+0.1
M07A	**Soldier Meadow**	**126.71**	**291**	⇑P		PKPdf	08 16 32.6	+1.2
	baz=127								
O04C	**Chester**	**126.76**	**288**	⇑P		PKPdf	08 16 32.5	+1.0
	baz=127								
DLMT	**Dillon**	**126.89**	**298**	*e*PKPdf		PKPdf	08 16 32.3	+0.6
M06C	**Likely Place G**	**127.17**	**289**	⇑P		PKPdf	08 16 33.2	+1.0
	baz=127								
L07A	**Adell**	**127.28**	**291**	⇓P		PKPdf	08 16 33.7	+1.2
	baz=128								
WVOR	**Wild Horse Val**	**127.29**	**292**	*e*PKIKP		PKPdf	08 16 33.3	+0.8
HATC	**Hat Creek Radi**	**127.32**	**288**	⇓P		PKPdf	08 16 33.9	+1.3
	baz=128								
EGMT	**Eagleton**	**127.78**	**302**	*e*PKPdf		PKPdf	08 16 33.1	-0.3
J08A	**Circle Bar Ran**	**127.94**	**293**	⇓P		PKPdf	08 16 34.6	+0.9
	baz=128								
FINES	**FINESS Array B**	**127.98**	**28**	PKP		PKPdf	08 16 31.4	-2.4
	comp=Z,5.8nm,0.7s,baz=132,slow=2.8,SNR=26								
FIA1	**FINESS Array S**	**127.98**	**28**	*e*PKPdf		PKPdf	08 16 31.9	-1.9
K06A	**Valley Falls**	**128.31**	**291**	⇓P		PKPdf	08 16 35.7	+1.3
	baz=128								
J07A	**Hines**	**128.33**	**292**	⇑P		PKPdf	08 16 35.0	+0.5
	baz=129								
CHMT	**Chamberlain Mo**	**128.39**	**299**	*e*PKPdf		PKPdf	08 16 34.4	-0.2
J06A	**Christmas Vall**	**128.62**	**291**	⇑P		PKPdf	08 16 35.4	+0.4
	baz=129								
KAF	**Kangasniemi**	**128.62**	**28**	*ep*kp		PKPdf	08 16 31.6	-3.4
MSO	**Missoula**	**128.62**	**299**	*e*PKPdf		PKPdf	08 16 35.1	+0.1
J05A	**Fort Rock**	**129.15**	**291**	⇓P		PKPdf	08 16 37.5	+1.5
	baz=129								
I06A	**Prineville**	**129.18**	**292**	⇑P		PKPdf	08 16 37.6	+1.5
	baz=129								
AKTK	**Aktyubinsk**	**129.24**	**55**	PKP		PKPdf	08 16 34.6	-1.6
AKTO	**Aktyubinsk**	**129.24**	**55**	PKP		PKPdf	08 16 34.6	-1.6
	comp=Z,6.7nm,0.9s,baz=186,slow=2.9,SNR=20								
KMI	**Kunming**	**130.02**	**111**	PKP		PKPdf	08 16 38.0	+0.3
KMI				PP		PP	08 18 55.0	+5.1
KMI				PP		PP			
	comp=Z,154nm,5.8s								
KMI				LR		LR			
	comp=Z,54nm,16.9s,MS4.3								
AAK	**Ala-Archa**	**130.50**	**73**	*i* PKIKP		PKPdf	08 16 36.8	-1.8
JOF	**Joensuu**	**130.52**	**30**	*ep*kp		PKPdf	08 16 36.2	-2.4
H04A	**Detroit Lake**	**130.66**	**291**	⇑P		PKPdf	08 16 39.7	+0.8
	baz=131								
EDM	**Edmonton**	**133.22**	**304**	*e*PKIKP		PKPdf	08 16 42.3	-1.4
ARCES	**ARCESS Array B**	**134.84**	**23**	PKP		PKPdf	08 16 43.3	-3.5
	comp=Z,2.7nm,0.8s,baz=209,slow=1.2,SNR=6.4								
CD2	**Chengdu**	**135.40**	**108**	*e*PKP		PKPdf	08 16 51.3	+3.5
CD2				PP		PP	08 19 31.5	+7.1
CD2				PKS			08 20 26.3		
CD2				PP		PP			
	comp=Z,90nm,9.2s								
CD2				LR		LR			
	comp=E,140nm,10.8s								
CD2				LR		LR			
	comp=Z,100nm,9.6s								
BVAR	**Borovoye Array**	**136.32**	**60**	PKP		PKPdf	08 16 47.3	-2.3
	comp=Z,3.9nm,0.7s,baz=240,slow=2.1,SNR=13								
CHKZ	**Chkalovo**	**136.88**	**60**	*i* PKIKP		PKPdf	08 16 48.9	-1.7
CHKZ	**Chkalovo**	**136.88**	**60**	*e*PKPdf		PKPdf	08 16 50.1	-0.5
MKAR	**Makanchi Array**	**137.30**	**75**	PKhKP			08 16 41.3		
	comp=Z,0.6nm,0.4s,baz=298,slow=2.6,SNR=4.7								
MKAR				PKP		PKPdf	08 16 49.0	-2.3	
	comp=Z,2.8nm,0.9s,baz=264,slow=2.4,SNR=11								
MKAR	**Makanchi Array**	**137.30**	**75**	PKHKP			08 16 41.3		
MKAR							08 16 49.1		
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.4s								
MKAR				pmax		pmax			
	comp=Z,3.0nm,0.9s								
MKAR	**Makanchi Array**	**137.30**	**75**	PKP		PKPdf	08 16 49.0	-2.3
WMQ	**Urumqi**	**137.74**	**82**	PKP		PKPdf	08 16 51.0	-1.2
WMQ				PP		PP	08 19 43.5	+4.5
WMQ				PP		PP			
	comp=Z,138nm,11.0s								
WMQ				LR		LR			
	comp=N,310nm,22.4s,MS5.1								
WMQ				LR		LR			
	comp=E,233nm,21.3s,MS5.1								
WMQ				LR		LR			
	comp=Z,303nm,22.9s,MS5.0								
KURK	**Kurchatov**	**138.36**	**68**	*e*PKIKP		PKPdf	08 16 50.7	-2.6
LZH	**Lanzhou**	**139.69**	**104**	*e*PKP		PKPdf	08 16 57.5	+1.8
LZH				XPKP			08 17 16.5		
LZH				*e*PP		PP	08 19 58.0	+6.9
LZH				SKS		SKSdf	08 24 01.3	-3.0
LZH				SKKS		SKKSac	08 26 41.5	-1.9
LZH				PP		PP			
	comp=Z,116nm,8.5s								
LZH				LR		LR			
	comp=E,223nm,18.6s								
LZH				LR		LR			
	comp=Z,395nm,20.3s,MS5.2								
YKA	**Yellowknife Ar**	**140.14**	**314**	PKP		PKPdf	08 16 55.1	-1.4
	comp=Z,6.0nm,0.8s,baz=131,slow=1.9,SNR=7.4								
YKA	**Yellowknife Ar**	**140.14**	**314**	PKIKP		PKPdf	08 16 55.1	-1.5
YKA				pmax		pmax			
	comp=Z,6.0nm,0.8s								
XAN	**Xi'an**	**140.40**	**111**	PKP		PKPdf	08 16 54.5	-2.5
RES	**Resolute Bay**	**142.47**	**336**	*e*PKIKP		PKPdf	08 16 55.3	-5.4
NJ2	**Nanjing**	**143.04**	**124**	*e*PKP		PKPdf	08 17 00.0	-1.7
NJ2				PP		PP	08 20 14.0	+2.5
NJ2				PKS			08 20 34.0		
NJ2				SKS		SKSdf	08 24 06.0	-3.7
NJ2				LR		LR			
	comp=N,1μm,21.0s,MS5.8								
NJ2				LR		LR			
	comp=E,1μm,21.5s,MS5.8								
NJ2				LR		LR			
	comp=Z,1μm,21.2s,MS5.6								
DLBC	**Dease Lake**	**143.67**	**301**	*e*PKPdf		PKPdf	08 17 00.5	-2.4
TIA	**Tai'an**	**145.89**	**119**	*e*PKP		PKPdf	08 17 06.5	-0.2
BTO	**Baotou**	**146.22**	**106**	*e*PKP		PKPdf	08 17 06.8	-0.5
SKAG	**Skagway**	**146.52**	**300**	*e*PKPbc		PKPbc	08 17 08.3	-0.9
BJI	**Beijing**	**148.63**	**113**	PKP		PKPbc	08 17 13.8	-1.2
SONM	**Songino Array**	**149.78**	**93**	PKP		PKPdf	08 17 11.7	-1.4
	comp=Z,22nm,1.1s,baz=204,slow=2.0,SNR=10.0								
SONM				PKPbc		PKPbc	08 17 16.7	-1.1	
	comp=Z,17nm,0.9s,baz=217,slow=2.4,SNR=69								
SONM				PKPab		PKPab	08 17 21.8	-1.5	
	comp=Z,5.6nm,0.9s,baz=212,slow=2.6,SNR=6.5								
INK	**Inuvik**	**149.87**	**315**	PKPbc		PKPbc	08 17 16.6	-1.5
	comp=Z,27nm,0.9s,baz=93,slow=3.1,SNR=30								
INK	**Inuvik**	**149.87**	**315**	*e*PKPbc		PKPbc	08 17 16.6	-1.5
ULN	**Ulaanbaatar**	**150.12**	**94**	*e*PKIKP		PKPbc	08 17 17.4	-1.3
ULN				*e*			08 17 23.9		
DAWY	**Dawson**	**150.43**	**306**	*e*PKPbc		PKPbc	08 17 18.1	-1.3
TLY	**Talaya**	**150.93**	**85**	*d i* PKIKP		PKPbc	08 17 19.0	-1.6
TLY	**Talaya**	**150.93**	**85**	*e*PKPbc		PKPbc	08 17 19.6	-1.0
MJAR	**Matsushiro Arr**	**153.70**	**149**	PKPbc		PKPbc	08 17 25.9	-1.0
	comp=Z,6.0nm,1.0s,baz=186,slow=3.0,SNR=9.2								
MJAR				PKPab		PKPab	08 17 38.8	-0.8	
	comp=Z,8.5nm,0.8s,baz=186,slow=4.5,SNR=12								
MJAR	**Matsushiro Arr**	**153.70**	**149**	PKIKP		PKPbc	08 17 25.9	-1.0
MJAR							08 17 38.8		
MJAR				pmax		pmax			
	comp=Z,6.0nm,1.0s								
MJAR				pmax		pmax			
	comp=Z,9.0nm,0.8s								
COLA	**College**	**154.14**	**304**	*e*PKIKP		PKPbc	08 17 25.4	-2.4
COLA				*e*			08 17 40.5		
MCK	**McKinley**	**154.22**	**302**	*e*PKIKP		PKPbc	08 17 27.3	-0.7
CN2	**Changchun**	**155.74**	**121**	*e*PKP		PKPdf	08 17 24.0	+2.2
IMA2	**Indian Mountai**	**156.80**	**306**	*e*PKPdf		PKPdf	08 17 19.2	-4.0
IMA2				*e*PKPab		PKPab	08 17 51.9	-1.0
MDJ	**Mudanjiang**	**158.11**	**126**	PKP		PKPdf	08 17 23.5	-1.4
KLR	**Kul'dur**	**162.69**	**121**	*e*PKIKP		PKPdf	08 17 24.8	-5.1
KLR				*e*			08 18 13.8		

CASC 25 08:33:30.4±3.7, 1291N×8960W, h0km±23km, MD4.0, 6C-7D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.85**	**25**	⇑*e*P	x		08 33 59.9	
SNET				*e*S	x		08 34 14.8	
BOQS	**Boqueron**	**0.87**	**21**	⇑*e*P	x		08 33 57.5	
BOQS				*e*S	x		08 34 10.6	
SBLS	**San Blas**	**0.92**	**358**	⇓*e*P	x		08 33 58.4	
SBLS				*e*S	x		08 34 13.9	
SNJE	**San Jose**	**0.95**	**359**	⇓*e*P	x		08 33 58.7	
SNJE				*e*S	x		08 34 13.9	
LCBS	**La Ceiba**	**0.95**	**39**	⇓*e*P	x		08 33 58.0	
LCBS				*e*S	x		08 34 12.8	
LFU	**La Fuente**	**0.95**	**29**	⇑*e*P	x		08 33 58.7	
LFU				*e*S	x		08 34 12.9	
RTR	**El Retiro**	**0.98**	**357**	⇓*e*P	x		08 33 59.4	
RTR				*e*S	x		08 34 15.8	
LBRS	**Las Brisas**	**0.98**	**33**	*i* P	x		08 33 59.2	
LBRS				*e*S	x		08 34 14.8	
SNVI	**San Vicente**	**1.01**	**47**	*e*P	x		08 33 59.0	
SNVI				*e*S	x		08 34 13.6	
RBDL	**Robledal**	**1.20**	**356**	⇓*e*P	x		08 34 02.7	
RBDL				*e*S	x		08 34 20.0	
VSM	**San Miguel**	**1.38**	**68**	⇑*e*P	x		08 34 04.1	
VSM				*e*S	x		08 34 24.7	
BLLM	**Bellamira**	**1.42**	**68**	⇑*e*P	x		08 34 04.2	
BLLM				*e*S	x		08 34 24.3	
MTO2	**Montecristo 2**	**1.49**	**9**	⇓*i* P	x		08 34 07.2	
MTO2				*e*S	x		08 34 28.5	
IXG	**Ixpaco**	**1.51**	**326**	*e*P	Pn		08 33 57.2	-1.4
IXG				*e*S	Sg		08 34 19.9	+1.1
CNCH	**Conchagua**	**1.75**	**78**	⇓*e*P	x		08 34 09.0	
CNCH				*e*S	x		08 34 29.9	
FUG	**Fuego 3**	**1.95**	**322**	*e*P	Pn		08 34 05.7	+1.0
FUG				*e*S	Sn		08 34 33.1	+3.3
TP2	**Tecpan 2**	**2.32**	**323**	*e*P	Pn		08 34 11.2	+1.4
TP2				*e*S	Sn		08 34 40.2	+1.2

IDC 25 08:34:22.8±1.7, 030S×1608W, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/24, mbtmp4.0/8, ML3.0/1, MS3.7/8, Ms1 3.6/8, ms1mx3.4/25, Error ellipse: s-maj=72.7km s-min=25.3km az=144.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**13.17**	**58**	Pn	Pn		08 37 31.5	+0.5
	0.1nm,0.3s,baz=224,slow=14,SNR=2.8							
DBIC				Sn	Sn		08 39 45.7	-12
	0.2nm,0.3s,baz=179,slow=17,SNR=2.5							
DBIC				LR	LR		08 41 36.5	
	comp=Z,270nm,19.8s,baz=250,slow=33							
DBIC				T			08 47 48.6	
	0.2nm,0.3s,baz=149,slow=23,SNR=3.5							
TORD	**Torodi Ar. Bea**	**22.12**	**52**	P	P		08 39 20.7	+1.0
	6.7nm,0.9s,baz=233,slow=12,SNR=20							
TORD				LR	LR		08 47 08.8	
	comp=Z,139nm,18.5s,baz=225,slow=35							
BDFB	**Brasilia**	**35.01**	**243**	LR	LR		08 53 17.5	
	comp=Z,79nm,18.2s,baz=190,slow=32							
SIV	**San Ignacio**	**47.03**	**248**	P	P		08 42 57.1	+1.2
	0.9nm,0.8s,baz=104,slow=12,SNR=4.1							
CPUP	**Villa Florida**	**47.39**	**234**	LR	LR		09 00 14.3	
	comp=Z,100nm,19.7s,baz=112,slow=33							
BOSA	**Boshof**	**48.50**	**129**	LR	LR		09 00 52.7	
	comp=Z,56nm,18.5s,baz=183,slow=33							
KMBO	**Kilima Mbogo**	**53.34**	**91**	LR	LR		09 05 16.4	
	comp=Z,106nm,18.2s,baz=276,slow=35							
LPAZ	**La Paz**	**53.70**	**250**	LR	LR		09 06 01.5	
	comp=Z,62nm,20.4s,baz=330,slow=35							
GERES	**GERESS Array B**	**55.29**	**24**	P	P		08 43 58.1	+0.2
	0.8nm,0.5s,baz=217,slow=6.5,SNR=7.3							
BRTR	**Keskin Array B**	**60.31**	**43**	P	P		08 44 34.5	+1.2
	1.0nm,0.8s,baz=235,slow=4.4,SNR=6.9							
PLCA	**Paso Flores**	**63.58**	**224**	LR	LR		09 08 11.1	
	comp=Z,48nm,21.4s,baz=268,slow=32							
AKASG	**Malin Array Be**	**63.69**	**30**	P	P		08 44 55.6	-0.3
	0.2nm,0.3s,baz=232,slow=6.3,SNR=10							
NB2	**NORSAR Subarra**	**64.66**	**14**	P	P		08 45 02.5	+0.2
	comp=Z,1.5nm,0.8s,baz=208,slow=6.9							
NOA	**NORSAR Array B**	**64.66**	**14**	P	P		08 45 02.0	-0.3
	comp=Z,2.9nm,0.8s,baz=209,slow=6.5,SNR=9.2							
FINES	**FINESS Array B**	**69.41**	**20**	P	P		08 45 32.1	-0.4
	comp=Z,3.5nm,0.9s,baz=222,slow=2.6,SNR=10							
KAF	**Kangasniemi**	**69.96**	**20**	*ep*	P		08 45 35.0	-0.9
	baz=225,slow=6.1							
JOF	**Joensuu**	**72.23**	**21**	*ep*	P		08 45 48.4	-1.3
WRA	**Warramunga Arr**	**144.73**	**126**	PKP	PKPdf		08 54 00.2	-1.3
	comp=Z,1.9nm,1.1s,baz=255,slow=3.1,SNR=5.6							

IDC 25 09:27:49.7±1.5, 2389S×6984E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, MS3.6/4, Ms1 3.6/4, ms1mx3.1/32, Error ellipse: s-maj=69.9km s-min=29.1km az=27.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**40.09**	**253**	LR	LR		09 48 11.6	
	comp=Z,83nm,18.8s,baz=282,slow=30							
NWAO	**Narrogin (SRO)**	**42.36**	**113**	LR	LR		09 48 21.1	
	comp=Z,50nm,19.2s,baz=269,slow=29							
ASAR	**Alice Springs**	**58.15**	**104**	P	P		09 37 45.6	+0.4
	0.7nm,0.7s,baz=251,slow=5.7,SNR=13							
WRA	**Warramunga Arr**	**59.52**	**100**	P	P		09 37 55.3	+0.6
	1.0nm,1.0s,baz=255,slow=7.1,SNR=5.0							
MKAR	**Makanchi Array**	**71.25**	**9**	P	P		09 39 10.7	0.0
	0.8nm,0.6s,baz=202,slow=5.2,SNR=6.0							
TORD	**Torodi Ar. Bea**	**76.06**	**291**	P	P		09 39 39.5	+0.5
	0.5nm,0.8s,baz=105,slow=5.5,SNR=3.7							
TORD				LR	LR		10 12 39.2	
	comp=Z,35nm,18.1s,baz=165,slow=35							
DBIC	**Dimbokro**	**78.84**	**282**	LR	LR		10 12 45.7	
	comp=Z,44nm,19.1s,baz=117,slow=34							
ULM	**Lac du Bonnet**	**151.43**	**341**	PKPbc	PKPbc		09 47 45.1	-0.4
	1.1nm,0.9s,baz=349,slow=0.7,SNR=3.5							

IDC 25 09:35:45.8±3.6, 920S×10800E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/17, mbtmp3.7/4, Error ellipse: s-maj=156.0km s-min=23.9km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.59**	**116**	P	P		09 41 34.4	-0.3
	1.3nm,1.0s,baz=287,slow=11,SNR=3.9							
ASAR	**Alice Springs**	**28.63**	**123**	P	P		09 41 45.0	+1.1
	0.6nm,0.9s,baz=293,slow=11,SNR=5.0							
SONM	**Songino Array**	**56.80**	**359**	P	P		09 45 32.8	+1.0
	0.2nm,0.3s,baz=186,slow=8.5,SNR=4.2							
MKAR	**Makanchi Array**	**60.28**	**340**	P	P		09 45 55.6	-0.5
	1.6nm,0.6s,baz=134,slow=6.9,SNR=11							

MAN 25 09:36:44.2, 1857N×12096E, h7km, mb2.6, ML4.1, MS2.4, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.40**	**233**	⇑*e*P	Pg		09 36 52.2	+0.3
PIP				*e*S	Sg		09 36 59.2	+1.9
APYP	**Conner**	**0.75**	**159**	*e*P	Pg		09 36 59.3	+0.7
APYP				*e*S	Sg		09 37 12.5	+4.1
ABRA	**Dolores**	**0.94**	**194**	*e*P	Pg		09 37 01.5	-0.8
ABRA				*e*S	Sg		09 37 16.6	+2.0
SGCP	**Mt. Cagua**	**1.08**	**107**	*e*P	Pg		09 37 03.9	-1.1
SGCP				*e*S	Sg		09 37 21.2	+2.2
CVP	**Callao Caves**	**1.19**	**136**	⇑*e*P	Pg		09 37 06.5	-0.5
CVP				*e*S	Sg		09 37 22.5	+0.1
CAUP	**Cauayan**	**1.81**	**153**	*e*P	Pn		09 37 17.3	+1.5
BALP	**Baler**	**2.87**	**168**	*e*P	Pn		09 37 32.1	+

PKI	**Pulchoki**	**42.80**	**330**	*e*P		**P**	**10 06 18.8**	**+0.2**
	14nm,0.8s,mb4.7							
GUN	**Gumba**	**42.85**	**331**	*e*P		**P**	**10 06 19.8**	**+0.8**
	26nm,0.5s,mb5.2							
DMN	**Daman**	**42.98**	**330**	*e*P		**P**	**10 06 20.3**	**+0.3**
	26nm,0.8s,mb5.0							
KKN	**Kakani**	**43.04**	**330**	*e*P		**P**	**10 06 20.7**	**+0.2**
	17nm,0.7s,mb4.9							
XAN	**Xi'an**	**43.45**	**2**	P		**P**	**10 06 22.8**	**-1.1**
XAN				AP	pP		10 06 33.3	-0.8
XAN				AMB	AMB			
	comp=Z,11nm,0.9s,mb4.6							
GKN	**Gorkha**	**43.53**	**330**	*e*P		**P**	**10 06 24.7**	**+0.2**
	comp=Z,29nm,0.9s,mb5.0							
KOLN	**Koldanda**	**43.86**	**329**	*e*P		**P**	**10 06 27.3**	**+0.1**
	comp=Z,32nm,0.7s,mb5.2							
LZH	**Lanzhou**	**45.62**	**356**	*e*P		**P**	**10 06 41.5**	**+0.3**
LZH				AP	pP		10 06 49.8	-1.6
LZH				XP	sP		10 06 53.8	-1.7
LZH				AMB	AMB			
	comp=Z,20nm,1.3s,mb4.9							
GTA	**Gaotai**	**49.34**	**352**	*e*P		**P**	**10 07 11.5**	**+1.5**
GTA				AP	pP		10 07 21.8	+1.4
GTA				XP	sP		10 07 26.0	+1.5
GTA				AMB	AMB			
	comp=Z,5.0nm,1.1s,mb4.5							
MJAR	**Matsushiro Arr**	**54.20**	**30**	P		**P**	**10 07 43.1**	**-3.2**
	comp=Z,1.6nm,0.8s,mb4.0,baz=214,slow=7.7,SNR=4.7							
WMQ	**Urumqi**	**56.20**	**343**	P		**P**	**10 08 02.8**	**+2.0**
WMQ				AP	pP		10 08 07.5	-3.8
WMQ				PP	PP		10 10 09.5	+3.4
WMQ				AMB	AMB			
	comp=Z,6.0nm,1.3s,mb4.5							
WMQ				AMB	AMB			
	comp=Z,58nm,5.2s							
WMQ				LR	LR			
	comp=N,134nm,17.5s,MS4.2							
WMQ				LR	LR			
	comp=E,101nm,16.4s,MS4.2							
WMQ				LR	LR			
	comp=Z,134nm,18.0s,MS4.1							
SONM	**Songino Array**	**57.23**	**359**	P		**P**	**10 08 07.3**	**-0.8**
	comp=Z,1.6nm,0.7s,mb4.1,baz=175,slow=7.5,SNR=8.4							
SONM				LR	LR		10 32 59.2	
	comp=Z,42nm,18.7s,MS3.6,baz=331,slow=36							
ULN	**Ulaanbaatar**	**57.25**	**360**	*e*P		**P**	**10 08 07.9**	**-0.3**
	comp=Z,1.9nm,0.8s,mb4.2							
ULN				*e*pP		pP	10 08 17.8	-0.9
MKAR	**Makanchi Array**	**60.56**	**340**	P		**P**	**10 08 30.4**	**-0.8**
	comp=Z,4.8nm,0.7s,mb4.8,baz=134,slow=6.9,SNR=30							
MAW	**Mawson**	**65.04**	**197**	*e*P		**P**	**10 09 00.8**	**-0.2**
	comp=Z,3.8nm,0.6s,mb4.6							
MAW	**Mawson**	**65.04**	**197**	P		**P**	**10 09 01.0**	**0.0**
	comp=Z,7.5nm,0.9s,mb4.7,baz=46,slow=6.7,SNR=17							
KURK	**Kurchatov**	**65.18**	**340**	*e*P		**P**	**10 09 01.1**	**-0.8**
	comp=Z,11nm,0.9s,mb4.9							
KURK				*e*pP		pP	10 09 13.2	+0.7
CHKZ	**Chkalovo**	**70.44**	**338**	*e*P		**P**	**10 09 34.4**	**-0.7**
	comp=Z,4.5nm,0.6s,mb4.6							
ZRNK	**Zerenda**	**70.50**	**336**	*e*P		**P**	**10 09 34.8**	**-0.6**
	comp=Z,4.8nm,0.8s,mb4.5							
SYO	**Syowa Base**	**73.25**	**200**⍰	*e*P		**P**	**10 09 51.3**	**-0.6**
BOSA	**Boshof**	**78.79**	**243**	LR	LR		10 38 06.9	
	comp=Z,50nm,18.5s,MS3.9,baz=185,slow=30							
QSPA	**South Pole Qui**	**80.36**	**180**	*e*P		**P**	**10 10 31.8**	**-0.1**
	comp=Z,2.2nm,0.8s,mb4.1							
BRTR	**Keskin Array B**	**84.03**	**312**	P		**P**	**10 10 50.6**	**-0.5**
	comp=Z,1.0nm,0.7s,mb4.1,baz=138,slow=5.8,SNR=6.1							
LONY	**Lake Ozonia**	**145.10**	**3**	*e*PKPdf	PKPdf		10 17 57.5	-0.5
BDFB	**Brasilia**	**145.17**	**224**	PKPbc	PKPbc		10 17 59.5	+1.8
	comp=Z,4.1nm,0.7s,baz=166,slow=3.1,SNR=6.6							
WMOK	**Wichita Mounta**	**145.26**	**40**	*e*PKPdf	PKPdf		10 17 59.1	+0.9
CCM	**Cathedral Cave**	**147.01**	**28**	*e*PKPbc	PKPbc		10 18 03.8	+0.5
JCT	**Junction City**	**147.10**	**47**	*e*PKPbc	PKPbc		10 18 05.2	+1.7
MIAR	**Mount Ida**	**148.52**	**35**	*e*PKPbc	PKPbc		10 18 08.6	+1.2
WVT	**Waverly**	**150.12**	**26**	*e*PKPbc	PKPbc		10 18 12.3	+1.0
OXF	**Oxford**	**150.74**	**30**	*e*PKPbc	PKPbc		10 18 13.4	+0.6
PLAL	**Pickwick Lake**	**150.98**	**27**	*e*PKPbc	PKPbc		10 18 13.7	+0.3
CPCT	**Cooper Cave**	**152.02**	**21**	*e*PKPbc	PKPbc		10 18 16.6	+0.8

IDC 25 10:05:49.1±1.9, 2093S×17443W, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.1/16, mbtmp4.2/6, Error ellipse: s-maj=45.7km s-min=34.6km az=58.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.78**	**264**	P	P	10 12 59.5	+1.1
	4.8nm,0.4s,baz=98,slow=10,SNR=12						
ASAR	**Alice Springs**	**47.68**	**257**	P	P	10 14 28.6	+1.4
	2.4nm,0.6s,baz=89,slow=7.8,SNR=35						
WRA	**Warramunga Arr**	**47.85**	**262**	P	P	10 14 28.0	-0.6
	0.9nm,0.3s,baz=97,slow=7.3,SNR=43						
FITZ	**Fitzroy Crossi**	**56.28**	**262**	P	P	10 15 30.9	-0.5
	1.1nm,0.8s,baz=38,slow=20,SNR=7.0						
VNDA	**Vanda**	**57.81**	**186**	P	P	10 15 41.3	-0.8
	1.1nm,0.3s,baz=359,slow=4.5,SNR=10						
MJAR	**Matsushiro Arr**	**72.58**	**322**	P	P	10 17 17.8	-0.3
	1.3nm,0.6s,baz=159,slow=5.8,SNR=4.6						
AKASG	**Malin Array Be**	**144.94**	**334**	PKP	PKPdf	10 25 29.1	+0.9
	0.1nm,0.3s,baz=43,slow=4.9,SNR=4.0						

*IDC **25** 10:06:20.3±0.8, 2115S×17455W, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.2/21, mbtmp4.2/11, ML4.2/1, MS3.5/2, Ms1 3.5/2, ms1mx3.1/16, Error ellipse: s-maj=29.4km s-min=19.3km az=137.0*

*NEIC **25** 10:06:21.8±0.5, 2106S×17460W, h10km, mb4.6/6, Error ellipse: s-maj=21.8km s-min=10.7km az=130.0*

*ISCJB **25** 10:06:23.8±0.5, 213S±0.1×1747W±0.1, h33km, mb4.3/15, MS3.5/1, Error ellipse: s-maj=20.8km s-min=11.6km az=87.2*

ISC 25 10:06:25.6±0.6, 212S±01×1746W±01, h35km, n37, σ0°82/25, mb4.3/15, MS3.5/1, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.76**	**20**	Pn	**Pn**	**10 08 09.3**	**-6.6**
	5.2nm,0.3s,baz=76,slow=19,SNR=6.3						
AFI				Sn	**Sn**	**10 09 29.7**	**-13**
	5.8nm,0.3s,baz=22,slow=22,SNR=5.6						
AFI				T		10 16 01.9	
	2.6nm,0.3s,baz=30,slow=22,SNR=4.5						
AFI	**Afiamalu**	**7.76**	**20**	Pn	**Pn**	**10 08 09.3**	**-6.6**
AFI				Sn	**Sn**	**10 09 29.7**	**-13**
RAR	**Rarotonga**	**13.79**	**93**	Pn	**Pn**	**10 09 25.6**	**-13**
	8.7nm,0.3s,baz=232,slow=5.1,SNR=16						
DZM	**Mont Dzumac**	**17.68**	**264**	LR	LR	10 14 37.0	
	comp=Z,134nm,21.4s,baz=209,slow=28						
URZ	**Urewera**	**18.43**	**201**	P	**Pn**	**10 10 37.0**	**-1.2**
	0.8nm,0.3s,baz=302,slow=4.7,SNR=6.7						
TBI	**Tubuai**	**23.32**	**100**	*e*LQ		10 15 45.2	
	354nm,27.5s						
TBI				*e*LR	LR	10 16 55.6	
	403nm,27.8s						
PPT	**Papeete**	**23.84**	**86**	*e*LQ		10 16 06.4	
	364nm,25.0s						
PPT				*e*LR	LR	10 17 07.0	
	300nm,23.2s						
HNR	**Honiara**	**27.19**	**292**	LR	LR	10 21 19.4	
	comp=Z,134nm,20.0s,MS3.5,baz=178,slow=33						
CTA	**Charters Tower**	**36.62**	**265**	P	**P**	**10 13 28.1**	**-0.4**
	2.5nm,0.6s,mb4.2,baz=79,slow=12,SNR=3.6						
STKA	**Stephens Creek**	**40.38**	**245**	P	**P**	**10 13 59.9**	**-0.2**
	2.3nm,0.7s,mb4.0,baz=74,slow=9.4,SNR=6.3						
ASAR	**Alice Springs**	**47.48**	**257**	P	**P**	**10 14 57.2**	**+0.2**
	5.4nm,0.8s,mb4.5,baz=92,slow=8.2,SNR=26						
WB2	**Warramunga Arr**	**47.67**	**262**	*e*P	**P**	**10 14 58.0**	**-0.5**
WRA	**Warramunga Arr**	**47.68**	**262**	P	**P**	**10 14 58.7**	**+0.1**
	4.4nm,0.9s,mb4.5,baz=90,slow=5.8,SNR=27						
FITZ	**Fitzroy Crossi**	**56.11**	**262**	P	**P**	**10 16 02.5**	**+1.1**
	1.0nm,0.6s,mb4.0,baz=206,slow=13,SNR=4.5						
VNDA	**Vanda**	**57.49**	**186**	P	**P**	**10 16 12.4**	**+1.3**
	1.1nm,0.9s,mb3.9,baz=326,slow=3.8,SNR=4.5						
MJAR	**Matsushiro Arr**	**72.74**	**322**	P	**P**	**10 17 50.6**	**+0.4**
	4.4nm,0.9s,mb4.4,baz=153,slow=5.6,SNR=9.3						
NVAR	**Mina Array Bea**	**79.39**	**42**	P	**P**	**10 18 28.0**	**0.0**
	1.7nm,0.7s,mb4.1,baz=216,slow=6.9,SNR=12						
NVAR	**Mina Array Bea**	**79.39**	**42**	P	**P**	**10 18 28.0**	**0.0**
TPNV	**Topopah Spring**	**79.80**	**44**	*e*P	**P**	**10 18 31.9**	**+1.7**
	17nm,1.8s,mb4.7						
MAW	**Mawson**	**81.94**	**199**	*e*P	**P**	**10 18 42.1**	**+0.5**
	2.6nm,0.9s,mb4.2						
MAW	**Mawson**	**81.94**	**199**	P	**P**	**10 18 41.9**	**+0.2**
	1.5nm,0.8s,mb4.0,baz=116,slow=3.6,SNR=5.7						

MVU	**Marysvale**	**83.31**	**44**	*e*P		**P**	**10 18 44.5**	**-4.3**
	1.9nm,1.0s,mb4.1							
HLID	**Hailey**	**84.82**	**39**	*e*P		**P**	**10 18 56.3**	**-0.1**
	3.2nm,1.1s,mb4.4							
MCK	**McKinley**	**87.03**	**11**	*e*P		**P**	**10 19 07.2**	**-0.2**
	6.1nm,1.1s,mb4.7							
PDAR	**Pinedale Array**	**87.33**	**42**	P		**P**	**10 19 07.5**	**-1.3**
	0.4nm,0.9s,mb3.6,baz=227,slow=17,SNR=3.3							
COLA	**College**	**88.27**	**11**	*e*P		**P**	**10 19 12.9**	**-0.5**
	7.0nm,1.1s,mb4.8							
COLA				*e*	pP		10 19 23.4	-1.0
DAWY	**Dawson**	**89.32**	**15**	*e*P		**P**	**10 19 18.0**	**-0.2**
DAWY				*e*	pP		10 19 29.2	-0.2
AKASG	**Malin Array Be**	**145.16**	**333**	PKPbc	PKPbc		10 25 58.4	-0.6
	3.0nm,0.7s,baz=37,slow=3.6,SNR=20							
KOLS	**Kolonicke sedl**	**149.27**	**338**	*e*PKP	PKPab		10 26 12.5	-2.6
CLL	**Collm**	**149.41**	**351**	*e*PKP1	PKPbc		10 26 11.0	+0.1
CLL				*e*PKP2	PKPab		10 26 16.0	+0.3
CLL				*i* *PKP2			10 26 22.9	
CLL	**Collm**	**149.41**	**351**	*e*PKPbc	PKPbc		10 26 11.0	+0.1
	comp=Z,8.0nm,1.3s							
CLL				*e*PKPab	PKPab		10 26 16.0	+0.3
CLL				*i* (pPKPab)			10 26 22.9	
CLL				LmV			10 57 00.0	
	comp=Z,300nm,18.8s							
CRVS	**Cervenica-Dubn**	**149.57**	**339**	*e*PKP	PKPbc		10 26 12.0	+0.8
BRG	**Berggiesshubel**	**149.68**	**349**	*e*P	PKPbc		10 26 12.0	+0.5
	comp=Z,3.0nm,0.8s							
BRG				*e*			10 26 16.8	
	comp=Z,2.9nm,0.8s							
BR131	**Keskin Array S**	**149.69**	**314**	*e*PKPbc	PKPbc		10 26 12.9	+1.3
BRTR	**Keskin Array B**	**149.69**	**314**	PKPbc	PKPbc		10 26 11.6	+0.1
	comp=Z,2.4nm,1.0s,baz=144,slow=2.9,SNR=8.8							
VYHS	**Vyhne**	**150.76**	**342**	*e*PKP			10 26 15.3	
GERES	**GERESS Array B**	**151.67**	**348**	PKPbc	PKPbc		10 26 17.0	+0.7
	comp=Z,0.3nm,0.2s,baz=88,slow=3.1,SNR=5.8							

MAN 25 10:39:21.4, 1322N×12412E, h1km, mb1.9, ML3.7, MS6.1, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**1.41**	**274**	*e*P	Pn	10 39 48.4	+0.2
RCP	**Roxas**	**2.12**	**219**⍰	*e*P	Pn	10 39 58.5	+0.5
RCP				*e*S	Sn	10 40 26.0	+1.0
BOAC	**Boac**	**2.23**	**276**	*e*P	Pn	10 39 59.6	+0.1

*IDC **25** 10:59:48.5±0.9, 1103N×14483E, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.2/20, mbtmp4.3/9, ML4.5/1, MS3.5/10, Ms1 3.6/10, ms1mx3.3/26, Error ellipse: s-maj=37.0km s-min=15.4km az=86.0*

*ISCJB **25** 10:59:51.4±0.7, 1104N±004×1448E±0.1, h33km, mb4.6/24, MS3.6/9, Error ellipse: s-maj=21.1km s-min=6.3km az=4.4*

*BJI **25** 10:59:53.4, 1100N×14480E, h35km, mB5.1, mb4.7*

*NEIC **25** 10:59:53.4±0.4, 1104N×14482E, h35km, mb4.9/14, Error ellipse: s-maj=12.6km s-min=5.1km az=88.0*

ISC 25 10:59:50.5±5.8, 1106N±005×1449E±02, h13km±37km, n42, σ0°64/34, mb4.6/24, MS3.6/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.51**	**360**	Pn	**Pn**	**11 00 30.7**	**-0.3**
	104nm,0.3s,baz=173,slow=8.6,SNR=66						
GUMO				Sn	**Sn**	**11 01 00.1**	**-1.4**
	143nm,0.3s,baz=15,slow=21,SNR=12						
CBIJ	**Chichi jima**	**16.15**	**351**	LR	LR	11 07 53.9	
	comp=Z,81nm,21.6s,baz=349,slow=30						
JOW	**Kunigami**	**22.15**	**317**	P	**P**	**11 04 45.6**	**-0.4**
	20nm,0.8s,mb4.6,baz=134,slow=12,SNR=3.5						
HNR	**Honiara**	**25.28**	**143**	LR	LR	11 13 48.3	
	comp=Z,76nm,21.9s,MS3.2,baz=359,slow=33						
MJAR	**Matsushiro Arr**	**26.07**	**348**	P	**P**	**11 05 23.7**	**0.0**
	4.9nm,0.7s,mb4.2,baz=164,slow=8.9,SNR=12						
MJAR				LR	LR	11 15 55.6	
	comp=Z,69nm,18.1s,MS3.2,baz=225,slow=37						
MAJO	**Matsushiro**	**26.07**	**348**	*e*P	**P**	**11 05 24.0**	**+0.3**
	4.9nm,0.6s,mb4.2						
MAT	**Matsushiro**	**26.07**	**348**	P	**P**	**11 05 24.3**	**+0.6**
MAT	**Matsushiro**	**26.07**	**348**	*e*P	**P**	**11 05 24.0**	**+0.3**
KAKA	**Kakadu**	**26.65**	**208**	*e*P	**P**	**11 05 27.9**	**-1.0**
	24nm,0.6s,mb4.9						
WRAB	**Tennant Creek**	**32.50**	**199**	*e*P	**P**	**11 06 20.6**	**-0.1**
	22nm,0.7s,mb5.1						
WB2	**Warramunga Arr**	**32.50**	**199**	*e*P	**P**	**11 06 20.8**	**0.0**
WRA	**Warramunga Arr**	**32.51**	**199**	P	**P**	**11 06 20.8**	**-0.1**
	9.4nm,0.6s,mb4.9,baz=22,slow=9.9,SNR=130						
WRA				LR	LR	11 18 50.8	
	comp=Z,86nm,21.8s,MS3.4,baz=100,slow=35						
FITZ	**Fitzroy Crossi**	**34.65**	**213**	*e*P	**P**	**11 06 39.5**	**0.0**
	4.7nm,0.6s,mb4.6						
AS31	**Alice Springs**	**36.14**	**197**	*e*P	**P**	**11 06 52.0**	**-0.4**
AS31				*e*P		11 06 52.4	
ASAR	**Alice Springs**	**36.14**	**197**	P	**P**	**11 06 52.5**	**+0.2**
	2.7nm,0.7s,mb4.3,baz=13,slow=9.8,SNR=40						
ASPA	**Alice Springs**	**36.15**	**197**	*e*P	**P**	**11 06 52.0**	**-0.4**
STKA	**Stephens Creek**	**42.81**	**184**	*e*P	**P**	**11 07 47.1**	**-0.9**
	1.7nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**42.81**	**184**	P	**P**	**11 07 47.5**	**-0.5**
	1.9nm,0.5s,mb4.1,baz=1.1,slow=7.4,SNR=12						
CD2	**Chengdu**	**42.85**	**304**	P	**P**	**11 07 54.3**	**+6.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
LZH	**Lanzhou**	**44.63**	**311**	*e*P	**P**	**11 08 08.5**	**+5.9**
LZH				AP	pP	11 08 12.5	+5.7
LZH				XP	sP	11 08 15.8	+7.4
LZH				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.8						
SONM	**Songino Array**	**48.80**	**326**	P	**P**	**11 08 35.7**	**+0.4**
	comp=Z,1.7nm,0.8s,mb4.1,baz=153,slow=6.4,SNR=6.1						
SONM				LR	LR	11 29 35.6	
	comp=Z,45nm,19.3s,MS3.5,baz=286,slow=37						
GTA	**Gaotai**	**48.87**	**313**	*e*P	**P**	**11 08 37.0**	**+1.2**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.5						
JIRN	**Jiri**	**57.28**	**296**	*e*P	**P**	**11 09 38.7**	**+0.9**
	comp=Z,14nm,0.7s,mb5.1						
GUN	**Gumba**	**57.28**	**296**	*e*P	**P**	**11 09 40.8**	**+0.9**
PKI	**Pulchoki**	**57.96**	**296**	*e*P	**P**	**11 09 42.6**	**0.0**
KKN	**Kakani**	**58.09**	**296**	*e*P	**P**	**11 09 43.8**	**+0.3**
	comp=Z,18nm,0.9s,mb5.1						
DMN	**Daman**	**58.23**	**296**	*e*P	**P**	**11 09 44.6**	**+0.1**
	comp=Z,22nm,0.9s,mb5.2						
GKN	**Gorkha**	**58.67**	**296**	*e*P	**P**	**11 09 47.6**	**0.0**
	comp=Z,9.9nm,0.6s,mb5.0						
KOLN	**Koldanda**	**59.58**	**296**	*e*P	**P**	**11 09 52.9**	**-0.9**
	comp=Z,16nm,0.8s,mb5.1						
MKAR	**Makanchi Array**	**63.32**	**317**	P	**P**	**11 10 19.5**	**+0.4**
	comp=Z,1.5nm,0.7s,mb4.3,baz=90,slow=8.5,SNR=9.7						
KURK	**Kurchatov**	**66.52**	**321**	*e*P	**P**	**11 10 39.6**	**-0.4**
	comp=Z,8.9nm,0.8s,mb4.8						
PPT	**Papeete**	**70.70**	**113**	LR	LR	11 41 26.5	
	comp=Z,135nm,18.4s,MS4.2,baz=311,slow=35						
CHKZ	**Chkalovo**	**71.84**	**323**	*e*P	**P**	**11 11 12.5**	**-0.5**
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**71.98**	**322**	*e*P	**P**	**11 11 14.0**	**+0.2**
	comp=Z,2.7nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**72.74**	**322**	*e*P	**P**	**11 11 17.8**	**-0.5**
	comp=Z,7.1nm,1.1s,mb4.5						
YKA	**Yellowknife Ar**	**85.09**	**27**	LR	LR	11 49 23.5	
	comp=Z,27nm,18.2s,MS3.7,baz=240,slow=35						
NVAR	**Mina Array Bea**	**88.49**	**51**	P	**P**	**11 12 44.5**	**+1.8**
	comp=Z,0.7nm,0.7s,mb4.0,baz=276,slow=3.9,SNR=7.1						
VNDA	**Vanda**	**88.96**	**176**	LR	LR	11 49 59.4	
	comp=Z,78nm,21.7s,MS4.1,baz=315,slow=34						
ARCES	**ARCESS Array B**	**89.48**	**342**	LR	LR	11 56 03.6	
	comp=Z,21nm,18.4s,MS3.6,baz=92,slow=38						
NOA	**NORSAR Array B**	**99.40**	**339**	LR	LR	12 03 57.0	
	comp=Z,20nm,20.6s,MS3.6,baz=270,slow=39						
LPAZ	**La Paz**	**147.54**	**103**	PKPbc	PKPbc	11 19 35.2	+0.9
	comp=Z,1.0nm,0.8s,baz=309,slow=3.7,SNR=6.5						
LPAZ	**La Paz**	**147.54**	**103**	PKPbc	PKPbc	11 19 35.2	+0.9

MAN 25 11:07:53.2, 1244N×12554E, h24km, mb3.4, ML4.6, MS2.7, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.84**	**187**	*e*P	Pb	11 08 09.1	-0.1
BESP				*e*S	Sb	11 08 21.4	+1.4
PLP	**Palo**	**1.38**	**203**	*e*P	Pn	11 08 16.1	-0.9
PLP				*e*S	Sn	11 08 34.2	-0.3
OCLP	**Ormoc**	**1.65**	**213**	*e*P	Pn	11 08 21.7	+1.0

PVCP	**Virac**	**1.77**	**311**	*e*P		Pn	11 08 22.3	-0.1
PVCP				*e*S		Sn	11 08 50.9	+6.8
PVCP	**Virac**	**1.77**	**311**‖	*i*P		Pn	11 08 22.3	0.0
PVCP				*i* S		Sn	11 08 55.2	+11
MSLP	**Maasin**	**2.39**	**196**	*e*P		Pn	11 08 31.8	+1.0
MSLP				*e*S		Sn	11 09 05.5	+6.2
SCPH	**Surigao**	**2.64**	**181**	*e*P		Pn	11 08 35.6	+1.3
SCPH				*e*S		Sn	11 09 05.7	+0.1
RCP	**Roxas**	**2.87**	**253**‖	*e*P		Pn	11 08 38.5	+1.1
RCP				*e*S		Sn	11 09 14.5	+3.4
GUIM	**Jordan**	**3.40**	**238**	*e*P		Pn	11 08 45.8	+1.0
GUIM				*e*S		Sn	11 09 29.6	+5.2
BOAC	**Boac**	**3.74**	**286**	*e*P		Pn	11 08 51.7	+2.3

*ISCJB **25** 11:08:43.6±0.5, 144S±0.1×66.15E±0.09, h10km, mb4.4/16, MS3.9/11, Error ellipse: s-maj=17.2km s-min=12.2km az=155.7*

*IDC **25** 11:08:43.7±0.7, 1439S×66.12E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.0/22, mbtmp4.1/12, ML3.3/1, MS3.8/11, Ms1 3.8/11, ms1mx3.5/29, Error ellipse: s-maj=24.2km s-min=18.1km az=179.0*

*BJI **25** 11:08:44.0, 1448S×6567E, h25km, mb4.7*

*NEIC **25** 11:08:46.5±0.4, 1428S×66.11E, h10km, mb4.8/4, Error ellipse: s-maj=17.6km s-min=14.5km az=168.0*

ISC 25 11:08:45.9±0.5, 143S±01×6609E±009, h10km, n44, σ0°78/19, mb4.4/16, MS3.9/11, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**18.61**	**254**	P	**Pn**	**11 13 04.2**	**+0.5**
	0.1nm,0.3s,baz=73,slow=14,SNR=2.9						
KMBO	**Kilima Mbogo**	**31.39**	**292**	LR	LR	11 26 05.0	
	comp=Z,81nm,18.3s,MS3.4,baz=84,slow=33						
LBTB	**Lobatse**	**39.45**	**248**	P	**P**	**11 16 15.7**	**-0.6**
	1.7nm,0.6s,mb4.0,baz=82,slow=7.1,SNR=3.6						
BOSA	**Boshof**	**40.36**	**243**	P	**P**	**11 16 23.1**	**-0.7**
	6.7nm,1.0s,mb4.3,baz=88,slow=7.6,SNR=6.3						
BOSA				LR	LR	11 31 22.5	
	comp=Z,134nm,19.1s,MS3.8,baz=7.2,slow=34						
FITZ	**Fitzroy Crossi**	**57.09**	**102**	P	**P**	**11 18 33.0**	**+0.6**
	1.5nm,0.7s,mb4.1,baz=258,slow=13,SNR=3.1						
BRTR	**Keskin Array B**	**61.70**	**332**	P	**P**	**11 19 04.5**	**+0.3**
	0.3nm,0.4s,mb3.8,baz=145,slow=5.3,SNR=3.6						
GTA	**Gaotai**	**62.03**	**29**	*e*P	**P**	**11 19 07.5**	**+1.0**
GTA				AP	pP	11 19 11.5	+1.8
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
MKAR	**Makanchi Array**	**62.57**	**12**	P	**P**	**11 19 08.8**	**-1.2**
	comp=Z,1.7nm,0.7s,mb4.3,baz=213,slow=8.7,SNR=12						
ASAR	**Alice Springs**	**64.29**	**110**	P	**P**	**11 19 20.7**	**-0.8**
	comp=Z,2.7nm,1.1s,mb4.2,baz=271,slow=5.2,SNR=14						
ASAR				LR	LR	11 45 12.4	
	comp=Z,168nm,18.5s,MS4.3,baz=94,slow=34						
ASAR	**Alice Springs**	**64.29**	**110**	P	**P**	**11 19 20.7**	**-0.8**
ASAR				LR	LR	11 45 12.4	
WRA	**Warramunga Arr**	**65.08**	**106**	P	**P**	**11 19 26.5**	**-0.1**
	comp=Z,3.5nm,0.8s,mb4.4,baz=269,slow=5.8,SNR=18						
WB2	**Warramunga Arr**	**65.09**	**106**	*e*P	**P**	**11 19 27.2**	**+0.5**
ZRNK	**Zerenda**	**67.06**	**2**	*e*P	**P**	**11 19 38.8**	**-0.6**
	comp=Z,5.3nm,0.9s,mb4.6						
CHKZ	**Chkalovo**	**67.85**	**3**	*e*P	**P**	**11 19 43.8**	**-0.5**
	comp=Z,6.9nm,1.0s,mb4.6						
TORD	**Torodi Ar. Bea**	**69.37**	**290**	LR	LR	11 47 04.2	
	comp=Z,76nm,21.6s,MS3.9,baz=185,slow=33						
STKA	**Stephens Creek**	**70.38**	**119**	LR	LR	11 44 45.3	
	comp=Z,130nm,19.2s,MS4.2,baz=205,slow=31						
SONM	**Songino Array**	**71.57**	**27**	P

KBS					AML	AML	11 50 02.0		
	comp=Z,113nm,0.6s								
KBS	**Kingsbay**	**2.17**	**246**	*e*P	Pn	Pn	11 49 30.7	-3.9	
	SNR=50								
KBS				*e*S	Sn	Sn	11 50 00.6	-1.6	
	comp=Z,113nm,0.6s,SNR=50								
HOPEN	**Hopen**	**3.52**	**169**	*e*P	Pn	Pn	11 49 52.4	-0.8	
HOPEN				*e*S	Sn	Sn	11 50 32.9	-2.7	
HOPEN					AML	AML	11 51 02.2		
	comp=N,92nm,0.7s								
ARA0	**ARCESS Array S**	**10.52**	**174**	Pn	Pn	Pn	11 51 28.1	-1.1	
	baz=355,slow=10								
ARA0				Sn	Sn	Sn	11 53 17.0	-11	
	baz=7.8,slow=22								
ARA0	**ARCESS Array S**	**10.52**	**174**	Pn	Pn	Pn	11 51 28.1	-1.2	
	baz=355,slow=9.9,SNR=50								
ARA0				Sn	Sn	Sn	11 53 17.0	-11	
	baz=7.8,slow=20,SNR=50								

ISCJB ***25*** *12:08:29.4±0.3, 4261N±002×2.12E±002, h9km±3km, Error ellipse: s-maj=3.2km s-min=2.7km az=73.4*
STR ***25*** *12:08:29.7±0.1, 4258N×2.10E, h5km±1km, MI2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***25*** *12:08:30.4±0.5, 4398N×178E, h2km, MI2.2/4, Error ellipse: s-maj=14.2km s-min=5.7km az=170.0*
MDD ***25*** *12:08:30.6±0.2, 4260N×2.12E, h8km±3km, mbLg1.6/15, Error ellipse: s-maj=1.8km s-min=1.6km az=18.0, PRXIMO*

ISC 25 12:08:29.8±0.3, 4260N±002×212E±002, h12km±4km, n42, σ0°72/70, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CARF	**Carcanieres**	**0.11**	**355**	Pg		**Pg**	**12 08 33.3**	**+0.5**
CARF				Sg		**Sg**	**12 08 35.3**	**+0.4**
CARF	**Carcanieres**	**0.11**	**355**	P		**Pg**	**12 08 33.3**	**+0.6**
CARF				S		**Sg**	**12 08 35.4**	**+0.5**
CLLI	**Llivia**	**0.16**	**221**	P		**Pg**	**12 08 33.8**	**+0.3**
CLLI				S		**Sg**	**12 08 36.3**	**+0.2**
	53nm,0.1s							
VALF	**Valcebollere**	**0.21**	**200**	P		**Pg**	**12 08 34.8**	**+0.4**
VALF				S		**Sg**	**12 08 37.9**	**+0.4**
CBRU	**Bruguera**	**0.32**	**172**	P		**Pg**	**12 08 36.6**	**+0.3**
CBRU				S		**Sg**	**12 08 41.1**	**+0.5**
	4.4nm,0.1s							
FILF	**Fillols**	**0.33**	**97**	Pg		**Pg**	**12 08 34.8**	**-1.6**
FILF				Sg		**Sg**	**12 08 38.2**	**-2.7**
FILF	**Fillols**	**0.33**	**97**	P		**Pg**	**12 08 34.9**	**-1.6**
FILF				S		**Sg**	**12 08 38.2**	**-2.7**
LPEF	**Le Peyrat**	**0.38**	**336**	P		**Pg**	**12 08 38.1**	**+0.8**
LPEF				S		**Sg**	**12 08 43.9**	**+1.5**
PAND	**Andorre**	**0.43**	**259**	P		**Pg**	**12 08 38.5**	**+0.3**
PAND				S		**Sg**	**12 08 44.2**	**+0.2**
LRDF	**Laroque-de-Fa**	**0.46**	**43**	Pg		**Pg**	**12 08 39.0**	**+0.2**
LRDF				Sg		**Sg**	**12 08 45.6**	**+0.8**
LRDF	**Laroque-de-Fa**	**0.46**	**43**	P		**Pg**	**12 08 39.1**	**+0.3**
LRDF				S		**Sg**	**12 08 45.6**	**+0.8**
GRBF	**Gourbit**	**0.49**	**299**	P		**Pg**	**12 08 39.6**	**+0.2**
GRBF				S		**Sg**	**12 08 46.2**	**+0.3**
OLT	**Olot**	**0.53**	**150**	P		**Pg**	**12 08 40.6**	**+0.4**
OLT				S		**Sg**	**12 08 47.2**	**0.0**
SJAF	**Saint Jean de**	**0.58**	**102**	Pg		**Pg**	**12 08 41.1**	**0.0**
SJAF				Sg		**Sg**	**12 08 48.8**	**+0.1**
SJAF	**Saint Jean de**	**0.58**	**102**	P		**Pg**	**12 08 41.1**	**+0.1**
SJAF				S		**Sg**	**12 08 48.9**	**+0.2**
EJON	**La Jonquera**	**0.59**	**105**	⇑Pg		**Pg**	**12 08 41.5**	**+0.2**
	1.9nm,0.1s,SNR=18							
EJON				Lg			12 08 49.3	
	6.7nm,0.1s,SNR=8.8							
CORG	**Organya**	**0.70**	**238**	P		**Pg**	**12 08 43.8**	**+0.4**
CORG				S		**Sg**	**12 08 53.3**	**+0.7**
	2.7nm,0.1s							
SALF	**Salau**	**0.70**	**283**	P		**Pg**	**12 08 43.3**	**-0.1**
SALF				S		**Sg**	**12 08 52.4**	**-0.2**
MTLF	**Montolieu**	**0.74**	**6**	*e*Pg		**Pg**	**12 08 44.2**	**+0.1**
MTLF				*e*Sg		**Sg**	**12 08 54.0**	**+0.1**
	3.8nm,0.2s							
MTLF	**Montolieu**	**0.74**	**6**	Pg		**Pg**	**12 08 44.2**	**+0.1**
MTLF				Lg			12 08 54.0	
	1.9nm,0.2s							
CSOR	**Sort**	**0.76**	**253**	P		**Pg**	**12 08 44.4**	**-0.2**
CSOR				S		**Sg**	**12 08 54.4**	**-0.1**
	5.3nm,0.2s							
MLS	**Moulis**	**0.83**	**296**	Pg		**Pg**	**12 08 45.7**	**-0.2**
MLS	**Moulis**	**0.83**	**296**	P		**Pg**	**12 08 45.9**	**0.0**
MLS				S		**Sg**	**12 08 56.6**	**-0.2**
CFON	**Fontmartina**	**0.87**	**164**	P		**Pg**	**12 08 46.7**	**0.0**
CFON				S		**Sg**	**12 08 58.1**	**0.0**
	20nm,0.2s							
MELF	**Melles**	**1.04**	**286**	Pg		**Pg**	**12 08 49.2**	**-0.6**
MELF				Sg		**Sg**	**12 09 03.2**	**-0.1**
MELF	**Melles**	**1.04**	**286**	P		**Pb**	**12 08 49.5**	**-0.2**
MELF				S		**Sb**	**12 09 02.8**	**-0.5**
CAVN	**Les Avellanes**	**1.24**	**235**	P		**Pn**	**12 08 53.6**	**+0.6**
CAVN				S		**Sb**	**12 09 10.5**	**+1.3**
	9.4nm,0.2s							
RESF	**Ens**	**1.33**	**279**	S		**Sb**	**12 09 13.0**	**+1.4**
EPF	**Esparros**	**1.38**	**289**	*e*Pg		**Pg**	**12 08 56.0**	**-0.2**
EPF				*e*Sg		**Sg**	**12 09 13.3**	**-0.8**
	4.1nm,0.2s							
EPF	**Esparros**	**1.38**	**289**	Pg		**Pg**	**12 08 56.0**	**-0.2**
EPF				Lg			12 09 13.3	
	2.0nm,0.2s							
EBIE	**Bielsa**	**1.46**	**274**	Pg		**Pg**	**12 08 57.3**	**-0.5**
	0.9nm,0.1s,SNR=7.9							
EBIE				Lg			12 09 16.7	
	4.5nm,0.3s,SNR=18							
EPOB	**Poblet**	**1.47**	**212**	Pg		**Pg**	**12 08 57.6**	**-0.5**
	1.5nm,0.1s,SNR=7.9							
EPOB				Lg			12 09 16.5	
	8.6nm,0.2s,SNR=8.8							
LASF	**Ste Croix**	**1.94**	**40**	*e*Pg		**Pg**	**12 08 57.2**	**-10**
LASF				*e*Sg		**Sg**	**12 09 19.2**	**-13**
	2.4nm,0.2s							
LASF	**Ste Croix**	**1.94**	**40**	Pg		**Pg**	**12 09 06.3**	**-0.8**
LASF				Lg			12 09 31.6	
	1.2nm,0.2s							
ETSF	**Etsaut**	**1.99**	**279**	*e*Pn		**Pn**	**12 09 04.4**	**+1.1**
ETSF	**Etsaut**	**1.99**	**279**	*e*Pg		**Pg**	**12 09 07.8**	**-0.2**
ETSF				*e*Sg		**Sg**	**12 09 32.5**	**-1.4**
	5.0nm,0.3s							
ETSF	**Etsaut**	**1.99**	**279**	Pn		**Pn**	**12 09 02.8**	**-0.5**
ETSF				Pg		**Pg**	**12 09 07.2**	**-0.8**
ETSF				Lg			12 09 32.5	
	2.5nm,0.3s							
ERTA	**Horta de San J**	**2.12**	**220**	Pg		**Pg**	**12 09 09.3**	**-1.1**
	0.7nm,0.1s,SNR=7.9							
ERTA				Lg			12 09 35.9	
	1.7nm,0.2s,SNR=7.9							
SJPF	**Ste Jean**	**2.51**	**283**	*e*Pg		**Pg**	**12 09 14.8**	**-3.1**
SJPF				*e*Sg		**Sg**	**12 09 44.6**	**-5.9**
	1.7nm,0.2s							
SJPF	**Ste Jean**	**2.51**	**283**	Pg		**Pg**	**12 09 16.3**	**-1.6**
SJPF				Lg			12 09 48.2	
	0.9nm,0.2s							
EALK	**Alkurruntz**	**2.73**	**284**	Pg		**Pg**	**12 09 21.0**	**-1.1**
	0.5nm,0.2s,SNR=7.9							
EALK				Lg			12 09 58.3	
	2.1nm,0.4s,SNR=7.9							
VIVF	**Saint-Julien-l**	**2.92**	**39**	Lg			12 10 01.9	
	0.7nm,0.2s							

ISCJB ***25*** *12:31:45.7±0.2, 4621N±001×122.19W±003, h4km±2km, Error ellipse: s-maj=3.0km s-min=2.2km az=176.4*
NEIC ***25*** *12:31:45.7, 4620N×122.19W, h0km, MD3.6(SEA), After SEA.*
NEIC Felt at Mount St. Helens.

ISC 25 12:31:45.9±0.2, 4620N±001×12219W±002, h2km±2km, n76, σ0°85/98, 32C-36D, Washington

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YEL	**Yellow Rock**	**0.01**	**21**	⇓P		**Pg**	**12 31 46.1**	**-0.1**
ESD	**East Dome**	**0.03**	**102**	⇓P		**Pg**	**12 31 46.6**	**0.0**
HSR	**South Ridge**	**0.03**	**169**	⇓P		**Pg**	**12 31 46.6**	**0.0**
SHW	**Mount Saint He**	**0.03**	**251**	⇓P		**Pg**	**12 31 46.7**	**+0.1**
STD	**Studebaker Rid**	**0.04**	**327**	⇑P		**Pg**	**12 31 47.0**	**+0.2**
SOSW	**Source of Smit**	**0.06**	**43**	⇑P		**Pg**	**12 31 47.2**	**+0.2**
JLK	**June Lake**	**0.06**	**155**	⇓P		**Pg**	**12 31 47.1**	**0.0**
FL2	**Flat Top 2**	**0.11**	**266**	⇑P		**Pg**	**12 31 48.4**	**+0.4**
CDFW	**Cedar Flats**	**0.13**	**131**	⇑P		**Pg**	**12 31 48.8**	**+0.3**
ERK	**Elk Rock**	**0.15**	**315**	⇓P		**Pg**	**12 31 49.0**	**+0.3**
TDL	**Tradedollar La**	**0.15**	**353**	⇓P		**Pg**	**12 31 49.1**	**+0.4**
MTMW	**Mount Mitchell**	**0.18**	**185**	⇓P		**Pg**	**12 31 49.6**	**+0.2**
LVP	**Lakeview Peak**	**0.20**	**228**	⇓P		**Pg**	**12 31 50.0**	**+0.1**
KOSW	**Kosmos**	**0.26**	**0**	⇑P		**Pg**	**12 31 51.2**	**+0.4**
F04A	**Amboy**	**0.32**	**210**	⇓P		**Pg**	**12 31 52.1**	**+0.1**
	baz=0.3,SNR=12							
F04A				⇑S		**Sg**	**12 31 57.0**	**+0.9**
	baz=0.3							
RVW	**Rose Valley**	**0.39**	**262**	⇓P		**Pg**	**12 31 53.6**	**+0.2**
ASR	**Mount Adams--S**	**0.42**	**97**	⇓P		**Pg**	**12 31 54.0**	**0.0**
LMW	**Ladd Mountain**	**0.47**	**352**	P		**Pg**	**12 31 55.6**	**+0.7**
GULW	**Guler Mountain**	**0.50**	**124**	P		**Pg**	**12 31 55.6**	**0.0**
E04A	**Onalaska**	**0.53**	**317**	⇑P		**Pg**	**12 31 56.6**	**+0.5**
	baz=0.5,SNR=7.8							
E04A				⇑S		**Sg**	**12 32 03.5**	**+0.5**
	baz=0.5							
GLK	**Glacier Lake**	**0.54**	**48**	P		**Pg**	**12 31 56.3**	**0.0**
LCW	**Lucas Creek**	**0.58**	**323**	⇓P		**Pg**	**12 31 57.3**	**+0.1**
F05A	**White Salmon**	**0.60**	**122**	⇓P		**Pg**	**12 31 57.4**	**-0.1**
	baz=0.6,SNR=25							
F05A				⇓S		**Sg**	**12 32 05.8**	**+0.5**
	baz=0.6							
LON	**Longmire**	**0.61**	**26**	⇓P		**Pg**	**12 31 57.6**	**+0.1**
REMR	**Mount Rainier-**	**0.66**	**21**	P		**Pg**	**12 31 58.7**	**0.0**
WPW	**White Pass**	**0.67**	**42**	⇑P		**Pg**	**12 31 58.6**	**-0.1**
VLMM	**Larch Mountain**	**0.67**	**171**	P		**Pg**	**12 31 58.8**	**0.0**
RCM	**Mount Rainier-**	**0.71**	**26**	⇓P		**Pg**	**12 31 59.6**	**+0.1**
RCS	**Mount Rainier-**	**0.74**	**25**	P		**Pg**	**12 32 00.0**	**-0.1**
RVC	**Mount Rainier-**	**0.76**	**12**	⇓P		**Pg**	**12 32 00.2**	**-0.2**
PGO	**Gresham**	**0.76**	**194**	P		**Pg**	**12 32 00.5**	**0.0**
BMW	**Boistfort Moun**	**0.77**	**291**	P		**Pg**	**12 32 00.4**	**-0.3**
FMW	**Mount Fremont**	**0.81**	**26**	⇓P		**Pg**	**12 32 01.2**	**-0.3**
VLL	**Laurance Lake**	**0.82**	**154**	P		**Pg**	**12 32 01.7**	**0.0**
NLO	**Nicolai Mounta**	**0.88**	**263**	P		**Pg**	**12 32 02.7**	**-0.1**
HOOD	**Mount Hood Mea**	**0.96**	**157**	P		**Pg**	**12 32 03.7**	**-0.6**
GL2	**New Goldendale**	**0.98**	**104**	P		**Pg**	**12 32 04.3**	**-0.4**
F03A	**Seaside**	**0.99**	**254**	⇓P		**Pg**	**12 32 04.3**	**-0.6**
	baz=1.0							
D05A	**Enumclaw**	**1.00**	**8**	⇑P		**Pg**	**12 32 04.5**	**-0.5**
	baz=1.0,SNR=5.7							
D05A				⇓S		**Sg**	**12 32 18.0**	**+0.1**
	baz=1.0							
D04A	**Dobbs Creek Ra**	**1.00**	**335**	⇑P		**Pg**	**12 32 04.6**	**-0.5**
	baz=1.0							
D04A				⇑S		**Sg**	**12 32 17.6**	**-0.4**
	baz=1.0							
E03A	**Lebam**	**1.01**	**291**	⇑P		**Pg**	**12 32 04.4**	**-0.9**
	baz=1.0							
E03A				⇑S		**Sg**	**12 32 18.9**	**+0.6**
	baz=1.0							
G04A	**Mulino**	**1.01**	**192**	⇓P		**Pg**	**12 32 04.5**	**-0.9**
	baz=1.0							
G04A				⇓S		**Sg**	**12 32 18.7**	**+0.2**
	baz=1.0							
VFP	**Flag Point**	**1.02**	**150**	P		**Pg**	**12 32 04.5**	**-1.0**
GSM	**Grass Mountain**	**1.04**	**15**	P		**Pg**	**12 32 05.0**	**-0.9**
G03A	**Yamhill**	**1.17**	**221**	⇓P		**Pg**	**12 32 07.1**	**-1.2**
	baz=1.2							
G03A				⇓S		**Sg**	**12 32 23.2**	**-0.3**
	baz=1.2							
VBEM	**Beaver Butte**	**1.22**	**159**	P		**Pg**	**12 32 08.6**	**-0.7**
RMW	**Rattlesnake Mo**	**1.28**	**12**	P		**Pg**	**12 32 09.4**	**-1.1**
EBG	**Ellensburg**	**1.32**	**57**	P		**Pg**	**12 32 11.3**	**0.0**
MXC	**Moxie City**	**1.37**	**73**	P		**Pn**	**12 32 11.4**	**-0.6**
D03A	**Wishkah Elem.**	**1.42**	**311**	⇑P		**Pn**	**12 32 11.6**	**-1.2**
	baz=1.4							
D03A				⇓S		**Sg**	**12 32 30.9**	**-0.7**
	baz=1.4							
H04A	**Detroit Lake**	**1.52**	**180**	⇑P		**Pn**	**12 32 12.6**	**-1.6**
	baz=1.5,SNR=35							
H04A				⇑S		**Sn**	**12 32 33.9**	**-0.7**
	baz=1.5							
C05A	**Tolt Reservoir**	**1.53**	**13**	⇑P		**Pn**	**12 32 13.3**	**-0.9**
	baz=1.5							
C05A				⇑S		**Sn**	**12 32 34.0**	**-0.7**
	baz=1.5							
H05A	**Madras**	**1.69**	**156**	⇑P		**Pn**	**12 32 16.4**	**-0.2**
	baz=1.7,SNR=26							
H05A				⇓S		**Sn**	**12 32 36.3**	**-2.6**
	baz=1.7							
H03A	**Soap Creek Ran**	**1.71**	**207**	⇑P		**Pn**	**12 32 15.7**	**-1.0**
	baz=1.7							
H03A				⇑S		**Sn**	**12 32 39.6**	**+0.4**
	baz=1.7							
COR	**Corvallis**	**1.80**	**206**	*e*Pn		**Pn**	**12 32 17.4**	**-0.6**
COR				*e*Sn		**Sn**	**12 32 43.1**	**+1.7**
HAWA	**Hanford**	**1.85**	**83**	*e*Pn		**Pn**	**12 32 19.2**	**+0.4**
HAWA				*e*Sn		**Sg**	**12 32 48.7**	**+3.3**
H02A	**Toledo**	**1.98**	**221**	⇑P		**Pn**	**12 32 20.3**	**-0.3**
	baz=2.0							
B05A	**Bryant**	**2.06**	**2**	⇓P		**Pn**	**12 32 21.6**	**0.0**
	baz=2.1,SNR=7.6							
B05A				⇑S		**Sn**	**12 32 46.6**	**-1.3**
	baz=2.1							
B04A	**Port Angeles**	**2.06**	**335**	⇑P		**Pn**	**12 32 21.5**	**-0.1**
	baz=2.1							
I05A	**Bend**	**2.15**	**162**	⇓P		**Pn**	**12 32 22.8**	**+0.1**
	baz=2.1							
I03A	**Eugene**	**2.36**	**199**	⇓P		**Pn**	**12 32 25.5**	**-0.3**
	baz=2.4							
I03A				⇓S		**Sn**	**12 32 54.0**	**-1.3**
	baz=2.4							
I02A	**Mapleton**	**2.49**	**208**	⇑P		**Pn**	**12 32 28.8**	**+1.3**
	baz=2.5							
A04A	**Legoe Bay, Lum**	**2.54**	**352**	⇑P		**Pn**	**12 32 30.5**	**+2.3**
	baz=2.5							
PGC	**Sidney**	**2.59**	**341**	*e*Pn		**Pn**	**12 32 29.7**	**+0.8**
PGC				*e*Sn		**Sg**	**12 33 10.1**	**+0.9**
A05A	**Maple Falls**	**2.80**	**1**	⇑P		**Pn**	**12 32 34.4**	**+2.6**
	baz=2.8							
K02A	**Glendale**	**3.56**	**196**	⇓P		**Pn**	**12 32 45.9**	**+3.7**
	baz=3.6							
HUMO	**Hull Mountain**	**3.64**	**189**	*e*Pn		**Pn**	**12 32 46.1**	**+2.8**
HUMO				*e*Sn		**Sg**	**12 33 43.7**	**+0.9**
HUMO	**Hull Mountain**	**3.64**	**189**	⇓P		**Pn**	**12 32 46.2**	**+2.9**
	baz=3.6							
HUMO				⇑S		**Sn**	**12 33 26.9**	**+0.1**
	baz=3.6							
M04C	**Macdoel**	**4.43**	**177**	⇑P		**Pn**	**12 32 57.5**	**+3.3**
	baz=4.4							
YBH	**Yreka Blue Hor**	**4.49**	**185**	⇓P		**Pn**	**12 32 58.3**	**+3.4**
	baz=4.5							
HATC	**Hat Creek Radi**	**5.41**	**174**	⇓P		**Pn**	**12 33 11.6**	**+3.9**
	baz=5.4							
N06A	**Buffalo Meadow**	**5.71**	**162**	⇑P		**Pn**	**12 33 15.9**	**+4.0**
	baz=5.7							
O04C	**Chester**	**5.94**	**172**	⇑P		**Pn**	**12 33 19.4**	**+4.5**
	baz=5.9							
O07A	**Toulon**	**6.51**	**157**	⇓P		**Pn**	**12 33 27.7**	**+5.0**
	baz=6.5							
MCMT	**McKenzie Canyo**	**6.71**	**98**	*e*Pn		**Pn**	**12 33 27.4**	**+1.9**
MCMT				*e*Sn		**Sb**	**12 34 54.8**	**-9.0**
DLMT	**Dillon**	**6.76**	**94**	*e*Pn		**Pn**	**12 33 26.9**	**+0.7**
	4.2nm,0.7s							
DLMT				*e*Sn		**Sb**	**12 35 01.4**	**-4.1**

IDC ***25*** *12:34:57.6±0.5, 923S×10846E, h0km, mb4.7/18, mb1 4.8/19, mb1mx4.8/21, mbtmp4.7/19, ML4.4/1, Error ellipse: s-maj=18.6km s-min=12.0km az=56.0*
ISCJB ***25*** *12:34:58.3±0.2, 924S±005×10853E±006, h15km, mb4.9/64, MS4.8/11, Error ellipse: s-maj=9.1km s-min=5.2km az=111.5*
NEIC ***25*** *12:34:59.2±0.2, 926S×10850E, h10km, mb5.1/25, Error ellipse: s-maj=8.5km s-min=4.7km az=51.0*
NEIC Felt [III] at Kebumen and [II] at Pangandaran.
BJI ***25*** *12:34:59.1, 930S×10850E, h10km, mB5.0, mb4.8, Ms5.1, Msz4.7*
MOS ***25*** *12:35:01.1±1.1, 921S×10854E, h33km, mb5.2/18, Error ellipse: s-maj=15.2km s-min=7.7km az=113.8*

ISC 25 12:35:00.4±0.2, 926S±005×10852E±006, h15km, h15km±1.8km: pP-P, n147, σ0°93/121, mb4.9/64, MS4.8/11, 10C-3D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BJII	**Banjamegara**	**2.25**	**32**	⇑*i*P		**Pn**	**12 35 40.9**	**+3.9**
MBWA	**Marble Bar**	**16.02**	**139**	*e*P		**Pn**	**12 38 41.0**	**-4.1**
	46nm,0.8s							
MBWA				*e*			12 38 49.4	
FITZ	**Fitzroy Crossi**	**18.80**	**120**	*e*P		**Pn**	**12 39 20.1**	**+0.3**
	22nm,0.8s							
FITZ	**Fitzroy Crossi**	**18.80**	**120**	P		**Pn**	**12 39 19.8**	**+0.1**
	0.9nm,0.3s,baz=288,slow=8.1,SNR=28							
FITZ				Sn		**Sn**	**12 42 33.3**	**-17**
	0.5nm,0.3s,baz=183,slow=23,SNR=4.1							
KAKA	**Kakadu**	**23.73**	**100**	*e*P		**P**	**12 40 13.1**	**+1.2**
	9.2nm,0.4s,mb4.6							
NWAO	**Narrogin (SRO)**	**24.89**	**162**	P		**P**	**12 40 21.9**	**-0.6**
	17nm,0.6s,mb4.7,baz=334,slow=9.8,SNR=16							
NWAO	**Narrogin (SRO)**	**24.89**	**162**	P		**P**	**12 40 21.9**	**-0.6**
WRA	**Warramunga Arr**	**27.11**	**116**	P		**P**	**12 40 42.7**	**0.0**
	4.0nm,0.5s,mb4.2,baz=286,slow=11,SNR=42							
WRAB	**Tennant Creek**	**27.12**	**116**	P		**P**	**12 40 43.1**	**+0.4**
	57nm,0.8s,mb5.2,SNR=9.3							
WRAB	**Tennant Creek**	**27.12**	**116**	*i* P		**P**	**12 40 42.4**	**-0.3**
WRAB	**Tennant Creek**	**27.12**	**116**	*e*P		**P**	**12 40 41.2**	**-1.5**
	15nm,0.8s,mb4.6							
WB2	**Warramunga Arr**	**27.12**	**116**	*e*P		**P**	**12 40 42.0**	**-0.7**
FORT	**Forrest**	**28.11**	**142**	*e*P		**P**	**12 40 51.7**	**+0.1**
	13nm,0.7s,mb4.7							
QIZ	**Qiongzhong**	**28.14**	**3**	P		**P**	**12 40 52.5**	**+0.7**
QIZ				LR		LR		
	comp=N,370nm,18.0s							
QIZ				LR		LR		
	comp=Z,1μm,23.1s							
ASPA	**Alice Springs**	**28.17**	**124**	⇓*i*P		**P**	**12 40 52.7**	**+0.6**
AS31	**Alice Springs**	**28.18**	**124**	⇓*i*P		**P**	**12 40 52.7**	**+0.5**
ASAR	**Alice Springs**	**28.18**	**124**	P		**P**	**12 40 52.6**	**+0.5**
	comp=Z,3.5nm,0.5s,mb4.2,baz=300,slow=8.6,SNR=40							
ASAR				PcP		PcP	12 44 06.8	+1.1
	comp=Z,4.3nm,0.7s,baz=301,slow=1.8,SNR=11							
CHTO	**Chiang Mai**	**29.45**	**341**	*e*P		**P**	**12 41 04.1**	**+0.6**
CHTO				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.4							
CHTO	**Chiang Mai**	**29.45**	**341**	*e*P		**P**	**12 41 04.1**	**+0.6**
	comp=Z,4.8nm,0.6s,mb4.4							
KMI	**Kunming**	**34.63**	**351**	P		**P**	**12 41 51.5**	**+2.5**
KMI				AP		pP	12 41 55.5	+1.8
KMI				PP		PP	12 43 11.0	+3.5
KMI				PPP			12 43 21.0	
KMI				AMB		AMB		
	comp=Z,7.0nm,0.8s,mb4.6							
KMI				AMB		AMB		
	comp=Z,88nm,3.7s							
KMI				LR		LR		
	comp=N,433nm,18.7s,MS4.7							
KMI				LR		LR		
	comp=E,1μm,16.4s,MS4.7							
KMI				LR		LR		
	comp=Z,566nm,23.2s							
GYA	**Guiyang**	**35.55**	**357**	P		**P**	**12 41 58.8**	**+1.9**
GYA				AP		pP	12 42 02.8	+1.2
GYA				XP		sP	12 42 06.3	+2.8
GYA				PP		PP	12 43 19.8	+2.2
GYA				PCP		PcP	12 44 26.5	+0.8
GYA				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.1							
GYA				AMB		AMB		
	comp=Z,110nm,4.2s							
GYA				LR		LR		
	comp=N,420nm,15.0s,MS4.5							
GYA				LR		LR		
	comp=E,430nm,14.8s,MS4.5							
GYA				LR		LR		
	comp=Z,420nm,14.6s,MS4.3							
QLP	**Quilpie**	**37.92**	**122**	*e*P		**P**	**12 42 18.0**	**+0.9**
CTA	**Charters Tower**	**37.97**	**111**	P		**P**	**12 42 19.2**	**+1.7**
	comp=Z,4.0nm,0.8s,mb4.2,baz=292,slow=10,SNR=5.9							
STKA	**Stephens Creek**	**38.03**	**131**	⇑*i*P		**P**	**12 42 18.2**	**+0.3**
	comp=Z,23nm,0.8s,mb5.0							
STKA	**Stephens Creek**	**38.03**	**131**	P		**P**	**12 42 18.3**	**+0.3**
	comp=Z,31nm,0.7s,mb5.1,baz=305,slow=8.8,SNR=62							
HYB	**Hyderabad**	**39.74**	**312**	*i* P		**P**	**12 42 35.0**	**+2.7**
CD2	**Chengdu**	**40.20**	**354**	P		**P**	**12 42 35.8**	**-0.3**
CD2				AP		pP	12 42 40.3	-0.6
CD2				XP		sP	12 42 42.8	0.0
CD2				PP		PP	12 44 12.8	+4.2
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.6							
CD2				AMB		AMB		
	comp=Z,60nm,5.2s							
SSE	**Sheshan**	**41.92**	**16**	P		**P**	**12 42 50.5**	**+0.2**
SSE				AP		pP	12 42 53.5	-1.6
SSE				PP		PP	12 44 27.5	+0.2
SSE				AMB		AMB		
	comp=Z,27nm,0.7s,mb5.0							
SSE				AMB		AMB		
	comp=Z,86nm,5.0s							
SSE				LR		LR		
	comp=N,243nm,17.7s,MS4.3							
SSE				LR		LR		
	comp=E,255nm,17.6s,MS4.3							
SSE				LR		LR		
	comp=Z,455nm,18.6s,MS4.4							
NJ2	**Nan

HHC	**Hu-ho-hao-te**	**49.94**	**3**	*e*P		**P**		**12 43 54.3**	**+0.8**
HHC				AP		pP		12 43 59.3	+0.9
HHC				XP		sP		12 44 02.0	+1.7
HHC				PP		PP		12 45 50.5	+2.1
HHC				AMB		AMB			
	comp=Z,19nm,0.9s,mb5.1								
HHC				AMB		AMB			
	comp=Z,130nm,5.0s								
HHC				LR		LR			
	comp=N,252nm,18.4s,MS4.4								
HHC				LR		LR			
	comp=E,244nm,16.6s,MS4.4								
HHC				LR		LR			
	comp=Z,598nm,26.7s								
MJAR	**Matsushiro Arr**	**53.43**	**30**	P		**P**		**12 44 18.3**	**-1.3**
	comp=Z,1.4nm,0.4s,mb4.2,baz=217,slow=22,SNR=8.4								
CN2	**Changchun**	**55.00**	**15**	*e*P		**P**		**12 44 35.5**	**+4.4**
WMQ	**Urumqi**	**56.11**	**342**	P		**P**		**12 44 40.8**	**+1.7**
WMQ				AP		pP		12 44 45.3	+1.3
WMQ				XP		sP		12 44 47.8	+1.9
WMQ				PCP		PcP		12 45 38.5	+1.5
WMQ				PP		PP		12 46 47.3	+3.2
WMQ				AMB		AMB			
	comp=Z,27nm,1.2s,mb5.2								
WMQ				AMB		AMB			
	comp=Z,177nm,5.0s								
WMQ				LR		LR			
	comp=N,837nm,17.3s,MS5.0								
WMQ				LR		LR			
	comp=E,628nm,16.2s,MS5.0								
WMQ				LR		LR			
	comp=Z,837nm,17.8s,MS4.9								
SONM	**Songino Array**	**56.87**	**358**	P		**P**		**12 44 44.3**	**-0.1**
	comp=Z,6.8nm,0.5s,mb5.0,baz=177,slow=8.7,SNR=57								
ULN	**Ulaanbaatar**	**56.89**	**359**	*e*P		**P**		**12 44 43.8**	**-0.8**
ULN				*e*				12 44 55.9	
ULN				pmax		pmax			
	comp=Z,6.0nm,0.4s,mb5.0								
ULN	**Ulaanbaatar**	**56.89**	**359**	*e*P		**P**		**12 44 43.8**	**-0.8**
	comp=Z,6.1nm,0.4s,mb5.0								
ULN				*e*				12 44 55.9	
KSH	**Kashi**	**57.15**	**330**	*e*P		**P**		**12 44 45.0**	**-1.5**
KSH				*e*AP		pP		12 44 51.0	-0.4
KSH				*e*PCP		PcP		12 45 41.0	0.0
KSH				*e*PP		PP		12 46 53.3	-0.1
KSH				AMB		AMB			
	comp=Z,294nm,3.6s								
KSH				LR		LR			
	comp=N,520nm,4.2s								
KSH				LR		LR			
	comp=E,868nm,5.8s								
KSH				LR		LR			
	comp=Z,857nm,16.2s,MS4.9								
ZAK	**Zakamensk**	**59.57**	**356**	*e*P		**P**		**12 45 02.1**	**-1.2**
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.7s,mb4.2								
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.4s,mb4.1								
OPO	**Ambohidratompo**	**60.01**	**254**	P		**P**		**12 45 06.8**	**+0.5**
	comp=Z,11nm,1.1s,mb4.8,baz=101,slow=3.3,SNR=5.1								
FRU	**Bishkek**	**60.37**	**332**	*e*P		**P**		**12 45 07.0**	**-1.8**
MKAR	**Makanchi Array**	**60.51**	**340**	P		**P**		**12 45 09.6**	**-0.2**
	comp=Z,11nm,0.5s,mb5.2,baz=142,slow=7.3,SNR=88								
TLY	**Talaya**	**60.84**	**357**	*i* P		**P**		**12 45 12.6**	**+0.6**
CIT	**Chita**	**61.19**	**4**	*e*P		**P**		**12 45 08.7**	**-5.7**
CIT				*e*				12 45 50.3	
DRV	**Dumont d'Urvil**	**61.19**	**166**	SS		SS		12 57 34.0	+0.6
KLR	**Kul'dur**	**61.71**	**17**	*e*P		**P**		**12 45 13.8**	**-4.1**
KLR				*e*				12 45 52.1	
KURK	**Kurchatov**	**65.12**	**340**	P		**P**		**12 45 40.0**	**-0.5**
	comp=Z,98nm,0.7s,mb6.0,SNR=8.2								
KURK	**Kurchatov**	**65.12**	**340**	P		**P**		**12 45 40.6**	**+0.1**
	SNR=9.2								
KURK				P				12 50 04.7	
	SNR=36								
KURK	**Kurchatov**	**65.12**	**340**⇑	*e*P		**P**		**12 45 39.3**	**-1.2**
KURK	**Kurchatov**	**65.12**	**340**	*e*P		**P**		**12 45 40.2**	**-0.3**
MAW	**Mawson**	**65.66**	**198**	P		**P**		**12 45 43.5**	**-0.5**
	comp=Z,11nm,1.0s,mb4.9,baz=54,slow=6.5,SNR=17								
MAW	**Mawson**	**65.66**	**198**	*e*P		**P**		**12 45 43.2**	**-0.8**
MAW				pmax		pmax			
	comp=Z,16nm,1.1s								
MAW	**Mawson**	**65.66**	**198**	*e*P		**P**		**12 45 43.2**	**-0.8**
	comp=Z,16nm,1.1s,mb5.0								
ZAL	**Zalesovo**	**66.08**	**345**	P		**P**		**12 45 45.9**	**-0.8**
	comp=Z,2.7nm,0.3s,mb4.8,baz=330,slow=5.7,SNR=11								
BOD	**Bodaibo**	**66.99**	**3**	*e*P		**P**		**12 45 51.8**	**-0.7**
BOD				*e*				12 46 27.7	
BOD				pmax		pmax			
	comp=Z,10.0nm,1.9s,mb4.5								
BOD				pmax		pmax			
	comp=Z,12nm,1.5s,mb4.7								
QRN	**Al-Qurain**	**69.57**	**305**	*e*P		**P**		**12 46 08.1**	**-0.5**
KBD	**Kabd**	**69.92**	**306**	*e*P		**P**		**12 46 10.5**	**-0.4**
RDF	**Al-Radifah**	**69.94**	**305**	*e*P		**P**		**12 46 11.1**	**+0.2**
RDF				AMb		AMB		12 46 12.4	
	comp=Z,56nm,1.0s,mb5.5								
BVAR	**Borovoye Array**	**70.02**	**337**	P		**P**		**12 46 10.6**	**-0.9**
	comp=Z,6.6nm,0.7s,mb4.7,baz=142,slow=9.3,SNR=30								
UMR	**Umm Al-Rimmam**	**70.05**	**306**	*e*P		**P**		**12 46 11.3**	**-0.3**
UMR				AMb		AMB		12 46 12.4	
	comp=Z,51nm,0.3s,mb5.9								
BRVK	**Borovoye**	**70.09**	**337**	P		**P**		**12 46 12.1**	**+0.3**
	SNR=5.3								
BRVK				P				12 50 35.6	
	SNR=21								
BRVK				P				12 50 35.9	
	SNR=32								
BRVK	**Borovoye**	**70.09**	**337**	*e*P		**P**		**12 46 11.8**	**-0.1**
BRVK				*e*				12 46 50.0	
NAY	**Al-Naaiem**	**70.31**	**306**	*e*P		**P**		**12 46 12.6**	**-0.6**
NAY				AMb		AMB		12 46 14.4	
	comp=Z,21nm,0.8s,mb5.2								
CHKZ	**Chkalovo**	**70.43**	**337**	*e*P		**P**		**12 46 13.6**	**-0.4**
CHKZ				pmax		pmax			
	comp=Z,11nm,0.6s,mb5.0								
CHKZ	**Chkalovo**	**70.43**	**337**	*e*P		**P**		**12 46 13.6**	**-0.3**
	comp=Z,11nm,0.6s,mb5.0								
MIB	**Mutribah**	**70.45**	**306**	*e*P		**P**		**12 46 13.6**	**-0.5**
ZRNK	**Zerenda**	**70.52**	**336**	*e*P		**P**		**12 46 13.8**	**-0.7**
ZRNK				pmax		pmax			
	comp=Z,7.0nm,0.4s,mb4.9								
ZRNK	**Zerenda**	**70.52**	**336**	*e*P		**P**		**12 46 13.8**	**-0.7**
	comp=Z,6.9nm,0.4s,mb4.9								
KMBO	**Kilima Mbogo**	**71.33**	**272**	P		**P**		**12 46 19.9**	**+0.5**
	comp=Z,2.8nm,0.8s,mb4.2,baz=57,slow=23,SNR=5.7								
KMBO	**Kilima Mbogo**	**71.33**	**272**	*i* P		**P**		**12 46 19.0**	**-0.4**
KMBO				pmax		pmax			
	comp=Z,3.0nm,0.8s								
YAK	**Yakutsk**	**72.96**	**10**	*e*P		**P**		**12 46 28.2**	**-1.0**
YAK				pmax		pmax			
	comp=Z,15nm,1.0s,mb4.9								
YAK				pmax		pmax			
	comp=Z,24nm,1.5s,mb4.9								
YAK				pmax		pmax			
	comp=N,7.0nm,1.2s								
YAK				pmax		pmax			
	comp=E,7.0nm,1.5s								
VNDA	**Vanda**	**73.48**	**170**	P		**P**		**12 46 31.7**	**-0.6**
	comp=E,12nm,0.9s,mb4.8,baz=297,slow=6.1,SNR=31								
VNDA	**Vanda**	**73.48**	**170**	*e*P		**P**		**12 46 31.5**	**-0.8**
VNDA				pmax		pmax			
	comp=Z,16nm,1.0s								
VNDA	**Vanda**	**73.48**	**170**	*e*P		**P**		**12 46 31.5**	**-0.8**
	comp=Z,16nm,1.0s,mb4.9								
SBA	**Scott Base**	**74.56**	**169**	*e*P		**P**		**12 46 37.6**	**-0.9**
SBA				pmax		pmax			
	comp=Z,16nm,1.0s,mb4.9								
SBA	**Scott Base**	**74.56**	**169**	*e*P		**P**		**12 46 37.6**	**-1.0**
	comp=Z,16nm,1.0s,mb4.9								
PET	**Petropavlovsk**	**75.24**	**29**	*i* P		**P**		**12 46 41.6**	**-0.9**
PET				pmax		pmax			
	comp=Z,28nm,1.5s,mb5.0								
SVE	**Sverdlovsk**	**76.68**	**335**	*e*P		**P**		**12 46 50.5**	**-0.2**
SVE				*e*				12 47 02.0	
SVE				pmax		pmax			
	comp=Z,40nm,1.9s,mb5.0								
SVE				MLR		MLR			
	comp=E,200nm,14.0s								
SVE				MLR		MLR			
	comp=Z,200nm,14.0s,MS4.6								
ARU	**Arti**	**77.30**	**334**⇑	*i*P		**P**		**12 46 52.9**	**-1.3**
ARU				*e*				12 47 02.0	
ARU				*e*				12 49 47.2	
ARU				*e*S		S		12 56 39.8	-3.8
ARU				*e*SS		SS		13 01 39.3	-2.4
ARU				pmax		pmax			
	comp=Z,11nm,1.1s,mb4.7								
ARU	**Arti**	**77.30**	**334**	*e*P		**P**		**12 46 53.8**	**-0.4**
ZEI	**Tsey**	**78.26**	**317**	*e*P		**P**		**12 47 00.4**	**+0.8**
ZEI				*e**PP		pP		12 47 09.9	+5.2
ZEI				pmax		pmax			
	comp=Z,12nm,0.5s,mb5.1								
LSZ	**Lusaka**	**78.35**	**256**	*e*P		**P**		**12 47 00.9**	**+0.8**
KIV	**Kislovodsk**	**79.55**	**318**	*e*P		**P**		**12 47 04.7**	**-1.9**
KIV				pmax		pmax			
	comp=Z,17nm,1.0s,mb4.9								
BOSA	**Boshof**	**79.75**	**243**	P		**P**		**12 47 07.2**	**-0.4**
	comp=Z,5.6nm,1.0s,mb4.5,baz=110,slow=8.0,SNR=5.1								
MALT	**Malatya**	**80.46**	**311**	*e*P		**P**		**12 47 12.5**	**+1.0**
MALT				pmax		pmax			
	comp=Z,17nm,1.3s,mb4.8								
MALT	**Malatya**	**80.46**	**311**	*e*P		**P**		**12 47 12.5**	**+1.0**
	comp=Z,17nm,1.3s,mb4.8								
EIL	**Elat**	**80.54**	**302**	*e*P		**P**		**12 47 13.5**	**+1.5**
MIDW	**Midway**	**80.60**	**59**	*e*P		**P**		**12 47 09.1**	**-3.2**
QSPA	**South Pole Qui**	**80.74**	**180**	*e*P		**P**		**12 47 12.8**	**-0.3**
	comp=Z,52nm,1.0s,mb5.4								
ANN	**Anapa**	**83.36**	**317**	*e*P		**P**		**12 47 28.5**	**+1.7**
ANN				*e*				12 50 41.2	
ANN				*e*S		S		12 57 47.9	+0.6
ANN				*e*SS		SS		13 03 19.2	+6.8
ANN				pmax		pmax			
	comp=Z,31nm,0.9s,mb5.3								
BR131	**Keskin Array S**	**84.44**	**312**	*e*P		**P**		**12 47 32.5**	**+0.2**
	comp=Z,2.5nm,0.6s,mb4.5								
BRTR	**Keskin Array B**	**84.44**	**312**	P		**P**		**12 47 32.2**	**-0.1**
	comp=Z,18nm,1.1s,mb5.1,baz=131,slow=5.7,SNR=42								
BRTR	**Keskin Array B**	**84.44**	**312**	*i* P		**P**		**12 47 32.2**	**-0.1**
BRTR				pmax		pmax			
	comp=Z,18nm,1.1s								
VRSR	**Storozhevoye**	**84.55**	**324**	*d* iP		**P**		**12 47 32.3**	**-0.6**
VRSR				pmax		pmax			
	comp=Z,20nm,1.2s,mb5.1								
VRSR				pmax		pmax			
	comp=N,6.0nm,0.8s								
VRSR				pmax		pmax			
	comp=E,10.0nm,0.8s								
MOS	**Moscow**	**87.08**	**328**	*e*P		**P**		**12 47 38.5**	**-6.9**
MOS				pmax		pmax			
	comp=Z,65nm,1.3s,mb5.7								
OBN	**Obninsk**	**87.43**	**327**⇑	*i*P		**P**		**12 47 47.4**	**+0.3**
OBN				*e*				12 51 11.1	
OBN				pmax		pmax			
	comp=Z,59nm,1.4s,mb5.6								
SNAA	**Sanae**	**87.83**	**197**⇑	*i*P		**P**		**12 47 48.9**	**-0.1**
SNAA				*e*				12 47 50.5	
SNAA				*e*		pP		12 47 51.9	-2.3
SNAA				*e*		pP		12 47 53.6	-0.6
SNAA	**Sanae**	**87.83**	**197**⇑	*e*P		**P**		**12 47 47.9**	**-1.1**
SNAA	**Sanae**	**87.83**	**197**	*e*P		**P**		**12 47 48.9**	**-0.2**
	comp=Z,16nm,1.3s,mb5.1								
TSUM	**Tsumeb**	**87.88**	**251**	*e*P		**P**		**12 47 50.2**	**+0.9**
	comp=Z,14nm,1.1s,mb5.1								
VNA1	**Neumayer--Stat**	**89.86**	**197**⇑	*i*P		**P**		**12 47 59.1**	**+0.5**
VNA1				*e*				12 48 00.6	
VNA1				*e*		pP		12 48 02.1	-1.7
VNA1				*e*		pP		12 48 03.3	-0.5
VNA1				*e*				12 48 33.6	
AKASG	**Malin Array Be**	**90.39**	**321**	P		**P**		**12 48 00.2**	**-0.9**
	comp=Z,0.3nm,0.2s,mb4.2,baz=92,slow=3.8,SNR=6.8								
AKASG	**Malin Array Be**	**90.39**	**321**	*i* P		**P**		**12 48 00.9**	**-0.2**
AKASG	**Malin Array Be**	**90.39**	**321**	P		**P**		**12 48 00.2**	**-0.9**
KOLS	**Kolonicke sedl**	**94.45**	**319**	*e*P		**P**		**12 48 20.5**	**+0.7**
FINES	**FINESS Array B**	**94.46**	**331**	P		**P**		**12 48 19.5**	**-0.4**
	comp=Z,1.3nm,0.8s,mb4.4,baz=46,slow=5.5,SNR=5.1								
TORD	**Torodi Ar. Bea**	**108.33**	**281**	PKiKP		PKiKP		12 53 27.7	-0.4
	comp=Z,0.3nm,0.6s,baz=277,slow=0.6,SNR=3.6								
MSO	**Missoula**	**128.04**	**36**	*e*PKPdf		PKPdf		12 54 04.6	-1.1
EGMT	**Eagleton**	**129.70**	**33**	*e*PKPdf		PKPdf		12 54 10.3	+1.4
WMOK	**Wichita Mounta**	**144.40**	**40**	*e*PKIKP		PKPdf		12 54 35.1	-0.8
LONY	**Lake Ozonia**	**144.67**	**4**	*e*PKPdf		PKPdf		12 54 35.3	-1.1
LBNH	**Lisbon**	**145.15**	**1**	*e*PKIKP		PKPdf		12 54 37.4	+0.2
MIV	**Mineville/With**	**145.27**	**3**	*e*PKPbc		PKPbc		12 54 37.3	+0.1
NCB	**Newcomb**	**145.34**	**3**	*e*PKPbc		PKPbc		12 54 37.2	-0.2
ACCN	**Adirondack Com**	**145.95**	**3**	*e*PKPbc		PKPbc		12 54 40.2	+0.9
BDFB	**Brasilia**	**146.05**	**223**	PKPbc		PKPbc		12 54 40.9	+1.3
	comp=Z,3.8nm,0.5s,baz=103,slow=2.1,SNR=7.6								
JCT	**Junction City**	**146.19**	**47**	*e*PKP2		PKPab		12 54 41.5	+0.8
CCM	**Cathedral Cave**	**146.25**	**29**	*e*PKP2		PKPab		12 54 39.4	-1.6
FVM	**French Village**	**146.69**	**28**	*e*PKP2		PKPab		12 54 41.9	-0.8
BINY	**Binghamton**	**146.95**	**6**	*e*PKPbc		PKPbc		12 54 42.9	+0.6
ACSO	**Alum Creek Sta**	**147.50**	**17**	*e*PKPab		PKPab		12 54 44.6	-1.3
MIAR	**Mount Ida**	**147.70**	**36**	*e*PKP2		PKPab		12 54 44.4	-2.2
LVC	**Limon Verde**	**148.22**	**185**	*e*PKPab		PKPab		12 54 47.6	-1.1
SSPA	**Standing Stone**	**148.24**	**9**	*e*PKPab		PKPab		12 54 46.4	-2.4
MVL	**Millersville**	**149.08**	**7**	*e*PKPab		PKPbc		12 54 48.8	+0.9
HKT	**Hockley**	**149.31**	**45**	*e*PKPdf		PKPdf		12 54 44.3	+0.2
HKT				*e*PKPbc		PKPbc		12 54 48.0	-0.5
HKT				*e*PKPab		PKPab		12 54 52.2	-0.9
WVT	**Waverly**	**149.40**	**27**	*e*PKP2		PKPbc		12 54 48.7	0.0
OXF	**Oxford**	**149.97**	**31**	*e*PKPdf		PKPdf		12 54 46.1	+0.9
OXF				*e*PKPbc		PKPbc		12 54 50.5	+0.4
TZTN	**Tazewell**	**150.71**	**20**	*e*PKPbc		PKPbc		12 54 52.9	+0.9
CPCT	**Cooper Cave**	**151.34**	**23**	*e*PKPbc		PKPbc		12 54 54.5	+1.1
MYNC	**Murphy**	**151.82**	**22**	*e*PKIKP		PKPbc		12 54 55.1	+0.6
LPAZ	**La Paz**	**154.40**	**187**	PKPbc		PKPbc		12 55 02.4	+2.2
	comp=Z,2.0nm,0.8s,baz=170,slow=1.8,SNR=6.5								
LPAZ				PKPab		PKPab		12 55 16.1	+1.7
	comp=Z,1.6nm,0.6s,baz=106,slow=0.7,SNR=6.3								

IDC ***25*** *12:35:35.8±0.5, 9.26S×108.43E, h0km, mb4.7/16, mb1 4.8/17, mb1mx4.7/20, mbtmp4.7/17, ML4.3/1, Error ellipse: s-maj=22.9km s-min=12.7km az=56.0*

NEIC ***25*** *12:35:37.1±0.3, 9.31S×108.40E, h10km, mb5.2/4, Error ellipse: s-maj=13.4km s-min=7.1km az=48.0*

ISCJB ***25*** *12:35:39.1±0.3, 9.22S±007×108.61E±009, h33km, mb4.9/28, MS4.6/1, Error ellipse: s-maj=14.4km s-min=7.8km az=105.9*

MOS ***25*** *12:35:39.1±1.0, 9.23S×108.60E, h33km, mb5.5/12, Error ellipse: s-maj=17.0km s-min=9.3km az=118.8*

ISC 25 12:35:41.2±0.3,**925S**±007×**10857E**±009,**h35**km, **(h37**km±3.5km**:pP-P), n68,** σ0.9**86**/46, **mb4.9**/28, **MS4.6**/1, **13C-9D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.76**	**120**	P		**Pn**	**12 39 57.9**	**+0.1**
	0.7nm,0.3s,baz=277,slow=5.6,SNR=14							
NWAO	**Narrogin (SRO)**	**24.89**	**162**	P		**P**	**12 41 00.9**	**+0.4**
	20nm,0.8s,mb4.7,baz=321,slow=9.0,SNR=10							
WRA	**Warramunga Arr**	**27.07**	**116**	P		**P**	**12 41 21.0**	**+0.7**
	5.5nm,0.8s,mb4.2,baz=300,slow=13,SNR=6.5							
WRAB	**Tennant Creek**	**27.08**	**116**⇓	*e*P		**P**	**12 41 18.6**	**-1.8**
ASAR	**Alice Springs**	**28.14**	**124**	P		**P**	**12 41 29.6**	**-0.3**
	7.2nm,0.8s,mb4.4,baz=298,slow=7.6,SNR=7.7							
ASAR				PcP		PcP	12 44 44.5	+1.2
	5.8nm,0.8s,baz=308,slow=2.1,SNR=12							
CTA	**Charters Tower**	**37.93**	**111**	P		**P**	**12 42 56.9**	**+1.7**
	7.6nm,0.8s,mb4.5,baz=276,slow=9.5,SNR=5.4							
STKA	**Stephens Creek**	**38.00**	**131**	P		**P**	**12 42 56.2**	**+0.5**
	43nm,0.7s,mb5.3,baz=301,slow=8.2,SNR=23							
HYB	**Hyderabad**	**39.77**	**312**	*i* P		**P**	**12 43 12.5**	**+1.9**
HYB	**Hyderabad**	**39.77**	**312**	*e*P		**P**	**12 43 11.0**	**+0.4**
MJAR	**Matsushiro Arr**	**53.39**	**30**	P		**P**	**12 44 59.3**	**+2.0**
	3.5nm,1.0s,mb4.3,baz=211,slow=6.7,SNR=4.0							
SONM	**Songino Array**	**56.86**	**359**	P		**P**	**12 45 23.3**	**+1.0**
	4.8nm,0.5s,mb4.8,baz=174,slow=8.1,SNR=6.8							
ULN	**Ulaanbaatar**	**56.87**	**359**	*i* P		**P**	**12 45 23.2**	**+0.8**
MKAR	**Makanchi Array**	**60.52**	**340**	P		**P**	**12 45 47.2**	**-0.5**
	13nm,0.8s,mb5.1,baz=138,slow=7.5,SNR=9.1							
MKAR	**Makanchi Array**	**60.52**	**340**	P		**P**	**12 45 47.2**	**-0.5**
TLY	**Talaya**	**60.83**	**356**	*i* P		**P**	**12 45 49.8**	**0.0**
KURK	**Kurchatov**	**65.13**	**340**⇓	*i*P		**P**	**12 46 17.8**	**-0.6**
MAW	**Mawson**	**65.69**	**198**	P		**P**	**12 46 21.8**	**-0.2**
	4.8nm,0.7s,mb4.6,baz=52,slow=7.6,SNR=7.8							
ZAL	**Zalesovo**	**66.08**	**345**	P		**P**	**12 46 23.9**	**-0.7**
	4.3nm,0.9s,mb4.5,baz=343,slow=4.4,SNR=8.0							
BVAR	**Borovoye Array**	**70.03**	**337**	P		**P**	**12 46 48.0**	**-1.3**
	9.7nm,0.8s,mb4.8,baz=140,slow=7.7,SNR=8.6							
KMBO	**Kilima Mbogo**	**71.38**	**272**	P		**P**	**12 46 58.0**	**+0.4**
	3.4nm,0.9s,mb4.3,baz=74,slow=11,SNR=5.8							
YAK	**Yakutsk**	**72.94**	**10**⇑	*e*P		**P**	**12 47 05.8**	**-1.1**
YAK				pmax		pmax		
	comp=Z,29nm,0.8s,mb5.3							
VNDA	**Vanda**	**73.49**	**170**	P		**P**	**12 47 09.4**	**-0.7**
	comp=Z,6.1nm,0.9s,mb4.5,baz=302,slow=5.8,SNR=6.2							
PET	**Petropavlovsk**	**75.20**	**29**⇓	*e*P		**P**	**12 47 19.5**	**-0.6**
PET				pmax		pmax		
	comp=Z,24nm,1.3s,mb5.0							
SVE	**Sverdlovsk**	**76.69**	**335**	*e*P		**P**	**12 47 28.0**	**-0.5**
SVE				*e*		pP	12 47 40.5	+1.0
SVE				pmax		pmax		
	comp=Z,40nm,1.6s,mb5.1							
SVE				MLR		MLR		
	comp=E,200nm,14.0s							
SVE				MLR		MLR		
	comp=Z,200nm,14.0s,MS4.6							
ARU	**Arti**	**77.31**	**334**⇑	*i*P		**P**	**12 47 31.6**	**-0.4**
ARU				*e*		pP	12 47 42.3	-0.7
ARU				*e*			12 50 26.8	
ARU				*e*S		S	12 57 21.8	+2.3
ARU				*e*SS		SS	13 02 22.5	+4.4
ARU				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.7							
LSZ	**Lusaka**	**78.40**	**256**	*e*P		**P**	**12 47 39.2**	**+1.1**
LSZ	**Lusaka**	**78.40**	**256**	*e*pP		**P**	**12 47 39.2**	**+1.1**
MALT	**Malatya**	**80.49**	**311**	*e*P		**P**	**12 47 50.5**	**+1.0**
MALT	**Malatya**	**80.49**	**311**	*e*pP		**P**	**12 47 50.5**	**+1.1**
QSPA	**South Pole Qui**	**80.76**	**180**	*e*P		**P**	**12 47 50.6**	**-0.3**
TIXI	**Tiksi**	**81.84**	**6**⇑	*e*P		**P**	**12 47 55.8**	**-0.9**
TIXI				pmax		pmax		
	comp=Z,23nm,1.0s,mb5.1							
VRHR	**Novokhopersk**	**83.11**	**324**	*e*P		**P**	**12 48 02.8**	**-0.5**
VRHR				pmax		pmax		
	comp=Z,10.0nm,0.4s,mb5.2							
VRHR				pmax		pmax		
	comp=N,20nm,0.5s							
VRHR				pmax		pmax		
	comp=E,7.0nm,0.5s							
ANN	**Anapa**	**83.39**	**317**	*e*P		**P**	**12 48 05.2**	**+0.5**
ANN				*e*			12 51 19.6	
ANN				*e*S		S	12 58 24.8	+1.5
ANN				*e*SS		SS	13 03 59.0	+10
ANN				pmax		pmax		
	comp=Z,38nm,1.2s,mb5.3							
BR131	**Keskin Array S**	**84.47**	**312**	*e*P		**P**	**12 48 10.9**	**+0.7**
	comp=Z,21nm,1.2s,mb5.1							
BRTR	**Keskin Array B**	**84.47**	**312**	P		**P**	**12 48 10.2**	**-0.1**
	comp=Z,13nm,1.0s,mb5.0,baz=130,slow=7.2,SNR=12							
VRSR	**Storozhevoye**	**84.57**	**324**	*d* iP		**P**	**12 48 10.5**	**-0.2**
VRSR				pmax		pmax		
	comp=N,5.0nm,0.9s							
VRSR				pmax		pmax		
	comp=Z,30nm,0.9s,mb5.4							
VRSR				pmax		pmax		
	comp=E,30nm,1.0s							
SIM	**Simferopol'**	**85.67**	**317**	*e*P		**P**	**12 48 17.5**	**+1.3**
SIM				pmax		pmax		
	comp=Z,14nm,0.5s,mb5.5							
OBN	**Obninsk**	**87.44**	**327**⇑	*e*P		**P**	**12 48 25.7**	**+0.8**
OBN				*e**PP		pP	12 48 35.0	-1.0
OBN				*e*SP		sP	12 48 38.2	-1.8
OBN				*e*			12 51 50.3	
OBN				pmax		pmax		
	comp=Z,60nm,1.3s,mb5.7							
SNAA	**Sanae**	**87.86**	**197**⇑	*e*P		**P**	**12 48 26.0**	**-0.9**
AKASG	**Malin Array Be**	**90.41**	**321**	P		**P**	**12 48 38.6**	**-0.3**
	comp=Z,1.2nm,0.4s,mb4.6,baz=85,slow=4.8,SNR=9.3							
AKASG	**Malin Array Be**	**90.41**	**321**	*i* P		**P**	**12 48 38.5**	**-0.4**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
JOF	**Joensuu**	**92.42**	**333**	*e*p		**P**	**12 48 47.2**	**-1.0**
	comp=Z,8.6nm,0.9s,mb5.1							
JOF	**Joensuu**	**92.42**	**333**	*e*P		**P**	**12 48 47.2**	**-1.0**
JOF				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb5.1		

BATP Bataraza 20.28 28 *e*P **P** **12 44 01.0 +1.2**
IPIL Ipil 22.08 40 *e*P **P** **12 44 27.4 +8.2**
PAGZ Pagadian 22.64 42 *e*P pP 12 44 37.3 +2.5
CTBH Cotabato--PC H 22.77 44⇑*e*P **P** **12 44 18.2 -8.3**
DAV Davao City (W) 23.60 47 P pP 12 44 46.6 +1.7
SNR=6.4
KAKA Kakadu 23.78 100 *e*P **P** **12 44 36.6 0.0**
26nm,0.6s,mb4.8
BUKP Musuan 23.80 45 *e*P **P** **12 44 37.8 +1.0**
BUKP *e*S 12 44 49.3
CGP Cagayan de Oro 23.96 43⇓*i*P **P** **12 44 39.8 +1.5**
CGP *i*S 12 44 49.8
UBT Ubonrachathani 24.66 352 P pP 12 44 55.0 +0.1
NWAO Narrogin (SRO) 24.84 162 P **P** **12 44 46.0 -0.3**
15nm,0.5s,mb4.8,baz=341,slow=8.2,SNR=16
NWAO LR LR 12 53 59.6
comp=Z,1μm,18.8s,MS4.4,baz=328,slow=35
NWAO Narrogin (SRO) 24.84 162 *e*P **P** **12 44 46.5 +0.2**
BUTP Butuan 24.96 44 *e*P pP 12 44 57.9 +0.3
WRA Warramunga Arr 27.14 116 P **P** **12 45 07.1 0.0**
13nm,0.7s,mb4.6,baz=286,slow=11,SNR=15
WRAB Tennant Creek 27.14 116 P **P** **12 45 07.2 +0.1**
123nm,0.7s,mb5.5,SNR=8.2
WRAB Tennant Creek 27.14 116 *e*P **P** **12 45 07.1 0.0**
WB2 Warramunga Arr 27.15 116 *e*P **P** **12 45 06.6 -0.6**
FORT Forrest 28.09 142 *e*P **P** **12 45 15.5 -0.1**
22nm,0.6s,mb5.0
FORT *e*S S 12 50 28.5 +30
ASPA Alice Springs 28.19 123 *e*P **P** **12 45 16.5 0.0**
ASPA *e*S S 12 50 41.6 +42
ASAR Alice Springs 28.19 123 P **P** **12 45 16.1 -0.4**
7.9nm,0.6s,mb4.5,baz=302,slow=8.6,SNR=13
ASAR PcP PcP 12 48 29.9 +0.3
11nm,0.7s,baz=306,slow=2.0,SNR=15
ASAR LR LR 12 56 43.2
comp=Z,1μm,20.0s,MS4.5,baz=304,slow=37
ASAR Alice Springs 28.19 123 P **P** **12 45 16.1 -0.4**
ASAR 12 48 29.9
AS31 Alice Springs 28.19 123 *e*P **P** **12 45 16.5 0.0**
AS31 *e*S S 12 50 41.6 +42
QIZ Qiongzhong 28.22 3 P **P** **12 45 15.5 -1.2**
QIZ S **S** **12 50 00.0 0.0**
QIZ SS 12 51 20.0
QIZ AMB AMB
comp=Z,16nm,1.8s,mb4.3
QIZ LR LR
comp=N,1μm,15.8s,MS4.8
QIZ LR LR
comp=E,1μm,15.2s,MS4.8
QIZ LR LR
comp=Z,2μm,16.3s,MS4.8
CM31 Chiang Mai Arr 29.17 341 P **P** **12 45 25.7 +0.6**
comp=Z,38nm,1.0s,mb5.1
CHG Chiang Mai 29.50 341 ⇑P **P** **12 45 28.6 +0.5**
comp=Z,56nm,0.7s,mb5.4
CHTO Chiang Mai 29.50 341 P **P** **12 45 29.1 +1.0**
SNR=6.6
CHTO Chiang Mai 29.50 341 *e*P **P** **12 45 28.2 +0.1**
CHTO *e* pP 12 45 39.4 +1.0
CHTO pmax pmax
comp=Z,53nm,1.0s,mb5.2
CHTO Chiang Mai 29.50 341 *e*P **P** **12 45 28.2 +0.1**
comp=Z,53nm,1.0s,mb5.2
CHTO *e* pP 12 45 39.4 +0.9
GZH Guangzhou 32.58 8 P **P** **12 46 02.0 +6.8**
GZH LR LR
comp=N,1μm,18.6s,MS4.8
GZH LR LR
comp=E,1μm,15.9s,MS4.8
GZH LR LR
comp=Z,2μm,16.8s,MS4.8
KMI Kunming 34.70 351 P **P** **12 46 15.8 +2.1**
KMI AP pP 12 46 22.8 -1.3
KMI XP sP 12 46 26.5 -2.0
KMI PP PP 12 47 37.0 +4.3
KMI PPP 12 47 49.5
KMI S **S** **12 51 49.0 +7.9**
KMI XS sS 12 52 00.8 +2.4
KMI AMB AMB
comp=Z,16nm,0.9s,mb5.0
KMI AMB AMB
comp=Z,133nm,5.3s
KMI LR LR
comp=N,3μm,14.0s,MS5.3
KMI LR LR
comp=E,3μm,15.1s,MS5.3
KMI LR LR
comp=Z,3μm,15.1s,MS5.2
GYA Guiyang 35.62 357⇑*i*P **P** **12 46 23.3 +1.7**
GYA AP pP 12 46 27.8 -4.3
GYA XP sP 12 46 30.5 -5.9
GYA PP PP 12 47 43.3 +0.4
GYA PCP PcP 12 48 52.3 +2.6
GYA S **S** **12 51 58.0 +2.7**
GYA SCP ScP 12 52 36.5 +3.7
GYA SS SS 12 54 17.3 -14
GYA AMB AMB
comp=Z,60nm,0.6s,mb5.7
GYA AMB AMB
comp=Z,870nm,4.2s
GYA LR LR
comp=N,1μm,15.0s,MS5.1
GYA LR LR
comp=E,2μm,14.6s,MS5.1
GYA LR LR
comp=Z,2μm,14.8s,MS4.9
VIS Vishakhapatnam 36.59 317 *e*P **P** **12 46 29.8 -0.1**
VIS AMb AMB 12 46 45.0
comp=Z,180nm,1.7s,mb5.6
ADE Adelaide 37.62 137 *e*P **P** **12 46 39.1 +0.4**
CTA Charters Tower 38.01 111 *e*P **P** **12 46 43.3 +1.4**
comp=Z,13nm,1.3s,mb4.5
CTA Charters Tower 38.01 111 P **P** **12 46 43.5 +1.6**
comp=Z,8.5nm,0.6s,mb4.7,baz=278,slow=12,SNR=15
CTA Charters Tower 38.01 111 *e*P **P** **12 46 43.3 +1.4**
CTA pmax pmax
comp=Z,13nm,1.3s
CTAO Charters Tower 38.01 111 *e*P **P** **12 46 42.7 +0.8**
STKA Stephens Creek 38.03 131 *e*P **P** **12 46 42.2 +0.1**
comp=Z,46nm,0.6s,mb5.4
STKA Stephens Creek 38.03 131 P **P** **12 46 42.2 +0.2**
comp=Z,50nm,0.6s,mb5.4,baz=304,slow=7.9,SNR=66
STKA LR LR 13 03 24.7
comp=Z,1μm,18.4s,MS4.8,baz=294,slow=38
PMG Port Moresby 38.18 93 P **P** **12 46 45.2 +1.8**
comp=Z,17nm,0.7s,mb4.9,baz=250,slow=7.0,SNR=6.7
PMG Port Moresby 38.18 93 *e*P **P** **12 46 41.8 -1.6**
PMG P 12 46 45.2
BOK Bokaro 39.63 327 *e*P **P** **12 46 56.1 +0.6**
BOK AMb AMB 12 47 08.7
comp=Z,94nm,1.3s,mb5.4
WHN Wuhan 40.05 8 *e*P **P** **12 47 00.5 +1.5**
CD2 Chengdu 40.27 354⇓*i*P **P** **12 47 01.0 +0.2**
CD2 XP sP 12 47 06.5 -9.2
CD2 PP PP 12 48 36.5 +2.7
CD2 S **S** **12 53 09.0 +3.4**
CD2 XS sS 12 53 15.5 -7.6
CD2 SS SS 12 56 01.3 -3.5
CD2 LR LR
comp=N,1μm,13.2s
CD2 LR LR
comp=Z,1μm,14.4s,MS4.9
BLSP Bilaspur 40.54 321 *e*P **P** **12 47 03.0 -0.1**
JOW Kunigami 40.78 28 P **P** **12 47 06.1 +1.1**
comp=Z,17nm,0.7s,mb4.8,baz=172,slow=15,SNR=3.3
SSE Sheshan 42.02 16 P **P** **12 47 18.0 +2.8**
SSE AMB AMB
comp=Z,22nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,89nm,6.2s
NJ2 Nanjing 42.34 13 *e*P **P** **12 47 17.0 -0.8**
NJ2 AP pP 12 47 27.3 -1.1
NJ2 XP sP 12 47 30.0 -2.7
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
NJ2 AMB AMB
comp=Z,420nm,4.2s
NJ2 LR LR
comp=N,3μm,18.0s,MS5.5
NJ2 LR LR
comp=E,4μm,18.0s,MS5.5
JIRN Jiri 42.63 330 *e*P **P** **12 47 20.6 +0.4**
comp=E,328nm,1.1s,mb6.0
PKI Pulchoki 42.94 329 *e*P **P** **12 47 22.5 -0.2**
comp=E,127nm,1.1s,mb5.5
PKI Pulchoki 42.94 329 *e*P **P** **12 47 22.5 -0.2**
PKI pmax pmax
comp=Z,127nm,1.1s,mb5.6
KAD Karad 42.99 308 *e*P **P** **12 47 23.4 +0.3**
GUN Gumba 42.99 330 *e*P **P** **12 47 23.5 +0.4**
comp=Z,370nm,1.2s,mb6.0
DMN Daman 43.13 329 *e*P **P** **12 47 24.3 +0.1**
comp=Z,262nm,1.1s,mb5.9
KKN Kakani 43.19 329 *e*P **P** **12 47 24.8 +0.1**
comp=Z,255nm,1.1s,mb5.9
KKN Kakani 43.19 329 *e*P **P** **12 47 24.8 +0.1**
KKN pmax pmax
comp=Z,255nm,1.1s,mb5.9
GKN Gorkha 43.69 329 *e*P **P** **12 47 28.8 +0.1**
comp=Z,380nm,1.1s,mb6.0
POO Poona 43.95 309⇓*i*x x 12 46 22.0
comp=Z,80nm,1.0s
KOLN Koldanda 44.04 328 *e*P **P** **12 47 31.8 +0.3**
comp=Z,385nm,0.9s,mb6.2
BHPL Bhopal 44.38 317 *e*P **P** **12 47 33.6 -0.7**
BHPL AMb AMB 12 47 47.8
comp=Z,64nm,0.7s,mb5.5
ARMA Armidale 45.34 124 *e*P **P** **12 47 43.9 +2.0**
LZH Lanzhou 45.38 355⇓P **P** **12 47 42.5 +0.2**
LZH AP pP 12 47 52.3 -0.6
LZH XP sP 12 47 56.5 -0.8
LZH PP PP 12 49 29.5 +0.7
LZH PPP 12 50 12.8
LZH S **S** **12 54 22.0 +1.2**
LZH XS sS 12 54 38.5 +0.1
LZH SS SS 12 57 37.8 -6.9
LZH AMB AMB
comp=Z,83nm,1.4s,mb5.4
LZH AMB AMB
comp=Z,542nm,6.8s
LZH LR LR
comp=N,2μm,14.7s
LZH LR LR
comp=Z,2μm,17.8s,MS5.2
TIA Tai'an 46.03 10 *e*P **P** **12 47 46.3 -1.1**
TIA S **S** **12 54 32.0 +1.9**
TIA LR LR
comp=N,619nm,14.0s,MS4.8
TIA LR LR
comp=E,602nm,14.0s,MS4.8
LGTI Lohaghat 47.17 326 *i*P **P** **12 47 54.3 -2.0**
AJM Ajmer 48.43 318 *e*P **P** **12 48 05.5 -0.5**
AJM AMb AMB 12 48 20.2
comp=Z,55nm,0.3s,mb6.1
GTA Gaotai 49.16 351 *e*P **P** **12 48 12.5 +0.9**
GTA AP pP 12 48 16.0 -6.4
GTA XP sP 12 48 18.8 -7.9
GTA PCP PcP 12 49 36.0 +1.4
GTA PP PP 12 50 07.8 +2.3
GTA SCP ScP 12 53 27.8 +0.9
GTA S **S** **12 55 16.0 +1.5**
GTA SCS ScS 12 58 00.5 -0.2
GTA SS SS 12 58 43.0 -2.9
GTA AMB AMB
comp=Z,21nm,1.1s,mb5.1
GTA AMB AMB
comp=Z,167nm,4.9s
GTA LR LR
comp=N,1μm,16.3s,MS5.1
GTA LR LR
comp=E,1μm,21.3s,MS5.1
GTA LR LR
comp=Z,2μm,16.7s,MS5.1
DL2 Dalian 49.54 14 P **P** **12 48 20.0 +5.5**
DL2 S **S** **12 55 32.0 +12**
DL2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
DL2 LR LR
comp=N,510nm,14.3s,MS4.7
DL2 LR LR
comp=E,180nm,12.6s,MS4.7
DL2 LR LR
comp=Z,580nm,16.3s,MS4.7
INCN Inchon 49.59 19 *e*P **P** **12 48 15.2 +0.2**
INCN *e*pP pP 12 48 24.7 -1.0
BJT Baijiatuau 49.62 8 *e*P **P** **12 48 13.0 -2.2**
BJT *e* pP 12 48 26.0 +0.1
BJT pmax pmax
comp=Z,210nm,1.1s
BJT Baijiatuau 49.62 8 *e*P **P** **12 48 13.0 -2.2**
comp=Z,210nm,1.1s,mb6.1
BJT *e* pP 12 48 26.0 +0.1
BJI Beijing 49.64 8 P **P** **12 48 15.5 +0.2**
BJI AMB AMB
comp=Z,56nm,0.9s,mb5.6
BJI LR LR
comp=N,875nm,18.4s,MS4.9
BJI LR LR
comp=E,736nm,19.6s,MS4.9
BJI LR LR
comp=Z,753nm,18.9s,MS4.7
BTO Baotou 49.71 2 *e*P **P** **12 48 15.0 -0.8**
HHC Hu-ho-hao-te 50.02 3 *e*P **P** **12 48 15.5 +0.3**
HHC AP pP 12 48 28.0 -0.9
HHC XP sP 12 48 32.0 -1.2
HHC PP PP 12 50 14.5 +1.2
HHC S **S** **12 55 27.8 +1.3**
HHC PS 12 55 39.8
HHC XS sS 12 55 44.5 +0.2
HHC SCS ScS 12 58 03.5 -3.1
HHC SS SS 12 58 57.0 -2.7
HHC AMB AMB
comp=Z,21nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,125nm,3.6s
HHC LR LR
comp=N,987nm,19.0s,MS5.0
HHC LR LR
comp=E,827nm,15.5s,MS5.0
HHC LR LR
comp=Z,753nm,18.4s,MS4.7
SDNR Sundarnagar 50.57 325 *e*P **P** **12 48 21.5 -0.8**
HNR Honiara 50.77 95 P **P** **12 48 24.6 +0.7**
comp=Z,67nm,0.7s,mb5.7,baz=267,slow=1.7,SNR=5.1
SNY Shenyang 52.77 14⇑P **P** **12 48 37.0 -1.8**
SNY AP pP 12 48 47.8 -1.8
SNY XP sP 12 48 51.5 -2.4
SNY S **S** **12 55 59.3 -5.2**
SNY AMB AMB
comp=Z,44nm,1.2s,mb5.3
SNY AMB AMB
comp=Z,150nm,3.7s
SNY LR LR
comp=N,675nm,16.0s
SNY LR LR
comp=Z,787nm,16.3s,MS4.8
MAT Matsushiro 53.53 30 P **P** **12 48 41.5 -2.9**
MAT S **S** **12 56 15.0 +0.2**
MAT Matsushiro 53.53 30 *e*P **P** **12 48 42.0 -2.4**
MAT *e*S **S** **12 56 16.0 +1.2**
MAJO Matsushiro 53.53 30 *e*P **P** **12 48 42.3 -2.1**
MAJO pmax pmax
comp=Z,64nm,1.2s,mb5.4
MAJO Matsushiro 53.53 30 *e*P **P** **12 48 42.3 -2.0**
comp=Z,64nm,1.2s,mb5.4
MJAR Matsushiro Arr 53.53 30 P **P** **12 48 42.4 -1.9**
comp=Z,7.1nm,0.6s,mb4.8,baz=204,slow=8.5,SNR=19
MJAR LR LR 13 11 03.1
comp=Z,355nm,21.2s,MS4.4,baz=215,slow=35
CN2 Changchun 55.09 15 *e*P **P** **12 48 54.8 -1.0**
CN2 PCP PcP 12 49 55.0 -1.8
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,15.0s,MS4.9
CN2 LR LR
comp=E,600nm,15.0s,MS4.9
CN2 LR LR
comp=Z,700nm,14.0s,MS4.9
WMQ Urumqi 56.16 342 P **P** **12 49 05.3 +1.9**
WMQ AP pP 12 49 09.8 -4.5
WMQ XP sP 12 49 12.3 -6.3
WMQ PCP PcP 12 50 03.5 +2.5
WMQ PP PP 12 51 11.5 +2.8
WMQ SCP ScP 12 54 00.5 +3.2
WMQ S **S** **12 56 51.3 +1.1**
WMQ XS sS 12 56 59.0 -9.1
WMQ AMB AMB
comp=Z,31nm,1.8s,mb5.0
WMQ AMB AMB
comp=Z,464nm,5.3s
WMQ LR LR
comp=N,834nm,15.0s,MS5.0
WMQ LR LR
comp=E,492nm,14.8s,MS5.0
WMQ LR LR
comp=Z,634nm,14.4s,MS4.8
VLA Vladivostok 56.41 20⇓*i*P **P** **12 49 04.2 -1.0**
SONM Songino Array 56.95 358 P **P** **12 49 08.7 -0.3**
comp=Z,15nm,0.5s,mb5.3,baz=177,slow=8.3,SNR=57
SONM pP pP 12 49 19.8 -0.1
comp=Z,27nm,0.5s,baz=178,slow=6.8,SNR=26
SONM LR LR 13 15 25.3
comp=Z,852nm,19.2s,MS4.9,baz=177,slow=38
SONM Songino Array 56.95 358 P **P** **12 49 08.7 -0.3**
SONM *PP pP 12 49 19.8 -0.1
ULN Ulaanbaatar 56.96 359 P **P** **12 49 09.0 -0.1**
SNR=38
ULN Ulaanbaatar 56.96 359⇑*e*P **P** **12 49 09.1 0.0**
ULN Ulaanbaatar 56.96 359 *e*P **P** **12 49 09.3 +0.2**
ULN pmax pmax
comp=Z,72nm,1.0s,mb5.7
ULN MLR MLR
comp=Z,463nm,19.0s,MS4.6
ULN Ulaanbaatar 56.96 359 *e*P **P** **12 49 09.2 +0.1**
comp=Z,72nm,1.0s,mb5.7
ULN LR LR
comp=Z,463nm,19.0s,MS4.6
MDJ Mudanjiang 57.00 18 P **P** **12 49 11.0 +1.6**
MDJ AP pP 12 49 14.3 -6.0
MDJ PCP PcP 12 50 01.5 -2.7
MDJ PP PP 12 51 16.8 +0.6
MDJ SCP ScP 12 54 02.5 +1.5
MDJ S **S** **12 57 07.0 +5.7**
MDJ SCS ScS 12 58 54.8 -1.0
MDJ SS SS 13 00 55.3 +5.2
MDJ AMB AMB
comp=Z,29nm,1.1s,mb5.2
MDJ AMB AMB
comp=Z,107nm,6.5s
MDJ LR LR
comp=N,485nm,20.1s,MS4.7
MDJ LR LR
comp=E,350nm,17.2s,MS4.7
MDJ LR LR
comp=Z,516nm,18.1s,MS4.7
KSH Kashi 57.19 330 *e*P **P** **12 49 11.5 +0.8**
KSH *e*AP pP 12 49 16.5 -5.1
KSH *e*XP sP 12 49 19.5 -6.4
KSH *e*PCP PcP 12 50 06.5 +1.5
KSH *e*PP PP 12 51 20.3 +2.4
KSH *e*SCP ScP 12 54 04.3 +2.5
KSH *e*S **S** **12 57 03.0 -0.7**
KSH *e*SCS ScS 12 58 56.0 -1.2
KSH *e*SS SS 13 00 53.0 +0.1
KSH AMB AMB
comp=Z,294nm,3.6s
KSH LR LR
comp=N,752nm,15.6s
KSH LR LR
comp=E,360nm,8.6s
KSH LR LR
comp=Z,857nm,16.2s,MS4.9
MIR Mirnyy 58.10 187*c i*P **P** **12 49 17.5 +0.4**
MIR *i* 12 50 03.5
MIR pmax pmax
comp=Z,170nm,1.4s,mb5.9
WSAR Wadi Sarin 58.50 304 P **P** **12 49 20.9 +0.9**
comp=Z,12nm,0.7s,mb5.1,baz=130,slow=6.6,SNR=13
SMDO Samad 58.89 304⇓P **P** **12 49 22.7 0.0**
SNR=6.0
BIDO Bidbid 59.04 305⇓P **P** **12 49 23.9 +0.2**
SNR=8.2
HIA Hailar 59.19 9 *i*P **P** **12 49 23.7 -1.0**
BSY Bisya 59.45 303⇑P **P** **12 49 26.9 +0.5**
SNR=6.2
KZA Kyzart 59.52 332 P **P** **12 49 27.6 +0.6**
SNR=14
ZAK Zakamensk 59.64 356 *e*P **P** **12 49 27.6 -0.2**
ZAK *e* 12 50 15.0
ZAK pmax pmax
comp=Z,23nm,1.4s,mb5.0
ZAK pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
HOQ Hoqain 59.73 304⇓P **P** **12 49 29.6 +1.1**
OPO Ambohidratompo 59.92 254 P **P** **12 49 30.8 +1.0**
comp=Z,8.2nm,1.0s,mb4.7,baz=1.2,slow=3.3,SNR=7.0
UCH Uchtor 59.98 331 P **P** **12 49 31.2 +1.1**
SNR=8.2
TKM2 Tokmak 2 60.02 333 P **P** **12 49 30.2 -0.2**
SNR=35
TKM2 Tokmak 2 60.02 333 *i*P **P** **12 49 29.8 -0.6**
KBK Karagaybulak 60.11 332 P **P** **12 49 31.3 +0.3**
SNR=12
ARQ Araqi 60.27 304⇑P **P** **12 49 31.3 -0.8**
SNR=6.3
AML Almayashu 60.30 331 P **P** **12 49 32.5 +0.2**
SNR=13
AAK Ala-Archa 60.30 332 P **P** **12 49 31.6 -0.8**
comp=Z,54nm,1.0s,mb5.5,SNR=5.5
AAK Ala-Archa 60.30 332*d i*P **P** **12 49 31.2 -1.2**
AAK pmax pmax
comp=Z,17nm,1.4s,mb4.9
AAK Ala-Archa 60.30 332 *i*P **P** **12 49 31.3 -1.1**
MK31 Makanchi Array 60.56 340 P **P** **12 49 32.7 -1.4**
MK31 pmax pmax
comp=Z,38nm,0.7s,mb5.6
MKAR Makanchi Array 60.56 340 P **P** **12 49 33.4 -0.7**
comp=Z,35nm,0.6s,mb5.7,baz=140,slow=7.1,SNR=106
MKAR pP pP 12 49 44.9 -0.2
comp=Z,43nm,0.7s,baz=134,slow=6.9,SNR=13
MKAR Makanchi Array 60.56 340 P **P** **12 49 33.4 -0.7**
MKAR pP pP 12 49 44.9 -0.2
EKS2 Erkin-Say 60.66 331 P **P** **12 49 34.8 0.0**
SNR=18
USP Ospenovka 60.79 332 P **P** **12 49 35.1 -0.6**
SNR=7.8
TLY Talaya 60.91 357 P **P** **12 49 37.6 +1.1**
comp=Z,184nm,1.4s,mb6.0,SNR=5.6
TLY Talaya 60.91 357 P **P** **12 49 37.5 +1.0**
SNR=8.8
TLY P 12 49 37.6
SNR=22
TLY Talaya 60.91 357*d i*P **P** **12 49 36.4 -0.1**
TLY Talaya 60.91 357 *e*P **P** **12 49 36.6 +0.1**
MOY Mondy 61.09 355 *e*P **P** **12 49 38.2 +0.5**
MOY pmax pmax
comp=Z,100nm,1.6s,mb5.7
ASHO Ashiyiah 61.25 305⇑P **P** **12 49 38.4 -0.4**
SNR=6.3
CIT Chita 61.27 4 *e*P **P** **12 49 39.2 +0.3**
CIT *e* pP 12 49 47.2 -2.7
CIT pmax pmax
comp=Z,143nm,1.6s,mb5.8
IRK Irkutsk 61.44 357 *e*P **P** **12 49 40.0 -0.1**
IRK pmax pmax
comp=Z,74nm,1.3s,mb5.7
KLR Kul'dur 61.80 17 *e*P **P** **12 49 48.7 +6.2**
KLR *e* 12 52 04.5
KLR MLR MLR
comp=Z,900nm,13.5s,MS5.1
HABR Khabarovsk 62.16 20⇑*i*P **P** **12 49 44.2 -0.8**
HABR *e*S **S** **12 58 07.9 +0.1**
HABR pmax pmax
comp=Z,89nm,1.3s,mb5.7
YSS Yuzh-Sakhalins 63.83 25 *e*P **P** **12 49 55.0 -1.0**
YSS *e**SP sP 12 50 05.0 -6.3
YSS S **S** **12 58 32.0 +3.4**
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.4
YSS pmax pmax
comp=Z,110nm,1.1s,mb5.8
YSS Yuzh-Sakhalins 63.83 25 *e*P **P** **12 49 56.5 +0.5**
KURK Kurchatov 65.17 340 P **P** **12 50 04.6 -0.2**
comp=Z,370nm,0.8s,mb6.5,SNR=33
KURK Kurchatov 65.17 340 *e*P **P** **12 50 04.0 -0.8**
KURK pmax pmax
comp=Z,63nm,0.9s,mb5.7
KURK Kurchatov 65.17 340 *e*P **P** **12 50 04.0 -0.8**
comp=Z,63nm,0.9s,mb5.6
MAW Mawson 65.57 197 *e*P **P** **12 50 06.2 -1.2**
comp=Z,6.7nm,0.6s,mb4.8
MAW Mawson 65.57 197 P **P** **12 50 07.2 -0.2**
comp=Z,6.8nm,0.7s,mb4.8,baz=48,slow=7.2,SNR=23

MAW LR LR 13 13 32.4
comp=Z,107nm,18.4s,MS4.1,baz=55,slow=31
MAW PKP2bc 13 18 51.1
comp=Z,3.7nm,1.0s,baz=280,slow=8.3,SNR=4.5
MAW Mawson 65.57 197 *eP* **P 12 50 06.8 -0.6**
MAW pmax pmax
comp=Z,10.0nm,0.7s
ZAL Zalesovo 66.14 345 P **P 12 50 10.0 -1.0**
comp=Z,6.5nm,0.7s,mb4.7,baz=305,slow=4.4,SNR=19
ZAL pP pP 12 50 21.4 -0.7
comp=Z,17nm,0.9s,baz=317,slow=3.1,SNR=12
ZAL Zalesovo 66.14 345 P **P 12 50 10.0 -1.0**
ZAL pP pP 12 50 21.4 -0.7
ABKT Ailbek 66.45 318 P **P 12 50 13.6 +0.6**
comp=Z,80nm,1.2s,mb5.6,SNR=5.1
BOD Bodaibo 67.07 3⇓ *iP* **P 12 50 16.1 -0.9**
BOD *e* pP 12 50 27.4 -0.7
BOD pmax pmax
comp=Z,26nm,1.7s,mb5.0
BOD pmax pmax
comp=Z,72nm,1.4s,mb5.5
CLNS Chul'man 67.32 10 *eP* **P 12 50 18.7 +0.2**
CLNS pmax pmax
comp=Z,24nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,0.9s
NVS Novosibirsk 67.35 345 *eP* **P 12 50 17.2 -1.6**
NVS *i* S S 12 59 09.0 -2.7
NVS pmax pmax
comp=N,66nm,1.5s
NVS pmax pmax
comp=E,45nm,1.5s
NVS pmax pmax
comp=Z,68nm,1.5s,mb5.5
NVS smax
comp=N,70nm,2.4s
NVS smax
comp=E,22nm,1.8s
URZ Urewera 67.54 127 P **P 12 50 19.7 -0.3**
comp=E,7.6nm,0.8s,mb4.8,baz=22,slow=2.2,SNR=8.0
VOSK Vostochnaya 69.60 337 P **P 12 50 31.5 -1.3**
VOSK pmax pmax
comp=Z,55nm,1.1s,mb5.4
BVAR Borovoye Array 70.06 337 P **P 12 50 35.1 -0.5**
comp=Z,33nm,0.6s,mb5.4,baz=143,slow=8.5,SNR=87
BVAR pP pP 12 50 46.5 -0.3
comp=Z,53nm,0.9s,baz=147,slow=7.7,SNR=18
BRVK Borovoye 70.13 337 P **P 12 50 35.3 -0.8**
comp=Z,199nm,0.6s,mb6.2,SNR=14
BRVK Borovoye 70.13 337 *eP* **P 12 50 35.5 -0.6**
BRVK pmax pmax
comp=Z,29nm,0.9s,mb5.2
BRVK MLR MLR
comp=Z,295nm,19.0s,MS4.6
BRVK Borovoye 70.13 337 *eP* **P 12 50 35.5 -0.6**
comp=Z,29nm,0.9s,mb5.2
BRVK LR LR
comp=Z,295nm,19.0s,MS4.6
CHKZ Chkalovo 70.47 337 *eP* **P 12 50 38.5 +0.3**
CHKZ pmax pmax
comp=Z,121nm,1.0s,mb5.8
CHKZ Chkalovo 70.47 337 *eP* **P 12 50 38.5 +0.3**
comp=Z,121nm,1.0s,mb5.8
ZRNK Zerenda 70.56 336 *eP* **P 12 50 38.2 -0.5**
ZRNK *e* pP 12 50 49.4 -0.4
KMBO Kilima Mbogo 71.26 272 P **P 12 50 43.6 +0.7**
comp=Z,5.3nm,0.9s,mb4.5,baz=50,slow=8.7,SNR=8.4
KMBO pP pP 12 50 55.4 +1.2
comp=Z,6.9nm,1.0s,baz=76,slow=9.2,SNR=6.4
KMBO LR LR 13 18 40.1
comp=Z,518nm,19.4s,MS4.8,baz=95,slow=33
KMBO Kilima Mbogo 71.26 272 P **P 12 50 43.7 +0.7**
KMBO *PP pP 12 50 55.4 +1.3
AB31 Akbulak array 72.14 329⇑ *eP* **P 12 50 47.6 -0.6**
YAK Yakutsk 73.05 10 *eP* **P 12 50 52.5 -1.1**
YAK *e* pP 12 51 04.4 -0.4
YAK *e* 12 53 36.3
YAK *e*PPP 12 55 21.2
YAK *e*S S 13 00 13.1 -5.1
YAK *e**SS sS 13 00 50.5 +14
YAK *e*SS SS 13 04 56.5 -3.0
YAK pmax pmax
comp=Z,49nm,0.9s,mb5.4
YAK pmax pmax
comp=N,17nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.5s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
YAK pmax pmax
comp=E,7.0nm,1.5s
YAK smax
comp=N,9.0nm,1.3s
YAK smax
comp=E,8.0nm,1.3s
YAK Yakutsk 73.05 10 *eP* **P 12 50 52.5 -1.1**
VNDA Vanda 73.42 170 P **P 12 50 55.0 -0.8**
comp=E,10nm,0.7s,mb4.8,baz=306,slow=6.3,SNR=29
VNDA LR LR 13 21 25.0
comp=E,228nm,19.9s,MS4.5,baz=320,slow=34
VNDA Vanda 73.42 170 P **P 12 50 55.1 -0.7**
VNDA pmax pmax
comp=Z,15nm,1.0s
AKTK Aktyubinsk 73.85 329 P **P 12 50 57.8 -0.6**
AKTO Aktyubinsk 73.85 329 P **P 12 50 57.8 -0.6**
comp=Z,3.5nm,0.6s,mb4.5,baz=126,slow=5.8,SNR=16
BHD Baghdad 74.12 308 *i* x x 12 50 58.0
SBA Scott Base 74.49 169 *eP* **P 12 51 02.3 +0.2**
SBA pmax pmax
comp=Z,89nm,1.7s,mb5.4
SBA Scott Base 74.49 169 *eP* **P 12 51 02.3 +0.2**
comp=Z,89nm,1.7s,mb5.4
PET Petropavlovsk 75.34 29 *eP* **P 12 51 06.1 -0.9**
PET *e*S S 13 00 42.6 -1.3
PET *e*PS 13 01 22.5
PET *e*PPS 13 01 32.5
PET pmax pmax
comp=Z,100nm,14.1s
PET pmax pmax
comp=Z,65nm,0.6s,mb5.7
PET smax
comp=N,200nm,19.8s
PET Petropavlovsk 75.34 29 *eP* **P 12 51 06.3 -0.7**
comp=N,36nm,0.6s,mb5.5
MAK Makhachkala 75.97 319 *i* P **P 12 51 08.3 -2.3**
MAK *i* 12 51 24.7
MAK *i* 12 54 07.9
MAK *e*S S 13 00 55.5 +4.6
MAK pmax pmax
comp=Z,234nm,1.2s,mb6.0
MSL Mosul 76.26 311 *i* x x 12 51 16.0
MA2 Magadan 76.55 21 *ce*P **P 12 51 14.1 +0.2**
MA2 *e*S S 13 00 56.4 -0.9
MA2 *e* 13 01 13.4
MA2 pmax pmax
comp=Z,60nm,0.7s,mb5.6
MA2 MLR MLR
comp=E,400nm,17.9s
GNI Garni 76.61 315 *eP* **P 12 51 11.8 -2.4**
GNI Garni 76.61 315 P **P 12 51 14.8 +0.6**
comp=E,4.9nm,0.4s,mb4.8,baz=21,slow=15,SNR=4.1
GNI Garni 76.61 315 *c* *iP* **P 12 51 15.4 +1.2**
GNI pmax pmax
comp=Z,37nm,1.4s
SVE Sverdlovsk 76.72 335⇓ *eP* **P 12 51 13.8 -1.0**
SVE *e* pP 12 51 25.2 -0.9
SVE *e*PS 13 01 32.0
SVE pmax pmax
comp=Z,120nm,2.1s,mb5.5
SVE MLR MLR
comp=E,200nm,15.0s
SVE MLR MLR
comp=Z,400nm,15.0s,MS4.8
DGRG David-gareji 76.72 316 P **P 12 51 15.8 +0.9**
MTA Mtatsminda 77.22 317 P **P 12 51 18.0 +0.4**
TBLG Delisi 77.27 317 P **P 12 51 19.7 +1.8**
ARU Arti 77.33 334 P **P 12 51 18.4 +0.1**
comp=Z,179nm,1.3s,mb5.8,SNR=5.1
ARU Arti 77.33 334⇓ *iP* **P 12 51 17.8 -0.5**
ARU *e* pP 12 51 26.1 -3.5
ARU *e* 12 54 12.4
ARU *e*PPP 12 55 58.5
ARU *e*S S 13 01 04.8 -1.0
ARU *e*SS SS 13 05 59.4 -5.1
ARU pmax pmax
comp=Z,24nm,0.8s,mb5.2
ARU MLR MLR
comp=Z,400nm,20.0s,MS4.7
ARU MLR MLR
comp=N,100nm,17.0s,MS4.8
ARU MLR MLR
comp=E,400nm,21.0s,MS4.8
ARU Arti 77.33 334 *eP* **P 12 51 17.9 -0.4**
comp=E,49nm,1.1s,mb5.3
LSZ Lusaka 78.27 256 P **P 12 51 24.8 +1.3**
SNR=10.0
LSZ Lusaka 78.27 256 *eP* **P 12 51 23.9 +0.4**
LSZ pmax pmax
comp=Z,72nm,1.4s,mb5.4
LSZ Lusaka 78.27 256 *eP* **P 12 51 23.9 +0.4**
comp=Z,72nm,1.4s,mb5.4
ZEI Tsey 78.27 317 *eP* **P 12 51 23.5 0.0**
ZEI pmax pmax
comp=Z,17nm,0.6s,mb5.2
EZM Erzurum 78.89 314 *eP* **P 12 51 28.2 +1.3**
KIV Kislovodsk 79.56 318 *eP* **P 12 51 30.6 0.0**
KIV *e*S S 13 01 29.0 -0.7
KIV pmax pmax
comp=Z,15nm,0.5s,mb5.2
KIV Kislovodsk 79.56 318 *i* P **P 12 51 30.7 +0.1**
BOSA Boshof 79.65 243 P **P 12 51 31.9 +0.9**
comp=Z,6.4nm,1.0s,mb4.5,baz=100,slow=5.9,SNR=6.4
BOSA LR LR 13 22 30.7
comp=Z,273nm,18.2s,MS4.6,baz=88,slow=32
LBTB Lobatse 79.68 246 *eP* **P 12 51 32.2 +1.0**
LBTB *e* pP 12 51 44.5 +2.0
LBTB pmax pmax
comp=Z,17nm,1.0s,mb4.9
LBTB Lobatse 79.68 246 *eP* **P 12 51 32.2 +1.0**
comp=Z,17nm,1.0s,mb4.9
LBTB *e* pP 12 51 44.5 +2.0
URFA Urfa 79.87 311 *eP* **P 12 51 33.0 +0.7**
EZC Erzincan 79.94 313 *eP* **P 12 51 35.3 +2.7**
MALT Malatya 80.46 311 *eP* **P 12 51 36.4 +1.0**
EIL Elat 80.52 302 *eP* **P 12 51 37.0 +1.2**
QSPA South Pole Qui 80.67 180 *eP* **P 12 51 36.0 -0.5**
comp=Z,42nm,1.1s,mb5.3
MMAI Mount Meron Ar 81.12 306 P **P 12 51 40.6 +1.7**
comp=Z,19nm,0.7s,mb5.2,baz=96,slow=7.6,SNR=18
MMAI pP pP 12 51 51.8 +1.5
comp=Z,32nm,0.9s,baz=84,slow=7.6,SNR=8.1
SOC Sochi 81.41 317 *eP* **P 12 51 40.4 -0.1**
SOC *e*PPP 12 54 48.0
SOC *e*S S 13 01 49.6 +0.6
SOC pmax pmax
comp=Z,48nm,0.9s,mb5.4
TIXI Tiksi 81.95 6 *eP* **P 12 51 40.1 -3.2**
TIXI *e* pP 12 51 52.3 -2.4
TIXI *e*S S 13 01 44.4 -10
TIXI pmax pmax
comp=Z,53nm,0.8s,mb5.5
TIXI MLR MLR
comp=Z,469nm,18.0s,MS4.9
TIXI Tiksi 81.95 6⇑ *eP* **P 12 51 41.6 -1.7**
SVSK Karacayir 82.04 313 *eP* **P 12 51 42.4 -1.4**
KOZT Kozan 82.13 310 *eP* **P 12 51 43.8 -0.5**
KARA Karaisali 82.65 310 *eP* **P 12 51 47.5 +0.5**
MERS Mersin 82.94 309 *eP* **P 12 51 45.9 -2.6**
KVT Kavak 83.10 313 *eP* **P 12 51 50.3 +1.0**
VRHR Novokhopersk 83.12 324 *eP* **P 12 51 49.3 -0.1**
VRHR pmax pmax
comp=Z,70nm,0.6s,mb5.9
VRHR pmax pmax
comp=N,20nm,0.4s
VRHR pmax pmax
comp=E,20nm,0.5s
AVNT Avonos 83.26 311 *i* P **P 12 51 50.4 +0.2**
ANN Anapa 83.37 317 *eP* **P 12 51 51.5 +0.8**
ANN *i* *PP pP 12 52 02.6 +0.5
ANN *e* 12 55 05.4
ANN *e*S S 13 02 10.8 +1.7
ANN *e*SS SS 13 07 44.1 +9.3
ANN pmax pmax
comp=Z,65nm,1.4s,mb5.5
IKL Isikli 83.41 308 *eP* **P 12 51 48.9 -2.0**
NVL N'lazarevskaya 83.43 199⇓ *iP* pP 12 52 02.6 +0.2
NVL *e*S S 13 02 18.0 +8.3
NVL pmax pmax
comp=Z,27nm,1.5s,mb5.1
NVL MLR MLR
comp=Z,649nm,18.6s,MS5.0
DIKM Dikmen 83.85 314 *eP* **P 12 51 52.6 -0.6**
CORM Corum 83.85 312 *eP* **P 12 51 52.6 -0.6**
CDAG Cicekdag 83.87 312 *i* P **P 12 51 53.4 +0.1**
PECR Pechory 84.03 330 *eP* **P 12 51 53.2 -0.9**
PECR *e* 12 55 09.4
PECR pmax pmax
comp=Z,160nm,2.0s,mb5.8
PECR pmax pmax
comp=Z,200nm,4.0s
BOYT Boyabat 84.03 314 *i* P **P 12 51 54.9 +0.8**
KAMT Kaman 84.28 311 *eP* **P 12 51 55.4 0.0**
BR131 Keskin Array S 84.44 312 *eP* **P 12 51 56.6 +0.4**
comp=Z,53nm,1.1s,mb5.6
BR131 *e* pP 12 52 08.4 +0.8
BRTR Keskin Array B 84.44 312 P **P 12 51 56.0 -0.2**
comp=Z,21nm,0.9s,mb5.3,baz=137,slow=6.6,SNR=36
BRTR pP pP 12 52 07.9 +0.3
comp=Z,37nm,1.1s,baz=134,slow=7.1,SNR=16
BRTR LR LR 13 32 38.9
comp=Z,134nm,21.4s,MS4.3,baz=348,slow=38
BRTR Keskin Array B 84.44 312 P **P 12 51 56.0 -0.2**
BRTR *PP pP 12 52 07.9 +0.3
TOS Tosya 84.55 313 *eP* **P 12 51 57.2 +0.5**
VRSR Storozhevoye 84.57 324 *eP* **P 12 51 56.4 -0.5**
VRSR pmax pmax
comp=Z,70nm,1.3s,mb5.6
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,60nm,1.0s
VOR Voronezh 84.76 324 *eP* **P 12 51 57.3 -0.5**
VOR *e**PP pP 12 52 05.5 -3.7
VOR pmax pmax
comp=Z,170nm,1.7s,mb5.9
KONT Konya--Tatoy 84.90 310 *eP* **P 12 51 54.4 -4.1**
ANTO Ankara 85.11 312 *eP* **P 12 51 58.6 -1.0**
ANTO Ankara 85.11 312 P **P 12 52 00.6 +1.0**
SNR=13
ANTO Ankara 85.11 312 P **P 12 52 01.8 +2.3**
ANTO *e* pP 12 52 11.6 +0.6
ANTO pmax pmax
comp=Z,80nm,1.3s,mb5.7
ANTO Ankara 85.11 312 *eP* **P 12 52 00.1 +0.6**
comp=Z,68nm,1.4s,mb5.6
ANTO *e* pP 12 52 10.4 -0.6
BALT Daday 85.15 313 *i* P **P 12 52 00.5 +0.8**
KIZT Kizilcal 85.52 310 *eP* **P 12 52 00.4 -1.2**
SAFT Safranbolu 85.57 313 *eP* **P 12 52 02.8 +0.9**
SIM Simferopol' 85.65 317 *eP* **P 12 52 03.1 +0.8**
SIM pmax pmax
comp=Z,35nm,0.9s,mb5.6
ISP Isparta 86.28 309 *eP* **P 12 52 04.3 -1.1**
ESKT Eskisehir 86.46 311 *i* P **P 12 52 06.8 +0.6**
HENT Hendek 86.76 312 *i* P **P 12 52 08.4 +0.6**
MOS Moscow 87.11 328⇑ *iP* **P 12 52 08.4 -1.0**
MOS *e* pP 12 52 16.6 -4.3
MOS *e* 12 55 33.2
MOS *e*S 13 02 43.1
MOS pmax pmax
comp=Z,128nm,1.0s,mb6.1
MOS pmax pmax
comp=Z,300nm,1.8s,mb6.2
MOS Moscow 87.11 328 *eP* **P 12 52 08.7 -0.7**
BILL Bilibino 87.23 19 P **P 12 52 07.2 -2.8**
OBN Obninsk 87.45 327 *d* *iP* **P 12 52 11.0 -0.1**
OBN *e**PP pP 12 52 20.4 -2.1
OBN *e* 12 52 26.5
OBN *e* 12 55 34.9
OBN *e*SS SS 13 08 36.6 +1.8
OBN pmax pmax
comp=Z,211nm,1.6s,mb6.1
OBN Obninsk 87.45 327 *eP* **P 12 52 11.4 +0.3**
ADVT Abdulvahap 87.51 311 *eP* **P 12 52 11.1 -0.3**
HRT Hereke 87.66 312 *eP* **P 12 52 11.9 -0.2**
SNAA Sanae 87.73 197 *eP* **P 12 52 12.0 -0.4**
SNAA *e* 12 52 14.1
SNAA *e* 12 52 15.7
SNAA *e* pP 12 52 20.0 -3.9
SNAA Sanae 87.73 197⇑ *eP* **P 12 52 11.8 -0.6**
SNAA Sanae 87.73 197 *eP* **P 12 52 12.6 +0.1**
comp=Z,64nm,1.6s,mb5.6
TSUM Tsumeb 87.79 251 *eP* **P 12 52 13.6 +0.9**
comp=Z,17nm,1.0s,mb5.2
GEMT Gemlik 87.92 311 *eP* **P 12 52 13.4 +0.1**
ISK Istanbul-Kandi 88.17 312 *eP* **P 12 52 13.8 -0.6**
TIRR Tirgusor 89.44 315⇑ *iP* **P 12 52 21.0 +0.5**
TIRR Tirgusor 89.44 315 *eP* **P 12 52 21.1 +0.6**
TIRR *e* pP 12 52 32.9 +0.9
KIS Kishinev 89.76 318 *eP* **P 12 52 20.0 -2.0**
KIS *e*S 13 03 10.0
VNA1 Neumayer--Stat 89.77 197 *eP* **P 12 52 22.9 +0.9**
VNA1 *e* 12 52 23.8
VNA1 *e* 12 52 25.7
VNA1 *e* 12 52 41.6
SANT Santorini 89.88 307 *eP* **P 12 52 23.5 +1.0**
EDRB Edirne 90.04 312 *eP* **P 12 52 22.7 -0.6**
ENEZ Enez 90.24 311 *eP* **P 12 52 21.8 -2.5**
AKASG Malin Array Be 90.40 321 P **P 12 52 24.1 -0.8**
comp=Z,9.0nm,0.7s,mb5.2,baz=86,slow=4.7,SNR=27
AKASG LR LR 13 42 16.2
comp=Z,190nm,18.6s,MS4.6,baz=85,slow=42
AKASG Malin Array Be 90.40 321 *i* P **P 12 52 25.0 0.0**
AKASG pmax pmax
comp=Z,9.0nm,0.7s
AKBB Malin Array Si 90.40 321 *eP* **P 12 52 24.5 -0.5**
MNK Minsk 92.12 325 *eP* **P 12 52 31.0 -1.9**
BURAR Bucovina Array 92.29 318⇑ *iP* **P 12 52 35.6 +1.9**
JOF Joensuu 92.45 333 *ep* **P 12 52 33.8 -0.7**
comp=Z,16nm,0.8s,mb5.4
JOF Joensuu 92.45 333 *eP* **P 12 52 33.8 -0.7**
JOF pmax pmax
comp=Z,16nm,0.8s,mb5.4
APA Apatity 92.93 338⇑ *iP* **P 12 52 43.0 +6.3**
APA pmax pmax
comp=Z,22nm,1.2s,mb5.5
KOLS Kolonicke sedl 94.46 319 *eP* **P 12 52 44.5 +0.8**
KOLS *e* pP 12 52 57.5 +2.3
FINES FINESS Array B 94.50 331 P **P 12 52 43.2 -0.7**
comp=Z,6.7nm,0.7s,mb5.2,baz=104,slow=6.9,SNR=23
FINES LR LR 13 46 07.5
comp=Z,238nm,18.3s,MS4.7,baz=104,slow=42
FINES FINESS Array B 94.50 331 *i* P **P 12 52 43.7 -0.2**
FINES pmax pmax
comp=Z,7.0nm,0.7s
KAF Kangasniemi 94.52 332 *ep* **P 12 52 43.3 -0.7**
comp=Z,22nm,0.9s,mb5.6
KAF Kangasniemi 94.52 332 *eP* **P 12 52 43.3 -0.7**
KAF pmax pmax
comp=Z,22nm,0.9s,mb5.6
SUW Suwalki 94.71 324 P **P 12 52 44.1 -0.7**
SUW *e* pP 12 52 56.0 -0.3
SUW pmax pmax
comp=Z,55nm,1.0s,mb5.9
SUW Suwalki 94.71 324 P **P 12 52 44.1 -0.7**
comp=Z,55nm,1.0s,mb5.9
SUW *e* pP 12 52 56.0 -0.3
ARCES ARCESS Array B 96.21 339 P **P 12 52 51.5 -0.2**
comp=Z,4.0nm,0.8s,mb4.9,baz=76,slow=5.1,SNR=7.7
ARCES LR LR 13 42 57.2
comp=Z,465nm,18.4s,MS5.0,baz=202,slow=40
ARCES ARCESS Array B 96.21 339 P **P 12 52 51.5 -0.2**
ARCES LR LR 13 42 57.2
VYHS Vyhne 96.66 318 *eP* **P 12 52 54.5 +0.8**
VYHS *e* pP 12 53 06.0 +0.8
VYHS pmax pmax
comp=Z,6.0nm,1.6s,mb4.8
VYHS Vyhne 96.66 318 *eP* **P 12 52 54.5 +0.8**
comp=Z,5.7nm,1.6s,mb4.8
VYHS *e* pP 12 53 06.0 +0.8
VYHS *e*PP PP 12 56 39.7 -8.7
TBI Tubuai 97.27 115 *e*SS SS 13 11 03.5 +7.8
comp=Z,153nm,31.8s
TBI *e*LR LR 13 24 41.1
comp=Z,299nm,26.5s
PPT Papeete 98.45 109 *e*PS PS 13 05 39.0 -18
comp=Z,82nm,23.8s
PPT Papeete 98.45 109 *e*SS SS 13 11 20.3 +7.9
comp=Z,178nm,33.0s
PPT *e*LR LR 13 25 20.4
comp=Z,421nm,23.8s
GOLS Golise 98.59 315 *eP* **P 12 53 02.8 +0.3**
BOJS Bojanci 98.82 315 *eP* **P 12 53 03.9 +0.4**
PRU Pruhonice 99.58 319 *e*PP PP 12 57 22.6 +12
PVCC Panska Ves 99.59 320 *e*PP PP 12 57 05.7 -5.3
BRG Berggiesshubel 100.01 320 *eP* PP 12 57 22.4 +8.3
comp=Z,5.2nm,1.2s
BRG PP PP 12 57 28.0 +14
BRG
comp=N,156nm,23.3s
BRG
comp=E,80nm,20.4s
BRG
comp=Z,133nm,16.5s
GERES GERESS Array B 100.08 318 P Pdif 12 53 10.4 +1.3
comp=Z,0.5nm,0.2s,baz=64,slow=3.1,SNR=4.2
KHC Kasperske Hory 100.17 318 *e*PP PP 12 57 14.9 -0.4
KHC *ex* 12 57 29.0
KBA Koelnbreinsper 100.23 316⇑ *iP* Pdif 12 53 14.8 +5.0
comp=Z,3.2nm,0.9s
KBA ⇑ *i* 12 57 23.8
comp=Z,51nm,2.6s
KBA Koelnbreinsper 100.23 316 P PP 12 57 23.8 +8.0
comp=Z,51nm,2.6s
KBA Koelnbreinsper 100.23 316⇑ *iP* Pdif 12 53 14.8 +5.0
KBA *i* 12 57 23.8
KBA pmax pmax
comp=Z,3.0nm,0.9s
MOX Moxa 101.48 320 *e*(P) PP 12 57 28.4 +3.2
MOX
comp=Z,200nm,17.0s
NB2 NORSAR Subarra 101.61 330 PP PP 12 57 25.6 -0.6
comp=Z,16nm,1.7s,baz=88,slow=7.9
NB2 NORSAR Subarra 101.61 330 PP PP 12 57 25.6 -0.6
baz=88,slow=7.9
NOA NORSAR Array B 101.61 330 P Pdif 12 53 15.5 -0.4
comp=Z,0.5nm,0.6s,baz=92,slow=4.5,SNR=3.8
GRA1 Grafenberg Arr 101.72 319 *e*Pdif Pdif 12 53 17.4 +1.0
GRA1 *e*PP PP 12 57 26.3 -0.8
GRA1 LR LR
comp=Z,200nm,20.2s,MS4.6
GRF Grafenberg Arr 101.72 319 *e*Pdiff Pdif 12 53 17.4 +1.0
GRF *e*PP PP 12 57 26.3 -0.8
GRF *e*L 13 46 21.8
comp=Z,207nm,20.2s
GRF Grafenberg Arr 101.72 319 *eP* Pdif 12 53 17.4 +1.0
GRF *e* 12 57 26.3
COLA College 104.21 25 PFAKE 12 53 40.0 +13
COLA LR LR
comp=Z,164nm,19.0s,MS4.6
RKT Rikitea 110.10 119 *e*LQ 13 26 06.1
comp=Z,3μm,38.0s
RKT *e*LR LR 13 30 40.8
comp=Z,535nm,33.8s
YKA Yellowknife Ar 118.53 21 PKP PKPdf 12 58 11.0 -0.2
comp=Z,3.6nm,0.7s,baz=336,slow=2.0,SNR=13
YKA Yellowknife Ar 118.53 21 PKP PKPdf 12 58 11.0 -0.2
B05A Bryant 122.61 38⇓P PKPdf 12 58 20.3 +1.2
baz=122
C05A Tolt Reservoir 123.11 38⇑P PKPdf 12 58 21.1 +1.1
baz=123
F04A Amboy 123.38 40⇑P PKPdf 12 58 21.7 +1.2
baz=123
E05A Randle 123.54 40⇑P PKPdf 12 58 21.9 +1.1
baz=124
I03A Eugene 123.56 43⇓P PKPdf 12 58 22.7 +1.8
baz=124
J02A Umpqua 123.59 44⇑P PKPdf 12 58 22.8 +1.8
baz=124
M01C Crescent City 123.73 46⇓P PKPdf 12 58 21.7 +0.5
baz=124
K02A Glendale 123.86 44⇑P PKPdf 12 58 22.5 +1.1
baz=124
J03A Ideyld Park 124.00 43⇑P PKPdf 12 58 23.6 +1.8
baz=124
H04A Detroit Lake 124.02 42⇓P PKPdf 12 58 22.7 +0.9
baz=124
HUMO Hull Mountain 124.28 44⇑P PKPdf 12 58 23.2 +0.9
baz=124
H05A Madras 124.66 41⇓P PKPdf 12 58 24.3 +1.3

baz=125
EDM Edmonton 124.83 29 ePKIKP PKPdf 12 58 24.1 +0.8
HAWA Hanford 125.00 39 ePKPdf PKPdf 12 58 24.6 +1.0
L04A Klamath Falls 125.17 44 ⇑P PKPdf 12 58 25.2 +1.2
baz=125
J05A Fort Rock 125.20 43 ⇓P PKPdf 12 58 25.6 +1.6
baz=125
O02C Red Bluff 125.24 47 ⇓P PKPdf 12 58 25.8 +1.7
baz=125
M04C Macdoel 125.35 45 ⇑P PKPdf 12 58 26.2 +1.8
baz=125
GASB Alder Springs 125.47 48 ⇓P PKPdf 12 58 27.5 +3.0
baz=125
MNRC McLaughlin Nat 125.92 48 ⇑P PKPdf 12 58 28.0 +2.6
baz=126
J06A Christmas Vall 125.94 43 ⇓P PKPdf 12 58 27.8 +2.3
baz=126
L05A Lakeview 125.95 44 ⇑P PKPdf 12 58 27.7 +2.2
baz=126
HATC Hat Creek Radi 125.97 46 ⇓P PKPdf 12 58 27.6 +2.1
baz=126
K06A Valley Falls 126.05 43 ⇓P PKPdf 12 58 27.7 +2.0
baz=126
ORV Oroville 126.39 47 ⇓P PKPdf 12 58 28.0 +1.7
baz=126
M06C Likely Place G 126.52 45 ⇑P PKPdf 12 58 27.9 +1.3
baz=126
WALA Waterton Lakes 126.95 34 ePKPdf PKPdf 12 58 29.0 +1.6
L07A Adell 126.98 44 ⇓P PKPdf 12 58 29.1 +1.7
baz=127
BMO Blue Mountains 127.09 40 ePKIKP PKPdf 12 58 29.2 +1.5
N06A Buffalo Meadow 127.14 45 ⇓P PKPdf 12 58 29.8 +2.0
baz=127
S04C Ingram Canyon, 127.20 50 ⇓P PKPdf 12 58 30.3 +2.5
baz=127
LAVA Lava Cap Winer 127.21 48 ⇑P PKPdf 12 58 30.3 +2.4
baz=127
K08A Mann Creek Ran 127.26 43 ⇑P PKPdf 12 58 30.6 +2.7
baz=127
WVOR Wild Horse Val 127.29 43 ePKIKP PKPdf 12 58 30.9 +2.9
M07A Soldier Meadow 127.35 44 ⇓P PKPdf 12 58 29.9 +1.8
baz=127
O06A Flanigan 127.37 46 ⇑P PKPdf 12 58 30.2 +2.0
baz=127
HAST UC Hastings Re 127.38 51 ⇑P PKPdf 12 58 31.0 +2.8
baz=127
R05C Kirkwood Meado 127.72 48 ⇑P PKPdf 12 58 30.5 +1.7
baz=128
CMB Columbia Colle 127.72 49 ePKIKP PKPdf 12 58 30.4 +1.5
CMB Columbia Colle 127.72 49 ⇓P PKPdf 12 58 31.1 +2.2
baz=128
V03C Hunter Liggett 127.73 51 ⇓P PKPdf 12 58 31.5 +2.6
baz=128
WCN Washoe City 127.74 47 ⇓P PKPdf 12 58 31.1 +2.2
baz=128
PAHR Pah Rah Range 127.85 46 ePKPdf PKPdf 12 58 32.5 +3.4
U04C Hernandez Rese 127.98 51 ⇑P PKPdf 12 58 32.0 +2.7
baz=128
S05C Merced 128.00 50 ⇑P PKPdf 12 58 31.7 +2.3
baz=128
O07A Toulon 128.04 46 ⇑P PKPdf 12 58 31.4 +1.9
baz=128
L09A Wilkinson Ranc 128.12 43 ⇑P PKPdf 12 58 31.2 +1.6
baz=128
MSO Missoula 128.15 36 ePKPdf PKPdf 12 58 30.8 +1.1
S06C San Francisco 128.18 49 ⇑P PKPdf 12 58 31.9 +2.2
baz=128
PKD Parkfield 128.29 51 ⇑P PKPdf 12 58 32.9 +3.0
baz=128
N08A GE Springer Mi 128.32 45 ⇑P PKPdf 12 58 32.4 +2.4
baz=128
CHMT Chamberlain Mo 128.50 36 ePKPdf PKPdf 12 58 31.4 +1.0
R07C Lee Vining 128.69 48 ⇑P PKPdf 12 58 34.1 +3.4
baz=129
N09A Rock Creek Ran 128.71 44 ⇑P PKPdf 12 58 33.1 +2.4
baz=129
NVAR Mina Array Bea 129.11 48 PKP PKPdf 12 58 33.6 +2.1
comp=Z,2.8nm,0.7s,baz=235,slow=0.8,SNR=18
NVAR pPKP pPKPdf 12 58 45.6 +2.3
comp=Z,2.9nm,0.8s,baz=233,slow=0.4,SNR=11
MTUM Tungsten Hills 129.32 49 ePKPdf PKPdf 12 58 35.6 +3.7
HLID Hailey 129.53 40 ePKPdf PKPdf 12 58 34.5 +2.2
LRM Limekiln Ridge 129.56 36 ePKPdf PKPdf 12 58 34.0 +1.7
M11A Holland Ranch, 129.64 43 ⇓P PKPdf 12 58 35.2 +2.7
baz=130
DLMT Dillon 129.72 37 ePKPdf PKPdf 12 58 34.2 +1.6
EGMT Eagleton 129.80 33 ePKPdf PKPdf 12 58 31.7 -1.1
MCMT McKenzie Canyo 129.86 38 ePKPdf PKPdf 12 58 34.0 +1.1
ISA Isabella 129.97 51 ⇓P PKPdf 12 58 36.3 +3.2
baz=130
R09A Tonopah 130.08 47 ⇑P PKPdf 12 58 35.5 +2.1
baz=130
BOZ Bozeman (W) 130.14 36 ePKIKP PKPdf 12 58 35.2 +1.7
S09A Goldfield 130.17 48 ⇓P PKPdf 12 58 35.8 +2.3
baz=130
PLCA Paso Flores 130.18 181 PKP PKPdf 12 58 35.5 +2.0
comp=Z,1.6nm,0.7s,baz=287,slow=9.0,SNR=4.5
O11A Cowboy Ranch, 130.30 44 ⇑P PKPdf 12 58 35.9 +2.1
baz=130
ELK Elko 130.32 43 ePKIKP PKPdf 12 58 36.5 +2.7
ELK e 12 58 47.7
N12A Clover Valley, 130.41 43 ⇓P PKPdf 12 58 36.2 +2.2
baz=130
M13A Montello 130.76 42 ⇓P PKPdf 12 58 36.6 +2.0
baz=131
Q11A Duckwater 130.85 46 ⇑P PKPdf 12 58 36.3 +1.5
baz=131
O12A Currie 130.86 44 ⇑P PKPdf 12 58 37.1 +2.2
baz=131
P12A McGill 131.11 45 ⇓P PKPdf 12 58 37.3 +2.0
baz=131
TPNV Topopah Spring 131.18 48 ePKIKP PKPdf 12 58 38.4 +3.0
U10A Ash Meadows, A 131.33 49 ⇓P PKPdf 12 58 38.2 +2.5
baz=131
GSC Goldstone 131.38 51 ePKIKP PKPdf 12 58 40.2 +4.4
HVU Hansel Valley 131.47 41 ePKIKP PKPdf 12 58 38.2 +2.2
RRI2 Red Ridge 131.58 39 ePKPdf PKPdf 12 58 39.7 +3.5
REDW Red Top Meadow 131.86 38 ePKPdf PKPdf 12 58 38.5 +1.8
TUQ Turquoise Mtn. 132.00 50 ⇓P PKPdf 12 58 40.1 +3.1
baz=132
SHPR Sheep Range 132.16 49 ePKPdf PKPdf 12 58 41.1 +3.8
HWUT Hardware Ranch 132.34 41 ePKPdf PKPdf 12 58 39.5 +1.9
LAO LASA Array 132.51 32 ePKPdf PKPdf 12 58 39.6 +1.7
V12A Nelson 132.70 49 ⇑P PKPdf 12 58 41.7 +3.4
baz=133
BW06 Boulder Array 132.98 38 ePKPdf PKPdf 12 58 39.6 +0.8
PDAR Pinedale Array 132.98 38 PKP PKPdf 12 58 41.1 +2.3
comp=Z,1.5nm,0.7s,baz=344,slow=0.4,SNR=9.6
PDAR pPKP pPKPdf 12 58 51.9 +1.3
comp=Z,1.1nm,0.8s,baz=34,slow=5.6,SNR=5.1
X13A Yucca 133.91 50 ⇓P PKPdf 12 58 43.8 +3.2
baz=134
W14A Seligman 134.23 49 ⇓P PKPdf 12 58 45.1 +4.0
baz=134
SRU San Rafael 134.28 43 ePKIKP PKPdf 12 58 43.4 +2.1
SCHQ Schefferville 134.47 356 PKP PKPdf 12 58 43.3 +1.6
comp=Z,3.3nm,0.8s,baz=272,slow=4.5,SNR=6.4
SCHQ PP PP 13 01 10.8 -3.3
comp=Z,2.2nm,0.9s,baz=51,slow=12,SNR=3.5
SCHQ Schefferville 134.47 356 PKP PKPdf 12 58 43.3 +1.7
SCHQ PP PP 13 01 10.8 -3.3
ULM Lac du Bonnet 134.50 22 PKP PKPdf 12 58 43.3 +1.6
comp=Z,2.7nm,0.7s,baz=348,slow=3.5,SNR=5.3
ULM pPKP pPKPdf 12 58 55.1 +1.6
comp=Z,3.2nm,0.7s,baz=217,slow=1.4,SNR=4.4
RWWY Rawlins 135.02 38 ePKPdf PKPdf 12 58 43.4 +0.7
X15A Humboldt 135.15 50 ⇑P PKPdf 12 58 47.4 +4.5
baz=135
RSSD Black Hills 135.35 33 ePKIKP PKPdf 12 58 44.7 +1.4
WUAZ Wupatki 135.36 48 ePKPdf PKPdf 12 58 48.0 +4.7
PV01 Paradox Valley 136.10 43 ePKPdf PKPdf 12 58 47.6 +2.9
PV01 e 12 58 58.8
ISCO Idaho Springs 137.11 39 ePKIKP PKPdf 12 58 51.2 +4.7
EYMN Ely 137.99 20 ePKPdf PKPdf 12 58 51.5 +3.4
LAZ Ladron 138.96 47 ePKPdf PKPdf 12 58 53.0 +3.1
ANMO Albuquerque 139.18 46 ePKIKP PKPdf 12 58 53.6 +3.3
ANMO MLR MLR
comp=Z,234nm,22.0s
BNM Barren Site 139.46 47 ePKPdf PKPdf 12 58 53.5 +2.6
BNM e 12 59 07.0
CPUP Villa Florida 141.95 201 PKhKP 12 58 51.2
comp=Z,1.2nm,0.5s,baz=20,slow=2.1,SNR=6.2
CPUP Villa Florida 141.95 201 PKHKP 12 58 51.2
CPUP pmax pmax
comp=Z,1.0nm,0.5s
GDL2 Guadalupe Moun 142.06 48 ePKPdf PKPdf 12 58 52.7 -2.8

WMOK Wichita Mounta 144.50 40 ePKIKP PKPdf 12 59 00.0 +0.2
EMMW East Machias 144.58 355 ePKPdf PKPdf 12 58 58.8 -1.2
FRNY Flat Rock 144.59 2 ePKPdf PKPdf 12 58 58.8 -1.2
LONY Lake Ozonia 144.75 4 ePKPdf PKPdf 12 58 59.5 -0.8
WVL Waterville 144.86 358 ePKPdf PKPdf 12 59 00.9 +0.5
LBNH Lisbon 145.23 0 ePKIKP PKPdf 12 59 01.7 +0.6
MIV Mineville/With 145.35 3 ePKPab PKPab 12 59 01.5 +0.1
NCB Newcomb 145.42 3 ePKPab PKPab 12 59 01.9 +0.3
HNH Hanover 145.76 1 ePKPdf PKPdf 12 59 03.2 +1.2
BDFB Brasilia 145.95 223 PKPbc PKPbc 12 59 04.4 +1.4
comp=Z,13nm,0.6s,baz=179,slow=4.0,SNR=16
BDFB Brasilia 145.95 223 PKP2 PKPab 12 59 04.4 +0.8
BDFB pmax pmax
comp=Z,13nm,0.6s
ACCN Adirondack Com 146.03 3 ePKPdf PKPdf 12 59 03.6 +1.2
JCT Junction City 146.29 47 ePKP2 PKPab 12 59 04.2 -0.7
SLM Saint Louis 146.35 27 ePKP2 PKPab 12 59 04.7 -0.4
CCM Cathedral Cave 146.35 29 ePKPbc PKPbc 12 59 03.5 -0.8
CCM e 12 59 15.1
ERPA Erie 146.51 11 ePKPab PKPab 12 59 06.2 +0.5
FVM French Village 146.79 28 ePKP2 PKPab 12 59 04.9 -2.0
ALLY Alegheny Colle 146.94 12 ePKPab PKPab 12 59 07.3 -0.1
HRV Harvard--Oak R 146.96 0 ePKP2 PKPab 12 59 06.8 -0.7
BINY Binghamton 147.04 6 ePKPdf PKPdf 12 59 07.1 +2.9
WES Weston 147.08 360 ePKHKP 12 59 01.0
BLO Bloomington 147.41 22 ePKP2 PKPab 12 59 09.0 -0.3
SIUC Southern Illin 147.56 27 ePKPdf PKPdf 12 59 08.7 +3.6
ACSO Alum Creek Sta 147.59 16 ePKPdf PKPdf 12 59 07.5 +2.4
ACSO ePKPab PKPab 12 59 16.9 +6.9
MIAR Mount Ida 147.80 36 ePKP2 PKPab 12 59 09.3 -1.5
USIN University of 148.01 24 ePKPab PKPab 12 59 10.8 -0.9
LVC Limon Verde 148.14 185 ePKPbc PKPbc 12 59 11.5 +2.2
PARMO Parma 148.18 28 ePKPbc PKPbc 12 59 10.0 +0.6
WCI Wyandotte Cave 148.32 22 ePKIKP PKPdf 12 59 07.3 +1.0
UALR University of 148.32 34 ePKPdf PKPbc 12 59 10.5 +0.7
SSPA Standing Stone 148.33 9 ePKPdf PKPbc 12 59 09.8 0.0
PAL Palisades 148.39 3 ePKPdf PKPbc 12 59 10.7 +0.8
PAL ePKPab PKPab 12 59 22.6 +9.4
MCWV Mont Chateau 148.91 12 ePKPdf PKPbc 12 59 12.3 +1.1
MVL Millersville 149.17 7 ePKPdf PKPbc 12 59 12.4 +0.5
HKT Hockley 149.41 45 ePKPbc PKPbc 12 59 14.8 +2.3
HKT ePKPab PKPab 12 59 19.1 +1.8
SDMD Soldier's Deli 149.68 8 ePKPab PKPab 12 59 18.5 0.0
OXF Oxford 150.07 30 ePKP2 PKPbc 12 59 15.0 +0.9
PLAL Pickwick Lake 150.33 28 ePKPdf PKPbc 12 59 11.4 +1.9
FWV Forest Hill 150.66 15 ePKPdf PKPdf 12 59 11.0 +1.0
FWV ePKPbc PKPbc 12 59 16.0 +0.5
FWV ePKPab PKPab 12 59 23.2 +0.7
ELN Prospectdale 151.01 15 ePKPdf PKPdf 12 59 09.1 -1.4
ELN ePKPbc PKPbc 12 59 16.7 +0.3
ELN ePKPab PKPab 12 59 25.1 +1.2
BLA Blacksburg 151.11 15 ePKIKP PKPdf 12 59 12.1 +1.4
BLA e 12 59 16.9
BLA e 12 59 25.6
CPCT Cooper Cave 151.44 23 ePKPdf PKPbc 12 59 18.5 +1.1
MYNC Murphy 151.92 22 ePKIKP PKPdf 12 59 14.6 +2.7
LRAL Lakeview Retre 152.44 29 ePKPdf PKPdf 12 59 14.8 +2.1
GOGA Godfrey 153.64 23 ePKIKP PKPbc 12 59 23.0 +0.7
LPAZ La Paz 154.32 188 PKPbc PKPbc 12 59 27.7 +4.0
comp=Z,4.0nm,0.8s,baz=164,slow=2.0,SNR=14
LPAZ La Paz 154.32 188 ePKPdf PKPbc 12 59 18.0 +2.6
LPAZ ePKPbc PKPbc 12 59 27.3 +3.6
LPAZ ePKPab PKPab 12 59 38.4 +0.5

SVSA 25 12:55:39.3±1.0, 3849N×3038W, h5km±999km, MD3.5, ML2.5, Error ellipse: s-maj=999.9km s-min=999.9km az=0.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOR	Horta	1.37	88	*e*rx		12 56 01.9	
PCND	Candelaria	1.50	90	*e*P	Pn	12 56 01.9	-5.0
PCND				*e*S	Sn	12 56 19.3	-7.6
PCND	30nm,0.2s						
PICO	Pico	1.53	89	*e*P	Pn	12 56 02.4	-4.9
PICO				*e*S	Sn	12 56 19.7	-7.9
PTEI	Pico do Teixo	1.59	89	*e*P	Pn	12 56 03.6	-4.4
PTEI				*e*S	Sn	12 56 21.4	-7.5
PTEI	13nm,0.3s						

IDC 25 13:11:44.8±2.7, 912S×10773E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.7/17, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=116.4km s-min=20.2km az=52.0, South of Java

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	19.55	119	P	Pn	13 16 15.1	-0.1
	0.1nm,0.3s,baz=301,slow=21,SNR=4.0						
WRA	Warramunga Arr	27.87	116	P	P	13 17 37.0	+0.8
	0.8nm,0.7s,baz=289,slow=10,SNR=8.6						
ASAR	Alice Springs	28.91	123	P	P	13 17 45.1	-0.3
	0.6nm,0.7s,baz=300,slow=8.5,SNR=6.5						
STKA	Stephens Creek	38.71	131	P	P	13 19 10.2	-0.2
	0.7nm,0.5s,baz=310,slow=7.1,SNR=4.5						
SONM	Songino Array	56.71	359	P	P	13 21 30.7	+0.5
	0.7nm,0.5s,baz=183,slow=8.5,SNR=5.9						
MKAR	Makanchi Array	60.11	340	P	P	13 21 53.7	-0.2
	1.2nm,0.6s,baz=132,slow=7.3,SNR=8.3						

CSEM 25 13:24:00.1, 4046N×2181E, h10km, MD3.5/3, After ATH
ATH 25 13:24:00.1, 4046N×2181E, h10km, MD3.5/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZN	Kozani	0.16	191	*e*PG	Pg	13 24 03.8	+0.2
PLG	Polygyros	1.25	93	*e*PB	Pb	13 24 23.1	-0.7
NVR	Nevrokopi	1.79	60	*e*PN	Pn	13 24 33.2	+2.1

IDC 25 13:24:28.6±1.2, 2300S×6630W, h242km±25km, mb3.5/1, mb1 3.2/7, mb1mx3.1/19, mbtmp3.8/7, Error ellipse: s-maj=34.1km s-min=15.2km az=106.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	2.44	279	P	Pn	13 25 16.0	+1.4
	22nm,0.3s,baz=102,slow=5.9,SNR=214						
LVC				S	S	13 25 51.6	+0.7
	3.7nm,0.3s,baz=244,slow=21,SNR=11						
LPAZ	La Paz	6.90	345	P	Pn	13 26 09.9	+2.1
	0.6nm,0.3s,baz=168,slow=11,SNR=12						
LPAZ				S	S	13 27 28.0	+0.6
	0.2nm,0.3s,baz=292,slow=19,SNR=5.8						
SIV	San Ignacio	8.54	36	P	Pn	13 26 28.4	-0.3
	0.7nm,0.3s,baz=239,slow=12,SNR=26						
CFAA	Coronel Fontan	8.74	191	P	Pn	13 26 30.0	-1.2
	0.1nm,0.3s,baz=20,slow=14,SNR=15						
CFAA				S	S	13 28 02.0	-8.1
	0.1nm,0.3s,baz=290,slow=23,SNR=12						
PLCA	Paso Flores	18.04	190	P	P	13 28 23.0	+1.0
	0.2nm,0.3s,baz=55,slow=11,SNR=3.6						
BDFB	Brasilia	18.73	70	P	P	13 28 30.5	+1.0
	0.5nm,0.3s,baz=233,slow=8.2,SNR=3.5						
TORD	Torodi Ar. Bea	75.61	69	P	P	13 35 47.1	+0.3
	0.7nm,0.4s,baz=261,slow=6.2,SNR=8.4						

ISCJB 25 13:47:16.7±0.6, 2431S×004×67.13W±0.10, h173km±13km, mb3.3/2, Error ellipse: s-maj=14.5km s-min=5.9km az=23.1
IDC 25 13:47:17.6±1.0, 2425S×6707W, h164km±13km, mb3.1/2, mb1 3.4/8, mb1mx3.3/20, mbtmp3.8/8, Error ellipse: s-maj=18.3km s-min=12.7km az=88.0
NEIC 25 13:47:17.6±0.6, 2425S×6709W, h167km±9km, MG4.1(GUC), Error ellipse: s-maj=13.4km s-min=8.4km az=113.0
GUC 25 13:47:18.2±0.6, 2449S×6748W, h200km, ML4.1
ISC 25 13:47:17.6±0.6, 2431S±004×6710W±009, h161km±13km, n18, σ0°99/24, mb3.3/2, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	2.37	315	P	Pn	13 47 59.3	+1.6
	23nm,0.3s,baz=129,slow=6.5,SNR=668						
LVC				S	Sn	13 48 29.4	+0.7
	59nm,0.3s,baz=357,slow=21,SNR=69						
CPN1	Cerro Paranal	3.02	263	⇑*i*P	Pn	13 48 06.5	+0.8
CPN1				*i*S	Sn	13 48 42.5	-0.5
CPN1				AML	AML	13 48 44.3	
	comp=E,394nm,0.3s						
CDCH	Caldera	4.34	230	⇑*i*P	Pn	13 48 21.6	-1.0
CDCH				*i*S	Sn	13 49 10.0	-3.2
LCO	Las Campanas	5.68	214	*i*S	Sn	13 49 43.9	-0.9
TLL	Tololo Astrono	6.70	209	*e*P	Pn	13 48 54.7	+1.0
TLL				*i*S	Sn	13 50 08.8	-0.3
CFAA	Coronel Fontan	7.33	188	P	Pn	13 49 03.4	+1.4
	comp=E,0.1nm,0.3s,baz=21,slow=8.7,SNR=4.1						
CFAA				S	Sn	13 50 23.8	-0.5
	comp=E,0.2nm,0.3s,baz=256,slow=23,SNR=5.5						
CFAA	Coronel Fontan	7.33	188	P	Pn	13 49 03.4	+1.4
CFAA				S	Sn	13 50 23.8	-0.5
LPAZ	La Paz	8.04	353	P	Pn	13 49 11.8	+0.3
	comp=E,2.4nm,0.3s,baz=148,slow=6.0,SNR=60						
LPAZ				S	Sn	13 50 40.3	-0.9
	comp=E,0.1nm,0.3s,baz=345,slow=20,SNR=4.3						
LPAZ	La Paz	8.04	353	P	Pn	13 49 11.8	+0.3
LPAZ				S	Sn	13 50 40.3	-0.9
CPUP	Villa Florida	9.07	105	P	Pn	13 49 25.2	+0.1
	comp=E,0.2nm,0.3s,baz=278,slow=14,SNR=3.6						
SIV	San Ignacio	10.03	35	P	Pn	13 49 35.7	-2.0
	comp=E,0.3nm,0.3s,baz=219,slow=15,SNR=7.8						
PLCA	Paso Flores	16.63	189	P	Pn	13 51 02.5	+1.2
	comp=E,0.2nm,0.3s,baz=327,slow=21,SNR=2.9						
PLCA	Paso Flores	16.63	189	P	Pn	13 51 02.5	+1.2
BDFB	Brasilia	19.89	68	P	P	13 51 36.4	0.0
	comp=E,1.1nm,0.3s,baz=247,slow=11,SNR=16						
SNAA	Sanae	59.09	161	P	P	13 57 01.1	+0.2
	comp=E,0.2nm,0.5s,mb3.2,baz=297,slow=4.1,SNR=7.9						
TORD	Torodi Ar. Bea	76.77	69	P	P	13 58 50.8	-0.4
	comp=E,0.5nm,0.6s,mb3.3,baz=256,slow=6.0,SNR=4.4						
ASAR	Alice Springs	128.13	205	PKP	PKPdf	14 06 04.0	-0.6
	comp=E,0.3nm,0.5s,baz=121,slow=2.5,SNR=6.1						
WRA	Warramunga Arr	131.31	207	PKP	PKPdf	14 06 10.9	+0.4
	comp=E,0.3nm,0.5s,baz=158,slow=1.8,SNR=6.9						

IDC 25 14:01:23.0±0.5, 9295×10848E, h0km, mb4.8/16, mb1 4.8/17, mb1mx4.8/20, mbtmp4.7/17, ML4.1/1, MS4.0/9, Ms1 4.0/9, ms1mx3.6/33, Error ellipse: s-maj=19.0km s-min=12.4km az=51.0
ISCJB 25 14:01:25.4±0.2, 9295S±004×10854E±005, h29km, mb5.0/72, MS4.1/19, Error ellipse: s-maj=8.2km s-min=5.2km az=119.1
MOS 25 14:01:26.8±0.9, 9195×10863E, h37km, mb5.2/27, Error ellipse: s-maj=14.0km s-min=7.1km az=112.9
NEIC 25 14:01:26.4±2.0, 9355×10846E, h22km±13km, mb5.1/25, Error ellipse: s-maj=7.8km s-min=4.0km az=54.0
BJI 25 14:01:26.3, 9305×10850E, h21km, mB5.0, mb5.0, Ms4.6, Ms24.2
ISC 25 14:01:27.4±0.2, 9385±004×10846E±005, h29km, h29km±1.7km: pP-P, n153, σ0°98/134, mb5.0/72, MS4.1/19, 12C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJII	Banjamegara	2.38	31	⇑*i*P	Pn	14 02 06.2	+1.8
BJII				*i*S	Sn	14 02 34.7	+2.0
KSM	Kuching	10.94	10	*e*P	Pn	14 04 03.6	+1.7
MBWA	Marble Bar	15.97	138	*e*Pn	Pn	14 05 02.9	-7.0
	11nm,0.7s						
KULM	Kulim	16.52	332	*e*Pn	Pn	14 05 15.1	-1.8
KKM	Kota Kinabalu	17.16	27	*e*Pn	Pn	14 05 25.1	+0.1
FITZ	Fitzroy Crossi	18.79	119	*e*P	Pn	14 05 44.6	-0.4
	29nm,0.8s						
FITZ	Fitzroy Crossi	18.79	119	P	Pn	14 05 45.2	+0.2
	0.4nm,0.3s,baz=275,slow=7.8,SNR=26						
KAKA	Kakadu	23.77	100	*e*P	P	14 06 37.8	+0.5
	22nm,0.7s,mb4.7						
NWAO	Narrogin (SRO)	24.80	162	P	P	14 06 47.0	+0.2
	22nm,0.8s,mb4.8,baz=331,slow=11,SNR=15						
NWAO				LR	LR	14 15 31.4	
	comp=Z,289nm,18.4s,MS3.8,baz=187,slow=34						
NWAO	Narrogin (SRO)	24.80	162	P	P	14 06 47.0	+0.2
NWAO				LR	LR	14 15 31.4	
NST	Nakhon Sawan	26.22	342	P	P	14 07 00.0	+0.3
WRA	Warramunga Arr	27.11	116	P	P	14 07 07.8	+0.1
	5.2nm,0.6s,mb4.2,baz=290,slow=11,SNR=35						
WRA				PcP	PcP	14 10 29.0	+1.1
	2.4nm,0.7s,baz=296,slow=2.1,SNR=8.1						
WRAB	Tennant Creek	27.12	116	P	P	14 07 08.3	+0.6
	49nm,0.6s,mb5.2,SNR=7.8						
WRAB	Tennant Creek	27.12	116	*e*P	P	14 07 08.0	+0.3
WRAB				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.6						
WRAB	Tennant Creek	27.12	116	*e*P	P	14 07 08.0	+0.2
	comp=Z,15nm,0.8s,mb4.6						
WB2	Warramunga Arr	27.12	116	*e*P	P	14 07 07.7	-0.1
ASPA	Alice Springs	28.16	123	*e*P	P	14 07 16.6	-0.4
ASPA				*e*		14 10 31.9	
AS31	Alice Springs	28.16	123	*e*P	P	14 07 16.6	-0.5
AS31				*e*		14 10 31.9	
ASAR	Alice Springs	28.16	123	P	P	14 07 17.1	+0.1
	comp=Z,4.8nm,0.7s,mb4.2,baz=299,slow=8.1,SNR=42						
ASAR				PcP	PcP	14 10 32.0	+1.5
	comp=Z,5.7nm,0.6s,baz=297,slow=1.8,SNR=30						
ASAR				LR	LR	14 17 57.2	
	comp=Z,150nm,19.6s,MS3.6,baz=305,slow=35						
ASAR	Alice Springs	28.16	123	P	P	14 07 17.2	+0.1
ASAR						14 10 32.0	
QIZ	Qiongzhong	28.26	3	P	P	14 07 18.5	+0.5
QIZ				S	S	14 12 06.0	+3.8
QIZ				AMB	AMB		
	comp=Z,24nm,1.5s,mb4.6						
QIZ				LR	LR		
	comp=N,343nm,18.0s						
QIZ				LR	LR		
	comp=Z,378nm,16.6s,MS4.1						
CHG	Chiang Mai	29.54	341	⇑P	P	14 07 29.7	+0.3
	comp=Z,13nm,0.8s,mb4.7						
CHTO	Chiang Mai	29.54	341	*e*P	P	14 07 29.0	-0.4
CHTO				*e*		14 07 40.4	
CHTO				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.6						
CHTO	Chiang Mai	29.54	341	*e*P	P	14 07 29.0	-0.3
	comp=Z,11nm,0.8s,mb4.6						
CHTO				*e*		14 07 40.4	
KMI	Kunming	34.74	351	P	P	14 08 17.8	+2.9
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
CTA	Charters Tower	37.98	111	*e*P	P	14 08 44.0	+1.4
	comp=Z,5.0nm,0.6s,mb4.4						
CTA	Charters Tower	37.98	111	P	P	14 08 43.8	+1.1
	comp=Z,5.8nm,0.6s,mb4.5,baz=282,slow=11,SNR=9.9						
CTA	Charters Tower	37.98	111	*e*P	P	14 08 44.0	+1.4
CTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
STKA	Stephens Creek	37.99	131	*e*P	P	14 08 43.0	+0.3
	comp=Z,40nm,0.8s,mb5.2						
STKA	Stephens Creek	37.99	131	P	P	14 08 43.1	+0.5
	comp=Z,44nm,0.7s,mb5.3,baz=303,slow=8.1,SNR=106						
STKA				PcP	PcP	14 10 59.0	+1.1
	comp=Z,2.6nm,0.4s,baz=316,slow=10.0,SNR=4.0						
CD2	Chengdu	40.31	354	P	P	14 09 02.5	+0.5
CD2				AP	pP	14 09 09.8	-0.9
CD2				PP	PP	14 10 39.8	+4.8
CD2				S	S	14 15 10.5	+2.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,40nm,5.6s						
CD2				LR	LR		
	comp=E,240nm,19.2s						
CD2				LR	LR		
	comp=Z,170nm,14.4s,MS4.0						
SSE	Sheshan	42.05	16	P	P	14 09 15.5	-0.9
SSE				AP	pP	14 09 24.5	-0.5
SSE				XP	sP	14 09 28.5	0.0
SSE				S	S	14 15 31.5	-2.2
SSE				XS	sS	14 15 48.0	0.0
SSE				AMB	AMB		
	comp=Z,38nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,148nm,3.8s						
SSE				LR	LR		
	comp=N,28nm,17.1s,MS3.6						
SSE				LR	LR		
	comp=E,57nm,17.0s,MS3.6						
SSE				LR	LR		
	comp=Z,69nm,14.7s,MS3.7						
JIRN	Jiri	42.67	330	*e*P	P	14 09 22.3	+0.9
	comp=Z,71nm,0.9s,mb5.4						

PKI	**Pulchoki**	**42.98**	**329**	*e*P		**P**	**14 09 24.3**	**+0.4**	
	comp=Z,33nm,0.9s,mb5.1								
PKI	**Pulchoki**	**42.98**	**329**	*e*P		**P**	**14 09 24.3**	**+0.4**	
PKI				pmax	pmax				
	comp=Z,33nm,0.9s,mb5.1								
GUN	**Gumba**	**43.03**	**330**	*e*P		**P**	**14 09 25.4**	**+1.1**	
	comp=Z,64nm,0.8s,mb5.4								
DMN	**Daman**	**43.17**	**329**	*e*P		**P**	**14 09 25.0**	**-0.4**	
	comp=Z,76nm,0.8s,mb5.5								
XAN	**Xi'an**	**43.18**	**1**	P	P	**P**	**14 09 25.3**	**-0.2**	
XAN				AP	pP		14 09 33.8	-0.4	
XAN				AMB	AMB				
	comp=Z,37nm,0.9s,mb5.1								
XAN				LR	LR				
	comp=N,111nm,14.2s,MS4.2								
XAN				LR	LR				
	comp=E,190nm,15.4s,MS4.2								
XAN				LR	LR				
	comp=Z,261nm,16.6s,MS4.2								
KKN	**Kakani**	**43.23**	**329**	*e*P		**P**	**14 09 26.1**	**+0.2**	
	comp=Z,58nm,0.9s,mb5.3								
KKN	**Kakani**	**43.23**	**329**	*e*P		**P**	**14 09 26.1**	**+0.2**	
KKN				pmax	pmax				
	comp=Z,58nm,0.9s,mb5.3								
GKN	**Gorkha**	**43.73**	**329**	*e*P		**P**	**14 09 30.4**	**+0.5**	
	comp=Z,86nm,0.9s,mb5.5								
KOLN	**Koldanda**	**44.08**	**328**	*e*P		**P**	**14 09 33.5**	**+0.7**	
	comp=Z,104nm,0.7s,mb5.7								
LZH	**Lanzhou**	**45.43**	**355**	⇑P		**P**	**14 09 44.0**	**+0.5**	
LZH				AMB	AMB				
	comp=Z,35nm,1.3s,mb5.0								
TIA	**Tai'an**	**46.08**	**10**	*e*P		**P**	**14 09 47.3**	**-1.3**	
GTA	**Gaotai**	**49.20**	**351**	*e*P		**P**	**14 10 14.5**	**+1.6**	
GTA				AP	pP		14 10 20.5	-1.1	
GTA				PCP	PcP		14 11 37.5	+1.8	
GTA				PP	PP		14 12 09.0	+2.3	
GTA				S	**S**		**14 17 21.8**	**+5.1**	
GTA				SS	SS		14 20 48.8	+0.7	
GTA				AMB	AMB				
	comp=Z,12nm,1.0s,mb4.9								
GTA				AMB	AMB				
	comp=Z,105nm,5.7s								
GTA				LR	LR				
	comp=N,203nm,16.0s,MS4.3								
GTA				LR	LR				
	comp=E,208nm,17.5s,MS4.3								
GTA				LR	LR				
	comp=Z,222nm,21.3s,MS4.1								
BJI	**Beijing**	**49.69**	**8**	P		**P**	**14 10 16.3**	**-0.3**	
BJI				AMB	AMB				
	comp=Z,39nm,0.9s,mb5.4								
BJI				LR	LR				
	comp=N,185nm,22.4s,MS4.2								
BJI				LR	LR				
	comp=E,170nm,18.3s,MS4.2								
BJI				LR	LR				
	comp=Z,127nm,18.5s,MS4.0								
BTO	**Baotou**	**49.75**	**2**	*e*P		**P**	**14 10 16.5**	**-0.6**	
HHC	**Hu-ho-hao-te**	**50.06**	**3**	*e*P		**P**	**14 10 20.3**	**+0.9**	
HHC				AP	pP		14 10 27.5	-0.7	
HHC				PP	PP		14 12 16.8	+2.3	
HHC				S	**S**		**14 17 30.8**	**+2.1**	
HHC				SCS	ScS		14 20 05.5	-3.1	
HHC				SS	SS		14 21 02.8	+0.9	
HHC				AMB	AMB				
	comp=Z,21nm,0.6s,mb5.3								
HHC				LR	LR				
	comp=N,152nm,16.1s,MS4.3								
HHC				LR	LR				
	comp=E,176nm,16.0s,MS4.3								
HHC				LR	LR				
	comp=Z,152nm,16.6s,MS4.1								
HNR	**Honiara**	**50.76**	**95**	P		**P**	**14 10 24.4**	**-0.3**	
	comp=Z,23nm,0.3s,mb5.5,baz=268,slow=8.1,SNR=9.6								
MJAR	**Matsushiro Arr**	**53.56**	**30**	P		**P**	**14 10 43.6**	**-2.0**	
	comp=Z,2.5nm,0.6s,mb4.3,baz=202,slow=7.7,SNR=8.2								
MJAR				LR	LR		14 35 14.5		
	comp=Z,109nm,18.5s,MS3.9,baz=205,slow=38								
CN2	**Changchun**	**55.13**	**15**	*e*P		**P**	**14 10 56.0**	**-1.0**	
CN2				AMB	AMB				
	comp=Z,10.0nm,0.7s,mb5.0								
WMQ	**Urumqi**	**56.21**	**342**	P		**P**	**14 11 07.0**	**+2.3**	
WMQ				AP	pP		14 11 14.0	+0.4	
WMQ				PCP	PcP		14 12 04.5	+2.4	
WMQ				PP	PP		14 13 13.8	+3.8	
WMQ				S	**S**		**14 18 54.3**	**+2.0**	
WMQ				AMB	AMB				
	comp=Z,31nm,1.4s,mb5.2								
WMQ				AMB	AMB				
	comp=Z,195nm,5.5s								
WMQ				LR	LR				
	comp=N,861nm,17.8s,MS5.0								
WMQ				LR	LR				
	comp=E,646nm,16.7s,MS5.0								
WMQ				LR	LR				
	comp=Z,862nm,18.3s,MS4.9								
SONM	**Songino Array**	**56.99**	**358**	P		**P**	**14 11 10.5**	**+0.3**	
	comp=Z,9.8nm,0.6s,mb5.0,baz=174,slow=8.2,SNR=106								
SONM				PcP	PcP		14 12 05.8	+0.6	
	comp=Z,1.7nm,0.5s,baz=186,slow=3.6,SNR=5.1								
SONM				LR	LR		14 39 37.1		
	comp=Z,174nm,18.3s,MS4.2,baz=336,slow=40								
SONM	**Songino Array**	**56.99**	**358**	P		**P**	**14 11 10.5**	**+0.3**	
SONM							14 12 05.8		
ULN	**Ulaanbaatar**	**57.01**	**359**	*e*P		**P**	**14 11 10.4**	**+0.1**	
MDJ	**Mudanjiang**	**57.04**	**18**	P		**P**	**14 11 09.3**	**-1.3**	
MDJ				AMB	AMB				
	comp=Z,8.0nm,1.7s,mb4.5								
MDJ				AMB	AMB				
	comp=Z,92nm,5.0s								
ZAK	**Zakamensk**	**59.68**	**356**	⇑*i*P		**P**	**14 11 29.2**	**+0.2**	
ZAK				pmax	pmax				
	comp=Z,52nm,1.7s,mb5.3								
TKM2	**Tokmak 2**	**60.06**	**333**	P		**P**	**14 11 31.1**	**-0.6**	
TKM2				pmax	pmax				
	comp=Z,7.0nm,0.7s,mb4.8								
MK31	**Makanchi Array**	**60.60**	**340**	P		**P**	**14 11 34.5**	**-0.8**	
MK31				pmax	pmax				
	comp=Z,4.0nm,0.4s,mb4.9								
MKAR	**Makanchi Array**	**60.60**	**340**	P		**P**	**14 11 35.4**	**+0.1**	
	comp=Z,19nm,0.8s,mb5.3,baz=138,slow=7.4,SNR=72								
MKAR	**Makanchi Array**	**60.60**	**340**	P		**P**	**14 11 35.4**	**+0.1**	
TLY	**Talaya**	**60.95**	**357**	*i* P		**P**	**14 11 36.9**	**-0.8**	
MOY	**Mondy**	**61.14**	**355**	*e*P		**P**	**14 11 39.0**	**0.0**	
MOY				pmax	pmax				
	comp=Z,25nm,1.8s,mb5.0								
CIT	**Chita**	**61.31**	**4**	*e*P		**P**	**14 11 39.9**	**-0.2**	
IRK	**Irkutsk**	**61.48**	**357**	*e*P		**P**	**14 11 40.9**	**-0.4**	
IRK				pmax	pmax				
	comp=Z,21nm,0.7s,mb5.4								
KLR	**Kul'dur**	**61.84**	**17**	*e*P		**P**	**14 11 38.6**	**-5.1**	
HABR	**Khabarovsk**	**62.20**	**20**	*e*P		**P**	**14 11 43.3**	**-2.9**	
HABR				S	**S**		**14 20 05.1**	**-4.8**	
KKAR	**Karatay Array**	**62.63**	**330**	*i* P		**P**	**14 11 48.1**	**-0.9**	
YSS	**Yuzh-Sakhalins**	**63.87**	**25**	*e*P		**P**	**14 11 55.0**	**-2.2**	
YSS				*e*			14 12 07.8		
KURK	**Kurchatov**	**65.22**	**340**	P		**P**	**14 12 06.9**	**+0.9**	
	comp=Z,135nm,0.8s,mb6.0,SNR=18								
KURK	**Kurchatov**	**65.22**	**340**	⇑*e*P		**P**	**14 12 06.0**	**0.0**	
KURK	**Kurchatov**	**65.22**	**340**	*e*P		**P**	**14 12 05.8**	**-0.2**	
	comp=Z,20nm,0.8s,mb5.2								
MAW	**Mawson**	**65.53**	**198**	*e*P		**P**	**14 12 08.0**	**-0.1**	
	comp=Z,8.1nm,0.6s,mb4.9								
MAW	**Mawson**	**65.53**	**198**	P		**P**	**14 12 07.6**	**-0.4**	
	comp=Z,11nm,0.7s,mb5.0,baz=49,slow=7.1,SNR=23								
MAW	**Mawson**	**65.53**	**198**	*e*P		**P**	**14 12 08.0**	**-0.1**	
MAW				pmax	pmax				
	comp=Z,8.0nm,0.6s								
ZAL	**Zalesovo**	**66.18**	**345**	P		**P**	**14 12 10.9**	**-1.3**	
	comp=Z,3.1nm,0.6s,mb4.5,baz=316,slow=4.6,SNR=15								
ZAL				LR	LR		14 44 56.8		
	comp=Z,109nm,18.1s,MS4.1,baz=64,slow=40								
BOD	**Bodaibo**	**67.12**	**3**	*e*P		**P**	**14 12 17.2**	**-1.0**	
BOD				*e*			14 12 29.7		
BOD				pmax	pmax				
	comp=Z,9.0nm,1.4s,mb4.6								
BOD				pmax	pmax				
	comp=Z,10.0nm,1.0s,mb4.8								
QRN	**Al-Qurain**	**69.59**	**305**	*e*P		**P**	**14 12 33.3**	**-0.4**	
QRN				AMb	AMB		14 12 34.4		
	comp=Z,26nm,0.7s,mb5.3								
KBD	**Kabd**	**69.94**	**306**	*e*P		**P**	**14 12 35.8**	**-0.1**	
KBD				AMb	AMB		14 12 37.4		
	comp=Z,62nm,0.7s,mb5.7								
RDF	**Al-Radifah**	**69.96**	**305**	*e*P		**P**	**14 12 35.8**	**-0.2**	
RDF				AMb	AMB		14 12 37.5		
	comp=Z,38nm,0.9s,mb5.3								
UMR	**Umm Al-Rimmam**	**70.07**	**306**	*e*P		**P**	**14 12 36.6**	**-0.1**	
UMR				AMb	AMB		14 12 38.1		
	comp=Z,65nm,0.7s,mb5.7								
BRVK	**Borovoye**	**70.17**	**337**	P		**P**	**14 12 37.6**	**+0.3**	
	comp=Z,67nm,1.0s,mb5.5,SNR=6.1								
BRVK	**Borovoye**	**70.17**	**337**	*e*P		**P**	**14 12 37.1**	**-0.2**	
BRVK				pmax	pmax				
	comp=Z,8.0nm,0.8s,mb4.7								
BRVK	**Borovoye**	**70.17**	**337**	*e*P		**P**	**14 12 37.1**	**-0.2**	
	comp=Z,7.9nm,0.8s,mb4.7								
NAY	**Al-Naaiem**	**70.33**	**306**	*e*P		**P**	**14 12 37.9**	**-0.3**	
NAY				AMb	AMB		14 12 39.5		
	comp=Z,18nm,0.7s,mb5.1								
MIB	**Mutribah**	**70.47**	**306**	*e*P		**P**	**14 12 38.8**	**-0.4**	
MIB				AMb	AMB		14 12 40.1		
	comp=Z,27nm,0.5s,mb5.4								
CHKZ	**Chkalovo**	**70.52**	**337**	*e*P		**P**	**14 12 39.3**	**-0.1**	
CHKZ				*e*			14 12 50.0		
CHKZ				pmax	pmax				
	comp=Z,27nm,0.8s,mb5.2								
CHKZ	**Chkalovo**	**70.52**	**337**	*e*P		**P**	**14 12 39.3**	**-0.1**	
	comp=Z,27nm,0.8s,mb5.2								
CHKZ				*e*			14 12 50.0		
ZRNK	**Zerenda**	**70.60**	**336**	*e*P		**P**	**14 12 39.7**	**-0.2**	
ZRNK				pmax	pmax				
	comp=Z,17nm,0.8s,mb5.0								
ZRNK	**Zerenda**	**70.60**	**336**	*e*P		**P**	**14 12 39.7**	**-0.2**	
	comp=Z,17nm,0.8s,mb5.0								
KMBO	**Kilima Mbogo**	**71.27**	**272**	P		**P**	**14 12 45.3**	**+1.3**	
	comp=Z,2.9nm,0.8s,mb4.2,baz=73,slow=10,SNR=6.8								
KMBO				LR	LR		14 41 19.6		
	comp=Z,112nm,18.1s,MS4.2,baz=87,slow=34								
KMBO	**Kilima Mbogo**	**71.27**	**272**	⇑*e*P		**P**	**14 12 45.9**	**+1.9**	
AB31	**Akbulak array**	**72.18**	**329**	*i* P		**P**	**14 12 48.8**	**-0.6**	
AB31				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.3								
YAK	**Yakutsk**	**73.09**	**10**	*c i*P		**P**	**14 12 53.6**	**-1.2**	
YAK				pmax	pmax				
	comp=Z,50nm,0.8s,mb5.5								
YAK	**Yakutsk**	**73.09**	**10**	*e*P		**P**	**14 12 53.4**	**-1.5**	
	comp=Z,50nm,0.8s,mb5.5								
VNDA	**Vanda**	**73.38**	**169**	*e*P		**P**	**14 12 56.3**	**-0.2**	
AKTO	**Aktyubinsk**	**73.89**	**329**	P		**P**	**14 12 57.9**	**-1.7**	
AKTO				pmax	pmax				
	comp=Z,4.0nm,2.0s,mb4.0								
SBA	**Scott Base**	**74.45**	**169**	*e*P		**P**	**14 13 03.5**	**+0.7**	
SBA				pmax	pmax				
	comp=Z,12nm,0.9s,mb4.8								
SBA	**Scott Base**	**74.45**	**169**	*e*P		**P**	**14 13 03.5**	**+0.7**	
	comp=Z,12nm,0.9s,mb4.8								
ARU	**Arti**	**77.38**	**334**	⇑*i*P		**P**	**14 13 17.2**	**-2.3**	
ARU				*e*			14 13 30.4		
ARU				*e*			14 16 10.9		
ARU				*e*S	S		14 23 03.8	-4.2	
ARU				*e*SS	SS		14 28 01.8	-4.9	
ARU				pmax	pmax				
	comp=Z,13nm,0.7s,mb5.0								
LSZ	**Lusaka**	**78.27**	**256**	*e*P		**P**	**14 13 25.9**	**+1.5**	
LSZ				pmax	pmax				
	comp=Z,9.0nm,0.8s,mb4.8								
LSZ	**Lusaka**	**78.27**	**256**	*e*P		**P**	**14 13 25.9**	**+1.5**	
	comp=Z,8.5nm,0.8s,mb4.7								
ZEI	**Tsey**	**78.31**	**317**	*e*P		**P**	**14 13 24.6**	**-0.1**	
ZEI				*e**PP	pP		14 13 34.0	+0.1	
ZEI				*e*			14 16 21.4		
ZEI				pmax	pmax				
	comp=Z,16nm,0.5s,mb5.2								
KIV	**Kislovodsk**	**79.60**	**318**	*e*P		**P**	**14 13 32.8**	**+1.0**	
KIV				pmax	pmax				
	comp=Z,3.0nm,0.5s,mb4.5								
BOSA	**Boshof**	**79.64**	**243**	P		**P**	**14 13 33.4**	**+1.4**	
	comp=Z,4.2nm,0.9s,mb4.4,baz=58,slow=5.9,SNR=5.3								
BOSA				LR	LR		14 41 06.2		
	comp=Z,109nm,19.3s,MS4.2,baz=184,slow=30								
QSPA	**South Pole Qui**	**80.62**	**180**	*e*P		**P**	**14 13 37.3**	**0.0**	
	comp=Z,23nm,0.8s,mb5.2								
MMAI	**Mount Meron Ar**	**81.15**	**306**	LR	LR		14 50 05.0		
	comp=Z,78nm,20.0s,MS4.1,baz=120,slow=36								
TIXI	**Tiksi**	**81.99**	**6**	*c i*P		**P**	**14 13 43.3**	**-1.2**	
TIXI				pmax	pmax				
	comp=Z,15nm,0.7s,mb5.0								
VRHR	**Novokhopersk**	**83.16**	**324**	*e*P		**P**	**14 13 50.2**	**-0.4**	
VRHR				pmax	pmax				
	comp=Z,10.0nm,0.6s,mb5.0								
VRHR				pmax	pmax				
	comp=N,10.0nm,0.5s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.4s								
ANN	**Anapa**	**83.41**	**317**	*e*P		**P**	**14 14 01.8**	**+10**	
ANN				*i* *PP	pP		14 14 12.7	+12	
ANN				pmax	pmax				
	comp=Z,19nm,0.8s,mb5.2								
ANN				MLR	MLR				
	comp=Z,259nm,22.0s,MS4.6								
BR131	**Keskin Array S**	**84.48**	**312**	*e*P		**P**	**14 13 57.8**	**+0.4**	
	comp=Z,8.9nm,1.0s,mb4.8								
BRTR	**Keskin Array B**	**84.48**	**312**	P		**P**	**14 13 58.0**	**+0.6**	
	comp=Z,7.0nm,0.8s,mb4.8,baz=134,slow=7.0,SNR=33								
BRTR	**Keskin Array B**	**84.48**	**312**	⇑*e*P		**P**	**14 13 58.2**	**+0.8**	
VRSR	**Storozhevoye**	**84.61**	**324**	*e*P		**P**	**14 13 57.9**	**-0.2**	
VRSR				pmax	pmax				
	comp=Z,10.0nm,0.9s,mb5.0								
VRSR				pmax	pmax				
	comp=N,10.0nm,2.5s								
VRSR				pmax	pmax				
	comp=E,10.0nm,1.0s								
SIM	**Simferopol'**	**85.69**	**317**	*e*P		**P**	**14 14 04.5**	**+1.1**	
SIM				pmax	pmax				
	comp=Z,14nm,0.7s,mb5.3								
OBN	**Obninsk**	**87.49**	**327**	*c i*P		**P**	**14 14 12.6**	**+0.3**	
OBN				*e*			14 17 37.7		
OBN				*e*SS	SS		14 30 37.1	+0.2	
OBN				pmax	pmax				
	comp=Z,22nm,0.8s,mb5.4								
OBN				MLR	MLR				
	comp=Z,100nm,21.0s,MS4.2								
SNAA	**Sanae**	**87.69**	**197**	*e*P		**P**	**14 14 12.8**	**-0.4**	
SNAA				*e*			14 14 15.8		
SNAA				*e*			14 14 23.9		
SNAA				*e*			14 14 27.8		
TSUM	**Tsumeb**	**87.78**	**251**	*e*P		**P**	**14 14 14.9**	**+1.3**	
	comp=Z,7.1nm,0.9s,mb4.9								
VNA1	**Neumayer--Stat**	**89.73**	**197**	*e*P		**P**	**14 14 24.2**	**+1.4**	
VNA1				*e*			14 14 25.0		
VNA1				*e*	pP		14 14 34.4	+2.3	
VNA1				*e*			14 14 38.3		
AKASG	**Malin Array Be**	**90.44**	**321**	P		**P**	**14 14 25.8**	**-0.3**	
	comp=Z,2.2nm,0.6s,mb4.7,baz=87,slow=5.1,SNR=15								
AKASG				PP	PP		14 18 00.1	-0.7	
	comp=Z,0.6nm,0.6s,baz=95,slow=5.9,SNR=6.0								
AKBB	**Malin Array Si**	**90.44**	**321**	*e*P		**P**	**14 14 25.4**	**-0.7**	
JOF	**Joensuu**	**92.49**	**333**	*e*p		**P**	**14 14 35.3**	**-0.3**	
	comp=Z,3.9nm,0.6s,mb4.9								
JOF	**Joensuu**	**92.49**	**333**	*e*P		**P**	**14 14 35.3**	**-0.3**	
JOF				pmax	pmax				
	comp=Z,4.0nm,0.6s,mb4.9								
FINES	**FINESS Array B**	**94.54**	**331**	P		**P**	**14 14 44.6**	**-0.5**	
	comp=Z,1.8nm,0.7s,mb4.6,baz=119,slow=6.7,SNR=9.6								
FINES	**FINESS Array B**	**94.54**	**331**	⇑*e*P		**P**	**14 14 45.4**	**+0.3**	
KAF	**Kangasniemi**	**94.56**	**332**	*e*p		**P**	**14 14 44.1**	**-1.1**	
	comp=Z,5.5nm,0.8s,mb5.0								
KAF	**Kangasniemi**	**94.56**	**332**	*e*P		**P**	**14 14 44.1**	**-1.1**	
KAF				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb5.1								
ARCES	**ARCESS Array B**	**96.26**	**339**	LR	LR		15 02 31.7		
	comp=Z,67nm,18.7s,MS4.2,baz=74,slow=38								
YKA	**Yellowknife Ar**	**119.57**	**21**	PKP	PKPdf		14 20 11.3	-1.0	
	comp=Z,1.9nm,0.6s,baz=328,slow=2.0,SNR=6.0								
NVAR	**Mina Array Bea**	**129.14**	**48**	PKP	PKPdf		14 20 35.4	+2.8	
	comp=Z,0.9nm,0.7s,baz=247,slow=0.5,SNR=7.6								
PDAR	**Pinedale Array**	**133.01**	**38**	PKP	PKPdf		14 20 41.5	+1.6	
	comp=Z,0.3nm,0.5s,baz=325,slow=1.8,SNR=3.8								
CPUP	**Villa Florida**	**141.91**	**201**	PKhKP			14 20 52.5		
	comp=Z,1.1nm,0.5s,baz=35,slow=3.2,SNR=3.9								
WMOK	**Wichita Mounta**	**144.53**	**41**	*e*PKIKP	PKPdf		14 21 00.8	-0.1	
LBNH	**Lisbon**	**145.27**	**0**	*e*PKIKP	PKPdf		14 21 02.8	+0.6	
MIV	**Mineville/With**	**145.39**	**3**	*e*P	PKPbc		14 21 03.0	+0.6	
NCB	**Newcomb**	**145.46**	**3**	*e*PKP	PKPdf		14 21 03.4	+0.9	
BDFB	**Brasilia**	**145.92**	**223**	PKPbc	PKPbc		14 21 05.6	+1.6	
	comp=Z,5.8nm,0.6s,baz=154,slow=4.5,SNR=9.8								
ACCN	**Adirondack Com**	**146.08**	**3**	*e*PKP	PKPdf		14 21 05.0	+1.4	
JCT	**Junction City**	**146.31**	**47**	*e*PKP2	PKPab		14 21 06.5	+0.5	
CCM	**Cathedral Cave**	**146.39**	**29**	*e*PKP2	PKPab		14 21 05.2	-1.1	
FVM	**French Village**	**146.83**	**28**	*e*PKP2	PKPab		14 21 06.7	-1.3	
HRV	**Harvard--Oak R**	**147.00**	**0**	*e*PKP2	PKPab		14 21 08.5	-0.2	
BINY	**Binghamton**	**147.08**	**6**	*e*PKPbc	PKPbc		14 21 08.2	+0.8	
MIAR	**Mount Ida**	**147.83**	**36**	*e*PKP2	PKPab		14 21 10.6	-1.4	
WCI	**Wyandotte Cave**	**148.36**	**22**	*e*PKP2	PKPbc		14 21 11.5	+0.6	
SSPA	**Standing Stone**	**148.37**	**9**	*e*PKPbc	PKPbc		14 21 11.7	+0.8	
WVT	**Waverly**	**149.53**	**27**	*e*PKP2	PKPbc		14 21 14.7	+0.9	
PLAL	**Pickwick Lake**	**150.37**	**28**	*e*PKPbc	PKPbc		14 21 16.3	+0.5	
FWV	**Forest Hill**	**150.70**	**15**	*e*PKPbc	PKPbc		14 21 17.0	+0.4	
ELN	**Prospectdale**	**151.05**	**15**	*e*PKPbc	PKPbc		14 21 18.1	+0.7	
CPCT	**Cooper Cave**	**151.47**	**23**	*e*PKPbc	PKPbc		14 21 19.6	+1.1	
LRAL	**Lakeview Retre**	**152.47**	**29**	*e*PKPbc	PKPbc		14 21 21.2	+0.5	
LPAZ	**La Paz**	**154.28**	**188**	PKPbc	PKPbc		14 21 27.7	+3.1	
	comp=Z,1.9nm,0.6s,baz=168,slow=2.9,SNR=12								
LPAZ				PKPab	PKPab		14 21 41.1	+2.5	
	comp=Z,2.2nm,0.7s,baz=116,slow=4.5,SNR=7.4								

*CSEM **25** 14:05:09.8, 4226N×4609E, h25km, mb4.0, After OBN*
MOS 25 14:05:09.8±3.0, 4226N×4609E, h25km, mb4.0/1, Error ellipse: s-maj=12.2km s-min=9.2km az=35.4, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
XNZR	**Khunzakh**	**0.54**	**58**	*i* PG		Pb	14 05 16.0	-4.6
XNZR				pmax		pmax		
	comp=Z,36nm,0.2s							
XNZR	**Khunzakh**	**0.54**	**58**	*i* Pg		Pb	14 05 16.0	-4.6
	comp=Z,36nm,0.2s							
GNBR	**Gunib**	**0.66**	**78**	*e*PG		Pb	14 05 19.0	-3.7
GNBR				*e*S		Sb	14 05 30.0	-1.5
GNBR				pmax		pmax		
	comp=Z,38nm,0.2s							
GNBR	**Gunib**	**0.66**	**78**	*e*Pg		Pb	14 05 19.0	-3.7
	comp=Z,38nm,0.2s							
GNBR				*e*Sg		Sb	14 05 30.0	-1.5
KMKR	**Kumukh**	**0.76**	**99**	*i* PG		Pb	14 05 24.0	-0.4
KMKR				*e*S		Sb	14 05 37.5	+3.2
KMKR				pmax		pmax		
	comp=Z,25nm,0.2s							
KMKR	**Kumukh**	**0.76**	**99**	*i* Pg		Pb	14 05 24.0	-0.4
	comp=Z,25nm,0.2s							
KMKR				*e*Sg		Sb	14 05 37.5	+3.2
BUJR	**Buynaksk**	**0.94**	**53**	Pg		Pn	14 05 21.0	-6.4
SNJR	**Sundja**	**1.24**	**311**	*e*Pg		Pn	14 05 32.8	+1.3
SNJR				*i* Sg		Sn	14 05 49.7	+2.2
MAK	**Makhachkala**	**1.26**	**56**	*e*PG		Pn	14 05 36.3	+4.5
MAK				pmax		pmax		
	comp=E,713nm,0.6s							
MAK				pmax		pmax		
	comp=N,392nm,0.4s							
MAK	**Makhachkala**	**1.26**	**56**	*e*Pg		Pn	14 05 36.3	+4.5
	comp=N,392nm,0.4s							
VLKR	**Vladikavkaz**	**1.30**	**308**	*e*Pg		Pn	14 05 34.0	+1.6
VLKR				*e*Sg		Sn	14 05 51.8	+2.8
LACR	**Lac**	**1.44**	**294**	*e*Pg		Pn	14 05 37.1	+2.8
LACR				*i* Sg		Sn	14 05 56.8	+4.4
BTKR	**Batakoyurt**	**1.59**	**315**	*e*Pg		Pn	14 05 38.5	+2.1
BTKR				*e*Sg		Sn	14 05 59.3	+3.2
ARNR	**Ardon**	**1.63**	**305**	*e*Pn		Pn	14 05 39.5	+2.7
ARNR				*e*Sg		Sn	14 06 01.0	+4.0
ZEI	**Tsey**	**1.70**	**288**	*e*Pn		Pn	14 05 41.4	+3.6
ZEI				*e*Sg		Sn	14 06 04.4	+5.7
KORR	**Kora**	**1.71**	**300**	*e*Pn		Pn	14 05 41.0	+3.1
KORR				*i* Sg		Sn	14 06 03.7	+4.8
KMSR	**Komsomolskaya**	**1.73**	**311**	*e*Pn		Pn	14 05 40.8	+2.6
KMSR				*e*Sg		Sn	14 06 03.4	+4.0
KIV	**Kislovodsk**	**3.01**	**305**	*e*PN		Pn	14 06 05.7	+10
KIV				pmax		pmax		
	comp=Z,10.0nm,0.9s							
KIV	**Kislovodsk**	**3.01**	**305**	*e*Pn		Pn	14 06 05.7	+10
	comp=Z,10.0nm,0.9s							

*IDC **25** 14:09:34.5±0.9, 956S×10759E, h0km, mb4.1/6, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7,

SONM	**Songino Array**	**67.02**	**327**	P	**P**	**14**	**26**	**57.5**	**-0.4**
	0.7nm,0.5s,mb3.8,baz=144,slow=6.1,SNR=6.2								
JIRN	**Jiri**	**72.76**	**301**	*e*P	**P**	**14**	**27**	**34.1**	**+1.1**
	6.9nm,0.3s,mb4.8								
GUN	**Gumba**	**73.09**	**301**	*e*P	**P**	**14**	**27**	**35.6**	**+0.6**
	9.9nm,0.4s,mb4.9								
PKI	**Pulchoki**	**73.41**	**301**	*e*P	**P**	**14**	**27**	**37.6**	**+0.8**
KKN	**Kakani**	**73.57**	**301**	*e*P	**P**	**14**	**27**	**38.1**	**+0.3**
	9.3nm,0.5s,mb4.7								
DMN	**Daman**	**73.68**	**300**	*e*P	**P**	**14**	**27**	**39.5**	**+1.1**
GKN	**Gorkha**	**74.18**	**301**	*e*P	**P**	**14**	**27**	**40.8**	**-0.5**
	9.6nm,0.4s,mb4.8								
KOLN	**Koldanda**	**75.01**	**300**	*e*P	**P**	**14**	**27**	**46.3**	**+0.2**
	17nm,1.0s,mb4.7								
MKAR	**Makanchi Array**	**81.13**	**319**	P	**P**	**14**	**28**	**19.8**	**-0.1**
	0.9nm,0.6s,mb3.6,baz=94,slow=6.7,SNR=8.6								
MKAR				pP	pP	14	28	50.9	-4.0
	0.5nm,0.6s,baz=111,slow=6.6,SNR=2.5								
MKAR	**Makanchi Array**	**81.13**	**319**	P	**P**	**14**	**28**	**19.8**	**-0.1**
MKAR				pP	pP	14	28	50.9	-4.0
ZAL	**Zalesovo**	**81.88**	**326**	P	**P**	**14**	**28**	**22.1**	**-1.7**
	1.1nm,0.6s,mb3.7,baz=297,slow=8.9,SNR=4.4								
KURK	**Kurchatov**	**84.54**	**322**	*e*P	**P**	**14**	**28**	**36.8**	**-0.7**
	1.8nm,0.8s,mb3.9								
MAW	**Mawson**	**85.81**	**203**	P	**P**	**14**	**28**	**43.6**	**-0.1**
	4.1nm,0.9s,mb4.1,baz=71,slow=2.6,SNR=8.8								
TOA0	**Torodi Ar. Sit**	**151.34**	**288**	*e*PKPbc	PKPbc	14	35	57.9	+0.7
TORD	**Torodi Ar. Bea**	**151.34**	**288**	PKPbc	PKPbc	14	35	57.7	+0.6
	0.8nm,0.3s,baz=89,slow=1.7,SNR=18								
TORD				pPKPbc	pPKPbc	14	36	31.3	-3.0
	1.4nm,0.7s,baz=54,slow=1.9,SNR=5.1								
TORD	**Torodi Ar. Bea**	**151.34**	**288**	PKPbc	PKPbc	14	35	57.7	+0.6
TORD				pPKPbc	pPKPbc	14	36	31.3	-3.0

IDC 25 14:26:02.6±1.6, 1203N×14429E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.6/3, Error ellipse: s-maj=160.9km s-min=18.3km az=110.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.65**	**20**	Pn	Pn	14 26 33.2	+0.4
	54nm,0.3s,baz=183,slow=4.9,SNR=36						
GUMO				Sn	Sn	14 26 53.9	-0.8
	37nm,0.3s,baz=354,slow=23,SNR=6.0						
WRA	**Warramunga Arr**	**33.25**	**197**	P	P	14 32 41.4	0.0
	1.0nm,0.8s,baz=20,slow=9.8,SNR=8.9						
ASAR	**Alice Springs**	**36.90**	**196**	P	P	14 33 13.2	+0.3
	0.3nm,0.6s,baz=23,slow=7.0,SNR=7.5						
NVAR	**Mina Array Bea**	**88.33**	**51**	P	P	14 38 57.2	+1.1
	0.4nm,0.7s,baz=310,slow=5.5,SNR=3.9						

MAN 25 14:26:34.3, 1701N×12151E, h26km, mb2.5, ML4.1, MS1.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.31**	**103**	*e*P	Pb	14 26 43.2	+1.8
CAUP				*e*S	Sb	14 26 51.5	+5.1
PALP	**Palanan**	**0.88**	**87**	*e*P	Pb	14 26 51.0	+0.2
APYP	**Conner**	**0.88**	**343**	*e*P	Pb	14 26 50.6	-0.3
APYP				*e*S	Sb	14 27 03.0	+0.8
ABRA	**Dolores**	**0.99**	**310**	*e*P	Pn	14 26 52.4	-0.1
ABRA				*e*S	Sb	14 27 06.5	+1.1
BALP	**Baler**	**1.27**	**177**	*e*P	Pn	14 26 55.7	-0.6
BALP				*e*S	Sn	14 27 13.1	+0.7

*ISCJB **25** 14:30:13.0±0.6, 5138N±003×1608E±003, h0km, Error ellipse: s-maj=4.6km s-min=2.7km az=41.3*
*CSEM **25** 14:30:13.7±0.1, 5150N×1608E, h2km, ML3.3/7, Error ellipse: s-maj=2.1km s-min=1.2km az=20.0*
*WAR **25** 14:30:14.5, 5149N×1609E, ML2.7, Mining Induced*
*IPEC **25** 14:30:14.2±0.3, 5148N×1615E, h7km±1km, ML2.4/3, Error ellipse: s-maj=1.9km s-min=0.7km az=32.0*
*VIE **25** 14:30:15.7±0.7, 5131N×1607E, h0km, mb2.5/4, ML2.8/4, Error ellipse: s-maj=4.4km s-min=3.6km az=164.0 69 km WNW of Breslau Suspected Mining induced.*
*PRU **25** 14:30:15.2, 5141N×1609E, h0km*
*NEIC **25** 14:30:17.3±1.4, 5128N×1583E, h5km, ML2.5(BRG), ML2.6(CLL), Error ellipse: s-maj=16.7km s-min=6.9km az=195.0*

ISC 25 14:30:13.6±0.7, 5145N±003×1610E±003, h0km, n32, σ0s95/67, 4C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**168**	*i* Pg	**Pg**	**14**	**30**	**26.5**	**+0.9**
KSP				*e*Sg	**Sg**	**14**	**30**	**35.5**	**+1.8**
KSP				*e*Lg		14	30	38.5	
KSP	**Ksiaz**	**0.62**	**168**	*e*Pg	**Pg**	**14**	**30**	**26.4**	**+0.8**
KSP				*e*Sg	**Sg**	**14**	**30**	**35.4**	**+1.7**
UPC	**Upice**	**0.95**	**183**	*e*PG	**Pg**	**14**	**30**	**32.4**	**+0.6**
DPC	**Dobruska-Polom**	**1.11**	**172**	*e*PG	**Pg**	**14**	**30**	**35.2**	**+0.2**
DPC				*e*SG	**Sg**	**14**	**30**	**49.9**	**+0.5**
	60nm,0.5s								
PVCC	**Panska Ves**	**1.34**	**227**	*e*Pg	**Pg**	**14**	**30**	**39.4**	**+0.1**
PVCC				*e*Sg	**Sg**	**14**	**30**	**58.1**	**+1.5**
BRG	**Berggiesshubel**	**1.47**	**248**	PN	**Pn**	**14**	**30**	**41.0**	**-0.4**
BRG				PG	**Pg**	**14**	**30**	**41.9**	**0.0**
BRG				SG	**Sg**	**14**	**31**	**02.1**	**+1.2**
	54nm,0.4s								
BRG	**Berggiesshubel**	**1.47**	**248**	Pg	**Pg**	**14**	**30**	**41.8**	**-0.1**
BRG				*e*Sg	**Sg**	**14**	**31**	**01.3**	**+0.3**
PRU	**Pruhonice**	**1.77**	**215**	*e*PN	**Pn**	**14**	**30**	**45.9**	**+0.4**
PRU				*e*PG	**Pg**	**14**	**30**	**46.9**	**-0.6**
PRU				*e*SG	**Sg**	**14**	**31**	**09.4**	**-1.0**
	35nm,0.6s								
PRU	**Pruhonice**	**1.77**	**215**	*e*Pn	**Pn**	**14**	**30**	**45.7**	**+0.2**
MORC	**Moravsky Berou**	**1.91**	**151**	*e*P	**Pn**	**14**	**30**	**47.2**	**-0.3**
MORC				*e*S	**Sn**	**14**	**31**	**14.3**	**+2.0**
MORC	**Moravsky Berou**	**1.91**	**151**	*e*Pn	**Pn**	**14**	**30**	**47.2**	**-0.3**
MORC				*e*Sg	**Sg**	**14**	**31**	**13.5**	**-1.7**
	22nm,0.4s								
MORC				*e*S	**Sn**	**14**	**31**	**14.3**	**+2.0**
CLL	**Collm**	**1.94**	**267**	*e*Pn	**Pn**	**14**	**30**	**47.0**	**-0.9**
CLL				*e*Pg	**Pg**	**14**	**30**	**50.0**	**-0.9**
CLL				*i* x	x	14	30	53.9	
CLL				*i* Sg	**Sg**	**14**	**31**	**15.9**	**-0.2**
	comp=Z,30nm,0.5s								
CLL	**Collm**	**1.94**	**267**	*e*Pn	**Pn**	**14**	**30**	**47.0**	**-0.9**
CLL				*e*Pg	**Pg**	**14**	**30**	**50.0**	**-0.9**
CLL				*i* Sg	**Sg**	**14**	**31**	**15.9**	**-0.2**
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*PG	**Pg**	**14**	**30**	**53.2**	**-0.3**
OKC				*e*SG	**Sg**	**14**	**31**	**19.1**	**-1.3**
VRAC	**Vranov**	**2.17**	**171**	*e*Pn	**Pn**	**14**	**30**	**52.0**	**+1.0**
VRAC				*e*Sg	**Sg**	**14**	**31**	**22.2**	**-1.2**
	comp=Z,14nm,0.2s								
TREC	**Trest**	**2.19**	**190**	*e*PN	**Pn**	**14**	**30**	**52.7**	**+1.4**
TREC				*e*PG	**Pg**	**14**	**30**	**55.4**	**-0.3**
TREC	**Trest**	**2.19**	**190**	*e*Pn	**Pn**	**14**	**30**	**52.6**	**+1.3**
TREC	**Trest**	**2.19**	**190**	*e*Pg	**Pg**	**14**	**30**	**55.4**	**-0.3**
TREC				*e*Sg	**Sg**	**14**	**31**	**23.9**	**-0.3**
KRUC	**Moravsky**	**2.40**	**175**	*e*Pg	**Pg**	**14**	**30**	**58.3**	**-1.4**
KRUC				*e*Sg	**Sg**	**14**	**31**	**30.6**	**-0.2**
	comp=Z,26nm,0.5s								
NKC	**Novy Kostel**	**2.61**	**244**	*e*PN	**Pn**	**14**	**30**	**57.3**	**+0.2**
NKC				*e*PG	**Pg**	**14**	**31**	**03.6**	**-0.1**
NKC				*e*SG	**Sg**	**14**	**31**	**38.8**	**+1.2**
	comp=Z,39nm,0.4s								
OJC	**Ojcow**	**2.65**	**116**	*e*Pg	**Pg**	**14**	**31**	**04.3**	**-0.2**
OJC				*e*Sg	**Sg**	**14**	**31**	**39.4**	**+0.5**
KHC	**Kasperske Hory**	**2.83**	**216**	*e*PN	**Pn**	**14**	**31**	**00.1**	**0.0**
KHC				*e*PG	**Pg**	**14**	**31**	**06.2**	**-1.7**
KHC				*e*SN	**Sn**	**14**	**31**	**34.9**	**0.0**
KHC				*e*SG	**Sg**	**14**	**31**	**44.2**	**-0.4**
	comp=Z,20nm,0.7s								
MOX	**Moxa**	**2.94**	**256**	*e*PG	**Pg**	**14**	**31**	**09.4**	**-0.6**
MOX				*e*SG	**Sg**	**14**	**31**	**49.3**	**+1.2**
MOX	**Moxa**	**2.94**	**256**	*e*Pn	**Pn**	**14**	**31**	**01.8**	**+0.2**
MOX	**Moxa**	**2.94**	**256**	*e*Pg	**Pg**	**14**	**31**	**09.4**	**-0.6**
MOX				*e*Sg	**Sg**	**14**	**31**	**47.4**	**-0.7**
GEC2	**GERESS Array S**	**3.03**	**211**	*e*Pn	**Pn**	**14**	**31**	**03.2**	**+0.4**
GEC2				*e*Pg	**Pg**	**14**	**31**	**10.7**	**-1.0**
GEC2				*e*Sg	**Sg**	**14**	**31**	**48.9**	**-2.1**
GEC2	**GERESS Array S**	**3.03**	**211**	*e*Pg	**Pg**	**14**	**31**	**10.7**	**-1.0**
ZST	**Bratislava**	**3.32**	**168**	*e*SG	**Sg**	**14**	**32**	**00.5**	**0.0**
VYHS	**Vyhne**	**3.45**	**148**	*e*PG	**Pg**	**14**	**31**	**19.6**	**-0.2**
VYHS				*e*SG	**Sg**	**14**	**32**	**05.4**	**+0.9**
CONA	**Conrad Observa**	**3.53**	**183**	⇓*i* Pn	**Pn**	**14**	**31**	**05.6**	**-4.1**
CONA				⇑*i* Sg	**Sg**	**14**	**32**	**04.6**	**-2.5**
	comp=Z,12nm,0.4s								
MOA	**Molln**	**3.80**	**199**	⇑*i* Pn	**Pn**	**14**	**31**	**14.3**	**+0.9**
MOA				⇑*i* Sg	**Sg**	**14**	**32**	**17.0**	**+1.4**
	comp=Z,11nm,0.4s								
KBA	**Koelnbreinsper**	**4.73**	**203**	⇓*i* Pn	**Pn**	**14**	**31**	**26.9**	**+0.7**
KBA				⇑*i* Sg	**Sg**	**14**	**32**	**47.0**	**+1.3**
	comp=Z,8.4nm,0.5s								

MAN 25 14:30:25.2, 1704N×12153E, h26km, mb2.4, ML4.0, MS1.4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.30**	**108**	*e*P	Pb	14 30 34.1	+1.8
PALP	**Palanan**	**0.86**	**88**	*e*P	Pb	14 30 41.4	-0.1
APYP	**Conner**	**0.86**	**342**	*e*P	Pb	14 30 41.6	0.0
APYP				*e*S	Sb	14 30 54.0	+1.2
ABRA	**Dolores**	**0.99**	**308**	*e*P	Pn	14 30 43.3	0.0
ABRA				*e*S	Sb	14 30 57.4	+1.1
BALP	**Baler**	**1.29**	**178**	*e*P	Pn	14 30 46.9	-0.6
BALP				*e*S	Sn	14 31 04.5	+0.6

*IDC **25** 14:48:26.2±0.4, 931S×10857E, h0km, mb4.9/21, mb1 5.0/22, mb1mx5.0/23, mbtmp4.9/22, ML4.4/1, MS4.2/15, Ms1 4.2/15, ms1mx4.0/25, Error ellipse: s-maj=18.6km s-min=11.5km az=59.0*
*ISCJB **25** 14:48:27.6±0.2, 936S±003×10848E±004, h23km, mb5.2/101, MS4.4/31, Error ellipse: s-maj=6.3km s-min=4.4km az=134.9*
*NEIC **25** 14:48:27.5±0.1, 931S×10852E, h10km, mb5.2/36, Error ellipse: s-maj=6.4km s-min=3.6km az=56.0*
*BJI **25** 14:48:27.5, 930S×10850E, h10km, mB5.0, mb5.2, Ms4.8, Msz4.6*
*MOS **25** 14:48:29.5±1.1, 922S×10861E, h33km, mb5.4/37, Error ellipse: s-maj=12.7km s-min=6.1km az=111.3*
ISC 25 14:48:29.8±0.2, 937S±003×10850E±004, h24km, h24km±3.2km:pP-P, n252, σ0s97/201, mb5.2/101, MS4.4/31, 26C-18D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.36**	**31**	⇑*i* P	**Pn**	**14**	**49**	**08.8**	**+1.9**
BJII				*i* S	**Sn**	**14**	**49**	**35.2**	**+0.2**
KSM	**Kuching**	**10.93**	**10**	*e*P	**Pn**	**14**	**51**	**07.0**	**+2.5**
PSI	**Prapat**	**15.40**	**321**	Pn	**Pn**	**14**	**51**	**59.8**	**-5.7**
	0.8nm,0.3s,baz=173,slow=8.3,SNR=4.6								
MBWA	**Marble Bar**	**15.95**	**139**	*e*Pn	**Pn**	**14**	**52**	**06.9**	**-5.6**
	36nm,0.9s								
MBWA				*e*Sn	Sn	14	54	46.6	-22
KULM	**Kulim**	**16.53**	**331**	*e*P	**Pn**	**14**	**52**	**17.0**	**-3.0**
KKM	**Kota Kinabalu**	**17.14**	**27**	P	**Pn**	**14**	**52**	**32.1**	**+4.5**
KKM	**Kota Kinabalu**	**17.14**	**27**	*e*P	**Pn**	**14**	**52**	**27.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**18.76**	**119**	*e*P	**Pn**	**14**	**52**	**46.5**	**-1.0**
	54nm,0.9s								
FITZ				*e*S	**Sn**	**14**	**56**	**00.2**	**-17**
FITZ	**Fitzroy Crossi**	**18.76**	**119**	P	**Pn**	**14**	**52**	**46.8**	**-0.7**
	0.9nm,0.3s,baz=274,slow=6.9,SNR=43								
MUN	**Mundaring**	**23.60**	**163**	*e*P	**P**	**14**	**53**	**39.4**	**+0.5**
KLBR	**Kellerberrin**	**23.72**	**160**	*e*P	**P**	**14**	**53**	**39.8**	**-0.1**
	54nm,1.4s,mb4.8								
KAKA	**Kakadu**	**23.73**	**100**	*e*P	**P**	**14**	**53**	**39.9**	**-0.1**
	28nm,0.6s,mb4.9								
NWAO	**Narrogin (SRO)**	**24.79**	**162**	P	**P**	**14**	**53**	**49.3**	**-0.4**
	32nm,0.8s,mb4.9,baz=338,slow=11,SNR=20								
NWAO				LR	LR	15	02	43.5	
	comp=Z,588nm,19.5s,MS4.1,baz=136,slow=34								
NST	**Nakhon Sawan**	**26.23**	**342**	P	**P**	**14**	**54**	**02.7**	**0.0**
	49nm,0.7s,mb5.2								
WRA	**Warramunga Arr**	**27.08**	**116**	P	**P**	**14**	**54**	**10.7**	**+0.3**
	15nm,0.7s,mb4.6,baz=286,slow=11,SNR=45								
WRA				PcP	PcP	14	57	32.3	+1.2
	3.6nm,0.7s,baz=302,slow=1.9,SNR=6.8								
WRAB	**Tennant Creek**	**27.08**	**116**	P	**P**	**14**	**54**	**11.0**	**+0.5**
	117nm,0.7s,mb5.5,SNR=11								
WRAB	**Tennant Creek**	**27.08**	**116**	*e*P	**P**	**14**	**54**	**11.0**	**+0.5**
WRAB				pmax	pmax				
	comp=Z,19nm,0.6s,mb4.8								
WRAB	**Tennant Creek**	**27.08**	**116**	*e*P	**P**	**14**	**54**	**11.0**	**+0.6**
	comp=Z,19nm,0.6s,mb4.8								
WB2	**Warramunga Arr**	**27.09**	**116**	*e*P	**P**	**14**	**54**	**10.3**	**-0.2**
FORT	**Forrest**	**28.03**	**142**	*e*P	**P**	**14**	**54**	**18.8**	**-0.1**
	comp=Z,15nm,0.6s,mb4.8								
ASPA	**Alice Springs**	**28.13**	**123**	⇓*i* P	**P**	**14**	**54**	**19.9**	**+0.1**
ASPA				*e*PcP	PcP	14	57	34.7	+1.1
ASAR	**Alice Springs**	**28.13**	**123**	P	**P**	**14**	**54**	**19.9**	**+0.1**
	comp=Z,7.1nm,0.7s,mb4.4,baz=298,slow=8.2,SNR=130								
ASAR				PcP	PcP	14	57	34.9	+1.3
	comp=Z,8.3nm,0.6s,baz=305,slow=2.1,SNR=23								
ASAR				LR	LR	15	06	29.1	
	comp=Z,401nm,18.7s,MS4.0,baz=306,slow=38								
ASAR	**Alice Springs**	**28.13**	**123**	P	**P**	**14**	**54**	**20.0**	**+0.2**
ASAR						14	57	34.9	
AS31	**Alice Springs**	**28.13**	**123**	⇓*i* P	**P**	**14**	**54**	**19.9**	**+0.1**
AS31				*e*PcP	PcP	14	57	34.7	+1.1
QIZ	**Qiongzhong**	**28.25**	**3**	P	**P**	**14**	**54**	**22.5**	**+1.6**
QIZ				S	**S**	**14**	**59**	**07.0**	**+1.5**
QIZ				LR	LR				
	comp=N,573nm,16.7s,MS4.3								
QIZ				LR	LR				
	comp=E,417nm,15.9s,MS4.3								
QIZ				LR	LR				
	comp=Z,840nm,16.9s,MS4.4								
CHG	**Chiang Mai**	**29.55**	**341**	⇓P	**P**	**14**	**54**	**33.0**	**+0.6**
	comp=Z,30nm,0.9s,mb5.0								
CHTO	**Chiang Mai**	**29.55**	**341**	P	**P**	**14**	**54**	**33.7**	**+1.3**
	SNR=5.2								
CHTO	**Chiang Mai**	**29.55**	**341**	*e*P	**P**	**14**	**54**	**32.4**	**0.0**
CHTO				pmax	pmax				
	comp=Z,20nm,0.8s,mb4.9								
CHTO	**Chiang Mai**	**29.55**	**341**	*e*P	**P**	**14**	**54**	**32.4**	**0.0**
	comp=Z,20nm,0.8s,mb4.9								
KMI	**Kunming**	**34.74**	**351**	P	**P**	**14**	**55**	**19.0**	**+1.0**
KMI				AP	pP	14	55	21.3	-4.0
KMI				PP	PP	14	56	39.0	+2.1
KMI				S	**S**	**15**	**00**	**55.3**	**+8.6**
KMI				XS	sS	15	01	01.0	+2.2
KMI				AMB	AMB				
	comp=Z,6.0nm,0.9s,mb4.5								
KMI				AMB	AMB				
	comp=Z,194nm,3.6s								
KMI				LR	LR				
	comp=N,1μm,15.3s,MS4.8								
KMI				LR	LR				
	comp=E,870nm,15.3s,MS4.8								
KMI				LR	LR				
	comp=Z,1μm,15.3s,MS4.8								
GYA	**Guiyang**	**35.66**	**357**	⇑*i* P	**P**	**14**	**55**	**27.3**	**+1.4**
GYA				AP	pP	14	55	31.8	-1.4
GYA				XP	sP	14	55	34.5	-1.7
GYA				PP	PP	14	56	48.3	+1.3
GYA				PCP	PcP	14	57	55.0	+1.0
GYA				S	**S**	**15**	**01**	**03.5**	**+2.6**
GYA				SCP	ScP	15	01	39.5	+1.1
GYA				SS	SS	15	03	23.8	-13
GYA				AMB	AMB				
	comp=Z,30nm,0.6s,mb5.4								
GYA				AMB	AMB				
	comp=Z,150nm,4.2s								
GYA				LR	LR				
	comp=N,540nm,14.8s,MS4.6								
GYA				LR	LR				
	comp=E,490nm,14.7s,MS4.6								
GYA				LR	LR				
	comp=Z,460nm,15.0s,MS4.4								
VIS	**Vishakhapatnam**	**36.65**	**317**	*e*P	**P**	**14**	**55**	**34.8**	**+0.5**
VIS				AMb	AMB	14	55	39.2	
	comp=Z,48nm,1.5s,mb5.1								
CTA	**Charters Tower**	**37.95**	**111**	*e*P	**P**	**14**	**55**	**46.8**	**+1.5**
	comp=Z,6.9nm,0.6s,mb4.6								
CTA	**Charters Tower**	**37.95**	**111**	*e*P	**P**	**14**	**55**	**46.8**	**+1.5**
CTA				pmax	pmax				
	comp=Z,7.0nm,0.6s								
STKA	**Stephens Creek**	**37.97**	**131**	⇑*i* P	**P**	**14**	**55**	**45.9**	**+0.4**
	comp=Z,52nm,0.7s,mb5.4								
STKA	**Stephens Creek**	**37.97**	**131**	P	**P**	**14**	**55**	**46.0**	**+0.5**
	comp=Z,66nm,0.7s,mb5.5,baz=303,slow=8.4,SNR=144								
STKA				LR	LR	15	11	16.4	
	comp=Z,223nm,19.7s,MS4.0,baz=123,slow=36								
BOK	**Bokaro**	**39.69**	**327**	*e*P	**P**	**14**	**56**	**00.2**	**+0.3**
BOK				AMb	AMB	14	56	02.5	
	comp=Z,58nm,1.0s,mb5.3								
HYB	**Hyderabad**	**39.80**	**312**	*i* P	**P**	**14**	**56**	**03.5**	**+2.6**
HYB	**Hyderabad**	**39.80**	**312**	*e*P	**P**	**14**	**56**	**00.0**	**-0.9**
CD2	**Chengdu**	**40.31**	**354**	P	**P**	**14**	**56**	**05.5**	**+0.4**
CD2				PP	PP	14	57	42.0	+4.0
CD2				S	**S**	**15**	**02**	**13.8**	**+2.6**
CD2				SS	SS	15	05	09.3	-0.8
CD2				AMB	AMB				
	comp=Z,30nm,0.9s,mb5.0								
CD2				LR	LR				
	comp=N,530nm,17.4s								
CD2				LR	LR				
	comp=Z,310nm,12.6s,MS4.4								
JOW	**Kunigami**	**40.79**	**28**	P	**P**	**14**	**56**	**08.7**	**-0.4**
	comp=Z,35nm,0.8s,mb5.0,baz=202,slow=5.5,SNR=4.6								
NGP	**Nagpur**	**41.92**	**317**	*e*P	**P**	**14**	**56**	**17.1**	**-1.2**
NGP				AMb	AMB	14	56	19.9	
	comp=Z,51nm,0.8s,mb5.2								
SSE	**Sheshan**	**42.04**	**16**	P	**P**	**14**	**56**	**21.0**	**+1.7**
SSE				AP	pP	14	56	24.0	-2.7
SSE				XP	sP	14	56	25.5	-4.2
SSE				PCP	PcP	14	58	15.3	+1.3
SSE				S	**S**	**15**	**02**	**40.5**	**+3.6**
SSE				XS	sS	15	02	46.5	-2.7
SSE				AMB	AMB				
	comp=Z,42nm,0.8s,mb5.1								
SSE				AMB	AMB				
	comp=Z,171nm,4.9s								
SSE				LR	LR				
	comp=N,92nm,18.1s,MS3.8								
SSE				LR	LR				
	comp=E,84nm,18.2s,MS3.8								
SSE				LR	LR				
	comp=Z,121nm,18.8s,MS3.8								
NJ2	**Nanjing**	**42.36**	**13**	*e*P	**P**	**14**	**56**	**21.0**	**-0.9**
NJ2				AMB	AMB				
	comp=Z,40nm,0.8s,mb5.1								
JIRN	**Jiri**	**42.69**	**330**	*e*P	**P**	**14**	**56**	**25.4**	**+0.9**
	comp=Z,151nm,0.9s,mb5.7								
PKI	**Pulchoki**	**43.00**	**329**	*e*P	**P**	**14**	**56**	**27.8**	**+0.7**
	comp=Z,87nm,1.0s,mb5.4								
PKI	**Pulchoki**	**43.00**	**329**	*e*P	**P**	**14**	**56**	**27.8**	**+0.7**
PKI				pmax	pmax				
	comp=Z,87nm,1.0s,mb5.4								
GUN	**Gumba**	**43.05**	**330**	*e*P	**P**	**14**	**56**	**28.3**	**+0.8**
	comp=Z,160nm,0.8s,mb5.8								
KAD	**Karad**	**43.05**	**308**	*e*P	**P**	**14**	**56**	**27.9**	**+0.5**
KAD				AMb	AMB	14	56	34.8	
	comp=Z,37nm,1.1s,mb5.0								
XAN	**Xi'an**	**43.17**	**1**	P	**P**	**14**	**56**	**28.5**	**0.0**
XAN				AP	pP	14	56	41.0	+5.0
XAN				AMB	AMB				
	comp=Z,69nm,0.8s,mb5.4								
XAN				LR	LR				
	comp=N,272nm,16.1s,MS4.4								
XAN				LR	LR				
	comp=E,291nm,16.9s,MS4.4								
XAN				LR	LR				
	comp=Z,469nm,14.0s,MS4.5								
DMN	**Daman**	**43.18**	**329**	*e*P	**P**	**14**	**56**	**28.9**	**+0.3**
	comp=Z,160nm,0.8s,mb5.8								
KKN	**Kakani**	**43.24**	**329**	*e*P	**P**	**14**	**56**	**29.3**	**+0.2**
	comp=Z,131nm,0.9s,mb5.7								
KKN	**Kakani**	**43.24**	**329**	*e*P	**P**	**14**	**56**	**29.3**	**+0.2**
KKN				pmax	pmax				
	comp=Z,131nm,0.9s,mb5.7								
GKN	**Gorkha**	**43.74**	**329**	*e*P	**P**	**14**	**56**	**33.3**	**+0.2**
	comp=Z,178nm,0.9s,mb5.8								
POO	**Poona**	**44.02**	**309**	*e*P	**P**	**14**	**56**	**33.0**	**-2.3**
KOLN	**Koldanda**	**44.09**	**328**	*e*P	**P**	**14**	**56**	**36.3**	**+0.4**
	comp=Z,268nm,0.8s,mb6.0								
BHPL	**Bhopal**	**44.44**	**317**	*e*P	**P**	**14**	**56**	**38.6**	**-0.1**
BHPL				AMb	AMB	14	56	41.8	
	comp=Z,39nm,0.8s,mb5.2								
LZH	**Lanzhou**	**45.43**	**355**	⇑P	**P**	**14**	**56**	**47.0**	**+0.5**
LZH				AP	pP	14	56	57.0	+3.0
LZH				XP	sP	14	57	00.8	+3.8
LZH				PP	PP	14	58	34.3	+1.3
LZH				PPP		14	59	17.3	
LZH				*e*S	**S**	**15**	**03**	**27.0**	**+0.6**
LZH				XS	sS	15	03	43.5	+4.8
LZH				SS	SS	15	06	43.5	-6.

MJAR LR LR 15 22 17.0
CN2 Changchun 55.12 15 *e*P **P** **14 57 59.3 -0.6**
CN2 PCP PcP 14 59 01.8 +0.8
CN2 *e*S **S** **15 05 42.0 +0.7**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,18.0s,MS4.5
CN2 LR LR
comp=E,200nm,18.0s,MS4.5
CN2 LR LR
comp=Z,200nm,18.0s,MS4.2
WMQ Urumqi 56.21 342 P **P** **14 58 09.8 +2.0**
WMQ AP pP 14 58 14.5 -0.9
WMQ XP sP 14 58 16.8 -1.6
WMQ PCP PcP 14 59 07.3 +2.0
WMQ PP PP 15 00 16.5 +3.4
WMQ SCP ScP 15 03 04.5 +1.6
WMQ S **S** **15 05 57.0 +1.1**
WMQ XS sS 15 06 04.8 -3.7
WMQ AMB AMB
comp=Z,50nm,1.4s,mb5.3
WMQ AMB AMB
comp=Z,309nm,5.5s
WMQ LR LR
comp=N,1μm,17.8s,MS5.2
WMQ LR LR
comp=E,1μm,16.7s,MS5.2
WMQ LR LR
comp=Z,1μm,18.3s,MS5.1
SONM Songino Array 56.98 358 P **P** **14 58 13.3 +0.1**
comp=Z,21nm,0.7s,mb5.3,baz=174,slow=7.7,SNR=169
SONM LR LR 15 24 25.8
comp=Z,366nm,21.7s,MS4.4,baz=183,slow=38
ULN Ulaanbaatar 57.00 359⇑*e*P **P** **14 58 13.8 +0.4**
ULN Ulaanbaatar 57.00 359 *e*P **P** **14 58 12.9 -0.4**
comp=Z,35nm,0.8s,mb5.4
MDJ Mudanjiang 57.02 18 P **P** **14 58 13.0 -0.5**
MDJ AP pP 14 58 17.5 -3.7
MDJ PCP PcP 14 59 08.5 +0.1
MDJ S **S** **15 06 04.3 -2.3**
MDJ SCS ScS 15 07 58.0 -3.3
MDJ SS SS 15 09 57.0 +1.7
MDJ AMB AMB
comp=Z,12nm,1.4s,mb4.7
MDJ AMB AMB
comp=Z,68nm,5.0s
MDJ LR LR
comp=N,211nm,19.3s,MS4.4
MDJ LR LR
comp=E,195nm,17.2s,MS4.4
MDJ LR LR
comp=Z,260nm,17.9s,MS4.4
KSH Kashi 57.24 330 *e*P **P** **14 58 15.0 -0.1**
KSH *e*AP pP 14 58 20.0 -2.7
KSH *e*XP sP 14 58 23.3 -2.4
KSH *e*PCP PcP 14 59 10.0 +0.7
KSH *e*PP PP 15 00 23.3 +1.1
KSH *e*S **S** **15 06 07.3 -2.2**
KSH *e*PS 15 06 26.0
KSH *e*SCS ScS 15 08 00.3 -2.6
KSH *e*SS SS 15 09 57.5 -1.2
KSH LR LR
comp=N,264nm,5.0s
KSH LR LR
comp=E,308nm,4.5s
KSH LR LR
comp=Z,340nm,12.8s,MS4.6
WSAR Wadi Sarin 58.56 304 LR LR 15 22 31.7
comp=Z,353nm,20.3s,MS4.5,baz=111,slow=35
KZA Kyzart 59.58 332 P **P** **14 58 32.7 +1.4**
SNR=12
TKM2 Tokmak 2 60.08 333 P **P** **14 58 34.7 -0.1**
SNR=31
TKM2 Tokmak 2 60.08 333 *i*P **P** **14 58 33.9 -0.9**
KBK Karagaybulak 60.17 332 P **P** **14 58 36.4 +1.0**
SNR=10
AML Almayashu 60.36 331 P **P** **14 58 36.8 +0.1**
SNR=11
FRU Bishkek 60.46 332 *e*P **P** **14 58 37.0 -0.4**
FRU *e* 14 58 47.0
FRU pmax pmax
comp=Z,40nm,2.0s,mb5.1
MK31 Makanchi Array 60.61 340 P **P** **14 58 37.2 -1.2**
MK31 pmax pmax
comp=Z,11nm,0.5s,mb5.2
MKAR Makanchi Array 60.61 340 P **P** **14 58 38.3 -0.2**
comp=Z,25nm,0.7s,mb5.5,baz=142,slow=7.1,SNR=169
MKAR Makanchi Array 60.61 340 *i*P **P** **14 58 38.2 -0.2**
MKAR pmax pmax
comp=Z,25nm,0.7s
EKS2 Erkin-Say 60.72 331 P **P** **14 58 39.4 +0.2**
SNR=12
USP Ospenovka 60.85 332 P **P** **14 58 39.7 -0.4**
SNR=6.5
TLY Talaya 60.95 357 P **P** **14 58 42.3 +1.5**
SNR=9.8
TLY Talaya 60.95 357⇑*i*P **P** **14 58 40.6 -0.2**
TLY Talaya 60.95 357 *e*P **P** **14 58 40.8 +0.1**
comp=Z,14nm,1.2s,mb5.0
MOY Mondy 61.13 355 *e*P **P** **14 58 43.4 +1.4**
MOY pmax pmax
comp=Z,58nm,2.1s,mb5.3
CIT Chita 61.30 4 *e*P **P** **14 58 43.7 +0.6**
CIT pmax pmax
comp=Z,69nm,2.1s,mb5.4
IRK Irkutsk 61.48 357 *e*P **P** **14 58 44.6 +0.3**
IRK pmax pmax
comp=Z,44nm,1.8s,mb5.3
KLR Kul'dur 61.82 17 *e*P **P** **14 58 41.8 -4.9**
KLR pmax pmax
comp=Z,56nm,1.8s,mb5.4
HABR Khabarovsk 62.18 20 *e*P **P** **14 58 48.6 -0.5**
HABR *e*S **S** **15 07 12.5 -0.6**
HABR pmax pmax
comp=Z,19nm,0.8s,mb5.3
KK31 Karatay Array 62.65 330 *i*P **P** **14 58 51.3 -0.9**
KKAR Karatay Array 62.65 330 *i*P **P** **14 58 51.2 -1.0**
YSS Yuzh-Sakhalins 63.84 25 P **P** **14 58 58.6 -1.5**
YSS *e* pP 14 59 06.0 -1.9
YSS *e* 14 59 11.3
YSS Yuzh-Sakhalins 63.84 25⇑*e*P **P** **14 58 59.5 -0.6**
KURK Kurchatov 65.22 340 P **P** **14 59 08.6 -0.5**
comp=Z,295nm,0.8s,SNR=50
KURK Kurchatov 65.22 340 P **P** **14 59 09.3 +0.1**
SNR=20
KURK Kurchatov 65.22 340 *e*P **P** **14 59 08.7 -0.4**
KURK *e* 14 59 19.0
KURK pmax pmax
comp=Z,37nm,0.8s,mb5.5
KURK Kurchatov 65.22 340 *e*P **P** **14 59 08.7 -0.5**
comp=Z,37nm,0.8s,mb5.5
KURK *e* 14 59 19.0
MAW Mawson 65.55 198 *e*P **P** **14 59 11.0 -0.2**
comp=Z,9.7nm,0.6s,mb5.0
MAW *e*pP pP 14 59 21.6 +2.6
MAW Mawson 65.55 198 P **P** **14 59 11.0 -0.3**
comp=Z,12nm,0.6s,mb5.1,baz=52,slow=5.9,SNR=50
MAW LR LR 15 24 13.4
comp=Z,80nm,18.0s,MS4.0,baz=250,slow=33
MAW Mawson 65.55 198 *e*P **P** **14 59 11.0 -0.2**
MAW *e**PP pP 14 59 21.6 +2.6
MAW pmax pmax
comp=Z,10.0nm,0.6s
ZAL Zalesovo 66.19 345 P **P** **14 59 14.2 -1.2**
comp=Z,7.1nm,0.7s,mb4.8,baz=316,slow=5.1,SNR=33
ZAL LR LR 15 31 59.6
comp=Z,250nm,18.6s,MS4.5,baz=309,slow=40
BOD Bodaibo 67.11 3 *e*P **P** **14 59 20.3 -0.9**
BOD *e* 14 59 33.6
BOD pmax pmax
comp=Z,17nm,1.3s,mb4.9
BOD pmax pmax
comp=Z,18nm,1.0s,mb5.1
CLNS Chul'man 67.35 10 *e*P **P** **14 59 21.7 -1.1**
CLNS pmax pmax
comp=Z,21nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=E,8.0nm,0.7s
NVS Novosibirsk 67.40 344 *i*P **P** **14 59 21.7 -1.4**
QRN Al-Qurain 69.62 305 *e*P **P** **14 59 36.6 -0.4**
QRN AMb AMB 14 59 39.1
comp=Z,48nm,1.0s,mb5.4
KBD Kabd 69.97 306 *e*P **P** **14 59 38.1 -1.0**
KBD AMb AMB 14 59 40.4
comp=Z,89nm,0.5s,mb5.9
RDF Al-Radifah 69.99 305 *e*P **P** **14 59 39.1 -0.1**
RDF AMb AMB 14 59 41.5
comp=Z,70nm,1.1s,mb5.5
UMR Umm Al-Rimmam 70.10 306 *e*P **P** **14 59 39.9 0.0**
UMR AMb AMB 14 59 41.2
comp=Z,97nm,0.7s,mb5.9
BVA0 Borovoye Array 70.12 337 *i*P **P** **14 59 39.6 -0.4**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BVAR Borovoye Array 70.12 337 LR LR 15 35 14.4
comp=Z,210nm,18.1s,MS4.4,baz=139,slow=40
BRVK Borovoye 70.18 337 P **P** **14 59 40.6 +0.2**
comp=Z,109nm,1.0s,mb5.7,SNR=10
BRVK Borovoye 70.18 337 P **P** **14 59 40.1 -0.4**
SNR=12
BRVK Borovoye 70.18 337 *e*P **P** **14 59 39.9 -0.5**
BRVK pmax pmax
comp=Z,15nm,1.0s,mb4.9
BRVK Borovoye 70.18 337 *e*P **P** **14 59 39.9 -0.5**
comp=Z,15nm,1.0s,mb4.9
NAY Al-Naaiem 70.36 306 *e*P **P** **14 59 40.9 -0.6**
NAY AMb AMB 14 59 43.5
comp=Z,25nm,1.1s,mb5.1
MIB Mutribah 70.50 306 *e*P **P** **14 59 41.7 -0.7**
MIB AMb AMB 14 59 44.6
comp=Z,40nm,0.7s,mb5.5
CHKZ Chkalovo 70.53 337 *e*P **P** **14 59 42.1 -0.4**
CHKZ pmax pmax
comp=Z,34nm,0.7s,mb5.4
CHKZ Chkalovo 70.53 337 *e*P **P** **14 59 42.0 -0.5**
comp=Z,34nm,0.7s,mb5.4
ZRNK Zerenda 70.61 336 *e*P **P** **14 59 42.5 -0.5**
ZRNK pmax pmax
comp=Z,23nm,0.7s,mb5.2
ZRNK Zerenda 70.61 336 *e*P **P** **14 59 42.5 -0.5**
comp=Z,23nm,0.7s,mb5.2
KMBO Kilima Mbogo 71.31 272 P **P** **14 59 48.6 +1.4**
comp=Z,3.6nm,0.9s,mb4.3,baz=68,slow=5.7,SNR=7.4
KMBO LR LR 15 24 58.9
comp=Z,127nm,20.7s,MS4.2,baz=94,slow=31
AB31 Akbulak array 72.20 329 *i*P **P** **14 59 51.6 -1.0**
YAK Yakutsk 73.08 10 *e*P **P** **14 59 57.5 -0.3**
YAK pmax pmax
comp=Z,60nm,0.9s,mb5.5
YAK pmax pmax
comp=N,13nm,1.2s
YAK Yakutsk 73.08 10 *e*P **P** **14 59 56.4 -1.5**
comp=N,114nm,0.8s,mb5.8
VNDA Vanda 73.38 170 P **P** **14 59 59.4 -0.3**
comp=N,14nm,0.9s,mb4.9,baz=307,slow=5.9,SNR=58
VNDA Vanda 73.38 170 *e*P **P** **14 59 59.0 -0.6**
VNDA pmax pmax
comp=Z,16nm,0.9s
VNDA Vanda 73.38 170 *e*P **P** **14 59 59.0 -0.6**
comp=Z,16nm,0.9s,mb5.0
AKTK Aktyubinsk 73.91 329 P **P** **15 00 02.9 +0.2**
AKTO Aktyubinsk 73.91 329 P **P** **15 00 02.9 +0.2**
comp=Z,2.0nm,0.5s,mb4.3,baz=119,slow=19,SNR=13
SBA Scott Base 74.45 169 *e*P **P** **15 00 06.4 +0.5**
SBA pmax pmax
comp=Z,18nm,0.9s,mb5.0
SBA Scott Base 74.45 169 *e*P **P** **15 00 06.4 +0.5**
comp=Z,18nm,0.9s,mb5.0
PET Petropavlovsk 75.35 29 *e*P **P** **15 00 10.9 -0.2**
PET *e*S S 15 09 48.5 -0.7
PET *e*PS 15 10 28.1
PET *e*SS SS 15 14 44.4 +5.0
PET pmax pmax
comp=Z,31nm,0.7s,mb5.3
PET pmax pmax
comp=Z,100nm,12.3s
PET MLR MLR
comp=Z,100nm,17.0s,MS4.2
PET Petropavlovsk 75.35 29 *e*P **P** **15 00 10.6 -0.5**
comp=Z,12nm,0.5s,mb5.1
MA2 Magadan 76.56 21⇑*e*P **P** **15 00 18.2 +0.2**
MA2 pmax pmax
comp=Z,50nm,1.1s,mb5.4
MA2 Magadan 76.56 21⇑*e*P **P** **15 00 18.3 +0.3**
SVE Sverdlovsk 76.77 335 *e*P **P** **15 00 18.9 -0.3**
SVE *e* 15 00 30.0
SVE *e*S S 15 10 06.0 +1.1
SVE pmax pmax
comp=Z,60nm,2.0s,mb5.2
SVE MLR MLR
comp=E,200nm,16.0s
SVE MLR MLR
comp=Z,200nm,16.0s,MS4.5
ARU Arti 77.39 334⇓*i*P **P** **15 00 20.5 -2.1**
ARU *e* 15 00 31.6
ARU *e* 15 03 14.5
ARU *e*PPP 15 05 03.9
ARU *e*S S 15 10 08.6 -3.0
ARU *e*SS SS 15 15 06.3 -4.0
ARU pmax pmax
comp=Z,21nm,1.3s,mb4.9
LSZ Lusaka 78.31 256 *e*P **P** **15 00 27.4 -0.4**
LSZ *e* 15 00 38.9
LSZ pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
LSZ Lusaka 78.31 256 *e*P **P** **15 00 27.4 -0.4**
comp=Z,9.5nm,0.7s,mb4.8
LSZ *e* 15 00 38.9
ZEI Tsey 78.33 317 *e*P **P** **15 00 29.6 +1.7**
ZEI *e**PP pP 15 00 39.5 +3.7
ZEI *e* 15 03 23.2
ZEI pmax pmax
comp=Z,13nm,0.4s,mb5.2
KIV Kislovodsk 79.62 318 *e*P **P** **15 00 36.1 +1.1**
KIV *e* 15 03 36.5
KIV *e*S S 15 10 33.6 -2.0
KIV pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
KIV Kislovodsk 79.62 318⇑*i*P **P** **15 00 36.1 +1.1**
BOSA Boshof 79.68 243 P **P** **15 00 36.2 +1.0**
comp=Z,3.4nm,0.8s,mb4.3,baz=76,slow=5.4,SNR=4.9
BOSA LR LR 15 31 11.3
comp=Z,153nm,18.8s,MS4.4,baz=170,slow=32
ASF Jabal al Asfar 79.72 305 P **P** **15 00 38.1 +2.6**
comp=Z,7.6nm,0.8s,mb4.7,baz=19,slow=3.4,SNR=10
ASF LR LR 15 35 48.3
comp=Z,109nm,19.8s,MS4.2,baz=81,slow=36
MALT Malatya 80.52 311 *e*P **P** **15 00 41.2 +1.4**
MALT pmax pmax
comp=Z,11nm,1.3s,mb4.6
MALT Malatya 80.52 311 *e*P **P** **15 00 41.2 +1.4**
comp=Z,11nm,1.3s,mb4.6
QSPA South Pole Qui 80.63 180 *e*P **P** **15 00 40.1 -0.3**
comp=Z,23nm,0.7s,mb5.2
MMAI Mount Meron Ar 81.18 306 P **P** **15 00 45.0 +1.7**
comp=Z,8.4nm,0.7s,mb4.8,baz=97,slow=6.8,SNR=9.6
TIXI Tiksi 81.98 6⇑*e*P **P** **15 00 46.5 -1.1**
VRHR Novokhopersk 83.17 324 *e*P **P** **15 00 54.5 +0.7**
VRHR pmax pmax
comp=Z,50nm,0.9s,mb5.5
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.5s
ANN Anapa 83.43 317 *e*P **P** **15 00 47.5 -7.6**
ANN *i* *PP pP 15 00 58.3 -4.8
ANN pmax pmax
comp=Z,26nm,1.1s,mb5.2
BR131 Keskin Array S 84.50 312 *e*P **P** **15 01 00.8 +0.2**
comp=Z,16nm,1.0s,mb5.1
BRTR Keskin Array B 84.50 312 P **P** **15 01 01.0 +0.4**
comp=Z,11nm,0.9s,mb5.0,baz=133,slow=6.6,SNR=43
BRTR LR LR 15 40 42.9
comp=Z,104nm,21.3s,MS4.2,baz=98,slow=37
VRSR Storozhevoye 84.63 324 *e*P **P** **15 01 00.9 -0.3**
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.4
VRSR pmax pmax
comp=N,7.0nm,0.7s
VRSR pmax pmax
comp=E,20nm,0.9s
VOR Voronezh 84.82 324 *e*P **P** **15 01 02.0 -0.2**
VOR pmax pmax
comp=Z,60nm,1.7s,mb5.5
SIM Simferopol' 85.71 317 *e*P **P** **15 01 07.7 +1.1**
SIM pmax pmax
comp=Z,19nm,0.8s,mb5.4
MOS Moscow 87.17 328 *e*P **P** **15 01 11.6 -2.2**
MOS *e* 15 01 26.1
OBN Obninsk 87.51 327 *c i*P **P** **15 01 16.1 +0.7**
OBN *e**PP pP 15 01 26.6 +3.2
OBN *e* 15 04 41.7
OBN *e*SS SS 15 17 42.5 +1.9
OBN pmax pmax
comp=Z,90nm,1.8s,mb5.7
OBN Obninsk 87.51 327 *e*P **P** **15 01 15.2 -0.2**
comp=Z,52nm,1.1s,mb5.7
SNAA Sanae 87.71 197⇓*i*P **P** **15 01 16.8 +0.4**
SNAA *e* 15 01 19.1
SNAA *e* 15 01 20.6
SNAA *e* 15 01 21.6
SNAA Sanae 87.71 197⇑*e*P **P** **15 01 17.1 +0.7**
TSUM Tsumeb 87.82 251 *e*P **P** **15 01 18.2 +1.3**
comp=Z,9.4nm,0.9s,mb5.0
VNA1 Neumayer--Stat 89.75 197⇓*i*P **P** **15 01 26.9 +0.9**
VNA1 *e* 15 01 27.7
VNA1 *e* 15 01 29.3
VNA1 *e* 15 01 31.0
AKASG Malin Array Be 90.46 321 P **P** **15 01 28.8 -0.6**
comp=Z,3.4nm,0.6s,mb4.8,baz=87,slow=4.6,SNR=16
AKASG PP PP 15 05 04.8 +0.8
comp=Z,0.3nm,0.3s,baz=98,slow=6.4,SNR=11
AKASG LR LR 15 50 10.4
comp=Z,80nm,18.8s,MS4.2,baz=90,slow=41
AKASG Malin Array Be 90.46 321 P **P** **15 01 28.8 -0.5**
AKASG 15 05 04.8
AKASG Malin Array Be 90.46 321 P **P** **15 01 28.8 -0.6**
AKASG PP PP 15 05 04.8 +0.8
AKASG LR LR 15 50 10.4
AKBB Malin Array Si 90.46 321 *e*P **P** **15 01 28.8 -0.5**
MLR Muntele Rosu 91.43 316 P **P** **15 01 34.5 +0.6**
comp=Z,6.4nm,1.0s,mb4.9,baz=108,slow=7.0,SNR=8.1
JOF Joensuu 92.50 333 *e*p **P** **15 01 38.1 -0.7**
comp=Z,8.8nm,0.8s,mb5.2
JOF Joensuu 92.50 333 *e*P **P** **15 01 38.1 -0.7**
JOF pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
FIA1 FINESS Array S 94.55 331 *e*P **P** **15 01 48.1 -0.1**
FINES FINESS Array B 94.55 331 P **P** **15 01 48.1 -0.1**
comp=Z,3.7nm,0.7s,mb4.9,baz=108,slow=6.2,SNR=18
KAF Kangasniemi 94.57 332 *e*p **P** **15 01 47.3 -1.0**
comp=Z,10.0nm,0.8s,mb5.3
KAF Kangasniemi 94.57 332 *e*P **P** **15 01 47.3 -1.0**
KAF pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
ARCES ARCESS Array B 96.26 339 P **P** **15 01 57.0 +1.0**
comp=Z,2.7nm,0.8s,mb4.7,baz=103,slow=5.5,SNR=5.7
ARCES LR LR 15 53 36.5
comp=Z,163nm,19.0s,MS4.5,baz=99,slow=41
GERES GERESS Array B 100.14 318 P Pdif 15 02 14.1 +0.6
comp=Z,0.3nm,0.4s,baz=46,slow=7.0,SNR=3.3
HFS Hagfors 100.45 330 P Pdif 15 02 14.1 -0.7
comp=Z,2.1nm,0.8s,baz=149,slow=3.1,SNR=6.0
NOA NORSAR Array B 101.67 330 P Pdif 15 02 20.0 -0.3
comp=Z,0.4nm,0.6s,baz=115,slow=6.8,SNR=2.6
YKA Yellowknife Ar 118.55 21 PKP PKPdf 15 07 14.7 -0.7
comp=Z,2.6nm,0.6s,baz=332,slow=1.8,SNR=8.6
YKA Yellowknife Ar 118.55 21 PKP PKPdf 15 07 14.7 -0.7
YBH Yreka Blue Hor 124.75 45⇑P PKPdf 15 07 28.7 +1.3
baz=125
J05A Fort Rock 125.19 43⇑P PKPdf 15 07 30.1 +2.0
baz=125
GASB Alder Springs 125.45 48⇓P PKPdf 15 07 32.3 +3.6
baz=125
MNRC McLaughlin Nat 125.91 48⇑P PKPdf 15 07 32.5 +2.9
baz=126
J06A Christmas Vall 125.94 43⇓P PKPdf 15 07 31.2 +1.6
baz=126
M05C Lookout 125.98 45⇑P PKPdf 15 07 31.8 +2.1
baz=126
K06A Valley Falls 126.05 43⇑P PKPdf 15 07 31.8 +1.9
baz=126
K07A Rock Creek Ran 126.77 43 P PKPdf 15 07 33.1 +1.9
baz=127
J08A Circle Bar Ran 127.00 42⇑P PKPdf 15 07 32.9 +1.3
baz=127
N06A Buffalo Meadow 127.13 45⇓P PKPdf 15 07 33.8 +1.9
baz=127
M07A Soldier Meadow 127.34 44⇓P PKPdf 15 07 35.5 +3.2
baz=127
O06A Flanigan 127.36 46⇓P PKPdf 15 07 34.7 +2.4
baz=127
HAST UC Hastings Re 127.36 51⇑P PKPdf 15 07 35.1 +2.8
baz=127
PACP Pacheco Peak 127.38 50⇑P PKPdf 15 07 35.1 +2.8
baz=127
N07B Gerlach 127.72 45⇓P PKPdf 15 07 35.6 +2.6
baz=128
O07A Toulon 128.03 46⇓P PKPdf 15 07 35.8 +2.2
baz=128
S06C San Francisco 128.16 49⇓P PKPdf 15 07 36.1 +2.3
baz=128
N08A GE Springer Mi 128.31 45⇓P PKPdf 15 07 36.5 +2.4
baz=128
NVAR Mina Array Bea 129.10 48 PKP PKPdf 15 07 38.6 +3.0
comp=Z,1.4nm,0.7s,baz=242,slow=0.9,SNR=12
EGMT Eagleton 129.80 33 *e*PKPdf PKPdf 15 07 37.1 +0.2
PLCA Paso Flores 130.14 181 PKP PKPdf 15 07 40.0 +2.4
comp=Z,1.2nm,0.6s,baz=74,slow=19,SNR=4.1
S09A Goldfield 130.16 48⇓P PKPdf 15 07 40.5 +2.9
baz=130
O12A Currie 130.86 44⇑P PKPdf 15 07 42.0 +3.0
baz=131
U10A Ash Meadows, A 131.31 49⇓P PKPdf 15 07 43.3 +3.5
baz=131
GSC Goldstone 131.36 51⇓P PKPdf 15 07 42.9 +3.0
baz=131
V12A Nelson 132.68 49⇑P PKPdf 15 07 45.9 +3.5
baz=133
PDAR Pinedale Array 132.98 38 PKP PKPdf 15 07 44.1 +1.1
comp=Z,0.4nm,0.6s,baz=80,slow=1.8,SNR=4.2
W14A Seligman 134.22 49⇑P PKPdf 15 07 50.0 +4.7
baz=134
SCHQ Schefferville 134.51 356 PKP PKPdf 15 07 46.6 +0.7
comp=Z,1.4nm,0.7s,baz=268,slow=3.6,SNR=5.1
X14A Yava 134.66 50⇑P PKPdf 15 07 50.8 +4.7
baz=135
CPUP Villa Florida 141.93 201 PKP PKPdf 15 08 01.4 +1.9
comp=Z,1.5nm,0.6s,baz=86,slow=1.0,SNR=4.0
WMOK Wichita Mounta 144.50 41 *e*PKIKP PKPdf 15 08 03.4 -0.6
LONY Lake Ozonia 144.78 4 *e*PKP PKPdf 15 08 03.8 -0.7
LBNH Lisbon 145.26 1 *e*PKIKP PKPdf 15 08 05.2 -0.1
MIV Mineville/With 145.38 3 *e*PKP PKPdf 15 08 06.2 +0.7
NCB Newcomb 145.45 3 *e*PKP PKPdf 15 08 06.0 +0.4
BDFB Brasilia 145.96 223 PKPbc PKPbc 15 08 08.8 +1.5
comp=Z,7.6nm,0.6s,baz=184,slow=3.1,SNR=14
ACCN Adirondack Com 146.07 3 *e*PKPbc PKPbc 15 08 08.1 +0.5
JCT Junction City 146.28 47 *e*PKP2 PKPab 15 08 09.0 0.0
CCM Cathedral Cave 146.36 29 *e*PKP2 PKPab 15 08 07.7 -1.6
FVM French Village 146.80 28 PKP2 PKPab 15 08 09.8 -1.2
ALLY Allegheny Colle 146.96 12 PKPbc PKPbc 15 08 10.7 +0.5
HRV Harvard--Oak R 147.00 0 *e*PKP2 PKPab 15 08 11.3 -0.5
BINY Binghamton 147.07 6 *e*PKPbc PKPbc 15 08 11.2 +0.7
ACSO Alum Creek Sta 147.62 17 *e*PKPbc PKPbc 15 08 12.8 +0.8
MIAR Mount Ida 147.80 36 *e*PKP2 PKPab 15 08 13.9 -1.1
PARMO Parma 148.19 29 *e*PKPbc PKPbc 15 08 14.8 +1.2
WCI Wyandotte Cave 148.34 23 *e*PKP2 PKPbc 15 08 14.8 +0.9
SSPA Standing Stone 148.35 9 *e*PKPbc PKPbc 15 08 14.4 +0.4
MVL Millersville 149.20 7 *e*PKPbc PKPbc 15 08 16.6 +0.5
WVT Waverly 149.50 27 *e*PKP2 PKPbc 15 08 17.6 +0.7
PLAL Pickwick Lake 150.34 28 *e*PKPbc PKPbc 15 08 19.0 +0.1
TZTN Tazewell 150.82 20 *e*PKPbc PKPbc 15 08 20.7 +0.6
BLA Blacksburg 151.13 15 *e*PKIKP PKPbc 15 08 21.7 +0.9
CPCT Cooper Cave 151.45 23 *e*PKPbc PKPbc 15 08 22.5 +1.0
LRAL Lakeview Retre 152.45 29 *e*PKPbc PKPbc 15 08 24.7 +0.9
GOGA Godfrey 153.66 23 *e*PKIKP PKPbc 15 08 27.5 +1.1
LPAZ La Paz 154.29 187 PKP PKPdf 15 08 22.6 +3.1
comp=Z,1.0nm,0.8s,baz=181,slow=1.9,SNR=5.4
LPAZ PKPbc PKPbc 15 08 30.8 +3.0
comp=Z,3.1nm,0.8s,baz=131,slow=3.0,SNR=15
LPAZ La Paz 154.29 187 *e*PKPdf PKPdf 15 08 22.6 +3.1
LPAZ *e*PKPbc PKPbc 15 08 30.8 +3.0

PRU ***25*** *14:56:53.3, 5028N×1889E, h0km*
WAR 25 14:56:54.0, 5024N×1896E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ID ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.54**	**92**	*e*Pg	Pg	14 57 04.0	-0.4

OJC				*e*Sg	Sg	14 57 12.0	+0.6
OKC	**Ostrava-Krasne**	**0.66**	**232**	*e*PG	Pg	14 57 06.0	-0.7
NIE	**Niedzica**	**1.21**	**133**	*e*Pg	Pg	14 57 16.9	-0.2
NIE				*e*Sg	Sg	14 57 34.6	+1.8
DPC	**Dobruska-Polom**	**1.69**	**275**	*e*PG	Pg	14 57 23.0	-3.4
DPC				*e*SG	Sg	14 57 45.3	-3.1
	16nm,0.5s						
VYHS	**Vyhne**	**1.75**	**183**	*e*PN	Pn	14 57 24.1	-1.5
VYHS				*e*SN	Sn	14 57 47.3	-1.4
KSP	**Ksiaz**	**1.80**	**290**	*e*Pg	Pg	14 57 26.9	-1.6
KSP				*e*Sg	Sg	14 57 50.2	-1.7
UPC	**Upice**	**1.90**	**279**	*e*SG	Sg	14 57 52.8	-2.4
KOLS	**Kolonicke sedl**	**2.53**	**120**	*e*PN	Pn	14 57 36.0	-0.3
KOLS				*e*SN	Sn	14 58 05.3	-2.4
PRU	**Pruhonice**	**2.85**	**267**	*e*PG	Pg	14 57 45.5	-3.2
PRU				*e*SG	Sg	14 58 23.8	-1.9
	3.4nm,0.5s						
BRG	**Berggiesshubel**	**3.26**	**283**	SG	Sg	14 58 37.8	-0.9
	2.4nm,0.5s						
KHC	**Kasperske Hory**	**3.67**	**254**	*e*PN	Pn	14 57 51.3	-0.6
KHC				*ex*	x	14 57 57.9	
KHC				*e*SG	Sg	14 58 49.2	-2.6
	4.1nm,0.5s						

IDC ***25*** *15:00:06.2±0.8, 9.34S×108.45E, h0km, mb4.2/8, mb1 4.2/9, mb1mx4.1/17, mbtmp4.1/9, ML3.6/1, Error ellipse: s-maj=34.7km s-min=16.6km az=54.0*
NEIC ***25*** *15:00:07.6±0.3, 9.33S×108.45E, h10km, mb4.5/8, Error ellipse: s-maj=16.7km s-min=6.4km az=50.0*
ISCJB ***25*** *15:00:09.4±0.6, 9.3S±0.1×108.6E±0.1, h33km, mb4.3/16, Error ellipse: s-maj=24.6km s-min=9.3km az=100.4*
MOS ***25*** *15:00:09.4±0.8, 9.30S×108.58E, h33km, mb4.7/5, Error ellipse: s-maj=28.0km s-min=13.5km az=117.9*
ISC 25 15:00:11.6±0.6, 94S±01×1085E±01, h35km, n35, σ0s54/31, mb4.3/16, 7C-1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.78**	**119**	*e*P	**Pn**	**15 04 28.6**	**+0.2**
	5.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.78**	**119**	P	**Pn**	**15 04 28.0**	**-0.4**
	0.1nm,0.3s,baz=78,slow=17,SNR=8.3						
WRA	**Warramunga Arr**	**27.09**	**116**	P	**P**	**15 05 51.0**	**0.0**
	1.6nm,0.6s,mb3.7,baz=289,slow=11,SNR=11						
WRA				PcP	PcP	15 09 12.1	+0.9
	0.7nm,0.7s,baz=302,slow=1.9,SNR=4.6						
WRAB	**Tennant Creek**	**27.10**	**116**	*e*P	**P**	**15 05 51.0**	**0.0**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
WRAB	**Tennant Creek**	**27.10**	**116**	*e*P	**P**	**15 05 51.0**	**0.0**
	comp=Z,5.1nm,0.8s,mb4.1						
WB2	**Warramunga Arr**	**27.10**	**116**	*e*P	**P**	**15 05 51.0**	**0.0**
ASAR	**Alice Springs**	**28.15**	**123**	P	**P**	**15 06 00.2**	**-0.2**
	comp=Z,0.9nm,0.6s,mb3.6,baz=299,slow=9.6,SNR=12						
ASAR				PcP	PcP	15 09 15.2	+1.5
	comp=Z,1.2nm,0.7s,baz=298,slow=1.8,SNR=17						
STKA	**Stephens Creek**	**37.98**	**131**	*i*P	**P**	**15 07 26.6**	**+0.6**
	comp=Z,7.1nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**37.98**	**131**	P	**P**	**15 07 26.6**	**+0.6**
	comp=Z,8.3nm,0.7s,mb4.6,baz=301,slow=8.1,SNR=22						
SONM	**Songino Array**	**56.96**	**358**	P	**P**	**15 09 53.5**	**+0.1**
	comp=Z,1.4nm,0.5s,mb4.2,baz=175,slow=8.3,SNR=17						
ULN	**Ulaanbaatar**	**56.97**	**359**	*e*P	**P**	**15 09 53.7**	**+0.2**
ULN	**Ulaanbaatar**	**56.97**	**359**	*e*P	**P**	**15 09 53.5**	**0.0**
	comp=Z,4.0nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**60.59**	**340**	P	**P**	**15 10 18.4**	**-0.2**
	comp=Z,2.4nm,0.4s,mb4.7,baz=146,slow=7.5,SNR=32						
MKAR	**Makanchi Array**	**60.59**	**340**	*e*P	**P**	**15 10 18.3**	**-0.3**
MKAR	**Makanchi Array**	**60.59**	**340**	P	**P**	**15 10 18.4**	**-0.2**
KURK	**Kurchatov**	**65.20**	**340**	*d i*P	**P**	**15 10 48.9**	**-0.4**
KURK	**Kurchatov**	**65.20**	**340**	*e*P	**P**	**15 10 48.7**	**-0.6**
	comp=Z,4.2nm,0.8s,mb4.5						
MAW	**Mawson**	**65.57**	**198**	P	**P**	**15 10 51.7**	**0.0**
	comp=Z,0.8nm,0.4s,mb4.1,baz=24,slow=7.7,SNR=4.5						
ZAL	**Zalesovo**	**66.16**	**345**	*e*P	**P**	**15 10 57.0**	**+1.5**
BRVK	**Borovoye**	**70.16**	**337**	P	**P**	**15 11 19.7**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**70.16**	**337**	P	**P**	**15 11 19.6**	**-0.9**
	comp=Z,1.2nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**70.50**	**337**	*e*P	**P**	**15 11 22.3**	**-0.3**
CHKZ				*e*	pP	15 11 33.0	-0.5
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**70.50**	**337**	*e*P	**P**	**15 11 22.3**	**-0.4**
	comp=Z,3.4nm,0.6s,mb4.5						
CHKZ				*e*	pP	15 11 33.0	-0.5
ZRNK	**Zerenda**	**70.59**	**336**	*e*P	**P**	**15 11 22.9**	**-0.3**
ZRNK				*e*	pP	15 11 33.4	-0.6
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
ZRNK	**Zerenda**	**70.59**	**336**	*e*P	**P**	**15 11 22.9**	**-0.2**
	comp=Z,5.5nm,1.0s,mb4.4						
ZRNK				*e*	pP	15 11 33.4	-0.6
KMBO	**Kilima Mbogo**	**71.31**	**272**	*e*P	pP	15 11 33.9	-4.5
YAK	**Yakutsk**	**73.05**	**10**	*e*P	**P**	**15 11 37.3**	**-0.6**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
VNDA	**Vanda**	**73.40**	**170**	P	**P**	**15 11 39.5**	**-0.5**
	comp=Z,1.7nm,0.8s,mb4.0,baz=284,slow=13,SNR=6.4						
VNDA	**Vanda**	**73.40**	**170**	P	**P**	**15 11 39.5**	**-0.5**
BRTR	**Keskin Array B**	**84.48**	**312**	P	**P**	**15 12 40.9**	**+0.2**
	comp=Z,1.6nm,0.8s,mb4.2,baz=134,slow=7.0,SNR=9.2						
BRTR	**Keskin Array B**	**84.48**	**312**	*e*P	**P**	**15 12 41.5**	**+0.8**
OBN	**Obninsk**	**87.49**	**327**	*e*P	**P**	**15 12 56.3**	**+0.7**
OBN				*i*		15 13 01.9	
OBN				*e*		15 16 16.4	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.7						
WMOK	**Wichita Mounta**	**144.48**	**41**	*e*PKIKP	PKPdf	15 19 43.8	-0.3
NCB	**Newcomb**	**145.43**	**3**	*e*PKP	PKPdf	15 19 46.4	+0.6
JCT	**Junction City**	**146.27**	**47**	*e*PKP2	PKPab	15 19 50.0	+0.9

IDC 25 15:02:01.1±2.4, 469N×12302E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.9/3, Error ellipse: s-maj=332.2km s-min=26.7km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.89**	**156**	P	P	15 07 44.0	+0.3
	1.0nm,0.3s,baz=335,slow=9.7,SNR=22						
ASAR	**Alice Springs**	**30.12**	**160**	P	P	15 08 12.8	+0.3
	0.4nm,0.4s,baz=340,slow=7.0,SNR=16						
MKAR	**Makanchi Array**	**54.69**	**327**	P	P	15 11 32.0	+0.1
	0.6nm,0.3s,baz=116,slow=6.2,SNR=4.4						

MOS ***25*** *15:24:09.3±1.5, 26.92N×55.64E, h33km, mb4.6/2, Error ellipse: s-maj=21.3km s-min=9.7km az=112.7*
IDC ***25*** *15:24:11.1±1.1, 27.61N×55.55E, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.9/25, mbtmp3.9/13, ML4.0/1, Error ellipse: s-maj=23.0km s-min=19.5km az=10.0*
ISCJB ***25*** *15:24:12.5±0.8, 27.63N±0.03×55.54E±0.05, h21km±6km, mb3.8/13, Error ellipse: s-maj=8.1km s-min=3.9km az=147.0*
CSEM ***25*** *15:24:12.7±0.1, 27.63N×55.63E, h25km, mb4.1/3, Error ellipse: s-maj=2.9km s-min=1.9km az=68.0*
NEIC ***25*** *15:24:12.6±0.5, 27.58N×55.53E, h10km, ML3.7(THR), MN3.7(TEH), Error ellipse: s-maj=10.0km s-min=6.0km az=217.0*
THR ***25*** *15:24:14.7±0.5, 27.72N×55.89E, h14km±5km, ML3.7*
TEH ***25*** *15:24:16.9, 27.72N×55.79E, h19km, Mn3.7*
ISC 25 15:24:12.7±1.0, 2766N±003×5556E±005, h8km±7km, n59, σ0s98/64, mb3.8/13, 3C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.60**	**116**	*e*Pg	**Pg**	**15 24 22.9**	**-1.4**
BNDS				AML	AML	15 24 37.3	
	comp=N,5μm,0.1s						
BNDS	**Bandar-Abbas**	**0.60**	**116**	*e*Pg	**Pg**	**15 24 24.0**	**-0.3**
BANOM	**Banah**	**1.85**	**159**	⇓P	**Pn**	**15 24 45.4**	**+0.7**
	SNR=95						
GHIR	**Ghir-Karzin**	**2.36**	**286**	*e*Pn	**Pg**	**15 24 58.8**	**+0.8**
GHIR				AML	AML	15 25 42.3	
	comp=E,460nm,0.6s						
GHIR	**Ghir-Karzin**	**2.36**	**286**	*e*Pn	**Pg**	**15 24 58.0**	**0.0**
KRBR	**Kerman**	**2.54**	**24**	*e*Pg	**Pb**	**15 24 57.9**	**-0.6**
KRBR				*e*Sg	**Sb**	**15 25 29.7**	**-0.2**
KRBR				AML	AML	15 25 35.9	
	comp=E,260nm,0.6s						
KRBR				AML	AML	15 25 40.1	
	comp=N,386nm,0.5s						
KRBR	**Kerman**	**2.54**	**24**	*e*Pg	**Pb**	**15 24 57.0**	**-1.5**
KRBR	**Kerman**	**2.54**	**24**	*e*Pg	**Pb**	**15 24 57.9**	**-0.6**
	SNR=90						
KRBR				*e*Sg	**Sb**	**15 25 29.7**	**-0.2**
	SNR=90						
ISRV	**Sarvestan**	**2.75**	**309**	*e*Pn	**Pb**	**15 25 00.5**	**-1.7**
IMOK	**Mook**	**2.86**	**299**	*e*Pn	**Pb**	**15 25 02.0**	**-2.0**
ASHO	**Ashiyiah**	**3.00**	**171**	P	**Pn**	**15 25 02.3**	**+1.8**
	SNR=88						
IMEH	**Mehriz**	**3.81**	**348**	*e*Pn	**Pn**	**15 25 14.4**	**+2.8**
IMEH				*e*Sn	**Sn**	**15 25 56.3**	**-0.2**
IBAF	**Bafgh**	**3.91**	**0**	*e*Pn	**Pn**	**15 25 15.3**	**+2.2**
IBAF				*e*Sn	**Sn**	**15 25 58.3**	**-0.9**
HOQ	**Hoqain**	**4.36**	**158**	⇓P	**Pn**	**15 25 18.7**	**-0.5**
ISAD	**Sadrabad**	**4.54**	**339**	*e*Sn	**Sn**	**15 26 14.6**	**0.0**
ICHK	**Chekchek**	**4.67**	**348**	Pn	**Pn**	**15 25 25.4**	**+1.9**
ICHK				Sn	**Sn**	**15 26 17.1**	**-0.8**
ICHK	**Chekchek**	**4.67**	**348**	*e*Pn	**Pn**	**15 25 25.5**	**+2.0**
ICHK				*e*Sn	**Sn**	**15 26 17.2**	**-0.7**
BIDO	**Bidbid**	**4.73**	**150**	⇑P	**Pn**	**15 25 23.6**	**-0.7**
ZHSF	**Zahedan**	**4.97**	**66**	*e*Pn	**Pn**	**15 25 27.5**	**-0.2**
SMDO	**Samad**	**5.11**	**153**	⇓P	**Pn**	**15 25 30.3**	**+0.8**
BSY	**Bisya**	**5.12**	**163**	⇑P	**Pn**	**15 25 31.2**	**+1.6**
BSYO	**Bisya**	**5.14**	**162**	P	**Pn**	**15 25 31.2**	**+1.3**
WSAR	**Wadi Sarin**	**5.21**	**147**	Pn	**Pn**	**15 25 30.6**	**-0.2**
	comp=N,5.4nm,0.3s,baz=334,slow=7.9,SNR=55						
WSAR				Sn	**Sn**	**15 26 28.8**	**-2.3**
	comp=N,6.1nm,0.3s,baz=220,slow=20,SNR=11						
WSAR	**Wadi Sarin**	**5.21**	**147**	Pn	**Pn**	**15 25 30.6**	**-0.2**
WSAR				Sn	**Sn**	**15 26 28.8**	**-2.3**
WSAR	**Wadi Sarin**	**5.21**	**147**	Pn	**Pn**	**15 25 30.6**	**-0.2**
WBK	**Wadi Bani Khal**	**5.90**	**148**	⇓P	**Pn**	**15 25 40.2**	**-0.2**
WHFO	**Wadi Hawf**	**9.84**	**190**	⇑P	**Pn**	**15 26 33.6**	**-0.8**
ABTO	**Aybut**	**10.47**	**192**	⇓P	**Pn**	**15 26 42.1**	**-1.0**
GNI	**Garni**	**15.34**	**327**	Pn	pP	15 27 56.8	+0.2
	comp=N,1.1nm,0.3s,baz=154,slow=14,SNR=3.7						
GNI	**Garni**	**15.34**	**327**	*i* P	pP	15 27 56.6	0.0
GNI				pmax	pmax		
	comp=Z,32nm,1.4s						
GNI				MLR	MLR		
	comp=Z,100nm,22.0s						
GNI	**Garni**	**15.34**	**327**	*e*P	pP	15 27 57.8	+1.2
KIV	**Kislovodsk**	**19.28**	**331**	*i* P	**Pn**	**15 28 40.8**	**+2.0**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KIV	**Kislovodsk**	**19.28**	**331**	*i* P	**Pn**	**15 28 40.8**	**+2.0**
	comp=Z,8.0nm,0.9s						
BRTR	**Keskin Array B**	**21.79**	**309**	P	**P**	**15 29 05.7**	**+0.7**
	comp=Z,2.2nm,0.8s,mb3.6,baz=128,slow=14,SNR=8.4						
AKTK	**Aktyubinsk**	**22.82**	**4**	P	**P**	**15 29 16.1**	**+0.1**
AKTO	**Aktyubinsk**	**22.82**	**4**	P	**P**	**15 29 16.1**	**+0.1**
	comp=Z,2.8nm,0.6s,mb3.9,baz=183,slow=9.2,SNR=11						
BVAR	**Borovoye Array**	**27.63**	**19**	P	**P**	**15 30 00.1**	**-0.6**
	comp=Z,1.3nm,0.5s,mb3.9,baz=210,slow=8.6,SNR=10						
MKAR	**Makanchi Array**	**28.38**	**41**	P	**P**	**15 30 07.4**	**0.0**
	comp=Z,0.3nm,0.3s,mb3.4,baz=227,slow=6.4,SNR=4.0						
MLR	**Muntele Rosu**	**29.47**	**315**	P	**P**	**15 30 17.6**	**+0.6**
	comp=Z,0.8nm,0.3s,mb3.9,baz=73,slow=8.0,SNR=3.3						
AKASG	**Malin Array Be**	**30.47**	**326**	P	**P**	**15 30 25.7**	**-0.2**
	comp=Z,1.5nm,0.5s,mb4.0,baz=136,slow=8.3,SNR=11						
AKASG	**Malin Array Be**	**30.47**	**326**	P	**P**	**15 30 25.7**	**-0.2**
AKBB	**Malin Array Si**	**30.47**	**326**	*e*P	**P**	**15 30 25.4**	**-0.5**
OBN	**Obninsk**	**30.70**	**339**	*e*P	**P**	**15 30 28.3**	**+0.4**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
OBN	**Obninsk**	**30.70**	**339**	*e*P	**P**	**15 30 28.3**	**+0.4**
	comp=Z,3.0nm,0.9s,mb4.1						
ZAL	**Zalesovo**	**33.89**	**31**	P	**P**	**15 30 55.6**	**-0.3**
	comp=Z,2.9nm,0.5s,mb4.5,baz=235,slow=7.0,SNR=9.7						
ZAL	**Zalesovo**	**33.89**	**31**	*i* P	**P**	**15 30 55.9**	**0.0**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZAL	**Zalesovo**	**33.89**	**31**	*i* P	**P**	**15 30 55.9**	**0.0**
	comp=Z,3.0nm,0.5s,mb4.5						
DPC	**Dobruska-Polom**	**37.37**	**318**	*e*P	**P**	**15 31 25.8**	**0.0**
TREC	**Trest**	**37.49**	**316**	*e*P	**P**	**15 31 26.7**	**-0.1**
GERES	**GERESS Array B**	**38.45**	**315**	P	**P**	**15 31 35.0**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.5,baz=110,slow=7.5,SNR=4.5						
KHC	**Kasperske Hory**	**38.62**	**315**	*e*P	**P**	**15 31 36.1**	**-0.3**
FINES	**FINESS Array B**	**39.10**	**338**	P	**P**	**15 31 40.0**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.6,baz=140,slow=9.9,SNR=6.0						
FINES	**FINESS Array B**	**39.10**	**338**	P	**P**	**15 31 40.0**	**-0.4**
SONM	**Songino Array**	**44.05**	**49**	P	**P**	**15 32 22.1**	**+1.1**
	comp=Z,0.4nm,0.8s,mb3.2,baz=262,slow=5.4,SNR=2.8						
ULN	**Ulaanbaatar**	**44.50**	**49**	*e*P	**P**	**15 32 24.5**	**0.0**
NB2	**NORSAR Subarra**	**44.59**	**331**	P	**P**	**15 32 24.5**	**-0.8**
	comp=Z,0.7nm,0.6s,mb3.7,baz=117,slow=7.9						
NOA	**NORSAR Array B**	**44.59**	**331**	P	**P**	**15 32 24.5**	**-0.8**
	comp=Z,0.4nm,0.5s,mb3.5,baz=116,slow=7.8,SNR=3.3						
NOA	**NORSAR Array B**	**44.59**	**331**	P	**P**	**15 32 24.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**52.13**	**265**	P	**P**	**15 33 23.0**	**-0.5**
	comp=Z,1.1nm,0.4s,mb4.1,baz=65,slow=7.6,SNR=12						

ATH ***25*** *15:34:54.8, 39.24N×22.65E, h10km, MD2.9/3*
ISCJB ***25*** *15:34:56.9±0.8, 39.05N±0.04×23.41E±0.04, h9km±5km, Error ellipse: s-maj=7.4km s-min=5.3km az=153.7*
CSEM ***25*** *15:34:57.5±0.3, 39.06N×23.39E, h12km, ML2.5, Error ellipse: s-maj=5.5km s-min=4.5km az=178.0*
THE ***25*** *15:34:57.5, 39.06N×23.40E, h8km, ML2.5*
NEIC ***25*** *15:34:57.8, 39.06N×23.41E, h9km, MD2.9(ATH), After THE.*
ISC 25 15:34:57.0±0.8, 3902N±005×2342E±005, h14km±5km, n19, σ0s87/32, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.32**	**333**	*e*PB	**Pg**	**15 35 03.6**	**-0.1**
XOR	**Xorichti**	**0.39**	**334**	*e*Pg	**Pg**	**15 35 04.7**	**-0.2**
XOR				*e*Sg	**Sg**	**15 35 09.3**	**-0.8**
XOR	**Xorichti**	**0.39**	**334**	P	**Pg**	**15 35 04.7**	**-0.1**
XOR				S	**Sg**	**15 35 09.6**	**-0.5**
AOS	**Alonnisos**	**0.39**	**67**	*e*Pg	**Pg**	**15 35 05.1**	**+0.2**
AOS				*e*Sg	**Sg**	**15 35 10.8**	**+0.6**
AOS	**Alonnisos**	**0.39**	**67**	P	**Pg**	**15 35 05.2**	**+0.3**
AOS				S	**Sg**	**15 35 11.3**	**+1.0**
LKR	**Lokris**	**0.49**	**222**	*e*PB	**Pb**	**15 35 07.2**	**-0.2**
AGG	**Agios Georgios**	**0.84**	**271**	*e*Pg	**Pg**	**15 35 12.7**	**-0.7**
AGG				*e*Sg	**Sg**	**15 35 25.5**	**+1.0**
AGG	**Agios Georgios**	**0.84**	**271**	P	**Pg**	**15 35 12.7**	**-0.7**
AGG				S	**Sg**	**15 35 26.4**	**+2.0**
AGG	**Agios Georgios**	**0.84**	**271**	*e*Pg	**Pg**	**15 35 12.7**	**-0.7**
AGG				*e*Sg	**Sg**	**15 35 25.5**	**+1.0**
AGG				S	**Sg**	**15 35 26.4**	**+1.9**
LIT	**Litokhoron**	**1.30**	**327**	*e*Pg	**Pg**	**15 35 20.2**	**-1.8**
LIT				*e*Sg	**Sg**	**15 35 39.2**	**+0.4**
LIT	**Litokhoron**	**1.30**	**327**	P	**Pn**	**15 35 19.6**	**-1.1**
LIT				S	**Sb**	**15 35 39.5**	**+1.8**
LIT	**Litokhoron**	**1.30**	**327**	P	**Pn**	**15 35 19.6**	**-1.1**
LIT	**Litokhoron**	**1.30**	**327**	*e*Pg	**Pg**	**15 35 20.2**	**-1.8**
LIT				*e*Sg	**Sg**	**15 35 39.2**	**+0.4**
LIT				S	**Sb**	**15 35 39.5**	**+1.8**
OUR	**Ouranopolis**	**1.39**	**18**	*e*Pg	**Pn**	**15 35 21.8**	**-0.2**
OUR	**Ouranopolis**	**1.39**	**18**	P	**Pn**	**15 35 21.8**	**-0.2**
HORT	**Hortiatis**	**1.60**	**351**	*e*Pg	**Pn**	**15 35 24.7**	**-0.1**
HORT				*e*Sg	**Sn**	**15 35 44.8**	**-0.5**
GRG	**Griva**	**2.09**	**338**	*e*Pn	**Pn**	**15 35 32.1**	**+0.6**
GRG	**Griva**	**2.09**	**338**	P	**Pn**	**15 35 32.5**	**+0.9**
GRG	**Griva**	**2.09**	**338**	P	**Pn**	**15 35 32.5**	**+0.9**

CASC 25 15:37:57.2±1.8, 1237N×8932W, h13km±52km, MD3.8, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**1.49**	**349**	*e*P	x	15 38 36.2	
SBLS				*e*S	x	15 38 56.5	
RBDL	**Robledal**	**1.77**	**349**	*e*P	x	15 38 40.7	
RBDL				*e*S	x	15 39 05.1	
IXG	**Ixpaco**	**2.10**	**329**	⇑*e*P	Pn	15 38 31.9	-0.2
IXG				*e*S	Sn	15 38 59.9	+1.8
TP2	**Tecpan 2**	**2.91**	**326**	*e*P	Pn	15 38 46.8	+3.6
TP2				*e*S	Sn	15 39 19.8	+1.8

MOS ***25*** *15:53:47.8±2.3, 53.51N×108.25E, h8km, mb4.3/1, Error ellipse: s-maj=18.2km s-min=13.0km az=140.1*
BYKL 25 15:53:48.0±0.2, 5355N×10823E, h16km±4km, 4C-1D,

Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OGRR	**Ongureny**	**0.39**	**284**	⇑*i*Pg	Pg	15 53 56.3	+0.3
OGRR				*e*Sg	Sg	15 54 01.9	+0.6
OGRR				Pmax			
	670nm,0.1s						
OGRR				Smax			
	2μm,0.2s						
OGRR	**Ongureny**	**0.39**	**284**	*e*PG	Pg	15 53 56.3	+0.3
OGRR				*e*		15 54 01.9	
OGRR				pmax	pmax		
	comp=Z,713nm,0.1s						
OGRR				smax			
	comp=N,2μm,0.3s						
MXMB	**Maximikha**	**0.42**	**133**	⇑*i*Pg	Pg	15 53 56.4	-0.1
MXMB				*e*Sg	Sg	15 54 02.4	+0.1
MXMB				*e*Sb	Sg	15 54 07.0	+4.7
MXMB				Pmax			
	comp=N,1μm,0.2s						
MXMB				max			
	comp=N,4μm,0.2s						
KELR	**Kotokel**	**0.80**	**187**	⇑*i*Pg	Pg	15 54 02.5	-1.0
KELR				*e*Sg	Sg	15 54 13.2	-0.8
KELR				*e*Sb	Sb	15 54 16.3	+2.3
KELR				Pmax			
	comp=N,388nm,0.1s						
KELR				max			
	comp=N,3μm,0.4s						
SYVR	**Suvo**	**1.06**	**83**	*i*Pg	Pg	15 54 07.5	-1.0
SYVR				*e*Sg	Sg	15 54 21.7	-0.7
SYVR				Pmax			
	comp=N,73nm,0.2s						
SYVR				Smax			
	comp=N,498nm,0.2s						
SYVR	**Suvo**	**1.06**	**83**	*e*PG	Pg	15 54 07.4	-1.1
SYVR				*e*		15 54 21.4	
SYVR				pmax	pmax		
	comp=Z,142nm,0.2s						
SYVR				smax			
	comp=E,504nm,0.3s						
TRTB	**Turuntaevo**	**1.37**	**196**	*e*Pg	Pg	15 54 12.7	-1.7
TRTB				*e*Sg	Sg	15 54 30.7	-1.6
TRTB				Pmax			
	comp=E,47nm,0.2s						
TRTB				Smax			
	comp=E,338nm,0.5s						
TRG	**Tyrgan**	**1.38**	**236**	*e*Pg	Pg	15 54 12.2	-2.4
TRG				*e*Sg	Sg	15 54 31.1	-1.5
TRG				Pmax			
	comp=E,66nm,0.2s						
TRG				Smax			
	comp=E,806nm,0.2s						
TRG	**Tyrgan**	**1.38**	**236**	*e*PG	Pg	15 54 12.3	-2.3
TRG				*e*		15 54 30.6	
TRG				pmax	pmax		
	comp=Z,72nm,0.2s						
TRG				smax			
	comp=N,804nm,0.2s						
FFNB	**Fofonovo**	**1.75**	**211**	*e*Pn	Pn	15 54 18.2	+0.5
FFNB				*e*Pg	Pg	15 54 20.3	-1.3
FFNB				*e*Sg	Sg	15 54 42.8	-1.5
FFNB				Pmax			
	comp=N,244nm,0.1s						
FFNB				Smax			
	comp=N,748nm,0.1s						
KAB	**Kabansk**	**1.78**	**213**	*e*Pg	Pg	15 54 20.8	-1.4
KAB				*e*Sg	Sg	15 54 44.4	-1.0
KAB				Pmax			
	comp=N,56nm,0.2s						
KAB				Smax			
	comp=N,566nm,0.5s						
KAB	**Kabansk**	**1.78**	**213**	*e*PN	Pn	15 54 19.2	+1.1
KAB				*e*		15 54 43.9	
KAB				pmax	pmax		
	comp=Z,92nm,0.3s						
KAB				smax			
	comp=E,426nm,0.4s						
HRMR	**Khuramsha**	**2.08**	**203**	*e*Pn	Pn	15 54 23.5	+1.3
HRMR				*e*Pg	Pg	15 54 25.1	-2.8
HRMR				*e*Sg	Sg	15 54 52.6	-2.2
HRMR				Pmax			
	comp=E,72nm,0.2s						
HRMR				Smax			
	comp=E,956nm,0.2s						
YLYR	**Ulyunkhan**	**2.17**	**51**	⇓*i*Pn	Pn	15 54 24.5	+1.0
YLYR				*e*Pg	Pg	15 54 26.5	-3.2
YLYR				*e*Sg	Sg	15 54 55.3	-2.7
YLYR				Pmax			
	comp=E,18nm,0.2s						
YLYR				Smax			
	comp=E,108nm,0.4s						
NIZ	**Nizh Angarsk**	**2.36**	**18**	*e*Pn	Pn	15 54 28.1	+2.1
NIZ				*e*Sn	Sn	15 54 56.6	+2.0
NIZ

comp=N,364nm,0.8s
ARS Arshan 3.89 248 *e*PN Pn 15 54 56.6 +10
ARS *e* 15 55 46.2
ARS pmax pmax
comp=Z,33nm,0.3s
ARS smax
comp=E,316nm,0.4s
ZAK Zakamensk 4.41 226 *e*Pn Pn 15 54 53.8 -0.4
ZAK *e*Sg Sg 15 56 05.3 -4.2
ZAK Smax
comp=E,28nm,0.7s
KPC Khapcheranga 4.64 144 *e*Pn Pn 15 54 56.4 -1.0
KPC *e*Pg Pg 15 55 11.4 -5.4
KPC *e*Sn Sn 15 55 47.4 -3.5
KPC *e*Sg Sg 15 56 10.8 -6.1
KPC Pmax
comp=E,11nm,0.3s
KPC Smax
comp=E,36nm,1.0s
ORL Orlik 5.18 262 *e*Pn Pn 15 55 07.6 +2.8
ORL *e* 15 55 13.0
ORL *e* 15 54 04.3
ORL *e*Sg Sg 15 56 29.2 -5.1
ORL Smax
comp=E,56nm,0.8s
ORL Orlik 5.18 262 *e*PN Pn 15 55 07.9 +3.1
ORL *e*S Sn 15 56 04.8 +0.5
ORL *e*S Sn 15 56 30.0 +26
ORL smax
comp=N,56nm,0.8s
BOD Bodaibo 5.38 35 *e*Sg Sg 15 56 33.6 -7.1
BOD Smax
comp=N,20nm,1.0s
TUP Tupik 6.97 78 *e*Pn Pn 15 55 28.5 -0.9
TUP *e*Pg Pn 15 55 53.6 +24
TUP *e*Sg Sn 15 57 23.9 +36
TUP Pmax
comp=N,2.0nm,0.3s
TUP Smax
comp=N,35nm,0.9s
TUP Tupik 6.97 78 *e*PN Pn 15 55 29.9 +0.5
TUP *e* 15 55 52.7
TUP *e* 15 57 23.5
TUP pmax pmax
comp=Z,2.0nm,0.4s
TUP smax
comp=N,33nm,1.1s

IDC 25 15:56:01.3±12.0, 4767N×14864E, h337km±89km, mb3.0/3, mb1 3.1/5, mb1mx2.8/21, mbtmp3.7/5, Error ellipse: s-maj=206.4km s-min=25.2km az=87.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**5.51**	**232**	P	Pn	15 57 26.1	+0.1
	0.5nm,0.3s,baz=239,slow=10,SNR=5.6						
MJAR	**Matsushiro Arr**	**13.53**	**219**	P	Pn	15 59 00.3	-1.0
	0.5nm,0.3s,baz=17,slow=10.0,SNR=7.0						
FINES	**FINESS Array B**	**61.87**	**333**	P	P	16 05 45.1	-0.5
	0.9nm,0.5s,baz=31,slow=8.9,SNR=7.0						
NOA	**NORSAR Array B**	**66.33**	**339**	P	P	16 06 13.8	-0.6
	0.3nm,0.7s,baz=29,slow=6.4,SNR=3.8						
ASAR	**Alice Springs**	**72.23**	**194**	P	P	16 06 50.2	-0.1
	0.4nm,1.0s,baz=6.6,slow=6.2,SNR=4.7						

*IDC **25** 15:57:45.2±1.0, 3607N×7124E, h0km, mb3.9/8, mb1 4.1/11, mb1mx3.8/23, mbtmp3.9/11, ML3.9/3, Error ellipse: s-maj=25.6km s-min=20.6km az=54.0*
*MOS **25** 15:57:49.0±1.4, 3621N×7103E, h33km, mb4.4/2, Error ellipse: s-maj=19.8km s-min=7.8km az=90.9*
*NEIC **25** 15:57:54.3±1.9, 3639N×7132E, h66km±20km, mb3.7/6, Error ellipse: s-maj=23.3km s-min=7.2km az=58.0*
*ISCJB **25** 15:57:56.4±0.5, 3646N±003×7137E±008, h108km±8km, mb3.8/9, Error ellipse: s-maj=10.9km s-min=5.0km az=171.6*
*NNC **25** 15:58:04.9±5.9, 3709N×7082E, h117km±43km, mb3.1, mpv3.8, Error ellipse: s-maj=61.0km s-min=26.2km az=17.0*

ISC 25 15:57:57.8±0.5, 3645N±003×7139E±008, h108km±7km, n60, σ1º45/66, mb3.8/9, 13C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.65**	**171**	⇑P	**Pn**	**15 58 40.3**	**+1.1**
CHCP	**Chirah Chowk**	**3.18**	**151**	P	**Pn**	**15 58 48.2**	**+2.1**
THW	**Thamme Wali**	**3.66**	**175**	⇑P	**Pn**	**15 58 53.1**	**+0.6**
SBDP	**Sheikh Budin**	**4.17**	**187**	P	**Pn**	**15 58 59.3**	**0.0**
SARP	**Sargodha**	**4.64**	**166**	P	**Pn**	**15 59 05.2**	**-0.5**
SARP				S	**Sn**	**15 59 56.0**	**-2.5**
DRP	**Derazinda**	**4.79**	**192**	⇑P	**Pn**	**15 59 08.0**	**+0.2**
AML	**Almayashu**	**5.95**	**17**	P	**Pn**	**15 59 24.2**	**+0.8**
	SNR=46						
UCH	**Uchtor**	**6.26**	**22**	P	**Pn**	**15 59 28.9**	**+1.3**
	SNR=23						
KZA	**Kyzart**	**6.37**	**27**	P	**Pn**	**15 59 30.3**	**+1.2**
	SNR=14						
EKS2	**Erkin-Say**	**6.47**	**16**	P	**Pn**	**15 59 31.4**	**+0.9**
	SNR=30						
AAK	**Ala-Archa**	**6.62**	**20**	P	**Pn**	**15 59 31.0**	**-1.6**
	SNR=15						
AAK	**Ala-Archa**	**6.62**	**20**	*e*PN	**Pn**	**15 59 32.8**	**+0.2**
AAK				pmax	pmax		
	comp=Z,34nm,0.6s						
AAK	**Ala-Archa**	**6.62**	**20**	*e*P	**Pn**	**15 59 32.8**	**+0.2**
	comp=Z,34nm,0.6s						
KK31	**Karatay Array**	**6.68**	**354**	⇓P	**Pn**	**15 59 32.3**	**-1.0**
	comp=Z,30nm,0.8s,baz=174,slow=12,SNR=282						
KK31				⇑S	**Sn**	**16 00 43.5**	**-4.4**
	comp=Z,3.5nm,0.3s,baz=242,slow=69,SNR=3.8						
SDNR	**Sundarnagar**	**6.77**	**135**	*e*P	**Pn**	**15 59 30.0**	**-4.5**
SDNR				*e*S	**Sn**	**16 00 45.5**	**-4.6**
KBK	**Karagaybulak**	**6.78**	**23**	P	**Pn**	**15 59 36.3**	**+1.6**
	SNR=10						
FRU	**Bishkek**	**6.84**	**20**	*e*PN	**Pn**	**15 59 35.0**	**-0.5**
ULHL	**Ulahol**	**6.90**	**32**	P	**Pn**	**15 59 38.5**	**+2.2**
	SNR=6.7						
CHMS	**Chumysh**	**7.04**	**21**	P	**Pn**	**15 59 38.6**	**+0.4**
	SNR=24						
USP	**Ospenovka**	**7.22**	**18**	P	**Pn**	**15 59 40.6**	**0.0**
	SNR=13						
TKM2	**Tokmak 2**	**7.23**	**25**	P	**Pn**	**15 59 42.0**	**+1.2**
	SNR=25						
TKM2	**Tokmak 2**	**7.23**	**25**	⇑P	**Pn**	**15 59 41.8**	**+1.0**
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**13.15**	**35**	Pn	**Pn**	**16 00 58.7**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=218,slow=14,SNR=5.9						
KOLN	**Koldanda**	**13.48**	**126**	*e*P	**Pn**	**16 01 03.5**	**-1.1**
KOLN				*e*S	**Sn**	**16 03 22.0**	**-11**
GKN	**Gorkha**	**14.01**	**123**	*e*P	**Pn**	**16 01 10.2**	**-1.3**
KKN	**Kakani**	**14.59**	**122**	*e*P	**Pn**	**16 01 17.3**	**-1.5**
	comp=Z,2.3nm,0.3s						
KKN				*e*S	**Sn**	**16 03 49.0**	**-11**
KKN	**Kakani**	**14.59**	**122**	*e*P	**Pn**	**16 01 17.3**	**-1.5**
KKN				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KURK	**Kurchatov**	**15.18**	**18**	⇓P	**Pn**	**16 01 29.1**	**+2.8**
	comp=Z,2.2nm,1.0s						
KURK	**Kurchatov**	**15.18**	**18**	*e*P	**Pn**	**16 01 29.1**	**+2.8**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**15.18**	**18**	*e*P	**Pn**	**16 01 29.1**	**+2.8**
	comp=Z,3.3nm,0.8s						
AB31	**Akbulak array**	**15.28**	**330**	⇑P	**Pn**	**16 01 24.1**	**-3.5**
	comp=Z,1.0nm,0.3s,baz=137,slow=12,SNR=62						
AB31				⇑S	S	16 04 02.6	-23
	comp=Z,1.5nm,0.6s,baz=314,slow=53,SNR=6.4						
JIRN	**Jiri**	**15.29**	**121**	*e*P	**Pn**	**16 01 26.1**	**-1.6**
	comp=Z,6.8nm,0.3s						
VOSK	**Vostochnaya**	**16.27**	**359**	⇑P	**Pn**	**16 01 36.5**	**-3.4**
	comp=Z,4.6nm,1.1s						
ZRNK	**Zerenda**	**16.59**	**355**	⇑P	**Pn**	**16 01 42.6**	**-1.2**
	comp=Z,4.4nm,1.2s						
ZRNK	**Zerenda**	**16.59**	**355**	*e*P	**Pn**	**16 01 41.5**	**-2.2**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZRNK	**Zerenda**	**16.59**	**355**	*e*P	**Pn**	**16 01 41.5**	**-2.2**
	comp=Z,2.6nm,0.5s						
BVA0	**Borovoye Array**	**16.59**	**358**	⇑P	**Pn**	**16 01 41.1**	**-2.7**
	comp=Z,0.3nm,0.7s,baz=167,slow=12,SNR=16						
BVAR	**Borovoye Array**	**16.59**	**358**	Pn	**Pn**	**16 01 41.2**	**-2.6**
	comp=Z,0.7nm,0.3s,baz=163,slow=12,SNR=14						
BRVK	**Borovoye**	**16.63**	**358**	*e*P	**Pn**	**16 01 42.3**	**-1.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**16.63**	**358**	*e*P	**Pn**	**16 01 42.3**	**-2.0**
	comp=Z,1.5nm,0.6s						
AKTK	**Aktyubinsk**	**16.98**	**330**	P	**Pn**	**16 01 47.2**	**-1.4**
AKTO	**Aktyubinsk**	**16.98**	**330**	⇑P	**Pn**	**16 01 47.2**	**-1.4**
	comp=Z,0.1nm,0.6s						
AKTO				⇑S	**S**	**16 04 42.7**	**-15**
	comp=Z,0.1nm,1.0s						
AKTO	**Aktyubinsk**	**16.98**	**330**	P	**Pn**	**16 01 47.2**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=137,slow=12,SNR=18						
CHKZ	**Chkalovo**	**17.23**	**358**	⇑P	**Pn**	**16 01 50.0**	**-1.7**
	comp=Z,0.9nm,0.5s						
CHKZ	**Chkalovo**	**17.23**	**358**	*e*P	**Pn**	**16 01 50.1**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CHKZ	**Chkalovo**	**17.23**	**358**	*e*P	**Pn**	**16 01 50.0**	**-1.6**
	comp=Z,1.8nm,0.4s						
ZAL	**Zalesovo**	**19.82**	**24**	P	**P**	**16 02 20.6**	**+0.9**
	comp=Z,8.1nm,0.3s,baz=255,slow=5.7,SNR=19						
ARU	**Arti**	**21.78**	**341**	*e*P	**P**	**16 02 41.3**	**+0.5**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0						
ARU	**Arti**	**21.78**	**341**	*e*P	**P**	**16 02 41.3**	**+0.5**
	comp=Z,6.7nm,0.8s,mb4.0						
AKASG	**Malin Array Be**	**33.22**	**309**	P	**P**	**16 04 25.3**	**+1.0**
	comp=Z,0.9nm,0.5s,mb3.9,baz=80,slow=7.1,SNR=6.0						
JOF	**Joensuu**	**36.07**	**330**	*e*p	**P**	**16 04 50.1**	**+1.3**
	comp=Z,1.4nm,0.3s,mb4.4						
JOF	**Joensuu**	**36.07**	**330**	*e*P	**P**	**16 04 50.1**	**+1.3**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
FINES	**FINESS Array B**	**37.70**	**326**	P	**P**	**16 05 04.4**	**+1.7**
	comp=Z,0.7nm,0.4s,mb3.9,baz=120,slow=9.2,SNR=14						
ARCES	**ARCESS Array B**	**41.31**	**338**	P	**P**	**16 05 34.4**	**+1.7**
	comp=Z,1.4nm,0.4s,mb4.2,baz=113,slow=7.8,SNR=13						
NB2	**NORSAR Subarra**	**44.61**	**323**	P	**P**	**16 06 00.4**	**+1.2**
	comp=Z,1.7nm,0.6s,mb4.0,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.61**	**323**	P	**P**	**16 06 00.5**	**+1.3**
	comp=Z,1.7nm,0.6s,mb4.0,baz=96,slow=7.7,SNR=12						
NOA	**NORSAR Array B**	**44.61**	**323**	P	**P**	**16 06 00.5**	**+1.3**
TORD	**Torodi Ar. Bea**	**66.03**	**269**	P	**P**	**16 08 32.9**	**+0.1**
	comp=Z,0.7nm,0.5s,mb3.8,baz=48,slow=6.3,SNR=10						
WRA	**Warramunga Arr**	**81.70**	**122**	P	**P**	**16 10 05.4**	**+1.3**
	comp=Z,0.2nm,0.8s,mb3.0,baz=324,slow=4.9,SNR=5.5						
ASAR	**Alice Springs**	**83.97**	**125**	P	**P**	**16 10 17.3**	**+1.5**
	comp=Z,0.3nm,1.0s,mb3.1,baz=312,slow=5.0,SNR=5.4						

IDC 25 16:04:43.5±3.1, 2587S×17797W, h125km±39km, mb2.9/2, mb1 3.6/4, mb1mx3.5/14, mbtmp3.9/4, Error ellipse: s-maj=47.7km s-min=25.4km az=120.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.37**	**179**	P	Pn	16 05 35.9	+1.2
	58nm,0.3s,baz=287,slow=19,SNR=4.7						
RAO				S	Sn	16 06 14.6	+0.2
	189nm,0.3s,baz=260,slow=23,SNR=6.8						
AFI	**Afiamalu**	**13.24**	**27**	P	Pn	16 07 46.0	-0.6
	2.5nm,0.3s,baz=204,slow=20,SNR=4.6						
AFI				S	Sn	16 10 01.8	-11
	1.0nm,0.3s,baz=114,slow=20,SNR=3.3						
ASAR	**Alice Springs**	**43.56**	**262**	P	P	16 12 35.2	+0.3
	0.2nm,0.3s,baz=93,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**44.14**	**267**	P	P	16 12 39.5	0.0
	0.2nm,0.3s,baz=107,slow=8.4,SNR=8.1						
NB2	**NORSAR Subarra1**	**44.29**	**352**	PKP	PKPdf	16 24 01.5	-3.1
	comp=Z,0.8nm,0.7s,baz=12,slow=3.8						
NOA	**NORSAR Array B**	**144.29**	**352**	PKP	PKPdf	16 24 01.7	-2.9
	comp=Z,1.4nm,0.8s,baz=13,slow=2.4,SNR=6.8						
AKASG	**Malin Array Be**	**147.62**	**327**	PKPbc	PKPbc	16 24 13.3	+0.2
	comp=Z,0.6nm,0.3s,baz=45,slow=4.5,SNR=4.1						

*IDC **25** 16:08:06.3±2.6, 934S×10848E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/17, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=111.1km s-min=20.4km az=52.0*
*NEIC **25** 16:08:06.6±1.6, 960S×10816E, h10km, mb4.2/1, Error ellipse: s-maj=75.9km s-min=11.2km az=49.0*
*ISCJB **25** 16:08:08.5±2.2, 955S±05×1083E±05, h33km, mb3.7/6, Error ellipse: s-maj=101.6km s-min=15.3km az=97.5*

ISC 25 16:08:10.8±2.2, 955S±05×1083E±05, h35km, n7, σ0º34/7, mb3.7/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.88**	**119**	P	**Pn**	**16 12 28.1**	**-0.6**
	0.1nm,0.3s,baz=338,slow=19,SNR=3.9						
WRA	**Warramunga Arr**	**27.20**	**115**	P	**P**	**16 13 51.4**	**+0.3**
	0.4nm,0.6s,mb3.1,baz=287,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**28.23**	**123**	P	**P**	**16 14 00.7**	**+0.4**
	0.3nm,0.6s,mb3.1,baz=299,slow=8.7,SNR=3.8						
STKA	**Stephens Creek**	**38.03**	**131**	P	**P**	**16 15 25.6**	**0.0**
	1.0nm,0.4s,mb3.9,baz=306,slow=7.2,SNR=3.9						
SONM	**Songino Array**	**57.12**	**358**	P	**P**	**16 17 54.1**	**+0.3**
	0.6nm,0.6s,mb3.8,baz=180,slow=8.0,SNR=7.4						
MKAR	**Makanchi Array**	**60.67**	**340**	P	**P**	**16 18 18.1**	**-0.3**
	0.5nm,0.3s,mb4.1,baz=134,slow=8.2,SNR=5.7						
CHKZ	**Chkalovo**	**70.58**	**337**	*e*P	**P**	**16 19 22.2**	**-0.1**
	0.7nm,0.4s,mb3.9						

IDC 25 16:12:23.3±2.2, 386N×12692E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, MS3.1/1, Ms1 3.1/1, ms1mx2.2/22, Error ellipse: s-maj=162.8km s-min=27.5km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.75**	**163**	P	P	16 17 46.2	-0.3
	0.6nm,0.6s,baz=343,slow=10.0,SNR=6.2						
CBIJ	**Chichi jima**	**27.33**	**31**	LR	LR	16 28 06.8	
	comp=Z,42nm,19.9s,baz=354,slow=34						
ASAR	**Alice Springs**	**28.19**	**166**	P	P	16 18 18.4	+0.9
	0.2nm,0.7s,baz=341,slow=9.1,SNR=2.9						
MKAR	**Makanchi Array**	**57.56**	**325**	P	P	16 22 14.8	+0.1
	0.4nm,0.4s,baz=126,slow=8.7,SNR=4.7						

MAN 25 16:19:30.4, 1469N×12191E, h14km, mb2.8, ML4.2, MS2.9, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.04**	**36**	*e*P	Pg	16 19 33.0	+0.1
POLP				*e*S	Sg	16 19 36.2	+1.5
LQP	**Lukban**	**0.68**	**212**	⇓*e*P	Pg	16 19 49.8	+6.1
GQP	**Guinayangan**	**0.94**	**147**	⇓*e*P	Pb	16 19 48.1	-0.3
GQP				*e*S	Sb	16 20 02.0	+1.3
BALP	**Baler**	**1.09**	**343**	*e*P	Pb	16 19 49.0	-2.1
BALP				*e*S	Sb	16 20 06.3	+1.2
TGY	**Tagaytay City**	**1.11**	**238**	⇑*i*P	Pb	16 19 50.1	-1.3
TGY				*i* S	Sb	16 20 04.7	-1.1
BOAC	**Boac**	**1.23**	**183**	*e*P	Pn	16 19 51.8	-1.4
BOAC				*e*S	Sb	16 20 09.5	+0.5
AUQP	**San Andres**	**1.55**	**151**	*e*P	Pn	16 20 03.5	+6.0
CAUP	**Cauayan**	**2.24**	**358**	*e*P	Pn	16 20 07.7	+0.7
CAUP				*e*S	Sn	16 20 40.1	+5.7
PVCP	**Virac**	**2.43**	**116**	*e*P	Pn	16 20 14.1	+4.5
PVCP				*e*S	Sn	16 20 50.1	+11
APYP	**Conner**	**3.21**	**349**	*e*P	Pn	16 20 22.1	+1.7
APYP				*e*S	Sn	16 21 01.7	+3.2

*IDC **25** 16:24:18.5±2.4, 976S×10818E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/18, mbtmp3.7/7, ML3.2/1, Error ellipse: s-maj=107.2km s-min=19.1km az=50.0*
*NEIC **25** 16:24:19.7±1.5, 981S×10813E, h10km, mb4.1/1, Error ellipse: s-maj=70.2km s-min=12.6km az=50.0*
*ISCJB **25** 16:24:21.5±2.0, 975S±04×1083E±05, h33km, mb3.7/7, Error ellipse: s-maj=86.1km s-min=13.8km az=100.1*

ISC 25 16:24:23.9±2.0, 975S±04×1083E±05, h35km, n12, σ0º86/11, mb3.7/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.84**	**137**	*e*P	**Pn**	**16 27 58.4**	**-5.7**
FITZ	**Fitzroy Crossi**	**18.79**	**118**	P	**Pn**	**16 28 40.3**	**-0.5**
	0.1nm,0.3s,baz=229,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**27.13**	**115**	P	**P**	**16 30 05.9**	**+2.3**
	0.5nm,1.0s,mb3.0,baz=286,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**28.13**	**123**	P	**P**	**16 30 11.9**	**-0.6**
	0.3nm,0.6s,mb3.1,baz=300,slow=8.4,SNR=5.0						
STKA	**Stephens Creek**	**37.91**	**130**	P	**P**	**16 31 37.4**	**-0.3**
	2.2nm,0.7s,mb4.0,baz=316,slow=10,SNR=5.5						
STKA	**Stephens Creek**	**37.91**	**130**	*e*P	**P**	**16 31 37.2**	**-0.5**
SONM	**Songino Array**	**57.33**	**359**	P	**P**	**16 34 08.3**	**-0.1**
	0.7nm,0.5s,mb4.0,baz=173,slow=8.4,SNR=7.6						
ULN	**Ulaanbaatar**	**57.35**	**359**	*e*P	**P**	**16 34 08.0**	**-0.5**
	0.9nm,0.4s,mb4.2						
MKAR	**Makanchi Array**	**60.86**	**340**	P	**P**	**16 34 32.4**	**-0.4**
	0.5nm,0.5s,mb3.9,baz=140,slow=6.4,SNR=4.7						
MKAR	**Makanchi Array**	**60.86**	**340**	P	**P**	**16 34 32.4**	**-0.4**
BVAR	**Borovoye Array**	**70.35**	**337**	P	**P**	**16 35 34.8**	**+0.8**
	0.7nm,0.6s,mb3.8,baz=128,slow=9.3,SNR=3.5						
NCB	**Newcomb**	**145.82**	**3**	*e*PKP	PKPdf	16 43 59.2	+0.4

IDC 25 16:30:00.7±3.0, 1021S×10588E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/18, mbtmp3.7/6, Error ellipse: s-maj=159.5km s-min=19.6km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.69**	**114**	P	P	16 34 43.1	+0.7
	1.1nm,0.7s,baz=231,slow=14,SNR=2.7						
WRA	**Warramunga Arr**	**29.09**	**113**	P	P	16 36 03.0	0.0
	0.3nm,0.4s,baz=287,slow=8.4,SNR=7.1						
ASAR	**Alice Springs**	**29.89**	**120**	P	P	16 36 10.8	+0.8
	0.1nm,0.4s,baz=303,slow=8.2,SNR=8.9						
STKA	**Stephens Creek**	**39.42**	**129**	P	P	16 37 32.3	0.0
	0.9nm,0.8s,baz=325,slow=16,SNR=2.1						
MKAR	**Makanchi Array**	**60.53**	**342**	P	P	16 40 13.2	+0.5
	1.8nm,0.6s,baz=141,slow=6.2,SNR=6.0						
BVAR	**Borovoye Array**	**69.89**	**338**	P	P	16 41 13.0	-0.4
	1.2nm,0.6s,baz=144,slow=9.1,SNR=3.0						

*IDC **25** 16:35:19.8±4.9, 3619N×7033E, h186km±47km, mb3.4/10, mb1 3.6/14, mb1mx3.5/24, mbtmp4.1/14, Error ellipse: s-maj=22.1km s-min=15.8km az=10.0*
*MOS **25** 16:35:20.1±0.9, 3642N×7027E, h189km, mb4.3/7, Error ellipse: s-maj=14.2km s-min=7.4km az=96.2*
*NEIC **25** 16:35:21.4±1.1, 3635N×7026E, h194km±13km, mb4.3/11, Error ellipse: s-maj=9.9km s-min=5.3km az=60.0*
*BJI **25** 16:35:21.3, 3652N×7010E, h211km, mB4.5, mb4.2*
*ISCJB **25** 16:35:21.9±0.4, 3644N±003×7042E±005, h213km±5km, mb3.8/15, Error ellipse: s-maj=7.2km s-min=3.7km az=147.6*
*NNC **25** 16:35:28.7±2.4, 3698N×7036E, h204km±18km, mb3.0, mpv4.0, Error ellipse: s-maj=23.1km s-min=11.7km az=36.0*

ISC 25 16:35:22.7±0.4, 3644N±003×7041E±006, h202km±5km, n87, σ1º08/104, mb3.8/15, 16C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.88**	**154**	⇓P	**Pn**	**16 36 13.0**	**+1.9**
CHCP	**Chirah Chowk**	**3.63**	**139**	⇑P	**Pn**	**16 36 21.8**	**+1.8**
THW	**Thamme Wali**	**3.80**	**163**	⇓P	**Pn**	**16 36 23.4**	**+1.4**
SBDP	**Sheikh Budin**	**4.14**	**175**	⇓P	**Pn**	**16 36 26.8**	**+0.5**
DRP	**Derazinda**	**4.69**	**182**	P	**Pn**	**16 36 34.4**	**+1.3**
SARP	**Sargodha**	**4.88**	**157**	⇑P	**Pn**	**16 36 36.3**	**+0.7**
SARP				S	**Sn**	**16 37 31.0**	**-2.0**
KSH	**Kashi**	**5.36**	**53**	⇓*i*P	**Pn**	**16 36 43.3**	**+1.6**
KSH				S	**Sn**	**16 37 43.0**	**-1.2**
KSH				Smax			
	comp=N,86nm,0.3s						
KSH				Smax			
	comp=E,90nm,0.4s						
AML	**Almayashu**	**6.23**	**23**	P	**Pn**	**16 36 53.1**	**+0.2**
	SNR=158						
PONG	**Pong**	**6.41**	**133**	*ex*	**Sn**	**16 38 07.0**	**-1.5**
UCH	**Uchtor**	**6.60**	**28**	P	**Pn**	**16 36 58.1**	**+0.5**
	SNR=120						
KK31	**Karatay Array**	**6.66**	**1**	P	**Pn**	**16 36 57.6**	**-0.8**
	comp=E,9.1nm,0.3s,baz=179,slow=11,SNR=359						
KK31				⇑S	**Sn**	**16 38 08.7**	**-5.8**
	comp=E,87nm,0.8s						
EKS2	**Erkin-Say**	**6.74**	**22**	P	**Pn**	**16 36 59.8**	**+0.3**
	SNR=18						
KZA	**Kyzart**	**6.77**	**32**	P	**Pn**	**16 37 00.1**	**+0.2**
	SNR=12						
AAK	**Ala-Archa**	**6.94**	**26**	P	**Pn**	**16 37 02.6**	**+0.5**
	SNR=16						
AAK	**Ala-Archa**	**6.94**	**26**	*e*PN	**Pn**	**16 37 01.4**	**-0.8**
AAK				pmax	pmax		
	comp=Z,23nm,0.5s						
AAK	**Ala-Archa**	**6.94**	**26**	*e*Pn	**Pn**	**16 37 01.4**	**-0.8**
	comp=Z,24nm,0.5s						
AAK				*e*Sn	**Sn**	**16 38 11.5**	**-10**
BHK	**Bhakra**	**7.07**	**133**	*ex*	**Sn**	**16 38 24.0**	**-0.1**
KBK	**Karagaybulak**	**7.13**	**28**	P	**Pn**	**16 37 05.3**	**+0.7**
	SNR=12						
CHMS	**Chumysh**	**7.36**	**26**	P	**Pn**	**16 37 07.5**	**0.0**
	SNR=17						
USP	**Ospenovka**	**7.51**	**23**	P	**Pn**	**16 37 09.1**	**-0.4**
	SNR=21						
TKM2	**Tokmak 2**	**7.61**	**30**	P	**Pn**	**16 37 11.0**	**+0.2**
	SNR=48						
TKM2	**Tokmak 2**	**7.61**	**30**	⇑P	**Pn**	**16 37 10.8**	**0.0**
	comp=Z,3.0nm,0.6s						
TKM2				⇑S	**Sn**	**16 38 34.1**	**-2.7**
	comp=Z,3.9nm,0.7s						
SMLA	**Simla**	**7.72**	**131**	*e*P	**Pn**	**16 37 12.1**	**-0.2**
SMLA				*e*S	**Sn**	**16 38 32.0**	**-7.5**
SMLA				AML	AML	16 38 39.9	
	comp=E,228nm,0.5s						
SMLA				AML	AML	16 38 39.9	
	comp=N,212nm,0.3s						
KLP	**Kalpa**	**8.14**	**125**	*e*P	**Pn**	**16 37 16.0**	**-1.7**
KLP				*e*S	**Sn**	**16 38 44.6**	**-4.8**
KLP				AML	AML	16 38 54.8	
	comp=E,298nm,0.9s						
KLP				AML	AML	16 38 55.9	
	comp=N,292nm,0.8s						
KHET	**Khetri**	**9.51**	**150**	*e*P	**Pn**	**16 37 34.0**	**-1.4**
KHET				*e*S	**Sn**	**16 39 09.6**	**-12**
KHET				AML	AML	16 39 21.6	
	comp=N,62nm,0.5s						
KHET				AML	AML	16 39 21.8	
	comp=E,122nm,0.5s						
NDI	**New Delhi**	**9.63**	**142**	*e*S	**Sn**	**16 39 15.0**	**-10**
KUDL	**Kundal**	**

GUN	**Gumba**	**15.60**	**119**	*eP*		**Pn**	**16 38 53.3**	**+1.3**
JIRN	**Jiri**	**15.97**	**119**	*eP*		**Pn**	**16 38 57.7**	**+1.2**
	comp=Z,128nm,0.6s							
VOSK	**Vostochnaya**	**16.29**	**1**	⇑P		**P**	**16 38 59.3**	**-0.2**
	comp=Z,2.0nm,0.5s							
ZRNK	**Zerenda**	**16.54**	**357**	⇑P		**P**	**16 39 02.5**	**+0.2**
	comp=Z,2.3nm,0.4s							
ZRNK	**Zerenda**	**16.54**	**357**	*eP*		**P**	**16 39 02.7**	**+0.3**
ZRNK				pmax	pmax			
	comp=Z,6.0nm,0.4s							
ZRNK	**Zerenda**	**16.54**	**357**	*eP*		**P**	**16 39 02.7**	**+0.3**
	comp=Z,5.9nm,0.4s							
BVA0	**Borovoye Array**	**16.59**	**360**	P		**P**	**16 39 03.7**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=169,slow=8.8,SNR=27							
BVAR	**Borovoye Array**	**16.59**	**360**	P		**P**	**16 39 03.4**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=171,slow=12,SNR=20							
AKTK	**Aktyubinsk**	**16.60**	**331**	P		**P**	**16 39 03.2**	**+0.2**
AKTO	**Aktyubinsk**	**16.60**	**331**	⇑P		**P**	**16 39 02.7**	**-0.4**
	comp=Z,0.4nm,0.9s							
AKTO				⇑S		**S**	**16 42 00.5**	**-5.6**
	comp=Z,0.1nm,0.8s							
AKTO	**Aktyubinsk**	**16.60**	**331**	P		**P**	**16 39 03.2**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=142,slow=11,SNR=43							
BRVK	**Borovoye**	**16.62**	**360**	*eP*		**P**	**16 39 03.4**	**+0.2**
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
BRVK	**Borovoye**	**16.62**	**360**	*eP*		**P**	**16 39 03.4**	**+0.2**
	comp=Z,3.8nm,0.6s							
WSAR	**Wadi Sarin**	**16.64**	**221**	P		**P**	**16 39 00.2**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=65,slow=17,SNR=2.0							
CHKZ	**Chkalovo**	**17.24**	**0**	⇓P		**P**	**16 39 10.3**	**+0.3**
	comp=Z,3.5nm,0.8s							
CHKZ	**Chkalovo**	**17.24**	**0**	*eP*		**P**	**16 39 09.9**	**-0.1**
CHKZ				pmax	pmax			
	comp=Z,3.0nm,0.6s							
CHKZ	**Chkalovo**	**17.24**	**0**	*eP*		**P**	**16 39 09.9**	**-0.1**
	comp=Z,3.3nm,0.6s							
BOK	**Bokaro**	**18.35**	**129**	*ex*		**P**	**16 39 24.9**	**+2.8**
ZAL	**Zalesovo**	**20.15**	**25**	P		**P**	**16 39 41.5**	**0.0**
	comp=Z,8.7nm,0.3s,baz=250,slow=6.0,SNR=26							
ARU	**Arti**	**21.54**	**342**	⇓*iP*		**P**	**16 39 55.7**	**-0.4**
ARU				*eS*		**S**	**16 43 43.1**	**+2.0**
ARU				pmax	pmax			
	comp=Z,13nm,1.2s,mb4.3							
ARU	**Arti**	**21.54**	**342**	*eP*		**P**	**16 39 56.2**	**0.0**
	comp=Z,15nm,1.2s,mb4.4							
SONM	**Songino Array**	**28.76**	**55**	P		**P**	**16 41 03.5**	**+2.1**
	comp=Z,0.5nm,0.5s,mb3.4,baz=258,slow=7.7,SNR=2.9							
BRTR	**Keskin Array B**	**29.00**	**288**	P		**P**	**16 41 02.5**	**-1.0**
	comp=Z,0.6nm,0.6s,mb3.4,baz=123,slow=8.1,SNR=4.5							
BRTR	**Keskin Array B**	**29.00**	**288**	⇑*eP*		**P**	**16 41 05.0**	**+1.4**
OBN	**Obninsk**	**29.68**	**320**	*eP*		**P**	**16 41 09.2**	**-0.3**
OBN				*e*			16 42 14.0	
OBN				*e*			16 44 07.4	
OBN				*eS*		**S**	**16 45 51.3**	**+1.2**
OBN				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.0							
AKASG	**Malin Array Be**	**32.62**	**309**	P		**P**	**16 41 34.3**	**-1.0**
	comp=Z,0.4nm,0.5s,mb3.2,baz=83,slow=7.5,SNR=6.8							
JOF	**Joensuu**	**35.69**	**330**	*ep*		**P**	**16 42 01.0**	**-0.7**
	comp=Z,5.8nm,0.4s,mb4.5							
JOF	**Joensuu**	**35.69**	**330**	*eP*		**P**	**16 42 01.0**	**-0.7**
JOF				pmax	pmax			
	comp=Z,6.0nm,0.4s,mb4.5							
FINES	**FINESS Array B**	**37.27**	**326**	P		**P**	**16 42 14.6**	**-0.4**
	comp=Z,2.4nm,0.7s,mb3.9,baz=115,slow=9.7,SNR=15							
FINES	**FINESS Array B**	**37.27**	**326**	*iP*		**P**	**16 42 14.8**	**-0.3**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KAF	**Kangasniemi**	**37.42**	**327**	*ep*		**P**	**16 42 15.8**	**-0.5**
	comp=Z,1.1nm,0.4s,mb3.7,baz=112,slow=8.4							
KAF	**Kangasniemi**	**37.42**	**327**	*eP*		**P**	**16 42 15.8**	**-0.5**
KAF				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb3.7							
NJ2	**Nanjing**	**39.95**	**82**	*eP*		**P**	**16 42 39.0**	**+1.7**
NJ2				AMB	AMB			
	comp=Z,40nm,0.6s,mb5.0							
KEV	**Kevo**	**40.69**	**338**	*ep*		**P**	**16 42 42.9**	**-0.4**
ARCES	**ARCESS Array B**	**41.02**	**338**	P		**P**	**16 42 46.1**	**0.0**
	comp=Z,6.0nm,0.7s,mb4.2,baz=111,slow=7.6,SNR=32							
ARE0	**ARCESS Array S**	**41.02**	**338**	*eP*		**P**	**16 42 45.9**	**-0.2**
NB2	**NORSAR Subarra**	**44.15**	**323**	P		**P**	**16 43 10.4**	**-0.8**
	comp=Z,0.8nm,0.5s,mb3.3,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.15**	**323**	P		**P**	**16 43 10.2**	**-1.0**
	comp=Z,2.3nm,0.8s,mb3.5,baz=97,slow=7.8,SNR=11							
NOA				pP	pP		16 43 55.9	+1.2
	comp=Z,0.9nm,0.8s,baz=98,slow=8.2,SNR=3.2							
YAK	**Yakutsk**	**44.29**	**35**	*eP*		**P**	**16 43 12.0**	**-0.4**
YAK				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.0							
YAK	**Yakutsk**	**44.29**	**35**	*eP*		**P**	**16 43 12.0**	**-0.3**
	comp=Z,5.0nm,0.6s,mb4.0							
KMBO	**Kilima Mbogo**	**48.44**	**227**	⇑*eP*		**P**	**16 43 45.4**	**+0.8**
TORD	**Torodi Ar. Bea**	**65.24**	**268**	P		**P**	**16 45 41.1**	**-1.5**
	comp=Z,0.5nm,0.4s,mb3.5,baz=44,slow=6.4,SNR=13							
WRA	**Warramunga Arr**	**82.36**	**122**	P		**P**	**16 47 19.9**	**-2.0**
	comp=Z,0.7nm,1.1s,mb3.2,baz=321,slow=4.5,SNR=4.8							
ASAR	**Alice Springs**	**84.61**	**124**	P		**P**	**16 47 32.1**	**-1.3**
	comp=Z,0.4nm,0.8s,mb3.2,baz=302,slow=4.6,SNR=4.7							

MAN 25 16:38:21.9, 1682N×12171E, h23km, mb2.6, ML4.1, MS1.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.17**	**40**	*eP*	Pb	16 38 27.9	+1.0
CAUP				*eS*	Sb	16 38 34.5	+4.2
BALP	**Baler**	**1.08**	**187**	*eP*	Pn	16 38 40.8	-0.7
BALP				*eS*	Sb	16 38 56.2	+0.8
APYP	**Conner**	**1.13**	**337**	*eP*	Pn	16 38 42.4	0.0
ABRA	**Dolores**	**1.27**	**311**	*eP*	Pn	16 38 43.5	-0.7
ABRA				*eS*	Sn	16 39 01.2	+0.8

*NIED **25** 17:21:00, 31.90N×128.70E, h5km, Mw3.6 Best double couple: M0 3.08000×10^14 NP1: φs 89.00000°, δ 66.00000°, λ -36.00000°. NP2: φs 196.00000°, δ 57.00000°, λ -152.00000°.*

JMA 25 17:21:59.3±0.1, 3190N×12868E, h32km±1km, M3.7, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFU	**Fukue jima 2**	**0.76**	**4**	P	Pn	17 22 13.4	-0.3
JFU				S	Sb	17 22 23.5	-0.5
JSJ	**Shimokoshiki**	**0.91**	**104**	P	Pn	17 22 15.7	-0.1
JSJ				S	Sn	17 22 28.1	+0.3
NGSJ	**Nagasakinomoza**	**1.20**	**52**	P	Pn	17 22 20.2	+0.4
JHD	**Hondo**	**1.36**	**65**	P	Pn	17 22 22.9	+0.9
JIU2	**Izumi 2**	**1.92**	**70**	P	Pn	17 22 31.0	+1.3
JTZ	**Takazaki**	**2.05**	**89**	P	Pn	17 22 32.5	+1.0
JII	**Iki**	**2.09**	**25**	P	Pn	17 22 33.5	+1.5

IDC 25 17:34:30.5±10.0, 1816S×17797W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/13, mbtmp3.9/2, MS3.8/4, Ms1 3.7/4, ms1mx3.2/21, Error ellipse: s-maj=456.9km s-min=66.0km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**11.04**	**180**	LR	LR	17 40 12.3	
	comp=Z,490nm,19.2s,baz=128,slow=31						
URZ	**Urewera**	**20.48**	**191**	LR	LR	17 45 26.6	
	comp=Z,261nm,21.5s,baz=265,slow=32						
RPZ	**Rata Peaks**	**27.11**	**198**	LR	LR	17 48 17.9	
	comp=Z,243nm,21.6s,baz=174,slow=30						
WRA	**Warramunga Arr**	**45.00**	**260**	P	P	17 42 47.8	+0.2
	0.7nm,0.8s,baz=96,slow=6.8,SNR=7.4						
ASAR	**Alice Springs**	**45.13**	**254**	P	P	17 42 49.0	+0.4
	2.4nm,0.9s,baz=86,slow=8.2,SNR=17						
YKA	**Yellowknife Ar**	**94.39**	**25**	LR	LR	18 23 05.5	
	comp=Z,30nm,20.5s,baz=260,slow=31						
BRTR	**Keskin Array B**	**145.26**	**315**	PKPbc	PKPbc	17 54 09.6	-0.2
	0.6nm,0.7s,baz=77,slow=2.9,SNR=4.6						
KHC	**Kasperske Hory**	**147.72**	**346**	*eP*	PKPdf	17 54 13.5	-0.8

*NEIC **25** 17:43:36.4, 1599N×9723W, h17km, MD3.6(MEX), After MEX.*

MEX 25 17:43:36.8±0.8, 1600N×9722W, h16km±12km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.10**	**102**	*iP*	Pb	17 43 53.8	-3.5
HUIG				*iS*	Sb	17 44 06.3	-5.1
VHO	**Vista Hermosa**	**1.16**	**24**	*iP*	Pn	17 43 55.0	-3.4
VHO				*iS*	Sb	17 44 08.5	-4.8
OXX	**Oaxaca**	**1.17**	**24**	*iP*	Pn	17 43 54.5	-4.0
OXX				*iS*	Sb	17 44 09.0	-4.6
UTMO	**Huajuapan**	**1.90**	**343**	*eP*	Pn	17 44 07.0	-1.5
UTMO				*iS*	Sn	17 44 27.8	-4.3
TPIG	**Tehuac#an**	**2.41**	**357**	*eP*	Pn	17 44 12.0	-3.4
TPIG				*iS*	Sn	17 44 40.4	-4.2
CMIG	**Matias Romero**	**2.49**	**64**	*iP*	Pn	17 44 13.5	-3.1
CMIG				*iS*	Sn	17 44 44.0	-2.6
MEIG	**Mezcala**	**2.99**	**310**	*iP*	Pn	17 44 22.3	-1.2
MEIG				*iS*	Sn	17 44 55.3	-3.6

*BJI **25** 17:45:11.8, 253N×9565E, h27km, mB5.0, mb4.9, Ms4.5, Msz4.3*
*ISCJB **25** 17:45:12.6±0.4, 262N±006×9550E±005, h25km, mb4.6/51, MS4.1/12, Error ellipse: s-maj=9.2km s-min=5.6km az=78.6*
*MOS **25** 17:45:14.4±1.1, 276N×9560E, h33km, mb5.0/21, Error ellipse: s-maj=14.1km s-min=8.1km az=111.8*
*NEIC **25** 17:45:14.5±0.4, 261N×9551E, mb4.9/24, Error ellipse: s-maj=12.9km s-min=6.0km az=225.0*
NEIC Felt [II] at Gunungsitoli, Nias.
*IDC **25** 17:45:14.5±0.6, 263N×9546E, h23km±3km, mb4.0/12, mb1 4.1/13, mb1mx4.0/21, mbtmp4.1/13, ML4.1/1, MS3.9/3, Ms1 3.8/3, ms1mx3.1/21, Error ellipse: s-maj=26.7km s-min=11.0km az=49.0*

ISC 25 17:45:15.1±0.4, 264N±005×9549E±005, h26km±.7km: pP-P, n96, σ1s11/91, mb4.6/51, MS4.1/12, 7C-5D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**3.19**	**74**	⇓*eP*	**Pn**	**17 46 01.8**	**-1.7**
PSI	**Prapat**	**3.44**	**87**	Pn	**Pn**	**17 46 07.6**	**+0.7**
	16nm,0.3s,baz=285,slow=6.4,SNR=69						
PSI	**Prapat**	**3.44**	**87**	Pn	**Pn**	**17 46 07.6**	**+0.7**
KULM	**Kulim**	**5.78**	**63**	⇑*iP*	**Pn**	**17 46 39.3**	**+0.2**
IPM	**Ipoh**	**5.82**	**72**	P	**Pn**	**17 46 40.4**	**+0.7**
SNG	**Songkhla**	**6.81**	**48**	P	**Pn**	**17 46 53.0**	**-0.3**
	412nm,0.9s						
KGM	**Kluang**	**7.85**	**94**	P	**Pn**	**17 47 09.2**	**+1.7**
KSM	**Kuching**	**14.86**	**94**	*eP*	**Pn**	**17 48 49.8**	**+6.5**
KKTK	**Khon Kaen**	**15.41**	**27**	⇓P	**Pn**	**17 48 55.0**	**+4.4**
	864nm,0.8s						
UBT	**Ubonrachathani**	**15.66**	**36**	⇓P	**Pn**	**17 48 58.5**	**+4.6**
CHG	**Chiang Mai**	**16.43**	**12**	⇓P	**Pn**	**17 49 04.1**	**+0.3**
	18nm,0.9s						
CHTO	**Chiang Mai**	**16.43**	**12**	*eP*	**Pn**	**17 49 02.1**	**-1.7**
CHTO				pmax	pmax		
	comp=Z,17nm,1.0s						
CHTO	**Chiang Mai**	**16.43**	**12**	*eP*	**Pn**	**17 49 02.1**	**-1.7**
	comp=Z,17nm,1.0s						
KKM	**Kota Kinabalu**	**20.94**	**80**	P	**P**	**17 49 57.2**	**+1.4**
KKM	**Kota Kinabalu**	**20.94**	**80**	*eP*	**P**	**17 49 56.1**	**+0.3**
QIZ	**Qiongzhong**	**21.51**	**40**	P	**P**	**17 50 02.8**	**+0.8**
QIZ				S	**S**	**17 53 43.0**	**-16**
QIZ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.2						
QIZ				LR	LR		
	comp=N,365nm,12.2s						
QIZ				LR	LR		
	comp=Z,366nm,15.6s,MS3.9						
TSM	**Tawau**	**22.40**	**85**	P	**P**	**17 50 13.8**	**+2.3**
KMI	**Kunming**	**23.42**	**17**	P	**P**	**17 50 21.8**	**-0.5**
KMI				AP		17 50 30.8	
KMI				XP	sP	17 50 34.5	+1.7
KMI				PP		17 50 55.5	
KMI				S	**S**	**17 54 34.8**	**+1.2**
KMI				AMB	AMB		
	comp=Z,33nm,1.2s,mb4.6						
KMI				AMB	AMB		
	comp=Z,144nm,5.4s						
KMI				LR	LR		
	comp=N,728nm,11.0s						
KMI				LR	LR		
	comp=E,366nm,18.4s						
KMI				LR	LR		
	comp=Z,818nm,13.6s,MS4.3						
JIRN	**Jiri**	**26.42**	**341**	*eP*	**P**	**17 50 50.9**	**+1.3**
	comp=Z,57nm,0.9s,mb5.1						
PKI	**Pulchoki**	**26.60**	**340**	*eP*	**P**	**17 50 54.5**	**+3.3**
DMN	**Daman**	**26.74**	**339**	*eP*	**P**	**17 50 56.1**	**+3.6**
GUN	**Gumba**	**26.76**	**341**	*eP*	**P**	**17 50 53.2**	**+0.6**
	comp=Z,39nm,0.6s,mb5.1						
KKN	**Kakani**	**26.85**	**340**	*eP*	**P**	**17 50 54.1**	**+0.7**
	comp=Z,38nm,0.9s,mb5.0						
KKN	**Kakani**	**26.85**	**340**	*eP*	**P**	**17 50 54.1**	**+0.7**
KKN				pmax	pmax		
	comp=Z,38nm,0.9s,mb4.9						
GKN	**Gorkha**	**27.27**	**339**	*eP*	**P**	**17 50 58.1**	**+0.9**
	comp=Z,61nm,0.9s,mb5.2						
KOLN	**Koldanda**	**27.45**	**337**	*eP*	**P**	**17 51 01.4**	**+2.5**
	comp=Z,52nm,1.0s,mb5.0						
CD2	**Chengdu**	**29.19**	**15**	P	**P**	**17 51 14.5**	**+0.2**
CD2				AP	pP	17 51 21.8	-0.2
CD2				XP	sP	17 51 25.0	-0.2
CD2				PP	PP	17 52 09.5	-11
CD2				S	**S**	**17 56 05.0**	**-0.1**
CD2				XS	sS	17 56 17.0	-0.8
CD2				SS	SS	17 57 36.0	-33
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
CD2				AMB	AMB		
	comp=Z,80nm,5.2s						
CD2				LR	LR		
	comp=N,260nm,15.6s						
CD2				LR	LR		
	comp=Z,280nm,13.2s,MS4.1						
FITZ	**Fitzroy Crossi**	**36.15**	**126**	*eP*	**P**	**17 52 14.6**	**-0.5**
	comp=Z,7.5nm,0.8s,mb4.7						
NJ2	**Nanjing**	**36.60**	**34**	*eP*	**P**	**17 52 16.5**	**-2.4**
GTA	**Gaotai**	**36.81**	**6**	*eP*	**P**	**17 52 20.3**	**-0.5**
GTA				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.9						
GTA				AMB	AMB		
	comp=Z,63nm,4.2s						
GTA				LR	LR		
	comp=N,161nm,14.8s,MS4.0						
GTA				LR	LR		
	comp=E,88nm,16.7s,MS4.0						
GTA				LR	LR		
	comp=Z,195nm,12.5s,MS4.1						
SSE	**Sheshan**	**37.28**	**38**	P	**P**	**17 52 23.0**	**-1.8**
SSE				AP	pP	17 52 31.5	-1.1
SSE				XP	sP	17 52 35.3	-0.5
SSE				PP	PP	17 53 45.8	-4.2
SSE				S	**S**	**17 58 02.5**	**-8.0**
SSE				SS	SS	18 00 41.3	-13
SSE				AMB	AMB		
	comp=Z,31nm,0.9s,mb5.1						
SSE				AMB	AMB		
	comp=Z,261nm,4.6s						
SSE				LR	LR		
	comp=N,58nm,19.8s,MS3.6						
SSE				LR	LR		
	comp=E,74nm,19.8s,MS3.6						
SSE				LR	LR		
	comp=Z,155nm,13.4s						
KAKA	**Kakadu**	**39.73**	**113**	*eP*	**P**	**17 52 43.4**	**-2.0**
	comp=Z,12nm,0.7s,mb4.7						
WMQ	**Urumqi**	**41.59**	**351**	P	**P**	**17 53 01.8**	**+1.1**
WMQ				AP	pP	17 53 09.3	+0.7
WMQ				XP	sP	17 53 12.5	+0.8
WMQ				PP	PP	17 54 41.5	+4.5
WMQ				S	**S**	**17 59 16.5**	**+1.3**
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,166nm,4.8s						
WMQ				LR	LR		
	comp=N,958nm,15.2s,MS4.9						
WMQ				LR	LR		
	comp=E,719nm,14.1s,MS4.9						
WMQ				LR	LR		
	comp=Z,991nm,15.7s,MS4.8						
WRA	**Warramunga Arr**	**44.24**	**122**	P	**P**	**17 53 21.7**	**-0.5**
	comp=Z,7.0nm,0.8s,mb4.5,baz=301,slow=9.0,SNR=32						
WRA				pP	pP	17 53 29.5	-0.6
	comp=Z,9.5nm,1.0s,baz=300,slow=9.3,SNR=18						
WRAB	**Tennant Creek**	**44.25**	**122**	*eP*	**P**	**17 53 22.2**	**0.0**
WRAB				*e*	pP	17 53 29.6	-0.5
WRAB				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**44.25**	**122**	*eP*	**P**	**17 53 22.2**	**0.0**
	comp=Z,15nm,0.8s,mb4.8						
WRAB				*e*	pP	17 53 29.6	-0.6
WB2	**Warramunga Arr**	**44.25**	**122**	*eP*	**P**	**17 53 21.9**	**-0.3**
MKAR	**Makanchi Array**	**45.46**	**347**	P	**P**	**17 53 31.9**	**0.0**
	comp=Z,18nm,0.8s,mb5.0,baz=159,slow=7.3,SNR=128						
MKAR				pP	pP	17 53 39.4	-0.4
	comp=Z,20nm,0.8s,baz=162,slow=6.8,SNR=18						
ASPA	**Alice Springs**	**45.62**	**127**	*eP*	**P**	**17 53 33.3**	**+0.2**
AS31	**Alice Springs**	**45.62**	**127**	*eP*	**P**	**17 53 33.3**	**+0.2**
ASAR	**Alice Springs**	**45.62**	**127**	P	**P**	**17 53 33.3**	**+0.2**
	comp=Z,2.1nm,0.7s,mb4.2,baz=299,slow=7.9,SNR=46						
ASAR				pP	pP	17 53 40.2	-0.9
	comp=Z,2.9nm,0.6s,baz=301,slow=7.9,SNR=17						
ASAR				PcP	PcP	17 55 12.6	+1.4
	comp=Z,0.6nm,0.7s,baz=308,slow=4.5,SNR=3.8						
SONM	**Songino Array**	**46.00**	**10**	P	**P**	**17 53 35.7**	**-0.4**
	comp=Z,2.2nm,0.5s,mb4.3,baz=191,slow=8.1,SNR=18						
SONM				pP	pP	17 53 42.6	-1.5
	comp=Z,3.5nm,0.7s,baz=192,slow=8.5,SNR=10						
SONM				PcP	PcP	17 55 13.3	+0.8
	comp=Z,1.1nm,0.5s,baz=182,slow=3.3,SNR=3.6						
ULN	**Ulaanbaatar**	**46.15**	**11**	⇓*iP*	**P**	**17 53 36.7**	**-0.6**
ULN	**Ulaanbaatar**	**46.15**	**11**	*eP*	**P**	**17 53 36.6**	**-0.7**
	comp=Z,8.5nm,1.4s,mb4.5						
SNY	**Shenyang**	**46.45**	**29**	⇑P	**P**	**17 53 40.5**	**+0.9**
SNY				AMB	AMB		
	comp=Z,6.0nm,0.3s,mb5.0						
SNY				AMB	AMB		
	comp=Z,110nm,3.7s						
SNY				LR	LR		
	comp=E,265nm,6.0s						
SNY				LR	LR		
	comp=Z,190nm,17.6s,MS4.1						
ZAK	**Zakamensk**	**48.03**	**7**	*eP*	**P**	**17 53 51.2**	**-0.8**
ZAK				*e*		17 55 20.3	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.9s,mb3.8						
TLY	**Talaya**	**49.35**	**7**	P	**P**	**17 54 01.2**	**-0.9**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
TLY	**Talaya**	**49.35**	**7**	P	**P**	**17 54 01.2**	**-0.9**
	comp=Z,5.6nm,1.0s,mb4.5						
KURK	**Kurchatov**	**49.98**	**346**	*eiP*	**P**	**17 54 07.0**	**+0.1**
KURK	**Kurchatov**	**49.98**	**346**	*eP*	**P**	**17 54 07.1**	**+0.2**
	comp=Z,14nm,0.9s,mb5.0						
MDJ	**Mudanjiang**	**51.48**	**31**	P	**P**	**17 54 18.8**	**+0.5**
MDJ				AP	pP	17 54 25.0	-1.3
MDJ				XP	sP	17 54 27.5	-1.9
MDJ				PCP	PcP	17 55 32.0	-0.3
MDJ				PP	PP	17 56 16.5	+0.9
MDJ				SCP	ScP	17 59 26.3	-0.8
MDJ				S	**S**	**18 01 39.0**	**+2.2**
MDJ				SCS	ScS	18 04 04.3	-2.5
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,22nm,3.8s						
MDJ				LR	LR		
	comp=N,92nm,11.6s,MS4.2						
MDJ				LR	LR		
	comp=E,119nm,15.8s,MS4.2						
MDJ				LR	LR		
	comp=Z,135nm,14.5s,MS4.1						
ZAL	**Zalesovo**	**51.88**	**352**	P	**P**	**17 54 21.0**	**-0.2**
	comp=Z,8.9nm,0.9s,mb4.7,baz=298,slow=6.6,SNR=38						
ZAL				pP	pP	17 54 29.1	-0.2
	comp=Z,9.6nm,0.6s,baz=305,slow=6.8,SNR=15						
PMG	**Port Moresby**	**52.85**	**104**	*eP*	**P**	**17 54 28.7**	**+0.3**
PMG				pmax	pmax		
	comp=Z,12nm,0.7s						
PMG	**Port Moresby**	**52.85**	**104**	*eP*	**P**	**17 54 28.7**	**+0.3**
	comp=Z,12nm,0.7s,mb4.9						
NVS	**Novosibirsk**	**52.99**	**351**	*iP*	**P**	**17 54 28.2**	**-1.2**
NVS				pmax	pmax		
	comp=N,11nm,0.9s						
NVS				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
NVS				pmax	pmax		
	comp=E,15nm,1.3s						
BRVK	**Borovoye**	**54.41**	**342**	*eP*	**P**	**17 54 39.5**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BRVK	**Borovoye**	**54.41**	**342**	*eP*	**P**	**17 54 39.5**	**-0.3**
	comp=Z,8.9nm,0.8s,mb4.8						
CTA	**Charters Tower**	**54.67**	**117**	*eP*	**P**	**17 54 42.1**	**+0.4**
	comp=Z,5.8nm,0.8s,mb4.7						
CTA	**Charters Tower**	**54.67**	**117**	*eP*	**P**	**17 54 42.1**	**+0.4**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ZRNK	**Zerenda**	**54.73**	**341**	*eP*	**P**	**17 54 41.4**	**-0.8**
ZRNK				*e*	pP	17 54 48.7	-1.6
ZRNK				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
ZRNK	**Zerenda**	**54.73**	**341**	*eP*	**P**	**17 54 41.4**	**-0.8**
	comp=Z,15nm,0.9s,mb5.0						
ZRNK				*e*	pP	17 54 48.7	-1.6
CHKZ	**Chkalovo**	**54.84**	**342**	*eP*	**P**	**17 54 42.8**	**-0.1**
CHKZ				*e*	pP	17 54 50.4	-0.6
CHKZ				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.4						
CHKZ	**Chkalovo**	**54.84**	**342**	*eP*	**P**	**17 54 42.8**	**-0.1**
	comp=Z,33nm,0.9s,mb5.4						
CHKZ				*e*	pP	17 54 50.4	-0.6
STKA	**Stephens Creek**	**55.58**	**132**	*eP*	**P**	**17 54 48.9**	**+0.6**
	comp=Z,5.4nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**55.58**	**132**	P	**P**	**17 54 49.1**	**+0.8**
	comp=Z,2.

BRTR				pP	pP	17 56 12.2	-1.0	
	comp=Z,1.4nm,0.8s,baz=128,slow=6.2,SNR=7.8							
OBN	**Obninsk**	**70.51**	**329**	*eP*	**P**	**17 56 29.7**	**+2.3**	
OBN				*e*		17 56 42.8		
OBN				*e*		17 56 51.5		
OBN				pmax	pmax			
	comp=Z,17nm,1.3s,mb4.8							
TIXI	**Tiksi**	**72.09**	**11**	*c iP*	**P**	**17 56 35.5**	**-1.5**	
TIXI				pmax	pmax			
	comp=Z,11nm,1.5s,mb4.6							
AKASG	**Malin Array Be**	**73.08**	**323**	P	**P**	**17 56 41.2**	**-1.7**	
	comp=Z,0.4nm,0.5s,mb3.6,baz=88,slow=5.4,SNR=4.4							
AKASG				pP	pP	17 56 49.4	-1.9	
	comp=Z,2.1nm,0.7s,baz=93,slow=4.3,SNR=6.4							
MAW	**Mawson**	**73.73**	**192**	LR	LR	18 21 43.0		
	comp=Z,73nm,18.6s,MS4.0,baz=248,slow=30							
JOF	**Joensuu**	**76.13**	**335**	*ep*	pP	17 57 05.8	-3.1	
	comp=Z,6.1nm,1.0s							
JOF	**Joensuu**	**76.13**	**335**	*eP*	pP	17 57 05.8	-3.1	
JOF				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.5							
FINES	**FINESS Array B**	**77.94**	**333**	P	**P**	**17 57 10.7**	**-0.1**	
	comp=Z,0.7nm,0.7s,mb3.7,baz=95,slow=8.5,SNR=3.3							
FINES				pP	pP	17 57 17.9	-1.3	
	comp=Z,2.5nm,0.7s,baz=102,slow=8.0,SNR=5.5							
KAF	**Kangasniemi**	**78.04**	**333**	*ep*	pP	17 57 17.8	-1.9	
	baz=104,slow=5.2							
KEV	**Kevo**	**80.19**	**341**	*ep*	pP	17 57 28.6	-2.9	
	comp=Z,8.6nm,0.9s							
KEV	**Kevo**	**80.19**	**341**	*eP*	pP	17 57 28.6	-2.9	
KEV				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.7							
ARCES	**ARCESS Array B**	**80.62**	**340**	P	**P**	**17 57 24.9**	**-0.5**	
	comp=Z,6.5nm,1.1s,mb4.5,baz=101,slow=4.8,SNR=3.6							
ARCES				LR	LR	18 38 47.4		
	comp=Z,73nm,18.6s,MS4.1,baz=106,slow=40							
GERES	**GERESS Array B**	**82.61**	**319**	P	**P**	**17 57 36.1**	**+0.2**	
	comp=Z,0.2nm,0.4s,mb3.5,baz=90,slow=5.6,SNR=3.9							
GERES				pP	pP	17 57 43.6	-0.7	
	comp=Z,1.1nm,0.7s,baz=106,slow=4.7,SNR=6.1							
BRG	**Berggiesshubel**	**82.62**	**321**	*eP*	pP	17 57 43.6	-0.8	
	comp=Z,2.9nm,1.7s							
BRG	**Berggiesshubel**	**82.62**	**321**	*eP*	pP	17 57 43.7	-0.7	
BRG				pmax	pmax			
	comp=Z,3.0nm,1.7s,mb4.0							
GRA1	**Grafenberg Arr**	**84.29**	**320**	*eP*	pP	17 57 53.1	+0.1	
	comp=Z,9.0nm,1.6s							
GRF	**Grafenberg Arr**	**84.29**	**320**	*eP*	pP	17 57 53.1	+0.1	
	comp=Z,9.0nm,1.6s							
GRF	**Grafenberg Arr**	**84.29**	**320**	*eP*	pP	17 57 53.1	+0.1	
GRF				pmax	pmax			
	comp=Z,9.0nm,1.6s,mb4.7							
GRF	**Grafenberg Arr**	**84.29**	**320**	*eP*	pP	17 57 53.1	+0.1	
GRF				pmax	pmax			
	comp=Z,9.0nm,1.6s,mb4.7							
TORD	**Torodi Ar. Bea**	**93.10**	**283**	P	**P**	**17 58 26.6**	**0.0**	
	comp=Z,0.2nm,0.5s,mb3.8,baz=110,slow=7.3,SNR=3.0							
TORD				pP	pP	17 58 35.5	+0.4	
	comp=Z,0.7nm,0.7s,baz=105,slow=6.1,SNR=4.4							
CPUP	**Villa Florida**	**144.85**	**225**	PKP	PKPdf	18 04 49.9	+0.3	
	comp=Z,0.5nm,0.4s,baz=148,slow=4.3,SNR=4.0							
CPUP				pPKP	pPKPdf	18 04 58.0	-0.3	
	comp=Z,2.8nm,0.7s,baz=60,slow=1.8,SNR=5.4							

BJI 25 18:44:06.3, 3344N×10909E, h14km, ML3.6, Ms3.7, Msz3.3, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XAN	**Xi'an**	**0.61**	**347**	PG	Pg	18 44 19.0	+0.7
XAN				SG	Sg	18 44 27.8	+1.3
XAN				Smax			
	comp=N,864nm,0.4s						
XAN				Smax			
	comp=E,695nm,0.5s						
LZH	**Lanzhou**	**5.06**	**303**	P	Pn	18 45 25.0	+3.3
LZH				PG	Pg	18 45 38.0	-5.2
LZH				S	Sn	18 46 25.3	+5.3
LZH				SG	Sg	18 46 44.0	-4.8
LZH				Smax			
	comp=N,136nm,1.2s						
LZH				Smax			
	comp=E,118nm,1.2s						
LZH				LR	LR		
	comp=N,197nm,5.6s						
LZH				LR	LR		
	comp=Z,217nm,6.9s						
CD2	**Chengdu**	**5.18**	**242**	PG	Pg	18 45 37.0	-8.4
CD2				SG	Sg	18 46 43.8	-8.7
CD2				Smax			
	comp=N,103nm,0.8s						
CD2				Smax			
	comp=E,135nm,1.0s						

*ISCJB **25** 19:10:35.4±0.2, 4268N±001×2.16E±001, h0km±3km, Error ellipse: s-maj=2.2km s-min=1.8km az=163.0*
*CSEM **25** 19:10:37.8±0.1, 4259N×2.11E, h10km, ML2.8/22, Error ellipse: s-maj=1.0km s-min=0.7km az=166.0*
*STR **25** 19:10:37.3±0.1, 4259N×2.10E, h5km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **25** 19:10:37.3, 4259N×2.10E, h5km, ML2.1(MRB), ML2.9(LDG), ML2.9(STR), MN2.3(MDD), After STR.*
*LDG **25** 19:10:37.8±0.1, 4258N×2.12E, h2km, Ml2.9/19, Error ellipse: s-maj=1.8km s-min=1.1km az=178.0*
*MDD **25** 19:10:38.3±0.2, 4260N×2.12E, h3km±3km, mbLg2.3/34, Error ellipse: s-maj=1.6km s-min=1.5km az=5.0, PRXIMO*

ISC 25 19:10:37.0±0.2, 4262N±001×214E±001, h8km±2km, n137, σ1§05/255, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CARF	**Carcanieres**	**0.10**	**345**	Pg	**Pg**	**19 10 40.8**	**+1.5**
CARF	**Carcanieres**	**0.10**	**345**	P	**Pg**	**19 10 40.9**	**+1.5**
CARF				S	**Sg**	**19 10 43.0**	**+2.0**
CLLI	**Llivia**	**0.19**	**221**	P	**Pg**	**19 10 41.3**	**+0.5**
CLLI				S	**Sg**	**19 10 43.7**	**+0.3**
	308nm,0.1s						
CLLI	**Llivia**	**0.19**	**221**	P	**Pg**	**19 10 41.3**	**+0.5**
CLLI				S	**Sg**	**19 10 43.8**	**+0.4**
VALF	**Valcebollere**	**0.24**	**203**	Pg	**Pg**	**19 10 42.3**	**+0.6**
VALF				Sg	**Sg**	**19 10 44.9**	**0.0**
VALF	**Valcebollere**	**0.24**	**203**	P	**Pg**	**19 10 42.3**	**+0.6**
VALF				S	**Sg**	**19 10 45.3**	**+0.4**
FILF	**Fillols**	**0.32**	**101**	Pg	**Pg**	**19 10 42.3**	**-0.9**
FILF				Sg	**Sg**	**19 10 45.8**	**-1.6**
FILF	**Fillols**	**0.32**	**101**	P	**Pg**	**19 10 42.4**	**-0.8**
FILF				S	**Sg**	**19 10 45.8**	**-1.6**
CBRU	**Bruguera**	**0.34**	**175**	P	**Pg**	**19 10 44.1**	**+0.5**
CBRU				S	**Sg**	**19 10 48.6**	**+0.6**
	74nm,0.1s						
CBRU	**Bruguera**	**0.34**	**175**	P	**Pg**	**19 10 44.2**	**+0.6**
CBRU				S	**Sg**	**19 10 48.7**	**+0.6**
CBRU	**Bruguera**	**0.34**	**175**	P	**Pg**	**19 10 44.2**	**+0.6**
LPEF	**Le Peyrat**	**0.37**	**333**	P	**Pg**	**19 10 45.6**	**+1.4**
LPEF				S	**Sg**	**19 10 51.4**	**+2.3**
LRDF	**Laroque-de-Fa**	**0.43**	**43**	Pg	**Pg**	**19 10 46.7**	**+1.3**
LRDF				Sg	**Sg**	**19 10 53.1**	**+2.0**
LRDF	**Laroque-de-Fa**	**0.43**	**43**	P	**Pg**	**19 10 46.6**	**+1.2**
LRDF				S	**Sg**	**19 10 53.1**	**+2.1**
PAND	**Andorre**	**0.45**	**258**	P	**Pg**	**19 10 46.0**	**+0.3**
PAND				S	**Sg**	**19 10 51.9**	**+0.3**
GRBF	**Gourbit**	**0.50**	**297**	P	**Pg**	**19 10 47.1**	**+0.5**
GRBF				S	**Sg**	**19 10 53.5**	**+0.4**
OLT	**Olot**	**0.54**	**152**	P	**Pg**	**19 10 48.0**	**+0.7**
OLT				S	**Sg**	**19 10 55.2**	**+0.8**
OLT	**Olot**	**0.54**	**152**	P	**Pg**	**19 10 48.1**	**+0.7**
OLT				S	**Sg**	**19 10 55.2**	**+0.8**
OLT	**Olot**	**0.54**	**152**	P	**Pg**	**19 10 48.1**	**+0.8**
SJAF	**Saint Jean de**	**0.56**	**104**	Pg	**Pg**	**19 10 48.6**	**+0.7**
SJAF				Sg	**Sg**	**19 10 56.0**	**+0.7**
SJAF	**Saint Jean de**	**0.56**	**104**	P	**Pg**	**19 10 48.6**	**+0.7**
SJAF				S	**Sg**	**19 10 56.2**	**+0.9**
EJON	**La Jonquera**	**0.58**	**107**	⇑Pg	**Pg**	**19 10 49.0**	**+0.8**
	18nm,0.1s,SNR=18						
EJON				Lg		19 10 56.5	
	17nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**0.58**	**107**	Pg	**Pg**	**19 10 49.0**	**+0.8**
	18nm,0.1s,SNR=18						
SALF	**Salau**	**0.71**	**282**	P	**Pg**	**19 10 50.8**	**+0.1**
SALF				S	**Sg**	**19 10 59.7**	**-0.3**
MTLF	**Montolieu**	**0.72**	**4**	*e*Pg	**Pg**	**19 10 52.0**	**+1.1**
MTLF				*e*Sg	**Sg**	**19 11 01.9**	**+1.6**
	44nm,0.2s						
MTLF	**Montolieu**	**0.72**	**4**	*e*Pg	**Pg**	**19 10 52.0**	**+1.1**
MTLF				*e*Sg	**Sg**	**19 11 01.9**	**+1.6**
	22nm,0.2s						
CORG	**Organya**	**0.72**	**238**	P	**Pg**	**19 10 50.8**	**-0.1**
CORG				S	**Sg**	**19 11 00.8**	**+0.5**
	11nm,0.2s						
CORG	**Organya**	**0.72**	**238**	P	**Pg**	**19 10 50.8**	**0.0**
CORG				S	**Sg**	**19 11 00.9**	**+0.6**
CORG	**Organya**	**0.72**	**238**	P	**Pg**	**19 10 50.8**	**-0.1**
CORG				S	**Sg**	**19 11 00.9**	**+0.6**
CSOR	**Sort**	**0.78**	**252**	P	**Pg**	**19 10 51.8**	**-0.2**
CSOR				S	**Sg**	**19 11 02.7**	**+0.5**
	27nm,0.2s						
CSOR	**Sort**	**0.78**	**252**	P	**Pg**	**19 10 51.9**	**-0.1**
CSOR				S	**Sg**	**19 11 02.7**	**+0.5**
CSOR	**Sort**	**0.78**	**252**	P	**Pg**	**19 10 51.9**	**-0.1**
CSOR				S	**Sg**	**19 11 02.7**	**+0.5**
MLS	**Moulis**	**0.84**	**294**	Pg	**Pg**	**19 10 53.3**	**+0.2**
MLS				Sg	**Sg**	**19 11 04.0**	**0.0**
MLS	**Moulis**	**0.84**	**294**	P	**Pg**	**19 10 53.3**	**+0.2**
MLS				S	**Sg**	**19 11 04.1**	**+0.1**
CFON	**Fontmartina**	**0.89**	**166**	P	**Pg**	**19 10 54.3**	**+0.3**
CFON				S	**Sg**	**19 11 06.7**	**+1.2**
	116nm,0.2s						
CFON	**Fontmartina**	**0.89**	**166**	P	**Pg**	**19 10 54.3**	**+0.3**
CFON				S	**Sg**	**19 11 06.7**	**+1.2**
MELF	**Melles**	**1.05**	**284**	Pg	**Pg**	**19 10 56.9**	**-0.2**
MELF				Sg	**Sg**	**19 11 10.3**	**-0.4**
MELF	**Melles**	**1.05**	**284**	P	**Pg**	**19 10 56.9**	**-0.2**
MELF				S	**Sg**	**19 11 10.3**	**-0.4**
CAVN	**Les Avellanes**	**1.27**	**235**	P	**Pn**	**19 11 01.1**	**+0.2**
CAVN				S	**Sb**	**19 11 17.9**	**+0.4**
	66nm,0.2s						
CAVN	**Les Avellanes**	**1.27**	**235**	P	**Pn**	**19 11 01.1**	**+0.2**
CAVN				S	**Sb**	**19 11 18.0**	**+0.5**
CAVN	**Les Avellanes**	**1.27**	**235**	P	**Pn**	**19 11 01.1**	**+0.2**
CAVN				S	**Sb**	**19 11 18.0**	**+0.5**
RESF	**Ens**	**1.34**	**279**	Pg	**Pg**	**19 11 02.2**	**-0.5**
RESF				Sg	**Sg**	**19 11 20.0**	**-0.1**
RESF	**Ens**	**1.34**	**279**	P	**Pn**	**19 11 02.7**	**+0.8**
RESF				S	**Sb**	**19 11 20.0**	**+0.4**
EPF	**Esparros**	**1.39**	**288**	*e*Pg	**Pg**	**19 11 03.4**	**-0.1**
EPF				*e*Sg	**Sg**	**19 11 20.7**	**-0.8**
	24nm,0.2s						
EPF	**Esparros**	**1.39**	**288**	*e*Pg	**Pg**	**19 11 03.4**	**-0.1**
EPF				*e*Sg	**Sg**	**19 11 20.7**	**-0.8**
	12nm,0.2s						
EBIE	**Bielsa**	**1.48**	**273**	Pg	**Pg**	**19 11 04.7**	**-0.6**
	20nm,0.3s,SNR=7.9						
EBIE				Lg		19 11 23.6	
	22nm,0.2s,SNR=67						
EBIE	**Bielsa**	**1.48**	**273**	Pg	**Pg**	**19 11 04.6**	**-0.7**
EBIE				Lg		19 11 23.6	
EBIE	**Bielsa**	**1.48**	**273**	Pg	**Pg**	**19 11 04.6**	**-0.6**
	20nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**1.49**	**212**	Pg	**Pg**	**19 11 04.9**	**-0.7**
	8.0nm,0.1s,SNR=7.9						
EPOB				Lg		19 11 23.9	
	40nm,0.1s,SNR=34						
EPOB	**Poblet**	**1.49**	**212**	Pg	**Pg**	**19 11 04.9**	**-0.7**
EPOB				Lg		19 11 22.6	
EPOB	**Poblet**	**1.49**	**212**	Pg	**Pg**	**19 11 04.9**	**-0.7**
	8.0nm,0.1s,SNR=7.9						
CGAR	**Garraf**	**1.52**	**210**	P	**Pn**	**19 11 02.6**	**-1.8**
CGAR				S	**Sn**	**19 11 19.1**	**-5.3**
	8.9nm,0.2s						
CGAR	**Garraf**	**1.52**	**210**	P	**Pn**	**19 11 02.6**	**-1.8**
CGAR				S	**Sn**	**19 11 19.2**	**-5.2**
LABF	**Labassere**	**1.58**	**286**	Pg	**Pg**	**19 11 07.0**	**-0.2**
LABF				Sg	**Sg**	**19 11 27.4**	**-0.3**
LABF	**Labassere**	**1.58**	**286**	P	**Pn**	**19 11 07.2**	**+2.0**
LABF				S	**Sn**	**19 11 27.4**	**+1.7**
VIEF	**Viey**	**1.58**	**280**	Pg	**Pg**	**19 11 06.8**	**-0.5**
VIEF				Sg	**Sg**	**19 11 26.7**	**-1.1**
VIEF	**Viey**	**1.58**	**280**	P	**Pn**	**19 11 06.8**	**+1.6**
VIEF				S	**Sn**	**19 11 27.3**	**+1.5**
REYF	**Montagne du Re**	**1.92**	**284**	Pg	**Pg**	**19 11 12.8**	**-0.9**
REYF				Sg	**Sg**	**19 11 39.2**	**+0.7**
REYF	**Montagne du Re**	**1.92**	**284**	P	**Pn**	**19 11 13.3**	**+3.5**
REYF				S	**Sn**	**19 11 38.3**	**+4.2**
LASF	**Ste Croix**	**1.92**	**40**	*e*Pg	**Pg**	**19 11 14.1**	**+0.3**
LASF				*e*Sg	**Sg**	**19 11 39.4**	**+0.8**
	18nm,0.2s						
LASF	**Ste Croix**	**1.92**	**40**	Pn	**Pn**	**19 11 10.3**	**+0.4**
LASF				Pg	**Pg**	**19 11 14.1**	**+0.3**
LASF				Lg		19 11 39.4	
	8.9nm,0.2s						
LASF	**Ste Croix**	**1.92**	**40**	*e*Pn	**Pn**	**19 11 10.3**	**+0.4**
LASF				*e*Pg	**Pg**	**19 11 14.1**	**+0.3**
LASF				*e*Sg	**Sg**	**19 11 39.4**	**+0.8**
LASF	**Ste Croix**	**1.92**	**40**	*e*Pg	**Pg**	**19 11 14.1**	**+0.3**
LASF				*e*Sg	**Sg**	**19 11 39.4**	**+0.8**
	8.9nm,0.2s						
FDAF	**Les Forges d'A**	**2.00**	**277**	P	**Pn**	**19 11 14.9**	**+3.9**
FDAF				S	**Sn**	**19 11 40.1**	**+3.9**
ETSF	**Etsaut**	**2.01**	**279**	*e*Pg	**Pg**	**19 11 15.0**	**-0.4**
ETSF				*e*Sg	**Sg**	**19 11 40.8**	**-0.7**
	36nm,0.3s						
ETSF	**Etsaut**	**2.01**	**279**	*e*Pg	**Pg**	**19 11 15.0**	**-0.4**
ETSF				*e*Sg	**Sg**	**19 11 40.8**	**-0.7**
	18nm,0.3s						
ATE	**Arette**	**2.14**	**284**	Pg	**Pg**	**19 11 17.1**	**-0.9**
ATE				Sg	**Sg**	**19 11 46.3**	**+0.6**
ATE	**Arette**	**2.14**	**284**	P	**Pn**	**19 11 17.1**	**+4.2**
ATE				S	**Sn**	**19 11 45.3**	**+5.7**
ERTA	**Horta de San J**	**2.14**	**220**	Pn	**Pn**	**19 11 13.4**	**+0.5**
	0.9nm,0.1s,SNR=7.9						
ERTA				Pg	**Pg**	**19 11 16.8**	**-1.3**
	5.5nm,0.2s,SNR=7.9						
ERTA				Sn	**Sn**	**19 11 40.8**	**+1.1**
	2.0nm,0.1s,SNR=18						
ERTA				Lg		19 11 44.3	
	9.3nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.14**	**220**	Pn	**Pn**	**19 11 13.4**	**+0.5**
ERTA				Pg	**Pg**	**19 11 16.8**	**-1.3**
ERTA				Lg		19 11 43.5	
ERTA	**Horta de San J**	**2.14**	**220**	Pn	**Pn**	**19 11 13.4**	**+0.5**
	0.9nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.14**	**220**	Pg	**Pg**	**19 11 16.8**	**-1.2**
	5.5nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.31**	**359**	*e*Pg	**Pg**	**19 11 20.8**	**-0.3**
CAF				*e*Sg	**Sg**	**19 11 51.4**	**+0.4**
	14nm,0.2s						
CAF	**Calviac**	**2.31**	**359**	Pn	**Pn**	**19 11 15.5**	**+0.3**
CAF				Pg	**Pg**	**19 11 20.8**	**-0.3**
CAF				Lg		19 11 51.4	
	6.8nm,0.2s						
CAF	**Calviac**	**2.31**	**359**	*e*Pn	**Pn**	**19 11 15.5**	**+0.3**
CAF				*e*Pg	**Pg**	**19 11 20.8**	**-0.3**
CAF				*e*Sg	**Sg**	**19 11 51.4**	**+0.4**
CAF	**Calviac**	**2.31**	**359**	*e*Pg	**Pg**	**19 11 20.8**	**-0.3**
CAF				*e*Sg	**Sg**	**19 11 51.4**	**+0.4**
	6.8nm,0.2s						
LARF	**Larrau**	**2.34**	**281**	Pg	**Pg**	**19 11 20.7**	**-1.1**
LARF				Sg	**Sg**	**19 11 51.0**	**-1.1**
LARF	**Larrau**	**2.34**	**281**	P	**Pn**	**19 11 21.2**	**+5.6**
LARF				S	**Sn**	**19 11 51.0**	**+6.5**
SJPF	**Ste Jean**	**2.52**	**282**	*e*Pg	**Pg**	**19 11 25.0**	**-0.3**
SJPF				*e*Sg	**Sg**	**19 11 57.6**	**-0.4**
	11nm,0.3s						
SJPF	**Ste Jean**	**2.52**	**282**	*e*Pg	**Pg**	**19 11 25.0**	**-0.3**
SJPF				*e*Sg	**Sg**	**19 11 57.6**	**-0.4**
	5.7nm,0.3s						
LFF	**La Frestale**	**2.53**	**337**	*e*Pg	**Pg**	**19 11 25.3**	**-0.1**
LFF				*e*Sg	**Sg**	**19 11 58.6**	**+0.4**
	18nm,0.2s						
LFF	**La Frestale**	**2.53**	**337**	Pn	**Pn**	**19 11 19.5**	**+1.2**
LFF				Pg	**Pg**	**19 11 25.3**	**-0.1**
LFF				Lg		19 11 58.6	
	9.0nm,0.2s						
LFF	**La Frestale**	**2.53**	**337**	*e*Pn	**Pn**	**19 11 19.5**	**+1.2**
LFF				*e*Pg	**Pg**	**19 11 25.3**	**-0.1**
LFF				*e*Sg	**Sg**	**19 11 58.6**	**+0.4**
LFF	**La Frestale**	**2.53**	**337**	*e*Pg	**Pg**	**19 11 25.3**	**-0.1**
LFF				*e*Sg	**Sg**	**19 11 58.6**	**+0.4**
	9.0nm,0.2s						
IPRE	**Itoiz**	**2.58**	**275**	Pg	**Pg**	**19 11 26.0**	**-0.5**
	5.9nm,0.3s,SNR=7.9						
IPRE				Lg		19 12 00.1	
	5.3nm,0.3s,SNR=5.0						
IPRE	**Itoiz**	**2.58**	**275**	Pg	**Pg**	**19 11 25.6**	**-0.9**
	5.9nm,0.3s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.72**	**351**	*e*Pg	**Pg**	**19 11 28.9**	**-0.2**
RJF				*e*Sg	**Sg**	**19 12 04.5**	**+0.2**
	9.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.72**	**351**	*e*Pg	**Pg**	**19 11 28.9**	**-0.2**
RJF				*e*Sg	**Sg**	**19 12 04.5**	**+0.2**
	4.6nm,0.2s						
IUSE	**Utxeti**	**2.73**	**278**	Pg	**Pg**	**19 11 27.4**	**-1.9**
	2.0nm,0.2s,SNR=7.9						
IUSE				Lg		19 12 04.2	
	4.5nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**2.73**	**278**	Pg	**Pg**	**19 11 27.4**	**-2.0**
	2.0nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**2.75**	**284**	Pg	**Pg**	**19 11 27.7**	**-1.9**
	5.2nm,0.3s,SNR=16						
EALK				Lg		19 12 04.3	
	13nm,0.3s,SNR=6.1						
EARA	**Aranguren**	**2.75**	**274**	Pg	**Pg**	**19 11 27.3**	**-2.3**
	1.8nm,0.2s,SNR=7.9						
EARA				Lg		19 12 04.8	
	1.7nm,0.2s,SNR=4.0						
ELIZ	**Elizondo**	**2.75**	**283**	Pn	**Pn**	**19 11 25.4**	**+4.1**
	0.5nm,0.2s,SNR=7.9						
ELIZ				Pg	**Pg**	**19 11 28.4**	**-1.2**
	4.3nm,0.2s,SNR=7.9						
ELIZ				Lg		19 12 04.8	
	4.5nm,0.3s,SNR=26						
ELIZ	**Elizondo**	**2.75**	**283**	Pg	**Pg**	**19 11 28.4**	**-1.3**
	4.3nm,0.2s,SNR=7.9						
SMRF	**Simiane la Rot**	**2.85**	**60**	*e*Pg	**Pg**	**19 11 31.6**	**0.0**
SMRF				*e*Sg	**Sg**	**19 12 09.0**	**+0.5**
	3.2nm,0.3s						
SMRF	**Simiane la Rot**	**2.85**	**60**	*e*Pg	**Pg**	**19 11 31.6**	**0.0**
SMRF				*e*Sg	**Sg**	**19 12 09.0**	**+0.5**
	1.6nm,0.3s						
VIVF	**Saint-Julien-l**	**2.89**	**39**	*e*Pg	**Pg**	**19 11 32.1**	**-0.3**
VIVF				*e*Sg	**Sg**	**19 12 10.5**	**+0.7**
	10.0nm,0.2s						
VIVF	**Saint-Julien-l**	**2.89**	**39**	Pn	**Pn**	**19 11 24.8**	**+1.6**
VIVF				Pg	**Pg**	**19 11 32.1**	**-0.3**
VIVF				Lg		19 12 10.5	
	0.0nm,0.2s						
VIVF	**Saint-Julien-l**	**2.89**	**39**	*e*Pn	**Pn**	**19 11 24.8**	**+1.6**
VIVF				*e*Pg	**Pg**	**19 11 32.1**	**-0.3**
VIVF				*e*Sg	**Sg**	**19 12 10.5**	**+0.7**
VIVF	**Saint-Julien-l**	**2.89**	**39**	*e*Pg	**Pg**	**19 11 32.1**	**-0.3**
VIVF				*e*Sg	**Sg**	**19 12 10.5**	**+0.7**
	5.0nm,0.2s						
ETOS	**Mallorca**	**2.90**	**170**	Pn	**Pn**	**19 11 22.1**	**-1.1**
	0.5nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**19 11 55.9**	**-2.4**
	0.3nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**2.90**	**170**	Pn	**Pn**	**19 11 22.1**	**-1.1**
ETOS				Sn	**Sn**	**19 11 54.6**	**-3.7**
ETOS	**Mallorca**	**2.90**	**170**	Pn	**Pn**	**19 11 22.1**	**-1.2**
	0.5nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**19 11 54.6**	**-3.6**
	0.3nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.99**	**222**	Pn	**Pn**	**19 11 25.2**	**+0.7**
	0.1nm,0.0s,SNR=4.0						
EMOS				Pg	**Pg**	**19 11 32.5**	**-1.7**
	1.2nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**19 11 58.9**	**-1.7**
	1.1nm,0.2s,SNR=7.9						
EMOS				Lg		19 12 13.4	
	6.4nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**2.99**	**222**	Pn	**Pn**	**19 11 25.2**	**+0.7**
EMOS				Pg	**Pg**	**19 11 32.5**	**-1.7**
EMOS				Sn	**Sn**	**19 11 58.9**	**-1.7**
EMOS				Lg		19 12 09.7	
EMOS	**Mosqueruela**	**2.99**	**222**	Pn	**Pn**	**19 11 25.2**	**+0.6**
	SNR=4.0						
EMOS	**Mosqueruela**	**2.99**	**222**	Pg	**Pg**	**19 11 32.5**	**-1.7**
	0.2nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**19 11 58.9**	**-1.7**
	1.1nm,0.2s,SNR=7.9						
LMR	**La Mourre**	**3.28**	**76**	*e*Pg	**Pg**	**19 11 38.7**	**-1.2**
LMR				*e*Sn	**Sn**	**19 12 06.3**	**-1.5**
LMR				*e*Sg	**Sg**	**19 12 21.6**	**-0.8**
	1.9nm,0.3s						
LMR	**La Mourre**	**3.28**	**76**	Pn	**Pn**	**19 11 28.9**	**+0.3**
LMR				Pg	**Pg**	**19 11 38.7**	**-1.2**
LMR				Sn	**Sn**	**19 12 06.3**	**-1.5**
LMR				Lg		19 12 21.6	
	0.9nm,0.3s						
LMR	**La Mourre**	**3.28**	**76**	*e*Pn	**Pn**	**19 11 28.9**	**+0.3**
LMR				*e*Pg	**Pg**	**19 11 38.7**	**-1.2**
LMR				*e*Sn	**Sn**	**19 12 06.3**	**-1.5**
LMR				*e*Sg	**Sg**	**19 12 21.6**	**-0.8**
LMR	**La Mourre**	**3.28**	**76**	*e*Pg	**Pg**	**19 11 38.7**	**-1.2**
LMR				*e*Sn	**Sn**	**19 12 06.3**	**-1.5**
LMR				*e*Sg	**Sg**	**19 12

ECAL Calabor 6.62 267 Sn **Sn 19 13 25.6 -4.5**
0.7nm,0.3s,SNR=7.9

MOS ***25*** *19:23:09.8±0.8,2359N×6385W,h10km,mb4.8/48,Error ellipse: s-maj=8.6km s-min=5.5km az=49.8*
ISCJB ***25*** *19:23:09.2±0.2,2356N±004×6398W±003,h10km, mb4.5/86,MS3.6/8,Error ellipse: s-maj=5.8km s-min=3.9km az=159.3*
IDC ***25*** *19:23:10.1±0.5,2361N×6385W,h10km,mb4.2/18, mb1 4.4/20,mb1mx4.3/26,mbtmp4.3/20,ML4.4/2,MS3.4/8, Ms1 3.4/8,ms1mx3.0/32,Error ellipse: s-maj=16.8km s-min=13.0km az=112.0*
SZGRF ***25*** *19:23:10.2,2367N×6515W,h33km,mb4.9,North Atlantic Ocean*
NEIC ***25*** *19:23:11.2±0.2,2361N×6400W,h10km,mb4.6/69,Error ellipse: s-maj=5.4km s-min=3.8km az=182.0*
BJI ***25*** *19:23:11.2,2360N×6400W,h10km,Ms4.8,Msz4.6*
ISC 25 19:23:11.4±0.2,2358N±004×6397W±003,h10km,n244, σ1♦03/242,mb4.5/86,MS3.6/8,14C-8D,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**5.81**	**201**	Pn	**Pn**	**19 24 38.6**	**+1.0**
	73nm,0.3s,baz=34,slow=11,SNR=64						
SJG				Sn	**Sn**	**19 25 41.6**	**-2.7**
	99nm,0.3s,baz=248,slow=19,SNR=9.0						
SJG	**San Juan**	**5.81**	**201**	*e*P	**Pn**	**19 24 38.1**	**+0.5**
SJG				pmax	pmax		
	comp=Z,183nm,0.3s						
SJG	**San Juan**	**5.81**	**201**	*e*Pn	**Pn**	**19 24 38.1**	**+0.5**
	comp=Z,183nm,0.3s						
SJG				*e*Sn	**Sn**	**19 25 28.5**	**-16**
BBSR	**BB Station**	**8.78**	**356**	*e*Pn	**Pn**	**19 25 11.6**	**-6.8**
	comp=Z,21nm,0.5s						
BBSR				*e*Sn	**Sn**	**19 26 36.5**	**-21**
MASC	**Masc**	**10.11**	**252**	*e*PG	**Pn**	**19 25 37.1**	**+0.5**
MASC				*e*SG	**Sn**	**19 27 16.7**	**-13**
	comp=N,1μm,0.1s						
MASC				*e*			
	comp=E,1μm,0.2s						
MOAC	**Moa**	**10.59**	**256**	*e*P	**Pn**	**19 25 41.7**	**-1.5**
MOAC				*e*S	**Sn**	**19 27 30.8**	**-11**
	comp=N,40nm,0.5s						
MOAC				*e*			
	comp=E,25nm,0.4s						
RCC	**Rio Carpintero**	**11.46**	**254**	*e*P	**Pn**	**19 25 53.6**	**-1.5**
RCC				*e*S	**Sn**	**19 27 52.7**	**-10**
	comp=N,55nm,0.6s						
RCC				*e*			
	comp=E,69nm,0.6s						
HLGC	**Holguin**	**11.51**	**259**	*e*P	**Pn**	**19 25 55.1**	**-0.7**
LMGC	**Las Mercedes**	**12.60**	**256**	*e*P	**Pn**	**19 26 09.5**	**-1.2**
LMGC				*e*S	**Sn**	**19 28 18.6**	**-12**
	comp=N,24nm,0.3s						
LMGC				*e*			
	comp=E,41nm,0.3s						
PCRV	**Puerto La Cruz**	**13.34**	**183**	Pn	**Pn**	**19 26 21.0**	**+0.2**
	comp=E,1.7nm,0.3s,baz=312,slow=6.5,SNR=5.8						
SDV	**Santo Domingo**	**15.94**	**205**	Pn	**Pn**	**19 26 58.1**	**+2.4**
	comp=E,1.6nm,0.3s,baz=355,slow=11,SNR=1.5						
DWPF	**Disney**	**16.35**	**290**	*e*Pn	**Pn**	**19 26 58.0**	**-3.0**
	comp=E,125nm,0.6s						
DWPF				*e*Sn	Sn	19 29 36.0	-27
SDMD	**Soldier's Deli**	**19.19**	**328**	*e*Pn	**Pn**	**19 27 29.9**	**-6.3**
SDMD				*e*Sn	Sn	19 30 31.5	-40
PAL	**Palisades**	**19.28**	**337**	*e*P	**Pn**	**19 27 33.7**	**-3.5**
PAL				pmax	pmax		
	comp=Z,25nm,0.6s						
PAL	**Palisades**	**19.28**	**337**	*e*Pn	**Pn**	**19 27 33.7**	**-3.4**
	comp=Z,25nm,0.6s						
PAL				*e*Sn	Sn	19 30 41.7	-32
MVL	**Millersville**	**19.43**	**330**	*e*Pn	**Pn**	**19 27 34.2**	**-4.8**
MVL				*e*Sn	Sn	19 30 43.5	-33
BLA	**Blacksburg**	**19.61**	**318**	*e*P	**Pn**	**19 27 38.4**	**-2.7**
BLA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BLA	**Blacksburg**	**19.61**	**318**	*e*Pn	**Pn**	**19 27 38.4**	**-2.8**
	comp=Z,3.7nm,0.6s						
BLA				*e*Sn	Sn	19 30 44.9	-36
GOGA	**Godfrey**	**19.71**	**304**	*e*P	**Pn**	**19 27 40.7**	**-1.7**
GOGA				pmax	pmax		
	comp=Z,174nm,0.4s						
GOGA	**Godfrey**	**19.71**	**304**	*e*Pn	**Pn**	**19 27 40.7**	**-1.7**
	comp=Z,174nm,0.4s						
GOGA				*e*Sn	Sn	19 30 55.1	-29
ELN	**Prospectdale**	**19.82**	**317**	*e*Pn	**Pn**	**19 27 45.8**	**+2.1**
ELN				*e*Sn	Sn	19 31 01.3	-25
HRV	**Harvard--Oak R**	**19.90**	**343**	*e*P	**Pn**	**19 27 46.5**	**+1.9**
HRV				pmax	pmax		
	comp=Z,12nm,0.6s						
HRV	**Harvard--Oak R**	**19.90**	**343**	*e*Pn	**Pn**	**19 27 46.5**	**+1.8**
	comp=Z,12nm,0.6s						
HRV				*e*Sn	Sn	19 31 00.8	-28
FWV	**Forest Hill**	**20.08**	**318**	*e*Pn	**P**	**19 27 47.2**	**+2.2**
FWV				*e*Sn	S	19 30 54.0	-37
SSPA	**Standing Stone**	**20.65**	**329**	*e*P	**P**	**19 27 49.8**	**-1.4**
	comp=Z,9.9nm,0.6s						
SSPA				*e*S	S	19 31 14.5	-27
MYNC	**Murphy**	**20.93**	**308**	*e*P	**P**	**19 27 53.7**	**-0.5**
MYNC				pmax	pmax		
	comp=Z,52nm,1.1s						
MYNC	**Murphy**	**20.93**	**308**	*e*P	**P**	**19 27 53.7**	**-0.5**
	comp=Z,52nm,1.1s						
MYNC				*e*S	S	19 31 21.6	-26
ROSC	**El Rosal**	**21.13**	**210**	P	**P**	**19 27 59.9**	**+3.6**
	comp=Z,45nm,0.6s,mb5.0,baz=86,slow=6.5,SNR=29						
ROSC	**El Rosal**	**21.13**	**210**	*e*P	**P**	**19 27 59.8**	**+3.5**
ACCN	**Adirondack Com**	**21.32**	**340**	P	**P**	**19 28 00.2**	**+1.8**
ACCN				*e*S	**S**	**19 31 34.0**	**-21**
CPCT	**Cooper Cave**	**21.40**	**308**	*e*P	**P**	**19 27 58.0**	**-1.2**
CPCT				*e*S	**S**	**19 31 34.8**	**-22**
MIV	**Mineville/With**	**21.90**	**341**	P	**P**	**19 28 01.8**	**-2.8**
LRAL	**Lakeview Retre**	**22.32**	**300**	*e*P	**P**	**19 28 08.8**	**-0.2**
	comp=Z,7.1nm,0.4s,mb4.5						
PLAL	**Pickwick Lake**	**23.84**	**304**	P	**P**	**19 28 22.6**	**-2.1**
	comp=Z,16nm,0.8s,mb4.5						
WCI	**Wyandotte Cave**	**24.00**	**313**	*e*P	**P**	**19 28 29.1**	**+2.9**
WCI				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.5						
WCI	**Wyandotte Cave**	**24.00**	**313**	*e*P	**P**	**19 28 29.1**	**+2.9**
	comp=Z,13nm,0.7s,mb4.5						
WVT	**Waverly**	**24.11**	**307**	*e*P	**P**	**19 28 28.6**	**+1.4**
WVT				*e*S	**S**	**19 32 45.0**	**+0.2**
WVT				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.3						
WVT	**Waverly**	**24.11**	**307**	*e*P	**P**	**19 28 28.6**	**+1.4**
	comp=Z,7.0nm,0.5s,mb4.3						
WVT				*e*S	**S**	**19 32 45.0**	**+0.2**
SADO	**Sadowa**	**24.50**	**333**	P	**P**	**19 28 31.6**	**+0.8**
	comp=Z,11nm,0.9s,mb4.4,baz=163,slow=8.6,SNR=5.9						
SADO				LR	LR	19 37 44.5	
	comp=Z,35nm,18.2s,baz=136,slow=36						
FVM	**French Village**	**26.77**	**309**	*e*P	**P**	**19 28 52.8**	**+1.5**
FVM				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.5						
FVM	**French Village**	**26.77**	**309**	*e*P	**P**	**19 28 52.8**	**+1.5**
	comp=Z,12nm,0.8s,mb4.5						
OTAV	**Otavalo**	**27.13**	**213**	*e*P	**P**	**19 28 54.0**	**-0.5**
SCHQ	**Schefferville**	**31.29**	**357**	P	**P**	**19 29 32.0**	**+0.5**
	comp=Z,3.0nm,1.0s,mb4.1,baz=42,slow=13,SNR=3.1						
KSU1	**Kansas State U**	**31.68**	**307**	*e*P	**P**	**19 29 36.0**	**+1.1**
WMOK	**Wichita Mounta**	**32.22**	**298**	*e*P	**P**	**19 29 41.3**	**+1.6**
WMOK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
WMOK	**Wichita Mounta**	**32.22**	**298**	*e*P	**P**	**19 29 41.3**	**+1.5**
	comp=Z,4.9nm,0.8s,mb4.4						
SAML	**Samuel**	**32.34**	**179**	*e*P	**P**	**19 29 41.5**	**+0.8**
	comp=Z,20nm,1.2s,mb4.8						
JCT	**Junction City**	**32.55**	**290**	*e*P	**P**	**19 29 45.2**	**+2.6**
JCT				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
JCT	**Junction City**	**32.55**	**290**	*e*P	**P**	**19 29 45.2**	**+2.5**
	comp=Z,9.0nm,0.8s,mb4.8						
ECSD	**EROS,Sioux Fal**	**33.49**	**315**	*e*P	**P**	**19 29 49.2**	**-1.5**
ULM	**Lac du Bonnet**	**36.39**	**325**	P	**P**	**19 30 15.7**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=136,slow=9.4,SNR=4.9						
ULM				LR	LR	19 43 56.7	
	comp=Z,34nm,21.3s,MS3.1,baz=39,slow=34						
NNA	**Nana**	**37.52**	**201**	P	**P**	**19 30 23.4**	**-2.1**
ANMO	**Albuquerque**	**38.50**	**297**	P	**P**	**19 30 35.0**	**+1.2**
	comp=Z,2.3nm,0.5s,mb4.2,baz=100,slow=6.6,SNR=4.7						
ANMO				LR	LR	19 46 26.9	
	comp=Z,88nm,19.2s,MS3.6,baz=274,slow=36						
ANMO	**Albuquerque**	**38.50**	**297⇑**	*e*P	**P**	**19 30 35.7**	**+1.9**
BNM	**Barren Site**	**38.57**	**296**	*e*P	**P**	**19 30 35.6**	**+1.3**
PHWY	**Pilot Hill**	**38.80**	**307**	*e*P	**P**	**19 30 37.9**	**+1.7**
LAZ	**Ladron**	**39.01**	**296**	*e*P	**P**	**19 30 40.2**	**+2.1**
LPAZ	**La Paz**	**39.83**	**186**	P	**P**	**19 30 44.9**	**0.0**
	comp=Z,1.9nm,0.8s,mb3.9,baz=20,slow=14,SNR=4.8						
LPAZ	**La Paz**	**39.83**	**186**	*e*P	**P**	**19 30 41.7**	**-3.2**
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.2s						
LPAZ	**La Paz**	**39.83**	**186**	*e*P	**P**	**19 30 41.7**	**-3.2**
	comp=Z,4.4nm,1.2s,mb4.1						
FRB	**Frobisher Bay**	**40.27**	**357**	P	**P**	**19 30 47.6**	**-0.9**
	comp=Z,4.3nm,0.8s,mb4.2,baz=10.0,slow=8.1,SNR=3.9						
PV10	**Paradox Valley**	**40.96**	**302**	*e*P	**P**	**19 30 55.0**	**+0.8**
FFC	**Flin Flon**	**41.98**	**328**	*e*P	**P**	**19 31 02.6**	**0.0**
FFC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
FFC	**Flin Flon**	**41.98**	**328**	*e*P	**P**	**19 31 02.5**	**-0.1**
	comp=Z,4.5nm,0.8s,mb4.2						
BDFB	**Brasilia**	**41.98**	**157**	LR	LR	19 49 30.3	
	comp=Z,25nm,20.6s,MS3.1,baz=34,slow=38						
TUC	**Tucson**	**41.99**	**293**	*e*P	**P**	**19 31 03.7**	**+1.0**
TUC				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
TUC	**Tucson**	**41.99**	**293**	*e*P	**P**	**19 31 03.7**	**+1.0**
	comp=Z,6.1nm,0.9s,mb4.2						
PDAR	**Pinedale Array**	**42.10**	**308**	P	**P**	**19 31 04.6**	**+1.0**
	comp=Z,1.6nm,0.7s,mb3.8,baz=96,slow=7.9,SNR=15						
PDAR				PP	PP	19 32 44.5	+3.4
	comp=Z,2.6nm,1.1s,baz=98,slow=9.1,SNR=7.0						
PDAR				LR	LR	19 48 42.3	
	comp=Z,46nm,21.0s,MS3.3,baz=335,slow=36						
DAU	**Daniels Canyon**	**42.94**	**305**	*e*P	**P**	**19 31 11.3**	**+0.9**
REDW	**Red Top Meadow**	**43.16**	**309**	*e*P	**P**	**19 31 12.7**	**+0.6**
	comp=Z,10nm,0.9s,mb4.6						
MOOW	**Moose Ponds**	**43.16**	**309**	*e*P	**P**	**19 31 09.6**	**-2.6**
	comp=Z,2.2nm,0.8s,mb3.9						
TPAW	**Teton Pass**	**43.25**	**309**	*e*P	**P**	**19 31 13.3**	**+0.4**
	comp=Z,4.4nm,0.8s,mb4.4						
IMW	**Indian Meadow**	**43.33**	**310**	*e*P	**P**	**19 31 13.3**	**-0.3**
	comp=Z,3.7nm,0.7s,mb4.2						
HWUT	**Hardware Ranch**	**43.35**	**306**	*e*P	**P**	**19 31 14.0**	**+0.2**
	comp=Z,8.4nm,0.8s,mb4.5						
RRI2	**Red Ridge**	**43.49**	**309**	*e*P	**P**	**19 31 15.7**	**+0.8**
	comp=Z,12nm,0.7s,mb4.7						
SPUT	**South Promonto**	**43.97**	**306**	*e*P	**P**	**19 31 15.9**	**-2.7**
DUG	**Dugway**	**44.09**	**304**	*e*P	**P**	**19 31 20.5**	**+0.8**
DUG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
DUG	**Dugway**	**44.09**	**304**	*e*P	**P**	**19 31 20.5**	**+0.8**
	comp=Z,6.7nm,0.8s,mb4.4						
BOZ	**Bozeman (W)**	**44.20**	**312**	*e*P	**P**	**19 31 20.5**	**0.0**
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
BOZ	**Bozeman (W)**	**44.20**	**312**	*e*P	**P**	**19 31 20.5**	**0.0**
	comp=Z,5.5nm,0.9s,mb4.3						
HVU	**Hansel Valley**	**44.28**	**306**	*e*P	**P**	**19 31 22.5**	**+1.3**
HVU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
HVU	**Hansel Valley**	**44.28**	**306**	*e*P	**P**	**19 31 22.5**	**+1.3**
	comp=Z,4.5nm,0.7s,mb4.3						
HRY	**Holter Researc**	**44.59**	**313**	*e*P	**P**	**19 31 22.5**	**-1.1**
DLMT	**Dillon**	**44.80**	**311**	*e*P	**P**	**19 31 24.5**	**-0.8**
	comp=Z,5.5nm,0.9s,mb4.4						
MCMT	**McKenzie Canyo**	**44.86**	**311**	*e*P	**P**	**19 31 27.4**	**+1.6**
HLID	**Hailey**	**45.74**	**309**	*e*P	**P**	**19 31 33.7**	**+0.9**
	comp=Z,4.7nm,1.0s,mb4.4						
LVC	**Limon Verde**	**46.16**	**186**	*e*P	**P**	**19 31 34.5**	**-1.6**
	comp=Z,3.1nm,0.6s,mb4.4						
BMO	**Blue Mountains**	**47.99**	**310**	*e*P	**P**	**19 31 49.1**	**-1.3**
BMO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BMO	**Blue Mountains**	**47.99**	**310**	*e*P	**P**	**19 31 49.0**	**-1.4**
	comp=Z,3.4nm,0.8s,mb4.4						
NVAR	**Mina Array Bea**	**48.21**	**301**	P	**P**	**19 31 53.7**	**+1.5**
	comp=Z,1.0nm,0.8s,mb3.9,baz=96,slow=6.9,SNR=7.5						
NVAR	**Mina Array Bea**	**48.21**	**301**	P	**P**	**19 31 53.7**	**+1.5**
NEW	**Newport**	**48.43**	**314**	P	**P**	**19 31 51.0**	**-2.8**
NEW				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NEW	**Newport**	**48.43**	**314**	P	**P**	**19 31 51.0**	**-2.8**
	comp=Z,4.9nm,0.8s,mb4.6						
SUMG	**Summit**	**51.04**	**10**	P	**P**	**19 32 12.6**	**-1.1**
	comp=Z,9.2nm,1.1s,mb4.6						
YBH	**Yreka Blue Hor**	**51.67**	**305**	LR	LR	19 54 43.9	
	comp=Z,65nm,18.2s,MS3.7,baz=118,slow=37						
ESDC	**Sonseca Array**	**52.63**	**57**	P	**P**	**19 32 26.0**	**+0.4**
	comp=Z,21nm,0.7s,mb4.2,baz=275,slow=7.7,SNR=9.9						
ESLA	**Sonseca Array**	**52.63**	**57**	*e*P	**P**	**19 32 26.3**	**+0.7**
	comp=Z,0.8nm,0.9s,mb3.6						
ROSF	**Rostrenen**	**53.42**	**46**	*e*P	**P**	**19 32 31.0**	**-0.4**
QUIF	**Quistinic**	**53.46**	**47**	*e*P	**P**	**19 32 31.0**	**-0.7**
SGMF	**Saint Gilles**	**53.90**	**47**	*e*P	**P**	**19 32 34.9**	**0.0**
ESK	**Eskdalemuir**	**54.37**	**38**	*e*P	**P**	**19 32 37.5**	**-0.8**
ESK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
ESK	**Eskdalemuir**	**54.37**	**38**	*e*P	**P**	**19 32 37.5**	**-0.9**
	comp=Z,11nm,1.1s,mb4.7						
SJPF	**Ste Jean**	**54.65**	**53**	*e*P	**P**	**19 32 40.7**	**+0.3**
	comp=Z,20nm,0.8s,mb4.9						
SJPF	**Ste Jean**	**54.65**	**53**	*e*P	**P**	**19 32 40.7**	**+0.3**
SJPF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
SJPF	**Ste Jean**	**54.65**	**53**	*e*P	**P**	**19 32 40.7**	**+0.3**
	comp=Z,9.9nm,0.8s,mb4.9						
GRR	**Gorron**	**55.03**	**47**	*e*P	**P**	**19 32 42.7**	**-0.4**
ETSF	**Etsaut**	**55.14**	**53**	*e*P	**P**	**19 32 44.0**	**+0.1**
MFF	**Saint Martin d**	**55.45**	**49**	*e*P	**P**	**19 32 46.0**	**-0.1**
	comp=Z,13nm,0.8s,mb4.7						
MFF	**Saint Martin d**	**55.45**	**49**	*e*P	**P**	**19 32 46.0**	**-0.1**
MFF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
MFF	**Saint Martin d**	**55.45**	**49**	*e*P	**P**	**19 32 46.0**	**-0.1**
	comp=Z,6.7nm,0.8s,mb4.7						
LDF	**La Druitiere**	**55.53**	**46**	*e*P	**P**	**19 32 46.7**	**0.0**
	comp=Z,8.1nm,0.8s,mb4.5						
LDF	**La Druitiere**	**55.53**	**46**	*e*P	**P**	**19 32 46.7**	**0.0**
LDF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
LDF	**La Druitiere**	**55.53**	**46**	*e*P	**P**	**19 32 46.7**	**0.0**
	comp=Z,4.1nm,0.8s,mb4.5						
EPF	**Esparros**	**55.80**	**53**	*e*P	**P**	**19 32 49.4**	**+0.7**
	comp=Z,7.7nm,0.8s,mb4.5						
EPF	**Esparros**	**55.80**	**53**	*e*P	**P**	**19 32 49.4**	**+0.7**
EPF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
EPF	**Esparros**	**55.80**	**53**	*e*P	**P**	**19 32 49.4**	**+0.7**
	comp=Z,3.8nm,0.8s,mb4.5						
LFF	**La Frestale**	**56.06**	**51**	*e*P	**P**	**19 32 50.4**	**-0.1**
RJF	**Les Rejaudoux**	**56.60**	**50**	*e*P	**P**	**19 32 54.4**	**0.0**
	comp=Z,10nm,0.9s,mb4.6						
RJF	**Les Rejaudoux**	**56.60**	**50**	*e*P	**P**	**19 32 54.4**	**0.0**
RJF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
RJF	**Les Rejaudoux**	**56.60**	**50**	*e*P	**P**	**19 32 54.4**	**0.0**
	comp=Z,5.3nm,0.9s,mb4.6						
CAF	**Calviac**	**57.00**	**51**	*e*P	**P**	**19 32 57.3**	**+0.1**
	comp=Z,12nm,0.9s,mb4.6						
CAF	**Calviac**	**57.00**	**51**	*e*P	**P**	**19 32 57.3**	**+0.1**
CAF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
CAF	**Calviac**	**57.00**	**51**	*e*P	**P**	**19 32 57.3**	**+0.1**
	comp=Z,5.8nm,0.9s,mb4.6						
TCF	**Toulx Ste Croi**	**57.08**	**49**	*e*P	**P**	**19 32 57.8**	**+0.1**
	comp=Z,9.0nm,0.7s,mb4.6						
TCF	**Toulx Ste Croi**	**57.08**	**49**	*e*P	**P**	**19 32 57.8**	**+0.1**
TCF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
TCF	**Toulx Ste Croi**	**57.08**	**49**	*e*P	**P**	**19 32 57.8**	**+0.1**
	comp=Z,4.6nm,0.7s,mb4.6						
MTLF	**Montolieu**	**57.16**	**53**	*e*P	**P**	**19 32 58.6**	**+0.2**
	comp=Z,15nm,1.0s,mb4.7						
MTLF	**Montolieu**	**57.16**	**53**	*e*P	**P**	**19 32 58.6**	**+0.2**
MTLF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
MTLF	**Montolieu**	**57.16**	**53**	*e*P	**P**	**19 32 58.6**	**+0.2**
	comp=Z,7.7nm,1.0s,mb4.7						
BGF	**Bois d'Agland**	**57.51**	**49**	*e*P	**P**	**19 33 00.4**	**-0.4**
AVF	**Avril sur Loir**	**57.86**	**48**	*e*P	**P**	**19 33 03.0**	**-0.3**
	comp=Z,6.9nm,0.8s,mb4.5						
AVF	**Avril sur Loir**	**57.86**	**48**	*e*P	**P**	**19 33 03.0**	**-0.3**
AVF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
AVF	**Avril sur Loir**	**57.86**	**48**	*e*P	**P**	**19 33 03.0**	**-0.3**
	comp=Z,3.5nm,0.8s,mb4.4						
SSF	**Saint Saulge**	**57.96**	**48**	*e*P	**P**	**19 33 03.9**	**-0.1**
LOR	**Lormes**	**58.19**	**48**	*e*P	**P**	**19 33 05.4**	**-0.2**
	comp=Z,11nm,0.9s,mb4.6						
LOR	**Lormes**	**58.19**	**48**	*e*P	**P**	**19 33 05.4**	**-0.2**
LOR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
LOR	**Lormes**	**58.19**	**48**	*e*P	**P**	**19 33 05.4**	**-0.2**
	comp=Z,5.6nm,0.9s,mb4.6						
SMF	**Signal de Mont**	**58.20**	**49**	*e*P	**P**	**19 33 05.3**	**-0.3**
	comp=Z,5.8nm,0.7s,mb4.4						
SMF	**Signal de Mont**	**58.20**	**49**	*e*P	**P**	**19 33 05.3**	**-0.3**
SMF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
SMF	**Signal de Mont**	**58.20**	**49**	*e*P	**P**	**19 33 05.3**	**-0.3**
	comp=Z,2.9nm,0.7s,mb4.4						
LASF	**Ste Croix**	**58.31**	**52**	*e*P	**P**	**19 33 07.0**	**+0.6**
	comp=Z,9.7nm,0.9s,mb4.5						
BAIF	**Baives**	**58.40**	**45**	*e*P	**P**	**19 33 07.1**	**0.0**
VIVF	**Saint-Julien-l**	**58.85**	**51**	*e*P	**P**	**19 33 11.0**	**+0.8**
	comp=Z,9.5nm,0.9s,mb4.5						
VIVF	**Saint-Julien-l**	**58.85**	**51**	*e*P	**P**	**19 33 11.0**	**+0.8**
VIVF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
VIVF	**Saint-Julien-l**	**58.85**	**51**	*e*P	**P**	**19 33 11.0**	**+0.8**
	comp=Z,4.8nm,0.9s,mb4.5						
DBIC	**Dimbokro**	**59.09**	**96**	LR	LR	19 54 15.0	
	comp=Z,45nm,18.9s,MS3.6,baz=286,slow=32						
DBIC	**Dimbokro**	**59.09**	**96**	P	**P**	**19 33 10.8**	**-1.0**
DBIC				pmax	pmax		
	comp=Z,13nm,1.2s						
DBIC	**Dimbokro**	**59.09**	**96**	P	**P**	**19 33 10.8**	**-1.0**
	comp=Z,13nm,1.2s,mb4.8						
HGN	**Heimansgroeve**	**59.51**	**44**	*e*P	**P**	**19 33 14.6**	**-0.1**
	comp=Z,8.2nm,0.9s,mb4.8						
SMRF	**Simiane la Rot**	**59.56**	**52**	*e*P	**P**	**19 33 15.2**	**+0.1**
CABF	**La Chapelle**	**59.74**	**49**	*e*P	**P**	**19 33 16.6**	**+0.2**
	comp=Z,11nm,0.8s,mb4.6						
CABF	**La Chapelle**	**59.74**	**49**	*e*P	**P**	**19 33 16.6**	**+0.2**
CABF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
CABF	**La Chapelle**	**59.74**	**49**	*e*P	**P**	**19 33 16.6**	**+0.2**
	comp=Z,5.4nm,0.8s,mb4.6						
LMR	**La Mourre**	**60.29**	**52**	*e*P	**P**	**19 33 20.2**	**+0.1**
MBDF	**Montbardon**	**60.35**	**51**	*e*P	**P**	**19 33 20.7**	**+0.1**
FRF	**La Foret Royal**	**60.36**	**52**	*e*P	**P**	**19 33 20.3**	**-0.3**
CDF	**Champ du Feu**	**60.45**	**46**	*e*P	**P**	**19 33 21.0**	**-0.2**
	comp=Z,5.6nm,0.7s,mb4.4						
CDF	**Champ du Feu**	**60.45**	**46**	*e*P	**P**	**19 33 21.0**	**-0.2**
CDF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
CDF	**Champ du Feu**	**60.45**	**46**	*e*P	**P**	**19 33 21.0**	**-0.2**
	comp=Z,2.8nm,0.7s,mb4.4						
SBF	**Sospel**	**60.91**	**52**	*e*P	**P**	**19 33 24.3**	**0.0**
PGF	**Pioggiola**	**62.19**	**53**	*e*P	**P**	**19 33 33.1**	**+0.1**
	comp=Z,7.5nm,0.9s,mb4.5						
PGF	**Pioggiola**	**62.19**	**53**	*e*P	**P**	**19 33 33.1**	**+0.1**
PGF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
PGF	**Pioggiola**	**62.19**	**53**	*e*P	**P**	**19 33 33.1**	**+0.1**
	comp=Z,3.8nm,0.9s,mb4.5						
DAVA	**Damuels**	**62.28**	**48⇑**	*i*P	**P**	**19 33 34.3**	**+0.7**
	comp=Z,9.4nm,1.0s,mb4.9						
NB2	**NORSAR Subarra**	**62.51**	**32**	P	**P**	**19 33 35.2**	**+0.1**
	comp=Z,3.6nm,0.8s,mb4.5,baz=271,slow=6.9						
NOA	**NORSAR Array B**	**62.51**	**32**	P	**P**	**19 33 34.9**	**-0.2**
	comp=Z,2.2nm,0.7s,mb4.4,baz=271,slow=6.7,SNR=11						
TORD	**Torodi Ar. Bea**	**62.73**	**87**	P	**P**	**19 33 36.4**	**-0.2**
	comp=Z,0.9nm,0.8s,mb3.9,baz=287,slow=6.8,SNR=7.0						
TORD				LR	LR	19 55 44.0

CRVS	**Cervenica-Dubn**	**69.69**	**45**	*e*P		**P**	**19 34 20.2**	**-1.1**
KOLS	**Kolonicke sedl**	**70.21**	**44**	*e*P		**P**	**19 34 25.0**	**+0.6**
SVW2	**Sparrevohn**	**70.42**	**329**	*e*P		**P**	**19 34 24.7**	**-1.1**
JOF	**Joensuu**	**71.64**	**29**	*e*p		**P**	**19 34 31.9**	**-1.3**
BURAR	**Bucovina Array**	**72.44**	**45**	⇓*i*P		**P**	**19 34 39.1**	**+1.1**
BURAR	**Bucovina Array**	**72.44**	**45**	⇓P		**P**	**19 34 39.1**	**+1.2**
MLR	**Muntele Rosu**	**73.52**	**47**	⇓*i*P		**P**	**19 34 45.8**	**+1.4**
MLR	**Muntele Rosu**	**73.52**	**47**	⇓P		**P**	**19 34 45.8**	**+1.4**
AKASG	**Malin Array Be**	**74.07**	**41**	P		**P**	**19 34 46.8**	**-0.8**
	comp=Z,1.9nm,0.6s,mb4.2,baz=286,slow=5.3,SNR=12							
OBN	**Obninsk**	**76.75**	**35**⇑	*e*P		**P**	**19 35 02.7**	**-0.3**
OBN				*e*			19 37 51.4	
OBN				pmax	pmax			
	comp=Z,28nm,1.4s,mb5.0							
VRSR	**Storozhevoye**	**79.76**	**38**	*e*P		**P**	**19 35 19.6**	**0.0**
VRSR				pmax	pmax			
	comp=N,10.0nm,0.8s							
VRSR				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5							
VRSR				pmax	pmax			
	comp=E,7.0nm,0.9s							
BRTR	**Keskin Array B**	**80.82**	**51**	P		**P**	**19 35 25.9**	**+0.6**
	comp=E,1.9nm,0.8s,mb4.1,baz=292,slow=4.3,SNR=10							
BRTR	**Keskin Array B**	**80.82**	**51**⇑	*e*P		**P**	**19 35 25.7**	**+0.3**
KIV	**Kislovodsk**	**85.11**	**44**⇑	*e*P		**P**	**19 35 48.6**	**+1.0**
KIV				pmax	pmax			
	comp=Z,9.0nm,1.2s,mb4.8							
ARU	**Arti**	**86.75**	**28**⇑	*i*P		**P**	**19 35 55.3**	**-0.4**
ARU				*e*			19 39 15.5	
ARU				*e*S			19 46 16.6	
ARU				pmax	pmax			
	comp=Z,5.0nm,1.2s,mb4.6							
SVE	**Sverdlovsk**	**87.38**	**27**	*e*P		**P**	**19 35 54.0**	**-4.7**
ZRNK	**Zerenda**	**93.54**	**26**	*e*P		**P**	**19 36 27.4**	**-0.1**
ZRNK				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.8							
ZRNK	**Zerenda**	**93.54**	**26**	*e*P		**P**	**19 36 27.4**	**-0.1**
	comp=Z,2.9nm,0.7s,mb4.8							
CHKZ	**Chkalovo**	**93.64**	**25**	*e*P		**P**	**19 36 27.1**	**-0.9**
CHKZ				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.7							
CHKZ	**Chkalovo**	**93.64**	**25**	*e*P		**P**	**19 36 27.1**	**-0.9**
	comp=Z,3.0nm,0.9s,mb4.7							
BRVK	**Borovoye**	**93.98**	**26**	*e*P		**P**	**19 36 29.3**	**-0.2**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.7							
BRVK	**Borovoye**	**93.98**	**26**	*e*P		**P**	**19 36 29.3**	**-0.3**
	comp=Z,2.2nm,0.7s,mb4.7							
SONM	**Songino Array**	**108.39**	**7**	PKKPab	PKKPab		19 53 03.6	0.0
	comp=Z,0.5nm,0.7s,baz=160,slow=4.7,SNR=4.0							
CN2	**Changchun**	**112.40**	**353**	*e*PKP	PKiKP		19 41 48.0	+0.4
LZH	**Lanzhou**	**119.55**	**11**	*e*PKP	PKPdf		19 41 59.5	-1.9
LZH				XPKP			19 42 04.3	
LZH				LR	LR			
	comp=E,139nm,18.5s							
LZH				LR	LR			
	comp=Z,243nm,20.2s,MS4.8							
CD2	**Chengdu**	**124.56**	**13**	*e*PKP	PKPdf		19 42 07.0	-4.0
NJ2	**Nanjing**	**124.62**	**357**	*e*PKP	PKPdf		19 42 12.3	+1.2
NJ2				PP	PP		19 43 59.0	+1.2
NJ2				PKS			19 45 48.0	
NJ2				SKS	SKSdf		19 49 20.0	-3.0
NJ2				SKKS	SKKSac		19 50 49.0	-7.5
NJ2				LR	LR			
	comp=Z,1μm,22.1s							
MAW	**Mawson**	**125.32**	**158**	PKP	PKPdf		19 42 12.1	-0.3
	comp=Z,1.9nm,0.8s,baz=236,slow=3.5,SNR=5.6							
KMI	**Kunming**	**129.90**	**16**	PKP	PKPdf		19 42 21.8	+0.6
KMI				XPKP			19 42 27.0	
WRA	**Warramunga Arr**	**162.61**	**278**	PKP	PKPdf		19 43 13.6	+0.1
	comp=Z,1.2nm,0.9s,baz=25,slow=1.3,SNR=5.9							
ASAR	**Alice Springs**	**163.62**	**266**	PKPab	PKPab		19 44 07.0	+0.8
	comp=Z,2.2nm,0.7s,baz=94,slow=4.8,SNR=31							
ASPA	**Alice Springs**	**163.62**	**266**	*e*P	PKPab		19 44 07.3	+1.1

CASC ***25*** *19:34:45.2±3.7, 1769N×90.18W, h0km±322km, MD4.4, mb3.8(NEIC)*

NEIC ***25*** *19:34:58.0±1.1, 1408N×9306W, h10km, mb3.8/4, Error ellipse: s-maj=28.4km s-min=13.4km az=225.0*

ISCJB ***25*** *19:34:59.7±3.6, 142N±01×9309W±0.10, h24km±27km, mb4.1/4, MS3.4/3, Error ellipse: s-maj=23.7km s-min=8.9km az=75.3*

IDC ***25*** *19:35:01.7±3.4, 1495N×9259W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.7/20, mbtmp4.0/4, ML3.0/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/33, Error ellipse: s-maj=142.2km s-min=19.4km az=38.0*

ISC 25 19:35:00.5±4.7, 142N±01×9308W±010, h14km±32km, n21, σ1§27/21, mb4.1/4, MS3.4/3, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TP2	**Tecpan 2**	**2.07**	**74**⇓	*e*P	**Pn**	**19 35 35.0**	**+0.2**
TP2				*e*S	**Sn**	**19 36 12.7**	**+12**
FUG	**Fuego 3**	**2.18**	**84**	*e*P	**Pn**	**19 35 36.4**	**+0.1**
IXG	**Ixpaco**	**2.55**	**91**	*e*P	**Pn**	**19 35 39.6**	**-1.7**
CMIG	**Matias Romero**	**3.34**	**329**	Pn	**Pn**	**19 35 51.5**	**-0.8**
	1.8nm,0.3s,baz=158,slow=13,SNR=16						
CMIG				Sn	**Sn**	**19 36 31.4**	**-0.2**
	4.5nm,0.3s,baz=64,slow=13,SNR=6.2						
CMIG				Lg		19 36 38.8	
	9.3nm,0.3s,baz=99,slow=15,SNR=5.9						
OXX	**Oaxaca**	**4.51**	**309**	*e*P	**Pn**	**19 36 09.0**	**+0.6**
TEIG	**Tepich**	**7.53**	**37**	*e*Pn	**Pn**	**19 36 50.7**	**+0.9**
	7.2nm,0.4s						
TEIG				*e*Sn	**Sn**	**19 38 03.3**	**-12**
OTAV	**Otavalo**	**20.07**	**133**	P	**P**	**19 39 32.4**	**-1.0**
	3.4nm,0.9s						
MIAR	**Mount Ida**	**20.24**	**359**	P	**P**	**19 39 37.5**	**+2.3**
	4.9nm,0.8s						
ROSC	**El Rosal**	**20.68**	**115**	P	**P**	**19 39 42.8**	**+2.8**
	4.2nm,0.4s,baz=86,slow=19,SNR=3.4						
AMTX	**Amarillo**	**21.98**	**341**	*e*P	**P**	**19 39 50.9**	**-3.1**
	13nm,0.9s,mb4.4						
BNM	**Barren Site**	**23.32**	**331**	*e*P	**P**	**19 40 07.8**	**-0.4**
LAZ	**Ladron**	**23.77**	**330**	*e*P	**P**	**19 40 12.0**	**-0.6**
KSU1	**Kansas State U**	**24.97**	**353**	*e*P	**P**	**19 40 21.9**	**-1.6**
PV01	**Paradox Valley**	**27.49**	**333**	*e*P	**P**	**19 40 47.0**	**+0.7**
SADO	**Sadowa**	**32.67**	**19**	LR	LR	19 56 39.5	
	comp=Z,60nm,19.6s,MS3.3,baz=274,slow=41						
NVAR	**Mina Array Bea**	**32.84**	**322**	P	**P**	**19 41 34.8**	**+1.2**
	2.2nm,1.1s,mb4.0,baz=133,slow=11,SNR=7.1						
MCMT	**McKenzie Canyo**	**34.82**	**335**	*e*P	**P**	**19 41 52.0**	**+1.2**
SAML	**Samuel**	**37.55**	**126**	P	**P**	**19 42 09.7**	**-4.5**
	1.1nm,0.9s,mb3.6						
SCHQ	**Schefferville**	**45.38**	**21**	LR	LR	20 02 27.8	
	comp=Z,71nm,19.8s,MS3.6,baz=208,slow=37						
YKA	**Yellowknife Ar**	**50.57**	**347**	P	**P**	**19 43 57.3**	**-1.2**
	3.7nm,0.9s,mb4.3,baz=150,slow=7.8,SNR=8.3						
NOA	**NORSAR Array B**	**84.45**	**28**	LR	LR	20 23 42.1	
	comp=Z,15nm,21.5s,MS3.3,baz=35,slow=35						

MAN 25 19:36:22.1, 1099N×12470E, h1km, mb3.6, ML4.8, MS1.3, 2C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.11**	**305**	*e*P	Pg	19 36 25.0	+0.7
OCLP				*e*S	Sg	19 36 27.2	+1.5
PLP	**Palo**	**0.33**	**57**	*e*P	Pg	19 36 28.0	-0.3
PLP				*e*S	Sg	19 36 30.9	-1.7
MSLP	**Maasin**	**0.86**	**170**	*e*P	Pg	19 36 39.4	+0.8
MSLP				*e*S	Sg	19 36 55.0	+5.2
BESP	**Borongan**	**0.95**	**50**	*e*P	Pg	19 36 39.0	-1.2
BESP				*e*S	Sg	19 36 51.9	-0.6
LLP	**Lapu-Lapu**	**0.98**	**228**⇑	*i*P	Pg	19 36 40.6	-0.3
LLP				*i* S	Sg	19 36 55.1	+1.5
SCPH	**Surigao**	**1.42**	**147**	*e*P	Pn	19 36 48.9	-0.2
SCPH				*e*S	Sg	19 37 11.8	+3.9
RCP	**Roxas**	**2.00**	**287**⇓	*e*P	Pn	19 36 57.3	+0.2
RCP				*e*S	Sn	19 37 23.1	+0.3
GUIM	**Jordan**	**2.11**	**260**	*e*P	Pn	19 36 58.8	+0.3
GUIM				*e*S	Sn	19 37 28.7	+3.4
SNPH	**Sibulan**	**2.18**	**222**	*e*P	Pn	19 37 01.5	+2.0
BUTP	**Butuan**	**2.20**	**156**	*e*P	Pn	19 37 00.9	+1.2
KALP	**Kalibo**	**2.42**	**287**⇑	*e*P	Pn	19 37 00.5	-2.3
PVCP	**Virac**	**2.65**	**348**	*e*P	Pn	19 37 07.2	+1.3
DCPH	**Dipolog City**	**2.73**	**209**	*e*P	Pn	19 37 06.7	-0.4
BUKP	**Musuan**	**3.11**	**173**	*e*P	Pn	19 37 14.1	+1.9
PAGZ	**Pagadian**	**3.38**	**203**	*e*P	Pn	19 37 17.3	+1.3
IPIL	**Ipil**	**3.81**	**214**	*e*P	Pn	19 37 23.6	+1.7
IPIL				*e*S	Sn	19 38 09.9	+2.6

IDC 25 19:49:37.4±2.5, 711N×9316E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/21, mbtmp3.6/5, Error ellipse: s-maj=107.7km s-min=21.3km az=65.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**40.62**	**349**	P	P	19 57 19.1	0.0
	0.2nm,0.3s,baz=174,slow=6.9,SNR=3.1						
FITZ	**Fitzroy Crossi**	**40.68**	**128**	P	P	19 57 19.2	-0.3
	1.3nm,0.7s,baz=300,slow=8.1,SNR=6.0						
SONM	**Songino Array**	**42.12**	**13**	P	P	19 57 31.4	+0.1
	0.2nm,0.4s,baz=188,slow=5.8,SNR=2.6						
WRA	**Warramunga Arr**	**48.62**	**124**	P	P	19 58 23.7	+0.8
	1.1nm,0.8s,baz=303,slow=9.0,SNR=10						
WRA				PcP	PcP	19 59 48.8	+0.3
	0.3nm,0.7s,baz=312,slow=2.8,SNR=5.9						
ASAR	**Alice Springs**	**50.18**	**129**	P	P	19 58 35.5	+0.6
	0.8nm,0.7s,baz=297,slow=6.8,SNR=14						
ASAR				PcP	PcP	19 59 54.4	+0.2
	0.6nm,0.7s,baz=317,slow=3.6,SNR=4.3						

IDC 25 19:57:14.9±2.0, 037S×12751E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/15, mbtmp3.2/3, Error ellipse: s-maj=158.2km s-min=25.6km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.57**	**161**	P	P	20 01 55.3	+0.1
	0.8nm,0.8s,baz=340,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**23.97**	**165**	P	P	20 02 31.4	+0.5
	0.5nm,0.6s,baz=344,slow=11,SNR=7.8						
MKAR	**Makanchi Array**	**61.36**	**326**	P	P	20 07 32.7	+0.1
	0.2nm,0.4s,baz=125,slow=7.5,SNR=3.3						

KRSC 25 20:05:35, 4893N×15703E, h10km, ML3.6, East of Kuril Islands

IDC 25 20:14:19.9±8.4, 461S×15351E, h147km±57km, mb3.6/3, mb1 3.9/4, mb1mx3.4/15, mbtmp4.2/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/26, Error ellipse: s-maj=102.9km s-min=52.5km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.90**	**233**	P	Pn	20 16 12.1	+0.3
	10.0nm,0.3s,baz=28,slow=10,SNR=36						
PMG				S	Sn	20 17 40.4	+0.5
	4.5nm,0.3s,baz=263,slow=16,SNR=5.4						
HNR	**Honiara**	**7.98**	**127**	LR	LR	20 18 54.0	
	comp=Z,64nm,19.3s,baz=360,slow=34						
WRA	**Warramunga Arr**	**24.10**	**229**	P	P	20 19 22.6	+0.8
	2.9nm,0.7s,baz=54,slow=9.7,SNR=43						
ASAR	**Alice Springs**	**26.77**	**223**	P	P	20 19 45.7	-0.1
	0.5nm,0.4s,baz=55,slow=9.0,SNR=10						
FITZ	**Fitzroy Crossi**	**30.37**	**242**	*e*P	P	20 20 18.1	+0.3
	3.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**30.37**	**242**	P	P	20 20 18.2	+0.4
	1.8nm,0.5s,baz=44,slow=12,SNR=12						
TORD	**Torodi Ar. Bea**	**150.92**	**289**	PKPbc	PKPbc	20 33 55.9	+0.9
	0.3nm,0.4s,baz=88,slow=1.5,SNR=15						
TORD				pPKPbc	pPKPbc	20 34 29.6	-4.3
	0.2nm,0.4s,baz=82,slow=2.5,SNR=4.5						

ISCJB ***25*** *20:18:04.1±4.0, 19N±01×1249E±03, h133km±39km, mb3.8/9, Error ellipse: s-maj=52.2km s-min=13.0km az=143.5*

IDC ***25*** *20:18:11.8±3.6, 166N×12472E, h186km±34km, mb3.3/5, mb1 3.4/6, mb1mx3.3/18, mbtmp3.8/6, Error ellipse: s-maj=82.2km s-min=12.2km az=68.0*

NEIC ***25*** *20:18:12.4±0.6, 183N×12506E, h200km, mb4.1/4, Error ellipse: s-maj=39.8km s-min=10.4km az=73.0*

ISC 25 20:18:09.9±3.6, 19N±01×1250E±03, h173km±35km, n10, σ0§86/11, mb3.8/9, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.85**	**178**	P	**P**	**20 22 28.1**	**+0.5**
	0.2nm,0.3s,baz=357,slow=11,SNR=6.2						
WRAB	**Tennant Creek**	**23.52**	**158**	*e*P	**P**	**20 23 03.8**	**-0.5**
	3.8nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**23.52**	**158**	P	**P**	**20 23 04.0**	**-0.3**
	1.4nm,0.4s,mb3.9,baz=333,slow=11,SNR=26						
WRA				S	**S**	**20 27 05.7**	**+0.5**
	1.7nm,0.9s,baz=334,slow=19,SNR=5.4						
ASAR	**Alice Springs**	**26.81**	**162**	P	**P**	**20 23 33.9**	**-0.1**
	0.6nm,0.5s,mb3.5,baz=342,slow=7.6,SNR=8.9						
ASAR				PcP	PcP	20 26 52.2	+0.1
	0.2nm,0.6s,baz=343,slow=2.1,SNR=4.1						
MAJO	**Matsushiro**	**36.60**	**18**	P	**P**	**20 24 59.2**	**-0.2**
	5.7nm,1.1s,mb4.1						
STKA	**Stephens Creek**	**37.06**	**156**	P	**P**	**20 25 03.4**	**+0.1**
	0.6nm,0.4s,mb3.6,baz=326,slow=14,SNR=3.9						
SONM	**Songino Array**	**48.54**	**343**	P	**P**	**20 26 37.9**	**+2.4**
	0.2nm,0.5s,mb3.0,baz=154,slow=10,SNR=5.1						
MKAR	**Makanchi Array**	**58.13**	**327**	P	**P**	**20 27 45.6**	**+0.3**
	0.6nm,0.3s,mb3.9,baz=120,slow=7.3,SNR=10						
KURK	**Kurchatov**	**62.41**	**329**	P	**P**	**20 28 12.8**	**-1.6**
	2.6nm,0.9s,mb4.1						
ZRNK	**Zerenda**	**68.67**	**327**	P	**P**	**20 28 54.2**	**-0.3**
	1.0nm,0.6s,mb3.7						

NEIC ***25*** *20:19:37.5, 45.10S×167.34E, h114km, MG4.1(WEL), After WEL.*

WEL 25 20:19:38.1±0.4, 4510S×16742E, h111km±3km, ML4.0/11, 17C-5D, Error ellipse: s-maj=2.7km s-min=1.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.42**	**206**	⇑PN	Pn	20 19 54.0	-0.6
DCZ				SN	Sn	20 20 06.3	-0.6
DCZ	**Deep Cove**	**0.42**	**206**	⇑P	Pn	20 19 54.0	-0.5
DCZ				S	Sn	20 20 06.3	-0.6
MSZ	**Milford Sound**	**0.56**	**40**	⇓PN	Pn	20 19 55.7	+0.2
MSZ				SN	Sn	20 20 08.8	+0.4
MSZ	**Milford Sound**	**0.56**	**40**	⇓P	Pn	20 19 55.7	+0.2
MSZ				S	Sn	20 20 08.8	+0.3
WHZ	**Wether Hill Ro**	**0.88**	**155**	⇑PN	Pn	20 19 58.2	0.0
WHZ				SN	Sn	20 20 13.1	-0.1
WHZ	**Wether Hill Ro**	**0.88**	**155**	⇑P	Pn	20 19 58.2	+0.1
WHZ				S	Sn	20 20 13.1	-0.1
WKZ	**Wanaka**	**1.17**	**77**	⇑PN	Pn	20 20 01.4	+0.2
WKZ				SN	Sn	20 20 18.6	0.0
WKZ	**Wanaka**	**1.17**	**77**	⇑P	Pn	20 20 01.4	+0.3
EAZ	**Earnscleugh**	**1.34**	**96**	⇑PN	Pn	20 20 03.1	0.0
EAZ				SN	Sn	20 20 21.0	-1.0
EAZ	**Earnscleugh**	**1.34**	**96**	⇑P	Pn	20 20 03.1	0.0
JCZ	**Jackson Bay**	**1.41**	**43**	⇓PN	Pn	20 20 03.4	-0.5
JCZ				SN	Sn	20 20 21.9	-1.4
JCZ	**Jackson Bay**	**1.41**	**43**	⇓P	Pn	20 20 03.4	-0.4
TUZ	**Tuapeka**	**1.78**	**120**	⇑PN	Pn	20 20 08.3	0.0
TUZ				SN	Sn	20 20 29.2	-2.1
TUZ	**Tuapeka**	**1.78**	**120**	⇑P	Pn	20 20 08.3	0.0
APZ	**The Paps**	**1.78**	**167**	⇑PN	Pn	20 20 08.1	-0.2
APZ				SN	Sn	20 20 30.0	-1.3
SYZ	**Scrubby Hill**	**1.87**	**141**	PN	Pn	20 20 09.5	0.0
SYZ				SN	Sn	20 20 32.2	-1.3
LBZ	**Lake Benmore**	**2.10**	**71**	PN	Pn	20 20 10.9	-1.5
LBZ				SN	Sn	20 20 35.1	-3.4
LBZ	**Lake Benmore**	**2.10**	**71**	P	Pn	20 20 10.9	-1.4
FOZ	**Fox Glacier**	**2.24**	**47**	⇑PN	Pn	20 20 13.6	-0.6
FOZ				SN	Sn	20 20 41.1	-0.7
FOZ	**Fox Glacier**	**2.24**	**47**	⇑P	Pn	20 20 13.6	-0.6
ODZ	**Otahua Downs**	**2.29**	**90**	⇑PN	Pn	20 20 13.8	-1.0
ODZ				SN	Sn	20 20 39.8	-3.0
ODZ	**Otahua Downs**	**2.29**	**90**	⇓P	Pn	20 20 13.8	-1.0
HHSZ	**Highcliff Hill**	**2.37**	**110**	⇑PN	Pn	20 20 15.6	-0.3
HHSZ				SN	Sn	20 20 42.2	-2.6
RPZ	**Rata Peaks**	**2.95**	**63**	⇑PN	Pn	20 20 21.4	-2.1
RPZ				SN	Sn	20 20 55.1	-3.3
RPZ	**Rata Peaks**	**2.95**	**63**⇑	*e*P	Pn	20 20 21.4	-2.1
MQZ	**McQueen's Vall**	**4.00**	**71**	*e*P	Pn	20 20 35.9	-1.6
LTZ	**Lake Taylor**	**4.20**	**58**	*e*P	Pn	20 20 36.2	-3.9
DSZ	**Denniston Nort**	**4.63**	**45**	*e*P	Pn	20 20 43.1	-2.8
THZ	**Tophouse**	**5.21**	**52**	*e*P	Pn	20 20 50.6	-3.1
QRZ	**Quartz Range**	**5.68**	**43**	*e*P	Pn	20 20 58.3	-1.8

IDC ***25*** *20:25:59.7±1.2, 183S×11996E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/17, mbtmp3.7/6, Error ellipse: s-maj=163.7km s-min=17.8km az=60.0*

ISCJB ***25*** *20:26:00.7±5.5, 19S±02×1197E±02, h21km±42km, mb3.9/10, Error ellipse: s-maj=44.9km s-min=11.4km az=114.4*

NEIC ***25*** *20:26:04.4±0.6, 188S×11975E, h35km, mb4.2/4, Error ellipse: s-maj=39.7km s-min=9.9km az=57.0*

ISC 25 20:26:03.7±5.3, 19S±02×1198E±02, h27km±41km, n13, σ1§17/14, mb3.9/10, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**8.62**	**336**	*e*Pn	**Pn**	**20 28 06.2**	**-0.4**
KKM				*e*Sn	**Sn**	**20 29 37.4**	**-5.5**
KULM	**Kulim**	**20.38**	**290**	P	**P**	**20 30 38.7**	**+0.5**
WRAB	**Tennant Creek**	**22.93**	**143**	*e*P	**P**	**20 31 06.0**	**+0.5**
	16nm,1.1s,mb4.4						
WRA	**Warramunga Arr**	**22.93**	**143**	P	**P**	**20 31 03.8**	**-1.8**
	2.2nm,0.9s,mb3.6,baz=313,slow=12,SNR=13						
WB2	**Warramunga Arr**	**22.94**	**143**	*e*P	**P**	**20 31 06.5**	**+0.9**
ASAR	**Alice Springs**	**25.64**	**149**	P	**P**	**20 31 31.6**	**+0.6**
	0.6nm,0.8s,mb3.2,baz=326,slow=8.3,SNR=5.3						
STKA	**Stephens Creek**	**36.26**	**148**	P	**P**	**20 33 04.1**	**-0.4**
	2.6nm,1.0s,mb4.1,baz=354,slow=9.2,SNR=3.6						
ULN	**Ulaanbaatar**	**50.76**	**349**	*e*P	**P**	**20 35 02.8**	**+1.6**
	1.4nm,0.9s,mb3.9						
SONM	**Songino Array**	**50.85**	**348**	P	**P**	**20 35 02.4**	**+0.4**
	0.5nm,0.6s,mb3.6,baz=166,slow=7.9,SNR=4.3						
MKAR	**Makanchi Array**	**58.56**	**331**	P	**P**	**20 35 58.2**	**+0.3**
	1.1nm,0.6s,mb4.0,baz=116,slow=6.9,SNR=8.7						
KURK	**Kurchatov**	**63.03**	**332**	*e*P	**P**	**20 36 26.3**	**-2.0**
	2.7nm,0.9s,mb4.4						
BVAR	**Borovoye Array**	**68.45**	**330**	P	**P**	**20 37 04.3**	**+1.1**
	0.4nm,0.5s,mb3.7,baz=144,slow=8.2,SNR=3.7						
ZRNK	**Zerenda**	**69.09**	**330**	*e*P	**P**	**20 37 04.4**	**-2.8**
	1.6nm,0.8s,mb4.0						

MOS ***25*** *20:32:34.3±1.1, 1157S×16646E, h40km, mb5.1/17, Error ellipse: s-maj=11.3km s-min=9.8km az=130.7*

ISCJB ***25*** *20:32:38.6±0.3, 1168S±004×16633E±006, h72km, mb4.9/52, Error ellipse: s-maj=8.7km s-min=6.3km az=160.7*

BJI ***25*** *20:32:38.6, 1132S×16671E, h74km, mB5.0, mb5.1, Ms5.3, Msz4.7*

HRVD ***25*** *20:32:39.3±0.4, 1166S×16613E, h92km±3km, MW4.9/60, Centroid moment Tensor Solution. LP body waves: s29,c31;Mantle waves: s60,c79; Half duration: 0 Moment tensor: Moo24.64900×10^16 Nm; Mrr1.99±.12; Mθθ0.16±.15; Mφφ-2.15±.15; Mrθ-0.17±.09; Mθφ0.83±.14; Mφr-1.43±.08; Best double couple: Mo2.64900×10^16 NP1:θs325.00000°, δ32.00000°, λ62.00000°. NP2:θs177.00000°, δ62.00000°, λ106.00000°. Principal axes: T 2.5100, Plg69.0000°, Azm119.0000°; N 0.2730, Plg14.0000°, Azm349.0000°; P -2.7880, Plg16.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *20:32:39.3±0.3, 1152S×16650E, mb5.0/26 Error ellipse: s-maj=9.2km s-min=7.7km az=112.0*

IDC ***25*** *20:32:40.3±2.1, 1158S×16637E, h74km±17km, mb4.5/15, mb1 4.6/18, mb1mx4.6/20, mbtmp4.8/18, MS3.6/12, Ms1 3.6/12, ms1mx3.6/18, Error ellipse: s-maj=17.0km s-min=12.6km az=65.0*

ISC 25 20:32:40.2±0.3, 1167S±004×16641E±006, h72km, h72km±4.2km:pP-P, n184, σ1§05/113, mb4.9/52, 14C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.73**	**289**	P	**Pn**	**20 34 17.0**	**+0.7**
	47nm,0.3s,baz=167,slow=0.5,SNR=29						
HNR				S	**Sn**	**20 35 29.3**	**-2.2**
	60nm,0.3s,baz=94,slow=21,SNR=7.2						
HNR	**Honiara**	**6.73**	**289**	P	**Pn**	**20 34 17.0**	**+0.7**
HNR				S	**Sn**	**20 35 29.3**	**-2.2**
HNR				pmax	pmax		
	comp=Z,47nm,0.3s						
HNR				smax			
	comp=E,60nm,0.3s						
HNR	**Honiara**	**6.73**	**289**	*e*Pn	**Pn**	**20 34 17.3**	**+1.0**
	comp=E,536nm,0.9s						
HNR				*e*Sn	**Sn**	**20 35 23.1**	**-8.4**
DZM	**Mont Dzumac**	**10.35**	**180**	*e*P	**Pn**	**20 35 07.9**	**+2.2**
DZM				*e*S	**Sn**	**20 36 57.7**	**-2.3**
DZM	**Mont Dzumac**	**10.35**	**180**	P	**Pn**	**20 35 07.9**	**+2.2**
	comp=E,5.4nm,0.3s,baz=24,slow=20,SNR=49						
DZM				S	**Sn**	**20 36 58.6**	**-1.3**
	comp=E,3.5nm,0.3s,baz=319,slow=23,SNR=6.4						
DZ

comp=Z,60nm,19.5s,baz=101,slow=34
AS31 Alice Springs 33.10 244 *e*P **P** **20 39 08.5 -0.6**
AS31 *i* PcP PcP 20 41 51.4 +0.5
ASAR Alice Springs 33.10 244 P **P** **20 39 08.2 -1.0**
ASAR PcP PcP 20 41 51.1 +0.3
comp=Z,5.7nm,0.5s,baz=76,slow=2.3,SNR=28
ASAR ScP ScP 20 45 27.6 -1.0
comp=Z,0.8nm,0.8s,baz=76,slow=3.1,SNR=4.5
ASAR PKiKP PKiKP 20 49 15.3 -1.4
comp=Z,0.2nm,0.6s,baz=133,slow=1.4,SNR=4.8
ASAR LR LR 20 53 04.6
comp=Z,84nm,19.9s,baz=156,slow=37
ASAR Alice Springs 33.10 244 P **P** **20 39 08.2 -1.0**
ASAR 20 41 51.2
ASAR Alice Springs 33.10 244 P **P** **20 39 08.2 -1.0**
ASAR PcP PcP 20 41 51.1 +0.3
ASAR ScP ScP 20 45 27.6 -1.0
ASPA Alice Springs 33.11 244 *e*P **P** **20 39 08.5 -0.7**
ASPA *i* PcP PcP 20 41 51.4 +0.5
KAKA Kakadu 33.21 265 *e*P **P** **20 39 09.7 -0.4**
comp=Z,17nm,0.6s,mb5.1
KAKA *e*PcP PcP 20 41 51.9 +0.7
RAR Rarotonga 33.73 111 LR LR 20 50 47.2
comp=Z,172nm,19.5s,baz=257,slow=32
FITZ Fitzroy Crossi 39.85 256 *e*P **P** **20 40 06.3 -0.3**
comp=Z,7.1nm,0.7s,mb4.6
FITZ *i* PCP PcP 20 42 12.5 +1.3
FITZ Fitzroy Crossi 39.85 256 P **P** **20 40 06.4 -0.2**
comp=Z,5.7nm,0.9s,mb4.4,baz=55,slow=9.4,SNR=11
FITZ PcP PcP 20 42 12.6 +1.5
comp=Z,10nm,0.9s,baz=106,slow=3.9,SNR=6.1
FORT Forrest 40.23 236 *e*P **P** **20 40 14.2 +4.5**
comp=Z,15nm,0.7s,mb4.9
FORT *e*PCP PcP 20 42 12.6 +0.2
PPT Papeete 42.92 103 *e*LR LR 20 52 28.4
comp=Z,512nm,32.0s
PPT Papeete 42.92 103 LR LR 20 53 17.5
comp=Z,196nm,20.6s,baz=213,slow=29
TBI Tubuai 43.50 112 *e*LR LR 20 53 19.4
comp=Z,397nm,31.0s
MBWA Marble Bar 45.62 252 *e*P **P** **20 40 53.9 +0.7**
comp=Z,9.7nm,0.8s,mb4.6
KLBR Kellerberrin 48.93 238 *e*P **P** **20 41 18.2 -0.8**
comp=Z,39nm,1.6s,mb5.1
NWAO Narrogin (SRO) 49.66 237 P **P** **20 41 24.8 +0.2**
comp=Z,18nm,1.0s,mb5.0,baz=69,slow=8.2,SNR=3.9
NWAO Narrogin (SRO) 49.66 237 *e*P **P** **20 41 24.5 0.0**
NWAO pmax pmax
comp=Z,19nm,1.0s
NWAO Narrogin (SRO) 49.66 237 *e*P **P** **20 41 24.5 0.0**
comp=Z,19nm,1.0s,mb5.0
KKM Kota Kinabalu 52.94 287 *e*P **P** **20 41 46.8 -2.2**
MJAR Matsushiro Arr 54.82 332 P **P** **20 42 01.4 -1.3**
comp=Z,6.6nm,0.9s,mb4.7,baz=164,slow=7.5,SNR=17
MJAR Matsushiro Arr 54.82 332 P **P** **20 42 01.4 -1.3**
MAJO Matsushiro 54.82 332 *e*P **P** **20 42 01.4 -1.3**
MAJO pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
MAJO Matsushiro 54.82 332 *e*P **P** **20 42 01.4 -1.4**
comp=Z,3.3nm,0.6s,mb4.5
MAT Matsushiro 54.82 332 P **P** **20 42 01.7 -1.0**
MAT Matsushiro 54.82 332 *e*P **P** **20 42 02.0 -0.7**
RKT Rikitea 56.77 110 *e*LR LR 20 59 33.8
comp=Z,428nm,31.5s
KSM Kuching 57.24 279 P **P** **20 42 20.8 +0.8**
KSM *e* pP 20 42 41.8 +3.1
YSS Yuzh-Sakhalins 62.07 342 *e*P **P** **20 42 53.2 0.0**
YSS Yuzh-Sakhalins 62.07 342 P **P** **20 42 51.6 -1.6**
NJ2 Nanjing 62.91 315 *e*P **P** **20 42 59.8 +1.0**
NJ2 PP PP 20 45 20.0 +2.1
NJ2 S **S** **20 51 27.0 +3.9**
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb5.3
NJ2 AMB AMB
comp=Z,480nm,3.8s
NJ2 LR LR
comp=N,600nm,13.6s
NJ2 LR LR
comp=E,540nm,15.0s
NJ2 LR LR
comp=Z,160nm,14.5s
MDJ Mudanjiang 65.20 332 P **P** **20 43 14.0 +0.2**
MDJ PP PP 20 45 37.3 -0.6
MDJ AMB AMB
comp=Z,15nm,1.0s,mb4.8
MDJ AMB AMB
comp=Z,44nm,5.8s
DL2 Dalian 65.36 323 P **P** **20 43 15.3 +0.4**
DL2 AMB AMB
comp=Z,20nm,0.8s,mb5.0
VNDA Vanda 65.89 181 P **P** **20 43 18.4 +0.1**
comp=Z,9.4nm,0.6s,mb4.8,baz=352,slow=7.1,SNR=24
VNDA LR LR 21 08 39.8
comp=Z,59nm,21.3s,baz=157,slow=33
VNDA Vanda 65.89 181 *e*P **P** **20 43 18.2 0.0**
VNDA pmax pmax
comp=Z,30nm,1.1s
VNDA Vanda 65.89 181 *e*P **P** **20 43 18.2 0.0**
comp=Z,30nm,1.1s,mb5.0
HABR Khabarovsk 66.00 338 *e*P **P** **20 43 19.2 +0.2**
HABR *e*S S 20 52 06.0 +4.9
CASY Casey 66.04 201⇑ *i*P **P** **20 43 18.8 -0.4**
SBA Scott Base 66.18 180 *e*P **P** **20 43 20.6 +0.5**
SBA pmax pmax
comp=Z,23nm,0.8s,mb5.1
SBA Scott Base 66.18 180 *e*P **P** **20 43 20.6 +0.5**
comp=Z,23nm,0.8s,mb5.0
CN2 Changchun 66.60 329 *e*P **P** **20 43 23.0 +0.2**
CN2 AMB AMB
comp=Z,30nm,0.8s,mb5.2
KLR Kul'dur 67.88 336 *e*P **P** **20 43 27.8 -3.1**
KLR pmax pmax
comp=Z,26nm,1.4s,mb4.9
PSI Prapat 68.60 278 P **P** **20 43 35.6 +0.3**
comp=Z,3.2nm,0.3s,mb4.6,baz=164,slow=2.9,SNR=3.6
XAN Xi'an 71.02 312 P **P** **20 43 50.8 +0.6**
XAN AMB AMB
comp=Z,24nm,1.1s,mb4.9
KMI Kunming 72.00 301 P **P** **20 43 58.5 +2.4**
KMI AP pP 20 44 16.8 +1.4
KMI AMB AMB
comp=Z,23nm,1.3s,mb4.8
KMI AMB AMB
comp=Z,146nm,3.7s
KMI LR LR
comp=Z,55nm,22.9s
CHTO Chiang Mai 73.07 294 *e*P **P** **20 44 03.6 +1.1**
CHTO pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
CHTO Chiang Mai 73.07 294 *e*P **P** **20 44 03.6 +1.1**
comp=Z,10.0nm,1.0s,mb4.6
CD2 Chengdu 73.49 307 *e*P **P** **20 44 05.0 0.0**
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.5
CD2 AMB AMB
comp=Z,30nm,5.6s
BTO Baotou 73.58 319 *e*P **P** **20 44 06.3 +0.8**
LZH Lanzhou 75.65 312⇑ P **P** **20 44 19.5 +2.0**
LZH AP pP 20 44 37.5 +0.6
LZH XP sP 20 44 42.8 -2.0
LZH AMB AMB
comp=Z,76nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,102nm,7.7s
CIT Chita 78.02 330 *e*P **P** **20 44 31.2 +0.4**
CIT pmax pmax
comp=Z,85nm,1.2s,mb5.3
QSPA South Pole Qui 78.34 180⇑ *i*P **P** **20 44 32.7 +0.1**
comp=Z,126nm,1.2s,mb5.5
YAK Yakutsk 78.87 343⇑ *e*P **P** **20 44 34.7 -0.8**
YAK pmax pmax
comp=Z,36nm,1.4s,mb5.0
YAK Yakutsk 78.87 343 *e*P **P** **20 44 34.1 -1.4**
comp=Z,43nm,0.9s,mb5.3
ULN Ulaanbaatar 79.18 324⇑ *e*P **P** **20 44 37.8 +0.6**
SONM Songino Array 79.55 324 P **P** **20 44 39.7 +0.6**
comp=Z,10nm,0.6s,mb4.9,baz=144,slow=5.7,SNR=111
GTA Gaotai 79.95 314⇑ *i*P **P** **20 44 43.0 +1.6**
GTA AMB AMB
comp=Z,33nm,1.1s,mb5.1
BOD Bodaibo 81.36 335 *e*P **P** **20 44 48.1 -0.8**
BOD pmax pmax
comp=Z,8.0nm,1.2s,mb4.4
ZAK Zakamensk 82.58 325⇑ *i*P **P** **20 44 55.4 +0.1**
ZAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
TLY Talaya 83.00 326 *i*P **P** **20 44 57.0 -0.4**
TLY Talaya 83.00 326 *e*P **P** **20 44 57.2 -0.3**
comp=Z,11nm,0.7s,mb4.8
COLA College 83.67 18 *e*P **P** **20 44 59.3 -1.6**
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
COLA College 83.67 18 *e*P **P** **20 44 59.3 -1.6**
comp=Z,7.7nm,0.8s,mb4.6
CMB Columbia Colle 84.25 49 P **P** **20 45 03.8 0.0**
MAW Mawson 84.39 202⇑ *i*P **P** **20 45 04.1 -0.5**
comp=Z,5.6nm,0.9s,mb4.4
MAW Mawson 84.39 202 P **P** **20 45 04.2 -0.4**
comp=Z,7.3nm,0.9s,mb4.5,baz=102,slow=5.6,SNR=15
MAW Mawson 84.39 202⇑ *i*P **P** **20 45 04.1 -0.5**
MAW pmax pmax
comp=Z,6.0nm,0.9s
MOY Mondy 84.45 325 *e*P **P** **20 45 05.3 +0.4**
MOY pmax pmax
comp=Z,21nm,2.5s,mb4.5
NVAR Mina Array Bea 85.93 50 P **P** **20 45 12.2 0.0**
comp=Z,0.9nm,0.7s,mb3.8,baz=225,slow=6.4,SNR=5.3
NVAR pP pP 20 45 33.7 +1.7
comp=Z,1.8nm,0.9s,baz=224,slow=7.4,SNR=4.3
NVAR Mina Array Bea 85.93 50 P **P** **20 45 12.2 0.0**
NVAR pP pP 20 45 33.7 +1.7
TIXI Tiksi 86.82 349⇑ *e*P **P** **20 45 14.8 -1.8**
TIXI pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
JIRN Jiri 86.86 299 *e*P **P** **20 45 18.0 +1.2**
GUN Gumba 87.19 299 *e*P **P** **20 45 19.5 +1.1**
comp=Z,57nm,0.9s,mb5.5
PKI Pulchoki 87.50 299 *e*P **P** **20 45 20.8 +0.9**
comp=Z,75nm,1.0s,mb5.7
PKI Pulchoki 87.50 299 *e*P **P** **20 45 20.8 +0.9**
PKI pmax pmax
comp=Z,75nm,1.0s,mb5.7
KKN Kakani 87.67 299 *e*P **P** **20 45 21.4 +0.7**
comp=Z,61nm,1.0s,mb5.6
KKN Kakani 87.67 299 *e*P **P** **20 45 21.4 +0.7**
KKN pmax pmax
comp=Z,61nm,1.0s,mb5.6
DMN Daman 87.77 299 *e*P **P** **20 45 22.3 +1.1**
comp=Z,122nm,0.8s,mb6.0
GKN Gorkha 88.27 299 *e*P **P** **20 45 23.9 +0.3**
comp=Z,83nm,0.8s,mb5.8
KOLN Koldanda 89.11 298 *e*P **P** **20 45 27.5 0.0**
comp=Z,39nm,0.8s,mb5.5
WMQ Urumqi 89.99 315 P **P** **20 45 32.0 +0.4**
WMQ PP PP 20 49 08.0 +2.6
WMQ AMB AMB
comp=Z,12nm,2.0s,mb4.7
WMQ AMB AMB
comp=Z,98nm,6.5s
WMQ LR LR
comp=N,342nm,19.4s
WMQ LR LR
comp=E,257nm,18.3s
WMQ LR LR
comp=Z,313nm,19.9s
PDAR Pinedale Array 93.49 47 PKKPbc PKKPbc 21 02 52.9 -0.5
comp=Z,1.3nm,0.7s,baz=94,slow=4.8,SNR=14
PDAR LR LR 21 24 01.0
comp=Z,32nm,19.0s,baz=78,slow=33
MKAR Makanchi Array 94.42 317 P **P** **20 45 52.2 +0.1**
comp=Z,24nm,0.6s,mb5.7,baz=83,slow=6.4,SNR=228
MKAR PKKPbc PKKPbc 21 02 49.8 -1.2
comp=Z,0.4nm,0.4s,baz=269,slow=3.8,SNR=5.0
ZAL Zalesovo 94.44 324 P **P** **20 45 50.9 -1.4**
comp=Z,4.3nm,0.8s,mb4.8,baz=6.7,slow=4.8,SNR=24
ZAL pP pP 20 46 10.5 -1.7
comp=Z,1.0nm,0.3s,baz=342,slow=9.1,SNR=2.3
YKA Yellowknife Ar 95.22 27 LR LR 21 28 35.0
comp=Z,30nm,18.7s,baz=200,slow=35
SNAA Sanae 96.54 183 *e*P **P** **20 45 58.8 -3.0**
SNAA *e* 20 46 02.2
SNAA *e* 20 46 07.9
SNAA *e* 20 46 12.8
SNAA Sanae 96.54 183 *e*P **P** **20 46 00.1 -1.7**
SNAA pmax pmax
comp=Z,2.0nm,0.6s
SNAA Sanae 96.54 183 *e*P **P** **20 46 00.1 -1.7**
comp=Z,1.9nm,0.6s,mb4.7
KURK Kurchatov 97.53 320⇑ *e*P **P** **20 46 05.8 -0.4**
KURK Kurchatov 97.53 320 *e*P **P** **20 46 04.6 -1.6**
comp=Z,16nm,1.5s,mb5.3
VNA1 Neumayer--Stat 97.80 182 *e*P **P** **20 46 02.2 -5.2**
VNA1 *e* 20 46 14.2
VNA1 *e* pP 20 46 17.3 -10
BVAR Borovoye Array 102.84 322 P Pdif 20 46 28.2 -1.7
comp=Z,2.2nm,0.8s,baz=90,slow=5.9,SNR=14
ARCES ARCESS Array B 117.09 346 PKP PKPdf 20 51 15.0 -1.8
comp=Z,2.6nm,0.5s,baz=82,slow=2.3,SNR=42
ARCES ARCESS Array B 117.09 346 PKP PKPdf 20 51 15.0 -1.8
LPAZ La Paz 119.33 116 PKP PKPdf 20 51 22.3 +1.2
comp=Z,1.0nm,0.5s,baz=263,slow=5.4,SNR=5.1
JOF Joensuu 119.75 338 *e*pkp PKPdf 20 51 20.1 -1.8
GNI Garni 121.55 310⇑ *i*PKIKP PKPdf 20 51 23.7 -1.7
OBN Obninsk 121.67 329 *e*PKIKP PKPdf 20 51 25.0 -0.6
OBN pmax pmax
comp=Z,6.0nm,0.9s
KAF Kangasniemi 122.05 339 *e*pkp PKPdf 20 51 23.8 -2.5
FINES FINESS Array B 122.58 339 PKP PKPdf 20 51 25.8 -1.5
comp=Z,2.3nm,0.8s,baz=60,slow=4.6,SNR=10
BOSA Boshof 125.11 222 PKP PKPdf 20 51 32.9 +0.7
comp=Z,16nm,0.7s,baz=121,slow=1.6,SNR=56
LBTB Lobatse 127.19 226 *e*PKIKP PKPdf 20 51 36.9 +0.7
NB2 NORSAR Subarra 127.47 345 PKPdf PKPdf 20 51 35.9 -0.8
comp=Z,2.2nm,0.7s,baz=31,slow=2.0
NOA NORSAR Array B 127.47 345 PKP PKPdf 20 51 36.0 -0.7
comp=Z,2.0nm,0.8s,baz=34,slow=2.0,SNR=12
HFS Hagfors 127.57 343 PKP PKPdf 20 51 35.9 -1.0
comp=Z,1.9nm,0.8s,baz=45,slow=4.6,SNR=6.3
AKASG Malin Array Be 127.73 327 PKP PKPdf 20 51 36.5 -0.8
comp=Z,0.7nm,0.7s,baz=58,slow=1.9,SNR=10
AKASG Malin Array Be 127.73 327 PKP PKPdf 20 51 36.5 -0.8
KMBO Kilima Mbogo 127.92 259 PKP PKPdf 20 51 38.9 +1.3
comp=Z,1.9nm,0.7s,baz=66,slow=3.7,SNR=9.3
BRTR Keskin Array B 129.86 312 PKP PKPdf 20 51 41.4 +0.1
comp=Z,0.9nm,0.8s,baz=142,slow=4.2,SNR=7.4
BRTR PP PP 20 53 54.1 +0.7
comp=Z,1.0nm,1.0s,baz=99,slow=7.6,SNR=4.7
MMAI Mount Meron Ar 130.47 304 PKP PKPdf 20 51 43.5 +1.1
comp=Z,1.1nm,0.5s,baz=61,slow=6.8,SNR=4.7
LSZ Lusaka 130.72 238 *e*PKIKP PKPdf 20 51 43.6 +0.7
KOLS Kolonicke sedl 132.42 328 *e*PKP PKPdf 20 51 46.6 +0.5
VYHS Vyhne 134.43 330 *e*PKP PKPdf 20 51 49.2 -0.7
BRG Berggiesshubel 134.90 336 *e*P PKPdf 20 51 51.0 +0.2
comp=Z,1.4nm,0.8s
BRG Berggiesshubel 134.90 336 *e*PKIKP PKPdf 20 51 51.0 +0.2
BRG pmax pmax
comp=Z,1.0nm,0.8s
KHC Kasperske Hory 136.38 334 *e*PKPdf PKPdf 20 51 53.5 0.0
KHC Kasperske Hory 136.38 334⇑ *i*PKIKP PKPdf 20 51 53.3 -0.2
GERES GERESS Array B 136.54 334 PKP PKPdf 20 51 53.9 0.0
comp=Z,1.2nm,0.7s,baz=45,slow=0.2,SNR=11
GRA1 Grafenberg Arr 136.91 336 *e*PKP PKPdf 20 51 56.2 +1.7
GRF Grafenberg Arr 136.91 336 *e*PKP PKPdf 20 51 56.2 +1.7
HAU Haudompre 140.11 339 *e*PKIKP PKPdf 20 51 57.9 -2.5
LOR Lormes 141.59 341 *e*PKIKP PKPdf 20 52 00.1 -2.9
LOR *e*R
comp=Z,43nm,21.2s
LOR Lormes 141.59 341 *e*PKPdf PKPdf 20 52 00.1 -2.9
LOR LR LR
comp=Z,40nm,21.3s
SSF Saint Saulge 141.88 341 *e*PKIKP PKPdf 20 52 01.1 -2.5
SMF Signal de Mont 142.14 340 *e*PKIKP PKPdf 20 52 01.6 -2.4
ROSF Rostrenen 142.44 349 *e*PKIKP PKPdf 20 52 01.9 -2.7
BGF Bois d'Agland 142.54 341 *e*PKIKP PKPdf 20 52 02.2 -2.5
ORIF Oris-en-Rattie 142.90 337 *e*PKIKP PKPdf 20 52 01.8 -3.6
comp=Z,9.3nm,0.6s
TCF Toulx Ste Croi 142.98 342 *e*PKIKP PKPdf 20 52 03.1 -2.4
SBF Sospel 143.14 334 *e*PKIKP PKPdf 20 52 02.3 -3.5
comp=Z,32nm,0.8s
VIVF Saint-Julien-l 143.41 338 *e*PKIKP PKPdf 20 52 03.6 -2.7
comp=Z,16nm,1.0s
PGF Pioggiola 143.49 332 *e*PKIKP PKPdf 20 52 03.1 -3.3
comp=Z,17nm,0.8s
FRF La Foret Royal 143.72 335 *e*PKIKP PKPdf 20 52 03.8 -3.0
comp=Z,27nm,0.9s
SMRF Simiane la Rot 143.81 336 *e*PKIKP PKPdf 20 52 04.4 -2.6
comp=Z,16nm,1.0s
LMR La Mourre 143.96 335 *e*PKIKP PKPdf 20 52 04.8 -2.4
comp=Z,28nm,0.8s
RJF Les Rejaudoux 144.07 342 *e*PKIKP PKPdf 20 52 05.0 -2.4
CAF Calviac 144.24 341 *e*PKIKP PKPdf 20 52 05.4 -2.3
comp=Z,16nm,1.0s
LASF Ste Croix 144.37 338 *e*PKIKP PKPdf 20 52 05.4 -2.6
comp=Z,39nm,0.9s
LFF La Frestale 144.64 342 *e*PKIKP PKPdf 20 52 05.9 -2.5
comp=Z,18nm,0.7s
VSL Villasalto 145.60 328 *e*PKPdf PKPdf 20 52 10.4 +0.3
EBIE Bielsa 146.86 341 PKP PKPbc 20 52 15.2 +1.1
EARI Arriondas 147.65 349 PKP PKPbc 20 52 15.7 -0.7
EPON Pontenova 147.96 351 PKP PKPbc 20 52 17.2 +0.1
ERTA Horta de San J 148.36 340 PKP PKPbc 20 52 20.1 +1.9
ETOS Mallorca 148.46 335 PKP PKPbc 20 52 21.3 +2.8
STS Santiago 148.59 353 PKP2 PKPbc 20 52 19.4 +0.6
EMOS Mosqueruela 149.16 340 PKP PKPbc 20 52 21.1 +0.9
GUD Guadarrama 149.96 346 PKP2 PKPbc 20 52 23.3 +1.1
ESDC Sonseca Array 150.83 345 PKPbc PKPbc 20 52 24.7 +0.4
comp=Z,0.3nm,0.3s,baz=102,slow=29,SNR=12
ETOB Tobarra 151.07 340 PKP PKPbc 20 52 25.1 +0.2
EVIA Vianos 151.38 342 PKIKP PKPbc 20 52 26.8 +1.2
EQES Quesada 152.32 342 PKP PKPbc 20 52 28.2 +0.5
EADA Adamuz 152.41 345 PKP PKPbc 20 52 27.8 -0.1
ENIJ Nijar 152.80 340 PKIKP PKPbc 20 52 29.3 +0.5
ELUQ Luque 152.89 344 PKIKP PKPbc 20 52 28.8 -0.2
ELOJ Sierra Loja 153.25 343 PKIKP PKPbc 20 52 29.5 -0.3
ERON Agron 153.26 342 PKP PKPbc 20 52 29.6 -0.2
TOAO Torodi Ar. Sit 165.00 277 *e*PKPdf PKPdf 20 52 35.9 +0.1
TORD Torodi Ar. Bea 165.00 277 PKP PKPdf 20 52 36.3 +0.4
comp=Z,4.3nm,0.9s,baz=23,slow=1.2,SNR=17
TORD PKPab PKPab 20 53 33.5 +0.7
comp=Z,3.5nm,0.9s,baz=78,slow=5.0,SNR=8.8

IDC ***25*** *21:18:50.5±0.7,3245N×11771E,h0km,mb4.0/15, mb1 4.1/16,mb1mx4.1/22,mbtmp4.0/16,ML3.8/1,MS3.5/6, Ms1 3.5/6,ms1mx3.0/38,Error ellipse: s-maj=35.4km s-min=14.7km az=58.0*
ISCJB ***25*** *21:18:51.8±1.1,3233N±004×11750E±004,h17km±8km, mb4.2/26,MS3.4/3,Error ellipse: s-maj=6.0km s-min=5.0km az=37.7*
NEIC ***25*** *21:18:52.4±0.4,3236N×11757E,h10km,mb4.4/10,Error ellipse: s-maj=16.4km s-min=7.0km az=60.0*
NEIC Felt at Hefei and Nanjing.
BJI ***25*** *21:18:52.6,3252N×11747E,h15km,mB4.7,mb4.4,ML4.6, Ms4.2,Ms2.3.8*
MOS ***25*** *21:18:53.4±1.1,3229N×11752E,h33km,mb4.5/7,Error ellipse: s-maj=23.7km s-min=8.2km az=114.4*

ISC 25 21:18:51.7±0.9,3242N±003×11757E±003,h4km±6km,n67, σ1§13/78,mb4.1/26,MS3.4/3,6C-2D,Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
NJ2	**Nanjing**	**1.15**	**108**	*e*PG	**Pg**	**21 19 13.8**	**0.0**
NJ2				SG	**Sg**	**21 19 29.3**	**+0.6**
NJ2				Smax			
	comp=N,35μm,0.3s						
NJ2				Smax			
	comp=E,29μm,0.2s						
WHN	**Wuhan**	**3.33**	**237**	PG	**Pg**	**21 19 54.0**	**-1.5**
WHN				SG	**Sg**	**21 20 36.0**	**-2.6**
WHN				Smax			
	comp=N,2μm,1.0s						
WHN				Smax			
	comp=E,2μm,0.7s						
SSE	**Sheshan**	**3.35**	**112**	P	**Pn**	**21 19 45.0**	**+0.1**
SSE				S	**Sn**	**21 20 24.0**	**-1.1**
SSE				Smax			
	comp=N,2μm,0.9s						
SSE				Smax			
	comp=E,1μm,0.8s						
TIA	**Tai'an**	**3.80**	**355**	P	**Pn**	**21 19 49.0**	**-2.0**
TIA				PG	**Pg**	**21 19 58.0**	**-6.6**
TIA				SG	**Sg**	**21 20 45.3**	**-8.5**
TIA				Smax			
	comp=N,535nm,0.5s						
TIA				Smax			
	comp=E,497nm,0.5s						
XAN	**Xi'an**	**7.42**	**285**	P	**Pn**	**21 20 39.5**	**-1.3**
XAN				LR	LR		
	comp=N,838nm,11.3s						
XAN				LR	LR		
	comp=E,368nm,11.1s						
XAN				LR	LR		
	comp=Z,628nm,10.3s						
QZH	**Quanzhou**	**7.50**	**173**	P	**Pn**	**21 20 42.0**	**+0.1**
QZH				S	**Sn**	**21 22 08.0**	**+0.6**
QZH				Smax			
	comp=N,440nm,0.8s						
QZH				Smax			
	comp=E,520nm,0.8s						
YHNB	**Yeheng**	**8.41**	**156**	*e*Pn	**Pn**	**21 20 53.5**	**-0.9**
YHNB				*e*S	Sn	21 23 11.8	+42
HHC	**Hu-ho-hao-te**	**9.70**	**332**	*e*P	**Pn**	**21 21 10.8**	**-1.2**
HHC				S	**Sn**	**21 22 59.8**	**-1.5**
HHC				AMB	AMB		
	comp=Z,11nm,0.6s						
HHC				AMB	AMB		
	comp=Z,66nm,5.8s						
HHC				LR	LR		
	comp=N,470nm,16.1s						
HHC				LR	LR		
	comp=E,581nm,15.2s						
HHC				LR	LR		
	comp=Z,455nm,14.9s						
SNY	**Shenyang**	**10.54**	**25**	⇓P	**Pn**	**21 21 27.0**	**+3.5**
SNY				AP		21 21 34.5	
SNY				XP		21 21 40.0	
SNY				AMB	AMB		
	comp=Z,7.0nm,0.5s						
SNY				AMB	AMB		
	comp=Z,180nm,5.8s						
SNY				LR	LR		
	comp=E,1μm,12.6s						
SNY				LR	LR		
	comp=Z,356nm,7.8s						
GYA	**Guiyang**	**11.21**	**241**	P	**Pn**	**21 21 36.0**	**+3.4**
GYA				S	**Sn**	**21 23 38.3**	**0.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
GYA				LR	LR		
	comp=N,580nm,8.8s						
GYA				LR	LR		
	comp=E,310nm,7.6s						
GYA				LR	LR		
	comp=Z,540nm,9.0s						
CD2	**Chengdu**	**11.86**	**266**	P	**Pn**	**21 21 40.3**	**-1.3**
CD2				AP		21 21 47.5	
CD2				XP		21 21 51.8	
CD2				S	**Sn**	**21 23 56.3**	**+1.8**
CD2				SS		21 24 10.3	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CD2				LR	LR		
	comp=N,570nm,4.3s						
CD2				LR	LR		
	comp=Z,260nm,5.1s						
LZH	**Lanzhou**	**11.93**	**292**	*e*P	**Pn**	**21 21 42.3**	**-0.3**
LZH				AP		21 21 45.8	
LZH				PP		21 21 52.5	
LZH				*e*S	**Sn**	**21 23 56.8**	**+0.7**
LZH				XS		21 24 01.5	
LZH				*e*SS		21 24 10.5	
LZH				AMB	AMB		
	comp=Z,21nm,1.0s						
LZH				AMB	AMB		
	comp=Z,76nm,4.3s						
LZH				LR	LR		
	comp=E,1μm,10.2s						
LZH				LR	LR		
	comp=Z,2μm,12.5s						
KMI	**Kunming**	**14.89**	**245**	P	**Pn**	**21 22 25.3**	**+2.4**
KMI				AP	pP	21 22 31.5	+1.5
KMI				XP	sP	21 22 35.0	+4.5
KMI				PP		21 22 37.8	
KMI				S	**Sn**	**21 25 00.0**	**-8.3**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s						
KMI				AMB	AMB		
	comp=Z,74nm,3.5s						
KMI				LR	LR		
	comp=N,677nm,12.6s						
KMI				LR	LR		
	comp=E,365nm,10.5s						
KMI				LR	LR		
	comp=Z,216nm,8.9s						

MDJ	**Mudanjiang**	**15.37**	**34**	P	**Pn**	**21 22 31.8 +2.5**
MDJ				S	**Sn**	**21 25 23.8 +3.8**
MDJ				SCP	ScP	21 31 07.5 -1.2
MDJ				SCS	ScS	21 34 46.3 -0.6
MDJ				AMB	AMB	
	comp=Z,5.0nm,0.9s					
MDJ				AMB	AMB	
	comp=Z,55nm,4.7s					
MDJ				LR	LR	
	comp=N,438nm,11.8s					
MDJ				LR	LR	
	comp=E,410nm,13.2s					
MDJ				LR	LR	
	comp=Z,239nm,7.7s					
GTA	**Gaotai**	**15.97**	**301**	*e*P	**Pn**	**21 22 36.8 -0.4**
GTA				AP	pP	21 22 42.8 +0.8
GTA				XP	sP	21 22 45.8 +3.2
GTA				PP		21 22 50.0
GTA				S	**Sn**	**21 25 35.0 +0.3**
GTA				XS	sS	21 25 46.0 -4.8
GTA				SS		21 25 55.5
GTA				AMB	AMB	
	comp=Z,2.0nm,0.7s					
GTA				AMB	AMB	
	comp=Z,54nm,3.9s					
GTA				LR	LR	
	comp=N,584nm,15.2s					
GTA				LR	LR	
	comp=E,296nm,16.0s					
GTA				LR	LR	
	comp=Z,349nm,12.2s					
ULN	**Ulaanbaatar**	**17.37**	**336**	*e*P	**Pn**	**21 22 55.4 +0.5**
ULN				pmax	pmax	
	comp=Z,2.0nm,0.6s					
ULN	**Ulaanbaatar**	**17.37**	**336**	*e*Pn	**Pn**	**21 22 55.4 +0.4**
	comp=Z,2.0nm,0.6s					
MJAR	**Matsushiro Arr**	**17.50**	**71**	LR	LR	21 29 44.2
	comp=Z,126nm,20.2s,baz=255,slow=38					
SONM	**Songino Array**	**17.58**	**334**	P	**Pn**	**21 22 57.9 +0.3**
	comp=Z,0.3nm,0.3s,baz=146,slow=16,SNR=9.4					
SONM				LR	LR	21 30 19.0
	comp=Z,187nm,19.4s,baz=145,slow=39					
JHJ	**Hachijo jima 2**	**18.69**	**82**	LR	LR	21 30 55.7
	comp=Z,161nm,18.3s,baz=315,slow=39					
TLY	**Talaya**	**21.78**	**336**	P	**P**	**21 23 45.9 +1.4**
TLY				pmax	pmax	
	comp=Z,5.0nm,0.8s,mb4.0					
TLY	**Talaya**	**21.78**	**336**	P	**P**	**21 23 45.9 +1.5**
	comp=Z,4.5nm,0.8s,mb4.0					
ASAJ	**Asahikawa**	**22.77**	**52**	LR	LR	21 33 03.5
	comp=Z,41nm,18.5s,MS2.9,baz=323,slow=38					
BOD	**Bodaibo**	**25.52**	**356**	*e*P	**P**	**21 24 20.7 -0.5**
BOD				pmax	pmax	
	comp=Z,3.0nm,1.5s,mb3.6					
MKAR	**Makanchi Array**	**30.45**	**308**	P	**P**	**21 25 05.3 0.0**
	comp=Z,1.5nm,0.5s,mb4.0,baz=99,slow=8.9,SNR=13					
MKAR	**Makanchi Array**	**30.45**	**308**	P	**P**	**21 25 05.3 -0.1**
YAK	**Yakutsk**	**30.64**	**11**⇑	*e*P	**P**	**21 25 07.8 +0.8**
ZAL	**Zalesovo**	**31.70**	**322**	P	**P**	**21 25 16.6 +0.2**
	comp=Z,1.1nm,0.4s,mb4.0,baz=356,slow=9.1,SNR=4.6					
KURK	**Kurchatov**	**33.90**	**314**⇑	*e*P	**P**	**21 25 36.1 +0.5**
KURK	**Kurchatov**	**33.90**	**314**	*e*P	**P**	**21 25 36.2 +0.6**
	comp=Z,5.0nm,1.0s,mb4.4					
MA2	**Magadan**	**34.97**	**29**	*e*P	**P**	**21 25 46.3 +1.4**
MA2				pmax	pmax	
	comp=Z,5.0nm,0.4s,mb4.8					
MA2	**Magadan**	**34.97**	**29**	*e*P	**P**	**21 25 46.3 +1.4**
	comp=Z,17nm,0.8s,mb5.0					
BVAR	**Borovoye Array**	**39.43**	**316**	P	**P**	**21 26 23.7 +1.0**
	comp=Z,0.6nm,0.4s,mb3.7,baz=110,slow=9.6,SNR=7.5					
BVAR				LR	LR	21 43 34.9
	comp=Z,56nm,19.0s,MS3.4,baz=319,slow=38					
BVAR	**Borovoye Array**	**39.43**	**316**	P	**P**	**21 26 23.7 +1.0**
BVAR				LR	LR	21 43 34.9
TIXI	**Tiksi**	**39.76**	**6**⇑	*e*P	**P**	**21 26 26.5 +1.0**
TIXI				pmax	pmax	
	comp=Z,4.0nm,0.7s,mb4.3					
ZRNK	**Zerenda**	**40.23**	**315**	*e*P	**P**	**21 26 29.5 +0.1**
ZRNK				pmax	pmax	
	comp=Z,4.0nm,1.0s,mb4.1					
ZRNK	**Zerenda**	**40.23**	**315**	*e*P	**P**	**21 26 29.5 +0.1**
	comp=Z,3.7nm,1.0s,mb4.1					
ARU	**Arti**	**46.72**	**319**⇓	*e*P	**P**	**21 27 20.8 -1.0**
ARU				*e*		21 29 08.3
ARU				*e*PPP		21 29 57.3
ARU				*e*S	**S**	**21 34 09.8 -2.2**
ARU				pmax	pmax	
	comp=Z,4.0nm,1.2s,mb4.2					
ARU	**Arti**	**46.72**	**319**	*e*P	**P**	**21 27 21.5 -0.2**
	comp=Z,5.5nm,0.9s,mb4.5					
AKTK	**Aktyubinsk**	**46.82**	**311**	P	**P**	**21 27 24.1 +1.5**
AKTO	**Aktyubinsk**	**46.82**	**311**	P	**P**	**21 27 24.1 +1.5**
	comp=Z,0.9nm,0.5s,mb4.0,baz=73,slow=11,SNR=2.6					
WRA	**Warramunga Arr**	**54.48**	**161**	P	**P**	**21 28 20.3 -0.1**
	comp=Z,1.3nm,0.8s,mb3.9,baz=346,slow=7.9,SNR=7.3					
WRA	**Warramunga Arr**	**54.48**	**161**⇑	*e*P	**P**	**21 28 19.0 -1.4**
ASAR	**Alice Springs**	**57.91**	**162**	P	**P**	**21 28 44.4 -0.6**
	comp=Z,1.0nm,0.8s,mb3.9,baz=337,slow=6.9,SNR=8.5					
KIV	**Kislovodsk**	**58.11**	**305**	*e*P	**P**	**21 28 45.5 -0.8**
KIV				pmax	pmax	
	comp=Z,9.0nm,1.0s,mb4.8					
KIV	**Kislovodsk**	**58.11**	**305**	*e*P	**P**	**21 28 45.5 -0.8**
	comp=Z,9.1nm,1.0s,mb4.8					
OBN	**Obninsk**	**59.16**	**319**	*e*P	**P**	**21 28 53.9 +0.3**
OBN				*e*		21 31 04.2
OBN				*e*SS	SS	21 40 53.4 -2.3
OBN				pmax	pmax	
	comp=Z,2.0nm,0.7s,mb4.3					
ARCES	**ARCESS Array B**	**60.74**	**336**	P	**P**	**21 29 03.5 -0.9**
	comp=Z,2.7nm,0.9s,mb4.4,baz=77,slow=12,SNR=2.7					
FINES	**FINESS Array B**	**62.78**	**327**	P	**P**	**21 29 17.7 -0.5**
	comp=Z,0.5nm,0.5s,mb3.9,baz=46,slow=8.2,SNR=5.4					
FINES				LR	LR	21 58 53.1
	comp=Z,52nm,18.8s,MS3.7,baz=92,slow=38					
FINES	**FINESS Array B**	**62.78**	**327**⇑	*e*P	**P**	**21 29 18.6 +0.3**
MALT	**Malatya**	**62.95**	**300**	P	**P**	**21 29 20.3 +0.9**
MALT				pmax	pmax	
	comp=Z,3.0nm,0.9s,mb4.4					
MALT	**Malatya**	**62.95**	**300**	P	**P**	**21 29 20.3 +0.9**
	comp=Z,3.4nm,0.9s,mb4.5					
AKASG	**Malin Array Be**	**64.70**	**315**	P	**P**	**21 29 30.8 -0.1**
	comp=Z,0.2nm,0.4s,mb3.5,baz=56,slow=4.7,SNR=5.6					
BR131	**Keskin Array S**	**65.88**	**303**	*e*P	**P**	**21 29 39.8 +1.2**
	comp=Z,0.7nm,0.5s,mb4.0					
BRTR	**Keskin Array B**	**65.88**	**303**	P	**P**	**21 29 38.5 -0.1**
	comp=Z,2.1nm,0.8s,mb4.2,baz=100,slow=6.6,SNR=13					
BRTR	**Keskin Array B**	**65.88**	**303**⇑	*e*P	**P**	**21 29 39.2 +0.6**
STKA	**Stephens Creek**	**67.86**	**158**	P	**P**	**21 29 50.4 -0.8**
	comp=Z,2.1nm,0.6s,mb4.3,baz=4.2,slow=6.5,SNR=7.8					
STKA	**Stephens Creek**	**67.86**	**158**	*e*P	**P**	**21 29 50.4 -0.8**
CSS	**Prodhromos**	**68.03**	**298**	P	**P**	**21 29 52.3 0.0**
	comp=Z,7.3nm,0.8s,mb4.8					
HFS	**Hagfors**	**68.88**	**329**	P	**P**	**21 29 55.3 -2.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=99,slow=7.7,SNR=10					
KWP	**Kalwaria**	**68.98**	**316**	P	**P**	**21 29 56.7 -1.4**
NB2	**NORSAR Subarra**	**69.50**	**330**	P	**P**	**21 30 00.7 -0.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=55,slow=5.9					
NOA	**NORSAR Array B**	**69.50**	**330**	P	**P**	**21 30 00.4 -1.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=56,slow=5.9,SNR=4.7					
RES	**Resolute Bay**	**71.05**	**9**	P	**P**	**21 30 05.9 -5.0**
YKA	**Yellowknife Ar**	**76.60**	**22**	P	**P**	**21 30 41.9 -1.5**
	comp=Z,4.0nm,0.6s,mb4.5,baz=320,slow=5.3,SNR=17					
YKA	**Yellowknife Ar**	**76.60**	**22**	P	**P**	**21 30 41.9 -1.5**
NVAR	**Mina Array Bea**	**92.43**	**41**	P	**P**	**21 32 04.5 +0.7**
	comp=Z,1.0nm,0.7s,mb4.2,baz=317,slow=3.0,SNR=9.3					

NEIC ***25*** *21:45:02.4, 1574N×9633W, h40km, MD3.7(MEX), After MEX.*

MEX 25 21:45:02.6±0.5, 1575N×9636W, h35km±10km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HUIG	**Huatulco**	**0.24**	**86**	*i* P		Pn	21 45 08.2	-1.7
HUIG				*i* S		Sn	21 45 13.2	-1.6
HUIG	**Huatulco**	**0.24**	**86**	*i* P		Pn	21 45 08.2	-1.7
HUIG				*i* S		Sn	21 45 13.4	-1.4
VHO	**Vista Hermosa**	**1.36**	**345**	*i* P		Pn	21 45 23.5	-1.6
VHO				*i* S		Sn	21 45 39.5	-2.4
OXX	**Oaxaca**	**1.37**	**345**	*i* P		Pn	21 45 24.0	-1.2
OXX				*i* S		Sn	21 45 40.5	-1.6
CMIG	**Matias Romero**	**1.94**	**46**	*i* P		Pn	21 45 31.8	-1.3
CMIG				*i* S		Sn	21 45 53.5	-2.7
UTMO	**Huajuapan**	**2.49**	**326**	*e*P		Pn	21 45 39.0	-1.6
UTMO				*e*S		Sn	21 46 08.2	-1.5
TPIG	**Tehuac#an**	**2.82**	**340**	*i* S		Sn	21 46 15.7	-2.3

MAN 25 21:50:59.0, 868N×12433E, h12km, mb2.5, ML4.0, MS2.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CGP	**Cagayan de Oro**	**0.42**	**122**	*e*P		Pg	21 51 07.8	+0.4
CGP				*i* S		Sg	21 51 14.3	+1.3
DCPH	**Dipolog City**	**0.97**	**264**⇓	*i*P		Pg	21 51 17.4	-0.4
DCPH				*i* S		Sg	21 51 31.6	+1.0
BUKP	**Musuan**	**1.08**	**138**	*e*P		Pb	21 51 19.2	-0.3
BUKP				*e*S		Sb	21 51 34.6	+1.0
PAGZ	**Pagadian**	**1.25**	**229**	*e*P		Pn	21 51 22.0	-0.3
PAGZ				*e*S		Sb	21 51 39.6	+0.9
SNPH	**Sibulan**	**1.27**	**301**	*e*P		Pn	21 51 21.5	-1.0

ISCJB ***25*** *21:51:39.5±0.3, 2770N±003×5670E±004, h14km, mb3.9/24, Error ellipse: s-maj=6.0km s-min=3.3km az=129.3*
CSEM ***25*** *21:51:39.6±0.1, 2767N×5674E, h15km, mb4.0/8, Error ellipse: s-maj=3.2km s-min=1.6km az=71.0*
NEIC ***25*** *21:51:40.4±0.5, 2768N×5667E, h10km, mb3.8/14, ML3.8(THR), Error ellipse: s-maj=9.5km s-min=7.6km az=188.0*
MOS ***25*** *21:51:42.6±1.2, 2778N×5661E, h33km, mb4.1/9, Error ellipse: s-maj=14.8km s-min=8.1km az=108.9*
KISR ***25*** *21:51:42.5±0.5, 2780N×5639E, h33km, ML4.2*
THR ***25*** *21:51:42.9±0.5, 2778N×5670E, h14km±5km, ML3.8*
IDC ***25*** *21:51:44.0±5.5, 2764N×5667E, h34km±46km, mb3.7/14, mb1 3.9/15, mb1mx3.8/24, mbtmp3.9/15, ML4.4/1, Error ellipse: s-maj=19.1km s-min=15.7km az=39.0*
TEH ***25*** *21:51:45.5, 2771N×5672E, h21km, Mn3.7*

ISC 25 21:51:41.3±0.3, 2771N±002×5674E±004, h14km, n90, σ1§29/104, mb3.9/24, 9C-7D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BNDS	**Bandar-Abbas**	**0.60**	**238**	*e*PG		**Pg**	**21 51 54.6**	**+1.6**
BNDS				*e*SG		**Sg**	**21 52 03.4**	**+2.5**
BNDS				AML	AML		21 52 07.9	
	comp=N,4μm,0.5s							
BNDS	**Bandar-Abbas**	**0.60**	**238**	*e*Pg		**Pg**	**21 51 54.6**	**+1.6**
	SNR=90							
BNDS				*e*Sg		**Sg**	**21 52 03.4**	**+2.5**
	comp=N,4μm,0.5s,SNR=90							
BANOM	**Banah**	**1.83**	**193**	⇓P		**Pn**	**21 52 13.1**	**+0.9**
	SNR=66							
KRBR	**Kerman**	**2.26**	**0**	*e*PG		**Pg**	**21 52 22.9**	**-1.7**
KRBR				AML	AML		21 52 57.7	
	comp=E,759nm,0.4s							
KRBR				AML	AML		21 52 57.9	
	comp=N,777nm,0.4s							
ASHO	**Ashiyiah**	**3.08**	**192**	⇑P		**Pn**	**21 52 30.3**	**+0.8**
	SNR=32							
GHIR	**Ghir-Karzin**	**3.37**	**281**	*e*PN		**Pn**	**21 52 36.8**	**+3.3**
GHIR				AML	AML		21 53 43.2	
	comp=E,109nm,0.2s							
ISRV	**Sarvestan**	**3.60**	**298**	*e*Pn		**Pn**	**21 52 39.8**	**+3.2**
ISRV				*e*Sn		**Sn**	**21 53 19.2**	**+0.3**
IMOK	**Mook**	**3.79**	**291**	*e*Pn		**Pn**	**21 52 42.0**	**+2.8**
IMOK				*e*Sn		**Sn**	**21 53 24.1**	**+0.5**
IBAF	**Bafgh**	**4.00**	**345**	*e*Pn		**Pn**	**21 52 44.9**	**+2.8**
IBAF				*e*Sn		**Sn**	**21 53 29.4**	**+0.7**
ZHSF	**Zahedan**	**4.02**	**61**	*e*PN		**Pn**	**21 52 46.4**	**+4.0**
IMEH	**Mehriz**	**4.11**	**334**	*e*Pn		**Pn**	**21 52 46.9**	**+3.3**
IMEH				*e*Sn		**Sn**	**21 53 31.9**	**+0.5**
HOQ	**Hoqain**	**4.15**	**173**	⇓P		**Pn**	**21 52 43.6**	**-0.6**
	SNR=13							
BIDO	**Bidbid**	**4.36**	**163**	⇓P		**Pn**	**21 52 46.2**	**-0.8**
	SNR=24							
ARQ	**Araqi**	**4.36**	**183**	⇑P		**Pn**	**21 52 47.2**	**+0.1**
WSAR	**Wadi Sarin**	**4.77**	**159**	Pn		**Pn**	**21 52 52.9**	**+0.2**
	comp=E,17nm,0.3s,baz=322,slow=12,SNR=152							
WSAR				Sn		**Sn**	**21 53 45.1**	**-2.7**
	comp=E,41nm,0.3s,baz=100,slow=12,SNR=17							
SMDO	**Samad**	**4.78**	**165**	⇑P		**Pn**	**21 52 52.8**	**-0.1**
	SNR=21							
ISAD	**Sadrabad**	**4.96**	**328**	*e*Sn		**Sn**	**21 53 52.4**	**0.0**
BSY	**Bisya**	**4.96**	**175**	⇑P		**Pn**	**21 52 55.3**	**-0.1**
BSYO	**Bisya**	**4.98**	**175**	P		**Pn**	**21 52 55.3**	**-0.3**
JMDO	**Jabal Madar**	**5.46**	**167**	⇓P		**Pn**	**21 53 02.1**	**-0.1**
WBK	**Wadi Bani Khal**	**5.47**	**158**	⇓P		**Pn**	**21 53 02.4**	**+0.1**
	SNR=20							
IZEF	**Zefreh**	**6.42**	**325**	*e*Pn		**Pn**	**21 53 17.5**	**+2.1**
IZEF				*e*Sn		**Sn**	**21 54 27.1**	**-1.3**
IPIR	**Pirpir**	**7.08**	**316**	*e*Pn		**Pn**	**21 53 26.8**	**+2.3**
IPIR				*e*Sn		**Sn**	**21 54 42.1**	**-2.6**
IKLH	**Kalahroud**	**7.14**	**323**	*e*Pn		**Pn**	**21 53 27.7**	**+2.4**
IKLH				*e*Sn		**Sn**	**21 54 43.6**	**-2.6**
KBD	**Kabd**	**8.10**	**282**	*e*P		**Pn**	**21 53 38.5**	**+0.1**
NAY	**Al-Naaiem**	**8.50**	**283**	*e*P		**Pn**	**21 53 44.8**	**+0.9**
NAY				*e*S		**Sn**	**21 55 16.0**	**-3.6**
NAY				AML	AML		21 55 26.6	
	comp=Z,15nm,0.6s							
MIB	**Mutribah**	**8.51**	**286**	*e*P		**Pn**	**21 53 44.5**	**+0.4**
MIB				*e*S		**Sn**	**21 55 16.3**	**-3.6**
MIB				AML	AML		21 55 21.9	
	comp=Z,20nm,0.5s							
RST	**Umm Al-Ruwaisa**	**8.75**	**284**	*e*P		**Pn**	**21 53 48.2**	**+0.8**
RST				*e*S		**Sn**	**21 55 22.0**	**-3.7**
RST				AML	AML		21 55 32.0	
	comp=Z,19nm,0.5s							
WHFO	**Wadi Hawf**	**10.13**	**196**	⇑P		**Pn**	**21 54 04.2**	**-2.0**
GNI	**Garni**	**15.89**	**324**	Pn		**Pn**	**21 55 31.2**	**+6.8**
	comp=Z,0.3nm,0.3s,baz=23,slow=2.6,SNR=5.0							
GNI	**Garni**	**15.89**	**324**	Pn		**Pn**	**21 55 21.6**	**-2.8**
GNI				Pn		**Pn**	**21 55 31.2**	**+6.8**
GNI	**Garni**	**15.89**	**324**	Pn		**Pn**	**21 55 21.6**	**-2.8**
MALT	**Malatya**	**18.61**	**309**	*e*P		**Pn**	**21 55 58.4**	**-0.1**
MALT				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MALT	**Malatya**	**18.61**	**309**	*e*P		**Pn**	**21 55 58.4**	**-0.1**
	comp=Z,4.3nm,0.9s							
MALT	**Malatya**	**18.61**	**309**	*e*P		**Pn**	**21 55 58.3**	**-0.2**
	comp=Z,4.3nm,0.9s							
EIL	**Elat**	**19.22**	**281**	*e*P		**Pn**	**21 56 04.2**	**-1.5**
	comp=Z,65nm,0.8s							
EIL	**Elat**	**19.22**	**281**	*e*P		**Pn**	**21 56 04.2**	**-1.6**
	comp=Z,65nm,0.8s							
KIV	**Kislovodsk**	**19.77**	**329**	*e*P		**Pn**	**21 56 10.0**	**-2.3**
KIV				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KIV	**Kislovodsk**	**19.77**	**329**	*e*P		**Pn**	**21 56 10.0**	**-2.3**
	comp=Z,3.7nm,0.6s							
KIV	**Kislovodsk**	**19.77**	**329**	*e*P		**Pn**	**21 56 10.0**	**-2.3**
	comp=Z,3.7nm,0.6s							
AAK	**Ala-Archa**	**20.73**	**39**	P		**P**	**21 56 19.0**	**-2.3**
AAK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
AAK	**Ala-Archa**	**20.73**	**39**	P		**P**	**21 56 19.0**	**-2.2**
	comp=Z,4.6nm,0.9s							
AAK	**Ala-Archa**	**20.73**	**39**	P		**P**	**21 56 19.0**	**-2.3**
	comp=Z,4.6nm,0.9s							
CSS	**Prodhromos**	**21.23**	**296**	P		**P**	**21 56 24.9**	**-1.8**
	comp=Z,23nm,1.4s,mb4.3							
CSS	**Prodhromos**	**21.23**	**296**	P		**P**	**21 56 24.9**	**-1.8**
	comp=Z,23nm,1.4s,mb4.3							
BR131	**Keskin Array S**	**22.57**	**308**	P		**P**	**21 56 37.2**	**-3.9**
	comp=Z,1.1nm,0.5s,mb3.5							
BRTR	**Keskin Array B**	**22.57**	**308**	P		**P**	**21 56 42.1**	**+1.0**
	comp=Z,3.0nm,0.9s,mb3.7,baz=129,slow=12,SNR=18							
AKTK	**Aktyubinsk**	**22.71**	**2**	P		**P**	**21 56 44.1**	**+1.5**
AKTK	**Aktyubinsk**	**22.71**	**2**	P		**P**	**21 56 44.1**	**+1.6**
AKTO	**Aktyubinsk**	**22.71**	**2**	P		**P**	**21 56 44.1**	**+1.5**
	comp=Z,8.0nm,0.6s,mb4.3,baz=182,slow=9.5,SNR=26							
ZRNK	**Zerenda**	**26.81**	**17**	P		**P**	**21 57 21.7**	**+0.8**
ZRNK				*e*			21 57 38.8	
ZRNK				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb3.6							
ZRNK	**Zerenda**	**26.81**	**17**	P		**P**	**21 57 21.7**	**+0.8**
	comp=Z,2.4nm,1.0s,mb3.7							
ZRNK				*e*			21 57 38.8	
ZRNK	**Zerenda**	**26.81**	**17**	P		**P**	**21 57 21.7**	**+0.8**
	comp=Z,2.0nm,1.0s,mb3.6							
BRVK	**Borovoye**	**27.24**	**18**	P		**P**	**21 57 24.3**	**-0.5**
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.2s,mb3.7							
BRVK	**Borovoye**	**27.24**	**18**	P		**P**	**21 57 24.3**	**-0.5**
	comp=Z,2.8nm,1.2s,mb3.7							
BRVK	**Borovoye**	**27.24**	**18**	P		**P**	**21 57 24.3**	**-0.5**
	comp=Z,3.0nm,1.2s,mb3.7							
BVAR	**Borovoye Array**	**27.24**	**18**	P		**P**	**21 57 25.3**	**+0.5**
	comp=Z,1.5nm,0.7s,mb3.7,baz=201,slow=7.9,SNR=12							
MKAR	**Makanchi Array**	**27.66**	**40**	P		**P**	**21 57 29.3**	**+0.7**
	comp=Z,0.3nm,0.2s,mb3.5,baz=223,slow=9.4,SNR=2.9							
MKAR	**Makanchi Array**	**27.66**	**40**	P		**P**	**21 57 29.3**	**+0.7**
KURK	**Kurchatov**	**28.34**	**30**	*e*P		**P**	**21 57 35.3**	**+0.6**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb3.8							
KURK	**Kurchatov**	**28.34**	**30**	*e*P		**P**	**21 57 35.3**	**+0.6**
	comp=Z,2.2nm,0.9s,mb3.8							
KURK	**Kurchatov**	**28.34**	**30**	*e*P		**P**	**21 57 35.3**	**+0.6**
	comp=Z,2.0nm,0.9s,mb3.8							
AKASG	**Malin Array Be**	**31.02**	**325**	P		**P**	**21 57 58.5**	**+0.1**
	comp=Z,1.2nm,0.4s,mb4.0,baz=133,slow=8.4,SNR=13							
OBN	**Obninsk**	**31.05**	**337**	*e*P		**P**	**21 57 56.2**	**-2.4**
OBN				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.1							
ZAL	**Zalesovo**	**33.31**	**30**	P		**P**	**21 58 19.0**	**+0.5**
	comp=Z,2.7nm,0.6s,mb4.4,baz=237,slow=7.9,SNR=13							
MORC	**Moravsky Berou**	**37.10**	**317**	P		**P**	**21 58 47.9**	**-3.2**
MORC				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.8							
MORC	**Moravsky Berou**	**37.10**	**317**	P		**P**	**21 58 47.9**	**-3.2**
	comp=Z,1.0nm,0.6s,mb3.8							
JOF	**Joensuu**	**38.94**	**342**	*e*p		**P**	**21 59 06.1**	**-0.6**
GERES	**GERESS Array B**	**39.16**	**314**	P		**P**	**21 59 08.2**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.4,baz=119,slow=7.8,SNR=6.8							
KHC	**Kasperske Hory**	**39.32**	**315**	*e*P		**P**	**21 59 10.0**	**+0.1**
FINES	**FINESS Array B**	**39.45**	**337**	P		**P**	**21 59 11.1**	**+0.1**
	comp=Z,2.5nm,0.6s,mb4.1,baz=139,slow=11,SNR=22							
KAF	**Kangasniemi**	**39.85**	**338**	*e*p		**P**	**21 59 14.4**	**+0.1**
SQTA	**Sankt Quirin**	**40.38**	**311**⇑	*i*P		**P**	**21 59 18.2**	**-0.4**
	comp=Z,1.6nm,0.7s,mb3.9							
SQTA	**Sankt Quirin**	**40.38**	**311**⇑	*i*P		**P**	**21 59 18.2**	**-0.4**
SQTA				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.0							
MOTA	**Moosalm**	**40.47**	**311**⇓	*i*P		**P**	**21 59 18.7**	**-0.7**
	comp=Z,1.4nm,0.8s,mb3.7							
MOTA	**Moosalm**	**40.47**	**311**⇓	*i*P		**P**	**21 59 18.7**	**-0.7**
MOTA				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.6							
DAVA	**Damuels**	**41.28**	**311**⇑	*i*P		**P**	**21 59 25.7**	**-0.4**
	comp=Z,7.0nm,0.6s,mb4.5							
DAVA	**Damuels**	**41.28**	**311**⇑	*i*P		**P**	**21 59 25.6**	**-0.5**
	comp=Z,7.0nm,0.6s,mb4.5							
SONM	**Songino Array**	**43.23**	**49**	P		**P**	**21 59 42.8**	**+0.8**
	comp=Z,0.3nm,0.5s,mb3.3,baz=248,slow=9.8,SNR=6.6							
ULN	**Ulaanbaatar**	**43.68**	**49**	*e*P		**P**	**21 59 46.1**	**+0.5**
ULN				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.6							
ULN	**Ulaanbaatar**	**43.68**	**49**	*e*P		**P**	**21 59 46.1**	**+0.5**
	comp=Z,1.2nm,0.7s,mb3.7							
ULN	**Ulaanbaatar**	**43.68**	**49**	*e*P		**P**	**21 59 46.1**	**+0.5**
	comp=Z,1.0nm,0.7s,mb3.6							
NB2	**NORSAR Subarra**	**45.06**	**331**	P		**P**	**21 59 55.9**	**-0.7**
	comp=Z,2.6nm,0.7s,mb4.2,baz=115,slow=7.9							
NOA	**NORSAR Array B**	**45.06**	**331**	P		**P**	**21 59 55.7**	**-0.9**
	comp=Z,2.5nm,0.7s,mb4.2,baz=116,slow=7.9,SNR=21							
ESDC	**Sonseca Array**	**51.03**	**300**	P		**P**	**22 00 42.7**	**-0.1**
	comp=Z,0.2nm,0.5s,mb3.3,baz=76,slow=6.8,SNR=2.7							
TOA0	**Torodi Ar. Sit**	**53.18**	**266**	*e*P		**P**	**22 00 58.3**	**-0.5**
TOA0	**Torodi Ar. Sit**	**53.18**	**266**	*e*P		**P**	**22 00 58.3**	**-0.5**
TORD	**Torodi Ar. Bea**	**53.18**	**266**	P		**P**	**22 00 58.3**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=62,slow=7.5,SNR=22							
WRA	**Warramunga Arr**	**88.72**	**113**	P		**P**	**22 04 34.8**	**+0.5**
	comp=Z,0.7nm,0.5s,mb4.2,baz=315,slow=4.0,SNR=18							
ASAR	**Alice Springs**	**90.23**	**117**	P		**P**	**22 04 41.9**	**+0.5**
	comp=Z,0.5nm,0.8s,mb3.9,baz=301,slow=5.0,SNR=6.8							

ISCJB ***25*** *22:03:58.5±

*ISCJB **25** 22:30:00.2±0.8, 94S×02.×1084E±02, h33km, mb3.8/11, MS3.6/1, Error ellipse: s-maj=40.9km s-min=10.0km az=104.0*

ISC 25 22:30:02.4±0.8, 95S±02×1083E±02, h35km, n16, σ0°92/16, mb3.8/11, MS3.7/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar** 2.3nm,0.3s	**16.01**	**138**	*eP*	**Pn**	**22 33 37.5**	**-7.3**
MBWA				S	S	22 36 23.6	-30
KULM	**Kulim**	**16.52**	**332**	P	**Pn**	**22 33 50.7**	**-0.6**
NWAO	**Narrogin (SRO)**	**24.77**	**162**	P	**P**	**22 35 20.5**	**-0.2**
WRA	**Warramunga Arr** 1.0nm,0.6s,mb3.5,baz=286,slow=12,SNR=6.6	**27.21**	**115**	P	**P**	**22 35 42.5**	**-0.2**
WRAB	**Tennant Creek** 2.8nm,0.7s,mb3.9	**27.21**	**115**	*eP*	**P**	**22 35 42.4**	**-0.5**
WB2	**Warramunga Arr**	**27.22**	**115**	P	**P**	**22 35 43.3**	**+0.4**
ASAR	**Alice Springs** 0.8nm,0.7s,mb3.5,baz=301,slow=8.8,SNR=7.5	**28.24**	**123**	P	**P**	**22 35 53.2**	**+1.2**
STKA	**Stephens Creek** 1.1nm,0.4s,mb3.9,baz=307,slow=6.9,SNR=6.1	**38.05**	**131**	P	**P**	**22 37 16.3**	**-1.1**
SONM	**Songino Array** 0.4nm,0.7s,mb3.6,baz=167,slow=7.2,SNR=3.7	**57.06**	**358**	P	**P**	**22 39 44.7**	**-0.2**
SONM	comp=Z,50nm,18.1s,MS3.7,baz=290,slow=40			LR	LR	23 07 54.9	
MKAR	**Makanchi Array** 0.4nm,0.4s,mb3.9,baz=134,slow=6.2,SNR=4.8	**60.62**	**340**	P	**P**	**22 40 09.3**	**-0.3**
MKAR	**Makanchi Array**	**60.62**	**340**	P	**P**	**22 40 09.3**	**-0.4**
KURK	**Kurchatov** 1.0nm,0.2s,mb4.5	**65.24**	**340**	*eP*	**P**	**22 40 39.3**	**-1.0**
BVAR	**Borovoye Array** 0.8nm,0.7s,mb3.8,baz=128,slow=9.6,SNR=6.6	**70.12**	**337**	P	**P**	**22 41 12.3**	**+1.2**
BRVK	**Borovoye** 0.5nm,0.5s,mb3.7	**70.19**	**337**	*eP*	**P**	**22 41 12.5**	**+1.0**
CHKZ	**Chkalovo** 1.0nm,0.4s,mb4.1	**70.53**	**337**	*eP*	**P**	**22 41 12.7**	**-0.9**
ZRNK	**Zerenda** 0.7nm,0.4s,mb3.9	**70.61**	**336**	*eP*	**P**	**22 41 17.2**	**+3.2**

*ISCJB **25** 22:37:54.2±1.0, 206S±03×1734W±02, h33km, mb4.8/12, MS4.0/1, Error ellipse: s-maj=47.3km s-min=14.3km az=112.9*

*NEIC **25** 22:37:56.0±1.0, 2066S×17327W, h35km, mb4.8/6, Error ellipse: s-maj=48.2km s-min=14.1km az=149.0*

*IDC **25** 22:38:04.3±11.0, 2199S×17493W, h0km, mb4.6/6, mb1 4.7/6, mb1mx4.2/17, mbtmp4.6/6, MS3.4/2, Ms1 3.4/2, ms1mx2.9/29, Error ellipse: s-maj=227.1km s-min=106.4km az=64.0*

ISC 25 22:37:56.6±1.0, 206S±03×1734W±02, h35km, n24, σ1°22/22, mb4.8/12, MS4.0/1, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** comp=Z,75nm,18.4s,baz=151,slow=30	**6.80**	**13**	LR	LR	22 42 21.2	
CTA	**Charters Tower** 6.9nm,0.3s,mb4.9	**37.82**	**263**	*eP*	**P**	**22 45 10.2**	**+0.6**
CTA	**Charters Tower** 9.7nm,0.4s,mb4.9,baz=96,slow=11,SNR=19	**37.82**	**263**	P	**P**	**22 45 10.3**	**+0.8**
CTAO	**Charters Tower** 9.8nm,0.3s,mb5.0	**37.82**	**263**	*eP*	**P**	**22 45 10.2**	**+0.7**
STKA	**Stephens Creek** 2.4nm,0.6s,mb4.0	**41.69**	**245**	*eP*	**P**	**22 45 38.6**	**-3.2**
STKA	**Stephens Creek** 2.7nm,0.6s,mb4.1,baz=95,slow=9.3,SNR=9.5	**41.69**	**245**	P	**P**	**22 45 38.4**	**-3.4**
MIDW	**Midway**	**48.57**	**351**	P	**P**	**22 46 36.1**	**-1.1**
ASAR	**Alice Springs** 3.1nm,0.5s,mb4.6,baz=96,slow=7.3,SNR=38	**48.74**	**256**	P	**P**	**22 46 36.8**	**-0.9**
WB2	**Warramunga Arr**	**48.89**	**261**	*eP*	**P**	**22 46 38.3**	**-0.6**
WRAB	**Tennant Creek** 4.3nm,0.3s,mb5.0	**48.89**	**261**	*eP*	**P**	**22 46 38.7**	**-0.2**
WRA	**Warramunga Arr** 2.7nm,0.3s,mb4.7,baz=96,slow=8.4,SNR=116	**48.90**	**261**	P	**P**	**22 46 38.8**	**-0.1**
KAKA	**Kakadu** 43nm,1.6s,mb5.1	**52.33**	**270**	*eP*	**P**	**22 47 08.1**	**+3.2**
FORT	**Forrest** 20nm,0.7s,mb5.2	**53.26**	**246**	*eP*	**P**	**22 47 09.7**	**-2.0**
FITZ	**Fitzroy Crossi** 4.9nm,0.6s,mb4.7	**57.33**	**261**	*eP*	**P**	**22 47 43.1**	**+2.1**
FITZ	**Fitzroy Crossi** 2.7nm,0.5s,mb4.6,baz=87,slow=4.3,SNR=20	**57.33**	**261**	P	**P**	**22 47 43.3**	**+2.3**
KLBR	**Kellerberrin** 20nm,1.2s,mb5.1	**61.96**	**244**	*eP*	**P**	**22 48 12.5**	**-0.4**
MBWA	**Marble Bar** 4.2nm,0.4s,mb4.9	**62.08**	**256**	*eP*	**P**	**22 48 14.8**	**+1.1**
NWAO	**Narrogin (SRO)** 13nm,1.1s,mb5.0,baz=127,slow=10,SNR=4.0	**62.22**	**243**	P	**P**	**22 48 14.8**	**+0.2**
NWAO	**Narrogin (SRO)**	**62.22**	**243**	P	**P**	**22 48 14.8**	**+0.2**
ISA	**Isabella** 2.9nm,0.3s,mb4.7	**76.34**	**43**	*eP*	**P**	**22 49 40.6**	**-1.4**
HWUT	**Hardware Ranch**	**84.20**	**42**	P	**P**	**22 50 26.1**	**+1.8**
PV01	**Paradox Valley**	**84.27**	**46**	P	**P**	**22 50 24.9**	**+0.3**
COCO	**West Island**	**85.63**	**259**	*eP*	**P**	**22 50 32.0**	**+0.6**
PLCA	**Paso Flores** comp=Z,55nm,19.2s,MS4.0,baz=68,slow=32	**86.02**	**132**	LR	LR	23 23 26.9	

*IDC **25** 22:44:09.5±1.3, 1201N×14372E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/20, mbtmp3.9/7, Error ellipse: s-maj=37.8km s-min=22.9km az=120.0*

*ISCJB **25** 22:44:11.8±6.0, 120N±0.1×1437E±02, h27km±43km, mb3.9/7, Error ellipse: s-maj=37.8km s-min=14.7km az=71.1*

ISC 25 22:44:14.4±6.4, 120N±02×1437E±02, h34km±46km, n12, σ0°87/13, mb3.9/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 35nm,0.3s,baz=222,slow=3.8,SNR=14	**1.93**	**36**	Pn	**Pn**	**22 44 44.3**	**-0.5**
GUMO				Sn	**Sn**	**22 45 08.1**	**+0.4**
WRA	**Warramunga Arr** 47nm,0.3s,baz=327,slow=23,SNR=21	**33.07**	**196**	P	**P**	**22 50 47.1**	**+0.3**
SONM	**Songino Array** 0.4nm,0.6s,mb3.5,baz=19,slow=9.6,SNR=5.2	**47.39**	**326**	P	**P**	**22 52 45.4**	**+0.2**
MKAR	**Makanchi Array** 0.2nm,0.5s,mb3.3,baz=134,slow=6.2,SNR=2.9	**61.85**	**317**	P	**P**	**22 54 31.4**	**+1.4**
BVAR	**Borovoye Array** 0.3nm,0.3s,mb3.9,baz=83,slow=9.4,SNR=3.2	**70.46**	**322**	P	**P**	**22 55 26.0**	**+0.7**
YKA	**Yellowknife Ar** 0.9nm,0.4s,mb4.1,baz=103,slow=7.7,SNR=13	**84.77**	**27**	P	**P**	**22 56 46.1**	**+1.1**
KEV	**Kevo** 0.4nm,0.3s,mb4.0,baz=286,slow=5.1,SNR=5.3	**87.66**	**342**	*ep*	**P**	**22 56 58.8**	**-0.5**
ARCES	**ARCESS Array B** 3.1nm,0.9s,mb4.5,baz=67,slow=9.3,SNR=6.1	**88.23**	**342**	P	**P**	**22 57 01.5**	**-0.5**
ARCES	**ARCESS Array B**	**88.23**	**342**	P	**P**	**22 57 01.5**	**-0.5**
JOF	**Joensuu**	**89.24**	**335**	*ep*	**P**	**22 57 05.0**	**-1.8**
FINES	**FINESS Array B** 0.5nm,0.4s,mb4.2,baz=77,slow=5.8,SNR=15	**92.10**	**335**	P	**P**	**22 57 19.2**	**-0.9**
FINES	**FINESS Array B**	**92.10**	**335**	P	**P**	**22 57 19.2**	**-0.9**

*NIED **25** 22:49:00, 3290N×13950E, h170km, Mw4.2 Best double couple: M0 2.42000×10^15 NP1:φ=220.00000°, δ=78.00000°, λ=94.00000°. NP2:φ=319.00000°, δ=12.00000°, λ=70.00000°.*

*MOS **25** 22:49:49.6±0.6, 3267N×139.18E, h142km, mb4.4/12, Error ellipse: s-maj=20.9km s-min=8.8km az=110.3*

*BJI **25** 22:49:51.4, 3233N×13891E, h182km, mB4.7, mb4.5*

*ISCJB **25** 22:49:53.6±0.3, 3274N±004×13936E±006, h182km±2km, mb4.2/38, Error ellipse: s-maj=8.5km s-min=5.7km az=144.6*

*JMA **25** 22:49:54.9±0.2, 3287N×139.47E, h184km±2km, M4.1 Broadband fault plane solution: P waves. NP1: φ=68.00000°, δ=23.00000°, λ=158.00000°. NP2: φ=179.00000°, δ=81.00000°, λ=68.00000°. Principal axes: T Plg49.0000°, Azm65.0000°; N Plg22.0000°, Azm182.0000°; P Plg33.0000°, Azm287.0000°;*

*IDC **25** 22:49:54.4±0.4, 3271N×139.17E, h169km±4km, mb3.8/20, mb1 3.9/20, mb1mx3.9/23, mbtmp4.3/20 Error ellipse: s-maj=17.0km s-min=8.3km az=74.0*

*NEIC **25** 22:49:55.0±0.5, 3271N×139.17E, h175km±4km, mb4.4/15, Error ellipse: s-maj=6.8km s-min=4.1km az=84.0*

ISC 25 22:49:54.9±0.3, 3277N±004×13935E±006, h178km±2km, n92, σ0°91/105, mb4.2/38, 9C-3D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2** 277nm,0.3s,baz=88,slow=7.1,SNR=104	**0.51**	**46**	P	**Pn**	**22 50 19.9**	**+0.4**
JHJ				S	**Sn**	**22 50 38.2**	**-0.1**
JHJ2	**Mitsune**	**0.53**	**49**	P	**Pn**	**22 50 20.0**	**+0.5**
JHJ2				S	**Sn**	**22 50 39.9**	**+1.5**
JMY	**Miyakejima3**	**1.31**	**6**	P	**Pn**	**22 50 25.0**	**+0.1**
JKO	**Kozu shima**	**1.43**	**353**	⇑P	**Pn**	**22 50 26.1**	**+0.1**
NJJJ	**Nii jima 2**	**1.63**	**358**	⇑P	**Pn**	**22 50 28.1**	**+0.1**
TK01	**Tokai 1**	**1.78**	**305**	P	**Pn**	**22 50 30.0**	**+0.6**
TK02	**Tokai 2**	**1.78**	**312**	⇑P	**Pn**	**22 50 30.3**	**+0.9**
JIM2	**Oshima 3**	**1.95**	**2**	⇑P	**Pn**	**22 50 31.2**	**0.0**
JIZS	**Izushimoda**	**1.99**	**349**	⇑P	**Pn**	**22 50 29.2**	**-2.5**
JIZS				S	**Sn**	**22 51 00.3**	**+0.2**
TK04	**Tokai 4**	**2.03**	**323**	⇑P	**Pn**	**22 50 31.9**	**-0.2**
BSO3	**Boso 3**	**2.25**	**25**	P	**Pn**	**22 50 31.9**	**-2.7**
BSO3				S	**Sn**	**22 51 04.2**	**-1.1**
BSO1	**Boso 1**	**2.32**	**35**	P	**Pn**	**22 50 34.1**	**-1.3**
BSO1				S	**Sn**	**22 51 04.0**	**-2.8**
SHZ3	**Shizuoka 3**	**2.48**	**338**	⇑P	**Pn**	**22 50 37.9**	**+0.7**
SHZ3				S	**Sn**	**22 51 10.5**	**+0.4**
JOD2	**Odawara 2**	**2.50**	**355**	P	**Pn**	**22 50 37.6**	**+0.1**
JOD2				S	**Sn**	**22 51 12.6**	**+2.1**
JIE	**Ise**	**2.74**	**307**	⇑P	**Pn**	**22 50 41.0**	**+0.8**
JIE				S	**Sn**	**22 51 15.7**	**+0.3**
JYN	**Shimob**	**2.81**	**347**	⇑P	**Pn**	**22 50 41.7**	**+0.6**
MJAR	**Matsushiro Arr** 2.9nm,0.3s,baz=160,slow=11,SNR=20	**3.88**	**346**	P	**Pn**	**22 50 54.2**	**-0.2**
MJAR	3.8nm,0.3s,baz=159,slow=14,SNR=6.7			S	**Sn**	**22 51 40.4**	**-0.5**
MJAR	**Matsushiro Arr**	**3.88**	**346**	P	**Pn**	**22 50 54.2**	**-0.2**
MJAR				S	**Sn**	**22 51 40.4**	**-0.5**
MAJO	**Matsushiro**	**3.88**	**346**	*e*Pn	**Pn**	**22 50 54.6**	**+0.2**
MAJO				*e*Sn	**Sn**	**22 51 40.3**	**-0.6**
MAT	**Matsushiro**	**3.88**	**346**	P	**Pn**	**22 50 54.5**	**+0.1**
MAT				S	**Sn**	**22 51 41.0**	**+0.1**
MAT	**Matsushiro**	**3.88**	**346**	*e*P	**Pn**	**22 50 55.0**	**+0.6**
MAT				*e*S	**Sn**	**22 51 41.0**	**+0.1**
CBIJ	**Chichi jima** 53nm,0.3s,baz=299,slow=23,SNR=16	**6.16**	**156**	P	**Pn**	**22 51 20.9**	**-3.1**
CBIJ	56nm,0.3s,baz=274,slow=22,SNR=9.2			S	**Sn**	**22 52 27.1**	**-7.0**
ASAJ	**Asahikawa** 1.9nm,0.3s,baz=219,slow=12,SNR=9.9	**11.62**	**12**	P	**Pn**	**22 52 33.0**	**-2.3**
ASAJ	**Asahikawa** comp=Z,2.0nm,0.3s	**11.62**	**12**	P	**Pn**	**22 52 33.1**	**-2.3**
ASAJ				pmax	pmax		
MDJ	**Mudanjiang** comp=Z,10.0nm,0.6s	**14.06**	**330**	P	**Pn**	**22 53 05.8**	**-0.6**
MDJ				AMB	AMB		
MDJ	comp=Z,48nm,7.2s			AMB	AMB		
KLR	**Kul'dur**	**17.40**	**343**	*eP*	**Pn**	**22 53 40.8**	**-6.2**
YHNB	**Yeheng**	**17.69**	**247**	P	**Pn**	**22 53 51.2**	**+0.8**
NACB	**Ninganchiao**	**17.78**	**246**	*e*Pn	**Pn**	**22 53 50.4**	**-1.1**
MA2	**Magadan**	**27.88**	**12**	P	**P**	**22 55 28.9**	**+0.9**
ULN	**Ulaanbaatar**	**28.62**	**311**	*eP*	**P**	**22 55 35.5**	**+0.9**
ULN	comp=Z,1.0nm,0.5s,mb3.8			pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,1.0nm,0.5s,mb3.8	**28.62**	**311**	*eP*	**P**	**22 55 35.5**	**+0.8**
SONM	**Songino Array** comp=Z,0.6nm,0.5s,mb3.6,baz=114,slow=7.9,SNR=7.4	**29.03**	**311**	P	**P**	**22 55 38.4**	**+0.2**
BOD	**Bodaibo**	**30.40**	**333**	*eP*	**P**	**22 55 50.4**	**+0.1**
BOD	comp=Z,6.0nm,1.1s,mb4.2			pmax	pmax		
ZAL	**Zalesovo** comp=Z,1.6nm,0.5s,mb3.9,baz=351,slow=10,SNR=8.0	**43.67**	**316**	P	**P**	**22 57 41.9**	**-0.1**
ZAL	**Zalesovo**	**43.67**	**316**	P	**P**	**22 57 41.9**	**-0.1**
MKAR	**Makanchi Array** comp=Z,0.8nm,0.4s,mb3.7,baz=79,slow=9.6,SNR=6.1	**45.08**	**305**	P	**P**	**22 57 53.0**	**-0.1**
KURK	**Kurchatov** comp=Z,12nm,1.0s,mb4.5	**47.34**	**311**	*eP*	**P**	**22 58 10.1**	**-0.7**
KURK				pmax	pmax		
KURK	**Kurchatov** comp=Z,12nm,1.0s,mb4.5	**47.34**	**311**	*eP*	**P**	**22 58 10.1**	**-0.6**
KDAK	**Kodiak Island** comp=Z,7.7nm,0.5s,mb4.6,baz=233,slow=11,SNR=11	**51.44**	**39**	P	**P**	**22 58 42.4**	**+0.6**
CHKZ	**Chkalovo** comp=Z,7.0nm,0.7s,mb4.4	**52.07**	**315**	*eP*	**P**	**22 58 46.1**	**-0.3**
CHKZ				pmax	pmax		
CHKZ	**Chkalovo** comp=Z,7.4nm,0.7s,mb4.4	**52.07**	**315**	*eP*	**P**	**22 58 46.1**	**-0.4**
FITZ	**Fitzroy Crossi** comp=Z,1.5nm,0.8s,mb3.7,baz=108,slow=14,SNR=5.5	**52.25**	**197**	P	**P**	**22 58 46.9**	**-0.9**
BVAR	**Borovoye Array** comp=Z,2.4nm,0.6s,mb4.0,baz=100,slow=8.2,SNR=19	**52.27**	**315**	P	**P**	**22 58 47.7**	**-0.2**
BVAR	comp=Z,0.7nm,0.3s,baz=111,slow=3.4,SNR=4.4			PcP	PcP	22 59 57.1	+0.3
BRVK	**Borovoye** comp=Z,2.0nm,0.6s,mb3.9	**52.33**	**315**	*eP*	**P**	**22 58 48.5**	**+0.1**
BRVK				pmax	pmax		
BRVK	**Borovoye** comp=Z,1.6nm,0.6s,mb3.8	**52.33**	**315**	*eP*	**P**	**22 58 48.5**	**+0.1**
WRAB	**Tennant Creek** comp=Z,4.0nm,0.4s,mb4.5	**52.62**	**186**	*eP*	**P**	**22 58 50.0**	**-0.5**
WRAB				pmax	pmax		
WRAB	**Tennant Creek** comp=Z,3.9nm,0.4s,mb4.5	**52.62**	**186**	*eP*	**P**	**22 58 50.0**	**-0.5**
WB2	**Warramunga Arr**	**52.63**	**186**	*eP*	**P**	**22 58 50.0**	**-0.5**
WRA	**Warramunga Arr** comp=Z,3.1nm,0.5s,mb4.3,baz=1.6,slow=7.8,SNR=83	**52.63**	**186**	P	**P**	**22 58 49.9**	**-0.7**
CTAO	**Charters Tower** comp=Z,2.0nm,0.3s,mb4.3	**52.97**	**172**	*eP*	**P**	**22 58 54.1**	**+1.0**
CTAO				pmax	pmax		
CTAO	**Charters Tower** comp=Z,1.7nm,0.3s,mb4.2	**52.97**	**172**	*eP*	**P**	**22 58 54.1**	**+1.1**
ZRNK	**Zerenda** comp=Z,9.0nm,1.0s,mb4.5	**53.11**	**315**	*eP*	**P**	**22 58 53.3**	**-0.8**
ZRNK				pmax	pmax		
ZRNK	**Zerenda** comp=Z,9.4nm,1.0s,mb4.5	**53.11**	**315**	*eP*	**P**	**22 58 53.3**	**-0.7**
AS31	**Alice Springs**	**56.35**	**186**	*eP*	**P**	**22 59 17.2**	**-0.2**
ASAR	**Alice Springs** comp=Z,2.5nm,0.6s,mb4.2,baz=15,slow=14,SNR=41	**56.35**	**186**	P	**P**	**22 59 17.1**	**-0.3**
MBWA	**Marble Bar** comp=Z,1.4nm,0.4s,mb4.1	**56.80**	**202**	*eP*	**P**	**22 59 20.2**	**-0.4**
ARU	**Arti**	**58.48**	**320**	*eP*	**P**	**22 59 32.3**	**0.0**
ARU	comp=Z,13nm,0.6s,mb4.9			pmax	pmax		
ARU	**Arti** comp=Z,13nm,0.6s,mb5.0	**58.48**	**320**	*eP*	**P**	**22 59 32.2**	**0.0**
INK	**Inuvik**	**58.96**	**26**	P	**P**	**22 59 36.7**	**+1.1**
DZM	**Mont Dzumac** comp=Z,8.2nm,0.9s,mb4.6,baz=32,slow=18,SNR=4.8	**60.36**	**151**	P	**P**	**22 59 46.9**	**+1.8**
STKA	**Stephens Creek** comp=Z,4.9nm,0.6s,mb4.5	**64.33**	**178**	*eP*	**P**	**23 00 12.3**	**+0.8**
STKA	**Stephens Creek** comp=Z,6.2nm,0.7s,mb4.6,baz=342,slow=6.6,SNR=16	**64.33**	**178**	P	**P**	**23 00 12.3**	**+0.8**
ARCES	**ARCESS Array B** comp=Z,1.2nm,0.5s,mb4.0,baz=61,slow=7.1,SNR=12	**67.39**	**340**	P	**P**	**23 00 31.1**	**+0.1**
NWAO	**Narrogin (SRO)** comp=Z,12nm,1.1s,mb4.5,baz=183,slow=14,SNR=5.0	**68.58**	**200**	P	**P**	**23 00 38.0**	**-0.5**
NWAO	**Narrogin (SRO)**	**68.58**	**200**	P	**P**	**23 00 38.2**	**-0.3**
JOF	**Joensuu** comp=Z,1.8nm,0.5s,mb4.1	**68.93**	**332**	*ep*	**P**	**23 00 39.8**	**-0.8**
JOF	**Joensuu** comp=Z,2.0nm,0.5s,mb4.1	**68.93**	**332**	*eP*	**P**	**23 00 39.8**	**-0.8**
JOF				pmax	pmax		
KAF	**Kangasniemi** comp=Z,2.8nm,0.4s,mb4.3,baz=53,slow=5.6	**71.32**	**333**	*ep*	**P**	**23 00 54.5**	**-0.6**
KAF	**Kangasniemi**	**71.32**	**333**	*eP*	**P**	**23 00 54.5**	**-0.6**
KAF	comp=Z,3.0nm,0.4s,mb4.4			pmax	pmax		
FIA1	**FINESS Array S**	**71.79**	**332**	*eP*	**P**	**23 00 57.8**	**-0.1**
FINES	**FINESS Array B** comp=Z,2.1nm,0.4s,mb4.2,baz=69,slow=6.8,SNR=36	**71.80**	**332**	P	**P**	**23 00 57.9**	**-0.1**
KIV	**Kislovodsk**	**72.42**	**311**	*eP*	**P**	**23 01 02.6**	**+0.9**
KIV	comp=Z,7.0nm,0.6s,mb4.6			pmax	pmax		
KIV	**Kislovodsk** comp=Z,7.1nm,0.6s,mb4.6	**72.42**	**311**	*eP*	**P**	**23 01 02.5**	**+0.8**
MIB	**Mutribah**	**76.07**	**296**	*eP*	**P**	**23 01 22.0**	**-0.8**
MIB	comp=Z,14nm,0.6s,mb4.8			AMb	AMb	23 01 23.4	
NAY	**Al-Naaiem**	**76.42**	**296**	*eP*	**P**	**23 01 23.3**	**-1.5**
NAY	comp=Z,9.8nm,0.7s,mb4.6			AMb	AMb	23 01 25.4	
RST	**Umm Al-Ruwaisa**	**76.48**	**296**	*eP*	**P**	**23 01 23.8**	**-1.3**
RST				AMb	AMb	23 01 25.8	
AKASG	**Malin Array Be** comp=Z,1.6nm,0.4s,mb4.0,baz=50,slow=5.9,SNR=23	**76.62**	**322**	P	**P**	**23 01 25.7**	**-0.2**
NB2	**NORSAR Subarra** comp=Z,5.5nm,1.0s,mb4.1,baz=43,slow=5.6	**77.45**	**337**	P	**P**	**23 01 30.2**	**-0.3**
NOA	**NORSAR Array B** comp=Z,3.3nm,0.8s,mb4.0,baz=43,slow=5.6,SNR=22	**77.45**	**337**	P	**P**	**23 01 30.5**	**0.0**
NVAR	**Mina Array Bea**	**78.94**	**51**	P	**P**	**23 01 40.9**	**+2.2**
BR131	**Keskin Array S** comp=Z,1.6nm,0.8s,mb3.7	**80.39**	**311**	*eP*	**P**	**23 01 46.9**	**+0.4**
BRTR	**Keskin Array B** comp=Z,2.7nm,0.8s,mb3.9,baz=116,slow=4.9,SNR=18	**80.39**	**311**	P	**P**	**23 01 46.9**	**+0.4**
TPNV	**Topopah Spring**	**81.12**	**52**	*eP*	**P**	**23 01 52.2**	**+1.9**
TPNV	comp=Z,2.0nm,0.6s,mb3.9			pmax	pmax		
TPNV	**Topopah Spring** comp=Z,2.1nm,0.6s,mb3.9	**81.12**	**52**	*eP*	**P**	**23 01 52.2**	**+1.8**
PDAR	**Pinedale Array** comp=Z,0.5nm,0.5s,mb3.4,baz=318,slow=2.0,SNR=6.0	**81.89**	**44**	P	**P**	**23 01 55.9**	**+1.5**
CLL	**Collm** comp=Z,logA/T=1.0,mb4.5	**83.92**	**329**	⇓P	**P**	**23 02 05.0**	**+0.1**
CLL				*e*		23 03 11.0	
CLL	**Collm** comp=Z,9.0nm,1.0s,mb4.5	**83.92**	**329**	⇓*i*P	**P**	**23 02 05.0**	**+0.1**
CLL				*es*PcP		23 03 11.0	
CLL	**Collm**	**83.92**	**329**	⇓*i*P	**P**	**23 02 05.0**	**+0.1**
CLL	comp=Z,9.0nm,1.0s,mb4.5			pmax	pmax		
KHC	**Kasperske Hory**	**85.26**	**328**	*eP*	**P**	**23 02 11.5**	**0.0**
GERES	**GERESS Array B** comp=Z,0.6nm,0.6s,mb3.5,baz=34,slow=5.3,SNR=7.8	**85.41**	**327**	P	**P**	**23 02 11.8**	**-0.5**
SCHQ	**Schefferville** comp=Z,1.8nm,0.9s,mb4.0,baz=252,slow=19,SNR=2.6	**89.89**	**15**	P	**P**	**23 02 35.0**	**+1.3**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,1.0s,baz=185,slow=0.2,SNR=6.3	**119.00**	**311**	PKP	PKPdf	23 08 22.9	+0.5

JMA 25 22:55:02.4±0.3, 4423N×14779E, h94km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.72**	**240**	P	**Pn**	**22 55 31.4**	**+0.4**
NEM2				*e*S	Sn	22 55 53.3	+0.5
JRA	**Rausu**	**1.94**	**262**	P	Pn	22 55 34.4	+0.4
JNK	**Nakash**	**2.31**	**255**	P	Pn	22 55 39.2	+0.4
JNK				*e*S	Sn	22 56 07.2	+0.5
JAK	**Akkeshi**	**2.56**	**242**	P	Pn	22 55 42.3	+0.2
JAK				*e*S	Sn	22 56 13.2	+0.6
JAR	**Ashorobuto**	**3.06**	**254**	P	Pn	22 55 49.5	+0.7
JAR				*e*S	Sn	22 56 25.5	+1.0
JCH	**Churui**	**3.61**	**245**	P	Pn	22 55 56.3	+0.2
JCH				*e*S	Sn	22 56 36.9	-0.8
JKK2	**Kamakawa 2**	**3.65**	**266**	P	Pn	22 55 57.0	+0.2
JNBK	**Urakawa-nobuka**	**4.16**	**244**	P	Pn	22 56 03.3	-0.4
JKB	**Kayabe**	**5.48**	**247**	P	Pn	22 56 21.0	-0.5
JKB				*e*S	Sn	22 57 19.4	-3.7

*IDC **25** 22:55:17.6±2.7, 3.05S×136.68E, h0km, mb4.1/2, mb1 4.4/4, mb1mx4.0/12, mbtmp4.2/4, ML4.4/2, Error ellipse: s-maj=82.0km s-min=29.3km az=86.0*

*NEIC **25** 22:55:21.9±1.4, 3.06S×136.88E, h35km, mb4.1/2, Error ellipse: s-maj=32.7km s-min=12.6km az=73.0*

*ISCJB **25** 22:55:23.8±7.2, 32S±02×1369E±03, h72km±61km, mb3.5/2, Error ellipse: s-maj=54.5km s-min=26.3km az=110.2*

ISC 25 22:55:23.6±7.0, 31S±02×1369E±03, h49km±60km, n13, σ0°69/13, mb3.6/2, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek** 26nm,0.7s	**16.89**	**188**	*e*Pn	**Pn**	**22 59 17.3**	**+0.8**
WB2	**Warramunga Arr**	**16.90**	**188**	*eP*	**Pn**	**22 59 17.3**	**+0.7**
WB2	**Warramunga Arr**	**16.90**	**188**	*e*Pn	**Pn**	**22 59 16.3**	**-0.4**
WRA	**Warramunga Arr** 2.4nm,0.3s,baz=8.4,slow=12,SNR=31	**16.91**	**188**	Pn	**Pn**	**22 59 16.8**	**+0.1**
FITZ	**Fitzroy Crossi** 0.4nm,0.3s,baz=44,slow=14,SNR=11	**18.52**	**216**	P	**Pn**	**22 59 36.5**	**+0.1**
AS31	**Alice Springs**	**20.63**	**188**	*eP*	**P**	**22 59 57.9**	**-1.0**
ASAR	**Alice Springs** 12nm,0.6s,baz=17,slow=12,SNR=45	**20.63**	**188**	P	**P**	**22 59 58.2**	**-0.7**
ASPA	**Alice Springs**	**20.63**	**188**	*eP*	**P**	**22 59 57.9**	**-1.0**
MBWA	**Marble Bar** 1.9nm,0.7s,mb3.6	**24.49**	**222**	*eP*	**P**	**23 00 39.2**	**+1.1**
KULM	**Kulim**	**37.13**	**283**	P	**P**	**23 02 28.9**	**-0.5**
TAU	**Tasmania Unive**	**40.70**	**168**	P	**P**	**23 03 00.1**	**+0.8**
MKAR	**Makanchi Array** 0.4nm,0.4s,mb3.7,baz=106,slow=7.7,SNR=4.2	**69.00**	**323**	P	**P**	**23 06 24.0**	**+0.1**
MKAR	**Makanchi Array**	**69.00**	**323**	P	**P**	**23 06 24.0**	**+0.1**

IDC 25 22:59:11.7±2.2, 5988S×4669W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/15, mbtmp3.9/4, Error ellipse: s-maj=73.4km s-min=30.1km az=56.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae** 0.5nm,0.3s,baz=328,slow=17,SNR=20	**20.90**	**142**	P	P	23 03 55.2	-0.4
LPAZ	**La Paz** 0.3nm,0.5s,baz=145,slow=6.6,SNR=3.2	**46.25**	**331**	P	P	23 07 39.1	+0.4
DBIC	**Dimbokro** 2.4nm,0.7s,baz=179,slow=7.6,SNR=4.4	**74.12**	**44**	P	P	23 10 49.6	-0.2
TORD	**Torodi Ar. Bea** 1.1n

0.4nm,0.4s,mb3.7

IDC ***25*** *23:15:30.6±0.7, 955S×10767E, h0km, mb4.3/11, mb1 4.4/11, mb1mx4.3/18, mbtmp4.3/11, Error ellipse: s-maj=27.9km s-min=15.3km az=70.0*
NEIC ***25*** *23:15:32.6±0.3, 954S×10768E, h10km, mb4.6/15, Error ellipse: s-maj=15.5km s-min=6.9km az=58.0*
BJI ***25*** *23:15:32.6, 950S×10770E, h10km, mB5.2, mb4.5*
ISCJB ***25*** *23:15:34.0±0.4, 953S±008×1077E±0.1, h32km, mb4.5/25, Error ellipse: s-maj=18.8km s-min=7.3km az=118.9*

ISC 25 23:15:36.2±0.4, 959S±008×1077E±01, h34km, h34km±2.5km: pP-P, n45, σ1°01/40, mb4.5/25, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**16.34**	**136**	*e*Pn	**Pn**	**23 19 17.2**	**-5.9**
	8.4nm,0.8s						
MBWA				*e*Sn	**Sn**	**23 22 07.6**	**-16**
KULM	**Kulim**	**16.35**	**334**	Pn	**Pn**	**23 19 20.6**	**-2.6**
NWAO	**Narrogin (SRO)**	**24.85**	**161**	P	**P**	**23 20 54.3**	**-1.2**
	14nm,1.1s,mb4.4,baz=337,slow=11,SNR=5.3						
NWAO	**Narrogin (SRO)**	**24.85**	**161**	*e*P	**P**	**23 20 54.8**	**-0.6**
WRA	**Warramunga Arr**	**27.73**	**115**	P	**P**	**23 21 20.8**	**-0.7**
	1.9nm,0.6s,mb3.9,baz=285,slow=11,SNR=4.6						
WB2	**Warramunga Arr**	**27.74**	**115**	*e*P	**P**	**23 21 20.6**	**-1.0**
ASAR	**Alice Springs**	**28.70**	**122**	P	**P**	**23 21 31.6**	**+1.5**
	1.8nm,0.6s,mb4.0,baz=294,slow=9.6,SNR=8.1						
KMI	**Kunming**	**34.84**	**352**	P	**P**	**23 22 26.0**	**+2.0**
KMI				AP	pP	23 22 30.5	-3.3
KMI				XP	sP	23 22 32.5	-5.3
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**38.45**	**130**	*e*P	**P**	**23 22 54.5**	**-0.3**
	comp=Z,2.8nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**38.45**	**130**	P	**P**	**23 22 54.6**	**-0.2**
	comp=Z,5.5nm,0.8s,mb4.4,baz=315,slow=8.5,SNR=8.6						
CTAO	**Charters Tower**	**38.64**	**110**	*e*P	**P**	**23 22 57.6**	**+1.2**
	comp=Z,3.3nm,0.6s,mb4.2						
PKI	**Pulchoki**	**42.77**	**330**	*e*P	**P**	**23 23 31.4**	**+0.9**
GUN	**Gumba**	**42.83**	**331**	*e*P	**P**	**23 23 32.3**	**+1.4**
	comp=Z,25nm,0.6s,mb5.1						
DMN	**Daman**	**42.95**	**330**	*e*P	**P**	**23 23 32.5**	**+0.6**
	comp=Z,22nm,0.8s,mb4.9						
KKN	**Kakani**	**43.02**	**330**	*e*P	**P**	**23 23 32.8**	**+0.3**
	comp=Z,18nm,0.8s,mb4.8						
XAN	**Xi'an**	**43.40**	**2**	P	**P**	**23 23 35.3**	**-0.3**
XAN				AP	pP	23 23 44.8	-0.7
XAN				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
GKN	**Gorkha**	**43.51**	**330**	*e*P	**P**	**23 23 37.0**	**+0.6**
	comp=Z,8.0nm,0.4s,mb4.8						
KOLN	**Koldanda**	**43.84**	**329**	*e*P	**P**	**23 23 39.6**	**+0.5**
	comp=Z,34nm,0.8s,mb5.2						
TAU	**Tasmania Unive**	**47.92**	**141**	P	**P**	**23 24 12.3**	**+1.0**
GTA	**Gaotai**	**49.29**	**352**	*e*P	**P**	**23 24 23.3**	**+1.5**
GTA				AP	pP	23 24 26.5	-5.4
GTA				XP	sP	23 24 29.8	-6.1
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.8						
MJAR	**Matsushiro Arr**	**54.13**	**30**	P	**P**	**23 24 55.6**	**-2.4**
	comp=Z,1.4nm,0.6s,mb4.0,baz=217,slow=7.6,SNR=8.1						
SONM	**Songino Array**	**57.18**	**359**	P	**P**	**23 25 20.0**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.3,baz=174,slow=9.0,SNR=15						
SONM				pP	pP	23 25 30.9	+0.8
	comp=Z,1.8nm,0.6s,baz=175,slow=7.7,SNR=7.0						
ULN	**Ulaanbaatar**	**57.20**	**360**	*e*P	**P**	**23 25 20.2**	**+0.2**
	comp=Z,3.7nm,0.8s,mb4.5						
ULN				*e*	pP	23 25 29.4	-0.9
MKAR	**Makanchi Array**	**60.53**	**340**	P	**P**	**23 25 42.5**	**-0.6**
	comp=Z,4.7nm,0.6s,mb4.8,baz=134,slow=6.9,SNR=24						
MKAR	**Makanchi Array**	**60.53**	**340**	P	**P**	**23 25 42.5**	**-0.6**
MAW	**Mawson**	**65.10**	**197**	*e*P	**P**	**23 26 13.2**	**-0.3**
	comp=Z,4.3nm,0.6s,mb4.7						
MAW	**Mawson**	**65.10**	**197**	P	**P**	**23 26 12.9**	**-0.6**
	comp=Z,5.2nm,0.6s,mb4.7,baz=64,slow=6.6,SNR=17						
MAW	**Mawson**	**65.10**	**197**	*e*P	**P**	**23 26 13.2**	**-0.3**
	comp=Z,7.9nm,0.8s,mb4.8						
KURK	**Kurchatov**	**65.14**	**340**	*e*P	**P**	**23 26 13.5**	**-0.3**
	comp=Z,11nm,1.0s,mb4.8						
ZAL	**Zalesovo**	**66.18**	**345**	P	**P**	**23 26 19.6**	**-0.8**
	comp=Z,1.3nm,0.4s,mb4.4,baz=33,slow=3.9,SNR=4.4						
BRVK	**Borovoye**	**70.06**	**337**	*e*P	**P**	**23 26 43.3**	**-1.5**
	comp=Z,0.7nm,0.4s,mb3.9						
CHKZ	**Chkalovo**	**70.41**	**338**	*e*P	**P**	**23 26 46.8**	**-0.2**
	comp=Z,6.0nm,0.6s,mb4.7						
ZRNK	**Zerenda**	**70.48**	**336**	*e*P	**P**	**23 26 46.2**	**-1.1**
	comp=Z,6.2nm,0.9s,mb4.5						
VNDA	**Vanda**	**73.32**	**169**	P	**P**	**23 27 03.4**	**-1.0**
	comp=Z,1.2nm,0.9s,mb3.8,baz=284,slow=9.5,SNR=5.3						
VNDA	**Vanda**	**73.32**	**169**	*e*P	**P**	**23 27 04.0**	**-0.4**
	comp=Z,1.6nm,0.9s,mb4.0						
SBA	**Scott Base**	**74.39**	**169**	P	**P**	**23 27 11.4**	**+0.8**
BR131	**Keskin Array S**	**84.03**	**312**	*e*P	**P**	**23 28 02.9**	**-0.5**
	comp=Z,1.8nm,0.8s,mb4.2						
BR131				*e*	pP	23 28 14.2	+0.3
BRTR	**Keskin Array B**	**84.03**	**312**	P	**P**	**23 28 03.0**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.9,baz=143,slow=10,SNR=5.3						
BRTR				pP	pP	23 28 13.6	-0.4
	comp=Z,2.1nm,0.8s,baz=118,slow=7.1,SNR=12						
SNAA	**Sanae**	**87.27**	**197**	*e*P	**P**	**23 28 19.6**	**+0.2**
WMOK	**Wichita Mounta**	**145.19**	**40**	*e*PKP	PKPdf	23 35 11.4	+1.2
BDFB	**Brasilia**	**145.23**	**224**	PKPbc	PKPbc	23 35 11.0	+1.0
	comp=Z,2.8nm,0.7s,baz=189,slow=0.2,SNR=8.3						
JCT	**Junction City**	**147.03**	**47**	*e*PKP	PKPdf	23 35 17.0	+3.6
MIAR	**Mount Ida**	**148.45**	**35**	*e*PKPbc	PKPbc	23 35 20.4	+1.1
WVT	**Waverly**	**150.06**	**26**	*e*PKPbc	PKPbc	23 35 24.0	+0.7
PLAL	**Pickwick Lake**	**150.92**	**27**	*e*PKPbc	PKPbc	23 35 25.4	+0.1

IDC ***25*** *23:27:55.5±3.5, 535N×12595E, h98km±29km, mb3.7/12, mb1 3.8/12, mb1mx3.7/19, mbtmp4.0/12, Error ellipse: s-maj=65.4km s-min=12.5km az=73.0*
ISCJB ***25*** *23:27:56.3±0.9, 538N±008×126.1E±02, h123km±9km, mb4.0/19, Error ellipse: s-maj=30.1km s-min=9.3km az=143.0*
NEIC ***25*** *23:27:59.2±4.0, 533N×12595E, h134km±38km, mb4.1/7, Error ellipse: s-maj=27.0km s-min=8.1km az=72.0*

ISC 25 23:27:57.6±0.9, 540N±008×1261E±02, h120km±8km, n30, σ0°73/28, mb4.0/19, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.54**	**7**	*e*P	**Pn**	**23 28 24.2**	**-1.3**
BUKP	**Musuan**	**2.66**	**338**	*e*P	**Pn**	**23 28 40.6**	**+1.2**
PAGZ	**Pagadian**	**3.62**	**312**	*e*P	**Pn**	**23 28 52.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**23.36**	**181**	*e*P	**P**	**23 32 54.5**	**-0.8**
	3.9nm,0.6s,mb3.9						
FITZ	**Fitzroy Crossi**	**23.36**	**181**	P	**P**	**23 32 55.1**	**-0.2**
	2.5nm,0.5s,mb3.8,baz=349,slow=14,SNR=24						
WRAB	**Tennant Creek**	**26.46**	**162**	*e*P	**P**	**23 33 24.8**	**+1.4**
	4.9nm,0.3s,mb4.4						
WRA	**Warramunga Arr**	**26.46**	**162**	P	**P**	**23 33 24.3**	**+0.9**
	0.9nm,0.5s,mb3.5,baz=342,slow=10,SNR=13						
MBWA	**Marble Bar**	**27.12**	**193**	*e*P	**P**	**23 33 28.9**	**-0.4**
	1.0nm,0.6s,mb3.5						
ASAR	**Alice Springs**	**29.89**	**165**	P	**P**	**23 33 53.2**	**-0.6**
	0.5nm,0.5s,mb3.4,baz=343,slow=7.1,SNR=9.0						
ASAR				PcP	PcP	23 36 54.9	+1.0
	0.7nm,0.6s,baz=352,slow=2.6,SNR=8.1						
ASAR				ScP	ScP	23 40 27.9	+3.0
	0.7nm,0.5s,baz=349,slow=3.0,SNR=7.5						
CTAO	**Charters Tower**	**32.17**	**143**	P	**P**	**23 34 14.7**	**+0.8**
NWAO	**Narrogin (SRO)**	**39.03**	**192**	P	**P**	**23 35 11.8**	**-0.8**
	7.8nm,0.9s,mb4.5,baz=16,slow=7.4,SNR=2.3						
NWAO	**Narrogin (SRO)**	**39.03**	**192**	*e*P	**P**	**23 35 12.0**	**-0.5**
STKA	**Stephens Creek**	**39.91**	**159**	P	**P**	**23 35 19.2**	**-0.6**
	1.9nm,0.6s,mb4.1,baz=322,slow=14,SNR=4.6						
ULN	**Ulaanbaatar**	**45.34**	**342**	P	**P**	**23 36 03.8**	**+0.2**
SONM	**Songino Array**	**45.51**	**341**	P	**P**	**23 36 06.1**	**+1.1**
	0.5nm,0.7s,mb3.4,baz=153,slow=8.0,SNR=4.9						
SONM				PcP	PcP	23 37 43.0	+1.2
	1.4nm,0.8s,baz=181,slow=2.9,SNR=7.4						
MKAR	**Makanchi Array**	**55.82**	**325**	P	**P**	**23 37 23.1**	**+0.8**
	1.2nm,0.3s,mb4.4,baz=112,slow=7.1,SNR=20						
ZAL	**Zalesovo**	**58.81**	**333**	P	**P**	**23 37 42.6**	**-0.7**
	1.0nm,0.4s,mb4.2,baz=346,slow=6.0,SNR=4.2						
KURK	**Kurchatov**	**59.99**	**327**	*e*P	**P**	**23 37 51.9**	**+0.5**
	2.7nm,0.5s,mb4.5						
CHKZ	**Chkalovo**	**65.73**	**327**	*e*P	**P**	**23 38 29.7**	**+0.2**
	0.5nm,0.4s,mb3.7						
ZRNK	**Zerenda**	**66.30**	**326**	*e*P	**P**	**23 38 33.4**	**+0.3**
	1.0nm,0.7s,mb3.8						
VNDA	**Vanda**	**85.16**	**173**	P	**P**	**23 40 20.6**	**+0.3**
	0.6nm,0.6s,mb3.7,baz=312,slow=6.1,SNR=5.1						
JOF	**Joensuu**	**87.40**	**333**	*e*P	**P**	**23 40 30.6**	**-0.7**
	1.4nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**88.66**	**340**	P	**P**	**23 40 37.3**	**0.0**
	3.5nm,1.1s,mb4.3,baz=69,slow=6.6,SNR=4.8						
KAF	**Kangasniemi**	**89.82**	**332**	*e*P	**P**	**23 40 42.2**	**-0.5**
	1.4nm,0.4s,mb4.4,baz=76,slow=4.3						
FINES	**FINESS Array B**	**90.06**	**332**	P	**P**	**23 40 43.2**	**-0.6**
	0.7nm,0.5s,mb4.0,baz=69,slow=4.3,SNR=11						
FINES	**FINESS Array B**	**90.06**	**332**	P	**P**	**23 40 43.2**	**-0.6**
NOA	**NORSAR Array B**	**97.01**	**334**	P	**P**	**23 41 14.8**	**-1.0**
	0.3nm,0.6s,mb3.9,baz=60,slow=1.9,SNR=3.2						
NOA	**NORSAR Array B**	**97.01**	**334**	P	**P**	**23 41 14.8**	**-1.0**
TORD	**Torodi Ar. Bea**	**121.78**	**289**	PKP	PKPdf	23 46 38.7	+1.3
	1.2nm,0.6s,baz=49,slow=1.8,SNR=18						
TORD	**Torodi Ar. Bea**	**121.78**	**289**	PKP	PKPdf	23 46 38.7	+1.3

MOS ***25*** *23:51:42.4±1.2, 3777N×7272E, h128km, mb4.1/1, Error ellipse: s-maj=16.8km s-min=8.5km az=104.9*
IDC ***25*** *23:51:42.2±6.7, 3771N×7274E, h113km±63km, mb3.4/5, mb1 3.5/9, mb1mx3.2/24, mbtmp3.8/9, MS3.7/1, Ms1 3.7/1, ms1mx2.4/22, Error ellipse: s-maj=54.1km s-min=38.4km az=134.0*
NEIC ***25*** *23:51:42.6±1.3, 3773N×7273E, h116km±17km, mb3.3/4, Error ellipse: s-maj=14.2km s-min=5.2km az=61.0*
ISCJB ***25*** *23:51:43.6±0.4, 3779N±003×7277E±007, h148km±8km, mb3.6/6, Error ellipse: s-maj=9.3km s-min=4.9km az=173.8*
NNC ***25*** *23:51:54.0±5.2, 3868N×7261E, h219km±58km, mb2.4, mpv3.4, Error ellipse: s-maj=111.1km s-min=41.2km az=49.0*

ISC 25 23:51:44.5±0.4, 3778N±003×7277E±007, h142km±7km, n52, σ1°06/62, mb3.6/6, 7C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**4.01**	**190**	P	**Pn**	**23 52 45.9**	**+1.3**
CHCP	**Chirah Chowk**	**4.13**	**174**	P	**Pn**	**23 52 48.4**	**+2.2**
AML	**Almayashu**	**4.40**	**9**	P	**Pn**	**23 52 49.8**	**0.0**
	SNR=68						
UCH	**Uchtor**	**4.64**	**16**	P	**Pn**	**23 52 53.6**	**+0.7**
	SNR=87						
EKS2	**Erkin-Say**	**4.94**	**9**	P	**Pn**	**23 52 57.2**	**+0.3**
	SNR=27						
AAK	**Ala-Archa**	**5.02**	**15**	P	**Pn**	**23 52 59.0**	**+0.9**
	SNR=36						
AAK	**Ala-Archa**	**5.02**	**15**	*e*PN	**Pn**	**23 52 57.7**	**-0.3**
AAK				pmax	pmax		
	comp=Z,47nm,0.4s						
AAK	**Ala-Archa**	**5.02**	**15**	*e*Pn	**Pn**	**23 52 57.7**	**-0.3**
	comp=Z,47nm,0.4s						
AAK				*e*Sn	**Sn**	**23 53 47.5**	**-7.8**
THW	**Thamme Wali**	**5.04**	**190**	⇑P	**Pn**	**23 52 58.2**	**-0.1**
THW				S	**Sn**	**23 53 54.0**	**-1.8**
KBK	**Karagaybulak**	**5.15**	**18**	P	**Pn**	**23 53 01.4**	**+1.7**
	SNR=7.9						
ULHL	**Ulahol**	**5.20**	**30**	P	**Pn**	**23 53 00.9**	**+0.6**
	SNR=15						
CHMS	**Chumysh**	**5.43**	**16**	P	**Pn**	**23 53 03.8**	**+0.4**
	SNR=23						
TKM2	**Tokmak 2**	**5.57**	**22**	P	**Pn**	**23 53 05.7**	**+0.3**
	SNR=7.7						
TKM2	**Tokmak 2**	**5.57**	**22**	⇑P	**Pn**	**23 53 05.8**	**+0.5**
	comp=Z,0.5nm,0.5s						
KK31	**Karatay Array**	**5.59**	**343**	⇑P	**Pn**	**23 53 04.3**	**-1.3**
	comp=Z,15nm,0.3s,baz=168,slow=12,SNR=392						
KK31				⇑S	**Sn**	**23 54 02.5**	**-6.4**
	comp=Z,32nm,0.3s,baz=180,slow=26,SNR=28						
USP	**Ospenovka**	**5.64**	**13**	P	**Pn**	**23 53 06.2**	**-0.1**
	SNR=13						
SBDP	**Sheikh Budin**	**5.70**	**197**	P	**Pn**	**23 53 07.0**	**0.0**
SARP	**Sargodha**	**5.84**	**181**	P	**Pn**	**23 53 10.7**	**+1.7**
DRP	**Derazinda**	**6.38**	**200**	P	**Pn**	**23 53 16.0**	**-0.2**
DRP				S	**Sn**	**23 54 23.0**	**-4.8**
MKAR	**Makanchi Array**	**11.43**	**35**	P	**Pn**	**23 54 23.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=223,slow=16,SNR=8.5						
KOLN	**Koldanda**	**13.50**	**135**	*e*P	**Pn**	**23 54 49.7**	**-0.6**
KOLN				*e*S	**Sn**	**23 57 12.2**	**-7.3**
GKN	**Gorkha**	**13.93**	**131**	*e*P	**Pn**	**23 54 55.1**	**-0.6**
GKN				*e*S	**Sn**	**23 57 20.4**	**-9.4**
KKN	**Kakani**	**14.47**	**130**	*e*P	**Pn**	**23 55 01.8**	**-0.8**
DMN	**Daman**	**14.50**	**131**	*e*P	**Pn**	**23 55 02.1**	**-0.8**
PKI	**Pulchoki**	**14.71**	**130**	*e*P	**Pn**	**23 55 05.4**	**-0.2**
AB31	**Akbulak array**	**14.75**	**325**	⇑P	**Pn**	**23 55 03.3**	**-2.7**
	comp=Z,0.6nm,0.3s,baz=141,slow=14,SNR=38						
AB31				⇑S	**Sn**	**23 57 30.8**	**-19**
	comp=Z,3.2nm,0.6s,baz=130,slow=24,SNR=12						
JIRN	**Jiri**	**15.13**	**128**	*e*P	**Pn**	**23 55 10.2**	**-0.6**
BVAR	**Borovoye Array**	**15.34**	**355**	P	**Pn**	**23 55 12.1**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=156,slow=13,SNR=8.0						
BVAR				S	**S**	**23 57 54.9**	**-15**
	comp=Z,0.3nm,0.3s,baz=164,slow=25,SNR=5.3						
BRVK	**Borovoye**	**15.38**	**354**	*e*P	**Pn**	**23 55 13.2**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**15.38**	**354**	*e*P	**Pn**	**23 55 13.2**	**-0.7**
	comp=Z,0.6nm,0.3s						
ZRNK	**Zerenda**	**15.40**	**351**	*e*P	**Pn**	**23 55 13.2**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZRNK	**Zerenda**	**15.40**	**351**	*e*Pn	**Pn**	**23 55 13.2**	**-0.9**
	comp=Z,1.2nm,0.6s						
CHKZ	**Chkalovo**	**15.97**	**355**	*e*P	**Pn**	**23 55 21.6**	**+0.4**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CHKZ	**Chkalovo**	**15.97**	**355**	*e*Pn	**Pn**	**23 55 21.6**	**+0.5**
	comp=Z,0.6nm,0.3s						
AKTK	**Aktyubinsk**	**16.46**	**325**	P	**Pn**	**23 55 25.1**	**-2.1**
AKTK				S	**S**	**23 58 17.4**	**-13**
AKTO	**Aktyubinsk**	**16.46**	**325**	⇓P	**Pn**	**23 55 24.9**	**-2.3**
AKTO				⇑S	**S**	**23 58 15.2**	**-15**
	comp=Z,0.1nm,0.8s						
AKTO	**Aktyubinsk**	**16.46**	**325**	P	**Pn**	**23 55 25.1**	**-2.1**
	comp=Z,0.9nm,0.3s,baz=116,slow=9.0,SNR=11						
AKTO				S	**S**	**23 58 17.4**	**-13**
	comp=Z,0.2nm,0.3s,baz=331,slow=22,SNR=12						
ZAL	**Zalesovo**	**18.16**	**23**	P	**P**	**23 55 45.9**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=256,slow=7.4,SNR=5.9						
GNI	**Garni**	**21.89**	**285**	P	**P**	**23 56 26.1**	**0.0**
KIV	**Kislovodsk**	**23.49**	**295**	P	**P**	**23 56 41.6**	**+0.2**
KIV	**Kislovodsk**	**23.49**	**295**	P	**P**	**23 56 41.6**	**+0.3**
BRTR	**Keskin Array B**	**30.42**	**286**	P	**P**	**23 57 45.0**	**+1.7**
	comp=Z,0.2nm,0.3s,mb3.4,baz=92,slow=9.9,SNR=3.7						
TIRR	**Tirgusor**	**33.75**	**296**	*e*P	**P**	**23 58 12.4**	**0.0**
FINES	**FINESS Array B**	**37.24**	**325**	P	**P**	**23 58 43.2**	**+1.0**
	comp=Z,1.8nm,1.0s,mb3.6,baz=131,slow=7.8,SNR=4.6						
FINES	**FINESS Array B**	**37.24**	**325**	P	**P**	**23 58 43.2**	**+1.0**
PSZ	**Piszkesteto**	**39.37**	**302**	*e*P	**P**	**23 59 02.4**	**+2.4**
PSZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
PSZ	**Piszkesteto**	**39.37**	**302**	*e*P	**P**	**23 59 02.4**	**+2.3**
	comp=Z,1.5nm,0.5s,mb3.9						
ARCES	**ARCESS Array B**	**40.52**	**337**	P	**P**	**23 59 10.0**	**+0.4**
	comp=Z,2.5nm,0.9s,mb3.9,baz=112,slow=9.8,SNR=4.1						
NB2	**NORSAR Subarra**	**44.23**	**322**	P	**P**	**23 59 40.1**	**+0.6**
	comp=Z,0.3nm,0.4s,mb3.3,baz=91,slow=7.9						
NOA	**NORSAR Array B**	**44.23**	**322**	P	**P**	**23 59 40.0**	**+0.5**
	comp=Z,0.7nm,0.6s,mb3.4,baz=92,slow=7.7,SNR=5.6						
JHJ	**Hachijo jima 2**	**53.74**	**73**	LR	LR	00 24 42.5	
	comp=Z,78nm,20.5s,baz=319,slow=37						
TORD	**Torodi Ar. Bea**	**67.16**	**269**	P	**P**	**00 02 23.6**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.6,baz=47,slow=5.6,SNR=14						

IDC ***26*** *00:06:41.3±1.6, 1050S×1071E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.6/16, mbtmp3.7/5, Error ellipse: s-maj=83.6km s-min=23.3km az=50.0*
NEIC ***26*** *00:06:42.9±1.2, 1048S×10728E, h10km, mb3.9/3, Error ellipse: s-maj=67.0km s-min=13.9km az=47.0*
ISCJB ***26*** *00:06:44.9±1.3, 103S±03×1075E±04, h33km, mb3.7/7, Error ellipse: s-maj=71.0km s-min=14.6km az=93.4*

ISC 26 00:06:47.0±1.3, 104S±03×1073E±04, h35km, n11, σ0°88/11, mb3.7/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**16.00**	**133**	*e*P	**Pn**	**00 10 24.5**	**-4.8**
	2.9nm,0.8s						
MBWA				*e*		00 10 34.9	
WRAB	**Tennant Creek**	**27.70**	**113**	*e*P	**P**	**00 12 30.8**	**-1.0**
ASAR	**Alice Springs**	**28.55**	**121**	P	**P**	**00 12 40.0**	**+0.6**
	0.5nm,0.7s,mb3.3,baz=305,slow=9.0,SNR=4.6						
STKA	**Stephens Creek**	**38.18**	**129**	P	**P**	**00 14 03.8**	**+0.8**
	2.0nm,0.7s,mb4.0,baz=325,slow=9.5,SNR=4.0						
STKA	**Stephens Creek**	**38.18**	**129**	*e*P	**P**	**00 14 03.2**	**+0.1**
SONM	**Songino Array**	**57.99**	**359**	P	**P**	**00 16 35.8**	**-0.3**
	0.4nm,0.5s,mb3.7,baz=185,slow=4.9,SNR=2.9						
MKAR	**Makanchi Array**	**61.19**	**341**	P	**P**	**00 16 59.1**	**+1.0**
	0.3nm,0.4s,mb3.6,baz=140,slow=6.9,SNR=3.1						
KURK	**Kurchatov**	**65.80**	**340**	P	**P**	**00 17 27.4**	**-1.2**
BRVK	**Borovoye**	**70.69**	**337**	*e*P	**P**	**00 18 00.5**	**+1.3**
	1.1nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**71.04**	**338**	*e*P	**P**	**00 18 01.4**	**+0.1**
	0.6nm,0.5s,mb3.8						
BRTR	**Keskin Array B**	**84.34**	**312**	P	**P**	**00 19 14.5**	**-0.9**
	0.4nm,0.7s,mb3.6,baz=109,slow=7.8,SNR=3.0						

IDC ***26*** *00:15:09.8±7.1, 494S×15384E, h136km±52km, mb3.8/6, mb1 4.0/7, mb1mx3.8/14, mbtmp4.3/7, Error ellipse: s-maj=58.9km s-min=25.0km az=91.0*
ISCJB ***26*** *00:15:11.5±4.6, 50S±02×1537E±03, h162km±34km, mb4.2/11, Error ellipse: s-maj=42.7km s-min=25.7km az=21.6*
NEIC ***26*** *00:15:11.1±3.8, 492S×15382E, h150km±26km, mb4.4/6, Error ellipse: s-maj=40.0km s-min=17.9km az=96.0*

ISC 26 00:15:11.6±4.7, 49S±02×1537E±03, h147km±33km, n18, σ0°89/18, mb4.2/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.89**	**235**	P	**Pn**	**00 17 04.2**	**+0.7**
	17nm,0.3s,baz=45,slow=5.8,SNR=25						
PMG				S	**Sn**	**00 18 30.4**	**-1.0**
	1.4nm,0.3s,baz=0.0,slow=20,SNR=1.5						
KAKA	**Kakadu**	**22.40**	**248**	*e*P	**P**	**00 19 57.5**	**-0.5**
	7.3nm,0.4s,mb4.5						
WRAB	**Tennant Creek**	**24.05**	**230**	*e*P	**P**	**00 20 14.2**	**+1.2**
	9.3nm,0.7s,mb4.4						
WB2	**Warramunga Arr**	**24.05**	**230**	*e*P	**P**	**00 20 14.1**	**+1.0**
WRA	**Warramunga Arr**	**24.06**	**230**	P	**P**	**00 20 14.3**	**+1.2**
	6.9nm,0.7s,mb4.3,baz=53,slow=9.8,SNR=45						
AS31	**Alice Springs**	**26.69**	**224**	*e*P	**P**	**00 20 37.2**	**+0.4**
ASAR	**Alice Springs**	**26.69**	**224**	P	**P**	**00 20 37.7**	**+0.8**
	2.2nm,0.6s,mb4.0,baz=53,slow=8.6,SNR=23						
ASPA	**Alice Springs**	**26.69**	**224**	*e*P	**P**	**00 20 37.2**	**+0.3**
STKA	**Stephens Creek**	**29.12**	**202**	P	**P**	**00 20 57.3**	**-1.2**
	2.7nm,0.9s,mb4.0,baz=39,slow=13,SNR=2.7						
FITZ	**Fitzroy Crossi**	**30.42**	**242**	*e*P	**P**	**00 21 09.6**	**-0.3**
	7.1nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**30.42**	**242**	P	**P**	**00 21 10.1**	**+0.2**
	4.0nm,0.6s,mb4.3,baz=74,slow=7.7,SNR=22						
FORT	**Forrest**	**35.28**	**220**	*e*P	**P**	**00 21 50.9**	**-1.3**
	17nm,0.6s,mb4.9						
MBWA	**Marble Bar**	**36.71**	**241**	*e*P	**P**	**00 22 04.5**	**+0.1**
	2.6nm,0.5s,mb4.1						
KLBR	**Kellerberrin**	**42.90**	**227**	*e*P	**P**	**00 22 52.1**	**-3.3**
SONM	**Songino Array**	**66.93**	**327**	P	**P**	**00 25 48.1**	**0.0**
	3.3nm,0.5s,mb3.4,baz=152,slow=9.6,SNR=3.4						
MAW	**Mawson**	**85.81**	**203**	P	**P**	**00 27 34.1**	**-0.3**
	2.4nm,0.8s,mb4.0,baz=106,slow=2.8,SNR=5.5						
ZRNK	**Zerenda**	**90.72**	**323**	*e*P	**P**	**00 27 56.9**	**-0.8**
	0.5nm,0.5s,mb3.8						
TORD	**Torodi Ar. Bea**	**151.23**	**288**	PKPbc	PKPbc	00 34 47.9

0.1nm,0.3s,baz=340,slow=9.6,SNR=3.3
STKA Stephens Creek 26.55 156 P **P 01 19 13.6 -0.2**
1.4nm,0.6s,mb3.7,baz=330,slow=14,SNR=4.2
KURK Kurchatov 72.81 329 *e*P **P 01 25 04.7 +0.8**
0.5nm,0.3s,mb3.9
CHKZ Chkalovo 78.55 329 *e*P **P 01 25 36.6 -0.2**
0.5nm,0.3s,mb3.9

IDC 26 01:43:59.8±3.9, 050N×9830E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.7/4, Error ellipse: s-maj=157.8km s-min=23.9km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSI	**Tuntungan**	**2.99**	**5**	*e*P	Pn	01 45 20.0	+31
TSI				*e*S	Sn	01 45 39.0	+14
WRA	**Warramunga Arr**	**40.74**	**122**	P	P	01 51 42.4	0.0
	0.5nm,0.7s,baz=302,slow=8.9,SNR=5.6						
ASAR	**Alice Springs**	**42.10**	**127**	P	P	01 51 54.1	+0.6
	0.7nm,0.6s,baz=296,slow=7.1,SNR=5.8						
SONM	**Songino Array**	**47.67**	**7**	P	P	01 52 38.6	+0.7
	0.4nm,0.5s,baz=199,slow=6.0,SNR=3.4						
MKAR	**Makanchi Array**	**48.19**	**345**	P	P	01 52 41.5	-0.4
	1.2nm,0.5s,baz=155,slow=7.9,SNR=11						

*NEIC **26** 01:48:23.8, 1732N×10046W, h30km, MD4.0(MEX), After MEX.*

MEX 26 01:48:23.8±0.7, 1732N×10047W, h30km±9km, MD4.2, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.33**	**145**	*i* P	Pb	01 48 29.8	-1.8
CAIG				*i* S	Sb	01 48 35.7	-1.1
ACX	**Acapulco**	**0.69**	**130**	*i* P	Pb	01 48 35.0	-2.3
ACX				*i* S	Sb	01 48 44.0	-2.5
ZIIG	**Zihuatanejo**	**1.00**	**287**	*i* P	Pn	01 48 39.5	-2.2
ZIIG				*i* S	Sn	01 48 51.5	-3.3
MEIG	**Mezcala**	**1.01**	**53**	*i* P	Pn	01 48 39.0	-2.9
MEIG				*i* S	Sn	01 48 52.0	-3.1
PLIG	**Platanillo**	**1.41**	**40**	*i* P	Pn	01 48 45.5	-2.0
PLIG				*i* S	Sn	01 49 02.7	-2.3
YAIG	**Yautepec**	**2.03**	**41**	*i* P	Pn	01 48 53.6	-2.4
YAIG				*i* S	Sn	01 49 18.5	-1.8
IIZ	**Mezontepec**	**2.19**	**32**	*e*P	Pn	01 48 56.7	-1.5
IIZ				*i* S	Sn	01 49 21.1	-3.3
UNM	**Universidad Na**	**2.34**	**31**	*i* P	Pn	01 49 01.8	+1.5
UNM				*i* S	Sn	01 49 26.5	-1.6
UNM	**Universidad Na**	**2.34**	**31**	*i* P	Pn	01 49 05.4	+5.1
MOIG	**Morelia**	**2.45**	**344**	*i* P	Pn	01 49 01.1	-0.6
MOIG				*i* S	Sn	01 49 27.8	-2.8
PPM	**Popocatepetl**	**2.47**	**45**	*i* P	Pn	01 49 00.1	-1.8
PPM				*e*P		01 49 01.0	
PPM				*i* S	Sn	01 49 30.0	-1.1
UTMO	**Huajuapan**	**2.59**	**78**	*e*P	Pn	01 49 02.1	-1.5
UTMO				*i* S	Sn	01 49 32.3	-1.8
TPIG	**Tehuac#an**	**3.15**	**69**	*i* P	Pn	01 49 10.2	-1.2
TPIG				*i* S	Sn	01 49 46.2	-1.8
OXX	**Oaxaca**	**3.58**	**93**	*e*P	Pn	01 49 16.0	-1.3

MEX 26 01:52:49.1±1.1, 1788N×10311W, h10km±34km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.46**	**330**	*i* P	Pg	01 52 57.0	-1.1
MMIG				*i* S	Sg	01 53 05.1	+0.9
CJM	**Chamela**	**2.44**	**311**	*i* P	Pn	01 53 27.1	-1.9
CJM				*i* S	Sn	01 53 54.0	-4.9
MOIG	**Morelia**	**2.54**	**45**	*i* P	Pn	01 53 28.4	-2.0
MOIG				*i* S	Sn	01 53 56.9	-4.6
PLIG	**Platanillo**	**3.46**	**81**	*i* P	Pn	01 53 40.7	-2.3
PLIG				*i* S	Sn	01 54 22.0	-2.1
IIZ	**Mezontepec**	**3.89**	**70**	*i* P	Pn	01 53 48.6	-0.3
IIZ				*i* S	Sn	01 54 31.7	-2.9

*BJI **26** 01:56:10.4, 980S×10786E, h59km, mB5.0, mb4.9, Ms4.6, Msz4.3*
*ISCJB **26** 01:56:11.6±0.3, 9.19S±0.04×10783E±0.05, h39km, mb4.7/66, MS4.3/7, Error ellipse: s-maj=7.1km s-min=5.9km az=114.1*
*MOS **26** 01:56:11.2±0.8, 9.05S×10791E, h33km, mb5.0/24, Error ellipse: s-maj=14.0km s-min=7.9km az=112.3*
*NEIC **26** 01:56:12.7±3.0, 9.20S×10777E, h33km±20km, mb4.8/32, Error ellipse: s-maj=8.8km s-min=5.1km az=52.0*
*IDC **26** 01:56:13.3±0.7, 9.12S×10782E, h33km±5km, mb4.3/15, mb1 4.4/16, mb1mx4.3/21, mbtmp4.5/16, ML4.1/1, Error ellipse: s-maj=19.7km s-min=11.5km az=59.0*
ISC 26 01:56:13.8±0.3, 9.22S±0.05×10781E±0.05, h41km, h41km±3.1km: pP-P, n145, σ1.900/125, mb4.7/66, MS4.3/7, 6C-3D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**2.65**	**45**	⇓*i*P	**Pn**	**01 56 53.9**	**-0.1**
BJII				*i* S	**Sn**	**01 57 20.7**	**-4.3**
MBWA	**Marble Bar**	**16.52**	**137**	*e*Pn	**Pn**	**01 59 58.2**	**-4.2**
	8.2nm,0.7s						
KKM	**Kota Kinabalu**	**17.32**	**29**	*e*Pn	**Pn**	**02 00 12.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**19.43**	**119**	*e*P	**Pn**	**02 00 37.7**	**-0.3**
	16nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.43**	**119**	P	**Pn**	**02 00 38.1**	**+0.1**
	0.5nm,0.3s,baz=275,slow=7.2,SNR=14						
FITZ				S	**S**	**02 03 58.4**	**-16**
	0.1nm,0.3s,baz=244,slow=21,SNR=3.6						
KAKA	**Kakadu**	**24.42**	**100**	*e*P	**P**	**02 01 28.8**	**+0.4**
	25nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**27.75**	**116**	P	**P**	**02 01 58.9**	**+0.4**
	7.1nm,0.7s,mb4.4,baz=290,slow=11,SNR=30						
WRA				PcP	PcP	02 05 15.8	+1.5
	1.0nm,0.6s,baz=301,slow=2.2,SNR=6.5						
WRAB	**Tennant Creek**	**27.76**	**116**	*e*P	**P**	**02 01 59.7**	**+1.1**
WRAB	**Tennant Creek**	**27.76**	**116**	*e*P	**P**	**02 01 59.0**	**+0.4**
	13nm,0.8s,mb4.6						
WB2	**Warramunga Arr**	**27.77**	**116**	*e*P	**P**	**02 01 58.6**	**0.0**
QIZ	**Qiongzhong**	**28.14**	**4**	P	**P**	**02 02 03.5**	**+1.5**
QIZ				S	**S**	**02 06 52.0**	**+7.6**
QIZ				LR	LR		
	comp=N,274nm,18.8s						
QIZ				LR	LR		
	comp=Z,310nm,13.2s						
ASAR	**Alice Springs**	**28.78**	**123**	P	**P**	**02 02 08.2**	**+0.6**
	comp=Z,3.5nm,0.9s,mb4.1,baz=301,slow=8.4,SNR=19						
ASAR				PcP	PcP	02 05 19.0	+2.1
	comp=Z,1.1nm,0.5s,baz=295,slow=1.6,SNR=8.9						
AS31	**Alice Springs**	**28.78**	**123**	*e*P	**P**	**02 02 07.6**	**0.0**
CM31	**Chiang Mai Arr**	**28.86**	**342**	P	**P**	**02 02 08.2**	**-0.2**
KMI	**Kunming**	**34.49**	**352**	P	**P**	**02 03 01.3**	**+3.5**
KMI				PP	PP	02 04 16.8	+0.4
KMI				PPP		02 04 35.8	
KMI				S	**S**	**02 08 32.8**	**+9.3**
KMI				SS	SS	02 10 43.0	-11
KMI				SSS		02 11 09.8	
KMI				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
KMI				AMB	AMB		
	comp=Z,122nm,3.7s						
KMI				LR	LR		
	comp=N,440nm,14.1s,MS4.4						
KMI				LR	LR		
	comp=E,254nm,15.4s,MS4.4						
KMI				LR	LR		
	comp=Z,537nm,13.5s,MS4.5						
GYA	**Guiyang**	**35.48**	**358**	⇑*i*P	**P**	**02 03 07.8**	**+1.4**
GYA				PP	PP	02 04 28.8	+1.4
GYA				PCP	PcP	02 05 35.3	+0.2
GYA				S	**S**	**02 08 44.0**	**+5.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,90nm,4.0s						
GYA				LR	LR		
	comp=N,380nm,14.6s,MS4.5						
GYA				LR	LR		
	comp=E,410nm,14.8s,MS4.5						
GYA				LR	LR		
	comp=Z,340nm,14.5s,MS4.2						
STKA	**Stephens Creek**	**38.58**	**131**	*e*P	**P**	**02 03 33.5**	**+0.8**
	comp=Z,15nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**38.58**	**131**	P	**P**	**02 03 33.6**	**+1.0**
	comp=Z,18nm,0.8s,mb4.8,baz=302,slow=7.3,SNR=18						
STKA				PcP	PcP	02 05 45.6	+1.1
	comp=Z,2.9nm,0.7s,baz=338,slow=7.2,SNR=3.4						
PMG	**Port Moresby**	**38.82**	**94**	*e*P	**P**	**02 03 34.7**	**+0.1**
PMG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PMG	**Port Moresby**	**38.82**	**94**	*e*P	**P**	**02 03 34.7**	**+0.1**
	comp=Z,7.3nm,0.7s,mb4.5						
CD2	**Chengdu**	**40.09**	**355**	*e*P	**P**	**02 03 48.5**	**+3.3**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
CD2				AMB	AMB		
	comp=Z,60nm,6.4s						
SSE	**Sheshan**	**42.09**	**17**	P	**P**	**02 04 00.3**	**-1.4**
SSE				AMB	AMB		
	comp=Z,46nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,251nm,4.8s						
JIRN	**Jiri**	**42.22**	**331**	*e*P	**P**	**02 04 03.5**	**+0.7**
	comp=Z,74nm,0.8s,mb5.3						
NJ2	**Nanjing**	**42.37**	**14**	*e*P	**P**	**02 04 01.3**	**-2.7**
NJ2				PP	PP	02 05 42.8	+0.2
NJ2				S	**S**	**02 10 18.0**	**-4.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,310nm,5.0s						
NJ2				LR	LR		
	comp=N,930nm,14.7s,MS4.9						
NJ2				LR	LR		
	comp=E,750nm,14.6s,MS4.9						
NJ2				LR	LR		
	comp=Z,290nm,14.6s,MS4.3						
PKI	**Pulchoki**	**42.52**	**330**	*e*P	**P**	**02 04 05.5**	**+0.3**
	comp=Z,30nm,0.9s,mb5.0						
PKI	**Pulchoki**	**42.52**	**330**	*e*P	**P**	**02 04 05.5**	**+0.3**
PKI				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.0						
GUN	**Gumba**	**42.58**	**331**	*e*P	**P**	**02 04 06.5**	**+0.8**
	comp=Z,73nm,0.8s,mb5.5						
DMN	**Daman**	**42.71**	**330**	*e*P	**P**	**02 04 07.2**	**+0.5**
	comp=Z,76nm,0.8s,mb5.5						
KKN	**Kakani**	**42.77**	**330**	*e*P	**P**	**02 04 07.6**	**+0.4**
	comp=Z,63nm,0.8s,mb5.4						
KKN	**Kakani**	**42.77**	**330**	*e*P	**P**	**02 04 07.6**	**+0.4**
KKN				pmax	pmax		
	comp=Z,63nm,0.8s,mb5.4						
XAN	**Xi'an**	**43.03**	**1**	P	**P**	**02 04 09.0**	**-0.3**
XAN				AP	pP	02 04 22.0	+1.2
XAN				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.9						
GKN	**Gorkha**	**43.27**	**329**	*e*P	**P**	**02 04 11.6**	**+0.4**
	comp=Z,63nm,0.8s,mb5.4						
KOLN	**Koldanda**	**43.60**	**328**	*e*P	**P**	**02 04 13.5**	**-0.5**
	comp=Z,86nm,0.7s,mb5.6						
LZH	**Lanzhou**	**45.22**	**355**	*e*P	**P**	**02 04 27.5**	**+0.7**
LZH				PP	PP	02 06 16.0	+3.0
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,90nm,4.1s						
GTA	**Gaotai**	**48.95**	**352**	*e*P	**P**	**02 04 57.0**	**+1.1**
GTA				PCP	PcP	02 06 20.8	+1.1
GTA				PP	PP	02 06 50.3	+0.8
GTA				PPP		02 07 45.5	
GTA				S	**S**	**02 12 03.0**	**+5.9**
GTA				SCS	ScS	02 14 43.5	-1.3
GTA				SS	SS	02 15 32.0	+3.8
GTA				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.9						
GTA				AMB	AMB		
	comp=Z,74nm,6.8s						
GTA				LR	LR		
	comp=N,138nm,18.3s,MS4.1						
GTA				LR	LR		
	comp=E,101nm,19.4s,MS4.1						
GTA				LR	LR		
	comp=Z,160nm,15.6s,MS4.1						
BJT	**Baijiatuau**	**49.59**	**8**	*e*P	**P**	**02 05 00.4**	**-0.5**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BJT	**Baijiatuau**	**49.59**	**8**	*e*P	**P**	**02 05 00.4**	**-0.5**
	comp=Z,7.2nm,0.5s,mb5.0						
BJI	**Beijing**	**49.62**	**8**	*e*P	**P**	**02 05 00.8**	**-0.3**
BJI				AMB	AMB		
	comp=Z,17nm,0.9s,mb5.1						
BJI				LR	LR		
	comp=N,146nm,15.8s,MS4.2						
BJI				LR	LR		
	comp=E,166nm,16.6s,MS4.2						
BJI				LR	LR		
	comp=Z,87nm,16.2s,MS3.8						
HHC	**Hu-ho-hao-te**	**49.94**	**4**	*e*P	**P**	**02 05 06.5**	**+3.0**
HHC				PP	PP	02 07 02.5	+4.0
HHC				S	**S**	**02 12 19.5**	**+8.5**
HHC				PS		02 12 26.8	
HHC				SS	SS	02 15 47.8	+3.7
HHC				AMB	AMB		
	comp=Z,15nm,0.7s,mb5.1						
HHC				AMB	AMB		
	comp=Z,172nm,5.2s						
HHC				LR	LR		
	comp=N,199nm,14.3s,MS4.3						
HHC				LR	LR		
	comp=E,143nm,16.7s,MS4.3						
HHC				LR	LR		
	comp=Z,192nm,15.5s,MS4.2						
SNY	**Shenyang**	**52.82**	**15**	*e*P	**P**	**02 05 26.8**	**+1.8**
SNY				AMB	AMB		
	comp=Z,10.0nm,2.5s,mb4.3						
MJAR	**Matsushiro Arr**	**53.74**	**30**	P	**P**	**02 05 30.3**	**-1.5**
	comp=Z,1.2nm,0.4s,mb4.2,baz=204,slow=8.5,SNR=8.9						
CN2	**Changchun**	**55.15**	**16**	*e*P	**P**	**02 05 46.5**	**+4.5**
WMQ	**Urumqi**	**55.86**	**342**	P	**P**	**02 05 49.3**	**+2.1**
WMQ				PCP	PcP	02 06 48.3	+2.7
WMQ				PP	PP	02 07 55.3	+3.3
WMQ				S	**S**	**02 13 35.5**	**+3.8**
WMQ				SS	SS	02 17 20.8	+3.1
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,92nm,5.1s						
WMQ				LR	LR		
	comp=N,216nm,17.6s,MS4.4						
WMQ				LR	LR		
	comp=E,162nm,16.5s,MS4.4						
WMQ				LR	LR		
	comp=Z,217nm,18.1s,MS4.3						
KSH	**Kashi**	**56.78**	**331**	*e*P	**P**	**02 05 54.3**	**+0.6**
KSH				*e*PP	PP	02 08 00.8	+0.6
KSH				*e*SCS	ScS	02 15 37.5	-2.1
KSH				AMB	AMB		
	comp=Z,234nm,12.7s						
KSH				LR	LR		
	comp=N,317nm,5.6s						
KSH				LR	LR		
	comp=E,342nm,4.3s						
KSH				LR	LR		
	comp=Z,498nm,5.9s						
SONM	**Songino Array**	**56.81**	**359**	P	**P**	**02 05 54.3**	**+0.4**
	comp=Z,7.9nm,0.8s,mb4.8,baz=174,slow=8.3,SNR=40						
SONM				pP	pP	02 06 04.2	-1.6
	comp=Z,2.1nm,0.5s,baz=180,slow=8.9,SNR=6.5						
SONM				PcP	PcP	02 06 50.2	+0.8
	comp=Z,1.5nm,0.7s,baz=165,slow=5.6,SNR=2.6						
ULN	**Ulaanbaatar**	**56.84**	**359**	*c i*P	**P**	**02 05 54.1**	**0.0**
ULN	**Ulaanbaatar**	**56.84**	**359**	*e*P	**P**	**02 05 53.9**	**-0.2**
	comp=Z,12nm,0.8s,mb5.0						
CASY	**Casey**	**57.01**	**179**	*e*P	**P**	**02 05 54.5**	**-0.9**
	comp=Z,4.0nm,0.9s,mb4.5						
MDJ	**Mudanjiang**	**57.09**	**18**	P	**P**	**02 05 58.3**	**+2.4**
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,40nm,4.4s						
WSAR	**Wadi Sarin**	**57.92**	**305**	P	**P**	**02 06 03.0**	**+1.2**
	comp=Z,2.8nm,0.6s,mb4.5,baz=100,slow=10,SNR=3.4						
WSAR	**Wadi Sarin**	**57.92**	**305**	P	**P**	**02 06 03.0**	**+1.2**
HIA	**Hailar**	**59.17**	**9**	*e*P	**P**	**02 06 08.6**	**-1.9**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
HIA	**Hailar**	**59.17**	**9**	*e*P	**P**	**02 06 08.6**	**-1.9**
	comp=Z,4.6nm,0.3s,mb5.0						
ZAK	**Zakamensk**	**59.48**	**357**	*e*P	**P**	**02 06 12.4**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
TKM2	**Tokmak 2**	**59.63**	**333**	P	**P**	**02 06 12.7**	**-0.9**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
AAK	**Ala-Archa**	**59.91**	**332**	⇓*e*P	**P**	**02 06 15.1**	**-0.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
AAK	**Ala-Archa**	**59.91**	**332**	*e*P	**P**	**02 06 14.9**	**-0.7**
	comp=Z,2.9nm,0.7s,mb4.4						
MK31	**Makanchi Array**	**60.23**	**340**	P	**P**	**02 06 16.8**	**-1.0**
MK31				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
MKAR	**Makanchi Array**	**60.23**	**340**	P	**P**	**02 06 17.6**	**-0.2**
	comp=Z,14nm,0.6s,mb5.2,baz=138,slow=7.1,SNR=95						
MKAR				pP	pP	02 06 27.7	-2.0
	comp=Z,3.7nm,0.5s,baz=139,slow=7.6,SNR=6.2						
MKAR	**Makanchi Array**	**60.23**	**340**	P	**P**	**02 06 17.6**	**-0.2**
MKAR				pP	pP	02 06 27.7	-2.0
KLR	**Kul'dur**	**61.88**	**18**	*e*P	**P**	**02 06 24.3**	**-4.6**
YSS	**Yuzh-Sakhalins**	**64.00**	**26**	P	**P**	**02 06 43.6**	**+0.6**
KURK	**Kurchatov**	**64.84**	**340**	*e*P	**P**	**02 06 48.2**	**-0.4**
KURK				*e*	pP	02 07 00.2	-0.4
KURK				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
KURK	**Kurchatov**	**64.84**	**340**	*e*P	**P**	**02 06 48.2**	**-0.4**
	comp=Z,22nm,0.9s,mb5.2						
KURK				*e*	pP	02 07 00.2	-0.3
MAW	**Mawson**	**65.49**	**197**	*e*P	**P**	**02 06 53.6**	**+0.8**
	comp=Z,4.5nm,0.8s,mb4.5						
MAW	**Mawson**	**65.49**	**197**	P	**P**	**02 06 53.3**	**+0.6**
	comp=Z,7.2nm,0.9s,mb4.7,baz=52,slow=7.3,SNR=14						
MAW				pP	pP	02 07 03.7	-1.0
	comp=Z,3.4nm,0.7s,baz=73,slow=7.7,SNR=4.7						
MAW	**Mawson**	**65.49**	**197**	*e*P	**P**	**02 06 53.6**	**+0.8**
MAW				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BOD	**Bodaibo**	**66.99**	**4**	*e*P	**P**	**02 06 59.8**	**-2.6**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
BVA0	**Borovoye Array**	**69.71**	**337**	*i* P	**P**	**02 07 19.1**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
BVAR	**Borovoye Array**	**69.71**	**337**	P	**P**	**02 07 19.1**	**-0.3**
	comp=Z,6.2nm,0.6s,mb4.7,baz=146,slow=9.2,SNR=31						
NAY	**Al-Naaiem**	**69.72**	**306**	*e*P	**P**	**02 07 18.9**	**-0.5**
NAY				AMb	AMB	02 07 20.0	
	comp=Z,8.2nm,0.8s,mb4.7						
BRVK	**Borovoye**	**69.78**	**337**	*e*P	**P**	**02 07 19.2**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
BRVK	**Borovoye**	**69.78**	**337**	*e*P	**P**	**02 07 19.2**	**-0.6**
	comp=Z,3.9nm,0.7s,mb4.5						
MIB	**Mutribah**	**69.87**	**306**	*e*P	**P**	**02 07 20.2**	**-0.1**
MIB				AMb	AMB	02 07 22.0	
	comp=Z,15nm,0.9s,mb4.9						
RST	**Umm Al-Ruwaisa**	**70.02**	**306**	*e*P	**P**	**02 07 20.5**	**-0.7**
RST				AMb	AMB	02 07 22.0	
	comp=Z,30nm,0.7s,mb5.3						
CHKZ	**Chkalovo**	**70.13**	**338**	*e*P	**P**	**02 07 21.6**	**-0.3**
CHKZ				*e*	pP	02 07 32.4	-1.6
CHKZ				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
CHKZ	**Chkalovo**	**70.13**	**338**	*e*P	**P**	**02 07 21.6**	**-0.4**
	comp=Z,13nm,0.6s,mb5.0						
CHKZ				*e*	pP	02 07 32.4	-1.7
ZRNK	**Zerenda**	**70.20**	**336**	*e*P	**P**	**02 07 21.7**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
ZRNK	**Zerenda**	**70.20**	**336**	*e*P	**P**	**02 07 21.7**	**-0.7**
	comp=Z,9.1nm,0.8s,mb4.8						
KMBO	**Kilima Mbogo**	**70.63**	**272**	P	**P**	**02 07 26.3**	**+1.3**
	comp=Z,1.0nm,0.6s,mb4.0,baz=24,slow=12,SNR=4.6						
KMBO	**Kilima Mbogo**	**70.63**	**272**	⇑*e*P	**P**	**02 07 27.8**	**+2.8**
AB31	**Akbulak array**	**71.72**	**329**	*i* P	**P**	**02 07 30.9**	**-0.7**
AB31				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.0						
YAK	**Yakutsk**	**73.05**	**11**	*e*P	**P**	**02 07 38.3**	**-1.2**
YAK				pmax	pmax		
	comp=N,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
AKTK	**Aktyubinsk**	**73.43**	**329**	P	**P**	**02 07 41.0**	**-0.8**
AKTO	**Aktyubinsk**	**73.43**	**329**	P	**P**	**02 07 41.0**	**-0.8**
	comp=Z,2.3nm,0.8s,mb4.2,baz=118,slow=11,SNR=7.0						
VNDA	**Vanda**	**73.65**	**169**	P	**P**	**02 07 43.6**	**+0.5**
	comp=Z,3.3nm,0.8s,mb4.3,baz=307,slow=6.3,SNR=12						
VNDA	**Vanda**	**73.65**	**169**	*e*P	**P**	**02 07 43.0**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNDA	**Vanda**	**73.65**	**169**	*e*P	**P**	**02 07 43.0**	**-0.1**
	comp=Z,2.9nm,0.8s,mb4.3						
SYO	**Syowa Base**	**73.71**	**200**	⇑*e*P	**P**	**02 07 42.1**	**-1.3**
PET	**Petropavlovsk**	**75.54**	**29**	*e*P	**P**	**02 07 53.4**	**-0.6**
PET				pmax	pmax		
	comp=Z,7.0nm,0.3s,mb5.1						
PET	**Petropavlovsk**	**75.54**	**29**	*e*P	**P**	**02 07 53.4**	**-0.6**
	comp=Z,7.2nm,0.3s,mb5.1						
MA2	**Magadan**	**76.66**	**21**	P	**P**	**02 07 59.5**	**-0.9**
ARU	**Arti**	**76.96**	**334**	⇑*i*P	**P**	**02 08 00.1**	**-1.9**
ARU				*e*	pP	02 08 14.8	+0.5
ARU				*e*		02 10 52.8	
ARU				*e*S	S	02 17 45.7	-1.5
ARU				*e*SS	SS	02 22 41.5	-2.9
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
ARU	**Arti**	**76.96**	**334**	⇑*e*P	**P**	**02 08 00.5**	**-1.5**
ARU				pmax	pmax		
	comp=Z,15nm,1.6s,mb4.7						
ARU	**Arti**	**76.96**	**334**	*e*P	**P**	**02 07 60.0**	**-2.0**
	comp=Z,4.5nm,0.6s,mb4.6						
LSZ	**Lusaka**	**77.68**	**256**	*e*P	**P**	**02 08 07.6**	**+1.5**
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
LSZ	**Lusaka**	**77.68**	**256**	*e*P	**P**	**02 08 07.6**	**+1.5**
	comp=Z,1.7nm,0.5s,mb4.2						
KIV	**Kislovodsk**	**79.06**	**318**	*e*P	**P**	**02 08 15.2**	**+1.5**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
KIV	**Kislovodsk**	**79.06**	**318**	*e*P	**P**	**02 08 14.9**	**+1.2**
	comp=Z,3.5nm,0.4s,mb4.6						
BOSA	**Boshof**	**79.15**	**243**	P	**P**	**02 08 14.9**	**+0.7**
LBTB	**Lobatse**	**79.15**	**246**	*e*P	**P**	**02 08 12.7**	**-1.5**
LBTB				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
LBTB	**Lobatse**	**79.15**	**246**	*e*P	**P

SUMG Summit 113.52 349 PKiKP PKiKP 02 14 46.1 -1.3
WVOR Wild Horse Val 127.63 43 *e*PKiKP PKPdf 02 15 16.2 +1.7
FFC Flin Flon 128.81 22 PKiKP PKPdf 02 15 17.9 +1.2
NVAR Mina Array Bea 129.50 47 PKP PKPdf 02 15 20.6 +2.5
comp=Z,0.2nm,0.5s,baz=268,slow=6.3,SNR=4.0
PLCA Paso Flores 130.28 182 *e*PKiKP PKPdf 02 15 20.3 +0.8
MOOW Moose Ponds 132.00 37 PKPdf PKPdf 02 15 25.1 +2.3
BW06 Boulder Array 133.27 38 PKPdf PKPdf 02 15 26.1 +0.9
PDAR Pinedale Array 133.27 38 PKP PKPdf 02 15 26.9 +1.6
comp=Z,0.3nm,0.5s,baz=68,slow=0.8,SNR=4.4
SMCO Snowmass 136.92 40 PKPdf PKPdf 02 15 31.7 -0.3
TUC Tucson 137.57 52 *e*PKiKP PKPdf 02 15 33.3 +0.1
SDCO Great Sand Dun 138.68 41 *e*PKPdf PKPdf 02 15 36.3 +1.0
CPUP Villa Florida 141.83 202 PKhKP 02 15 39.0
comp=Z,0.8nm,0.6s,baz=34,slow=3.6,SNR=2.6
CPUP PKP PKPdf 02 15 43.6 +2.7
comp=Z,0.7nm,0.4s,baz=95,slow=2.5,SNR=5.3
CPUP Villa Florida 141.83 202 PKP 02 15 39.0
CPUP PKP PKPdf 02 15 43.6 +2.7
AMTX Amarillo 142.85 42 PKPdf PKPdf 02 15 43.9 +1.1
NCB Newcomb 145.34 3 *e*PKPbc PKPbc 02 15 47.9 +0.9
BDFB Brasilia 145.60 224 PKPbc PKPbc 02 15 47.3 -0.5
comp=Z,4.3nm,0.8s,baz=168,slow=5.2,SNR=5.3
CCM Cathedral Cave 146.55 28 *e*PKP2 PKPab 02 15 51.6 -0.2
JCT Junction City 146.67 47 *e*PKP2 PKPab 02 15 53.1 +0.9
BINY Binghamton 146.98 5 *e*PKPbc PKPbc 02 15 52.2 +0.3
ACSO Alum Creek Sta 147.66 16 *e*PKPbc PKPbc 02 15 54.3 +0.5
MIAR Mount Ida 148.07 35 *e*PKP2 PKPbc 02 15 56.3 +1.4
SSPA Standing Stone 148.31 8 *e*PKPbc PKPbc 02 15 56.2 +0.7
WCI Wyandotte Cave 148.45 22 *e*PKP2 PKPbc 02 15 56.7 +0.8
WVT Waverly 149.66 26 *e*PKP2 PKPbc 02 16 00.0 +1.0
HKT Hockley 149.77 44 *e*PKP2 PKPbc 02 15 59.4 +0.2
CPCT Cooper Cave 151.56 21 *e*PKPdf PKPdf 02 15 57.4 +0.2
CPCT *e*PKPbc PKPbc 02 16 04.4 +0.9
CPCT *e*PKPab PKPab 02 16 12.1 0.0
LPAZ La Paz 154.34 189 PKPbc PKPbc 02 16 12.7 +3.1
comp=Z,1.3nm,0.7s,baz=216,slow=6.9,SNR=8.4
LPAZ La Paz 154.34 189 *e*PKPbc PKPbc 02 16 12.5 +2.9
LPAZ *e*PKPab PKPab 02 16 23.4 -0.4
TEIG Tepich 161.00 53 *e*PKPdf PKPdf 02 16 11.2 +1.7

IDC 26 02:02:06.1±2.6, 5659S×2679W, h0km, mb4.1/2, mb1 4.1/2, mb1mx3.6/15, mbtmp4.1/2, Error ellipse: s-maj=90.2km s-min=45.8km az=6.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**50.87**	**305**	P		P	02 11 09.2	+0.5
	0.5nm,0.3s,baz=180,slow=3.0,SNR=5.8							
TORD	**Torodi Ar. Bea**	**73.42**	**29**	P		P	02 13 39.9	-0.2
	1.4nm,0.5s,baz=200,slow=6.3,SNR=68							
SONM	**Songino Array**	**150.54**	**87**	PKPbc		PKPbc	02 21 58.5	-1.2
	0.5nm,0.6s,baz=249,slow=2.5,SNR=3.9							

*MOS **26** 02:17:25.8±0.9, 1990S×6896W, h92km, mb4.7/22, Error ellipse: s-maj=12.6km s-min=8.6km az=100.9*
*ISCJB **26** 02:17:28.0±0.9, 2006S±004×6903W±006, h116km±8km, mb4.5/53, Error ellipse: s-maj=10.1km s-min=6.1km az=118.0*
*IDC **26** 02:17:28.6±0.7, 2008S×6901W, h102km±5km, mb4.2/17, mb1 4.3/18, mb1mx4.3/19, mbtmp4.6/18, MS3.1/3, Ms1 3.1/3, ms1mx2.8/23, Error ellipse: s-maj=18.9km s-min=13.1km az=61.0*
*LDG **26** 02:17:30.5±0.3, 1914S×6858W, h100km, Mb4.5/13, Error ellipse: s-maj=19.7km s-min=5.2km az=52.0*
*BJI **26** 02:17:30.4, 2066S×6808W, h125km, mB5.0*
*NEIC **26** 02:17:31.0±0.8, 2009S×6894W, h129km±7km, mb4.6/49, Error ellipse: s-maj=7.8km s-min=5.1km az=65.0*
NEIC Felt [II] at Huara, Iquique, Pica, Pisagua and Pozo Almonte.

ISC 26 02:17:30.2±0.8, 2009S±004×6899W±006, h121km±7km, h108km±4.1km; pP-P, n164, σ1°05/147, mb4.5/53, 3C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.86**	**12**	P		**Pn**	**02 18 29.9**	**+2.0**
	26nm,0.3s,baz=189,slow=8.7,SNR=501							
LPAZ				S		**Sn**	**02 19 13.4**	**+0.8**
	6.4nm,0.3s,baz=222,slow=13,SNR=3.8							
LPAZ	**La Paz**	**3.86**	**12**	*e*Pn		**Pn**	**02 18 30.0**	**+2.1**
ARE	**Arequipa**	**4.32**	**326**	*e*P		**Pn**	**02 18 29.0**	**-4.9**
ARE				*i*			02 18 35.7	
ARE				*i*	S	**Sn**	**02 19 21.1**	**-2.3**
NNA	**Nana**	**11.03**	**316**	*e*Pn		**Pn**	**02 20 07.1**	**+2.7**
CFAA	**Coronel Fontan**	**11.49**	**177**	P		**Pn**	**02 20 02.6**	**-7.9**
	0.2nm,0.3s,baz=357,slow=14,SNR=12							
CPUP	**Villa Florida**	**12.39**	**122**	P		**Pn**	**02 20 20.9**	**-1.5**
	1.5nm,0.3s,baz=288,slow=12,SNR=40							
CPUP				LR		LR	02 25 29.5	
	comp=Z,44nm,20.0s,baz=281,slow=39							
CPUP	**Villa Florida**	**12.39**	**122**	*e*P		**Pn**	**02 20 20.6**	**-1.8**
CPUP				pmax		pmax		
	comp=Z,50nm,0.7s							
CPUP	**Villa Florida**	**12.39**	**122**	*e*Pn		**Pn**	**02 20 20.6**	**-1.7**
	comp=Z,50nm,0.7s							
SAML	**Samuel**	**12.41**	**28**	*e*Pn		**Pn**	**02 20 20.9**	**-1.8**
	comp=Z,22nm,0.9s							
MDZ	**Mendoza**	**12.75**	**179**	*e*P		**Pn**	**02 20 27.3**	**+0.3**
MDZ				*e*			02 24 08.6	
TRQA	**Tornquist**	**18.91**	**163**	*e*P		**P**	**02 21 39.8**	**-1.6**
	comp=Z,35nm,1.0s							
BDFB	**Brasilia**	**20.45**	**81**	P		**P**	**02 21 58.6**	**+0.6**
	comp=Z,50nm,0.5s,baz=261,slow=9.5,SNR=63							
BAO	**Brasilia Array**	**20.47**	**81**	P		**P**	**02 21 59.5**	**+1.3**
PLCA	**Paso Flores**	**20.62**	**183**	P		**P**	**02 21 58.4**	**-1.6**
	comp=Z,51nm,0.8s,baz=3.4,slow=12,SNR=75							
PLCA	**Paso Flores**	**20.62**	**183**	*e*P		**P**	**02 21 58.0**	**-1.9**
PLCA				pmax		pmax		
	comp=Z,56nm,0.8s							
PLCA	**Paso Flores**	**20.62**	**183**	*e*P		**P**	**02 21 58.0**	**-1.9**
	comp=Z,56nm,0.8s							
VAO	**Valinhos**	**20.69**	**102**	(P)		**P**	**02 21 59.8**	**-0.8**
VAO				*i*			02 22 00.6	
VAO				*i*			02 22 02.7	
VAO				*i*			02 22 09.4	
OTAV	**Otavalo**	**22.22**	**334**	*e*P		**P**	**02 22 19.3**	**+2.4**
	comp=Z,11nm,0.8s,mb4.2							
CAM4	**Nova Friburgo**	**24.73**	**100**	⇓*i*P		**P**	**02 22 41.6**	**+1.3**
CAM4				*i*			02 22 42.6	
CAM4				*i*			02 22 45.4	
CAM4				*i*			02 22 47.7	
CAM4				*i*			02 22 54.4	
ROSC	**El Rosal**	**25.33**	**347**	P		**P**	**02 22 47.3**	**+1.5**
	comp=Z,4.0nm,0.5s,mb4.2,baz=110,slow=12,SNR=5.5							
CAM3	**Guarapari**	**26.68**	**96**	⇓*i*P		**P**	**02 22 59.4**	**+1.6**
CAM3				*i*			02 23 00.7	
CAM3				*i*			02 23 06.5	
SDV	**Santo Domingo**	**28.83**	**357**	P		**P**	**02 23 17.0**	**-0.1**
	comp=Z,11nm,0.5s,mb4.8,baz=14,slow=19,SNR=3.1							
SDV				LR		LR	02 36 15.4	
	comp=Z,44nm,21.3s,baz=193,slow=39							
SDV	**Santo Domingo**	**28.83**	**357**	*e*P		**P**	**02 23 16.5**	**-0.5**
	comp=Z,9.7nm,0.4s,mb4.8							
RCBR	**Riachuelo**	**35.12**	**71**	*e*P		**P**	**02 24 12.4**	**+0.4**
	comp=Z,20nm,0.6s,mb5.1							
SJG	**San Juan**	**38.06**	**4**	*e*P		**P**	**02 24 35.2**	**-1.7**
SJG				pmax		pmax		
	comp=Z,46nm,0.8s							
SJG	**San Juan**	**38.06**	**4**	*e*P		**P**	**02 24 35.1**	**-1.8**
	comp=Z,46nm,0.8s,mb5.4							
CMIG	**Matias Romero**	**44.85**	**324**	P		**P**	**02 25 32.0**	**-0.3**
	comp=Z,1.1nm,0.4s,mb4.0,baz=19,slow=2.5,SNR=5.1							
PLAL	**Pickwick Lake**	**57.69**	**341**	*e*P		**P**	**02 27 06.8**	**-1.2**
	comp=Z,2.3nm,0.6s,mb4.4							
BLA	**Blacksburg**	**58.00**	**349**	*e*P		**P**	**02 27 10.7**	**+0.5**
BLA				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb4.0							
BLA	**Blacksburg**	**58.00**	**349**	*e*P		**P**	**02 27 10.7**	**+0.5**
	comp=Z,0.7nm,0.6s,mb3.9							
ELN	**Prospectdale**	**58.07**	**349**	*e*P		**P**	**02 27 11.3**	**+0.6**
FWV	**Forest Hill**	**58.43**	**349**	*e*P		**P**	**02 27 13.1**	**-0.1**
WVT	**Waverly**	**58.68**	**342**	*e*P		**P**	**02 27 13.5**	**-1.5**
WVT				pmax		pmax		
	comp=Z,19nm,1.1s,mb5.0							
WVT	**Waverly**	**58.68**	**342**	*e*P		**P**	**02 27 13.5**	**-1.4**
	comp=Z,19nm,1.1s,mb5.0							
MIAR	**Mount Ida**	**59.15**	**336**	*e*P		**P**	**02 27 17.3**	**-0.9**
MIAR				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.8							
MIAR	**Mount Ida**	**59.15**	**336**	*e*P		**P**	**02 27 17.3**	**-0.9**
	comp=Z,9.6nm,1.0s,mb4.8							
WCI	**Wyandotte Cave**	**60.24**	**344**	*e*P		**P**	**02 27 24.4**	**-1.2**
WCI				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
WCI	**Wyandotte Cave**	**60.24**	**344**	*e*P		**P**	**02 27 24.4**	**-1.3**
	comp=Z,8.6nm,0.8s,mb4.8							
FVM	**French Village**	**61.17**	**341**	*e*P		**P**	**02 27 31.4**	**-0.6**
FVM				*e**PP		pP	02 28 00.4	-0.7
FVM				pmax		pmax		
	comp=Z,8.0nm,0.3s,mb5.2							
FVM	**French Village**	**61.17**	**341**	*e*P		**P**	**02 27 31.4**	**-0.6**
	comp=Z,8.1nm,0.3s,mb5.2							
FVM				*e*pP		pP	02 28 00.4	-0.7
ACSO	**Alum Creek Sta**	**61.41**	**348**	*e*P		**P**	**02 27 32.6**	**-0.9**
	comp=Z,14nm,1.1s,mb4.9							
CCM	**Cathedral Cave**	**61.50**	**340**	*e*P		**P**	**02 27 32.9**	**-1.3**
CCM				pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.6							
CCM	**Cathedral Cave**	**61.50**	**340**	*e*P		**P**	**02 27 32.9**	**-1.2**
	comp=Z,3.0nm,0.5s,mb4.6							
VNA1	**Neumayer--Stat**	**61.64**	**161**	⇑*i*P		**P**	**02 27 35.3**	**+0.2**
VNA1				*e*			02 27 36.3	
VNA1				*e*			02 27 39.3	
VNA1				*e*		pP	02 28 01.7	-2.6
VNA1				*e*		pP	02 28 04.2	-0.1
ALLY	**Alegheny Colle**	**62.28**	**351**	*e*P		**P**	**02 27 39.3**	**-0.1**
BINY	**Binghamton**	**62.30**	**354**	*e*P		**P**	**02 27 40.0**	**+0.4**
	comp=Z,22nm,1.2s,mb5.1							
SNAA	**Sanae**	**63.64**	**161**	⇑*i*P		**P**	**02 27 47.7**	**-0.7**
SNAA				*e*			02 27 48.8	
SNAA				*e*			02 27 52.5	
SNAA				*e*		pP	02 28 14.3	-3.4
SNAA				*e*		pP	02 28 16.4	-1.3
SNAA	**Sanae**	**63.64**	**161**	*e*P		**P**	**02 27 47.8**	**-0.6**
SNAA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
SNAA	**Sanae**	**63.64**	**161**	*e*P		**P**	**02 27 47.8**	**-0.6**
	comp=Z,7.0nm,0.8s,mb4.5							
NCB	**Newcomb**	**63.92**	**356**	*e*P		**P**	**02 27 50.2**	**0.0**
	comp=Z,8.8nm,1.0s,mb4.5							
LONY	**Lake Ozonia**	**64.59**	**356**	*e*P		**P**	**02 27 54.5**	**-0.1**
FRNY	**Flat Rock**	**64.74**	**356**	*e*P		**P**	**02 27 55.6**	**+0.1**
ANMO	**Albuquerque**	**65.28**	**327**	*e*P		**P**	**02 27 59.5**	**+0.4**
ANMO				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ANMO	**Albuquerque**	**65.28**	**327**	*e*P		**P**	**02 27 59.5**	**+0.4**
	comp=Z,1.1nm,0.7s,mb3.8							
JFWS	**Jewell Farm**	**65.67**	**343**	*e*P		**P**	**02 28 00.3**	**-1.3**
JFWS				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.7							
JFWS	**Jewell Farm**	**65.67**	**343**	*e*P		**P**	**02 28 00.3**	**-1.3**
	comp=Z,8.2nm,0.6s,mb4.7							
LIC	**Lamto**	**68.07**	**74**	*e*P		**P**	**02 28 17.0**	**+0.2**
	comp=Z,13nm,0.7s,mb4.6							
LIC	**Lamto**	**68.07**	**74**	*e*P		**P**	**02 28 17.0**	**+0.2**
	comp=Z,6.5nm,0.7s,mb4.6							
ECSD	**EROS,Sioux Fal**	**68.38**	**339**	*e*P		**P**	**02 28 17.5**	**-1.1**
DBIC	**Dimbokro**	**68.41**	**74**	P		**P**	**02 28 20.0**	**+1.1**
	comp=Z,7.6nm,0.4s,mb4.8,baz=211,slow=6.2,SNR=32							
DBIC				pP		pP	02 28 45.9	-2.7
	comp=Z,6.5nm,0.7s,baz=234,slow=11,SNR=2.6							
DBIC				LR		LR	02 56 41.1	
	comp=Z,30nm,19.8s,baz=171,slow=34							
DBIC	**Dimbokro**	**68.41**	**74**	*e*P		**P**	**02 28 19.4**	**+0.5**
DBIC				pmax		pmax		
	comp=Z,11nm,0.6s							
DBIC	**Dimbokro**	**68.41**	**74**	*e*P		**P**	**02 28 19.4**	**+0.5**
	comp=Z,11nm,0.6s,mb4.9							
SMCO	**Snowmass**	**68.83**	**329**	*e*P		**P**	**02 28 22.7**	**+1.2**
	comp=Z,1.7nm,0.6s,mb4.0							
QSPA	**South Pole Qui**	**70.10**	**180**	⇓*i*P		**P**	**02 28 29.6**	**+0.3**
	comp=Z,8.7nm,0.9s,mb4.6							
CCUT	**Cedar City**	**70.92**	**324**	*e*P		**P**	**02 28 36.6**	**+2.4**
CCUT				*e*pP		pP	02 29 01.0	-3.2
ARUT	**Antelope Range**	**71.14**	**324**	*e*P		**P**	**02 28 37.2**	**+1.6**
RSSD	**Black Hills**	**71.49**	**334**	*e*P		**P**	**02 28 37.9**	**+0.2**
RSSD				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.0							
RSSD	**Black Hills**	**71.49**	**334**	*e*P		**P**	**02 28 37.9**	**+0.2**
	comp=Z,2.1nm,0.8s,mb4.0							
TPNV	**Topopah Spring**	**72.14**	**322**	*e*P		**P**	**02 28 43.2**	**+1.6**
TPNV				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.1							
TPNV	**Topopah Spring**	**72.14**	**322**	*e*P		**P**	**02 28 43.2**	**+1.6**
	comp=Z,2.7nm,0.9s,mb4.1							
PDAR	**Pinedale Array**	**72.85**	**330**	P		**P**	**02 28 47.5**	**+1.6**
	comp=Z,0.3nm,0.5s,mb3.4,baz=135,slow=9.0,SNR=3.3							
HWUT	**Hardware Ranch**	**72.95**	**328**	*e*P		**P**	**02 28 46.8**	**+0.5**
	comp=Z,3.2nm,0.9s,mb4.2							
ULM	**Lac du Bonnet**	**73.95**	**342**	P		**P**	**02 28 51.4**	**-0.8**
	comp=Z,5.5nm,0.7s,mb4.4,baz=146,slow=5.1,SNR=13							
ULM	**Lac du Bonnet**	**73.95**	**342**	*e*P		**P**	**02 28 51.1**	**-1.1**
	comp=Z,5.3nm,0.6s,mb4.5							
NVAR	**Mina Array Bea**	**74.34**	**322**	P		**P**	**02 28 55.9**	**+1.4**
	comp=Z,0.7nm,0.6s,mb3.5,baz=135,slow=7.1,SNR=5.5							
NVAR	**Mina Array Bea**	**74.34**	**322**	P		**P**	**02 28 55.9**	**+1.4**
SCHQ	**Schefferville**	**74.63**	**1**	P		**P**	**02 28 56.1**	**-0.1**
	comp=Z,7.3nm,0.8s,mb4.5,baz=69,slow=18,SNR=16							
SCHQ	**Schefferville**	**74.63**	**1**	*e*P		**P**	**02 28 55.9**	**-0.3**
	comp=Z,11nm,0.9s,mb4.6							
HLID	**Hailey**	**75.81**	**328**	*e*P		**P**	**02 29 04.1**	**+1.1**
	comp=Z,2.3nm,1.0s,mb3.9							
MCMT	**McKenzie Canyo**	**75.97**	**329**	*e*P		**P**	**02 29 05.1**	**+1.3**
TOA0	**Torodi Ar. Sit**	**76.96**	**71**	*e*P		**P**	**02 29 09.8**	**+0.4**
TOA0				*e*pP		pP	02 29 36.5	-3.2
TOA0				*es*P		sP	02 29 47.9	-4.7
TORD	**Torodi Ar. Bea**	**76.96**	**71**	P		**P**	**02 29 09.9**	**+0.5**
	comp=Z,11nm,0.4s,mb4.9,baz=253,slow=5.4,SNR=365							
TORD				pP		pP	02 29 36.8	-3.0
	comp=Z,8.5nm,0.7s,baz=253,slow=5.1,SNR=4.7							
TORD				sP		sP	02 29 48.0	-4.6
	comp=Z,6.1nm,0.7s,baz=249,slow=5.1,SNR=3.0							
SYO	**Syowa Base**	**77.85**	**160**	*e*P		**P**	**02 29 14.2**	**-0.2**
VNDA	**Vanda**	**78.22**	**190**	P		**P**	**02 29 17.4**	**+0.9**
	comp=Z,1.5nm,0.7s,mb3.9,baz=113,slow=2.8,SNR=9.3							
VNDA	**Vanda**	**78.22**	**190**	*e*P		**P**	**02 29 16.8**	**+0.3**
VNDA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
VNDA	**Vanda**	**78.22**	**190**	*e*P		**P**	**02 29 16.8**	**+0.3**
	comp=Z,2.0nm,0.8s,mb3.9							
TSUM	**Tsumeb**	**80.52**	**107**	*e*P		**P**	**02 29 30.6**	**+1.7**
	comp=Z,11nm,1.0s,mb4.6							
FCC	**Fort Churchill**	**81.24**	**347**	*e*P		**P**	**02 29 32.6**	**-0.1**
FCC				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.6							
FCC	**Fort Churchill**	**81.24**	**347**	*e*P		**P**	**02 29 32.6**	**-0.2**
	comp=Z,7.5nm,0.8s,mb4.6							
EDM	**Edmonton**	**82.45**	**335**	*e*P		**P**	**02 29 38.2**	**-0.9**
BOSA	**Boshof**	**84.18**	**118**	P		**P**	**02 29 49.1**	**+1.2**
	comp=Z,1.8nm,0.7s,mb4.0,baz=258,slow=4.6,SNR=4.6							
BOSA	**Boshof**	**84.18**	**118**	*e*P		**P**	**02 29 48.9**	**+1.0**
BOSA				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.1							
BOSA	**Boshof**	**84.18**	**118**	*e*P		**P**	**02 29 48.9**	**+1.0**
	comp=Z,2.3nm,0.7s,mb4.1							
ESDC	**Sonseca Array**	**84.88**	**45**	P		**P**	**02 29 52.8**	**+1.3**
	comp=Z,2.7nm,0.9s,mb4.2,baz=242,slow=4.8,SNR=11							
LBTB	**Lobatse**	**85.68**	**115**	*e*P		**P**	**02 29 56.9**	**+1.5**
LBTB				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
LBTB	**Lobatse**	**85.68**	**115**	*e*P		**P**	**02 29 56.9**	**+1.5**
	comp=Z,3.3nm,0.6s,mb4.4							
MAW	**Mawson**	**85.70**	**163**	P		**P**	**02 29 55.9**	**+0.3**
	comp=Z,1.2nm,0.4s,mb4.2,baz=246,slow=6.5,SNR=3.7							
SJPF	**Ste Jean**	**88.40**	**43**	*e*P		**P**	**02 30 08.5**	**0.0**
	comp=Z,22nm,1.2s,mb4.8							
SJPF	**Ste Jean**	**88.40**	**43**	*e*P		**P**	**02 30 08.5**	**0.0**
SJPF				pmax		pmax		
	comp=Z,11nm,1.2s,mb4.8							
SJPF	**Ste Jean**	**88.40**	**43**	*e*P		**P**	**02 30 08.5**	**0.0**
	comp=Z,11nm,1.2s,mb4.8							
ETSF	**Etsaut**	**88.72**	**43**	*e*P		**P**	**02 30 09.9**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.1							
ETSF	**Etsaut**	**88.72**	**43**	*e*P		**P**	**02 30 09.9**	**-0.1**
ETSF				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb4.0							
ETSF	**Etsaut**	**88.72**	**43**	*e*P		**P**	**02 30 09.9**	**-0.1**
	comp=Z,1.3nm,0.7s,mb4.1							
EPF	**Esparros**	**89.36**	**43**	*e*P		**P**	**02 30 12.8**	**-0.3**
QUIF	**Quistinic**	**89.64**	**38**	*e*P		**P**	**02 30 13.5**	**-0.8**
	comp=Z,3.9nm,0.5s,mb4.5							
QUIF	**Quistinic**	**89.64**	**38**	*e*P		**P**	**02 30 13.5**	**-0.8**
QUIF				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.5							
QUIF	**Quistinic**	**89.64**	**38**	*e*P		**P**	**02 30 13.5**	**-0.8**
	comp=Z,2.0nm,0.5s,mb4.5							
YKA	**Yellowknife Ar**	**89.83**	**341**	P		**P**	**02 30 15.5**	**+0.3**
	comp=Z,3.3nm,0.6s,mb4.6,baz=131,slow=4.7,SNR=21							
SGMF	**Saint Gilles**	**90.16**	**38**	*e*P		**P**	**02 30 16.2**	**-0.6**
LFF	**La Frestale**	**90.52**	**42**	*e*P		**P**	**02 30 18.0**	**-0.5**
	comp=Z,14nm,0.6s,mb5.0							
LFF	**La Frestale**	**90.52**	**42**	*e*P		**P**	**02 30 18.0**	**-0.5**
LFF				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb5.0							
LFF	**La Frestale**	**90.52**	**42**	*e*P		**P**	**02 30 18.0**	**-0.5**
	comp=Z,7.2nm,0.6s,mb5.0							
MTLF	**Montolieu**	**90.72**	**44**	*e*P		**P**	**02 30 18.8**	**-0.6**
	comp=Z,3.5nm,0.8s,mb4.2							
MTLF	**Montolieu**	**90.72**	**44**	*e*P		**P**	**02 30 18.8**	**-0.6**
MTLF				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.3							
MTLF	**Montolieu**	**90.72**	**44**	*e*P		**P**	**02 30 18.8**	**-0.6**
	comp=Z,1.8nm,0.8s,mb4.2							
MFF	**Saint Martin d**	**90.77**	**40**	*e*P		**P**	**02 30 19.0**	**-0.6**
	comp=Z,9.0nm,1.0s,mb4.6							
MFF	**Saint Martin d**	**90.77**	**40**	*e*P		**P**	**02 30 19.0**	**-0.6**
MFF				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.6							
MFF	**Saint Martin d**	**90.77**	**40**	*e*P		**P**	**02 30 19.0**	**-0.6**
	comp=Z,4.5nm,1.0s,mb4.5							
RJF	**Les Rejaudoux**	**91.17**	**42**	*e*P		**P**	**02 30 21.3**	**-0.2**
GRR	**Gorron**	**91.21**	**38**	*e*P		**P**	**02 30 21.1**	**-0.6**
CAF	**Calviac**	**91.34**	**42**	*e*P		**P**	**02 30 21.9**	**-0.4**
	comp=Z,10nm,1.0s,mb4.6							
CAF	**Calviac**	**91.34**	**42**	*e*P		**P**	**02 30 21.9**	**-0.4**
CAF				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.6							
CAF	**Calviac**	**91.34**	**42**	*e*P		**P**	**02 30 21.9**	**-0.4**
	comp=Z,5.2nm,1.0s,mb4.6							
LSZ	**Lusaka**	**91.37**	**107**	P		**P**	**02 30 25.4**	**+3.0**
	comp=Z,0.8nm,0.6s,mb4.0,baz=252,slow=13,SNR=2.2							
LSZ	**Lusaka**	**91.37**	**107**	*e*P		**P**	**02 30 25.0**	**+2.6**
LSZ				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.3							
LSZ	**Lusaka**	**91.37**	**107**	*e*P		**P**	**02 30 25.0**	**+2.6**
	comp=Z,1.8nm,0.8s,mb4.2							
LDF	**La Druitiere**	**91.74**	**38**	*e*P		**P**	**02 30 23.1**	**-1.0**
	comp=Z,4.3nm,0.7s,mb4.5							
LDF	**La Druitiere**	**91.74**	**38**	*e*P		**P**	**02 30 23.1**	**-1.0**
LDF				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.5							
LDF	**La Druitiere**	**91.74**	**38**	*e*P		**P**	**02 30 23.1**	**-1.0**
	comp=Z,2.2nm,0.7s,mb4.5							
TCF	**Toulx Ste Croi**	**92.06**	**41**	*e*P		**P**	**02 30 25.1**	**-0.5**
	comp=Z,5.1nm,0.9s,mb4.5							
TCF	**Toulx Ste Croi**	**92.06**	**41**	*e*P		**P**	**02 30 25.1**	**-0.5**
TCF				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.5							
TCF	**Toulx Ste Croi**	**92.06**	**41**	*e*P		**P**	**02 30 25.1**	**-0.5**
	comp=Z,2.5nm,0.9s,mb4.4							
LASF	**Ste Croix**	**92.11**	**44**	*e*P		**P**	**02 30 25.2**	**-0.6**
AVF	**Avril sur Loir**	**92.99**	**41**	*e*P		**P**	**02 30 29.6**	**-0.3**
SSF	**Saint Saulge**	**93.20**	**41**	*e*P		**P**	**02 30 30.2**	**-0.7**
SMF	**Signal de Mont**	**93.23**	**41**	*e*P		**P**	**02 30 30.6**	**-0.4**
LOR	**Lormes**	**93.51**	**41**	*e*P		**P**	**02 30 31.4**	**-0.9**
	comp=Z,2.5nm,0.7s,mb4.4							
LOR	**Lormes**	**93.51**	**41**	*e*P		**P**	**02 30 31.4**	**-0.9**
LOR				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb4.2							
**LOR

LZH	**Lanzhou**	**26.79**	**21**	*e*P		**P**	**02 28 20.5**	**-0.5**
LZH				AP		pP	02 28 25.5	-5.5
LZH				AMB		AMB		
	comp=Z,13nm,1.0s,mb4.4							
LZH				AMB		AMB		
	comp=Z,84nm,4.0s							
GTA	**Gaotai**	**28.75**	**12**	*e*P		**P**	**02 28 38.8**	**+0.4**
GTA				AMB		AMB		
	comp=Z,3.0nm,0.9s,mb4.0							
MKAR	**Makanchi Array**	**36.27**	**349**	P		**P**	**02 29 44.5**	**+0.3**
	comp=Z,2.5nm,0.7s,mb4.3,baz=167,slow=7.5,SNR=20							
SONM	**Songino Array**	**38.27**	**16**	P		**P**	**02 30 00.7**	**-0.4**
	comp=Z,1.9nm,0.8s,mb3.9,baz=184,slow=12,SNR=13							
SONM				PcP		PcP	02 32 15.8	+1.0
	comp=Z,0.5nm,0.5s,baz=196,slow=4.9,SNR=3.8							
KURK	**Kurchatov**	**40.76**	**347**	*e*P		**P**	**02 30 21.9**	**0.0**
	comp=Z,5.7nm,1.4s,mb4.0							
CN2	**Changchun**	**43.24**	**35**	*e*P		**P**	**02 30 41.0**	**-1.2**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.7							
FITZ	**Fitzroy Crossi**	**44.19**	**131**	P		**P**	**02 30 49.6**	**-0.1**
	comp=Z,1.8nm,0.7s,mb3.9,baz=110,slow=18,SNR=7.3							
BVAR	**Borovoye Array**	**45.06**	**342**	P		**P**	**02 30 57.2**	**+0.5**
	comp=Z,1.6nm,0.7s,mb4.0,baz=128,slow=9.6,SNR=5.7							
BRVK	**Borovoye**	**45.12**	**342**	*e*P		**P**	**02 30 57.0**	**-0.1**
	comp=Z,1.9nm,0.9s,mb3.9							
ZRNK	**Zerenda**	**45.44**	**341**	*e*P		**P**	**02 30 59.8**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.1							
CHKZ	**Chkalovo**	**45.55**	**342**	*e*P		**P**	**02 31 01.2**	**+0.6**
	comp=Z,2.8nm,0.4s,mb4.5							
AKTK	**Aktyubinsk**	**47.94**	**331**	P		**P**	**02 31 20.2**	**+0.9**
AKTO	**Aktyubinsk**	**47.94**	**331**	P		**P**	**02 31 20.2**	**+0.9**
	comp=Z,0.8nm,0.5s,mb4.0,baz=100,slow=12,SNR=4.9							
WRA	**Warramunga Arr**	**51.92**	**127**	P		**P**	**02 31 49.3**	**-0.2**
	comp=Z,2.4nm,0.4s,mb4.5,baz=300,slow=10,SNR=94							
WRAB	**Tennant Creek**	**51.92**	**127**	*e*P		**P**	**02 31 49.0**	**-0.5**
	comp=Z,6.1nm,0.5s,mb4.8							
WB2	**Warramunga Arr**	**51.93**	**127**	*e*P		**P**	**02 31 49.4**	**-0.2**
ASAR	**Alice Springs**	**53.68**	**131**	P		**P**	**02 32 02.6**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.9,baz=308,slow=6.7,SNR=15							
FINES	**FINESS Array B**	**68.71**	**332**	P		**P**	**02 33 45.0**	**+0.7**
	comp=Z,1.0nm,0.6s,mb3.9,baz=106,slow=6.8,SNR=7.3							
ARCES	**ARCESS Array B**	**71.32**	**340**	P		**P**	**02 34 00.8**	**+0.5**
	comp=Z,0.8nm,0.6s,mb3.9,baz=91,slow=6.6,SNR=6.0							
ARCES	**ARCESS Array B**	**71.32**	**340**	P		**P**	**02 34 00.8**	**+0.5**
GERES	**GERESS Array B**	**73.91**	**318**	P		**P**	**02 34 17.5**	**+1.8**
	comp=Z,0.5nm,0.6s,mb3.6,baz=95,slow=6.7,SNR=5.6							
NVAR	**Mina Array Bea**	**122.85**	**28**	PKP		PKPdf	02 41 39.0	+2.4
	comp=Z,0.4nm,0.5s,baz=288,slow=4.3,SNR=4.6							
CPUP	**Villa Florida**	**147.60**	**238**	PKPbc		PKPbc	02 42 29.9	+5.0
	comp=Z,0.7nm,0.6s,baz=105,slow=4.2,SNR=3.2							

IDC 26 02:38:23.0±8.5, 462S×15345E, h151km±58km, mb3.5/3, mb1 3.8/4, mb1mx3.4/14, mbtmp4.1/4, Error ellipse: s-maj=106.0km s-min=52.8km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.85**	**232**	P		Pn	02 40 14.6	+0.3
	6.8nm,0.3s,baz=32,slow=12,SNR=14							
PMG				S		Sn	02 41 42.3	+0.5
	1.5nm,0.3s,baz=212,slow=15,SNR=3.1							
WRA	**Warramunga Arr**	**24.05**	**229**	P		P	02 43 25.0	+0.9
	2.4nm,0.7s,baz=54,slow=9.6,SNR=24							
ASAR	**Alice Springs**	**26.72**	**223**	P		P	02 43 47.9	-0.3
	0.7nm,0.7s,baz=55,slow=8.5,SNR=8.0							
FITZ	**Fitzroy Crossi**	**30.32**	**242**	P		P	02 44 20.5	+0.5
	1.8nm,0.7s,baz=63,slow=11,SNR=7.7							
TORD	**Torodi Ar. Bea**	**150.87**	**289**	PKPbc		PKPbc	02 57 58.4	+0.8
	0.5nm,0.8s,baz=81,slow=1.7,SNR=15							

*IDC **26** 02:39:11.8±0.9, 1517S×17344W, h0km, mb3.9/5, mb1 4.2/6, mb1mx4.0/16, mbtmp4.0/6, MS3.2/2, Ms1 3.2/2, ms1mx2.8/30, Error ellipse: s-maj=51.1km s-min=19.0km az=141.0*

*NEIC **26** 02:39:13.3±0.5, 1510S×17344W, h10km, mb4.2/5, Error ellipse: s-maj=26.5km s-min=10.6km az=138.0*

*ISCJB **26** 02:39:15.2±0.6, 1515S±02×17351W±02, h33km, mb4.0/10, Error ellipse: s-maj=34.0km s-min=12.9km az=94.5*

ISC 26 02:39:17.3±0.6, 1515S±02×17340W±02, h35km, n14, σ0:97/12, mb4.0/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.01**	**53**	Pn	**Pn**	**02 39 45.7**	**-3.0**
	130nm,0.3s,baz=116,slow=22,SNR=86						
AFI				Sn	**Sn**	**02 40 06.1**	**-6.6**
	555nm,0.3s,baz=164,slow=22,SNR=24						
AFI				LR	LR	02 40 18.5	
	comp=Z,369nm,20.2s,baz=274,slow=33						
RAO	**Raoul Island**	**14.65**	**196**	LR	LR	02 46 58.6	
	2.2nm,0.3s,mb4.1,baz=304,slow=3.6,SNR=4.4						
URZ	**Urewera**	**24.51**	**198**	P	**P**	**02 44 32.9**	**-0.4**
	2.2nm,0.3s,mb4.1,baz=304,slow=3.6,SNR=4.4						
WRA	**Warramunga Arr**	**49.87**	**257**	P	**P**	**02 48 07.1**	**0.0**
	0.6nm,1.0s,mb3.6,baz=91,slow=6.8,SNR=6.0						
ASAR	**Alice Springs**	**50.16**	**252**	P	**P**	**02 48 08.1**	**-1.2**
	1.4nm,0.6s,mb4.1,baz=86,slow=8.1,SNR=22						
NVAR	**Mina Array Bea**	**74.15**	**42**	P	**P**	**02 50 51.2**	**+1.1**
	1.2nm,0.7s,mb4.0,baz=234,slow=12,SNR=9.7						
QSPA	**South Pole Qui**	**74.91**	**180**	*e*P	**P**	**02 50 55.1**	**+0.5**
	5.9nm,1.2s,mb4.4						
HLID	**Hailey**	**79.44**	**39**	*e*P	**P**	**02 51 20.8**	**+0.9**
	0.6nm,0.6s,mb3.7						
ANMO	**Albuquerque**	**80.65**	**50**	*e*P	**P**	**02 51 26.2**	**-0.3**
	0.9nm,0.7s,mb3.8						
TPAW	**Teton Pass**	**81.56**	**41**	*e*P	**P**	**02 51 32.1**	**+0.8**
	3.1nm,0.9s,mb4.2						
BW06	**Boulder Array**	**82.09**	**42**	*e*P	**P**	**02 51 34.0**	**-0.1**
	2.6nm,1.2s,mb4.0						
PDAR	**Pinedale Array**	**82.09**	**42**	P	**P**	**02 51 34.5**	**+0.4**
	0.7nm,0.8s,mb3.7,baz=245,slow=1.9,SNR=6.8						
GERES	**GERESS Array B**	**145.87**	**352**	PKPbc	PKPbc	02 58 53.0	+0.1
	0.3nm,0.5s,baz=46,slow=5.7,SNR=3.9						
BRTR	**Keskin Array B**	**145.93**	**321**	PKPbc	PKPbc	02 58 54.4	+1.4
	1.1nm,0.9s,baz=13,slow=6.1,SNR=4.3						

IDC 26 02:41:32.0±4.3, 925S×10884E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.5/16, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=190.7km s-min=25.3km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.53**	**120**	P	Pn	02 45 49.8	-0.3
	0.1nm,0.3s,baz=283,slow=18,SNR=3.9						
ASAR	**Alice Springs**	**27.92**	**124**	P	P	02 47 24.4	+0.6
	0.7nm,0.8s,baz=300,slow=10.0,SNR=4.9						
SONM	**Songino Array**	**56.87**	**358**	P	P	02 51 18.7	+0.2
	0.5nm,0.5s,baz=179,slow=7.1,SNR=5.7						
MKAR	**Makanchi Array**	**60.61**	**339**	P	P	02 51 44.5	0.0
	0.2nm,0.4s,baz=142,slow=7.3,SNR=2.8						

IDC 26 02:42:17.5±19.0, 1671S×17874W, h426km±228km, mb2.8/3, mb1 3.1/3, mb1mx3.0/13, mbtmp3.6/3, Error ellipse: s-maj=274.5km s-min=54.3km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.55**	**258**	P	P	02 49 50.4	+0.9
	0.5nm,0.9s,baz=93,slow=7.9,SNR=5.5						
ASAR	**Alice Springs**	**44.82**	**253**	P	P	02 49 51.4	-0.2
	0.8nm,0.5s,baz=85,slow=8.6,SNR=5.0						
PDAR	**Pinedale Array**	**86.70**	**44**	P	P	02 54 15.2	+0.5
	0.2nm,0.6s,baz=230,slow=5.6,SNR=3.1						
AKASG	**Malin Array Be**	**139.35**	**333**	PKP	PKPdf	03 00 53.0	-1.9
	2.0nm,0.9s,baz=93,slow=6.2,SNR=6.2						
GERES	**GERESS Array B**	**146.37**	**345**	PKPbc	PKPbc	03 01 08.6	-0.7
	0.3nm,0.4s,baz=8.5,slow=2.0,SNR=3.5						

*NEIC **26** 02:44:18.9±0.2, 946S×10828E, h10km, mb4.9/34, Error ellipse: s-maj=8.2km s-min=4.7km az=49.0*

*BJI **26** 02:44:18.9, 950S×10830E, h10km, mB5.0, mb4.9, Ms4.7, Ms2.4*

*ISCJB **26** 02:44:20.2±0.3, 953S±005×10825E±006, h31km, mb4.8/71, MS4.3/9, Error ellipse: s-maj=9.1km s-min=5.3km az=110.9*

*MOS **26** 02:44:20.6±0.9, 945S×10827E, h33km, mb5.1/22, Error ellipse: s-maj=13.2km s-min=7.9km az=117.3*

*IDC **26** 02:44:22.1±0.6, 955S×108.17E, h31km±4km, mb4.4/17, mb1 4.5/18, mb1mx4.4/21, mbtmp4.5/18, ML4.3/1, MS3.8/5, Ms1 3.8/5, ms1mx3.3/31, Error ellipse: s-maj=18.1km s-min=11.8km az=56.0*

ISC 26 02:44:22.4±0.3, 956S±005×10822E±006, h33km, h33km±1.3km: pP-P, n140, σ1♀00/123, mb4.8/71, MS4.3/9, 4C-9D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**2.66**	**34**	⇑*i*P	**Pn**	**02 45 03.8**	**+0.9**
BJII				*i* S	**Sn**	**02 45 18.9**	**-15**
PSI	**Prapat**	**15.38**	**323**	Pn	**Pn**	**02 47 48.7**	**-8.2**
	0.3nm,0.3s,baz=147,slow=13,SNR=3.8						
PSI				LR	LR	02 55 13.3	
	comp=Z,365nm,18.3s,baz=133,slow=43						
MBWA	**Marble Bar**	**15.99**	**137**	*e*Pn	**Pn**	**02 47 59.4**	**-5.4**
	22nm,1.0s						
KULM	**Kulim**	**16.57**	**333**	*e*Pn	**Pn**	**02 48 09.8**	**-2.3**
KKM	**Kota Kinabalu**	**17.43**	**28**	*e*P	**Pn**	**02 48 18.2**	**-4.8**
FITZ	**Fitzroy Crossi**	**18.91**	**119**	*e*P	**Pn**	**02 48 39.0**	**-2.1**
	39nm,0.8s						
FITZ				*e*S	**Sn**	**02 51 57.8**	**-14**
FITZ	**Fitzroy Crossi**	**18.91**	**119**	P	**Pn**	**02 48 41.5**	**+0.5**
	0.7nm,0.3s,baz=277,slow=6.4,SNR=29						
FITZ				S	**Sn**	**02 51 55.3**	**-17**
	0.3nm,0.3s,baz=180,slow=10,SNR=3.2						
FITZ				LR	LR	02 55 19.6	
	comp=Z,206nm,21.1s,baz=310,slow=35						
KAKA	**Kakadu**	**23.97**	**100**	*e*P	**P**	**02 49 32.6**	**-1.1**
	33nm,1.1s,mb4.7						
NWAO	**Narrogin (SRO)**	**24.70**	**162**	P	**P**	**02 49 40.1**	**-0.3**
	17nm,0.9s,mb4.6,baz=328,slow=9.2,SNR=5.3						
NWAO				LR	LR	02 59 32.6	
	comp=Z,265nm,18.2s,MS3.8,baz=209,slow=37						
NST	**Nakhon Sawan**	**26.32**	**342**	P	**P**	**02 49 55.0**	**0.0**
WRA	**Warramunga Arr**	**27.25**	**115**	P	**P**	**02 50 03.7**	**+0.3**
	13nm,1.0s,mb4.4,baz=288,slow=11,SNR=32						
WRAB	**Tennant Creek**	**27.25**	**115**	*e*P	**P**		
WRAB	**Tennant Creek**	**27.25**	**115**	*e*P	**P**	**02 50 03.5**	**+0.1**
	22nm,1.0s,mb4.7						
WB2	**Warramunga Arr**	**27.26**	**115**	*e*P	**P**	**02 50 02.3**	**-1.2**
ASPA	**Alice Springs**	**28.26**	**123**	*e*P	**P**	**02 50 13.0**	**+0.6**
ASAR	**Alice Springs**	**28.26**	**123**	P	**P**	**02 50 12.9**	**+0.4**
	5.6nm,0.7s,mb4.3,baz=294,slow=8.3,SNR=16						
ASAR				Sn	S	02 55 42.0	+46
	1.6nm,0.9s,baz=296,slow=24,SNR=4.8						
ASAR				LR	LR	03 01 00.5	
	comp=Z,152nm,21.1s,MS3.6,baz=305,slow=35						
AS31	**Alice Springs**	**28.26**	**123**	*e*P	**P**	**02 50 13.0**	**+0.5**
QIZ	**Qiongzhong**	**28.45**	**3**	P	**P**	**02 50 15.5**	**+1.3**
QIZ				AP	pP	02 50 25.5	+1.8
QIZ				S	**S**	**02 55 01.5**	**+2.1**
QIZ				AMB	AMB		
	comp=Z,34nm,1.9s,mb4.7						
QIZ				LR	LR		
	comp=E,354nm,18.7s						
QIZ				LR	LR		
	comp=Z,266nm,16.8s,MS3.9						
CM31	**Chiang Mai Arr**	**29.30**	**342**	*e*P	**P**	**02 50 21.4**	**-0.3**
	comp=Z,31nm,0.9s,mb5.0						
CHG	**Chiang Mai**	**29.64**	**342**	⇓P	**P**	**02 50 24.8**	**+0.1**
	comp=Z,50nm,0.9s,mb5.2						
CHTO	**Chiang Mai**	**29.64**	**342**	*e*P	**P**	**02 50 24.9**	**+0.2**
CHTO				*e**PP	pP	02 50 34.8	+0.6
CHTO				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.2						
CHTO	**Chiang Mai**	**29.64**	**342**	*e*P	**P**	**02 50 24.9**	**+0.1**
	comp=Z,44nm,0.9s,mb5.2						
CHTO				*e*pP	pP	02 50 34.8	+0.6
CHRT	**Chiangrai**	**30.40**	**344**	⇓P	**P**	**02 50 32.0**	**+0.5**
	comp=Z,155nm,1.0s,mb5.7						
KMI	**Kunming**	**34.88**	**351**	P	**P**	**02 51 13.3**	**+2.7**
KMI				AMB	AMB		
	comp=Z,24nm,1.1s,mb5.0						
GYA	**Guiyang**	**35.84**	**358**	⇓*i*P	**P**	**02 51 19.3**	**+0.5**
GYA				AP	pP	02 51 23.8	-4.6
GYA				PP	PP	02 52 40.5	0.0
GYA				PCP	PcP	02 53 47.3	+1.5
GYA				S	**S**	**02 56 55.5**	**+1.3**
GYA				SCP	ScP	02 57 31.5	+2.1
GYA				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
GYA				AMB	AMB		
	comp=Z,120nm,4.3s						
GYA				LR	LR		
	comp=N,670nm,15.0s,MS4.7						
GYA				LR	LR		
	comp=E,570nm,14.8s,MS4.7						
GYA				LR	LR		
	comp=Z,560nm,14.6s,MS4.5						
STKA	**Stephens Creek**	**38.05**	**131**	P	**P**	**02 51 37.9**	**+0.2**
	comp=Z,16nm,0.8s,mb4.8,baz=291,slow=9.5,SNR=6.7						
STKA				LR	LR	03 08 07.6	
	comp=Z,212nm,19.1s,MS4.0,baz=25,slow=37						
STKA	**Stephens Creek**	**38.05**	**131**	*e*P	**P**	**02 51 37.6**	**-0.1**
CTA	**Charters Tower**	**38.14**	**110**	*e*P	**P**	**02 51 39.4**	**+1.0**
	comp=Z,6.7nm,0.9s,mb4.4						
CTA	**Charters Tower**	**38.14**	**110**	P	**P**	**02 51 39.4**	**+1.0**
	comp=Z,7.7nm,0.9s,mb4.5,baz=279,slow=10,SNR=5.6						
CTA	**Charters Tower**	**38.14**	**110**	*e*P	**P**	**02 51 39.4**	**+1.0**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CTAO	**Charters Tower**	**38.14**	**110**	*e*P	**P**	**02 51 38.8**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
CTAO	**Charters Tower**	**38.14**	**110**	*e*P	**P**	**02 51 38.8**	**+0.3**
	comp=Z,9.7nm,0.9s,mb4.5						
PMG	**Port Moresby**	**38.40**	**93**	P	**P**	**02 51 42.7**	**+2.2**
	comp=Z,11nm,0.8s,mb4.6,baz=207,slow=4.5,SNR=2.8						
CD2	**Chengdu**	**40.47**	**354**	⇑*i*P	**P**	**02 51 58.0**	**+0.2**
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
JIRN	**Jiri**	**42.71**	**331**	*e*P	**P**	**02 52 16.8**	**+0.6**
	comp=Z,118nm,0.9s,mb5.6						
PKI	**Pulchoki**	**43.02**	**330**	*e*P	**P**	**02 52 18.8**	**+0.1**
	comp=Z,55nm,1.0s,mb5.2						
PKI	**Pulchoki**	**43.02**	**330**	*e*P	**P**	**02 52 18.8**	**+0.1**
PKI				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.2						
GUN	**Gumba**	**43.07**	**330**	*e*P	**P**	**02 52 19.7**	**+0.6**
	comp=Z,102nm,0.8s,mb5.6						
DMN	**Daman**	**43.20**	**329**	*e*P	**P**	**02 52 20.2**	**0.0**
	comp=Z,91nm,0.9s,mb5.5						
KKN	**Kakani**	**43.26**	**330**	*e*P	**P**	**02 52 20.6**	**-0.1**
	comp=Z,91nm,1.0s,mb5.5						
KKN	**Kakani**	**43.26**	**330**	*e*P	**P**	**02 52 20.6**	**-0.1**
KKN				pmax	pmax		
	comp=Z,91nm,1.0s,mb5.5						
XAN	**Xi'an**	**43.36**	**1**	P	**P**	**02 52 21.8**	**+0.3**
XAN				AP	pP	02 52 32.3	+1.0
XAN				AMB	AMB		
	comp=Z,43nm,1.0s,mb5.1						
GKN	**Gorkha**	**43.76**	**329**	*e*P	**P**	**02 52 24.7**	**0.0**
	comp=Z,66nm,0.8s,mb5.4						
KOLN	**Koldanja**	**44.10**	**328**	*e*P	**P**	**02 52 27.6**	**+0.2**
	comp=Z,63nm,0.7s,mb5.4						
LZH	**Lanzhou**	**45.59**	**355**	*e*P	**P**	**02 52 40.0**	**+0.7**
LZH				AP	pP	02 52 46.0	-3.1
LZH				XP	sP	02 52 50.5	-2.5
LZH				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,74nm,4.0s						
GTA	**Gaotai**	**49.34**	**351**	*e*P	**P**	**02 53 09.5**	**+1.1**
GTA				AP	pP	02 53 15.0	-3.3
GTA				XP	sP	02 53 18.3	-3.9
GTA				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.7						
GTA				AMB	AMB		
	comp=Z,108nm,8.4s						
GTA				LR	LR		
	comp=N,143nm,15.6s,MS4.2						
GTA				LR	LR		
	comp=E,182nm,19.0s,MS4.2						
GTA				LR	LR		
	comp=Z,136nm,14.8s,MS4.1						
BJI	**Beijing**	**49.90**	**8**	*e*P	**P**	**02 53 12.5**	**-0.2**
BJI				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.9						
HHC	**Hu-ho-hao-te**	**50.25**	**3**	*e*P	**P**	**02 53 16.8**	**+1.5**
HHC				AP	pP	02 53 26.0	+0.7
HHC				PP	PP	02 55 12.5	+1.7
HHC				PCS	PcS	02 58 31.3	+0.2
HHC				S	**S**	**03 00 23.0**	**-2.5**
HHC				XS	sS	03 00 42.0	+0.2
HHC				AMB	AMB		
	comp=Z,19nm,0.7s,mb5.2						
HHC				AMB	AMB		
	comp=Z,95nm,6.8s						
HHC				LR	LR		
	comp=N,241nm,19.6s,MS4.4						
HHC				LR	LR		
	comp=E,229nm,18.4s,MS4.4						
HHC				LR	LR		
	comp=Z,169nm,16.6s,MS4.1						
MAJO	**Matsushiro**	**53.84**	**30**	*e*P	**P**	**02 53 40.2**	**-1.8**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
MAJO	**Matsushiro**	**53.84**	**30**	*e*P	**P**	**02 53 40.1**	**-1.9**
	comp=Z,4.7nm,0.4s,mb4.8						
MAT	**Matsushiro**	**53.84**	**30**	P	**P**	**02 53 40.0**	**-2.0**
MJAR	**Matsushiro Arr**	**53.84**	**30**	P	**P**	**02 53 40.4**	**-1.6**
	comp=Z,7.7nm,0.8s,mb4.7,baz=202,slow=7.8,SNR=19						
MJAR				pP	pP	02 53 50.2	-1.8
	comp=Z,7.0nm,0.8s,baz=204,slow=7.7,SNR=7.1						
MJAR	**Matsushiro Arr**	**53.84**	**30**	P	**P**	**02 53 40.4**	**-1.6**
MJAR				pP	pP	02 53 50.2	-1.8
WMQ	**Urumqi**	**56.31**	**342**	P	**P**	**02 54 01.8**	**+2.0**
WMQ				PP	PP	02 56 08.5	+3.1
WMQ				S	**S**	**03 01 47.3**	**-0.4**
WMQ				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,117nm,5.4s						
WMQ				LR	LR		
	comp=N,550nm,18.0s,MS4.8						
WMQ				LR	LR		
	comp=E,413nm,16.9s,MS4.8						
WMQ				LR	LR		
	comp=Z,552nm,18.5s,MS4.7						
DZM	**Mont Dzumac**	**57.09**	**110**	LR	LR	03 17 46.7	
	comp=Z,3μm,19.2s,MS5.5,baz=222,slow=35						
SONM	**Songino Array**	**57.16**	**359**	P	**P**	**02 54 06.6**	**+0.7**
	comp=Z,4.2nm,0.7s,mb4.6,baz=170,slow=8.2,SNR=25						
SONM				pP	pP	02 54 17.1	+1.1
	comp=Z,4.6nm,0.7s,baz=171,slow=8.0,SNR=10						
SONM				PcP	PcP	02 55 00.5	+0.2
	comp=Z,2.2nm,0.8s,baz=164,slow=4.5,SNR=4.2						
ULN	**Ulaanbaatar**	**57.18**	**359**	*e*P	**P**	**02 54 05.9**	**-0.2**
ULN				*e**PP	pP	02 54 16.5	+0.4
ULN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
ULN	**Ulaanbaatar**	**57.18**	**359**	*e*P	**P**	**02 54 05.9**	**-0.1**
	comp=Z,8.0nm,0.8s,mb4.8						
ULN				*e*pP	pP	02 54 16.5	+0.4
MDJ	**Mudanjiang**	**57.29**	**18**	P	**P**	**02 54 07.8**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,89nm,5.6s						
WSAR	**Wadi Sarin**	**58.44**	**305**	P	**P**	**02 54 19.5**	**+4.6**
	comp=Z,5.8nm,0.8s,mb4.7,baz=209,slow=10,SNR=2.6						
WSAR	**Wadi Sarin**	**58.44**	**305**	P	**P**	**02 54 19.5**	**+4.6**
ZAK	**Zakamensk**	**59.84**	**356**	*e*P	**P**	**02 54 24.3**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
AAK	**Ala-Archa**	**60.39**	**332**	⇓*i*P	**P**	**02 54 29.6**	**+1.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
AAK	**Ala-Archa**	**60.39**	**332**	*e*P	**P**	**02 54 29.3**	**+0.9**
	comp=Z,2.9nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**60.69**	**340**	P	**P**	**02 54 30.1**	**-0.3**
	comp=Z,12nm,0.8s,mb5.1,baz=134,slow=6.9,SNR=76						
MOY	**Mondy**	**61.30**	**355**	*e*P	**P**	**02 54 39.5**	**+5.0**
KLR	**Kul'dur**	**62.09**	**17**	*e*P	**P**	**02 54 35.2**	**-4.6**
YSS	**Yuzh-Sakhalins**	**64.13**	**26**	⇑*e*P	**P**	**02 54 53.7**	**+0.3**
YSS				pmax	pmax		
	comp=Z,58nm,1.9s,mb5.3						
MAW	**Mawson**	**65.29**	**197**	P	**P**	**02 55 00.1**	**-0.8**
	comp=Z,2.7nm,0.7s,mb4.4,baz=79,slow=5.3,SNR=7.8						
MAW				pP	pP	02 55 09.6	-1.6
	comp=Z,3.3nm,0.6s,baz=66,slow=5.3,SNR=5.0						
KURK	**Kurchatov**	**65.30**	**340**	*e*P	**P**	**02 55 00.7**	**-0.3**
KURK				*e**PP	pP	02 55 11.3	+0.1
KURK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
KURK	**Kurchatov**	**65.30**	**340**	*e*P	**P**	**02 55 00.7**	**-0.3**
	comp=Z,13nm,1.0s,mb4.9						
KURK				*e*pP	pP	02 55 11.3	+0.1
BOD	**Bodaibo**	**67.31**	**3**	*e*P	**P**	**02 55 12.8**	**-1.1**
BOD				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
NAY	**Al-Naaiem**	**70.25**	**306**	*e*P	**P**	**02 55 31.2**	**-1.0**
NAY				AMb	AMB	02 55 33.0	
	comp=Z,10nm,1.0s,mb4.7						
BRVK	**Borovoye**	**70.25**	**337**	*e*P	**P**	**02 55 31.5**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BRVK	**Borovoye**	**70.25**	**337**	*e*P	**P**	**02 55 31.5**	**-0.7**
	comp=Z,2.7nm,0.7s,mb4.3						
**MIB

KIV	**Kislovodsk**	**79.58**	**318**	*e*P		**P**		**02 56 26.3**	**+0.3**
	comp=Z,7.5nm,0.9s,mb4.6								
ASF	**Jabal al Asfar**	**79.60**	**305**	P		**P**		**02 56 26.8**	**+0.6**
	comp=Z,2.7nm,0.8s,mb4.2,baz=134,slow=4.1,SNR=5.3								
MALT	**Malatya**	**80.43**	**312**	*e*P		**P**		**02 56 31.1**	**+0.4**
MALT				pmax	pmax				
	comp=Z,2.0nm,0.4s,mb4.4								
MALT	**Malatya**	**80.43**	**312**	*e*P		**P**		**02 56 31.1**	**+0.4**
	comp=Z,2.3nm,0.4s,mb4.5								
QSPA	**South Pole Qui**	**80.44**	**180**	*e*P		**P**		**02 56 29.8**	**-1.0**
	comp=Z,6.6nm,1.1s,mb4.5								
EIL	**Elat**	**80.45**	**302**	*e*P		**P**		**02 56 31.3**	**+0.5**
	comp=Z,70nm,0.8s,mb5.6								
EIL				*e*pP		pP		02 56 42.0	+0.7
VRHR	**Novokhopersk**	**83.16**	**324**	*e*P		**P**		**02 56 44.7**	**-0.4**
VRHR				pmax	pmax				
	comp=Z,20nm,0.7s,mb5.3								
VRHR				pmax	pmax				
	comp=N,10.0nm,1.0s								
VRHR				pmax	pmax				
	comp=E,30nm,0.8s								
CSS	**Prodhromos**	**83.28**	**307**	*e*P		**P**		**02 56 46.8**	**+1.2**
	comp=E,15nm,0.9s,mb5.0								
ANN	**Anapa**	**83.38**	**317**	*e*P		**P**		**02 56 39.4**	**-6.8**
ANN				pmax	pmax				
	comp=Z,116nm,7.5s								
BR131	**Keskin Array S**	**84.42**	**312**	*e*P		**P**		**02 56 51.5**	**0.0**
	comp=Z,3.7nm,0.7s,mb4.6								
BR131				*e*pP		pP		02 57 02.0	0.0
BRTR	**Keskin Array B**	**84.42**	**312**	P		**P**		**02 56 51.9**	**+0.3**
	comp=Z,4.1nm,1.1s,mb4.5,baz=134,slow=7.1,SNR=18								
BRTR				pP		pP		02 57 02.4	+0.4
	comp=Z,3.5nm,0.7s,baz=134,slow=8.3,SNR=10.0								
VRSR	**Storozhevoye**	**84.62**	**324**	*d* iP		**P**		**02 56 51.9**	**-0.6**
VRSR				pmax	pmax				
	comp=Z,20nm,0.9s,mb5.2								
VRSR				pmax	pmax				
	comp=N,10.0nm,1.0s								
VRSR				pmax	pmax				
	comp=E,20nm,0.9s								
SNAA	**Sanae**	**87.45**	**197**	*e*P		**P**		**02 57 07.1**	**+0.6**
SNAA				pmax	pmax				
	comp=Z,4.0nm,1.1s								
SNAA	**Sanae**	**87.45**	**197**	*e*P		**P**		**02 57 07.0**	**+0.5**
	comp=Z,4.0nm,1.1s,mb4.6								
TSUM	**Tsumeb**	**87.50**	**251**	*e*P		**P**		**02 57 09.2**	**+2.5**
	comp=Z,3.3nm,1.0s,mb4.5								
OBN	**Obninsk**	**87.51**	**327**	*de*P		**P**		**02 57 06.6**	**-0.2**
OBN				*e*				03 00 28.2	
OBN				*e*SS		SS		03 13 30.8	-0.6
OBN				pmax	pmax				
	comp=Z,40nm,1.5s,mb5.4								
OBN	**Obninsk**	**87.51**	**327**	*e*P		**P**		**02 57 06.5**	**-0.3**
	comp=Z,14nm,0.6s,mb5.4								
AKASG	**Malin Array Be**	**90.43**	**321**	P		**P**		**02 57 19.6**	**-0.9**
	comp=Z,0.1nm,0.2s,mb3.7,baz=90,slow=4.4,SNR=4.4								
AKASG				pP		pP		02 57 30.4	-0.7
	comp=Z,0.6nm,0.5s,baz=85,slow=4.9,SNR=3.9								
MLR	**Muntele Rosu**	**91.37**	**316**	P		**P**		**02 57 23.1**	**-1.8**
	comp=Z,1.4nm,0.6s,mb4.5,baz=198,slow=9.6,SNR=3.6								
FINES	**FINESS Array B**	**94.58**	**331**	P		**P**		**02 57 39.1**	**-0.6**
	comp=Z,1.6nm,0.9s,mb4.5,baz=101,slow=7.4,SNR=3.1								
ARCES	**ARCESS Array B**	**96.34**	**339**	P		**P**		**02 57 47.0**	**-0.8**
	comp=Z,3.1nm,0.9s,mb4.8,baz=59,slow=10.0,SNR=3.9								
ARCES	**ARCESS Array B**	**96.34**	**339**	P		**P**		**02 57 47.0**	**-0.8**
NVAR	**Mina Array Bea**	**129.43**	**48**	PKP		PKPdf		03 03 30.5	+2.9
	comp=Z,0.5nm,0.8s,baz=240,slow=5.1,SNR=2.9								
FRNY	**Flat Rock**	**144.82**	**2**	*e*PKPdf		PKPdf		03 03 55.2	-0.6
FRNY				*e*pPKPdf		pPKPdf		03 04 05.6	-1.1
MIV	**Mineville/With**	**145.58**	**2**	*e*PKPbc		PKPbc		03 03 57.9	+0.5
MIV				*e*pPKPdf		pPKPdf		03 04 08.0	0.0
BDFB	**Brasilia**	**145.63**	**223**	PKPbc		PKPbc		03 03 59.7	+2.1
	comp=Z,4.1nm,0.8s,baz=150,slow=8.1,SNR=2.5								
NCB	**Newcomb**	**145.66**	**3**	*e*PKPbc		PKPbc		03 03 58.3	+0.7
NCB				*e*pPKPdf		pPKPdf		03 04 08.5	+0.3
ACCN	**Adirondack Com**	**146.27**	**2**	*e*PKPbc		PKPbc		03 03 59.5	+0.1
ACCN				*e*pPKPdf		pPKPdf		03 04 10.1	+0.9
JCT	**Junction City**	**146.61**	**47**	*e*PKP2		PKPab		03 04 02.4	+0.8
CCM	**Cathedral Cave**	**146.66**	**29**	*e*PKPbc		PKPbc		03 04 01.0	+0.4
CCM				*e*pPKPdf		pPKPdf		03 04 11.4	+1.6
FVM	**French Village**	**147.10**	**28**	*e*PKPbc		PKPbc		03 04 02.3	+0.4
FVM				*e*pPKPdf		pPKPdf		03 04 12.8	+2.2
BINY	**Binghamton**	**147.28**	**6**	*e*PKPbc		PKPbc		03 04 02.9	+0.5
BINY				*e*pPKPdf		pPKPdf		03 04 13.7	+2.8
MIAR	**Mount Ida**	**148.12**	**35**	*e*PKPbc		PKPbc		03 04 06.3	+1.7
MIAR				*e*pPKPdf		pPKPdf		03 04 14.7	+2.4
SSPA	**Standing Stone**	**148.58**	**9**	*e*PKPbc		PKPbc		03 04 06.7	+0.8
SSPA				*e*				03 04 17.1	
WCI	**Wyandotte Cave**	**148.62**	**22**	*e*PKIKP		PKPdf		03 04 03.1	+0.9
WCI				*e*				03 04 06.6	
WCI				*e*				03 04 16.7	
MVL	**Millersville**	**149.42**	**7**	*e*PKPbc		PKPbc		03 04 08.6	+0.7
MVL				*e*				03 04 18.9	
WVT	**Waverly**	**149.79**	**26**	*e*PKPbc		PKPbc		03 04 09.8	+0.9
WVT				*e*				03 04 20.5	
PLAL	**Pickwick Lake**	**150.64**	**28**	*e*PKPbc		PKPbc		03 04 11.3	+0.3
PLAL				*e*				03 04 21.6	
ELN	**Prospectdale**	**151.29**	**15**	*e*PKPbc		PKPbc		03 04 12.7	+0.3
BLA	**Blacksburg**	**151.39**	**14**	*e*PKIKP		PKPbc		03 04 13.5	+0.8
BLA				*e*				03 04 20.5	
CPCT	**Cooper Cave**	**151.73**	**22**	*e*PKPbc		PKPbc		03 04 14.9	+1.4
CPCT				*e*PKPab		PKPab		03 04 22.7	+0.3
MYNC	**Murphy**	**152.21**	**22**	*e*PKIKP		PKPbc		03 04 15.5	+0.9
MYNC				*e*				03 04 24.4	
LRAL	**Lakeview Retre**	**152.75**	**29**	*e*PKPbc		PKPbc		03 04 18.3	+2.5
LRAL				*e*PKPab		PKPab		03 04 26.1	-0.5
GOGA	**Godfrey**	**153.94**	**23**	*e*PKIKP		PKPbc		03 04 19.5	+1.2
GOGA				*e*				03 04 29.6	
LPAZ	**La Paz**	**154.06**	**188**	PKPbc		PKPbc		03 04 21.6	+2.9
	comp=Z,0.5nm,0.7s,baz=214,slow=7.3,SNR=3.9								

***IDC* 26 02:45:13.3±17.0, 1777S×17862W, h548km±241km, mb3.1/3, mb1 3.4/3, mb1mx3.1/13, mbtmp4.0/3, Error ellipse: s-maj=346.6km s-min=61.4km az=161.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.46**	**259**	P	P	02 52 36.3	+0.3
	0.6nm,0.4s,baz=94,slow=6.6,SNR=5.4						
ASAR	**Alice Springs**	**44.64**	**254**	P	P	02 52 37.5	+0.2
	6.4nm,0.5s,baz=88,slow=8.3,SNR=31						
PDAR	**Pinedale Array**	**87.39**	**44**	P	P	02 57 02.8	+0.3
	0.3nm,0.6s,baz=191,slow=3.0,SNR=4.2						
GERES	**GERESS Array B**	**147.43**	**345**	PKPbc	PKPbc	03 03 55.3	-0.5
	0.6nm,0.5s,baz=4.6,slow=3.3,SNR=6.1						

ISCJB ***26*** *02:50:10.2±1.0, 4637N±004×207W±006, h9km±8km, Error ellipse: s-maj=8.9km s-min=3.8km az=89.7*
LDG ***26*** *02:50:12.9±0.2, 4634N×209W, h6km, Ml2.2/12, Error ellipse: s-maj=3.7km s-min=1.6km az=42.0*
STR ***26*** *02:50:14.6±0.5, 4630N×195W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 26 02:50:11.6±0.9, 4634N±004×208W±006, h16km±7km, n17, σ1§03/29, Bay of Biscay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRYF	**La Roche-sur-Y**	**0.44**	**57**	Pg	**Pg**	**02 50 22.0**	**+1.5**
LRYF				Sg	**Sg**	**02 50 28.2**	**+1.8**
LCHF	**La Chataignera**	**0.98**	**70**	Pg	**Pg**	**02 50 31.8**	**+1.2**
LCHF				Sg	**Sg**	**02 50 44.5**	**+1.0**
CHIF	**Chize**	**1.18**	**100**	Pg	**Pg**	**02 50 35.4**	**+1.1**
CHIF				Sg	**Sg**	**02 50 50.0**	**+0.3**
MFF	**Saint Martin d**	**1.36**	**78**	*e*Pn	**Pn**	**02 50 36.6**	**+0.7**
MFF	**Saint Martin d**	**1.36**	**78**	*e*Pg	**Pg**	**02 50 38.4**	**+0.6**
MFF				*e*Sg	**Sg**	**02 50 56.3**	**+0.7**
QUIF	**Quistinic**	**1.74**	**335**	*e*Pg	**Pg**	**02 50 45.3**	**+0.2**
QUIF				*e*Sg	**Sg**	**02 51 08.2**	**+0.4**
	1.9nm,0.2s						
SGMF	**Saint Gilles**	**1.94**	**351**	*e*Pg	**Pg**	**02 50 48.9**	**0.0**
SGMF				*e*Sg	**Sg**	**02 51 13.6**	**-0.5**
	2.0nm,0.2s						
ROSF	**Rostrenen**	**2.16**	**338**	*e*Pn	**Pn**	**02 50 48.0**	**+1.2**
ROSF	**Rostrenen**	**2.16**	**338**	*e*Pg	**Pg**	**02 50 52.6**	**-0.4**
ROSF				*e*Sg	**Sg**	**02 51 20.0**	**-1.0**
	1.0nm,0.2s						
GRR	**Gorron**	**2.21**	**22**	*e*Sg	**Sg**	**02 51 22.3**	**-0.4**
	1.4nm,0.2s						
LFF	**La Frestale**	**2.42**	**124**	*e*Sn	**Sn**	**02 51 19.5**	**-0.3**
	7.1nm,0.6s						
LFF				*e*Sg	**Sg**	**02 51 29.8**	**+0.3**
	27nm,1.2s						
LDF	**La Druitiere**	**2.62**	**30**	*e*Pg	**Pg**	**02 51 01.3**	**-0.5**
LDF				*e*Sg	**Sg**	**02 51 34.3**	**-1.4**
	1.4nm,0.2s						
FLN	**La Foliniere**	**2.65**	**23**	*e*Pg	**Pg**	**02 51 01.7**	**-0.8**
FLN				*e*Sg	**Sg**	**02 51 36.4**	**-0.5**
	1.3nm,0.2s						
RJF	**Les Rejaudoux**	**2.72**	**111**	*e*Sg	**Sg**	**02 51 37.1**	**-1.9**
	2.9nm,0.2s						
TCF	**Toulx Ste Croi**	**2.97**	**89**	*e*Pn	**Pn**	**02 50 58.9**	**+0.9**
TCF	**Toulx Ste Croi**	**2.97**	**89**	*e*Pg	**Pg**	**02 51 08.5**	**-0.1**
	1.1nm,0.3s						
TCF				*e*Sg	**Sg**	**02 51 44.3**	**-2.8**
CAF	**Calviac**	**3.23**	**114**	*e*Pg	**Pg**	**02 51 12.5**	**-1.0**
CAF				*e*Sg	**Sg**	**02 51 52.8**	**-2.6**
	1.7nm,0.2s						

LDG ***26*** *02:50:27.9±0.1, 1471S×16696E, h100km, Mb4.0/1, Ms4.1/1, Error ellipse: s-maj=24.1km s-min=2.6km az=88.0*
ISCJB ***26*** *02:50:28.1±2.4, 150S±0.1×1670E±02, h116km±25km, mb4.1/9, Error ellipse: s-maj=31.5km s-min=21.3km az=30.3*
IDC ***26*** *02:50:28.1±6.0, 1492S×167.11E, h109km±55km, mb4.0/7, mb1 4.0/8, mb1mx3.9/15, mbtmp4.3/8, MS2.8/1, Ms1 2.8/1, ms1mx2.4/28, Error ellipse: s-maj=44.2km s-min=33.1km az=157.0*
NEIC ***26*** *02:50:29.0±2.9, 1492S×167.12E, h120km±25km, mb4.2/2, Error ellipse: s-maj=26.5km s-min=20.4km az=179.0*

ISC 26 02:50:29.3±2.3, 150S±01×1671E±02, h118km±24km, n39, σ0§60/13, mb4.1/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.88**	**158**	*i* P	**Pn**	**02 51 13.8**	**-0.2**
DZM	**Mont Dzumac**	**7.08**	**185**	P	**Pn**	**02 52 10.9**	**+0.6**
	1.9nm,0.3s,baz=53,slow=17,SNR=17						
DZM				S	**Sn**	**02 53 28.9**	**-0.4**
	0.4nm,0.3s,baz=108,slow=19,SNR=2.3						
HNR	**Honiara**	**8.92**	**307**	LR	LR	02 55 06.2	
	comp=Z,61nm,20.7s,baz=358,slow=31						
STKA	**Stephens Creek**	**28.72**	**230**	P	**P**	**02 56 17.1**	**+1.7**
	12nm,0.7s,mb4.7,baz=41,slow=7.9,SNR=21						
STKA	**Stephens Creek**	**28.72**	**230**	*e*P	**P**	**02 56 16.9**	**+1.4**
WRA	**Warramunga Arr**	**31.63**	**256**	P	**P**	**02 56 40.7**	**-0.4**
	1.6nm,0.7s,mb3.9,baz=88,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**32.45**	**249**	P	**P**	**02 56 48.0**	**-0.3**
	2.5nm,0.7s,mb4.0,baz=82,slow=9.4,SNR=9.2						
FITZ	**Fitzroy Crossi**	**39.83**	**260**	P	**P**	**02 57 50.5**	**-0.5**
	1.9nm,0.7s,mb4.0,baz=116,slow=13,SNR=3.8						
MBWA	**Marble Bar**	**45.34**	**255**	*e*P	**P**	**02 58 36.1**	**+0.5**
	3.3nm,0.7s,mb4.2						
NWAO	**Narrogin (SRO)**	**48.50**	**239**	P	**P**	**02 58 59.5**	**-0.6**
	8.2nm,0.8s,mb4.6,baz=20,slow=10,SNR=3.2						
QSPA	**South Pole Qui**	**75.05**	**180**	*e*P	**P**	**03 01 58.0**	**0.0**
	4.6nm,1.0s,mb4.2						
SONM	**Songino Array**	**82.61**	**324**	P	**P**	**03 02 39.8**	**+0.4**
	0.4nm,0.4s,mb3.6,baz=139,slow=4.9,SNR=4.2						
MKAR	**Makanchi Array**	**97.29**	**316**	P	**P**	**03 03 48.5**	**-0.4**
	0.4nm,0.6s,mb4.1,baz=73,slow=9.0,SNR=4.5						
ARCES	**ARCESS Array B**	**120.46**	**345**	PKP	PKPdf	03 09 05.0	-1.9
	3.3nm,0.9s,baz=68,slow=3.3,SNR=6.5						
CABF	**La Chapelle**	**144.70**	**337**	*e*PKP1	PKPdf	03 09 51.6	-0.5
	11nm,0.8s						
LOR	**Lormes**	**144.93**	**340**	*e*PKP1	PKPdf	03 09 51.9	-0.6
	16nm,1.0s						
SSF	**Saint Saulge**	**145.22**	**340**	*e*PKP1	PKPbc	03 09 52.7	-0.2
	24nm,0.8s						
GRR	**Gorron**	**145.24**	**346**	*e*PKP1	PKPbc	03 09 52.5	-0.5
SMF	**Signal de Mont**	**145.48**	**340**	*e*PKP1	PKPbc	03 09 53.2	-0.5
	13nm,0.9s						
AVF	**Avril sur Loir**	**145.51**	**340**	*e*PKP1	PKPbc	03 09 53.1	-0.7
	7.4nm,0.9s						
SGMF	**Saint Gilles**	**145.75**	**348**	*e*PKP1	PKPbc	03 09 53.9	-0.6
	9.7nm,0.7s						
ROSF	**Rostrenen**	**145.81**	**349**	*e*PKP1	PKPbc	03 09 54.1	-0.6
BGF	**Bois d'Agland**	**145.88**	**341**	*e*PKP1	PKPbc	03 09 54.0	-0.9
	11nm,0.5s						
QUIF	**Quistinic**	**146.19**	**348**	*e*PKP1	PKPbc	03 09 55.0	-0.8
TCF	**Toulx Ste Croi**	**146.32**	**341**	*e*PKP1	PKPbc	03 09 55.7	-0.5
	9.0nm,0.8s						
SBF	**Sospel**	**146.41**	**333**	*e*PKP1	PKPbc	03 09 55.6	-0.9
PGF	**Pioggiola**	**146.70**	**330**	*e*PKP1	PKPbc	03 09 56.4	-0.9
	12nm,0.8s						
FRF	**La Foret Royal**	**146.99**	**334**	*e*PKP1	PKPbc	03 09 57.3	-0.8
	15nm,0.9s						
SMRF	**Simiane la Rot**	**147.10**	**335**	*e*PKP1	PKPbc	03 09 57.5	-0.9
	5.4nm,0.7s						
LMR	**La Mourre**	**147.23**	**333**	*e*PKP1	PKPbc	03 09 57.8	-1.0
RJF	**Les Rejaudoux**	**147.42**	**341**	*e*PKP1	PKPbc	03 09 58.6	-0.7
	6.6nm,0.7s						
CAF	**Calviac**	**147.58**	**340**	*e*PKP1	PKPbc	03 09 59.1	-0.7
LASF	**Ste Croix**	**147.69**	**337**	*e*PKP1	PKPbc	03 09 59.3	-0.7
	11nm,0.9s						
LFF	**La Frestale**	**147.99**	**342**	*e*PKP1	PKPbc	03 10 00.0	-0.9
	8.0nm,0.6s						
MTLF	**Montolieu**	**148.92**	**338**	*e*PKP1	PKPbc	03 10 02.6	-0.6
	8.3nm,0.9s						
EPF	**Esparros**	**149.83**	**341**	*e*PKP1	PKPbc	03 10 05.2	-0.3
ETSF	**Etsaut**	**150.24**	**342**	*e*PKP1	PKPbc	03 10 06.4	-0.1
	3.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**165.75**	**264**	PKP	PKPdf	03 10 20.6	+0.6
	0.3nm,0.9s,baz=232,slow=3.5,SNR=4.2						
TORD				PKPab	PKPab	03 11 20.6	+0.7
	0.6nm,0.9s,baz=91,slow=5.4,SNR=5.7						
LIC	**Lamto**	**168.38**	**222**	*e*PKIKP	PKPdf	03 10 22.4	+0.5

NEIC ***26*** *02:58:03.6, 1688N×9833W, h23km, MD3.9(MEX), After MEX.*

MEX 26 02:58:02.9±1.0, 1690N×9838W, h20km±84km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UTMO	**Huajuapan**	**1.07**	**31**	*i* P	Pb	02 58 19.1	-3.7
UTMO				*i* S	Sb	02 58 32.6	-3.8
ACX	**Acapulco**	**1.47**	**269**	*i* P	Pn	02 58 24.0	-4.3
MEIG	**Mezcala**	**1.56**	**311**	*i* P	Pn	02 58 27.6	-1.9
MEIG				*i* S	Sn	02 58 44.3	-4.8
VHO	**Vista Hermosa**	**1.58**	**84**	*i* P	Pn	02 58 26.8	-3.0
VHO				*i* S	Sn	02 58 46.8	-2.9
VHO	**Vista Hermosa**	**1.58**	**84**	*i* P	Pn	02 58 26.8	-3.0
VHO				*i* S	Sn	02 58 47.5	-2.1
OXX	**Oaxaca**	**1.59**	**83**	*e*P	Pn	02 58 27.0	-2.9
OXX				*i* S	Sn	02 58 47.0	-2.9
TPIG	**Tehuac#an**	**1.79**	**33**	*i* P	Pn	02 58 29.5	-3.2
TPIG				*i* S	Sn	02 58 52.0	-2.9
CAIG	**El Cayaco**	**1.81**	**275**	*i* P	Pn	02 58 29.7	-3.2
CAIG				*i* S	Sn	02 58 51.1	-4.3
CAIG	**El Cayaco**	**1.81**	**275**	*i* P	Pn	02 58 31.8	-1.2
PLIG	**Platanillo**	**1.83**	**324**	*i* P	Pn	02 58 30.8	-2.4
PLIG				*i* S	Sn	02 58 52.6	-3.2
PLIG	**Platanillo**	**1.83**	**324**	*i* P	Pn	02 58 32.0	-1.2
PLIG				*i* S	Sn	02 58 55.4	-0.3
PPM	**Popocatepetl**	**2.17**	**354**	*e*P	Pn	02 58 36.4	-1.5
PPM				*e*P		02 58 40.0	
PPM				*i* S	Sn	02 59 02.2	-1.9
PPM	**Popocatepetl**	**2.17**	**354**	*e*P	Pn	02 58 40.0	+2.2
PPM				*i* S	Sn	02 59 04.0	-0.1
IIZ	**Mezontepec**	**2.42**	**340**	*e*P	Pn	02 58 40.1	-1.2
IIZ				*i* S	Sn	02 59 05.0	-5.3
CMIG	**Matias Romero**	**3.35**	**86**	*e*P	Pn	02 58 50.4	-3.7
CMIG				*i* S	Sn	02 59 30.9	-2.3

NEIC ***26*** *03:01:56.5, 3929S×17752E, h40km, ML3.9(WEL), After WEL.*

WEL 26 03:01:56.4±0.3, 3930S×17749E, h36km±5km, ML4.3/4, 2C-5D, Error ellipse: s-maj=2.8km s-min=1.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.31**	**27**	⇓PN	Pn	03 02 04.2	-0.4
KNZ				SN	Sn	03 02 10.6	+0.5
KNZ	**Kokohu**	**0.31**	**27**	⇓P	Pn	03 02 04.2	-0.3
KNZ				S	Sn	03 02 11.1	+1.0
BKZ	**Black Stump Fm**	**0.79**	**279**	PN	Pn	03 02 10.1	-0.9
BKZ				SN	Sn	03 02 21.0	-0.6
BKZ	**Black Stump Fm**	**0.79**	**279**	⇓P	Pn	03 02 09.9	-1.1
BKZ				S	Sn	03 02 21.0	-0.6
PXZ	**Pawanui**	**0.88**	**213**	PN	Pn	03 02 12.0	-0.3
PXZ				SN	Sn	03 02 23.9	0.0
MWZ	**Matawai**	**0.96**	**2**	⇓PN	Pn	03 02 13.2	-0.2
MWZ				SN	Sn	03 02 25.9	0.0
MWZ	**Matawai**	**0.96**	**2**	⇓P	Pn	03 02 13.2	-0.2
MWZ				S	Sn	03 02 27.4	+1.5
URZ	**Urewera**	**1.08**	**344**	⇑PN	Pn	03 02 14.7	-0.3
URZ				SN	Sn	03 02 28.6	-0.2
URZ	**Urewera**	**1.08**	**344**	⇑P	Pn	03 02 14.7	-0.3
TAZ	**Tarawera**	**1.31**	**324**	PN	Pn	03 02 17.9	-0.3
TAZ	**Tarawera**	**1.31**	**324**	P	Pn	03 02 17.9	-0.3
PATZ	**Paeroa**	**1.33**	**313**	PN	Pn	03 02 18.6	+0.1
PATZ	**Paeroa**	**1.33**	**313**	P	Pn	03 02 18.6	+0.1
MOVZ	**Moawhango**	**1.35**	**265**	PN	Pn	03 02 19.0	+0.2
MOVZ	**Moawhango**	**1.35**	**265**	P	Pn	03 02 19.0	+0.2
KATZ	**Kakaramea**	**1.44**	**282**	PN	Pn	03 02 19.7	-0.2
KATZ	**Kakaramea**	**1.44**	**282**	P	Pn	03 02 19.7	-0.2
KRVZ	**Karewarewa**	**1.45**	**277**	PN	Pn	03 02 20.2	+0.1
WNVZ	**Wahianoa**	**1.47**	**268**	P	Pn	03 02 21.8	+1.4
WTVZ	**West Tongariro**	**1.49**	**276**	PN	Pn	03 02 20.8	+0.1
WTVZ	**West Tongariro**	**1.49**	**276**	P	Pn	03 02 20.8	+0.1
FWVZ	**Far West T-bar**	**1.51**	**271**	P	Pn	03 02 22.2	+1.3
WPVZ	**Whakapapa**	**1.52**	**273**	P	Pn	03 02 21.7	+0.7
MXZ	**Matakaoa Point**	**1.85**	**20**	*e*PN	Pn	03 02 24.6	-1.0
MXZ	**Matakaoa Point**	**1.85**	**20**	*e*P	Pn	03 02 24.6	-1.0
MRZ	**Mangatainoka R**	**2.00**	**227**	*e*PN	Pn	03 02 27.2	-0.5
MRZ	**Mangatainoka R**	**2.00**	**227**	*e*P	Pn	03 02 27.2	-0.5

WEL 26 03:02:28.7±0.2, 3930S×17743E, h20km±2km, ML3.8/19, Error ellipse: s-maj=2.2km s-min=1.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.34**	**35**	P*	Pb	03 02 36.2	+0.2
KNZ				S*	Sb	03 02 41.6	+0.7
BKZ	**Black Stump Fm**	**0.74**	**280**	P*	Pb	03 02 42.2	-0.6
BKZ				S*	Sb	03 02 52.9	+0.5
PXZ	**Pawanui**	**0.85**	**210**	P*	Pb	03 02 44.4	-0.4
PXZ				S*	Sb	03 02 55.3	-0.5
MWZ	**Matawai**	**0.96**	**5**	P*	Pb	03 02 46.0	-0.6
MWZ				S*	Sb	03 02 59.5	+0.6
URZ	**Urewera**	**1.06**	**347**	PN	Pn	03 02 47.6	-0.9
URZ				SN	Sn	03 03 01.4	-1.3
TAZ	**Tarawera**	**1.28**	**326**	PN	Pn	03 02 51.4	0.0
MOVZ	**Moawhango**	**1.30**	**265**	PN	Pn	03 02 51.1	-0.6
MOVZ				SN	Sn	03 03 08.4	0.0
TSZ	**Takapari Road**	**1.36**	**236**	PN	Pn	03 02 51.7	-0.8
TUVZ	**Tukino**	**1.38**	**271**	PN	Pn	03 02 53.0	+0.3
KATZ	**Kakaramea**	**1.38**	**283**	PN	Pn	03 02 52.2	-0.6
KRVZ	**Karewarewa**	**1.40**	**278**	PN	Pn	03 02 52.9	-0.2
WNVZ	**Wahianoa**	**1.42**	**268**	PN	Pn	03 02 53.5	+0.2
NGZ	**Ngauruhoe**	**1.42**	**274**	PN	Pn	03 02 53.2	-0.1
WTVZ	**West Tongariro**	**1.44**	**277**	PN	Pn	03 02 53.6	+0.1
FWVZ	**Far West T-bar**	**1.45**	**271**	PN	Pn	03 02 52.4	-1.3

IDC ***26*** *03:05:44.5±0.7, 1869S×17346W, h0km, mb4.7/11, mb1 4.9/11, mb1mx4.6/17, mbtmp4.7/11, ML5.9/1, MS4.7/15, Ms1 4.7/15, ms1mx4.4/31, Error ellipse: s-maj=21.2km s-min=15.0km az=139.0*
ISCJB ***26*** *03:05:48.5±0.3, 1889S±007×17338W±006, h40km, mb4.9/52, MS4.8/35, Error ellipse: s-maj=11.1km s-min=5.7km az=105.4*
BJI ***26*** *03:05:49.4, 1837S×17377W, h13km, mB5.4, mb4.9, Ms5.0, Msz4.7*
NEIC ***26*** *03:05:50.3±0.2, 1880S×17339W, mb4.9/34, Error ellipse: s-maj=10.7km s-min=5.1km az=139.0*

STKA LR LR 03 30 12.5
comp=Z,3µm,19.4s,MS5.2,baz=69,slow=35
AS31 Alice Springs 49.19 255 *e*P **P** **03 14 34.0 -0.5**
AS31 *ep*P pP 03 15 03.9 +18
ASAR Alice Springs 49.19 255 P **P** **03 14 33.8 -0.8**
comp=Z,17nm,0.7s,mb5.2,baz=94,slow=7.7,SNR=186
ASAR S S **03 21 38.4 +1.2**
comp=Z,1.8nm,1.0s,baz=96,slow=15,SNR=7.6
ASPA Alice Springs 49.19 255 *e*P **P** **03 14 34.0 -0.5**
ASPA *ep*P pP 03 15 03.9 +18
WB2 Warramunga Arr 49.20 260⇑*i*P **P** **03 14 33.1 -1.5**
WB2 *ep*P pP 03 15 02.6 +16
WRAB Tennant Creek 49.20 260*c i*P **P** **03 14 33.7 -0.9**
WRAB Tennant Creek 49.20 260 *e*P **P** **03 14 33.9 -0.7**
comp=Z,108nm,1.5s,mb5.7
WRA Warramunga Arr 49.21 260 P **P** **03 14 33.5 -1.2**
comp=Z,8.9nm,0.6s,mb5.0,baz=97,slow=7.9,SNR=126
WRA S **S** **03 21 40.0 +2.5**
comp=Z,1.0nm,0.9s,baz=92,slow=13,SNR=4.3
GUMO Guam 52.33 305 LR LR 03 34 24.7
comp=Z,161nm,18.4s,MS4.1,baz=77,slow=33
KAKA Kakadu 52.39 268 *e*P **P** **03 14 58.0 -0.6**
comp=Z,24nm,0.5s,mb5.4
FORT Forrest 53.98 245 *e*P **P** **03 15 09.4 -0.9**
comp=Z,10nm,0.5s,mb5.0
FORT *ep*P pP 03 15 40.3 +18
FITZ Fitzroy Crossi 57.63 260⇑*i*P **P** **03 15 36.0 -0.4**
comp=Z,11nm,0.8s,mb4.9
FITZ *ep*P pP 03 16 05.3 +17
FITZ Fitzroy Crossi 57.63 260 LR LR 03 40 21.1
comp=Z,1µm,18.6s,MS5.0,baz=99,slow=36
RPN Rapa Nui 58.94 111 LR LR 03 35 30.1
comp=Z,1µm,18.3s,MS5.0,baz=181,slow=30
VNDA Vanda 59.95 186 P **P** **03 15 53.0 +0.5**
comp=Z,3.3nm,1.0s,mb4.3,baz=9.5,slow=6.2,SNR=8.4
VNDA Vanda 59.95 186 *e*P **P** **03 15 53.6 +1.1**
VNDA pmax pmax
comp=Z,12nm,1.5s
VNDA Vanda 59.95 186 *e*P **P** **03 15 53.6 +1.0**
comp=Z,12nm,1.5s,mb4.7
MBWA Marble Bar 62.52 255 *e*P **P** **03 16 09.9 -0.1**
comp=Z,14nm,0.9s,mb5.1
KLBR Kellerberrin 62.73 244 *e*P **P** **03 16 13.1 +1.8**
comp=Z,44nm,1.2s,mb5.5
KLBR *ep*P pP 03 16 41.1 +18
NWAO Narrogin (SRO) 63.03 242 LR LR 03 42 40.7
comp=Z,1µm,18.6s,MS5.2,baz=233,slow=35
CASY Casey 67.30 205 *e*P **P** **03 16 41.2 +0.1**
QSPA South Pole Qui 71.19 180 *e*P **P** **03 17 05.3 +0.2**
comp=Z,4.4nm,0.7s,mb4.5
MJAR Matsushiro Arr 71.64 321 P **P** **03 17 08.5 +0.6**
comp=Z,8.0nm,0.9s,mb4.7,baz=155,slow=6.0,SNR=14
MJAR LR LR 03 42 33.5
comp=Z,264nm,20.8s,MS4.5,baz=150,slow=31
MAJO Matsushiro 71.64 321 *e*P **P** **03 17 08.5 +0.7**
MAJO pmax pmax
comp=Z,12nm,0.9s,mb4.8
MAJO Matsushiro 71.64 321 *e*P **P** **03 17 08.5 +0.7**
comp=Z,12nm,0.9s,mb4.8
MAT Matsushiro 71.64 321 P **P** **03 17 08.4 +0.6**
MAT S S 03 26 26.0 +1.6
MAT Matsushiro 71.64 321 *e*P **P** **03 17 08.0 +0.2**
MAT *e*S S 03 26 27.0 +2.6
MAT pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MAT Matsushiro 71.64 321 *e*P **P** **03 17 08.0 +0.2**
comp=Z,10.0nm,1.0s,mb4.7
MAT *e*S S 03 26 27.0 +2.6
JOW Kunigami 72.61 307 LR LR 03 43 53.6
comp=Z,332nm,19.6s,MS4.6,baz=127,slow=32
KKM Kota Kinabalu 73.67 282 *e*P **P** **03 17 21.0 +1.2**
PET Petropavlovsk 75.60 343*c i*P **P** **03 17 28.6 -2.5**
PET *e* *e*P 03 17 41.1 -2.4
PET *e* 03 17 51.1
PET *i*S S 03 27 12.8 +3.8
PET *e*PS 03 27 49.0
PET *e* 03 28 09.3
PET pmax pmax
comp=Z,200nm,5.5s
PET pmax pmax
comp=Z,100nm,11.9s
PET pmax pmax
comp=Z,100nm,5.1s
PET pmax pmax
comp=Z,200nm,6.5s
PET smax
comp=E,200nm,9.3s
PET smax
comp=N,300nm,8.2s
PET smax
comp=E,200nm,8.2s
PET smax
comp=N,300nm,9.1s
PET MLR MLR
comp=Z,500nm,21.0s,MS4.8
PET MLR MLR
comp=Z,500nm,18.0s
MTUM Tungsten Hill 76.05 42 *e*P **P** **03 17 33.3 -0.3**
YSS Yuzh-Sakhalins 76.53 331⇑*e*P **P** **03 17 38.0 +1.6**
YSS S S 03 27 26.0 +6.8
YSS pmax pmax
comp=Z,300nm,6.0s
YSS MLR MLR
comp=Z,400nm,18.0s,MS4.8
NVAR Mina Array Bea 76.86 41 P **P** **03 17 37.8 -0.4**
comp=Z,3.3nm,0.8s,mb4.3,baz=224,slow=7.1,SNR=19
PAHR Pah Rah Range 76.97 40 *e*P **P** **03 17 37.5 -1.3**
comp=Z,7.8nm,0.9s,mb4.6
TPNV Topopah Spring 77.30 44 *e*P **P** **03 17 40.1 -0.6**
TPNV pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
TPNV Topopah Spring 77.30 44 *e*P **P** **03 17 40.1 -0.6**
comp=Z,7.2nm,1.1s,mb4.5
KSM Kuching 77.59 276 *e*P **P** **03 17 44.1 +1.8**
KSM *ep*P pP 03 17 55.1 +0.3
TUC Tucson 78.54 50 *e*P **P** **03 17 48.1 +0.5**
TUC *e**PP pP 03 18 01.5 +1.5
TUC pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
TUC Tucson 78.54 50 *e*P **P** **03 17 48.1 +0.6**
comp=Z,7.2nm,1.4s,mb4.4
TUC *ep*P pP 03 18 01.5 +1.5
SSE Sheshan 80.11 308 P **P** **03 17 56.8 +0.6**
SSE S S 03 27 55.8 -1.9
SSE SS SS 03 33 05.5 -3.1
SSE AMB AMB
comp=Z,38nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,206nm,4.4s
SSE LR LR
comp=N,193nm,26.0s,MS4.6
SSE LR LR
comp=E,320nm,26.0s,MS4.6
SSE LR LR
comp=Z,386nm,25.0s,MS4.7
MDJ Mudanjiang 81.82 323 P **P** **03 18 07.0 +1.8**
MDJ AP pP 03 18 19.0 +1.3
MDJ PP PP 03 21 12.8 +0.1
MDJ S S 03 28 16.0 +0.6
MDJ AMB AMB
comp=Z,13nm,1.6s,mb4.6
MDJ AMB AMB
comp=Z,281nm,5.5s
MDJ LR LR
comp=N,154nm,17.6s,MS4.7
MDJ LR LR
comp=E,275nm,18.7s,MS4.7
MDJ LR LR
comp=Z,350nm,18.7s,MS4.8
SRU San Rafael 82.26 44 *e*P **P** **03 18 06.2 -1.3**
SRU pmax pmax
comp=Z,14nm,1.4s,mb4.7
SRU San Rafael 82.26 44 *e*P **P** **03 18 06.2 -1.3**
comp=Z,14nm,1.4s,mb4.7
NJ2 Nanjing 82.32 307 *e*P **P** **03 18 07.5 -0.4**
NJ2 AP pP 03 18 17.5 -2.9
NJ2 XP sP 03 18 22.0 -3.1
NJ2 S S 03 28 18.0 -2.6
NJ2 SKS 03 28 21.0
NJ2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
NJ2 AMB AMB
comp=Z,270nm,6.2s
NJ2 LR LR
comp=N,470nm,14.6s,MS5.2
NJ2 LR LR
comp=E,770nm,18.3s,MS5.2
BNM Barren Site 82.47 50 *e*P **P** **03 18 09.5 +0.8**
TCUT Toone Canyon 82.75 42 *e*P **P** **03 18 11.4 +1.3**
PV10 Paradox Valley 82.87 46 *e*P **P** **03 18 10.2 -0.5**
ANMO Albuquerque 82.98 50 *e*P **P** **03 18 12.5 +1.2**
ANMO *e**PP pP 03 18 25.4 +1.6
ANMO pmax pmax
comp=Z,35nm,1.9s
ANMO Albuquerque 82.98 50 *e*P **P** **03 18 12.4 +1.2**
comp=Z,35nm,1.9s,mb5.1
ANMO *ep*P pP 03 18 25.4 +1.6
PV01 Paradox Valley 83.06 46 *e*P **P** **03 18 12.3 +0.6**
PV01 *ep*P pP 03 18 24.7 +0.4
KLR Kul'dur 83.47 327 *e*P **P** **03 18 10.2 -3.6**
KLR *e* 03 33 55.5
DL2 Dalian 83.66 315 P **P** **03 18 18.0 +3.2**
DL2 AMB AMB
comp=Z,180nm,5.0s
DL2 LR LR
comp=N,160nm,17.2s,MS4.6
DL2 LR LR
comp=E,120nm,15.3s,MS4.6
DL2 LR LR
comp=Z,190nm,16.8s,MS4.5
CN2 Changchun 83.79 320 *e*P **P** **03 18 16.8 +1.3**
CN2 *e*S S 03 28 40.0 +4.5
CN2 AMB AMB
comp=Z,20nm,1.3s,mb5.1
CN2 AMB AMB
comp=Z,360nm,4.0s
CN2 LR LR
comp=N,220nm,16.0s,MS4.9
CN2 LR LR
comp=E,360nm,16.0s,MS4.9
CN2 LR LR
comp=Z,250nm,18.0s,MS4.6
SNY Shenyang 83.89 318⇑P **P** **03 18 14.8 -1.1**
SNY S S 03 28 45.3 +8.8
SNY AMB AMB
comp=Z,24nm,2.2s,mb4.9
SNY AMB AMB
comp=Z,186nm,7.5s
SNY LR LR
comp=N,181nm,15.7s
SNY LR LR
comp=Z,227nm,20.6s,MS4.5
MCMT McKenzie Canyo 83.91 39 *e*P **P** **03 18 16.0 0.0**
RRI2 Red Ridge 84.01 40 *e*P **P** **03 18 16.4 -0.1**
comp=Z,34nm,1.7s,mb5.2
RRI2 *ep*P pP 03 18 27.1 -2.1
QIZ Qiongzhong 84.27 292 P **P** **03 18 17.0 -0.9**
QIZ AP pP 03 18 28.5 -2.0
QIZ S 03 28 39.8
QIZ AMB AMB
comp=Z,18nm,2.4s,mb4.8
QIZ LR LR
comp=Z,248nm,15.8s,MS4.7
REDW Red Top Meadow 84.31 41 *e*P **P** **03 18 18.0 -0.1**
comp=Z,13nm,1.2s,mb4.9
REDW *ep*P pP 03 18 31.2 +0.6
TPAW Teton Pass 84.31 40 *e*P **P** **03 18 17.0 -1.1**
comp=Z,23nm,1.5s,mb5.1
DLMT Dillon 84.35 38 *e*P **P** **03 18 19.6 +1.3**
comp=Z,9.3nm,1.1s,mb4.8
DLMT *ep*P pP 03 18 31.1 +0.2
SNOW Snow King Moun 84.42 40 *e*P **P** **03 18 18.8 +0.2**
comp=Z,13nm,0.9s,mb5.1
MCK McKinley 84.50 11 *e*P **P** **03 18 17.1 -2.0**
MCK pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
MCK McKinley 84.50 11 *e*P **P** **03 18 17.1 -2.0**
comp=Z,4.5nm,0.8s,mb4.7
IMW Indian Meadow 84.54 40 *e*P **P** **03 18 19.1 -0.2**
comp=Z,9.5nm,1.1s,mb4.8
IMW *ep*P pP 03 18 31.6 -0.3
MAW Mawson 84.54 199 P **P** **03 18 20.3 +1.0**
comp=Z,0.5nm,0.3s,mb4.1,baz=130,slow=7.7,SNR=3.2
MAW Mawson 84.54 199 P **P** **03 18 19.3 0.0**
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 84.54 199 P **P** **03 18 19.3 +0.1**
comp=Z,3.2nm,0.8s,mb4.5
MOOW Moose Ponds 84.58 40 *e*P **P** **03 18 17.9 -1.5**
comp=Z,13nm,1.8s,mb4.8
SMCO Snowmass 84.67 46 *e*P **P** **03 18 20.2 +0.3**
comp=Z,18nm,1.2s,mb5.1
SMCO *ep*P pP 03 18 33.0 +0.5
QLMT Earthquake Lak 84.75 39 *e*P **P** **03 18 21.2 +0.9**
QLMT *ep*P pP 03 18 31.6 -1.2
FLWY Flagg Ranch 84.79 40 *e*P **P** **03 18 22.5 +2.0**
comp=Z,20nm,1.1s,mb5.2
BW06 Boulder Array 84.80 42 *e*P **P** **03 18 19.5 -1.1**
comp=Z,4.6nm,1.0s,mb4.6
BW06 *ep*P pP 03 18 32.9 -0.2
PDAR Pinedale Array 84.80 42 P **P** **03 18 19.9 -0.6**
comp=Z,2.2nm,0.7s,mb4.4,baz=222,slow=2.6,SNR=20
PDAR LR LR 03 51 17.3
comp=Z,276nm,18.4s,MS4.7,baz=247,slow=32
CHMT Chamberlain Mo 84.85 37 *e*P **P** **03 18 20.1 -0.8**
CHMT *ep*P pP 03 18 32.6 -0.8
COLA College 85.75 11 *e*P **P** **03 18 21.8 -3.5**
COLA pmax pmax
comp=Z,13nm,0.7s,mb5.3
COLA College 85.75 11 *e*P **P** **03 18 21.8 -3.5**
comp=Z,13nm,0.7s,mb5.3
IMA2 Indian Mountai 85.97 8 *e*P **P** **03 18 24.7 -1.7**
AMTX Amarillo 86.44 51 *e*P **P** **03 18 28.9 +0.2**
comp=Z,21nm,1.1s,mb5.3
DAWY Dawson 86.75 14 *e*P **P** **03 18 29.3 -0.9**
PLCA Paso Flores 87.14 132 LR LR 03 49 45.9
comp=Z,495nm,18.1s,MS5.0,baz=208,slow=30
BJI Beijing 87.91 314 *e*P **P** **03 18 37.8 +2.0**
BJI S 03 29 18.3
BJI AMB AMB
comp=Z,22nm,2.2s,mb5.0
BJI LR LR
comp=N,196nm,20.8s,MS4.8
BJI LR LR
comp=E,258nm,17.0s,MS4.8
BJI LR LR
comp=Z,224nm,22.9s
GYA Guiyang 89.73 298 P **P** **03 18 47.5 +3.1**
GYA SKS 03 29 13.3
GYA S 03 29 37.8
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,110nm,4.3s
GYA LR LR
comp=N,340nm,18.9s,MS4.9
GYA LR LR
comp=E,240nm,19.7s,MS4.9
GYA LR LR
comp=Z,280nm,19.6s,MS4.7
XAN Xi'an 90.71 306 P **P** **03 18 51.5 +2.5**
XAN AP pP 03 19 01.8 +0.2
XAN AMB AMB
comp=Z,13nm,2.2s,mb4.9
HHC Hu-ho-hao-te 91.43 313 *e*P **P** **03 18 53.0 +0.7**
HHC AP pP 03 19 05.5 +0.5
HHC PP PP 03 22 33.5 +3.2
HHC SKS 03 29 18.8
HHC S 03 29 46.3
HHC SS SS 03 35 56.5 +1.7
HHC AMB AMB
comp=Z,18nm,0.8s,mb5.5
HHC AMB AMB
comp=Z,205nm,5.7s
HHC LR LR
comp=N,207nm,22.0s,MS4.7
HHC LR LR
comp=E,186nm,19.0s,MS4.7
HHC LR LR
comp=Z,188nm,19.6s,MS4.5
KMI Kunming 92.59 296 P **P** **03 18 59.5 +1.8**
KMI AP pP 03 19 12.8 +2.5
KMI PP PP 03 22 40.3 +0.9
KMI SKS 03 29 28.5
KMI S 03 29 55.5
KMI XS sS 03 30 15.8 -4.4
KMI PS PS 03 31 15.8 +0.6
KMI SS SS 03 36 13.5 +2.1
KMI AMB AMB
comp=Z,7.0nm,1.3s,mb4.9
KMI AMB AMB
comp=Z,189nm,4.7s
KMI LR LR
comp=N,263nm,22.4s,MS4.8
KMI LR LR
comp=E,250nm,19.9s,MS4.8
KMI LR LR
comp=Z,302nm,20.7s,MS4.7
YKA Yellowknife Ar 93.24 23 LR LR 03 56 08.8
comp=Z,159nm,18.6s,MS4.5,baz=235,slow=32
CD2 Chengdu 93.67 301 *e*P **P** **03 19 00.8 -1.9**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CIT Chita 94.76 324 *e*P **P** **03 19 08.4 +0.7**
ULM Lac du Bonnet 96.57 39 LR LR 03 59 33.3
comp=Z,472nm,18.1s,MS5.0,baz=24,slow=34
SONM Songino Array 97.47 318 LR LR 04 01 35.7
comp=Z,185nm,19.0s,MS4.6,baz=299,slow=34
LPAZ La Paz 98.55 110 LR LR 03 55 06.2
comp=Z,402nm,19.0s,MS4.9,baz=297,slow=30
WMQ Urumqi 109.20 311 PDIF Pdif 03 20 12.3 +0.1
WMQ PP PP 03 24 48.3 +3.3
WMQ PP PP
comp=Z,67nm,9.2s
WMQ LR LR
comp=N,267nm,20.8s,MS4.9
WMQ LR LR
comp=E,200nm,19.7s,MS4.9
WMQ LR LR
comp=Z,242nm,21.3s,MS4.7
ZRNK Zerenda 121.48 321 *e*PKIKP PKPdf 03 24 39.1 -0.3
SVE Sverdlovsk 125.09 327 *e*PKIKP PKPdf 03 24 48.0 +1.6
SVE *e* 03 26 45.5
OBN Obninsk 137.30 335⇑*i*PKIKP PKPdf 03 25 14.8 +5.4
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.8
NOA NORSAR Array B 137.76 357 PKhKP 03 25 04.7
comp=Z,0.2nm,0.8s,baz=55,slow=2.7,SNR=2.4
SOC Sochi 142.92 319 *i* PKIKP PKPdf 03 25 22.0 +2.4
AKASG Malin Array Be 143.54 336 PKP PKPdf 03 25 20.4 -0.3
comp=Z,0.9nm,0.5s,baz=33,slow=3.3,SNR=12
ANN Anapa 143.62 322 *i* PKHKP 03 25 18.7
ANN pmax pmax
comp=Z,24nm,1.8s
KMBO Kilima Mbogo 143.98 240 PKP PKPdf 03 25 21.6 +0.2
comp=Z,4.1nm,0.8s,baz=100,slow=3.6,SNR=11
BNGL BINGOL 144.10 311 *i* P PKPdf 03 25 21.9 +0.2
BSEG Bad Segeberg 144.90 356 *e*PKPbc PKPdf 03 25 21.5 -1.6
BSEG Bad Segeberg 144.90 356 *e*PKP PKPdf 03 25 21.6 -1.5
KELT Kelkit 144.90 314 *i* P PKPdf 03 25 23.7 +0.7
MARD Mardin 145.01 309 *i* P PKPbc 03 25 23.9 +1.2
SIM Simferopol' 145.41 325*ce*PKIKP PKPdf 03 25 25.1 +1.2
SIM pmax pmax
comp=Z,56nm,8.1s
ELZG Elazig 145.83 312 *i* P PKPbc 03 25 27.6 +2.4
LVV L'vov 146.14 340 *e*PKIKP PKPbc 03 25 28.9 +2.7
MALT Malatya 146.30 312⇓*i*P PKPbc 03 25 29.0 +2.3
MALT Malatya 146.30 312 *e*PKPbc PKPbc 03 25 27.1 +0.5
KIS Kishinev 146.59 332 *e*PKHKP PKPbc 03 25 26.0 -1.5
IBBN Ibbenburen 146.63 359 *e*PKPbc PKPbc 03 25 27.9 +0.3
KWP Kalwaria 146.73 341 *e*PKP PKPbc 03 25 28.7 +0.8
ATAB Bozova 146.76 310 *i* P PKPbc 03 25 29.7 +1.6
CLZ Clausthal 146.98 356 *e*PKPbc PKPbc 03 25 29.0 +0.4
WTSB Winterswijk 146.98 360 *e*PKP PKPdf 03 25 28.3 +1.7
WTSB *ex* x 03 26 14.0
OJC Ojcow 147.02 344 *e*PKP PKPdf 03 25 28.8 +2.1
BOYT Boyabat 147.08 319 *i* P PKPbc 03 25 31.1 +2.2
KSP Ksiaz 147.20 349 *e*PKIKP PKPbc 03 25 31.2 +1.9
KSP Ksiaz 147.20 349 *e*PKPdf PKPdf 03 25 27.6 +0.6
KSP *e*PKPab PKPab 03 25 31.2 +0.2
CLL Collm 147.25 353 *e*PKPbc PKPbc 03 25 29.7 +0.3
CLL *e* 03 25 36.2
CLL *e*PP PP 03 29 09.1 +14
CLL *e*L 04 34 30.7
comp=Z,226nm,20.0s
CLL Collm 147.25 353 *e*PKIKP PKPdf 03 25 28.0 +0.9
CLL *i* PKP1 PKPbc 03 25 29.4 0.0
CLL *i* 03 25 33.4
CLL *e* 03 25 36.0
CLL *i* 03 25 43.7
CLL Collm 147.25 353 *e*PKPdf PKPdf 03 25 28.0 +0.9
CLL *i* PKPbc PKPbc 03 25 29.4 0.0
comp=Z,78nm,2.4s
CLL *i* PKiKP PKiKP 03 25 33.4 +1.7
CLL *ex* x 03 25 36.0
comp=Z,22nm,1.2s
CLL *i* pPKiKP 03 25 43.7
CLL Lm 04 34 00.0
comp=N,200nm,19.0s
CLL Lm 04 34 00.0
comp=E,200nm,20.1s
CLL Lm 04 34 00.0
comp=Z,300nm,18.7s
CLL Collm 147.25 353 *e*PKP PKPdf 03 25 28.0 +0.9
CLL *i* PKP PKPdf 03 25 29.4 +2.3
CLL *ep*PKP pPKPdf 03 25 36.0 -4.1
CLL LR LR
comp=Z,300nm,18.7s,MS5.1
GZT Gaziantep 147.33 311 *i* P PKPbc 03 25 30.7 +1.0
KOLS Kolonicke sedl 147.48 341 *e*PKP PKPdf 03 25 30.1 +2.7
BRG Berggiesshubel 147.56 351 *e*PKPbc PKPbc 03 25 30.1 -0.1
BRG Berggiesshubel 147.56 351 *e*PKP PKPbc 03 25 30.9 +0.6
comp=Z,31nm,2.1s
BRG *e* 03 25 45.0
comp=Z,7.3nm,1.1s
UPC Upice 147.58 349 *e*PKP PKPdf 03 25 28.5 +0.9
UPC *ex* x 03 25 59.6
UPC Upice 147.58 349 *e*PKP PKPdf 03 25 28.5 +0.9
UPC *e* 03 25 59.6
BURAR Bucovina Array 147.59 336⇓*i*P PKPdf 03 25 29.0 +1.4
BURAR Bucovina Array 147.59 336⇓P PKPdf 03 25 29.0 +1.4
FBE Freiberg 147.59 352 *e*PKPbc PKPbc 03 25 30.6 +0.3
NIE Niedzica 147.62 343 *e*PKP PKPdf 03 25 29.5 +1.8
DPC Dobruska-Polom 147.67 348 *e*PKP PKPbc 03 25 31.6 +1.1
DPC *ex* x 03 25 54.7
CRVS Cervenica-Dubn 147.75 342 *e*PKP PKPdf 03 25 30.0 +2.1
OKC Ostrava-Krasne 147.77 346 *e*PKP PKPbc 03 25 31.2 +0.4
OKC AMS AMS 04 37 30.0
comp=Z,200nm,19.9s
PVCC Panska Ves 147.80 351 *e*PKP PKPdf 03 25 30.0 +2.0
PVCC AMS AMS 04 36 00.0
comp=Z,300nm,21.0s
BALT Daday 147.94 321 *i* P PKPbc 03 25 33.2 +1.9
MORC Moravsky Berou 147.96 347⇓*i*P PKPbc 03 25 32.0 +0.7
MORC Moravsky Berou 147.96 347 *e*PKPbc PKPbc 03 25 29.9 -1.4
UBBA Unterbreizbach 148.02 356 *e*PKPbc PKPbc 03 25 30.3 -1.2
MOX Moxa 148.06 354 *e*PKP PKPbc 03 25 32.5 +0.9
comp=Z,42nm,1.9s
MOX
comp=Z,200nm,19.0s
UCC Uccle 148.10 3 XPKPab 03 25 48.3
UCC PKPab PKPab 03 25 33.2 -1.4
UCC E 03 26 17.3
BEBN Eben Emael 148.14 1 PKPab PKPab 03 25 32.8 -2.0
BEBN E 03 25 56.9
HGN Heimansgroeve 148.18 1 *e*PKP PKPdf 03 25 31.9 +3.2
comp=Z,25nm,2.0s
HGN *ex* x 03 25 55.6
HGN *ex* x 03 26 17.5
WERD Werda 148.18 353 *e*PKPbc PKPbc 03 25 31.5 -0.4
TANN Tannenbergstha 148.20 353 *e*PKPbc PKPbc 03 25 30.9 -1.1
GUNZ Gunzen 148.26 353 *e*PKPbc PKPbc 03 25 31.1 -1.0
PRU Pruhonice 148.33 350 *e*PKP PKPdf 03 25 30.9 +2.1
PRU AMS AMS 04 36 40.0
comp=Z,200nm,19.3s
MEM Membach 148.34 1 PKPab PKPab 03 25 32.4 -3.1
MEM APKPbc 03 25 42.8
MEM APKPab 03 25 46.3
MEM XPKPab 03 25 54.0
NKC Novy Kostel 148.38 353 *e*PKP PKPbc 03 25 33.4 +1.0
NKC *ex* x 03 25 58.1
SNF Seneffe 148.38 3 PKPab PKPbc 03 25 33.5 +1.0
SNF APKP 03 25 41.9
VRI Vrincioaia 148.38 333⇑*i*P PKPab 03 25 39.9 +4.2
VRI Vrincioaia 148.38 333⇑P PKPab 03 25 39.9 +4.2
BCLA Clavier 148.51 2 PKP PKPdf 03 25 28.9 -0.2
BCLA PKPbc PKPbc 03 25 31.0 -1.8
BCLA PKPab PKPab 03 25 34.3 -1.9
BCLA APKPab 03 25 46.5
ELDT Eldivan 148.53 319 *i* P PKPbc 03 25 34.6 +1.8
VRAC Vranov 148.61 348⇓*i*P PKPbc 03 25 33.8 +0.8
VRAC Vranov 148.61 348 P PKPbc 03 25 34.7 +1.7

COBT	**Iskenderun**	**148.64**	**310**	*i* P		PKPdf	03 25 30.2	+0.9
MANZ	**Manzenberg**	**148.66**	**353**	*e*PKPbc		PKPbc	03 25 33.7	+0.5
TIRR	**Tirgusor**	**148.69**	**329** ⇑	*i*P		PKPbc	03 25 33.7	+0.5
TIRR	**Tirgusor**	**148.69**	**329**	*e*PKPbc		PKPbc	03 25 31.8	-1.4
TIRR				*e*PKPab		PKPbc	03 25 35.2	-1.7
TNS	**Taunus Mts**	**148.69**	**358**	*e*PKPbc		PKPbc	03 25 33.1	-0.1
DOU	**Dourbes**	**148.81**	**3**	PKPbc		PKPbc	03 25 34.0	+0.4
DOU				APKP			03 25 41.3	
DOU				XPKPab			03 25 52.6	
GIVF	**Givet**	**148.81**	**2**	*e*PKIKP		PKPbc	03 25 34.3	+0.8
BAIF	**Baives**	**148.83**	**3**	*e*PKIKP		PKPbc	03 25 34.5	+0.9
BR131	**Keskin Array S**	**148.83**	**318**	*e*PKPbc		PKPbc	03 25 34.0	+0.4
BRTR	**Keskin Array B**	**148.83**	**318**	PKPbc		PKPbc	03 25 34.1	+0.6
	comp=Z,1.5nm,0.6s,baz=133,slow=5.2,SNR=16							
TREC	**Trest**	**148.84**	**349**	*e*PKP		PKPbc	03 25 34.5	+0.9
TREC				*ex*		x	03 26 03.8	
TREC				AMS		AMS	04 36 40.0	
	comp=Z,200nm,14.7s							
VYHS	**Vyhne**	**148.85**	**344**	*e*PKP		PKPbc	03 25 33.2	-0.5
ROTZ	**Rotzenmuhle**	**148.87**	**353**	*e*PKPbc		PKPbc	03 25 35.0	+1.3
MLR	**Muntele Rosu**	**149.02**	**333** ⇑	*i*P		PKPbc	03 25 34.8	+0.7
MLR	**Muntele Rosu**	**149.02**	**333**	P		PKPbc	03 25 35.9	+1.8
GRA1	**Grafenberg Arr**	**149.04**	**354**	*e*PKP		PKPbc	03 25 34.9	+0.8
GRF	**Grafenberg Arr**	**149.04**	**354**	*e*PKPbc		PKPbc	03 25 34.9	+0.8
PSZ	**Piszkesteto**	**149.10**	**343**	*e*PKP		PKPbc	03 25 35.5	+1.2
PSZ	**Piszkesteto**	**149.10**	**343**	*e*PKPdf		PKPdf	03 25 27.5	-2.6
PSZ				*e*PKPbc		PKPbc	03 25 31.7	-2.5
DRSR		**149.20**	**338** ⇑	*i*P		PKPbc	03 25 35.0	+0.5
DRGR		**149.20**	**338**	P		PKPbc	03 25 36.2	+1.7
RUP	**Ruppelstein**	**149.25**	**360**	*e*PKIKP		PKPbc	03 25 37.2	+2.6
ANTO	**Ankara**	**149.28**	**318** ⇑	*i*P		PKPbc	03 25 36.4	+1.7
ANTO	**Ankara**	**149.28**	**318**	*e*PKPdf		PKPdf	03 25 31.4	+1.0
ANTO				*e*PKPbc		PKPbc	03 25 36.4	+1.7
WLF	**Walferdange**	**149.28**	**1**	PKPbc		PKPbc	03 25 35.5	+0.8
KHC	**Kasperske Hory**	**149.31**	**351**	*e*PKP		PKPdf	03 25 33.7	+3.3
KHC				pPKP		pPKPdf	03 25 44.5	+1.0
KHC				AMS		AMS	04 36 20.0	
	comp=Z,200nm,17.4s							
KHC	**Kasperske Hory**	**149.31**	**351**	*e*PKP		PKPdf	03 25 33.7	+3.3
KHC				*e*			03 25 44.5	
KHC				LR		LR		
	comp=Z,200nm,17.4s,MS5.0							
SGKT	**Sivrigoynuk**	**149.32**	**320**	*i*P		PKPbc	03 25 35.6	+0.8
VOIR		**149.44**	**334** ⇑	*i*P		PKPbc	03 25 36.9	+1.8
VOIR		**149.44**	**334** ⇑	P		PKPbc	03 25 36.9	+1.8
ROSF	**Rostrenen**	**149.52**	**13**	*e*PKIKP		PKPbc	03 25 35.9	+0.6
	comp=Z,51nm,1.7s							
ZST	**Bratislava**	**149.55**	**346**	*e*PKP		PKPbc	03 25 37.2	+1.8
GEC2	**GERESS Array S**	**149.57**	**351**	*e*PKHKP			03 25 29.9	
GEC2				*e*			03 25 34.6	
GERES	**GERESS Array B**	**149.57**	**351**	PKPbc		PKPbc	03 25 34.8	-0.6
	comp=Z,1.3nm,0.8s,baz=163,slow=1.4,SNR=12							
FLN	**La Foliniere**	**149.63**	**9**	*e*PKIKP		PKPbc	03 25 36.0	+0.4
SGMF	**Saint Gilles**	**149.75**	**12**	*e*PKIKP		PKPbc	03 25 36.2	+0.3
	comp=Z,40nm,1.5s							
LDF	**La Druitiere**	**149.85**	**9**	*e*PKIKP		PKPbc	03 25 36.4	+0.3
	comp=Z,112nm,1.8s							
GRR	**Gorron**	**149.93**	**10**	*e*PKIKP		PKPbc	03 25 36.9	+0.6
	comp=Z,31nm,1.3s							
QUIF	**Quistinic**	**149.94**	**13**	*e*PKIKP		PKPbc	03 25 36.6	+0.2
LANF	**Langenberg**	**149.96**	**359**	PKP		PKPbc	03 25 37.4	+1.0
LANF	**Langenberg**	**149.96**	**359**	*e*P		PKPbc	03 25 37.4	+1.0
CONA	**Conrad Observa**	**150.07**	**348** ⇑	*i*PKPdf		PKPdf	03 25 28.7	-2.9
	comp=Z,22nm,1.5s							
MEST	**Erdemli**	**150.12**	**312**	*i*P		PKPbc	03 25 36.4	-0.4
KDHN	**Kadinhani**	**150.48**	**317**	*i*P		PKPbc	03 25 30.4	-1.9
CDF	**Champ du Feu**	**150.53**	**359**	*e*PKIKP		PKPbc	03 25 37.7	-0.1
BFO	**Black Forest**	**150.59**	**358**	*e*PKPbc		PKPdf	03 25 37.1	+4.7
BZS	**Buzias**	**150.60**	**338** ⇑	*i*P		PKPbc	03 25 38.7	+0.8
BZS	**Buzias**	**150.60**	**338**	P		PKPbc	03 25 39.4	+1.5
ESKT	**Eskisehir**	**150.69**	**320**	*i*P		PKPbc	03 25 38.8	+0.7
BORA	**Eskisehir**	**150.71**	**321**	*i*P		PKPbc	03 25 38.0	-0.2
THEF	**They Montfort**	**150.72**	**1**	PKP		PKPbc	03 25 39.3	+1.1
THEF	**They Montfort**	**150.72**	**1**	*e*P		PKPdf	03 25 32.7	0.0
ARSA	**Arzberg**	**150.79**	**348** ⇑	*i*P		PKPbc	03 25 38.6	+0.3
	comp=Z,11nm,1.9s							
HAU	**Haudompre**	**150.94**	**0**	*e*PKIKP		PKPbc	03 25 38.2	-0.5
HAU				*e*R				
	comp=Z,261nm,18.2s							
HAU	**Haudompre**	**150.94**	**0**	*e*PKPdf		PKPbc	03 25 38.2	-0.5
HAU				LR		LR		
	comp=Z,260nm,18.3s,MS5.1							
ERMK	**Ermenek**	**150.95**	**313**	*i*P		PKPbc	03 25 39.9	+1.1
PKSM	**Moragy**	**151.00**	**343** ⇓	*i*P		PKPdf	03 25 35.7	+2.6
PKSM	**Moragy**	**151.00**	**343**	*e*P		PKPbc	03 25 39.3	+0.4
FELD	**Feldberg im Sc**	**151.06**	**358**	*e*P		PKPdf	03 25 34.1	+0.9
MOF	**Molkenrain**	**151.10**	**359**	*e*P		PKPab	03 25 45.4	-1.4
HINF	**Hinteralfeld**	**151.13**	**360**	*e*PKIKP		PKPbc	03 25 38.6	-0.6
ULDT	**Uludag**	**151.32**	**322**	*i*P		PKPdf	03 25 32.3	-1.3
KBA	**Koelnbreinsper**	**151.35**	**350** ⇑	*i*P		PKPbc	03 25 38.8	-0.8
	comp=Z,6.6nm,1.2s							
WTTA	**Wattenberg**	**151.40**	**353** ⇓	*i*P		PKPbc	03 25 39.6	-0.1
	comp=Z,11nm,1.5s							
BBS	**Basel-Blauen**	**151.48**	**359**	*e*P		PKPbc	03 25 39.8	-0.2
DAVA	**Damuels**	**151.54**	**355** ⇑	*i*P		PKPbc	03 25 40.6	+0.5
	comp=Z,12nm,1.4s							
LOR	**Lormes**	**151.59**	**4**	*e*PKIKP		PKPbc	03 25 39.1	-1.1
LOR				*e*R				
	comp=Z,380nm,19.5s							
LOR	**Lormes**	**151.59**	**4**	*e*PKPdf		PKPbc	03 25 39.1	-1.1
LOR				LR		LR		
	comp=Z,380nm,19.5s,MS5.2							
LOMF	**Lomont**	**151.60**	**360**	PKP		PKPbc	03 25 41.3	+1.0
LOMF	**Lomont**	**151.60**	**360**	*e*P		PKPbc	03 25 37.9	-2.4
SSF	**Saint Saulge**	**151.77**	**5**	*e*PKIKP		PKPbc	03 25 39.4	-1.2
	comp=Z,53nm,1.6s							
MFF	**Saint Martin d**	**151.78**	**10**	*e*PKIKP		PKPbc	03 25 39.6	-1.1
GDZ	**Gediz**	**151.79**	**320**	*i*P		PKPbc	03 25 42.5	+1.8
AVF	**Avril sur Loir**	**152.03**	**5**	*e*PKIKP		PKPbc	03 25 39.9	-1.3
LEGS	**Legarje**	**152.07**	**347**	*e*PKPdf		PKPdf	03 25 30.7	-4.0
LJU	**Ljubljana**	**152.14**	**348**	*e*PKPdf		PKPdf	03 25 30.6	-4.2
SMF	**Signal de Mont**	**152.21**	**4**	*e*PKIKP		PKPbc	03 25 40.1	-1.5
BGF	**Bois d'Agland**	**152.21**	**6**	*e*PKIKP		PKPbc	03 25 40.1	-1.5
CABF	**La Chapelle**	**152.34**	**1**	*e*PKIKP		PKPbc	03 25 40.3	-1.6
	comp=Z,35nm,1.4s							
TCF	**Toulx Ste Croi**	**152.42**	**7**	*e*PKIKP		PKPbc	03 25 40.4	-1.7
VTS	**Vitosha**	**152.52**	**333** ⇑	*i*P		PKPbc	03 25 44.0	+1.7
VTS	**Vitosha**	**152.52**	**333** ⇑	P		PKPbc	03 25 44.0	+1.6
RJF	**Les Rejaudoux**	**153.30**	**8**	*e*PKIKP		PKPbc	03 25 41.7	-2.4
RJF				*e*R				
	comp=Z,295nm,19.2s							
RJF	**Les Rejaudoux**	**153.30**	**8**	*e*PKPdf		PKPbc	03 25 41.7	-2.4
RJF				LR		LR		
	comp=Z,290nm,19.3s,MS5.1							
ORIF	**Oris-en-Rattie**	**154.03**	**1**	*e*PKIKP		PKPbc	03 25 42.6	-3.0
LASF	**Ste Croix**	**154.76**	**5**	*e*PKIKP		PKPbc	03 25 43.2	-4.0
SJPF	**Ste Jean**	**154.93**	**14**	*e*PKIKP		PKPbc	03 25 43.9	-3.6
	comp=Z,39nm,1.6s							
SBF	**Sospel**	**155.08**	**359**	*e*PKIKP		PKPdf	03 25 44.1	+5.1
ETSF	**Etsaut**	**155.28**	**13**	*e*PKIKP		PKPdf	03 25 44.4	+5.1
FRF	**La Foret Royal**	**155.39**	**0**	*e*PKIKP		PKPdf	03 25 44.1	+4.7
AQU	**L'Aquila**	**155.91**	**348** ⇑	*i*P		PKPdf	03 25 42.8	+2.7
AQU	**L'Aquila**	**155.91**	**348** ⇑	P		PKPdf	03 25 42.8	+2.7
PGF	**Pioggiola**	**156.32**	**356**	*e*PKIKP		PKPdf	03 25 45.3	+4.6
	comp=Z,9.0nm,1.1s							
TORD	**Torodi Ar. Bea**	**172.56**	**139**	PKPab		PKPab	03 27 21.8	+1.5
	comp=Z,0.9nm,0.9s,baz=256,slow=3.9,SNR=7.3							

IDC 26 03:15:20.2±1.5, 1642S×17610W, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/14, mbtmp4.0/6, Error ellipse: s-maj=46.0km s-min=32.0km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.27**	**240**	P	P	03 23 06.6	-0.5
	2.1nm,0.5s,baz=90,slow=9.5,SNR=10						
WRA	**Warramunga Arr**	**47.08**	**258**	P	P	03 23 54.4	+0.7
	0.5nm,0.5s,baz=98,slow=6.8,SNR=16						
ASAR	**Alice Springs**	**47.32**	**253**	P	P	03 23 55.5	0.0
	5.8nm,0.6s,baz=90,slow=8.4,SNR=105						
FITZ	**Fitzroy Crossi**	**55.46**	**259**	P	P	03 24 57.5	+1.0
	0.7nm,0.4s,baz=98,slow=14,SNR=4.3						
VNDA	**Vanda**	**62.11**	**185**	P	P	03 25 42.9	+0.1
	1.0nm,0.9s,baz=11,slow=5.2,SNR=3.6						
PDAR	**Pinedale Array**	**84.77**	**43**	P	P	03 27 56.4	+0.1
	0.2nm,0.5s,baz=292,slow=2.8,SNR=3.4						

*ISCJB **26** 03:16:16.9±0.5, 4265N±004×14424E±005, h96km±3km, mb3.8/10, Error ellipse: s-maj=7.9km s-min=4.9km az=127.1*

*MOS **26** 03:16:16.1±1.7, 4272N×14455E, h110km, mb4.2/3, Error ellipse: s-maj=19.5km s-min=14.3km az=94.6*

*JMA **26** 03:16:17.8±0.1, 4270N×14419E, h95km±1km, M4.1 Broadband fault plane solution: P waves. NP1: ϕ=49.00000°, δ45.00000°, λ-94.00000°. NP2: ϕ=235.00000°, δ45.00000°, λ-86.00000°. Principal axes: T Plg0.0000°, Azm322.0000°; N Plg3.0000°, Azm52.0000°; P Plg87.0000°, Azm232.0000°;*

JMA Felt II J1.

*IDC **26** 03:16:19.4±2.0, 4271N×14418E, h103km±16km, mb3.6/7, mb1 3.7/8, mb1mx3.5/19, mbtmp3.9/8, MS3.6/1, Ms1 3.6/1, ms1mx2.9/39 Error ellipse: s-maj=23.1km s-min=17.1km az=88.0*

*NEIC **26** 03:16:20.0±3.2, 4271N×14409E, h110km±30km, mb4.1/2, Error ellipse: s-maj=27.7km s-min=20.6km az=48.0*

NEIC Recorded [2 JMA] in the Kushiro area.

ISC 26 03:16:17.9±0.5, 4266N±004×14424E±004, h90km±3km, n34, σ0.9s79/51, mb3.8/10, 5C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.38**	**309**	⇓P	Pn	03 16 32.4	+0.5
JOB				*e*S	Sn	03 16 43.0	+0.8
JAK	**Akkeshi**	**0.47**	**45**	⇓P	Pn	03 16 32.9	+0.4
JAK				*e*S	Sn	03 16 44.0	+0.6
JCH	**Churui**	**0.65**	**266**	⇓P	Pn	03 16 34.0	0.0
JCH				*e*S	Sn	03 16 45.3	-0.6
JAR	**Ashorobuto**	**0.72**	**332**	⇓P	Pn	03 16 34.8	+0.1
JAR				*e*S	Sn	03 16 47.1	0.0
JNK	**Nakash**	**0.99**	**21**	⇓P	Pn	03 16 37.3	-0.2
JNK				*e*S	Sn	03 16 51.5	-0.7
JEM	**Erimo**	**1.03**	**231**	P	Pn	03 16 39.0	+1.0
JNBK	**Urakawa-nobuka**	**1.16**	**251**	⇓P	Pn	03 16 39.1	-0.4
JNBK				*e*S	Sn	03 16 54.5	-1.3
JFR	**Furan**	**1.30**	**293**	⇑P	Pn	03 16 40.8	-0.5
JFR				*e*S	Sn	03 16 58.0	-0.9
NEM2	**Nemuro 2**	**1.31**	**57**	⇓P	Pn	03 16 40.9	-0.4
NEM2				*e*S	Sn	03 16 57.5	-1.4
JTKR	**Abashiri--Toko**	**1.33**	**350**	⇑P	Pn	03 16 41.8	+0.3
JTKR				*e*S	Sn	03 17 00.1	+0.8
JBT2	**Biratori 2**	**1.38**	**275**	⇑P	Pn	03 16 41.6	-0.6
JBT2				*e*S	Sn	03 16 59.3	-1.3
JRA	**Rausu**	**1.43**	**27**	⇓P	Pn	03 16 43.1	+0.3
JRA				*e*S	Sn	03 17 02.3	+0.7
JMP	**Maruseppu**	**1.49**	**335**	⇑P	Pn	03 16 43.4	-0.1
JMP				*e*S	Sn	03 17 02.4	-0.5
JKK2	**Kamakawa 2**	**1.62**	**319**	⇑P	Pn	03 16 45.4	+0.1
JKK2				*e*S	Sn	03 17 05.6	-0.4
JAB	**Ashibetsu**	**1.70**	**300**	P	Pn	03 16 46.7	+0.5
JAB				S	Sn	03 17 08.6	+1.0
YUK	**Yuzh-Kuril'sk**	**1.81**	**40**	*e*PN	Pn	03 16 47.8	+0.1
YUK				*i* S	Sn	03 17 09.8	-0.5
YUK				pmax	pmax		
	comp=Z,430nm,0.2s						
YUK				smax			
	comp=N,230nm,0.5s						
YUK				smax			
	comp=E,640nm,0.5s						
YUK				smax			
	comp=N,3μm,0.4s						
YUK				smax			
	comp=E,1μm,0.4s						
ASAJ	**Asahikawa**	**1.88**	**321**	P	Pn	03 16 49.0	+0.4
	comp=E,23nm,0.3s,baz=186,slow=13,SNR=107						
ASAJ				S	Sn	03 17 13.2	+1.4
	comp=E,45nm,0.3s,baz=90,slow=20,SNR=16						
ASAJ	**Asahikawa**	**1.88**	**321**	PN	Pn	03 16 49.0	+0.4
ASAJ				S	Sn	03 17 13.3	+1.4
ASAJ				pmax	pmax		
	comp=Z,23nm,0.3s						
ASAJ				smax			
	comp=E,45nm,0.3s						
KUR	**Kuril'sk**	**3.67**	**44**	PN	Pn	03 17 07.0	-5.5
KUR				S	Sn	03 17 51.0	-3.7
KUR				smax			
	comp=N,150nm,0.5s						
KUR				smax			
	comp=E,80nm,0.5s						
MJAR	**Matsushiro Arr**	**7.68**	**219**	P	Pn	03 18 08.6	+1.6
	comp=E,0.4nm,0.3s,baz=36,slow=13,SNR=2.8						
SONM	**Songino Array**	**26.95**	**294**	P	P	03 21 51.7	+0.9
	comp=E,5.9nm,0.7s,mb4.2,baz=84,slow=8.7,SNR=34						
SONM				LR	LR	03 33 30.4	
	comp=E,122nm,20.1s,baz=68,slow=38						
ZAK	**Zakamensk**	**28.91**	**300**	*e*P	P	03 22 09.1	+0.8
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.7						
MKAR	**Makanchi Array**	**43.20**	**298**	P	P	03 24 09.3	-0.5
	comp=Z,0.8nm,0.6s,mb3.6,baz=82,slow=8.7,SNR=5.0						
KURK	**Kurchatov**	**44.37**	**304**	*e*P	P	03 24 19.1	-0.2
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
KURK	**Kurchatov**	**44.37**	**304**	*e*P	P	03 24 19.1	-0.1
	comp=Z,2.3nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**49.35**	**310**	P	P	03 24 54.1	-4.0
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**49.35**	**310**	P	P	03 24 54.1	-4.0
	comp=Z,1.9nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**62.96**	**190**	P	P	03 26 34.9	0.0
	comp=Z,0.8nm,1.1s,mb3.6,baz=6.2,slow=6.7,SNR=4.1						
FINES	**FINESS Array B**	**64.86**	**332**	P	P	03 26 46.0	-1.3
	comp=Z,1.4nm,0.7s,mb3.9,baz=29,slow=6.6,SNR=11						
NB2	**NORSAR Subarra**	**69.82**	**338**	P	P	03 27 17.1	-1.6
	comp=Z,0.4nm,0.5s,mb3.5,baz=34,slow=6.5						
NOA	**NORSAR Array B**	**69.82**	**338**	P	P	03 27 17.5	-1.2
	comp=Z,0.7nm,0.6s,mb3.7,baz=34,slow=6.4,SNR=5.2						
NVAR	**Mina Array Bea**	**69.96**	**56**	P	P	03 27 20.8	+1.3
	comp=Z,0.7nm,0.6s,mb3.7,baz=296,slow=6.6,SNR=7.0						
PDAR	**Pinedale Array**	**72.23**	**48**	P	P	03 27 33.4	+0.1
	comp=Z,0.5nm,0.4s,mb3.7,baz=298,slow=1.4,SNR=7.9						
SNAA	**Sanae**	**146.76**	**198**	PKPbc	PKPbc	03 35 47.9	-1.5
	comp=Z,0.4nm,0.5s,baz=182,slow=6.6,SNR=8.8						

*LDG **26** 03:23:22.7±0.6, 4348N×106W, h5km, Md2.2/2, Error ellipse: s-maj=12.0km s-min=6.3km az=168.0*

MDD 26 03:23:23.9±0.2, 4280N×137W, h0km, mbLg0.7/5, 1D, Error ellipse: s-maj=2.5km s-min=1.0km az=146.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRE	**Itoiz**	**0.01**	**42**	Pg	Pg	03 23 24.0	-0.2
	1.5nm,0.1s,SNR=18						
IPRE				Lg		03 23 24.6	
	12nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**247**	⇓Pg	Pg	03 23 25.8	-0.2
	1.4nm,0.1s,SNR=18						
IUNC				Lg		03 23 28.0	
	11nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.16**	**261**	Pg	Pg	03 23 27.2	+0.2
	12nm,0.1s,SNR=7.9						
EARA				Lg		03 23 30.1	
	2.1nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.20**	**319**	Pg	Pg	03 23 28.1	+0.3
	0.7nm,0.1s,SNR=7.9						
IUSE				Lg		03 23 30.3	
	1.7nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.33**	**18**	*e*Pg	Pg	03 23 30.0	-0.3
SJPF	**Ste Jean**	**0.33**	**18**	*e*Pn	Pg	03 23 31.0	+0.7
SJPF				*e*Sg	Sg	03 23 35.2	+0.5
	3.5nm,0.3s						
SJPF	**Ste Jean**	**0.33**	**18**	Pg	Pg	03 23 30.0	-0.3
SJPF				Lg		03 23 35.2	
	1.8nm,0.3s						
ELIZ	**Elizondo**	**0.39**	**342**	Lg		03 23 36.8	
	0.4nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.43**	**346**	Pg	Pg	03 23 32.3	0.0
	0.1nm,0.1s,SNR=7.9						
EALK				Lg		03 23 37.6	
	0.4nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.60**	**80**	*e*Pg	Pg	03 23 35.8	+0.3
ETSF	**Etsaut**	**0.60**	**80**	*e*Pn	Pg	03 23 37.5	+2.0
ETSF				*e*Sg	Sg	03 23 45.0	+1.7
	1.0nm,0.3s						
ETSF	**Etsaut**	**0.60**	**80**	Pg	Pg	03 23 35.8	+0.3
ETSF				Lg		03 23 45.0	
	0.0nm,0.3s						
EBIE	**Bielsa**	**1.12**	**95**	Pg	Pg	03 23 47.6	+2.2
	0.1nm,0.1s,SNR=7.9						
EBIE				Lg		03 24 05.4	
	0.2nm,0.2s,SNR=7.9						

*IDC **26** 03:26:16.3±0.7, 1868S×17343W, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.4/18, mbtmp4.3/12, ML2.2/1, MS4.4/12, Ms1 4.4/12, ms1mx4.1/32, Error ellipse: s-maj=28.3km s-min=16.3km az=132.0*

*BJI **26** 03:26:19.5, 1893S×17356W, h23km, mB5.2, mb5.1, Ms5.0, Msz4.6*

*ISCJB **26** 03:26:19.7±0.4, 1894S±009×17343W±008, h33km, mb4.7/34, MS4.6/16, Error ellipse: s-maj=15.2km s-min=7.8km az=109.8*

*NEIC **26** 03:26:21.4±0.3, 1887S×17340W, mb4.8/18, Error ellipse: s-maj=17.3km s-min=8.1km az=145.0*

*HRVD **26** 03:26:21.4±0.3, 1888S×17257W, h17km, MW5.0/70, Centroid moment Tensor Solution. LP body waves: s34,c43;Mantle waves: s70,c111; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 4.30±.21; Mθθ -1.10±.13; Mϕϕ -3.20±.14; Mrθ 0.98±.35; Mϕθ -1.64±.09; Mϕr 1.88±.33; Best double couple: M0 4.70400×10^16 NP1: ϕ209.00000°, δ32.00000°, λ91.00000°. NP2: ϕ28.00000°, δ58.00000°, λ90.00000°. Principal axes: T 4.8050, Plg77.0000°, Azm297.0000°; N -0.2030, Plg0.0000°, Azm28.0000°; P -4.6020, Plg13.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **26** 03:26:23.4±2.4, 1875S×17390W, h33km, mb4.8/9 Error ellipse: s-maj=17.4km s-min=15.3km az=153.1*

ISC 26 03:26:21.8±0.4, 1891S±009×17336W±008, h35km, h35km±1.3km:pP-P, n117, σ0.98/71, mb4.7/34, MS4.6/16, 4C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.20**	**17**	Pn	Pn	03 27 31.3	-5.7
	4.9nm,0.3s,baz=270,slow=18,SNR=5.1						
AFI				Sn	Sn	03 28 22.9	-13
	11nm,0.3s,baz=229,slow=20,SNR=3.4						
AFI				LR	LR	03 28 37.6	
	comp=Z,803nm,18.1s,baz=332,slow=28						
AFI				T		03 32 43.8	
	13nm,0.3s,baz=180,slow=7.0,SNR=8.9						
AFI	**Afiamalu**	**5.20**	**17**	Pn	Pn	03 27 31.3	-5.7
AFI				Sn	Sn	03 28 22.9	-13
AFI				LR	LR	03 28 37.6	
RAR	**Rarotonga**	**12.98**	**102**	Pn	Pn	03 29 12.2	-11
	4.6nm,0.3s,baz=236,slow=15,SNR=6.7						
RAR				LR	LR	03 32 51.8	
	comp=Z,2μm,19.5s,baz=232,slow=30						
DZM	**Mont Dzumac**	**19.18**	**257**	P	Pn	03 30 44.5	+1.1
	0.8nm,0.3s,baz=71,slow=16,SNR=5.3						
URZ	**Urewera**	**21.00**	**201**	P	P	03 31 02.6	+0.5
	11nm,0.5s,baz=349,slow=4.5,SNR=12						
PPT	**Papeete**	**22.63**	**90**	*e*LQ		03 35 27.1	
	2μm,25.8s						
PPT				*e*LR	LR	03 36 10.0	
	3μm,29.0s,baz=260						
PPT	**Papeete**	**22.63**	**90**	LR	LR	03 39 15.4	
	comp=Z,1μm,18.6s,MS4.4,baz=255,slow=34						
TBI	**Tubuai**	**22.72**	**105**	*e*LQ		03 35 31.1	
	545nm,26.5s						
TBI				*e*LR	LR	03 36 20.6	
	2μm,31.0s,baz=279						
RPZ	**Rata Peaks**	**27.99**	**205**	P	P	03 32 15.2	+5.9
	9.8nm,0.6s,mb4.6,baz=31,slow=4.6,SNR=7.0						
CTA	**Charters Tower**	**38.02**	**261** ⇓	*i*P	P	03 33 36.3	-0.3
	12nm,0.7s,mb4.8						
CTA				pmax	pmax		
	comp=Z,12nm,0.7s						
CTAO	**Charters Tower**	**38.02**	**261**	*e*P	P	03 33 36.1	-0.5
CTAO				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
CTAO	**Charters Tower**	**38.02**	**261**	*e*P	P	03 33 36.1	-0.5
	comp=Z,11nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**42.41**	**243**	P	P	03 34 12.7	-0.2
	comp=Z,2.5nm,0.7s,mb3.9,baz=64,slow=12,SNR=4.5						
STKA				LR	LR	03 50 53.9	
	comp=Z,1μm,19.2s,MS4.8,baz=42,slow=35						
STKA	**Stephens Creek**	**42.41**	**243**	*e*P	P	03 34

MDJ LR LR
comp=Z,303nm,21.3s,MS4.6
NJ2 Nanjing 82.31 308 *e*P **P** **03 38 38.8 -1.0**
NJ2 AP pP 03 38 49.0 -1.7
NJ2 XP sP 03 38 53.3 -1.4
NJ2 PP PP 03 41 48.0 -0.6
NJ2 S S 03 48 48.0 -5.0
NJ2 SKS 03 48 51.0
NJ2 AMB AMB
comp=Z,30nm,1.1s,mb5.1
NJ2 AMB AMB
comp=Z,270nm,6.0s
NJ2 LR LR
comp=N,70nm,18.0s
NJ2 LR LR
comp=E,110nm,12.0s
HWUT Hardware Ranch 82.97 42 *e*P **P** **03 38 42.6 -0.6**
ANMO Albuquerque 83.03 50 P **P** **03 38 44.9 +1.4**
comp=E,1.3nm,0.8s,mb4.0,baz=240,slow=11,SNR=5.2
ANMO Albuquerque 83.03 50 *e*P **P** **03 38 45.0 +1.5**
ANMO *e**PP pP 03 38 55.9 +1.5
ANMO pmax pmax
comp=Z,24nm,2.3s
ANMO Albuquerque 83.03 50 *e*P **P** **03 38 45.0 +1.5**
comp=Z,24nm,2.3s,mb4.8
ANMO *e*pP pP 03 38 55.9 +1.5
PV01 Paradox Valley 83.11 46 *e*P **P** **03 38 43.4 -0.5**
PV01 *e*pP pP 03 38 57.2 +2.3
CN2 Changchun 83.79 320 *e*P **P** **03 38 49.3 +1.9**
CN2 LR LR
comp=N,170nm,15.0s,MS4.8
CN2 LR LR
comp=E,230nm,15.0s,MS4.8
CN2 LR LR
comp=Z,180nm,16.0s,MS4.5
MCMT McKenzie Canyo 83.95 39 *e*P **P** **03 38 49.1 +0.8**
MCMT *e*pP pP 03 38 58.5 -0.7
QIZ Qiongzhong 84.25 292 P **P** **03 38 49.3 -0.5**
QIZ S 03 49 14.0
QIZ AMB AMB
comp=Z,10.0nm,1.7s,mb4.7
TPAW Teton Pass 84.36 40 *e*P **P** **03 38 50.0 -0.4**
comp=Z,17nm,1.7s,mb4.9
MAW Mawson 84.50 199 P **P** **03 38 50.7 -0.4**
comp=Z,1.7nm,0.8s,mb4.2,baz=3.6,slow=4.2,SNR=4.9
MCK McKinley 84.54 11 *e*P **P** **03 38 52.0 +0.7**
MCK pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
MCK McKinley 84.54 11 *e*P **P** **03 38 52.0 +0.7**
comp=Z,2.1nm,0.7s,mb4.4
SMCO Snowmass 84.72 46 *e*P **P** **03 38 52.7 +0.6**
comp=Z,12nm,1.3s,mb4.8
QLMT Earthquake Lak 84.80 39 *e*P **P** **03 38 54.1 +1.5**
BW06 Boulder Array 84.84 42 *e*P **P** **03 38 51.6 -1.2**
comp=Z,3.2nm,1.3s,mb4.3
BW06 *e*pP pP 03 39 01.1 -2.6
PDAR Pinedale Array 84.84 42 P **P** **03 38 51.5 -1.2**
comp=Z,1.1nm,0.8s,mb4.0,baz=256,slow=3.8,SNR=11
BOZ Bozeman (W) 85.13 38 *e*P **P** **03 38 54.4 +0.2**
BOZ *e**PP pP 03 39 03.5 -1.7
BOZ pmax pmax
comp=Z,3.0nm,1.2s,mb4.3
BOZ Bozeman (W) 85.13 38 *e*P **P** **03 38 54.4 +0.2**
comp=Z,3.2nm,1.2s,mb4.3
BOZ *e*pP pP 03 39 03.5 -1.6
COLA College 85.78 11 *d i*P **P** **03 38 56.1 -1.4**
COLA College 85.78 11 *e*P **P** **03 38 56.0 -1.5**
comp=Z,12nm,1.0s,mb5.1
IMA2 Indian Mountai 86.01 8 *e*P **P** **03 38 57.3 -1.3**
DAWY Dawson 86.79 14 *e*P **P** **03 39 02.2 -0.2**
BJT Baijiatuan 87.89 314 *e*P **P** **03 39 08.9 +1.2**
BJT pmax pmax
comp=Z,15nm,0.4s
BJT Baijiatuan 87.89 314 *e*P **P** **03 39 08.9 +1.2**
comp=Z,15nm,0.4s,mb5.6
SNAA Sanae 89.42 177 LR LR 04 16 02.4
comp=Z,170nm,18.9s,MS4.5,baz=195,slow=33
HHC Hu-ho-hao-te 91.42 313 *e*P **P** **03 39 25.3 +1.0**
HHC AP pP 03 39 35.5 +0.2
HHC XP sP 03 39 39.8 +0.6
HHC PP PP 03 43 06.0 +3.9
HHC S 03 50 20.0
HHC XS sS 03 50 36.8 -2.6
HHC PS PS 03 51 37.5 +3.5
HHC AMB AMB
comp=Z,9.0nm,0.6s,mb5.3
HHC AMB AMB
comp=Z,61nm,5.0s
HHC LR LR
comp=N,173nm,19.0s,MS4.7
HHC LR LR
comp=E,199nm,21.4s,MS4.7
HHC LR LR
comp=Z,188nm,20.2s,MS4.5
KMI Kunming 92.56 296 P **P** **03 39 30.0 +0.4**
KMI AP pP 03 39 41.0 +0.4
KMI XP sP 03 39 44.8 +0.3
KMI PP PP 03 43 11.5 +0.4
KMI PPP 03 45 16.5
KMI SKS 03 50 02.0
KMI S 03 50 28.0
KMI AMB AMB
comp=Z,28nm,0.6s,mb5.9
KMI AMB AMB
comp=Z,68nm,8.0s
KMI LR LR
comp=N,243nm,15.9s,MS4.9
KMI LR LR
comp=E,200nm,15.9s,MS4.9
KMI LR LR
comp=Z,261nm,15.9s,MS4.8
YKA Yellowknife Ar 93.28 23 LR LR 04 16 32.7
comp=Z,143nm,18.2s,MS4.5,baz=235,slow=32
CD2 Chengdu 93.65 301 *e*P **P** **03 39 33.5 -1.1**
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,60nm,9.2s
LZH Lanzhou 95.32 306 *e*P **P** **03 39 42.3 +0.1**
LZH AP pP 03 39 53.0 -0.2
LZH XP sP 03 39 57.0 -0.2
LZH PP PP 03 43 35.5 +2.9
LZH AMB AMB
comp=Z,21nm,1.4s,mb5.4
ULM Lac du Bonnet 96.62 39 LR LR 04 19 20.0
comp=Z,265nm,18.0s,MS4.8,baz=227,slow=33
LPAZ La Paz 98.58 110 LR LR 04 15 49.8
comp=Z,155nm,20.7s,MS4.5,baz=48,slow=30
CHKZ Chkalovo 120.39 322 *e*PKIKP PKPdf 03 45 09.3 -0.1
ZRNK Zerenda 121.47 321 *e*PKIKP PKPdf 03 45 11.8 +0.3
OBN Obninsk 137.31 335 *i*PKIKP PKPdf 03 45 37.9 -3.6
OBN *e* 03 48 22.9
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.9
AKASG Malin Array Be 143.55 336 PKP PKPdf 03 45 51.5 -1.2
comp=Z,1.5nm,0.7s,baz=38,slow=3.4,SNR=7.8
ANN Anapa 143.62 322 *i* PKIKP PKPdf 03 45 57.1 +4.2
ANN pmax pmax
comp=Z,81nm,6.5s
KMBO Kilima Mbogo 143.93 240 PKP PKPdf 03 45 53.4 -0.1
comp=Z,9.6nm,1.3s,baz=15,slow=5.2,SNR=4.9
MALT Malatya 146.29 312 *e*PKP2 PKPab 03 46 00.0 +0.5
KWP Kalwaria 146.74 341 *e*PKP PKPdf 03 46 02.2 +3.9
OJC Ojcow 147.03 344 *e*PKP PKPdf 03 46 02.1 +3.4
CLL Collm 147.28 353 *e*PKPdf PKPdf 03 46 01.0 +1.8
CLL *i* PKPbc PKPbc 03 46 02.7 +1.2
comp=Z,16nm,1.2s
CLL *i* PKiKP PKiKP 03 46 06.4 +2.6
CLL *i* (sPKiKP) 03 46 21.8
CLL Collm 147.28 353 *e*PKP PKPdf 03 46 01.0 +1.8
CLL *i* PKP PKPdf 03 46 02.7 +3.5
CLL LR LR
comp=Z,200nm,17.1s,MS5.0
KOLS Kolonicke sedl 147.49 341 *e*PKP PKPdf 03 46 00.9 +1.4
BRG Berggiesshubel 147.58 351 *e*PKP PKPdf 03 46 03.0 +3.3
comp=Z,4.2nm,1.0s
BRG
comp=N,103nm,22.3s
BRG
comp=E,63nm,20.7s
BRG
comp=Z,122nm,18.3s
UPC Upice 147.60 349 *e*PKP PKPdf 03 46 04.1 +4.4

NIE Niedzica 147.63 343 *e*PKP PKPdf 03 46 02.7 +3.0
DPC Dobruska-Polom 147.69 348 *e*PKP PKPdf 03 46 03.1 +3.3
DPC *ep*PKP pPKPdf 03 46 13.5 +2.3
CRVS Cervenica-Dubn 147.77 342 *e*PKP PKPdf 03 46 02.0 +2.0
OKC Ostrava-Krasne 147.79 346 *e*PKP PKPdf 03 46 05.2 +5.2
OKC *ep*PKP pPKPdf 03 46 16.7 +5.4
PVCC Panska Ves 147.82 350 *e*PKP PKPdf 03 46 04.8 +4.7
MORC Moravsky Berou 147.98 347 *e*PKHKP 03 45 58.4
MORC *e* 03 46 02.8
MOX Moxa 148.09 354 *e*PKP PKPdf 03 46 06.2 +5.7
PRU Pruhonice 148.35 350 *e*PKP PKPdf 03 46 05.4 +4.5
PRU *ep*PKP pPKPdf 03 46 18.6 +6.3
NKC Novy Kostel 148.40 353 *e*PKP PKPdf 03 46 08.4 +7.4
BR131 Keskin Array S 148.82 317 *e*PKPbc PKPbc 03 46 05.3 -0.3
BR131 *e*PKPab PKPab 03 46 09.0 -0.5
BRTR Keskin Array B 148.82 317 PKPbc PKPbc 03 46 04.4 -1.2
comp=Z,2.6nm,1.0s,baz=132,slow=1.8,SNR=13
TREC Trest 148.86 349 *e*PKP PKPdf 03 46 04.6 +2.9
VYHS Vyhne 148.87 344 *e*PKP PKPdf 03 46 05.5 +3.7
VYHS Vyhne 148.87 344 *e*PKP PKPdf 03 46 05.5 +3.7
GRA1 Grafenberg Arr 149.07 354 *e*PKP PKPdf 03 46 07.7 +5.6
GRF Grafenberg Arr 149.07 354 *e*PKP PKPdf 03 46 07.7 +5.6
PSZ Piszkesteto 149.11 343 *e*PKIKP PKPdf 03 46 05.3 +3.1
PSZ *e* 03 46 09.3
ANTO Ankara 149.28 318 *e*PKHKP 03 46 02.2
ANTO *e* 03 46 06.4
ANTO *e* 03 46 10.5
KHC Kasperske Hory 149.33 351 *e*PKP PKPdf 03 46 05.0 +2.5
KHC *ep*PKP pPKPdf 03 46 09.0 -4.9
GEC2 GERESS Array S 149.59 351 *e*PKIKP PKPdf 03 46 03.0 +0.1
GEC2 *e* 03 46 08.1
GERES GERESS Array B 149.59 351 PKPbc PKPbc 03 46 06.7 -0.8
comp=Z,1.2nm,0.8s,baz=79,slow=0.7,SNR=14
CONA Conrad Observa 150.09 348 *i*PKPdf PKPdf 03 46 01.9 -1.8
comp=Z,12nm,1.1s
BFO Black Forest 150.62 358 *e*PKIKP PKPdf 03 46 05.4 +0.9
BFO *e* 03 46 12.4
KBA Koelnbreinsper 151.37 350 *i*P PKPdf 03 46 11.5 +5.9
comp=Z,3.1nm,1.1s
WTTA Wattenberg 151.42 353 *i*P PKPdf 03 46 14.7 +8.9
comp=Z,7.4nm,1.1s
TORD Torodi Ar. Bea 172.56 140 PKP PKPdf 03 46 28.6 +1.6
comp=Z,0.4nm,0.9s,baz=299,slow=3.1,SNR=4.7

NEIC ***26*** *03:38:14.6±6.4, 4.85S×153.76E, h148km±37km, mb4.0/3, Error ellipse: s-maj=93.1km s-min=21.3km az=104.0*
ISCJB ***26*** *03:38:15.7±5.2, 4.95S×153.62E±04, h164km±37km, mb4.0/7, Error ellipse: s-maj=61.6km s-min=28.9km az=44.2*
IDC ***26*** *03:38:17.4±8.3, 4.87S×153.54E, h159km±56km, mb3.6/4, mb1 3.9/5, mb1mx3.6/15, mbtmp4.2/5, MS4.1/1, Ms1 4.1/1, ms1mx3.1/20, Error ellipse: s-maj=87.7km s-min=34.5km az=105.0*
ISC 26 03:38:16.0±5.8, 48S±02×1536E±04, h150km±39km, n14, σ0.6 4/13, mb4.0/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.86**	**234**	P		**Pn**		**03 40 07.5**	**+0.1**
	15nm,0.3s,baz=49,slow=4.9,SNR=18								
PMG				S		**Sn**		**03 41 34.9**	**-0.1**
	2.5nm,0.3s,baz=76,slow=8.3,SNR=2.8								
CTA	**Charters Tower**	**16.81**	**205**	LR		LR		03 47 44.4	
	comp=Z,623nm,20.4s,baz=75,slow=34								
WRAB	**Tennant Creek**	**24.04**	**230**	*e*P		**P**		**03 43 17.2**	**+0.2**
	2.7nm,0.7s,mb3.9								
WB2	**Warramunga Arr**	**24.04**	**230**	*e*P		**P**		**03 43 16.8**	**-0.2**
WRA	**Warramunga Arr**	**24.05**	**230**	P		**P**		**03 43 17.8**	**+0.7**
	4.5nm,0.7s,mb4.1,baz=54,slow=9.7,SNR=41								
AS31	**Alice Springs**	**26.70**	**223**	*e*P		**P**		**03 43 40.8**	**-0.2**
ASAR	**Alice Springs**	**26.70**	**223**	P		**P**		**03 43 41.1**	**+0.1**
	1.2nm,0.5s,mb3.8,baz=53,slow=8.5,SNR=17								
ASPA	**Alice Springs**	**26.70**	**223**	*e*P		**P**		**03 43 41.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**30.36**	**242**	*e*P		**P**		**03 44 13.0**	**-0.5**
	4.4nm,0.5s,mb4.4								
FITZ	**Fitzroy Crossi**	**30.36**	**242**	P		**P**		**03 44 13.5**	**0.0**
	2.3nm,0.5s,mb4.2,baz=274,slow=19,SNR=14								
FORT	**Forrest**	**35.30**	**220**	*e*P		**P**		**03 44 56.1**	**-0.3**
	9.4nm,0.5s,mb4.7								
MKAR	**Makanchi Array**	**80.83**	**319**	P		**P**		**03 50 14.3**	**+1.4**
	0.4nm,0.5s,mb3.3,baz=104,slow=6.1,SNR=2.9								
CHKZ	**Chkalovo**	**89.66**	**324**	*e*P		**P**		**03 50 55.2**	**-1.5**
	0.9nm,0.6s,mb3.9								
TORD	**Torodi Ar. Bea**	**151.05**	**289**	PKPbc	PKPbc			03 57 51.6	+0.6
	0.4nm,0.4s,baz=86,slow=1.6,SNR=17								

BJI ***26*** *03:43:36.0, 9.81S×108.49E, h33km, mB5.0, mb4.8, Ms4.6, Msz4.3*
NEIC ***26*** *03:43:38.0±0.1, 9.31S×108.46E, h10km, mb4.9/26, Error ellipse: s-maj=7.7km s-min=3.9km az=49.0*
NEIC Felt [II] at Sukabumi.
ISCJB ***26*** *03:43:40.0±0.3, 9.28S±005×108.58E±007, h34km, mb4.7/57, MS4.1/4, Error ellipse: s-maj=10.5km s-min=5.7km az=117.8*
MOS ***26*** *03:43:39.9±0.9, 9.23S×108.56E, h33km, mb4.9/21, Error ellipse: s-maj=16.1km s-min=8.2km az=121.1*
IDC ***26*** *03:43:41.7±0.6, 9.34S×108.42E, h34km±4km, mb4.3/17, mb1 4.4/18, mb1mx4.3/21, mbtmp4.5/18, ML3.8/1, MS3.9/1, Ms1 3.9/1, ms1mx3.0/29, Error ellipse: s-maj=20.6km s-min=10.9km az=55.0*
ISC 26 03:43:42.1±0.3, 934S±005×10851E±006, h36km, h36km±1.4km: pP-P, n120, σ0.85/101, mb4.7/57, MS4.1/4, 4C-2D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.32**	**31**	*i*P		**Pn**		**03 44 19.6**	**+1.8**
BJII				*i* S		**Sn**		**03 44 31.0**	**-14**
MBWA	**Marble Bar**	**15.97**	**139**	*e*Pn		**Pn**		**03 47 24.1**	**+0.1**
MBWA				*e*P				03 47 27.1	
FITZ	**Fitzroy Crossi**	**18.77**	**119**	*e*P		**Pn**		**03 47 58.5**	**-0.2**
	16nm,0.8s								
FITZ				*e*S		S		03 51 09.1	-21
FITZ	**Fitzroy Crossi**	**18.77**	**119**	P		**Pn**		**03 47 58.3**	**-0.5**
	0.2nm,0.3s,baz=278,slow=6.2,SNR=12								
FITZ				S		S		03 51 08.7	-21
	0.2nm,0.3s,baz=205,slow=17,SNR=3.1								
NWAO	**Narrogin (SRO)**	**24.82**	**162**	P		**P**		**03 48 59.5**	**-1.3**
	12nm,0.9s,mb4.4,baz=324,slow=14,SNR=4.7								
WRA	**Warramunga Arr**	**27.08**	**116**	P		**P**		**03 49 21.3**	**0.0**
	5.3nm,0.8s,mb4.1,baz=287,slow=11,SNR=19								
WRA				PcP		PcP		03 52 42.7	+1.1
	1.2nm,0.6s,baz=308,slow=2.2,SNR=6.3								
WRAB	**Tennant Creek**	**27.09**	**116**	*e*P		**P**		**03 49 21.1**	**-0.2**
WRAB				*e**PP		pP		03 49 32.4	+0.8
WRAB				pmax		pmax			
	comp=Z,12nm,0.9s,mb4.4								
WRAB	**Tennant Creek**	**27.09**	**116**	*e*P		**P**		**03 49 21.1**	**-0.2**
	comp=Z,12nm,0.9s,mb4.4								
WRAB				*ep*P		pP		03 49 32.4	+0.8
WB2	**Warramunga Arr**	**27.09**	**116**	*e*P		**P**		**03 49 20.9**	**-0.5**
ASAR	**Alice Springs**	**28.14**	**124**	P		**P**		**03 49 30.8**	**0.0**
	comp=Z,2.9nm,0.7s,mb4.0,baz=302,slow=8.9,SNR=18								
ASAR				PcP		PcP		03 52 45.5	+1.4
	comp=Z,3.5nm,0.7s,baz=306,slow=1.9,SNR=22								
ASAR				Sn		S		03 54 59.7	+46
	comp=Z,1.3nm,0.8s,baz=303,slow=24,SNR=6.7								
ASAR	**Alice Springs**	**28.14**	**124**	P		**P**		**03 49 30.8**	**+0.1**
ASAR								03 52 45.6	
AS31	**Alice Springs**	**28.14**	**124**	*e*P		**P**		**03 49 31.1**	**+0.4**
QIZ	**Qiongzhong**	**28.22**	**3**	P		**P**		**03 49 33.0**	**+1.6**
QIZ				S		S		**03 54 19.0**	**+4.3**
QIZ				AMB		AMB			
	comp=Z,36nm,1.6s,mb4.8								
KMI	**Kunming**	**34.71**	**351**	P		**P**		**03 50 30.0**	**+1.5**
KMI				AMB		AMB			
	comp=Z,7.0nm,0.8s,mb4.6								
CTA	**Charters Tower**	**37.95**	**111**	P		**P**		**03 50 58.0**	**+1.8**
	comp=Z,8.4nm,1.0s,mb4.4,baz=258,slow=12,SNR=3.9								
CTA	**Charters Tower**	**37.95**	**111**	P		**P**		**03 50 58.0**	**+1.8**
CTAO	**Charters Tower**	**37.95**	**111**	*e*P		**P**		**03 50 57.5**	**+1.4**
CTAO				pmax		pmax			
	comp=Z,17nm,1.2s,mb4.7								
CTAO	**Charters Tower**	**37.95**	**111**	*e*P		**P**		**03 50 57.5**	**+1.3**
	comp=Z,17nm,1.2s,mb4.6								
STKA	**Stephens Creek**	**37.98**	**131**	*e*P		**P**		**03 50 56.4**	**0.0**
	comp=Z,18nm,0.7s,mb4.9								
STKA	**Stephens Creek**	**37.98**	**131**	P		**P**		**03 50 56.8**	**+0.4**
	comp=Z,22nm,0.7s,mb5.0,baz=305,slow=8.1,SNR=46								
STKA				pP		pP		03 51 07.5	+0.6

comp=Z,14nm,0.7s,baz=303,slow=8.5,SNR=10.0
CD2 Chengdu 40.27 354 *e*P **P** **03 51 15.8 +0.2**
CD2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,40nm,6.2s
NJ2 Nanjing 42.33 13 *e*P **P** **03 51 30.5 -1.9**
NJ2 AP pP 03 51 39.8 -3.2
NJ2 XP sP 03 51 44.8 -2.5
NJ2 S **S** **03 57 50.0 -0.9**
NJ2 XS sS 03 58 06.0 -2.3
NJ2 AMB AMB
comp=Z,30nm,1.2s,mb4.8
NJ2 AMB AMB
comp=Z,180nm,8.0s
NJ2 LR LR
comp=N,50nm,14.0s,MS3.6
NJ2 LR LR
comp=E,50nm,18.0s,MS3.6
JIRN Jiri 42.66 330 *e*P **P** **03 51 35.1 0.0**
comp=E,27nm,0.8s,mb5.0
PKI Pulchoki 42.98 329 *e*P **P** **03 51 37.3 -0.4**
GUN Gumba 43.02 330 *e*P **P** **03 51 38.1 0.0**
comp=E,36nm,0.8s,mb5.2
XAN Xi'an 43.14 0 P **P** **03 51 39.0 0.0**
XAN AP pP 03 51 48.5 -1.1
XAN AMB AMB
comp=Z,13nm,0.8s,mb4.7
DMN Daman 43.16 329 *e*P **P** **03 51 39.3 +0.1**
comp=Z,38nm,0.8s,mb5.2
KKN Kakani 43.22 329 *e*P **P** **03 51 39.8 +0.1**
comp=Z,40nm,1.0s,mb5.1
KKN Kakani 43.22 329 *e*P **P** **03 51 39.8 +0.1**
KKN pmax pmax
comp=Z,40nm,1.0s,mb5.1
GKN Gorkha 43.72 329 *e*P **P** **03 51 43.3 -0.4**
KOLN Koldanda 44.07 328 *e*P **P** **03 51 46.5 0.0**
comp=Z,54nm,0.8s,mb5.3
GTA Gaotai 49.17 351 *e*P **P** **03 52 27.5 +1.1**
GTA AP pP 03 52 34.8 -2.3
GTA XP sP 03 52 37.5 -3.9
GTA AMB AMB
comp=Z,4.0nm,1.4s,mb4.3
BJT Baijiatuan 49.61 8 *e*P **P** **03 52 29.6 -0.2**
BJT *e**PP pP 03 52 38.9 -1.6
BJT pmax pmax
comp=Z,11nm,0.6s
BJT Baijiatuan 49.61 8 *e*P **P** **03 52 29.6 -0.3**
comp=Z,11nm,0.6s,mb5.1
BJT *ep*P pP 03 52 38.9 -1.6
BJI Beijing 49.64 8 *e*P **P** **03 52 29.3 -0.7**
BJI AMB AMB
comp=Z,11nm,0.7s,mb5.0
HHC Hu-ho-hao-te 50.01 3 *e*P **P** **03 52 34.3 +1.4**
HHC PP PP 03 54 30.5 +2.5
HHC S **S** **03 59 45.0 +3.8**
HHC PS 03 59 54.5
HHC SCS ScS 04 02 21.0 -0.3
HHC SS SS 04 03 14.5 +0.1
HHC AMB AMB
comp=Z,20nm,0.5s,mb5.4
HHC AMB AMB
comp=Z,144nm,4.0s
HHC LR LR
comp=N,157nm,20.8s,MS4.2
HHC LR LR
comp=E,202nm,19.6s,MS4.2
HHC LR LR
comp=Z,163nm,18.4s,MS4.1
WMQ Urumqi 56.18 342 P **P** **03 53 19.8 +1.5**
WMQ AP pP 03 53 24.0 -5.2
WMQ PCP PcP 03 54 17.8 +2.0
WMQ PP PP 03 55 26.5 +2.9
WMQ AMB AMB
comp=Z,11nm,1.3s,mb4.7
WMQ AMB AMB
comp=Z,109nm,5.0s
WMQ LR LR
comp=N,510nm,16.7s,MS4.8
WMQ LR LR
comp=E,382nm,15.6s,MS4.8
WMQ LR LR
comp=Z,507nm,17.2s,MS4.7
SONM Songino Array 56.95 358 P **P** **03 53 23.9 +0.1**
comp=Z,2.3nm,0.5s,mb4.5,baz=177,slow=8.6,SNR=28
SONM pP pP 03 53 34.0 -0.6
comp=Z,5.5nm,0.7s,baz=178,slow=6.8,SNR=18
SONM PcP PcP 03 54 19.1 +0.4
comp=Z,1.3nm,0.5s,baz=180,slow=4.6,SNR=3.7
SONM LR LR 04 20 45.7
comp=Z,107nm,18.9s,MS4.0,baz=135,slow=39
SONM Songino Array 56.95 358 P **P** **03 53 23.9 +0.2**
SONM *PP pP 03 53 34.0 -0.6
SONM 03 54 19.1
MDJ Mudanjiang 56.98 18 P **P** **03 53 24.8 +0.8**
MDJ AMB AMB
comp=Z,2.0nm,0.6s,mb4.3
ZAK Zakamensk 59.64 356 *e*P **P** **03 53 42.0 -0.6**
ZAK *e* 03 54 27.6
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.0
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
TKM2 Tokmak 2 60.05 333 P **P** **03 53 44.8 -0.6**
TKM2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
MK31 Makanchi Array 60.58 340 P **P** **03 53 48.4 -0.6**
MK31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.9
MKAR Makanchi Array 60.58 340 P **P** **03 53 48.6 -0.3**
comp=Z,5.3nm,0.5s,mb4.9,baz=139,slow=7.5,SNR=33
MKAR pP pP 03 53 59.0 -0.9
comp=Z,8.4nm,0.6s,baz=134,slow=6.9,SNR=16
KLR Kul'dur 61.78 17 *e*P **P** **03 53 52.8 -4.3**
KURK Kurchatov 65.19 340 *e*P **P** **03 54 19.2 -0.5**
KURK *e**PP pP 03 54 29.3 -1.4
KURK pmax pmax
comp=Z,13nm,1.0s,mb4.9
KURK Kurchatov 65.19 340 *e*P **P** **03 54 19.2 -0.5**
comp=Z,13nm,1.0s,mb4.9
KURK *ep*P pP 03 54 29.3 -1.3
MAW Mawson 65.59 198 P **P** **03 54 22.1 -0.1**
comp=Z,4.3nm,0.6s,mb4.6,baz=47,slow=6.8,SNR=12
ZAL Zalesovo 66.15 345 P **P** **03 54 24.6 -1.2**
comp=Z,1.8nm,0.4s,mb4.5,baz=347,slow=7.7,SNR=7.7
ZAL pP pP 03 54 35.6 -1.3
comp=Z,2.6nm,0.4s,baz=310,slow=6.7,SNR=2.7
BOD Bodaibo 67.07 3 *e*P **P** **03 54 29.6 -2.1**
BOD pmax pmax
comp=Z,6.0nm,1.7s,mb4.3
VOSK Vostochnaya 69.63 337 P **P** **03 54 47.0 -0.7**
VOSK pmax pmax
comp=Z,15nm,1.4s,mb4.7
BVA0 Borovoye Array 70.09 337 *i* P **P** **03 54 50.0 -0.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BRVK Borovoye 70.16 337 *e*P **P** **03 54 50.1 -0.8**
BRVK *e**PP pP 03 55 00.4 -1.7
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRVK Borovoye 70.16 337 *e*P **P** **03 54 50.1 -0.8**
comp=Z,2.9nm,0.8s,mb4.3
BRVK *ep*P pP 03 55 00.4 -1.6
CHKZ Chkalovo 70.50 337 *e*P **P** **03 54 52.5 -0.5**
CHKZ *e**PP pP 03 55 03.2 -1.0
CHKZ pmax pmax
comp=Z,11nm,0.6s,mb5.0
CHKZ Chkalovo 70.50 337 *e*P **P** **03 54 52.5 -0.6**
comp=Z,11nm,0.6s,mb5.0
CHKZ *ep*P pP 03 55 03.2 -0.9
ZRNK Zerenda 70.58 336 *e*P **P** **03 54 52.9 -0.7**
ZRNK *e**PP pP 03 55 03.4 -1.3
ZRNK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ZRNK Zerenda 70.58 336 *e*P **P** **03 54 52.9 -0.7**
comp=Z,10nm,0.9s,mb4.8
ZRNK *ep*P pP 03 55 03.4 -1.3
KMBO Kilima Mbogo 71.33 272 P **P** **03 54 56.6 -1.4**
comp=Z,0.5nm,0.5s,mb3.7,baz=341,slow=8.0,SNR=4.4
KMBO Kilima Mbogo 71.33 272 *e*P **P** **03 55 00.5 +2.4**
AB31 Akbulak array 72.17 329 *i* P **P** **03 55 02.6 -0.5**
AB31 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
YAK Yakutsk 73.04 10 *e*P **P** **03 55 17.1 +8.8**
YAK pmax pmax

	comp=Z,16nm,1.0s,mb4.9							
YAK					pmax	pmax		
	comp=N,4.0nm,0.9s							
YAK					pmax	pmax		
	comp=E,4.0nm,1.5s							
VNDA	**Vanda**	**73.41**	**170**	P		**P**	**03 55 10.2**	**-0.3**
	comp=E,4.4nm,0.9s,mb4.4,baz=290,slow=6.7,SNR=9.0							
VNDA	**Vanda**	**73.41**	**170**	*e*P		**P**	**03 55 09.9**	**-0.6**
VNDA					pmax	pmax		
	comp=Z,4.0nm,0.9s							
VNDA	**Vanda**	**73.41**	**170**	*e*P		**P**	**03 55 09.9**	**-0.6**
	comp=Z,4.1nm,0.9s,mb4.4							
SVE	**Sverdlovsk**	**76.74**	**335**	*e*P		**P**	**03 55 29.3**	**-0.4**
ARU	**Arti**	**77.36**	**334**	*e*P		**P**	**03 55 26.8**	**-6.4**
ARU					pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9							
ARU	**Arti**	**77.36**	**334**	*e*P		**P**	**03 55 26.8**	**-6.4**
	comp=Z,10nm,0.6s,mb4.9							
LSZ	**Lusaka**	**78.33**	**256**	*e*P		**P**	**03 55 39.3**	**+0.8**
LSZ					pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
LSZ	**Lusaka**	**78.33**	**256**	*e*P		**P**	**03 55 39.3**	**+0.8**
	comp=Z,6.5nm,0.8s,mb4.6							
KIV	**Kislovodsk**	**79.61**	**318**⇑	*e*P		**P**	**03 55 46.3**	**+0.8**
KIV					pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7							
BOSA	**Boshof**	**79.71**	**243**	P		**P**	**03 55 46.6**	**+0.5**
	comp=Z,3.1nm,0.9s,mb4.2,baz=108,slow=8.0,SNR=3.2							
BOSA	**Boshof**	**79.71**	**243**	*e*P		**P**	**03 55 46.8**	**+0.7**
BOSA					pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4							
BOSA	**Boshof**	**79.71**	**243**	*e*P		**P**	**03 55 46.8**	**+0.7**
	comp=Z,4.9nm,1.1s,mb4.3							
LBTB	**Lobatse**	**79.73**	**246**	*e*P		**P**	**03 55 47.3**	**+1.1**
LBTB					pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
LBTB	**Lobatse**	**79.73**	**246**	*e*P		**P**	**03 55 47.3**	**+1.1**
	comp=Z,5.3nm,0.8s,mb4.5							
MALT	**Malatya**	**80.50**	**311**	*e*P		**P**	**03 55 51.3**	**+0.9**
MALT					pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1							
MALT	**Malatya**	**80.50**	**311**	*e*P		**P**	**03 55 51.3**	**+0.9**
	comp=Z,2.2nm,0.8s,mb4.1							
EIL	**Elat**	**80.58**	**302**	*e*P		**P**	**03 55 50.4**	**-0.4**
	comp=Z,103nm,1.0s,mb5.7							
QSPA	**South Pole Qui**	**80.67**	**180**	*e*P		**P**	**03 55 50.9**	**-0.4**
	comp=Z,9.2nm,0.7s,mb4.8							
CSS	**Prodhromos**	**83.37**	**307**	*e*P		**P**	**03 56 06.4**	**+1.0**
	comp=Z,11nm,0.6s,mb5.1							
BR131	**Keskin Array S**	**84.49**	**312**	*e*P		**P**	**03 56 11.1**	**0.0**
	comp=Z,8.4nm,1.0s,mb4.8							
BR131					*e*pP	pP	03 56 21.8	-0.7
BRTR	**Keskin Array B**	**84.49**	**312**	P		**P**	**03 56 11.3**	**+0.2**
	comp=Z,6.6nm,1.0s,mb4.7,baz=126,slow=6.3,SNR=34							
BRTR					pP	pP	03 56 22.1	-0.4
	comp=Z,4.1nm,0.9s,baz=126,slow=6.3,SNR=7.2							
VRSR	**Storozhevoye**	**84.61**	**324**	*e*P		**P**	**03 56 11.3**	**-0.5**
VRSR					pmax	pmax		
	comp=N,9.0nm,0.9s							
VRSR					pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0							
VRSR					pmax	pmax		
	comp=E,10.0nm,1.0s							
OBN	**Obninsk**	**87.49**	**327**	*de*P		**P**	**03 56 25.8**	**-0.2**
OBN				*e*			03 59 49.1	
OBN					pmax	pmax		
	comp=Z,25nm,0.9s,mb5.4							
SNAA	**Sanae**	**87.75**	**197**	P		**P**	**03 56 27.3**	**0.0**
	comp=Z,1.1nm,0.8s,mb4.1,baz=104,slow=5.6,SNR=10.0							
SNAA	**Sanae**	**87.75**	**197**	*e*P		**P**	**03 56 26.3**	**-0.9**
SNAA				*e*			03 56 28.0	
SNAA				*e*		pP	03 56 38.5	-0.1
SNAA	**Sanae**	**87.75**	**197**⇑	*e*P		**P**	**03 56 27.6**	**+0.4**
SNAA	**Sanae**	**87.75**	**197**	*e*P		**P**	**03 56 27.3**	**0.0**
	comp=Z,4.2nm,1.0s,mb4.6							
TSUM	**Tsumeb**	**87.85**	**251**	*e*P		**P**	**03 56 29.0**	**+1.3**
	comp=Z,6.0nm,0.9s,mb4.8							
VNA1	**Neumayer--Stat**	**89.78**	**197**	*e*P		**P**	**03 56 37.0**	**+0.2**
VNA1				*e*			03 56 38.1	
VNA1				*e*		pP	03 56 50.2	+2.0
AKASG	**Malin Array Be**	**90.44**	**321**	P		**P**	**03 56 39.0**	**-0.9**
	comp=Z,1.4nm,0.6s,mb4.5,baz=87,slow=5.0,SNR=9.8							
AKASG	**Malin Array Be**	**90.44**	**321**	P		**P**	**03 56 39.0**	**-0.9**
MLR	**Muntele Rosu**	**91.42**	**316**	P		**P**	**03 56 43.4**	**-1.0**
	comp=Z,2.2nm,0.7s,mb4.6,baz=184,slow=6.0,SNR=3.2							
FINES	**FINESS Array B**	**94.53**	**331**	P		**P**	**03 56 58.8**	**0.0**
	comp=Z,1.5nm,0.8s,mb4.5,baz=91,slow=7.6,SNR=6.4							
FINES	**FINESS Array B**	**94.53**	**331**⇑	*e*P		**P**	**03 56 58.4**	**-0.3**
TIP	**Timpagrande**	**97.17**	**308**	*e*P		**P**	**03 57 12.2**	**+1.5**
YKA	**Yellowknife Ar**	**118.51**	**21**	PKP		PKPdf	04 02 25.3	-0.6
	comp=Z,0.8nm,0.8s,baz=335,slow=2.2,SNR=6.7							
YKA	**Yellowknife Ar**	**118.51**	**21**	PKP		PKPdf	04 02 25.3	-0.6
NVAR	**Mina Array Bea**	**129.07**	**48**	PKP		PKPdf	04 02 48.4	+2.2
	comp=Z,0.8nm,0.7s,baz=270,slow=1.1,SNR=6.3							
ULM	**Lac du Bonnet**	**134.48**	**22**	PKP		PKPdf	04 02 56.1	-0.2
	comp=Z,0.9nm,0.4s,baz=37,slow=5.1,SNR=3.5							
WMOK	**Wichita Mounta**	**144.46**	**41**	*e*PKIKP		PKPdf	04 03 13.8	-0.7
WMOK				*e*			04 03 24.6	
LONY	**Lake Ozonia**	**144.75**	**4**	*e*PKPdf		PKPdf	04 03 14.2	-0.8
LONY				*e*			04 03 24.9	
BDFB	**Brasilia**	**145.99**	**223**	PKPbc		PKPbc	04 03 20.0	+2.0
	comp=Z,3.9nm,0.5s,baz=183,slow=2.7,SNR=3.0							
JCT	**Junction City**	**146.25**	**47**	*e*PKP2		PKPab	04 03 20.0	+0.5
CCM	**Cathedral Cave**	**146.32**	**29**	*e*PKPbc		PKPbc	04 03 18.8	-0.2
CCM				*ep*PKPdf		pPKPdf	04 03 30.3	+0.8
BINY	**Binghamton**	**147.03**	**6**	*e*PKPbc		PKPbc	04 03 21.3	+0.3
BINY				*ep*PKPdf		pPKPdf	04 03 32.3	+1.6
ACSO	**Alum Creek Sta**	**147.58**	**17**	*e*PKPbc		PKPbc	04 03 22.7	+0.2
ACSO				*ep*PKPdf		pPKPdf	04 03 33.5	+1.9
MIAR	**Mount Ida**	**147.76**	**36**	*e*PKP2		PKPab	04 03 24.0	-1.4
WCI	**Wyandotte Cave**	**148.30**	**23**	*e*PKPbc		PKPbc	04 03 24.9	+0.5
WCI				*ep*PKPdf		pPKPdf	04 03 35.5	+2.7
SSPA	**Standing Stone**	**148.32**	**9**	*e*PKPbc		PKPbc	04 03 24.8	+0.3
SSPA				*ep*PKPdf		pPKPdf	04 03 35.3	+2.5
MVL	**Millersville**	**149.16**	**7**	*e*PKPbc		PKPbc	04 03 26.9	+0.3
MVL				*ep*PKPdf		pPKPdf	04 03 37.8	+3.6
WVT	**Waverly**	**149.47**	**27**	*e*PKPbc		PKPbc	04 03 28.0	+0.6
WVT				*ep*PKPdf		pPKPdf	04 03 38.9	+4.3
PLAL	**Pickwick Lake**	**150.30**	**28**	*e*PKPbc		PKPbc	04 03 29.6	+0.2
PLAL				*ep*PKPdf		pPKPdf	04 03 40.1	+4.1
ELN	**Prospectdale**	**151.00**	**15**	*e*PKPbc		PKPbc	04 03 31.3	+0.3
CPCT	**Cooper Cave**	**151.41**	**23**	*e*PKPbc		PKPbc	04 03 33.0	+1.0
MYNC	**Murphy**	**151.90**	**22**	*e*PKIKP		PKPbc	04 03 34.2	+1.1
LPAZ	**La Paz**	**154.32**	**187**	PKPbc		PKPbc	04 03 40.2	+1.8
	comp=Z,1.2nm,0.6s,baz=175,slow=5.2,SNR=5.5							
LPAZ	**La Paz**	**154.32**	**187**	*e*PKPbc		PKPbc	04 03 40.7	+2.3
LPAZ				*e*PKPab		PKPab	04 03 54.1	+1.5
SAML	**Samuel**	**160.04**	**205**	*e*PKPab		PKPab	04 04 18.2	+1.0

*NEIC **26** 03:57:14.7±0.7, 9.35S×108.41E, h10km, mb4.4/4, Error ellipse: s-maj=42.8km s-min=8.2km az=45.0*
*ISCJB **26** 03:57:17.1±1.0, 9.1S±03×1087E±03, h34km, mb4.0/11, Error ellipse: s-maj=59.8km s-min=11.3km az=90.6*
*IDC **26** 03:57:18.8±0.9, 9.33S×108.44E, h34km±5km, mb3.8/7, mb1 3.8/8, mb1mx3.7/17, mbtmp3.9/8, ML3.3/1, Error ellipse: s-maj=50.1km s-min=13.9km az=48.0*

ISC 26 03:57:18.8±1.1, **93S**±03×**1085E**±03, **h34**km, **(h36**km±3km**:pP-P), n16**, σ0**61**/14, **mb4.0**/11, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**18.79**	**120**	P		**Pn**	**04 01 34.5**	**-1.2**
	0.1nm,0.3s,baz=290,slow=15,SNR=3.4							
WRA	**Warramunga Arr**	**27.09**	**116**	P		**P**	**04 02 58.4**	**+0.1**
	0.7nm,0.5s,mb3.5,baz=286,slow=10,SNR=8.0							
ASAR	**Alice Springs**	**28.16**	**124**	P		**P**	**04 03 08.9**	**+1.1**
	0.5nm,0.4s,mb3.5,baz=299,slow=9.5,SNR=7.4							
ASAR				PcP		PcP	04 06 22.4	+1.2
	0.8nm,0.7s,baz=296,slow=1.6,SNR=7.3							
STKA	**Stephens Creek**	**38.01**	**131**	P		**P**	**04 04 33.9**	**+0.3**
	4.1nm,0.8s,mb4.2,baz=314,slow=8.3,SNR=8.8							
STKA				pP		pP	04 04 44.5	+0.9
	5.5nm,0.7s,baz=303,slow=8.7,SNR=7.6							
SONM	**Songino Array**	**56.87**	**358**	P		**P**	**04 07 00.9**	**+0.8**
	0.8nm,0.5s,mb4.0,baz=176,slow=8.6,SNR=8.6							
SONM				pP		pP	04 07 11.5	+1.1
	3.1nm,0.7s,baz=174,slow=9.2,SNR=16							
MKAR	**Makanchi Array**	**60.51**	**340**	P		**P**	**04 07 25.6**	**+0.1**
	1.9nm,0.6s,mb4.4,baz=146,slow=7.4,SNR=13							
MKAR				pP		pP	04 07 35.9	0.0
	4.0nm,0.6s,baz=134,slow=6.9,SNR=17							
MKAR	**Makanchi Array**	**60.51**	**340**	P		**P**	**04 07 25.6**	**+0.1**
MKAR				pP		pP	04 07 35.9	0.0
KURK	**Kurchatov**	**65.13**	**340**	*e*P		**P**	**04 07 55.9**	**-0.2**
	2.5nm,0.9s,mb4.2							
KURK				*e*		pP	04 08 06.5	-0.2
BRVK	**Borovoye**	**70.09**	**337**	*e*P		**P**	**04 08 27.2**	**-0.3**
	0.7nm,0.6s,mb3.8							
BRVK				*e*		pP	04 08 37.7	-0.4
CHKZ	**Chkalovo**	**70.43**	**337**	*e*P		**P**	**04 08 29.4**	**-0.2**
	3.3nm,0.7s,mb4.4							
CHKZ				*e*		pP	04 08 40.0	-0.2
ZRNK	**Zerenda**	**70.52**	**336**	*e*P		**P**	**04 08 29.7**	**-0.3**
	2.2nm,0.7s,mb4.2							
ZRNK				*e*		pP	04 08 40.2	-0.5
BRTR	**Keskin Array B**	**84.45**	**312**	P		**P**	**04 09 48.5**	**+0.5**
	1.8nm,0.9s,mb4.2,baz=126,slow=6.3,SNR=11							
BRTR				pP		pP	04 09 59.2	+0.4
	2.9nm,1.1s,baz=126,slow=6.3,SNR=7.1							
AKASG	**Malin Array Be**	**90.39**	**321**	P		**P**	**04 10 15.9**	**-0.7**
	0.7nm,0.7s,mb4.1,baz=84,slow=4.5,SNR=4.8							
AKASG				pP		pP	04 10 26.5	-1.0
	0.4nm,0.5s,baz=86,slow=4.8,SNR=2.0							
AKASG	**Malin Array Be**	**90.39**	**321**	P		**P**	**04 10 15.9**	**-0.7**
AKASG				pP		pP	04 10 26.5	-1.0
WMOK	**Wichita Mounta**	**144.38**	**40**	*e*PKPdf		PKPdf	04 16 51.0	-0.3
WMOK				*ep*PKPdf		pPKPdf	04 17 01.7	-0.9
WVT	**Waverly**	**149.38**	**27**	*e*PKPbc		PKPbc	04 17 04.9	+0.8
WVT				*e*			04 17 15.8	

*ISCJB **26** 03:57:24.6±0.6, 5.138N±003×16.16E±003, h0km, Error ellipse: s-maj=4.4km s-min=2.5km az=37.8*
*IPEC **26** 03:57:24.5±0.3, 5.151N×1627E, h0km, ML2.5/4, Error ellipse: s-maj=3.9km s-min=1.9km az=86.0*
*NEIC **26** 03:57:24.4±0.4, 5.155N×1626E, h5km, MG2.7(WAR), Error ellipse: s-maj=4.6km s-min=4.2km az=211.0*
*IDC **26** 03:57:25.9±0.9, 5.142N×1621E, h0km, mb1 3.2/5, mb1mx3.1/21, mbtmp3.1/5, ML2.7/5, Error ellipse: s-maj=19.2km s-min=8.0km az=102.0*
*CSEM **26** 03:57:25.9±0.2, 5.146N×1620E, h2km, ML3.2/7, Error ellipse: s-maj=3.2km s-min=1.7km az=22.0*
*WAR **26** 03:57:26.8, 5.145N×1618E, ML2.8, Mining Induced*
*PRU **26** 03:57:27.3, 5.138N×1615E, h0km*
*VIE **26** 03:57:28.3±0.5, 5.125N×1622E, h0km, mb2.3/4, ML2.6/4, Error ellipse: s-maj=2.9km s-min=2.4km az=166.0 57 km WNW of Breslau Suspected Mining induced.*

ISC 26 03:57:24.4±0.5, **5149N**±002×**1621E**±003, **h0**km, **n45,** σ1**913/78, 6C-2D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.65**	**175**⇓	*i*Pg		**Pg**	**03 57 37.9**	**+1.0**
KSP				*e*			03 57 44.7	
KSP				*e*Sg		**Sg**	**03 57 46.1**	**+0.8**
KSP				*e*			03 57 50.4	
KSP	**Ksiaz**	**0.65**	**175**	*e*Pg		**Pg**	**03 57 37.6**	**+0.7**
KSP				*e*Sg		**Sg**	**03 57 45.0**	**-0.3**
UPC	**Upice**	**0.99**	**187**	*e*PG		**Pg**	**03 57 44.1**	**+0.7**
DPC	**Dobruska-Polom**	**1.15**	**176**	*e*PG		**Pg**	**03 57 46.7**	**+0.3**
DPC				*e*SG		**Sg**	**03 58 00.5**	**-0.7**
	48nm,0.6s							
DPC	**Dobruska-Polom**	**1.15**	**176**	*e*Pg		**Pg**	**03 57 46.7**	**+0.3**
DPC				*e*Sg		**Sg**	**03 58 01.0**	**-0.2**
PVCC	**Panska Ves**	**1.42**	**228**	*e*PG		**Pg**	**03 57 51.8**	**+0.3**
PVCC				*e*SG		**Sg**	**03 58 10.5**	**+0.6**
BRG	**Berggiesshubel**	**1.55**	**247**	PN		**Pn**	**03 57 53.0**	**-0.2**
BRG				PG		**Pg**	**03 57 54.4**	**+0.2**
BRG				SG		**Sg**	**03 58 14.8**	**+0.4**
	21nm,0.5s							
BRG	**Berggiesshubel**	**1.55**	**247**	Pn		**Pn**	**03 57 53.0**	**-0.3**
RUE	**Ruedersdorf**	**1.80**	**304**	*e*Pn		**Pn**	**03 57 56.0**	**-0.6**
RUE	**Ruedersdorf**	**1.80**	**304**	*e*Pn		**Pn**	**03 57 56.0**	**-0.6**
PRU	**Pruhonice**	**1.84**	**216**	*e*PN		**Pn**	**03 57 57.8**	**+0.6**
PRU				*e*PG		**Pg**	**03 57 59.1**	**-0.6**
PRU				*e*SG		**Sg**	**03 58 21.5**	**-2.0**
	42nm,0.6s							
MORC	**Moravsky Berou**	**1.92**	**153**	*e*Pn		**Pn**	**03 57 57.8**	**-0.4**
MORC				*e*Sg		**Sg**	**03 58 24.8**	**-1.2**
MORC	**Moravsky Berou**	**1.92**	**153**	*e*Pn		**Pn**	**03 57 57.8**	**-0.5**
MORC				*e*Sg		**Sg**	**03 58 24.8**	**-1.2**
CLL	**Collm**	**2.02**	**266**	*e*Pn		**Pn**	**03 58 00.0**	**+0.4**
CLL				*i* Pg		**Pg**	**03 58 03.5**	**+0.5**
CLL				*i* Sg		**Sg**	**03 58 30.5**	**+1.3**
	comp=Z,27nm,0.9s							
OKC	**Ostrava-Krasne**	**2.07**	**143**	*e*PG		**Pg**	**03 58 04.1**	**+0.1**
OKC				*e*SG		**Sg**	**03 58 29.3**	**-1.5**
VRAC	**Vranov**	**2.20**	**173**	Pn		**Pn**	**03 58 02.0**	**-0.1**
	comp=Z,2.6nm,0.3s,baz=342,slow=14,SNR=9.4							
VRAC				Lg			03 58 33.6	
	comp=Z,5.0nm,0.3s,baz=80,slow=22,SNR=11							
VRAC	**Vranov**	**2.20**	**173**	Pn		**Pn**	**03 58 02.0**	**-0.2**
VRAC				*e*Sg		**Sg**	**03 58 34.0**	**-1.1**
	comp=Z,22nm,0.5s							
TREC	**Trest**	**2.25**	**192**	*e*PN		**Pn**	**03 58 04.5**	**+1.7**
TREC				*e*PG		**Pg**	**03 58 06.7**	**-0.8**
KRUC	**Moravsky**	**2.44**	**177**	*e*Pn		**Pn**	**03 58 06.0**	**+0.6**
KRUC				*e*Sg		**Sg**	**03 58 41.7**	**-1.0**
	comp=Z,33nm,1.1s							
OJC	**Ojcow**	**2.61**	**118**	*e*Pg		**Pg**	**03 58 15.0**	**+0.6**
OJC				*e*Sg		**Sg**	**03 58 49.2**	**+1.0**
NKC	**Novy Kostel**	**2.69**	**244**	*e*PN		**Pn**	**03 58 09.6**	**+0.6**
NKC				*e*PG		**Pg**	**03 58 16.1**	**0.0**
NKC				*e*SG		**Sg**	**03 58 50.9**	**-0.1**
	comp=Z,26nm,0.4s							
KHC	**Kasperske Hory**	**2.90**	**217**	*e*PN		**Pn**	**03 58 12.7**	**+0.9**
KHC				*e*PG		**Pg**	**03 58 18.4**	**-1.6**
KHC				*e*SG		**Sg**	**03 58 55.3**	**-2.4**
	comp=Z,10nm,0.5s							
MOX	**Moxa**	**3.02**	**255**	*e*PG		**Pg**	**03 58 22.5**	**+0.2**
MOX				*e*SG		**Sg**	**03 59 02.3**	**+0.9**
MOX	**Moxa**	**3.02**	**255**	*e*Pg		**Pg**	**03 58 22.5**	**+0.2**
MOX				*e*Sg		**Sg**	**03 59 02.3**	**+0.9**
GEC2	**GERESS Array S**	**3.10**	**212**	*e*Pn		**Pn**	**03 58 15.3**	**+0.7**
GEC2				*e*Pg		**Pg**	**03 58 22.0**	**-1.8**
GEC2				*e*Sg		**Sg**	**03 59 03.8**	**-0.2**
GEC2	**GERESS Array S**	**3.10**	**212**	*e*Pn		**Pn**	**03 58 15.3**	**+0.7**
GEC2	**GERESS Array S**	**3.10**	**212**	*e*Pg		**Pg**	**03 58 22.0**	**-1.8**
GERES	**GERESS Array B**	**3.10**	**212**	Pn		**Pn**	**03 58 15.8**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=30,slow=16,SNR=16							
GERES				Pg		**Pg**	**03 58 21.6**	**-2.2**
	comp=Z,2.6nm,0.3s,baz=33,slow=17,SNR=39							
GERES				Lg			03 59 00.7	
	comp=Z,3.7nm,0.3s,baz=33,slow=27,SNR=9.2							
GERES	**GERESS Array B**	**3.10**	**212**	Pg		**Pg**	**03 58 21.6**	**-2.2**
NIE	**Niedzica**	**3.34**	**127**	*e*Pg		**Pg**	**03 58 30.5**	**+2.0**
NIE				*e*Sg		**Sg**	**03 59 13.8**	**+1.9**
ZST	**Bratislava**	**3.35**	**170**	*e*SG		**Sg**	**03 59 11.0**	**-1.0**
VYHS	**Vyhne**	**3.45**	**150**	*e*SG		**Sg**	**03 59 16.8**	**+1.6**
VYHS				*e*Sg		**Sg**	**03 59 16.8**	**+1.6**
VYHS	**Vyhne**	**3.45**	**150**	*e*		**Pg**	**03 58 33.6**	**+3.1**
VYHS	**Vyhne**	**3.45**	**150**	*e*		**Pg**	**03 58 33.6**	**+3.1**
CONA	**Conrad Observa**	**3.57**	**184**⇑	*i*Pn		**Pn**	**03 58 17.9**	**-3.2**
CONA				⇓*i*Sg		**Sg**	**03 59 14.5**	**-4.8**
	comp=Z,22nm,0.7s							
MOA	**Molln**	**3.86**	**200**⇑	*i*Pn		**Pn**	**03 58 25.8**	**+0.9**
MOA				⇑*i*Sg		**Sg**	**03 59 28.4**	**+0.1**
	comp=Z,11nm,0.5s							
MOA	**Molln**	**3.86**	**200**⇑	*i*Pn		**Pn**	**03 58 25.8**	**+0.9**
MOA				*i* Sg		**Sg**	**03 59 28.4**	**+0.1**
CRVS	**Cervenica-Dubn**	**4.25**	**125**	*e*		**Sg**	**03 59 50.1**	**+9.0**
KWP	**Kalwaria**	**4.54**	**112**	*e*Pg		**Pg**	**03 58 49.3**	**-2.1**
KWP	**Kalwaria**	**4.54**	**112**	*e*Pg		**Pg**	**03 58 49.3**	**-2.2**
KOLS	**Kolonicke sedl**	**4.66**	**121**	*e*		**Sg**	**04 00 03.6**	**+9.4**
KBA	**Koelnbreinsper**	**4.80**	**204**⇑	*i*Pn		**Pn**	**03 58 39.3**	**+1.4**
KBA				⇑*i*Sg		**Sg**	**03 59 59.5**	**+0.9**
	comp=Z,5.5nm,0.5s							
HFS	**Hagfors**	**8.78**	**352**	Pn		**Pn**	**03 59 31.1**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=129,slow=21,SNR=3.1							
FINES	**FINESS Array B**	**11.35**	**25**	Pn		**Pn**	**04 00 06.5**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=191,slow=33,SNR=4.1							
ARCES	**ARCESS Array B**	**18.63**	**10**	Pn		**Pn**	**04 01 41.5**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=198,slow=11,SNR=4.4							

*ISCJB **26** 04:04:08.8±0.7, 4.28S±0.1×836E±0.2, h10km, mb4.0/9, MS4.3/8, Error ellipse: s-maj=20.4km s-min=16.2km az=98.2*
*IDC **26** 04:04:08.9±0.8, 4.276S×8346E, h0km, mb4.0/8, mb1 4.1/8, mb1mx4.0/16, mbtmp4.0/8, MS4.3/8, Ms1 4.3/8, ms1mx4.0/23, Error ellipse: s-maj=29.1km s-min=25.2km az=149.0*

*HRVD **26** 04:04:10.2±0.5, 4.275S×8343E, h15km±2km, MW4.9/43, Centroid moment Tensor Solution. LP body waves: s15,c15;Mantle waves: s43,c53; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.17±.11; Mθθ=2.09±.15; Mϕϕ=-1.91±.14; Mrθ=0.79±.47; Mrϕ=-0.14±.14; Mθϕ=-1.48±.51; Best double couple: M=2.60200×10^16^ NP1:ϕs=51.00000°,δ52.00000°,λ-173.00000°. NP2: ϕs=316.00000°,δ84.00000°,λ-38.00000°. Principal axes: T 2.4320, Plg22.0000°, Azm10.0000°; N 0.3480, Plg51.0000°, Azm129.0000°; P -2.7730, Plg30.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 04:04:10.2±0.6, 4.281S×8351E, h10km, mb4.1/2 Error ellipse: s-maj=18.6km s-min=14.9km az=141.0*

ISC 26 04:04:10.1±0.7, **428S**±01×**835E**±02, **h10**km, **n20,** σ0**976**/14, **mb4.0**/9, **MS4.3**/8, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
NWAO	**Narrogin (SRO)**	**28.26**	**81**	LR		LR	04 18 37.5	
	comp=Z,438nm,18.7s,MS4.1,baz=197,slow=31							
ASAR	**Alice Springs**	**45.57**	**82**	P		**P**	**04 12 30.4**	**+0.2**
	2.3nm,0.9s,mb4.1,baz=227,slow=8.3,SNR=13							
ASAR				PcP		PcP	04 14 09.4	+0.8
	0.7nm,0.7s,baz=222,slow=2.3,SNR=5.1							
ASAR				LR		LR	04 29 02.2	
	comp=Z,618nm,19.0s,MS4.6,baz=207,slow=33							
AS31	**Alice Springs**	**45.57**	**82**	*e*P		**P**	**04 12 29.8**	**-0.3**
VNDA	**Vanda**	**46.11**	**163**	P		**P**	**04 12 34.7**	**+0.3**
	0.7nm,0.6s,mb3.7,baz=270,slow=9.8,SNR=3.9							
VNDA				LR		LR	04 30 30.4	
	comp=Z,268nm,18.3s,MS4.2,baz=273,slow=34							
VNDA	**Vanda**	**46.11**	**163**	*e*P		**P**	**04 12 34.4**	**0.0**
	1.0nm,0.7s,mb3.9							
STKA	**Stephens Creek**	**46.65**	**97**	LR		LR	04 28 07.5	
	comp=Z,453nm,18.2s,MS4.5,baz=208,slow=31							
QSPA	**South Pole Qui**	**47.34**	**180**	*e*P		**P**	**04 12 43.7**	**-0.3**
WRA	**Warramunga Arr**	**48.20**	**78**	P		**P**	**04 12 51.1**	**+0.3**
	6.4nm,0.9s,mb4.7,baz=231,slow=7.4,SNR=27							
WRA				LR		LR	04 30 36.1	
	comp=Z,206nm,19.1s,MS4.1,baz=260,slow=33							
WB2	**Warramunga Arr**	**48.21**	**78**	*e*P		**P**	**04 12 50.8**	**0.0**
WRAB	**Tennant Creek**	**48.22**	**78**	*e*P		**P**	**04 12 50.9**	**+0.1**
	2.2nm,0.9s,mb4.2							
BOSA	**Boshof**	**48.44**	**267**	LR		LR	04 28 42.2	
	comp=Z,704nm,18.9s,MS4.7,baz=167,slow=30							
SNAA	**Sanae**	**48.90**	**205**	P		**P**	**04 12 56.4**	**+0.3**
	1.1nm,1.3s,mb3.7,baz=124,slow=7.3,SNR=2.4							
DZM	**Mont Dzumac**	**70.33**	**102**	LR		LR	04 42 29.9	
	comp=Z,184nm,18.3s,MS4.4,baz=200,slow=33							
MKAR	**Makanchi Array**	**89.23**	**359**	P		**P**	**04 17 06.7**	**+0.5**
	0.5nm,0.8s,mb3.9,baz=111,slow=2.7,SNR=4.2							
MKAR	**Makanchi Array**	**89.23**	**359**	P		**P**	**04 17 06.7**

comp=E,0.1nm,0.3s,baz=352,slow=13,SNR=3.6
CFAA S **Sn** **04 41 56.5 -1.8**
comp=E,0.2nm,0.3s,baz=272,slow=24,SNR=3.8
CFAA Coronel Fontan 7.37 187 P **Pn** **04 40 37.0 +1.2**
CFAA S **Sn** **04 41 56.5 -1.8**
LPAZ La Paz 7.99 353 P **Pn** **04 40 44.8 +0.8**
comp=E,5.4nm,0.3s,baz=150,slow=6.0,SNR=224
LPAZ S **Sn** **04 42 11.7 -1.4**
comp=E,0.1nm,0.3s,baz=337,slow=20,SNR=4.7
LPAZ LR LR 04 44 07.2
comp=E,48nm,19.3s,baz=272,slow=40
LPAZ La Paz 7.99 353 *e*Pn **Pn** **04 40 44.9 +1.0**
comp=E,11nm,0.4s
CPUP Villa Florida 9.13 105 P **Pn** **04 40 59.1 0.0**
comp=E,0.2nm,0.3s,baz=280,slow=7.2,SNR=5.2
TRQA Tornquist 14.44 163 *e*Pn **Pn** **04 42 10.7 +2.8**
comp=E,6.0nm,0.9s
SAML Samuel 15.70 15 *e*Pn **Pn** **04 42 21.6 -1.8**
comp=E,5.3nm,0.7s
PLCA Paso Flores 16.66 189 P **Pn** **04 42 36.2 +1.0**
comp=E,0.2nm,0.3s,baz=15,slow=9.2,SNR=5.7
PLCA Paso Flores 16.66 189 P **Pn** **04 42 36.2 +1.0**
PLCA *e*P 04 42 43.0
BDFB Brasilia 19.92 68 P **P** **04 43 10.3 0.0**
comp=E,1.9nm,0.3s,baz=248,slow=10,SNR=38
BAO Brasilia Array 19.94 68 P **P** **04 43 10.5 0.0**
SNAA Sanae 59.15 161 *e* **P** **04 48 35.0 +0.1**
SNAA *e* 04 48 39.2
SNAA Sanae 59.15 161 *e*P **P** **04 48 34.6 -0.3**
comp=E,1.3nm,0.6s,mb3.9
WVT Waverly 63.17 341 *e*P **P** **04 48 59.8 -2.2**
comp=E,2.2nm,0.9s,mb4.0
QSPA South Pole Qui 65.94 180 *e*P **P** **04 49 20.7 +0.8**
comp=E,4.4nm,0.5s,mb4.5
ANMO Albuquerque 69.69 326 *e*P **P** **04 49 44.0 +0.6**
comp=E,1.2nm,0.8s,mb3.7
SMCO Snowmass 73.28 329 *e*P **P** **04 50 05.1 +0.2**
comp=E,2.1nm,0.8s,mb3.9
VNDA Vanda 74.42 190 P **P** **04 50 11.8 +0.4**
comp=E,0.6nm,0.6s,mb3.5,baz=178,slow=3.3,SNR=4.0
VNDA Vanda 74.42 190 *e*P **P** **04 50 12.1 +0.6**
comp=E,1.3nm,0.9s,mb3.7
TORD Torodi Ar. Bea 76.80 69 P **P** **04 50 24.6 -0.4**
comp=E,0.8nm,0.5s,mb3.6,baz=257,slow=5.7,SNR=48
PDAR Pinedale Array 77.30 329 P **P** **04 50 27.9 +0.1**
comp=E,0.3nm,0.5s,mb3.2,baz=130,slow=7.7,SNR=4.8
ULM Lac du Bonnet 78.43 342 P **P** **04 50 32.4 -1.7**
comp=E,1.8nm,0.9s,mb3.7,baz=166,slow=3.4,SNR=3.9
ULM Lac du Bonnet 78.43 342 *e*P **P** **04 50 32.6 -1.4**
comp=E,2.0nm,0.8s,mb3.8
NVAR Mina Array Bea 78.65 321 P **P** **04 50 34.7 -0.6**
comp=E,0.4nm,0.7s,mb3.1,baz=168,slow=6.5,SNR=3.6
NVAR Mina Array Bea 78.65 321 P **P** **04 50 34.7 -0.6**
HLID Hailey 80.23 327 *e*P **P** **04 50 44.6 +0.8**
comp=E,1.8nm,0.9s,mb3.7
BOSA Boshof 80.74 117 P **P** **04 50 46.7 +0.2**
comp=E,1.0nm,0.7s,mb3.6,baz=259,slow=4.1,SNR=3.9
BOSA Boshof 80.74 117 P **P** **04 50 46.7 +0.2**
MAW Mawson 81.23 163 P **P** **04 50 49.1 0.0**
comp=E,1.9nm,0.6s,mb3.9,baz=297,slow=7.4,SNR=6.9
LBTB Lobatse 82.41 114 *e*P **P** **04 50 55.7 +0.3**
comp=E,1.1nm,0.6s,mb3.7
CASY Casey 89.72 179 *e*P **P** **04 51 31.9 +0.7**
comp=E,3.4nm,0.8s,mb4.3
ASAR Alice Springs 128.16 205 PKP PKPdf 04 57 38.4 +0.1
comp=E,1.2nm,0.7s,baz=140,slow=2.0,SNR=11
WRA Warramunga Arr 131.32 207 PKP PKPdf 04 57 44.9 +0.6
comp=E,0.7nm,0.5s,baz=160,slow=1.6,SNR=28
MKAR Makanchi Array 146.82 40 PKPbc PKPbc 04 58 12.8 -1.6
comp=E,1.5nm,0.6s,baz=292,slow=3.4,SNR=12
MKAR Makanchi Array 146.82 40 PKPbc PKPbc 04 58 12.8 -1.6

*ISCJB **26** 04:39:25.0±0.3, 4357N±002×3.17E±002, h6km±3km, Error ellipse: s-maj=3.2km s-min=2.2km az=97.9*
*CSEM **26** 04:39:27.9±0.1, 4353N×3.18E, h10km, ML2.5/16, Error ellipse: s-maj=1.3km s-min=0.8km az=137.0*
*NEIC **26** 04:39:27.8, 4352N×3.18E, h5km, ML2.5(STR), ML2.5(LDG), MN1.8(MDD), After LDG.*
*LDG **26** 04:39:27.8±0.1, 4352N×3.18E, h5km, Md2.7/2, Ml2.5/16, Error ellipse: s-maj=1.4km s-min=0.9km az=141.0*
*MDD **26** 04:39:28.1±0.5, 4353N×3.18E, h11km, mbLg1.8/17, Error ellipse: s-maj=4.8km s-min=2.8km az=150.0, PRXIMO*
*STR **26** 04:39:29.9±1.1, 43.45N×3.05E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 26 04:39:26.6±0.3, 4354N±002×319E±002, h12km±3km, n68, σ1℗00/142, 1D, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
LASF	**Ste Croix**	**0.72**	**42**	*e*Pn		**Pn**	**Pn**	**04 39 43.1**	**+0.5**
LASF				*e*Sg		**Sg**	**Sg**	**04 39 51.0**	**+1.0**
	55nm,0.2s								
LASF				*e*Sn		**Sg**	**Sg**	**04 39 53.7**	**+3.7**
LASF	**Ste Croix**	**0.72**	**42**	Pg		**Pg**	**Pg**	**04 39 41.6**	**+1.0**
LASF				Lg				04 39 51.0	
	28nm,0.2s								
LASF	**Ste Croix**	**0.72**	**42**	*e*Pg		**Pg**	**Pg**	**04 39 41.6**	**+1.0**
LASF				*e*Pn		**Pn**	**Pn**	**04 39 43.1**	**+0.5**
LASF				*e*Sg		**Sg**	**Sg**	**04 39 51.0**	**+1.0**
LASF				*e*Sn		**Sg**	**Sg**	**04 39 53.7**	**+3.7**
LASF	**Ste Croix**	**0.72**	**42**	*e*Pn		**Pn**	**Pn**	**04 39 43.1**	**+0.5**
LASF				*e*Sg		**Sg**	**Sg**	**04 39 51.0**	**+1.0**
	28nm,0.2s								
LASF				*e*Sn		**Sg**	**Sg**	**04 39 53.7**	**+3.7**
MTLF	**Montolieu**	**0.73**	**254**	*e*Pn		**Pn**	**Pn**	**04 39 43.0**	**+0.2**
MTLF				*e*Sg		**Sg**	**Sg**	**04 39 50.6**	**+0.2**
	70nm,0.2s								
MTLF				*e*Sn		**Sg**	**Sg**	**04 39 53.6**	**+3.2**
MTLF	**Montolieu**	**0.73**	**254**	Pg		**Pg**	**Pg**	**04 39 41.2**	**+0.4**
MTLF				Lg				04 39 50.6	
	35nm,0.2s								
MTLF	**Montolieu**	**0.73**	**254**	*e*Pg		**Pg**	**Pg**	**04 39 41.2**	**+0.4**
MTLF				*e*Pn		**Pn**	**Pn**	**04 39 43.0**	**+0.2**
MTLF				*e*Sg		**Sg**	**Sg**	**04 39 50.6**	**+0.2**
MTLF				*e*Sn		**Sg**	**Sg**	**04 39 53.6**	**+3.2**
MTLF	**Montolieu**	**0.73**	**254**	*e*Pn		**Pn**	**Pn**	**04 39 43.0**	**+0.2**
MTLF				*e*Sg		**Sg**	**Sg**	**04 39 50.6**	**+0.2**
	35nm,0.2s								
MTLF				*e*Sn		**Sg**	**Sg**	**04 39 53.6**	**+3.2**
LRDF	**Laroque-de-Fa**	**0.77**	**218**	Pg		**Pg**	**Pg**	**04 39 42.0**	**+0.5**
SJAF	**Saint Jean de**	**1.08**	**192**	Pg		**Pg**	**Pg**	**04 39 47.8**	**+0.4**
SJAF				Sg		**Sg**	**Sg**	**04 39 59.6**	**-1.9**
SJAF	**Saint Jean de**	**1.08**	**192**	Pg		**Pg**	**Pg**	**04 39 47.8**	**+0.4**
SJAF				Sg		**Sg**	**Sg**	**04 39 59.7**	**-1.8**
FILF	**Fillols**	**1.08**	**205**	Pg		**Pg**	**Pg**	**04 39 48.8**	**+1.3**
FILF				Sg		**Sg**	**Sg**	**04 40 03.4**	**+1.8**
EJON	**La Jonquera**	**1.12**	**191**	Pg		**Pg**	**Pg**	**04 39 48.4**	**+0.3**
	1.4nm,0.1s,SNR=7.9								
EJON				Lg				04 40 02.1	
	6.3nm,0.1s,SNR=7.9								
EJON	**La Jonquera**	**1.12**	**191**	Pg		**Pg**	**Pg**	**04 39 48.4**	**+0.3**
EJON				Lg				04 40 02.1	
EJON	**La Jonquera**	**1.12**	**191**	Pg		**Pg**	**Pg**	**04 39 48.4**	**+0.3**
	1.4nm,0.1s,SNR=7.9								
CARF	**Carcanieres**	**1.15**	**224**	Pg		**Pg**	**Pg**	**04 39 49.0**	**+0.4**
CARF				Sg		**Sg**	**Sg**	**04 40 03.6**	**+0.1**
VALF	**Valcebollere**	**1.43**	**217**	Pn		**Pn**	**Pn**	**04 39 54.3**	**+1.9**
VALF				Sg		**Sg**	**Sg**	**04 40 13.3**	**+0.7**
CAF	**Calviac**	**1.60**	**330**	*e*Pg		**Pg**	**Pg**	**04 39 58.0**	**+0.7**
CAF				*e*Sg		**Sg**	**Sg**	**04 40 18.5**	**+0.4**
	4.6nm,0.2s								
CAF	**Calviac**	**1.60**	**330**	*e*Pg		**Pg**	**Pg**	**04 39 58.0**	**+0.7**
CAF				*e*Sg		**Sg**	**Sg**	**04 40 18.5**	**+0.4**
	2.3nm,0.2s								
MLS	**Moulis**	**1.64**	**250**	Pg		**Pg**	**Pg**	**04 39 58.3**	**+0.3**
MLS				Sg		**Sg**	**Sg**	**04 40 20.2**	**+0.9**
SALF	**Salau**	**1.66**	**242**	Pn		**Pn**	**Pn**	**04 39 58.3**	**+2.8**
VIVF	**Saint-Julien-l**	**1.69**	**39**	*e*Pg		**Pg**	**Pg**	**04 39 59.7**	**+0.6**
VIVF				*e*Sg		**Sg**	**Sg**	**04 40 22.0**	**+0.9**
	7.3nm,0.2s								
VIVF	**Saint-Julien-l**	**1.69**	**39**	Pn		**Pn**	**Pn**	**04 39 56.0**	**0.0**
VIVF				Pg		**Pg**	**Pg**	**04 39 59.7**	**+0.6**
VIVF				Lg				04 40 22.0	
	3.7nm,0.2s								
VIVF	**Saint-Julien-l**	**1.69**	**39**	*e*Pn		**Pn**	**Pn**	**04 39 56.0**	**0.0**
VIVF				*e*Pg		**Pg**	**Pg**	**04 39 59.7**	**+0.6**
VIVF				*e*Sg		**Sg**	**Sg**	**04 40 22.0**	**+0.9**
VIVF	**Saint-Julien-l**	**1.69**	**39**	*e*Pg		**Pg**	**Pg**	**04 39 59.7**	**+0.6**
VIVF				*e*Sg		**Sg**	**Sg**	**04 40 22.0**	**+0.9**
	3.7nm,0.2s								
SMRF	**Simiane la Rot**	**1.78**	**75**	*e*Pg		**Pg**	**Pg**	**04 40 01.2**	**+0.4**
SMRF				*e*Sg		**Sg**	**Sg**	**04 40 25.0**	**+1.0**
	3.3nm,0.2s								
SMRF	**Simiane la Rot**	**1.78**	**75**	*e*Pn		**Pn**	**Pn**	**04 39 58.3**	**+1.0**
SMRF				*e*Pg		**Pg**	**Pg**	**04 40 01.2**	**+0.4**
SMRF				*e*Sg		**Sg**	**Sg**	**04 40 25.0**	**+1.0**
SMRF	**Simiane la Rot**	**1.78**	**75**	*e*Pg		**Pg**	**Pg**	**04 40 01.2**	**+0.4**
SMRF				*e*Sg		**Sg**	**Sg**	**04 40 25.0**	**+1.0**
	1.6nm,0.2s								
RJF	**Les Rejaudoux**	**2.13**	**326**	*e*Pg		**Pg**	**Pg**	**04 40 07.5**	**+0.1**
RJF				*e*Sg		**Sg**	**Sg**	**04 40 34.6**	**-0.4**
	4.7nm,0.2s								
RJF	**Les Rejaudoux**	**2.13**	**326**	*e*Pg		**Pg**	**Pg**	**04 40 07.5**	**+0.1**
RJF				*e*Sg		**Sg**	**Sg**	**04 40 34.6**	**-0.4**
	2.3nm,0.2s								
EPF	**Esparros**	**2.14**	**257**	*e*Pg		**Pg**	**Pg**	**04 40 07.0**	**-0.7**
EPF				*e*Sn		**Sn**	**Sn**	**04 40 27.0**	**-1.7**
EPF				*e*Sg		**Sg**	**Sg**	**04 40 35.1**	**-0.3**
	7.8nm,0.2s								
EPF	**Esparros**	**2.14**	**257**	Pn		**Pn**	**Pn**	**04 40 02.4**	**+0.2**
EPF				Pg		**Pg**	**Pg**	**04 40 07.0**	**-0.7**
EPF				Sn		**Sn**	**Sn**	**04 40 27.0**	**-1.7**
EPF				Lg				04 40 35.1	
	3.9nm,0.2s								
EPF	**Esparros**	**2.14**	**257**	*e*Pn		**Pn**	**Pn**	**04 40 02.4**	**+0.2**
EPF				*e*Pg		**Pg**	**Pg**	**04 40 07.0**	**-0.7**
EPF				*e*Sn		**Sn**	**Sn**	**04 40 27.0**	**-1.7**
EPF				*e*Sg		**Sg**	**Sg**	**04 40 35.1**	**-0.3**
EPF	**Esparros**	**2.14**	**257**	*e*Pg		**Pg**	**Pg**	**04 40 07.0**	**-0.7**
EPF				*e*Sn		**Sn**	**Sn**	**04 40 27.0**	**-1.7**
EPF				*e*Sg		**Sg**	**Sg**	**04 40 35.1**	**-0.3**
	3.9nm,0.2s								
LFF	**La Frestale**	**2.24**	**309**	*e*Sg		**Sg**	**Sg**	**04 40 39.5**	**+0.8**
	6.6nm,0.2s								
LFF	**La Frestale**	**2.24**	**309**	*e*Sg		**Sg**	**Sg**	**04 40 39.5**	**+0.8**
	4.3nm,0.2s								
LABF	**Labassere**	**2.33**	**259**	Pg		**Pg**	**Pg**	**04 40 10.4**	**-0.8**
LABF				Sg		**Sg**	**Sg**	**04 40 39.8**	**-1.6**
EBIE	**Bielsa**	**2.39**	**250**	⇓Pn		**Pn**	**Pn**	**04 40 09.1**	**+3.6**
	1.6nm,0.2s,SNR=18								
EBIE				Pg		**Pg**	**Pg**	**04 40 12.1**	**-0.2**
	1.2nm,0.1s,SNR=7.9								
EBIE				Lg				04 40 39.4	
	1.0nm,0.1s,SNR=7.9								
EBIE	**Bielsa**	**2.39**	**250**	Pn		**Pn**	**Pn**	**04 40 09.2**	**+3.6**
EBIE				Pg		**Pg**	**Pg**	**04 40 11.7**	**-0.7**
EBIE				Lg				04 40 39.4	
EBIE	**Bielsa**	**2.39**	**250**	Pn		**Pn**	**Pn**	**04 40 09.2**	**+3.6**
	1.6nm,0.2s,SNR=10								
EBIE	**Bielsa**	**2.39**	**250**	Pg		**Pg**	**Pg**	**04 40 11.7**	**-0.7**
	1.2nm,0.1s,SNR=7.9								
LMR	**La Mourre**	**2.43**	**94**	*e*Pg		**Pg**	**Pg**	**04 40 12.9**	**-0.3**
LMR				*e*Sn		**Sn**	**Sn**	**04 40 35.2**	**-0.6**
LMR				*e*Sg		**Sg**	**Sg**	**04 40 43.8**	**-0.9**
	3.5nm,0.2s								
LMR	**La Mourre**	**2.43**	**94**	*e*Pg		**Pg**	**Pg**	**04 40 12.9**	**-0.3**
LMR				*e*Sn		**Sn**	**Sn**	**04 40 35.2**	**-0.6**
LMR				*e*Sg		**Sg**	**Sg**	**04 40 43.8**	**-0.9**
	1.8nm,0.2s								
FRF	**La Foret Royal**	**2.52**	**88**	*e*Pg		**Pg**	**Pg**	**04 40 13.7**	**-1.1**
FRF				*e*Sn		**Sn**	**Sn**	**04 40 37.4**	**-0.6**
FRF				*e*Sg		**Sg**	**Sg**	**04 40 45.7**	**-1.8**
	2.8nm,0.2s								
FRF	**La Foret Royal**	**2.52**	**88**	Pn		**Pn**	**Pn**	**04 40 07.7**	**+0.3**
FRF				Pg		**Pg**	**Pg**	**04 40 13.7**	**-1.1**
FRF				Sn		**Sn**	**Sn**	**04 40 37.4**	**-0.6**
FRF				Lg				04 40 45.7	
	1.4nm,0.2s								
FRF	**La Foret Royal**	**2.52**	**88**	*e*Pn		**Pn**	**Pn**	**04 40 07.7**	**+0.3**
FRF				*e*Pg		**Pg**	**Pg**	**04 40 13.7**	**-1.1**
FRF				*e*Sn		**Sn**	**Sn**	**04 40 37.4**	**-0.6**
FRF				*e*Sg		**Sg**	**Sg**	**04 40 45.7**	**-1.8**
FRF	**La Foret Royal**	**2.52**	**88**	*e*Pg		**Pg**	**Pg**	**04 40 13.7**	**-1.1**
FRF				*e*Sn		**Sn**	**Sn**	**04 40 37.4**	**-0.6**
FRF				*e*Sg		**Sg**	**Sg**	**04 40 45.7**	**-1.8**
	1.4nm,0.2s								
EPOB	**Poblet**	**2.69**	**216**	Pg		**Pg**	**Pg**	**04 40 17.1**	**-1.1**
	0.7nm,0.1s,SNR=7.9								
EPOB				Lg				04 40 51.8	
	1.0nm,0.1s,SNR=7.9								
EPOB	**Poblet**	**2.69**	**216**	Pg		**Pg**	**Pg**	**04 40 17.1**	**-1.0**
	0.7nm,0.1s,SNR=7.9								
ETSF	**Etsaut**	**2.81**	**258**	*e*Pg		**Pg**	**Pg**	**04 40 19.1**	**-1.4**
ETSF				*e*Sn		**Sn**	**Sn**	**04 40 44.5**	**-0.8**
ETSF				*e*Sg		**Sg**	**Sg**	**04 40 53.8**	**-3.2**
	4.2nm,0.3s								
ETSF	**Etsaut**	**2.81**	**258**	Pn		**Pn**	**Pn**	**04 40 12.3**	**+0.9**
ETSF				Pg		**Pg**	**Pg**	**04 40 19.1**	**-1.4**
ETSF				Sn		**Sn**	**Sn**	**04 40 44.5**	**-0.8**
ETSF				Lg				04 40 53.8	
	2.1nm,0.3s								
ETSF	**Etsaut**	**2.81**	**258**	*e*Pn		**Pn**	**Pn**	**04 40 12.3**	**+0.9**
ETSF				*e*Pg		**Pg**	**Pg**	**04 40 19.1**	**-1.4**
ETSF				*e*Sn		**Sn**	**Sn**	**04 40 44.5**	**-0.8**
ETSF				*e*Sg		**Sg**	**Sg**	**04 40 53.8**	**-3.2**
ETSF	**Etsaut**	**2.81**	**258**	*e*Pg		**Pg**	**Pg**	**04 40 19.1**	**-1.4**
ETSF				*e*Sn		**Sn**	**Sn**	**04 40 44.5**	**-0.8**
ETSF				*e*Sg		**Sg**	**Sg**	**04 40 53.8**	**-3.2**
	2.1nm,0.3s								
TCF	**Toulx Ste Croi**	**2.83**	**346**	*e*Sg		**Sg**	**Sg**	**04 40 57.9**	**+0.4**
	2.9nm,0.2s								
TCF	**Toulx Ste Croi**	**2.83**	**346**	*e*Sg		**Sg**	**Sg**	**04 40 57.9**	**+0.4**
	1.5nm,0.2s								
SMF	**Signal de Mont**	**3.14**	**8**	*e*Sg		**Sg**	**Sg**	**04 41 06.9**	**-0.4**
	3.1nm,0.2s								
SMF	**Signal de Mont**	**3.14**	**8**	*e*Sg		**Sg**	**Sg**	**04 41 06.9**	**-0.4**
	1.5nm,0.2s								
AVF	**Avril sur Loir**	**3.25**	**2**	*e*Sg		**Sg**	**Sg**	**04 41 10.3**	**-0.7**
	1.7nm,0.2s								
AVF	**Avril sur Loir**	**3.25**	**2**	*e*Sg		**Sg**	**Sg**	**04 41 10.3**	**-0.7**
	0.9nm,0.2s								
ERTA	**Horta de San J**	**3.34**	**220**	Pg		**Pg**	**Pg**	**04 40 28.7**	**-1.9**
	0.3nm,0.2s,SNR=4.0								
ERTA				Sn		**Sn**	**Sn**	**04 40 57.9**	**-0.4**
	1.0nm,0.3s,SNR=7.9								
ERTA				Lg				04 41 12.2	
	0.5nm,0.1s,SNR=7.9								
ERTA	**Horta de San J**	**3.34**	**220**	Pg		**Pg**	**Pg**	**04 40 28.7**	**-1.9**
	0.3nm,0.2s,SNR=4.0								
ERTA				Sn		**Sn**	**Sn**	**04 40 59.5**	**+1.2**
	1.0nm,0.3s,SNR=7.9								
SSF	**Saint Saulge**	**3.52**	**4**	*e*Sg		**Sg**	**Sg**	**04 41 19.2**	**-0.6**
	3.7nm,0.5s								
SSF	**Saint Saulge**	**3.52**	**4**	*e*Sg		**Sg**	**Sg**	**04 41 19.2**	**-0.6**
	1.9nm,0.5s								
LOR	**Lormes**	**3.75**	**7**	*e*Pg		**Pg**	**Pg**	**04 40 38.3**	**-0.2**
LOR				*e*Sg		**Sg**	**Sg**	**04 41 26.2**	**-1.0**
	1.9nm,0.3s								
LOR	**Lormes**	**3.75**	**7**	*e*Pg		**Pg**	**Pg**	**04 40 38.3**	**-0.2**
LOR				*e*Sg		**Sg**	**Sg**	**04 41 26.2**	**-1.0**
	0.9nm,0.3s								
PGF	**Pioggiola**	**4.38**	**101**	*e*Pn		**Pn**	**Pn**	**04 40 33.1**	**+0.2**
PGF				*e*Sn		**Sn**	**Sn**	**04 41 20.1**	**-3.7**
	1.3nm,0.3s								
PGF	**Pioggiola**	**4.38**	**101**	*e*Pn		**Pn**	**Pn**	**04 40 33.1**	**+0.2**
PGF				*e*Sn		**Sn**	**Sn**	**04 41 20.1**	**-3.7**
	0.6nm,0.3s								

*ISCJB **26** 05:18:45.3±0.6, 3904N±003×2071E±007, h9km±7km, Error ellipse: s-maj=9.1km s-min=5.0km az=160.3*
*NEIC **26** 05:18:45.0, 3901N×2066E, h38km, MD3.3(ATH), After ATH.*
*ATH **26** 05:18:45.0, 3901N×2066E, h38km±10km, MD3.3/4*
*THE **26** 05:18:45.9, 3902N×2059E, h10km, ML2.0*
*CSEM **26** 05:18:46.0±0.2, 3903N×2060E, h2km, ML2.0, Error ellipse: s-maj=6.2km s-min=2.6km az=83.0*
ISC 26 05:18:45.5±0.6, 3903N±003×2069E±007, h16km±7km, n9, σ0℗57/13, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
LKD	**Levkas**	**0.32**	**185**	*e*Pg		**Pg**	**Pg**	**05 18 51.7**	**-0.6**
LKD				*e*Sg		**Sg**	**Sg**	**05 18 57.1**	**+0.3**
IGT	**Igoumenitsa**	**0.57**	**331**	*e*Pg		**Pg**	**Pg**	**05 18 56.1**	**-0.8**
IGT				*e*Sg		**Sg**	**Sg**	**05 19 04.6**	**0.0**
JAN	**Janina**	**0.64**	**11**	*e*PN		**Pg**	**Pg**	**05 18 58.7**	**+0.6**
VLS	**Valsamata**	**0.85**	**185**	*e*PN		**Pb**	**Pb**	**05 19 01.7**	**-0.3**
VLS				*e*SN		**Sb**	**Sb**	**05 19 13.9**	**+0.7**
MEV	**Metsovon**	**0.86**	**29**	*e*Pg		**Pg**	**Pg**	**05 19 02.7**	**+0.4**
EVR	**Evrytania**	**0.88**	**97**	*e*PN		**Pn**	**Pn**	**05 19 02.4**	**-0.9**
KEK	**Kerkira**	**0.97**	**315**	*e*PN		**Pb**	**Pb**	**05 19 03.2**	**-0.8**
KEK				*e*SN		**Sb**	**Sb**	**05 19 17.3**	**+0.7**
AGG	**Agios Georgios**	**1.28**	**90**	*e*Pg		**Pg**	**Pg**	**05 19 10.4**	**+0.3**
FNA	**Florina**	**1.83**	**17**	*e*Pb		**Pb**	**Pb**	**05 19 18.9**	**+0.2**

*NEIC **26** 05:26:32.4, 3548N×2284E, h23km, MD3.6(ATH), After ATH.*
*CSEM **26** 05:26:32.4, 3548N×2284E, h23km, MD3.6/3, After ATH*
ATH 26 05:26:35.1, 3568N×2305E, h34km, MD3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KYTH	**Kithira**	**0.60**	**359**	*e*PN		**Pn**	**Pn**	**05 26 48.0**	**+0.8**
VAM	**Vamos**	**0.98**	**106**	*e*PN		**Pn**	**Pn**	**05 26 53.9**	**+1.5**
VLI	**Veliai**	**1.04**	**355**	*e*Pb		**Pb**	**Pb**	**05 26 54.2**	**-0.4**
VLI				*e*Sn		**Sn**	**Sn**	**05 27 13.7**	**+7.1**
ITM	**Ithomi**	**1.75**	**329**	*e*PN		**Pn**	**Pn**	**05 27 05.1**	**+2.1**

IDC 26 05:59:58.9±4.2, 3039S×13834E, h0km, mb1 3.1/3, mb1mx3.1/12, mbtmp2.9/3, ML2.8/3, Error ellipse: s-maj=109.9km s-min=16.5km az=42.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
STKA	**Stephens Creek**	**3.16**	**119**	Pn		**Pn**	**Pn**	**06 00 48.4**	**-1.5**
	0.4nm,0.3s,baz=304,slow=13,SNR=5.3								
STKA				Pg		**Pg**	**Pg**	**06 00 56.7**	**-2.8**
	2.0nm,0.3s,baz=296,slow=16,SNR=17								
STKA				Sn		**Sn**	**Sn**	**06 01 26.6**	**-1.7**
	1.9nm,0.3s,baz=211,slow=20,SNR=4.5								
STKA				Lg				06 01 40.5	
	2.9nm,0.3s,baz=212,slow=21,SNR=7.8								
ASAR	**Alice Springs**	**7.77**	**328**	Pn		**Pn**	**Pn**	**06 01 54.6**	**+1.4**
	0.2nm,0.3s,baz=149,slow=12,SNR=6.6								
ASAR				Sn		**Sn**	**Sn**	**06 03 22.3**	**+0.3**
	0.1nm,0.3s,baz=152,slow=22,SNR=3.2								
WRA	**Warramunga Arr**	**11.01**	**340**	Pn		**Pn**	**Pn**	**06 02 37.4**	**-0.2**
	0.1nm,0.3s,baz=155,slow=12,SNR=11								

*NEIC **26** 06:26:00.9, 3030S×7160W, h26km, ML3.9(GUC), After GUC.*
GUC 26 06:26:00.9±0.8, 3030S×7160W, h26km±3km, MD4.0, ML3.9, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
OVCH	**Ovalle**	**0.46**	**132**	⇓*i*P		**Pb**	**Pb**	**06 26 10.4**	**0.0**
OVCH				*i* S		**Sb**	**Sb**	**06 26 17.6**	**+0.6**
OVCH				AML		AML	AML	**06 26 18.6**	
	comp=E,5μm,0.5s								
OVCH	**Ovalle**	**0.46**	**132**	⇓*i*P		**Pb**	**Pb**	**06 26 10.4**	**0.0**
OVCH				*i* S		**Sb**	**Sb**	**06 26 17.6**	**+0.6**
TLL	**Tololo Astrono**	**0.70**	**79**	⇓*i*P		**Pb**	**Pb**	**06 26 14.7**	**+0.2**
TLL				*i* S		**Sb**	**Sb**	**06 26 24.4**	**+0.8**
TLL				AML		AML	AML	**06 26 30.3**	
	comp=N,3μm,0.4s								
TLL	**Tololo Astrono**	**0.70**	**79**	⇓*i*P		**Pb**	**Pb**	**06 26 14.7**	**+0.2**
TLL				*i* S		**Sb**	**Sb**	**06 26 24.4**	**+0.8**
CMCH	**Combarbala**	**1.01**	**150**	⇑*i*P		**Pn**	**Pn**	**06 26 18.7**	**-0.6**
CMCH				⇑*e*P				**06 26 18.8**	
CMCH				*i* S		**Sb**	**Sb**	**06 26 32.4**	**-0.2**
CMCH				AML		AML	AML	**06 26 36.2**	
	comp=E,14μm,0.6s								
CMCH	**Combarbala**	**1.01**	**150**	⇑*e*P		**Pn**	**Pn**	**06 26 18.8**	**-0.6**
CMCH				*i* S		**Sb**	**Sb**	**06 26 32.4**	**-0.2**
LCO	**Las Campanas**	**1.50**	**31**	⇑*i*P		**Pn**	**Pn**	**06 26 26.1**	**-0.1**
LCO				*i* S		**Sn**	**Sn**	**06 26 46.0**	**+1.1**
CHNG	**Los Chungos**	**1.58**	**177**	*e*P		**Pn**	**Pn**	**06 26 27.6**	**+0.3**
CHNG				*i* S		**Sn**	**Sn**	**06 26 48.1**	**

LASF				*e*Sn	Sn	06 58 22.8	-2.8
LASF				*e*Sg	Sg	06 58 26.4	-1.2
	2.5nm,0.3s						

JMA 26 07:30:47.4±0.1, 4250N×14357E, h71km±1km, M3.6, 2C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.19**	**307**	⇓P	Pn	07 30 58.1	0.0
JCH				*e*S	Sn	07 31 05.6	-0.3
JOB	**Onbets**	**0.45**	**26**	⇓P	Pn	07 31 00.1	+0.3
JOB				*e*S	Sn	07 31 09.5	+0.6
JEM	**Erimo**	**0.57**	**212**	P	Pn	07 31 01.2	+0.2
JNBK	**Urakawa-nobuka**	**0.64**	**250**	⇑P	Pn	07 31 02.1	+0.4
JNBK				*e*S	Sn	07 31 12.8	+0.5
JAR	**Ashorobuto**	**0.81**	**10**	⇓P	Pn	07 31 03.7	+0.1
JAR				*e*S	Sn	07 31 15.8	+0.2
JBT2	**Biratori 2**	**0.93**	**288**	⇑P	Pn	07 31 05.1	0.0
JAK	**Akkeshi**	**0.97**	**59**	⇓P	Pn	07 31 04.9	-0.6
JAK				S	Sn	07 31 18.5	-0.5
JFR	**Furan**	**0.98**	**313**	*e*S	Sn	07 31 19.4	+0.2
JNK	**Nakash**	**1.37**	**37**	P	Pn	07 31 10.1	-0.6
JNK				*e*S	Sn	07 31 26.9	-1.3
JTKR	**Abashiri--Toko**	**1.49**	**9**	⇓P	Pn	07 31 12.5	+0.3
JTKR				*e*S	Sn	07 31 30.9	-0.1
JKK2	**Kamakawa 2**	**1.50**	**337**	P	Pn	07 31 12.8	+0.5
JMP	**Maruseppu**	**1.51**	**354**	⇓P	Pn	07 31 12.7	+0.1
JMP				*e*S	Sn	07 31 31.9	+0.4

*NEIC **26** 07:46:40.1±1.0, 486S×15381E, mb4.5/8, Error ellipse: s-maj=29.8km s-min=16.4km az=119.0*
*IDC **26** 07:46:42.1±8.5, 489S×15370E, h144km±62km, mb3.8/5, mb1 4.1/6, mb1mx3.8/14, mbtmp4.4/6, MS3.3/5, Ms1 3.3/5, ms1mx3.1/17, Error ellipse: s-maj=73.0km s-min=31.0km az=89.0*
*ISCJB **26** 07:46:43.4±4.7, 505S±02×1536E±0.3, h168km±34km, mb4.3/11, Error ellipse: s-maj=44.9km s-min=31.8km az=40.2*

ISC 26 07:46:43.6±5.0, 49S±02×1536E±03, h155km±34km, n22, σ0°46/18, mb4.3/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.83**	**235**	P	**Pn**	**07 48 34.6**	**0.0**
	30nm,0.3s,baz=66,slow=5.9,SNR=48						
PMG				S	**Sn**	**07 50 01.9**	**-0.1**
	8.5nm,0.3s,baz=226,slow=21,SNR=4.2						
GUMO	**Guam**	**20.34**	**335**	LR	LR	07 57 29.3	
	comp=Z,23nm,18.9s,baz=155,slow=32						
KAKA	**Kakadu**	**22.32**	**248**	*e*P	**P**	**07 51 21.4**	**-7.2**
	13nm,0.5s,mb4.6						
WRAB	**Tennant Creek**	**23.99**	**230**	*e*P	**P**	**07 51 44.5**	**+0.6**
	16nm,0.7s,mb4.7						
WRAB				*e*pP		07 52 13.5	
WB2	**Warramunga Arr**	**24.00**	**230**	*e*P	**P**	**07 51 44.4**	**+0.5**
WRA	**Warramunga Arr**	**24.01**	**230**	P	**P**	**07 51 44.8**	**+0.8**
	9.1nm,0.6s,mb4.5,baz=53,slow=9.7,SNR=99						
AS31	**Alice Springs**	**26.64**	**224**	*e*P	**P**	**07 52 07.9**	**+0.2**
ASAR	**Alice Springs**	**26.64**	**224**	P	**P**	**07 52 08.2**	**+0.4**
	1.8nm,0.4s,mb4.0,baz=55,slow=8.8,SNR=45						
ASAR				LR	LR	08 01 04.8	
	comp=Z,91nm,19.9s,baz=260,slow=32						
ASPA	**Alice Springs**	**26.64**	**224**	*e*P	**P**	**07 52 07.9**	**+0.1**
STKA	**Stephens Creek**	**29.11**	**201**	P	**P**	**07 52 29.4**	**-0.2**
	2.0nm,0.7s,mb4.0,baz=39,slow=15,SNR=7.2						
STKA				LR	LR	08 03 31.6	
	comp=Z,32nm,18.3s,baz=25,slow=35						
STKA	**Stephens Creek**	**29.11**	**201**	*e*P	**P**	**07 52 29.4**	**-0.3**
	2.2nm,0.7s,mb4.0						
STKA				*e*pP	pP	07 52 57.9	-4.3
FITZ	**Fitzroy Crossi**	**30.35**	**242**	*e*P	**P**	**07 52 40.3**	**-0.3**
	7.3nm,0.4s,mb4.8						
FORT	**Forrest**	**35.24**	**220**	*e*P	**P**	**07 53 22.9**	**-0.2**
	32nm,0.6s,mb5.1						
MBWA	**Marble Bar**	**36.65**	**241**	*e*P	**P**	**07 53 34.2**	**-0.8**
	3.2nm,0.6s,mb4.1						
KLBR	**Kellerberrin**	**42.84**	**227**	*e*P	**P**	**07 54 25.4**	**-0.9**
	9.1nm,0.6s,mb4.6						
MKAR	**Makanchi Array**	**80.96**	**319**	P	**P**	**07 58 40.9**	**+0.1**
	0.4nm,0.5s,mb3.3,baz=95,slow=6.7,SNR=5.7						
MKAR				pP	pP	07 59 13.1	-6.0
	0.9nm,0.8s,baz=74,slow=5.1,SNR=3.8						
MAW	**Mawson**	**85.79**	**203**	*e*P	**P**	**07 59 05.1**	**-0.3**
	2.0nm,1.4s,mb3.6						
MAW	**Mawson**	**85.79**	**203**	P	**P**	**07 59 05.3**	**-0.1**
	1.8nm,0.5s,mb4.0,baz=73,slow=8.2,SNR=4.6						
YKA	**Yellowknife Ar**	**95.13**	**28**	LR	LR	08 37 20.6	
	comp=Z,17nm,21.8s,baz=285,slow=32						
PDAR	**Pinedale Array**	**98.30**	**48**	LR	LR	08 40 24.9	
	comp=Z,33nm,19.0s,baz=87,slow=33						
TORD	**Torodi Ar. Bea**	**151.14**	**288**	PKPbc	PKPbc	08 06 19.1	+0.8
	0.7nm,0.3s,baz=75,slow=1.7,SNR=28						
TORD				pPKPbc	pPKPbc	08 06 52.5	-6.6
	1.7nm,0.7s,baz=67,slow=2.0,SNR=7.7						
TORD	**Torodi Ar. Bea**	**151.14**	**288**	PKPbc	PKPbc	08 06 19.1	+0.8
TORD				pPKPbc	pPKPbc	08 06 52.5	-6.6

IDC 26 08:13:33.0±69.0, 1694S×17855E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/12, mbtmp4.0/3, Error ellipse: s-maj=1228.0km s-min=152.2km az=76.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.59**	**239**	P	P	08 20 40.4	-0.4
	2.2nm,0.8s,baz=82,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**41.96**	**259**	P	P	08 21 26.2	+0.6
	0.3nm,0.3s,baz=91,slow=7.8,SNR=19						
ASAR	**Alice Springs**	**42.27**	**253**	P	P	08 21 28.6	+0.4
	2.4nm,0.5s,baz=88,slow=8.4,SNR=56						

KRSC 26 08:14:59, 5441N×16065E, h83km, ML3.9, Near east coast of Kamchatka Peninsula

MAN 26 09:01:56.2, 1700N×12087E, h1km, mb2.6, ML4.1, MS0.7, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.66**	**347**	*e*P	Pg	09 02 09.8	+0.8
BCPH	**Baguio City Da**	**0.67**	**204**	⇑*i*P	Pg	09 02 08.8	-0.4
BCPH				*i* S	Sg	09 02 25.8	+8.0
APYP	**Conner**	**0.93**	**22**	*e*P	Sg	09 02 32.7	+6.7
CVP	**Callao Caves**	**1.15**	**52**	⇓*i*P	Pg	09 02 14.0	-4.2
CVP				*i* S	Sg	09 02 32.5	-0.6
PALP	**Palanan**	**1.49**	**87**	⇓*e*P	Pn	09 02 23.6	-0.4
PALP				*e*S	Sb	09 02 50.9	+6.8

*CSEM **26** 09:14:13.5±0.4, 4565N×2656E, h109km±4km, MD3.5/3, Error ellipse: s-maj=4.8km s-min=2.7km az=39.0, After BUC*
*NEIC **26** 09:14:15.0, 4557N×2657E, h101km, MD3.4(BUC), After BUC.*

BUC 26 09:14:13.3±0.6, 4563N×2654E, h112km±6km, MD3.5/3, 12C-7D, Error ellipse: s-maj=5.8km s-min=3.4km az=32.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.24**	**20**	⇑*i*P	Pn	09 14 29.0	0.0
PLOR				*i* S	Sn	09 14 40.6	-0.2
VRI	**Vrincioaia**	**0.27**	**29**	⇑*i*P	Pn	09 14 29.3	+0.2
VRI				*i* S	Sn	09 14 41.2	+0.2
VRI	**Vrincioaia**	**0.27**	**29**	⇓P	Pn	09 14 29.3	+0.2
VRI				S	Sn	09 14 41.5	+0.5
VRI	**Vrincioaia**	**0.27**	**29**	⇑*i*P	Pn	09 14 29.4	+0.3
VRI				*i* S	Sn	09 14 41.3	+0.3
MLR	**Muntele Rosu**	**0.44**	**252**	⇑*i*P	Pn	09 14 30.4	+0.5
MLR				*i* S	Sn	09 14 42.7	+0.3
MLR	**Muntele Rosu**	**0.44**	**252**	⇑P	Pn	09 14 30.4	+0.4
MLR				S	Sn	09 14 42.7	+0.3
VARR		**0.96**	**74**	⇑*i*P	Pn	09 14 34.8	+0.6
VARR				*i* S	Sn	09 14 50.3	+0.3
VOIR		**1.06**	**260**	⇓*i*P	Pn	09 14 35.2	-0.1
VOIR				*i* S	Sn	09 14 52.5	+0.6
VOIR		**1.06**	**260**	⇑P	Pn	09 14 36.2	+0.9
VOIR				S	Sn	09 14 52.9	+1.1
MTUR	**Matau**	**1.11**	**249**	*i* S	Sn	09 14 55.3	+2.5
CFR	**Carcaliu**	**1.21**	**111**	⇓*i*P	Pn	09 14 37.3	+0.4
CFR				*i* S	Sn	09 14 54.2	-0.6
CFR	**Carcaliu**	**1.21**	**111**	⇓P	Pn	09 14 37.3	+0.4
CFR	**Carcaliu**	**1.21**	**111**	⇓*i*P	Pn	09 14 37.3	+0.4
CFR				*i* S	Sn	09 14 54.4	-0.4
BUC1	**Bucharest**	**1.33**	**196**	*i* S	Sn	09 14 57.5	+0.4
HARR	**Harsova**	**1.36**	**133**	⇑*i*P	Pn	09 14 39.2	+0.6
HARR				*i* S	Sn	09 14 57.5	-0.2
HARR	**Harsova**	**1.36**	**133**	⇑P	Pn	09 14 39.2	+0.6
TIRR	**Tirgusor**	**1.77**	**131**	⇑*i*P	Pn	09 14 44.0	+0.5
TIRR				*i* S	Sn	09 15 06.1	-0.4
TIRR	**Tirgusor**	**1.77**	**131**	⇑P	Pn	09 14 44.1	+0.6
TIRR				S	Sn	09 15 06.0	-0.5
BURAR	**Bucovina Array**	**2.19**	**336**	⇑*i*P	Pn	09 14 49.5	+0.8
BURAR				*i* S	Sn	09 15 16.5	+0.7
GZR	**Gura Zlata**	**2.65**	**266**	⇓*i*P	Pn	09 14 56.1	+1.3
GZR				*i* S	Sn	09 15 30.1	+3.5
GZR	**Gura Zlata**	**2.65**	**266**	⇓P	Pn	09 14 56.9	+2.1

IDC 26 10:11:26.2±1.7, 1000S×10796E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/16, mbtmp3.8/7, ML3.3/1, MS3.9/2, Ms1 3.9/2, ms1mx2.9/25, Error ellipse: s-maj=82.6km s-min=18.6km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.93**	**117**	P	Pn	10 15 49.4	+0.3
	0.1nm,0.3s,baz=113,slow=19,SNR=4.9						
WRA	**Warramunga Arr**	**27.29**	**114**	P	P	10 17 12.3	-0.1
	0.4nm,0.7s,baz=288,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**28.24**	**122**	P	P	10 17 22.1	+1.4
	0.4nm,0.7s,baz=304,slow=9.4,SNR=5.8						
STKA	**Stephens Creek**	**37.96**	**130**	P	P	10 18 44.9	-0.6
	2.0nm,0.7s,baz=296,slow=10,SNR=5.2						
HNR	**Honiara**	**51.20**	**94**	LR	LR	10 39 06.6	
	comp=Z,68nm,19.5s,baz=180,slow=32						
SONM	**Songino Array**	**57.60**	**359**	P	P	10 21 17.9	+0.1
	0.9nm,0.7s,baz=173,slow=7.3,SNR=5.2						
MKAR	**Makanchi Array**	**61.02**	**340**	P	P	10 21 41.4	0.0
	1.9nm,0.6s,baz=139,slow=7.8,SNR=15						
URZ	**Urewera**	**67.52**	**127**	LR	LR	10 52 47.3	
	comp=Z,134nm,19.8s,baz=156,slow=37						
BRTR	**Keskin Array B**	**84.52**	**312**	P	P	10 24 01.8	+0.7
	1.0nm,0.8s,baz=130,slow=5.4,SNR=5.2						

*ISCJB **26** 10:15:46.9±0.7, 771S±007×303E±02, h10km, mb4.0/7, MS3.6/2, Error ellipse: s-maj=28.2km s-min=7.6km az=27.3*
*IDC **26** 10:15:47.3±1.1, 770S×3039E, h0km, mb3.9/7, mb1 4.2/10, mb1mx4.0/22, mbtmp4.1/10, ML2.3/1, MS3.4/6, Ms1 3.4/6, ms1mx3.1/27, Error ellipse: s-maj=42.9km s-min=16.9km az=105.0*
*NEIC **26** 10:15:49.0±0.7, 769S×3032E, h10km, mb4.3/2, Error ellipse: s-maj=28.1km s-min=9.7km az=105.0*

ISC 26 10:15:49.1±0.8, 768S±007×304E±02, h10km, n18, σ0°73/24, mb4.0/7, MS3.6/2, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.84**	**196**	Pn	**Pn**	**10 17 44.2**	**+0.9**
	6.4nm,0.3s,baz=26,slow=12,SNR=48						
LSZ				Sn	**Sn**	**10 19 12.4**	**+0.3**
	22nm,0.3s,baz=90,slow=16,SNR=7.1						
LSZ				Lg		10 19 57.7	
	35nm,0.3s,baz=44,slow=14,SNR=4.9						
LSZ				LR	LR	10 20 22.8	
	comp=Z,73nm,19.4s,baz=272,slow=35						
LSZ	**Lusaka**	**7.84**	**196**	Pn	**Pn**	**10 17 44.2**	**+0.9**
LSZ				Sn	**Sn**	**10 19 12.4**	**+0.3**
LSZ				Lg		10 19 57.7	
KMBO	**Kilima Mbogo**	**9.45**	**47**	Pn	**Pn**	**10 17 55.4**	**-10**
	4.8nm,0.3s,baz=221,slow=17,SNR=94						
KMBO				Sn	**Sn**	**10 19 37.0**	**-15**
	7.9nm,0.3s,baz=230,slow=21,SNR=5.0						
KMBO				Lg		10 20 23.0	
	6.9nm,0.3s,baz=277,slow=19,SNR=3.8						
KMBO				LR	LR	10 21 11.7	
	comp=Z,135nm,19.9s,baz=126,slow=34						
KMBO	**Kilima Mbogo**	**9.45**	**47**	Pn	**Pn**	**10 17 55.4**	**-10**
KMBO				Sn	**Sn**	**10 19 37.0**	**-15**
KMBO				Lg		10 20 23.0	
KMBO				LR	LR	10 21 11.7	
TSUM	**Tsumeb**	**16.89**	**226**	Pn	**Pn**	**10 19 45.6**	**+0.1**
	0.6nm,0.3s,baz=32,slow=15,SNR=8.6						
TSUM				Sn	**Sn**	**10 22 47.9**	**-5.4**
	1.6nm,0.3s,baz=295,slow=22,SNR=4.1						
TSUM				Lg		10 24 53.3	
	0.6nm,0.3s,baz=279,slow=22,SNR=2.6						
TSUM				LR	LR	10 26 49.4	
	comp=Z,332nm,18.7s,baz=146,slow=39						
TSUM	**Tsumeb**	**16.89**	**226**	*e*P	**Pn**	**10 19 45.6**	**0.0**
	22nm,0.6s						
TSUM				*e*S	**Sn**	**10 22 44.6**	**-8.7**
LBTB	**Lobatse**	**17.83**	**194**	P	**Pn**	**10 19 55.3**	**-1.9**
	1.4nm,0.3s,baz=29,slow=13,SNR=11						
LBTB				S	**Sn**	**10 23 05.1**	**-11**
	1.2nm,0.3s,baz=326,slow=5.0,SNR=4.2						
LBTB				Lg		10 25 12.3	
	0.7nm,0.3s,baz=272,slow=12,SNR=4.2						
LBTB				LR	LR	10 26 58.1	
	comp=Z,159nm,19.4s,baz=8.3,slow=38						
LBTB	**Lobatse**	**17.83**	**194**	*e*P	**Pn**	**10 19 56.1**	**-1.1**
	8.5nm,0.5s						
LBTB				*e*S	**Sn**	**10 23 04.9**	**-11**
ATD	**Arta Tunnel**	**22.76**	**33**	LR	LR	10 29 34.5	
	comp=Z,103nm,19.5s,MS3.3,baz=226,slow=36						
TORD	**Torodi Ar. Bea**	**35.21**	**306**	P	**P**	**10 22 42.6**	**-0.8**
	1.4nm,1.0s,mb3.9,baz=101,slow=7.3,SNR=5.9						
BRTR	**Keskin Array B**	**47.26**	**3**	P	**P**	**10 24 22.6**	**+0.2**
	1.5nm,0.8s,mb4.0,baz=178,slow=8.5,SNR=5.8						
AKASG	**Malin Array Be**	**58.15**	**359**	P	**P**	**10 25 42.9**	**-0.1**
	2.0nm,0.7s,mb4.2,baz=178,slow=6.1,SNR=5.8						
GERES	**GERESS Array B**	**58.16**	**347**	P	**P**	**10 25 44.1**	**+1.0**
	0.8nm,0.7s,mb3.9,baz=162,slow=9.3,SNR=5.6						
NOA	**NORSAR Array B**	**70.14**	**350**	P	**P**	**10 27 01.9**	**+0.1**
	1.4nm,1.0s,mb3.9,baz=163,slow=5.7,SNR=3.3						
MKAR	**Makanchi Array**	**71.12**	**35**	P	**P**	**10 27 07.0**	**-0.7**
	1.4nm,0.9s,mb3.9,baz=240,slow=4.9,SNR=7.2						
MKAR	**Makanchi Array**	**71.12**	**35**	P	**P**	**10 27 07.0**	**-0.7**
ZAL	**Zalesovo**	**76.48**	**30**	LR	LR	11 02 44.3	
	comp=Z,56nm,21.1s,MS3.9,baz=54,slow=37						
ARCES	**ARCESS Array B**	**77.11**	**358**	P	**P**	**10 27 43.3**	**+0.6**
	2.8nm,1.0s,mb4.2,baz=192,slow=2.4,SNR=4.7						

*CSEM **26** 10:19:58.6±0.1, 4237N×680W, h10km, ML1.6, Error ellipse: s-maj=4.8km s-min=2.6km az=107.0*
*INMG **26** 10:19:58.6±1.0, 4237N×671W, h5km, ML1.6, Error ellipse: s-maj=5.3km s-min=2.6km az=84.0*

MDD 26 10:19:58.5±0.6, 4236N×672W, h9km±10km, mbLg1.8/8, 1C, Error ellipse: s-maj=6.5km s-min=3.3km az=95.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECAL	**Calabor**	**0.41**	**182**	⇑Pg	Pg	10 20 06.0	-0.6
	3.6nm,0.1s,SNR=18						
ECAL				Lg		10 20 12.5	
	36nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**0.41**	**182**	Pg	Pg	10 20 06.1	-0.5
	3.6nm,0.1s,SNR=18						
PBRG	**Braganca**	**0.55**	**182**	*e*Pg	Pg	10 20 09.3	+0.1
PBRG				*e*Sg	Sg	10 20 16.8	+0.3
PBRG							
	16nm,0.1s						
PBRG	**Braganca**	**0.55**	**182**	*e*Pg	Pg	10 20 09.3	+0.1
PBRG				*e*Sg	Sg	10 20 16.8	+0.3
	16nm,0.1s						
EPON	**Pontenova**	**1.02**	**342**	Pg	Pg	10 20 17.0	-1.2
	5.4nm,0.1s,SNR=20						
EPON				Lg		10 20 31.8	
	2.6nm,0.1s,SNR=5.8						
EPON	**Pontenova**	**1.02**	**342**	Pg	Pg	10 20 17.0	-1.1
	5.4nm,0.1s,SNR=20						
ELOB	**Lobios**	**1.11**	**244**	Pg	Pg	10 20 19.0	-0.9
	9.1nm,0.2s,SNR=26						
ELOB				Lg		10 20 34.8	
	6.4nm,0.1s,SNR=10						
ELOB	**Lobios**	**1.11**	**244**	Pg	Pg	10 20 19.0	-0.9
	9.1nm,0.2s,SNR=26						
PCAB	**Cabril**	**1.17**	**237**	*e*P	Pb	10 20 20.2	-0.7
PCAB				*e*S	Sb	10 20 36.0	-0.2
	8.7nm,0.1s						
PCAB	**Cabril**	**1.17**	**237**	*e*P	Pb	10 20 20.2	-0.7
PCAB				*e*S	Sb	10 20 36.0	-0.2
	8.7nm,0.1s						
EARI	**Arriondas**	**1.46**	**49**	Pg	Pg	10 20 25.9	-0.6
	1.1nm,0.2s,SNR=15						
EARI				Lg		10 20 45.6	
	2.2nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**1.46**	**49**	Pg	Pg	10 20 25.9	-0.6
	1.1nm,0.2s,SNR=15						
EMAZ	**Mazaricos**	**1.77**	**290**	Sn	Sn	10 20 49.6	-2.4
	2.6nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**1.86**	**209**	*e*Pg	Pg	10 20 32.7	-1.6
PVIS				*e*Sg	Sg	10 20 58.0	-0.4
PVIS							
	4.6nm,0.2s						
MTE	**Manteigas**	**2.05**	**198**	*e*Sg	Sg	10 21 04.1	-0.4
MTE							
	3.5nm,0.2s						
MTE	**Manteigas**	**2.05**	**198**	Lg		10 21 04.1	
	1.8nm,0.2s						

CASC 26 10:23:57.6±3.0, 1260N×8804W, h75km±49km, MD3.7, ML3.1, 4C-4D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.70**	**17**	*e*P	x	10 24 32.9	
CNCH				*e*S	x	10 24 43.8	
VSM	**San Miguel**	**0.85**	**345**	*e*P	x	10 24 35.3	
VSM				*e*S	x	10 24 50.6	
BLLM	**Bellamira**	**0.86**	**347**	*e*P	x	10 24 34.7	
BLLM				*e*S	x	10 24 47.7	
CRIN	**San Cristobal**	**0.97**	**84**	*e*P	Pn	10 24 17.0	+1.0
CRIN				*e*S	Sn	10 24 31.7	+2.0
LEON	**Leon**	**1.14**	**99**	⇓*e*P	Pn	10 24 17.6	-0.4
LEON				*e*S	Sn	10 24 32.8	-0.5
TELN	**Telica**	**1.18**	**90**	*e*P	Pn	10 24 16.9	-1.7
TELN				*e*S	Sn	10 24 37.0	+2.7
SNVI	**San Vicente**	**1.27**	**322**	*e*P	x	10 24 40.4	
SNVI				*e*S	x	10 24 57.0	
MIRN	**Miramar**	**1.31**	**97**	⇓*e*P	Pn	10 24 20.3	+0.1
MIRN				*e*S	Sn	10 24 37.2	+0.1
CNGN	**Cerro Negro**	**1.31**	**94**	*e*P	Pn	10 24 20.6	+0.3
CNGN				*e*S	Sn	10 24 38.4	+1.1
LCBS	**La Ceiba**	**1.39**	**319**	*e*P	x	10 24 42.0	
LCBS				*e*S	x	10 24 58.9	
LFRS	**El Faro**	**1.42**	**316**	*e*P	x	10 24 42.3	
LFRS				*e*S	x	10 25 00.8	
COPN	**Copaltepe**	**1.48**	**106**	⇑*e*P	Pn	10 24 22.3	-0.1
MOMJ	**Momotombo**	**1.48**	**97**	⇑*e*P	Pn	10 24 22.7	+0.3
MOMJ				*e*S	Sn	10 24 42.1	+1.0
LBRS	**Las Brisas**	**1.50**	**319**	*e*P	x	10 24 43.7	
LBRS				*e*S	x	10 25 02.1	
LFU	**La Fuente**	**1.55**	**318**	*e*P	x	10 24 44.7	
LFU				*e*S	x	10 25 04.6	
BOQS	**Boqueron**	**1.65**	**313**	*e*P	x	10 24 46.2	
BOQS				*e*S	x	10 25 06.7	
APYN	**Apoyeque**	**1.69**	**102**	⇓*e*P	Pn	10 24 25.7	+0.5
APYN				*e*S	Sn	10 24 44.6	-1.6
XAVN	**Gruta Xavier**	**1.73**	**105**	*e*P	Pn	10 24 26.5	+0.7
XAVN				*e*S	Sn	10 24 48.0	+0.9
TISN	**Laguna Tiscapa**	**1.79**	**105**	⇓*e*P	Pn	10 24 27.0	+0.5
MGAN	**Managua**	**1.81**	**104**	*e*P	Pn	10 24 27.2	+0.4
MGAN				*e*S	Sn	10 24 48.6	-0.3
MGAN				*i*		10 24 49.4	
	comp=N,180nm,0.2s						
TICN	**Ticuantepe**	**1.85**	**107**	⇑*e*P	Pn	10 24 27.8	+0.4
TICN				*e*S	Sn	10 24 51.3	+1.3
PYTN	**Playitas**	**1.94**	**92**	⇑*e*P	Pn	10 24 29.4	+0.9
PYTN				*e*S	Sn	10 24 52.3	+0.3
SBLS	**San Blas**	**1.97**	**309**	*e*P	x	10 24 50.7	
SBLS				*e*S	x	10 25 16.1	
SNJE	**San Jose**	**1.98**	**310**	*e*P	x	10 24 50.8	
SNJE				*e*S	x	10 25 16.0	
RTR	**El Retiro**	**2.03**	**310**	*e*P	x	10 24 51.7	
RTR				*e*S	x	10 25 18.1	

*ISCJB **26** 10:34:13.8±3.2, 1144S±009×1662E±0.1, h77km±26km, mb4.3/19, Error ellipse: s-maj=22.6km s-min=15.2km az=17.5*
*NEIC **26** 10:34:14.7±2.2, 1136S×16631E, h77km±18km, mb4.4/13, Error ellipse: s-maj=16.5km s-min=10.7km az=93.0*
*IDC **26** 10:34:15.4±4.6, 1145S×16622E, h77km±38km, mb4.1/10, mb1 4.2/11, mb1mx4.1/16, mbtmp4.4/11, ML4.7/1, MS3.6/11, Ms1 3.6/11, ms1mx3.4/24, Error ellipse: s-maj=29.1km s-min=19.1km az=88.0*

ISC 26 10:34:15.0±2.8, 1141S±009×1663E±01, h75km±23km, n42, σ0°81/30, mb4.3/19, 2D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.54**	**287**	P	**Pn**	**10 35 48.6**	**+0.1**
	15nm,0.3s,baz=262,slow=1.2,SNR=8.6						
HNR	**Honiara**	**6.54**	**287**	*e*Pn	**Pn**	**10 35 48.0**	**-0.4**
	222nm,0.8s						
DZM	**Mont Dzumac**	**10.60**	**179**	LR	LR	10 40 23.6	
	comp=Z,236nm,21.6s,baz=13,slow=35						
PMG	**Port Moresby**	**18.92**	**274**	LR	LR	10 44 32.9	
	comp=Z,233nm,19.1s,baz=227,slow=33						
CTA	**Charters Tower**	**21.10**	**243**	*e*P	**P**	**10 38 55.3**	**+1.9**
	7.3nm,0.9s,mb4.0						
CTA	**Charters Tower**	**21.10**	**243**	P	**P**	**10 38 54.0**	**+0.6**
	7.8nm,0.8s,mb4.1,baz=79,slow=13,SNR=6.8						
CTA				LR	LR	10 45 33.3	
	comp=Z,116nm,21.4s,baz=79,slow=32						
CTAO	**Charters Tower**	**21.10**	**243**	*e*P	**P**	**10 38 54.8**	**+1.4**
	8.0nm,0.7s,mb4.2						
AFI	**Afiamalu**	**21.55**	**99**	LR	LR	10 45 13.7	
	comp

	1.7nm,0.7s,mb4.2,baz=170,slow=8.4,SNR=5.4						
RKT	**Rikitea**	**56.97 110**	*e*LR	LR	11 01 19.1		
	148nm,28.0s						
VNDA	**Vanda**	**66.14 181**	P	**P**	**10 44 53.3**	**-1.1**	
	1.3nm,0.8s,mb3.8,baz=341,slow=9.0,SNR=5.5						
VNDA	**Vanda**	**66.14 181**	*e*P	**P**	**10 44 53.6**	**-0.8**	
	1.6nm,0.8s,mb3.9						
QSPA	**South Pole Qui**	**78.60 180**	*e*P	**P**	**10 46 07.9**	**-0.6**	
	13nm,1.1s,mb4.7						
ULN	**Ulaanbaatar**	**78.90 324**	*e*P	**P**	**10 46 11.3**	**+1.1**	
	2.2nm,0.8s,mb4.0						
SONM	**Songino Array**	**79.27 324**	P	**P**	**10 46 12.1**	**-0.1**	
	0.7nm,0.5s,mb3.8,baz=141,slow=6.7,SNR=5.9						
COLA	**College**	**83.47 18**	*e*P	**P**	**10 46 33.2**	**-1.1**	
	1.8nm,0.6s,mb4.1						
NVAR	**Mina Array Bea**	**85.85 50**	P	**P**	**10 46 48.7**	**+2.3**	
	0.6nm,0.7s,mb3.6,baz=228,slow=6.8,SNR=6.2						
MKAR	**Makanchi Array**	**94.15 317**	P	**P**	**10 47 25.9**	**+0.6**	
	3.9nm,0.7s,mb4.8,baz=93,slow=6.4,SNR=23						
YKA	**Yellowknife Ar**	**95.05 27**	LR	LR	11 29 09.8		
	comp=Z,28nm,18.1s,baz=350,slow=35						
TORD	**Torodi Ar. Bea**	**164.84 278**	PKPab	PKPab	10 55 07.7	+1.1	
	0.8nm,0.8s,baz=85,slow=5.2,SNR=4.1						

ISC 26 10:38:34.1±1.4, 374N±01×3861E±006, h13km±10km, n6, σ0§68/10, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
URFA	**Urfa**	**0.17**	**80**	PG		**Pg**	**10 38 37.8**	**-0.2**
URFA				SG		**Sg**	**10 38 41.2**	**+0.5**
ATAB	**Bozova**	**0.26**	**283**	*i* P		**Pg**	**10 38 39.7**	**+0.1**
ATAB				*i* S		**Sg**	**10 38 43.2**	**0.0**
GZT	**Gaziantep**	**0.84**	**266**	*i* P		**Pg**	**10 38 49.9**	**-0.4**
GZT				*i* S		**Sg**	**10 39 02.6**	**+1.3**
MYA	**Malataya**	**0.92**	**351**	*e*PG		**Pg**	**10 38 51.0**	**-1.0**
ELZG	**Elazig**	**1.12**	**15**	*i* P		**Pb**	**10 38 56.1**	**+0.7**
ELZG				*i* S		**Sb**	**10 39 10.1**	**+0.1**
GAZ	**Gaziantep**	**1.14**	**258**	*e*PG		**Pg**	**10 38 55.1**	**-1.0**

*ISCJB **26** 10:50:46.6±0.6, 684N±008×7306W±008, h160km±9km, mb3.7/9, Error ellipse: s-maj=16.7km s-min=6.3km az=94.4*
*IDC **26** 10:50:46.6±0.7, 675N×7300W, h153km±8km, mb3.4/6, mb1 3.7/9, mb1mx3.5/22, mbtmp4.0/9, Error ellipse: s-maj=20.7km s-min=7.0km az=131.0*
*NEIC **26** 10:50:47.7±0.6, 678N×7303W, h158km±8km, mb4.1/4, Error ellipse: s-maj=12.6km s-min=7.8km az=131.0*
ISC 26 10:50:47.7±0.5, 680N±008×7303W±008, h154km±9km, n22, σ0§71/26, mb3.7/9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ROSC	**El Rosal**	**2.33**	**214**	P		**Pn**	**10 51 27.7**	**+0.7**
	52nm,0.3s,baz=61,slow=3.2,SNR=68							
ROSC				S		**Sn**	**10 51 56.4**	**-0.8**
	126nm,0.3s,baz=89,slow=18,SNR=20							
ROSC	**El Rosal**	**2.33**	**214**	*e*Pn		**Pn**	**10 51 27.7**	**+0.7**
ROSC				*e*S		**Sn**	**10 51 58.6**	**+1.4**
SDV	**Santo Domingo**	**3.15**	**49**	P		**Pn**	**10 51 37.6**	**+0.5**
	65nm,0.3s,baz=242,slow=4.2,SNR=39							
SDV				S		**Sn**	**10 52 14.7**	**-0.7**
	58nm,0.3s,baz=51,slow=15,SNR=13							
SDV	**Santo Domingo**	**3.15**	**49**	*e*Pn		**Pn**	**10 51 37.2**	**+0.1**
SDV				*e*Sn		**Sn**	**10 52 14.5**	**-0.8**
OTAV	**Otavalo**	**8.47**	**220**	*e*Pn		**Pn**	**10 52 47.4**	**+0.1**
OTAV				*e*Sn		**Sn**	**10 54 20.4**	**-1.3**
PCRV	**Puerto La Cruz**	**8.95**	**67**	P		**Pn**	**10 52 54.4**	**+0.7**
	1.9nm,0.3s,baz=263,slow=6.8,SNR=12							
PCRV				S		**Sn**	**10 54 32.8**	**-0.3**
	2.1nm,0.3s,baz=72,slow=20,SNR=3.5							
TEIG	**Tepich**	**19.92**	**314**	*e*P		**P**	**10 55 07.9**	**+0.5**
	3.9nm,0.5s							
LPAZ	**La Paz**	**23.45**	**168**	P		**P**	**10 55 43.3**	**+0.3**
	1.0nm,0.8s,mb3.3,baz=357,slow=6.6,SNR=4.4							
WVT	**Waverly**	**32.19**	**337**	*e*P		**P**	**10 57 00.9**	**-0.1**
	2.7nm,0.4s,mb4.3							
PV01	**Paradox Valley**	**44.80**	**319**	*e*P		**P**	**10 58 46.8**	**+0.7**
ULM	**Lac du Bonnet**	**47.33**	**340**	P		**P**	**10 59 04.2**	**-1.7**
	1.8nm,0.4s,mb4.0,baz=141,slow=8.5,SNR=9.9							
PDAR	**Pinedale Array**	**48.15**	**324**	P		**P**	**10 59 12.1**	**0.0**
	0.8nm,0.6s,mb3.5,baz=123,slow=9.6,SNR=7.9							
SCHQ	**Schefferville**	**48.15**	**5**	P		**P**	**10 59 12.6**	**+0.4**
	0.5nm,0.6s,mb3.4,baz=21,slow=18,SNR=4.3							
SCHQ	**Schefferville**	**48.15**	**5**	P		**P**	**10 59 12.6**	**+0.4**
REDW	**Red Top Meadow**	**49.26**	**324**	*e*P		**P**	**10 59 20.6**	**0.0**
	4.8nm,1.2s,mb4.6							
MCMT	**McKenzie Canyo**	**51.29**	**324**	*e*P		**P**	**10 59 36.4**	**+0.5**
HLID	**Hailey**	**51.51**	**322**	*e*P		**P**	**10 59 37.0**	**-0.4**
	0.6nm,0.5s,mb3.5							
NVAR	**Mina Array Bea**	**51.56**	**315**	P		**P**	**10 59 38.7**	**+0.8**
	0.4nm,0.6s,mb3.2,baz=122,slow=7.2,SNR=5.2							
NVAR	**Mina Array Bea**	**51.56**	**315**	P		**P**	**10 59 38.7**	**+0.8**
YKA	**Yellowknife Ar**	**63.31**	**340**	P		**P**	**11 00 59.2**	**-0.9**
	1.6nm,0.6s,mb4.1,baz=133,slow=6.7,SNR=7.5							
ASAR	**Alice Springs**	**149.18**	**234**	PKPbc	PKPbc		11 10 17.1	-0.8
	0.5nm,0.4s,baz=119,slow=3.4,SNR=15							
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc	PKPbc		11 10 19.7	-1.2
	0.5nm,0.4s,baz=107,slow=2.9,SNR=26							

*IDC **26** 11:18:41.2±3.1, 2223S×17955W, h579km±31km, mb3.7/10, mb1 3.8/10, mb1mx3.7/15, mbtmp4.6/10, Error ellipse: s-maj=29.7km s-min=20.2km az=141.0*
*NEIC **26** 11:18:45.6±3.3, 2256S×17957W, h648km±43km, mb4.7/9, Error ellipse: s-maj=24.3km s-min=20.6km az=196.0*
*ISCJB **26** 11:18:50.2±2.8, 223S±02×1799E±02, h710km±33km, mb4.3/17, Error ellipse: s-maj=33.3km s-min=22.5km az=75.9*
ISC 26 11:18:49.6±2.9, 223S±02×1799W±02, h684km±36km, n34, σ0§58/29, mb4.3/17, 5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.65**	**268**	P		**P**	**11 21 33.6**	**-0.2**
	1.4nm,0.3s,baz=288,slow=24,SNR=10							
URZ	**Urewera**	**16.11**	**189**	P		**P**	**11 21 58.1**	**-7.2**
	1.7nm,0.3s,baz=327,slow=23,SNR=12							
ARMA	**Armidale**	**26.71**	**246**	*e*P		**P**	**11 23 39.3**	**+0.1**
CNB	**Canberra Magne**	**29.76**	**237**	*e*P		**P**	**11 24 05.5**	**+0.2**
	16nm,0.6s,mb4.7							
CTA	**Charters Tower**	**31.60**	**268**	⇓*i* P		**P**	**11 24 20.9**	**+0.1**
	9.8nm,0.3s,mb4.8							
CTA	**Charters Tower**	**31.60**	**268**	P		**P**	**11 24 21.0**	**+0.2**
	14nm,0.4s,mb4.9,baz=96,slow=11,SNR=32							
CTAO	**Charters Tower**	**31.60**	**268**	*e*P		**P**	**11 24 20.6**	**-0.2**
	14nm,0.3s,mb5.0							
TOO	**Toolangi**	**33.41**	**235**	⇓*i* P		**P**	**11 24 35.7**	**-0.3**
	7.9nm,0.6s,mb4.4							
PMG	**Port Moresby**	**34.09**	**287**	P		**P**	**11 24 41.6**	**0.0**
	18nm,0.7s,mb4.7,baz=109,slow=4.7,SNR=6.6							
PMG	**Port Moresby**	**34.09**	**287**	*e*P		**P**	**11 24 41.5**	**-0.1**
	20nm,0.8s,mb4.7							
STKA	**Stephens Creek**	**35.43**	**246**	⇓*i* P		**P**	**11 24 52.8**	**+0.3**
	8.0nm,0.4s,mb4.6							
STKA	**Stephens Creek**	**35.43**	**246**	P		**P**	**11 24 52.9**	**+0.3**
	9.5nm,0.4s,mb4.7,baz=90,slow=9.8,SNR=27							
AS31	**Alice Springs**	**42.41**	**259**	*e*P		**P**	**11 25 48.4**	**+0.4**
ASAR	**Alice Springs**	**42.41**	**259**	P		**P**	**11 25 48.5**	**+0.5**
	16nm,0.6s,mb4.6,baz=95,slow=7.9,SNR=148							
ASAR				PcP		PcP	11 27 25.9	+1.8
	1.4nm,0.6s,baz=108,slow=4.1,SNR=4.3							
ASPA	**Alice Springs**	**42.41**	**259**	*e*P		**P**	**11 25 48.4**	**+0.4**
WB2	**Warramunga Arr**	**42.62**	**264**	*e*P		**P**	**11 25 49.4**	**-0.2**
WRAB	**Tennant Creek**	**42.62**	**264**	*e*P		**P**	**11 25 49.3**	**-0.4**
	28nm,0.9s,mb4.7							
WRA	**Warramunga Arr**	**42.63**	**264**	P		**P**	**11 25 49.6**	**-0.1**
	7.2nm,0.3s,mb4.6,baz=97,slow=8.1,SNR=511							
WRA				ScP		ScP	11 30 24.7	+12
	1.5nm,1.0s,baz=99,slow=3.9,SNR=7.1							
KAKA	**Kakadu**	**46.28**	**274**	*e*P		**P**	**11 26 17.6**	**+0.2**
	12nm,0.4s,mb4.6							
FORT	**Forrest**	**46.97**	**248**	⇓*i* P		**P**	**11 26 22.4**	**-0.1**
	20nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**51.06**	**264**	⇓*i* P		**P**	**11 26 50.9**	**-1.4**
	7.3nm,0.3s,mb4.4							
FITZ	**Fitzroy Crossi**	**51.06**	**264**	P		**P**	**11 26 53.5**	**+1.2**
	4.7nm,0.3s,mb4.2,baz=242,slow=10,SNR=112							
KLBR	**Kellerberrin**	**55.70**	**246**	*e*P		**P**	**11 27 24.3**	**-0.5**
	12nm,0.8s,mb4.1							
MBWA	**Marble Bar**	**55.75**	**259**	*e*P		**P**	**11 27 25.9**	**+0.8**
	15nm,0.6s,mb4.3							
MUN	**Mundaring**	**56.96**	**246**	*e*P		**P**	**11 27 31.4**	**-1.9**
MJAR	**Matsushiro Arr**	**70.64**	**325**	P		**P**	**11 28 59.6**	**+0.3**
	0.5nm,0.4s,mb3.3,baz=159,slow=5.3,SNR=5.8							
MAW	**Mawson**	**79.28**	**200**	P		**P**	**11 29 47.8**	**+0.7**
	1.0nm,0.5s,mb3.6,baz=169,slow=5.2,SNR=3.5							
NVAR	**Mina Array Bea**	**83.54**	**44**	P		**P**	**11 30 08.8**	**+0.2**
	0.8nm,0.8s,mb3.3,baz=234,slow=11,SNR=7.4							
PDAR	**Pinedale Array**	**91.48**	**44**	P		**P**	**11 30 45.3**	**-0.5**
	0.5nm,0.8s,mb3.4,baz=212,slow=5.3,SNR=4.3							
BVAR	**Borovoye Array**	**119.30**	**319**	PKP		PKPdf	11 36 24.0	+0.4
	0.9nm,0.3s,baz=154,slow=2.0,SNR=5.4							
AKASG	**Malin Array Be**	**143.67**	**329**	PKP		PKPdf	11 37 09.0	-0.1
	1.5nm,0.3s,baz=43,slow=4.1,SNR=13							
BRTR	**Keskin Array B**	**146.67**	**309**	PKPbc		PKPbc	11 37 19.1	+1.9
	1.1nm,0.5s,baz=169,slow=4.2,SNR=3.8							
MMAI	**Mount Meron Ar**	**147.10**	**297**	PKPbc		PKPbc	11 37 21.5	+3.2
	2.2nm,0.3s,baz=78,slow=7.8,SNR=6.6							
CLL	**Collm**	**149.35**	**344**	*i* PKPbc		PKPbc	11 37 25.2	+1.4
	comp=Z,7.0nm,0.8s							
CLL				*i* PKPab		PKPab	11 37 32.4	+0.7
	comp=Z,5.0nm,0.7s							

*NEIC **26** 11:22:24.9, 37.15S×7160W, h111km, MG3.8(GUC), After GUC.*
GUC 26 11:22:24.9±1.0, 3715S×7160W, h111km±12km, ML3.8, 9C-3D, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CCHI	**Chillan**	**0.67**	**325**	⇑*i* P		Pn	11 22 45.9	+2.8
CCHI				*i* S		Sn	11 22 59.6	+2.8
CCHI				AML	AML		11 23 04.3	
	comp=N,878nm,0.6s							
CCHI	**Chillan**	**0.67**	**325**	⇑*i* P		Pn	11 22 45.9	+2.8
CCHI				*i* S		Sn	11 22 59.6	+2.8
LNCH	**Linares**	**1.30**	**360**	⇑*i* P		Pn	11 22 50.2	+0.8
LNCH				*i* S		Sn	11 23 08.8	+0.8
LNCH				AML	AML		11 23 10.4	
	comp=N,2μm,0.8s							
LNCH	**Linares**	**1.30**	**360**	⇑*i* P		Pn	11 22 50.2	+0.8
LNCH				*i* S		Sn	11 23 08.8	+0.8
CNCO	**Chanco**	**1.60**	**332**	*i* P		Pn	11 22 53.6	+0.6
CNCO				*i* S		Sn	11 23 14.4	+0.1
CNCO				AML	AML		11 23 20.9	
	comp=E,924nm,0.4s							
CNCO	**Chanco**	**1.60**	**332**	*i* P		Pn	11 22 53.6	+0.6
CNCO				*i* S		Sn	11 23 14.4	+0.1
TALC	**Talca**	**1.75**	**359**	⇑*i* P		Pn	11 22 55.3	+0.5
TALC				*i* S		Sn	11 23 17.5	-0.1
TALC				AML	AML		11 23 19.7	
	comp=E,6μm,0.1s							
TALC	**Talca**	**1.75**	**359**	⇑*i* P		Pn	11 22 55.3	+0.5
TALC				*i* S		Sn	11 23 17.5	-0.1
TMU	**Temuco**	**1.77**	**206**	⇑*i* P		Pn	11 22 59.4	+0.3
TMU				*i* S		Sn	11 23 18.0	+0.1
SFDO	**San Fernando**	**2.58**	**11**	⇓*i* P		Pn	11 23 05.8	+0.5
SFDO				*i* S		Sn	11 23 36.8	+0.3
CICH	**Cipreses**	**2.99**	**19**	⇑*i* P		Pn	11 23 11.6	+0.9
CACH	**El Canelo**	**3.14**	**15**	⇓*i* P		Pn	11 23 13.2	+0.5
PCH	**Pirque**	**3.63**	**14**	⇓*i* P		Pn	11 23 19.1	-0.2
PCH				*i* S		Sn	11 24 00.6	-0.9
PLCA	**Paso Flores**	**3.67**	**167**	*e*Pn		Pn	11 23 20.5	+0.8
CLCH	**Cerro Calan**	**3.85**	**13**	⇑*i* P		Pn	11 23 21.7	-0.5
CLCH				*i* S		Sn	11 24 05.5	-1.1
FCH	**Farellones**	**3.96**	**16**	*e*P		Pn	11 23 23.3	-0.4
FCH				*i* S		Sn	11 24 09.4	0.0

*LDG **26** 11:26:09.6±0.1, 4277N×257E, h4km, Ml2.1/1, Error ellipse: s-maj=4.1km s-min=1.9km az=122.0*
*MDD **26** 11:26:12.1±2.1, 4290N×255E, h0km, mbLg1.1/1, Error ellipse: s-maj=21.0km s-min=7.8km az=152.0, PRXIMO SIN SOLUCIN*
STR 26 11:26:08.7±0.0, 4278N×261E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LRDF	**Laroque-de-Fa**	**0.17**	**342**	Pg		Pg	11 26 12.5	+0.5
FILF	**Fillols**	**0.22**	**189**	Pg		Pg	11 26 14.1	+1.0
FILF				Sg		Sg	11 26 18.0	+2.0
CARF	**Carcanieres**	**0.38**	**260**	Pg		Pg	11 26 16.1	+0.1
CARF				Sg		Sg	11 26 21.6	+0.7
VALF	**Valcebollere**	**0.58**	**229**	Pg		Pg	11 26 20.1	+0.3
VALF				Sg		Sg	11 26 27.8	+0.5
MTLF	**Montolieu**	**0.63**	**333**	*e*Pg		Pg	11 26 21.2	+0.4
MTLF	**Montolieu**	**0.63**	**333**	*e*Pn		Pg	11 26 24.2	+3.4
MTLF				*e*Sn		Sg	11 26 33.9	+4.9
	8.7nm,0.2s							
LASF	**Ste Croix**	**1.58**	**35**	*e*Pg		Pg	11 26 39.8	+0.8
LASF				*e*Sg		Sg	11 27 00.4	+0.8
	3.9nm,0.4s							
LASF	**Ste Croix**	**1.58**	**35**	Pg		Pg	11 26 39.8	+0.8
LASF				Lg			11 27 00.4	
	1.9nm,0.4s							
EBIE	**Bielsa**	**1.82**	**268**	Pg		Pg	11 26 44.4	+0.8
	SNR=7.9							
EBIE				Lg			11 27 09.9	
	SNR=7.9							

JMA 26 11:28:11.7±0.1, 3650N×14105E, h40km±2km, M0.3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JHO	**Hitachi**	**0.40**	**286**	P		Pn	11 28 31.0	-0.2
JHO				S		Sn	11 28 27.7	-0.1

*ISCJB **26** 11:29:22.3±1.1, 2984N±004×3624E±006, h10km, Error ellipse: s-maj=7.5km s-min=6.2km az=26.0*
*GII **26** 11:29:22.3±1.6, 2990N×3621E, h0km±7km, ML2.4/6*
*HLW **26** 11:29:25.7, 2991N×3621E, h20km, Mb3.2*
ISC 26 11:29:22.5±1.1, 2984N±005×3628E±006, h10km, n14, σ0§95/22, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AQBJ	**Aqaba**	**1.07**	**264**	Pg		**Pg**	**11 29 42.3**	**-0.8**
AQBJ				Sg		**Sg**	**11 29 58.6**	**+1.6**
HRFI	**Mount Harif**	**1.09**	**281**	Pg		**Pg**	**11 29 42.4**	**-1.1**
HRFI				Sg		**Sg**	**11 29 57.4**	**-0.3**
EIL	**Elat**	**1.16**	**262**	Pg		**Pg**	**11 29 44.4**	**-0.5**
EIL				Sg		**Sg**	**11 30 01.6**	**+1.6**
MBH	**Mount Berech**	**1.18**	**268**	Pg		**Pg**	**11 29 44.4**	**-0.8**
ZFRI	**Zfri**	**1.19**	**307**	Pg		**Pg**	**11 29 43.6**	**-1.7**
ZFRI				Sg		**Sg**	**11 30 00.7**	**-0.1**
PRNI	**Paran**	**1.22**	**295**	Pg		**Pg**	**11 29 44.3**	**-1.6**
PRNI				Sg		**Sg**	**11 30 01.2**	**-0.4**
HBST	**Basata**	**1.48**	**246**	P		**Pn**	**11 29 49.7**	**+0.6**
MZDA	**Masada**	**1.67**	**332**	Pn		**Pn**	**11 29 52.1**	**+0.4**
MZDA				Sn		**Sn**	**11 30 14.6**	**+1.4**
MKRJ	**Makawir**	**1.79**	**342**	Pn		**Pn**	**11 29 53.6**	**+0.1**
HDHB	**Dhahab**	**1.82**	**233**	P		**Pn**	**11 29 54.8**	**+0.9**
KZIT	**Kziot**	**1.94**	**304**	Pn		**Pn**	**11 29 55.9**	**+0.3**
KZIT				Sn		**Sn**	**11 30 20.8**	**+0.8**
HKAT	**Jabal Katrina**	**2.39**	**237**	P		**Pn**	**11 30 02.4**	**+0.8**
HKAT				S		**Sn**	**11 30 29.6**	**-1.4**
AMAG	**Maghara**	**2.77**	**288**	P		**Pn**	**11 30 06.8**	**-0.2**
SUZ		**2.99**	**271**	P		**Pn**	**11 30 10.4**	**+0.4**

*NIED **26** 11:29:00, 3480N×14030E, h59km, Mw3.6 Best double couple: M0 3.24000×10^14 NP1:φs256.00000°, δ50.00000°, λ-104.00000°. NP2:φs98.00000°, δ42.00000°, λ-74.00000°.*
*ISCJB **26** 11:29:58.5±0.6, 3480N±004×14032E±005, h67km±4km, mb3.5/3, Error ellipse: s-maj=7.5km s-min=6.1km az=102.5*
*JMA **26** 11:29:58.4±0.1, 3485N×14034E, h67km±2km, M3.5*
*IDC **26** 11:30:01.2±2.1, 3475N×14007E, h78km±19km, mb3.2/3, mb1 3.5/4, mb1mx3.2/20, mbtmp3.5/4, Error ellipse: s-maj=43.1km s-min=6.5km az=74.0*
ISC 26 11:29:59.5±0.6, 3480N±004×14032E±005, h61km±4km, n16, σ0§70/28, mb3.6/3, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BSO3	**Boso 3**	**0.16**	**89**	⇓P		**Pn**	**11 30 08.4**	**-0.5**
BSO3				S		**Sn**	**11 30 16.9**	**+1.3**
BSO4	**Boso 4**	**0.19**	**5**	⇓P		**Pn**	**11 30 08.7**	**-0.3**
BSO4				S		**Sn**	**11 30 16.6**	**+0.7**
KTR	**Katsuura**	**0.35**	**360**	⇓P		**Pn**	**11 30 09.4**	**-0.7**
KTR				S		**Sn**	**11 30 16.4**	**-1.4**
TATJ	**Tateyama 2**	**0.42**	**304**	⇓P		**Pn**	**11 30 11.0**	**+0.2**
TATJ				S		**Sn**	**11 30 19.8**	**+0.9**
BSO1	**Boso 1**	**0.56**	**105**	⇓P		**Pn**	**11 30 11.4**	**-0.8**
JIM2	**Oshima 3**	**0.73**	**264**	⇓P		**Pn**	**11 30 13.9**	**-0.3**
JIM2				S		**Sn**	**11 30 24.5**	**-0.5**
JMY	**Miyakejima3**	**0.98**	**223**	P		**Pn**	**11 30 17.7**	**+0.3**
JMY				S		**Sn**	**11 30 30.7**	**+0.1**
JOD2	**Odawara 2**	**1.11**	**295**	⇓P		**Pn**	**11 30 18.3**	**-0.7**
JOD2				S		**Sn**	**11 30 32.5**	**-1.0**
JIZS	**Izushimoda**	**1.19**	**267**	⇓P		**Pn**	**11 30 19.8**	**-0.2**
JIZS				S		**Sn**	**11 30 35.2**	**-0.1**
JYN	**Shimob**	**1.61**	**296**	⇓P		**Pn**	**11 30 25.5**	**-0.2**
JYN				S		**Sn**	**11 30 45.8**	**+0.3**
JHJ	**Hachijo jima 2**	**1.73**	**195**	P		**Pn**	**11 30 27.9**	**+0.5**
	88nm,0.3s,baz=94,slow=21,SNR=92							
JHJ				S		**Sn**	**11 30 48.8**	**+0.4**
	100nm,0.3s,baz=82,slow=24,SNR=11							
MJAR	**Matsushiro Arr**	**2.44**	**316**	P		**Pn**	**11 30 37.1**	**+0.1**
	7.9nm,0.3s,baz=194,slow=17,SNR=47							
MJAR				S		**Sn**	**11 31 05.7**	**-0.1**
	22nm,0.3s,baz=192,slow=8.0,SNR=15							
MAT	**Matsushiro**	**2.44**	**316**	P		**Pn**	**11 30 37.3**	**+0.3**
MAT				S		**Sn**	**11 31 07.2**	**+1.4**
WRA	**Warramunga Arr**	**54.73**	**187**	P		**P**	**11 39 22.3**	**-0.4**
	0.5nm,0.4s,mb3.9,baz=4.6,slow=7.9,SNR=19							
ASAR	**Alice Springs**	**58.46**	**187**	P		**P**	**11 39 48.3**	**-0.8**
	0.2nm,0.5s,mb3.4,baz=10,slow=7.7,SNR=5.1							
NVAR	**Mina Array Bea**	**77.05**	**52**	P		**P**	**11 41 47.4**	**+1.4**
	0.4nm,0.7s,mb3.5,baz=307,slow=4.1,SNR=4.7							

JMA 26 11:44:06.6±0.3, 4441N×13866E, h275km, M3.0, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JSK	**Shakotan**	**1.69**	**128**	P		Pn	11 44 48.7	+0.1
JSH	**Shimam**	**2.03**	**150**	P		Pn	11 44 51.6	+0.2
JHR	**Hokuryu**	**2.31**	**106**	P		Pn	11 44 54.3	+0.5
JOSM	**Okushiri--Mats**	**2.40**	**165**	P		Pn	11 44 55.3	+0.6
JWK2	**Keihoku**	**2.47**	**67**	P		Pn	11 44 56.1	+0.7
JSE	**Soyaes**	**2.85**	**78**	P		Pn	11 44 59.9	+0.8
JKK2	**Kamakawa 2**	**2.99**	**99**	P		Pn	11 45 00.8	+0.3
JFR	**Furan**	**3.11**	**112**	P		Pn	11 45 01.8	0.0
JBT2	**Biratori 2**	**3.15**	**120**	P		Pn	11 45 02.1	0.0
JBT2				*e*S		S	11 45 46.1	-0.3
JOT	**Ohata**	**3.50**	**149**	P		Pn	11 45 06.3	+0.4
JNBK	**Urakawa-nobuka**	**3.67**	**124**	P		Pn	11 45 08.3	+0.5
JNBK				*e*S		S	11 45 56.9	+0.4
JTKR	**Abashiri--Toko**	**3.80**	**95**	P		Pn	11 45 09.2	-0.1
JAR	**Ashorobuto**	**3.86**	**105**	P		Pn	11 45 09.6	-0.3
JCH	**Churui**	**3.86**	**116**	P		Pn	11 45 08.4	-1.6
JCH				*e*S		S	11 45 55.5	-5.0
JANG	**Nango**	**4.55**	**151**	P		Pn	11 45 16.4	-1.5
JANG				*e*S		S	11 46 09.6	-5.3
NEM2	**Nemuro 2**	**5.22**	**99**	*e*S		S	11 46 23.3	-6.0
JMK	**Ichinoseki**	**5.78**	**160**	P		Pn	11 45 31.0	-1.6
JMK				*e*S		S	11 46 36.0	-5.5

*GII **26** 11:59:45.8±0.8, 3040N×3454E, h0km, ML2.4/2*
*ISCJB **26** 11:59:47.0±0.6, 3043N±003×3457E±006, h12km±7km, Error ellipse: s-maj=9.6km s-min=4.2km az=149.1*
*HLW **26** 11:59:47.3, 3051N×3459E, h13km, Mb2.7*
ISC 26 11:59:47.3±0.6, 3042N±003×3454E±007, h10km±8km, n15, σ0§90/23, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RMNI	**Mount Ramon**	**0.26**	**48**	Pg		**Pg**	**11 59 51.5**	**-1.1**
KMTI	**Karmit**	**0.35**	**154**	Pg		**Pg**	**11 59 53.8**	**-0.6**
PRNI	**Paran**	**0.41**	**100**	Pg		**Pg**	**11 59 55.2**	**-0.1**
KZIT	**Kziot**	**0.50**	**345**	Pg

ULM				LR	LR	12 47 56.6		
	comp=Z,59nm,18.6s,MS3.4,baz=45,slow=34							
YKA	**Yellowknife Ar**	**38.30**	**312**	LR	LR	12 48 42.0		
	comp=Z,51nm,21.6s,MS3.3,baz=60,slow=34							
BRTR	**Keskin Array B**	**44.18**	**86**	LR	LR	12 53 45.1		
	comp=Z,41nm,20.8s,MS3.3,baz=177,slow=37							
PDAR	**Pinedale Array**	**49.19**	**287**	P	**P**	**12 35 39.3**	**+2.5**	
	0.3nm,0.5s,mb3.5,baz=58,slow=12,SNR=3.5							
PDAR				LR	LR	12 55 09.5		
	comp=Z,65nm,18.7s,MS3.6,baz=53,slow=35							
BVAR	**Borovoye Array**	**51.48**	**49**	P	**P**	**12 35 54.5**	**+0.3**	
	0.9nm,0.6s,mb3.9,baz=323,slow=6.5,SNR=4.7							
DBIC	**Dimbokro**	**55.99**	**148**	LR	LR	12 57 42.1		
	comp=Z,45nm,18.3s,MS3.6,baz=262,slow=33							
NVAR	**Mina Array Bea**	**56.78**	**290**	P	**P**	**12 36 32.6**	**-0.2**	
	0.3nm,0.6s,mb3.5,baz=12,slow=4.7,SNR=3.7							
MKAR	**Makanchi Array**	**61.05**	**46**	P	**P**	**12 37 02.0**	**-0.5**	
	0.4nm,0.5s,mb3.8,baz=350,slow=6.2,SNR=3.9							
SONM	**Songino Array**	**67.75**	**30**	P	**P**	**12 37 47.1**	**+0.8**	
	0.2nm,0.4s,mb3.5,baz=298,slow=3.2,SNR=4.7							
KMBO	**Kilima Mbogo**	**79.86**	**110**	LR	LR	13 18 57.8		
	comp=Z,47nm,18.6s,MS3.9,baz=96,slow=39							

*CSEM **26** 13:12:34.2±0.2,5029N×1893E, h2km, ML2.2/4*
*PRU **26** 13:12:34.6, 5028N×1888E, h0km*
*IPEC **26** 13:12:34.1±1.8, 5027N×1892E, h0km, ML2.2/4, Error ellipse: s-maj=22.7km s-min=10.8km az=165.0*
WAR 26 13:12:34.6, 5025N×1895E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.54**	**92**	*e*Pg	Pg	13 12 45.0	0.0
OJC				*e*Sg	Sg	13 12 53.0	+0.9
OJC	**Ojcow**	**0.54**	**92**	*e*Pg	Pg	13 12 44.9	-0.1
OJC				*e*Sg	Sg	13 12 53.0	+0.9
OKC	**Ostrava-Krasne**	**0.66**	**232**	*e*PG	Pg	13 12 47.0	-0.3
OKC	**Ostrava-Krasne**	**0.66**	**232**	*e*Pg	Pg	13 12 46.8	-0.5
OKC				*e*Sg	Sg	13 12 54.8	-1.0
MORC	**Moravsky Berou**	**1.02**	**243**	*e*Pg	Pg	13 12 53.6	-0.6
MORC				*e*Sg	Sg	13 13 06.2	-1.3
JAVC	**Velka Javorina**	**1.62**	**212**	*e*Pn	Pn	13 13 04.5	+0.1
JAVC				*e*Sg	Sg	13 13 27.4	+0.8
DPC	**Dobruska-Polom**	**1.69**	**275**	*e*PG	Pg	13 13 04.1	-2.9
DPC				*e*SG	Sg	13 13 27.4	-1.5
	14nm,0.4s						
DPC	**Dobruska-Polom**	**1.69**	**275**	*e*Pg	Pg	13 13 04.1	-2.9
DPC				*e*Sg	Sg	13 13 26.5	-2.4
VYHS	**Vyhne**	**1.75**	**183**	*e*PN	Pn	13 13 04.9	-1.3
VYHS				*e*SN	Sn	13 13 27.9	-1.4
VRAC	**Vranov**	**1.79**	**239**	*e*Pn	Pn	13 13 06.4	-0.4
VRAC				*e*Sg	Sg	13 13 29.4	-2.9
KSP	**Ksiaz**	**1.80**	**290**	*e*Pg	Pg	13 13 07.9	-1.2
KSP				*e*Sg	Sg	13 13 30.8	-1.6
UPC	**Upice**	**1.90**	**279**	*e*SG	Sg	13 13 32.6	-3.1
KRUC	**Moravsky**	**2.04**	**236**	*e*Pn	Pn	13 13 10.0	-0.2
CRVS	**Cervenica-Dubn**	**2.12**	**129**	*e*PN	Pn	13 13 14.1	+2.9
KOLS	**Kolonicke sedl**	**2.53**	**120**	*e*PG	Pg	13 13 21.3	-1.8
PRU	**Pruhonice**	**2.85**	**267**	*e*PG	Pg	13 13 25.9	-3.4
PRU				*e*SG	Sg	13 14 03.1	-3.1
	9.4nm,0.8s						
KHC	**Kasperske Hory**	**3.66**	**254**	*e*PN	Pn	13 13 31.9	-0.6
KHC				*e*PG	Pg	13 13 40.2	-4.6
KHC				*e*SG	Sg	13 14 30.4	-1.9
	6.6nm,0.6s						
CLL	**Collm**	**3.92**	**288**	*e*SG	Sg	13 14 41.0	+0.3

IDC 26 13:24:25.3±4.5, 1595S×7116W, h204km±33km, mb3.5/2, mb1 3.3/5, mb1mx3.1/19, mbtmp3.6/5, MS3.6/6, Ms1 3.6/6, ms1mx3.3/17, Error ellipse: s-maj=61.8km s-min=22.8km az=116.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.93**	**97**	P	Pn	13 25 15.2	+0.9
	0.4nm,0.3s,baz=302,slow=12,SNR=20						
SIV	**San Ignacio**	**9.70**	**92**	P	Pn	13 26 40.1	-0.5
	0.1nm,0.3s,baz=278,slow=13,SNR=10						
CFAA	**Coronel Fontan**	**15.81**	**171**	P	Pn	13 27 56.4	-0.7
	0.0nm,0.3s,baz=331,slow=15,SNR=5.9						
CFAA				LR	LR	13 34 23.5	
	comp=Z,25nm,21.2s,baz=191,slow=38						
BDFB	**Brasilia**	**22.27**	**92**	LR	LR	13 39 14.0	
	comp=Z,226nm,18.1s,baz=354,slow=40						
PLCA	**Paso Flores**	**24.70**	**179**	P	P	13 29 28.0	+0.4
	3.5nm,0.8s,baz=4.3,slow=12,SNR=9.2						
PCRV	**Puerto La Cruz**	**26.75**	**14**	LR	LR	13 40 36.5	
	comp=Z,321nm,18.3s,baz=197,slow=36						
DBIC	**Dimbokro**	**69.39**	**76**	LR	LR	14 03 26.9	
	comp=Z,77nm,20.2s,baz=220,slow=34						
TORD	**Torodi Ar. Bea**	**77.61**	**72**	P	P	13 35 59.6	+0.8
	1.1nm,0.8s,baz=255,slow=4.7,SNR=3.4						
TORD				LR	LR	14 09 22.6	
	comp=Z,42nm,18.5s,baz=120,slow=35						
YKA	**Yellowknife Ar**	**85.27**	**341**	LR	LR	14 19 44.8	
	comp=Z,33nm,18.7s,baz=275,slow=39						
WRA	**Warramunga Arr**	**136.41**	**216**	PKP	PKPdf	13 43 21.4	-1.1
	0.3nm,0.8s,baz=137,slow=1.6,SNR=4.6						
SONM	**Songino Array**	**148.14**	**3**	PKPbc	PKPbc	13 43 46.6	-0.2
	1.0nm,0.9s,baz=336,slow=3.2,SNR=6.4						

*IDC **26** 13:45:47.8±2.1, 3574N×6814E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, ML3.7/2, Error ellipse: s-maj=58.3km s-min=31.2km az=70.0*
*ISCJB **26** 13:45:50.9±1.1, 3637N±009×682E±02, h10km, mb3.6/2, Error ellipse: s-maj=23.8km s-min=8.5km az=130.6*
*NNC **26** 13:46:00.4±8.0, 3677N×6804E, h32km±38km, mb3.9, mpv3.2, Error ellipse: s-maj=75.4km s-min=19.2km az=135.0*
ISC 26 13:45:51.5±1.3, 363N±01×680E±02, h10km, n11, σ1§07/12, mb3.6/2, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**4.01**	**126**	⇑P	**Pn**	**13 46 53.6**	**+0.6**
THW	**Thamme Wali**	**4.62**	**137**	P	**Pn**	**13 47 02.2**	**+0.8**
DRP	**Derazinda**	**4.85**	**157**	P	**Pn**	**13 47 08.2**	**+3.6**
CHCP	**Chirah Chowk**	**5.03**	**120**	P	**Pn**	**13 47 06.0**	**-1.0**
KK31	**Karatay Array**	**7.10**	**15**	Pn	**Pn**	**13 47 35.4**	**-0.1**
	0.6nm,0.3s,baz=188,slow=14,SNR=50						
KK31				⇓Sn	**Sn**	**13 48 50.0**	**-6.3**
	5.8nm,0.6s,baz=199,slow=25						
KK31				⇓Lg		13 49 30.7	
	4.9nm,0.4s,baz=198,slow=30,SNR=7.9						
AB31	**Akbulak array**	**14.27**	**338**	⇑P	**Pn**	**13 49 13.2**	**-0.4**
	1.6nm,0.3s,baz=159,slow=12,SNR=73						
MKAR	**Makanchi Array**	**14.98**	**41**	Pn	**Pn**	**13 49 23.7**	**+0.4**
	0.1nm,0.3s,baz=232,slow=14,SNR=4.2						
AKTO	**Aktyubinsk**	**15.91**	**336**	⇓P	**Pn**	**13 49 36.3**	**+0.9**
AKTO	**Aktyubinsk**	**15.91**	**336**	Pn	**Pn**	**13 49 35.9**	**+0.5**
	0.6nm,0.3s,baz=137,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**83.93**	**120**	P	**P**	**13 58 17.8**	**-3.9**
	0.5nm,1.1s,mb3.6,baz=325,slow=4.7,SNR=4.9						
ASAR	**Alice Springs**	**86.12**	**123**	P	**P**	**13 58 29.5**	**-3.2**
	0.3nm,0.8s,mb3.6,baz=314,slow=5.1,SNR=4.1						

*ISCJB **26** 14:32:59.8±0.4, 3899N±002×2056E±004, h10km, Error ellipse: s-maj=4.2km s-min=2.6km az=159.7*
*CSEM **26** 14:32:59.9±0.2, 3898N×2050E, h5km, ML3.3, Error ellipse: s-maj=5.1km s-min=3.1km az=76.0*
*ATH **26** 14:32:59.0, 3899N×2057E, h6km±3km, MD3.8/8*
*NEIC **26** 14:33:00.0, 3898N×2066E, h7km, MD3.8(ATH), After ATH.*
*THE **26** 14:33:00.4, 3898N×2063E, h10km, ML3.3*
ISC 26 14:33:00.5±0.4, 3899N±002×2056E±004, h10km, n40, σ1§27/61, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKD	**Levkas**	**0.29**	**166**	*e*Pg	**Pg**	**14 33 05.3**	**-0.9**
LKD				*e*Sg	**Sg**	**14 33 11.0**	**+0.9**
IGT	**Igoumenitsa**	**0.57**	**342**	*e*Pg	**Pg**	**14 33 10.3**	**-1.4**
IGT				*e*Sg	**Sg**	**14 33 19.7**	**+0.5**
JAN	**Janina**	**0.71**	**18**	*e*PB	**Pg**	**14 33 12.5**	**-1.7**
JAN				*e*SB	**Sg**	**14 33 21.8**	**-1.6**
JAN	**Janina**	**0.71**	**18**	*e*Pb	**Pg**	**14 33 12.5**	**-1.7**
JAN				*e*Sb	**Sg**	**14 33 23.1**	**-0.3**
VLS	**Valsamata**	**0.81**	**178**	*e*PG	**Pg**	**14 33 14.5**	**-1.6**
VLS				*e*SG	**Sg**	**14 33 26.8**	**+0.2**
VLS	**Valsamata**	**0.81**	**178**	*e*Pb	**Pg**	**14 33 14.5**	**-1.6**
VLS				*e*Sb	**Sg**	**14 33 28.4**	**+1.8**
KEK	**Kerkira**	**0.94**	**321**	*e*PB	**Pg**	**14 33 17.2**	**-1.3**
KEK				*e*SB	**Sg**	**14 33 29.3**	**-1.4**
KEK	**Kerkira**	**0.94**	**321**	*e*Pb	**Pg**	**14 33 17.2**	**-1.3**
KEK				*e*Sn	**Sg**	**14 33 33.6**	**+2.9**
MEV	**Metsovon**	**0.95**	**33**	*e*Pg	**Pg**	**14 33 16.9**	**-1.9**
MEV				*e*Sg	**Sg**	**14 33 32.1**	**+0.9**
EVR	**Evrytania**	**0.97**	**94**	*e*PB	**Pg**	**14 33 16.2**	**-3.1**
EVR				*e*SB	**Sg**	**14 33 30.6**	**-1.4**
SRN	**Sarande**	**0.99**	**334**	*i* Pg	**Pg**	**14 33 17.5**	**-2.1**
SRN				*i* Sg	**Sg**	**14 33 33.7**	**+1.1**
RLS	**Riolos of Patr**	**1.17**	**142**	*e*PB	**Pn**	**14 33 20.0**	**-2.9**
AGG	**Agios Georgios**	**1.38**	**88**	*e*Pg	**Pn**	**14 33 24.2**	**-1.6**
AGG				*e*Sg	**Sn**	**14 33 43.2**	**-0.9**
KZN	**Kozani**	**1.62**	**35**	*e*PB	**Pb**	**14 33 29.5**	**-0.9**
KZN				*e*SG	**Sg**	**14 33 52.1**	**-0.4**
LIT	**Litokhoron**	**1.86**	**53**	*e*Pb	**Pb**	**14 33 32.6**	**-2.0**
LIT				*e*Sb	**Sb**	**14 33 57.9**	**0.0**
FNA	**Florina**	**1.90**	**19**	*e*Pb	**Pb**	**14 33 34.0**	**-1.3**
FNA				*e*Sb	**Sb**	**14 33 59.8**	**+0.7**
FNA	**Florina**	**1.90**	**19**	*e*Pb	**Pb**	**14 33 34.0**	**-1.3**
FNA				*e*Sb	**Sb**	**14 33 59.8**	**+0.7**
LKR	**Lokris**	**1.93**	**99**	*e*PN	**Pn**	**14 33 34.0**	**+0.6**
XOR	**Xorichti**	**2.08**	**79**	*e*Pn	**Pn**	**14 33 36.0**	**+0.6**
NEO	**Neokhori**	**2.10**	**80**	*e*PG	**Pn**	**14 33 37.3**	**+1.7**
NEO	**Neokhori**	**2.10**	**80**	*e*Pg	**Pn**	**14 33 38.1**	**+2.5**
ITM	**Ithomi**	**2.10**	**149**	*e*PN	**Pn**	**14 33 36.8**	**+1.1**
BIA	**Bitola**	**2.11**	**16**	*e*Pn	**Pn**	**14 33 37.6**	**+1.7**
BIA				*e*Sn	**Sn**	**14 34 04.4**	**+2.2**
BIA	**Bitola**	**2.11**	**16**	*e*Pn	**Pn**	**14 33 38.7**	**+2.8**
OHR	**Ohrid**	**2.13**	**5**	*i* Pn	**Pb**	**14 33 39.8**	**+0.6**
OHR				*i* Sn	**Sg**	**14 34 08.2**	**-0.8**
OHR	**Ohrid**	**2.13**	**5**	*e*Pn	**Pn**	**14 33 37.5**	**+1.4**
OHR	**Ohrid**	**2.13**	**5**	*i* Pn	**Pb**	**14 33 39.7**	**+0.5**
OHR				*i* Sn	**Sg**	**14 34 08.2**	**-0.8**
GRG	**Griva**	**2.42**	**35**	*e*Pn	**Pn**	**14 33 40.7**	**+0.6**
GRG				*e*Sn	**Sn**	**14 34 12.2**	**+2.3**
HORT	**Hortiatis**	**2.53**	**50**	*e*Pn	**Pn**	**14 33 41.3**	**-0.4**
PAIG	**Paliouri**	**2.59**	**68**	*e*Pn	**Pn**	**14 33 42.4**	**0.0**
PLG	**Polygyros**	**2.62**	**57**	*e*PN	**Pn**	**14 33 43.5**	**+0.6**
KNT	**Kendrikon**	**2.82**	**39**	*e*Pn	**Pn**	**14 33 46.5**	**+0.9**
SOH	**Sokhos**	**2.82**	**49**	*e*Pn	**Pn**	**14 33 45.3**	**-0.4**
VLI	**Veliai**	**2.94**	**140**	*e*PB	**Pn**	**14 33 48.6**	**+1.3**
OUR	**Ouranopolis**	**2.96**	**62**	*e*Pn	**Pn**	**14 33 48.2**	**+0.6**
OUR				*e*Sn	**Sn**	**14 34 24.1**	**+0.9**
SRS	**Serrai**	**3.15**	**47**	*e*Pn	**Pn**	**14 33 50.6**	**+0.4**
NVR	**Nevrokopi**	**3.46**	**46**	*e*PN	**Pn**	**14 33 56.3**	**+1.9**
NVR	**Nevrokopi**	**3.46**	**46**	*e*Pb	**Pn**	**14 33 57.1**	**+2.7**
MMB	**Musomiste**	**3.55**	**42**	*e*Pn	**Pn**	**14 33 55.7**	**0.0**
KARN	**Karanos**	**4.47**	**142**	*e*Pn	**Pn**	**14 34 08.7**	**+0.4**

*ISCJB **26** 14:38:51.9±1.3, 2942S±009×1789W±04, h289km±20km, mb3.2/3, Error ellipse: s-maj=61.7km s-min=8.7km az=21.8*
*IDC **26** 14:38:52.5±0.7, 2911S×17888W, h285km±8km, mb3.0/3, mb1 3.2/3, mb1mx3.1/11, mbtmp3.7/3, Error ellipse: s-maj=50.6km s-min=25.3km az=170.0*
*NEIC **26** 14:38:52.4±1.0, 2958S×17866W, h296km±11km, Error ellipse: s-maj=39.2km s-min=21.3km az=131.0*
ISC 26 14:38:53.7±1.1, 2955S±010×1792W±04, h273km±23km, n21, σ1§52/23, mb3.2/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.12**	**75**	P	**Pn**	**14 39 31.6**	**-0.2**
	202nm,0.3s,baz=270,slow=23,SNR=16						
RAO				S	**S**	**14 40 00.6**	**-1.3**
	179nm,0.3s,baz=224,slow=22,SNR=5.1						
RAO	**Raoul Island**	**1.12**	**75**	*e*Pn	**Pn**	**14 39 31.3**	**-0.5**
RAO				S	**S**	**14 40 00.3**	**-1.6**
PUZ	**Puketiti**	**8.77**	**194**	SN	**S**	**14 42 38.4**	**+2.2**
MWZ	**Matawai**	**9.18**	**197**	PN	**Pn**	**14 41 03.8**	**+2.0**
MWZ				SN	**S**	**14 42 46.9**	**+1.2**
URZ	**Urewera**	**9.22**	**199**	P	**Pn**	**14 41 02.0**	**-0.3**
	1.2nm,0.3s,baz=9.8,slow=7.3,SNR=11						
URZ				S	**S**	**14 42 52.2**	**+5.6**
	6.0nm,0.3s,baz=292,slow=22,SNR=14						
URZ	**Urewera**	**9.22**	**199**	PN	**Pn**	**14 41 02.2**	**-0.1**
URZ				SN	**S**	**14 42 47.6**	**+1.0**
BKZ	**Black Stump Fm**	**10.24**	**199**	PN	**Pn**	**14 41 17.4**	**+2.5**
BKZ				SN	**S**	**14 43 10.5**	**+0.4**
BFZ	**Birch Farm**	**11.72**	**197**	SN	**S**	**14 43 43.5**	**-0.4**
MRZ	**Mangatainoka R**	**11.89**	**200**	PN	**Pn**	**14 41 36.4**	**+1.1**
MRZ				SN	**S**	**14 43 44.4**	**-3.4**
TCW	**Tory Channel**	**12.80**	**203**	SN	**S**	**14 44 05.9**	**-2.7**
NNZ	**Nelson**	**13.13**	**206**	SN	**S**	**14 44 13.9**	**-2.1**
THZ	**Tophouse**	**13.78**	**206**	SN	**S**	**14 44 29.5**	**-1.1**
MQZ	**McQueen's Vall**	**15.57**	**203**	SN	**S**	**14 45 06.4**	**-2.0**
STKA	**Stephens Creek**	**33.70**	**256**	P	**P**	**14 45 11.7**	**+2.3**
	1.5nm,0.7s,mb3.6,baz=76,slow=4.2,SNR=3.2						
ASAR	**Alice Springs**	**42.16**	**267**	P	**P**	**14 46 19.2**	**-0.4**
	0.3nm,0.5s,mb2.8,baz=102,slow=6.8,SNR=9.9						
WRA	**Warramunga Arr**	**43.06**	**272**	P	**P**	**14 46 26.3**	**-0.6**
	0.5nm,0.4s,mb3.1,baz=109,slow=7.7,SNR=5.7						
ARCES	**ARCESS Array B**	**137.55**	**347**	PKP	PKPdf	14 57 41.5	-3.4
	1.6nm,0.8s,baz=31,slow=0.7,SNR=3.5						
FINES	**FINESS Array B**	**144.00**	**340**	PKP	PKPdf	14 57 50.7	-5.9
	2.5nm,0.5s,baz=67,slow=4.0,SNR=33						
NOA	**NORSAR Array B**	**147.76**	**351**	PKPbc	PKPbc	14 58 02.0	-4.2
	1.0nm,0.6s,baz=16,slow=4.5,SNR=3.8						
AKASG	**Malin Array Be**	**150.02**	**323**	PKPbc	PKPbc	14 58 08.4	-3.4
	1.3nm,0.4s,baz=45,slow=2.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**163.66**	**183**	PKPab	PKPab	14 59 16.6	-0.7
	0.8nm,0.9s,baz=193,slow=2.8,SNR=5.4						

*IDC **26** 14:44:27.0±1.5, 1329N×120.13E, h0km, mb4.2/3, mb1 4.5/3, mb1mx3.8/18, mbtmp4.2/3, MS3.6/1, Ms1 3.6/1, ms1mx2.5/26, Error ellipse: s-maj=32.7km s-min=12.4km az=119.0*
*ISCJB **26** 14:44:28.2±1.0, 1335N±003×120.12E±007, h12km±6km, mb4.4/4, MS3.6/1, Error ellipse: s-maj=11.8km s-min=5.1km az=21.1*
*NEIC **26** 14:44:28.4±0.9, 1330N×120.16E, h10km, Error ellipse: s-maj=22.3km s-min=9.5km az=104.0*
*MAN **26** 14:44:28.9, 1336N×12022E, h8km, mb2.3, ML3.9, MS1.7*
ISC 26 14:44:28.5±1.1, 1333N±003×12014E±007, h5km±7km, n33, σ0§93/37, mb4.4/4, MS3.6/1, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.41**	**15**	*e*P	**Pg**	**14 44 36.7**	**+0.2**
LUBP				*e*S	**Sg**	**14 44 41.9**	**0.0**
PGP	**Puerto Galera**	**0.81**	**78**	⇓*e*P	**Pg**	**14 44 43.3**	**-0.8**
TGY	**Tagaytay City**	**1.09**	**45**	Pg	**Pg**	**14 44 49.6**	**+0.1**
	1µm,0.3s,baz=242,slow=2.1,SNR=98						
TGY				Lg		14 45 03.4	
	831nm,0.3s,baz=223,slow=22,SNR=27						
BUSP	**Coron**	**1.32**	**177**	*e*P	**Pn**	**14 44 54.2**	**+0.6**
BUSP				*e*S	**Sb**	**14 45 11.9**	**+0.9**
BOAC	**Boac**	**1.67**	**85**	*e*P	**Pn**	**14 44 56.5**	**-1.8**
OTRP	**Odiongan**	**2.08**	**117**	*e*P	**Pn**	**14 45 03.7**	**-0.2**
OTRP	**Odiongan**	**2.08**	**117**	*e*P	**Pn**	**14 45 05.9**	**+1.9**
ENPP	**El Nido**	**2.23**	**198**	*e*P	**Pn**	**14 45 07.4**	**+1.4**
ENPP	**El Nido**	**2.23**	**198**	*e*P	**Pn**	**14 45 07.4**	**+1.4**
ENPP				*e*S	**Sn**	**14 45 34.1**	**+0.3**
POLP	**Polilio Island**	**2.23**	**51**	*e*P	**Pn**	**14 45 05.8**	**-0.3**
POLP	**Polilio Island**	**2.23**	**51**	*e*P	**Pn**	**14 45 05.7**	**-0.4**
PCPH	**Palayan**	**2.40**	**23**	⇓*e*P	**Pn**	**14 45 08.4**	**0.0**
PCPH				*e*S	**Sn**	**14 45 37.8**	**-0.5**
AUQP	**San Andres**	**2.47**	**90**	*e*P	**Pn**	**14 45 11.2**	**+1.8**
AUQP	**San Andres**	**2.47**	**90**	*e*P	**Pn**	**14 45 11.2**	**+1.9**
CUYO	**Cuyo Island**	**2.61**	**161**	*e*P	**Pn**	**14 45 11.1**	**-0.3**
CUYO	**Cuyo Island**	**2.61**	**161**	*e*P	**Pn**	**14 45 11.2**	**-0.2**
BALP	**Baler**	**2.77**	**30**	*e*P	**Pn**	**14 45 14.1**	**+0.6**
BALP	**Baler**	**2.77**	**30**	*e*P	**Pn**	**14 45 15.4**	**+1.9**
BALP				*e*S	**Sn**	**14 45 49.3**	**+2.0**
BOLP	**Bolinao**	**3.04**	**356**	*e*P	**Pn**	**14 45 16.3**	**-0.9**
GUIM	**Jordan**	**3.60**	**138**	*e*P	**Pn**	**14 45 25.0**	**0.0**
GUIM	**Jordan**	**3.60**	**138**	*e*P	**Pn**	**14 45 25.4**	**+0.4**
PVCP	**Virac**	**3.92**	**86**	*e*P	**Pn**	**14 45 29.3**	**0.0**
PVCP	**Virac**	**3.92**	**86**	*e*P	**Pn**	**14 45 29.4**	**+0.1**
CAUP	**Cauayan**	**3.94**	**24**	*e*P	**Pn**	**14 45 24.1**	**-5.6**
APYP	**Conner**	**4.63**	**13**	*e*P	**Pn**	**14 45 39.6**	**+0.5**
APYP	**Conner**	**4.63**	**13**	*e*P	**Pn**	**14 45 39.3**	**+0.3**
WRAB	**Tennant Creek**	**35.89**	**157**	*e*P	**P**	**14 51 28.4**	**-1.1**
	7.6nm,0.5s,mb4.9						
WRA	**Warramunga Arr**	**35.90**	**157**	P	**P**	**14 51 28.3**	**-1.2**
	5.9nm,0.6s,mb4.7,baz=335,slow=9.7,SNR=47						
WB2	**Warramunga Arr**	**35.90**	**157**	*e*P	**P**	**14 51 28.3**	**-1.2**
SONM	**Songino Array**	**36.26**	**344**	P	**P**	**14 51 32.2**	**-0.4**
	0.6nm,0.7s,mb3.7,baz=152,slow=9.5,SNR=4.5						
AS31	**Alice Springs**	**39.16**	**160**	*e*P	**P**	**14 51 56.6**	**-0.5**
ASAR	**Alice Springs**	**39.16**	**160**	P	**P**	**14 51 56.8**	**-0.4**
	4.0nm,0.6s,mb4.4,baz=337,slow=6.6,SNR=141						
CTA	**Charters Tower**	**41.99**	**142**	LR	LR	15 11 24.0	
	comp=Z,69nm,18.3s,MS3.6,baz=208,slow=38						

*IDC **26** 15:23:45.7±0.9, 175N×9693E, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.1/18, mbtmp4.1/12, ML3.2/1, MS3.8/5, Ms1 3.7/5, ms1mx3.2/36, Error ellipse: s-maj=30.5km s-min=15.9km az=44.0*
*ISCJB **26** 15:23:49.2±0.5, 177N±006×9703E±007, h34km, mb4.5/30, MS4.0/8, Error ellipse: s-maj=10.7km s-min=7.2km az=114.7*
*BJI **26** 15:23:49.7, 174N×9701E, h47km, mB5.0, mb4.7, Ms4.2, Msz4.2*
*NEIC **26** 15:23:52.1±2.1, 182N×9709E, h42km±17km, mb4.7/8, Error ellipse: s-maj=19.9km s-min=6.3km az=51.0*
ISC 26 15:23:51.6±0.5, 178N±006×9703E±007, h36km, h36km±1.4km: pP-P, n50, σ0§84/57, mb4.5/30, MS4.0/8, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.15**	**62**	Pn	**Pn**	**15 24 24.4**	**-0.4**
	7.1nm,0.3s,baz=272,slow=5.7,SNR=32						
PSI				Sn	**Sn**	**15 25 01.4**	**+11**
	22nm,0.3s,baz=129,slow=22,SNR=6.2						
PSI				LR	LR	15 25 03.6	
	comp=Z,410nm,20.8s,baz=269,slow=35						
PSI	**Prapat**	**2.15**	**62**	Pn	**Pn**	**15 24 24.4**	**-0.4**
PSI				Sn	**Sn**	**15 25 01.4**	**+11**
PSI				LR	LR	15 25 03.6	
TSI	**Tuntungan**	**2.29**	**42**	⇑*e*P	**Pn**	**15 24 27.1**	**+0.2**
TSI				*e*S	**Sn**	**15 25 06.6**	**+13**
TSI	**Tuntungan**	**2.29**	**42**	*e*P	**Pn**	**15 24 24.5**	**-2.4**
TSI	**Tuntungan**	**2.29**	**42**	*e*P	**Pn**	**15 24 21.0**	**-5.9**
TSI				*e*S	**Sn**	**15 25 05.0**	**+11**
KULM	**Kulim**	**5.02**	**46**	*e*P	**Pn**	**15 25 03.8**	**-0.5**
CHTO	**Chiang Mai**	**17.03**	**6**	*e*P	**Pn**	**15 27 44.8**	**-2.1**
	2.8nm,0.8s						
KKM	**Kota Kinabalu**	**19.60**	**77**	*e*P	**Pn**	**15 28 17.2**	**-0.9**
QIZ	**Qiongzhong**	**21.25**	**35**	P	**P**	**15 28 35.5**	**+1.0**
QIZ				AP		15 28 46.3	
QIZ				S	**S**	**15 32 31.0**	**+2.5**
QIZ				AMB	AMB		
	comp=Z,17nm,1.7s,mb4.1						
QIZ				AMB	AMB		
	comp=Z,144nm,3.4s						
KMI	**Kunming**	**23.85**	**13**	P	**P**	**15 29 02.3**	**+0.8**
KMI				AP		15 29 09.3	
KMI				S	**S**	**15 33 18.5**	**+3.5**
KMI				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.5						
KMI				LR	LR		
	comp=N,270nm,11.8s,MS4.0						
KMI				LR	LR		
	comp=E,146nm,10.4s,MS4.0						
KMI				LR	LR		
	comp=Z,243nm,15.3s,MS3.8						
JIRN	**Jiri**	**27.75**	**339**	*e*P	**P**	**15 29 37.6**	**+0.9**
	comp=Z,11nm,0.5s,mb4.7						
GUN	**Gumba**	**28.09**	**339**	*e*P	**P**	**15 29 40.4**	**+0.6**
	comp=Z,21nm,0.5s,mb5.0						
DMN	**Daman**	**28.11**	**337**	*e*P	**P**	**15 29 42.9**	**+3.0**
KKN

comp=Z,4.0nm,1.2s,mb4.2

MDJ			AMB	AMB			

comp=Z,96nm,6.5s

ZAL	**Zalesovo**	**52.96 351**	P	**P**	**15 33 04.1**	**-0.2**
	comp=Z,16nm,0.5s,mb5.2,baz=314,slow=5.6,SNR=55					
STKA	**Stephens Creek**	**53.87 132**	P	**P**	**15 33 11.5**	**+0.5**
	comp=Z,2.1nm,0.9s,mb4.1,baz=266,slow=5.3,SNR=3.1					
STKA	**Stephens Creek**	**53.87 132**	*eP*	**P**	**15 33 11.5**	**+0.5**
AKTO	**Aktyubinsk**	**58.65 332**	LR	LR	15 59 18.0	
	comp=Z,156nm,21.6s,MS4.1,slow=36					
YAK	**Yakutsk**	**64.92 16**	*eP*	**P**	**15 34 26.0**	**-1.3**
	comp=Z,19nm,0.7s,mb5.2					
BRTR	**Keskin Array B**	**68.60 312**	P	**P**	**15 34 50.4**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=150,slow=5.7,SNR=4.6					
LSZ	**Lusaka**	**70.12 253**	LR	LR	15 59 18.9	
	comp=Z,183nm,20.2s,MS4.3,slow=30					
AKASG	**Malin Array Be**	**74.70 322**	P	**P**	**15 35 26.7**	**-0.8**
	comp=Z,0.9nm,0.5s,mb3.9,baz=94,slow=4.3,SNR=5.8					
BOSA	**Boshof**	**74.92 240**	LR	LR	16 02 01.5	
	comp=Z,49nm,19.1s,MS3.8,baz=8.7,slow=31					
FINES	**FINESS Array B**	**79.41 332**	P	**P**	**15 35 53.2**	**-0.7**
	comp=Z,1.5nm,0.6s,mb4.1,baz=109,slow=6.0,SNR=10					
FINES	**FINESS Array B**	**79.41 332**	P	**P**	**15 35 53.2**	**-0.7**
ARCES	**ARCESS Array B**	**81.94 340**	P	**P**	**15 36 07.4**	**-0.1**
	comp=Z,1.3nm,0.4s,mb4.2,baz=93,slow=6.1,SNR=7.0					
GERES	**GERESS Array B**	**84.27 319**	P	**P**	**15 36 20.2**	**+0.6**
	comp=Z,1.4nm,0.8s,mb4.2,baz=95,slow=8.2,SNR=12					
NB2	**NORSAR Subarra**	**86.42 331**	P	**P**	**15 36 29.4**	**-0.9**
	comp=Z,0.8nm,0.7s,mb4.1,baz=98,slow=4.8					
NOA	**NORSAR Array B**	**86.42 331**	P	**P**	**15 36 29.8**	**-0.5**
	comp=Z,1.6nm,0.9s,mb4.3,baz=98,slow=5.1,SNR=5.1					
NOA	**NORSAR Array B**	**86.42 331**	P	**P**	**15 36 29.8**	**-0.5**

*ISCJB **26** 15:41:24.3±1.0, 17.15N±005×1465E±0.2, h33km, mb4.1/10, MS3.6/2, Error ellipse: s-maj=33.6km s-min=7.4km az=8.3*
*NEIC **26** 15:41:29.3±2.0, 1709N×1460.2E, h46km±17km, mb4.3/5, Error ellipse: s-maj=28.4km s-min=7.9km az=87.0*
*IDC **26** 15:41:30.7±3.6, 17.11N×145.99E, h55km±30km, mb3.6/8, mb1 3.9/9, mb1mx3.7/20, mbtmp3.9/9, ML3.7/1, MS3.6/3, Ms1 3.6/3, ms1mx2.8/31, Error ellipse: s-maj=38.2km s-min=15.1km az=86.0*

ISC 26 15:41:26.8±1.0, 1713N±005×1466E±0.2, h35km, n25, σ0§44/21, mb4.1/10, MS3.6/2, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.88**	**205**	P	**Pn**	**15 42 24.0**	**+0.1**
	5.6nm,0.3s,baz=325,slow=20,SNR=7.3						
GUMO				S	**Sn**	**15 43 07.9**	**-0.2**
	17nm,0.3s,baz=165,slow=22,SNR=6.6						
JOW	**Kunigami**	**19.48**	**303**	LR	LR	15 52 47.6	
	comp=Z,122nm,18.2s,baz=105,slow=36						
MJAR	**Matsushiro Arr**	**20.69**	**341**	P	**P**	**15 46 02.9**	**-0.9**
	1.6nm,0.6s,baz=173,slow=12,SNR=5.1						
MAJO	**Matsushiro**	**20.70**	**341**	P	**P**	**15 46 04.3**	**+0.5**
	4.5nm,0.8s						
MAT	**Matsushiro**	**20.70**	**341**	P	**P**	**15 46 04.3**	**+0.5**
MAT	**Matsushiro**	**20.70**	**341**	P	**P**	**15 46 04.0**	**+0.2**
HNR	**Honiara**	**29.53**	**152**	LR	LR	15 58 53.4	
	comp=Z,129nm,18.4s,MS3.6,baz=3.9,slow=35						
CTA	**Charters Tower**	**36.99**	**180**	LR	LR	16 01 16.0	
	comp=Z,93nm,18.2s,MS3.6,baz=68,slow=32						
WRAB	**Tennant Creek**	**38.73**	**199**	*eP*	**P**	**15 48 47.2**	**-0.3**
	27nm,1.4s,mb4.8						
WB2	**Warramunga Arr**	**38.74**	**199**	*eP*	**P**	**15 48 47.0**	**-0.6**
WRA	**Warramunga Arr**	**38.75**	**199**	P	**P**	**15 48 47.5**	**-0.1**
	5.7nm,1.1s,mb4.2,baz=28,slow=9.1,SNR=32						
WRA				PcP	PcP	15 50 59.4	+0.6
	0.4nm,0.5s,baz=17,slow=3.3,SNR=6.2						
FITZ	**Fitzroy Crossi**	**40.61**	**211**	*eP*	**P**	**15 49 04.0**	**+0.9**
	3.8nm,1.4s,mb3.8						
FITZ	**Fitzroy Crossi**	**40.61**	**211**	P	**P**	**15 49 04.4**	**+1.3**
	1.3nm,0.7s,mb3.7,baz=21,slow=10.0,SNR=6.2						
AS31	**Alice Springs**	**42.39**	**197**	*eP*	**P**	**15 49 17.8**	**+0.1**
ASAR	**Alice Springs**	**42.39**	**197**	P	**P**	**15 49 17.8**	**0.0**
	1.9nm,0.9s,mb3.7,baz=20,slow=8.1,SNR=14						
ASAR				PcP	PcP	15 51 10.7	+0.1
	0.4nm,0.5s,baz=28,slow=3.1,SNR=5.1						
ASPA	**Alice Springs**	**42.39**	**197**	*eP*	**P**	**15 49 17.8**	**+0.1**
SONM	**Songino Array**	**44.87**	**322**	P	**P**	**15 49 37.3**	**-0.3**
	0.6nm,0.5s,mb3.7,baz=130,slow=7.3,SNR=4.6						
STKA	**Stephens Creek**	**48.96**	**186**	*eP*	**P**	**15 50 09.5**	**-0.1**
	2.4nm,1.2s,mb4.1						
FORT	**Forrest**	**50.85**	**201**	⇓*iP*	**P**	**15 50 24.1**	**+0.2**
	8.9nm,1.0s,mb4.7						
ZAL	**Zalesovo**	**59.75**	**323**	P	**P**	**15 51 27.7**	**-0.4**
	1.5nm,0.7s,mb4.2						
ZAL	**Zalesovo**	**59.75**	**323**	P	**P**	**15 51 27.7**	**-0.4**
MKAR	**Makanchi Array**	**60.13**	**314**	P	**P**	**15 51 31.1**	**+0.5**
	0.3nm,0.4s,mb3.7,baz=99,slow=6.3,SNR=4.0						
NVAR	**Mina Array Bea**	**83.46**	**52**	P	**P**	**15 53 56.8**	**+6.1**
	0.7nm,0.6s,mb3.9,baz=273,slow=3.4,SNR=5.9						
LPAZ	**La Paz**	**146.80**	**94**	PKPbc	PKPbc	16 01 08.5	+3.4
	0.7nm,0.5s,baz=254,slow=6.7,SNR=4.6						
LPAZ	**La Paz**	**146.80**	**94**	PKPbc	PKPbc	16 01 08.5	+3.4

MAN 26 15:44:03.9, 876N×12545E, h33km, mb2.4, ML4.0, MS2.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.27**	**39**	*eP*	Pb	15 44 20.8	+10
BUKP	**Musuan**	**0.95**	**204**	*eP*	Pn	15 44 21.1	+0.1
SCPH	**Surigao**	**1.02**	**2**	*eP*	Pn	15 44 22.0	+0.2
SCPH				*eS*	Sn	15 44 33.9	-1.0
MSLP	**Maasin**	**1.48**	**337**	*eP*	Pn	15 44 29.0	+0.8

*NEIC **26** 16:07:34.2±5.2, 4.80S×153.89E, h142km±36km, mb4.6/4, Error ellipse: s-maj=46.0km s-min=29.6km az=85.0*
*ISCJB **26** 16:07:37.2±4.8, 4.9S±0.2×153.6E±0.3, h163km±35km, mb4.1/8, Error ellipse: s-maj=45.6km s-min=32.0km az=37.6*
*IDC **26** 16:07:40.2±7.3, 4.74S×153.30E, h170km±52km, mb3.6/5, mb1 3.8/6, mb1mx3.6/15, mbtmp4.1/6, Error ellipse: s-maj=66.5km s-min=32.5km az=95.0*

ISC 26 16:07:38.9±5.1, 48S±02×1534E±03, h158km±35km, n18, σ0§56/19, mb4.1/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.76**	**233**	P	**Pn**	**16 09 28.3**	**-0.7**
	7.4nm,0.3s,baz=54,slow=8.1,SNR=27						
PMG				S	**Sn**	**16 10 56.2**	**+0.5**
	1.8nm,0.3s,baz=25,slow=22,SNR=4.3						
PMG	**Port Moresby**	**7.76**	**233**	*eP*	**Pn**	**16 09 28.6**	**-0.3**
PMG				S	**Sn**	**16 10 56.2**	**+0.5**
KAKA	**Kakadu**	**22.20**	**248**	*eP*	**P**	**16 12 22.1**	**-0.3**
	5.0nm,0.5s,mb4.2						
WRAB	**Tennant Creek**	**23.94**	**229**	*eP*	**P**	**16 12 38.9**	**+0.6**
WB2	**Warramunga Arr**	**23.95**	**229**	*eP*	**P**	**16 12 38.8**	**+0.4**
WRA	**Warramunga Arr**	**23.96**	**229**	P	**P**	**16 12 38.5**	**0.0**
	5.9nm,0.8s,mb4.2,baz=54,slow=9.6,SNR=58						
AS31	**Alice Springs**	**26.62**	**223**	*eP*	**P**	**16 13 02.8**	**+0.3**
ASAR	**Alice Springs**	**26.62**	**223**	P	**P**	**16 13 02.1**	**-0.4**
	1.5nm,0.6s,mb3.8,baz=54,slow=8.8,SNR=59						
ASPA	**Alice Springs**	**26.62**	**223**	*eP*	**P**	**16 13 02.8**	**+0.2**
STKA	**Stephens Creek**	**29.18**	**201**	P	**P**	**16 13 26.1**	**+0.8**
	1.0nm,0.7s,mb3.7,baz=4.4,slow=13,SNR=2.9						
FITZ	**Fitzroy Crossi**	**30.24**	**242**	*eP*	**P**	**16 13 34.8**	**+0.1**
	6.0nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**30.24**	**242**	P	**P**	**16 13 33.9**	**-0.7**
	2.9nm,0.7s,mb4.1,baz=75,slow=9.7,SNR=11						
FORT	**Forrest**	**35.23**	**220**	*eP*	**P**	**16 14 17.3**	**-0.7**
	14nm,0.7s,mb4.7						
KLBR	**Kellerberrin**	**42.80**	**227**	*eP*	**P**	**16 15 19.8**	**-1.1**
	72nm,1.7s,mb5.0						
VNDA	**Vanda**	**72.86**	**178**	*eP*	**P**	**16 18 44.5**	**-5.8**
MKAR	**Makanchi Array**	**80.70**	**319**	P	**P**	**16 19 35.0**	**+0.6**
	0.2nm,0.3s,mb3.2,baz=99,slow=7.5,SNR=5.6						
MKAR	**Makanchi Array**	**80.70**	**319**	P	**P**	**16 19 35.0**	**+0.6**
TORD	**Torodi Ar. Bea**	**150.89**	**289**	PKPbc	PKPbc	16 27 12.0	-0.7
	0.9nm,0.6s,baz=85,slow=2.4,SNR=7.0						

*INMG **26** 16:20:25.8±1.2, 35.17N×607W, h10km, ML2.4, Error ellipse: s-maj=7.9km s-min=4.3km az=108.0*
*NEIC **26** 16:20:28.3, 3524N×600W, h66km, MG3.2(MDD), After MDD.*
*CSEM **26** 16:20:31.9±0.4, 3564N×580W, h65km, mb3.2/6, Error ellipse: s-maj=9.3km s-min=4.7km az=13.0*

MDD 26 16:20:28.3±1.6, 3525N×597W, h65km±52km, mb3.4/4, 1D, Error ellipse: s-maj=17.6km s-min=7.8km az=22.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EJIF	**Jimena Fronter**	**1.27**	**18**	P	Pn	16 20 50.1	+0.1
	1.3nm,0.3s,SNR=4.0						
EJIF				S	Sn	16 21 11.1	+4.8
	2.1nm,0.3s,SNR=4.0						
ESPR	**Espera**	**1.62**	**3**	P	Pn	16 20 54.3	-0.4
	1.4nm,0.1s,SNR=4.0						
ESPR				S	Sn	16 21 14.3	-0.4
	13nm,0.2s,SNR=4.0						
ESPR	**Espera**	**1.62**	**3**	P	Pn	16 20 54.3	-0.5
	1.4nm,0.1s,SNR=4.0						
ERIP	**Rio Piedras**	**2.36**	**334**	P	Pn	16 21 03.9	-0.9
	1.6nm,0.1s,SNR=7.9						
ERIP				S	Sn	16 21 30.3	-2.4
	36nm,0.1s,SNR=7.9						
ERIP	**Rio Piedras**	**2.36**	**334**	P	Pn	16 21 03.8	-1.0
ERIP				S	Sn	16 21 30.3	-2.4
ERIP	**Rio Piedras**	**2.36**	**334**	P	Pn	16 21 03.8	-1.0
	1.6nm,0.1s,SNR=7.9						
ERIP				S	Sn	16 21 30.3	-2.4
	36nm,0.1s,SNR=7.9						
EALB	**Alboran**	**2.49**	**73**	P	Pn	16 21 04.6	-1.9
	0.9nm,0.1s,SNR=4.0						
EALB				S	Sn	16 21 33.1	-2.6
	2.3nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**2.51**	**50**	P	Pn	16 21 06.4	-0.4
	0.3nm,0.1s,SNR=4.0						
EMIN	**Mina Concepcio**	**2.58**	**347**	⇓P	Pn	16 21 06.5	-1.2
	0.5nm,0.0s,SNR=18						
EMIN				S	Sn	16 21 34.5	-3.4
	3.4nm,0.1s,SNR=9.6						
EMIN	**Mina Concepcio**	**2.58**	**347**	P	Pn	16 21 06.5	-1.2
	0.5nm,0.0s,SNR=14						
EMIN				S	Sn	16 21 34.5	-3.5
	3.4nm,0.1s,SNR=9.6						
EGRO	**El Granado**	**2.59**	**332**	P	Pn	16 21 07.0	-0.9
	1.9nm,0.1s,SNR=14						
EGRO				S	Sn	16 21 35.4	-2.8
	7.0nm,0.1s,SNR=8.5						
EGRO	**El Granado**	**2.59**	**332**	P	Pn	16 21 07.0	-0.9
	1.9nm,0.1s,SNR=14						
EGRO				S	Sn	16 21 35.5	-2.7
EQUE	**Quentar**	**2.83**	**46**	P	Pn	16 21 15.3	+4.1
	0.1nm,0.0s,SNR=4.0						
EQUE				S	Sn	16 21 48.4	+4.4
	0.8nm,0.2s,SNR=4.0						
EBER	**Berja**	**2.99**	**56**	P	Pn	16 21 13.5	+0.2
	0.7nm,0.2s,SNR=4.0						
EBER				S	Sn	16 21 48.2	+0.2
	4.0nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.99**	**56**	P	Pn	16 21 13.5	+0.2
	0.7nm,0.2s,SNR=4.0						
EBER				S	Sn	16 21 48.2	+0.2
	4.0nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.12**	**21**	P	Pn	16 21 14.3	-0.8
	0.4nm,0.0s,SNR=7.9						
EADA				S	Sn	16 21 47.0	-4.2
	2.0nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.12**	**21**	P	Pn	16 21 14.3	-0.8
	0.4nm,0.0s,SNR=7.9						
EADA				S	Sn	16 21 47.0	-4.2
	2.0nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**3.17**	**332**	*e*Pn	Pn	16 21 14.8	-0.9
PBEJ				*e*Sn	Sn	16 21 49.8	-2.5
PBEJ							
	6.7nm,0.1s						
PBEJ	**Beja**	**3.17**	**332**	*e*Pn	Pn	16 21 14.8	-0.9
PBEJ				*e*Sn	Sn	16 21 49.8	-2.5
	6.7nm,0.1s						
PTEO	**Sao Teotonio**	**3.20**	**317**	*e*Sn	Sn	16 21 50.5	-2.5
PTEO							
	5.8nm,0.2s						
PTEO	**Sao Teotonio**	**3.20**	**317**	Sn	Sn	16 21 50.5	-2.5
	2.9nm,0.2s						
EBAN	**Banos Encina**	**3.40**	**30**	P	Pn	16 21 19.5	+0.6
	1.1nm,0.1s,SNR=4.0						
EBAN				S	Sn	16 21 54.1	-3.9
	2.8nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.46**	**42**	P	Pn	16 21 19.6	-0.1
	0.3nm,0.1s,SNR=4.0						
EQES				S	Sn	16 21 57.1	-2.4
	1.7nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.46**	**42**	P	Pn	16 21 20.8	+1.1
EQES				S	Sn	16 21 57.1	-2.4
EQES	**Quesada**	**3.46**	**42**	P	Pn	16 21 20.8	+1.1
	SNR=4.0						
EQES				S	Sn	16 21 57.1	-2.3
	1.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.60**	**347**	P	Pn	16 21 21.7	+0.1
	1.1nm,0.1s,SNR=7.9						
EBAD				S	Sn	16 21 59.8	-3.2
	9.4nm,0.2s,SNR=5.9						
EBAD	**Badajoz**	**3.60**	**347**	P	Pn	16 21 21.7	0.0
	1.1nm,0.1s,SNR=7.9						
EBAD				S	Sn	16 21 59.8	-3.2
	9.4nm,0.2s,SNR=5.9						
MOE	**Montemor**	**3.79**	**330**	*e*Pn	Pn	16 21 23.7	-0.5
MOE				*e*Sn	Sn	16 22 05.6	-1.9
PESTR	**Estremoz**	**3.84**	**341**	*e*Pn	Pn	16 21 24.5	-0.4
PESTR				*e*Sn	Sn	16 22 06.3	-2.5
PCBR	**Castelo Branco**	**4.74**	**346**	*e*Pn	Pn	16 21 37.1	-0.2
PCBR				*e*Sn	Sn	16 22 26.9	-4.0
PCBR							
	4.7nm,0.1s						
PCBR	**Castelo Branco**	**4.74**	**346**	*e*Pn	Pn	16 21 37.1	-0.2
PCBR				*e*Sn	Sn	16 22 26.9	-4.0
	4.7nm,0.1s						
PTOM	**Tomar**	**4.78**	**337**	*e*Sn	Sn	16 22 27.4	-4.4
EPLA	**Plasencia**	**4.81**	**359**	P	Pn	16 21 38.1	-0.1
	SNR=4.0						
EPLA				S	Sn	16 22 28.0	-4.6
	SNR=7.9						
EPLA	**Plasencia**	**4.81**	**359**	P	Pn	16 21 38.1	-0.1
EPLA				S	Sn	16 22 28.0	-4.6
ETOB	**Tobarra**	**4.90**	**45**	P	Pn	16 21 39.1	-0.4
	0.7nm,0.1s,SNR=4.0						
ETOB				S	Sn	16 22 21.3	-14
	0.9nm,0.1s,SNR=4.0						
ETOB	**Tobarra**	**4.90**	**45**	P	Pn	16 21 39.1	-0.4
MTE	**Manteigas**	**5.29**	**347**	*e*Sn	Sn	16 22 40.6	-3.9
MTE							
	2.8nm,0.4s						
MTE	**Manteigas**	**5.29**	**347**	Sn	Sn	16 22 40.6	-3.9
	1.4nm,0.4s						
PVRL	**Vila Real**	**6.18**	**348**	*e*Sn	Sn	16 23 01.6	-4.5
ELOB	**Lobios**	**6.81**	**347**	S	Sn	16 23 17.0	-4.7
	1.1nm,0.2s,SNR=4.0						

*CSEM **26** 16:20:57.6, 3401N×497W, h16km, MD3.0, After CNRM*

CNRM 26 16:20:57.6, 3401N×497W, h16km, MD3.0, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGT	**Taghat**	**0.09**	**310**	*eP*	Pg	16 21 01.0	+0.1
TGT				*i* S	Sg	16 21 04.0	+0.9
MIF	**Mishlifen**	**0.64**	**200**	*eP*	Pg	16 21 08.0	-2.1
MIF				*i* S	Sg	16 21 19.0	+0.4
TZK	**Tazeka**	**0.66**	**83**	*eP*	Pg	16 21 09.0	-1.5
TZK				*i* S	Sg	16 21 20.0	+0.8
CZD	**Col de Zad**	**0.98**	**184**	*eP*	Pb	16 21 14.0	-2.1
CZD				*i* S	Sb	16 21 28.0	-0.8

*IDC **26** 16:30:28.9±0.8, 2038S×175.61W, h0km, mb4.3/7, mb1 4.6/8, mb1mx4.4/15, mbtmp4.3/8, ML4.4/1, MS4.1/15, Ms1 4.1/15, ms1mx4.0/20, Error ellipse: s-maj=31.4km s-min=19.2km az=132.0*
*BJI **26** 16:30:30.6, 2040S×175.40W, h15km, mB5.2, mb4.8, Ms5.5, Msz5.2*
*NEIC **26** 16:30:30.6±0.4, 2038S×175.44W, h15km, mb4.8/10, Error ellipse: s-maj=17.3km s-min=10.4km az=145.0*
*ISCJB **26** 16:30:32.4±0.4, 2063S±0.09×175.36W±0.08, h33km, mb4.6/17, MS4.2/13, Error ellipse: s-maj=14.2km s-min=9.8km az=121.0*
*MOS **26** 16:30:38.4±2.3, 1956S×175.13W, h33km, mb5.1/9, Error ellipse: s-maj=27.9km s-min=15.6km az=78.0*

ISC 26 16:30:34.5±0.4, 2063S±0.09×17532W±0.08, h35km, n108, σ1§51/45, mb4.6/17, MS4.2/13, 8C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.49**	**27**	Pn	**Pn**	**16 32 15.1**	**-6.1**
	5.8nm,0.3s,baz=51,slow=20,SNR=4.1						
AFI				Sn	**Sn**	**16 33 32.4**	**-12**
	2.4nm,0.3s,baz=175,slow=23,SNR=1.7						
AFI				LR	LR	16 34 44.2	
	comp=Z,550nm,21.1s,baz=201,slow=34						
AFI	**Afiamalu**	**7.49**	**27**	P	**Pn**	**16 32 15.1**	**-6.0**
AFI						16 33 32.4	
AFI	**Afiamalu**	**7.49**	**27**	Pn	**Pn**	**16 32 15.1**	**-6.1**
AFI				Sn	**Sn**	**16 33 32.4**	**-12**
AFI				LR	LR	16 34 44.2	
RAO	**Raoul Island**	**8.91**	**195**	LR	LR	16 35 34.9	
	comp=Z,1μm,18.4s,baz=357,slow=34						
RAR	**Rarotonga**	**14.54**	**95**	Pn	**Pn**	**16 33 57.0**	**-0.7**
	4.6nm,0.3s,baz=270,slow=8.1,SNR=4.6						
RAR				LR	LR	16 37 46.7	
	comp=Z,1μm,18.4s,baz=292,slow=30						
DZM	**Mont Dzumac**	**17.05**	**262**	*eP*	**Pn**	**16 34 35.4**	**+5.4**
DZM	**Mont Dzumac**	**17.05**	**262**	Pn	**Pn**	**16 34 35.0**	**+5.0**
	0.3nm,0.3s,baz=59,slow=19,SNR=3.1						
DZM				LR	LR	16 38 09.2	
	comp=Z,124nm,21.0s,baz=30,slow=27						
NOUC	**Port Laguerre**	**17.18**	**262**	*eP*	**Pn**	**16 34 35.8**	**+4.2**
URZ	**Urewera**	**18.75**	**199**	P	**Pn**	**16 34 52.3**	**+1.3**
	1.3nm,0.3s,baz=57,slow=17,SNR=9.8						
URZ				S	**S**	**16 38 11.5**	**-10**
	0.3nm,0.3s,baz=8.7,slow=16,SNR=2.4						
TBI	**Tubuai**	**24.12**	**101**	*e*LQ		16 40 31.8	
	2μm,27.0s						
TBI				*e*LR	LR	16 41 36.8	
	802nm,27.8s,baz=271						
PPT	**Papeete**	**24.51**	**87**	*e*LQ		16 40 38.9	
	1μm,25.0s						
PPT				*e*LR	LR	16 41 42.6	
	1μm,27.0s,baz=254						
RPZ	**Rata Peaks**	**25.68**	**203**	P	**P**	**16 36 01.5**	**+0.4**
	9.4nm,0.7s,mb4.4,baz=341,slow=6.8,SNR=6.6						
HNR	**Honiara**	**26.31**	**291**	LR	LR	16 44 29.5	
	comp=Z,303nm,18.5s,MS3.9,baz=177,slow=32						
CTA	**Charters Tower**	**35.97**	**264**	*eP*	**P**	**16 37 34.8**	**+3.0**
	17nm,0.9s,mb5.0						
CTA	**Charters Tower**	**35.97**	**264**	*eP*	**P**	**16 37 34.8**	**+3.0**
CTA				pmax	pmax		
	comp=Z,17nm,0.9s						
CTAO	**Charters Tower**	**35.97**	**264**	*eP*	**P**	**16 37 35.2**	**+3.4**
CTAO				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.2						
CTAO	**Charters Tower**	**35.97**	**264**	*eP*	**P**	**16 37 35.2**	**+3.4**
	comp=Z,29nm,1.0s,mb5.2						
RKT	**Rikitea**	**37.45**	**101**	*e*LQ		16 46 19.9	
	comp=Z,383nm,26.2s						
RKT				*e*LR	LR	16 47 37.1	
	comp=Z,653nm,28.5s						
STKA	**Stephens Creek**	**40.00**	**245**	*eP*	**P**	**16 38 03.4**	**-2.4**
	comp=Z,3.4nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**40.00**	**245**	P	**P**	**16 38 03.6**	**-2.2**
	comp=Z,4.0nm,0.8s,mb4.2,baz=107,slow=11,SNR=5.1						
STKA				LR	LR	16 53 58.2	
	comp=Z,483nm,19.3s,MS4.4,baz=277,slow=35						
AS31	**Alice Springs**	**46.93**	**256**	*eP*	**P**	**16 38 59.7**	**-1.9**
ASAR	**Alice Springs**	**46.93**	**256**	P	**P**	**16 38 59.3**	**-2.3**
	comp=Z,13nm,1.0s,mb4.8,baz=88,slow=7.7,SNR=24						
ASAR				PcP	PcP	16 40 34.1	+0.3
	comp=Z,1.3nm,0.7s,baz=114,slow=3.9,SNR=5.4						
ASAR				LR	LR	16 57 29.1	
	comp=Z,334nm,18.6s,MS4.3,baz=94,slow=35						
ASPA	**Alice Springs**	**46.93**	**256**	*eP*	**P**	**16 38 59.7**	**-1.9**
WB2	**Warramunga Arr**	**47.05**	**262**	*eP*	**P**	**16 39 00.1**	**-2.5**
WRAB	**Tennant Creek**	**47.06**	**262**	*d iP*	**P**	**16 39 04.0**	**+1.4**
WRAB	**Tennant Creek**	**47.06**	**262**	P	**P**	**16 39 03.9**	**+1.3**
	comp=Z,27nm,1.1s,mb5.1						
WRA	**Warramunga Arr**	**47.07**	**262**	P	**P**	**16 39 00.2**	**-2.5**
	comp=Z,8.5nm,1.0s,mb4.6,baz=96,slow=7.9,SNR=17						
WRA				LR	LR	16 58 21.7	
	comp=Z,431nm,18.5s,MS4.4,baz=95,slow=36						
FORT	**Forrest**	**51.55**	**247**	*eP*	**P**	**16 39 32.6**	**-4.3**
	comp=Z,11nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**55.49**	**262**	*eP*	**P**	**16 40 08.1**	**+2.3**
	comp=Z,6.8nm,1.1s,mb4.6						
VNDA	**Vanda**	**58.02**	**186**	LR	LR	16 59 56.6	
	comp=Z,124nm,20.4s,MS4.0,baz=2.9,slow=30						
QSPA	**South Pole Qui**	**69.45**	**180**	*eP*	**P**	**16 41 39.2**	**+0.2**
	comp=Z,16nm,1.1s,mb4.9						
MJAR	**Matsushiro Arr**	**71.82**	**322**	P	**P**	**16 41 53.0**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.2,baz=159,slow=5.9,SNR=7.5						
MJAR				LR	LR	17 09 05.3	
	comp=Z,84nm,21.2s,MS4.0,baz=95,slow=32						
YSS	**Yuzh-Sakhalins**	**77.15**	**332**	*eP*	**P**	**16 42 25.0**	**+0.5**
NVAR	**Mina Array Bea**	**79.41**	**42**	P	**P**	**16 42 36.7**	**-0.3**
	comp=Z,1.7nm,0.7s,mb4.1,baz=214,slow=6.6,SNR=12						
TPNV	**Topop

SIM	Simferopol'	145.67	322	PKHKP			16 50 09.8	
SIM				pmax	pmax			
	comp=Z,26nm,0.7s							
OJC	Ojcow	148.13	341	*e*PKP	PKPbc		16 50 18.1	+1.6
KOLS	Kolonicke sedl	148.43	338	*e*PKP	pPKPdf		16 50 25.9	+0.7
KSP	Ksiaz	148.49	346	*e*PKP2	PKPab		16 50 19.5	-1.3
CLL	Collm	148.69	350	*e*PKIKP	PKPdf		16 50 16.0	+1.9
CLL				*i* PKP1	PKPbc		16 50 18.1	+0.2
CLL				*e*PKP2	PKPab		16 50 21.0	-0.6
CLL				*i* *PKP2			16 50 23.9	
CLL	Collm	148.69	350	*e*(PKPdf)	PKPdf		16 50 16.0	+1.9
CLL				*i* PKPbc	PKPbc		16 50 18.1	+0.2
	comp=Z,6.0nm,0.9s							
CLL				*e*PKPab	PKPab		16 50 21.0	-0.6
CLL				*i* pPKPab	pPKPab		16 50 23.9	-8.9
	comp=Z,11nm,0.8s							
CLL	Collm	148.69	350	*e*PKP	PKPdf		16 50 17.0	+2.9
CLL				*i* PKP	PKPdf		16 50 18.1	+4.0
CLL				*i* pPKP	pPKPdf		16 50 23.9	-1.7
CRVS	Cervenica-Dubn	148.75	338	*e*PKP	pPKPdf		16 50 24.8	-0.9
BR131	Keskin Array S	148.76	314	*e*PKPbc	PKPbc		16 50 19.5	+1.4
BRTR	Keskin Array B	148.76	314	PKPbc	PKPbc		16 50 16.8	-1.3
	comp=Z,3.4nm,0.8s,baz=113,slow=2.0,SNR=15							
UPC	Upice	148.86	346	*e*PKPbc	PKPbc		16 50 17.0	-1.3
DPC	Dobruska-Polom	148.94	345	*e*PKPbc	PKPbc		16 50 18.6	+0.1
BRG	Berggiesshubel	148.94	349	*e*PKP	PKPbc		16 50 22.4	+3.9
	comp=Z,5.2nm,1.2s							
ASF	Jabal al Asfar	149.05	298	PKPbc	PKPbc		16 50 18.8	-0.1
	comp=Z,2.8nm,0.8s,baz=350,slow=0.7,SNR=4.4							
PVCC	Panska Ves	149.15	348	*e*PKPbc	PKPbc		16 50 19.6	+0.5
MOX	Moxa	149.54	351	*e*PKP	PKPbc		16 50 21.1	+1.0
	comp=Z,26nm,2.0s							
MLR	Muntele Rosu	149.64	330	PKPbc	PKPbc		16 50 20.6	+0.3
	comp=Z,4.9nm,0.8s,baz=66,slow=4.1,SNR=7.3							
PRU	Pruhonice	149.67	347	*e*PKPbc	PKPbc		16 50 21.3	+0.9
PRU				AMS	AMS		17 53 30.0	
	comp=Z,100nm,22.8s							
VYHS	Vyhne	149.95	341	*e*PKPdf			16 50 19.9	+3.8
TREC	Trest	150.12	346	*e*PKPbc	PKPbc		16 50 20.8	-0.6
GRA1	Grafenberg Arr	150.53	351	*e*PKP	PKPbc		16 50 24.6	+2.2
GRF	Grafenberg Arr	150.53	351	*e*PKP	PKPbc		16 50 24.6	+2.2
GIVF	Givet	150.59	360	*e*PKP1	PKPbc		16 50 24.4	+1.8
BAIF	Baives	150.63	1	*e*PKP1	PKPbc		16 50 24.7	+2.0
	comp=Z,27nm,0.9s							
KHC	Kasperske Hory	150.68	348	*e*PKPbc	PKPbc		16 50 22.2	-0.6
GERES	GERESS Array B	150.93	348	PKPbc	PKPbc		16 50 21.0	-2.4
	comp=Z,3.0nm,0.7s,baz=48,slow=2.0,SNR=12							
CONA	Conrad Observa	151.30	344	⇑*i*PKPbc	PKPdf		16 50 20.6	+2.4
	comp=Z,7.3nm,1.0s							
ROSF	Rostrenen	151.62	11	*e*PKP1	PKPbc		16 50 28.1	+3.1
	comp=Z,11nm,0.7s							
FLN	La Foliniere	151.62	7	*e*PKP1	PKPbc		16 50 27.6	+2.6
	comp=Z,18nm,0.8s							
FLN				*e*R				
	comp=Z,55nm,21.8s							
SGMF	Saint Gilles	151.82	10	*e*PKP1	PKPbc		16 50 28.6	+3.2
	comp=Z,18nm,0.8s							
LDF	La Druitiere	151.83	7	*e*PKP1	PKPbc		16 50 28.0	+2.5
	comp=Z,8.4nm,0.8s							
GRR	Gorron	151.94	8	*e*PKP1	PKPbc		16 50 28.6	+2.9
	comp=Z,21nm,0.8s							
QUIF	Quistinic	152.04	11	*e*PKP1	PKPbc		16 50 28.8	+2.9
	comp=Z,14nm,0.9s							
CDF	Champ du Feu	152.20	356	*e*PKP1	PKPbc		16 50 28.9	+2.6
HAU	Haudompre	152.65	358	*e*PKP1	PKPbc		16 50 30.1	+2.8
HAU				*e*R				
	comp=Z,68nm,21.0s							
HINF	Hinteralfeld	152.82	357	*e*PKP1	PKPbc		16 50 30.8	+3.1
	comp=Z,6.1nm,0.7s							
DAVA	Damuels	153.07	352	⇑*i*P	PKPbc		16 50 27.9	-0.3
	comp=Z,8.5nm,1.1s							
LOR	Lormes	153.41	1	*e*PKP1	PKPbc		16 50 31.9	+2.9
	comp=Z,7.6nm,0.8s							
SSF	Saint Saulge	153.61	2	*e*PKP1	PKPbc		16 50 32.2	+2.8
	comp=Z,11nm,1.0s							
MFF	Saint Martin d	153.79	8	*e*PKP1	PKPbc		16 50 32.7	+2.9
AVF	Avril sur Loir	153.88	2	*e*PKP1	PKPbc		16 50 32.6	+2.6
BGF	Bois d'Agland	154.09	3	*e*PKP1	PKPbc		16 50 33.4	+3.0
TCF	Toulx Ste Croi	154.32	4	*e*PKP1	PKPbc		16 50 34.2	+3.3
LPL	La Plagne	155.12	357	*e*PKP1	pPKPdf		16 50 35.8	+0.6
ORIF	Oris-en-Rattie	155.75	358	*e*PKP1	pPKPdf		16 50 36.7	+0.6
ORIF				*e*R				
	comp=Z,70nm,21.6s							
MBDF	Montbardon	155.90	356	*e*PKP1	pPKPdf		16 50 36.7	+0.4
TORD	Torodi Ar. Bea	172.04	159	PKPab	PKPab		16 52 05.3	+2.7
	comp=Z,1.5nm,1.0s,baz=192,slow=5.4,SNR=4.6							

NEIC ***26*** *17:06:05.5±2.3, 1800S×17849W, h587km±27km, mb4.1/13, Error ellipse: s-maj=19.1km s-min=11.7km az=152.0*

ISCJB ***26*** *17:06:06.8±2.0, 181S±02×17859W±0.10, h619km±27km, mb4.2/19, Error ellipse: s-maj=28.1km s-min=7.9km az=126.9*

IDC ***26*** *17:06:08.5±3.0, 1808S×17853W, h623km±36km, mb3.7/7, mb1 3.9/7, mb1mx3.7/14, mbtmp4.6/7, Error ellipse: s-maj=50.4km s-min=15.1km az=154.0*

ISC 26 17:06:07.9±2.0, 181S±02×17853W±010, h614km±25km, n123, σ0§49/115, mb4.2/19, 39C-37D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CNB	Canberra Magne	33.23	232	*e*P		P	17 11 56.6	+0.5
	68nm,1.7s,mb5.0							
CTA	Charters Tower	33.30	261	⇓*i*P		P	17 11 56.7	-0.1
	6.2nm,0.8s,mb4.3							
CTAO	Charters Tower	33.30	261	*e*P		P	17 11 56.6	-0.2
PMG	Port Moresby	34.38	280	P		P	17 12 06.3	+0.6
	41nm,0.8s,mb5.1,baz=86,slow=4.8,SNR=11							
PMG	Port Moresby	34.38	280	*e*P		P	17 12 06.4	+0.7
TOO	Toolangi	36.97	231	*e*P		P	17 12 27.8	+0.8
	3.3nm,0.6s,mb4.0							
STKA	Stephens Creek	38.44	241	⇓*i*P		P	17 12 39.7	+0.7
	2.4nm,0.6s,mb3.9							
STKA	Stephens Creek	38.44	241	P		P	17 12 39.9	+1.0
	3.1nm,0.5s,mb4.1,baz=90,slow=11,SNR=12							
WB2	Warramunga Arr	44.48	260	⇓*i*P		P	17 13 25.6	-0.7
WRAB	Tennant Creek	44.48	260	*e*P		P	17 13 25.7	-0.6
	5.7nm,0.6s,mb4.3							
WRA	Warramunga Arr	44.49	260	P		P	17 13 25.8	-0.5
	5.1nm,0.7s,mb4.2,baz=96,slow=7.2,SNR=134							
AS31	Alice Springs	44.63	254	*e*P		P	17 13 27.6	+0.1
AS31				*e*S		S	17 19 20.5	+0.2
ASAR	Alice Springs	44.63	254	P		P	17 13 27.7	+0.2
	15nm,0.5s,mb4.8,baz=87,slow=9.4,SNR=496							
ASAR				S		S	17 19 20.3	0.0
	0.6nm,0.8s,baz=83,slow=15,SNR=4.4							
ASPA	Alice Springs	44.64	254	*e*P		P	17 13 27.6	+0.1
ASPA				*e*S		S	17 19 20.5	+0.2
KAKA	Kakadu	47.47	269	*e*P		P	17 13 48.5	-0.3
	7.6nm,0.4s,mb4.6							
FORT	Forrest	49.83	245	*e*P		P	17 14 04.7	-1.5
	4.2nm,0.3s,mb4.3							
FITZ	Fitzroy Crossi	52.89	261	*e*P		P	17 14 28.1	-0.1
	4.5nm,1.2s,mb3.7							
VNDA	Vanda	60.26	185	*e*P		P	17 15 18.2	-0.3
	1.4nm,0.4s,mb3.5							
V03C	Hunter Liggett	76.34	45	⇓P		P	17 16 56.0	+0.7
	baz=76							
HAST	UC Hastings Re	76.35	44	⇓P		P	17 16 55.4	+0.1
	baz=76							
MCCM	Marconi Confer	76.50	42	⇑P		P	17 16 57.5	+1.3
	baz=77							
PKD	Parkfield	76.77	45	⇑P		P	17 16 57.7	+0.1
	baz=77							
U04C	Hernandez Rese	76.84	45	⇑P		P	17 16 57.9	-0.1
	baz=77							
PACP	Pacheco Peak	76.88	44	⇓P		P	17 16 58.2	0.0
	baz=77							
BDM	Black Diamond	77.04	43	⇓P		P	17 16 59.5	+0.4
	baz=77							
O01C	Eel River Cons	77.11	40	⇓P		P	17 16 59.9	+0.5
	baz=77							
S04C	Ingram Canyon,	77.13	43	⇓P		P	17 16 59.6	0.0
	baz=77							
S05C	Merced	77.70	44	⇑P		P	17 17 03.0	+0.3
	baz=78							
O02C	Red Bluff	77.76	40	⇓P		P	17 17 02.5	-0.5
	baz=78							
T06C	Millerton Lake	77.92	44	⇓P		P	17 17 03.1	-0.7
	baz=78							
ISA	Isabella	78.02	46	P		P	17 17 04.5	+0.2
	baz=78,SNR=7.0							
CMB	Columbia Colle	78.05	43	⇑P		P	17 17 04.0	-0.5
	baz=78							
ORV	Oroville	78.20	41	⇓P		P	17 17 04.3	-1.0
	baz=78							
LAVA	Lava Cap Winer	78.23	43	⇑P		P	17 17 04.4	-1.1
	baz=78							
S06C	San Francisco	78.31	44	⇑P		P	17 17 05.3	-0.6
	baz=78							
KCC	Kaiser Creek	78.35	44	⇓P		P	17 17 06.0	-0.2
	baz=78							
PFO	Pinyon Flat Ob	78.36	49	⇑P		P	17 17 05.2	-1.0
	baz=78							
M02C	Callahan	78.44	39	⇓P		P	17 17 06.6	-0.1
	baz=79							
P05C	Yuba Gap, Truc	78.62	42	⇓P		P	17 17 07.1	-0.4
	baz=79							
R05C	Kirkwood Meado	78.62	43	⇓P		P	17 17 07.0	-0.5
	baz=79							
CWC	Cottonwood Cre	78.71	46	⇑P		P	17 17 07.5	-0.5
	baz=79							
YBH	Yreka Blue Hor	78.73	39	⇓P		P	17 17 08.1	0.0
	baz=79							
O05C	Quincy	78.80	41	⇑P		P	17 17 08.5	0.0
	baz=79							
O04C	Chester	78.90	41	⇓P		P	17 17 08.5	-0.6
	baz=79							
R06C	Coleville	78.93	43	⇓P		P	17 17 09.5	+0.3
	baz=79							
R07C	Lee Vining	78.95	44	P		P	17 17 10.0	+0.7
	baz=79,SNR=5.1							
HATC	Hat Creek Radi	78.96	40	⇑P		P	17 17 09.3	-0.1
	baz=79							
GSC	Goldstone	78.98	47	⇓P		P	17 17 09.3	-0.2
	baz=79							
HUMO	Hull Mountain	79.11	38	⇑P		P	17 17 10.5	+0.3
	baz=79							
WCN	Washoe City	79.17	42	⇓P		P	17 17 10.8	+0.3
	baz=79							
GLA	Glamis	79.25	50	⇑P		P	17 17 11.3	+0.4
	baz=79							
I02A	Mapleton	79.45	37	⇑P		P	17 17 10.9	-1.0
	baz=80							
M05C	Lookout	79.46	40	⇓P		P	17 17 11.5	-0.5
	baz=80							
O06A	Flanigan	79.60	42	P		P	17 17 12.9	+0.2
	baz=80,SNR=6.6							
NVAR	Mina Array Bea	79.63	44	P		P	17 17 12.9	0.0
	3.8nm,0.8s,mb3.8,baz=230,slow=11,SNR=27							
TUQ	Turquoise Mtn.	79.67	47	⇑P		P	17 17 12.9	-0.2
	baz=80							
M06C	Likely Place G	79.78	41	⇑P		P	17 17 13.8	+0.2
	baz=80							
N06A	Buffalo Meadow	79.93	41	⇓P		P	17 17 14.4	-0.1
	baz=80							
S09A	Goldfield	79.97	45	⇑P		P	17 17 14.9	+0.3
	baz=80							
L05A	Lakeview	80.06	40	⇓P		P	17 17 15.3	+0.2
	baz=80							
Q08A	Gabbs	80.11	44	⇓P		P	17 17 15.6	+0.2
	baz=80							
O07A	Toulon	80.20	42	⇑P		P	17 17 15.4	-0.4
	baz=80,SNR=6.0							
TPNV	Topopah Spring	80.22	46	*e*P		P	17 17 15.5	-0.4
	1.5nm,0.8s,mb3.4							
R09A	Tonopah	80.35	45	⇑P		P	17 17 16.3	-0.3
	baz=80							
P08A	Dixie Valley	80.46	43	⇓P		P	17 17 17.6	+0.4
	baz=81							
N07B	Gerlach	80.49	42	⇓P		P	17 17 17.5	+0.2
	baz=81							
J05A	Fort Rock	80.53	39	P		P	17 17 17.9	+0.4
	baz=81,SNR=9.2							
M07A	Soldier Meadow	80.70	41	P		P	17 17 18.7	+0.3
	baz=81,SNR=7.8							
X13A	Yucca	80.73	49	⇓P		P	17 17 18.9	+0.3
	baz=81							
F03A	Seaside	80.79	35	⇑P		P	17 17 19.5	+0.7
	baz=81							
H04A	Detroit Lake	80.80	37	⇑P		P	17 17 18.0	-0.9
	baz=81							
K06A	Valley Falls	80.84	39	P		P	17 17 19.2	+0.1
	baz=81,SNR=8.5							
R10A	Warm Springs	80.89	45	⇑P		P	17 17 20.0	+0.6
	baz=81							
W13A	Hualapai Mount	80.94	49	⇓P		P	17 17 19.8	+0.1
	baz=81							
L07A	Adell	80.95	40	P		P	17 17 20.2	+0.5
	baz=81,SNR=6.0							
Y14A	Wickenburg	81.02	50	⇑P		P	17 17 20.4	+0.3
	baz=81							
J06A	Christmas Vall	81.16	39	P		P	17 17 20.8	0.0
	baz=81,SNR=5.5							
M08A	Happy Creek Ra	81.23	41	⇑P		P	17 17 21.7	+0.5
	baz=81							
O09A	Fish Creek Ran	81.30	43	⇑P		P	17 17 21.8	+0.3
	baz=81							
116A	Eloy	81.33	52	⇓P		P	17 17 21.8	+0.1
	baz=81							
H05A	Madras	81.33	37	⇓P		P	17 17 21.5	-0.1
	baz=81							
X14A	Yava	81.35	50	⇓P		P	17 17 22.3	+0.5
	baz=81							
K07A	Rock Creek Ran	81.38	40	P		P	17 17 22.2	+0.3
	baz=82,SNR=6.3							
N09A	Rock Creek Ran	81.45	42	⇑P		P	17 17 22.1	-0.1
	baz=82							
P10A	Eureka	81.48	44	⇓P		P	17 17 22.2	-0.2
	baz=82							
I06A	Prineville	81.52	38	P		P	17 17 22.9	+0.3
	baz=82,SNR=9.8							
W14A	Seligman	81.57	49	⇑P		P	17 17 23.0	+0.1
	baz=82							
Q11A	Duckwater	81.61	45	⇑P		P	17 17 23.0	-0.1
	baz=82,SNR=8.2							
WVOR	Wild Horse Val	81.62	40	*e*P		P	17 17 22.8	-0.3
	8.2nm,1.0s,mb4.2							
J07A	Hines	81.73	39	⇑P		P	17 17 24.0	+0.3
	baz=82							
M09A	Marrel Ranch,	81.80	42	⇑P		P	17 17 24.5	+0.5
	baz=82							
X15A	Humboldt	81.83	50	⇑P		P	17 17 25.0	+0.7
	baz=82							
K08A	Mann Creek Ran	81.87	40	P		P	17 17 24.6	+0.2
	baz=82,SNR=12							
W15A	Williams	82.14	49	⇑P		P	17 17 26.4	+0.7
	baz=82							
E05A	Randle	82.16	36	⇓P		P	17 17 24.9	-0.9
	baz=82							
J08A	Circle Bar Ran	82.23	40	P		P	17 17 26.2	0.0
	baz=82,SNR=5.7							
Q12A	Willow Creek R	82.26	45	⇑P		P	17 17 26.4	+0.1
	baz=82							
D05A	Enumclaw	82.41	35	⇑P		P	17 17 26.9	-0.2
	baz=82							
P12A	McGill	82.43	44	⇑P		P	17 17 27.5	+0.3
	baz=82							
M10A	I.L. Ranch, Tu	82.43	42	⇑P		P	17 17 27.6	+0.4
	baz=82,SNR=5.1							
ELK	Elko	82.86	43	*e*P		P	17 17 29.1	-0.3
M11A	Holland Ranch,	82.86	42	⇑P		P	17 17 28.8	-0.5
	baz=83							
O12A	Currie	82.94	44	⇓P		P	17 17 30.0	+0.2
	baz=83							
N12A	Clover Valley,	83.05	43	⇓P		P	17 17 30.1	-0.2
	baz=83							
M12A	Wells	83.42	43	⇓P		P	17 17 32.2	+0.1
	baz=84							
A05A	Maple Falls	83.45	34	⇑P		P	17 17 36.4	+4.1
	baz=84							
HLID	Hailey	84.84	41	*e*P		P	17 17 38.9	-0.2
IMW	Indian Meadow	87.19	42	*e*P		P	17 17 50.4	+0.2
	7.8nm,1.0s,mb4.4							
QLMT	Earthquake Lak	87.33	41	*e*P		P	17 17 50.5	-0.4
BW06	Boulder Array	87.56	43	*e*P		P	17 17 51.1	-0.9
	1.2nm,0.8s,mb3.7							
PDAR	Pinedale Array	87.56	43	P		P	17 17 51.4	-0.5
	2.2nm,0.6s,mb4.1,baz=227,slow=3.0,SNR=22							
SONM	Songino Array	93.61	319	P		P	17 18 20.9	+1.0
	0.2nm,0.3s,mb3.7,baz=225,slow=16,SNR=3.5							
FINES	FINESS Array B	133.33	344	PKP		PKPdf	17 24 13.8	-1.5
	0.6nm,0.6s,baz=82,slow=4.0,SNR=3.9							
BRTR	Keskin Array B	144.83	315	PKP		PKPdf	17 24 36.9	+0.8
	1.0nm,0.8s,baz=22,slow=1.3,SNR=6.6							
KOLS	Kolonicke sedl	144.92	336	*e*PKP		PKPdf	17 24 36.5	+0.3
NIE	Niedzica	145.24	338	*e*PX			17 24 38.1	
CLL	Collm	145.61	347	⇑*i*PKPbc		PKPbc	17 24 38.4	-0.7
	comp=Z,12nm,0.9s							
BRG	Berggiesshubel	145.81	346	*e*P		PKPdf	17 24 37.6	-0.1
	comp=Z,1.3nm,0.4s							
BRG				*e*			17 24 39.1	
	comp=Z,2.7nm,0.7s							
VYHS	Vyhne	146.54	339	*e*PKP		PKPdf	17 24 40.8	+1.8
GRA1	Grafenberg Arr	147.51	348	*e*PKP		PKPdf	17 24 43.7	+3.1
GRF	Grafenberg Arr	147.51	348	*e*PKP		PKPdf	17 24 43.7	+3.1
KHC	Kasperske Hory	147.52	345	*e*P		PKPdf	17 24 43.0	+2.4
GERES	GERESS Array B	147.75	345	PKPbc		PKPbc	17 24 44.5	-0.3
	comp=Z,1.9nm,0.5s,baz=29,slow=3.0,SNR=24							

WEL 26 17:21:15.9±0.4, 3687S×17682E, h268km±4km, ML3.5/13, Error ellipse: s-maj=7.1km s-min=6.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	Matakaoa Point	1.38	121	PN		Pn	17 21 55.0	-0.1
MXZ				SN		S	17 22 25.3	-0.6
URZ	Urewera	1.41	170	PN		Pn	17 21 55.3	+0.1
URZ				SN		S	17 22 25.8	-0.6
MWZ	Matawai	1.57	159	PN		Pn	17 21 56.6	+0.2
MWZ				SN		S	17 22 28.6	+0.3
PUZ	Puketiti	1.66	137	PN		Pn	17 21 57.4	+0.4
PUZ				SN		S	17 22 28.3	-1.4
KNZ	Kokohu	2.25	163	PN		Pn	17 22 02.1	0.0
BKZ	Black Stump Fm	2.31	186	PN		Pn	17 22 02.5	-0.1
TUVZ	Tukino	2.56	201	PN		Pn	17 22 05.7	+0.6
TSZ	Takapari Road	3.25	192	PN		Pn	17 22 11.6	-0.6
BFZ	Birch Farm	3.83	186	PN		Pn	17 22 17.5	-1.1
MRZ	Mangatainoka R	3.91	194	PN		Pn	17 22 18.1	-1.3
TIWZ	Tintock	3.97	190	PN		Pn	17 22 19.3	-0.8
KIW	Kapiti Island	4.25	200	PN		Pn	17 22 21.7	-1.7
MTW	Mount Morrison	4.40	193	PN		Pn	17 22 23.3	-1.9
CAW	Cannon Point	4.44	197	PN		Pn	17 22 23.7	-1.9

CASC 26 17:33:35.4±1.6, 1378N×9294W, h122km±54km, MD4.1, 2C-1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAT	Jato	1.37	67	⇓*e*P		Pn	17 34 02.0	+0.5
TP2	Tecpan 2	2.11	62	⇑*e*P		Pn	17 34 11.2	+0.8
TP2				*e*S		Sn	17 34 40.2	+3.1
FUG	Fuego 3	2.14	72	*e*P		Pn	17 34 11.6	+0.9
IXG	Ixpaco	2.44	81	⇑*e*P		Pn	17 34 15.2	+0.7
IXG				*e*S		Sn	17 34 46.6	+2.0
SBLS	San Blas	3.22	89	*e*P		x	17 34 29.8	
SBLS				*e*S		x	17 35 09.4	
SNJE	San Jose	3.24	88	*e*P		x	17 34 29.9	
SNJE				*e*S		x	17 35 09.5	
LFRS	El Faro	3.77	92	*e*P		x	17 34 37.2	
LFRS				*e*S		x	17 35 22.4	
SNVI	San Vicente	3.99	92	*e*P		x	17 34 40.1	
SNVI				*e*S		x	17 35 25.8	

IDC 26 17:53:17.0±2.0, 922S×10862E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/16, mbtmp3.9/5, Error ellipse: s-maj=100.4km s-min=21.0km az=54.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	Warramunga Arr	27.04	116	P		P	17 59 01.3	+0.4
	0.8nm,0.8s,baz=289,slow=11,SNR=5.3							
ASAR	Alice Springs	28.11	124	P		P	17 59 10.4	-0.1
	0.7nm,0.8s,baz=300,slow=8.4,SNR=6.9							
ASAR				PcP		PcP	18 02 25.6	+0.8
	0.8nm,0.8s,baz=318,slow=2.2,SNR=9.3							
STKA	Stephens Creek	37.98	131	P		P	18 00 36.7	+0.2
	3.8nm,0.8s,baz=300,slow=6.9,SNR=10							
SONM	Songino Array	56.83	358	P		P	18 03 04.3	+1.1
	0.7nm,0.5s,baz=179,slow=8.6,SNR=5.9							
MKAR	Makanchi Array	60.51	340	P		P	18 03 28.0	-0.9
	1.1nm,0.6s,baz=143,slow=7.2,SNR=8.0							

BJI ***26*** *18:05:56.2, 1038S×10765E, h10km, mB4.5, mb4.5*

IDC ***26*** *18:06:02.7±1.0, 957S×107.17E, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.0/18, mbtmp4.3/7, ML3.6/1, MS3.6/2, Ms1 3.5/2, ms1mx2.9/19, Error ellipse: s-maj=37.1km s-min=18.3km az=55.0*

NEIC ***26*** *18:06:04.5±0.5, 955S×107.15E, h10km, mb4.5/8, Error ellipse: s-maj=23.1km s-min=6.6km az=45.0*

ISCJB ***26*** *18:06:06.5±0.6, 97S±0.1×1072E±0.1, h42km, mb4.5/11, MS3.5/2, Error ellipse: s-maj=24.8km s-min=7.2km az=89.6*

ISC 26 18:06:08.9±0.7, 97S±01×1071E±02, h44km, h44km±1.8km: pP-P, n24, σ0§95/25, mb4.5/11, MS3.5/2, 1C-2D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBWA	Marble Bar	16.65	135	*e*P		Pn	18 09 54.2	-4.7
	6.6nm,0.5s							
MBWA				*e*S		S	18 12 43.9	-29
FITZ	Fitzroy Crossi	19.81	117	*e*P		Pn	18 10 36.6	-0.9
	10nm,1.0s							
FITZ				*e*pP		pP	18 10 51.6	+5.4
FITZ				*e*S		S	18 14 09.0	-7.4
FITZ	Fitzroy Crossi	19.81	117	P		Pn	18 10 35.5	-2.0
	0.1nm,0.3s,baz=248,slow=6.8,SNR=8.7							
NWAO	Narrogin (SRO)	24.93	159	P		P	18 11 23.9	-3.9
W

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.99**	**151**	Pn	**Pn**	**18 07 21.4**	**-1.1**
	35nm,0.3s,baz=350,slow=7.5,SNR=239						
ATAH				Sn	**Sn**	**18 08 09.2**	**+0.9**
	39nm,0.3s,baz=5.1,slow=19,SNR=5.8						
ATAH				LR	LR	18 09 13.1	
	comp=Z,295nm,20.7s,baz=310,slow=40						
NNA	**Nana**	**9.13**	**158**	*eP*	**Pn**	**18 08 26.4**	**-6.0**
	32nm,0.4s						
SDV	**Santo Domingo**	**15.63**	**38**	LR	LR	18 16 29.5	
	comp=Z,73nm,19.9s,baz=328,slow=40						
LPAZ	**La Paz**	**17.49**	**138**	P	**Pn**	**18 10 20.1**	**-1.0**
	0.2nm,0.3s,baz=331,slow=9.9,SNR=11						
LPAZ				S	**S**	**18 13 35.4**	**-0.9**
	0.1nm,0.3s,baz=162,slow=22,SNR=2.6						
LPAZ				LR	LR	18 17 55.8	
	comp=Z,48nm,20.4s,baz=275,slow=40						
LPAZ	**La Paz**	**17.49**	**138**	*eP*	**Pn**	**18 10 22.0**	**+0.9**
LPAZ				S	**S**	**18 13 35.4**	**-0.9**
LPAZ				LR	LR	18 17 55.8	
SAML	**Samuel**	**17.88**	**108**	*eP*	**Pn**	**18 10 26.4**	**+0.5**
	7.5nm,0.8s						
SIV	**San Ignacio**	**22.66**	**125**	P	**P**	**18 11 17.6**	**+0.9**
	1.1nm,0.6s,mb3.4,baz=312,slow=14,SNR=5.4						
SIV				S	**S**	**18 15 31.6**	**+14**
	0.9nm,0.7s,baz=228,slow=22,SNR=2.6						
CMIG	**Matias Romero**	**24.99**	**325**	LR	LR	18 18 14.0	
	comp=Z,20nm,19.5s,baz=12,slow=29						
LRAL	**Lakeview Retre**	**36.86**	**351**	*eP*	**P**	**18 13 22.6**	**+0.2**
	2.1nm,0.4s,mb4.4						
PDAR	**Pinedale Array**	**53.08**	**333**	P	**P**	**18 15 30.5**	**-0.3**
	0.8nm,0.8s,mb3.8,baz=119,slow=9.2,SNR=8.2						
NVAR	**Mina Array Bea**	**54.50**	**324**	P	**P**	**18 15 42.3**	**+1.1**
	0.7nm,0.6s,mb3.8,baz=145,slow=6.8,SNR=5.8						
ULM	**Lac du Bonnet**	**55.17**	**348**	P	**P**	**18 15 44.8**	**-1.2**
	3.6nm,0.8s,mb4.5,baz=156,slow=8.3,SNR=6.0						
YKA	**Yellowknife Ar**	**70.76**	**344**	LR	LR	18 48 04.7	
	comp=Z,14nm,21.4s,baz=90,slow=36						
ASAR	**Alice Springs**	**137.11**	**229**	PKP	PKPdf	18 25 41.6	+6.5
	0.2nm,0.8s,baz=117,slow=2.3,SNR=2.9						
WRA	**Warramunga Arr**	**138.76**	**234**	PKP	PKPdf	18 25 43.7	+5.5
	0.3nm,0.7s,baz=114,slow=2.0,SNR=3.8						

MEX 26 18:17:26.7±0.5, 1680N×9974W, h8km±3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.18**	**291**	*i* P	Pg	18 17 30.0	-0.4
ACX				*i* S	Sg	18 17 33.0	+0.1
CAIG	**El Cayaco**	**0.56**	**296**	*i* P	Pg	18 17 36.8	-0.7
CAIG				*i* S	Sg	18 17 45.0	+0.1
MEIG	**Mezcala**	**1.12**	**6**	*i* P	Pg	18 17 45.1	-3.2
MEIG				*i* S	Sg	18 17 59.0	-3.9
PLIG	**Platanillo**	**1.60**	**8**	*eP*	Pn	18 17 51.8	-3.5
PLIG				*i* S	Sn	18 18 12.2	-4.0
UTMO	**Huajuapan**	**2.11**	**61**	*i* P	Pn	18 18 00.8	-1.6
UTMO				*i* S	Sn	18 18 25.3	-3.6
PPM	**Popocatepetl**	**2.49**	**25**	*eP*	Pn	18 18 05.1	-2.5
PPM				*eP*		18 18 10.0	
PPM				*i* S	Sn	18 18 34.3	-3.9

*IDC **26** 18:49:14.6±2.2, 1589S×17854W, h0km, mb4.4/4, mb1 4.7/4, mb1mx4.1/13, mbtmp4.4/4, Error ellipse: s-maj=150.3km s-min=32.1km az=149.0*
*ISCJB **26** 18:49:16.9±1.8, 1685±06×1782W±04, h33km, mb4.5/7, Error ellipse: s-maj=98.6km s-min=25.2km az=123.7*
ISC 26 18:49:18.7±1.7, 1695±06×1780W±04, h35km, n10, σ1§12/10, mb4.5/7, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.45**	**240**	⇓*iP*	**P**	**18 56 47.1**	**+1.7**
	2.8nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**39.45**	**240**	P	**P**	**18 56 47.2**	**+1.8**
	2.9nm,0.5s,mb4.3,baz=92,slow=9.3,SNR=17						
WB2	**Warramunga Arr**	**45.19**	**258**	⇓*iP*	**P**	**18 57 32.2**	**+0.1**
WRA	**Warramunga Arr**	**45.20**	**258**	P	**P**	**18 57 30.7**	**-1.4**
	2.6nm,0.5s,mb4.3,baz=92,slow=6.9,SNR=128						
ASAR	**Alice Springs**	**45.44**	**253**	P	**P**	**18 57 34.6**	**+0.5**
	19nm,0.5s,mb5.2,baz=88,slow=8.1,SNR=719						
ASPA	**Alice Springs**	**45.44**	**253**	*eP*	**P**	**18 57 34.5**	**+0.4**
KAKA	**Kakadu**	**47.99**	**268**	*eP*	**P**	**18 57 55.2**	**+1.2**
	4.5nm,0.4s,mb4.8						
FORT	**Forrest**	**50.79**	**244**	*eP*	**P**	**18 58 13.2**	**-2.2**
	5.2nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**53.58**	**260**	*eP*	**P**	**18 58 35.3**	**-0.8**
	3.6nm,1.1s,mb4.2						
PDAR	**Pinedale Array**	**86.36**	**43**	P	**P**	**19 01 57.2**	**+0.1**
	0.3nm,0.5s,mb3.8,baz=203,slow=2.6,SNR=4.1						

*IDC **26** 19:16:34.6±3.7, 8.15S×119.37E, h92km±49km, mb3.4/2, mb1 3.6/4, mb1mx3.3/17, mbtmp3.8/4, Error ellipse: s-maj=217.8km s-min=15.4km az=58.0*
*ISCJB **26** 19:16:35.3±3.0, 82S±02×1196E±0.1, h115km±32km, mb4.0/1, Error ellipse: s-maj=28.9km s-min=13.6km az=69.3*
*NEIC **26** 19:16:36.6±2.8, 838S×119.13E, h123km±30km, mb4.3/2, Error ellipse: s-maj=21.6km s-min=18.7km az=223.0*
ISC 26 19:16:34.5±2.5, 83S±01×1191E±02, h98km±26km, n11, σ0§52/20, mb4.0/1, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.64**	**148**	*eP*	**Pn**	**19 19 17.9**	**+0.6**
	4.1nm,0.7s						
FITZ				*eS*	**Sn**	**19 21 16.9**	**-8.3**
FITZ	**Fitzroy Crossi**	**11.64**	**148**	P	**Pn**	**19 19 17.7**	**+0.4**
	0.3nm,0.3s,baz=353,slow=8.3,SNR=16						
FITZ				S	**Sn**	**19 21 16.2**	**-9.1**
	1.2nm,0.3s,baz=194,slow=20,SNR=9.6						
MBWA	**Marble Bar**	**12.81**	**177**	*eP*	**Pn**	**19 19 32.9**	**0.0**
KAKA	**Kakadu**	**13.82**	**110**	*eP*	**Pn**	**19 19 46.3**	**+0.3**
	9.2nm,0.4s						
KAKA				*eS*	**Sn**	**19 22 07.4**	**-11**
WRA	**Warramunga Arr**	**18.75**	**130**	P	**P**	**19 20 45.2**	**-0.4**
	0.6nm,0.3s,baz=306,slow=13,SNR=56						
WRA				S	**S**	**19 24 03.0**	**-11**
	0.2nm,0.3s,baz=292,slow=26,SNR=6.7						
WB2	**Warramunga Arr**	**18.76**	**130**	*eP*	**P**	**19 20 45.3**	**-0.4**
WB2				*eS*	**S**	**19 24 02.7**	**-11**
WB2	**Warramunga Arr**	**18.76**	**130**	*eP*	**P**	**19 20 45.0**	**-0.7**
WB2				*eS*	**S**	**19 24 02.7**	**-11**
ASPA	**Alice Springs**	**20.85**	**139**	*eP*	**P**	**19 21 08.1**	**-0.2**
ASPA				*eS*	**S**	**19 24 58.4**	**+3.0**
AS31	**Alice Springs**	**20.85**	**139**	*eP*	**P**	**19 21 08.2**	**-0.2**
AS31				*eS*	**S**	**19 24 58.4**	**+3.0**
ASAR	**Alice Springs**	**20.85**	**139**	P	**P**	**19 21 08.2**	**-0.2**
	1.4nm,0.6s,baz=318,slow=11,SNR=43						
ASAR				S	**S**	**19 24 56.4**	**+1.0**
	0.6nm,0.7s,baz=307,slow=21,SNR=4.1						
SONM	**Songino Array**	**57.00**	**350**	P	**P**	**19 26 10.2**	**+0.3**
	0.8nm,0.5s,mb4.0,baz=171,slow=8.0,SNR=8.3						

BJI 26 19:22:06.4, 4243N×8424E, h12km, ML3.2, 2C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.89**	**60**	PG	Pg	19 22 59.3	-2.4
WMQ				S	Sn	19 23 36.8	+10
WMQ				SG	Sg	19 23 42.3	+3.2
WMQ				Smax			
	comp=N,101nm,0.4s						
WMQ				Smax			
	comp=E,151nm,0.4s						
MK07	**Makanchi Array**	**4.54**	**343**	⇓Pn	Pn	19 23 16.9	+2.1
	comp=E,3.3nm,0.4s,baz=155,slow=14						
MK07				⇑Lg		19 24 28.0	
	comp=E,62nm,0.9s,baz=158,slow=27						
KURK	**Kurchatov**	**9.14**	**337**	⇑Lg		19 26 52.3	
	comp=E,5.2nm,0.8s						

*ISCJB **26** 19:37:16.0±0.4, 4423N±002×631E±003, h10km±3km, Error ellipse: s-maj=4.2km s-min=2.9km az=71.0*
*LDG **26** 19:37:17.0±0.1, 4423N×633E, h2km, Md2.7/4, Ml2.0/4, Error ellipse: s-maj=1.4km s-min=1.1km az=59.0*
*STR **26** 19:37:18.5±1.1, 44.18N×638E, h10km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 26 19:37:16.6±0.4, 4422N±002×631E±003, h14km±3km, n21, σ0§70/38, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRF	**Simiane la Rot**	**0.58**	**245**	*ePg*	**Pg**	**19 37 28.5**	**+0.5**
SMRF	**Simiane la Rot**	**0.58**	**245**	*ePn*	**Pg**	**19 37 31.1**	**+3.1**
SMRF				*eSg*	**Sg**	**19 37 36.8**	**+1.0**
	3.6nm,0.2s						
SMRF				*eSn*	**Sg**	**19 37 41.0**	**+5.2**
MBDF	**Montbardon**	**0.60**	**33**	*ePg*	**Pg**	**19 37 28.4**	**-0.1**
MBDF				*eSg*	**Sg**	**19 37 36.4**	**-0.1**
	5.2nm,0.5s						
MVIF	**Mont Vial**	**0.69**	**118**	Pg	**Pg**	**19 37 30.4**	**+0.3**
FRF	**La Foret Royal**	**0.71**	**159**	*ePg*	**Pg**	**19 37 29.6**	**-0.8**
FRF	**La Foret Royal**	**0.71**	**159**	*ePn*	**Pn**	**19 37 32.5**	**+0.3**
FRF				*eSg*	**Sg**	**19 37 39.9**	**+0.2**
	4.5nm,0.2s						
TOUF	**Mont Tournerai**	**0.71**	**107**	Pg	**Pg**	**19 37 29.5**	**-1.0**
TOUF				Sg	**Sg**	**19 37 39.3**	**-0.6**
ORIF	**Oris-en-Rattie**	**0.76**	**337**	*ePg*	**Pg**	**19 37 31.0**	**-0.4**
ORIF	**Oris-en-Rattie**	**0.76**	**337**	*ePn*	**Pn**	**19 37 33.2**	**+0.3**
ORIF				*eSg*	**Sg**	**19 37 41.0**	**-0.4**
	2.9nm,0.3s						
ORIF				*eSn*	**Sn**	**19 37 44.8**	**+0.7**
LUCF	**Luceram**	**0.82**	**113**	Pg	**Pg**	**19 37 33.5**	**+0.9**
LUCF				Sg	**Sg**	**19 37 43.6**	**+0.3**
AUTN	**L'Aution**	**0.84**	**105**	Pg	**Pg**	**19 37 34.1**	**+1.2**
AUTN				Sg	**Sg**	**19 37 45.0**	**+1.0**
SBF	**Sospel**	**0.89**	**113**	*ePg*	**Pg**	**19 37 34.1**	**+0.2**
SBF				*eSg*	**Sg**	**19 37 45.0**	**-0.6**
	11nm,0.3s						
SBF				*eSn*	**Sn**	**19 37 47.0**	**-0.4**
LMR	**La Mourre**	**0.90**	**170**	*ePg*	**Pg**	**19 37 33.5**	**-0.6**
LMR				*eSg*	**Sg**	**19 37 46.0**	**+0.1**
	5.3nm,0.3s						
LMR				*eSn*	**Sn**	**19 37 48.0**	**+0.4**
SAOF	**Saorge**	**0.93**	**104**	Pg	**Pg**	**19 37 35.1**	**+0.4**
SAOF				Sg	**Sg**	**19 37 47.5**	**+0.6**
LPL	**La Plagne**	**1.33**	**13**	*ePg*	**Pg**	**19 37 41.9**	**-0.3**
VIVF	**Saint-Julien-l**	**1.33**	**299**	*ePn*	**Pn**	**19 37 40.4**	**-0.3**
VIVF	**Saint-Julien-l**	**1.33**	**299**	*ePg*	**Pg**	**19 37 42.2**	**0.0**
VIVF				*eSg*	**Sg**	**19 37 58.4**	**-1.1**
	2.0nm,0.3s						
VIVF				*eSn*	**Sn**	**19 37 59.4**	**+1.2**
LASF	**Ste Croix**	**1.77**	**266**	*eSn*	**Sn**	**19 38 08.1**	**-0.9**
	0.8nm,0.2s						
PGF	**Pioggiola**	**2.58**	**130**	*ePn*	**Pn**	**19 37 57.8**	**-0.1**
PGF	**Pioggiola**	**2.58**	**130**	*ePg*	**Pg**	**19 38 04.9**	**-1.2**
PGF				*eSn*	**Sn**	**19 38 27.9**	**-1.2**
MTLF	**Montolieu**	**3.09**	**255**	*ePn*	**Pn**	**19 38 05.3**	**+0.4**

IDC 26 19:37:28.2±26.0, 1561S×17321W, h0km, mb4.5/4, mb1 4.6/4, mb1mx4.1/16, mbtmp4.5/4, 2D, Error ellipse: s-maj=490.2km s-min=156.4km az=71.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.78**	**257**	*eP*	P	19 44 55.4	+0.9
	3.9nm,0.9s						
CTA	**Charters Tower**	**38.78**	**257**	P	P	19 44 54.9	+0.4
	2.5nm,0.5s,baz=79,slow=12,SNR=5.2						
STKA	**Stephens Creek**	**44.09**	**240**	⇓*iP*	P	19 45 38.7	+0.6
	2.2nm,0.6s						
STKA	**Stephens Creek**	**44.09**	**240**	P	P	19 45 38.5	+0.4
	2.4nm,0.5s,baz=101,slow=9.2,SNR=9.0						
WB2	**Warramunga Arr**	**49.97**	**257**	⇓*iP*	P	19 46 24.2	+0.2
WRA	**Warramunga Arr**	**49.98**	**257**	P	P	19 46 24.2	+0.2
	2.4nm,0.5s,baz=94,slow=7.1,SNR=80						
ASAR	**Alice Springs**	**50.22**	**252**	P	P	19 46 26.4	+0.5
	11nm,0.6s,baz=86,slow=8.6,SNR=216						
ASPA	**Alice Springs**	**50.23**	**252**	*eP*	P	19 46 26.3	+0.3
FORT	**Forrest**	**55.49**	**243**	*eP*	P	19 47 04.4	-0.4
	6.5nm,0.6s						

*MOS **26** 20:51:05.8±1.1, 4372N×13063E, h571km, mb4.0/9, Error ellipse: s-maj=13.1km s-min=7.6km az=119.8*
*SKHL **26** 20:51:05.3±0.5, 4376N×13059E, h576km±9km, mb4.7/8, msh4.5/3*
*BJI **26** 20:51:06.4, 4372N×13057E, h575km, mB4.5, mb4.8*
*ISCJB **26** 20:51:06.2±0.2, 4372N±004×13066E±004, h570km±3km, mb4.1/43, Error ellipse: s-maj=5.7km s-min=4.3km az=145.3*
*NEIC **26** 20:51:06.8±0.4, 4365N×13059E, h563km±5km, mb4.4/22, Error ellipse: s-maj=7.2km s-min=5.8km az=194.0*
*IDC **26** 20:51:06.3±1.3, 4371N×13052E, h555km±16km, mb3.5/19, mb1 3.7/22, mb1mx3.6/25, mbtmp4.4/22, Error ellipse: s-maj=10.8km s-min=9.2km az=55.0*
ISC 26 20:51:06.6±0.2, 4375N±004×13066E±004, h560km±3km, n126, σ1§08/136, mb4.1/43, 14C-6D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDJ	**Mudanjiang**	**1.16**	**319**	P	**P**	**20 52 16.0**	**+1.8**
MDJ				S	**S**	**20 53 11.8**	**+2.5**
MDJ	**Mudanjiang**	**1.16**	**319**	⇑*iP*	**P**	**20 52 15.9**	**+1.7**
CN2	**Changchun**	**3.77**	**273**	⇑P	**P**	**20 52 28.3**	**+0.9**
TEY	**Ternei**	**4.45**	**71**	*eP*	**P**	**20 52 31.5**	**-1.0**
TEY				AMB	AMB	20 52 32.0	
	300nm,2.0s						
TEY				AMB	AMB	20 52 33.0	
	160nm,0.9s						
TEY				*eS*	**S**	**20 53 42.0**	**-0.7**
TEY				A		20 53 44.5	
	52nm,1.0s						
KLR	**Kul'dur**	**5.54**	**7**	⇓*iP*	**P**	**20 52 40.6**	**-0.9**
KLR				AMB	AMB	20 52 40.9	
	28nm,1.0s						
KLR				AMB	AMB	20 52 40.9	
	76nm,1.0s						
KLR				*eS*	**S**	**20 53 58.0**	**-1.1**
KLR				A		20 53 59.2	
	110nm,1.8s						
KLR	**Kul'dur**	**5.54**	**7**	⇓*iP*	**P**	**20 52 40.6**	**-0.9**
KLR				*eS*	**S**	**20 53 58.0**	**-1.1**
KLR				pmax	pmax		
	comp=E,28nm,1.0s						
KLR				pmax	pmax		
	comp=Z,76nm,1.0s						
KLR				smax			
	comp=E,110nm,1.8s						
SNY	**Shenyang**	**5.55**	**252**	⇑*iP*	**P**	**20 52 43.3**	**+1.7**
SNY				S	**S**	**20 54 01.0**	**+1.6**
SNY				AMB	AMB		
	comp=Z,31nm,0.5s						
SNY				AMB	AMB		
	comp=Z,153nm,4.5s						
HABR	**Khabarovsk**	**5.63**	**31**	⇓*iP*	**P**	**20 52 44.4**	**+2.1**
HABR				*eS*	**S**	**20 54 04.1**	**+3.5**
DL2	**Dalian**	**8.34**	**238**	P	**P**	**20 53 08.5**	**+0.7**
DL2				XP		20 54 41.8	
DL2				S	**S**	**20 54 46.5**	**-0.8**
DL2				AMB	AMB		
	comp=Z,30nm,0.7s						
ASAJ	**Asahikawa**	**8.63**	**83**	P	**P**	**20 53 10.8**	**0.0**
ASAJ	comp=Z,12nm,0.3s,baz=254,slow=9.0,SNR=89			S	**S**	**20 54 52.5**	**-0.1**
	baz=225,slow=20,SNR=2.9						
ASAJ	**Asahikawa**	**8.63**	**83**	P	**P**	**20 53 10.8**	**+0.1**
ASAJ				S	**S**	**20 54 52.6**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
YSS	**Yuzh-Sakhalins**	**9.10**	**65**	⇑*iP*	**P**	**20 53 15.9**	**+0.4**
YSS				AMB	AMB	20 53 18.0	
	comp=Z,70nm,0.5s						
YSS				erx	rx	20 53 32.3	
YSS				*eS*	**S**	**20 55 00.0**	**-1.3**
YSS				A		20 55 02.0	
	comp=Z,50nm,1.2s						
YSS	**Yuzh-Sakhalins**	**9.10**	**65**	⇑*iP*	**P**	**20 53 15.9**	**+0.4**
YSS				S	**S**	**20 55 00.0**	**-1.3**
YSS				pmax	pmax		
	comp=Z,70nm,0.5s						
YSS				smax			
	comp=N,50nm,1.2s						
YSS	**Yuzh-Sakhalins**	**9.10**	**65**	*eP*	**P**	**20 53 15.6**	**+0.1**
	comp=N,47nm,0.5s						
MAJO	**Matsushiro**	**9.23**	**139**	*eP*	**P**	**20 53 15.9**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,16nm,0.7s						
MAJO	**Matsushiro**	**9.23**	**139**	*eP*	**P**	**20 53 15.9**	**-0.8**
	comp=Z,16nm,0.7s						
MAT	**Matsushiro**	**9.23**	**139**	P	**P**	**20 53 15.6**	**-1.1**
MAT				S	**S**	**20 55 00.8**	**-2.8**
MAT	**Matsushiro**	**9.23**	**139**	*eP*	**P**	**20 53 16.0**	**-0.7**
	comp=Z,11nm,0.7s						
MAT				*eS*	**S**	**20 55 01.0**	**-2.6**
MJAR	**Matsushiro Arr**	**9.23**	**139**	P	**P**	**20 53 16.0**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=329,slow=11,SNR=35						
HIA	**Hailar**	**9.33**	**310**	*eP*	**P**	**20 53 18.9**	**+1.1**
HIA				pmax	pmax		
	comp=E,6.0nm,0.6s						
HIA	**Hailar**	**9.33**	**310**	*eP*	**P**	**20 53 18.9**	**+1.1**
	comp=E,6.0nm,0.6s						
EKMR	**Ekimchan**	**9.45**	**8**	*eP*	**P**	**20 53 16.4**	**-2.6**
EKMR				AMB	AMB	20 53 16.7	
	comp=Z,7.0nm,0.8s						
UGL	**Uglegorsk**	**9.51**	**52**	*eP*	**P**	**20 53 20.0**	**+0.4**
UGL				AMB	AMB	20 53 21.5	
	comp=Z,79nm,0.6s						
ZEA	**Zeya**	**10.25**	**349**	*eP*	**P**	**20 53 24.1**	**-3.0**
ZEA				AMB	AMB	20 53 25.4	
	comp=Z,22nm,0.5s						
TYV	**Tymovskoe**	**10.81**	**45**	⇑*eP*	**P**	**20 53 33.5**	**+0.7**
TYV				AMB	AMB	20 53 35.0	
	comp=Z,5.0nm,0.8s						
TYV				AMB	AMB	20 53 35.0	
	comp=Z,8.0nm,0.7s						
TYV				AMB	AMB	20 53 35.0	
	comp=Z,18nm,0.7s						
KROS	**Kirovskiy**	**10.96**	**349**	⇓*eP*	**P**	**20 53 31.2**	**-3.2**
KROS				AMB	AMB	20 53 32.1	
	comp=Z,4.0nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**10.98**	**83**	*eP*	**P**	**20 53 34.5**	**-0.1**
BJI	**Beijing**	**11.41**	**256**	*eP*	**P**	**20 53 39.0**	**0.0**
BJI				S	**S**	**20 55 42.3**	**-2.1**
BJI				AMB	AMB		
	comp=Z,79nm,0.8s						
BJT	**Baijiatuau**	**11.42**	**256**	*eP*	**P**	**20 53 39.0**	**-0.1**
BJT				pmax	pmax		
	comp=Z,60nm,0.8s						
BJT	**Baijiatuau**	**11.42**	**256**	*eP*	**P**	**20 53 39.0**	**-0.1**
	comp=Z,60nm,0.8s						
CIT	**Chita**	**14.12**	**312**	*eP*	**P**	**20 54 06.6**	**-0.2**
CIT				*e*		20 56 35.0	
CIT				pmax	pmax		
	comp=Z,53nm,1.6s						
NJ2	**Nanjing**	**14.92**	**222**	*eP*	**P**	**20 54 10.3**	**-4.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
ULN	**Ulaanbaatar**	**16.94**	**292**	⇑*eP*	**P**	**20 54 34.5**	**+0.3**
ULN	**Ulaanbaatar**	**16.94**	**292**	*eP*	**P**	**20 54 34.3**	**+0.1**
	comp=Z,10nm,0.6s						
SONM	**Songino Array**	**17.38**	**292**	P	**P**	**20 54 38.8**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=95,slow=9.0,SNR=44						
SONM				PcP	PcP	20 58 46.8	-0.2
	comp=Z,0.2nm,0.3s,baz=138,slow=1.6,SNR=4.2						
BOD	**Bodaibo**	**17.51**	**329**	*eP*	**P**	**20 54 37.1**	**-2.3**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.1s						
YAK	**Yakutsk**	**18.32**	**359**	*eP*	**P**	**20 54 46.8**	**0.0**
WHN	**Wuhan**	**18.47**	**230**	⇑P	**P**	**20 54 48.5**	**+0.4**
XAN	**Xi'an**	**19.45**	**247**	P	**P**	**20 54 57.3**	**+0.3**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s						
ZAK	**Zakamensk**	**19.72**	**299**	*eP*	**P**	**20 55 00.1**	**+0.6**
TLY	**Talaya**	**19.75**	**303**	*eP*	**P**	**20 55 00.0**	**+0.2**
TLY				pmax	pmax		
	comp=Z,11nm,0.8s						
TLY	**Talaya**	**19.75**	**303**	*eP*	**P**	**20 54 60.0**	**+0.2**
	comp=Z,11nm,0.8s						
LZH	**Lanzhou**	**21.88**	**259**	*eP*	**P**	**20 55 20.0**	**+1.1**
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,204nm,4.0s						
GTA	**Gaotai**	**23.40**	**270**	P	**P**	**20 55 33.5**	**+1.0**
GTA				XP	sP	20 58 06.8	+4.2
GTA				PCP	PcP	20 59 01.8	+3.2
GTA				S	**S**	**20 59 07.5**	**+1.0**
GTA				PCS	PcS	21 02 40.3	+1.8
GTA				SCS	ScS	21 05 34.3	+3.1
GTA				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,56nm,5.3s						
CD2	**Chengdu**	**24.81**	**248**	*eP*	**P**	**20 55 43.5**	**-1.5**
KMI	**Kunming**	**29.37**	**240**	P	**P**	**20 56 25.0**	**+0.1**
KMI				S	**S**	**21 00 40.3**	**+0.6**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.3						
KMI				AMB	AMB		
	comp=Z,42nm,3.7s						
QIZ	**Qiongzhong**	**30.21**	**222**	P	**P**	**20 56 32.5**	**+0.4**
QIZ				S	**S**	**21 00 51.5**	**-1.1**
QIZ				AMB	AMB		
	comp=Z,18nm,2.2s,mb4.2						
WMQ	**Urumqi**	**30.76**	**285**	P	**P**	**20 56 37.5**	**+0.7**
ZAL	**Zalesovo**	**31.34**	**305**	P	**P**	**20 56 41.1**	**-0.7**
	comp=Z,2.8nm,0.3s,mb4.2,baz=21,slow=8.9						
MKAR	**Makanchi Array**	**33.75**	**292**	P	**P**	**20 57 02.2**	**+0.1**
	comp=Z,8.7nm,0.8s,mb4.3,baz=76,slow=10,SNR=58						
MKAR	**Makanchi Array**	**33.75**	**292**	⇑*eP*	**P**	**20 57 02.2**	**0.0**
JIRN	**Jiri**	**39.02**	**261**	*eP*	**P**	**20 57 46.1**	**+0.6**
	comp=Z,15nm,0.3s,mb5.0						
GUN	**Gumba**	**39.09**	**261**	*eP*	**P**	**20 57 46.6**	**+0.5**
	comp=Z,33nm,0.6s,mb5.0						
KKN	**Kakani**	**39.59**	**262**	*eP*	**P**	**20 57 50.5**	**+0.4**
	comp=Z,21nm,0.6s,mb4.9						
KKN	**Kakani**	**39.59**	**262**	*eP*	**P**	**20 57 50.5**	**+0.4**
KKN				pmax	pmax		
	comp=Z,21nm,0.6s,mb4.8						
PKI	**Pulchoki**	**39.63**	**261**	*eP*	**P**	**20 57 50.8**	**+0.4**
DMN	**Daman**	**39.83**	**262**	*eP*	**P**	**20 57 52.4**	**+0.4**
	comp=Z,10.0nm,0.5s,mb4.6						
GKN	**Gorkha**	**39.93**	**262**	*eP*	**P**	**20 57 52.8**	**0.0**
BVAR	**Borovoye Array**	**39.98**	**305**	ScP	ScP	21 02 37.7	-2.6

comp=Z,0.7nm,0.4s,mb3.2,baz=54,slow=6.4
KAF Kangasniemi 58.42 328 *e*P **P 21 00 07.4 -1.6**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb3.4
FINES FINESS Array B 58.89 327 P **P 21 00 11.2 -1.0**
comp=Z,1.1nm,0.3s,mb3.6,baz=72,slow=5.9,SNR=34
FINES PcP PcP 21 00 52.5 -1.6
comp=Z,1.1nm,0.4s,baz=60,slow=4.2,SNR=8.3
KIV Kislovodsk 60.32 304 *e*P **P 21 00 20.0 -1.6**
KIV *e*S **S 21 07 55.0 +1.6**
KIV pmax pmax
comp=Z,10.0nm,0.8s,mb4.2
KIV Kislovodsk 60.32 304 *e*P **P 21 00 21.4 -0.3**
comp=Z,6.5nm,0.7s,mb4.1
FITZ Fitzroy Crossi 61.71 185 *e*P **P 21 00 29.2 -1.6**
comp=Z,3.8nm,1.0s,mb3.8
YKA Yellowknife Ar 62.00 29 P **P 21 00 32.8 +0.2**
comp=Z,4.4nm,0.4s,mb4.2,baz=313,slow=6.2,SNR=33
YKA Yellowknife Ar 62.00 29⇑*e*P **P 21 00 32.7 +0.1**
YKA Yellowknife Ar 62.00 29 P **P 21 00 32.8 +0.2**
WRAB Tennant Creek 63.45 176⇓*i*P **P 21 00 41.5 -0.5**
WRA Warramunga Arr 63.46 176 P **P 21 00 41.7 -0.3**
comp=Z,2.7nm,0.5s,mb3.9,baz=354,slow=6.9,SNR=80
WRA PcP PcP 21 01 12.6 -0.2
comp=Z,1.5nm,0.4s,baz=353,slow=4.9,SNR=85
WB2 Warramunga Arr 63.46 176⇑*i*P **P 21 00 41.3 -0.7**
AKASG Malin Array Be 63.87 316 P **P 21 00 43.4 -1.2**
comp=Z,1.8nm,0.5s,mb3.8,baz=50,slow=6.6,SNR=14
AKASG pP 21 02 37.1 +0.7
comp=Z,0.2nm,0.3s,baz=45,slow=7.8,SNR=5.2
NB2 NORSAR Subarra 64.62 332 P **P 21 00 49.3 -0.1**
comp=Z,0.6nm,0.6s,mb3.2,baz=43,slow=6.2
NOA NORSAR Array B 64.62 332 P **P 21 00 49.0 -0.4**
comp=Z,0.8nm,0.6s,mb3.3,baz=42,slow=6.1,SNR=5.2
NOA NORSAR Array B 64.62 332 P **P 21 00 49.0 -0.4**
NOA pmax pmax
comp=Z,1.0nm,0.6s
AS31 Alice Springs 67.14 177 *e*P **P 21 01 05.4 +0.3**
ASAR Alice Springs 67.14 177 P **P 21 01 05.1 0.0**
comp=Z,4.3nm,0.8s,mb4.0,baz=359,slow=5.5,SNR=43
ASAR Alice Springs 67.14 177 P **P 21 01 05.1 0.0**
ASAR pmax pmax
comp=Z,4.0nm,0.8s
ASPA Alice Springs 67.15 177 *e*P **P 21 01 05.4 +0.3**
BRTR Keskin Array B 68.26 305 P **P 21 01 11.5 -0.4**
comp=Z,1.2nm,0.8s,mb3.5,baz=69,slow=4.6,SNR=7.0
BRTR Keskin Array B 68.26 305 P **P 21 01 11.5 -0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 72.53 322 P **P 21 01 37.3 +0.2**
comp=Z,0.1nm,0.3s,baz=54,slow=6.8,SNR=3.5
FORT Forrest 74.20 182 *e*P **P 21 01 46.5 -0.1**
comp=Z,7.1nm,0.5s,mb4.3
HRY Holter Researc 74.36 39 *e*P **P 21 01 49.0 +1.5**
DLMT Dillon 75.01 41 *e*P **P 21 01 52.8 +1.7**
comp=Z,14nm,1.0s,mb4.3
BOZ Bozeman (W) 75.25 40 *e*P **P 21 01 54.0 +1.6**
BOZ pmax pmax
comp=Z,1.0nm,0.7s,mb3.4
BOZ Bozeman (W) 75.25 40 *e*P **P 21 01 54.0 +1.5**
comp=Z,1.5nm,0.7s,mb3.5
HLID Hailey 75.46 43 *e*P **P 21 01 55.7 +2.1**
comp=Z,1.8nm,0.7s,mb3.6
STKA Stephens Creek 75.92 170⇑*i*P **P 21 01 56.6 +0.4**
comp=Z,2.0nm,0.4s,mb3.9
STKA Stephens Creek 75.92 170 P **P 21 01 56.7 +0.6**
comp=Z,2.3nm,0.4s,mb3.9,baz=164,slow=23,SNR=16
NVAR Mina Array Bea 77.17 49 P **P 21 02 05.1 +2.1**
comp=Z,6.1nm,0.7s,mb4.2,baz=287,slow=6.4,SNR=40
ULM Lac du Bonnet 77.98 28 P **P 21 02 07.2 -0.2**
comp=Z,4.2nm,0.6s,mb3.9,baz=335,slow=5.5,SNR=7.8
HWUT Hardware Ranch 78.32 43 *e*P **P 21 02 11.0 +1.8**
comp=Z,6.5nm,0.9s,mb4.0
PDAR Pinedale Array 78.40 41 P **P 21 02 10.7 +1.0**
comp=Z,4.0nm,0.7s,mb3.9,baz=27,slow=1.5,SNR=30
RSSD Black Hills 79.84 37 *e*P **P 21 02 17.7 +0.4**
RSSD pmax pmax
comp=Z,16nm,0.3s,mb4.8
RSSD Black Hills 79.84 37 *e*P **P 21 02 17.7 +0.4**
comp=Z,16nm,0.3s,mb4.8
SCHQ Schefferville 80.67 10 P **P 21 02 21.5 -0.1**
comp=Z,1.9nm,0.5s,mb3.8,baz=255,slow=11,SNR=7.4
PHWY Pilot Hill 81.45 39 *e*P **P 21 02 26.5 +0.9**
PFO Pinyon Flat Ob 81.70 51 *e*P **P 21 02 28.3 +1.5**
PFO pmax pmax
comp=Z,5.0nm,1.0s,mb3.9
PFO Pinyon Flat Ob 81.70 51 *e*P **P 21 02 28.3 +1.5**
comp=Z,5.1nm,1.0s,mb3.9
TORD Toredi Ar. Bea 106.75 308 PKKPbc PKKPbc 21 19 47.8 -0.4
comp=Z,6.6nm,1.0s,baz=235,slow=1.9,SNR=8.2
SAML Samuel 143.29 23 *e*PKPpre 21 09 35.0
SNAA Sanae 144.24 203 PKP PKPdf 21 09 36.4 -2.6
comp=Z,1.3nm,0.6s,baz=8.6,slow=11,SNR=29
SNAA Sanae 144.24 203 *e*PKPdf PKPdf 21 09 36.7 -2.3
SNAA *e* 21 09 37.5
SNAA *e* 21 09 41.6
SNAA *e* 21 09 45.2
SNAA Sanae 144.24 203 *e*PKPdf PKPdf 21 09 36.6 -2.4
VNA1 Neumayer--Stat 146.28 203 *e*PKPdf PKPdf 21 09 42.3 -0.2
VNA1 *e* 21 09 45.4
VNA1 *e* 21 09 48.2
VNA1 *e* 21 11 52.8
VNA1 *e* 21 11 56.5
LPAZ La Paz 148.32 36 PKPbc PKPbc 21 09 51.0 +0.9
comp=Z,2.7nm,0.4s,baz=338,slow=1.6,SNR=14
LPAZ La Paz 148.32 36 *e*PKPbc PKPbc 21 09 51.1 +1.0
BDFB Brasilia 151.96 357 PKPbc PKPbc 21 09 57.2 -1.4
comp=Z,1.9nm,0.5s,baz=144,slow=3.8,SNR=5.0

NIED **26** *20:55:00,37.00N×141.60E,h41km,Mw4.3 Best double couple: M0 3.18000×10^15 NP1:φs=26.00000°,δ75.00000°,λ91.00000°. NP2:φs=201.00000°,δ15.00000°,λ86.00000°.*

BJI **26** *20:55:22.3,37.22N×142.54E,h10km,mB4.6,mb4.5,Ms3.8,Msz3.7*

NEIC **26** *20:55:30.1±0.4,37.07N×141.69E,h10km,mb4.8/10,MW4.3(NIED),Error ellipse: s-maj=10.3km s-min=8.2km az=147.0*

NEIC Recorded [1 JMA] in Fukushima, Ibaraki and Miyagi Prefectures.

MOS **26** *20:55:31.7±1.1,37.03N×141.65E,h33km,mb4.9/22,Error ellipse: s-maj=11.9km s-min=6.5km az=119.0*

ISCJB **26** *20:55:32.7±0.3,37.03N±0.03×141.61E±0.04,h39km, mb4.4/43,MS3.6/10,Error ellipse: s-maj=5.0km s-min=4.0km az=41.3*

JMA **26** *20:55:34.1±0.2,37.06N×141.50E,h48km±2km,M4.3 Broadband fault plane solution: P waves. NP1: φs=209.00000°,δ19.00000°,λ92.00000°. NP2:φs=26.00000°, δ71.00000°,λ89.00000°. Principal axes: T Plg64.0000°, Azm295.0000°; N Plg1.0000°, Azm27.0000°; P Plg26.0000°, Azm117.0000°;*

JMA Felt I J1.

IDC **26** *20:55:34.5±0.8,37.03N×141.50E,h38km±5km,mb4.1/19, mb1 4.2/23,mb1mx4.1/29,mbtmp4.3/23,ML4.0/4,MS3.5/11, Ms1 3.6/11,ms1mx3.3/28 Error ellipse: s-maj=19.1km s-min=12.3km az=85.0*

SZGRF **26** *20:55:35.3,37.10N×140.84E,h33km,mb4.7,Eastern Honshu, Japan*

ISC 26 20:55:34.8±0.3,37°**06N**±0.003°**×141**°**51E**±0.005°**,h41**km**,**
h41km±1.3km**:pP-P,n120,**σ0**82**/128**,mb4.4**/43**,MS3.6**/10**,**
11C-10D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.57**	**274**	⇓P	**Pn**	**20 55 45.8**	**-0.7**
ONAJ				S	**Sn**	**20 55 54.1**	**-0.7**
JFK	**Kawauchi**	**0.59**	**301**	⇓P	**Pn**	**20 55 46.0**	**-0.8**
JFK				S	**Sn**	**20 55 54.2**	**-1.1**
JHO	**Hitachi**	**0.88**	**240**	⇓P	**Pn**	**20 55 49.5**	**-1.2**
JHO				*e*S	**Sn**	**20 56 01.2**	**-1.0**
JMM	**Marumori**	**0.99**	**325**	⇓P	**Pn**	**20 55 51.5**	**-0.7**
JMM				*e*S	**Sn**	**20 56 04.3**	**-0.6**
JFT	**Otama**	**1.04**	**296**	⇓P	**Pn**	**20 55 53.2**	**+0.3**
JIO	**Ouri**	**1.40**	**355**	⇓P	**Pn**	**20 55 57.0**	**-0.8**
JIO				*e*S	**Sn**	**20 56 13.4**	**-1.6**
JOU	**Okura**	**1.47**	**333**	P	**Pn**	**20 55 58.5**	**-0.2**
JOU				*e*S	**Sn**	**20 56 17.0**	**+0.3**
JFY	**Yanaizu**	**1.48**	**284**	⇓P	**Pn**	**20 55 59.1**	**+0.2**
JYS	**Shirataka**	**1.63**	**316**	⇓P	**Pn**	**20 56 01.3**	**+0.3**
MJAR	**Matsushiro Arr**	**2.70**	**260**	Pn	**Pn**	**20 56 16.5**	**+0.8**
	9.9nm,0.3s,baz=66,slow=9.1,SNR=56						
MJAR					Sn	**20 56 49.3**	**+2.3**
	11nm,0.3s,baz=80,slow=27,SNR=6.6						
MJAR					LR	LR	20 57 26.8
	comp=Z,543nm,21.2s,baz=80,slow=42						
MJAR	**Matsushiro Arr**	**2.70**	**260**	P	**Pn**	**20 56 16.5**	**+0.9**
MJAR						20 56 49.3	
MAJO	**Matsushiro**	**2.70**	**260**	*e*P	**Pn**	**20 56 16.6**	**+0.9**
MAT	**Matsushiro**	**2.70**	**260**	P	**Pn**	**20 56 17.1**	**+1.4**
MAT				S	**Sn**	**20 56 49.3**	**+2.2**
MAT	**Matsushiro**	**2.70**	**260**	*e*P	**Pn**	**20 56 17.0**	**+1.3**
MAT				*e*S	**Sn**	**20 56 53.0**	**+5.9**
JHJ	**Hachijo jima 2**	**4.18**	**200**	Pn	**Pn**	**20 56 36.6**	**+0.6**
	29nm,0.3s,baz=268,slow=22,SNR=20						
JHJ					Sn	**Sn**	**20 57 21.8**	**-1.7**
	73nm,0.3s,baz=294,slow=23,SNR=7.6						
ASAJ	**Asahikawa**	**7.10**	**6**	Pn	**Pn**	**20 57 16.8**	**+0.7**
	1.2nm,0.3s,baz=200,slow=15,SNR=10						
ASAJ					Sn	**Sn**	**20 58 35.3**	**-0.2**
	0.4nm,0.3s,baz=78,slow=20,SNR=2.8						
ASAJ	**Asahikawa**	**7.10**	**6**	P	**Pn**	**20 57 16.8**	**+0.7**
ASAJ						20 58 35.3	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**9.93**	**5**	*e*P	**Pn**	**20 57 56.5**	**+1.6**
CBIJ	**Chichi jima**	**9.95**	**177**	Pn	**Pn**	**20 57 54.7**	**-0.5**
	comp=Z,15nm,0.3s,baz=290,slow=18,SNR=6.5						
CBIJ					Sn	**Sn**	**20 59 33.7**	**-12**
	comp=Z,10nm,0.3s,baz=287,slow=19,SNR=3.7						
MDJ	**Mudanjiang**	**11.76**	**314**	P	**Pn**	**20 58 24.7**	**+4.8**
KLR	**Kul'dur**	**14.08**	**333**	*e*P	**Pn**	**20 58 53.0**	**+1.4**
JOW	**Kunigami**	**15.15**	**231**	LR	LR	21 04 54.3	
	comp=Z,90nm,18.2s,baz=336,slow=37						
SSE	**Sheshan**	**17.84**	**256**	P	**Pn**	**20 59 46.8**	**+7.0**
SSE				AP	pP	20 59 52.8	+2.5
SSE				XP	sP	20 59 56.5	+1.0
SSE				S	**S**	**21 03 10.3**	**+7.3**
SSE				AMB	AMB		
	comp=Z,34nm,0.7s						
SSE				AMB	AMB		
	comp=Z,176nm,4.8s						
SSE				LR	LR		
	comp=N,63nm,21.5s						
SSE				LR	LR		
	comp=E,69nm,21.5s						
SSE				LR	LR		
	comp=Z,123nm,20.9s						
NJ2	**Nanjing**	**19.30**	**262**	*e*P	**Pn**	**21 00 03.5**	**+6.0**
NJ2				AP	pP	21 00 08.5	+2.2
NJ2				XP	sP	21 00 12.5	+0.9
NJ2				PP		21 00 19.8	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,60nm,4.0s						
NJ2				LR	LR		
	comp=N,440nm,14.0s						
NJ2				LR	LR		
	comp=E,460nm,14.0s						
NJ2				LR	LR		
	comp=Z,1μm,13.0s						
PET	**Petropavlovsk**	**19.96**	**31**⇑	*e*P	**Pn**	**20 59 52.5**	**-13**
PET				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BJT	**Baijiatuao**	**20.02**	**286**	P	**P**	**21 00 04.1**	**+0.1**
GUMO	**Guam**	**23.57**	**172**	LR	LR	21 08 48.0	
	comp=Z,54nm,20.7s,MS3.0,baz=61,slow=34						
YAK	**Yakutsk**	**26.06**	**347**⇑	*e*P	**P**	**21 01 00.0**	**-4.3**
YAK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.3						
ULN	**Ulaanbaatar**	**27.40**	**304**⇑	*e*P	**P**	**21 01 17.1**	**+0.7**
ULN	**Ulaanbaatar**	**27.40**	**304**	*e*P	**P**	**21 01 16.4**	**+0.1**
BOD	**Bodaibo**	**27.55**	**328**	*e*P	**P**	**21 01 16.9**	**-0.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
SONM	**Songino Array**	**27.83**	**304**	P	**P**	**21 01 20.5**	**+0.3**
	comp=Z,3.9nm,0.8s,mb4.1,baz=102,slow=8.2,SNR=16						
SONM				pP	pP	21 01 30.8	-0.7
	comp=Z,3.3nm,0.9s,baz=106,slow=8.7,SNR=7.8						
SONM				LR	LR	21 12 37.3	
	comp=Z,70nm,18.6s,MS3.3,baz=74,slow=37						
SONM	**Songino Array**	**27.83**	**304**	P	**P**	**21 01 20.5**	**+0.3**
SONM				*PP	pP	21 01 30.8	-0.6
ZAK	**Zakamensk**	**30.31**	**308**	*e*P	**P**	**21 01 40.7**	**-1.5**
ZAL	**Zalesovo**	**41.97**	**312**	P	**P**	**21 03 21.8**	**+0.2**
	comp=Z,2.0nm,0.7s,mb3.9,baz=20,slow=8.0,SNR=12						
ZAL				pP	pP	21 03 32.0	-1.2
	comp=Z,3.7nm,0.9s,baz=25,slow=7.0,SNR=7.5						
ZAL				LR	LR	21 22 10.8	
	comp=Z,86nm,19.1s,MS3.2,baz=148,slow=38						
ZAL	**Zalesovo**	**41.97**	**312**	P	**P**	**21 03 21.8**	**+0.2**
ZAL				*PP	pP	21 03 32.0	-1.2
NVS	**Novosibirsk**	**42.88**	**314**	*i* P	**P**	**21 03 28.5**	**-0.6**
NVS				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.6						
NVS				pmax	pmax		
	comp=N,5.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,13nm,1.3s						
MKAR	**Makanchi Array**	**44.17**	**302**	P	**P**	**21 03 39.7**	**+0.2**
	comp=E,4.5nm,0.8s,mb4.2,baz=83,slow=9.9,SNR=29						
MKAR				pP	pP	21 03 49.9	-1.2
	comp=E,3.9nm,0.7s,baz=80,slow=9.0,SNR=7.3						
KDAK	**Kodiak Island**	**47.03**	**42**	P	**P**	**21 04 02.3**	**+0.2**
	comp=E,6.4nm,0.8s,mb4.6,baz=270,slow=13,SNR=4.6						
BVAR	**Borovoye Array**	**50.61**	**312**	P	**P**	**21 04 29.5**	**0.0**
	comp=E,4.5nm,0.9s,mb4.4,baz=77,slow=6.5,SNR=16						
BVAR				pP	pP	21 04 40.7	-0.6
	comp=E,1.1nm,0.6s,baz=67,slow=8.2,SNR=4.0						
PSI	**Prapat**	**51.87**	**239**	P	**P**	**21 04 39.1**	**+0.2**
	comp=E,4.0nm,0.4s,mb4.8,baz=173,slow=17,SNR=3.6						
SVE	**Sverdlovsk**	**55.18**	**319**	*e*P	**P**	**21 05 02.0**	**-1.2**
SVE				*e*	pP	21 05 13.8	-1.4
SVE				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
ARU	**Arti**	**56.39**	**319**⇑	*i*P	**P**	**21 05 11.5**	**-0.4**
ARU				*e*	pP	21 05 21.8	-2.1
ARU				*e*		21 06 06.8	
ARU				*e*		21 07 12.7	
ARU				*e*PPP		21 08 32.9	
ARU				*e*S	**S**	**21 13 04.5**	**+4.9**
ARU				*e*SS	SS	21 16 50.0	+3.0
ARU				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**57.09**	**188**	P	**P**	**21 05 16.1**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.9,baz=5.8,slow=7.3,SNR=14						
WRA	**Warramunga Arr**	**57.09**	**188**	*i* P	**P**	**21 05 16.7**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTK	**Aktyubinsk**	**58.71**	**312**	P	**P**	**21 05 28.1**	**-0.1**
AKTO	**Aktyubinsk**	**58.71**	**312**	P	**P**	**21 05 28.1**	**-0.1**
	comp=Z,2.9nm,0.8s,mb4.4,baz=72,slow=14,SNR=11						
ASAR	**Alice Springs**	**60.82**	**188**	P	**P**	**21 05 42.4**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.9,baz=15,slow=7.0,SNR=7.7						
KEV	**Kevo**	**63.45**	**339**	*ep*	**P**	**21 05 59.2**	**-1.1**
ARCES	**ARCESS Array B**	**64.00**	**339**	P	**P**	**21 06 01.8**	**-2.2**
	comp=Z,5.2nm,1.0s,mb4.5,baz=31,slow=13,SNR=4.0						
ARCES					LR	LR	21 36 20.4
	comp=Z,38nm,19.1s,MS3.6,baz=6.8,slow=38						
JOF	**Joensuu**	**65.98**	**332**	*ep*	**P**	**21 06 15.5**	**-1.3**
OBN	**Obninsk**	**68.12**	**323**⇑	*e*P	**P**	**21 06 30.1**	**-0.3**
OBN				*e*S	S	21 15 30.1	+2.8
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
KAF	**Kangasniemi**	**68.32**	**333**	*ep*	**P**	**21 06 30.1**	**-1.6**
	comp=Z,3.6nm,0.7s,mb4.5,baz=48,slow=6.0						
KAF	**Kangasniemi**	**68.32**	**333**	*e*P	**P**	**21 06 30.1**	**-1.6**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**68.58**	**180**	P	**P**	**21 06 32.6**	**-0.6**
	comp=Z,2.4nm,1.0s,mb4.1,baz=322,slow=7.8,SNR=3.6						
FINES	**FINESS Array B**	**68.83**	**332**	P	**P**	**21 06 34.4**	**-0.4**
	comp=Z,5.5nm,0.8s,mb4.5,baz=64,slow=8.7,SNR=18						
FINES					LR	LR	21 38 58.6
	comp=Z,29nm,18.9s,MS3.5,baz=226,slow=38						
FINES	**FINESS Array B**	**68.83**	**332**	P	**P**	**21 06 34.4**	**-0.4**
FINES					LR	LR	21 38 58.6
VRSR	**Storozhevoye**	**68.95**	**319**	*e*P	**P**	**21 06 35.6**	**0.0**
VRSR				pmax	pmax		
	comp=N,7.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VRSR				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
KIV	**Kislovodsk**	**70.95**	**311**	*e*P	**P**	**21 06 47.9**	**0.0**
KIV				*e*S	S	21 16 02.0	+1.5
KIV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
KIV				MLR	MLR		
	comp=Z,22nm,16.0s,MS3.5						
KIV	**Kislovodsk**	**70.95**	**311**	*e*P	**P**	**21 06 48.5**	**+0.6**
	comp=Z,10nm,1.0s,mb4.7						
KIV				*e*	pP	21 07 00.1	-0.1
SOC	**Sochi**	**72.94**	**312**	*e*P	**P**	**21 07 00.0**	**+0.2**
SOC				*e*	pP	21 07 13.8	+1.7
SOC				*e*		21 09 49.2	
SOC				*e*S	S	21 16 28.6	+5.2
SOC				*e*		21 17 09.6	
SOC				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ANN	**Anapa**	**73.57**	**314**	*e*P	**P**	**21 07 03.9**	**+0.4**
ANN				*e*S	S	21 16 38.4	+7.9
ANN				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
NB2	**NORSAR Subarra**	**74.19**	**337**	P	**P**	**21 07 07.1**	**-0.1**
	comp=Z,7.0nm,0.8s,mb4.6,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**74.19**	**337**	P	**P**	**21 07 06.9**	**-0.3**
	comp=Z,5.9nm,0.8s,mb4.6,baz=39,slow=5.8,SNR=24						
NOA				pP	pP	21 07 19.0	-0.5
	comp=Z,1.0nm,0.7s,baz=39,slow=6.0,SNR=3.1						
NOA				LR	LR	21 42 02.2	
	comp=Z,31nm,21.4s,MS3.6,baz=15,slow=38						
NOA	**NORSAR Array B**	**74.19**	**337**	P	**P**	**21 07 06.9**	**-0.3**
NOA				*PP	pP	21 07 19.0	-0.5
AKASG	**Malin Array Be**	**74.32**	**322**	P	**P**	**21 07 07.7**	**-0.3**
	comp=Z,0.2nm,0.3s,mb3.5,baz=63,slow=23,SNR=4.3						
AKASG				pP	pP	21 07 19.8	-0.5
	comp=Z,1.2nm,0.6s,baz=45,slow=5.9,SNR=3.6						
AKBB	**Malin Array Si**	**74.32**	**322**	*e*P	**P**	**21 07 07.6**	**-0.3**
AKBB				*e*	pP	21 07 20.2	-0.1
NVAR	**Mina Array Bea**	**74.91**	**53**	P	**P**	**21 07 11.8**	**+0.5**
	comp=Z,0.3nm,0.5s,mb3.5,baz=278,slow=5.7,SNR=3.7						
BURAR	**Bucovina Array**	**78.34**	**322**⇓	*i* P	**P**	**21 07 31.3**	**+0.6**
KOLS	**Kolonicke sedl**	**78.85**	**324**	*e*P	**P**	**21 07 33.6**	**+0.1**
BRTR	**Keskin Array B**	**78.89**	**312**	P	**P**	**21 07 33.2**	**-0.5**
	comp=Z,2.0nm,1.0s,mb4.0,baz=86,slow=5.6,SNR=8.7						
BRTR				PP	PP	21 10 35.7	+3.0
	comp=Z,0.3nm,0.5s,baz=98,slow=8.9,SNR=3.6						
OJC	**Ojcow**	**79.06**	**326**	*e*P	**P**	**21 07 35.4**	**+0.7**
CRVS	**Cervenica-Dubn**	**79.25**	**324**	*e*P	**P**	**21 07 34.6**	**-1.1**
NIE	**Niedzica**	**79.41**	**325**	*e*P	**P**	**21 07 37.7**	**+1.2**
MORC	**Moravsky Berou**	**80.38**	**327**⇑	*i*P	**P**	**21 07 42.3**	**+0.5**
DPC	**Dobruska-Polom**	**80.48**	**328**	*e*P	**P**	**21 07 43.6**	**+1.3**
UPC	**Upice**	**80.49**	**328**	*e*P	**P**	**21 07 43.6**	**+1.2**
VYHS	**Vyhne**	**80.75**	**325**	*i* P	**P**	**21 07 44.5**	**+0.7**
VYHS				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
VYHS	**Vyhne**	**80.75**	**325**	*i* P	**P**	**21 07 44.5**	**+0.7**
	comp=Z,2.3nm,1.1s,mb4.0						
BRG	**Berggiesshubel**	**81.07**	**329**	*e*P	**P**	**21 07 45.9**	**+0.4**
	comp=Z,5.0nm,1.0s,mb4.4						
BRG	**Berggiesshubel**	**81.07**	**329**	*e*P	**P**	**21 07 45.8**	**+0.3**
	comp=Z,3.3nm,1.0s,mb4.2						
BRG	**Berggiesshubel**	**81.07**	**329**	*e*P	**P**	**21 07 45.8**	**+0.3**
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
PVCC	**Panska Ves**	**81.08**	**329**	*e*P	**P**	**21 07 46.5**	**+1.0**
CLL	**Collm**	**81.11**	**330**	*e*P	**P**	**21 07 45.8**	**+0.1**
	comp=Z,7.0nm,0.9s,mb4.6						
CLL	**Collm**	**81.11**	**330**⇑	P	**P**	**21 07 45.8**	**+0.1**
	comp=Z,logA/T=0.9,mb4.6						
CLL	**Collm**	**81.11**	**330**⇑	*i*P	**P**	**21 07 45.8**	**+0.1**
	comp=Z,7.0nm,0.9s,mb4.6						
CLL	**Collm**	**81.11**	**330**⇑	*i*P	**P**	**21 07 45.8**	**+0.1**
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
CLL	**Collm**	**81.11**	**330**⇑	*i*P	**P**	**21 07 45.8**	**+0.1**
	comp=Z,7.0nm,0.9s,mb4.6						
CLL				*i*		21 08 08.6	
VRAC	**Vranov**	**81.14**	**327**	P	**P**	**21 07 46.9**	**+1.0**
	comp=Z,1.1nm,0.4s,mb4.2,baz=43,slow=5.2,SNR=5.5						
FBE	**Freiberg**	**81.27**	**330**	*e*P	**P**	**21 07 47.0**	**+0.4**
	comp=Z,7.0nm,0.8s,mb4.6						
PRU	**Pruhonice**	**81.50**	**329**	*e*P	**P**	**21 07 46.3**	**-1.5**
BZS	**Buzias**	**81.51**	**322**⇓	*i*P	**P**	**21 07 48.3**	**+0.5**
TREC	**Trest**	**81.63**	**328**	*e*P	**P**	**21 07 48.0**	**-0.5**
CLZ	**Clausthal**	**81.71**	**332**	*e*P	**P**	**21 07 49.4**	**+0.5**
	comp=Z,8.0nm,1.2s,mb4.5						
CLZ	**Clausthal**	**81.71**	**332**	*e*P	**P**	**21 07 49.4**	**+0.5**
CLZ				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
MMAI	**Mount Meron Ar**	**82.01**	**305**	P	**P**	**21 07 51.2**	**+0.8**
	comp=Z,2.6nm,0.8s,mb4.2,baz=55,slow=7.3,SNR=5.3						
GTTG	**Gyttingen**	**82.10**	**332**	*e*P	**P**	**21 07 51.5**	**+0.5**
	comp=Z,10.0nm,1.3s,mb4.6						
GUNZ	**Gunzen**	**82.11**	**330**	*e*P	**P**	**21 07 51.1**	**+0.1**
	comp=Z,5.0nm,1.1s,mb4.4						
MANZ	**Manzenberg**	**82.50**	**330**	*e*P	**P**	**21 07 53.4**	**+0.4**
	comp=Z,2.0nm,0.9s,mb4.0						
KHC	**Kasperske Hory**	**82.56**	**328**	*e*P	**P**	**21 07 53.6**	**+0.2**
KHC	**Kasperske Hory**	**82.56**	**328**⇓	*e*P	**P**	**21 07 52.8**	**-0.6**
ROTZ	**Rotzenmuhle**	**82.63**	**330**	*e*P	**P**	**21 07 54.2**	**+0.5**
	comp=Z,8.0nm,1.4s,mb4.6						
GEC2	**GERESS Array S**	**82.73**	**328**	*e*P	**P**	**21 07 54.3**	**+0.1**
	comp=Z,4.0nm,1.0s,mb4.4						
GEC2	**GERESS Array S**	**82.73**	**328**	*e*P	**P**	**21 07 54.3**	**+0.1**
GEC2				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
GERES	**GERESS Array B**	**82.73**	**328**	P	**P**	**21 07 54.7**	**+0.4**
	comp=Z,2.2nm,0.9s,mb4.2,baz=36,slow=5.0

SONM	**Songino Array**	**56.98**	**358**	P	P	21 25 34.8	+0.3
	0.8nm,0.5s,baz=177,slow=8.4,SNR=7.6						
SONM				pP	pP	21 25 46.3	+0.4
	1.2nm,0.6s,baz=172,slow=8.4,SNR=6.9						
MKAR	**Makanchi Array**	**60.62**	**340**	P	P	21 25 59.7	-0.1
	1.3nm,0.5s,baz=143,slow=7.3,SNR=20						
MKAR				pP	pP	21 26 10.8	-0.5
	0.9nm,0.5s,baz=141,slow=8.0,SNR=5.2						
VNDA	**Vanda**	**73.38**	**170**	P	P	21 27 20.0	-0.8
	1.9nm,1.0s,baz=279,slow=7.1,SNR=5.6						

*ISCJB **26** 21:27:08.5±0.5, 699N±008×9248E±010, h24km, mb4.0/16, Error ellipse: s-maj=15.9km s-min=8.2km az=115.0*
*BJI **26** 21:27:09.0, 700N×9240E, h25km, mb4.4*
*IDC **26** 21:27:10.2±0.7, 7.12N×9245E, h24km±4km, mb3.7/13, mb1 3.9/14, mb1mx3.8/23, mbtmp3.9/14, ML3.5/1, Error ellipse: s-maj=29.1km s-min=11.6km az=53.0*
*NEIC **26** 21:27:10.5±0.5, 696N×9243E, mb4.3/4, Error ellipse: s-maj=15.5km s-min=7.3km az=56.0*

ISC 26 21:27:11.0±0.5, 699N±007×9244E±010, h26km, h26km±2.2km?pP-P, n28, σ0≈93/28, mb4.0/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.69**	**122**	Pn	**Pn**	**21 29 01.6**	**+0.3**
	0.7nm,0.3s,baz=320,slow=17,SNR=2.8						
CM31	**Chiang Mai Arr**	**13.04**	**28**	*e*P	**Pn**	**21 30 14.7**	**+0.2**
KMI	**Kunming**	**20.55**	**28**	P	**P**	**21 31 47.5**	**0.0**
KMI				AMB	AMB		
	comp=Z,4.0nm,0.9s						
PKI	**Pulchoki**	**21.52**	**343**	*e*P	**P**	**21 31 59.2**	**+1.1**
DMN	**Daman**	**21.65**	**342**	*e*P	**P**	**21 32 01.6**	**+2.2**
KKN	**Kakani**	**21.77**	**343**	*e*P	**P**	**21 32 01.0**	**+0.3**
	comp=Z,14nm,0.8s,mb4.4						
GKN	**Gorkha**	**22.16**	**341**	*e*P	**P**	**21 32 05.3**	**+0.4**
	comp=Z,24nm,0.8s,mb4.7						
KOLN	**Koldanda**	**22.30**	**339**	*e*P	**P**	**21 32 12.6**	**+6.2**
GTA	**Gaotai**	**32.95**	**11**	*e*P	**P**	**21 33 43.8**	**+0.3**
GTA				AP	pP	21 33 48.5	-2.6
GTA				XP	sP	21 33 51.3	-2.9
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**40.60**	**349**	P	**P**	**21 34 47.8**	**-0.8**
	comp=Z,2.0nm,0.4s,mb4.1,baz=165,slow=8.4,SNR=26						
MKAR				pP	pP	21 34 54.9	-1.4
	comp=Z,1.3nm,0.4s,baz=167,slow=8.2,SNR=3.9						
FITZ	**Fitzroy Crossi**	**41.18**	**128**	*e*P	**P**	**21 34 51.7**	**-1.6**
	comp=Z,5.5nm,1.4s,mb4.0						
FITZ	**Fitzroy Crossi**	**41.18**	**128**	P	**P**	**21 34 52.7**	**-0.6**
	comp=Z,1.8nm,0.9s,mb3.7,baz=264,slow=7.4,SNR=5.3						
SONM	**Songino Array**	**42.40**	**14**	P	**P**	**21 35 03.0**	**-0.3**
	comp=Z,0.9nm,0.8s,mb3.5,baz=192,slow=7.7,SNR=5.5						
ZAL	**Zalesovo**	**47.21**	**354**	P	**P**	**21 35 37.9**	**-3.7**
	comp=Z,0.9nm,0.3s,mb4.2,baz=288,slow=3.2,SNR=1.9						
ZAL				pP	pP	21 35 47.7	-1.8
	comp=Z,1.1nm,0.8s,baz=244,slow=5.5,SNR=2.4						
ZAL	**Zalesovo**	**47.21**	**354**	P	**P**	**21 35 37.9**	**-3.7**
ZAL				pP	pP	21 35 47.7	-1.8
WRA	**Warramunga Arr**	**49.15**	**124**	P	**P**	**21 35 56.8**	**+0.2**
	comp=Z,1.9nm,0.7s,mb4.2,baz=305,slow=8.9,SNR=14						
WRA				pP	pP	21 36 04.6	+0.1
	comp=Z,1.6nm,0.6s,baz=303,slow=8.9,SNR=9.3						
WRAB	**Tennant Creek**	**49.16**	**124**	*e*P	**P**	**21 35 56.0**	**-0.7**
WB2	**Warramunga Arr**	**49.16**	**124**	*e*P	**P**	**21 35 57.0**	**+0.3**
BVAR	**Borovoye Array**	**49.29**	**343**	P	**P**	**21 35 56.0**	**-1.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=147,slow=8.7,SNR=7.8						
BVAR				pP	pP	21 36 03.7	-1.9
	comp=Z,0.9nm,0.8s,baz=133,slow=6.5,SNR=4.6						
ASAR	**Alice Springs**	**50.67**	**128**	P	**P**	**21 36 08.8**	**+0.6**
	comp=Z,1.4nm,0.6s,mb4.0,baz=308,slow=7.5,SNR=17						
ASAR				pP	pP	21 36 16.1	0.0
	comp=Z,1.7nm,0.9s,baz=303,slow=7.6,SNR=6.8						
STKA	**Stephens Creek**	**60.74**	**132**	*e*P	**P**	**21 37 21.6**	**+1.2**
	comp=Z,1.8nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**60.74**	**132**	P	**P**	**21 37 21.0**	**+0.5**
	comp=Z,2.3nm,0.7s,mb4.4,baz=342,slow=6.9,SNR=5.6						
BRTR	**Keskin Array B**	**61.73**	**311**	P	**P**	**21 37 26.5**	**-0.6**
	comp=Z,0.6nm,0.7s,mb3.8,baz=85,slow=5.6,SNR=3.8						
BOSA	**Boshof**	**73.69**	**238**	P	**P**	**21 38 43.4**	**+0.9**
	comp=Z,1.2nm,0.7s,mb4.0,baz=320,slow=22,SNR=3.7						
BOSA	**Boshof**	**73.69**	**238**	P	**P**	**21 38 43.4**	**+0.9**
GERES	**GERESS Array B**	**77.35**	**318**	P	**P**	**21 39 03.0**	**-0.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=90,slow=4.0,SNR=7.0						
GERES				pP	pP	21 39 10.1	-1.6
	comp=Z,0.7nm,0.7s,baz=84,slow=5.5,SNR=4.7						
NOA	**NORSAR Array B**	**79.67**	**331**	P	**P**	**21 39 14.1**	**-2.1**
	comp=Z,0.2nm,0.5s,mb3.3,baz=95,slow=5.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**89.15**	**283**	P	**P**	**21 40 04.8**	**+0.5**
	comp=Z,0.5nm,1.1s,mb3.8,baz=111,slow=3.8,SNR=4.1						

*NEIC **26** 21:36:41.0, 1531N×6056W, h65km, MD4.0(TRN), After TRN.*

TRN 26 21:36:40.4, 1526N×6057W, h26km, MD4.0, M3.6(FDF), 5C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBCT	**Belle View Cho**	**0.75**	**271**	*e*P	Pb	21 36 57.8	+3.0
DBCT				*e*S	Sb	21 37 06.8	+2.1
FDF	**Fort de France**	**0.77**	**227**	⇓*i*P	Pb	21 36 56.8	+1.6
FDF				*e*S	Sb	21 37 08.5	+3.2
MVM	**Montagne Vaucl**	**0.77**	**204**	⇑*i*P	Pb	21 36 56.3	+1.1
DSHT	**Scott's Head**	**0.78**	**266**	*e*P	Pb	21 36 58.8	+3.5
DSHT				*e*S	Sb	21 37 09.4	+3.9
MDN	**Morne-Daniel**	**0.80**	**274**	*e*P	Pb	21 36 58.9	+3.3
MDN				*e*S	Sb	21 37 11.1	+5.0
BIM	**Bigot**	**0.89**	**213**	⇓*i*P	Pb	21 36 58.4	+1.3
BIM				*e*S	Sb	21 37 11.1	+2.5
BBL	**Barber's Block**	**0.91**	**287**	*e*P	Pn	21 36 59.1	+1.6
MGG	**Marie-Galante**	**0.97**	**312**	*e*P	Pn	21 36 59.3	+1.0
DEG	**La Desirade**	**1.15**	**336**	*e*P	Pn	21 37 00.7	-0.1
SFG	**Saint Francois**	**1.16**	**328**	*e*P	Pn	21 37 01.6	+0.7
TBG	**Guadaloupe-3**	**1.19**	**300**	*e*P	Pn	21 37 02.8	+1.4
DOG	**Dongo Capester**	**1.27**	**307**	*e*P	Pn	21 37 04.2	+1.7
PHG	**Guadaloupe-2**	**1.28**	**306**	⇑*e*P	Pn	21 37 04.4	+1.8
BCG	**Bois Riant Cap**	**1.30**	**309**	⇑*e*P	Pn	21 37 04.6	+1.7
HMG	**Houelmont**	**1.30**	**303**	*e*P	Pn	21 37 04.6	+1.7
HMG				*e*S	Sn	21 37 21.4	+1.9
SCG	**Saint Claude**	**1.32**	**306**	⇑*e*P	Pn	21 37 04.9	+1.8
SEG	**Port Louis**	**1.45**	**322**	⇓*i*P	Pn	21 37 06.6	+1.7
LZG	**Guadaloupe-1**	**1.46**	**307**	*e*P	Pn	21 37 06.6	+1.6
SSV	**Crater Summit**	**2.02**	**198**	*e*P	Pn	21 37 14.9	+2.2
SSV				*e*S	Sn	21 37 36.8	-0.3
SVV	**Soufriere Volc**	**2.03**	**198**	*e*P	Pn	21 37 15.9	+2.9
SVV				*e*S	Sn	21 37 40.9	+3.4
SVB	**Belmont**	**2.09**	**199**	*e*P	Pn	21 37 16.1	+2.4
SVB				*e*S	Sn	21 37 41.4	+2.5
BPA	**Boggy Peak**	**2.16**	**325**	*e*P	Pn	21 37 17.6	+2.8
BPA				*e*S	Sn	21 37 40.7	0.0
FCV	**Fort Charlotte**	**2.19**	**198**	*e*P	Pn	21 37 17.2	+2.0
FCV				*e*S	Sn	21 37 41.8	+0.3
GRCU	**Cariacou**	**2.91**	**197**	*e*P	Pn	21 37 26.4	+1.5
GRCU				*e*S	Sn	21 38 01.2	+2.2
GRSS	**Sisters**	**3.12**	**199**	*e*P	Pn	21 37 29.4	+1.5
GRSS				*e*S	Sn	21 38 07.6	+3.3
GRIC	**Isle de Caille**	**3.12**	**199**	*e*P	Pn	21 37 29.0	+1.1
GRIC				*e*S	Sn	21 38 06.4	+2.1
GRW	**Mount Saint Ca**	**3.26**	**199**	*e*P	Pn	21 37 31.7	+1.8
GRW				*e*S	Sn	21 38 11.8	+4.0

IDC 26 21:39:11.5±1.2, 278N×12843E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/16, mbtmp3.6/5, Error ellipse: s-maj=68.6km s-min=20.3km az=80.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.32**	**166**	P	P	21 44 21.3	+0.1
	0.4nm,0.4s,baz=343,slow=10,SNR=15						
ASAR	**Alice Springs**	**26.82**	**169**	P	P	21 44 53.8	+0.3
	0.3nm,0.5s,baz=359,slow=8.2,SNR=4.9						
MJAR	**Matsushiro Arr**	**34.79**	**14**	P	P	21 46 03.2	-0.5
	1.3nm,0.7s,baz=184,slow=10,SNR=2.4						
STKA	**Stephens Creek**	**36.67**	**161**	P	P	21 46 19.6	-0.2
	0.5nm,0.3s,baz=339,slow=8.6,SNR=3.4						
MKAR	**Makanchi Array**	**59.30**	**325**	P	P	21 49 16.4	+1.3
	0.3nm,0.5s,baz=115,slow=7.2,SNR=3.7						

*ISCJB **26** 21:52:36.1±0.2, 3512N±001×4111W±002, h10km, Error ellipse: s-maj=2.7km s-min=2.0km az=7.2*
*CSEM **26** 21:52:36.3±0.1, 3508N×4104W, h20km, MD3.7, Error ellipse: s-maj=1.9km s-min=1.3km az=107.0*
*NEIC **26** 21:52:37.7, 3512N×4101W, h0km, MN2.7(MDD), After MDD.*
*SFS **26** 21:52:37.0, 3510N×4100W, h0km, ML2.7*
*MDD **26** 21:52:37.9±0.6, 3507N×3986W, h5km±6km, mb4.0/17, Error ellipse: s-maj=4.9km s-min=2.9km az=110.0, PRXIMO*
*LDG **26** 21:52:38.9±0.6, 3502N×4102W, h10km, Ml2.8/2, Error ellipse: s-maj=12.3km s-min=6.5km az=163.0*
*INMG **26** 21:52:38.5±1.0, 3509N×4088W, h10km, ML2.6, Error ellipse: s-maj=4.7km s-min=3.6km az=174.0*
*CNRM **26** 21:52:38.5, 3504N×3997W, h5km, MD3.7*

ISC 26 21:52:37.1±0.2, 3510N±001×406W±002, h10km, n102, σ1≈36/179, 3C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPAL	**Palemas**	**0.16**	**38**	*i*P	**Pg**	**21 52 42.0**	**+1.4**
TOU	**Touzarine**	**0.29**	**118**	P	**Pg**	**21 52 42.0**	**-0.8**
TOU				S	**Sg**	**21 52 45.0**	**-1.7**
TOU	**Touzarine**	**0.29**	**118**	*i*P	**Pg**	**21 52 42.0**	**-0.8**
MELI	**Melilla**	**0.94**	**78**	P	**Pg**	**21 52 54.0**	**-1.2**
MELI				S	**Sg**	**21 53 04.6**	**-2.9**
MELI	**Melilla**	**0.94**	**78**	*i*P	**Pg**	**21 52 54.0**	**-1.2**
MELI				*e*S	**Sg**	**21 53 04.6**	**-2.9**
TZK	**Tazeka**	**1.01**	**186**	*i*P	**Pg**	**21 52 57.0**	**+0.5**
TZK				*i*S	**Sg**	**21 53 09.0**	**-0.7**
ZAI	**Zaio**	**1.09**	**96**	*i*P	**Pb**	**21 52 56.5**	**-1.4**
ZAI				*i*S	**Sg**	**21 53 11.0**	**-1.1**
EALB	**Alboran**	**1.19**	**45**	P	**Pb**	**21 52 57.9**	**-1.7**
	18nm,0.1s,SNR=7.9						
EALB				S	**Sb**	**21 53 14.1**	**-0.9**
	132nm,0.3s,SNR=7.9						
EALB	**Alboran**	**1.19**	**45**	P	**Pb**	**21 52 57.9**	**-1.7**
	18nm,0.1s,SNR=7.9						
EALB				S	**Sb**	**21 53 14.1**	**-0.9**
	132nm,0.3s,SNR=7.9						
TGT	**Taghat**	**1.31**	**219**	P	**Pn**	**21 53 03.0**	**+1.5**
TGT				S	**Sb**	**21 53 20.0**	**+1.3**
EMIJ	**Mijas**	**1.57**	**339**	P	**Pn**	**21 53 04.1**	**-0.9**
	4.4nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**21 53 25.1**	**-0.3**
	24nm,0.2s,SNR=5.2						
EMIJ				T		21 54 18.8	
	SNR=10						
EMIJ	**Mijas**	**1.57**	**339**	P	**Pn**	**21 53 03.6**	**-1.4**
EMIJ				S	**Sn**	**21 53 24.6**	**-0.9**
EMIJ	**Mijas**	**1.57**	**339**	P	**Pn**	**21 53 03.6**	**-1.4**
	8.4nm,0.2s,SNR=36						
EMIJ				S	**Sn**	**21 53 24.5**	**-0.9**
	24nm,0.2s,SNR=5.2						
MAL	**Malaga**	**1.65**	**350**	*i*P	**Pn**	**21 53 06.0**	**-0.1**
MAL				*e*S	**Sn**	**21 53 25.4**	**-1.9**
REAL	**Reales**	**1.67**	**326**	P	**Pn**	**21 53 05.2**	**-1.1**
REAL				S	**Sn**	**21 53 25.0**	**-2.7**
REAL	**Reales**	**1.67**	**326**	*e*P	**Pn**	**21 53 05.2**	**-1.1**
REAL				*e*S	**Sn**	**21 53 25.0**	**-2.7**
EJIF	**Jimena Fronter**	**1.77**	**320**	P	**Pn**	**21 53 09.0**	**+1.3**
	5.5nm,0.3s,SNR=8.7						
EJIF				S	**Sn**	**21 53 32.1**	**+1.8**
	17nm,0.5s,SNR=6.2						
EGUA	**Guajares**	**1.78**	**13**	⇑P	**Pn**	**21 53 06.7**	**-1.1**
	2.7nm,0.1s,SNR=18						
EGUA				S	**Sn**	**21 53 29.4**	**-1.0**
	5.7nm,0.4s,SNR=7.9						
IFR	**Ifrane**	**1.81**	**210**	P	**Pn**	**21 53 09.0**	**+0.7**
ERON	**Agron**	**1.93**	**6**	P	**Pn**	**21 53 10.2**	**+0.4**
	12nm,0.3s,SNR=9.4						
ERON				S	**Sn**	**21 53 33.1**	**-1.0**
	12nm,0.4s,SNR=5.5						
ERON	**Agron**	**1.93**	**6**	P	**Pn**	**21 53 09.2**	**-0.7**
	12nm,0.3s,SNR=9.4						
ERON				S	**Sn**	**21 53 33.1**	**-1.0**
	12nm,0.4s,SNR=5.5						
MIF	**Mishlifen**	**1.94**	**210**	*i*P	**Pn**	**21 53 10.0**	**-0.1**
MIF				*i*S	**Sn**	**21 53 34.0**	**-0.6**
EBER	**Berja**	**2.03**	**28**	P	**Pn**	**21 53 09.7**	**-1.6**
	5.4nm,0.3s,SNR=20						
EBER				S	**Sn**	**21 53 36.7**	**0.0**
	127nm,0.8s,SNR=9.0						
EBER	**Berja**	**2.03**	**28**	P	**Pn**	**21 53 09.7**	**-1.6**
	5.4nm,0.3s,SNR=20						
EBER				S	**Sn**	**21 53 36.7**	**0.0**
	127nm,0.8s,SNR=9.0						
ELOJ	**Sierra Loja**	**2.04**	**358**	P	**Pn**	**21 53 12.8**	**+1.3**
	7.6nm,0.2s,SNR=23						
ELOJ				S	**Sn**	**21 53 38.5**	**+1.4**
	12nm,0.5s,SNR=5.4						
LIJA	**Lijar**	**2.11**	**329**	P	**Pn**	**21 53 14.8**	**+2.4**
LIJA				S	**Sn**	**21 53 44.1**	**+5.5**
EQUE	**Quentar**	**2.16**	**13**	P	**Pn**	**21 53 13.4**	**+0.3**
	3.2nm,0.2s,SNR=22						
EQUE				S	**Sn**	**21 53 40.0**	**+0.1**
	24nm,0.5s,SNR=7.7						
ECOG	**Cogollos-Vega**	**2.21**	**10**	P	**Pn**	**21 53 13.9**	**+0.1**
	9.8nm,0.3s,SNR=7.3						
ECOG				S	**Sn**	**21 53 41.4**	**+0.2**
	14nm,0.4s,SNR=4.0						
CZD	**Col de Zad**	**2.22**	**202**	*i*P	**Pn**	**21 53 14.0**	**+0.1**
CZD				*i*S	**Sn**	**21 53 40.0**	**-1.3**
ESPR	**Espera**	**2.29**	**321**	P	**Pn**	**21 53 16.2**	**+1.4**
	4.0nm,0.2s,SNR=7.3						
ESPR				S	**Sn**	**21 53 42.9**	**-0.1**
	11nm,0.8s,SNR=5.5						
ESPR	**Espera**	**2.29**	**321**	P	**Pn**	**21 53 16.2**	**+1.3**
	4.0nm,0.2s,SNR=7.3						
ESPR				S	**Sn**	**21 53 42.9**	**-0.2**
	11nm,0.8s,SNR=5.5						
ENIJ	**Nijar**	**2.40**	**38**	P	**Pn**	**21 53 17.9**	**+1.6**
	4.7nm,0.3s,SNR=6.3						
ENIJ				S	**Sn**	**21 53 45.6**	**-0.2**
	4.1nm,0.4s,SNR=5.6						
ENIJ	**Nijar**	**2.40**	**38**	P	**Pn**	**21 53 19.4**	**+3.0**
ENIJ				S	**Sn**	**21 53 45.6**	**-0.2**
ELUQ	**Luque**	**2.46**	**356**	P	**Pn**	**21 53 19.3**	**+2.1**
	7.1nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**21 53 48.1**	**+0.7**
	6.4nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.46**	**356**	P	**Pn**	**21 53 19.3**	**+2.1**
ELUQ				S	**Sn**	**21 53 50.4**	**+3.0**
ELUQ	**Luque**	**2.46**	**356**	S	**Sn**	**21 53 50.4**	**+3.0**
	6.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.81**	**16**	⇑P	**Pn**	**21 53 23.7**	**+1.6**
	5.4nm,0.1s,SNR=18						
EQES				S	**Sn**	**21 53 56.6**	**+0.6**
	39nm,0.5s,SNR=4.5						
EQES	**Quesada**	**2.81**	**16**	⇑P	**Pn**	**21 53 23.7**	**+1.6**
EQES				S	**Sn**	**21 53 58.7**	**+2.6**
EQES	**Quesada**	**2.81**	**16**	P	**Pn**	**21 53 23.7**	**+1.6**
	5.4nm,0.1s,SNR=18						
EQES				S	**Sn**	**21 53 58.7**	**+2.7**
	39nm,0.5s,SNR=4.5						
KIB	**El Ksiba**	**3.01**	**214**	*e*P	**Pn**	**21 53 24.0**	**-0.7**
KIB				*i*S	**Sn**	**21 54 00.0**	**-0.8**
EBAN	**Banos Encina**	**3.07**	**4**	P	**Pn**	**21 53 27.7**	**+2.2**
	2.5nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**21 54 03.8**	**+1.5**
	6.6nm,0.4s,SNR=7.9						
EBAN	**Banos Encina**	**3.07**	**4**	P	**Pn**	**21 53 27.7**	**+2.1**
EBAN				S	**Sn**	**21 54 04.2**	**+1.9**
EBAN	**Banos Encina**	**3.07**	**4**	P	**Pn**	**21 53 27.7**	**+2.1**
	2.5nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**21 54 04.2**	**+1.9**
	6.6nm,0.4s,SNR=7.9						
ZFT	**Errachidia**	**3.07**	**185**	*e*P	**Pn**	**21 53 26.0**	**+0.4**
ZFT				*i*S	**Sn**	**21 54 02.0**	**-0.3**
EADA	**Adamuz**	**3.09**	**352**	P	**Pn**	**21 53 27.1**	**+1.2**
	3.8nm,0.1s,SNR=30						
EADA				S	**Sn**	**21 54 03.5**	**+0.7**
	18nm,0.5s						
EADA	**Adamuz**	**3.09**	**352**	P	**Pn**	**21 53 26.9**	**+1.0**
EADA				S	**Sn**	**21 54 03.5**	**+0.7**
EADA	**Adamuz**	**3.09**	**352**	P	**Pn**	**21 53 26.9**	**+1.0**
	3.8nm,0.1s,SNR=30						
EADA				S	**Sn**	**21 54 03.5**	**+0.6**
	18nm,0.5s						
EMIN	**Mina Concepcio**	**3.40**	**322**	P	**Pn**	**21 53 30.2**	**+0.1**
	2.9nm,0.2s,SNR=21						
EMIN				S	**Sn**	**21 54 08.9**	**-1.4**
	2.7nm,0.3s						
EMIN	**Mina Concepcio**	**3.40**	**322**	P	**Pn**	**21 53 30.1**	**0.0**
EMIN				S	**Sn**	**21 54 08.9**	**-1.4**
EMIN	**Mina Concepcio**	**3.40**	**322**	P	**Pn**	**21 53 30.1**	**0.0**
	2.9nm,0.2s,SNR=21						
EMIN				S	**Sn**	**21 54 08.9**	**-1.5**
	2.7nm,0.3s						
EMUR	**La Murta**	**3.56**	**39**	P	**Pn**	**21 53 34.7**	**+2.4**
	3.4nm,0.4s,SNR=7.9						
EMUR				S	**Sn**	**21 54 12.1**	**-2.3**
	6.2nm,0.4s,SNR=7.9						
TZC	**Tazercounte**	**3.57**	**215**	*e*P	**Pn**	**21 53 32.0**	**-0.5**
TZC				*i*S	**Sn**	**21 54 13.0**	**-1.8**
EGRO	**El Granado**	**3.68**	**312**	P	**Pn**	**21 53 34.3**	**+0.3**
	2.4nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**21 54 15.7**	**-1.7**
	11nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.68**	**312**	P	**Pn**	**21 53 34.3**	**+0.3**
	2.4nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**21 54 15.7**	**-1.7**
	11nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**3.75**	**19**	P	**Pn**	**21 53 36.6**	**+1.7**
	0.7nm,0.1s,SNR=4.6						
EVIA				S	**Sn**	**21 54 16.9**	**-2.2**
	11nm,0.6s,SNR=4.7						
ETOB	**Tobarra**	**4.07**	**29**	P	**Pn**	**21 53 40.6**	**+1.2**
	2.5nm,0.2s,SNR=13						
ETOB				S	**Sn**	**21 54 27.1**	**0.0**
	6.4nm,0.5s,SNR=6.0						
ETOB	**Tobarra**	**4.07**	**29**	P	**Pn**	**21 53 40.6**	**+1.2**
	2.5nm,0.2s,SNR=13						
ETOB				S	**Sn**	**21 54 27.1**	**0.0**
	6.4nm,0.5s,SNR=6.0						
PBEJ	**Beja**	**4.23**	**315**	*e*Sn	**Sn**	**21 54 29.6**	**-1.5**
PBEJ							
	3.9nm,0.1s						
PBEJ	**Beja**	**4.23**	**315**	Sn	**Sn**	**21 54 29.6**	**-1.5**
	1.9nm,0.1s						
EBAD	**Badajoz**	**4.35**	**328**	P	**Pn**	**21 53 43.5**	**+0.3**
	3.2nm,0.1s,SNR=19						
EBAD				S	**Sn**	**21 54 32.4**	**-1.5**
	9.3nm,0.2s,SNR=9.9						
EBAD	**Badajoz**	**4.35**	**328**	P	**Pn**	**21 53 43.5**	**+0.3**
	3.2nm,0.1s,SNR=19						
EBAD				S	**Sn**	**21 54 32.4**	**-1.5**
	9.3nm,0.2s,SNR=9.9						
PTEO	**Sao Teotonio**	**4.49**	**304**	*e*Pn	**Pn**	**21 53 47.1**	**+2.0**
PTEO				*e*Sn	**Sn**	**21 54 36.8**	**-0.5**
PTEO							
	9.7nm,0.4s						
ESDC	**Sonseca Array**	**4.57**	**1**	P	**Pn**	**21 53 47.3**	**+1.1**
	2.2nm,0.1s,baz=180,slow=12,SNR=34						
ESDC				S	**Sn**	**21 54 38.3**	**-1.0**
	0.9nm,0.2s,baz=183,slow=24,SNR=3.7						
ESDC	**Sonseca Array**	**4.57**	**1**	P	**Pn**	**21 53 47.3**	**+1.1**
	2.2nm,0.1s,SNR=34						
ESDC				S	**Sn**	**21 54 38.3**	**-1.0**
	0.9nm,0.2s,SNR=3.7						
PESTR	**Estremoz**	**4.70**	**324**	*e*Pn	**Pn**	**21 53 49.4**	**+1.3**
PESTR				*e*Sn	**Sn**	**21 54 41.6**	**-1.1**
PESTR							
	5.3nm,0.4s						
MOE	**Montemor**	**4.85**	**316**	*e*Sn	**Sn**	**21 54 44.8**	**-1.5**
OUK	**Oukaimeden**	**5.02**	**221**	P	**Pn**	**21 53 55.0**	**+2.5**
OUK				S	**Sn**	**21 54 48.0**	**-2.6**
OUK	**Oukaimeden**	**5.02**	**221**	*e*P	**Pn**	**21 53 55.0**	**+2.5**
EPLA	**Plasencia**	**5.21**	**343**	P	**Pn**	**21 53 55.8**	**+0.8**
	2.7nm,0.3s,SNR=7.9						
EPLA				S	**Sn**	**21 54 53.6**	**-1.5**
	2.2nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**5.21**	**343**	P	**Pn**	**21 53 55.8**	**+0.8**
	2.7nm,0.3s,SNR=7.9						
EPLA				S	**Sn**	**21 54 53.6**	**-1.5**
	2.2nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**5.46**	**331**	*e*Pn	**Pn**	**21 53 59.3**	**+0.9**
PCBR				*e*Sn	**Sn**	**21 54 58.9**	**-2.3**
PCBR							
	2.9nm,0.4s						
GUD	**Guadarrama**	**5.54**	**359**	P	**Pn**	**21 54 00.8**	**+1.3**
	3.0nm,0.4s,SNR=5.3						
GUD				S	**Sn**	**21 55 02.4**	**-0.8**
	1.4nm,0.4s						
GUD	**Guadarrama**	**5.54**	**359**	P	**Pn**	**21 54 00.7**	**+1.2**
GUD				S	**Sn**	**21 55 02.4**	**-0.8**
GUD	**Guadarrama**	**5.54**	**359**	P	**Pn**	**21 54 00.7**	**+1.2**
	3.0nm,0.4s,SNR=5.3						
GUD				S	**Sn**	**21 55 02.4**	**-0.8**
	1.4nm,0.4s						
PTOM

NEIC ***26*** *21:59:34.2±1.0, 3066S×17891W, h223km±11km, mb4.3/3, Error ellipse: s-maj=15.8km s-min=15.2km az=162.0*

ISC 26 21:59:36.3±1.3, 3152S±005×1791W±02, h250km, n42, σ1§30/47, mb3.9/7, 1C-2D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.47**	**24**	P	**Pn**	**22 00 11.0**	**-12**
	617nm,0.3s,baz=84,slow=10,SNR=42						
RAO				S	**S**	**22 00 41.6**	**-19**
	385nm,0.3s,baz=90,slow=20,SNR=3.8						
RAO	**Raoul Island**	**2.47**	**24**	P	**Pn**	**22 00 11.0**	**-12**
RAO				S	**S**	**22 00 41.6**	**-19**
MXZ	**Matakaoa Point**	**6.41**	**199**	SN	**S**	**22 02 30.1**	**+6.1**
PUZ	**Puketiti**	**6.90**	**198**	PN	**Pn**	**22 01 15.5**	**-0.2**
PUZ				SN	**S**	**22 02 40.1**	**+4.8**
MWZ	**Matawai**	**7.35**	**201**	PN	**Pn**	**22 01 21.9**	**+0.6**
MWZ				SN	**S**	**22 02 51.1**	**+5.3**
URZ	**Urewera**	**7.42**	**204**	P	**Pn**	**22 01 23.5**	**+1.3**
	0.5nm,0.3s,baz=338,slow=19,SNR=5.8						
URZ				S	**S**	**22 02 53.0**	**+5.6**
	6.2nm,0.3s,baz=151,slow=21,SNR=15						
URZ	**Urewera**	**7.42**	**204**	PN	**Pn**	**22 01 23.1**	**+0.9**
PXZ	**Pawanui**	**9.11**	**200**	SN	**S**	**22 03 27.5**	**+0.9**
BFZ	**Birch Farm**	**9.89**	**201**	PN	**Pn**	**22 01 52.2**	**-1.3**
BFZ				SN	**S**	**22 03 45.8**	**+1.0**
MRZ	**Mangatainoka R**	**10.10**	**204**	PN	**Pn**	**22 01 54.6**	**-1.4**
MRZ				SN	**S**	**22 03 47.3**	**-2.1**
KIW	**Kapiti Island**	**10.51**	**206**	PN	**Pn**	**22 02 00.2**	**-1.1**
KIW				SN	**S**	**22 03 59.1**	**0.0**
MTW	**Mount Morrison**	**10.56**	**203**	SN	**S**	**22 04 01.2**	**+0.8**
CAW	**Cannon Point**	**10.67**	**205**	PN	**Pn**	**22 02 01.8**	**-1.5**
PAWZ	**Paruwai Farm**	**10.79**	**203**	SN	**S**	**22 04 06.6**	**+1.0**
TCW	**Tory Channel**	**11.05**	**207**	PN	**Pn**	**22 02 05.6**	**-2.5**
TCW				SN	**S**	**22 04 11.3**	**-0.5**
TUWZ	**Tuamarina**	**11.37**	**208**	PN	**Pn**	**22 02 12.2**	**+0.2**
NNZ	**Nelson**	**11.43**	**210**	SN	**S**	**22 04 20.6**	**+0.3**
QRZ	**Quartz Range**	**11.49**	**214**	PN	**Pn**	**22 02 14.0**	**+0.5**
THZ	**Tophouse**	**12.08**	**210**	PN	**Pn**	**22 02 22.2**	**+1.4**
THZ				SN	**S**	**22 04 36.1**	**+0.8**
KHZ	**Kahutara**	**12.37**	**206**	PN	**Pn**	**22 02 24.9**	**+0.5**
KHZ				SN	**S**	**22 04 42.0**	**-0.1**
LTZ	**Lake Taylor**	**13.18**	**209**	SN	**S**	**22 04 58.7**	**-2.0**
MQZ	**McQueen's Vall**	**13.81**	**206**	SN	**S**	**22 05 11.4**	**-3.6**
RPZ	**Rata Peaks**	**14.46**	**210**	P	**Pn**	**22 02 53.0**	**+3.1**
	0.7nm,0.3s,baz=288,slow=13,SNR=4.3						
RPZ				S	**S**	**22 05 25.7**	**-4.0**
	0.5nm,0.3s,baz=257,slow=10,SNR=6.9						
DZM	**Mont Dzumac**	**15.97**	**303**	P	**Pn**	**22 03 04.9**	**-3.1**
	0.9nm,0.3s,baz=12,slow=14,SNR=4.8						
AFI	**Afiamalu**	**18.76**	**23**	P	**P**	**22 03 27.8**	**-9.2**
	12nm,0.3s,baz=94,slow=10,SNR=5.9						
CTA	**Charters Tower**	**33.08**	**282**	P	**P**	**22 05 50.0**	**+1.3**
	2.1nm,0.4s,mb4.0,baz=97,slow=8.1,SNR=3.9						
CTA	**Charters Tower**	**33.08**	**282**	P	**P**	**22 05 50.0**	**+1.3**
STKA	**Stephens Creek**	**33.33**	**259**	⇓*i* P	**P**	**22 05 53.7**	**+2.9**
	10.0nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**33.33**	**259**	P	**P**	**22 05 53.8**	**+3.0**
	13nm,0.7s,mb4.5,baz=91,slow=9.7,SNR=26						
ASAR	**Alice Springs**	**42.13**	**269**	P	**P**	**22 07 05.8**	**+1.5**
	1.0nm,0.4s,mb3.6,baz=104,slow=7.3,SNR=18						
ASAR				ScP	ScP	22 12 23.2	+3.3
	0.4nm,0.5s,baz=119,slow=4.8,SNR=4.1						
WB2	**Warramunga Arr**	**43.22**	**274**	⇓*i* P	**P**	**22 07 13.3**	**+0.4**
WRA	**Warramunga Arr**	**43.23**	**274**	P	**P**	**22 07 13.5**	**+0.5**
	1.5nm,0.4s,mb3.8,baz=112,slow=8.0,SNR=49						
VNDA	**Vanda**	**46.90**	**196**	P	**P**	**22 07 49.0**	**+7.2**
	0.9nm,0.6s,mb3.3,baz=9.0,slow=6.8,SNR=7.4						
QSPA	**South Pole Qui**	**58.60**	**180**	⇑*i* P	**P**	**22 09 14.3**	**+7.2**
	6.8nm,0.8s,mb4.3						
SNAA	**Sanae**	**77.07**	**179**	*e*P	**P**	**22 11 06.5**	**+4.6**
	3.4nm,0.9s,mb4.0						
KEV	**Kevo**	**138.99**	**347**	*e*pkp	PKPdf	22 18 28.8	-4.2
FINES	**FINESS Array B**	**145.85**	**339**	PKPbc	PKPbc	22 18 43.5	-2.6
	1.4nm,0.5s,baz=38,slow=3.7,SNR=11						
NB2	**NORSAR Subarra**	**149.70**	**350**	PKP	PKPab	22 19 00.5	-2.0
	comp=Z,1.4nm,0.8s,baz=25,slow=2.8						
NOA	**NORSAR Array B**	**149.70**	**350**	PKPbc	PKPbc	22 18 56.0	-0.4
	comp=Z,0.4nm,0.5s,baz=18,slow=4.3,SNR=3.4						
NOA				PKPab	PKPab	22 19 00.6	-1.9
	comp=Z,1.1nm,0.7s,baz=16,slow=3.2,SNR=6.5						
NOA	**NORSAR Array B**	**149.70**	**350**	PKPbc	PKPbc	22 18 56.0	-0.4
NOA				PKPab	PKPab	22 19 00.6	-1.9
HFS	**Hagfors**	**150.13**	**347**	PKPab	PKPab	22 19 00.9	-3.4
	comp=Z,1.0nm,0.7s,baz=115,slow=7.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**161.71**	**182**	PKPab	PKPab	22 19 58.0	+4.1
	comp=Z,2.1nm,0.9s,baz=178,slow=4.2,SNR=9.1						

MOS ***26*** *22:07:02.4±0.8, 4810N×8865E, h33km, mb4.0/1, Error ellipse: s-maj=40.0km s-min=19.3km az=113.4*

IDC ***26*** *22:07:08.4±2.6, 4867N×8754E, h0km, mb3.6/3, mb1 3.6/5, mb1mx3.4/23, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=36.9km s-min=11.2km az=117.0*

ISCJB ***26*** *22:07:09.1±0.9, 4854N±005×870E±0.1, h10km, mb3.4/3, Error ellipse: s-maj=13.3km s-min=6.7km az=145.1*

NNC ***26*** *22:07:15.0±3.4, 4895N×8685E, h7km±12km, mb3.9, mpv3.5, Error ellipse: s-maj=22.5km s-min=10.7km az=105.0*

BJI ***26*** *22:07:20.1, 4788N×8711E, h14km, ML3.2*

ISC 26 22:07:10.6±0.9, 4857N±005×871E±01, h10km, n14, σ1§39/22, mb3.4/3, 5C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**3.70**	**243**	Pn	**Pn**	**22 08 12.8**	**+5.0**
	1.7nm,0.3s,baz=60,slow=15,SNR=12						
MKAR				Pg	**Pg**	**22 08 21.8**	**+0.3**
	6.5nm,0.3s,baz=58,slow=17,SNR=29						
MKAR				Sn	**Sn**	**22 08 58.9**	**+7.5**
	7.6nm,0.3s,baz=62,slow=33,SNR=10						
MKAR				Lg		22 09 18.6	
	7.8nm,0.3s,baz=63,slow=29,SNR=7.2						
MK09	**Makanchi Array**	**3.72**	**243**	⇑Pn	**Pn**	**22 08 13.3**	**+5.3**
	12nm,0.5s,baz=41,slow=13						
MK09				⇑Sn	**Sn**	**22 08 59.1**	**+7.3**
	12nm,0.4s,baz=58,slow=32						
MK09				⇑Lg		22 09 14.8	
	25nm,0.6s,baz=49,slow=26						
WMQ	**Urumqi**	**4.77**	**175**	P	**Pn**	**22 08 23.0**	**+0.5**
WMQ				S	**Sn**	**22 09 16.5**	**-1.4**
WMQ				SG	**Sg**	**22 09 35.3**	**-8.5**
WMQ				Smax			
	comp=N,25nm,0.5s						
WMQ				Smax			
	comp=E,38nm,0.5s						
ZAL	**Zalesovo**	**5.56**	**346**	Pn	**Pn**	**22 08 34.8**	**+1.5**
	comp=E,3.5nm,0.3s,baz=322,slow=10.0,SNR=16						
ZAL				Sn	**Sn**	**22 09 36.1**	**-1.2**
	comp=E,1.2nm,0.3s,baz=287,slow=6.3,SNR=4.1						
ZAL				Lg		22 09 57.7	
	comp=E,2.3nm,0.3s,baz=41,slow=25,SNR=4.1						
KURK	**Kurchatov**	**5.91**	**294**	⇑Pn	**Pn**	**22 08 38.9**	**+0.8**
	comp=E,2.2nm,0.8s						
KURK				Sn	**Sn**	**22 09 45.8**	**0.0**
KURK				⇓Lg		22 10 13.0	
	comp=E,24nm,0.9s						
NVS	**Novosibirsk**	**6.72**	**341**	*e*P	**Pn**	**22 08 53.4**	**+4.1**
VOSK	**Vostochnaya**	**11.04**	**298**	⇓Pn	**Pn**	**22 09 46.5**	**-1.9**
	comp=E,3.6nm,1.7s						
VOSK				Sn	**Sn**	**22 11 48.8**	**-3.1**
FINES	**FINESS Array B**	**35.88**	**314**	P	**P**	**22 14 10.9**	**+0.3**
	comp=E,0.4nm,0.6s,mb3.5,baz=79,slow=9.9,SNR=5.6						
BURAR	**Bucovina Array**	**40.33**	**293**	⇓*i* P	**P**	**22 14 50.5**	**+2.3**
MLR	**Muntele Rosu**	**40.81**	**290**	⇑*i* P	**P**	**22 14 54.7**	**+2.5**
HFS	**Hagfors**	**42.08**	**314**	P	**P**	**22 15 01.2**	**-1.4**
	comp=E,0.7nm,0.6s,mb3.5,baz=90,slow=10,SNR=5.4						
HFS	**Hagfors**	**42.08**	**314**	P	**P**	**22 15 01.2**	**-1.4**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	**NORSAR Subarra**	**42.95**	**316**	P	**P**	**22 15 08.3**	**-1.4**
	comp=Z,0.3nm,0.5s,mb3.3,baz=83,slow=8.6						
NOA	**NORSAR Array B**	**42.95**	**316**	P	**P**	**22 15 08.9**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.3,baz=86,slow=7.9,SNR=4.1						

ISCJB ***26*** *22:12:33.6±0.4, 3630N±003×22201E±004, h33km, mb3.8/8, Error ellipse: s-maj=5.3km s-min=2.5km az=107.1*

MOS ***26*** *22:12:33.7±1.9, 3632N×2200E, h33km, mb3.7/1, Error ellipse: s-maj=12.1km s-min=5.8km az=88.7*

IDC ***26*** *22:12:33.2±1.2, 3695N×2251E, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.6/22, mbtmp3.6/10, ML3.4/2, Error ellipse: s-maj=24.8km s-min=22.3km az=97.0*

CSEM ***26*** *22:12:34.9±0.1, 3637N×2206E, h20km, ML3.7, Error ellipse: s-maj=2.5km s-min=1.2km az=43.0*

ATH ***26*** *22:12:35.5, 3641N×2213E, h36km±3km, MD4.0/19, ML3.7*

NEIC ***26*** *22:12:35.5, 3641N×2214E, h37km, MD4.0(ATH), After ATH.*

HLW ***26*** *22:12:36.1, 3630N×2223E, h30km, Mb4.0*

THE ***26*** *22:12:37.9, 3645N×2220E, h21km, ML3.9*

ISC 26 22:12:36.1±0.4, 3633N±003×2206E±004, h35km, n87, σ1§22/108, mb3.8/8, 3D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**0.79**	**93**	*e*PN	**Pn**	**22 12 50.0**	**-0.7**
VLI	**Veliai**	**0.81**	**61**	⇓*i* PN	**Pn**	**22 12 50.1**	**-0.8**
VLI				*e*SN	**Sn**	**22 13 01.0**	**-0.7**
ITM	**Ithomi**	**0.85**	**353**	*e*PN	**Pn**	**22 12 50.7**	**-0.8**
ITM				*e*SN	**Sn**	**22 13 02.9**	**+0.1**
KARN	**Karanos**	**1.77**	**121**	*e*Pb	**Pn**	**22 13 05.8**	**+1.6**
KARN				*e*Sb	**Sn**	**22 13 28.1**	**+2.5**
KARN	**Karanos**	**1.77**	**121**	*e*Pb	**Pn**	**22 13 05.8**	**+1.6**
KARN				*e*Sb	**Sn**	**22 13 28.0**	**+2.5**
RLS	**Riolos of Patr**	**1.79**	**345**	*e*PB	**Pn**	**22 13 05.8**	**+1.4**
NAIG	**Nisos Aigina**	**1.83**	**38**	*e*PB	**Pn**	**22 13 05.5**	**+0.5**
MGER	**Gerania Oros**	**1.91**	**30**	*e*PN	**Pn**	**22 13 05.5**	**-0.6**
VAM	**Vamos**	**1.97**	**117**	*e*PN	**Pn**	**22 13 08.1**	**+1.2**
KVR	**Kavouri**	**2.03**	**42**	*e*PN	**Pn**	**22 13 07.5**	**-0.2**
ATH	**Athens Observa**	**2.11**	**39**	*e*PN	**Pn**	**22 13 08.0**	**-0.8**
VLS	**Valsamata**	**2.18**	**328**	*e*PN	**Pn**	**22 13 10.4**	**+0.6**
GVD	**Gavdhos**	**2.23**	**131**	*e*Pn	**Pn**	**22 13 12.8**	**+2.4**
GVD	**Gavdhos**	**2.23**	**131**	*e*Pn	**Pn**	**22 13 11.6**	**+1.2**
GVD				*e*Sn	**Sn**	**22 13 35.4**	**-1.3**
GVD	**Gavdhos**	**2.23**	**131**	*e*Pb	**Pn**	**22 13 13.4**	**+2.6**
GVD				*e*Sn	**Sn**	**22 13 35.4**	**-1.3**
PTL	**Penteli**	**2.24**	**40**	*e*PN	**Pn**	**22 13 10.5**	**-0.1**
LKR	**Lokris**	**2.43**	**18**	*e*PN	**Pn**	**22 13 13.1**	**-0.2**
EVR	**Evrytania**	**2.59**	**356**	*e*PB	**Pn**	**22 13 17.2**	**+1.8**
EVR	**Evrytania**	**2.59**	**356**	*e*Pb	**Pn**	**22 13 18.8**	**+3.4**
SIVA	**Sivas**	**2.60**	**120**	*e*Pn	**Pn**	**22 13 16.9**	**+1.3**
LKD	**Levkas**	**2.62**	**335**	*e*Pn	**Pn**	**22 13 17.9**	**+2.0**
LKD				*e*Sn	**Sn**	**22 13 48.5**	**+2.0**
AGG	**Agios Georgios**	**2.69**	**5**	*e*Pn	**Pn**	**22 13 19.1**	**+2.2**
AGG				*e*Sn	**Sn**	**22 13 47.4**	**-0.8**
APE	**Apeiranthos**	**2.89**	**74**	*e*Pn	**Pn**	**22 13 20.4**	**+0.9**
APE				*e*Sn	**Sn**	**22 13 52.7**	**-0.3**
APE	**Apeiranthos**	**2.89**	**74**	*e*PN	**Pn**	**22 13 20.5**	**+1.0**
APE	**Apeiranthos**	**2.89**	**74**	*e*Pn	**Pn**	**22 13 19.0**	**-0.5**
APE				*e*Sn	**Sn**	**22 13 52.7**	**-0.3**
LAST	**Lasithi**	**3.02**	**112**	*e*Pn	**Pn**	**22 13 22.3**	**+0.9**
NPS	**Neapolis**	**3.08**	**109**	*e*PN	**Pn**	**22 13 22.8**	**+0.6**
NEO	**Neokhori**	**3.11**	**17**	*e*PN	**Pn**	**22 13 22.2**	**-0.4**
NEO	**Neokhori**	**3.11**	**17**	*e*Pn	**Pn**	**22 13 22.1**	**-0.5**
XOR	**Xorichti**	**3.16**	**16**	*e*Pn	**Pn**	**22 13 23.0**	**-0.3**
AOS	**Alonnisos**	**3.18**	**26**	*e*Pn	**Pn**	**22 13 23.3**	**-0.3**
XRY	**Khrisi**	**3.30**	**115**	*e*PN	**Pn**	**22 13 27.5**	**+2.3**
JAN	**Janina**	**3.45**	**344**	*e*Pn	**Pn**	**22 13 28.6**	**+1.3**
JAN				*e*Sn	**Sn**	**22 14 08.1**	**+1.1**
IGT	**Igoumenitsa**	**3.47**	**337**	*e*Pn	**Pn**	**22 13 27.9**	**+0.3**
IGT				*e*Sn	**Sn**	**22 14 08.1**	**+0.6**
MEV	**Metsovon**	**3.51**	**350**	*e*Pn	**Pn**	**22 13 30.4**	**+2.3**
MEV				*e*Sn	**Sn**	**22 14 08.9**	**+0.5**
ZKR	**Zakros**	**3.60**	**109**	*e*Pn	**Pn**	**22 13 30.2**	**+0.9**
ZKR				*e*Sn	**Sn**	**22 14 10.5**	**0.0**
LIT	**Litokhoron**	**3.78**	**5**	*e*Pn	**Pn**	**22 13 33.4**	**+1.6**
LIT	**Litokhoron**	**3.78**	**5**	*e*Pn	**Pn**	**22 13 33.3**	**+1.5**
CHOS	**Chios island**	**3.79**	**56**	*e*Pn	**Pn**	**22 13 31.6**	**-0.3**
PAIG	**Paliouri**	**3.81**	**19**	*e*Pn	**Pn**	**22 13 31.8**	**-0.4**
KEK	**Kerkira**	**3.82**	**333**	*e*PN	**Pn**	**22 13 32.3**	**0.0**
SRN	**Sarande**	**3.90**	**336**	*e*Sg	**Sn**	**22 14 18.4**	**+0.5**
KZN	**Kozani**	**3.97**	**357**	*e*PN	**Pn**	**22 13 35.8**	**+1.3**
LSK	**Leskovik**	**3.98**	**344**	*e*Pn	**Pn**	**22 13 34.8**	**+0.2**
LSK				*e*Sn	**Sn**	**22 14 21.4**	**+1.4**
PLG	**Polygyros**	**4.18**	**15**	*e*PN	**Pn**	**22 13 38.8**	**+1.5**
OUR	**Ouranopolis**	**4.27**	**20**	*e*Pn	**Pn**	**22 13 38.6**	**0.0**
HORT	**Hortiatis**	**4.34**	**11**	*e*Pn	**Pn**	**22 13 39.8**	**+0.4**
HORT				*e*Sn	**Sn**	**22 14 28.4**	**-0.4**
FNA	**Florina**	**4.48**	**353**	*e*Pn	**Pn**	**22 13 41.8**	**+0.5**
BIA	**Bitola**	**4.71**	**353**	*e*Pg	Pn	22 14 34.8	+50
BIA				*i* Sg	**Sn**	**22 14 37.4**	**-0.7**
BIA	**Bitola**	**4.71**	**353**	*i* Sg	**Sn**	**22 14 37.3**	**-0.8**
OHR	**Ohrid**	**4.87**	**349**	*e*Pg	Pn	22 14 39.1	+52
OHR				*i* Sg	**Sn**	**22 14 42.3**	**+0.3**
OHR	**Ohrid**	**4.87**	**349**	*i* Sg	**Sn**	**22 14 42.2**	**+0.2**
SLUM		**5.49**	**151**	P	**Pn**	**22 13 55.6**	**+0.2**
SLUM				S	**Sn**	**22 14 51.1**	**-6.2**
SG1	**Sgolgore (BA)**	**6.16**	**319**	*e*Pn	**Pn**	**22 14 03.7**	**-0.9**
BAI	**Bari**	**6.25**	**321**	*e*Pn	**Pn**	**22 14 04.9**	**-0.9**
CDT	**Castel del Mon**	**6.55**	**318**	*e*Pn	**Pn**	**22 14 09.2**	**-0.7**
HMAT	**Matruh**	**6.70**	**140**	P	**Pn**	**22 14 10.6**	**-1.4**
HMAT				S	**Sn**	**22 15 19.9**	**-7.2**
MS1	**Monte Sant'Ang**	**7.17**	**320**	*e*Pn	**Pn**	**22 14 17.5**	**-0.9**
STON	**Ston**	**7.34**	**334**	*i* Pn	**Pn**	**22 14 18.2**	**-2.6**
STON				*i* Sn	**Sn**	**22 15 34.8**	**-8.1**
GRUS	**Gruza**	**7.62**	**353**	*i* Pn	**Pn**	**22 14 22.4**	**-2.1**
SWA2		**7.62**	**157**	P	**Pn**	**22 14 23.7**	**-0.9**
SWA1		**7.69**	**155**	P	**Pn**	**22 14 24.6**	**-1.0**
SWA1				S	**Sn**	**22 15 43.6**	**-7.7**
SWA1		**7.69**	**155**	P	**Pn**	**22 14 24.5**	**-1.0**
SWA1				S	**Sn**	**22 15 43.6**	**-7.8**
DIVS	**Divcibare**	**7.92**	**349**	*i* Pn	**Pn**	**22 14 26.7**	**-1.9**
BZS	**Buzias**	**9.28**	**358**	⇓*i* P	**Pn**	**22 14 45.2**	**-2.1**
TIRR	**Tirgusor**	**9.45**	**29**	*e*Pn	**Pn**	**22 14 47.5**	**-2.2**
MLR	**Muntele Rosu**	**9.61**	**17**	Pn	**Pn**	**22 14 51.1**	**-0.8**
	0.1nm,0.3s,baz=153,slow=6.8,SNR=1.7						
BRTR	**Keskin Array B**	**9.74**	**66**	Pn	**Pn**	**22 14 48.9**	**-4.8**
	0.1nm,0.3s,baz=289,slow=12,SNR=2.7						
BR131	**Keskin Array S**	**9.74**	**66**	Pn	**Pn**	**22 14 53.0**	**-0.7**
PKSM	**Moragy**	**10.20**	**346**	⇓*i* P	**Pn**	**22 14 56.7**	**-3.2**
AMAG	**Maghara**	**10.90**	**118**	P	**Pn**	**22 15 08.2**	**-1.3**
PSZ	**Piszkesteto**	**11.69**	**353**	*e*Pn	**Pn**	**22 15 19.2**	**-1.1**
GERES	**GERESS Array B**	**13.93**	**336**	Pn	**Pn**	**22 15 47.4**	**-3.5**
	0.1nm,0.3s,baz=160,slow=12,SNR=4.9						
GERES				Sn	**Sn**	**22 18 14.1**	**-10**
	0.1nm,0.3s,baz=147,slow=24,SNR=4.1						
SFS	**San Fernando**	**22.72**	**279**	*e*P	**P**	**22 17 33.5**	**-1.2**
	106nm,1.0s,mb5.2						
SFS	**San Fernando**	**22.72**	**279**	*e*P	**P**	**22 17 33.5**	**-1.3**
MTE	**Manteigas**	**23.51**	**289**	P	**P**	**22 17 43.2**	**+0.3**
HFS	**Hagfors**	**24.42**	**350**	P	**P**	**22 17 47.8**	**-3.4**
	0.7nm,0.5s,mb3.4,baz=152,slow=13,SNR=7.2						
FINES	**FINESS Array B**	**25.26**	**5**	P	**P**	**22 17 55.4**	**-3.5**
	0.9nm,0.6s,mb3.5,baz=180,slow=9.5,SNR=5.7						
FINES	**FINESS Array B**	**25.26**	**5**	P	**P**	**22 17 55.3**	**-3.6**
NB2	**NORSAR Subarra**	**25.67**	**348**	P	**P**	**22 18 02.9**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.0,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**25.67**	**348**	P	**P**	**22 18 01.5**	**-1.1**
	comp=Z,0.5nm,0.7s,mb3.2,baz=157,slow=9.1,SNR=4.4						
NOA	**NORSAR Array B**	**25.67**	**348**	P	**P**	**22 18 01.5**	**-1.1**
TORD	**Torodi Ar. Bea**	**29.45**	**224**	P	pP	22 18 44.5	-2.0
	comp=Z,0.5nm,0.8s,baz=31,slow=8.8,SNR=3.5						
ARCES	**ARCESS Array B**	**33.31**	**2**	P	**P**	**22 19 05.3**	**-5.1**
	comp=Z,1.6nm,0.7s,mb4.0,baz=187,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**45.25**	**57**	P	**P**	**22 20 46.1**	**-3.9**
	comp=Z,0.5nm,0.5s,mb3.6,baz=280,slow=7.3,SNR=5.5						
ZAL	**Zalesovo**	**46.02**	**47**	P	**P**	**22 20 52.6**	**-3.5**
	comp=Z,0.7nm,0.3s,mb4.0,baz=268,slow=5.5,SNR=3.1						
PDAR	**Pinedale Array**	**89.76**	**327**	P	**P**	**22 25 33.6**	**+2.8**
	comp=Z,0.4nm,0.6s,mb3.9,baz=57,slow=14,SNR=4.6						

ISCJB ***26*** *22:22:32.3±0.2, 4033N±002×1.13W±003, h10km, Error ellipse: s-maj=2.9km s-min=2.0km az=49.1*

CSEM ***26*** *22:22:35.2±0.1, 4032N×107W, h10km, ML2.7/24, Error ellipse: s-maj=1.5km s-min=1.0km az=116.0*

MDD ***26*** *22:22:36.3±0.3, 4029N×101W, h16km±3km, mbLg2.1/28, Error ellipse: s-maj=3.2km s-min=2.0km az=131.0, PRXIMO*

LDG ***26*** *22:22:37.0±0.3, 4035N×100W, h6km, Ml2.6/8, Error ellipse: s-maj=4.5km s-min=4.1km az=5.0*

ISC 26 22:22:33.7±0.3, 4031N±001×109W±003, h11km±2km, n90, σ1§16/168, 1C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMOS	**Mosqueruela**	**0.47**	**84**	⇑Pg	**Pg**	**22 22 44.0**	**+1.1**
	29nm,0.1s,SNR=18						
EMOS				Lg		22 22 50.4	
	63nm,0.2s,SNR=30						
EMOS	**Mosqueruela**	**0.47**	**84**	Pg	**Pg**	**22 22 44.0**	**+1.1**
	29nm,0.1s,SNR=18						
ECHE	**Chera**	**0.73**	**173**	⇓Pg	**Pg**	**22 22 48.5**	**+0.8**
	8.1nm,0.1s,SNR=18						
ECHE				Lg		22 22 58.5	
	9.8nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**1.26**	**59**	Pg	**Pg**	**22 22 58.2**	**+0.4**
	16nm,0.1s,SNR=164						
ERTA				Lg		22 23 14.6	
	38nm,0.1s,SNR=16						
ERTA	**Horta de San J**	**1.26**	**59**	Pg	**Pg**	**22 22 58.4**	**+0.6**
	16nm,0.1s,SNR=164						
ETOB	**Tobarra**	**1.70**	**192**	Pn	**Pn**	**22 23 03.8**	**+0.5**
	0.7nm,0.2s,SNR=5.6						
ETOB				Pg	**Pg**	**22 23 06.9**	**+0.6**
	2.3nm,0.1s,SNR=23						
ETOB				Sn	**Sn**	**22 23 24.8**	**-0.3**
	2.6nm,0.1s,SNR=5.2						
ETOB				Lg		22 23 28.5	
	3.2nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**1.70**	**192**	Pn	**Pn**	**22 23 03.8**	**+0.5**
	0.7nm,0.2s,SNR=5.6						
ETOB	**Tobarra**	**1.70**	**192**	Pg	**Pg**	**22 23 06.9**	**+0.6**
	2.3nm,0.1s,SNR=23						
ETOB				Sn	**Sn**	**22 23 24.8**	**-0.2**
	2.6nm,0.1s,SNR=5.2						
EBEN	**Beniarda**	**1.74**	**157**	Pg	**Pg**	**22 23 07.2**	**+0.2**
	1.1nm,0.2s,SNR=9.6						
EBEN				Sn	**Sn**	**22 23 25.6**	**-0.3**
	3.5nm,0.3s,SNR=5.5						
EBEN				Lg		22 23 28.6	
	3.8nm,0.3s,SNR=4.0						
EBEN	**Beniarda**	**1.74**	**157**	Pg	**Pg**	**22 23 07.2**	**+0.2**
	1.1nm,0.2s,SNR=9.6						
EBEN				Sn	**Sn**	**22 23 25.6**	**-0.3**
	3.5nm,0.3s,SNR=5.5						
EPOB	**Poblet**	**1.94**	**57**	Pn	**Pn**	**22 23 07.8**	**+1.3**
	0.9nm,0.2s,SNR=15						
EPOB				Pg	**Pg**	**22 23 10.1**	**-0.9**
	5.2nm,0.3s,SNR=7.7						
EPOB				Sn	**Sn**	**22 23 30.7**	**-0.2**
	1.6nm,0.1s,SNR=7.9						
EPOB				Lg		22 23 35.1	
	7.3nm,0.2s,SNR=13						
EPOB	**Poblet**	**1.94**	**57**	Pn	**Pn**	**22 23 07.8**	**+1.2**
	0.9nm,0.2s,SNR=15						
EPOB	**Poblet**	**1.94**	**57**	Pg	**Pg**	**22 23 10.1**	**-0.8**
	5.2nm,0.3s,SNR=7.7						
EPOB				Sn	**Sn**	**22 23 30.7**	**-0.3**
	1.6nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**2.00**	**214**	Pg	**Pg**	**22 23 12.4**	**+0.4**
	12nm,0.4s,SNR=15						
EVIA				Sn	**Sn**	**22 23 33.4**	**+1.1**
	3.3nm,0.3s,SNR=6.1						
EVIA				Lg		22 23 38.5	
	4.7nm,0.3s,SNR=5.0						
EVIA	**Vianos**	**2.00**

EQES					Pg		Pg	22 23 30.0	-0.1
	7.2nm,0.4s,SNR=40								
EQES					Sn		Sn	22 23 54.3	-1.3
	0.7nm,0.2s,SNR=4.0								
EQES					Lg			22 24 08.0	
	4.6nm,0.3s,SNR=7.9								
EQES	**Quesada**	**2.94**	**212**	Pn		**Pn**		**22 23 21.5**	**+1.2**
	0.4nm,0.1s,SNR=7.9								
EQES	**Quesada**	**2.94**	**212**	Pg		**Pg**		**22 23 30.0**	**-0.1**
	7.2nm,0.4s,SNR=40								
EQES					Sn		Sn	22 23 54.3	-1.4
	0.7nm,0.2s,SNR=4.0								
EBAN	**Banos Encina**	**3.00**	**225**	Pg		**Pg**		**22 23 30.9**	**-0.2**
	7.0nm,0.4s,SNR=8.9								
EBAN					Sn		Sn	22 23 56.4	-0.7
	1.5nm,0.2s,SNR=7.9								
EBAN					Lg			22 24 09.2	
	3.0nm,0.3s,SNR=5.0								
EBAN	**Banos Encina**	**3.00**	**225**	Pg		**Pg**		**22 23 30.4**	**-0.7**
	7.0nm,0.4s,SNR=8.9								
EBAN					Sn		Sn	22 23 56.4	-0.6
	1.5nm,0.2s,SNR=7.9								
ETOS	**Mallorca**	**3.04**	**99**	Pn		**Pn**		**22 23 22.5**	**+0.8**
	0.3nm,0.1s,SNR=7.9								
ETOS					Sn		Sn	22 23 56.4	-1.7
	0.6nm,0.1s,SNR=7.9								
ETOS	**Mallorca**	**3.04**	**99**	Pn		**Pn**		**22 23 22.5**	**+0.8**
	0.3nm,0.1s,SNR=7.9								
ETOS					Sn		Sn	22 23 56.4	-1.7
	0.6nm,0.1s,SNR=7.9								
ELAN	**Lanestosa**	**3.41**	**330**	Pn		**Pn**		**22 23 28.4**	**+1.7**
	0.5nm,0.2s,SNR=6.1								
ELAN					Pg		Pg	22 23 38.0	-0.9
	0.4nm,0.4s,SNR=7.9								
ELAN					Sn		Sn	22 24 06.6	-0.4
	1.0nm,0.2s,SNR=7.9								
ELAN					Lg			22 24 23.7	
	1.4nm,0.2s,SNR=7.9								
ELAN	**Lanestosa**	**3.41**	**330**	Pg		**Pg**		**22 23 38.0**	**-0.9**
	0.4nm,0.4s,SNR=7.9								
ELAN					Sn		Sn	22 24 06.6	-0.4
	1.0nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**3.46**	**233**	Pn		**Pn**		**22 23 27.9**	**+0.6**
	0.4nm,0.1s,SNR=7.9								
EADA					Pg		Pg	22 23 39.0	-0.9
	1.7nm,0.2s,SNR=7.9								
EADA					Sn		Sn	22 24 06.7	-1.5
	3.3nm,0.1s,SNR=5.5								
EADA					Lg			22 24 23.5	
	4.1nm,0.3s,SNR=5.0								
EADA	**Adamuz**	**3.46**	**233**	Pn		**Pn**		**22 23 27.9**	**+0.5**
	0.4nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**3.46**	**233**	Pg		**Pg**		**22 23 39.0**	**-0.9**
	1.7nm,0.2s,SNR=7.9								
EADA					Sn		Sn	22 24 06.7	-1.6
	3.3nm,0.1s,SNR=5.5								
EQUE	**Quentar**	**3.61**	**211**	Pn		**Pn**		**22 23 31.1**	**+1.6**
	0.5nm,0.2s,SNR=7.9								
EQUE					Pg		Pg	22 23 40.6	-2.2
	1.3nm,0.3s,SNR=5.7								
EQUE					Sn		Sn	22 24 11.1	-0.9
	0.5nm,0.2s,SNR=7.9								
EQUE					Lg			22 24 28.1	
	3.3nm,0.4s,SNR=7.9								
EJON	**La Jonquera**	**3.67**	**53**	Pn		**Pn**		**22 23 31.9**	**+1.5**
	0.8nm,0.3s,SNR=4.0								
EJON	**La Jonquera**	**3.67**	**53**	Pn		**Pn**		**22 23 31.9**	**+1.5**
	0.8nm,0.3s,SNR=4.0								
EBER	**Berja**	**3.69**	**203**	Pn		**Pn**		**22 23 32.0**	**+1.4**
	0.4nm,0.1s,SNR=4.5								
EBER					Pg		Pg	22 23 42.7	-1.6
	1.0nm,0.3s,SNR=7.9								
EBER					Lg			22 24 33.2	
	1.7nm,0.4s,SNR=5.0								
EBER	**Berja**	**3.69**	**203**	Pn		**Pn**		**22 23 32.0**	**+1.4**
	0.4nm,0.1s,SNR=4.5								
EBER	**Berja**	**3.69**	**203**	Pg		**Pg**		**22 23 42.7**	**-1.7**
	1.0nm,0.3s,SNR=7.9								
EPLA	**Plasencia**	**3.83**	**268**	Pn		**Pn**		**22 23 33.4**	**+0.8**
	0.8nm,0.1s,SNR=7.9								
EPLA					Sn		Sn	22 24 16.7	-0.9
	4.4nm,0.2s,SNR=7.9								
EPLA					Lg			22 24 35.9	
	1.7nm,0.2s,SNR=7.9								
EPLA	**Plasencia**	**3.83**	**268**	Pn		**Pn**		**22 23 33.4**	**+0.8**
	0.8nm,0.1s,SNR=7.9								
EPLA					Sn		Sn	22 24 16.7	-0.9
	4.4nm,0.2s,SNR=7.9								
MTLF	**Montolieu**	**3.91**	**38**	*e*Pn		**Pn**		**22 23 34.9**	**+1.4**
MTLF	**Montolieu**	**3.91**	**38**	*e*Pg		**Pg**		**22 23 47.7**	**-0.8**
MTLF				*e*Sn		**Sn**		**22 24 17.8**	**-1.6**
MTLF				*e*Sg		**Sg**		**22 24 36.9**	**-2.2**
	2.5nm,0.3s								
MTLF	**Montolieu**	**3.91**	**38**	Pn		**Pn**		**22 23 34.9**	**+1.4**
MTLF				Pg		**Pg**		**22 23 47.7**	**-0.8**
MTLF				Sn		**Sn**		**22 24 17.8**	**-1.6**
MTLF				Lg				22 24 36.9	
	1.2nm,0.3s								
MTLF	**Montolieu**	**3.91**	**38**	*e*Pg		**Pg**		**22 23 47.7**	**-0.8**
MTLF				*e*Sn		**Sn**		**22 24 17.8**	**-1.6**
MTLF				*e*Sg		**Sg**		**22 24 36.9**	**-2.2**
	1.2nm,0.3s								
EARI	**Arriondas**	**4.29**	**315**	Pn		**Pn**		**22 23 40.6**	**+1.8**
	0.1nm,0.2s,SNR=7.9								
EARI					Sn		Sn	22 24 29.0	+0.1
	0.1nm,0.1s,SNR=7.9								
EARI					Lg			22 24 50.8	
	0.4nm,0.2s,SNR=7.9								
EARI	**Arriondas**	**4.29**	**315**	Pn		**Pn**		**22 23 40.6**	**+1.7**
	0.1nm,0.2s,SNR=7.9								
EARI					Sn		Sn	22 24 29.0	+0.1
	0.1nm,0.1s,SNR=7.9								
ECAL	**Calabor**	**4.57**	**293**	Pn		**Pn**		**22 23 43.5**	**+0.8**
	1.5nm,0.2s,SNR=13								
ECAL					Sn		Sn	22 24 34.4	-1.3
	5.1nm,0.3s,SNR=6.1								
ECAL					Lg			22 25 00.0	
	3.8nm,0.3s,SNR=7.9								
ECAL	**Calabor**	**4.57**	**293**	Pn		**Pn**		**22 23 43.5**	**+0.8**
	1.5nm,0.2s,SNR=13								
ECAL					Sn		Sn	22 24 34.4	-1.3
	5.1nm,0.3s,SNR=6.1								
EMIJ	**Mijas**	**4.73**	**219**	Pn		**Pn**		**22 23 46.3**	**+1.4**
	0.6nm,0.2s,SNR=7.9								
LFF	**La Frestale**	**4.82**	**16**	*e*Pn		**Pn**		**22 23 47.1**	**+1.0**
LFF	**La Frestale**	**4.82**	**16**	*e*Pg		**Pg**		**22 24 05.0**	**-0.9**
LFF				*e*Sn		**Sn**		**22 24 40.7**	**-1.1**
	2.3nm,0.3s								
LFF	**La Frestale**	**4.82**	**16**	Pn		**Pn**		**22 23 47.1**	**+1.0**
LFF				Pg		**Pg**		**22 24 05.0**	**-0.9**
LFF				Sn		**Sn**		**22 24 40.7**	**-1.1**
	1.1nm,0.3s								
LFF	**La Frestale**	**4.82**	**16**	*e*Pg		**Pg**		**22 24 05.0**	**-0.9**
LFF				*e*Sn		**Sn**		**22 24 40.7**	**-1.1**
	1.1nm,0.3s								
EBAD	**Badajoz**	**4.84**	**253**	Pn		**Pn**		**22 23 46.7**	**+0.3**
	0.4nm,0.2s,SNR=7.9								
EBAD					Sn		Sn	22 24 40.3	-2.1
	1.5nm,0.2s,SNR=7.9								
EBAD					Lg			22 25 07.4	
	1.7nm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**4.84**	**253**	Pn		**Pn**		**22 23 46.7**	**+0.3**
	0.4nm,0.2s,SNR=7.9								
EBAD					Sn		Sn	22 24 40.3	-2.1
	1.5nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**5.04**	**241**	Lg				22 25 11.9	
	1.8nm,0.4s,SNR=7.9								
CAF	**Calviac**	**5.16**	**26**	*e*Pn		**Pn**		**22 23 51.6**	**+0.8**
CAF				*e*Sn		**Sn**		**22 24 47.7**	**-2.7**
	1.4nm,0.2s								
CAF	**Calviac**	**5.16**	**26**	*e*Pn		**Pn**		**22 23 51.6**	**+0.8**
CAF				*e*Sn		**Sn**		**22 24 47.7**	**-2.7**
	0.7nm,0.2s								
LASF	**Ste Croix**	**5.25**	**43**	*e*Pn		**Pn**		**22 23 53.1**	**+1.0**
LASF	**Ste Croix**	**5.25**	**43**	*e*Pg		**Pg**		**22 24 12.9**	**-1.4**
LASF				*e*Sn		**Sn**		**22 24 49.3**	**-3.4**
	1.3nm,0.3s								
LASF	**Ste Croix**	**5.25**	**43**	Pn		**Pn**		**22 23 53.1**	**+1.0**
LASF				Pg		**Pg**		**22 24 12.9**	**-1.4**
LASF				Sn		**Sn**		**22 24 49.3**	**-3.4**
	0.6nm,0.3s								
LASF	**Ste Croix**	**5.25**	**43**	*e*Pg		**Pg**		**22 24 12.9**	**-1.4**
LASF				*e*Sn		**Sn**		**22 24 49.3**	**-3.4**
	0.6nm,0.3s								
RJF	**Les Rejaudoux**	**5.34**	**20**	*e*Pn		**Pn**		**22 23 53.9**	**+0.6**
RJF				*e*Sn		**Sn**		**22 24 51.1**	**-3.7**
	1.5nm,0.2s								
RJF	**Les Rejaudoux**	**5.34**	**20**	*e*Pn		**Pn**		**22 23 53.9**	**+0.6**
RJF				*e*Sn		**Sn**		**22 24 51.1**	**-3.7**
	0.8nm,0.2s								
EPON	**Pontenova**	**5.44**	**306**	Pn		**Pn**		**22 23 56.1**	**+1.4**
	0.3nm,0.2s,SNR=7.9								
EPON					Lg			22 25 27.6	
	1.1nm,0.2s,SNR=7.9								
ELOB	**Lobios**	**5.50**	**289**	Pn		**Pn**		**22 23 56.1**	**+0.7**
	0.6nm,0.2s,SNR=7.9								
ELOB					Sn		Sn	22 24 56.9	-1.6
	0.7nm,0.1s,SNR=7.9								
ELOB					Lg			22 25 28.4	
	0.5nm,0.1s,SNR=7.9								

MOS ***26*** *22:22:34.5±1.4, 1375N×146.15E, h33km, mb4.5/7, Error ellipse: s-maj=18.0km s-min=10.0km az=105.6*
ISCJB ***26*** *22:22:38.4±2.1, 1366N±006×1459E±01, h61km±16km, mb4.3/27, Error ellipse: s-maj=24.5km s-min=8.4km az=158.3*
NEIC ***26*** *22:22:38.5±2.0, 1367N×145.96E, h45km±17km, mb4.5/11, Error ellipse: s-maj=18.3km s-min=6.2km az=77.0*
IDC ***26*** *22:22:39.5±2.7, 1370N×145.82E, h53km±22km, mb4.0/16, mb1 4.1/16, mb1mx4.0/24, mbtmp4.3/16, MS3.5/11, Ms1 3.5/11, ms1mx3.3/29, Error ellipse: s-maj=29.1km s-min=11.6km az=72.0*

ISC 26 22:22:38.6±2.5, 1369N±006×1459E±01, h44km±21km, n51, σ1§08/46, mb4.3/27, MS3.6/10, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**1.04**	**264**	P		**Pn**	**22 22 56.4**	**-0.4**
	2µm,0.3s,baz=118,slow=5.0,SNR=481							
GUMO				S		**Sn**	**22 23 09.5**	**-0.6**
	2µm,0.3s,baz=233,slow=20,SNR=124							
CBIJ	**Chichi jima**	**13.79**	**346**	LR		LR	22 30 14.5	
	comp=Z,134nm,19.0s,baz=148,slow=33							
JOW	**Kunigami**	**21.07**	**311**	P		**P**	**22 27 20.0**	**+1.1**
	8.3nm,0.6s,mb4.3,baz=140,slow=4.9,SNR=4.8							
JOW				LR		LR	22 34 11.0	
	comp=Z,129nm,18.7s,MS3.3,baz=248,slow=33							
PMG	**Port Moresby**	**22.98**	**177**	P		**P**	**22 27 39.1**	**-0.2**
	8.7nm,0.5s,mb4.4,baz=27,slow=11,SNR=4.2							
PMG	**Port Moresby**	**22.98**	**177**	*e*P		**P**	**22 27 39.8**	**+0.5**
PMG				pmax		pmax		
	comp=Z,7.0nm,0.5s							
PMG	**Port Moresby**	**22.98**	**177**	*e*P		**P**	**22 27 39.8**	**+0.5**
	comp=Z,7.5nm,0.5s,mb4.4							
MJAR	**Matsushiro Arr**	**23.78**	**344**	P		**P**	**22 27 45.5**	**-1.6**
	comp=Z,7.5nm,1.2s,mb4.0,baz=165,slow=9.8,SNR=8.4							
MJAR				LR		LR	22 36 14.0	
	comp=Z,155nm,21.6s,MS3.4,baz=215,slow=34							
MAJO	**Matsushiro**	**23.79**	**344**	*e*P		**P**	**22 27 47.5**	**+0.4**
MAJO				pmax		pmax		
	comp=Z,3.0nm,0.4s,mb4.1							
MAJO	**Matsushiro**	**23.79**	**344**	*e*P		**P**	**22 27 47.5**	**+0.4**
	comp=Z,2.7nm,0.4s,mb4.0							
NACB	**Ninganchiao**	**25.23**	**298**	P		**P**	**22 28 02.5**	**+2.3**
YHNB	**Yeheng**	**25.59**	**299**	P		**P**	**22 28 05.5**	**+2.0**
TATO	**Taipei**	**25.61**	**300**	*e*P		**P**	**22 28 05.6**	**+2.0**
	comp=Z,12nm,0.4s,mb4.8							
HNR	**Hoara**	**26.86**	**148**	LR		LR	22 37 00.7	
	comp=Z,113nm,18.7s,MS3.5,baz=0.7,slow=32							
KAKA	**Kakadu**	**29.45**	**208**	*e*P		**P**	**22 28 37.0**	**-1.0**
	comp=Z,6.0nm,0.6s,mb4.5							
CTA	**Charters Tower**	**33.57**	**179**	P		**P**	**22 29 14.7**	**+0.4**
	comp=Z,1.3nm,0.3s,mb4.4,baz=24,slow=10.0,SNR=3.7							
CTAO	**Charters Tower**	**33.57**	**179**	P		**P**	**22 29 13.4**	**-0.9**
MDJ	**Mudanjiang**	**33.83**	**339**	P		**P**	**22 29 17.0**	**+0.5**
WRAB	**Tennant Creek**	**35.30**	**199**	*e*P		**P**	**22 29 29.3**	**0.0**
WRAB				pmax		pmax		
	comp=Z,6.0nm,0.7s,mb4.6							
WRAB	**Tennant Creek**	**35.30**	**199**	*e*P		**P**	**22 29 29.3**	**0.0**
	comp=Z,6.0nm,0.7s,mb4.6							
WB2	**Warramunga Arr**	**35.31**	**199**	↑P	↑P	**P**	**22 29 29.3**	**-0.1**
WRA	**Warramunga Arr**	**35.32**	**199**	P		**P**	**22 29 29.2**	**-0.2**
	comp=Z,3.6nm,0.8s,mb4.4,baz=21,slow=9.3,SNR=26							
WRA				PcP		PcP	22 32 00.5	+1.5
	comp=Z,0.7nm,0.6s,baz=14,slow=3.5,SNR=6.5							
BJT	**Baijiatuao**	**37.01**	**321**	*e*P		**P**	**22 29 43.8**	**0.0**
BJT				pmax		pmax		
	comp=Z,4.0nm,0.4s							
BJT	**Baijiatuao**	**37.01**	**321**	*e*P		**P**	**22 29 43.8**	**0.0**
	comp=Z,4.5nm,0.4s,mb4.7							
FITZ	**Fitzroy Crossi**	**37.40**	**213**	*e*P		**P**	**22 29 47.5**	**+0.3**
	comp=Z,3.9nm,0.8s,mb4.3							
ASAR	**Alice Springs**	**38.95**	**198**	P		**P**	**22 30 00.2**	**+0.1**
	comp=Z,1.1nm,0.7s,mb3.7,baz=22,slow=10,SNR=15							
ASAR				LR		LR	22 47 48.4	
	comp=Z,68nm,19.4s,MS3.5,baz=167,slow=39							
DZM	**Mont Dzumac**	**40.84**	**150**	P		**P**	**22 30 17.1**	**+1.2**
	comp=Z,5.6nm,0.8s,mb4.3,baz=10,slow=5.8,SNR=3.4							
HIA	**Hailar**	**41.49**	**334**	P		**P**	**22 30 21.7**	**+0.4**
MBWA	**Marble Bar**	**43.15**	**217**	*e*P		**P**	**22 30 34.9**	**+0.2**
	comp=Z,4.0nm,0.4s,mb4.5							
STKA	**Stephens Creek**	**45.50**	**185**	*e*P		**P**	**22 30 53.3**	**-0.2**
	comp=Z,2.3nm,0.8s,mb4.1							
STKA	**Stephens Creek**	**45.50**	**185**	P		**P**	**22 30 52.9**	**-0.6**
	comp=Z,0.8nm,0.3s,mb4.0,baz=359,slow=4.9,SNR=6.3							
STKA				LR		LR	22 51 06.0	
	comp=Z,120nm,21.7s,MS3.8,baz=25,slow=38							
ULN	**Ulaanbaatar**	**46.89**	**325**	P		**P**	**22 31 04.5**	**0.0**
SONM	**Songino Array**	**47.25**	**324**	P		**P**	**22 31 07.6**	**+0.4**
	comp=Z,2.5nm,0.8s,mb4.2,baz=131,slow=6.4,SNR=11							
BOD	**Bodaibo**	**50.20**	**338**	*e*P		**P**	**22 31 28.0**	**-1.9**
BOD				pmax		pmax		
	comp=Z,3.0nm,1.3s,mb4.2							
ZAK	**Zakamensk**	**50.33**	**326**	*e*P		**P**	**22 31 30.9**	**0.0**
TLY	**Talaya**	**50.82**	**327**	*e*P		**P**	**22 31 35.0**	**+0.4**
TLY				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
TLY	**Talaya**	**50.82**	**327**	*e*P		**P**	**22 31 35.0**	**+0.4**
	comp=Z,2.1nm,0.6s,mb4.2							
MKAR	**Makanchi Array**	**62.14**	**316**	P		**P**	**22 32 54.9**	**-0.2**
	comp=Z,0.8nm,0.3s,mb4.4,baz=82,slow=8.9,SNR=9.2							
ZAL	**Zalesovo**	**62.15**	**324**	P		**P**	**22 32 54.4**	**-0.8**
	comp=Z,0.6nm,0.6s,mb3.9,baz=359,slow=11,SNR=4.6							
ZAL				LR		LR	23 01 16.7	
	comp=Z,44nm,21.5s,MS3.6,baz=265,slow=37							
BVAR	**Borovoye Array**	**70.49**	**322**	P		**P**	**22 33 47.8**	**-0.8**
	comp=Z,1.8nm,0.5s,mb4.2,baz=101,slow=6.9,SNR=17							
BVAR				LR		LR	23 03 06.3	
	comp=Z,47nm,20.5s,MS3.7,baz=310,slow=34							
YKA	**Yellowknife Ar**	**82.29**	**28**	LR		LR	23 11 48.9	
	comp=Z,25nm,19.4s,MS3.6,baz=180,slow=36							
NVAR	**Mina Array Bea**	**86.05**	**52**	P		**P**	**22 35 16.5**	**+2.0**
	comp=Z,1.5nm,0.6s,mb4.4,baz=276,slow=5.8,SNR=11							
ARCES	**ARCESS Array B**	**87.30**	**342**	P		**P**	**22 35 20.9**	**+0.3**
	comp=Z,4.1nm,1.0s,mb4.6,baz=72,slow=7.9,SNR=5.4							
JOF	**Joensuu**	**88.64**	**335**	*e*p		**P**	**22 35 22.6**	**-4.3**
	comp=Z,0.7nm,0.4s,mb4.3							
KAF	**Kangasniemi**	**91.05**	**336**	*e*p		**P**	**22 35 35.0**	**-3.2**
	comp=Z,1.3nm,0.5s,mb4.5,baz=55,slow=4.4							
KAF	**Kangasniemi**	**91.05**	**336**	*e*P		**P**	**22 35 35.0**	**-3.2**
KAF				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.4							
FINES	**FINESS Array B**	**91.50**	**335**	P		**P**	**22 35 37.9**	**-2.4**
	comp=Z,0.6nm,0.3s,mb4.3,baz=64,slow=5.7,SNR=21							
FINES	**FINESS Array B**	**91.50**	**335**	P		**P**	**22 35 37.9**	**-2.4**
HFS	**Hagfors**	**97.09**	**338**	LR		LR	23 25 04.1	
	comp=Z,20nm,20.6s,MS3.6,baz=64,slow=39							
NOA	**NORSAR Array B**	**97.32**	**340**	P		**P**	**22 36 04.8**	**-2.1**
	comp=Z,0.4nm,0.7s,mb3.9,baz=47,slow=4.7,SNR=2.7							
NOA				LR		LR	23 23 44.5	
	comp=Z,21nm,21.1s,MS3.6,baz=35,slow=38							
TORD	**Torodi Ar. Bea**	**135.65**	**305**	PKP		PKPdf	22 41 56.1	+2.1
	comp=Z,0.4nm,0.9s,baz=5.4,slow=1.8,SNR=3.2							
DBIC	**Dimbokro**	**144.64**	**303**	PKP		PKPdf	22 42 10.4	+0.1
	comp=Z,8.5nm,1.0s,baz=72,slow=1.4,SNR=5.3							

WEL 26 22:55:55.3±0.5, 4358S×17870E, h33km, ML3.5/13, Error ellipse: s-maj=4.8km s-min=3.1km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PAWZ	**Paruwai Farm**	**3.27**	**311**	PN		Pn	22 56 43.3	-0.9
MTW	**Mount Morrison**	**3.39**	**315**	PN		Pn	22 56 44.7	-1.0
BFZ	**Birch Farm**	**3.42**	**327**	PN		Pn	22 56 45.8	-0.6
CAW	**Cannon Point**	**3.65**	**311**	PN		Pn	22 56 48.5	-1.0
SNZO	**South Karori**	**3.73**	**306**	PN		Pn	22 56 49.4	-1.0
MRZ	**Mangatainoka R**	**3.73**	**320**	PN		Pn	22 56 49.8	-0.7
MRZ				SN		Sn	22 57 31.5	-1.8
MRW	**Makara Radio**	**3.78**	**307**	PN		Pn	22 56 50.2	-1.0
KIW	**Kapiti Island**	**3.91**	**313**	PN		Pn	22 56 52.4	-0.6
KIW				SN		Sn	22 57 35.5	-2.2
TCW	**Tory Channel**	**4.04**	**304**	PN		Pn	22 56 53.8	-0.9
TCW				SN		Sn	22 57 38.6	-2.4
NNZ	**Nelson**	**4.59**	**299**	PN		Pn	22 57 01.6	-0.7
BKZ	**Black Stump Fm**	**4.71**	**339**	PN		Pn	22 57 03.5	-0.5
LTZ	**Lake Taylor**	**4.77**	**277**	PN		Pn	22 57 04.5	-0.3
MWZ	**Matawai**	**5.32**	**350**	PN		Pn	22 57 11.3	-1.0

NEIC ***26*** *23:02:42.2±0.4, 924S×10858E, h10km, mb4.0/3, Error ellipse: s-maj=15.4km s-min=8.0km az=50.0*
ISCJB ***26*** *23:02:44.1±0.6, 92S±0.1×1087E±0.1, h36km, mb3.8/10, Error ellipse: s-maj=24.4km s-min=12.6km az=98.9*
IDC ***26*** *23:02:45.9±1.0, 928S×10856E, h36km±6km, mb3.7/8, mb1 3.8/8, mb1mx3.7/16, mbtmp3.9/8, Error ellipse: s-maj=46.7km s-min=16.5km az=53.0*

ISC 26 23:02:46.3±0.6, 93S±01×1086E±01, h38km, h38km±7km:pP-pP, n16, σ0§36/16, mb3.8/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.07**	**116**	P		**P**	**23 08 24.9**	**-0.3**
	0.7nm,0.7s,mb3.3,baz=289,slow=11,SNR=7.3							
WRAB	**Tennant Creek**	**27.08**	**116**	*e*P		**P**	**23 08 25.6**	**+0.3**
	3.8nm,0.5s,mb4.2							
WB2	**Warramunga Arr**	**27.08**	**116**	P		**P**	**23 08 25.8**	**+0.4**
ASAR	**Alice Springs**	**28.14**	**124**	P		**P**	**23 08 34.9**	**+0.1**
	0.4nm,0.6s,mb3.2,baz=306,slow=9.6,SNR=5.0							
STKA	**Stephens Creek**	**37.99**	**131**	P		**P**	**23 10 00.7**	**+0.2**
	3.0nm,0.7s,mb4.1,baz=296,slow=9.1,SNR=7.7							
TAU	**Tasmania Unive**	**47.62**	**141**	*e*P		**P**	**23 11 18.0**	**-0.5**
HNR	**Honiara**	**50.67**	**95**	P		**P**	**23 11 41.7**	**-0.2**
SONM	**Songino Array**	**56.89**	**358**	P		**P**	**23 12 27.2**	**-0.2**
	0.6nm,0.5s,mb3.9,baz=180,slow=7.6,SNR=7.1							
SONM				pP		pP	23 12 38.4	-0.1
	0.9nm,0.7s,baz=171,slow=9.1,SNR=5.5							
CASY	**Casey**	**56.94**	**179**	P		**P**	**23 12 27.6**	**-0.1**
MKAR	**Makanchi Array**	**60.54**	**340**	P		**P**	**23 12 52.7**	**0.0**
	1.1nm,0.5s,mb4.2,baz=147,slow=7.4,SNR=13							
MKAR				pP		pP	23 13 03.4	-0.7
	1.1nm,0.5s,baz=143,slow=6.9,SNR=5.1							
MKAR	**Makanchi Array**	**60.54**	**340**	P		**P**	**23 12 52.7**	**0.0**
MKAR				pP		pP	23 13 03.4	-0.7
BVAR	**Borovoye Array**	**70.05**	**337**	P		**P**	**23 13 53.9**	**-0.4**
	0.9nm,0.6s,mb3.9,baz=148,slow=7.0,SNR=5.7							
BVAR				pP		pP	23 14 04.8	-1.0
	1.0nm,0.6s,baz=145,slow=7.1,SNR=5.2							
VNDA	**Vanda**	**73.46**	**170**	P		**P**	**23 14 14.1**	**-0.7**
	1.1nm,0.9s,mb3.8,baz=290,slow=2.9,SNR=4.1							
VNDA	**Vanda**	**73.46**	**170**	*e*P		**P**	**23 14 14.6**	**-0.2**
	1.1nm,0.8s,mb3.8							
BRTR	**Keskin Array B**	**84.48**	**312**	P		**P**	**23 15 15.8**	**+0.8**
	0.8nm,0.8s,mb3.9,baz=125,slow=7.7,SNR=5.1							
BRTR				pP		pP	23 15 26.8	-0.1
	0.8nm,1.1s,baz=178,slow=8.7,SNR=2.7							
SNAA	**Sanae**	**87.82**	**197**	*e*P		**P**	**23 15 31.8**	**+0.3**
	0.3nm,0.5s,mb3.8							

CSEM ***26*** *23:11:26.3±0.1, 3509N×405W, h15km, MD3.6, Error ellipse: s-maj=2.1km s-min=1.4km az=104.0*
ISCJB ***26*** *23:11:27.4±0.4, 35.10N±002×402W±003, h20km±5km, Error ellipse: s-maj=4.8km s-min=2.5km az=49.0*
MDD ***26*** *23:11:27.8±0.7, 3509N×399W, h2km±6km, mb3.8/15, Error ellipse: s-maj=5.1km s-min=3.0

9.9nm,0.6s,SNR=6.5
ELUQ Luque 2.48 355 P Pn 23 12 09.9 +2.4
5.5nm,0.2s,SNR=7.9
ELUQ S Sn 23 12 37.4 0.0
6.6nm,0.2s,SNR=7.9
EQES Quesada 2.81 15 P Pn 23 12 13.7 +1.5
5.9nm,0.3s,SNR=28
EQES S Sn 23 12 46.7 +1.1
36nm,0.7s
EQES Quesada 2.81 15 P Pn 23 12 13.7 +1.5
5.9nm,0.3s,SNR=28
EQES S Sn 23 12 48.9 +3.3
36nm,0.7s
EHUE Huescar 2.95 22 P Pn 23 12 15.3 +1.3
3.9nm,0.4s,SNR=7.9
EHUE S Sn 23 12 51.8 +2.8
7.0nm,0.6s,SNR=7.9
EHUE Huescar 2.95 22 P Pn 23 12 15.4 +1.4
3.9nm,0.4s,SNR=7.9
EHUE S Sn 23 12 51.8 +2.8
7.0nm,0.6s,SNR=7.9
KIB El Ksiba 3.03 215 *e*P **Pn 23 12 17.0 +1.9**
KIB *i* S **Sn 23 12 50.0 -1.0**
ZFT Errachidia 3.06 186 P Pn 23 12 17.0 +1.4
ZFT S **Sn 23 12 50.0 -1.8**
ZFT Errachidia 3.06 186 *e*P **Pn 23 12 17.0 +1.4**
EBAN Banos Encina 3.08 3 P Pn 23 12 16.7 +0.9
0.7nm,0.4s,SNR=7.9
EBAN S **Sn 23 12 52.6 +0.4**
6.0nm,0.4s,SNR=7.9
EADA Adamuz 3.11 352 P Pn 23 12 16.9 +0.7
4.1nm,0.3s,SNR=13
EADA S **Sn 23 12 53.4 +0.5**
12nm,0.5s
EADA Adamuz 3.11 352 P Pn 23 12 16.9 +0.7
4.1nm,0.3s,SNR=13
EADA S **Sn 23 12 53.4 +0.4**
12nm,0.5s
EMIN Mina Concepcio 3.44 322 P Pn 23 12 20.3 -0.4
2.8nm,0.2s,SNR=13
EMIN S **Sn 23 12 58.9 -2.1**
4.0nm,0.3s
EMIN Mina Concepcio 3.44 322 P Pn 23 12 20.3 -0.4
2.8nm,0.2s,SNR=13
EMIN S **Sn 23 12 58.9 -2.1**
4.0nm,0.3s
EMUR La Murta 3.54 38 P Pn 23 12 21.6 -0.5
3.1nm,0.4s,SNR=7.9
EMUR S **Sn 23 13 01.5 -2.0**
8.3nm,0.5s,SNR=7.9
EMUR La Murta 3.54 38 P Pn 23 12 21.6 -0.5
3.1nm,0.4s,SNR=7.9
EMUR S **Sn 23 13 01.5 -2.0**
8.3nm,0.5s,SNR=7.9
TZC Tazercounte 3.59 216 *e*P **Pn 23 12 25.0 +2.1**
TZC *i* S **Sn 23 13 06.0 +1.0**
EGRO El Granado 3.73 312 P Pn 23 12 24.4 -0.3
4.3nm,0.3s,SNR=4.8
EGRO S **Sn 23 13 05.8 -2.4**
12nm,0.5s
EGRO El Granado 3.73 312 P Pn 23 12 24.4 -0.3
4.3nm,0.3s,SNR=4.8
EGRO S **Sn 23 13 05.8 -2.4**
12nm,0.5s
EVIA Vianos 3.74 18 P Pn 23 12 29.5 +4.6
1.8nm,0.3s,SNR=4.0
EVIA S **Sn 23 13 06.5 -2.1**
4.6nm,0.6s,SNR=4.6
ETOB Tobarra 4.06 28 P Pn 23 12 31.0 +1.7
2.9nm,0.3s,SNR=13
ETOB S **Sn 23 13 16.2 -0.2**
3.6nm,0.4s
ETOB Tobarra 4.06 28 P Pn 23 12 31.0 +1.7
2.9nm,0.3s,SNR=13
ETOB S **Sn 23 13 16.2 -0.2**
3.6nm,0.4s
EBAD Badajoz 4.39 327 P Pn 23 12 33.3 -0.5
3.8nm,0.3s,SNR=14
EBAD S **Sn 23 13 22.1 -2.4**
8.4nm,0.2s,SNR=7.2
EBAD Badajoz 4.39 327 P Pn 23 12 33.3 -0.5
3.8nm,0.3s,SNR=14
EBAD S **Sn 23 13 22.1 -2.4**
8.4nm,0.2s,SNR=7.2
ESDC Sonseca Array 4.58 0 P Pn 23 12 37.5 +1.1
2.9nm,0.2s,baz=180,slow=12,SNR=23
ESDC S **Sn 23 13 29.2 0.0**
0.4nm,0.3s,baz=187,slow=22,SNR=4.2
ESDC Sonseca Array 4.58 0 P Pn 23 12 37.5 +1.0
2.9nm,0.2s,SNR=23
ESDC S **Sn 23 13 29.2 0.0**
0.4nm,0.3s,SNR=4.2
EBEN Beniarda 4.71 39 S Sn 23 13 32.4 -0.1
3.6nm,0.7s,SNR=4.0
EBEN Beniarda 4.71 39 S Sn 23 13 32.4 0.0
3.6nm,0.7s,SNR=4.0
OUK Oukaimeden 5.05 221 *e*P **Pn 23 12 46.0 +3.1**
OUK *i* S **Sn 23 13 40.0 -0.8**
EPLA Plasencia 5.24 342 P Pn 23 12 45.8 +0.4
1.4nm,0.2s,SNR=7.9
EPLA S **Sn 23 13 43.4 -2.0**
2.2nm,0.3s,SNR=7.9
EPLA Plasencia 5.24 342 P Pn 23 12 45.8 +0.3
1.4nm,0.2s,SNR=7.9
EPLA S **Sn 23 13 43.4 -2.0**
2.2nm,0.3s,SNR=7.9
GUD Guadarrama 5.55 359 P Pn 23 12 50.6 +0.8
2.0nm,0.4s,SNR=7.6
GUD S **Sn 23 13 51.1 -2.0**
1.1nm,0.4s
EIBI Ibiza 5.80 46 P Pn 23 12 54.7 +1.4
0.4nm,0.2s,SNR=5.0
EIBI S **Sn 23 13 57.7 -1.7**
1.2nm,0.3s,SNR=7.9
EIBI Ibiza 5.80 46 P Pn 23 12 54.7 +1.4
0.4nm,0.2s,SNR=5.0
EMOS Mosqueruela 5.96 27 P Pn 23 12 56.7 +1.3
0.7nm,0.5s,SNR=4.0
EMOS Mosqueruela 5.96 27 P Pn 23 12 56.7 +1.2
0.7nm,0.5s,SNR=4.0
ERTA Horta de San J 6.78 29 P Pn 23 13 08.5 +1.8
0.6nm,0.3s,SNR=4.0
ERTA S **Sn 23 14 20.3 -3.3**
0.8nm,0.4s,SNR=4.0
ERTA Horta de San J 6.78 29 P Pn 23 13 08.5 +1.8
0.6nm,0.3s,SNR=4.0
ETOS Mallorca 7.15 47 P Pn 23 13 14.0 +2.1
0.2nm,0.4s,SNR=4.0
ECAL Calabor 7.17 343 P Pn 23 13 12.9 +0.8
3.2nm,0.4s,SNR=6.8
ECAL S **Sn 23 14 30.7 -2.4**
12nm,0.7s,SNR=7.9
ELOB Lobios 7.48 336 P Pn 23 13 16.7 +0.4
0.8nm,0.3s,SNR=7.9
ELOB S **Sn 23 14 36.9 -3.8**
3.8nm,0.5s,SNR=7.9
ELAN Lanestosa 8.14 3 P Pn 23 13 27.3 +1.8
0.3nm,0.3s,SNR=7.9
EARI Arriondas 8.26 354 P Pn 23 13 27.5 +0.6
0.4nm,0.3s,SNR=7.9
EALK Alkurruntz 8.35 13 P Pn 23 13 30.6 +2.4
0.8nm,0.3s,SNR=7.9

*ISCJB **26** 23:21:59.5±2.5, 377N±02×722E±02, h212km±25km, mb3.1/2, Error ellipse: s-maj=37.8km s-min=13.6km az=72.3*
*IDC **26** 23:22:03.5±15.0, 3758N×7241E, h247km±160km, mb3.0/2, mb1 2.9/5, mb1mx2.7/22, mbtmp3.5/5, Error ellipse: s-maj=118.5km s-min=25.9km az=14.0*
*NNC **26** 23:22:03.8±0.3, 3764N×7082E, h86km±9km, mb3.3, mpv3.6, Error ellipse: s-maj=6.7km s-min=2.3km az=67.0*

ISC 26 23:22:00.2±3.1, 376N±02×721E±02, h187km±31km, n15, σ0°91/17, mb3.2/2, 2C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.65**	**14**	P	**Pn**	**23 23 10.0**	**+0.3**
	SNR=21						
UCH	**Uchtor**	**4.94**	**21**	P	**Pn**	**23 23 13.3**	**-0.1**
	SNR=8.6						
EKS2	**Erkin-Say**	**5.18**	**14**	P	**Pn**	**23 23 16.7**	**+0.2**
	SNR=19						
AAK	**Ala-Archa**	**5.31**	**19**	P	**Pn**	**23 23 18.8**	**+0.5**
	SNR=11						
ULHL	**Ulahol**	**5.59**	**33**	P	**Pn**	**23 23 20.8**	**-1.0**
	SNR=6.3						
KK31	**Karatay Array**	**5.61**	**348**	⇓P	**Pn**	**23 23 22.7**	**+0.6**
	3.6nm,0.5s,baz=237,slow=32,SNR=105						
KK31				⇑S	**Sn**	**23 24 24.8**	**-1.8**
	2.6nm,0.3s,baz=178,slow=26,SNR=6.5						
CHMS	**Chumysh**	**5.72**	**20**	P	**Pn**	**23 23 23.4**	**-0.2**
	SNR=5.4						
TKM2	**Tokmak 2**	**5.91**	**26**	P	**Pn**	**23 23 26.3**	**+0.3**
	0.1nm,0.3s,baz=205,slow=13,SNR=1.9						
AB31	**Akbulak array**	**14.59**	**327**	P	**Pn**	**23 25 18.4**	**+0.6**
	0.7nm,0.5s,baz=137,slow=11,SNR=18						
AB31				⇑S	**Sn**	**23 27 53.2**	**-7.4**
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**15.44**	**356**	P	**Pn**	**23 25 28.3**	**0.0**
	0.2nm,0.3s,baz=178,slow=10,SNR=7.2						
AKTO	**Aktyubinsk**	**16.30**	**326**	P	**Pn**	**23 25 40.2**	**+1.6**
AKTO	**Aktyubinsk**	**16.30**	**326**	P	**Pn**	**23 25 40.5**	**+1.9**
	0.2nm,0.3s,baz=139,slow=9.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**66.65**	**269**	P	**P**	**23 32 29.3**	**-1.3**
	0.4nm,0.4s,mb3.6,baz=47,slow=5.5,SNR=27						
WRA	**Warramunga Arr**	**81.83**	**123**	P	**P**	**23 33 54.4**	**-3.9**
	0.1nm,0.3s,mb2.9,baz=326,slow=4.9,SNR=5.8						

IDC 26 23:33:53.7±3.5, 630S×15227E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/12, mbtmp3.6/3, Error ellipse: s-maj=124.2km s-min=50.2km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.07**	**230**	P	P	23 38 48.6	-1.5
	0.6nm,0.9s,baz=56,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**24.69**	**224**	P	P	23 39 17.1	+0.8
	1.1nm,0.8s,baz=56,slow=9.6,SNR=10						
FITZ	**Fitzroy Crossi**	**28.49**	**243**	P	P	23 39 52.0	+1.4
	1.8nm,0.9s,baz=52,slow=10,SNR=3.0						
TORD	**Torodi Ar. Bea**	**150.23**	**285**	PKPbc	PKPbc	23 53 47.2	+0.5
	0.5nm,0.7s,baz=80,slow=2.0,SNR=5.4						

*IDC **26** 23:44:01.8±3.5, 3557N×7139E, h0km, mb3.7/4, mb1 3.6/7, mb1mx3.4/22, mbtmp3.5/7, ML3.2/3, Error ellipse: s-maj=72.6km s-min=31.9km az=127.0*
*MOS **26** 23:44:07.8±1.1, 3588N×7127E, h38km, mb3.8/1, Error ellipse: s-maj=25.9km s-min=13.1km az=99.3*
*NEIC **26** 23:44:07.6±1.7, 3570N×7135E, h35km, mb3.7/1, Error ellipse: s-maj=29.1km s-min=10.8km az=145.0*
*ISCJB **26** 23:44:11.1±2.1, 3611N±0.1×708E±02, h33km, mb3.8/5, Error ellipse: s-maj=31.6km s-min=10.5km az=70.2*
*NNC **26** 23:44:20.6±9.4, 3671N×7007E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=110.8km s-min=57.2km az=120.0*

ISC 26 23:44:09.7±1.4, 359N±01×712E±02, h35km, n19, σ0°74/21, mb3.7/6, 1C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.17**	**20**	*e*Pn	**Pn**	**23 45 51.9**	**0.0**
AAK				*e*Sn	**Sn**	**23 47 17.1**	**+5.1**
KK31	**Karatay Array**	**7.19**	**356**	P	**Pn**	**23 45 55.8**	**+3.5**
	0.7nm,0.2s,baz=169,slow=12,SNR=68						
KK31				⇓S	**Sn**	**23 47 11.5**	**-1.3**
	3.3nm,0.6s,baz=162,slow=21,SNR=5.8						
MKAR	**Makanchi Array**	**13.66**	**34**	Pn	**Pn**	**23 47 20.6**	**-0.2**
	0.0nm,0.3s,baz=207,slow=8.7,SNR=2.3						
AB31	**Akbulak array**	**15.67**	**332**	P	**Pn**	**23 47 47.8**	**0.0**
	0.2nm,0.2s,baz=169,slow=11,SNR=12						
AB31				⇑S	S	23 50 27.5	-27
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**17.11**	**358**	P	**Pn**	**23 48 06.1**	**+0.1**
	0.1nm,0.3s,baz=167,slow=13,SNR=2.8						
AKTK	**Aktyubinsk**	**17.37**	**331**	P	**Pn**	**23 48 09.9**	**+0.7**
AKTO	**Aktyubinsk**	**17.37**	**331**	P	**Pn**	**23 48 10.3**	**+1.0**
AKTO	**Aktyubinsk**	**17.37**	**331**	P	**Pn**	**23 48 09.9**	**+0.7**
	0.2nm,0.3s,baz=146,slow=11,SNR=5.8						
GNI	**Garni**	**21.25**	**289**	*e*P	**P**	**23 48 52.1**	**-0.6**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GNI	**Garni**	**21.25**	**289**	*e*P	**P**	**23 48 52.1**	**-0.6**
	comp=Z,1.1nm,0.4s,mb3.5						
KIV	**Kislovodsk**	**23.22**	**299**	*e*P	**P**	**23 49 13.8**	**+0.2**
KIV	**Kislovodsk**	**23.22**	**299**	*e*P	**P**	**23 49 13.8**	**+0.1**
JOF	**Joensuu**	**36.46**	**330**	*e*p	**P**	**23 51 11.7**	**+0.5**
	comp=Z,1.8nm,0.4s,mb4.3						
FINES	**FINESS Array B**	**38.06**	**326**	P	**P**	**23 51 24.5**	**-0.2**
	comp=Z,1.1nm,0.8s,mb3.6,baz=130,slow=13,SNR=4.6						
FINES	**FINESS Array B**	**38.06**	**326**	P	**P**	**23 51 24.5**	**-0.2**
ARCES	**ARCESS Array B**	**41.74**	**338**	P	**P**	**23 51 55.8**	**+0.4**
	comp=Z,5.2nm,1.1s,mb4.1,baz=116,slow=8.2,SNR=4.2						
NOA	**NORSAR Array B**	**44.95**	**323**	P	**P**	**23 52 21.2**	**0.0**
	comp=Z,0.3nm,0.5s,mb3.4,baz=93,slow=7.6,SNR=3.5						
NOA	**NORSAR Array B**	**44.95**	**323**	P	**P**	**23 52 21.2**	**0.0**
TORD	**Torodi Ar. Bea**	**65.88**	**269**	P	**P**	**23 54 50.5**	**-1.3**
	comp=Z,0.2nm,0.5s,mb3.4,baz=48,slow=5.8,SNR=8.5						

*ISCJB **27** 00:02:17.5±0.8, 3095S±009×1799E±02, h400km, mb3.1/2, Error ellipse: s-maj=20.6km s-min=9.5km az=51.5*
*IDC **27** 00:02:17.6±1.0, 3105S×17993W, h403km±14km, mb2.9/2, mb1 3.3/3, mb1mx3.0/12, mbtmp4.0/3, Error ellipse: s-maj=39.8km s-min=17.1km az=120.0*

ISC 27 00:02:18.2±0.8, 3102S±009×1800E±02, h400km, n11, σ0°80/10, mb3.1/2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.53**	**46**	P	**Pn**	**00 03 16.9**	**-0.7**
	67nm,0.3s,baz=100,slow=21,SNR=7.2						
RAO				S	**S**	**00 04 05.7**	**0.0**
	48nm,0.3s,baz=90,slow=20,SNR=2.4						
PUZ	**Puketiti**	**7.18**	**191**	PN	**Pn**	**00 04 05.2**	**+1.4**
MWZ	**Matawai**	**7.57**	**195**	PN	**Pn**	**00 04 09.2**	**+1.0**
URZ	**Urewera**	**7.60**	**197**	P	**P**	**00 04 08.6**	**-0.4**
	7.0nm,0.3s,baz=311,slow=3.9,SNR=71						
URZ				S	**S**	**00 05 37.3**	**-1.6**
	2.9nm,0.3s,baz=93,slow=23,SNR=11						
URZ	**Urewera**	**7.60**	**197**	PN	**Pn**	**00 04 09.0**	**+0.4**
BKZ	**Black Stump Fm**	**8.62**	**198**	PN	**Pn**	**00 04 20.1**	**-0.1**
ASAR	**Alice Springs**	**41.36**	**269**	P	**P**	**00 09 27.1**	**+0.1**
	0.2nm,0.3s,mb2.9,baz=97,slow=7.8,SNR=3.5						
WRA	**Warramunga Arr**	**42.41**	**274**	P	**P**	**00 09 35.1**	**-0.2**
	0.5nm,0.3s,mb3.4,baz=111,slow=8.1,SNR=27						
KEV	**Kevo**	**138.33**	**346**	*e*pkp	PKPdf	00 21 01.2	+4.6
KAF	**Kangasniemi**	**144.53**	**339**	*e*pkp	PKPdf	00 21 03.2	-4.4
FINES	**FINESS Array B**	**145.11**	**338**	PKPbc	PKPbc	00 21 06.8	-2.3
	1.0nm,0.5s,baz=58,slow=3.0,SNR=16						

*ISCJB **27** 00:06:13.1±0.3, 5042N±002×1884E±02, h0km, Error ellipse: s-maj=2.9km s-min=2.1km az=28.9*
*NEIC **27** 00:06:15.6±0.3, 5035N×1884E, h5km, ML3.3(SZGRF), ML3.5(BUC), Error ellipse: s-maj=4.3km s-min=3.5km az=193.0*
*IPEC **27** 00:06:16.6±0.1, 5021N×1886E, h6km±1km, ML2.7/3, Error ellipse: s-maj=1.5km s-min=0.7km az=172.0*
*PRU **27** 00:06:16.5, 5032N×1878E, h0km*
*WAR **27** 00:06:16.4, 5026N×1889E, ML3.1, Mining Induced*
*CSEM **27** 00:06:17.0±0.1, 5026N×1880E, h0km, ML3.5/9, Error ellipse: s-maj=2.3km s-min=1.1km az=6.0*
*IDC **27** 00:06:17.5±0.7, 5014N×1882E, h0km, mb1 3.4/7, mb1mx3.3/21, mbtmp3.2/7, ML2.9/7, Error ellipse: s-maj=11.0km s-min=7.1km az=146.0*
*BGR **27** 00:06:19.5±1.0, 5011N×1866E, h1km, ML3.3, Error ellipse: s-maj=17.8km s-min=14.5km az=20.0*
*VIE **27** 00:06:19.4±1.4, 5034N×1831E, h0km, mb2.2/5, ML2.7/6, Error ellipse: s-maj=8.1km s-min=6.7km az=39.0 49 km WNW of Kattowitz Suspected Mining induced.*

ISC 27 00:06:15.0±0.3, 5035N±002×1883E±002, h0km, n85, σ1°34/138, 9C-14D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.49**	**237**	*e*Pg	**Pg**	**00 06 26.3**	**+1.8**
RAC				*e*Sg	**Sg**	**00 06 33.7**	**+2.8**
OJC	**Ojcow**	**0.63**	**102**	*i* Pg	**Pg**	**00 06 27.8**	**+0.6**
OJC				*i* Sg	**Sg**	**00 06 36.2**	**+0.8**
OKC	**Ostrava-Krasne**	**0.68**	**221**	*e*PG	**Pg**	**00 06 28.7**	**+0.6**
OKC				*e*SG	**Sg**	**00 06 37.8**	**+0.9**
	164nm,0.7s						
MORC	**Moravsky Berou**	**1.01**	**236**	⇓P	**Pg**	**00 06 34.7**	**+0.2**
MORC				S	**Sg**	**00 06 48.2**	**+0.6**
MORC	**Moravsky Berou**	**1.01**	**236**	*e*Pg	**Pg**	**00 06 34.7**	**+0.2**
MORC				*e*Sg	**Sg**	**00 06 47.9**	**+0.3**
	138nm,0.4s						
LIKS	**Likavka**	**1.32**	**172**	*e*PN	**Pn**	**00 06 39.9**	**-0.8**
LIKS				*e*SN	**Sn**	**00 06 56.1**	**-2.9**
NIE	**Niedzica**	**1.34**	**134**	*i* Pg	**Pg**	**00 06 40.0**	**-0.7**
NIE				*i* Sg	**Sg**	**00 06 58.5**	**+0.4**
DPC	**Dobruska-Polom**	**1.61**	**271**	*e*PG	**Pn**	**00 06 45.3**	**+0.6**
DPC				*e*SG	**Sn**	**00 07 07.2**	**+1.1**
	105nm,0.6s						
DPC	**Dobruska-Polom**	**1.61**	**271**	*e*Pn	**Pn**	**00 06 45.4**	**+0.7**
DPC				*e*Sg	**Sn**	**00 07 07.2**	**+1.1**
	105nm,0.6s						
JAVC	**Velka Javorina**	**1.68**	**207**	*e*Pn	**Pn**	**00 06 45.7**	**+0.1**
KSP	**Ksiaz**	**1.69**	**288**	*e*Pn	**Pn**	**00 06 46.5**	**+0.7**
KSP				*i* Pg	**Pg**	**00 06 49.1**	**+1.6**
KSP				*e*Sg	**Sg**	**00 07 11.6**	**+2.2**
VRAC	**Vranov**	**1.79**	**235**	Pn	**Pn**	**00 06 47.0**	**-0.1**
	7.4nm,0.3s,baz=57,slow=14,SNR=124						
VRAC				Lg		00 07 10.8	
	19nm,0.3s,baz=140,slow=22,SNR=19						
VRAC	**Vranov**	**1.79**	**235**	⇑P	**Pn**	**00 06 47.1**	**-0.1**
VRAC				S	**Sn**	**00 07 10.9**	**+0.3**
VRAC	**Vranov**	**1.79**	**235**	*e*Pn	**Pn**	**00 06 47.1**	**-0.1**
VRAC				*e*Sg	**Sn**	**00 07 10.9**	**+0.3**
	53nm,0.3s						
UPC	**Upice**	**1.81**	**276**	*e*PG	**Pn**	**00 06 48.0**	**+0.5**
UPC				*e*SG	**Sn**	**00 07 12.7**	**+1.6**
VYHS	**Vyhne**	**1.86**	**180**	*e*PN	**Pn**	**00 06 47.0**	**-1.2**
VYHS				*e*SN	**Sn**	**00 07 11.5**	**-0.9**
VYHS	**Vyhne**	**1.86**	**180**	*e*Pn	**Pn**	**00 06 47.1**	**-1.1**
VYHS				*e*Sn	**Sn**	**00 07 11.5**	**-0.9**
VYHS	**Vyhne**	**1.86**	**180**	*e*Pn	**Pn**	**00 06 47.2**	**-1.0**
VYHS				*e*Sg	**Sg**	**00 07 09.5**	**-5.4**
VYHS				*e*Sn	**Sn**	**00 07 11.5**	**-0.9**
KRUC	**Moravsky**	**2.04**	**232**	*e*Pn	**Pn**	**00 06 50.0**	**-0.7**
KRUC				*e*Sg	**Sn**	**00 07 18.1**	**+1.2**
	36nm,0.4s						
SMOL	**Smolenice**	**2.06**	**207**	*e*PN	**Pn**	**00 06 50.3**	**-0.6**
SMOL				*e*		00 06 59.7	
CRVS	**Cervenica-Dubn**	**2.24**	**129**	*e*PN	**Pn**	**00 06 53.1**	**-0.3**
CRVS				*e*SN	**Sn**	**00 07 23.7**	**+1.9**
TREC	**Trest**	**2.41**	**245**	*e*PG	**Pn**	**00 06 58.7**	**+3.0**
ZST	**Bratislava**	**2.44**	**208**	*e*PN	**Pn**	**00 06 56.1**	**0.0**
ZST				*e*		00 07 04.6	
PSZ	**Piszkesteto**	**2.54**	**164**	⇓*e*PB	**Pb**	**00 07 03.4**	**+2.0**
PSZ				*e*SB	**Sb**	**00 07 34.8**	**+1.6**
KWP	**Kalwaria**	**2.60**	**105**	*e*Pg	**Pg**	**00 07 05.9**	**+1.0**
KWP	**Kalwaria**	**2.60**	**105**	*e*Pn	**Pn**	**00 06 57.3**	**-1.0**
KWP				*e*Pg	**Pg**	**00 07 05.9**	**+1.0**
KWP				*e*Sn	**Sn**	**00 07 28.4**	**-2.3**
KWP	**Kalwaria**	**2.60**	**105**	*e*Pn	**Pn**	**00 06 57.3**	**-1.1**
KWP	**Kalwaria**	**2.60**	**105**	*e*Pg	**Pg**	**00 07 05.9**	**+1.0**
KOLS	**Kolonicke sedl**	**2.65**	**121**	*e*PN	**Pn**	**00 06 58.8**	**-0.2**
PVCC	**Panska Ves**	**2.73**	**275**	*e*PG	**Pg**	**00 07 07.2**	**-0.2**
PRU	**Pruhonice**	**2.78**	**264**	*e*PN	**Pn**	**00 07 00.7**	**-0.1**
PRU				*e*PG	**Pg**	**00 07 05.6**	**-2.8**
PRU				*e*SG	**Sg**	**00 07 42.4**	**-2.1**
	49nm,1.0s						
PRA	**Prague**	**2.84**	**266**	PG	**Pg**	**00 07 09.0**	**-0.5**
PRA				SG	**Sg**	**00 07 50.0**	**+3.7**
GKP	**Gorka Klasztor**	**3.08**	**342**	*e*Pn	**Pn**	**00 07 07.9**	**+2.9**
GKP				*e*Pg	**Pg**	**00 07 20.2**	**+6.0**
CONA	**Conrad Observa**	**3.12**	**220**	⇓*e*Pn	**Pn**	**00 07 00.4**	**-5.0**
	0.8nm,0.2s,SNR=5.9						
CONA				⇓*i*Sg	**Sg**	**00 07 48.3**	**-6.9**
	25nm,0.8s						
BRG	**Berggiesshubel**	**3.16**	**281**	*e*Pn	**Pn**	**00 07 10.5**	**+4.5**
BRG				*e*Sg	**Sg**	**00 07 58.0**	**+1.4**
BRG	**Berggiesshubel**	**3.16**	**281**	PG	**Pg**	**00 07 14.9**	**-0.6**
BRG				SG	**Sg**	**00 07 57.0**	**+0.5**
	18nm,0.7s						
BRG	**Berggiesshubel**	**3.16**	**281**	Pg	**Pg**	**00 07 14.9**	**-0.7**
BRG				Sg	**Sg**	**00 07 57.0**	**+0.5**
KHC	**Kasperske Hory**	**3.62**	**252**	*e*PN	**Pn**	**00 07 12.6**	**+0.2**
KHC				*e*PG	**Pg**	**00 07 19.4**	**-5.1**
KHC				*e*SG	**Sg**	**00 08 09.0**	**-2.4**
	38nm,0.5s						
GEC2	**GERESS Array S**	**3.66**	**248**	*e*Pn	**Pn**	**00 07 14.3**	**+1.4**
GEC2				*e*Sg	**Sg**	**00 08 10.9**	**-1.9**
GEC2	**GERESS Array S**	**3.66**	**248**	*e*Pn	**Pn**	**00 07 14.3**	**+1.3**
GEC2				*e*Sg	**Sg**	**00 08 10.9**	**-1.9**
GERES	**GERESS Array B**	**3.66**	**248**	Pn	**Pn**	**00 07 14.0**	**+1.0**
	0.3nm,0.3s,baz=65,slow=14,SNR=9.6						
GERES				Pg	**Pg**	**00 07 22.8**	**-2.5**
	1.3nm,0.3s,baz=64,slow=16,SNR=25						
GERES				Lg		00 08 10.8	
	5.6nm,0.3s,baz=71,slow=28,SNR=16						
GERES	**GERESS Array B**	**3.66**	**248**	Pg	**Pg**	**00 07 22.8**	**-2.5**
ARSA	**Arzberg**	**3.80**	**216**	⇓*e*Pn	**Pn**	**00 07 15.3**	**+0.5**
ARSA				⇓*i*Pg	**Pg**	**00 07 27.7**	**-0.1**
	2.4nm,0.3s						
ARSA				⇓*i*Sn	**Sn**	**00 08 00.7**	**+0.5**
ARSA				⇓*e*Sg	**Sg**	**00 08 18.7**	**+1.6**
	7.2nm,0.6s						
RUE	**Ruedersdorf**	**3.81**	**306**	*e*Pg	**Pg**	**00 07 29.7**	**+1.6**
CLL	**Collm**	**3.82**	**287**	*i* Pg	**Pg**	**00 07 28.8**	**+0.6**
CLL				*e*Sg	**Sg**	**00 08 19.2**	**+1.5**
CLL	**Collm**	**3.82**	**287**	*i* PG	**Pg**	**00 07 28.8**	**+0.6**
CLL				*i* SG	**Sg**	**00 08 21.9**	**+4.2**
CLL	**Collm**	**3.82**	**287**	*i* Pg	**Pg**	**00 07 28.8**	**+0.6**
CLL				*i* Sg	**Sg**	**00 08 21.9**	**+4.2**
	comp=Z,28nm,0.7s						
CLL				LmV		00 24 00.0	
	comp=Z,100nm,20.0s						
MOA	**Molln**	**3.91**	**232**	⇑*e*Pn	**Pn**	**00 07 16.2**	**-0.1**
	comp=Z,0.3nm,0.1s						
MOA				⇑*i*Sn	**Sn**	**00 08 02.2**	**-0.7**
MOA				⇑*e*Sg	**Sg**	**00 08 18.3**	**-2.4**
	comp=Z,35nm,0.9s						
WET	**Wettzell**	**4.05**	**255**	*e*Pn	**Pn**	**00 07 18.4**	**+0.2**
TANN	**Tannenbergstha**	**4.08**	**273**	*e*Sg	**Sg**	**00 08 23.1**	**-3.0**
NKC	**Novy Kostel**	**4.10**	**271**	*e*PN	**Pn**	**00 07 20.1**	**+1.2**
NKC				*ex*	x	00 07 27.8	
NKC				*e*SG	**Sg**	**00 08 25.8**	**-0.9**
	comp=Z,25nm,0.7s						
PKSM	**Moragy**	**4.15**	**182**	⇓P	**Pn**	**00 07 18.5**	**-1.1**
WERD	**Werda**	**4.18**	**274**	*e*Sg	**Sg**	**00 08 29.5**	**+0.2**
ROTZ	**Rotzenmuhle**	**4.31**	**265**	*e*Sg	**Sg**	**00 08 30.3**	**-3.2**
MANZ	**Manzenberg**	**4.34**	**268**	*e*Sg	**Sg**	**00 08 33.2**	**-1.2**
MANZ	**Manzenberg**	**4.34**	**268**	Sg	**Sg**	**00 08 33.2**	**-1.3**
DRGR		**4.40**	**143**	⇓P	**Pn**	**00 07 22.2**	**-0.9**
DRGR				S	**Sn**	**00 08 11.7**	**-3.3**
SUW	**Suwalki**	**4.54**	**34**	Pn	**Pn**	**00 07 27.0**	**+2.0**
SUW				*e*Pg	**Pg**	**00 07 40.9**	**-1.1**
SUW	**Suwalki**	**4.54**	**34**	Pn	**Pn**	**00 07 27.0**	**+2.1**
MOX	**Moxa**	**4.62**	**276**	*e*Sg	**Sg**	**00 08 45.6**	**+2.2**
MOX	**Moxa**	**4.62**	**276**	*

HFS	**Hagfors**	**10.23**	**345**	Pn	**Pn**	**00 08 43.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=152,slow=16,SNR=6.5						
HFS				Sn	**Sn**	**00 10 35.1**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=167,slow=27,SNR=2.1						
NB2	**NORSAR Subarra**	**11.53**	**341**	P	**Pn**	**00 09 00.0**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=159,slow=12						
NOA	**NORSAR Array B**	**11.53**	**341**	Pn	**Pn**	**00 08 59.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=157,slow=12,SNR=4.5						
FINES	**FINESS Array B**	**11.82**	**17**	Pn	**Pn**	**00 09 03.4**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=200,slow=11,SNR=15						
FINES	**FINESS Array B**	**11.82**	**17**	Pn	**Pn**	**00 09 03.4**	**-1.5**
KAF	**Kangasniemi**	**12.48**	**16**	*ep*	**Pn**	**00 09 12.1**	**-1.9**
	comp=Z,0.6nm,0.3s						
JOF	**Joensuu**	**14.30**	**24**	*ep*	**Pn**	**00 09 35.2**	**-3.6**
	comp=Z,0.7nm,0.3s						
ARCES	**ARCESS Array B**	**19.51**	**7**	P	**Pn**	**00 10 42.1**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=194,slow=13,SNR=6.2						

*ISCJB **27** 00:17:11.8±1.2, 176S±03×1788W±02, h561km±20km, mb4.3/13, Error ellipse: s-maj=45.1km s-min=14.0km az=119.8*
*IDC **27** 00:17:12.5±1.9, 1755S×17874W, h550km±23km, mb3.6/8, mb1 3.8/10, mb1mx3.6/17, mbtmp4.6/10, Error ellipse: s-maj=39.7km s-min=13.8km az=151.0*
*NEIC **27** 00:17:12.3±0.8, 1759S×17873W, h554km±11km, mb4.5/7, Error ellipse: s-maj=28.9km s-min=8.6km az=150.0*

ISC 27 00:17:12.6±1.2, 176S±03×1787W±02, h552km±17km, n25, σ0$63/20, mb4.3/13, 1C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.63**	**62**	P	**P**	**00 19 06.2**	**-0.4**
	4.0nm,0.3s,baz=223,slow=15,SNR=5.3						
DZM	**Mont Dzumac**	**14.64**	**250**	P	**P**	**00 20 18.6**	**+0.3**
	1.2nm,0.3s,baz=139,slow=23,SNR=9.3						
CNB	**Canberra Magne**	**33.38**	**232**	*e*P	**P**	**00 23 06.4**	**+0.8**
	9.1nm,0.5s,mb4.6						
PMG	**Port Moresby**	**34.11**	**279**	P	**P**	**00 23 13.1**	**+1.4**
	23nm,0.8s,mb4.8,baz=70,slow=8.3,SNR=5.7						
STKA	**Stephens Creek**	**38.52**	**241**	*e*P	**P**	**00 23 48.5**	**+0.5**
	6.1nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**00 23 48.6**	**+0.7**
	7.5nm,0.5s,mb4.5,baz=90,slow=10.0,SNR=21						
WB2	**Warramunga Arr**	**44.38**	**259**	*e*P	**P**	**00 24 33.5**	**-0.8**
WRAB	**Tennant Creek**	**44.38**	**259**	*e*P	**P**	**00 24 34.0**	**-0.3**
	7.6nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**44.39**	**259**	P	**P**	**00 24 33.8**	**-0.6**
	4.9nm,0.5s,mb4.3,baz=94,slow=6.8,SNR=219						
AS31	**Alice Springs**	**44.58**	**254**	ǁ *i*P	**P**	**00 24 35.9**	**+0.1**
ASAR	**Alice Springs**	**44.58**	**254**	P	**P**	**00 24 35.9**	**+0.1**
	47nm,0.6s,mb5.2,baz=88,slow=8.1,SNR=586						
ASAR				PcP	PcP	00 26 06.6	-0.2
	1.6nm,0.7s,baz=97,slow=3.9,SNR=4.3						
ASPA	**Alice Springs**	**44.59**	**254**	ǁ *i*P	**P**	**00 24 35.9**	**0.0**
FORT	**Forrest**	**49.87**	**244**	*e*P	**P**	**00 25 14.7**	**-0.8**
	14nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.78**	**260**	*e*P	**P**	**00 25 36.9**	**+0.4**
	3.7nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	**52.78**	**260**	P	**P**	**00 25 36.8**	**+0.3**
	1.8nm,0.4s,mb3.8,baz=70,slow=7.0,SNR=12						
MBWA	**Marble Bar**	**57.85**	**256**	*e*P	**P**	**00 26 11.5**	**-0.3**
	4.2nm,0.3s,mb4.2						
KLBR	**Kellerberrin**	**58.70**	**243**	*e*P	**P**	**00 26 16.6**	**-0.9**
	51nm,1.4s,mb4.6						
MJAR	**Matsushiro Arr**	**67.47**	**323**	P	**P**	**00 27 13.1**	**-0.7**
	2.7nm,0.6s,mb4.0,baz=159,slow=5.5,SNR=6.9						
NVAR	**Mina Array Bea**	**79.41**	**44**	P	**P**	**00 28 22.6**	**+0.9**
	0.8nm,0.7s,mb3.2,baz=231,slow=9.7,SNR=6.9						
PDAR	**Pinedale Array**	**87.33**	**44**	P	**P**	**00 29 01.2**	**+0.2**
	0.5nm,0.6s,mb3.3,baz=234,slow=2.3,SNR=5.3						
BURAR	**Bucovina Array**	**144.19**	**332**	ǁ *i*P	PKPdf	00 35 46.1	+0.3
BR131	**Keskin Array S**	**144.34**	**315**	*e*PKPbc	PKPdf	00 35 45.6	-0.5
BRTR	**Keskin Array B**	**144.34**	**315**	PKP	PKPdf	00 35 45.9	-0.2
	2.1nm,0.8s,baz=116,slow=2.9,SNR=13						
GZR	**Gura Zlata**	**146.98**	**332**	ǁ *i*P	PKPdf	00 35 43.1	-7.4
GERES	**GERESS Array B**	**147.23**	**345**	PKPbc	PKPbc	00 35 53.9	-0.3
	0.9nm,0.5s,baz=28,slow=4.0,SNR=14						

*IDC **27** 00:17:58.7±2.5, 1371N×14573E, h59km±21km, mb3.8/9, mb1 4.0/9, mb1mx3.8/18, mbtmp4.1/9, MS3.6/4, Ms1 3.6/4, ms1mx3.1/27, Error ellipse: s-maj=33.2km s-min=22.8km az=69.0*
*ISCJB **27** 00:17:59.6±1.9, 137N±0.1×1456E±02, h80km±15km, mb3.9/9, Error ellipse: s-maj=36.4km s-min=23.6km az=150.9*

ISC 27 00:17:59.6±2.5, 137N±01×1457E±02, h66km±21km, n18, σ1$38/14, mb3.9/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.80**	**259**	P	**Pn**	**00 18 14.3**	**-1.0**
	5µm,0.3s,baz=97,slow=4.5,SNR=1421						
GUMO				S	**Sn**	**00 18 27.6**	**+0.6**
	3µm,0.3s,baz=24,slow=20,SNR=88						
CBIJ	**Chichi jima**	**13.68**	**347**	LR	LR	00 25 57.3	
	comp=Z,148nm,20.1s,baz=127,slow=35						
JOW	**Kunigami**	**20.84**	**311**	P	**P**	**00 22 37.4**	**+1.6**
	11nm,0.7s,baz=130,slow=13,SNR=4.9						
JOW				LR	LR	00 29 18.9	
	comp=Z,130nm,18.2s,baz=146,slow=33						
MJAR	**Matsushiro Arr**	**23.67**	**345**	P	**P**	**00 23 03.5**	**-1.5**
	0.8nm,0.4s,mb3.4,baz=170,slow=8.9,SNR=4.3						
WRA	**Warramunga Arr**	**35.28**	**199**	P	**P**	**00 24 48.0**	**+0.1**
	1.7nm,0.8s,mb4.0,baz=21,slow=9.3,SNR=6.2						
SONM	**Songino Array**	**47.06**	**324**	P	**P**	**00 26 26.2**	**+1.7**
	1.4nm,0.7s,mb3.8,baz=133,slow=6.9,SNR=8.5						
MKAR	**Makanchi Array**	**61.92**	**316**	P	**P**	**00 28 12.7**	**+0.5**
	0.8nm,0.3s,mb4.2,baz=79,slow=9.8,SNR=11						
BBB	**Bella Bella**	**76.97**	**39**	LR	LR	00 56 45.0	
	comp=Z,45nm,20.2s,baz=189,slow=30						
YBH	**Yreka Blue Hor**	**82.18**	**49**	LR	LR	00 59 44.1	
	comp=Z,40nm,20.1s,baz=346,slow=30						
NVAR	**Mina Array Bea**	**86.21**	**52**	P	**P**	**00 30 35.6**	**+1.9**
	1.5nm,0.6s,mb4.1,baz=269,slow=6.9,SNR=14						
KEV	**Kevo**	**86.61**	**342**	*ep*	**P**	**00 30 41.2**	**+5.5**
ARCES	**ARCESS Array B**	**87.18**	**342**	P	**P**	**00 30 38.6**	**+0.2**
	1.4nm,0.7s,mb4.0,baz=63,slow=4.2,SNR=3.4						
JOF	**Joensuu**	**88.49**	**335**	*ep*	**P**	**00 30 42.8**	**-1.8**
PDAR	**Pinedale Array**	**91.30**	**45**	P	**P**	**00 30 58.7**	**+0.9**
	0.4nm,0.6s,mb3.7,baz=357,slow=3.0,SNR=4.2						
FINES	**FINESS Array B**	**91.35**	**335**	P	**P**	**00 30 56.1**	**-1.9**
	0.7nm,0.4s,mb4.1,baz=84,slow=5.7,SNR=13						
NOA	**NORSAR Array B**	**97.18**	**340**	P	**P**	**00 31 21.8**	**-3.0**
	0.4nm,0.8s,mb3.9,baz=44,slow=4.6,SNR=2.8						
DBIC	**Dimbokro**	**144.40**	**303**	PKP	PKPdf	00 37 28.4	+0.3
	2.1nm,0.7s,baz=94,slow=2.4,SNR=4.8						
LPAZ	**La Paz**	**147.27**	**99**	PKPbc	PKPbc	00 37 35.7	+0.3
	1.1nm,0.7s,baz=11,slow=2.6,SNR=5.1						

*NEIC **27** 00:21:43.5, 3743S×17983E, h12km, ML3.9(WEL), After WEL.*

WEL 27 00:21:44.0±0.6, 3746S×17981E, h12km, ML3.9/9, Error ellipse: s-maj=5.4km s-min=4.9km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.20**	**264**	P*	Pb	00 22 05.2	-1.5
MXZ				S*	Sb	00 22 21.6	-0.5
MXZ	**Matakaoa Point**	**1.20**	**264**	P	Pn	00 22 05.5	-1.1
MXZ				S	Sb	00 22 21.6	-0.5
PUZ	**Puketiti**	**1.38**	**243**	PN	Pn	00 22 08.3	-0.7
PUZ				SN	Sn	00 22 27.0	-0.1
PUZ	**Puketiti**	**1.38**	**243**	P	Pn	00 22 08.4	-0.6
PUZ				S	Sn	00 22 27.0	-0.1
MWZ	**Matawai**	**2.01**	**243**	PN	Pn	00 22 16.6	-1.1
MWZ				SN	Sn	00 22 41.8	-0.9
MWZ	**Matawai**	**2.01**	**243**	P	Pn	00 22 16.7	-1.0
MWZ				S	Sn	00 22 41.8	-0.9
URZ	**Urewera**	**2.28**	**249**	PN	Pn	00 22 21.2	-0.3
URZ				SN	Sn	00 22 47.6	-1.9
URZ	**Urewera**	**2.28**	**249**	P	Pn	00 22 21.2	-0.3
KNZ	**Kokohu**	**2.30**	**226**	PN	Pn	00 22 20.1	-1.5
KNZ	**Kokohu**	**2.30**	**226**	P	Pn	00 22 20.2	-1.4
PATZ	**Paeroa**	**2.96**	**251**	PN	Pn	00 22 29.9	-0.8
PATZ	**Paeroa**	**2.96**	**251**	P	Pn	00 22 30.2	-0.5
BKZ	**Black Stump Fm**	**3.12**	**236**	PN	Pn	00 22 32.1	-0.9
BKZ				SN	Sn	00 23 08.5	-1.7
BKZ	**Black Stump Fm**	**3.12**	**236**	P	Pn	00 22 32.1	-0.9
PXZ	**Pawanui**	**3.45**	**221**	PN	Pn	00 22 34.1	-3.4
PXZ				SN	Sn	00 23 15.3	-3.1
MOVZ	**Moawhango**	**3.73**	**237**	PN	Pn	00 22 40.4	-1.0
MOVZ	**Moawhango**	**3.73**	**237**	P	Pn	00 22 40.4	-1.0
TSZ	**Takapari Road**	**3.98**	**228**	PN	Pn	00 22 42.0	-2.8
TSZ				SN	Sn	00 23 27.3	-4.0
TSZ	**Takapari Road**	**3.98**	**228**	*e*P	Pn	00 22 42.1	-2.7
BFZ	**Birch Farm**	**4.25**	**220**	PN	Pn	00 22 44.8	-3.8
BFZ				SN	Sn	00 23 33.5	-4.6
BFZ	**Birch Farm**	**4.25**	**220**	*e*P	Pn	00 22 44.8	-3.7
MRZ	**Mangatainoka R**	**4.59**	**225**	PN	Pn	00 22 49.9	-3.3
MRZ				SN	Sn	00 23 41.6	-4.9
MRZ	**Mangatainoka R**	**4.59**	**225**	*e*P	Pn	00 22 49.9	-3.3
MTW	**Mount Morrison**	**4.98**	**221**	PN	Pn	00 22 53.9	-4.7
MTW	**Mount Morrison**	**4.98**	**221**	P	Pn	00 22 53.9	-4.7
KIW	**Kapiti Island**	**5.11**	**227**	SN	Sn	00 23 54.1	-5.0
TCW	**Tory Channel**	**5.70**	**227**	SN	Sn	00 24 07.9	-5.9
THZ	**Tophouse**	**6.85**	**229**	PN	Pn	00 23 20.9	-3.4
THZ				SN	Sn	00 24 34.2	-7.9
THZ	**Tophouse**	**6.85**	**229**	P	Pn	00 23 20.9	-3.3
LTZ	**Lake Taylor**	**7.85**	**225**	PN	Pn	00 23 34.0	-4.0
LTZ	**Lake Taylor**	**7.85**	**225**	*e*P	Pn	00 23 34.0	-4.0

*ISCJB **27** 00:24:06.2±0.4, 4447N±002×695E±005, h10km, Error ellipse: s-maj=5.2km s-min=2.6km az=138.0*
*LDG **27** 00:24:06.6±0.1, 4447N×699E, h18km, Md2.2/2, Ml1.5/6, Error ellipse: s-maj=4.4km s-min=1.9km az=81.0*
*STR **27** 00:24:07.2±0.6, 4452N×707E, h2km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 27 00:24:07.0±0.5, 4447N±002×696E±005, h10km, n11, σ0$66/23, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBDF	**Montbardon**	**0.29**	**332**	*e*Pg	**Pg**	**00 24 12.4**	**-0.4**
MBDF				*e*Sg	**Sg**	**00 24 17.2**	**+0.5**
	5.6nm,0.2s						
TOUF	**Mont Tournerai**	**0.50**	**156**	Pg	**Pg**	**00 24 17.0**	**+0.2**
TOUF				Sg	**Sg**	**00 24 24.9**	**+1.5**
LUCF	**Luceram**	**0.64**	**154**	Pg	**Pg**	**00 24 19.6**	**+0.2**
LUCF				Sg	**Sg**	**00 24 28.4**	**+0.6**
SAOF	**Saorge**	**0.65**	**139**	Pg	**Pg**	**00 24 19.5**	**0.0**
SAOF				Sg	**Sg**	**00 24 28.1**	**+0.1**
SBF	**Sospel**	**0.70**	**151**	*e*Pg	**Pg**	**00 24 19.6**	**-0.9**
SBF				*e*Sg	**Sg**	**00 24 28.6**	**-1.0**
	1.0nm,0.1s						
ORIF	**Oris-en-Rattie**	**0.89**	**300**	*e*Pg	**Pg**	**00 24 23.7**	**-0.4**
ORIF				*e*Sg	**Sg**	**00 24 34.8**	**-0.9**
	1.0nm,0.2s						
FRF	**La Foret Royal**	**0.94**	**194**	*e*Pg	**Pg**	**00 24 24.7**	**-0.4**
FRF				*e*Sg	**Sg**	**00 24 36.8**	**-0.5**
	2.3nm,0.2s						
LPG	**La Plagne**	**1.04**	**352**	*e*Pg	**Pg**	**00 24 27.1**	**+0.2**
LPG				*e*Sg	**Sg**	**00 24 40.7**	**+0.3**
	0.7nm,0.2s						
LPL	**La Plagne**	**1.06**	**351**	*e*Pg	**Pg**	**00 24 27.1**	**-0.2**
LPL				*e*Sg	**Sg**	**00 24 41.2**	**+0.2**
	0.8nm,0.3s						
SMRF	**Simiane la Rot**	**1.11**	**244**	*e*Pg	**Pg**	**00 24 28.5**	**+0.1**
SMRF				*e*Sg	**Sg**	**00 24 44.6**	**+1.7**
	0.8nm,0.3s						
LMR	**La Mourre**	**1.19**	**196**	*e*Pg	**Pg**	**00 24 29.2**	**-0.5**
LMR				*e*Sn	**Sn**	**00 24 40.8**	**-5.0**
LMR				*e*Sg	**Sg**	**00 24 44.8**	**-0.3**
	1.7nm,0.2s						

*ISCJB **27** 00:34:36.6±0.6, 239S±0.1×696E±0.1, h10km, mb3.9/11, MS3.7/1, Error ellipse: s-maj=20.1km s-min=15.8km az=53.3*
*IDC **27** 00:34:36.8±0.9, 2387S×6960E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/19, mbtmp3.9/8, MS3.7/1, Ms1 3.6/1, ms1mx2.8/35, Error ellipse: s-maj=41.1km s-min=21.0km az=52.0*
*NEIC **27** 00:34:38.3±0.4, 2389S×6958E, h10km, mb4.0/4, Error ellipse: s-maj=14.2km s-min=11.0km az=208.0*

ISC 27 00:34:38.6±0.6, 239S±01×696E±01, h10km, n16, σ0$38/14, mb3.9/11, MS3.7/1, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**39.85**	**253**	LR	LR	00 55 08.1	
	comp=Z,97nm,19.0s,MS3.7,baz=188,slow=31						
BOSA	**Boshof**	**39.85**	**253**	*e*P	**P**	**00 42 12.5**	**+0.3**
	0.8nm,0.8s,mb3.5						
MBWA	**Marble Bar**	**46.23**	**97**	P	**P**	**00 43 04.0**	**+0.2**
ASAR	**Alice Springs**	**58.39**	**104**	P	**P**	**00 44 33.9**	**-0.3**
	1.2nm,0.7s,mb4.0,baz=254,slow=6.2,SNR=11						
ASAR				PcP	PcP	00 45 25.1	+0.2
	1.0nm,0.8s,baz=259,slow=3.7,SNR=7.3						
WRA	**Warramunga Arr**	**59.77**	**100**	P	**P**	**00 44 43.9**	**+0.1**
	1.6nm,0.8s,mb4.1,baz=255,slow=7.0,SNR=10						
WRAB	**Tennant Creek**	**59.78**	**100**	*e*P	**P**	**00 44 44.0**	**+0.2**
	4.0nm,0.7s,mb4.6						
SNAA	**Sanae**	**62.00**	**200**	*e*P	**P**	**00 44 59.0**	**+0.2**
	1.6nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**63.14**	**115**	*e*P	**P**	**00 45 06.6**	**+0.1**
VNDA	**Vanda**	**67.35**	**166**	P	**P**	**00 45 33.8**	**0.0**
	0.4nm,0.8s,mb3.5,baz=265,slow=6.2,SNR=3.0						
VNDA	**Vanda**	**67.35**	**166**	*e*P	**P**	**00 45 32.8**	**-1.0**
	0.4nm,0.7s,mb3.6						
MKAR	**Makanchi Array**	**71.28**	**9**	P	**P**	**00 45 57.8**	**-0.3**
	1.8nm,0.8s,mb4.1,baz=200,slow=6.4,SNR=17						
BRTR	**Keskin Array B**	**71.62**	**332**	P	**P**	**00 46 00.7**	**+0.5**
	1.1nm,0.8s,mb3.8,baz=137,slow=4.9,SNR=7.6						
SONM	**Songino Array**	**78.69**	**24**	P	**P**	**00 46 41.5**	**+0.5**
	0.7nm,0.8s,mb3.6,baz=224,slow=4.1,SNR=4.4						
AKASG	**Malin Array Be**	**82.36**	**335**	P	**P**	**00 47 00.1**	**-0.6**
	0.2nm,0.3s,mb3.5,baz=136,slow=4.1,SNR=6.1						
GERES	**GERESS Array B**	**87.88**	**327**	P	**P**	**00 47 28.0**	**-0.3**
	0.3nm,0.8s,mb3.6,baz=132,slow=5.6,SNR=4.6						
ULM	**Lac du Bonnet**	**151.34**	**340**	PKPbc	PKPbc	00 54 30.6	-1.8
	1.3nm,0.7s,baz=326,slow=3.6,SNR=4.3						

KRSC 27 00:38:54, 5415N×16008E, h10km, ML3.5, Near east coast of Kamchatka Peninsula

*IDC **27** 00:44:14.5±2.3, 9.46S×108.64E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=99.9km s-min=19.1km az=52.0*
*NEIC **27** 00:44:14.1±1.5, 9.83S×108.25E, h10km, mb3.8/2, Error ellipse: s-maj=60.2km s-min=11.7km az=53.0*
*ISCJB **27** 00:44:15.6±1.9, 9.85S±03×1083E±04, h33km, mb3.8/6, Error ellipse: s-maj=73.2km s-min=14.8km az=103.7*

ISC 27 00:44:18.0±2.0, 9.85S±03×1083E±04, h35km, n11, σ0$70/11, mb3.8/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**15.76**	**137**	*e*Pn	**Pn**	**00 47 55.9**	**-1.3**
	1.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**18.73**	**118**	P	**Pn**	**00 48 34.4**	**+0.1**
	0.1nm,0.3s,baz=281,slow=6.4,SNR=6.7						
WRA	**Warramunga Arr**	**27.08**	**115**	P	**P**	**00 49 57.2**	**0.0**
	0.6nm,0.6s,mb3.3,baz=286,slow=11,SNR=7.6						
WRAB	**Tennant Creek**	**27.09**	**115**	*e*P	**P**	**00 49 57.5**	**+0.2**
	2.1nm,0.6s,mb3.8						
WB2	**Warramunga Arr**	**27.09**	**115**	*e*P	**P**	**00 49 57.8**	**+0.4**
ASAR	**Alice Springs**	**28.06**	**123**	P	**P**	**00 50 07.0**	**+0.9**
	0.3nm,0.7s,mb3.0,baz=304,slow=9.9,SNR=3.8						
STKA	**Stephens Creek**	**37.83**	**130**	P	**P**	**00 51 32.7**	**+1.5**
	2.7nm,0.7s,mb4.1,baz=314,slow=7.7,SNR=6.3						
STKA	**Stephens Creek**	**37.83**	**130**	*e*P	**P**	**00 51 31.3**	**+0.1**
CTAO	**Charters Tower**	**38.00**	**110**	P	**P**	**00 51 31.8**	**-0.8**
SONM	**Songino Array**	**57.44**	**358**	P	**P**	**00 54 02.6**	**-0.6**
	1.0nm,0.6s,mb4.0,baz=181,slow=8.3,SNR=8.7						
MKAR	**Makanchi Array**	**60.97**	**340**	P	**P**	**00 54 27.9**	**+0.3**
	2.3nm,0.5s,mb4.5,baz=147,slow=7.7,SNR=24						

*NEIC **27** 00:59:24.8, 3787S×17638E, h165km, MG4.0(WEL), After WEL.*

WEL 27 00:59:24.1±0.3, 3782S×17636E, h167km±3km, ML3.9/16, 1C, Error ellipse: s-maj=3.7km s-min=3.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.73**	**127**	PN	Pn	00 59 48.7	+0.1
URZ				SN	Sn	01 00 07.3	-0.1
URZ	**Urewera**	**0.73**	**127**	P	Pn	00 59 48.8	+0.2
MWZ	**Matawai**	**1.05**	**120**	PN	Pn	00 59 51.2	+0.3
MWZ				SN	Sn	01 00 11.7	+0.2
MWZ	**Matawai**	**1.05**	**120**	P	Pn	00 59 51.2	+0.3
MWZ				S	Sn	01 00 13.3	+1.9
BKZ	**Black Stump Fm**	**1.35**	**176**	PN	Pn	00 59 53.5	+0.1
BKZ				SN	Sn	01 00 15.5	-0.6
BKZ	**Black Stump Fm**	**1.35**	**176**	P	Pn	00 59 53.5	0.0
BKZ				S	Sn	01 00 15.5	-0.6
WTVZ	**West Tongariro**	**1.43**	**205**	PN	Pn	00 59 54.7	+0.5
WTVZ	**West Tongariro**	**1.43**	**205**	P	Pn	00 59 54.8	+0.6
OTVZ	**Oturere**	**1.45**	**202**	PN	Pn	00 59 55.2	+0.8
OTVZ				SN	Sn	01 00 18.6	+0.8
NGZ	**Ngauruhoe**	**1.48**	**204**	PN	Pn	00 59 55.2	+0.5
NGZ	**Ngauruhoe**	**1.48**	**204**	P	Pn	00 59 55.1	+0.4
PUZ	**Puketiti**	**1.52**	**100**	PN	Pn	00 59 54.9	-0.2
PUZ				SN	Sn	01 00 18.2	-0.8
PUZ	**Puketiti**	**1.52**	**100**	*e*P	Pn	00 59 54.9	-0.2
PUZ				S	Sn	01 00 18.2	-0.8
WPVZ	**Whakapapa**	**1.52**	**205**	PN	Pn	00 59 55.8	+0.6
WPVZ	**Whakapapa**	**1.52**	**205**	P	Pn	00 59 55.8	+0.6
MXZ	**Matakaoa Point**	**1.56**	**81**	PN	Pn	00 59 55.7	+0.2
MXZ				SN	Sn	01 00 19.4	-0.4
MXZ	**Matakaoa Point**	**1.56**	**81**	P	Pn	00 59 55.8	+0.2
KNZ	**Kokohu**	**1.58**	**140**	PN	Pn	00 59 56.1	+0.4
KNZ	**Kokohu**	**1.58**	**140**	P	Pn	00 59 56.1	+0.4
WNVZ	**Wahianoa**	**1.62**	**201**	PN	Pn	00 59 56.5	+0.4
MOVZ	**Moawhango**	**1.66**	**197**	PN	Pn	00 59 56.2	-0.3
MOVZ	**Moawhango**	**1.66**	**197**	P	Pn	00 59 56.2	-0.3
WAZ	**Wanganui**	**2.21**	**209**	PN	Pn	01 00 02.3	-0.3
WAZ	**Wanganui**	**2.21**	**209**	*e*P	Pn	01 00 02.3	-0.3
PXZ	**Pawanui**	**2.24**	**170**	PN	Pn	01 00 02.5	-0.5
PXZ				SN	Sn	01 00 31.5	-1.6
TSZ	**Takapari Road**	**2.26**	**188**	PN	Pn	01 00 02.3	-0.9
TSZ	**Takapari Road**	**2.26**	**188**	P	Pn	01 00 02.4	-0.8
BFZ	**Birch Farm**	**2.86**	**182**	PN	Pn	01 00 08.8	-1.5
BFZ	**Birch Farm**	**2.86**	**182**	P	Pn	01 00 08.8	-1.6
MRZ	**Mangatainoka R**	**2.90**	**192**	⇑PN	Pn	01 00 09.0	-1.9
MRZ				SN	Sn	01 00 44.5	-2.7
MRZ	**Mangatainoka R**	**2.90**	**192**	P	Pn	01 00 09.0	-1.9
TIWZ	**Tintock**	**2.98**	**187**	PN	Pn	01 00 10.1	-1.7
TIWZ				SN	Sn	01 00 45.2	-3.6
KIW	**Kapiti Island**	**3.24**	**200**	PN	Pn	01 00 12.6	-2.5
KIW				SN	Sn	01 00 50.5	-4.2
KIW	**Kapiti Island**	**3.24**	**200**	P	Pn	01 00 12.8	-2.3
KIW				S	Sn	01 00 50.5	-4.2
MTW	**Mount Morrison**	**3.40**	**191**	PN	Pn	01 00 14.3	-2.8
MTW	**Mount Morrison**	**3.40**	**191**	P	Pn	01 00 14.3	-2.8
MTW				S	Sn	01 00 53.8	-4.5
CAW	**Cannon Point**	**3.43**	**197**	P	Pn	01 00 14.7	-2.8
PAWZ	**Paruwai Farm**	**3.63**	**191**	P	Pn	01 00 17.1	-2.9
MRW	**Makara Radio**	**3.64**	**200**	P	Pn	01 00 17.3	-2.8
MSWZ	**Moikau Station**	**3.69**	**193**	P	Pn	01 00 17.8	-3.0
SNZO	**South Karori**	**3.71**	**200**	P	Pn	01 00 18.0	-3.1
TCW	**Tory Channel**	**3.75**	**205**	P	Pn	01 00 18.6	-3.0
QRZ	**Quartz Range**	**4.23**	**224**	*e*P	Pn	01 00 24.0	-3.7
THZ	**Tophouse**	**4.75**	**213**	*e*P	Pn	01 00 31.0	-3.5
KHZ	**Kahutara**	**5.08**	**204**	*e*P	Pn	01 00 35.1	-3.6
DSZ	**Denniston Nort**	**5.26**	**220**	*e*P	Pn	01 00 38.0	-3.2
LTZ	**Lake Taylor**	**5.86**	**211**	*e*P	Pn	01 00 44.3	-4.7

*ISCJB **27** 01:01:40.5±0.1, 1039N±003×14198E±003, h26km, mb5.2/98, MS4.6/46, Error ellipse: s-maj=4.5km s-min=3.8km az=59.6*
*BJI **27** 01:01:40.3, 1063N×14225E, h24km, mB5.4, mb5.2, Ms4.9, Msz4.5*
*MOS **27** 01:01:41.1±1.0, 1039N×14197E, h33km, mb5.4/46, MS4.7/15, Error ellipse: s-maj=9.7km s-min=5.7km az=101.8*
*IDC **27** 01:01:41.9±0.6, 1037N×14205E, h26km±3km, mb4.6/24, mb1 4.7/25, mb1mx4.7/27, mbtmp4.8/25, ML4.9/2, MS4.4/

SSE AMB AMB
comp=Z,89nm,1.2s,mb5.3
SSE AMB AMB
comp=Z,243nm,4.8s
SSE LR LR
comp=N,1μm,25.0s,MS4.6
SSE LR LR
comp=E,1μm,25.0s,MS4.6
SSE LR LR
comp=Z,928nm,19.9s
NJ2 Nanjing 30.36 319 *e*P **P** **01 07 51.8 -0.3**
NJ2 AP pP 01 08 01.5 +1.2
NJ2 XP sP 01 08 05.3 +1.6
NJ2 PP PP 01 08 51.0 -10
NJ2 S **S** **01 12 49.0 -1.8**
NJ2 XS sS 01 13 06.0 +1.6
NJ2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.4
NJ2 AMB AMB
comp=Z,70nm,8.0s
NJ2 LR LR
comp=N,2μm,24.0s
NJ2 LR LR
comp=E,3μm,12.0s
CTA Charters Tower 30.60 172 *e*P **P** **01 07 53.9 -0.3**
comp=E,11nm,0.9s,mb4.7
CTA *e*pP pP 01 08 01.8 -0.6
CTA Charters Tower 30.60 172 *e*P **P** **01 07 53.9 -0.3**
CTA *e**PP pP 01 08 01.8 -0.6
CTA pmax pmax
comp=Z,11nm,0.9s
CTAO Charters Tower 30.60 172 *e*P **P** **01 07 54.3 +0.1**
CTAO pmax pmax
comp=Z,55nm,1.0s,mb5.3
CTAO Charters Tower 30.60 172 *e*P **P** **01 07 54.2 0.0**
comp=Z,55nm,1.0s,mb5.3
WRAB Tennant Creek 31.10 194 P **P** **01 07 57.0 -1.6**
comp=Z,168nm,0.9s,mb5.9,SNR=15
WRAB Tennant Creek 31.10 194 *e*P **P** **01 07 57.5 -1.1**
WRAB *e**PP pP 01 08 05.2 -1.6
WRAB pmax pmax
comp=Z,69nm,1.0s,mb5.4
WRAB Tennant Creek 31.10 194 *e*P **P** **01 07 57.5 -1.1**
comp=Z,68nm,1.0s,mb5.4
WRAB *e*pP pP 01 08 05.2 -1.6
WB2 Warramunga Arr 31.11 194 *e*P **P** **01 07 57.6 -1.1**
WB2 *e*pP pP 01 08 05.7 -1.2
WB2 Warramunga Arr 31.11 194 *e*P **P** **01 07 57.5 -1.2**
WB2 *e* pP 01 08 05.0 -1.9
WRA Warramunga Arr 31.11 194 P **P** **01 07 57.6 -1.1**
comp=Z,14nm,0.8s,mb4.9,baz=16,slow=9.5,SNR=108
WRA LR LR 01 20 19.9
comp=Z,512nm,19.9s,MS4.2,baz=35,slow=36
WRA Warramunga Arr 31.11 194 *i* P **P** **01 07 57.5 -1.2**
WRA pmax pmax
comp=Z,14nm,0.8s
QIZ Qiongzhong 32.24 289 P **P** **01 08 09.3 +0.6**
QIZ AP pP 01 08 16.0 -0.9
QIZ XP sP 01 08 20.0 -0.3
QIZ S **S** **01 13 22.5 +2.3**
QIZ XS sS 01 13 33.0 -0.7
QIZ SS SS 01 15 20.5 -19
QIZ LR LR
comp=N,2μm,22.0s
QIZ LR LR
comp=Z,694nm,21.6s,MS4.3
FITZ Fitzroy Crossi 32.64 210 *e*P **P** **01 08 11.1 -1.0**
comp=Z,8.7nm,1.7s,mb4.4
FITZ *e*pP pP 01 08 19.3 -1.1
FITZ Fitzroy Crossi 32.64 210 P **P** **01 08 10.9 -1.2**
comp=Z,2.5nm,0.9s,mb4.2,baz=335,slow=5.5,SNR=5.7
ASAJ Asahikawa 33.57 1 P **P** **01 08 19.6 -0.7**
comp=Z,23nm,1.0s,mb5.0,baz=257,slow=13,SNR=4.3
ASAJ LR LR 01 20 09.0
comp=Z,1μm,21.1s,MS4.5,baz=336,slow=33
DL2 Dalian 33.72 331⇑ *i*P **P** **01 08 21.5 0.0**
DL2 AP pP 01 08 29.0 -0.8
DL2 S **S** **01 13 43.5 +0.4**
DL2 AMB AMB
comp=Z,30nm,1.1s,mb5.1
DL2 AMB AMB
comp=Z,190nm,5.2s
DL2 LR LR
comp=N,360nm,15.7s,MS4.3
DL2 LR LR
comp=E,360nm,17.3s,MS4.3
DL2 LR LR
comp=Z,450nm,16.0s,MS4.3
TIA Tai'an 34.18 323 *e*P **P** **01 08 25.0 -0.6**
AS31 Alice Springs 34.80 193 *e*P **P** **01 08 30.5 -0.4**
AS31 *e*pP pP 01 08 40.2 +1.0
ASAR Alice Springs 34.80 193 P **P** **01 08 30.1 -0.9**
comp=Z,4.0nm,0.6s,mb4.5,baz=16,slow=12,SNR=67
ASAR pPcP 01 11 12.2
comp=Z,5.1nm,1.0s,baz=7.6,slow=4.7,SNR=4.4
ASAR LR LR 01 22 45.1
comp=Z,922nm,18.7s,MS4.5,baz=19,slow=36
ASPA Alice Springs 34.80 193 *e*P **P** **01 08 30.5 -0.4**
ASPA *e*pP pP 01 08 40.2 +1.0
SNY Shenyang 35.23 336⇑ P **P** **01 08 34.0 -0.7**
SNY AP pP 01 08 38.3 -4.6
SNY PP PP 01 09 53.3 -1.5
SNY S **S** **01 13 58.3 -8.2**
SNY AMB AMB
comp=Z,28nm,2.5s,mb4.8
SNY AMB AMB
comp=Z,400nm,3.8s
SNY LR LR
comp=N,354nm,25.0s
SNY LR LR
comp=E,715nm,18.6s
SNY LR LR
comp=Z,974nm,22.0s,MS4.5
MDJ Mudanjiang 35.72 345 P **P** **01 08 38.0 -0.9**
MDJ AP pP 01 08 44.5 -2.6
MDJ XP sP 01 08 47.0 -3.5
MDJ PP PP 01 09 58.5 -1.7
MDJ S **S** **01 14 07.5 -6.5**
MDJ SCP ScP 01 14 53.5 +2.9
MDJ PCS PcS 01 14 56.3 +2.5
MDJ SCS ScS 01 18 58.0 +2.4
MDJ AMB AMB
comp=Z,19nm,1.6s,mb4.8
MDJ AMB AMB
comp=Z,182nm,6.0s
MDJ LR LR
comp=N,402nm,23.6s,MS4.3
MDJ LR LR
comp=E,445nm,22.9s,MS4.3
MDJ LR LR
comp=Z,652nm,19.0s,MS4.4
MDJ Mudanjiang 35.72 345 *e*P **P** **01 08 38.2 -0.6**
comp=Z,55nm,1.5s,mb5.3
MDJ *e*pP pP 01 08 45.9 -1.2
CN2 Changchun 36.23 340⇑ P **P** **01 08 42.3 -0.9**
CN2 *e*XP sP 01 08 53.0 -1.9
CN2 *e*PP PP 01 10 06.0 +0.1
CN2 *e*S **S** **01 14 21.8 0.0**
CN2 AMB AMB
comp=Z,40nm,1.5s,mb5.1
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,1μm,16.0s,MS4.8
CN2 LR LR
comp=E,800nm,16.0s,MS4.8
CN2 LR LR
comp=Z,1μm,17.0s,MS4.7
YSS Yuzh-Sakhalins 36.41 1 *c i*P **P** **01 08 43.4 -1.4**
YSS pmax pmax
comp=Z,43nm,1.3s,mb5.2
YSS MLR MLR
comp=Z,900nm,19.0s,MS4.6
YSS Yuzh-Sakhalins 36.41 1 *e*P **P** **01 08 43.2 -1.6**
comp=Z,11nm,0.6s,mb5.0
GYA Guiyang 36.99 300⇑ *i*P **P** **01 08 52.0 +2.3**
GYA AP pP 01 08 57.8 -0.2
GYA XP sP 01 09 01.5 +0.1
GYA PP PP 01 10 18.5 +4.3
GYA PCP PcP 01 11 13.0 +2.6
GYA S **S** **01 14 36.0 +2.6**
GYA SS SS 01 17 05.3 -10
GYA AMB AMB
comp=Z,30nm,1.1s,mb5.0
GYA AMB AMB
comp=Z,110nm,4.2s
GYA LR LR
comp=N,620nm,17.6s,MS4.6
GYA LR LR
comp=E,670nm,18.0s,MS4.6
GYA LR LR
comp=Z,590nm,18.6s,MS4.4
BJT Baijiatuau 37.36 326 *e*P **P** **01 08 53.0 +0.2**
BJT *e**PP pP 01 09 00.0 -1.1
BJT pmax pmax
comp=Z,260nm,1.4s
BJT Baijiatuau 37.36 326 *e*P **P** **01 08 53.0 +0.3**
comp=Z,260nm,1.4s,mb5.9
BJT *e*pP pP 01 09 00.0 -1.0
BJI Beijing 37.37 327 *e*P **P** **01 08 53.0 +0.1**
BJI AP pP 01 09 00.0 -1.2
BJI XP sP 01 09 04.0 -0.6
BJI PP PP 01 10 20.5 +2.2
BJI S **S** **01 14 37.0 -2.1**
BJI XS sS 01 14 50.5 -2.2
BJI AMB AMB
comp=Z,92nm,1.4s,mb5.4
BJI AMB AMB
comp=Z,785nm,3.7s
BJI LR LR
comp=N,694nm,30.0s
BJI LR LR
comp=E,721nm,22.1s
BJI LR LR
comp=Z,957nm,26.4s,MS4.5
XAN Xi'an 38.34 313 P **P** **01 09 01.0 -0.1**
XAN AP pP 01 09 05.5 -3.9
XAN AMB AMB
comp=Z,30nm,1.4s,mb4.8
HABR Khabarovsk 38.38 353⇑ *i*P **P** **01 09 00.7 -0.7**
HABR *e*S **S** **01 14 55.1 +0.7**
KLR Kul'dur 39.62 349⇓ *i*P **P** **01 09 08.2 -3.7**
KLR *e* 01 10 43.5
KLR *e*S **S** **01 15 13.5 +0.3**
KLR pmax pmax
comp=E,96nm,1.6s
KLR pmax pmax
comp=Z,300nm,1.6s,mb5.8
KLR MLR MLR
comp=E,900nm,17.0s
KLR MLR MLR
comp=E,500nm,14.0s
KLR MLR MLR
comp=Z,800nm,14.0s,MS4.7
KMI Kunming 40.01 297 P **P** **01 09 16.5 +1.5**
KMI AP pP 01 09 24.0 +0.7
KMI XP sP 01 09 27.0 +0.3
KMI PP PP 01 10 52.5 +5.3
KMI PPP 01 11 18.5
KMI PCP PcP 01 11 22.0 +2.2
KMI SCP ScP 01 15 07.8 +1.0
KMI PCS PcS 01 15 10.5 +0.5
KMI S **S** **01 15 19.3 +0.4**
KMI XS sS 01 15 34.3 +1.7
KMI SS SS 01 18 10.0 -6.4
KMI SSS 01 18 47.5
KMI AMB AMB
comp=Z,26nm,1.3s,mb4.8
KMI AMB AMB
comp=Z,162nm,5.5s
KMI LR LR
comp=N,1μm,19.6s,MS4.9
KMI LR LR
comp=E,687nm,15.8s,MS4.9
KMI LR LR
comp=Z,814nm,26.4s
DZM Mont Dzumac 40.20 144 P **P** **01 09 16.7 +0.1**
comp=Z,15nm,0.6s,mb4.9,baz=111,slow=22,SNR=15
HHC Hu-ho-hao-te 40.51 324 *e*P **P** **01 09 19.8 +0.6**
HHC AP pP 01 09 27.0 -0.5
HHC XP sP 01 09 30.8 -0.1
HHC PP PP 01 10 55.8 +3.1
HHC PCS PcS 01 15 12.0 0.0
HHC S **S** **01 15 27.5 +1.1**
HHC XS sS 01 15 40.8 +0.7
HHC SS SS 01 18 24.0 -2.4
HHC AMB AMB
comp=Z,49nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,461nm,5.6s
HHC LR LR
comp=N,583nm,27.4s,MS4.4
HHC LR LR
comp=E,568nm,28.5s,MS4.4
HHC LR LR
comp=Z,639nm,21.4s
CD2 Chengdu 40.92 306 P **P** **01 09 23.5 +0.9**
CD2 AP pP 01 09 31.0 +0.1
CD2 XP sP 01 09 34.3 0.0
CD2 PP PP 01 10 57.5 +0.3
CD2 S **S** **01 15 29.5 -3.0**
CD2 SS SS 01 18 26.0 -8.6
CD2 AMB AMB
comp=Z,40nm,1.3s,mb4.9
CD2 AMB AMB
comp=Z,130nm,5.1s
CD2 LR LR
comp=N,690nm,16.8s
CD2 LR LR
comp=Z,320nm,16.8s,MS4.3
KULM Kulim 41.29 266 *e*P **P** **01 09 25.9 +0.3**
KULM *e*pP pP 01 09 34.2 +0.2
ARMA Armidale 41.64 167 *e*P **P** **01 09 28.2 -0.3**
ARMA *e*pP pP 01 09 37.8 +1.0
SKR Severo-Kuril's 41.78 13 *e*P **P** **01 09 24.5 -5.2**
SKR *e*PS 01 19 20.0
SKR pmax pmax
comp=N,70nm,1.0s
SKR pmax pmax
comp=Z,90nm,1.0s,mb5.3
SKR pmax pmax
comp=Z,800nm,4.0s
STKA Stephens Creek 42.06 181 *e*P **P** **01 09 30.3 -1.6**
comp=Z,7.3nm,0.9s,mb4.3
STKA *e*pP pP 01 09 38.6 -1.7
STKA Stephens Creek 42.06 181 P **P** **01 09 30.7 -1.2**
comp=Z,7.8nm,0.8s,mb4.4,baz=354,slow=9.7,SNR=13
STKA LR LR 01 28 38.8
comp=Z,870nm,18.4s,MS4.7,baz=268,slow=38
CM31 Chiang Mai Arr 42.40 286 *e*P **P** **01 09 37.1 +2.3**
CM31 *e*pP pP 01 09 44.3 +1.2
CHTO Chiang Mai 42.43 286 *e*P **P** **01 09 36.0 +1.0**
CHTO pmax pmax
comp=Z,19nm,1.0s,mb4.7
CHTO Chiang Mai 42.43 286 *e*P **P** **01 09 36.0 +1.1**
comp=Z,19nm,1.0s,mb4.7
HIA Hailar 42.94 339 *e*P **P** **01 09 39.3 +0.2**
HIA *e**PP pP 01 09 46.9 -0.6
HIA pmax pmax
comp=Z,30nm,1.0s
HIA Hailar 42.94 339 *e*P **P** **01 09 39.3 +0.2**
comp=Z,30nm,1.0s,mb5.0
HIA *e*pP pP 01 09 46.9 -0.6
LZH Lanzhou 42.98 313 *e*P **P** **01 09 40.0 +0.6**
LZH AP pP 01 09 47.0 -0.7
LZH XP sP 01 09 51.0 -0.1
LZH PP PP 01 11 26.0 +6.7
LZH *e*S **S** **01 16 01.0 -1.9**
LZH XS sS 01 16 15.0 -1.7
LZH SS SS 01 19 10.0 -5.2
LZH AMB AMB
comp=Z,118nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,374nm,4.0s
LZH LR LR
comp=E,2μm,16.1s
LZH LR LR
comp=Z,2μm,17.4s,MS5.0
FORT Forrest 43.11 198 *e*P **P** **01 09 40.2 -0.2**
comp=Z,14nm,0.5s,mb4.9
FORT *e*pP pP 01 09 48.4 -0.4
PSI Prapat 43.45 263 P **P** **01 09 43.2 0.0**
comp=Z,19nm,1.0s,mb4.8,baz=2.6,slow=1.9,SNR=9.9
PET Petropavlovsk 44.55 14 *ce*P **P** **01 09 51.5 -0.5**
PET *e**PP pP 01 09 59.0 -1.4
PET *i* S **S** **01 16 22.3 -3.5**
PET *e*SS SS 01 19 31.8 -14
PET pmax pmax
comp=Z,400nm,5.9s
PET pmax pmax
comp=Z,66nm,1.3s,mb5.3
PET pmax pmax
comp=Z,200nm,13.8s
PET pmax pmax
comp=Z,300nm,1.8s,mb5.8
PET pmax pmax
comp=Z,89nm,1.4s,mb5.4
PET smax
comp=E,300nm,10.0s
PET smax
comp=N,300nm,13.0s
PET smax
comp=E,500nm,7.9s
PET MLR MLR
comp=Z,300nm,16.0s,MS4.3
PET MLR MLR
comp=Z,300nm,19.0s
PET Petropavlovsk 44.55 14 *e*P **P** **01 09 51.9 -0.2**
PET *e*pP pP 01 09 59.1 -1.3
GTA Gaotai 47.31 315 P **P** **01 10 14.5 +0.7**
GTA AP pP 01 10 22.0 -0.3
GTA XP sP 01 10 25.8 +0.2
GTA PP PP 01 12 04.8 -0.2
GTA PPP 01 12 49.8
GTA SCP ScP 01 15 38.8 +2.3
GTA S **S** **01 17 02.5 -3.1**
GTA XS sS 01 17 16.0 -3.5
GTA AMB AMB
comp=Z,42nm,1.6s,mb5.1
GTA AMB AMB
comp=Z,262nm,9.5s
GTA LR LR
comp=N,894nm,27.4s,MS4.7
GTA LR LR
comp=E,442nm,22.4s,MS4.7
GTA LR LR
comp=Z,599nm,24.3s,MS4.5
CIT Chita 47.50 336 *e*P **P** **01 10 15.8 +0.6**
CIT *e* 01 10 32.3
CIT *e* 01 17 08.4
CIT pmax pmax
comp=Z,333nm,1.7s,mb6.0
ULN Ulaanbaatar 47.50 328⇑ *e*P **P** **01 10 16.0 +0.7**
ULN Ulaanbaatar 47.50 328 *e*P **P** **01 10 15.9 +0.6**
comp=Z,109nm,1.4s,mb5.6
SONM Songino Array 47.82 328 P **P** **01 10 18.6 +0.8**
comp=Z,21nm,0.8s,mb5.2,baz=142,slow=7.3,SNR=144
SONM LR LR 01 29 40.5
comp=Z,538nm,19.0s,MS4.5,baz=132,slow=35
TOO Toolangi 47.85 176 *e*P **P** **01 10 18.1 +0.1**
comp=Z,11nm,0.7s,mb5.0
TOO *e*pP pP 01 10 26.5 +0.1
TOO Toolangi 47.85 176 *e*P **P** **01 10 18.1 +0.1**
TOO *e**PP pP 01 10 26.5 +0.1
TOO pmax pmax
comp=Z,11nm,0.7s,mb5.0
CLNS Chul'man 48.18 347 *e*P **P** **01 10 19.4 -1.1**
CLNS *e* 01 11 45.7
CLNS *e* 01 12 06.1
CLNS pmax pmax
comp=Z,121nm,1.3s,mb5.8
CLNS pmax pmax
comp=N,97nm,1.4s
CLNS pmax pmax
comp=E,26nm,1.2s
CLNS pmax pmax
comp=Z,17nm,0.9s,mb5.1
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=E,18nm,1.0s
CLNS MLR MLR
comp=Z,500nm,13.0s,MS4.7
CLNS MLR MLR
comp=N,500nm,15.0s,MS4.7
CLNS MLR MLR
comp=E,300nm,13.0s,MS4.7
NWAO Narrogin (SRO) 49.17 208 P **P** **01 10 27.6 -0.6**
comp=E,13nm,1.0s,mb4.9,baz=68,slow=7.0,SNR=3.0
NWAO Narrogin (SRO) 49.17 208 P **P** **01 10 27.6 -0.6**
NWAO pmax pmax
comp=Z,13nm,1.0s
NWAO Narrogin (SRO) 49.17 208 *e*P **P** **01 10 26.7 -1.4**
MA2 Magadan 49.49 6 *ce*P **P** **01 10 29.4 -1.2**
MA2 *e* pP 01 10 37.2 -1.9
MA2 *e* 01 12 22.8
MA2 *e*S **S** **01 17 33.5 -2.8**
MA2 *e*PS 01 17 45.4
MA2 pmax pmax
comp=Z,70nm,1.2s,mb5.6
MA2 MLR MLR
comp=Z,600nm,17.9s,MS4.6
MA2 Magadan 49.49 6 *e*P **P** **01 10 30.1 -0.5**
MA2 *e*pP pP 01 10 37.2 -1.9
ZAK Zakamensk 51.01 329⇓ *i*P **P** **01 10 42.5 +0.4**
ZAK *e* 01 17 58.3
ZAK pmax pmax
comp=Z,109nm,1.2s,mb5.7
TLY Talaya 51.63 330 P **P** **01 10 47.3 +0.5**
comp=Z,338nm,1.1s,mb6.2,SNR=19
TLY Talaya 51.63 330 *c i*P **P** **01 10 47.5 +0.7**
TLY pmax pmax
comp=Z,74nm,1.7s,mb5.3
TLY Talaya 51.63 330 *e*P **P** **01 10 47.7 +1.0**
IRK Irkutsk 51.69 331⇓ *i*P **P** **01 10 47.2 0.0**
IRK *e* 01 11 04.7
IRK *e* 01 11 54.1
IRK pmax pmax
comp=Z,170nm,2.3s,mb5.6
BOD Bodaibo 51.94 341⇓ *e*P **P** **01 10 48.2 -0.8**
BOD pmax pmax
comp=Z,56nm,1.7s,mb5.2
YAK Yakutsk 52.30 353 *c i*P **P** **01 10 51.5 -0.2**
YAK *e**PP pP 01 10 58.5 -1.8
YAK *e* 01 12 10.1
YAK *e* 01 12 48.4
YAK *e*S **S** **01 18 11.1 -4.1**
YAK *e**SS sS 01 18 18.1 -11
YAK *e* 01 20 42.4
YAK *e*SS SS 01 21 49.4 -3.6
YAK pmax pmax
comp=Z,101nm,1.0s,mb5.7
YAK pmax pmax
comp=N,73nm,1.3s
YAK pmax pmax
comp=E,27nm,1.6s
YAK pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
YAK pmax pmax
comp=N,13nm,1.5s
YAK pmax pmax
comp=E,11nm,1.6s
YAK smax
comp=N,24nm,1.7s
YAK smax
comp=Z,5.0nm,0.9s
YAK smax
comp=E,18nm,1.3s
YAK Yakutsk 52.30 353 *e*P **P** **01 10 50.9 -0.8**
YAK *e*pP pP 01 10 57.8 -2.4
MOY Mondy 52.94 329 *e*P **P** **01 10 57.4 +1.0**
MOY pmax pmax
comp=Z,175nm,1.6s,mb5.7
TAU Tasmania Unive 53.29 175 *e*P **P** **01 10 59.2 +0.2**
TAU *e**PP pP 01 11 06.9 -0.7
JIRN Jiri 55.05 296 *e*P **P** **01 11 13.2 +1.3**
GUN Gumba 55.35 297 *e*P **P** **01 11 15.3 +1.3**
PKI Pulchoki 55.73 296 *e*P **P** **01 11 17.7 +1.0**
comp=Z,127nm,1.4s,mb5.8
PKI Pulchoki 55.73 296 *e*P **P** **01 11 17.7 +1.0**
PKI pmax pmax
comp=Z,127nm,1.4s,mb5.8
KKN Kakani 55.87 296 *e*P **P** **01 11 18.4 +0.7**
comp=Z,148nm,1.5s,mb5.8
KKN Kakani 55.87 296 *e*P **P** **01 11 18.4 +0.7**
KKN pmax pmax
comp=Z,149nm,1.5s,mb5.8
DMN Daman 56.00 296 *e*P **P** **01 11 19.6 +0.9**
comp=Z,129nm,1.4s,mb5.8
GKN Gorkha 56.45 297 *e*P **P** **01 11 22.6 +0.7**
comp=Z,193nm,1.5s,mb5.9
KOLN Koldanda 57.34 296 *e*P **P** **01 11 29.1 +0.9**
comp=Z,138nm,1.5s,mb5.8
WMQ Urumqi 57.38 316 P **P** **01 11 30.3 +1.8**
WMQ AP pP 01 11 37.8 +0.7

WMQ XP sP 01 11 41.0 +0.6
WMQ PCP PcP 01 12 24.0 +1.8
WMQ PP PP 01 13 39.0 +3.1
WMQ SCP ScP 01 16 20.8 +0.7
WMQ S **S** **01 19 23.0 -0.4**
WMQ AMB AMB
comp=Z,54nm,1.6s,mb5.3
WMQ AMB AMB
comp=Z,277nm,5.2s
WMQ LR LR
comp=N,1µm,17.4s,MS5.2
WMQ LR LR
comp=E,967nm,16.3s,MS5.2
WMQ LR LR
comp=Z,1µm,17.9s,MS5.1
TIXI Tiksi 61.71 355 *e*P **P** **01 11 58.0 -0.4**
TIXI *e**PP pP 01 12 04.8 -2.3
HYB Hyderabad 61.78 284 *i* P **P** **01 12 01.0 +2.1**
HYB Hyderabad 61.78 284 *e*P pP 01 12 10.0 +2.5
MKAR Makanchi Array 61.89 318 P **P** **01 12 00.0 +0.4**
comp=Z,15nm,1.1s,mb5.0,baz=107,slow=8.1,SNR=39
MKAR pP pP 01 12 08.3 0.0
comp=Z,39nm,1.0s,baz=96,slow=8.1,SNR=43
SDPT Sand Point 63.29 33 *e*P **P** **01 12 07.6 -1.3**
NVS Novosibirsk 63.81 327⇑ *i*P **P** **01 12 12.2 -0.1**
NVS *e* 01 12 41.2
NVS *e*S **S** **01 20 43.2 -2.4**
NVS pmax pmax
comp=Z,112nm,1.6s,mb5.7
NVS pmax pmax
comp=N,40nm,1.5s
NVS pmax pmax
comp=E,77nm,1.5s
NVS smax
comp=N,32nm,2.3s
KSH Kashi 65.00 309 P **P** **01 12 21.0 +0.9**
KSH *e*AP pP 01 12 29.0 +0.2
KSH *e*XP sP 01 12 32.3 +0.2
KSH *e*PCP PcP 01 12 54.3 +1.4
KSH *e*PP PP 01 14 45.5 +2.3
KSH *e*PPP 01 16 19.0
KSH *e*SCP 01 16 53.5
KSH *e*S **S** **01 20 58.5 -1.8**
KSH *e*XS sS 01 21 11.0 -3.7
KSH *e*PS 01 21 21.3
KSH *e*SCS ScS 01 22 10.0 -3.1
KSH *e*SS SS 01 25 12.0 -0.4
KSH AMB AMB
comp=Z,383nm,4.1s
KSH LR LR
comp=N,805nm,7.4s
KSH LR LR
comp=E,533nm,6.4s
KSH LR LR
comp=Z,594nm,28.7s,MS4.6
RAR Rarotonga 65.22 119 LR LR 01 38 29.1
comp=Z,453nm,18.7s,MS4.7,baz=269,slow=34
KURK Kurchatov 65.25 321 P **P** **01 12 21.2 -0.6**
comp=Z,999nm,1.1s,SNR=26
KZA Kyzart 65.88 311 P **P** **01 12 27.7 +1.9**
SNR=6.3
CHMS Chumysh 66.37 312 P **P** **01 12 29.8 +0.8**
SNR=5.6
UCH Uchtor 66.44 312 P **P** **01 12 31.3 +1.9**
SNR=15
FRU Bishkek 66.45 312 *e*P **P** **01 12 29.0 -0.4**
FRU *e* pP 01 12 36.0 -2.2
FRU *e* 01 13 06.0
FRU pmax pmax
comp=Z,110nm,1.9s,mb5.6
AAK Ala-Archa 66.51 312⇑ *e*P **P** **01 12 29.4 -0.4**
AAK pmax pmax
comp=Z,18nm,1.6s,mb4.8
AAK Ala-Archa 66.51 312 *e*P **P** **01 12 29.1 -0.7**
USP Ospenovka 66.59 313 P **P** **01 12 30.4 0.0**
SNR=6.0
AML Almayashu 67.03 311 P **P** **01 12 34.7 +1.5**
SNR=10
SVW2 Sparrevohn 67.75 28 *e*P **P** **01 12 37.7 0.0**
TTA Tatalina 68.20 26 *e*P **P** **01 12 40.6 +0.1**
KDAK Kodiak Island 68.20 32 P **P** **01 12 40.7 +0.1**
comp=Z,11nm,1.0s,mb4.8,baz=24,slow=5.7,SNR=3.9
KDAK Kodiak Island 68.20 32 P **P** **01 12 40.7 +0.1**
KDAK *e*pP pP 01 12 55.0 +5.7
IMA2 Indian Mountai 70.23 23 *e*P **P** **01 12 53.1 -0.1**
BVAR Borovoye Array 70.71 323 P **P** **01 12 56.2 +0.1**
comp=Z,19nm,0.7s,mb5.2,baz=101,slow=7.7,SNR=136
BVAR pP pP 01 13 04.5 -0.4
comp=Z,54nm,0.8s,baz=107,slow=7.5,SNR=38
BRVK Borovoye 70.78 323 P **P** **01 12 56.9 +0.4**
comp=Z,660nm,1.3s,SNR=28
MCK McKinley 71.48 26 *e*P **P** **01 12 59.6 -1.1**
MID Middleton Isla 71.76 31 *e*P **P** **01 12 57.2 -5.2**
COLA College 72.22 25 *e*P **P** **01 13 03.4 -1.8**
COLA *e**PP pP 01 13 12.1 -1.9
COLA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
COLA College 72.22 25 *e*P **P** **01 13 03.4 -1.7**
comp=Z,9.8nm,1.0s,mb4.7
COLA *e*pP pP 01 13 12.1 -1.9
PPT Papeete 73.04 112 *e*S S 01 22 36.7 +1.3
comp=Z,210nm,29.8s
PPT *e*SS SS 01 27 02.7 -14
comp=Z,190nm,27.5s
PPT *e*LQ 01 32 05.5
comp=Z,1µm,30.5s
PPT *e*LR LR 01 35 31.5
comp=Z,1µm,24.2s,baz=295
PPT Papeete 73.04 112 LR LR 01 43 58.8
comp=Z,686nm,18.7s,MS5.0,baz=286,slow=35
TBI Tubuai 74.90 118 *e*LQ 01 33 03.9
comp=Z,786nm,29.5s
TBI *e*LR LR 01 36 31.8
comp=Z,897nm,30.5s,baz=294
DAWY Dawson 75.69 26 *e*P **P** **01 13 25.4 -0.1**
SVE Sverdlovsk 76.64 326⇑ *i*P **P** **01 13 29.0 -1.9**
SVE *i* pP 01 13 36.8 -3.0
SVE *e*S S 01 23 15.0 -0.6
SVE *e*PS 01 23 48.0
SVE pmax pmax
comp=Z,100nm,1.8s,mb5.4
SVE pmax pmax
comp=Z,220nm,2.0s,mb5.7
SVE MLR MLR
comp=E,200nm,13.0s
SVE MLR MLR
comp=Z,400nm,13.0s,MS4.9
ARU Arti 77.79 326 P **P** **01 13 36.3 -1.0**
comp=Z,306nm,1.3s,mb6.1,SNR=6.8
ARU Arti 77.79 326⇑ *i*P **P** **01 13 36.0 -1.3**
ARU *i* pP 01 13 45.4 -0.8
ARU *e* 01 16 31.8
ARU *e*S S 01 23 24.3 -3.7
ARU *e* 01 23 37.7
ARU *e*SS SS 01 28 23.8 -4.7
ARU pmax pmax
comp=Z,42nm,1.7s,mb5.1
ARU MLR MLR
comp=Z,500nm,21.0s,MS4.8
ARU MLR MLR
comp=N,100nm,17.0s,MS4.7
ARU MLR MLR
comp=E,300nm,22.0s,MS4.7
ARU Arti 77.79 326 *e*P **P** **01 13 36.5 -0.8**
ARU *e*pP pP 01 13 45.9 -0.3
AKTK Aktyubinsk 78.25 319 P **P** **01 13 39.4 -0.5**
AKTO Aktyubinsk 78.25 319 P **P** **01 13 39.4 -0.5**
comp=E,4.8nm,0.7s,mb4.5,baz=89,slow=6.7,SNR=17
INK Inuvik 78.33 22 P **P** **01 13 39.1 -1.2**
comp=E,6.8nm,1.0s,mb4.5,baz=273,slow=6.3,SNR=6.8
INK Inuvik 78.33 22 *e*P **P** **01 13 39.1 -1.2**
INK pmax pmax
comp=Z,33nm,1.4s
INK Inuvik 78.33 22 *e*P **P** **01 13 39.1 -1.3**
comp=Z,33nm,1.4s,mb5.1
SOKR Solikamsk 78.68 329*c i*P **P** **01 13 41.6 -0.7**
SOKR S S 01 23 40.4 +2.7
SOKR pmax pmax
comp=Z,80nm,1.5s,mb5.4
SOKR MLR MLR
comp=Z,530nm,17.0s,MS4.9
ABKT Ailbek 78.90 307 P **P** **01 13 44.0 +0.5**
comp=Z,180nm,1.1s,mb5.9,SNR=8.0
DLBC Dease Lake 80.13 32 *e*P **P** **01 13 50.1 0.0**
D03A Wishkah Elem. 85.29 43⇑P **P** **01 14 16.3 -0.6**
baz=85
E03A Lebam 85.53 44⇓P **P** **01 14 17.5 -0.6**
baz=86
F03A Seaside 85.64 44⇑P **P** **01 14 17.7 -1.0**
baz=86
GNW Green Mountain 85.84 43 *e*P **P** **01 14 20.7 +1.0**
GNW *e*pP pP 01 14 30.7 +2.1
A05A Maple Falls 86.05 41⇓P **P** **01 14 20.6 -0.1**
baz=86
H03A Soap Creek Ran 86.06 45⇑P **P** **01 14 21.2 +0.4**
baz=86
B05A Bryant 86.19 42⇑P **P** **01 14 22.0 +0.6**
baz=86
F04A Amboy 86.42 44⇓P **P** **01 14 22.1 -0.5**
baz=86
D05A Enumclaw 86.47 43⇓P **P** **01 14 22.8 0.0**
baz=86
G04A Mulino 86.52 45⇓P **P** **01 14 24.0 +0.9**
baz=86
ALE Alert 86.53 3 P **P** **01 14 23.2 +0.1**
comp=Z,91nm,1.3s,mb5.8,SNR=8.3
C05A Tolt Reservoir 86.57 42⇑P **P** **01 14 23.8 +0.6**
baz=86
HUMO Hull Mountain 86.69 47⇓P **P** **01 14 24.3 +0.4**
baz=87
SPB4 Spitsbergen Ar 86.70 350 *e*P **P** **01 14 23.4 -0.5**
E05A Randle 86.75 43⇑P **P** **01 14 24.0 -0.1**
baz=87
H04A Detroit Lake 86.83 45⇓P **P** **01 14 24.9 +0.4**
baz=87
YKW3 Yellowknife Ar 86.90 27 *e*P **P** **01 14 24.7 -0.2**
KBS Kingsbay 86.91 351 *e*P **P** **01 14 25.0 0.0**
KBS *e**PP pP 01 14 33.3 -0.7
YKA Yellowknife Ar 86.92 27 P **P** **01 14 24.3 -0.7**
comp=Z,12nm,1.1s,mb5.0,baz=288,slow=5.0,SNR=12
YKA LR LR 01 54 15.8
comp=Z,311nm,20.6s,MS4.7,baz=270,slow=36
YKA Yellowknife Ar 86.92 27⇑ *i*P **P** **01 14 24.2 -0.8**
YKA pmax pmax
comp=Z,12nm,1.1s
YKA Yellowknife Ar 86.92 27 P **P** **01 14 24.3 -0.7**
YKA LR LR 01 54 15.8
YBH Yreka Blue Hor 87.03 48 *e*P **P** **01 14 26.7 +1.1**
YBH pmax pmax
comp=Z,17nm,1.3s
YBH Yreka Blue Hor 87.03 48 *e*P **P** **01 14 26.7 +1.2**
comp=Z,17nm,1.3s,mb5.1
YBH Yreka Blue Hor 87.03 48⇑P **P** **01 14 26.1 +0.6**
baz=87
HOOD Mount Hood Mea 87.07 45 *e*pP pP 01 14 39.8 +5.0
F05A White Salmon 87.09 44⇓P **P** **01 14 25.7 -0.1**
baz=87
O02C Red Bluff 87.28 50⇑P **P** **01 14 27.0 +0.2**
baz=87
GASB Alder Springs 87.43 50⇑P **P** **01 14 28.4 +0.9**
baz=87
H05A Madras 87.50 45⇓P **P** **01 14 28.0 +0.2**
baz=87
I05A Bend 87.58 46⇑P **P** **01 14 28.4 +0.2**
baz=88
M04C Macdoel 87.66 48⇑P **P** **01 14 29.5 +0.9**
baz=88
J05A Fort Rock 87.78 47⇓P **P** **01 14 29.2 0.0**
baz=88
MNRC McLaughlin Nat 87.80 51⇓P **P** **01 14 29.6 +0.4**
baz=88
CVS Carmenet Viney 87.89 52⇑P **P** **01 14 29.7 0.0**
baz=88
HATC Hat Creek Radi 88.14 49⇑P **P** **01 14 30.5 -0.3**
baz=88
M05C Lookout 88.25 48⇑P **P** **01 14 31.8 +0.4**
baz=88
HAWA Hanford 88.29 43 *e*P **P** **01 14 32.3 +0.7**
L05A Lakeview 88.34 48⇓P **P** **01 14 32.5 +0.7**
baz=88
I06A Prineville 88.37 46⇑P **P** **01 14 32.1 +0.2**
baz=88
ORV Oroville 88.37 50⇓P **P** **01 14 32.2 +0.2**
baz=88
OHCM Honcut 88.43 50 *e*pP pP 01 14 45.5 +4.2
VNDA Vanda 88.52 176 P **P** **01 14 31.2 -1.4**
comp=Z,2.0nm,1.1s,mb4.3,baz=326,slow=5.6,SNR=4.9
VNDA pP pP 01 14 39.1 -2.6
comp=Z,4.2nm,0.9s,baz=322,slow=6.2,SNR=10
VNDA LR LR 01 52 55.5
comp=Z,335nm,20.1s,MS4.8,baz=345,slow=35
VNDA Vanda 88.52 176 P **P** **01 14 31.2 -1.4**
VNDA *PP pP 01 14 39.1 -2.6
J06A Christmas Vall 88.57 46⇑P **P** **01 14 33.4 +0.5**
baz=88
WENL Wente Brothers 88.58 52⇑P **P** **01 14 33.0 0.0**
baz=88
K06A Valley Falls 88.60 47⇓P **P** **01 14 33.4 +0.3**
baz=88
KEV Kevo 88.65 342 *e*p **P** **01 14 32.1 -1.2**
comp=Z,5.9nm,0.7s,mb5.0
KEV Kevo 88.65 342 *e*P **P** **01 14 32.1 -1.2**
KEV pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
M06C Likely Place G 88.78 48⇑P **P** **01 14 34.3 +0.4**
baz=89
GNI Garni 88.87 310 P **P** **01 14 34.9 +0.5**
comp=Z,1.1nm,0.3s,mb4.6,baz=313,slow=21,SNR=3.1
GNI Garni 88.87 310 *e*P **P** **01 14 34.5 +0.2**
GNI pmax pmax
comp=Z,8.0nm,1.6s
GNI MLR MLR
comp=Z,200nm,19.0s
ZEI Tsey 88.91 313 *e*P **P** **01 14 34.9 +0.4**
ZEI *e**PP pP 01 14 45.6 +2.1
ZEI *e* 01 18 03.8
ZEI pmax pmax
comp=Z,8.0nm,0.4s,mb5.4
S04C Ingram Canyon, 88.94 52⇑P **P** **01 14 35.2 +0.5**
baz=89
HAST UC Hastings Re 89.00 53⇑P **P** **01 14 35.6 +0.7**
baz=89
P05C Yuba Gap, Truc 89.10 50⇑P **P** **01 14 35.4 0.0**
baz=89
LAVA Lava Cap Winer 89.12 51⇑P **P** **01 14 35.5 0.0**
baz=89
J07A Hines 89.14 46⇑P **P** **01 14 35.7 +0.2**
baz=89
ARCES ARCESS Array B 89.21 342 P **P** **01 14 34.8 -1.2**
comp=Z,5.3nm,0.7s,mb5.0,baz=69,slow=6.6,SNR=12
ARCES LR LR 01 58 52.8
comp=Z,238nm,19.4s,MS4.6,baz=192,slow=38
ARE0 ARCESS Array S 89.22 342 *e*P **P** **01 14 34.8 -1.2**
SBA Scott Base 89.22 175 *e*P **P** **01 14 36.5 +0.6**
SBA pmax pmax
comp=Z,13nm,1.4s,mb5.1
SBA Scott Base 89.22 175 *e*P **P** **01 14 36.5 +0.5**
comp=Z,13nm,1.4s,mb5.1
V03C Hunter Liggett 89.32 54⇓P **P** **01 14 36.3 -0.1**
baz=89
K07A Rock Creek Ran 89.34 47⇓P **P** **01 14 36.5 0.0**
baz=89,SNR=5.3
N06A Buffalo Meadow 89.36 49⇓P **P** **01 14 36.8 +0.2**
baz=89,SNR=6.8
NEW Newport 89.42 41 *e*P **P** **01 14 37.1 +0.2**
L07A Adell 89.43 47⇑P **P** **01 14 37.3 +0.3**
baz=89,SNR=6.0
MOS Moscow 89.44 327 *e*P **P** **01 14 34.2 -2.8**
MOS *e* pP 01 14 44.1 -1.9
MOS *e* 01 18 04.5
MOS pmax pmax
comp=Z,50nm,1.1s,mb5.8
MOS MLR MLR
comp=Z,800nm,19.0s,MS5.2
KIV Kislovodsk 89.49 315 *e*P **P** **01 14 34.6 -2.6**
KIV *e* 01 25 00.6
KIV pmax pmax
comp=Z,7.0nm,1.2s,mb4.9
KIV MLR MLR
comp=Z,314nm,19.0s,MS4.8
KIV Kislovodsk 89.49 315 *e*P **P** **01 14 38.4 +1.2**
O06A Flanigan 89.50 49⇑P **P** **01 14 37.6 +0.4**
baz=89,SNR=9.2
CMB Columbia Colle 89.55 52 *e*P **P** **01 14 38.4 +0.9**
CMB Columbia Colle 89.55 52⇑P **P** **01 14 37.9 +0.4**
baz=90,SNR=7.3
U04C Hernandez Rese 89.61 53⇑P **P** **01 14 38.1 +0.4**
baz=90
R05C Kirkwood Meado 89.64 51⇑P **P** **01 14 38.3 +0.4**
baz=90
V04C Ramage Ranch, 89.70 54⇑P **P** **01 14 38.6 +0.4**
baz=90
M07A Soldier Meadow 89.70 48⇓P **P** **01 14 38.2 0.0**
baz=90
J08A Circle Bar Ran 89.74 46⇓P **P** **01 14 38.7 +0.3**
baz=90,SNR=7.7
S05C Merced 89.75 52⇑P **P** **01 14 38.8 +0.4**
baz=90
WCN Washoe City 89.75 50⇑P **P** **01 14 38.9 +0.5**
baz=90
WVOR Wild Horse Val 89.84 47 *e*P **P** **01 14 39.3 +0.4**
WVOR *e**PP pP 01 14 46.4 -1.5
WVOR pmax pmax
comp=Z,11nm,1.1s,mb5.1
WVOR Wild Horse Val 89.84 47 *e*P **P** **01 14 39.3 +0.5**
comp=Z,11nm,1.1s,mb5.1
WVOR *e*pP pP 01 14 46.4 -1.4
K08A Mann Creek Ran 89.87 47⇑P **P** **01 14 39.5 +0.5**
baz=90
PKD Parkfield 89.89 54⇓P **P** **01 14 39.5 +0.4**
baz=90,SNR=5.3
PAHR Pah Rah Range 89.93 50 *e*P **P** **01 14 40.3 +1.0**
comp=Z,22nm,1.3s,mb5.3
PAHR *e*pP pP 01 14 46.4 -1.9
JOF Joensuu 89.97 335 *e*p **P** **01 14 36.8 -2.7**
comp=Z,17nm,0.9s,mb5.4
S06C San Francisco 90.00 52⇑P **P** **01 14 39.3 -0.3**
baz=90
L08A Fields 90.11 47⇑P **P** **01 14 40.8 +0.7**
baz=90,SNR=11
R06C Coleville 90.16 51⇓P **P** **01 14 40.9 +0.5**
baz=90,SNR=5.6
WAKR Walker 90.17 51 *e*P **P** **01 14 42.0 +1.6**
WAKR *e*pP pP 01 14 54.6 +5.2
BMO Blue Mountains 90.18 44 *e*P **P** **01 14 40.9 +0.5**
BMO pmax pmax
comp=Z,11nm,1.1s,mb5.1
BMO Blue Mountains 90.18 44 *e*P **P** **01 14 40.9 +0.5**
comp=Z,11nm,1.1s,mb5.1
O07A Toulon 90.20 49⇓P **P** **01 14 40.7 +0.2**
baz=90
OBN Obninsk 90.21 326*c i*P **P** **01 14 38.3 -2.3**
OBN *i* pP 01 14 48.1 -1.5
OBN *e*S 01 25 06.6
OBN *e*SS SS 01 31 31.9 -0.1
OBN pmax pmax
comp=Z,35nm,1.5s,mb5.5
OBN MLR MLR
comp=Z,500nm,22.0s,MS4.9
OBN Obninsk 90.21 326 *e*P **P** **01 14 39.6 -1.0**
comp=Z,92nm,1.4s,mb5.9
OBN *e*pP pP 01 14 48.4 -1.2
M08A Happy Creek Ra 90.26 48⇑P **P** **01 14 40.8 0.0**
baz=90
T06C Millerton Lake 90.31 52⇓P **P** **01 14 41.4 +0.4**
baz=90
P07A Fallon 90.34 50⇓P **P** **01 14 41.5 +0.3**
baz=90
KCC Kaiser Creek 90.54 52⇑P **P** **01 14 42.3 +0.2**
baz=90
R07C Lee Vining 90.56 51⇓P **P** **01 14 42.9 +0.7**
baz=90
L09A Wilkinson Ranc 90.64 47⇓P **P** **01 14 42.9 +0.3**
baz=91
M09A Marrel Ranch, 90.95 48⇑P **P** **01 14 45.0 +1.0**
baz=91
N09A Rock Creek Ran 91.04 48⇓P **P** **01 14 45.1 +0.6**
baz=91
BSMT Bassoo Peak 91.04 41 *e*P **P** **01 14 45.2 +0.8**
BSMT *e*pP pP 01 14 53.8 +0.3
NVAR Mina Array Bea 91.06 51 P **P** **01 14 45.4 +0.9**
comp=Z,8.4nm,1.0s,mb5.0,baz=268,slow=3.9,SNR=32
Q08A Gabbs 91.23 50⇓P **P** **01 14 45.7 +0.3**
baz=91,SNR=5.9
O09A Fish Creek Ran 91.46 49⇑P **P** **01 14 47.0 +0.7**
baz=91,SNR=5.7
ISA Isabella 91.59 53⇓P **P** **01 14 46.5 -0.5**
baz=92
OSI Osito Adit 91.64 55⇑P **P** **01 14 46.5 -0.7**
baz=92
P09A Austin 91.65 49⇑P **P** **01 14 48.1 +0.8**
baz=92
SOC Sochi 91.67 315 *e*P **P** **01 14 45.8 -1.5**
SOC *e* 01 14 58.2
SOC *e*PPP 01 20 22.5
SOC *e*S 01 25 14.6
SOC *e* 01 25 42.4
SOC *e*SS SS 01 31 59.2 +6.2
SOC pmax pmax
comp=Z,12nm,0.9s,mb5.2
SOC MLR MLR
comp=Z,556nm,22.0s,MS5.0
CWC Cottonwood Cre 91.71 53⇓P **P** **01 14 47.9 +0.3**
baz=92
N10A Dunphy 91.82 48⇑P **P** **01 14 48.9 +0.8**
baz=92
O10A Cortez Mining, 91.94 49⇓P **P** **01 14 49.2 +0.6**
baz=92
TPH Tonopah 91.97 51 *e*P **P** **01 14 50.4 +1.7**
R09A Tonopah 92.04 51 P **P** **01 14 49.9 +0.8**
baz=92,SNR=10
S09A Goldfield 92.06 51⇑P **P** **01 14 50.0 +0.8**
baz=92
DAC Darwin (Calif) 92.13 53 *e*P **P** **01 14 50.7 +1.2**
DAC pmax pmax
comp=Z,13nm,1.0s,mb5.2
DAC Darwin (Calif) 92.13 53 *e*P **P** **01 14 50.7 +1.2**
comp=Z,13nm,1.0s,mb5.2
M11A Holland Ranch, 92.15 47⇓P **P** **01 14 50.9 +1.3**
baz=92
DAG Danmarks Havn 92.23 356⇑ *i*P **P** **01 14 48.3 -1.7**
comp=Z,3.0nm,1.0s,mb4.6
DAG Danmarks Havn 92.23 356⇑ *i*P **P** **01 14 48.3 -1.7**
DAG pmax pmax
comp=Z,3.0nm,1.0s,mb4.6
KAF Kangasniemi 92.42 335 *e*p **P** **01 14 48.3 -2.5**
comp=Z,13nm,1.0s,mb5.2,baz=62,slow=4.4
KAF Kangasniemi 92.42 335 *e*P **P** **01 14 48.3 -2.5**
KAF pmax pmax
comp=Z,13nm,1.0s,mb5.2
HLID Hailey 92.53 45 *e*P **P** **01 14 51.9 +0.5**
ELK Elko 92.74 48 *e*P **P** **01 14 52.8 +0.5**
ELK *e* pP 01 15 02.8 +1.5
ELK pmax pmax
comp=Z,9.0nm,1.2s
ELK Elko 92.74 48 *e*P **P** **01 14 52.8 +0.5**
comp=Z,9.3nm,1.2s,mb5.1
ELK *e* pP 01 15 02.8 +1.5
M12A Wells 92.79 47⇑P **P** **01 14 52.8 +0.3**
baz=93
FIA1 FINESS Array S 92.82 334 *e*P **P** **01 14 50.3 -2.4**
FIA1 *e*pP pP 01 14 59.1 -2.7
FINES FINESS Array B 92.83 334 P **P** **01 14 50.3 -2.4**
comp=Z,1.6nm,0.3s,mb4.9,baz=70,slow=5.3,SNR=18
FINES LR LR 02 00 39.6
comp=Z,269nm,19.5s,MS4.7,baz=243,slow=38
FINES FINESS Array B 92.83 334 *i* P **P** **01 14 50.2 -2.5**
FINES pmax pmax
comp=Z,2.0nm,0.3s
N12A Clover Valley, 92.86 48⇑P **P** **01 14 53.8 +1.0**
baz=93
ANN Anapa 92.89 316 *e*P **P** **01 14 50.5 -2.5**
ANN pmax pmax
comp=Z,15nm,1.1s,mb5.3
Q11A Duckwater 92.95 50⇑P **P** **01 14 53.6 +0.3**
baz=93
GSC Goldstone 93.00 53 *e*P **P** **01 14 54.7 +1.2**
GSC Goldstone 93.00 53⇓P **P** **01 14 54.3 +0.8**
baz=93
TPNV Topopah Spring 93.01 52 *e*P **P** **01 14 54.7 +1.2**
TPNV pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
TPNV Topopah Spring 93.01 52 *e*P **P** **01 14 54.7 +1.1**
comp=Z,8.5nm,1.0s,mb5.1
U10A Ash Meadows, A 93.08 52⇑P **P** **01 14 54.5 +0.6**
baz=93
LRM Limekiln Ridge 93.18 42 *e*P **P** **01 14 54.8 +0.5**
O12A Currie 93.23 48⇑P **P** **01 14 53.3 -1.3**
baz=93
P12A McGill 93.34 49⇓P **P** **01 14 54.3 -0.8**
baz=93
Q12A Willow Creek R 93.52 49⇑P **P** **01 14 55.6 -0.3**
baz=93
TUQ Turquoise Mtn. 93.66 53⇑P **P** **01 14 56.7 +0.1**
baz=94
PFO Pinyon Flat Ob 93.71 55 *e*P **P** **01 14 55.7 -1.1**
PFO pmax pmax
comp=Z,5.0nm,0.6s,mb5.1

PFO	**Pinyon Flat Ob**	**93.71**	**55**	*eP*		**P**	**01 14 55.7**	**-1.1**
	comp=Z,5.3nm,0.6s,mb5.2							
PFO	**Pinyon Flat Ob**	**93.71**	**55**	⇓P		**P**	**01 14 57.3**	**+0.5**
	baz=94							
BOZ	**Bozeman (W)**	**93.78**	**42**	*eP*		**P**	**01 14 57.7**	**+0.6**
BOZ					pmax	pmax		
	comp=Z,11nm,1.4s,mb5.1							
BOZ	**Bozeman (W)**	**93.78**	**42**	*eP*		**P**	**01 14 57.7**	**+0.6**
	comp=Z,11nm,1.4s,mb5.1							
V11A	**Goodsprings**	**93.94**	**53**	⇑P		**P**	**01 14 58.1**	**+0.3**
	baz=94							
SHPR	**Sheep Range**	**93.97**	**52**	*eP*		**P**	**01 14 59.6**	**+1.6**
MALT	**Malatya**	**94.08**	**310**	*eP*		**P**	**01 14 57.8**	**-0.7**
MALT				*e*PP		pP	01 15 06.1	-1.4
QLMT	**Earthquake Lak**	**94.18**	**43**	*eP*		**P**	**01 15 00.4**	**+1.4**
EGMT	**Eagleton**	**94.19**	**40**	*eP*		**P**	**01 14 59.1**	**+0.1**
	comp=Z,14nm,1.4s,mb5.2							
EGMT				*e*pP		pP	01 15 09.5	+1.4
V12A	**Nelson**	**94.42**	**53**	⇑P		**P**	**01 15 00.5**	**+0.4**
	baz=94							
W12A	**Cal Nev Ari**	**94.53**	**53**	⇓P		**P**	**01 15 00.4**	**-0.1**
	baz=94							
DUG	**Dugway**	**94.67**	**48**	*eP*		**P**	**01 15 01.7**	**+0.5**
DUG					pmax	pmax		
	comp=Z,11nm,1.3s,mb5.1							
DUG	**Dugway**	**94.67**	**48**	*eP*		**P**	**01 15 01.7**	**+0.5**
	comp=Z,11nm,1.3s,mb5.1							
HWUT	**Hardware Ranch**	**95.13**	**46**	P		**P**	**01 15 03.2**	**-0.1**
Y12C	**Blythe**	**95.23**	**54**	⇑P		**P**	**01 15 04.0**	**+0.2**
	baz=95							
W13A	**Hualapai Mount**	**95.35**	**53**	⇑P		**P**	**01 15 03.9**	**-0.4**
	baz=95							
MAW	**Mawson**	**95.46**	**202**	*eP*		**P**	**01 15 12.6**	**+7.8**
	comp=Z,4.7nm,0.9s,mb4.9							
MAW	**Mawson**	**95.46**	**202**	pP		pP	01 15 10.2	-3.6
	comp=Z,5.2nm,0.9s,baz=55,slow=4.3,SNR=7.2							
MAW					LR	LR	01 58 22.5	
	comp=Z,130nm,18.5s,MS4.4,baz=65,slow=36							
MAW	**Mawson**	**95.46**	**202**	*eP*		**P**	**01 15 12.6**	**+7.8**
MAW					pmax	pmax		
	comp=Z,5.0nm,0.9s							
DAU	**Daniels Canyon**	**95.73**	**47**	*eP*		**P**	**01 15 03.5**	**-2.5**
FFC	**Flin Flon**	**95.95**	**32**	*eP*		**P**	**01 15 06.1**	**-0.9**
W14A	**Seligman**	**95.95**	**53**	⇓P		**P**	**01 15 05.9**	**-1.2**
	baz=96							
AKASG	**Malin Array Be**	**95.96**	**324**	P		**P**	**01 15 05.1**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=52,slow=3.9,SNR=5.5							
AKASG					pP	pP	01 15 14.0	-2.1
	comp=Z,0.4nm,0.4s,baz=61,slow=4.2,SNR=1.6							
AKASG					LR	LR	02 02 50.0	
	comp=Z,182nm,18.2s,MS4.6,baz=50,slow=38							
AKASG	**Malin Array Be**	**95.96**	**324**	P		**P**	**01 15 05.1**	**-2.0**
AKASG				*PP		pP	01 15 14.0	-2.1
PDAR	**Pinedale Array**	**96.15**	**45**	P		**P**	**01 15 07.9**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=250,slow=2.6,SNR=2.8							
X14A	**Yava**	**96.32**	**53**	⇑P		**P**	**01 15 07.0**	**-1.7**
	baz=96							
Y14A	**Wickenburg**	**96.39**	**54**	⇑P		**P**	**01 15 07.7**	**-1.4**
	baz=96							
W15A	**Williams**	**96.60**	**53**	⇓P		**P**	**01 15 08.4**	**-1.5**
	baz=96							
Z14A	**Wintersburg**	**96.60**	**54**	⇓P		**P**	**01 15 09.5**	**-0.5**
	baz=96							
X15A	**Humboldt**	**96.83**	**53**	⇑P		**P**	**01 15 10.4**	**-0.7**
	baz=97							
SUMG	**Summit**	**97.18**	**0**	*eP*		**P**	**01 15 12.7**	**+0.1**
BRTR	**Keskin Array B**	**97.18**	**312**	P		**P**	**01 15 10.1**	**-2.5**
	comp=Z,0.6nm,0.9s,baz=108,slow=7.9,SNR=4.9							
BRTR					LR	LR	02 01 39.5	
	comp=Z,121nm,21.3s,baz=257,slow=37							
BRTR	**Keskin Array B**	**97.18**	**312**	*eP*		**P**	**01 15 11.1**	**-1.5**
115A	**Sonoran Desert**	**97.37**	**55**	⇑P		**P**	**01 15 12.4**	**-1.0**
	baz=97							
SUW	**Suwalki**	**97.76**	**329**	P		**P**	**01 15 14.8**	**-0.4**
PV10	**Paradox Valley**	**98.03**	**49**	*eP*		**P**	**01 15 16.8**	**+0.4**
NB2	**NORSAR Subarra**	**98.97**	**338**	Pdif		**P**	**01 15 17.7**	**-3.0**
	comp=Z,7.0nm,1.4s,mb5.0,baz=49,slow=4.4							
NOA	**NORSAR Array B**	**98.97**	**338**	LR		LR	02 04 02.7	
	comp=Z,147nm,20.9s,MS4.5,baz=50,slow=38							
RGN	**Rugen**	**102.26**	**332**	*eP*		PP	01 19 47.5	0.0
RGN	**Rugen**	**102.26**	**332**	*eP*		PP	01 19 47.5	0.0
OKC	**Ostrava-Krasne**	**102.60**	**327**	*e*PDIF		Pdif	01 15 35.2	-1.6
DPC	**Dobruska-Polom**	**103.29**	**328**	*e*PDIF		Pdif	01 15 39.2	-0.7
DPC				*e*PP		PP	01 19 57.9	+2.7
RUE	**Ruedersdorf**	**103.32**	**330**	*e*PP		PP	01 19 55.4	0.0
RUE	**Ruedersdorf**	**103.32**	**330**	*e*PP		PP	01 19 55.4	0.0
UPC	**Upice**	**103.36**	**328**	*e*PP		PP	01 19 57.2	+1.4
BSEG	**Bad Segeberg**	**104.01**	**333**	*e*PP		PP	01 20 00.6	0.0
BSEG	**Bad Segeberg**	**104.01**	**333**	*e*PP		PP	01 20 00.6	0.0
PVCC	**Panska Ves**	**104.10**	**329**	*e*PP		PP	01 19 59.9	-1.4
BRG	**Berggiesshubel**	**104.21**	**329**	*e*P		Pdif	01 15 51.5	+7.6
	comp=Z,2.2nm,1.0s							
BRG	**Berggiesshubel**	**104.21**	**329**	*e*P		PKiKP	01 19 58.5	-2.2
	comp=Z,8.1nm,1.8s							
BRG				*e*			01 20 08.8	
	comp=Z,10nm,1.6s							
BRG	**Berggiesshubel**	**104.21**	**329**	*e*P		Pdif	01 15 51.5	+7.6
BRG					pmax	pmax		
	comp=Z,2.0nm,1.0s							
TREC	**Trest**	**104.34**	**327**	*e*PP		PP	01 19 59.8	-3.3
CLL	**Collm**	**104.42**	**330**	*e*PP		PP	01 20 03.6	0.0
CLL	**Collm**	**104.42**	**330**	*e*PP		PP	01 20 03.6	0.0
CLL	**Collm**	**104.42**	**330**	*e*Pdif		Pdif	01 15 43.0	-1.9
CLL				*e*PP		PP	01 20 05.0	+1.4
	comp=Z,10.0nm,1.3s							
CLL				*es*PP			01 20 13.0	
CLL				*e*PPP			01 22 18.0	
CLL				*e*SP		SP	01 29 13.0	+0.2
CLL				*e*PPS			01 30 06.0	
CLL				*e*SS		SS	01 35 06.0	+14
CLL				*e*SSS			01 38 42.0	
CLL	**Collm**	**104.42**	**330**	*e*P		Pdif	01 15 43.0	-1.9
CLL				*e*			01 20 05.0	
CLL					pmax	pmax		
	comp=Z,10.0nm,1.3s							
CLL					MLR	MLR		
	comp=Z,500nm,22.1s,MS5.0							
CLL	**Collm**	**104.42**	**330**	*e*Pdif		Pdif	01 15 43.0	-1.9
	comp=Z,10.0nm,1.3s							
CLL				*e*PP		PP	01 20 05.0	+1.4
CLL					LR	LR		
	comp=Z,500nm,22.1s,MS5.0							
SANT	**Santorini**	**104.42**	**312**	*e*Pdif		Pdif	01 15 41.2	-3.7
PRU	**Pruhonice**	**104.43**	**328**	*e*PP		PP	01 20 01.3	-2.5
PRU					AMS	AMS	02 06 50.0	
	comp=Z,400nm,21.1s							
NRDL	**Niedersach Rie**	**105.05**	**332**	*e*PP		PP	01 20 08.3	-0.1
NRDL	**Niedersach Rie**	**105.05**	**332**	*e*PP		PP	01 20 08.3	-0.1
TANN	**Tannenbergstha**	**105.24**	**329**	*e*PP		PP	01 20 09.7	0.0
TANN	**Tannenbergstha**	**105.24**	**329**	*e*PP		PP	01 20 09.7	0.0
WERD	**Werda**	**105.30**	**329**	*e*PP		PP	01 20 10.1	-0.1
WERD	**Werda**	**105.30**	**329**	*e*PP		PP	01 20 10.1	-0.1
CLZ	**Clausthal**	**105.35**	**331**	*e*Pdiff		Pdif	01 15 55.2	+6.2
CLZ				*e*PP		PP	01 20 09.7	-0.9
NKC	**Novy Kostel**	**105.36**	**329**	*e*PDIF		Pdif	01 15 48.5	-0.5
KHC	**Kasperske Hory**	**105.45**	**328**	*e*PDIF		Pdif	01 15 46.8	-2.6
KHC				*ex*		x	01 19 05.0	
KHC				*e*PP		PP	01 20 04.3	-7.0
KHC					AMS	AMS	02 04 20.0	
	comp=Z,300nm,23.8s							
MOX	**Moxa**	**105.52**	**330**	*e*PP		PP	01 20 11.7	-0.1
MOX	**Moxa**	**105.52**	**330**	*e*PP		PP	01 20 11.7	-0.1
GEC2	**GERESS Array S**	**105.55**	**327**	*e*PP		PP	01 20 12.0	-0.1
GEC2	**GERESS Array S**	**105.55**	**327**	*e*PP		PP	01 20 12.0	-0.1
GERES	**GERESS Array B**	**105.55**	**327**	Pdiff		Pdif	01 15 48.5	-1.4
	comp=Z,0.1nm,0.3s,baz=50,slow=6.7,SNR=3.8							
MANZ	**Manzenberg**	**105.68**	**329**	*e*PP		PP	01 20 12.9	-0.1
MANZ	**Manzenberg**	**105.68**	**329**	*e*PP		PP	01 20 12.9	-0.1
GTTG	**Gvttingen**	**105.74**	**331**	*e*PP		PP	01 20 13.3	-0.1
GTTG	**Gvttingen**	**105.74**	**331**	*e*PP		PP	01 20 13.3	-0.1
ROTZ	**Rotzenmuhle**	**105.77**	**329**	*e*PP		PP	01 20 13.6	-0.1
ROTZ	**Rotzenmuhle**	**105.77**	**329**	*e*PP		PP	01 20 13.6	-0.1
WET	**Wettzell**	**105.81**	**328**	*e*PP		PP	01 20 13.9	0.0
WET	**Wettzell**	**105.81**	**328**	*e*PP		PP	01 20 13.9	0.0
UBBA	**Unterbreizbach**	**106.19**	**331**	*e*PP		PP	01 20 15.6	-1.2
UBBA	**Unterbreizbach**	**106.19**	**331**	*e*PP		PP	01 20 15.6	-1.2
GRA1	**Grafenberg Arr**	**106.31**	**329**	*e*Pdif		Pdif	01 15 58.2	+4.9
GRF	**Grafenberg Arr**	**106.31**	**329**	*e*Pdif		Pdif	01 15 58.2	+4.9
WTSB	**Winterswijk**	**106.91**	**333**	*e*PKP		PP	01 20 21.5	-0.6
BUG	**Bochum--Univer**	**107.06**	**332**	*e*PP		PP	01 20 22.1	-1.1
BUG	**Bochum--Univer**	**107.06**	**332**	*e*PP		PP	01 20 22.1	-1.1
HGN	**Heimansgroeve**	**108.14**	**332**	*e*PKP		PP	01 20 30.6	-0.5
	comp=Z,18nm,1.7s							
HGN				*ex*		x	01 20 37.0	
HGN				*e*PPS			01 29 21.5	
BFO	**Black Forest**	**108.65**	**329**	*e*PP		PP	01 20 36.6	+1.8
BFO	**Black Forest**	**108.65**	**329**	*e*PP		PP	01 20 36.6	+1.8
WLF	**Walferdange**	**108.80**	**331**	*e*PP		PP	01 20 40.5	+4.6
WLF	**Walferdange**	**108.80**	**331**	*e*PP		PP	01 20 40.5	+4.6
GIVF	**Givet**	**109.11**	**332**	*e*PP		PP	01 20 37.8	-0.3
HINF	**Hinteralfeld**	**109.73**	**330**	*e*PP		PP	01 20 41.8	-0.8
HAU	**Haudompre**	**109.85**	**330**	*e*PP		PP	01 20 43.0	-0.5
MEZF	**Maizieres J'vi**	**110.13**	**331**	*e*PP		PP	01 20 44.4	-1.1
LPL	**La Plagne**	**111.34**	**328**	*e*PP		PP	01 20 53.6	-0.6
LPG	**La Plagne**	**111.34**	**328**	*e*PP		PP	01 20 53.8	-0.4
MBDF	**Montbardon**	**111.84**	**327**	*e*PP		PP	01 20 57.0	-0.9
	comp=Z,19nm,1.2s							
SSF	**Saint Saulge**	**111.89**	**331**	*e*PP		PP	01 20 57.8	-0.4
	comp=Z,33nm,1.6s							
SBF	**Sospel**	**112.06**	**326**	*e*PP		PP	01 20 58.4	-1.0
AVF	**Avril sur Loir**	**112.15**	**331**	*e*PP		PP	01 20 59.5	-0.6
	comp=Z,31nm,1.6s							
ORIF	**Oris-en-Rattie**	**112.19**	**328**	*e*PP		PP	01 20 59.8	-0.5
	comp=Z,77nm,1.8s							
LDF	**La Druitiere**	**112.42**	**334**	*e*PP		PP	01 21 01.3	-0.7
	comp=Z,57nm,1.4s							
FLN	**La Foliniere**	**112.44**	**334**	*e*PP		PP	01 21 01.5	-0.6
	comp=Z,36nm,1.2s							
VIVF	**Saint-Julien-l**	**112.85**	**328**	*e*PP		PP	01 21 04.4	-0.7
SMRF	**Simiane la Rot**	**112.98**	**327**	*e*PP		PP	01 21 05.3	-0.7
	comp=Z,58nm,1.7s							
LASF	**Ste Croix**	**113.82**	**328**	*e*PP		PP	01 21 11.3	-0.6
MFF	**Saint Martin d**	**113.93**	**332**	*e*PP		PP	01 21 12.4	-0.3
SNAA	**Sanae**	**115.15**	**192**	*e*Pdiff		Pdif	01 16 27.2	-5.4
SNAA				*e*			01 16 28.4	
VNA1	**Neumayer--Stat**	**117.02**	**191**	*e*Pdiff		Pdif	01 16 37.1	-3.8
VNA1				*e*			01 16 39.5	
TORD	**Torodi Ar. Bea**	**134.19**	**300**	PKP		PKPdf	01 20 57.5	-0.2
	comp=Z,0.7nm,0.8s,baz=39,slow=2.3,SNR=6.2							
TORD	**Torodi Ar. Bea**	**134.19**	**300**	PKP		PKPdf	01 20 57.5	-0.2
LIC	**Lamto**	**143.27**	**295**	*e*PKIKP		PKPdf	01 21 12.6	-1.6
	comp=Z,105nm,1.5s							
LPAZ	**La Paz**	**150.10**	**105**	PKPbc		PKPbc	01 21 32.5	+1.8
	comp=Z,5.3nm,0.9s,baz=331,slow=4.8,SNR=15							

CASC 27 01:12:06.5±2.4, 1308N×8929W, h47km±117km, MD3.6, 5C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.58**	**22**	*i* P	x	01 12 23.2	
LFRS				*e*S	x	01 12 33.5	
LCBS	**La Ceiba**	**0.65**	**27**	*i* P	x	01 12 23.8	
LCBS				*e*S	x	01 12 33.6	
BOQS	**Boqueron**	**0.65**	**0**	*e*P	x	01 12 24.2	
BOQS				*e*S	x	01 12 34.4	
SNVI	**San Vicente**	**0.69**	**39**	*e*P	x	01 12 23.1	
SNVI				*e*S	x	01 12 34.4	
LBRS	**Las Brisas**	**0.70**	**20**	*e*P	x	01 12 24.9	
LBRS				*e*S	x	01 12 34.2	
SBLS	**San Blas**	**0.83**	**337**	*e*P	x	01 12 26.5	
SBLS				*e*S	x	01 12 39.6	
SNJE	**San Jose**	**0.85**	**338**	*e*P	x	01 12 26.9	
SNJE				*e*S	x	01 12 38.7	
RTR	**El Retiro**	**0.89**	**337**	*e*P	x	01 12 27.3	
RTR				*e*S	x	01 12 40.9	
VSM	**San Miguel**	**1.04**	**70**	*e*P	x	01 12 30.0	
VSM				*e*S	x	01 12 44.4	
BLLM	**Bellamira**	**1.08**	**70**	*e*P	x	01 12 30.4	
BLLM				*e*S	x	01 12 45.3	
RBDL	**Robledal**	**1.10**	**339**	*e*P	x	01 12 30.1	
RBDL				*e*S	x	01 12 46.1	
CNCH	**Conchagua**	**1.43**	**82**	*e*P	x	01 12 35.1	
CNCH				*e*S	x	01 12 53.7	
IXG	**Ixpaco**	**1.58**	**314**	*e*P	Pn	01 12 31.4	-0.6
FUG	**Fuego 3**	**2.04**	**312**	*e*P	Pn	01 12 39.4	+1.1
FUG				*e*S	Sn	01 13 04.2	+1.7
TP2	**Tecpan 2**	**2.39**	**315**	*e*P	Pn	01 12 45.4	+2.2

CSEM 27 01:29:45.6±0.1, 3752N×3871E, h8km, MD3.5, Error ellipse: s-maj=2.0km s-min=1.5km az=165.0
ISK 27 01:29:45.5, 3750N×3866E, h4km, MD3.5
ISCJB 27 01:29:46.4±0.5, 3750N±003×3869E±002, h10km±3km, Error ellipse: s-maj=4.5km s-min=3.2km az=154.8
NSSC 27 01:29:47.4, 3761N×3869E, h27km±4km

ISC 27 01:29:46.6±0.5, 3751N±003×3870E±003, h6km±3km, n43, σ1º04/67, 8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.12**	**123**	*i* PG	**Pg**	**01 29 48.7**	**-0.4**
URFA				*i* SG	**Sg**	**01 29 51.8**	**+1.0**
ATAB	**Bozova**	**0.32**	**264**	*i* P	**Pg**	**01 29 53.2**	**+0.4**
ATAB				*i* S	**Sg**	**01 29 59.2**	**+2.1**
MYA	**Malataya**	**0.85**	**345**	*i* PG	**Pg**	**01 30 02.2**	**-0.7**
GZT	**Gaziantep**	**0.91**	**261**	*i* P	**Pg**	**01 30 04.0**	**-0.1**
GZT				*i* S	**Sg**	**01 30 13.9**	**-2.1**
ELZG	**Elazig**	**1.02**	**13**	*i* P	**Pg**	**01 30 05.4**	**-0.7**
ELZG				*i* S	**Sg**	**01 30 20.2**	**+0.9**
DRBT	**Darb Altahta**	**1.10**	**126**	⇓P	**Pg**	**01 30 06.6**	**-1.2**
DRBT				⇑S	**Sg**	**01 30 21.4**	**-0.7**
DRBT	**Darb Altahta**	**1.10**	**126**	⇓*i* P	**Pg**	**01 30 06.6**	**-1.2**
DRBT				⇑*i* S	**Sg**	**01 30 21.4**	**-0.7**
GAZ	**Gaziantep**	**1.23**	**255**	PN	**Pn**	**01 30 09.8**	**-0.5**
GAZ				SN	**Sn**	**01 30 25.7**	**-1.5**
DIY	**Diyarbakir**	**1.27**	**72**	PN	**Pn**	**01 30 10.3**	**-0.6**
KBSD	**Kabsdagh**	**1.56**	**108**	⇑P	**Pn**	**01 30 13.4**	**-1.4**
KBSD				⇑S	**Sn**	**01 30 34.5**	**-0.8**
KBSD	**Kabsdagh**	**1.56**	**108**	⇑*i* P	**Pn**	**01 30 13.4**	**-1.4**
KBSD				⇑*i* S	**Sn**	**01 30 34.5**	**-0.8**
SFNV	**Sufian**	**1.57**	**133**	⇑P	**Pn**	**01 30 14.3**	**-0.6**
SFNV				⇑S	**Sn**	**01 30 35.5**	**-0.1**
SFNV	**Sufian**	**1.57**	**133**	⇑*i* P	**Pn**	**01 30 14.3**	**-0.7**
SFNV				⇑*i* S	**Sn**	**01 30 35.5**	**-0.1**
MARD	**Mardin**	**1.67**	**96**	*i* P	**Pn**	**01 30 15.5**	**-0.9**
MARD				*i* S	**Sn**	**01 30 40.5**	**+2.5**
JHLN	**Al Jahlan**	**1.84**	**186**	⇑P	**Pn**	**01 30 18.6**	**-0.1**
JHLN				⇑S	**Sn**	**01 30 43.6**	**+1.4**
JHLN	**Al Jahlan**	**1.84**	**186**	⇑*i* P	**Pn**	**01 30 18.6**	**-0.1**
JHLN				⇑*i* S	**Sn**	**01 30 43.6**	**+1.3**
DRWC	**Darouich**	**1.85**	**242**	⇓P	**Pn**	**01 30 18.6**	**-0.2**
DRWC				⇑S	**Sn**	**01 30 41.5**	**-0.9**
DRWC	**Darouich**	**1.85**	**242**	⇓*i* P	**Pn**	**01 30 18.6**	**-0.2**
DRWC				⇑*i* S	**Sn**	**01 30 41.5**	**-0.9**
BINT	**Bingol**	**1.97**	**45**	PN	**Pn**	**01 30 20.5**	**+0.1**
COBT	**Iskenderun**	**2.19**	**244**	*i* P	**Pn**	**01 30 27.5**	**+4.1**
COBT				*i* S	**Sn**	**01 30 56.0**	**+5.2**
MZRK	**Al-Mazaregh**	**2.30**	**136**	⇑P	**Pn**	**01 30 24.2**	**-0.8**
MZRK	**Al-Mazaregh**	**2.30**	**136**	⇑*i* P	**Pn**	**01 30 24.2**	**-0.8**
BTMT	**Batman**	**2.31**	**72**	PN	**Pn**	**01 30 24.1**	**-1.1**
BTCH	**Batrach**	**2.32**	**231**	⇑P	**Pn**	**01 30 25.2**	**0.0**
BTCH				⇑S	**Sn**	**01 30 53.0**	**-1.0**
BTCH	**Batrach**	**2.32**	**231**	⇑*i* P	**Pn**	**01 30 25.2**	**0.0**
BTCH				⇑*i* S	**Sn**	**01 30 53.0**	**-1.0**
EZC	**Erzincan**	**2.41**	**21**	PN	**Pn**	**01 30 26.4**	**0.0**
WRDH	**Warideh**	**2.71**	**223**	⇓P	**Pn**	**01 30 30.6**	**0.0**
WRDH				⇑S	**Sn**	**01 31 04.6**	**+0.9**
WRDH	**Warideh**	**2.71**	**223**	⇓*i* P	**Pn**	**01 30 30.6**	**-0.1**
WRDH				⇑*i* S	**Sn**	**01 31 04.6**	**+0.8**
ARNB	**Al Arnab**	**2.74**	**234**	⇓P	**Pn**	**01 30 28.9**	**-2.1**
ARNB	**Al Arnab**	**2.74**	**234**	⇓*i* P	**Pn**	**01 30 28.9**	**-2.1**
SVSK	**Karacayir**	**2.75**	**332**	PN	**Pn**	**01 30 31.8**	**+0.6**
SLNF	**Slenfeh**	**2.76**	**227**	⇑P	**Pn**	**01 30 32.3**	**+1.1**
SLNF	**Slenfeh**	**2.76**	**227**	⇑*i* P	**Pn**	**01 30 32.3**	**+1.0**
BIDA	**Albida**	**3.14**	**218**	⇑P	**Pn**	**01 30 36.8**	**+0.2**
BIDA				⇑S	**Sn**	**01 31 13.8**	**-0.5**
BIDA	**Albida**	**3.14**	**218**	⇑*i* P	**Pn**	**01 30 36.8**	**+0.2**
BIDA				⇑*i* S	**Sn**	**01 31 13.9**	**-0.4**
EZM	**Erzurum**	**3.18**	**40**	PN	**Pn**	**01 30 38.3**	**+1.2**
MSL	**Mosul**	**3.73**	**108**	*ex*	x	01 30 59.0	
MSL				*i* x	x	01 31 05.0	
MSL				*i* x	x	01 32 45.0	
MSL				*i* x	x	01 32 50.0	
VANB	**Van**	**3.86**	**72**	*e*PN	**Pn**	**01 30 48.6**	**+2.1**
HWQ	**Hawqa**	**3.92**	**216**	*e*Pn	**Pn**	**01 30 47.8**	**+0.6**
CUKT	**Cukurca**	**3.92**	**92**	*e*PN	**Pn**	**01 30 47.8**	**+0.5**
BHL	**Bhannes**	**4.36**	**215**	*e*Pn	**Pn**	**01 30 55.0**	**+1.6**
QASN	**Qassioun**	**4.43**	**207**	⇑P	**Pn**	**01 30 55.4**	**+1.2**
QASN				⇑S	**Sn**	**01 31 47.5**	**+1.4**
QASN	**Qassioun**	**4.43**	**207**	⇑*i* P	**Pn**	**01 30 55.4**	**+1.1**
QASN				⇑*i* S	**Sn**	**01 31 47.5**	**+1.4**

SZGRF 27 01:32:36.4, 1872S×1774W, h33km, Fiji Islands region
IDC 27 01:33:36.5±1.8, 1782S×1785?W, h532km±22km, mb3.7/11, mb1 3.8/13, mb1mx3.7/18, mbtmp4.6/13, Error ellipse: s-maj=21.9km s-min=12.6km az=150.0
ISCJB 27 01:33:38.2±1.4, 1761S±010×1786W±008, h557km±18km, mb4.0/29, Error ellipse: s-maj=17.3km s-min=8.8km az=109.1
NEIC 27 01:33:38.3±0.8, 1752S×1788W, h542km±9km, mb4.1/22, Error ellipse: s-maj=14.4km s-min=6.2km az=146.0
MOS 27 01:33:40.4±2.5, 1774S×1789?W, h555km, mb4.3/13, Error ellipse: s-maj=15.6km s-min=10.8km az=141.8

ISC 27 01:33:38.3±1.1, 1763S±010×17876W±008, h544km±14km, n135, σ0º87/69, mb4.0/29, 5C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.67**	**62**	P	**P**	**01 35 30.3**	**-2.2**
	4.5nm,0.3s,baz=217,slow=18,SNR=3.1						
AFI	**Afiamalu**	**7.67**	**62**	P	**P**	**01 35 33.5**	**+1.0**
DZM	**Mont Dzumac**	**14.60**	**250**	P	**P**	**01 36 42.4**	**-1.2**
	0.8nm,0.3s,baz=90,slow=20,SNR=3.5						
URZ	**Urewera**	**20.87**	**189**	P	**P**	**01 37 38.0**	**-4.3**
	5.1nm,0.4s,baz=317,slow=16,SNR=4.6						
CTA	**Charters Tower**	**33.16**	**260**	*e*P	**P**	**01 39 30.3**	**+0.4**
	5.7nm,0.9s,mb4.1						
CTA	**Charters Tower**	**33.16**	**260**	P	**P**	**01 39 30.5**	**+0.6**
	5.8nm,0.6s,mb4.3,baz=82,slow=13,SNR=5.8						
CTA	**Charters Tower**	**33.16**	**260**	*e*P	**P**	**01 39 30.3**	**+0.4**
CTA					pmax	pmax	
	comp=Z,6.0nm,0.9s						
CTAO	**Charters Tower**	**33.16**	**260**	*e*P	**P**	**01 39 30.3**	**+0.4**
CTAO					pmax	pmax	
	comp=Z,5.0nm,0.6s,mb4.2						
CTAO	**Charters Tower**	**33.16**	**260**	*e*P	**P**	**01 39 30.3**	**+0.4**
	comp=Z,5.0nm,0.6s,mb4.2						
CNB	**Canberra Magne**	**33.33**	**232**	*e*P	**P**	**01 39 32.4**	**+1.1**
	comp=Z,18nm,0.7s,mb4.7						
PMG	**Port Moresby**	**34.08**	**279**	P	**P**	**01 39 38.9**	**+1.3**
	comp=Z,24nm,0.9s,mb4.7,baz=76,slow=6.1,SNR=5.7						
PMG	**Port Moresby**	**34.08**	**279**	*e*P	**P**	**01 39 39.4**	**+1.8**
PMG					pmax	pmax	
	comp=Z,20nm,0.9s						
PMG	**Port Moresby**	**34.08**	**279**	*e*P	**P**	**01 39 39.4**	**+1.8**
	comp=Z,20nm,0.9s,mb4.6						
TOO	**Toolangi**	**37.09**	**230**	*e*P	**P**	**01 40 03.6**	**+1.1**
	comp=Z,16nm,0.9s,mb4.5						
TOO	**Toolangi**	**37.09**	**230**	*e*P	**P**	**01 40 03.6**	**+1.1**
TOO					pmax	pmax	
	comp=Z,16nm,0.9s,mb4.5						
TAU	**Tasmania Unive**	**38.22**	**222**	P	**P**	**01 40 12.2**	**+0.4**
STKA	**Stephens Creek**	**38.47**	**241**	*e*P	**P**	**01 40 14.7**	**+0.9**
	comp=Z,7.4nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**38.47**	**241**	P	**P**	**01 40 14.8**	**+1.0**
	comp=Z,9

CRVS	**Cervenica-Dubn**	**144.75**	**337**	*e*PKP	PKPdf	01 52 14.1	+0.9
CLL	**Collm**	**145.12**	**347**	*e*PKPbc	PKPbc	01 52 13.6	-1.1
CLL	**Collm**	**145.12**	**347**	⇑*i*PKPbc	PKPbc	01 52 13.6	-1.1
	comp=Z,9.0nm,0.8s						
CLL				*i* SKPbc	SKPbc	01 54 59.4	-2.7
UPC	**Upice**	**145.13**	**343**	*e*PKP	PKPdf	01 52 13.8	-0.1
DPC	**Dobruska-Polom**	**145.19**	**343**	*e*PKP	PKPdf	01 52 14.3	+0.3
BRG	**Berggiesshubel**	**145.32**	**346**	*e*PKPbc	PKPbc	01 52 14.3	-1.0
BRG	**Berggiesshubel**	**145.32**	**346**	*e*P	PKPdf	01 52 14.5	+0.3
	comp=Z,4.0nm,0.9s						
BRG							
	comp=N,254nm,22.1s						
BRG							
	comp=E,172nm,20.8s						
BRG							
	comp=Z,246nm,21.1s						
MORC	**Moravsky Berou**	**145.34**	**341**	⇑*i*P	PKPdf	01 52 14.6	+0.4
FBE	**Freiberg**	**145.41**	**346**	*e*PKPbc	PKPbc	01 52 14.8	-0.8
MLR	**Muntele Rosu**	**145.42**	**329**	⇑*i*P	PKPdf	01 52 15.5	+1.1
PVCC	**Panska Ves**	**145.49**	**345**	*e*PKP	PKPdf	01 52 15.2	+0.7
BUG	**Bochum--Univer**	**145.93**	**353**	*e*PKPbc	PKPbc	01 52 16.9	-0.2
DRGR		**145.94**	**333**	⇓*i*P	PKPdf	01 52 16.5	+1.3
PRU	**Pruhonice**	**145.99**	**345**	*e*PKP	PKPdf	01 52 16.1	+0.8
MOX	**Moxa**	**146.03**	**348**	*e*PKPbc	PKPbc	01 52 16.4	-1.0
MOX	**Moxa**	**146.03**	**348**	*e*PKP	PKPdf	01 52 17.3	+1.9
VYHS	**Vyhne**	**146.04**	**339**	*e*PKP	PKPdf	01 52 16.8	+1.4
TANN	**Tannenbergstha**	**146.08**	**347**	*e*PKPbc	PKPbc	01 52 16.5	-1.0
WERD	**Werda**	**146.08**	**347**	*e*PKPbc	PKPbc	01 52 16.5	-1.0
TREC	**Trest**	**146.38**	**343**	*e*PKP	PKPdf	01 52 17.4	+1.4
MANZ	**Manzenberg**	**146.56**	**347**	*e*PKPbc	PKPbc	01 52 18.1	-0.7
MANZ				*e*PKPab	PKPab	01 52 20.4	-1.1
ROTZ	**Rotzenmuhle**	**146.75**	**347**	*e*PKPbc	PKPbc	01 52 18.7	-0.6
TNS	**Taunus Mts**	**146.97**	**351**	*e*PKPbc	PKPbc	01 52 18.8	-1.1
GRA1	**Grafenberg Arr**	**147.02**	**348**	*e*PKPbc	PKPbc	01 52 19.4	-0.6
GRA1				*e*PKPab	PKPab	01 52 21.9	-1.4
GRF	**Grafenberg Arr**	**147.02**	**348**	*e*PKPbc	PKPbc	01 52 19.4	-0.6
GRF				*e*PKPab	PKPab	01 52 21.9	-1.4
KHC	**Kasperske Hory**	**147.03**	**345**	*e*PKP	PKPdf	01 52 18.7	+1.6
KHC	**Kasperske Hory**	**147.03**	**345**	*i* PKIKP	PKPdf	01 52 18.2	+1.1
WET	**Wettzell**	**147.18**	**346**	*e*PKPbc	PKPbc	01 52 19.4	-1.1
WET				*e*PKPab	PKPab	01 52 23.4	-0.6
GEC2	**GERESS Array S**	**147.26**	**345**	*e*PKPbc	PKPbc	01 52 19.6	-1.1
GERES	**GERESS Array B**	**147.26**	**345**	PKPbc	PKPbc	01 52 19.8	-0.9
	comp=Z,2.2nm,0.7s,baz=29,slow=3.0,SNR=24						
BAIF	**Baives**	**147.56**	**356**	*e*PKIKP	PKPdf	01 52 20.7	+2.8
	comp=Z,9.2nm,0.9s						
WLF	**Walferdange**	**147.80**	**354**	*e*PKPbc	PKPbc	01 52 21.4	-0.7
STU	**Stuttgart**	**148.27**	**350**	*e*PKPbc	PKPbc	01 52 22.3	-1.0
FUR	**Furstenfeldbru**	**148.46**	**347**	*e*PKPbc	PKPbc	01 52 23.0	-0.7
FUR				*e*PKPab	PKPab	01 52 28.8	-0.4
BFO	**Black Forest**	**148.84**	**351**	*e*PKPbc	PKPbc	01 52 23.6	-1.1
BFO				*e*PKPab	PKPab	01 52 29.8	-1.0
CDF	**Champ du Feu**	**148.91**	**352**	*e*PKIKP	PKPdf	01 52 23.7	+3.6
	comp=Z,6.2nm,0.8s						
FLN	**La Foliniere**	**148.92**	**2**	*e*PKIKP	PKPdf	01 52 23.6	+3.5
	comp=Z,34nm,1.1s						
LDF	**La Druitiere**	**149.10**	**2**	*e*PKIKP	PKPdf	01 52 23.7	+3.3
ROSF	**Rostrenen**	**149.16**	**6**	*e*PKIKP	PKPdf	01 52 23.5	+3.0
GRR	**Gorron**	**149.28**	**3**	*e*PKIKP	PKPdf	01 52 24.3	+3.6
SGMF	**Saint Gilles**	**149.30**	**5**	*e*PKIKP	PKPdf	01 52 24.1	+3.4
	comp=Z,24nm,1.0s						
HAU	**Haudompre**	**149.42**	**353**	*e*PKIKP	PKPdf	01 52 24.6	+3.7
QUIF	**Quistinic**	**149.58**	**6**	*e*PKIKP	PKPdf	01 52 24.7	+3.5
LJU	**Ljubljana**	**149.59**	**342**	*i* PKPbc	PKPbc	01 52 25.2	-1.2
LJU				*i*		01 52 33.1	
VISS	**Visnje**	**149.71**	**341**	*i* PKPbc	PKPbc	01 52 25.7	-1.1
VISS				*e*		01 52 33.0	
BOJS	**Bojanci**	**149.85**	**340**	*e*PKPbc	PKPbc	01 52 26.3	-0.8
CEY	**Cerknica**	**149.90**	**341**	*e*PKPbc	PKPbc	01 52 26.0	-1.2
LOR	**Lormes**	**150.37**	**356**	*e*PKIKP	PKPdf	01 52 26.3	+3.9
	comp=Z,4.6nm,0.5s						
SSF	**Saint Saulge**	**150.59**	**357**	*e*PKIKP	PKPdf	01 52 26.4	+3.7
	comp=Z,4.2nm,0.5s						
CABF	**La Chapelle**	**150.82**	**353**	*e*PKIKP	PKPdf	01 52 26.8	+3.7
MFF	**Saint Martin d**	**151.09**	**2**	*e*PKIKP	PKPdf	01 52 26.8	+3.3
TCF	**Toulx Ste Croi**	**151.41**	**359**	*e*PKIKP	PKPdf	01 52 27.7	+3.7
LPL	**La Plagne**	**151.82**	**352**	*e*PKIKP	PKPdf	01 52 28.5	+3.9
ORIF	**Oris-en-Rattie**	**152.52**	**353**	*e*PKIKP	PKPdf	01 52 29.2	+3.6
MBDF	**Montbardon**	**152.59**	**351**	*e*PKIKP	PKPdf	01 52 29.5	+3.8
	comp=Z,7.3nm,0.8s						
LMR	**La Mourre**	**153.99**	**351**	*e*PKIKP	PKPdf	01 52 31.0	+3.3
PGF	**Pioggiola**	**154.30**	**347**	*e*PKIKP	PKPdf	01 52 31.8	+3.7
	comp=Z,7.5nm,1.0s						

*ISCJB **27** 01:39:20.7±0.5, 1555S×0067179W×006, h136km±5km, mb4.4/20, Error ellipse: s-maj=11.1km s-min=7.0km az=91.0*
*MOS **27** 01:39:21.6±1.3, 1556S×7154W, h139km, mb4.7/5, Error ellipse: s-maj=21.4km s-min=11.9km az=103.1*
*IDC **27** 01:39:21.0±2.8, 1557S×7157W, h122km±24km, mb4.2/13, mb1 4.3/16, mb1mx4.2/19, mbtmp4.6/16, MS3.6/1, Ms1 3.6/1, ms1mx2.8/19, Error ellipse: s-maj=17.8km s-min=13.7km az=67.0*
*NEIC **27** 01:39:23.4±0.3, 1563S×7160W, mb4.6/9, Error ellipse: s-maj=9.6km s-min=7.2km az=60.0*
*BJI **27** 01:39:23.4, 1560S×7160W, h146km, mB5.1*

ISC 27 01:39:22.2±0.6, 1562S×006×7179W×006, h135km±5km, h148km±2.6km; pP-P, n73, σ1°00/58, mb4.4/20, 4C-2D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.89**	**161**	⇑*i*P		**Pn**		**01 39 44.0**	**-0.5**
ARE				*i* S		**Sn**		**01 40 02.1**	**+0.6**
LPAZ	**La Paz**	**3.58**	**101**	P		**Pn**		**01 40 18.9**	**+2.4**
	53nm,0.3s,baz=280,slow=10.0,SNR=1446								
LPAZ				S		**Sn**		**01 40 59.0**	**+0.5**
	baz=169,slow=10,SNR=1.3								
LPAZ	**La Paz**	**3.58**	**101**	⇑*i*Pn		**Pn**		**01 40 18.7**	**+2.2**
LPAZ				*e*Sn		**Sn**		**01 40 59.3**	**+0.7**
NNA	**Nana**	**6.09**	**306**	*e*Pn		**Pn**		**01 40 47.5**	**-2.5**
	346nm,0.5s								
NNA				*e*Sn		**Sn**		**01 41 54.0**	**-4.6**
SIV	**San Ignacio**	**10.32**	**94**	P		**Pn**		**01 41 43.7**	**-3.0**
	15nm,0.3s,baz=282,slow=11,SNR=150								
ATAH	**Atahualpa**	**10.73**	**322**	P		**Pn**		**01 41 51.5**	**-0.7**
	1.0nm,0.3s,baz=102,slow=7.0,SNR=4.3								
ATAH				S		**Sn**		**01 43 45.6**	**-5.0**
	1.2nm,0.3s,baz=83,slow=19,SNR=4.3								
CFAA	**Coronel Fontan**	**16.24**	**169**	P		**Pn**		**01 43 02.8**	**+0.1**
	0.6nm,0.3s,baz=346,slow=11,SNR=58								
OTAV	**Otavalo**	**17.07**	**337**	*e*P		**Pn**		**01 43 18.1**	**+5.4**
	16nm,1.3s								
BDFB	**Brasilia**	**22.89**	**93**	P		**P**		**01 44 13.5**	**-0.7**
	32nm,0.4s,mb5.1,baz=271,slow=10,SNR=86								
BDFB	**Brasilia**	**22.89**	**93**	*e*P		**P**		**01 44 12.3**	**-1.9**
BAO	**Brasilia Array**	**22.91**	**93**	P		**P**		**01 44 14.0**	**-0.5**
SDV	**Santo Domingo**	**24.37**	**3**	P		**P**		**01 44 28.7**	**+0.9**
PLCA	**Paso Flores**	**25.05**	**178**	P		**P**		**01 44 33.6**	**-0.2**
	20nm,0.8s,mb4.7,baz=353,slow=9.6,SNR=28								
PLCA				PcP		PcP		01 48 05.8	+0.9
	1.8nm,0.9s,baz=356,slow=9.0,SNR=3.5								
PLCA	**Paso Flores**	**25.05**	**178**	*e*P		**P**		**01 44 33.5**	**-0.4**
PLCA				pmax		pmax			
	comp=Z,46nm,1.2s								
PLCA	**Paso Flores**	**25.05**	**178**	*e*P		**P**		**01 44 33.5**	**-0.4**
	comp=Z,46nm,1.2s,mb4.9								
PCRV	**Puerto La Cruz**	**26.59**	**16**	LR		LR		01 55 32.4	
	comp=Z,137nm,21.0s,baz=296,slow=37								
SJG	**San Juan**	**33.97**	**10**	P		**P**		**01 45 54.2**	**+1.4**
RCBR	**Riachuelo**	**36.52**	**79**	P		**P**		**01 46 13.7**	**-0.9**
BLA	**Blacksburg**	**53.17**	**351**	P		**P**		**01 48 26.8**	**+0.5**
MIAR	**Mount Ida**	**54.02**	**338**	*e*P		**P**		**01 48 32.1**	**-0.3**
MIAR				*e**PP		pP		01 49 07.0	+3.1
MIAR				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb4.0								
MIAR	**Mount Ida**	**54.02**	**338**	*e*P		**P**		**01 48 32.1**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.0								
MIAR				*e*pP		pP		01 49 07.0	+3.1
FVM	**French Village**	**56.12**	**342**	*e*P		**P**		**01 48 47.8**	**+0.3**
FVM				*e**PP		pP		01 49 21.4	+2.2
FVM				pmax		pmax			
	comp=Z,6.0nm,0.6s,mb4.6								
FVM	**French Village**	**56.12**	**342**	*e*P		**P**		**01 48 47.8**	**+0.2**
	comp=Z,6.5nm,0.6s,mb4.6								
FVM				*e*pP		pP		01 49 21.4	+2.3
ANMO	**Albuquerque**	**60.11**	**327**	*e*P		**P**		**01 49 16.0**	**+0.7**
ANMO				*e**PP		pP		01 49 50.5	+3.2
PDAR	**Pinedale Array**	**67.67**	**331**	P		**P**		**01 50 04.9**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.5,baz=120,slow=6.4,SNR=5.3								
SNAA	**Sanae**	**68.70**	**162**	*e*P		**P**		**01 50 10.9**	**-0.3**
SNAA				*e*				01 50 34.5	
SNAA				pmax		pmax			
	comp=Z,22nm,0.7s								
SNAA	**Sanae**	**68.70**	**162**	*e*P		**P**		**01 50 10.9**	**-0.3**
	comp=Z,22nm,0.7s,mb5.0								
SNAA				*e*PcP		PcP		01 50 34.5	-0.6
ULM	**Lac du Bonnet**	**68.92**	**344**	P		**P**		**01 50 11.8**	**-0.8**
	comp=Z,1.3nm,0.3s,mb4.2,baz=125,slow=5.6,SNR=7.2								
ULM	**Lac du Bonnet**	**68.92**	**344**	P		**P**		**01 50 11.8**	**-0.8**
NVAR	**Mina Array Bea**	**69.19**	**322**	P		**P**		**01 50 16.1**	**+1.8**
	comp=Z,0.9nm,0.8s,mb3.5,baz=131,slow=7.5,SNR=4.7								
DBIC	**Dimbokro**	**69.87**	**77**	P		**P**		**01 50 17.1**	**-1.3**
	comp=Z,2.6nm,0.3s,mb4.4,baz=230,slow=8.8,SNR=12								
DBIC	**Dimbokro**	**69.87**	**77**	*e*P		**P**		**01 50 16.9**	**-1.5**
DBIC				pmax		pmax			
	comp=Z,4.0nm,0.5s								
DBIC	**Dimbokro**	**69.87**	**77**	*e*P		**P**		**01 50 16.9**	**-1.5**
	comp=Z,3.9nm,0.5s,mb4.4								
CMB	**Columbia Colle**	**70.18**	**321**	*e*P		**P**		**01 50 21.6**	**+1.3**
SCHQ	**Schefferville**	**70.29**	**3**	P		**P**		**01 50 22.2**	**+1.3**
	comp=Z,2.1nm,0.8s,mb4.0,baz=59,slow=13,SNR=3.9								
HLID	**Hailey**	**70.63**	**329**	*e*P		**P**		**01 50 24.4**	**+1.4**
	comp=Z,0.5nm,0.3s,mb3.7								
MAIT	**Maitri**	**73.24**	**160**	*e*P		**P**		**01 50 38.5**	**-0.1**
NVL	**N'lazarevskaya**	**73.27**	**160**	⇑*i*P		**P**		**01 50 39.1**	**+0.4**
NVL				pmax		pmax			
	comp=Z,32nm,1.1s,mb5.0								
QSPA	**South Pole Qui**	**74.54**	**180**	*e*P		**P**		**01 50 46.3**	**+0.1**
	comp=Z,13nm,0.4s,mb4.9								
EDM	**Edmonton**	**77.31**	**336**	*e*P		**P**		**01 51 00.8**	**-1.0**
TOA0	**Torodi Ar. Sit**	**78.09**	**73**	*e*P		**P**		**01 51 05.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**78.09**	**73**	P		**P**		**01 51 04.8**	**-1.3**
	comp=Z,16nm,0.8s,mb4.7,baz=248,slow=4.4,SNR=41								
TORD	**Torodi Ar. Bea**	**78.09**	**73**	P		**P**		**01 51 04.8**	**-1.3**
SBA	**Scott Base**	**81.09**	**191**	*e*P		**P**		**01 51 23.1**	**+0.7**
SBA				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.4								
SBA	**Scott Base**	**81.09**	**191**	*e*P		**P**		**01 51 23.1**	**+0.7**
	comp=Z,8.5nm,0.9s,mb4.4								
VNDA	**Vanda**	**82.14**	**190**	P		**P**		**01 51 28.7**	**+0.8**
	comp=Z,6.3nm,0.8s,mb4.3,baz=129,slow=4.1,SNR=25								
VNDA	**Vanda**	**82.14**	**190**	*e*P		**P**		**01 51 28.4**	**+0.5**
SYO	**Syowa Base**	**82.94**	**160**	⇑*e*PcP		**P**		**01 51 31.2**	**-0.8**
ESDC	**Sonseca Array**	**83.65**	**46**	P		**P**		**01 51 36.0**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.0,baz=254,slow=5.3,SNR=16								
ESLA	**Sonseca Array**	**83.65**	**46**	P		**P**		**01 51 35.9**	**+0.2**
YKA	**Yellowknife Ar**	**84.77**	**342**	P		**P**		**01 51 40.4**	**-0.9**
	comp=Z,2.6nm,0.6s,mb4.1,baz=134,slow=5.5,SNR=11								
BOSA	**Boshof**	**88.65**	**119**	P		**P**		**01 52 00.1**	**-0.1**
	comp=Z,2.6nm,1.0s,mb4.1,baz=277,slow=8.1,SNR=3.2								
MAW	**Mawson**	**90.71**	**164**	P		**P**		**01 52 10.0**	**+0.2**
	comp=Z,1.0nm,0.9s,mb4.9,baz=230,slow=7.3,SNR=16								
MAW	**Mawson**	**90.71**	**164**	*e*P		**P**		**01 52 09.8**	**0.0**
STKA	**Stephens Creek**	**122.95**	**214**	*e*P		PKPdf		01 58 03.2	+0.7
	comp=Z,3.1nm,0.6s								
STKA	**Stephens Creek**	**122.95**	**214**	PKP		PKPdf		01 58 03.2	+0.7
	comp=Z,3.4nm,0.5s,baz=45,slow=1.5,SNR=9.4								
CTA	**Charters Tower**	**128.46**	**228**	*e*P		PKPdf		01 58 14.4	+1.4
	comp=Z,3.0nm,0.6s								
CTA	**Charters Tower**	**128.46**	**228**	PKP		PKPdf		01 58 13.8	+0.8
	comp=Z,3.6nm,0.5s,baz=61,slow=3.0,SNR=6.4								
FORT	**Forrest**	**130.08**	**202**	*e*P		PKPdf		01 58 17.0	+0.9
	comp=Z,5.5nm,0.6s								
AS31	**Alice Springs**	**133.58**	**213**	*e*PKPdf		PKPdf		01 58 23.4	+0.8
ASAR	**Alice Springs**	**133.58**	**213**	PKP		PKPdf		01 58 23.2	+0.6
	comp=Z,2.6nm,0.6s,baz=125,slow=1.9,SNR=30								
WB2	**Warramunga Arr**	**136.31**	**217**	⇓*i*P		PKPdf		01 58 28.7	+0.9
WRA	**Warramunga Arr**	**136.32**	**217**	PKhKP				01 58 15.5	
	comp=Z,0.3nm,0.5s,baz=143,slow=3.3,SNR=9.1								
WRA				PKP		PKPdf		01 58 28.8	+0.9
	comp=Z,5.9nm,0.6s,baz=136,slow=6.6,SNR=66								
FITZ	**Fitzroy Crossi**	**142.35**	**208**	PKhKP				01 58 35.2	
	comp=Z,5.4nm,0.7s,baz=201,slow=5.7,SNR=20								
FITZ				PKP		PKPdf		01 58 40.1	+1.3
	comp=Z,4.3nm,0.6s,baz=189,slow=5.8,SNR=12								
KAKA	**Kakadu**	**143.03**	**222**	*e*P		PKPdf		01 58 36.8	-3.2
	comp=Z,26nm,1.5s								
ZAK	**Zakamensk**	**145.09**	**6**	⇓*i*PKIKP		PKPdf		01 58 43.8	+0.2
ZAK				*e*				01 59 22.3	
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.2s								
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.8s								
MJAR	**Matsushiro Arr**	**146.16**	**314**	PKPbc		PKPbc		01 58 47.0	+0.4
	comp=Z,12nm,1.1s,baz=64,slow=2.1,SNR=23								
MAJO	**Matsushiro**	**146.17**	**314**	*e*PKP2		PKPab		01 58 46.9	-0.7
WMQ	**Urumqi**	**146.91**	**28**	PKP		PKPdf		01 58 45.8	-0.9
SONM	**Songino Array**	**147.84**	**2**	PKP		PKPdf		01 58 49.2	+1.0
	comp=Z,4.1nm,0.6s,baz=327,slow=2.0,SNR=26								
SONM				PKPbc		PKPbc		01 58 52.5	+1.2
	comp=Z,4.1nm,0.6s,baz=320,slow=1.7,SNR=26								
HHC	**Hu-ho-hao-te**	**154.69**	**354**	*e*PKP		PKPdf		01 59 00.0	+1.4
HHC				APKP				01 59 41.0	
HHC				PP		PP		02 03 03.3	+4.7
HHC				SKS		SKSdf		02 05 49.3	-3.4
HHC				SKKS		SKKSac		02 09 34.5	-1.1
HHC				SS		SS		02 22 27.5	-1.6
CD2	**Chengdu**	**164.24**	**14**	*e*PKP		PKPdf		01 59 09.0	-0.5
KMI	**Kunming**	**169.24**	**28**	PKP		PKPdf		01 59 11.8	-1.5

*ISCJB **27** 01:40:49.4±3.2, 53S×02×1503E±01, h59km±28km, mb3.9/6, MS3.6/2, Error ellipse: s-maj=34.9km s-min=14.9km az=137.6*
*IDC **27** 01:40:51.7±8.0, 536S×15029E, h68km±58km, mb3.7/4, mb1 3.9/6, mb1mx3.6/14, mbtmp4.1/6, ML3.5/2, MS3.3/3, Ms1 3.3/3, ms1mx3.1/14, Error ellipse: s-maj=59.9km s-min=53.0km az=112.0*
*NEIC **27** 01:40:51.5±2.3, 526S×15033E, h70km±21km, mb4.2/3, Error ellipse: s-maj=27.9km s-min=14.3km az=161.0*

ISC 27 01:40:52.1±2.7, 54S±02×1503E±01, h64km±24km, n17, σ0°80/14, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.09**	**217**	P		**Pn**		**01 42 05.5**	**-0.3**
	2.8nm,0.3s,baz=30,slow=8.0,SNR=15								
PMG				S		**Sn**		**01 43 02.8**	**-0.4**
	1.9nm,0.3s,baz=109,slow=18,SNR=2.1								
HNR	**Honiara**	**10.39**	**114**	LR		LR		01 46 36.1	
	comp=Z,39nm,21.3s,baz=360,slow=33								
HNR	**Honiara**	**10.39**	**114**	*e*Pn		**Pn**		**01 43 18.3**	**-0.1**
HNR				*e*				01 43 31.7	
CTA	**Charters Tower**	**15.17**	**195**	P		**Pn**		**01 44 23.8**	**+1.3**
	0.5nm,0.3s,baz=5.9,slow=12,SNR=3.7								
CTA	**Charters Tower**	**15.17**	**195**	P		**Pn**		**01 44 23.8**	**+1.3**
WRAB	**Tennant Creek**	**21.23**	**226**	*e*P		**P**		**01 45 33.5**	**+0.8**
	6.6nm,0.8s,mb4.0								
WB2	**Warramunga Arr**	**21.23**	**226**	*e*P		**P**		**01 45 33.2**	**+0.4**
WRA	**Warramunga Arr**	**21.24**	**226**	P		**P**		**01 45 32.0**	**-0.9**
	3.9nm,0.9s,mb3.7,baz=52,slow=10,SNR=16								
ASAR	**Alice Springs**	**24.10**	**219**	P		**P**		**01 46 01.9**	**+0.2**
	1.9nm,0.9s,mb3.5,baz=51,slow=9.1,SNR=10								
FITZ	**Fitzroy Crossi**	**27.21**	**240**	*e*P		**P**		**01 46 30.0**	**+0.1**
	6.0nm,0.7s,mb4.2								
FITZ	**Fitzroy Crossi**	**27.21**	**240**	P		**P**		**01 46 29.7**	**-0.2**
	3.3nm,0.6s,mb4.0,baz=80,slow=8.1,SNR=8.9								
STKA	**Stephens Creek**	**27.62**	**196**	P		**P**		**01 46 31.9**	**-1.6**
	1.2nm,0.6s,mb3.7,baz=23,slow=13,SNR=2.8								
STKA				LR		LR		01 58 26.1	
	comp=Z,114nm,18.0s,baz=25,slow=38								
MBWA	**Marble Bar**	**33.54**	**239**	*e*P		**P**		**01 47 26.9**	**+1.2**
	2.0nm,0.5s,mb4.3								
KULM	**Kulim**	**50.69**	**281**	P		**P**		**01 49 44.6**	**-0.5**
SONM	**Songino Array**	**65.48**	**329**	LR		LR		02 17 37.5	
	comp=Z,48nm,18.3s,baz=233,slow=34								
TORD	**Torodi Ar. Bea**	**148.08**	**286**	PKPbc		PKPbc		02 00 29.7	-0.8
	0.3nm,0.7s,baz=54,slow=2.6,SNR=5.1								
TORD	**Torodi Ar. Bea**	**148.08**	**286**	PKPbc		PKPbc		02 00 29.7	-0.8

WEL 27 02:05:14.4±0.3, 4005S×17376E, h201km±2km, ML3.5/11, 2C, Error ellipse: s-maj=2.6km s-min=1.8km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.77**	**171**	⇑P	N	Pn		02 05 43.2	+0.4
DUWZ				S	N	Sn		02 06 04.8	0.0
DUWZ				S	N	Sn		02 06 04.9	0.0
WAZ	**Wanganui**	**0.99**	**73**	PN		Pn		02 05 45.2	+1.1
WAZ				S	N	Sn		02 06 09.1	+1.9
WAZ				S	N	Sn		02 06 09.3	+2.0
KIW	**Kapiti Island**	**1.20**	**133**	PN		Pn		02 05 45.9	+0.2
KIW				S	N	Sn		02 06 09.1	-0.9
NNZ	**Nelson**	**1.20**	**194**	PN		Pn		02 05 45.6	-0.1
NNZ				S	N	Sn		02 06 09.0	-1.1
NNZ				S	N	Sn		02 06 09.1	-0.9
VRZ	**Vera Road**	**1.20**	**40**	PN		Pn		02 05 45.5	-0.2
VRZ				S	N	Sn		02 06 09.7	-0.4
QRZ	**Quartz Range**	**1.22**	**230**	PN		Pn		02 05 45.2	-0.6
QRZ				S	N	Sn		02 06 08.6	-1.6
TCW	**Tory Channel**	**1.23**	**161**	PN		Pn		02 05 46.4	+0.5
TCW				S	N	Sn		02 06 10.0	-0.4
MRW	**Makara Radio**	**1.38**	**149**	⇑PN		Pn		02 05 47.1	0.0
MRW				S	N	Sn		02 06 11.6	-1.0
TUWZ	**Tuamarina**	**1.39**	**174**	PN		Pn		02 05 47.3	+0.1
TUWZ				S	N	Sn		02 06 11.8	-0.9
SNZO	**South Karori**	**1.45**	**150**	PN		Pn		02 05 47.5	-0.2
CAW	**Cannon Point**	**1.46**	**137**	PN		Pn		02 05 47.8	0.0
MRZ	**Mangatainoka R**	**1.52**	**114**	PN		Pn		02 05 48.3	-0.1
MRZ				S	N	Sn		02 06 13.7	-1.1
WNVZ	**Wahianoa**	**1.59**	**64**	PN		Pn		02 05 49.3	+0.3
WNVZ				S	N	Sn		02 06 15.5	-0.4
BSWZ	**Blackbirch Sta**	**1.67**	**177**	SN		Sn		02 06 16.3	-0.8
TSZ	**Takapari Road**	**1.69**	**91**	PN		Pn		02 05 49.6	-0.3
TSZ				S	N	Sn		02 06 16.8	-0.8
WTVZ	**West Tongariro**	**1.69**	**57**	PN		Pn		02 05 49.9	-0.1
MTW	**Mount Morrison**	**1.73**	**130**	PN		Pn		02 05 50.1	-0.2
MTW				S	N	Sn		02 06 17.3	-0.9
KRVZ	**Karewarewa**	**1.74**	**57**	PN		Pn		02 05 50.0	-0.3
KRVZ				S	N	Sn		02 06 17.6	-0.7
TIWZ	**Tintock**	**1.78**	**115**	PN		Pn		02 05 50.8	0.0
THZ	**Tophouse**	**1.83**	**200**	PN		Pn		02 05 50.6	-0.7
THZ				S	N	Sn		02 06 17.5	-2.4
BFZ	**Birch Farm**	**2.00**	**109**	PN		Pn		02 05 53.1	+0.1
DSZ	**Denniston Nort**	**2.25**	**220**	PN		Pn		02 05 54.2	-1.4
DSZ				S	N	Sn		02 06 23.4	-4.3
KHZ	**Kahutara**	**2.37**	**184**	PN		Pn		02 05 55.7	-1.2
KHZ				S	N	Sn		02 06 27.2	-2.9
LTZ	**Lake Taylor**	**2.95**	**202**	P

BJI ***27*** *02:47:26.5,2000N×4570W,h10km,mB5.1,Ms5.0,Msz4.7*
ISCJB ***27*** *02:47:27.5±0.4,2004N×007×4573W×008,h10km, mb4.3/34,MS3.7/15,Error ellipse: s-maj=10.6km s-min=9.7km az=2.6*
IDC ***27*** *02:47:27.9±0.6,2007N×4574W,h0km,mb4.0/15, mb1 4.2/15,mb1mx4.0/24,mbtmp4.0/15,MS3.6/15, Ms1 3.6/15,ms1mx3.4/31,Error ellipse: s-maj=19.9km s-min=14.7km az=109.0*
NEIC ***27*** *02:47:29.4±0.2,2004N×4573W,h10km,mb4.5/23,Error ellipse: s-maj=6.2km s-min=5.9km az=103.0*

ISC 27 02:47:29.7±0.4,2007N×007×4572W×008,h10km,n56, σ0:64/44,mb4.3/34,MS3.7/15,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SJG	**San Juan**	**19.40**	**268**	LR		LR	02 57 48.3	
	comp=Z,184nm,21.5s,baz=90,slow=32							
PCRV	**Puerto La Cruz**	**20.72**	**244**	P		**P**	**02 52 10.2**	**0.0**
	11nm,0.9s,baz=64,slow=9.5,SNR=4.5							
ROSC	**El Rosal**	**31.68**	**245**	LR		LR	03 04 12.0	
	comp=Z,75nm,19.6s,MS3.4,baz=191,slow=32							
SAML	**Samuel**	**33.57**	**212**	*e*P		**P**	**02 54 08.8**	**-1.0**
	2.8nm,0.8s,mb4.2							
BDFB	**Brasilia**	**35.55**	**184**	P		**P**	**02 54 27.4**	**+0.3**
	4.3nm,0.9s,mb4.4,baz=350,slow=5.0,SNR=5.2							
SCHQ	**Schefferville**	**38.23**	**340**	P		**P**	**02 54 50.3**	**+0.6**
	6.0nm,1.0s,mb4.3,baz=132,slow=8.6,SNR=6.8							
SCHQ				LR		LR	03 08 30.4	
	comp=Z,76nm,21.9s,MS3.5,baz=235,slow=33							
SIV	**San Ignacio**	**38.88**	**204**	P		**P**	**02 54 54.9**	**-0.3**
	1.4nm,0.9s,mb3.7,baz=54,slow=5.2,SNR=5.7							
WCI	**Wyandotte Cave**	**39.42**	**306**	*e*P		**P**	**02 55 00.5**	**+0.8**
	8.1nm,0.9s,mb4.5							
PLAL	**Pickwick Lake**	**40.09**	**301**	*e*P		**P**	**02 55 05.8**	**+0.6**
	11nm,1.1s,mb4.5							
WVT	**Waverly**	**40.11**	**303**	*e*P		**P**	**02 55 06.0**	**+0.5**
	7.9nm,1.3s,mb4.3							
ESDC	**Sonseca Array**	**40.70**	**52**	LR		LR	03 08 36.2	
	comp=Z,34nm,18.6s,MS3.2,baz=195,slow=31							
DBIC	**Dimbokro**	**41.80**	**103**	LR		LR	03 09 51.8	
	comp=Z,113nm,19.4s,MS3.8,baz=290,slow=32							
LPAZ	**La Paz**	**42.31**	**213**	P		**P**	**02 55 24.5**	**+0.9**
	3.1nm,0.9s,mb4.0,baz=18,slow=7.6,SNR=14							
LPAZ				LR		LR	03 11 47.2	
	comp=Z,45nm,19.4s,MS3.4,baz=283,slow=34							
LPAZ	**La Paz**	**42.31**	**213**	*e*P		**P**	**02 55 24.1**	**+0.5**
	4.5nm,1.0s,mb4.0							
CCM	**Cathedral Cave**	**43.17**	**305**	*e*P		**P**	**02 55 31.1**	**+0.5**
	13nm,1.2s,mb4.5							
TORD	**Torodi Ar. Bea**	**45.84**	**91**	P		**P**	**02 55 51.4**	**-0.5**
	1.2nm,0.8s,mb3.9,baz=290,slow=4.4,SNR=9.4							
TORD				LR		LR	03 15 08.6	
	comp=Z,94nm,18.4s,MS3.8,baz=270,slow=36							
WMOK	**Wichita Mounta**	**48.80**	**299**	*e*P		**P**	**02 56 14.6**	**-0.4**
	3.7nm,1.0s,mb4.4							
ULM	**Lac du Bonnet**	**49.59**	**320**	P		**P**	**02 56 20.2**	**-0.9**
	3.8nm,1.1s,mb4.3,baz=106,slow=7.9,SNR=5.0							
ULM				LR		LR	03 14 10.2	
	comp=Z,78nm,19.2s,MS3.7,baz=49,slow=32							
ULM	**Lac du Bonnet**	**49.59**	**320**	*e*P		**P**	**02 56 19.2**	**-1.8**
	2.2nm,0.9s,mb4.2							
VSL	**Villasalto**	**50.79**	**55**	*e*P		**P**	**02 56 30.6**	**+0.6**
	6.6nm,1.0s,mb4.5							
AMTX	**Amarillo**	**51.19**	**299**	*e*P		**P**	**02 56 33.0**	**-0.1**
	13nm,1.1s,mb4.8							
DAVOX	**Davos**	**52.21**	**46**	LR		LR	03 16 07.9	
	comp=Z,41nm,21.4s,MS3.4,baz=259,slow=33							
SUMG	**Summit**	**52.69**	**3**	*e*P		**P**	**02 56 40.3**	**-4.0**
	2.0nm,0.6s,mb4.2							
ANMO	**Albuquerque**	**55.11**	**299**	*e*P		**P**	**02 57 02.7**	**+0.6**
	2.3nm,1.0s,mb4.2							
GERES	**GERESS Array B**	**55.11**	**44**	P		**P**	**02 57 02.6**	**+0.6**
	0.4nm,0.7s,mb3.5,baz=231,slow=4.3,SNR=4.7							
JMIC	**Jan Mayen**	**55.42**	**14**	LR		LR	03 14 21.4	
	comp=Z,41nm,21.1s,MS3.5,baz=261,slow=29							
CFAA	**Coronel Fontan**	**55.73**	**203**	*e*P		**P**	**02 57 06.0**	**-0.5**
	0.4nm,0.7s,mb3.6,baz=16,slow=2.9,SNR=7.4							
RWWY	**Rawlins**	**55.80**	**307**	*e*P		**P**	**02 57 07.6**	**+0.6**
	17nm,1.2s,mb5.0							
NOA	**NORSAR Array B**	**56.80**	**29**	P		**P**	**02 57 13.8**	**-0.3**
	1.3nm,1.0s,mb3.9,baz=251,slow=7.2,SNR=3.3							
NOA	**NORSAR Array B**	**56.80**	**29**	P		**P**	**02 57 13.8**	**-0.3**
BW06	**Boulder Array**	**57.59**	**308**	*e*P		**P**	**02 57 19.1**	**-0.6**
	8.2nm,1.1s,mb4.7							
PDAR	**Pinedale Array**	**57.59**	**308**	P		**P**	**02 57 19.5**	**-0.2**
	3.5nm,1.0s,mb4.3,baz=98,slow=7.6,SNR=24							
PDAR				LR		LR	03 20 52.6	
	comp=Z,69nm,20.4s,MS3.8,baz=90,slow=35							
HFS	**Hagfors**	**57.68**	**31**	LR		LR	03 19 59.6	
	comp=Z,40nm,18.1s,MS3.6,baz=153,slow=34							
IMW	**Indian Meadow**	**58.63**	**310**	*e*P		**P**	**02 57 27.0**	**0.0**
	7.2nm,1.2s,mb4.6							
TUC	**Tucson**	**58.87**	**296**	*e*P		**P**	**02 57 29.3**	**+0.7**
HWUT	**Hardware Ranch**	**59.06**	**307**	*e*P		**P**	**02 57 29.9**	**-0.1**
	9.4nm,0.8s,mb4.9							
DUG	**Dugway**	**60.03**	**305**	*e*P		**P**	**02 57 36.8**	**+0.2**
	5.3nm,1.1s,mb4.5							
ARUT	**Antelope Range**	**60.63**	**303**	*e*P		**P**	**02 57 41.7**	**+1.0**
EDM	**Edmonton**	**60.81**	**320**	*e*P		**P**	**02 57 41.5**	**-0.5**
HLID	**Hailey**	**61.15**	**309**	*e*P		**P**	**02 57 44.3**	**0.0**
	2.5nm,0.8s,mb4.4							
YKA	**Yellowknife Ar**	**62.66**	**331**	P		**P**	**02 57 53.0**	**-1.4**
	1.2nm,0.7s,mb4.2,baz=88,slow=7.2,SNR=4.3							
YKA				LR		LR	03 22 05.9	
	comp=Z,41nm,20.5s,MS3.6,baz=90,slow=33							
YKA	**Yellowknife Ar**	**62.66**	**331**	P		**P**	**02 57 53.0**	**-1.4**
YKA				LR		LR	03 22 05.9	
NEW	**Newport**	**62.99**	**315**	*e*P		**P**	**02 57 56.5**	**-0.1**
	15nm,1.2s,mb5.0							
NVAR	**Mina Array Bea**	**64.40**	**304**	P		**P**	**02 58 06.1**	**+0.2**
	0.5nm,0.6s,mb3.7,baz=84,slow=8.4,SNR=3.9							
PLCA	**Paso Flores**	**64.75**	**201**	P		**P**	**02 58 08.4**	**+0.2**
	1.7nm,0.7s,mb4.2,baz=15,slow=14,SNR=4.1							
BR131	**Keskin Array S**	**69.45**	**54**	*e*P		**P**	**02 58 38.5**	**+0.3**
	1.2nm,0.8s,mb3.9							
BRTR	**Keskin Array B**	**69.45**	**54**	P		**P**	**02 58 38.8**	**+0.7**
	1.9nm,0.7s,mb4.1,baz=257,slow=6.3,SNR=11							
INK	**Inuvik**	**70.73**	**337**	*e*P		**P**	**02 58 44.7**	**-1.2**
	7.5nm,1.1s,mb4.5							
MALT	**Malatya**	**73.38**	**55**	*e*P		**P**	**02 59 02.4**	**+0.6**
	6.0nm,1.2s,mb4.4							
DAWY	**Dawson**	**73.75**	**333**	*e*P		**P**	**02 59 03.1**	**-0.8**
COLA	**College**	**77.05**	**335**	*e*P		**P**	**02 59 22.6**	**-0.4**
	6.1nm,0.9s,mb4.5							
KMBO	**Kilima Mbogo**	**83.78**	**93**	LR		LR	03 34 28.2	
	comp=Z,90nm,21.4s,MS4.1,baz=271,slow=34							
BOSA	**Boshof**	**83.86**	**123**	LR		LR	03 27 30.2	
	comp=Z,87nm,20.8s,MS4.1,baz=86,slow=29							
HHC	**Hu-ho-hao-te**	**115.82**	**19**	*e*PKP		PKPdf	03 06 13.5	+1.0
HHC				PP		PP	03 07 20.5	+4.7
HHC				SKS		SKSdf	03 13 24.5	-0.2
HHC				SKKS		SKKSac	03 14 13.0	-4.3
HHC				SS		SS	03 23 16.3	-0.3
HHC				LR		LR		
	comp=N,120nm,17.8s,MS4.7							
HHC				LR		LR		
	comp=E,122nm,17.2s,MS4.7							
HHC				LR		LR		
	comp=Z,157nm,16.7s,MS4.7							
CD2	**Chengdu**	**121.44**	**31**	*e*PKP		PKPdf	03 06 20.3	-3.0
NJ2	**Nanjing**	**126.11**	**16**	*e*PKP		PKPdf	03 06 28.0	-4.3
NJ2				PP		PP	03 08 25.0	-1.1
NJ2				PKS			03 10 03.0	
NJ2				SKS		SKSdf	03 13 35.0	-9.1
NJ2				PP		PP		
	comp=Z,110nm,6.2s							
NJ2				LR		LR		
	comp=N,1μm,21.0s							
NJ2				LR		LR		
	comp=E,1μm,21.1s							
NJ2				LR		LR		
	comp=Z,1μm,18.7s							

KRSC ***27*** *02:50:17,5334N×16041E,h55km,ML3.8*

MOS 27 02:50:17.2±2.2,5334N×16041E,h55km,mb4.2/3,1D, Error ellipse: s-maj=38.7km s-min=23.0km az=109.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PET	**Petropavlovsk**	**1.10**	**254**	*i*P	N	Pn	02 50 36.9	+0.5
PET				*e*S		Sn	02 50 51.1	+0.4
PET				pmax		pmax		
PET				smax				
	comp=Z,107nm,0.3s							
PET				smax				
	comp=E,394nm,0.5s							
PET				smax				
	comp=N,649nm,0.6s							
MA2	**Magadan**	**8.21**	**323**	*e*PN		Pn	02 52 14.1	+0.4
TIXI	**Tiksi**	**22.94**	**335**	*e*P		P	02 55 16.6	0.0
TIXI				pmax		pmax		
	comp=Z,6.0nm,0.9s							
JOF	**Joensuu**	**57.42**	**335**	*e*p		P	02 59 57.2	-3.0
KAF	**Kangasniemi**	**59.33**	**337**	ep		P	03 00 11.4	-2.1
	comp=Z,0.9nm,0.5s							
KAF	**Kangasniemi**	**59.33**	**337**	*e*P		P	03 00 11.4	-2.1
KAF				pmax		pmax		
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**59.97**	**337**	*i* P		P	03 00 16.7	-1.1
FINES				pmax		pmax		
	comp=Z,1.0nm,0.4s							

NEIC ***27*** *02:54:16.3,1837N×6461W,h133km,MD3.6(RSPR), After RSPR.*

RSPR 27 02:54:16.3,1837N×6461W,h133km±1km,MD3.6/4, MD3.6/4,9C,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TBVI	**Tortola**	**0.04**	**3**	*e*P		Pn	02 54 34.2	0.0
TBVI				*e*S		Sn	02 54 47.5	-0.3
STVI	**Saint Thomas**	**0.33**	**268**	*e*P		Pn	02 54 34.3	-0.6
STVI				*e*S		Sn	02 54 48.9	0.0
MTP	**Monte Pirata**	**0.94**	**253**	*e*P		Pn	02 54 39.0	+0.2
MTP				*e*S		Sn	02 54 55.9	-0.1
CBYP	**Canovanas**	**1.19**	**266**	*e*P		Pn	02 54 40.5	-0.7
CBYP				*e*S		Sn	02 54 59.9	-0.2
HUMP	**Col San Antoni**	**1.20**	**259**	*e*P		Pn	02 54 40.6	-0.7
HUMP				*e*S		Sn	02 55 00.6	+0.2
CPD	**Cerro la Pandu**	**1.28**	**255**	*e*P		Pn	02 54 42.4	+0.2
CELP	**Cerrillos**	**1.89**	**261**	*e*P		Pn	02 54 48.9	-0.2
LRS	**Lares**	**2.12**	**268**	*e*P		Pn	02 54 51.4	-0.5
CRPR	**Cabo Rojo, PR**	**2.40**	**262**	*e*P		Pn	02 54 55.1	-0.3

CASC 27 03:01:37.6±2.7,1393N×9130W,h65km±42km,MD3.7, 6C-1D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAT	**Jato**	**0.51**	**320**	*e*P		Pn	03 01 50.2	+0.2
FUG	**Fuego 3**	**0.68**	**41**	*e*P		Pn	03 01 53.7	+1.7
TER	**Terranova**	**0.70**	**58**	*e*P		Pn	03 01 52.6	+0.4
TER				*e*S		Sn	03 02 03.8	+0.9
IXG	**Ixpaco**	**0.86**	**73**	*e*P		Pn	03 01 53.4	-0.7
IXG				*e*S		Sn	03 02 08.6	+2.5
TP2	**Tecpan 2**	**0.89**	**18**	*e*P		Pn	03 01 55.5	+1.0
TP2				*e*S		Sn	03 02 09.4	+2.4
RBDL	**Robledal**	**1.58**	**83**	*e*P		x	03 02 10.1	
RBDL				*e*S		x	03 02 29.8	
RTR	**El Retiro**	**1.61**	**91**	*e*P		x	03 02 10.3	
RTR				*e*S		x	03 02 31.6	
SBLS	**San Blas**	**1.63**	**93**	*e*P		x	03 02 10.1	
SBLS				*e*S		x	03 02 31.4	
SNJE	**San Jose**	**1.65**	**92**	*e*P		x	03 02 10.7	
SNJE				*e*S		x	03 02 32.7	
BOQS	**Boqueron**	**1.97**	**95**	*e*P		x	03 02 15.0	
BOQS				*e*S		x	03 02 40.6	
LFRS	**El Faro**	**2.20**	**98**	*e*P		x	03 02 18.2	
LFRS				*e*S		x	03 02 45.3	
LCBS	**La Ceiba**	**2.27**	**97**	*e*P		x	03 02 19.5	
LCBS				*e*S		x	03 02 47.6	

ISCJB ***27*** *03:03:27.1±0.6,2005N±010×4573W±010,h10km, mb4.0/21,MS3.4/6,Error ellipse: s-maj=14.6km s-min=12.4km az=57.6*
IDC ***27*** *03:03:27.6±0.9,2007N×4571W,h0km,mb3.9/7,mb1 4.1/7, mb1mx3.8/22,mbtmp3.9/7,MS3.4/6,Ms1 3.4/6, ms1mx3.1/23,Error ellipse: s-maj=26.8km s-min=22.5km az=111.0*
NEIC ***27*** *03:03:28.9±0.4,2003N×4573W,h10km,mb4.1/16,Error ellipse: s-maj=9.9km s-min=8.2km az=199.0*

ISC 27 03:03:29.4±0.6,2006N±010×4573W±010,h10km,n27, σ0:63/24,mb4.0/21,MS3.4/6,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ROSC	**El Rosal**	**31.66**	**245**	LR		LR	03 20 45.4	
	comp=Z,64nm,21.4s,MS3.3,baz=170,slow=33							
SAML	**Samuel**	**33.56**	**212**	*e*P		**P**	**03 10 08.6**	**-0.8**
	1.1nm,0.8s,mb3.8							
BDFB	**Brasilia**	**35.55**	**184**	P		**P**	**03 10 26.9**	**+0.3**
	1.1nm,0.6s,mb4.0,baz=0.0,slow=8.1,SNR=2.2							
SCHQ	**Schefferville**	**38.23**	**340**	P		**P**	**03 10 49.9**	**+0.4**
	2.8nm,0.9s,mb4.0,baz=114,slow=6.3,SNR=4.2							
SCHQ				LR		LR	03 24 10.2	
	comp=Z,35nm,21.7s,MS3.1,baz=33,slow=32							
WCI	**Wyandotte Cave**	**39.41**	**306**	*e*P		**P**	**03 11 00.1**	**+0.7**
	5.2nm,0.8s,mb4.3							
PLAL	**Pickwick Lake**	**40.08**	**301**	*e*P		**P**	**03 11 05.7**	**+0.8**
	2.4nm,1.0s,mb3.9							
WVT	**Waverly**	**40.11**	**303**	*e*P		**P**	**03 11 05.1**	**-0.1**
	1.7nm,0.9s,mb3.8							
DBIC	**Dimbokro**	**41.80**	**103**	LR		LR	03 25 30.8	
	comp=Z,66nm,20.5s,MS3.5,baz=339,slow=32							
LPAZ	**La Paz**	**42.30**	**213**	P		**P**	**03 11 24.1**	**+0.9**
	0.8nm,0.7s,mb3.5,baz=13,slow=11,SNR=5.8							
LPAZ	**La Paz**	**42.30**	**213**	*e*P		**P**	**03 11 23.6**	**+0.4**
	2.2nm,0.9s,mb3.8							
CCM	**Cathedral Cave**	**43.17**	**305**	*e*P		**P**	**03 11 30.2**	**-0.1**
	1.4nm,0.7s,mb3.8							
TORD	**Torodi Ar. Bea**	**45.84**	**91**	P		**P**	**03 11 51.3**	**-0.4**
	0.4nm,0.8s,mb3.4,baz=304,slow=6.6,SNR=4.5							
TORD				LR		LR	03 28 54.2	
	comp=Z,74nm,19.2s,MS3.6,baz=280,slow=33							
WMOK	**Wichita Mounta**	**48.79**	**299**	*e*P		**P**	**03 12 13.8**	**-0.8**
	1.7nm,1.0s,mb4.0							
ULM	**Lac du Bonnet**	**49.59**	**320**	LR		LR	03 31 54.6	
	comp=Z,45nm,20.2s,MS3.5,baz=166,slow=34							
VSL	**Villasalto**	**50.80**	**55**	*e*P		**P**	**03 12 30.1**	**+0.3**
	2.8nm,0.8s,mb4.2							
RWWY	**Rawlins**	**55.80**	**307**	*e*P		**P**	**03 13 07.1**	**+0.4**
	5.3nm,0.9s,mb4.6							
PV01	**Paradox Valley**	**56.77**	**303**	*e*P		**P**	**03 13 15.1**	**+1.5**
BW06	**Boulder Array**	**57.59**	**308**	*e*P		**P**	**03 13 18.5**	**-0.8**
	4.6nm,1.2s,mb4.4							
PDAR	**Pinedale Array**	**57.59**	**308**	P		**P**	**03 13 19.1**	**-0.3**
	1.6nm,1.0s,mb4.0,baz=90,slow=7.4,SNR=10							
PDAR				LR		LR	03 35 55.9	
	comp=Z,32nm,19.4s,MS3.4,baz=210,slow=34							
IMW	**Indian Meadow**	**58.63**	**310**	*e*P		**P**	**03 13 26.6**	**-0.1**
	1.0nm,0.8s,mb3.9							
HWUT	**Hardware Ranch**	**59.06**	**307**	*e*P		**P**	**03 13 28.5**	**-1.1**
	4.1nm,1.0s,mb4.4							
DUG	**Dugway**	**60.03**	**305**	*e*P		**P**	**03 13 36.7**	**+0.4**
	1.6nm,0.6s,mb4.2							
HLID	**Hailey**	**61.15**	**309**	*e*P		**P**	**03 13 43.7**	**-0.2**
	0.9nm,0.8s,mb4.0							
NEW	**Newport**	**62.99**	**315**	*e*P		**P**	**03 13 55.5**	**-0.9**
	3.2nm,1.1s,mb4.4							
MLR	**Muntele Rosu**	**63.24**	**48**	P		**P**	**03 13 57.8**	**-0.2**
	1.6nm,0.7s,mb4.3,baz=172,slow=15,SNR=3.6							
BR131	**Keskin Array S**	**69.47**	**54**	*e*P		**P**	**03 14 38.3**	**+0.4**
	0.5nm,0.4s,mb3.8							
BRTR	**Keskin Array B**	**69.47**	**54**	P		**P**	**03 14 38.1**	**+0.3**
	1.5nm,0.9s,mb3.9,baz=264,slow=5.0,SNR=7.1							

MAN ***27*** *03:17:08.2,663N×12586E,h1km,mb3.5,ML4.7,MS4.2*
ISCJB ***27*** *03:17:10.0±1.2,655N±007×126.1E±0.1,h78km±15km, mb3.7/6,Error ellipse: s-maj=19.3km s-min=11.3km az=173.2*
IDC ***27*** *03:17:09.5±11.0,667N×12600E,h62km±97km,mb3.4/5, mb1 3.6/5,mb1mx3.4/18,mbtmp3.7/5,Error ellipse: s-maj=105.4km s-min=24.6km az=64.0*
NEIC ***27*** *03:17:10.1±1.2,662N×12580E,h69km±12km,mb4.0/3, Error ellipse: s-maj=101.0km s-min=14.2km az=66.0*

ISC 27 03:17:12.5±1.1,658N±007×1259E±01,h86km±15km,n15, σ0:72/18,mb3.7/6,2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**0.60**	**324**	*e*Pn		**Pn**	**03 17 22.7**	**-5.1**
DAV				*e*Sn		**Sn**	**03 17 31.4**	**-7.6**
KCP	**Kidapawan**	**0.95**	**297**	*i*P		**Pn**	**03 17 30.7**	**-0.6**
KCP				*i* S		**Sn**	**03 17 45.9**	**+0.6**
CTBH	**Cotabato--PC H**	**1.80**	**291**	*i*P		**Pn**	**03 17 38.5**	**-3.4**
CTBH				*i* S		**Sn**	**03 18 04.9**	**+0.6**
CGP	**Cagayan de Oro**	**2.23**	**327**	*i* S		**Sn**	**03 18 13.9**	**-0.7**
SCPH	**Surigao**	**3.21**	**352**	*e*P		**Pn**	**03 18 00.9**	**+0.1**
SCPH				*e*S		**Sn**	**03 18 38.5**	**+0.4**
KAKA	**Kakadu**	**20.22**	**161**	*e*P		**P**	**03 21 40.1**	**-0.5**
	5.7nm,0.6s							
FITZ	**Fitzroy Crossi**	**24.53**	**181**	*e*P		**P**	**03 22 23.9**	**0.0**
	14nm,2.2s,mb4.0							
FITZ	**Fitzroy Crossi**	**24.53**	**181**	P		**P**	**03 22 23.7**	**-0.2**
	0.9nm,0.4s,mb3.5,baz=47,slow=16,SNR=10.0							
WRAB	**Tennant Creek**	**27.61**	**163**	*e*P		**P**	**03 22 52.9**	**+1.1**
	2.3nm,0.5s,mb4.0							
WRA	**Warramunga Arr**	**27.62**	**163**	P		**P**	**03 22 51.8**	**-0.1**
	0.3nm,0.3s,mb3.4,baz=345,slow=10,SNR=15							
WRA				PcP		PcP	03 26 08.6	+1.4
	0.2nm,0.6s,baz=353,slow=2.6,SNR=5.2							
WB2	**Warramunga Arr**	**27.62**	**163**	*e*P		**P**	**03 22 51.2**	**-0.7**
ASAR	**Alice Springs**	**31.05**	**166**	P		**P**	**03 23 21.9**	**-0.4**
	0.6nm,0.6s,mb3.5,baz=346,slow=7.3,SNR=11							
STKA	**Stephens Creek**	**41.06**	**160**	P		**P**	**03 24 48.6**	**+1.1**
	0.7nm,0.3s,mb4.0,baz=324,slow=14,SNR=2.7							
MKAR	**Makanchi Array**	**54.79**	**325**	P		**P**	**03 26 33.2**	**-0.2**
	0.4nm,0.5s,mb3.7,baz=135,slow=7.2,SNR=3.6							
TORD	**Torodi Ar. Bea**	**121.26**	**290**	PKP		PKPdf	03 35 54.6	-0.9
	0.4nm,0.9s,baz=74,slow=2.0,SNR=5.6							

IDC ***27*** *03:48:01.9±0.8,973S×10774E,h0km,mb4.2/7,mb1 4.3/8, mb1mx4.1/18,mbtmp4.2/8,ML3.7/1,MS3.6/4,Ms1 3.7/4, ms1mx3.1/30,Error ellipse: s-maj=33.9km s-min=17.3km az=51.0*
NEIC ***27*** *03:48:03.5±0.4,978S×10775E,h10km,mb4.9/6,Error ellipse: s-maj=19.3km s-min=7.0km az=47.0*
BJI ***27*** *03:48:03.4,980S×10780E,h10km,mB5.1,mb4.6*
ISCJB ***27*** *03:48:09.2±3.4,98S±0.1×1079E±0.1,h72km±29km, mb4.3/16,Error ellipse: s-maj=28.4km s-min=10.6km az=113.5*
MOS ***27*** *03:48:09.0±2.8,902S×10851E,h33km,mb4.4/4,Error ellipse: s-maj=24.7km s-min=15.3km az=118.0*

ISC 27 03:48:08.7±3.2,981S±010×1078E±01,h48km±28km,n40, σ0:85/29,mb4.3/16,MS3.6/3,3C,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BJII	**Banjamegara**	**3.10**	**38**	*i*P		**Pn**	**03 48 54.6**	**-0.5**
BJII				*i* S		**Sn**	**03 49 30.9**	**-0.1**
BJII	**Banjamegara**	**3.10**	**38**	*i*P		**Pn**	**03 48 52.3**	**-2.8**
BJII				*i* S		**Sn**	**03 49 31.6**	**+0.6**
PSI	**Prapat**	**15.33**	**324**	LR		LR	03 57 45.3	
	comp=Z,233nm,19.1s,baz=137,slow=38							
FITZ	**Fitzroy Crossi**	**19.16**	**117**	P		**Pn**	**03 52 29.7**	**+0.3**
	0.2nm,0.3s,baz=314,slow=4.5,SNR=9.4							
FITZ				S		**S**	**03 55 47.0**	**-16**
	0.3nm,0.3s,baz=166,slow=20,SNR=6.1							
NWAO	**Narrogin (SRO)**	**24.60**	**161**	LR		LR	04 02 13.1	
	comp=Z,105nm,20.9s,MS3.3,baz=20,slow=34							
WRA	**Warramunga Arr**	**27.52**	**115**	P		**P**	**03 53 50.6**	**-0.1**
	1.9nm,0.8s,mb3.8,baz=285,slow=11,SNR=13							
WRA				PcP		PcP	03 57 09.1	+1.3
	1.0nm,0.8s,baz=295,slow=2.2,SNR=6.7							
WRAB	**Tennant Creek**	**27.53**	**114**	*e*P		**P**	**03 53 50.4**	**-0.3**
WRAB				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.1							
WRAB	**Tennant Creek**	**27.53**	**114**	*e*P		**P**	**03 53 50.4**	**-0.3**
	comp=Z,4.5nm,0.8s,mb4.2							
ASAR	**Alice Springs**	**28.48**	**122**	P		**P**	**03 54 00.5**	**+1.3**
	comp=Z,1.9nm,0.7s,mb3.8,baz=299,slow=9.2,SNR=14							
ASAR				PcP		PcP	03 57 11.6	+1.4
	comp=Z,0.8nm,0.6s,baz=309,slow=1.9,SNR=7.0							
STKA	**Stephens Creek**	**38.21**	**130**	P		**P**	**03 55 24.2**	**+0.4**
	comp=Z,5.4nm,0.8s,mb4.3,baz=297,slow=10,SNR=9.1							
JIRN	**Jiri**	**42.72**	**331**	*e*P		**P**	**03 56 01.8**	**+0.8**
	comp=Z,31nm,1.0s,mb5.0							
PKI	**Pulchoki**	**43.03**	**330**	*e*P		**P**	**03 56 03.6**	**+0.1**
GUN	**Gumba**	**43.08**	**331**	*e*P		**P**	**03 56 04.6**	**+0.7**
	comp=Z,42nm,1.0s,mb5.1							
DMN	**Daman**	**43.21**	**330**	*e*P		**P**	**03 56 05.2**	**+0.3**
	comp=Z,19nm,0.8

ISC 27 03:59:20.7±1.3, 471S±006×14254E±008, h82km±13km, n34, σ1ᵍ15/37, mb4.2/13, 1C, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.54**	**136**	P		**Pn**	**04 00 56.1**	**+1.8**
	3.4nm,0.3s,baz=339,slow=5.7,SNR=6.9						
PMG				S		**Sn**	**04 02 06.1**	**-1.3**
	3.6nm,0.3s,baz=143,slow=23,SNR=11						
PMG				LR	LR		04 02 47.4	
	comp=Z,75nm,21.7s,baz=106,slow=31						
PMG	**Port Moresby**	**6.54**	**136**	*e*Pn		**Pn**	**04 00 55.9**	**+1.6**
	18nm,0.6s						
KAKA	**Kakadu**	**12.76**	**231**	*e*P		**Pn**	**04 02 17.2**	**-1.6**
	28nm,0.4s						
WRAB	**Tennant Creek**	**17.10**	**207**	*e*P		**Pn**	**04 03 14.2**	**-0.2**
	47nm,0.9s						
WRAB				*e*Sn		**Sn**	**04 06 17.4**	**-6.8**
WB2	**Warramunga Arr**	**17.11**	**207**	*i*P		**Pn**	**04 03 14.5**	**0.0**
WB2				*e*S		**S**	**04 06 16.4**	**-13**
WRA	**Warramunga Arr**	**17.12**	**207**	P		**Pn**	**04 03 14.8**	**+0.2**
	2.1nm,0.3s,baz=30,slow=13,SNR=101						
WRA				S		**S**	**04 06 20.5**	**-8.6**
	0.5nm,0.3s,baz=26,slow=23,SNR=4.6						
AS31	**Alice Springs**	**20.60**	**203**	*e*P		**P**	**04 03 54.8**	**+1.7**
AS31				*e*S		**S**	**04 07 40.3**	**+1.5**
ASAR	**Alice Springs**	**20.60**	**203**	P		**P**	**04 03 53.1**	**0.0**
	4.7nm,0.6s,baz=30,slow=12,SNR=52						
ASAR				S		**S**	**04 07 39.8**	**+0.9**
	1.7nm,0.8s,baz=17,slow=28,SNR=5.0						
ASPA	**Alice Springs**	**20.61**	**203**	*e*P		**P**	**04 03 54.8**	**+1.6**
ASPA				*e*S		**S**	**04 07 40.3**	**+1.4**
FITZ	**Fitzroy Crossi**	**21.22**	**230**	*e*P		**P**	**04 03 59.2**	**-0.5**
	12nm,0.4s,mb4.6						
FITZ				*e*S		**S**	**04 07 49.0**	**-1.9**
FITZ	**Fitzroy Crossi**	**21.22**	**230**	P		**P**	**04 03 59.0**	**-0.7**
	6.3nm,0.5s,mb4.2,baz=41,slow=7.4,SNR=13						
FITZ				S		**S**	**04 07 49.6**	**-1.3**
	1.9nm,0.8s,baz=53,slow=20,SNR=1.9						
STKA	**Stephens Creek**	**27.04**	**182**	P		**P**	**04 04 54.5**	**-0.7**
	1.4nm,0.7s,mb3.6,baz=4.4,slow=15,SNR=3.7						
NJ2	**Nanjing**	**42.95**	**330**	*e*P		**P**	**04 07 11.5**	**+0.1**
NJ2				AMB	AMB			
	comp=Z,10.0nm,1.2s,mb4.4							
PSI	**Prapat**	**44.21**	**279**	P		**P**	**04 07 20.4**	**-1.1**
	comp=Z,3.1nm,0.5s,mb4.3,baz=120,slow=8.1,SNR=5.4							
PSI	**Prapat**	**44.21**	**279**	P		**P**	**04 07 20.4**	**-1.1**
KMI	**Kunming**	**48.72**	**309**	P		**P**	**04 07 57.8**	**+0.9**
KMI				AP	pP		04 08 18.5	+1.4
KMI				PP	PP		04 09 51.5	+0.9
KMI				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.7							
HHC	**Hu-ho-hao-te**	**53.48**	**331**	*e*P		**P**	**04 08 34.3**	**+1.8**
HHC				PP	PP		04 10 36.5	+2.8
HHC				S		**S**	**04 15 58.5**	**-0.4**
HHC				PS			04 16 24.5	
HHC				AMB	AMB			
	comp=Z,10.0nm,0.5s,mb5.1							
HHC				AMB	AMB			
	comp=Z,84nm,5.7s							
HHC				LR	LR			
	comp=N,96nm,17.3s							
HHC				LR	LR			
	comp=E,173nm,15.5s							
HHC				LR	LR			
	comp=Z,113nm,14.3s							
GTA	**Gaotai**	**58.96**	**322**	*e*P		**P**	**04 09 11.8**	**+0.3**
GTA				AMB	AMB			
	comp=Z,4.0nm,1.4s,mb4.3							
SONM	**Songino Array**	**61.18**	**333**	P		**P**	**04 09 26.1**	**-0.6**
	comp=Z,0.6nm,0.8s,mb3.7,baz=145,slow=5.7,SNR=4.1							
WMQ	**Urumqi**	**68.95**	**321**	P		**P**	**04 10 19.5**	**+2.5**
VNDA	**Vanda**	**73.49**	**176**	P		**P**	**04 10 43.6**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.4,baz=299,slow=10,SNR=6.1							
VNDA	**Vanda**	**73.49**	**176**	*e*P		**P**	**04 10 43.4**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.7							
MKAR	**Makanchi Array**	**73.71**	**322**	P		**P**	**04 10 45.1**	**-0.5**
	comp=Z,2.5nm,0.7s,mb4.1,baz=101,slow=8.3,SNR=17							
ZAL	**Zalesovo**	**75.59**	**329**	P		**P**	**04 10 54.7**	**-1.8**
	comp=Z,1.1nm,0.6s,mb3.8,baz=5.7,slow=7.8,SNR=3.7							
ZAL	**Zalesovo**	**75.59**	**329**	P		**P**	**04 10 54.7**	**-1.8**
MAW	**Mawson**	**81.73**	**202**	P		**P**	**04 11 30.0**	**-0.2**
	comp=Z,1.2nm,0.3s,mb4.2,baz=100,slow=6.7,SNR=10							
QSPA	**South Pole Qui**	**85.25**	**180**	*e*P		**P**	**04 11 47.0**	**-1.2**
	comp=Z,5.8nm,0.6s,mb4.7							
GERES	**GERESS Array B**	**118.30**	**324**	PKP	PKPdf		04 17 57.5	-0.9
	comp=Z,0.7nm,0.5s,baz=68,slow=0.7,SNR=6.9							
TORD	**Torodi Ar. Bea**	**140.47**	**285**	PKhKP			04 18 31.4	
	comp=Z,0.6nm,0.9s,baz=85,slow=2.5,SNR=12							
TORD				PKP	PKPdf		04 18 42.1	+1.8
	comp=Z,1.6nm,0.8s,baz=27,slow=1.2,SNR=6.1							
LPAZ	**La Paz**	**143.18**	**125**	PKhKP			04 18 43.4	
	comp=Z,1.6nm,0.6s,baz=248,slow=2.6,SNR=13							
LPAZ	**La Paz**	**143.18**	**125**	*e*PKPdf	PKPdf		04 18 43.1	-2.1
LPAZ				*ep*PKPdf	pPKPdf		04 19 07.6	-0.7
DBIC	**Dimbokro**	**147.50**	**275**	PKPbc	PKPbc		04 18 56.0	+0.8
	comp=Z,6.6nm,0.7s,baz=68,slow=3.0,SNR=11							
DBIC	**Dimbokro**	**147.50**	**275**	*e*PKPbc	PKPbc		04 18 55.8	+0.5
SAML	**Samuel**	**150.99**	**118**	*e*PKPbc	PKPbc		04 19 04.0	+0.1

MEX 27 04:00:19.9±0.8, 1793N×10034W, h60km±33km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**0.68**	**90**	*i*P	Pn	04 00 32.3	-1.7
MEIG				*i*S	Sn	04 00 42.6	-1.6
CAIG	**El Cayaco**	**0.88**	**176**	*i*P	Pn	04 00 34.8	-1.6
CAIG				*i*S	Sn	04 00 47.0	-1.5
PLIG	**Platanillo**	**0.92**	**60**	*i*P	Pn	04 00 35.5	-1.3
PLIG				*i*S	Sn	04 00 48.0	-1.3
ACX	**Acapulco**	**1.13**	**159**	*i*P	Pn	04 00 40.0	+0.3
IIZ	**Mezontepec**	**1.62**	**40**	*i*P	Pn	04 00 46.8	+0.6
IIZ				*i*S	Sn	04 01 05.3	-0.9

IDC 27 04:17:41.6±8.3, 2538S×17717W, h154km±79km, mb3.4/2, mb1 3.8/3, mb1mx3.5/13, mbtmp4.2/3, MS4.0/9, Ms1 4.0/9, ms1mx3.7/17, Error ellipse: s-maj=84.2km s-min=42.6km az=176.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.92**	**190**	P	Pn	04 18 41.3	+0.5
	57nm,0.3s,baz=38,slow=19,SNR=3.4						
RAO				S	Sn	04 19 27.3	+0.4
	73nm,0.3s,baz=270,slow=20,SNR=4.5						
URZ	**Urewera**	**13.73**	**199**	LR	LR	04 25 32.4	
	comp=Z,682nm,20.9s,baz=1.4,slow=34						
DZM	**Mont Dzumac**	**15.37**	**279**	LR	LR	04 25 49.5	
	comp=Z,484nm,20.8s,baz=202,slow=32						
TBI	**Tubuai**	**25.30**	**91**	*e*LR	LR	04 28 59.6	
	627nm,28.8s,baz=261						
PPT	**Papeete**	**26.79**	**79**	*e*LQ		04 28 33.4	
	328nm,22.2s						
PPT				*e*LR	LR	04 29 34.5	
	892nm,27.2s,baz=246						
PPT	**Papeete**	**26.79**	**79**	LR	LR	04 30 38.5	
	comp=Z,473nm,20.4s,baz=260,slow=29						
HNR	**Honiara**	**26.91**	**302**	LR	LR	04 32 48.1	
	comp=Z,118nm,19.8s,baz=179,slow=34						
STKA	**Stephens Creek**	**36.61**	**250**	LR	LR	04 39 16.7	
	comp=Z,273nm,19.0s,baz=156,slow=35						
RKT	**Rikitea**	**38.42**	**96**	*e*LR	LR	04 34 58.2	
	344nm,27.0s						
ASAR	**Alice Springs**	**44.35**	**261**	P	P	04 25 37.5	+1.2
	1.2nm,0.9s,baz=96,slow=8.9,SNR=7.3						
ASAR				LR	LR	04 44 38.4	
	comp=Z,237nm,18.7s,baz=176,slow=36						
WRA	**Warramunga Arr**	**44.89**	**267**	P	P	04 25 40.0	-0.6
	2.1nm,0.9s,baz=108,slow=8.0,SNR=9.9						
WRA				LR	LR	04 43 41.6	
	comp=Z,175nm,18.4s,baz=100,slow=35						
VNDA	**Vanda**	**53.15**	**186**	LR	LR	04 43 45.5	
	comp=Z,75nm,21.3s,baz=192,slow=29						
FITZ	**Fitzroy Crossi**	**53.29**	**266**	LR	LR	04 49 36.9	
	comp=Z,169nm,19.5s,baz=87,slow=36						
AKASG	**Malin Array Be**	**147.59**	**328**	PKPbc	PKPbc	04 37 05.5	-2.2
	0.8nm,0.5s,baz=38,slow=3.3,SNR=3.5						
BRTR	**Keskin Array B**	**150.52**	**307**	PKPbc	PKPbc	04 37 16.4	+1.4
	1.3nm,0.9s,baz=101,slow=1.5,SNR=6.3						

WEL 27 04:28:55.3±0.2, 4280S×17522E, h33km, ML3.5/10, Error ellipse: s-maj=2.1km s-min=1.9km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**1.30**	**286**	PN	Pn	04 29 16.2	-0.9
KHZ				S*	Sb	04 29 31.6	-3.9
MSWZ	**Moikau Station**	**1.38**	**1**	PN	Pn	04 29 17.8	-0.5
MSWZ				S*	Sb	04 29 33.7	-4.1
PAWZ	**Paruwai Farm**	**1.42**	**6**	PN	Pn	04 29 18.4	-0.4
PAWZ				*e*S*	Sb	04 29 34.8	-4.2
TRWZ	**Traveller**	**1.44**	**14**	PN	Pn	04 29 18.7	-0.4
TRWZ				S*	Sb	04 29 35.8	-3.6
BSWZ	**Blackbirch Sta**	**1.47**	**317**	PN	Pn	04 29 19.0	-0.5
BSWZ				S*	Sb	04 29 36.4	-4.0
SNZO	**South Karori**	**1.53**	**345**	PN	Pn	04 29 20.1	-0.3
SNZO				S*	Sb	04 29 37.7	-4.5
MRW	**Makara Radio**	**1.61**	**346**	PN	Pn	04 29 21.3	-0.2
MRW				S*	Sb	04 29 39.4	-5.1
MTW	**Mount Morrison**	**1.65**	**7**	PN	Pn	04 29 21.4	-0.6
MTW				S*	Sb	04 29 39.9	-5.5
TUWZ	**Tuamarina**	**1.66**	**325**	S*	Sb	04 29 40.7	-5.1
CAW	**Cannon Point**	**1.69**	**356**	S*	Sb	04 29 41.3	-5.4
TCW	**Tory Channel**	**1.73**	**336**	PN	Pn	04 29 22.9	-0.2
TCW				S*	Sb	04 29 42.5	-5.4
KIW	**Kapiti Island**	**1.94**	**353**	*e*PN	Pn	04 29 26.0	-0.1
KIW				S*	Sb	04 29 47.6	-6.4
THZ	**Tophouse**	**2.00**	**300**	PN	Pn	04 29 26.6	-0.2
CRLZ	**Canterbury Las**	**2.06**	**247**	PN	Pn	04 29 25.8	-1.7
CRLZ				SN	Sn	04 29 48.2	-3.9
TIWZ	**Tintock**	**2.08**	**14**	PN	Pn	04 29 27.2	-0.6
TIWZ				S*	Sb	04 29 49.7	-8.1
MQZ	**McQueen's Vall**	**2.09**	**243**	PN	Pn	04 29 25.8	-2.2
MQZ				SN	Sn	04 29 48.2	-4.6
MRZ	**Mangatainoka R**	**2.15**	**7**	PN	Pn	04 29 28.4	-0.5
MRZ				S*	Sb	04 29 51.8	-8.0
LTZ	**Lake Taylor**	**2.17**	**269**	PN	Pn	04 29 29.3	+0.2
LTZ				SN	Sn	04 29 52.8	-2.2
DUWZ	**D'Urville Isla**	**2.21**	**334**	PN	Pn	04 29 29.9	+0.1
DUWZ				S*	Sb	04 29 54.3	-7.4
BFZ	**Birch Farm**	**2.25**	**20**	PN	Pn	04 29 29.4	-0.8
DSZ	**Denniston Nort**	**2.75**	**291**	PN	Pn	04 29 37.7	+0.7
TSZ	**Takapari Road**	**2.79**	**12**	PN	Pn	04 29 37.3	-0.3
TSZ				S*	Sb	04 30 07.5	-11
QRZ	**Quartz Range**	**2.81**	**313**	PN	Pn	04 29 37.9	0.0
QRZ				SN	Sn	04 30 10.5	-0.2
WTVZ	**West Tongariro**	**3.69**	**4**	PN	Pn	04 29 51.1	+1.1
KATZ	**Kakaramea**	**3.83**	**6**	PN	Pn	04 29 52.9	+0.9

IDC 27 04:33:28.2±1.0, 043S×12304E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.6/17, mbtmp3.5/5, ML3.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.4/18, Error ellipse: s-maj=105.9km s-min=19.8km az=66.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.75**	**172**	P	Pn	04 37 38.1	+1.5
	0.0nm,0.3s,baz=131,slow=8.3,SNR=2.2						
WRA	**Warramunga Arr**	**22.33**	**151**	P	P	04 38 26.3	-1.1
	1.2nm,0.7s,baz=330,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**25.39**	**156**	P	P	04 38 58.6	+1.4
	0.6nm,0.5s,baz=335,slow=8.6,SNR=9.9						
ASAR				PcP	PcP	04 42 29.6	0.0
	0.3nm,0.6s,baz=354,slow=2.6,SNR=4.1						
JOW	**Kunigami**	**27.57**	**10**	LR	LR	04 49 13.4	
	comp=Z,94nm,20.8s,baz=199,slow=34						
SONM	**Songino Array**	**50.21**	**345**	P	P	04 42 27.4	+1.7
	0.5nm,0.5s,baz=158,slow=9.2,SNR=4.0						
MKAR	**Makanchi Array**	**58.99**	**328**	P	P	04 43 29.2	-0.4
	0.2nm,0.4s,baz=125,slow=9.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**120.56**	**285**	PKP	PKPdf	04 52 21.8	0.0
	0.4nm,0.7s,baz=78,slow=1.2,SNR=4.5						

NIED ***27*** *04:34:00,27.20N×130.00E, h14km, Mw3.8 Best double couple: M₀4.95000×10¹⁴ NP1:φ₁25.00000°, δ56.00000°, λ-103.00000°. NP2:φ₂227.00000°, δ36.00000°, λ-72.00000°.*

JMA 27 04:34:48.9, 2715N×12999E, h41km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**1.12**	**305**	P	Pn	04 35 08.5	+0.4
JTK				S	Sn	04 35 22.3	0.0
JAM	**Amami Oshima**	**1.30**	**345**	P	Pn	04 35 11.3	+0.7
JAM				S	Sn	04 35 27.0	+0.2
JOW	**Kunigami**	**1.56**	**259**	P	Pn	04 35 15.2	+1.0
JOW				S	Sn	04 35 34.2	+1.0
JMZ	**Minamidaito 2**	**1.72**	**140**	P	Pn	04 35 17.2	+0.8
JMZ				S	Sn	04 35 37.6	+0.4
JIH	**Iheya**	**1.81**	**267**	P	Pn	04 35 18.4	+0.9
JIH				S	Sn	04 35 40.1	+0.9
JJT2	**Tamagusuku 2**	**2.25**	**244**	P	Pn	04 35 24.7	+1.2
JJT2				S	Sn	04 35 51.1	+1.1
NAH1	**Naha**	**2.26**	**246**	P	Pn	04 35 25.2	+1.4
NAH1				S	Sn	04 35 51.4	+0.9
JAGN	**Aguni-jima**	**2.52**	**258**	P	Pn	04 35 28.4	+1.1
JAGN				S	Sn	04 35 57.4	+0.7
JNN	**Nakanoshima**	**2.68**	**358**	S	Sn	04 36 02.1	+1.3
JKE	**Kume jima 2**	**2.98**	**255**	P	Pn	04 35 34.8	+1.2
JKE				S	Sn	04 36 09.1	+1.0

IDC 27 04:49:03.6±39.0, 2398S×17987W, h550km±349km, mb3.1/4, mb1 3.2/4, mb1mx3.0/13, mbtmp4.1/4, Error ellipse: s-maj=326.9km s-min=112.7km az=117.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.60**	**270**	P	P	04 54 42.0	+0.4
	7.7nm,0.7s,baz=100,slow=10,SNR=13						
ASAR	**Alice Springs**	**42.14**	**261**	P	P	04 56 08.0	0.0
	1.7nm,1.0s,baz=103,slow=7.7,SNR=7.9						
WRA	**Warramunga Arr**	**42.52**	**266**	P	P	04 56 11.0	0.0
	0.7nm,0.5s,baz=103,slow=8.1,SNR=9.4						
FITZ	**Fitzroy Crossi**	**50.94**	**266**	P	P	04 57 14.9	+0.4
	1.3nm,0.7s,baz=82,slow=15,SNR=5.8						
AKASG	**Malin Array Be**	**145.10**	**327**	PKPbc	PKPbc	05 07 38.4	-1.1
	1.5nm,0.6s,baz=44,slow=4.0,SNR=11						

ISCJB ***27*** *04:56:07.0±2.4, 84S±02×1587E±02, h88km±28km, mb3.7/8, Error ellipse: s-maj=34.5km s-min=27.3km az=79.5*
NEIC ***27*** *04:56:08.9±0.9, 846S×1589E, mb3.5/2, Error ellipse: s-maj=21.2km s-min=15.6km az=208.0*
IDC ***27*** *04:56:09.3±0.8, 845S×1583E, h99km±8km, mb3.7/6, mb1 3.8/6, mb1mx3.7/13, mbtmp4.0/6, Error ellipse: s-maj=20.8km s-min=10.1km az=35.0*

ISC 27 04:56:08.2±2.4, 84S±02×1588E±02, h85km±27km, h101km±1.6km:pP-P, n11, σ0ˢ69/13, mb3.7/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.55**	**133**	P	Pn	**04 56 33.1**	**-1.3**
	257nm,0.3s,baz=256,slow=3.0,SNR=59						
HNR				S	Sn	**04 56 55.0**	**+0.9**
	423nm,0.3s,baz=85,slow=20,SNR=11						
HNR	**Honiara**	**1.55**	**133**	P	Pn	**04 56 33.1**	**-1.3**
HNR				S	Sn	**04 56 55.0**	**+0.9**
WRAB	**Tennant Creek**	**26.30**	**242**	*e*P	P	**05 01 36.0**	**+0.3**
	0.9nm,0.5s,mb3.5						
WRA	**Warramunga Arr**	**26.31**	**241**	P	P	**05 01 35.9**	**+0.1**
	0.8nm,0.4s,mb3.5,baz=67,slow=9.2,SNR=15						
WRA				pP	pP	05 01 57.5	+2.4
	1.0nm,0.7s,baz=66,slow=9.2,SNR=3.4						
WRA				PcP	PcP	05 04 59.4	-0.5
	0.2nm,0.5s,baz=67,slow=2.9,SNR=5.3						
ASAR	**Alice Springs**	**28.27**	**235**	P	P	**05 01 53.0**	**-0.3**
	0.9nm,0.7s,mb3.4,baz=63,slow=9.1,SNR=7.9						
ASAR				pP	pP	05 02 15.9	+3.1
	0.3nm,0.5s,baz=70,slow=9.3,SNR=1.9						
STKA	**Stephens Creek**	**28.33**	**212**	P	P	**05 01 54.1**	**+0.2**
	1.3nm,0.5s,mb3.8,baz=39,slow=15,SNR=6.7						
STKA	**Stephens Creek**	**28.33**	**212**	*e*P	P	**05 01 54.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**33.63**	**250**	P	P	**05 02 40.2**	**-0.3**
	0.6nm,0.4s,mb3.8,baz=63,slow=14,SNR=12						
VNDA	**Vanda**	**69.13**	**179**	*e*P	P	**05 07 04.4**	**-0.8**
	0.7nm,0.8s,mb3.5						
SONM	**Songino Array**	**72.55**	**326**	P	P	**05 07 26.8**	**+0.9**
	1.3nm,0.6s,mb3.9,baz=137,slow=5.0,SNR=10						
SONM				pP	pP	05 07 52.0	+3.9
	1.2nm,0.7s,baz=138,slow=5.4,SNR=6.6						
MKAR	**Makanchi Array**	**86.93**	**318**	P	P	**05 08 43.4**	**-0.3**
	0.8nm,0.5s,mb3.9,baz=91,slow=6.3,SNR=6.6						

IDC 27 05:05:11.2±3.7, 943S×10779E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.8/3, 1C, Error ellipse: s-maj=141.7km s-min=29.8km az=48.0, South of Java

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**2.83**	**43**	*i*P	Pn	05 05 58.7	+1.1
WRA	**Warramunga Arr**	**27.68**	**115**	P	P	05 11 01.1	+0.2
	0.5nm,0.7s,baz=286,slow=11,SNR=6.7						
SONM	**Songino Array**	**57.03**	**359**	P	P	05 14 59.8	+1.0
	0.8nm,0.6s,baz=180,slow=7.8,SNR=7.2						
MKAR	**Makanchi Array**	**60.42**	**340**	P	P	05 15 21.9	-0.5
	1.7nm,0.6s,baz=141,slow=8.0,SNR=15						

IDC 27 05:12:13.0±2.1, 688S×12937E, h0km, mb3.7/1, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, ML3.7/3, Error ellipse: s-maj=78.3km s-min=28.5km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.74**	**198**	Pn	Pn	05 15 00.6	-1.1
	0.3nm,0.3s,baz=22,slow=13,SNR=5.2						
FITZ				Sn	Sn	05 16 54.8	-19
	0.4nm,0.3s,baz=55,slow=16,SNR=6.8						
WRA	**Warramunga Arr**	**13.86**	**160**	Pn	Pn	05 15 31.6	+1.0
	0.4nm,0.3s,baz=340,slow=13,SNR=15						
WRA				Sn	Sn	05 17 50.8	-14
	1.3nm,0.3s,baz=333,slow=23,SNR=14						
ASAR	**Alice Springs**	**17.25**	**166**	P	Pn	05 16 16.1	+0.8
	0.4nm,0.3s,baz=338,slow=10.0,SNR=33						
ASAR				S	Sn	05 19 08.1	-20
	0.1nm,0.3s,baz=346,slow=26,SNR=3.6						
MKAR	**Makanchi Array**	**67.78**	**327**	P	P	05 23 12.8	+0.2
	0.3nm,0.4s,baz=118,slow=7.4,SNR=5.0						

WEL 27 05:29:21.6±0.8, 3679S×17952E, h12km, ML3.5/3, Error ellipse: s-maj=12.4km s-min=8.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.24**	**231**	P*	Pb	05 29 43.1	-1.9
MXZ				S*	Sb	05 29 59.5	-1.4
PUZ	**Puketiti**	**1.63**	**218**	PN	Pn	05 29 49.0	-1.1
PUZ				SN	Sn	05 30 09.7	-1.3
URZ	**Urewera**	**2.41**	**232**	PN	Pn	05 30 00.2	-0.7
URZ				SN	Sn	05 30 29.8	-0.6

IDC 27 06:00:00.3±4.5, 3012S×13873E, h0km, mb1 2.9/3, mb1mx2.9/12, mbtmp2.6/3, ML2.5/3, Error ellipse: s-maj=159.3km s-min=17.7km az=45.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.02**	**126**	Pn	Pn	06 00 49.8	+0.4
	0.2nm,0.3s,baz=308,slow=15,SNR=4.9						
STKA				Sn	Sn	06 01 26.3	+0.1
	0.7nm,0.3s,baz=322,slow=18,SNR=3.6						
STKA				Lg		06 01 36.4	
	1.6nm,0.3s,baz=18,slow=20,SNR=6.2						
ASAR	**Alice Springs**	**7.74**	**325**	Pn	Pn	06 01 53.9	-0.2
	0.1nm,0.3s,baz=150,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**10.88**	**338**	Pn	Pn	06 02 37.7	+0.4
	0.0nm,0.3s,baz=156,slow=11,SNR=4.2						

IDC ***27*** *06:01:05.0±1.7, 279S×14126E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/13, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=53.6km s-min=27.5km az=97.0*
ISCJB ***27*** *06:01:07.4±1.3, 29S±0.1×1415E±0.1, h33km, mb4.0/4, Error ellipse: s-maj=23.4km s-min=17.8km az=85.0*
NEIC ***27*** *06:01:09.8±0.8, 292S×1414 3E, h35km, mb4.4/2, Error ellipse: s-maj=16.3km s-min=12.0km az=136.0*

ISC 27 06:01:09.6±1.3, 29S±01×1415E±01, h35km, n10, σ0ˢ19/9, mb4.0/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**18.31**	**202**	*e*P	Pn	**06 05 20.5**	**-0.2**
	4.3nm,0.6s						
WB2	**Warramunga Arr**	**18.32**	**202**	*e*P	Pn	**06 05 21.2**	**+0.4**
WRA	**Warramunga Arr**	**18.32**	**202**	P	Pn	**06 05 20.8**	**-0.1**
	0.4nm,0.3s,baz=22,slow=12,SNR=30						
HNR	**Honiara**	**19.43**	**110**	*e*P	Pn	**06 05 34.2**	**-0.1**
	64nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.68**	**225**	P	P	**06 05 57.1**	**-0.1**
	2.8nm,0.7s,mb3.8,baz=40,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**21.91**	**199**	P	P	**06 05 59.5**	**-0.2**
	0.9nm,0.6s,mb3.4,baz=30,slow=9.8,SNR=11						
STKA	**Stephens Creek**	**28.82**	**180**	*e*P	P	**06 07 04.5**	**+0.2**
MKAR	**Makanchi Array**	**71.67**	**322**	P	P	**06 12 27.8**	**+0.1**
	0.8nm,0.7s,mb3.8,baz=106,slow=7.7,S

MAW LR LR 06 55 34.7
comp=Z,66nm,21.7s,MS3.5,baz=73,slow=34
SIV San Ignacio 45.45 353 P **P** **06 38 53.1 -1.1**
0.6nm,0.5s,mb3.7,baz=186,slow=10,SNR=5.9
SIV PcP PcP 06 40 31.4 -1.8
0.5nm,0.5s,baz=151,slow=10,SNR=3.4
LPAZ La Paz 45.82 344 P **P** **06 38 59.0 +1.8**
0.2nm,0.5s,mb3.3,baz=183,slow=19,SNR=2.7
LPAZ PcP PcP 06 40 33.4 -1.1
0.3nm,0.6s,baz=214,slow=7.7,SNR=3.5
LPAZ LR LR 06 57 53.5
comp=Z,69nm,21.9s,MS3.6,baz=231,slow=36
BDFB Brasilia 46.04 11 P **P** **06 38 59.0 +0.1**
1.6nm,0.5s,mb4.2,baz=110,slow=0.5,SNR=6.6
BDFB LR LR 06 56 44.0
comp=Z,33nm,20.6s,MS3.3,baz=292,slow=34
SUR Sutherland 56.05 96 P **P** **06 40 14.2 0.0**
11nm,1.0s,mb4.8,baz=110,slow=14,SNR=3.0
BOSA Boshof 61.30 98 P **P** **06 40 50.2 -0.5**
1.1nm,0.3s,mb4.4,baz=119,slow=18,SNR=6.4
TSUM Tsumeb 65.58 85 P **P** **06 41 18.9 -0.2**
4.3nm,0.6s,mb4.7,baz=172,slow=7.0,SNR=9.8
SDV Santo Domingo 70.94 345 LR LR 07 13 42.4
comp=Z,50nm,20.3s,MS3.8,baz=354,slow=36
PCRV Puerto La Cruz 71.62 351 LR LR 07 14 04.3
comp=Z,34nm,21.5s,MS3.6,baz=102,slow=36
TORD Torodi Ar. Bea 87.07 56 P **P** **06 43 19.9 -1.0**
0.7nm,0.5s,mb4.2,baz=204,slow=5.2,SNR=12
ASAR Alice Springs 94.87 189 P **P** **06 43 53.3 -4.1**
0.1nm,0.3s,mb3.7,baz=169,slow=3.7,SNR=4.6
WRA Warramunga Arr 98.53 190 P **P** **06 44 09.6 -4.4**
0.4nm,0.4s,mb4.3,baz=173,slow=4.1,SNR=16
ARCES ARCESS Array B 142.75 35 PKhKP 06 50 00.1
2.2nm,0.6s,baz=234,slow=1.5,SNR=22
BVAR Borovoye Array 150.69 82 PKPbc PKPbc 06 50 23.8 -3.7
1.2nm,0.3s,baz=228,slow=1.8,SNR=13
MKAR Makanchi Array 152.21 103 PKPbc PKPbc 06 50 26.8 -4.2
3.3nm,0.5s,baz=214,slow=2.5,SNR=32
MKAR PKPab PKPab 06 50 38.6 -2.2
0.7nm,0.6s,baz=238,slow=4.0,SNR=3.2
SONM Songino Array 163.20 136 PKPab PKPab 06 51 25.0 -3.1
0.8nm,0.8s,baz=204,slow=5.0,SNR=5.5

*ISCJB **27** 07:18:47.4±0.7, 159S±02×1735W±02, h10km, mb4.5/9, MS3.7/1, Error ellipse: s-maj=30.1km s-min=11.2km az=99.8*
*IDC **27** 07:18:47.8±0.8, 16.12S×173.37W, h0km, mb4.4/7, mb1 4.6/7, mb1mx4.4/15, mbtmp4.4/7, MS3.6/2, Ms1 3.6/2, ms1mx3.1/22, Error ellipse: s-maj=42.6km s-min=19.4km az=135.0*
*NEIC **27** 07:18:48.6±0.5, 1597S×173.37W, h10km, mb4.8/3, Error ellipse: s-maj=24.6km s-min=9.1km az=138.0*
ISC 27 07:18:48.8±0.7, 160S±02×1733W±02, h10km, n23, σ0§87/16, mb4.5/9, MS3.4/2, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.56**	**35**	Pn		**Pn**		**07 19 29.0**	**-1.3**
	15nm,0.3s,baz=280,slow=3.8,SNR=22								
AFI				Sn		**Sn**		**07 19 56.2**	**-5.3**
	38nm,0.3s,baz=40,slow=21,SNR=6.8								
DZM	**Mont Dzumac**	**20.07**	**249**	P		**P**		**07 23 26.0**	**+3.8**
	0.6nm,0.3s,baz=81,slow=18,SNR=6.0								
DZM				LR		LR		07 28 42.6	
	comp=Z,87nm,18.5s,MS3.1,baz=28,slow=30								
PPT	**Papeete**	**22.76**	**97**	eLR		LR		07 29 16.7	
	224nm,24.5s,baz=259								
TBI	**Tubuai**	**23.57**	**112**	eLR		LR		07 29 33.6	
	283nm,26.2s								
URZ	**Urewera**	**23.71**	**199**	P		**P**		**07 24 00.5**	**-0.5**
	7.7nm,0.5s,mb4.4,baz=26,slow=1.3,SNR=13								
HNR	**Honiara**	**26.89**	**281**	LR		LR		07 33 49.9	
	comp=Z,194nm,19.9s,MS3.7,baz=180,slow=34								
STKA	**Stephens Creek**	**43.82**	**241**	eP		**P**		**07 26 54.9**	**0.0**
	3.6nm,0.5s,mb4.4								
STKA	**Stephens Creek**	**43.82**	**241**	P		**P**		**07 26 54.8**	**0.0**
	4.1nm,0.5s,mb4.4,baz=353,slow=20,SNR=11								
WB2	**Warramunga Arr**	**49.79**	**257**	eP		**P**		**07 27 41.5**	**-0.1**
WRA	**Warramunga Arr**	**49.80**	**257**	P		**P**		**07 27 41.3**	**-0.4**
	1.9nm,0.5s,mb4.4,baz=93,slow=6.9,SNR=56								
WRA				PcP		PcP		07 29 03.9	+1.5
	0.4nm,0.4s,baz=96,slow=3.4,SNR=4.7								
AS31	**Alice Springs**	**50.02**	**252**	eP		**P**		**07 27 43.2**	**-0.1**
ASAR	**Alice Springs**	**50.02**	**252**	P		**P**		**07 27 43.0**	**-0.3**
	14nm,0.6s,mb5.2,baz=90,slow=7.7,SNR=80								
ASPA	**Alice Springs**	**50.02**	**252**	eP		**P**		**07 27 43.2**	**-0.2**
KAKA	**Kakadu**	**52.55**	**266**	⇓iP		**P**		**07 28 03.1**	**+0.7**
	8.9nm,0.6s,mb4.9								
FORT	**Forrest**	**55.23**	**243**	eP		**P**		**07 28 21.5**	**-0.4**
	13nm,0.8s,mb5.0								
NVAR	**Mina Array Bea**	**74.72**	**42**	P		**P**		**07 30 30.6**	**+1.9**
	0.9nm,0.7s,mb3.8,baz=221,slow=9.2,SNR=6.1								
PDAR	**Pinedale Array**	**82.66**	**42**	P		**P**		**07 31 13.4**	**+1.0**
	1.3nm,0.9s,mb4.0,baz=207,slow=1.7,SNR=9.3								
MAW	**Mawson**	**87.24**	**199**	P		**P**		**07 31 35.3**	**-0.2**
	2.6nm,0.6s,mb4.7,baz=158,slow=9.6,SNR=15								
ARCES	**ARCESS Array B**	**125.23**	**352**	PKP		PKPdf		07 37 49.1	-0.5
	1.3nm,0.7s,baz=11,slow=1.2,SNR=12								
FINES	**FINESS Array B**	**132.57**	**348**	PKP		PKPdf		07 38 02.4	-1.2
	0.7nm,0.6s,baz=87,slow=4.0,SNR=5.4								
KMBO	**Kilima Mbogo**	**145.35**	**243**	PKPbc		PKPbc		07 38 28.6	+1.9
	1.1nm,0.5s,baz=60,slow=12,SNR=3.5								
BRTR	**Keskin Array B**	**146.72**	**320**	PKPbc		PKPbc		07 38 33.0	+2.2
	4.4nm,0.7s,baz=124,slow=2.7,SNR=24								
GERES	**GERESS Array B**	**146.76**	**352**	PKPbc		PKPbc		07 38 32.5	+1.5
	1.3nm,0.7s,baz=28,slow=3.2,SNR=9.3								

*ISCJB **27** 07:35:00.7±0.5, 41.39N±002×22.67E±003, h1km, Error ellipse: s-maj=3.7km s-min=3.2km az=126.9*
*CSEM **27** 07:35:00.8±0.1, 41.38N×22.63E, h8km, ML1.9, Error ellipse: s-maj=2.6km s-min=1.7km az=54.0*
*SKO **27** 07:35:00.9, 41.38N×22.63E, h3km, M2.0, ML1.9*
*THE **27** 07:35:01.2, 41.38N×22.66E, h1km, ML2.6*
ISC 27 07:35:01.2±0.6, 4138N±002×2264E±004, h6km±8km, n19, σ0§60/38, 4C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.08**	**225**	ePg		**Pg**		**07 35 02.5**	**-0.5**
VAY				eSg		**Sg**		**07 35 04.1**	**-0.2**
VAY	**Valandovo**	**0.08**	**225**	⇑iPg		**Pg**		**07 35 02.5**	**-0.5**
VAY				*i* Sg		**Sg**		**07 35 04.1**	**-0.3**
VAY				eLg				07 35 04.2	
	comp=E,1μm,0.4s								
VAY				eLg				07 35 04.6	
	comp=N,1μm,0.4s								
VAY	**Valandovo**	**0.08**	**225**	⇑iPg		**Pg**		**07 35 02.5**	**-0.5**
VAY				eSg		**Sg**		**07 35 04.1**	**-0.2**
VAY				eLg				07 35 04.2	
	comp=N,1μm,0.4s								
KNT	**Kendrikon**	**0.29**	**138**	ePg		**Pg**		**07 35 07.0**	**+0.1**
KNT				eSg		**Sg**		**07 35 11.0**	**+0.4**
KNT	**Kendrikon**	**0.29**	**138**	ePg		**Pg**		**07 35 06.9**	**+0.1**
KNT				eSg		**Sg**		**07 35 11.0**	**+0.4**
GRG	**Griva**	**0.46**	**204**	ePg		**Pg**		**07 35 09.9**	**-0.1**
GRG				eSg		**Sg**		**07 35 16.8**	**+0.8**
STIP	**Stip**	**0.47**	**313**	ePg		**Pg**		**07 35 10.1**	**-0.2**
STIP				eSg		**Sg**		**07 35 17.4**	**+1.1**
STIP	**Stip**	**0.47**	**313**	⇑iPg		**Pg**		**07 35 10.1**	**-0.2**
STIP				*i* Sg		**Sg**		**07 35 17.3**	**+0.9**
STIP	**Stip**	**0.47**	**313**	⇑iPg		**Pg**		**07 35 10.0**	**-0.2**
STIP				*i* Sg		**Sg**		**07 35 17.2**	**+0.9**
SRS	**Serrai**	**0.76**	**110**	ePg		**Pg**		**07 35 15.2**	**-0.6**
SRS				eSg		**Sg**		**07 35 26.0**	**+0.3**
SRS	**Serrai**	**0.76**	**110**	ePg		**Pg**		**07 35 15.2**	**-0.6**
SRS				eSg		**Sg**		**07 35 26.0**	**+0.3**
SOH	**Sokhos**	**0.77**	**136**	ePg		**Pg**		**07 35 15.4**	**-0.6**
SOH				eSg		**Sg**		**07 35 26.3**	**+0.3**
THE	**Thessaloniki**	**0.78**	**162**	ePg		**Pg**		**07 35 16.1**	**-0.1**
THE				eSg		**Sg**		**07 35 26.6**	**+0.2**
THE	**Thessaloniki**	**0.78**	**162**	ePg		**Pg**		**07 35 16.1**	**-0.1**
THE				eSg		**Sg**		**07 35 26.5**	**+0.1**
MMB	**Musomiste**	**0.84**	**75**	ePg		**Pg**		**07 35 17.1**	**-0.2**
MMB				eSg		**Sg**		**07 35 28.5**	**+0.2**
HORT	**Hortiatis**	**0.85**	**156**	ePg		**Pg**		**07 35 16.8**	**-0.7**
HORT				eSg		**Sg**		**07 35 29.4**	**+0.8**
VTS	**Vitosha**	**1.29**	**19**	ePg		**Pg**		**07 35 25.7**	**-0.2**
VTS				eSg		**Sg**		**07 35 43.0**	**+0.5**
OUR	**Ouranopolis**	**1.45**	**135**	ePg		**Pg**		**07 35 27.4**	**-1.6**
OUR				eSg		**Sg**		**07 35 48.8**	**+0.9**
PAIG	**Paliouri**	**1.65**	**151**	ePb		**Pb**		**07 35 31.1**	**-0.8**
PAIG				eSb		**Sb**		**07 35 53.4**	**+0.5**

*CSEM **27** 07:39:55.7±0.1, 3822N×2656E, h8km, MD3.2, Error ellipse: s-maj=1.9km s-min=1.4km az=83.0*
*ISCJB **27** 07:39:56.2±0.5, 3823N±003×2655E±004, h8km, Error ellipse: s-maj=4.7km s-min=3.6km az=120.1*
*ATH **27** 07:39:56.0, 38.19N×2678E, h52km, MD3.3/4*
*ISK **27** 07:39:56.7, 3823N×2662E, h14km, MD3.2*
ISC 27 07:39:56.5±0.8, 3822N±003×2653E±005, h8km±5km, n24, σ0§60/33, 2C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.43**	**67**	PG		**Pg**		**07 40 04.2**	**-0.7**
BLCB				SG		**Sg**		**07 40 10.2**	**-0.5**
SMG	**Samos**	**0.56**	**155**	eP		**Pg**		**07 40 07.8**	**+0.4**
IZM	**Izmir**	**0.60**	**72**	PG		**Pg**		**07 40 07.5**	**-0.6**
IZM				SG		**Sg**		**07 40 16.0**	**0.0**
PRK	**Paraskevi**	**1.05**	**349**	⇑iP		**Pg**		**07 40 16.3**	**-0.3**
AYVA	**Ayvalik**	**1.10**	**6**	*i* P		**Pg**		**07 40 17.9**	**+0.3**
AYVA				*i* S		**Sg**		**07 40 32.9**	**+1.1**
AKHS	**Akhisar**	**1.20**	**56**	*i* P		**Pb**		**07 40 20.5**	**+1.0**
AKHS				*i* S		**Sg**		**07 40 35.3**	**+0.1**
AKS	**Akhisar**	**1.20**	**56**	PN		**Pn**		**07 40 19.5**	**-0.1**
AKS				SN		**Sn**		**07 40 34.7**	**-1.4**
AYDN	**Tasoluk**	**1.20**	**117**	*i* P		**Pb**		**07 40 19.9**	**+0.4**
AYDN				*i* S		**Sg**		**07 40 35.7**	**+0.5**
BODT	**Bodrum**	**1.31**	**152**	PN		**Pn**		**07 40 20.5**	**-0.6**
MLSB	**Milas**	**1.35**	**133**	ePN		**Pn**		**07 40 21.4**	**-0.2**
APE	**Apeiranthos**	**1.40**	**215**	⇑iP		**Pn**		**07 40 21.8**	**-0.5**
EZN	**Ezine**	**1.61**	**354**	ePN		**Pn**		**07 40 25.3**	**0.0**
BOZC	**Bozcaada**	**1.66**	**347**	*i* P		**Pn**		**07 40 25.3**	**-0.6**
BOZC				*i* S		**Sg**		**07 40 49.5**	**-0.6**
DAT	**Datca**	**1.70**	**150**	ePN		**Pn**		**07 40 26.4**	**-0.1**
YER	**Yerkesik**	**1.76**	**127**	ePN		**Pn**		**07 40 27.5**	**+0.2**
GADA	**Gvkgeada**	**2.03**	**346**	ePN		**Pn**		**07 40 31.2**	**+0.2**
DNZL	**Cakiroluk**	**2.06**	**104**	*i* P		**Pg**		**07 40 35.2**	**-0.7**
DNZL				*i* S		**Sg**		**07 41 03.4**	**+0.9**
DALT	**Dalyan (Mudla)**	**2.21**	**130**	ePN		**Pn**		**07 40 33.5**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.52**	**11**	ePN		**Pn**		**07 40 38.0**	**+0.3**
ENEZ	**Enez**	**2.53**	**353**	ePN		**Pn**		**07 40 38.9**	**+1.0**
MFT	**Murefte**	**2.63**	**12**	ePN		**Pn**		**07 40 39.9**	**+0.7**
ULDT	**Uludag**	**2.79**	**46**	*i* P		**Pg**		**07 40 48.9**	**-1.0**
ULDT				*i* S		**Sg**		**07 41 26.2**	**+0.1**
RDO	**Rodhopi**	**3.02**	**346**	⇓*i*P		**Pn**		**07 40 44.4**	**-0.3**
YLV	**Yalova**	**3.22**	**42**	ePN		**Pn**		**07 40 48.1**	**+0.8**

IDC 27 07:59:39.7±7.2, 2104S×16970E, h76km±50km, mb3.4/2, mb1 3.8/3, mb1mx3.5/12, mbtmp3.8/3, ML4.2/1, MS3.3/1, Ms1 3.4/1, ms1mx2.6/10, Error ellipse: s-maj=203.2km s-min=48.4km az=157.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.20**	**251**	eP		**P**	Pn	08 00 28.2	+0.6
DZM				eS		**S**	Sn	08 01 04.6	0.0
DZM	**Mont Dzumac**	**3.20**	**251**	P		**P**	Pn	08 00 28.5	+1.0
	25nm,0.3s,baz=114,slow=16,SNR=1750								
DZM				S		**S**	Sn	08 01 04.8	+0.3
	52nm,0.3s,baz=155,slow=21,SNR=14								
NOUC	**Port Laguerre**	**3.33**	**251**	eP		**P**	Pn	08 00 30.2	+0.8
WRA	**Warramunga Arr**	**33.10**	**266**	P		**P**	P	08 06 09.0	+0.7
	0.5nm,0.8s,baz=98,slow=8.8,SNR=10.0								
ASAR	**Alice Springs**	**33.15**	**259**	P		**P**		08 06 09.4	+0.7
	1.2nm,0.7s,baz=92,slow=8.5,SNR=15								
VNDA	**Vanda**	**56.65**	**182**	LR		LR	LR	08 29 28.1	
	comp=Z,31nm,21.4s,baz=160,slow=32								
GERES	**GERESS Array B**	**146.28**	**331**	PKPbc		PKPbc	PKPbc	08 19 10.1	-1.4
	0.3nm,0.2s,baz=52,slow=5.2,SNR=4.3								

*ISCJB **27** 08:02:04.3±1.8, 1163N±005×92.95E±004, h28km±13km, mb4.4/26, MS3.8/7, Error ellipse: s-maj=8.6km s-min=6.1km az=54.3*
*MOS **27** 08:02:04.5±0.8, 1163N×92.98E, h33km, mb4.9/3, Error ellipse: s-maj=16.4km s-min=10.8km az=113.8*
*BJI **27** 08:02:05.3, 1160N×92.90E, h30km, mB5.0, mb4.5*
*NEIC **27** 08:02:06.4±0.3, 1163N×92.89E, h30km, mb4.8/5, Error ellipse: s-maj=11.5km s-min=5.9km az=46.0*
*IDC **27** 08:02:07.5±2.4, 1170N×93.01E, h38km±18km, mb4.0/15, mb1 4.2/15, mb1mx4.1/22, mbtmp4.2/15, MS3.8/7, Ms1 3.8/7, ms1mx3.4/23, Error ellipse: s-maj=26.3km s-min=11.5km az=50.0*
ISC 27 08:02:08.3±0.8, 1165N±005×9291E±004, h43km±7km, n68, σ1§00/67, mb4.4/26, MS3.8/7, 4C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.16**	**272**	eP		**P**	Px	08 01 55.1	
PBA				eS		Sx		08 02 01.3	
CHTO	**Chiang Mai**	**9.20**	**39**	eP		**Pn**	**Pn**	**08 04 18.3**	**-0.1**
CHTO				*e*				08 06 02.3	
CHTO				pmax		pmax			
	comp=Z,10.0nm,0.6s								
CHTO	**Chiang Mai**	**9.20**	**39**	ePn		**Pn**	**Pn**	**08 04 18.3**	**0.0**
	comp=Z,10nm,0.6s								
CHTO				eSn		**Sn**	**Sn**	**08 06 02.3**	**+1.8**
KULM	**Kulim**	**9.93**	**129**	ePn		**Pn**	**Pn**	**08 04 28.2**	**-0.1**
PSI	**Prapat**	**10.62**	**145**	Pn		**Pn**	**Pn**	**08 04 41.6**	**+3.7**
	comp=Z,1.2nm,0.3s,baz=331,slow=12,SNR=9.7								
PSI				LR		LR	LR	08 09 18.4	
	comp=Z,354nm,18.8s,baz=164,slow=40								
VIS	**Vishakhapatnam**	**11.06**	**304**	eP		**Pn**	**Pn**	**08 04 43.0**	**-0.9**
VIS				AMb		AMB	AMB	08 04 44.1	
	comp=Z,195nm,0.2s								
VIS				eS		**Sn**	**Sn**	**08 06 36.8**	**-9.3**
MDRS	**Chennai**	**12.45**	**278**	eP		**Pn**	**Pn**	**08 05 01.7**	**-1.2**
BOK	**Bokaro**	**13.80**	**332**	eP		**Pn**	**Pn**	**08 05 20.4**	**-0.9**
BOK				AMb		AMB	AMB	08 05 23.1	
	comp=Z,12nm,0.4s								
BOK				ex		x		08 07 45.7	
SALM	**Salem**	**14.41**	**271**	eP		**Pn**	**Pn**	**08 05 31.0**	**+1.4**
SALM				ex		x		08 07 57.0	
HYB	**Hyderabad**	**15.03**	**294**	*i* P		**Pn**	**Pn**	**08 05 37.5**	**-0.3**
HYB				eS		**S**	**S**	**08 08 23.0**	**-16**
HYB	**Hyderabad**	**15.03**	**294**	eP		**Pn**	**Pn**	**08 05 38.0**	**+0.2**
NGP	**Nagpur**	**16.30**	**307**	eP		**Pn**	**Pn**	**08 05 53.0**	**-1.1**
NGP				AMb		AMB	AMB	08 05 57.8	
	comp=Z,33nm,0.6s								
JBP	**Jabalpur**	**16.82**	**315**	eP		**Pn**	**Pn**	**08 06 02.2**	**+1.6**
JBP				ex		x	x	08 06 04.2	
	comp=Z,59nm,1.3s								
JBP				*i* x		x	x	08 08 17.0	
BHPL	**Bhopal**	**18.72**	**310**	eP		**Pn**	**Pn**	**08 06 24.8**	**+0.9**
BHPL				AMb		AMB	AMB	08 06 26.5	
	comp=Z,62nm,0.9s								
KAD	**Karad**	**18.98**	**289**	eP		**Pn**	**Pn**	**08 06 27.7**	**+0.7**
KAD				AML		AML	AML	08 06 28.6	
	comp=Z,45nm,1.1s								
POO	**Poona**	**19.62**	**293**	⇓*i*P		**Pn**	**Pn**	**08 06 34.0**	**-0.8**
	comp=Z,50nm,1.0s								
KSM	**Kuching**	**20.00**	**119**	eP		**P**	**P**	**08 06 37.8**	**+0.6**
CD2	**Chengdu**	**21.64**	**26**	⇑*i*P		**P**	**P**	**08 06 54.0**	**-0.9**
CD2				AMB		AMB	AMB		
	comp=Z,30nm,0.8s,mb4.8								
NDI	**New Delhi**	**22.41**	**321**	eP		**P**	**P**	**08 07 04.7**	**+1.6**
NDI				AMb		AMB	AMB	08 07 06.5	
	comp=Z,38nm,0.8s,mb4.9								
SMLA	**Simla**	**24.24**	**325**	eP		**P**	**P**	**08 07 22.1**	**+1.0**
SMLA				AMb		AMB	AMB	08 07 28.1	
	comp=Z,32nm,0.6s,mb5.0								
LZH	**Lanzhou**	**26.26**	**20**	eP		**P**	**P**	**08 07 42.0**	**+2.5**
LZH				AP		pP	pP	08 07 48.0	-2.9
LZH				XP		sP	sP	08 07 51.0	-5.1
LZH				AMB		AMB	AMB		
	comp=Z,28nm,1.5s,mb4.6								
LZH				AMB		AMB	AMB		
	comp=Z,112nm,4.0s								
XAN	**Xi'an**	**26.65**	**31**	P		**P**	**P**	**08 07 41.3**	**-1.7**
XAN				AMB		AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.3								
GTA	**Gaotai**	**28.32**	**11**	eP		**P**	**P**	**08 07 58.3**	**+0.4**
GTA				AP		pP	pP	08 08 03.8	-5.7
GTA				XP		sP	sP	08 08 06.8	-7.8
GTA				AMB		AMB	AMB		
	comp=Z,4.0nm,1.8s,mb3.8								
WSAR	**Wadi Sarin**	**34.58**	**294**	LR		LR	LR	08 21 04.4	
	comp=Z,94nm,21.8s,MS3.5,baz=116,slow=33								
MKAR	**Makanchi Array**	**36.16**	**348**	P		**P**	**P**	**08 09 06.1**	**-0.4**
	comp=Z,2.4nm,0.3s,mb4.6,baz=168,slow=8.7,SNR=22								
MKAR				ScP		ScP	ScP	08 15 13.4	-0.9
	comp=Z,0.8nm,0.8s,baz=134,slow=4.2,SNR=3.7								
SONM	**Songino Array**	**37.80**	**15**	P		**P**	**P**	**08 09 20.1**	**-0.4**
	comp=Z,0.8nm,0.3s,mb4.0,baz=210,slow=9.0,SNR=14								
SONM				PcP		PcP	PcP	08 11 37.2	+0.8
	comp=Z,1.1nm,0.6s,baz=210,slow=3.9,SNR=4.0								
ZAK	**Zakamensk**	**39.55**	**10**	eP		**P**	**P**	**08 09 35.0**	**-0.1**
ZAK				*e*				08 11 39.9	
ZAL	**Zalesovo**	**42.67**	**353**	P		**P**	**P**	**08 09 59.8**	**-1.0**
	comp=Z,2.4nm,0.4s,mb4.3,baz=311,slow=7.6,SNR=5.2								
FITZ	**Fitzroy Crossi**	**43.79**	**132**	eP		**P**	**P**	**08 10 08.8**	**-1.0**
	comp=Z,5.2nm,0.8s,mb4.3								
FITZ	**Fitzroy Crossi**	**43.79**	**132**	P		**P**	**P**	**08 10 08.7**	**-1.1**
	comp=Z,1.5nm,0.4s,mb4.1,baz=344,slow=6.8,SNR=15								
BVAR	**Borovoye Array**	**45.05**	**341**	P		**P**	**P**	**08 10 19.1**	**-0.8**
	comp=Z,1.0nm,0.4s,mb4.0,baz=133,slow=8.7,SNR=7.5								
MJAR	**Matsushiro Arr**	**47.63**	**51**	PcP		PcP	PcP	08 12 10.0	+0.8
	comp=Z,1.1nm,0.6s,baz=234,slow=4.3,SNR=4.8								
AKTK	**Aktyubinsk**	**48.08**	**331**	P		**P**	**P**	**08 10 43.4**	**-0.2**
AKTO	**Aktyubinsk**	**48.08**	**331**	P		**P**	**P**	**08 10 43.4**	**-0.2**
	comp=Z,1.2nm,0.5s,mb4.2,baz=114,slow=7.4,SNR=4.5								
BOD	**Bodaibo**	**48.80**	**15**	eP		**P**	**P**	**08 10 47.7**	**-1.4**
BOD				pmax		pmax			
	comp=Z,3.0nm,1.0s,mb4.3								
KLBR	**Kellerberrin**	**49.15**	**152**	eP		**P**	**P**	**08 10 51.7**	**-0.1**
	comp=Z,54nm,1.4s,mb5.4								
WRA	**Warramunga Arr**	**51.47**	**127**	P		**P**	**P**	**08 11 08.4**	**-0.9**
	comp=Z,3.1nm,0.6s,mb4.4,baz=302,slow=10.0,SNR=96								
WRA				PcP		PcP	PcP	08 12 23.3	+0.1
	comp=Z,1.5nm,0.6s,baz=315,slow=2.8,SNR=8.4								
WRA				S		**S**	**S**	**08 18 26.3**	**0.0**
	comp=Z,0.5nm,0.9s,baz=298,slow=17,SNR=3.4								
WRAB	**Tennant Creek**	**51.47**	**127**	eP		**P**	**P**	**08 11 08.4**	**-0.9**
WRAB				pmax		pmax			
	comp=Z,8.0nm,0.6s,mb4.8								
WRAB	**Tennant Creek**	**51.47**	**127**	eP		**P**	**P**	**08 11 08.4**	**-0.9**
	comp=Z,7.5nm,0.6s,mb4.8								
WB2	**Warramunga Arr**	**51.48**	**127**	eP		**P**	**P**	**08 11 08.4**	**-1.0**
ASPA	**Alice Springs**	**53.28**	**131**	eP		**P**	**P**	**08 11 23.5**	**+0.7**
ASAR	**Alice Springs**	**53.28**	**131**	P		**P**	**P**	**08 11 21.9**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.1,baz=309,slow=7.1,SNR=17								
ASAR				PcP		PcP	PcP	08 12 30.7	+0.7
	comp=Z,1.6nm,0.8s,baz=306,slow=4.2,SNR=7.9								
ASAR				ScP		ScP	ScP	08 16 23.6	-0.5
	comp=Z,0.3nm,0.6s,baz=306,slow=4.9,SNR=4.6								
ASAR				S		**S**	**S**	**08 18 53.0**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=298,slow=13,SNR=4.7								
ASAR				LR		LR	LR	08 35 16.4	
	comp=Z,115nm,21.8s,MS3.9,baz=91,slow=37								
ASAR	**Alice Springs**	**53.28**	**131**	P		**P**	**P**	**08 11 22.0**	**-0.8**
ASAR								08 12 30.7	
ASAR				S		**S**	**S**	**08 18 53.1**	**+2.0**
ASAR	**Alice Springs**	**53.28**	**131**	P		**P**	**P**	**08 11 21.9**	**-0.8**
ASAR				PcP		PcP	PcP	08 12 30.7	+0.7
ASAR				ScP		ScP	ScP	08 16 23.6	-0.5
ASAR				S		**S**	**S**	**08 18 53.0**	**+1.9**
ASAR				LR		LR	LR	08 35 16.4	
AS31	**Alice Springs**	**53.28**	**131**	eP		**P**	**P**	**08 11 23.5**	**+0.7**
KIV	**Kislovodsk**	**53.74**	**316**	eP		**P**	**P**	**08 11 25.3**	**-0.8**
KIV				pmax		pmax			
	comp=Z,17nm,1.0s,mb4.9								
KIV				MLR		MLR			
	comp=Z,41nm,18.0s,MS3.5								
KMBO	**Kilima Mbogo**	**56.73**	**261**	LR		LR	LR	08 34 06.1	
	comp=Z,61nm,18.4s,MS3.7,baz=71,slow=34								
BR131	**Keskin Array S**	**59.08**	**309**	eP		**P**	**P**	**08 12 03.5**	**-0.7**
	comp=Z,2.8nm,0.9s,mb4.3								
BRTR	**Keskin Array B**	**59.08**	**309**	P		**P**	**P**	**08 12 03.

EPOB				Sn		**Sn**	**08 17 56.4**	**+0.5**
	1.6nm,0.1s,SNR=11								
EPOB	**Poblet**	**1.93**	**57**	Pn		**Pn**	**08 17 32.5**	**+1.1**
	0.7nm,0.1s,SNR=7.9								
EPOB	**Poblet**	**1.93**	**57**	Pg		**Pg**	**08 17 34.9**	**-0.5**
	1.8nm,0.1s,SNR=8.7								
EPOB				Sn		**Sn**	**08 17 56.4**	**+0.5**
	1.6nm,0.1s,SNR=11								
EVIA	**Vianos**	**2.00**	**214**	Pg		**Pg**	**08 17 37.3**	**+0.6**
	9.8nm,0.4s,SNR=8.8								
EVIA				Lg			08 18 04.2		
	2.3nm,0.2s,SNR=5.0								
EVIA	**Vianos**	**2.00**	**214**	Pg		**Pg**	**08 17 37.0**	**+0.3**
EVIA				Lg			08 18 04.2		
EVIA	**Vianos**	**2.00**	**214**	Pg		**Pg**	**08 17 37.0**	**+0.3**
	9.8nm,0.4s,SNR=8.8								
EIBI	**Ibiza**	**2.26**	**124**	Pn		**Pn**	**08 17 36.6**	**+0.7**
	0.8nm,0.2s,SNR=7.9								
EIBI				Sn		**Sn**	**08 18 02.6**	**-1.2**
	1.7nm,0.2s,SNR=7.9								
EIBI	**Ibiza**	**2.26**	**124**	Pn		**Pn**	**08 17 36.6**	**+0.7**
	0.8nm,0.2s,SNR=7.9								
EIBI				Sn		**Sn**	**08 18 02.6**	**-1.2**
	1.7nm,0.2s,SNR=7.9								
ESDC	**Sonseca Array**	**2.31**	**255**	Pg		**Pg**	**08 17 42.5**	**-0.1**
	6.0nm,0.2s,baz=76,slow=17,SNR=4.1								
ESDC				Sn		**Sn**	**08 18 06.0**	**+0.7**
	0.9nm,0.1s,baz=348,slow=26,SNR=4.5								
ESDC				Lg			08 18 13.6		
	2.7nm,0.2s,baz=78,slow=30,SNR=4.9								
ESDC	**Sonseca Array**	**2.31**	**255**	Pg		**Pg**	**08 17 42.5**	**-0.2**
	6.0nm,0.2s,SNR=4.1								
ESDC				Sn		**Sn**	**08 18 06.0**	**+0.7**
	0.9nm,0.1s,SNR=4.5								
GUD	**Guadarrama**	**2.38**	**279**	Pg		**Pg**	**08 17 43.8**	**-0.1**
	1.2nm,0.2s,SNR=8.5								
GUD				Sn		**Sn**	**08 18 07.9**	**+1.0**
	3.5nm,0.4s,SNR=4.9								
GUD				Lg			08 18 15.7		
	8.4nm,0.3s,SNR=5.0								
GUD	**Guadarrama**	**2.38**	**279**	Pg		**Pg**	**08 17 43.9**	**0.0**
GUD				Sn		**Sn**	**08 18 07.9**	**+1.0**
GUD				Lg			08 18 15.7		
GUD	**Guadarrama**	**2.38**	**279**	Pg		**Pg**	**08 17 43.9**	**0.0**
	1.2nm,0.2s,SNR=8.5								
GUD				Sn		**Sn**	**08 18 07.9**	**+1.0**
	3.5nm,0.4s,SNR=4.9								
EBIE	**Bielsa**	**2.54**	**20**	Pn		**Pn**	**08 17 42.3**	**+2.4**
	0.2nm,0.1s,SNR=7.1								
EBIE				Pg		**Pg**	**08 17 48.5**	**+1.5**
	0.8nm,0.1s,SNR=5.1								
EBIE				Sn		**Sn**	**08 18 11.2**	**+0.2**
	1.0nm,0.2s,SNR=7.9								
EBIE				Lg			08 18 23.0		
	2.6nm,0.2s,SNR=7.9								
EBIE	**Bielsa**	**2.54**	**20**	Pn		**Pn**	**08 17 42.3**	**+2.5**
	0.2nm,0.1s,SNR=7.1								
EBIE	**Bielsa**	**2.54**	**20**	Pg		**Pg**	**08 17 48.5**	**+1.4**
	0.8nm,0.1s,SNR=5.1								
EBIE				Sn		**Sn**	**08 18 11.2**	**+0.2**
	1.0nm,0.2s,SNR=7.9								
ETSF	**Etsaut**	**2.62**	**8**	*e*Pg		**Pg**	**08 17 48.1**	**-0.4**
ETSF				*e*Sn		**Sn**	**08 18 10.1**	**-2.7**
ETSF				*e*Sg		**Sg**	**08 18 22.3**	**-0.1**
	6.4nm,0.3s								
ETSF	**Etsaut**	**2.62**	**8**	Pn		**Pn**	**08 17 42.1**	**+1.3**
ETSF				Pg		**Pg**	**08 17 48.1**	**-0.4**
ETSF				Sn		**Sn**	**08 18 10.1**	**-2.7**
ETSF				Lg			08 18 22.3		
	3.2nm,0.3s								
ETSF	**Etsaut**	**2.62**	**8**	*e*Pn		**Pn**	**08 17 42.1**	**+1.3**
ETSF				*e*Pg		**Pg**	**08 17 48.1**	**-0.4**
ETSF				*e*Sn		**Sn**	**08 18 10.1**	**-2.7**
ETSF				*e*Sg		**Sg**	**08 18 22.3**	**-0.1**
ETSF	**Etsaut**	**2.62**	**8**	*e*Pg		**Pg**	**08 17 48.1**	**-0.4**
ETSF				*e*Sn		**Sn**	**08 18 10.1**	**-2.7**
ETSF				*e*Sg		**Sg**	**08 18 22.3**	**-0.1**
	3.2nm,0.3s								
SJPF	**Ste Jean**	**2.81**	**358**	*e*Pg		**Pg**	**08 17 52.5**	**+0.4**
SJPF				*e*Sn		**Sn**	**08 18 17.1**	**-0.4**
SJPF				*e*Sg		**Sg**	**08 18 27.6**	**-0.9**
	12nm,0.5s								
SJPF	**Ste Jean**	**2.81**	**358**	Pn		**Pn**	**08 17 46.3**	**+2.9**
SJPF				Pg		**Pg**	**08 17 52.5**	**+0.4**
SJPF				Sn		**Sn**	**08 18 17.1**	**-0.4**
SJPF				Lg			08 18 27.6		
	5.8nm,0.5s								
SJPF	**Ste Jean**	**2.81**	**358**	*e*Pn		**Pn**	**08 17 46.3**	**+2.9**
SJPF				*e*Pg		**Pg**	**08 17 52.5**	**+0.4**
SJPF				*e*Sn		**Sn**	**08 17 17.1**	**-0.4**
SJPF				*e*Sg		**Sg**	**08 18 27.6**	**-0.9**
	5.8nm,0.5s								
EPF	**Esparros**	**2.92**	**21**	*e*Pg		**Pg**	**08 17 52.5**	**-1.7**
EPF				*e*Sg		**Sg**	**08 18 29.9**	**-2.1**
	20nm,0.4s								
EPF	**Esparros**	**2.92**	**21**	Pn		**Pn**	**08 17 45.5**	**+0.5**
EPF				Pg		**Pg**	**08 17 52.5**	**-1.7**
EPF				Lg			08 18 29.9		
	10nm,0.4s								
EPF	**Esparros**	**2.92**	**21**	*e*Pn		**Pn**	**08 17 45.5**	**+0.5**
EPF				*e*Pg		**Pg**	**08 17 52.5**	**-1.7**
EPF				*e*Sg		**Sg**	**08 18 29.9**	**-2.1**
EPF	**Esparros**	**2.92**	**21**	*e*Pg		**Pg**	**08 17 52.5**	**-1.7**
EPF				*e*Sg		**Sg**	**08 18 29.9**	**-2.1**
	10nm,0.4s								
EALK	**Alkurruntz**	**2.93**	**354**	Pg		**Pg**	**08 17 56.7**	**+2.2**
	9.1nm,0.5s,SNR=7.9								
EALK				Lg			08 18 32.6		
	14nm,0.4s,SNR=7.9								
EQES	**Quesada**	**2.95**	**213**	Pg		**Pg**	**08 17 55.1**	**+0.3**
	6.6nm,0.3s,SNR=16								
EQES				Lg			08 18 33.9		
	1.5nm,0.2s,SNR=7.9								
EQES	**Quesada**	**2.95**	**213**	Pg		**Pg**	**08 17 55.1**	**+0.3**
	6.6nm,0.3s,SNR=16								
EBAN	**Banos Encina**	**3.01**	**226**	Pg		**Pg**	**08 17 55.4**	**-0.5**
	5.1nm,0.3s,SNR=7.9								
EBAN				Sn		**Sn**	**08 18 21.5**	**-0.9**
	0.9nm,0.1s,SNR=7.9								
EBAN				Lg			08 18 35.1		
	4.9nm,0.4s,SNR=7.9								
EBAN	**Banos Encina**	**3.01**	**226**	Pg		**Pg**	**08 17 55.4**	**-0.5**
	5.1nm,0.3s,SNR=7.9								
EBAN				Sn		**Sn**	**08 18 21.5**	**-0.9**
	0.9nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**3.46**	**233**	Pn		**Pn**	**08 17 52.7**	**+0.2**
	0.4nm,0.1s,SNR=7.8								
EADA				Pg		**Pg**	**08 18 03.3**	**-1.3**
	2.0nm,0.3s,SNR=7.9								
EADA				Sn		**Sn**	**08 18 32.0**	**-1.7**
	1.5nm,0.2s,SNR=7.9								
EADA				Lg			08 18 48.2		
	1.1nm,0.2s,SNR=5.0								
EADA	**Adamuz**	**3.46**	**233**	Pn		**Pn**	**08 17 52.7**	**+0.2**
EADA				Pg		**Pg**	**08 18 03.3**	**-1.3**
EADA				Sn		**Sn**	**08 18 32.0**	**-1.7**
EADA				Lg			08 18 46.5		
EADA	**Adamuz**	**3.46**	**233**	Pn		**Pn**	**08 17 52.7**	**+0.2**
	0.4nm,0.1s,SNR=7.8								
EADA	**Adamuz**	**3.46**	**233**	Pg		**Pg**	**08 18 03.3**	**-1.4**
MTLF	**Montolieu**	**3.90**	**38**	*e*Pg		**Pg**	**08 18 11.4**	**-1.6**
MTLF				*e*Sg		**Sg**	**08 19 01.2**	**-2.3**
	3.8nm,0.4s								
MTLF	**Montolieu**	**3.90**	**38**	*e*Pg		**Pg**	**08 18 11.4**	**-1.6**
MTLF				*e*Sg		**Sg**	**08 19 01.2**	**-2.3**
	1.9nm,0.4s								

*IDC **27** 09:07:22.4±1.8, 245N×12467E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.7/4, MS3.0/1, Ms1 3.0/1, ms1mx2.3/31, Error ellipse: s-maj=123.8km s-min=23.6km az=67.0*

*ISCJB **27** 09:07:25.0±1.6, 25N×03×124.7E±0.7, h33km, mb3.6/3, MS2.9/1, Error ellipse: s-maj=102.6km s-min=20.5km az=133.1*

ISC 27 09:07:27.1±1.5, 26N±03×1251E±06, h35km, n7, σ0§12/6, mb3.6/3, MS2.9/1, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.91**	**154**	*e*P	**Pn**	**09 11 30.2**	**+9.2**
	2.8nm,0.5s						

FITZ	**Fitzroy Crossi**	**20.60**	**178**	P		**P**	**09 12 03.1**	**0.0**
	1.1nm,0.3s,baz=8.5,slow=11,SNR=14								
GUMO	**Guam**	**22.42**	**60**	LR		LR	09 20 27.7		
	comp=Z,41nm,19.6s,MS2.9,baz=91,slow=34								
WRA	**Warramunga Arr**	**24.21**	**158**	P		**P**	**09 12 40.4**	**0.0**
	1.0nm,0.4s,mb3.6,baz=333,slow=11,SNR=31								
WB2	**Warramunga Arr**	**24.21**	**158**	*e*P		**P**	**09 12 40.3**	**-0.1**
ASAR	**Alice Springs**	**27.52**	**162**	P		**P**	**09 13 10.4**	**+0.2**
	0.3nm,0.5s,mb3.2,baz=335,slow=7.0,SNR=10								
MKAR	**Makanchi Array**	**57.52**	**326**	P		**P**	**09 17 12.9**	**0.0**
	0.5nm,0.3s,mb4.0,baz=127,slow=7.3,SNR=6.8								

*NEIC **27** 09:08:05.1±2.5, 3245S×177.19W, h10km, mb4.5/1, Error ellipse: s-maj=40.2km s-min=13.9km az=90.0*

*IDC **27** 09:08:14.4±3.0, 3229S×178.73W, h0km, mb4.1/2, mb1 4.2/3, mb1mx3.9/12, mbtmp4.0/3, ML3.7/1, Error ellipse: s-maj=67.9km s-min=45.4km az=116.0*

*ISCJB **27** 09:08:24.6±1.8, 3346S±0.1×178.3W±0.3, h140km±15km, mb4.0/3, Error ellipse: s-maj=37.3km s-min=12.0km az=35.9*

ISC 27 09:08:23.0±2.0, 333S±01×1782W±03, h111km±17km, n25, σ1§35/31, mb4.1/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.16**	**212**	PN	**Pn**	**09 09 38.5**	**+0.5**
PUZ	**Puketiti**	**5.61**	**210**	P	**Pn**	**09 09 44.4**	**+0.3**
PUZ				S	**Sn**	**09 10 52.3**	**+5.1**
PUZ	**Puketiti**	**5.61**	**210**	*e*P	**Pn**	**09 09 44.8**	**+0.8**
PUZ				S	**Sn**	**09 10 53.2**	**+6.0**
MWZ	**Matawai**	**6.14**	**213**	PN	**Pn**	**09 09 50.5**	**-0.8**
MWZ				SN	**Sn**	**09 11 02.6**	**+2.4**
MWZ	**Matawai**	**6.14**	**213**	*e*P	**Pn**	**09 09 50.5**	**-0.8**
URZ	**Urewera**	**6.28**	**216**	Pn	**Pn**	**09 09 55.4**	**+2.2**
	1.5nm,0.3s,baz=344,slow=2.1,SNR=17								
URZ				Sn	**Sn**	**09 11 08.8**	**+5.2**
	3.0nm,0.3s,baz=274,slow=24,SNR=6.3								
URZ	**Urewera**	**6.28**	**216**	PN	**Pn**	**09 09 53.6**	**+0.4**
URZ				SN	**Sn**	**09 11 08.7**	**+5.1**
URZ	**Urewera**	**6.28**	**216**	*e*P	**Pn**	**09 09 54.0**	**+0.8**
WCZ	**Waipu Caves**	**6.70**	**244**	PN	**Pn**	**09 09 59.0**	**+0.1**
WCZ	**Waipu Caves**	**6.70**	**244**	*e*P	**Pn**	**09 09 59.9**	**+1.1**
OUZ	**Omahuta**	**7.06**	**252**	PN	**Pn**	**09 10 02.8**	**-0.9**
OUZ	**Omahuta**	**7.06**	**252**	*e*P	**Pn**	**09 10 02.8**	**-0.9**
BKZ	**Black Stump Fm**	**7.29**	**214**	PN	**Pn**	**09 10 05.9**	**-1.0**
BKZ				SN	**Sn**	**09 11 30.2**	**+2.1**
BKZ	**Black Stump Fm**	**7.29**	**214**	*e*P	**Pn**	**09 10 07.5**	**+0.6**
MRZ	**Mangatainoka R**	**8.91**	**212**	PN	**Pn**	**09 10 27.2**	**-1.6**
MRZ				SN	**Sn**	**09 12 05.1**	**-2.3**
NNZ	**Nelson**	**10.40**	**218**	SN	**Sn**	**09 12 41.7**	**-1.8**
THZ	**Tophouse**	**11.04**	**217**	PN	**Pn**	**09 10 54.2**	**-3.4**
THZ				SN	**Sn**	**09 12 55.8**	**-3.2**
LTZ	**Lake Taylor**	**12.11**	**215**	SN	**Sn**	**09 13 19.0**	**-6.0**
MQZ	**McQueen's Vall**	**12.65**	**212**	SN	**Sn**	**09 13 31.4**	**-6.6**
ASAR	**Alice Springs**	**42.85**	**270**	P	**P**	**09 16 11.2**	**+1.2**
	1.1nm,0.7s,mb3.7,baz=109,slow=7.7,SNR=20								
WB2	**Warramunga Arr**	**44.09**	**275**	*e*P	**P**	**09 16 20.2**	**+0.2**
WRAB	**Tennant Creek**	**44.09**	**275**	*e*P	**P**	**09 16 19.5**	**-0.5**
	3.1nm,0.5s,mb4.3								
WRA	**Warramunga Arr**	**44.09**	**275**	P	**P**	**09 16 20.1**	**+0.1**
	2.1nm,0.4s,mb4.2,baz=114,slow=8.0,SNR=68								
KAF	**Kangasniemi**	**147.15**	**339**	*e*p	PKPdf	09 27 52.4	+1.6		
	0.6nm,0.4s								
FINES	**FINESS Array B**	**147.73**	**338**	PKPbc	PKPbc	09 27 56.5	+1.8		
	1.4nm,0.6s,baz=43,slow=3.4,SNR=5.4								

*CSEM **27** 09:24:05.2±0.1, 3659N×2700E, h138km±1km, MD3.5, Error ellipse: s-maj=2.2km s-min=1.7km az=29.0*

*HLW **27** 09:24:06.6, 3648N×2706E, h33km, Mb4.4*

*IDC **27** 09:24:07.0±2.0, 3653N×2696E, h143km±22km, mb3.6/9, mb1 3.6/13, mb1mx3.5/25, mbtmp3.9/13, Error ellipse: s-maj=16.5km s-min=15.4km az=173.0*

*ISCJB **27** 09:24:06.0±0.2, 3651N±003×2690E±003, h147km±3km, mb3.8/9, Error ellipse: s-maj=4.5km s-min=3.8km az=138.3*

*NEIC **27** 09:24:07.5, 3656N×2686E, h129km, MG3.5(CSEM), After ATH.*

*ATH **27** 09:24:07.5, 3656N×2686E, h129km±1km*

*THE **27** 09:24:09.7, 3654N×2695E, h124km, ML3.3*

*ISK **27** 09:24:13.5, 3676N×2737E, h93km, MD3.5*

ISC 27 09:24:07.0±0.2, 3651N±003×2690E±003, h142km±3km, n69, σ0§89/83, mb3.8/9, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.59**	**68**	PG	**Pn**	**09 24 27.5**	**-0.4**
BODT	**Bodrum**	**0.64**	**31**	PG	**Pn**	**09 24 27.4**	**-0.8**
KARP	**Karpathos**	**0.99**	**167**	*e*P	**Pn**	**09 24 31.4**	**+0.6**
KARP				*e*S	**Sn**	**09 24 48.6**	**-0.4**
ARG	**Arkhangelos**	**1.04**	**106**	*e*P	**Pn**	**09 24 31.8**	**+0.5**
ARG				*e*S	**Sn**	**09 24 49.5**	**-0.3**
MLSB	**Milas**	**1.05**	**42**	PG	**Pn**	**09 24 30.7**	**-0.7**
SANT	**Santorini**	**1.17**	**263**	*e*Pg	**Pn**	**09 24 32.7**	**+0.2**
APE	**Apeiranthos**	**1.23**	**297**	*e*Pg	**Pn**	**09 24 32.9**	**-0.2**
DALT	**Dalyan (Mudla)**	**1.42**	**79**	PG	**Pn**	**09 24 35.0**	**-0.1**
NPS	**Neapolis**	**1.63**	**220**	*e*P	**Pn**	**09 24 37.8**	**+0.5**
NPS				*e*S	**Sn**	**09 25 00.1**	**-0.4**
FETY	**Fethiye**	**1.77**	**85**	PN	**Pn**	**09 24 38.2**	**-0.6**
FETY				SN	**Sn**	**09 24 57.3**	**-6.0**
LAST	**Lasithi**	**1.77**	**221**	*e*Pb	**Pn**	**09 24 39.2**	**+0.3**
LAST				*e*Sb	**Sn**	**09 25 02.8**	**-0.6**
XRY	**Khrisi**	**1.91**	**211**	*e*P	**Pn**	**09 24 42.0**	**+1.5**
CHOS	**Chios island**	**1.99**	**341**	*e*Pb	**Pn**	**09 24 40.7**	**-0.8**
DNZL	**Cakiroluk**	**2.08**	**55**	*i* P	**Pn**	**09 24 42.5**	**-0.1**
DNZL				*i* S	**Sn**	**09 25 08.8**	**-1.1**
DENT	**Denizli**	**2.11**	**53**	PN	**Pn**	**09 24 42.2**	**-0.7**
KSL	**Kastellorizon**	**2.20**	**99**	*e*P	**Pn**	**09 24 45.4**	**+1.4**
ELL	**Elmali**	**2.43**	**84**	PN	**Pn**	**09 24 47.7**	**+0.8**
VAM	**Vamos**	**2.45**	**244**	*e*P	**Pn**	**09 24 47.9**	**+0.8**
KHL	**Karahalli**	**2.76**	**48**	*e*PN	**Pn**	**09 24 51.6**	**+0.6**
GVD	**Gavdhos**	**2.83**	**235**	*e*P	**Pn**	**09 24 53.0**	**+1.2**
ANTB	**Antalya**	**3.04**	**82**	*e*PN	**Pn**	**09 24 56.5**	**+1.9**
BCK	**Bucak**	**3.10**	**71**	*e*PN	**Pn**	**09 24 56.4**	**+1.1**
KYTH	**Kithira**	**3.12**	**267**	*e*P	**Pn**	**09 24 56.0**	**+0.4**
TKTP	**Tekketepe**	**3.13**	**60**	*i* P	**Pn**	**09 24 55.7**	**0.0**
TKTP				*i* S	**Sn**	**09 25 29.5**	**-3.7**
VLI	**Veliai**	**3.19**	**275**	*e*P	**Pn**	**09 24 56.7**	**+0.2**
VLI				*e*S	**Sn**	**09 25 32.9**	**-1.8**
GDZ	**Gediz**	**3.29**	**38**	*i* P	**Pn**	**09 24 57.5**	**-0.1**
ITM	**Ithomi**	**4.04**	**281**	*e*P	**Pn**	**09 25 08.3**	**+0.8**
ESKT	**Eskisehir**	**4.33**	**45**	*i* P	**Pn**	**09 25 11.7**	**+0.4**
SEYT	**Eskypehyr**	**4.33**	**45**	*i* P	**Pn**	**09 25 11.7**	**+0.4**
AGG	**Agios Georgios**	**4.40**	**306**	*e*Pn	**Pn**	**09 25 13.7**	**+1.4**
HDMB	**Hadim**	**4.51**	**83**	*e*PN	**Pn**	**09 25 14.8**	**+1.1**
KIZT	**Kizilcal**	**4.61**	**58**	*e*PN	**Pn**	**09 25 15.1**	**+0.1**
SLUM		**5.20**	**196**	P	**Pn**	**09 25 22.6**	**-0.2**
SLUM				S	**Sn**	**09 26 17.8**	**-4.3**
VLS	**Valsamata**	**5.29**	**290**	*e*P	**Pn**	**09 25 24.5**	**+0.4**
HMAT	**Matruh**	**5.41**	**178**	P	**Pn**	**09 25 26.1**	**+0.4**
HMAT	**Matruh**	**5.41**	**178**	P	**Pn**	**09 25 26.0**	**+0.4**
LKD	**Levkas**	**5.42**	**296**	*e*Pn	**Pn**	**09 25 26.2**	**+0.3**
LKD				*e*Sn	**Sn**	**09 26 24.7**	**-2.6**
DABA	**Dabaa**	**5.61**	**168**	P	**Pn**	**09 25 27.4**	**-0.9**
SGKT	**Sivrigoynuk**	**5.73**	**43**	*i* P	**Pn**	**09 25 30.8**	**+0.9**
MEST	**Erdemli**	**5.84**	**87**	*i* P	**Pn**	**09 25 32.9**	**+1.6**
MEST				*i* S	**Sn**	**09 26 35.5**	**-1.8**
BR131	**Keskin Array S**	**6.21**	**57**	*e*Pn	**Pn**	**09 25 36.9**	**+0.5**
	1.7nm,0.5s								
BR131	**Keskin Array S**	**6.21**	**57**	*e*Pn	**Pn**	**09 25 36.9**	**+0.6**
BRTR	**Keskin Array B**	**6.21**	**57**	P	**Pn**	**09 25 37.0**	**+0.7**
	0.6nm,0.3s,baz=232,slow=13,SNR=29								
BRTR				S	**Sn**	**09 26 47.6**	**+1.4**
	0.4nm,0.3s,baz=217,slow=24,SNR=8.3								
HBRG	**Burj al 'Arab**	**6.41**	**157**	P	**Pn**	**09 25 38.7**	**-0.4**
SWA1		**7.30**	**188**	P	**Pn**	**09 25 50.9**	**0.0**
SWA1				S	**Sn**	**09 27 07.7**	**-4.7**
SWA2		**7.35**	**190**	P	**Pn**	**09 25 51.1**	**-0.5**
FYM	**Al Fayyum**	**7.64**	**152**	P	**Pn**	**09 25 55.8**	**+0.3**
KOT	**Kottamia**	**7.76**	**146**	P	**Pn**	**09 25 56.4**	**-0.7**
MMAI	**Mount Meron Ar**	**7.82**	**114**	P	**Pn**	**09 25 56.9**	**-1.1**
	6.0nm,0.3s,baz=310,slow=12,SNR=13								
MMAI				S	**Sn**	**09 27 21.2**	**-3.8**
	17nm,0.3s,baz=304,slow=24,SNR=12								
HHAG	**Hagoal**	**7.86**	**145**	P	**Pn**	**09 25 58.1**	**-0.3**
HSAF	**As Saff**	**7.91**	**149**	P	**Pn**	**09 25 59.1**	**0.0**
GLL	**Jalalah**	**8.01**	**148**	P	**Pn**	**09 26 00.0**	**-0.5**
SUZ		**8.31**	**142**	P	**Pn**	**09 26 04.0**	**-0.5**
AWBH		**8.34**	**168**	P	**Pn**	**09 26 04.9**	**-0.1**

ZAF		**8.63**	**145**	P		**Pn**	**09 26 08.5**	**-0.4**
ZNM		**8.71**	**143**	P		**Pn**	**09 26 10.1**	**+0.2**
MLR	**Muntele Rosu**	**9.00**	**356**	P		**Pn**	**09 26 12.3**	**-1.4**
	0.4nm,0.3s,baz=194,slow=6.9,SNR=4.2								
HBST	**Basata**	**9.81**	**136**	P		**Pn**	**09 26 24.5**	**-0.1**
HKAT	**Jabal Katrina**	**9.96**	**141**	P		**Pn**	**09 26 26.3**	**-0.2**
GERES	**GERESS Array B**	**15.66**	**326**	P		**Pn**	**09 27 40.3**	**+0.5**
	0.4nm,0.3s,baz=128,slow=11,SNR=7.5								
ESDC	**Sonseca Array**	**24.43**	**287**	P		**P**	**09 29 12.6**	**+0.2**
	0.2nm,0.3s,mb3.1,baz=82,slow=11,SNR=4.3								
HFS	**Hagfors**	**25.12**	**344**	P		**P**	**09 29 17.4**	**-1.2**
	2.1nm,0.3s,mb4.1,baz=146,slow=11,SNR=17								
NOA	**NORSAR Array B**	**26.49**	**343**	P		**P**	**09 29 31.8**	**+0.9**
	0.4nm,0.5s,mb3.3,baz=149,slow=11,SNR=4.1								
EKA	**Eskdalemuir Ar**	**27.80**	**322**	P		**P**	**09 29 43.6**	**+1.0**
	0.5nm,0.5s,mb3.5,baz=116,slow=9.4,SNR=3.8								
TORD	**Torodi Ar. Bea**	**32.44**	**231**	P		**P**	**09 30 25.1**	**+1.5**
	2.3nm,0.3s,mb4.3,baz=33,slow=8.9,SNR=58								
ARCES	**ARCESS Array B**	**33.09**	**359**	P		**P**	**09 30 27.6**	**-1.5**
	1.5nm,0.9s,mb3.7,baz=174,slow=8.5,SNR=4.9								
MKAR	**Makanchi Array**	**41.86**	**58**	P		**P**	**09 31 43.0**	**+0.1**
	1.5nm,0.3s,mb4.0,baz=274,slow=8.1,SNR=16								
ZAL	**Zalesovo**	**43.04**	**47**	P		**P**	**09 31 51.5**	**-1.0**
	1.7nm,0.4s,mb4.0,baz=159,slow=3.7,SNR=3.2								
SCHQ	**Schefferville**	**63.07**	**320**	P		**P**	**09 34 17.4**	**-1.7**
	0.7nm,0.4s,mb3.8,baz=83,slow=5.2,SNR=6.1								

*ISCJB **27** 09:51:54.1±3.3, 12N±03×1244E±05, h223km±32km, mb3.8/4, Error ellipse: s-maj=93.2km s-min=20.4km az=126.6*

*NEIC **27** 09:51:56.1±6.1, 122N×12437E, h225km±63km, mb4.0/2, Error ellipse: s-maj=61.5km s-min=19.6km az=60.0*

*IDC **27** 09:52:00.5±3.6, 106N×12423E, h267km±33km, mb3.4/4, mb1 3.4/5, mb1mx3.1/17, mbtmp3.9/5, Error ellipse: s-maj=81.1km s-min=13.3km az=65.0*

ISC 27 09:51:58.0±2.9, 12N±03×1245E±05, h243km±29km, n10, σ0§67/11, mb3.8/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.91**	**151**	*e*P	**Pn**	**09 55 28.2**	**-1.1**
	5.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.22**	**177**	*e*P	**P**	**09 56 03.7**	**-0.4**
	7.9nm,1.6s						
FITZ	**Fitzroy Crossi**	**19.22**	**177**	P	**P**	**09 56 03.5**	**-0.6**
	0.3nm,0.3s,baz=348,slow=12,SNR=9.8						
WRA	**Warramunga Arr**	**23.12**	**156**	P	**P**	**09 56 43.1**	**+0.3**
	5.8nm,0.4s,mb4.5,baz=334,slow=11,SNR=122						
WRA				S	**S**	**10 00 34.2**	**-1.4**
	0.9nm,0.8s,baz=338,slow=16,SNR=4.6						
WB2	**Warramunga Arr**	**23.13**	**156**	*e*P	**P**	**09 56 43.1**	**+0.3**
AS31	**Alice Springs**	**26.36**	**160**	*e*P	**P**	**09 57 12.5**	**+0.6**
ASPA	**Alice Springs**	**26.36**	**160**	*e*P	**P**	**09 57 12.5**	**+0.6**
ASAR	**Alice Springs**	**26.36**	**160**	P	**P**	**09 57 12.7**	**+0.8**
	0.9nm,0.5s,mb3.7,baz=341,slow=7.6,SNR=32						
ASAR				PcP	PcP	10 00 32.1	+1.2
	0.3nm,0.4s,baz=348,slow=2.3,SNR=7.7						
STKA	**Stephens Creek**	**36.67**	**155**	P	**P**	**09 58 42.0**	**+0.3**
	1.4nm,0.7s,mb3.6,baz=345,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**58.40**	**327**	P	**P**	**10 01 27.6**	**-0.5**
	0.5nm,0.3s,mb3.6,baz=125,slow=7.8,SNR=11						

*VIE **27** 10:10:24.2±1.5, 4498N×1153E, h8km, ML2.9/4, Error ellipse: s-maj=10.0km

comp=Z,148nm,21.0s,baz=346,slow=43
FITZ Fitzroy Crossi 19.36 120 P Pn 10 18 07.7 +0.2
0.1nm,0.3s,baz=276,slow=5.6,SNR=5.4
FITZ S S 10 21 29.6 -14
0.1nm,0.3s,baz=125,slow=18,SNR=4.8
WRA Warramunga Arr 27.67 116 P P 10 19 28.3 0.0
1.1nm,0.7s,mb3.6,baz=291,slow=10,SNR=15
WRAB Tennant Creek 27.68 116 *e*P P 10 19 28.4 0.0
2.7nm,0.6s,mb4.0
WB2 Warramunga AR 27.68 116 *e*P P 10 19 28.4 0.0
ASAR Alice Springs 28.73 124 P P 10 19 37.7 0.0
0.8nm,0.6s,mb3.6,baz=301,slow=8.1,SNR=8.2
STKA Stephens Creek 38.56 131 P P 10 21 03.1 +0.1
2.6nm,0.6s,mb4.1,baz=304,slow=11,SNR=7.3
STKA Stephens Creek 38.56 131 *e*P P 10 21 02.6 -0.5
MJAR Matsushiro Arr 53.48 30 P P 10 22 59.1 -1.3
0.6nm,0.6s,mb3.7,baz=201,slow=8.0,SNR=4.1
SONM Songino Array 56.63 359 P P 10 23 23.6 +0.4
1.5nm,0.5s,mb4.2,baz=179,slow=7.9,SNR=11
ULN Ulaanbaatar 56.65 359 *e*P P 10 23 23.4 0.0
2.0nm,0.6s,mb4.3
MKAR Makanchi Array 60.12 340 P P 10 23 47.0 -0.5
1.3nm,0.5s,mb4.2,baz=143,slow=8.0,SNR=12
BVAR Borovoye Array 69.61 337 P P 10 24 50.1 +0.8
0.8nm,0.5s,mb3.9,baz=134,slow=8.3,SNR=3.9

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*ISCJB **27** 10:38:50.9±0.5, 3107S±004×13926E±004, h10km, Error ellipse: s-maj=6.3km s-min=4.0km az=91.4*
*NEIC **27** 10:38:50.0, 3093S×13928E, h10km, ML3.9(AUST), After AUST.*
*AUST **27** 10:38:51.0, 3093S×13928E, h10km, ML3.9*
*IDC **27** 10:38:52.7±3.2, 3121S×13931E, h0km, mb1 4.1/5, mb1mx3.8/14, mbtmp4.0/5, ML4.0/5, Error ellipse: s-maj=69.0km s-min=14.4km az=33.0*
ISC 27 10:38:53.3±0.4, 3115S±004×13928E±004, h10km, n22, σ1§48/40, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.11**	**111**	*e*P			**Pn**	**10 39 28.5**	**-0.1**
STKA				*e*S			**Sn**	**10 39 54.3**	**-0.6**
	538nm,0.4s								
STKA	**Stephens Creek**	**2.11**	**111**	Pn			**Pn**	**10 39 28.6**	**-0.1**
	116nm,0.3s,baz=279,slow=13,SNR=203								
STKA				Pg			**Pg**	**10 39 32.1**	**-1.6**
	164nm,0.3s,baz=289,slow=18,SNR=722								
STKA				Lg				10 39 56.5	
	145nm,0.3s,baz=332,slow=14,SNR=30								
BBOO	**Buckleboo**	**3.20**	**238**	*e*P			**Pn**	**10 39 43.3**	**-0.3**
BBOO				*e*S			**Sn**	**10 40 22.8**	**+1.0**
	45nm,0.4s								
CMSA	**Cobar Meteorol**	**5.50**	**96**	*e*P			**Pn**	**10 40 14.5**	**-0.8**
CMSA				*e*S			**Sn**	**10 41 15.3**	**-3.3**
	16nm,0.2s								
CMSA	**Cobar Meteorol**	**5.50**	**96**	*e*P			**Pn**	**10 40 14.5**	**-0.8**
	16nm,0.2s								
CMSA				*e*S			**Sn**	**10 41 15.3**	**-3.3**
ARPS	**Mount Arapiles**	**5.99**	**160**	*e*P			**Pn**	**10 40 20.6**	**-1.5**
ARPS				*e*S			**Sn**	**10 41 23.7**	**-7.1**
	20nm,0.2s								
ARPS	**Mount Arapiles**	**5.99**	**160**	*e*P			**Pn**	**10 40 20.6**	**-1.5**
	20nm,0.2s								
ARPS				*e*S			**Sn**	**10 41 23.7**	**-7.1**
QLP	**Quilpie**	**6.29**	**45**	*e*P			**Pn**	**10 40 29.6**	**+3.4**
TOO	**Toolangi**	**8.21**	**143**	*e*P			**Pn**	**10 40 52.7**	**+0.2**
YNG	**Young**	**8.30**	**115**	*e*P			**Pn**	**10 40 55.3**	**+1.6**
YNG				*e*S			**Sn**	**10 42 20.0**	**-7.5**
	6.6nm,0.9s								
YNG	**Young**	**8.30**	**115**	*e*P			**Pn**	**10 40 55.3**	**+1.6**
	6.6nm,0.9s								
YNG				*e*S			**Sn**	**10 42 20.0**	**-7.5**
AS31	**Alice Springs**	**8.85**	**326**	*e*P			**Pn**	**10 41 03.3**	**+2.0**
AS31				*e*S			**Sn**	**10 42 39.0**	**-2.1**
ASAR	**Alice Springs**	**8.85**	**326**	Pn			**Pn**	**10 41 03.2**	**+1.9**
	0.6nm,0.3s,baz=148,slow=13,SNR=62								
ASAR				Sn			**Sn**	**10 42 39.4**	**-1.7**
	1.2nm,0.3s,baz=150,slow=22,SNR=16								
ASAR				Lg				10 43 44.8	
	0.3nm,0.3s,baz=148,slow=26,SNR=4.9								
ASPA	**Alice Springs**	**8.85**	**326**	*e*P			**Pn**	**10 41 03.3**	**+2.0**
ASPA				*e*S			**Sn**	**10 42 39.0**	**-2.1**
FORT	**Forrest**	**9.64**	**269**	*e*P			**Pn**	**10 41 11.5**	**-0.6**
FORT				*e*S			**Sn**	**10 42 53.2**	**-7.3**
	10nm,0.5s								
FORT	**Forrest**	**9.64**	**269**	*e*P			**Pn**	**10 41 11.5**	**-0.6**
	10nm,0.5s								
FORT				*e*S			**Sn**	**10 42 53.2**	**-7.3**
WB2	**Warramunga Arr**	**12.01**	**337**	*e*P			**Pn**	**10 41 45.4**	**+0.8**
WB2				*e*S			**Sn**	**10 43 55.4**	**-3.2**
WRA	**Warramunga AR**	**12.02**	**337**	Pn			**Pn**	**10 41 45.7**	**+1.1**
	0.8nm,0.3s,baz=159,slow=13,SNR=72								
WRA				Sn			**Sn**	**10 43 57.3**	**-1.4**
	0.6nm,0.3s,baz=163,slow=24,SNR=8.9								
WRA				Lg				10 45 27.8	
	baz=167,slow=25,SNR=4.6								
WRAB	**Tennant Creek**	**12.02**	**337**	*e*Pn			**Pn**	**10 41 45.6**	**+0.9**
	6.2nm,0.4s								
CTA	**Charters Tower**	**12.68**	**31**	Pn			**Pn**	**10 41 55.6**	**+1.9**
	0.9nm,0.3s,baz=211,slow=13,SNR=7.2								
CTAO	**Charters Tower**	**12.68**	**31**	*e*Pn			**Pn**	**10 41 54.9**	**+1.2**
CTAO				*e*Sn			**Sn**	**10 44 16.9**	**+1.9**
FITZ	**Fitzroy Crossi**	**17.93**	**313**	P			**Pn**	**10 43 03.3**	**+0.5**
	0.1nm,0.3s,baz=155,slow=15,SNR=5.2								
FITZ				S			**Sn**	**10 46 12.9**	**-10**
	0.1nm,0.3s,baz=266,slow=21,SNR=3.3								

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*MOS **27** 10:54:59.3±2.3, 5533N×11045E, h2km, mb4.2/1, Error ellipse: s-maj=30.3km s-min=12.2km az=49.9*
BYKL 27 10:54:59.2±0.2, 5539N×11043E, h5km±19km, 1C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.64**	**308**	*e*Pg			Pg	10 55 10.6	-0.8
NIZ				*e*Sg			Sg	10 55 19.6	-0.1
NIZ				Pmax					
	38nm,0.3s								
NIZ				Smax					
	262nm,0.3s								
KMO	**Kumora**	**0.66**	**41** ⇓	*i*Pg			Pg	10 55 10.9	-1.0
KMO				*e*Sg			Sg	10 55 20.0	-0.5
KMO				Pmax					
	156nm,0.3s								
KMO				Smax					
	517nm,1.0s								
KMO	**Kumora**	**0.66**	**41**	*e*PG			Pg	10 55 11.0	-0.9
KMO				*e*				10 55 19.5	
KMO				pmax		pmax			
	comp=Z,157nm,0.3s								
KMO				smax					
	comp=E,519nm,0.8s								
YLYR	**Ulyunkhan**	**0.67**	**140** ⇓	*i*Pg			Pg	10 55 11.0	-1.0
YLYR				*e*Sg			Sg	10 55 20.0	-0.6
YLYR				Pmax					
	comp=E,44nm,0.1s								
YLYR				Smax					
	comp=E,326nm,0.1s								
YOA	**Uoyan**	**1.04**	**44**	*e*Pg			Pg	10 55 18.8	-0.4
YOA				*e*Sg			Sg	10 55 32.8	0.0
YOA				Pmax					
	comp=E,186nm,0.2s								
YOA				Smax					
	comp=E,1μm,0.9s								
YOA	**Uoyan**	**1.04**	**44** ⇑	*i*PG			Pg	10 55 18.4	-0.8
YOA				*i*				10 55 32.7	
YOA				pmax		pmax			
	comp=Z,192nm,0.2s								
YOA				smax					
	comp=E,975nm,0.4s								
SYVR	**Suvo**	**1.75**	**188**	*e*Pg			Pg	10 55 30.4	-2.4
SYVR				*e*Sg			Sg	10 55 54.6	-1.0
SYVR				Pmax					
	comp=E,24nm,0.3s								
SYVR				Smax					
	comp=E,225nm,0.5s								
UKT	**Uakit**	**1.82**	**86**	*e*Pg			Pg	10 55 31.7	-2.5
UKT				*e*Sg			Sg	10 55 56.1	-1.7
UKT				Pmax					
	comp=E,53nm,0.3s								
UKT				Smax					
	comp=E,216nm,0.2s								
UKT	**Uakit**	**1.82**	**86**	*e*PN			Pn	10 55 31.6	+0.4
UKT				*e*				10 55 56.1	
UKT				pmax		pmax			
	comp=Z,53nm,0.3s								
UKT				smax					
	comp=N,218nm,0.2s								
SVKR	**Severomuysk**	**1.91**	**66**	*e*Pn			Pn	10 55 30.8	-1.6
SVKR				*e*Pg			Pg	10 55 33.7	-2.2
SVKR				*e*Sg			Sg	10 55 59.8	-0.9
SVKR				Pmax					
	comp=N,114nm,0.3s								
SVKR				Smax					
	comp=N,855nm,0.6s								
SVKR	**Severomuysk**	**1.91**	**66**	*e*PN			Pn	10 55 33.6	+1.2
SVKR				*e*				10 55 59.2	
SVKR				pmax		pmax			
	comp=Z,104nm,0.4s								
SVKR				smax					
	comp=N,860nm,0.6s								
MXMB	**Maximikha**	**2.35**	**206**	*e*Pg			Pg	10 55 41.0	-3.2
MXMB				*e*Sg			Sg	10 56 12.9	-1.8
MXMB				Pmax					
	comp=N,26nm,0.1s								
MXMB				Smax					
	comp=N,444nm,0.9s								
OGRR	**Ongureny**	**2.41**	**225**	*e*Pn			Pn	10 55 40.0	+0.8
OGRR				*e*Pg			Pg	10 55 42.2	-3.1
OGRR				*e*Sg			Sg	10 56 12.8	-3.7
OGRR				Pmax					
	comp=N,48nm,0.3s								
OGRR				Smax					
	comp=N,140nm,0.3s								
OGRR	**Ongureny**	**2.41**	**225**	*e*PN			Pn	10 55 40.0	+0.8
OGRR				*e*				10 55 42.6	
OGRR				*e*				10 56 12.3	
OGRR				pmax		pmax			
	comp=Z,48nm,0.3s								
OGRR				smax					
	comp=E,139nm,0.6s								
KELR	**Kotokel**	**2.98**	**209**	*e*			Pn	10 56 04.5	+17
KELR				*e*Sg			Sg	10 56 31.3	-3.5
KELR				Smax					
	comp=E,229nm,0.6s								
BOD	**Bodaibo**	**3.13**	**38**	*e*Pn			Pn	10 55 49.3	+0.1
BOD				*e*Pg			Pg	10 55 55.2	-4.1
BOD				*e*Sg			Sg	10 56 34.9	-5.0
BOD				Pmax					
	comp=E,22nm,0.3s								
BOD				Smax					
	comp=E,96nm,0.6s								
NLYR	**Nelyaty**	**3.17**	**67**	*e*Pn			Pn	10 55 50.3	+0.7
NLYR				*e*Sg			Sg	10 56 37.9	-3.0
NLYR				Smax					
	comp=E,112nm,1.3s								
TRG	**Tyrgan**	**3.57**	**224**	*e*Pn			Pn	10 55 55.9	+0.7
TRG				*e*Sg			Sg	10 56 49.1	-4.7
TRG				Smax					
	comp=E,40nm,0.2s								
TRTB	**Turuntaevo**	**3.58**	**209**	*e*Pn			Pn	10 55 55.9	+0.6
TRTB				*e*Sn			Sn	10 56 34.8	-3.1
TRTB				*e*Sg			Sg	10 56 49.8	-4.2
TRTB				Smax					
	comp=E,42nm,1.0s								
CIT	**Chita**	**3.85**	**150**	*e*Sg			Sg	10 56 57.9	-5.0
CIT				Smax					
	comp=E,33nm,0.6s								
HRMR	**Khuramsha**	**4.30**	**210**	*e*Pg			Pg	10 56 15.7	-5.9
HRMR				*e*Sg			Sg	10 57 12.2	-5.2
HRMR				Pmax					
	comp=E,26nm,0.4s								
HRMR				Smax					
	comp=E,185nm,0.6s								
CRS	**Chara**	**4.64**	**68**	*e*Pg			Pg	10 56 22.9	-5.2
CRS				*e*Sg			Sg	10 57 22.1	-6.1
CRS				Pmax					
	comp=E,13nm,0.7s								
CRS				Smax					
	comp=E,63nm,1.3s								
CRS	**Chara**	**4.64**	**68**	*e*PN			Pn	10 56 23.7	+14
CRS				*e*				10 57 23.8	
CRS				pmax		pmax			
	comp=Z,21nm,1.1s								
CRS				smax					
	comp=E,63nm,1.2s								
LSTR	**Listvyanka**	**4.85**	**226**	*e*PN			Pn	10 56 25.6	+13
LSTR				*e*				10 57 28.8	
LSTR				pmax		pmax			
	comp=Z,11nm,0.3s								
LSTR				smax					
	comp=N,37nm,1.4s								
TLY	**Talaya**	**5.49**	**230**	*e*PN			Pn	10 56 35.9	+14
TLY				*e*				10 57 46.0	
TLY				pmax		pmax			
	comp=Z,12nm,0.5s								
TLY				smax					
	comp=E,44nm,1.0s								
TUP	**Tupik**	**5.58**	**96**	*e*Pn			Pn	10 56 22.7	-0.1
TUP				*e*				10 56 31.2	
TUP				*e*Pg			Pg	10 56 38.9	-7.2
TUP				*e*Sn			Sn	10 57 24.1	-3.2
TUP				*e*Sg			Sg	10 57 52.3	-6.1
TUP				Pmax					
	comp=E,4.0nm,0.4s								
TUP				Smax					
	comp=E,62nm,0.8s								
TUP	**Tupik**	**5.58**	**96**	*e*PN			Pn	10 56 22.8	0.0
TUP				*e*				10 56 38.9	
TUP				*e*S			Sn	10 57 24.2	-3.1
TUP				*e*				10 57 52.1	
TUP				pmax		pmax			
	comp=Z,6.0nm,0.4s								
TUP				smax					
	comp=N,58nm,1.0s								
KPC	**Khapcheranga**	**5.82**	**167**	*e*			Pn	10 56 48.1	+22
KPC				*e*Sn			Sn	10 57 30.1	-3.1
KPC				*e*Sg			Sg	10 57 58.5	-7.5
KPC				Smax					
	comp=N,25nm,1.0s								
ZAK	**Zakamensk**	**6.62**	**224**	*e*Sg			Sg	10 58 24.7	-7.1
ZAK				Smax					
	comp=N,17nm,1.2s								
MOY	**Mondy**	**6.75**	**240**	*e*Pn			Pn	10 56 40.5	+1.6
MOY				*e*				10 57 56.2	
MOY				*e*Sg			Sg	10 58 29.5	-6.4
MOY				Smax					
	comp=N,30nm,1.4s								
ORL	**Orlik**	**6.89**	**250**	*e*Pn			Pn	10 56 42.2	+1.4
ORL				*e*				10 57 59.2	
ORL				*e*Sg			Sg	10 58 33.1	-7.2
ORL				Smax					
	comp=N,43nm,0.8s								
ORL	**Orlik**	**6.89**	**250**	*e*PN			Pn	10 56 41.7	+0.9
ORL				*e*S			Sn	10 58 34.0	+34
ORL				smax					
	comp=N,34nm,0.7s								

IDC 27 11:00:56.3±3.5, 934S×10884E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/15, mbtmp3.5/4, Error ellipse: s-maj=143.4km s-min=24.6km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.79**	**116**	P			P	11 06 37.7	-0.3
	0.5nm,0.8s,baz=288,slow=11,SNR=3.3								
ASAR	**Alice Springs**	**27.87**	**124**	P			P	11 06 48.6	+1.0
	0.3nm,0.9s,baz=297,slow=9.6,SNR=4.8								
SONM	**Songino Array**	**56.97**	**358**	P			P	11 10 44.4	+1.0
	1.0nm,0.6s,baz=178,slow=8.0,SNR=7.4								
MKAR	**Makanchi Array**	**60.70**	**339**	P			P	11 11 08.4	-1.0
	0.2nm,0.4s,baz=158,slow=9.8,SNR=3.7								

IDC 27 11:05:04.2±3.3, 976S×10874E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.5/16, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=155.8km s-min=26.6km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.37**	**119**	P			Pn	11 09 20.4	+0.1
	0.1nm,0.3s,baz=0.2,slow=10,SNR=3.6								
WRA	**Warramunga Arr**	**26.70**	**115**	P			P	11 10 43.8	-1.3
	0.3nm,0.7s,baz=284,slow=11,SNR=5.1								
ASAR	**Alice Springs**	**27.72**	**123**	P			P	11 10 56.2	+2.0
	0.2nm,0.6s,baz=300,slow=9.4,SNR=7.2								
MKAR	**Makanchi Array**	**61.05**	**340**	P			P	11 15 19.8	0.0
	0.5nm,0.7s,baz=146,slow=8.2,SNR=5.2								

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*BJI **27** 11:16:38.4, 162N×9720E, h23km, mB6.4, mb5.8, Ms6.6, Msz6.4*
*HRVD **27** 11:16:40.4±0.2, 166N×9701E, h15km, MW6.3/72, Centroid moment Tensor Solution. LP body waves: s72,c120;Mantle waves: s68,c135; Half duration: 3§4 Moment tensor: Scale 10¹⁸Nm; Mrr0.58±.01; Mθθ-0.20±.01; Mφφ-0.38±.01; Mrθ2.51±.04; Mrφ0.28±.01; Mθφ-2.15±.04; Best double couple: Mo3.35500×10¹⁸ NP1:φs336.00000°, δ5.00000°, λ115.00000°. NP2: φs131.00000°, δ85.00000°, λ88.00000°. Principal axes: T 3.3690, Plg50.0000°, Azm38.0000°; N -0.0290, Plg2.0000°, Azm131.0000°; P -3.3410, Plg40.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **27** 11:16:40.9±0.8, 177N×97.17E, h33km, mb5.9/68, MS5.9/52 Error ellipse: s-maj=7.0km s-min=3.9km az=122.7*
*NEIC **27** 11:16:40.4±0.1, 171N×97.15E, h20km, mb5.6/86, ME6.0, MS6.1/135, MW6.0, Error ellipse: s-maj=4.5km s-min=3.2km az=205.0, Moment Tensor Solution. s35 Moment tensor: Scale 10¹⁸Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mrφ0.00; Mθφ0.00; Best double couple: Mo1.30000×10¹⁸ NP1:φs131.00000°, δ70.00000°, λ89.00000°. NP2:φs313.00000°, δ20.00000°, λ92.00000°. Principal axes: T 1.3100, Plg65.0000°, Azm39.0000°; N -0.0200, Plg1.0000°, Azm131.0000°; P -1.2900, Plg25.0000°, Azm221.0000°; Broadband fault plane solution: P waves. NP1:φs310.00000°, δ10.00000°, λ90.00000°. NP2:φs130.00000°, δ80.00000°, λ90.00000°. Principal axes: T Plg55.0000°, Azm40.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm220.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at Gunungsitoli. Felt [IV] at Sibolga, [III] at Porsea and [II] at Padang, Sumatra. Felt at Pematangsiantar, Sumatra. Also felt at Kuala Lumpur, Malaysia.
*ISCJB **27** 11:16:40.3±0.1, 172N±002×97.13E±002, h30km, mb5.7/201, MS6.1/193 Error ellipse: s-maj=3.5km s-min=2.6km az=40.5*
*CRAAG **27** 11:16:41.0, 179N×9723E, Mb5.9*
*IDC **27** 11:16:44.1±1.2, 169N×9721E, h48km±9km, mb5.1/34, mb1 5.1/34, mb1mx5.1/34, mbtmp5.4/34, MS5.9/25, Ms1 5.9/25, ms1mx5.7/35, Error ellipse: s-maj=11.8km s-min=6.3km az=42.0*
*SZGRF **27** 11:16:44.1, 168N×9642E, h26km, mb5.7, MS5.9, Off west coast of northern Sumatera, Indonesia*
ISC 27 11:16:42.4±0.1, 171N±002×9712E±002, h32km, h32km±.7km:pP-P, n891, σ1§02/738, mb5.7/201, MS6.1/193, 182C-49D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.10**	**59**	P			**Pn**	**11 17 14.7**	**-0.7**
	60nm,0.3s,baz=252,slow=4.7,SNR=290								
BSI	**Banda Aceh**	**4.18**	**334**	P			**Pn**	**11 17 41.8**	**-2.2**
	683nm,0.9s								
IPM	**Ipoh**	**4.77**	**55**	P			**Pn**	**11 17 53.6**	**+1.5**
KULM	**Kulim**	**5.01**	**45**	*e*Pn			**Pn**	**11 17 56.2**	**+0.9**
KULM				*e*Sn			**Sn**	**11 18 53.5**	**+1.4**
KGM	**Kluang**	**6.20**	**87**	P			**Pn**	**11 18 13.3**	**+1.6**
SNG	**Songkhla**	**6.46**	**33**	P			**Pn**	**11 18 15.0**	**-0.2**
	2μm,1.0s								
KSI	**Kapahiang**	**7.63**	**134**	P			**Pn**	**11 18 32.7**	**+1.4**
	574nm,1.1s								
KLI	**Kotabumi**	**10.11**	**130**	P			**Pn**	**11 19 10.0**	**+4.6**
	298nm,0.8s								
PBA	**Port Blair**	**10.80**	**336**	*ex*			x	11 18 25.4	
PBA				*ex*			x	11 21 58.5	
NNT	**Nongplab**	**11.12**	**13**	P			**Pn**	**11 19 19.5**	**+0.4**
KSM	**Kuching**	**13.18**	**91**	*e*Pn			**Pn**	**11 19 49.5**	**+2.2**
LEM	**Lembang**	**13.47**	**129**	P			**Pn**	**11 19 49.2**	**-2.1**
	101nm,1.3s								
JCJI	**Jatiwangi**	**13.79**	**126**	P			**Pn**	**11 19 58.3**	**+2.7**
	333nm,1.1s								
BJII	**Banjamegara**	**15.44**	**126**	P			**Pn**	**11 20 15.8**	**-2.0**
	67nm,1.4s								
KKTK	**Khon Kaen**	**15.59**	**21**	P			**Pn**	**11 20 21.0**	**+1.3**
	3μm,0.6s								
CHG	**Chiang Mai**	**17.09**	**6** ⇑	P			**Pn**	**11 20 37.2**	**-1.7**
	122nm,1.0s								
CHTO	**Chiang Mai**	**17.09**	**6**	P			**Pn**	**11 20 38.1**	**-0.8**
	SNR=36								
CHTO	**Chiang Mai**	**17.09**	**6**	*e*P			**Pn**	**11 20 37.7**	**-1.2**
CHTO					pmax	pmax			
	comp=Z,130nm,1.0s								
CHTO	**Chiang Mai**	**17.09**	**6**	*e*Pn			**Pn**	**11 20 37.8**	**-1.1**
	comp=Z,128nm,1.0s								
PALK	**Pallekele**	**17.27**	**289**	*e*Pn			**Pn**	**11 20 43.3**	**+2.2**
	comp=Z,152nm,1.3s								
PALK				*e*Sn			**Sn**	**11 23 38.0**	**-14**
KRKI	**Karangkates**	**18.16**	**123**	P			**Pn**	**11 20 54.3**	**+2.3**
	comp=Z,168nm,0.8s								
CHRT	**Chiangrai**	**18.24**	**8** ⇓	P			**Pn**	**11 20 53.0**	**0.0**
	comp=Z,824nm,0.7s								
KMMI	**Kallanget**	**18.93**	**118**	P			**Pn**	**11 21 00.6**	**-0.7**
	comp=Z,331nm,1.0s								
KKM	**Kota Kinabalu**	**19.52**	**77**	P			**Pn**	**11 21 08.0**	**-0.5**
KKM	**Kota Kinabalu**	**19.52**	**77**	*e*P			**Pn**	**11 21 07.3**	**-1.2**
KKM				*e*pP			pP	11 21 14.2	-1.3
MDRS	**Chennai**	**20.16**	**305**	*e*P			**P**	**11 21 13.2**	**-0.9**
MDRS				*e*S			**S**	**11 25 00.7**	**+2.0**
TSM	**Tawau**	**20.88**	**82**	P			**P**	**11 21 22.0**	**+0.2**
VIS	**Vishakhapatnam**	**20.90**	**320**	*e*P			**P**	**11 21 20.0**	**-2.0**
VIS					AMb		AMB	11 21 45.8	
	comp=Z,639nm,1.9s								
VIS				*ex*			x	11 25 06.5	
VIS					AMS		AMS	11 30 44.8	
	comp=Z,21μm,19.0s,MS5.5								
SALM	**Salem**	**21.21**	**299**	*ex*			**P**	**11 21 30.0**	**+4.6**
QIZ	**Qiongzhong**	**21.25**	**35**	P			**P**	**11 21 25.5**	**-0.3**
QIZ					AP			11 21 34.5	
QIZ					XP		sP	11 21 38.8	+0.4
QIZ					S		**S**	**11 25 23.0**	**+2.7**
QIZ					LR		LR		
	comp=E,56μm,14.9s								
QIZ					LR		LR		
	comp=Z,47μm,15.2s,MS6.0								
QIZ	**Qiongzhong**	**21.25**	**35**	*e*P			**P**	**11 21 25.3**	**-0.6**
	comp=Z,161nm,0.8s,mb5.4								
QIZ					LR		LR		
	comp=Z,32μm,20.0s,MS5.7								
BWNR	**Bhubaneshwar**	**21.53**	**330**	*ex*			**P**	**11 21 25.0**	**-3.8**
CAL	**Calcutta**	**22.40**	**338**	*e*P			**P**	**11 21 37.3**	**-0.8**
CAL				*e*S			**S**	**11 25 43.9**	**+1.2**
PCI	**Palu**	**22.86**	**96**	P			**P**	**11 21 42.8**	**-0.1**
	comp=Z,848nm,1.1s,mb6.1								
KAPI	**Kappang**	**23.57**	**107**	P			**P**	**11 21 48.5**	**-1.7**
	comp=Z,2μm,1.0s,mb6.4,SNR=23								
KMI	**Kunming**	**23.90**	**13** ⇑	P			**P**	**11 21 54.0**	**+0.7**
KMI					AP			11 22 03.5	
KMI					XP		sP	11 22 08.0	+1.7
KMI					PP			11 22 29.3	
KMI					PPP			11 22 40.5	
KMI					S		**S**	**11 26 08.8**	**+1.3**
KMI					XS		sS	11 26 22.3	-0.2
KMI					SS			11 26 59.8	
KMI					SSS			11 27 15.8	
KMI					AMB		AMB		
	comp=Z,276nm,1.2s,mb5.6								
KMI					AMB	

BOK *eS* **S** **11 26 21.0 +3.8**
BOK AMS AMS 11 34 09.9
comp=Z,25µm,18.7s,MS5.7
MNGI Mangalore 24.74 298 *eP* **P** **11 22 01.1 +0.2**
MNGI *ex* x 11 22 28.7
comp=Z,265nm,1.3s
MNGI *eS* **S** **11 26 23.6 +2.6**
BLSP Bilaspur 25.00 325 *eP* **P** **11 22 04.0 +0.8**
BUSP Coron 25.06 65 *eP* **P** **11 22 03.7 -0.1**
LKP Lekhapani 25.50 358 *ex* **P** **11 22 11.0 +3.2**
LATR Latur 26.13 311 *eP* **P** **11 22 13.5 0.0**
NGP Nagpur 26.15 319 *eP* **P** **11 22 11.6 -2.1**
NGP *ex* x 11 22 27.3
comp=Z,183nm,1.6s
NGP *eS* **S** **11 26 43.4 0.0**
NGP AMP 11 33 54.5
comp=Z,18µm,20.7s
DGAR Diego Garcia 26.23 250 PFAKE 11 22 30.0 +16
DGAR LR LR
comp=Z,36µm,19.0s,MS5.9
GYA Guiyang 26.26 20⇑*i*P **P** **11 22 14.5 -0.2**
GYA AP pP 11 22 23.8 -0.1
GYA XP sP 11 22 27.5 -0.3
GYA AMB AMB
comp=Z,250nm,0.9s,mb5.7
GYA AMB AMB
comp=Z,4µm,7.7s
GYA LR LR
comp=N,113µm,15.0s,MS6.6
GYA LR LR
comp=E,37µm,11.7s,MS6.6
GYA LR LR
comp=Z,186µm,15.9s,MS6.7
HKC Hong Kong 26.34 38⇑*i*P **P** **11 22 13.0 -2.4**
HKC *i* S **S** **11 26 46.0 -0.4**
GZH Guangzhou 26.45 35 P **P** **11 22 20.5 +4.1**
GZH LR LR
comp=N,46µm,17.4s,MS6.3
GZH LR LR
comp=E,68µm,18.0s,MS6.3
GZH LR LR
comp=Z,109µm,13.1s,MS6.6
TGY Tagaytay City 26.57 61⇓*e*P **P** **11 22 19.2 +1.8**
TGY Tagaytay City 26.57 61 P **P** **11 22 17.4 -0.1**
comp=Z,115nm,0.3s,baz=164,slow=9.0,SNR=6.4
GTK Gangtok 26.75 343 *ex* x 11 22 30.0
PAGZ Pagadian 26.86 76 *eP* **P** **11 22 22.7 +2.6**
JBP Jabalpur 27.05 323 *eP* **P** **11 22 20.8 -0.9**
JBP *ex* x 11 22 26.3
comp=Z,151nm,1.1s
JBP *i* S **S** **11 27 00.3 +2.8**
AKL Akola 27.23 315 *eP* **P** **11 22 22.0 -1.5**
KAD Karad 27.36 306 *eP* **P** **11 22 25.4 +0.8**
KAD AMb AMB 11 22 48.0
comp=Z,120nm,1.8s,mb5.1
CTBH Cotabato--PC H 27.58 78⇑*i*P **P** **11 22 26.7 +0.1**
POO Poona 28.29 308⇓*i*P **P** **11 22 32.0 -0.9**
comp=Z,100nm,1.0s,mb5.4
POO *i* x x 11 28 00.0
BHPL Bhopal 28.69 320 *eP* **P** **11 22 36.2 -0.3**
BHPL AMb AMB 11 23 04.8
comp=Z,153nm,1.7s,mb5.5
DAV Davao City (W) 28.86 78 P **P** **11 22 40.3 +2.4**
SNR=7.8
DAV Davao City (W) 28.86 78 PFAKE 11 22 50.0 +12
DAV LR LR
comp=Z,19µm,22.0s,MS5.7
CD2 Chengdu 29.72 12⇑*i*P **P** **11 22 45.0 -0.6**
CD2 AP pP 11 22 53.5 -1.3
CD2 XP sP 11 22 57.0 -1.7
CD2 PP PP 11 23 43.0 -10
CD2 S **S** **11 27 34.5 -5.0**
CD2 XS sS 11 27 50.8 -3.9
CD2 SS SS 11 29 09.8 -37
CD2 AMB AMB
comp=Z,110nm,0.9s,mb5.6
CD2 AMB AMB
comp=Z,2µm,6.9s
CD2 LR LR
comp=N,40µm,15.6s
CD2 LR LR
comp=Z,35µm,15.6s,MS6.1
QZH Quanzhou 31.04 40⇑*i*P **P** **11 22 56.0 -1.2**
QZH S **S** **11 28 01.0 +0.9**
QZH AMB AMB
comp=Z,140nm,0.8s,mb5.8
QZH AMB AMB
comp=Z,7µm,8.7s
QZH LR LR
comp=N,138µm,13.8s,MS6.8
QZH LR LR
comp=E,80µm,14.5s,MS6.8
QZH LR LR
comp=Z,164µm,15.3s,MS6.8
AAI Ambon 31.51 100 P **P** **11 23 01.1 -0.3**
comp=Z,214nm,0.9s,mb6.0
LGTI Lohaghat 31.93 331 *i* P **P** **11 23 03.5 -1.5**
PTH Pithoragarh 32.02 331 *eP* **P** **11 23 07.3 +1.4**
NACB Ninganchiao 32.55 45 *eP* **P** **11 23 11.7 +1.2**
YHNB Yeheng 32.71 44 *eP* **P** **11 23 12.4 +0.5**
AJM Ajmer 32.76 321 *eP* **P** **11 23 12.2 -0.2**
AJM AMb AMB 11 23 31.2
comp=Z,217nm,1.6s,mb5.8
NDI New Delhi 32.87 327 *eP* **P** **11 23 13.4 +0.1**
NDI AMb AMB 11 23 16.1
comp=Z,128nm,0.7s,mb6.0
NDI *ex* x 11 28 24.0
TATO Taipei 32.99 43 *eP* **P** **11 23 14.3 0.0**
comp=Z,155nm,1.1s,mb5.8
TATO LR LR
comp=Z,21µm,20.0s,MS5.8
WHN Wuhan 33.01 28 ⇑P **P** **11 23 14.8 +0.3**
WHN LR LR
comp=Z,155µm,15.7s,MS6.8
DDI Dehra Dun 33.72 329 *eP* **P** **11 23 21.3 +0.5**
XAN Xi'an 34.01 18 P **P** **11 23 22.5 -0.7**
XAN AP pP 11 23 29.8 -2.7
XAN S **S** **11 28 44.5 -1.9**
XAN AMB AMB
comp=Z,172nm,1.0s,mb5.9
XAN AMB AMB
comp=Z,3µm,14.2s
XAN LR LR
comp=N,50µm,14.3s,MS6.5
XAN LR LR
comp=E,38µm,14.8s,MS6.5
XAN LR LR
comp=Z,106µm,14.8s,MS6.7
SWI Sorong 34.23 94 P **P** **11 23 25.3 +0.2**
comp=Z,195nm,1.2s,mb5.9
FITZ Fitzroy Crossi 34.29 126⇑*i*P **P** **11 23 24.2 -1.4**
comp=Z,65nm,0.9s,mb5.6
FITZ *es*P sP 11 23 37.3 -1.5
FITZ *eS* **S** **11 28 45.5 -5.2**
FITZ Fitzroy Crossi 34.29 126 P **P** **11 23 24.3 -1.3**
comp=Z,34nm,0.8s,mb5.3,baz=291,slow=5.4,SNR=43
FITZ S **S** **11 28 39.2 -12**
comp=Z,3.3nm,1.1s,baz=87,slow=19,SNR=2.9
FITZ LR LR 11 37 17.2
comp=Z,19µm,21.8s,MS5.8,baz=306,slow=36
LZH Lanzhou 34.77 10 ⇑P **P** **11 23 30.0 +0.2**
LZH AP pP 11 23 39.3 +0.2
LZH XP sP 11 23 43.0 0.0
LZH PCP PcP 11 26 05.0 +2.1
LZH *eS* **S** **11 28 57.0 -1.2**
LZH XS sS 11 29 13.0 -0.5
LZH SS SS 11 31 10.0 -20
LZH AMB AMB
comp=Z,468nm,1.1s,mb6.3
LZH AMB AMB
comp=Z,3µm,4.1s
LZH LR LR
comp=E,59µm,15.6s
LZH LR LR
comp=Z,49µm,16.9s,MS6.3
SMLA Simla 34.82 329 *eP* **P** **11 23 30.1 -0.2**
SMLA AMb AMB 11 23 35.9
comp=Z,254nm,1.3s,mb6.0
SDNR Sundarnagar 35.22 329 *eP* **P** **11 23 34.5 +0.8**
SDNR *ex* x 11 29 14.0
BHK Bhakra 35.44 329 *ex* **P** **11 23 40.0 +4.4**
BHK *ex* x 11 24 02.0
PONG Pong 36.11 329 *eP* **P** **11 23 42.0 +0.7**
NJ2 Nanjing 36.48 32 *eP* **P** **11 23 44.0 -0.5**

NJ2 AP pP 11 23 54.0 +0.2
NJ2 XP sP 11 23 57.5 -0.1
NJ2 PP PP 11 25 09.0 +1.2
NJ2 S **S** **11 29 23.0 -1.3**
NJ2 XS sS 11 29 38.0 -1.7
NJ2 AMB AMB
comp=Z,60nm,1.0s,mb5.5
NJ2 AMB AMB
comp=Z,2µm,7.8s
NJ2 LR LR
comp=N,118µm,15.4s,MS6.9
NJ2 LR LR
comp=E,100µm,12.5s,MS6.9
NJ2 LR LR
comp=Z,71µm,15.0s,MS6.6
SSE Sheshan 37.05 35 P **P** **11 23 50.5 +1.2**
SSE AP pP 11 23 59.3 +0.6
SSE XP sP 11 24 03.0 +0.5
SSE PP PP 11 25 14.5 +0.5
SSE S **S** **11 29 32.5 -0.5**
SSE XS sS 11 29 47.5 -0.9
SSE AMB AMB
comp=Z,69nm,0.9s,mb5.5
SSE AMB AMB
comp=Z,3µm,7.8s
SSE LR LR
comp=N,24µm,19.5s,MS6.0
SSE LR LR
comp=E,8µm,19.5s,MS6.0
GTA Gaotai 37.61 3 P **P** **11 23 54.5 +0.4**
GTA AP pP 11 24 03.5 +0.1
GTA XP sP 11 24 07.5 +0.2
GTA PP PP 11 25 23.5 +3.3
GTA PPP 11 25 44.0
GTA PCP PcP 11 26 13.0 +1.7
GTA S **S** **11 29 41.0 -0.5**
GTA XS sS 11 29 55.0 -1.9
GTA SCP ScP 11 29 57.3 +1.0
GTA PCS PcS 11 30 00.5 +0.6
GTA SS SS 11 32 13.0 -14
GTA SCS ScS 11 34 03.8 -1.0
GTA AMB AMB
comp=Z,88nm,1.1s,mb5.4
GTA AMB AMB
comp=Z,5µm,8.0s
GTA LR LR
comp=N,26µm,15.2s,MS6.3
GTA LR LR
comp=E,24µm,15.2s,MS6.3
GTA LR LR
comp=Z,28µm,14.5s,MS6.2
KAKA Kakadu 37.87 113⇑*i*P **P** **11 23 54.5 -1.8**
comp=Z,94nm,0.7s,mb5.6
MUN Mundaring 38.08 153 *eP* **P** **11 24 07.5 +9.5**
KLBR Kellerberrin 38.48 151 *eP* **P** **11 24 09.0 +7.6**
comp=Z,60nm,0.9s,mb5.3
NIL Nilore 38.85 327 P **P** **11 24 06.4 +1.8**
comp=Z,176nm,1.1s,mb5.7,SNR=5.4
JOW Kunigami 38.95 47 P **P** **11 24 05.8 +0.4**
comp=Z,133nm,0.5s,mb5.9,baz=241,slow=7.5,SNR=95
JOW LR LR 11 40 15.0
comp=Z,14µm,20.4s,MS5.8,baz=226,slow=36
TIA Tai'an 39.01 26 ⇑P **P** **11 24 05.3 -0.6**
TIA PP PP 11 25 40.0 +4.4
TIA XS sS 11 30 18.0 -0.2
TIA AMB AMB
comp=Z,90nm,1.1s,mb5.4
TIA AMB AMB
comp=Z,2µm,8.0s
TIA LR LR
comp=N,111µm,13.0s,MS6.9
TIA LR LR
comp=E,59µm,13.0s,MS6.9
NWAO Narrogin (SRO) 39.34 153 P **P** **11 24 10.1 +1.5**
comp=E,14nm,0.9s,mb4.7,baz=292,slow=14,SNR=2.5
NWAO LR LR 11 39 58.3
comp=E,31µm,20.8s,MS6.1,baz=331,slow=36
NWAO Narrogin (SRO) 39.34 153 *eP* **P** **11 24 10.2 +1.6**
NWAO pmax pmax
comp=Z,124nm,1.3s
NWAO MLR MLR
comp=Z,25µm,21.0s
NWAO Narrogin (SRO) 39.34 153 *eP* **P** **11 24 10.2 +1.6**
comp=Z,124nm,1.3s,mb5.5
NWAO LR LR
comp=Z,25µm,21.0s,MS6.0
BTO Baotou 40.45 15 *eP* **P** **11 24 18.0 +0.2**
BTO AMB AMB
comp=Z,78nm,3.3s
BTO LR LR
comp=N,10µm,15.9s,MS5.9
BTO LR LR
comp=E,10µm,14.8s,MS5.9
HHC Hu-ho-hao-te 41.10 17 *eP* **P** **11 24 24.5 +1.3**
HHC AP pP 11 24 34.3 +1.7
HHC XP sP 11 24 37.8 +1.4
HHC PP PP 11 26 02.8 +4.5
HHC PCP PcP 11 26 26.0 +3.6
HHC S **S** **11 30 36.3 +2.3**
HHC XS sS 11 30 51.8 +2.3
HHC SCS ScS 11 34 21.5 -3.8
HHC AMB AMB
comp=Z,214nm,1.7s,mb5.5
HHC AMB AMB
comp=Z,5µm,7.0s
HHC LR LR
comp=N,75µm,16.7s,MS6.7
HHC LR LR
comp=E,22µm,13.1s,MS6.7
HHC LR LR
comp=Z,62µm,16.1s,MS6.6
BJT Baijiatuan 41.88 22 *eP* **P** **11 24 30.6 +1.0**
BJT *e**PP pP 11 24 40.3 +1.3
BJT pmax pmax
comp=Z,76nm,1.0s
BJT MLR MLR
comp=Z,19µm,19.0s
BJT Baijiatuan 41.88 22 *eP* **P** **11 24 30.6 +1.0**
comp=Z,756nm,1.0s,mb6.3
BJT *ep*P pP 11 24 40.3 +1.2
BJT LR LR
comp=Z,19µm,19.0s,MS6.0
BJI Beijing 41.90 22 P **P** **11 24 30.8 +1.0**
BJI AP pP 11 24 39.5 +0.3
BJI XP sP 11 24 43.8 +0.8
BJI S **S** **11 30 46.0 +0.1**
BJI XS sS 11 31 03.3 +1.9
BJI AMB AMB
comp=Z,736nm,1.0s,mb6.3
BJI AMB AMB
comp=Z,8µm,4.7s
BJI LR LR
comp=N,16µm,17.1s,MS6.3
BJI LR LR
comp=E,33µm,17.1s,MS6.3
BJI LR LR
comp=Z,21µm,16.3s,MS6.1
KSH Kashi 42.28 335 ⇑P **P** **11 24 34.0 +1.1**
KSH *e*AP pP 11 24 44.5 +2.2
KSH *e*SCP ScP 11 30 15.0 +0.5
KSH S **S** **11 30 51.0 -0.5**
KSH *e*XS sS 11 31 09.5 +2.5
KSH *e*SS SS 11 33 54.5 -6.0
KSH *e*SCS ScS 11 34 31.5 -1.0
KSH AMB AMB
comp=Z,5µm,4.8s
KSH LR LR
comp=N,28µm,20.6s,MS6.3
KSH LR LR
comp=E,24µm,17.6s,MS6.3
KSH LR LR
comp=Z,23µm,20.3s,MS6.0
WRA Warramunga Arr 42.37 122 P **P** **11 24 32.8 -0.8**
comp=Z,60nm,0.8s,mb5.3,baz=301,slow=9.1,SNR=138
WRA ScP ScP 11 30 19.3 +4.5
comp=Z,4.0nm,1.2s,baz=288,slow=4.0,SNR=5.2
WRA S **S** **11 30 47.3 -5.4**
comp=Z,24nm,1.2s,baz=295,slow=14,SNR=4.4
WRA LR LR 11 42 04.0
comp=Z,14µm,20.6s,MS5.8,baz=300,slow=36
WRA Warramunga Arr 42.37 122 P **P** **11 24 32.8 -0.8**
comp=Z,549nm,1.1s,mb6.1,SNR=33
WRAB Tennant Creek 42.37 122 *eP* **P** **11 24 32.9 -0.7**

WRAB *eS* **S** **11 30 46.4 -6.4**
WRAB pmax pmax
comp=Z,200nm,0.8s,mb5.8
WRAB MLR MLR
comp=Z,19µm,22.0s,MS5.9
WRAB Tennant Creek 42.37 122 *eP* **P** **11 24 32.9 -0.7**
comp=Z,200nm,0.8s,mb5.8
WRAB *eS* **S** **11 30 46.4 -6.5**
WRAB LR LR
comp=Z,19µm,22.0s,MS5.9
WB2 Warramunga Arr 42.38 122 *eP* **P** **11 24 32.8 -0.9**
WB2 *es*P sP 11 24 47.5 +0.6
WB2 *e* 11 30 47.7
WBK Wadi Bani Khal 42.47 302 ⇑P **P** **11 24 33.5 -0.9**
WMQ Urumqi 42.77 350 P **P** **11 24 38.3 +1.5**
WMQ AP pP 11 24 48.0 +1.7
WMQ XP sP 11 24 52.0 +1.9
WMQ PP PP 11 26 20.5 +4.2
WMQ PCP PcP 11 26 29.8 +1.9
WMQ SCP ScP 11 30 16.8 +0.4
WMQ PCS PcS 11 30 20.5 +0.4
WMQ S **S** **11 30 59.8 +1.2**
WMQ XS sS 11 31 16.0 +1.8
WMQ SS SS 11 34 05.0 -5.0
WMQ SCS ScS 11 34 34.3 -1.1
WMQ AMB AMB
comp=Z,66nm,1.3s,mb5.2
WMQ AMB AMB
comp=Z,6µm,4.8s
WMQ LR LR
comp=N,10µm,19.8s,MS6.0
WMQ LR LR
comp=E,19µm,22.0s,MS6.0
WMQ LR LR
comp=Z,11µm,18.5s,MS5.8
JMDO Jabal Madar 43.11 301 ⇑P **P** **11 24 38.7 -0.9**
DL2 Dalian 43.27 28⇑*i*P **P** **11 24 41.3 +0.4**
DL2 AP pP 11 24 51.5 +1.2
DL2 PP PP 11 26 26.0 +4.3
DL2 S **S** **11 31 07.3 +1.3**
DL2 AMB AMB
comp=Z,120nm,0.8s,mb5.7
DL2 AMB AMB
comp=Z,2µm,5.6s
DL2 LR LR
comp=N,13µm,15.8s,MS6.2
DL2 LR LR
comp=E,16µm,14.5s,MS6.2
DL2 LR LR
comp=Z,17µm,18.9s,MS6.0
SMDO Samad 43.43 302 ⇓P **P** **11 24 43.4 +1.2**
BIDO Bidbid 43.55 303 P **P** **11 24 45.8 +2.6**
SNR=9.3
BIDO P 11 24 46.0
SNR=16
FORT Forrest 43.71 140 *eP* **P** **11 24 45.6 +1.2**
comp=Z,184nm,0.6s,mb6.0
FORT *eS* **S** **11 31 14.3 +1.9**
ASPA Alice Springs 43.76 127 *eP* **P** **11 24 44.2 -0.6**
ASPA *es*P sP 11 24 58.3 +0.2
ASPA *eS* **S** **11 31 11.0 -2.1**
ASAR Alice Springs 43.76 127 P **P** **11 24 44.5 -0.3**
comp=Z,57nm,1.0s,mb5.2,baz=301,slow=7.2,SNR=129
ASAR ScP ScP 11 30 23.2 +2.8
comp=Z,13nm,1.2s,baz=317,slow=4.4,SNR=6.0
ASAR S **S** **11 31 10.4 -2.8**
comp=Z,5.4nm,0.8s,baz=294,slow=13,SNR=7.5
ASAR LR LR 11 45 38.8
comp=Z,18µm,21.2s,MS6.0,baz=300,slow=40
ASAR Alice Springs 43.76 127 P **P** **11 24 44.5 -0.3**
ASAR S **S** **11 31 10.4 -2.8**
AS31 Alice Springs 43.76 127 *eP* **P** **11 24 44.2 -0.6**
AS31 *es*P sP 11 24 58.3 +0.2
AS31 *eS* **S** **11 31 11.0 -2.2**
JAY Jayapura 43.77 95 P **P** **11 24 42.8 -2.1**
comp=Z,120nm,0.8s,mb5.7
BSY Bisya 44.02 302 P **P** **11 24 50.5 +3.6**
SNR=11
ULHL Ulahol 44.50 338 P **P** **11 24 52.1 +1.3**
SNR=43
KZA Kyzart 44.74 337 P **P** **11 24 54.5 +1.8**
SNR=42
INCN Inchon 44.77 34 *eP* **P** **11 24 52.4 -0.6**
comp=Z,84nm,0.9s,mb5.6
INCN LR LR
comp=Z,37µm,19.0s,MS6.3
ARQ Araqi 44.83 302 P **P** **11 24 57.2 +3.8**
SNR=7.7
AAA Alma-Ata 45.13 339 *i* P **P** **11 24 57.3 +1.5**
AAA *i* S **S** **11 31 35.3 +2.2**
UCH Uchtor 45.16 336 P **P** **11 24 57.3 +1.2**
SNR=322
TKM2 Tokmak 2 45.32 338 P **P** **11 24 58.2 +0.9**
SNR=178
KBK Karagaybulak 45.35 337 P **P** **11 24 59.6 +2.1**
SNR=69
AML Almayashu 45.41 335 P **P** **11 24 59.6 +1.5**
SNR=56
WHFO Wadi Hawf 45.49 294 ⇑P **P** **11 24 58.8 +0.1**
AAK Ala-Archa 45.51 337 P **P** **11 24 59.6 +0.8**
comp=Z,539nm,1.0s,mb6.4,SNR=54
AAK Ala-Archa 45.51 337 *ce*P **P** **11 24 59.7 +0.9**
SNR=84
AAK Ala-Archa 45.51 337 *ce*P **P** **11 24 59.6 +0.8**
AAK pmax pmax
comp=Z,149nm,2.5s,mb5.5
AAK MLR MLR
comp=Z,9µm,15.0s,MS5.8
AAK Ala-Archa 45.51 337 *eP* **P** **11 24 59.2 +0.4**
comp=Z,261nm,1.4s,mb6.0
AAK LR LR
comp=Z,13µm,20.0s,MS5.9
FRU Bishkek 45.63 337⇑*i*P **P** **11 25 01.0 +1.3**
FRU *e* 11 26 43.0
FRU *e*PPP 11 27 24.0
FRU *eS* **S** **11 31 42.0 +1.8**
FRU SS SS 11 34 54.0 -11
FRU pmax pmax
comp=Z,4µm,6.0s
FRU smax
comp=E,6µm,9.0s
FRU MLR MLR
comp=N,10µm,22.0s,MS6.0
FRU MLR MLR
comp=E,15µm,22.0s,MS6.0
FRU MLR MLR
comp=Z,17µm,22.0s,MS5.9
CHMS Chumysh 45.72 337 P **P** **11 25 01.3 +0.9**
SNR=40
ASHO Ashiyiah 45.74 303⇓P **P** **11 25 00.9 +0.2**
EKS2 Erkin-Say 45.82 336 P **P** **11 25 02.6 +1.4**
SNR=71
USP Ospenovka 46.04 337 P **P** **11 25 03.8 +0.8**
SNR=217
SNY Shenyang 46.49 27 ⇑P **P** **11 25 05.8 -0.7**
SNY AP pP 11 25 10.8 -5.3
SNY XP sP 11 25 14.5 -5.4
SNY PP PP 11 26 56.0 0.0
SNY S **S** **11 31 55.5 +2.8**
SNY AMB AMB
comp=Z,158nm,2.5s,mb5.5
SNY AMB AMB
comp=Z,5µm,6.7s
SNY LR LR
comp=E,51µm,15.1s
SNY LR LR
comp=Z,47µm,15.9s,MS6.5
SONM Songino Array 46.65 9 P **P** **11 25 07.9 +0.1**
comp=Z,168nm,0.8s,mb6.0,baz=189,slow=7.9,SNR=263
SONM LR LR 11 47 25.3
comp=Z,44µm,19.1s,MS6.4,baz=188,slow=40
SONM PKPPKP 11 56 27.3
comp=Z,0.4nm,0.7s,baz=266,slow=4.5,SNR=4.2
MKAR Makanchi Array 46.73 346 P **P** **11 25 08.4 0.0**
comp=Z,630nm,1.0s,mb6.5,baz=160,slow=7.3,SNR=590
MKAR Makanchi Array 46.73 346⇑*eP* **P** **11 25 08.3 -0.1**
TAS Tashkent 46.75 331 *ce*P **P** **11 25 10.0 +1.5**
TAS *eS* **S** **11 31 58.0 +1.7**
TAS pmax pmax
comp=Z,5µm,5.0s
ULN Ulaanbaatar 46.78 9 P **P** **11 25 09.6 +0.8**
SNR=87
ULN Ulaanbaatar 46.78 9 *i* P **P** **11 25 09.3 +0.5**
ULN Ulaanbaatar 46.78 9 *eP* **P** **11 25 08.9 +0.1**
comp=Z,139nm,0.9s,mb5.9

GUMO Guam 48.66 73 P **P** **11 25 23.1 -0.3**
comp=Z,11nm,0.3s,mb5.3,baz=13,slow=13,SNR=4.4
GUMO LR LR 11 44 49.5
comp=Z,4μm,21.8s,MS5.3,baz=79,slow=35
ZAK Zakamensk 48.78 5⇓*i*P **P** **11 25 24.4 +0.1**
ZAK pmax pmax
comp=Z,67nm,1.8s,mb5.4
CN2 Changchun 48.89 27⇑P **P** **11 25 24.8 -0.3**
CN2 *e*XP sP 11 25 36.8 -1.7
CN2 *e*PP PP 11 27 18.0 -0.6
CN2 *e*S **S** **11 32 25.5 -1.2**
CN2 AMB AMB
comp=Z,40nm,1.2s,mb5.3
CN2 AMB AMB
comp=Z,4μm,7.0s
CN2 LR LR
comp=N,17μm,17.0s,MS6.3
CN2 LR LR
comp=E,18μm,17.0s,MS6.3
CN2 LR LR
comp=Z,20μm,19.0s,MS6.1
CBIJ Chichi jima 50.00 55 LR LR 11 44 16.0
comp=Z,5μm,21.3s,MS5.5,baz=236,slow=33
TLY Talaya 50.10 5 P **P** **11 25 35.7 +1.3**
comp=Z,691nm,1.0s,mb6.6,SNR=51
TLY Talaya 50.10 5 P **P** **11 25 35.6 +1.3**
SNR=74
TLY Talaya 50.10 5*c i*P **P** **11 25 35.3 +0.9**
TLY pmax pmax
comp=Z,142nm,1.0s,mb6.0
TLY Talaya 50.10 5 *e*P **P** **11 25 35.0 +0.6**
TLY LR LR
comp=Z,39μm,19.0s,MS6.4
IRK Irkutsk 50.72 6 *e*P **P** **11 25 38.7 -0.3**
IRK *e* 11 32 55.6
IRK pmax pmax
comp=Z,488nm,2.8s,mb5.9
ABKT Ailbek 50.78 320 P **P** **11 25 40.2 +0.7**
comp=Z,356nm,0.7s,mb6.4,SNR=26
VAN Vannovskaya 50.80 320 *e*P **P** **11 25 40.1 +0.5**
PMG Port Moresby 51.05 103 P **P** **11 25 41.5 0.0**
comp=Z,66nm,0.7s,mb5.7,baz=291,slow=7.2,SNR=22
PMG Port Moresby 51.05 103*c i*P **P** **11 25 41.4 -0.1**
PMG Port Moresby 51.05 103 *e*P **P** **11 25 40.9 -0.6**
comp=Z,72nm,0.8s,mb5.7
PMG LR LR
comp=Z,11μm,19.0s,MS5.9
HIA Hailar 51.19 19 *e*P **P** **11 25 42.5 -0.1**
HIA *e* pP 11 25 53.6 +1.4
HIA MLR MLR
comp=Z,20μm,20.0s
KURK Kurchatov 51.29 345 P **P** **11 25 43.3 0.0**
SNR=44
MAJO Matsushiro 51.37 43 *e*P **P** **11 25 43.5 -0.4**
MAJO *e* pP 11 25 53.2 -0.4
MAJO *e* 11 27 01.2
MAJO pmax pmax
comp=Z,62nm,0.8s,mb5.6
MAJO MLR MLR
comp=Z,16μm,20.0s,MS6.0
MAJO Matsushiro 51.37 43 *e*P **P** **11 25 43.5 -0.4**
comp=Z,62nm,0.8s,mb5.6
MAJO *e* pP 11 25 53.1 -0.4
MAJO *e*PcP PcP 11 27 01.2 +2.9
MAJO LR LR
comp=Z,16μm,20.0s,MS6.0
MAT Matsushiro 51.37 43 P **P** **11 25 43.3 -0.6**
MAT *S* **S** **11 33 05.0 +3.7**
MAT Matsushiro 51.37 43 *e*P **P** **11 25 43.0 -0.9**
MAT *e*S **S** **11 33 16.0 +15**
MAT pmax pmax
comp=Z,88nm,1.2s,mb5.6
MAT MLR MLR
comp=Z,17μm,20.0s,MS6.1
MAT Matsushiro 51.37 43 *e*P **P** **11 25 43.0 -0.9**
comp=Z,88nm,1.2s,mb5.6
MAT *e*S **S** **11 33 16.0 +15**
MAT LR LR
comp=Z,17μm,20.0s,MS6.1
MJAR Matsushiro Arr 51.37 43 P **P** **11 25 43.5 -0.4**
comp=Z,38nm,0.8s,mb5.4,baz=219,slow=6.5,SNR=62
MJAR LR LR 11 48 07.7
comp=Z,15μm,21.1s,MS6.0,baz=245,slow=37
MDJ Mudanjiang 51.47 29 P **P** **11 25 45.3 +0.6**
MDJ AP pP 11 25 54.3 0.0
MDJ XP sP 11 25 57.3 -0.8
MDJ PP PP 11 27 44.0 +2.0
MDJ SCP ScP 11 30 48.3 -4.6
MDJ PCS PcS 11 30 54.0 -2.5
MDJ S **S** **11 33 02.5 -0.1**
MDJ SCS ScS 11 35 28.8 -3.8
MDJ AMB AMB
comp=Z,173nm,1.0s,mb5.9
MDJ AMB AMB
comp=Z,4μm,6.7s
MDJ LR LR
comp=N,12μm,13.5s,MS6.5
MDJ LR LR
comp=E,29μm,17.6s,MS6.5
MDJ LR LR
comp=Z,42μm,15.8s,MS6.6
MDJ Mudanjiang 51.47 29 P **P** **11 25 45.2 +0.5**
MDJ Mudanjiang 51.47 29 *e*P **P** **11 25 45.1 +0.4**
comp=Z,173nm,1.0s,mb5.9
MDJ LR LR
comp=Z,24μm,20.0s,MS6.2
CIT Chita 52.00 13 *e*P **P** **11 25 49.8 +1.2**
CIT *e* 11 26 07.1
CIT *e*S **S** **11 33 12.1 +2.2**
CIT pmax pmax
comp=Z,984nm,2.4s,mb6.3
LBOS 52.67 286 *e*P **P** **11 25 57.0 +3.3**
CTA Charters Tower 52.80 117⇑*i*P **P** **11 25 55.0 +0.5**
comp=Z,58nm,0.9s,mb5.5
CTA *e*sP sP 11 26 07.1 -0.9
CTA *e*S **S** **11 33 20.8 0.0**
CTA Charters Tower 52.80 117 P **P** **11 25 55.0 +0.4**
comp=Z,72nm,0.9s,mb5.6,baz=291,slow=9.1,SNR=45
CTA S **S** **11 33 20.9 +0.1**
comp=Z,4.9nm,1.1s,baz=37,slow=23,SNR=7.1
CTA LR LR 11 52 39.6
comp=Z,21μm,18.6s,MS6.2,baz=281,slow=41
CTA Charters Tower 52.80 117⇑*i*P **P** **11 25 55.0 +0.5**
CTA *e**SP sP 11 26 07.1 -0.9
CTA *e*S **S** **11 33 20.8 0.0**
CTA pmax pmax
comp=Z,58nm,0.9s
CTAO Charters Tower 52.80 117 P **P** **11 25 54.9 +0.4**
CTAO S **S** **11 33 21.0 +0.2**
CTAO Charters Tower 52.80 117 *e*P **P** **11 25 54.0 -0.5**
CTAO *e* 11 26 07.4
CTAO pmax pmax
comp=Z,101nm,1.0s,mb5.7
CTAO MLR MLR
comp=Z,20μm,19.0s,MS6.2
CTAO Charters Tower 52.80 117 *e*P **P** **11 25 54.0 -0.6**
comp=Z,101nm,1.0s,mb5.7
CTAO *e* 11 26 07.4
CTAO LR LR
comp=Z,20μm,19.0s,MS6.2
ZAL Zalesovo 53.04 351 P **P** **11 25 56.6 +0.2**
comp=Z,170nm,0.9s,mb6.0,baz=298,slow=6.5,SNR=135
ZAL S **S** **11 33 24.8 +0.7**
comp=Z,1.5nm,0.5s,baz=192,slow=21,SNR=3.5
ADE Adelaide 53.33 137 *e*P **P** **11 26 00.0 +1.5**
DHBB Dhamar BB 53.60 287 *e*P **P** **11 26 03.6 +3.2**
STKA Stephens Creek 53.75 132 *e*P **P** **11 26 01.7 +0.1**
comp=Z,70nm,1.0s,mb5.5
STKA *e*sP sP 11 26 14.7 -0.3
STKA *e*S **S** **11 33 32.7 -1.1**
STKA Stephens Creek 53.75 132 P **P** **11 26 02.0 +0.4**
comp=Z,102nm,1.0s,mb5.7,baz=305,slow=7.4,SNR=67
STKA S **S** **11 33 32.6 -1.2**
comp=Z,10nm,1.2s,baz=186,slow=22,SNR=2.1
STKA LR LR 11 52 03.5
comp=Z,16μm,20.1s,MS6.1,baz=307,slow=40
NVS Novosibirsk 54.17 350⇑*i*P **P** **11 26 04.0 -0.6**
NVS *e*S **S** **11 33 38.9 -0.5**
NVS pmax pmax
comp=N,154nm,1.2s
NVS pmax pmax
comp=E,124nm,1.2s
NVS pmax pmax
comp=Z,297nm,1.2s,mb6.1
NVS smax
comp=N,171nm,2.9s
NVS smax
comp=E,644nm,3.3s
KBD Kabd 54.35 305 *e*P **P** **11 26 06.1 +0.2**
KBD AMb AMB 11 26 11.0
comp=Z,290nm,1.1s,mb6.1
RDF Al-Radifah 54.38 305 *e*P **P** **11 26 06.4 +0.3**
RDF AMb AMB 11 26 09.1
comp=Z,100nm,0.9s,mb5.7
UMR Umm Al-Rimmam 54.46 306 *e*P **P** **11 26 06.2 -0.5**
UMR AMb AMB 11 26 12.1
comp=Z,120nm,0.9s,mb5.8
NAY Al-Naaiem 54.74 305 *e*P **P** **11 26 08.6 -0.2**
NAY AMb AMB 11 26 12.0
comp=Z,56nm,0.9s,mb5.6
MIB Mutribah 54.86 306 *e*P **P** **11 26 09.7 +0.1**
MIB AMb AMB 11 26 13.1
comp=Z,220nm,0.9s,mb6.2
BRVK Borovoye 55.81 341 P **P** **11 26 15.7 -0.8**
comp=Z,615nm,0.9s,mb6.6,SNR=40
KLR Kul'dur 55.84 27⇓*i*P **P** **11 26 14.0 -2.7**
KLR *e* 11 29 39.5
KLR *e*S **S** **11 34 02.5 +0.7**
KLR pmax pmax
comp=E,2μm,3.0s
KLR pmax pmax
comp=Z,4μm,3.0s
KLR pmax pmax
comp=N,4μm,7.0s
KLR pmax pmax
comp=E,2μm,7.0s
KLR pmax pmax
comp=Z,6μm,7.0s
KLR MLR MLR
comp=Z,60μm,13.5s,MS6.8
HABR Khabarovsk 56.85 29⇑*i*P **P** **11 26 23.9 0.0**
HABR *e*S **S** **11 34 17.1 +1.8**
HABR pmax pmax
comp=Z,202nm,1.0s,mb6.1
HABR MLR MLR
comp=Z,26μm,22.0s,MS6.3
BOD Bodaibo 57.53 11⇓*i*P **P** **11 26 28.5 -0.2**
BOD pmax pmax
comp=Z,129nm,1.2s,mb5.8
ERM Erimo 57.53 39 P **P** **11 26 31.9 +3.2**
comp=Z,570nm,1.2s,mb6.5,SNR=5.5
BHD Baghdad 58.46 309 *i* x x 11 26 32.0
BHD *e*x x 11 27 22.0
BHD *i* x x 11 34 33.0
BHD *e*x x 11 34 49.0
AKTK Aktyubinsk 58.75 332 P **P** **11 26 36.5 -0.7**
AKTK LR LR 11 53 34.8
AKTO Aktyubinsk 58.75 332 P **P** **11 26 36.5 -0.7**
comp=Z,43nm,0.8s,mb5.5,baz=132,slow=7.3,SNR=56
AKTO LR LR 11 53 34.8
comp=Z,3μm,19.4s,MS5.5,baz=336,slow=38
CLNS Chul'man 59.28 17 *e*P **P** **11 26 39.9 -1.0**
TOO Toolangi 59.36 136 *e*P **P** **11 26 43.4 +2.0**
comp=Z,14nm,0.9s,mb5.0
TOO *e*sP sP 11 26 53.2 -1.7
TOO *e*S **S** **11 34 49.6 +1.6**
TOO Toolangi 59.36 136 *e*P **P** **11 26 43.4 +2.0**
TOO *e**SP sP 11 26 53.2 -1.7
TOO *e*S **S** **11 34 49.6 +1.6**
TOO pmax pmax
comp=Z,15nm,0.9s,mb5.0
KMBO Kilima Mbogo 59.93 268 P **P** **11 26 46.8 +1.4**
comp=Z,2.6nm,0.7s,baz=46,slow=10,SNR=7.6
KMBO LR LR 11 48 10.8
comp=Z,11μm,20.4s,MS6.0,baz=80,slow=31
KMBO PKP2bc 11 56 24.6
comp=Z,14nm,0.2s,baz=124,slow=2.6,SNR=19
KMBO Kilima Mbogo 59.93 268 P **P** **11 26 46.8 +1.4**
KMBO LR LR 11 48 10.8
KMBO ⇑*e* 11 56 24.6
YSS Yuzh-Sakhalins 59.98 34*α i*P **P** **11 26 46.2 +0.5**
YSS *i**PP pP 11 26 55.0 -0.5
YSS *e**SP sP 11 27 00.0 +0.8
YSS *e* 11 27 33.0
YSS *e* 11 29 07.0
YSS *e*PPP 11 30 20.0
YSS *e*S **S** **11 34 52.0 -3.9**
YSS *i* PS 11 35 13.0
YSS *e*SS SS 11 38 56.0 +3.3
YSS pmax pmax
comp=N,90nm,1.0s
YSS pmax pmax
comp=E,130nm,1.0s
YSS pmax pmax
comp=Z,430nm,1.0s,mb6.4
YSS pmax pmax
comp=Z,4μm,6.0s
YSS pmax pmax
comp=N,2μm,5.0s
YSS pmax pmax
comp=E,2μm,5.0s
YSS smax
comp=N,1μm,7.0s
YSS MLR MLR
comp=E,20μm,16.0s,MS6.4
YSS MLR MLR
comp=Z,18μm,16.0s,MS6.3
YSS MLR MLR
comp=N,8μm,13.0s,MS6.4
YSS Yuzh-Sakhalins 59.98 34 *e*P **P** **11 26 45.8 +0.1**
comp=N,333nm,0.9s,mb6.4
YUK Yuzh-Kuril'sk 60.27 39⇑*i*P **P** **11 26 47.5 -0.2**
YUK *e* 11 27 33.4
YUK 11 29 00.5
YUK *i* S **S** **11 35 03.0 +3.3**
YUK *e*PS 11 35 18.0
YUK pmax pmax
comp=N,4μm,3.5s
YUK pmax pmax
comp=Z,5μm,3.5s
YUK pmax pmax
comp=E,3μm,4.5s
YUK smax
comp=E,2μm,4.0s
YUK smax
comp=N,2μm,5.0s
YUK MLR MLR
comp=N,8μm,15.0s,MS6.6
YUK MLR MLR
comp=Z,39μm,15.0s,MS6.7
YUK MLR MLR
comp=E,30μm,14.0s,MS6.6
MAK Makhachkala 60.30 320 *e*P **P** **11 26 45.5 -2.4**
MAK *e* 11 29 00.1
MAK *e*PPP 11 30 31.1
MAK *e*S **S** **11 34 58.9 -1.2**
MAK *e*SS SS 11 39 00.1 +2.4
MAK pmax pmax
comp=Z,53nm,0.6s,mb5.8
MAK Makhachkala 60.30 320⇓*i*P **P** **11 26 49.4 +1.5**
CUKT Cukurca 60.52 313 *e*P **P** **11 26 48.0 -1.5**
MSL Mosul 60.55 311 *e*x x 11 26 54.0
MSL *e*x x 11 35 02.5
MSL *e*x x 11 36 43.0
MSL *e*x x 11 39 12.0
GNI Garni 60.88 316 *e*P **P** **11 26 50.2 -1.7**
GNI Garni 60.88 316 P **P** **11 26 51.6 -0.3**
comp=Z,9.1nm,0.4s,mb5.2,baz=173,slow=20,SNR=11
GNI Garni 60.88 316 P **P** **11 26 52.6 +0.8**
SNR=9.7
GNI P 11 26 52.9
SNR=28
GNI Garni 60.88 316 *e*P **P** **11 26 52.5 +0.6**
comp=Z,98nm,0.9s,mb5.9
GNI LR LR
comp=Z,4μm,20.0s,MS5.5
CLDR Calditan 61.04 315 *e*P **P** **11 26 52.7 -0.3**
CNB Canberra Magne 61.08 132 *e*P **P** **11 26 54.8 +1.6**
comp=Z,23nm,0.8s,mb5.3
VANB Van 61.20 314 *e*P **P** **11 26 48.6 -5.5**
MTA Mtatsminda 61.51 318 P **P** **11 26 56.0 -0.1**
TBLG Delisi 61.56 318 P **P** **11 26 56.6 +0.2**
SVE Sverdlovsk 62.19 338 *i* P **P** **11 27 00.0 -0.7**
SVE *e* 11 27 42.0
SVE *e*PPP 11 30 50.0
SVE *i* S **S** **11 35 20.0 -4.1**
SVE *e*SS ScS 11 36 48.0 -2.4
SVE *e*SSS 11 39 27.0
SVE pmax pmax
comp=Z,575nm,3.0s
SVE MLR MLR
comp=E,3μm,18.0s
SVE MLR MLR
comp=Z,7μm,18.0s,MS5.9
ZEI Tsey 62.57 318 *e*P **P** **11 27 04.3 +1.1**
ZEI *e**PP pP 11 27 13.8 +0.7
ZEI pmax pmax
comp=Z,54nm,0.9s,mb5.7
MARD Mardin 62.64 312 *i* P **P** **11 27 03.9 +0.2**
ARU Arti 62.69 337 P **P** **11 27 03.3 -0.7**
comp=Z,378nm,1.0s,mb6.5,SNR=19
ARU Arti 62.69 337 *e*P **P** **11 27 03.3 -0.7**
ARU *e* 11 27 42.0
ARU *e* 11 29 18.9
ARU *e*PPP 11 30 50.7
ARU *e*S **S** **11 35 29.0 -1.4**
ARU *e* 11 36 52.3
ARU *e*SS SS 11 39 34.0 -1.2
ARU *e*SSS 11 42 20.9
ARU MLR MLR
comp=E,7μm,21.0s,MS5.9
ARU MLR MLR
comp=Z,7μm,21.0s,MS5.8
ARU MLR MLR
comp=N,2μm,18.0s,MS5.9
ARU Arti 62.69 337 *e*P **P** **11 27 03.2 -0.9**
comp=N,80nm,1.0s,mb5.8
ARU LR LR
comp=Z,7μm,21.0s,MS5.8
ONI Oni 62.79 318 P **P** **11 27 04.1 -0.6**
BNGL BINGOL 62.96 313 *i* P **P** **11 27 06.0 +0.1**
EZM Erzurum 63.16 315 *e*P **P** **11 27 07.9 +0.7**
TAU Tasmania Unive 63.25 141 PFAKE **P** **11 27 20.0 +12**
TAU LR LR
comp=Z,11μm,22.0s,MS6.0
BINT Bingol 63.41 313 *e*P pP 11 27 19.5 +0.8
HNR Honiara 63.54 101 P **P** **11 27 11.5 +1.8**
comp=Z,253nm,0.9s,mb6.3,baz=257,slow=3.1,SNR=8.2
HNR Honiara 63.54 101 P **P** **11 27 11.5 +1.8**
HNR pmax pmax
comp=Z,253nm,0.9s,mb6.2
HNR Honiara 63.54 101 *e*P **P** **11 27 07.8 -1.9**
comp=Z,291nm,1.0s,mb6.3
HNR LR LR
comp=Z,5μm,21.0s,MS5.7
BCA Borcka 63.57 316 *e*P **P** **11 27 05.2 -4.7**
KIV Kislovodsk 63.88 319 P **P** **11 27 12.3 +0.4**
comp=Z,615nm,1.0s,mb6.6,SNR=13
KIV Kislovodsk 63.88 319 P **P** **11 27 12.1 +0.2**
SNR=40
KIV P 11 27 12.5
SNR=10
KIV Kislovodsk 63.88 319*c i*P **P** **11 27 11.9 0.0**
KIV *e* 11 27 50.5
KIV *e* 11 29 32.0
KIV *e*S **S** **11 35 44.3 -0.9**
KIV *e*SS SS 11 39 57.1 +3.4
KIV pmax pmax
comp=Z,107nm,1.0s,mb5.8
KIV pmax pmax
comp=Z,850nm,2.9s,mb6.3
KIV Kislovodsk 63.88 319 *e*P **P** **11 27 12.3 +0.4**
comp=Z,89nm,0.8s,mb5.8
KIV LR LR
comp=Z,5μm,20.0s,MS5.7
ASF Jabal al Asfar 64.11 305 P **P** **11 27 15.5 +2.0**
comp=Z,16nm,0.8s,mb5.1,baz=344,slow=3.8,SNR=22
GOF Gofitskoye 64.13 320 *e*P **P** **11 27 13.4 -0.1**
GOF pmax pmax
comp=Z,100nm,0.8s,mb5.9
URFA Urfa 64.15 311 *e*P **P** **11 27 13.0 -0.7**
EZC Erzincan 64.21 314 *e*P **P** **11 27 16.6 +2.6**
ELZG Elazig 64.38 312 *i* P **P** **11 27 16.4 +1.2**
MALT Malatya 64.73 312 *e*P **P** **11 27 18.3 +0.8**
MALT *e* pP 11 27 29.4 +2.0
MALT pmax pmax
comp=Z,48nm,0.9s,mb5.5
MALT Malatya 64.73 312 *e*P **P** **11 27 18.3 +0.8**
comp=Z,48nm,0.9s,mb5.5
MALT *e* pP 11 27 29.4 +2.0
MYA Malataya 64.74 312 *e*P **P** **11 27 18.0 +0.4**
KELT Kelkit 64.75 314 *i* P **P** **11 27 17.9 +0.2**
YAK Yakutsk 64.96 16*c i*P **P** **11 27 18.1 -0.9**
YAK *e**PP pP 11 27 29.2 +0.4
YAK *e* 11 27 33.3
YAK *e* 11 29 39.4
YAK *e*S **S** **11 35 55.5 -3.1**
YAK *e**SS sS 11 36 25.2 +10
YAK *e*SS SS 11 40 12.1 +1.5
YAK pmax pmax
comp=Z,300nm,1.1s,mb6.2
YAK pmax pmax
comp=N,80nm,1.0s
YAK pmax pmax
comp=E,48nm,1.2s
YAK pmax pmax
comp=Z,31nm,1.4s,mb5.2
YAK pmax pmax
comp=N,24nm,1.6s
YAK pmax pmax
comp=E,22nm,1.2s
YAK smax
comp=N,6.0nm,1.3s
YAK smax
comp=Z,3.0nm,0.8s
YAK smax
comp=E,11nm,1.5s
YAK MLR MLR
comp=Z,38μm,21.0s,MS6.6
YAK MLR MLR
comp=N,23μm,19.0s,MS6.5
YAK MLR MLR
comp=E,16μm,17.0s,MS6.5
YAK Yakutsk 64.96 16 *e*P **P** **11 27 18.3 -0.7**
comp=E,530nm,0.9s,mb6.6
YAK *e*pP pP 11 27 27.7 -1.2
GZT Gaziantep 65.08 311 *i* P **P** **11 27 20.3 +0.5**
EIL Elat 65.12 302 *e*P **P** **11 27 20.2 +0.2**
MMAI Mount Meron Ar 65.55 306 P **P** **11 27 24.2 +1.4**
comp=E,31nm,0.8s,mb5.4,baz=70,slow=9.8,SNR=14
MMAI S S 11 36 08.9 +3.1
comp=E,0.5nm,0.2s,baz=320,slow=52,SNR=3.3
SOKR Solikamsk 65.59 339*c i*P **P** **11 27 22.8 -0.2**
SOKR 11 29 45.0
SOKR S S 11 36 03.8 -2.5
SOKR SS SS 11 40 20.2 -0.2
SOKR pmax pmax
comp=Z,160nm,1.0s,mb6.0
SOKR MLR MLR
comp=Z,10μm,25.0s,MS5.9
SOC Sochi 65.69 318*c i*P **P** **11 27 23.2 -0.6**
SOC *e**PP pP 11 27 33.1 -0.5
SOC *e* 11 27 52.5
SOC *e* 11 29 51.0
SOC *e*PPP 11 31 24.9
SOC *i* S S 11 36 05.2 -2.4
SOC *e**SS sS 11 36 35.7 +12
SOC *e* 11 37 16.4
SOC *e*SS SS 11 40 25.7 +3.6
SOC pmax pmax
comp=Z,64nm,0.8s,mb5.7
SOC MLR MLR
comp=Z,2μm,22.0s,MS5.4
SOC Sochi 65.69 318 *i* P **P** **11 27 23.4 -0.4**
COBT Iskenderun 65.83 310 *i* P **P** **11 27 24.0 -0.6**
SVSK Karacayir 66.31 313 *e*P **P** **11 27 27.9 +0.3**
CEYT Ceyhan 66.36 310 *e*P **P** **11 27 28.4 +0.4**
MBAR Mbarara 66.42 269*de*P **P** **11 27 28.8 +0.4**
KOZT Kozan 66.43 310 *e*P **P** **11 27 28.1 -0.4**
BNN Bunyan 66.82 312 *e*P **P** **11 27 32.1 +1.2**
KARA Karaisali 66.96 310 *e*P **P** **11 27 30.4 -1.4**
MERS Mersin 67.26 309 *e*P **P** **11 27 30.1 -3.6**
KVT Kavak 67.37 314 *e*P **P** **11 27 32.8 -1.6**
AVNT Avonos 67.54 312 *i* P **P** **11 27 35.4 -0.1**
VRHR Novokhopersk 67.67 326 *e*P **P** **11 27 34.9 -1.4**
VRHR pmax pmax
comp=Z,120nm,1.1s,mb5.8
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,30nm,0.9s
VRHR MLR MLR
comp=Z,4μm,25.0s,MS5.6
VRHR MLR MLR
comp=N,9μm,24.0s,MS5.9

VRHR MLR MLR
comp=E,3µm,23.0s,MS5.9
ANN Anapa 67.67 318 *e*P **P** **11 27 34.6 -1.8**
ANN *e*S S 11 36 27.6 -3.9
ANN *e* 11 37 30.2
ANN pmax pmax
comp=Z,1µm,9.2s
IKL Isikli 67.74 309 *e*P **P** **11 27 31.3 -5.5**
DIKM Dikmen 68.11 315 *e*P **P** **11 27 38.0 -1.1**
CORM Corum 68.12 315 *e*P **P** **11 27 38.1 -1.0**
CTKT Corum 68.13 313 *i*P **P** **11 27 39.0 -0.2**
CDAG Cicekdag 68.14 312 *i*P **P** **11 27 38.5 -0.8**
MIR Mirnyy 68.17 182*d*iP pP 11 27 49.0 -0.4
MIR pmax pmax
comp=Z,430nm,1.5s,mb6.3
MIR pmax pmax
comp=Z,2µm,8.0s
BOYT Boyabat 68.29 314 *i*P **P** **11 27 40.0 -0.2**
ERMK Ermenek 68.45 309 *i*P **P** **11 27 41.5 +0.2**
CASY Casey 68.51 174 PFAKE pP 11 27 50.0 -1.5
CASY LR LR
comp=Z,15µm,20.0s,MS6.2
KAMT Kaman 68.56 312 *e*P **P** **11 27 42.7 +0.8**
BR131 Keskin Array S 68.72 312 *e*P **P** **11 27 42.3 -0.6**
BR131 LR LR
comp=Z,2µm,20.0s,MS5.4
BRTR Keskin Array B 68.72 312 P **P** **11 27 42.2 -0.7**
comp=Z,27nm,0.8s,mb5.2,baz=132,slow=6.5,SNR=84
BRTR S S 11 36 41.2 -2.7
comp=Z,0.6nm,0.8s,baz=27,slow=18,SNR=2.7
BRTR LR LR 12 01 58.8
comp=Z,3µm,19.0s,MS5.5,baz=261,slow=40
BRTR Keskin Array B 68.72 312 P **P** **11 27 42.3 -0.6**
BRTR S S 11 36 41.3 -2.7
TOS Tosya 68.81 314 *e*P **P** **11 27 43.5 0.0**
HDMB Hadim 68.86 309 *e*P **P** **11 27 43.6 -0.2**
PECR Pechory 68.94 332*de*P **P** **11 27 43.0 -1.3**
PECR *e* 11 28 01.0
PECR *e* 11 30 16.0
PECR *i*S S 11 36 43.0 -3.6
PECR *e*PPS 11 37 24.4
PECR *i* 11 37 39.0
PECR pmax pmax
comp=Z,1µm,2.8s,mb6.3
PECR smax
comp=N,3µm,8.0s
PECR MLR MLR
comp=N,4µm,20.0s
PECR MLR MLR
comp=Z,16µm,20.0s,MS6.2
CANT Cankiri 68.98 313 *e*P **P** **11 27 43.1 -1.4**
VRSR Storozhevoye 69.10 325*c i*P **P** **11 27 43.6 -1.7**
VRSR *e**PP pP 11 27 54.4 -0.8
VRSR *e* 11 30 15.5
VRSR *e*S S 11 36 42.8 -5.7
VRSR *e*SS SS 11 41 17.7 +2.9
VRSR pmax pmax
comp=E,120nm,0.9s
VRSR pmax pmax
comp=Z,80nm,0.9s,mb5.7
VRSR pmax pmax
comp=N,40nm,1.0s
VRSR smax
comp=N,970nm,4.8s
VRSR smax
comp=Z,260nm,9.6s
VRSR smax
comp=E,760nm,5.1s
KONT Konya--Tatoy 69.20 310 *e*P **P** **11 27 44.3 -1.6**
ANTO Ankara 69.38 312 *e*P **P** **11 27 45.6 -1.5**
ANTO Ankara 69.38 312⇑*i*P **P** **11 27 47.6 +0.6**
ANTO Ankara 69.38 312 P **P** **11 27 47.1 0.0**
SNR=22
ANTO Ankara 69.38 312 *e*P **P** **11 27 47.0 0.0**
ANTO pmax pmax
comp=Z,69nm,1.0s,mb5.5
ANTO MLR MLR
comp=Z,3µm,21.0s,MS5.5
ANTO Ankara 69.38 312 *e*P **P** **11 27 47.0 -0.1**
comp=Z,70nm,1.0s,mb5.5
ANTO LR LR
comp=Z,3µm,21.0s,MS5.5
SKR Severo-Kuril's 69.49 36⇑*i*P **P** **11 27 45.0 -2.7**
SKR *e* pP 11 27 56.0 -1.6
SKR *e* 11 28 01.2
SKR *e* 11 30 28.0
SKR *e*PPP 11 32 04.0
SKR *e*S S 11 36 52.0 -1.1
SKR *e*PS 11 37 21.0
SKR *e* 11 37 28.0
SKR pmax pmax
comp=N,1µm,4.0s
SKR pmax pmax
comp=E,3µm,4.0s
SKR pmax pmax
comp=Z,5µm,4.0s
SKR pmax pmax
comp=E,90nm,1.0s
SKR pmax pmax
comp=Z,130nm,1.0s,mb5.8
SKR smax
comp=N,5µm,8.0s
SKR smax
comp=E,9µm,8.0s
SKR smax
comp=Z,4µm,8.0s
SKR MLR MLR
comp=N,8µm,18.0s,MS6.1
SKR MLR MLR
comp=E,3µm,18.0s,MS6.1
SKR MLR MLR
comp=Z,10µm,18.0s,MS6.1
KIZT Kizilcal 69.81 311 *e*P **P** **11 27 48.4 -1.3**
SIM Simferopol' 69.94 318*c i*P **P** **11 27 50.3 -0.2**
SIM *e**PP pP 11 28 01.0 +0.6
SIM *i*S S 11 36 56.0 -2.4
SIM *e*PS 11 37 24.0
LSZ Lusaka 70.18 253 *e*P **P** **11 27 54.0 +2.0**
LSZ Lusaka 70.18 253 *e*P **P** **11 27 53.7 +1.7**
comp=Z,11nm,1.1s,mb4.7
LSZ LR LR
comp=Z,15µm,20.0s,MS6.2
ISP Isparta 70.60 310 *e*P **P** **11 27 52.8 -1.7**
ISP Isparta 70.60 310⇑*i*P **P** **11 27 55.0 +0.5**
TKTP Tekketepe 70.79 310 *i*P **P** **11 27 55.1 -0.6**
MA2 Magadan 70.91 26*ce*P **P** **11 27 55.6 -0.8**
MA2 *e* 11 30 28.9
MA2 *e*S S 11 37 09.9 +0.2
MA2 *e*PS 11 37 33.3
MA2 *e*SS SS 11 41 44.1 +1.4
MA2 pmax pmax
comp=N,60nm,1.5s
MA2 pmax pmax
comp=Z,100nm,1.5s,mb5.5
MA2 MLR MLR
comp=Z,27µm,19.7s,MS6.5
MA2 Magadan 70.91 26 *e*P **P** **11 27 56.1 -0.3**
comp=Z,67nm,1.1s,mb5.5
MA2 LR LR
comp=Z,12µm,20.0s,MS6.2
FETY Fethiye 71.44 308 *e*P **P** **11 27 58.3 -1.3**
GDZ Gediz 71.67 311 *i*P **P** **11 28 00.3 -0.7**
ADVT Abdulvahap 71.79 312 *e*P **P** **11 27 57.9 -3.9**
PET Petropavlovsk 71.86 34α*i*P **P** **11 28 01.8 -0.3**
PET *e* 11 28 21.1
PET *e* 11 30 42.6
PET *e*S S 11 37 18.2 -2.5
PET *e*PS 11 37 46.6
PET *e*PPS 11 38 00.9
PET pmax pmax
comp=Z,3µm,5.6s
PET pmax pmax
comp=Z,153nm,0.8s,mb6.0
PET pmax pmax
comp=Z,1µm,17.3s
PET pmax pmax
comp=Z,1µm,17.9s
PET smax
comp=N,2µm,7.7s
PET smax
comp=E,2µm,8.3s
PET smax
comp=N,2µm,9.4s
PET smax
comp=E,1µm,9.3s

PET MLR MLR
comp=Z,10µm,16.0s,MS6.2
PET MLR MLR
comp=Z,9µm,15.0s
PET Petropavlovsk 71.86 34 *e*P **P** **11 28 01.6 -0.6**
comp=Z,64nm,0.5s,mb5.8
PET LR LR
comp=Z,8µm,19.0s,MS6.0
MOS Moscow 71.86 329⇑*i*P **P** **11 28 01.4 -0.7**
HRT Hereke 71.93 313 *e*P **P** **11 28 01.9 -0.7**
ARG Arkhangelos 72.11 308 *e*P **P** **11 28 05.0 +1.3**
OBN Obninsk 72.15 328*c i*P **P** **11 28 03.1 -0.8**
OBN *i* pP 11 28 12.3 -1.5
OBN *i* 11 28 16.5
OBN *i* 11 28 20.9
OBN *i* 11 30 44.9
OBN *i* PPP 11 32 31.0
OBN *i*S S 11 37 20.8 -3.2
OBN *i* PPS 11 38 09.7
OBN *i* SS SS 11 42 00.6 -1.1
OBN pmax pmax
comp=Z,112nm,1.2s,mb5.7
OBN MLR MLR
comp=Z,6µm,19.0s,MS5.9
GEMT Gemlik 72.20 312 *e*P **P** **11 28 03.1 -1.1**
KLYT Kilyos 72.50 313 *e*P **P** **11 28 03.8 -2.1**
MLSB Milas 72.60 309 *e*P **P** **11 28 04.6 -1.9**
DAT Datca 72.65 308 *e*P **P** **11 28 04.1 -2.7**
TIXI Tiksi 72.70 10 *e*P **P** **11 28 03.2 -4.0**
TIXI *e*S S 11 37 22.3 -8.1
TIXI *e*SS SS 11 42 02.7 -7.5
TIXI pmax pmax
comp=Z,73nm,1.0s,mb5.6
TIXI MLR MLR
comp=E,9µm,16.0s,MS6.2
TIXI MLR MLR
comp=Z,20µm,16.0s,MS6.5
TIXI MLR MLR
comp=N,7µm,15.0s,MS6.2
TIXI Tiksi 72.70 10⇑*i*P **P** **11 28 05.8 -1.4**
KARP Karpathos 72.76 307 *e*P **P** **11 28 09.5 +2.0**
ELBA Catalca 72.92 313 *i*P **P** **11 28 06.8 -1.7**
BODT Bodrum 72.92 308 *e*P **P** **11 28 08.2 -0.2**
MAW Mawson 73.18 193 *e*P **P** **11 28 10.0 0.0**
comp=N,8.9nm,1.0s,mb4.7
MAW *e*pP pP 11 28 19.1 -0.9
MAW *e*S S 11 37 37.3 +1.5
MAW Mawson 73.18 193 P **P** **11 28 10.2 +0.2**
comp=N,4.3nm,0.7s,baz=19,slow=5.6,SNR=12
MAW S S 11 37 34.6 -1.2
comp=N,1.3nm,0.8s,baz=222,slow=3.9,SNR=2.5
MAW LR LR 11 55 51.2
comp=N,8µm,18.6s,MS6.0,baz=28,slow=32
MAW Mawson 73.18 193 *e*P **P** **11 28 10.0 0.0**
MAW *e**PP pP 11 28 19.1 -0.9
MAW *e*S S 11 37 37.3 +1.5
MAW pmax pmax
comp=Z,9.0nm,1.0s
IZM Izmir 73.22 310 *e*P **P** **11 28 08.8 -1.4**
BLCB Balcova 73.39 310 *e*P **P** **11 28 10.0 -1.2**
PSN Preselentsi 73.68 315 P **P** **11 28 13.0 0.0**
MFT Murefte 73.69 312 *e*P **P** **11 28 09.9 -3.1**
CANB Canakkale 73.70 311 *e*P **P** **11 28 13.0 0.0**
TIRR Tirgusor 73.71 316⇑*i*P **P** **11 28 12.7 -0.4**
TIRR Tirgusor 73.71 316 *e*P **P** **11 28 12.5 -0.6**
TIRR *e*pP pP 11 28 21.9 -1.2
RKY Sarkoy-Tekirda 73.75 312 *e*P **P** **11 28 12.0 -1.3**
XRY Khrisi 73.83 306 *e*P **P** **11 28 15.0 +1.2**
NPS Neapolis 73.95 306 *e*P **P** **11 28 17.0 +2.5**
LBTB Lobatse 74.04 244 *e*P **P** **11 28 16.2 +1.1**
LBTB pmax pmax
comp=Z,172nm,1.6s,mb5.7
LBTB MLR MLR
comp=Z,10µm,21.0s,MS6.1
LBTB Lobatse 74.04 244 *e*P **P** **11 28 16.2 +1.1**
comp=Z,172nm,1.6s,mb5.7
LBTB LR LR
comp=Z,10µm,21.0s,MS6.1
KIS Kishinev 74.07 319*c i*P **P** **11 28 12.0 -3.2**
KIS *e* 11 31 00.0
KIS *e* 11 32 48.0
KIS *i*S S 11 37 40.0 -5.8
KIS pmax pmax
comp=Z,2µm,10.0s
KIS smax
comp=N,3µm,6.0s
KIS MLR MLR
comp=Z,3µm,18.0s,MS5.7
KIS MLR MLR
comp=N,2µm,21.0s,MS5.5
KIS MLR MLR
comp=E,2µm,20.0s,MS5.5
KIS MLR MLR
comp=Z,5µm,20.0s
CFR Carcaliu 74.07 317⇑*i*P **P** **11 28 15.6 +0.4**
CFR Carcaliu 74.07 317⇑⇑P **P** **11 28 15.6 +0.4**
HARR Harsova 74.10 316⇑*i*P **P** **11 28 15.7 +0.3**
HARR Harsova 74.10 316⇑⇑P **P** **11 28 15.7 +0.3**
PRD Provadia 74.13 315 P **P** **11 28 15.3 -0.3**
PRK Paraskevi 74.14 310 *e*P **P** **11 28 17.5 +1.9**
EDRB Edirne 74.31 313 *e*P **P** **11 28 15.1 -1.5**
ENEZ Enez 74.52 312 *e*P **P** **11 28 15.6 -2.2**
JMB Yambol 74.56 314 P **P** **11 28 18.0 0.0**
GADA Gvkgeada 74.61 311 *e*P **P** **11 28 16.6 -1.7**
DRV Dumont d'Urvil 74.65 164 P **P** **11 28 20.0 +1.4**
DRV S S 11 37 54.0 +1.6
DRV SS SS 11 42 43.0 +3.1
DRV L 11 48 00.0
DRV R 11 53 00.0
AKASG Malin Array Be 74.81 322 P **P** **11 28 18.4 -1.1**
comp=Z,31nm,0.8s,mb5.3,baz=89,slow=4.7,SNR=49
AKASG S S 11 37 47.4 -6.8
comp=Z,0.1nm,0.3s,baz=105,slow=11,SNR=2.9
AKBB Malin Array Si 74.81 322 *e*P **P** **11 28 18.2 -1.3**
AKBB *e**PP pP 11 28 28.6 -0.9
BOSA Boshof 74.96 240 P **P** **11 28 20.0 -0.4**
comp=Z,13nm,1.0s,mb4.8,baz=91,slow=5.7,SNR=7.3
BOSA LR LR 11 59 53.8
comp=Z,13µm,18.0s,MS6.3,baz=62,slow=34
BOSA Boshof 74.96 240 *e*P **P** **11 28 20.6 +0.2**
BOSA *e**PP pP 11 28 30.4 0.0
BOSA pmax pmax
comp=Z,131nm,1.5s,mb5.6
BOSA MLR MLR
comp=Z,8µm,19.0s,MS6.0
BOSA Boshof 74.96 240 *e*P **P** **11 28 20.6 +0.2**
comp=Z,131nm,1.5s,mb5.6
BOSA *e*pP pP 11 28 30.4 0.0
BOSA LR LR
comp=Z,8µm,19.0s,MS6.0
VAM Vamos 75.12 306 *e*P **P** **11 28 22.5 +1.2**
GVD Gavdhos 75.12 306 *e*P pP 11 28 32.5 +1.2
ISR Istrita 75.16 316⇑*i*P **P** **11 28 24.4 +2.9**
VRI Vrincioaia 75.20 317⇑*i*P **P** **11 28 22.2 +0.4**
VRI Vrincioaia 75.20 317 P **P** **11 28 22.4 +0.6**
KDZ Kurdzhali 75.24 313 P **P** **11 28 22.0 0.0**
PLOR Plostina 75.25 317⇑*i*P **P** **11 28 23.1 +1.1**
PVL Pavlikeni 75.61 314 P **P** **11 28 26.0 +1.9**
MLR Muntele Rosu 75.65 317 P **P** **11 28 24.6 +0.3**
comp=Z,26nm,0.8s,mb5.2,baz=121,slow=3.2,SNR=36
MLR Muntele Rosu 75.65 317⇑*i*P **P** **11 28 24.8 +0.5**
MLR Muntele Rosu 75.65 317 P **P** **11 28 24.8 +0.4**
PLD Plovdiv 75.85 313 P **P** **11 28 24.2 -1.3**
KYTH Kithira 76.18 307 *e*P **P** **11 28 28.5 +1.1**
VOIR 76.25 316⇑*i*P **P** **11 28 27.0 -0.8**
VOIR 76.25 316⇑⇑P **P** **11 28 26.9 -0.8**
VLI Veliai 76.32 307 *e*P **P** **11 28 38.0 +10**
MMB Musomiste 76.48 312 P **P** **11 28 28.0 -1.1**
PLG Polygyros 76.48 311 *e*P **P** **11 28 30.0 +0.9**
BURAR Bucovina Array 76.60 319⇑*i*P **P** **11 28 30.7 +1.0**
BURAR Bucovina Array 76.60 319⇑⇑P **P** **11 28 30.7 +1.0**
MNK Minsk 76.69 326⇑*e*P **P** **11 28 27.0 -3.3**
MNK *e*PPP 11 33 16.0
MNK *e*S S 11 38 06.0 -8.9
MNK *e*SS SS 11 43 04.0 -6.7
KKB Krupnik 77.00 313 P **P** **11 28 30.4 -1.6**
PUL Pulkovo 77.01 331 *e*P **P** **11 28 32.9 +0.8**
PUL *e* 11 31 22.2
PUL *e*S S 11 38 14.4 -4.0
PUL pmax pmax
comp=Z,138nm,0.4s,mb6.2
PUL pmax pmax
comp=N,91nm,0.6s

PUL pmax pmax
comp=E,275nm,0.8s
PUL smax
comp=E,2µm,5.0s
PUL MLR MLR
comp=N,8µm,24.0s
PUL MLR MLR
comp=Z,6µm,24.0s,MS5.8
PUL Pulkovo 77.01 331⇓*i*P **P** **11 28 32.2 +0.1**
VTS Vitosha 77.03 313 P **P** **11 28 31.9 -0.3**
VTS Vitosha 77.03 313⇑*i*P **P** **11 28 32.6 +0.4**
ITM Ithomi 77.19 308 *e*P **P** **11 28 34.0 +0.9**
VAY Valandovo 77.29 312⇑*i*P **P** **11 28 31.6 -2.0**
EVR Evrytania 77.52 309 *e*P **P** **11 28 35.5 +0.6**
JOF Joensuu 77.66 335 *ep* **P** **11 28 33.5 -2.2**
comp=Z,36nm,0.7s,mb5.4
LVV L'vov 77.83 321⇑*i*P **P** **11 28 36.6 0.0**
LVV *i* 11 28 49.1
LVV *e* 11 31 34.7
LVV *e*PPP 11 33 27.9
LVV *i*S S 11 38 24.7 -2.5
LVV *i* 11 38 36.9
LVV *i* PS 11 39 06.3
DJES Djerdap 77.86 315 *i*P **P** **11 28 38.0 +1.2**
DRGR 78.11 317⇑*i*P **P** **11 28 38.7 +0.5**
DRGR 78.11 317 P **P** **11 28 38.7 +0.5**
SKO Skopje 78.23 312⇑*i*P **P** **11 28 37.4 -1.5**
LVZ Lovozero 78.33 340 P **P** **11 28 38.2 -1.2**
comp=Z,571nm,0.8s,mb6.5,SNR=6.7
LVZ Lovozero 78.33 340 PFAKE 11 28 50.0 +11
LVZ LR LR
comp=Z,7µm,20.0s,MS6.0
JAN Janina 78.35 310 *e*P **P** **11 28 41.0 +1.5**
VLS Valsamata 78.37 309 *e*P **P** **11 28 40.0 +0.4**
OHR Ohrid 78.58 311⇑*i*P **P** **11 28 39.5 -1.4**
APA Apatity 78.63 339⇑*i*P **P** **11 28 41.3 +0.2**
APA *i* 11 31 36.0
APA *i*S S 11 38 32.0 -3.8
APA *i* 11 38 42.0
APA *i* 11 38 52.0
APA *i* PS 11 39 12.0
APA *i*SS SS 11 43 46.0 +6.0
APA pmax pmax
comp=Z,52nm,0.8s,mb5.5
KWP Kalwaria 78.63 320 *e*P **P** **11 28 41.3 +0.2**
comp=Z,0.9nm,3.3s
KWP *e*S S 11 38 34.4 -1.5
KWP *e*SKS 11 38 49.8
KWP L 12 08 32.4
comp=Z,3.9nm,23.9s
KWP Kalwaria 78.63 320 *e*P **P** **11 28 41.3 +0.2**
KWP *e*S S 11 38 34.4 -1.5
KWP *e*SKS 11 38 49.8
BZS Buzias 78.66 316⇑*i*P **P** **11 28 41.2 0.0**
BZS Buzias 78.66 316 P **P** **11 28 41.4 +0.2**
UZH Uzhgorod 78.72 319 *e*P **P** **11 28 42.0 +0.4**
UZH *i*S S 11 38 34.0 -2.8
SVIS Svilajnac 78.73 315 *i*P **P** **11 28 43.6 +2.0**
KOLS Kolonicke sedl 78.78 320 *e*P **P** **11 28 42.5 +0.6**
KOLS *e*S S 11 38 34.3 -3.2
KEK Kerkira 79.16 310 *e*P **P** **11 28 35.0 -9.0**
SUW Suwalki 79.22 325 *e*P **P** **11 28 43.8 -0.5**
SUW *e*S S 11 38 38.9 -3.2
SUW *e*SKS 11 38 53.5
SUW L 12 09 56.5
comp=Z,5.5nm,22.1s
SUW Suwalki 79.22 325 *e*P **P** **11 28 43.8 -0.5**
SUW *e*S S 11 38 38.9 -3.2
SUW *e*SKS 11 38 53.5
CRVS Cervenica-Dubn 79.31 319 *e*P **P** **11 28 45.0 +0.2**
CRVS *e*S S 11 38 41.8 -1.2
BEO Belgrade 79.35 315 *i*P **P** **11 28 46.7 +1.6**
SUR Sutherland 79.37 237 LR LR 12 01 45.5
comp=Z,14µm,18.0s,MS6.3,baz=82,slow=34
SUR Sutherland 79.37 237 *e*P **P** **11 28 46.4 +1.3**
comp=Z,142nm,1.1s,mb5.8
SUR *e* pP 11 28 55.8 +0.6
SUR LR LR
comp=Z,10µm,19.0s,MS6.2
PVY Plav 79.39 313⇓*i*P **P** **11 28 44.2 -1.1**
IVA Berane 79.48 313⇓*i*P **P** **11 28 46.5 +0.8**
FIA1 FINESS Array S 79.52 332 *e*P **P** **11 28 45.3 -0.7**
FINES FINESS Array B 79.52 332 P **P** **11 28 45.2 -0.7**
comp=Z,35nm,0.8s,mb5.3,baz=104,slow=8.0,SNR=51
FINES LR LR 12 07 29.4
comp=Z,4µm,20.3s,MS5.7,baz=290,slow=38
DIVS Divcibare 79.58 314 *i*P **P** **11 28 46.0 -0.3**
KAF Kangasniemi 79.60 333 *ep* **P** **11 28 45.3 -1.1**
comp=Z,69nm,0.9s,mb5.6,baz=103,slow=5.0
KAF Kangasniemi 79.60 333 *e*P **P** **11 28 45.3 -1.1**
KAF pmax pmax
comp=Z,69nm,0.9s,mb5.6
ULC Ulcinj 79.84 312⇓*i*P **P** **11 28 47.9 +0.1**
TTG Podgorica 79.89 313⇓*i*P **P** **11 28 47.6 -0.4**
PLE Pljevlja 79.91 314⇓*i*P **P** **11 28 48.7 +0.7**
NKY Niksic 80.13 313⇓*i*P **P** **11 28 48.2 -1.1**
BUM Brajici-Budva 80.14 313⇓*i*P **P** **11 28 48.3 -1.0**
WAR Warsaw 80.16 323 *e*P **P** **11 28 48.7 -0.7**
WAR *e*S S 11 38 50.4 -1.6
WAR *e*SKS 11 39 02.6
WAR *e*sS sS 11 39 07.0 -1.6
WAR L 12 07 43.7
comp=Z,3.5nm,24.3s
WAR Warsaw 80.16 323 *e*P **P** **11 28 48.7 -0.7**
WAR *e*S S 11 38 50.4 -1.6
WAR *e* 11 39 02.6
WAR MLR MLR
comp=Z,4µm,24.3s,MS5.6
PSZ Piszkesteto 80.18 318⇑*e*P **P** **11 28 49.6 +0.1**
PSZ Piszkesteto 80.18 318 *e*P **P** **11 28 49.7 +0.2**
PSZ pmax pmax
comp=Z,220nm,1.7s,mb5.8
UPM Unac-Piva 80.24 313 *e*P **P** **11 28 49.1 -0.8**
HCY Herceg Novi 80.46 313⇓*i*P **P** **11 28 50.0 -1.0**
SYO Syowa Base 80.46 198‖*e*P **P** **11 28 50.6 -0.4**
SYO Syowa Base 80.46 198‖*e*PcP PcP 11 28 56.6 -1.3
SYO Syowa Base 80.46 198‖*i*pP pP 11 29 00.8 -0.3
BRY Bratogost 80.47 313⇓*i*P **P** **11 28 49.9 -1.3**
OJC Ojcow 80.59 321 *i*P **P** **11 28 51.6 -0.1**
OJC *i*S S 11 38 52.1 -4.4
OJC L 12 12 47.0
comp=Z,19nm,21.0s
TSUM Tsumeb 80.69 250 *e*P **P** **11 28 53.9 +1.6**
comp=Z,17nm,1.0s,mb4.9
TSUM LR LR
comp=Z,5µm,22.0s,MS5.8
BUD Budapest 80.70 318⇑*e*P **P** **11 28 52.0 -0.3**
SMY Shemya 80.77 37 *e*P **P** **11 28 52.8 +0.1**
SMY pmax pmax
comp=Z,179nm,1.2s,mb5.9
SMY MLR MLR
comp=Z,4µm,21.0s,MS5.8
SMY Shemya 80.77 37 *e*P **P** **11 28 52.8 +0.1**
comp=Z,179nm,1.2s,mb5.9
SMY LR LR
comp=Z,4µm,21.0s,MS5.8
PKSM Moragy 80.80 316⇑*i*P **P** **11 28 52.9 0.0**
PKSM Moragy 80.80 316⇑*e*P **P** **11 28 52.7 -0.2**
PKSB Sarbogard 80.86 317⇑*e*P **P** **11 28 53.3 +0.1**
VYHS Vyhne 80.96 319 *i*P **P** **11 28 53.6 -0.1**
VYHS *e*S S 11 38 56.7 -3.8
VYHS pmax pmax
comp=Z,33nm,1.5s,mb5.0
VYHS MLR MLR
comp=Z,2µm,20.9s,MS5.5
VYHS Vyhne 80.96 319 *i*P **P** **11 28 53.6 -0.1**
comp=Z,33nm,1.5s,mb5.0
VYHS *e*S S 11 38 56.7 -3.8
VYHS LR LR
comp=Z,2µm,20.9s,MS5.5
STON Ston 81.09 313 *i*P **P** **11 28 53.2 -1.1**
OKC Ostrava-Krasne 81.59 320 *e*P **P** **11 28 56.7 -0.3**
OKC *e*pP pP 11 29 04.2 -2.9
OKC *e*S S 11 39 05.7 -1.2
OKC AMS AMS 12 14 20.0
comp=Z,3µm,15.4s
OKC Ostrava-Krasne 81.59 320 *e*P **P** **11 28 56.7 -0.3**
OKC *e*pP pP 11 29 04.2 -2.9
OKC *e*SKS 11 39 05.7
RAC Raciborz 81.59 320 *e*P **P** **11 28 57.7 +0.7**
RAC *e*S S 11 39 07.5 +0.6
RAC MLR MLR
comp=Z,5µm,21.0s,MS5.8

KEV Kevo 81.60 341 *ep* **P** **11 28 55.7 -1.4**
comp=Z,42nm,0.8s,mb5.4
KEV Kevo 81.60 341 *eP* **P** **11 28 55.7 -1.4**
KEV pmax pmax
comp=Z,43nm,0.8s,mb5.4
SNZO South Karori 81.81 132 PFAKE 11 29 10.0 +12
SNZO LR LR
comp=Z,12μm,21.0s,MS6.2
MORC Moravsky Berou 81.97 320 P **P** **11 28 59.3 +0.3**
MORC Moravsky Berou 81.97 320 *eP* **P** **11 28 59.2 +0.2**
comp=Z,19nm,0.8s,mb5.1
ARCES ARCESS Array B 82.04 340 P **P** **11 28 59.3 -0.1**
comp=Z,45nm,0.8s,mb5.5,baz=98,slow=5.1,SNR=104
ARCES LR LR 12 11 09.3
comp=Z,7μm,19.6s,MS6.0,baz=111,slow=40
ARE0 ARCESS Array S 82.04 340 *eP* **P** **11 28 59.7 +0.3**
ZST Bratislava 82.08 318 *eP* **P** **11 29 00.0 +0.4**
ZST *eS* S 11 39 13.1 +1.1
ZST pmax pmax
comp=Z,41nm,0.9s,mb5.4
ZST MLR MLR
comp=Z,2μm,16.1s,MS5.5
ZST Bratislava 82.08 318 *eP* **P** **11 29 00.0 +0.4**
comp=Z,41nm,0.9s,mb5.4
ZST *eS* S 11 39 13.1 +1.1
ZST LR LR
comp=Z,2μm,16.1s,MS5.5
VRAC Vranov 82.53 319⇑ *iP* **P** **11 29 02.1 +0.1**
VRAC Vranov 82.53 319 P **P** **11 29 02.3 +0.3**
GKP Gorka Klasztor 82.58 323 *eP* **P** **11 29 01.4 -0.9**
GKP *eS* S 11 39 17.3 +0.1
GKP *esS* sS 11 39 31.5 -2.4
GKP L 12 08 29.2
comp=Z,4.2nm,24.9s
GKP Gorka Klasztor 82.58 323 *eP* **P** **11 29 01.4 -0.9**
GKP *eS* S 11 39 17.3 +0.1
GKP MLR MLR
comp=Z,4μm,24.9s,MS5.7
DPC Dobruska-Polom 82.81 320 *eP* **P** **11 29 03.8 +0.3**
DPC *epP* pP 11 29 11.6 -2.0
DPC *eS* S 11 39 19.2 -0.3
DPC AMS AMS 12 17 10.0
comp=Z,4μm,17.0s
CONA Conrad Observa 82.88 318 *i* P **P** **11 28 59.0 -4.8**
comp=Z,725nm,4.5s,SNR=12
KSP Ksiaz 82.89 321 *eP* **P** **11 29 04.3 +0.5**
comp=Z,1.3nm,4.0s
KSP *epP* pP 11 29 14.2 +0.3
KSP *eS* S 11 39 19.4 -0.8
KSP *esS* sS 11 39 35.1 -1.9
KSP L 12 12 59.1
comp=Z,9.2nm,21.7s
KSP Ksiaz 82.89 321⇑ *eP* **P** **11 29 04.2 +0.4**
KSP *epP* pP 11 29 14.2 +0.3
KSP *ePP* PP 11 32 15.0 +0.6
UPC Upice 83.03 321 *eP* **P** **11 29 04.8 +0.2**
UPC *epP* pP 11 29 14.1 -0.6
ARSA Arzberg 83.04 317 *i* P **P** **11 29 05.0 +0.3**
comp=Z,782nm,3.5s,SNR=13
BOJS Bojanci 83.08 315⇑ *eP* **P** **11 29 04.8 0.0**
BOJS *eS* S 11 39 18.7 -3.5
VAE Valguarnera 83.18 307 P **P** **11 29 06.2 +0.9**
comp=Z,13nm,0.2s,mb5.5,baz=263,slow=3.6,SNR=6.7
URZ Urewera 83.19 129 LR LR 12 05 51.7
comp=Z,13μm,21.1s,MS6.3,baz=96,slow=36
TREC Trest 83.25 319 *eP* **P** **11 29 05.8 +0.1**
TREC *eS* S 11 39 22.8 -1.1
TREC AMS AMS 12 13 50.0
comp=Z,4μm,21.0s
PERS Pernice 83.27 317⇑ *eP* **P** **11 29 06.2 +0.4**
PERS *eS* S 11 39 22.8 -1.3
LJU Ljubljana 83.63 316⇑ *eP* **P** **11 29 07.9 +0.3**
LJU *e* 11 29 21.0
LJU *eS* S 11 39 25.4 -2.4
OBKA Obir 83.65 316⇑ *iP* **P** **11 29 08.1 +0.3**
comp=Z,863nm,3.6s,SNR=8.1
OBKA Obir 83.65 316⇑ *iP* **P** **11 29 08.1 +0.3**
comp=Z,863nm,3.6s
PRU Pruhonice 83.92 320 *eP* **P** **11 29 09.0 -0.2**
PRU *epP* pP 11 29 17.1 -2.2
PRU *eS* S 11 39 29.5 -1.2
PRU AMS AMS 12 16 50.0
comp=Z,3μm,17.1s
MOA Molln 83.94 318⇑ *iP* **P** **11 29 09.0 -0.3**
comp=Z,634nm,4.7s
PVCC Panska Ves 83.95 320 *eP* **P** **11 29 09.7 +0.4**
PVCC *epP* pP 11 29 16.3 -3.1
PVCC *eS* S 11 39 29.7 -1.3
PVCC AMS AMS 12 13 30.0
comp=Z,4μm,19.0s
PRA Prague 84.00 320 P **P** **11 29 09.0 -0.5**
VOY Vojsko 84.07 316 *eP* **P** **11 29 09.4 -0.5**
VOY *e* pP 11 29 19.8 -0.2
BSD Bornholm Skovb 84.14 325⇑ *iP* **P** **11 29 09.3 -1.0**
BSD *i* S 11 39 30.2
BSD pmax pmax
comp=Z,20nm,0.9s,mb5.2
BSD Bornholm Skovb 84.14 325⇑ *iP* **P** **11 29 09.3 -1.0**
comp=Z,20nm,0.9s,mb5.2
BSD *i* S 11 39 30.2
CADS Cadrg 84.19 316⇑ *eP* **P** **11 29 10.1 -0.5**
CADS *e* 11 29 23.1
AQU L'Aquila 84.21 312⇑ *iP* **P** **11 29 11.7 +1.1**
AQU L'Aquila 84.21 312 *eP* **P** **11 29 11.1 +0.4**
comp=Z,29nm,0.8s,mb5.5
TRO Tromso 84.30 340⇑ *iP* **P** **11 29 08.9 -2.1**
TRO AMb AMB 11 29 38.2
comp=Z,77nm,2.1s,mb5.5
TRO *eSKS* 11 39 32.7
TRO AMS AMS 12 12 44.3
comp=Z,6μm,20.8s,MS6.0
TRO Tromso 84.30 340⇑ *iP* **P** **11 29 09.0 -2.1**
TRO *e* 11 39 32.7
TRO pmax pmax
comp=Z,77nm,2.1s,mb5.5
TRO MLR MLR
comp=Z,6μm,20.8s,MS6.0
TRO Tromso 84.30 340⇑ *iP* **P** **11 29 08.9 -2.1**
comp=Z,77nm,2.1s,mb5.5
TRO *e* 11 39 32.7
TRO LR LR
comp=Z,6μm,20.8s,MS6.0
ROBS Robic 84.35 316 *eP* **P** **11 29 11.0 -0.3**
BRG Berggiesshubel 84.37 321 *eP* **P** **11 29 11.4 0.0**
comp=Z,48nm,1.2s,mb5.5
BRG Berggiesshubel 84.37 321 *eP* **P** **11 29 11.6 +0.1**
comp=Z,11nm,0.9s,mb5.0
BRG *i* 11 29 31.4
comp=Z,34nm,1.4s
BRG *i* 11 29 49.7
comp=Z,41nm,1.6s
BRG PP PP 11 32 31.0 +4.5
BRG S 11 39 34.0
BRG SS SS 11 45 06.0 +0.5
BRG *e* 11 51 24.0
BRG
comp=N,2μm,19.8s
BRG
comp=E,2μm,19.6s
BRG
comp=Z,2μm,22.7s
BRG Berggiesshubel 84.37 321 *eP* **P** **11 29 11.6 +0.2**
BRG 11 32 31.0
BRG S 11 39 34.0
BRG SS SS 11 45 06.0 +0.5
BRG pmax pmax
comp=Z,110nm,0.9s,mb6.0
BRG MLR MLR
comp=Z,2μm,22.7s,MS5.5
BRG Berggiesshubel 84.37 321 *eP* **P** **11 29 11.6 +0.1**
comp=Z,11nm,0.9s,mb5.0
BRG *i* 11 29 31.4
BRG *i* 11 29 49.7
BRG PP PP 11 32 31.0 +4.5
BRG S 11 39 34.0
BRG SS SS 11 45 06.0 +0.5
BRG *e* 11 51 24.0
BRG LR LR
comp=Z,2μm,22.7s,MS5.5
GEC2 GERESS Array S 84.39 319 *eP* **P** **11 29 11.6 +0.1**
comp=Z,101nm,1.5s,mb5.7
GEC2 pmax pmax
comp=Z,101nm,1.5s,mb5.7
GERES GERESS Array B 84.39 319 P **P** **11 29 11.8 +0.3**
comp=Z,23nm,0.9s,mb5.3,baz=90,slow=5.3,SNR=52
GERES S 11 39 33.0
comp=Z,0.4nm,0.2s,baz=281,slow=41,SNR=2.0
KHC Kasperske Hory 84.48 319 *eP* **P** **11 29 11.8 -0.2**
KHC *epP* pP 11 29 19.9 -2.2
KHC *eS* 11 39 36.2
KHC AMS AMS 12 18 00.0
comp=Z,3μm,18.4s
KBA Koelnbreinsper 84.51 317⇑ *iP* **P** **11 29 11.6 -0.5**
comp=Z,352nm,3.7s,SNR=7.7
KBA Koelnbreinsper 84.51 317⇑ *iP* **P** **11 29 11.6 -0.6**
KBA pmax pmax
comp=Z,352nm,3.7s
RUE Ruedersdorf 84.59 322 *eP* **P** **11 29 12.2 -0.4**
comp=Z,35nm,0.6s,mb5.7
FBE Freiberg 84.75 321 *eP* **P** **11 29 13.4 +0.1**
comp=Z,182nm,2.1s,mb5.8
WET Wettzell 84.94 319 *eP* **P** **11 29 14.3 0.0**
comp=Z,39nm,1.0s,mb5.5
WET Wettzell 84.94 319 *eP* **P** **11 29 14.3 0.0**
WET pmax pmax
comp=Z,39nm,1.0s,mb5.5
CLL Collm 84.99 321 *eP* **P** **11 29 14.3 -0.3**
comp=Z,29nm,1.0s,mb5.4
CLL *epP* pP 11 29 24.4 -0.3
CLL *esP* sP 11 29 27.5 -0.9
CLL *e*(PP) 11 32 21.5
CLL *eS* 11 39 39.5
CLL *ePS* 11 40 33.8
CLL *eSS* SS 11 45 32.5 +18
CLL *eSSS* 11 48 44.5
CLL *eSSSS* 11 51 43.5
CLL *eL* 12 14 23.7
comp=Z,4μm,22.0s
CLL Collm 84.99 321 P **P** **11 29 14.0 -0.6**
comp=Z,logA/T=1.4,mb5.3
CLL *e**PP pP 11 29 22.0 -2.7
CLL *i* *SP sP 11 29 26.8 -1.6
CLL *e* 11 29 34.0
CLL *eS* 11 39 40.0
CLL *ePS* 11 40 36.0
CLL *eSS* SS 11 45 24.0 +9.3
CLL *e* 11 46 13.0
CLL *eSSS* 11 48 44.0
CLL *e* 11 51 49.0
CLL *e* 11 53 42.0
CLL Collm 84.99 321 *eP* **P** **11 29 14.0 -0.6**
comp=Z,28nm,1.0s,mb5.3
CLL *epP* pP 11 29 22.0 -2.7
CLL *i* sP sP 11 29 26.8 -1.6
comp=Z,86nm,1.8s
CLL *ex* x 11 29 34.0
CLL *eS* 11 39 40.0
CLL *ePS* 11 40 36.0
CLL *ex* x 11 41 36.0
CLL *eSS* SS 11 45 24.0 +9.3
CLL *ex* x 11 46 13.0
CLL *eSSS* 11 48 44.0
CLL *eSSSS* 11 51 49.0
CLL *ex* x 11 53 42.0
CLL *Lm* 12 14 00.0
comp=Z,4μm,21.9s
CLL Collm 84.99 321 *eP* **P** **11 29 14.0 -0.6**
CLL *e* pP 11 29 22.0 -2.7
CLL *i* 11 29 26.8
CLL *eS* 11 39 40.0
CLL pmax pmax
comp=Z,28nm,1.0s,mb5.3
CLL MLR MLR
comp=Z,4μm,21.9s,MS5.7
RGN Rugen 85.01 324 *eP* **P** **11 29 14.8 +0.1**
comp=Z,278nm,2.0s,mb6.0
MIDW Midway 85.24 62 PFAKE 11 29 30.0 +14
MIDW LR LR
comp=Z,2μm,20.0s,MS5.6
HFS Hagfors 85.25 330 P **P** **11 29 15.8 0.0**
comp=Z,20nm,0.9s,mb5.2,baz=101,slow=3.2,SNR=29
NKC Novy Kostel 85.28 320 *eP* **P** **11 29 16.8 +0.8**
NKC *eS* 11 39 43.6
NKC AMS AMS 12 14 30.0
comp=Z,5μm,18.7s
NKC Novy Kostel 85.28 320 *eP* **P** **11 29 16.8 +0.8**
NKC *eSKS* 11 39 43.6
TANN Tannenbergstha 85.28 320 *eP* **P** **11 29 15.9 -0.1**
comp=Z,83nm,2.0s,mb5.5
WERD Werda 85.38 320 *eP* **P** **11 29 16.3 -0.2**
comp=Z,31nm,1.3s,mb5.3
ROTZ Rotzenmuhle 85.42 320 *eP* **P** **11 29 17.0 +0.3**
comp=Z,126nm,2.2s,mb5.7
MANZ Manzenberg 85.49 320 *eP* **P** **11 29 17.5 +0.4**
comp=Z,135nm,1.9s,mb5.8
COP Copenhagen 85.60 326⇑ *iP* **P** **11 29 17.6 0.0**
comp=Z,15nm,0.8s,mb5.3
COP *i* 11 29 47.4
COP *i* S 11 39 47.3
COP
comp=Z,2μm,20.0s
COP Copenhagen 85.60 326⇑ *iP* **P** **11 29 17.6 0.0**
COP *i* S 11 39 47.3
COP pmax pmax
comp=Z,15nm,0.8s,mb5.3
COP MLR MLR
comp=Z,2μm,20.0s,MS5.5
WTTA Wattenberg 85.69 317⇑ *iP* **P** **11 29 17.3 -0.7**
comp=Z,459nm,3.5s
WTTA Wattenberg 85.69 317⇑ *iP* **P** **11 29 17.3 -0.7**
WTTA pmax pmax
comp=Z,459nm,3.5s
WATA Walderalm 85.73 317⇑ *iP* **P** **11 29 17.6 -0.6**
comp=Z,76nm,1.8s,mb5.6
WATA Walderalm 85.73 317⇑ *iP* **P** **11 29 17.6 -0.7**
WATA pmax pmax
comp=Z,76nm,1.8s,mb5.6
MOX Moxa 85.83 320 *eP* **P** **11 29 18.7 -0.1**
comp=Z,92nm,1.7s,mb5.7
MOX Moxa 85.83 320 *eP* **P** **11 29 18.8 0.0**
comp=Z,94nm,2.0s,mb5.7
MOX
comp=Z,3μm,19.0s
MOX Moxa 85.83 320 *eP* **P** **11 29 18.8 0.0**
MOX pmax pmax
comp=Z,94nm,2.0s,mb5.7
MOX MLR MLR
comp=Z,3μm,19.0s,MS5.7
FUR Furstenfeldbru 85.96 318 *eP* **P** **11 29 18.8 -0.6**
comp=Z,65nm,1.3s,mb5.7
FUR Furstenfeldbru 85.96 318 *eP* **P** **11 29 18.8 -0.6**
FUR pmax pmax
comp=Z,65nm,1.3s,mb5.7
SQTA Sankt Quirin 85.98 317⇑ *iP* **P** **11 29 19.0 -0.4**
comp=Z,41nm,1.3s,mb5.5
SQTA Sankt Quirin 85.98 317⇑ *iP* **P** **11 29 19.0 -0.5**
SQTA pmax pmax
comp=Z,41nm,1.3s,mb5.5
GRA1 Grafenberg Arr 86.05 320 *eP* **P** **11 29 20.1 +0.3**
comp=Z,93nm,1.6s,mb5.8
GRA1 *epP* pP 11 29 27.6 -2.4
GRA1 *e* 11 29 33.1
GRA1 *ePP* PP 11 32 44.5 +4.3
GRA1 *eS* 11 39 49.5
GRA1 *eSS* SS 11 45 43.2 +13
GRA1 LR LR
comp=Z,5μm,20.4s,MS5.9
GRF Grafenberg Arr 86.05 320 *eP* **P** **11 29 20.1 +0.3**
comp=Z,93nm,1.6s,mb5.8
GRF *epP* pP 11 29 27.6 -2.4
GRF *e* 11 29 33.1
GRF *ePP* PP 11 32 44.5 +4.3
GRF *eS* 11 39 49.5
GRF *eSS* SS 11 45 43.2 +13
GRF *eL* 12 15 14.2
comp=Z,5μm,20.4s
GRF Grafenberg Arr 86.05 320 *eP* **P** **11 29 20.1 +0.3**
GRF *e**PP pP 11 29 27.6 -2.4
GRF *e* 11 29 33.1
GRF *e* 11 32 44.5
GRF *eS* 11 39 49.5
GRF pmax pmax
comp=Z,93nm,1.6s,mb5.8
GRF MLR MLR
comp=Z,5μm,20.4s,MS5.9
GRF Grafenberg Arr 86.05 320 *eP* **P** **11 29 20.1 +0.3**
GRF *e**PP pP 11 29 27.6 -2.4
GRF *e* 11 29 33.1
GRF *e* 11 32 44.5
GRF *eS* 11 39 49.5
GRF pmax pmax
comp=Z,93nm,1.6s,mb5.8
GRF MLR MLR
comp=Z,5μm,20.4s,MS5.9
MOTA Moosalm 86.05 317⇑ *iP* **P** **11 29 19.5 -0.4**
comp=Z,25nm,1.0s,mb5.4,SNR=7.1
MOTA Moosalm 86.05 317⇑ *iP* **P** **11 29 19.5 -0.3**
MOTA pmax pmax
comp=Z,25nm,1.0s,mb5.4
VNDA Vanda 86.33 169 P **P** **11 29 20.7 -0.5**
comp=Z,1.5nm,0.8s,baz=322,slow=6.6,SNR=4.6
VNDA LR LR 12 05 39.7
comp=Z,9μm,18.4s,MS6.2,baz=309,slow=34
VNDA Vanda 86.33 169 *eP* **P** **11 29 20.8 -0.4**
VNDA pmax pmax
comp=Z,103nm,1.5s
VNDA Vanda 86.33 169 *eP* **P** **11 29 20.8 -0.5**
comp=Z,103nm,1.5s,mb5.8
NSS Namsos 86.38 334⇑ *iP* **P** **11 29 19.5 -2.0**
NSS AMb AMB 11 29 52.6
comp=Z,110nm,1.3s,mb5.9
NSS *eSKS* 11 39 47.6
NSS AMS AMS 12 14 33.1
comp=Z,5μm,19.2s,MS5.9
NSS Namsos 86.38 334⇑ *iP* **P** **11 29 19.5 -2.0**
comp=Z,110nm,1.3s,mb5.9
NSS *eS* 11 39 53.9
NSS LR LR
comp=Z,5μm,19.2s,MS5.9
RAO Raoul Island 86.42 119 LR LR 12 11 31.0
comp=Z,6μm,20.1s,MS6.0,baz=90,slow=38
RAO Raoul Island 86.42 119 PFAKE 11 29 30.0 +8.3
RAO LR LR
comp=Z,7μm,21.0s,MS6.0
SPB4 Spitsbergen Ar 86.45 348 *eP* **P** **11 29 20.7 -1.1**
NB2 NORSAR Subarra 86.53 331 P **P** **11 29 21.6 -0.6**
comp=Z,42nm,0.9s,mb5.7,baz=96,slow=5.1
NOA NORSAR Array B 86.53 331 P **P** **11 29 21.5 -0.7**
comp=Z,27nm,0.8s,mb5.5,baz=94,slow=4.9,SNR=62
NOA PP PP 11 32 48.3 +4.3
comp=Z,13nm,1.1s,baz=86,slow=7.8,SNR=3.7
NOA LR LR 12 15 41.0
comp=Z,4μm,20.5s,MS5.8,baz=90,slow=41
NOA NORSAR Array B 86.53 331 P **P** **11 29 21.5 -0.7**
NOA 11 32 48.3
CLZ Clausthal 86.66 322 *eP* **P** **11 29 22.9 +0.1**
comp=Z,84nm,1.4s,mb5.8
CLZ Clausthal 86.66 322 *eP* **P** **11 29 22.9 +0.1**
CLZ pmax pmax
comp=Z,84nm,1.4s,mb5.8
NAO01 NORSAR Array S 86.68 331 *eP* **P** **11 29 22.5 -0.5**
comp=Z,21nm,0.8s,mb5.4
NAO01 LR LR
comp=Z,5μm,20.0s,MS5.9
BSEG Bad Segeberg 86.75 324 *eP* **P** **11 29 23.4 +0.1**
comp=Z,82nm,1.1s,mb5.9
BERNI Berninapass 86.77 316⇑ *iP* **P** **11 29 23.9 +0.5**
comp=Z,363nm,2.5s,mb6.2
UBBA Unterbreizbach 86.86 321 *eP* **P** **11 29 23.8 0.0**
comp=Z,137nm,2.2s,mb5.8
DAVOX Davos 86.88 317⇑ *iP* **P** **11 29 24.3 +0.4**
comp=Z,152nm,2.4s,mb5.8
DAVA Damuels 86.88 317⇓ *iP* **P** **11 29 23.9 0.0**
comp=Z,648nm,3.5s,SNR=9.5
GTTG Gvttingen 86.90 321 *eP* **P** **11 29 23.9 -0.1**
comp=Z,47nm,1.3s,mb5.6
LIENZ Alp Oberkamor 87.14 317⇑ *iP* **P** **11 29 24.6 -0.6**
comp=Z,185nm,2.3s,mb5.9
VDL Val di Lei 87.15 316⇑ *eP* **P** **11 29 25.2 0.0**
comp=Z,129nm,2.8s,mb5.7
VSL Villasalto 87.18 309 *eP* **P** **11 29 25.8 +0.4**
comp=Z,45nm,1.1s,mb5.6
VSL *epP* pP 11 29 35.4 -0.1
PLONS Plons 87.22 317⇑ *iP* **P** **11 29 25.4 -0.2**
comp=Z,203nm,3.3s
KONO Kongsberg 87.28 329⇑ *iP* **P** **11 29 25.5 -0.4**
KONO *e* 11 40 02.9
KONO *eSS* SS 11 45 48.9 +0.7
KONO Kongsberg 87.28 329 *eP* **P** **11 29 25.7 -0.2**
KONO *e**PP pP 11 29 35.6 -0.4
KONO pmax pmax
comp=Z,69nm,1.1s,mb5.8
KONO MLR MLR
comp=Z,4μm,19.0s,MS5.8
KONO Kongsberg 87.28 329 *eP* **P** **11 29 25.7 -0.1**
comp=Z,69nm,1.1s,mb5.8
KONO *epP* pP 11 29 35.6 -0.4
KONO LR LR
comp=Z,4μm,19.0s,MS5.8
STU Stuttgart 87.36 319 *eP* **P** **11 29 26.0 -0.2**
comp=Z,28nm,0.9s,mb5.5
KBS Kingsbay 87.41 349⇑ *iP* **P** **11 29 24.8 -1.6**
KBS AMb AMB 11 29 39.6
comp=Z,36nm,1.3s,mb5.4
KBS *ePP* PP 11 32 54.1 +3.0
KBS *eSKS* 11 39 52.6
KBS AMS AMS 12 15 56.9
comp=Z,5μm,19.4s,MS5.9
KBS Kingsbay 87.41 349*c iP* **P** **11 29 25.9 -0.6**
KBS Kingsbay 87.41 349 *eP* **P** **11 29 25.4 -1.1**
comp=Z,31nm,0.9s,mb5.5
KBS LR LR
comp=Z,9μm,20.0s,MS6.2
SBA Scott Base 87.43 169 *eP* **P** **11 29 27.0 +0.4**
SBA *e**PP pP 11 29 36.2 -0.6
SBA pmax pmax
comp=Z,112nm,1.4s,mb5.9
SBA MLR MLR
comp=Z,7μm,19.0s,MS6.1
SBA Scott Base 87.43 169 *eP* **P** **11 29 27.0 +0.4**
comp=Z,112nm,1.4s,mb5.9
SBA *epP* pP 11 29 36.2 -0.6
SBA LR LR
comp=Z,7μm,19.0s,MS6.1
MUGIO Muggio 87.45 316⇑ *eP* **P** **11 29 25.5 -1.2**
comp=Z,58nm,1.9s,mb5.5
MUD Monsted U'grnd 87.45 326⇑ *iP* **P** **11 29 26.9 +0.2**
comp=Z,25nm,0.7s,mb5.5
MUD *e* 11 30 04.8
MUD Monsted U'grnd 87.45 326 *i* S 11 40 07.1
MUD
comp=Z,4μm,20.0s
MUD Monsted U'grnd 87.45 326⇑ *iP* **P** **11 29 26.9 +0.2**
MUD *i* S 11 40 07.1
MUD pmax pmax
comp=Z,25nm,0.7s,mb5.5
MUD Monsted U'grnd 87.45 326⇑ *iP* **P** **11 29 26.9 +0.2**
comp=Z,25nm,0.7s,mb5.5
MUD *e* 11 30 04.8
MUD *i* S 11 40 07.1
PGF Pioggiola 87.47 312 *eP* **P** **11 29 27.6 +0.8**
comp=Z,27nm,1.1s,mb5.1
PGF Pioggiola 87.47 312 *eP* **P** **11 29 27.6 +0.8**
PGF pmax pmax
comp=Z,13nm,1.1s,mb5.1
PGF Pioggiola 87.47 312 *eP* **P** **11 29 27.6 +0.8**
comp=Z,13nm,1.1s,mb5.1
LLS Linth-Limmern 87.47 317⇑ *iP* **P** **11 29 26.6 -0.2**
comp=Z,127nm,2.8s,mb5.7
WILA Wila 87.55 317⇑ *eP* **P** **11 29 26.6 -0.5**
comp=Z,85nm,1.6s,mb5.7
FUSIO Fusio 87.71 316⇑ *iP* **P** **11 29 27.3 -0.6**
comp=Z,109nm,3.5s
MUO Muotathal 87.73 317⇑ *iP* **P** **11 29 28.5 +0.5**
comp=Z,214nm,2.5s,mb5.9
SLE Schleitheim 87.83 318⇑ *iP* **P** **11 29 28.7 +0.2**
comp=Z,148nm,3.5s
TNS Taunus Mts 87.85 320 *eP* **P** **11 29 28.8 +0.2**
comp=Z,55nm,1.3s,mb5.6
TNS Taunus Mts 87.85 320 *eP* **P** **11 29 28.8 +0.2**
TNS pmax pmax
comp=Z,55nm,1.3s,mb5.6
BNALP Bannalp 87.87 317⇑ *iP* **P** **11 29 28.6 -0.1**
comp=Z,163nm,3.8s
BFO Black Forest 87.93 318 *eP* **P** **11 29 28.5 -0.5**
comp=Z,30nm,1.1s,mb5.4

BFO Black Forest 87.93 318 *e*P **P 11 29 28.5 -0.5**
BFO pmax pmax
comp=Z,30nm,1.1s,mb5.4
HASLI Hasliberg 88.06 317⇑ *i*P **P 11 29 29.5 -0.1**
comp=Z,174nm,3.4s
FELD Feldberg im Sc 88.15 318⇑ *e*P **P 11 29 29.6 -0.4**
MMK Mattmark 88.20 316⇑ *i*P **P 11 29 30.8 +0.6**
comp=Z,72nm,1.8s,mb5.6
LANF Langenberg 88.28 319⇑ *e*P **P 11 29 30.4 -0.2**
MOL Molde 88.30 332⇑ *i*P **P 11 29 30.5 -0.2**
MOL *e* 11 40 12.2
MOL AMS AMS 12 13 16.3
comp=Z,6µm,18.5s,MS6.0
BALST Balsthal 88.37 317⇑ *e*P **P 11 29 30.7 -0.4**
comp=Z,101nm,2.3s,mb5.6
WIMIS Wimmis 88.43 316⇑ *i*P **P 11 29 31.2 -0.1**
comp=Z,187nm,4.2s
LKBD Leukerbad 88.43 316⇑ *i*P **P 11 29 31.6 +0.3**
comp=Z,43nm,0.9s,mb5.7
BBS Basel-Blauen 88.49 317 *e*P **P 11 29 30.9 -0.7**
DIX Grande Dixence 88.58 316⇑ *i*P **P 11 29 32.7 +0.6**
comp=Z,120nm,1.7s,mb5.9
WLS Welschbruch 88.58 318⇑ *e*P **P 11 29 31.7 -0.4**
BUG Bochum--Univer 88.59 321 *e*P **P 11 29 32.1 0.0**
comp=Z,122nm,1.7s,mb6.0
SBF Sospel 88.60 314 *e*P **P 11 29 32.7 +0.5**
comp=Z,38nm,0.9s,mb5.4
SBF Sospel 88.60 314 *e*P **P 11 29 32.7 +0.5**
SBF pmax pmax
comp=Z,19nm,0.9s,mb5.4
SBF Sospel 88.60 314 *e*P **P 11 29 32.7 +0.5**
comp=Z,19nm,0.9s,mb5.4
AUTN L'Aution 88.61 314⇑ *e*P **P 11 29 32.4 +0.2**
CDF Champ du Feu 88.64 318 *e*P **P 11 29 32.2 -0.1**
SENIN Lac Senin 88.66 316⇑ *i*P **P 11 29 32.8 +0.4**
comp=Z,179nm,3.1s
BOURR Bourrignon 88.68 317⇑ *i*P **P 11 29 32.8 +0.3**
comp=Z,115nm,2.7s,mb5.7
ECH Echery 88.72 318⇑ *e*P **P 11 29 31.9 -0.8**
MOF Molkenrain 88.74 318⇑ *e*P **P 11 29 32.4 -0.4**
RUP Ruppelstein 88.75 319 *e*P **P 11 29 33.3 +0.4**
CMAH Djebel Manchou 88.75 306 P **P 11 29 37.0 +4.1**
GRYON Gryon 88.79 316⇓ *e*P **P 11 29 33.6 +0.6**
comp=Z,98nm,2.2s,mb5.7
MVIF Mont Vial 88.81 314⇑ *e*P **P 11 29 35.7 +2.6**
WTSB Winterswijk 88.87 322 *e*P **P 11 29 33.4 0.0**
comp=Z,12nm,3.1s
WTSB *ex* x 11 29 46.0
TORNY Torny 88.88 317⇑ *e*P **P 11 29 33.4 -0.1**
comp=Z,50nm,0.9s,mb5.9
AIGLE Aigle 88.89 316⇑ *i*P **P 11 29 33.5 0.0**
comp=Z,210nm,3.7s
EMV Vieux Emosson 88.94 316⇑ *e*P **P 11 29 33.8 +0.1**
comp=Z,215nm,3.5s
LOMF Lomont 88.96 317⇑ *e*P **P 11 29 33.3 -0.5**
LPG La Plagne 89.06 315 *e*P **P 11 29 34.5 +0.2**
comp=Z,41nm,1.0s,mb5.4
LPG La Plagne 89.06 315 *e*P **P 11 29 34.5 +0.2**
LPG pmax pmax
comp=Z,21nm,1.0s,mb5.4
LPG La Plagne 89.06 315 *e*P **P 11 29 34.5 +0.2**
comp=Z,20nm,1.0s,mb5.4
MBDF Montbardon 89.06 315 *e*P **P 11 29 34.7 +0.4**
comp=Z,18nm,0.9s,mb5.1
MBDF Montbardon 89.06 315 *e*P **P 11 29 34.7 +0.4**
MBDF pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
MBDF Montbardon 89.06 315 *e*P **P 11 29 34.7 +0.4**
comp=Z,8.9nm,0.9s,mb5.1
BRANT Les Verrieres 89.21 317⇑ *i*P **P 11 29 35.6 +0.6**
comp=Z,141nm,2.7s,mb5.8
HAU Haudompre 89.27 318 *e*P **P 11 29 34.7 -0.6**
comp=Z,33nm,1.0s,mb5.3
HAU *e*R
comp=Z,5µm,22.5s
HAU Haudompre 89.27 318 *e*P **P 11 29 34.7 -0.6**
HAU pmax pmax
comp=Z,16nm,1.0s,mb5.3
HAU MLR MLR
comp=Z,5µm,22.5s,MS5.8
HAU Haudompre 89.27 318 *e*P **P 11 29 34.7 -0.6**
comp=Z,16nm,1.0s,mb5.3
HAU LR LR
comp=Z,5µm,22.5s,MS5.8
CKFL Kef-Lekhel 89.32 306 P **P 11 29 40.0 +4.5**
WLF Walferdange 89.34 319 *e*P **P 11 29 36.2 +0.6**
comp=Z,124nm,1.5s,mb6.0
WLF Walferdange 89.34 319 P **P 11 29 36.3 +0.7**
WLF AP pP 11 29 45.0 -0.8
WLF XP sP 11 29 49.0 -0.5
WLF Walferdange 89.34 319 *e*P **P 11 29 36.4 +0.8**
WLF pmax pmax
comp=Z,73nm,1.3s,mb5.8
WLF Walferdange 89.34 319 *e*P **P 11 29 36.4 +0.8**
comp=Z,73nm,1.3s,mb5.8
GIMEL Gimel 89.37 316⇑ *i*P **P 11 29 36.1 +0.4**
comp=Z,182nm,3.9s
MEM Membach 89.41 320 P **P 11 29 35.6 -0.3**
MEM E 11 29 37.3
MEM XP sP 11 29 48.8 -1.0
MEM E 11 33 08.2
BER Bergen 89.42 330⇑ *i*P **P 11 29 35.4 -0.6**
BER *e*SKS 11 40 00.8
BER AMS AMS 12 17 23.7
comp=Z,4µm,19.6s,MS5.8
BER Bergen 89.42 330 *i*P **P 11 29 35.4 -0.6**
BER *e*S 11 40 22.6
BER LR LR
comp=Z,4µm,19.6s,MS5.8
HGN Heimansgroeve 89.45 321 *e*P **P 11 29 36.0 -0.1**
comp=Z,48nm,3.6s
HGN *ex* x 11 29 48.4
HGN Heimansgroeve 89.45 321 *i* S 11 40 21.2
HGN *e*SS SS 11 46 39.6 +20
THEF They Montfort 89.50 318⇑ *e*P **P 11 29 36.2 -0.2**
CASM Ain Smara 89.51 306 P **P 11 29 41.0 +4.6**
OG25 Le Caire 89.57 314⇓ *e*P **P 11 29 32.0 -4.7**
CTEI Djebel Teioual 89.59 306 P **P 11 29 40.5 +3.7**
BEBN Eben Emael 89.61 321 P **P 11 29 36.0 -0.9**
BEBN AP pP 11 29 46.2 -0.9
BEBN XP sP 11 29 49.2 -1.5
TAVF Tavernes 89.61 313 *e*P **P 11 29 37.6 +0.7**
STOF St-Etienne Org 89.70 314 *e*P **P 11 29 38.7 +1.4**
BCLA Clavier 89.86 320 P **P 11 29 37.8 -0.2**
comp=Z,7.0nm,1.0s,mb5.0
BCLA XP sP 11 29 51.1 -0.8
BCLA E 11 30 11.0
OG05 Jujurieux 89.94 316 *e*P **P 11 29 39.8 +1.4**
DFRA Djebel Bou Aff 90.00 306 P **P 11 29 42.5 +3.8**
NVL N'lazarevskaya 90.04 199 *d* P **P 11 29 39.8 +0.9**
NVL *i* S 11 40 03.3
NVL *i* 11 40 35.4
NVL *e*SS SS 11 46 37.8 +9.4
NVL pmax pmax
comp=Z,222nm,1.3s,mb6.3
MAIT Maitri 90.07 199 *e*P **P 11 29 40.3 +1.3**
MAIT *ep*P pP 11 29 50.2 +1.0
MAIT *e*SKSac SKSac 11 40 13.1 +5.5
PRAF Pradon 90.25 314 *e*P **P 11 29 40.8 +1.0**
DOU Dourbes 90.33 320 P **P 11 29 40.1 -0.1**
comp=Z,7.6nm,0.9s,mb5.0
DOU XP sP 11 29 53.4 -0.7
DOU E 11 30 09.4
UCC Uccle 90.44 321 P **P 11 29 40.5 -0.3**
UCC XP sP 11 29 53.2 -1.4
SNF Seneffe 90.51 320 P **P 11 29 40.1 -1.0**
comp=Z,11nm,0.9s,mb5.2
SNF AP pP 11 29 51.8 +0.6
SNF XP sP 11 29 54.7 -0.2
BAIF Baives 90.58 320 *e*P **P 11 29 41.6 +0.2**
comp=Z,92nm,0.9s,mb5.8
BAIF Baives 90.58 320 *e*P **P 11 29 41.6 +0.2**
BAIF pmax pmax
comp=Z,46nm,0.9s,mb5.8
BAIF Baives 90.58 320 *e*P **P 11 29 41.6 +0.2**
comp=Z,46nm,0.9s,mb5.8
PLDF La Plantade 91.23 316 *e*P **P 11 29 45.3 +0.9**
SSF Saint Saulge 91.23 317 *e*P **P 11 29 44.3 -0.1**
comp=Z,49nm,1.2s,mb5.4
SSF Saint Saulge 91.23 317 *e*P **P 11 29 44.3 -0.1**
SSF pmax pmax
comp=Z,25nm,1.2s,mb5.4
SSF Saint Saulge 91.23 317 *e*P **P 11 29 44.3 -0.1**
comp=Z,25nm,1.2s,mb5.4
AFI Afiamalu 91.47 104 PFAKE 11 30 00.0 +14
AFI LR LR
comp=Z,3µm,21.0s,MS5.7
LBL Lubilhac 91.54 315 *e*P **P 11 29 46.1 +0.3**
AGO Saint Agoulin 91.56 316 *e*P **P 11 29 47.4 +1.4**
BGF Bois d'Agland 91.72 316 *e*P **P 11 29 47.0 +0.3**
comp=Z,57nm,1.0s,mb5.6
BGF Bois d'Agland 91.72 316 *e*P **P 11 29 47.0 +0.3**
BGF pmax pmax
comp=Z,29nm,1.0s,mb5.6
BGF Bois d'Agland 91.72 316 *e*P **P 11 29 47.0 +0.3**
comp=Z,26nm,1.0s,mb5.5
FILF Fillols 92.22 313⇑ *e*P **P 11 29 49.7 +0.7**
ABA Alger-Bouzarea 92.27 307 P **P 11 29 52.0 +2.8**
EMHD Djebel Mahouad 92.37 306 P pP 11 29 57.0 -2.9
RJF Les Rejaudoux 92.75 315 *e*P **P 11 29 51.8 +0.3**
comp=Z,50nm,1.3s,mb5.5
RJF *e*R
comp=Z,3µm,20.2s
RJF Les Rejaudoux 92.75 315 *e*P **P 11 29 51.8 +0.3**
RJF pmax pmax
comp=Z,25nm,1.3s,mb5.5
RJF MLR MLR
comp=Z,3µm,20.3s,MS5.8
RJF Les Rejaudoux 92.75 315 *e*P **P 11 29 51.8 +0.3**
comp=Z,25nm,1.3s,mb5.5
RJF LR LR
comp=Z,3µm,20.3s,MS5.8
MLS Moulis 93.27 313 *e*P **P 11 29 54.1 +0.3**
JMIC Jan Mayen 93.46 342 P **P 11 29 53.2 -1.5**
comp=Z,19nm,0.8s,mb5.6,baz=178,slow=8.6,SNR=3.6
JMIC Jan Mayen 93.46 342 *e*P **P 11 29 49.6 -5.1**
JMIC *e* 11 40 57.8
JMIC AMS AMS 12 18 04.3
comp=Z,4µm,19.9s,MS5.9
JMIC Jan Mayen 93.46 342 *e*P **P 11 29 49.6 -5.1**
JMIC *e* 11 40 56.4
JMIC LR LR
comp=Z,4µm,19.9s,MS5.9
EBNR Beni Rached 93.51 306 P pP 11 30 03.0 -2.2
FLN La Foliniere 93.75 319 *e*P **P 11 29 55.6 -0.5**
comp=Z,16nm,0.8s,mb5.2
FLN *e*R
comp=Z,4µm,18.8s
FLN La Foliniere 93.75 319 *e*P **P 11 29 55.6 -0.5**
FLN pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
FLN MLR MLR
comp=Z,4µm,18.8s,MS5.9
FLN La Foliniere 93.75 319 *e*P **P 11 29 55.6 -0.5**
comp=Z,8.3nm,0.8s,mb5.2
FLN LR LR
comp=Z,4µm,18.8s,MS5.9
EANR 'Ain N'Sour 93.89 306 P pP 11 30 09.0 +2.1
DAG Danmarks Havn 94.09 348⇓ *i*P **P 11 29 56.1 -1.5**
comp=Z,6.7nm,0.9s,mb5.1
DAG
comp=Z,9µm,21.0s
DAG Danmarks Havn 94.09 348⇓ *i*P **P 11 29 56.1 -1.5**
DAG pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
DAG MLR MLR
comp=Z,9µm,21.0s,MS6.2
EKA Eskdalemuir Ar 94.45 326 P **P 11 29 59.2 -0.1**
comp=Z,7.2nm,0.8s,mb5.2,baz=98,slow=5.0,SNR=23
ETSF Etsaut 94.48 313 *e*P **P 11 29 59.8 +0.4**
comp=Z,21nm,1.1s,mb5.2
ETSF Etsaut 94.48 313 *e*P **P 11 29 59.8 +0.4**
ETSF pmax pmax
comp=Z,10.0nm,1.1s,mb5.2
ETSF Etsaut 94.48 313 *e*P **P 11 29 59.8 +0.4**
comp=Z,10nm,1.1s,mb5.2
ESK Eskdalemuir 94.48 326 *e*P **P 11 30 00.3 +0.9**
ESK pmax pmax
comp=Z,17nm,1.1s,mb5.4
ESK MLR MLR
comp=Z,4µm,22.0s,MS5.8
ESK Eskdalemuir 94.48 326 *e*P **P 11 30 00.3 +0.9**
comp=Z,17nm,1.1s,mb5.4
ESK LR LR
comp=Z,4µm,22.0s,MS5.8
SNAA Sanae 94.75 198 *e*P pP 11 30 10.0 -0.8
SNAA *e* 11 30 11.1
SNAA Sanae 94.75 198 *e*P **P 11 29 59.8 -0.8**
SNAA *e**PP pP 11 30 10.1 -0.7
SNAA pmax pmax
comp=Z,4.0nm,1.0s
SNAA Sanae 94.75 198 *e*P **P 11 29 59.8 -0.8**
comp=Z,3.8nm,1.0s,mb4.8
SNAA *ep*P pP 11 30 10.1 -0.7
TOA0 Torodi Ar. Sit 94.90 283 *e*P **P 11 30 03.1 +1.8**
TOA0 *ep*P pP 11 30 12.8 +1.2
TORD Torodi Ar. Bea 94.90 283 P **P 11 30 03.1 +1.7**
comp=Z,2.6nm,1.1s,mb4.6,baz=92,slow=6.1,SNR=8.4
TORD PP PP 11 33 54.0 +3.6
comp=Z,1.3nm,1.0s,baz=113,slow=7.1,SNR=3.4
TORD LR LR 12 12 08.3
comp=Z,9µm,18.9s,MS6.3,baz=75,slow=35
ALE Alert 95.37 357 P **P 11 30 02.3 -1.2**
comp=Z,90nm,1.0s,mb6.2,SNR=5.2
SDPT Sand Point 95.64 34 *e*P **P 11 30 03.3 -1.4**
comp=Z,74nm,1.0s,mb6.1
SDPT LR LR
comp=Z,4µm,17.0s,MS5.9
TTA Tatalina 96.11 26 *e*P **P 11 30 06.4 -0.4**
IMA2 Indian Mountai 96.14 23 *e*P **P 11 30 06.5 -0.5**
VNA1 Neumayer--Stat 96.68 199 *e*P pP 11 30 19.8 +0.2
VNA1 *e* 11 30 21.4
VNA1 *e* 11 30 26.0
SVW2 Sparrevohn 96.81 28 *e*P **P 11 30 09.8 -0.2**
ESDC Sonseca Array 97.44 310 P **P 11 30 13.3 +0.4**
comp=Z,0.3nm,0.3s,baz=131,slow=1.3,SNR=3.2
ESDC LR LR 12 21 07.2
comp=Z,1µm,18.3s,MS5.5,baz=160,slow=40
ESLA Sonseca Array 97.44 310 PFAKE 11 30 20.0 +7.1
ESLA LR LR
comp=Z,8µm,20.0s,MS6.2
SCO Scoresbysund 97.78 343 *i* P **P 11 30 06.5 -7.9**
SCO *i* 11 34 10.2
COLA College 98.85 23⇓ *e*P **P 11 30 17.5 -1.7**
COLA MLR MLR
comp=Z,9µm,19.0s,MS6.3
MCK McKinley 98.86 24 *e*P **P 11 30 19.5 +0.2**
MCK McKinley 98.86 24 PFAKE 11 30 30.0 +11
MCK LR LR
comp=Z,3µm,20.0s,MS5.8
KDAK Kodiak Island 99.25 31 P **P 11 30 20.8 -0.2**
comp=Z,10nm,0.9s,mb5.3,baz=348,slow=3.2,SNR=5.8
KDAK Kodiak Island 99.25 31 P **P 11 30 20.8 -0.2**
KDAK LR LR
comp=Z,2µm,19.0s,MS5.5
PMR Palmer 99.59 26 *e*P Pdif 11 30 21.9 -0.6
PMR MLR MLR
comp=Z,5µm,20.0s,MS6.0
SML Sawmill 99.86 26 *e*P Pdif 11 30 23.4 -0.3
BORG Borgarnes 100.23 337 PFAKE 11 30 40.0 +15
BORG LR LR
comp=Z,3µm,20.0s,MS5.8
SUMG Summit 100.77 348 *e*Pdif Pdif 11 30 28.2 +0.4
SUMG *ep*P PP 11 34 35.1 -0.3
DBIC Dimbokro 101.69 277 PFAKE 11 30 40.0 +8.1
DBIC LR LR
comp=Z,4µm,19.0s,MS6.0
INK Inuvik 102.02 17 P Pdif 11 30 32.6 -0.7
comp=Z,3.8nm,1.0s,baz=278,slow=2.9,SNR=6.9
INK PP PP 11 34 46.0 +1.2
comp=Z,10nm,1.1s,baz=319,slow=5.6,SNR=6.9
INK Inuvik 102.02 17 P Pdif 11 30 32.6 -0.7
INK 11 34 46.0
INK pmax pmax
comp=Z,4.0nm,1.0s
INK pmax pmax
comp=Z,10.0nm,1.1s
INK Inuvik 102.02 17 *e*Pdif Pdif 11 30 32.4 -0.9
DAWY Dawson 102.47 22 *e*Pdif Pdif 11 30 35.0 -0.3
KIP Kipapa 103.19 68 PFAKE 11 30 50.0 +11
KIP LR LR
comp=Z,2µm,19.0s,MS5.8
POHA Pohakuloa 105.71 69 PFAKE 11 35 20.0 +17
POHA LR LR
comp=Z,3µm,19.0s,MS5.8
SIT Sitka 107.94 27 PFAKE 11 35 20.0 +13
SIT LR LR
comp=Z,8µm,20.0s,MS6.3
ASCN Ascension 111.51 262 PFAKE 11 35 30.0 +17
ASCN LR LR
comp=Z,3µm,20.0s,MS5.9
YKA Yellowknife Ar 111.63 15 PP PP 11 35 54.0 -1.4
comp=Z,8.1nm,1.0s,baz=335,slow=7.3,SNR=3.8
TBI Tubuai 112.13 114 *e*PP PP 11 35 54.5 -4.6
comp=Z,450nm,28.0s
TBI Tubuai 112.13 114 *e*PS PS 11 45 31.7 -0.8
comp=Z,1µm,26.5s
TBI Tubuai 112.13 114 *e*SS SS 11 51 36.2 +1.0
comp=Z,3µm,27.8s
TBI *e*LR LR 12 08 34.0
comp=Z,7µm,24.0s
PPT Papeete 112.71 108 *e*PP PP 11 35 54.7 -8.5
comp=Z,550nm,25.8s
PPT Papeete 112.71 108 *e*PS PS 11 45 36.9 -0.9
comp=Z,3µm,26.5s
PPT Papeete 112.71 108 *e*LR LR 12 08 49.7
comp=Z,5µm,22.8s
HOPE Hope Point 115.36 208 PFAKE 11 35 30.0 +9.2
HOPE LR LR
comp=Z,5µm,20.0s,MS6.1
PMSA Palmer Station 115.60 189 PFAKE 11 35 30.0 +8.8
PMSA LR LR
comp=Z,10µm,21.0s,MS6.4
A05A Maple Falls 119.20 28⇑ P PKPdf 11 35 27.6 -0.5
baz=119
B05A Bryant 119.70 29⇓ P PKPdf 11 35 28.6 -0.5
baz=120
H03A Soap Creek Ran 121.48 33⇓ P PKPdf 11 35 32.9 +0.4
baz=121
COR Corvallis 121.54 33 PFAKE 11 35 40.0 +7.4
COR LR LR
comp=Z,4µm,21.0s,MS6.0
G04A Mulino 121.57 32⇑ P PKPdf 11 35 32.8 +0.1
baz=121
FFC Flin Flon 121.59 13 PFAKE 11 35 40.0 +7.3
FFC LR LR
comp=Z,4µm,19.0s,MS6.1
NEW Newport 122.01 26 PKP PKPdf 11 35 33.9 +0.3
comp=Z,2.6nm,0.8s,baz=321,slow=2.8,SNR=5.8
NEW Newport 122.01 26 PKP PKPdf 11 35 33.9 +0.3
NEW LR LR
comp=Z,7µm,19.0s,MS6.3
SCHQ Schefferville 122.12 349 PKP PKPdf 11 35 32.9 -0.8
comp=Z,2.8nm,0.6s,baz=232,slow=2.3,SNR=6.2
SCHQ Schefferville 122.12 349 PKP PKPdf 11 35 32.9 -0.8
SCHQ LR LR
comp=Z,6µm,21.0s,MS6.2
J02A Umpqua 122.17 34⇓ P PKPdf 11 35 35.5 +1.6
baz=122
J03A Ideyld Park 122.51 34⇓ P PKPdf 11 35 35.5 +1.0
baz=122
TAOE Nuku Hiva Isla 122.59 99 *e*PP PP 11 37 02.6 -9.2
comp=Z,2µm,27.1s
TAOE Nuku Hiva Isla 122.59 99 *e*PS PS 11 47 19.9 +13
comp=Z,6µm,27.0s
TAOE Nuku Hiva Isla 122.59 99 *e*LR LR 12 13 48.5
comp=Z,8µm,23.7s
H05A Madras 122.60 32⇑ P PKPdf 11 35 35.1 +0.4
baz=122
HUMO Hull Mountain 123.00 35 PFAKE 11 35 50.0 +15
HUMO LR LR
comp=Z,3µm,20.0s,MS5.9
HUMO Hull Mountain 123.00 35⇑ P PKPdf 11 35 36.1 +0.7
baz=123
J05A Fort Rock 123.52 33⇓ P PKPdf 11 35 37.1 +0.7
baz=123
I06A Prineville 123.62 32⇑ P PKPdf 11 35 37.3 +0.6
baz=124
YBH Yreka Blue Hor 123.70 35⇓ P PKPdf 11 35 38.1 +1.3
baz=124
M02C Callahan 123.84 36⇑ P PKPdf 11 35 37.6 +0.5
baz=124
L04A Klamath Falls 123.89 34⇓ P PKPdf 11 35 36.6 -0.6
baz=124
N02C Big Bar 123.93 36⇑ P PKPdf 11 35 37.6 +0.4
baz=124
J06A Christmas Vall 124.12 32⇑ P PKPdf 11 35 38.4 +0.8
baz=124
M04C Macdoel 124.17 35⇑ P PKPdf 11 35 38.8 +1.1
baz=124
K06A Valley Falls 124.38 33⇑ P PKPdf 11 35 38.9 +0.8
baz=124
BMO Blue Mountains 124.45 29 PFAKE 11 35 50.0 +12
BMO LR LR
comp=Z,4µm,21.0s,MS6.1
J07A Hines 124.49 32⇑ P PKPdf 11 35 39.4 +1.1
baz=124
MSO Missoula 124.50 25 PFAKE 11 35 50.0 +12
MSO LR LR
comp=Z,6µm,19.0s,MS6.3
L05A Lakeview 124.56 34⇓ P PKPdf 11 35 39.5 +1.1
baz=124
O02C Red Bluff 124.64 37⇑ P PKPdf 11 35 39.6 +1.0
baz=124
J08A Circle Bar Ran 124.93 31⇑ P PKPdf 11 35 39.7 +0.6
baz=125
K07A Rock Creek Ran 124.99 32⇑ P PKPdf 11 35 40.3 +1.0
baz=125
GASB Alder Springs 125.01 37⇓ P PKPdf 11 35 38.6 -0.7
baz=125
HATC Hat Creek Radi 125.01 35⇑ P PKPdf 11 35 40.0 +0.7
baz=125
HOPS Hopland 125.20 38 PFAKE 11 35 50.0 +10
HOPS LR LR
comp=Z,2µm,21.0s,MS5.9
HOPS Hopland 125.20 38⇓ P PKPdf 11 35 40.5 +0.8
baz=125
EGMT Eagleton 125.21 22 PFAKE 11 35 50.0 +10
EGMT LR LR
comp=Z,6µm,22.0s,MS6.2
RKT Rikitea 125.23 117 *e*PS PS 11 47 30.9 +0.5
comp=Z,1µm,28.2s
RKT Rikitea 125.23 117 *e*SS SS 11 54 32.7 +8.1
comp=Z,2µm,30.8s
RKT *e*LR LR 12 14 39.5
comp=Z,6µm,26.0s
K08A Mann Creek Ran 125.36 32⇑ P PKPdf 11 35 41.0 +1.0
baz=125
L07A Adell 125.40 33⇑ P PKPdf 11 35 41.0 +0.9
baz=125
HRY Holter Researc 125.48 24 *e*PKPdf PKPdf 11 35 40.2 0.0
HRY *ep*PKPdf pPKPdf 11 35 50.7 0.0
O04C Chester 125.55 36⇓ P PKPdf 11 35 41.3 +0.9
baz=125
MNRC McLaughlin Nat 125.66 38⇑ P PKPdf 11 35 41.7 +1.1
baz=126
NSHM Saint Helena R 125.78 38 *e*PKPdf PKPdf 11 35 41.8 +1.0
NSHM *ep*PKPdf pPKPdf 11 35 51.9 +0.6
L08A Fields 125.82 32⇑ P PKPdf 11 35 41.8 +0.9
baz=126
O05C Quincy 125.88 36⇓ P PKPdf 11 35 41.3 +0.3
baz=126
M07A Soldier Meadow 125.92 33⇓ P PKPdf 11 35 41.1 0.0
baz=126
CVS Carmenet Viney 125.98 38⇑ P PKPdf 11 35 41.8 +0.6
baz=126
N06A Buffalo Meadow 125.99 34⇑ P PKPdf 11 35 41.2 0.0
baz=126
DLMT Dillon 126.23 26 *e*PKPdf PKPdf 11 35 42.1 +0.5
DLMT *e*PP PP 11 37 34.5 -1.8
L09A Wilkinson Ranc 126.30 32⇓ P PKPdf 11 35 43.0 +1.2
baz=126
M08A Happy Creek Ra 126.31 33⇑ P PKPdf 11 35 43.2 +1.4
baz=126
O06A Flanigan 126.38 35⇓ P PKPdf 11 35 42.3 +0.3
baz=126
BOZ Bozeman (W) 126.42 25 *e*PKIKP PKPdf 11 35 42.5 +0.5
BOZ *e* 11 37 37.3
BOZ MLR MLR
comp=Z,8µm,19.0s,MS6.4
MCMT McKenzie Canyo 126.54 26 *e*PKPdf PKPdf 11 35 43.2 +1.0
MCMT *e*PP PP 11 37 38.1 -0.2
JRSC Jasper Ridge 126.69 39⇑ P PKPdf 11 35 42.9 +0.3
baz=127
HLID Hailey 126.80 28 PFAKE 11 35 50.0 +7.3
HLID LR LR
comp=Z,11µm,20.0s,MS6.5
O07A Toulon 126.92 34⇑ P PKPdf 11 35 43.9 +0.9
baz=127
PAHR Pah Rah Range 126.94 35 *e*PKPdf PKPdf 11 35 44.0 +1.0
PAHR *ep*PKPdf pPKPdf 11 35 53.5 0.0
WCN Washoe City 126.99 36⇓ P PKPdf 11 35 44.5 +1.4
baz=127
ULM Lac du Bonnet 127.06 10 PKP PKPdf 11 35 42.5 -0.7
comp=Z,6.1nm,0.8s,baz=349,slow=3.8,SNR=14
ULM Lac du Bonnet 127.06 10 *e*PKPdf PKPdf 11 35 42.3 -1.0
ULM *ep*PKPdf pPKPdf 11 35 53.1 -0.6

GCMT	**Greycliff**	**127.10**	**23**	*e*PKPdf	PKPdf	11 35 43.4	0.0	
GCMT				*ep*PKPdf	pPKPdf	11 35 53.4	-0.4	
GCMT				*e*PP	PP	11 37 41.2	-0.8	
QLMT	**Earthquake Lak**	**127.16**	**25**	*e*PKPdf	PKPdf	11 35 43.8	+0.4	
QLMT				*e*PP	PP	11 37 43.9	+1.5	
R05C	**Kirkwood Meado**	**127.20**	**36**	⇑P	PKPdf	11 35 43.8	+0.3	
	baz=127							
CMB	**Columbia Colle**	**127.44**	**37**	PFAKE		11 36 00.0	+16	
CMB				LR	LR			
	comp=Z,3μm,22.0s,MS5.9							
YMR	**Madison River**	**127.48**	**25**	PFAKE		11 36 00.0	+16	
YMR				LR	LR			
	comp=Z,12μm,20.0s,MS6.6							
SAO	**San Andreas Ge**	**127.59**	**39**	PFAKE		11 36 00.0	+16	
SAO				LR	LR			
	comp=Z,2μm,20.0s,MS5.8							
LAO	**LASA Array**	**127.61**	**20**	PFAKE		11 36 00.0	+16	
LAO				LR	LR			
	comp=Z,4μm,19.0s,MS6.2							
BMN	**Battle Mountai**	**127.65**	**33**	PFAKE		11 36 00.0	+16	
BMN				LR	LR			
	comp=Z,4μm,19.0s,MS6.1							
YFT	**Old Faithful**	**127.71**	**25**	*e*PKPdf	PKPdf	11 35 45.1	+0.6	
YFT				*e*PP	PP	11 37 44.9	-1.2	
LKWY	**Lake**	**127.80**	**25**	PFAKE		11 36 00.0	+15	
LKWY				LR	LR			
	comp=Z,16μm,19.0s,MS6.7							
S06C	**San Francisco**	**127.87**	**37**	⇑P	PKPdf	11 35 44.6	-0.1	
	baz=128							
IMW	**Indian Meadow**	**128.11**	**26**	*e*PKPdf	PKPdf	11 35 46.5	+1.2	
IMW				*e*PP	PP	11 37 49.8	+1.1	
N11A	**Elko Archery C**	**128.17**	**32**	⇑P	PKPdf	11 35 46.1	+0.7	
	baz=128							
NVAR	**Mina Array Bea**	**128.42**	**36**	PKP	PKPdf	11 35 47.0	+1.2	
	comp=Z,3.6nm,0.9s,baz=322,slow=0.5,SNR=15							
N12A	**Clover Valley,**	**128.51**	**31**	⇑P	PKPdf	11 35 45.4	-0.6	
	baz=128							
M13A	**Montello**	**128.58**	**30**	⇑P	PKPdf	11 35 47.6	+1.5	
	baz=128							
REDW	**Red Top Meadow**	**128.58**	**26**	*e*PKPdf	PKPdf	11 35 46.3	+0.2	
REDW				*ep*PKPdf	pPKPdf	11 35 56.8	+0.2	
REDW				*e*PP	PP	11 37 52.2	+0.4	
P10A	**Eureka**	**128.64**	**33**	⇑P	PKPdf	11 35 48.5	+2.2	
	baz=128							
PTCN	**Pitcairn Islan**	**128.91**	**121**	PFAKE		11 36 00.0	+13	
PTCN				LR	LR			
	comp=Z,5μm,20.0s,MS6.2							
AHID	**Auburn Hatcher**	**128.95**	**27**	PFAKE		11 36 00.0	+13	
AHID				LR	LR			
	comp=Z,9μm,19.0s,MS6.5							
MTUM	**Tungsten Hills**	**128.98**	**37**	*e*PKPdf	PKPdf	11 35 46.3	-0.6	
MTUM				*ep*PKPdf	pPKPdf	11 35 57.3	0.0	
MTUM				*es*PKPdf		11 36 01.4		
O12A	**Currie**	**129.08**	**31**	⇑P	PKPdf	11 35 48.6	+1.5	
	baz=129							
R09A	**Tonopah**	**129.26**	**35**	⇓P	PKPdf	11 35 48.6	+1.2	
	baz=129							
TPH	**Tonopah**	**129.28**	**35**	PFAKE		11 36 00.0	+13	
TPH				LR	LR			
	comp=Z,3μm,19.0s,MS5.9							
P12A	**McGill**	**129.58**	**32**	⇑P	PKPdf	11 35 49.5	+1.5	
	baz=129							
BW06	**Boulder Array**	**129.62**	**25**	PFAKE		11 36 00.0	+12	
BW06				LR	LR			
	comp=Z,5μm,19.0s,MS6.3							
PDAR	**Pinedale Array**	**129.62**	**25**	PKP	PKPdf	11 35 47.4	-0.8	
	comp=Z,1.8nm,0.7s,baz=274,slow=1.0,SNR=14							
PDAR				PP	PP	11 37 58.5	0.0	
	comp=Z,4.7nm,1.0s,baz=320,slow=2.4,SNR=4.0							
HWUT	**Hardware Ranch**	**129.65**	**28**	*e*PKPdf	PKPdf	11 35 48.6	+0.4	
HWUT				*e*PP	PP	11 37 56.0	-2.8	
HWUT				LR	LR			
	comp=Z,6μm,19.0s,MS6.3							
EYMN	**Ely**	**129.98**	**8**	*e*PKPdf	PKPdf	11 35 49.2	+0.4	
EYMN				*ep*PKPdf	pPKPdf	11 35 58.1	-1.2	
EYMN				LR	LR			
	comp=Z,8μm,21.0s,MS6.4							
TRCR	**Troy Canyon**	**130.02**	**34**	*e*PKPdf	PKPdf	11 35 50.1	+1.2	
DUG	**Dugway**	**130.13**	**30**	PFAKE		11 36 00.0	+11	
DUG				LR	LR			
	comp=Z,7μm,20.0s,MS6.3							
DAC	**Darwin (Calif)**	**130.28**	**37**	PFAKE		11 36 00.0	+11	
DAC				LR	LR			
	comp=Z,3μm,22.0s,MS5.9							
RSSD	**Black Hills**	**130.61**	**20**	*e*PKIKP	PKPdf	11 35 50.8	+0.8	
RSSD				*e*		11 38 04.9		
RSSD				MLR	MLR			
	comp=Z,6μm,19.0s,MS6.3							
RSSD	**Black Hills**	**130.61**	**20**	*e*PKPdf	PKPdf	11 35 50.8	+0.8	
RSSD				*e*PP	PP	11 38 04.9	0.0	
RSSD				*e*SKPbc	SKPbc	11 39 11.2	-0.1	
RSSD				*e*SKPdf	SKPdf	11 39 26.6	+3.7	
RSSD				LR	LR			
	comp=Z,6μm,19.0s,MS6.3							
TPNV	**Topopah Spring**	**130.62**	**35**	PFAKE		11 36 00.0	+10	
TPNV				LR	LR			
	comp=Z,4μm,19.0s,MS6.2							
NLU	**North Lily Min**	**130.68**	**30**	*e*PKPdf	PKPdf	11 35 51.1	+1.0	
DAU	**Daniels Canyon**	**130.72**	**29**	*e*PKIKP	PKPdf	11 35 50.7	+0.5	
DAU				*e*		11 38 04.9		
MPU	**Maple Canyon**	**130.85**	**29**	PFAKE		11 36 00.0	+10	
MPU				LR	LR			
	comp=Z,6μm,20.0s,MS6.3							
TMUT	**Trail Mountain**	**131.61**	**30**	*e*PKPdf	PKPdf	11 35 53.7	+1.9	
MVU	**Marysvale**	**131.71**	**31**	PFAKE		11 36 00.0	+7.9	
MVU				LR	LR			
	comp=Z,5μm,20.0s,MS6.2							
SRU	**San Rafael**	**132.09**	**29**	*e*PKIKP	PKPdf	11 35 53.7	+0.9	
V12A	**Nelson**	**132.28**	**36**	⇓P	PKPdf	11 35 53.7	+0.5	
	baz=132							
PFO	**Pinyon Flat Ob**	**132.74**	**39**	PFAKE		11 36 10.0	+16	
PFO				LR	LR			
	comp=Z,3μm,19.0s,MS6.0							
RCBR	**Riachuelo**	**132.96**	**264**	PFAKE		11 36 10.0	+16	
RCBR				LR	LR			
	comp=Z,4μm,19.0s,MS6.1							
LBNH	**Lisbon**	**133.22**	**349**	PFAKE		11 36 10.0	+15	
LBNH				LR	LR			
	comp=Z,7μm,20.0s,MS6.4							
W13A	**Hualapai Mount**	**133.28**	**35**	⇓P	PKPdf	11 35 56.5	+1.4	
	baz=133							
PV10	**Paradox Valley**	**133.38**	**28**	*e*PKPdf	PKPdf	11 35 56.5	+1.3	
PV10				*e*PP	PP	11 38 21.2	-1.6	
SMCO	**Snowmass**	**133.68**	**26**	*e*PKPdf	PKPdf	11 35 56.6	+0.8	
ISCO	**Idaho Springs**	**133.74**	**24**	PFAKE		11 36 10.0	+14	
ISCO				LR	LR			
	comp=Z,8μm,19.0s,MS6.5							
PV01	**Paradox Valley**	**133.80**	**28**	*e*PKPdf	PKPdf	11 35 58.0	+2.0	
PV01				*e*SKPbc	SKPbc	11 39 24.1	+1.6	
NCB	**Newcomb**	**133.87**	**351**	PFAKE		11 36 10.0	+14	
NCB				LR	LR			
	comp=Z,4μm,20.0s,MS6.2							
GLA	**Glamis**	**134.13**	**38**	⇓P	PKPdf	11 35 58.2	+1.6	
	baz=134							
X15A	**Humboldt**	**134.66**	**35**	⇑P	PKPdf	11 35 58.6	+1.0	
	baz=134							
HRV	**Harvard--Oak R**	**134.82**	**348**	PFAKE		11 36 10.0	+12	
HRV				LR	LR			
	comp=Z,4μm,20.0s,MS6.2							
WES	**Weston**	**134.89**	**348**	PFAKE		11 36 10.0	+12	
WES				LR	LR			
	comp=Z,5μm,19.0s,MS6.2							
JFWS	**Jewell Farm**	**135.09**	**8**	PFAKE		11 36 10.0	+12	
JFWS				LR	LR			
	comp=Z,11μm,20.0s,MS6.6							
SDCO	**Great Sand Dun**	**135.51**	**26**	PFAKE		11 36 10.0	+11	
SDCO				LR	LR			
	comp=Z,6μm,20.0s,MS6.3							
BINY	**Binghamton**	**135.86**	**353**	*e*PKPdf	PKPdf	11 35 58.9	-1.0	
BINY				LR	LR			
	comp=Z,8μm,21.0s,MS6.5							
ERPA	**Erie**	**136.30**	**357**	PFAKE		11 36 10.0	+9.3	
ERPA				LR	LR			
	comp=Z,6μm,20.0s,MS6.3							
TUC	**Tucson**	**137.08**	**36**	*e*PKIKP	PKPdf	11 36 00.6	-1.5	
ANMO	**Albuquerque**	**137.36**	**29**	PKhKP		11 35 54.3		
	comp=Z,0.8nm,0.6s,baz=243,slow=1.8,SNR=4.2							
ANMO				PP	PP	11 38 51.5	+3.5	
	comp=Z,3.4nm,1.1s,baz=317,slow=5.9,SNR=4.2							
ANMO	**Albuquerque**	**137.36**	**29**	PKHKP		11 35 54.3		
ANMO						11 38 51.5		
ANMO				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ANMO				pmax	pmax			
	comp=Z,3.0nm,1.1s							
ANMO	**Albuquerque**	**137.36**	**29**	*e*PKPdf	PKPdf	11 36 04.3	+1.7	
ANMO				LR	LR			
	comp=Z,8μm,19.0s,MS6.5							
LAZ	**Ladron**	**137.47**	**30**	*e*PKPdf	PKPdf	11 36 03.1	+0.3	
BNM	**Barren Site**	**137.92**	**30**	*e*PKPdf	PKPdf	11 36 05.5	+1.8	
MVL	**Millersville**	**138.07**	**352**	*e*PKPdf	PKPdf	11 36 04.2	+0.3	
ACSO	**Alum Creek Sta**	**138.26**	**0**	PFAKE		11 36 20.0	+16	
ACSO				LR	LR			
	comp=Z,251nm,19.0s,MS5.0							
MCWV	**Mont Chateau**	**138.74**	**356**	PFAKE		11 36 20.0	+15	
MCWV				LR	LR			
	comp=Z,7μm,20.0s,MS6.4							
AMTX	**Amarillo**	**139.56**	**24**	PFAKE		11 36 20.0	+13	
AMTX				LR	LR			
	comp=Z,5μm,19.0s,MS6.3							
PLCA	**Paso Flores**	**139.58**	**194**	PKP	PKPdf	11 36 05.3	-1.4	
	comp=Z,3.0nm,0.8s,baz=187,slow=12,SNR=6.1							
PLCA	**Paso Flores**	**139.58**	**194**	PKP	PKPdf	11 36 05.3	-1.4	
PLCA				LR	LR			
	comp=Z,5μm,20.0s,MS6.2							
CCM	**Cathedral Cave**	**139.69**	**10**	*e*PKIKP	PKPdf	11 36 01.1	-5.8	
CCM				MLR	MLR			
	comp=Z,4μm,20.0s,MS6.2							
CBN	**Corbin**	**139.96**	**353**	PFAKE		11 36 20.0	+13	
CBN				LR	LR			
	comp=Z,8μm,20.0s,MS6.5							
WCI	**Wyandotte Cave**	**140.14**	**4**	*e*PKIKP	PKPdf	11 36 07.5	-0.2	
BLA	**Blacksburg**	**141.21**	**357**	PFAKE		11 36 20.0	+10	
BLA				LR	LR			
	comp=Z,448nm,19.0s,MS5.2							
BBSR	**BB Station**	**141.99**	**335**	PFAKE		11 36 20.0	+8.9	
BBSR				LR	LR			
	comp=Z,3μm,19.0s,MS6.0							
MIAR	**Mount Ida**	**142.57**	**15**	PFAKE		11 36 20.0	+7.9	
MIAR				LR	LR			
	comp=Z,7μm,19.0s,MS6.5							
UALR	**University of**	**142.64**	**13**	*e*PKPdf	PKPdf	11 36 08.0	-4.2	
UALR				*e*PP	PP	11 39 19.7	-0.7	
BDFB	**Brasilia**	**142.95**	**246**	PKP	PKPdf	11 36 11.2	-1.5	
	comp=Z,2.3nm,0.4s,baz=139,slow=8.3,SNR=3.8							
BDFB	**Brasilia**	**142.95**	**246**	PKP	PKPdf	11 36 11.2	-1.5	
BDFB				LR	LR			
	comp=Z,10μm,20.0s,MS6.6							
CPCT	**Cooper Cave**	**143.01**	**2**	*e*PKPdf	PKPdf	11 36 09.1	-3.7	
PLAL	**Pickwick Lake**	**143.18**	**7**	*e*PKPdf	PKPdf	11 36 09.1	-4.1	
PLAL				LR	LR			
	comp=Z,6μm,20.0s,MS6.4							
MYNC	**Murphy**	**143.40**	**2**	*e*PKIKP	PKPdf	11 36 11.1	-2.4	
MYNC				MLR	MLR			
	comp=Z,10μm,20.0s,MS6.6							
OXF	**Oxford**	**143.46**	**9**	PFAKE		11 36 30.0	+16	
OXF				LR	LR			
	comp=Z,6μm,20.0s,MS6.3							
JCT	**Junction City**	**144.16**	**25**	PFAKE		11 36 30.0	+15	
JCT				LR	LR			
	comp=Z,5μm,19.0s,MS6.3							
RPN	**Rapa Nui**	**144.19**	**137**	PFAKE		11 36 30.0	+15	
RPN				LR	LR			
	comp=Z,3μm,20.0s,MS6.0							
GOGA	**Godfrey**	**145.07**	**1**	PFAKE		11 36 30.0	+14	
GOGA				LR	LR			
	comp=Z,84μm,19.0s							
LRAL	**Lakeview Retre**	**145.23**	**6**	PFAKE		11 36 30.0	+14	
LRAL				LR	LR			
	comp=Z,8μm,19.0s,MS6.5							
HKT	**Hockley**	**146.18**	**20**	*e*PKP2	PKPab	11 36 18.2	-1.9	
HKT				MLR	MLR			
	comp=Z,7μm,20.0s,MS6.4							
CFAA	**Coronel Fontan**	**147.21**	**203**	PKPbc	PKPbc	11 36 23.3	+0.9	
	comp=Z,2.1nm,0.6s,baz=169,slow=2.6,SNR=21							
CJM	**Chamela**	**149.71**	**45**	*i* P	PKPdf	11 36 29.9	+5.7	
DWPF	**Disney**	**150.32**	**357**	PFAKE		11 36 40.0	+15	
DWPF				LR	LR			
	comp=Z,6μm,20.0s,MS6.4							
SIV	**San Ignacio**	**154.25**	**235**	PKP	PKPdf	11 36 32.0	+1.1	
	comp=Z,0.8nm,0.6s,baz=273,slow=2.8,SNR=4.0							
SIV				PKPbc	PKPbc	11 36 38.5	-0.7	
	comp=Z,5.5nm,0.9s,baz=115,slow=4.0,SNR=13							
SJG	**San Juan**	**154.33**	**321**	PFAKE		11 36 40.0	+8.9	
SJG				LR	LR			
	comp=Z,4μm,20.0s,MS6.3							
TEIG	**Tepich**	**157.57**	**13**	PFAKE		11 36 50.0	+15	
TEIG				LR	LR			
	comp=Z,2μm,21.0s,MS5.9							
LPAZ	**La Paz**	**159.48**	**224**	PKP	PKPdf	11 36 39.5	+1.9	
	comp=Z,0.7nm,0.6s,baz=224,slow=15,SNR=4.4							
LPAZ				PP	PP	11 41 02.1	+5.2	
	comp=Z,6.9nm,1.2s,baz=113,slow=3.3,SNR=6.1							
LPAZ	**La Paz**	**159.48**	**224**	*e*PKPdf	PKPdf	11 36 39.1	+1.4	
LPAZ				*ep*PKPdf	pPKPdf	11 36 47.6	-0.5	
LPAZ				LR	LR			
	comp=Z,3μm,20.0s,MS6.2							
SDV	**Santo Domingo**	**163.89**	**311**	PFAKE		11 36 50.0	+7.8	
SDV				LR	LR			
	comp=Z,3μm,19.0s							
NNA	**Nana**	**168.16**	**210**	PFAKE		11 37 00.0	+14	
NNA				LR	LR			
	comp=Z,6μm,19.0s							
OTAV	**Otavalo**	**175.17**	**294**	*e*PKPdf	PKPdf	11 36 50.0	+1.0	
OTAV				*ep*PKPdf	pPKPdf	11 36 58.2	-1.3	
OTAV				LR	LR			
	comp=Z,5μm,20.0s							

KRSC ***27*** *11:18:09,54.13N×160.17E,h5km,ML4.2*
MOS ***27*** *11:18:10.3±0.9,54.17N×160.08E,h11km,mb4.3/1,Error ellipse: s-maj=37.4km s-min=11.3km az=70.7*
ISCJB ***27*** *11:18:11.8±0.5,5409N×006×1603E±01,h10km,Error ellipse: s-maj=13.4km s-min=3.6km az=72.8*

ISC 27 11:18:12.1±0.5,5405N×006×1604E±01,h10km,n8,
σ1$02/16,1C,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.96**	**57**	P	**Pg**	**11 18 29.2**	**-1.3**
MKZ				S	**Sg**	**11 18 43.9**	**+0.9**
NLC	**Nalytchevo**	**1.06**	**215**	P	**Pg**	**11 18 31.4**	**-1.1**
NLC				S	**Sg**	**11 18 47.6**	**+1.3**
PET	**Petropavlovsk**	**1.44**	**225**	P	**Pn**	**11 18 36.6**	**-1.6**
PET				S	**Sn**	**11 18 56.3**	**-0.9**
PET	**Petropavlovsk**	**1.44**	**225**	*e*PN	**Pn**	**11 18 36.5**	**-1.7**
PET				*e*S	**Sn**	**11 18 56.6**	**-0.6**
PET				pmax	pmax		
	comp=Z,100nm,3.6s						
PET				pmax	pmax		
	comp=Z,200nm,0.8s						
PET				pmax	pmax		
	comp=Z,247nm,0.6s						
PET				smax			
	comp=E,300nm,8.1s						
PET				smax			
	comp=N,100nm,5.8s						
PET				smax			
	comp=N,456nm,0.6s						
PET				smax			
	comp=E,724nm,0.7s						
PET				smax			
	comp=E,800nm,1.1s						
RUS	**Russkaya**	**1.96**	**215**	P	**Pn**	**11 18 45.4**	**+0.1**
RUS				S	**Sn**	**11 19 11.2**	**+1.2**
KLY	**Klyuchi**	**2.28**	**4**	P	**Pn**	**11 18 49.4**	**-0.3**
KLY				S	**Sn**	**11 19 18.6**	**+0.8**
KBTR	**Krutoberegovo**	**2.59**	**32**	P	**Pn**	**11 18 53.6**	**-0.4**
KBTR				S	**Sn**	**11 19 26.1**	**+0.6**
SKR	**Severo-Kuril's**	**4.25**	**219**	*e*PN	**Pn**	**11 19 16.9**	**0.0**
SKR				*e*S	**Sn**	**11 20 10.0**	**+3.4**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				pmax	pmax		
	comp=N,70nm,0.9s						
SKR				pmax	pmax		
	comp=E,80nm,0.9s						
SKR				smax			
	comp=N,310nm,1.0s						
SKR				smax			
	comp=E,80nm,0.7s						
SKR				smax			
	comp=N,110nm,1.0s						

IDC 27 11:26:30.7±2.0,030N×12709E,h0km,mb3.6/3,mb1 3.9/3,
mb1mx3.7/15,mbtmp3.7/3,Error ellipse:
s-maj=168.3km s-min=26.1km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.34**	**161**	P	P	11 31 19.1	-0.3
	1.4nm,0.8s,baz=340,slow=11,SNR=14						
ASAR	**Alice Springs**	**24.73**	**165**	P	P	11 31 54.5	+0.9
	0.6nm,0.3s,baz=345,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**60.57**	**326**	P	P	11 36 43.1	+0.1
	0.5nm,0.3s,baz=117,slow=7.6,SNR=6.9						

IDC 27 11:26:56.2±2.3,154N×9701E,h0km,mb4.3/4,mb1 4.4/4,
mb1mx3.8/19,mbtmp4.3/4,ML2.9/1,Error ellipse:
s-maj=52.8km s-min=29.4km az=45.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.28**	**57**	Pn	Pn	11 27 34.9	-0.3
	3.5nm,0.3s,baz=273,slow=5.0,SNR=23						
WRA	**Warramunga Arr**	**42.38**	**122**	P	P	11 34 52.5	+0.2
	1.0nm,0.9s,baz=302,slow=9.0,SNR=3.3						
SONM	**Songino Array**	**46.82**	**9**	P	P	11 35 27.8	0.0
	4.2nm,0.8s,baz=189,slow=8.3,SNR=13						
MKAR	**Makanchi Array**	**46.86**	**346**	P	P	11 35 28.2	+0.2
	6.9nm,0.8s,baz=158,slow=8.0,SNR=18						
ZAL	**Zalesovo**	**53.18**	**351**	P	P	11 36 15.8	-0.3
	3.3nm,0.8s,baz=295,slow=16,SNR=5.3						

IDC 27 11:45:58.4±3.0,1016S×11068E,h0km,mb3.4/3,
mb1 3.6/3,mb1mx3.4/15,mbtmp3.4/3,Error ellipse:
s-maj=145.0km s-min=29.2km az=47.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.80**	**116**	P	P	11 51 20.6	-1.4
	0.6nm,0.7s,baz=286,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**25.91**	**124**	P	P	11 51 34.2	+2.1
	0.8nm,1.0s,baz=298,slow=9.0,SNR=7.1						
MKAR	**Makanchi Array**	**62.11**	**338**	P	P	11 56 21.2	+0.1
	0.7nm,0.9s,baz=148,slow=8.4,SNR=3.9						

CSEM ***25*** *12:12:55.3±0.1,3689N×481W,h12km,ML4.3/9,Error ellipse: s-maj=1.5km s-min=1.2km az=70.0*
ISCJB ***27*** *12:12:54.1±0.3,3703N±001×495W±002,h14km±2km, Error ellipse: s-maj=2.4km s-min=2.0km az=50.2*
IGIL ***27*** *12:12:55.2,3690N×482W,h10km,ML4.3*
LDG ***27*** *12:12:56.5±0.2,3688N×493W,h10km,Ml4.0/5,Error ellipse: s-maj=4.0km s-min=2.9km az=177.0*
MDD ***27*** *12:12:56.2±0.2,3691N×494W,h10km,mbLg3.6/41,Error ellipse: s-maj=2.1km s-min=1.8km az=5.0,PRXIMO II LAGA MARBELLA RONDA*
MDD EMS: II-III TEBA CAQETE LA REAL.
NEIC ***27*** *12:12:56.1,3691N×494W,h10km,MN3.7(MDD),After MDD.*
NEIC Felt [III] at Canete la Real and Teba; [II] at Malaga, Marbella and Ronda, Spain.
SFS ***27*** *12:12:56.0,3691N×494W,h10km,ML3.7*
INMG ***27*** *12:12:56.3±1.2,3690N×494W,h15km±3km,ML3.8,Error ellipse: s-maj=1.9km s-min=1.3km az=6.0*
CNRM ***27*** *12:12:57.2,3707N×466W,h26km,MD3.9*
STR ***27*** *12:13:10.8±0.3,3794N×441W,h10km±1km,Ml4.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 27 12:12:55.6±0.3,3701N±001×494W±001,h14km±2km,n131,
σ1$24/242,10C-4D,Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMIJ	**Mijas**	**0.47**	**163**	⇑Pg	**Pg**	**12 13 02.9**	**-1.9**
	419nm,0.3s,SNR=18						
EMIJ				Lg		12 13 08.2	
	7μm,0.4s,SNR=4.3						
ELOJ	**Sierra Loja**	**0.65**	**78**	⇑Pg	**Pg**	**12 13 08.6**	**+0.5**
	196nm,0.3s,SNR=18						
ELOJ				Lg		12 13 18.2	
	960nm,0.6s,SNR=13						
ELOJ	**Sierra Loja**	**0.65**	**78**	⇑Pg	**Pg**	**12 13 08.6**	**+0.5**
ELOJ				Lg		12 13 18.2	
EJIF	**Jimena Fronter**	**0.70**	**217**	⇑Pg	**Pg**	**12 13 08.4**	**-0.9**
	472nm,0.5s,SNR=18						
ESPR	**Espera**	**0.75**	**259**	⇓Pg	**Pg**	**12 13 10.4**	**+0.3**
	873nm,0.8s,SNR=18						
ESPR				Lg		12 13 19.7	
	1μm,0.3s,SNR=4.0						
ELUQ	**Luque**	**0.77**	**44**	Pg	**Pg**	**12 13 11.5**	**+1.0**
	218nm,0.3s,SNR=7.9						
ELUQ				Lg		12 13 23.7	
	332nm,0.2s,SNR=7.9						
GIBL	**Gibalbin**	**0.84**	**258**	P	**Pg**	**12 13 13.6**	**+1.7**
GIBL				S	**Sg**	**12 13 28.4**	**+5.5**
GIBL	**Gibalbin**	**0.84**	**258**	*i* P	**Pg**	**12 13 13.6**	**+1.7**
GIBL				*i* S	**Sg**	**12 13 28.4**	**+5.5**
ERON	**Agron**	**0.91**	**89**	Pg	**Pg**	**12 13 12.6**	**-0.6**
	99nm,0.7s,SNR=139						
ERON				Lg		12 13 26.4	
	298nm,0.3s,SNR=28						
MOMI	**Momias**	**0.93**	**223**	P	**Pb**	**12 13 14.5**	**+1.1**
MOMI				S	**Sb**	**12 13 33.0**	**+7.5**
MOMI	**Momias**	**0.93**	**223**	*e*P	**Pb**	**12 13 14.5**	**+1.1**
SCRT	**Cerro San Cris**	**1.06**	**249**	*i* P	**Pb**	**12 13 17.8**	**+2.1**
SCRT				*e*S	**Sb**	**12 13 37.1**	**+7.7**
CNIL	**Conil**	**1.10**	**235**	S		12 13 43.3	
CNIL	**Conil**	**1.10**	**235**	*e*P	**Pb**	**12 13 18.7**	**+2.3**
EGUA	**Guajares**	**1.12**	**99**	Pg	**Pg**	**12 13 15.4**	**-1.7**
	1.4nm,0.2s,SNR=7.9						
EGUA				Lg		12 13 32.3	
	80nm,0.4s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.13**	**76**	⇑Pg	**Pg**	**12 13 17.9**	**+0.5**
	70nm,0.6s,SNR=18						
ECOG				Lg		12 13 33.9	
	394nm,0.3s,SNR=15						
SFS	**San Fernando**	**1.15**	**242**	*e*Pn	**Pn**	**12 13 17.8**	**+0.5**
SFS	**San Fernando**	**1.15**	**242**	*e*Pn	**Pn**	**12 13 17.8**	**+0.5**
SFS	**San Fernando**	**1.15**	**242**	*e*P	**Pb**	**12 13 20.6**	**+3.3**
EADA	**Adamuz**	**1.19**	**14**	⇑Pg	**Pg**	**12 13 18.6**	**+0.1**
	32nm,0.3s,SNR=18						
EADA				Lg

ERIP				Sn	**Sn**	**12 13 50.2**	**-0.6**
	138nm,0.4s,SNR=7.9						
ERIP				Lg		12 13 55.5	
	515nm,0.3s,SNR=7.9						
ERIP	**Rio Piedras**	**1.88**	**282**	⇓Pn	**Pn**	**12 13 26.9**	**-0.5**
ERIP				Pg	**Pg**	**12 13 31.4**	**-0.3**
ERIP				Sn	**Sn**	**12 13 50.2**	**-0.6**
ERIP				Lg		12 13 55.5	
MPAL	**Palemas**	**1.96**	**155**	*i* P	**Pn**	**12 13 26.0**	**-2.4**
MPAL				*i* S	**Sn**	**12 13 50.0**	**-2.8**
EHUE	**Huescar**	**2.03**	**66**	Pn	**Pn**	**12 13 30.6**	**+1.2**
	6.3nm,0.4s,SNR=7.9						
EHUE				Pg	**Pg**	**12 13 34.5**	**-0.1**
	13nm,0.2s,SNR=7.9						
EHUE				Lg		12 14 02.6	
	235nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**2.09**	**285**	⇓Pn	**Pn**	**12 13 29.8**	**-0.4**
	62nm,0.3s,SNR=18						
EGRO				Pg	**Pg**	**12 13 35.5**	**-0.2**
	84nm,0.3s,SNR=78						
EGRO				Sn	**Sn**	**12 13 55.7**	**-0.4**
	158nm,0.3s,SNR=12						
EGRO				Lg		12 14 04.1	
	841nm,0.5s,SNR=11						
ENIJ	**Nijar**	**2.19**	**90**	Pn	**Pn**	**12 13 31.8**	**+0.3**
	9.1nm,0.4s,SNR=4.0						
ENIJ				Pg	**Pg**	**12 13 36.0**	**-1.6**
	83nm,0.4s,SNR=13						
ENIJ				Lg		12 14 04.6	
	180nm,0.6s,SNR=5.1						
TOU	**Touzarine**	**2.26**	**154**	*i* P	**Pn**	**12 13 32.0**	**-0.5**
TOU				*i* S	**Sn**	**12 13 57.0**	**-3.2**
MELI	**Melilla**	**2.36**	**136**	*e*P	**Pn**	**12 13 34.6**	**+0.7**
MELI				*e*S	**Sn**	**12 14 02.2**	**-0.5**
EBAD	**Badajoz**	**2.39**	**317**	Pn	**Pn**	**12 13 34.3**	**0.0**
	16nm,0.2s,SNR=85						
EBAD				Pg	**Pg**	**12 13 40.9**	**-0.5**
	64nm,0.3s,SNR=25						
EBAD				Sn	**Sn**	**12 14 03.4**	**0.0**
	77nm,0.2s,SNR=8.8						
EBAD				Lg		12 14 12.4	
	402nm,0.5s,SNR=11						
EVIA	**Vianos**	**2.52**	**49**	Pn	**Pn**	**12 13 36.4**	**+0.3**
	9.6nm,0.5s,SNR=56						
EVIA				Pg	**Pg**	**12 13 43.1**	**-0.9**
	94nm,0.4s,SNR=13						
EVIA				Sn	**Sn**	**12 14 06.4**	**-0.3**
	90nm,0.3s,SNR=14						
EVIA				Lg		12 14 18.1	
	523nm,0.4s,SNR=9.8						
PBEJ	**Beja**	**2.54**	**294**	*e*Pn	**Pn**	**12 13 36.2**	**-0.1**
PBEJ				*e*Sg	**Sg**	**12 14 17.9**	**+0.8**
PBEJ							
	183nm,0.4s						
PBEJ	**Beja**	**2.54**	**294**	*e*Pn	**Pn**	**12 13 36.2**	**-0.1**
PBEJ				*e*Sg	**Sg**	**12 14 17.9**	**+0.8**
	183nm,0.4s						
ZAI	**Zaio**	**2.71**	**138**	*i* P	**Pn**	**12 13 37.0**	**-1.7**
ZAI				*i* S	**Sn**	**12 14 05.0**	**-6.2**
ESDC	**Sonseca Array**	**2.77**	**16**	Pn	**Pn**	**12 13 40.9**	**+1.5**
	3.4nm,0.3s,baz=196,slow=12,SNR=90						
ESDC				Pg	**Pg**	**12 13 48.7**	**+0.1**
	19nm,0.4s,baz=199,slow=17,SNR=7.9						
ESDC				Sn	**Sn**	**12 14 12.2**	**-0.4**
	8.0nm,0.2s,baz=187,slow=16,SNR=8.6						
ESDC				Lg		12 14 24.8	
	102nm,0.8s,baz=197,slow=28,SNR=9.3						
ESLA	**Sonseca Array**	**2.77**	**16**	*e*Pn	**Pn**	**12 13 41.1**	**+1.7**
ESLA				*e*S	**Sn**	**12 14 21.2**	**+8.5**
ESLA	**Sonseca Array**	**2.77**	**16**	*e*Pn	**Pn**	**12 13 41.1**	**+1.6**
ESLA				*e*S	**Sn**	**12 14 21.2**	**+8.5**
MORF	**Marmelete**	**2.98**	**277**	*e*P	**Pn**	**12 13 42.5**	**+0.1**
MORF				*e*S	**Sn**	**12 14 16.8**	**-1.1**
MORF				*e*S	**Sn**	**12 14 16.8**	**-1.1**
MORF				AML	AML	12 14 36.0	
	comp=N,434nm,0.4s						
MORF	**Marmelete**	**2.98**	**277**	*e*P	**Pn**	**12 13 42.5**	**+0.1**
MORF				*e*S	**Sn**	**12 14 16.8**	**-1.1**
TZK	**Tazeka**	**2.98**	**168**	*i* P	**Pn**	**12 13 42.0**	**-0.5**
TZK				*i* S	**Sn**	**12 14 15.0**	**-3.0**
EMUR	**La Murta**	**3.06**	**73**	Pn	**Pn**	**12 13 44.6**	**+1.1**
	comp=N,9.4nm,0.4s,SNR=12						
EMUR				Pg	**Pg**	**12 13 54.3**	**+0.1**
	comp=N,70nm,0.4s,SNR=13						
EMUR				Lg		12 14 35.8	
	comp=N,230nm,0.5s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.06**	**281**	*e*Pn	**Pn**	**12 13 43.4**	**-0.2**
PTEO				*e*Sn	**Sn**	**12 14 19.1**	**-0.9**
PTEO				*e*Sg	**Sg**	**12 14 32.9**	**-1.1**
PTEO							
	comp=N,292nm,0.6s						
PTEO	**Sao Teotonio**	**3.06**	**281**	*e*Pn	**Pn**	**12 13 43.4**	**-0.2**
PTEO				*e*Sn	**Sn**	**12 14 19.1**	**-0.9**
PTEO				*e*Sg	**Sg**	**12 14 32.9**	**-1.1**
	comp=N,292nm,0.6s						
MOE	**Montemor**	**3.09**	**300**	*e*Pn	**Pn**	**12 13 45.3**	**+1.3**
MOE				*e*Sn	**Sn**	**12 14 21.0**	**+0.2**
MOE				*e*Sg	**Sg**	**12 14 36.1**	**+1.2**
ETOB	**Tobarra**	**3.14**	**58**	⇑Pn	**Pn**	**12 13 45.2**	**+0.6**
	comp=N,20nm,0.5s,SNR=18						
ETOB				Pg	**Pg**	**12 13 54.4**	**-1.3**
	comp=N,45nm,0.4s,SNR=16						
ETOB				Lg		12 14 36.9	
	comp=N,353nm,0.5s,SNR=5.0						
EPLA	**Plasencia**	**3.17**	**344**	Pn	**Pn**	**12 13 45.4**	**+0.3**
	comp=N,28nm,0.3s,SNR=7.9						
EPLA				Pg	**Pg**	**12 13 55.6**	**-0.8**
	comp=N,28nm,0.4s,SNR=7.9						
EPLA				Sn	**Sn**	**12 14 23.0**	**+0.2**
	comp=N,17nm,0.2s,SNR=7.9						
EPLA				Lg		12 14 35.3	
	comp=N,158nm,0.3s,SNR=7.9						
CART	**Cartagena**	**3.19**	**78**	P	**Pn**	**12 13 45.6**	**+0.3**
CART				S	**Sg**	**12 14 39.7**	**+1.6**
CART	**Cartagena**	**3.19**	**78**	*e*Pn	**Pn**	**12 13 44.9**	**-0.5**
CART				*e*S	**Sg**	**12 14 36.8**	**-1.3**
CART	**Cartagena**	**3.19**	**78**	*e*Pn	**Pn**	**12 13 44.9**	**-0.5**
CART	**Cartagena**	**3.19**	**78**	*e*P	**Pn**	**12 13 45.6**	**+0.2**
PCBR	**Castelo Branco**	**3.46**	**326**	*e*Pn	**Pn**	**12 13 50.4**	**+1.5**
PCBR				*e*Sn	**Sn**	**12 14 30.1**	**+0.4**
PCBR				*e*Sg	**Sg**	**12 14 45.3**	**-1.2**
PCBR							
	comp=N,215nm,0.5s						
PCBR	**Castelo Branco**	**3.46**	**326**	*e*Pn	**Pn**	**12 13 50.4**	**+1.5**
PCBR				*e*Sn	**Sn**	**12 14 30.1**	**+0.4**
PCBR				*e*Sg	**Sg**	**12 14 45.3**	**-1.2**
	comp=N,215nm,0.5s						
PLML	**Palmela**	**3.50**	**297**	*e*Pg	**Pg**	**12 14 01.5**	**-1.0**
PLML				*e*Sg	**Sg**	**12 14 49.5**	**+1.7**
ALMR	**Almeirim**	**3.58**	**308**	*e*P	**Pn**	**12 13 51.1**	**+0.5**
ALMR				*e*S	**Sn**	**12 14 31.8**	**-0.9**
ALMR				*e*S	**Sn**	**12 14 31.8**	**-0.9**
ALMR				AML	AML	12 14 57.0	
	comp=E,3µm,0.8s						
ALMR	**Almeirim**	**3.58**	**308**	*e*P	**Pn**	**12 13 51.1**	**+0.5**
ALMR				*e*S	**Sn**	**12 14 31.8**	**-0.9**
MIF	**Mishlifen**	**3.60**	**184**	*i* P	**Pn**	**12 13 51.0**	**0.0**
MIF				*i* S	**Sn**	**12 14 33.0**	**-0.3**
GUD	**Guadarrama**	**3.68**	**9**	⇑Pn	**Pn**	**12 13 53.5**	**+1.5**
	comp=E,14nm,0.3s,SNR=18						
GUD				Pg	**Pg**	**12 14 05.7**	**-0.3**
	comp=E,11nm,0.3s,SNR=20						
GUD				Lg		12 14 54.7	
	comp=E,59nm,0.3s,SNR=7.7						
LIS	**Lisbon**	**3.74**	**298**	*e*S	**Sn**	**12 14 35.6**	**-1.1**
LIS				*e*S	**Sn**	**12 14 35.6**	**-1.0**
LIS				AML	AML	12 15 02.0	
	comp=E,481nm,0.6s						
PTOM	**Tomar**	**3.77**	**315**	*e*Pn	**Pn**	**12 13 53.6**	**+0.3**
PTOM				*e*Sn	**Sn**	**12 14 37.1**	**-0.3**
PTOM				*e*Sg	**Sg**	**12 14 54.9**	**-1.7**
PTOM							
	comp=E,174nm,0.8s						
PTOM	**Tomar**	**3.77**	**315**	*e*Pn	**Pn**	**12 13 53.6**	**+0.3**
PTOM				*e*Sn	**Sn**	**12 14 37.1**	**-0.3**
PTOM				*e*Sg	**Sg**	**12 14 54.9**	**-1.7**
	comp=E,174nm,0.8s						
PLOU	**Loures**	**3.82**	**301**	*e*Sn	**Sn**	**12 14 38.2**	**-0.4**
PLOU				*e*Sg	**Sg**	**12 14 57.1**	**-1.0**
PLOU							
	comp=E,209nm,0.7s						
PLOU	**Loures**	**3.82**	**301**	*e*Sn	**Sn**	**12 14 38.2**	**-0.4**
PLOU				*e*Sg	**Sg**	**12 14 57.1**	**-1.0**
	comp=E,209nm,0.7s						
MTE	**Manteigas**	**3.95**	**330**	*e*Pn	**Pn**	**12 13 56.9**	**+1.2**
MTE				*e*Sn	**Sn**	**12 14 41.6**	**-0.2**
MTE				*e*Sg	**Sg**	**12 15 00.5**	**-1.8**
MTE							
	comp=E,262nm,0.7s						
MTE	**Manteigas**	**3.95**	**330**	Pn	**Pn**	**12 13 56.9**	**+1.2**
MTE				Sn	**Sn**	**12 14 41.6**	**-0.2**
MTE				Lg		12 15 00.5	
	comp=E,131nm,0.7s						
MTE	**Manteigas**	**3.95**	**330**	*e*Pn	**Pn**	**12 13 55.7**	**0.0**
MTE	**Manteigas**	**3.95**	**330**	*e*Pn	**Pn**	**12 13 55.7**	**0.0**
MTE				*e*Sn	**Sn**	**12 14 41.6**	**-0.2**
MTE				*e*Sg	**Sg**	**12 15 00.5**	**-1.8**
	comp=E,262nm,0.7s						
CZD	**Col de Zad**	**3.97**	**181**	*e*P	**Pn**	**12 13 57.0**	**+0.9**
CZD				*i* S	**Sn**	**12 14 40.0**	**-2.4**
ECHE	**Chera**	**4.05**	**49**	Pn	**Pn**	**12 13 57.9**	**+0.8**
	comp=E,13nm,0.5s,SNR=7.7						
ECHE				Pg	**Pg**	**12 14 10.7**	**-2.4**
	comp=E,1.9nm,0.7s,SNR=4.0						
ECHE				Lg		12 15 07.3	
	comp=E,132nm,0.6s,SNR=5.0						
EBEN	**Beniarda**	**4.10**	**64**	Pn	**Pn**	**12 13 58.3**	**+0.6**
	comp=E,8.4nm,0.7s,SNR=13						
EBEN				Pg	**Pg**	**12 14 13.0**	**-1.1**
	comp=E,36nm,0.6s,SNR=7.4						
EBEN				Lg		12 15 07.6	
	comp=E,163nm,0.9s,SNR=5.0						
PVIS	**Viseu**	**4.36**	**329**	*e*Pn	**Pn**	**12 14 02.6**	**+1.3**
PVIS				*e*Sn	**Sn**	**12 14 51.3**	**-0.6**
PVIS				*e*Sg	**Sg**	**12 15 12.9**	**-2.5**
PVIS							
	comp=E,94nm,0.7s						
PVIS	**Viseu**	**4.36**	**329**	Pn	**Pn**	**12 14 02.6**	**+1.3**
PVIS				Sn	**Sn**	**12 14 51.3**	**-0.6**
PVIS				Lg		12 15 12.9	
	comp=E,47nm,0.7s						
PVIS	**Viseu**	**4.36**	**329**	*e*Pn	**Pn**	**12 14 02.6**	**+1.3**
PVIS				*e*Sn	**Sn**	**12 14 51.3**	**-0.6**
KIB	**El Ksiba**	**4.52**	**192**	*i* P	**Pn**	**12 14 04.0**	**+0.4**
KIB				*i* S	**Sn**	**12 14 54.0**	**-1.9**
EMOS	**Mosqueruela**	**4.84**	**45**	Pn	**Pn**	**12 14 09.5**	**+1.5**
	comp=E,28nm,0.8s,SNR=15						
EMOS				Pg	**Pg**	**12 14 27.0**	**-1.2**
	comp=E,20nm,0.4s,SNR=7.9						
EMOS				Lg		12 15 30.5	
	comp=E,214nm,1.6s,SNR=5.0						
ZFT	**Errachidia**	**4.99**	**174**	*i* P	**Pn**	**12 14 11.0**	**+0.9**
ZFT				*i* S	**Sn**	**12 15 06.0**	**-1.6**
PTO	**Porto**	**5.01**	**326**	*e*Sn	**Sn**	**12 15 06.2**	**-1.8**
PTO				*e*Sg	**Sg**	**12 15 38.0**	**+1.7**
TZC	**Tazercounte**	**5.02**	**195**	*i* P	**Pn**	**12 14 12.0**	**+1.6**
TZC				*i* S	**Sn**	**12 15 06.0**	**-2.2**
ECAL	**Calabor**	**5.11**	**345**	Pn	**Pn**	**12 14 13.2**	**+1.4**
	comp=E,7.8nm,0.3s,SNR=18						
ECAL				Sn	**Sn**	**12 15 10.4**	**-0.2**
	comp=E,52nm,0.5s,SNR=9.8						
ECAL				Lg		12 15 40.4	
	comp=E,324nm,0.8s,SNR=5.0						
PCAB	**Cabril**	**5.26**	**334**	*e*Pn	**Pn**	**12 14 14.7**	**+0.9**
PCAB				*e*Sn	**Sn**	**12 15 12.6**	**-1.7**
PCAB				*e*Sg	**Sg**	**12 15 43.0**	**-1.6**
PCAB							
	comp=E,182nm,0.7s						
PCAB	**Cabril**	**5.26**	**334**	Pn	**Pn**	**12 14 14.7**	**+0.9**
PCAB				Sn	**Sn**	**12 15 12.6**	**-1.7**
PCAB				Lg		12 15 43.0	
	comp=E,91nm,0.7s						
EIBI	**Ibiza**	**5.35**	**66**	Pn	**Pn**	**12 14 15.8**	**+0.8**
	comp=E,1.3nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**12 15 14.1**	**-2.4**
	comp=E,3.1nm,0.2s,SNR=4.0						
ELOB	**Lobios**	**5.42**	**334**	Pn	**Pn**	**12 14 16.3**	**+0.4**
	comp=E,6.0nm,0.3s,SNR=5.4						
ELOB				Sn	**Sn**	**12 15 15.9**	**-2.1**
	comp=E,30nm,0.5s,SNR=7.9						
ELOB				Lg		12 15 49.1	
	comp=E,123nm,0.5s,SNR=10						
ERTA	**Horta de San J**	**5.69**	**45**	Pn	**Pn**	**12 14 20.0**	**+0.3**
	comp=E,1.7nm,0.6s,SNR=7.9						
ERTA				Lg		12 15 54.8	
	comp=E,29nm,0.4s,SNR=8.2						
EZAM	**Zamans**	**5.89**	**332**	Pn	**Pn**	**12 14 23.9**	**+1.5**
	comp=E,6.3nm,0.4s,SNR=4.0						
EZAM				Sn	**Sn**	**12 15 26.4**	**-3.4**
	comp=E,12nm,0.3s,SNR=7.9						
EZAM				Lg		12 16 04.7	
	comp=E,66nm,0.5s,SNR=7.9						
OUK	**Oukaimeden**	**6.28**	**204**	*e*P	**Pn**	**12 14 29.0**	**+1.3**
EARI	**Arriondas**	**6.28**	**358**	Pn	**Pn**	**12 14 29.3**	**+1.5**
	comp=E,1.8nm,0.3s,SNR=5.4						
EARI				Sn	**Sn**	**12 15 37.6**	**-1.8**
	comp=E,5.9nm,0.5s,SNR=4.7						
EARI				Lg		12 16 18.0	
	comp=E,11nm,0.4s,SNR=5.9						
CIA	**Chichaoua**	**6.29**	**211**	*i* P	**Pn**	**12 14 30.0**	**+2.1**
CIA				*i* S	**Sn**	**12 15 40.0**	**+0.5**
EARA	**Aranguren**	**6.31**	**23**	Lg		12 16 17.5	
	comp=E,28nm,0.6s,SNR=4.0						
ELAN	**Lanestosa**	**6.32**	**10**	Pn	**Pn**	**12 14 29.0**	**+0.7**
	comp=E,1.3nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**12 15 38.7**	**-1.6**
	comp=E,3.6nm,0.3s,SNR=7.9						
ELAN				Lg		12 16 20.9	
	comp=E,10nm,0.3s,SNR=4.0						
ELAN	**Lanestosa**	**6.32**	**10**	Pn	**Pn**	**12 14 29.0**	**+0.7**
ELAN				Sn	**Sn**	**12 15 38.7**	**-1.6**
ELAN				Lg		12 16 20.9	
EPOB	**Poblet**	**6.37**	**45**	Pn	**Pn**	**12 14 29.1**	**+0.1**
	comp=E,2.0nm,0.3s,SNR=7.9						
EPOB				Lg		12 16 21.3	
	comp=E,6.9nm,0.4s,SNR=4.0						
IPRE	**Itoiz**	**6.41**	**24**	Lg		12 16 22.3	
	comp=E,15nm,0.6s,SNR=4.0						
IUSE	**Utxeti**	**6.47**	**23**	Pn	**Pn**	**12 14 32.5**	**+2.1**
	comp=E,2.9nm,0.3s,SNR=7.9						
IUSE				Lg		12 16 24.9	
	comp=E,17nm,0.6s,SNR=7.9						
STS	**Santiago**	**6.49**	**336**	Pn	**Pn**	**12 14 32.2**	**+1.6**
	comp=E,2.2nm,0.3s,SNR=7.9						
STS				Lg		12 16 23.9	
	comp=E,10.0nm,0.6s,SNR=9.4						
EPON	**Pontenova**	**6.53**	**346**	Pn	**Pn**	**12 14 31.7**	**+0.5**
	comp=E,2.1nm,0.3s,SNR=7.9						
EPON				Sn	**Sn**	**12 15 43.2**	**-2.3**
	comp=E,3.8nm,0.3s,SNR=7.9						
EPON				Lg		12 16 26.7	
	comp=E,11nm,0.3s,SNR=6.0						
ELIZ	**Elizondo**	**6.68**	**22**	Pn	**Pn**	**12 14 35.5**	**+2.3**
	comp=E,6.5nm,0.4s,SNR=7.9						
ELIZ				Lg		12 16 32.7	
	comp=E,5.0nm,0.4s,SNR=4.0						
ETOS	**Mallorca**	**6.68**	**63**	Pn	**Pn**	**12 14 33.8**	**+0.5**
	comp=E,1.4nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**6.69**	**334**	Pn	**Pn**	**12 14 33.7**	**+0.4**
	comp=E,0.7nm,0.1s,SNR=7.9						
EMAZ				Sn	**Sn**	**12 15 46.0**	**-3.4**
	comp=E,3.4nm,0.2s,SNR=7.9						
EMAZ				Lg		12 16 32.5	
	comp=E,18nm,0.5s,SNR=7.3						
SJPF	**Ste Jean**	**6.73**	**24**	*e*Pn	**Pn**	**12 14 35.2**	**+1.3**
SJPF				*e*Sn	**Sn**	**12 15 49.6**	**-0.7**
SJPF				*e*Sg	**Sg**	**12 16 29.8**	**-1.6**
	comp=E,72nm,0.8s						
SJPF	**Ste Jean**	**6.73**	**24**	*e*Pn	**Pn**	**12 14 35.2**	**+1.3**
SJPF				*e*Sn	**Sn**	**12 15 49.6**	**-0.7**
SJPF				*e*Sg	**Sg**	**12 16 29.8**	**-1.6**
	comp=E,36nm,0.8s						
EALK	**Alkurruntz**	**6.73**	**22**	Pn	**Pn**	**12 14 35.3**	**+1.3**
	comp=E,20nm,0.7s,SNR=7.9						
EALK				Sn	**Sn**	**12 15 48.7**	**-1.8**
	comp=E,57nm,0.4s,SNR=4.0						
EALK				Lg		12 16 32.5	
	comp=E,165nm,1.0s,SNR=5.0						
LARF	**Larrau**	**6.74**	**26**	P	**Pn**	**12 14 35.6**	**+1.5**
LARF				S	**Sn**	**12 15 49.9**	**-0.7**
ETSF	**Etsaut**	**6.77**	**28**	*e*Pn	**Pn**	**12 14 36.1**	**+1.6**
ETSF				*e*Sn	**Sn**	**12 15 51.1**	**-0.4**
ETSF				*e*Sg	**Sg**	**12 16 31.0**	**-1.9**
	comp=E,22nm,0.5s						
ETSF	**Etsaut**	**6.77**	**28**	*e*Pn	**Pn**	**12 14 36.1**	**+1.6**
ETSF				*e*Sn	**Sn**	**12 15 51.1**	**-0.4**
ETSF				*e*Sg	**Sg**	**12 16 31.0**	**-1.9**
	comp=E,11nm,0.5s						
OSSF	**Osses**	**6.84**	**23**	P	**Pn**	**12 14 37.0**	**+1.5**
OSSF				S	**Sn**	**12 15 48.9**	**-4.3**
EBIE	**Bielsa**	**6.88**	**33**	Pn	**Pn**	**12 14 37.6**	**+1.6**
	comp=E,10nm,0.4s,SNR=7.9						
EBIE				Sn	**Sn**	**12 15 53.1**	**-1.1**
	comp=E,3.5nm,0.3s,SNR=7.9						
EBIE				Lg		12 16 38.5	
	comp=E,6.5nm,0.4s,SNR=4.0						
ORDF	**Ordiarp**	**6.91**	**25**	P	**Pn**	**12 14 37.9**	**+1.5**
REYF	**Montagne du Re**	**6.98**	**29**	P	**Pn**	**12 14 39.4**	**+2.0**
VIEF	**Viey**	**6.99**	**31**	P	**Pn**	**12 14 39.3**	**+1.7**
LABF	**Labassere**	**7.15**	**31**	P	**Pn**	**12 14 41.6**	**+1.9**
EPF	**Esparros**	**7.25**	**32**	*e*Pn	**Pn**	**12 14 42.7**	**+1.6**
EPF				*e*Sn	**Sn**	**12 16 00.7**	**-2.4**
EPF				*e*Sg	Sn	12 16 47.1	+44
	comp=E,46nm,0.6s						
EPF	**Esparros**	**7.25**	**32**	*e*Pn	**Pn**	**12 14 42.7**	**+1.6**
EPF				*e*Sn	**Sn**	**12 16 00.7**	**-2.4**
EPF				*e*Sg	Sn	12 16 47.1	+44
	comp=E,23nm,0.6s						
MLS	**Moulis**	**7.53**	**36**	P	**Pn**	**12 14 46.1**	**+1.2**
MLS				S	**Sn**	**12 16 06.3**	**-3.8**
LFF	**La Frestale**	**9.01**	**27**	*e*Pn	**Pn**	**12 15 06.6**	**+1.4**
LFF				*e*Sn	**Sn**	**12 16 43.3**	**-3.1**
	comp=E,6.8nm,0.3s						
LFF	**La Frestale**	**9.01**	**27**	Pn	**Pn**	**12 15 06.6**	**+1.4**
LFF				Sn	**Sn**	**12 16 43.3**	**-3.1**
	comp=E,3.4nm,0.3s						
RJF	**Les Rejaudoux**	**9.60**	**28**	*e*Pn	**Pn**	**12 15 15.3**	**+1.9**
RJF				*e*Sn	**Sn**	**12 16 56.8**	**-4.3**
	comp=E,9.9nm,0.3s						
RJF	**Les Rejaudoux**	**9.60**	**28**	Pn	**Pn**	**12 15 15.3**	**+1.9**
RJF				Sn	**Sn**	**12 16 56.8**	**-4.3**
	comp=E,4.9nm,0.3s						
QUIF	**Quistinic**	**10.97**	**6**	*e*Pn	**Pn**	**12 15 32.8**	**+0.6**
SGMF	**Saint Gilles**	**11.37**	**8**	*e*Pn	**Pn**	**12 15 37.5**	**-0.1**
ROSF	**Rostrenen**	**11.38**	**6**	*e*Pn	**Pn**	**12 15 37.7**	**0.0**
SMF	**Signal de Mont**	**11.63**	**31**	*e*Pn	**Pn**	**12 15 40.6**	**-0.6**

IDC ***27*** *12:24:54.5±0.7, 1677S×17346W, h0km, mb4.6/8, mb1 4.7/10, mb1mx4.5/17, mbtmp4.5/10, ML3.1/2, MS3.2/1, Ms1 3.2/1, ms1mx3.2/26, Error ellipse: s-maj=35.0km s-min=16.0km az=134.0*

NEIC ***27*** *12:24:57.6±0.4, 1659S×17365W, h15km, mb4.7/9, Error ellipse: s-maj=21.5km s-min=7.3km az=139.0*

BJI ***27*** *12:24:57.5, 1660S×17370W, h15km, mB5.3, mb5.0, Ms5.4, Msz5.0*

ISCJB ***27*** *12:24:58.5±0.5, 166S±0.1×1737W±0.1, h33km, mb4.6/16, MS5.0/1, Error ellipse: s-maj=25.5km s-min=8.4km az=101.3*

SZGRF ***27*** *12:25:03.2, 1690S×17357W, h50km, Tonga Islands*

ISC 27 12:24:55.5±5.8, 166S±01×1736W±01, h3km±36km, n102, σ0s85/32, mb4.6/16, MS5.0/1, 4C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.23**	**33**	Pn	**Pn**	**12 25 46.5**	**-0.5**
	16nm,0.3s,baz=126,slow=23,SNR=34						
AFI				Sn	**Sn**	**12 26 18.2**	**-7.8**
	60nm,0.3s,baz=211,slow=23,SNR=11						
AFI				LR	LR	12 26 35.4	
	comp=Z,396nm,21.9s,baz=283,slow=31						
AFI	**Afiamalu**	**3.23**	**33**	*e*Pn	**Pn**	**12 25 45.9**	**-1.2**
DZM	**Mont Dzumac**	**19.58**	**251**	Pn	**Pn**	**12 29 28.4**	**+2.5**
	0.4nm,0.3s,baz=87,slow=21,SNR=4.3						
URZ	**Urewera**	**23.05**	**199**	P	**P**	**12 30 02.4**	**+0.4**
	12nm,0.6s,mb4.5,baz=8.4,slow=6.4,SNR=15						
ARMA	**Armidale**	**34.56**	**240**	*e*P	**P**	**12 31 45.6**	**+0.3**
STKA	**Stephens Creek**	**43.27**	**241**	⇓*i*P	**P**	**12 32 58.4**	**+0.2**
	13nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**43.27**	**241**	P	**P**	**12 32 58.4**	**+0.2**
	17nm,0.8s,mb4.8,baz=95,slow=10,SNR=31						
WB2	**Warramunga Arr**	**49.37**	**258**	*e*P	**P**	**12 33 45.6**	**-0.7**
WRAB	**Tennant Creek**	**49.38**	**258**	*e*P	**P**	**12 33 45.8**	**-0.5**
	3.7nm,0.5s,mb4.7						
WRA	**Warramunga Arr**	**49.38**	**258**	P	**P**	**12 33 46.0**	**-0.3**
	1.9nm,0.4s,mb4.5,baz=96,slow=7.3,SNR=105						
AS31	**Alice Springs**	**49.55**	**253**	⇑*i*P	**P**	**12 33 47.4**	**-0.3**
ASAR	**Alice Springs**	**49.55**	**253**	P	**P**	**12 33 47.5**	**-0.2**
	31nm,0.7s,mb5.5,baz=88,slow=8.5,SNR=529						
ASPA	**Alice Springs**	**49.56**	**253**	⇑*i*P	**P**	**12 33 47.4**	**-0.3**
FORT	**Forrest**	**54.70**	**244**	*e*P	**P**	**12 34 23.6**	**-2.3**
	12nm,1.0s,mb4.9						
VNDA	**Vanda**	**62.14**	**186**	P	**P**	**12 35 15.0**	**-3.0**
	1.7nm,0.8s,mb4.2,baz=5.0,slow=5.6,SNR=8.0						
VNDA	**Vanda**	**62.14**	**186**	*e*P	**P**	**12 35 18.1**	**+0.2**
	3.6nm,1.3s,mb4.3						
NVAR	**Mina Array Bea**	**75.36**	**42**	P	**P**	**12 36

HGN	**Heimansgroeve**	**145.94**	**1**	*e*P		PKPdf	12 44 37.7	+1.9
	comp=Z,9.8nm,0.8s								
PRU	**Pruhonice**	**146.08**	**351**	*e*PKP		PKPdf	12 44 37.9	+1.9
MEM	**Membach**	**146.10**	**0**	PKPab		PKPab	12 44 38.0	+0.5
SNF	**Seneffe**	**146.16**	**2**	PKPab		PKPab	12 44 38.2	+0.5
BCLA	**Clavier**	**146.28**	**1**	PKPab		PKPab	12 44 38.9	+0.7
MANZ	**Manzenberg**	**146.41**	**353**	*e*PKPbc		PKPbc	12 44 39.0	+1.1
TNS	**Taunus Mts**	**146.45**	**358**	*e*PKPbc		PKPbc	12 44 38.8	+0.8
DOU	**Dourbes**	**146.58**	**2**	PKPab		PKPab	12 44 39.4	0.0
GIVF	**Givet**	**146.58**	**2**	*e*PKP1		PKPbc	12 44 38.5	+0.1
TREC	**Trest**	**146.59**	**349**	*e*PKP		PKPdf	12 44 39.1	+2.2
BAIF	**Baives**	**146.60**	**3**	*e*PKP1		PKPbc	12 44 38.9	+0.4
	comp=Z,21nm,0.7s								
ROTZ	**Rotzenmuhle**	**146.61**	**353**	*e*PKPbc		PKPbc	12 44 39.3	+0.8
ROTZ				*ep*PKPbc		pPKPbc	12 44 54.2	+15
VYHS	**Vyhne**	**146.62**	**345**	*e*PKP		PKPdf	12 44 39.2	+2.2
GRA1	**Grafenberg Arr**	**146.79**	**354**	*e*PKPbc		PKPbc	12 44 40.1	+1.1
GRA1				*ep*PKPbc		pPKPbc	12 44 54.7	+15
GRF	**Grafenberg Arr**	**146.79**	**354**	*e*PKPbc		PKPbc	12 44 40.1	+1.1
GRF				*ep*PKPbc		pPKPbc	12 44 54.7	+15
BR131	**Keskin Array S**	**146.97**	**320**	*e*PKPbc		PKPbc	12 44 40.0	+0.4
BRTR	**Keskin Array B**	**146.97**	**320**	PKPbc		PKPbc	12 44 40.5	+1.0
	comp=Z,3.7nm,0.7s,baz=96,slow=1.2,SNR=11								
WLF	**Walferdange**	**147.04**	**0**	*e*PKPbc		PKPbc	12 44 40.9	+1.2
WLF	**Walferdange**	**147.04**	**0**	PKPab		PKPab	12 44 41.1	-0.1
KHC	**Kasperske Hory**	**147.06**	**351**	*e*PKP		PKPdf	12 44 40.9	+3.2
GEC2	**GERESS Array S**	**147.32**	**351**	*e*PKPbc		PKPbc	12 44 41.2	+0.7
GERES	**GERESS Array B**	**147.32**	**351**	PKPbc		PKPbc	12 44 40.8	+0.3
	comp=Z,1.5nm,0.5s,baz=29,slow=3.0,SNR=16								
ROSF	**Rostrenen**	**147.40**	**12**	*e*PKP1		PKPbc	12 44 40.4	-0.3
	comp=Z,19nm,1.1s								
SGMF	**Saint Gilles**	**147.61**	**11**	*e*PKP1		PKPbc	12 44 41.6	+0.3
	comp=Z,16nm,0.8s								
LDF	**La Druitiere**	**147.67**	**8**	*e*PKP1		PKPbc	12 44 41.3	-0.2
	comp=Z,12nm,0.7s								
GRR	**Gorron**	**147.77**	**9**	*e*PKP1		PKPbc	12 44 41.6	-0.1
	comp=Z,30nm,0.9s								
CDF	**Champ du Feu**	**148.29**	**359**	*e*PKP1		PKPbc	12 44 43.5	+0.4
BFO	**Black Forest**	**148.34**	**358**	*e*PKPbc		PKPbc	12 44 43.8	+0.5
HAU	**Haudompre**	**148.71**	**0**	*e*PKP1		PKPbc	12 44 44.5	+0.3
LOR	**Lormes**	**149.37**	**3**	*e*PKP1		PKPbc	12 44 46.0	+0.1
	comp=Z,13nm,0.9s								
SSF	**Saint Saulge**	**149.56**	**4**	*e*PKP1		PKPbc	12 44 46.8	+0.5
	comp=Z,21nm,0.9s								
MFF	**Saint Martin d**	**149.62**	**9**	*e*PKP1		PKPbc	12 44 46.7	+0.2
	comp=Z,6.9nm,0.7s								
AVF	**Avril sur Loir**	**149.82**	**4**	*e*PKP1		PKPbc	12 44 47.0	0.0
	comp=Z,11nm,0.8s								
SMF	**Signal de Mont**	**149.99**	**4**	*e*PKP1		PKPbc	12 44 47.5	+0.1
BGF	**Bois d'Agland**	**150.01**	**5**	*e*PKP1		PKPbc	12 44 47.7	+0.3
	comp=Z,12nm,0.6s								
CABF	**La Chapelle**	**150.10**	**0**	*e*PKP1		PKPbc	12 44 48.6	+0.9
	comp=Z,29nm,1.0s								
TCF	**Toulx Ste Croi**	**150.22**	**6**	*e*PKP1		PKPbc	12 44 48.1	+0.2
	comp=Z,15nm,1.0s								
LPL	**La Plagne**	**151.19**	**360**	*e*PKP1		PKPbc	12 44 51.4	+1.1
LPG	**La Plagne**	**151.21**	**359**	*e*PKP1		PKPbc	12 44 51.6	+1.3
ORIF	**Oris-en-Rattie**	**151.79**	**1**	*e*PKP1		PKPbc	12 44 52.5	+0.9
MBDF	**Montbardon**	**151.98**	**359**	*e*PKP1		PKPbc	12 44 52.8	+0.7
	comp=Z,6.2nm,0.7s								
SJPF	**Ste Jean**	**152.81**	**12**	*e*PKP1		PKPbc	12 44 54.3	+0.4
MTLF	**Montolieu**	**153.13**	**7**	*e*PKP1		PKPbc	12 44 54.8	+0.2
ETSF	**Etsaut**	**153.15**	**11**	*e*PKP1		PKPbc	12 44 55.4	+0.7
LIC	**Lamto**	**164.77**	**131**	*e*PKIKP		PKPdf	12 45 00.9	0.0
	comp=Z,35nm,1.3s								
TORD	**Torodi Ar. Bea**	**174.29**	**127**	PKP		PKPdf	12 45 06.7	+0.1
	comp=Z,1.0nm,0.8s,baz=353,slow=1.7,SNR=6.3								

MOS 27 13:00:20.9±0.7, 4388N×4442E, h10km, mb3.6/1, 6C-2D, Error ellipse: s-maj=32.3km s-min=7.6km az=84.1, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRTR	**Priterechnaya**	**0.16**	**218**	↑ *i* P	Pg	13 00 25.0	+0.6
PRTR				*i* S	Sg	13 00 28.5	+1.7
BTKR	**Batakoyurt**	**0.51**	**170**	↑ *i* P	Pg	13 00 31.5	+0.6
BTKR				*i* S	Sg	13 00 39.8	+2.2
KMSR	**Komsomolskaya**	**0.51**	**190**	*e*P	Pg	13 00 31.7	+0.8
KMSR				*e*S	Sg	13 00 40.1	+2.4
ARNR	**Ardon**	**0.69**	**188**	*e*PG	Pg	13 00 35.0	+0.7
ARNR				*i* S	Sg	13 00 45.8	+2.4
KORR	**Kora**	**0.83**	**198**	↑ *i* P	Pg	13 00 37.6	+0.7
KORR				*i* S	Sg	13 00 50.3	+2.6
VLKR	**Vladikavkaz**	**0.85**	**167**	↓ *i* P	Pg	13 00 37.8	+0.5
VLKR				*i* S	Sg	13 00 50.8	+2.4
SNJR	**Sundja**	**0.86**	**160**	↑ *i* P	Pg	13 00 37.9	+0.5
SNJR				*i* S	Sg	13 00 50.9	+2.3
LACR	**Lac**	**1.05**	**185**	↓ *e*P	Pg	13 00 41.5	+0.3
LACR				*e*S	Sg	13 00 56.8	+1.9
DIGR	**Digorskoe uzhe**	**1.15**	**212**	↑ *i* P	Pg	13 00 43.3	+0.3
DIGR				*i* S	Sb	13 01 00.3	+2.4
ZEI	**Tsey**	**1.17**	**199**	↑ *i* P	Pg	13 00 43.3	-0.1
ZEI				*i* S	Sb	13 01 00.2	+1.8

*CSEM **27** 13:05:35.5±1.1, 3865N×2707W, h0km±2km, ML2.5, Error ellipse: s-maj=2.5km s-min=1.4km az=26.0, After PDA*
*PDA **27** 13:05:35.5±1.1, 3865N×2707W, h0km±2km, ML2.5, Error ellipse: s-maj=2.5km s-min=1.4km az=26.0*
SVSA 27 13:05:35.5±1.1, 3865N×2707W, h0km±2km, ML2.5, Error ellipse: s-maj=2.5km s-min=1.4km az=26.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFAV	**Pico das Favas**	**0.06**	**348**	*i* P	Pg	13 05 36.7	0.0
PFAV				*e*S	Sg	13 05 37.7	+0.3
PFAV							
	1µm,0.1s						
PFAV	**Pico das Favas**	**0.06**	**348**	*e*S	Sg	13 05 37.7	+0.3
RIB2	**Ribeirinha**	**0.08**	**283**	*e*P	Pg	13 05 37.1	0.0
RIB2				*e*S	Sg	13 05 38.6	+0.4
PVNV	**Vila Nova**	**0.13**	**328**	*i* P	Pg	13 05 37.8	-0.2
PVNV				*e*S	Sg	13 05 40.1	+0.5
PVNV							
	352nm,0.1s						
PVNV	**Vila Nova**	**0.13**	**328**	*e*S	Sg	13 05 40.1	+0.5
ADH	**Angra Heroismo**	**0.13**	**271**	*e*P	Pg	13 05 37.2	-0.8
ADH				*e*S	Sg	13 05 39.7	0.0
PPAD	**Pico dos Padre**	**0.18**	**286**	*e*P	Pg	13 05 38.7	-0.2
PPAD				*e*S	Sg	13 05 41.9	+0.7
PPAD							
	481nm,0.2s						
PPAD	**Pico dos Padre**	**0.18**	**286**	*e*P	Pg	13 05 38.7	-0.2
PPAD				*e*S	Sg	13 05 41.9	+0.7
PBIS	**Biscoitos**	**0.18**	**307**	*e*P	Pg	13 05 38.7	-0.3
PBIS				*e*S	Sg	13 05 41.7	+0.4
PBIS							
	235nm,0.2s						
PBIS	**Biscoitos**	**0.18**	**307**	*e*P	Pg	13 05 38.7	-0.3
PBIS				*e*S	Sg	13 05 41.7	+0.4
ASBA	**Santa Barbara**	**0.21**	**289**	*e*P	Pg	13 05 39.4	-0.2
ASBA				*e*S	Sg	13 05 42.9	+0.6
ASBA							
	598nm,0.2s						
ASBA	**Santa Barbara**	**0.21**	**289**	*e*P	Pg	13 05 39.4	-0.2
ASBA				*e*S	Sg	13 05 42.9	+0.6
PMAN	**Manadas**	**0.80**	**269**	*e*P	Pg	13 05 47.6	-3.2
PMAN				*e*S	Sg	13 05 58.1	-3.1
PMAN							
	317nm,0.2s						
PMAN	**Manadas**	**0.80**	**269**	*e*P	Pg	13 05 47.6	-3.2
PMAN				*e*S	Sg	13 05 58.1	-3.1
PIED	**Piedade**	**0.81**	**254**	*e*rx	Sg	13 06 02.6	+1.2
STGR	**Santa Cruz**	**0.84**	**301**	*e*S	Sg	13 06 00.5	-2.2
STGR							
	54nm,0.1s						
PID	**Ribeirinha**	**0.85**	**256**	*e*P	Pg	13 05 48.4	-3.4
SRBC	**Serra Branca**	**0.85**	**297**	*e*P	Pg	13 05 49.1	-2.7
SRBC				*e*S	Sg	13 06 00.3	-2.5
PVIA	**Vitoria**	**0.87**	**299**	*e*S	Sg	13 06 01.1	-2.4
PVIA							
	16nm,0.1s						
ROSA	**Rosais**	**0.92**	**275**	*i* P	Pg	13 05 49.7	-3.4
ROSA				*e*S	Sg	13 06 01.6	-3.5
PTEI	**Pico do Teixo**	**1.02**	**262**	*e*P	Pg	13 05 52.5	-2.6
PTEI				*e*S	Sg	13 06 04.9	-3.4
PTEI							
	15nm,0.2s						
PBOI	**Pico dos Bois**	**1.05**	**259**	*e*rx	Sg	13 06 04.5	-4.6
PCND	**Candelaria**	**1.11**	**261**	*e*S	Sg	13 06 06.7	-4.4
PCND							
	18nm,0.2s						
SET4	**Mosteiros**	**1.27**	**127**	*i* P	Pg	13 05 55.8	-4.0
SET4				*e*S	Sg	13 06 10.7	-5.5
SET2	**Ginetes**	**1.28**	**129**	*e*P	Pg	13 05 55.8	-4.2
SET2				*e*S	Sg	13 06 11.1	-5.5
PFET	**Feteiras**	**1.31**	**129**	*e*P	Pg	13 05 56.4	-4.2
PFET				*e*S	Sg	13 06 11.7	-5.8
PSAN	**Santo Antonio**	**1.33**	**127**	*e*P	Pg	13 05 56.6	-4.3
PSAN				*e*S	Sg	13 06 11.9	-6.2
PSET	**Sete Cidades**	**1.35**	**128**	*e*P	Pg	13 05 55.8	-5.5
PSET				*e*S	Sg	13 06 11.8	-7.0
FAC	**Faja de Cima**	**1.42**	**128**	*e*S	Sg	13 06 14.0	-7.2
PDA	**Ponta Delgada**	**1.43**	**129**	*e*rx	Sg	13 06 20.1	-1.3
CML	**Cha da Macela**	**1.49**	**126**	*e*S	Sg	13 06 15.7	-7.6
PVER	**Pico Vermelho**	**1.49**	**124**	*e*S	Sg	13 06 16.3	-7.2
PVER							
	103nm,0.3s						
PMAT	**Coroa da Mata**	**1.51**	**123**	*e*P	Pn	13 05 59.0	-4.8
PMAT				*e*S	Sg	13 06 16.5	-7.5
PMAT							
	45nm,0.2s						
PMAT	**Coroa da Mata**	**1.51**	**123**	*e*P	Pn	13 05 59.0	-4.8
PMAT				*e*S	Sg	13 06 16.5	-7.5
LFA	**Lagoa do Fogo**	**1.53**	**125**	*i* P	Pn	13 05 59.5	-4.5
PLUZ	**Luz**	**1.53**	**284**	*e*S	Pn	13 05 59.2	-4.9
PLUZ							
	20nm,0.1s						
MESC	**Monte Escuro**	**1.54**	**123**	*e*P	Pn	13 05 59.4	-4.8
MESC				*e*S	Sn	13 06 17.1	-7.8
PRCH	**Ribeira Ch**	**1.56**	**126**	*e*P	Pn	13 06 00.1	-4.3
PRCH				*e*S	Sn	13 06 17.6	-7.7
PRCH							
	126nm,0.3s						
PRCH	**Ribeira Ch**	**1.56**	**126**	*e*P	Pn	13 06 00.1	-4.3
PRCH				*e*S	Sn	13 06 17.6	-7.7
VIF	**Vila Franca**	**1.57**	**125**	*e*S	Sn	13 06 17.9	-7.8
VIF							
	24nm,0.2s						
PFAD	**Fenais da Ajud**	**1.60**	**120**	*e*P	Pn	13 06 00.2	-4.8
PFAD				*e*S	Sn	13 06 18.4	-7.9
FRA1	**Furnas**	**1.63**	**123**	*e*S	Sn	13 06 19.1	-7.9
MIRA	**Miradouro**	**1.65**	**121**	*e*P	Pn	13 06 01.0	-4.8
MIRA				*e*S	Sn	13 06 19.9	-7.8
PSMN	**Pico do Norte,**	**2.29**	**135**	*e*P	Pn	13 06 09.4	-5.1
PSMN				*e*S	Sn	13 06 35.2	-8.1

*CSEM **27** 13:05:40.8±0.8, 3868N×2707W, h5km±2km, ML2.3, Error ellipse: s-maj=4.0km s-min=1.3km az=33.0, After PDA*
*PDA **27** 13:05:40.8±0.8, 3868N×2707W, h5km±2km, MD2.8, ML2.3, Error ellipse: s-maj=4.0km s-min=1.3km az=33.0*
SVSA 27 13:05:40.8±0.8, 3868N×2707W, h5km±2km, MD2.8, ML2.3, Error ellipse: s-maj=4.0km s-min=1.3km az=33.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFAV	**Pico das Favas**	**0.04**	**339**	*e*P	Pg	13 05 41.7	-0.3
PFAV				*e*S	Sg	13 05 43.1	+0.3
PFAV							
	1µm,0.2s						
PFAV	**Pico das Favas**	**0.04**	**339**	*e*P	Pg	13 05 41.7	-0.3
PFAV				*e*S	Sg	13 05 43.1	+0.3
RIB2	**Ribeirinha**	**0.08**	**268**	*e*S	Sg	13 05 44.1	+0.2
RIB2	**Ribeirinha**	**0.08**	**268**	*e*S	Sg	13 05 44.1	+0.2
PVNV	**Vila Nova**	**0.11**	**321**	*e*S	Sg	13 05 44.8	+0.1
PVNV							
	336nm,0.2s						
PVNV	**Vila Nova**	**0.11**	**321**	*e*S	Sg	13 05 44.8	+0.1
PBIS	**Biscoitos**	**0.17**	**301**	*e*S	Sg	13 05 46.4	0.0
PBIS							
	179nm,0.2s						
PBIS	**Biscoitos**	**0.17**	**301**	*e*S	Sg	13 05 46.4	0.0
PPAD	**Pico dos Padre**	**0.17**	**279**	*e*S	Sg	13 05 46.6	0.0
PPAD							
	541nm,0.3s						
PPAD	**Pico dos Padre**	**0.17**	**279**	*e*S	Sg	13 05 46.6	0.0
STGR	**Santa Cruz**	**0.83**	**299**	*e*P	Pg	13 05 54.5	-2.3
STGR				*e*S	Sg	13 06 04.6	-3.1
STGR							
	52nm,0.2s						
STGR	**Santa Cruz**	**0.83**	**299**	*e*P	Pg	13 05 54.5	-2.3
STGR				*e*S	Sg	13 06 04.6	-3.1
ROSA	**Rosais**	**0.92**	**273**	*e*P	Pg	13 05 53.5	-5.0
ROSA	**Rosais**	**0.92**	**273**	*e*P	Pg	13 05 53.5	-5.0
SET4	**Mosteiros**	**1.28**	**128**	*e*P	Pn	13 06 00.7	-4.6
SET4	**Mosteiros**	**1.28**	**128**	*e*P	Pn	13 06 00.7	-4.6
PMAT	**Coroa da Mata**	**1.52**	**124**	*e*P	Pn	13 06 04.0	-4.6
PMAT	**Coroa da Mata**	**1.52**	**124**	*e*P	Pn	13 06 04.0	-4.6
MESC	**Monte Escuro**	**1.55**	**124**	*e*P	Pn	13 06 04.0	-5.0
MESC	**Monte Escuro**	**1.55**	**124**	*e*P	Pn	13 06 04.0	-5.0
PRCH	**Ribeira Ch**	**1.57**	**127**	*e*P	Pn	13 06 04.4	-4.9
PRCH	**Ribeira Ch**	**1.57**	**127**	*e*P	Pn	13 06 04.4	-4.9
PFAD	**Fenais da Ajud**	**1.61**	**121**	*e*P	Pn	13 06 04.9	-4.9
PFAD				*e*S	Sn	13 06 23.1	-7.8
PFAD	**Fenais da Ajud**	**1.61**	**121**	*e*P	Pn	13 06 04.9	-4.9
PFAD				*e*S	Sn	13 06 23.1	-7.8
MIRA	**Miradouro**	**1.67**	**122**	*e*P	Pn	13 06 05.9	-4.7
MIRA				*e*S	Sn	13 06 24.9	-7.4
MIRA	**Miradouro**	**1.67**	**122**	*e*P	Pn	13 06 05.9	-4.7
MIRA				*e*S	Sn	13 06 24.9	-7.4
PSMN	**Pico do Norte,**	**2.30**	**136**	*e*S	Sn	13 06 40.1	-7.9

*ISCJB **27** 13:08:23.8±0.8, 4293N×1003×673E×1003, h6km±4km, Error ellipse: s-maj=5.8km s-min=3.8km az=4.9*
*GEN **27** 13:08:25.9, 4287N×697E, h0km, ML2.0*
*LDG **27** 13:08:26.2±0.1, 4295N×680E, h2km, Md2.8/2, Ml2.9/8, Error ellipse: s-maj=1.9km s-min=1.4km az=2.0*
*CSEM **27** 13:08:26.5±0.1, 4299N×682E, h7km±1km, ML2.8/8, Error ellipse: s-maj=2.4km s-min=1.7km az=6.0*
*NEIC **27** 13:08:26.2, 4295N×680E, h2km, ML2.6(STR), ML2.9(LDG), After LDG.*
*STR **27** 13:08:27.6±0.7, 4296N×7.17E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 27 13:08:25.2±0.8, 4294N±004×676E±003, h11km±4km, n41, σ0°66/87, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMR	**La Mourre**	**0.44**	**335**	*e*Pg	**Pg**	**13 08 34.4**	**+0.6**
LMR				*e*Sg	**Sg**	**13 08 39.5**	**-0.2**
	181nm,0.2s						
LMR	**La Mourre**	**0.44**	**335**	*e*Pg	**Pg**	**13 08 34.4**	**+0.6**
LMR				*e*Sg	**Sg**	**13 08 39.5**	**-0.2**
	91nm,0.2s						
FRF	**La Foret Royal**	**0.63**	**352**	*e*Pg	**Pg**	**13 08 38.0**	**+0.6**
FRF				*e*Sg	**Sg**	**13 08 45.7**	**0.0**
	130nm,0.2s						
FRF	**La Foret Royal**	**0.63**	**352**	*e*Pg	**Pg**	**13 08 38.0**	**+0.6**
FRF				*e*Sg	**Sg**	**13 08 45.7**	**0.0**
	65nm,0.2s						
REVF	**Revere**	**0.92**	**29**	Pg	**Pg**	**13 08 43.5**	**+0.7**
MVIF	**Mont Vial**	**1.00**	**16**	Pg	**Pg**	**13 08 45.2**	**+0.8**
MVIF				Sg	**Sg**	**13 08 58.5**	**+1.0**
LUCF	**Luceram**	**1.04**	**24**	Pg	**Pg**	**13 08 45.5**	**+0.2**
LUCF				Sg	**Sg**	**13 08 59.4**	**+0.5**
SBF	**Sospel**	**1.05**	**28**	*e*Pn	**Pn**	**13 08 45.6**	**-0.2**
SBF				*e*Sg	**Sg**	**13 08 58.7**	**-0.3**
	61nm,0.2s						
SBF	**Sospel**	**1.05**	**28**	*e*Pg	**Pg**	**13 08 45.3**	**0.0**
SBF				*e*Pn	**Pn**	**13 08 45.6**	**-0.2**
SBF				*e*Sg	**Sg**	**13 08 58.7**	**-0.3**
SBF	**Sospel**	**1.05**	**28**	*e*Pn	**Pn**	**13 08 45.6**	**-0.2**
SBF				*e*Sg	**Sg**	**13 08 58.7**	**-0.3**
	31nm,0.2s						
TOUF	**Mont Tournerai**	**1.13**	**18**	Pg	**Pg**	**13 08 47.1**	**+0.1**
TOUF				Sg	**Sg**	**13 09 01.3**	**-0.4**
AUTN	**L'Aution**	**1.16**	**24**	Pg	**Pg**	**13 08 47.3**	**-0.3**
AUTN				Sg	**Sg**	**13 09 02.3**	**-0.4**
SAOF	**Saorge**	**1.20**	**29**	Pg	**Pg**	**13 08 47.2**	**-1.0**
SAOF				Sg	**Sg**	**13 09 02.0**	**-1.8**
SMRF	**Simiane la Rot**	**1.35**	**321**	*e*Pg	**Pg**	**13 08 51.4**	**+0.2**
SMRF				*e*Sg	**Sg**	**13 09 09.6**	**+0.9**
	36nm,0.2s						
SMRF	**Simiane la Rot**	**1.35**	**321**	*e*Pg	**Pg**	**13 08 51.4**	**+0.2**
SMRF				*e*Sg	**Sg**	**13 09 09.6**	**+0.9**
	18nm,0.2s						
STV	**Sta Anna Valdi**	**1.37**	**17**	P	**Pn**	**13 08 50.6**	**+0.4**
ENR	**Entracque**	**1.37**	**20**	P	**Pn**	**13 08 50.7**	**+0.4**
RORO		**1.51**	**38**	P	**Pn**	**13 08 52.3**	**+0.2**
FIN	**Finale Ligure**	**1.65**	**39**	P	**Pn**	**13 08 53.9**	**-0.1**
PGF	**Pioggiola**	**1.69**	**103**	*e*Pg	**Pg**	**13 08 57.5**	**-0.2**
PGF				*e*Sn	**Sn**	**13 09 15.1**	**-1.2**
	11nm,0.3s						
PGF	**Pioggiola**	**1.69**	**103**	*e*Pn	**Pn**	**13 08 54.7**	**+0.1**
PGF				*e*Pg	**Pg**	**13 08 57.5**	**-0.2**
PGF				*e*Sn	**Sn**	**13 09 15.1**	**-1.2**
PGF	**Pioggiola**	**1.69**	**103**	*e*Pg	**Pg**	**13 08 57.5**	**-0.2**
PGF				*e*Sn	**Sn**	**13 09 15.1**	**-1.2**
	5.7nm,0.3s						
MBDF	**Montbardon**	**1.79**	**0**	*e*Pg	**Pg**	**13 08 59.5**	**0.0**
MBDF				*e*Sg	**Sg**	**13 09 22.7**	**0.0**
	27nm,0.3s						
MBDF	**Montbardon**	**1.79**	**0**	*e*Pn	**Pn**	**13 08 57.1**	**+1.1**
MBDF				*e*Pg	**Pg**	**13 08 59.5**	**0.0**
MBDF				*e*Sg	**Sg**	**13 09 22.7**	**0.0**
MBDF	**Montbardon**	**1.79**	**0**	*e*Pg	**Pg**	**13 08 59.5**	**0.0**
MBDF				*e*Sg	**Sg**	**13 09 22.7**	**0.0**
	14nm,0.3s						
RRL	**Cesana Torines**	**1.98**	**0**	P	**Pn**	**13 09 02.6**	**+4.0**
RRL				S	**Sn**	**13 09 28.2**	**+4.8**
PCP	**Pian Castagno**	**2.06**	**38**	P	**Pn**	**13 08 59.6**	**-0.1**
ORIF	**Oris-en-Rattie**	**2.08**	**342**	*e*Pg	**Pg**	**13 09 05.1**	**0.0**
ORIF				*e*Sg	**Sg**	**13 09 32.1**	**0.0**
	26nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.08**	**342**	*e*Pn	**Pn**	**13 09 01.2**	**+1.2**
ORIF				*e*Pg	**Pg**	**13 09 05.1**	**0.0**
ORIF				*e*Sg	**Sg**	**13 09 32.1**	**0.0**
ORIF	**Oris-en-Rattie**	**2.08**	**342**	*e*Pg	**Pg**	**13 09 05.1**	**0.0**
ORIF				*e*Sg	**Sg**	**13 09 32.1**	**0.0**
	13nm,0.3s						
LASF	**Ste Croix**	**2.40**	**299**	*e*Pg	**Pg**	**13 09 11.1**	**-0.1**
LASF				*e*Sn	**Sn**	**13 09 33.4**	**-0.4**
LASF				*e*Sg	**Sg**	**13 09 41.9**	**-0.5**
	3.9nm,0.2s						
LASF	**Ste Croix**	**2.40**	**299**	*e*Pn	**Pn**	**13 09 04.9**	**+0.5**
LASF				*e*Pg	**Pg**	**13 09 11.1**	**-0.1**
LASF				*e*Sn	**Sn**	**13 09 33.4**	**-0.4**
LASF				*e*Sg	**Sg**	**13 09 41.9**	**-0.5**
LASF	**Ste Croix**	**2.40**	**299**	*e*Pg	**Pg**	**13 09 11.1**	**-0.1**
LASF				*e*Sn	**Sn**	**13 09 33.4**	**-0.4**
LASF				*e*Sg	**Sg**	**13 09 41.9**	**-0.5**
	2.0nm,0.2s						
VIVF	**Saint-Julien-l**	**2.44**	**322**	*e*Pg	**Pg**	**13 09 12.0**	**0.0**
VIVF				*e*Sn	**Sn**	**13 09 34.1**	**-0.7**
VIVF				*e*Sg	**Sg**	**13 09 42.2**	**-1.5**
	4.8nm,0.2s						
VIVF	**Saint-Julien-l**	**2.44**	**322**	*e*Pn	**Pn**	**13 09 05.8**	**+0.8**
VIVF				*e*Pg	**Pg**	**13 09 12.0**	**0.0**
VIVF				*e*Sn	**Sn**	**13 09 34.1**	**-0.7**
VIVF				*e*Sg	**Sg**	**13 09 42.2**	**-1.5**
VIVF	**Saint-Julien-l**	**2.44**	**322**	*e*Pg	**Pg**	**13 09 12.0**	**0.0**
VIVF				*e*Sn	**Sn**	**13 09 34.1**	**-0.7**
VIVF				*e*Sg	**Sg**	**13 09 42.2**	**-1.5**
	2.4nm,0.2s						
LPG	**La Plagne**	**2.56**	**360**	*e*Pg	**Pg**	**13 09 13.8**	**-0.5**
LPL	**La Plagne**	**2.58**	**360**	*e*Pg	**Pg**	**13 09 14.3**	**-0.3**
MTLF	**Montolieu**	**3.35**	**278**	*e*Pg	**Pg**	**13 09 28.9**	**-0.5**
MTLF				*e*Sn	**Sn**	**13 09 55.9**	**-1.3**
	1.4nm,0.3s						
MTLF	**Montolieu**	**3.35**	**278**	*e*Pn	**Pn**	**13 09 18.4**	**+0.9**
MTLF				*e*Pg	**Pg**	**13 09 28.9**	**-0.5**
MTLF				*e*Sn	**Sn**	**13 09 55.9**	**-1.3**
MTLF	**Montolieu**	**3.35**	**278**	*e*Pg	**Pg**	**13 09 28.9**	**-0.5**
MTLF				*e*Sn	**Sn**	**13 09 55.9**	**-1.3**
	0.7nm,0.3s						

*IDC **27** 13:08:56.9±2.6, 936S×10766E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/18, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=107.2km s-min=20.2km az=52.0*
*ISCJB **27** 13:08:58.0±1.2, 964S±010×1073E±01, h33km, mb3.7/5, Error ellipse: s-maj=19.0km s-min=13.1km az=39.3*
**ISC 27 13:09:00.

WHY	Whitehorse	7.30	89	P		Pn		13 19 44.0	-1.0	
SKAG	Skagway	7.43	98	P		Pn		13 19 44.8	-2.0	
SDPT	Sand Point	8.21	228	eP		Pn		13 20 02.0	+4.5	
SIT	Sitka	8.59	114	eP		Pn		13 20 00.4	-2.3	
TNA	Tin City	9.12	305	P		Pn		13 20 11.0	+1.2	
INK	Inuvik	9.81	38	Pn		Pn		13 20 19.2	-0.2	
	1.8nm,0.3s,baz=234,slow=15,SNR=51									
INK				Sn		Sn		13 22 05.5	-2.7	
	1.0nm,0.3s,baz=218,slow=17,SNR=2.1									
INK				Lg				13 23 10.4		
	baz=120,slow=16,SNR=2.5									
INK				LR		LR		13 24 27.8		
	comp=Z,1μm,18.1s,baz=230,slow=40									
INK	Inuvik	9.81	38	P		Pn		13 20 19.2	-0.2	
INK								13 22 05.5		
INK				pmax		pmax				
	comp=Z,2.0nm,0.3s									
INK				smax						
	comp=E,1.0nm,0.3s									
INK				MLR		MLR				
	comp=Z,1μm,18.1s									
INK	Inuvik	9.81	38	ePn		Pn		13 20 21.9	+2.5	
DLBC	Dease Lake	10.36	98	Pn		Pn		13 20 25.9	-1.0	
	comp=Z,2.3nm,0.3s,baz=285,slow=10,SNR=25									
DLBC				Sn		Sn		13 22 24.0	+2.4	
	comp=Z,1.5nm,0.3s,baz=357,slow=27,SNR=1.9									
DLBC				Lg				13 23 23.9		
	comp=Z,0.7nm,0.3s,baz=183,slow=23,SNR=3.7									
DLBC				LR		LR		13 24 47.2		
	comp=Z,2μm,19.5s,baz=305,slow=39									
DLBC	Dease Lake	10.36	98	Pn		Pn		13 20 25.9	-1.0	
DLBC				Sn		Sn		13 22 24.0	+2.4	
DLBC				Lg				13 23 23.9		
DLBC				LR		LR		13 24 47.2		
CRAG	Craig	10.54	117	ePn		Pn		13 20 27.4	-2.0	
BBB	Bella Bella	14.96	118	Pn		Pn		13 21 33.6	+4.1	
	comp=Z,0.6nm,0.3s,baz=316,slow=12,SNR=4.5									
BBB				LR		LR		13 26 58.7		
	comp=Z,1μm,18.8s,baz=59,slow=36									
YKW3	Yellowknife Ar	16.48	70	eP		Pn		13 21 50.4	+1.4	
YKA	Yellowknife Ar	16.50	71	Pn		Pn		13 21 49.0	-0.3	
	baz=65,slow=5.0,SNR=50									
YKA				PcP		PcP		13 26 37.9	-1.0	
	baz=276,slow=1.1,SNR=9.5									
YKA				ScP		ScP		13 30 09.1	-1.0	
	baz=282,slow=2.3,SNR=3.7									
YKA	Yellowknife Ar	16.50	71	Pn		Pn		13 21 49.0	-0.3	
YKA				PcP		PcP		13 26 37.9	-1.0	
YKA				ScP		ScP		13 30 09.2	-0.9	
PGC	Sidney	19.59	118	eP		Pn		13 22 25.9	-1.1	
A04A	Legoe Bay, Lum	19.85	117	⇓P		Pn		13 22 27.0	-3.1	
	baz=20									
VDB	Vedder Mountai	19.88	116	P		Pn		13 22 28.9	-1.6	
A05A	Maple Falls	19.91	116	⇓P		Pn		13 22 28.2	-2.6	
	baz=20									
B04A	Port Angeles	20.02	120	⇑P		P		13 22 30.2	0.0	
	baz=20									
B05A	Bryant	20.46	117	⇓P		P		13 22 35.2	+0.2	
	baz=20,SNR=18									
JCW	Jim Creek	20.59	117	P		P		13 22 36.9	+0.6	
D03A	Wishkah Elem.	20.66	122	⇑P		P		13 22 36.8	-0.2	
	baz=20									
GNW	Green Mountain	20.70	120	eP		P		13 22 38.2	+0.8	
PNT	Penticton	20.76	112	P		P		13 22 38.4	+0.2	
EDM	Edmonton	21.07	96	eP		P		13 22 41.4	-0.1	
C05A	Tolt Reservoir	21.08	118	⇓P		P		13 22 41.4	-0.2	
	baz=21,SNR=9.9									
E03A	Lebam	21.20	122	⇑P		P		13 22 42.6	-0.3	
	baz=21									
D05A	Enumclaw	21.34	119	⇓P		P		13 22 44.6	+0.2	
	baz=21,SNR=9.9									
GSM	Grass Mountain	21.41	119	P		P		13 22 45.8	+0.6	
E04A	Onalaska	21.51	121	⇓P		P		13 22 45.4	-0.9	
	baz=21									
F03A	Seaside	21.70	123	⇓P		P		13 22 47.7	-0.6	
	baz=22									
ETW	Entiat	21.73	116	P		P		13 22 49.1	+0.5	
LON	Longmire	21.77	119	eP		P		13 22 49.8	+0.9	
WTV	Waterville	21.82	115	P		P		13 22 49.6	+0.1	
TDL	Tradedollar La	21.91	121	P		P		13 22 51.0	+0.5	
WPW	White Pass	21.92	119	P		P		13 22 51.3	+0.7	
E05A	Randle	21.94	120	⇓P		P		13 22 50.2	-0.6	
	baz=22									
TBM	Table Mountain	21.95	117	P		P		13 22 51.2	+0.3	
F04A	Amboy	22.17	122	⇓P		P		13 22 52.9	-0.4	
	baz=22,SNR=14									
G03A	Yamhill	22.32	124	⇓P		P		13 22 54.6	-0.2	
	baz=22									
MXC	Moxie City	22.54	118	P		P		13 22 57.3	+0.1	
OD2	Odessa Site #2	22.60	114	P		P		13 22 57.6	-0.3	
F05A	White Salmon	22.61	120	⇑P		P		13 22 57.5	-0.4	
	baz=22,SNR=7.5									
NEW	Newport	22.66	110	P		P		13 22 58.8	+0.3	
	comp=Z,13nm,0.8s,mb4.5,baz=324,slow=8.0,SNR=24									
NEW				LR		LR		13 31 08.4		
	comp=Z,793nm,18.8s,MS4.2,baz=47,slow=35									
NEW	Newport	22.66	110	eP		P		13 22 58.3	-0.1	
NEW				pmax		pmax				
	comp=Z,63nm,1.3s									
NEW	Newport	22.66	110	eP		P		13 22 58.3	-0.1	
	comp=Z,63nm,1.3s,mb4.9									
G04A	Mulino	22.73	123	⇓P		P		13 22 58.3	-0.9	
	baz=22,SNR=8.9									
GBB	Gable Butte	22.81	117	P		P		13 22 59.8	-0.2	
H03A	Soap Creek Ran	22.84	125	⇓P		P		13 22 59.4	-1.1	
	baz=23									
WRD	Warden	22.86	116	P		P		13 22 59.0	-1.6	
HOOD	Mount Hood Mea	22.98	121	P		P		13 23 02.9	+1.1	
HAWA	Hanford	23.02	117	eP		P		13 23 01.6	-0.6	
	comp=Z,4.3nm,1.4s									
G05A	Wamic	23.18	121	⇓P		P		13 23 03.5	-0.5	
	baz=23									
H04A	Detroit Lake	23.28	123	⇑P		P		13 23 04.6	-0.4	
	baz=23,SNR=8.9									
I03A	Eugene	23.44	126	⇓P		P		13 23 06.0	-0.5	
	baz=23									
BROR	Big Rock Looko	23.52	124	P		P		13 23 07.6	+0.3	
WALA	Waterton Lakes	23.55	105	eP		P		13 23 07.0	-0.5	
H05A	Madras	23.70	122	P		P		13 23 08.8	-0.1	
	baz=24,SNR=6.0									
KEBM	Edson Butte	23.97	129	eP		P		13 23 12.3	+0.9	
KEBM				epP				13 23 25.2		
BSMT	Bassoo Peak	24.02	108	eP		P		13 23 11.6	-0.2	
J03A	Ideyld Park	24.07	126	⇑P		P		13 23 12.2	-0.1	
	baz=24									
I05A	Bend	24.09	123	⇑P		P		13 23 11.8	-0.6	
	baz=24									
K02A	Glendale	24.38	128	⇓P		P		13 23 14.7	-0.4	
	baz=24									
I06A	Prineville	24.70	121	⇓P		P		13 23 17.5	-0.5	
	baz=24,SNR=8.7									
HUMO	Hull Mountain	24.72	127	eP		P		13 23 18.5	+0.2	
	comp=Z,27nm,0.9s,mb4.8									
HUMO	Hull Mountain	24.72	127	⇑P		P		13 23 18.2	0.0	
	baz=24									
J05A	Fort Rock	24.83	124	⇓P		P		13 23 19.6	+0.4	
	baz=25,SNR=19									
L02A	Cave Junction	24.86	129	⇓P		P		13 23 19.8	+0.4	
	baz=25									
MSO	Missoula	25.16	109	eP		P		13 23 21.8	-0.4	
	comp=Z,66nm,1.3s,mb5.0									
BMO	Blue Mountains	25.19	116	eP		P		13 23 22.2	-0.3	
	comp=Z,76nm,1.0s,mb5.2									
K04A	Chilquin	25.20	125	⇑P		P		13 23 21.9	-0.6	
	baz=25									
CHMT	Chamberlain Mo	25.42	108	eP		P		13 23 23.7	-0.8	
L04A	Klamath Falls	25.51	126	⇓P		P		13 23 24.7	-0.6	
	baz=25									
J07A	Hines	25.54	121	⇑P		P		13 23 25.7	+0.1	
	baz=25,SNR=12									
YBH	Yreka Blue Hor	25.57	128	P		P		13 23 27.0	+1.1	
	comp=Z,14nm,0.9s,mb4.5,baz=346,slow=2.9,SNR=20									
YBH				LR		LR		13 31 36.2		
	comp=Z,436nm,20.3s,MS4.0,baz=16,slow=32									
YBH	Yreka Blue Hor	25.57	128	eP		P		13 23 27.1	+1.2	
YBH	Yreka Blue Hor	25.57	128	⇑P		P		13 23 25.5	-0.4	
	baz=25,SNR=12									
K06A	Valley Falls	25.63	123	⇓P		P		13 23 27.2	+0.7	
	baz=25									
FFC	Flin Flon	25.67	83	eP		P		13 23 25.2	-1.6	
FFC				pmax		pmax				
	comp=Z,15nm,1.0s,mb4.5									
FFC	Flin Flon	25.67	83	eP		P		13 23 25.1	-1.7	
	comp=Z,15nm,1.0s,mb4.5									
M02C	Callahan	25.81	128	⇑P		P		13 23 29.0	+1.0	
	baz=26,SNR=7.9									
M04C	Macdoel	25.86	126	⇑P		P		13 23 28.9	+0.3	
	baz=26,SNR=6.2									
J08A	Circle Bar Ran	25.90	120	P		P		13 23 29.2	+0.3	
	baz=26,SNR=6.7									
L05A	Lakeview	26.02	125	⇓P		P		13 23 30.6	+0.5	
	baz=26,SNR=12									
K07A	Rock Creek Ran	26.13	122	P		P		13 23 31.4	+0.4	
	baz=26,SNR=23									
N02C	Big Bar	26.13	130	⇓P		P		13 23 31.5	+0.5	
	baz=26									
HRY	Holter Researc	26.22	107	eP		P		13 23 31.4	-0.4	
EGMT	Eagleton	26.24	102	eP		P		13 23 31.3	-0.7	
	comp=Z,85nm,0.9s,mb5.3									
K08A	Mann Creek Ran	26.41	120	⇑P		P		13 23 33.9	+0.4	
	baz=26,SNR=21									
M05C	Lookout	26.49	126	⇑P		P		13 23 34.6	+0.4	
	baz=26,SNR=6.2									
O01C	Eel River Cons	26.54	131	⇑P		P		13 23 35.4	+0.7	
	baz=26									
WVOR	Wild Horse Val	26.59	121	eP		P		13 23 35.3	+0.1	
WVOR				pmax		pmax				
	comp=Z,55nm,1.2s,mb5.0									
WVOR	Wild Horse Val	26.59	121	eP		P		13 23 35.3	+0.1	
	comp=Z,55nm,1.2s,mb5.0									
LRM	Limekiln Ridge	26.60	109	eP		P		13 23 35.1	-0.1	
WDC	Whiskeytown Da	26.62	129	eP		P		13 23 36.2	+0.7	
WDC				pmax		pmax				
	comp=Z,45nm,1.2s,mb4.9									
WDC	Whiskeytown Da	26.62	129	eP		P		13 23 36.1	+0.7	
	comp=Z,45nm,1.2s,mb4.9									
WDC	Whiskeytown Da	26.62	129	P		P		13 23 35.8	+0.4	
	baz=26,SNR=8.7									
L07A	Adell	26.65	123	⇑P		P		13 23 36.0	+0.3	
	baz=26,SNR=12									
HATC	Hat Creek Radi	26.83	127	⇓P		P		13 23 37.6	+0.3	
	baz=27									
O02C	Red Bluff	26.88	130	⇓P		P		13 23 38.3	+0.5	
	baz=27									
DLMT	Dillon	26.89	109	eP		P		13 23 37.8	-0.1	
	comp=Z,54nm,1.1s,mb5.0									
L08A	Fields	26.92	121	P		P		13 23 38.4	+0.3	
	baz=27,SNR=40									
BOZ	Bozeman (W)	27.11	108	eP		P		13 23 40.3	+0.5	
MCMT	McKenzie Canyo	27.18	110	eP		P		13 23 39.9	-0.6	
FCC	Fort Churchill	27.23	70	eP		P		13 23 41.2	+0.3	
FCC				pmax		pmax				
	comp=Z,56nm,1.0s,mb5.0									
FCC	Fort Churchill	27.23	70	eP		P		13 23 41.2	+0.3	
	comp=Z,56nm,1.0s,mb5.0									
M07A	Soldier Meadow	27.25	123	P		P		13 23 41.8	+0.7	
	baz=27,SNR=12									
ELFS	Eagle Lake Fie	27.28	126	⇓P		P		13 23 42.1	+0.7	
	baz=27									
L09A	Wilkinson Ranc	27.34	120	⇓P		P		13 23 42.2	+0.3	
	baz=27,SNR=5.2									
GASB	Alder Springs	27.37	130	⇑P		P		13 23 42.7	+0.5	
	baz=27,SNR=5.8									
HLID	Hailey	27.48	114	eP		P		13 23 42.7	-0.4	
	comp=Z,20nm,1.1s,mb4.5									
M08A	Happy Creek Ra	27.52	122	⇑P		P		13 23 43.8	+0.3	
	baz=27,SNR=15									
N06A	Buffalo Meadow	27.53	125	P		P		13 23 43.9	+0.3	
	baz=27,SNR=17									
O05C	Quincy	27.78	127	⇓P		P		13 23 46.1	+0.3	
	baz=28									
QLMT	Earthquake Lak	27.82	109	eP		P		13 23 46.9	+0.7	
GCMT	Greycliff	27.91	105	eP		P		13 23 47.4	+0.4	
ORV	Oroville	27.91	128	⇓P		P		13 23 45.7	-1.3	
	baz=28									
M09A	Marrel Ranch,	27.93	121	⇓P		P		13 23 47.7	+0.6	
	baz=28,SNR=5.7									
O06A	Flanigan	28.03	125	⇑P		P		13 23 48.1	+0.1	
	baz=28,SNR=16									
SUTB	Sutter Butte	28.08	129	⇓P		P		13 23 47.6	-1.0	
	baz=28									
OHCM	Honcut	28.11	129	eP		P		13 23 47.4	-1.4	
MNRC	McLaughlin Nat	28.15	130	⇓P		P		13 23 49.4	+0.2	
	baz=28									
YMR	Madison River	28.16	108	eP		P		13 23 49.6	+0.4	
	comp=Z,57nm,1.1s,mb5.1									
M10A	I.L. Ranch, Tu	28.22	119	⇓P		P		13 23 50.1	+0.3	
	baz=28									
N09A	Rock Creek Ran	28.37	121	⇓P		P		13 23 51.2	+0.1	
	baz=28,SNR=17									
YFT	Old Faithful	28.39	109	eP		P		13 23 53.0	+1.8	
O07A	Toulon	28.41	124	⇓P		P		13 23 51.8	+0.4	
	baz=28,SNR=12									
NSHM	Saint Helena R	28.41	131	eP		P		13 23 51.7	+0.2	
P05C	Yuba Gap, Truc	28.47	127	⇑P		P		13 23 51.3	-0.6	
	baz=28,SNR=5.4									
LKWY	Lake	28.50	108	eP		P		13 23 53.8	+1.6	
LKWY				pmax		pmax				
	comp=Z,62nm,1.4s,mb5.0									
LKWY	Lake	28.50	108	eP		P		13 23 53.8	+1.6	
	comp=Z,62nm,1.4s,mb5.0									
Q04C	Lincoln	28.58	129	⇑P		P		13 23 52.3	-0.7	
	baz=28									
O08A	Rochester Mine	28.59	123	⇑P		P		13 23 52.9	-0.1	
	baz=28									
PAHR	Pah Rah Range	28.59	125	eP		P		13 23 53.5	+0.4	
	comp=Z,72nm,1.9s,mb5.1									
M11A	Holland Ranch,	28.61	118	⇓P		P		13 23 53.6	+0.3	
	baz=28,SNR=13									
CVS	Carmenet Viney	28.62	131	⇑P		P		13 23 53.0	-0.3	
	baz=28									
FLWY	Flagg Ranch	28.73	109	eP		P		13 23 55.5	+1.1	
IMW	Indian Meadow	28.77	109	eP		P		13 23 55.0	+0.3	
WCN	Washoe City	28.80	126	⇑P		P		13 23 55.0	+0.1	
	baz=29,SNR=5.4									
BMN	Battle Mountai	28.85	122	eP		P		13 23 55.7	+0.4	
LAO	LASA Array	28.87	100	eP		P		13 23 55.8	+0.3	
	comp=Z,60nm,0.8s,mb5.4									
DCID1	Drake Creek	28.89	110	eP		P		13 23 57.0	+1.3	
MOOW	Moose Ponds	28.97	109	eP		P		13 23 57.0	+0.6	
MOOW				epP		pP		13 24 08.4	+0.6	
RRI2	Red Ridge	29.03	111	eP		P		13 23 57.6	+0.7	
O09A	Fish Creek Ran	29.08	122	P		P		13 23 58.1	+0.7	
	baz=29,SNR=22									
TPAW	Tet Pass	29.08	110	eP		P		13 23 58.2	+0.8	
	comp=Z,57nm,0.8s,mb5.3									
P08A	Dixie Valley	29.13	123	⇑P		P		13 23 58.0	+0.2	
	baz=29									
N11A	Elko Archery C	29.14	119	⇑P		P		13 23 58.6	+0.7	
	baz=29,SNR=7.0									
BDM	Black Diamond	29.18	131	⇓P		P		13 23 56.6	-1.7	
	baz=29									
SNOW	Snow King Moun	29.19	110	eP		P		13 23 59.5	+1.1	
	comp=Z,51nm,0.7s,mb5.4									
SNOW				epP		pP		13 24 12.1	+2.4	
R05C	Kirkwood Meado	29.20	127	P		P		13 23 58.5	+0.1	
	baz=29,SNR=15									
REDW	Red Top Meadow	29.23	110	eP		P		13 23 59.3	+0.6	
	comp=Z,34nm,0.8s,mb5.1									
M13A	Montello	29.36	116	⇑P		P		13 23 60.0	+0.1	
	baz=29,SNR=18									
ALE	Alert	29.37	16	P		P		13 24 00.0	0.0	
	comp=Z,240nm,0.6s,SNR=15									
WENL	Wente Brothers	29.51	131	⇑P		P		13 24 01.3	+0.1	
	baz=29									
JRSC	Jasper Ridge	29.53	132	⇓P		P		13 24 00.9	-0.5	
	baz=29									
R06C	Coleville	29.59	127	P		P		13 24 02.3	+0.4	
	baz=29,SNR=9.0									
WAKR	Walker	29.61	127	eP		P		13 24 02.5	+0.4	
HVU	Hansel Valley	29.63	114	eP		P		13 24 03.1	+0.8	
CMB	Columbia Colle	29.66	128	eP		P		13 24 02.8	+0.3	
CMB	Columbia Colle	29.66	128	⇓P		P		13 24 02.3	-0.2	
	baz=29									
N13A	Wendover, West	29.76	117	⇓P		P		13 24 03.7	+0.3	
	baz=30,SNR=7.3									
S04C	Ingram Canyon,	29.78	130	⇓P		P		13 24 03.5	-0.1	
	baz=30									
P10A	Eureka	29.85	121	⇑P		P		13 24 04.6	+0.4	
	baz=30,SNR=7.6									
Q08A	Gabbs	29.90	124	⇓P		P		13 24 04.8	+0.1	
	baz=30,SNR=18									
S06C	San Francisco	30.00	128	⇓P		P		13 24 05.5	0.0	
	baz=30,SNR=12									
O12A	Currie	30.02	118	⇓P		P		13 24 05.8	+0.1	
	baz=30,SNR=30									
NVAR	Mina Array Bea	30.12	125	P		P		13 24 07.0	+0.4	
	comp=Z,9.6nm,0.8s,mb4.6,baz=325,slow=8.5,SNR=63									
NVAR				PcP		PcP		13 27 07.1	-0.2	
	comp=Z,3.6nm,0.7s,baz=327,slow=1.0,SNR=10									
NVAR				ScP		ScP		13 30 45.2	-0.9	
	comp=Z,0.9nm,0.9s,baz=264,slow=0.4,SNR=4.5									
NVAR	Mina Array Bea	30.12	125	P		P		13 24 07.0	+0.4	
NVAR				PcP		PcP		13 27 07.1	-0.2	
NVAR				ScP		ScP		13 30 45.2	-0.9	
R07C	Lee Vining	30.12	126	⇑P		P		13 24 07.1	+0.5	
	baz=30,SNR=5.7									
P11A	Circle Ranch,	30.20	121	⇓P		P		13 24 07.7	+0.4	
	baz=30,SNR=9.3									
Q09A	Carvers	30.22	123	⇓P		P		13 24 08.1	+0.6	
	baz=30									
PACP	Pacheco Peak	30.23	131	⇓P		P		13 24 07.8	+0.3	
	baz=30,SNR=6.1									
BW06	Boulder Array	30.28	109	eP		P		13 24 08.2	+0.1	
	comp=Z,44nm,1.4s,mb5.0									
PDAR	Pinedale Array	30.28	109	P		P		13 24 07.7	-0.3	
	comp=Z,7.2nm,0.8s,mb4.5,baz=320,slow=6.6,SNR=62									
PDAR				PcP		PcP		13 27 06.6	-1.1	
	comp=Z,2.2nm,0.8s,baz=73,slow=1.1,SNR=4.7									
HWUT	Hardware Ranch	30.30	113	eP		P		13 24 08.6	+0.4	
SAO	San Andreas Ge	30.39	131	eP		P		13 24 08.8	-0.1	
SAO				epP		pP		13 24 25.1	+4.8	
MLAC	Mammoth Lakes	30.61	127	⇑P		P		13 24 12.0	+1.1	
	baz=30									
P12A	McGill	30.62	120	P		P		13 24 11.4	+0.5	
	baz=30,SNR=13									
HAST	UC Hastings Re	30.68	131	⇑P		P		13 24 11.7	+0.1	
	baz=30,SNR=11									
KCC	Kaiser Creek	30.69	128	⇓P		P		13 24 11.6	0.0	
	baz=30									
TCUT	Toone Canyon	30.77	113	eP		P		13 24 13.3	+1.0	
R09A	Tonopah	30.77	124	P		P		13 24 12.7	+0.3	
	baz=30,SNR=43									
Q11A	Duckwater	30.83	121	⇑P		P		13 24 13.3	+0.5	
	baz=31,SNR=16									
LRV	Little Rabbit	30.85	131	eP		P		13 24 13.9	+0.9	
TPH	Tonopah	30.86	124	eP		P		13 24 13.5	+0.4	
TPH				pmax		pmax				
	comp=Z,32nm,1.1s,mb5.1									
TPH	Tonopah	30.86	124	eP		P		13 24 13.5	+0.4	
	comp=Z,32nm,1.1s,mb5.1									
DUG	Dugway	30.91	116	eP		P		13 24 13.4	-0.1	
DUG				pmax		pmax				
	comp=Z,61nm,1.4s,mb5.2									
DUG	Dugway	30.91	116	eP		P		13 24 13.4	-0.1	
	comp=Z,61nm,1.4s,mb5.2									
MTUM	Tungsten Hills	30.95	126	eP		P		13 24 14.8	+0.8	
CTU	Camp Tracy	30.96	114	eP		P		13 24 14.5	+0.5	
U04C	Hernandez Rese	30.99	130	P		P		13 24 14.9	+0.6	
	baz=31,SNR=5.4									
R10A	Warm Springs	31.04	123	⇓P		P		13 24 14.9	+0.2	
	baz=31									
S09A	Goldfield	31.16	124	⇑P		P		13 24 15.8	0.0	
	baz=31,SNR=24									
TIXI	Tiksi	31.33	323	⇑eP		P		13 24 17.3	0.0	
TIXI				pmax		pmax				
	comp=Z,13nm,1.3s,mb4.6									
TIN	Tinemaha	31.34	126	⇓P		P		13 24 18.1	+0.7	
	baz=31									
ULM	Lac du Bonnet	31.37	86	P		P		13 24 16.8	-0.8	
	comp=Z,37nm,0.8s,mb5.2,baz=309,slow=8.8,SNR=65									
ULM				PcP		PcP		13 27 08.9	-1.6	
	comp=Z,6.7nm,0.8s,baz=284,slow=3.3,SNR=5.0									
ULM	Lac du Bonnet	31.37	86	eP		P		13 24 17.2	-0.4	
	comp=Z,66nm,1.0s,mb5.4									
DAU	Daniels Canyon	31.41	114	eP		P		13 24 18.7	+0.7	
NLU	North Lily Min	31.43	115	eP		P		13 24 20.5	+2.4	
PKD	Parkfield	31.45	130	⇓P		P		13 24 18.9	+0.6	
	baz=31									
RSSD	Black Hills	31.80	102	eP		P		13 24 21.8	+0.4	
PTRM	Twissleman Ran	31.83	130	eP		P		13 24 22.3	+0.6	
CWC	Cottonwood Cre	31.94	127	⇓P		P		13 24 23.2	+0.5	
	baz=32,SNR=8.7									
RWWY	Rawlins	32.20	108	eP		P		13 24 24.4	-0.5	
	comp=Z,25nm,0.8s,mb5.1									
TPNV	Topopah Spring	32.22	124	eP		P		13 24 25.0	-0.1	
TPNV				pmax		pmax				
	comp=Z,68nm,1.4s,mb5.3									
TPNV	Topopah Spring	32.22	124	eP		P		13 24 25.0	-0.1	
	comp=Z,68nm,1.4s,mb5.3									
DAC	Darwin (Calif)	32.27	126	eP		P		13 24 26.0	+0.5	
TMUT	Trail Mount

YAK MLR MLR
comp=N,269nm,22.0s,MS4.1
YAK MLR MLR
comp=E,246nm,18.0s,MS4.1
YAK Yakutsk 35.88 307 *eP* **P 13 24 55.7 -1.1**
X15A Humboldt 35.97 121 ⇑P **P 13 24 58.2 +0.6**
baz=36,SNR=7.4
Y14A Wickenburg 36.14 122 P **P 13 24 59.5 +0.5**
baz=36,SNR=9.7
GLA Glamis 36.18 125 *eP* **P 13 24 59.7 +0.3**
GLA Glamis 36.18 125 ⇓P **P 13 24 59.5 0.0**
baz=36,SNR=7.7
115A Sonoran Desert 37.53 122 ⇓P **P 13 25 11.5 +0.6**
baz=37,SNR=7.9
ANMO Albuquerque 38.05 114*d iP* **P 13 25 15.5 +0.2**
ANMO Albuquerque 38.05 114 *eP* **P 13 25 16.0 +0.7**
comp=E,30nm,1.3s,mb4.9
LAZ Ladron 38.22 115 *eP* **P 13 25 17.0 +0.3**
TUC Tucson 38.47 121 *eP* **P 13 25 19.2 +0.4**
TUC pmax pmax
comp=Z,29nm,1.2s,mb4.9
TUC Tucson 38.47 121 *eP* **P 13 25 19.2 +0.5**
comp=Z,29nm,1.2s,mb4.9
LENM Lemitar 38.49 115 *eP* **P 13 25 19.6 +0.6**
SUMG Summit 38.50 27 *eP* **P 13 25 20.5 +1.4**
LPM Los Pinos Moun 38.52 115 *eP* **P 13 25 19.9 +0.7**
Y22C IRIS PASSCAL I 38.59 115 ⇑P **P 13 25 20.7 +0.9**
baz=38
BNM Barren Site 38.66 115 *eP* **P 13 25 20.8 +0.5**
DAG Danmarks Havn 38.77 16⇑*iP* **P 13 25 20.8 -0.5**
comp=Z,15nm,0.6s,mb4.9
DAG Danmarks Havn 38.77 16⇑*iP* **P 13 25 20.8 -0.5**
DAG pmax pmax
comp=Z,15nm,0.6s,mb4.9
SFJD Kangerlussuaq 39.16 38⇓*iP* **P 13 25 25.6 +1.0**
comp=Z,26nm,0.8s,mb5.0
SFJD Kangerlussuaq 39.16 38⇓*iP* **P 13 25 25.6 +1.0**
SFJD pmax pmax
comp=Z,26nm,0.8s,mb5.0
JFWS Jewell Farm 39.31 90 *eP* **P 13 25 24.8 -1.0**
JFWS pmax pmax
comp=Z,14nm,0.5s,mb5.0
JFWS Jewell Farm 39.31 90 *eP* **P 13 25 24.8 -1.1**
comp=Z,14nm,0.5s,mb4.9
YSS Yuzh-Sakhalins 40.08 281*c iP* **P 13 25 33.1 +0.9**
YSS pmax pmax
comp=Z,18nm,1.3s,mb4.6
YSS Yuzh-Sakhalins 40.08 281 *eP* **P 13 25 33.2 +1.0**
AMTX Amarillo 40.26 109 *eP* **P 13 25 33.8 +0.2**
KIP Kipapa 40.31 192⇓*iP* **P 13 25 34.0 -0.1**
CLNS Chul'man 41.08 304 *eP* **P 13 25 39.6 -0.9**
CLNS pmax pmax
comp=Z,23nm,0.9s,mb4.8
CLNS pmax pmax
comp=N,18nm,0.8s
CLNS pmax pmax
comp=E,16nm,0.9s
GDL2 Guadalupe Moun 41.31 114 *eP* **P 13 25 42.6 +0.3**
SCHQ Schefferville 41.52 60 P **P 13 25 43.5 -0.6**
comp=E,9.8nm,0.6s,mb4.6,baz=325,slow=8.4,SNR=22
SCHQ LR LR 13 45 29.4
comp=E,487nm,18.2s,MS4.4,baz=9.9,slow=40
SCHQ Schefferville 41.52 60 *eP* **P 13 25 43.5 -0.6**
comp=E,9.1nm,0.6s,mb4.6
WMOK Wichita Mounta 41.71 106 *eP* **P 13 25 45.0 -0.7**
WMOK pmax pmax
comp=Z,50nm,1.1s,mb5.1
WMOK Wichita Mounta 41.71 106 *eP* **P 13 25 45.0 -0.7**
comp=Z,50nm,1.1s,mb5.1
HABR Khabarovsk 42.57 288 *eP* **P 13 25 51.3 -1.4**
HABR S **S 13 32 11.2 -1.2**
HABR pmax pmax
comp=Z,16nm,1.7s,mb4.5
CCM Cathedral Cave 42.59 95 *eP* **P 13 25 51.1 -1.8**
CCM pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
CCM Cathedral Cave 42.59 95 *eP* **P 13 25 51.1 -1.7**
comp=Z,6.7nm,0.9s,mb4.4
FVM French Village 43.05 95 *eP* **P 13 25 55.2 -1.3**
FVM pmax pmax
comp=Z,51nm,1.3s,mb5.1
FVM French Village 43.05 95 *eP* **P 13 25 55.2 -1.4**
comp=Z,51nm,1.3s,mb5.1
KLR Kul'dur 43.52 291 *eP* **P 13 25 55.2 -5.2**
SIUC Southern Illin 43.84 94 *eP* **P 13 26 02.0 -0.9**
comp=E,69nm,1.1s,mb5.3
MIAR Mount Ida 44.31 101 *eP* **P 13 26 05.3 -1.4**
MIAR pmax pmax
comp=Z,33nm,0.9s,mb5.1
MIAR Mount Ida 44.31 101 *eP* **P 13 26 05.3 -1.4**
comp=Z,33nm,0.9s,mb5.1
BOD Bodaibo 44.56 311 *eP* **P 13 26 07.3 -1.4**
BOD *e* 13 32 38.2
BOD pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
UALR University of 44.71 99 *eP* **P 13 26 08.4 -1.4**
comp=Z,23nm,1.0s,mb5.0
JCT Junction City 44.81 110 *eP* **P 13 26 10.1 -0.6**
JCT pmax pmax
comp=Z,116nm,0.9s,mb5.7
JCT Junction City 44.81 110 *eP* **P 13 26 10.1 -0.5**
comp=Z,116nm,0.9s,mb5.7
WCI Wyandotte Cave 44.84 91 *eP* **P 13 26 09.8 -1.1**
ALLY Alegheny Colle 45.13 83 *eP* **P 13 26 13.3 +0.1**
LONY Lake Ozonia 45.49 76 *eP* **P 13 26 14.5 -1.6**
WVT Waverly 45.77 94 *eP* **P 13 26 17.4 -0.9**
WVT pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
WVT Waverly 45.77 94 *eP* **P 13 26 17.4 -0.9**
comp=Z,3.4nm,0.6s,mb4.5
FRNY Flat Rock 45.79 75 *eP* **P 13 26 17.0 -1.4**
NCB Newcomb 46.15 76 *eP* **P 13 26 20.8 -0.6**
comp=Z,16nm,1.0s,mb4.9
MIV Mineville/With 46.40 75 *eP* **P 13 26 22.4 -0.8**
PLAL Pickwick Lake 46.58 95 *eP* **P 13 26 23.8 -0.8**
BINY Binghamton 46.68 79 *eP* **P 13 26 25.3 -0.1**
ACCN Adirondack Com 46.86 76 *eP* **P 13 26 26.2 -0.6**
SSPA Standing Stone 46.99 82 *eP* **P 13 26 27.4 -0.5**
HKT Hockley 47.07 106 *eP* **P 13 26 27.8 -0.7**
HKT *ep*P pP 13 26 42.0 +1.7
SWET Sewanee 47.42 93 *eP* **P 13 26 30.3 -0.9**
PKME Peaks-Kenny Pk 47.44 71 *eP* **P 13 26 30.5 -0.9**
TZTN Tazewell 47.50 90 *eP* **P 13 26 31.5 -0.3**
CPCT Cooper Cave 47.91 92 *eP* **P 13 26 34.7 -0.3**
MDJ Mudanjiang 47.96 288 P **P 13 26 34.3 -1.1**
MDJ AP pP 13 26 43.0 -4.2
MDJ XP sP 13 26 47.0 -5.1
MDJ PCP PcP 13 28 03.8 +0.7
MDJ PP PP 13 28 21.0 -6.6
MDJ SCP ScP 13 31 55.5 +1.4
MDJ PCS PcS 13 31 59.0 +0.2
MDJ S **S 13 33 31.5 +1.4**
MDJ SCS ScS 13 36 25.5 +0.4
MDJ SS SS 13 36 58.8 -0.4
MDJ AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
MDJ AMB AMB
comp=Z,82nm,4.3s
MDJ LR LR
comp=N,71nm,26.0s,MS3.9
MDJ LR LR
comp=E,125nm,21.4s,MS3.9
MDJ LR LR
comp=Z,151nm,28.8s
MDJ Mudanjiang 47.96 288 *eP* **P 13 26 34.7 -0.6**
comp=Z,7.7nm,0.6s,mb4.9
MVL Millersville 48.22 81 *eP* **P 13 26 37.1 -0.3**
ELN Prospectdale 48.30 87 *eP* **P 13 26 37.0 -1.1**
QUA2 Belchertown 48.33 76 *eP* **P 13 26 37.4 -0.8**
comp=Z,6.7nm,0.4s,mb5.0
MYNC Murphy 48.40 92 *eP* **P 13 26 38.3 -0.5**
MYNC pmax pmax
comp=Z,18nm,0.9s,mb5.1
MYNC Murphy 48.40 92 *eP* **P 13 26 38.3 -0.5**
comp=Z,18nm,0.9s,mb5.1
PAL Palisades 48.59 78 *eP* **P 13 26 39.8 -0.5**
PAL pmax pmax
comp=Z,24nm,0.9s,mb5.2
PAL Palisades 48.59 78 *eP* **P 13 26 39.8 -0.4**
comp=Z,24nm,0.9s,mb5.2
LRAL Lakeview Retre 48.68 96 *eP* **P 13 26 40.1 -0.8**
comp=Z,13nm,0.8s,mb5.0
EMMW East Machias 48.70 70 *eP* **P 13 26 40.8 -0.4**
HIA Hailar 48.72 299 *eP* **P 13 26 40.9 -0.4**
HIA pmax pmax
comp=Z,10.0nm,0.7s
HIA Hailar 48.72 299 *eP* **P 13 26 40.9 -0.4**
comp=Z,10nm,0.7s,mb5.0
WES Weston 48.73 75 *eP* **P 13 26 41.0 -0.3**
CIT Chita 49.11 306 *eP* **P 13 26 42.3 -1.9**
KEV Kevo 49.16 1 *ep* **P 13 26 43.4 -1.2**
ARCES ARCESS Array B 49.36 2 P **P 13 26 45.0 -1.2**
comp=Z,2.7nm,0.4s,mb4.6,baz=358,slow=7.8,SNR=33
ARCES PcP PcP 13 28 06.7 -1.5
comp=Z,5.5nm,0.7s,baz=347,slow=5.0,SNR=6.0
MAJO Matsushiro 50.24 275 *eP* **P 13 26 52.2 -0.6**
MJAR Matsushiro Arr 50.24 275 P **P 13 26 52.1 -0.7**
comp=Z,5.0nm,0.9s,mb4.6,baz=21,slow=6.6,SNR=12
MAT Matsushiro 50.24 275 P **P 13 26 51.8 -1.0**
MAT Matsushiro 50.24 275 *eP* **P 13 26 52.0 -0.8**
CN2 Changchun 50.47 291 ⇓P **P 13 26 54.0 -0.6**
CN2 *e*XP sP 13 27 08.0 -3.3
CN2 *e*S **S 13 34 03.8 -1.6**
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.4
CN2 AMB AMB
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.5
CN2 LR LR
comp=E,300nm,15.0s,MS4.5
CN2 LR LR
comp=Z,300nm,16.0s,MS4.4
SNY Shenyang 52.87 291 *eP* **P 13 27 13.0 +0.5**
SNY AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
TLY Talaya 53.10 312⇑*eP* **P 13 27 13.4 -0.8**
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ZAK Zakamensk 54.30 311 *eP* **P 13 27 22.9 -0.1**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
ZAK pmax pmax
comp=Z,3.0nm,1.9s,mb3.9
ULN Ulaanbaatar 54.96 307⇓*iP* **P 13 27 28.2 +0.5**
ULN Ulaanbaatar 54.96 307 *eP* **P 13 27 28.6 +0.9**
SONM Songino Array 55.24 307 P **P 13 27 30.3 +0.6**
comp=Z,7.2nm,0.7s,mb4.8,baz=34,slow=7.3,SNR=59
SONM ScP ScP 13 32 24.5 -1.1
comp=Z,1.2nm,0.9s,baz=95,slow=3.1,SNR=4.3
SONM LR LR 13 52 43.9
comp=Z,478nm,19.7s,MS4.6,baz=14,slow=38
SONM Songino Array 55.24 307 P **P 13 27 30.3 +0.6**
SONM ScP ScP 13 32 24.5 -1.1
SONM LR LR 13 52 43.9
JOF Joensuu 56.04 359 *ep* **P 13 27 34.1 -1.4**
comp=Z,9.8nm,0.5s,mb5.1
KAF Kangasniemi 56.82 2 *ep* **P 13 27 40.1 -0.9**
comp=Z,7.9nm,0.4s,mb5.1,baz=354,slow=6.9
KAF Kangasniemi 56.82 2 *eP* **P 13 27 40.1 -0.9**
KAF pmax pmax
comp=Z,8.0nm,0.4s,mb5.1
NVS Novosibirsk 56.82 326 *eP* **P 13 27 40.3 -0.7**
NVS pmax pmax
comp=Z,13nm,1.1s,mb4.9
NVS pmax pmax
comp=N,5.0nm,0.8s
NVS pmax pmax
comp=N,6.0nm,1.0s
NB2 NORSAR Subarra 57.07 11 P **P 13 27 42.2 -0.6**
comp=Z,8.4nm,0.6s,mb5.0,baz=348,slow=7.4
NOA NORSAR Array B 57.07 11 P **P 13 27 42.0 -0.8**
comp=Z,7.2nm,0.6s,mb4.9,baz=350,slow=7.1,SNR=41
ZAL Zalesovo 57.20 325 P **P 13 27 43.5 -0.3**
comp=Z,3.4nm,0.4s,mb4.7,baz=86,slow=6.0,SNR=9.9
NAO01 NORSAR Array S 57.23 11 *eP* **P 13 27 43.5 -0.4**
FIA1 FINESS Array S 57.48 2 *eP* **P 13 27 45.0 -0.8**
FINES FINESS Array B 57.49 2 P **P 13 27 44.9 -0.9**
comp=Z,15nm,0.5s,mb5.3,baz=7.5,slow=8.1,SNR=99
FINES FINESS Array B 57.49 2 *iP* **P 13 27 45.2 -0.6**
FINES pmax pmax
comp=Z,15nm,0.5s
ORE Reay 57.55 20 *eP* **P 13 27 45.9 -0.3**
ORE Reay 57.55 20 *eP* **P 13 27 45.9 -0.3**
SOKR Solikamsk 57.66 344⇑*iP* **P 13 27 46.8 -0.2**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.1
KONO Kongsberg 58.28 12*d iP* **P 13 27 50.8 -0.5**
KONO Kongsberg 58.28 12 *eP* **P 13 27 51.5 +0.1**
comp=Z,11nm,0.7s,mb5.0
KAC Achnashellach 58.28 22 *eP* **P 13 27 51.3 0.0**
KAC Achnashellach 58.28 22 *eP* **P 13 27 51.3 0.0**
KPL Plockton 58.37 22 *eP* **P 13 27 51.4 -0.6**
KPL Plockton 58.37 22 *eP* **P 13 27 51.4 -0.6**
MCD Coleburn Disti 58.56 20 *eP* **P 13 27 52.9 -0.4**
MCD AMb AMB 13 27 53.9
comp=Z,38nm,1.0s,mb5.4
MCD Coleburn Disti 58.56 20 *eP* **P 13 27 52.9 -0.4**
MCD AMb AMB 13 27 53.9
comp=Z,38nm,1.0s,mb5.4
MME1 Meikle Cairn 58.86 20 *eP* **P 13 27 55.0 -0.4**
MME1 Meikle Cairn 58.86 20 *eP* **P 13 27 55.0 -0.4**
TEIG Tepich 58.89 105 *eP* **P 13 27 54.1 -1.5**
comp=Z,13nm,0.7s,mb5.1
HHC Hu-ho-hao-te 58.92 299 *eP* **P 13 27 58.8 +3.0**
HHC PP PP 13 30 10.8 +4.5
HHC S **S 13 35 59.8 +1.0**
HHC SS SS 13 39 55.0 +2.2
HHC AMB AMB
comp=Z,15nm,0.6s,mb5.2
HHC AMB AMB
comp=Z,168nm,8.4s
HHC LR LR
comp=N,256nm,19.0s,MS4.5
HHC LR LR
comp=E,271nm,19.6s,MS4.5
HHC LR LR
comp=Z,420nm,16.7s,MS4.6
EAB Aberfoyle 59.70 22 *eP* **P 13 28 00.8 -0.4**
EAB Aberfoyle 59.70 22 *eP* **P 13 28 00.8 -0.4**
SVE Sverdlovsk 59.76 341 *eP* **P 13 28 00.0 -1.6**
SVE *e* pP 13 28 13.0 -0.7
SVE MLR MLR
comp=E,200nm,18.0s
SVE MLR MLR
comp=Z,500nm,18.0s,MS4.7
EAU Auchinoon 60.18 21 *eP* **P 13 28 03.9 -0.5**
EAU Auchinoon 60.18 21 *eP* **P 13 28 03.9 -0.5**
EBL Broad Law 60.32 21 *eP* **P 13 28 05.2 -0.2**
EBL Broad Law 60.32 21 *eP* **P 13 28 05.2 -0.2**
ARU Arti 60.46 342 P **P 13 28 05.8 -0.5**
comp=Z,227nm,0.4s,SNR=6.6
ARU Arti 60.46 342⇑*iP* **P 13 28 05.8 -0.5**
ARU *e* 13 28 49.3
ARU *e* 13 30 21.8
ARU *e*S **S 13 36 16.5 -2.1**
ARU *e*SS SS 13 40 16.8 -0.1
ARU pmax pmax
comp=Z,12nm,0.6s,mb5.1
ARU Arti 60.46 342 *eP* **P 13 28 05.6 -0.7**
VSU Vasula 60.49 2*c iP* **P 13 28 06.6 0.0**
ESK Eskdalemuir 60.73 21 *eP* **P 13 28 07.1 -1.1**
ESK Eskdalemuir 60.73 21 *eP* **P 13 28 07.1 -1.1**
ESK Eskdalemuir 60.73 21 *eP* **P 13 28 08.2 0.0**
ESK pmax pmax
comp=Z,11nm,0.8s,mb5.0
ESK Eskdalemuir 60.73 21 *eP* **P 13 28 08.2 0.0**
comp=Z,11nm,0.8s,mb5.0
DCN Croghan 61.84 24⇑*iP* **P 13 28 15.7 0.0**
DLF Lyons Farm 62.04 24 *eP* **P 13 28 16.2 -0.8**
WCB1 Church Bay 62.34 23 *eP* **P 13 28 18.3 -0.7**
WCB1 AMb AMB 13 28 19.1
comp=Z,28nm,1.2s,mb5.3
WCB1 Church Bay 62.34 23 *eP* **P 13 28 18.3 -0.7**
WCB1 AMb AMB 13 28 19.1
comp=Z,28nm,1.2s,mb5.3
WLF1 Llynfaes 62.45 23 *eP* **P 13 28 18.4 -1.3**
WLF1 Llynfaes 62.45 23 *eP* **P 13 28 18.4 -1.3**
SSE Sheshan 62.76 285 P **P 13 28 22.3 +0.4**
SSE AMB AMB
comp=Z,45nm,0.7s,mb5.7
SSE AMB AMB
comp=Z,219nm,8.6s
JOW Kunigami 62.99 277 P **P 13 28 23.8 +0.3**
comp=Z,14nm,0.8s,mb5.1,baz=61,slow=3.9,SNR=4.6
NJ2 Nanjing 63.04 288 *eP* **P 13 28 23.5 -0.2**
NJ2 AP pP 13 28 33.5 -2.4
NJ2 XP sP 13 28 37.3 -3.4
NJ2 PP PP 13 30 43.5 +0.9
NJ2 S **S 13 36 50.0 -1.3**
NJ2 XS sS 13 37 07.0 -4.5
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
NJ2 AMB AMB
comp=Z,180nm,4.4s
NJ2 LR LR
comp=N,320nm,15.7s,MS4.7
NJ2 LR LR
comp=E,220nm,12.4s,MS4.7
OBN Obninsk 63.77 356*d iP* **P 13 28 28.4 -0.1**
OBN *i* pP 13 28 40.8 +0.1
OBN pmax pmax
comp=Z,44nm,1.0s,mb5.4
MCH1 Michaelchurch 63.94 22 *eP* **P 13 28 29.3 -0.4**
MCH1 *eP* 13 28 29.3
MCH1 AMb AMB 13 28 32.5
comp=Z,22nm,1.6s,mb5.0
MCH1 Michaelchurch 63.94 22 *eP* **P 13 28 29.3 -0.4**
MCH1 *eP* 13 28 29.3
MCH1 AMb AMB 13 28 32.5
comp=Z,22nm,1.6s,mb5.0
BSEG Bad Segeberg 63.98 13 *eP* **P 13 28 30.3 +0.4**
comp=Z,10.0nm,0.8s,mb4.9
HAE Alders End 63.98 22 *eP* **P 13 28 29.8 -0.1**
HAE AMb AMB 13 28 33.1
comp=Z,27nm,1.4s,mb5.1
HAE Alders End 63.98 22 *eP* **P 13 28 29.8 -0.1**
HAE AMb AMB 13 28 33.1
comp=Z,27nm,1.4s,mb5.1
MKAR Makanchi Array 64.32 323 P **P 13 28 31.2 -1.0**
comp=Z,3.5nm,0.6s,mb4.6,baz=43,slow=7.0,SNR=22
MKAR Makanchi Array 64.32 323 P **P 13 28 31.2 -1.0**
SUW Suwalki 64.84 5 *eP* **P 13 28 35.5 -0.1**
GTA Gaotai 64.90 307 *eP* **P 13 28 37.3 +1.4**
GTA AP pP 13 28 42.0 -6.2
GTA XP sP 13 28 45.3 -7.7
GTA S **S 13 37 16.8 +2.5**
GTA AMB AMB
comp=Z,12nm,1.1s,mb4.8
GTA AMB AMB
comp=Z,230nm,8.4s
GTA LR LR
comp=N,276nm,16.0s,MS4.6
GTA LR LR
comp=E,182nm,16.0s,MS4.6
GTA LR LR
comp=Z,345nm,21.3s
WMQ Urumqi 65.33 318 P **P 13 28 43.0 +4.2**
WMQ PCP PcP 13 29 14.5 +3.8
WMQ PP PP 13 31 09.5 +6.7
WMQ S S 13 37 24.0 +4.3
WMQ AMB AMB
comp=Z,30nm,1.5s,mb5.1
WMQ AMB AMB
comp=Z,175nm,5.5s
WMQ LR LR
comp=N,687nm,18.3s,MS5.0
WMQ LR LR
comp=E,515nm,17.2s,MS5.0
WMQ LR LR
comp=Z,672nm,18.8s,MS4.9
CLZ Clausthal 66.05 13 *eP* **P 13 28 44.0 +0.6**
comp=Z,37nm,1.5s,mb5.2
CLZ Clausthal 66.05 13 *eP* **P 13 28 44.0 +0.6**
CLZ pmax pmax
comp=Z,37nm,1.5s,mb5.2
BUG Bochum--Univer 66.07 15 *eP* **P 13 28 43.7 +0.2**
comp=Z,20nm,0.8s,mb5.2
LZH Lanzhou 66.16 302 *eP* **P 13 28 45.3 +1.2**
LZH AP pP 13 28 52.5 -3.9
LZH XP sP 13 28 56.0 -5.2
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,98nm,4.2s
GTTG Gvttingen 66.30 14 *eP* **P 13 28 45.1 +0.1**
comp=Z,22nm,1.1s,mb5.1
UCC Uccle 66.30 18 P **P 13 28 45.1 +0.1**
BEBN Eben Emael 66.49 17 ⇓P **P 13 28 46.1 -0.1**
SNF Seneffe 66.57 18 P **P 13 28 46.8 +0.1**
MEM Membach 66.72 16 ⇓P **P 13 28 47.7 0.0**
BCLA Clavier 66.81 17 P **P 13 28 48.3 +0.1**
CLL Collm 66.85 12 *eP* **P 13 28 48.0 -0.5**
comp=Z,14nm,1.0s,mb5.0
CLL Collm 66.85 12 ⇓P **P 13 28 48.3 -0.2**
comp=Z,logA/T=1.1,mb4.9
CLL *i* 13 28 50.8
CLL *i* *SP sP 13 29 01.2 -4.4
CLL *i* 13 29 06.3
CLL *e* 13 29 09.0
CLL *e*PCP PcP 13 29 16.0 -1.0
CLL Collm 66.85 12⇓*iP* **P 13 28 48.3 -0.2**
comp=Z,14nm,1.0s,mb5.0
CLL *i* P(2) 13 28 50.8
CLL *i* (sP) sP 13 29 01.2 -4.4
CLL *i* x x 13 29 06.3
CLL *e*x x 13 29 09.0
CLL *e*PcP PcP 13 29 16.0 -1.0
comp=Z,5.0nm,0.7s
CLL Collm 66.85 12⇓*iP* **P 13 28 48.3 -0.2**
CLL pmax pmax
comp=Z,14nm,1.0s,mb5.0
CLL Collm 66.85 12⇓*iP* **P 13 28 48.3 -0.2**
comp=Z,14nm,1.0s,mb5.0
BAIF Baives 67.00 18 *eP* **P 13 28 49.4 -0.1**
UBBA Unterbreizbach 67.02 14 *eP* **P 13 28 49.5 -0.1**
comp=Z,20nm,1.8s,mb4.8
DOU Dourbes 67.02 18 ⇓P **P 13 28 49.5 -0.1**
GIVF Givet 67.05 17 *eP* **P 13 28 49.5 -0.3**
FBE Freiberg 67.27 11 *eP* **P 13 28 51.3 +0.2**
comp=Z,15nm,1.0s,mb5.0
MOX Moxa 67.37 13 *eP* **P 13 28 51.6 -0.2**
comp=Z,22nm,1.0s,mb5.1
MOX Moxa 67.37 13 *eP* **P 13 28 51.5 -0.3**
comp=Z,23nm,1.1s,mb5.1
MOX Moxa 67.37 13 *eP* **P 13 28 51.5 -0.3**
MOX pmax pmax
comp=Z,23nm,1.1s,mb5.1
BRG Berggiesshubel 67.37 11 *eP* **P 13 28 51.8 0.0**
comp=Z,26nm,1.5s,mb5.0
BRG Berggiesshubel 67.37 11 *eP* **P 13 28 52.2 +0.4**
comp=Z,7.8nm,1.0s,mb4.7
BRG Berggiesshubel 67.37 11 *eP* **P 13 28 52.2 +0.4**
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ROSF Rostrenen 67.40 23 *eP* **P 13 28 51.7 -0.3**
TNS Taunus Mts 67.42 15 *eP* **P 13 28 51.9 -0.2**
comp=Z,8.0nm,0.8s,mb4.8
TNS Taunus Mts 67.42 15 *eP* **P 13 28 51.9 -0.2**
TNS pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
FLN La Foliniere 67.50 21 *eP* **P 13 28 52.1 -0.5**
comp=Z,26nm,0.9s,mb4.9
FLN La Foliniere 67.50 21 *eP* **P 13 28 52.1 -0.5**
FLN pmax pmax
comp=Z,13nm,0.9s,mb5.0
FLN La Foliniere 67.50 21 *eP* **P 13 28 52.1 -0.5**
comp=Z,13nm,0.9s,mb5.0
VRSR Storozhevoye 67.55 354 *eP* **P 13 28 52.3 -0.6**
VRSR pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,1.6s
VRSR pmax pmax
comp=E,6.0nm,0.6s
KSP Ksiaz 67.60 9 *eP* **P 13 28 53.7 +0.4**
KSP Ksiaz 67.60 9⇓*eP* **P 13 28 53.1 -0.2**
SGMF Saint Gilles 67.61 23 *eP* **P 13 28 53.0 -0.3**
WERD Werda 67.63 12 *eP* **P 13 28 53.3 -0.1**
comp=Z,12nm,1.3s,mb4.8
WLF Walferdange 67.66 17 *eP* **P 13 28 54.0 +0.3**
comp=Z,17nm,1.1s,mb5.0
WLF Walferdange 67.66 17 P **P 13 28 54.5 +0.8**
TANN Tannenbergstha 67.68 12 *eP* **P 13 28 53.8 0.0**
comp=Z,14nm,1.2s,mb4.9
LDF La Druitiere 67.73 21 *eP* **P 13 28 53.4 -0.6**
PVCC Panska Ves 67.77 11 *eP* **P 13 28 54.9 +0.6**
PVCC *ep*P pP 13 29 06.6 0.0
GRR Gorron 67.79 22 *eP* **P 13 28 54.0 -0.5**
QUIF Quistinic 67.82 24 *eP* **P 13 28 54.1 -0.5**
NKC Novy Kostel 67.86 12 *eP* **P 13 28 55.0 +0.1**
NKC *ep*P pP 13 29 08.1 +0.9
UPC Upice 67.91 10 *eP* **P 13 28 55.2 0.0**
UPC *ep*P pP 13 29 04.8 -2.7
MANZ Manzenberg 68.07 12 *eP* **P 13 28 56.4 +0.2**

comp=Z,8.0nm,1.0s,mb4.7
TOD Tromm 68.07 15 *e*P P **13 28 56.3 +0.1**
DPC Dobruska-Polom 68.09 10 *e*P P **13 28 56.9 +0.5**
DPC *e*pP pP 13 29 08.6 -0.1
GRA1 Grafenberg Arr 68.26 13 *e*P P **13 28 58.0 +0.6**
comp=Z,14nm,1.0s,mb5.0
GRF Grafenberg Arr 68.26 13 *e*P P **13 28 58.0 +0.6**
comp=Z,14nm,1.0s,mb5.0
GRF Grafenberg Arr 68.26 13 *e*P P **13 28 58.0 +0.6**
GRF pmax pmax
comp=Z,14nm,1.0s,mb5.0
GRF Grafenberg Arr 68.26 13 *e*P P **13 28 58.0 +0.6**
GRF pmax pmax
comp=Z,14nm,1.0s,mb5.0
AKASG Malin Array Be 68.29 1 P P **13 28 56.6 -1.0**
comp=Z,13nm,0.5s,mb5.2,baz=360,slow=6.2,SNR=76
AKASG Malin Array Be 68.29 1 *i*P P **13 28 57.0 -0.6**
AKASG pmax pmax
comp=Z,13nm,0.5s
AKBB Malin Array Si 68.29 1 *e*P P **13 28 56.9 -0.7**
ROTZ Rotzenmuhle 68.30 12 *e*P P **13 28 57.9 +0.3**
comp=Z,15nm,1.0s,mb5.0
PRU Pruhonice 68.30 11 *e*P P **13 28 57.3 -0.4**
PRU *e*pP pP 13 29 10.4 +0.4
OJC Ojcow 68.47 7 *e*P P **13 28 58.6 -0.1**
OKC Ostrava-Krasne 68.74 8 *e*P P **13 29 00.6 +0.2**
OKC *e*pP pP 13 29 10.5 -2.2
MORC Moravsky Berou 68.76 9⇓*i*P P **13 28 59.9 -0.6**
MORC Moravsky Berou 68.76 9 ⇓P P **13 28 59.9 -0.6**
STU Stuttgart 68.94 15 *e*P P **13 29 02.0 +0.4**
comp=Z,11nm,0.6s,mb5.0
WET Wettzell 68.98 12 *e*P P **13 29 02.6 +0.7**
comp=Z,21nm,1.4s,mb4.9
WET Wettzell 68.98 12 *e*P P **13 29 02.6 +0.7**
WET pmax pmax
comp=Z,21nm,1.4s,mb4.9
CDF Champ du Feu 69.04 16 *e*P P **13 29 02.2 -0.1**
comp=Z,11nm,0.7s,mb4.6
CDF Champ du Feu 69.04 16 *e*P P **13 29 02.2 -0.1**
CDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CDF Champ du Feu 69.04 16 *e*P P **13 29 02.2 -0.1**
comp=Z,5.3nm,0.7s,mb4.6
THEF They Montfort 69.05 17 *e*P P **13 29 02.0 -0.3**
THEF They Montfort 69.05 17 *e*P P **13 29 02.1 -0.2**
WLS Welschbruch 69.05 16 *e*P P **13 29 02.3 0.0**
KHC Kasperske Hory 69.06 12 *e*P P **13 29 03.0 +0.6**
KHC *e*pP pP 13 29 16.1 +1.4
LVV L'vov 69.07 4⇓*i*P P **13 29 02.1 -0.3**
LVV *e* pP 13 29 14.1 -0.7
LVV *e*S S 13 38 05.5 +0.9
VRAC Vranov 69.15 9⇓*i*P P **13 29 03.5 +0.6**
VRAC Vranov 69.15 9 ⇓P P **13 29 03.5 +0.6**
ECH Echery 69.22 16 *e*P P **13 29 03.5 +0.1**
BFO Black Forest 69.26 15 *e*P P **13 29 03.2 -0.4**
comp=Z,9.0nm,1.0s,mb4.7
BFO Black Forest 69.26 15 *e*P P **13 29 03.2 -0.4**
BFO pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
HAU Haudompre 69.31 17 *e*P P **13 29 03.6 -0.4**
GEC2 GERESS Array S 69.36 12 *e*P P **13 29 04.3 +0.1**
comp=Z,8.0nm,1.0s,mb4.6
GEC2 GERESS Array S 69.36 12 *e*P P **13 29 04.3 +0.1**
GEC2 pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
GERES GERESS Array B 69.36 12 P P **13 29 03.8 -0.5**
comp=Z,4.8nm,0.8s,mb4.5,baz=352,slow=4.0,SNR=30
HINF Hinteralfeld 69.57 17 *e*P P **13 29 05.2 -0.3**
comp=Z,19nm,0.8s,mb4.8
HINF Hinteralfeld 69.57 17 *e*P P **13 29 05.2 -0.3**
HINF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
HINF Hinteralfeld 69.57 17 *e*P P **13 29 05.2 -0.3**
comp=Z,9.7nm,0.8s,mb4.8
MOF Molkenrain 69.57 16 *e*P P **13 29 05.5 -0.1**
MFF Saint Martin d 69.64 22 *e*P P **13 29 05.7 -0.3**
comp=Z,21nm,0.7s,mb4.9
MFF Saint Martin d 69.64 22 *e*P P **13 29 05.7 -0.3**
MFF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MFF Saint Martin d 69.64 22 *e*P P **13 29 05.7 -0.3**
comp=Z,10nm,0.7s,mb4.9
FELD Feldberg im Sc 69.67 16 *e*P P **13 29 05.4 -0.7**
LOR Lormes 69.67 19 *e*P P **13 29 05.7 -0.4**
comp=Z,26nm,0.9s,mb4.8
LOR Lormes 69.67 19 *e*P P **13 29 05.7 -0.4**
LOR pmax pmax
comp=Z,13nm,0.9s,mb4.9
LOR Lormes 69.67 19 *e*P P **13 29 05.7 -0.4**
comp=Z,13nm,0.9s,mb4.9
FUR Furstenfeldbru 69.78 13 *e*P P **13 29 07.2 +0.4**
comp=Z,32nm,0.7s,mb5.4
FUR Furstenfeldbru 69.78 13 *e*P P **13 29 07.2 +0.4**
FUR pmax pmax
comp=Z,32nm,0.7s,mb5.4
SSF Saint Saulge 69.81 19 *e*P P **13 29 06.7 -0.3**
comp=Z,37nm,1.1s,mb4.9
SSF Saint Saulge 69.81 19 *e*P P **13 29 06.7 -0.3**
SSF pmax pmax
comp=Z,19nm,1.1s,mb4.9
SSF Saint Saulge 69.81 19 *e*P P **13 29 06.7 -0.3**
comp=Z,18nm,1.1s,mb4.9
CRVS Cervenica-Dubn 69.87 6 *e*P P **13 29 07.6 +0.2**
CRVS *e* 13 29 11.5
KOLS Kolonicke sedl 69.88 6 *e*P P **13 29 08.0 +0.5**
KOLS *e* 13 29 13.3
BBS Basel-Blauen 70.00 16 *e*P P **13 29 08.0 -0.2**
LOMF Lomont 70.02 17 *e*P P **13 29 08.3 0.0**
AVF Avril sur Loir 70.05 19 *e*P P **13 29 07.8 -0.7**
comp=Z,24nm,1.0s,mb4.8
AVF Avril sur Loir 70.05 19 *e*P P **13 29 07.8 -0.7**
AVF pmax pmax
comp=Z,12nm,1.0s,mb4.8
AVF Avril sur Loir 70.05 19 *e*P P **13 29 07.8 -0.7**
comp=Z,12nm,1.0s,mb4.8
FRU Bishkek 70.09 327 P P **13 29 09.0 +0.3**
FRU *e* 13 29 26.0
VYHS Vyhne 70.12 8 *e*P P **13 29 08.9 0.0**
VYHS *e* pP 13 29 20.5 -0.8
VYHS pmax pmax
comp=Z,11nm,1.3s,mb4.6
VYHS Vyhne 70.12 8 *e*P P **13 29 08.9 0.0**
comp=Z,11nm,1.3s,mb4.6
VYHS *e* pP 13 29 20.5 -0.8
BGF Bois d'Agland 70.20 20 *e*P P **13 29 08.8 -0.6**
SMF Signal de Mont 70.27 19 *e*P P **13 29 09.2 -0.6**
AAK Ala-Archa 70.31 327 *c i*P P **13 29 09.4 -0.7**
AAK pmax pmax
comp=Z,10.0nm,1.7s,mb4.5
AAK Ala-Archa 70.31 327 *e*P P **13 29 12.4 +2.3**
comp=Z,7.7nm,0.7s,mb4.7
TCF Toulx Ste Croi 70.36 20 *e*P P **13 29 09.9 -0.5**
MOA Molln 70.40 11⇓*i*P P **13 29 10.7 +0.1**
comp=Z,6.4nm,1.0s,mb4.5
CONA Conrad Observa 70.46 10⇑*i*P P **13 29 06.5 -4.5**
comp=Z,14nm,0.8s,mb5.0
DAVA Damuels 70.48 15⇑*i*P P **13 29 11.9 +0.8**
comp=Z,7.2nm,0.8s,mb4.6
CABF La Chapelle 70.64 17 *e*P P **13 29 12.0 -0.1**
comp=Z,28nm,0.9s,mb4.9
CABF La Chapelle 70.64 17 *e*P P **13 29 12.0 -0.1**
CABF pmax pmax
comp=Z,14nm,0.9s,mb4.9
CABF La Chapelle 70.64 17 *e*P P **13 29 12.0 -0.1**
comp=Z,14nm,0.9s,mb4.9
CD2 Chengdu 70.68 299 P P **13 29 12.5 +0.2**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,40nm,6.2s
WTTA Wattenberg 70.71 13⇑*i*P P **13 29 12.9 +0.4**
comp=Z,36nm,1.3s,mb5.2
WTTA Wattenberg 70.71 13⇑*i*P P **13 29 12.9 +0.4**
WTTA pmax pmax
comp=Z,36nm,1.3s,mb5.1
AGO Saint Agoulin 70.74 20 *e*P P **13 29 12.7 0.0**
PSZ Piszkesteto 70.77 7⇑*e*P P **13 29 14.0 +1.1**
PLDF La Plantade 70.89 19 *e*P P **13 29 13.8 +0.2**
KBA Koelnbreinsper 71.07 12⇑*i*P P **13 29 15.4 +0.7**
comp=Z,40nm,1.1s,mb5.2
KBA Koelnbreinsper 71.07 12⇑*i*P P **13 29 15.4 +0.7**
KBA pmax pmax
comp=Z,40nm,1.1s,mb5.3
ARSA Arzberg 71.11 10⇓*i*P P **13 29 15.5 +0.6**
comp=Z,8.2nm,0.8s,mb4.7

RJF Les Rejaudoux 71.19 21 *e*P P **13 29 14.7 -0.7**
BURAR Bucovina Array 71.31 4⇓*i*P P **13 29 16.4 +0.2**
BURAR Bucovina Array 71.31 4 ⇓P P **13 29 16.4 +0.2**
LFF La Frestale 71.41 22 *e*P P **13 29 16.2 -0.6**
CAF Calviac 71.65 21 *e*P P **13 29 17.7 -0.5**
OBKA Obir 71.75 11⇓*i*P P **13 29 18.9 +0.1**
comp=Z,29nm,0.9s,mb5.2
LPL La Plagne 71.81 17 *e*P P **13 29 19.3 +0.2**
LPG La Plagne 71.83 17 *e*P P **13 29 19.7 +0.4**
GROS Grobnik 71.89 11 *e*P P **13 29 19.8 +0.1**
CADS Cadrg 71.95 12 *e*P P **13 29 19.3 -0.7**
KIS Kishinev 72.00 1 *e*P P **13 29 18.0 -2.3**
KIS MLR MLR
comp=Z,200nm,15.0s,MS4.5
KIS MLR MLR
comp=Z,400nm,16.0s
DRGR 72.04 5⇓*i*P P **13 29 20.8 +0.3**
DRGR 72.04 5 ⇓P P **13 29 20.8 +0.2**
VIVF Saint-Julien-l 72.15 19 *e*P P **13 29 20.5 -0.7**
comp=Z,10nm,0.7s,mb4.5
VIVF Saint-Julien-l 72.15 19 *e*P P **13 29 20.5 -0.7**
VIVF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
VIVF Saint-Julien-l 72.15 19 *e*P P **13 29 20.5 -0.7**
comp=Z,5.1nm,0.7s,mb4.6
LJU Ljubljana 72.21 11 *e*P P **13 29 21.2 -0.4**
ELAN Lanestosa 72.26 25 P P **13 29 22.0 +0.1**
comp=Z,15nm,0.7s,mb5.0
ORIF Oris-en-Rattie 72.27 18 *e*P P **13 29 21.8 -0.1**
PKSM Moragy 72.38 8⇓*i*P P **13 29 22.2 -0.4**
PKSM Moragy 72.38 8⇓*e*P P **13 29 22.5 -0.1**
CEY Cerknica 72.50 11 *e*P P **13 29 22.7 -0.6**
MBDF Montbardon 72.58 17 *e*P P **13 29 23.6 -0.2**
comp=Z,13nm,0.6s,mb4.7
MBDF Montbardon 72.58 17 *e*P P **13 29 23.6 -0.2**
MBDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MBDF Montbardon 72.58 17 *e*P P **13 29 23.6 -0.2**
comp=Z,6.4nm,0.6s,mb4.7
EALK Alkurruntz 72.66 24 P P **13 29 23.8 -0.4**
comp=Z,9.3nm,0.7s,mb4.8
LASF Ste Croix 72.78 20 *e*P P **13 29 24.9 0.0**
BOJS Bojanci 72.81 11 *e*P P **13 29 24.7 -0.4**
SJPF Ste Jean 72.81 24 *e*P P **13 29 25.1 0.0**
PBRG Braganca 72.91 28 *e*P P **13 29 26.0 +0.3**
comp=Z,14nm,1.1s,mb4.8
VRI Vrincioaia 73.10 3⇓*i*P P **13 29 27.0 +0.2**
VRI Vrincioaia 73.10 3 ⇓P P **13 29 27.0 +0.2**
PLOR Plostina 73.11 3⇓*i*P P **13 29 27.7 +0.8**
SMRF Simiane la Rot 73.14 18 *e*P P **13 29 26.7 -0.4**
comp=Z,23nm,0.9s,mb4.8
SMRF Simiane la Rot 73.14 18 *e*P P **13 29 26.7 -0.4**
comp=Z,23nm,0.9s,mb5.1
ETSF Etsaut 73.15 23 *e*P P **13 29 27.0 -0.1**
comp=Z,26nm,0.7s,mb4.9
ETSF Etsaut 73.15 23 *e*P P **13 29 27.0 -0.1**
ETSF pmax pmax
comp=Z,13nm,0.7s,mb5.0
ETSF Etsaut 73.15 23 *e*P P **13 29 27.0 -0.1**
comp=Z,13nm,0.7s,mb5.0
BZS Buzias 73.16 6⇓*i*P P **13 29 27.3 +0.1**
BZS Buzias 73.16 6 ⇓P P **13 29 27.3 +0.1**
PVRL Vila Real 73.19 29 *e*P P **13 29 27.8 +0.4**
comp=Z,20nm,1.1s,mb5.0
MTLF Montolieu 73.22 21 *e*P P **13 29 27.0 -0.6**
comp=Z,15nm,0.7s,mb4.7
MTLF Montolieu 73.22 21 *e*P P **13 29 27.0 -0.6**
MTLF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
MTLF Montolieu 73.22 21 *e*P P **13 29 27.0 -0.6**
comp=Z,7.7nm,0.7s,mb4.7
GYA Guiyang 73.30 294⇑*i*P P **13 29 28.5 +0.5**
GYA AP pP 13 29 39.0 -1.4
GYA PP PP 13 32 12.8 +1.2
GYA S S 13 38 51.0 -2.5
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,80nm,3.4s
GYA LR LR
comp=N,340nm,18.7s,MS4.8
GYA LR LR
comp=E,290nm,17.9s,MS4.8
GYA LR LR
comp=Z,270nm,18.4s,MS4.6
AUTN L'Aution 73.39 17 *e*P P **13 29 29.1 +0.5**
SAOF Saorge 73.42 17 *e*P P **13 29 28.3 -0.4**
MLR Muntele Rosu 73.45 3⇓*i*P P **13 29 29.5 +0.6**
MLR Muntele Rosu 73.45 3 ⇓P P **13 29 29.5 +0.6**
VOIR 73.48 4⇓*i*P P **13 29 29.8 +0.7**
VOIR 73.48 4 ⇓P P **13 29 29.8 +0.7**
EBIE Bielsa 73.48 23 P P **13 29 29.8 +0.7**
comp=Z,6.8nm,0.8s,mb4.6
SBF Sospel 73.53 17 *e*P P **13 29 28.9 -0.5**
comp=Z,40nm,0.8s,mb5.1
SBF Sospel 73.53 17 *e*P P **13 29 28.9 -0.5**
SBF pmax pmax
comp=Z,20nm,0.8s,mb5.1
SBF Sospel 73.53 17 *e*P P **13 29 28.9 -0.5**
comp=Z,20nm,0.8s,mb5.1
FRF La Foret Royal 73.71 18 *e*P P **13 29 30.2 -0.2**
CFR Carcaliu 73.81 1⇓*i*P P **13 29 31.5 +0.5**
CFR Carcaliu 73.81 1 ⇓P P **13 29 31.5 +0.5**
MTE Manteigas 74.06 29 *e*P P **13 29 33.0 +0.5**
comp=Z,16nm,1.4s,mb4.8
HARR Harsova 74.30 2⇓*i*P P **13 29 33.3 -0.6**
TIRR Tirgusor 74.53 1⇓*i*P P **13 29 34.5 -0.7**
TIRR Tirgusor 74.53 1 ⇓P P **13 29 34.5 -0.8**
KIV Kislovodsk 74.55 351 *e*P P **13 29 35.6 +0.2**
KIV pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
KIV Kislovodsk 74.55 351 *e*P P **13 29 35.6 +0.2**
comp=Z,9.2nm,0.6s,mb4.9
GUD Guadarrama 74.59 26 P P **13 29 36.3 +0.7**
GUD pmax pmax
comp=Z,11nm,0.8s,mb4.8
GUD Guadarrama 74.59 26 P P **13 29 36.3 +0.7**
comp=Z,11nm,0.8s,mb4.8
PCBR Castelo Branco 74.61 29 *e*P P **13 29 35.9 +0.2**
comp=Z,12nm,0.9s,mb4.8
EPLA Plasencia 74.72 28 P P **13 29 37.1 +0.8**
EPLA pmax pmax
comp=Z,16nm,0.7s,mb5.1
EPLA Plasencia 74.72 28 P P **13 29 37.1 +0.8**
comp=Z,16nm,0.7s,mb5.1
EPOB Poblet 74.95 22 P P **13 29 37.5 -0.1**
comp=Z,6.8nm,1.2s,mb4.5
PGF Pioggiola 75.03 16 *e*P P **13 29 37.6 -0.5**
comp=Z,33nm,0.9s,mb5.0
PGF Pioggiola 75.03 16 *e*P P **13 29 37.6 -0.5**
PGF pmax pmax
comp=Z,17nm,0.9s,mb5.0
PGF Pioggiola 75.03 16 *e*P P **13 29 37.6 -0.5**
comp=Z,17nm,0.9s,mb5.2
ESDC Sonseca Array 75.56 27 P P **13 29 41.1 0.0**
comp=Z,10nm,0.7s,mb4.9,baz=341,slow=5.5,SNR=43
ESDC Sonseca Array 75.56 27 P P **13 29 41.5 +0.4**
comp=Z,14nm,0.7s,mb5.0
EMOS Mosqueruela 75.61 24 P P **13 29 42.6 +1.2**
comp=Z,7.2nm,0.7s,mb4.7
EBAD Badajoz 75.75 29 P P **13 29 42.3 0.0**
comp=Z,14nm,0.7s,mb5.0
KMI Kunming 76.17 297 P P **13 29 46.5 +1.9**
KMI AMB AMB
comp=Z,7.0nm,1.3s,mb4.4
PBEJ Beja 76.24 30 *e*P P **13 29 45.2 +0.2**
comp=Z,9.6nm,0.8s,mb4.8
ECHE Chera 76.26 24 P P **13 29 46.3 +1.1**
ECHE pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ECHE Chera 76.26 24 P P **13 29 46.3 +1.2**
comp=Z,4.4nm,0.8s,mb4.4
EGRO El Granado 76.80 30 P P **13 29 48.3 +0.1**
comp=Z,13nm,0.7s,mb5.0
EVIA Vianos 76.87 26 P P **13 29 49.5 +0.9**
EVIA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
EVIA Vianos 76.87 26 P P **13 29 49.5 +0.9**
comp=Z,6.1nm,0.8s,mb4.6
EADA Adamuz 76.87 27 P P **13 29 49.2 +0.6**
comp=Z,9.9nm,1.0s,mb4.7
EBAN Banos Encina 77.05 27 P P **13 29 50.5 +0.9**
EBAN pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
EBAN Banos Encina 77.05 27 P P **13 29 50.5 +0.9**
comp=Z,6.5nm,0.6s,mb4.7
ETOB Tobarra 77.06 25 P P **13 29 50.1 +0.4**
comp=Z,7.1nm,1.0s,mb4.5
KNT Kendrikon 77.67 6 *e*P P **13 29 53.3 +0.3**
ESPR Espera 77.82 29 P P **13 29 54.8 +0.9**
comp=Z,9.2nm,0.5s,mb5.0
GRG Griva 77.85 6 *e*P P **13 29 54.7 +0.6**
FNA Florina 77.96 7 *e*P P **13 29 54.5 -0.2**
ERON Agron 78.14 27 P P **13 29 57.1 +1.4**
comp=Z,6.5nm,0.5s,mb4.8
GNI Garni 78.15 349⇑*e*P P **13 29 59.1 +3.3**
GNI pmax pmax
comp=Z,10.0nm,1.7s
EJIF Jimena Fronter 78.31 29 P P **13 29 57.7 +1.1**
EJIF pmax pmax
comp=Z,12nm,0.8s,mb4.9
EJIF Jimena Fronter 78.31 29 P P **13 29 57.7 +1.1**
comp=Z,12nm,0.8s,mb4.9
EMIJ Mijas 78.36 28 P P **13 29 58.2 +1.3**
comp=Z,14nm,0.6s,mb5.0
PPT Papeete 78.65 180 LR LR 13 59 19.6
comp=Z,217nm,21.5s,MS4.5,baz=139,slow=32
LIT Litokhoron 78.70 6 *e*P P **13 29 58.7 -0.1**
ROSC El Rosal 78.82 100 P P **13 30 00.5 +1.1**
comp=Z,2.8nm,0.3s,mb4.6,baz=76,slow=21,SNR=3.9
BR131 Keskin Array S 79.23 357 *e*P P **13 30 01.6 -0.1**
comp=Z,5.2nm,0.9s,mb4.5
BRTR Keskin Array B 79.23 357 P P **13 30 01.6 -0.1**
comp=Z,3.5nm,0.8s,mb4.4,baz=23,slow=3.2,SNR=20
BRTR Keskin Array B 79.23 357 *i*P P **13 30 02.0 +0.3**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
HNR Honiara 80.70 230 LR LR 14 01 39.1
comp=Z,383nm,18.6s,MS4.8,baz=359,slow=32
ISP Isparta 81.15 360⇓*i*P P **13 30 11.6 -0.4**
LAST Lasithi 83.75 4 *e*P P **13 30 24.5 -1.1**
ATAH Atahualpa 87.35 110 P P **13 30 44.0 +0.6**
comp=Z,56nm,1.4s,mb5.6,baz=358,slow=3.1,SNR=7.0
RPN Rapa Nui 94.06 145 LR LR 14 03 12.1
comp=Z,135nm,20.8s,MS4.4,baz=208,slow=29
SAML Samuel 96.17 97 *e*P P **13 31 22.2 -2.3**
comp=Z,2.4nm,0.7s,mb4.7
TSUM Tsumeb 136.96 18 PKP PKPdf 13 37 18.2 -0.9
comp=Z,3.6nm,0.8s,baz=67,slow=21,SNR=5.5
TSUM Tsumeb 136.96 18 PKP PKPdf 13 37 18.2 -0.9
VNDA Vanda 141.77 195 PKP PKPdf 13 37 25.4 -2.5
comp=Z,0.6nm,0.8s,baz=336,slow=5.4,SNR=3.7
VNDA Vanda 141.77 195 PKP PKPdf 13 37 25.4 -2.5
HOPE Hope Point 145.26 109 *e*PKPbc PKPbc 13 37 31.6 -2.2
BOSA Boshof 147.09 8 PKPbc PKPbc 13 37 38.5 -0.8
comp=Z,19nm,0.9s,baz=346,slow=2.4,SNR=18
BOSA Boshof 147.09 8 *e*PKPdf PKPdf 13 37 36.5 -0.7
BOSA *e*PKPbc PKPbc 13 37 38.5 -0.8
BOSA *e*PKPab PKPab 13 37 40.3 -0.6
SUR Sutherland 150.38 16 PKPbc PKPbc 13 37 47.3 -0.4
comp=Z,9.1nm,0.8s,baz=334,slow=1.9,SNR=5.1
VNA1 Neumayer--Stat 162.17 137⇑*i*PKPdf PKPab 13 38 41.2 -3.5
VNA1 *e* 13 38 42.8
VNA1 *e* 13 38 51.4
VNA1 *e* 13 38 57.0
SNAA Sanae 163.55 142 PKPab PKPab 13 38 47.1 -3.6
comp=Z,1.5nm,0.9s,baz=241,slow=4.9,SNR=13
SNAA Sanae 163.55 142⇑*i*PKPdf PKPab 13 38 47.1 -3.7
SNAA *e* 13 38 49.3
SNAA *e* 13 38 58.6
SNAA *e* 13 39 03.6
MAW Mawson 164.74 232 PKPab PKPab 13 38 53.3 -2.7
comp=Z,5.9nm,0.9s,baz=100,slow=5.8,SNR=10
SYO Syowa Base 171.37 203⇑*e*P PKPab 13 39 20.5 -4.8

IDC ***27*** *13:43:56.0±1.1, 10.16S×108.04E, h0km, mb4.0/7, mb1 4.1/8, mb1mx4.0/17, mbtmp4.0/8, ML3.4/1, Error ellipse: s-maj=50.9km s-min=17.6km az=51.0*
ISCJB ***27*** *13:43:58.9±0.9, 10.33S±0.07×108.0E±0.1, h33km, mb3.9/7, Error ellipse: s-maj=17.3km s-min=10.3km az=12.2*
ISC 27 13:44:01.2±0.9, 10.32S±0.07×108.0E±0.1, h35km, n10, σ0.75/11, mb3.9/7.1, C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
BJII	**Banjamegara**	**3.44**	**30**	⇑*i*P		**Pn**		**13 44 51.3**	**-0.9**
BJII				*i*	S	**Sn**		**13 45 32.6**	**+0.9**
FITZ	**Fitzroy Crossi**	**18.80**	**116**	P		**Pn**		**13 48 17.3**	**-0.9**
	0.1nm,0.3s,baz=268,slow=10,SNR=8.8								
WRA	**Warramunga Arr**	**27.17**	**114**	P		P		**13 49 40.5**	**-0.8**
	3.4nm,0.9s,mb3.9,baz=285,slow=11,SNR=13								
ASAR	**Alice Springs**	**28.08**	**122**	P		P		**13 49 50.0**	**+0.7**
	0.7nm,0.6s,mb3.5,baz=297,slow=9.0,SNR=11								
ASAR				PcP				13 53 04.0	+0.8
	0.5nm,0.7s,baz=294,slow=1.8,SNR=4.9								
STKA	**Stephens Creek**	**37.77**	**130**	*e*P		P		**13 51 14.5**	**+0.7**
	4.2nm,0.8s,mb4.2								
STKA	**Stephens Creek**	**37.77**	**130**	P		P		**13 51 14.8**	**+1.0**
	5.7nm,0.8s,mb4.4,baz=299,slow=7.7,SNR=14								
SONM	**Songino Array**	**57.91**	**359**	P		P		**13 53 49.0**	**-0.7**
	0.7nm,0.6s,mb3.9,baz=171,slow=8.8,SNR=8.0								
MKAR	**Makanchi Array**	**61.31**	**340**	P		P		**13 54 12.6**	**-0.5**
	1.4nm,0.6s,mb4.2,baz=138,slow=8.1,SNR=14								
VNDA	**Vanda**	**72.55**	**169**	P		P		**13 55 25.1**	**+0.6**
	0.6nm,0.7s,mb3.6,baz=358,slow=1.5,SNR=3.7								
BRTR	**Keskin Array B**	**84.73**	**312**	P		P		**13 56 32.1**	**+0.6**
	0.5nm,0.5s,mb3.9,baz=141,slow=6.3,SNR=3.9								

MEX 27 14:10:26.8±0.5, 1809N×10338W, h10km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
SFJM	**Santa Fe**	**2.40**	**8**	*i*	P	Pn		14 11 03.0	-3.1
SFJM				*i*	S	Sn		14 11 32.0	-3.6
MOIG	**Morelia**	**2.60**	**52**	*i*	P	Pn		14 11 06.6	-2.3
MOIG				*i*	S	Sn		14 11 35.1	-5.4
CAIG	**El Cayaco**	**3.14**	**109**	*i*	P	Pn		14 11 14.2	-2.1
CAIG				*i*	S	Sn		14 11 49.9	-3.9
MEIG	**Mezcala**	**3.58**	**92**	*i*	S	Sn		14 12 02.5	-2.1
PLIG	**Platanillo**	**3.69**	**85**	*i*	P	Pn		14 11 22.6	-1.3
PLIG				*i*	S	Sn		14 12 03.9	-3.6

ISCJB ***27*** *14:12:23.8±0.4, 3462N±003×5735E±003, h10km, Error ellipse: s-maj=5.0km s-min=3.1km az=100.5*
CSEM ***27*** *14:12:23.7±0.1, 3463N×5744E, h16km, ML3.8, Error ellipse: s-maj=1.5km s-min=1.2km az=159.0*
THR ***27*** *14:12:24.2±0.8, 3463N×5738E, h18km±12km, ML4.0*
TEH ***27*** *14:12:25.2, 3462N×5745E, h8km, Mn3.8*
ISC 27 14:12:25.0±0.4, 3463N±003×5739E±003, h10km, n30, σ0.86/51, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
IMOG	**Moghan**	**2.17**	**47**	*e*Pn		**Pn**		**14 13 00.7**	**-0.5**
IMOG				*e*Sn		**Sn**		**14 13 28.1**	**-0.1**
IPAY	**Payeh**	**2.24**	**35**	*e*Pn		**Pn**		**14 13 01.7**	**-0.5**
ISFR	**Esferayen**	**2.46**	**11**	*e*Pn		**Pn**		**14 13 06.2**	**+1.0**
ISFR				*e*Sn		**Sn**		**14 13 34.9**	**-0.4**
IMYA	**Miamay**	**2.80**	**52**	*e*Pn		**Pn**		**14 13 09.3**	**-0.5**
IMYA				*e*Sn		**Sn**		**14 13 42.1**	**-1.5**
ISHV	**Shirvan**	**2.91**	**5**	*e*Pn		**Pn**		**14 13 12.1**	**+0.7**
IEMG	**Emamqoli**	**2.96**	**20**	*e*Pn		**Pn**		**14 13 12.9**	**+0.8**
IEMG				*e*Sn		**Sn**		**14 13 45.8**	**-1.8**
IANJ	**Anjiloo**	**2.97**	**287**	*e*Pn		**Pn**		**14 13 12.8**	**+0.6**
IANJ				*e*Sn		**Sn**		**14 13 48.8**	**+0.9**
MRVT	**Maraveh tapeh**	**3.20**	**341**	*e*PN		**Pn**		**14 13 15.9**	**+0.5**
MRVT				AML		AML		14 13 59.6	
	comp=N,386nm,0.4s								
IBAF	**Bafgh**	**3.39**	**207**	*e*Pn		**Pn**		**14 13 18.3**	**+0.3**
IBAF				*e*Sn		**Sn**		**14 13 57.0**	**-1.3**
IKIA	**Kiasar**	**3.41**	**299**	*e*Pn		**Pn**		**14 13 21.3**	**+3.0**
IKIA				*e*Sn		**Sn**		**14 13 58.5**	**-0.3**
ICHK	**Chekchek**	**3.44**	**227**	*e*Pn		**Pn**		**14 13 18.9**	**+0.2**
ICHK				*e*Sn		**Sn**		**14 13 59.2**	**-0.4**
ISHM	**Shahmirzad**	**3.56**	**290**	*e*Pn		**Pn**		**14 13 20.8**	**+0.5**
ISHM				*e*Sn		**Sn**		**14 14 01.7**	**-0.6**
ILAS	**Lasjerd**	**3.71**	**283**	*e*Pn		**Pn**		**14 13 23.4**	**+1.0**
IFIR	**Firoozkooh**	**3.93**	**286**	*e*Pn		**Pn**		**14 13 26.0**	**+0.6**
IFIR				*e*Sn		**Sn**		**14 14 11.6**	**0.0**
IMEH	**Mehriz**	**3.98**	**217**	*e*Pn		**Pn**		**14 13 26.6**	**+0.5**
ISAD	**Sadrabad**	**4.12**	**230**	*e*Pn		**Pn**		**14 13 28.8**	**+0.8**
ISAD				*e*Sn		**Sn**		**14 14 14.7**	**-1.5**
NASN	**Na'in**	**4.23**	**246**	*e*Pn		**Pn**		**14 13 29.4**	**-0.2**
NASN				*e*SG		**Sb**		**14 14 35.5**	**+4.9**

NASN	**Na'in**	**4.23**	**246**	*e*Pn	**Pn**	**14 13 29.4**	**-0.2**
	SNR=52						
NASN				*e*Sg	**Sb**	**14 14 35.5**	**+4.8**
	SNR=91						
ISFB	**Sefidab**	**4.26**	**268**	*e*Pn	**Pn**	**14 13 30.4**	**+0.4**
ISFB				*e*Sn	**Sn**	**14 14 19.3**	**-0.5**
IDMV	**Damavand**	**4.49**	**284**	*e*Pn	**Pn**	**14 13 33.8**	**+0.6**
IDMV				*e*Sn	**Sn**	**14 14 24.6**	**-0.9**
DAMV	**Damavand**	**4.55**	**284**	*e*PN	**Pn**	**14 13 34.6**	**+0.6**
DAMV				*e*SG	**Sb**	**14 14 45.4**	**+5.5**
IZEF	**Zefreh**	**4.55**	**249**	*e*Pn	**Pn**	**14 13 33.7**	**-0.3**
IZEF				*e*Sn	**Sn**	**14 14 26.2**	**-0.8**
KRBR	**Kerman**	**4.66**	**187**	*e*PN	**Pn**	**14 13 36.5**	**+1.0**
KRBR				*e*Sg	**Sb**	**14 14 49.0**	**+5.9**
KRBR				AML	AML	14 15 00.8	
	comp=N,112nm,0.6s						
KRBR				AML	AML	14 15 01.2	
	comp=E,124nm,0.7s						
KRBR	**Kerman**	**4.66**	**187**	*e*Pn	**Pn**	**14 13 36.5**	**+1.0**
	SNR=52						
KRBR				*e*Sg	**Sb**	**14 14 49.0**	**+5.9**
	SNR=90						
IVRN	**Varamin**	**4.67**	**276**	*e*Pn	**Pn**	**14 13 36.5**	**+0.9**
IVRN				*e*Sn	**Sn**	**14 14 28.3**	**-1.6**
IKLH	**Kalahroud**	**5.00**	**257**	*e*Pn	**Pn**	**14 13 40.4**	**+0.3**
IKLH				*e*Sn	**Sn**	**14 14 36.2**	**-1.8**
IMHD	**Mahdasht**	**5.61**	**283**	*e*Pn	**Pn**	**14 13 48.2**	**-0.3**
IPIR	**Pirpir**	**5.75**	**252**	*e*Pn	**Pn**	**14 13 51.2**	**+0.7**
ASAO	**Ashtian**	**6.08**	**271**	*e*PN	**Pn**	**14 13 55.8**	**+0.9**
ISRV	**Sarvestan**	**6.37**	**216**	*e*Pn	**Pn**	**14 13 59.3**	**+0.4**

*CSEM **27** 14:23:46.2±0.1, 3384N×3677E, h8km, Mc1.5, Error ellipse: s-maj=2.8km s-min=2.0km az=86.0*
*GRAL **27** 14:23:46.1±0.7, 3381N×3685E, h0km±285km, MD2.9*
*ISCJB **27** 14:23:47.7±0.6, 3383N±002×3666E±004, h9km±5km, Error ellipse: s-maj=5.6km s-min=3.9km az=43.3*
*NSSC **27** 14:23:47.2, 3386N×3660E, h3km±1km*

ISC 27 14:23:48.0±0.6, 3383N±003×3667E±004, h12km±5km, n20, σ0:90/36, 6D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARH	**Ras Al Marh**	**0.25**	**322**	⇓P	**Pg**	**14 23 51.6**	**-1.7**
MARH	**Ras Al Marh**	**0.25**	**322**	⇓*i*P	**Pg**	**14 23 51.6**	**-1.7**
QASN	**Qassioun**	**0.44**	**228**	⇑P	**Pg**	**14 23 56.5**	**-0.2**
QASN				⇑S	**Sg**	**14 24 02.1**	**-0.5**
QASN	**Qassioun**	**0.44**	**228**	⇑*i*P	**Pg**	**14 23 56.5**	**-0.2**
QASN				⇑*i*S	**Sg**	**14 24 02.1**	**-0.4**
FKH	**Fakeheh**	**0.46**	**332**	*i* Pg	**Pg**	**14 23 56.0**	**-1.1**
FKH				*i* Sg	**Sg**	**14 24 03.5**	**+0.2**
TOTH	**TOTAH**	**0.51**	**203**	⇑P	**Pg**	**14 23 57.9**	**-0.1**
TOTH	**TOTAH**	**0.51**	**203**	⇑*i*P	**Pg**	**14 23 57.9**	**0.0**
ROOS	**tl_alroos**	**0.62**	**56**	⇓P	**Pg**	**14 23 59.9**	**-0.2**
ROOS				⇓S	**Sg**	**14 24 09.8**	**+1.5**
ROOS	**tl_alroos**	**0.62**	**56**	⇓*i*P	**Pg**	**14 23 59.9**	**-0.2**
ROOS				⇓*i*S	**Sg**	**14 24 09.8**	**+1.6**
BRBR	**Barbar**	**0.73**	**235**	⇑P	**Pg**	**14 24 01.2**	**-0.9**
BRBR				⇑S	**Sg**	**14 24 11.2**	**-0.4**
BRBR	**Barbar**	**0.73**	**235**	⇑*i*P	**Pg**	**14 24 01.2**	**-0.9**
BRBR				⇑*i*S	**Sg**	**14 24 11.2**	**-0.5**
HWQ	**Hawqa**	**0.75**	**307**	*i* Pg	**Pg**	**14 24 02.5**	**0.0**
HWQ				*i* Sg	**Sg**	**14 24 13.9**	**+1.5**
RCY	**Rachaya**	**0.79**	**244**	*i* Pg	**Pg**	**14 24 02.5**	**-0.8**
RCY				*i* Sg	**Sg**	**14 24 14.6**	**+1.0**
BHL	**Bhannes**	**0.85**	**275**	*i* Pg	**Pg**	**14 24 04.1**	**-0.3**
BHL				*i* Sg	**Sg**	**14 24 17.5**	**+2.0**
SALA	**Sala**	**1.11**	**177**	⇑P	**Pb**	**14 24 09.0**	**-0.2**
SALA				⇑S	**Sb**	**14 24 24.9**	**+1.3**
SALA	**Sala**	**1.11**	**177**	⇑*i*P	**Pb**	**14 24 09.0**	**-0.2**
SALA				⇑*i*S	**Sb**	**14 24 24.9**	**+1.3**
BIDA	**Albida**	**1.22**	**347**	⇑P	**Pn**	**14 24 09.9**	**-0.9**
BIDA				⇑S	**Sb**	**14 24 26.8**	**+0.2**
BIDA	**Albida**	**1.22**	**347**	⇑*i*P	**Pn**	**14 24 09.9**	**-0.9**
BIDA				⇑*i*S	**Sb**	**14 24 26.8**	**+0.2**
WRDH	**Warideh**	**1.69**	**353**	⇑P	**Pn**	**14 24 17.2**	**-0.1**
WRDH				⇑S	**Sn**	**14 24 38.6**	**-0.2**
WRDH	**Warideh**	**1.69**	**353**	⇑*i*P	**Pn**	**14 24 17.2**	**-0.1**
WRDH				⇑*i*S	**Sn**	**14 24 38.6**	**-0.3**

*ISCJB **27** 15:39:09.0±0.4, 4252N±002×4346E±003, h2km, Error ellipse: s-maj=3.3km s-min=2.4km az=175.2*
*CSEM **27** 15:39:10.9±0.1, 4257N×4350E, h2km, mb4.2, Error ellipse: s-maj=2.3km s-min=2.0km az=42.0*
*MOS **27** 15:39:12.7±0.7, 4266N×4371E, h16km, mb4.2/1, Error ellipse: s-maj=11.0km s-min=6.4km az=86.3*

ISC 27 15:39:09.8±0.4, 4252N±002×4346E±004, h1km±9km, n29, σ0:83/51, 3C, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIGR	**Digorskoe uzhe**	**0.39**	**13**	*i* Pg	**Pg**	**15 39 17.4**	**+0.1**
DIGR				*i* Sg	**Sg**	**15 39 22.9**	**+0.5**
ZEI	**Tsey**	**0.41**	**51**	*i* Pg	**Pg**	**15 39 18.1**	**+0.5**
ZEI				*i* Sg	**Sg**	**15 39 24.0**	**+1.1**
LACR	**Lac**	**0.69**	**63**	*i* Pg	**Pg**	**15 39 22.9**	**0.0**
LACR				*i* Sg	**Sg**	**15 39 32.4**	**+0.6**
KORR	**Kora**	**0.72**	**38**	*i* Pg	**Pg**	**15 39 23.3**	**-0.3**
KORR				*i* Sg	**Sg**	**15 39 33.1**	**+0.1**
ARNR	**Ardon**	**0.90**	**41**	*i* Pg	**Pg**	**15 39 26.6**	**-0.5**
ARNR				*i* Sg	**Sg**	**15 39 38.8**	**+0.1**
VLKR	**Vladikavkaz**	**1.04**	**59**	*i* Pg	**Pg**	**15 39 29.3**	**-0.4**
VLKR				*i* Sg	**Sg**	**15 39 43.4**	**+0.2**
KMSR	**Komsomolskaya**	**1.05**	**35**	*i* Pg	**Pg**	**15 39 29.3**	**-0.6**
KMSR				*i* Sg	**Sg**	**15 39 43.3**	**-0.2**
SNJR	**Sundja**	**1.14**	**60**	*i* Pg	**Pg**	**15 39 30.9**	**-0.6**
SNJR				*i* Sg	**Sg**	**15 39 46.1**	**-0.2**
BTKR	**Batakoyurt**	**1.17**	**42**	*i* Pg	**Pg**	**15 39 31.2**	**-0.9**
BTKR				*i* Sg	**Sg**	**15 39 46.7**	**-0.5**
TBLG	**Delisi**	**1.23**	**129**	P	**Pg**	**15 39 33.7**	**+0.4**
TBLG				S	**Sg**	**15 39 50.3**	**+1.0**
TBLG	**Delisi**	**1.23**	**129**	P	**Pg**	**15 39 34.1**	**+0.8**
TBLG				S	**Sg**	**15 39 50.6**	**+1.3**
TBLG	**Delisi**	**1.23**	**129**	Pg	**Pg**	**15 39 34.1**	**+0.8**
TBLG				Sg	**Sg**	**15 39 50.6**	**+1.3**
KUBR	**Kubataba**	**1.28**	**358**	*e*Pg	**Pg**	**15 39 36.0**	**+1.6**
KUBR				*i* Sg	**Sg**	**15 39 54.2**	**+3.1**
MTA	**Mtatsminda**	**1.28**	**129**	P	**Pg**	**15 39 33.7**	**-0.7**
MTA				S	**Sg**	**15 39 50.3**	**-0.8**
MTA	**Mtatsminda**	**1.28**	**129**	P	**Pg**	**15 39 34.5**	**+0.1**
MTA				S	**Sg**	**15 39 51.4**	**+0.4**
KZR	**Kazreti**	**1.34**	**148**	P	**Pg**	**15 39 34.8**	**-0.6**
KZR				S	**Sg**	**15 39 53.1**	**+0.4**
SHAR	**Shatzhatmas**	**1.36**	**335**	⇑*e*PG	**Pg**	**15 39 36.1**	**+0.3**
SHAR				*e*S	**Sg**	**15 39 53.9**	**+0.5**
PRTR	**Priterechnaya**	**1.37**	**26**	*i* Pg	**Pg**	**15 39 34.5**	**-1.6**
PRTR				*i* Sg	**Sg**	**15 39 52.3**	**-1.6**
KIV0	**Kislovodsk Arr**	**1.55**	**339**	*e*Pg	**Pg**	**15 39 38.8**	**-0.6**
PYA	**Pyatigorsk**	**1.55**	**349**	⇑*e*PG	**Pg**	**15 39 39.2**	**-0.2**
KIV	**Kislovodsk**	**1.55**	**339**	⇑*e*PG	**Pg**	**15 39 39.0**	**-0.4**
KIV				*e*S	**Sn**	**15 39 59.6**	**+0.4**
BEYR	**Belyy Ugol+**	**1.57**	**343**	*e*Pg	**Pg**	**15 39 39.5**	**-0.3**
DIGO	**Kars**	**2.10**	**182**	*i* P	**Pg**	**15 39 51.2**	**+1.2**
DIGO				*i* S	**Sg**	**15 40 17.2**	**0.0**
DIGO	**Kars**	**2.10**	**182**	*i* P	**Pg**	**15 39 51.2**	**+1.2**
DIGO				*i* S	**Sg**	**15 40 17.2**	**0.0**
GOF	**Gofitskoye**	**2.56**	**353**	*e*PN	**Pg**	**15 40 02.0**	**+3.1**
GOF				*e*		15 40 31.3	
SOC	**Sochi**	**2.95**	**293**	*e*PN	**Pb**	**15 40 03.2**	**+0.1**
SOC				pmax	pmax		
	comp=Z,12nm,0.6s						
SOC				MLR	MLR		
	comp=Z,109nm,8.0s						
SOC	**Sochi**	**2.95**	**293**	*e*Pn	**Pb**	**15 40 03.2**	**+0.1**
	comp=Z,109nm,8.0s						
ERZM	**Erzurum**	**3.05**	**212**	*i* P	**Pb**	**15 40 02.9**	**-1.9**
ERZM				*i* S	**Sg**	**15 40 47.4**	**-0.4**
BOYT	**Boyabat**	**6.47**	**263**	*i* P	**Pn**	**15 40 46.7**	**+0.5**

WEL 27 16:11:45.4±0.1, 4266S×17319E, h33km, ML3.5/11, 2C-1D, Error ellipse: s-maj=1.5km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LTZ	**Lake Taylor**	**0.69**	**260**	PN	Pn	16 11 58.6	-0.3
LTZ				SN	Sn	16 12 07.5	-1.0
LTZ				SN	Sn	16 12 08.0	-0.5
THZ	**Tophouse**	**0.92**	**346**	⇑PN	Pn	16 12 00.9	-1.2
THZ				SN	Sn	16 12 12.0	-2.2
CRLZ	**Canterbury Las**	**1.01**	**204**	PN	Pn	16 12 02.9	-0.3
CRLZ				SN	Sn	16 12 16.0	-0.2
CRLZ				SN	Sn	16 12 16.1	-0.1
BSWZ	**Blackbirch Sta**	**1.07**	**28**	⇑PN	Pn	16 12 04.0	-0.2
BSWZ				SN	Sn	16 12 17.6	-0.3
BSWZ				SN	Sn	16 12 17.7	-0.2
MQZ	**McQueen's Vall**	**1.12**	**201**	PN	Pn	16 12 04.1	-0.6
MQZ				*e*SN	Sn	16 12 17.9	-1.1
MQZ				SN	Sn	16 12 18.1	-0.9
TUWZ	**Tuamarina**	**1.35**	**25**	PN	Pn	16 12 07.4	-0.5
DSZ	**Denniston Nort**	**1.38**	**311**	PN	Pn	16 12 07.7	-0.7
NNZ	**Nelson**	**1.45**	**6**	PN	Pn	16 12 08.9	-0.4
NNZ				SN	Sn	16 12 26.8	-0.3
TCW	**Tory Channel**	**1.66**	**30**	⇓PN	Pn	16 12 11.3	-0.8
SNZO	**South Karori**	**1.76**	**40**	PN	Pn	16 12 12.6	-0.9
SNZO				SN	Sn	16 12 32.3	-2.4
MRW	**Makara Radio**	**1.82**	**39**	PN	Pn	16 12 13.3	-1.1
MRW				SN	Sn	16 12 33.0	-3.2
WVZ	**Waitaha Valley**	**1.85**	**256**	PN	Pn	16 12 14.9	0.0
WVZ				SN	Sn	16 12 35.8	-1.3
RPZ	**Rata Peaks**	**1.89**	**235**	PN	Pn	16 12 14.5	-0.8
RPZ				SN	Sn	16 12 35.6	-2.4
QRZ	**Quartz Range**	**1.90**	**345**	PN	Pn	16 12 15.1	-0.4
QRZ				SN	Sn	16 12 36.3	-1.9
DUWZ	**D'Urville Isla**	**1.94**	**17**	PN	Pn	16 12 15.4	-0.6
MSWZ	**Moikau Station**	**1.97**	**52**	PN	Pn	16 12 15.1	-1.4
MSWZ				SN	Sn	16 12 37.2	-2.9
CAW	**Cannon Point**	**2.09**	**43**	PN	Pn	16 12 17.0	-1.1
CAW				SN	Sn	16 12 40.3	-2.6
KIW	**Kapiti Island**	**2.21**	**36**	PN	Pn	16 12 18.9	-0.8
KIW				SN	Sn	16 12 43.2	-2.7
MTW	**Mount Morrison**	**2.29**	**50**	PN	Pn	16 12 19.0	-1.8
MRZ	**Mangatainoka R**	**2.68**	**43**	PN	Pn	16 12 24.5	-1.7
MRZ				SN	Sn	16 12 53.8	-3.7
LBZ	**Lake Benmore**	**2.79**	**231**	PN	Pn	16 12 26.9	-0.8
LBZ				SN	Sn	16 12 57.8	-2.4
ODZ	**Otahua Downs**	**3.01**	**217**	PN	Pn	16 12 29.8	-1.0
ODZ				SN	Sn	16 13 03.0	-2.8
WAZ	**Wanganui**	**3.20**	**26**	PN	Pn	16 12 33.7	+0.3
TSZ	**Takapari Road**	**3.33**	**40**	PN	Pn	16 12 33.2	-2.0

IDC 27 16:17:34.0±9.0, 067S×9865E, h46km±60km, mb3.4/5, mb1 3.5/6, mb1mx3.4/19, mbtmp3.6/6, ML3.2/1, Error ellipse: s-maj=156.3km s-min=20.5km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.46**	**5**	P	Pn	16 18 24.0	-1.3
	2.3nm,0.3s,baz=326,slow=3.5,SNR=11						
WRA	**Warramunga Arr**	**39.83**	**121**	P	P	16 25 02.9	+0.1
	0.5nm,0.7s,baz=303,slow=9.0,SNR=4.6						
ASAR	**Alice Springs**	**41.12**	**126**	P	P	16 25 13.8	+0.4
	0.5nm,0.8s,baz=298,slow=7.8,SNR=6.2						
SONM	**Songino Array**	**48.78**	**7**	P	P	16 26 15.3	+1.0
	0.5nm,0.4s,baz=189,slow=9.1,SNR=6.0						
MKAR	**Makanchi Array**	**49.40**	**345**	P	P	16 26 18.6	-0.4
	0.5nm,0.6s,baz=144,slow=7.9,SNR=6.3						
ZAL	**Zalesovo**	**55.62**	**350**	P	P	16 27 04.5	-0.6
	0.9nm,0.3s,baz=3.3,slow=4.8,SNR=3.3						

*BJI **27** 16:47:32.8, 1099S×10884E, h10km, mB5.2, mb4.7*
*NEIC **27** 16:47:41.8±0.4, 1003S×10846E, h10km, mb4.7/18, Error ellipse: s-maj=13.6km s-min=6.9km az=50.0*
*ISCJB **27** 16:47:44.9±0.5, 993S±008×10861E±009, h42km, mb4.6/27, MS3.5/2, Error ellipse: s-maj=15.6km s-min=7.7km az=105.9*
*IDC **27** 16:47:47.6±1.4, 985S×10867E, h47km±8km, mb3.9/8, mb1 4.0/9, mb1mx3.8/17, mbtmp4.1/9, ML3.8/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/24, Error ellipse: s-maj=45.7km s-min=14.5km az=50.0*

ISC 27 16:47:47.1±0.5, 998S±008×10856E±009, h44km, h44km±3.8km:pP-P, n39, σ0:88/39, mb4.6/27, MS3.5/2, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**2.87**	**23**	*i*P	**Pn**	**16 48 35.7**	**+5.4**
KSM	**Kuching**	**11.51**	**9**	Pn	**Pn**	**16 50 28.8**	**0.0**
PSI	**Prapat**	**15.92**	**322**	LR	LR	16 59 19.0	
	comp=Z,136nm,19.5s,baz=65,slow=44						
FITZ	**Fitzroy Crossi**	**18.42**	**118**	*e*P	**Pn**	**16 51 59.3**	**+0.3**
	7.8nm,1.4s						
FITZ				*e*S	**S**	**16 55 07.0**	**-20**
FITZ	**Fitzroy Crossi**	**18.42**	**118**	P	**Pn**	**16 51 59.5**	**+0.5**
	0.3nm,0.3s,baz=87,slow=22,SNR=13						
FITZ				S	**S**	**16 55 06.9**	**-20**
	0.2nm,0.3s,baz=288,slow=6.4,SNR=3.8						
NWAO	**Narrogin (SRO)**	**24.19**	**162**	LR	LR	17 02 25.8	
	comp=Z,111nm,21.2s,MS3.3,baz=193,slow=36						
WRA	**Warramunga Arr**	**26.76**	**115**	P	**P**	**16 53 22.7**	**+0.1**
	4.2nm,0.9s,mb4.0,baz=285,slow=12,SNR=17						
WRAB	**Tennant Creek**	**26.77**	**115**	*e*P	**P**	**16 53 23.0**	**+0.3**
	18nm,1.4s,mb4.4						
WB2	**Warramunga Arr**	**26.77**	**115**	*e*P	**P**	**16 53 22.7**	**0.0**
ASAR	**Alice Springs**	**27.75**	**123**	P	**P**	**16 53 32.0**	**+0.5**
	0.9nm,0.6s,mb3.6,baz=296,slow=9.6,SNR=27						
ASAR				PcP	PcP	16 56 48.2	+1.0
	0.7nm,0.8s,baz=335,slow=2.5,SNR=5.1						
QIZ	**Qiongzhong**	**28.86**	**3**	P	**P**	**16 53 36.5**	**-4.9**
STKA	**Stephens Creek**	**37.52**	**130**	*e*P	**P**	**16 54 56.4**	**-0.3**
	5.3nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**37.52**	**130**	P	**P**	**16 54 56.9**	**+0.1**
	5.9nm,0.9s,mb4.3,baz=310,slow=7.5,SNR=9.2						
CD2	**Chengdu**	**40.92**	**354**	P	**P**	**16 55 25.5**	**+0.4**
JIRN	**Jiri**	**43.24**	**330**	*e*P	**P**	**16 55 44.7**	**+0.7**
	33nm,0.8s,mb5.1						
PKI	**Pulchoki**	**43.55**	**330**	*e*P	**P**	**16 55 46.4**	**-0.1**
GUN	**Gumba**	**43.60**	**330**	*e*P	**P**	**16 55 47.6**	**+0.7**
	50nm,0.9s,mb5.3						
DMN	**Daman**	**43.74**	**329**	*e*P	**P**	**16 55 48.1**	**+0.1**
	16nm,0.6s,mb4.9						
XAN	**Xi'an**	**43.78**	**0**	P	**P**	**16 55 48.8**	**+0.5**
XAN				AP	pP	16 56 00.5	+0.1
XAN				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
KKN	**Kakani**	**43.80**	**330**	*e*P	**P**	**16 55 48.6**	**+0.1**
	comp=Z,17nm,0.9s,mb4.8						
GKN	**Gorkha**	**44.30**	**329**	*e*P	**P**	**16 55 52.8**	**+0.3**
	comp=Z,19nm,0.9s,mb4.8						
KOLN	**Koldanda**	**44.64**	**328**	*e*P	**P**	**16 55 55.2**	**0.0**
	comp=Z,26nm,1.0s,mb5.0						
LZH	**Lanzhou**	**46.04**	**355**	*e*P	**P**	**16 56 08.0**	**+1.7**
LZH				AP	pP	16 56 15.0	-3.5
LZH				XP	sP	16 56 19.5	-4.1
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,139nm,4.0s						
GTA	**Gaotai**	**49.81**	**351**	*e*P	**P**	**16 56 37.0**	**+1.5**
GTA				AP	pP	16 56 41.3	-6.4
GTA				XP	sP	16 56 44.5	-8.3
GTA				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.5						
BJT	**Baijiatuan**	**50.24**	**8**	P	**P**	**16 56 36.9**	**-1.9**
	comp=Z,14nm,1.2s,mb4.9						
MJAR	**Matsushiro Arr**	**54.03**	**29**	P	**P**	**16 57 05.4**	**-1.5**
	comp=Z,1.6nm,0.6s,mb4.1,baz=198,slow=8.7,SNR=6.2						
MJAR				pP	pP	16 57 17.6	-1.7
	comp=Z,1.1nm,0.6s,baz=206,slow=7.1,SNR=3.7						
CASY	**Casey**	**56.23**	**179**	*e*P	**P**	**16 57 26.5**	**+3.7**
	comp=Z,87nm,1.3s,mb5.6						
SONM	**Songino Array**	**57.59**	**358**	P	**P**	**16 57 33.2**	**+0.8**
	comp=Z,3.4nm,0.7s,mb4.5,baz=176,slow=8.2,SNR=32						
SONM				pP	pP	16 57 46.0	+1.1
	comp=Z,1.7nm,0.7s,baz=182,slow=8.4,SNR=5.4						
SONM				LR	LR	17 24 03.0	
	comp=Z,56nm,19.8s,MS3.7,baz=190,slow=38						
ULN	**Ulaanbaatar**	**57.61**	**359**	*e*P	**P**	**16 57 32.8**	**+0.2**
	comp=Z,6.4nm,0.9s,mb4.7						
HIA	**Hailar**	**59.81**	**8**	P	**P**	**16 57 45.8**	**-2.1**
	comp=Z,4.9nm,1.0s,mb4.5						
MKAR	**Makanchi Array**	**61.20**	**340**	P	**P**	**16 57 57.2**	**0.0**
	comp=Z,3.3nm,0.7s,mb4.6,baz=134,slow=6.9,SNR=32						
MKAR				pP	pP	16 58 10.4	+0.6
	comp=Z,1.2nm,0.5s,baz=149,slow=7.3,SNR=5.5						
TLY	**Talaya**	**61.56**	**357**	*e*P	**P**	**16 58 00.4**	**+0.7**
	comp=Z,3.6nm,1.1s,mb4.4						
ZAL	**Zalesovo**	**66.79**	**345**	P	**P**	**16 58 32.0**	**-2.0**
	comp=Z,0.7nm,0.4s,mb4.0,baz=288,slow=3.2,SNR=2.8						
ARU	**Arti**	**77.96**	**334**	*e*P	**P**	**16 59 39.5**	**-1.0**
	comp=Z,6.7nm,0.9s,mb4.6						
LSZ	**Lusaka**	**78.22**	**256**	P	**P**	**16 59 41.8**	**-0.2**
	comp=Z,3.8nm,1.0s,mb4.3						
QSPA	**South Pole Qui**	**80.02**	**180**	*e*P	**P**	**16 59 51.1**	**-0.8**
	comp=Z,3.9nm,1.2s,mb4.2						
BR131	**Keskin Array S**	**84.95**	**312**	*e*P	**P**	**17 00 17.0**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.3						
BRTR	**Keskin Array B**	**84.95**	**312**	P	**P**	**17 00 17.4**	**-0.2**
	comp=Z,1.4nm,0.7s,mb4.2,baz=133,slow=6.4,SNR=8.4						
TSUM	**Tsumeb**	**87.68**	**251**	P	**P**	**17 00 31.0**	**0.0**
	comp=Z,3.9nm,0.9s,mb4.6						

MEX 27 17:18:14.3±0.9, 1620N×9892W, h20km±645km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**1.17**	**305**	*i* P	Pn	17 18 32.0	-3.5
ACX				*i* S	Sb	17 18 47.0	-3.5
MEIG	**Mezcala**	**1.85**	**339**	*i* P	Pn	17 18 44.1	-0.8
MEIG				*i* S	Sn	17 19 03.3	-4.2
UTMO	**Huajuapan**	**1.94**	**33**	*e*P	Pn	17 18 44.3	-1.8
UTMO				*i* S	Sn	17 19 08.1	-1.9
PLIG	**Platanillo**	**2.25**	**346**	*i* P	Pn	17 18 48.8	-1.7
PLIG				*i* S	Sn	17 19 13.9	-3.7

*ISCJB **27** 17:36:13.6±0.4, 083N±009×27.11W±008, h10km, mb4.3/26, MS4.1/27, Error ellipse: s-maj=14.2km s-min=9.6km az=105.3*
*NEIC **27** 17:36:14.6±0.4, 068N×27.17W, h10km, mb4.6/17, Error ellipse: s-maj=14.2km s-min=8.0km az=144.0*
*BJI **27** 17:36:14.5, 070N×2720W, h10km, mB5.2, Ms5.1, Msz4.7*
*HRVD **27** 17:36:14.6±0.4, 102N×27.11W, h22km±1km, MW5.0/68, Centroid moment Tensor Solution. LP body waves: s31,c38;Mantle waves: s68,c100; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.27±.15; $M_{\theta\theta}$0.82±.14; $M_{\phi\phi}$-0.55±.14; $M_{r\theta}$-0.05±.21; $M_{r\phi}$-3.16±.12; $M_{\theta\phi}$-0.50±.22; Best double couple: $M_0$3.27600×10^{16} NP1:ϕs354.00000°, δ87.00000°, λ-9.00000°. NP2: ϕs84.00000°, δ81.00000°, λ-177.00000°. Principal axes: T 3.3880, Plg4.0000°, Azm39.0000°; N -0.2250, Plg81.0000°, Azm156.0000°; P -3.1630, Plg8.0000°, Azm308.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **27** 17:36:14.3±0.6, 083N±27.12W, h0km, mb4.3/16, mb1 4.4/16, mb1mx4.3/25, mbtmp4.3/16, MS3.9/25, Ms1 3.9/25, ms1mx3.8/35 Error ellipse: s-maj=20.4km s-min=14.0km az=137.0*
*SZGRF **27** 17:36:23.0, 096N×2599W, h33km, mb4.5, Central Mid-Atlantic Ridge*

ISC 27 17:36:15.9±0.4, 082N±009×2712W±008, h10km, n61, σ0:89/45, mb4.3/26, MS4.1/27, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**10.98**	**233**	*e*Pn	**Pn**	**17 38 47.5**	**-5.4**
	27nm,0.8s						
RCBR				*e*Sn	**Sn**	**17 40 38.4**	**-17**
DBIC	**Dimbokro**	**22.96**	**75**	P	**P**	**17 41 19.8**	**-0.6**
	24nm,0.9s,mb4.6,baz=234,slow=11,SNR=15						
DBIC				LR	LR	17 47 48.1	
	comp=Z,381nm,18.5s,MS3.9,baz=239,slow=30						
DBIC	**Dimbokro**	**22.96**	**75**	*e*P	**P**	**17 41 19.4**	**-0.9**
	38nm,1.1s,mb4.7						
BDFB	**Brasilia**	**26.34**	**231**	P	**P**	**17 41 53.7**	**+1.7**
	14nm,1.0s,mb4.4,baz=78,slow=9.9,SNR=9.7						
BDFB				LR	LR	17 51 10.4	
	comp=Z,841nm,18.6s,MS4.3,baz=240,slow=34						
BDFB	**Brasilia**	**26.34**	**231**	*e*P	**P**	**17 41 49.9**	**-2.0**
	25nm,1.0s,mb4.7						
BDFB				LR	LR	17 51 10.4	
TOA0	**Torodi Ar. Sit**	**31.06**	**66**	*e*P	**P**	**17 42 34.0**	**0.0**
TORD	**Torodi Ar. Bea**	**31.06**	**66**	P	**P**	**17 42 34.1**	**+0.1**
	22nm,0.9s,mb5.0,baz=258,slow=9.7,SNR=65						
TORD				LR	LR	17 52 51.7	
	comp=Z,291nm,21.5s,MS3.9,baz=240,slow=32						

comp=Z,10nm,1.1s,mb4.7
FINES FINESS Array B 72.52 24 P **P** 17 47 43.5 +0.6
comp=Z,2.7nm,0.9s,mb4.2,baz=186,slow=5.7,SNR=6.3
FINES LR LR 18 16 23.5
comp=Z,64nm,21.8s,MS3.9,baz=101,slow=33
KAF Kangasniemi 72.98 23 *e*p **P** 17 47 42.3 -3.3
comp=Z,5.4nm,0.8s,mb4.5,baz=239,slow=5.8
SNAA Sanae 74.05 172 P **P** 17 47 52.1 +0.1
comp=Z,0.5nm,0.8s,mb3.5,baz=352,slow=6.1,SNR=6.9
SNAA Sanae 74.05 172 *e*P **P** 17 47 52.8 +0.9
comp=Z,2.0nm,0.8s,mb4.1
WMOK Wichita Mounta 74.50 306 P **P** 17 47 54.2 -0.4
comp=Z,2.2nm,1.0s,mb4.0
JOF Joensuu 75.39 24 *e*p **P** 17 47 54.9 -4.8
GNI Garni 75.66 49 LR LR 18 22 02.5
comp=Z,39nm,19.1s,MS3.7,baz=79,slow=36
ULM Lac du Bonnet 75.90 322 LR LR 18 15 42.0
comp=Z,82nm,19.2s,MS4.0,baz=98,slow=31
ARCES ARCESS Array B 76.89 17 LR LR 18 16 05.8
comp=Z,86nm,21.1s,MS4.0,baz=5.8,slow=31
ANMO Albuquerque 80.78 305 LR LR 18 18 37.2
comp=Z,99nm,21.5s,MS4.1,baz=280,slow=32
PDAR Pinedale Array 83.88 313 P **P** 17 48 51.5 +5.7
comp=Z,0.3nm,0.6s,mb3.6,baz=96,slow=9.2,SNR=3.2
PDAR LR LR 18 20 09.1
comp=Z,90nm,21.4s,MS4.1,baz=330,slow=31
YKA Yellowknife Ar 88.11 332 LR LR 18 24 15.0
comp=Z,47nm,20.7s,MS3.9,baz=90,slow=33
INK Inuvik 95.26 339 LR LR 18 28 01.6
comp=Z,58nm,19.0s,MS4.1,baz=48,slow=33
DLBC Dease Lake 96.04 329 LR LR 18 25 36.9
comp=Z,86nm,21.2s,MS4.2,baz=93,slow=31
CD2 Chengdu 123.72 51 *e*PKP PKPdf 17 55 10.3 -3.6
HHC Hu-ho-hao-te 124.09 37 *e*PKP PKPdf 17 55 13.8 -0.8
HHC XPKP 17 55 21.0
HHC PP PP 17 57 04.0 +5.3
HHC SKS SKSdf 18 02 20.5 -6.0
HHC SKKS SKKSac 18 03 51.3 -6.3
HHC SS SS 18 13 48.0 -1.1
HHC LR LR
comp=N,199nm,19.6s,MS5.0
HHC LR LR
comp=E,224nm,17.8s,MS5.0
HHC LR LR
comp=Z,182nm,15.5s,MS4.8
MDJ Mudanjiang 130.24 22 PKP PKPdf 17 55 24.0 -2.3
NJ2 Nanjing 134.12 41 *e*PKP PKPdf 17 55 28.5 -5.1
NJ2 XPKP 17 55 41.8
NJ2 PP PP 17 58 05.0 +0.7
NJ2 PKS 17 59 04.0
NJ2 PP PP
comp=Z,220nm,6.1s
NJ2 LR LR
comp=N,2μm,22.6s,MS5.8
NJ2 LR LR
comp=E,1μm,22.2s,MS5.8
NJ2 LR LR
comp=Z,910nm,21.2s,MS5.5
ASPA Alice Springs 150.77 142 *e*P PKPdf 17 56 10.6 +7.7

*NEIC **27** 17:51:25.3, 3662S×7127W, h158km, MG3.6(GUC), After GUC.*
GUC 27 17:51:25.3±0.5, 3662S×7127W, h158km±5km, MD3.1, ML3.6, 6C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CCHI	**Chillan**	**0.65**	**272**	⇑*i*P		Pn	17 51 48.3	0.0
CCHI				*i* S		Sn	17 52 05.6	-0.2
CCHI				*i* S		Sn	17 52 06.0	+0.1
CCHI				AML		AML	17 52 06.6	
	comp=E,734nm,0.4s							
CCHI				AML		AML	17 52 08.3	
	comp=E,394nm,0.6s							
CCHI	**Chillan**	**0.65**	**272**	⇑*i*P		Pn	17 51 48.3	0.0
CCHI				*i* S		Sn	17 52 06.0	+0.1
TALC	**Talca**	**1.26**	**346**	⇑*i*P		Pn	17 51 53.1	+0.1
TALC				*i* S		Sn	17 52 14.6	+0.3
TALC				AML		AML	17 52 15.8	
	comp=N,1μm,0.1s							
TALC	**Talca**	**1.26**	**346**	⇑*i*P		Pn	17 51 53.1	+0.1
TALC				*i* S		Sn	17 52 14.6	+0.3
TACH	**Talagante**	**2.98**	**5**	*i* P		Pn	17 52 13.1	+0.5
TACH				*i* S		Sn	17 52 49.5	+0.2
PCH	**Pirque**	**3.06**	**12**	⇑*i*P		Pn	17 52 14.7	+1.0
PCH				*i* S		Sn	17 52 51.9	+0.7
LCCH	**Las Cruces**	**3.15**	**355**	*i* P		Pn	17 52 15.5	+0.7
LCCH				*i* S		Sn	17 52 53.5	+0.3
CLCH	**Cerro Calan**	**3.28**	**11**	⇑*i*P		Pn	17 52 17.4	+1.0
CLCH				*i* S		Sn	17 52 56.7	+0.7
CLCH				AML		AML	17 52 59.1	
	comp=N,210nm,0.4s							
PEL	**Peldehue**	**3.50**	**8**	⇓*i*P		Pn	17 52 20.2	+0.9
PEL				*i* S		Sn	17 53 01.9	+0.6

*IDC **27** 18:05:56.7±2.3, 4298N×10497W, h0km, mb1 3.7/3, mb1mx3.3/23, mbtmp3.4/3, ML2.6/2, Error ellipse: s-maj=51.9km s-min=10.6km az=150.0*
*ISCJB **27** 18:06:00.2±0.6, 4378N±005×10527W±007, h0km, Error ellipse: s-maj=7.5km s-min=6.6km az=45.2*
*NEIC **27** 18:06:01.6±0.5, 4376N×10526W, h0km, ML3.2, Error ellipse: s-maj=6.6km s-min=5.6km az=111.0, Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.
ISC 27 18:06:01.6±0.6, 4377N±005×10524W±007, h0km, n22, σ0≥83/24, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**67**	*e*P		**Pg**	**18 06 20.1**	**+0.6**
PHWY	**Pilot Hill**	**2.47**	**184**	*e*Pn		**Pn**	**18 06 43.5**	**+0.4**
RWWY	**Rawlins**	**2.54**	**216**	*e*Pn		**Pn**	**18 06 44.9**	**+0.9**
LAO	**LASA Array**	**3.00**	**347**	*e*Pn		**Pn**	**18 06 50.6**	**+0.2**
PDAR	**Pinedale Array**	**3.31**	**254**	Pn		**Pn**	**18 06 55.0**	**+0.3**
	3.3nm,0.3s,baz=76,slow=16,SNR=52							
PDAR					Sn	**Sn**	**18 07 35.6**	**+0.9**
	2.8nm,0.3s,baz=86,slow=22,SNR=3.7							
GCMT	**Greycliff**	**3.75**	**304**	*e*Pn		**Pn**	**18 07 01.3**	**+0.6**
FLWY	**Flagg Ranch**	**3.96**	**276**	*e*Pn		**Pn**	**18 07 01.1**	**-2.5**
ISCO	**Idaho Springs**	**3.97**	**184**	*e*Pn		**Pn**	**18 07 04.8**	**+1.0**
REDW	**Red Top Meadow**	**4.10**	**266**	*e*Pn		**Pn**	**18 07 05.0**	**-0.6**
IMW	**Indian Meadow**	**4.13**	**274**	*e*Pn		**Pn**	**18 07 07.3**	**+1.4**
SMCO	**Snowmass**	**4.77**	**196**	*e*Pn		**Pn**	**18 07 13.6**	**-1.1**
SMCO				*e*Pg		**Pg**	**18 07 28.5**	**-4.4**
BOZ	**Bozeman (W)**	**4.93**	**295**	Pn		**Pn**	**18 07 17.1**	**+0.1**
TCUT	**Toone Canyon**	**5.28**	**242**	*e*Pn		**Pn**	**18 07 20.8**	**-0.9**
EGMT	**Eagleton**	**5.30**	**325**	*e*Pn		**Pn**	**18 07 21.4**	**-0.6**
	15nm,0.6s							
DLMT	**Dillon**	**5.50**	**289**	Pn		**Pn**	**18 07 24.9**	**+0.2**
	4.8nm,0.8s							
HRY	**Holter Researc**	**5.51**	**305**	*e*Pn		**Pn**	**18 07 25.2**	**+0.3**
DAU	**Daniels Canyon**	**5.59**	**235**	*e*Pn		**Pn**	**18 07 25.0**	**-1.0**
SRU	**San Rafael**	**6.12**	**222**	*e*Pn		**Pn**	**18 07 32.7**	**-0.5**
	9.4nm,0.3s							
TMUT	**Trail Mountain**	**6.33**	**227**	*e*Pn		**Pn**	**18 07 36.1**	**0.0**
CHMT	**Chamberlain Mo**	**6.47**	**302**	*e*Pn		**Pn**	**18 07 38.3**	**+0.3**
ULM	**Lac du Bonnet**	**9.10**	**41**	Pn		**Pn**	**18 08 13.4**	**-0.7**
	0.9nm,0.3s,baz=240,slow=11,SNR=7.9							
ULM					Pg	Pn	18 08 47.6	+33
	1.0nm,0.3s,baz=231,slow=15,SNR=5.2							
ULM					Lg		18 10 49.0	
	0.5nm,0.3s,baz=131,slow=19,SNR=3.2							
NVAR	**Mina Array Bea**	**11.21**	**246**	Pn		**Pn**	**18 08 38.0**	**-5.0**
	0.1nm,0.3s,baz=54,slow=13,SNR=2.0							

*NIED **27** 18:12:00, 2020N×121.40E, h11km, Mw4.9 Best double couple: M0 2.38000×10^16 NP1:φs121.00000°, δ68.00000°, λ69.00000°. NP2:φs346.00000°, δ30.00000°, λ131.00000°.*
*BJI **27** 18:12:46.1, 2001N×12133E, h12km, mB4.9, mb4.7, ML4.7, Ms4.6, Msz4.5*
*SZGRF **27** 18:12:47.6, 1907N×12122E, h33km, mb4.9, MS4.6, Philippine Islands region*
*MOS **27** 18:12:47.9±0.9, 1992N×12142E, h33km, mb5.1/40, MS4.5/21, Error ellipse: s-maj=9.3km s-min=5.1km az=105.1*
*JMA **27** 18:12:48.7±0.5, 2021N×12138E, h0km, M5.2*
*ISCJB **27** 18:12:49.0±0.2, 1996N±002×12139E±002, h37km, mb4.8/89, MS4.5/57, Error ellipse: s-maj=3.5km s-min=2.3km az=49.0*
*HRVD **27** 18:12:49.0±0.3, 1987N×121.19E, h29km, MW5.2/69, Centroid moment Tensor Solution. LP body waves: s54,c78; Mantle waves: s69,c111; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 4.67±.17; Mθθ 0.36±.10; Mφφ -5.03±.13; Mrθ 1.48±.17; Mθφ 0.77±.08; Mφr -4.10±.21; Best double couple: M0 6.56600×10^16 NP1:φs 1.00000°, δ25.00000°, λ106.00000°. NP2:φs 164.00000°, δ66.00000°, λ83.00000°. Principal axes: T 6.3850, Plg68.0000°, Azm60.0000°; N 0.3650, Plg7.0000°, Azm167.0000°; P -6.7470, Plg21.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MAN **27** 18:12:49, 1983N×121.13E, h20km, mb4.8, ML5.5, MS3.1*
*NEIC **27** 18:12:49.0±0.2, 1980N×12142E, mb5.0/42, MS4.6/7, Error ellipse: s-maj=5.6km s-min=4.4km az=92.0*
*IDC **27** 18:12:49.8±2.2, 1984N×12140E, h33km±16km, mb4.5/27, mb1 4.6/28, mb1mx4.6/31, mbtmp4.7/28, ML4.7/1, MS4.4/29, Ms1 4.4/29, ms1mx4.3/37, Error ellipse: s-maj=14.5km s-min=9.2km az=73.0*
ISC 27 18:12:50.8±0.2, 1994N±002×12135E±002, h39km, h39km±1.5km:pP-P, n286, σ1≤13/301, mb4.8/90, MS4.5/57, 25C-21D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CVP	**Callao Caves**	**2.27**	**169**	⇑*e*P		**Pn**	**18 13 25.0**	**-0.7**
CVP				*e*S		**Sn**	**18 13 54.0**	**+1.6**
PALP	**Palanan**	**3.03**	**160**	⇓*e*P		**Pn**	**18 13 37.1**	**+0.8**
PALP				*e*S		**Sn**	**18 14 12.3**	**+0.9**
BCPH	**Baguio City Da**	**3.61**	**192**	⇓*i*P		**Pn**	**18 13 44.4**	**+0.2**
BCPH				*i* S		**Sn**	**18 14 28.2**	**+2.6**
NACB	**Ninganchiao**	**4.22**	**3**	*e*Pn		**Pn**	**18 13 52.6**	**0.0**
NACB				Sn		**Sn**	**18 14 40.0**	**-0.7**
HATJ	**Hateruma jima**	**4.69**	**29**	P		**Pn**	**18 13 58.9**	**-0.2**
HATJ				*e*S		**Sn**	**18 14 52.5**	**+0.3**
YHNB	**Yeheng**	**4.71**	**0**	*e*Pn		**Pn**	**18 14 01.2**	**+1.9**
YOJ	**Yonaguni jima**	**4.76**	**19**	P		**Pn**	**18 14 00.4**	**+0.4**
YOJ				*e*S		**Sn**	**18 14 52.9**	**-1.0**
IRIF	**Iriomote-Funau**	**4.90**	**26**	P		**Pn**	**18 14 02.1**	**+0.1**
IRIF				*e*S		**Sn**	**18 14 57.0**	**-0.4**
JKRS	**Kuro-shima**	**4.94**	**29**	P		**Pn**	**18 14 02.9**	**+0.4**
JKRS				*e*S		**Sn**	**18 14 58.4**	**0.0**
TATO	**Taipei**	**5.02**	**1**	*e*P		**Pn**	**18 14 05.6**	**+2.1**
	163nm,0.7s							
JIJ	**Ishigaki jima**	**5.11**	**30**	P		**Pn**	**18 14 04.4**	**-0.4**
JIJ				*e*S		**Sn**	**18 15 01.0**	**-1.6**
QZH	**Quanzhou**	**5.60**	**333**	P		**Pn**	**18 14 09.5**	**-2.0**
QZH				S		**Sn**	**18 15 10.0**	**-4.6**
QZH				Smax				
	comp=N,710nm,1.1s							
QZH				Smax				
	comp=E,680nm,1.0s							
QZH				LR	LR			
	comp=N,5μm,15.7s							
QZH				LR	LR			
	comp=E,5μm,15.7s							
QZH				LR	LR			
	comp=Z,6μm,16.7s							
JTJ	**Tarama**	**5.62**	**33**	P		**Pn**	**18 14 12.4**	**+0.6**
JTJ				*e*S		**Sn**	**18 15 15.1**	**0.0**
LQP	**Lukban**	**5.79**	**178**	⇓*e*P		**Pn**	**18 14 24.0**	**+10**
TGY	**Tagaytay City**	**5.81**	**184**	⇓*e*P		**Pn**	**18 14 26.1**	**+12**
TGY	**Tagaytay City**	**5.81**	**184**	Pn		**Pn**	**18 14 15.6**	**+1.1**
	comp=Z,43nm,0.3s,baz=174,slow=8.3,SNR=3.1							
JMJ	**Miyako jima 2**	**6.07**	**36**	P		**Pn**	**18 14 19.7**	**+1.6**
JMJ				*e*S		**Sn**	**18 15 27.5**	**+1.2**
GQP	**Guinayangan**	**6.09**	**170**	⇓*e*P		**Pn**	**18 14 19.1**	**+0.8**
JOGS	**Gusukube**	**6.09**	**37**	P		**Pn**	**18 14 18.8**	**+0.5**
JOGS				*e*S		**Sn**	**18 15 27.9**	**+1.1**
LUBP	**Lubang**	**6.26**	**190**	*e*P		**Pn**	**18 14 20.5**	**0.0**
GZH	**Guangzhou**	**8.09**	**294**	P		**Pn**	**18 14 42.0**	**-3.7**
GZH				Smax				
	comp=N,190nm,0.9s							
GZH				Smax				
	comp=E,224nm,0.8s							
GZH				LR	LR			
	comp=N,2μm,16.3s							
GZH				LR	LR			
	comp=E,3μm,14.2s							
GZH				LR	LR			
	comp=Z,6μm,15.7s							
JKE	**Kume jima 2**	**8.09**	**37**	P		**Pn**	**18 14 45.8**	**+0.1**
JKE				*e*S		**Sn**	**18 16 15.1**	**-0.8**
JAGN	**Aguni-jima**	**8.55**	**38**	P		**Pn**	**18 14 52.4**	**+0.3**
JAGN				*e*S		**Sn**	**18 16 27.3**	**0.0**
ENPP	**El Nido**	**8.88**	**192**	*e*P		**Pn**	**18 14 55.2**	**-1.2**
JIH	**Iheya**	**9.31**	**39**	P		**Pn**	**18 15 02.3**	**-0.2**
JIH				*e*S		**Sn**	**18 16 44.3**	**-1.7**
JOW	**Kunigami**	**9.36**	**42**	Pn		**Pn**	**18 15 03.0**	**0.0**
	comp=Z,17nm,0.3s,baz=210,slow=13,SNR=60							
JOW				LR	LR		18 18 55.0	
	comp=Z,4μm,20.5s,baz=224,slow=39							
JOW	**Kunigami**	**9.36**	**42**	P		**Pn**	**18 15 02.9**	**-0.2**
JOW				*e*S		**Sn**	**18 16 47.5**	**+0.5**
JTK	**Tokunoshima**	**10.46**	**40**	P		**Pn**	**18 15 17.0**	**-1.2**
QIZ	**Qiongzhong**	**10.89**	**267**	P		**Pn**	**18 15 21.0**	**-3.1**
QIZ				AP			18 15 27.5	
QIZ				S		**Sn**	**18 17 19.3**	**-5.3**
QIZ				XS			18 17 34.8	
QIZ				LR	LR			
	comp=E,3μm,14.9s							
QIZ				LR	LR			
	comp=Z,4μm,15.3s							
QIZ	**Qiongzhong**	**10.89**	**267**	*e*P		**Pn**	**18 15 21.1**	**-3.0**
	comp=Z,41nm,0.4s							
SSE	**Sheshan**	**11.11**	**359**	P		**Pn**	**18 15 29.8**	**+2.7**
SSE				S		**Sn**	**18 17 35.5**	**+5.4**
SSE				AMB	AMB			
	comp=Z,30nm,0.8s							
SSE				AMB	AMB			
	comp=Z,178nm,3.8s							
SSE				LR	LR			
	comp=N,836nm,25.0s							
SSE				LR	LR			
	comp=E,482nm,25.0s							
SSE				LR	LR			
	comp=Z,1μm,23.7s							
WHN	**Wuhan**	**12.31**	**330**	⇓P		**Pn**	**18 15 48.5**	**+5.0**
JSJ	**Shimokoshiki**	**13.90**	**31**	P		**Pn**	**18 16 15.1**	**+10**
JSU	**Suzuyama**	**14.13**	**34**	P		**Pn**	**18 16 17.3**	**+8.9**
KKM	**Kota Kinabalu**	**14.68**	**201**	P		**Pn**	**18 16 19.6**	**+3.7**
GYA	**Guiyang**	**14.98**	**298**	⇑*i*P		**Pn**	**18 16 18.8**	**-0.9**
GYA				PP			18 16 31.5	
GYA				S		**Sn**	**18 19 05.5**	**+1.2**
GYA				AMB	AMB			
	comp=Z,30nm,1.0s							
GYA				AMB	AMB			
	comp=Z,310nm,5.1s							
GYA				LR	LR			
	comp=N,2μm,16.4s							
GYA				LR	LR			
	comp=E,2μm,16.4s							
GYA				LR	LR			
	comp=Z,3μm,15.3s							
TSM	**Tawau**	**15.91**	**193**	P		**Pn**	**18 16 34.8**	**+2.9**
TIA	**Tai'an**	**16.63**	**348**	*e*P		**Pn**	**18 16 42.5**	**+1.5**
TIA				AMB	AMB			
	comp=Z,42nm,1.0s							
KMI	**Kunming**	**17.95**	**290**	P		**Pn**	**18 16 57.5**	**+0.2**
KMI				AP		pP	18 17 02.0	-5.2
KMI				PP			18 17 13.8	
KMI				PPP			18 17 22.0	
KMI				S		**S**	**18 20 18.0**	**-3.4**
KMI				SS			18 20 40.5	
KMI				SSS			18 20 54.3	
KMI				AMB	AMB			
	comp=Z,19nm,1.6s							
KMI				AMB	AMB			
	comp=Z,212nm,3.8s							
KMI				LR	LR			
	comp=N,1μm,14.1s							
KMI				LR	LR			
	comp=E,2μm,14.7s							
KMI				LR	LR			
	comp=Z,2μm,15.5s							
KKTK	**Khon Kaen**	**17.97**	**262**	P		**Pn**	**18 16 58.0**	**+0.5**
INCN	**Inchon**	**18.08**	**14**	*e*P		**Pn**	**18 16 58.6**	**-0.3**
	comp=Z,32nm,0.8s							
DL2	**Dalian**	**18.91**	**1**	P		**Pn**	**18 17 08.5**	**-0.4**
DL2				S		**S**	**18 20 43.0**	**+2.3**
DL2				AMB	AMB			
	comp=Z,20nm,0.7s							
DL2				AMB	AMB			
	comp=Z,130nm,6.7s							
DL2				LR	LR			
	comp=N,390nm,16.8s							
DL2				LR	LR			
	comp=E,480nm,17.2s							
DL2				LR	LR			
	comp=Z,630nm,17.5s							
CD2	**Chengdu**	**19.26**	**308**	P		**Pn**	**18 17 13.0**	**-0.1**
CD2				PP			18 17 29.5	
CD2				S		**S**	**18 20 44.5**	**-3.4**
CD2				SS			18 21 08.5	
CD2				AMB	AMB			
	comp=Z,30nm,0.9s							
CD2				AMB	AMB			
	comp=Z,350nm,3.7s							
CD2				LR	LR			
	comp=N,1μm,15.0s							
CD2				LR	LR			
	comp=Z,2μm,16.0s							
JWT	**Wachi**	**19.68**	**36**	P		**Pn**	**18 17 19.2**	**+1.0**
CBIJ	**Chichi jima**	**20.38**	**66**	P		**P**	**18 17 24.4**	**+0.3**
	comp=Z,69nm,0.7s,baz=291,slow=18,SNR=3.9							
CBIJ				LR	LR		18 23 53.2	
	comp=Z,945nm,19.7s,MS4.2,baz=254,slow=33							
BJT	**Baijiatuau**	**20.50**	**349**	*e*P		**P**	**18 17 26.5**	**+1.0**
BJT				pmax	pmax			
	comp=Z,163nm,1.0s							
BJT	**Baijiatuau**	**20.50**	**349**	*e*P		**P**	**18 17 26.5**	**+1.0**
	comp=Z,163nm,1.0s							
BJI	**Beijing**	**20.52**	**349**	*e*P		**P**	**18 17 26.3**	**+0.6**
BJI				AMB	AMB			
	comp=Z,122nm,1.0s							
BJI				AMB	AMB			
	comp=Z,404nm,3.1s							
BJI				LR	LR			
	comp=N,653nm,16.4s,MS4.2							
BJI				LR	LR			
	comp=E,683nm,15.9s,MS4.2							
BJI				LR	LR			
	comp=Z,700nm,18.9s,MS4.0							
JGF	**Kuroka**	**21.03**	**39**	P		**P**	**18 17 32.8**	**+1.7**
JHJ	**Hachijo jima 2**	**21.04**	**48**	P		**P**	**18 17 32.5**	**+1.2**
	comp=Z,105nm,0.8s,mb5.2,baz=53,slow=20,SNR=3.9							
JHJ				LR	LR		18 24 27.6	
	comp=Z,954nm,21.0s,MS4.2,baz=252,slow=33							
JNY	**Yasuok**	**21.16**	**40**	P		**P**	**18 17 34.5**	**+1.9**
CHG	**Chiang Mai**	**21.17**	**271**	⇓P		**P**	**18 17 33.0**	**+0.4**
	comp=Z,42nm,1.2s,mb4.7							
CHTO	**Chiang Mai**	**21.17**	**271**	P		**P**	**18 17 33.4**	**+0.7**
	SNR=11							
CHTO	**Chiang Mai**	**21.17**	**271**	*e*P		**P**	**18 17 32.9**	**+0.3**
CHTO				pmax	pmax			
	comp=Z,81nm,1.5s,mb4.8							
CHTO	**Chiang Mai**	**21.17**	**271**	*e*P		**P**	**18 17 32.9**	**+0.3**
	comp=Z,81nm,1.5s,mb4.8							
SHZ3	**Shizuoka 3**	**21.18**	**41**	P		**P**	**18 17 34.7**	**+1.9**
KSM	**Kuching**	**21.29**	**212**	*e*P		**P**	**18 17 31.8**	**-2.2**
JIZS	**Izushimoda**	**21.38**	**43**	P		**P**	**18 17 36.2**	**+1.2**
SNY	**Shenyang**	**21.91**	**4**	⇑P		**P**	**18 17 38.5**	**-2.1**
SNY				AP			18 17 48.5	
SNY				XP		sP	18 17 52.0	-3.4
SNY				S		**S**	**18 21 37.5**	**-2.8**
SNY				AMB	AMB			
	comp=Z,32nm,1.1s,mb4.7							
SNY				AMB	AMB			
	comp=Z,172nm,12.0s							
SNY				LR	LR			
	comp=N,798nm,15.9s,MS4.3							
SNY				LR	LR			
	comp=E,290nm,12.6s,MS4.3							
SNY				LR	LR			
	comp=Z,795nm,16.9s,MS4.2							
NNT	**Nongplab**	**21.98**	**254**	P		**P**	**18 17 42.6**	**+1.2**
MAJO	**Matsushiro**	**22.18**	**38**	*e*P		**P**	**18 17 43.3**	**-0.1**
MAJO				pmax	pmax			
	comp=Z,29nm,0.9s,mb4.7							
MAJO	**Matsushiro**	**22.18**	**38**	*e*P		**P**	**18 17 43.3**	**-0.1**
	comp=Z,29nm,0.9s,mb4.7							
MAT	**Matsushiro**	**22.18**	**38**	P		**P**	**18 17 44.3**	**+0.9**
MAT				S		**S**	**18 21 54.0**	**+8.5**
MAT	**Matsushiro**	**22.18**	**38**	*e*P		**P**	**18 17 44.0**	**+0.6**
MAT				pmax	pmax			
	comp=Z,25nm,1.0s,mb4.6							
MAT				MLR	MLR			
	comp=Z,350nm,20.0s,MS3.8							
MAT	**Matsushiro**	**22.18**	**38**	*e*P		**P**	**18 17 44.0**	**+0.6**
	comp=Z,25nm,1.0s,mb4.6							
MAT				*e*S		**S**	**18 21 54.0**	**+8.5**
MAT				LR	LR			
	comp=Z,350nm,20.0s,MS3.8							
MJAR	**Matsushiro Arr**	**22.18**	**38**	P		**P**	**18 17 43.0**	**-0.5**
	comp=Z,23nm,0.9s,mb4.6,baz=228,slow=7.9,SNR=58							
MJAR				ScP		ScP	18 25 14.4	+0.9
	comp=Z,1.4nm,0.8s,baz=204,slow=2.7,SNR=4.2							
MJAR				LR	LR		18 25 43.2	
	comp=Z,487nm,21.1s,MS3.9,baz=245,slow=35							
LZH	**Lanzhou**	**22.25**	**320**	*e*P		**P**	**18 17 46.0**	**+1.8**
LZH				AP			18 17 52.0	
LZH				XP		sP	18 17 55.5	-3.6
LZH				PP			18 18 11.0	
LZH				*e*S		**S**	**18 21 48.0**	**+1.0**
LZH				AMB	AMB			
	comp=Z,56nm,1.5s,mb4.8							
LZH				AMB	AMB			
	comp=Z,168nm,4.0s							
LZH				LR	LR			
	comp=E,2μm,14.4s							
LZH				LR	LR			
	comp=Z,2μm,15.8s,MS4.6							
HHC	**Hu-ho-hao-te**	**22.46**	**340**	*e*P		**P**	**18 17 47.3**	**+0.9**
HHC				PP			18 18 17.3	
HHC				S		**S**	**18 21 48.3**	**-2.7**
HHC				PCS		PcS	18 25 19.3	+0.7
HHC				AMB	AMB			
	comp=Z,41nm,1.3s,mb4.7							
HHC				AMB	AMB			
	comp=Z,240nm,4.5s							
HHC				LR	LR			
	comp=N,1μm,17.3s,MS4.5							
HHC				LR	LR			
	comp=E,575nm,15.5s,MS4.5							
HHC				LR	LR			
	comp=Z,1μm,17.8s,MS4.5							
BTO	**Baotou**	**22.77**	**337**	*e*P		**P**	**18 17 48.5**	**-1.2**
GUMO	**Guam**	**23.37**	**102**	P		**P**	**18 17 55.5**	**-0.6**
	comp=Z,80nm,1.0s,mb5.1,baz=218,slow=7.0,SNR=6.2							
GUMO				LR	LR		18 26 50.9	
	comp=Z,875nm,18.9s,MS4.2,baz=277,slow=36							
CN2	**Changchun**	**24.04**	**7**	⇑P		**P**	**18 18 00.5**	**-1.7**
CN2				*e*S		**S**	**18 22 16.0**	**-0.8**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.2							
CN2				AMB	AMB			
	comp=Z,100nm,5.0s							
CN2				LR	LR			
	comp=N,1μm,17.0s,MS4.5							
CN2				LR	LR			
	comp=E,800nm,17.0s,MS4.5							
CN2				LR	LR			
	comp=Z,1μm,19.0s,MS4.5							
KULM	**Kulim**	**24.85**	**237**	*e*P		**P**	**18 18 07.8**	**-1.7**
KGM	**Kluang**	**25.05**	**227**	P		**P**	**18 18 11.8**	**+0.4**
IPM	**Ipoh**	**25.06**	**235**	P		**P**	**18 18 08.2**	**-3.3**
MDJ	**Mudanjiang**	**25.55**	**14**	P		**P**	**18 18 15.5**	**-0.4**
MDJ				S		**S**	**18 22 45.0**	**+4.1**
MDJ				PCS		PcS	18 25 26.0	-1.0
MDJ				AMB	AMB			
	comp=Z,36nm,1.1s,mb4.8							
MDJ		

GTA SCS ScS 18 29 16.3 -0.9
GTA AMB AMB
comp=Z,2.0nm,1.2s,mb3.5
GTA AMB AMB
comp=Z,94nm,6.1s
GTA LR LR
comp=N,682nm,16.4s,MS4.4
GTA LR LR
comp=E,582nm,15.2s,MS4.4
GTA LR LR
comp=Z,623nm,16.8s,MS4.2
PSI Prapat 27.74 235 P **P 18 18 36.6 +1.0**
comp=Z,4.1nm,0.4s,mb4.5,baz=183,slow=1.4,SNR=5.6
PSI ScP ScP 18 25 29.9 +0.8
comp=Z,2.2nm,0.3s,baz=122,slow=0.9,SNR=6.9
PSI LR LR 18 29 53.0
comp=Z,676nm,18.5s,MS4.3,baz=233,slow=37
PSI Prapat 27.74 235 P **P 18 18 36.6 +1.0**
PSI ScP ScP 18 25 29.9 +0.8
PSI LR LR 18 29 53.0
HIA Hailar 29.29 358 *e*P **P 18 18 48.5 -0.9**
HIA pmax pmax
comp=Z,14nm,0.9s
HIA Hailar 29.29 358 *e*P **P 18 18 48.5 -0.9**
comp=Z,14nm,0.9s,mb4.7
ASAJ Asahikawa 29.92 32 P **P 18 18 55.5 +0.5**
comp=Z,7.5nm,0.5s,mb4.7,baz=244,slow=17,SNR=12
ASAJ LR LR 18 31 37.7
comp=Z,638nm,21.1s,MS4.2,baz=68,slow=38
ASAJ Asahikawa 29.92 32 P **P 18 18 55.5 +0.5**
ASAJ pmax pmax
comp=Z,8.0nm,0.5s
ASAJ MLR MLR
comp=Z,638nm,21.2s
ULN Ulaanbaatar 30.18 341 P **P 18 18 58.6 +1.3**
SNR=15
ULN Ulaanbaatar 30.18 341 *c i*P **P 18 18 58.1 +0.8**
ULN Ulaanbaatar 30.18 341 *e*P **P 18 18 58.0 +0.7**
comp=Z,26nm,1.1s,mb4.9
SONM Songino Array 30.36 340 P **P 18 18 59.7 +0.8**
comp=Z,12nm,0.9s,mb4.6,baz=158,slow=8.9,SNR=34
SONM PcP PcP 18 21 58.9 +0.7
comp=Z,1.3nm,0.9s,baz=113,slow=3.3,SNR=4.4
SONM LR LR 18 32 41.9
comp=Z,1μm,18.1s,MS4.5,baz=154,slow=39
SONM Songino Array 30.36 340 P **P 18 18 59.7 +0.8**
SONM 18 21 58.9
KLR Kul'dur 30.39 14 *e*P **P 18 18 55.3 -3.9**
KLR *e* pP 18 19 06.2 -3.8
KLR *e* 18 25 34.5
KLR pmax pmax
comp=E,40nm,1.8s
KLR pmax pmax
comp=Z,85nm,1.8s,mb5.2
KLR MLR MLR
comp=E,500nm,14.0s
KLR MLR MLR
comp=Z,1μm,14.0s,MS4.6
HABR Khabarovsk 30.54 18 *e*P **P 18 18 58.8 -1.7**
HABR *e*S **S 18 23 59.1 -0.4**
YUK Yuzh-Kuril'sk 31.55 35 *e*P **P 18 19 09.5 +0.1**
YUK pmax pmax
comp=Z,2μm,1.2s
YSS Yuzh-Sakhalins 32.12 28⇑ *e*P **P 18 19 14.1 -0.3**
YSS *e**SP sP 18 19 21.0 -8.8
YSS *e*S **S 18 24 22.0 -2.1**
YSS pmax pmax
comp=N,40nm,1.2s
YSS pmax pmax
comp=Z,90nm,1.2s,mb5.5
YSS MLR MLR
comp=Z,300nm,17.0s,MS4.0
YSS Yuzh-Sakhalins 32.12 28 *e*P **P 18 19 14.0 -0.3**
comp=Z,73nm,1.1s,mb5.4
CIT Chita 32.60 351 *e*P **P 18 19 17.4 -1.2**
CIT *e* pP 18 19 29.4 0.0
CIT *e* 18 22 00.7
CIT pmax pmax
comp=Z,47nm,2.0s,mb5.1
GUN Gumba 33.29 291 *e*P **P 18 19 25.6 +1.0**
comp=Z,53nm,1.0s,mb5.5
ZAK Zakamensk 33.59 339 *e*P **P 18 19 27.0 -0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
KKN Kakani 33.81 290 *e*P **P 18 19 29.4 +0.3**
comp=Z,27nm,1.1s,mb5.1
KKN Kakani 33.81 290 *e*P **P 18 19 29.4 +0.3**
KKN pmax pmax
comp=Z,27nm,1.1s,mb5.1
DMN Daman 33.94 290 *e*P **P 18 19 30.7 +0.4**
comp=Z,36nm,1.1s,mb5.2
GKN Gorkha 34.39 291 *e*P **P 18 19 34.0 -0.2**
comp=Z,30nm,1.2s,mb5.1
TLY Talaya 34.59 341 P **P 18 19 36.7 +0.8**
comp=Z,74nm,0.8s,mb5.7,SNR=5.5
TLY Talaya 34.59 341 P **P 18 19 36.9 +1.0**
SNR=8.9
TLY Talaya 34.59 341 *c i*P **P 18 19 36.4 +0.5**
TLY pmax pmax
comp=Z,11nm,1.7s,mb4.5
TLY Talaya 34.59 341 *e*P **P 18 19 36.5 +0.6**
comp=Z,13nm,1.1s,mb4.8
IRK Irkutsk 34.89 342 *e*P **P 18 19 39.1 +0.6**
IRK *e* pP 18 19 50.2 +0.9
IRK pmax pmax
comp=Z,26nm,1.3s,mb5.0
KOLN Koldanda 35.29 290 *e*P **P 18 19 42.7 +0.8**
comp=Z,15nm,0.7s,mb5.0
MOY Mondy 35.46 338 *e*P **P 18 19 44.7 +1.3**
MOY pmax pmax
comp=Z,31nm,2.1s,mb4.9
WMQ Urumqi 36.80 318 P **P 18 19 59.5 +4.6**
WMQ AP pP 18 20 03.8 -2.0
WMQ XP sP 18 20 06.5 -3.9
WMQ PCP PcP 18 22 20.8 +4.5
WMQ S **S 18 25 44.0 +7.7**
WMQ AMB AMB
comp=Z,9.0nm,1.2s,mb4.5
WMQ AMB AMB
comp=Z,248nm,4.5s
WMQ LR LR
comp=N,787nm,15.6s,MS4.7
WMQ LR LR
comp=E,738nm,18.0s,MS4.7
WMQ LR LR
comp=Z,634nm,15.6s,MS4.5
CLNS Chul'man 36.94 3 *e*P **P 18 19 53.9 -2.2**
CLNS pmax pmax
comp=Z,11nm,0.9s,mb4.7
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS MLR MLR
comp=N,300nm,12.0s,MS4.4
CLNS MLR MLR
comp=Z,300nm,12.0s,MS4.3
CLNS MLR MLR
comp=E,200nm,13.0s,MS4.4
FITZ Fitzroy Crossi 38.03 173 *e*P **P 18 20 03.1 -2.2**
comp=E,5.4nm,0.9s,mb4.3
FITZ Fitzroy Crossi 38.03 173 P **P 18 20 03.3 -2.0**
comp=E,4.0nm,0.9s,mb4.1,baz=292,slow=3.2,SNR=8.2
FITZ PcP PcP 18 22 20.3 +0.2
comp=E,2.3nm,0.8s,baz=215,slow=6.1,SNR=3.3
BOD Bodaibo 38.22 354 *e*P **P 18 20 05.8 -1.0**
BOD pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
PMG Port Moresby 38.68 137 LR LR 18 33 04.9
comp=Z,239nm,21.5s,MS4.0,baz=132,slow=32
MKAR Makanchi Array 41.56 319 P **P 18 20 36.0 +1.4**
comp=Z,8.2nm,0.8s,mb4.4,baz=104,slow=10,SNR=49
MKAR PcP PcP 18 22 31.1 -0.3
comp=Z,3.0nm,0.8s,baz=95,slow=6.1,SNR=3.6
WRAB Tennant Creek 41.62 161 P **P 18 20 32.0 -3.1**
comp=Z,80nm,0.5s,mb5.6,SNR=17
WRAB Tennant Creek 41.62 161 ⇓ *i*P **P 18 20 32.9 -2.2**
WRAB Tennant Creek 41.62 161 *e*P **P 18 20 32.3 -2.8**
comp=Z,13nm,0.5s,mb4.8
WRA Warramunga Arr 41.62 161 P **P 18 20 32.3 -2.8**
comp=Z,10nm,0.5s,mb4.7,baz=342,slow=9.0,SNR=92
WRA PcP PcP 18 22 31.6 0.0
comp=Z,4.2nm,0.7s,baz=341,slow=3.5,SNR=8.1
WRA S **S 18 26 41.5 -7.3**
comp=Z,1.5nm,1.1s,baz=336,slow=6.1,SNR=6.0
WB2 Warramunga Arr 41.63 161 *e*P **P 18 20 31.9 -3.3**

YAK Yakutsk 42.46 6 *e*P **P 18 20 40.4 -1.5**
YAK *e**PP pP 18 20 51.5 -1.5
YAK *e* 18 22 17.1
YAK *e* 18 22 33.3
YAK *e*PPP 18 22 52.5
YAK *e*S **S 18 27 01.1 0.0**
YAK *e* 18 30 36.3
YAK *e*SSS 18 30 44.4
YAK pmax pmax
comp=Z,27nm,0.9s,mb4.9
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax
comp=N,4.0nm,1.4s
YAK smax
comp=Z,2.0nm,1.3s
YAK smax
comp=E,4.0nm,2.3s
YAK MLR MLR
comp=Z,210nm,15.0s,MS4.2
YAK MLR MLR
comp=N,228nm,20.0s,MS4.2
YAK MLR MLR
comp=E,116nm,16.0s,MS4.2
YAK Yakutsk 42.46 6 *e*P **P 18 20 40.3 -1.6**
comp=E,47nm,0.8s,mb5.2
PET Petropavlovsk 43.77 32α *i*P **P 18 20 52.4 -0.1**
PET pmax pmax
comp=Z,400nm,2.3s,mb5.7
PET pmax pmax
comp=Z,82nm,1.1s,mb5.4
PET pmax pmax
comp=Z,100nm,4.9s
PET MLR MLR
comp=Z,300nm,19.0s,MS4.2
PET MLR MLR
comp=Z,400nm,22.0s
PET Petropavlovsk 43.77 32 *e*P **P 18 20 52.2 -0.3**
comp=Z,121nm,1.4s,mb5.4
ZAL Zalesovo 43.93 329 P **P 18 20 54.3 +0.5**
comp=Z,3.8nm,0.8s,mb4.2,baz=357,slow=7.2,SNR=21
ZAL LR LR 18 41 00.9
comp=Z,554nm,21.6s,MS4.4,baz=339,slow=38
MA2 Magadan 44.86 21 *e*P **P 18 20 59.2 -2.0**
MA2 *e*S **S 18 27 35.5 -0.7**
MA2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
MA2 MLR MLR
comp=Z,600nm,17.4s,MS4.6
AS31 Alice Springs 45.03 164 *e*P **P 18 21 00.3 -2.3**
ASPA Alice Springs 45.03 164 *e*P **P 18 21 00.3 -2.3**
ASAR Alice Springs 45.03 164 P **P 18 21 00.8 -1.8**
comp=Z,7.6nm,0.7s,mb4.6,baz=341,slow=6.8,SNR=142
ASAR PcP PcP 18 22 41.9 -1.2
comp=Z,2.7nm,0.8s,baz=352,slow=3.4,SNR=2.8
ASAR S **S 18 27 37.9 -0.8**
comp=Z,2.7nm,1.0s,baz=352,slow=22,SNR=10
ASAR LR LR 18 38 29.1
comp=Z,177nm,21.8s,MS4.0,baz=357,slow=34
ASAR Alice Springs 45.03 164 P **P 18 21 00.9 -1.7**
ASAR 18 22 41.9
ASAR S **S 18 27 37.9 -0.8**
NVS Novosibirsk 45.20 330 *e*P **P 18 21 03.9 0.0**
NVS pmax pmax
comp=N,20nm,1.6s
NVS pmax pmax
comp=Z,25nm,1.6s,mb4.8
NVS pmax pmax
comp=E,13nm,1.0s
AAK Ala-Archa 45.29 311 ⇓ *i*P **P 18 21 03.1 -1.6**
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
AAK MLR MLR
comp=Z,1μm,19.0s,MS4.8
KURK Kurchatov 45.49 323 P **P 18 21 07.7 +1.4**
comp=Z,143nm,1.3s,mb5.6,SNR=8.4
CTA Charters Tower 46.66 147 *e*P **P 18 21 16.7 +1.2**
comp=Z,9.6nm,0.9s,mb4.7
CTA *e* 18 22 46.7
CTA Charters Tower 46.66 147 P **P 18 21 16.1 +0.7**
comp=Z,9.6nm,0.9s,mb4.7,baz=314,slow=8.4,SNR=11
CTA PcP PcP 18 22 49.8 +1.0
comp=Z,11nm,1.0s,baz=332,slow=4.8,SNR=5.5
CTA Charters Tower 46.66 147 *e*P **P 18 21 16.7 +1.2**
CTA *e* 18 22 46.7
CTA pmax pmax
comp=Z,10.0nm,0.9s
FORT Forrest 50.83 173 *e*P **P 18 21 45.8 -1.7**
comp=Z,26nm,0.7s,mb5.3
BVAR Borovoye Array 51.09 323 P **P 18 21 50.1 +0.7**
comp=Z,5.6nm,0.9s,mb4.5,baz=113,slow=11,SNR=15
BVAR PcP PcP 18 23 04.0 -0.8
comp=Z,6.6nm,0.8s,baz=134,slow=4.3,SNR=9.4
BVAR LR LR 18 44 54.0
comp=Z,258nm,19.6s,MS4.3,baz=321,slow=38
BVAR Borovoye Array 51.09 323 P **P 18 21 50.1 +0.7**
BVAR 18 23 04.0
TIXI Tiksi 51.91 3*d i*P **P 18 21 54.6 -0.9**
TIXI pmax pmax
comp=Z,23nm,1.0s,mb5.1
TIXI MLR MLR
comp=Z,500nm,19.0s,MS4.6
NWAO Narrogin (SRO) 52.71 184 P **P 18 22 01.1 -0.4**
comp=Z,15nm,1.0s,mb4.9,baz=0.0,slow=6.1,SNR=3.8
STKA Stephens Creek 55.05 159 *e*P **P 18 22 15.8 -2.8**
comp=Z,4.0nm,0.6s,mb4.6
STKA Stephens Creek 55.05 159 P **P 18 22 16.9 -1.7**
comp=Z,4.1nm,0.6s,mb4.6,baz=14,slow=6.0,SNR=7.4
STKA LR LR 18 45 48.4
comp=Z,267nm,18.7s,MS4.3,baz=209,slow=36
ABKT Ailbek 57.14 303 P **P 18 22 35.2 +1.7**
comp=Z,73nm,1.1s,mb5.6,SNR=5.8
SVE Sverdlovsk 57.58 325 *e*P **P 18 22 36.0 -0.6**
SVE *e* pP 18 22 47.0 -1.0
SVE pmax pmax
comp=Z,24nm,1.7s,mb5.0
SVE MLR MLR
comp=E,300nm,14.0s
SVE MLR MLR
comp=Z,400nm,14.0s,MS4.7
AKTO Aktyubinsk 57.95 318 LR LR 18 49 11.2
comp=Z,196nm,19.9s,MS4.2,baz=202,slow=38
ARU Arti 58.61 325 *e*P **P 18 22 43.6 -0.2**
ARU *e* pP 18 22 55.1 -0.2
ARU *e*S **S 18 30 47.9 +2.6**
ARU MLR MLR
comp=N,90nm,17.0s,MS4.6
ARU MLR MLR
comp=E,400nm,17.0s,MS4.6
ARU MLR MLR
comp=Z,500nm,17.0s,MS4.7
ARU Arti 58.61 325 *e*P **P 18 22 43.7 -0.1**
comp=Z,66nm,1.5s,mb5.4
DZM Mont Dzumac 60.70 131 LR LR 18 46 47.4
comp=Z,369nm,18.8s,MS4.5,baz=26,slow=34
TOO Toolangi 61.55 158 *e*P **P 18 23 03.9 -0.1**
comp=Z,16nm,0.7s,mb5.2
TOO Toolangi 61.55 158 *e*P **P 18 23 03.9 -0.1**
TOO pmax pmax
comp=Z,16nm,0.7s,mb5.3
GNI Garni 67.38 306⇑ *e*P **P 18 23 42.6 +0.6**
GNI pmax pmax
comp=Z,23nm,1.4s
ZEI Tsey 67.68 309 *e*P **P 18 23 43.1 -0.8**
ZEI pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
KIV Kislovodsk 68.41 310 P **P 18 23 49.9 +1.4**
SNR=12
KIV Kislovodsk 68.41 310 *e*P **P 18 23 48.0 -0.5**
KIV *e*S S 18 32 47.6 +0.4
KIV *e*SS SS 18 37 12.1 +0.9
KIV pmax pmax
comp=Z,22nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,347nm,19.0s,MS4.6
KIV Kislovodsk 68.41 310 *e*P **P 18 23 49.8 +1.3**
comp=Z,34nm,1.0s,mb5.3
SVW2 Sparrevohn 69.43 31 *e*P **P 18 23 55.2 +0.4**

MOS Moscow 70.26 323 *e*P **P 18 24 09.0 +9.0**
MOS pmax pmax
comp=Z,200nm,2.0s,mb5.7
MOS pmax pmax
comp=Z,73nm,1.6s,mb5.4
MOS MLR MLR
comp=Z,1μm,20.5s,MS5.0
SOC Sochi 70.59 310 *e*P **P 18 23 59.5 -2.5**
SOC *e**PP pP 18 24 10.9 -2.8
SOC *e*S S 18 33 09.2 -3.7
SOC *e**SS sS 18 33 38.2 +5.9
SOC *e* 18 34 05.2
SOC pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
SOC MLR MLR
comp=Z,317nm,18.0s,MS4.6
OBN Obninsk 70.94 323 ⇓ *i*P **P 18 24 03.7 -0.4**
OBN *i* pP 18 24 14.4 -1.4
OBN pmax pmax
comp=Z,31nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,100nm,13.0s,MS4.3
APA Apatity 70.98 336⇑ *i*P **P 18 24 04.0 -0.3**
APA pmax pmax
comp=Z,26nm,1.0s,mb5.1
KDAK Kodiak Island 71.29 34 P **P 18 24 05.2 -1.0**
comp=Z,14nm,0.8s,mb5.0,baz=88,slow=23,SNR=9.8
KDAK Kodiak Island 71.29 34 *e*P **P 18 24 05.0 -1.2**
comp=Z,112nm,1.6s,mb5.5
ANN Anapa 72.00 312 *e*P **P 18 24 09.8 -0.7**
ANN *e**PP pP 18 24 20.5 -1.7
ANN *e*S S 18 33 30.4 +1.2
ANN pmax pmax
comp=Z,29nm,1.0s,mb5.2
ANN MLR MLR
comp=Z,346nm,18.0s,MS4.7
MCK McKinley 72.20 28 *e*P **P 18 24 11.5 -0.2**
MCK pmax pmax
comp=Z,13nm,1.1s,mb4.8
MCK McKinley 72.20 28 *e*P **P 18 24 11.5 -0.2**
comp=Z,13nm,1.1s,mb4.8
PMR Palmer 72.46 30 P **P 18 24 11.5 -1.7**
PMR pmax pmax
comp=Z,10.0nm,0.4s,mb5.1
PMR Palmer 72.46 30 P **P 18 24 11.5 -1.7**
comp=Z,9.8nm,0.4s,mb5.1
JOF Joensuu 72.48 331 *e*p **P 18 24 12.3 -1.1**
comp=Z,16nm,0.8s,mb5.0
COLA College 72.49 27⇑ *i*P **P 18 24 12.5 -0.9**
MALT Malatya 72.52 305 *e*P **P 18 24 15.3 +1.7**
MALT pmax pmax
comp=Z,20nm,1.1s,mb5.0
MALT Malatya 72.52 305 *e*P **P 18 24 15.3 +1.7**
comp=Z,20nm,1.1s,mb5.0
SML Sawmill 72.79 30 *e*P **P 18 24 14.0 -1.2**
KEV Kevo 72.97 339 *e*p **P 18 24 14.7 -1.6**
comp=Z,5.8nm,0.7s,mb4.6
KEV Kevo 72.97 339 *e*P **P 18 24 14.7 -1.6**
KEV pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ARCES ARCESS Array B 73.53 339 P **P 18 24 19.6 0.0**
comp=Z,8.0nm,0.8s,mb4.7,baz=69,slow=7.9,SNR=12
SPB4 Spitsbergen Ar 73.65 348 *e*P **P 18 24 20.1 -0.2**
KBS Kingsbay 74.21 349 *d i*P **P 18 24 23.8 +0.2**
SIM Simferopol' 74.28 313 P **P 18 24 24.9 +0.9**
SIM pmax pmax
comp=Z,17nm,0.8s,mb5.0
BOYT Boyabat 74.50 309 *i*P **P 18 24 25.8 +0.6**
KAF Kangasniemi 74.92 331 *e*p **P 18 24 26.2 -1.5**
comp=Z,15nm,0.9s,mb4.9,baz=73,slow=5.4
KAF Kangasniemi 74.92 331 *e*P **P 18 24 26.2 -1.5**
KAF pmax pmax
comp=Z,15nm,0.9s,mb4.9
FIA1 FINESS Array S 75.18 330 *e*P **P 18 24 28.8 -0.4**
FINES FINESS Array B 75.19 330 P **P 18 24 29.3 +0.1**
comp=Z,7.8nm,0.8s,mb4.7,baz=95,slow=9.6,SNR=24
FINES LR LR 19 01 38.2
comp=Z,252nm,18.6s,MS4.5,baz=258,slow=39
FINES FINESS Array B 75.19 330 *i*P **P 18 24 29.2 0.0**
FINES pmax pmax
comp=Z,8.0nm,0.8s
BALT Daday 75.58 309 *i*P **P 18 24 31.4 -0.1**
VSU Vasula 75.61 327 *c i*P **P 18 24 31.5 -0.1**
BRTR Keskin Array B 75.83 307 P **P 18 24 33.5 +0.5**
comp=Z,0.5nm,0.7s,mb3.5,baz=81,slow=3.1,SNR=4.4
BRTR LR LR 19 03 44.3
comp=Z,80nm,20.1s,MS4.0,baz=258,slow=40
AKASG Malin Array Be 76.15 319 P **P 18 24 34.3 -0.4**
comp=Z,4.0nm,0.9s,mb4.4,baz=61,slow=5.7,SNR=21
AKASG Malin Array Be 76.15 319 *i*P **P 18 24 34.2 -0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKBB Malin Array Si 76.15 319 *e*P **P 18 24 34.1 -0.6**
DAWY Dawson 76.24 27 *e*P **P 18 24 34.5 -0.8**
INK Inuvik 77.09 22 P **P 18 24 38.7 -1.3**
comp=Z,6.4nm,0.8s,mb4.6,baz=295,slow=9.0,SNR=8.5
INK Inuvik 77.09 22 *e*P **P 18 24 37.5 -2.6**
INK pmax pmax
comp=Z,15nm,1.1s
INK Inuvik 77.09 22 *e*P **P 18 24 37.5 -2.5**
comp=Z,15nm,1.1s,mb4.8
KIS Kishinev 77.37 316 *e*P **P 18 24 34.0 -7.6**
KIS MLR MLR
comp=Z,3μm,17.0s,MS5.7
KIS MLR MLR
comp=Z,500nm,16.0s
RPZ Rata Peaks 78.01 146 LR LR 18 59 21.4
comp=Z,251nm,20.3s,MS4.5,baz=60,slow=36
URZ Urewera 78.01 138 LR LR 18 55 08.6
comp=Z,195nm,20.4s,MS4.4,baz=200,slow=33
TIRR Tirgusor 78.34 313 *e*P **P 18 24 47.3 +0.3**
ISP Isparta 78.69 306⇑ *i*P **P 18 24 48.9 0.0**
SUW Suwalki 78.77 323 *e*P **P 18 24 49.3 -0.1**
SUW *e* pP 18 25 02.0 +0.8
MLR Muntele Rosu 79.71 315 LR LR 19 06 22.6
comp=Z,247nm,18.3s,MS4.6,baz=61,slow=40
KWP Kalwaria 80.47 319 *e*P **P 18 24 59.5 +0.9**
KWP *e* pP 18 25 12.2 +1.7
DAG Danmarks Havn 80.57 351⇑ *i*P **P 18 24 58.2 -0.9**
comp=Z,19nm,0.8s,mb5.1
DAG Danmarks Havn 80.57 351⇑ *i*P **P 18 24 58.2 -0.9**
DAG pmax pmax
comp=Z,19nm,0.8s,mb5.1
KOLS Kolonicke sedl 80.97 319 *e*P **P 18 25 02.2 +0.9**
CRVS Cervenica-Dubn 81.48 319 *e*P **P 18 25 04.0 0.0**
CRVS *e*sP sP 18 25 17.4 -2.9
CRVS Cervenica-Dubn 81.48 319 *e*P **P 18 25 04.1 +0.1**
CRVS *e* pP 18 25 17.4 +1.5
NIE Niedzica 82.01 320 *e*P **P 18 25 07.8 +1.0**
NIE *e* pP 18 25 18.1 -0.6
NIE Niedzica 82.01 320 *e*P **P 18 25 07.1 +1.0**
NIE *e* pP 18 25 18.1 -0.6
OJC Ojcow 82.03 321 *e*P **P 18 25 07.0 +0.1**
NB2 NORSAR Subarra 82.04 333 P **P 18 25 05.6 -1.3**
comp=Z,12nm,1.2s,mb4.7,baz=62,slow=5.1
NOA NORSAR Array B 82.04 333 P **P 18 25 05.8 -1.1**
comp=Z,4.6nm,0.8s,mb4.5,baz=62,slow=5.2,SNR=15
NOA LR LR 19 05 26.6
comp=Z,857nm,18.4s,MS5.1,baz=55,slow=38
DLBC Dease Lake 82.52 30 P **P 18 25 09.8 +0.4**
comp=Z,7.7nm,1.0s,mb4.7,baz=289,slow=11,SNR=5.0
DLBC Dease Lake 82.52 30 P **P 18 25 09.8 +0.4**
OKC Ostrava-Krasne 83.16 321 *e*P **P 18 25 12.0 -0.7**
OKC *e*pP pP 18 25 23.6 -1.1
OKC AMS AMS 19 05 30.0
comp=Z,200nm,12.6s
OKC Ostrava-Krasne 83.16 321 *e*P **P 18 25 12.0 -0.7**
OKC *e*pP pP 18 25 23.6 -1.1
VYHS Vyhne 83.25 319 *e*P **P 18 25 13.5 +0.3**
VYHS *e* pP 18 25 24.4 -0.8
VYHS pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
VYHS Vyhne 83.25 319 *e*P **P 18 25 13.5 +0.3**
comp=Z,10nm,1.4s,mb4.7
VYHS *e* pP 18 25 24.4 -0.8
KONO Kongsberg 83.40 332⇑ *i*P **P 18 25 13.9 -0.1**
MORC Moravsky Berou 83.54 321 *e*P **P 18 25 14.5 -0.2**
MORC pmax pmax
comp=Z,10.0nm,1.6s,mb4.7
MORC Moravsky Berou 83.54 321 *e*P **P 18 25 14.4 -0.3**
comp=Z,9.6nm,1.6s,mb4.7
KSP Ksiaz 83.85 322 *e*P **P 18 25 17.3 +1.0**
KSP *e* pP 18 25 30.0 +1.8
KSP Ksiaz 83.85 322 *e*P **P 18 25 16.6 +0.3**
KSP *e*pP pP 18 25 26.5 -1.7

DPC	**Dobruska-Polom**	**84.03**	**322**	*e*P	**P**	**18 25 17.6**	**+0.4**
DPC				*e*pP	pP	18 25 28.1	-1.1
DPC				AMS	AMS	19 06 30.0	
	comp=Z,300nm,12.3s						
UPC	**Upice**	**84.15**	**322**	*e*P	**P**	**18 25 18.0**	**+0.2**
UPC				*e*pP	pP	18 25 27.2	-2.6
UPC	**Upice**	**84.15**	**322**	*e*P	**P**	**18 25 18.0**	**+0.2**
UPC				*e*pP	pP	18 25 27.2	-2.6
VRAC	**Vranov**	**84.29**	**320**	LR	LR	19 04 59.6	
	comp=Z,114nm,20.4s,MS4.2,baz=67,slow=37						
KMBO	**Kilima Mbogo**	**84.83**	**267**	P	**P**	**18 25 23.2**	**+1.9**
	comp=Z,1.8nm,0.8s,mb4.2,baz=51,slow=2.7,SNR=4.8						
KMBO				LR	LR	19 01 56.6	
	comp=Z,186nm,18.6s,MS4.5,baz=85,slow=35						
KMBO	**Kilima Mbogo**	**84.83**	**267**	*i* P	**P**	**18 25 24.1**	**+2.8**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO	**Kilima Mbogo**	**84.83**	**267**	P	**P**	**18 25 23.2**	**+1.9**
KMBO				LR	LR	19 01 56.6	
TREC	**Trest**	**84.96**	**321**	AMS	AMS	19 05 10.0	
	comp=Z,300nm,21.0s						
PVCC	**Panska Ves**	**84.98**	**322**	*e*P	**P**	**18 25 22.4**	**+0.4**
PVCC				*e*pP	pP	18 25 32.6	-1.4
BRG	**Berggiesshubel**	**85.19**	**323**	*e*P	**P**	**18 25 23.3**	**+0.3**
	comp=Z,4.4nm,1.1s,mb4.5						
BRG				*e*	pP	18 25 36.3	+1.3
	comp=Z,6.7nm,1.1s						
BRG							
	comp=N,102nm,23.8s						
BRG							
	comp=E,208nm,20.6s						
BRG							
	comp=Z,259nm,20.8s						
BRG	**Berggiesshubel**	**85.19**	**323**	*e*P	**P**	**18 25 23.3**	**+0.2**
BRG				*e*	pP	18 25 36.3	+1.3
BRG				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
BRG				MLR	MLR		
	comp=Z,260nm,20.8s,MS4.6						
BRG	**Berggiesshubel**	**85.19**	**323**	*e*P	**P**	**18 25 23.3**	**+0.3**
	comp=Z,4.4nm,1.1s,mb4.5						
BRG				*e*	pP	18 25 36.3	+1.3
BRG				LR	LR		
	comp=Z,260nm,20.8s,MS4.6						
PRU	**Pruhonice**	**85.22**	**322**	*e*P	**P**	**18 25 23.4**	**+0.2**
PRU				*e*pP	pP	18 25 33.9	-1.3
PRU				*e*SKS		18 35 48.6	
PRU				AMS	AMS	19 07 20.0	
	comp=Z,200nm,20.0s						
CLL	**Collm**	**85.53**	**323**	⇓P	**P**	**18 25 24.7**	**-0.1**
	comp=Z,logA/T=1.3,mb5.3						
CLL				*i* *SP	sP	18 25 37.4	-3.7
CLL				*i*		18 25 46.8	
CLL				*e*		18 25 53.0	
CLL	**Collm**	**85.53**	**323**	⇓*i* P	**P**	**18 25 24.7**	**-0.1**
	comp=Z,48nm,2.4s,mb5.3						
CLL				*i* sP	sP	18 25 37.4	-3.7
CLL				*i* x	x	18 25 46.8	
CLL				*ex*	x	18 25 53.0	
CLL				Lm		19 08 00.0	
	comp=Z,500nm,21.0s						
CLL	**Collm**	**85.53**	**323**	⇓*i* P	**P**	**18 25 24.7**	**-0.1**
CLL				*i*	pP	18 25 37.4	+0.7
CLL				pmax	pmax		
	comp=Z,48nm,2.4s,mb5.3						
CLL				MLR	MLR		
	comp=Z,500nm,21.0s,MS4.9						
CLL	**Collm**	**85.53**	**323**	⇓*i* P	**P**	**18 25 24.7**	**-0.1**
	comp=Z,48nm,2.4s,mb5.3						
CLL				*i*	pP	18 25 37.4	+0.7
CLL				*i*		18 25 46.8	
CLL				LR	LR		
	comp=Z,500nm,21.0s,MS4.9						
KHC	**Kasperske Hory**	**86.16**	**321**	*e*P	**P**	**18 25 27.0**	**-0.9**
KHC				*e*pP	pP	18 25 34.7	-5.2
KHC				*e*SKS		18 35 57.1	
KHC				AMS	AMS	19 09 10.0	
	comp=Z,400nm,20.0s						
GERES	**GERESS Array B**	**86.21**	**321**	P	**P**	**18 25 28.4**	**+0.3**
	comp=Z,0.6nm,0.6s,mb4.0,baz=66,slow=6.6,SNR=7.3						
GERES				LR	LR	19 08 33.1	
	comp=Z,190nm,20.1s,MS4.5,baz=62,slow=39						
MOX	**Moxa**	**86.61**	**323**	*e*P	pP	18 25 41.5	-0.6
	comp=Z,14nm,1.7s						
MOX							
	comp=Z,300nm,19.0s						
MOX	**Moxa**	**86.61**	**323**	*e*P	pP	18 25 41.5	-0.6
MOX				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.9						
MOX				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.7						
SUMG	**Summit**	**86.72**	**354**	*e*P	**P**	**18 25 28.6**	**-2.0**
	comp=Z,20nm,1.0s,mb5.3						
YKA	**Yellowknife Ar**	**86.81**	**23**	P	**P**	**18 25 30.2**	**-0.8**
	comp=Z,9.1nm,0.7s,mb5.1,baz=310,slow=4.6,SNR=31						
YKA				LR	LR	19 10 53.6	
	comp=Z,99nm,19.8s,MS4.2,baz=315,slow=40						
GRA1	**Grafenberg Arr**	**87.28**	**322**	*e*P	**P**	**18 25 33.3**	**-0.1**
	comp=Z,10.0nm,1.6s,mb4.8						
GRA1				LR	LR		
	comp=Z,200nm,18.1s,MS4.6						
GRF	**Grafenberg Arr**	**87.28**	**322**	*e*P	**P**	**18 25 33.3**	**-0.1**
	comp=Z,10.0nm,1.6s,mb4.8						
GRF				*e*L		19 10 17.6	
	comp=Z,219nm,18.1s						
GRF	**Grafenberg Arr**	**87.28**	**322**	*e*P	**P**	**18 25 33.3**	**-0.1**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.8						
GRF				MLR	MLR		
	comp=Z,200nm,18.1s,MS4.6						
GRF	**Grafenberg Arr**	**87.28**	**322**	*e*P	**P**	**18 25 33.3**	**-0.1**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.8						
GRF				MLR	MLR		
	comp=Z,200nm,18.1s,MS4.6						
RAR	**Rarotonga**	**87.28**	**114**	LR	LR	19 01 14.8	
	comp=Z,414nm,21.0s,MS4.8,baz=46,slow=33						
MEM	**Membach**	**89.73**	**325**	P	**P**	**18 25 44.9**	**-0.1**
WLF	**Walferdange**	**90.15**	**324**	P	**P**	**18 25 47.3**	**+0.4**
BCLA	**Clavier**	**90.22**	**325**	P	**P**	**18 25 47.3**	**+0.1**
DOU	**Dourbes**	**90.77**	**325**	P	**P**	**18 25 49.8**	**0.0**
J03A	**Ideyld Park**	**93.76**	**41**	⇑P	**P**	**18 26 03.2**	**-0.3**
	baz=94						
YBH	**Yreka Blue Hor**	**94.78**	**42**	⇑P	**P**	**18 26 08.4**	**+0.1**
	baz=95						
N02C	**Big Bar**	**94.87**	**44**	⇑P	**P**	**18 26 09.8**	**+1.1**
	baz=95						
PPT	**Papeete**	**95.00**	**107**	*e*PS	PS	18 38 43.0	+0.7
	comp=Z,143nm,26.8s						
PPT	**Papeete**	**95.00**	**107**	*e*LR	LR	18 56 45.0	
	comp=Z,302nm,25.5s						
PPT	**Papeete**	**95.00**	**107**	LR	LR	19 08 20.9	
	comp=Z,279nm,18.3s,MS4.8,baz=309,slow=35						
J06A	**Christmas Vall**	**95.54**	**40**	⇓P	**P**	**18 26 12.4**	**+0.6**
	baz=95						
WALA	**Waterton Lakes**	**95.59**	**33**	*e*P	**P**	**18 26 13.2**	**+1.2**
	comp=Z,6.6nm,1.1s,mb5.0						
K06A	**Valley Falls**	**95.73**	**41**	⇓P	**P**	**18 26 13.4**	**+0.8**
	baz=96						
L05A	**Lakeview**	**95.79**	**41**	⇑P	**P**	**18 26 14.2**	**+1.3**
	baz=96						
GASB	**Alder Springs**	**95.87**	**44**	⇑P	**P**	**18 26 15.0**	**+1.8**
	baz=96						
J07A	**Hines**	**95.98**	**40**	⇑P	**P**	**18 26 15.4**	**+1.6**
	baz=96						
BMO	**Blue Mountains**	**96.31**	**38**	P	**P**	**18 26 15.3**	**0.0**
	comp=Z,2.0nm,1.0s,mb4.5						
K07A	**Rock Creek Ran**	**96.41**	**40**	⇑P	**P**	**18 26 16.6**	**+0.9**
	baz=96						
MNRC	**McLaughlin Nat**	**96.46**	**45**	⇓P	**P**	**18 26 17.6**	**+1.6**
	baz=96						
J08A	**Circle Bar Ran**	**96.49**	**39**	⇓P	**P**	**18 26 17.1**	**+1.0**
	baz=96						
L07A	**Adell**	**96.73**	**41**	⇓P	**P**	**18 26 18.3**	**+1.1**
	baz=97						
MAW	**Mawson**	**97.16**	**199**	LR	LR	19 09 35.9	
	comp=Z,109nm,18.3s,MS4.4,baz=240,slow=35						
O06A	**Flanigan**	**97.46**	**43**	⇑P	**P**	**18 26 21.0**	**+0.6**
	baz=97						
CMB	**Columbia Colle**	**98.27**	**45**	*e*P	**P**	**18 26 22.7**	**-1.4**
NVAR	**Mina Array Bea**	**99.41**	**43**	P	**P**	**18 26 31.2**	**+2.0**
	comp=Z,1.1nm,0.7s,mb4.5,baz=292,slow=3.1,SNR=9.6						
VNDA	**Vanda**	**100.09**	**172**	LR	LR	19 14 09.2	
	comp=Z,95nm,18.9s,MS4.3,baz=324,slow=37						
TAOE	**Nuku Hiva Isla**	**100.91**	**96**	*e*SS	SS	18 45 02.0	-7.7
	comp=Z,391nm,28.5s						
TAOE				*e*LR	LR	18 59 32.8	
	comp=Z,1μm,23.5s						
PDAR	**Pinedale Array**	**101.98**	**36**	PP	PP	18 30 45.6	-6.5
	comp=Z,0.1nm,0.3s,baz=299,slow=8.0,SNR=2.4						
RKT	**Rikitea**	**109.70**	**108**	*e*LR	LR	19 03 36.6	
	comp=Z,372nm,29.8s						
TORD	**Torodi Ar. Bea**	**112.14**	**294**	PKiKP	PKiKP	18 31 21.4	-0.7
	comp=Z,0.6nm,0.8s,baz=27,slow=1.9,SNR=5.1						
TORD				PKKPab	PKKPab	18 42 21.2	-0.8
	comp=Z,1.1nm,0.8s,baz=268,slow=3.9,SNR=6.0						
TORD	**Torodi Ar. Bea**	**112.14**	**294**	PKPdf	PKiKP	18 31 21.4	-0.7
TORD				PKKPab	PKKPab	18 42 21.2	-0.8
SDV	**Santo Domingo**	**149.03**	**23**	*e*P	PKPdf	18 32 31.5	+0.9
ROSC	**El Rosal**	**150.94**	**34**	PKP	PKPdf	18 32 35.8	+2.2
	comp=Z,4.7nm,0.4s,baz=278,slow=21,SNR=4.4						
ROSC				PKPbc	PKPbc	18 32 41.6	+2.4
	comp=Z,8.0nm,0.6s,baz=53,slow=14,SNR=9.6						
LPAZ	**La Paz**	**170.28**	**70**	PKP	PKPdf	18 32 56.9	+2.5
	comp=Z,3.7nm,1.1s,baz=27,slow=2.4,SNR=11						
LPAZ	**La Paz**	**170.28**	**70**	PKIKP	PKPdf	18 32 56.9	+2.5
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						

IDC 27 18:16:44.8±1.2, 2247N×4499W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/22, mbtmp3.8/4, Error ellipse: s-maj=39.0km s-min=28.5km az=156.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**44.68**	**212**	P	P	18 25 00.8	+1.4
	1.5nm,0.8s,baz=10,slow=11,SNR=5.3						
TORD	**Torodi Ar. Bea**	**45.25**	**94**	P	P	18 25 03.4	-0.6
	1.4nm,0.8s,baz=286,slow=8.3,SNR=6.3						
PDAR	**Pinedale Array**	**56.66**	**307**	P	P	18 26 29.5	-0.3
	0.6nm,0.8s,baz=98,slow=6.6,SNR=4.8						
AKASG	**Malin Array Be**	**63.05**	**43**	P	P	18 27 14.5	+0.8
	2.8nm,0.9s,baz=271,slow=6.3,SNR=9.6						

*BJI **27** 18:37:54.6, 2094N×12209E, h17km, mb4.5, ML3.9*
*ISCJB **27** 18:37:55.5±0.3, 2148N±003×12243E±006, h10km, mb3.9/7, Error ellipse: s-maj=9.0km s-min=2.9km az=40.4*
*IDC **27** 18:37:55.6±1.0, 2132N×12237E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/19, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=34.3km s-min=18.0km az=74.0*
*NEIC **27** 18:37:56.5±0.7, 2139N×12232E, h10km, mb4.3/1, Error ellipse: s-maj=21.5km s-min=10.3km az=78.0*
*NIED **27** 18:38:00, 2170N×12240E, h35km, Mw4.3 Best double couple: M0 2.75000×10^15 NP1:φs 205.00000°, δs 85.00000°, λ -132.00000°. NP2:φs 109.00000°, δs 42.00000°, λ -8.00000°.*
*JMA **27** 18:38:02.0±0.3, 2173N×12236E, h107km, M4.0*
*MAN **27** 18:38:02.5, 2089N×12249E, h1km, mb3.6, ML4.8, MS6.5*

ISC 27 18:37:57.1±0.3, 2150N±003×12238E±006, h10km, n34, σ1 9 25/44, mb3.9/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.76**	**345**	*e*P	**Pn**	**18 38 39.9**	**-1.5**
HATJ	**Hateruma jima**	**2.87**	**27**	P	**Pn**	**18 38 44.3**	**+1.5**
HATJ				*e*S	**Sn**	**18 39 16.3**	**-1.1**
YOJ	**Yonaguni jima**	**3.01**	**11**	P	**Pn**	**18 38 45.6**	**+0.8**
YOJ				*e*S	**Sn**	**18 39 19.9**	**-0.9**
IRIF	**Iriomote-Funau**	**3.08**	**23**	P	**Pn**	**18 38 47.4**	**+1.5**
IRIF				*e*S	**Sn**	**18 39 21.7**	**-1.1**
JKRS	**Kuro-shima**	**3.11**	**28**	P	**Pn**	**18 38 47.8**	**+1.6**
JKRS				*e*S	**Sn**	**18 39 22.6**	**-0.8**
SGCP	**Mt. Cagua**	**3.25**	**186**	*e*P	**Pn**	**18 38 47.2**	**-1.0**
JIJ	**Ishigaki jima**	**3.28**	**29**	P	**Pn**	**18 38 49.6**	**+1.0**
JIJ				S	**Sn**	**18 39 25.7**	**-1.9**
YHNB	**Yeheng**	**3.29**	**344**	*e*P	**Pn**	**18 38 48.5**	**-0.2**
TATO	**Taipei**	**3.56**	**347**	*e*P	**Pn**	**18 38 53.0**	**+0.6**
APYP	**Conner**	**3.77**	**197**	*e*P	**Pn**	**18 38 54.8**	**-0.5**
APYP				*e*S	**Sn**	**18 39 36.2**	**-3.6**
JTJ	**Tarama**	**3.79**	**34**	P	**Pn**	**18 38 56.8**	**+1.3**
JTJ				S	**Sn**	**18 39 39.2**	**-0.9**
CVP	**Callao Caves**	**3.81**	**188**	*e*P	**Pn**	**18 38 56.0**	**+0.1**
CVP				*e*S	**Sn**	**18 39 36.0**	**-4.7**
ABRA	**Dolores**	**4.14**	**203**	*e*P	**Pn**	**18 39 01.3**	**+0.9**
ABRA				*e*S	**Sn**	**18 39 48.9**	**+0.1**
JMJ	**Miyako jima 2**	**4.25**	**38**	*e*S	**Sn**	**18 39 50.8**	**-0.8**
JOGS	**Gusukube**	**4.28**	**40**	P	**Pn**	**18 39 04.0**	**+1.8**
JOGS				*e*S	**Sn**	**18 39 52.5**	**+0.3**
PALP	**Palanan**	**4.41**	**179**	*e*P	**Pn**	**18 39 04.1**	**0.0**
CAUP	**Cauayan**	**4.56**	**187**	*e*P	**Pn**	**18 39 08.0**	**+1.8**
QZH	**Quanzhou**	**4.89**	**315**	P	**Pn**	**18 39 09.8**	**-0.9**
QZH				Smax			
	comp=N,150nm,0.7s						
QZH				Smax			
	comp=E,140nm,0.5s						
BOLP	**Bolinao**	**5.60**	**205**	*e*P	**Pn**	**18 39 21.8**	**+1.4**
BALP	**Baler**	**5.78**	**188**	*e*P	**Pn**	**18 39 22.8**	**-0.1**
SCZP	**Santa Cruz**	**6.16**	**203**	*e*P	**Pn**	**18 39 27.4**	**-0.6**
POLP	**Polilio Island**	**6.75**	**184**	*e*P	**Pn**	**18 39 37.4**	**+1.2**
JOW	**Kunigami**	**7.56**	**44**	Pn	**Pn**	**18 39 47.7**	**+0.4**
	comp=E,2.5nm,0.3s,baz=174,slow=14,SNR=19						
GZH	**Guangzhou**	**8.52**	**282**	P	**Pn**	**18 39 57.5**	**-3.0**
GZH				Smax			
	comp=N,51nm,0.7s						
GZH				Smax			
	comp=E,36nm,0.9s						
MJAR	**Matsushiro Arr**	**20.36**	**39**	P	**P**	**18 42 36.7**	**+3.0**
	comp=E,0.8nm,0.7s,baz=236,slow=8.7,SNR=2.9						
MJAR	**Matsushiro Arr**	**20.36**	**39**	P	**P**	**18 42 36.7**	**+3.0**
ASAJ	**Asahikawa**	**28.09**	**32**	P	**P**	**18 43 55.5**	**+6.6**
	comp=E,4.2nm,0.8s,mb4.1,baz=208,slow=7.0,SNR=5.2						
SONM	**Songino Array**	**29.26**	**338**	P	**P**	**18 43 59.7**	**+0.4**
	comp=E,1.0nm,0.8s,mb3.6,baz=157,slow=12,SNR=7.6						
MKAR	**Makanchi Array**	**41.04**	**318**	P	**P**	**18 45 42.1**	**+1.5**
	comp=E,1.0nm,0.5s,mb3.7,baz=112,slow=8.4,SNR=8.8						
WRAB	**Tennant Creek**	**42.81**	**163**	*e*P	**P**	**18 45 53.2**	**-1.9**
	comp=E,4.6nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**42.81**	**163**	P	**P**	**18 45 53.5**	**-1.6**
	comp=E,3.1nm,0.7s,mb4.2,baz=343,slow=9.0,SNR=32						
WB2	**Warramunga Arr**	**42.82**	**163**	*e*P	**P**	**18 45 53.4**	**-1.7**
ZAL	**Zalesovo**	**43.10**	**328**	P	**P**	**18 45 58.6**	**+1.3**
	comp=E,1.7nm,0.9s,mb3.8,baz=330,slow=7.4,SNR=6.5						
ASAR	**Alice Springs**	**46.27**	**165**	P	**P**	**18 46 21.9**	**-0.8**
	comp=E,0.7nm,0.5s,mb3.8,baz=350,slow=7.8,SNR=22						

CASC 27 18:46:43.4±1.9, 1111N×8755W, h9km±13km, MD3.7, ML3.4, 4C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.42**	**42**⇓	*e*P	Pn	18 47 08.8	-0.6
COPN				*e*S	Sn	18 47 27.6	-0.6
LEON	**Leon**	**1.45**	**27**⇑	*i*P	Pn	18 47 09.7	-0.1
MIRN	**Miramar**	**1.56**	**32**	*e*P	Pn	18 47 10.4	-0.8
TICN	**Ticuantepe**	**1.59**	**55**⇑	*e*P	Pn	18 47 11.9	+0.2
CNGN	**Cerro Negro**	**1.61**	**31**	*e*P	Pn	18 47 10.7	-1.4
CNGN			⇑	*e*P		18 47 12.0	
TISN	**Laguna Tiscapa**	**1.62**	**51**⇑	*e*P	Pn	18 47 11.7	-0.5
TISN				*e*S	Sn	18 47 33.7	+0.5
APYN	**Apoyeque**	**1.62**	**47**	*e*P	Pn	18 47 12.5	+0.4
MOMJ	**Momotombo**	**1.62**	**38**	*e*P	Pn	18 47 11.7	-0.5
MGAN	**Managua**	**1.64**	**51**	*e*P	Pn	18 47 12.2	-0.2
MGAN				*e*S	Sn	18 47 34.0	+0.4
MGAN				*i*		18 47 36.5	
	comp=N,467nm,0.3s						
APON	**Apoyo**	**1.66**	**61**⇓	*e*P	Pn	18 47 12.4	-0.3
CONN	**Concepcion**	**1.94**	**77**	*e*P	Pn	18 47 16.5	-0.1
MADN	**Villa Maderas**	**2.00**	**81**	*e*P	Pn	18 47 16.9	-0.6
PYTN	**Playitas**	**2.04**	**46**	*e*P	Pn	18 47 17.0	-0.9
CNCH	**Conchagua**	**2.17**	**353**	*e*P	x	18 47 32.7	
CNCH				*e*S	x	18 48 01.4	
VSM	**San Miguel**	**2.41**	**343**	*e*P	x	18 47 38.0	
VSM				*e*S	x	18 48 10.5	
SBLS	**San Blas**	**3.38**	**323**	*e*P	x	18 47 52.2	
SBLS				*e*S	x	18 48 32.0	
SNJE	**San Jose**	**3.39**	**324**	*e*P	x	18 47 51.6	

IDC 27 18:50:23.9±3.2, 1903S×17594W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, Error ellipse: s-maj=71.5km s-min=48.8km az=87.0, Tonga Islands

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

URZ	**Urewera**	**20.10**	**196**	P	P	18 54 58.9	-0.2
	7.6nm,0.8s,baz=11,slow=10,SNR=3.9							
WRA	**Warramunga Arr**	**46.74**	**260**	P	P	18 58 54.7	-0.1
	0.3nm,0.3s,baz=97,slow=7.6,SNR=24							
ASAR	**Alice Springs**	**46.75**	**255**	P	P	18 58 55.9	+0.9
	0.8nm,0.5s,baz=88,slow=8.5,SNR=14							
BRTR	**Keskin Array B**	**147.22**	**315**	PKPbc	PKPbc	19 10 08.9	-0.2
	0.6nm,0.8s,baz=35,slow=5.3,SNR=3.7							

CASC 27 19:01:27.1±3.0, 1110N×8800W, h43km±999km, MD4.0, 4C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**1.70**	**40**	*e*P	Pn	19 01 54.1	-0.2
LEON				*e*S	Sn	19 02 15.5	+0.7
COPN	**Copaltepe**	**1.75**	**52**	*e*P	Pn	19 01 54.9	-0.1
MIRN	**Miramar**	**1.83**	**43**⇑	*e*P	Pn	19 01 55.6	-0.5
MIRN				*e*S	Sn	19 02 20.6	+2.5
TEL3	**Telica 3**	**1.85**	**38**	*e*P	Pn	19 01 55.7	-0.6
CRUN	**El Crucero**	**1.89**	**62**	*e*P	Pn	19 01 56.9	+0.1
CNGN	**Cerro Negro**	**1.89**	**43**⇑	*e*P	Pn	19 01 56.4	-0.4
MOMJ	**Momotombo**	**1.93**	**48**	*e*P	Pn	19 01 58.9	+1.4
APYN	**Apoyeque**	**1.97**	**55**⇑	*e*P	Pn	19 01 58.6	+0.6
APON	**Apoyo**	**2.06**	**67**⇑	*e*P	Pn	19 01 58.5	-0.7
APON				*e*S	Sn	19 02 25.0	+1.2
SSNN	**San Juan del S**	**2.12**	**85**	*e*P	Pn	19 02 01.1	+1.1
CNCH	**Conchagua**	**2.17**	**4**	*e*P	x	19 02 13.0	
CNCH				*e*S	x	19 02 38.7	
BLLM	**Bellamira**	**2.34**	**354**	*e*P	x	19 02 14.4	
BLLM				*e*S	x	19 02 43.3	
CONN	**Concepcion**	**2.38**	**79**	*e*P	Pn	19 02 04.0	+0.4
VCR	**Vista de Mar**	**2.53**	**112**	*e*P	Pn	19 02 04.9	-0.7
SNVI	**San Vicente**	**2.62**	**342**	*e*P	x	19 02 19.2	
SNVI				*e*S	x	19 02 48.8	
LCBS	**La Ceiba**	**2.71**	**340**	*e*P	x	19 02 18.9	
LCBS				*e*S	x	19 02 49.9	
LFRS	**El Faro**	**2.71**	**338**	*e*P	x	19 02 18.9	
LFRS				*e*S	x	19 02 50.7	
JCR	**Jicaral**	**3.10**	**113**	*e*P	Pn	19 02 14.0	+0.4
JCR				*e*S	Sn	19 02 49.4	0.0
SBLS	**San Blas**	**3.15**	**330**	*e*P	x	19 02 25.8	
SBLS				*e*S	x	19 03 03.5	
SNJE	**San Jose**	**3.16**	**331**	*e*P	x	19 02 24.7	
SNJE				*e*S	x	19 03 01.1	
RTR	**El Retiro**	**3.21**	**330**	*e*P	x	19 02 26.5	
RTR				*e*S	x	19 03 02.8	
RBDL	**Robledal**	**3.41**	**331**	*e*P	x	19 02 29.5	
RBDL				*e*S	x	19 03 08.1	
PRS1	**Puriscal**	**3.80**	**107**	*e*P	Pn	19 02 24.3	+1.3
LCR2	**La Lucha 2**	**4.16**	**109**	*e*P	Pn	19 02 30.1	+2.0
LCR2				*e*S	Sn	19 03 17.6	+2.1
URSC	**Urasca**	**4.34**	**106**	*e*P	Pn	19 02 33.0	+2.4
BUS	**Buena Vista**	**4.45**	**110**⇓	*e*P	Pn	19 02 33.9	+1.9
BUS				*e*S	Sn	19 03 23.0	+0.5

*ISCJB **27** 20:03:27.9±0.6, 2012N±007×15686W±005, h10km, mb4.5/9, MS4.5/2, Error ellipse: s-maj=10.8km s-min=5.2km az=58.7*
*BJI **27** 20:03:30.5, 2045N×15732W, h11km, mB4.8, mb4.4, Ms4.8, Ms4.2*
*NEIC **27** 20:03:33.0, 2034N×15658W, h31km, mb4.4/5, MD4.4(HVO), After HVO.*
NEIC Felt [IV] at Haiku, Maui; Kane'ohe, O'ahu; Lana'i City, Lana'i. Felt on much of Maui, Moloka'i and O'ahu. Felt at Kailua-Kona, Hawaii.

ISC 27 20:03:29.6±0.6, 2014N±007×15688W±005, h10km, n97, σ0 9 95/102, mb4.5/9, MS4.5/2, 41C-31D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKL	**Haleakala**	**0.81**	**46**	*e*P	**Pg**	**20 03 43.1**	**-2.2**
KKH	**Kailua Kona**	**0.95**	**121**	*e*P	**Pg**	**20 03 47.5**	**-0.4**
KPA	**Kalaupapa**	**1.04**	**355**⇓	*i*P	**Pg**	**20 03 48.2**	**-1.5**
POHA	**Pohakuloa**	**1.33**	**107**	*e*P	**Pn**	**20 03 50.9**	**-3.4**
POHA				*e*S	**Sb**	**20 04 04.4**	**-7.2**
WMR	**Waimanalo Ridg**	**1.39**	**328**⇓	*i*P	**Pn**	**20 03 54.8**	**-0.2**
HON	**Honolulu**	**1.57**	**318**	*e*P	**Pn**	**20 03 57.5**	**-0.1**
HON				*e*S	**Sn**	**20 04 15.0**	**-3.0**
HPO	**Honuapo**	**1.63**	**130**	*e*P	**Pn**	**20 03 56.3**	**-2.1**
HPO				*e*S	**Sn**	**20 04 13.8**	**-5.8**
KIP	**Kipapa**	**1.66**	**320**	*e*P	**Pn**	**20 03 58.7**	**0.0**
KIP				*e*Sn	**Sn**	**20 04 12.4**	**-7.6**
KIP				*e*Sg	**Sg**	**20 04 17.8**	**-5.1**
MNRC	**McLaughlin Nat**	**35.03**	**50**	⇑P	**P**	**20 10 21.2**	**-1.2**
	baz=35						
V04C	**Ramage Ranch,**	**35.15**	**56**	⇑P	**P**	**20 10 23.0**	**-0.4**
	baz=35						
N02C	**Big Bar**	**35.21**	**47**	⇑P	**P**	**20 10 24.7**	**+0.8**
	baz=35						
PACP	**Pacheco Peak**	**35.24**	**54**	⇑P	**P**	**20 10 23.2**	**-1.0**
	baz=35						
Q03C	**Winters**	**35.25**	**51**	⇓P	**P**	**20 10 23.5**	**-0.8**

M07A	**Soldier Meadow** baz=38	**38.30**	**48**	⇑P	**P**	**20 10 50.9**	**+0.6**
Q08A	**Gabbs** baz=38	**38.34**	**52**	⇓P	**P**	**20 10 50.8**	**+0.2**
E04A	**Onalaska** baz=38	**38.37**	**39**	⇑P	**P**	**20 10 54.7**	**+3.8**
J06A	**Christmas Vall** baz=38,SNR=5.5	**38.38**	**45**	⇓P	**P**	**20 10 51.9**	**+0.9**
S09A	**Goldfield** baz=38	**38.54**	**54**	⇑P	**P**	**20 10 52.2**	**-0.1**
I06A	**Prineville** baz=38,SNR=6.1	**38.64**	**44**	P	**P**	**20 10 54.8**	**+1.7**
K07A	**Rock Creek Ran** baz=38	**38.75**	**46**	⇑P	**P**	**20 10 55.1**	**+1.0**
R09A	**Tonopah** baz=38	**38.80**	**54**	⇓P	**P**	**20 10 54.5**	**0.0**
M08A	**Happy Creek Ra** baz=38	**38.88**	**48**	⇑P	**P**	**20 10 55.8**	**+0.7**
U10A	**Ash Meadows, A** baz=38	**38.91**	**57**	⇑P	**P**	**20 10 56.1**	**+0.7**
J07A	**Hines** baz=39	**38.98**	**45**	⇑P	**P**	**20 10 57.6**	**+1.6**
TUQ	**Turquoise Mtn.** baz=39	**39.01**	**58**	⇑P	**P**	**20 10 55.6**	**-0.7**
TPNV	**Topopah Spring** 3.0nm,0.9s,mb4.0	**39.09**	**56**	*eP*	**P**	**20 10 56.0**	**-0.9**
L08A	**Fields** baz=39,SNR=7.3	**39.18**	**47**	P	**P**	**20 10 58.5**	**+0.9**
N09A	**Rock Creek Ran** baz=39	**39.27**	**49**	⇑P	**P**	**20 10 58.8**	**+0.4**
K08A	**Mann Creek Ran** baz=39	**39.28**	**46**	⇑P	**P**	**20 10 59.2**	**+0.7**
O09A	**Fish Creek Ran** baz=39	**39.29**	**51**	⇓P	**P**	**20 10 59.3**	**+0.7**
R10A	**Warm Springs** baz=39	**39.40**	**54**	⇓P	**P**	**20 11 00.4**	**+1.0**
GLA	**Glamis** baz=39	**39.49**	**62**	⇑P	**P**	**20 11 01.5**	**+1.2**
M09A	**Marrel Ranch,** baz=39	**39.52**	**49**	⇓P	**P**	**20 11 01.8**	**+1.3**
J08A	**Circle Bar Ran** baz=39,SNR=8.2	**39.54**	**45**	P	**P**	**20 11 01.9**	**+1.2**
L09A	**Wilkinson Ranc** baz=39	**39.58**	**48**	⇓P	**P**	**20 11 01.5**	**+0.5**
P10A	**Eureka** baz=39	**39.65**	**52**	⇑P	**P**	**20 11 01.2**	**-0.5**
Q11A	**Duckwater** baz=40	**40.04**	**53**	⇓P	**P**	**20 11 05.6**	**+0.8**
P11A	**Circle Ranch,** baz=40	**40.16**	**52**	⇓P	**P**	**20 11 05.9**	**+0.1**
M10A	**I.L. Ranch, Tu** baz=40	**40.20**	**49**	⇑P	**P**	**20 11 06.8**	**+0.7**
U12A	**Valley of Fire** baz=40	**40.32**	**57**	⇓P	**P**	**20 11 07.9**	**+0.7**
W13A	**Hualapai Mount** baz=40,SNR=5.1	**40.58**	**59**	P	**P**	**20 11 09.9**	**+0.6**
M11A	**Holland Ranch,** baz=40	**40.70**	**49**	⇓P	**P**	**20 11 10.8**	**+0.5**
N12A	**Clover Valley,** baz=41	**41.06**	**50**	⇓P	**P**	**20 11 13.8**	**+0.5**
O12A	**Currie** baz=41	**41.10**	**51**	⇑P	**P**	**20 11 13.8**	**+0.2**
Y14A	**Wickenburg** baz=41	**41.13**	**61**	⇑P	**P**	**20 11 13.4**	**-0.4**
X14A	**Yava** baz=41	**41.29**	**60**	⇑P	**P**	**20 11 15.6**	**+0.4**
M12A	**Wells** baz=41	**41.32**	**50**	⇑P	**P**	**20 11 16.1**	**+0.7**
X15A	**Humboldt** baz=41	**41.83**	**60**	⇑P	**P**	**20 11 19.6**	**+0.1**
M13A	**Montello** baz=42	**41.84**	**50**	⇓P	**P**	**20 11 19.3**	**-0.4**
116A	**Eloy** baz=42	**42.05**	**63**	⇑P	**P**	**20 11 21.3**	**0.0**
HLID	**Hailey** 7.2nm,0.8s,mb4.3	**42.36**	**47**	P	**P**	**20 11 24.0**	**+0.1**
MCMT	**McKenzie Canyo**	**43.85**	**46**	*eP*	**P**	**20 11 34.8**	**-1.1**
SRU	**San Rafael** 6.6nm,0.7s,mb4.5	**43.98**	**54**	*eP*	**P**	**20 11 36.3**	**-0.7**
DLMT	**Dillon** 8.7nm,0.9s,mb4.5	**44.19**	**45**	*eP*	**P**	**20 11 38.4**	**-0.3**
DAWY	**Dawson**	**45.45**	**11**	*eP*	**P**	**20 11 48.9**	**+0.1**
INK	**Inuvik** 2.5nm,0.7s,mb4.3	**50.32**	**11**	P	**P**	**20 12 24.5**	**-2.0**
MDJ	**Mudanjiang**	**64.54**	**311**	P	**P**	**20 14 05.0**	**-1.8**
MDJ	comp=Z,5.0nm,1.0s,mb4.5			AMB	AMB		
MDJ	comp=Z,30nm,3.7s			AMB	AMB		
CN2	**Changchun**	**67.58**	**310**	*eP*	**P**	**20 14 26.5**	**+0.2**
SNY	**Shenyang**	**69.21**	**308**	*eP*	**P**	**20 14 37.0**	**+0.5**
SNY	comp=Z,12nm,1.9s,mb4.5			AMB	AMB		
SNY	comp=Z,189nm,3.9s			AMB	AMB		
SNY	comp=N,126nm,11.8s,MS4.7			LR	LR		
SNY	comp=E,210nm,12.0s,MS4.7			LR	LR		
SNY	comp=Z,235nm,16.9s,MS4.5			LR	LR		
HHC	**Hu-ho-hao-te**	**78.25**	**309**	*eP*	**P**	**20 15 30.5**	**+0.9**
HHC				AP	pP	20 15 41.3	+8.4
HHC				XP	sP	20 15 44.3	+10
HHC				PP	PP	20 18 30.3	+4.0
HHC				S	S	20 25 21.8	-2.7
HHC				PS		20 26 06.3	
HHC				SS	SS	20 30 26.8	+0.2
HHC	comp=Z,12nm,0.4s,mb5.2			AMB	AMB		
HHC	comp=N,149nm,15.5s,MS4.6			LR	LR		
HHC	comp=E,174nm,17.8s,MS4.6			LR	LR		
HHC	comp=Z,108nm,17.2s,MS4.2			LR	LR		
CD2	**Chengdu**	**87.50**	**302**	*eP*	**P**	**20 16 16.5**	**-1.1**
KMI	**Kunming**	**90.51**	**297**	P	**P**	**20 16 32.3**	**+0.6**
KMI	comp=Z,3.0nm,0.7s,mb4.7			AMB	AMB		
WMQ	**Urumqi**	**93.20**	**319**	P	**P**	**20 16 45.3**	**+1.1**

*ISCJB **27** 20:17:24.0±0.3, 44.04N±0.02×20.05E±0.05, h9km, Error ellipse: s-maj=4.8km s-min=2.2km az=31.3*
*CSEM **27** 20:17:23.6±0.1, 44.03N×20.12E, h8km, MD2.6, Error ellipse: s-maj=2.2km s-min=1.4km az=101.0*
*BEO **27** 20:17:24±0.5, 44.03N×20.10E, h10km±3km*
*PDG **27** 20:17:25.8±0.5, 4396N×2001E, h9km±1km*
*NEIC **27** 20:17:25.8, 4396N×2001E, h9km, MD2.6(PDG), After PDG.*

ISC 27 20:17:24.1±0.5, 4404N±0.02×2010E±0.04, h0km±4km, n43, σ1§06/66, 12C-20D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIVS	**Divcibare**	**0.09**	**305**	*i* Pg	**Pg**	**20 17 26.2**	**+0.3**
DIVS				Sg	**Sg**	**20 17 27.9**	**+0.8**
BBLS	**Bajina Basta -**	**0.53**	**251**	*i* Pg	**Pg**	**20 17 34.5**	**+0.2**
BBLS				Sg	**Sg**	**20 17 40.9**	**-0.2**
SJES	**Sjenica**	**0.78**	**188**	Pg	**Pg**	**20 17 38.7**	**-0.4**
BEO	**Belgrade**	**0.82**	**18**	*i* Pg	**Pg**	**20 17 41.4**	**+1.7**
BEO				Sg	**Sg**	**20 17 53.4**	**+3.0**
PLE	**Pljevlja**	**0.88**	**216**	⇑*i* Pg	**Pg**	**20 17 40.4**	**-0.6**
PLE				*e*Sg	**Sg**	**20 17 51.0**	**-1.3**
FGSL	**Fruska Gora**	**1.13**	**350**	Pg	**Pg**	**20 17 45.8**	**0.0**
FGSL				Sg	**Sg**	**20 18 01.6**	**+1.1**
IVA	**Berane**	**1.18**	**187**	⇑*i* Pg	**Pg**	**20 17 46.0**	**-0.7**
IVA				*e*Sg	**Sg**	**20 18 03.0**	**+0.9**
UPM	**Unac-Piva**	**1.21**	**226**	⇓*i* Pg	**Pg**	**20 17 45.9**	**-1.3**
UPM				*e*Sg	**Sg**	**20 18 03.4**	**+0.6**
PVY	**Plav**	**1.45**	**184**	⇓*i* Pg	**Pg**	**20 17 50.8**	**-1.1**
PVY				*e*Sg	**Sg**	**20 18 12.3**	**+1.5**
NKY	**Niksic**	**1.47**	**213**	⇑*i* Pg	**Pg**	**20 17 50.8**	**-1.4**
NKY				*e*Sg	**Sg**	**20 18 11.7**	**+0.4**
BRY	**Bratogost**	**1.61**	**225**	⇑*i* Pg	**Pg**	**20 17 53.0**	**-2.0**
BRY				*e*Sg	**Sg**	**20 18 15.8**	**0.0**
TTG	**Podgorica**	**1.73**	**201**	⇑*i* Pn	**Pn**	**20 17 55.8**	**+0.5**
TTG				*e*Sn	**Sn**	**20 18 18.2**	**+0.2**
BZS	**Buzias**	**1.91**	**34**	⇓*i* P	**Pn**	**20 17 56.7**	**-1.1**
BZS	**Buzias**	**1.91**	**34**	⇓P	**P**	**20 17 56.7**	**-1.1**
BUM	**Brajici-Budva**	**1.95**	**207**	⇓*i* Pn	**Pn**	**20 17 59.5**	**+1.0**
BUM				*e*Sn	**Sn**	**20 18 23.8**	**+0.2**
HCY	**Herceg Novi**	**1.98**	**217**	⇑*i* Pn	**Pn**	**20 17 58.6**	**-0.1**
HCY				*e*Sn	**Sn**	**20 18 26.0**	**+1.7**
STON	**Ston**	**2.10**	**237**	*i* Pn	**Pn**	**20 18 00.2**	**-0.3**
STON				*i* Sn	**Sn**	**20 18 28.2**	**+0.9**
ULC	**Ulcinj**	**2.17**	**197**	⇓*i* Pn	**Pn**	**20 18 02.6**	**+1.1**
ULC				*e*Sn	**Sn**	**20 18 30.0**	**+1.0**
GZR	**Gura Zlata**	**2.34**	**54**	⇓*i* P	**Pn**	**20 18 03.0**	**-0.7**
GZR	**Gura Zlata**	**2.34**	**54**	⇓P	**Pn**	**20 18 03.0**	**-0.8**
PKSM	**Moragy**	**2.40**	**335**	*e*Pn	**Pn**	**20 18 04.4**	**-0.2**
PKSM				*e*Pg	**Pg**	**20 18 09.7**	**-0.4**
PKSM				*e*Sn	**Sb**	**20 18 38.7**	**+0.4**
PKSM	**Moragy**	**2.40**	**335**	*e*Pg	**Pg**	**20 18 09.7**	**-0.4**
PKS6	**Bocsa**	**2.58**	**352**	⇑*e*P	**Pn**	**20 18 06.4**	**-0.7**
VTS	**Vitosha**	**2.69**	**122**	⇓*i* P	**Pn**	**20 18 08.0**	**-0.6**
VTS	**Vitosha**	**2.69**	**122**	⇓P	**Pn**	**20 18 08.0**	**-0.6**
PKS9	**Tamasi**	**2.85**	**334**	⇑*i* P	**Pn**	**20 18 10.9**	**+0.1**
PKS8	**Sarbogard**	**3.01**	**341**	⇑*e*P	**Pn**	**20 18 12.6**	**-0.3**
DRGR		**3.31**	**33**	⇓*i* P	**Pn**	**20 18 18.9**	**+1.8**
DRGR		**3.31**	**33**	⇓P	**Pn**	**20 18 18.9**	**+1.8**
VOIR		**3.79**	**67**	⇑*i* P	**Pn**	**20 18 26.9**	**+3.2**
VOIR		**3.79**	**67**	⇑P	**Pn**	**20 18 26.9**	**+3.2**
PSZ	**Piszkesteto**	**3.88**	**358**	⇓*e*Pn	**Pn**	**20 18 24.4**	**-0.5**
PSZ				*e*SB	**Sb**	**20 19 29.8**	**+9.0**
PSZ	**Piszkesteto**	**3.88**	**358**	⇓*e*Pn	**Pn**	**20 18 24.3**	**-0.6**
PSZ				*e*Sn	**Sb**	**20 19 29.8**	**+9.0**
MLR	**Muntele Rosu**	**4.41**	**69**	⇓*i* P	**Pn**	**20 18 39.2**	**+7.0**
MLR	**Muntele Rosu**	**4.41**	**69**	⇓P	**Pn**	**20 18 39.2**	**+7.0**
ARSA	**Arzberg**	**4.54**	**317**	⇓*i* Pn	**Pn**	**20 18 33.1**	**-0.8**
ARSA				⇓*i* Sn	**Sn**	**20 19 23.4**	**-4.0**
ARSA	**Arzberg**	**4.54**	**317**	⇓*i* Pn	**Pn**	**20 18 33.1**	**-0.8**
ARSA				*i* Sn	**Sn**	**20 19 23.4**	**-4.0**
VYHS	**Vyhne**	**4.54**	**349**	*e*PN	**Pn**	**20 18 33.7**	**-0.3**
VYHS				*e*SN	**Sn**	**20 19 26.3**	**-1.1**
ZST	**Bratislava**	**4.65**	**334**	*e*SN	**Sn**	**20 19 25.2**	**-4.9**
CONA	**Conrad Observa**	**4.88**	**324**	Pn	**Pn**	**20 18 32.8**	**-5.8**
CONA				Sn	**Sn**	**20 19 27.4**	**-8.4**
CRVS	**Cervenica-Dubn**	**4.95**	**10**	*e*PN	**Pn**	**20 18 37.7**	**-2.0**
TIRR	**Tirgusor**	**5.99**	**83**	⇓*i* P	**Pn**	**20 18 52.4**	**-1.5**
TIRR	**Tirgusor**	**5.99**	**83**	⇓P	**Pn**	**20 18 52.4**	**-1.5**

*IDC **27** 20:23:24.9±1.5, 9.21S×148.69E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.8/13, mbtmp3.8/7, ML3.3/2, MS3.7/2, Ms1 3.7/2, ms1mx2.9/22, Error ellipse: s-maj=31.8km s-min=21.7km az=117.0*
*ISCJB **27** 20:23:26.6±1.1, 9.4S±0.1×148.87E±0.10, h33km, mb3.8/4, MS3.8/2, Error ellipse: s-maj=14.5km s-min=13.5km az=39.1*
*NEIC **27** 20:23:26.4±8.3, 9.25S×148.72E, h13km±51km, mb3.9/2, Error ellipse: s-maj=25.5km s-min=15.9km az=66.0*

ISC 27 20:23:29.7±1.1, 9.29S±0.10×148.75E±0.10, h35km, n17, σ0§94/15, mb3.8/4, MS3.8/2, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 60nm,0.3s,baz=92,slow=6.8,SNR=50	**1.58**	**266**	Pn	**Pn**	**20 23 54.6**	**-0.6**
PMG	112nm,0.3s,baz=219,slow=22,SNR=30			Sn	**Sn**	**20 24 15.0**	**+0.7**
CTA	**Charters Tower** 0.1nm,0.3s,baz=5.3,slow=14,SNR=2.6	**11.00**	**192**	Pn	**Pn**	**20 26 03.4**	**-1.1**
CTAO	**Charters Tower**	**11.00**	**192**	P	**Pn**	**20 26 03.7**	**-0.8**
WRAB	**Tennant Creek** 11nm,1.2s	**17.48**	**231**	*e*P	**Pn**	**20 27 29.1**	**-1.5**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=55,slow=12,SNR=14	**17.50**	**231**	P	**Pn**	**20 27 29.9**	**-0.9**
AS31	**Alice Springs**	**20.14**	**223**	*e*P	**P**	**20 28 01.5**	**+0.8**
ASAR	**Alice Springs** 2.6nm,0.7s,baz=60,slow=10,SNR=28	**20.14**	**223**	P	**P**	**20 28 01.2**	**+0.5**
ASPA	**Alice Springs**	**20.15**	**223**	*e*P	**P**	**20 28 01.5**	**+0.7**
STKA	**Stephens Creek** 2.8nm,1.0s,mb3.6,baz=17,slow=11,SNR=3.4	**23.43**	**195**	P	**P**	**20 28 37.8**	**+2.0**
FITZ	**Fitzroy Crossi** 6.0nm,1.5s,mb3.8	**24.08**	**246**	*e*P	**P**	**20 28 35.1**	**-6.6**
FITZ	**Fitzroy Crossi** 2.5nm,0.8s,mb3.7,baz=118,slow=9.1,SNR=8.7	**24.08**	**246**	P	**P**	**20 28 40.6**	**-1.1**
RAO	**Raoul Island** comp=Z,225nm,19.4s,MS4.0,baz=128,slow=30	**36.99**	**127**	LR	LR	20 42 03.9	
MJAR	**Matsushiro Arr** 1.5nm,0.8s,mb4.0,baz=176,slow=9.4,SNR=5.1	**46.66**	**348**	P	**P**	**20 31 54.5**	**-0.2**
MJAR	**Matsushiro Arr**	**46.66**	**348**	P	**P**	**20 31 54.5**	**-0.2**
MKAR	**Makanchi Array** 0.2nm,0.2s,mb3.6,baz=100,slow=8.1,SNR=3.8	**81.13**	**320**	P	**P**	**20 35 41.5**	**+0.1**
AKTO	**Aktyubinsk** comp=Z,18nm,19.1s,MS3.6,baz=267,slow=34	**97.55**	**320**	LR	LR	21 19 28.4	
TORD	**Torodi Ar. Bea** 2.1nm,0.9s,baz=73,slow=2.5,SNR=10	**147.48**	**280**	PKPbc	PKPbc	20 43 10.9	+1.0

*IDC **27** 20:26:31.6±2.3, 9.37S×107.68E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=82.5km s-min=19.1km az=54.0*
*ISCJB **27** 20:26:34.2±1.3, 9.4S±0.1×107.7E±0.2, h33km, mb3.8/6, Error ellipse: s-maj=29.2km s-min=15.0km az=134.3*

ISC 27 20:26:37.3±1.4, 9.4S±0.1×107.8E±0.2, h35km, n9, σ0§96/9, mb3.8/6, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**2.80**	**43**	⇑*i* P	**Pn**	**20 27 18.9**	**-0.7**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=285,slow=6.5,SNR=4.0	**19.39**	**118**	P	**Pn**	**20 31 00.4**	**-1.0**
BOAC	**Boac**	**26.65**	**32**	*e*P	**P**	**20 32 15.2**	**+2.5**
WRA	**Warramunga Arr** 0.9nm,0.9s,mb3.4,baz=281,slow=12,SNR=5.5	**27.72**	**115**	P	**P**	**20 32 22.7**	**+0.4**
ASAR	**Alice Springs** 0.2nm,0.4s,mb3.2,baz=302,slow=8.7,SNR=3.4	**28.73**	**123**	P	**P**	**20 32 32.0**	**+0.7**
STKA	**Stephens Creek** 2.1nm,0.8s,mb3.9,baz=346,slow=8.3,SNR=3.9	**38.50**	**130**	P	**P**	**20 33 56.1**	**0.0**
MJAR	**Matsushiro Arr** 1.2nm,0.7s,mb4.0,baz=209,slow=7.8,SNR=5.3	**53.90**	**30**	P	**P**	**20 35 56.6**	**-0.6**
SONM	**Songino Array** 1.1nm,0.8s,mb4.0,baz=172,slow=7.7,SNR=10.0	**56.98**	**355**	P	**P**	**20 36 19.8**	**+0.5**
MKAR	**Makanchi Array** 2.1nm,0.7s,mb4.3,baz=134,slow=6.9,SNR=18	**60.37**	**340**	P	**P**	**20 36 41.8**	**-1.1**

IDC 27 20:31:10.3±1.4, 1903S×17576W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/13, mbtmp4.0/4, Error ellipse: s-maj=43.3km s-min=33.3km az=97.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=90,slow=7.6,SNR=23	**46.91**	**260**	P	P	20 39 42.3	-0.2
WRA	0.1nm,0.3s,baz=90,slow=3.7,SNR=4.6			PcP	PcP	20 41 15.0	-0.2
ASAR	**Alice Springs** 2.1nm,0.5s,baz=90,slow=8.5,SNR=44	**46.92**	**255**	P	P	20 39 44.5	+2.0
VNDA	**Vanda** 0.4nm,0.3s,baz=31,slow=4.8,SNR=6.4	**59.56**	**186**	P	P	20 41 14.3	-1.4
MJAR	**Matsushiro Arr** 1.0nm,0.6s,baz=159,slow=6.6,SNR=7.7	**70.32**	**322**	P	P	20 42 24.0	-1.6
BRTR	**Keskin Array B** 1.8nm,0.6s,baz=144,slow=4.6,SNR=12	**147.35**	**315**	PKPbc	PKPbc	20 50 55.5	-0.4
GERES	**GERESS Array B** 1.4nm,0.7s,baz=25,slow=3.5,SNR=13	**149.29**	**348**	PKPbc	PKPbc	20 51 02.9	+1.9

*NEIC **27** 20:40:04.0, 37.48S×175.96E, h287km, MG4.4(WEL), After WEL.*

WEL 27 20:40:07.7±0.2, 37.64S×176.25E, h279km±2km, ML4.3/16, 3C, Error ellipse: s-maj=4.4km s-min=4.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.93**	**133**	PN	Pn	20 40 45.4	-0.1
URZ				SN	S	20 41 14.6	-0.8
MWZ	**Matawai**	**1.23**	**125**	PN	Pn	20 40 47.3	+0.3
MWZ				SN	S	20 41 17.5	-0.7
MWZ	**Matawai**	**1.23**	**125**	P	Pn	20 40 47.3	+0.2
MWZ				S	S	20 41 13.7	-4.6
KATZ	**Kakaramea**	**1.41**	**198**	PN	Pn	20 40 48.6	+0.4
KATZ	**Kakaramea**	**1.41**	**198**	P	Pn	20 40 48.7	+0.5
KRVZ	**Karewarewa**	**1.53**	**198**	PN	Pn	20 40 49.4	+0.4
BKZ	**Black Stump Fm**	**1.54**	**173**	⇑PN	Pn	20 40 49.3	+0.2
BKZ				SN	S	20 41 21.2	-0.7
BKZ	**Black Stump Fm**	**1.54**	**173**	P	Pn	20 40 49.3	+0.2
WTVZ	**West Tongariro**	**1.57**	**199**	PN	Pn	20 40 49.3	+0.1
WTVZ	**West Tongariro**	**1.57**	**199**	P	Pn	20 40 49.5	+0.3
TWVZ	**Taurewa**	**1.57**	**204**	PN	Pn	20 40 49.5	+0.2
OTVZ	**Oturere**	**1.59**	**196**	PN	Pn	20 40 50.0	+0.5
OTVZ				SN	S	20 41 23.0	+0.5
NGZ	**Ngauruhoe**	**1.62**	**198**	PN	Pn	20 40 50.0	+0.4
NGZ	**Ngauruhoe**	**1.62**	**198**	P	Pn	20 40 49.9	+0.3
MXZ	**Matakaoa Point**	**1.64**	**88**	PN	Pn	20 40 50.0	+0.2
MXZ				SN	S	20 41 23.2	+0.1
MXZ	**Matakaoa Point**	**1.64**	**88**	P	Pn	20 40 50.0	+0.2
MXZ				S	S	20 41 14.5	-8.6
PUZ	**Puketiti**	**1.65**	**106**	PN	Pn	20 40 49.2	-0.6
PUZ				SN	S	20 41 22.9	-0.4
PUZ	**Puketiti**	**1.65**	**106**	P	Pn	20 40 49.2	-0.7
PUZ				S	S	20 41 18.4	-4.9
WPVZ	**Whakapapa**	**1.66**	**199**	PN	Pn	20 40 50.2	+0.3
WPVZ	**Whakapapa**	**1.66**	**199**	P	Pn	20 40 50.2	+0.3
TUVZ	**Tukino**	**1.69**	**196**	PN	Pn	20 40 50.5	+0.3
TUVZ	**Tukino**	**1.69**	**196**	P	Pn	20 40 50.5	+0.3
FWVZ	**Far West T-bar**	**1.71**	**198**	PN	Pn	20 40 50.6	+0.3
FWVZ	**Far West T-bar**	**1.71**	**198**	P	Pn	20 40 50.6	+0.3
DRZ	**Dome Shelter**	**1.72**	**198**	PN	Pn	20 40 51.1	+0.8
DRZ	**Dome Shelter**	**1.72**	**198**	P	Pn	20 40 51.2	+0.8
WNVZ	**Wahianoa**	**1.77**	**197**	PN	Pn	20 40 50.9	+0.2
WNVZ	**Wahianoa**	**1.77**	**197**	P	Pn	20 40 50.9	+0.2
KNZ	**Kokohu**	**1.78**	**141**	PN	Pn	20 40 51.0	+0.1
KNZ	**Kokohu**	**1.78**	**141**	*e*P	Pn	20 40 51.0	+0.1
PKVZ	**Pokaka**	**1.80**	**203**	PN	Pn	20 40 51.0	0.0
PKVZ				SN	S	20 41 24.8	-0.5
MOVZ	**Moawhango**	**1.81**	**192**	PN	Pn	20 40 50.8	-0.2
MOVZ	**Moawhango**	**1.81**	**192**	P	Pn	20 40 50.8	-0.3
MTVZ	**Mangateitei**	**1.85**	**199**	PN	Pn	20 40 51.3	-0.1
VRZ	**Vera Road**	**1.89**	**218**	PN	Pn	20 40 52.0	+0.3
VRZ	**Vera Road**	**1.89**	**218**	*e*P	Pn	20 40 52.1	+0.4
WAZ	**Wanganui**	**2.33**	**205**	PN	Pn	20 40 55.2	-0.3
WAZ				SN	S	20 41 33.4	-0.2
WAZ	**Wanganui**	**2.33**	**205**	P	Pn	20 40 55.2	-0.3
NEZ	**North Egmont**	**2.35**	**225**	PN	Pn	20 40 56.4	+0.7
PKE	**Pukeiti**	**2.36**	**228**	PN	Pn	20 40 56.3	+0.5
TSZ	**Takapari Road**	**2.43**	**185**	⇑PN	Pn	20 40 55.7	-0.7
TSZ				SN	S	20 41 33.7	-1.4
TSZ	**Takapari Road**	**2.43**	**185**	P	Pn	20 40 55.7	-0.7
PXZ	**Pawanui**	**2.44**	**169**	PN	Pn	20 40 56.2	-0.3
PXZ				SN	S	20 41 34.6	-0.7
NRZ	**Ngariki Road**	**2.48**	**226**	PN	Pn	20 40 57.5	+0.6
BFZ	**Birch Farm**	**3.04**	**180**	PN	Pn	20 41 01.5	-1.0
BFZ				SN	S	20 41 44.0	-2.0
BFZ	**Birch Farm**	**3.04**	**180**	P	Pn	20 41 01.4	-1.0
MRZ	**Mangatainoka R**	**3.07**	**190**	⇑PN	Pn	20 41 01.2	-1.5
MRZ				SN	S	20 41 44.3	-2.2
MRZ	**Mangatainoka R**	**3.07**	**190**	P	Pn	20 41 01.2	-1.5
KIW	**Kapiti Island**	**3.38**	**197**	P	Pn	20 41 04.2	-1.8
MTW	**Mount Morrison**	**3.56**	**189**	P	Pn	20 41 05.8	-2.2
CAW	**Cannon Point**	**3.59**	**194**	P	Pn	20 41 06.4	-1.8
MRW	**Makara Radio**	**3.78**	**198**	P	Pn	20 41 08.1	-2.3
PAWZ	**Paruwai Farm**	**3.79**	**189**	P	Pn	20 41 08.4	-2.1
SNZO	**South Karori**	**3.86**	**198**	P	Pn	20 41 09.0	-2.2
TCW	**Tory Channel**	**3.88**	**202**	P	Pn	20 41 09.4	-2.1
NNZ	**Nelson**	**4.21**	**211**	P	Pn	20 41 12.2	-3.0
NNZ				S	S	20 42 04.6	-4.5
QRZ	**Quartz Range**	**4.30**	**221**	*e*P	Pn	20 41 12.6	-3.6
QRZ				S	S	20 42 06.8	-4.2
BSWZ	**Blackbirch Sta**	**4.46**	**203**	P	Pn	20 41 15.9	-2.2
THZ	**Tophouse**	**4.86**	**211**	*e*P	Pn	20 41 19.2	-3.6
KHZ	**Kahutara**	**5.21**	**203**	*e*P	Pn	20 41 24.6	-2.3
DSZ	**Denniston Nort**	**5.35**	**218**	P	Pn	20 41 24.3	-4.2
LTZ	**Lake Taylor**	**5.97**	**209**	*e*P	Pn	20 41 32.3	-3.8
MQZ	**McQueen's Vall**	**6.65**	**203**	P	Pn	20 41 39.9	-4.5
WVZ	**Waitaha Valley**	**6.87**	**216**	*e*P	Pn	20 41 42.5	-4.6
RPZ	**Rata Peaks**	**7.24**	**211**	*e*P	Pn	20 41 47.0	-4.7
FOZ	**Fox Glacier**	**7.74**	**218**	*e*P	Pn	20 41 52.1	-5.7
LBZ	**Lake Benmore**	**8.15**	**212**	*e*P	Pn	20 41 58.4	-4.5
ODZ	**Otahua Downs**	**8.52**	**208**	*e*P	Pn	20 42 04.1	-3.4

KRSC 27 21:23:46, 54.14N×159.08E, h190km, ML3.7, Near east coast of Kamchatka Peninsula

*ISCJB **27** 21:24:40.5±1.4, 12.2N±0.02×99.6E±0.02, h164km±10km, mb3.9/10, Error ellipse: s-maj=39.9km s-min=14.6km az=102.1*
*IDC **27** 21:24:42.2±1.5, 1.17N×99.56E, h163km±9km, mb3.7/9, mb1 3.8/9, mb1mx3.4/20, mbtmp4.1/9, Error ellipse: s-maj=48.2km s-min=14.5km az=54.0*
*NEIC **27** 21:24:42.5±1.0, 1.20N×99.67E, h168km±7km, mb4.1/1, Error ellipse: s-maj=22.7km s-min=8.4km az=52.0*

ISC 27 21:24:41.8±1.4, 12N±0.02×996E±0.02, h160km±10km, n16, σ0§42/18, mb3.9/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat** 9.7nm,0.3s,baz=19,slow=7.9,SNR=33	**1.74**	**338**	P	**Pn**	**21 25 15.6**	**+1.0**
PSI	4.4nm,0.3s,baz=8.1,slow=20,SNR=9.7			S	**Sn**	**21 25 39.1**	**-0.8**
PSI	**Prapat**	**1.74**	**338**	P	**Pn**	**21 25 15.6**	**+0.9**

CHTO	**Chiang Mai**	**29.92**	**342**	*e*P		**P**		**21 47 08.0**	**-1.3**
	11nm,1.0s,mb4.5								
KMI	**Kunming**	**35.18**	**351**	P		**P**		**21 47 56.8**	**+1.5**
KMI				AMB		AMB			
	comp=Z,9.0nm,1.6s,mb4.5								
STKA	**Stephens Creek**	**37.90**	**130**	*e*P		**P**		**21 48 19.0**	**+0.6**
	comp=Z,13nm,1.0s,mb4.6								
STKA	**Stephens Creek**	**37.90**	**130**	P		**P**		**21 48 19.1**	**+0.7**
	comp=Z,8.6nm,0.4s,mb4.8,baz=314,slow=8.0,SNR=28								
STKA				LR		LR		22 04 37.8	
	comp=Z,154nm,20.6s,MS3.8,baz=206,slow=37								
PKI	**Pulchoki**	**43.26**	**330**	*e*P		**P**		**21 49 03.6**	**+0.9**
GUN	**Gumba**	**43.31**	**331**	*e*P		**P**		**21 49 01.5**	**-1.6**
	comp=Z,8.8nm,0.3s,mb4.9								
DMN	**Daman**	**43.44**	**330**	*e*P		**P**		**21 49 05.2**	**+1.0**
	comp=Z,34nm,1.1s,mb5.0								
KKN	**Kakani**	**43.50**	**330**	*e*P		**P**		**21 49 04.0**	**-0.7**
	comp=Z,5.1nm,0.4s,mb4.6								
XAN	**Xi'an**	**43.67**	**1**	P		**P**		**21 49 05.8**	**-0.2**
XAN				AP		pP		21 49 16.3	-2.6
XAN				AMB		AMB			
	comp=Z,11nm,0.9s,mb4.6								
GKN	**Gorkha**	**44.00**	**329**	*e*P		**P**		**21 49 08.1**	**-0.6**
KOLN	**Koldanda**	**44.34**	**328**	*e*P		**P**		**21 49 13.3**	**+1.9**
	comp=Z,12nm,0.3s,mb5.0								
GTA	**Gaotai**	**49.64**	**352**	*e*P		**P**		**21 49 55.0**	**+2.3**
GTA				AP		pP		21 50 02.3	-3.4
GTA				XP		sP		21 50 05.3	-6.0
GTA				AMB		AMB			
	comp=Z,2.0nm,0.9s,mb4.2								
MJAR	**Matsushiro Arr**	**54.13**	**30**	P		**P**		**21 50 24.3**	**-1.8**
	comp=Z,1.0nm,0.6s,mb3.9,baz=210,slow=8.5,SNR=5.7								
SONM	**Songino Array**	**57.47**	**359**	P		**P**		**21 50 50.3**	**+0.3**
	comp=Z,3.9nm,0.4s,mb4.8,baz=177,slow=8.5,SNR=45								
SONM				LR		LR		22 16 56.2	
	comp=Z,124nm,18.5s,MS4.0,baz=182,slow=38								
ULN	**Ulaanbaatar**	**57.49**	**359**	*e*P		**P**		**21 50 49.7**	**-0.5**
	comp=Z,6.5nm,0.5s,mb4.9								
MKAR	**Makanchi Array**	**60.96**	**340**	P		**P**		**21 51 13.8**	**-0.4**
	comp=Z,2.3nm,0.5s,mb4.6,baz=146,slow=7.6,SNR=13								
RPZ	**Rata Peaks**	**63.71**	**134**	LR		LR		22 20 30.7	
	comp=Z,121nm,19.4s,MS4.1,baz=166,slow=37								
MAW	**Mawson**	**64.98**	**197**	*e*P		**P**		**21 51 40.3**	**-0.6**
	comp=Z,3.6nm,0.9s,mb4.4								
MAW	**Mawson**	**64.98**	**197**	P		**P**		**21 51 40.2**	**-0.7**
	comp=Z,4.6nm,0.9s,mb4.5,baz=51,slow=7.4,SNR=10								
ZAL	**Zalesovo**	**66.58**	**345**	P		**P**		**21 51 50.0**	**-1.1**
	comp=Z,1.4nm,0.4s,mb4.4,baz=338,slow=4.4,SNR=5.5								
ZAL				LR		LR		22 24 30.6	
	comp=Z,51nm,19.0s,MS3.8,baz=215,slow=39								
ARU	**Arti**	**77.69**	**334**	*e*P		**P**		**21 52 58.4**	**+0.8**
	comp=Z,13nm,1.1s,mb4.8								
LSZ	**Lusaka**	**77.87**	**256**	P		**P**		**21 52 58.4**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.8,baz=132,slow=7.6,SNR=5.4								
BOSA	**Boshof**	**79.16**	**243**	LR		LR		22 22 49.5	
	comp=Z,97nm,21.5s,MS4.1,baz=267,slow=32								
BRTR	**Keskin Array B**	**84.58**	**312**	P		**P**		**21 53 33.9**	**-0.3**
	comp=Z,1.4nm,0.9s,mb4.1,baz=140,slow=6.0,SNR=7.4								
BDFB	**Brasília**	**145.37**	**223**	PKPbc		PKPbc		22 00 39.0	+0.5
	comp=Z,5.8nm,0.9s,baz=113,slow=2.8,SNR=6.7								
LPAZ	**La Paz**	**153.75**	**188**	PKPbc		PKPbc		22 01 00.3	+0.6
	comp=Z,0.8nm,0.6s,baz=82,slow=7.1,SNR=3.6								

IDC 27 21:46:11.0±3.5, 985S×10806E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/16, mbtmp3.8/4, Error ellipse: s-maj=143.6km s-min=23.7km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.26**	**115**	P	P	21 51 56.6	-0.3
	0.8nm,0.8s,baz=284,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**28.23**	**122**	P	P	21 52 06.8	+1.2
	0.8nm,0.7s,baz=295,slow=9.4,SNR=6.2						
SONM	**Songino Array**	**57.45**	**359**	P	P	21 56 01.8	+0.2
	0.9nm,0.4s,baz=175,slow=8.3,SNR=9.2						
MKAR	**Makanchi Array**	**60.91**	**340**	P	P	21 56 25.5	0.0
	0.7nm,0.5s,baz=140,slow=7.3,SNR=6.7						

IDC 27 22:14:04.8±3.8, 928S×10771E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.3/1, 1C, Error ellipse: s-maj=148.6km s-min=25.7km az=48.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.77**	**46** ⇑	*i*P	Pn	22 14 51.2	+0.8
BJII				*i* S	Sn	22 15 30.0	+5.4
FITZ	**Fitzroy Crossi**	**19.49**	**119**	P	Pn	22 18 34.6	+0.1
	0.1nm,0.3s,baz=270,slow=17,SNR=6.4						
WRA	**Warramunga Arr**	**27.82**	**115**	P	P	22 19 55.3	-0.4
	0.3nm,0.7s,baz=287,slow=11,SNR=5.2						
SONM	**Songino Array**	**56.87**	**359**	P	P	22 23 52.7	+1.4
	0.2nm,0.4s,baz=178,slow=9.4,SNR=3.6						
MKAR	**Makanchi Array**	**60.25**	**340**	P	P	22 24 14.2	-0.7
	0.5nm,0.4s,baz=140,slow=7.1,SNR=7.9						

NIED ***27*** *22:35:00, 41.90N×140.10E, h165km, Mw4.1 Best double couple: M0 1.80000×10^15 NP1:ϕs293.00000°, δ82.00000°, λ-111.00000°. NP2:ϕs182.00000°, δ22.00000°, λ-22.00000°.*

MOS ***27*** *22:35:04.6±1.1, 41.98N×140.11E, h192km, mb4.5/6, Error ellipse: s-maj=13.5km s-min=7.7km az=87.1*

ISCJB ***27*** *22:35:04.2±0.2, 41.93N±0.03×140.14E±0.05, h187km±2km, mb4.1/27, Error ellipse: s-maj=6.7km s-min=4.2km az=49.3*

IDC ***27*** *22:35:05.0±0.9, 41.93N×140.12E, h177km±9km, mb3.7/17, mb1 3.8/22, mb1mx3.7/27, mbtmp4.2/22, Error ellipse: s-maj=13.0km s-min=8.8km az=109.0*

NEIC ***27*** *22:35:06.1±0.6, 41.94N×140.05E, h188km±6km, mb4.5/12, MW4.1(NIED), Error ellipse: s-maj=7.4km s-min=5.1km az=115.0*

JMA ***27*** *22:35:06.1±0.1, 41.94N×140.10E, h176km±1km, M4.1 Broadband fault plane solution: P waves. NP1: ϕs170.00000°, δ22.00000°, λ-17.00000°. NP2: ϕs276.00000°, δ84.00000°, λ-111.00000°. Principal axes: T Plg35.0000°, Azm24.0000°; N Plg21.0000°, Azm278.0000°; P Plg47.0000°, Azm164.0000°;*

ISC 27 22:35:05.2±0.2, 4194N±003×14015E±005, h183km±2km, n82, σ0 83/103, mb4.1/27, 7C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYM2	**Yakumo 2**	**0.24**	**43** ⇓	P	**Pn**	**22 35 29.9**	**+0.3**
JYM2				*e*S	**Sn**	**22 35 48.3**	**0.0**
JSR	**Shiriuchi**	**0.46**	**154** ⇑	P	**Pn**	**22 35 30.3**	**+0.1**
JSR				*e*S	**Sn**	**22 35 48.9**	**-0.5**
JOSM	**Okushiri--Mats**	**0.52**	**286** ⇓	P	**Pn**	**22 35 30.2**	**-0.2**
JOSM				*e*S	**Sn**	**22 35 48.4**	**-1.5**
JKB	**Kayabe**	**0.66**	**94** ⇓	P	**Pn**	**22 35 31.4**	**+0.3**
JKB				*e*S	**Sn**	**22 35 50.8**	**-0.3**
JSH	**Shimam**	**0.70**	**354** ⇓	P	**Pn**	**22 35 31.5**	**+0.2**
JSH				*e*S	**Sn**	**22 35 50.8**	**-0.7**
JNB	**Noboribetsu**	**0.84**	**51** ⇓	P	**Pn**	**22 35 32.3**	**+0.1**
JNB				*e*S	**Sn**	**22 35 52.8**	**-0.2**
JOT	**Ohata**	**0.88**	**129** ⇑	P	**Pn**	**22 35 32.7**	**+0.3**
JOT				*e*S	**Sn**	**22 35 53.1**	**-0.2**
JEW	**Eniwo**	**1.32**	**47** ⇓	P	**Pn**	**22 35 36.7**	**+0.9**
JEW				*e*S	**Sn**	**22 36 00.4**	**+1.0**
JTM	**Tenmabayashi**	**1.35**	**149** ⇑	P	**Pn**	**22 35 36.4**	**+0.4**
JTM				*e*S	**Sn**	**22 35 59.6**	**-0.2**
JIW	**Iwasaki**	**1.35**	**185** ⇑	P	**Pn**	**22 35 36.5**	**+0.4**
JIW				*e*S	**Sn**	**22 36 00.1**	**+0.2**
JSK	**Shakotan**	**1.43**	**10** ⇓	P	**Pn**	**22 35 37.1**	**+0.3**
JSK				*e*S	**Sn**	**22 36 01.3**	**+0.1**
JANG	**Nango**	**1.88**	**146** ⇑	P	**Pn**	**22 35 40.9**	**-0.3**
JANG				*e*S	**Sn**	**22 36 07.6**	**-1.4**
JNBK	**Urakawa-nobuka**	**1.97**	**79** ⇓	P	**Pn**	**22 35 42.7**	**+0.6**
JNBK				*e*S	**Sn**	**22 36 10.7**	**0.0**
JHR	**Hokuryu**	**2.14**	**32** ⇓	P	**Pn**	**22 35 45.3**	**+1.3**
JHR				*e*S	**Sn**	**22 36 15.3**	**+1.2**
JFR	**Furan**	**2.18**	**55**	P	**Pn**	**22 35 45.3**	**+0.9**
JFR				*e*S	**Sn**	**22 36 14.8**	**-0.1**
JCH	**Churui**	**2.48**	**73** ⇓	P	**Pn**	**22 35 48.4**	**+0.6**
JCH				*e*S	**Sn**	**22 36 20.1**	**-0.8**
ASAJ	**Asahikawa**	**2.82**	**39**	P	**Pn**	**22 35 52.6**	**+0.9**
	42nm,0.3s,baz=230,slow=11,SNR=187						
ASAJ				S	**Sn**	**22 36 27.6**	**-0.4**
	18nm,0.3s,baz=122,slow=34,SNR=24						
ASAJ	**Asahikawa**	**2.82**	**39**	P	**Pn**	**22 35 52.7**	**+0.9**
ASAJ				S	**Sn**	**22 36 27.7**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,42nm,0.3s						
ASAJ				smax			
	comp=E,18nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.68**	**62**	P	**Pn**	**22 36 13.9**	**-1.2**
YUK				*e*S	**Sn**	**22 37 08.1**	**-1.8**
YUK				pmax	pmax		
	comp=Z,150nm,0.5s						
YUK				smax			
	comp=N,810nm,0.5s						
YUK				smax			
	comp=E,930nm,0.6s						
YUK				smax			
	comp=N,3μm,2.0s						
YUK				smax			
	comp=E,2μm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.35**	**20** ⇑	*i*P	**Pn**	**22 36 23.5**	**-0.2**
YSS				*i* S	**Sn**	**22 37 24.2**	**-1.2**
YSS				pmax	pmax		
	comp=Z,90nm,0.3s						
YSS				pmax	pmax		
	comp=N,70nm,0.4s						
YSS				smax			
	comp=E,180nm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.35**	**20**	*e*Pn	**Pn**	**22 36 24.0**	**+0.3**
	comp=E,62nm,0.3s						
YSS				*e*Sn	**Sn**	**22 37 21.3**	**-4.1**
MAJO	**Matsushiro**	**5.60**	**196**	*e*P	**Pn**	**22 36 27.7**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,18nm,0.4s						
MAJO	**Matsushiro**	**5.60**	**196**	*e*Pn	**Pn**	**22 36 27.7**	**+0.7**
	comp=Z,18nm,0.4s						
MAT	**Matsushiro**	**5.60**	**196**	P	**Pn**	**22 36 27.5**	**+0.6**
MAT				S	**Sn**	**22 37 33.4**	**+2.1**
MAT	**Matsushiro**	**5.60**	**196**	*e*P	**Pn**	**22 36 28.0**	**+1.1**
MAT				*e*S	**Sn**	**22 37 34.0**	**+2.7**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MAT	**Matsushiro**	**5.60**	**196**	*e*P	**Pn**	**22 36 28.0**	**+1.1**
	comp=Z,7.5nm,0.7s						
MAT				*e*S	**Sn**	**22 37 34.0**	**+2.7**
MJAR	**Matsushiro Arr**	**5.60**	**196**	P	**Pn**	**22 36 27.8**	**+0.9**
	comp=Z,3.5nm,0.3s,baz=10,slow=13,SNR=29						
JHJ	**Hachijo jima 2**	**8.81**	**182**	P	**Pn**	**22 37 07.2**	**-1.9**
	comp=Z,27nm,0.3s,baz=79,slow=18,SNR=9.4						
JHJ				S	**Sn**	**22 38 38.3**	**-9.3**
	comp=Z,38nm,0.3s,baz=110,slow=24,SNR=10						
CBIJ	**Chichi jima**	**14.90**	**173**	P	**Pn**	**22 38 25.9**	**-1.0**
	comp=Z,6.4nm,0.3s,baz=313,slow=20,SNR=6.7						
CBIJ				S	**Sn**	**22 40 59.3**	**-14**
	comp=Z,4.3nm,0.3s,baz=288,slow=22,SNR=4.4						
JOW	**Kunigami**	**17.95**	**217**	P	**Pn**	**22 39 02.9**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=92,slow=24,SNR=5.9						
MA2	**Magadan**	**18.85**	**17**	*e*P	**P**	**22 39 10.1**	**-1.1**
MA2				pmax	pmax		
	comp=Z,30nm,0.7s						
BOD	**Bodaibo**	**22.94**	**323** ⇑	*i*P	**P**	**22 39 52.0**	**-1.3**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
NACB	**Ninganchiao**	**23.49**	**227**	P	**P**	**22 39 57.4**	**-0.9**
ULN	**Ulaanbaatar**	**24.05**	**296**	P	**P**	**22 40 04.3**	**+0.8**
SONM	**Songino Array**	**24.50**	**295**	P	**P**	**22 40 08.8**	**+1.3**
	comp=Z,0.3nm,0.4s,mb3.2,baz=85,slow=7.1,SNR=2.7						
TLY	**Talaya**	**26.56**	**304**	P	**P**	**22 40 26.6**	**+0.5**
ZAL	**Zalesovo**	**38.02**	**308**	P	**P**	**22 42 05.4**	**-0.1**
	comp=Z,1.4nm,0.3s,mb4.0,baz=8.2,slow=5.1,SNR=5.9						
MKAR	**Makanchi Array**	**40.84**	**297**	P	**P**	**22 42 29.1**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.6,baz=79,slow=12,SNR=10						
MKAR				ScP	ScP		
	comp=Z,0.3nm,0.5s,baz=68,slow=3.1,SNR=5.2						
IMA2	**Indian Mountai**	**43.03**	**33**	*e*P	**P**	**22 42 47.6**	**+0.9**
KDAK	**Kodiak Island**	**44.22**	**45**	P	**P**	**22 42 55.2**	**-0.8**
	comp=Z,4.0nm,0.4s,mb4.4,baz=313,slow=5.9,SNR=5.5						
SLKM	**Skilak Lake**	**45.00**	**41**	*e*P	**P**	**22 43 02.9**	**+0.7**
COLA	**College**	**45.53**	**35**	*e*P	**P**	**22 43 07.8**	**+1.4**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.6						
COLA	**College**	**45.53**	**35**	*e*P	**P**	**22 43 07.8**	**+1.4**
	comp=Z,8.7nm,0.6s,mb4.6						
GUN	**Gumba**	**45.92**	**270**	*e*P	**P**	**22 43 10.6**	**+1.1**
	comp=Z,31nm,0.4s,mb5.2						
KKN	**Kakani**	**46.43**	**271**	*e*P	**P**	**22 43 13.8**	**+0.3**
	comp=Z,9.3nm,0.6s,mb4.6						
KKN	**Kakani**	**46.43**	**271**	*e*P	**P**	**22 43 13.8**	**+0.3**
KKN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.6						
PKI	**Pulchoki**	**46.46**	**270**	*e*P	**P**	**22 43 12.9**	**-0.8**
BVAR	**Borovoye Array**	**46.64**	**309**	P	**P**	**22 43 15.2**	**+0.2**
	comp=Z,0.6nm,0.3s,mb3.7,baz=81,slow=9.2,SNR=8.2						
DMN	**Daman**	**46.66**	**270**	*e*P	**P**	**22 43 14.7**	**-0.6**
GKN	**Gorkha**	**46.80**	**271**	*e*P	**P**	**22 43 16.8**	**+0.5**
	comp=Z,16nm,0.6s,mb4.8						
KOLN	**Koldanda**	**47.70**	**272**	*e*P	**P**	**22 43 21.2**	**-2.1**
INK	**Inuvik**	**50.51**	**29**	P	**P**	**22 43 45.5**	**+0.9**
	comp=Z,5.0nm,0.3s,mb4.5,baz=287,slow=6.4,SNR=20						
INK	**Inuvik**	**50.51**	**29**	*e*P	**P**	**22 43 45.3**	**+0.7**
INK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
INK	**Inuvik**	**50.51**	**29**	*e*P	**P**	**22 43 45.3**	**+0.7**
	comp=Z,5.4nm,0.3s,mb4.7						
KEV	**Kevo**	**58.52**	**338**	*e*p	**P**	**22 44 41.2**	**-1.1**
ARCES	**ARCESS Array B**	**59.07**	**338**	P	**P**	**22 44 45.6**	**-0.5**
	comp=Z,1.9nm,0.8s,mb4.0,baz=61,slow=8.5,SNR=8.9						
YKA	**Yellowknife Ar**	**60.09**	**31**	P	**P**	**22 44 53.4**	**+0.4**
	comp=Z,1.0nm,0.5s,mb4.0,baz=301,slow=6.9,SNR=9.6						
YKA				PcP	PcP	22 45 37.5	+0.7
	comp=Z,0.4nm,0.3s,baz=306,slow=3.6,SNR=4.2						
YKA	**Yellowknife Ar**	**60.09**	**31**	P	**P**	**22 44 53.4**	**+0.4**
YKA				PcP	PcP	22 45 37.5	+0.6
JOF	**Joensuu**	**61.20**	**330**	*e*p	**P**	**22 44 59.1**	**-1.4**
	comp=Z,0.9nm,0.3s,mb4.1						
FITZ	**Fitzroy Crossi**	**61.23**	**196**	*e*P	**P**	**22 45 01.5**	**+0.8**
	comp=Z,8.3nm,0.9s,mb4.6						
WRAB	**Tennant Creek**	**61.79**	**186**	*e*P	**P**	**22 45 04.0**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**61.79**	**186**	*e*P	**P**	**22 45 04.0**	**-0.5**
	comp=Z,5.5nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**61.80**	**186**	*e*P	**P**	**22 45 03.9**	**-0.6**
WB2	**Warramunga Arr**	**61.80**	**186**	*e*P	**P**	**22 45 04.3**	**-0.2**
WRA	**Warramunga Arr**	**61.80**	**186**	P	**P**	**22 45 04.4**	**-0.2**
	comp=Z,4.3nm,0.6s,mb4.4,baz=7.9,slow=7.7,SNR=102						
KAF	**Kangasniemi**	**63.52**	**331**	*e*p	**P**	**22 45 14.7**	**-1.2**
	comp=Z,0.4nm,0.3s,mb3.7,baz=48,slow=6.2						
FINES	**FINESS Array B**	**64.04**	**331**	P	**P**	**22 45 18.7**	**-0.6**
	comp=Z,1.0nm,0.5s,mb3.9,baz=58,slow=7.2,SNR=12						
ASAR	**Alice Springs**	**65.53**	**186**	P	**P**	**22 45 29.4**	**+0.5**
	comp=Z,3.0nm,0.7s,mb4.2,baz=10,slow=7.3,SNR=30						
NB2	**NORSAR Subarra**	**69.30**	**336**	P	**P**	**22 45 51.6**	**-0.9**
	comp=Z,0.9nm,0.6s,mb3.7,baz=38,slow=6.5						
NOA	**NORSAR Array B**	**69.30**	**336**	P	**P**	**22 45 52.3**	**-0.3**
	comp=Z,1.3nm,0.7s,mb3.8,baz=38,slow=6.2,SNR=8.5						
AKASG	**Malin Array Be**	**69.85**	**321**	P	**P**	**22 45 55.6**	**-0.3**
	comp=Z,1.3nm,0.5s,mb3.9,baz=46,slow=5.9,SNR=12						
BOZ	**Bozeman (W)**	**71.89**	**45**	*e*P	**P**	**22 46 09.2**	**+1.0**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
BOZ	**Bozeman (W)**	**71.89**	**45**	*e*P	**P**	**22 46 09.2**	**+1.0**
	comp=Z,2.1nm,0.8s,mb3.9						
PDAR	**Pinedale Array**	**74.93**	**46**	P	**P**	**22 46 27.2**	**+1.2**
	comp=Z,2.3nm,0.6s,mb4.0,baz=267,slow=0.6,SNR=22						
ULM	**Lac du Bonnet**	**75.94**	**33**	P	**P**	**22 46 31.9**	**+0.2**
	comp=Z,2.1nm,0.6s,mb3.9,baz=321,slow=4.8,SNR=4.6						
GERES	**GERESS Array B**	**78.05**	**327**	P	**P**	**22 46 43.8**	**+0.3**
	comp=Z,0.3nm,0.4s,mb3.2,baz=39,slow=6.8,SNR=6.8						
SCHQ	**Schefferville**	**80.88**	**15**	P	**P**	**22 46 58.8**	**+0.1**
	comp=Z,0.9nm,0.4s,mb3.8,baz=220,slow=12,SNR=6.2						
MAW	**Mawson**	**123.51**	**207**	*e*PKIKP	PKPdf	22 53 40.2	-0.4
SNAA	**Sanae**	**145.10**	**199**	PKPbc	PKPbc	22 54 19.2	-1.3
	comp=Z,0.9nm,0.5s,baz=203,slow=1.7,SNR=39						
SNAA	**Sanae**	**145.10**	**199**	*e*	PKPbc	22 54 18.9	-1.6
SNAA				*e*		22 54 21.6	
SNAA				*e*		22 54 25.3	
VNA1	**Neumayer--Stat**	**147.10**	**199**	*e*	PKPdf	22 54 25.3	+1.3
VNA1				*e*		22 54 28.8	
VNA1				*e*		22 54 31.4	
SIV	**San Ignacio**	**148.34**	**42**	PKPbc	PKPbc	22 54 31.1	+1.4
	comp=Z,1.1nm,0.5s,baz=305,slow=3.3,SNR=6.5						

BJI ***27*** *22:55:44.7, 1063S×107.53E, h8km, mB5.2, mb5.1, Ms4.7, Msz4.6*

IDC ***27*** *22:55:52.0±0.4, 9.54S×107.48E, h0km, mb4.7/16, mb1 4.8/18, mb1mx4.8/20, mbtmp4.7/18, ML4.0/2, MS4.0/8, Ms1 4.0/8, ms1mx3.6/21, Error ellipse: s-maj=19.2km s-min=12.5km az=60.0*

NEIC ***27*** *22:55:54.3±3.4, 9.71S×107.32E, h9km±20km, mb5.3/31, Error ellipse: s-maj=8.8km s-min=5.7km az=52.0*

HRVD ***27*** *22:55:54.3±0.3, 9.79S×107.30E, h12km, MW4.9/64, Centroid moment Tensor Solution. LP body waves: s29,c35;Mantle waves: s64,c98; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.96±.09; Mθθ2.19±.06; Mϕϕ0.76±.10; Mrθ0.77±.26; Mϕr-0.89±.07; Mθr-0.41±.32; Best double couple: M0 2.92300×10^16 NP1:ϕs115.00000°, δ36.00000°, λ-91.00000°. NP2: ϕs296.00000°, δ54.00000°, λ-89.00000°. Principal axes: T 2.7520, Plg9.0000°, Azm26.0000°; N 0.3370, Plg1.0000°, Azm116.0000°; P -3.0940, Plg81.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***27*** *22:55:56.7±1.2, 9.52S×107.39E, h33km, mb5.4/34 Error ellipse: s-maj=10.8km s-min=6.4km az=113.5*

ISCJB ***27*** *22:55:56.1±0.2, 9.68S±0.03×107.42E±0.04, h34km, mb5.2/91, MS4.3/23, Error ellipse: s-maj=5.2km s-min=4.8km az=179.4*

ISC 27 22:55:58.2±0.2, 9.72S±0.03×107.40E±0.04, h36km, h36km±1.0km: pP-P, n271, σ1 14/234, mb5.2/91, MS4.3/23, 33C-19D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.88**	**4**	P	**Pn**	**22 56 38.0**	**-3.5**
	7μm,0.8s						
BJII	**Banjamegara**	**3.29**	**44**	P	**Pn**	**22 56 46.5**	**-0.7**
	679nm,1.0s						
BJII	**Banjamegara**	**3.29**	**44** ⇑	*i*P	**Pn**	**22 56 47.5**	**+0.3**
BJII				*i* S	**Sn**	**22 57 26.6**	**+1.6**
JCJI	**Jatiwangi**	**3.32**	**15**	P	**Pn**	**22 56 43.7**	**-3.9**
	2μm,0.9s						
KRKI	**Karangkates**	**5.23**	**73**	P	**Pn**	**22 57 13.9**	**+0.1**
	1μm,0.8s						
KLI	**Kotabumi**	**5.44**	**332**	P	**Pn**	**22 57 20.2**	**+3.5**
	292nm,1.3s						
KSI	**Kapahiang**	**7.69**	**321**	P	**Pn**	**22 57 43.2**	**-4.3**
	279nm,0.8s						
COCO	**West Island**	**10.66**	**256**	*e*Pn	**Pn**	**22 58 23.4**	**-4.9**
KSM	**Kuching**	**11.49**	**15**	*e*Pn	**Pn**	**22 58 39.2**	**-0.4**
KSM				Sn	**Sn**	**23 00 36.2**	**-10**
KAPI	**Kappang**	**13.11**	**70**	Pn	**Pn**	**22 59 02.0**	**+0.2**
	236nm,0.9s,SNR=7.8						
PSI	**Prapat**	**15.03**	**325**	Pn	**Pn**	**22 59 22.6**	**-5.3**
	0.5nm,0.3s,baz=152,slow=7.4,SNR=6.0						
PSI				LR	LR	23 06 26.3	
	comp=Z,170nm,18.6s,baz=129,slow=43						
PCI	**Palu**	**15.15**	**55**	P	**Pn**	**22 59 29.8**	**+0.3**
	135nm,1.1s						
IPM	**Ipoh**	**15.47**	**335**	P	**Pn**	**22 59 36.5**	**+3.0**
KULM	**Kulim**	**16.35**	**335**	*e*Pn	**Pn**	**22 59 45.4**	**+0.5**
TSM	**Tawau**	**17.39**	**37**	P	**Pn**	**22 59 59.2**	**+1.3**
KKM	**Kota Kinabalu**	**17.95**	**30**	P	**Pn**	**23 00 04.5**	**-0.3**
KKM	**Kota Kinabalu**	**17.95**	**30**	*e*P	**Pn**	**23 00 04.2**	**-0.6**
SNG	**Songkhla**	**18.09**	**338**	P	**Pn**	**23 00 03.0**	**-3.5**
BSI	**Banda Aceh**	**19.33**	**321**	P	**Pn**	**23 00 20.8**	**-0.8**
	164nm,1.8s						
FITZ	**Fitzroy Crossi**	**19.55**	**117**	*e*P	**Pn**	**23 00 21.6**	**-2.6**
	38nm,0.9s						
FITZ				*e*S	**S**	**23 03 47.9**	**-14**
FITZ	**Fitzroy Crossi**	**19.55**	**117**	P	**Pn**	**23 00 21.7**	**-2.5**
	0.5nm,0.3s,baz=282,slow=7.1,SNR=23						
FITZ				S	**S**	**23 03 49.1**	**-12**
	0.5nm,0.3s,baz=105,slow=21,SNR=6.3						
NNT	**Nongplab**	**23.43**	**341**	P	**P**	**23 01 05.2**	**+1.0**
DAV	**Davao City (W)**	**24.62**	**48**	*e*P	**P**	**23 01 18.5**	**+3.5**
KAKA	**Kakadu**	**24.74**	**99**	*e*P	**P**	**23 01 13.9**	**-2.2**
	21nm,0.8s,mb4.7						
NWAO	**Narrogin (SRO)**	**24.82**	**160**	P	**P**	**23 01

comp=Z,191nm,20.1s,MS3.9,baz=130,slow=36
STKA Stephens Creek 38.57 130 *e*P P 23 03 18.1 +0.7
comp=Z,22nm,0.9s,mb4.9
STKA *e*P 23 03 18.6
STKA *e*pP pP 23 03 28.9 +1.0
CTA Charters Tower 38.85 110 *e*P P 23 03 22.2 +2.5
comp=Z,11nm,1.0s,mb4.5
CTA *e*pP pP 23 03 32.7 +2.5
CTA Charters Tower 38.85 110 *e*P P 23 03 22.2 +2.5
CTA *e**PP pP 23 03 32.7 +2.5
CTA pmax pmax
comp=Z,11nm,1.0s
CTAO Charters Tower 38.85 110 *e*P P 23 03 22.4 +2.7
CTAO pmax pmax
comp=Z,60nm,1.5s,mb5.1
CTAO Charters Tower 38.85 110 *e*P P 23 03 22.4 +2.7
comp=Z,60nm,1.5s,mb5.1
PMG Port Moresby 39.19 93*d i*P P 23 03 24.3 +1.7
HYB Hyderabad 39.24 313 *i*P P 23 03 24.5 +1.5
HYB Hyderabad 39.24 313 *e*P P 23 03 24.0 +1.0
CD2 Chengdu 40.54 355 P P 23 03 33.8 0.0
CD2 AP pP 23 03 45.3 +0.9
CD2 XP sP 23 03 48.0 -0.7
CD2 PP PP 23 05 08.8 +1.3
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,100nm,6.3s
CD2 LR LR
comp=N,290nm,15.0s
CD2 LR LR
comp=Z,380nm,12.6s,MS4.5
WHN Wuhan 40.58 9 ⇓P P 23 03 35.0 +0.9
JIRN Jiri 42.46 332 *e*P P 23 03 50.4 +0.9
comp=Z,258nm,0.9s,mb5.8
SSE Sheshan 42.68 18 P P 23 03 52.5 +1.2
SSE AP pP 23 04 01.5 -0.4
SSE PP PP 23 05 31.8 +1.2
SSE S **S 23 10 14.3 +2.2**
SSE XS sS 23 10 30.0 +0.4
SSE AMB AMB
comp=Z,38nm,1.0s,mb5.1
SSE AMB AMB
comp=Z,166nm,4.9s
SSE LR LR
comp=N,96nm,27.0s,MS3.7
SSE LR LR
comp=E,100nm,27.0s,MS3.7
SSE LR LR
comp=Z,161nm,28.5s,MS3.8
PKI Pulchoki 42.75 331 *e*P P 23 03 52.0 +0.1
comp=Z,131nm,1.2s,mb5.5
PKI Pulchoki 42.75 331 *e*P P 23 03 52.0 +0.1
PKI pmax pmax
comp=Z,131nm,1.2s,mb5.5
GUN Gumba 42.81 331 *e*P P 23 03 53.2 +0.8
comp=Z,163nm,0.8s,mb5.8
DMN Daman 42.93 330 *e*P P 23 03 53.8 +0.4
comp=Z,175nm,1.0s,mb5.8
NJ2 Nanjing 42.95 14 *e*P P 23 03 53.3 -0.2
NJ2 AP pP 23 04 03.0 -1.1
NJ2 XP sP 23 04 06.3 -2.1
NJ2 XS sS 23 10 31.0 -2.6
NJ2 AMB AMB
comp=Z,90nm,0.9s,mb5.5
NJ2 AMB AMB
comp=Z,300nm,4.7s
NJ2 LR LR
comp=N,560nm,19.0s,MS4.6
NJ2 LR LR
comp=E,650nm,23.3s,MS4.6
NJ2 LR LR
comp=Z,5μm,21.6s,MS5.3
KKN Kakani 43.00 331 *e*P P 23 03 54.2 +0.3
comp=Z,179nm,1.0s,mb5.7
KKN Kakani 43.00 331 *e*P P 23 03 54.2 +0.3
KKN pmax pmax
comp=Z,179nm,1.0s,mb5.8
GKN Gorkha 43.49 330 *e*P P 23 03 58.2 +0.4
comp=Z,343nm,1.3s,mb5.9
XAN Xi'an 43.54 2 P P 23 03 57.8 -0.4
XAN AP pP 23 04 09.5 +0.7
XAN AMB AMB
comp=Z,68nm,1.0s,mb5.3
KOLN Koldanda 43.81 329 *e*P P 23 04 01.1 +0.6
comp=Z,196nm,0.9s,mb5.8
LZH Lanzhou 45.68 356 *e*P P 23 04 16.0 +0.7
LZH AP pP 23 04 25.5 -0.5
LZH PP PP 23 06 03.0 +0.4
LZH XS sS 23 11 11.0 -2.4
LZH AMB AMB
comp=Z,11nm,1.5s,mb4.6
LZH AMB AMB
comp=Z,28nm,4.0s
LZH LR LR
comp=N,425nm,14.6s
LZH LR LR
comp=Z,674nm,15.3s,MS4.7
TIA Tai'an 46.59 11 *e*P P 23 04 20.3 -2.2
LGTI Lohaghat 46.92 327 *e*P P 23 04 26.0 +1.0
NDI New Delhi 48.03 324 *e*P P 23 04 32.0 -1.7
GTA Gaotai 49.38 352 *e*P P 23 04 44.8 +0.7
GTA AP pP 23 04 53.5 -1.3
GTA XP sP 23 04 58.0 -1.1
GTA SCP ScP 23 09 59.3 +0.7
GTA S **S 23 11 47.0 -1.3**
GTA XS sS 23 12 03.5 -2.6
GTA SCS ScS 23 14 33.0 0.0
GTA AMB AMB
comp=Z,14nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,313nm,6.5s
GTA LR LR
comp=N,223nm,19.8s,MS4.5
GTA LR LR
comp=E,390nm,19.0s,MS4.5
GTA LR LR
comp=Z,429nm,14.5s,MS4.6
BTO Baotou 50.12 3 *e*P P 23 04 48.8 -0.9
BJT Baijiatuau 50.14 9 *e*P P 23 04 49.3 -0.6
BJT pmax pmax
comp=Z,38nm,1.0s
BJT Baijiatuau 50.14 9 *e*P P 23 04 49.2 -0.6
comp=Z,38nm,1.0s,mb5.4
BJI Beijing 50.17 9 *e*P P 23 04 49.5 -0.5
BJI S **S 23 12 05.3 +6.0**
BJI AMB AMB
comp=Z,34nm,1.0s,mb5.3
BJI LR LR
comp=N,274nm,19.0s,MS4.4
BJI LR LR
comp=E,231nm,16.2s,MS4.4
BJI LR LR
comp=Z,265nm,20.8s,MS4.2
SDNR Sundarnagar 50.29 326 *ex* x 23 04 52.0
HHC Hu-ho-hao-te 50.46 4 *e*P P 23 04 54.3 +2.1
HHC PP PP 23 06 52.0 +3.9
HHC S **S 23 12 06.0 +2.6**
HHC SCS ScS 23 14 41.0 +0.7
HHC AMB AMB
comp=Z,29nm,0.6s,mb5.5
HHC AMB AMB
comp=Z,131nm,5.7s
HHC LR LR
comp=N,430nm,13.7s,MS4.8
HHC LR LR
comp=E,447nm,14.9s,MS4.8
HHC LR LR
comp=Z,399nm,13.7s,MS4.6
MAJO Matsushiro 54.37 30 *e*P P 23 05 19.5 -1.8
MAJO *e* 23 07 26.6
MAJO pmax pmax
comp=Z,32nm,1.1s,mb5.2
MAJO Matsushiro 54.37 30 *e*P P 23 05 19.5 -1.7
comp=Z,32nm,1.1s,mb5.2
MAJO *e*PP PP 23 07 26.6 +3.1
MAT Matsushiro 54.37 30 P P 23 05 19.1 -2.2
MAT S **S 23 12 40.0 -17**
MAT Matsushiro 54.37 30 *e*P P 23 05 19.0 -2.3
MAT pmax pmax
comp=Z,23nm,1.2s,mb5.0
MAT Matsushiro 54.37 30 *e*P P 23 05 19.0 -2.3
comp=Z,23nm,1.2s,mb5.0
MJAR Matsushiro Arr 54.37 30 P P 23 05 19.3 -1.9
comp=Z,17nm,1.0s,mb4.9,baz=204,slow=7.9,SNR=38
MJAR LR LR 23 29 57.6
comp=Z,88nm,20.9s,MS3.8,baz=200,slow=38
CN2 Changchun 55.73 16 *e*P P 23 05 29.5 -1.6
CN2 *e*XP sP 23 05 42.5 -3.7
CN2 *e*S **S 23 13 14.0 -1.2**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,200nm,21.0s,MS4.3
CN2 LR LR
comp=E,200nm,21.0s,MS4.3
CN2 LR LR
comp=Z,500nm,22.0s,MS4.6
WMQ Urumqi 56.21 343 P P 23 05 36.8 +2.3
WMQ PP PP 23 07 43.5 +3.6
WMQ SCP ScP 23 10 29.3 +1.0
WMQ S **S 23 13 22.3 +0.8**
WMQ AMB AMB
comp=Z,48nm,1.4s,mb5.3
WMQ AMB AMB
comp=Z,274nm,5.0s
WMQ LR LR
comp=N,1μm,18.0s,MS5.2
WMQ LR LR
comp=E,1μm,16.9s,MS5.2
WMQ LR LR
comp=Z,1μm,18.5s,MS5.1
KSH Kashi 57.01 331 *e*P P 23 05 41.0 +0.8
KSH *e*AP pP 23 05 51.3 +0.2
KSH *e*XP sP 23 05 53.3 -2.1
KSH *e*PCP PcP 23 06 36.0 +1.0
KSH *e*PP PP 23 07 49.0 +2.0
KSH *e*PPP 23 09 06.8
KSH *e*SCP ScP 23 10 31.8 0.0
KSH *e*S **S 23 13 29.8 -2.3**
KSH *e*SCS ScS 23 15 24.0 -2.6
KSH AMB AMB
comp=Z,234nm,12.7s
KSH LR LR
comp=N,397nm,7.7s
KSH LR LR
comp=E,513nm,6.4s
KSH LR LR
comp=Z,600nm,7.3s
SONM Songino Array 57.30 359 P P 23 05 39.3 -3.0
comp=Z,15nm,0.9s,mb5.0,baz=176,slow=7.7,SNR=58
SONM LR LR 23 32 49.5
comp=Z,322nm,20.9s,MS4.4,baz=168,slow=39
ULN Ulaanbaatar 57.33 360 P P 23 05 43.0 +0.5
SNR=19
ULN Ulaanbaatar 57.33 360⇑*i*P P 23 05 42.5 +0.1
ULN Ulaanbaatar 57.33 360 *e*P P 23 05 45.4 +3.0
comp=Z,53nm,1.5s,mb5.3
MIR Mirnyy 57.60 187*c i*P P 23 05 46.0 +1.6
MIR pmax pmax
comp=Z,170nm,1.0s,mb6.0
MDJ Mudanjiang 57.69 19 P P 23 05 44.5 -0.4
MDJ AP pP 23 05 53.8 -2.1
MDJ XP sP 23 05 57.5 -2.6
MDJ PCP PcP 23 06 37.5 -0.2
MDJ PP PP 23 07 52.8 -0.2
MDJ S **S 23 13 46.5 +5.5**
MDJ SCS ScS 23 15 31.8 +0.3
MDJ AMB AMB
comp=Z,12nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,105nm,6.0s
MDJ LR LR
comp=N,77nm,24.3s,MS3.8
MDJ LR LR
comp=E,47nm,24.3s,MS3.8
HIA Hailar 59.72 9⇓*i*P P 23 05 58.2 -0.9
HIA Hailar 59.72 9⇓*i*P P 23 05 58.3 -0.8
ZAK Zakamensk 59.95 357⇑*i*P P 23 06 00.8 +0.1
ZAK pmax pmax
comp=Z,11nm,1.2s,mb4.8
AAK Ala-Archa 60.15 332 P P 23 06 02.5 +0.4
SNR=9.7
AAK Ala-Archa 60.15 332*c i*P P 23 06 02.6 +0.5
AAK pmax pmax
comp=Z,17nm,1.7s,mb4.8
AAK Ala-Archa 60.15 332 *e*P P 23 06 02.5 +0.4
FRU Bishkek 60.26 333 P P 23 06 03.2 +0.4
MKAR Makanchi Array 60.56 340 P P 23 06 01.6 -3.2
comp=Z,14nm,0.6s,mb5.2,baz=147,slow=7.3,SNR=39
TLY Talaya 61.23 357 P P 23 06 10.3 +0.9
SNR=10
TLY Talaya 61.23 357*c*eP P 23 06 09.8 +0.4
TLY pmax pmax
comp=Z,13nm,1.7s,mb4.8
TLY Talaya 61.23 357 *e*P P 23 06 10.8 +1.4
MOY Mondy 61.38 355 *e*P P 23 06 11.3 +0.9
CIT Chita 61.71 4 *e*P P 23 06 11.8 -0.9
CIT *e* pP 23 06 23.8 +0.1
CIT pmax pmax
comp=Z,61nm,2.3s,mb5.3
IRK Irkutsk 61.77 358 *e*P P 23 06 12.5 -0.5
IRK pmax pmax
comp=Z,39nm,1.3s,mb5.4
KLR Kul'dur 62.47 18 *e*P P 23 06 13.3 -4.5
KLR pmax pmax
comp=Z,57nm,1.6s,mb5.5
HABR Khabarovsk 62.87 20 *e*P P 23 06 21.0 +0.6
HABR S **S 23 14 49.8 +2.4**
HABR pmax pmax
comp=Z,57nm,1.3s,mb5.5
YSS Yuzh-Sakhalins 64.62 26⇓*i*P P 23 06 31.2 -0.7
YSS *e* pP 23 06 41.4 -1.6
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.4
YSS Yuzh-Sakhalins 64.62 26 *e*P P 23 06 31.9 0.0
MAW Mawson 64.90 197⇓*i*P P 23 06 33.6 -0.2
comp=Z,23nm,0.9s,mb5.2
MAW *e*pP pP 23 06 44.4 -0.4
MAW Mawson 64.90 197 P P 23 06 33.8 0.0
comp=Z,33nm,0.9s,mb5.4,baz=46,slow=6.7,SNR=63
MAW Mawson 64.90 197⇓*i*P P 23 06 33.6 -0.2
MAW *e**PP pP 23 06 44.4 -0.4
MAW pmax pmax
comp=Z,23nm,0.9s
KURK Kurchatov 65.17 340 P P 23 06 32.9 -2.6
comp=Z,220nm,1.2s,mb6.1,SNR=32
ABKT Ailbek 66.05 319 P P 23 06 41.8 +0.6
comp=Z,180nm,0.8s,mb6.2,SNR=5.9
ZAL Zalesovo 66.24 346 P P 23 06 40.8 -1.6
comp=Z,6.6nm,0.8s,mb4.7,baz=332,slow=3.5,SNR=27
ZAL LR LR 23 37 57.2
comp=Z,131nm,19.7s,MS4.2,baz=146,slow=38
NVS Novosibirsk 67.45 345 *e*P P 23 06 48.0 -2.1
NVS *e* 23 09 17.4
NVS *e*S S 23 15 40.0 -3.6
NVS pmax pmax
comp=Z,21nm,1.6s,mb4.9
NVS pmax pmax
comp=E,16nm,1.6s
NVS pmax pmax
comp=Z,11nm,1.9s,mb4.6
NVS pmax pmax
comp=N,17nm,1.7s
NVS pmax pmax
comp=E,10.0nm,1.7s
NVS smax
comp=N,5.0nm,1.8s
NVS smax
comp=E,11nm,1.8s
BOD Bodaibo 67.51 4 *e*P P 23 06 47.8 -2.7
BOD pmax pmax
comp=Z,16nm,1.5s,mb4.8
UMR Umm Al-Rimmam 69.43 307 *e*P P 23 07 00.9 -1.6
UMR AMb AMB 23 07 05.1
comp=Z,47nm,1.3s,mb5.2
NAY Al-Naaiem 69.68 306 *e*P P 23 07 02.4 -1.7
NAY AMb AMB 23 07 05.6
comp=Z,16nm,1.2s,mb4.8
MIB Mutribah 69.83 307 *e*P P 23 07 03.7 -1.3
MIB AMb AMB 23 07 06.8
comp=Z,37nm,1.5s,mb5.1
RST Umm Al-Ruwaisa 69.98 306 *e*P P 23 07 04.0 -1.9
RST AMb AMB 23 07 07.3
comp=Z,36nm,1.2s,mb5.2
BRVK Borovoye 70.07 337 P P 23 07 03.4 -3.0
comp=Z,101nm,1.2s,mb5.6,SNR=10
KMBO Kilima Mbogo 70.25 272 P P 23 07 08.0 +0.5
comp=Z,6.4nm,0.8s,mb4.6,baz=59,slow=9.9,SNR=18
KMBO Kilima Mbogo 70.25 272⇑*e*P P 23 07 09.3 +1.8
KMBO Kilima Mbogo 70.25 272 *e*P P 23 07 08.8 +1.3
SYO Syowa Base 73.11 200⇑*i*P P 23 07 24.0 -0.7
SYO Syowa Base 73.11 200⇓*i*pP pP 23 07 34.8 -1.1
VNDA Vanda 73.24 169 P P 23 07 25.2 -0.3
comp=Z,3.7nm,0.9s,mb4.3,baz=295,slow=6.3,SNR=15
YAK Yakutsk 73.61 11*d i*P P 23 07 27.7 0.0
YAK pmax pmax
comp=Z,75nm,1.7s,mb5.3
YAK Yakutsk 73.61 11 *i*P P 23 07 27.8 +0.1
AKTO Aktyubinsk 73.65 330 LR LR 23 42 45.8
comp=Z,78nm,19.9s,MS4.0,baz=8.8,slow=38
SBA Scott Base 74.32 169 *e*P P 23 07 32.8 +1.0
SBA *e**PP pP 23 07 41.1 -1.9
MAK Makhachkala 75.57 319⇑*i*P P 23 07 38.7 -0.3
GNI Garni 76.15 315⇑*i*P P 23 07 42.3 0.0
PET Petropavlovsk 76.17 29 *e*P P 23 07 44.0 +1.6
PET *e* pP 23 07 54.4 +0.7
PET *e*S S 23 17 24.5 +0.7
PET pmax pmax
comp=Z,23nm,1.6s,mb4.9
PET pmax pmax
comp=Z,29nm,1.0s,mb5.2
PET MLR MLR
comp=Z,100nm,22.0s,MS4.1
PET Petropavlovsk 76.17 29⇓*i*P P 23 07 44.6 +2.2
SVE Sverdlovsk 76.63 336⇑*e*P P 23 07 45.0 -0.1
SVE *e*S S 23 17 30.0 +1.1
SVE pmax pmax
comp=Z,120nm,1.7s,mb5.5
SVE MLR MLR
comp=E,100nm,16.0s
SVE MLR MLR
comp=Z,200nm,16.0s,MS4.5
MBAR Mbarara 76.75 272*d i*P P 23 07 46.0 +0.2
MTA Mtatsminda 76.79 317 P P 23 07 46.3 +0.4
MTA Mtatsminda 76.79 317 P P 23 07 46.3 +0.4
TBLG Delisi 76.84 317 P P 23 07 46.4 +0.2
TBLG Delisi 76.84 317 P P 23 07 46.4 +0.2
LSZ Lusaka 77.17 256 P P 23 07 49.5 +1.4
SNR=6.0
LSZ Lusaka 77.17 256 *e*P P 23 07 48.3 +0.2
LSZ *e**PP pP 23 07 59.7 +0.3
LSZ pmax pmax
comp=Z,32nm,1.0s,mb5.2
LSZ Lusaka 77.17 256 *e*P P 23 07 48.3 +0.2
comp=Z,32nm,1.0s,mb5.2
LSZ *e*pP pP 23 07 59.7 +0.3
ARU Arti 77.23 335 P P 23 07 49.6 +1.2
comp=Z,164nm,1.1s,mb5.9,SNR=7.8
ARU Arti 77.23 335⇓*i*P P 23 07 47.6 -0.8
ARU *e* pP 23 07 57.9 -1.8
ARU *e* 23 10 42.2
ARU *e*PPP 23 12 26.8
ARU *e*S S 23 17 35.9 +0.5
ARU *e*SS SS 23 22 36.1 +2.4
ARU pmax pmax
comp=Z,36nm,1.1s,mb5.2
ARU Arti 77.23 335⇑*i*P P 23 07 48.5 +0.1
MA2 Magadan 77.27 21 *e*P P 23 07 49.6 +1.0
MA2 *e* pP 23 07 59.8 -0.1
MA2 *e*S S 23 17 35.5 -0.3
MA2 *e*PS 23 17 47.1
MA2 pmax pmax
comp=Z,30nm,1.1s,mb5.1
MA2 Magadan 77.27 21 *i*P P 23 07 50.0 +1.4
ZEI Tsey 77.85 318 *e*P P 23 07 51.7 -0.2
ZEI *e**PP pP 23 08 04.3 +1.1
ZEI *e* 23 10 49.4
ZEI pmax pmax
comp=Z,8.0nm,0.4s,mb5.0
ERZM Erzurum 78.41 314 *i*P P 23 07 55.5 +0.5
BOSA Boshof 78.56 243 P P 23 07 56.3 +0.5
comp=Z,7.7nm,0.8s,mb4.7,baz=124,slow=6.3,SNR=7.9
BOSA Boshof 78.56 243 P P 23 07 56.3 +0.5
BOSA *e*pP pP 23 08 07.9 +0.7
LBTB Lobatse 78.58 246 *e*P P 23 07 57.0 +1.1
LBTB *e**PP pP 23 08 05.1 -2.1
LBTB pmax pmax
comp=Z,19nm,0.9s,mb5.0
LBTB Lobatse 78.58 246 *e*P P 23 07 57.0 +1.0
comp=Z,19nm,0.9s,mb5.0
LBTB *e*pP pP 23 08 05.1 -2.1
KIV Kislovodsk 79.16 318*c i*P P 23 07 59.1 0.0
KIV pmax pmax
comp=Z,21nm,1.7s,mb4.8
KIV Kislovodsk 79.16 318⇑*i*P P 23 07 59.2 +0.1
EIL Elat 79.85 303 *e*P P 23 08 03.5 +0.6
EIL *e*pP pP 23 08 14.3 0.0
MALT Malatya 79.94 312 *e*P P 23 08 03.5 +0.2
MALT *e**PP pP 23 08 13.2 -1.5
SOKR Solikamsk 79.97 336*d i*P P 23 08 04.3 +0.8
SOKR pmax pmax
comp=Z,30nm,1.1s,mb5.1
GZT Gaziantep 80.24 311 *i*P P 23 08 03.9 -1.1
QSPA South Pole Qui 80.29 180 *e*P P 23 08 05.3 0.0
comp=Z,28nm,1.2s,mb5.1
SOC Sochi 80.97 317 *e*P P 23 08 07.9 -1.0
SOC pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
TIXI Tiksi 82.44 7*d i*P P 23 08 16.2 -0.4
TIXI pmax pmax
comp=Z,40nm,1.3s,mb5.2
TIXI Tiksi 82.44 7 *i*P P 23 08 16.3 -0.3
CSS Prodhromos 82.73 307 *e*P P 23 08 19.1 +1.0
comp=Z,23nm,1.1s,mb5.1
CSS *e* pP 23 08 29.7 +0.2
NVL N'lazarevskaya 82.73 199 *e*P P 23 08 18.9 +0.7
NVL pmax pmax
comp=Z,39nm,1.8s,mb5.1
ANN Anapa 82.95 318 *e*P P 23 08 25.7 +6.4
ANN pmax pmax
comp=Z,23nm,1.0s,mb5.2
CDAG Cicekdag 83.35 312 *i*P P 23 08 20.0 -1.4
BOYT Boyabat 83.54 314 *i*P P 23 08 17.7 -4.7
BR131 Keskin Array S 83.92 312 *e*P P 23 08 23.7 -0.6
comp=Z,5.4nm,0.8s,mb4.7
BR131 *e*pP pP 23 08 35.0 -0.7
BRTR Keskin Array B 83.92 312 P P 23 08 23.9 -0.4
comp=Z,6.5nm,1.1s,mb4.7,baz=134,slow=5.3,SNR=22
VRSR Storozhevoye 84.27 324 *e*P P 23 08 25.5 -0.6
VRSR pmax pmax
comp=Z,30nm,1.2s,mb5.3
VRSR pmax pmax
comp=N,6.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,1.1s
ELDT Eldivan 84.31 313 *i*P P 23 08 25.9 -0.4
ANTO Ankara 84.59 312 P P 23 08 27.9 +0.2
SNR=6.7
ANTO Ankara 84.59 312 *e*P P 23 08 27.2 -0.5
ANTO *e**PP pP 23 08 38.6 -0.5
ANTO pmax pmax
comp=Z,33nm,1.5s,mb5.2
ANTO Ankara 84.59 312 *e*P P 23 08 27.2 -0.5
comp=Z,33nm,1.5s,mb5.2
ANTO *e*pP pP 23 08 38.6 -0.4
BALT Daday 84.66 314 *i*P P 23 08 27.9 -0.1
SIM Simferopol' 85.22 317 *e*P P 23 08 31.5 +0.6
SIM *i* pP 23 08 42.0 -0.3
SIM pmax pmax
comp=Z,12nm,1.1s,mb4.9
ESKT Eskisehir 85.92 311 *i*P P 23 08 33.2 -1.1
TSUM Tsumeb 86.69 251 *e*P P 23 08 39.6 +1.5
comp=Z,32nm,1.5s,mb5.3
TSUM *e* pP 23 08 50.0 +0.5
MOS Moscow 86.88 328 *e*P P 23 08 37.8 -1.2
MOS *i* pP 23 08 48.8 -1.7
MOS *e* 23 11 59.2
MOS *e* 23 18 52.8
MOS *i*S 23 19 11.0
MOS pmax pmax
comp=Z,96nm,1.5s,mb5.8
SNAA Sanae 87.07 197 *e*P P 23 08 40.1 +0.1
SNAA *e* 23 08 42.3
SNAA *e* pP 23 08 51.0 -0.4
SNAA *e* pP 23 08 53.2 +1.8
SNAA Sanae 87.07 197 *e*P P 23 08 40.7 +0.7
SNAA *e* pP 23 08 51.5 +0.1
SNAA pmax pmax
comp=Z,18nm,1.2s

SNAA	**Sanae**	**87.07**	**197**	*e*P		**P**	**23 08 40.7**	**+0.7**
	comp=Z,18nm,1.2s,mb5.2							
SNAA				*e*		pP	23 08 51.5	+0.1
OBN	**Obninsk**	**87.20**	**327**	*c i*P		**P**	**23 08 40.4**	**-0.2**
OBN				*i*		pP	23 08 51.8	-0.3
OBN				pmax	pmax			
	comp=Z,69nm,1.6s,mb5.6							
OBN	**Obninsk**	**87.20**	**327**	*e*P		**P**	**23 08 40.4**	**-0.3**
	comp=Z,26nm,0.8s,mb5.5							
ULDT	**Uludag**	**87.36**	**311**	*i*P		**P**	**23 08 41.0**	**-0.4**
AYDN	**Tasoluk**	**87.69**	**309**	*i*P		**P**	**23 08 43.9**	**+0.9**
KDAG	**Bornova**	**88.34**	**309**	*i*P		**P**	**23 08 46.2**	**+0.2**
TIRR	**Tirgusor**	**88.98**	**315**	*e*P		**P**	**23 08 49.0**	**0.0**
TIRR				*e*		pP	23 08 59.4	-1.1
VNA1	**Neumayer--Stat**	**89.10**	**197**	*e*P		**P**	**23 08 50.3**	**+0.7**
VNA1				*e*			23 08 52.4	
VNA1				*e*		pP	23 09 01.0	-0.1
VNA1				*e*		pP	23 09 03.9	+2.8
CFR	**Carcaliu**	**89.35**	**316**	⇑*i*P		**P**	**23 08 51.0**	**+0.2**
HARR	**Harsova**	**89.37**	**315**	⇑*i*P		**P**	**23 08 51.3**	**+0.4**
HARR	**Harsova**	**89.37**	**315**	⇑P		**P**	**23 08 51.3**	**+0.4**
AKASG	**Malin Array Be**	**90.05**	**322**	P		**P**	**23 08 53.0**	**-1.1**
	comp=Z,0.4nm,0.3s,mb4.2,baz=87,slow=3.9,SNR=10							
AKASG				PP		PP	23 12 27.6	+0.2
	comp=Z,5.6nm,1.0s,baz=84,slow=6.9,SNR=7.7							
AKASG	**Malin Array Be**	**90.05**	**322**	P		**P**	**23 08 53.0**	**-1.1**
AKASG				PP		PP	23 12 27.6	+0.2
	comp=Z,5.6nm,1.0s,baz=84,slow=6.9,SNR=7.7							
VRI	**Vrincioaia**	**90.47**	**316**	⇓*i*P		**P**	**23 08 56.6**	**+0.6**
VRI	**Vrincioaia**	**90.47**	**316**	⇓P		**P**	**23 08 56.6**	**+0.6**
PLOR	**Plostina**	**90.52**	**316**	⇓*i*P		**P**	**23 08 58.2**	**+1.9**
MLR	**Muntele Rosu**	**90.92**	**316**	⇑*i*P		**P**	**23 08 58.3**	**+0.2**
MLR	**Muntele Rosu**	**90.92**	**316**	⇑P		**P**	**23 08 58.3**	**+0.2**
BURAR	**Bucovina Array**	**91.88**	**318**	⇑*i*P		**P**	**23 09 03.5**	**+1.0**
BURAR	**Bucovina Array**	**91.88**	**318**	⇑P		**P**	**23 09 03.5**	**+1.0**
JOF	**Joensuu**	**92.33**	**344**	*e*p		**P**	**23 09 11.2**	**+6.6**
	comp=Z,4.8nm,0.7s,mb4.9							
BZS	**Buzias**	**93.93**	**315**	⇑*i*P		**P**	**23 09 11.9**	**-0.1**
BZS	**Buzias**	**93.93**	**315**	⇑P		**P**	**23 09 11.9**	**-0.1**
KOLS	**Kolonicke sedl**	**94.06**	**319**	*e*P		**P**	**23 09 14.2**	**+1.6**
KOLS							23 13 05.3	
FINES	**FINESS Array B**	**94.33**	**332**	P		**P**	**23 09 13.5**	**-0.3**
	comp=Z,1.5nm,0.9s,mb4.4,baz=103,slow=6.1,SNR=3.6							
FINES	**FINESS Array B**	**94.33**	**332**	P		**P**	**23 09 13.5**	**-0.4**
KAF	**Kangasniemi**	**94.37**	**332**	*e*p		**P**	**23 09 20.9**	**+6.9**
	comp=Z,8.0nm,0.9s,mb5.2							
KAF	**Kangasniemi**	**94.37**	**332**	*e*P		**P**	**23 09 20.9**	**+6.9**
KAF				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb5.2							
SUW	**Suwalki**	**94.40**	**324**	P		**P**	**23 09 13.4**	**-0.8**
SUW				*e*		pP	23 09 23.8	-1.9
SUW				pmax	pmax			
	comp=Z,27nm,0.9s,mb5.7							
SUW	**Suwalki**	**94.40**	**324**	P		**P**	**23 09 13.4**	**-0.8**
	comp=Z,27nm,0.9s,mb5.7							
SUW				*e*		pP	23 09 23.8	-1.9
ARCES	**ARCESS Array B**	**96.20**	**339**	P		**P**	**23 09 21.5**	**-0.9**
	comp=Z,6.0nm,1.1s,mb5.0,baz=101,slow=6.3,SNR=5.9							
VYHS	**Vyhne**	**96.24**	**318**	*e*P		**P**	**23 09 22.3**	**-0.3**
VYHS				*e*PP		PP	23 13 16.4	+0.4
VYHS	**Vyhne**	**96.24**	**318**	*e*P		**P**	**23 09 22.4**	**-0.2**
VYHS				*e*			23 13 16.4	
VYHS				pmax	pmax			
	comp=Z,6.0nm,1.8s,mb4.7							
VYHS	**Vyhne**	**96.24**	**318**	*e*P		**P**	**23 09 22.4**	**-0.2**
	comp=Z,5.9nm,1.8s,mb4.7							
VYHS				*e*PP		PP	23 13 16.4	+0.4
CLL	**Collm**	**100.25**	**321**	*e*PP		PP	23 13 49.0	+2.3
CLL	**Collm**	**100.25**	**321**	*e*PP		PP	23 13 49.0	+2.3
KBS	**Kingsbay**	**100.52**	**349**	⇑*i*P		Pdif	23 09 40.6	-1.2
GRF	**Grafenberg Arr**	**101.33**	**319**	*e*PP		PP	23 13 54.9	+0.1
GRF	**Grafenberg Arr**	**101.33**	**319**	*e*PP		PP	23 13 54.9	+0.1
TORD	**Torodi Ar. Bea**	**107.33**	**281**	PKiKP		PKiKP	23 14 21.3	+0.7
	comp=Z,0.6nm,0.7s,baz=61,slow=1.8,SNR=5.6							
YKA	**Yellowknife Ar**	**119.25**	**21**	PKP		PKPdf	23 14 42.8	-0.6
	comp=Z,0.8nm,0.6s,baz=346,slow=1.4,SNR=6.6							
YKA	**Yellowknife Ar**	**119.25**	**21**	⇑*i*PKIKP		PKPdf	23 14 42.7	-0.7
YKA	**Yellowknife Ar**	**119.25**	**21**	PKP		PKPdf	23 14 42.8	-0.6
EDM	**Edmonton**	**125.67**	**29**	*e*PKIKP		PKPdf	23 14 57.8	+2.1
P01C	**Double 8 Ranch**	**126.09**	**48**	⇓P		PKPdf	23 14 57.9	+1.5
	baz=126							
J05A	**Fort Rock**	**126.18**	**43**	⇑P		PKPdf	23 14 58.6	+1.9
	baz=126							
J06A	**Christmas Vall**	**126.92**	**42**	⇑P		PKPdf	23 14 59.8	+1.7
	baz=127							
N06A	**Buffalo Meadow**	**128.14**	**45**	⇑P		PKPdf	23 15 02.5	+2.2
	baz=128							
O06A	**Flanigan**	**128.37**	**46**	⇑P		PKPdf	23 15 03.6	+2.8
	baz=128							
CHMT	**Chamberlain Mo**	**129.41**	**35**	*e*PKPdf		PKPdf	23 15 04.7	+1.9
NVAR	**Mina Array Bea**	**130.13**	**47**	PKP		PKPdf	23 15 06.4	+2.2
	comp=Z,0.5nm,0.7s,baz=190,slow=2.4,SNR=6.5							
MCMT	**McKenzie Canyo**	**130.79**	**37**	PKPdf		PKPdf	23 15 08.5	+3.1
PDAR	**Pinedale Array**	**133.91**	**38**	PKP		PKPdf	23 15 13.2	+1.9
	comp=Z,0.5nm,0.7s,baz=344,slow=4.8,SNR=4.6							
RSSD	**Black Hills**	**136.23**	**33**	*e*PKIKP		PKPdf	23 15 17.1	+1.5
AMTX	**Amarillo**	**143.49**	**42**	*e*PKPdf		PKPdf	23 15 29.3	+0.5
AMTX				*e*			23 15 39.8	
KSU1	**Kansas State U**	**143.71**	**32**	*e*PKPdf		PKPdf	23 15 29.9	+0.7
PKME	**Peaks-Kenny Pk**	**144.47**	**356**	*e*PKPdf		PKPdf	23 15 30.4	-0.1
BAO	**Brasilia Array**	**144.95**	**224**	PKPdf		PKPdf	23 15 32.5	+1.1
BDFB	**Brasilia**	**144.96**	**224**	PKPbc		PKPdf	23 15 32.6	+1.2
	comp=Z,21nm,0.8s,baz=156,slow=2.7,SNR=37							
LONY	**Lake Ozonia**	**145.18**	**2**	*e*P		PKPbc	23 15 31.9	+0.5
LONY				*e*			23 15 43.1	
WMOK	**Wichita Mounta**	**145.46**	**40**	*e*PKPdf		PKPdf	23 15 31.6	-0.7
WMOK				*e*			23 15 44.7	
MIV	**Mineville/With**	**145.76**	**1**	*e*PKP		PKPdf	23 15 33.9	+1.2
NCB	**Newcomb**	**145.84**	**2**	*e*PKPdf		PKPdf	23 15 33.6	+0.7
NCB				*e*			23 15 45.0	
CCM	**Cathedral Cave**	**147.17**	**28**	*e*PKPdf		PKPdf	23 15 36.0	+0.8
CCM				*e*			23 15 49.4	
JCT	**Junction City**	**147.31**	**47**	*e*PKIKP		PKPdf	23 15 36.2	+0.8
FVM	**French Village**	**147.60**	**27**	*e*PKP2		PKPab	23 15 37.9	-2.9
ACSO	**Alum Creek Sta**	**148.24**	**15**	*e*PKP		PKPdf	23 15 41.0	+4.1
ACSO				*e*			23 15 52.1	
SSPA	**Standing Stone**	**148.85**	**8**	*e*PKPbc		PKPbc	23 15 42.5	+0.7
WCI	**Wyandotte Cave**	**149.06**	**21**	*e*PKIKP		PKPdf	23 15 40.2	+2.0
WCI				*e*			23 15 43.5	
WCI				*e*			23 15 54.0	
UALR	**University of**	**149.21**	**33**	PKPdf		PKPdf	23 15 41.7	+3.2
UALR				*e*PKPdf		PKPdf	23 15 44.4	+5.9
UALR				*e*			23 15 55.2	
NATX	**Nacogdoches**	**150.01**	**40**	*e*PKPbc		PKPbc	23 15 46.7	+2.0
WVT	**Waverly**	**150.28**	**25**	*e*PKIKP		PKPdf	23 15 41.8	+1.6
WVT				*e*			23 15 57.2	
HKT	**Hockley**	**150.40**	**44**	*e*PKIKP		PKPdf	23 15 48.3	+7.9
HKT				*e*			23 15 59.5	
PLAL	**Pickwick Lake**	**151.15**	**27**	*e*PKPdf		PKPdf	23 15 42.8	+1.3
PLAL				*e*PKPbc		PKPbc	23 15 47.6	+0.2
PLAL				*e*			23 15 58.9	
FWV	**Forest Hill**	**151.28**	**14**	*e*PKPbc		PKPbc	23 15 48.4	+0.7
ELN	**Prospectdale**	**151.63**	**14**	*e*PKPbc		PKPbc	23 15 49.5	+0.9
ELN				*e*			23 15 58.2	
SWET	**Sewanee**	**151.85**	**24**	*e*PKPdf		PKPdf	23 15 45.1	+2.5
SWET				*e*PKPbc		PKPbc	23 15 49.8	+0.8
CPCT	**Cooper Cave**	**152.17**	**21**	*e*PKPbc		PKPbc	23 15 51.3	+1.5
MYNC	**Murphy**	**152.65**	**21**	*e*PKIKP		PKPdf	23 15 44.5	+0.7
MYNC				*e*			23 15 52.1	
MYNC	**Murphy**	**152.65**	**21**	*e*PKPdf		PKPdf	23 15 44.5	+0.7
MYNC				*e*PKPbc		PKPbc	23 15 52.1	+1.3
MYNC				*e*			23 16 03.3	
LRAL	**Lakeview Retre**	**153.26**	**28**	*e*PKPdf		PKPdf	23 15 47.0	+2.3
LPAZ	**La Paz**	**153.79**	**190**	PKP		PKPdf	23 15 48.9	+3.5
	comp=Z,2.8nm,0.9s,baz=145,slow=2.4,SNR=6.6							
LPAZ				PKPbc		PKPbc	23 15 56.1	+2.8
	comp=Z,3.0nm,0.8s,baz=151,slow=3.8,SNR=12							
LPAZ				PKPab		PKPab	23 16 07.6	+1.3
	comp=Z,3.5nm,0.7s,baz=197,slow=9.4,SNR=7.6							
LPAZ	**La Paz**	**153.79**	**190**	PKP		PKPdf	23 15 48.9	+3.5
LPAZ				PKPbc		PKPbc	23 15 56.1	+2.8
LPAZ				PKPab		PKPab	23 16 07.6	+1.3
OTAV	**Otavalo**	**168.93**	**148**	*e*PKPdf		PKPdf	23 16 03.5	+2.3
OTAV				*e*			23 16 14.7	

IDC 27 23:05:08.1±59.0, 1534S×17349W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/14, mbtmp4.1/3, Error ellipse: s-maj=1137.0km s-min=177.9km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.99**	**240**	P	P	23 13 17.0	-0.2
	0.7nm,0.3s,baz=89,slow=9.3,SNR=5.7						
WRA	**Warramunga Arr**	**49.77**	**257**	P	P	23 14 02.8	+0.4
	0.4nm,0.4s,baz=92,slow=7.1,SNR=28						
ASAR	**Alice Springs**	**50.05**	**252**	P	P	23 14 05.2	+0.8
	5.9nm,0.6s,baz=88,slow=8.2,SNR=75						

*IDC **27** 23:19:07.0±0.5, 955S×10740E, h0km, mb4.7/18, mb1 4.7/20, mb1mx4.6/24, mbtmp4.6/20, ML4.0/2, MS4.1/17, Ms1 4.1/17, ms1mx3.9/28, Error ellipse: s-maj=18.8km s-min=12.4km az=56.0*

*HRVD **27** 23:19:09.0±0.3, 9.89S×10731E, h12km, MW5.0/76, Centroid moment Tensor Solution. LP body waves: s29,c43;Mantle waves: s76,c125; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-3.69±.10; Mθθ2.97±.07; Mϕϕ0.72±.11; Mrθ-1.22±.27; Mϕϕ-1.62±.07; Mϕr0.52±.35; Best double couple: Mo3.98100×10^16 NP1:ϕ=299.00000°, δ35.00000°, λ-87.00000°. NP2: ϕs116.00000°, δ55.00000°, λ-92.00000°. Principal axes: T 4.0430, Plg10.0000°, Azm207.0000°; N -0.1220, Plg2.0000°, Azm117.0000°; P -3.9180, Plg80.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **27** 23:19:09.0, 960S×10740E, h11km, mB5.3, mb4.9, Ms4.9, Ms2.7*

*NEIC **27** 23:19:09.0±3.6, 960S×10736E, h11km±21km, mb5.1/23, Error ellipse: s-maj=9.4km s-min=5.5km az=47.0*

*MOS **27** 23:19:10.9±1.2, 947S×10746E, h33km, mb5.3/29, Error ellipse: s-maj=11.2km s-min=6.7km az=113.5*

*ISCJB **27** 23:19:10.7±0.2, 961S±004×10741E±004, h34km, mb5.0/76, MS4.4/33, Error ellipse: s-maj=6.0km s-min=5.0km az=119.1*

ISC 27 23:19:12.8±0.2, 963S±004×10740E±004, h36km, h36km±1.1km: pP-P, n203, σ1§13/176, mb5.0/76, MS4.4/33, 18C-8D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.79**	**5**	P	**Pn**	**23 19 54.8**	**-0.2**
	3μm,0.8s						
BJII	**Banjamegara**	**3.23**	**45**	P	**Pn**	**23 20 00.6**	**-0.4**
	492nm,0.9s						
BJII	**Banjamegara**	**3.23**	**45**	⇑*i*P	**Pn**	**23 20 02.9**	**+1.9**
BJII				*i* S	**Sn**	**23 20 41.9**	**+3.7**
BJII	**Banjamegara**	**3.23**	**45**	⇑*i*P	**Pn**	**23 19 55.5**	**-5.5**
BJII				*i* S	**Sn**	**23 20 33.4**	**-4.8**
JCJI	**Jatiwangi**	**3.23**	**16**	P	**Pn**	**23 19 58.1**	**-3.0**
	2μm,1.0s						
KRKI	**Karangkates**	**5.21**	**74**	P	**Pn**	**23 20 28.7**	**+0.5**
	2μm,1.3s						
KSI	**Kapahiang**	**7.61**	**321**	P	**Pn**	**23 20 59.2**	**-2.0**
	176nm,1.0s						
KAPI	**Kappang**	**13.08**	**70**	Pn	**Pn**	**23 22 17.2**	**+1.1**
	84nm,0.4s,SNR=8.5						
PSI	**Prapat**	**14.95**	**325**	Pn	**Pn**	**23 22 37.6**	**-3.9**
	0.5nm,0.3s,baz=281,slow=5.1,SNR=6.2						
PSI				LR	LR	23 29 19.1	
	comp=Z,615nm,20.1s,baz=134,slow=41						
PCI	**Palu**	**15.11**	**56**	P	**Pn**	**23 22 43.8**	**+0.3**
	173nm,1.3s						
KKM	**Kota Kinabalu**	**17.88**	**30**	Pn	**Pn**	**23 23 19.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**19.60**	**117**	*e*P	**Pn**	**23 23 38.1**	**-1.3**
	38nm,0.9s						
FITZ				*e*S	**S**	**23 27 00.2**	**-17**
FITZ	**Fitzroy Crossi**	**19.60**	**117**	P	**Pn**	**23 23 38.8**	**-0.6**
	0.4nm,0.3s,baz=277,slow=6.8,SNR=24						
FITZ				S	**S**	**23 27 05.7**	**-11**
	0.8nm,0.3s,baz=97,slow=18,SNR=7.7						
FITZ				LR	LR	23 30 43.4	
	comp=Z,214nm,19.4s,baz=300,slow=36						
DAV	**Davao City (W)**	**24.56**	**48**	*e*P	**P**	**23 24 32.2**	**+3.0**
BUKP	**Musuan**	**24.74**	**46**	*e*P	**P**	**23 24 32.3**	**+1.5**
KAKA	**Kakadu**	**24.75**	**99**	*e*P	**P**	**23 24 30.6**	**-0.4**
	24nm,0.8s,mb4.8						
NWAO	**Narrogin (SRO)**	**24.90**	**160**	P	**P**	**23 24 32.5**	**+0.2**
	9.6nm,0.6s,mb4.5,baz=329,slow=20,SNR=5.2						
NST	**Nakhon Sawan**	**26.14**	**344**	P	**P**	**23 24 44.0**	**+0.4**
	42nm,1.0s,mb4.9						
KKTK	**Khon Kaen**	**26.19**	**350**	P	**P**	**23 24 44.0**	**0.0**
	309nm,1.0s,mb5.8						
WRA	**Warramunga Arr**	**27.95**	**115**	P	**P**	**23 24 59.6**	**-0.2**
	7.7nm,0.8s,mb4.4,baz=288,slow=11,SNR=42						
WRA				Sn	S	23 30 23.4	+42
	2.5nm,0.9s,baz=283,slow=25,SNR=6.0						
WRAB	**Tennant Creek**	**27.96**	**115**	P	**P**	**23 25 00.8**	**+0.9**
	85nm,1.0s,mb5.3,SNR=6.1						
WRAB	**Tennant Creek**	**27.96**	**115**	⇓*i*P	**P**	**23 25 00.1**	**+0.2**
WRAB	**Tennant Creek**	**27.96**	**115**	*e*P	**P**	**23 24 59.2**	**-0.7**
	62nm,1.4s,mb5.0						
WB2	**Warramunga Arr**	**27.96**	**115**	*e*P	**P**	**23 24 59.2**	**-0.7**
WB2	**Warramunga Arr**	**27.96**	**115**	*e*P	**P**	**23 25 00.7**	**+0.8**
QIZ	**Qiongzhong**	**28.57**	**5**	P	**P**	**23 25 07.3**	**+1.9**
QIZ				AP	pP	23 25 16.3	+0.7
QIZ				XP	sP	23 25 19.3	-0.6
QIZ				S	**S**	**23 29 55.5**	**+4.4**
QIZ				AMB	AMB		
	comp=Z,37nm,1.9s,mb4.8						
QIZ				LR	LR		
	comp=E,1μm,18.3s						
QIZ				LR	LR		
	comp=Z,1μm,16.0s,MS4.6						
ASAR	**Alice Springs**	**28.91**	**122**	P	**P**	**23 25 08.4**	**+0.1**
	comp=Z,3.0nm,0.8s,mb4.1,baz=302,slow=8.6,SNR=12						
ASAR				PcP	PcP	23 28 17.4	+0.6
	comp=Z,1.2nm,0.6s,baz=309,slow=2.0,SNR=4.1						
ASAR				Sn	S	23 30 46.9	+51
	comp=Z,1.9nm,0.8s,baz=297,slow=22,SNR=5.1						
ASAR	**Alice Springs**	**28.91**	**122**	P	**P**	**23 25 08.5**	**+0.2**
ASAR						23 28 17.4	
AS31	**Alice Springs**	**28.91**	**122**	*e*P	**P**	**23 25 07.5**	**-0.9**
CHG	**Chiang Mai**	**29.46**	**344**	⇓P	**P**	**23 25 12.9**	**-0.3**
	comp=Z,25nm,1.1s,mb4.9						
CHTO	**Chiang Mai**	**29.46**	**344**	P	**P**	**23 25 14.0**	**+0.7**
	SNR=7.7						
CHTO	**Chiang Mai**	**29.46**	**344**	*e*P	**P**	**23 25 12.9**	**-0.3**
CHTO				*e*	pP	23 25 24.2	+0.7
CHTO				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.2						
CHTO	**Chiang Mai**	**29.46**	**344**	*e*P	**P**	**23 25 12.9**	**-0.3**
	comp=Z,50nm,1.0s,mb5.2						
CHTO				*e*	pP	23 25 24.2	+0.8
CHTO				*e*		23 25 37.4	
JAY	**Jayapura**	**33.84**	**80**	P	**P**	**23 25 48.1**	**-3.6**
	comp=Z,73nm,0.7s,mb5.7						
KMI	**Kunming**	**34.83**	**353**	P	**P**	**23 26 02.5**	**+2.2**
KMI				AP	pP	23 26 12.5	+1.9
KMI				XP	sP	23 26 17.0	+2.1
KMI				PP	PP	23 27 17.8	-1.8
KMI				PPP		23 27 41.8	
KMI				PCP	PcP	23 28 34.0	+1.1
KMI				S	**S**	**23 31 31.8**	**+3.1**
KMI				PCS	PcS	23 32 20.5	+0.9
KMI				SS	SS	23 33 49.0	-12
KMI				SSS		23 34 16.8	
KMI				SCS	ScS	23 36 20.3	+1.4
KMI				AMB	AMB		
	comp=Z,34nm,1.5s,mb5.1						
KMI				AMB	AMB		
	comp=Z,325nm,7.6s						
KMI				LR	LR		
	comp=N,1μm,13.3s,MS4.9						
KMI				LR	LR		
	comp=E,1μm,17.9s,MS4.9						
KMI				LR	LR		
	comp=Z,2μm,12.6s						
GYA	**Guiyang**	**35.87**	**359**	⇑*i*P	**P**	**23 26 10.5**	**+1.3**
GYA				AP	pP	23 26 20.0	+0.4
GYA				XP	sP	23 26 24.5	+0.6
GYA				PP	PP	23 27 32.0	+0.9
GYA				PCP	PcP	23 28 38.0	+2.1
GYA				S	**S**	**23 31 44.8**	**+0.1**
GYA				SCP	ScP	23 32 20.3	+1.0
GYA				SS	SS	23 34 08.5	-13
GYA				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
GYA				AMB	AMB		
	comp=Z,160nm,4.0s						
GYA				LR	LR		
	comp=N,720nm,16.4s,MS4.7						
GYA				LR	LR		
	comp=E,820nm,16.8s,MS4.7						
GYA				LR	LR		
	comp=Z,940nm,15.2s,MS4.7						
YHNB	**Yeheng**	**36.71**	**22**	*e*P	**P**	**23 26 20.1**	**+3.7**
STKA	**Stephens Creek**	**38.63**	**130**	*e*P	**P**	**23 26 32.2**	**-0.4**
	comp=Z,12nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**38.63**	**130**	P	**P**	**23 26 32.0**	**-0.6**
	comp=Z,14nm,0.9s,mb4.7,baz=316,slow=8.3,SNR=9.5						
STKA				LR	LR	23 43 16.9	
	comp=Z,364nm,22.0s,MS4.2,baz=298,slow=38						
CTA	**Charters Tower**	**38.88**	**110**	*e*P	**P**	**23 26 35.8**	**+1.1**
	comp=Z,8.5nm,0.8s,mb4.5						
CTA	**Charters Tower**	**38.88**	**110**	*e*P	**P**	**23 26 35.8**	**+1.1**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CTAO	**Charters Tower**	**38.88**	**110**	*e*P	**P**	**23 26 36.0**	**+1.3**
CTAO				*e*	pP	23 26 47.5	+2.4
CTAO				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
CTAO	**Charters Tower**	**38.88**	**110**	*e*P	**P**	**23 26 36.0**	**+1.3**
	comp=Z,14nm,0.8s,mb4.8						
CTAO				*e*	pP	23 26 47.5	+2.3
HYB	**Hyderabad**	**39.17**	**313**	*i*P	**P**	**23 26 39.0**	**+1.8**
HYB	**Hyderabad**	**39.17**	**313**	*e*P	**P**	**23 26 38.0**	**+0.8**
PMG	**Port Moresby**	**39.20**	**93**	*e*P	**P**	**23 26 39.8**	**+2.4**
PMG				*e*PP	pP	23 26 48.3	+0.5
PMG				pmax	pmax		
	comp=Z,37nm,1.3s						
PMG	**Port Moresby**	**39.20**	**93**	*e*P	**P**	**23 26 39.8**	**+2.4**
	comp=Z,37nm,1.3s,mb5.0						
PMG				*e*pP	pP	23 26 48.3	+0.5
CD2	**Chengdu**	**40.45**	**355**	P	**P**	**23 26 49.0**	**+1.2**
CD2				AP	pP	23 27 00.3	+2.1
CD2				PP	PP	23 28 27.5	+6.2
CD2				S	**S**	**23 32 54.5**	**+0.6**
CD2				XS	sS	23 33 13.8	+2.7
CD2				SS	SS	23 35 49.0	-5.0
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
CD2				LR	LR		
	comp=N,580nm,15.0s						
CD2				LR	LR		
	comp=Z,720nm,15.0s,MS4.7						
WHN	**Wuhan**	**40.49**	**9**	*e*P	**P**	**23 26 45.8**	**-2.3**
JIRN	**Jiri**	**42.38**	**332**	*e*P	**P**	**23 27 03.8**	**+0.2**
SSE	**Sheshan**	**42.59**	**18**	P	**P**	**23 27 06.0**	**+0.7**
SSE				AP	pP	23 27 15.0	-0.8
SSE				XP	sP	23 27 19.0	-1.1
SSE				S	**S**	**23 33 27.5**	**+1.9**
SSE				XS	sS	23 33 43.5	+0.6
SSE				SCS	ScS	23 37 05.0	+1.2
SSE				AMB	AMB		
	comp=Z,29nm,0.9s,mb5.0						
SSE				AMB	AMB		
	comp=Z,248nm,5.4s						
SSE				LR	LR		
	comp=N,180nm,27.4s,MS4.0						
SSE				LR	LR		
	comp=E,165nm,27.4s,MS4.0						
SSE				LR	LR		
	comp=Z,275nm,30.7s,MS4.0						
PKI	**Pulchoki**	**42.67**	**331**	*e*P	**P**	**23 27 05.6**	**-0.4**
GUN	**Gumba**	**42.73**	**331**	*e*P	**P**	**23 27 06.8**	**+0.3**
	comp=Z,582nm,1.4s,mb6.1						
DMN	**Daman**	**42.85**	**330**	*e*P	**P**	**23 27 07.2**	**-0.2**
	comp=Z,124nm,1.0s,mb5.6						
NJ2	**Nanjing**	**42.87**	**14**	*e*P	**P**	**23 27 06.0**	**-1.5**
NJ2				AP	pP	23 27 14.5	-3.5
NJ2				XP	sP	23 27 19.8	-2.5
NJ2				PP	PP	23 28 47.5	+0.1
NJ2				S	**S**	**23 33 29.0**	**-0.6**
NJ2				XS	sS	23 33 46.0	-0.9
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,250nm,6.3s						
NJ2				LR	LR		
	comp=N,1μm,10.0s,MS5.1						
NJ2				LR	LR		
	comp=E,660nm,12.7s,MS5.1						
NJ2				LR	LR		
	comp=Z,6μm,17.4s,MS5.5						
KKN	**Kakani**	**42.92**	**331**	*e*P	**P**	**23 27 07.9**	**-0.1**
	comp=Z,137nm,1.0s,mb5.6						
KKN	**Kakani**	**42.92**	**331**	*e*P	**P**	**23 27 07.9**	**-0.1**
KKN				pmax	pmax		
	comp=Z,137nm,1.0s,mb5.6						
GKN	**Gorkha**	**43.41**	**330**	*e*P	**P**	**23 27 11.5**	**-0.4**
	comp=Z,242nm,1.3s

comp=Z,627nm,13.1s,MS4.8
JHJ Hachijo jima 2 52.52 35 LR LR 23 51 09.7
comp=Z,177nm,18.0s,MS4.2,baz=80,slow=37
SNY Shenyang 53.31 15 ⇑P **P** **23 28 26.5 -1.8**
SNY AP pP 23 28 35.3 -3.7
SNY XP sP 23 28 38.0 -5.2
SNY S **S** **23 35 53.5 -3.9**
SNY AMB AMB
comp=Z,13nm,1.6s,mb4.6
SNY AMB AMB
comp=Z,217nm,12.0s
SNY LR LR
comp=N,315nm,15.9s,MS4.6
SNY LR LR
comp=E,233nm,14.3s,MS4.6
SNY LR LR
comp=Z,426nm,14.7s,MS4.6
MAJO Matsushiro 54.30 31 *e*P **P** **23 28 33.9 -1.6**
MAJO *e**PP pP 23 28 44.3 -1.9
MAJO pmax pmax
comp=Z,44nm,1.3s,mb5.2
MAJO Matsushiro 54.30 31 *e*P **P** **23 28 33.9 -1.5**
comp=Z,44nm,1.3s,mb5.2
MAJO *e*pP pP 23 28 44.3 -1.9
MAT Matsushiro 54.30 31 P **P** **23 28 33.1 -2.4**
MAT S **S** **23 36 14.0 +3.3**
MAT Matsushiro 54.30 31 *e*P **P** **23 28 33.0 -2.5**
MAT pmax pmax
comp=Z,24nm,1.1s,mb5.0
MAT Matsushiro 54.30 31 *e*P **P** **23 28 33.0 -2.5**
comp=Z,24nm,1.1s,mb5.0
MJAR Matsushiro Arr 54.30 31 P **P** **23 28 33.3 -2.1**
comp=Z,24nm,1.1s,mb5.0,baz=207,slow=7.8,SNR=42
MJAR LR LR 23 55 14.1
comp=Z,95nm,18.9s,MS3.9,baz=175,slow=40
CN2 Changchun 55.65 16 ⇑P **P** **23 28 43.5 -1.7**
CN2 *e*XP sP 23 28 58.0 -2.2
CN2 *e*S **S** **23 36 26.8 -2.0**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,400nm,21.0s,MS4.6
CN2 LR LR
comp=E,300nm,21.0s,MS4.6
CN2 LR LR
comp=Z,500nm,22.0s,MS4.5
WMQ Urumqi 56.12 343 P **P** **23 28 51.8 +3.2**
WMQ AP pP 23 29 01.8 +2.4
WMQ XP sP 23 29 05.8 +2.2
WMQ PCP PcP 23 29 49.5 +3.2
WMQ PP PP 23 30 58.3 +4.4
WMQ SCP ScP 23 33 44.5 +1.8
WMQ S **S** **23 36 36.5 +1.3**
WMQ PS 23 36 52.8
WMQ XS sS 23 36 53.8 +0.9
WMQ SCS ScS 23 38 34.8 -0.2
WMQ SS SS 23 40 23.0 +1.2
WMQ AMB AMB
comp=Z,36nm,1.3s,mb5.2
WMQ AMB AMB
comp=Z,213nm,4.9s
WMQ LR LR
comp=N,1μm,17.4s,MS5.1
WMQ LR LR
comp=E,797nm,16.3s,MS5.1
WMQ LR LR
comp=Z,1μm,17.9s,MS5.0
KSH Kashi 56.93 331 P **P** **23 28 54.8 +0.4**
KSH *e*AP pP 23 29 00.3 -4.8
KSH *e*XP sP 23 29 02.0 -7.3
KSH *e*PP PP 23 31 02.5 +1.5
KSH *e*PPP 23 32 18.8
KSH *e*SCP ScP 23 33 49.0 +2.8
KSH S **S** **23 36 42.0 -3.8**
KSH *e*SCS ScS 23 38 40.8 0.0
KSH AMB AMB
comp=Z,383nm,4.1s
KSH LR LR
comp=N,416nm,7.8s
KSH LR LR
comp=E,550nm,6.1s
KSH LR LR
comp=Z,735nm,22.4s,MS4.7
SONM Songino Array 57.21 359 P **P** **23 28 56.1 -0.2**
comp=Z,9.4nm,0.8s,mb4.9,baz=177,slow=7.1,SNR=64
SONM LR LR 23 55 21.2
comp=Z,535nm,20.6s,MS4.6,baz=172,slow=38
ULN Ulaanbaatar 57.24 360 P **P** **23 28 57.3 +0.7**
SNR=17
ULN Ulaanbaatar 57.24 360 *e*P **P** **23 28 56.7 +0.2**
ULN *e**PP pP 23 29 08.2 +0.9
ULN pmax pmax
comp=Z,17nm,0.9s,mb5.1
ULN Ulaanbaatar 57.24 360 *e*P **P** **23 28 56.6 +0.1**
comp=Z,17nm,0.9s,mb5.1
ULN *e*pP pP 23 29 08.2 +0.9
MDJ Mudanjiang 57.60 19 P **P** **23 28 59.0 -0.1**
MDJ AP pP 23 29 09.3 -0.6
MDJ XP sP 23 29 12.8 -1.3
MDJ PP PP 23 31 07.5 +0.5
MDJ SCP ScP 23 33 49.5 +0.3
MDJ PCS PcS 23 33 54.0 +0.7
MDJ S **S** **23 37 01.3 +6.7**
MDJ SCS ScS 23 38 46.5 +0.8
MDJ AMB AMB
comp=Z,11nm,1.6s,mb4.6
MDJ AMB AMB
comp=Z,86nm,4.8s
MDJ LR LR
comp=N,73nm,31.1s,MS3.8
MDJ LR LR
comp=E,89nm,34.5s,MS3.8
MDJ LR LR
comp=Z,139nm,31.7s,MS3.9
MIR Mirnyy 57.69 187 *e*P pP 23 29 14.5 +4.0
MIR pmax pmax
comp=Z,100nm,1.5s,mb5.6
OPO Ambohidratompo 58.85 254 P **P** **23 29 07.7 -0.1**
comp=Z,6.6nm,1.0s,mb4.6,baz=314,slow=19,SNR=3.6
ZAK Zakamensk 59.86 357 *e*P **P** **23 29 14.3 -0.5**
ZAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
AAK Ala-Archa 60.07 332 *e*P **P** **23 29 16.2 -0.1**
AAK *e**PP pP 23 29 26.3 -0.8
FRU Bishkek 60.17 333 P **P** **23 29 16.0 -0.9**
FRU *e* 23 31 26.0
MKAR Makanchi Array 60.47 340 P **P** **23 29 18.2 -0.7**
comp=Z,13nm,0.6s,mb5.1,baz=148,slow=6.5,SNR=83
TLY Talaya 61.14 357 P **P** **23 29 25.3 +1.7**
SNR=12
TLY Talaya 61.14 357 *e*P **P** **23 29 24.9 +1.4**
TLY *e* pP 23 29 33.5 -0.9
TLY pmax pmax
comp=Z,32nm,1.6s,mb5.2
TLY Talaya 61.14 357 *e*P **P** **23 29 24.9 +1.4**
comp=Z,32nm,1.6s,mb5.2
TLY *e* pP 23 29 33.5 -0.9
CIT Chita 61.62 4 *e*P **P** **23 29 28.1 +1.3**
CIT *e* pP 23 29 37.8 +0.1
CIT *e* 23 30 11.8
CIT pmax pmax
comp=Z,67nm,1.9s,mb5.5
IRK Irkutsk 61.68 358 *e*P **P** **23 29 26.6 -0.5**
IRK pmax pmax
comp=Z,35nm,2.1s,mb5.1
ASAJ Asahikawa 62.28 28 LR LR 23 56 50.7
comp=Z,103nm,19.0s,MS4.0,baz=356,slow=36
KLR Kul'dur 62.39 18 *e*P **P** **23 29 27.0 -4.9**
KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,52nm,1.4s,mb5.5
HABR Khabarovsk 62.79 20 *e*P **P** **23 29 34.4 -0.2**
HABR S **S** **23 38 01.9 +0.7**
YSS Yuzh-Sakhalins 64.54 26 *e*P **P** **23 29 45.8 -0.3**
YSS *e**PP pP 23 29 56.9 -0.2
MAW Mawson 64.99 197 *e*P **P** **23 29 48.8 -0.2**
comp=Z,12nm,1.2s,mb4.8
MAW *e*pP pP 23 30 00.2 +0.2
MAW Mawson 64.99 197 P **P** **23 29 48.4 -0.7**
comp=Z,9.6nm,0.7s,mb4.9,baz=52,slow=9.7,SNR=30
MAW LR LR 23 53 34.3
comp=Z,93nm,20.8s,MS4.0,baz=56,slow=32
MAW Mawson 64.99 197 *e*P **P** **23 29 48.8 -0.2**
MAW *e**PP pP 23 30 00.2 +0.2
MAW pmax pmax
comp=Z,12nm,1.2s
KURK Kurchatov 65.09 340 P **P** **23 29 49.1 -0.6**
comp=Z,163nm,0.8s,mb6.1,SNR=20
ZAL Zalesovo 66.15 346 P **P** **23 29 55.2 -1.4**
comp=Z,2.6nm,0.7s,mb4.4,baz=334,slow=3.8,SNR=16
ZAL LR LR 00 01 23.1
comp=Z,165nm,18.4s,MS4.3,baz=122,slow=38
NVS Novosibirsk 67.36 345 *e*P **P** **23 30 02.5 -1.8**
NVS pmax pmax
comp=N,15nm,1.8s
NVS pmax pmax
comp=E,14nm,1.8s
NVS pmax pmax
comp=Z,20nm,1.8s,mb4.8
BOD Bodaibo 67.42 4 *e*P **P** **23 30 02.9 -1.8**
BOD pmax pmax
comp=Z,15nm,1.6s,mb4.8
CLNS Chul'man 67.78 10 *e*P **P** **23 30 04.2 -2.7**
CLNS pmax pmax
comp=Z,28nm,1.2s,mb5.2
CLNS pmax pmax
comp=N,17nm,1.3s
CLNS pmax pmax
comp=E,11nm,1.1s
KMBO Kilima Mbogo 70.24 272 P **P** **23 30 24.3 +2.1**
comp=E,5.7nm,1.0s,mb4.5,baz=50,slow=8.7,SNR=7.2
KMBO LR LR 23 58 37.1
comp=E,156nm,18.5s,MS4.3,baz=257,slow=34
KMBO Kilima Mbogo 70.24 272 *e*P **P** **23 30 24.2 +2.0**
KMBO Kilima Mbogo 70.24 272 P **P** **23 30 24.3 +2.1**
KMBO LR LR 23 58 37.1
RAO Raoul Island 72.04 118 LR LR 00 01 47.8
comp=E,468nm,19.9s,MS4.8,baz=128,slow=36
SYO Syowa Base 73.19 200 *e*P **P** **23 30 39.4 -0.5**
SYO Syowa Base 73.19 200 *e**PP pP 23 30 51.2 +0.2
VNDA Vanda 73.33 169 P **P** **23 30 40.6 -0.2**
comp=E,2.0nm,1.0s,mb4.0,baz=300,slow=8.0,SNR=5.4
VNDA LR LR 00 00 26.8
comp=E,149nm,19.8s,MS4.3,baz=314,slow=34
YAK Yakutsk 73.52 11 *d* P **P** **23 30 41.3 -0.6**
YAK pmax pmax
comp=Z,70nm,1.7s,mb5.3
AKTK Aktyubinsk 73.57 330 P **P** **23 30 42.1 0.0**
AKTO Aktyubinsk 73.57 330 P **P** **23 30 42.1 0.0**
comp=Z,3.3nm,0.5s,mb4.5,baz=126,slow=8.1,SNR=20
PET Petropavlovsk 76.09 29 *e*P **P** **23 30 58.1 +1.4**
PET *e* pP 23 31 08.9 +1.0
PET *e*S S 23 40 42.7 +4.9
PET pmax pmax
comp=Z,26nm,1.1s,mb5.1
PET pmax pmax
comp=Z,20nm,1.4s,mb4.8
PET MLR MLR
comp=Z,100nm,19.0s,MS4.1
SVE Sverdlovsk 76.55 336 *e*P **P** **23 30 59.2 -0.1**
SVE *e* pP 23 31 09.8 -0.7
SVE *e* 23 33 49.0
SVE *e*S S 23 40 44.0 +1.2
SVE *e* 23 41 16.0
SVE pmax pmax
comp=Z,116nm,1.7s,mb5.5
SVE MLR MLR
comp=E,200nm,15.0s
SVE MLR MLR
comp=Z,200nm,15.0s,MS4.5
MBAR Mbarara 76.75 272 *d* *i* P **P** **23 31 01.3 +0.8**
ARU Arti 77.14 335 P **P** **23 31 02.7 0.0**
comp=Z,143nm,1.3s,mb5.7,SNR=13
ARU Arti 77.14 335 ⇓ *i* P **P** **23 31 01.7 -1.0**
ARU *e* pP 23 31 12.4 -1.4
ARU *e* 23 33 55.2
ARU *e*PPP 23 35 43.6
ARU *e*S S 23 40 49.1 -0.2
ARU *e*SS SS 23 45 42.2 -5.0
ARU pmax pmax
comp=Z,31nm,1.2s,mb5.1
ARU Arti 77.14 335 *e*P **P** **23 31 01.9 -0.8**
MA2 Magadan 77.18 21 *e*P **P** **23 31 03.7 +0.8**
MA2 *e* 23 31 18.1
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.0
ZEI Tsey 77.78 318 *e*P **P** **23 31 08.0 +1.7**
ZEI pmax pmax
comp=Z,11nm,0.7s,mb4.9
ERZM Erzurum 78.34 314 *i* P **P** **23 31 10.0 +0.6**
BOSA Boshof 78.60 243 P **P** **23 31 11.2 +0.4**
comp=Z,5.4nm,1.0s,mb4.4,baz=82,slow=7.3,SNR=4.3
BOSA LR LR 23 58 13.8
comp=Z,332nm,19.7s,MS4.7,baz=174,slow=30
ASF Jabal al Asfar 78.98 305 P **P** **23 31 12.4 -0.5**
comp=Z,9.3nm,1.0s,mb4.7,baz=61,slow=1.9,SNR=9.7
KIV Kislovodsk 79.08 318 *e*P **P** **23 31 13.7 +0.2**
KIV *e* 23 34 12.3
KIV *e*S S 23 41 10.3 +0.1
KIV pmax pmax
comp=Z,12nm,1.1s,mb4.7
KIV Kislovodsk 79.08 318 *e*P **P** **23 31 13.3 -0.2**
comp=Z,13nm,1.0s,mb4.8
KIV *e* pP 23 31 24.8 +0.2
EIL Elat 79.80 303 *e*P **P** **23 31 16.8 -0.6**
MALT Malatya 79.87 312 *e*P **P** **23 31 18.8 +1.1**
SOKR Solikamsk 79.89 336 ⇑ *i*P **P** **23 31 17.8 0.0**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.0
GZT Gaziantep 80.18 311 *i* P **P** **23 31 20.2 +0.8**
QSPA South Pole Qui 80.38 180 *e*P **P** **23 31 20.0 -0.5**
comp=Z,29nm,1.5s,mb5.0
SOC Sochi 80.91 317 *e*P **P** **23 31 23.8 +0.5**
SOC *e*PPP 23 36 15.5
SOC *e*S S 23 41 28.4 -1.0
SOC *e*SS SS 23 46 37.0 -6.7
SOC *e*SSS 23 50 04.4
SOC pmax pmax
comp=Z,12nm,1.1s,mb4.7
TIXI Tiksi 82.35 7 *d* *i* P **P** **23 31 30.6 -0.3**
TIXI pmax pmax
comp=Z,21nm,1.0s,mb5.0
CDAG Cicekdag 83.29 312 *i* P **P** **23 31 26.1 -10**
BOYT Boyabat 83.48 314 *i* P **P** **23 31 34.7 -2.0**
BRTR Keskin Array B 83.86 312 *i* P **P** **23 31 38.1 -0.6**
comp=Z,2.2nm,0.7s,mb4.4,baz=126,slow=6.3,SNR=17
BRTR LR LR 00 11 12.1
comp=Z,46nm,18.3s,MS3.9,baz=279,slow=37
BR131 Keskin Array S 83.86 312 *e*P **P** **23 31 38.2 -0.5**
comp=Z,3.0nm,0.8s,mb4.5
BR131 *e* pP 23 31 50.0 0.0
VRSR Storozhevoye 84.20 324 *e*P **P** **23 31 40.0 -0.4**
VRSR pmax pmax
comp=Z,30nm,1.8s,mb5.1
VRSR pmax pmax
comp=N,7.0nm,1.0s
ELDT Eldivan 84.25 313 *i* P **P** **23 31 41.1 +0.4**
BALT Daday 84.59 314 *i* P **P** **23 31 41.8 -0.6**
SIM Simferopol' 85.15 317 P **P** **23 31 45.8 +0.6**
SIM pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
TSUM Tsumeb 86.71 251 *e*P **P** **23 31 56.2 +3.3**
MOS Moscow 86.80 328 *e*P **P** **23 31 53.0 -0.4**
MOS *i* pP 23 32 03.8 -0.9
MOS *e* 23 35 14.3
MOS *e*S 23 42 25.4
MOS pmax pmax
comp=Z,100nm,1.8s,mb5.7
MOS pmax pmax
comp=Z,61nm,1.5s,mb5.6
OBN Obninsk 87.13 327 ⇑ *i*P **P** **23 31 54.7 -0.3**
OBN *i* pP 23 32 07.1 +0.8
OBN pmax pmax
comp=Z,67nm,1.7s,mb5.6
OBN MLR MLR
comp=Z,100nm,22.0s,MS4.2
OBN Obninsk 87.13 327 *e*P **P** **23 31 54.6 -0.4**
comp=Z,76nm,1.4s,mb5.7
OBN *e* pP 23 32 04.5 -1.8
SNAA Sanae 87.15 197 *e*P **P** **23 31 55.2 +0.1**
SNAA *e* 23 31 57.8
SNAA *e* pP 23 32 06.7 +0.3
SNAA *e* 23 32 10.0
SNAA Sanae 87.15 197 *e*P **P** **23 31 55.5 +0.4**
SNAA *e* pP 23 32 08.2 +1.8
TIRR Tirgusor 88.91 315 ⇑ *i*P pP 23 32 14.1 -0.7
TIRR Tirgusor 88.91 315 *e*P **P** **23 32 02.3 -1.2**
TIRR *e* pP 23 32 14.1 -0.7
TIRR pP 23 32 14.1 -0.7
VNA1 Neumayer--Stat 89.18 197 *e*P **P** **23 32 06.5 +1.8**
VNA1 *e* 23 32 08.2
VNA1 *e* pP 23 32 17.7 +1.6
VNA1 *e* 23 32 22.1
AKASG Malin Array Be 89.98 322 LR LR 00 20 14.3
comp=Z,720nm,19.2s,MS4.1,baz=60,slow=41
VRI Vrincioaia 90.41 316 ⇑ *i*P pP 23 32 21.2 -0.6
VRI Vrincioaia 90.41 316 ⇑P pP 23 32 21.2 -0.6
PLOR Plostina 90.46 316 ⇑ *i*P pP 23 32 23.5 +1.5
MLR Muntele Rosu 90.86 316 P **P** **23 32 13.0 +0.4**
comp=Z,2.5nm,0.5s,mb4.8,baz=356,slow=2.4,SNR=13
MLR Muntele Rosu 90.86 316 ⇑ *i*P pP 23 32 24.2 +0.3
MLR Muntele Rosu 90.86 316 P **P** **23 32 13.0 +0.5**
MLR ⇑P pP 23 32 24.2 +0.3
BURAR Bucovina Array 91.81 318 ⇑ *i*P **P** **23 32 17.6 +0.6**
BURAR Bucovina Array 91.81 318 ⇑P **P** **23 32 17.6 +0.6**
ARCES ARCESS Array B 96.12 340 P **P** **23 32 35.7 -1.0**
comp=Z,2.6nm,0.9s,mb4.7,baz=85,slow=7.4,SNR=4.9
ARCES LR LR 00 23 11.9
comp=Z,153nm,18.6s,MS4.5,baz=144,slow=40
ARCES ARCESS Array B 96.12 340 P **P** **23 32 35.7 -1.0**
ARCES LR LR 00 23 11.9
KIP Kipapa 97.69 70 ⇓ *i*P **P** **23 32 41.3 -2.6**
GRF Grafenberg Arr 101.26 319 *e*PP PP 23 37 08.6 -0.4
GRF Grafenberg Arr 101.26 319 *e*PP PP 23 37 08.6 -0.4
YKA Yellowknife Ar 119.17 21 PKP PKPdf 23 37 57.3 -0.6
comp=Z,0.8nm,0.6s,baz=337,slow=1.6,SNR=5.5
YKA Yellowknife Ar 119.17 21 ⇑ *i*PKIKP PKPdf 23 37 58.0 +0.1
YKA Yellowknife Ar 119.17 21 PKP PKPdf 23 37 57.3 -0.6
CHMT Chamberlain Mo 129.34 35 *e*PKPdf PKPdf 23 38 17.6 +0.2
CHMT *e* 23 38 29.0
NVAR Mina Array Bea 130.07 47 PKP PKPdf 23 38 21.5 +2.7
comp=Z,0.5nm,0.7s,baz=246,slow=4.4,SNR=6.3
PDAR Pinedale Array 133.84 38 PKP PKPdf 23 38 26.9 +1.0
comp=Z,0.5nm,0.6s,baz=122,slow=0.7,SNR=4.9
AMTX Amarillo 143.43 42 *e*PKPdf PKPdf 23 38 43.2 -0.2
AMTX *e* 23 38 54.8
KSU1 Kansas State U 143.64 32 *e*PKPdf PKPdf 23 38 42.6 -1.3
KSU1 *e* 23 38 56.2
BDFB Brasilia 145.02 224 PKPbc PKPbc 23 38 46.7 +1.0
comp=Z,7.3nm,0.7s,baz=121,slow=3.4,SNR=10
LONY Lake Ozonia 145.09 2 *e*PKP PKPdf 23 38 46.0 -0.4
LONY *e* 23 38 57.6
WMOK Wichita Mounta 145.39 40 *e*PKIKP PKPdf 23 38 47.7 +0.6
WMOK *e* 23 39 00.2
NCB Newcomb 145.75 2 *e*PKP PKPdf 23 38 48.3 +0.8
NCB *e* 23 39 00.1
JCT Junction City 147.25 47 *e*PKPbc PKPbc 23 38 52.5 +0.2
JCT *e* 23 39 05.4
BINY Binghamton 147.42 5 *e*PKPbc PKPbc 23 38 52.7 -0.1
BINY *e* 23 39 04.5
FVM French Village 147.53 27 *e*PKPdf PKPdf 23 38 51.2 +0.7
FVM *e* 23 39 03.2
ACSO Alum Creek Sta 148.15 15 *e*PKPbc PKPbc 23 38 54.8 0.0
ACSO *e* 23 39 04.2
ACSO *e* 23 39 06.9
MIAR Mount Ida 148.63 35 *e*PKIKP PKPdf 23 38 54.2 +1.9
SSPA Standing Stone 148.76 8 *e*PKPdf PKPdf 23 38 55.9 +3.4
WCI Wyandotte Cave 148.97 21 *e*PKPbc PKPbc 23 38 57.4 +0.5
WCI *e* 23 39 09.0
UALR University of 149.13 33 *e*PKPbc PKPbc 23 38 58.1 +0.8
NATX Nacogdoches 149.94 40 *e*PKPdf PKPdf 23 38 55.4 +1.0
WVT Waverly 150.21 25 *e*PKIKP PKPbc 23 39 00.5 +0.6
WVT *e* 23 39 11.9
HKT Hockley 150.34 44 *e*PKIKP PKPdf 23 38 58.6 +3.6
HKT *e* 23 39 03.6
OXF Oxford 150.84 29 *e*PKIKP PKPdf 23 38 53.9 -1.9
OXF *e* 23 39 02.0
PLAL Pickwick Lake 151.07 27 *e*PKPdf PKPdf 23 38 57.0 +0.8
PLAL *e*PKPbc PKPbc 23 39 02.0 0.0
FWV Forest Hill 151.20 14 *e*PKPbc PKPbc 23 39 02.3 +0.1
ELN Prospectdale 151.55 14 *e*PKPdf PKPdf 23 38 57.5 +0.6
ELN *e*PKPbc PKPbc 23 39 03.6 +0.5
SWET Sewanee 151.77 24 *e*PKPbc PKPbc 23 39 03.8 +0.2
CPCT Cooper Cave 152.09 21 *e*PKPdf PKPdf 23 38 59.3 +1.7
CPCT *e*PKPbc PKPbc 23 39 05.2 +0.9
CPCT *e* 23 39 14.2
LRAL Lakeview Retre 153.19 28 *e*PKPdf PKPdf 23 39 00.8 +1.5
LRAL *e*PKPbc PKPbc 23 39 07.3 +0.6
LPAZ La Paz 153.88 190 PKPbc PKPbc 23 39 10.4 +2.1
comp=Z,2.1nm,0.9s,baz=140,slow=0.2,SNR=6.4
GOGA Godfrey 154.30 21 *e*PKIKP PKPdf 23 39 01.7 +0.8
GOGA *e* 23 39 09.2

*CSEM **27** 23:22:49.7±0.1,3700N×2999E,h12km,mb3.9/8,Error ellipse: s-maj=1.4km s-min=1.3km az=107.0*
*MOS **27** 23:22:49.0±0.9,3699N×2999E,h10km,mb4.0/8,Error ellipse: s-maj=9.7km s-min=5.2km az=119.8*
*NEIC **27** 23:22:50.0,3707N×3004E,h5km,mb3.8/15,ML3.7(ISK), After ISK.*
*ISCJB **27** 23:22:50.3±0.2,3704N±002×3002E±002,h10km, mb3.8/11,Error ellipse: s-maj=2.6km s-min=2.3km az=39.5*
*ISK **27** 23:22:50.0,3707N×3004E,h5km,MD3.6*
*IDC **27** 23:22:50.5±1.2,37.12N×30.15E,h0km,mb3.6/3,mb1 3.7/8, mb1mx3.6/25,mbtmp3.6/8,ML3.7/5,MS2.6/2,Ms1 2.6/2, ms1mx2.2/31,Error ellipse: s-maj=20.8km s-min=17.9km az=59.0*
*HLW **27** 23:22:51.2,37.17N×30.13E,h33km,Mb3.8*
ISC 27 23:22:51.3±0.5,3707N±002×3003E±002,h5km±3km,n167,
σ1§22/187,mb3.8/11,13C-3D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ELL	**Elmali**	**0.33**	**196**	*i*	PG	**Pg**	**23 22 57.0**	**-0.8**
ANTB	**Antalya**	**0.53**	**108**		PG	**Pg**	**23 23 01.2**	**-0.3**
ANTB					SG	**Sg**	**23 23 09.6**	**+1.2**
BCK	**Bucak**	**0.60**	**49**		PG	**Pg**	**23 23 01.6**	**-1.2**
ISP	**Isparta**	**0.86**	**26**		PG	**Pg**	**23 23 07.9**	**0.0**
ISP	**Isparta**	**0.86**	**26**	*e*	P	**Pg**	**23 23 06.9**	**-1.0**
ISP				*e*	S	**Sg**	**23 23 18.4**	**-0.8**
FETY	**Fethiye**	**0.87**	**240**		PG	**Pg**	**23 23 08.0**	**0.0**
KSL	**Kastellorizon**	**0.98**	**201**	*e*	P	**Pg**	**23 23 10.5**	**+0.3**
DNZL	**Cakiroluk**	**1.00**	**309**	*i*	P	**Pg**	**23 23 09.1**	**-1.4**
DNZL				*i*	S	**Sg**	**23 23 24.9**	**+1.5**
TKTP	**Tekketepe**	**1.00**	**13**	*i*	P	**Pg**	**23 23 10.8**	**+0.3**
TKTP				*i*	S	**Sg**	**23 23 26.9**	**+3.5**
DENT	**Denizli**	**1.04**	**311**		PG	**Pg**	**23 23 10.5**	**-0.9**
DALT	**Dalyan (Mudla)**	**1.15**	**255**		PN	**Pn**	**23 23 13.6**	**-0.5**
KHL	**Karahalli**	**1.31**	**342**		PN	**Pn**	**23 23 16.1**	**-0.2**
YER	**Yerkesik**	**1.40**	**273**		PN	**Pn**	**23 23 18.3**	**+0.9**
ARG	**Arkhangelos**	**1.75**	**241**	*e*	P	**Pn**	**23 23 23.6**	**+1.3**
AYDN	**Tasoluk**	**1.81**	**290**	*i*	P	**Pn**	**23 23 23.7**	**+0.6**
AYDN				*i*	S	**Sn**	**23 23 48.8**	**+2.4**
MLSB	**Milas**	**1.81**	**278**		PN	**Pn**	**23 23 23.7**	**+0.6**
HDMB	**Hadim**	**1.97**	**92**		PN	**Pn**	**23 23 25.8**	**+0.5**
ALT	**Altintas**	**1.98**	**2**		PN	**Pn**	**23 23 25.6**	**+0.1**
DAT	**Datca**	**1.99**	**261**		PN	**Pn**	**23 23 26.8**	**+1.2**
KONT	**Konya--Tatoy**	**2.05**	**64**		PN	**Pn**	**23 23 27.6**	**+1.2**
GDZ	**Gediz**	**2.06**	**348**	*i*	P	**Pn**	**23 23 26.1**	**-0.5**
GDZ				*i*	S	**Sn**	**23 24 02.1**	**+10**
BODT	**Bodrum**	**2.17**	**271**		PN	**Pn**	**23 23 29.3**	**+1.2**
KDHN	**Kadinhani**	**2.20**	**48**	*i*	P	**Pn**	**23 23 28.7**	**+0.2**
KDHN				*i*	S	**Sn**	**23 24 07.6**	**+12**
KIZT	**Kizilcal**	**2.33**	**38**		PN	**Pn**	**23 23 31.6**	**+1.4**
ERMK	**Ermenek**	**2.35**	**100**	*i*	P	**Pn**	**23 23 31.5**	**+0.9**
ERMK				*i*	S	**Sn**	**23 24 03.0**	**+3.2**
NISR	**Nisiros**	**2.37**	**260**	*e*	P	**Pn**	**23 23 32.5**	**+1.7**
AKHS	**Akhisar**	**2.51**	**317**	*i*	P	**Pn**	**23 23 32.3**	**-0.5**
AKS	**Akhisar**	**2.51**	**317**		PN	**Pn**	**23 23 33.0**	**+0.2**
ESKT	**Eskisehir**	**2.53**	**15**		PN	**Pn**	**23 23 33.2**	**+0.2**
ESKT	**Eskisehir**	**2.53**	**15**	*i*	P	**Pn**	**23 23 32.6**	**-0.5**
SEYT	**Eskypehyr**	**2.53**	**15**	*i*	P	**Pn**	**23 23 32.6**	**-0.4**
IZM	**Izmir**	**2.56**	**302**		PN	**Pn**	**23 23 34.1**	**+0.7**
KDAG	**Bornova**	**2.56**	**302**	*i*	P	**Pn**	**23 23 33.7**	**+0.3**
SMG	**Samos**	**2.62**	**285**	⇓ *i*	P	**Pn**	**23 23 35.0**	**+0.8**
BLCB	**Balcova**	**2.71**	**300**		PN	**Pn**	**23 23 36.2**	**+0.8**
KARP	**Karpathos**	**2.77**	**238**	⇑ *i*	P	**Pn**	**23 23 37.7**	**+1.4**
ALFC	**Alevga** 2.0nm,0.3s	**2.83**	**132**		P	**Pn**	**23 23 37.0**	**-0.1**
BORA	**Eskisehir**	**2.83**	**7**	*i*	P	**Pn**	**23 23 36.9**	**-0.2**

BORA *i* S **Sn** **23 24 09.7 -1.8**
PPCY Paphos 2.88 139 P **Pn** **23 23 39.8 +2.0**
4.8nm,0.5s
IKL Isikli 3.06 105 PN **Pn** **23 23 41.7 +1.4**
BTOK Tokmak 3.11 330 *i* P **Pn** **23 23 40.9 -0.1**
ULDT Uludag 3.15 347 *i* P **Pn** **23 23 40.5 -1.0**
MAMC Mammari 3.20 125 P **Pn** **23 23 40.3 -2.0**
MEST Erdemli 3.34 97 *i* P **Pn** **23 23 45.2 +1.0**
MEST *i* S **Sn** **23 24 25.6 +1.4**
ADVT Abdulvahap 3.37 356 *e*PN **Pn** **23 23 46.3 +1.8**
CSS Prodhromos 3.41 127 P **Pn** **23 23 44.4 -0.6**
2.2nm,0.9s
MDU Mudurnu 3.52 15 *e*PN **Pn** **23 23 47.4 +0.8**
YLV Yalova 3.53 352 *e*PN **Pn** **23 23 47.3 +0.5**
ANTO Ankara 3.54 37 *e*Pn **Pn** **23 23 47.2 +0.3**
ANTO *e*Pg **Pg** **23 23 56.8 -2.4**
ANTO Ankara 3.54 37 *e*Pn **Pn** **23 23 47.2 +0.3**
ANTO Ankara 3.54 37 *e*Pg **Pg** **23 23 56.8 -2.4**
APE Apeiranthos 3.59 271 *e*P **Pn** **23 23 49.0 +1.3**
MERS Mersin 3.61 92 *e*PN **Pn** **23 23 48.6 +0.8**
PRK Paraskevi 3.67 307 *e*P **Pn** **23 23 49.9 +1.2**
KAMT Kaman 3.70 51 *e*PN **Pn** **23 23 49.7 +0.6**
HENT Hendek 3.81 10 *i* P **Pn** **23 23 48.6 -2.0**
SGKT Sivrigoynuk 3.84 24 *i* P **Pn** **23 23 51.6 +0.6**
BR131 Keskin Array S 3.88 46 *e*Pn **Pn** **23 23 52.0 +0.4**
BR131 *e*Sn **Sn** **23 24 37.9 +0.3**
BR131 Keskin Array S 3.88 46 *e*Pn **Pn** **23 23 52.0 +0.4**
BR131 *e*Sn **Sn** **23 24 37.9 +0.3**
BRTR Keskin Array B 3.88 46 Pn **Pn** **23 23 52.0 +0.4**
4.2nm,0.3s,baz=221,slow=15,SNR=101
BRTR Sn **Sn** **23 24 38.2 +0.6**
3.6nm,0.3s,baz=215,slow=27,SNR=14
BRTR Keskin Array B 3.88 46 Pn **Pn** **23 23 52.0 +0.4**
BRTR Sn **Sn** **23 24 38.2 +0.6**
NPS Neapolis 4.00 245 *e*P **Pn** **23 23 53.6 +0.4**
KARA Karaisali 4.02 86 *e*PN **Pn** **23 23 54.6 +1.1**
XRY Khrisi 4.14 239 *e*P **Pn** **23 23 56.5 +1.4**
AVNT Avonos 4.18 64 *i* P **Pn** **23 23 56.4 +0.6**
CDAG Cicekdag 4.26 52 *i* P **Pn** **23 23 56.9 0.0**
ELDT Eldivan 4.33 37 *i* P **Pn** **23 23 58.1 +0.4**
VAM Vamos 4.99 252 ⇑*i* P **Pn** **23 24 10.2 +3.3**
BALT Daday 5.16 29 *i* P **Pn** **23 24 09.1 -0.1**
GVD Gavdhos 5.31 247 *e*P **Pn** **23 24 13.5 +2.3**
KYTH Kithira 5.67 264 *e*P **Pn** **23 24 19.5 +3.3**
VLI Veliai 5.69 269 *e*P **Pn** **23 24 17.8 +1.3**
BOYT Boyabat 5.76 40 *i* P **Pn** **23 24 19.6 +2.2**
MMAI Mount Meron Ar 5.98 131 Pn **Pn** **23 24 19.6 -0.9**
17nm,0.3s,baz=310,slow=12,SNR=100
MMAI Sn **Sn** **23 25 28.8 -0.5**
6.7nm,0.3s,baz=313,slow=27,SNR=5.8
DABA Dabaa 6.21 194 P **Pn** **23 24 23.1 -0.5**
HMAT Matruh 6.44 203 P **Pn** **23 24 25.8 -0.9**
ITM Ithomi 6.47 273 *e*P **Pn** **23 24 33.5 +6.3**
HBRG Burj al 'Arab 6.48 181 P **Pn** **23 24 26.4 -0.9**
HBRG S **Sn** **23 25 35.1 -6.4**
EVR Evrytania 6.75 288 *e*P **Pn** **23 24 35.0 +4.0**
SLUM 6.84 217 P **Pn** **23 24 31.7 -0.5**
AMAG Maghara 6.93 157 P **Pn** **23 24 31.9 -1.6**
HMYD Mayadein 7.28 175 P **Pn** **23 24 37.4 -0.9**
ASF Jabal al Asfar 7.48 129 Pn **Pn** **23 24 40.7 -0.3**
0.5nm,0.3s,baz=23,slow=17,SNR=4.3
ASF Sn **Sn** **23 26 09.1 +2.9**
0.6nm,0.3s,baz=349,slow=21,SNR=3.0
TIRR Tirgusor 7.48 351 ⇓*i* P **Pn** **23 24 41.3 +0.2**
TIRR Tirgusor 7.48 351 ⇓P **Pn** **23 24 41.3 +0.2**
SUZ 7.58 161 P **Pn** **23 24 41.1 -1.3**
HARR Harsova 7.78 349 ⇑*i* P **Pn** **23 24 48.5 +3.4**
HARR Harsova 7.78 349 ⇑P **Pn** **23 24 48.5 +3.4**
CFR Carcaliu 8.22 351 ⇑*i* P **Pn** **23 24 50.7 -0.6**
CFR Carcaliu 8.22 351 ⇑P **Pn** **23 24 50.7 -0.6**
EIL Elat 8.45 149 *e*Pn **Pn** **23 24 52.6 -1.7**
189nm,0.6s
EIL *e*Sn **Sn** **23 26 23.6 -6.5**
EIL Elat 8.45 149 *e*Pn **Pn** **23 24 52.6 -1.7**
189nm,0.6s
EIL *e*Sn **Sn** **23 26 23.6 -6.5**
SWA1 8.58 206 P **Pn** **23 24 55.8 -0.3**
SWA1 S **Sn** **23 26 27.2 -6.1**
SWA2 8.69 207 P **Pn** **23 24 57.0 -0.7**
MLR Muntele Rosu 8.96 341 Pn **Pn** **23 25 02.3 +1.0**
0.3nm,0.3s,baz=153,slow=12,SNR=3.3
MLR Muntele Rosu 8.96 341 ⇑P **Pn** **23 25 03.2 +1.9**
MLR Muntele Rosu 8.96 341 ⇑P **Pn** **23 25 03.2 +1.9**
VRI Vrincioaia 9.13 345 ⇑*i*P **Pn** **23 25 04.3 +0.6**
VRI Vrincioaia 9.13 345 ⇑P **Pn** **23 25 04.3 +0.7**
VRI Vrincioaia 9.13 345 P **Pn** **23 25 04.4 +0.7**
PLOR Plostina 9.13 345 ⇑*i*P **Pn** **23 25 05.3 +1.6**
HKAT Jabal Katrina 9.15 157 P **Pn** **23 25 03.6 -0.4**
VOIR 9.16 337 ⇑*i*P **Pn** **23 25 04.1 0.0**
VOIR 9.16 337 ⇑P **Pn** **23 25 04.0 0.0**
GERES GERESS Array B 16.73 320 Pn **Pn** **23 26 49.3 +3.0**
0.1nm,0.3s,baz=114,slow=12,SNR=2.5
GERES LR LR 23 33 31.1
comp=Z,19nm,20.4s,baz=38,slow=38
PGF Pioggiola 17.04 295 *e*P **Pn** **23 26 50.6 +0.3**
DAVOX Davos 17.81 309 LR LR 23 33 44.5
comp=Z,24nm,20.8s,baz=85,slow=37
SBF Sospel 18.45 299 *e*P **Pn** **23 27 08.5 +0.8**
32nm,1.1s
SBF Sospel 18.45 299 *e*P **Pn** **23 27 08.5 +0.8**
SBF pmax pmax
comp=Z,16nm,1.1s
SBF Sospel 18.45 299 *e*P **Pn** **23 27 08.5 +0.8**
comp=Z,16nm,1.1s
FRF La Foret Royal 18.94 297 *e*P **Pn** **23 27 13.6 -0.1**
LMR La Mourre 18.99 297 *e*P **Pn** **23 27 13.8 -0.5**
MBDF Montbardon 19.13 301 *e*P **Pn** **23 27 16.0 0.0**
comp=Z,9.1nm,0.8s
MBDF Montbardon 19.13 301 *e*P **Pn** **23 27 16.0 0.0**
MBDF pmax pmax
comp=Z,5.0nm,0.8s
MBDF Montbardon 19.13 301 *e*P **Pn** **23 27 16.0 0.0**
comp=Z,4.6nm,0.8s
LPG La Plagne 19.36 303 *e*P **Pn** **23 27 18.7 -0.1**
comp=Z,6.9nm,0.7s
LPG La Plagne 19.36 303 *e*P **Pn** **23 27 18.7 -0.1**
LPG pmax pmax
comp=Z,3.0nm,0.7s
LPG La Plagne 19.36 303 *e*P **Pn** **23 27 18.7 -0.1**
comp=Z,3.5nm,0.7s
LPL La Plagne 19.38 303 *e*P **Pn** **23 27 18.6 -0.4**
comp=Z,4.3nm,0.7s
LPL La Plagne 19.38 303 *e*P **Pn** **23 27 18.6 -0.4**
LPL pmax pmax
comp=Z,2.0nm,0.7s
LPL La Plagne 19.38 303 *e*P **Pn** **23 27 18.6 -0.4**
comp=Z,2.2nm,0.7s
SMRF Simiane la Rot 19.79 298 *e*P **Pn** **23 27 22.5 -1.3**
ORIF Oris-en-Rattie 19.79 301 *e*P **Pn** **23 27 22.7 -1.2**
comp=Z,4.2nm,0.6s
ORIF Oris-en-Rattie 19.79 301 *e*P **Pn** **23 27 22.7 -1.2**
ORIF pmax pmax
comp=Z,2.0nm,0.6s
ORIF Oris-en-Rattie 19.79 301 *e*P **Pn** **23 27 22.7 -1.2**
comp=Z,2.1nm,0.6s
CDF Champ du Feu 20.11 311 *e*P **P** **23 27 26.3 +0.4**
comp=Z,8.6nm,0.9s
CDF Champ du Feu 20.11 311 *e*P **P** **23 27 26.3 +0.4**
CDF pmax pmax
comp=Z,4.0nm,0.9s
CDF Champ du Feu 20.11 311 *e*P **P** **23 27 26.3 +0.4**
comp=Z,4.3nm,0.9s
HINF Hinteralfeld 20.12 310 *e*P **P** **23 27 26.0 0.0**
CABF La Chapelle 20.16 306 *e*P **P** **23 27 26.5 +0.1**
comp=Z,4.8nm,0.7s
CABF La Chapelle 20.16 306 *e*P **P** **23 27 26.5 +0.1**
CABF pmax pmax
comp=Z,2.0nm,0.6s
CABF La Chapelle 20.16 306 *e*P **P** **23 27 26.5 +0.1**
comp=Z,2.4nm,0.7s
HAU Haudompre 20.50 310 *e*P **P** **23 27 30.4 +0.2**
SMF Signal de Mont 21.64 304 *e*P **P** **23 27 41.2 -1.2**
comp=Z,6.1nm,0.7s,mb3.9
SMF Signal de Mont 21.64 304 *e*P **P** **23 27 41.2 -1.2**
SMF pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
SMF Signal de Mont 21.64 304 *e*P **P** **23 27 41.2 -1.2**
comp=Z,3.0nm,0.7s,mb3.9
LOR Lormes 21.82 306 *e*P **P** **23 27 43.2 -1.1**
comp=Z,5.6nm,0.7s,mb3.8
LOR Lormes 21.82 306 *e*P **P** **23 27 43.2 -1.1**
LOR pmax pmax
comp=Z,3.0nm,0.7s,mb3.8
LOR Lormes 21.82 306 *e*P **P** **23 27 43.2 -1.1**
comp=Z,2.8nm,0.7s,mb3.8
SSF Saint Saulge 21.98 305 *e*P **P** **23 27 44.6 -1.5**
comp=Z,10nm,1.1s,mb3.9
SSF Saint Saulge 21.98 305 *e*P **P** **23 27 44.6 -1.5**
SSF pmax pmax
comp=Z,5.0nm,1.1s,mb3.9
SSF Saint Saulge 21.98 305 *e*P **P** **23 27 44.6 -1.5**
comp=Z,5.2nm,1.1s,mb3.9
AVF Avril sur Loir 22.00 305 *e*P **P** **23 27 44.7 -1.6**
comp=Z,1.2nm,0.4s,mb3.3
AVF Avril sur Loir 22.00 305 *e*P **P** **23 27 44.7 -1.6**
AVF pmax pmax
comp=Z,1.0nm,0.4s,mb3.6
AVF Avril sur Loir 22.00 305 *e*P **P** **23 27 44.7 -1.6**
comp=Z,0.6nm,0.4s,mb3.3
BGF Bois d'Agland 22.27 304 *e*P **P** **23 27 47.4 -1.8**
comp=Z,5.3nm,0.7s,mb3.8
BGF Bois d'Agland 22.27 304 *e*P **P** **23 27 47.4 -1.8**
BGF pmax pmax
comp=Z,3.0nm,0.7s,mb3.8
BGF Bois d'Agland 22.27 304 *e*P **P** **23 27 47.4 -1.8**
comp=Z,2.7nm,0.7s,mb3.8
CAF Calviac 22.44 299 *e*P **P** **23 27 48.6 -2.3**
TCF Toulx Ste Croi 22.63 303 *e*P **P** **23 27 50.7 -2.3**
EPF Esparros 23.42 294 *e*P **P** **23 27 58.1 -3.2**
AKTK Aktyubinsk 24.06 47 P **P** **23 28 05.2 -2.2**
AKTK Aktyubinsk 24.06 47 P **P** **23 28 05.2 -2.2**
AKTO Aktyubinsk 24.06 47 P **P** **23 28 05.2 -2.2**
comp=Z,0.6nm,0.5s,mb3.3,baz=235,slow=13,SNR=3.4
MFF Saint Martin d 24.29 303 *e*P **P** **23 28 06.7 -2.8**
comp=Z,11nm,0.8s,mb4.0
MFF Saint Martin d 24.29 303 *e*P **P** **23 28 06.7 -2.8**
MFF pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
MFF Saint Martin d 24.29 303 *e*P **P** **23 28 06.7 -2.8**
comp=Z,5.3nm,0.8s,mb4.0
FINES FINESS Array B 24.52 355 P **P** **23 28 10.1 -1.5**
comp=Z,0.6nm,0.6s,mb3.3,baz=174,slow=15,SNR=4.2
LDF La Druitiere 24.77 307 *e*P **P** **23 28 11.6 -2.2**
comp=Z,2.8nm,0.6s,mb3.7
LDF La Druitiere 24.77 307 *e*P **P** **23 28 11.6 -2.2**
LDF pmax pmax
comp=Z,1.0nm,0.6s,mb3.5
LDF La Druitiere 24.77 307 *e*P **P** **23 28 11.6 -2.2**
comp=Z,1.4nm,0.6s,mb3.7
FLN La Foliniere 25.04 307 *e*P **P** **23 28 13.6 -2.7**
GRR Gorron 25.18 306 *e*P **P** **23 28 15.2 -2.4**
SGMF Saint Gilles 26.25 306 *e*P **P** **23 28 25.0 -2.3**
comp=Z,37nm,1.2s,mb4.5
SGMF Saint Gilles 26.25 306 *e*P **P** **23 28 25.0 -2.3**
SGMF pmax pmax
comp=Z,18nm,1.2s,mb4.5
SGMF Saint Gilles 26.25 306 *e*P **P** **23 28 25.0 -2.3**
comp=Z,18nm,1.2s,mb4.5
TORD Torodi Ar. Bea 34.77 234 P **P** **23 29 43.8 +1.2**
comp=Z,2.2nm,0.7s,mb4.2,baz=33,slow=8.7,SNR=30

*ISCJB **27** 23:03:32.9±0.7, 36.33N±0.06×27.08E±0.06, h111km±8km, Error ellipse: s-maj=11.0km s-min=6.2km az=98.2*
*ATH **27** 23:03:33.7, 36.38N×2.703E, h104km±4km*
*CSEM **27** 23:03:33.7±0.1, 36.25N×27.19E, h80km, MD3.1, Error ellipse: s-maj=3.2km s-min=2.1km az=128.0*
*NEIC **27** 23:03:33.7, 36.38N×2.703E, h104km, After ATH.*
*HLW **27** 23:03:34.2, 36.18N×2.709E, h33km, Mb3.8*
*ISK **27** 23:03:35.3, 36.44N×2.708E, h89km, MD3.1*
ISC 27 23:03:34.0±0.8, 36.35N±0.05×2.707E±0.06, h104km±9km, n22, σ0.8 82/30, 6C-3D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.56**	**47**	PG	**Pn**	**23 33 50.7**	**+0.1**
DAT				SG	**Sn**	**23 34 01.7**	**-1.3**
BODT	**Bodrum**	**0.74**	**15**	PG	**Pn**	**23 33 51.9**	**-0.2**
BODT				SG	**Sn**	**23 34 04.1**	**-1.6**
KARP	**Karpathos**	**0.80**	**174**	⇑*i*P	**Pn**	**23 33 53.7**	**+1.1**
ARG	**Arkhangelos**	**0.87**	**98**	⇓*i*P	**Pn**	**23 33 54.1**	**+0.8**
ARG				*e*S	**Sn**	**23 34 09.0**	**+1.2**
MLSB	**Milas**	**1.11**	**31**	*e*PG	**Pn**	**23 33 56.2**	**+0.4**
YER	**Yerkesik**	**1.26**	**51**	*e*PN	**Pn**	**23 33 58.3**	**+0.8**
DALT	**Dalyan (Mudla)**	**1.33**	**71**	*e*PN	**Pn**	**23 33 59.3**	**+0.9**
AYDN	**Tasoluk**	**1.47**	**26**	*i* P	**Pn**	**23 34 00.3**	**+0.3**
AYDN				*i* S	**Sn**	**23 34 19.3**	**-0.4**
NPS	**Neapolis**	**1.60**	**228**	*e*P	**Pn**	**23 34 02.0**	**+0.4**
NPS				*e*S	**Sn**	**23 34 22.3**	**-0.4**
FETY	**Fethiye**	**1.65**	**79**	*e*PN	**Pn**	**23 34 03.0**	**+0.7**
XRY	**Khrisi**	**1.84**	**218**	*e*P	**Pn**	**23 34 05.5**	**+0.8**
DNZL	**Cakiroluk**	**2.08**	**49**	*i* P	**Pn**	**23 34 08.1**	**+0.5**
DNZL				*i* S	**Sn**	**23 34 32.6**	**-0.8**
VAM	**Vamos**	**2.51**	**249**	⇓*i*P	**Pn**	**23 34 14.1**	**+0.8**
GVD	**Gavdhos**	**2.85**	**239**	*e*P	**Pn**	**23 34 19.0**	**+1.1**
SLUM		**5.08**	**198**	⇑P	**Pn**	**23 34 46.6**	**-1.1**
HMAT	**Matruh**	**5.24**	**180**	⇑P	**Pn**	**23 34 48.8**	**-1.1**
HMAT				S	**Sn**	**23 35 41.7**	**-7.3**
SWA1		**7.15**	**190**	⇓P	**Pn**	**23 35 15.1**	**-0.8**
SWA1				S	**Sn**	**23 36 28.4**	**-7.2**
SWA2		**7.21**	**191**	⇑P	**Pn**	**23 35 15.5**	**-1.2**
KOT	**Kottamia**	**7.54**	**147**	P	**Pn**	**23 35 21.3**	**+0.1**
AMAG	**Maghara**	**7.66**	**136**	⇑P	**Pn**	**23 35 21.8**	**-0.9**
GLL	**Jalalah**	**7.79**	**149**	P	**Pn**	**23 35 24.4**	**-0.2**
SUZ		**8.09**	**142**	⇑P	**Pn**	**23 35 28.6**	**0.0**

*CSEM **27** 23:43:35.4±1.1, 38.53N×28.41W, h6km±2km, ML2.3, Error ellipse: s-maj=1.9km s-min=1.7km az=129.0, After PDA*
*PDA **27** 23:43:35.4±1.1, 38.53N×28.41W, h6km±2km, MD2.9, ML2.3, Error ellipse: s-maj=1.9km s-min=1.7km az=129.0*
SVSA 27 23:43:35.4±1.1, 38.53N×28.41W, h6km±2km, MD2.9, ML2.3, Error ellipse: s-maj=1.9km s-min=1.7km az=129.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEI	**Pico do Teixo**	**0.05**	**128**	*e*P	Pg	23 43 36.8	0.0
PTEI				*e*S	Sg	23 43 38.2	+0.3
PTEI							
	523nm,0.2s						
PCND	**Candelaria**	**0.07**	**216**	*i* P	Pg	23 43 37.2	+0.1
PCND				*i* S	Sg	23 43 38.5	+0.2
PCND							
	1μm,0.1s						
PBOI	**Pico dos Bois**	**0.09**	**164**	*i* P	Pg	23 43 37.3	-0.2
PBOI				*e*S	Sg	23 43 39.2	+0.3
PBOI							
	620nm,0.1s						
HOR	**Horta**	**0.17**	**270**	*i* P	Pg	23 43 38.5	-0.4
HOR				*e*S	Sg	23 43 41.6	+0.3
HOR	**Horta**	**0.17**	**270**	*e*S	Sg	23 43 41.6	+0.3
ROSA	**Rosais**	**0.23**	**34**	*i* P	Pg	23 43 39.5	-0.5
ROSA				*e*S	Sg	23 43 42.9	-0.2
ROSA	**Rosais**	**0.23**	**34**	*e*S	Sg	23 43 42.9	-0.2
PAMA	**Santo Amaro**	**0.23**	**49**	*i* P	Pg	23 43 40.0	0.0
PAMA				*e*S	Sg	23 43 43.6	+0.4
PAMA							
	886nm,0.1s						
PAMA	**Santo Amaro**	**0.23**	**49**	*e*S	Sg	23 43 43.6	+0.4
CALA	**Caldeira**	**0.24**	**283**	*i* P	Pg	23 43 39.7	-0.4
CALA				*e*S	Sg	23 43 43.5	+0.3
CALA	**Caldeira**	**0.24**	**283**	*e*S	Sg	23 43 43.5	+0.3
PID	**Ribeirinha**	**0.24**	**110**	*i* P	Pg	23 43 39.9	-0.3
PID				*e*S	Sg	23 43 43.8	+0.4
PID	**Ribeirinha**	**0.24**	**110**	*e*S	Sg	23 43 43.8	+0.4
PMAN	**Manadas**	**0.27**	**67**	*i* P	Pg	23 43 40.0	-0.7
PMAN				*e*S	Sg	23 43 44.0	-0.3
PMAN							
	1μm,0.2s						
PMAN	**Manadas**	**0.27**	**67**	*e*S	Sg	23 43 44.0	-0.3
PIED	**Piedade**	**0.30**	**111**	*i* P	Pg	23 43 40.8	-0.4
PGRA	**Graciosa**	**0.60**	**33**	*e*P	Pg	23 43 44.7	-2.3
STGR	**Santa Cruz**	**0.64**	**30**	*e*P	Pg	23 43 46.3	-1.3
STGR				*e*S	Sg	23 43 54.0	-1.9
STGR							
	30nm,0.1s						
STGR	**Santa Cruz**	**0.64**	**30**	*e*P	Pg	23 43 46.3	-1.3
STGR				*e*S	Sg	23 43 54.0	-1.9
PLUZ	**Luz**	**0.66**	**318**	*e*P	Pg	23 43 45.3	-2.8
PLUZ				*e*S	Sg	23 43 53.1	-3.6
PLUZ							
	50nm,0.2s						
ASBA	**Santa Barbara**	**0.87**	**77**	*e*S	Sg	23 44 00.0	-3.4
ASBA							
	20nm,0.2s						
PPAD Pico dos Padre 0.90 78 *e*S Sg 23 44 00.3 -3.9
PPAD
20nm,0.2s
PBIS Biscoitos 0.93 75 *e*S Sg 23 44 01.2 -4.3
PBIS
13nm,0.2s
RIB2 Ribeirinha 0.98 81 *e*S Sg 23 44 02.2 -4.7
RIB2
20nm,0.2s
PVNV Vila Nova 1.01 76 *e*S Sg 23 44 03.3 -4.5
PVNV
12nm,0.1s
PFAV Pico das Favas 1.05 80 *e*S Sg 23 44 04.3 -5.0
PFAV
20nm,0.2s

IDC 27 23:46:26.3±4.0, 2194N×14217E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/20, mbtmp3.7/4, ML4.1/1, Error ellipse: s-maj=297.0km s-min=29.7km az=87.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**14.96**	**348**	Pn	Pn	23 49 58.1	-0.9
	0.8nm,0.3s,baz=168,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**42.32**	**191**	P	P	23 54 22.0	+0.1
	0.1nm,0.3s,baz=13,slow=8.8,SNR=6.0						
ARCES	**ARCESS Array B**	**78.40**	**341**	P	P	23 58 29.3	+0.5
	1.0nm,0.6s,baz=55,slow=9.3,SNR=4.0						
FINES	**FINESS Array B**	**82.56**	**334**	P	P	23 58 50.4	-0.7
	0.5nm,0.5s,baz=83,slow=4.6,SNR=6.5						

CASC 27 23:51:10.8±2.8, 1339N×9104W, h24km±13km, MD3.9, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.96**	**36**	*e*P	Pn	23 51 27.5	-1.3
TER	**Terranova**	**0.97**	**21**	*e*P	Pn	23 51 28.3	-0.6
FUG	**Fuego 3**	**1.07**	**11**	⇓*i*P	Pn	23 51 30.2	0.0
PCG	**Pacaya**	**1.08**	**23**	*e*P	Pn	23 51 30.5	+0.1
JAT	**Jato**	**1.08**	**328**	*e*P	Pn	23 51 31.7	+1.2
TP2	**Tecpan 2**	**1.38**	**1**	⇓*e*P	Pn	23 51 34.6	0.0
TP2				*e*S	Sn	23 51 52.6	+0.6
SBLS	**San Blas**	**1.45**	**72**	*e*P	x	23 51 49.2	
SBLS				*e*S	x	23 52 09.0	
BOQS	**Boqueron**	**1.75**	**79**	*e*P	x	23 51 54.0	
BOQS				*e*S	x	23 52 17.1	
LFRS	**El Faro**	**1.94**	**83**	*e*P	x	23 51 57.0	
LFRS				*e*S	x	23 52 21.2	
LBRS	**Las Brisas**	**1.98**	**80**	*e*P	x	23 51 57.6	
LBRS				*e*S	x	23 52 22.9	
LCBS	**La Ceiba**	**2.02**	**82**	*e*P	x	23 51 58.3	
LCBS				*e*S	x	23 52 23.2	
SNVI	**San Vicente**	**2.15**	**84**	*e*P	x	23 52 00.1	
SNVI				*e*S	x	23 52 26.6	
CNCH	**Conchagua**	**3.13**	**92**	*e*P	x	23 52 13.3	
CNCH				*e*S	x	23 52 51.7	

*ISCJB **28** 00:01:49.2±0.5, 160N±0.1×92.8E±0.2, h10km, mb4.0/16, Error ellipse: s-maj=24.7km s-min=8.4km az=114.5*
*IDC **28** 00:01:49.5±0.6, 1589N×9278E, h0km, mb4.0/15, mb1 4.1/15, mb1mx4.0/21, mbtmp4.0/15, Error ellipse: s-maj=28.5km s-min=13.1km az=54.0*
*NEIC **28** 00:01:51.2±0.3, 1592N×9280E, h10km, mb4.3/2, Error ellipse: s-maj=15.4km s-min=5.3km az=57.0*
ISC 28 00:01:52.6±5.2, 160N±01×928E±02, h17km±31km, n30, σ0.5 56/31, mb4.0/16, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**9.27**	**282**	*i* P	**Pn**	**00 03 59.9**	**-5.4**
VIS				*i* S	**Sn**	**00 05 38.0**	**-11**
KULM	**Kulim**	**13.09**	**143**	Pn	**Pn**	**00 05 04.1**	**+6.4**
JIRN	**Jiri**	**13.17**	**333**	*e*P	**Pn**	**00 04 58.1**	**-0.7**
	9.6nm,0.3s						
PKI	**Pulchoki**	**13.45**	**330**	*e*P	**Pn**	**00 05 03.5**	**+0.9**
	10nm,0.3s						
GUN	**Gumba**	**13.52**	**333**	*e*P	**Pn**	**00 05 02.9**	**-0.7**
DMN	**Daman**	**13.62**	**330**	*e*P	**Pn**	**00 05 05.6**	**+0.6**
	7.9nm,0.3s						
KKN	**Kakani**	**13.69**	**331**	*e*P	**Pn**	**00 05 06.5**	**+0.5**
GKN	**Gorkha**	**14.18**	**329**	*e*P	**Pn**	**00 05 11.4**	**-1.2**
	18nm,0.3s						
KOLN	**Koldanda**	**14.53**	**325**	*e*P	**Pn**	**00 05 17.8**	**+0.4**
	5.8nm,0.2s						
MKAR	**Makanchi Array**	**31.97**	**346**	P	**P**	**00 08 18.4**	**+0.7**
	1.9nm,0.7s,mb4.0,baz=162,slow=8.4,SNR=18						
SONM	**Songino Array**	**33.70**	**17**	P	**P**	**00 08 33.4**	**+0.6**
	2.0nm,1.0s,mb4.0,baz=205,slow=9.1,SNR=9.9						
SONM				PcP	PcP	00 11 12.0	-0.3
	0.6nm,0.8s,baz=207,slow=1.7,SNR=9.1						
ZAL	**Zalesovo**	**38.41**	**352**	P	**P**	**00 09 13.1**	**0.0**
	0.9nm,0.6s,mb3.7,baz=301,slow=7.0,SNR=6.8						
FITZ	**Fitzroy Crossi**	**46.80**	**135**	P	**P**	**00 10 21.0**	**-0.2**
	1.2nm,0.7s,mb3.9,baz=178,slow=21,SNR=8.8						
WRA	**Warramunga Arr**	**54.20**	**130**	P	**P**	**00 11 16.7**	**-0.4**
	1.9nm,1.1s,mb4.0,baz=311,slow=7.7,SNR=22						
WRA				PcP	PcP	00 12 21.0	-0.4
	0.2nm,0.4s,baz=324,slow=3.5,SNR=5.5						
WRAB	**Tennant Creek**	**54.20**	**130**	*e*P	**P**	**00 11 23.4**	**+6.3**
	6.8nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**56.23**	**134**	P	**P**	**00 11 31.7**	**-0.1**
	0.5nm,0.4s,mb3.9,baz=306,slow=6.4,SNR=9.2						
BR131	**Keskin Array S**	**56.36**	**307**	*e*P	**P**	**00 11 33.4**	**+0.6**
	0.9nm,0.7s,mb3.9						
BRTR	**Keskin Array B**	**56.36**	**307**	P	**P**	**00 11 33.3**	**+0.5**
	1.8nm,0.9s,mb4.1,baz=120,slow=7.3,SNR=12						
AKASG	**Malin Array Be**	**61.13**	**319**	P	**P**	**00 12 05.2**	**-0.7**
	0.5nm,0.6s,mb3.8,baz=85,slow=5.1,SNR=7.3						
JOF	**Joensuu**	**63.07**	**333**	*ep*	**P**	**00 12 18.6**	**-0.3**
FINES	**FINESS Array B**	**65.03**	**331**	P	**P**	**00 12 31.2**	**-0.6**
	0.8nm,0.5s,mb4.0,baz=104,slow=5.6,SNR=12						
KAF	**Kangasniemi**	**65.08**	**332**	*ep*	**P**	**00 12 32.3**	**+0.2**
STKA	**Stephens Creek**	**66.68**	**136**	P	**P**	**00 12 43.0**	**+0.6**
	2.1nm,0.9s,mb4.2,baz=284,slow=11,SNR=2.3						
ARCES	**ARCESS Array B**	**67.28**	**339**	P	**P**	**00 12 46.1**	**-0.1**
	0.8nm,0.4s,mb4.1,baz=92,slow=7.0,SNR=15						
GERES	**GERESS Array B**	**71.03**	**317**	P	**P**	**00 13 09.8**	**+0.3**
	1.6nm,0.7s,mb4.1,baz=89,slow=5.9,SNR=18						
NB2	**NORSAR Subarra**	**72.12**	**330**	P	**P**	**00 13 15.5**	**-0.6**
	comp=Z,0.3nm,0.5s,mb3.5,baz=90,slow=6.2						
NOA	**NORSAR Array B**	**72.12**	**330**	P	**P**	**00 13 15.2**	**-0.9**
	comp=Z,0.8nm,0.7s,mb3.8,baz=90,slow=5.8,SNR=5.0						
BOSA	**Boshof**	**78.90**	**236**	P	**P**	**00 13 55.3**	**+0.3**
	comp=Z,4.2nm,1.2s,mb4.2,baz=22,slow=20,SNR=6.3						
TORD	**Torodi Ar. Bea**	**87.52**	**283**	P	**P**	**00 14 39.7**	**+0.2**
	comp=Z,0.9nm,0.6s,mb4.2,baz=85,slow=4.3,SNR=20						
TORD	**Torodi Ar. Bea**	**87.52**	**283**	P	**P**	**00 14 39.7**	**+0.2**

**CASC 28 00:04:00.1±4.8, 1338N×9100W, h31km±121km, MD3.9

Error ellipse: s-maj=5.5km s-min=3.9km az=119.6
*IDC **28** 00:31:11.1±0.7, 877N×7334W, h117km±6km, mb3.7/9, mb1 3.9/12, mb1mx3.7/22, mbtmp4.1/12, Error ellipse: s-maj=13.2km s-min=10.3km az=171.0*
*NEIC **28** 00:31:12.3±0.7, 877N×7330W, h131km±6km, mb4.3/14, Error ellipse: s-maj=8.2km s-min=5.7km az=120.0*
*FUNV **28** 00:31:12.1, 896N×7328W, h5km, MW4.0*
ISC 28 00:31:09.0±0.3, 896N±003×7353W±003, h94km±2.0km:pP-P, n81, σ1♀36/96, mb4.2/21, 6C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.62**	**132⇑**	*eP*	**Pn**	**00 31 40.0**	**+3.6**
CAPV				*eS*	**Sn**	**00 31 59.4**	**+2.2**
VIRV	**Villa del Rosa**	**1.90**	**36⇓**	*iP*	**Pn**	**00 31 43.4**	**+3.5**
VIRV				*eS*	**Sn**	**00 32 06.4**	**+2.8**
VIGV	**El Vigia**	**2.14**	**93**	*eS*	**Sn**	**00 32 09.5**	**+0.2**
SOCV	**Socops**	**2.73**	**104⇑**	*eP*	**Pn**	**00 31 53.4**	**+2.5**
SOCV				*eS*	**Sn**	**00 32 23.1**	**0.0**
SDV	**Santo Domingo**	**2.86**	**91**	P	**Pn**	**00 31 54.3**	**+1.5**
	17nm,0.3s,baz=289,slow=6.3,SNR=22						
SDV				S	**Sn**	**00 32 27.2**	**+0.8**
	301nm,0.3s,baz=323,slow=20,SNR=51						
QARV	**Quebrada Arrib**	**3.21**	**67**	*eP*	**Pn**	**00 31 59.8**	**+2.4**
QARV				*eS*	**Sn**	**00 32 34.7**	**-0.2**
DABV	**Dabajuro**	**3.46**	**55**	*eP*	**Pn**	**00 32 02.8**	**+2.1**
DABV				*eS*	**Sn**	**00 32 40.9**	**+0.2**
CURV	**Curarigua**	**3.67**	**73**	*eP*	**Pn**	**00 32 05.4**	**+1.7**
CURV				*eS*	**Sn**	**00 32 45.0**	**-1.0**
SANV	**Sanarito**	**3.98**	**82**	*eP*	**Pn**	**00 32 09.6**	**+1.9**
SIQV	**Siquisique**	**4.04**	**65⇓**	*iP*	**Pn**	**00 32 10.3**	**+1.8**
SIQV				*eS*	**Sn**	**00 32 53.7**	**-1.0**
ROSC	**El Rosal**	**4.15**	**191**	P	**Pn**	**00 32 15.0**	**+4.9**
	15nm,0.3s,baz=314,slow=1.5,SNR=26						
ROSC				S	**Sn**	**00 33 01.6**	**+4.1**
	18nm,0.3s,baz=90,slow=20,SNR=4.5						
IMOV	**Isla Los Monje**	**4.25**	**37⇑**	*eP*	**Pn**	**00 32 13.8**	**+2.3**
IMOV				*eS*	**Sn**	**00 32 59.9**	**-0.1**
TEPV	**Terepaima**	**4.39**	**76**	*eP*	**Pn**	**00 32 15.0**	**+1.6**
ELOV	**Elorza**	**4.45**	**116⇑**	*eP*	**Pn**	**00 32 15.0**	**+0.8**
ELOV				*eS*	**Sn**	**00 33 02.9**	**-1.9**
MONV	**Montecano**	**4.60**	**49**	*eP*	**Pn**	**00 32 17.8**	**+1.7**
MONV				*eS*	**Sn**	**00 33 02.1**	**-1.4**
JACV	**Jacura**	**5.09**	**65**	*eP*	**Pn**	**00 32 24.7**	**+1.9**
BAUV	**El Baul**	**5.42**	**90⇑**	*eP*	**Pn**	**00 32 27.4**	**+0.1**
BAUV				*eS*	**Sn**	**00 33 23.8**	**-4.6**
TURV	**Turiamo**	**5.80**	**75**	*eP*	**Pn**	**00 32 33.4**	**+0.9**
MERV	**Las Mercedes**	**7.15**	**87⇓**	*iP*	**Pn**	**00 32 50.5**	**-0.3**
MERV				*eS*	**Sn**	**00 34 05.5**	**-5.0**
BIRV	**Birongo**	**7.31**	**77⇑**	*eP*	**Pn**	**00 32 53.8**	**+0.7**
CUPV	**Cœpira**	**7.71**	**81**	*eP*	**Pn**	**00 32 58.4**	**-0.1**
PCRV	**Puerto La Cruz**	**8.85**	**81**	P	**Pn**	**00 33 14.3**	**+0.2**
	9.4nm,0.3s,baz=231,slow=4.4,SNR=22						
PCRV				S	**Sn**	**00 34 48.7**	**-3.3**
	1.7nm,0.3s,baz=270,slow=20,SNR=8.2						
PCRV	**Puerto La Cruz**	**8.85**	**81**	*eP*	**Pn**	**00 33 15.5**	**+1.4**
OTAV	**Otavalo**	**9.95**	**210**	*ePn*	**Pn**	**00 33 29.0**	**+0.8**
OTAV				*eSn*	**Sn**	**00 35 20.2**	**+1.4**
SJG	**San Juan**	**11.59**	**37**	P	**Pn**	**00 33 49.1**	**-2.1**
	3.9nm,0.3s,baz=224,slow=10,SNR=6.7						
SJG				S	**Sn**	**00 35 50.5**	**-8.0**
	1.5nm,0.3s,baz=13,slow=19,SNR=3.6						
ATAH	**Atahualpa**	**16.58**	**197**	P	**Pn**	**00 34 57.9**	**+2.2**
	0.2nm,0.3s,baz=131,slow=16,SNR=2.4						
SAML	**Samuel**	**20.55**	**150**	*eP*	**P**	**00 35 37.4**	**-2.7**
	6.9nm,0.7s						
SAML				*eS*	**S**	**00 39 18.9**	**-5.8**
NNA	**Nana**	**21.07**	**189**	*eP*	**P**	**00 35 46.1**	**+0.6**
	8.4nm,0.4s,mb4.4						
LPAZ	**La Paz**	**25.64**	**168**	P	**P**	**00 36 27.8**	**-2.0**
	1.5nm,0.4s,mb3.8,baz=325,slow=5.5,SNR=14						
LPAZ	**La Paz**	**25.64**	**168**	*eP*	**P**	**00 36 28.2**	**-1.6**
	1.7nm,0.3s,mb4.0						
SIV	**San Ignacio**	**27.68**	**153**	P	**P**	**00 36 46.5**	**-1.7**
	0.8nm,0.5s,mb3.5,baz=344,slow=12,SNR=6.4						
NATX	**Nacogdoches**	**30.00**	**322**	P	**P**	**00 37 10.2**	**+1.5**
ANMO	**Albuquerque**	**39.70**	**316**	P	**P**	**00 38 34.5**	**+2.5**
TUC	**Tucson**	**41.57**	**309**	P	**P**	**00 38 50.0**	**+2.6**
SCHQ	**Schefferville**	**46.06**	**5**	P	**P**	**00 39 24.4**	**+1.0**
	3.1nm,0.4s,mb4.4,baz=197,slow=5.4,SNR=16						
TRQA	**Tornquist**	**47.99**	**168**	*eP*	**P**	**00 39 35.1**	**-3.2**
PLCA	**Paso Flores**	**49.52**	**177**	P	**P**	**00 39 47.9**	**-2.1**
	5.1nm,0.8s,mb4.5,baz=356,slow=7.7,SNR=17						
PLCA	**Paso Flores**	**49.52**	**177**	*eP*	**P**	**00 39 48.0**	**-2.0**
	2.7nm,0.4s,mb4.5						
YKA	**Yellowknife Ar**	**61.13**	**340**	P	**P**	**00 41 13.8**	**+0.4**
	1.0nm,0.5s,mb4.1,baz=129,slow=6.8,SNR=10						
YKA				pP	pP	00 41 42.6	+5.9
	0.7nm,0.6s,baz=134,slow=7.9,SNR=3.8						
SFS	**San Fernando**	**66.51**	**54**	*eP*	**P**	**00 41 47.6**	**-1.1**
	20nm,0.3s,mb5.4						
LIC	**Lamto**	**67.88**	**87**	*eP*	**P**	**00 41 55.5**	**-1.8**
	39nm,1.5s,mb4.7						
LIC				*epP*	pP	00 42 19.1	-2.0
LIC	**Lamto**	**67.88**	**87**	*eP*	**P**	**00 41 55.5**	**-1.8**
	19nm,1.5s,mb4.7						
LIC				*epP*	pP	00 42 19.1	-2.0
SJPF	**Ste Jean**	**71.02**	**48**	*eP*	**P**	**00 42 15.8**	**-0.9**
GRR	**Gorron**	**71.85**	**42**	*eP*	**P**	**00 42 20.7**	**-1.0**
	14nm,0.8s,mb4.5						
GRR				*epP*	pP	00 42 44.0	-1.7
GRR	**Gorron**	**71.85**	**42**	*eP*	**P**	**00 42 20.7**	**-1.0**
	7.0nm,0.8s,mb4.5						
GRR				*epP*	pP	00 42 44.0	-1.7
MFF	**Saint Martin d**	**72.13**	**44**	*eP*	**P**	**00 42 23.0**	**-0.3**
	9.5nm,0.8s,mb4.4						
MFF	**Saint Martin d**	**72.13**	**44**	*eP*	**P**	**00 42 23.0**	**-0.3**
	4.8nm,0.8s,mb4.4						
FLN	**La Foliniere**	**72.15**	**42**	*eP*	**P**	**00 42 22.9**	**-0.5**
	7.9nm,0.7s,mb4.4						
FLN				*epP*	pP	00 42 46.6	-0.8
FLN	**La Foliniere**	**72.15**	**42**	*eP*	**P**	**00 42 22.9**	**-0.5**
	4.0nm,0.6s,mb4.4						
FLN				*epP*	pP	00 42 46.6	-0.8
EPF	**Esparros**	**72.16**	**48**	*eP*	**P**	**00 42 22.9**	**-0.6**
	14nm,0.8s,mb4.6						
EPF	**Esparros**	**72.16**	**48**	*eP*	**P**	**00 42 22.9**	**-0.6**
	7.3nm,0.8s,mb4.6						
LDF	**La Druitiere**	**72.36**	**42**	*eP*	**P**	**00 42 23.7**	**-1.0**
	4.6nm,0.7s,mb4.2						
LDF	**La Druitiere**	**72.36**	**42**	*eP*	**P**	**00 42 23.7**	**-1.0**
	2.3nm,0.6s,mb4.2						
LFF	**La Frestale**	**72.60**	**46**	*eP*	**P**	**00 42 25.5**	**-0.6**
RJF	**Les Rejaudoux**	**73.17**	**45**	*eP*	**P**	**00 42 28.9**	**-0.6**
CAF	**Calviac**	**73.53**	**46**	*eP*	**P**	**00 42 30.7**	**-0.9**
	3.7nm,0.6s,mb4.0						
CAF	**Calviac**	**73.53**	**46**	*eP*	**P**	**00 42 30.7**	**-0.9**
	1.9nm,0.6s,mb4.0						
MTLF	**Montolieu**	**73.55**	**48**	*eP*	**P**	**00 42 30.7**	**-1.0**
MTLF				*epP*	pP	00 42 55.1	-0.7
TORD	**Torodi Ar. Bea**	**73.72**	**79**	P	**P**	**00 42 30.0**	**-2.7**
	0.2nm,0.4s,mb3.2,baz=279,slow=6.7,SNR=5.0						
TORD	**Torodi Ar. Bea**	**73.72**	**79**	P	**P**	**00 42 30.0**	**-2.7**
BGF	**Bois d'Agland**	**74.19**	**44**	*eP*	**P**	**00 42 34.8**	**-0.6**
AVF	**Avril sur Loir**	**74.55**	**44**	*eP*	**P**	**00 42 36.7**	**-0.8**
SSF	**Saint Saulge**	**74.67**	**44**	*eP*	**P**	**00 42 37.4**	**-0.8**
SMF	**Signal de Mont**	**74.88**	**44**	*eP*	**P**	**00 42 38.5**	**-0.9**
LOR	**Lormes**	**74.92**	**43**	*eP*	**P**	**00 42 39.0**	**-0.7**
	3.5nm,0.5s,mb4.1						
LOR				*epP*	pP	00 43 03.0	-0.8
LOR	**Lormes**	**74.92**	**43**	*eP*	**P**	**00 42 39.0**	**-0.7**
	1.8nm,0.5s,mb4.1						
LOR				*epP*	pP	00 43 03.0	-0.8
MEZF	**Maizieres J'vi**	**75.78**	**42**	*eP*	**P**	**00 42 44.0**	**-0.6**
	6.2nm,0.5s,mb4.3						
MEZF	**Maizieres J'vi**	**75.78**	**42**	*eP*	**P**	**00 42 44.0**	**-0.6**
	6.2nm,0.5s,mb4.6						
SMRF	**Simiane la Rot**	**76.00**	**47**	*eP*	**P**	**00 42 45.1**	**-0.8**
LMR	**La Mourre**	**76.68**	**48**	*eP*	**P**	**00 42 48.9**	**-0.8**
LMR				*epP*	pP	00 43 12.5	-1.4
LPL	**La Plagne**	**76.85**	**45**	*eP*	**P**	**00 42 50.3**	**-0.4**
	2.0nm,0.5s,mb3.8						
LPL	**La Plagne**	**76.85**	**45**	*eP*	**P**	**00 42 50.3**	**-0.4**
	1.0nm,0.5s,mb3.8						
SBF	**Sospel**	**77.35**	**47**	*eP*	**P**	**00 42 52.6**	**-0.8**
NB2	**NORSAR Subarra**	**79.68**	**30**	P	**P**	**00 43 06.5**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.8,baz=269,slow=5.6						
NOA	**NORSAR Array B**	**79.68**	**30**	P	**P**	**00 43 06.8**	**+0.6**
	comp=Z,2.0nm,0.9s,mb4.0,baz=270,slow=5.7,SNR=6.8						
GERES	**GERESS Array B**	**81.51**	**42**	P	**P**	**00 43 15.5**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=264,slow=3.8,SNR=5.6						
ARCES	**ARCESS Array B**	**84.83**	**20**	P	**P**	**00 43 32.3**	**-0.8**
	comp=Z,1.2nm,0.9s,mb3.8,baz=264,slow=4.9,SNR=7.3						
QSPA	**South Pole Qui**	**98.95**	**180**	*eP*	**P**	**00 44 37.3**	**-1.6**
ASAR	**Alice Springs**	**149.97**	**238**	PKPbc	PKPbc	00 50 47.3	-1.1
	comp=Z,0.5nm,0.8s,baz=101,slow=3.9,SNR=3.2						
ASAR				PKPab	PKPab	00 50 55.3	+0.9
	comp=Z,0.4nm,0.7s,baz=107,slow=2.6,SNR=2.9						
ASAR				pPKPbc	pPKPbc	00 51 20.1	+5.9
	comp=Z,0.2nm,0.5s,baz=116,slow=3.4,SNR=1.6						
ASAR	**Alice Springs**	**149.97**	**238**	PKPbc	PKPbc	00 50 47.3	-1.1
ASAR				PKPab	PKPab	00 50 55.3	+0.9
ASAR				pPKPbc	pPKPbc	00 51 20.1	+5.9
WRA	**Warramunga Arr**	**150.94**	**245**	PKPbc	PKPbc	00 50 51.7	+1.0
	comp=Z,0.2nm,0.4s,baz=103,slow=2.8,SNR=9.8						
WRA				PKPab	PKPab	00 51 00.7	+2.3
	comp=Z,0.7nm,0.4s,baz=108,slow=2.6,SNR=23						
WRA				pPKPbc	pPKPbc	00 51 21.8	+5.2
	comp=Z,0.8nm,0.7s,baz=112,slow=1.8,SNR=4.4						

*IDC **28** 00:39:41.4±0.9, 1588N×6138W, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.7/23, mbtmp3.9/7, ML3.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/25, Error ellipse: s-maj=19.9km s-min=13.3km az=112.0*
*NEIC **28** 00:39:42.0, 1577N×6143W, h13km, MD3.7(TRN), After TRN.*
NEIC Felt at Portsmouth, Dominica.
*TRN **28** 00:39:42.2, 1576N×6148W, h20km, MD3.7, M3.8(FDF)*
*ISCJB **28** 00:39:43.6±0.3, 1576N±002×6164W±004, h25km±3km, mb3.9/5, Error ellipse: s-maj=7.2km s-min=2.8km az=138.9*
*RSPR **28** 00:39:48.4, 2173N×6274W, h54km±47km, MD4.6/4, MD4.6/4*
ISC 28 00:39:44.2±0.3, 1577N±002×6156W±004, h18km±2km, n51, σ1♀19/72, mb3.9/5, 13C-12D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBG	**Guadaloupe-3**	**0.11**	**314⇓**	*iP*	**Pg**	**00 39 47.7**	**-0.3**
HMG	**Houelmont**	**0.25**	**327⇓**	*iP*	**Pg**	**00 39 50.3**	**+0.4**
PHG	**Guadaloupe-2**	**0.25**	**342⇓**	*eP*	**Pg**	**00 39 50.6**	**+0.6**
BBL	**Barber's Block**	**0.26**	**160⇓**	*iP*	**Pg**	**00 39 49.1**	**-1.0**
BBL				*eS*	**Sg**	**00 39 52.5**	**-1.6**
DOG	**Dongo Capester**	**0.26**	**348⇓**	*eP*	**Pg**	**00 39 50.6**	**+0.5**
MGG	**Marie-Galante**	**0.28**	**58⇑**	*iP*	**Pg**	**00 39 49.8**	**-0.5**
SCG	**Saint Claude**	**0.28**	**335⇓**	*iP*	**Pg**	**00 39 50.9**	**+0.5**
BCG	**Bois Riant Cap**	**0.32**	**350⇑**	*eP*	**Pg**	**00 39 51.4**	**+0.4**
LZG	**Guadaloupe-1**	**0.42**	**331⇓**	*iP*	**Pg**	**00 39 53.2**	**+0.3**
MDN	**Morne-Daniel**	**0.48**	**160⇓**	*iP*	**Pg**	**00 39 53.9**	**0.0**
MDN				*eS*	**Sg**	**00 40 00.5**	**+0.1**
DBCT	**Belle View Cho**	**0.54**	**157**	*eP*	**Pg**	**00 39 54.9**	**-0.2**
DBCT				*eS*	**Sg**	**00 40 02.9**	**+0.6**
DSHT	**Scott's Head**	**0.58**	**162**	*eP*	**Pg**	**00 39 55.8**	**0.0**
DSHT				*eS*	**Sg**	**00 40 04.0**	**+0.3**
SFG	**Saint Francois**	**0.59**	**36⇓**	*eP*	**Pg**	**00 39 55.1**	**-0.8**
SEG	**Port Louis**	**0.63**	**5⇑**	*eP*	**Pg**	**00 39 56.4**	**-0.2**
DEG	**La Desirade**	**0.72**	**42⇑**	*eP*	**Pb**	**00 39 56.8**	**-1.5**
FDF	**Fort de France**	**1.11**	**159⇓**	*eP*	**Pn**	**00 40 02.7**	**-2.1**
FDF				*eS*	**Sb**	**00 40 18.3**	**-0.6**
BPA	**Boggy Peak**	**1.30**	**347**	*eP*	**Pn**	**00 40 07.2**	**-0.3**
BPA	**Boggy Peak**	**1.30**	**347⇓**	*iP*	**Pn**	**00 40 08.3**	**+0.8**
BPA				*eS*	**Sn**	**00 40 26.0**	**+1.7**
BPA	**Boggy Peak**	**1.30**	**347⇓**	*iP*	**Pn**	**00 40 08.3**	**+0.8**
BPA				*eS*	**Sn**	**00 40 26.0**	**+1.7**
BIM	**Bigot**	**1.33**	**159**	*eP*	**Pn**	**00 40 06.8**	**-1.2**
MVM	**Montagne Vaucl**	**1.37**	**152**	*eP*	**Pn**	**00 40 07.2**	**-1.3**
CPB	**Codrington**	**1.87**	**352**	*eP*	**Pn**	**00 40 16.2**	**+0.8**
CPB				*eS*	**Sn**	**00 40 36.7**	**-1.9**
SVV	**Soufriere Volc**	**2.46**	**172**	*eP*	**Pn**	**00 40 23.5**	**0.0**
SVV				*eS*	**Sn**	**00 40 49.6**	**-3.5**
GRCU	**Cariacou**	**3.28**	**178**	*eP*	**Pn**	**00 40 35.3**	**+0.5**
GRCU				*eS*	**Sn**	**00 41 09.6**	**-3.8**
GRSS	**Sisters**	**3.45**	**181**	*eP*	**Pn**	**00 40 40.5**	**+3.3**
GRSS				*eS*	**Sn**	**00 41 19.4**	**+1.8**
GRIC	**Isle de Caille**	**3.47**	**180**	*eP*	**Pn**	**00 40 38.9**	**+1.6**
GRIC				*eS*	**Sn**	**00 41 16.7**	**-1.2**
GRW	**Mount Saint Ca**	**3.59**	**182**	*eP*	**Pn**	**00 40 41.3**	**+2.3**
GRW				*eS*	**Sn**	**00 41 22.4**	**+1.4**
CULB	**Culebra**	**4.40**	**306⇑**	*eP*	**Pn**	**00 40 51.0**	**+0.8**
CULB	**Culebra**	**4.40**	**306**	*eS*	**Sn**	**00 41 37.9**	**-3.1**
MTP	**Monte Pirata**	**4.47**	**302**	*eS*	**Sn**	**00 41 45.6**	**+3.0**
MTP	**Monte Pirata**	**4.47**	**302⇑**	*eP*	**Pn**	**00 40 52.8**	**+1.8**
MTP				*eS*	**Sn**	**00 41 45.6**	**+3.0**
HUMP	**Col San Antoni**	**4.73**	**300**	*eS*	**Sn**	**00 41 47.4**	**-1.8**
HUMP	**Col San Antoni**	**4.73**	**300⇑**	*eP*	**Pn**	**00 40 55.4**	**+0.7**
HUMP				*eS*	**Sn**	**00 41 47.4**	**-1.8**
CBYP	**Canovanas**	**4.80**	**302**	*eS*	**Sn**	**00 41 45.4**	**-5.4**
CBYP	**Canovanas**	**4.80**	**302⇑**	*eP*	**Pn**	**00 40 56.2**	**+0.5**
CBYP				*eS*	**Sn**	**00 41 45.4**	**-5.4**
SJG	**San Juan**	**4.97**	**299⇑**	*eP*	**Pn**	**00 40 58.7**	**+0.8**
SJG	**San Juan**	**4.97**	**299**	*eS*	**Sn**	**00 41 53.2**	**-1.8**
SJG	**San Juan**	**4.97**	**299**	Pn	**Pn**	**00 40 58.9**	**+0.9**
	5.5nm,0.3s,baz=331,slow=19,SNR=11						
SJG				Sn	**Sn**	**00 41 53.9**	**-1.0**
	9.8nm,0.3s,baz=38,slow=23,SNR=6.1						
SJG	**San Juan**	**4.97**	**299⇑**	*eP*	**Pn**	**00 40 58.7**	**+0.8**
SJG				*eS*	**Sn**	**00 41 53.2**	**-1.8**
TRN	**Trinidad (W)**	**5.10**	**178**	*eP*	**Pn**	**00 41 00.9**	**+1.2**
CELP	**Cerrillos**	**5.32**	**296⇑**	*eP*	**Pn**	**00 41 02.8**	**0.0**
MGP	**Maguayo**	**5.74**	**294⇑**	*eP*	**Pn**	**00 41 08.5**	**0.0**
MGP				*eS*	**Sn**	**00 42 11.6**	**-2.3**
CRPR	**Cabo Rojo, PR**	**5.76**	**293**	*eS*	**Sn**	**00 42 11.2**	**-3.2**
CRPR	**Cabo Rojo, PR**	**5.76**	**293⇑**	*eP*	**Pn**	**00 41 08.8**	**0.0**
CRPR				*eS*	**Sn**	**00 42 11.2**	**-3.2**
PCRV	**Puerto La Cruz**	**6.32**	**209**	Pn	**Pn**	**00 41 16.8**	**+0.3**
	1.1nm,0.3s,baz=61,slow=10,SNR=4.5						
PCRV				Sn	**Sn**	**00 42 26.6**	**-1.6**
	3.7nm,0.3s,baz=100,slow=7.1,SNR=6.9						
PCRV				LR	LR	00 43 52.9	
	comp=Z,192nm,20.1s,baz=294,slow=39						
SIV	**San Ignacio**	**31.57**	**179**	P	**P**	**00 46 06.6**	**+1.0**
	2.1nm,0.5s,mb4.2,baz=33,slow=12,SNR=13						
ULM	**Lac du Bonnet**	**44.14**	**329**	P	**P**	**00 47 50.5**	**-1.1**
	0.7nm,0.3s,mb4.8,baz=113,slow=13,SNR=2.9						
PDAR	**Pinedale Array**	**48.91**	**313**	P	**P**	**00 48 30.6**	**+1.5**
	1.2nm,0.8s,mb4.0,baz=106,slow=10.0,SNR=13						
YKA	**Yellowknife Ar**	**59.47**	**334**	P	**P**	**00 49 45.7**	**-0.3**
	0.4nm,0.4s,mb3.8,baz=102,slow=7.3,SNR=4.0						
YKA	**Yellowknife Ar**	**59.47**	**334**	P	**P**	**00 49 45.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**61.11**	**83**	P	**P**	**00 49 58.5**	**+1.2**
	0.5nm,0.8s,mb3.7,baz=283,slow=7.2,SNR=4.6						

IDC 28 01:00:31.7±42.0, 2436S×17988E, h478km±363km, mb3.3/4, mb1 3.4/4, mb1mx3.1/13, mbtmp4.2/4, Error ellipse: s-maj=341.0km s-min=113.1km az=117.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.37**	**271**	P	P	01 06 12.8	+0.7
	2.5nm,0.3s,baz=100,slow=10,SNR=11						
ASAR	**Alice Springs**	**41.85**	**261**	P	P	01 07 38.7	-0.1
	1.5nm,0.7s,baz=105,slow=6.3,SNR=12						
WRA	**Warramunga Arr**	**42.27**	**267**	P	P	01 07 41.9	-0.2
	0.9nm,0.3s,baz=103,slow=8.4,SNR=19						
FITZ	**Fitzroy Crossi**	**50.68**	**266**	P	P	01 08 46.8	+0.7
	0.8nm,0.4s,baz=140,slow=7.9,SNR=4.1						
AKASG	**Malin Array Be**	**145.29**	**327**	PKPbc	PKPbc	01 19 14.0	-1.3
	0.4nm,0.4s,baz=45,slow=4.2,SNR=6.9						
BRTR	**Keskin Array B**	**147.76**	**307**	PKPbc	PKPbc	01 19 22.1	+0.1
	0.8nm,0.7s,baz=86,slow=2.4,SNR=4.5						

*SZGRF **28** 01:20:02.6, 1987S×17071E, h33km, Vanuatu Islands*
*NEIC **28** 01:20:30.1±3.3, 1781S×16887E, h190km±30km, mb4.6/21, Error ellipse: s-maj=13.7km s-min=11.3km az=187.0*
*ISCJB **28** 01:20:33.9±0.7, 1787S±007×16876E±007, h243km±7km, mb4.4/30, Error ellipse: s-maj=13.4km s-min=8.0km az=107.3*
*IDC **28** 01:20:34.8±1.3, 1791S×16880E, h241km±11km, mb4.1/12, mb1 4.2/13, mb1mx4.2/16, mbtmp4.6/13, Error ellipse: s-maj=14.6km s-min=11.6km az=155.0*
*LDG **28** 01:20:39.3±0.2, 1832S×168.16E, h280km, Mb3.9/1, Ms3.9/1, Error ellipse: s-maj=24.1km s-min=5.1km az=106.0*
ISC 28 01:20:34.6±0.7, 1790S±007×16883E±007, h237km±7km, n100, σ0♀74/49, mb4.4/29, 4C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**0.60**	**292⇓**	*iP*	**Pn**	**01 21 05.4**	**-0.8**
DZM	**Mont Dzumac**	**4.72**	**208**	*eP*	**Pn**	**01 21 46.4**	**-0.1**
DZM				*eS*	**S**	**01 22 43.8**	**+0.3**
DZM	**Mont Dzumac**	**4.72**	**208**	P	**Pn**	**01 21 46.4**	**-0.1**
	16nm,0.3s,baz=44,slow=17,SNR=61						
DZM				S	**S**	**01 22 43.3**	**-0.3**
	8.8nm,0.3s,baz=140,slow=23,SNR=5.6						
ARMA	**Armidale**	**20.01**	**228⇑**	*iP*	**P**	**01 24 51.2**	**+1.8**
CTA	**Charters Tower**	**21.45**	**261**	*eP*	**P**	**01 25 05.0**	**+0.5**
	18nm,0.6s,mb4.8						
CTA	**Charters Tower**	**21.45**	**261**	P	**P**	**01 25 05.0**	**+0.5**
	20nm,0.6s,mb4.8,baz=83,slow=12,SNR=33						
CTAO	**Charters Tower**	**21.45**	**261**	*eP*	**P**	**01 25 05.1**	**+0.6**
	20nm,0.6s,mb4.8						
URZ	**Urewera**	**21.55**	**162**	P	**P**	**01 25 05.7**	**+0.3**
	26nm,0.8s,mb4.8,baz=17,slow=2.8,SNR=12						
PMG	**Port Moresby**	**22.66**	**289**	P	**P**	**01 25 16.5**	**+0.9**
	13nm,0.8s,mb4.5,baz=116,slow=3.5,SNR=5.7						
CNB	**Canberra Magne**	**24.50**	**221**	*eP*	**P**	**01 25 33.3**	**+1.1**
	22nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**28.26**	**235⇑**	*iP*	**P**	**01 26 06.9**	**+1.1**
	15nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**28.26**	**235**	P	**P**	**01 26 06.7**	**+0.8**
	19nm,0.6s,mb4.9,baz=66,slow=8.0,SNR=24						
TOO	**Toolangi**	**28.34**	**222**	*eP*	**P**	**01 26 07.5**	**+1.0**
	7.4nm,1.2s,mb4.2						
WB2	**Warramunga Arr**	**32.64**	**261⇑**	*iP*	**P**	**01 26 43.7**	**-0.6**
WRAB	**Tennant Creek**	**32.65**	**261**	*eP*	**P**	**01 26 44.1**	**-0.2**
	7.9nm,0.6s,mb4.4						
WRAB				*e*	pP	01 27 32.4	+0.6
WRA	**Warramunga Arr**	**32.66**	**261**	P	**P**	**01 26 43.9**	**-0.5**
	2.8nm,0.3s,mb4.3,baz=80,slow=6.2,SNR=120						
WRA				S	**S**	**01 31 41.9**	**-0.6**
	0.7nm,0.8s,baz=100,slow=14,SNR=4.2						
WRA				ScP	ScP	01 32 47.2	+1.8
	0.7nm,0.7s,baz=89,slow=3.8,SNR=5.5						
AS31	**Alice Springs**	**33.09**	**254**	*eP*	**P**	**01 26 48.5**	**+0.4**
AS31				*epP*	pP	01 27 33.2	-2.6
ASAR	**Alice Springs**	**33.09**	**254**	P	**P**	**01 26 48.4**	**+0.2**
	38nm,0.6s,mb5.1,baz=84,slow=8.7,SNR=359						
ASAR				S	**S**	**01 31 48.2**	**-1.1**
	3.9nm,1.0s,baz=80,slow=17,SNR=15						
ASPA	**Alice Springs**	**33.10**	**254**	*eP*	**P**	**01 26 48.4**	**+0.2**
KAKA	**Kakadu**	**35.43**	**273**	*eP*	**P**	**01 27 08.2**	**0.0**
	5.0nm,0.6s,mb4.2						
FORT	**Forrest**	**39.09**	**243**	*eP*	**P**	**01 27 39.0**	**+0.2**
	27nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**41.00**	**263**	*eP*	**P**	**01 27 54.4**	**-0.2**
	22nm,0.6s,mb4.8						
KLBR	**Kellerberrin**	**47.95**	**243**	*eP*	**P**	**01 28 48.8**	**-0.5**

PGF	**Pioggiola** 31nm,0.7s	**150.03**	**329**	*e*PKP1	PKPbc	01 39 56.8	-0.1
FRF	**La Foret Royal**	**150.31**	**333**	*e*PKP1	PKPbc	01 39 57.1	-0.5
SMRF	**Simiane la Rot** 15nm,0.8s	**150.42**	**335**	*e*PKP1	PKPbc	01 39 58.0	+0.1
LMR	**La Mourre** 29nm,1.0s	**150.55**	**333**	*e*PKP1	PKPbc	01 39 57.8	-0.4
RJF	**Les Rejaudoux**	**150.69**	**342**	*e*PKP1	PKPbc	01 39 58.2	-0.3
LFF	**La Frestale** 14nm,0.7s	**151.25**	**342**	*e*PKP1	PKPbc	01 39 59.6	-0.2
TORD	**Torodi Ar. Bea** 0.6nm,0.6s,baz=344,slow=1.6,SNR=8.6	**166.73**	**251**	PKP	PKPdf	01 40 11.0	-0.6
LIC	**Lamto** 8.9nm,0.9s	**166.94**	**208**	*e*PKIKP	PKPdf	01 40 10.6	-1.1

*THE **28** 01:36:13.4, 44.19N×2021E, h10km, ML3.4*
*CSEM **28** 01:36:14.6±0.1, 4403N×2010E, h8km, ML3.4, Error ellipse: s-maj=1.4km s-min=1.2km az=106.0*
*PDG **28** 01:36:14.7±0.5, 4404N×2010E, h11km±1km*
*NEIC **28** 01:36:14.7, 4404N×2010E, h11km, ML3.3(PDG), ML3.5(BUC), After PDG.*
NEIC Felt at Beograd.
*ISCJB **28** 01:36:14.6±0.3, 4407N±001×2001E±002, h13km±2km, Error ellipse: s-maj=2.8km s-min=2.1km az=155.6*
*PRU **28** 01:36:15.5, 4405N×1993E, h0km*
*BEO **28** 01:36:15±0.3, 44.00N×2007E, h22km±3km*

ISC 28 01:36:15.5±0.3, 4407N±001×2002E±002, h7km±2km, n117, σ1§22/177, 33C-28D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIVS	**Divcibare**	**0.04**	**326**	*i* Pg	**Pg**	**01 36 16.8**	**-0.2**
DIVS				Sg	**Sg**	**01 36 19.1**	**+1.1**
DIVS	**Divcibare**	**0.04**	**326**	*e*Pg	**Pg**	**01 36 16.9**	**-0.1**
DIVS	**Divcibare**	**0.04**	**326**	*e*Pg	**Pg**	**01 36 16.9**	**0.0**
DIVS				Sg	**Sg**	**01 36 19.1**	**+1.1**
BBLS	**Bajina Basta -**	**0.48**	**246**	*i* Pg	**Pg**	**01 36 25.2**	**+0.4**
BBLS				Sg	**Sg**	**01 36 32.1**	**+0.9**
SJES	**Sjenica**	**0.80**	**184**	Pg	**Pg**	**01 36 28.9**	**-2.0**
SJES				Sg	**Sg**	**01 36 39.6**	**-1.7**
BEO	**Belgrade**	**0.81**	**22**	*i* Pg	**Pg**	**01 36 32.0**	**+0.9**
BEO				Sg	**Sg**	**01 36 43.6**	**+1.9**
BEO	**Belgrade**	**0.81**	**22**	Pg	**Pg**	**01 36 32.0**	**+0.9**
BEO				Sg	**Sg**	**01 36 43.6**	**+1.9**
PLE	**Pljevlja**	**0.87**	**212**	⇓*i*Pg	**Pg**	**01 36 30.9**	**-1.2**
PLE				*i* Sg	**Sg**	**01 36 44.7**	**+1.3**
FGSL	**Fruska Gora**	**1.10**	**352**	Pg	**Pg**	**01 36 36.7**	**+0.1**
FGSL				Sg	**Sg**	**01 36 51.8**	**+1.0**
UPM	**Unac-Piva**	**1.18**	**223**	⇓*i*Pg	**Pg**	**01 36 36.7**	**-1.4**
UPM				*i* Sg	**Sg**	**01 36 56.2**	**+2.7**
IVA	**Berane**	**1.20**	**184**	⇓*i*Pg	**Pg**	**01 36 36.6**	**-1.9**
IVA				*i* Sg	**Sg**	**01 36 54.4**	**+0.3**
NKY	**Niksic**	**1.46**	**211**	⇑*i*Pg	**Pg**	**01 36 41.7**	**-1.8**
NKY				*i* Sg	**Sg**	**01 37 04.0**	**+1.7**
PVY	**Plav**	**1.47**	**181**	⇓*i*Pg	**Pg**	**01 36 41.7**	**-2.0**
PVY				*e*Sg	**Sg**	**01 37 02.6**	**-0.2**
BRY	**Bratogost**	**1.59**	**223**	⇑*i*Pn	**Pn**	**01 36 43.7**	**-0.2**
BRY				*i* Sn	**Sn**	**01 37 07.0**	**+2.4**
TTG	**Podgorica**	**1.73**	**199**	⇓*i*Pn	**Pn**	**01 36 45.3**	**-0.6**
TTG				*e*Sn	**Sn**	**01 37 10.3**	**+2.1**
TREB	**Trebinje**	**1.82**	**223**	P	**Pn**	**01 36 47.5**	**+0.4**
TREB				S	**Sn**	**01 37 14.1**	**+3.7**
DJES	**Djerdap**	**1.88**	**72**	*i* Pn	**Pn**	**01 36 47.5**	**-0.5**
DJES				Sn	**Sn**	**01 37 12.4**	**+0.4**
BZS	**Buzias**	**1.92**	**36**	⇑*i*P	**Pn**	**01 36 47.4**	**-1.1**
BZS	**Buzias**	**1.92**	**36**	⇑P	**Pn**	**01 36 47.4**	**-1.1**
BZS				S	**Sn**	**01 37 15.8**	**+2.9**
BZS	**Buzias**	**1.92**	**36**	⇑P	**Pn**	**01 36 47.4**	**-1.1**
BZS				S	**Sn**	**01 37 15.8**	**+2.9**
BUM	**Brajici-Budva**	**1.95**	**205**	⇑*i*Pn	**Pn**	**01 36 49.7**	**+0.8**
BUM				*e*Sn	**Sn**	**01 37 14.8**	**+1.2**
HCY	**Herceg Novi**	**1.96**	**215**	⇓*i*Pn	**Pn**	**01 36 49.7**	**+0.6**
HCY				*e*Sn	**Sn**	**01 37 16.1**	**+2.1**
STON	**Ston**	**2.07**	**235**	*i* Pn	**Pn**	**01 36 51.3**	**+0.7**
STON				*i* Sn	**Sn**	**01 37 19.0**	**+2.4**
STON	**Ston**	**2.07**	**235**	*i* Pn	**Pn**	**01 36 51.2**	**+0.6**
STON				*i* Sn	**Sn**	**01 37 18.9**	**+2.3**
BLY	**Banja Luka**	**2.14**	**289**	P	**Pn**	**01 36 52.5**	**+0.9**
BLY				S	**Sn**	**01 37 22.3**	**+3.9**
ULC	**Ulcinj**	**2.18**	**195**	⇓*i*Pn	**Pn**	**01 36 52.4**	**+0.3**
ULC				*e*Sn	**Sn**	**01 37 20.4**	**+1.1**
ULC	**Ulcinj**	**2.18**	**195**	⇓*i*Pn	**Pn**	**01 36 52.3**	**+0.2**
RHK3	**Tenkes** 3.1nm,0.5s	**2.21**	**326**	⇓*e*P	**Pn**	**01 36 52.3**	**-0.2**
RHK3				*e*S	**Sn**	**01 37 18.5**	**-1.5**
SKO	**Skopje**	**2.34**	**153**	⇑*i*Pn	**Pn**	**01 36 53.6**	**-0.7**
PKSM	**Moragy**	**2.35**	**336**	⇑*i*P	**Pn**	**01 36 54.1**	**-0.4**
PKSM	**Moragy**	**2.35**	**336**	⇑*e*Pn	**Pn**	**01 36 54.0**	**-0.5**
PKSM				*e*Sn	**Sn**	**01 37 31.0**	**+7.4**
PKSM	**Moragy**	**2.35**	**336**	⇑*e*Pn	**Pn**	**01 36 54.0**	**-0.5**
PKSM				S	**Sn**	**01 37 24.1**	**+0.5**
GZR	**Gura Zlata**	**2.37**	**55**	⇓*i*P	**Pn**	**01 36 54.0**	**-0.7**
GZR	**Gura Zlata**	**2.37**	**55**	⇓P	**Pn**	**01 36 54.0**	**-0.7**
GZR				S	**Sn**	**01 37 26.9**	**+2.9**
GZR	**Gura Zlata**	**2.37**	**55**	⇓P	**Pn**	**01 36 54.0**	**-0.7**
GZR				S	**Sn**	**01 37 26.9**	**+2.9**
TIR	**Tirane**	**2.72**	**182**	*e*Pn	**Pn**	**01 37 02.5**	**+2.9**
TIR				*e*Sn	**Sn**	**01 37 36.1**	**+3.4**
VTS	**Vitosha**	**2.75**	**121**	*e*Pn	**Pn**	**01 36 58.5**	**-1.5**
VTS				*e*Sn	**Sn**	**01 37 33.2**	**-0.3**
VTS	**Vitosha**	**2.75**	**121**	⇑*i*P	**Pn**	**01 36 58.7**	**-1.3**
VTS	**Vitosha**	**2.75**	**121**	S	**Sn**	**01 37 33.0**	**-0.5**
STIP	**Stip**	**2.86**	**145**	*e*Pn	**Pn**	**01 36 59.5**	**-1.9**
STIP				*e*Sn	**Sn**	**01 37 35.7**	**-0.3**
STIP	**Stip**	**2.86**	**145**	⇑*i*Pn	**Pn**	**01 36 59.3**	**-2.1**
PKS8	**Sarbogard**	**2.96**	**342**	⇑*e*P	**Pn**	**01 37 02.8**	**-0.1**
BIA	**Bitola**	**3.20**	**162**	*e*Pn	**Pn**	**01 37 06.3**	**+0.3**
BIA	**Bitola**	**3.20**	**162**	*e*Pn	**Pn**	**01 37 06.3**	**+0.2**
DRGR		**3.32**	**34**	⇑*i*P	**Pn**	**01 37 06.9**	**-0.8**
DRGR		**3.32**	**34**	⇑P	**Pn**	**01 37 06.9**	**-0.8**
DRGR				S	**Sn**	**01 37 48.3**	**+0.9**
DRGR		**3.32**	**34**	⇑P	**Pn**	**01 37 06.9**	**-0.8**
DRGR				S	**Sn**	**01 37 48.3**	**+0.9**
VAY	**Valandovo**	**3.33**	**145**	*e*Pn	**Pn**	**01 37 06.1**	**-1.7**
VAY	**Valandovo**	**3.33**	**145**	⇑*i*Pn	**Pn**	**01 37 06.0**	**-1.8**
FNA	**Florina**	**3.43**	**163**	*e*Pn	**Pn**	**01 37 09.2**	**-0.1**
FNA				*e*Sn	**Sn**	**01 37 53.6**	**+3.4**
BUD	**Budapest**	**3.49**	**349**	⇑*e*Pn	**Pn**	**01 37 10.1**	**+0.1**
PKSG		**3.51**	**342**	⇑*e*P	**Pn**	**01 37 10.6**	**+0.2**
KOGS	**Kog**	**3.57**	**313**	*i* Pn	**Pn**	**01 37 11.2**	**0.0**
GRG	**Griva**	**3.57**	**150**	*e*Pn	**Pn**	**01 37 10.6**	**-0.6**
KNT	**Kendrikon**	**3.60**	**143**	*e*Pn	**Pn**	**01 37 10.4**	**-1.2**
GOLS	**Golise**	**3.67**	**303**	*e*Pn	**Pn**	**01 37 12.3**	**-0.3**
MMB	**Musomiste**	**3.69**	**131**	*e*Pn	**Pn**	**01 37 12.2**	**-0.6**
PENC	**Penc**	**3.76**	**352**	⇑*i*P	**Pn**	**01 37 14.0**	**+0.2**
DOBS	**Dobrina**	**3.83**	**304**	*i* Pn	**Pn**	**01 37 14.8**	**0.0**
VOIR		**3.83**	**67**	⇑*i*P	**Pn**	**01 37 15.5**	**+0.6**
VOIR		**3.83**	**67**	⇑P	**Pn**	**01 37 15.5**	**+0.7**
VOIR				S	**Sn**	**01 38 02.4**	**+2.3**
VOIR		**3.83**	**67**	⇑P	**Pn**	**01 37 15.5**	**+0.6**
VOIR				S	**Sn**	**01 38 02.4**	**+2.2**
PSZ	**Piszkesteto**	**3.85**	**359**	*e*Pn	**Pn**	**01 37 14.9**	**-0.2**
PSZ				*e*Sg	**Sg**	**01 38 18.8**	**-0.4**
ZIMR		**3.89**	**94**	⇓*i*P	**Pn**	**01 37 14.9**	**-0.7**
ZIMR		**3.89**	**94**	S	**Sb**	**01 38 15.0**	**+3.5**
ZIMR		**3.89**	**94**	⇓P	**Pn**	**01 37 14.9**	**-0.7**
SRS	**Serrai**	**3.96**	**137**	*e*Pn	**Pn**	**01 37 15.1**	**-1.4**
GROS	**Grobnik**	**3.99**	**308**	*i* Pn	**Pn**	**01 37 16.9**	**-0.1**
GROS				*e*Sn	**Sn**	**01 38 02.6**	**-1.2**
SOH	**Sokhos**	**4.08**	**142**	*e*Pn	**Pn**	**01 37 17.1**	**-1.1**
SOH	**Sokhos**	**4.08**	**142**	*e*Pn	**Pn**	**01 37 17.0**	**-1.2**
PERS	**Pernice**	**4.30**	**308**	*i* Pn	**Pn**	**01 37 21.2**	**-0.1**
MLR	**Muntele Rosu**	**4.45**	**69**	⇓*i*P	**Pn**	**01 37 24.4**	**+1.1**
MLR	**Muntele Rosu**	**4.45**	**69**	⇓P	**Pn**	**01 37 24.4**	**+1.1**
ARSA	**Arzberg** SNR=53	**4.48**	**317**	*i* Pn	**Pn**	**01 37 24.0**	**+0.3**
ARSA				⇑*i*Sn	**Sn**	**01 38 13.1**	**-2.9**
ARSA	**Arzberg**	**4.48**	**317**	*i* Pn	**Pn**	**01 37 24.0**	**+0.3**
ARSA				*i* Sn	**Sn**	**01 38 13.1**	**-2.9**
VYHS	**Vyhne**	**4.50**	**350**	*e*PN	**Pn**	**01 37 24.5**	**+0.5**
VYHS				*e*SN	**Sn**	**01 38 17.0**	**+0.4**
IGT	**Igoumenitsa**	**4.54**	**177**	*e*Pn	**Pn**	**01 37 25.3**	**+0.8**
OBKA	**Obir** SNR=9.6	**4.57**	**304**	⇓*i*Pn	**Pn**	**01 37 25.4**	**+0.5**
OBKA				⇓*i*Sn	**Sn**	**01 38 16.4**	**-1.8**
ZST	**Bratislava**	**4.60**	**335**	*e*PN	**Pn**	**01 37 26.5**	**+1.2**
ZST				*e*SN	**Sn**	**01 38 17.7**	**-1.3**
OUR	**Ouranopolis**	**4.75**	**140**	*e*Pn	**Pn**	**01 37 26.1**	**-1.4**
OUR	**Ouranopolis**	**4.75**	**140**	*e*Pn	**Pn**	**01 37 26.0**	**-1.5**
VOY	**Vojsko**	**4.76**	**296**	*e*Pn	**Pn**	**01 37 30.8**	**+3.2**
VOY				*e*		01 37 43.8	
VOY				*e*(Sn)	**Sn**	**01 38 22.2**	**-0.9**
VOY				*e*		01 38 44.8	
SMOL	**Smolenice**	**4.79**	**339**	*e*PN	**Pn**	**01 37 28.0**	**0.0**
SMOL				*e*SN	**Sn**	**01 38 21.5**	**-2.3**
CONA	**Conrad Observa** SNR=19	**4.83**	**325**	*i* Pn	**Pn**	**01 37 23.5**	**-5.0**
CONA				⇓*i*Sn	**Sn**	**01 38 15.9**	**-8.6**
CRVS	**Cervenica-Dubn**	**4.94**	**11**	*e*PN	**Pn**	**01 37 31.0**	**+1.0**
PAIG	**Paliouri**	**4.96**	**145**	*e*Pn	**Pn**	**01 37 29.0**	**-1.2**
PLOR	**Plostina**	**5.03**	**67**	⇓*i*P	**Pn**	**01 37 31.9**	**+0.6**
JMB	**Yambol**	**5.05**	**106**	*e*Pn	**Pn**	**01 37 30.0**	**-1.6**
BURAR	**Bucovina Array**	**5.08**	**44**	⇑*i*P	**Pn**	**01 37 32.4**	**+0.5**
VRI	**Vrincioaia**	**5.09**	**67**	⇑*i*P	**Pn**	**01 37 32.5**	**+0.4**
VRI	**Vrincioaia**	**5.09**	**67**	⇑P	**Pn**	**01 37 32.5**	**+0.4**
AQU	**L'Aquila** 10nm,0.8s	**5.13**	**253**	*e*Pn	**Pn**	**01 37 35.1**	**+2.4**
AGG	**Agios Georgios**	**5.33**	**160**	*e*Pn	**Pn**	**01 37 35.1**	**-0.3**
NIE	**Niedzica**	**5.36**	**2**	*e*Pn	**Pn**	**01 37 37.2**	**+1.4**
NIE				*e*Sn	**Sn**	**01 38 38.5**	**+0.8**
LKD	**Levkas**	**5.38**	**175**	*e*Pn	**Pn**	**01 37 35.0**	**-1.0**
ALN	**Alexandroupoli**	**5.47**	**123**	*e*Pn	**Pn**	**01 37 36.4**	**-0.9**
MOA	**Molln** SNR=7.9	**5.51**	**315**	⇓*i*Pn	**Pn**	**01 37 38.3**	**+0.4**
MOA				⇑*i*Sn	**Sn**	**01 38 38.8**	**-2.7**
KBA	**Koelnbreinsper**	**5.57**	**305**	⇑*i*Pn	**Pn**	**01 37 39.1**	**+0.5**
KBA				⇓*i*Sn	**Sn**	**01 38 40.8**	**-2.1**
AOS	**Alonnisos**	**5.69**	**148**	*e*Pn	**Pn**	**01 37 39.1**	**-1.2**
VRAC	**Vranov**	**5.75**	**337**	⇓*i*P	**Pn**	**01 37 40.0**	**-1.1**
VRAC	**Vranov**	**5.75**	**337**	⇓P	**Pn**	**01 37 40.0**	**-1.1**
MORC	**Moravsky Berou**	**5.96**	**344**	S	**Sn**	**01 38 51.8**	**-0.7**
MORC	**Moravsky Berou** 3.3nm,0.6s	**5.96**	**344**	*e*Pn	**Pn**	**01 37 44.8**	**+0.8**
MORC				*e*Sn	**Sn**	**01 38 51.8**	**-0.6**
TIRR	**Tirgusor**	**6.04**	**83**	⇑*i*P	**Pn**	**01 37 44.5**	**-0.7**
TIRR	**Tirgusor**	**6.04**	**83**	⇑P	**Pn**	**01 37 44.5**	**-0.7**
TIRR				S	**Sn**	**01 38 56.4**	**+1.8**
TIRR	**Tirgusor**	**6.04**	**83**	⇑P	**Pn**	**01 37 44.5**	**-0.7**
TIRR				S	**Sn**	**01 38 56.4**	**+1.9**
TREC	**Trest**	**6.09**	**331**	*e*PN	**Pn**	**01 37 46.8**	**+1.0**
TREC				*e*SN	**Sn**	**01 38 52.2**	**-3.4**
OJC	**Ojcow**	**6.16**	**359**	*e*P	**Pn**	**01 37 49.3**	**+2.6**
GEC2	**GERESS Array S**	**6.47**	**320**	*e*Pn	**Pn**	**01 37 51.1**	**0.0**
GEC2				*e*Sn	**Sn**	**01 39 05.4**	**+0.3**
GEC2	**GERESS Array S**	**6.47**	**320**	*e*Pn	**Pn**	**01 37 51.1**	**+0.1**
KHC	**Kasperske Hory**	**6.73**	**321**	*e*PN	**Pn**	**01 37 55.6**	**+1.0**
KHC				*ex*	x	01 38 05.5	
KHC				*ex*	x	01 38 14.0	
KHC				*e*SN	**Sn**	**01 39 10.7**	**-0.8**
KHC				*e*SG	**Sg**	**01 39 50.5**	**-1.0**
SQTA	**Sankt Quirin** SNR=6.2	**6.93**	**300**	⇓*i*Pn	**Pn**	**01 37 58.0**	**+0.6**
SQTA				⇓*i*Sn	**Sn**	**01 39 14.9**	**-1.6**
SQTA	**Sankt Quirin**	**6.93**	**300**	⇓*i*Pn	**Pn**	**01 37 58.0**	**+0.6**
SQTA				*i* Sn	**Sn**	**01 39 14.9**	**-1.6**
PRU	**Pruhonice**	**7.00**	**330**	*e*PN	**Pn**	**01 37 58.9**	**+0.5**
MOTA	**Moosalm**	**7.05**	**301**	⇑*i*Pn	**Pn**	**01 37 59.9**	**+0.9**
MOTA				⇓*i*Sn	**Sn**	**01 39 18.1**	**-1.2**
CLL	**Collm**	**8.65**	**329**	*e*PN	**Pn**	**01 38 11.0**	**-10**
CLL				*e*SN	Sn	01 39 36.0	-23
CLL				*e*		01 40 18.0	
CLL				*e*SG	Sn	01 40 52.0	+53
CLL				*e*		01 41 16.0	
CLL	**Collm**	**8.65**	**329**	*e*Pn	**Pn**	**01 38 11.0**	**-10**
CLL				*e*Sn	Sn	01 39 36.0	-23
CLL				*e*Sg	Sn	01 40 52.0	+53

WEL 28 01:38:35.5±1.2, 3533S×17868E, h33km, ML3.6/5, Error ellipse: s-maj=15.4km s-min=8.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.25**	**187**	P*	Pb	01 39 10.0	-5.4
MXZ				*e*S*	Sb	01 39 37.2	-5.6
PUZ	**Puketiti**	**2.76**	**187**	PN	Pn	01 39 16.9	-0.5
PUZ				SN	Sn	01 39 47.7	-1.8
URZ	**Urewera**	**3.18**	**203**	P*	Pb	01 39 24.6	-6.7
BKZ	**Black Stump Fm**	**4.21**	**204**	*e*P*	Pb	01 39 37.4	-11
TCW	**Tory Channel**	**6.82**	**209**	*e*SN	Sn	01 41 25.1	-4.4

*MOS **28** 01:41:59.2±0.9, 429S×14332E, h33km, mb5.0/22, Error ellipse: s-maj=11.6km s-min=6.2km az=101.5*
*BJI **28** 01:42:03.7, 437S×14357E, h81km, mB5.0, mb4.9, Ms4.9, Msz4.5*
*ISCJB **28** 01:42:04.1±0.2, 451S±003×14343E±005, h84km, mb4.8/62, Error ellipse: s-maj=6.6km s-min=3.9km az=161.6*
*NEIC **28** 01:42:05.7±0.1, 447S×14347E, mb5.1/24, Error ellipse: s-maj=6.8km s-min=4.6km az=93.0*
*HRVD **28** 01:42:05.7±0.3, 453S×14338E, h115km±3km, MW5.0/56, Centroid moment Tensor Solution. LP body waves: s29,c32;Mantle waves: s56,c84; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.52±.18; $M_{\theta\theta}$-1.64±.14; $M_{\phi\phi}$4.15±.18; $M_{r\theta}$1.54±.10; $M_{r\phi}$0.62±.16; $M_{\theta\phi}$-1.42±.15; Best double couple: M≈4.20900×10^{16} NP1:ϕ_s218.00000°, δ46.00000°, λ-37.00000°. NP2: ϕ_s336.00000°, δ65.00000°, λ-130.00000°. Principal axes: T 4.4550, Plg11.0000°, Azm93.0000°; N -0.5030, Plg35.0000°, Azm355.0000°; P -3.9620, Plg53.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **28** 01:42:06.0±0.5, 444S×14344E, h85km±4km, mb4.5/14, mb1 4.6/18, mb1mx4.6/20, mbtmp4.9/18, MS3.8/8, Ms1 3.8/8, ms1mx3.5/15 Error ellipse: s-maj=13.4km s-min=9.0km az=97.0*

ISC 28 01:42:06.0±0.2, 448S±003×14346E±005, h86km, h86km±1.3km: pP-P, n212, σ1§18/139, mb4.8/62, 9C-7D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 35nm,0.3s,baz=4.2,slow=4.8,SNR=69	**6.11**	**143**	P	**Pn**	**01 43 34.0**	**+0.3**
PMG				S	**Sn**	**01 44 41.7**	**-0.4**
PMG	**Port Moresby** 469nm,0.6s	**6.11**	**143**	*e*P	**Pn**	**01 43 34.0**	**+0.3**
PMG	**Port Moresby** 153nm,0.4s	**6.11**	**143**	*e*Pn	**Pn**	**01 43 33.5**	**-0.2**
KAKA	**Kakadu**	**13.62**	**232**	*e*P	**Pn**	**01 45 14.3**	**-1.1**
KAKA				*e*S	**Sn**	**01 47 36.2**	**-8.8**
CTA	**Charters Tower** 10nm,0.8s	**15.75**	**170**	*e*P	**Pn**	**01 45 44.9**	**+2.2**
CTA	**Charters Tower** 0.5nm,0.3s,baz=355,slow=12,SNR=11	**15.75**	**170**	P	**Pn**	**01 45 43.8**	**+1.1**
CTA	**Charters Tower**	**15.75**	**170**	*e*P	**Pn**	**01 45 44.9**	**+2.2**
CTA	comp=Z,10.0nm,0.8s			pmax	pmax		
CTAO	**Charters Tower**	**15.75**	**170**	*e*P	**Pn**	**01 45 44.5**	**+1.8**
CTAO	comp=Z,33nm,1.1s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,34nm,1.1s	**15.75**	**170**	*e*P	**Pn**	**01 45 44.5**	**+1.8**
HNR	**Honiara** comp=Z,23nm,0.3s,baz=262,slow=1.5,SNR=3.3	**17.08**	**108**	P	**Pn**	**01 46 00.4**	**+1.2**
HNR	**Honiara** comp=Z,874nm,1.0s,SNR=69	**17.08**	**108**	P	**Pn**	**01 46 00.4**	**+1.1**
WRAB	**Tennant Creek**	**17.74**	**209**	*e*P	**Pn**	**01 46 06.0**	**-1.3**
WRAB	comp=Z,166nm,0.8s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,166nm,0.8s	**17.74**	**209**	*e*P	**Pn**	**01 46 06.1**	**-1.2**
WB2	**Warramunga Arr**	**17.75**	**209**	⇓*i*P	**Pn**	**01 46 05.9**	**-1.4**
WB2				*e*Pn	**Pn**	**01 46 06.5**	**-0.8**
WB2				*e*S	**S**	**01 49 15.6**	**-10**
WRA	**Warramunga Arr** comp=Z,5.2nm,0.3s,baz=33,slow=1.2,SNR=86	**17.75**	**209**	P	**Pn**	**01 46 06.2**	**-1.2**
WRA				S	**S**	**01 49 15.8**	**-10**
AS31	**Alice Springs** comp=Z,0.7nm,0.3s,baz=26,slow=23,SNR=6.7	**21.18**	**205**	*e*P	**P**	**01 46 44.0**	**-0.4**
AS31				*e*S	**S**	**01 50 34.5**	**-0.5**
ASAR	**Alice Springs** comp=Z,9.9nm,0.8s,mb4.2,baz=32,slow=9.8,SNR=53	**21.18**	**205**	P	**P**	**01 46 43.8**	**-0.6**
ASAR				S	**S**	**01 50 40.4**	**+5.4**
	comp=Z,17nm,0.9s,baz=16,slow=27,SNR=5.4						
ASAR				LR	LR	01 54 40.5	
	comp=Z,269nm,20.3s,baz=13,slow=36						
ASAR	**Alice Springs**	**21.18**	**205**	P	**P**	**01 46 43.8**	**-0.6**
ASAR				S	**S**	**01 50 40.4**	**+5.4**
ASPA	**Alice Springs**	**21.19**	**205**	*e*P	**P**	**01 46 44.0**	**-0.4**
ASPA				*e*S	**S**	**01 50 39.1**	**+4.0**
FITZ	**Fitzroy Crossi** comp=Z,97nm,0.6s,mb5.3	**22.07**	**231**	⇓*i*P	**P**	**01 46 51.7**	**-2.1**
FITZ				*e*S	**S**	**01 51 01.2**	**+9.2**
FITZ	**Fitzroy Crossi** comp=Z,62nm,0.6s,mb5.1,baz=39,slow=11,SNR=107	**22.07**	**231**	P	**P**	**01 46 52.8**	**-1.0**
FITZ				S	**S**	**01 50 50.9**	**-1.1**
	comp=Z,10nm,0.8s,baz=142,slow=18,SNR=3.0						
FITZ				LR	LR	01 56 16.5	
	comp=Z,296nm,21.1s,baz=60,slow=38						
KAPI	**Kappang** comp=Z,128nm,0.8s,mb5.3,SNR=6.7	**23.64**	**268**	P	**P**	**01 47 09.8**	**+0.5**
STKA	**Stephens Creek** comp=Z,7.5nm,0.9s,mb4.2	**27.31**	**183**	*e*P	**P**	**01 47 42.3**	**-0.2**
STKA	**Stephens Creek** comp=Z,4.5nm,0.7s,mb4.1,baz=1.9,slow=8.6,SNR=7.8	**27.31**	**183**	P	**P**	**01 47 42.6**	**+0.1**
STKA				LR	LR	02 00 08.9	
	comp=Z,416nm,19.9s,baz=140,slow=40						
STKA	**Stephens Creek**	**27.31**	**183**	*e*P	**P**	**01 47 42.4**	**-0.1**
DZM	**Mont Dzumac** comp=Z,6.3nm,0.8s,mb4.2,baz=270,slow=20,SNR=3.3	**28.31**	**130**	P	**P**	**01 47 51.2**	**-0.2**
MBWA	**Marble Bar** comp=Z,56nm,0.8s,mb5.1	**28.39**	**232**	*e*P	**P**	**01 47 52.6**	**+0.5**
FORT	**Forrest** comp=Z,54nm,0.6s,mb5.3	**29.91**	**207**	⇓*i*P	**P**	**01 48 04.4**	**-1.2**
TOO	**Toolangi** comp=Z,5.6nm,0.9s,mb4.4	**32.98**	**177**	*e*P	**P**	**01 48 34.2**	**+1.6**
TOO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
KLBR	**Kellerberrin** comp=Z,52nm,0.9s,mb5.5	**36.19**	**219**	⇓*i*P	**P**	**01 49 00.2**	**0.0**
NWAO	**Narrogin (SRO)** comp=Z,25nm,0.5s,mb5.4,baz=49,slow=9.9,SNR=17	**37.42**	**218**	P	**P**	**01 49 11.4**	**+0.7**
MUN	**Mundaring**	**37.43**	**220**	*e*P	**P**	**01 49 11.2**	**+0.5**
QIZ	**Qiongzhong**	**40.52**	**306**	P	**P**	**01 49 34.8**	**-1.7**
QIZ				AP	pP	01 49 53.0	-3.9
QIZ				S	**S**	**01 55 40.0**	**+0.9**
QIZ				XS	sS	01 56 16.0	+1.8
QIZ				AMB	AMB		
	comp=Z,27nm,1.8s,mb4.8						
QIZ				AMB	AMB		
	comp=Z,302nm,3.2s						
MJAR	**Matsushiro Arr** comp=Z,2.0nm,0.8s,mb4.0,baz=182,slow=8.6,SNR=8.5	**41.11**	**354**	P	**P**	**01 49 40.0**	**-1.3**
MJAR				ScP	ScP	01 55 20.6	-0.7
	comp=Z,2.8nm,0.8s,baz=174,slow=5.7,SNR=5.9						
MAJO	**Matsushiro**	**41.11**	**354**	P	**P**	**01 49 41.0**	**-0.4**
MAJO	comp=Z,8.0nm,0.8s,mb4.6			pmax	pmax		
MAJO	**Matsushiro** comp=Z,7.6nm,0.8s,mb4.6	**41.11**	**354**	P	**P**	**01 49 41.0**	**-0.4**
MAJO				*e*pP	pP	01 50 02.7	+0.9
MAJO				*e*sP	sP	01 50 10.8	-0.9
MAT	**Matsushiro**	**41.11**	**354**	P	**P**	**01 49 39.3**	**-2.1**
MAT				*e*S	**S**	**01 55 49.0**	**+1.1**
MAT	**Matsushiro**	**41.11**	**354**	P	**P**	**01 49 39.0**	**-2.4**
MAT				S	**S**	**01 56 02.0**	**+14**
SSE	**Sheshan**	**41.28**	**330**	*e*P	**P**	**01 49 40.8**	**-2.0**
SSE	comp=Z,22nm,1.0s,mb4.9			AMB	AMB		
SSE	comp=Z,80nm,3.5s			AMB	AMB		
SSE	comp=Z,95nm,31.8s			LR	LR		
NJ2	**Nanjing**	**43.22**	**329**	*e*P

HABR **Khabarovsk** **53.25 353** P **P** **01 51 12.5 -3.2**
HABR S **S** **01 58 38.9 -1.4**
HHC Hu-ho-hao-te **53.74 330** *e*P **P** **01 51 21.0 +1.8**
HHC AP pP 01 51 42.8 +2.3
HHC XP sP 01 51 52.8 +2.6
HHC PP PP 01 53 25.5 +4.6
HHC PCS PcS 01 56 23.3 -0.2
HHC S **S** **01 58 46.0 -0.9**
HHC PS 01 59 13.5
HHC SS SS 02 02 28.5 -0.2
HHC AMB AMB
comp=Z,18nm,0.7s,mb5.2
HHC AMB AMB
comp=Z,58nm,4.6s
HHC LR LR
comp=N,161nm,19.6s
HHC LR LR
comp=E,113nm,20.2s
HHC LR LR
comp=Z,191nm,18.4s
KLR Kul'dur **54.46 351** *e*P **P** **01 51 21.9 -2.6**
LZH Lanzhou **54.79 321** *e*P **P** **01 51 29.0 +2.1**
LZH AP pP 01 51 51.0 +2.7
LZH PP PP 01 53 34.8 +4.4
LZH *e*S **S** **01 59 00.5 -0.7**
LZH XS sS 01 59 41.8 +4.2
LZH *e*SS SS 02 02 45.0 -0.3
LZH AMB AMB
comp=Z,21nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,87nm,4.8s
LZH LR LR
comp=N,236nm,16.3s
LZH LR LR
comp=Z,452nm,17.5s
HIA Hailar **57.37 342** P **P** **01 51 45.6 +0.3**
HIA pmax pmax
comp=Z,17nm,1.0s
HIA Hailar **57.37 342** P **P** **01 51 45.5 +0.3**
comp=Z,17nm,1.0s,mb5.0
HIA *e*pP pP 01 52 07.6 +0.8
HIA *e*sP sP 01 52 16.7 +0.3
GTA Gaotai **59.35 322** *e*P **P** **01 52 00.5 +1.4**
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.4
ULN Ulaanbaatar **61.13 333** *e*P **P** **01 52 12.4 +1.2**
ULN pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ULN Ulaanbaatar **61.13 333** *e*P **P** **01 52 12.4 +1.2**
comp=Z,7.8nm,0.9s,mb4.7
ULN *e*pP pP 01 52 34.3 +1.4
SONM Songino Array **61.41 332** P **P** **01 52 14.1 +1.0**
comp=Z,2.4nm,0.9s,mb4.2,baz=150,slow=7.6,SNR=13
SONM pP pP 01 52 34.2 -0.7
comp=Z,2.9nm,0.8s,baz=141,slow=8.9,SNR=6.6
SONM LR LR 02 18 56.7
comp=Z,72nm,20.9s,baz=116,slow=36
SONM PKP2bc 02 21 36.8
comp=Z,4.4nm,0.9s,baz=306,slow=2.1,SNR=18
SONM Songino Array **61.41 332** P **P** **01 52 14.1 +1.0**
SONM pP pP 01 52 34.2 -0.7
SONM LR LR 02 18 56.7
SONM ⇑*e* 02 21 36.8
JIRN Jiri **63.75 304** *e*P **P** **01 52 30.9 +2.2**
GUN Gumba **64.10 304** *e*P **P** **01 52 33.2 +2.3**
comp=Z,77nm,1.0s,mb5.5
MA2 Magadan **64.12 4** P **P** **01 52 32.6 +1.5**
MA2 *e* 01 52 47.7
MA2 pmax pmax
comp=Z,2.0nm,0.3s,mb4.4
PKI Pulchoki **64.37 303** *e*P **P** **01 52 33.8 +1.1**
KKN Kakani **64.56 304** *e*P **P** **01 52 35.6 +1.7**
comp=Z,38nm,0.9s,mb5.2
KKN Kakani **64.56 304** *e*P **P** **01 52 35.6 +1.7**
KKN pmax pmax
comp=Z,38nm,0.9s,mb5.2
DMN Daman **64.64 303** *e*P **P** **01 52 36.0 +1.5**
comp=Z,49nm,1.0s,mb5.3
ZAK Zakamensk **64.66 333**⇓ *i*P **P** **01 52 35.4 +0.8**
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
ZAK pmax pmax
comp=Z,12nm,1.1s,mb4.6
GKN Gorkha **65.16 304** *e*P **P** **01 52 39.2 +1.3**
comp=Z,28nm,0.7s,mb5.2
TLY Talaya **65.42 334**⇑ *i*P **P** **01 52 37.1 -2.4**
TLY pmax pmax
comp=Z,7.0nm,1.3s,mb4.3
CASY Casey **65.82 194** *e*P **P** **01 52 41.5 -0.6**
comp=Z,28nm,0.8s,mb5.2
KOLN Koldanda **65.95 303** *e*P **P** **01 52 44.4 +1.5**
comp=Z,29nm,0.6s,mb5.3
BOD Bodaibo **66.49 343** *e*P **P** **01 52 45.7 -0.7**
BOD pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
BOD pmax pmax
comp=Z,15nm,1.9s,mb4.5
YAK Yakutsk **67.17 353**⇓ *e*P **P** **01 52 50.1 -0.6**
YAK pmax pmax
comp=Z,21nm,1.0s,mb4.9
WMQ Urumqi **69.37 320** P **P** **01 53 05.5 +1.1**
WMQ AP pP 01 53 22.0 -4.6
WMQ PCP PcP 01 53 29.0 +1.6
WMQ PP PP 01 55 41.5 +2.8
WMQ SCP 01 57 26.3
WMQ S S 02 02 06.0 +1.5
WMQ AMB AMB
comp=Z,50nm,1.8s,mb5.0
WMQ AMB AMB
comp=Z,249nm,5.7s
WMQ LR LR
comp=N,801nm,18.6s
WMQ LR LR
comp=E,601nm,17.5s
WMQ LR LR
comp=Z,777nm,19.1s
MIR Mirnyy **71.02 199***c* *i*P **P** **01 53 11.0 -3.5**
MIR pmax pmax
comp=Z,300nm,1.0s
VNDA Vanda **73.64 176** P **P** **01 53 30.3 +0.2**
comp=Z,18nm,0.7s,mb4.9,baz=326,slow=6.4,SNR=94
VNDA LR LR 02 27 39.8
comp=Z,67nm,21.0s,baz=326,slow=37
MK31 Makanchi Array **74.11 321** P **P** **01 53 33.5 +0.7**
MK31 pmax pmax
comp=Z,22nm,1.1s,mb4.8
MKAR Makanchi Array **74.11 321** P **P** **01 53 33.4 +0.6**
comp=Z,8.6nm,0.9s,mb4.5,baz=111,slow=6.8,SNR=38
MKAR pP pP 01 53 56.3 +1.0
comp=Z,12nm,0.8s,baz=98,slow=6.5,SNR=12
SBA Scott Base **74.34 175** *e*P **P** **01 53 35.6 +1.4**
SBA *e* 01 53 46.0
SBA pmax pmax
comp=Z,42nm,1.3s,mb5.0
SBA Scott Base **74.34 175** *e*P **P** **01 53 35.6 +1.4**
comp=Z,42nm,1.3s,mb5.0
SBA *e*PcP PcP 01 53 46.0 -2.5
ZAL Zalesovo **75.88 329** P **P** **01 53 42.5 -0.6**
comp=Z,3.8nm,0.9s,mb4.2,baz=4.8,slow=5.9,SNR=19
ZAL pP pP 01 54 05.2 -0.3
comp=Z,6.1nm,0.7s,baz=358,slow=6.1,SNR=8.2
ZAL LR LR 02 25 19.4
comp=Z,54nm,20.9s,baz=132,slow=34
ZAL Zalesovo **75.88 329** P **P** **01 53 42.5 -0.6**
ZAL pP pP 01 54 05.2 -0.3
ZAL LR LR 02 25 19.4
NVS Novosibirsk **77.11 329** *e*P **P** **01 53 49.4 -0.6**
NVS pmax pmax
comp=N,6.0nm,1.1s
NVS pmax pmax
comp=E,8.0nm,1.1s
NVS pmax pmax
comp=Z,12nm,1.1s,mb4.5
AAK Ala-Archa **77.78 315** *e*P **P** **01 53 54.5 +0.8**
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
AAK Ala-Archa **77.78 315** *e*P **P** **01 53 54.5 +0.8**
comp=Z,2.4nm,0.6s,mb4.1
AAK *e*pP pP 01 54 16.8 +0.4
KURK Kurchatov **77.91 324** P **P** **01 53 54.2 -0.2**
comp=Z,41nm,0.9s,mb5.2,SNR=6.8
KURK Kurchatov **77.91 324** P **P** **01 53 53.9 -0.5**
KURK pmax pmax
comp=Z,18nm,1.4s,mb4.6
KDAK Kodiak Island **80.27 29** P **P** **01 54 06.8 -0.5**
comp=Z,2.9nm,0.5s,mb4.3,baz=278,slow=5.5,SNR=5.3
KDAK pP pP 01 54 29.8 -0.3
SVW2 Sparrevohn **80.37 26** *e*P **P** **01 54 08.7 +0.9**
SVW2 *e*pP pP 01 54 30.3 -0.2
KKAR Karatay Array **80.72 315** *i* P **P** **01 54 10.0 +0.3**
KKAR pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
TTA Tatalina **81.06 24** *e*P **P** **01 54 11.3 -0.2**
TTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
TTA Tatalina **81.06 24** *e*P **P** **01 54 11.2 -0.3**
comp=Z,8.3nm,1.0s,mb4.5
TTA *e*pP pP 01 54 34.1 -0.1
MAW Mawson **82.29 202**⇓ *i*P **P** **01 54 18.2 +0.2**
comp=Z,20nm,0.8s,mb5.0
MAW Mawson **82.29 202** P **P** **01 54 18.4 +0.4**
comp=Z,29nm,0.8s,mb5.2,baz=85,slow=6.0,SNR=62
MAW LR LR 02 26 42.0
comp=Z,62nm,19.7s,baz=89,slow=32
VOSK Vostochnaya **83.06 324** P **P** **01 54 21.8 -0.2**
VOSK pmax pmax
comp=Z,16nm,1.0s,mb4.8
PMR Palmer **83.40 26** *e*P **P** **01 54 22.7 -1.0**
IMA2 Indian Mountai **83.41 21** *e*P **P** **01 54 22.8 -1.0**
IMA2 *e*pP pP 01 54 45.8 -0.9
BVA0 Borovoye Array **83.49 324** *i* P **P** **01 54 24.4 +0.2**
BVA0 pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
CHKZ Chkalovo **83.54 325** P **P** **01 54 23.6 -0.8**
CHKZ pmax pmax
comp=Z,14nm,0.8s,mb4.8
BRVK Borovoye **83.56 324** P **P** **01 54 24.8 +0.3**
comp=Z,78nm,1.0s,mb5.5,SNR=5.4
SML Sawmill **83.83 26** *e*P **P** **01 54 25.4 -0.5**
SML *e*pP pP 01 54 48.2 -0.5
SML *e*sP sP 01 54 57.0 -1.1
ZRNK Zerenda **84.27 324** P **P** **01 54 27.4 -0.8**
ZRNK pmax pmax
comp=Z,23nm,1.2s,mb4.9
MCK McKinley **84.29 24** *e*P **P** **01 54 26.5 -1.8**
MCK pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
MCK McKinley **84.29 24** *e*P **P** **01 54 26.5 -1.7**
comp=Z,5.9nm,1.0s,mb4.4
MCK *e*pP pP 01 54 49.7 -1.5
COLA College **85.15 24** *e*P **P** **01 54 31.3 -1.3**
COLA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
COLA College **85.15 24** *e*P **P** **01 54 31.3 -1.3**
comp=Z,5.5nm,0.9s,mb4.5
COLA *e*pP pP 01 54 53.2 -2.3
QSPA South Pole Qui **85.47 180** *e*P **P** **01 54 34.3 +0.1**
QSPA *e*pP pP 01 54 56.6 -0.6
DAWY Dawson **88.41 25** *e*P **P** **01 54 48.3 -0.1**
DAWY *e*pP pP 01 55 11.3 -0.2
AB31 Akbulak array **89.14 319** *i* P **P** **01 54 50.5 -1.3**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
SYO Syowa Base **90.78 200**⇑ *e*P **P** **01 54 59.1 -0.4**
SYO Syowa Base **90.78 200**⇑ *i*PcP PcP 01 55 00.0 -0.5
ARU Arti **90.88 326** *e*P **P** **01 54 57.0 -3.0**
ARU *e* 01 58 31.2
ARU *e*S 02 05 21.1
YKA Yellowknife Ar **99.47 27** PKiKP PKiKP 02 00 07.4 -0.6
comp=Z,0.7nm,0.5s,baz=275,slow=1.2,SNR=14
YKA PKKPbc PKKPbc 02 12 00.7 -0.6
comp=Z,0.7nm,0.7s,baz=87,slow=2.6,SNR=5.6
YKA LR LR 02 44 45.3
comp=Z,24nm,18.4s,baz=180,slow=38
SNAA Sanae **100.88 190** *e*Pdiff Pdif 01 55 45.5 +0.1
SNAA *e* 01 55 49.6
SNAA *e* 01 55 54.7
SNAA *e* 01 59 52.9
SNAA Sanae **100.88 190** *e*P Pdif 01 55 45.4 0.0
SNAA *e* 01 59 53.4
SNAA pmax pmax
comp=Z,5.0nm,1.2s
SNAA Sanae **100.88 190** *e*Pdif Pdif 01 55 45.4 +0.1
comp=Z,4.8nm,1.2s
SNAA *e*PP PP 01 59 53.4 -0.7
HLID Hailey **101.86 47** Pdif Pdif 01 55 50.0 +0.2
VNA1 Neumayer--Stat **102.68 189** *e*Pdiff Pdif 01 55 51.3 -2.1
VNA1 *e* 01 55 56.4
ARCES ARCESS Array B **103.72 341** PKiKP PKiKP 02 00 14.5 -1.2
comp=Z,1.8nm,0.8s,baz=64,slow=5.5,SNR=4.2
MALT Malatya **104.56 308** P Pdif 01 56 01.8 +0.1
BW06 Boulder Array **105.48 47** *e*PKiKP PKiKP 02 00 19.5 +0.6
PDAR Pinedale Array **105.48 47** PKiKP PKiKP 02 00 19.7 +0.7
comp=Z,0.8nm,0.8s,baz=193,slow=1.1,SNR=6.4
ANMO Albuquerque **108.99 55** *e*PKiKP PKiKP 02 00 26.0 +0.5
ULM Lac du Bonnet **112.70 37** PKiKP PKiKP 02 00 31.6 -0.9
comp=Z,4.9nm,0.4s,baz=268,slow=1.9,SNR=31
ULM Lac du Bonnet **112.70 37** *e*PKiKP PKiKP 02 00 31.7 -0.8
NB2 NORSAR Subarra **113.21 337** PKiK 02 00 31.2
comp=Z,0.8nm,0.7s,baz=53,slow=1.9
NB2 NORSAR Subarra **113.21 337** *e*P PKiKP 02 00 31.2 -2.3
NOA NORSAR Array B **113.21 337** PKiKP PKiKP 02 00 31.1 -2.3
comp=Z,0.5nm,0.6s,baz=50,slow=2.0,SNR=3.9
JCT Junction City **115.24 58** *e*PKIKP PKPdf 02 00 37.8 +0.4
MORC Moravsky Berou **116.00 324** *e*PKIKP PKPdf 02 00 39.2 +0.4
EYMN Ely **116.25 38** PKPdf PKPdf 02 00 38.6 -0.7
KHC Kasperske Hory **118.59 325** *e*PKP PKPdf 02 00 44.0 +0.2
KHC pPKP pPKPdf 02 01 08.0 +0.1
KHC Kasperske Hory **118.59 325** *e*PKP PKPdf 02 00 44.0 +0.2
KHC *e* 02 01 08.0
GERES GERESS Array B **118.66 325** PKP PKPdf 02 00 44.3 +0.4
comp=Z,0.9nm,0.5s,baz=85,slow=2.0,SNR=16
BORG Borgarnes **118.87 353** P PKPdf 02 00 43.7 -0.7
JFWS Jewell Farm **119.09 43** *e*PKIKP PKPdf 02 00 44.1 -0.7
BOJS Bojanci **119.27 321** *e*PKPdf PKPdf 02 00 45.7 +0.5
VISS Visnje **119.40 321** *e*PKPdf PKPdf 02 00 46.0 +0.6
MIAR Mount Ida **119.45 53** *e*PKIKP PKPdf 02 00 45.6 +0.1
GRA1 Grafenberg Arr **119.62 326** *e*PKP PKPdf 02 00 46.5 +0.7
GRF Grafenberg Arr **119.62 326** *e*PKP PKPdf 02 00 46.5 +0.7
CEY Cerknica **119.68 321** *e*PKPdf PKPdf 02 00 46.3 +0.4
GORS Gorjuse **119.68 322** *e*PKPdf PKPdf 02 00 46.0 +0.1
CCM Cathedral Cave **120.16 48** *e*PKIKP PKPdf 02 00 46.8 0.0
FVM French Village **120.79 48** *e*PKIKP PKPdf 02 00 47.9 -0.1
TSUM Tsumeb **121.79 244** PKPdf PKPdf 02 00 52.3 +2.3
AQU L'Aquila **121.86 318** *e*PKIKP PKPdf 02 00 49.9 -0.2
WLF Walferdange **122.36 329** *e*PKIKP PKPdf 02 00 51.2 +0.2
ESK Eskdalemuir **122.68 338** *e*PKIKP PKPdf 02 00 52.0 +0.3
HINF Hinteralfeld **123.07 326** *e*PKIKP PKPdf 02 00 52.4 0.0
comp=Z,9.7nm,0.8s
BAIF Baives **123.11 330** *e*PKIKP PKPdf 02 00 52.9 +0.4
BLO Bloomington **123.17 45** *e*PKIKP PKPdf 02 00 52.5 -0.1
HAU Haudompre **123.24 327** *e*PKIKP PKPdf 02 00 52.9 +0.2
comp=Z,12nm,0.7s
HAU *e*R
comp=Z,41nm,21.8s
HAU Haudompre **123.24 327** *e*PKPdf PKPdf 02 00 52.9 +0.2
HAU LR LR
comp=Z,40nm,21.8s
WVT Waverly **123.39 49** *e*PKIKP PKPdf 02 00 52.3 -0.7
MEZF Maizieres J'vi **123.64 328** *e*PKIKP PKPdf 02 00 54.0 +0.5
WCI Wyandotte Cave **123.72 46** *e*PKIKP PKPdf 02 00 52.8 -0.9
SCHQ Schefferville **124.15 21** PKP PKPdf 02 00 53.4 -1.1
comp=Z,4.3nm,0.6s,baz=274,slow=3.8,SNR=8.6
CABF La Chapelle **124.19 326** *e*PKIKP PKPdf 02 00 55.4 +0.8
comp=Z,19nm,0.9s
LPG La Plagne **124.45 324** *e*PKIKP PKPdf 02 00 55.9 +0.8
comp=Z,5.5nm,0.7s
LPL La Plagne **124.45 324** *e*PKIKP PKPdf 02 00 55.9 +0.8
comp=Z,4.4nm,0.6s
PGF Pioggiola **124.64 320** *e*PKIKP PKPdf 02 00 55.8 +0.4
comp=Z,48nm,1.2s
MBDF Montbardon **124.86 323** *e*PKIKP PKPdf 02 00 55.9 +0.1
comp=Z,6.0nm,0.8s
SBF Sospel **124.93 322** *e*PKIKP PKPdf 02 00 56.2 +0.2
LOR Lormes **125.03 327** *e*PKIKP PKPdf 02 00 56.7 +0.5
SWET Sewanee **125.16 50** *e*PKPdf PKPdf 02 00 55.3 -1.1
PLCA Paso Flores **125.28 149** PKP PKPdf 02 00 58.3 +1.7
comp=Z,4.3nm,0.6s,baz=250,slow=2.3,SNR=16
PLCA Paso Flores **125.28 149** *e*PKPdf PKPdf 02 00 58.3 +1.7
ORIF Oris-en-Rattie **125.28 324** *e*PKIKP PKPdf 02 00 57.1 +0.5
comp=Z,3.5nm,0.6s
SSF Saint Saulge **125.34 327** *e*PKIKP PKPdf 02 00 57.2 +0.4
SMF Signal de Mont **125.42 327** *e*PKIKP PKPdf 02 00 57.2 +0.3
comp=Z,18nm,1.2s
FRF La Foret Royal **125.58 322** *e*PKIKP PKPdf 02 00 57.5 +0.3
AVF Avril sur Loir **125.59 327** *e*PKIKP PKPdf 02 00 57.5 +0.3
LMR La Mourre **125.78 322** *e*PKIKP PKPdf 02 00 57.2 -0.4
SMRF Simiane la Rot **125.99 323** *e*PKIKP PKPdf 02 00 58.3 +0.3
BGF Bois d'Agland **126.01 327** *e*PKIKP PKPdf 02 00 58.6 +0.6
VIVF Saint-Julien-l **126.02 325** *e*PKIKP PKPdf 02 00 58.1 0.0
comp=Z,11nm,1.1s
TCF Toulx Ste Croi **126.53 327** *e*PKIKP PKPdf 02 00 59.5 +0.5
comp=Z,8.4nm,0.7s
TEIG Tepich **127.33 68** *e*PKPdf PKPdf 02 01 01.1 +0.6
RJF Les Rejaudoux **127.52 327** *e*PKIKP PKPdf 02 01 01.5 +0.6
RJF *e*R
comp=Z,56nm,21.0s
RJF Les Rejaudoux **127.52 327** *e*PKPdf PKPdf 02 01 01.5 +0.6
RJF LR LR
comp=Z,60nm,21.0s
SGMF Saint Gilles **127.61 332** *e*PKIKP PKPdf 02 01 01.5 +0.4
GOGA Godfrey **127.74 51** *e*PKIKP PKPdf 02 01 02.1 +0.8
LFF La Frestale **128.18 327** *e*PKIKP PKPdf 02 01 02.2 0.0
SSPA Standing Stone **128.31 40** *e*PKPdf PKPdf 02 01 03.0 +0.5
MTLF Montolieu **128.34 324** *e*PKIKP PKPdf 02 01 03.0 +0.5
comp=Z,12nm,1.0s
BLA Blacksburg **128.35 45** *e*PKIKP PKPdf 02 01 02.9 +0.4
EPF Esparros **129.61 325** *e*PKIKP PKPdf 02 01 05.7 +0.8
SJPF Ste Jean **130.44 326** *e*PKIKP PKPdf 02 01 07.7 +1.2
ESDC Sonseca Array **134.25 325** SKPbc SKPbc 02 04 36.8 +1.3
comp=Z,0.3nm,0.4s,baz=12,slow=4.2,SNR=4.6
NNA Nana **136.71 113** *e*PKPdf PKPdf 02 01 20.2 +2.0
OTAV Otavalo **137.92 95** *e*PKPdf PKPdf 02 01 19.8 -0.7
TOA0 Torodi Ar. Sit **141.30 285** *e*PKPpre 02 01 24.6
TOA0 *e*PKPdf PKPdf 02 01 28.8 +2.2
TORD Torodi Ar. Bea **141.30 285** PKhKP 02 01 20.5
comp=Z,4.5nm,0.7s,baz=68,slow=3.5,SNR=21
TORD PKP PKPdf 02 01 28.8 +2.2
comp=Z,8.8nm,0.7s,baz=72,slow=3.3,SNR=24
TORD SKPbc SKPbc 02 04 58.9 +3.0
comp=Z,2.2nm,0.8s,baz=71,slow=2.9,SNR=4.7
ROSC El Rosal **142.33 88** PKhKP 02 01 26.6
comp=Z,5.7nm,0.6s,baz=89,slow=17,SNR=4.5
ROSC PKP PKPdf 02 01 29.1 +0.6
comp=Z,4.9nm,0.4s,baz=96,slow=19,SNR=4.4
LPAZ La Paz **142.55 124** PKhKP 02 01 27.5
comp=Z,3.1nm,0.8s,baz=227,slow=1.8,SNR=16
LPAZ La Paz **142.55 124** *e*PKPpre 02 01 27.7
SDV Santo Domingo **145.87 81** *e*PKP PKPdf 02 01 35.3 +0.7
SJG San Juan **148.03 63** *e*PKIKP PKPdf 02 01 41.7 +3.4
DBIC Dimbokro **148.40 275** PKPbc PKPbc 02 01 44.1 +1.7
comp=Z,62nm,0.8s,baz=76,slow=2.7,SNR=103
DBIC pPKPbc pPKPbc 02 02 06.5 +0.2
comp=Z,21nm,0.8s,baz=8.4,slow=1.0,SNR=4.6
DBIC Dimbokro **148.40 275** PKP2 PKPab 02 01 44.2 -1.7
DBIC pmax pmax
comp=Z,62nm,0.8s
DBIC pmax pmax
comp=Z,21nm,0.8s
DBIC Dimbokro **148.40 275** *e*PKPbc PKPbc 02 01 44.0 +1.6
LIC Lamto **148.58 275** *e*PKP1 PKPbc 02 01 42.8 -0.1
comp=Z,160nm,0.8s
SAML Samuel **150.27 117** *e*PKPdf PKPdf 02 01 43.1 +1.2
SAML *e*PKPbc PKPbc 02 01 48.1 +1.0
CAM4 Nova Friburgo **152.68 168**⇑ *i*P PKPbc 02 01 53.4 +0.8
CAM4 *i* 02 01 58.3
CAM4 *i* 02 02 02.6
CAM4 *i* 02 02 05.5
CAM4 *i* 02 02 11.2
CAM4 *i* 02 02 28.2
CAM3 Guarapari **154.64 171** (P) 02 02 29.2
CAM3 *i* 02 02 32.4
BDFB Brasilia **157.00 151** PKP PKPdf 02 01 51.5 +0.1
comp=Z,3.8nm,0.8s,baz=257,slow=0.6,SNR=5.0
BDFB PKPbc PKPdf 02 02 03.7 +12
comp=Z,1.7nm,0.6s,baz=173,slow=8.4,SNR=3.9
BDFB PKPab PKPab 02 02 21.4 -0.6
comp=Z,3.2nm,0.7s,baz=233,slow=5.8,SNR=4.0

ISCJB ***28*** *02:09:35.0±0.4, 3709N×003W×3003E×003, h10km, Error ellipse: s-maj=4.8km s-min=3.4km az=4.4*
CSEM ***28*** *02:09:34.3±0.1, 3705N×3005E, h8km, MD3.5, Error ellipse: s-maj=2.7km s-min=1.8km az=177.0*
ISK ***28*** *02:09:34.3, 3707N×3006E, h7km, MD3.5*

ISC 28 02:09:35.5±0.4, 3707N±003×3001E±003, h10km, n33, σ0s96/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ELL	**Elmali**	**0.34**	**195**	PG		**Pg**		**02 09 40.7**	**-1.5**
ANTB	**Antalya**	**0.54**	**108**	PG		**Pg**		**02 09 44.2**	**-1.8**
ANTB				SG		**Sg**		**02 09 53.1**	**0.0**
BCK	**Bucak**	**0.60**	**50**	PG		**Pg**		**02 09 45.4**	**-1.7**
ISP	**Isparta**	**0.86**	**27**	PG		**Pg**		**02 09 51.2**	**-1.0**
ISP				SG		**Sg**		**02 10 02.5**	**-0.9**
FETY	**Fethiye**	**0.86**	**240**	PG		**Pg**		**02 09 52.2**	**0.0**
DNZL	**Cakiroluk**	**0.99**	**309**	*i* P		**Pg**		**02 09 52.6**	**-1.9**
DNZL				*i* S		**Sg**		**02 10 06.3**	**-1.0**
TKTP	**Tekketepe**	**0.99**	**14**	*i* P		**Pg**		**02 09 53.9**	**-0.8**
TKTP				*i* S		**Sg**		**02 10 10.2**	**+2.6**
DENT	**Denizli**	**1.03**	**311**	PG		**Pg**		**02 09 55.4**	**0.0**
DALT	**Dalyan (Mudla)**	**1.14**	**255**	PN		**Pn**		**02 09 57.2**	**-0.4**
KHL	**Karahalli**	**1.31**	**343**	PN		**Pn**		**02 09 59.9**	**+0.1**
YER	**Yerkesik**	**1.39**	**273**	PN		**Pn**		**02 10 02.0**	**+1.1**
AYDN	**Tasoluk**	**1.80**	**290**	*i* P		**Pn**		**02 10 07.3**	**+0.7**
MLSB	**Milas**	**1.80**	**278**	PN		**Pn**		**02 10 07.5**	**+0.9**
ALT	**Altintas**	**1.98**	**2**	PN		**Pn**		**02 10 09.1**	**0.0**
DAT	**Datca**	**1.98**	**261**	PN		**Pn**		**02 10 09.1**	**0.0**
HDMB	**Hadim**	**1.98**	**92**	PN		**Pn**		**02 10 09.1**	**0.0**
GDZ	**Gediz**	**2.06**	**348**	*i* P		**Pn**		**02 10 09.6**	**-0.5**
GDZ				*i* S		**Sn**		**02 10 45.6**	**+10**
KONT	**Konya--Tatoy**	**2.06**	**64**	PN		**Pn**		**02 10 09.6**	**-0.6**
BODT	**Bodrum**	**2.16**	**271**	PN		**Pn**		**02 10 11.9**	**+0.3**
KDHN	**Kadinhani**	**2.21**	**48**	*i* P		**Pn**		**02 10 12.2**	**0.0**
KDHN				*i* S		**Sn**		**02 10 40.4**	**+0.9**
KIZT	**Kizilcal**	**2.33**	**39**	PN		**Pn**		**02 10 14.4**	**+0.5**
ERMK	**Ermenek**	**2.37**	**100**	*i* P		**Pn**		**02 10 15.4**	**+1.1**
ERMK				*i* S		**Sn**		**02 10 45.1**	**+1.7**
AKS	**Akhisar**	**2.50**	**317**	PN		**Pn**		**02 10 16.3**	**0.0**
ESKT	**Eskisehir**	**2.53**	**15**	PN		**Pn**		**02 10 16.5**	**-0.1**
ESKT	**Eskisehir**	**2.53**	**15**	*i* P		**Pn**		**02 10 16.3**	**-0.3**
SEYT	**Eskypehyr**	**2.53**	**15**	*i* P		**Pn**		**02 10 16.3**	**-0.3**
IZM	**Izmir**	**2.55**	**302**	PN		**Pn**		**02 10 18.3**	**+1.4**
BLCB	**Balcova**	**2.69**	**300**	PN		**Pn**		**02 10 19.8**	**+0.9**
IKL	**Isikli**	**3.07**	**105**	*e*PN		**Pn**		**02 10 23.9**	**-0.1**
ULDT	**Uludag**	**3.14**	**348**	*i* P		**Pn**		**02 10 23.6**	**-1.4**
ADVT	**Abdulvahap**	**3.36**	**356**	*e*PN		**Pn**		**02 10 29.2**	**+1.1**
KAMT	**Kaman**	**3.71**	**51**	*e*PN		**Pn**		**02 10 33.0**	**+0.2**
SGKT	**Sivrigoynuk**	**3.84**	**24**	*i* P		**Pn**		**02 10 35.2**	**+0.5**

CASC 28 02:50:29.7±1.9, 1290N×9043W, h11km±13km, MD3.9, 9C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**1.25**	**38**⇓	*e*P		x		02 51 07.6	
RTR				*e*S		x		02 51 25.0	
IXG	**Ixpaco**	**1.27**	**359**⇓	*e*P		Pn		02 50 52.5	-0.9
IXG				*e*S		Sb		02 51 11.1	+1.1
BOQS	**Boqueron**	**1.40**	**53**	*e*P		x		02 51 08.9	
BOQS				*e*S		x		02 51 27.9	
SNET	**Serv Nac Est T**	**1.41**	**56**⇑	*e*P		x		02 51 04.8	
SNET				*e*S		x		02 51 24.3	
RBDL	**Robledal**	**1.41**	**31**⇑	*e*P		x		02 51 10.1	
RBDL				*e*S		x		02 51 28.8	
LFRS	**El Faro**	**1.52**	**62**⇑	*e*P		x		02 51 09.9	
LFRS				*e*S		x		02 51 30.1	
LBRS	**Las Brisas**	**1.59**	**58**⇑	*e*P		x		02 51 11.3	
LBRS				*e*S		x		02 51 33.3	
LCBS	**La Ceiba**	**1.60**	**62**⇑	*e*P		x		02 51 11.2	
LCBS				*e*S		x		02 51 32.6	
TP2	**Tecpan 2**	**1.96**	**343**⇑	*e*P		Pn		02 51 03.6	+0.8
TP2				*e*S		Sn		02 51 29.2	+1.7
VSM	**San Miguel**	**2.17**	**76**⇑	*e*P		x		02 51 19.5	
VSM				*e*S		x		02 51 49.2	
BLLM	**Bellamira**	**2.20**	**76**⇑	*e*P		x		02 51 18.8	
BLLM				*e*S		x		02 51 47.1	

ISCJB ***28*** *02:52:46.9±0.4, 5268S×004W×160.21E×006, h10km, mb4.6/18, MS4.1/9, Error ellipse: s-maj=6.9km s-min=4.5km az=107.9*
IDC ***28*** *02:52:47.4±0.9, 5289S×15975E, h0km, mb4.4/9, mb1 4.5/10, mb1mx4.4/14, mbtmp4.4/10, ML4.0/1, MS4.1/9, Ms1 4.1/9, ms1mx3.8/19, Error ellipse: s-maj=31.1km s-min=17.9km az=85.0*
BJI ***28*** *02:52:48.9, 5280S×160.10E, h18km, mB5.6, mb5.2, Ms5.0,*

Msz4.6

*NEIC **28** 02:52:50.0±0.4, 5279S×160.10E, mb4.7/15, Error ellipse: s-maj=8.4km s-min=5.8km az=140.0*

*HRVD **28** 02:52:50.0±0.3, 5294S×15955E, h24km±2km, MW5.1/60, Centroid moment Tensor Solution. LP body waves: s26,c34;Mantle waves: s60,c81; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.62±.28; Mθθ 4.18±.25; Mφφ -4.80±.21; Mrθ -0.69±.52; Mθφ 3.19±.19; Mφr 3.03±.57; Best double couple: M0 6.14100×10^16 NP1:φs 115.00000°, δ72.00000°, λ-13.00000°. NP2:φs 209.00000°, δ78.00000°, λ-161.00000°. Principal axes: T 5.2170, Plg4.0000°, Azm341.0000°; N 1.8540, Plg68.0000°, Azm241.0000°; P -7.0650, Plg22.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **28** 02:52:50.9±1.3, 5281S×15981E, h34km, mb4.9/7 Error ellipse: s-maj=48.5km s-min=12.8km az=106.5*

ISC 28 02:52:48.4±0.4, 5279S±005×16017E±008, h10km, (h20km±1.4km: pP-P), n76, σ1=9.06/79, mb4.6/18, MS4.1/9, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**1.86**	**202**	*e*P		**Pn**	**02 53 14.0**	**-6.3**
MCQ				*e*S		**Sn**	**02 53 31.6**	**-12**
APZ	**The Paps**	**7.82**	**43**	PN		**Pn**	**02 54 41.7**	**-0.5**
APZ				*e*SN		**Sn**	**02 56 06.6**	**-4.2**
SYZ	**Scrubby Hill**	**8.54**	**46**	PN		**Pn**	**02 54 52.0**	**-0.2**
SYZ				*e*SN		**Sn**	**02 56 22.6**	**-5.9**
WHZ	**Wether Hill Ro**	**8.57**	**39**	PN		**Pn**	**02 54 52.6**	**+0.1**
WHZ				*e*SN		**Sn**	**02 56 26.6**	**-2.6**
WHZ	**Wether Hill Ro**	**8.57**	**39**	P		**Pn**	**02 54 52.7**	**+0.2**
WHZ				S		**Sn**	**02 56 27.3**	**-1.9**
DCZ	**Deep Cove**	**8.63**	**35**	PN		**Pn**	**02 54 53.9**	**+0.6**
DCZ	**Deep Cove**	**8.63**	**35**	*e*P		**Pn**	**02 54 57.5**	**+4.1**
MLZ	**Mavora Lakes**	**9.11**	**38**	PN		**Pn**	**02 55 00.4**	**+0.4**
MLZ	**Mavora Lakes**	**9.11**	**38**	*e*P		**Pn**	**02 55 00.4**	**+0.4**
MLZ				S		**Sn**	**02 56 43.0**	**+0.4**
TUZ	**Tuapeka**	**9.21**	**46**	PN		**Pn**	**02 55 01.2**	**-0.1**
TUZ				*e*SN		**Sn**	**02 56 41.1**	**-3.9**
TUZ				*e*SN		**Sn**	**02 56 41.1**	**-3.9**
TUZ	**Tuapeka**	**9.21**	**46**	*e*P		**Pn**	**02 55 01.7**	**+0.4**
TUZ				S		**Sn**	**02 56 44.4**	**-0.6**
EAZ	**Earnscleugh**	**9.65**	**42**	PN		**Pn**	**02 55 07.1**	**-0.3**
EAZ				*e*SN		**Sn**	**02 56 51.3**	**-4.6**
EAZ	**Earnscleugh**	**9.65**	**42**	P		**Pn**	**02 55 07.3**	**-0.1**
EAZ				S		**Sn**	**02 56 55.9**	**0.0**
WKZ	**Wanaka**	**9.87**	**40**	PN		**Pn**	**02 55 11.4**	**+1.0**
WKZ	**Wanaka**	**9.87**	**40**	P		**Pn**	**02 55 11.4**	**+1.0**
ODZ	**Otahua Downs**	**10.37**	**46**	PN		**Pn**	**02 55 16.4**	**-0.7**
ODZ	**Otahua Downs**	**10.37**	**46**	*e*P		**Pn**	**02 55 16.6**	**-0.6**
JCZ	**Jackson Bay**	**10.42**	**37**	PN		**Pn**	**02 55 19.6**	**+1.8**
JCZ	**Jackson Bay**	**10.42**	**37**	*e*P		**Pn**	**02 55 19.8**	**+1.9**
RPZ	**Rata Peaks**	**11.61**	**43**	Pn		**Pn**	**02 55 34.4**	**+0.2**
	3.3nm,0.3s,baz=197,slow=3.4,SNR=16							
RPZ				Sn		**Sn**	**02 57 41.9**	**-2.0**
	2.3nm,0.3s,baz=332,slow=15,SNR=3.6							
RPZ				LR		LR	02 59 06.5	
	comp=Z,854nm,20.6s,baz=208,slow=32							
TAU	**Tasmania Unive**	**13.10**	**314**	*e*P		**Pn**	**02 55 53.2**	**-1.3**
TAU				*e*			02 58 10.7	
TAU				pmax		pmax		
	comp=Z,79nm,1.1s							
TAU	**Tasmania Unive**	**13.10**	**314**	*e*Pn		**Pn**	**02 55 53.2**	**-1.3**
	comp=Z,79nm,1.1s							
TAU				*e*Sn		**Sn**	**02 58 10.7**	**-10**
SNZO	**South Karori**	**15.13**	**46**	*e*Pn		**Pn**	**02 56 22.8**	**+0.5**
TOO	**Toolangi**	**18.34**	**320**	*e*P		**Pn**	**02 57 04.4**	**+1.5**
	comp=Z,33nm,0.9s							
TOO				*e*S		**Sn**	**03 00 21.7**	**-6.1**
TOO	**Toolangi**	**18.34**	**320**	*e*P		**Pn**	**02 57 04.4**	**+1.5**
TOO				*e*S		**Sn**	**03 00 21.7**	**-6.1**
TOO				pmax		pmax		
	comp=Z,33nm,0.9s							
URZ	**Urewera**	**18.69**	**46**	P		**Pn**	**02 57 09.6**	**+2.4**
	comp=Z,0.5nm,0.3s,baz=219,slow=6.9,SNR=7.7							
URZ				LR		LR	03 04 39.3	
	comp=Z,820nm,19.9s,baz=257,slow=38							
CNB	**Canberra Magne**	**19.08**	**332**	*e*P		**Pn**	**02 57 13.8**	**+1.9**
	comp=Z,53nm,0.7s							
CNB				*e*S		**Sn**	**03 00 38.3**	**-7.3**
VNDA	**Vanda**	**24.84**	**179**	P		**P**	**02 58 10.4**	**-0.5**
	comp=Z,3.3nm,0.9s,mb3.9,baz=349,slow=9.6,SNR=12							
VNDA				LR		LR	03 06 07.6	
	comp=Z,131nm,21.4s,MS3.4,baz=357,slow=32							
VNDA	**Vanda**	**24.84**	**179**	*e*P		**P**	**02 58 10.1**	**-0.8**
VNDA				pmax		pmax		
	comp=Z,15nm,1.6s							
VNDA	**Vanda**	**24.84**	**179**	*e*P		**P**	**02 58 10.1**	**-0.7**
	comp=Z,15nm,1.6s,mb4.3							
STKA	**Stephens Creek**	**24.87**	**320**	*e*P		**P**	**02 58 11.0**	**-0.1**
	comp=Z,10nm,0.9s,mb4.3							
STKA	**Stephens Creek**	**24.87**	**320**	P		**P**	**02 58 10.6**	**-0.6**
	comp=Z,8.9nm,1.0s,mb4.2,baz=158,slow=12,SNR=3.6							
STKA				LR		LR	03 06 21.7	
	comp=Z,666nm,20.7s,MS4.1,baz=330,slow=33							
CASY	**Casey**	**27.66**	**222**	*e*P		**P**	**02 58 36.1**	**-0.3**
	comp=Z,7.8nm,1.0s,mb4.3							
DZM	**Mont Dzumac**	**31.05**	**11**	P		**P**	**02 59 08.8**	**+2.4**
	comp=Z,20nm,1.2s,mb4.8,baz=183,slow=8.4,SNR=4.8							
DZM				LR		LR	03 09 10.4	
	comp=Z,474nm,19.7s,MS4.2,baz=214,slow=32							
CTA	**Charters Tower**	**34.38**	**336**	*e*P		**P**	**02 59 36.5**	**+0.9**
	comp=Z,8.7nm,1.0s,mb4.6							
CTA	**Charters Tower**	**34.38**	**336**	P		**P**	**02 59 36.4**	**+0.8**
	comp=Z,13nm,0.9s,mb4.9,baz=170,slow=10							
CTA	**Charters Tower**	**34.38**	**336**	*e*P		**P**	**02 59 36.5**	**+0.9**
CTA				pmax		pmax		
	comp=Z,9.0nm,1.0s							
CTAO	**Charters Tower**	**34.38**	**336**	*e*P		**P**	**02 59 36.3**	**+0.7**
CTAO				pmax		pmax		
	comp=Z,42nm,1.4s,mb5.2							
CTAO	**Charters Tower**	**34.38**	**336**	*e*P		**P**	**02 59 36.3**	**+0.7**
	comp=Z,42nm,1.4s,mb5.2							
CTAO				*e*pP		pP	02 59 41.4	+2.7
AS31	**Alice Springs**	**35.27**	**315**	*e*P		**P**	**02 59 43.4**	**+0.1**
AS31				*e*pP		pP	02 59 49.9	+3.5
ASAR	**Alice Springs**	**35.27**	**315**	P		**P**	**02 59 43.5**	**+0.3**
	comp=Z,5.3nm,1.0s,mb4.4,baz=152,slow=8.0,SNR=27							
QSPA	**South Pole Qui**	**37.33**	**180**	*e*P		**P**	**03 00 01.1**	**+0.2**
	comp=Z,22nm,1.2s,mb4.9							
WB2	**Warramunga Arr**	**38.40**	**319**	*e*P		**P**	**03 00 07.9**	**-2.0**
WRA	**Warramunga Arr**	**38.41**	**319**	P		**P**	**03 00 09.0**	**-1.0**
	comp=Z,6.3nm,0.9s,mb4.3,baz=152,slow=7.1,SNR=30							
WRA				LR		LR	03 14 53.0	
	comp=Z,242nm,19.2s,MS4.0,baz=230,slow=35							
WRAB	**Tennant Creek**	**38.41**	**319**	*e*P		**P**	**03 00 09.1**	**-0.9**
WRAB				*e**PP		pP	03 00 15.4	+2.3
WRAB				pmax		pmax		
	comp=Z,16nm,1.0s,mb4.7							
WRAB	**Tennant Creek**	**38.41**	**319**	*e*P		**P**	**03 00 09.1**	**-0.9**
	comp=Z,16nm,1.0s,mb4.7							
WRAB				*e*pP		pP	03 00 15.4	+2.3
HNR	**Honiara**	**43.24**	**360**	LR		LR	03 14 44.7	
	comp=Z,471nm,18.4s,MS4.4,baz=178,slow=30							
FITZ	**Fitzroy Crossi**	**43.84**	**309**	*e*P		**P**	**03 00 54.5**	**-0.2**
	comp=Z,9.3nm,0.8s,mb4.6							
FITZ	**Fitzroy Crossi**	**43.84**	**309**	P		**P**	**03 00 53.8**	**-0.9**
	comp=Z,2.8nm,0.8s,mb4.0,baz=172,slow=13,SNR=5.3							
MBWA	**Marble Bar**	**44.23**	**300**	*e*P		**P**	**03 00 57.3**	**-0.6**
	comp=Z,23nm,1.2s,mb4.8							
MBWA				*e*pP		pP	03 01 01.7	+0.8
PMG	**Port Moresby**	**44.53**	**342**	*e*P		**P**	**03 01 00.5**	**+0.3**
PMG				pmax		pmax		
	comp=Z,10.0nm,0.8s							
PMG	**Port Moresby**	**44.53**	**342**	*e*P		**P**	**03 01 00.5**	**+0.2**
	comp=Z,10nm,0.8s,mb4.7							
AFI	**Afiamalu**	**44.75**	**40**	LR		LR	03 17 03.0	
	comp=Z,291nm,18.2s,MS4.2,baz=145,slow=32							
MAW	**Mawson**	**45.23**	**212**	P		**P**	**03 01 03.5**	**-2.3**
	comp=Z,2.7nm,1.1s,mb4.0,baz=135,slow=16,SNR=2.8							
MAW				LR		LR	03 18 50.8	
	comp=Z,140nm,19.6s,MS3.9,baz=106,slow=35							
MAW	**Mawson**	**45.23**	**212**	*e*P		**P**	**03 01 06.4**	**+0.6**
MAW				pmax		pmax		
	comp=Z,8.0nm,1.0s							
MAW	**Mawson**	**45.23**	**212**	*e*P		**P**	**03 01 06.4**	**+0.6**
	comp=Z,8.0nm,1.0s,mb4.5							
KAKA	**Kakadu**	**45.71**	**321**	*e*P		**P**	**03 01 09.4**	**-0.2**
	comp=Z,13nm,1.0s,mb4.8							
MAIT	**Maitri**	**54.67**	**192**	*e*P		**P**	**03 02 18.9**	**+1.3**
SNAA	**Sanae**	**55.26**	**186**	*e*P		**P**	**03 02 20.6**	**-1.2**
SNAA				pmax		pmax		
	comp=Z,12nm,1.3s							
SNAA	**Sanae**	**55.26**	**186**	*e*P		**P**	**03 02 20.6**	**-1.2**
	comp=Z,12nm,1.3s,mb4.8							
KULM	**Kulim**	**76.47**	**298**	*e*P		**P**	**03 04 39.2**	**+0.8**
MJAR	**Matsushiro Arr**	**91.00**	**342**	P		**P**	**03 05 51.5**	**-1.3**
	comp=Z,0.5nm,0.3s,mb4.3,baz=170,slow=7.0,SNR=4.3							
MJAR	**Matsushiro Arr**	**91.00**	**342**	P		**P**	**03 05 51.5**	**-1.3**
KMI	**Kunming**	**92.24**	**310**	P		**P**	**03 05 58.8**	**+0.2**
KMI				AP		pP	03 06 05.5	+3.6
KMI				XP		sP	03 06 08.5	+5.4
KMI				PP		PP	03 09 42.5	+3.7
KMI				AMB		AMB		
	comp=Z,9.0nm,0.7s,mb5.2							
KMI				AMB		AMB		
	comp=Z,84nm,5.1s							
KMI				LR		LR		
	comp=Z,59nm,23.0s,MS4.0							
CD2	**Chengdu**	**96.73**	**314**	*e*P		**P**	**03 06 19.5**	**+0.3**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb5.2							
MDJ	**Mudanjiang**	**100.53**	**338**	P		Pdif	03 06 38.5	+2.4
MDJ				AMB		AMB		
	comp=Z,3.0nm,0.6s							
MDJ				AMB		AMB		
	comp=Z,59nm,5.2s							
CN2	**Changchun**	**100.75**	**335**	*e*P		Pdif	03 06 40.5	+3.4
CN2	**Changchun**	**100.75**	**335**	*e*P		PKiKP	03 11 03.3	+0.2
HHC	**Hu-ho-hao-te**	**102.30**	**324**	*e*P		Pdif	03 06 46.5	+2.5
HHC				AP			03 06 52.8	
HHC				PP		PP	03 11 02.0	+5.8
HHC				AMB		AMB		
	comp=Z,97nm,5.2s							
HHC				LR		LR		
	comp=N,155nm,17.2s,MS4.7							
HHC				LR		LR		
	comp=E,99nm,16.1s,MS4.7							
HHC				LR		LR		
	comp=Z,121nm,16.0s,MS4.5							
WMQ	**Urumqi**	**114.57**	**311**	PKP		PKiKP	03 11 29.0	+0.2
TORD	**Torodi Ar. Bea**	**136.88**	**212**	PKP		PKPdf	03 12 10.4	-0.9
	comp=Z,0.5nm,0.9s,baz=186,slow=3.1,SNR=3.3							
BRTR	**Keskin Array B**	**141.67**	**272**	PKP		PKPdf	03 12 19.8	-0.3
	comp=Z,0.2nm,0.5s,baz=68,slow=3.7,SNR=2.7							
OBN	**Obninsk**	**147.49**	**297**	*i* PKP2		PKPab	03 12 37.0	+2.3
OBN				pmax		pmax		
	comp=Z,9.0nm,0.6s							
MLR	**Muntele Rosu**	**149.61**	**275**	PKPbc		PKPbc	03 12 38.6	+0.4
	comp=Z,1.9nm,0.7s,baz=121,slow=2.6,SNR=4.1							
AKASG	**Malin Array Be**	**150.02**	**286**	PKPbc		PKPbc	03 12 36.7	-2.5
	comp=Z,0.2nm,0.3s,baz=96,slow=1.9,SNR=3.6							
AKASG				PKPab		PKPab	03 12 43.7	-1.2
	comp=Z,2.6nm,0.7s,baz=88,slow=2.0,SNR=15							
ARCES	**ARCESS Array B**	**153.36**	**326**	PKPbc		PKPbc	03 12 45.8	-1.0
	comp=Z,2.7nm,0.9s,baz=22,slow=4.2,SNR=4.0							
ARCES				PKPab		PKPab	03 12 58.0	-0.9
	comp=Z,2.6nm,0.8s,baz=158,slow=1.3,SNR=5.0							

*IDC **28** 02:58:31.4±0.8, 1874S×173.40W, h0km, mb4.4/10, mb1 4.6/12, mb1mx4.5/19, mbtmp4.5/12, ML3.4/2, MS4.1/5, Ms1 4.1/5, ms1mx3.6/22, Error ellipse: s-maj=29.3km s-min=16.7km az=136.0*

*ISCJB **28** 02:58:34.8±0.3, 1864S±007×173.48W±007, h33km, mb4.7/39, MS4.3/10, Error ellipse: s-maj=12.6km s-min=6.5km az=90.3*

*SZGRF **28** 02:58:35.1, 19.72S×170.27W, h35km, Tonga Islands region*

*BJI **28** 02:58:37.0, 1880S×173.40W, h50km, mB5.1, mb4.9, Ms4.8, Msz4.5*

*NEIC **28** 02:58:38.1±0.3, 1878S×173.40W, h50km, mb4.6/23, Error ellipse: s-maj=15.2km s-min=6.3km az=145.0*

*MOS **28** 02:58:41.5±1.1, 1861S×174.53W, h33km, mb4.8/10, Error ellipse: s-maj=24.8km s-min=15.3km az=173.5*

ISC 28 02:58:36.8±0.3, 1863S±007×173.42W±007, h35km, n131, σ1=9.11/77, mb4.7/39, MS4.3/10, 12C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.96**	**19**	Pn		**Pn**	**02 59 46.6**	**-2.1**
	10nm,0.3s,baz=198,slow=18,SNR=7.6							
AFI				Sn		**Sn**	**03 00 35.6**	**-9.1**
	16nm,0.3s,baz=17,slow=19,SNR=4.1							
DZM	**Mont Dzumac**	**19.18**	**256**	P		**Pn**	**03 02 58.6**	**+0.1**
	0.7nm,0.3s,baz=84,slow=17,SNR=8.4							
URZ	**Urewera**	**21.23**	**201**	P		**P**	**03 03 17.9**	**-1.7**
	8.7nm,0.3s,mb4.5,baz=344,slow=5.5,SNR=20							
URZ				S		**S**	**03 07 09.2**	**-4.4**
	9.4nm,0.9s,baz=12,slow=19,SNR=4.0							
PPT	**Papeete**	**22.69**	**91**	*e*LR		LR	03 08 41.8	
	952nm,26.5s,baz=254							
PPT	**Papeete**	**22.69**	**91**	LR		LR	03 09 33.8	
	comp=Z,468nm,18.5s,MS4.0,baz=144,slow=29							
THZ	**Tophouse**	**25.84**	**204**	*e*PN		**P**	**03 04 06.4**	**+1.5**
WVZ	**Waitaha Valley**	**27.81**	**205**	*e*PN		**P**	**03 04 24.0**	**+1.4**
CNB	**Canberra Magne**	**36.84**	**236**	*e*P		**P**	**03 05 40.6**	**-0.9**
	74nm,1.8s,mb5.2							
CTA	**Charters Tower**	**38.01**	**261**	*e*P		**P**	**03 05 51.2**	**-0.2**
	16nm,0.7s,mb4.8							
CTA	**Charters Tower**	**38.01**	**261**	P		**P**	**03 05 51.3**	**-0.1**
	21nm,0.8s,mb4.9,baz=90,slow=10,SNR=16							
CTA	**Charters Tower**	**38.01**	**261**	*e*P		**P**	**03 05 51.2**	**-0.2**
CTA				pmax		pmax		
	comp=Z,16nm,0.7s							
CTAO	**Charters Tower**	**38.01**	**261**	*e*P		**P**	**03 05 51.2**	**-0.2**
CTAO				pmax		pmax		
	comp=Z,18nm,0.7s,mb4.9							
CTAO	**Charters Tower**	**38.01**	**261**	*e*P		**P**	**03 05 51.2**	**-0.3**
	comp=Z,18nm,0.7s,mb4.9							
PMG	**Port Moresby**	**39.25**	**278**	⇓*i*P		**P**	**03 05 58.2**	**-3.7**
TOO	**Toolangi**	**40.47**	**234**	*e*P		**P**	**03 06 10.8**	**-1.2**
	comp=Z,6.5nm,0.9s,mb4.4							
TOO	**Toolangi**	**40.47**	**234**	*e*P		**P**	**03 06 10.8**	**-1.2**
TOO				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.4							
STKA	**Stephens Creek**	**42.48**	**243**	*e*P		**P**	**03 06 27.5**	**-1.0**
	comp=Z,5.0nm,0.9s,mb4.1							
STKA	**Stephens Creek**	**42.48**	**243**	P		**P**	**03 06 26.8**	**-1.7**
	comp=Z,3.4nm,0.8s,mb4.1,baz=82,slow=10.0,SNR=5.7							
STKA				LR		LR	03 21 59.7	
	comp=Z,325nm,21.9s,MS4.2,baz=290,slow=33							
WB2	**Warramunga Arr**	**49.15**	**259**	*e*P		**P**	**03 07 20.4**	**-0.7**
WRAB	**Tennant Creek**	**49.15**	**259**	⇓*e*P		**P**	**03 07 21.3**	**+0.2**
WRAB	**Tennant Creek**	**49.15**	**259**	*e*P		**P**	**03 07 20.9**	**-0.2**
	comp=Z,12nm,0.8s,mb5.0							
AS31	**Alice Springs**	**49.16**	**255**	*e*P		**P**	**03 07 22.3**	**+1.1**
WRA	**Warramunga Arr**	**49.16**	**259**	P		**P**	**03 07 20.4**	**-0.8**
	comp=Z,6.8nm,0.7s,mb4.8,baz=97,slow=7.8,SNR=111							
ASAR	**Alice Springs**	**49.16**	**255**	P		**P**	**03 07 20.6**	**-0.5**
	comp=Z,9.1nm,0.7s,mb4.9,baz=90,slow=8.3,SNR=13							
ASPA	**Alice Springs**	**49.16**	**255**	*e*P		**P**	**03 07 22.3**	**+1.1**
KAKA	**Kakadu**	**52.30**	**268**	*e*P		**P**	**03 07 44.0**	**-0.8**
	comp=Z,10nm,0.6s,mb4.9							
FITZ	**Fitzroy Crossi**	**57.58**	**260**	*e*P		**P**	**03 08 23.6**	**+0.6**
	comp=Z,10nm,1.2s,mb4.7							
FITZ	**Fitzroy Crossi**	**57.58**	**260**	P		**P**	**03 08 23.3**	**+0.3**
	comp=Z,2.3nm,0.6s,mb4.4,baz=114,slow=8.3,SNR=6.0							
VNDA	**Vanda**	**60.18**	**186**	P		**P**	**03 08 40.3**	**-0.7**
	comp=Z,2.1nm,1.1s,mb4.1,baz=4.6,slow=5.9,SNR=6.4							
VNDA				LR		LR	03 29 35.5	
	comp=Z,110nm,21.5s,MS4.0,baz=349,slow=31							
VNDA	**Vanda**	**60.18**	**186**	*e*P		**P**	**03 08 40.1**	**-0.9**
VNDA				pmax		pmax		
	comp=Z,3.0nm,1.2s							
VNDA	**Vanda**	**60.18**	**186**	*e*P		**P**	**03 08 40.1**	**-0.9**
	comp=Z,3.2nm,1.2s,mb4.2							
MJAR	**Matsushiro Arr**	**71.39**	**321**	P		**P**	**03 09 54.8**	**+1.5**
	comp=Z,3.5nm,0.9s,mb4.3,baz=159,slow=4.9,SNR=5.0							
MAT	**Matsushiro**	**71.39**	**321**	P		**P**	**03 09 55.3**	**+2.0**
MAT	**Matsushiro**	**71.39**	**321**	P		**P**	**03 09 57.0**	**+3.7**
QSPA	**South Pole Qui**	**71.43**	**180**	*e*P		**P**	**03 09 53.7**	**+0.2**
	comp=Z,5.7nm,1.1s,mb4.4							
MTUM	**Tungsten Hills**	**75.93**	**42**	*e*P		**P**	**03 10 20.6**	**+0.7**
YSS	**Yuzh-Sakhalins**	**76.27**	**331**	⇑*e*P		**P**	**03 10 21.4**	**-0.4**
YSS				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.5							
NVAR	**Mina Array Bea**	**76.74**	**41**	P		**P**	**03 10 25.1**	**+0.6**
	comp=Z,1.9nm,0.9s,mb4.0,baz=242,slow=14,SNR=6.1							
TPNV	**Topopah Spring**	**77.19**	**44**	*e*P		**P**	**03 10 27.1**	**+0.1**
TPNV				pmax		pmax		
	comp=Z,3.0nm,1.2s,mb4.1							
TPNV	**Topopah Spring**	**77.19**	**44**	*e*P		**P**	**03 10 27.1**	**+0.1**
	comp=Z,3.4nm,1.2s,mb4.2							
KSM	**Kuching**	**77.47**	**276**	*e*P		**P**	**03 10 30.8**	**+2.2**
TUC	**Tucson**	**78.46**	**50**	*e*P		**P**	**03 10 34.0**	**-0.1**
TUC				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.0							
TUC	**Tucson**	**78.46**	**50**	*e*P		**P**	**03 10 34.0**	**-0.1**
	comp=Z,2.1nm,0.9s,mb4.1							
SSE	**Sheshan**	**79.89**	**308**	*e*P		**P**	**03 10 39.8**	**-2.1**
SSE				AMB		AMB		
	comp=Z,26nm,0.7s,mb5.3							
SSE				AMB		AMB		
	comp=Z,99nm,3.5s							
SSE				LR		LR		
	comp=N,18nm,38.7s,MS3.6							
SSE				LR		LR		
	comp=E,46nm,38.7s,MS3.6							
SSE				LR		LR		
	comp=Z,43nm,29.3s							
MDJ	**Mudanjiang**	**81.56**	**323**	P		**P**	**03 10 53.5**	**+2.6**
MDJ				AP		pP	03 11 03.5	+1.6
MDJ				PP		PP	03 14 01.5	+4.0
MDJ				S		S	03 21 07.0	+6.7
MDJ				XS		sS	03 21 23.0	+4.5
MDJ				AMB		AMB		
	comp=Z,6.0nm,1.6s,mb4.3							
MDJ				AMB		AMB		
	comp=Z,73nm,4.5s							
NJ2	**Nanjing**	**82.09**	**308**	*e*P		**P**	**03 10 51.8**	**-1.9**
NJ2				PP		PP	03 14 01.0	-0.9
NJ2				S		S	03 21 00.0	-5.8
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,160nm,3.7s							
NJ2				LR		LR		
	comp=N,480nm,13.5s,MS5.2							
NJ2				LR		LR		
	comp=E,420nm,13.6s,MS5.2							
NJ2				LR		LR		
	comp=Z,1μm,10.2s,MS5.5							
HLID	**Hailey**	**82.13**	**39**	*e*P		**P**	**03 10 54.0**	**+0.2**
	comp=Z,4.5nm,1.4s,mb4.2							
ANMO	**Albuquerque**	**82.89**	**50**	⇑*i*P		**P**	**03 11 00.3**	**+2.5**
ANMO	**Albuquerque**	**82.89**	**50**	*e*P		**P**	**03 10 58.1**	**+0.3**
	comp=Z,12nm,1.8s,mb4.6							
PV01	**Paradox Valley**	**82.97**	**46**	*e*P		**P**	**03 10 57.8**	**-0.4**
MA2	**Magadan**	**83.22**	**343**	⇓*i*P		**P**	**03 10 57.7**	**-1.8**
MA2				pmax		pmax		
	comp=Z,13nm,1.3s,mb4.8							
MCMT	**McKenzie Canyo**	**83.78**	**39**	*e*P		**P**	**03 11 02.7**	**+0.3**
QIZ	**Qiongzhong**	**84.09**	**292**	P		**P**	**03 11 04.3**	**+0.3**
QIZ				S			03 21 29.0	
QIZ				XS		sS	03 21 50.5	+6.2
QIZ				AMB		AMB		
	comp=Z,32nm,2.0s,mb5.1							
DLMT	**Dillon**	**84.22**	**38**	*e*P		**P**	**03 11 03.7**	**-0.9**
	comp=Z,4.6nm,1.0s,mb4.6							
MCK	**McKinley**	**84.28**	**11**	*e*P		**P**	**03 11 04.5**	**-0.5**
MCK				pmax		pmax		
	comp=Z,6.0nm,1.2s,mb4.6							
MCK	**McKinley**	**84.28**	**11**	*e*P		**P**	**03 11 04.5**	**-0.4**
	comp=Z,5.8nm,1.2s,mb4.6							
IMW	**Indian Meadow**	**84.42**	**40**	*e*P		**P**	**03 11 06.0**	**+0.3**
	comp=Z,5.9nm,1.1s,mb4.6							
SMCO	**Snowmass**	**84.57**	**46**	*e*P		**P**	**03 11 06.9**	**+0.5**
	comp=Z,5.8nm,1.0s,mb4.7							
FLWY	**Flagg Ranch**	**84.66**	**40**	*e*P		**P**	**03 11 07.7**	**+0.8**
	comp=Z,6.2nm,1.0s,mb4.7							
BW06	**Boulder Array**	**84.68**	**42**	*e*P		**P**	**03 11 06.5**	**-0.4**
	comp=Z,2.7nm,1.0s,mb4.3							
PDAR	**Pinedale Array**	**84.68**	**42**	P		**P**	**03 11 06.5**	**-0.5**
	comp=Z,1.7nm,0.9s,mb4.2,baz=215,slow=2.6,SNR=10							
CHMT	**Chamberlain Mo**	**84.71**	**37**	*e*P		**P**	**03 11 06.1**	**-1.0**
WHN	**Wuhan**	**84.89**	**304**	P		**P**	**03 11 10.8**	**+2.8**
BOZ	**Bozeman (W)**	**84.95**	**38**	*e*P		**P**	**03 11 08.0**	**-0.3**
BOZ				pmax		pmax		
	comp=Z,6.0nm,1.3s,mb4.6	

PRU	**Pruhonice**	**148.07 350**	*e*PKPbc	PKPbc	03 18 20.5	+1.9
NKC	**Novy Kostel**	**148.12 353**	*e*PKPbc	PKPbc	03 18 19.8	+1.0
ELDT	**Eldivan**	**148.28 319**	*i* P	PKPbc	03 18 21.5	+2.3
MANZ	**Manzenberg**	**148.41 353**	*e*PKPbc	PKPbc	03 18 20.9	+1.4
TNS	**Taunus Mts**	**148.45 358**	*e*PKPbc	PKPbc	03 18 20.2	+0.6
TREC	**Trest**	**148.58 349**	*e*PKPbc	PKPbc	03 18 21.4	+1.4
BR131	**Keskin Array S**	**148.58 318**	*e*PKPbc	PKPbc	03 18 20.7	+0.8
BRTR	**Keskin Array B**	**148.58 318**	PKPbc	PKPbc	03 18 20.7	+0.7
	comp=Z,5.7nm,1.1s,baz=134,slow=3.6,SNR=12					
VYHS	**Vyhne**	**148.59 344**	*e*PKP	PKPbc	03 18 21.3	+1.3
VYHS	**Vyhne**	**148.59 344**	*e*PKP	PKPbc	03 18 21.4	+1.4
ROTZ	**Rotzenmuhle**	**148.61 353**	*e*PKPbc	PKPbc	03 18 21.7	+1.6
MLR	**Muntele Rosu**	**148.76 333**	PKPbc	PKPbc	03 18 23.0	+2.6
	comp=Z,1.6nm,0.6s,baz=80,slow=1.9,SNR=3.4					
GRA1	**Grafenberg Arr**	**148.79 354**	*e*PKPbc	PKPbc	03 18 21.8	+1.3
GRF	**Grafenberg Arr**	**148.79 354**	*e*PKPbc	PKPbc	03 18 21.8	+1.3
PSZ	**Piszkesteto**	**148.84 343**	*e*PKHKP		03 18 16.6	
DRGR		**148.94 338**	⇑*i*P	PKPab	03 18 25.0	0.0
KHC	**Kasperske Hory**	**149.06 351**	*e*PKPbc	PKPbc	03 18 21.9	+0.7
WET	**Wettzell**	**149.14 352**	*e*PKPbc	PKPbc	03 18 23.2	+1.8
ZST	**Bratislava**	**149.29 346**	*e*PKP	PKPab	03 18 28.2	+1.8
ZST	**Bratislava**	**149.29 346**	*e*PKP	PKPab	03 18 28.3	+1.9
ZST			LR	LR		
	comp=Z,200nm,15.2s,MS5.0					
GEC2	**GERESS Array S**	**149.31 351**	*e*PKPbc	PKPbc	03 18 23.6	+1.8
GERES	**GERESS Array B**	**149.31 351**	PKPbc	PKPbc	03 18 23.3	+1.5
	comp=Z,2.1nm,1.1s,baz=22,slow=0.7,SNR=6.2					
BZS	**Buzias**	**150.34 338**	⇑*i*P	PKPbc	03 18 26.9	+2.6
BFO	**Black Forest**	**150.34 358**	*e*PKPbc	PKPbc	03 18 25.3	+1.0
PKSM	**Moragy**	**150.74 343**	⇑*i*P	PKPbc	03 18 25.6	+0.3

*IDC **28** 03:01:16.4±3.1, 989S×10784E, h0km, mb4.0/5, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=135.8km s-min=20.0km az=51.0*

*NEIC **28** 03:01:17.4±2.1, 994S×10776E, h10km, mb3.9/2, Error ellipse: s-maj=90.5km s-min=13.7km az=50.0*

*ISCJB **28** 03:01:19.1±2.4, 99S±05×1079E±05, h33km, mb3.9/6, Error ellipse: s-maj=98.3km s-min=15.9km az=99.0*

ISC 28 03:01:21.7±2.4, 99S±04×1079E±05, h35km, n12, σ0§46/10, mb3.9/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**15.99**	**136**	*e*P	**Pn**	**03 04 59.1**	**-4.7**
	2.5nm,0.5s						
MBWA				*e*		03 05 11.3	
FITZ	**Fitzroy Crossi**	**19.06**	**117**	P	**Pn**	**03 05 42.5**	**+0.7**
	0.1nm,0.3s,baz=289,slow=18,SNR=5.8						
WRA	**Warramunga Arr**	**27.42**	**114**	P	**P**	**03 07 03.6**	**-0.4**
	1.2nm,0.7s,mb3.6,baz=286,slow=8.8,SNR=12						
WRAB	**Tennant Creek**	**27.42**	**114**	P	**P**	**03 07 03.8**	**-0.2**
	4.0nm,0.9s,mb4.0						
WB2	**Warramunga Arr**	**27.43**	**114**	*e*P	**P**	**03 07 03.7**	**-0.4**
ASAR	**Alice Springs**	**28.37**	**122**	P	**P**	**03 07 13.0**	**+0.6**
	0.9nm,0.7s,mb3.5,baz=300,slow=8.8,SNR=4.0						
ASAR	**Alice Springs**	**28.37**	**122**	P	**P**	**03 07 13.0**	**+0.6**
STKA	**Stephens Creek**	**38.10**	**130**	P	**P**	**03 08 36.8**	**-0.3**
	3.0nm,1.0s,mb4.0,baz=296,slow=9.9,SNR=4.3						
SONM	**Songino Array**	**57.48**	**359**	P	**P**	**03 11 06.9**	**-0.3**
	0.7nm,0.5s,mb3.9,baz=178,slow=7.7,SNR=6.4						
MKAR	**Makanchi Array**	**60.88**	**340**	P	**P**	**03 11 31.1**	**+0.4**
	1.2nm,0.5s,mb4.3,baz=146,slow=8.0,SNR=9.0						
RKT	**Rikitea**	**110.33**	**119**	*e*LR	LR	03 14 52.0	
	465nm,22.8s						
WMOK	**Wichita Mounta**	**145.29**	**40**	*e*PKPbc	PKPbc	03 20 55.5	+0.1
WMOK				*e*		03 21 06.3	

*NEIC **28** 03:31:14.4±3.8, 3621N×7025E, h198km±35km, Error ellipse: s-maj=33.5km s-min=20.8km az=202.0*

*ISCJB **28** 03:31:17.5±0.6, 3650N±005×702E±0.1, h235km±11km, mb3.1/3, Error ellipse: s-maj=17.5km s-min=8.2km az=11.1*

*IDC **28** 03:31:18.1±10.0, 3639N×7026E, h234km±101km, mb3.1/4, mb1 3.3/7, mb1mx3.0/23, mbtmp3.8/7, Error ellipse: s-maj=54.1km s-min=24.0km az=14.0*

ISC 28 03:31:18.5±0.6, 3650N±005×703E±01, h229km±11km, n23, σ0§79/24, mb3.0/3, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.99**	**153**	⇑P	**Pn**	**03 32 09.9**	**+0.3**
CHCP	**Chirah Chowk**	**3.76**	**138**	P	**Pn**	**03 32 19.2**	**+0.8**
THW	**Thamme Wali**	**3.89**	**161**	⇑P	**Pn**	**03 32 19.9**	**-0.2**
DRP	**Derazinda**	**4.75**	**181**	⇓P	**Pn**	**03 32 30.3**	**-0.2**
AML	**Almayashu**	**6.22**	**24**	P	**Pn**	**03 32 49.0**	**0.0**
	SNR=36						
KK31	**Karatay Array**	**6.60**	**2**	Pn	**Pn**	**03 32 52.4**	**-1.4**
	2.6nm,0.3s,baz=236,slow=47,SNR=71						
KK31				Sn	**S**	**03 33 58.3**	**-12**
	18nm,0.9s,baz=196,slow=18,SNR=4.5						
UCH	**Uchtor**	**6.60**	**29**	P	**Pn**	**03 32 54.0**	**+0.2**
	SNR=33						
EKS2	**Erkin-Say**	**6.72**	**23**	P	**Pn**	**03 32 55.5**	**+0.1**
	SNR=14						
KZA	**Kyzart**	**6.78**	**33**	P	**Pn**	**03 32 56.0**	**-0.2**
	SNR=31						
AAK	**Ala-Archa**	**6.94**	**27**	*e*Pn	**Pn**	**03 32 57.0**	**-1.2**
	7.9nm,0.3s						
KBK	**Karagaybulak**	**7.13**	**29**	P	**Pn**	**03 33 01.0**	**+0.4**
	SNR=8.7						
ULHL	**Ulahol**	**7.37**	**37**	P	**Pn**	**03 33 03.8**	**+0.1**
	SNR=21						
USP	**Ospenovka**	**7.50**	**24**	P	**Pn**	**03 33 05.0**	**-0.3**
	SNR=18						
TKM2	**Tokmak 2**	**7.62**	**31**	P	**Pn**	**03 33 07.2**	**+0.4**
	SNR=6.0						
MKAR	**Makanchi Array**	**13.65**	**37**	P	**Pn**	**03 34 23.1**	**+0.1**
	0.4nm,0.3s,baz=229,slow=13,SNR=15						
AB31	**Akbulak array**	**14.80**	**333**	P	**Pn**	**03 34 36.0**	**-1.1**
	0.9nm,0.4s,baz=158,slow=11,SNR=16						
AKTK	**Aktyubinsk**	**16.49**	**331**	P	**P**	**03 34 57.5**	**+1.6**
AKTO	**Aktyubinsk**	**16.49**	**331**	P	**P**	**03 34 57.5**	**+1.6**
	0.4nm,0.3s,baz=152,slow=8.7,SNR=6.0						
BVAR	**Borovoye Array**	**16.52**	**0**	P	**P**	**03 34 57.9**	**+1.6**
	1.1nm,0.3s,baz=169,slow=12,SNR=13						
ZAL	**Zalesovo**	**20.15**	**26**	P	**P**	**03 35 35.1**	**-0.4**
	2.7nm,0.4s,baz=258,slow=4.8,SNR=4.9						
NOA	**NORSAR Array B**	**44.02**	**323**	P	**P**	**03 39 03.0**	**-0.5**
	0.3nm,0.6s,mb2.8,baz=80,slow=8.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**65.12**	**268**	P	**P**	**03 41 34.0**	**-0.9**
	0.6nm,0.6s,mb3.4,baz=46,slow=5.4,SNR=12						
WRA	**Warramunga Arr**	**82.50**	**121**	P	**P**	**03 43 15.0**	**-0.5**
	0.3nm,0.9s,mb2.9,baz=324,slow=4.8,SNR=5.0						

*IDC **28** 03:46:03.2±3.5, 263S×138.19E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.7/10, mbtmp3.7/4, ML3.7/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/21, Error ellipse: s-maj=118.9km s-min=19.0km az=91.0*

NEIC 28 03:46:08.2±1.8, 269S×13822E, h35km, mb3.6/1, Error ellipse: s-maj=57.9km s-min=14.8km az=85.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**17.47**	**22**	LR	LR	03 55 18.3	
	comp=Z,50nm,21.9s,baz=50,slow=32						
WRAB	**Tennant Creek**	**17.55**	**192**	*e*P	Pn	03 50 10.2	+0.2
	3.3nm,0.7s						
WB2	**Warramunga Arr**	**17.56**	**192**	*e*P	Pn	03 50 10.5	+0.4
WRA	**Warramunga Arr**	**17.56**	**192**	P	Pn	03 50 09.8	-0.3
	0.5nm,0.3s,baz=14,slow=13,SNR=26						
WRA				S	S	03 53 28.3	-3.2
	0.1nm,0.3s,baz=12,slow=22,SNR=3.3						
FITZ	**Fitzroy Crossi**	**19.66**	**218**	P	Pn	03 50 34.4	-1.2
	0.1nm,0.3s,baz=61,slow=19,SNR=2.4						
AS31	**Alice Springs**	**21.26**	**191**	*e*P	P	03 50 51.7	+0.3
ASAR	**Alice Springs**	**21.27**	**191**	P	P	03 50 52.1	+0.7
	2.8nm,0.8s,baz=23,slow=10,SNR=27						
MKAR	**Makanchi Array**	**69.47**	**323**	P	P	03 57 13.1	+0.1
	0.2nm,0.5s,baz=122,slow=7.6,SNR=2.6						

*ISCJB **28** 03:48:28.2±1.5, 3873S±005×179.02E±0.10, h23km±9km, mb3.4/2, Error ellipse: s-maj=13.0km s-min=7.9km az=38.6*

*WEL **28** 03:48:30.6±0.7, 3864S×17889E, h12km, ML3.6/5, Error ellipse: s-maj=5.7km s-min=2.7km az=90.0*

*IDC **28** 03:48:30.7±3.8, 3760S×17858E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/10, mbtmp3.6/2, Error ellipse: s-maj=92.7km s-min=31.4km az=136.0*

ISC 28 03:48:28.6±1.9, 3871S±004×1790E±01, h13km±14km, n13, σ0§58/22, mb3.4/2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**0.84**	**319**	P*	**Pb**	**03 48 44.5**	**-0.5**
PUZ				S*	**Sb**	**03 48 56.0**	**-0.1**
KNZ	**Kokohu**	**1.05**	**252**	P*	**Pb**	**03 48 49.8**	**+1.2**
KNZ				S*	**Sb**	**03 49 01.6**	**-0.7**
MWZ	**Matawai**	**1.18**	**288**	P*	**Pb**	**03 48 50.5**	**-0.4**
MWZ				S*	**Sb**	**03 49 06.3**	**+0.3**
MXZ	**Matakaoa Point**	**1.25**	**336**	P*	**Pb**	**03 48 51.2**	**-0.9**
MXZ				*e*S*	**Sb**	**03 49 08.1**	**+0.1**
URZ	**Urewera**	**1.52**	**287**	Pn	**Pn**	**03 48 56.2**	**+0.8**
	4.1nm,0.3s,baz=356,slow=19,SNR=17						
URZ				Sn	**Sn**	**03 49 16.5**	**+1.6**
	14nm,0.3s,baz=49,slow=19,SNR=24						
URZ	**Urewera**	**1.52**	**287**	PN	**Pn**	**03 48 55.9**	**+0.6**
URZ				*e*SN	**Sn**	**03 49 14.2**	**-0.8**
BKZ	**Black Stump Fm**	**1.98**	**256**	*e*PN	**Pn**	**03 49 02.4**	**+0.7**
BKZ				*e*SN	**Sn**	**03 49 26.2**	**-0.1**
TSZ	**Takapari Road**	**2.69**	**239**	PN	**Pn**	**03 49 11.9**	**+0.4**
TSZ				SN	**Sn**	**03 49 43.9**	**+0.1**
BFZ	**Birch Farm**	**2.88**	**226**	PN	**Pn**	**03 49 13.7**	**-0.4**
BFZ				*e*SN	**Sn**	**03 49 48.4**	**-0.1**
MRZ	**Mangatainoka R**	**3.26**	**232**	*e*PN	**Pn**	**03 49 18.9**	**-0.4**
MRZ				SN	**Sn**	**03 49 57.3**	**-0.6**
ASAR	**Alice Springs**	**40.94**	**278**	P	**P**	**03 56 11.4**	**+0.6**
	0.6nm,0.5s,mb3.5,baz=126,slow=8.4,SNR=7.9						
WRA	**Warramunga Arr**	**42.69**	**283**	P	**P**	**03 56 24.8**	**-0.3**
	0.4nm,0.6s,mb3.3,baz=123,slow=7.1,SNR=6.2						
ARCES	**ARCESS Array B**	**146.01**	**344**	PKP	PKPdf	04 08 08.9	+1.6
	1.3nm,0.8s,baz=32,slow=5.3,SNR=4.1						

*IDC **28** 04:10:22.8±1.1, 3581N×6981E, h0km, mb4.0/10, mb1 4.1/12, mb1mx3.9/25, mbtmp4.1/12, ML4.0/2, Error ellipse: s-maj=26.2km s-min=18.9km az=4.0*

*MOS **28** 04:10:36.7±1.2, 3623N×6982E, h120km, mb4.1/2, Error ellipse: s-maj=15.8km s-min=9.1km az=97.2*

*BJI **28** 04:10:37.1, 3630N×6990E, h114km, mB4.8, mb4.5*

*NEIC **28** 04:10:38.0±2.2, 3630N×6988E, h114km±23km, mb4.9/7, Error ellipse: s-maj=20.5km s-min=8.6km az=52.0*

*ISCJB **28** 04:10:39.6±0.6, 3637N±003×6991E±007, h147km±7km, mb3.8/12, Error ellipse: s-maj=9.3km s-min=4.7km az=145.0*

*NNC **28** 04:10:45.2±5.2, 3675N×6950E, h159km±46km, mb3.3, mpv5.0, Error ellipse: s-maj=42.9km s-min=26.3km az=28.0*

ISC 28 04:10:40.6±0.5, 3637N±003×6990E±007, h142km±6km, n58, σ1§14/63, mb3.8/12, 4C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.03**	**147**	P	**Pn**	**04 11 29.5**	**+1.6**
CHCP	**Chirah Chowk**	**3.86**	**133**	⇓P	**Pn**	**04 11 39.8**	**+1.0**
THW	**Thamme Wali**	**3.88**	**156**	⇑P	**Pn**	**04 11 39.3**	**+0.3**
SBDP	**Sheikh Budin**	**4.13**	**169**	P	**Pn**	**04 11 42.4**	**+0.1**
DRP	**Derazinda**	**4.62**	**177**	P	**Pn**	**04 11 49.9**	**+1.1**
SARP	**Sargodha**	**5.00**	**152**	P	**Pn**	**04 11 53.3**	**-0.5**
KSH	**Kashi**	**5.73**	**55**	*e*P	**Pn**	**04 12 05.5**	**+1.9**
KSH				*e*S	**Sn**	**04 13 13.0**	**+4.6**
KSH				Smax			
	comp=N,373nm,0.5s						
KSH				Smax			
	comp=E,356nm,0.4s						
AML	**Almayashu**	**6.46**	**26**	P	**Pn**	**04 12 13.9**	**+0.6**
	SNR=70						
KK31	**Karatay Array**	**6.74**	**4**	⇑P	**Pn**	**04 12 17.0**	**-0.1**
	comp=E,75nm,0.7s						
KK31				S	**Sn**	**04 13 30.5**	**-2.1**
	comp=E,19nm,0.5s,baz=216,slow=23,SNR=6.0						
UCH	**Uchtor**	**6.85**	**30**	P	**Pn**	**04 12 18.9**	**+0.3**
	SNR=168						
EKS2	**Erkin-Say**	**6.96**	**24**	P	**Pn**	**04 12 20.6**	**+0.6**
	SNR=33						
KZA	**Kyzart**	**7.05**	**34**	P	**Pn**	**04 12 21.4**	**+0.2**
	SNR=54						
KBK	**Karagaybulak**	**7.39**	**30**	P	**Pn**	**04 12 26.8**	**+1.0**
	SNR=23						
FRU	**Bishkek**	**7.41**	**28**	*i* PN	**Pn**	**04 12 26.0**	**0.0**
FRU				pmax	pmax		
	comp=E,110nm,1.7s						
CHMS	**Chumysh**	**7.60**	**28**	P	**Pn**	**04 12 28.7**	**+0.1**
	SNR=83						
SDNR	**Sundarnagar**	**7.62**	**128**	*e*P	**Pn**	**04 12 28.0**	**-0.8**
SDNR				*ex*	x	04 13 47.5	
ULHL	**Ulahol**	**7.65**	**38**	P	**Pn**	**04 12 29.2**	**0.0**
	SNR=23						
USP	**Ospenovka**	**7.74**	**26**	P	**Pn**	**04 12 30.3**	**-0.1**
	SNR=55						
TKM2	**Tokmak 2**	**7.88**	**32**	P	**Pn**	**04 12 32.6**	**+0.2**
	SNR=87						
LGTI	**Lohaghat**	**11.09**	**126**	*e*P	**Pn**	**04 13 13.5**	**-1.6**
LGTI				*ex*	x	04 15 06.5	
MK02	**Makanchi Array**	**13.92**	**38**	⇑P	**Pn**	**04 13 52.9**	**+1.3**
	comp=Z,2.6nm,0.6s						
MKAR	**Makanchi Array**	**13.93**	**38**	Pn	**Pn**	**04 13 49.1**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=228,slow=16,SNR=10.0						
KOLN	**Koldanda**	**14.42**	**123**	*e*P	**Pn**	**04 13 56.7**	**-1.3**
	comp=Z,8.6nm,0.3s						
AB31	**Akbulak array**	**14.79**	**334**	Pn	**Pn**	**04 14 02.2**	**-0.4**
	comp=Z,5.4nm,0.6s,baz=150,slow=12,SNR=70						
AB31				Sn	**Sn**	**04 16 36.5**	**-10**
	comp=Z,2.3nm,0.5s,baz=145,slow=23,SNR=5.7						
GKN	**Gorkha**	**14.99**	**120**	*e*P	**Pn**	**04 14 03.0**	**-2.2**
	comp=Z,30nm,0.3s						
DMN	**Daman**	**15.56**	**120**	*e*P	**Pn**	**04 14 11.3**	**-0.9**
	comp=Z,14nm,0.3s						
KKN	**Kakani**	**15.57**	**119**	*e*P	**Pn**	**04 14 10.6**	**-1.8**
	comp=Z,72nm,0.5s						
KKN	**Kakani**	**15.57**	**119**	*e*P	**Pn**	**04 14 10.6**	**-1.8**
KKN				pmax	pmax		
	comp=Z,72nm,0.5s						
PKI	**Pulchoki**	**15.80**	**119**	*e*P	**Pn**	**04 14 14.7**	**-0.4**
GUN	**Gumba**	**15.93**	**117**	*e*P	**Pn**	**04 14 17.3**	**+0.6**
	comp=Z,111nm,0.9s						
JIRN	**Jiri**	**16.30**	**118**	*e*P	**Pn**	**04 14 21.8**	**+0.5**
	comp=Z,47nm,0.3s						
VOSK	**Vostochnaya**	**16.37**	**2**	⇓P	**Pn**	**04 14 20.5**	**-1.6**
	comp=Z,8.0nm,1.1s						
AKTK	**Akbinsk**	**16.47**	**332**	Pn	**Pn**	**04 14 21.4**	**-1.9**
AKTO	**Aktyubinsk**	**16.47**	**332**	⇑Pn	**Pn**	**04 14 22.0**	**-1.3**
	comp=Z,0.1nm,0.8s						
AKTO				⇓Sn	**Sn**	**04 17 20.1**	**-6.8**
	comp=Z,0.1nm,0.7s						
AKTO	**Aktyubinsk**	**16.47**	**332**	Pn	**Pn**	**04 14 21.4**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=156,slow=11,SNR=21						
ZRNK	**Zerenda**	**16.59**	**358**	⇓P	**Pn**	**04 14 23.7**	**-1.1**
	comp=Z,3.2nm,0.5s						
BVA0	**Borovoye Array**	**16.66**	**1**	P	**Pn**	**04 14 24.6**	**-1.0**
	comp=Z,1.4nm,1.1s,baz=170,slow=15,SNR=36						
BVAR	**Borovoye Array**	**16.66**	**1**	P	**Pn**	**04 14 25.0**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=167,slow=12,SNR=20						
CHKZ	**Chkalovo**	**17.31**	**1**	⇓P	**Pn**	**04 14 32.9**	**-0.6**
	comp=Z,2.7nm,0.6s						
ZAL	**Zalesovo**	**20.39**	**26**	P	**P**	**04 15 06.5**	**+0.3**
	comp=Z,6.7nm,0.3s,baz=257,slow=11,SNR=4.5						
NVS	**Novosibirsk**	**20.63**	**22**	*e*P	**P**	**04 15 09.5**	**+0.8**
NVS				pmax	pmax		
	comp=N,3.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.5s						
ARU	**Arti**	**21.48**	**343**	*e*P	**P**	**04 15 18.9**	**+1.1**
ARU				*e*		04 15 41.8	
ARU				*e*S	**S**	**04 19 17.7**	**+10**
ARU	**Arti**	**21.48**	**343**	*e*P	**P**	**04 15 18.6**	**+0.8**
	comp=E,6.9nm,0.7s,mb4.1						
GTA	**Gaotai**	**23.75**	**74**	*e*P	**P**	**04 15 41.0**	**+1.3**
SONM	**Songino Array**	**29.14**	**55**	P	**P**	**04 16 29.5**	**+1.4**
	comp=E,1.1nm,0.8s,mb3.6,baz=258,slow=9.5,SNR=7.8						
JOF	**Joensuu**	**35.54**	**331**	*ep*	**P**	**04 17 25.5**	**+1.6**
	comp=E,2.8nm,0.3s,mb4.4						
BOD	**Bodaibo**	**36.01**	**39**	*e*P	**P**	**04 17 28.9**	**+1.0**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
FINES	**FINESS Array B**	**37.10**	**327**	P	**P**	**04 17 37.3**	**+0.2**
	comp=Z,1.2nm,0.7s,mb3.6,baz=131,slow=8.6,SNR=4.9						
VRAC	**Vranov**	**40.36**	**306**	P	**P**	**04 18 02.3**	**-1.9**
	comp=Z,5.4nm,0.4s,mb4.5,baz=67,slow=11,SNR=5.4						
KEV	**Kevo**	**40.60**	**339**	*ep*	**P**	**04 18 07.7**	**+1.5**
ARCES	**ARCESS Array B**	**40.93**	**338**	P	**P**	**04 18 11.0**	**+2.0**
	comp=Z,0.6nm,0.3s,mb3.7,baz=108,slow=8.1,SNR=21						
HFS	**Hagfors**	**42.62**	**322**	P	**P**	**04 18 24.1**	**+1.3**
	comp=Z,1.6nm,0.5s,mb3.9,baz=112,slow=11,SNR=5.5						
NB2	**NORSAR Subarra**	**43.95**	**323**	P	**P**	**04 18 34.6**	**+1.2**
	comp=Z,0.5nm,0.5s,mb3.4,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**43.95**	**323**	P	**P**	**04 18 34.1**	**+0.8**
	comp=Z,0.6nm,0.4s,mb3.5,baz=97,slow=7.8,SNR=4.9						
JOW	**Kunigami**	**49.96**	**84**	P	**P**	**04 19 19.4**	**-0.7**
	comp=Z,2.3nm,0.3s,mb4.2,baz=295,slow=17,SNR=4.9						
TORD	**Torodi Ar. Bea**	**64.83**	**268**	P	**P**	**04 21 04.5**	**+0.3**
	comp=Z,0.2nm,0.3s,mb3.4,baz=50,slow=5.9,SNR=12						
TORD	**Torodi Ar. Bea**	**64.83**	**268**	P	**P**	**04 21 04.5**	**+0.3**
WRA	**Warramunga Arr**	**82.68**	**121**	P	**P**	**04 22 46.5**	**-1.7**
	comp=Z,0.1nm,0.3s,mb3.0,baz=325,slow=5.0,SNR=5.1						

*CSEM **28** 04:11:23.7±0.1, 5908N×3087W, h10km, mb4.3/23, Ms3.5, Error ellipse: s-maj=4.2km s-min=1.7km az=21.0*

*ISCJB **28** 04:11:24.4±0.3, 5909N±005×3080W±007, h10km, mb4.1/44, MS3.8/23, Error ellipse: s-maj=7.5km s-min=4.5km az=42.0*

*IDC **28** 04:11:24.2±0.7, 5909N×3085W, h0km, mb3.9/17, mb1 4.0/20, mb1mx4.0/28, mbtmp3.9/20, ML3.2/2, MS3.8/21, Ms1 3.8/21, ms1mx3.6/37, Error ellipse: s-maj=19.9km s-min=12.5km az=176.0*

*BJI **28** 04:11:25.1, 5970N×3154W, h12km, mB4.9, mb4.6, Ms4.6, Msz4.1*

*NEIC **28** 04:11:26.0±0.2, 5903N×3081W, h10km, mb4.3/27, Error ellipse: s-maj=7.4km s-min=3.8km az=199.0*

*SZGRF **28** 04:11:44.9, 5868N×2756W, h33km, mb4.0, North Atlantic Ocean*

ISC 28 04:11:25.7±0.3, 5904N±005×3082W±007, h10km, n135, σ0§87/127, mb4.1/44, MS3.8/23, 2C-3D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**7.26**	**34**	Pn	**Pn**	**04 13 12.6**	**+0.8**
	9.1nm,0.3s,baz=207,slow=5.6,SNR=32						
BORG				Sn	**Sn**	**04 14 32.9**	**-1.4**
	1.2nm,0.3s,baz=36,slow=17,SNR=7.5						
BORG	**Borgarnes**	**7.26**	**34**	*e*Pn	**Pn**	**04 13 13.2**	**+1.4**
	21nm,0.4s						
BORG				*e*Sn	**Sn**	**04 14 34.9**	**+0.6**
BORG	**Borgarnes**	**7.26**	**34**	*e*Pn	**Pn**	**04 13 13.2**	**+1.4**
	21nm,0.4s						
SFJD	**Kangerlussuaq**	**11.96**	**320**	LR	LR	04 18 12.1	
	comp=Z,838nm,18.2s,baz=176,slow=34						
SUMG	**Summit**	**13.93**	**350**	*e*Pn	**Pn**	**04 14 43.8**	**+0.8**
SUMG	**Summit**	**13.93**	**350**	*e*Pn	**Pn**	**04 14 43.8**	**+0.8**
JMIC	**Jan Mayen**	**15.10**	**29**	LR	LR	04 19 11.1	
	comp=Z,130nm,19.7s,baz=286,slow=31						
ESK	**Eskdalemuir**	**15.37**	**92**	*e*Pn	**Pn**	**04 15 03.0**	**+0.4**
ESK	**Eskdalemuir**	**15.37**	**92**	*e*Pn	**Pn**	**04 15 03.0**	**+0.4**
EKA	**Eskdalemuir Ar**	**15.39**	**92**	Pn	**Pn**	**04 15 02.1**	**-0.7**
	0.1nm,0.3s,baz=292,slow=12,SNR=5.9						
FRB	**Frobisher Bay**	**18.46**	**301**	LR	LR	04 21 56.8	
	comp=Z,630nm,19.0s,baz=42,slow=34						
ROSF	**Rostrenen**	**19.36**	**111**	*e*P	**Pn**	**04 15 52.3**	**-0.2**
	40nm,1.3s						
ROSF	**Rostrenen**	**19.36**	**111**	*e*P	**Pn**	**04 15 52.3**	**-0.2**
	20nm,1.3s						
QUIF	**Quistinic**	**19.71**	**112**	*e*P	**Pn**	**04 15 57.0**	**+0.4**
SGMF	**Saint Gilles**	**19.77**	**111**	*e*P	**Pn**	**04 15 57.1**	**-0.2**
	52nm,1.3s						
SGMF	**Saint Gilles**	**19.77**	**111**	*e*P	**Pn**	**04 15 57.1**	**-0.2**
	26nm,1.3s						
SCHQ	**Schefferville**	**19.93**	**274**	P	**Pn**	**04 15 56.6**	**-2.7**
	0.4nm,0.3s,baz=68,slow=8.0,SNR=13						
SCHQ				LR	LR	04 22 27.9	
	comp=Z,214nm,18.4s,baz=287,slow=33						
SCHQ	**Schefferville**	**19.93**	**274**	*e*P	**Pn**	**04 15 57.7**	**-1.6**
	6.6nm,0.7s						
SCHQ	**Schefferville**	**19.93**	**274**	*e*P	**Pn**	**04 15 57.7**	**-1.6**
	6.6nm,0.7s						
FLN	**La Foliniere**	**20.44**	**107**	*e*P	**P**	**04 16 04.3**	**+1.2**
FLN				*e*R			
	202nm,17.0s						
FLN	**La

CLL					*e*S	S	04 21 51.0	+25		
CLL	**Collm**	**25.78**	**88**	⇓*i*(P)	**P**		**04 17 00.0**	**+3.4**		
	comp=Z,32nm,2.1s,mb4.5									
CLL					*e*S	S	04 21 51.0	+25		
CLL					LmH		04 26 00.0			
	comp=N,300nm,20.6s									
CLL					LmH		04 26 00.0			
	comp=E,200nm,21.0s									
CLL	**Collm**	**25.78**	**88**	⇓*i*P	**P**		**04 17 00.0**	**+3.4**		
	comp=E,32nm,2.1s,mb4.5									
CLL					*e*S	S	04 21 51.0	+25		
CLL					LR	LR				
	comp=Z,300nm,22.9s,MS3.8									
GRA1	**Grafenberg Arr**	**25.80**	**93**	*e*P	**P**		**04 16 57.3**	**+0.4**		
	comp=Z,3.0nm,0.5s,mb4.1									
GRF	**Grafenberg Arr**	**25.80**	**93**	*e*P	**P**		**04 16 57.3**	**+0.4**		
	comp=Z,3.0nm,0.5s,mb4.1									
ESDC	**Sonseca Array**	**25.81**	**127**	P	**P**		**04 16 58.3**	**+1.4**		
	comp=Z,2.4nm,0.9s,mb3.7,baz=330,slow=9.2,SNR=7.6									
ESDC					LR	LR	04 25 35.7			
	comp=Z,82nm,18.9s,MS3.3,baz=0.0,slow=33									
ORIF	**Oris-en-Rattie**	**26.25**	**106**	*e*P	**P**		**04 17 01.2**	**+0.3**		
ORIF				*e*R						
	comp=Z,204nm,22.8s									
LPL	**La Plagne**	**26.25**	**104**	*e*P	**P**		**04 17 01.6**	**+0.7**		
	comp=Z,2.9nm,0.6s,mb3.7									
LPL	**La Plagne**	**26.25**	**104**	*e*P	**P**		**04 17 01.6**	**+0.7**		
	comp=Z,1.5nm,0.6s,mb3.7									
LPG	**La Plagne**	**26.27**	**104**	*e*P	**P**		**04 17 01.7**	**+0.6**		
BRG	**Berggiesshubel**	**26.51**	**88**	*e*P	**P**		**04 16 57.3**	**-6.0**		
	comp=Z,1.6nm,0.8s,mb3.6									
SMRF	**Simiane la Rot**	**26.78**	**108**	*e*P	**P**		**04 17 06.1**	**+0.4**		
	comp=Z,86nm,1.7s,mb4.7									
SMRF	**Simiane la Rot**	**26.78**	**108**	*e*P	**P**		**04 17 06.1**	**+0.4**		
	comp=Z,43nm,1.7s,mb4.7									
DAVOX	**Davos**	**26.98**	**99**	LR	LR		04 27 29.0			
	comp=Z,201nm,18.7s,MS3.7,baz=283,slow=36									
KAF	**Kangasniemi**	**27.45**	**59**	*e*p	**P**		**04 17 13.6**	**+1.9**		
	comp=Z,0.8nm,0.4s,mb3.6									
FINES	**FINESS Array B**	**27.58**	**60**	P	**P**		**04 17 13.2**	**+0.3**		
	comp=Z,4.3nm,1.0s,mb4.0,baz=306,slow=6.6,SNR=8.5									
FINES					LR	LR	04 27 43.7			
	comp=Z,65nm,20.6s,MS3.2,baz=231,slow=36									
GERES	**GERESS Array B**	**27.61**	**92**	LR	LR		04 27 45.2			
	comp=Z,228nm,19.5s,MS3.8,baz=311,slow=36									
FRF	**La Foret Royal**	**27.61**	**107**	*e*P	**P**		**04 17 13.0**	**-0.2**		
SBF	**Sospel**	**27.78**	**106**	*e*P	**P**		**04 17 15.2**	**+0.5**		
VRAC	**Vranov**	**28.82**	**89**	LR	LR		04 29 23.0			
	comp=Z,159nm,18.2s,MS3.7,baz=308,slow=37									
PGF	**Pioggiola**	**29.52**	**106**	*e*P	**P**		**04 17 30.7**	**+0.5**		
	comp=Z,72nm,1.6s,mb4.8									
PGF	**Pioggiola**	**29.52**	**106**	*e*P	**P**		**04 17 30.7**	**+0.5**		
	comp=Z,36nm,1.6s,mb4.8									
AKASG	**Malin Array Be**	**34.43**	**77**	P	**P**		**04 18 12.8**	**-0.4**		
	comp=Z,0.2nm,0.3s,mb3.6,baz=300,slow=8.7,SNR=9.4									
ULM	**Lac du Bonnet**	**37.23**	**286**	P	**P**		**04 18 36.7**	**-0.6**		
	comp=Z,3.0nm,0.9s,mb4.1,baz=34,slow=10,SNR=3.3									
ULM					LR	LR	04 32 13.5			
	comp=Z,154nm,20.5s,MS3.8,baz=37,slow=34									
ULM	**Lac du Bonnet**	**37.23**	**286**	*e*P	**P**		**04 18 37.2**	**0.0**		
	comp=Z,6.6nm,1.1s,mb4.4									
ULM	**Lac du Bonnet**	**37.23**	**286**	*e*P	**P**		**04 18 37.2**	**0.0**		
	comp=Z,6.6nm,1.1s,mb4.4									
YKA	**Yellowknife Ar**	**38.36**	**312**	P	**P**		**04 18 46.3**	**-0.5**		
	comp=Z,1.9nm,1.0s,mb3.8,baz=55,slow=8.8,SNR=8.9									
YKA					LR	LR	04 33 52.0			
	comp=Z,111nm,18.7s,MS3.7,baz=65,slow=35									
YKA	**Yellowknife Ar**	**38.36**	**312**	P	**P**		**04 18 46.3**	**-0.5**		
BRTR	**Keskin Array B**	**44.21**	**86**	P	**P**		**04 19 35.0**	**+0.2**		
	comp=Z,0.4nm,0.5s,mb3.5,baz=316,slow=10,SNR=4.9									
BRTR					LR	LR	04 38 10.1			
	comp=Z,119nm,20.9s,MS3.8,baz=114,slow=36									
BRTR	**Keskin Array B**	**44.21**	**86**	P	**P**		**04 19 35.0**	**+0.1**		
EGMT	**Eagleton**	**45.49**	**292**	*e*P	**P**		**04 19 46.1**	**+1.0**		
	comp=Z,7.5nm,1.3s,mb4.4									
EGMT	**Eagleton**	**45.49**	**292**	*e*P	**P**		**04 19 46.1**	**+1.0**		
	comp=Z,7.5nm,1.3s,mb4.4									
DAWY	**Dawson**	**45.86**	**324**	*e*P	**P**		**04 19 47.8**	**-0.2**		
DAWY	**Dawson**	**45.86**	**324**	*e*P	**P**		**04 19 47.8**	**-0.2**		
HRY	**Holter Researc**	**47.41**	**293**	*e*P	**P**		**04 20 01.8**	**+1.6**		
HRY	**Holter Researc**	**47.41**	**293**	*e*P	**P**		**04 20 01.8**	**+1.6**		
BOZ	**Bozeman (W)**	**48.09**	**291**	*e*P	**P**		**04 20 07.1**	**+1.6**		
	comp=Z,2.9nm,1.1s,mb4.2									
BOZ	**Bozeman (W)**	**48.09**	**291**	*e*P	**P**		**04 20 07.1**	**+1.6**		
	comp=Z,2.9nm,1.1s,mb4.2									
AKTK	**Aktyubinsk**	**48.33**	**59**	P	**P**		**04 20 06.8**	**-0.6**		
AKTK	**Aktyubinsk**	**48.33**	**59**	P	**P**		**04 20 06.8**	**-0.5**		
AKTO	**Aktyubinsk**	**48.33**	**59**	P	**P**		**04 20 06.8**	**-0.6**		
	comp=Z,5.7nm,0.6s,mb4.8,baz=330,slow=6.8,SNR=12									
BW06	**Boulder Array**	**49.20**	**287**	*e*P	**P**		**04 20 13.1**	**-0.9**		
	comp=Z,7.0nm,1.5s,mb4.5									
PDAR	**Pinedale Array**	**49.20**	**287**	P	**P**		**04 20 13.4**	**-0.5**		
	comp=Z,0.5nm,0.7s,mb3.6,baz=58,slow=5.6,SNR=5.5									
PDAR					LR	LR	04 39 49.2			
	comp=Z,147nm,18.6s,MS4.0,baz=11,slow=35									
PDAR	**Pinedale Array**	**49.20**	**287**	P	**P**		**04 20 13.4**	**-0.6**		
MCMT	**McKenzie Canyo**	**49.28**	**292**	*e*P	**P**		**04 20 16.5**	**+1.9**		
MCMT	**McKenzie Canyo**	**49.28**	**292**	*e*P	**P**		**04 20 16.5**	**+1.9**		
WMOK	**Wichita Mounta**	**49.81**	**272**	*e*P	**P**		**04 20 17.7**	**-1.0**		
	comp=Z,8.8nm,1.4s,mb4.6									
WMOK	**Wichita Mounta**	**49.81**	**272**	*e*P	**P**		**04 20 17.7**	**-1.0**		
	comp=Z,8.8nm,1.4s,mb4.6									
BMO	**Blue Mountains**	**51.38**	**295**	*e*P	**P**		**04 20 30.9**	**+0.4**		
	comp=Z,3.9nm,1.3s,mb4.2									
BMO	**Blue Mountains**	**51.38**	**295**	*e*P	**P**		**04 20 30.9**	**+0.4**		
	comp=Z,3.9nm,1.3s,mb4.2									
BVAR	**Borovoye Array**	**51.57**	**49**	P	**P**		**04 20 31.7**	**-0.3**		
	comp=Z,1.4nm,0.6s,mb4.1,baz=327,slow=7.1,SNR=6.1									
TORD	**Torodi Ar. Bea**	**51.82**	**138**	P	**P**		**04 20 33.0**	**-0.9**		
	comp=Z,1.0nm,0.9s,mb3.8,baz=334,slow=8.1,SNR=8.8									
TORD					LR	LR	04 39 28.1			
	comp=Z,86nm,20.3s,MS3.8,baz=190,slow=32									
KDAK	**Kodiak Island**	**54.76**	**326**	LR	LR		04 44 32.7			
	comp=Z,58nm,18.6s,MS3.7,baz=86,slow=36									
DBIC	**Dimbokro**	**55.91**	**148**	LR	LR		04 41 17.7			
	comp=Z,116nm,20.3s,MS4.0,baz=29,slow=32									
LIC	**Lamto**	**56.29**	**149**	*e*P	**P**		**04 21 06.1**	**-0.4**		
	comp=Z,9.7nm,0.9s,mb4.5									
LIC				*e*R						
	comp=Z,60nm,17.8s									
LIC	**Lamto**	**56.29**	**149**	*e*P	**P**		**04 21 06.1**	**-0.4**		
	comp=Z,4.8nm,0.9s,mb4.5									
LIC					LR	LR				
	comp=Z,30nm,17.8s,MS3.4									
LIC	**Lamto**	**56.29**	**149**	*e*P	**P**		**04 21 06.1**	**-0.4**		
	comp=Z,4.8nm,0.9s,mb4.5									
YBH	**Yreka Blue Hor**	**56.30**	**296**	LR	LR		04 44 44.1			
	comp=Z,260nm,19.0s,MS4.3,baz=343,slow=36									
NVAR	**Mina Array Bea**	**56.79**	**290**	P	**P**		**04 21 09.8**	**-0.2**		
	comp=Z,0.7nm,0.7s,mb3.8,baz=68,slow=6.5,SNR=5.7									
MKAR	**Makanchi Array**	**61.15**	**46**	P	**P**		**04 21 39.4**	**-0.8**		
	comp=Z,1.4nm,0.6s,mb4.3,baz=350,slow=6.7,SNR=11									
MKAR	**Makanchi Array**	**61.15**	**46**	P	**P**		**04 21 39.4**	**-0.8**		
WMQ	**Urumqi**	**65.67**	**44**	P	**P**		**04 22 13.0**	**+2.9**		
SONM	**Songino Array**	**67.85**	**30**	P	**P**		**04 22 23.6**	**-0.5**		
	comp=Z,0.2nm,0.3s,mb3.6,baz=328,slow=5.1,SNR=4.3									
GTA	**Gaotai**	**73.71**	**38**	*e*P	**P**		**04 23 00.0**	**+0.3**		
GTA				AP	pP		04 23 04.3	+1.3		
GTA				XP	sP		04 23 07.5	+3.3		
GTA				AMB	AMB					
	comp=Z,4.0nm,1.4s,mb4.2									
MDJ	**Mudanjiang**	**75.44**	**14**	P	**P**		**04 23 08.0**	**-1.8**		
MDJ				AMB	AMB					
	comp=Z,3.0nm,1.7s,mb4.0									
MDJ				AMB	AMB					
	comp=Z,34nm,4.7s									
CN2	**Changchun**	**75.65**	**18**	*e*P	**P**		**04 23 10.3**	**-0.7**		
HHC	**Hu-ho-hao-te**	**75.69**	**29**	*e*P	**P**		**04 23 10.5**	**-0.7**		
HHC				XP	sP		04 23 16.5	+0.8		
HHC				PP	PP		04 26 03.0	+2.1		
HHC				S	S		04 32 50.3	-2.4		
HHC				SCS	ScS		04 33 18.8	-6.4		
HHC				PS			04 33 26.0			
HHC				SS	SS		04 37 44.0	-0.1		
HHC				AMB	AMB					
	comp=Z,11nm,0.5s,mb5.0									
HHC				AMB	AMB					
	comp=Z,170nm,6.3s									
HHC				LR	LR					
	comp=N,126nm,19.6s,MS4.4									
HHC				LR	LR					
	comp=E,134nm,20.2s,MS4.4									
HHC				LR	LR					
	comp=Z,94nm,17.2s,MS4.2									
BDFB	**Brasilia**	**75.73**	**197**	P	**P**		**04 23 12.3**	**+0.8**		
	comp=Z,2.7nm,0.9s,mb4.2,baz=151,slow=3.3,SNR=3.4									
KMI	**Kunming**	**87.79**	**41**	P	**P**		**04 24 15.0**	**0.0**		
KMI				AP	pP		04 24 18.3	0.0		
KMI				XP	sP		04 24 19.5	0.0		
KMI				PP	PP		04 27 45.0	+4.4		
KMI				PPP			04 29 37.5			
KMI				S			04 34 55.3			
KMI				AMB	AMB					
	comp=Z,8.0nm,0.8s,mb5.0									
KMI				AMB	AMB					
	comp=Z,84nm,4.4s									
KMI				LR	LR					
	comp=N,137nm,15.7s,MS4.6									
KMI				LR	LR					
	comp=E,118nm,16.4s,MS4.6									
KMI				LR	LR					
	comp=Z,143nm,14.9s,MS4.5									
LSZ	**Lusaka**	**88.12**	**124**	LR	LR		05 06 53.7			
	comp=Z,125nm,18.8s,MS4.3,baz=352,slow=38									
LBTB	**Lobatse**	**95.77**	**131**	LR	LR		05 04 50.7			
	comp=Z,72nm,19.5s,MS4.2,baz=118,slow=34									

*CSEM **28** 04:27:47.7±0.8, 38.10N×26.49W, h1km±5km, ML2.0, Error ellipse: s-maj=20.0km s-min=0.7km az=41.0, After PDA*
*PDA **28** 04:27:47.7±0.8, 38.10N×26.49W, h1km±5km, MD2.6, ML2.0, Error ellipse: s-maj=20.0km s-min=0.7km az=41.0*

SVSA 28 04:27:47.7±0.8, 3810N×2649W, h1km±5km, MD2.6, ML2.0, Error ellipse: s-maj=20.0km s-min=0.7km az=41.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SET4	**Mosteiros**	**0.59**	**112**	*e*P		Pg		04 27 57.9	-1.0
SET4				*e*S		Sg		04 28 05.7	-0.8
SET2	**Ginetes**	**0.59**	**115**	*e*P		Pg		04 27 58.4	-0.7
SET2				*e*S		Sg		04 28 06.1	-0.6
PFET	**Feteiras**	**0.62**	**117**	*e*P		Pg		04 27 58.6	-0.9
PSAN	**Santo Antonio**	**0.65**	**112**	*e*P		Pg		04 27 59.3	-0.8
PSAN				*e*S		Sg		04 28 07.6	-0.9
FAC	**Faja de Cima**	**0.73**	**116**	*e*P		Pg		04 28 00.4	-1.4
FAC				*e*S		Sg		04 28 09.5	-1.8
PFAV	**Pico das Favas**	**0.77**	**323**	*e*P		Pg		04 28 00.5	-2.0
PFAV				*e*S		Sg		04 28 10.6	-1.9
PFAV									
	15nm,0.1s								
PFAV	**Pico das Favas**	**0.77**	**323**	*e*P		Pg		04 28 00.5	-2.0
PFAV				*e*S		Sg		04 28 10.6	-1.9
RIB2	**Ribeirinha**	**0.79**	**317**	*e*P		Pg		04 28 00.9	-1.9
RIB2				*e*S		Sg		04 28 11.3	-1.7
RIB2									
	24nm,0.1s								
RIB2	**Ribeirinha**	**0.79**	**317**	*e*P		Pg		04 28 00.9	-1.9
RIB2				*e*S		Sg		04 28 11.3	-1.7
CML	**Cha da Macela**	**0.81**	**113**	*e*P		Pg		04 28 01.6	-1.6
CML				*e*S		Sg		04 28 11.2	-2.6
PVNV	**Vila Nova**	**0.85**	**322**	*e*P		Pg		04 28 01.6	-2.3
PVNV				*e*S		Sg		04 28 12.4	-2.5
PVNV									
	30nm,0.2s								
PVNV	**Vila Nova**	**0.85**	**322**	*e*P		Pg		04 28 01.6	-2.3
PVNV				*e*S		Sg		04 28 12.4	-2.5
PMAT	**Coroa da Mata**	**0.85**	**109**	*e*S		Sg		04 28 12.4	-2.6
PMAT									
	12nm,0.1s								
PPAD	**Pico dos Padre**	**0.87**	**314**	*e*P		Pg		04 28 01.9	-2.5
PPAD				*e*S		Sg		04 28 13.1	-2.6
PPAD									
	14nm,0.2s								
PPAD	**Pico dos Padre**	**0.87**	**314**	*e*P		Pg		04 28 01.9	-2.5
PPAD				*e*S		Sg		04 28 13.1	-2.6
PBIS	**Biscoitos**	**0.90**	**318**	*e*S		Sg		04 28 14.1	-2.4
PBIS									
	9.1nm,0.1s								
ASBA	**Santa Barbara**	**0.91**	**314**	*e*S		Sg		04 28 13.8	-3.1
ASBA									
	25nm,0.1s								

*CSEM **28** 04:35:19.9±0.1, 59.12N×30.92W, h10km, mb4.2/15, Ms3.6, Error ellipse: s-maj=6.0km s-min=2.9km az=23.0*
*BJI **28** 04:35:20.0, 5900N×3080W, h10km, mB4.8, mb4.6, Ms4.3, Msz4.1*
*IDC **28** 04:35:20.3±0.8, 5903N×3082W, h0km, mb3.9/13, mb1 4.1/16, mb1mx4.0/26, mbtmp4.0/16, ML3.4/3, MS3.9/26, Ms1 3.9/26, ms1mx3.8/35, Error ellipse: s-maj=22.4km s-min=13.1km az=2.0*
*ISCJB **28** 04:35:21.2±0.4, 5909N±006×30.76W±009, h10km, mb4.1/33, MS3.9/26, Error ellipse: s-maj=9.0km s-min=5.6km az=49.4*
*NEIC **28** 04:35:22.7±0.4, 5901N×3080W, h10km, mb4.2/25, Error ellipse: s-maj=10.4km s-min=5.6km az=203.0*
*HRVD **28** 04:35:22.7±0.4, 5928N×3064W, h12km, MW4.8/60, Centroid moment Tensor Solution. LP body waves: s6,c7;Mantle waves: s60,c82; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.56±.08; Mθθ0.43±.10; Mφφ 1.13±.06; Mrθ 0.95±.35; Mrφ 0.64±.06; Mθφ-0.04±.27; Best double couple: M0 1.77900×10^16^ NP1:φs 12.00000°, δ40.00000°, λ-125.00000°. NP2:φs 234.00000°, δ58.00000°, λ-64.00000°. Principal axes: T 1.5880, Plg9.0000°, Azm306.0000°; N 0.3820, Plg21.0000°, Azm40.0000°; P -1.9710, Plg66.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 28 04:35:22.6±0.4, 5904N±005×3074W±008, h10km, n120, σ1 9 06/97, mb4.1/33, MS3.9/26, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**7.24**	**34**	*e*Pn		Pn		**04 37 07.9**	**-0.5**
	3.9nm,0.3s,baz=201,slow=10,SNR=16								
BORG				*e*Sn		Sn		**04 38 29.2**	**-1.5**
	3.7nm,0.3s,baz=59,slow=22,SNR=19								
BORG				LR		LR		04 39 08.5	
	comp=Z,581nm,18.0s,baz=67,slow=31								
BORG	**Borgarnes**	**7.24**	**34**	*e*Pn		Pn		**04 37 09.6**	**+1.1**
	30nm,0.6s								
BORG				*e*Sn		Sn		**04 38 29.8**	**-0.9**
BORG	**Borgarnes**	**7.24**	**34**	*e*Pn		Pn		**04 37 09.6**	**+1.1**
	30nm,0.6s								
SFJD	**Kangerlussuaq**	**11.99**	**320**	LR		LR		04 41 59.4	
	comp=Z,1μm,21.0s,baz=111,slow=33								
SUMG	**Summit**	**13.93**	**350**	*e*Pn		Pn		**04 38 40.7**	**+0.6**
SUMG	**Summit**	**13.93**	**350**	*e*Pn		Pn		**04 38 40.7**	**+0.6**
JMIC	**Jan Mayen**	**15.07**	**28**	LR		LR		04 43 07.9	
	comp=Z,294nm,18.2s,baz=286,slow=31								
ESK	**Eskdalemuir**	**15.33**	**92**	*e*Pn		Pn		**04 39 02.5**	**+3.5**
ESK	**Eskdalemuir**	**15.33**	**92**	*e*Pn		Pn		**04 39 02.5**	**+3.5**
EKA	**Eskdalemuir Ar**	**15.35**	**92**	Pn		Pn		**04 39 00.3**	**+1.1**
	0.2nm,0.3s,baz=296,slow=10,SNR=11								
EKA	**Eskdalemuir Ar**	**15.35**	**92**	Pn		Pn		**04 39 00.3**	**+1.1**
FRB	**Frobisher Bay**	**18.50**	**301**	LR		LR		04 45 53.2	
	comp=Z,1μm,19.1s,baz=226,slow=34								
ROSF	**Rostrenen**	**19.33**	**112**	*e*P		Pn		**04 39 49.2**	**+0.2**
	44nm,1.3s								
ROSF	**Rostrenen**	**19.33**	**112**	*e*P		Pn		**04 39 49.2**	**+0.2**
	22nm,1.3s								
QUIF	**Quistinic**	**19.67**	**112**	*e*P		Pn		**04 39 53.9**	**+0.8**
	51nm,1.4s								
QUIF	**Quistinic**	**19.67**	**112**	*e*P		Pn		**04 39 53.9**	**+0.8**
	26nm,1.4s								
SGMF	**Saint Gilles**	**19.73**	**111**	*e*P		Pn		**04 39 53.7**	**-0.1**
	30nm,1.2s								
SGMF	**Saint Gilles**	**19.73**	**111**	*e*P		Pn		**04 39 53.7**	**-0.1**
	15nm,1.2s								
SCHQ	**Schefferville**	**19.97**	**274**	P		Pn		**04 39 54.1**	**-2.6**
	0.2nm,0.3s,baz=55,slow=12,SNR=8.0								
SCHQ						LR	LR	04 46 24.7	
	comp=Z,403nm,18.6s,baz=55,slow=33								
FLN	**La Foliniere**	**20.40**	**107**	*e*P		P		**04 40 00.3**	**+0.7**
	34nm,1.1s								
FLN				*e*R					
	231nm,19.4s								
FLN	**La Foliniere**	**20.40**	**107**	*e*P		P		**04 40 00.3**	**+0.7**
	17nm,1.1s								
FLN						LR	LR		
	comp=Z,230nm,19.4s,MS3.5								
GRR	**Gorron**	**20.46**	**108**	*e*P		P		**04 40 01.9**	**+1.5**
	comp=Z,66nm,1.4s								
GRR	**Gorron**	**20.46**	**108**	*e*P		P		**04 40 01.9**	**+1.5**
	comp=Z,33nm,1.4s								
NAO01	**NORSAR Array S**	**20.68**	**67**	*e*P		P		**04 40 04.8**	**+2.2**
	comp=Z,2.8nm,0.8s								
NAO01	**NORSAR Array S**	**20.68**	**67**	*e*P		P		**04 40 04.8**	**+2.2**
	comp=Z,2.8nm,0.8s								
LDF	**La Druitiere**	**20.69**	**107**	*e*P		P		**04 40 03.5**	**+0.7**
	comp=Z,28nm,1.1s								
LDF	**La Druitiere**	**20.69**	**107**	*e*P		P		**04 40 03.5**	**+0.7**
	comp=Z,14nm,1.1s								
NB2	**NORSAR Subarra**	**20.79**	**66**	P		P		**04 40 02.8**	**-1.0**
	comp=Z,27nm,2.0s,baz=284,slow=11								
NOA	**NORSAR Array B**	**20.79**	**66**	P		P		**04 40 03.2**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=280,slow=11,SNR=5.7								
NOA				LR		LR		04 47 14.7	
	comp=Z,204nm,19.8s,MS3.5,baz=280,slow=34								
NOA	**NORSAR Array B**	**20.79**	**66**	P		P		**04 40 03.2**	**-0.7**
NOA				LR		LR		04 47 14.7	
BAIF	**Baives**	**21.93**	**99**	*e*P		P		**04 40 16.3**	**+0.1**
	comp=Z,70nm,1.3s,mb4.6								
BAIF	**Baives**	**21.93**	**99**	*e*P		P		**04 40 16.3**	**+0.1**
	comp=Z,35nm,1.3s,mb4.6								
MFF	**Saint Martin d**	**22.05**	**111**	*e*P		P		**04 40 17.7**	**+0.2**
	comp=Z,19nm,1.1s,mb4.1								
MFF	**Saint Martin d**	**22.05**	**111**	*e*P		P		**04 40 17.7**	**+0.2**
	comp=Z,9.5nm,1.1s,mb4.1								
DOU	**Dourbes**	**22.11**	**98**	E				04 40 17.6	
DOU				XP		sP		04 40 25.2	+3.0
HFS	**Hagfors**	**22.20**	**68**	P		P		**04 40 17.7**	**-1.3**
	comp=Z,4.9nm,0.9s,mb3.9,baz=284,slow=6.0,SNR=8.6								
HFS				LR		LR		04 47 57.1	
	comp=Z,254nm,18.1s,MS3.7,baz=285,slow=34								
BEBN	**Eben Emael**	**22.25**	**96**	P		P		**04 40 24.3**	**+4.7**
BCLA	**Clavier**	**22.28**	**97**	P		P		**04 40 20.2**	**+0.3**
BCLA				AP				04 40 24.7	
MEM	**Membach**	**22.53**	**96**	E				04 40 19.0	
MEM	**Membach**	**22.53**	**96**	P		P		**04 40 23.1**	**+0.6**
MEZF	**Maizieres J'vi**	**23.34**	**101**	*e*P		P		**04 40 30.2**	**-1.0**
TCF	**Toulx Ste Croi**	**23.43**	**108**	*e*P		P		**04 40 31.2**	**-0.8**
	comp=Z,18nm,1.1s,mb4.1								
TCF	**Toulx Ste Croi**	**23.43**	**108**	*e*P		P		**04 40 31.2**	**-0.8**
	comp=Z,8.9nm,1.1s,mb4.1								
SSF	**Saint Saulge**	**23.53**	**105**	*e*P		P		**04 40 31.3**	**-1.8**
	comp=Z,9.7nm,1.1s,mb3.9								
SSF	**Saint Saulge**	**23.53**	**105**	*e*P		P		**04 40 31.3**	**-1.8**
	comp=Z,4.8nm,1.1s,mb3.9								
BGF	**Bois d'Agland**	**23.55**	**107**	*e*P		P		**04 40 32.9**	**-0.4**
AVF	**Avril sur Loir**	**23.64**	**106**	*e*P		P		**04 40 33.6**	**-0.5**
	comp=Z,16nm,1.0s,mb4.1								
AVF	**Avril sur Loir**	**23.64**	**106**	*e*P		P		**04 40 33.6**	**-0.5**
	comp=Z,8.1nm,1.0s,mb4.1								
LFF	**La Frestale**	**23.69**	**113**	*e*P		P		**04 40 33.8**	**-0.8**
SMF	**Signal de Mont**	**23.98**	**106**	*e*P		P		**04 40 37.2**	**0.0**
	comp=Z,9.8nm,0.8s,mb4.0								
SMF	**Signal de Mont**	**23.98**	**106**	*e*P		P		**04 40 37.2**	**0.0**
	comp=Z,4.9nm,0.8s,mb4.0								
HAU	**Haudompre**	**24.33**	**101**	*e*P		P		**04 40 40.0**	**-0.4**
HAU				*e*R					
	comp=Z,977nm,19.8s								
HAU	**Haudompre**	**24.33**	**101**	*e*P		P		**04 40 40.0**	**-0.4**
HAU				LR		LR			
	comp=Z,980nm,19.8s,MS4.3								
HINF	**Hinteralfeld**	**24.71**	**100**	*e*P		P		**04 40 43.7**	**-0.2**
CABF	**La Chapelle**	**25.13**	**103**	*e*P		P		**04 40 47.6**	**-0.1**
	comp=Z,6.3nm,0.8s,mb3.9								
CABF	**La Chapelle**	**25.13**	**103**	*e*P		P		**04 40 47.6**	**-0.1**
	comp=Z,3.2nm,0.8s,mb3.9								
ARCES	**ARCESS Array B**	**25.53**	**43**	P		P		**04 40 50.5**	**-0.9**
	comp=Z,3.3nm,0.7s,mb4.0,baz=270,slow=6.1,SNR=13

PCRV	**Puerto La Cruz**	**55.06**	**222**	LR	LR	05 05 52.6		
	comp=Z,47nm,19.7s,MS3.6,baz=184,slow=33							
DBIC	**Dimbokro**	**55.89**	**148**	LR	LR	05 06 26.2		
	comp=Z,164nm,18.2s,MS4.2,baz=332,slow=33							
ZAL	**Zalesovo**	**56.04**	**40**	LR	LR	05 11 20.4		
	comp=Z,60nm,19.4s,MS3.7,baz=282,slow=38							
NVAR	**Mina Array Bea**	**56.83**	**290**	P	**P**	**04 45 06.7**	**-0.6**	
	comp=Z,0.3nm,0.5s,mb3.6,baz=63,slow=6.0,SNR=3.6							
MKAR	**Makanchi Array**	**61.12**	**46**	P	**P**	**04 45 36.0**	**-0.9**	
	comp=Z,2.5nm,0.7s,mb4.5,baz=340,slow=6.6,SNR=14							
GTA	**Gaotai**	**73.68**	**38**	*e*P	**P**	**04 46 57.3**	**+0.8**	
GTA				AP	pP	04 47 02.0	+2.2	
GTA				XP	sP	04 47 05.0	+4.0	
GTA				AMB	AMB			
	comp=Z,4.0nm,1.2s,mb4.2							
MDJ	**Mudanjiang**	**75.43**	**14**	P	**P**	**04 47 06.0**	**-0.7**	
MDJ				AMB	AMB			
	comp=Z,13nm,2.1s,mb4.5							
CN2	**Changchun**	**75.64**	**18**	*e*P	**P**	**04 47 08.0**	**+0.1**	
HHC	**Hu-ho-hao-te**	**75.67**	**29**	*e*P	**P**	**04 47 08.3**	**+0.2**	
HHC				PP	PP	04 49 57.8	+0.2	
HHC				S	S	04 56 46.8	-2.6	
HHC				SCS	ScS	04 57 16.5	-5.5	
HHC				AMB	AMB			
	comp=Z,110nm,6.1s							
HHC				LR	LR			
	comp=N,143nm,18.4s,MS4.4							
HHC				LR	LR			
	comp=E,110nm,18.4s,MS4.4							
HHC				LR	LR			
	comp=Z,132nm,16.7s,MS4.3							
BDFB	**Brasilia**	**75.75**	**197**	LR	LR	05 13 44.6		
	comp=Z,60nm,21.3s,MS3.9,baz=16,slow=30							
KMBO	**Kilima Mbogo**	**79.81**	**110**	LR	LR	05 21 57.1		
	comp=Z,82nm,19.2s,MS4.1,baz=282,slow=35							
LPAZ	**La Paz**	**81.04**	**216**	LR	LR	05 23 11.6		
	comp=Z,45nm,18.9s,MS3.9,baz=162,slow=35							
NJ2	**Nanjing**	**85.78**	**26**	*e*P	**P**	**04 48 05.0**	**+2.8**	
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb5.2							
KMI	**Kunming**	**87.76**	**41**	P	**P**	**04 48 14.3**	**+2.5**	
KMI				AP	pP	04 48 17.5	+2.3	
KMI				AMB	AMB			
	comp=Z,7.0nm,0.8s,mb4.9							
KMI				LR	LR			
	comp=Z,29nm,30.4s,MS3.5							
BOSA	**Boshof**	**98.84**	**132**	LR	LR	05 34 28.1		
	comp=Z,136nm,20.1s,MS4.4,baz=99,slow=36							
QSPA	**South Pole Qui**	**148.95**	**180**	*e*P	PKPdf	04 55 08.0	+1.3	

*IDC **28** 04:40:54.6±2.0, 3.11N×9581E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=79.3km s-min=27.0km az=55.0*

*ISCJB **28** 04:40:59.1±1.1, 32N±02×962E±01, h33km, mb4.1/7, Error ellipse: s-maj=26.9km s-min=12.7km az=77.6*

*NEIC **28** 04:41:00.2±1.0, 3.17N×9620E, h30km, mb4.1/1, Error ellipse: s-maj=25.6km s-min=12.0km az=219.0*

ISC 28 04:41:01.7±1.1, 32N±02×963E±01, h35km, n13, σ0§97/13, mb4.1/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.83**	**65**	*e*Pn	**Pn**	**04 42 11.7**	**-0.2**
JIRN	**Jiri**	**26.13**	**339**	*e*P	**P**	**04 46 32.9**	**+0.5**
	28nm,0.9s,mb4.8						
PKI	**Pulchoki**	**26.33**	**338**	*e*P	**P**	**04 46 35.7**	**+1.5**
GUN	**Gumba**	**26.47**	**339**	*e*P	**P**	**04 46 35.5**	**0.0**
DMN	**Daman**	**26.48**	**337**	*e*P	**P**	**04 46 37.0**	**+1.4**
KKN	**Kakani**	**26.58**	**338**	*e*P	**P**	**04 46 36.5**	**0.0**
GKN	**Gorkha**	**27.02**	**337**	*e*P	**P**	**04 46 40.1**	**-0.3**
KOLN	**Koldanda**	**27.23**	**335**	*e*P	**P**	**04 46 42.3**	**-0.1**
	30nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**43.91**	**123**	P	**P**	**04 49 05.9**	**+1.0**
	0.2nm,0.3s,mb3.4,baz=301,slow=9.4,SNR=14						
WRAB	**Tennant Creek**	**43.91**	**123**	P	**P**	**04 49 04.7**	**-0.3**
	4.0nm,1.2s,mb4.0						
MKAR	**Makanchi Array**	**45.06**	**346**	P	**P**	**04 49 12.7**	**-1.4**
	3.2nm,0.9s,mb4.2,baz=148,slow=8.5,SNR=13						
SONM	**Songino Array**	**45.28**	**10**	P	**P**	**04 49 15.4**	**-0.5**
	1.7nm,0.9s,mb3.9,baz=186,slow=7.4,SNR=8.5						
GERES	**GERESS Array B**	**92.68**	**319**	P	**P**	**04 53 19.0**	**-2.7**
	0.5nm,0.7s,mb3.6,baz=90,slow=4.9,SNR=3.5						

*IDC **28** 04:52:25.8±0.9, 5.13N×9573E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/21, mbtmp4.0/9, Error ellipse: s-maj=46.2km s-min=17.4km az=45.0*

*NEIC **28** 04:52:28.7±0.5, 5.12N×9575E, mb4.4/1, Error ellipse: s-maj=18.6km s-min=8.7km az=217.0*

NEIC Felt [II] at Banda Aceh and Sigli.

*ISCJB **28** 04:52:29.0±0.7, 52N±01×958E±01, h33km, mb4.0/10, Error ellipse: s-maj=24.5km s-min=11.4km az=71.9*

ISC 28 04:52:31.5±0.7, 52N±01×958E±01, h35km, n16, σ0§69/16, mb4.0/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.80**	**89**	*e*Pn	**Pn**	**04 53 41.2**	**-0.1**
WSAR	**Wadi Sarin**	**40.09**	**300**	P	**P**	**05 00 03.7**	**+0.2**
	7.8nm,0.8s,mb4.5,baz=97,slow=8.7,SNR=4.7						
WSAR	**Wadi Sarin**	**40.09**	**300**	P	**P**	**05 00 03.7**	**+0.2**
MKAR	**Makanchi Array**	**43.05**	**346**	P	**P**	**05 00 26.9**	**-0.9**
	0.2nm,0.4s,mb3.2,baz=165,slow=6.0,SNR=2.8						
MKAR	**Makanchi Array**	**43.05**	**346**	P	**P**	**05 00 26.9**	**-0.9**
SONM	**Songino Array**	**43.43**	**10**	P	**P**	**05 00 32.4**	**+1.5**
	0.4nm,0.4s,mb3.5,baz=195,slow=9.1,SNR=3.9						
WRA	**Warramunga Arr**	**45.36**	**125**	P	**P**	**05 00 46.3**	**-0.1**
	2.3nm,0.6s,mb4.2,baz=302,slow=9.2,SNR=24						
WRAB	**Tennant Creek**	**45.37**	**125**	*e*P	**P**	**05 00 46.2**	**-0.1**
	2.3nm,0.5s,mb4.3						
WRAB				*ep*P	pP	05 00 51.7	-5.0
ASAR	**Alice Springs**	**46.93**	**129**	P	**P**	**05 00 58.7**	**0.0**
	2.9nm,0.6s,mb4.4,baz=301,slow=7.9,SNR=50						
AS31	**Alice Springs**	**46.93**	**129**	*e*P	**P**	**05 00 58.4**	**-0.3**
AS31				*ep*P	pP	05 01 04.2	-4.8
STKA	**Stephens Creek**	**57.06**	**133**	P	**P**	**05 02 14.3**	**+0.3**
	4.8nm,1.1s,mb4.4,baz=295,slow=15,SNR=2.5						
STKA	**Stephens Creek**	**57.06**	**133**	P	**P**	**05 02 14.3**	**+0.3**
BRTR	**Keskin Array B**	**65.44**	**311**	P	**P**	**05 03 10.3**	**-0.4**
	1.4nm,0.6s,mb4.2,baz=131,slow=6.8,SNR=10						
FINES	**FINESS Array B**	**75.84**	**332**	P	**P**	**05 04 13.0**	**-1.1**
	0.9nm,0.8s,mb3.8,baz=148,slow=16,SNR=3.5						
FINES	**FINESS Array B**	**75.84**	**332**	P	**P**	**05 04 13.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**92.84**	**283**	P	**P**	**05 05 41.6**	**+1.1**
	0.3nm,0.7s,mb3.8,baz=93,slow=4.0,SNR=4.8						

WEL 28 05:13:11.2±0.4, 3695S×17732E, h170km±4km, ML3.5/11, 4C, Error ellipse: s-maj=4.8km s-min=3.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.00**	**128**	PN	Pn	05 13 37.7	-0.1
MXZ				SN	Sn	05 13 57.9	-0.4
URZ	**Urewera**	**1.32**	**187**	⇑PN	Pn	05 13 41.1	+0.5
URZ				SN	Sn	05 14 03.3	+0.2
PUZ	**Puketiti**	**1.35**	**147**	⇑PN	Pn	05 13 41.0	+0.2
PUZ				SN	Sn	05 14 03.1	-0.4
PUZ				SN	Sn	05 14 03.1	-0.4
MWZ	**Matawai**	**1.39**	**173**	⇑PN	Pn	05 13 41.7	+0.5
MWZ				SN	Sn	05 14 04.8	+0.5
KNZ	**Kokohu**	**2.08**	**172**	⇑PN	Pn	05 13 48.4	-0.1
KNZ				SN	Sn	05 14 16.8	-0.5
BKZ	**Black Stump Fm**	**2.31**	**196**	PN	Pn	05 13 50.4	-0.6
BKZ				*e*SN	Sn	05 14 21.2	-0.6
WNVZ	**Wahianoa**	**2.73**	**209**	PN	Pn	05 13 56.9	+0.8
PXZ	**Pawanui**	**3.10**	**186**	PN	Pn	05 13 59.4	-1.1
PXZ				SN	Sn	05 14 34.6	-4.2
TSZ	**Takapari Road**	**3.28**	**199**	PN	Pn	05 14 01.5	-1.3
BFZ	**Birch Farm**	**3.82**	**192**	PN	Pn	05 14 07.7	-1.9
MRZ	**Mangatainoka R**	**3.95**	**200**	PN	Pn	05 14 09.0	-2.2
KIW	**Kapiti Island**	**4.33**	**205**	PN	Pn	05 14 14.8	-1.5
NNZ	**Nelson**	**5.25**	**215**	*e*SN	Sn	05 15 23.5	-4.9

IDC 28 05:18:14.6±3.0, 2964S×17776W, h228km±7km, mb3.3/3, mb1 3.7/3, mb1mx3.3/11, mbtmp3.8/3, Error ellipse: s-maj=146.1km s-min=27.6km az=164.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.41**	**341**	P	Pn	05 18 45.1	+0.6
	318nm,0.3s,baz=89,slow=20,SNR=14						
RAO				S	S	05 19 09.0	+1.0
	232nm,0.3s,baz=237,slow=23,SNR=5.7						
WRA	**Warramunga Arr**	**44.28**	**271**	P	P	05 26 02.1	+0.4
	0.2nm,0.4s,baz=106,slow=8.1,SNR=9.2						
NVAR	**Mina Array Bea**	**87.55**	**43**	P	P	05 30 37.3	+0.6
	0.7nm,0.7s,baz=212,slow=6.3,SNR=6.3						
PDAR	**Pinedale Array**	**95.45**	**43**	P	P	05 31 13.4	+0.1
	0.2nm,0.6s,baz=129,slow=2.6,SNR=3.7						
ARCES	**ARCESS Array B**	**137.90**	**348**	PKP	PKPdf	05 37 12.3	+0.5
	3.1nm,1.0s,baz=57,slow=4.5,SNR=4.4						
FINES	**FINESS Array B**	**144.50**	**340**	PKP	PKPdf	05 37 21.0	-2.7
	1.7nm,1.0s,baz=64,slow=3.2,SNR=6.1						
NB2	**NORSAR Subarra**	**148.04**	**352**	PKP	PKPdf	05 37 31.7	+2.1
	comp=Z,1.0nm,0.5s,baz=14,slow=3.0						
NOA	**NORSAR Array B**	**148.04**	**352**	PKPbc	PKPbc	05 37 31.9	-1.2
	comp=Z,1.0nm,0.5s,baz=15,slow=4.6,SNR=6.8						
AKASG	**Malin Array Be**	**150.82**	**324**	PKPbc	PKPbc	05 37 39.1	-0.8
	comp=Z,1.4nm,0.6s,baz=39,slow=3.2,SNR=9.0						

*BJI **28** 05:35:40.2, 1006S×10790E, h17km, mB5.0, mb4.7, Ms4.4, Msz4.0*

*NEIC **28** 05:35:41.2±0.3, 993S×10789E, h10km, mb4.8/7, Error ellipse: s-maj=11.4km s-min=5.9km az=57.0*

*ISCJB **28** 05:35:43.0±0.4, 998S±006×10793E±009, h34km, mb4.5/25, MS3.9/4, Error ellipse: s-maj=14.1km s-min=7.1km az=120.8*

*MOS **28** 05:35:43.0±1.4, 980S×108.15E, h33km, mb4.4/4, Error ellipse: s-maj=22.1km s-min=10.9km az=115.4*

*IDC **28** 05:35:45.0±0.6, 992S×10791E, h34km±4km, mb4.1/10, mb1 4.2/11, mb1mx4.1/18, mbtmp4.3/11, ML3.8/1, MS3.7/3, Ms1 3.7/3, ms1mx3.1/22, Error ellipse: s-maj=23.3km s-min=12.4km az=58.0*

ISC 28 05:35:45.2±0.4, 1002S±006×10789E±009, h36km, h36km±2.4km: pP-P, n56, σ0§87/44, mb4.5/25, MS3.9/4, 2D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**15.55**	**325**	Pn	**Pn**	**05 39 22.7**	**+1.0**
	0.6nm,0.3s,baz=276,slow=9.4,SNR=5.6						
KKM	**Kota Kinabalu**	**17.99**	**28**	*e*P	**Pn**	**05 39 51.4**	**-0.9**
FITZ	**Fitzroy Crossi**	**18.99**	**117**	P	**Pn**	**05 40 04.2**	**-0.3**
	0.2nm,0.3s,baz=301,slow=12,SNR=7.8						
NWAO	**Narrogin (SRO)**	**24.37**	**161**	P	**P**	**05 41 00.2**	**+0.4**
	50nm,1.3s,mb4.8,baz=284,slow=8.2,SNR=3.5						
WRA	**Warramunga Arr**	**27.35**	**114**	P	**P**	**05 41 26.8**	**0.0**
	5.3nm,0.9s,mb4.1,baz=286,slow=11,SNR=21						
WRA				pP	pP	05 41 38.0	+1.0
	4.2nm,0.9s,baz=286,slow=11,SNR=9.5						
WRAB	**Tennant Creek**	**27.36**	**114**	*e*P	**P**	**05 41 26.9**	**0.0**
WRAB				*e*PP	pP	05 41 38.4	+1.4
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
WRAB	**Tennant Creek**	**27.36**	**114**	*e*P	**P**	**05 41 26.9**	**0.0**
	comp=Z,7.5nm,1.0s,mb4.2						
WRAB				*ep*P	pP	05 41 38.4	+1.4
ASAR	**Alice Springs**	**28.29**	**122**	P	**P**	**05 41 36.0**	**+0.8**
	comp=Z,5.9nm,1.1s,mb4.1,baz=300,slow=8.6,SNR=16						
ASAR				PcP	PcP	05 44 48.6	+1.0
	comp=Z,0.5nm,0.5s,baz=306,slow=1.9,SNR=4.2						
KMI	**Kunming**	**35.29**	**352**	P	**P**	**05 42 38.5**	**+1.9**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.8						
GYA	**Guiyang**	**36.28**	**358**	⇓*i*P	**P**	**05 42 45.3**	**+0.2**
GYA				AP	pP	05 42 55.3	-0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**38.01**	**130**	P	**P**	**05 42 60.0**	**+0.2**
	comp=Z,15nm,0.9s,mb4.7,baz=308,slow=6.1,SNR=14						
STKA				pP	pP	05 43 11.2	+1.1
	comp=Z,12nm,1.0s,baz=311,slow=5.6,SNR=5.6						
STKA	**Stephens Creek**	**38.01**	**130**	*e*P	**P**	**05 43 00.6**	**+0.8**
STKA				*ep*P	pP	05 43 11.6	+1.5
JIRN	**Jiri**	**42.95**	**331**	*e*P	**P**	**05 43 40.1**	**-0.5**
	comp=Z,34nm,0.8s,mb5.1						
NJ2	**Nanjing**	**43.13**	**14**	*e*P	**P**	**05 43 42.3**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
PKI	**Pulchoki**	**43.25**	**330**	*e*P	**P**	**05 43 43.2**	**+0.1**
GUN	**Gumba**	**43.31**	**331**	*e*P	**P**	**05 43 42.9**	**-0.6**
	comp=Z,24nm,0.7s,mb5.1						
DMN	**Daman**	**43.43**	**330**	*e*P	**P**	**05 43 44.2**	**-0.3**
	comp=Z,9.7nm,0.6s,mb4.7						
KKN	**Kakani**	**43.50**	**330**	*e*P	**P**	**05 43 45.3**	**+0.3**
XAN	**Xi'an**	**43.83**	**1**	P	**P**	**05 43 47.0**	**-0.7**
XAN				AP	pP	05 43 57.0	-1.2
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
GKN	**Gorkha**	**43.99**	**330**	*e*P	**P**	**05 43 49.0**	**0.0**
KOLN	**Koldanda**	**44.32**	**329**	*e*P	**P**	**05 43 51.4**	**-0.3**
	comp=Z,18nm,0.7s,mb4.9						
LZH	**Lanzhou**	**46.02**	**355**	*e*P	**P**	**05 44 05.5**	**+0.4**
LZH				AP	pP	05 44 12.0	-3.6
LZH				XP	sP	05 44 15.5	-4.4
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,100nm,4.7s						
GTA	**Gaotai**	**49.75**	**352**	*e*P	**P**	**05 44 33.0**	**-1.0**
GTA				AP	pP	05 44 38.0	-6.6
GTA				XP	sP	05 44 41.8	-7.0
GTA				AMB	AMB		
	comp=Z,2.0nm,1.2s,mb4.0						
HHC	**Hu-ho-hao-te**	**50.73**	**4**	*e*P	**P**	**05 44 42.0**	**+0.6**
HHC				XP	sP	05 44 47.3	-9.0
HHC				PP	PP	05 46 39.5	+1.9
HHC				S	**S**	**05 51 57.0**	**+2.7**
HHC				PS		05 52 07.8	
HHC				SCS	ScS	05 54 29.3	-0.1
HHC				SS	SS	05 55 30.0	+1.0
HHC				AMB	AMB		
	comp=Z,19nm,0.6s,mb5.2						
HHC				AMB	AMB		
	comp=Z,153nm,7.6s						
HHC				LR	LR		
	comp=N,108nm,14.3s,MS4.2						
HHC				LR	LR		
	comp=E,157nm,16.6s,MS4.2						
HHC				LR	LR		
	comp=Z,116nm,17.2s,MS4.0						
MJAR	**Matsushiro Arr**	**54.40**	**30**	P	**P**	**05 45 06.4**	**-2.1**
	comp=Z,1.1nm,0.4s,mb4.2,baz=203,slow=8.1,SNR=4.5						
MJAR				LR	LR	06 08 22.1	
	comp=Z,46nm,19.3s,MS3.6,baz=85,slow=36						
CN2	**Changchun**	**55.90**	**15**	*e*P	**P**	**05 45 21.3**	**+1.9**
WMQ	**Urumqi**	**56.65**	**343**	P	**P**	**05 45 26.0**	**+1.3**
SONM	**Songino Array**	**57.61**	**359**	P	**P**	**05 45 31.6**	**0.0**
	comp=Z,4.3nm,0.7s,mb4.6,baz=170,slow=7.8,SNR=17						
SONM				pP	pP	05 45 41.5	-0.9
	comp=Z,4.2nm,0.7s,baz=174,slow=8.2,SNR=14						
ULN	**Ulaanbaatar**	**57.63**	**359**	*e*P	**P**	**05 45 31.4**	**-0.3**
ULN				*e**PP	pP	05 45 41.5	-1.0
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**57.63**	**359**	*e*P	**P**	**05 45 31.4**	**-0.4**
	comp=Z,6.4nm,0.8s,mb4.7						
ULN				*ep*P	pP	05 45 41.5	-1.0
MDJ	**Mudanjiang**	**57.82**	**18**	P	**P**	**05 45 34.0**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,50nm,6.7s						
ZAK	**Zakamensk**	**60.28**	**357**	*e*P	**P**	**05 45 48.8**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s,mb3.9						
MKAR	**Makanchi Array**	**61.01**	**340**	P	**P**	**05 45 54.7**	**-0.3**
	comp=Z,1.9nm,0.6s,mb4.4,baz=145,slow=6.6,SNR=7.3						
MKAR				pP	pP	05 46 05.0	-0.8
	comp=Z,2.6nm,0.6s,baz=134,slow=6.9,SNR=8.1						
MKAR	**Makanchi Array**	**61.01**	**340**	P	**P**	**05 45 54.7**	**-0.3**
MKAR				pP	pP	05 46 05.0	-0.8
KLR	**Kul'dur**	**62.62**	**17**	*e*P	**P**	**05 46 01.7**	**-4.1**
MAW	**Mawson**	**64.75**	**197**	P	**P**	**05 46 20.4**	**+0.4**
	comp=Z,1.2nm,0.6s,mb4.1,baz=36,slow=8.9,SNR=7.3						
BOD	**Bodaibo**	**67.79**	**4**	*e*P	**P**	**05 46 35.9**	**-3.5**
VNDA	**Vanda**	**72.85**	**169**	P	**P**	**05 47 09.7**	**-0.6**
	comp=Z,0.4nm,0.7s,mb3.5,baz=313,slow=4.1,SNR=3.7						
VNDA				pP	pP	05 47 20.4	-1.0
	comp=Z,0.7nm,0.8s,baz=296,slow=3.8,SNR=3.5						
VNDA	**Vanda**	**72.85**	**169**	*e*P	**P**	**05 47 09.9**	**-0.4**
VNDA				*e**PP	pP	05 47 20.6	-0.8
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VNDA	**Vanda**	**72.85**	**169**	*e*P	**P**	**05 47 09.9**	**-0.4**
	comp=Z,1.3nm,0.9s,mb3.9						
VNDA				*ep*P	pP	05 47 20.6	-0.8
SYO	**Syowa Base**	**72.99**	**200**	⇓*e*P	**P**	**05 47 10.8**	**-0.3**
ARU	**Arti**	**77.71**	**334**	*e*P	**P**	**05 47 37.6**	**-0.6**
BOSA	**Boshof**	**78.84**	**243**	LR	LR	06 16 48.7	
	comp=Z,75nm,20.4s,MS4.0,baz=239,slow=31						
BRTR	**Keskin Array B**	**84.48**	**312**	P	**P**	**05 48 13.6**	**-0.7**
	comp=Z,1.3nm,0.8s,mb4.1,baz=150,slow=6.9,SNR=7.7						
BRTR				pP	pP	05 48 24.6	-0.9
	comp=Z,1.3nm,0.8s,baz=116,slow=2.9,SNR=4.4						
ARCES	**ARCESS Array B**	**96.66**	**339**	LR	LR	06 42 12.3	
	comp=Z,30nm,19.9s,MS3.8,baz=109,slow=41						
BDFB	**Brasilia**	**145.07**	**223**	PKPbc	PKPbc	05 55 19.5	+1.3
	comp=Z,4.5nm,0.7s,baz=162,slow=4.2,SNR=7.1						
WMOK	**Wichita Mounta**	**145.38**	**41**	*e*PKIKP	PKPdf	05 55 20.0	+0.8
WMOK				*e*		05 55 30.9	
LONY	**Lake Ozonia**	**145.46**	**3**	*e*PKPbc	PKPbc	05 55 19.0	-0.4
LONY				*e*		05 55 30.2	
NCB	**Newcomb**	**146.13**	**3**	*e*PKPbc	PKPbc	05 55 21.6	+0.1
NCB				*e*		05 55 32.0	
JCT	**Junction City**	**147.16**	**48**	*e*PKPbc	PKPbc	05 55 25.9	+1.5
JCT				*e*		05 55 36.1	
CCM	**Cathedral Cave**	**147.22**	**29**	*e*PKPbc	PKPbc	05 55 24.3	-0.3
CCM				*e*		05 55 35.2	
MIAR	**Mount Ida**	**148.68**	**36**	*e*PKP2	PKPab	05 55 29.3	-2.9
WCI	**Wyandotte Cave**	**149.16**	**22**	*e*PKP2	PKPab	05 55 28.5	-5.7
WVT	**Waverly**	**150.35**	**26**	*e*PKIKP	PKPdf	05 55 32.8	+5.4
PLAL	**Pickwick Lake**	**151.20**	**28**	*e*PKPbc	PKPbc	05 55 34.3	-0.3
PLAL				*e*		05 55 43.8	
LPAZ	**La Paz**	**153.56**	**189**	PKPbc	PKPbc	05 55 44.0	+4.0
	comp=Z,2.1nm,1.2s,baz=193,slow=2.8,SNR=6.2						

*NEIC **28** 05:49:23.0, 18.10S×14772E, h10km, ML3.9(AUST), After AUST.*

AUST 28 05:49:23, 1810S×14772E, h10km, ML3.9, Queensland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**2.42**	**215**	*e*P	Pn	05 50 08.1	+5.6
CTA				*e*S	Sn	05 50 38.5	+6.3
	325nm,0.2s						
CTAO	**Charters Tower**	**2.42**	**215**	*e*Pn	Pn	05 50 08.2	+5.7
CTAO				*e*Sn	Sn	05 50 37.6	+5.4
MTSU	**Mount Surprise**	**3.24**	**269**	*e*P	Pn	05 50 19.9	+6.1
MTSU				*e*S	Sn	05 51 00.7	+8.3
	360nm,0.4s						
QIS	**Mount Isa**	**8.04**	**251**	*e*P	Pn	05 51 24.3	+4.5
QIS				*e*S	Sn	05 52 55.8	+5.0

IDC 28 06:08:07.9±3.9, 371N×12858E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=100.4km s-min=58.9km az=84.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.87**	**188**	P	P	06 13 03.9	+1.7
	0.4nm,0.4s,baz=15,slow=16,SNR=5.0						
WRA	**Warramunga Arr**	**24.18**	**167**	P	P	06 13 26.5	+0.6
	0.8nm,0.4s,baz=343,slow=10.0,SNR=28						
ASAR	**Alice Springs**	**27.70**	**169**	P	P	06 13 58.6	+0.9
	0.5nm,0.4s,baz=353,slow=7.8,SNR=10						
STKA	**Stephens Creek**	**37.50**	**162**	P	P	06 15 21.9	-1.5
	2.1nm,0.7s,baz=340,slow=12,SNR=3.3						

*IDC **28** 06:10:01.0±4.4, 5250S×16227E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.8/11, mbtmp3.6/5, Error ellipse: s-maj=143.2km s-min=22.6km az=72.0*

*ISCJB **28** 06:10:06.3±0.8, 529S±0.1×1603E±02, h10km, mb3.5/5, Error ellipse: s-maj=19.4km s-min=10.1km az=93.3*

ISC 28 06:10:08.8±1.1, 528S±02×1601E±02, h10km, n11, σ0§63/13, mb3.5/5, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APZ	**The Paps**	**7.87**	**44**	PN	**Pn**	**06 12 02.4**	**-0.9**
APZ				*e*SN	**Sn**	**06 13 26.7**	**-5.7**
SYZ	**Scrubby Hill**	**8.60**	**47**	PN	**Pn**	**06 12 13.0**	**-0.3**
SYZ				*e*SN	**Sn**	**06 13 43.0**	**-7.3**
WHZ	**Wether Hill Ro**	**8.62**	**40**	PN	**Pn**	**06 12 14.0**	**+0.4**
MLZ	**Mavora Lakes**	**9.16**	**39**	*e*PN	**Pn**	**06 12 21.6**	**+0.6**
TUZ	**Tuapeka**	**9.26**	**46**	PN	**Pn**	**06 12 22.4**	**0.0**
EAZ	**Earnscleugh**	**9.70**	**42**	*e*PN	**Pn**	**06 12 28.8**	**+0.3**
VNDA	**Vanda**	**24.81**	**179**	P	**P**	**06 15 27.4**	**-3.6**
	1.1nm,0.8s,mb3.4,

*CSEM **28** 06:56:56.3, 78.11N×1289E, h0km, ML2.7, After BER*
BER 28 06:56:56.3±2.9, 7811N×1289E, h0km±20km, MD2.3, ML2.7, ML2.2(NAO), Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar** baz=258,slow=14	**0.72**	**83**	Pg	Pg	06 57 09.4	-0.8
SPA0	baz=267,slow=37			Lg		06 57 18.2	
SPA0	**Spitsbergen Ar** baz=258,slow=13,SNR=90	**0.72**	**83**	Pg	Pg	06 57 09.4	-0.8
SPA0	baz=267,slow=34			Lg		06 57 18.2	
KBS	**Kingsbay**	**0.84**	**347**	Pg	Pg	06 57 11.3	-1.2
KBS				Lg		06 57 21.3	
KBS	**Kingsbay**	**0.84**	**347**	*e*P	Pg	06 57 11.4	-1.0
KBS				*e*S	Sg	06 57 21.6	-1.8
KBS	comp=Z,156nm,0.3s			AML	AML	06 57 24.9	
KBS	**Kingsbay** SNR=90	**0.84**	**347**	*e*P	Pg	06 57 11.4	-1.0
KBS	comp=Z,156nm,0.3s,SNR=90			*e*S	Sg	06 57 21.6	-1.8
HOPEN	**Hopen**	**3.12**	**115**	*e*P	Pn	06 57 45.9	-0.8
HOPEN				*e*S	Sn	06 58 20.8	-3.8
HOPEN	comp=N,110nm,0.5s			AML	AML	06 58 37.9	
ARA0	**ARCESS Array S** baz=349,slon=28	**9.27**	**152**	Pn	Pn	06 59 06.7	-4.5
ARA0	baz=355,slow=22			Sn	Sn	07 00 47.3	-8.9
ARA0	**ARCESS Array S** baz=349,slow=24,SNR=47	**9.27**	**152**	P	Pn	06 59 06.7	-4.5
ARA0	baz=355,slow=21,SNR=50			Sn	Sn	07 00 47.3	-8.9

*CSEM **28** 07:10:23.0±0.1, 3614N×5424E, h5km, ML3.5, Error ellipse: s-maj=2.5km s-min=1.8km az=149.0*
*ISCJB **28** 07:10:24.9±0.7, 3612N±005×5418E±004, h10km, Error ellipse: s-maj=6.6km s-min=5.0km az=168.3*
*THR **28** 07:10:24.2±1.3, 3606N×5435E, h15km, ML3.5*
*TEH **28** 07:10:25.2, 3617N×5421E, h4km, Mn3.5*
ISC 28 07:10:25.2±0.6, 3615N±004×5423E±004, h10km, n23, σ1§23/34, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKIA	**Kiasar**	**0.44**	**277**	*e*Pg	**Pg**	**07 10 32.5**	**-1.4**
IKIA				*e*Sg	**Sg**	**07 10 38.7**	**-1.0**
IANJ	**Anjiloo**	**0.73**	**200**	*e*Pg	**Pg**	**07 10 38.0**	**-1.3**
ISHM	**Shahmirzad**	**0.83**	**246**	*e*Pg	**Pg**	**07 10 39.9**	**-1.4**
ILAS	**Lasjerd**	**1.28**	**234**	*e*Pg	**Pg**	**07 10 48.2**	**-1.7**
IFIR	**Firoozkooh**	**1.30**	**247**	*e*Pg	**Pg**	**07 10 48.4**	**-1.8**
IDMV	**Damavand**	**1.87**	**253**	*e*Pn	**Pn**	**07 10 58.4**	**+1.1**
DAMV	**Damavand**	**1.90**	**255**	*e*Pg	**Pg**	**07 10 59.5**	**-2.2**
DAMV				*e*Sg	**Sg**	**07 11 26.6**	**+0.1**
DAMV	comp=N,266nm,0.5s			AML	AML	07 11 31.0	
DAMV	comp=E,467nm,0.4s			AML	AML	07 11 32.7	
DAMV	**Damavand** SNR=90	**1.90**	**255**	*e*Pg	**Pg**	**07 10 59.5**	**-2.2**
DAMV	SNR=90			*e*Sg	**Sg**	**07 11 26.6**	**+0.2**
IAFJ	**Afjeh**	**2.06**	**262**	*e*Pn	**Pn**	**07 11 01.5**	**+1.6**
IAFJ				*e*Sn	**Sn**	**07 11 26.1**	**+0.5**
MRVT	**Maraveh tapeh**	**2.12**	**44**	*e*Pn	**Pn**	**07 11 00.8**	**+0.1**
MRVT				*e*SG	**Sg**	**07 11 30.8**	**-2.5**
IVRN	**Varamin**	**2.34**	**241**	*e*Pn	**Pn**	**07 11 04.5**	**+0.8**
IVRN				*e*Sn	**Sn**	**07 11 32.9**	**+0.4**
ISFB	**Sefidab**	**2.42**	**223**	*e*Pn	**Pn**	**07 11 05.0**	**+0.1**
ISFB				*e*Sn	**Sn**	**07 11 35.3**	**+0.7**
CHTH	**Charan**	**2.52**	**265**	*e*Pn	**Pn**	**07 11 09.0**	**+2.7**
CHTH				*e*SG	**Sg**	**07 11 46.9**	**+0.6**
THKV	**Tehran--Karaj**	**2.72**	**266**	*e*Pn	**Pn**	**07 11 11.7**	**+2.7**
THKV				*e*SG	**Sg**	**07 11 51.8**	**-0.9**
THKV	comp=N,155nm,0.6s			AML	AML	07 12 00.4	
THKV	comp=E,166nm,0.5s			AML	AML	07 12 00.4	
THKV	**Tehran--Karaj** SNR=52	**2.72**	**266**	*e*Pn	**Pn**	**07 11 11.7**	**+2.7**
THKV	SNR=90			*e*Sg	**Sg**	**07 11 51.8**	**-0.9**
IMHD	**Mahdasht**	**2.92**	**262**	*e*Pn	**Pn**	**07 11 11.9**	**+0.1**
ISHV	**Shirvan**	**3.11**	**63**	*e*Pn	**Pn**	**07 11 14.8**	**+0.5**
NASN	**Na'in**	**3.54**	**200**	*e*Pn	**Pn**	**07 11 20.5**	**+0.2**
IKLH	**Kalahroud**	**3.57**	**218**	*e*Pn	**Pn**	**07 11 21.6**	**+1.0**
IZEF	**Zefreh**	**3.61**	**206**	*e*Pn	**Pn**	**07 11 21.4**	**+0.2**
IZEF				*e*Sn	**Sn**	**07 12 03.4**	**-0.4**
ASAO	**Ashtian**	**3.79**	**246**	*e*PN	**Pn**	**07 11 25.0**	**+1.4**
IPIR	**Pirpir**	**4.42**	**219**	*e*Sn	**Sn**	**07 12 22.6**	**-1.3**
SNGE	**Sanandaj**	**5.70**	**261**	*e*Pn	**Pn**	**07 11 51.7**	**+1.7**

*SKO **28** 07:11:33.5, 41.15N×2077E, h12km, M1.1, ML2.3*
*THE **28** 07:11:34.3, 4122N×2080E, h10km, ML2.8*
*CSEM **28** 07:11:34.2±0.3, 4120N×2080E, h1km±4km, ML2.3, Error ellipse: s-maj=4.7km s-min=4.4km az=21.0*
*ISCJB **28** 07:11:35.0±0.3, 4115N±002×2081E±003, h10km, Error ellipse: s-maj=3.5km s-min=2.0km az=94.4*
*NEIC **28** 07:11:38.6, 41.19N×2041E, h0km, MD2.6(PDG), After PDG.*
*PDG **28** 07:11:38.6±0.2, 41.19N×2041E, h0km±11km*
ISC 28 07:11:35.1±0.3, 4116N±002×2082E±003, h4km±3km, n37, σ1§19/64, 6C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.05**	**197**	*e*Pg	**Pg**	**07 11 35.3**	**-1.0**
OHR	**Ohrid**	**0.05**	**197**	*e*Pg	**Pg**	**07 11 35.3**	**-1.1**
OHR				*i* Sg	**Sg**	**07 11 37.1**	**-0.1**
OHR	comp=N,1μm,0.5s			eLg		07 11 37.1	
OHR	comp=E,2μm,0.5s			eLg		07 11 37.1	
OHR	**Ohrid**	**0.05**	**197**	*e*Pg	**Pg**	**07 11 35.3**	**-1.1**
OHR				*i* Sg	**Sg**	**07 11 37.0**	**-0.2**
OHR	comp=E,2μm,0.5s			eLg		07 11 37.1	
BIA	**Bitola**	**0.41**	**110**	*i* Pg	**Pg**	**07 11 42.4**	**-0.6**
BIA				*i* Sg	**Sg**	**07 11 50.1**	**+1.9**
BIA	comp=N,244nm,0.2s			eLg		07 11 50.3	
BIA	comp=E,167nm,0.2s			eLg		07 11 50.5	
BIA	**Bitola**	**0.41**	**110**	*e*Pg	**Pg**	**07 11 42.5**	**-0.5**
KBN	**Korca**	**0.54**	**183**	*i* Pg	**Pg**	**07 11 43.7**	**-1.8**
KBN				*i* Sg	**Sg**	**07 11 53.6**	**+1.2**
KBN	**Korca**	**0.54**	**183**	*e*Pg	**Pg**	**07 11 43.7**	**-1.8**
KBN				*e*Sg	**Sg**	**07 11 53.6**	**+1.2**
FNA	**Florina**	**0.56**	**131**	*e*Pg	**Pg**	**07 11 44.9**	**-1.1**
FNA				*e*Sg	**Sg**	**07 11 55.7**	**+2.3**
TIR	**Tirane**	**0.74**	**285**	*e*Pg	**Pg**	**07 11 47.6**	**-1.8**
QSH	**Qafa e Shtames**	**0.78**	**298**	*i* Pg	**Pg**	**07 11 49.0**	**-1.1**
QSH				*i* Sg	**Sg**	**07 12 03.5**	**+3.4**
SKO	**Skopje**	**0.94**	**30**	*e*Pg	**Pg**	**07 11 51.5**	**-1.6**
SKO				*e*Sg	**Sg**	**07 12 05.9**	**+0.7**
SKO	**Skopje**	**0.94**	**30**	*i* Pn	**Pg**	**07 11 52.6**	**-0.5**
SKO				*i* Sn	**Sg**	**07 12 07.4**	**+2.2**
SKO	comp=N,75nm,0.3s			eLg		07 12 09.4	
SKO	comp=E,42nm,0.3s			eLg		07 12 09.9	
SKO	**Skopje**	**0.94**	**30**	*i* Pn	**Pg**	**07 11 52.5**	**-0.6**
SKO				*e*Sg	**Sg**	**07 12 05.9**	**+0.7**
LACI	**Lac**	**0.96**	**300**	*i* Pg	**Pg**	**07 12 03.8**	**+10**
LACI				*i* Sg	**Sg**	**07 12 07.8**	**+1.8**
LACI	**Lac**	**0.96**	**300**	*e*Sg	**Sg**	**07 12 07.8**	**+1.8**
STIP	**Stip**	**1.16**	**62**	*i* Pn	**Pn**	**07 11 57.1**	**-1.0**
STIP				*i* Sn	**Sn**	**07 12 14.4**	**0.0**
STIP	comp=N,24nm,0.2s			eLg		07 12 15.1	
STIP	comp=E,17nm,0.2s			eLg		07 12 16.0	
STIP	**Stip**	**1.16**	**62**	*i* Pn	**Pn**	**07 11 57.1**	**-1.0**
STIP				*i* Sn	**Sn**	**07 12 14.4**	**0.0**
GRG	**Griva**	**1.21**	**99**	*e*Pg	**Pg**	**07 11 57.5**	**-1.0**
VAY	**Valandovo**	**1.33**	**82**	*e*Pg	**Pg**	**07 11 59.6**	**-1.1**
VAY	**Valandovo**	**1.33**	**82**	*i* Pn	**Pn**	**07 11 59.5**	**-1.0**
VAY				*i* Sn	**Sn**	**07 12 19.1**	**+0.5**
VAY	comp=N,93nm,1.0s			*e*Lg		07 12 21.4	
VAY	comp=E,50nm,0.5s			*e*Lg		07 12 21.4	
VAY	**Valandovo**	**1.33**	**82**	*i* Pn	**Pn**	**07 11 59.5**	**-1.0**
VAY				*i* Sn	**Sn**	**07 12 19.0**	**+0.4**
MEV	**Metsovon**	**1.41**	**167**	*e*Pg	**Pg**	**07 12 02.2**	**0.0**
MEV				*e*Sg	**Sg**	**07 12 22.6**	**+2.2**
ULC	**Ulcinj**	**1.43**	**305**	⇓*i*Pg	**Pn**	**07 11 59.7**	**-2.1**
ULC				*e*Sg	**Sb**	**07 12 18.3**	**-2.4**
PVY	**Plav**	**1.57**	**337**	⇑*i*Pg	**Pb**	**07 12 05.4**	**+0.7**
PVY				*e*Sg	**Sg**	**07 12 27.7**	**+2.2**
KNT	**Kendrikon**	**1.57**	**89**	*e*Pg	**Pn**	**07 12 03.6**	**-0.2**
LIT	**Litokhoron**	**1.65**	**129**	*e*Pb	**Pb**	**07 12 05.4**	**-0.8**
LIT				*e*Sb	**Sb**	**07 12 27.8**	**+0.4**
TTG	**Podgorica**	**1.72**	**318**	⇓*i*Pg	**Pn**	**07 12 05.6**	**-0.3**
TTG				*e*Sg	**Sg**	**07 12 30.7**	**+0.2**
BUM	**Brajici-Budva**	**1.83**	**309**	⇑*i*Pn	**Pn**	**07 12 08.0**	**+0.6**
BUM				*e*Sn	**Sn**	**07 12 32.7**	**+1.7**
BUM	**Brajici-Budva**	**1.83**	**309**	⇑*i*Pn	**Pn**	**07 12 07.9**	**+0.5**
IVA	**Berane**	**1.84**	**338**	⇓*i*Pn	**Pg**	**07 12 10.3**	**-0.2**
IVA				*e*Sn	**Sg**	**07 12 35.8**	**+1.4**
NKY	**Niksic**	**2.14**	**321**	⇑*i*Pn	**Pb**	**07 12 13.9**	**-0.5**
NKY				*e*Sn	**Sb**	**07 12 41.3**	**0.0**
HCY	**Herceg Novi**	**2.16**	**307**	⇑*i*Pn	**Pn**	**07 12 13.2**	**+1.3**
HCY				*e*Sn	**Sn**	**07 12 40.5**	**+1.4**
PLE	**Pljevlja**	**2.41**	**334**	⇑*i*Pn	**Pb**	**07 12 18.3**	**-0.8**
PLE				*e*Sn	**Sb**	**07 12 49.8**	**+0.6**
BRY	**Bratogost**	**2.43**	**316**	⇓*i*Pn	**Pb**	**07 12 17.4**	**-2.0**
BRY				*e*Sn	**Sb**	**07 12 48.6**	**-1.1**
AGG	**Agios Georgios**	**2.43**	**151**	*e*Pn	**Pn**	**07 12 15.9**	**+0.3**
LKD	**Levkas**	**2.45**	**183**	*e*Pn	**Pn**	**07 12 16.7**	**+0.8**
UPM	**Unac-Piva**	**2.49**	**326**	⇓*i*Pn	**Pb**	**07 12 20.2**	**-0.1**
UPM				*e*Sn	**Sb**	**07 12 50.6**	**-0.6**

*BJI **28** 07:17:01.2, 534S×10181E, h51km, mB5.1, mb5.3, Ms4.9, Msz4.8*
*MOS **28** 07:17:02.9±1.2, 474S×10168E, h33km, mb5.5/26, Error ellipse: s-maj=11.3km s-min=5.8km az=105.9*
*ISCJB **28** 07:17:02.5±0.2, 485S±003×10164E±004, h33km, mb5.2/84, MS4.7/16, Error ellipse: s-maj=6.0km s-min=4.1km az=116.9*
*HRVD **28** 07:17:03.9±0.4, 487S×10159E, h33km±2km, MW5.1/36, Centroid moment Tensor Solution. LP body waves: s19,c27;Mantle waves: s36,c48; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr 1.28±.24; Mθθ 0.56±.20; Mφφ -1.84±.28; Mrθ 0.92±.29; Mrφ -3.24±.15; Mθφ -3.25±.42; Best double couple: Mo 4.95700×10^16^ NP1: φs 74.00000°, δ 45.00000°, λ 165.00000°. NP2: φs 175.00000°, δ 79.00000°, λ 46.00000°. Principal axes: T 4.9590, Plg39.0000°, Azm46.0000°; N -0.0100, Plg43.0000°, Azm185.0000°; P -4.9540, Plg22.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 07:17:03.9±0.2, 488S×10160E, h30km, mb5.3/33 Error ellipse: s-maj=6.1km s-min=4.4km az=63.0*
NEIC Felt [III] at Bengkulu.
*IDC **28** 07:17:04.8±0.5, 483S×10166E, h38km±4km, mb4.6/24, mb1 4.7/25, mb1mx4.7/25, mbtmp4.8/25, ML4.7/1, MS4.2/3, Ms1 4.2/3, ms1mx3.7/36, Error ellipse: s-maj=13.5km s-min=7.4km az=50.0*
ISC 28 07:17:04.8±0.2, 485S±003×10163E±004, h35km, h35km±1.7km:pP-P, n327, σ1§03/207, mb5.2/84, MS4.7/16, 43C-49D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang** 6μm,0.6s	**1.52**	**39**	P	**Pn**	**07 17 29.0**	**-0.5**
PPI	**Padang Panjang** 1μm,0.9s	**4.53**	**344**	P	**Pn**	**07 18 11.0**	**+0.1**
LEM	**Lembang** 1μm,1.0s	**6.27**	**109**	P	**Pn**	**07 18 36.3**	**+1.6**
PSI	**Prapat** 9.5nm,0.3s,baz=196,slow=8.5,SNR=19	**8.07**	**340**	Pn	**Pn**	**07 18 57.4**	**-2.0**
PSI	comp=Z,3μm,20.2s,baz=152,slow=44			LR	LR	07 22 55.0	
BJII	**Banjamegara** 303nm,0.9s	**8.40**	**107**	P	**Pn**	**07 19 01.4**	**-2.6**
COCO	**West Island** 562nm,1.0s	**8.70**	**213**	*e*Pn	**Pn**	**07 19 05.8**	**-2.3**
KULM	**Kulim**	**10.12**	**354**	*e*Pn	**Pn**	**07 19 27.2**	**-0.3**
KSM	**Kuching**	**10.70**	**54**	*e*Pn	**Pn**	**07 19 37.2**	**+1.6**
BSI	**Banda Aceh** 231nm,0.9s	**12.07**	**328**	P	**Pn**	**07 19 51.1**	**-3.1**
KKM	**Kota Kinabalu**	**18.14**	**54**	P	**Pn**	**07 21 14.8**	**+0.9**
KKM	**Kota Kinabalu**	**18.14**	**54**	*e*Pn	**Pn**	**07 21 14.7**	**+0.9**
PCI	**Palu** 531nm,0.9s	**18.59**	**78**	P	**Pn**	**07 21 20.1**	**+0.7**
NST	**Nakhon Sawan**	**20.44**	**356**	P	sP	07 21 58.0	+5.2
KKTK	**Khon Kaen** 1μm,0.8s,mb6.2	**21.08**	**3**	⇓P	**P**	**07 21 45.5**	**-0.5**
CM31	**Chiang Mai Arr** 10nm,0.4s,mb4.6	**23.31**	**354**	*e*P	**P**	**07 22 10.1**	**+0.4**
CHG	**Chiang Mai** 25nm,0.8s,mb4.7	**23.66**	**354**	⇓P	**P**	**07 22 11.9**	**-1.1**
CHTO	**Chiang Mai**	**23.66**	**354**	*e*P	**P**	**07 22 13.0**	**0.0**
CHTO	comp=Z,20nm,0.9s,mb4.5			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,20nm,0.9s,mb4.5	**23.66**	**354**	*e*P	**P**	**07 22 13.0**	**0.0**
MBWA	**Marble Bar** comp=Z,16nm,0.6s,mb4.6	**23.91**	**134**	*e*P	**P**	**07 22 16.0**	**+0.7**
MBWA				*e*pP		07 22 24.9	
MBWA				*e*S	**S**	**07 26 29.9**	**+0.7**
QIZ	**Qiongzhong**	**25.07**	**19**	P	**P**	**07 22 26.5**	**+0.7**
QIZ	**Qiongzhong** comp=Z,75nm,1.1s,mb5.1	**25.07**	**19**	*e*P	**P**	**07 22 25.2**	**-0.7**
TGY	**Tagaytay City** comp=Z,205nm,0.4s,baz=252,slow=8.2,SNR=3.4	**26.86**	**45**	P	**P**	**07 22 44.9**	**+2.9**
FITZ	**Fitzroy Crossi** comp=Z,77nm,0.8s,mb5.3	**26.91**	**121**	*e*P	**P**	**07 22 42.6**	**+0.1**
FITZ				*e*S	S	07 27 47.6	+31
FITZ	**Fitzroy Crossi** comp=Z,13nm,0.5s,mb4.7,baz=296,slow=6.3,SNR=82	**26.91**	**121**	P	**P**	**07 22 42.8**	**+0.2**
FITZ	comp=Z,38nm,0.8s,baz=290,slow=7.0,SNR=22			pP	pP	07 22 52.3	-0.2
FITZ	comp=Z,188nm,19.4s,MS3.7,baz=133,slow=37			LR	LR	07 33 49.2	
KMI	**Kunming**	**29.81**	**2**	P	**P**	**07 23 10.0**	**+1.6**
KMI				AP	pP	07 23 18.3	-0.1
KMI				PP	PP	07 24 11.3	-4.6
KMI				PPP		07 24 25.0	
KMI				S	**S**	**07 28 04.5**	**+1.9**
KMI				SS	SS	07 29 42.8	-27
KMI	comp=Z,21nm,0.9s,mb4.9			AMB	AMB		
KMI	comp=Z,71nm,3.1s			AMB	AMB		
KMI	comp=N,415nm,18.9s,MS4.4			LR	LR		
KMI	comp=E,828nm,19.4s,MS4.4			LR	LR		
KMI	comp=Z,322nm,19.0s,MS4.0			LR	LR		
KAKA	**Kakadu** comp=Z,39nm,0.9s,mb5.2	**31.40**	**106**	*e*P	**P**	**07 23 20.8**	**-1.6**
GYA	**Guiyang**	**31.50**	**9**	⇑*i*P	**P**	**07 23 23.8**	**+0.5**
GYA				AP	pP	07 23 33.3	-0.1
GYA				XP	sP	07 23 47.5	+10
GYA				PP	PP	07 24 28.5	-6.2
GYA				S	**S**	**07 28 27.8**	**-1.3**
GYA	comp=Z,50nm,1.0s,mb5.3			AMB	AMB		
GYA	comp=Z,260nm,4.5s			AMB	AMB		
GYA	comp=N,670nm,16.7s,MS4.6			LR	LR		
GYA	comp=E,740nm,17.0s,MS4.6			LR	LR		
GYA	comp=Z,760nm,17.6s,MS4.4			LR	LR		
NWAO	**Narrogin (SRO)** comp=Z,16nm,1.0s,mb4.8,baz=318,slow=13,SNR=3.7	**31.50**	**154**	P	**P**	**07 23 22.7**	**-0.6**
NWAO	comp=Z,6.8nm,0.5s,baz=340,slow=15,SNR=1.7			pP	pP	07 23 33.5	+0.1
NWAO	**Narrogin (SRO)**	**31.50**	**154**	P	**P**	**07 23 22.7**	**-0.6**
NWAO				*PP	pP	07 23 33.5	+0.1
NWAO	comp=Z,16nm,1.0s			pmax	pmax		
NWAO	comp=Z,7.0nm,0.5s			pmax	pmax		
NWAO	**Narrogin (SRO)** comp=Z,3.4nm,0.6s,mb4.3	**31.50**	**154**	*e*P	**P**	**07 23 23.9**	**+0.6**
WRA	**Warramunga Arr** comp=Z,13nm,0.7s,mb5.0,baz=303,slow=9.0,SNR=126	**35.19**	**118**	P	**P**	**07 23 55.4**	**0.0**
WRA	comp=Z,5.6nm,1.0s,baz=290,slow=16,SNR=6.9			S	**S**	**07 29 26.7**	**+0.5**
WRAB	**Tennant Creek** comp=Z,157nm,1.0s,mb5.9,SNR=34	**35.19**	**118**	P	**P**	**07 23 55.0**	**-0.4**
WRAB	**Tennant Creek**	**35.19**	**118**	⇓*i*P	**P**	**07 23 54.7**	**-0.7**
WRAB	**Tennant Creek** comp=Z,31nm,0.6s,mb5.4	**35.19**	**118**	*e*P	**P**	**07 23 55.4**	**0.0**
WB2	**Warramunga Arr**	**35.20**	**118**	*e*P	**P**	**07 23 55.4**	**-0.1**
WB2				*e*S	**S**	**07 29 25.8**	**-0.6**
JIRN	**Jiri** comp=Z,116nm,0.7s,mb5.9	**35.59**	**336**	*e*P	**P**	**07 24 00.6**	**+1.7**
CD2	**Chengdu**	**35.61**	**3**	⇑*i*P	**P**	**07 23 58.8**	**-0.2**
CD2				XP	sP	07 24 13.5	+0.1
CD2				PP	PP	07 25 18.0	-2.3
CD2				S	**S**	**07 29 30.5**	**-2.3**
CD2	comp=Z,30nm,1.0s,mb5.2			AMB	AMB		
CD2	comp=Z,60nm,3.6s			AMB	AMB		
CD2	comp=N,420nm,16.2s			LR	LR		
CD2	comp=Z,300nm,15.0s,MS4.2			LR	LR		
PKI	**Pulchoki** comp=Z,19nm,0.5s,mb5.3	**35.84**	**335**	*e*P	**P**	**07 24 02.3**	**+1.3**
PKI				pmax	pmax		
PKI	**Pulchoki** comp=Z,19nm,0.5s,mb5.3	**35.84**	**335**	*e*P	**P**	**07 24 02.3**	**+1.3**
GUN	**Gumba** comp=Z,168nm,0.7s,mb6.1	**35.94**	**336**	*e*P	**P**	**07 24 03.6**	**+1.8**
DMN	**Daman**	**36.00**	**335**	*e*P	**P**	**07 24 03.8**	**+1.5**
KKN	**Kakani** comp=Z,91nm,0.8s,mb5.7	**36.08**	**335**	*e*P	**P**	**07 24 04.3**	**+1.2**
KKN	**Kakani**	**36.08**	**335**	*e*P	**P**	**07 24 04.3**	**+1.2**
KKN	comp=Z,91nm,0.8s,mb5.8			pmax	pmax		
ASPA	**Alice Springs**	**36.29**	**124**	*e*P	**P**	**07 24 05.1**	**+0.3**
ASPA				*e*S	**S**	**07 29 50.9**	**+7.8**
ASAR	**Alice Springs** comp=Z,5.7nm,0.6s,mb4.7,baz=297,slow=7.8,SNR=99	**36.29**	**124**	P	**P**	**07 24 05.2**	**+0.4**
ASAR	comp=Z,29nm,0.5s,baz=297,slow=7.8,SNR=45			pP	pP	07 24 15.7	+0.7
ASAR	comp=Z,1.4nm,0.9s,baz=292,slow=16,SNR=4.1			S	**S**	**07 29 43.8**	**+0.6**
AS31	**Alice Springs**	**36.29**	**124**	*e*P	**P**	**07 24 05.1**	**+0.3**
AS31				*e*S	**S**	**07 29 50.9**	**+7.7**
GKN	**Gorkha**	**36.54**	**334**	*e*P	**P**	**07 24 08.4**	**+1.4**
KOLN	**Koldanda** comp=Z,93nm,0.9s,mb5.6	**36.80**	**333**	*e*P	**P**	**07 24 11.3**	**+2.1**
WHN	**Wuhan**	**37.23**	**18**	⇓P	**P**	**07 24 13.3**	**+0.4**
XAN	**Xi'an**	**39.28**	**10**	P	**P**	**07 24 29.8**	**-0.3**
XAN	comp=Z,102nm,1.0s,mb5.5			AMB	AMB		
LGTI	**Lohaghat**	**39.81**	**330**	*e*P	**P**	**07 24 34.5**	**0.0**
NJ2	**Nanjing**	**40.19**	**23**	*e*P	**P**	**07 24 38.0**	**+0.3**
NJ2				AP	pP	07 24 46.8	-1.1
NJ2				XP	sP	07 24 51.0	-1.1
NJ2				PP	PP	07 26 14.0	+3.6
NJ2				S	**S**	**07 30 42.0**	**-0.1**
NJ2	comp=Z,20nm,0.6s,mb5.0			AMB	AMB		
NJ2	comp=Z,130nm,4.4s			AMB	AMB		
NJ2	comp=N,700nm,16.4s,MS4.7			LR	LR		
NJ2	comp=E,470nm,17.9s,MS4.7			LR	LR		
NJ2	comp=Z,1μm,25.0s			LR	LR		
SSE	**Sheshan**	**40.33**	**26**	*e*P	**P**	**07 24 38.0**	**-0.8**
SSE				AP	pP	07 24 48.3	-0.7
SSE				PCP	PcP	07 26 42.5	+0.7
SSE				S	**S**	**07 30 43.0**	**-1.1**
SSE	comp=Z,50nm,0.9s,mb5.2			AMB	AMB		
SSE	comp=Z,70nm,5.0s			AMB	AMB		
SSE	comp=N,174nm,24.1s,MS3.8			LR	LR		
SSE	comp=E,31nm,24.0s,MS3.8			LR	LR		
SSE	comp=Z,191nm,23.4s,MS3.9			LR	LR		
JOW	**Kunigami** comp=Z,46nm,0.5s,mb5.4,baz=207,slow=6.8,SNR=51	**40.70**	**38**	P	**P**	**07 24 41.8**	**-0.1**
LZH	**Lanzhou**	**40.77**	**3**	*e*P	**P**	**07 24 45.3**	**+2.8**
LZH				AP	pP	07 24 53.0	+0.3
LZH				XP	sP	07 24 56.8	-0.1
LZH				PP	PP	07 26 22.0	+5.2
LZH				*e*S	**S**	**07 30 52.0**	**+1.2**
LZH				SS	SS	07 33 53.0	+0.6
LZH	comp=Z,128nm,1.2s,mb5.4			AMB	AMB		
LZH	comp=Z,838nm,4.2s			AMB	AMB		
LZH	comp=E,2μm,14.9s			LR	LR		
LZH	comp=Z,4μm,15.6s,MS5.3			LR	LR		
NDI	**New Delhi**	**40.79**	**326**	*e*P	**P**	**07 24 40.5**	**-2.1**
GTA	**Gaotai**	**44.07**	**358**	P	**P**	**07 25 10.0**	**+0.7**
GTA				AP	pP	07 25 19.5	-0.1
GTA				PP	PP	07 26 54.5	+2.2
GTA				SCP	ScP	07 30 44.0	+0.7
GTA				PCS	PcS	07 30 47.0	-0.3
GTA				S	**S**	**07 31 40.0**	**+0.7**
GTA				SCS	ScS	07 35 03.5	-1.7
GTA				AMB	AMB		
GTA	comp=Z,46nm,1.0s,mb5.2			AMB	AMB		
GTA	comp=Z,227nm,8.0s			LR	LR		
GTA	comp=N,267nm,21.3s,MS4.4			LR	LR		
GTA	comp=E,350nm,18.3s,MS4.4			LR	LR		
GTA	comp=Z,314nm,18.3s,MS4.3			LR	LR		
PMG	**Port Moresby** comp=Z,60nm,0.7s,mb5.5,baz=179,slow=2.1,SNR=21	**45.37**	**98**	P	**P**	**07 25 19.8**	**+0.2**
PMG	**Port Moresby**	**45.37**	**98**	*e*P	**P**	**07 25 19.8**	**+0.1**
PMG				*e*		07 27 00.5	
PMG	comp=Z,56nm,0.7s			pmax	pmax		
PMG	**Port Moresby** comp=Z,56nm,0.7s,mb5.5	**45.37**	**98**	*e*P	**P**	**07 25 19.8**	**+0.2**
PMG				*e*PcP	PcP	07 27 00.5	+1.9
BTO	**Baotou**	**45.88**	**9**	*e*P	**P**	**07 25 22.5**	**-1.2**
CTA	**Charters Tower** comp=Z,31nm,0.8s,mb5.3	**45.95**	**113**	*e*P	**P**	**07 25 24.9**	**+0.7**
CTA	**Charters Tower** comp=Z,43nm,0.8s,mb5.4,baz=284,slow=9.5,SNR=52	**45.95**	**113**	P	**P**	**07 25 24.6**	**+0.4**
CTA	**Charters Tower**	**45.95**	**113**	*e*P	**P**	**07 25 24.9**	**+0.7**
CTA	comp=Z,31nm,0.8s			pmax	pmax		
CTAO	**Charters Tower**	**45.95**	**113**	*e*P	**P**	**07 25 25.2**	**+1.0**
CTAO	comp=Z,50nm,0.9s,mb5.4			pmax	pmax		
CTAO	**Charters Tower** comp=Z,50nm,0.9s,mb5.4	**45.95**	**113**	*e*P	**P**	**07 25 25.2**	**+1.0**
STKA	**Stephens Creek** comp=Z,31nm,0.8s,mb5.3	**46.06**	**131**	*e*P	**P**	**07 25 25.

BJT Baijiatuau 46.61 15 *e*P **P 07 25 30.0 +0.6**
BJT pmax pmax
comp=Z,100nm,0.6s
BJT Baijiatuau 46.61 15 *e*P **P 07 25 29.9 +0.6**
comp=Z,100nm,0.6s,mb5.9
BJI Beijing 46.63 15 *e*P **P 07 25 30.0 +0.4**
BJI S **S 07 32 11.5 -4.8**
BJI AMB AMB
comp=Z,181nm,2.3s,mb5.6
BJI LR LR
comp=N,179nm,23.9s,MS4.3
BJI LR LR
comp=E,324nm,20.2s,MS4.3
BJI LR LR
comp=Z,192nm,25.9s
GUMO Guam 46.66 66 P **P 07 25 25.7 -4.1**
comp=Z,40nm,0.4s,mb5.7,baz=163,slow=5.4,SNR=11
DL2 Dalian 47.30 21 P **P 07 25 34.5 -0.3**
DL2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
INCN Inchon 48.12 27 *e*P **P 07 25 40.6 -0.5**
comp=Z,29nm,0.4s,mb5.7
WMQ Urumqi 50.05 347 P **P 07 25 57.0 +1.1**
WMQ AP pP 07 26 07.0 +0.6
WMQ XP sP 07 26 10.8 +0.2
WMQ PCP PcP 07 27 17.0 +1.6
WMQ PP PP 07 27 53.0 +1.9
WMQ SCP ScP 07 31 08.5 +0.1
WMQ S **S 07 33 04.3 -0.3**
WMQ PS 07 33 17.0
WMQ SCS ScS 07 35 42.5 -2.0
WMQ AMB AMB
comp=Z,59nm,1.3s,mb5.5
WMQ AMB AMB
comp=Z,355nm,4.9s
WMQ LR LR
comp=N,2μm,17.6s,MS5.3
WMQ LR LR
comp=E,2μm,16.5s,MS5.3
WMQ LR LR
comp=Z,2μm,18.1s,MS5.2
KSH Kashi 50.09 334 *e*P **P 07 25 58.0 +1.8**
KSH *e*AP pP 07 26 07.0 +0.3
KSH *e*XP sP 07 26 12.5 +1.6
KSH *e*PCP PcP 07 27 18.5 +3.0
KSH *e*PP PP 07 27 54.3 +2.8
KSH *e*S **S 07 33 05.3 +0.1**
KSH *e*SCS ScS 07 35 43.3 -1.4
KSH *e*SS SS 07 36 35.5 -3.0
KSH AMB AMB
comp=Z,234nm,12.7s
KSH LR LR
comp=N,403nm,5.5s
KSH LR LR
comp=E,495nm,6.4s
KSH LR LR
comp=Z,426nm,7.5s
CBIJ Chichi jima 50.43 49 P **P 07 25 55.8 -3.0**
comp=Z,51nm,0.4s,mb5.9,baz=295,slow=14,SNR=8.4
SNY Shenyang 50.58 21 ⇑P **P 07 25 58.8 -1.1**
SNY AMB AMB
comp=Z,24nm,1.1s,mb5.0
ULHL Ulahol 52.25 336 P **P 07 26 12.7 +0.2**
SNR=14
KZA Kyzart 52.52 335 P **P 07 26 15.8 +1.3**
SNR=14
SONM Songino Array 52.62 4 P **P 07 26 16.2 +1.0**
comp=Z,50nm,0.8s,mb5.5,baz=184,slow=8.7,SNR=270
SONM PcP PcP 07 27 25.3 +0.4
comp=Z,7.7nm,0.6s,baz=188,slow=4.1,SNR=6.9
SONM S **S 07 33 39.9 -0.2**
comp=Z,0.6nm,1.0s,baz=170,slow=8.8,SNR=3.2
ULN Ulaanbaatar 52.70 5 *e*P **P 07 26 16.7 +0.9**
ULN *e* 07 27 25.5
ULN pmax pmax
comp=Z,47nm,1.0s,mb5.4
ULN Ulaanbaatar 52.70 5 *e*P **P 07 26 16.7 +0.9**
comp=Z,46nm,1.0s,mb5.4
ULN *e*PcP PcP 07 27 25.5 +0.3
UCH Uchtor 52.95 335 P **P 07 26 18.7 +1.1**
SNR=16
CN2 Changchun 52.97 21 ⇑P **P 07 26 17.0 -0.8**
CN2 *e*S **S 07 33 44.3 -0.6**
CN2 AMB AMB
comp=Z,100nm,0.8s,mb5.8
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2μm,17.0s,MS5.3
CN2 LR LR
comp=E,2μm,17.0s,MS5.3
CN2 LR LR
comp=Z,2μm,19.0s,MS5.2
TKM2 Tokmak 2 53.08 336 P **P 07 26 19.4 +0.8**
SNR=27
KBK Karagaybulak 53.12 336 P **P 07 26 20.3 +1.4**
SNR=9.9
AML Almayashu 53.22 334 P **P 07 26 21.0 +1.4**
SNR=6.3
AAK Ala-Archa 53.29 335⇑ *i*P **P 07 26 20.2 +0.1**
ARMA Armidale 53.44 125 *e*P **P 07 26 23.5 +2.3**
MAJO Matsushiro 53.51 37 *e*P **P 07 26 20.2 -1.5**
MAJO pmax pmax
comp=Z,50nm,0.8s,mb5.5
MAJO Matsushiro 53.51 37 *e*P **P 07 26 20.2 -1.5**
comp=Z,50nm,0.8s,mb5.5
MAT Matsushiro 53.51 37 P **P 07 26 20.1 -1.6**
MAT Matsushiro 53.51 37 *e*P **P 07 26 20.0 -1.7**
MAT pmax pmax
comp=Z,30nm,0.6s,mb5.4
MAT Matsushiro 53.51 37 *e*P **P 07 26 20.0 -1.7**
comp=Z,30nm,0.6s,mb5.4
MJAR Matsushiro Arr 53.51 37 P **P 07 26 20.4 -1.4**
comp=Z,57nm,0.8s,mb5.6,baz=216,slow=7.4,SNR=112
EKS2 Erkin-Say 53.62 335 P **P 07 26 23.7 +1.2**
SNR=30
USP Ospenovka 53.81 336 P **P 07 26 24.4 +0.5**
SNR=19
MK31 Makanchi Array 54.20 344 P **P 07 26 26.8 0.0**
MKAR Makanchi Array 54.20 344 P **P 07 26 26.8 0.0**
comp=Z,19nm,0.5s,mb5.3,baz=134,slow=6.9,SNR=71
MKAR S **S 07 34 00.8 -0.7**
comp=Z,0.2nm,0.3s,baz=148,slow=8.5,SNR=3.1
MKAR Makanchi Array 54.20 344 P **P 07 26 26.8 0.0**
MKAR S **S 07 34 00.8 -0.7**
OPO Ambohidratompo 54.82 251 P **P 07 26 32.2 +0.9**
comp=Z,4.5nm,0.7s,mb4.6,baz=112,slow=6.4,SNR=5.5
ZAK Zakamensk 55.03 1⇓ *i*P **P 07 26 32.8 0.0**
ZAK *e* 07 27 34.1
ZAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
VLA Vladivostok 55.04 27*d i*P **P 07 26 32.8 -0.1**
VLA pmax pmax
comp=Z,95nm,0.9s,mb5.8
VLA Vladivostok 55.04 27 *i*P **P 07 26 32.9 0.0**
MDJ Mudanjiang 55.26 24 P **P 07 26 34.0 -0.5**
MDJ AP pP 07 26 43.0 -2.0
MDJ PCP PcP 07 27 34.8 -0.2
MDJ PP PP 07 28 38.0 -0.2
MDJ SCP ScP 07 31 30.8 -0.2
MDJ PCS PcS 07 31 35.3 +0.3
MDJ S **S 07 34 17.0 +1.3**
MDJ AMB AMB
comp=Z,58nm,1.0s,mb5.6
MDJ AMB AMB
comp=Z,69nm,3.3s
MDJ LR LR
comp=N,1μm,33.8s,MS4.8
MDJ LR LR
comp=E,401nm,34.3s,MS4.8
MDJ LR LR
comp=Z,1μm,23.6s
MDJ Mudanjiang 55.26 24 *e*P **P 07 26 34.2 -0.3**
comp=Z,52nm,0.8s,mb5.6
KKAR Karatay Array 55.41 333 *i*P **P 07 26 35.0 -0.6**
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
HIA Hailar 56.15 14 *e*P **P 07 26 40.3 -0.6**
HIA pmax pmax
comp=Z,36nm,0.9s
HIA Hailar 56.15 14 *e*P **P 07 26 40.3 -0.5**
comp=Z,36nm,0.9s,mb5.4
TLY Talaya 56.33 2 P **P 07 26 43.1 +0.9**
comp=Z,158nm,0.8s,mb6.1,SNR=11
TLY Talaya 56.33 2 *e*P **P 07 26 43.1 +0.9**
TLY *e**SP sP 07 26 54.9 -2.0
TLY pmax pmax
comp=Z,19nm,0.8s,mb5.2
TLY Talaya 56.33 2 *e*P **P 07 26 43.1 +0.9**
comp=Z,19nm,0.8s,mb5.2
TLY *e*pP pP 07 26 50.4 -2.4
TLY *e*sP sP 07 26 54.9 -2.0
IRK Irkutsk 56.92 2 *e*P **P 07 26 45.9 -0.4**
IRK pmax pmax
comp=Z,49nm,1.9s,mb5.2
CIT Chita 57.55 9 *e*P **P 07 26 51.6 +0.8**
CIT pmax pmax
comp=Z,63nm,1.6s,mb5.4
KURK Kurchatov 58.78 343 P **P 07 26 59.2 -0.2**
comp=Z,169nm,0.9s,mb6.1,SNR=19
KURK Kurchatov 58.78 343 P **P**
KLR Kul'dur 59.89 22⇓ *i*P **P 07 27 03.6 -3.4**
KLR pmax pmax
comp=E,28nm,1.0s
KLR pmax pmax
comp=Z,68nm,1.0s,mb5.6
ERM Erimo 60.00 35 P **P 07 27 07.8 0.0**
comp=Z,367nm,0.5s,SNR=7.4
ZAL Zalesovo 60.25 349 P **P 07 27 09.0 -0.5**
comp=Z,23nm,0.9s,mb5.2,baz=292,slow=4.7,SNR=86
ZAL S **S 07 35 20.0 -1.1**
comp=Z,1.9nm,0.3s,baz=174,slow=21,SNR=2.9
ZAL Zalesovo 60.25 349 P **P 07 27 09.0 -0.5**
ZAL S **S 07 35 20.0 -1.1**
HABR Khabarovsk 60.60 25 *e*P **P 07 27 10.9 -1.0**
HABR *e*S **S 07 35 25.1 -0.5**
NVS Novosibirsk 61.41 348 *e*P **P 07 27 16.1 -1.3**
NVS *e*S **S 07 35 32.4 -3.6**
NVS pmax pmax
comp=N,15nm,1.1s
NVS pmax pmax
comp=E,9.0nm,1.1s
NVS pmax pmax
comp=E,9.0nm,1.1s
NVS smax
comp=N,15nm,1.5s
NVS smax
comp=E,17nm,1.5s
VOSK Vostochnaya 62.95 340 P **P 07 27 26.7 -1.0**
YSS Yuzh-Sakhalins 63.06 30*c i*P **P 07 27 28.0 -0.4**
YSS pmax pmax
comp=Z,140nm,1.3s,mb5.9
YSS Yuzh-Sakhalins 63.06 30 *e*P **P 07 27 28.1 -0.3**
comp=Z,74nm,0.8s,mb5.9
BOD Bodaibo 63.26 7⇓ *i*P **P 07 27 29.0 -0.7**
BOD pmax pmax
comp=Z,23nm,0.9s,mb5.3
BVA0 Borovoye Array 63.40 339 *i*P **P 07 27 29.8 -0.9**
BVA0 pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
BVAR Borovoye Array 63.40 339 P **P 07 27 30.1 -0.7**
comp=Z,17nm,0.6s,mb5.3,baz=146,slow=8.7,SNR=85
BRVK Borovoye 63.47 339 P **P 07 27 30.9 -0.2**
comp=Z,136nm,0.6s,SNR=8.2
BRVK Borovoye 63.47 339 P **P 07 27 30.2 -0.9**
ZRNK Zerenda 63.84 339 P **P 07 27 32.6 -1.0**
CHKZ Chkalovo 63.86 340 P **P 07 27 33.4 -0.3**
KMBO Kilima Mbogo 64.38 271 P **P 07 27 37.8 +0.6**
comp=Z,1.4nm,0.6s,mb4.2,baz=56,slow=16,SNR=3.0
KMBO pP pP 07 27 50.2 +2.3
comp=Z,3.0nm,0.7s,baz=84,slow=5.5,SNR=5.4
AB31 Akbulak array 64.91 331 *i*P **P 07 27 40.1 -0.5**
AB31 pmax pmax
comp=Z,18nm,0.8s,mb5.2
MAW Mawson 67.96 195 P **P 07 28 00.1 0.0**
comp=Z,2.2nm,0.7s,mb4.3,baz=16,slow=7.8,SNR=7.5
MAW pP pP 07 28 11.7 +0.8
comp=Z,7.4nm,1.0s,baz=49,slow=9.2,SNR=7.5
MAW Mawson 67.96 195 P **P 07 28 00.1 0.0**
MAW *PP pP 07 28 11.7 +0.8
MAW pmax pmax
comp=Z,2.0nm,0.7s
MAW pmax pmax
comp=Z,7.0nm,1.0s
MAW Mawson 67.96 195 *e*P **P 07 27 59.8 -0.3**
comp=Z,2.3nm,0.6s,mb4.4
MAW *e* pP 07 28 09.0 -1.9
GNI Garni 68.70 316 *i*P **P 07 28 05.3 +0.6**
SVE Sverdlovsk 69.92 337⇑ *e*P **P 07 28 11.0 -1.3**
SVE *e* pP 07 28 23.2 +0.1
SVE *e* 07 28 41.7
SVE pmax pmax
comp=Z,60nm,1.0s,mb5.5
YAK Yakutsk 70.09 14⇑ *i*P **P 07 28 11.7 -1.6**
ZEI Tsey 70.43 319 *e*P **P 07 28 15.8 +0.4**
ZEI *e**PP pP 07 28 22.2 -4.1
ZEI *i* 07 30 49.5
ZEI pmax pmax
comp=Z,13nm,0.6s,mb5.0
ARU Arti 70.45 336⇓ *i*P **P 07 28 15.0 -0.5**
ARU *e* 07 28 34.6
ARU *e* 07 30 51.3
ARU *e*PPP 07 32 34.7
ARU *e*S S 07 37 27.7 +1.7
ARU *e*SS SS 07 41 58.8 +1.5
ARU pmax pmax
comp=Z,24nm,0.9s,mb5.1
ARU Arti 70.45 336 *e*P **P 07 28 15.2 -0.3**
comp=Z,10nm,0.6s,mb4.9
KIV Kislovodsk 71.75 319 P **P 07 28 23.0 -0.4**
KIV *e* pP 07 28 33.9 -0.4
KIV *e* 07 28 36.8
KIV *e* 07 28 43.6
KIV Kislovodsk 71.75 319 *i*P **P 07 28 23.4 0.0**
SOKR Solikamsk 73.30 338*c i*P **P 07 28 32.9 +0.3**
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.1
SOKR MLR MLR
comp=Z,2μm,22.0s,MS5.4
SOC Sochi 73.55 318 *e*P **P 07 28 44.0 +10**
SOC *e*S S 07 38 32.6 +31
SOC pmax pmax
comp=Z,11nm,0.5s,mb5.0
MA2 Magadan 74.96 23*c i*P **P 07 28 41.8 -0.5**
MA2 *e* 07 28 57.2
MA2 pmax pmax
comp=Z,40nm,1.0s,mb5.3
MA2 Magadan 74.96 23 *e*P **P 07 28 42.3 0.0**
comp=Z,33nm,1.0s,mb5.2
LBTB Lobatse 75.32 246 LR LR 07 55 57.6
comp=Z,290nm,20.9s,MS4.6,baz=89,slow=31
SYO Syowa Base 75.72 199⇑ *e*P **P 07 28 46.4 -0.3**
BOSA Boshof 75.74 242 P **P 07 28 47.0 +0.2**
comp=Z,1.2nm,0.5s,mb4.1,baz=62,slow=4.1,SNR=3.7
BOSA pP pP 07 28 59.2 +1.4
comp=Z,5.9nm,0.9s,baz=91,slow=5.7,SNR=5.1
BOSA Boshof 75.74 242 P **P 07 28 47.0 +0.2**
BOSA pP pP 07 28 59.2 +1.4
BRTR Keskin Array B 76.44 313 P **P 07 28 50.7 -0.1**
comp=Z,0.8nm,0.5s,baz=124,slow=6.4,SNR=5.7
BRTR pP pP 07 29 02.6 +0.9
comp=Z,3.3nm,0.8s,baz=120,slow=7.3,SNR=8.6
VRSR Storozhevoye 77.02 325 *e*P **P 07 28 53.8 -0.2**
VRSR pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
VRSR pmax pmax
comp=N,8.0nm,1.1s
VRSR pmax pmax
comp=E,4.0nm,1.1s
TIXI Tiksi 78.40 9⇑ *i*P **P 07 29 00.0 -1.8**
VNDA Vanda 79.07 169 P **P 07 29 03.2 -2.2**
comp=E,2.0nm,0.9s,baz=297,slow=5.3,SNR=6.9
VNDA Vanda 79.07 169 P **P 07 29 03.2 -2.2**
MOS Moscow 79.76 329 *e*P **P 07 29 07.1 -2.1**
MOS *e* 07 29 21.6
OBN Obninsk 80.06 328⇓ *e*P **P 07 29 11.1 +0.3**
OBN *e* 07 29 18.5
OBN *e* 07 29 25.3
OBN *e* 07 39 14.7
OBN pmax pmax
comp=Z,11nm,0.4s,mb5.1
OBN Obninsk 80.06 328⇓ *e*P **P 07 29 11.2 +0.4**
KLMR Klimovskoe 81.09 334 *e*P **P 07 29 16.5 +0.2**
KLMR pmax pmax
comp=Z,30nm,1.3s,mb5.1
AKASG Malin Array Be 82.72 322 P **P 07 29 23.4 -1.5**
comp=Z,2.5nm,0.7s,mb4.3,baz=93,slow=4.1,SNR=6.0
AKASG Malin Array Be 82.72 322 *i*P **P 07 29 24.3 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
QSPA South Pole Qui 85.13 180 *e*P **P 07 29 36.9 -0.3**
comp=Z,2.1nm,0.9s,mb4.3
JOF Joensuu 85.47 334 *e*p **P 07 29 38.2 -0.7**
comp=Z,5.3nm,0.8s,mb4.7
APA Apatity 86.31 339⇓ *i*P **P 07 29 42.0 -1.1**
APA pmax pmax
comp=Z,21nm,1.0s,mb5.3
APA MLR MLR
comp=Z,1μm,20.0s,MS5.3
FINES FINESS Array B 87.38 332 P **P 07 29 48.3 +0.1**
comp=Z,4.6nm,0.8s,mb4.8,baz=109,slow=5.6,SNR=19
FINES FINESS Array B 87.38 332 *i*P **P 07 29 48.2 0.0**
FINES pmax pmax
comp=Z,5.0nm,0.8s
KAF Kangasniemi 87.44 333 *e*p **P 07 29 48.3 -0.3**
comp=Z,7.8nm,0.6s,mb5.1,baz=100,slow=4.3
KAF Kangasniemi 87.44 333 *e*P **P 07 29 48.3 -0.3**
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb5.1
KEV Kevo 89.24 340 *e*p **P 07 29 56.2 -0.9**
comp=Z,5.7nm,0.7s,mb5.0
KEV Kevo 89.24 340 *e*P **P 07 29 56.2 -0.9**
KEV pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
ARCES ARCESS Array B 89.69 340 P **P 07 29 59.2 0.0**
comp=Z,12nm,0.8s,mb5.2,baz=90,slow=7.5,SNR=31
SNAA Sanae 89.95 198 *e*P **P 07 30 01.7 +1.3**
SNAA *e* 07 30 03.3
SNAA *e* pP 07 30 12.9 +1.4
SNAA *e* pP 07 30 15.2 +3.7
SNAA *e* 07 30 18.3
SNAA *e* 07 30 30.4
SNAA *e* 07 59 06.6
SNAA *e* 07 59 09.6
SNAA *e* 07 59 13.4
SNAA *e* 07 59 20.2
SNAA *e* 08 08 52.7
SNAA *e* 08 08 55.2
SNAA *e* 08 08 58.4
SNAA Sanae 89.95 198 *e*P **P 07 30 00.5 +0.1**
SNAA pmax pmax
comp=Z,3.0nm,0.8s
SNAA Sanae 89.95 198 *e*P **P 07 30 00.5 +0.1**
comp=Z,2.8nm,0.8s,mb4.6
VNA1 Neumayer--Stat 91.94 198 *e*P **P 07 30 11.2 +1.6**
VNA1 *e* 07 30 12.3
VNA1 *e* pP 07 30 22.5 +1.7
VNA1 *e* pP 07 30 24.3 +3.5
VNA1 *e* 07 30 27.7
VNA1 *e* 07 30 31.0
VNA1 *e* 07 30 37.9
VNA1 *e* 07 59 11.0
VNA1 *e* 07 59 13.1
VNA1 *e* 07 59 17.0
VNA1 *e* 07 59 20.0
VNA1 *e* 07 59 25.1
GERES GERESS Array B 92.25 319 P **P 07 30 11.7 +0.7**
comp=Z,0.4nm,0.3s,mb4.3,baz=116,slow=6.2,SNR=7.4
GERES pP pP 07 30 21.2 -1.0
comp=Z,0.5nm,0.3s,baz=92,slow=8.0,SNR=2.7
NB2 NORSAR Subarra 94.41 331 P **P 07 30 20.3 -0.7**
comp=Z,3.9nm,1.2s,mb4.7,baz=92,slow=4.6
NOA NORSAR Array B 94.41 331 P **P 07 30 20.2 -0.8**
comp=Z,1.0nm,0.8s,mb4.3,baz=92,slow=4.6,SNR=3.9
YKA Yellowknife Ar 116.58 18 PKP PKPdf 07 35 43.3 -1.7
comp=Z,1.8nm,0.9s,baz=326,slow=2.3,SNR=5.2
YKA Yellowknife Ar 116.58 18 PKP PKPdf 07 35 43.3 -1.7
A05A Maple Falls 122.51 33 ⇓P PKPdf 07 35 56.7 +0.3
baz=122
B05A Bryant 122.93 33 ⇓P PKPdf 07 35 57.7 +0.5
baz=123
E03A Lebam 123.05 36 ⇓P PKPdf 07 35 58.5 +1.0
baz=123
F03A Seaside 123.38 36 ⇑P PKPdf 07 35 59.8 +1.7
baz=123
D05A Enumclaw 123.60 34 ⇑P PKPdf 07 35 59.5 +1.0
baz=124
F04A Amboy 124.05 36 ⇓P PKPdf 07 36 00.6 +1.2
baz=124
E05A Randle 124.08 35 ⇓P PKPdf 07 36 00.6 +1.1
baz=124
H03A Soap Creek Ran 124.21 38 ⇑P PKPdf 07 36 01.0 +1.3
baz=124
G04A Mulino 124.41 37 ⇓P PKPdf 07 36 01.2 +1.1
baz=124
I03A Eugene 124.58 38 ⇓P PKPdf 07 36 01.4 +1.0
baz=125
J02A Umpqua 124.71 39 ⇓P PKPdf 07 36 01.9 +1.2
baz=125
H04A Detroit Lake 124.87 37 ⇑P PKPdf 07 36 01.4 +0.5
baz=125
K02A Glendale 125.07 40 ⇑P PKPdf 07 36 02.5 +1.1
baz=125
J03A Ideyld Park 125.09 39 ⇑P PKPdf 07 36 03.1 +1.8
baz=125
L02A Cave Junction 125.30 40 ⇓P PKPdf 07 36 03.1 +1.3
baz=125
HAWA Hanford 125.44 34 *e*PKPdf PKPdf 07 36 03.4 +1.4
H05A Madras 125.46 37 ⇑P PKPdf 07 36 03.3 +1.2
baz=125
HUMO Hull Mountain 125.49 40 ⇑P PKPdf 07 36 03.7 +1.5
baz=126
NEW Newport 125.57 31 *e*PKIKP PKPdf 07 36 02.7 +0.4
YBH Yreka Blue Hor 126.09 40 PKP PKPdf 07 36 04.5 +1.2
comp=Z,1.2nm,0.7s,baz=166,slow=3.2,SNR=3.6
N02C Big Bar 126.15 42 ⇑P PKPdf 07 36 05.5 +2.1
baz=126
M02C Callahan 126.17 41 ⇑P PKPdf 07 36 05.1 +1.6
baz=126
J05A Fort Rock 126.20 38 ⇑P PKPdf 07 36 05.4 +1.9
baz=126
L04A Klamath Falls 126.39 39 ⇓P PKPdf 07 36 05.5 +1.6
baz=126
I06A Prineville 126.46 37 ⇓P PKPdf 07 36 05.8 +1.8
baz=126
M04C Macdoel 126.62 40 ⇑P PKPdf 07 36 05.3 +1.0
baz=127
WDC Whiskeytown Da 126.78 42 ⇓P PKPdf 07 36 05.5 +0.9
baz=127
O02C Red Bluff 126.81 42 ⇑P PKPdf 07 36 06.9 +2.3
baz=127
J06A Christmas Vall 126.89 37 ⇓P PKPdf 07 36 06.5 +1.7
baz=127
BSMT Bassoo Peak 127.02 30 *e*PKPdf PKPdf 07 36 05.7 +0.7
K06A Valley Falls 127.07 38 ⇓P PKPdf 07 36 07.0 +1.8
baz=127
GASB Alder Springs 127.12 43 ⇓P PKPdf 07 36 07.7 +2.5
baz=127
L05A Lakeview 127.12 39 ⇑P PKPdf 07 36 07.6 +2.3
baz=127
M05C Lookout 127.29 40 ⇓P PKPdf 07 36 07.3 +1.7
baz=127
J07A Hines 127.33 37 ⇑P PKPdf 07 36 07.8 +2.1
baz=127
HATC Hat Creek Radi 127.37 41 ⇑P PKPdf 07 36 07.5 +1.8
baz=127
MNRC McLaughlin Nat 127.68 43 ⇑P PKPdf 07 36 08.5 +2.2
baz=128
MCCM Marconi Confer 127.73 44 ⇑P PKPdf 07 36 09.1 +2.7
baz=128
K07A Rock Creek Ran 127.75 38 ⇓P PKPdf 07 36 08.5 +2.0
baz=128
J08A Circle Bar Ran 127.83 37 ⇑P PKPdf 07 36 08.7 +2.1
baz=128
O04C Chester 127.87 41 ⇓P PKPdf 07 36 08.5 +1.8
baz=128
CVS Carmenet Viney 127.92 44 ⇑P PKPdf 07 36 08.3 +1.5
baz=128
ORV Oroville 127.98 42 ⇓P PKPdf 07 36 08.1 +1.2
baz=128
L07A Adell 128.07 38 ⇑P PKPdf 07 36 09.5 +2.4
baz=128
OHCM Honcut 128.10 42 *e*PKPdf PKPdf 07 36 07.7 +0.6
O05C Quincy 128.16 41 ⇑P PKPdf 07 36 09.2 +1.9
baz=128
CHMT Chamberlain Mo 128.42 30 *e*PKPdf PKPdf 07 36 07.7 0.0
N06A Buffalo Meadow 128.46 40 ⇓P PKPdf 07 36 09.3 +1.5
baz=128
L08A Fields 128.59 38 ⇓P PKPdf 07 36 09.9 +1.9
baz=128
O06A Flanigan 128.77 41 ⇓P PKPdf 07 36 10.1 +1.7
baz=129
LAVA Lava Cap Winer 128.89 43 ⇓P PKPdf 07 36 10.6 +1.9
baz=129
M08A Happy Creek Ra 128.98 38 ⇓P PKPdf 07 36 11.1 +2.3

	baz=129							
N07B	**Gerlach**	**128.99**	**39**	⇓P		PKPdf	07 36 10.7	+1.9
	baz=129							
L09A	**Wilkinson Ranc**	**129.09**	**37**	⇓P		PKPdf	07 36 11.5	+2.5
	baz=129							
HRY	**Holter Researc**	**129.27**	**29**	*e*PKPdf		PKPdf	07 36 10.4	+1.1
EGMT	**Eagleton**	**129.29**	**27**	*e*PKPdf		PKPdf	07 36 10.0	+0.7
SCHQ	**Schefferville**	**129.30**	**351**	PKP		PKPdf	07 36 09.1	-0.3
	comp=Z,2.2nm,0.6s,baz=13,slow=18,SNR=7.3							
SCHQ	**Schefferville**	**129.30**	**351**	PKP		PKPdf	07 36 09.1	-0.3
R05C	**Kirkwood Meado**	**129.37**	**42**	⇓P		PKPdf	07 36 11.5	+2.0
	baz=129							
O07A	**Toulon**	**129.38**	**40**	⇓P		PKPdf	07 36 11.6	+2.0
	baz=129							
HAST	**UC Hastings Re**	**129.48**	**46**	⇑P		PKPdf	07 36 11.6	+1.8
	baz=130							
DLMT	**Dillon**	**129.82**	**31**	*e*PKPdf		PKPdf	07 36 11.8	+1.5
LRV	**Little Rabbit**	**129.85**	**45**	*e*PKPdf		PKPdf	07 36 11.6	+1.2
N09A	**Rock Creek Ran**	**129.86**	**39**	⇓P		PKPdf	07 36 12.5	+2.1
	baz=130							
S06C	**San Francisco**	**129.94**	**43**	⇑P		PKPdf	07 36 11.9	+1.3
	baz=130							
HLID	**Hailey**	**130.04**	**34**	*e*PKPdf		PKPdf	07 36 12.6	+1.8
MCMT	**McKenzie Canyo**	**130.05**	**32**	*e*PKPdf		PKPdf	07 36 12.0	+1.2
BOZ	**Bozeman (W)**	**130.11**	**30**	*e*PKIKP		PKPdf	07 36 11.9	+1.0
PKD	**Parkfield**	**130.41**	**46**	⇑P		PKPdf	07 36 13.6	+2.1
	baz=130							
O09A	**Fish Creek Ran**	**130.45**	**39**	⇑P		PKPdf	07 36 13.5	+1.9
	baz=130							
NVAR	**Mina Array Bea**	**130.70**	**42**	PKhKP			07 36 06.7	
	comp=Z,0.4nm,0.7s,baz=281,slow=1.2,SNR=4.3							
NVAR				PKP		PKPdf	07 36 12.8	+0.8
	comp=Z,2.2nm,0.6s,baz=309,slow=0.7,SNR=24							
NVAR	**Mina Array Bea**	**130.70**	**42**	PKP		PKPdf	07 36 12.8	+0.8
QLMT	**Earthquake Lak**	**130.78**	**31**	*e*PKPdf		PKPdf	07 36 14.2	+2.0
M12A	**Wells**	**131.10**	**36**	⇓P		PKPdf	07 36 14.9	+2.1
	baz=131							
N12A	**Clover Valley,**	**131.37**	**37**	⇓P		PKPdf	07 36 15.8	+2.5
	baz=131							
LKWY	**Lake**	**131.49**	**30**	*e*SKPbc		SKPbc	07 39 39.7	+3.6
M13A	**Montello**	**131.58**	**36**	⇓P		PKPdf	07 36 15.8	+2.0
	baz=132							
IMW	**Indian Meadow**	**131.69**	**31**	*e*PKPdf		PKPdf	07 36 15.3	+1.3
S09A	**Goldfield**	**131.80**	**42**	⇑P		PKPdf	07 36 16.4	+2.3
	baz=132							
LAO	**LASA Array**	**131.87**	**26**	*e*PKPdf		PKPdf	07 36 15.5	+1.2
RRI2	**Red Ridge**	**131.87**	**32**	*e*PKPdf		PKPdf	07 36 15.8	+1.6
MOOW	**Moose Ponds**	**131.89**	**31**	*e*PKPdf		PKPdf	07 36 16.8	+2.5
O12A	**Currie**	**131.90**	**38**	⇓P		PKPdf	07 36 16.7	+2.4
	baz=132							
TPAW	**Teton Pass**	**131.96**	**32**	*e*PKPdf		PKPdf	07 36 16.1	+1.7
TPAW				*e*SKPbc		SKPbc	07 39 39.6	+1.8
SNOW	**Snow King Moun**	**132.09**	**32**	*e*PKPdf		PKPdf	07 36 16.4	+1.7
REDW	**Red Top Meadow**	**132.10**	**32**	*e*PKPdf		PKPdf	07 36 15.8	+1.1
REDW				*e*SKPbc		SKPbc	07 39 39.6	+1.3
HVU	**Hansel Valley**	**132.11**	**35**	*e*PKIKP		PKPdf	07 36 15.7	+1.0
Q11A	**Duckwater**	**132.19**	**40**	⇓P		PKPdf	07 36 16.8	+2.0
	baz=132							
P12A	**McGill**	**132.29**	**39**	⇓P		PKPdf	07 36 17.1	+2.0
	baz=132							
ULM	**Lac du Bonnet**	**132.41**	**15**	PKP		PKPdf	07 36 14.9	-0.4
	comp=Z,8.0nm,0.6s,baz=358,slow=4.1,SNR=14							
TPNV	**Topopah Spring**	**132.87**	**42**	*e*PKIKP		PKPdf	07 36 18.0	+1.9
HWUT	**Hardware Ranch**	**132.91**	**34**	*e*PKPdf		PKPdf	07 36 17.5	+1.3
HWUT				*e*SKPbc		SKPbc	07 39 42.4	+1.3
U10A	**Ash Meadows, A**	**133.10**	**43**	⇓P		PKPdf	07 36 19.4	+2.8
	baz=133							
DUG	**Dugway**	**133.11**	**36**	*e*PKPdf		PKPdf	07 36 17.4	+0.8
DUG				*e*SKPbc		SKPbc	07 39 43.6	+1.8
BW06	**Boulder Array**	**133.20**	**32**	*e*PKPdf		PKPdf	07 36 17.9	+1.1
PDAR	**Pinedale Array**	**133.20**	**32**	PKP		PKPdf	07 36 17.2	+0.5
	comp=Z,1.4nm,0.5s,baz=164,slow=1.7,SNR=16							
GSC	**Goldstone**	**133.37**	**44**	*e*PKIKP		PKPdf	07 36 19.1	+2.0
GSC	**Goldstone**	**133.37**	**44**	⇓P		PKPdf	07 36 19.1	+2.0
	baz=133							
DAU	**Daniels Canyon**	**133.88**	**35**	*e*PKPdf		PKPdf	07 36 19.5	+1.5
DAU				*e*SKPbc		SKPbc	07 39 45.9	+1.5
V12A	**Nelson**	**134.48**	**43**	⇑P		PKPdf	07 36 21.7	+2.6
	baz=134							
PFO	**Pinyon Flat Ob**	**134.49**	**46**	⇑P		PKPdf	07 36 21.7	+2.5
	baz=134							
RSSD	**Black Hills**	**134.84**	**26**	*e*PKIKP		PKPdf	07 36 20.5	+0.7
SRU	**San Rafael**	**135.16**	**36**	*e*PKPdf		PKPdf	07 36 21.4	+1.0
SRU				*e*SKPbc		SKPbc	07 39 49.3	+0.8
W14A	**Seligman**	**135.97**	**42**	⇑P		PKPdf	07 36 24.7	+2.7
	baz=136							
PHWY	**Pilot Hill**	**136.35**	**30**	*e*PKPdf		PKPdf	07 36 23.5	+0.8
WUAZ	**Wupatki**	**136.91**	**41**	*e*PKPdf		PKPdf	07 36 26.3	+2.6
X15A	**Humboldt**	**136.94**	**42**	⇑P		PKPdf	07 36 26.2	+2.4
	baz=137							
PV01	**Paradox Valley**	**136.95**	**36**	*e*PKPdf		PKPdf	07 36 25.5	+1.7
PV01				*e*SKPbc		SKPbc	07 39 55.2	+1.3
ANMO	**Albuquerque**	**140.35**	**37**	PKP		PKPdf	07 36 27.7	-2.3
	comp=Z,1.5nm,0.8s,baz=276,slow=2.0,SNR=4.4							
ANMO	**Albuquerque**	**140.35**	**37**	*e*PKPdf		PKPdf	07 36 30.4	+0.3
KSU1	**Kansas State U**	**142.10**	**23**	*e*PKPdf		PKPdf	07 36 30.4	-2.7
KSU1				*e*PP		PP	07 39 37.2	-1.9
BDFB	**Brasilia**	**143.70**	**235**	PKP		PKPdf	07 36 35.1	-0.9
	comp=Z,18nm,1.3s,baz=342,slow=23,SNR=6.4							
SSPA	**Standing Stone**	**144.37**	**359**	*e*PKPdf		PKPdf	07 36 35.5	-1.7
ACSO	**Alum Creek Sta**	**144.53**	**6**	*e*PKPdf		PKPdf	07 36 36.0	-1.5
SLM	**Saint Louis**	**144.68**	**16**	*e*PKIKP		PKPdf	07 36 36.6	-1.1
WMOK	**Wichita Mounta**	**144.76**	**30**	*e*PKIKP		PKPdf	07 36 36.9	-0.9
BLO	**Bloomington**	**145.04**	**11**	*e*PKIKP		PKPdf	07 36 37.8	-0.5
FVM	**French Village**	**145.23**	**17**	*e*PKIKP		PKPdf	07 36 38.3	-0.3
MCWV	**Mont Chateau**	**145.32**	**2**	*e*PKPdf		PKPdf	07 36 39.1	+0.4
SIUC	**Southern Illin**	**145.82**	**15**	*e*PKPdf		PKPdf	07 36 40.6	+1.0
USIN	**University of**	**145.96**	**13**	*e*PKPdf		PKPdf	07 36 40.5	+0.6
WCI	**Wyandotte Cave**	**146.00**	**11**	*e*PKP2		PKPab	07 36 40.9	-0.4
PARMO	**Parma**	**146.66**	**17**	PKPbc		PKPbc	07 36 43.3	+0.6
CBN	**Corbin**	**146.79**	**359**	*e*PKPdf		PKPdf	07 36 43.6	+2.3
UTMT	**University of**	**147.20**	**16**	*e*PKPbc		PKPbc	07 36 44.9	+0.6
MIAR	**Mount Ida**	**147.26**	**24**	*e*PKPbc		PKPbc	07 36 45.2	+0.8
MIAR				*e*PKPab		PKPab	07 36 47.3	+1.1
FWV	**Forest Hill**	**147.34**	**4**	*e*PKPdf		PKPdf	07 36 42.8	+0.6
FWV				*e*PKPbc		PKPbc	07 36 44.7	+0.1
JCT	**Junction City**	**147.47**	**36**	*e*PKPdf		PKPdf	07 36 44.0	+1.6
JCT				*e*PKPbc		PKPbc	07 36 46.1	+1.1
JCT				*e*PKPab		PKPab	07 36 48.2	+1.1
UALR	**University of**	**147.53**	**22**	*e*PKPdf		PKPdf	07 36 43.2	+0.7
UALR				*e*PKPbc		PKPbc	07 36 45.6	+0.4
WVT	**Waverly**	**147.67**	**14**	*e*PKIKP		PKPdf	07 36 43.4	+0.6
WVT				*e*			07 36 45.9	
WVT				*e*			07 36 48.6	
ELN	**Prospectdale**	**147.70**	**4**	*e*PKPbc		PKPbc	07 36 45.4	-0.3
BLA	**Blacksburg**	**147.74**	**3**	*e*PKP2		PKPbc	07 36 45.7	0.0
TZTN	**Tazewell**	**148.10**	**8**	*e*PKPdf		PKPbc	07 36 46.9	+0.3
PLAL	**Pickwick Lake**	**148.70**	**15**	*e*PKPbc		PKPbc	07 36 47.9	-0.3
PLAL				*e*PKPab		PKPab	07 36 52.0	+0.1
OXF	**Oxford**	**148.76**	**18**	*e*PKPbc		PKPbc	07 36 48.7	+0.3
OXF				*e*PKPab		PKPab	07 36 52.0	-0.3
SWET	**Sewanee**	**148.98**	**12**	*e*PKPbc		PKPbc	07 36 48.8	-0.2
CPCT	**Cooper Cave**	**149.02**	**10**	*e*PKPbc		PKPbc	07 36 49.9	+0.8
CPCT				*e*PKPab		PKPab	07 36 53.7	+0.4
NATX	**Nacogdoches**	**149.17**	**28**	*e*PKPbc		PKPbc	07 36 50.8	+1.3
MYNC	**Murphy**	**149.45**	**9**	*e*PKPbc		PKPbc	07 36 50.9	+0.7
MYNC				*e*PKPab		PKPab	07 36 55.1	+0.1
HKT	**Hockley**	**150.07**	**31**	*e*PKP2		PKPbc	07 36 52.8	+1.1
LRAL	**Lakeview Retre**	**150.82**	**15**	*e*PKPab		PKPab	07 37 00.7	0.0
GOGA	**Godfrey**	**151.19**	**9**	*e*PKIKP		PKPbc	07 36 54.8	+0.5
GOGA				*e*			07 37 02.4	

IGQ 28 07:18:45.3,068N×7698W,h3km±2km, Mb4.5,Ms4.3, 14C-4D,Error ellipse: s-maj=2.5km s-min=1.1km az=38.6,Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUC	**La Cruz**	**0.81**	**2**	⇓P	Pg	07 19 01.6	+0.7
CRUC				S	Sg	07 19 12.2	+0.8
CMBC	**Cumbal**	**0.88**	**282**	⇓P	Pg	07 19 03.1	+0.9
CONE	**Cono NE Rev Vo**	**1.00**	**222**	⇑P	Pg	07 19 05.1	+0.6
LAV3	**Lava3-Reventad**	**1.01**	**220**	⇑P	Pg	07 19 05.1	+0.5
CAYA	**Cayambe**	**1.18**	**239**	⇑P	Pg	07 19 08.2	+0.3
ANGU	**Angureal**	**1.21**	**239**	P	Pg	07 19 08.9	+0.5
ANGU				S	Sg	07 19 26.1	+2.1
CAYR	**Refugio Cayamb**	**1.22**	**237**	⇑P	Pg	07 19 09.0	+0.3
COTA	**Cotacachi**	**1.40**	**256**	⇓P	Pn	07 19 12.6	+1.0
FLOC	**Florencia**	**1.58**	**58**	P	Pn	07 19 14.2	+0.1
FLOC				S	Sn	07 19 34.4	-0.7
ANTI	**Antisana**	**1.63**	**226**	⇑P	Pn	07 19 16.2	+1.4
YANA	**Yana**	**1.78**	**244**	⇑P	Pn	07 19 18.9	+2.0
YANA				S	Sn	07 19 43.1	+3.2
GGP	**Refugio Guagua**	**1.82**	**242**	⇑P	Pn	07 19 19.5	+2.0
PINO	**Pino**	**1.83**	**243**	⇑P	Pn	07 19 20.0	+2.4
TERV	**Terraza Guagua**	**1.83**	**242**	⇑P	Pn	07 19 20.1	+2.4
TERV				S	Sn	07 19 45.1	+3.8
JUA2	**San Juan 2**	**1.85**	**241**	⇑P	Pn	07 19 20.1	+2.2
VC1	**Cotopaxi 1**	**1.94**	**227**	⇑P	Pn	07 19 21.9	+2.8
TAMB	**Tambo**	**1.95**	**225**	⇑P	Pn	07 19 21.8	+2.6
CAMI	**Rancho Maria**	**2.04**	**229**	⇓P	Pn	07 19 23.1	+2.7
PISA	**Pisayambo**	**2.23**	**219**	⇑P	Pn	07 19 25.4	+2.3
PISA				S	Sn	07 19 57.6	+6.6
RUN5	**Runtun**	**2.53**	**215**	P	Pn	07 19 29.2	+2.0
ULBA	**Ulba**	**2.55**	**214**	⇑P	Pn	07 19 29.6	+2.1
ULBA				S	Sn	07 20 04.8	+5.7
JUIV	**Juive**	**2.56**	**215**	P	Pn	07 19 32.0	+4.4
JUIV				S	Sn	07 20 06.0	+6.6
RETU	**Refugio**	**2.58**	**215**	P	Pn	07 19 30.6	+2.8
CUSU	**Cusua**	**2.59**	**215**	P	Pn	07 19 32.6	+4.5
CUSU				S	Sn	07 20 08.3	+8.3
PATA	**Patacocha**	**2.61**	**214**	P	Pn	07 19 32.1	+3.8
PATA				S	Sn	07 20 08.3	+7.8
ARRY	**Arrayan**	**2.62**	**214**	P	Pn	07 19 30.6	+2.1
IGUA	**Igualata**	**2.72**	**218**	P	Pn	07 19 33.7	+3.8

WEL 28 07:39:47.3±0.1,4120S×17462E,h58km,ML3.6/18, 7C-17D,Error ellipse: s-maj=0.6km s-min=0.5km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRW	**Makara Radio**	**0.07**	**113**	⇓PN	Pn	07 39 55.8	-0.2
MRW				SN	Sn	07 40 02.1	-0.2
SNZO	**South Karori**	**0.13**	**148**	⇓PN	Pn	07 39 56.0	-0.2
SNZO				SN	Sn	07 40 02.3	-0.3
WEL	**Wellington**	**0.14**	**126**	⇓PN	Pn	07 39 56.1	-0.2
WEL				SN	Sn	07 40 02.5	-0.1
TCW	**Tory Channel**	**0.26**	**267**	⇓PN	Pn	07 39 56.5	-0.4
TCW				SN	Sn	07 40 03.1	-0.7
CAW	**Cannon Point**	**0.35**	**75**	⇓PN	Pn	07 39 57.5	-0.2
CAW				SN	Sn	07 40 05.1	0.0
KIW	**Kapiti Island**	**0.41**	**33**	⇓PN	Pn	07 39 58.0	-0.2
KIW				SN	Sn	07 40 05.7	-0.2
MSWZ	**Moikau Station**	**0.52**	**114**	⇓PN	Pn	07 39 59.3	-0.1
MSWZ				SN	Sn	07 40 07.8	-0.3
TUWZ	**Tuamarina**	**0.56**	**245**	⇑PN	Pn	07 39 59.2	-0.6
TUWZ				*e*SN	Sn	07 40 07.6	-1.1
CMWZ	**Cape Campbell**	**0.62**	**209**	⇑PN	Pn	07 40 00.9	+0.4
CMWZ				SN	Sn	07 40 11.4	+1.3
PAWZ	**Paruwai Farm**	**0.64**	**107**	⇓PN	Pn	07 40 00.4	-0.3
PAWZ				SN	Sn	07 40 10.0	-0.4
DUWZ	**D'Urville Isla**	**0.66**	**307**	⇑PN	Pn	07 40 00.6	-0.3
DUWZ				SN	Sn	07 40 10.6	-0.3
MTW	**Mount Morrison**	**0.67**	**87**	⇓PN	Pn	07 40 00.7	-0.4
MTW				SN	Sn	07 40 11.0	-0.1
BSWZ	**Blackbirch Sta**	**0.76**	**227**	⇑PN	Pn	07 40 01.8	-0.3
TRWZ	**Traveller**	**0.83**	**104**	PN	Pn	07 40 02.8	-0.3
TRWZ				SN	Sn	07 40 14.4	-0.3
MRZ	**Mangatainoka R**	**0.91**	**54**	⇓PN	Pn	07 40 03.4	-0.7
MRZ				SN	Sn	07 40 16.2	-0.2
NNZ	**Nelson**	**0.93**	**269**	⇑PN	Pn	07 40 03.8	-0.6
NNZ				SN	Sn	07 40 17.0	0.0
TIWZ	**Tintock**	**1.05**	**67**	⇓PN	Pn	07 40 05.2	-0.8
BFZ	**Birch Farm**	**1.34**	**68**	⇓PN	Pn	07 40 08.6	-1.3
THZ	**Tophouse**	**1.40**	**246**	⇓PN	Pn	07 40 09.7	-0.9
THZ				SN	Sn	07 40 27.1	-1.1
KHZ	**Kahutara**	**1.46**	**213**	⇑PN	Pn	07 40 10.8	-0.6
KHZ				SN	Sn	07 40 27.3	-2.1
WAZ	**Wanganui**	**1.47**	**11**	PN	Pn	07 40 12.1	+0.5
TSZ	**Takapari Road**	**1.53**	**42**	⇓PN	Pn	07 40 11.4	-1.0
TSZ				SN	Sn	07 40 30.3	-0.9
QRZ	**Quartz Range**	**1.62**	**283**	⇓PN	Pn	07 40 13.2	-0.4
QRZ				SN	Sn	07 40 32.7	-0.8
RAEZ	**Rainy Point**	**1.92**	**355**	*e*PN	Pn	07 40 18.8	+1.1
NRZ	**Ngariki Road**	**1.93**	**344**	PN	Pn	07 40 18.5	+0.7
NEZ	**North Egmont**	**1.97**	**348**	*e*PN	Pn	07 40 19.2	+0.9
PKVZ	**Pokaka**	**1.99**	**17**	PN	Pn	07 40 19.0	+0.4
MOVZ	**Moawhango**	**1.99**	**26**	PN	Pn	07 40 18.0	-0.6
WNVZ	**Wahianoa**	**2.02**	**22**	PN	Pn	07 40 19.1	+0.2
PKE	**Pukeiti**	**2.06**	**346**	PN	Pn	07 40 19.8	+0.2
FWVZ	**Far West T-bar**	**2.07**	**21**	*e*PN	Pn	07 40 19.6	-0.1
PXZ	**Pawanui**	**2.07**	**56**	PN	Pn	07 40 17.4	-2.3
VRZ	**Vera Road**	**2.08**	**3**	⇑PN	Pn	07 40 20.2	+0.5
TUVZ	**Tukino**	**2.09**	**23**	PN	Pn	07 40 20.0	+0.1
WPVZ	**Whakapapa**	**2.12**	**20**	PN	Pn	07 40 20.6	+0.2
NGZ	**Ngauruhoe**	**2.16**	**21**	*e*PN	Pn	07 40 21.2	+0.2
DSZ	**Denniston Nort**	**2.18**	**255**	⇓PN	Pn	07 40 20.2	-1.0
OTVZ	**Oturere**	**2.19**	**22**	PN	Pn	07 40 21.4	+0.1
WTVZ	**West Tongariro**	**2.21**	**20**	PN	Pn	07 40 21.7	0.0
TWVZ	**Taurewa**	**2.22**	**17**	PN	Pn	07 40 21.7	0.0
KRVZ	**Karewarewa**	**2.25**	**21**	PN	Pn	07 40 22.1	+0.1
LTZ	**Lake Taylor**	**2.36**	**227**	⇓*e*PN	Pn	07 40 22.3	-1.3
KATZ	**Kakaramea**	**2.37**	**21**	*e*PN	Pn	07 40 23.6	-0.2
BKZ	**Black Stump Fm**	**2.49**	**36**	*e*PN	Pn	07 40 23.7	-1.7
HIZ	**Hauiti**	**2.69**	**4**	PN	Pn	07 40 28.7	+0.5
MQZ	**McQueen's Vall**	**2.90**	**209**	PN	Pn	07 40 27.7	-3.2

NIED ***28*** *07:40:00,24.10N×122.60E,h41km,Mw5.9 Best double couple: M0 7.07000×10^17 NP1:ϕs68.00000°,δ73.00000°, λ52.00000°. NP2:ϕs318.00000°,δ41.00000°,λ153.00000°.*

ISCJB ***28*** *07:40:08.2±0.1,24.13N±002×12251E±001,h18km, mb5.7/252,MS5.9/84,Error ellipse: s-maj=2.5km s-min=1.8km az=177.4*

BJI ***28*** *07:40:08.3,2404N×12280E,h31km,mB6.1,mb5.5,ML6.1, Ms6.1,Msz6.0*

JMA ***28*** *07:40:09.7±0.2,2404N×12247E,h40km,M6.2*

JMA Felt III J1.

CRAAG ***28*** *07:40:10.8,24.19N×122.47E,Mb6.0*

SZGRF ***28*** *07:40:10.1,2398N×12262E,h33km,mb5.9,MS6.1, Taiwan region*

MOS ***28*** *07:40:11.0±0.8,2460N×12246E,h25km,mb6.0/95, MS6.0/44,Error ellipse: s-maj=7.1km s-min=3.7km az=119.6*

IDC ***28*** *07:40:11.9±1.8,2423N×12268E,h36km±13km,mb5.0/29, mb1 5.0/33,mb1mx5.0/34,mbtmp5.2/33,ML4.9/4,MS5.7/33, Ms1 5.7/33,ms1mx5.5/41,Error ellipse: s-maj=13.8km s-min=10.3km az=45.0*

NEIC ***28*** *07:40:11.8±0.1,24.18N×122.53E,h33km,mb5.7/136, ME5.5,MW5.8,Error ellipse: s-maj=4.2km s-min=3.6km az=12.0,Moment Tensor Solution. s45 Moment tensor: Scale 10^17Nm; Mrr4.52; Mθθ-5.85; Mϕϕ1.32; Mrθ2.73; Mθϕ-0.27; Mϕr2.68; Best double couple: Mo6.50000×10^17 NP1:ϕs64.00000°,δ64.00000°,λ63.00000°. NP2: ϕs293.00000°,δ36.00000°,λ133.00000°. Principal axes: T 6.4600, Plg61.0000°, Azm292.0000°; N 0.1700, Plg24.0000°, Azm76.0000°; P -6.6300, Plg15.0000°, Azm173.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [IV] at Taipei. Felt at Chung-ho, Hsin-chu, Hsin-chuang, I-lan, Pan-ch'iao, San-ch'ung, Tan-shui, T'ao-yuan and T'u-ch'eng. Recorded [3 TAP] in Hua-lien and I-lan; [2 TAP] in Chang-hua, Hsin-chu, Miao-li, Nan-t'ou, T'ai-chung,T'ai-pei, T'ai-tung, T'ao-yuan and Yun-lin; [1 TAP] in Chia-i and T'ai-nan Counties. Also recorded [3 JMA] on Yonaguni-jima and [2 JMA] on Iriomote-jima and Ishigaki-jima, Ryukyu Islands.

HRVD ***28*** *07:40:13.8±0.1,2391N×12249E,h39km,MW5.9/108, Centroid moment Tensor Solution. LP body waves: s96,c221;Mantle waves: s108,c312; Half duration: 2s1 Moment tensor: Scale 10^17Nm; Mrr4.34±.07; Mθθ-6.50±.06; Mϕϕ2.16±.06; Mrθ4.19±.08; Mθϕ-0.04±.05; Mϕr2.81±.08; Best double couple: Mo7.60300×10^17 NP1:ϕs299.00000°,δ33.00000°,λ139.00000°. NP2: ϕs65.00000°,δ69.00000°,λ64.00000°. Principal axes: T 7.1820, Plg58.0000°, Azm299.0000°; N 0.8400, Plg25.0000°, Azm75.0000°; P -8.0230, Plg20.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 28 07:40:10.1±0.1,2417N±002×12254E±001,h19km, h19km±1.9km:pP-P,n1079,σ1§04/1070,mb5.7/253, MS5.9/84,229C-154D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.52**	**56**	⇓P	Pb	07 40 22.4	+1.8
YOJ				S	Sg	07 40 31.5	+3.8
IRIF	**Iriomote-Funau**	**1.10**	**81**	⇑P	Pn	07 40 30.4	0.0
IRIF				*e*S	Sb	07 40 45.9	+1.5
HATJ	**Hateruma jima**	**1.17**	**95**	P	Pn	07 40 30.8	-0.5
HATJ				*e*S	Sb	07 40 45.9	-0.3
TATO	**Taipei**	**1.25**	**310**	*e*Pn	Pn	07 40 35.7	+3.3
TATO				*e*Sn	Sn	07 40 57.9	+9.2
JKRS	**Kuro-shima**	**1.35**	**87**	P	Pn	07 40 33.8	0.0
JKRS				*e*S	Sn	07 40 52.4	+1.3
JIJ	**Ishigaki jima**	**1.48**	**82**	P	Pn	07 40 35.1	-0.5
JIJ				*e*S	Sn	07 40 54.5	+0.1
JTJ	**Tarama**	**2.03**	**76**	P	Pn	07 40 43.5	+0.3
JTJ				*e*S	Sn	07 41 08.5	+0.5
JMJ	**Miyako jima 2**	**2.59**	**75**	P	Pn	07 40 52.9	+2.0
JMJ				*e*S	Sn	07 41 26.1	+4.2
JOGS	**Gusukube**	**2.68**	**77**	P	Pn	07 40 54.5	+2.4
QZH	**Quanzhou**	**3.67**	**283**	⇑*i*P	Pn	07 41 07.3	+1.5
QZH				S	Sn	07 41 48.3	-0.2
QZH				Smax			
	comp=N,35μm,1.0s						
QZH				Smax			
	comp=E,19μm,1.0s						
QZH				LR	LR		
	comp=Z,303μm,12.8s						
JKE	**Kume jima 2**	**4.41**	**60**	P	Pn	07 41 16.6	+0.7
JAGN	**Aguni-jima**	**4.89**	**59**	P	Pn	07 41 23.1	+0.6
NAH1	**Naha**	**5.09**	**65**	P	Pn	07 41 28.4	+3.1
JJT2	**Tamagusuku 2**	**5.12**	**66**	P	Pn	07 41 27.8	+2.2
JIH	**Iheya**	**5.67**	**59**	P	Pn	07 41 33.5	+0.2
JIH				*e*S	Sn	07 42 39.6	+1.7
JOW	**Kunigami**	**5.83**	**62**	Pn	Pn	07 41 34.9	-0.5
	comp=Z,100nm,0.3s,baz=236,slow=9.7,SNR=138						
JOW	**Kunigami**	**5.83**	**62**	P	Pn	07 41 34.8	-0.5
JOW				*e*S	Sn	07 42 42.5	+0.9
SGCP	**Mt. Cagua**	**5.91**	**185**	*e*P	Pn	07 41 34.2	-2.3
APYP	**Conner**	**6.39**	**191**	*e*P	Pn	07 41 41.9	-1.2
CVP	**Callao Caves**	**6.47**	**186**	*e*P	Pn	07 41 42.5	-1.7
ABRA	**Dolores**	**6.71**	**195**	*e*P	Pn	07 41 46.6	-0.9
JTK	**Tokunoshima**	**6.80**	**57**	⇓P	Pn	07 41 47.7	-1.1
SSE	**Sheshan**	**7.00**	**350**	⇓P	Pn	07 41 53.8	+2.3
SSE				S	Sn	07 43 14.5	+3.9
SSE				AMB	AMB		
	comp=Z,50nm,0.9s						
SSE				Smax			
	comp=N,1μm,1.5s						
SSE				Smax			
	comp=E,3μm,1.5s						
SSE				LR	LR		
	comp=N,61μm,18.3s						
SSE				LR	LR		
	comp=E,30μm,18.3s						
SSE				LR	LR		
	comp=Z,71μm,16.5s						
PALP	**Palanan**	**7.07**	**181**	*e*P	Pn	07 41 51.3	-1.1
CAUP	**Cauayan**	**7.22**	**185**	*e*P	Pn	07 41 55.7	+1.3
JAM	**Amami Oshima**	**7.62**	**55**	P	Pn	07 41 59.1	-0.9
HKC	**Hong Kong**	**7.91**	**258**	P	Pn	07 42 04.0

comp=Z,12µm,6.5s
BJI LR LR
comp=N,28µm,18.8s
BJI LR LR
comp=E,19µm,16.0s
BJI LR LR
comp=Z,30µm,22.2s
CTBH Cotabato--PC H 16.93 174⇑*i*P **Pn 07 44 07.7 +1.9**
DAV Davao City (W) 17.25 170 *e*P **Pn 07 44 13.0 +3.2**
JHJ Hachijo jima 2 17.55 56 P **Pn 07 44 13.1 -0.5**
comp=Z,4.7nm,0.3s,baz=60,slow=20,SNR=2.1
JHJ LR LR 07 51 07.0
comp=Z,7µm,18.1s,baz=263,slow=38
SNY Shenyang 17.63 3 ⇑P **Pn 07 44 16.0 +1.4**
SNY AP pP 07 44 24.8 +3.9
SNY XP sP 07 44 29.0 +5.6
SNY PP 07 44 32.0
SNY S **Sn 07 47 36.0 +5.6**
SNY AMB AMB
comp=Z,178nm,2.5s
SNY AMB AMB
comp=Z,14µm,10.4s
SNY LR LR
comp=E,39µm,19.2s
SNY LR LR
comp=Z,38µm,16.8s
CD2 Chengdu 17.95 296⇑*i*P **Pn 07 44 20.3 +1.9**
CD2 AP pP 07 44 25.5 +1.2
CD2 XP sP 07 44 29.5 +2.7
CD2 PP 07 44 34.0
CD2 S **Sn 07 47 37.5 -0.5**
CD2 SS 07 47 59.8
CD2 AMB AMB
comp=Z,410nm,1.3s
CD2 AMB AMB
comp=Z,7µm,6.6s
CD2 LR LR
comp=N,30µm,10.8s
CD2 LR LR
comp=Z,30µm,16.0s
CBIJ Chichi jima 17.96 76 P **Pn 07 44 18.1 -0.5**
comp=Z,36nm,0.3s,baz=277,slow=4.8,SNR=38
CBIJ LR LR 07 50 34.0
comp=Z,15µm,21.3s,baz=256,slow=35
KMI Kunming 18.02 277 ⇑P **Pn 07 44 22.3 +2.9**
KMI AP pP 07 44 26.8 +1.6
KMI XP sP 07 44 30.0 +2.3
KMI PP 07 44 37.0
KMI PPP 07 44 45.3
KMI S **Sn 07 47 38.5 -1.4**
KMI SS 07 48 02.0
KMI SSS 07 48 15.0
KMI PCP PcP 07 48 57.0 +3.3
KMI AMB AMB
comp=Z,175nm,1.6s
KMI AMB AMB
comp=Z,6µm,5.5s
KMI LR LR
comp=N,45µm,15.2s
KMI LR LR
comp=E,50µm,14.8s
KMI LR LR
comp=Z,55µm,14.8s
MAJO Matsushiro 18.27 44 *e*P **Pn 07 44 24.6 +2.2**
MAT Matsushiro 18.27 44 P **Pn 07 44 22.1 -0.3**
MAT S **Sn 07 47 47.3 +1.4**
MAT Matsushiro 18.27 44 P **Pn 07 44 22.0 -0.4**
MAT *e*S **Sn 07 47 48.0 +2.1**
MAT pmax pmax
comp=Z,25nm,0.7s
MAT Matsushiro 18.27 44 P **Pn 07 44 22.0 -0.4**
comp=Z,25nm,0.7s
MAT *e*S **Sn 07 47 48.0 +2.1**
MJAR Matsushiro Arr 18.27 44 P **Pn 07 44 21.4 -1.0**
comp=Z,2.0nm,0.3s,baz=237,slow=10,SNR=19
MJAR ScP ScP 07 52 27.0 -1.5
comp=Z,0.4nm,0.3s,baz=243,slow=5.1,SNR=3.1
MJAR LR LR 07 52 27.9
comp=Z,10µm,19.2s,baz=230,slow=40
HHC Hu-ho-hao-te 19.01 334 *e*P **Pn 07 44 34.0 +2.7**
HHC AP pP 07 44 45.5 +9.5
HHC PP 07 44 52.0
HHC S **Sn 07 48 00.5 -3.1**
HHC XS sS 07 48 12.5 -1.7
HHC SS 07 48 28.0
HHC AMB AMB
comp=Z,376nm,1.4s
HHC AMB AMB
comp=Z,12µm,6.2s
HHC LR LR
comp=N,48µm,15.5s
HHC LR LR
comp=E,27µm,16.7s
HHC LR LR
comp=Z,54µm,16.1s
KKM Kota Kinabalu 19.02 200 *e*P **Pn 07 44 33.5 +2.1**
BTO Baotou 19.47 330 *e*P **Pn 07 44 37.0 +0.1**
BTO S **Sn 07 48 09.5 -5.2**
BTO AMB AMB
comp=Z,56nm,1.7s
BTO LR LR
comp=N,24µm,14.6s
BTO LR LR
comp=E,7µm,14.2s
CN2 Changchun 19.73 6 ⇑P **Pn 07 44 39.8 -0.2**
CN2 *e*XP sP 07 44 48.0 +1.5
CN2 *e*S **Sn 07 48 16.8 -4.3**
CN2 AMB AMB
comp=Z,60nm,1.1s
CN2 AMB AMB
comp=Z,2µm,6.0s
CN2 LR LR
comp=N,50µm,16.0s
CN2 LR LR
comp=E,26µm,16.0s
CN2 LR LR
comp=Z,46µm,17.0s
LZH Lanzhou 20.02 311 *e*P **P 07 44 45.3 +3.6**
LZH AP 07 44 58.0
LZH *e*S **S 07 48 28.3 +2.4**
LZH SS 07 48 58.0
LZH AMB AMB
comp=Z,668nm,1.2s
LZH AMB AMB
comp=Z,8µm,4.9s
LZH LR LR
comp=E,62µm,14.2s
LZH LR LR
comp=Z,69µm,15.3s,MS6.1
KKTK Khon Kaen 20.05 251 P **P 07 44 45.6 +3.6**
comp=Z,494nm,0.9s
TSM Tawau 20.26 194 P **P 07 44 44.4 +0.1**
VLA Vladivostok 20.42 20 *i* P **P 07 44 45.9 -0.1**
NANT Nan 21.00 259 ⇑P **P 07 44 54.0 +1.7**
comp=Z,738nm,0.5s,mb6.3
MDJ Mudanjiang 21.20 14 P **P 07 44 54.0 -0.4**
MDJ AP 07 45 04.8
MDJ XP sP 07 45 12.3 +10
MDJ S **S 07 48 46.0 -3.2**
MDJ PCP PcP 07 48 59.5 +0.1
MDJ SCP ScP 07 52 31.8 -3.4
MDJ AMB AMB
comp=Z,29nm,1.0s
MDJ AMB AMB
comp=Z,1µm,7.0s
MDJ LR LR
comp=N,20µm,20.1s,MS5.7
MDJ LR LR
comp=E,24µm,17.7s,MS5.7
MDJ LR LR
comp=Z,37µm,16.5s,MS5.8
CHG Chiang Mai 22.58 261 ⇓P **P 07 45 13.1 +4.0**
comp=Z,150nm,1.1s,mb5.3
CHTO Chiang Mai 22.58 261 *e*P **P 07 45 11.2 +2.1**
CHTO pmax pmax
comp=Z,184nm,1.3s,mb5.3
CHTO Chiang Mai 22.58 261 *e*P **P 07 45 11.2 +2.0**
comp=Z,187nm,1.3s,mb5.4
NST Nakhon Sawan 22.67 252 P **P 07 45 01.0 -9.1**
GUMO Guam 23.57 112 P **P 07 45 18.2 -1.3**
comp=Z,298nm,1.2s,mb5.6,baz=245,slow=4.2,SNR=12
GUMO LR LR 07 53 50.5
comp=Z,13µm,18.4s,MS5.4,baz=121,slow=35
NNT Nongplab 24.47 246 P **P 07 45 33.0 +5.3**
GTA Gaotai 24.48 314 P **P 07 45 28.8 +1.0**
GTA AP 07 45 34.3
GTA XP sP 07 45 37.5 +1.4
GTA S **S 07 49 49.5 +2.4**
GTA AMB AMB
comp=Z,157nm,1.1s,mb5.3
GTA AMB AMB
comp=Z,5µm,9.1s
GTA LR LR
comp=N,15µm,15.6s,MS5.9
GTA LR LR
comp=E,26µm,15.2s,MS5.9
GTA LR LR
comp=Z,38µm,15.6s,MS6.0
ERM Erimo 24.70 39 P **P 07 45 28.8 -1.0**
comp=Z,590nm,0.5s,mb6.4,SNR=14
HIA Hailar 25.15 356*c i*P **P 07 45 32.3 -1.6**
HIA Hailar 25.15 356⇑*i*P **P 07 45 32.4 -1.5**
KSM Kuching 25.48 209 *e*P **P 07 45 36.8 -0.1**
KSM *e*ScP ScP 07 52 47.3 +0.7
ASAJ Asahikawa 25.79 35 P **P 07 45 38.2 -1.6**
comp=Z,30nm,0.4s,mb5.2,baz=222,slow=6.6,SNR=26
ASAJ LR LR 07 55 39.3
comp=Z,15µm,21.6s,MS5.5,baz=240,slow=36
ASAJ Asahikawa 25.79 35 P **P 07 45 38.2 -1.6**
ASAJ pmax pmax
comp=Z,31nm,0.4s
ASAJ MLR MLR
comp=Z,15µm,21.6s
KLR Kul'dur 26.04 14⇓*e*P **P 07 45 36.6 -5.4**
KLR *e*S **S 07 50 02.5 -10**
KLR pmax pmax
comp=Z,200nm,2.0s,mb5.3
KLR pmax pmax
comp=N,2µm,9.0s
KLR pmax pmax
comp=Z,3µm,9.0s
KLR MLR MLR
comp=Z,58µm,13.0s,MS6.3
HABR Khabarovsk 26.20 19 P **P 07 45 42.0 -1.4**
HABR *e*S **S 07 50 14.3 -0.2**
SONM Songino Array 26.88 336 P **P 07 45 49.5 -0.1**
comp=Z,95nm,0.9s,mb5.3,baz=148,slow=8.7,SNR=278
SONM PcP PcP 07 49 11.3 -0.3
comp=Z,11nm,1.1s,baz=171,slow=3.6,SNR=6.3
SONM ScP ScP 07 52 47.2 -3.5
comp=Z,11nm,1.2s,baz=171,slow=3.4,SNR=6.9
SONM PKiKP PKiKP 07 56 48.1 -1.5
comp=Z,1.8nm,0.9s,baz=90,slow=0.4,SNR=4.1
SONM LR LR 07 57 44.1
comp=Z,42µm,20.1s,MS6.0,baz=180,slow=39
SONM Songino Array 26.88 336 P **P 07 45 49.5 -0.1**
SONM 07 49 11.3
SONM Songino Array 26.88 336 P **P 07 45 49.5 -0.1**
SONM PcP PcP 07 49 11.3 -0.3
SONM ScP ScP 07 52 47.2 -3.5
SNG Songkhla 26.96 235 P **P 07 45 57.0 +6.7**
YSS Yuzh-Sakhalins 27.91 30 *e*P **P 07 45 59.0 +0.2**
YSS *e**SP sP 07 46 07.0 -0.1
YSS *e* 07 46 54.0
YSS *e* 07 49 14.0
YSS *e*S **S 07 50 45.0 +3.6**
YSS pmax pmax
comp=Z,40nm,0.8s,mb5.1
YSS pmax pmax
comp=E,60nm,1.0s
YSS MLR MLR
comp=N,13µm,16.0s,MS5.7
YSS MLR MLR
comp=Z,10µm,16.0s,MS5.5
YSS MLR MLR
comp=E,5µm,12.0s,MS5.7
YSS Yuzh-Sakhalins 27.91 30 *e*P **P 07 45 58.5 -0.2**
comp=E,87nm,0.9s,mb5.4
KULM Kulim 28.20 232 *e*P **P 07 46 02.6 +1.2**
IPM Ipoh 28.50 230 P **P 07 46 05.0 +0.9**
CIT Chita 28.65 348 *e*P **P 07 46 04.9 -0.5**
CIT pmax pmax
comp=Z,323nm,1.4s,mb5.9
KAPI Kappang 29.13 186 P **P 07 46 09.0 -0.7**
comp=Z,216nm,1.4s,mb5.7,SNR=5.4
ZAK Zakamensk 30.14 335 *e*P **P 07 46 18.3 -0.3**
ZAK pmax pmax
comp=Z,330nm,1.3s,mb5.9
GTK Gangtok 30.66 283 *e*x x 07 46 32.0
TLY Talaya 31.06 337 P **P 07 46 26.1 -0.6**
comp=Z,385nm,0.7s,mb6.3,SNR=26
PSI Prapat 31.16 231 ScP ScP 07 53 04.0 -0.3
comp=Z,4.6nm,0.8s,baz=251,slow=5.6,SNR=6.6
PSI LR LR 07 59 46.2
comp=Z,7µm,18.1s,MS5.4,baz=44,slow=37
IRK Irkutsk 31.31 338 *e*P **P 07 46 27.7 -1.2**
IRK *e* 07 47 43.6
IRK *e* 07 57 00.7
IRK pmax pmax
comp=Z,174nm,2.0s,mb5.5
CAL Calcutta 31.40 274 *e*x **P 07 46 20.6 -9.1**
CAL AMP 07 46 20.9
comp=Z,688nm,0.3s
CAL *e*x x 07 50 14.8
CLNS Chul'man 32.68 2 *e*P **P 07 46 39.6 -1.4**
CLNS *e**PP pP 07 46 45.8 -1.1
CLNS *e* 07 47 42.4
CLNS *e*PPP 07 47 55.2
CLNS *e* 07 49 21.9
CLNS *e*S **S 07 51 53.9 -2.3**
CLNS *e* 07 57 12.8
CLNS pmax pmax
comp=Z,120nm,0.8s,mb5.9
CLNS pmax pmax
comp=N,120nm,1.0s
CLNS pmax pmax
comp=E,40nm,0.7s
CLNS pmax pmax
comp=Z,23nm,1.1s,mb5.0
CLNS pmax pmax
comp=N,20nm,0.8s
CLNS pmax pmax
comp=E,20nm,0.8s
CLNS smax
comp=N,51nm,1.5s
CLNS smax
comp=E,35nm,1.3s
CLNS smax
comp=Z,15nm,1.3s
CLNS MLR MLR
comp=N,27µm,15.0s,MS6.1
CLNS MLR MLR
comp=Z,33µm,15.0s,MS6.2
CLNS MLR MLR
comp=E,9µm,12.0s,MS6.1
JIRN Jiri 32.80 284 *e*P **P 07 46 44.3 +2.3**
comp=E,661nm,1.2s,mb6.5
GUN Gumba 33.07 284 *e*P **P 07 46 46.3 +1.9**
BOK Bokaro 33.43 277 *e*P **P 07 46 48.1 +0.6**
BOK AMb AMB 07 46 53.6
comp=Z,202nm,1.4s,mb5.9
PKI Pulchoki 33.50 284 *e*P **P 07 46 49.7 +1.6**
KKN Kakani 33.60 284 *e*P **P 07 46 50.6 +1.6**
comp=Z,304nm,0.9s,mb6.2
KKN Kakani 33.60 284 *e*P **P 07 46 50.6 +1.6**
KKN pmax pmax
comp=Z,304nm,0.9s,mb6.2
DMN Daman 33.77 284 *e*P **P 07 46 51.9 +1.5**
comp=Z,659nm,1.3s,mb6.4
GKN Gorkha 34.16 285 *e*P **P 07 46 55.1 +1.2**
comp=Z,914nm,1.4s,mb6.5
BOD Bodaibo 34.18 352 *e*P **P 07 46 51.7 -2.3**
BOD *e* 07 48 01.0
BOD pmax pmax
comp=Z,37nm,1.7s,mb5.0
WMQ Urumqi 34.56 313 P **P 07 46 59.8 +2.4**
WMQ PP PP 07 48 17.8 +2.0
WMQ PCP PcP 07 49 33.5 +1.7
WMQ S **S 07 52 24.0 -1.4**
WMQ SCP ScP 07 53 12.3 -3.7
WMQ SS SS 07 54 38.8 -17
WMQ SCS ScS 07 57 13.8 -5.1
WMQ AMB AMB
comp=Z,99nm,1.4s,mb5.5
WMQ AMB AMB
comp=Z,2µm,4.8s
WMQ LR LR
comp=N,14µm,11.4s,MS6.1
WMQ LR LR
comp=E,16µm,12.5s,MS6.1
WMQ LR LR
comp=Z,18µm,13.6s,MS6.0
KOLN Koldanda 35.09 284 *e*P **P 07 47 03.4 +1.5**
comp=Z,424nm,1.2s,mb6.2
SKR Severo-Kuril's 37.04 36 *e*P **P 07 47 10.0 -8.6**
SKR *e*S **S 07 53 06.0 +2.6**
SKR *e* 07 57 26.0
SKR pmax pmax
comp=N,130nm,0.9s
SKR pmax pmax
comp=Z,160nm,0.9s,mb5.8
SKR pmax pmax
comp=E,130nm,1.0s
SKR smax
comp=N,2µm,20.0s
SKR smax
comp=E,3µm,20.0s
SKR MLR MLR
comp=N,3µm,16.0s,MS5.5
SKR MLR MLR
comp=E,6µm,16.0s,MS5.5
SKR MLR MLR
comp=Z,6µm,16.0s,MS5.5
VIS Vishakhapatnam 37.09 268 *e*P **P 07 47 19.1 +0.2**
VIS AMb AMB 07 47 24.8
comp=Z,119nm,2.3s,mb5.3
BLSP Bilaspur 37.12 275 *e*P **P 07 47 20.0 +0.7**
KAKA Kakadu 37.91 164 *e*P **P 07 47 22.9 -3.1**
comp=Z,35nm,0.7s,mb5.2
LGTI Lohaghat 37.96 287 *i* P **P 07 47 28.0 +1.6**
PTH Pithoragarh 37.98 288 *e*P **P 07 47 29.3 +2.7**
YAK Yakutsk 38.16 5 *e*P **P 07 47 26.2 -1.9**
YAK *e* 07 48 53.1
YAK *e*PPP 07 49 11.5
YAK *e* 07 49 42.2
YAK *e*S **S 07 53 16.0 -4.3**
YAK *e*SSS 07 56 16.5
YAK *e* 07 57 36.0
YAK pmax pmax
comp=Z,118nm,0.9s,mb5.6
YAK pmax pmax
comp=N,68nm,1.3s
YAK pmax pmax
comp=E,21nm,1.3s
YAK pmax pmax
comp=Z,22nm,0.9s,mb4.9
YAK pmax pmax
comp=N,35nm,1.3s
YAK pmax pmax
comp=E,25nm,1.2s
YAK smax
comp=N,48nm,1.3s
YAK smax
comp=E,26nm,1.4s
YAK MLR MLR
comp=Z,14µm,18.0s,MS5.8
YAK MLR MLR
comp=N,12µm,20.0s,MS5.8
YAK MLR MLR
comp=E,10µm,17.0s,MS5.8
YAK Yakutsk 38.16 5 *e*P **P 07 47 26.0 -2.0**
comp=E,116nm,0.8s,mb5.7
JBP Jabalpur 38.88 277 *e*P **P 07 47 34.0 -0.1**
JBP *e*x x 07 47 39.8
comp=Z,111nm,1.4s
JBP *i* S **S 07 53 33.1 +1.9**
MK31 Makanchi Array 39.21 315 P **P 07 47 37.1 +0.2**
MKAR Makanchi Array 39.21 315 P **P 07 47 37.1 +0.2**
comp=Z,92nm,0.8s,mb5.6,baz=104,slow=9.1,SNR=267
MKAR PcP PcP 07 49 45.4 -0.5
comp=Z,41nm,0.9s,baz=81,slow=3.8,SNR=6.9
MKAR ScP ScP 07 53 31.0 -2.3
comp=Z,6.4nm,1.0s,baz=106,slow=1.8,SNR=6.7
MKAR ScS ScS 07 57 40.4 -4.5
comp=Z,3.4nm,1.0s,baz=102,slow=6.1,SNR=5.5
MKAR Makanchi Array 39.21 315 P **P 07 47 37.1 +0.2**
MKAR PcP PcP 07 49 45.4 -0.5
MKAR ScP ScP 07 53 31.0 -2.3
MKAR ScS ScS 07 57 40.4 -4.5
PET Petropavlovsk 39.63 34*c i*P **P 07 47 36.8 -3.6**
PET *e*S **S 07 53 34.0 -8.5**
PET *e*SS SS 07 56 20.4 -17
PET pmax pmax
comp=Z,88nm,1.4s,mb5.3
PET MLR MLR
comp=Z,6µm,20.0s,MS5.4
PET MLR MLR
comp=Z,5µm,16.0s
PET Petropavlovsk 39.63 34 *e*P **P 07 47 39.8 -0.6**
comp=Z,50nm,0.6s,mb5.4
NGP Nagpur 40.13 275⇑*e*P **P 07 47 44.7 +0.2**
NGP *e*x x 07 47 57.2
comp=Z,147nm,1.2s
NGP *e*S **S 07 53 51.1 +1.2**
MA2 Magadan 40.54 22 *e*P **P 07 47 45.0 -2.9**
MA2 *e* 07 49 19.3
MA2 *e*S **S 07 53 52.4 -3.7**
MA2 *e*SS SS 07 57 16.0 +20
MA2 *e*SSS 07 57 43.9
MA2 pmax pmax
comp=Z,30nm,1.2s,mb4.8
MA2 MLR MLR
comp=Z,32µm,17.9s,MS6.2
SMLA Simla 40.56 290 *e*P **P 07 47 49.5 +1.3**
SMLA AMb AMB 07 47 52.0
comp=Z,816nm,1.1s,mb6.3
NDI New Delhi 40.65 286 *e*P **P 07 47 48.5 -0.4**
NDI *e*P 07 47 49.8
NDI AMb AMB 07 47 53.3
comp=Z,481nm,1.4s,mb5.9
NDI *e*S **S 07 53 54.5 -3.3**
ZAL Zalesovo 40.94 326 P **P 07 47 50.1 -1.1**
comp=Z,22nm,0.7s,mb4.9,baz=355,slow=7.3,SNR=91
ZAL PcP PcP 07 49 49.7 -1.7
comp=Z,8.6nm,0.6s,baz=341,slow=3.0,SNR=4.5
ZAL ScP ScP 07 53 37.5 -2.6
comp=Z,6.7nm,1.1s,baz=12,slow=15,SNR=3.2
ZAL ScS ScS 07 57 48.9 -6.2
comp=Z,1.6nm,0.3s,baz=79,slow=24,SNR=18
ZAL LR LR 08 06 54.2
comp=Z,34µm,19.0s,MS6.2,baz=346,slow=39
ZAL Zalesovo 40.94 326 P **P 07 47 50.1 -1.1**
ZAL 07 49 49.7
ZAL 07 57 48.9
ZAL Zalesovo 40.94 326 P **P 07 47 50.1 -1.1**
ZAL PcP PcP 07 49 49.7 -1.7
ZAL ScP ScP 07 53 37.5 -2.6
ZAL ScS ScS 07 57 48.9 -6.2
ZAL LR LR 08 06 54.2
PMG Port Moresby 41.13 141⇑*e*P **P 07 47 52.0 -0.8**
PMG Port Moresby 41.13 141 *e*P **P 07 47 52.7 -0.1**
comp=Z,115nm,1.1s,mb5.4
BHPL Bhopal 41.18 278 *i* x **P 07 47 59.6 +6.3**
BHK Bhakra 41.20 291 *e*x **P 07 47 59.0 +5.6**
HYB Hyderabad 41.53 269 *i* P **P 07 47 57.0 +0.9**
HYB *e*pP pP 07 48 07.0 +4.9
HYB *e*PcP PcP 07 49 54.5 +1.1
HYB *e*S **S 07 54 10.0 -0.9**
HYB LR LR
comp=Z,6.0nm,20.0s
HYB Hyderabad 41.53 269 *e*P **P 07 47 59.0 +2.9**
HYB *e*S **S 07 54 12.0 +1.1**
DLH Dalhousie 41.55 292 *e*P **P 07 47 57.0 +0.7**
PONG Pong 41.58 291 *e*P **P 07 47 59.0 +2.5**
AAA Alma-Ata 41.85 309 *i* P **P 07 47 59.6 +0.9**
AAA *e*S **S 07 54 17.2 +1.7**
AAA pmax pmax
comp=Z,3µm,4.9s
AAA smax
comp=E,24µm,18.2s
AAA MLR MLR
comp=Z,10µm,13.4s,MS5.8
KSH Kashi 41.94 303 ⇑P **P 07 48 02.8 +3.3**
KSH *e*PP PP 07 49 44.8 +8.2
KSH *e*PCP PcP 07 49 56.0 +1.3
KSH *e*SCP ScP 07 53 40.3 -3.7
KSH *e*PCS PcS 07 53 49.5 +3.2
KSH S **S 07 54 18.5 +1.5**
KSH *e*SS SS 07 57 24.3 +0.4
KSH *e*SCS ScS 07 57 57.3 -4.0
KSH AMB AMB
comp=Z,5µm,2.7s,mb6.7
KSH LR LR
comp=N,25µm,16.6s,MS6.4
KSH LR LR

comp=E,39µm,16.9s,MS6.4
KSH LR LR
comp=Z,25µm,16.6s,MS6.2
AKL Akola 42.08 275 *e*P **P 07 48 00.2 -0.3**
AKL AMb AMB 07 48 05.2
comp=Z,216nm,1.0s,mb5.8
FITZ Fitzroy Crossi 42.12 176 *e*P **P 07 47 58.6 -2.3**
comp=Z,98nm,1.5s,mb5.2
FITZ *e*S **S 07 54 12.8 -6.8**
ULHL Ulahol 42.16 307 P **P 07 48 03.5 +2.2**
SNR=11
NVS Novosibirsk 42.19 327⇑*i*P **P 07 47 59.9 -1.6**
NVS *e* 07 49 41.7
NVS *e*S **S 07 54 18.2 -2.4**
NVS pmax pmax
comp=E,170nm,1.5s
NVS smax
comp=N,32nm,2.0s
NVS smax
comp=E,87nm,2.0s
TKM2 Tokmak 2 42.75 308 P **P 07 48 07.9 +1.8**
SNR=160
KZA Kyzart 42.86 306 P **P 07 48 09.6 +2.7**
SNR=159
KURK Kurchatov 42.90 320 P **P 07 48 06.5 -0.8**
comp=E,748nm,1.3s,mb6.3,SNR=30
LATR Latur 43.07 272 *e*P **P 07 48 09.7 +1.0**
AJM Ajmer 43.16 284 *e*P **P 07 48 09.9 +0.6**
AJM AMb AMB 07 48 16.0
comp=Z,338nm,1.7s,mb5.8
KBK Karagaybulak 43.17 307 P **P 07 48 12.7 +3.3**
SNR=16
CHMS Chumysh 43.37 308 P **P 07 48 12.5 +1.4**
SNR=50
UCH Uchtor 43.42 307 P **P 07 48 13.2 +1.8**
SNR=132
FRU Bishkek 43.44 307⇑*i*P **P 07 48 12.5 +0.8**
FRU *i* 07 49 58.0
FRU pmax pmax
comp=Z,610nm,2.0s,mb6.0
FRU MLR MLR
comp=E,12µm,17.0s
FRU MLR MLR
comp=Z,12µm,17.0s,MS5.9
AAK Ala-Archa 43.50 307 P **P 07 48 12.9 +0.8**
comp=Z,314nm,1.3s,mb5.9,SNR=26
AAK Ala-Archa 43.50 307*c i*P **P 07 48 13.3 +1.2**
AAK pmax pmax
comp=Z,147nm,1.6s,mb5.5
AAK MLR MLR
comp=Z,22µm,19.0s,MS6.1
AAK Ala-Archa 43.50 307 *e*P **P 07 48 12.8 +0.6**
comp=Z,157nm,1.5s,mb5.5
AAK *e*PcP PcP 07 50 00.2 +0.3
USP Ospenovka 43.60 308 P **P 07 48 14.2 +1.2**
SNR=42
NIL Nilore 43.82 294 P **P 07 48 16.9 +2.2**
comp=Z,349nm,0.8s,mb6.1,SNR=9.4
AML Almayashu 44.01 306 P **P 07 48 21.0 +4.8**
SNR=44
EKS2 Erkin-Say 44.02 307 P **P 07 48 18.0 +1.6**
SNR=42
WRAB Tennant Creek 45.32 164 P **P 07 48 25.0 -1.7**
comp=Z,579nm,1.1s,mb6.3,SNR=6.0
WRAB Tennant Creek 45.32 164 *e*P **P 07 48 25.4 -1.3**
WRAB pmax pmax
comp=Z,211nm,0.9s,mb6.0
WRAB Tennant Creek 45.32 164 *e*P **P 07 48 25.4 -1.3**
comp=Z,145nm,0.9s,mb5.8
WRA Warramunga Arr 45.33 164 P **P 07 48 25.2 -1.6**
comp=Z,50nm,0.9s,mb5.3,baz=348,slow=9.5,SNR=138
WRA LR LR 08 07 16.8
comp=Z,4µm,20.9s,MS5.3,baz=335,slow=36
WB2 Warramunga Arr 45.33 164 *e*P **P 07 48 28.6 +1.9**
comp=Z,220nm,0.9s,mb6.0
WB2 *e*S **S 07 54 58.0 -8.4**
POO Poona 45.52 273⇓*i*P **P 07 48 29.0 +0.8**
comp=Z,120nm,1.0s,mb5.8
KAD Karad 45.56 271 *e*P **P 07 48 29.6 +1.1**
KAD AMb AMB 07 48 33.4
comp=Z,90nm,1.8s,mb5.4
KKAR Karatay Array 46.46 307 *i* P **P 07 48 36.1 +0.4**
KKAR pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
TIXI Tiksi 47.65 3 *e*P **P 07 48 41.9 -3.0**
TIXI *e* 07 50 33.4
TIXI *e*S **S 07 55 28.4 -11**
TIXI pmax pmax
comp=Z,49nm,1.2s,mb5.4
TIXI pmax pmax
comp=N,15nm,1.0s
TIXI pmax pmax
comp=E,2.0nm,0.7s
TIXI pmax pmax
comp=Z,1µm,14.0s
TIXI pmax pmax
comp=N,355nm,11.1s
TIXI pmax pmax
comp=E,112nm,16.7s
TIXI MLR MLR
comp=Z,33µm,16.0s,MS6.4
TIXI MLR MLR
comp=N,22µm,17.0s,MS6.2
TIXI MLR MLR
comp=E,3µm,14.0s,MS6.2
TIXI Tiksi 47.65 3⇑*i*P **P 07 48 42.2 -2.7**
BHJ Bhuj 48.18 280 *e*P **P 07 48 49.4 +0.3**
BHJ AMb AMB 07 49 12.3
comp=Z,304nm,1.8s,mb6.0
BVA0 Borovoye Array 48.47 320 *i* P **P 07 48 50.4 -0.9**
BRVK Borovoye 48.54 320 P **P 07 48 51.2 -0.6**
comp=Z,380nm,1.2s,mb6.3,SNR=27
BRVK Borovoye 48.54 320 P **P 07 48 51.1 -0.7**
AS31 Alice Springs 48.81 166 *e*P **P 07 48 54.0 +0.1**
AS31 *e*S **S 07 55 53.8 -2.3**
ASAR Alice Springs 48.81 166 P **P 07 48 53.2 -0.7**
comp=Z,99nm,1.3s,mb5.7,baz=341,slow=5.5,SNR=79
ASAR ScP ScP 07 54 09.3 -3.1
comp=Z,6.6nm,1.0s,baz=352,slow=4.4,SNR=6.4
ASAR LR LR 08 09 46.1
comp=Z,3µm,19.9s,MS5.3,baz=0.0,slow=36
ASPA Alice Springs 48.81 166 *e*P **P 07 48 54.0 +0.1**
ASPA *e*S **S 07 55 53.8 -2.3**
ZRNK Zerenda 49.26 320 P **P 07 48 55.0 -2.4**
CTA Charters Tower 49.69 150 *e*P **P 07 49 00.4 -0.2**
comp=Z,57nm,1.3s,mb5.4
CTA *e*S **S 07 56 10.0 +1.6**
CTA *e*SS SS 07 59 55.7 +15
CTA Charters Tower 49.69 150 *e*P **P 07 49 00.4 -0.2**
CTA *e*S **S 07 56 10.0 +1.6**
CTA pmax pmax
comp=Z,57nm,1.3s
CTAO Charters Tower 49.69 150 *e*P **P 07 49 00.6 0.0**
CTAO pmax pmax
comp=Z,167nm,1.4s,mb5.9
CTAO Charters Tower 49.69 150 *e*P **P 07 49 00.6 0.0**
comp=Z,167nm,1.4s,mb5.9
AB31 Akbulak array 54.34 314 *i* P **P 07 49 35.1 -0.1**
AB31 pmax pmax
comp=Z,45nm,0.8s,mb5.5
SVE Sverdlovsk 54.79 324⇑*i*P **P 07 49 37.0 -1.5**
SVE *e* 07 50 38.0
SVE *e* 07 57 20.0
SVE pmax pmax
comp=Z,200nm,3.3s
SVE MLR MLR
comp=E,11µm,15.0s
SVE MLR MLR
comp=Z,16µm,15.0s,MS6.2
FORT Forrest 54.89 174⇓*i*P **P 07 49 38.2 -1.1**
comp=Z,110nm,0.6s,mb6.1
FORT *e*PCP PcP 07 50 52.1 +11
KLBR Kellerberrin 55.63 185 *e*P **P 07 49 47.3 +2.7**
comp=Z,27nm,0.9s,mb5.3
AKTO Aktyubinsk 55.65 316 P **P 07 49 44.2 -0.5**
ARU Arti 55.86 323 P **P 07 49 45.2 -1.1**
comp=Z,330nm,1.0s,mb6.3,SNR=11
ARU Arti 55.86 323⇑*i*P **P 07 49 45.1 -1.2**
ARU *e* 07 50 42.8
ARU *e* 07 51 47.4
ARU *e*PPP 07 53 04.9
ARU *e*S **S 07 57 32.3 -0.4**
ARU *e* 07 59 27.2
ARU pmax pmax
comp=Z,56nm,1.0s,mb5.5
ABKT Ailbek 55.87 300 P **P 07 49 48.6 +2.3**
comp=Z,2µm,0.9s,SNR=69
NWAO Narrogin (SRO) 57.00 185 LR LR 08 17 34.3
comp=Z,902nm,19.9s,MS4.9,baz=17,slow=39
SOKR Solikamsk 57.22 326*c i*P **P 07 49 54.7 -1.2**
SOKR S **S 07 57 53.7 +3.1**
SOKR SS SS 08 01 38.1 -1.7
SOKR pmax pmax
comp=Z,130nm,1.6s,mb5.7
SOKR MLR MLR
comp=Z,20µm,19.0s,MS6.2
WBK Wadi Bani Khal 57.90 282⇑P **P 07 50 03.1 +2.4**
SNR=7.0
WSAR Wadi Sarin 58.04 283 P **P 07 50 02.8 +1.1**
comp=Z,37nm,1.0s,mb5.4,baz=95,slow=8.8,SNR=14
NIKO Nikolski 58.29 41 *e*P **P 07 50 02.1 -1.3**
BIDO Bidbid 58.42 284 P **P 07 50 06.8 +2.5**
SNR=13
SMDO Samad 58.61 283 P **P 07 50 08.2 +2.5**
SNR=6.4
STKA Stephens Creek 58.63 161 *e*P **P 07 50 04.6 -1.2**
comp=Z,29nm,0.7s,mb5.4
STKA *e*S **S 07 58 08.0 -1.1**
STKA Stephens Creek 58.63 161 P **P 07 50 05.5 -0.3**
comp=Z,32nm,0.8s,mb5.4,baz=331,slow=6.3,SNR=13
STKA LR LR 08 15 43.4
comp=Z,4µm,18.4s,MS5.6,baz=340,slow=36
JMDO Jabal Madar 58.74 282⇓P **P 07 50 08.2 +1.6**
HOQ Hoqain 59.13 284 P **P 07 50 11.3 +2.1**
SNR=20
BANOM Banah 59.44 287⇑P **P 07 50 13.7 +2.3**
BSY Bisya 59.45 283 P **P 07 50 14.2 +2.7**
SNR=9.6
ARQ Araqi 59.89 284⇑P **P 07 50 15.8 +1.3**
ASHO Ashiyiah 59.95 286⇓P **P 07 50 16.5 +1.5**
SNR=8.5
ADE Adelaide 60.78 165 P **P 07 50 20.9 +0.3**
ARMA Armidale 61.03 151 *e*P **P 07 50 21.2 -1.1**
DZM Mont Dzumac 62.72 134 P **P 07 50 34.4 +0.7**
comp=Z,6.6nm,0.8s,mb4.8,baz=349,slow=17,SNR=3.1
DZM LR LR 08 13 20.7
comp=Z,5µm,21.9s,MS5.6,baz=314,slow=32
MAK Makhachkala 63.28 307*d i*P **P 07 50 38.9 +1.5**
MAK *e* 07 51 17.8
MAK *e* 07 53 00.6
MAK *i* PPP 07 54 31.5
MAK *e*S **S 07 59 07.7 -0.7**
MAK *i* 08 00 25.8
MAK pmax pmax
comp=Z,344nm,1.5s,mb6.3
MAK pmax pmax
comp=N,230nm,1.7s
MAK pmax pmax
comp=E,118nm,0.6s
MAK pmax pmax
comp=Z,2µm,3.8s
MAK smax
comp=E,3µm,8.5s
MAK smax
comp=N,2µm,8.6s
MAK MLR MLR
comp=Z,5µm,15.0s,MS5.8
MAK MLR MLR
comp=N,3µm,18.0s,MS5.7
MAK MLR MLR
comp=E,4µm,16.0s,MS5.7
PECR Pechory 63.90 323*k i*P **P 07 50 39.8 -1.7**
PECR *e* 07 52 57.0
PECR *e*S **S 07 59 26.0 +10**
PECR *e*PS 07 59 37.0
PECR *e* 08 00 27.0
PECR pmax pmax
comp=Z,1µm,1.8s,mb6.5
PECR pmax pmax
comp=Z,1µm,8.0s
PECR MLR MLR
comp=E,4µm,17.0s,MS5.8
PECR MLR MLR
comp=Z,8µm,17.0s,MS6.0
PECR MLR MLR
comp=N,3µm,14.0s,MS5.8
WHFO Wadi Hawf 63.93 279⇓P **P 07 50 42.5 +0.8**
CNB Canberra Magne 64.39 156 *e*P **P 07 50 46.2 +1.5**
comp=N,48nm,0.9s,mb5.5
TTA Tatalina 64.91 30 *e*P **P 07 50 48.3 +0.2**
TOO Toolangi 65.10 160 *e*P **P 07 50 49.7 +0.4**
comp=N,15nm,0.7s,mb5.1
TOO Toolangi 65.10 160 *e*P **P 07 50 49.7 +0.4**
TOO pmax pmax
comp=Z,150nm,0.7s,mb6.1
DGRG David-gareji 65.10 306 P **P 07 50 50.2 +0.9**
SVW2 Sparrevohn 65.26 32 *e*P **P 07 50 49.8 -0.6**
MTA Mtatsminda 65.48 306 P **P 07 50 52.5 +0.6**
TBLG Delisi 65.51 306 P **P 07 50 55.0 +3.0**
IMA2 Indian Mountai 65.66 26 *e*P **P 07 50 52.9 -0.1**
GNI Garni 65.83 305 *e*P **P 07 50 54.4 +0.4**
GNI Garni 65.83 305 P **P 07 50 55.3 +1.3**
comp=Z,8.7nm,0.4s,mb5.1,baz=135,slow=5.1,SNR=20
GNI Garni 65.83 305 P **P 07 50 55.9 +1.9**
SNR=30
GNI Garni 65.83 305*c i*P **P 07 50 55.9 +1.8**
GNI pmax pmax
comp=Z,195nm,1.6s
GNI MLR MLR
comp=Z,4µm,17.0s
GNI Garni 65.83 305 *e*P **P 07 50 55.5 +1.5**
comp=Z,100nm,1.1s,mb5.8
KLMR Klimovskoe 65.84 328*c i*P **P 07 50 52.1 -2.0**
KLMR *e* 07 53 18.5
KLMR *e*S S 07 59 35.2 -4.7
KLMR pmax pmax
comp=Z,430nm,7.5s
KLMR pmax pmax
comp=Z,140nm,1.6s,mb5.7
KLMR MLR MLR
comp=Z,15µm,17.0s,MS6.3
UMR Umm Al-Rimmam 65.91 293 *e*P **P 07 50 54.4 -0.2**
UMR AMb AMB 07 50 57.8
comp=Z,462nm,1.2s,mb6.4
ZEI Tsey 65.92 308 *e*P **P 07 50 55.1 +0.4**
ZEI *e**PP pP 07 50 59.8 -1.1
ZEI pmax pmax
comp=Z,38nm,0.7s,mb5.5
QRN Al-Qurain 65.95 292 *e*P **P 07 50 54.5 -0.3**
QRN AMb AMB 07 50 57.9
comp=Z,532nm,0.9s,mb6.6
VRHR Novokhopersk 65.99 317 *e*P **P 07 50 54.5 -0.6**
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=Z,30nm,0.5s,mb5.6
VRHR pmax pmax
comp=E,60nm,1.3s
VRHR MLR MLR
comp=Z,4µm,16.0s,MS5.7
VRHR MLR MLR
comp=N,1µm,18.0s,MS5.6
VRHR MLR MLR
comp=E,3µm,19.0s,MS5.6
KBD Kabd 66.03 293 *e*P **P 07 50 55.7 +0.3**
KBD AMb AMB 07 50 58.5
comp=Z,1µm,1.0s
GOF Gofitskoye 66.10 310 *e*P **P 07 50 55.3 -0.5**
GOF *i*S S 07 59 43.3 +0.1
GOF pmax pmax
comp=Z,60nm,0.8s,mb5.7
GOF smax
comp=E,90nm,1.6s
MIB Mutribah 66.16 293 *e*P **P 07 50 56.7 +0.5**
MIB AMb AMB 07 50 59.1
comp=Z,648nm,0.6s,mb6.8
RDF Al-Radifah 66.21 292 *e*P **P 07 50 56.8 +0.3**
RDF AMb AMB 07 50 59.5
comp=Z,958nm,0.7s
ONI Oni 66.28 308 P **P 07 50 58.7 +1.7**
NAY Al-Naaiem 66.39 293 *e*P **P 07 50 57.7 0.0**
NAY AMb AMB 07 51 00.5
comp=Z,397nm,0.7s,mb6.5
AKH Akhalkalaki 66.49 306 P **P 07 51 00.2 +1.9**
KIV Kislovodsk 66.56 309 P **P 07 50 59.3 +0.6**
comp=Z,582nm,1.3s,mb6.5,SNR=31
KIV Kislovodsk 66.56 309 P **P 07 50 59.3 +0.6**
SNR=44
KIV Kislovodsk 66.56 309*c i*P **P 07 50 59.8 +1.1**
KIV pmax pmax
comp=Z,365nm,2.2s,mb6.0
KIV MLR MLR
comp=Z,6µm,19.0s,MS5.8
KIV Kislovodsk 66.56 309 *e*P **P 07 50 59.5 +0.8**
comp=Z,165nm,1.3s,mb5.9
CLDR Caldiran 66.66 304 *e*P **P 07 51 00.3 +0.9**
DIGO Kars 66.79 305 *i* P **P 07 51 01.8 +1.5**
LVZ Lovozero 67.07 336*c i*P **P 07 51 00.4 -1.6**
LVZ *e*PPP 07 54 59.6
LVZ *e*S S 07 59 48.6 -6.3
LVZ *e* 08 00 48.6
LVZ pmax pmax
comp=Z,54nm,1.2s,mb5.5
LVZ pmax pmax
comp=E,11nm,0.9s
LVZ smax
comp=N,156nm,1.8s
LVZ MLR MLR
comp=Z,8µm,15.0s,MS6.0
LVZ MLR MLR
comp=N,1µm,16.0s,MS5.9
LVZ MLR MLR
comp=E,6µm,16.0s,MS5.9
VANB Van 67.19 303 *e*P **P 07 51 02.4 -0.4**
KDAK Kodiak Island 67.21 35 P **P 07 51 03.0 +0.1**
comp=E,212nm,1.2s,mb6.0,SNR=7.7
KDAK Kodiak Island 67.21 35 P **P 07 51 01.2 -1.6**
comp=E,18nm,0.5s,mb5.3,baz=315,slow=2.1,SNR=15
KDAK Kodiak Island 67.21 35 *e*P **P 07 51 03.2 +0.4**
comp=E,64nm,1.0s,mb5.6
CUKT Cukurca 67.34 302 *e*P **P 07 51 04.0 +0.3**
VRSR Storozhevoye 67.48 317 *e*P **P 07 51 03.6 -1.0**
VRSR *e**PP pP 07 51 09.7 -1.2
VRSR *e*S S 07 59 56.1 -3.7
VRSR pmax pmax
comp=Z,60nm,1.1s,mb5.5
VRSR pmax pmax
comp=N,30nm,1.0s
VRSR pmax pmax
comp=E,70nm,1.0s
VRSR smax
comp=N,70nm,2.4s
VRSR smax
comp=Z,30nm,2.2s
VRSR smax
comp=E,100nm,1.8s
VRSR MLR MLR
comp=Z,4µm,19.0s,MS5.6
VRSR MLR MLR
comp=N,2µm,18.0s,MS5.5
VRSR MLR MLR
comp=E,2µm,17.0s,MS5.5
MOS Moscow 67.57 322α*i*P **P 07 51 04.3 -0.9**
MOS *i* 07 51 32.3
MOS *e* 07 53 28.6
MOS *i*S S 07 59 54.2 -6.7
MOS *i* 08 00 31.5
MOS *i* 08 00 55.8
MOS pmax pmax
comp=Z,1µm,4.0s
MOS pmax pmax
comp=Z,178nm,1.7s,mb5.8
MOS MLR MLR
comp=E,4µm,17.0s
MOS MLR MLR
comp=Z,9µm,17.0s,MS6.0
APA Apatity 67.59 335⇑*i*P **P 07 51 05.6 +0.3**
APA *i* 07 51 28.0
APA *i* 07 53 42.0
APA *i* PPP 07 55 14.0
APA *i*S S 07 59 59.0 -2.1
APA *i*PS 08 00 16.0
APA *i* 08 00 38.0
APA pmax pmax
comp=Z,66nm,0.9s,mb5.7
APA MLR MLR
comp=Z,15µm,17.0s,MS6.3
BHD Baghdad 67.71 298 *i*x x 07 51 02.0
BHD *i*x x 07 51 20.0
BHD *i*x x 08 00 00.0
BHD *e*x x 08 00 12.0
BHD *e*x x 08 00 49.0
BCA Borcka 67.86 307 *e*P **P 07 51 06.8 -0.2**
SLKM Skilak Lake 67.94 32 *e*P **P 07 51 06.1 -1.4**
MSL Mosul 67.97 301 *e*x x 07 51 12.0
MSL *e*x x 07 51 35.0
MSL *e*x x 08 00 08.5
MSL *e*x x 08 00 28.0
MSL *e*x x 08 01 05.5
MCK McKinley 67.97 29 *e*P **P 07 51 07.0 -0.7**
MCK pmax pmax
comp=Z,27nm,1.0s,mb5.2
MCK McKinley 67.97 29 *e*P **P 07 51 07.0 -0.7**
comp=Z,27nm,1.0s,mb5.2
COLA College 68.24 27*c i*P **P 07 51 08.8 -0.6**
COLA College 68.24 27 *e*P **P 07 51 08.7 -0.7**
comp=Z,18nm,0.8s,mb5.1
PMR Palmer 68.27 31 *e*P **P 07 51 08.2 -1.4**
PMR pmax pmax
comp=Z,86nm,1.7s,mb5.5
PMR MLR MLR
comp=Z,3µm,23.0s,MS5.5
PMR Palmer 68.27 31 *e*P **P 07 51 08.2 -1.4**
comp=Z,86nm,1.7s,mb5.5
PMR LR LR
comp=Z,3µm,23.0s,MS5.5
OBN Obninsk 68.28 322*c i*P **P 07 51 08.7 -0.9**
OBN *e* pP 07 51 15.4 -0.5
OBN *e* 07 51 23.0
OBN *e* 07 53 42.5
OBN PPP 07 55 17.0
OBN *i*S S 08 00 04.6 -4.8
OBN *i* 08 01 02.0
OBN pmax pmax
comp=Z,132nm,1.4s,mb5.8
OBN pmax pmax
comp=Z,500nm,2.2s,mb6.2
OBN MLR MLR
comp=Z,9µm,21.0s,MS6.0
OBN Obninsk 68.28 322⇑*i*P **P 07 51 08.8 -0.8**
OBN LR LR
comp=Z,9µm,21.0s,MS6.0
ERZM Erzurum 68.41 305 *i* P **P 07 51 12.3 +1.9**
EZM Erzurum 68.41 305 *e*P **P 07 51 11.9 +1.4**
SML Sawmill 68.60 31 *e*P **P 07 51 10.8 -0.9**
SOC Sochi 68.74 309*c i*P **P 07 51 12.8 +0.3**
SOC *e**PP pP 07 51 16.4 -2.4
SOC *e* 07 53 45.7
SOC *e*PPP 07 55 29.1
SOC *e*S S 08 00 14.8 -0.1
SOC pmax pmax
comp=Z,152nm,1.7s,mb5.7
SOC pmax pmax
comp=Z,1µm,3.6s
SOC MLR MLR
comp=Z,8µm,19.0s,MS6.0
SOC Sochi 68.74 309 *i* P **P 07 51 13.5 +1.0**
BNGL BINGOL 68.80 304 *i* P **P 07 51 13.9 +1.0**
BINT Bingol 69.32 304 *e*P **P 07 51 16.1 0.0**
JOF Joensuu 69.33 331 *e*p **P 07 51 14.3 -1.9**
comp=Z,11nm,0.4s,mb5.1
KEV Kevo 69.45 338 *e*p **P 07 51 15.0 -1.9**
comp=Z,16nm,0.4s,mb5.3
KEV Kevo 69.45 338 P **P 07 51 13.3 -3.6**
KEV pmax pmax
comp=Z,61nm,0.9s,mb5.5
MARD Mardin 69.50 303 *i* P **P 07 51 18.1 +0.8**
EZC Erzincan 69.60 305 *e*P **P 07 51 20.9 +3.1**
SPB4 Spitsbergen Ar 69.77 348 *e*P **P 07 51 17.4 -1.5**
KELT Kelkit 69.92 306 *i* P **P 07 51 21.0 +1.2**
ARCES ARCESS Array B 70.01 338 P **P 07 51 19.7 -0.7**
comp=Z,22nm,0.8s,mb5.1,baz=68,slow=7.8,SNR=76
ARCES LR LR 08 27 10.8
ARE0 ARCESS Array S 70.01 338 *e*P **P 07 51 20.2 -0.2**
ANN Anapa 70.04 311 *e*P **P 07 51 19.3 -1.2**
ANN *e*S S 08 00 29.3 -0.9
ANN pmax pmax
comp=Z,244nm,1.6s,mb5.9
EYAK Cordova Ski Ar 70.10 32 *e*P **P 07 51 20.6 -0.3**
KBS Kingsbay 70.29 349⇑*i*P **P 07 51 20.4 -1.6**
KBS AMS AMS 08 26 26.9
comp=Z,6µm,22.2s,MS5.8
BJO Bjornoya 70.40 344⇑*i*P **P 07 51 20.9 -1.8**
BJO AMS AMS 08 29 08.7
comp=Z,7µm,19.1s,MS6.0

MENT Mentasta 70.44 29 *eP* **P 07 51 22.8 -0.2**
BJO1 Bjornoya 70.45 344⇑ *iP* **P 07 51 20.9 -2.1**
BJO1 LR LR
comp=Z,7μm,19.1s,MS6.0
PUL Pulkovo 70.53 328 *eP* **P 07 51 18.4 -5.2**
PUL *eS* S 08 00 29.6 -6.4
PUL pmax pmax
comp=Z,146nm,0.5s,mb6.2
PUL MLR MLR
comp=Z,18μm,18.0s,MS6.4
PUL MLR MLR
comp=N,8μm,22.0s,MS6.3
PUL MLR MLR
comp=E,15μm,19.0s,MS6.3
TAU Tasmania Unive 70.54 161 P **P 07 51 24.7 +1.1**
comp=E,308nm,1.3s,mb6.1,SNR=5.6
TAU Tasmania Unive 70.54 161 *eP* **P 07 51 24.5 +0.9**
TAU pmax pmax
comp=Z,117nm,1.3s,mb5.7
TAU Tasmania Unive 70.54 161 *eP* **P 07 51 24.5 +0.9**
comp=Z,117nm,1.3s,mb5.7
ELZG Elazig 70.56 304 *i P* **P 07 51 25.4 +1.7**
URFA Urfa 70.97 303 *eP* **P 07 51 27.2 +1.0**
MYA Malataya 71.03 304 *eP* **P 07 51 26.5 -0.1**
MALT Malatya 71.03 304⇓ *iP* **P 07 51 28.7 +2.1**
MALT Malatya 71.03 304 *eP* **P 07 51 28.1 +1.5**
MALT pmax pmax
comp=Z,79nm,0.7s,mb5.8
MALT Malatya 71.03 304 *eP* **P 07 51 28.1 +1.6**
comp=Z,79nm,0.7s,mb5.8
SVSK Karacayir 71.65 306 *eP* **P 07 51 30.6 +0.3**
KAF Kangasniemi 71.78 331 *ep* **P 07 51 29.2 -1.9**
comp=Z,7.6nm,0.5s,mb4.9,baz=71,slow=5.6
KAF Kangasniemi 71.78 331 *eP* **P 07 51 29.2 -1.9**
KAF pmax pmax
comp=Z,80nm,0.5s,mb5.9
GZT Gaziantep 71.95 303 *i P* **P 07 51 33.6 +1.4**
DAWY Dawson 71.99 27 *eP* **P 07 51 31.8 -0.5**
FIA1 FINESS Array S 72.08 330 *eP* **P 07 51 32.1 -0.8**
FIA1 *ePcP* PcP 07 51 51.4 0.0
FINES FINESS Array B 72.08 330 P **P 07 51 31.1 -1.9**
FINES LR LR 08 26 45.0
comp=Z,8.6nm,0.4s,mb5.0,baz=73,slow=6.0,SNR=50
comp=Z,17μm,18.9s,MS6.3,baz=75,slow=39
TRO Tromso 72.17 339⇑ *iP* **P 07 51 29.9 -3.6**
TRO *eS* S 08 00 51.5 -3.4
TRO AMS AMS 08 27 13.3
comp=Z,5μm,19.1s,MS5.8
SIM Simferopol' 72.27 312 *ceP* **P 07 51 34.1 0.0**
SIM 07 54 12.6
SIM PPP 07 56 04.3
SIM *eS* S 08 00 54.0 -2.1
SIM SSS 08 08 38.7
SIM pmax pmax
comp=Z,500nm,19.0s
SIM MLR MLR
comp=Z,5μm,22.0s,MS5.8
GAZ Gaziantep 72.28 303 *eP* **P 07 51 36.9 +2.8**
DIKM Dikmen 72.42 308 *eP* **P 07 51 33.8 -1.1**
BOYT Boyabat 72.74 308 *i P* **P 07 51 36.8 0.0**
INK Inuvik 72.78 22 *eP* **P 07 51 36.2 -0.9**
INK pmax pmax
comp=Z,230nm,0.8s
INK Inuvik 72.78 22 *eP* **P 07 51 36.2 -0.9**
comp=Z,725nm,0.8s,mb6.7
BNN Bunyan 72.81 305 *eP* **P 07 51 33.9 -3.4**
CTKT Corum 73.06 307 *i P* **P 07 51 39.5 +0.8**
KOZT Kozan 73.24 304 *eP* **P 07 51 40.2 +0.4**
CORM Corum 73.31 307 *eP* **P 07 51 40.4 +0.1**
MNK Minsk 73.32 323 *eP* **P 07 51 39.0 -1.3**
MNK pmax pmax
comp=Z,200nm,1.0s,mb6.0
CEYT Ceyhan 73.44 304 *eP* **P 07 51 41.9 +0.9**
TOS Tosya 73.49 308 *eP* **P 07 51 43.1 +1.8**
ALE Alert 73.50 1 P **P 07 51 41.0 -0.3**
SNR=5.0
CDAG Cicekdag 73.67 306 *i P* **P 07 51 42.4 +0.1**
AKASG Malin Array Be 73.70 319 P **P 07 51 41.0 -1.5**
comp=Z,22nm,0.7s,mb5.2,baz=60,slow=5.9,SNR=95
AKASG LR LR 08 28 03.9
comp=Z,3μm,18.0s,MS5.6,baz=70,slow=39
AKBB Malin Array Si 73.70 319 *eP* **P 07 51 41.8 -0.7**
KARA Karaisali 73.89 304 *eP* **P 07 51 44.5 +0.8**
ASF Jabal al Asfar 74.06 298 P **P 07 51 46.2 +1.6**
comp=Z,50nm,1.0s,mb5.4,baz=300,slow=3.6,SNR=55
ELDT Eldivan 74.09 308 *i P* **P 07 51 44.8 0.0**
BR131 Keskin Array S 74.17 307 *eP* **P 07 51 45.8 +0.5**
comp=Z,105nm,1.1s,mb5.7
BR131 *ePP* PP 07 54 35.0 +4.0
BRTR Keskin Array B 74.17 307 P **P 07 51 45.5 +0.1**
comp=Z,41nm,0.9s,mb5.3,baz=104,slow=5.2,SNR=132
BRTR LR LR 08 29 39.9
comp=Z,2μm,19.1s,MS5.5,baz=196,slow=40
KAMT Kaman 74.23 306 *eP* **P 07 51 46.0 +0.3**
MERS Mersin 74.42 304 *eP* **P 07 51 46.0 -0.7**
AFI Afiamalu 74.46 113 LR LR 08 22 25.9
comp=Z,3μm,18.2s,MS5.6,baz=283,slow=34
BHL Bhannes 74.49 300 *eP* **P 07 51 47.5 +0.3**
RCY Rachaya 74.50 300 *eP* **P 07 51 48.3 +1.1**
LOF Lofoten 74.57 338 *eP* **P 07 51 48.0 +0.4**
LOF AMb AMB 07 51 51.9
comp=Z,86nm,1.9s,mb5.3
LOF Lofoten 74.57 338 *eP* **P 07 51 48.0 +0.4**
comp=Z,86nm,1.9s,mb5.4
ANTO Ankara 74.75 307 *eP* **P 07 51 48.3 -0.3**
ANTO Ankara 74.75 307⇑ *iP* **P 07 51 49.1 +0.5**
ANTO Ankara 74.75 307 *eP* **P 07 51 49.2 +0.6**
ANTO pmax pmax
comp=Z,106nm,1.1s,mb5.7
ANTO Ankara 74.75 307 *eP* **P 07 51 49.2 +0.5**
comp=Z,106nm,1.1s,mb5.7
LOD Lodumlu 74.76 307 *eP* **P 07 51 47.3 -1.4**
MMAI Mount Meron Ar 74.98 300 P **P 07 51 51.1 +1.2**
comp=Z,11nm,0.6s,mb5.0,baz=78,slow=8.6,SNR=13
SGKT Sivrigoynuk 75.05 308 *i P* **P 07 51 51.6 +1.2**
MOR8 Moi Rana 75.12 336 *eP* **P 07 51 48.2 -2.6**
MOR8 AMb AMB 07 51 52.5
comp=Z,69nm,1.1s,mb5.5
MOR8 Moi Rana 75.12 336 *eP* **P 07 51 48.2 -2.6**
comp=Z,69nm,1.1s,mb5.5
KIS Kishinev 75.15 315 *c iP* **P 07 51 48.0 -3.0**
KIS *e* 07 52 06.0
KIS *e* 07 54 36.0
KIS *eS* S 08 01 20.0 -8.6
KIS pmax pmax
comp=Z,2μm,5.0s
KIS MLR MLR
comp=N,3μm,16.0s,MS5.9
KIS MLR MLR
comp=E,3μm,16.0s,MS5.9
KIS MLR MLR
comp=Z,5μm,16.0s,MS5.9
KIS MLR MLR
comp=Z,7μm,16.0s
KDZE Karadeniz Ereo 75.25 309 *eP* **P 07 51 48.3 -3.2**
IKL Isikli 75.26 303 *eP* **P 07 51 51.5 -0.1**
SKAG Skagway 75.41 31 *eP* **P 07 51 52.6 +0.2**
comp=Z,452nm,2.3s,mb6.0
SKAG LR LR
comp=Z,3μm,18.0s,MS5.7
STOK Stokkvaagen 75.57 337 *eP* **P 07 51 52.0 -1.4**
STOK AMb AMB 07 51 56.1
comp=Z,82nm,1.5s,mb5.4
STOK Stokkvaagen 75.57 337 *eP* **P 07 51 52.0 -1.4**
comp=Z,82nm,1.5s,mb5.4
KDHN Kadinhani 75.69 306 *i P* **P 07 51 53.9 -0.1**
MDU Mudurnu 75.69 308 *eP* **P 07 51 52.9 -1.2**
KONT Konya--Tatoy 75.69 305 *eP* **P 07 51 52.1 -2.0**
ERMK Ermenek 75.72 304 *i P* **P 07 51 54.4 +0.2**
KIZT Kizilcal 75.74 306 *eP* **P 07 51 55.6 +1.2**
HDMB Hadim 75.93 304 *eP* **P 07 51 55.1 -0.3**
CSS Prodhromos 75.96 302 *eP* **P 07 51 55.6 0.0**
ATD Arta Tunnel 76.05 277 P **P 07 51 58.0 +1.9**
comp=Z,37nm,0.9s,mb5.3,baz=54,slow=4.4,SNR=6.9
ATD Arta Tunnel 76.05 277 P **P 07 51 58.0 +1.9**
SUW Suwalki 76.05 323 *eP* **P 07 51 55.2 -0.9**
comp=Z,0.5nm,2.0s
SUW *eS* S 08 01 37.8 -0.8
SUW L 08 28 36.8
comp=Z,12nm,17.4s
SUW Suwalki 76.05 323⇑ *eP* **P 07 51 55.2 -0.9**
SUW *eS* S 08 01 37.8 -0.8
CFR Carcaliu 76.22 313⇓ *iP* **P 07 51 57.5 +0.4**
CFR Carcaliu 76.22 313 ⇓P **P 07 51 57.5 +0.5**

ESKT Eskisehir 76.28 307 *eP* **P 07 51 57.3 -0.1**
TIRR Tirgusor 76.28 313⇑ *iP* **P 07 51 57.0 -0.4**
TIRR Tirgusor 76.28 313 *eP* **P 07 51 57.5 +0.1**
comp=Z,126nm,1.8s,mb5.5
SIT Sitka 76.35 33 *eP* **P 07 51 59.6 +1.8**
SIT pmax pmax
comp=Z,479nm,2.2s,mb6.0
SIT Sitka 76.35 33 *eP* **P 07 51 59.6 +1.8**
comp=Z,478nm,2.2s,mb6.0
EIL Elat 76.47 297 *eP* **P 07 51 59.4 +0.9**
comp=Z,3μm,1.3s
HARR Harsova 76.52 313⇑ *iP* **P 07 51 59.6 +0.8**
HARR Harsova 76.52 313 ⇑P **P 07 51 59.6 +0.8**
ADVT Abdulvahap 76.76 308 *eP* **P 07 51 58.2 -2.0**
NSS Namsos 76.80 335⇑ *iP* **P 07 51 57.9 -2.5**
NSS AMb AMB 07 52 00.6
comp=Z,52nm,2.5s,mb5.0
NSS *eS* S 08 01 42.1 -4.7
NSS AMS AMS 08 30 43.9
comp=Z,7μm,17.9s,MS6.0
NSS Namsos 76.80 335⇑ *iP* **P 07 51 57.9 -2.5**
comp=Z,52nm,2.5s,mb5.0
NSS LR LR
comp=Z,7μm,17.9s,MS6.0
VRI Vrincioaia 76.90 314⇓ *iP* **P 07 52 01.2 +0.3**
VRI Vrincioaia 76.90 314 ⇓P **P 07 52 01.2 +0.2**
PLOR Plostina 76.96 314⇑ *iP* **P 07 52 02.4 +1.1**
KLYT Kilyos 76.97 309 *eP* **P 07 51 59.9 -1.5**
ISP Isparta 77.11 306 *i P* **P 07 52 00.6 -1.5**
ISP Isparta 77.11 306 *eP* **P 07 52 01.3 -0.8**
ISP Isparta 77.11 306⇑ *iP* **P 07 52 02.9 +0.8**
ISP Isparta 77.11 306 *c iP* **P 07 52 01.8 -0.3**
LVV L'vov 77.13 319 *eP* **P 07 52 01.6 -0.7**
LVV *iS* S 08 01 46.9 -3.5
LVV *i PS* 08 02 12.9
GEMT Gemlik 77.16 309 *eP* **P 07 52 01.6 -0.8**
TKTP Tekketepe 77.18 306 *i P* **P 07 52 02.8 +0.3**
BURAR Bucovina Array 77.23 317⇑ *iP* **P 07 52 02.4 -0.4**
ULDT Uludag 77.30 308 *i P* **P 07 52 03.3 +0.1**
PRD Provadia 77.41 312 *i P* **P 07 52 04.2 +0.4**
GDZ Gediz 77.42 307 *i P* **P 07 52 03.4 -0.4**
ELBA Catalca 77.44 309 *i P* **P 07 52 03.2 -0.8**
MLR Muntele Rosu 77.55 314⇑ *iP* **P 07 52 05.7 +1.1**
MLR Muntele Rosu 77.55 314 ⇑P **P 07 52 05.7 +1.1**
WAR Warsaw 77.94 322 *eP* **P 07 52 06.6 -0.1**
WAR *epP* pP 07 52 11.1 -2.0
WAR *eS* S 08 01 56.9 -2.2
WAR L 08 30 22.6
comp=Z,6.4nm,19.7s
ELL Elmali 77.94 305 *eP* **P 07 52 06.1 -0.7**
KWP Kalwaria 78.00 319 *eP* **P 07 52 07.0 -0.1**
comp=Z,1.0nm,1.9s
KWP *ePcP* PcP 07 52 16.3 -0.5
KWP *eS* S 08 01 57.3 -2.4
KWP L 08 29 17.5
comp=Z,4.9nm,22.9s
KWP Kalwaria 78.00 319⇑ *eP* **P 07 52 07.0 -0.1**
KWP *ePcP* PcP 07 52 16.3 -0.5
KWP *eS* S 08 01 57.3 -2.4
RAO Raoul Island 78.08 130 LR LR 08 20 54.3
comp=Z,2μm,20.4s,MS5.3,baz=340,slow=31
CRAG Craig 78.12 34 *eP* **P 07 52 07.9 +0.1**
comp=Z,97nm,1.3s,mb5.6
HFS Hagfors 78.18 331 LR LR 08 30 14.8
comp=Z,28μm,18.5s,MS6.6,baz=57,slow=38
JMB Yambol 78.24 311 *eP* **P 07 52 09.5 +1.1**
DNZL Cakiroluk 78.24 306 *i P* **P 07 52 08.3 -0.1**
DLBC Dease Lake 78.33 31 *eP* **P 07 52 09.2 +0.3**
EDRB Edirne 78.36 311 *eP* **P 07 52 07.3 -1.7**
RKY Sarkoy-Tekirda 78.49 309 *eP* **P 07 52 10.0 +0.2**
KOLS Kolonicke sedl 78.54 319 *eP* **P 07 52 10.3 +0.2**
FETY Fethiye 78.60 305 *eP* **P 07 52 10.4 0.0**
AKHS Akhisar 78.71 308 *i P* **P 07 52 10.2 -0.8**
NB2 NORSAR Subarra 78.81 332 P **P 07 52 10.0 -1.6**
comp=Z,274nm,1.7s,mb5.9,baz=58,slow=5.6
NOA NORSAR Array B 78.81 332 P **P 07 52 09.9 -1.7**
comp=Z,14nm,0.7s,mb5.0,baz=56,slow=5.5,SNR=55
NOA LR LR 08 30 40.5
comp=Z,10μm,19.6s,MS6.2,baz=70,slow=38
CANB Canakkale 78.82 309 *eP* **P 07 52 08.8 -2.8**
DALT Dalyan (Mudla) 78.89 305 *eP* **P 07 52 10.3 -1.7**
YER Yerkesik 79.01 306 *eP* **P 07 52 11.1 -1.6**
CRVS Cervenica-Dubn 79.04 319 *eP* **P 07 52 13.1 +0.3**
NAO01 NORSAR Array S 79.05 332 *eP* **P 07 52 11.4 -1.5**
comp=Z,3.8nm,0.4s,mb4.7
DRGR 79.12 316⇑ *iP* **P 07 52 13.2 -0.1**
DRGR 79.12 316 ⇑P **P 07 52 13.2 0.0**
JMIC Jan Mayen 79.16 345 LR LR 08 31 14.2
comp=Z,6μm,19.1s,MS6.0,baz=37,slow=39
JMIC Jan Mayen 79.16 345⇑ *iP* **P 07 52 12.4 -1.1**
JMIC *eS* S 08 02 08.9 -3.3
JMIC AMS AMS 08 31 30.3
comp=Z,6μm,19.4s,MS5.9
DOMB Dombas 79.19 334 *eP* **P 07 52 12.5 -1.1**
DOMB AMb AMB 07 52 15.4
comp=Z,110nm,1.4s,mb5.6
DOMB Dombas 79.19 334 *eP* **P 07 52 12.5 -1.1**
comp=Z,110nm,1.4s,mb5.6
ENEZ Enez 79.19 310 *eP* **P 07 52 11.8 -1.9**
ALN Alexandroupoli 79.21 310 *eP* **P 07 52 14.3 +0.5**
IZM Izmir 79.29 307 *eP* **P 07 52 12.8 -1.4**
MLSB Milas 79.33 306 *eP* **P 07 52 08.8 -5.6**
KDZ Kurdzhali 79.36 311 *i P* **P 07 52 14.7 +0.1**
BLCB Balcova 79.45 307 *eP* **P 07 52 13.9 -1.2**
RDO Rodhopi 79.47 310 *eP* **P 07 52 14.6 -0.6**
ARG Arkhangelos 79.47 305 *eP* **P 07 52 15.2 0.0**
OJC Ojcow 79.48 320 *i P* **P 07 52 14.8 -0.4**
OJC *i S* S 08 02 11.2 -4.3
OJC L 08 32 44.0
comp=Z,22nm,19.8s
MOL Molde 79.51 335 AMS AMS 08 31 55.1
comp=Z,8μm,16.9s,MS6.2
GADA Gvkgeada 79.58 309 *eP* **P 07 52 14.5 -1.3**
GKP Gorka Klasztor 79.59 324 *eP* **P 07 52 15.5 -0.3**
GKP *ePcP* PcP 07 52 22.8 -0.9
GKP *eS* S 08 02 14.2 -2.5
GKP L 08 31 35.0
comp=Z,13nm,18.7s
GZR Gura Zlata 79.64 315⇑ *iP* **P 07 52 17.2 +1.1**
GZR Gura Zlata 79.64 315 ⇑P **P 07 52 17.2 +1.1**
PLD Plovdiv 79.67 311 *eP* **P 07 52 16.2 0.0**
PLD Plovdiv 79.67 311 *i P* **P 07 52 15.5 -0.8**
PRK Paraskevi 79.68 308 *eP* **P 07 52 16.1 -0.2**
DAT Datca 79.69 306 *eP* **P 07 52 14.9 -1.5**
BODT Bodrum 79.76 306 *eP* **P 07 52 15.6 -1.1**
RZN Rozhen 79.83 311 *i P* **P 07 52 17.2 +0.1**
PGB Panagyurishte 79.86 312 *i P* **P 07 52 17.1 -0.2**
BSD Bornholm Skovb 79.96 326⇑ *iP* **P 07 52 16.4 -1.4**
comp=Z,74nm,1.1s,mb5.5
BSD *i* 07 55 39.0
BSD *i S* S 08 02 16.1 -4.5
BSD
comp=Z,14μm,19.0s
BSD Bornholm Skovb 79.96 326⇑ *iP* **P 07 52 16.4 -1.4**
comp=Z,74nm,1.1s,mb5.5
BSD *i* 07 55 39.0
BSD *i S* S 08 02 16.1 -4.5
CHOS Chios island 80.17 308 *eP* **P 07 52 18.3 -0.7**
LIA Limnos Island 80.20 309 *eP* **P 07 52 18.4 -0.7**
KONO Kongsberg 80.22 332⇑ *iP* **P 07 52 17.9 -1.3**
KONO *eS* S 08 02 17.1 -6.3
KONO *eSS* SS 08 07 33.7 -0.5
KONO Kongsberg 80.22 332 *eP* **P 07 52 18.4 -0.8**
KONO pmax pmax
comp=Z,45nm,1.5s,mb5.2
KONO Kongsberg 80.22 332 *eP* **P 07 52 18.4 -0.8**
comp=Z,45nm,1.5s,mb5.2
BZS Buzias 80.30 316 P **P 07 52 20.1 +0.5**
PSZ Piszkesteto 80.40 318‖ *eP* **P 07 52 20.2 0.0**
PSZ Piszkesteto 80.40 318⇑ *iP* **P 07 52 21.1 +0.9**
KARP Karpathos 80.45 305 *eP* **P 07 52 18.2 -2.3**
URZ Urewera 80.46 139 P **P 07 52 20.2 -0.3**
comp=Z,9.2nm,0.6s,mb4.9,baz=74,slow=2.9,SNR=7.7
URZ LR LR 08 24 26.2
comp=Z,3μm,21.0s,MS5.6,baz=137,slow=33
URZ Urewera 80.46 139 P **P 07 52 20.2 -0.3**
URZ LR LR 08 24 26.2
RAC Raciborz 80.47 321 *eP* **P 07 52 21.0 +0.4**
RAC MLR MLR
comp=Z,5μm,18.4s,MS5.9
VTS Vitosha 80.49 312 *eP* **P 07 52 21.1 +0.5**
VTS Vitosha 80.49 312 *i P* **P 07 52 20.0 -0.7**
VTS Vitosha 80.49 312⇑ *iP* **P 07 52 21.1 +0.4**

MMB Musomiste 80.54 311 *eP* **P 07 52 21.6 +0.7**
MMB Musomiste 80.54 311 *i P* **P 07 52 21.2 +0.2**
NVR Nevrokopi 80.55 311 *eP* **P 07 52 20.5 -0.5**
OKC Ostrava-Krasne 80.60 321⇓ *iP* **P 07 52 21.7 +0.4**
OKC *ex* x 07 52 42.0
OKC *eS* S 08 02 22.1 -5.3
OKC AMS AMS 08 33 40.0
comp=Z,4μm,17.2s
OKC Ostrava-Krasne 80.60 321⇓ *iP* **P 07 52 21.7 +0.4**
OKC *e* 07 52 42.0
OKC *e* 08 02 22.1
VYHS Vyhne 80.79 319 *eP* **P 07 52 22.3 0.0**
VYHS *ePP* PP 07 55 22.4 -4.0
VYHS *eS* S 08 02 24.6 -4.7
VYHS Vyhne 80.79 319 *eP* **P 07 52 22.3 0.0**
VYHS *e* 07 55 22.4
VYHS *eS* S 08 02 24.6 -4.7
VYHS pmax pmax
comp=Z,58nm,1.4s,mb5.3
VYHS MLR MLR
comp=Z,4μm,19.1s,MS5.8
VYHS Vyhne 80.79 319 *eP* **P 07 52 22.3 0.0**
comp=Z,58nm,1.4s,mb5.3
VYHS *ePP* PP 07 55 22.4 -4.0
VYHS *eS* S 08 02 24.6 -4.7
VYHS LR LR
comp=Z,4μm,19.1s,MS5.8
SRS Serrai 80.83 311 *eP* **P 07 52 22.7 +0.2**
KKB Krupnik 80.87 312 *i P* **P 07 52 22.2 -0.5**
RPZ Rata Peaks 80.89 147 LR LR 08 25 24.5
comp=Z,4μm,20.8s,MS5.7,baz=327,slow=34
COP Copenhagen 80.92 327⇑ *iP* **P 07 52 22.4 -0.6**
COP *e* 07 55 33.6
COP *i S* S 08 02 29.2 -1.6
COP *i* 08 12 15.3
COP
comp=Z,7μm,20.0s
COP Copenhagen 80.92 327⇑ *eP* **P 07 52 22.4 -0.6**
COP *e* 07 55 33.6
COP *i S* S 08 02 29.2 -1.6
COP MLR MLR
comp=Z,7μm,20.0s,MS6.0
COP Copenhagen 80.92 327⇑ *eP* **P 07 52 22.4 -0.6**
COP *e* 07 55 33.6
COP *i S* S 08 02 29.2 -1.6
COP *i* 08 12 15.3
COP LR LR
comp=Z,7μm,20.0s,MS6.0
MORC Moravsky Berou 80.98 321⇑ *iP* **P 07 52 23.1 -0.2**
MORC Moravsky Berou 80.98 321 *eP* **P 07 52 23.0 -0.3**
MORC pmax pmax
comp=Z,131nm,1.8s,mb5.6
MORC Moravsky Berou 80.98 321 *eP* **P 07 52 23.0 -0.3**
comp=Z,131nm,1.8s,mb5.6
MORC *ePP* PP 07 55 20.8 -7.3
SOH Sokhos 81.11 311 *eP* **P 07 52 23.4 -0.6**
BUD Budapest 81.12 318⇑ *eP* **P 07 52 23.8 -0.2**
KSP Ksiaz 81.21 322 *eP* **P 07 52 24.6 +0.1**
comp=Z,1.0nm,2.8s
KSP *ePcP* PcP 07 52 30.5 -0.2
KSP *eS* S 08 02 32.8 -0.9
KSP L 08 31 59.8
comp=Z,14nm,19.3s
KSP Ksiaz 81.21 322⇑ *eP* **P 07 52 24.4 -0.1**
KSP *eS* S 08 02 29.6 -4.1
KSP *eSS* SS 08 07 48.0 -1.0
KSP MLR MLR
comp=Z,17μm,19.3s,MS6.4
KSP Ksiaz 81.21 322⇑ *eP* **P 07 52 24.4 -0.1**
KSP *ePP* pP 07 52 44.3 +13
KSP *ePP* PP 07 55 23.0 -6.9
KSP *eS* S 08 02 29.6 -4.1
KSP *eSS* SS 08 07 48.0 -1.0
KSP *e* 08 12 10.0
KSP LR LR
comp=Z,17μm,19.3s,MS6.4
PAIG Paliouri 81.25 310 *eP* **P 07 52 24.8 0.0**
KNT Kendrikon 81.29 311 *eP* **P 07 52 25.2 +0.3**
ODD1 Odda 81.34 333 *eP* **P 07 52 22.4 -2.8**
ODD1 AMb AMB 07 52 26.3
comp=Z,58nm,1.5s,mb5.3
ODD1 Odda 81.34 333 *eP* **P 07 52 22.4 -2.8**
comp=Z,58nm,1.5s,mb5.3
HORT Hortiatis 81.38 311 *eP* **P 07 52 24.4 -1.1**
SANT Santorini 81.40 306 *eP* **P 07 52 25.2 -0.3**
SANT *ePP* PP 07 55 40.7 +9.2
AOS Alonnisos 81.42 309 *eP* **P 07 52 25.8 +0.2**
VAY Valandovo 81.45 311 *eP* **P 07 52 24.7 -1.1**
VAY Valandovo 81.45 311⇑ *iP* **P 07 52 24.4 -1.4**
SUE Sulen 81.45 334 *eP* **P 07 52 25.4 -0.4**
SUE AMb AMB 07 52 27.8
comp=Z,92nm,1.6s,mb5.5
SUE Sulen 81.45 334 *eP* **P 07 52 25.4 -0.4**
comp=Z,92nm,1.6s,mb5.5
THE Thessaloniki 81.46 311 *eP* **P 07 52 24.5 -1.4**
STIP Stip 81.55 312 *eP* **P 07 52 26.3 -0.1**
STIP Stip 81.55 312 *i P* **P 07 52 26.2 -0.2**
RUND Rundenannen 81.58 333 *eP* **P 07 52 26.5 0.0**
ASK Askoy 81.61 334 *eP* **P 07 52 26.0 -0.6**
ASK AMb AMB 07 52 28.7
comp=Z,130nm,2.2s,mb5.5
ASK Askoy 81.61 334 *eP* **P 07 52 26.0 -0.6**
comp=Z,130nm,2.2s,mb5.5
BER Bergen 81.61 333⇑ *iP* **P 07 52 25.1 -1.6**
BER *eP* 07 52 26.1
BER AMb AMB 07 52 31.5
comp=Z,87nm,1.8s,mb5.4
BER AMb AMB 07 52 32.9
comp=Z,76nm,2.5s,mb5.2
BER *eS* S 08 02 34.1 -3.8
BER *eSS* SS 08 07 53.8 -1.2
BER AMS AMS 08 32 54.5
comp=Z,18μm,18.2s,MS6.5
BLS5 Blasjo 81.69 332 *eP* **P 07 52 27.0 0.0**
BLS5 AMb AMB 07 52 30.1
comp=Z,95nm,1.3s,mb5.6
BLS5 Blasjo 81.69 332 *eP* **P 07 52 27.0 0.0**
comp=Z,95nm,1.3s,mb5.6
GRG Griva 81.71 311 *eP* **P 07 52 27.3 +0.1**
EGD Espegrend 81.72 333 *eP* **P 07 52 27.1 -0.2**
EGD AMb AMB 07 52 29.4
comp=Z,156nm,2.4s,mb5.5
EGD Espegrend 81.72 333 *eP* **P 07 52 27.1 -0.2**
comp=Z,156nm,2.3s,mb5.5
NPS Neapolis 81.73 305 *eP* **P 07 52 27.3 0.0**
VRAC Vranov 81.74 321 LR LR 08 33 10.1
comp=Z,4μm,18.3s,MS5.8,baz=64,slow=39
VRAC Vranov 81.74 321⇓ *iP* **P 07 52 28.8 +1.4**
VRAC Vranov 81.74 321 P **P 07 52 27.7 +0.3**
VRAC Vranov 81.74 321 ⇓P **P 07 52 28.8 +1.5**
RUE Ruedersdorf 81.81 324 *eP* **P 07 52 27.2 -0.5**
comp=Z,53nm,0.9s,mb5.5
XOR Xorichti 81.82 309 *eP* **P 07 52 27.4 -0.4**
LAST Lasithi 81.87 305 *eP* **P 07 52 28.0 0.0**
PKSM Moragy 81.92 317⇑ *iP* **P 07 52 26.4 -1.9**
PKSM Moragy 81.92 317 ⇑P **P 07 52 28.0 -0.3**
PKSM Moragy 81.92 317‖ *eP* **P 07 52 27.9 -0.4**
SKO Skopje 81.94 312 *eP* **P 07 52 28.3 -0.1**
SKO Skopje 81.94 312⇑ *iP* **P 07 52 28.7 +0.3**
ZST Bratislava 81.96 319 *eP* **P 07 52 29.2 +0.7**
ZST *epP* S 08 02 39.9 -1.5
ZST Bratislava 81.96 319 *eP* **P 07 52 29.2 +0.7**
ZST *eS* S 08 02 39.9 -1.5
ZST pmax pmax
comp=Z,302nm,2.5s,mb5.8
ZST MLR MLR
comp=Z,3μm,14.0s,MS5.8
ZST Bratislava 81.96 319 *eP* **P 07 52 29.2 +0.7**
comp=Z,302nm,2.5s,mb5.8
ZST *eS* S 08 02 39.9 -1.5
ZST LR LR
comp=Z,3μm,14.0s,MS5.8
SNART Snartemo 81.96 331 *eP* **P 07 52 29.2 +0.7**
SNART AMb AMB 07 52 32.3
comp=Z,38nm,2.0s,mb5.0
DIVS Divcibare 81.99 315 *eP* **P 07 52 28.1 -0.5**
LIT Litokhoron 82.01 310 *eP* **P 07 52 27.5 -1.3**
MUD Monsted U'grnd 82.09 329⇑ *iP* **P 07 52 28.3 -0.9**
comp=Z,47nm,1.2s,mb5.3
MUD *e* 07 55 26.2
MUD *i S* S 08 02 42.3 -0.6
MUD
comp=Z,18μm,19.0s

MUD	**Monsted U'grnd**	**82.09**	**329**	⇑*iP*	**P**	**07 52 28.3**	**-0.9**
	comp=Z,47nm,1.2s,mb5.3								
MUD				*e*		07 55 26.2			
MUD				*i* S	S	08 02 42.3	-0.6		
LKR	**Lokris**	**82.26**	**309**	*eP*	**P**	**07 52 28.3**	**-1.8**
PVCC	**Panska Ves**	**82.32**	**322**	⇓*iP*	**P**	**07 52 30.9**	**+0.5**
PVCC				*eS*	S	08 02 43.1	-2.1		
PVCC				AMS	AMS	08 33 30.0			
PVCC	**Panska Ves**	**82.32**	**322**	⇓*iP*	**P**	**07 52 30.9**	**+0.5**
PVCC				*e*		08 02 43.1			
TREC	**Trest**	**82.39**	**321**	⇓*iP*	**P**	**07 52 30.5**	**-0.3**
TREC				AMS	AMS	08 32 50.0			
	comp=Z,7μm,15.3s								
KZN	**Kozani**	**82.42**	**311**	*eP*	**P**	**07 52 29.9**	**-1.0**
BIA	**Bitola**	**82.43**	**312**	*eP*	**P**	**07 52 30.4**	**-0.6**
YKW3	**Yellowknife Ar**	**82.46**	**23**	*eP*	**P**	**07 52 29.7**	**-1.4**
FNA	**Florina**	**82.49**	**311**	*eP*	**P**	**07 52 30.8**	**-0.5**
YKA	**Yellowknife Ar**	**82.50**	**23**	P	**P**	**07 52 29.8**	**-1.5**
	comp=Z,31nm,0.9s,mb5.3,baz=314,slow=4.9,SNR=62								
YKA				PKKPbc	PKKPbc	08 10 59.0	+2.0		
	comp=Z,0.7nm,0.6s,baz=140,slow=1.9,SNR=3.8								
YKA				LR	LR	08 34 39.3			
	comp=Z,3μm,19.1s,MS5.6,baz=0.0,slow=40								
YKA	**Yellowknife Ar**	**82.50**	**23**	P	**P**	**07 52 29.8**	**-1.5**
YKA				PKKPbc	PKKPbc	08 10 59.0	+2.0		
YKA				LR	LR	08 34 39.3			
BRG	**Berggiesshubel**	**82.50**	**323**	*eP*	**P**	**07 52 30.8**	**-0.5**
	comp=Z,102nm,1.8s,mb5.5								
BRG	**Berggiesshubel**	**82.50**	**323**	*eP*	**P**	**07 52 31.5**	**+0.1**
	comp=Z,22nm,1.1s,mb5.1								
BRG				*e*		07 53 35.1			
	comp=Z,27nm,1.6s								
BRG				PP	PP	07 55 39.0	-1.6		
BRG				S	S	08 02 43.0	-4.1		
BRG				SS	SS	08 08 10.0	+1.7		
BRG				*e*PKPPKP		08 19 03.9			
	comp=Z,6.3nm,1.4s								
BRG									
	comp=N,3μm,18.0s								
BRG									
	comp=E,3μm,18.0s								
BRG									
	comp=Z,6μm,16.3s								
BRG	**Berggiesshubel**	**82.50**	**323**	*eP*	**P**	**07 52 31.5**	**+0.2**
BRG				S	S	07 55 39.0			
BRG				S	S	08 02 43.0	-4.1		
BRG				SS	SS	08 08 10.0	+1.7		
BRG				pmax	pmax				
	comp=Z,22nm,1.1s,mb5.1								
BRG				MLR	MLR				
	comp=Z,6μm,16.3s,MS6.1								
BRG	**Berggiesshubel**	**82.50**	**323**	*eP*	**P**	**07 52 31.5**	**+0.1**
	comp=Z,22nm,1.1s,mb5.1								
BRG				*e*		07 53 35.1			
BRG				PP	PP	07 55 39.0	-1.6		
BRG				S	S	08 02 43.0	-4.1		
BRG				SS	SS	08 08 10.0	+1.7		
BRG				*e*P'P'		08 19 03.9			
BRG				LR	LR				
	comp=Z,6μm,16.3s,MS6.1								
AGG	**Agios Georgios**	**82.58**	**309**	*eP*	**P**	**07 52 31.0**	**-0.7**
PRU	**Pruhonice**	**82.60**	**322**	⇓*eP*	**P**	**07 52 31.6**	**-0.2**
PRU				*ex*	x	07 53 09.7			
PRU				*ex*	x	07 53 12.3			
PRU				*eS*	S	08 02 40.2	-7.8		
PRU				AMS	AMS	08 32 40.0			
PRU	**Pruhonice**	**82.60**	**322**	*eP*	**P**	**07 52 31.6**	**-0.2**
PRU				*e*		07 53 09.7			
PRU				*e*		07 53 12.3			
PRU				*e*		08 02 40.2			
SUMG	**Summit**	**82.64**	**354**	*eP*	**P**	**07 52 31.9**	**-0.2**
	comp=Z,67nm,1.3s,mb5.5								
VAM	**Vamos**	**82.72**	**305**	*eP*	**P**	**07 52 32.3**	**-0.2**
OHR	**Ohrid**	**82.75**	**312**	*eP*	**P**	**07 52 31.0**	**-1.6**
OHR	**Ohrid**	**82.75**	**312**	⇑*iP*	**P**	**07 52 30.7**	**-1.9**
CLL	**Collm**	**82.81**	**323**	⇑*iP*	**P**	**07 52 31.9**	**-1.0**
	comp=Z,77nm,1.5s,mb5.5								
CLL				*e*PP	PP	07 55 43.4	+0.3		
CLL				*e*pPP		07 55 58.0			
CLL				*e*PPP		07 57 35.1			
CLL				*eS*	S	08 02 43.2	-7.0		
CLL				*eS*cS	ScS	08 03 00.4	-4.4		
CLL				*e*PS		08 03 43.1			
CLL				*e*PPS		08 04 01.0			
CLL				*e*SS	SS	08 08 29.7	+17		
CLL				*e*SSSS		08 14 09.5			
CLL				*eL*		08 33 59.3			
	comp=Z,11μm,20.0s								
CLL	**Collm**	**82.81**	**323**	*i* P	**P**	**07 52 31.9**	**-1.0**
	comp=Z,logA/T=2.1,mb5.9								
CLL				*i* PCP	PcP	07 52 38.2	+0.5		
CLL				*e*		07 55 22.0			
CLL				*e*PP	PP	07 55 44.0	+0.9		
CLL				*e**SPP		07 55 51.0			
CLL				*e*PPP		07 57 31.0			
CLL				*eS*	S	08 02 43.0	-7.2		
CLL				*e*ScS	ScS	08 02 59.0	-5.8		
CLL				*e*PS		08 03 42.0			
CLL				*e*PPS		08 04 00.0			
CLL				*e*SS	SS	08 08 18.0	+5.2		
CLL				*e*		08 14 12.0			
CLL	**Collm**	**82.81**	**323**	*i* P	**P**	**07 52 31.9**	**-1.0**
	comp=Z,258nm,2.2s,mb5.9								
CLL				*i* PcP	PcP	07 52 38.2	+0.5		
CLL				*ex*	x	07 55 22.0			
CLL				*e*PP	PP	07 55 44.0	+0.9		
CLL				*es*PP		07 55 51.0			
CLL				*e*PPP		07 57 31.0			
CLL				*eS*	S	08 02 43.0	-7.2		
CLL				*e*ScS	ScS	08 02 59.0	-5.8		
CLL				*e*PS		08 03 42.0			
CLL				*e*PPS		08 04 00.0			
CLL				*e*SS	SS	08 08 18.0	+5.2		
CLL				*ex*	x	08 12 36.0			
CLL				*e*SSSS		08 14 12.0			
CLL	**Collm**	**82.81**	**323**	*i* P	**P**	**07 52 31.9**	**-1.0**
CLL				*i*	pP	07 52 38.2	-1.1		
CLL				*eS*	S	08 02 43.0	-7.2		
CLL				pmax	pmax				
	comp=Z,258nm,2.2s,mb5.9								
CLL				MLR	MLR				
	comp=Z,12μm,18.3s,MS6.3								
CLL	**Collm**	**82.81**	**323**	*i* P	**P**	**07 52 31.9**	**-1.0**
	comp=Z,258nm,2.2s,mb5.9								
CLL				*i*	pP	07 52 38.2	-1.1		
CLL				*eS*	S	08 02 43.0	-7.2		
CLL				*e*P'P'		08 18 58.0			
CLL				LR	LR				
	comp=Z,12μm,18.3s,MS6.3								
FBE	**Freiberg**	**82.81**	**323**	*eP*	**P**	**07 52 32.4**	**-0.5**
	comp=Z,106nm,1.5s,mb5.7								
CONA	**Conrad Observa**	**82.82**	**320**	⇑*iP*	**P**	**07 52 28.1**	**-4.9**
	comp=Z,771nm,2.5s,mb6.3,SNR=11								
BSEG	**Bad Segeberg**	**82.87**	**327**	*eP*	**P**	**07 52 33.4**	**+0.1**
	comp=Z,63nm,1.5s,mb5.4								
BSEG				*e*PP	PP	07 55 43.4	-0.2		
EVR	**Evrytania**	**82.99**	**309**	*eP*	**P**	**07 52 32.6**	**-1.3**
GVD	**Gavdhos**	**83.04**	**305**	*eP*	**P**	**07 52 33.4**	**-0.7**
VLI	**Veliai**	**83.11**	**307**	*eP*	**P**	**07 52 32.4**	**-2.1**
KYTH	**Kithira**	**83.22**	**307**	*eP*	**P**	**07 52 35.0**	**-0.1**
TIR	**Tirane**	**83.28**	**312**	*eP*	**P**	**07 52 35.0**	**-0.4**
KOGS	**Kog**	**83.28**	**318**	⇑*eP*	**P**	**07 52 34.8**	**-0.6**
ARSA	**Arzberg**	**83.34**	**319**	⇑*iP*	**P**	**07 52 35.3**	**-0.4**
	comp=Z,546nm,2.7s,mb6.1,SNR=23								
JAN	**Janina**	**83.34**	**310**	*eP*	**P**	**07 52 34.9**	**-0.8**
TANN	**Tannenbergstha**	**83.55**	**323**	*eP*	**P**	**07 52 36.3**	**-0.5**
KHC	**Kasperske Hory**	**83.57**	**321**	*eP*	**P**	**07 52 36.2**	**-0.6**
KHC				*eS*	S	08 02 54.0	-3.9		
KHC				AMS	AMS	08 32 50.0			
KHC	**Kasperske Hory**	**83.57**	**321**	*eP*	**P**	**07 52 36.2**	**-0.6**
KHC				*e*		08 02 54.0			
RLS	**Riolos of Patr**	**83.60**	**309**	*eP*	**P**	**07 52 36.2**	**-0.8**
WERD	**Werda**	**83.62**	**323**	*eP*	**P**	**07 52 36.5**	**-0.6**
	comp=Z,119nm,2.1s,mb5.7								
GEC2	**GERESS Array S**	**83.64**	**321**	*eP*	**P**	**07 52 36.7**	**-0.5**
	comp=Z,116nm,1.8s,mb5.7								
GEC2	**GERESS Array S**	**83.64**	**321**	*eP*	**P**	**07 52 36.7**	**-0.5**
GEC2				pmax	pmax				
	comp=Z,116nm,1.8s,mb5.7								
GERES	**GERESS Array B**	**83.64**	**321**	P	**P**	**07 52 36.9**	**-0.3**
	comp=Z,9.0nm,0.8s,mb5.0,baz=64,slow=3.1,SNR=53								
GERES				LR	LR	08 34 05.9			
	comp=Z,7μm,19.2s,MS6.0,baz=57,slow=39								
ITM	**Ithomi**	**83.65**	**308**	*eP*	**P**	**07 52 35.9**	**-1.4**
NKC	**Novy Kostel**	**83.65**	**323**	⇓*iP*	**P**	**07 52 36.6**	**-0.7**
NKC				*eS*	S	08 02 48.6	-10		
NKC				AMS	AMS	08 34 20.0			
NKC	**Novy Kostel**	**83.65**	**323**	⇓*iP*	**P**	**07 52 36.6**	**-0.7**
NKC				*e*		08 02 48.6			
WERN	**Wernitzgruen**	**83.66**	**323**	*eP*	**P**	**07 52 36.9**	**-0.4**
	comp=Z,81nm,1.8s,mb5.5								
GROS	**Grobnik**	**83.73**	**318**	*eP*	**P**	**07 52 36.9**	**-0.8**
MOA	**Molln**	**83.80**	**320**	⇑*iP*	**P**	**07 52 37.9**	**-0.1**
	comp=Z,863nm,2.8s,mb6.4,SNR=27								
PERS	**Pernice**	**83.88**	**319**	⇑*eP*	**P**	**07 52 37.9**	**-0.6**
	comp=Z,614nm,2.6s,mb6.3								
LKD	**Levkas**	**83.89**	**310**	*eP*	**P**	**07 52 37.5**	**-1.0**
MOX	**Moxa**	**83.90**	**323**	*eP*	**P**	**07 52 38.0**	**-0.5**
	comp=Z,124nm,1.9s,mb5.7								
MOX				*e*PP	PP	07 55 52.7	+0.7		
MOX	**Moxa**	**83.90**	**323**	*eP*	**P**	**07 52 38.8**	**+0.3**
	comp=Z,203nm,2.3s,mb5.8								
MOX									
	comp=Z,8μm,19.0s								
MOX	**Moxa**	**83.90**	**323**	*eP*	**P**	**07 52 38.8**	**+0.3**
MOX				pmax	pmax				
	comp=Z,203nm,2.3s,mb5.8								
MOX				MLR	MLR				
	comp=Z,8μm,19.0s,MS6.1								
CLZ	**Clausthal**	**83.94**	**325**	*eP*	**P**	**07 52 38.6**	**-0.2**
	comp=Z,260nm,2.1s,mb6.0								
CLZ	**Clausthal**	**83.94**	**325**	*eP*	**P**	**07 52 38.6**	**-0.2**
CLZ				pmax	pmax				
	comp=Z,260nm,2.1s,mb6.0								
WET	**Wettzell**	**83.96**	**322**	*eP*	**P**	**07 52 38.6**	**-0.2**
	comp=Z,215nm,2.0s,mb5.9								
WET				*e*PP	PP	07 55 52.6	+0.1		
WET	**Wettzell**	**83.96**	**322**	*eP*	**P**	**07 52 38.6**	**-0.2**
WET				*e*		07 55 52.6			
WET				pmax	pmax				
	comp=Z,215nm,2.0s,mb5.9								
MANZ	**Manzenberg**	**83.96**	**323**	*eP*	**P**	**07 52 38.7**	**-0.2**
	comp=Z,287nm,2.6s,mb5.9								
ROTZ	**Rotzenmuhle**	**84.02**	**322**	*eP*	**P**	**07 52 39.1**	**-0.1**
	comp=Z,253nm,2.0s,mb6.0								
ROTZ				*e*PP	PP	07 55 54.4	+1.4		
KEK	**Kerkira**	**84.05**	**311**	*eP*	**P**	**07 52 38.1**	**-1.2**
PDKS	**Podkum**	**84.23**	**318**	⇑*iP*	**P**	**07 52 39.8**	**-0.4**
OBKA	**Obir**	**84.28**	**319**	⇑*iP*	**P**	**07 52 40.2**	**-0.4**
	comp=Z,765nm,3.3s,SNR=16								
BOJS	**Bojanci**	**84.34**	**318**	⇑*iP*	**P**	**07 52 40.7**	**-0.1**
	comp=Z,1μm,3.0s								
BOJS				*e*PP	PP	07 55 57.3	+1.6		
BOJS				*eS*	S	08 02 58.7	-7.0		
BOJS				*e*		08 08 51.4			
VISS	**Visnje**	**84.45**	**318**	*eP*	**P**	**07 52 40.8**	**-0.6**
LJU	**Ljubljana**	**84.52**	**318**	⇑*eP*	**P**	**07 52 41.2**	**-0.5**
LJU				*eS*	S	08 02 58.8	-8.7		
GRA1	**Grafenberg Arr**	**84.61**	**323**	*eP*	**P**	**07 52 42.0**	**-0.1**
	comp=Z,359nm,2.0s,mb6.2								
GRA1				*e*PP	PP	07 55 58.2	+0.4		
GRA1				*eS*	SKSac	08 03 02.2	-3.0		
GRA1				*e*SS	SS	08 09 02.3	+23		
GRA1				LR	LR				
	comp=Z,7μm,18.4s,MS6.1								
GRF	**Grafenberg Arr**	**84.61**	**323**	*eP*	**P**	**07 52 42.0**	**-0.1**
	comp=Z,359nm,2.0s,mb6.2								
GRF				*e*PP	PP	07 55 58.2	+0.4		
GRF				*eS*	SKSac	08 03 02.2	-3.0		
GRF				*e*SS	SS	08 09 02.3	+23		
GRF				*eL*		08 35 27.3			
	comp=Z,7μm,18.4s								
GRF	**Grafenberg Arr**	**84.61**	**323**	*eP*	**P**	**07 52 42.0**	**-0.1**
GRF				*e*		07 55 58.2			
GRF				*eS*	SKSac	08 03 02.2	-3.0		
GRF				pmax	pmax				
	comp=Z,359nm,2.0s,mb6.2								
GRF				MLR	MLR				
	comp=Z,7μm,18.4s,MS6.1								
GRF	**Grafenberg Arr**	**84.61**	**323**	*eP*	**P**	**07 52 42.0**	**-0.1**
GRF				*e*		07 55 58.2			
GRF				*eS*	SKSac	08 03 02.2	-3.0		
GRF				pmax	pmax				
	comp=Z,359nm,2.0s,mb6.2								
GRF				MLR	MLR				
	comp=Z,7μm,18.4s,MS6.1								
UBBA	**Unterbreizbach**	**84.68**	**324**	*eP*	**P**	**07 52 41.8**	**-0.7**
	comp=Z,214nm,2.0s,mb5.9								
UBBA				*e*PP	PP	07 55 58.9	+0.5		
KBA	**Koelnbreinsper**	**84.72**	**320**	⇑*iP*	**P**	**07 52 41.9**	**-0.8**
	comp=Z,542nm,3.4s,SNR=19								
KBA	**Koelnbreinsper**	**84.72**	**320**	⇑*iP*	**P**	**07 52 41.9**	**-0.8**
KBA				pmax	pmax				
	comp=Z,542nm,3.3s								
OPO	**Ambohidratompo**	**84.82**	**247**	P	**P**	**07 52 44.7**	**+1.5**
	comp=Z,15nm,0.9s,mb5.1,baz=85,slow=4.3,SNR=8.9								
KNDS	**Knezji Dol**	**84.87**	**318**	⇑*iP*	**P**	**07 52 43.0**	**-0.5**
	comp=Z,657nm,2.2s,mb6.4								
CADS	**Cadrg**	**84.91**	**319**	⇑*eP*	**P**	**07 52 42.4**	**-1.3**
	comp=Z,283nm,1.8s,mb6.1								
VOY	**Vojsko**	**84.91**	**318**	*eP*	**P**	**07 52 42.5**	**-1.2**
VOY				*e*		07 53 06.7			
WIT	**Witteveen**	**85.32**	**327**	*eP*	**P**	**07 52 45.8**	**+0.1**
FUR	**Furstenfeldbru**	**85.37**	**321**	*eP*	**P**	**07 52 45.8**	**-0.2**
	comp=Z,448nm,1.7s,mb6.3								
FUR				*e*PP	PP	07 56 03.8	-0.2		
FUR	**Furstenfeldbru**	**85.37**	**321**	*eP*	**P**	**07 52 45.8**	**-0.2**
FUR				*e*		07 56 03.8			
FUR				pmax	pmax				
	comp=Z,448nm,1.7s,mb6.3								
WTTA	**Wattenberg**	**85.63**	**320**	⇑*iP*	**P**	**07 52 46.8**	**-0.5**
	comp=Z,462nm,2.3s,mb6.3								
WTTA	**Wattenberg**	**85.63**	**320**	⇑*iP*	**P**	**07 52 46.8**	**-0.5**
WTTA				pmax	pmax				
	comp=Z,462nm,2.3s,mb6.3								
WTSB	**Winterswijk**	**85.73**	**326**	⇑*eP*	**P**	**07 52 46.7**	**-1.1**
	comp=Z,145nm,1.8s,mb5.9								
BUG	**Bochum--Univer**	**85.78**	**325**	*eP*	**P**	**07 52 47.2**	**-0.8**
	comp=Z,122nm,1.1s,mb6.0								
TNS	**Taunus Mts**	**85.84**	**324**	*eP*	**P**	**07 52 47.9**	**-0.4**
	comp=Z,360nm,2.3s,mb6.2								
TNS				*e*PP	PP	07 56 08.1	+0.3		
TNS	**Taunus Mts**	**85.84**	**324**	*eP*	**P**	**07 52 47.9**	**-0.4**
TNS				*e*		07 56 08.1			
TNS				pmax	pmax				
	comp=Z,360nm,2.3s,mb6.2								
TOD	**Tromm**	**85.98**	**323**	⇓*eP*	**P**	**07 52 49.5**	**+0.5**
KMBO	**Kilima Mbogo**	**86.15**	**267**	P	**P**	**07 52 51.8**	**+2.0**
	comp=Z,127nm,0.3s,mb6.6,baz=206,slow=6.8,SNR=9.4								
STU	**Stuttgart**	**86.22**	**323**	*eP*	**P**	**07 52 49.5**	**-0.7**
DAVA	**Damuels**	**86.64**	**321**	⇓*iP*	**P**	**07 52 51.7**	**-0.6**
	comp=Z,548nm,2.8s,mb6.3,SNR=13								
PGC	**Sidney**	**86.66**	**37**	*eP*	**P**	**07 52 52.9**	**+0.5**
	comp=Z,54nm,0.8s,mb5.8								
FUORN	**Ofenpass**	**86.77**	**320**	⇑*iP*	**P**	**07 52 52.5**	**-0.4**
	comp=Z,407nm,2.4s,mb6.2								
SPAK	**Spaichingen-Ko**	**86.82**	**322**	⇓*eP*	**P**	**07 52 53.4**	**+0.3**
LIENZ	**Alp Oberkamor**	**86.85**	**321**	⇑*iP*	**P**	**07 52 52.7**	**-0.6**
	comp=Z,479nm,2.2s,mb6.3								
HGN	**Heimansgroeve**	**86.86**	**325**	⇑*eP*	**P**	**07 52 52.2**	**-1.1**
	comp=Z,103nm,1.8s,mb5.8								
HGN	**Heimansgroeve**	**86.86**	**325**	*eS*	SKSac	08 03 14.1	-5.2		
HGN				*e*SS	SS	08 09 38.9	+26		
RUP	**Ruppelstein**	**86.87**	**324**	⇓*eP*	**P**	**07 52 54.0**	**+0.6**
LANF	**Langenberg**	**86.88**	**323**	⇓*eP*	**P**	**07 52 54.0**	**+0.6**
DAVOX	**Davos**	**86.91**	**321**	⇑*eP*	**P**	**07 52 52.8**	**-0.8**
	comp=Z,179nm,1.9s,mb6.0								
DAVOX	**Davos**	**86.91**	**321**	LR	LR	08 36 23.0			
	comp=Z,7μm,19.3s,MS6.1,baz=41,slow=39								
MEM	**Membach**	**86.91**	**325**	P	**P**	**07 52 52.5**	**-1.0**
BFO	**Black Forest**	**86.95**	**322**	P	**P**	**07 52 52.5**	**-1.2**
	comp=Z,187nm,1.7s,mb6.0,SNR=19								
BFO	**Black Forest**	**86.95**	**322**	*eP*	**P**	**07 52 52.8**	**-0.9**
	comp=Z,262nm,2.0s,mb6.1								
BFO				*e*PP	PP	07 56 16.0	-0.8		
BFO	**Black Forest**	**86.95**	**322**	*eP*	**P**	**07 52 52.8**	**-0.9**
BFO				*e*		07 56 16.0			
BFO				pmax	pmax				
	comp=Z,262nm,2.0s,mb6.1								
B04A	**Port Angeles**	**86.96**	**38**	⇑P	**P**	**07 52 53.8**	**0.0**
	baz=87								
B04A				⇓S	S	08 03 28.7	-2.7		
	baz=87								
BEBN	**Eben Emael**	**86.98**	**325**	P	**P**	**07 52 53.1**	**-0.8**
WEIN	**Weingarten**	**87.02**	**322**	⇑*iP*	**P**	**07 52 53.6**	**-0.5**
	comp=Z,264nm,1.8s,mb6.2								
BERNI	**Berninapass**	**87.02**	**320**	⇑*eP*	**P**	**07 52 53.5**	**-0.6**
	comp=Z,282nm,2.2s,mb6.1								
A04A	**Legoe Bay, Lum**	**87.03**	**37**	⇑P	**P**	**07 52 54.4**	**+0.2**
	baz=87								
A04A				⇓S	S	08 03 29.9	-2.2		
	baz=87								
PLONS	**Plons**	**87.05**	**321**	⇑*iP*	**P**	**07 52 53.2**	**-1.1**
	comp=Z,256nm,2.1s,mb6.1								
AQU	**L'Aquila**	**87.06**	**315**	⇑*iP*	**P**	**07 52 54.4**	**+0.1**
AQU	**L'Aquila**	**87.06**	**315**	*eP*	**P**	**07 52 55.1**	**+0.9**
	comp=Z,171nm,1.1s,mb6.2								
WILA	**Wila**	**87.12**	**321**	⇑*iP*	**P**	**07 52 53.6**	**-1.0**
	comp=Z,238nm,2.1s,mb6.1								
SLE	**Schleitheim**	**87.17**	**322**	⇑*eP*	**P**	**07 52 53.7**	**-1.1**
	comp=Z,207nm,2.1s,mb6.0								
A05A	**Maple Falls**	**87.22**	**37**	⇓P	**P**	**07 52 54.6**	**-0.5**
	baz=87,SNR=8.9								
A05A				⇓S	S	08 03 30.8	-3.1		
	baz=87								
VDL	**Val di Lei**	**87.30**	**320**	⇑*iP*	**P**	**07 52 55.9**	**+0.4**
	comp=Z,231nm,2.2s,mb6.0								
D03A	**Wishkah Elem.**	**87.32**	**39**	⇓P	**P**	**07 52 55.9**	**+0.4**
	baz=87								
LLS	**Linth-Limmern**	**87.37**	**321**	⇑*iP*	**P**	**07 52 55.1**	**-0.7**
	comp=Z,201nm,2.3s,mb5.9								
FELD	**Feldberg im Sc**	**87.38**	**322**	*eP*	**P**	**07 52 55.0**	**-0.9**
WLF	**Walferdange**	**87.38**	**324**	*eP*	**P**	**07 52 55.4**	**-0.5**
	comp=Z,172nm,1.3s,mb6.1								
WLF	**Walferdange**	**87.38**	**324**	P	**P**	**07 52 56.1**	**+0.2**
WLF				E	pP	07 53 01.3	-1.0		
WLF	**Walferdange**	**87.38**	**324**	*eP*	**P**	**07 52 55.7**	**-0.2**
WLF				pmax	pmax				
	comp=Z,63nm,0.9s,mb5.8								
WLF	**Walferdange**	**87.38**	**324**	*eP*	**P**	**07 52 55.7**	**-0.1**
	comp=Z,63nm,0.9s,mb5.8								
BCLA	**Clavier**	**87.39**	**325**	⇑P	**P**	**07 52 54.9**	**-1.0**
MBW	**Mount Baker**	**87.44**	**37**	P	**P**	**07 52 56.3**	**+0.1**
LIBD	**Limburg**	**87.45**	**323**	⇓*eP*	**P**	**07 52 56.6**	**+0.4**
CDF	**Champ du Feu**	**87.48**	**323**	*eP*	**P**	**07 52 55.6**	**-0.8**
	comp=Z,628nm,1.8s,mb6.2								
CDF	**Champ du Feu**	**87.48**	**323**	*eP*	**P**	**07 52 55.6**	**-0.8**
CDF				pmax	pmax				
	comp=Z,314nm,1.8s,mb6.2								
CDF	**Champ du Feu**	**87.48**	**323**	*eP*	**P**	**07 52 55.6**	**-0.8**
	comp=Z,314nm,1.8s,mb6.2								
SULZ	**Sulz-Cheisache**	**87.51**	**322**	⇑*iP*	**P**	**07 52 55.4**	**-1.1**
	comp=Z,259nm,2.4s,mb6.0								
MUO	**Muotathal**	**87.52**	**321**	⇑*iP*	**P**	**07 52 55.8**	**-0.7**
	comp=Z,273nm,2.2s,mb6.1								
GNW	**Green Mountain**	**87.61**	**38**	*eP*	**P**	**07 52 57.8**	**+0.9**
B05A	**Bryant**	**87.63**	**37**	⇓P	**P**	**07 52 57.3**	**+0.2**
	baz=87,SNR=12								
B05A				⇑S	S	08 03 35.2	-2.6		
	baz=87								
UCC	**Uccle**	**87.65**	**326**	⇑P	**P**	**07 52 56.2**	**-1.0**
ECH	**Echery**	**87.66**	**323**	⇓*eP*	**P**	**07 52 57.3**	**+0.1**
BNALP	**Bannalp**	**87.70**	**321**	⇑*eP*	**P**	**07 52 56.3**	**-1.1**
	comp=Z,171nm,2.1s,mb5.9								
E03A	**Lebam**	**87.75**	**39**	⇓P	**P**	**07 52 58.1**	**+0.4**
	baz=88								
E03A				⇑S	S	08 03 37.0	-2.0		
	baz=88								
JCW	**Jim Creek**	**87.76**	**37**	P	**P**	**07 52 57.9**	**+0.3**
FUSIO	**Fusio**	**87.79**	**321**	⇑*iP*	**P**	**07 52 57.1**	**-0.7**
	comp=Z,252nm,1.9s,mb6.1								
GIVF	**Givet**	**87.83**	**325**	*eP*	**P**	**07 52 57.0**	**-1.0**
BALST	**Balsthal**	**87.85**	**322**	⇑*eP*	**P**	**07 52 56.6**	**-1.5**
	comp=Z,188nm,1.9s,mb6.0								
SNF	**Seneffe**	**87.86**	**326**	P	**P**	**07 52 58.5**	**+0.3**
D04A	**Dobbs Creek Ra**	**87.88**	**38**	⇓P	**P**	**07 52 58.9**	**+0.6**
	baz=88								
MOF	**Molkenrain**	**87.88**	**322**	⇓*eP*	**P**	**07 52 58.3**	**+0.1**
BBS	**Basel-Blauen**	**87.89**	**322**	⇓*eP*	**P**	**07 52 58.3**	**0.0**
HASLI	**Hasliberg**	**87.92**	**321**	⇑*eP*	**P**	**07 52 57.1**	**-1.3**
	comp=Z,281nm,2.1s,mb6.1								
DOU	**Dourbes**	**87.95**	**325**	P	**P**	**07 52 57.

comp=Z,143nm,1.2s,mb6.2
COR Corvallis 88.99 41 *eP* **P 07 53 04.9 +1.4**
comp=Z,143nm,1.2s,mb6.2
I02A Mapleton 88.99 41 ⇑P **P 07 53 03.8 +0.3**
baz=89
I02A ⇓S S 08 03 48.6 -2.2
baz=89
EDM Edmonton 89.01 30 *eP* **P 07 53 03.5 -0.1**
GIMEL Gimel 89.12 322⇑ *eP* **P 07 53 04.0 -0.1**
comp=Z,146nm,2.2s,mb5.9
G04A Mulino 89.13 40 ⇑P **P 07 53 04.3 +0.2**
baz=89
G04A ⇓S S 08 03 51.2 -0.8
baz=89
WTV Waterville 89.13 37 P **P 07 53 04.0 -0.1**
CABF La Chapelle 89.17 322 *eP* **P 07 53 03.8 -0.5**
comp=Z,302nm,1.9s,mb6.0
CABF La Chapelle 89.17 322 *eP* **P 07 53 03.8 -0.5**
CABF pmax pmax
comp=Z,151nm,1.9s,mb6.0
CABF La Chapelle 89.17 322 *eP* **P 07 53 03.8 -0.5**
comp=Z,151nm,1.9s,mb6.0
K01A Sixes 89.25 43 ⇓P **P 07 53 05.0 +0.2**
baz=89
K01A ⇑S S 08 03 52.5 -0.7
baz=89
KEBM Edson Butte 89.30 43 *eP* **P 07 53 06.7 +1.7**
F05A White Salmon 89.34 39 ⇑P **P 07 53 05.5 +0.4**
baz=89,SNR=11
F05A ⇑S S 08 03 51.9 -2.1
baz=89
I03A Eugene 89.34 41 ⇑P **P 07 53 05.0 -0.2**
baz=89
I03A ⇓S S 08 03 53.5 -0.5
baz=89
LPG La Plagne 89.43 321 *eP* **P 07 53 05.2 -0.4**
comp=Z,140nm,1.1s,mb5.9
LPG La Plagne 89.43 321 *eP* **P 07 53 05.2 -0.4**
LPG pmax pmax
comp=Z,70nm,1.1s,mb5.9
LPG La Plagne 89.43 321 *eP* **P 07 53 05.2 -0.4**
comp=Z,70nm,1.1s,mb5.9
LPL La Plagne 89.43 321 *eP* **P 07 53 05.3 -0.3**
comp=Z,110nm,1.1s,mb5.8
LPL La Plagne 89.43 321 *eP* **P 07 53 05.3 -0.3**
LPL pmax pmax
comp=Z,55nm,1.1s,mb5.8
LPL La Plagne 89.43 321 *eP* **P 07 53 05.3 -0.3**
comp=Z,55nm,1.1s,mb5.8
J02A Umpqua 89.50 42 ⇓P **P 07 53 05.8 -0.1**
baz=89
J02A ⇑S S 08 03 53.0 -2.4
baz=89
EPH Ephrata 89.53 37 P **P 07 53 07.2 +1.2**
HOOD Mount Hood Mea 89.55 39 *eP* **P 07 53 07.9 +1.8**
H04A Detroit Lake 89.59 40 ⇓P **P 07 53 06.2 -0.1**
baz=89,SNR=9.9
H04A ⇓S S 08 03 52.9 -3.5
baz=89
VFP Flag Point 89.66 39 P **P 07 53 07.1 +0.5**
PGF Pioggiola 89.73 317 *eP* **P 07 53 06.7 -0.3**
comp=Z,211nm,1.3s,mb6.0
PGF Pioggiola 89.73 317 *eP* **P 07 53 06.7 -0.3**
PGF pmax pmax
comp=Z,105nm,1.3s,mb6.0
PGF Pioggiola 89.73 317 *eP* **P 07 53 06.7 -0.3**
comp=Z,105nm,1.3s,mb6.0
G05A Wamic 89.79 39 ⇑P **P 07 53 07.4 +0.2**
baz=90,SNR=6.6
G05A ⇓S S 08 03 55.2 -2.9
baz=90
SAOF Saorge 89.81 319⇓ *eP* **P 07 53 07.8 +0.5**
MBDF Montbardon 89.86 320 *eP* **P 07 53 06.5 -1.1**
comp=Z,37nm,0.8s,mb5.5
MBDF Montbardon 89.86 320 *eP* **P 07 53 06.5 -1.1**
MBDF pmax pmax
comp=Z,19nm,0.8s,mb5.5
MBDF Montbardon 89.86 320 *eP* **P 07 53 06.5 -1.1**
comp=Z,19nm,0.8s,mb5.5
OG05 Jujurieux 89.86 322⇓ *eP* **P 07 53 08.2 +0.6**
J03A Ideyld Park 89.86 42 ⇓P **P 07 53 08.2 +0.6**
baz=90
J03A ⇓S S 08 03 55.6 -3.3
baz=90
K02A Glendale 89.88 42 ⇓P **P 07 53 08.4 +0.7**
baz=90
K02A ⇑S S 08 03 56.3 -2.7
baz=90
AUTN L'Aution 89.88 319⇓ *eP* **P 07 53 08.3 +0.6**
SBF Sospel 89.95 319 *eP* **P 07 53 06.7 -1.3**
comp=Z,82nm,0.9s,mb5.8
SBF Sospel 89.95 319 *eP* **P 07 53 06.7 -1.3**
SBF pmax pmax
comp=Z,41nm,0.9s,mb5.8
SBF Sospel 89.95 319 *eP* **P 07 53 06.7 -1.3**
comp=Z,41nm,0.9s,mb5.8
TOUF Mont Tournerai 89.98 319⇓ *eP* **P 07 53 08.7 +0.6**
LUCF Luceram 89.99 319⇓ *eP* **P 07 53 08.6 +0.4**
M01C Crescent City 89.99 43 ⇓P **P 07 53 08.6 +0.4**
baz=90
LOR Lormes 90.02 323 *eP* **P 07 53 07.3 -1.0**
comp=Z,63nm,1.1s,mb5.5
LOR Lormes 90.02 323 *eP* **P 07 53 07.3 -1.0**
LOR pmax pmax
comp=Z,32nm,1.1s,mb5.6
LOR Lormes 90.02 323 *eP* **P 07 53 07.3 -1.0**
comp=Z,32nm,1.1s,mb5.6
REVF Revere 90.06 319⇓ *eP* **P 07 53 08.9 +0.4**
HAWA Hanford 90.13 38 *eP* **P 07 53 09.1 +0.3**
comp=Z,119nm,1.3s,mb6.1
L02A Cave Junction 90.14 43 ⇓P **P 07 53 09.1 +0.2**
baz=90
L02A ⇑S S 08 03 58.5 -3.0
baz=90
H05A Madras 90.18 40 ⇑P **P 07 53 09.4 +0.3**
baz=90,SNR=10
H05A ⇓S S 08 03 57.4 -4.4
baz=90
ORIF Oris-en-Rattie 90.27 321 *eP* **P 07 53 08.9 -0.6**
ORIF eR
comp=Z,8µm,19.0s
HUMO Hull Mountain 90.29 42 *eP* **P 07 53 11.0 +1.4**
comp=Z,30nm,1.2s,mb5.5
HUMO Hull Mountain 90.29 42 ⇓P **P 07 53 10.1 +0.5**
baz=90
HUMO ⇑S S 08 04 00.3 -2.5
baz=90
NEW Newport 90.31 35 *eP* **P 07 53 09.7 0.0**
NEW pmax pmax
comp=Z,52nm,0.9s
NEW Newport 90.31 35 *eP* **P 07 53 09.7 0.0**
comp=Z,50nm,0.9s,mb5.8
SSF Saint Saulge 90.34 323 *eP* **P 07 53 08.6 -1.2**
comp=Z,62nm,1.2s,mb5.5
SSF Saint Saulge 90.34 323 *eP* **P 07 53 08.6 -1.2**
SSF pmax pmax
comp=Z,31nm,1.2s,mb5.5
SSF Saint Saulge 90.34 323 *eP* **P 07 53 08.6 -1.2**
comp=Z,31nm,1.2s,mb5.5
SMF Signal de Mont 90.41 323 *eP* **P 07 53 09.0 -1.1**
comp=Z,339nm,1.4s,mb6.2
SMF Signal de Mont 90.41 323 *eP* **P 07 53 09.0 -1.1**
SMF pmax pmax
comp=Z,170nm,1.4s,mb6.2
SMF Signal de Mont 90.41 323 *eP* **P 07 53 09.0 -1.1**
comp=Z,170nm,1.4s,mb6.2
I05A Bend 90.43 40 ⇑P **P 07 53 10.7 +0.4**
baz=90,SNR=8.1
OG25 Le Caire 90.47 320⇓ *eP* **P 07 53 06.3 -4.1**
AVF Avril sur Loir 90.59 323 *eP* **P 07 53 09.8 -1.2**
comp=Z,369nm,1.7s,mb6.1
AVF Avril sur Loir 90.59 323 *eP* **P 07 53 09.8 -1.2**
AVF pmax pmax
comp=Z,185nm,1.7s,mb6.1
AVF Avril sur Loir 90.59 323 *eP* **P 07 53 09.8 -1.2**
comp=Z,185nm,1.7s,mb6.1
FRF La Foret Royal 90.59 319 *eP* **P 07 53 10.0 -1.0**
JCC Jacoby Creek 90.61 44 ⇓P **P 07 53 11.1 0.0**
baz=90
JCC ⇓S S 08 04 03.9 -1.8
baz=90
VIPM Ingram Point 90.61 40 P **P 07 53 11.6 +0.5**
CASY Casey 90.62 185 *eP* **P 07 53 10.5 -0.6**
STOF St-Etienne Org 90.78 320⇓ *eP* **P 07 53 12.6 +0.7**
LMR La Mourre 90.81 319 *eP* **P 07 53 11.3 -0.7**
comp=Z,248nm,1.5s,mb6.0
LMR La Mourre 90.81 319 *eP* **P 07 53 11.3 -0.7**
LMR pmax pmax
comp=Z,124nm,1.5s,mb6.0
LMR La Mourre 90.81 319 *eP* **P 07 53 11.3 -0.7**
comp=Z,124nm,1.5s,mb6.0
TAVF Tavernes 90.91 319⇓ *eP* **P 07 53 13.5 +1.0**
PLDF La Plantade 90.93 322⇓ *eP* **P 07 53 13.4 +0.8**
YBH Yreka Blue Hor 90.93 43 *eP* **P 07 53 13.0 +0.4**
YBH pmax pmax
comp=Z,40nm,1.4s
YBH Yreka Blue Hor 90.93 43 *eP* **P 07 53 13.0 +0.4**
comp=Z,40nm,1.4s,mb5.6
YBH Yreka Blue Hor 90.93 43 ⇓P **P 07 53 13.0 +0.5**
baz=91
YBH ⇓S S 08 04 03.9 -4.8
baz=91
J05A Fort Rock 90.95 41 P **P 07 53 13.5 +0.9**
baz=91,SNR=18
J05A ⇑S S 08 04 06.4 -2.6
baz=91
VILF Villemus 90.98 320⇓ *eP* **P 07 53 13.9 +1.1**
SMRF Simiane la Rot 90.99 320 *eP* **P 07 53 12.2 -0.6**
VIVF Saint-Julien-l 91.00 321 *eP* **P 07 53 12.3 -0.6**
BGF Bois d'Agland 91.00 323 *eP* **P 07 53 11.8 -1.1**
comp=Z,143nm,1.4s,mb5.8
BGF Bois d'Agland 91.00 323 *eP* **P 07 53 11.8 -1.1**
BGF pmax pmax
comp=Z,72nm,1.4s,mb5.8
BGF Bois d'Agland 91.00 323 *eP* **P 07 53 11.8 -1.1**
comp=Z,72nm,1.4s,mb5.8
M02C Callahan 91.03 43 ⇑P **P 07 53 13.6 +0.5**
baz=91
M02C ⇑S S 08 04 06.5 -3.2
baz=91
K04A Chilquin 91.04 42 ⇑P **P 07 53 13.2 +0.1**
baz=91
K04A ⇑S S 08 04 07.1 -2.6
baz=91
N02C Big Bar 91.06 44 ⇓P **P 07 53 13.6 +0.4**
baz=91
N02C ⇓S S 08 04 07.2 -2.7
baz=91
DSB Dublin 91.11 332 *eP* **P 07 53 12.2 -1.2**
comp=Z,19nm,0.9s,mb5.4
O01C Eel River Cons 91.11 45 ⇑P **P 07 53 14.1 +0.7**
baz=91
O01C ⇑S S 08 04 06.3 -4.1
baz=91
DLF Lyons Farm 91.14 332 *eP* **P 07 53 11.5 -2.0**
VSL Villasalto 91.15 315 *eP* **P 07 53 13.0 -0.6**
comp=Z,53nm,1.0s,mb5.8
AGO Saint Agoulin 91.16 323⇓ *eP* **P 07 53 14.3 +0.7**
COLF Collangettes 91.16 322⇓ *eP* **P 07 53 14.4 +0.8**
PUYF Puyloubier 91.17 320⇓ *eP* **P 07 53 14.6 +0.9**
I06A Prineville 91.18 40 ⇓P **P 07 53 14.3 +0.6**
baz=91,SNR=20
I06A ⇑S S 08 04 04.1 -6.9
baz=91
L04A Klamath Falls 91.19 42 ⇓P **P 07 53 14.3 +0.5**
baz=91,SNR=9.6
LDF La Druitiere 91.31 326 *eP* **P 07 53 12.9 -1.4**
TREF Trevaresse 91.31 320⇓ *eP* **P 07 53 14.1 -0.2**
PRAF Pradon 91.33 320⇓ *eP* **P 07 53 15.5 +1.1**
FLN La Foliniere 91.38 326 *eP* **P 07 53 13.1 -1.5**
FLN eR
comp=Z,14µm,21.2s
FLN La Foliniere 91.38 326 *eP* **P 07 53 13.1 -1.5**
FLN LR LR
comp=Z,14µm,21.3s,MS6.4
PYM Petit Puy Mans 91.41 322⇓ *eP* **P 07 53 14.8 0.0**
DCN Croghan 91.42 333 *eP* **P 07 53 12.8 -2.0**
M04C Macdoel 91.44 42 ⇑P **P 07 53 15.1 +0.2**
baz=91,SNR=14
M04C ⇑S S 08 04 11.1 -2.3
baz=91
WALA Waterton Lakes 91.46 33 *eP* **P 07 53 15.4 +0.4**
comp=Z,134nm,1.3s,mb6.1
DRV Dumont d'Urvil 91.51 173 P **P 07 53 15.0 -0.2**
TCF Toulx Ste Croi 91.52 323 *eP* **P 07 53 14.5 -0.8**
comp=Z,401nm,1.8s,mb6.1
TCF Toulx Ste Croi 91.52 323 *eP* **P 07 53 14.5 -0.8**
TCF pmax pmax
comp=Z,201nm,1.8s,mb6.2
TCF Toulx Ste Croi 91.52 323 *eP* **P 07 53 14.5 -0.8**
comp=Z,201nm,1.8s,mb6.2
LBL Lubilhac 91.59 322⇓ *eP* **P 07 53 15.7 +0.1**
J06A Christmas Vall 91.62 41 ⇑P **P 07 53 16.2 +0.5**
baz=91,SNR=26
J06A ⇑S S 08 04 11.8 -3.1
baz=91
WDC Whiskeytown Da 91.68 44 *eP* **P 07 53 17.2 +1.2**
WDC pmax pmax
comp=Z,29nm,1.3s,mb5.5
WDC Whiskeytown Da 91.68 44 *eP* **P 07 53 17.2 +1.1**
comp=Z,29nm,1.3s,mb5.5
WDC Whiskeytown Da 91.68 44 ⇑P **P 07 53 15.9 -0.1**
baz=92
WDC ⇓S S 08 04 12.2 -3.4
baz=92
O02C Red Bluff 91.75 44 ⇑P **P 07 53 17.2 +0.9**
baz=92
O02C ⇓S S 08 04 14.3 -1.9
baz=92
BSMT Bassoo Peak 91.79 35 *eP* **P 07 53 17.2 +0.6**
P01C Double 8 Ranch 91.79 45 ⇑P **P 07 53 16.5 -0.1**
baz=92
P01C ⇓S S 08 04 13.0 -3.5
baz=92
GRR Gorron 91.81 326 *eP* **P 07 53 14.9 -1.7**
K06A Valley Falls 91.82 41 P **P 07 53 17.4 +0.7**
baz=92,SNR=28
K06A ⇓S S 08 04 13.7 -3.1
baz=92
FRNF Fournols 91.88 322⇓ *eP* **P 07 53 18.1 +1.2**
L05A Lakeview 91.91 42 ⇑P **P 07 53 17.4 +0.4**
baz=92,SNR=9.1
L05A ⇑S S 08 04 15.0 -2.6
baz=92
LASF Ste Croix 91.93 321 *eP* **P 07 53 16.1 -1.1**
comp=Z,504nm,1.9s,mb6.2
FRB Frobisher Bay 91.95 5 LR LR 08 35 15.4
comp=Z,4µm,2.1°ss,MS5.8,baz=355,slow=36
FCC Fort Churchill 91.98 18 *eP* **P 07 53 16.3 -1.1**
FCC pmax pmax
comp=Z,59nm,1.1s,mb5.8
FCC Fort Churchill 91.98 18 *eP* **P 07 53 16.3 -1.2**
comp=Z,59nm,1.1s,mb5.8
J07A Hines 92.04 40 ⇓P **P 07 53 18.4 +0.7**
baz=92,SNR=47
J07A ⇓S S 08 04 18.0 -0.8
baz=92
GASB Alder Springs 92.09 45 ⇑P **P 07 53 18.5 +0.6**
baz=92
M05C Lookout 92.11 42 ⇓P **P 07 53 18.2 +0.2**
baz=92,SNR=10
M05C ⇑S S 08 04 17.7 -1.7
baz=92
HOPS Hopland 92.22 45 ⇑P **P 07 53 18.7 +0.2**
baz=92
HATC Hat Creek Radi 92.23 43 ⇑P **P 07 53 19.3 +0.7**
baz=92,SNR=13
HATC ⇑S S 08 04 18.3 -2.2
baz=92
LBCM Butte Creek Ri 92.28 43 P **P 07 53 18.8 0.0**
BMO Blue Mountains 92.31 38 *eP* **P 07 53 18.9 0.0**
comp=Z,26nm,0.9s,mb5.6
O03C Acorn Hollow, 92.33 44 ⇑P **P 07 53 18.8 -0.3**
baz=92
O03C ⇓S S 08 04 20.6 -0.8
baz=92
CAF Calviac 92.44 322 *eP* **P 07 53 18.7 -0.8**
comp=Z,319nm,1.4s,mb6.2
CAF Calviac 92.44 322 *eP* **P 07 53 18.7 -0.8**
CAF pmax pmax
comp=Z,160nm,1.4s,mb6.2
CAF Calviac 92.44 322 *eP* **P 07 53 18.7 -0.8**
comp=Z,160nm,1.4s,mb6.2
K07A Rock Creek Ran 92.49 41 ⇓P **P 07 53 19.7 -0.1**
baz=92,SNR=31
K07A ⇓S S 08 04 21.2 -1.5
baz=92
RJF Les Rejaudoux 92.51 323 *eP* **P 07 53 19.6 -0.3**
comp=Z,758nm,1.7s,mb6.5
RJF eR
comp=Z,6µm,18.0s
RJF Les Rejaudoux 92.51 323 *eP* **P 07 53 19.6 -0.3**
RJF pmax pmax
comp=Z,379nm,1.7s,mb6.5
RJF MLR MLR
comp=Z,6µm,18.0s,MS6.1
RJF Les Rejaudoux 92.51 323 *eP* **P 07 53 19.6 -0.3**
comp=Z,379nm,1.7s,mb6.5
RJF LR LR
comp=Z,6µm,18.0s,MS6.1
J08A Circle Bar Ran 92.54 40 ⇓P **P 07 53 20.3 +0.3**
baz=92,SNR=34
J08A ⇓S S 08 04 20.9 -2.4
baz=92
MFF Saint Martin d 92.59 324 *eP* **P 07 53 19.0 -1.2**
comp=Z,82nm,1.6s,mb5.6
MFF Saint Martin d 92.59 324 *eP* **P 07 53 19.0 -1.2**
MFF pmax pmax
comp=Z,41nm,1.6s,mb5.6
MFF Saint Martin d 92.59 324 *eP* **P 07 53 19.0 -1.2**
comp=Z,41nm,1.6s,mb5.6
M06C Likely Place G 92.61 42 ⇓P **P 07 53 20.4 0.0**
baz=92,SNR=13
M06C ⇓S S 08 04 21.8 -2.1
baz=92
FFC Flin Flon 92.65 24 P **P 07 53 19.9 -0.6**
comp=Z,395nm,1.1s,mb6.8,SNR=34
FFC Flin Flon 92.65 24 *eP* **P 07 53 19.5 -1.0**
FFC pmax pmax
comp=Z,54nm,0.9s,mb6.0
FFC Flin Flon 92.65 24 *eP* **P 07 53 19.4 -1.1**
comp=Z,54nm,0.9s,mb6.0
MNRC McLaughlin Nat 92.70 45 ⇑P **P 07 53 21.2 +0.5**
baz=92
O04C Chester 92.75 43 ⇓P **P 07 53 21.1 +0.1**
baz=92,SNR=16
O04C ⇑S S 08 04 22.4 -2.6
baz=92
SGMF Saint Gilles 92.76 327 *eP* **P 07 53 19.7 -1.3**
comp=Z,58nm,1.2s,mb5.6
SGMF Saint Gilles 92.76 327 *eP* **P 07 53 19.7 -1.3**
SGMF pmax pmax
comp=Z,29nm,1.3s,mb5.5
SGMF Saint Gilles 92.76 327 *eP* **P 07 53 19.7 -1.3**
comp=Z,29nm,1.3s,mb5.5
NSHM Saint Helena R 92.79 45 *eP* **P 07 53 21.9 +0.7**
ELFS Eagle Lake Fie 92.80 43 ⇓P **P 07 53 21.0 -0.2**
baz=93
MCCM Marconi Confer 92.82 46 ⇑P **P 07 53 21.2 -0.1**
baz=93
L07A Adell 92.83 41 ⇓P **P 07 53 22.0 +0.7**
baz=93,SNR=34
L07A ⇓S S 08 04 24.3 -1.5
baz=93
MSO Missoula 92.89 35 *eP* **P 07 53 21.2 -0.4**
comp=Z,33nm,1.3s,mb5.6
K08A Mann Creek Ran 92.91 40 ⇑P **P 07 53 22.0 +0.3**
baz=93,SNR=17
ORV Oroville 92.92 44 ⇑P **P 07 53 20.3 -1.5**
baz=93,SNR=11
ORV ⇑S S 08 04 24.2 -2.5
baz=93
SUTB Sutter Butte 92.92 44 ⇑P **P 07 53 21.3 -0.4**
baz=93
SUTB ⇑S S 08 04 24.5 -2.2
baz=93
CVS Carmenet Viney 92.98 46 ⇓P **P 07 53 21.2 -0.9**
baz=93
FARB Farallon Islan 92.99 46 ⇑P **P 07 53 21.2 -0.9**
baz=93
OHCM Honcut 93.06 44 *eP* **P 07 53 21.7 -0.7**
O05C Quincy 93.06 44 ⇓P **P 07 53 22.2 -0.2**
baz=93
O05C ⇓S S 08 04 24.8 -3.0
baz=93
ROSF Rostrenen 93.06 327 *eP* **P 07 53 21.1 -1.3**
comp=Z,78nm,1.3s,mb5.7
ROSF Rostrenen 93.06 327 *eP* **P 07 53 21.1 -1.3**
ROSF pmax pmax
comp=Z,39nm,1.3s,mb5.7
ROSF Rostrenen 93.06 327 *eP* **P 07 53 21.1 -1.3**
comp=Z,39nm,1.3s,mb5.7
Q03C Winters 93.11 45 ⇓P **P 07 53 22.6 0.0**
baz=93
MIR Mirnyy 93.15 191 *eP* pP 07 53 32.0 +2.7
MIR pmax pmax
comp=Z,150nm,2.0s,mb6.1
LFF La Frestale 93.17 323 *eP* **P 07 53 21.5 -1.4**
CHMT Chamberlain Mo 93.19 35 *eP* **P 07 53 23.0 0.0**
N06A Buffalo Meadow 93.27 42 ⇓P **P 07 53 23.0 -0.4**
baz=93,SNR=20
N06A ⇑S S 08 04 25.5 -4.3
baz=93
QUIF Quistinic 93.29 327 *eP* **P 07 53 21.8 -1.7**
M07A Soldier Meadow 93.30 42 ⇑P **P 07 53 23.6 +0.1**
baz=93,SNR=18
M07A ⇓S S 08 04 29.2 -0.8
baz=93
L08A Fields 93.32 41 P **P 07 53 24.4 +0.8**
baz=93,SNR=42
L08A ⇑S S 08 04 29.2 -0.9
baz=93
MTLF Montolieu 93.32 321 *eP* **P 07 53 23.1 -0.5**
comp=Z,246nm,1.7s,mb6.1
MTLF Montolieu 93.32 321 *eP* **P 07 53 23.1 -0.5**
MTLF pmax pmax
comp=Z,123nm,1.7s,mb6.1
MTLF Montolieu 93.32 321 *eP* **P 07 53 23.1 -0.5**
comp=Z,123nm,1.7s,mb6.1
Q04C Lincoln 93.41 45 ⇑P **P 07 53 23.6 -0.4**
baz=93
O06A Flanigan 93.62 43 ⇓P **P 07 53 24.8 -0.2**
baz=93,SNR=18
P05C Yuba Gap, Truc 93.63 44 ⇑P **P 07 53 25.0 -0.1**
baz=93
JRSC Jasper Ridge 93.66 46 ⇓P **P 07 53 24.7 -0.4**
baz=93
M08A Happy Creek Ra 93.75 41 ⇑P **P 07 53 26.3 +0.7**
baz=94,SNR=17
N07B Gerlach 93.78 42 ⇑P **P 07 53 26.1 +0.3**
baz=94,SNR=16
L09A Wilkinson Ranc 93.83 40 ⇑P **P 07 53 26.5 +0.5**
baz=94,SNR=21
BNLO Ben Lomond (Sa 93.85 46 ⇓P **P 07 53 25.6 -0.4**
baz=94
P06A Stead Airport, 93.86 43 ⇑P **P 07 53 25.6 -0.5**
baz=94
LAVA Lava Cap Winer 93.86 44 ⇓P **P 07 53 25.3 -0.8**
baz=94,SNR=7.5
CMAH Djebel Manchou 94.02 313 P **P 07 53 28.0 +1.2**
R04C Big Horse Ranc 94.02 45 ⇓P **P 07 53 25.7 -1.1**
baz=94
HRY Holter Researc 94.06 34 *eP* **P 07 53 27.4 +0.4**
PAHR Pah Rah Range 94.17 43 *eP* **P 07 53 27.9 +0.4**
comp=Z,29nm,1.0s,mb5.7
WCN Washoe City 94.17 44 ⇓P **P 07 53 27.4 -0.1**
baz=94
ABSA Djebel Ababsia 94.17 313 P **P 07 53 29.0 +1.5**
S04C Ingram Canyon, 94.20 46 ⇑P **P 07 53 27.6 0.0**
baz=94
EGMT Eagleton 94.20 32 *eP* **P 07 53 27.6 -0.1**
comp=Z,91nm,1.5s,mb6.0
O07A Toulon 94.21 42 ⇑P **P 07 53 27.8 +0.1**
baz=94,SNR=11
R05C Kirkwood Meado 94.32 44 ⇑P **P 07 53 27.8 -0.4**
baz=94,SNR=9.1
M09A Marrel Ranch, 94.32 41 ⇓P **P 07 53 28.6 +0.5**
baz=94,SNR=10
LRM Limekiln Ridge 94.33 35 *eP* **P 07 53 28.5 +0.3**
CMB Columbia Colle 94.50 45 *eP* **P 07 53 28.8 -0.2**
CMB pmax pmax
comp=Z,14nm,0.9s,mb5.4
CMB Columbia Colle 94.50 45 *eP* **P 07 53 28.8 -0.2**
comp=Z,14nm,0.9s,mb5.4
CMB Columbia Colle 94.50 45 P **P 07 53 28.9 -0.1**
baz=94,SNR=11
DLMT Dillon 94.56 35 *eP* **P 07 53 29.9 +0.6**
comp=Z,72nm,1.1s,mb6.0
P07A Fallon 94.57 43 ⇑P **P 07 53 29.7 +0.3**
baz=94
O08A Rochester Mine 94.58 42 ⇑P **P 07 53 29.4 0.0**
baz=94
EPF Esparros 94.59 321 *eP* **P 07 53 28.8 -0.7**
comp=Z,162nm,1.8s,mb5.9
EPF Esparros 94.59 321 *eP* **P 07 53 28.8 -0.7**
EPF pmax pmax
comp=Z,81nm,1.8s,mb5.8
EPF Esparros 94.59 321 *eP* **P 07 53 28.8 -0.7**
comp=Z,81nm,1.8s,mb5.8
CKFL Kef-Lekhel 94.61 313 P **P 07 53 30.5 +1.0**
N09A Rock Creek Ran 94.62 41 ⇓P **P 07 53 30.0 +0.5**

baz=94,SNR=9.8
HAST UC Hastings Re 94.68 47 ⇓P P 07 53 29.7 -0.2
baz=94
RESF Ens 94.73 321⇓eP P 07 53 31.5 +1.4
HLID Hailey 94.73 38 eP P 07 53 30.9 +0.8
comp=Z,20nm,1.0s,mb5.5
MCMT McKenzie Canyo 94.77 36 eP P 07 53 30.6 +0.3
M10A I.L. Ranch, Tu 94.80 40 ⇓P P 07 53 30.9 +0.5
baz=95
R06C Coleville 94.82 44 ⇑P P 07 53 30.6 +0.1
baz=95,SNR=8.7
WAKR Walker 94.84 44 eP P 07 53 31.6 +1.0
CASM Ain Smara 94.84 313 P P 07 53 32.0 +1.4
VIEF Viey 94.86 322⇓eP P 07 53 31.8 +1.1
BOZ Bozeman (W) 94.87 35 eP P 07 53 31.1 +0.4
BOZ pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
BOZ Bozeman (W) 94.87 35 eP P 07 53 31.1 +0.3
comp=Z,10nm,1.0s,mb5.2
S05C Merced 94.94 45 ⇑P P 07 53 30.5 -0.5
baz=95,SNR=7.1
S06C San Francisco 94.94 45 ⇑P P 07 53 30.5 -0.6
baz=95,SNR=11
T05C Eagle Field, D 94.97 46 ⇑P P 07 53 31.5 +0.3
baz=95
P08A Dixie Valley 94.98 42 ⇑P P 07 53 32.1 +0.9
baz=95
CTEI Djebel Teioual 95.01 313 P P 07 53 32.5 +1.1
BMN Battle Mountai 95.06 41 eP P 07 53 35.0 +3.4
BMN pmax pmax
comp=Z,38nm,1.4s,mb5.6
BMN Battle Mountai 95.06 41 eP P 07 53 35.0 +3.4
comp=Z,38nm,1.4s,mb5.6
DFRA Djebel Bou Aff 95.09 314 P P 07 53 33.0 +1.3
V03C Hunter Liggett 95.10 47 ⇑P P 07 53 32.4 +0.6
baz=95
PPT Papeete 95.17 107 eS S 08 04 49.0 +2.7
comp=Z,3μm,27.0s
PPT eLR LR 08 24 27.1
comp=Z,8μm,23.5s,baz=291
PPT Papeete 95.17 107 LR LR 08 27 14.7
comp=Z,4μm,21.8s,MS5.8,baz=285,slow=30
ETSF Etsaut 95.19 322 eP P 07 53 31.0 -1.2
U04C Hernandez Rese 95.21 46 ⇑P P 07 53 32.0 -0.3
baz=95
O09A Fish Creek Ran 95.24 42 ⇑P P 07 53 32.8 +0.4
baz=95,SNR=14
M11A Holland Ranch, 95.29 40 ⇓P P 07 53 33.6 +1.0
baz=95
N10A Dunphy 95.31 41 ⇓P P 07 53 33.2 +0.4
baz=95
R07C Lee Vining 95.33 44 ⇑P P 07 53 32.4 -0.4
baz=95
LARF Larrau 95.34 322⇓eP P 07 53 34.2 +1.3
SJPF Ste Jean 95.42 322 eP P 07 53 32.3 -0.9
comp=Z,247nm,1.8s,mb6.0
SJPF Ste Jean 95.42 322 eP P 07 53 32.3 -0.9
SJPF pmax pmax
comp=Z,124nm,1.8s,mb6.0
SJPF Ste Jean 95.42 322 eP P 07 53 32.3 -0.9
comp=Z,124nm,1.8s,mb6.0
QLMT Earthquake Lak 95.53 35 eP P 07 53 34.8 +1.1
T06C Milleton Lake 95.54 45 ⇓P P 07 53 33.4 -0.4
baz=95
V04C Ramage Ranch, 95.56 47 ⇓P P 07 53 34.0 +0.1
baz=95
Q08A Gabbs 95.57 43 P P 07 53 34.2 +0.3
baz=95,SNR=12
NVAR Mina Array Bea 95.60 44 P P 07 53 34.0 0.0
comp=Z,3.5nm,0.6s,mb4.9,baz=316,slow=4.0,SNR=17
SET Setif 95.60 314 P P 07 53 36.0 +1.9
PKD Parkfield 95.61 47 ⇓P P 07 53 33.8 -0.3
baz=95
KCC Kaiser Creek 95.61 45 ⇓P P 07 53 33.5 -0.6
baz=95
CKHR Kef el Ahmar 95.63 313 P P 07 53 35.0 +0.8
P09A Austin 95.64 42 ⇓P P 07 53 34.3 0.0
baz=95
N11A Elko Archery C 95.71 40 ⇑P P 07 53 34.7 +0.2
baz=96
MLAC Mammoth Lakes 95.74 44 ⇓P P 07 53 35.1 +0.4
baz=96
R08A Mina 95.77 44 ⇓P P 07 53 35.0 +0.1
baz=96
GCMT Greycliff 95.79 34 eP P 07 53 35.8 +0.9
M12A Wells 95.82 40 ⇑P P 07 53 36.0 +1.0
baz=96
YMR Madison River 95.88 35 eP P 07 53 36.0 +0.7
comp=Z,24nm,1.1s,mb5.5
PTRM Twissleman Ran 95.99 47 eP P 07 53 36.5 +0.6
P10A Eureka 96.02 42 ⇓P P 07 53 36.4 +0.4
baz=96
Q09A Carvers 96.06 43 ⇓P P 07 53 36.0 -0.1
baz=96
MTUM Tungsten Hills 96.07 45 eP P 07 53 36.9 +0.7
YFT Old Faithful 96.09 35 eP P 07 53 39.5 +3.2
N12A Clover Valley, 96.10 40 ⇑P P 07 53 36.5 +0.1
baz=96
LKWY Lake 96.25 35 eP P 07 53 39.1 +2.1
LKWY pmax pmax
comp=Z,21nm,1.1s,mb5.5
LKWY Lake 96.25 35 eP P 07 53 39.1 +2.1
comp=Z,16nm,1.1s,mb5.3
M13A Montello 96.29 39 ⇓P P 07 53 37.5 +0.3
baz=96
IMW Indian Meadow 96.41 36 eP P 07 53 38.8 +1.0
comp=Z,5.9nm,0.8s,mb5.1
FLWY Flagg Ranch 96.42 36 eP P 07 53 39.2 +1.4
comp=Z,18nm,0.9s,mb5.5
R09A Tonopah 96.48 43 ⇓P P 07 53 38.3 +0.2
baz=96
P11A Circle Ranch, 96.49 41 ⇓P P 07 53 38.4 +0.3
baz=96
TPH Tonopah 96.49 43 eP P 07 53 39.0 +0.9
TPH pmax pmax
comp=Z,14nm,1.0s,mb5.3
TPH Tonopah 96.49 43 eP P 07 53 39.0 +0.9
comp=Z,14nm,1.0s,mb5.4
RRI2 Red Ridge 96.58 36 eP P 07 53 40.6 +2.1
N13A Wendover, West 96.59 40 ⇑P P 07 53 38.8 +0.2
baz=96
O12A Currie 96.64 40 ⇑P P 07 53 39.2 +0.4
baz=96
TPAW Teton Pass 96.68 36 eP P 07 53 40.1 +1.1
comp=Z,19nm,1.4s,mb5.3
S09A Goldfield 96.70 44 ⇑P P 07 53 38.9 -0.1
baz=96
HVU Hansel Valley 96.81 38 eP P 07 53 40.4 +0.8
HVU pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
HVU Hansel Valley 96.81 38 eP P 07 53 40.4 +0.8
comp=Z,6.7nm,0.8s,mb5.1
REDW Red Top Meadow 96.82 36 eP P 07 53 40.8 +1.2
LAO LASA Array 96.85 31 eP P 07 53 39.7 0.0
comp=Z,19nm,1.0s,mb5.5
CWC Cottonwood Cre 96.93 45 ⇑P P 07 53 40.2 +0.1
baz=97
R10A Warm Springs 96.93 43 ⇓P P 07 53 40.6 +0.5
baz=97
Q11A Duckwater 96.99 42 ⇓P P 07 53 40.4 +0.1
baz=97
P12A McGill 97.05 41 ⇑P P 07 53 40.5 -0.1
baz=97
ISA Isabella 97.13 46 eP P 07 53 41.3 +0.3
ISA Isabella 97.13 46 ⇑P P 07 53 40.6 -0.4
baz=97
SPUT South Promonto 97.30 38 eP P 07 53 42.6 +0.8
TRCR Troy Canyon 97.34 42 eP P 07 53 42.3 +0.3
DAC Darwin (Calif) 97.34 45 eP P 07 53 42.9 +0.9
DAC pmax pmax
comp=Z,13nm,1.1s,mb5.3
DAC Darwin (Calif) 97.34 45 eP P 07 53 42.9 +0.9
comp=Z,13nm,1.1s,mb5.3
HWUT Hardware Ranch 97.61 38 eP P 07 53 44.5 +1.3
comp=Z,5.3nm,0.9s,mb5.1
TPNV Topopah Spring 97.79 44 eP P 07 53 45.1 +1.1
TPNV e 07 57 40.3
TPNV pmax pmax
comp=Z,6.0nm,0.8s,mb5.2
TPNV Topopah Spring 97.79 44 eP P 07 53 45.1 +1.1
comp=Z,6.0nm,0.8s,mb5.2
TPNV ePP PP 07 57 40.3 -1.8
DUG Dugway 97.82 39 eP P 07 53 45.6 +1.5
DUG pmax pmax
comp=Z,24nm,1.5s,mb5.5
DUG Dugway 97.82 39 eP P 07 53 45.6 +1.5
comp=Z,24nm,1.5s,mb5.5
BW06 Boulder Array 97.92 36 eP P 07 53 45.1 +0.5
PDAR Pinedale Array 97.92 36 P P 07 53 44.5 -0.1
comp=Z,0.7nm,0.5s,baz=339,slow=1.1,SNR=11
PDAR PP PP 07 57 48.4 +5.3
comp=Z,1.3nm,0.8s,baz=302,slow=5.2,SNR=6.4
PDAR PKKPbc PKKPbc 08 10 18.9 +0.6
comp=Z,0.6nm,1.0s,baz=126,slow=4.6,SNR=3.5
TCUT Toone Canyon 98.02 38 eP P 07 53 46.3 +1.3
U10A Ash Meadows, A 98.06 44 ⇑P P 07 53 45.5 +0.3
baz=98
GSC Goldstone 98.44 45 eP P 07 53 48.0 +1.1
GSC e 07 57 44.1
GSC Goldstone 98.44 45 ⇓P P 07 53 46.7 -0.2
baz=98
ULM Lac du Bonnet 98.47 24 P P 07 53 45.0 -2.0
comp=Z,6.9nm,0.9s,mb5.2,baz=318,slow=7.6,SNR=7.2
ULM PKKPbc PKKPbc 08 10 19.0 +2.2
comp=Z,2.2nm,0.9s,baz=100,slow=3.8,SNR=2.9
ULM LR LR 08 46 07.9
comp=Z,2μm,18.1s,MS5.7,baz=344,slow=40
ULM Lac du Bonnet 98.47 24 eP P 07 53 45.2 -1.9
comp=Z,14nm,1.0s,mb5.4
DAU Daniels Canyon 98.57 39 eP P 07 53 49.5 +2.0
SHPR Sheep Range 98.75 44 eP P 07 53 50.0 +1.7
TUQ Turquoise Mtn. 98.93 45 ⇓P P 07 53 49.0 -0.1
baz=99
ARUT Antelope Range 99.00 42 P P 07 53 46.0 -3.4
ARUT e 07 54 01.4
ARUT Antelope Range 99.00 42 eP P 07 53 46.1 -3.3
U12A Valley of Fire 99.19 43 ⇑P P 07 53 50.9 +0.7
baz=99
ESDC Sonseca Array 99.23 321 P P 07 53 49.5 -1.0
comp=Z,0.3nm,0.3s,baz=35,slow=5.4,SNR=4.1
ESDC PP PP 07 57 47.1 -6.1
comp=Z,0.3nm,0.4s,baz=43,slow=8.3,SNR=4.7
ESDC LR LR 08 44 08.2
comp=Z,4μm,18.8s,MS5.9,baz=5.0,slow=39
109C Camp Elliot, M 99.69 47 ⇑P Pdif 07 53 52.6 +0.1
baz=100
PFO Pinyon Flat Ob 99.69 47 eP Pdif 07 53 53.8 +1.3
PFO Pinyon Flat Ob 99.69 47 ⇓P Pdif 07 53 52.3 -0.2
baz=100
RSSD Black Hills 99.78 32 eP Pdif 07 53 53.3 +0.4
RSSD pmax pmax
comp=Z,22nm,1.5s,mb5.4
RSSD Black Hills 99.78 32 ePdif Pdif 07 53 53.3 +0.4
comp=Z,20nm,1.5s
SRU San Rafael 99.86 39 eP Pdif 07 53 53.8 +0.5
LSZ Lusaka 99.99 258 P Pdif 07 53 53.6 -0.2
comp=Z,3.1nm,0.6s,baz=104,slow=7.2,SNR=6.2
LSZ Lusaka 99.99 258 eP Pdif 07 53 54.7 +0.9
LSZ pmax pmax
comp=Z,15nm,1.1s,mb5.3
LSZ Lusaka 99.99 258 ePdif Pdif 07 53 54.7 +0.9
comp=Z,15nm,1.1s
TAOE Nuku Hiva Isla 100.21 95 ePS PS 08 06 51.8 -8.4
comp=Z,2μm,27.8s
TAOE Nuku Hiva Isla 100.21 95 eLR LR 08 27 00.7
comp=Z,6μm,22.8s,baz=280
Y12C Blythe 100.88 45 ⇑P Pdif 07 53 57.7 -0.1
baz=101
SCHQ Schefferville 100.92 6 P Pdif 07 53 57.2 -0.7
comp=Z,3.6nm,0.9s,baz=334,slow=4.3,SNR=4.1
GLA Glamis 101.11 46 ⇑P Pdif 07 53 58.8 0.0
baz=101
Y13A Salome 101.29 45 ⇓P Pdif 07 53 59.3 -0.3
baz=101
X14A Yava 101.47 44 ⇑P Pdif 07 54 00.8 +0.4
baz=101
PV01 Paradox Valley 101.65 39 ePdif Pdif 07 54 02.5 +1.3
SMCO Snowmass 101.82 37 ePdif Pdif 07 54 01.2 -0.8
115A Sonoran Desert 103.03 45 ⇑P Pdif 07 54 07.3 0.0
baz=103
VNDA Vanda 104.10 172 PP PP 07 58 27.1 -2.7
comp=Z,14nm,1.2s,baz=334,slow=8.5,SNR=8.7
LAZ Ladron 105.06 41 ePKPdf PKiKP 07 58 33.9 +3.0
LBTB Lobatse 105.74 249 PP PP 07 58 39.2 -2.8
comp=Z,2.4nm,0.7s,baz=90,slow=3.8,SNR=4.3
RKT Rikitea 109.93 107 ePS PS 08 08 44.9 +3.5
comp=Z,1μm,29.0s
RKT Rikitea 109.93 107 eLR LR 08 31 02.6
comp=Z,5μm,26.2s,baz=295
TOA0 Torodi Ar. Sit 111.35 296 ePKPdf PKiKP 07 58 42.1 -0.6
TORD Torodi Ar. Bea 111.35 296 PKiKP PKiKP 07 58 42.4 -0.3
comp=Z,3.9nm,0.7s,baz=18,slow=2.8,SNR=19
TORD PP PP 07 59 24.0 +1.1
comp=Z,8.2nm,1.0s,baz=62,slow=5.3,SNR=7.3
TORD PKKPbc PKKPbc 08 09 37.4 -0.4
comp=Z,0.6nm,0.6s,baz=259,slow=2.9,SNR=4.1
ADH Angra Heroismo 111.39 335 e 08 35 00.0
JCT Junction City 112.17 39 ePKIKP PKiKP 07 58 44.0 -0.3
WCI Wyandotte Cave 112.29 24 ePKIKP PKiKP 07 58 44.1 -0.4
WVT Waverly 113.52 27 ePKIKP PKiKP 07 58 45.3 -1.5
MYNC Murphy 115.89 24 ePKPdf PKPdf 07 58 51.5 +0.1
MYNC Murphy 115.89 24 ePKPdf PKPdf 07 58 50.4 -1.0
LRAL Lakeview Retre 116.53 28 ePKPdf PKPdf 07 58 51.3 -1.3
DBIC Dimbokro 120.26 294 PKP PKPdf 07 58 59.5 -0.3
comp=Z,8.5nm,0.7s,baz=41,slow=3.4,SNR=13
DBIC PP PP 08 00 27.6 +2.1
comp=Z,11nm,1.0s,baz=53,slow=7.6,SNR=4.4
DBIC PKKPbc PKKPbc 08 09 05.8 -0.9
comp=Z,2.4nm,0.7s,baz=233,slow=2.8,SNR=3.2
DBIC Dimbokro 120.26 294 PKIKP PKPdf 07 58 59.5 -0.3
DBIC 08 00 27.6
DBIC pmax pmax
comp=Z,9.0nm,0.7s
DBIC pmax pmax
comp=Z,11nm,1.0s
DBIC Dimbokro 120.26 294 ePKPdf PKPdf 07 59 00.0 +0.2
DBIC ePP PP 08 00 27.8 +2.3
LIC Lamto 120.65 294 ePKIKP PKPdf 07 58 58.3 -2.2
comp=Z,77nm,1.1s
LIC eR
comp=Z,583nm,19.9s
LIC Lamto 120.65 294 ePKPdf PKPdf 07 58 58.3 -2.2
LIC LR LR
comp=Z,290nm,19.9s,MS4.9
SNAA Sanae 123.61 198 ePKIKP PKPdf 07 59 03.4 -2.8
SDV Santo Domingo 144.72 23 ePKPdf PKPdf 07 59 44.5 -0.9
ROSC El Rosal 146.80 32 PKPbc PKPbc 07 59 51.8 +1.0
comp=Z,35nm,0.6s,baz=86,slow=21,SNR=32
ROSC El Rosal 146.80 32 ePKPdf PKPdf 07 59 51.8 +2.8
OTAV Otavalo 148.33 43 ePKPdf PKPdf 07 59 53.5 +2.0
OTAV ePKPbc PKPbc 07 59 57.9 +2.9
PLCA Paso Flores 160.17 150 PKP PKPdf 08 00 06.7 -1.4
comp=Z,3.0nm,1.0s,baz=0.0,slow=5.1,SNR=1.4
LPAZ La Paz 167.29 54 PKP PKPdf 08 00 16.4 +1.8
comp=Z,26nm,1.2s,baz=5.5,slow=4.2,SNR=22
LPAZ La Paz 167.29 54 PKIKP PKPdf 08 00 16.4 +1.8
LPAZ pmax pmax
comp=Z,27nm,1.2s
LPAZ La Paz 167.29 54 ePKPdf PKPdf 08 00 16.1 +1.5
LPAZ ePKPab PKPab 08 01 20.4 +1.0
BDFB Brasilia 167.72 312 PKP PKPdf 08 00 15.2 +0.3
comp=Z,12nm,0.9s,baz=38,slow=2.1,SNR=15
CPUP Villa Florida 177.84 183 ePKIKP PKPdf 08 00 19.6 +0.5

*NEIC **28** 07:45:35.8, 3827S×17608E, h168km, MG4.1(WEL), After WEL.*
WEL 28 07:45:36.8±0.3, 3830S×17608E, h159km±2km, ML4.1/18, 8C-2D, Error ellipse: s-maj=2.0km s-min=2.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PATZ	Paeroa	0.16	121	PN	Pn	07 45 58.4	+0.4
PATZ	Paeroa	0.16	121	P	Pn	07 45 58.4	+0.3
TAZ	Tarawera	0.34	79	PN	Pn	07 45 58.9	+0.4
TAZ	Tarawera	0.34	79	P	Pn	07 45 58.9	+0.4
WHTZ	Whakaora	0.38	195	PN	Pn	07 45 59.1	+0.5
WATZ	Wairara	0.49	213	PN	Pn	07 45 59.4	+0.3
WATZ				eSN	Sn	07 46 15.9	-0.2
WATZ	Wairara	0.49	213	P	Pn	07 45 59.4	+0.3
WATZ				S	Sn	07 46 17.3	+1.2
TGRZ	Tauranga	0.58	14	PN	Pn	07 45 59.3	-0.2
TGRZ	Tauranga	0.58	14	P	Pn	07 45 59.1	-0.5
HATZ	Hinemaiaia	0.59	179	PN	Pn	07 45 59.7	+0.1
HATZ	Hinemaiaia	0.59	179	P	Pn	07 45 59.7	+0.1
RATZ	Rangitukua	0.62	203	⇑PN	Pn	07 45 59.9	+0.2
RATZ	Rangitukua	0.62	203	P	Pn	07 45 59.9	+0.1
RITZ	Rihia Road	0.70	194	PN	Pn	07 46 00.9	+0.7
RITZ	Rihia Road	0.70	194	P	Pn	07 46 00.9	+0.7
KATZ	Kakaramea	0.74	204	PN	Pn	07 46 00.8	+0.3
KATZ				eSN	Sn	07 46 19.1	+0.5
KATZ	Kakaramea	0.74	204	P	Pn	07 46 00.8	+0.3
KATZ				S	Sn	07 46 19.7	+1.1
URZ	Urewera	0.81	88	⇓PN	Pn	07 46 00.7	-0.3
URZ				SN	Sn	07 46 19.0	-0.5
URZ	Urewera	0.81	88	P	Pn	07 46 00.7	-0.3
KRVZ	Karewarewa	0.87	203	PN	Pn	07 46 01.5	+0.1
WTVZ	West Tongariro	0.90	205	⇑PN	Pn	07 46 01.8	+0.2
TWVZ	Taurewa	0.92	213	⇑PN	Pn	07 46 01.9	+0.1
TWVZ	Taurewa	0.92	213	P	Pn	07 46 01.9	+0.1
OTVZ	Oturere	0.93	200	PN	Pn	07 46 02.2	+0.4
OTVZ				eSN	Sn	07 46 21.8	+0.9
BKZ	Black Stump Fm	0.93	160	PN	Pn	07 46 02.1	+0.3
BKZ				SN	Sn	07 46 20.8	-0.1
BKZ	Black Stump Fm	0.93	160	eP	Pn	07 46 01.9	+0.1
NGZ	Ngauruhoe	0.95	203	PN	Pn	07 46 02.0	0.0
NGZ	Ngauruhoe	0.95	203	P	Pn	07 46 02.2	+0.2
HIZ	Hauiti	0.99	257	PN	Pn	07 46 01.8	-0.5
HIZ				SN	Sn	07 46 21.9	+0.1
HIZ	Hauiti	0.99	257	P	Pn	07 46 01.8	-0.5
WPVZ	Whakapapa	1.00	205	PN	Pn	07 46 02.6	+0.2
WPVZ	Whakapapa	1.00	205	P	Pn	07 46 02.6	+0.2
TUVZ	Tukino	1.03	199	PN	Pn	07 46 02.9	+0.3
TUVZ	Tukino	1.03	199	P	Pn	07 46 02.6	0.0
FWVZ	Far West T-bar	1.04	203	PN	Pn	07 46 02.9	+0.2
FWVZ	Far West T-bar	1.04	203	P	Pn	07 46 03.0	+0.2
DRZ	Dome Shelter	1.06	202	PN	Pn	07 46 04.1	+1.2
DRZ	Dome Shelter	1.06	202	P	Pn	07 46 04.1	+1.2
TRVZ	Turoa	1.08	202	PN	Pn	07 46 03.2	+0.1
WNVZ	Wahianoa	1.10	200	PN	Pn	07 46 03.4	+0.2
WNVZ	Wahianoa	1.10	200	P	Pn	07 46 03.4	+0.2
MOVZ	Moawhango	1.14	193	⇑PN	Pn	07 46 03.4	-0.2
MOVZ				SN	Sn	07 46 22.4	-1.6
MWZ	Matawai	1.14	92	⇓PN	Pn	07 46 03.7	+0.1
MWZ				SN	Sn	07 46 23.6	-0.4
MWZ	Matawai	1.14	92	P	Pn	07 46 03.7	+0.1
PKVZ	Pokaka	1.15	210	⇑PN	Pn	07 46 03.6	0.0
VRZ	Vera Road	1.32	231	PN	Pn	07 46 05.0	-0.3
VRZ	Vera Road	1.32	231	P	Pn	07 46 05.2	-0.1
KNZ	Kokohu	1.44	121	PN	Pn	07 46 07.0	+0.6
KNZ	Kokohu	1.44	121	eP	Pn	07 46 07.0	+0.6
RAEZ	Rainy Point	1.65	233	PN	Pn	07 46 08.7	+0.1
RAEZ	Rainy Point	1.65	233	P	Pn	07 46 08.7	+0.1
WAZ	Wanganui	1.69	210	⇑PN	Pn	07 46 08.6	-0.4
WAZ	Wanganui	1.69	210	P	Pn	07 46 08.6	-0.4
PUZ	Puketiti	1.73	83	PN	Pn	07 46 09.2	-0.2
PUZ	Puketiti	1.73	83	P	Pn	07 46 09.2	-0.2
TSZ	Takapari Road	1.76	183	⇑PN	Pn	07 46 09.4	-0.4
TSZ	Takapari Road	1.76	183	P	Pn	07 46 09.4	-0.4
NEZ	North Egmont	1.83	237	PN	Pn	07 46 10.6	+0.1
NEZ	North Egmont	1.83	237	P	Pn	07 46 10.6	+0.1
PXZ	Pawanui	1.84	161	PN	Pn	07 46 10.6	0.0
PKE	Pukeiti	1.87	241	PN	Pn	07 46 10.7	-0.2
PKE	Pukeiti	1.87	241	P	Pn	07 46 10.7	-0.2
MXZ	Matakaoa Point	1.91	68	PN	Pn	07 46 11.3	0.0
MXZ	Matakaoa Point	1.91	68	P	Pn	07 46 11.4	0.0
NRZ	Ngariki Road	1.97	238	P	Pn	07 46 11.8	-0.3
NWEZ	Newall Road	1.99	240	PN	Pn	07 46 12.0	-0.3
NWEZ	Newall Road	1.99	240	P	Pn	07 46 12.0	-0.3
BFZ	Birch Farm	2.38	177	⇑PN	Pn	07 46 15.9	-1.1
BFZ	Birch Farm	2.38	177	P	Pn	07 46 15.9	-1.1
MRZ	Mangatainoka R	2.39	189	ePN	Pn	07 46 15.6	-1.4
MRZ	Mangatainoka R	2.39	189	eP	Pn	07 46 15.6	-1.5
TIWZ	Tintock	2.48	183	PN	Pn	07 46 16.8	-1.3
KIW	Kapiti Island	2.72	199	P	Pn	07 46 18.8	-2.2
MTW	Mount Morrison	2.89	189	P	Pn	07 46 20.9	-2.3
CAW	Cannon Point	2.92	195	P	Pn	07 46 21.2	-2.2
MRW	Makara Radio	3.12	200	P	Pn	07 46 23.0	-2.7
PAWZ	Paruwai Farm	3.12	189	P	Pn	07 46 23.5	-2.5
WEL	Wellington	3.15	198	P	Pn	07 46 23.8	-2.6
MSWZ	Moikau Station	3.18	191	P	Pn	07 46 24.1	-2.7
SNZO	South Karori	3.19	199	P	Pn	07 46 24.0	-2.9
TCW	Tory Channel	3.23	205	P	Pn	07 46 24.6	-2.8
BHW	Baring Head	3.25	196	P	Pn	07 46 24.8	-2.8
NNZ	Nelson	3.58	215	P	Pn	07 46 28.5	-3.4
QRZ	Quartz Range	3.73	226	eP	Pn	07 46 29.8	-4.0
CMWZ	Cape Campbell	3.73	202	P	Pn	07 46 31.5	-2.3
BSWZ	Blackbirch Sta	3.81	206	P	Pn	07 46 31.7	-3.1
THZ	Tophouse	4.23	214	eP	Pn	07 46 36.4	-3.9
KHZ	Kahutara	4.55	204	P	Pn	07 46 40.9	-3.5
DSZ	Denniston Nort	4.76	222	eP	Pn	07 46 42.8	-4.4
LTZ	Lake Taylor	5.34	212	eP	Pn	07 46 50.0	-4.8
MQZ	McQueen's Vall	6.00	205	eP	Pn	07 46 57.9	-5.6
WVZ	Waitaha Valley	6.27	219	P	Pn	07 47 01.7	-5.4
FOZ	Fox Glacier	7.15	221	P	Pn	07 47 11.7	-7.1
ODZ	Otahua Downs	7.87	209	eP	Pn	07 47 22.1	-6.3

*MOS **28** 08:08:26.8±0.7, 2238S×17958W, h575km, mb4.6/11, Error ellipse: s-maj=13.2km s-min=9.6km az=149.7*
*BJI **28** 08:08:26.8, 2250S×17950W, h577km, mB5.0, mb4.7*
*SZGRF **28** 08:08:27.9, 2396S×17788W, h624km, South of Fiji Islands*
*NEIC **28** 08:08:28.1±0.6, 2246S×17954W, h577km±8km, mb4.8/39, Error ellipse: s-maj=6.6km s-min=4.7km az=134.0*
*IDC **28** 08:08:28.4±0.6, 2231S×17950W, h583km±6km, mb4.2/18, mb1 4.3/20, mb1mx4.3/22, mbtmp5.2/20, Error ellipse: s-maj=10.5km s-min=10.2km az=147.0*
*ISCJB **28** 08:08:29.3±0.1, 2258S±003×17963W±004, h606km, mb4.8/64, Error ellipse: s-maj=5.4km s-min=2.9km az=68.1*
*BGS **28** 08:08:29.6±6.2, 2246S×17954W, h577km, mb4.8(NEIC)*
ISC 28 08:08:30.6±0.1, 2262S±003×17957W±004, h608km, h608km±4.8km; pP-P, n432, s0°66/338, mb4.8/64, 67C-79D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	6.77	168	P	P	08 10 17.8	-1.0
RAO	298nm,0.3s,baz=102,slow=22,SNR=15			S	S	08 11 44.4	-3.0
RAO	62nm,0.3s,baz=131,slow=19,SNR=2.6			eP	P	08 10 17.5	-1.3
RAO	Raoul Island	6.77	168	pmax	pmax		
RAO	comp=Z,722nm,0.3s						
RAO	Raoul Island	6.77	168	eP	P	08 10 17.5	-1.3
AFI	comp=Z,722nm,0.3s						
AFI	Afiamalu	11.39	42	P	P	08 10 57.2	-6.1
AFI	comp=Z,15nm,0.3s,baz=26,slow=5.3,SNR=16			S	S	08 12 55.0	-14
AFI	comp=Z,8.8nm,0.3s,baz=38,slow=19,SNR=7.2			eP	P	08 10 56.8	-6.5
AFI	Afiamalu	11.39	42	pmax	pmax		
AFI	comp=Z,70nm,0.6s						
AFI	Afiamalu	11.39	42	eP	P	08 10 56.8	-6.4
DZM	comp=Z,70nm,0.6s						
DZM	Mont Dzumac	12.96	270	eP	P	08 11 16.7	-2.2
DZM	Mont Dzumac	12.96	270	P	P	08 11 17.8	-1.1
URZ	comp=Z,8.4nm,0.3s,baz=78,slow=13,SNR=70			ScP	ScP	08 18 39.7	+3.4
URZ	Urewera	15.84	190	PN	P	08 11 44.5	-1.6
URZ	comp=Z,11nm,0.3s,baz=9.9,slow=3.7,SNR=62			eSN	S	08 14 23.2	-2.2
URZ	Urewera	15.84	190	eP	P	08 11 44.4	-1.7
MWZ	Urewera	15.84	190	PN	P	08 11 44.8	-1.4
MWZ	Matawai	15.86	188	eSN	S	08 14 24.2	-1.4
MWZ	Matawai	15.86	188	eP	P	08 11 45.1	-1.1
TAZ	Tarawera	15.92	191	PN	P	08 11 48.1	+1.3
TAZ	Tarawera	15.92	191	P	P	08 11 48.1	+1.3
PATZ	Paeroa	16.11	192	PN	P	08 11 49.8	+1.3
HIZ	Hauiti	16.54	196	PN	P	08 11 54.9	+2.4
HIZ	Hauiti	16.54	196	eP	P	08 11 55.4	+2.9
BKZ	Black Stump Fm	16.83	191	PN	P	08 11 53.8	-1.4
BKZ	Black Stump Fm	16.83	191	eP	P	08 11 53.9	-1.2
VRZ	Vera Road	17.15	195	PN	P	08 12 00.3	+2.3
VRZ	Vera Road	17.15	195	eP	P	08 12 01.5	+3.5
TSZ	Takapari Road	17.79	191	PN	P	08 12 03.7	-0.2
TSZ	Takapari Road	17.79	191	eP	P	08 12 03.7	-0.2
BFZ	Birch Farm	18.35	190	ePN	P	08 12 09.3	+0.4
BFZ	Birch Farm	18.35	190	eP	P	08 12 08.7	-0.1
MRZ	Mangatainoka R	18.45	192	PN	P	08 12 08.7	-1.1
MRZ	Mangatainoka R	18.45	192	eP	P	08 12 08.9	-0.9
CAW	Cannon Point	18.98	193	PN	P	08 12 14.5	-0.2
CAW	Cannon Point	18.98	193	P	P	08 12 14.5	-0.1
TCW	Tory Channel	19.25	194	PN	P	08 12 17.6	+0.6
TCW	Tory Channel	19.25	194	P	P	08 12 17.6	+0.5

QRZ **Quartz Range** 19.34 198 PN P 08 12 19.3 +1.4
QRZ **Quartz Range** 19.34 198 eP P 08 12 19.0 +1.1
NNZ **Nelson** 19.47 196 PN P 08 12 19.2 +0.1
NNZ **Nelson** 19.47 196 P P 08 12 19.3 +0.2
TUWZ **Tuamarina** 19.53 195 PN P 08 12 19.1 -0.6
THZ **Tophouse** 20.10 197 PN P 08 12 24.7 -0.1
THZ **Tophouse** 20.10 197 eP P 08 12 24.8 0.0
DSZ **Denniston Nort** 20.40 199 ePN P 08 12 28.4 +0.9
DSZ **Denniston Nort** 20.40 199 eP P 08 12 28.5 +1.1
LTZ **Lake Taylor** 21.22 197 PN P 08 12 33.9 -1.0
LTZ **Lake Taylor** 21.22 197 eP P 08 12 33.9 -1.0
WVZ **Waitaha Valley** 21.93 199 ePN P 08 12 40.7 -0.4
WVZ **Waitaha Valley** 21.93 199 eP P 08 12 41.2 0.0
RPZ **Rata Peaks** 22.42 198 P P 08 12 47.2 +1.6
comp=Z,13nm,0.8s,mb4.6,baz=303,slow=3.3,SNR=11
FOZ **Fox Glacier** 22.70 201 ePN P 08 12 47.1 -0.9
FOZ **Fox Glacier** 22.70 201 eP P 08 12 47.6 -0.4
LBZ **Lake Benmore** 23.29 199 PN P 08 12 52.6 -0.6
LBZ **Lake Benmore** 23.29 199 eP P 08 12 52.6 -0.6
JCZ **Jackson Bay** 23.46 201 PN P 08 12 55.3 +0.6
JCZ **Jackson Bay** 23.46 201 P P 08 12 55.3 +0.5
ARMA **Armidale** 26.86 247 ⇓iP P 08 13 26.5 +1.9
PAE **Paea** 28.56 86 eP P 08 13 38.6 -0.8
comp=Z,97nm,1.1s,mb5.3
CNB **Canberra Magne** 29.85 238 eP P 08 13 52.3 +1.8
comp=Z,151nm,0.7s,mb5.7
PMOR **Pomariorio Ree** 30.88 81 eP P 08 13 59.0 -0.3
comp=Z,108nm,1.2s,mb5.3
VAH **Vaihoa** 31.05 82 eP P 08 14 00.1 -0.7
comp=Z,134nm,1.0s,mb5.5
CTA **Charters Tower** 31.89 268 ⇓iP P 08 14 08.2 +0.3
comp=Z,101nm,0.5s,mb5.7
CTA eSCP ScP 08 19 30.0 +4.3
CTA **Charters Tower** 31.89 268 P P 08 14 08.2 +0.4
comp=Z,129nm,0.5s,mb5.8,baz=95,slow=10,SNR=413
CTA ScP ScP 08 19 30.1 +4.4
comp=Z,9.8nm,0.9s,baz=15,slow=2.2,SNR=5.6
CTA **Charters Tower** 31.89 268 ⇓iP P 08 14 08.2 +0.3
CTA pmax pmax
comp=Z,101nm,0.5s
CTAO **Charters Tower** 31.89 268 eP P 08 14 08.3 +0.4
CTAO pmax pmax
comp=Z,128nm,0.6s,mb5.7
CTAO **Charters Tower** 31.89 268 eP P 08 14 08.3 +0.4
comp=Z,128nm,0.6s,mb5.7
TOO **Toolangi** 33.48 236 ⇓iP P 08 14 22.5 +1.2
comp=Z,52nm,0.6s,mb5.3
TOO **Toolangi** 33.48 236 ⇓iP P 08 14 22.5 +1.2
TOO pmax pmax
comp=Z,52nm,0.6s,mb5.3
PMG **Port Moresby** 34.48 287 P P 08 14 29.1 -0.4
comp=Z,184nm,0.8s,mb5.8,baz=102,slow=5.3,SNR=58
PMG **Port Moresby** 34.48 287 diP P 08 14 28.9 -0.6
PMG **Port Moresby** 34.48 287 eP P 08 14 28.7 -0.8
comp=Z,199nm,0.8s,mb5.8
STKA **Stephens Creek** 35.58 246 ⇓iP P 08 14 39.7 +1.0
comp=Z,38nm,0.5s,mb5.2
STKA eSCP ScP 08 19 43.1 +4.2
STKA **Stephens Creek** 35.58 246 P P 08 14 39.7 +1.1
comp=Z,72nm,0.7s,mb5.3,baz=91,slow=9.6,SNR=151
STKA ScP ScP 08 19 42.6 +3.8
comp=Z,11nm,1.0s,baz=141,slow=2.8,SNR=5.7
RKT **Rikitea** 40.97 100 eP P 08 15 22.2 +0.1
comp=Z,28nm,0.9s,mb4.8
AS31 **Alice Springs** 42.65 259 eP P 08 15 35.4 +0.2
ASAR **Alice Springs** 42.65 259 P P 08 15 35.5 +0.3
comp=Z,105nm,0.7s,mb5.5,baz=99,slow=7.1,SNR=1074
ASAR ScP ScP 08 20 10.7 +4.3
comp=Z,4.1nm,0.9s,baz=108,slow=3.4,SNR=5.7
ASAR S S 08 21 15.0 -0.6
ASPA **Alice Springs** 42.65 259 eP P 08 15 35.4 +0.1
WB2 **Warramunga Arr** 42.89 265 ⇓iP P 08 15 36.5 -0.6
WB2 eSCP ScP 08 20 11.9 +4.5
WRAB **Tennant Creek** 42.89 265 ⇓eP P 08 15 36.5 -0.7
WRAB **Tennant Creek** 42.89 265 eP P 08 15 36.8 -0.4
comp=Z,195nm,0.8s,mb5.7
WRA **Warramunga Arr** 42.90 265 P P 08 15 36.9 -0.3
comp=Z,82nm,0.6s,mb5.4,baz=90,slow=5.9,SNR=1234
WRA ScP ScP 08 20 12.0 +4.5
comp=Z,14nm,0.9s,baz=99,slow=4.2,SNR=14
KAKA **Kakadu** 46.60 274 eP P 08 16 04.8 -0.7
comp=Z,141nm,0.4s,mb5.8
KAKA eSCP ScP 08 20 26.3 +3.4
FORT **Forrest** 47.13 248 eP P 08 16 09.1 -0.3
comp=Z,118nm,0.6s,mb5.6
FORT eSCP ScP 08 20 29.3 +4.2
GUMO **Guam** 50.09 313 P P 08 16 30.6 -0.6
comp=Z,25nm,0.4s,mb5.0,baz=357,slow=24,SNR=4.9
FITZ **Fitzroy Crossi** 51.33 264 eP P 08 16 40.1 -0.1
comp=Z,63nm,0.9s,mb5.0
FITZ **Fitzroy Crossi** 51.33 264 P P 08 16 40.5 +0.3
comp=Z,35nm,0.9s,mb4.8,baz=118,slow=3.8,SNR=71
VNDA **Vanda** 55.68 185 P P 08 17 13.1 +2.3
comp=Z,3.3nm,0.6s,mb3.7,baz=355,slow=7.3,SNR=20
VNDA PcP PcP 08 18 01.7 +0.8
comp=Z,1.0nm,0.6s,baz=330,slow=6.2,SNR=4.2
KLBR **Kellerberrin** 55.85 246 eP P 08 17 11.9 -0.1
comp=Z,64nm,0.8s,mb4.9
MBWA **Marble Bar** 55.99 259 eP P 08 17 12.7 -0.3
comp=Z,68nm,0.8s,mb4.9
NWAO **Narrogin (SRO)** 56.13 245 P P 08 17 14.2 +0.4
comp=Z,17nm,0.7s,mb4.4,baz=98,slow=8.6,SNR=8.8
MUN **Mundaring** 57.11 246 ⇓iP P 08 17 20.9 +0.3
CASY **Casey** 61.43 206 eP P 08 17 48.6 -0.7
CBIJ **Chichi jima** 61.73 321 P P 08 17 50.0 -1.2
comp=Z,20nm,0.4s,mb4.7,baz=282,slow=21,SNR=3.8
QSPA **South Pole Qui** 67.45 180 eP P 08 18 29.0 +1.8
comp=Z,24nm,0.8s,mb4.7
MJAR **Matsushiro Arr** 71.08 325 P P 08 18 47.2 -1.6
comp=Z,7.8nm,0.7s,mb4.3,baz=160,slow=5.6,SNR=15
MJAR **Matsushiro Arr** 71.08 325 P P 08 18 47.2 -1.6
MAT **Matsushiro** 71.08 325 P P 08 18 47.7 -1.1
MAT **Matsushiro** 71.08 325 eP P 08 18 48.0 -0.8
KSM **Kuching** 72.28 279 eP P 08 18 55.5 -0.3
YSS **Yuzh-Sakhalins** 77.15 335 iP P 08 19 22.6 -0.3
YSS pmax pmax
comp=Z,12nm,0.9s,mb4.3
SSE **Sheshan** 77.95 311 eP P 08 19 25.3 -1.9
SSE AMB AMB
comp=Z,17nm,1.1s,mb4.4
SSE AMB AMB
comp=Z,403nm,11.7s
KGM **Kluang** 78.89 277 P P 08 19 33.9 +1.7
MAW **Mawson** 79.08 200 eP P 08 19 33.6 +0.4
comp=Z,1.2nm,0.4s
MAW **Mawson** 79.08 200 P P 08 19 34.4 +1.2
comp=Z,1.7nm,0.5s,baz=145,slow=7.0,SNR=7.7
MAW **Mawson** 79.08 200 eP P 08 19 33.6 +0.4
MAW pmax pmax
comp=Z,1.0nm,0.4s
NJ2 **Nanjing** 80.12 311 eP P 08 19 39.3 +0.7
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.4
NJ2 AMB AMB
comp=Z,420nm,6.5s
FARB **Farallon Islan** 80.16 42 ⇓P P 08 19 38.7 -0.2
baz=80
V03C **Hunter Liggett** 80.25 44 ⇓P P 08 19 39.7 +0.4
baz=80
V04C **Ramage Ranch,** 80.26 45 ⇑P P 08 19 39.5 +0.2
baz=80
HAST **UC Hastings Re** 80.27 44 ⇑P P 08 19 39.4 0.0
baz=80,SNR=14
SBC **Santa Barbara** 80.32 46 ⇑P P 08 19 39.5 -0.1
baz=80
BNLO **Ben Lomond (Sa** 80.33 43 ⇑P P 08 19 39.6 -0.1
baz=80
JRSC **Jasper Ridge** 80.45 43 ⇓P P 08 19 40.0 -0.3
baz=80
MCCM **Marconi Confer** 80.51 42 ⇓P P 08 19 40.3 -0.4
baz=81
SAO **San Andreas Ge** 80.57 44 eP P 08 19 40.4 -0.5
SAO pmax pmax
comp=Z,12nm,0.8s,mb4.4
SAO **San Andreas Ge** 80.57 44 eP P 08 19 40.4 -0.5
comp=Z,12nm,0.8s,mb4.4
LRV **Little Rabbit** 80.64 44 eP P 08 19 41.4 +0.1
PKD **Parkfield** 80.66 45 ⇓P P 08 19 41.3 -0.1
baz=81,SNR=9.1
PTRM **Twissleman Ran** 80.70 45 eP P 08 19 42.3 +0.6
PTRM ePcP PcP 08 19 46.3 +0.1
U04C **Hernandez Rese** 80.75 44 ⇑P P 08 19 42.5 +0.7
baz=81,SNR=14
PACP **Pacheco Peak** 80.82 44 ⇑P P 08 19 42.6 +0.4
baz=81,SNR=8.9
WENL **Wente Brothers** 80.89 43 ⇓P P 08 19 42.7 +0.1
baz=81
CVS **Carmenet Viney** 80.90 42 ⇑P P 08 19 42.3 -0.3
baz=81
NSHM **Saint Helena R** 80.91 42 eP P 08 19 42.6 -0.1
HOPS **Hopland** 80.92 41 ⇑P P 08 19 41.7 -1.1
baz=81
P01C **Double 8 Ranch** 81.06 41 ⇑P P 08 19 43.5 0.0
baz=81
S04C **Ingram Canyon,** 81.09 43 ⇓P P 08 19 43.8 +0.2
baz=81,SNR=9.5
T05C **Eagle Field, D** 81.14 44 ⇓P P 08 19 44.0 +0.2
baz=81
O01C **Eel River Cons** 81.20 40 ⇑P P 08 19 44.6 +0.5
baz=81,SNR=5.9
109C **Camp Elliot, M** 81.22 49 ⇓P P 08 19 44.3 0.0
baz=81
MNRC **McLaughlin Nat** 81.24 42 ⇓P P 08 19 45.0 +0.6
baz=81,SNR=8.5
Q03C **Winters** 81.35 42 ⇓P P 08 19 45.8 +0.8
baz=81
MDJ **Mudanjiang** 81.43 326 P P 08 19 44.8 -0.5
MDJ PP PP 08 23 00.0 -2.9
MDJ AMB AMB
comp=Z,11nm,0.9s,mb4.3
MDJ AMB AMB
comp=Z,407nm,13.2s
GASB **Alder Springs** 81.55 41 ⇑P P 08 19 47.0 +1.1
baz=82,SNR=11
S05C **Merced** 81.63 44 ⇓P P 08 19 46.0 -0.4
baz=82,SNR=15
R04C **Big Horse Ranc** 81.79 43 ⇑P P 08 19 46.3 -0.9
baz=82
T06C **Millerton Lake** 81.83 44 ⇓P P 08 19 47.2 -0.2
baz=82
O02C **Red Bluff** 81.83 40 ⇓P P 08 19 47.9 +0.5
baz=82,SNR=12
ISA **Isabella** 81.86 46 ⇑P P 08 19 47.5 0.0
baz=82,SNR=22
SUTB **Sutter Butte** 81.86 42 ⇑P P 08 19 47.0 -0.5
baz=82,SNR=7.9
N02C **Big Bar** 81.93 40 ⇓P P 08 19 48.3 +0.4
baz=82,SNR=5.7
IPM **Ipoh** 81.97 278 P P 08 19 49.3 +1.2
CMB **Columbia Colle** 82.00 43 eP P 08 19 48.0 -0.3
CMB pmax pmax
comp=Z,19nm,0.9s,mb4.6
CMB **Columbia Colle** 82.00 43 eP P 08 19 48.0 -0.3
comp=Z,18nm,0.9s,mb4.6
CMB **Columbia Colle** 82.00 43 P P 08 19 48.1 -0.1
baz=82,SNR=18
PFO **Pinyon Flat Ob** 82.07 49 P P 08 19 48.9 +0.3
baz=82,SNR=5.4
OHCM **Honcut** 82.11 42 eP P 08 19 47.5 -1.3
M01C **Crescent City** 82.11 38 ⇓P P 08 19 48.5 -0.3
baz=82
O03C **Acorn Hollow,** 82.18 41 ⇓P P 08 19 49.2 +0.1
baz=82
LAVA **Lava Cap Winer** 82.21 42 ⇓P P 08 19 48.8 -0.5
baz=82,SNR=7.5
ORV **Oroville** 82.23 41 ⇓P P 08 19 49.2 -0.2
baz=82,SNR=16
WDC **Whiskeytown Da** 82.23 40 ⇑P P 08 19 49.5 +0.1
baz=82,SNR=8.2
S06C **San Francisco** 82.25 44 ⇑P P 08 19 49.2 -0.3
baz=82,SNR=20
KCC **Kaiser Creek** 82.27 44 ⇓P P 08 19 49.6 0.0
baz=82,SNR=9.6
M02C **Callahan** 82.55 39 ⇓P P 08 19 51.8 +0.7
baz=83,SNR=8.9
CWC **Cottonwood Cre** 82.56 46 ⇓P P 08 19 50.9 -0.1
baz=83,SNR=11
R05C **Kirkwood Meado** 82.60 43 ⇑P P 08 19 51.5 +0.3
baz=83,SNR=37
L02A **Cave Junction** 82.60 38 ⇑P P 08 19 51.4 +0.1
baz=83
P05C **Yuba Gap, Truc** 82.63 42 ⇓P P 08 19 51.5 +0.1
baz=83,SNR=19
MLAC **Mammoth Lakes** 82.76 44 ⇑P P 08 19 52.3 +0.3
baz=83
GSC **Goldstone** 82.77 47 P P 08 19 52.2 +0.1
baz=83,SNR=16
O05C **Quincy** 82.83 41 ⇑P P 08 19 52.7 +0.3
baz=83,SNR=5.5
YBH **Yreka Blue Hor** 82.85 39 eP P 08 19 52.8 +0.3
YBH pmax pmax
comp=Z,9.0nm,0.8s
YBH **Yreka Blue Hor** 82.85 39 eP P 08 19 52.8 +0.3
comp=Z,8.8nm,0.8s,mb4.3
YBH **Yreka Blue Hor** 82.85 39 ⇑P P 08 19 53.0 +0.5
baz=83,SNR=5.9
R06C **Coleville** 82.89 43 ⇑P P 08 19 53.1 +0.4
baz=83,SNR=18
R07C **Lee Vining** 82.89 44 ⇑P P 08 19 52.9 +0.2
baz=83,SNR=8.0
GLA **Glamis** 82.91 50 P P 08 19 53.8 +1.0
baz=83,SNR=14
O04C **Chester** 82.95 41 ⇓P P 08 19 52.8 -0.2
baz=83,SNR=12
HATC **Hat Creek Radi** 83.02 40 ⇑P P 08 19 53.7 +0.3
baz=83,SNR=5.1
K02A **Glendale** 83.05 38 ⇑P P 08 19 53.7 +0.2
baz=83,SNR=5.1
CN2 **Changchun** 83.10 323 eP P 08 19 53.8 0.0
CN2 AMB AMB
comp=Z,20nm,1.2s,mb4.5
LBCM **Butte Creek Ri** 83.10 41 P P 08 19 53.8 0.0
WCN **Washoe City** 83.15 42 P P 08 19 54.4 +0.4
baz=83,SNR=17
HUMO **Hull Mountain** 83.26 38 eP P 08 19 54.9 +0.4
comp=Z,25nm,1.1s,mb4.7
HUMO **Hull Mountain** 83.26 38 ⇓P P 08 19 54.7 +0.1
baz=83,SNR=6.3
P06A **Stead Airport,** 83.29 42 ⇓P P 08 19 54.5 -0.2
baz=83
J02A **Umpqua** 83.39 37 ⇓P P 08 19 55.4 +0.2
baz=84
M04C **Macdoel** 83.39 40 ⇓P P 08 19 55.3 +0.1
baz=84,SNR=5.1
LASM **Arnica Sink** 83.44 40 P P 08 19 56.0 +0.6
TUQ **Turquoise Mtn.** 83.44 47 ⇓P P 08 19 55.6 +0.1
baz=84
BUOR **Burton Butte** 83.46 39 P P 08 19 56.1 +0.6
Y12C **Blythe** 83.50 49 ⇑P P 08 19 56.0 +0.3
baz=84
Q07A **Schurz** 83.54 43 ⇑P P 08 19 56.0 +0.1
baz=84
M05C **Lookout** 83.54 40 ⇑P P 08 19 55.9 -0.1
baz=84,SNR=13
NVAR **Mina Array Bea** 83.56 44 P P 08 19 56.1 0.0
comp=Z,13nm,0.9s,mb4.4,baz=211,slow=6.5,SNR=70
NVAR pP pP 08 21 57.5 -7.1
comp=Z,0.2nm,0.5s,baz=240,slow=5.1,SNR=1.3
L04A **Klamath Falls** 83.61 39 ⇓P P 08 19 56.5 +0.3
baz=84,SNR=8.4
O06A **Flanigan** 83.62 42 ⇓P P 08 19 56.2 -0.2
baz=84,SNR=12
PAHR **Pah Rah Range** 83.63 42 eP P 08 19 56.0 -0.4
comp=Z,21nm,1.1s,mb4.6
I02A **Mapleton** 83.65 37 ⇓P P 08 19 56.8 +0.3
baz=84
U10A **Ash Meadows, A** 83.72 46 ⇑P P 08 19 57.1 +0.3
baz=84,SNR=9.7
J03A **Ideyld Park** 83.73 38 ⇑P P 08 19 56.9 0.0
baz=84
HOG **Hogback Mounta** 83.75 39 P P 08 19 57.5 +0.5
P07A **Fallon** 83.84 43 ⇓P P 08 19 57.3 -0.1
baz=84
M06C **Likely Place G** 83.85 41 P P 08 19 57.5 +0.1
baz=84,SNR=9.7
S09A **Goldfield** 83.86 45 ⇓P P 08 19 57.1 -0.4
baz=84,SNR=7.3
I03A **Eugene** 83.94 37 ⇑P P 08 19 57.9 0.0
baz=84
N06A **Buffalo Meadow** 83.97 41 ⇑P P 08 19 57.9 -0.1
baz=84,SNR=11
K04A **Chilquin** 83.97 39 ⇑P P 08 19 58.0 -0.1
baz=84
V11A **Goodsprings** 84.00 47 ⇑P P 08 19 58.4 +0.2
baz=84
Y13A **Salome** 84.02 50 ⇑P P 08 19 59.0 +0.8
baz=84
Q08A **Gabbs** 84.05 44 P P 08 19 58.3 -0.2
baz=84,SNR=10
TPNV **Topopah Spring** 84.06 46 eP P 08 19 58.3 -0.2
TPNV pmax pmax
comp=Z,20nm,1.3s,mb4.5
TPNV **Topopah Spring** 84.06 46 eP P 08 19 58.3 -0.2
comp=Z,20nm,1.3s,mb4.5
TPNV ePcP PcP 08 20 02.6 +1.6
W12A **Cal Nev Ari** 84.09 48 ⇑P P 08 19 58.9 +0.3
baz=84
L05A **Lakeview** 84.15 40 ⇓P P 08 19 59.2 +0.3
baz=84
O07A **Toulon** 84.21 42 ⇓P P 08 19 59.1 -0.1
baz=84,SNR=10
R09A **Tonopah** 84.25 45 ⇑P P 08 19 59.1 -0.3
baz=84,SNR=9.9
V12A **Nelson** 84.33 48 ⇑P P 08 20 00.0 +0.2
baz=84,SNR=5.8
SYO **Syowa Base** 84.34 193 ⇓eP P 08 19 59.3 -0.6
U11A **Corn Creek** 84.35 47 ⇑P P 08 20 00.0 +0.1
baz=84
H03A **Soap Creek Ran** 84.38 37 ⇓P P 08 20 00.0 0.0
baz=84
Z14A **Wintersburg** 84.41 51 ⇑P P 08 20 00.8 +0.7
baz=84,SNR=7.9
P08A **Dixie Valley** 84.44 43 ⇓P P 08 20 00.4 +0.1
baz=84
N07B **Gerlach** 84.51 42 ⇓P P 08 20 00.3 -0.4
baz=85,SNR=6.7
Q09A **Carvers** 84.51 44 ⇓P P 08 20 00.5 -0.2
baz=85
115A **Sonoran Desert** 84.58 51 ⇓P P 08 20 01.6 +0.6
baz=85,SNR=6.0
W13A **Hualapai Mount** 84.66 49 P P 08 20 02.0 +0.6
baz=85,SNR=13
Y14A **Wickenburg** 84.67 50 ⇓P P 08 20 01.6 +0.2
baz=85,SNR=11
J05A **Fort Rock** 84.67 39 ⇑P P 08 20 01.8 +0.3
baz=85,SNR=15
M07A **Soldier Meadow** 84.75 41 ⇑P P 08 20 01.8 0.0
baz=85,SNR=12
R10A **Warm Springs** 84.78 45 ⇑P P 08 20 02.1 +0.1
baz=85,SNR=9.9
G03A **Yamhill** 84.79 36 ⇑P P 08 20 02.0 0.0
baz=85
116A **Eloy** 84.89 52 ⇓P P 08 20 03.3 +0.8
baz=85,SNR=13
U12A **Valley of Fire** 84.93 47 ⇑P P 08 20 03.1 +0.3
baz=85,SNR=6.0
K06A **Valley Falls** 84.95 39 ⇓P P 08 20 02.8 0.0
baz=85,SNR=11
H04A **Detroit Lake** 85.00 37 ⇓P P 08 20 02.7 -0.3
baz=85
L07A **Adell** 85.02 40 ⇓P P 08 20 03.4 +0.3
baz=85,SNR=13
X14A **Yava** 85.02 50 ⇓P P 08 20 03.8 +0.7
baz=85,SNR=11
F03A **Seaside** 85.03 36 ⇑P P 08 20 02.9 -0.3
baz=85
G04A **Mulino** 85.16 37 ⇑P P 08 20 03.6 -0.2
baz=85
I05A **Bend** 85.19 38 ⇑P P 08 20 04.1 +0.1
baz=85
M08A **Happy Creek Ra** 85.27 41 ⇑P P 08 20 04.6 +0.3
baz=85
O09A **Fish Creek Ran** 85.27 43 ⇓P P 08 20 04.2 -0.2
baz=85,SNR=6.1
J06A **Christmas Vall** 85.28 39 ⇑P P 08 20 04.1 -0.2
baz=85,SNR=11
W14A **Seligman** 85.28 49 ⇑P P 08 20 05.1 +0.7
baz=85
BMN **Battle Mountai** 85.40 43 eP P 08 20 04.4 -0.6
BMN pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
BMN **Battle Mountai** 85.40 43 eP P 08 20 04.4 -0.5
comp=Z,4.7nm,0.7s,mb4.2
P10A **Eureka** 85.42 44 ⇑P P 08 20 04.6 -0.4
baz=86
E03A **Lebam** 85.42 35 ⇑P P 08 20 05.1 0.0
baz=86
TUC **Tucson** 85.43 52 eP P 08 20 04.7 -0.4
TUC pmax pmax
comp=Z,17nm,0.8s,mb4.7
TUC **Tucson** 85.43 52 eP P 08 20 04.7 -0.5
comp=Z,17nm,0.8s,mb4.7
TUC ePcP PcP 08 20 06.6 -0.4
N09A **Rock Creek Ran** 85.45 42 ⇓P P 08 20 05.0 -0.2
baz=86,SNR=5.8
K07A **Rock Creek Ran** 85.47 40 P P 08 20 05.6 +0.2
baz=86,SNR=16
X15A **Humboldt** 85.49 50 ⇓P P 08 20 05.9 +0.5
baz=86,SNR=9.8
Q11A **Duckwater** 85.51 45 P P 08 20 05.4 -0.1
baz=86,SNR=5.8
H05A **Madras** 85.51 38 ⇓P P 08 20 05.3 -0.2
baz=86
F04A **Amboy** 85.65 36 ⇓P P 08 20 05.8 -0.4
baz=86
I06A **Prineville** 85.66 39 ⇑P P 08 20 06.4 +0.2
baz=86,SNR=15
WVOR **Wild Horse Val** 85.69 40 eP P 08 20 06.1 -0.2
WVOR pmax pmax
comp=Z,11nm,0.9s,mb4.5
WVOR **Wild Horse Val** 85.69 40 eP P 08 20 06.1 -0.3
comp=Z,11nm,0.9s,mb4.5
L08A **Fields** 85.72 41 ⇑P P 08 20 06.3 -0.2
baz=86,SNR=18
VIPM **Ingram Point** 85.77 38 P P 08 20 06.8 +0.1
M09A **Marrel Ranch,** 85.82 42 ⇑P P 08 20 07.3 +0.3
baz=86,SNR=8.4
W15A **Williams** 85.83 49 ⇓P P 08 20 07.8 +0.8
baz=86
P11A **Circle Ranch,** 85.83 44 ⇓P P 08 20 06.9 -0.2
baz=86
J07A **Hines** 85.84 39 ⇓P P 08 20 07.0 -0.1
baz=86,SNR=15
SNAA **Sanae** 85.93 179 P P 08 20 07.1 -0.4
comp=Z,1.1nm,0.6s,mb3.7,baz=215,slow=6.4,SNR=46
SNAA **Sanae** 85.93 179 eP P 08 20 07.1 -0.4
SNAA e 08 20 09.3
SNAA e 08 20 10.7
K08A **Mann Creek Ran** 85.95 40 ⇓P P 08 20 07.7 +0.1
baz=86,SNR=12
N10A **Dunphy** 86.01 43 ⇓P P 08 20 07.7 -0.1
baz=86
L09A **Wilkinson Ranc** 86.03 41 ⇑P P 08 20 07.8 -0.2
baz=86,SNR=9.9
F05A **White Salmon** 86.14 36 ⇑P P 08 20 08.2 -0.3
baz=86
CCUT **Cedar City** 86.32 47 eP P 08 20 09.6 +0.3
CCUT e pP 08 22 19.8 +0.7
J08A **Circle Bar Ran** 86.33 40 ⇑P P 08 20 09.2 -0.2
baz=86,SNR=21
P12A **McGill** 86.34 45 ⇓P P 08 20 09.4 -0.1
baz=86,SNR=5.9
BJI **Beijing** 86.39 316 eP P 08 20 09.5 -0.1
BJI AMB AMB
comp=Z,12nm,0.8s,mb4.6
ARUT **Antelope Range** 86.40 47 eP P 08 20 09.8 +0.1
ARUT e pP 08 22 19.8 +0.3
E05A **Randle** 86.40 36 ⇑P P 08 20 09.4 -0.3
baz=86,SNR=7.9
M10A **I.L. Ranch, Tu** 86.44 42 ⇓P P 08 20 09.9 0.0
baz=86,SNR=13
N11A **Elko Archery C** 86.55 43 ⇓P P 08 20 10.2 -0.2
baz=87
WPW **White Pass** 86.60 36 P P 08 20 10.7 +0.1
WUAZ **Wupatki** 86.63 49 eP P 08 20 09.1 -1.7
comp=Z,17nm,1.1s,mb4.7
WUAZ ePcP PcP 08 20 11.6 -0.7
D05A **Enumclaw** 86.67 35 ⇓P P 08 20 11.1 +0.2
baz=87,SNR=7.1
VNA1 **Neumayer--Stat** 86.78 177 eP P 08 20 12.2 +0.7
VNA1 e 08 20 14.3
VNA1 e 08 20 15.6
M11A **Holland Ranch,** 86.86 43 ⇓P P 08 20 12.1 +0.3
baz=87,SNR=9.5
O12A **Currie** 86.88 44 ⇓P P 08 20 11.9 -0.1
baz=87,SNR=7.2
RMW **Rattlesnake Mo** 86.93 35 P P 08 20 12.1 -0.1
N12A **Clover Valley,** 87.01 43 ⇑P P 08 20 12.7 +0.1
baz=87,SNR=11
C05A **Tolt Reservoir** 87.14 35 ⇓P P 08 20 12.6 -0.6
baz=87,SNR=8.1
A04A **Legoe Bay, Lum** 87.25 34 ⇓P P 08 20 13.7 0.0
baz=87,SNR=6.8
EBG **Ellensburg** 87.26 36 P P 08 20 13.8 0.0
B05A **Bryant** 87.28 34 ⇑P P 08 20 13.7 -0.2
baz=87,SNR=5.6
CMW **Cultus Mountai** 87.37 34 P P 08 20 14.6 +0.3
M12A **Walls** 87.40 43 ⇑P P 08 20 14.3 -0.1
baz=88,SNR=9.4
RSW **Rattlesnake Hi** 87.48 37 P P 08 20 15.1 +0.3

HAWA **Hanford** 87.52 37 *e*P P 08 20 14.8 -0.2
comp=Z,2.5nm,1.1s,mb3.9
HAWA pP pP 08 22 26.9 +1.8
N13A Wendover, West 87.54 44 ⇓P P 08 20 14.9 -0.2
baz=88,SNR=8.1
H2OWA **Water** 87.58 37 P P 08 20 15.5 +0.2
A05A Maple Falls 87.75 34 ⇑P P 08 20 15.2 -0.8
baz=88
M13A Montello 87.84 43 ⇓P P 08 20 16.3 -0.2
baz=88
BMO Blue Mountains 87.88 39 *e*P P 08 20 16.1 -0.5
BMO *e**PP pP 08 22 24.9 -2.0
BMO pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
BMO Blue Mountains 87.88 39 *e*P P 08 20 16.1 -0.5
comp=Z,3.2nm,0.6s,mb4.2
BMO *e*pP pP 08 22 24.9 -2.0
DUG Dugway 88.08 45 *e*P P 08 20 16.6 -1.0
DUG pmax pmax
comp=Z,5.0nm,1.2s,mb4.1
DUG Dugway 88.08 45 *e*P P 08 20 16.6 -1.0
comp=Z,5.2nm,1.2s,mb4.1
OD2 Odessa Site #2 88.56 36 P P 08 20 19.6 -0.2
TMUT Trail Mountain 88.67 46 *e*P P 08 20 21.2 +0.9
NOQ North Oquirrh 88.77 45 *e*P P 08 20 20.5 -0.3
comp=Z,21nm,1.2s,mb4.8
PLCA Paso Flores 88.87 134 P P 08 20 22.7 +1.5
comp=Z,6.4nm,0.8s,mb4.5,baz=224,slow=6.7,SNR=14
HLID Hailey 88.88 41 *e*P P 08 20 21.4 +0.2
comp=Z,13nm,1.1s,mb4.7
SPUT South Promonto 88.91 44 *e*P P 08 20 21.1 -0.3
HVU Hansel Valley 88.94 43 *e*P P 08 20 21.7 +0.1
HVU pmax pmax
comp=Z,32nm,1.2s,mb5.0
HVU Hansel Valley 88.94 43 *e*P P 08 20 21.7 +0.1
comp=Z,32nm,1.2s,mb5.0
KMI Kunming 89.02 298 P P 08 20 22.5 +0.6
KMI AMB AMB
comp=Z,13nm,0.8s,mb4.8
SRU San Rafael 89.04 47 *e*P P 08 20 22.3 +0.3
LAZ Ladron 89.11 52 *e*P P 08 20 23.0 +0.7
Y22C IRIS PASSCAL I 89.12 52 ⇓P P 08 20 22.5 +0.1
baz=89
DAU Daniels Canyon 89.21 45 *e*P P 08 20 23.1 +0.3
PNT Penticton 89.22 35 P P 08 20 22.4 -0.5
BNM Barren Site 89.37 52 *e*P P 08 20 23.9 +0.4
TCUT Toone Canyon 89.48 45 *e*P P 08 20 24.2 +0.2
CHTO Chiang Mai 89.60 290 *e*P P 08 20 26.0 +1.4
CHTO pmax pmax
comp=Z,20nm,0.8s,mb5.0
CHTO Chiang Mai 89.60 290 *e*P P 08 20 26.0 +1.4
comp=Z,20nm,0.8s,mb5.0
HWUT Hardware Ranch 89.63 44 *e*P P 08 20 24.4 -0.4
comp=Z,8.3nm,0.8s,mb4.6
HHC Hu-ho-hao-te 89.80 315 *e*P P 08 20 29.0 +3.5
HHC AP pP 08 22 28.0 -8.4
HHC PP PP 08 24 15.3 +6.0
HHC AMB AMB
comp=Z,24nm,0.6s,mb5.2
HHC AMB AMB
comp=Z,586nm,6.1s
ANMO Albuquerque 89.86 52⇑ *i*P P 08 20 25.0 -0.8
ANMO Albuquerque 89.86 52 *e*P P 08 20 26.0 +0.2
comp=Z,17nm,1.1s,mb4.8
PV01 Paradox Valley 89.88 48 *e*P P 08 20 25.7 -0.2
MCMT McKenzie Canyo 90.51 41 *e*P P 08 20 28.9 +0.1
CD2 Chengdu 90.71 303 *e*P P 08 20 28.5 -1.3
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.9s
DLMT Dillon 90.94 40 *e*P P 08 20 30.2 -0.7
comp=Z,12nm,1.4s,mb4.6
REDW Red Top Meadow 90.98 43 *e*P P 08 20 30.8 -0.2
comp=Z,22nm,1.2s,mb4.8
IMW Indian Meadow 91.20 42 *e*P P 08 20 32.0 0.0
comp=Z,12nm,1.1s,mb4.7
FLWY Flagg Ranch 91.44 42 *e*P P 08 20 33.5 +0.4
comp=Z,5.2nm,0.8s,mb4.5
SMCO Snowmass 91.48 48 *e*P P 08 20 33.1 -0.2
comp=Z,8.5nm,0.8s,mb4.7
PDAR Pinedale Array 91.50 44 P P 08 20 33.0 -0.4
comp=Z,5.2nm,0.8s,mb4.6,baz=216,slow=3.0,SNR=42
BOZ Bozeman (W) 91.67 41 *e*P P 08 20 33.7 -0.5
BOZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
BOZ Bozeman (W) 91.67 41 *e*P P 08 20 33.7 -0.5
comp=Z,4.9nm,0.9s,mb4.5
DAWY Dawson 91.90 16 *e*P P 08 20 33.6 -1.6
HRY Holter Researc 92.10 40 *e*P P 08 20 35.7 -0.5
CFAA Coronel Fontan 95.01 127 P P 08 20 50.2 +0.8
comp=Z,1.0nm,0.8s,mb4.0,baz=243,slow=3.7,SNR=13
CFAA Coronel Fontan 95.01 127 P P 08 20 50.2 +0.8
RSSD Black Hills 95.69 44 *e*P P 08 20 51.6 -0.8
RSSD pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
RSSD Black Hills 95.69 44 *e*P P 08 20 51.6 -0.9
comp=Z,3.1nm,0.8s,mb4.6
ULN Ulaanbaatar 96.01 320 *e*P P 08 20 53.2 -0.7
SONM Songino Array 96.39 319 PP PP 08 24 55.1 -4.8
comp=Z,0.9nm,0.9s,baz=108,slow=8.2,SNR=2.9
SONM PKKP PKKPbc 08 37 37.8 +0.6
comp=Z,0.6nm,0.6s,baz=284,slow=3.3,SNR=4.9
MKAR Makanchi Array 111.58 313 PKKPbc PKKPbc 08 36 53.0 +0.5
comp=Z,1.0nm,0.6s,baz=305,slow=4.3,SNR=8.0
MKAR PKKPab PKKPab 08 37 03.7 -0.6
comp=Z,1.2nm,0.8s,baz=277,slow=4.8,SNR=5.8
NVS Novosibirsk 112.27 322 *e*PKIKP PKiKP 08 25 56.7 -1.6
AAK Ala-Archa 116.44 308 *i* PKIKP PKDF 08 26 04.6 -1.7
BDFB Brasilia 119.21 124 PKP PKPdf 08 26 11.8 +0.1
comp=Z,1.7nm,0.7s,baz=190,slow=12,SNR=3.6
SCHQ Schefferville 121.24 39 PKP PKPdf 08 26 13.6 -2.0
comp=Z,2.2nm,0.8s,baz=254,slow=7.4,SNR=3.8
SUR Sutherland 121.94 200 PKP PKPdf 08 26 18.2 +1.3
comp=Z,8.7nm,0.8s,baz=166,slow=8.3,SNR=3.6
SUR Sutherland 121.94 200 PKP PKPdf 08 26 18.2 +1.3
ARCES ARCESS Array B 130.72 349 PKP PKPdf 08 26 31.0 -2.6
comp=Z,3.2nm,0.7s,baz=247,slow=0.7,SNR=7.1
ARCES SKPbc SKPbc 08 29 03.6 +1.8
comp=Z,4.9nm,0.9s,baz=33,slow=5.7,SNR=10
FINES FINESS Array B 137.36 342 SKPbc SKPbc 08 29 23.0 -0.1
comp=Z,5.0nm,0.9s,baz=29,slow=4.4,SNR=10
NB2 NORSAR Subarra 140.88 352 PKP 08 26 45.5
comp=Z,1.0nm,0.6s,baz=9.2,slow=3.7
NOA NORSAR Array B 140.88 352 PKhKP 08 26 46.0
comp=Z,1.1nm,0.7s,baz=1.9,slow=2.3,SNR=5.0
NOA SKPbc SKPbc 08 29 32.9 +0.3
comp=Z,3.2nm,0.8s,baz=16,slow=4.3,SNR=9.8
HFS Hagfors 141.37 349 PKhKP 08 26 46.8
comp=Z,2.1nm,0.4s,baz=66,slow=3.7,SNR=26
HFS SKPbc SKPbc 08 29 33.9 +0.1
comp=Z,4.7nm,0.8s,baz=186,slow=2.8,SNR=8.4
OBR Brabster 143.95 3 *e*P PKPdf 08 26 54.8 -3.1
OBR Brabster 143.95 3 *e*P PKPdf 08 26 54.8 -3.1
ORE Reay 143.98 4 *e*P PKPdf 08 26 55.5 -2.4
ORE Reay 143.98 4 *e*P PKPdf 08 26 55.5 -2.4
MALT Malatya 143.99 305 *e*PKIKP PKPdf 08 26 58.3 +0.4
AKASG Malin Array Be 144.10 329 PKP PKPdf 08 26 56.1 -2.0
comp=Z,2.6nm,0.4s,baz=42,slow=4.1,SNR=19
AKASG SKPbc SKPbc 08 29 41.0 +0.6
comp=Z,6.0nm,0.7s,baz=42,slow=2.6,SNR=4.2
KSK Scoval 144.81 7 *e*P PKPdf 08 26 54.5 -4.8
KSK Scoval 144.81 7 *e*P PKPdf 08 26 54.5 -4.8
KAC Achnashellach 144.91 5 *e*P PKPdf 08 26 58.7 -0.7
KAC Achnashellach 144.91 5 *e*P PKPdf 08 26 58.7 -0.7
MCD Coleburn Disti 144.98 3 *e*P PKPdf 08 26 57.7 -1.8
MCD Coleburn Disti 144.98 3 *e*P PKPdf 08 26 57.7 -1.8
KSB Sheil Bridge 145.19 6 *e*P PKPdf 08 26 59.4 -0.6
KSB Sheil Bridge 145.19 6 *e*P PKPdf 08 26 59.4 -0.6
MME1 Meikle Cairn 145.26 3 *e*P PKPdf 08 26 58.8 -1.3
MME1 Meikle Cairn 145.26 3 *e*P PKPdf 08 26 58.8 -1.3
KAR1 Arisaig 145.44 6 *e*P PKPdf 08 27 00.2 -0.2
KAR1 Arisaig 145.44 6 *e*P PKPdf 08 27 00.2 -0.2
EAB Aberfoyle 146.29 5 *e*P PKPdf 08 27 02.5 +0.7
EAB Aberfoyle 146.29 5 *e*P PKPdf 08 27 02.5 +0.7
ESY Stoneypath 146.67 3 *e*P PKPdf 08 27 03.0 +0.6
ESY Stoneypath 146.67 3 *e*P PKPdf 08 27 03.0 +0.6
EAU Auchinoon 146.70 4 *e*P PKPdf 08 27 04.0 +1.5
EAU Auchinoon 146.70 4 *e*P PKPdf 08 27 04.0 +1.5
EBL Broad Law 146.79 4 *e*P PKPdf 08 27 04.0 +1.4
EBL Broad Law 146.79 4 *e*P PKPdf 08 27 04.0 +1.4
BR131 Keskin Array S 147.10 309 *e*PKPbc PKPbc 08 27 06.0 -0.3
BR131 *e*PKPab PKPab 08 27 10.1 0.0
BRTR Keskin Array B 147.10 309 PKPbc PKPbc 08 27 06.1 -0.3
comp=Z,2.7nm,0.6s,baz=146,slow=5.5,SNR=8.3
BRTR pPKPbc pPKPbc 08 29 20.4 -3.8
comp=Z,1.2nm,0.9s,baz=129,slow=3.9,SNR=3.8
EKA Eskdalemuir Ar 147.22 4 PKPbc PKPbc 08 27 05.2 -1.5
comp=Z,5.1nm,0.7s,baz=353,slow=2.3,SNR=22
BWH Wardlaw 147.35 4 *e*P PKPdf 08 27 02.6 -1.0
BWH Wardlaw 147.35 4 *e*P PKPdf 08 27 02.6 -1.0
BSEG Bad Segeberg 147.85 349 *e*PKPbc PKPbc 08 27 07.4 -0.9
BSEG *e*pPKPbc pPKPbc 08 29 29.7 +3.2
GIM North Isle of 148.16 5 *e*P PKPbc 08 27 07.8 -1.3
GIM North Isle of 148.16 5 *e*P PKPbc 08 27 07.8 -1.3
WIM Isle of Man 148.29 6 *e*P PKPbc 08 27 08.1 -1.3
WIM Isle of Man 148.29 6 *e*P PKPbc 08 27 08.1 -1.3
EIL Elat 148.31 290 *e*PKPdf PKPdf 08 27 06.8 +1.7
EIL *e*PKPbc PKPbc 08 27 10.2 +0.8
EIL *e*PKPab PKPab 08 27 16.3 +1.3
CRVS Cervenica-Dubn 148.92 333 *e*PKP PKPbc 08 27 10.8 -0.1
CRVS *e* 08 29 33.0
WCB1 Church Bay 149.06 6 *e*P PKPbc 08 27 09.6 -1.7
WCB1 Church Bay 149.06 6 *e*P PKPbc 08 27 09.6 -1.7
LHO Holmfirth 149.08 3 *e*P PKPbc 08 27 09.8 -1.5
LHO Holmfirth 149.08 3 *e*P PKPbc 08 27 09.8 -1.5
KSP Ksiaz 149.23 340 *e*PKHKP PKPbc 08 27 11.4 -0.3
WPM1 Penmaenmawr 149.24 5 *e*P PKPbc 08 27 10.1 -1.6
WPM1 Penmaenmawr 149.24 5 *e*P PKPbc 08 27 10.1 -1.6
UPC Upice 149.62 340 *e*PKPbc PKPbc 08 27 12.0 -0.6
UPC *e*pPKP pPKPdf 08 29 33.7 +5.9
SBD1 Bryn Du 149.63 4 *e*P PKPbc 08 27 11.2 -1.4
SBD1 Bryn Du 149.63 4 *e*P PKPbc 08 27 11.2 -1.4
DPC Dobruska-Polom 149.65 340 *e*PKPbc PKPbc 08 27 12.5 -0.2
DPC *e*pPKP pPKPdf 08 29 34.2 +6.4
CLL Collm 149.75 344 *e*PKPbc PKPbc 08 27 12.2 -0.7
CLL Collm 149.75 344⇑ *i*PKPbc PKPbc 08 27 12.1 -0.8
comp=Z,22nm,0.8s
CLL *e*PKPab PKPab 08 27 20.0 -1.0
CLL *e*pPKPbc pPKPbc 08 29 25.0 -6.8
CLL *i* x x 08 29 36.6
comp=Z,17nm,1.3s
CLL Collm 149.75 344⇑ *i*PKHKP PKPbc 08 27 12.1 -0.8
CLL *e* 08 27 20.0
CLL pmax pmax
comp=Z,22nm,0.8s
CLZ Clausthal 149.84 348 *e*PKPbc PKPbc 08 27 12.6 -0.5
BRG Berggiesshubel 149.90 343 *e*PKPbc PKPbc 08 27 12.8 -0.5
BRG Berggiesshubel 149.90 343 *i* PKP PKPbc 08 27 12.8 -0.5
comp=Z,7.5nm,0.6s
BRG Berggiesshubel 149.90 343 *i* PKHKP PKPbc 08 27 12.8 -0.5
BRG pmax pmax
comp=Z,8.0nm,0.6s
FBE Freiberg 150.01 344 *e*PKPbc PKPbc 08 27 13.2 -0.3
PVCC Panska Ves 150.03 342 *e*PKPbc PKPbc 08 27 13.1 -0.5
HLM1 Long Mynd 150.05 4 *e*P PKPbc 08 27 12.2 -1.4
HLM1 Long Mynd 150.05 4 *e*P PKPbc 08 27 12.2 -1.4
VYHS Vyhne 150.31 335 *e*PKP PKPbc 08 27 13.7 -0.5
VYHS *e* 08 29 35.7
PRU Pruhonice 150.52 341 *e*PKPbc PKPbc 08 27 14.1 -0.6
PRU *e*pPKP pPKPdf 08 29 34.0 +4.8
MCH1 Michaelchurch 150.56 4 *e*P PKPbc 08 27 13.3 -1.5
MCH1 Michaelchurch 150.56 4 *e*P PKPbc 08 27 13.3 -1.5
MOX Moxa 150.69 345 *e*PKPbc PKPbc 08 27 14.2 -0.9
MOX Moxa 150.69 345 *e*PKP PKPbc 08 27 14.3 -0.8
TANN Tannenbergstha 150.70 344 *e*PKPbc PKPbc 08 27 14.8 -0.3
TANN *e*pPKPbc pPKPbc 08 29 38.2 +4.0
WERD Werda 150.71 344 *e*PKPbc PKPbc 08 27 14.6 -0.5
WERN Wernitzgruen 150.84 344 *e*PKPbc PKPbc 08 27 15.4 0.0
NKC Novy Kostel 150.87 344 *e*PKPbc PKPbc 08 27 14.8 -0.7
HGH Gray Hill 150.93 4 *e*P PKPbc 08 27 14.0 -1.6
HGH Gray Hill 150.93 4 *e*P PKPbc 08 27 14.0 -1.6
MANZ Manzenberg 151.19 344 *e*PKPbc PKPbc 08 27 15.8 -0.4
MANZ *e*pPKPbc pPKPbc 08 29 36.7 +1.3
KHC Kasperske Hory 151.57 342 *e*PKPbc PKPbc 08 27 16.3 -0.8
KHC *e*pPKP pPKPdf 08 29 38.1 +7.3
MEM Membach 151.73 352 PKPab PKPbc 08 27 26.0 +8.6
TNS Taunus Mts 151.74 349 *e*PKPbc PKPbc 08 27 16.7 -0.8
GEC2 GERESS Array S 151.79 341 *e*PKPbc PKPbc 08 27 17.1 -0.5
GEC2 *e*pPKPbc pPKPbc 08 29 38.7 +1.9
GERES GERESS Array B 151.79 341 PKPbc PKPbc 08 27 16.2 -1.4
comp=Z,1.3nm,0.5s,baz=243,slow=1.2,SNR=8.4
GERES PKPab PKPab 08 27 27.1 -2.5
comp=Z,0.6nm,0.6s,baz=346,slow=3.5,SNR=3.1
GERES pPKPbc pPKPbc 08 29 32.6 -4.2
comp=Z,0.6nm,0.2s,baz=62,slow=6.2,SNR=2.3
DOU Dourbes 152.39 354 PKPbc PKPbc 08 27 18.4 -0.5
WLF Walferdange 152.64 352 *e*pPKPbc pPKPbc 08 29 41.6 +2.8
WLF Walferdange 152.64 352 *e*pPKPbc pPKPbc 08 29 41.6 +2.8
BFO Black Forest 153.58 348 *e*pPKPbc pPKPbc 08 29 41.4 +0.5
BFO Black Forest 153.58 348 *e*pPKPbc pPKPbc 08 29 41.4 +0.5
ESDC Sonseca Array 162.60 11 PKPab PKPab 08 28 15.6 -0.9
comp=Z,0.2nm,0.3s,baz=321,slow=4.2,SNR=5.1
DBIC Dimbokro 163.34 161 PKP PKPdf 08 27 25.1 +0.5
comp=Z,4.5nm,0.9s,baz=59,slow=3.5,SNR=5.3
DBIC PKPab PKPab 08 28 21.6 +1.8
comp=Z,6.7nm,0.8s,baz=180,slow=3.9,SNR=6.5
TORD Torodi Ar. Bea 170.50 187 PKP PKPdf 08 27 29.8 0.0
comp=Z,2.4nm,0.9s,baz=271,slow=0.6,SNR=11
TORD PKPab PKPab 08 28 52.5 +1.0
comp=Z,2.4nm,0.7s,baz=179,slow=3.9,SNR=12

WEL 28 08:13:01.6±0.4, 3688S×17746E, h12km, ML3.5/8, Error ellipse: s-maj=3.3km s-min=2.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.68**	**198**	P*	Pb	08 13 14.1	-1.3
WIZ				S*	Sb	08 13 22.0	-2.7
MXZ	**Matakaoa Point**	**0.96**	**135**	P*	Pb	08 13 18.1	-2.0
MXZ				S*	Sb	08 13 29.8	-3.0
MYRZ	**Mayor Island**	**1.05**	**247**	P*	Pb	08 13 20.5	-1.3
MYRZ				*e*S*	Sb	08 13 32.4	-3.1
PUZ	**Puketiti**	**1.35**	**152**	PN	Pn	08 13 26.0	-0.2
PUZ				*e*SN	Sn	08 13 42.4	-1.7
KUZ	**Kuaotunu**	**1.40**	**275**	PN	Pn	08 13 25.7	-1.2
KUZ				SN	Sn	08 13 43.3	-2.1
URZ	**Urewera**	**1.40**	**191**	P*	Pb	08 13 25.2	-2.6
URZ				*e*S*	Sb	08 13 42.1	-3.5
MWZ	**Matawai**	**1.45**	**178**	P*	Pb	08 13 25.6	-2.9
TOZ	**Tahuroa Road**	**1.78**	**241**	P*	Pb	08 13 31.3	-2.8
HIZ	**Hauiti**	**2.63**	**231**	*e*PN	Pn	08 13 43.2	-0.7
WCZ	**Waipu Caves**	**2.68**	**290**	*e*PN	Pn	08 13 44.8	+0.2
WCZ				*e*SN	Sn	08 14 18.3	-0.7
OUZ	**Omahuta**	**3.54**	**297**	PN	Pn	08 13 57.3	+0.9

*BJI **28** 08:13:20.8, 5900N×3080W, h10km, mB5.2, mb4.8, Ms5.0, Msz4.7*
*CSEM **28** 08:13:21.2±0.1, 5905N×3086W, h10km, mb4.6/18, Error ellipse: s-maj=4.2km s-min=1.7km az=19.0*
*IDC **28** 08:13:22.3±0.6, 5912N×3081W, h0km, mb4.1/16, mb1 4.3/20, mb1mx4.2/27, mbtmp4.2/20, ML3.4/3, MS4.8/4, Ms1 4.7/4, ms1mx4.2/28, Error ellipse: s-maj=16.9km s-min=11.9km az=172.0*
*ISCJB **28** 08:13:22.4±3.0, 5914N×3081W×007, h10km±19km, mb4.5/47, MS4.7/4, Error ellipse: s-maj=7.5km s-min=5.2km az=62.6*
*NEIC **28** 08:13:23.9±0.3, 5902N×3083W, h10km, mb4.7/24, Error ellipse: s-maj=7.7km s-min=4.6km az=205.0*
*HRVD **28** 08:13:23.9±0.4, 5912N×3069W, h13km±1km, MW5.1/61, Centroid moment Tensor Solution. LP body waves: s8,c10;Mantle waves: s61,c94; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-4.43±.61; Mθθ-0.91±.35; Mφφ5.34±.42; Mrθ-2.83±1.10; Mrφ2.88±.21; Mθφ0.36±.76; Best double couple: Mo6.39300×10^16 NP1:φ173.00000°, δ50.00000°, λ-135.00000°. NP2:φ50.00000°, δ57.00000°, λ-50.00000°. Principal axes: T 6.5130, Plg4.0000°, Azm113.0000°; N -0.2400, Plg33.0000°, Azm205.0000°; P -6.2740, Plg57.0000°, Azm17.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **28** 08:13:34.3, 5979N×2913W, h33km, mb4.8, Reykjanes Ridge*

ISC 28 08:13:23.1±2.9, 5910N±004×3080W±007, h5km±19km, n161, σ1§17/157, mb4.5/47, MS4.7/4, 2C, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**7.22**	**34**	Pn	**Pn**	**08 15 09.4**	**+0.2**
	11nm,0.3s,baz=209,slow=10,SNR=25						
BORG				Sn	**Sn**	**08 16 31.0**	**-0.5**
	4.6nm,0.3s,baz=101,slow=23,SNR=16						
BORG	**Borgarnes**	**7.22**	**34**	*e*Pn	**Pn**	**08 15 10.9**	**+1.7**
	65nm,0.6s						
BORG	**Borgarnes**	**7.22**	**34**	*e*Pn	**Pn**	**08 15 10.9**	**+1.7**
	65nm,0.6s						
SFJD	**Kangerlussuaq**	**11.93**	**320**	Pn	**Pn**	**08 16 13.4**	**-0.3**
	0.5nm,0.3s,baz=102,slow=12,SNR=3.9						
SFJD					Sn	**08 18 16.9**	**-10**
	0.6nm,0.3s,baz=100,slow=3.8,SNR=4.6						
SFJD				LR	LR	08 20 01.0	
	comp=Z,5μm,20.9s,baz=109,slow=34						
SFJD	**Kangerlussuaq**	**11.93**	**320**	Pn	**Pn**	**08 16 13.4**	**-0.3**
SFJD					Sn	**08 18 16.9**	**-10**
SCO	**Scoresbysund**	**12.02**	**14**	*i* P	**Pn**	**08 16 20.1**	**+5.1**
SCO	**Scoresbysund**	**12.02**	**14**	*e*P	**Pn**	**08 16 20.1**	**+5.1**
SUMG	**Summit**	**13.88**	**350**	*e*Pn	**Pn**	**08 16 40.4**	**0.0**
	54nm,1.4s						
SUMG	**Summit**	**13.88**	**350**	*e*Pn	**Pn**	**08 16 40.4**	**0.0**
	54nm,1.4s						
JMIC	**Jan Mayen**	**15.05**	**29**	Pn	**Pn**	**08 16 59.5**	**+3.2**
	0.7nm,0.3s,baz=297,slow=4.5,SNR=2.0						
JMIC	**Jan Mayen**	**15.05**	**29**	Pn	**Pn**	**08 16 59.5**	**+3.1**
ESK	**Eskdalemuir**	**15.37**	**92**	*e*Pn	**Pn**	**08 17 00.6**	**0.0**
	100nm,1.8s						
EKA	**Eskdalemuir Ar**	**15.38**	**92**	Pn	**Pn**	**08 17 00.4**	**-0.4**
	0.2nm,0.3s,baz=295,slow=14,SNR=12						
DAG	**Danmarks Havn**	**18.25**	**9**	*i* P	**Pn**	**08 17 38.0**	**+0.9**
DAG							
	comp=Z,3μm,18.0s						
DAG	**Danmarks Havn**	**18.25**	**9**	*e*P	**Pn**	**08 17 38.0**	**+0.9**
ROSF	**Rostrenen**	**19.38**	**112**	*e*P	**Pn**	**08 17 49.6**	**-1.1**
	comp=Z,118nm,1.6s						
ROSF	**Rostrenen**	**19.38**	**112**	*e*P	**Pn**	**08 17 49.6**	**-1.1**
	comp=Z,59nm,1.6s						
QUIF	**Quistinic**	**19.72**	**112**	*e*P	**Pn**	**08 17 54.1**	**-0.8**
	comp=Z,27nm,1.1s						
QUIF	**Quistinic**	**19.72**	**112**	*e*P	**Pn**	**08 17 54.1**	**-0.8**
	comp=Z,13nm,1.1s						
SGMF	**Saint Gilles**	**19.78**	**111**	*e*P	**Pn**	**08 17 54.4**	**-1.1**
	comp=Z,228nm,1.8s						
SGMF	**Saint Gilles**	**19.78**	**111**	*e*P	**Pn**	**08 17 54.4**	**-1.1**
	comp=Z,114nm,1.8s						
SCHQ	**Schefferville**	**19.93**	**273**	P	**Pn**	**08 17 54.1**	**-3.3**
	comp=Z,0.5nm,0.3s,baz=83,slow=5.5,SNR=13						
SCHQ				LR	LR	08 24 26.6	
	comp=Z,1μm,19.0s,baz=257,slow=33						
SCHQ	**Schefferville**	**19.93**	**273**	*e*P	**Pn**	**08 17 55.0**	**-2.4**
	comp=Z,11nm,0.8s						
SCHQ	**Schefferville**	**19.93**	**273**	*e*P	**Pn**	**08 17 55.0**	**-2.4**
	comp=Z,11nm,0.8s						
KONO	**Kongsberg**	**20.37**	**71**	*e*P	**P**	**08 18 01.2**	**+0.6**
	comp=Z,45nm,1.4s						
KONO	**Kongsberg**	**20.37**	**71**	*e*P	**P**	**08 18 01.2**	**+0.7**
	comp=Z,45nm,1.4s						
FLN	**La Foliniere**	**20.45**	**107**	*e*P	**P**	**08 18 01.4**	**+0.1**
	comp=Z,125nm,1.2s						
FLN	**La Foliniere**	**20.45**	**107**	*e*P	**P**	**08 18 01.4**	**+0.1**
	comp=Z,62nm,1.2s						
GRR	**Gorron**	**20.51**	**108**	*e*P	**P**	**08 18 02.4**	**+0.3**
LDF	**La Druitiere**	**20.74**	**107**	*e*P	**P**	**08 18 04.8**	**+0.3**
NB2	**NORSAR Subarra**	**20.80**	**67**	P	**P**	**08 18 04.2**	**-0.9**
	comp=Z,111nm,2.0s,baz=283,slow=11						
NOA	**NORSAR Array B**	**20.80**	**67**	P	**P**	**08 18 04.7**	**-0.5**
	comp=Z,3.7nm,0.9s,baz=282,slow=10,SNR=6.5						
LRYF	**La Roche-sur-Y**	**21.45**	**113**	*e*P	**P**	**08 18 17.7**	**+5.5**
UCC	**Uccle**	**21.61**	**97**	P	**P**	**08 18 14.8**	**+0.9**
SNF	**Seneffe**	**21.74**	**98**	P	**P**	**08 18 16.4**	**+1.1**
LCHF	**La Chataignera**	**21.77**	**112**	*e*P	**P**	**08 18 19.1**	**+3.5**
BAIF	**Baives**	**21.98**	**99**	*e*P	**P**	**08 18 16.9**	**-0.9**
	comp=Z,179nm,1.5s,mb5.0						
BAIF	**Baives**	**21.98**	**99**	*e*P	**P**	**08 18 16.9**	**-0.9**
	comp=Z,90nm,1.5s,mb5.0						
MFF	**Saint Martin d**	**22.11**	**111**	*e*P	**P**	**08 18 18.2**	**-1.0**
DOU	**Dourbes**	**22.15**	**98**	P	**P**	**08 18 20.6**	**+0.9**
WTSB	**Winterswijk**	**22.20**	**92**	*e*P	**P**	**08 18 19.9**	**-0.2**
	comp=Z,75nm,1.8s,mb4.8						
WTSB	**Winterswijk**	**22.20**	**92**	*e*P	**P**	**08 18 19.9**	**-0.3**
	comp=Z,75nm,1.8s,mb4.8						
HFS	**Hagfors**	**22.22**	**68**	P	**P**	**08 18 18.9**	**-1.5**
	comp=Z,2.3nm,0.7s,mb3.7,baz=270,slow=5.8,SNR=4.3						
BCLA	**Clavier**	**22.32**	**97**	P	**P**	**08 18 22.1**	**+0.7**
BCLA					AP	08 18 25.1	
HGN	**Heimansgroeve**	**22.44**	**96⇑**	*e*P	**P**	**08 18 22.1**	**-0.6**
	comp=Z,43nm,2.5s,mb4.4						
HGN	**Heimansgroeve**	**22.44**	**96⇑**	*e*P	**P**	**08 18 22.1**	**-0.6**
	comp=Z,43nm,2.5s,mb4.4						
PCAB	**Cabril**	**22.47**	**131**	*e*P	**P**	**08 18 24.3**	**+1.2**
	comp=Z,41nm,1.6s,mb4.6						
MEM	**Membach**	**22.57**	**96**	P	**P**	**08 18 24.7**	**+0.6**
PBRG	**Bragança**	**22.90**	**128**	*e*P	**P**	**08 18 27.3**	**-0.4**
	comp=Z,24nm,1.7s,mb4.3						
WLF	**Walferdange**	**23.21**	**98**	P	**P**	**08 18 31.5**	**+0.5**
WLF	**Walferdange**	**23.21**	**98**	*e*P	**P**	**08 18 33.5**	**+2.6**
	comp=Z,236nm,2.3s,mb5.2						
PVIS	**Viseu**	**23.37**	**132**	*e*P	**P**	**08 18 34.6**	**+1.9**
	comp=Z,29nm,1.9s,mb4.4						
MEZF	**Maizieres J'vi**	**23.39**	**101**	*e*P	**P**	**08 18 31.1**	**-1.7**
TCF	**Toulx Ste Croi**	**23.47**	**108**	*e*P	**P**	**08 18 32.0**	**-1.7**
SSF	**Saint Saulge**	**23.57**	**106**	*e*P	**P**	**08 18 32.7**	**-2.0**
BGF	**Bois d'Agland**	**23.60**	**107**	*e*P	**P**	**08 18 33.1**	**-1.8**
LOR	**Lormes**	**23.61**	**105**	*e*P	**P**	**08 18 33.1**	**-2.0**
	comp=Z,37nm,1.1s,mb4.4						
LOR	**Lormes**	**23.61**	**105**	*e*P	**P**	**08 18 33.1**	**-2.0**
	comp=Z,19nm,1.1s,mb4.4						
RUP	**Ruppelstein**	**23.65**	**97**	*e*P	**P**	**08 18 35.8**	**+0.3**
AVF	**Avril sur Loir**	**23.68**	**106**	*e*P	**P**	**08 18 33.8**	**-2.0**
	comp=Z,55nm,1.2s,mb4.5						
AVF	**Avril sur Loir**	**23.68**	**106**	*e*P	**P**	**08 18 33.8**	**-2.0**
	comp=Z,27nm,1.2s,mb4.5						
LFF	**La Frestale**	**23.74**	**113**	*e*P	**P**	**08 18 34.4**	**-1.9**
MTE	**Manteigas**	**23.78**	**132**	*e*P	**P**	**08 18 37.7**	**+1.1**
	comp=Z,44nm,2.1s,mb4.5						
MTE				*e*LQ		08 24 37.1	
MTE				*e*LR	LR	08 24 51.7	
	comp=Z,6μm,15.9s						
RJF	**Les Rejaudoux**	**23.84**	**111**	*e*P	**P**

LPG	La Plagne	26.28	104	eP		P	08 18 59.0	-0.4
SMRF	Simiane la Rot	26.79	108	eP		P	08 19 03.7	-0.3
MBDF	Montbardon	26.84	106	eP		P	08 19 04.1	-0.3
PRU	Pruhonice	27.34	89	eP		P	08 19 08.0	-0.9
PRU				ex		x	08 19 52.0	
KHC	Kasperske Hory	27.36	92	eP		P	08 19 10.0	+0.9
KAF	Kangasniemi	27.41	59	ep		P	08 19 10.9	+1.3
	comp=Z,2.7nm,0.6s,mb4.0							
FINES	FINESS Array B	27.55	60	P		P	08 19 10.8	0.0
	comp=Z,7.9nm,1.0s,mb4.3,baz=298,slow=10.0,SNR=13							
LMR	La Mourre	27.72	108	eP		P	08 19 12.2	-0.1
KSP	Ksiaz	27.73	86	eP		P	08 19 11.8	-0.6
SBF	Sospel	27.79	106	eP		P	08 19 12.8	-0.2
JOF	Joensuu	29.31	56	ep		P	08 19 32.8	+6.3
PGF	Pioggiola	29.53	106	eP		P	08 19 28.3	-0.1
	comp=Z,67nm,1.4s,mb4.9							
PGF	Pioggiola	29.53	106	eP		P	08 19 28.3	-0.1
	comp=Z,34nm,1.4s,mb4.9							
AKASG	Malin Array Be	34.41	77	P		P	08 20 10.1	-1.2
	comp=Z,0.3nm,0.3s,mb3.7,baz=303,slow=8.3,SNR=16							
AKASG	Malin Array Be	34.41	77	P		P	08 20 10.1	-1.2
AKBB	Malin Array Si	34.41	77	eP		P	08 20 12.3	+1.0
AKBB	Malin Array Si	34.41	77	eP		P	08 20 12.3	+1.0
MLR	Muntele Rosu	36.11	86	LR		LR	08 33 03.3	
	comp=Z,4µm,21.7s,MS5.2,baz=57,slow=33							
ULM	Lac du Bonnet	37.22	286	P		P	08 20 34.8	-0.5
	comp=Z,4.5nm,1.0s,mb4.3,baz=76,slow=12,SNR=4.5							
FFC	Flin Flon	37.41	295	eP		P	08 20 37.8	+0.8
	comp=Z,9.0nm,1.1s,mb4.5							
YKA	Yellowknife Ar	38.33	312	P		P	08 20 43.7	-1.0
	comp=Z,3.4nm,0.8s,mb4.1,baz=56,slow=8.7,SNR=8.9							
YKA				PcP		PcP	08 22 58.5	0.0
	comp=Z,1.3nm,0.7s,baz=42,slow=3.4,SNR=3.8							
YKA	Yellowknife Ar	38.33	312	P		P	08 20 43.7	-1.0
YKA				PcP		PcP	08 22 58.5	-0.1
YKA	Yellowknife Ar	38.33	312	P		P	08 20 43.7	-1.1
ELN	Prospectdale	38.64	258	eP		P	08 20 48.7	+1.3
ELN	Prospectdale	38.64	258	eP		P	08 20 48.7	+1.3
BR131	Keskin Array S	44.20	86	eP		P	08 21 33.7	+0.7
	comp=Z,0.2nm,0.3s,mb3.3							
BRTR	Keskin Array B	44.20	86	P		P	08 21 33.5	+0.5
	comp=Z,0.7nm,0.7s,mb3.5,baz=318,slow=1.9,SNR=3.4							
EGMT	Eagleton	45.48	292	eP		P	08 21 42.2	-1.0
	comp=Z,68nm,2.1s,mb5.1							
EGMT	Eagleton	45.48	292	eP		P	08 21 42.2	-1.0
	comp=Z,68nm,2.1s,mb5.1							
WALA	Waterton Lakes	46.70	296	eP		P	08 21 52.3	-0.5
	comp=Z,12nm,1.1s,mb4.7							
IMA2	Indian Mountai	48.11	333	P		P	08 22 05.0	+1.1
IMA2	Indian Mountai	48.11	333	P		P	08 22 05.0	+1.2
PDAR	Pinedale Array	49.19	287	P		P	08 22 11.0	-1.1
	comp=Z,1.0nm,0.8s,mb3.9,baz=61,slow=6.0,SNR=5.2							
PDAR				PP		PP	08 24 04.4	-1.4
	comp=Z,0.7nm,1.0s,baz=54,slow=11,SNR=3.2							
PDAR	Pinedale Array	49.19	287	PP		PP	08 24 04.4	-1.4
GNI	Garni	49.55	77	eP		P	08 22 16.3	+1.5
	comp=Z,5.1nm,0.4s,mb4.9							
GNI	Garni	49.55	77	eP		P	08 22 16.3	+1.5
	comp=Z,5.1nm,0.4s,mb4.9							
WMOK	Wichita Mounta	49.82	272	eP		P	08 22 16.5	-0.4
	comp=Z,7.2nm,1.4s,mb4.5							
ASF	Jabal al Asfar	51.69	90	LR		LR	08 45 27.3	
	comp=Z,473nm,18.6s,MS4.5,baz=309,slow=37							
TOA0	Torodi Ar. Sit	51.85	138	eP		P	08 22 32.2	-0.1
TOA0	Torodi Ar. Sit	51.85	138	eP		P	08 22 32.2	-0.1
TORD	Torodi Ar. Bea	51.85	138	P		P	08 22 30.6	-1.6
	comp=Z,3.2nm,0.9s,mb4.2,baz=339,slow=7.4,SNR=15							
LIC	Lamto	56.33	149	eP		P	08 23 05.8	+0.8
NVAR	Mina Array Bea	56.78	290	P		P	08 23 07.8	-0.3
	comp=Z,1.5nm,0.8s,mb4.0,baz=57,slow=6.7,SNR=6.4							
NVAR	Mina Array Bea	56.78	290	P		P	08 23 07.8	-0.3
MKAR	Makanchi Array	61.10	46	P		P	08 23 37.2	-1.0
	comp=Z,3.2nm,0.6s,mb4.6,baz=338,slow=6.4,SNR=20							
MKAR	Makanchi Array	61.10	46	P		P	08 23 37.2	-1.0
ROSC	El Rosal	63.58	230	P		P	08 23 56.6	+1.9
	comp=Z,1.8nm,0.4s,mb4.4,baz=287,slow=23,SNR=5.7							
WMQ	Urumqi	65.63	44	P		P	08 24 11.5	+3.4
WMQ				AP		pP	08 24 16.0	+6.3
WMQ				XP		sP	08 24 18.5	+8.2
WMQ				PP		PP	08 26 38.3	+5.9
WMQ				AMB		AMB		
	comp=Z,9.0nm,1.5s,mb4.6							
WMQ				AMB		AMB		
	comp=Z,78nm,5.1s							
WMQ				LR		LR		
	comp=N,164nm,17.5s,MS4.4							
WMQ				LR		LR		
	comp=E,123nm,16.4s,MS4.4							
WMQ				LR		LR		
	comp=Z,159nm,18.0s,MS4.3							
SONM	Songino Array	67.81	30	P		P	08 24 22.3	+0.3
	comp=Z,2.3nm,0.9s,mb4.2,baz=335,slow=5.4,SNR=14							
ULN	Ulaanbaatar	67.94	29	eP		P	08 24 22.6	-0.3
	comp=Z,33nm,1.6s,mb5.1							
MDJ	Mudanjiang	75.39	14	P		P	08 25 06.8	-0.9
MDJ				AMB		AMB		
	comp=Z,4.0nm,1.8s,mb4.0							
MDJ				AMB		AMB		
	comp=Z,602nm,9.2s							
CN2	Changchun	75.60	18	eP		P	08 25 10.0	+1.0
HHC	Hu-ho-hao-te	75.64	29	eP		P	08 25 09.0	-0.2
HHC				XP		sP	08 25 15.0	+3.6
HHC				PP		PP	08 28 00.3	+1.7
HHC				S		S	08 34 47.0	-4.0
HHC				PS			08 35 25.0	
HHC				SS		SS	08 39 38.5	-3.5
HHC				AMB		AMB		
	comp=Z,25nm,0.6s,mb5.3							
HHC				AMB		AMB		
	comp=Z,387nm,5.8s							
HHC				LR		LR		
	comp=N,300nm,16.7s,MS4.9							
HHC				LR		LR		
	comp=E,446nm,17.8s,MS4.9							
HHC				LR		LR		
	comp=Z,427nm,18.4s,MS4.8							
BDFB	Brasilia	75.78	197	P		P	08 25 10.0	0.0
	comp=Z,3.5nm,0.7s,mb4.4,baz=60,slow=4.3,SNR=5.3							
CD2	Chengdu	82.73	38	eP		P	08 25 46.5	-1.4
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.9							
CD2				AMB		AMB		
	comp=Z,40nm,6.4s							
NJ2	Nanjing	85.75	25	eP		P	08 26 06.0	+2.7
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb5.2							
KMI	Kunming	87.75	41	P		P	08 26 16.5	+3.5
KMI				AMB		AMB		
	comp=Z,13nm,0.5s,mb5.4							
SNAA	Sanae	131.93	168	PKP		PKPdf	08 32 34.2	-3.3
	comp=Z,1.1nm,1.1s,baz=279,slow=4.4,SNR=3.7							
WRA	Warramunga Arr	139.44	22	PKP		PKPdf	08 32 48.5	-3.1
	comp=Z,0.4nm,0.7s,baz=337,slow=2.8,SNR=5.1							
ASAR	Alice Springs	142.97	24	PKP		PKPdf	08 32 55.9	-2.0
	comp=Z,0.7nm,0.7s,baz=348,slow=2.5,SNR=6.6							
VNDA	Vanda	161.00	188	PKPab		PKPab	08 34 06.5	-0.8
	comp=Z,1.0nm,0.8s,baz=131,slow=4.3,SNR=3.9							

WEL 28 08:19:49.2±0.7, 3562S×17876E, h260km±11km, ML3.5/5, Error ellipse: s-maj=16.7km s-min=12.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.98	190	PN	Pn	08 20 31.6	-0.7
MXZ				eSN	S	08 21 04.5	-1.8
PUZ	Puketiti	2.49	189	PN	Pn	08 20 37.3	+0.3
PUZ				SN	S	08 21 13.6	-1.2
MWZ	Matawai	2.89	200	PN	Pn	08 20 41.7	+0.6
MWZ				SN	S	08 21 22.2	0.0
URZ	Urewera	2.95	206	PN	Pn	08 20 41.9	+0.2
URZ				SN	S	08 21 23.2	-0.2
MRZ	Mangatainoka R	5.63	205	PN	Pn	08 21 12.9	0.0
MRZ				SN	S	08 22 18.0	-1.9

IDC 28 08:21:03.8±1.9, 1004S×10891E, h0km, mb4.0/4, mb1 4.0/5, mb1mx3.8/17, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=77.0km s-min=23.9km az=44.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.09	118	P	Pn	08 25 16.8	+0.4
	0.2nm,0.3s,baz=253,slow=11,SNR=7.2						
WRA	Warramunga Arr	26.43	115	P	P	08 26 42.4	+0.2
	1.1nm,0.6s,baz=286,slow=11,SNR=10						
SONM	Songino Array	57.66	358	P	P	08 30 56.3	+0.5
	1.0nm,0.5s,baz=178,slow=7.4,SNR=8.9						
MKAR	Makanchi Array	61.37	339	P	P	08 31 21.5	+0.1
	1.7nm,0.5s,baz=137,slow=6.6,SNR=8.9						
BRTR	Keskin Array B	85.25	312	P	P	08 33 42.3	0.0
	1.1nm,0.9s,baz=145,slow=9.0,SNR=3.8						

*NEIC **28** 08:30:44.4, 3255S×7179W, h3km, ML2.7(GUC), After GUC.*

GUC 28 08:30:44.4±0.8, 3255S×7179W, h3km±4km, MD3.5, ML2.7, 8C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	El Roble	0.78	123	↑iP	Pg	08 31 00.2	+0.8
ROCH				i S	Sg	08 31 12.2	+2.7
LCCH	Las Cruces	0.94	169	↓iP	Pg	08 31 02.4	-0.1
LCCH				i S	Sg	08 31 15.8	+1.1
JACH	Jahuel	1.02	98	↑iP	Pg	08 31 03.9	-0.1
JACH				i S	Sg	08 31 18.5	+1.4
PEL	Peldehue	1.10	123	↑iP	Pg	08 31 05.5	-0.1
PEL				i S	Sg	08 31 21.2	+1.3
PEL				AML	AML	08 31 24.1	
	comp=N,689nm,0.2s						
PEL	Peldehue	1.10	123	↑iP	Pg	08 31 05.5	-0.1
PEL				i S	Sg	08 31 21.2	+1.3
RCDM	Rinconada Maip	1.25	139	eP	Pg	08 31 07.5	-0.8
RCDM				i S	Sg	08 31 25.1	+0.4
RCDM				AML	AML	08 31 27.0	
	comp=N,172nm,0.2s						
RCDM	Rinconada Maip	1.25	139	eP	Pg	08 31 07.5	-0.8
RCDM				i S	Sg	08 31 25.1	+0.4
STL	Santa Lucia	1.31	133	eP	Pg	08 31 07.8	-1.7
STL				i S	Sg	08 31 26.3	-0.2
STL				AML	AML	08 31 30.6	
	comp=N,69nm,0.4s						
TACH	Talagante	1.31	147	eP	Pg	08 31 08.5	-1.1
TACH				i S	Sg	08 31 26.3	-0.4
DSCH	Colegio Aleman	1.33	130	i P	Pn	08 31 08.3	-1.6
DSCH				i S	Sg	08 31 27.3	0.0
CLCH	Cerro Calan	1.35	129	↓iP	Pn	08 31 09.2	-0.9
CLCH				i S	Sg	08 31 28.1	+0.2
CLCH				AML	AML	08 31 29.9	
	comp=N,218nm,0.4s						
ANTU	Antumapu	1.41	137	i S	Sg	08 31 29.9	+0.2
ANTU				AML	AML	08 31 31.3	
	comp=E,167nm,0.5s						
PCH	Pirque	1.52	135	eP	Pn	08 31 12.2	-0.2
PCH				i S	Sn	08 31 32.8	+0.2
CMCH	Combarbala	1.53	26	↑iP	Pn	08 31 10.2	-2.4
CMCH				i S	Sn	08 31 30.4	-2.5
CMCH				AML	AML	08 31 32.6	
	comp=E,385nm,0.6s						
CMCH	Combarbala	1.53	26	↑iP	Pn	08 31 10.2	-2.4
CMCH				i S	Sn	08 31 30.4	-2.5
CHCH	Chadas Angostu	1.68	146	eP	Pn	08 31 14.5	-0.1
CHCH				i S	Sn	08 31 37.3	+0.6
CACH	El Canelo	1.85	148	eP	Pn	08 31 18.0	+0.9
CACH				i S	Sn	08 31 43.6	+2.5
TLL	Tololo Astrono	2.52	20	↑iP	Pn	08 31 27.9	+1.6
TLL				i S	Sn	08 32 01.1	+3.7
TLL				AML	AML	08 32 03.2	
	comp=E,101nm,0.7s						
TLL	Tololo Astrono	2.52	20	↑iP	Pn	08 31 27.9	+1.6
TLL				i S	Sn	08 32 01.1	+3.7

*NEIC **28** 08:32:28.8, 3249S×7181W, h13km, ML2.9(GUC), After GUC.*

GUC 28 08:32:28.8±0.5, 3249S×7181W, h13km±2km, MD3.5, ML2.9, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.66	24	↓iP	Pg	08 32 41.0	-0.6
CHNG				i S	Sg	08 32 50.8	+0.4
ROCH	El Roble	0.83	126	i P	Pg	08 32 44.0	-0.8
ROCH				i S	Sg	08 32 56.4	+0.7
LCCH	Las Cruces	1.00	168	↑iP	Pb	08 32 46.6	-1.4
LCCH				i S	Sb	08 33 00.0	-1.1
JACH	Jahuel	1.04	101	↑iP	Pb	08 32 47.2	-1.5
JACH				i S	Sb	08 33 01.8	-0.5
PEL	Peldehue	1.15	125	AML	AML	08 33 06.9	
	comp=E,579nm,0.4s						
PEL				AML	AML	08 33 06.9	
	comp=E,574nm,0.3s						
RCDM	Rinconada Maip	1.31	140	↑iP	Pn	08 32 51.5	-1.2
RCDM				i S	Sb	08 33 08.7	-1.1
TACH	Talagante	1.37	148	i P	Pn	08 32 52.7	-0.9
CLCH	Cerro Calan	1.40	131	↑iP	Pn	08 32 53.3	-0.7
CLCH				i S	Sn	08 33 11.6	-0.7
CLCH				AML	AML	08 33 13.4	
	comp=N,218nm,0.4s						
CMCH	Combarbala	1.48	28	eP	Pn	08 32 54.1	-1.0
CMCH				↑i S	Sn	08 33 13.9	-0.4
CMCH				AML	AML	08 33 21.2	
	comp=N,315nm,1.0s						
CMCH	Combarbala	1.48	28	eP	Pn	08 32 54.1	-1.0
CMCH				i S	Sn	08 33 13.9	-0.4
LNV	Longovilo	1.50	167	i P	Pn	08 32 54.5	-0.8
LNV				i S	Sn	08 33 14.0	-0.8
FCH	Farellones	1.53	124	i P	Pn	08 32 55.9	+0.1
FCH				i S	Sn	08 33 16.1	+0.7
PCH	Pirque	1.57	136	↑iP	Pn	08 32 56.2	-0.1
PCH				i S	Sn	08 33 16.6	+0.2
CHCH	Chadas Angostu	1.74	146	i P	Pn	08 32 58.5	-0.1
CHCH				i S	Sn	08 33 20.8	+0.3
CACH	El Canelo	1.91	148	i P	Pn	08 33 02.2	+1.2
CACH				i S	Sn	08 33 27.4	+2.5
CICH	Cipreses	2.16	148	i P	Pn	08 33 05.3	+0.9
CICH				i S	Sn	08 33 33.2	+2.1
SFDO	San Fernando	2.22	163	eP	Pn	08 33 06.3	+1.0
SFDO				i S	Sn	08 33 34.6	+2.0

*NEIC **28** 08:37:00.1, 1931N×6854W, h69km, MD3.5(RSPR), After RSPR.*

RSPR 28 08:37:00.1, 1931N×6854W, h69km±26km, MD3.5/8, MD3.5/8, 6C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	Las Mesas	1.77	129	↑eP	Pn	08 37 28.6	0.0
LSP				eS	Sn	08 37 50.7	+0.4
CRPR	Cabo Rojo, PR	1.87	134	↑eP	Pn	08 37 29.0	-1.0
CRPR				eS	Sn	08 37 51.5	-1.2
MGP	Maguayo	1.88	133	↓eP	Pn	08 37 29.6	-0.6
MGP				eS	Sn	08 37 53.1	+0.2
LRS	Lares	1.89	122	↑eP	Pn	08 37 29.5	-0.7
LRS				eS	Sn	08 37 51.9	-1.3
AOPR	Arecibo Observ	1.94	119	↑eP	Pn	08 37 30.6	-0.4
AOPR				eS	Sn	08 37 53.8	-0.6
CELP	Cerrillos	2.22	123	↑eP	Pn	08 37 34.1	-0.6
CELP				eS	Sn	08 38 00.2	-1.0
HUMP	Col San Antoni	2.80	114	↑eP	Pn	08 37 41.2	-1.2
MTP	Monte Pirata	3.07	113	↓eP	Pn	08 37 46.4	+0.2
MTP				eS	Sn	08 38 22.3	+0.6

KRSC 28 08:38:26, 5532N×16123E, h100km, ML3.7, Near east coast of Kamchatka Peninsula

*ISCJB **28** 08:55:54.5±1.1, 6767N±004×343E±02, h0km, Error ellipse: s-maj=10.4km s-min=5.2km az=153.9*
*CSEM **28** 08:55:56.2±0.8, 6756N×3412E, h1km, ML2.2, Error ellipse: s-maj=18.7km s-min=6.4km az=79.0, Mining explosion.*
*HEL **28** 08:55:57.6±0.3, 6771N×3418E, h0km, ML2.5, ML2.2(BER), ML2.0(NAO), Explosion*
*NAO **28** 08:55:58.2±1.2, 6766N×3406E, ML2.0*
*IDC **28** 08:56:02.2±2.8, 6760N×3328E, h0km, mb1 3.1/3, mb1mx3.0/20, mbtmp3.0/3, ML2.8/3, Error ellipse: s-maj=31.3km s-min=9.2km az=77.0*

ISC 28 08:55:56.6±1.0, 6769N±003×342E±02, h0km, n25, σ1§39/47, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	Apatity Array	0.45	260	i P	Pg	08 56 06.0	+0.7
APA0				i S	Sg	08 56 12.3	+1.1
APA0				eRG		08 56 14.6	
APA0	Apatity Array	0.45	260	Pg	Pg	08 56 06.0	+0.7
	baz=83,slow=14						
APA0				Lg		08 56 12.3	
	baz=83,slow=37						
APA0				Rg		08 56 14.6	
	baz=78,slow=37						
KU4	Liikasenvaara	2.23	236	eP	Pn	08 56 36.2	+1.4
KU4				eS	Sn	08 57 04.3	+1.1
SGF	Sodankyl	2.94	269	eP	Pn	08 56 47.1	+2.5
SGF				eS	Sn	08 57 20.7	+0.1
SGF	Sodankyl	2.94	269	P	Pn	08 56 47.1	+2.5
SGF				S	Sn	08 57 20.6	+0.1
KEV	Kevo	3.33	312	eP	Pn	08 56 51.7	+1.7
KEV				eS	Sn	08 57 30.1	-0.2
KEV				eSG	Sg	08 57 39.1	-4.7
KEV				MSG		08 57 40.4	
	comp=Z,13nm,0.3s						
KEV	Kevo	3.33	312	P	Pn	08 56 51.6	+1.6
KEV				S	Sn	08 57 30.1	-0.2
KEV				Sg	Sg	08 57 39.0	-4.8
ARA0	ARCESS Array S	3.67	304	eP	Pn	08 56 55.8	+1.1
ARA0				ePG	Pg	08 57 03.7	-3.3
ARA0				eS	Sn	08 57 37.3	-1.4
ARA0				eSG	Sg	08 57 49.0	-5.6
ARA0	ARCESS Array S	3.67	304	Pn	Pn	08 56 55.8	+1.1
	baz=121,slow=16						
ARA0				Pg	Pg	08 57 03.7	-3.3
	baz=116,slow=16						
ARA0				Sn	Sn	08 57 37.3	-1.4
	baz=125,slow=28						
ARA0				Lg		08 57 49.0	
	baz=123,slow=37						
ARCES	ARCESS Array B	3.67	304	Pn	Pn	08 56 55.8	+1.1
	comp=Z,1.9nm,0.3s,baz=120,slow=14,SNR=392						
ARCES				Pg	Pg	08 57 03.6	-3.4
	comp=Z,2.7nm,0.3s,baz=114,slow=15,SNR=22						
ARCES				Sn	Sn	08 57 38.9	+0.2
	comp=Z,3.0nm,0.3s,baz=123,slow=22,SNR=4.0						
ARCES				Lg		08 57 49.4	
	comp=Z,3.5nm,0.3s,baz=110,slow=29,SNR=4.4						
ARCES				Rg		08 58 13.2	
	comp=Z,1.5nm,1.0s,baz=111,slow=26,SNR=9.6						
KTK1	Kautokeino	4.26	293	eP	Pn	08 57 03.7	+0.9
KTK1				AML	AML	08 58 07.8	
	comp=Z,12nm,0.6s						
KJN	Kajaani	4.48	219	eP	Pn	08 57 07.0	+1.2
KJN				eS	Sn	08 57 57.6	-0.9
KJN	Kajaani	4.48	219	P	Pn	08 57 06.9	+1.2
KJN				S	Sn	08 57 57.6	-0.9
JOF	Joensuu	4.94	195	eS	Sn	08 58 08.6	-1.2
KIF	Kilpisjarvi	5.12	291	eP	Pn	08 57 14.8	+0.3
KIF				eS	Sn	08 58 12.5	-1.8
SUF	Sumiainen	6.01	218	eP	Pn	08 57 27.8	+0.9
SUF				eS	Sn	08 58 32.5	-4.0
SUF	Sumiainen	6.01	218	P	Pn	08 57 27.7	+0.9
KEF	Keuruu	6.80	220	eP	Pn	08 57 37.8	+0.2
KEF				eS	Sn	08 58 52.9	-2.8
KEF	Keuruu	6.80	220	P	Pn	08 57 37.7	+0.1
FIA0	FINESS Array S	7.16	213	Pn	Pn	08 57 42.4	-0.2
	baz=31,slow=12						
FIA0				Sn	Sn	08 59 01.4	-3.3
	baz=32,slow=22						
FIA0				Lg		08 59 36.0	
	baz=39,slow=37						
FIA0	FINESS Array S	7.16	213	eS	Sn	08 59 00.3	-4.4
FINES	FINESS Array B	7.16	213	Pn	Pn	08 57 42.3	-0.3
	comp=Z,0.1nm,0.3s,baz=34,slow=12,SNR=8.5						
FINES				Sn	Sn	08 58 59.8	-4.9
	comp=Z,0.2nm,0.3s,baz=35,slow=22,SNR=3.1						
FINES				Lg		08 59 36.4	
	comp=Z,0.3nm,0.3s,baz=36,slow=24,SNR=5.6						
SPA0	Spitsbergen Ar	11.67	342	Pn	Pn	08 58 42.3	-2.1
	baz=149,slow=14						
SPA0	Spitsbergen Ar	11.67	342	eP	Pn	08 58 42.3	-2.1
NOA	NORSAR Array B	11.90	247	Pn	Pn	08 58 45.7	-1.8
	comp=Z,0.1nm,0.3s,baz=34,slow=4.3,SNR=2.1						

*IDC **28** 09:15:00.9±0.5, 5911N×3070W, h0km, mb4.4/23, mb1 4.5/29, mb1mx4.4/32, mbtmp4.4/29, ML3.7/6, MS4.7/25, Ms1 4.7/25, ms1mx4.5/33, Error ellipse: s-maj=14.6km s-min=10.4km az=179.0*
*CSEM **28** 09:15:00.2±0.0, 5904N×3052W, h10km, mb4.8/78, Ms4.4, Error ellipse: s-maj=2.2km s-min=0.9km az=18.0*
*ISCJB **28** 09:15:01.1±0.1, 5908N±003×3065W±003, h10km, mb4.7/133, MS4.6/43, Error ellipse: s-maj=4.5km s-min=2.0km az=26.6*
*MOS **28** 09:15:01.6±0.8, 5900N×3060W, h15km, mb4.8/49, MS4.6/16, Error ellipse: s-maj=7.5km s-min=6.0km az=38.2*
*HRVD **28** 09:15:02.8±0.2, 5923N×3060W, h12km, MW5.2/80, Centroid moment Tensor Solution. LP body waves: s23,c29;Mantle waves: s80,c134; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.57±.21; $M_{\theta\theta}$1.22±.23; $M_{\phi\phi}$5.36±.15; $M_{r\theta}$0.44±.74; $M_{\theta\phi}$3.65±.14; $M_{\phi r}$-1.87±.61; Best double couple: $M_0$7.30800×10^{16} NP1:$\phi_1$222.00000°, δ41.00000°, λ-71.00000°. NP2: $\phi_2$18.00000°, δ52.00000°, λ-105.00000°. Principal axes: T 7.6250, Plg6.0000°, Azm119.0000°; N -0.6250, Plg12.0000°, Azm28.0000°; P -6.9900, Plg77.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 09:15:02.8±0.1, 5907N×3059W, h10km, mb4.7/95 Error ellipse: s-maj=5.6km s-min=2.5km az=197.0*
*BJI **28** 09:15:03.6, 5986N×3061W, h8km, mB5.2, mb5.0, Ms5.0, Msz4.6*
*SZGRF **28** 09:15:08.8, 5919N×3007W, h33km, mb4.8, MS4.6, Reykjanes Ridge*

ISC 28 09:15:02.7±0.1, 5908N±003×3060W±003, h10km, (h18km±4.7km:pP-P), n555, σ1§00/536, mb4.7/133, MS4.6/43, 56C-50D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	7.17	34	Pn	Pn	09 16 47.5	-0.2
	6.3nm,0.3s,baz=216,slow=7.7,SNR=20						
BORG				Sn	Sn	09 18 10.8	+1.7
	5.5nm,0.3s,baz=278,slow=23,SNR=11						
BORG				LR	LR	09 18 49.4	
	comp=Z,2µm,18.0s,baz=210,slow=32						
BORG	Borgarnes	7.17	34	ePn	Pn	09 16 47.7	0.0
	121nm,0.6s						
BORG				eSn	Sn	09 18 09.0	-0.1
BORG	Borgarnes	7.17	34	ePn	Pn	09 16 47.7	+0.1
	121nm,0.6s						

DAG Danmarks Havn 18.25 9⇑ eP Pn 09 19 16.7 +0.6
DAG pmax pmax
comp=Z,30nm,1.4s
DAG Danmarks Havn 18.25 9 eP Pn 09 19 16.7 +0.6
comp=Z,30nm,1.4s
FRB Frobisher Bay 18.54 301 P Pn 09 19 16.9 -2.7
comp=Z,0.2nm,0.3s,baz=104,slow=11,SNR=2.9
FRB LR LR 09 25 33.0
comp=Z,7µm,19.1s,baz=97,slow=34
ROSF Rostrenen 19.27 112 eP Pn 09 19 27.2 -1.3
comp=Z,75nm,1.4s
ROSF Rostrenen 19.27 112 eP Pn 09 19 27.2 -1.3
ROSF pmax pmax
comp=Z,37nm,1.4s
ROSF Rostrenen 19.27 112 eP Pn 09 19 27.2 -1.3
comp=Z,37nm,1.4s
QUIF Quistinic 19.62 113 eP Pn 09 19 31.4 -1.2
comp=Z,12nm,0.7s
QUIF Quistinic 19.62 113 eP Pn 09 19 31.4 -1.2
QUIF pmax pmax
comp=Z,6.0nm,0.7s
QUIF Quistinic 19.62 113 eP Pn 09 19 31.4 -1.2
comp=Z,6.1nm,0.7s
SGMF Saint Gilles 19.68 111 eP Pn 09 19 31.8 -1.5
comp=Z,118nm,1.5s
SGMF Saint Gilles 19.68 111 eP Pn 09 19 31.8 -1.5
SGMF pmax pmax
comp=Z,59nm,1.5s
SGMF Saint Gilles 19.68 111 eP Pn 09 19 31.8 -1.5
comp=Z,59nm,1.5s
SCHQ Schefferville 20.04 274 P P 09 19 32.9 -2.9
comp=Z,0.3nm,0.3s,baz=81,slow=8.1,SNR=8.9
SCHQ LR LR 09 26 04.3
comp=Z,2µm,18.8s,MS4.5,baz=76,slow=33
SCHQ Schefferville 20.04 274 eP P 09 19 33.4 -2.4
comp=Z,14nm,0.8s
KONO Kongsberg 20.28 71⇑ eP P 09 19 39.3 +0.8
KONO Kongsberg 20.28 71 eP P 09 19 40.0 +1.5
comp=Z,16nm,1.0s
KONO Kongsberg 20.28 71 eP P 09 19 40.0 +1.5
comp=Z,18nm,1.0s
FLN La Foliniere 20.34 107 eP P 09 19 38.5 -0.6
comp=Z,156nm,1.2s
FLN eR
comp=Z,2µm,19.6s
FLN La Foliniere 20.34 107 eP P 09 19 38.5 -0.6
FLN pmax pmax
comp=Z,78nm,1.2s
FLN MLR MLR
comp=Z,2µm,19.6s,MS4.4
FLN La Foliniere 20.34 107 eP P 09 19 38.5 -0.6
comp=Z,78nm,1.2s
FLN LR LR
comp=Z,2µm,19.6s,MS4.4
GRR Gorron 20.41 109 eP P 09 19 39.8 -0.1
NAO01 NORSAR Array S 20.60 67 ePn P 09 19 43.1 +1.2
NAO01 NORSAR Array S 20.60 67 ePn P 09 19 43.1 +1.2
LDF La Druitiere 20.63 107 eP P 09 19 41.9 -0.4
comp=Z,32nm,0.9s
LDF La Druitiere 20.63 107 eP P 09 19 41.9 -0.4
LDF pmax pmax
comp=Z,16nm,0.9s
LDF La Druitiere 20.63 107 eP P 09 19 41.9 -0.4
comp=Z,16nm,0.9s
NB2 NORSAR Subarra 20.71 67 P P 09 19 42.2 -0.9
comp=Z,19nm,1.1s,baz=283,slow=10
NOA NORSAR Array B 20.71 67 P P 09 19 42.3 -0.8
comp=Z,2.5nm,0.8s,baz=281,slow=11,SNR=13
NOA LR LR 09 26 45.3
comp=Z,1µm,20.6s,MS4.2,baz=280,slow=34
EMAZ Mazaricos 20.96 131 P P 09 19 46.6 +0.8
comp=Z,22nm,1.0s
EMAZ Mazaricos 20.96 131 P P 09 19 46.6 +0.8
comp=Z,22nm,1.0s
MUD Monsted U'grnd 21.16 80 i P P 09 19 49.1 +1.1
MUD i S S 09 23 47.4 +4.2
MUD
comp=Z,1µm,21.0s
MUD Monsted U'grnd 21.16 80 eP P 09 19 49.1 +1.1
MUD i S S 09 23 47.4 +4.2
STS Santiago 21.18 130 P P 09 19 48.9 +0.7
STS pmax pmax
comp=Z,14nm,0.8s,mb4.3
STS Santiago 21.18 130 P P 09 19 48.9 +0.7
comp=Z,14nm,0.8s,mb4.3
STS Santiago 21.18 130 P P 09 19 48.9 +0.7
comp=Z,14nm,0.8s,mb4.3
EPON Pontenova 21.38 127 P P 09 19 51.1 +0.8
comp=Z,14nm,0.8s,mb4.3
EPON Pontenova 21.38 127 P P 09 19 51.1 +0.8
comp=Z,14nm,0.8s,mb4.3
UCC Uccle 21.50 97 P P 09 19 53.8 +2.1
SNF Seneffe 21.64 98 P P 09 19 53.7 +0.6
SNF AP 09 19 57.6
EZAM Zamans 21.75 132 P P 09 19 55.0 +0.7
EZAM pmax pmax
comp=Z,35nm,1.9s,mb4.5
EZAM Zamans 21.75 132 P P 09 19 55.0 +0.7
comp=Z,35nm,1.9s,mb4.5
EZAM Zamans 21.75 132 P P 09 19 55.0 +0.7
comp=Z,35nm,1.9s,mb4.5
BAIF Baives 21.87 99 eP P 09 19 54.5 -1.1
comp=Z,188nm,1.5s,mb5.0
BAIF Baives 21.87 99 eP P 09 19 54.5 -1.1
BAIF pmax pmax
comp=Z,94nm,1.5s,mb5.0
BAIF Baives 21.87 99 eP P 09 19 54.5 -1.1
comp=Z,94nm,1.5s,mb5.0
MFF Saint Martin d 22.00 111 eP P 09 19 56.0 -1.0
comp=Z,38nm,1.0s,mb4.5
MFF Saint Martin d 22.00 111 eP P 09 19 56.0 -1.0
MFF pmax pmax
comp=Z,19nm,1.0s,mb4.5
MFF Saint Martin d 22.00 111 eP P 09 19 56.0 -1.0
comp=Z,19nm,1.0s,mb4.5
DOU Dourbes 22.05 99 P P 09 19 58.5 +1.0
DOU XP sP 09 20 03.4 +1.7
WTSB Winterswijk 22.09 92 eP P 09 19 57.9 -0.1
comp=Z,25nm,5.5s
HFS Hagfors 22.13 68 P P 09 19 58.0 -0.4
comp=Z,8.6nm,0.9s,mb4.2,baz=263,slow=6.0,SNR=13
HFS LR LR 09 27 38.0
comp=Z,1µm,19.2s,MS4.3,baz=287,slow=34
GIVF Givet 22.16 98 eP P 09 19 57.0 -1.7
BEBN Eben Emael 22.18 96 P P 09 20 01.3 +2.4
BEBN XP sP 09 20 05.3 +2.2
EARI Arriondas 22.21 124 P P 09 19 58.7 -0.5
comp=Z,22nm,1.0s,mb4.5
EARI Arriondas 22.21 124 P P 09 19 58.7 -0.6
comp=Z,22nm,1.0s,mb4.5
BCLA Clavier 22.21 97 P P 09 19 59.6 +0.3
BCLA AP 09 20 03.3
BCLA XP sP 09 20 06.5 +3.1
ELOB Lobios 22.24 131 P P 09 20 00.2 +0.7
comp=Z,7.2nm,0.8s,mb4.2
ELOB Lobios 22.24 131 P P 09 20 00.2 +0.7
comp=Z,7.2nm,0.8s,mb4.2
HGN Heimansgroeve 22.33 96 eP P 09 20 00.3 -0.2
comp=Z,37nm,1.8s,mb4.5
HGN eS S 09 24 07.5 +1.3
ECAL Calabor 22.70 129 P P 09 20 06.4 +2.0
comp=Z,14nm,0.8s,mb4.4
ECAL Calabor 22.70 129 P P 09 20 06.4 +2.0
comp=Z,14nm,0.8s,mb4.4
PBRG Braganca 22.81 129 eP P 09 20 10.9 +5.3
comp=Z,44nm,2.0s,mb4.5
ELAN Lanestosa 23.04 121 P P 09 20 09.4 +1.3
comp=Z,97nm,2.1s,mb4.9
ELAN Lanestosa 23.04 121 P P 09 20 09.4 +1.4
comp=Z,97nm,2.1s,mb4.9
WLF Walferdange 23.11 98 P P 09 20 10.2 +1.4
WLF AP 09 20 12.2
COP Copenhagen 23.14 80 i P P 09 20 10.3 +1.2
COP i S S 09 24 27.9 +7.5
COP
comp=Z,600nm,20.0s
COP Copenhagen 23.14 80 eP P 09 20 10.3 +1.2
COP i S S 09 24 27.9 +7.5
COP LR LR
comp=Z,600nm,20.0s,MS4.0
COP Copenhagen 23.14 80 eP P 09 20 10.3 +1.2
comp=Z,600nm,20.0s
MEZF Maizieres J'vi 23.28 101 eP P 09 20 08.3 -2.3
PVIS Viseu 23.29 132 eP P 09 20 14.6 +3.9
TCF Toulx Ste Croi 23.37 109 eP P 09 20 09.6 -1.9
comp=Z,64nm,1.3s,mb4.6
TCF Toulx Ste Croi 23.37 109 eP P 09 20 09.6 -1.9
TCF pmax pmax
comp=Z,32nm,1.3s,mb4.6
TCF Toulx Ste Croi 23.37 109 eP P 09 20 09.6 -1.9
comp=Z,32nm,1.3s,mb4.6
SSF Saint Saulge 23.47 106 eP P 09 20 10.2 -2.4
comp=Z,28nm,1.1s,mb4.3
SSF Saint Saulge 23.47 106 eP P 09 20 10.2 -2.4
SSF pmax pmax
comp=Z,14nm,1.0s,mb4.3
SSF Saint Saulge 23.47 106 eP P 09 20 10.2 -2.4
comp=Z,14nm,1.1s,mb4.3
BGF Bois d'Agland 23.49 107 eP P 09 20 10.0 -2.8
comp=Z,32nm,0.8s,mb4.5
BGF Bois d'Agland 23.49 107 eP P 09 20 10.0 -2.8
BGF pmax pmax
comp=Z,16nm,0.8s,mb4.5
BGF Bois d'Agland 23.49 107 eP P 09 20 10.0 -2.8
comp=Z,16nm,0.8s,mb4.5
LOR Lormes 23.50 105 eP P 09 20 10.7 -2.2
comp=Z,46nm,1.2s,mb4.5
LOR Lormes 23.50 105 eP P 09 20 10.7 -2.2
LOR pmax pmax
comp=Z,23nm,1.2s,mb4.5
LOR Lormes 23.50 105 eP P 09 20 10.7 -2.2
comp=Z,23nm,1.2s,mb4.5
RUP Ruppelstein 23.55 97 eP P 09 20 14.0 +0.6
AVF Avril sur Loir 23.58 106 eP P 09 20 11.5 -2.2
comp=Z,49nm,1.1s,mb4.5
AVF Avril sur Loir 23.58 106 eP P 09 20 11.5 -2.2
AVF pmax pmax
comp=Z,24nm,1.1s,mb4.5
AVF Avril sur Loir 23.58 106 eP P 09 20 11.5 -2.2
comp=Z,24nm,1.1s,mb4.5
LFF La Frestale 23.64 113 eP P 09 20 12.0 -2.2
MTE Manteigas 23.70 132 eLR LR 09 25 22.4
comp=Z,2µm,20.0s
MTE Manteigas 23.70 132 eP P 09 20 16.1 +1.4
comp=Z,33nm,1.3s,mb4.6
MTE Manteigas 23.70 132 eP P 09 20 16.1 +1.4
comp=Z,33nm,1.3s,mb4.6
RJF Les Rejaudoux 23.74 111 eP P 09 20 13.1 -2.1
RJF eR
comp=Z,2µm,17.8s
RJF Les Rejaudoux 23.74 111 eP P 09 20 13.1 -2.1
RJF LR LR
comp=Z,2µm,17.8s,MS4.7
EALK Alkurruntz 23.91 119 P P 09 20 16.9 +0.2
comp=Z,138nm,1.7s,mb5.1
EALK Alkurruntz 23.91 119 P P 09 20 16.9 +0.2
comp=Z,138nm,1.7s,mb5.1
SMF Signal de Mont 23.92 106 eP P 09 20 14.6 -2.2
comp=Z,36nm,1.1s,mb4.4
SMF Signal de Mont 23.92 106 eP P 09 20 14.6 -2.2
SMF pmax pmax
comp=Z,18nm,1.1s,mb4.4
SMF Signal de Mont 23.92 106 eP P 09 20 14.6 -2.2
comp=Z,18nm,1.1s,mb4.4
THEF They Montfort 23.94 101 eP P 09 20 19.4 +2.5
KBS Kingsbay 23.97 19 ceP P 09 20 19.2 +1.9
KBS Kingsbay 23.97 19 eP P 09 20 16.7 -0.6
comp=Z,13nm,0.9s,mb4.3
KBS Kingsbay 23.97 19 eP P 09 20 16.7 -0.6
comp=Z,13nm,0.9s,mb4.3
AGO Saint Agoulin 23.99 108 eP P 09 20 17.1 -0.3
PTOM Tomar 24.05 134 eP P 09 20 22.3 +4.3
comp=Z,46nm,1.7s,mb4.6
SJPF Ste Jean 24.12 118 eP P 09 20 16.7 -1.9
comp=Z,41nm,1.2s,mb4.5
SJPF Ste Jean 24.12 118 eP P 09 20 16.7 -1.9
SJPF pmax pmax
comp=Z,21nm,1.2s,mb4.4
SJPF Ste Jean 24.12 118 eP P 09 20 16.7 -1.9
comp=Z,21nm,1.2s,mb4.5
PCBR Castelo Branco 24.20 132 eP P 09 20 22.3 +2.9
comp=Z,22nm,1.9s,mb4.3
HAU Haudompre 24.27 101 eP P 09 20 17.5 -2.4
comp=Z,30nm,1.0s,mb4.4
HAU eR
comp=Z,6µm,19.0s
HAU Haudompre 24.27 101 eP P 09 20 17.5 -2.4
HAU pmax pmax
comp=Z,15nm,1.0s,mb4.4
HAU MLR MLR
comp=Z,6µm,19.0s,MS5.1
HAU Haudompre 24.27 101 eP P 09 20 17.5 -2.4
comp=Z,15nm,1.0s,mb4.4
HAU LR LR
comp=Z,6µm,19.0s,MS5.1
CAF Calviac 24.28 111 eP P 09 20 18.4 -1.7
PLDF La Plantade 24.29 108 eP P 09 20 21.5 +1.3
LANF Langenberg 24.38 97 eP P 09 20 23.3 +2.3
SPB4 Spitsbergen Ar 24.41 21 eP P 09 20 21.9 +0.6
SPB4 Spitsbergen Ar 24.41 21 eP P 09 20 21.9 +0.7
CDF Champ du Feu 24.47 99 eP P 09 20 19.7 -2.1
ECH Echery 24.54 100 eP P 09 20 23.9 +1.5
EPLA Plasencia 24.55 130 P P 09 20 22.3 -0.3
EPLA pmax pmax
comp=Z,39nm,2.3s,mb4.5
EPLA Plasencia 24.55 130 P P 09 20 22.3 -0.2
comp=Z,39nm,2.3s,mb4.5
EPLA Plasencia 24.55 130 P P 09 20 22.3 -0.3
comp=Z,39nm,2.3s,mb4.5
ETSF Etsaut 24.59 118 eP P 09 20 21.3 -1.6
HINF Hinteralfeld 24.64 101 eP P 09 20 21.5 -1.9
BSD Bornholm Skovb 24.66 79 i P P 09 20 24.4 +0.8
BSD i S S 09 24 59.1 +14
BSD
comp=Z,1µm,21.0s
BSD Bornholm Skovb 24.66 79 eP P 09 20 24.4 +0.8
BSD i S S 09 24 59.1 +14
MOF Molkenrain 24.76 100 eP P 09 20 25.9 +1.4
GUD Guadarrama 24.85 126 P P 09 20 26.7 +1.5
GUD pmax pmax
comp=Z,12nm,1.1s,mb4.3
GUD Guadarrama 24.85 126 P P 09 20 26.7 +1.5
comp=Z,12nm,1.1s,mb4.3
EPF Esparros 24.90 116 eP P 09 20 24.5 -1.2
PESTR Estremoz 25.01 134 eP P 09 20 30.1 +3.4
PESTR eLR LR 09 26 31.0
CABF La Chapelle 25.07 104 eP P 09 20 25.6 -1.7
comp=Z,32nm,1.1s,mb4.5
CABF La Chapelle 25.07 104 eP P 09 20 25.6 -1.7
CABF pmax pmax
comp=Z,16nm,1.1s,mb4.5
CABF La Chapelle 25.07 104 eP P 09 20 25.6 -1.7
comp=Z,16nm,1.1s,mb4.5
EBIE Bielsa 25.08 117 P P 09 20 30.3 +2.9
comp=Z,14nm,1.0s,mb4.5
FELD Feldberg im Sc 25.19 99 eP P 09 20 28.5 +0.1
EBAD Badajoz 25.32 133 P P 09 20 30.3 +0.7
comp=Z,12nm,0.9s,mb4.4
EBAD Badajoz 25.32 133 P P 09 20 30.3 +0.7
comp=Z,12nm,0.9s,mb4.4
MOX Moxa 25.33 91 eP P 09 20 29.5 -0.2
comp=Z,30nm,1.5s,mb4.6
MOX
comp=Z,2µm,18.0s
MOX Moxa 25.33 91 eP P 09 20 29.5 -0.2
MOX pmax pmax
comp=Z,30nm,1.5s,mb4.6
MOX MLR MLR
comp=Z,2µm,18.0s,MS4.8
ARCES ARCESS Array B 25.46 43 P P 09 20 29.9 -0.9
comp=Z,28nm,1.0s,mb4.8,baz=266,slow=4.9,SNR=33
ARE0 ARCESS Array S 25.46 43 eP P 09 20 31.3 +0.5
ARE0 ARCESS Array S 25.46 43 eP P 09 20 31.3 +0.5
MTLF Montolieu 25.54 113 eP P 09 20 30.3 -1.3
comp=Z,39nm,1.2s,mb4.5
MTLF Montolieu 25.54 113 eP P 09 20 30.3 -1.3
MTLF pmax pmax
comp=Z,19nm,1.2s,mb4.5
MTLF Montolieu 25.54 113 eP P 09 20 30.3 -1.3
comp=Z,19nm,1.2s,mb4.5
VIVF Saint-Julien-l 25.60 108 eP P 09 20 30.5 -1.6
PBEJ Beja 25.65 135 eP P 09 20 37.3 +4.8
comp=Z,22nm,2.6s,mb4.2
CLL Collm 25.66 88 eP P 09 20 35.0 +2.3
CLL esP sP 09 20 40.0 +3.0
CLL ePP 09 21 13.0
CLL eS S 09 25 22.0 +21
CLL eSSS 09 26 18.0
CLL Collm 25.66 88 eP P 09 20 35.0 +2.3
CLL e 09 20 40.0
CLL MLR MLR
comp=Z,2µm,16.9s,MS4.7
CLL Collm 25.66 88 eP P 09 20 35.0 +2.3
CLL e 09 20 40.0
CLL eS S 09 25 22.0 +21
CLL LR LR
comp=Z,2µm,16.9s,MS4.7
GRA1 Grafenberg Arr 25.70 93 eP P 09 20 33.0 0.0
comp=Z,26nm,1.5s,mb4.5
GRA1 epP pP 09 20 43.6 +7.6
GRA1 LR LR
comp=Z,2µm,21.3s,MS4.6
GRA1 Grafenberg Arr 25.70 93 eP P 09 20 33.0 0.0
comp=Z,26nm,1.5s,mb4.5
GRA1 epP pP 09 20 43.6 +7.6
GRF Grafenberg Arr 25.70 93 eP P 09 20 33.0 0.0
comp=Z,26nm,1.5s,mb4.5
GRF epP pP 09 20 43.6 +7.6
GRF eL 09 29 46.7
comp=Z,2µm,21.3s
GRF Grafenberg Arr 25.70 93 eP P 09 20 33.0 0.0
GRF e*PP pP 09 20 43.6 +7.6
GRF pmax pmax
comp=Z,26nm,1.5s,mb4.5
GRF MLR MLR
comp=Z,2µm,21.3s,MS4.6
GRF Grafenberg Arr 25.70 93 eP P 09 20 33.0 0.0
GRF e*PP pP 09 20 43.6 +7.6
GRF pmax pmax
comp=Z,26nm,1.5s,mb4.5
GRF MLR MLR
comp=Z,2µm,21.3s,MS4.6
GRF Grafenberg Arr 25.70 93 eP P 09 20 33.0 0.0
comp=Z,26nm,1.5s,mb4.5
GRF epP pP 09 20 43.6 +7.6
ESDC Sonseca Array 25.74 127 P P 09 20 33.4 +0.1
comp=Z,7.6nm,0.9s,mb4.2,baz=326,slow=8.2,SNR=19
ESDC LR LR 09 29 11.6
comp=Z,684nm,18.2s,MS4.2,baz=320,slow=33
ESDC Sonseca Array 25.74 127 P P 09 20 35.0 +1.6
comp=Z,10nm,1.0s,mb4.3
ESDC Sonseca Array 25.74 127 P P 09 20 35.0 +1.6
comp=Z,10nm,1.0s,mb4.3
ESLA Sonseca Array 25.74 127 eP P 09 20 34.9 +1.6
comp=Z,1.1nm,0.7s,mb3.5
ESLA Sonseca Array 25.74 127 eP P 09 20 34.9 +1.5
comp=Z,1.1nm,0.7s,mb3.5
LASF Ste Croix 25.78 110 eP P 09 20 32.4 -1.3
KEV Kevo 25.96 42 ep P 09 20 34.5 -0.9
comp=Z,26nm,1.0s,mb4.7
KEV Kevo 25.96 42 eP P 09 20 34.5 -0.9
KEV pmax pmax
comp=Z,26nm,1.0s,mb4.7
NKC Novy Kostel 26.00 91 eP P 09 20 36.7 +0.9
NKC AMS AMS 09 31 10.0
comp=Z,3µm,15.6s
LPL La Plagne 26.15 105 eP P 09 20 36.1 -1.0
comp=Z,15nm,0.9s,mb4.2
LPL La Plagne 26.15 105 eP P 09 20 36.1 -1.0
LPL pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
LPL La Plagne 26.15 105 eP P 09 20 36.1 -1.0
comp=Z,7.7nm,0.9s,mb4.2
ORIF Oris-en-Rattie 26.15 107 eP P 09 20 35.9 -1.2
comp=Z,24nm,0.9s,mb4.4
ORIF eR
comp=Z,2µm,22.5s
ORIF Oris-en-Rattie 26.15 107 eP P 09 20 35.9 -1.2
ORIF pmax pmax
comp=Z,12nm,0.9s,mb4.4
ORIF Oris-en-Rattie 26.15 107 eP P 09 20 35.9 -1.2
comp=Z,12nm,0.9s,mb4.4
LPG La Plagne 26.18 105 eP P 09 20 36.3 -1.0
EMIN Mina Concepcio 26.32 134 P P 09 20 38.4 -0.2
comp=Z,16nm,1.0s,mb4.5
EMIN Mina Concepcio 26.32 134 P P 09 20 38.4 -0.2
comp=Z,16nm,1.0s,mb4.5
DAVA Damuels 26.54 98⇑ iP P 09 20 43.6 +3.1
comp=Z,7.4nm,1.1s,mb4.2
EMOS Mosqueruela 26.66 121 P P 09 20 47.0 +5.3
comp=Z,106nm,2.1s,mb5.0
SMRF Simiane la Rot 26.69 108 eP P 09 20 39.8 -2.1
MBDF Montbardon 26.73 106 eP P 09 20 41.2 -1.1
EADA Adamuz 26.78 130 P P 09 20 45.7 +3.0
comp=Z,10nm,1.0s,mb4.3
DAVOX Davos 26.87 99 LR LR 09 30 45.8
comp=Z,2µm,20.4s,MS4.7,baz=293,slow=35
PVCC Panska Ves 26.93 88 eP P 09 20 45.1 +1.0
PVCC AMS AMS 09 33 50.0
comp=Z,2µm,12.3s
PRU Pruhonice 27.23 89 eP P 09 20 46.6 -0.2
PRU AMS AMS 09 32 20.0
comp=Z,3µm,15.0s
KHC Kasperske Hory 27.26 92 eP P 09 20 49.5 +2.4
KHC AMS AMS 09 31 20.0
comp=Z,2µm,17.6s
KHC Kasperske Hory 27.26 92⇑ eP P 09 20 48.4 +1.3
KAF Kangasniemi 27.33 59 ep P 09 20 46.7 -1.0
comp=Z,8.3nm,0.5s,mb4.5
KAF Kangasniemi 27.33 59 eP P 09 20 46.7 -1.0
KAF pmax pmax
comp=Z,8.0nm,0.5s,mb4.5
FINES FINESS Array B 27.46 61 P P 09 20 49.1 +0.2
comp=Z,14nm,1.0s,mb4.5,baz=272,slow=11,SNR=14
FINES LR LR 09 31 12.4
comp=Z,742nm,18.4s,MS4.3,baz=144,slow=35
FIA1 FINESS Array S 27.46 61 eP P 09 20 49.9 +0.9
FIA1 FINESS Array S 27.46 61 eP P 09 20 49.8 +0.9
GERES GERESS Array B 27.50 92 PcP PcP 09 24 07.2 -0.2
comp=Z,0.4nm,0.2s,baz=350,slow=5.0,SNR=3.7
GERES LR LR 09 32 00.4
comp=Z,2µm,18.2s,MS4.7,baz=303,slow=37
FRF La Foret Royal 27.52 108 eP P 09 20 47.9 -1.5
KSP Ksiaz 27.63 86 eP P 09 20 51.2 +0.8
KSP e 09 20 56.4
KSP MLR MLR
comp=Z,4µm,17.2s,MS5.1
UPC Upice 27.68 87 eP P 09 20 50.4 -0.5
SBF Sospel 27.69 106 eP P 09 20 49.7 -1.2
DPC Dobruska-Polom 27.93 87 eP P 09 20 52.9 -0.2
DPC AMS AMS 09 32 10.0
comp=Z,2µm,17.2s
TREC Trest 28.14 90 AMS AMS 09 32 40.0
comp=Z,3µm,14.9s
KBA Koelnbreinsper 28.45 95⇑ iP P 09 21 03.0 +5.3
comp=Z,13nm,1.4s,mb4.4
KBA Koelnbreinsper 28.45 95⇓ iP P 09 21 00.1 +2.4
comp=Z,13nm,1.4s,mb4.4
KBA Koelnbreinsper 28.45 95⇑ iP P 09 21 03.0 +5.3
KBA pmax pmax
comp=Z,13nm,1.4s,mb4.4
VRAC Vranov 28.70 89 P P 09 20 59.8 -0.2
comp=Z,2.5nm,0.5s,mb4.2,baz=277,slow=9.8,SNR=3.9
VRAC LR LR 09 33 00.3
comp=Z,2µm,18.2s,MS4.7,baz=301,slow=38
OKC Ostrava-Krasne 29.18 87 AMS AMS 09 34 20.0
comp=Z,1µm,13.8s
JOF Joensuu 29.23 56 ep P 09 21 03.7 -1.0
OJC Ojcow 29.80 85 eP P 09 21 10.7 +1.0
VYHS Vyhne 30.37 88 eP P 09 21 14.1 -0.6
FCC Fort Churchill 31.68 297 eP P 09 21 26.4 +0.1
FCC pmax pmax
comp=Z,12nm,0.8s,mb4.8
FCC Fort Churchill 31.68 297 eP P 09 21 26.4 +0.1
comp=Z,12nm,0.8s,mb4.8
FCC Fort Churchill 31.68 297 eP P 09 21 26.4 +0.1
comp=Z,12nm,0.8s,mb4.8
KLMR Klimovskoe 33.62 56 eP P 09 21 44.0 +0.7
KLMR pmax pmax
comp=Z,90nm,1.3s,mb5.5
AKASG Malin Array Be 34.32 77 P P 09 21 48.2 -1.1
comp=Z,2.3nm,0.8s,mb4.2,baz=302,slow=8.7,SNR=25
AKASG PcP PcP 09 24 23.9 -1.5
comp=Z,0.2nm,0.2s,baz=293,slow=3.5,SNR=6.6
AKASG LR LR 09 37 13.8
comp=Z,281nm,18.3s,MS4.0,baz=300,slow=39
AKASG Malin Array Be 34.32 77 P P 09 21 48.2 -1.1
AKASG 09 24 23.9
AKASG Malin Array Be 34.32 77 P P 09 21 48.2 -1.1
AKASG PcP PcP 09 24 23.9 -1.5
AKASG LR LR 09 37 13.8
AKASG Malin Array Be 34.32 77 PcP PcP 09 24 23.9 -1.5
AKBB Malin Array Si 34.32 77 eP P 09 21 49.6 +0.3
OBN Obninsk 35.31 66⇓ eP P 09 21 59.4 +1.5
OBN 09 24 29.0
OBN eSS SS 09 29 44.2 -21
OBN pmax pmax
comp=Z,46nm,2.1s,mb5.0

OBN MLR MLR
comp=Z,800nm,16.0s,MS4.6
KIS Kishinev 36.47 82 *e*P **P** **09 22 08.0 +0.1**
KIS *e* 09 23 28.0
KIS MLR MLR
comp=E,400nm,15.0s
KIS MLR MLR
comp=Z,800nm,15.0s,MS4.6
KIS MLR MLR
comp=Z,1µm,16.0s
EYMN Ely 36.60 280 *e*P **P** **09 22 08.0 -1.0**
comp=Z,15nm,1.2s,mb4.7
EYMN Ely 36.60 280 *e*P **P** **09 22 08.0 -1.0**
comp=Z,15nm,1.2s,mb4.7
ULM Lac du Bonnet 37.32 286 P **P** **09 22 13.8 -1.3**
comp=Z,1.7nm,0.6s,mb4.0,baz=49,slow=8.3,SNR=6.7
ULM LR LR 09 36 11.3
comp=Z,1µm,20.1s,MS4.8,baz=74,slow=34
ULM Lac du Bonnet 37.32 286 *e*P **P** **09 22 13.5 -1.6**
comp=Z,5.4nm,0.8s,mb4.4
ULM Lac du Bonnet 37.32 286 *e*P **P** **09 22 13.5 -1.6**
comp=Z,5.4nm,0.8s,mb4.4
FFC Flin Flon 37.51 295 *e*P **P** **09 22 16.5 -0.2**
FFC pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
FFC Flin Flon 37.51 295 *e*P **P** **09 22 16.4 -0.3**
comp=Z,8.7nm,0.9s,mb4.5
FFC Flin Flon 37.51 295 *e*P **P** **09 22 16.5 -0.2**
comp=Z,8.6nm,0.9s,mb4.5
ACSO Alum Creek Sta 37.60 264 *e*P **P** **09 22 19.8 +2.3**
ACSO Alum Creek Sta 37.60 264 *e*P **P** **09 22 19.8 +2.3**
YKA Yellowknife Ar 38.42 312 P **P** **09 22 23.1 -1.2**
comp=Z,4.5nm,0.8s,mb4.2,baz=54,slow=9.1,SNR=13
YKA PcP PcP 09 24 37.4 -0.3
comp=Z,1.7nm,0.8s,baz=50,slow=3.7,SNR=4.1
YKA LR LR 09 37 27.8
comp=Z,2µm,18.2s,MS5.0,baz=90,slow=35
YKA Yellowknife Ar 38.42 312 P **P** **09 22 23.2 -1.2**
YKA 09 24 37.4
YKA Yellowknife Ar 38.42 312 P **P** **09 22 23.1 -1.3**
YKA Yellowknife Ar 38.42 312 PcP PcP 09 24 37.4 -0.2
VRSR Storozhevoye 38.93 70 *e*P **P** **09 22 28.7 +0.1**
VRSR pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,1.4s
TZTN Tazewell 40.69 260 *e*P **P** **09 22 45.1 +1.8**
TZTN Tazewell 40.69 260 *e*P **P** **09 22 45.1 +1.8**
WCI Wyandotte Cave 40.80 265 *e*P **P** **09 22 44.0 -0.3**
WCI pmax pmax
comp=Z,10.0nm,1.2s,mb4.3
WCI Wyandotte Cave 40.80 265 *e*P **P** **09 22 44.0 -0.3**
comp=Z,10nm,1.2s,mb4.3
WCI Wyandotte Cave 40.80 265 *e*P **P** **09 22 44.0 -0.3**
comp=Z,10nm,1.2s,mb4.3
INK Inuvik 41.23 327 P **P** **09 22 46.1 -1.7**
comp=Z,2.4nm,0.9s,mb3.8,baz=37,slow=9.5,SNR=6.1
INK Inuvik 41.23 327 *e*P **P** **09 22 46.2 -1.6**
INK *e* 09 24 44.3
INK pmax pmax
comp=Z,7.0nm,1.1s
INK Inuvik 41.23 327 *e*P **P** **09 22 46.2 -1.6**
comp=Z,6.8nm,1.1s,mb4.2
INK *e*PcP PcP 09 24 44.3 -2.3
INK Inuvik 41.23 327 *e*P **P** **09 22 46.2 -1.6**
comp=Z,6.8nm,1.1s,mb4.2
INK Inuvik 41.23 327 *e*PcP PcP 09 24 44.3 -2.3
SOKR Solikamsk 41.49 50*c i*P **P** **09 22 51.0 +1.1**
SOKR pmax pmax
comp=Z,50nm,1.4s,mb5.0
CCM Cathedral Cave 43.49 269 *e*P **P** **09 23 05.7 -0.4**
CCM pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
CCM Cathedral Cave 43.49 269 *e*P **P** **09 23 05.7 -0.4**
comp=Z,6.7nm,0.7s,mb4.5
CCM Cathedral Cave 43.49 269 *e*P **P** **09 23 05.7 -0.4**
comp=Z,6.7nm,0.7s,mb4.5
EDM Edmonton 43.66 300 *e*P **P** **09 23 07.3 -0.2**
BR131 Keskin Array S 44.09 87 *e*P **P** **09 23 13.0 +1.9**
comp=Z,6nm,0.8s,mb4.4
BR131 Keskin Array S 44.09 87 *e*P **P** **09 23 13.0 +2.0**
comp=Z,2.6nm,0.8s,mb4.0
BRTR Keskin Array B 44.09 87 P **P** **09 23 11.2 +0.2**
comp=Z,1.8nm,0.9s,mb3.8,baz=319,slow=5.4,SNR=8.6
BRTR LR LR 09 43 28.2
comp=Z,598nm,19.5s,MS4.5,baz=310,slow=39
SOC Sochi 44.38 78 *e*P **P** **09 23 14.7 +1.4**
SOC *e* 09 24 58.9
SOC *e*S **S** **09 29 46.5 -1.3**
SOC *e*SSS 09 33 52.1
SOC pmax pmax
comp=Z,14nm,0.7s,mb4.8
SOC MLR MLR
comp=Z,471nm,14.0s,MS4.6
LAO LASA Array 44.81 289 *e*P **P** **09 23 16.8 +0.1**
comp=Z,111nm,1.8s,mb5.4
LAO *e*PcP PcP 09 24 58.9 +0.2
LAO LASA Array 44.81 289 *e*P **P** **09 23 16.8 0.0**
comp=Z,111nm,1.8s,mb5.4
SVE Sverdlovsk 44.83 51 *e*P **P** **09 23 16.0 -0.9**
SVE pmax pmax
comp=Z,80nm,1.3s,mb5.4
KSU1 Kansas State U 45.47 274 *e*P **P** **09 23 20.2 -1.8**
KSU1 Kansas State U 45.47 274 *e*P **P** **09 23 20.2 -1.8**
EGMT Eagleton 45.58 293 *e*P **P** **09 23 23.4 +0.6**
comp=Z,78nm,1.8s,mb5.3
EGMT Eagleton 45.58 293 *e*P **P** **09 23 23.4 +0.6**
comp=Z,78nm,1.8s,mb5.3
KIV Kislovodsk 45.61 75⇓ *e*P **P** **09 23 25.8 +2.7**
KIV *e* pP 09 23 30.4 +4.2
KIV *e* 09 25 02.6
KIV *e*S **S** **09 30 23.3 +18**
KIV pmax pmax
comp=Z,22nm,1.5s,mb4.9
KIV MLR MLR
comp=Z,500nm,15.0s,MS4.6
DAWY Dawson 45.90 325 *e*P **P** **09 23 25.3 0.0**
DAWY Dawson 45.90 325 *e*P **P** **09 23 25.3 -0.1**
WALA Waterton Lakes 46.80 296 *e*P **P** **09 23 32.2 -0.3**
comp=Z,62nm,1.6s,mb5.3
WALA Waterton Lakes 46.80 296 *e*P **P** **09 23 32.2 -0.3**
comp=Z,62nm,1.6s,mb5.3
DLBC Dease Lake 46.86 315 *e*P **P** **09 23 33.4 +0.5**
DLBC Dease Lake 46.86 315 *e*P **P** **09 23 33.4 +0.5**
MIAR Mount Ida 47.38 268 *e*P **P** **09 23 36.9 -0.1**
MIAR *e* 09 25 07.5
MIAR pmax pmax
comp=Z,48nm,1.8s,mb5.1
MIAR Mount Ida 47.38 268 *e*P **P** **09 23 36.9 -0.2**
comp=Z,48nm,1.8s,mb5.1
MIAR *e*PcP PcP 09 25 07.5 -0.1
MIAR Mount Ida 47.38 268 *e*P **P** **09 23 36.9 -0.1**
comp=Z,48nm,1.8s,mb5.1
MIAR Mount Ida 47.38 268 *e*PcP PcP 09 25 07.5 -0.1
HRY Holter Researc 47.50 293 *e*P **P** **09 23 38.0 +0.1**
HRY Holter Researc 47.50 293 *e*P **P** **09 23 38.0 0.0**
MALT Malatya 47.62 84 *e*P **P** **09 23 40.7 +1.9**
MALT pmax pmax
comp=Z,20nm,1.5s,mb4.9
MALT Malatya 47.62 84 *e*P **P** **09 23 40.7 +1.9**
comp=Z,20nm,1.5s,mb4.9
MALT Malatya 47.62 84 *e*P **P** **09 23 40.7 +1.9**
comp=Z,20nm,1.5s,mb4.9
COLA College 47.67 329 *e*P **P** **09 23 39.0 -0.2**
COLA pmax pmax
comp=Z,43nm,1.9s,mb5.2
COLA College 47.67 329 *e*P **P** **09 23 39.0 -0.2**
comp=Z,43nm,1.9s,mb5.2
COLA College 47.67 329 *e*P **P** **09 23 39.0 -0.2**
comp=Z,43nm,1.9s,mb5.2
SKAG Skagway 47.99 318 *e*P **P** **09 23 42.1 +0.3**
comp=Z,73nm,1.9s,mb5.4
SKAG LR LR
comp=Z,2µm,18.0s,MS5.1
CHMT Chamberlain Mo 48.03 294 *e*P **P** **09 23 41.6 -0.4**
CHMT Chamberlain Mo 48.03 294 *e*P **P** **09 23 41.7 -0.3**
BSMT Bassoo Peak 48.07 296 *e*P **P** **09 23 42.7 +0.4**
BSMT Bassoo Peak 48.07 296 *e*P **P** **09 23 42.7 +0.3**
IMA2 Indian Mountai 48.17 333 *e*P **P** **09 23 43.2 0.0**
BOZ Bozeman (W) 48.18 292 *e*P **P** **09 23 43.4 +0.2**
BOZ pmax pmax
comp=Z,67nm,1.9s,mb5.3
BOZ Bozeman (W) 48.18 292 *e*P **P** **09 23 43.4 +0.2**
comp=Z,67nm,1.9s,mb5.3
BOZ Bozeman (W) 48.18 292 *e*P **P** **09 23 43.4 +0.2**
comp=Z,67nm,1.9s,mb5.3
PHWY Pilot Hill 48.34 283 *e*P **P** **09 23 44.6 +0.1**
PHWY *e*PP PP 09 25 34.7 -2.2
PHWY Pilot Hill 48.34 283 *e*P **P** **09 23 44.6 +0.2**
PHWY Pilot Hill 48.34 283 *e*PP PP 09 25 34.7 -2.2
MSO Missoula 48.42 294 *e*P **P** **09 23 44.8 -0.3**
comp=Z,14nm,1.8s,mb4.7
MSO Missoula 48.42 294 *e*P **P** **09 23 44.8 -0.2**
comp=Z,14nm,1.8s,mb4.7
LRM Limekiln Ridge 48.44 292 *e*P **P** **09 23 45.6 +0.3**
LRM Limekiln Ridge 48.44 292 *e*P **P** **09 23 45.6 +0.4**
TIXI Tiksi 48.77 8⇑ *e*P **P** **09 23 47.7 -0.1**
TIXI pmax pmax
comp=Z,18nm,1.2s,mb5.0
NEW Newport 48.85 298 LR LR 09 43 39.8
comp=Z,4µm,19.0s,MS5.4,baz=42,slow=35
DLMT Dillon 48.85 292 *e*P **P** **09 23 48.4 +0.1**
comp=Z,47nm,1.8s,mb5.2
DLMT *e*PcP PcP 09 25 12.7 -0.2
DLMT Dillon 48.85 292 *e*P **P** **09 23 48.4 0.0**
comp=Z,47nm,1.8s,mb5.2
DLMT Dillon 48.85 292 *e*PcP PcP 09 25 12.7 -0.2
MCK McKinley 48.86 329 *e*P **P** **09 23 48.4 -0.1**
MCK pmax pmax
comp=Z,37nm,1.9s,mb5.1
MCK McKinley 48.86 329 *e*P **P** **09 23 48.4 -0.1**
comp=Z,36nm,1.9s,mb5.1
FLWY Flagg Ranch 48.88 290 *e*P **P** **09 23 48.9 +0.3**
comp=Z,60nm,1.9s,mb5.3
FLWY Flagg Ranch 48.88 290 *e*P **P** **09 23 48.9 +0.3**
comp=Z,60nm,1.9s,mb5.3
RWWY Rawlins 48.93 285 *e*P **P** **09 23 49.5 +0.5**
comp=Z,81nm,2.1s,mb5.4
RWWY Rawlins 48.93 285 *e*P **P** **09 23 49.5 +0.5**
comp=Z,81nm,2.1s,mb5.4
IMW Indian Meadow 49.13 290 *e*P **P** **09 23 51.7 +1.2**
comp=Z,29nm,1.7s,mb5.0
IMW Indian Meadow 49.13 290 *e*P **P** **09 23 51.7 +1.2**
comp=Z,29nm,1.7s,mb5.0
MOOW Mose Ponds 49.15 289 *e*P **P** **09 23 51.3 +0.7**
comp=Z,51nm,2.1s,mb5.2
BW06 Boulder Array 49.29 288 *e*P **P** **09 23 50.7 -1.1**
comp=Z,15nm,1.5s,mb4.8
BW06 Boulder Array 49.29 288 *e*P **P** **09 23 50.7 -1.0**
comp=Z,15nm,1.5s,mb4.8
PDAR Pinedale Array 49.29 288 P **P** **09 23 50.3 -1.4**
comp=Z,3.0nm,1.1s,mb4.2,baz=56,slow=8.2,SNR=16
PDAR PP PP 09 25 41.0 -4.6
comp=Z,0.8nm,0.8s,baz=46,slow=8.5,SNR=3.9
PDAR LR LR 09 43 35.5
comp=Z,1µm,18.9s,MS5.0,baz=17,slow=35
SNOW Snow King Moun 49.36 289 *e*P **P** **09 23 52.7 +0.4**
comp=Z,27nm,1.6s,mb5.0
MCMT McKenzie Canyo 49.37 292 *e*P **P** **09 23 52.6 +0.3**
MCMT McKenzie Canyo 49.37 292 *e*P **P** **09 23 52.6 +0.3**
TPAW Teton Pass 49.44 289 *e*P **P** **09 23 53.1 +0.2**
comp=Z,19nm,1.5s,mb4.9
TPAW Teton Pass 49.44 289 *e*P **P** **09 23 53.1 +0.2**
comp=Z,19nm,1.5s,mb4.9
GNI Garni 49.45 77 P **P** **09 23 53.6 +0.6**
comp=Z,3.4nm,0.4s,mb4.7,baz=180,slow=18,SNR=4.6
GNI Garni 49.45 77*ce*P **P** **09 23 54.9 +2.0**
GNI pmax pmax
comp=Z,26nm,1.3s
DCID1 Drake Creek 49.47 289 *e*P **P** **09 23 54.1 +0.9**
DCID1 Drake Creek 49.47 289 *e*P **P** **09 23 54.1 +1.0**
REDW Red Top Meadow 49.48 289 *e*P **P** **09 23 53.6 +0.4**
comp=Z,28nm,1.7s,mb5.0
ISCO Idaho Springs 49.54 282 *e*P **P** **09 23 54.3 +0.6**
ISCO pmax pmax
comp=Z,36nm,1.9s,mb5.1
ISCO Idaho Springs 49.54 282 *e*P **P** **09 23 54.3 +0.7**
comp=Z,36nm,1.9s,mb5.1
ISCO Idaho Springs 49.54 282 *e*P **P** **09 23 54.3 +0.6**
comp=Z,36nm,1.9s,mb5.1
RRI2 Red Ridge 49.72 289 *e*P **P** **09 23 56.6 +1.6**
RRI2 Red Ridge 49.72 289 *e*P **P** **09 23 56.6 +1.6**
WMOK Wichita Mounta 49.92 272 *e*P **P** **09 23 56.5 -0.1**
WMOK *e* 09 25 15.6
WMOK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
WMOK Wichita Mounta 49.92 272 *e*P **P** **09 23 56.5 0.0**
comp=Z,4.2nm,0.8s,mb4.5
WMOK *e*PcP PcP 09 25 15.6 -1.2
WMOK Wichita Mounta 49.92 272 *e*P **P** **09 23 56.5 -0.1**
comp=Z,4.2nm,0.8s,mb4.5
WMOK Wichita Mounta 49.92 272 *e*PcP PcP 09 25 15.6 -1.2
SML Sawmill 50.24 327 *e*P **P** **09 23 58.7 -0.3**
PMR Palmer 50.64 327 *e*P **P** **09 24 02.1 +0.1**
SMCO Snowmass 50.70 283 *e*P **P** **09 24 02.8 +0.4**
comp=Z,20nm,1.5s,mb4.8
SMCO Snowmass 50.70 283 *e*P **P** **09 24 02.8 +0.3**
comp=Z,20nm,1.5s,mb4.8
HLID Hailey 51.06 292 *e*P **P** **09 24 05.1 -0.1**
comp=Z,34nm,2.0s,mb4.9
HLID Hailey 51.06 292 *e*P **P** **09 24 05.1 0.0**
comp=Z,34nm,2.0s,mb4.9
HWUT Hardware Ranch 51.15 288 *e*P **P** **09 24 05.3 -0.5**
comp=Z,18nm,1.4s,mb4.8
HWUT *e*PcP PcP 09 25 20.8 -0.5
HWUT Hardware Ranch 51.15 288 *e*P **P** **09 24 05.3 -0.5**
comp=Z,18nm,1.4s,mb4.8
HWUT Hardware Ranch 51.15 288 *e*PcP PcP 09 25 20.8 -0.5
AMTX Amarillo 51.30 275 *e*P **P** **09 24 07.5 +0.6**
comp=Z,16nm,1.3s,mb4.8
AMTX Amarillo 51.30 275 *e*P **P** **09 24 07.5 +0.5**
comp=Z,16nm,1.3s,mb4.8
TTA Tatalina 51.35 331 *e*P **P** **09 24 07.1 -0.2**
BMO Blue Mountains 51.46 295 *e*P **P** **09 24 07.3 -0.9**
comp=Z,7.2nm,1.2s,mb4.5
BMO Blue Mountains 51.46 295 *e*P **P** **09 24 07.3 -0.9**
comp=Z,7.2nm,1.2s,mb4.5
BVAR Borovoye Array 51.47 49 P **P** **09 24 08.0 -0.2**
comp=Z,11nm,0.9s,mb4.8,baz=316,slow=6.7,SNR=33
TOA0 Torodi Ar. Sit 51.77 139 *e*P **P** **09 24 09.9 -0.6**
TOA0 Torodi Ar. Sit 51.77 139 *e*P **P** **09 24 09.9 -0.6**
TORD Torodi Ar. Bea 51.77 139 P **P** **09 24 09.8 -0.8**
comp=Z,7.2nm,0.9s,mb4.6,baz=338,slow=6.4,SNR=31
TORD LR LR 09 43 05.5
comp=Z,654nm,21.6s,MS4.6,baz=325,slow=32
SPUT South Promonto 51.81 288 *e*P **P** **09 24 10.5 -0.3**
SPUT South Promonto 51.81 288 *e*P **P** **09 24 10.5 -0.2**
DAU Daniels Canyon 51.90 287 *e*P **P** **09 24 11.5 +0.1**
HKT Hockley 52.18 266 *e*P **P** **09 24 13.8 +0.2**
HKT pmax pmax
comp=Z,74nm,2.2s,mb5.2
HKT Hockley 52.18 266 *e*P **P** **09 24 13.8 +0.2**
comp=Z,74nm,2.2s,mb5.2
HKT Hockley 52.18 266 *e*P **P** **09 24 13.8 +0.2**
comp=Z,74nm,2.2s,mb5.2
E05A Randle 52.22 299⇑ P **P** **09 24 13.2 -0.7**
baz=52
MPU Maple Canyon 52.39 287 *e*P **P** **09 24 15.1 0.0**
comp=Z,28nm,1.7s,mb4.9
MPU Maple Canyon 52.39 287 *e*P **P** **09 24 15.1 0.0**
comp=Z,28nm,1.7s,mb4.9
SRU San Rafael 52.53 285 *e*P **P** **09 24 16.7 +0.6**
M13A Montello 52.61 290 P **P** **09 24 17.2 +0.5**
baz=52,SNR=7.7
NLU North Lily Min 52.66 287 *e*P **P** **09 24 17.4 +0.3**
NLU North Lily Min 52.66 287 *e*P **P** **09 24 17.4 +0.3**
DUG Dugway 52.84 288 *e*P **P** **09 24 18.7 +0.3**
DUG pmax pmax
comp=Z,23nm,1.9s,mb4.8
DUG Dugway 52.84 288 *e*P **P** **09 24 18.7 +0.4**
comp=Z,23nm,1.9s,mb4.8
DUG Dugway 52.84 288 *e*P **P** **09 24 18.7 +0.3**
comp=Z,23nm,1.9s,mb4.8
M12A Wells 52.93 290 P **P** **09 24 20.2 +1.1**
baz=53,SNR=7.2
F04A Amboy 53.00 299⇓ P **P** **09 24 20.0 +0.5**
baz=53
N13A Wendover, West 53.01 289⇑ P **P** **09 24 20.4 +0.7**
baz=53
E03A Lebam 53.04 300⇑ P **P** **09 24 19.8 0.0**
baz=53
J08A Circle Bar Ran 53.14 294⇑ P **P** **09 24 19.8 -0.8**
baz=53,SNR=10
M11A Holland Ranch, 53.34 291⇓ P **P** **09 24 23.1 +1.0**
baz=53
N12A Clover Valley, 53.42 290⇓ P **P** **09 24 23.1 +0.4**
baz=53,SNR=6.3
I06A Prineville 53.51 296 P **P** **09 24 23.4 +0.1**
baz=53,SNR=5.6
F03A Seaside 53.51 300⇓ P **P** **09 24 24.1 +0.7**
baz=53
K08A Mann Creek Ran 53.63 294⇓ P **P** **09 24 23.6 -0.6**
baz=53,SNR=7.9
M10A I.L. Ranch, Tu 53.63 292⇑ P **P** **09 24 24.5 +0.2**
baz=53
ANMO Albuquerque 53.70 279⇑ *e*P **P** **09 24 24.9 +0.1**
ANMO Albuquerque 53.70 279 *e*P **P** **09 24 26.0 +1.2**
comp=Z,16nm,1.7s,mb4.7
ANMO Albuquerque 53.70 279 *e*P **P** **09 24 26.0 +1.2**
comp=Z,16nm,1.7s,mb4.7
O12A Currie 53.73 289⇑ P **P** **09 24 25.8 +0.8**
baz=54,SNR=8.6
N11A Elko Archery C 53.78 290⇓ P **P** **09 24 26.4 +1.1**
baz=54
L09A Wilkinson Ranc 53.79 293⇓ P **P** **09 24 26.0 +0.6**
baz=54
JCT Junction City 53.81 270 *e*P **P** **09 24 25.2 -0.3**
JCT pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
JCT Junction City 53.81 270 *e*P **P** **09 24 25.2 -0.3**
comp=Z,6.0nm,0.8s,mb4.6
JCT Junction City 53.81 270 *e*P **P** **09 24 25.2 -0.3**
comp=Z,6.0nm,0.8s,mb4.6
H04A Detroit Lake 53.85 298⇓ P **P** **09 24 25.1 -0.8**
baz=54
G03A Yamhill 53.85 299⇓ P **P** **09 24 26.0 +0.1**
baz=54
WVOR Wild Horse Val 53.93 294 *e*P **P** **09 24 25.7 -0.7**
WVOR pmax pmax
comp=Z,30nm,1.6s,mb5.0
WVOR Wild Horse Val 53.93 294 *e*P **P** **09 24 25.7 -0.7**
comp=Z,30nm,1.6s,mb5.0
WVOR Wild Horse Val 53.93 294 *e*P **P** **09 24 25.7 -0.7**
comp=Z,30nm,1.6s,mb5.0
L08A Fields 53.98 293 P **P** **09 24 27.2 +0.5**
baz=54,SNR=9.2
J06A Christmas Vall 54.01 295⇓ P **P** **09 24 26.8 -0.3**
baz=54,SNR=7.6
K07A Rock Creek Ran 54.02 294⇓ P **P** **09 24 25.7 -1.4**
baz=54
M09A Marrel Ranch, 54.14 292⇓ P **P** **09 24 28.1 +0.1**
baz=54
N10A Dunphy 54.23 291⇓ P **P** **09 24 28.4 -0.2**
baz=54
K06A Valley Falls 54.40 295⇑ P **P** **09 24 29.4 -0.5**
baz=54
BNM Barren Site 54.41 278 *e*P **P** **09 24 30.6 +0.6**
BNM Barren Site 54.41 278 *e*P **P** **09 24 30.6 +0.6**
P12A McGill 54.42 289⇓ P **P** **09 24 30.4 +0.4**
baz=54,SNR=7.8
LAZ Ladron 54.48 279 *e*P **P** **09 24 31.2 +0.7**
LAZ Ladron 54.48 279 *e*P **P** **09 24 31.2 +0.8**
J05A Fort Rock 54.49 296⇓ P **P** **09 24 31.2 +0.7**
baz=54,SNR=5.7
M08A Happy Creek Ra 54.56 293⇑ P **P** **09 24 31.7 +0.6**
baz=54
L07A Adell 54.58 294⇓ P **P** **09 24 31.5 +0.3**
baz=54
N09A Rock Creek Ran 54.62 292⇑ P **P** **09 24 31.2 -0.2**
baz=54,SNR=5.9
NVS Novosibirsk 54.70 40 *e*P **P** **09 24 31.3 -0.8**
NVS pmax pmax
comp=N,24nm,1.3s
NVS pmax pmax
comp=Z,60nm,1.3s,mb5.5
NVS pmax pmax
comp=E,5.0nm,0.9s
P11A Circle Ranch, 54.77 289⇑ P **P** **09 24 32.9 +0.4**
baz=55
KDAK Kodiak Island 54.79 326 LR LR 09 48 50.6
comp=E,766nm,18.3s,MS4.8,baz=46,slow=37
I03A Eugene 54.90 298⇑ P **P** **09 24 32.9 -0.6**
baz=55
O09A Fish Creek Ran 54.99 291⇑ P **P** **09 24 33.2 -0.9**
baz=55,SNR=10
P10A Eureka 55.06 290⇓ P **P** **09 24 35.1 +0.4**
baz=55
L05A Lakeview 55.26 295⇑ P **P** **09 24 35.8 -0.3**
baz=55
Q11A Duckwater 55.27 289⇓ P **P** **09 24 35.8 -0.4**
baz=55
N07B Gerlach 55.37 293⇓ P **P** **09 24 36.9 +0.1**
baz=55
P09A Austin 55.44 290⇑ P **P** **09 24 38.1 +0.7**
baz=55
WUAZ Wupatki 55.75 283 *e*P **P** **09 24 40.2 +0.6**
WUAZ Wupatki 55.75 283 *e*P **P** **09 24 40.2 +0.6**
P08A Dixie Valley 55.79 291⇓ P **P** **09 24 40.1 +0.2**
baz=56
N06A Buffalo Meadow 55.80 293⇑ P **P** **09 24 39.6 -0.3**
baz=56,SNR=6.0
O07A Toulon 55.81 292⇓ P **P** **09 24 39.6 -0.5**
baz=56,SNR=5.7
DBIC Dimbokro 55.89 149 P **P** **09 24 40.1 -0.5**
comp=E,4.8nm,1.0s,mb4.5,baz=0.0,slow=7.1,SNR=3.6
DBIC LR LR 09 46 15.7
comp=E,867nm,18.1s,MS4.9,baz=291,slow=34
M04C Macdoel 55.94 295⇑ P **P** **09 24 40.5 -0.5**
baz=56
M05C Lookout 55.94 295⇑ P **P** **09 24 40.2 -0.9**
baz=56
ZAL Zalesovo 55.97 40 P **P** **09 24 39.9 -1.3**
comp=E,1.4nm,0.3s,mb4.4,baz=50,slow=7.9,SNR=5.6
ZAL LR LR 09 51 29.5
comp=E,153nm,18.3s,MS4.1,baz=150,slow=39
R10A Warm Springs 56.02 289⇓ P **P** **09 24 41.6 +0.1**
baz=56
Q09A Carvers 56.03 290⇓ P **P** **09 24 41.1 -0.5**
baz=56
O06A Flanigan 56.26 293⇑ P **P** **09 24 42.8 -0.5**
baz=56,SNR=7.6
LIC Lamto 56.27 149 *e*P **P** **09 24 42.4 -0.9**
comp=E,47nm,1.4s,mb5.0
LIC *e*R
comp=E,295nm,17.5s
LIC Lamto 56.27 149 *e*P **P** **09 24 42.4 -0.9**
comp=E,24nm,1.4s,mb5.0
LIC LR LR
comp=Z,150nm,17.5s,MS4.1
P07A Fallon 56.30 292⇑ P **P** **09 24 43.1 -0.4**
baz=56
Q08A Gabbs 56.37 290 P **P** **09 24 43.7 -0.3**
baz=56,SNR=14
YBH Yreka Blue Hor 56.38 296 LR LR 09 48 00.8
comp=Z,2µm,21.4s,MS5.2,baz=25,slow=35
PAHR Pah Rah Range 56.40 292 *e*P **P** **09 24 44.7 +0.4**
comp=Z,51nm,1.6s,mb5.3
PAHR Pah Rah Range 56.40 292 *e*P **P** **09 24 44.7 +0.4**
comp=Z,51nm,1.6s,mb5.3
R09A Tonopah 56.43 289⇓ P **P** **09 24 44.3 -0.2**
baz=56,SNR=20
P06A Stead Airport, 56.67 293⇓ P **P** **09 24 46.3 +0.1**
baz=56
O04C Chester 56.73 294⇑ P **P** **09 24 46.2 -0.4**
baz=56
W14A Seligman 56.85 284⇓ P **P** **09 24 47.4 -0.1**
baz=57
SHPR Sheep Range 56.86 287 *e*P **P** **09 24 47.6 +0.1**
NVAR Mina Array Bea 56.88 290 P **P** **09 24 46.9 -0.8**
comp=Z,2.3nm,0.9s,mb4.2,baz=53,slow=6.0,SNR=13
NVAR Mina Array Bea 56.88 290 P **P** **09 24 46.9 -0.8**
WCN Washoe City 56.90 292⇑ P **P** **09 24 48.1 +0.3**
baz=57,SNR=6.6
S09A Goldfield 56.92 289 P **P** **09 24 47.8 -0.2**
baz=57,SNR=7.6
X15A Humboldt 56.99 283⇑ P **P** **09 24 48.8 +0.3**
baz=57
TPNV Topopah Spring 57.05 288 *e*P **P** **09 24 48.8 -0.1**
TPNV pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
TPNV Topopah Spring 57.05 288 *e*P **P** **09 24 48.8 -0.1**
comp=Z,4.7nm,0.9s,mb4.5
TPNV Topopah Spring 57.05 288 *e*P **P** **09 24 48.8 -0.1**
comp=Z,4.7nm,0.9s,mb4.5
WDC Whiskeytown Da 57.21 295⇓ P **P** **09 24 49.7 -0.3**
baz=57
P05C Yuba Gap, Truc 57.31 293⇓ P **P** **09 24 50.7 0.0**
baz=57
V12A Nelson 57.32 286⇓ P **P** **09 24 50.6 -0.2**
baz=57
X14A Yava 57.34 283⇓ P **P** **09 24 50.7 -0.2**
baz=57
W13A Hualapai Mount 57.34 285⇑ P **P** **09 24 50.9 0.0**
baz=57
R06C Coleville 57.37 291⇑ P **P** **09 24 51.3 +0.2**
baz=57
WAKR Walker 57.37 291 *e*P **P** **09 24 52.4 +1.2**
WAKR Walker 57.37 291 *e*P **P** **09 24 52.4 +1.2**

O03C	**Acorn Hollow,** baz=57	**57.43**	**294**	⇓P		**P**		**09 24 50.5**	**-1.0**
U10A	**Ash Meadows, A** baz=57	**57.51**	**288**	⇓P		**P**		**09 24 52.1**	**0.0**
R07C	**Lee Vining** baz=57	**57.51**	**291**	⇓P		**P**		**09 24 52.0**	**-0.1**
V11A	**Goodsprings** baz=57	**57.52**	**286**	⇑P		**P**		**09 24 52.6**	**+0.4**
R05C	**Kirkwood Meado** baz=57	**57.53**	**292**	⇑P		**P**		**09 24 51.8**	**-0.4**
ORV	**Oroville** baz=57	**57.53**	**294**	⇑P		**P**		**09 24 51.4**	**-0.9**
OHCM	**Honcut**	**57.69**	**293**	*e*P		**P**		**09 24 52.6**	**-0.8**
LAVA	**Lava Cap Winer** baz=58	**57.79**	**292**	⇓P		**P**		**09 24 53.6**	**-0.6**
SUTB	**Sutter Butte** baz=58	**57.92**	**294**	⇑P		**P**		**09 24 53.4**	**-1.7**
Q04C	**Lincoln** baz=58	**58.04**	**293**	⇑P		**P**		**09 24 55.3**	**-0.5**
S06C	**San Francisco** baz=58,SNR=8.9	**58.06**	**291**	⇓P		**P**		**09 24 56.0**	**0.0**
TUQ	**Turquoise Mtn.** baz=58	**58.08**	**286**	⇓P		**P**		**09 24 56.4**	**+0.2**
O01C	**Eel River Cons** baz=58	**58.15**	**296**	⇑P		**P**		**09 24 56.4**	**-0.3**
CMB	**Columbia Colle** baz=58	**58.20**	**292**	⇑P		**P**		**09 24 56.4**	**-0.6**
DAC	**Darwin (Calif)**	**58.24**	**288**	*e*P		**P**		**09 24 58.2**	**+0.9**
DAC	comp=Z,13nm,1.0s,mb4.9			pmax		pmax			
DAC	**Darwin (Calif)** comp=Z,13nm,1.0s,mb4.9	**58.24**	**288**	*e*P		**P**		**09 24 58.2**	**+1.0**
DAC	**Darwin (Calif)** comp=Z,13nm,1.0s,mb4.9	**58.24**	**288**	*e*P		**P**		**09 24 58.2**	**+0.9**
Z14A	**Wintersburg** baz=58	**58.25**	**283**	⇑P		**P**		**09 24 57.9**	**+0.6**
KCC	**Kaiser Creek** baz=58	**58.25**	**290**	⇑P		**P**		**09 24 57.3**	**-0.1**
116A	**Eloy** baz=58	**58.25**	**281**	⇓P		**P**		**09 24 57.9**	**+0.6**
YAK	**Yakutsk**	**58.26**	**11**	⇑*e*P		**P**		**09 24 56.5**	**-0.9**
YAK	comp=Z,18nm,0.7s,mb5.2			pmax		pmax			
R04C	**Big Horse Ranc** baz=58	**58.29**	**292**	⇑P		**P**		**09 24 57.5**	**-0.1**
CWC	**Cottonwood Cre** baz=58	**58.35**	**289**	⇓P		**P**		**09 24 58.1**	**+0.1**
P01C	**Double 8 Ranch** baz=58	**58.46**	**295**	⇑P		**P**		**09 24 58.6**	**-0.2**
GSC	**Goldstone**	**58.63**	**287**	*e*P		**P**		**09 25 00.8**	**+0.8**
GSC	**Goldstone** baz=58	**58.63**	**287**	⇓P		**P**		**09 25 00.3**	**+0.3**
T06C	**Millerton Lake** baz=58	**58.69**	**290**	⇓P		**P**		**09 25 00.7**	**+0.3**
HOPS	**Hopland** baz=58	**58.71**	**294**	⇑P		**P**		**09 25 00.5**	**-0.1**
S05C	**Merced** baz=58	**58.72**	**291**	⇓P		**P**		**09 24 59.9**	**-0.7**
S04C	**Ingram Canyon,** baz=59	**59.08**	**292**	⇓P		**P**		**09 25 03.0**	**-0.1**
ISA	**Isabella**	**59.16**	**289**	*e*P		**P**		**09 25 04.2**	**+0.5**
ISA	**Isabella** baz=59	**59.16**	**289**	⇑P		**P**		**09 25 03.9**	**+0.3**
GLA	**Glamis**	**59.44**	**284**	*e*P		**P**		**09 25 06.4**	**+0.8**
GLA	**Glamis** baz=59	**59.44**	**284**	⇓P		**P**		**09 25 05.9**	**+0.4**
U04C	**Hernandez Rese** baz=60	**59.72**	**291**	⇓P		**P**		**09 25 08.1**	**+0.5**
PFO	**Pinyon Flat Ob** baz=60	**59.80**	**286**	⇑P		**P**		**09 25 08.3**	**+0.2**
PKD	**Parkfield** baz=60	**59.94**	**290**	⇓P		**P**		**09 25 09.4**	**+0.3**
BOD	**Bodaibo**	**60.12**	**21**	*e*P		**P**		**09 25 07.1**	**-3.2**
BOD	comp=Z,8.0nm,1.9s,mb4.4			pmax		pmax			
V03C	**Hunter Liggett** baz=60	**60.22**	**291**	⇓P		**P**		**09 25 10.2**	**-0.7**
BAR	**Barrett**	**60.66**	**285**	*e*P		**P**		**09 25 15.5**	**+1.6**
BAR	**Barrett**	**60.66**	**285**	*e*P		**P**		**09 25 15.5**	**+1.5**
MKAR	**Makanchi Array** comp=Z,8.3nm,0.9s,mb4.9,baz=333,slow=6.1,SNR=37	**61.04**	**46**	P		**P**		**09 25 15.8**	**-0.8**
AAK	**Ala-Archa**	**61.40**	**54**	⇑*e*P		**P**		**09 25 20.4**	**+1.4**
AAK	comp=Z,17nm,1.7s,mb4.9			pmax		pmax			
AAK	**Ala-Archa** comp=Z,17nm,1.3s,mb5.0	**61.40**	**54**	*e*P		**P**		**09 25 20.3**	**+1.3**
AAK	**Ala-Archa** comp=Z,17nm,1.3s,mb5.0	**61.40**	**54**	*e*P		**P**		**09 25 20.3**	**+1.3**
MA2	**Magadan**	**61.68**	**359**	⇑*e*P		**P**		**09 25 20.9**	**0.0**
MA2	comp=Z,25nm,1.7s,mb5.1			pmax		pmax			
ROSC	**El Rosal** comp=Z,7.6nm,0.7s,mb4.8,baz=264,slow=21,SNR=7.5	**63.65**	**230**	P		**P**		**09 25 35.9**	**+1.9**
ROSC	**El Rosal**	**63.65**	**230**	*e*P		**P**		**09 25 36.0**	**+1.9**
ROSC	**El Rosal**	**63.65**	**230**	*e*P		**P**		**09 25 36.0**	**+2.0**
CIT	**Chita**	**65.50**	**23**	*e*P		**P**		**09 25 46.4**	**+0.2**
WMQ	**Urumqi**	**65.56**	**44**	P		**P**		**09 25 49.5**	**+3.0**
WMQ				AP		pP		09 25 54.0	+4.2
WMQ				XP		sP		09 25 56.5	+5.5
WMQ				PCP		PcP		09 26 21.0	+2.8
WMQ				PP		PP		09 28 15.8	+5.1
WMQ				S		S		09 34 32.3	+0.5
WMQ	comp=Z,14nm,1.4s,mb4.8			AMB		AMB			
WMQ	comp=Z,124nm,5.1s			AMB		AMB			
WMQ	comp=N,505nm,17.0s,MS4.9			LR		LR			
WMQ	comp=E,379nm,15.9s,MS4.9			LR		LR			
WMQ	comp=Z,485nm,17.5s,MS4.8			LR		LR			
SONM	**Songino Array** comp=Z,15nm,1.2s,mb4.9,baz=322,slow=4.9,SNR=43	**67.77**	**30**	P		**P**		**09 25 59.9**	**-0.7**
SONM				LR		LR		09 56 09.7	
OTAV	**Otavalo** comp=Z,12nm,1.4s,mb4.6	**69.51**	**232**	*e*P		**P**		**09 26 18.1**	**+6.6**
KLR	**Kul'dur**	**71.09**	**12**	*e*P		**P**		**09 26 18.2**	**-3.0**
HABR	**Khabarovsk**	**72.17**	**10**	*e*P		**P**		**09 26 27.1**	**-0.5**
HABR				S		S		09 35 48.2	-1.8
GTA	**Gaotai**	**73.61**	**38**	*e*P		**P**		**09 26 35.8**	**-0.4**
GTA				AP		pP		09 26 40.3	+0.8
GTA				XP		sP		09 26 43.0	+2.3
GTA				PP		PP		09 29 20.0	-0.3
GTA				PPP				09 31 04.3	
GTA				S		S		09 36 03.0	-3.5
GTA				SS		SS		09 40 48.8	-0.7
GTA	comp=Z,21nm,1.8s,mb4.8			AMB		AMB			
GTA	comp=Z,200nm,5.0s			AMB		AMB			
GTA	comp=N,154nm,14.1s			LR		LR			
GTA	comp=E,249nm,20.9s			LR		LR			
GTA	comp=Z,181nm,14.8s,MS4.5			LR		LR			
YSS	**Yuzh-Sakhalins**	**74.19**	**5***c*	*i*P		**P**		**09 26 40.2**	**+0.6**
YSS	comp=Z,39nm,1.6s,mb5.1			pmax		pmax			
YSS	**Yuzh-Sakhalins** comp=Z,39nm,1.6s,mb5.1	**74.19**	**5**	*i*P		**P**		**09 26 40.2**	**+0.6**
MDJ	**Mudanjiang**	**75.38**	**14**	P		**P**		**09 26 45.5**	**-1.0**
MDJ				PCP		PcP		09 26 58.8	-0.9
MDJ				S		S		09 36 23.5	-2.8
MDJ				SCS		ScS		09 36 58.3	-1.4
MDJ	comp=Z,9.0nm,1.5s,mb4.5			AMB		AMB			
MDJ	comp=Z,42nm,4.0s			AMB		AMB			
MDJ	comp=N,100nm,20.6s,MS4.2			LR		LR			
MDJ	comp=E,95nm,22.0s,MS4.2			LR		LR			
MDJ	comp=Z,102nm,22.0s,MS4.1			LR		LR			
BTO	**Baotou**	**75.45**	**30**	*e*P		**P**		**09 26 46.5**	**-0.4**
CN2	**Changchun**	**75.59**	**18**	*e*P		**P**		**09 26 47.8**	**+0.1**
CN2	comp=Z,10.0nm,0.7s,mb4.8			AMB		AMB			
HHC	**Hu-ho-hao-te**	**75.61**	**29**	*e*P		**P**		**09 26 48.3**	**+0.5**
HHC				PP		PP		09 29 38.5	+1.3
HHC				S		S		09 36 25.3	-3.5
HHC	comp=Z,27nm,0.9s,mb5.2			AMB		AMB			
HHC	comp=Z,175nm,6.4s			AMB		AMB			
HHC	comp=N,211nm,21.4s,MS4.5			LR		LR			
HHC	comp=E,166nm,20.8s,MS4.5			LR		LR			
HHC	comp=Z,220nm,16.1s,MS4.5			LR		LR			
BDFB	**Brasilia** comp=Z,4.5nm,0.8s,mb4.5,baz=10,slow=6.9,SNR=6.6	**75.80**	**197**	P		**P**		**09 26 48.8**	**-0.1**
BJI	**Beijing**	**77.46**	**26**	*e*P		**P**		**09 26 58.8**	**+0.5**
BJI				S		S		09 36 45.5	-3.6
BJI	comp=Z,14nm,1.6s,mb4.6			AMB		AMB			
BJI	comp=Z,156nm,28.9s,MS4.2			LR		LR			
LZH	**Lanzhou**	**77.92**	**36**	*e*P		**P**		**09 27 02.0**	**+1.2**
LZH				AP		pP		09 27 06.5	+2.4
LZH				XP		sP		09 27 08.5	+3.2
LZH	comp=Z,44nm,1.5s,mb5.2			AMB		AMB			
LZH	comp=Z,126nm,4.4s			AMB		AMB			
KMBO	**Kilima Mbogo** comp=Z,537nm,19.1s,MS4.9,baz=100,slow=38	**79.75**	**110**	LR		LR		10 05 51.5	
KMBO	**Kilima Mbogo**	**79.75**	**110**	*e*P		**P**		**09 27 15.1**	**+4.2**
XAN	**Xi'an**	**81.32**	**33**	P		**P**		**09 27 19.5**	**+0.2**
XAN	comp=Z,17nm,1.1s,mb4.9			AMB		AMB			
CD2	**Chengdu**	**82.68**	**38**	P		**P**		**09 27 27.3**	**+0.8**
CD2	comp=Z,20nm,1.0s,mb5.1			AMB		AMB			
MJAR	**Matsushiro Arr** comp=Z,2.4nm,1.0s,mb4.3,baz=346,slow=7.2,SNR=6.6	**84.28**	**9**	P		**P**		**09 27 34.9**	**+0.2**
NJ2	**Nanjing**	**85.72**	**26**	*e*P		**P**		**09 27 43.0**	**+1.1**
NJ2	comp=Z,10.0nm,0.6s,mb5.2			AMB		AMB			
WHN	**Wuhan**	**86.08**	**30**	⇓P		**P**		**09 27 44.5**	**+0.8**
KMI	**Kunming**	**87.69**	**41**	P		**P**		**09 27 52.0**	**+0.4**
KMI				S				09 38 30.0	
KMI	comp=Z,8.0nm,0.9s,mb5.0			AMB		AMB			
KMI	comp=Z,119nm,26.8s,MS4.2			LR		LR			
GYA	**Guiyang**	**87.74**	**38**	⇑*i*P		**P**		**09 27 52.8**	**+1.0**
GYA				AP		pP		09 27 57.3	+2.2
GYA				XP		sP		09 28 00.0	+3.7
GYA				PP		PP		09 31 20.5	+3.2
GYA				SKS				09 38 17.8	
GYA				S				09 38 32.3	
GYA	comp=Z,20nm,1.0s,mb5.3			AMB		AMB			
GYA	comp=Z,90nm,4.9s			AMB		AMB			
GYA	comp=N,340nm,19.4s,MS4.9			LR		LR			
GYA	comp=E,270nm,18.7s,MS4.9			LR		LR			
GYA	comp=Z,310nm,19.2s,MS4.7			LR		LR			
QIZ	**Qiongzhong**	**95.69**	**37**	P		**P**		**09 28 27.0**	**-1.7**
QIZ				S				09 39 43.3	
BOSA	**Boshof** comp=Z,451nm,18.9s,MS5.0,baz=321,slow=35	**98.81**	**133**	LR		LR		10 12 15.0	
TAOE	**Nuku Hiva Isla** comp=Z,1μm,22.2s	**107.56**	**282**	*e*LR		LR		10 04 52.9	
PPT	**Papeete** comp=Z,360nm,21.5s	**119.70**	**286**	*e*LR		LR		10 10 29.2	
VNA1	**Neumayer--Stat**	**130.40**	**170**	*e*Pdiff		Pdif		09 31 00.1	-3.2
VNA1				*e*				09 31 03.1	
WRA	**Warramunga Arr** comp=Z,1.5nm,0.9s,baz=332,slow=2.6,SNR=7.6	**139.42**	**22**	PKP		PKPdf		09 34 28.4	-1.9
AS31	**Alice Springs**	**142.95**	**24**	*e*PKP		PKPdf		09 34 36.0	-0.6
ASAR	**Alice Springs** comp=Z,1.5nm,0.9s,baz=346,slow=2.5,SNR=8.4	**142.95**	**24**	PKPbPKP				09 34 31.9	
ASPA	**Alice Springs**	**142.95**	**24**	*e*PKP		PKPdf		09 34 36.0	-0.6
MAW	**Mawson** comp=Z,3.3nm,1.0s,baz=288,slow=9.2,SNR=3.1	**143.41**	**140**	PKP		PKPdf		09 34 33.8	-3.7
MUN	**Mundaring**	**144.94**	**54**	*e*P		PKPdf		09 34 38.2	-1.9
KLBR	**Kellerberrin** comp=Z,28nm,0.9s	**145.24**	**52**	*e*P		PKPbc		09 34 38.3	-2.0
FORT	**Forrest** comp=Z,26nm,0.7s	**148.21**	**36**	*e*PKP		PKPdf		09 34 48.5	+2.9
QSPA	**South Pole Qui**	**148.98**	**180**	*e*P		PKPdf		09 34 48.9	+2.0
STKA	**Stephens Creek** comp=Z,5.3nm,1.0s	**152.29**	**14**	*e*PKP		PKPdf		09 34 51.0	-1.0

*HLW **28** 09:22:26.3,2988N×3661E,h11km,Mb3.5*
*ISCJB **28** 09:22:28.9±1.0,2986N±004×3628E±005,h10km,Error ellipse: s-maj=7.0km s-min=5.0km az=44.8*
*GII **28** 09:22:28.9±1.2,2990N×3623E,h0km,ML2.3/2*
ISC 28 09:22:29.1±1.0,2985N±004×3632E±006,h10km,n16,
σ0§99/30,1D,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**1.11**	**264**		**Pg**	**09 22 49.2**	**-1.1**
AQBJ					Sg	**09 23 05.5**	**+0.8**
HRFI	**Mount Harif**	**1.12**	**280**		**Pg**	**09 22 49.2**	**-1.5**
HRFI					Sg	**09 23 05.0**	**-0.3**
EIL	**Elat**	**1.20**	**262**		**Pg**	**09 22 51.5**	**-0.6**
EIL					Sg	**09 23 08.3**	**+0.5**
EIL	**Elat**	**1.20**	**262**		**Pg**	**09 22 51.5**	**-0.6**
EIL					Sg	**09 23 08.3**	**+0.6**
ZFRI	**Zfri**	**1.21**	**306**		**Pg**	**09 22 50.4**	**-1.8**
ZFRI					Sg	**09 23 08.0**	**+0.1**
MBH	**Mount Berech**	**1.22**	**267**		**Pg**	**09 22 51.2**	**-1.2**
MBH					Sg	**09 23 08.4**	**+0.2**
MBH	**Mount Berech**	**1.22**	**267**		**Pg**	**09 22 51.2**	**-1.3**
MBH					Sg	**09 23 08.4**	**+0.1**
PRNI	**Paran**	**1.24**	**294**		**Pg**	**09 22 50.5**	**-2.3**
PRNI					Sg	**09 23 08.3**	**-0.7**
HBST	**Basata**	**1.52**	**246**		P	**09 22 56.0**	**-0.3**
HBST					S	**09 23 17.8**	**+1.7**
MZDA	**Masada**	**1.67**	**331**		Pn	**09 22 58.8**	**+0.4**
MZDA					Sn	**09 23 20.1**	**+0.4**
MKRJ	**Makawir**	**1.79**	**341**		Pn	**09 23 00.3**	**+0.3**
MKRJ					Sn	**09 23 24.5**	**+1.7**
HDHB	**Dhahab**	**1.86**	**233**		P	**09 23 00.4**	**-0.7**
HDHB					S	**09 23 25.5**	**+0.9**
KZIT	**Kziot**	**1.96**	**303**		Pn	**09 23 03.1**	**+0.7**
KZIT					Sn	**09 23 28.6**	**+1.6**
HKAT	**Jabal Katrina**	**2.42**	**237**	⇓P		**09 23 08.7**	**-0.1**
HKAT					S	**09 23 39.4**	**+0.9**
AMAG	**Maghara**	**2.80**	**287**		P	**09 23 13.8**	**-0.1**
SUZ		**3.03**	**271**		P	**09 23 17.1**	**+0.1**

*SKO **28** 09:22:58.3,4121N×2045E,h18km,M1.8,ML2.5*
*THE **28** 09:22:59.2,4130N×2049E,h4km,ML3.0*
*ISCJB **28** 09:22:59.8±0.3,4126N±002×2056E±003,h10km,Error ellipse: s-maj=3.8km s-min=1.9km az=76.5*
*PDG **28** 09:22:59.3±0.5,4123N×2049E,h11km±1km*
*NEIC **28** 09:22:59.3,4123N×2049E,h11km,MD2.7(PDG), ML2.8(CSEM),After PDG.*
*CSEM **28** 09:23:00.9±0.1,4125N×2065E,h2km,ML2.5,Error ellipse: s-maj=4.7km s-min=2.6km az=47.0*
ISC 28 09:23:00.5±0.3,4125N±002×2057E±003,h10km,n34,
σ1§46/63,7C-3D,Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.23**	**129**	*e*Pg	**Pg**	**09 23 04.9**	**-0.2**
OHR				*e*Sg	**Sg**	**09 23 10.2**	**+1.9**
OHR	**Ohrid**	**0.23**	**129**	⇑*i*Pg	**Pg**	**09 23 04.9**	**-0.3**
OHR				*e*Lg		09 23 10.1	
OHR	comp=E,537nm,0.5s			*e*Sg	**Sg**	**09 23 10.2**	**+1.9**
OHR				*e*Lg		09 23 10.3	
OHR	comp=N,308nm,0.4s **Ohrid**	**0.23**	**129**	*e*Pg	**Pg**	**09 23 04.9**	**-0.2**
OHR				*e*Sg	**Sg**	**09 23 10.1**	**+1.8**
PHP	**Peshkopia**	**0.44**	**348**	*i*Pg	**Pg**	**09 23 07.3**	**-1.8**
TIR	**Tirane**	**0.54**	**280**	*e*Pg	**Pg**	**09 23 08.0**	**-3.0**
TIR				*e*Sg	**Sg**	**09 23 15.4**	**-2.6**
QSH	**Qafa e Shtames**	**0.57**	**299**	*i*Pg	**Pg**	**09 23 10.0**	**-1.5**
QSH				*i*Sg	**Sg**	**09 23 20.2**	**+1.3**
BIA	**Bitola**	**0.62**	**112**	*e*Pg	**Pg**	**09 23 11.4**	**-1.1**
BIA				*e*Sg	**Sg**	**09 23 22.1**	**+1.5**
BIA				*e*Lg		09 23 22.2	
BIA	comp=E,98nm,0.3s			*e*Lg		09 23 22.3	
BIA	comp=N,88nm,0.2s **Bitola**	**0.62**	**112**	*e*Pg	**Pg**	**09 23 11.5**	**-1.0**
BIA				*e*Sg	**Sg**	**09 23 22.2**	**+1.6**
KBN	**Korca**	**0.65**	**165**	*e*Pg	**Pg**	**09 23 15.5**	**+2.4**
KBN				*i* Sg	**Sg**	**09 23 23.8**	**+2.2**
LACI	**Lac**	**0.75**	**301**	*i* Pg	**Pg**	**09 23 11.6**	**-3.4**
LACI				*i* Sg	**Sg**	**09 23 23.7**	**-1.1**
FNA	**Florina**	**0.77**	**127**	*e*Pg	**Pg**	**09 23 14.8**	**-0.5**
FNA				*e*Sg	**Sg**	**09 23 27.2**	**+1.8**
FNA	**Florina**	**0.77**	**127**	*e*Pg	**Pg**	**09 23 14.9**	**-0.5**
FNA				*e*Sg	**Sg**	**09 23 27.2**	**+1.8**
SKO	**Skopje**	**0.97**	**42**	*e*Pg	**Pg**	**09 23 19.4**	**+0.2**
SKO				*e*Sg	**Sg**	**09 23 33.2**	**+1.4**
SKO				*e*Lg		09 23 33.3	
SKO	comp=E,262nm,0.7s			*e*Lg		09 23 33.4	
SKO	comp=N,395nm,0.3s **Skopje**	**0.97**	**42**	*e*Pg	**Pg**	**09 23 19.3**	**+0.1**
SKO				*e*Sg	**Sg**	**09 23 33.3**	**+1.5**
ULC	**Ulcinj**	**1.22**	**306**	⇑*i*Pg	**Pg**	**09 23 20.4**	**-3.5**
ULC				*e*Sg	**Sg**	**09 23 39.6**	**-0.1**
STIP	**Stip**	**1.29**	**70**	*e*Pg	**Pg**	**09 23 22.8**	**-2.6**
STIP				*e*Sg	**Sg**	**09 23 43.0**	**+0.9**
PVY	**Plav**	**1.41**	**342**	⇓*i*Pg	**Pg**	**09 23 26.1**	**-1.5**
PVY				*e*Sg	**Sg**	**09 23 46.8**	**+0.9**
GRG	**Griva**	**1.42**	**101**	*e*Pg	**Pg**	**09 23 26.2**	**-1.5**
VAY	**Valandovo**	**1.51**	**87**	*e*Pg	**Pg**	**09 23 26.8**	**-2.7**
VAY				*e*Sg	**Sg**	**09 23 48.4**	**-0.7**
TTG	**Podgorica**	**1.53**	**321**	⇓*i*Pg	**Pg**	**09 23 26.7**	**-3.1**
TTG				*e*Sg	**Sg**	**09 23 50.3**	**+0.7**
MEV	**Metsovon**	**1.55**	**161**	*e*Pg	**Pg**	**09 23 26.3**	**-3.9**
MEV				*e*Sg	**Sg**	**09 23 49.5**	**-0.8**
BUM	**Brajici-Budva**	**1.63**	**311**	⇑*i*Pn	**Pn**	**09 23 28.0**	**-1.2**
BUM				*e*Sn	**Sn**	**09 23 51.8**	**+1.6**
IVA	**Berane**	**1.69**	**343**	⇑*i*Pn	**Pn**	**09 23 30.3**	**+0.2**
IVA				*e*Sn	**Sn**	**09 23 54.2**	**+2.4**
KNT	**Kendrikon**	**1.76**	**92**	*e*Pb	**Pb**	**09 23 31.0**	**-1.9**
KNT				*e*Sb	**Sb**	**09 23 54.2**	**-0.8**
LIT	**Litokhoron**	**1.86**	**128**	*e*Pb	**Pb**	**09 23 32.8**	**-1.8**
LIT				*e*Sb	**Sb**	**09 23 58.6**	**+0.8**
NKY	**Niksic**	**1.95**	**324**	⇓*i*Pn	**Pn**	**09 23 33.8**	**+0.2**
NKY				*e*Sn	**Sn**	**09 23 59.5**	**+1.4**
HCY	**Herceg Novi**	**1.95**	**308**	⇑*i*Pn	**Pn**	**09 23 33.2**	**-0.4**
HCY				*e*Sn	**Sn**	**09 23 59.5**	**+1.3**
HORT	**Hortiatis**	**2.03**	**108**	*e*Pn	**Pn**	**09 23 34.6**	**-0.1**
BRY	**Bratogost**	**2.23**	**318**	⇑*i*Pn	**Pn**	**09 23 37.2**	**-0.3**
BRY				*e*Sn	**Sn**	**09 24 07.3**	**+2.2**
UPM	**Unac-Piva**	**2.30**	**328**	⇑*i*Pn	**Pn**	**09 23 39.1**	**+0.6**
UPM				*e*Sn	**Sn**	**09 24 09.3**	**+2.4**
LKD	**Levkas**	**2.54**	**179**	*e*Pn	**Pn**	**09 23 41.9**	**+0.1**
LKD				*e*Sn	**Sn**	**09 24 14.6**	**+1.8**
LKD	**Levkas**	**2.54**	**179**	*e*Pn	**Pn**	**09 23 41.8**	**0.0**
LKD				*e*Sn	**Sn**	**09 24 14.6**	**+1.8**
AGG	**Agios Georgios**	**2.61**	**148**	*e*Pn	**Pn**	**09 23 42.2**	**-0.4**
AGG	**Agios Georgios**	**2.61**	**148**	*e*Pn	**Pn**	**09 23 42.2**	**-0.5**

IDC 28 09:48:26.7±3.1,897S×10931E,h0km,mb3.6/3,mb1 3.8/4, mb1mx3.6/17,mbtmp3.6/4,ML3.7/1,Error ellipse: s-maj=152.9km s-min=24.9km az=47.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=282,slow=9.9,SNR=7.8	**18.27**	**121**	P	Pn	09 52 41.9	+0.3
WRA	**Warramunga Arr** 1.1nm,0.8s,baz=287,slow=11,SNR=6.0	**26.54**	**117**	P	P	09 54 05.7	-0.4
ASAR	**Alice Springs** 0.5nm,0.7s,baz=300,slow=9.5,SNR=8.7	**27.69**	**125**	P	P	09 54 17.5	+1.0
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=148,slow=8.5,SNR=2.3	**60.52**	**339**	P	P	09 58 38.7	+0.1

*CSEM **28** 09:56:38.8±0.1,3760N×2073E,h2km,ML3.7,Error ellipse: s-maj=3.2km s-min=1.4km az=55.0*
*ISCJB **28** 09:56:39.9±1.2,3768N±005×2080E±007,h5km±6km, Error ellipse: s-maj=11.5km s-min=5.7km az=109.6*
*NEIC **28** 09:56:39.9,3765N×2078E,h13km,ML3.7(ATH),After ATH.*
*ATH **28** 09:56:39.9,3765N×2078E,h13km±3km,MD3.6/12,ML3.7*
*THE **28** 09:56:42.0,3775N×2082E,h8km,ML3.6*
ISC 28 09:56:40.5±1.2,3767N±005×2080E±008,h5km±6km,n26,
σ0§93/30,1D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.53**	**342**	⇓*i*PB	**Pg**	**09 56 50.7**	**-0.1**
VLS				*e*SB	**Sg**	**09 56 59.3**	**+1.6**
RLS	**Riolos of Patr**	**0.66**	**54**	*e*PG	**Pg**	**09 56 52.6**	**-0.6**
RLS				*e*SB	**Sg**	**09 57 02.7**	**+1.0**
ITM	**Ithomi**	**1.02**	**118**	*e*PN	**Pn**	**09 56 59.7**	**-1.8**
LKD	**Levkas**	**1.04**	**354**	*e*Pg	**Pg**	**09 56 59.5**	**-1.1**
LKD				*e*Sg	**Sg**	**09 57 14.5**	**+0.4**
EVR	**Evrytania**	**1.48**	**32**	*e*PG	**Pg**	**09 57 07.9**	**-1.0**
AGG	**Agios Georgios**	**1.81**	**41**	*e*Pb	**Pb**	**09 57 13.4**	**-0.8**
VLI	**Veliai**	**1.96**	**118**	*e*PG	**Pn**	**09 57 15.8**	**+1.5**
VLI	**Veliai**	**1.96**	**118**	*e*Pg	**Pg**	**09 57 17.0**	**-1.0**
MGER	**Gerania Oros**	**1.98**	**80**	*e*PN	**Pn**	**09 57 16.0**	**+1.4**
JAN	**Janina**	**1.99**	**1**	*e*PN	**Pn**	**09 57 16.2**	**+1.5**
LKR	**Lokris**	**1.99**	**60**	*e*PB	**Pn**	**09 57 15.0**	**+0.2**
NAIG	**Nisos Aigina**	**2.14**	**87**	*e*PN	**Pn**	**09 57 18.2**	**+1.4**
MEV	**Metsovon**	**2.14**	**9**	*e*Pn	**Pn**	**09 57 16.1**	**-0.7**
MEV				*e*Sn	**Sn**	**09 57 42.5**	**-1.2**
KEK	**Kerkira**	**2.19**	**339**	*e*PB	**Pn**	**09 57 17.5**	**0.0**
KYTH	**Kithira**	**2.27**	**127**	*e*PB	**Pn**	**09 57 18.5**	**-0.1**
ATH	**Athens Observa**	**2.33**	**82**	*e*PN	**Pn**	**09 57 21.2**	**+1.7**
PTL	**Penteli**	**2.46**	**80**	*e*PB	**Pn**	**09 57 21.5**	**+0.3**
XOR	**Xorichti**	**2.53**	**47**	*e*Pn	**Pn**	**09 57 22.3**	**+0.1**
LIT	**Litokhoron**	**2.77**	**28**	*e*Pn	**Pn**	**09 57 24.7**	**-0.7**
AOS	**Alonnisos**	**2.85**	**57**	*e*Pn	**Pn**	**09 57 26.2**	**-0.4**
FNA	**Florina**	**3.14**	**8**	*e*Pn	**Pn**	**09 57 31.2**	**+0.5**
PAIG	**Paliouri**	**3.19**	**44**	*e*Pn	**Pn**	**09 57 30.5**	**-0.7**
HORT	**Hortiatis**	**3.43**	**31**	*e*Pn	**Pn**	**09 57 33.7**	**-0.9**
GRG	**Griva**	**3.51**	**20**	*e*Pn	**Pn**	**09 57 35.7**	**0.0**
**

*VIE **28** 10:13:54.5±0.2, 46.18N×12.37E, h8km, mb1.6/3, ML2.2/5, Error ellipse: s-maj=2.1km s-min=0.8km az=28.0 13 km ENE of Belluno*

*CSEM **28** 10:13:54.4±0.1, 46.16N×12.33E, h20km, ML2.7/10*

*ISCJB **28** 10:13:55.6±0.3, 46.17N±002×12.33E±002, h8km, Error ellipse: s-maj=3.5km s-min=2.4km az=20.8*

*ROM **28** 10:13:56.3±0.4, 4622N×1229E, h10km, Md2.3/3, Ml1.7/4, Error ellipse: s-maj=7.0km s-min=2.7km az=138.0*

ISC 28 10:13:55.3±0.4, 4616N±002×1233E±002, h0km±7km, n27, σ0s85/53, 8C-8D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSO	**Casso**	**0.11**	**359**	⇓*i* Pg	**Pg**	**10 13 56.8**	**-0.7**
CSO				*i* Sg	**Sg**	**10 13 58.6**	**-0.3**
CAE	**Caneva**	**0.17**	**153**	⇓*i* Pg	**Pg**	**10 14 02.5**	**+3.9**
CAE				*i* Sg	**Sg**	**10 14 05.2**	**+4.4**
MLNI	**Malnisio**	**0.20**	**93**	⇓*i* Pg	**Pg**	**10 13 57.9**	**-1.2**
MLNI				*i* Sg	**Sg**	**10 14 00.9**	**-0.7**
FAU	**Forcella Aurin**	**0.25**	**286**	⇓*i* Pg	**Pg**	**10 13 59.0**	**-1.1**
FAU				*i* Sg	**Sg**	**10 14 02.5**	**-0.9**
FAU	**Forcella Aurin**	**0.25**	**286**	*i* Pg	**Pg**	**10 13 59.0**	**-1.1**
FAU				*i* Sg	**Sg**	**10 14 02.5**	**-0.9**
FVI	**Forni Avoltri** 26nm,0.4s	**0.54**	**36**	Pg	**Pg**	**10 14 06.9**	**+1.3**
SEST	**Monte Rota** 29nm,0.3s	**0.59**	**353**	Pg	**Pg**	**10 14 06.8**	**+0.1**
SEST				Sg	**Sg**	**10 14 15.3**	**+0.9**
ROBS	**Robic**	**0.83**	**84**	*i* Pg	**Pg**	**10 14 11.9**	**+0.8**
ROBS				*i* Sg	**Sg**	**10 14 25.6**	**+3.7**
ROBS	comp=Z,3.0nm,0.1s						
ROBS	**Robic**	**0.83**	**84**	*i* Pg	**Pg**	**10 14 11.9**	**+0.8**
ROBS	comp=Z,3.0nm,0.1s			*i* Sg	**Sg**	**10 14 25.6**	**+3.8**
DRE	**Drenchia**	**0.92**	**89**	⇓*i* Pg	**Pg**	**10 14 13.6**	**+0.7**
DRE				*i* Sg	**Sg**	**10 14 25.2**	**+0.5**
TEOL	**Teolo**	**0.92**	**210**	⇑*e* Pg	**Pg**	**10 14 12.5**	**-0.5**
TEOL				*e* Sg	**Sg**	**10 14 26.5**	**+1.5**
CADS	**Cadrg**	**0.98**	**85**	*i* Pg	**Pg**	**10 14 14.3**	**+0.2**
CADS				*i* Sg	**Sg**	**10 14 28.4**	**+1.5**
CADS	comp=Z,14nm,0.3s						
CADS	**Cadrg**	**0.98**	**85**	*i* Pg	**Pg**	**10 14 14.3**	**+0.2**
CADS	comp=Z,14nm,0.3s			*i* Sg	**Sg**	**10 14 28.4**	**+1.5**
VOJS	**Vojsko**	**1.09**	**96**	*i* Pg	**Pg**	**10 14 15.6**	**-0.7**
VOJS				*i* Sg	**Sg**	**10 14 30.6**	**+0.2**
VOJS	**Vojsko**	**1.09**	**96**	*i* Pg	**Pg**	**10 14 15.6**	**-0.6**
VOJS				*i* Sg	**Sg**	**10 14 30.5**	**+0.1**
KBA	**Koelnbreinsper**	**1.16**	**37**	⇑*i* Pg	**Pg**	**10 14 16.5**	**-1.0**
KBA				⇑*i* Sg	**Sg**	**10 14 32.2**	**-0.3**
GORS	**Gorjuse**	**1.17**	**82**	*i* Pg	**Pg**	**10 14 17.0**	**-0.7**
GORS				*i* Sg	**Sg**	**10 14 33.4**	**+0.5**
GORS	comp=Z,5.0nm,0.2s						
GORS	**Gorjuse**	**1.17**	**82**	*i* Pg	**Pg**	**10 14 17.0**	**-0.7**
GORS	comp=Z,5.0nm,0.2s			*i* Sg	**Sg**	**10 14 33.4**	**+0.5**
WTTA	**Wattenberg**	**1.20**	**337**	⇑*i* Pg	**Pg**	**10 14 17.9**	**-0.4**
WTTA				⇑*i* Sg	**Sg**	**10 14 34.3**	**+0.3**
JAVS	**Javornik**	**1.24**	**102**	*i* Pg	**Pg**	**10 14 17.6**	**-1.4**
JAVS				*i* Sg	**Sg**	**10 14 34.9**	**-0.2**
JAVS	comp=Z,4.0nm,0.2s						
JAVS	**Javornik**	**1.24**	**102**	*i* Pg	**Pg**	**10 14 17.6**	**-1.5**
JAVS	comp=Z,4.0nm,0.2s			*i* Sg	**Sg**	**10 14 34.9**	**-0.2**
MAGA	**Magasa**	**1.25**	**253**	Pg	**Pg**	**10 14 18.6**	**-0.6**
MAGA	comp=Z,53nm,0.4s			Sg	**Sg**	**10 14 37.0**	**+1.7**
MABI	**Malga Bissina**	**1.27**	**266**	Pg	**Pg**	**10 14 18.9**	**-0.7**
MABI	comp=Z,3.0nm,0.3s			Sg	**Sg**	**10 14 35.7**	**-0.3**
SQTA	**Sankt Quirin**	**1.31**	**324**	⇑*i* Pg	**Pg**	**10 14 19.8**	**-0.7**
SQTA	comp=Z,10nm,0.4s			⇑*i* Sg	**Sg**	**10 14 38.5**	**+1.1**
MOTA	**Moosalm**	**1.45**	**325**	⇓*i* Pg	**Pn**	**10 14 22.7**	**-0.1**
MOTA	comp=Z,5.4nm,0.3s			⇓*i* Sg	**Sg**	**10 14 42.9**	**+0.9**
MOTA	**Moosalm**	**1.45**	**325**	Pg	**Pn**	**10 14 22.7**	**-0.1**
MOTA	comp=Z,5.4nm,0.3s			Sg	**Sg**	**10 14 42.9**	**+0.9**
OBKA	**Obir**	**1.58**	**76**	⇓*i* Pg	**Pn**	**10 14 24.3**	**-0.2**
OBKA	comp=Z,13nm,0.4s			⇑*i* Sg	**Sn**	**10 14 45.5**	**-0.1**

*IDC **28** 10:21:14.2±0.7, 34.85N×73.82E, h0km, mb4.1/12, mb1 4.3/15, mb1mx4.1/24, mbtmp4.1/15, ML4.2/3, Error ellipse: s-maj=20.7km s-min=16.1km az=55.0*

*ISCJB **28** 10:21:16.2±1.5, 34.99N±003×73.97E±006, h23km±12km, mb4.0/16, Error ellipse: s-maj=9.5km s-min=4.2km az=126.9*

*MOS **28** 10:21:16.9±1.3, 34.87N×73.93E, h33km, mb4.1/4, Error ellipse: s-maj=15.2km s-min=8.0km az=100.8*

*NEIC **28** 10:21:19.4±0.4, 34.81N×74.01E, h45km, mb3.8/4, Error ellipse: s-maj=11.8km s-min=4.9km az=48.0*

*NNC **28** 10:21:30.1±9.2, 35.49N×72.95E, h74km±47km, mb3.4, mpv3.9, Error ellipse: s-maj=95.8km s-min=40.2km az=21.0*

ISC 28 10:21:17.7±1.5, 34.96N±003×73.95E±006, h22km±12km, n68, σ1s20/81, mb4.0/16, 3C-5D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.42**	**204**	⇓P	**Pn**	**10 21 41.2**	**-0.9**
CEP	**Cherat**	**2.03**	**237**	P	**Pn**	**10 21 51.5**	**+0.9**
THW	**Thamme Wali**	**2.83**	**221**	⇓P	**Pn**	**10 22 03.1**	**+1.5**
DLH	**Dalhousie**	**2.94**	**145**	*e*P	**Pn**	**10 22 04.0**	**+0.9**
DLH				*e*S	**Sn**	**10 22 40.0**	**+2.3**
BHK	**Bhakra**	**4.09**	**149**	*ex*	**Pn**	**10 22 25.0**	**+6.0**
BHK				*ex*	**Sn**	**10 23 15.2**	**+9.0**
SDNR	**Sundarnagar**	**4.28**	**143**	*e*P	**Pn**	**10 22 22.4**	**+0.9**
SDNR				*e*S	**Sn**	**10 23 13.0**	**+2.2**
SMLA	**Simla**	**4.68**	**144**	*e*P	**Pn**	**10 22 29.4**	**+2.4**
SMLA				*e*S	**Sn**	**10 23 21.3**	**+0.7**
SMLA	comp=E,573nm,0.4s			AML	AML	10 23 46.0	
SMLA	comp=N,725nm,0.3s			AML	AML	10 23 46.0	
KKR	**Kurukshetra**	**5.54**	**153**	*ex*	**Pn**	**10 22 48.9**	**+10**
DDI	**Dehra Dun**	**5.78**	**142**	*ex*	**Pn**	**10 22 43.0**	**+0.9**
NDI	**New Delhi**	**6.85**	**155**	*e*P	**Pn**	**10 22 58.2**	**+1.4**
NDI				*e*S	**Sn**	**10 24 11.9**	**-2.1**
NDI				*e*S	**Sn**	**10 24 13.5**	**-0.5**
NDI	comp=E,55nm,0.3s			AML	AML	10 24 19.3	
NDI	comp=N,50nm,0.3s			AML	AML	10 24 20.2	
AYAN	**Aya Nagar**	**7.00**	**156**	*e*P	**Pn**	**10 23 00.4**	**+1.5**
AYAN				*ex*	x	10 24 09.2	
AYAN	comp=Z,48nm,0.6s			AML	AML	10 24 18.4	
KHET	**Khetri**	**7.04**	**166**	*e*P	**Pn**	**10 22 58.3**	**-1.2**
KHET				*e*S	**Sn**	**10 24 16.9**	**-2.0**
KHET	comp=E,56nm,0.2s			AML	AML	10 24 18.4	
KHET	comp=N,62nm,0.2s			AML	AML	10 24 18.6	
LGTI	**Lohaghat**	**7.66**	**134**	*ex*	**Pn**	**10 23 04.7**	**-3.2**
LGTI				*e*S	**Sn**	**10 24 31.3**	**-2.7**
JASL	**Jaisalmer**	**8.43**	**199**	*ex*	x	10 24 03.4	
AGRA	**Agra**	**8.43**	**155**	*e*P	**Pn**	**10 23 19.6**	**+1.1**
AGRA				*e*S	**Sn**	**10 24 49.3**	**-3.7**
AGRA	comp=N,61nm,0.2s			AML	AML	10 24 50.0	
AGRA	comp=E,69nm,0.3s			AML	AML	10 24 50.8	
AJM	**Ajmer**	**8.47**	**176**	*e*S	**Sn**	**10 24 49.0**	**-5.1**
KK31	**Karatay Array** comp=E,2.1nm,0.3s,baz=185,slow=13,SNR=61	**8.56**	**343**	Pn	**Pn**	**10 23 22.3**	**+2.0**
KK31				Sn	**Sn**	**10 24 55.4**	**-0.7**
KOLN	comp=E,7.1nm,0.4s,baz=238,slow=67,SNR=9.4 **Koldanda** comp=E,16nm,0.3s	**10.92**	**128**	*e*P	**Pn**	**10 23 51.4**	**-1.3**
GKN	**Gorkha** comp=E,48nm,0.4s	**11.46**	**124**	*e*P	**Pn**	**10 23 58.7**	**-1.2**
DMN	**Daman** comp=E,34nm,0.4s	**12.03**	**124**	*e*P	**Pn**	**10 24 06.1**	**-1.6**
KKN	**Kakani** comp=E,42nm,0.6s	**12.03**	**123**	*e*P	**Pn**	**10 24 06.3**	**-1.5**
KKN	**Kakani** comp=Z,42nm,0.6s	**12.03**	**123**	*e*P pmax	**Pn** pmax	**10 24 06.3**	**-1.5**
PKI	**Pulchoki** comp=Z,25nm,0.4s	**12.26**	**124**	*e*P	**Pn**	**10 24 09.3**	**-1.6**
PKI	**Pulchoki** comp=Z,25nm,0.4s	**12.26**	**124**	*e*P pmax	**Pn** pmax	**10 24 09.3**	**-1.6**
GUN	**Gumba** comp=Z,49nm,0.6s	**12.37**	**121**	*e*P	**Pn**	**10 24 10.9**	**-1.6**
JIRN	**Jiri** comp=Z,54nm,0.3s	**12.74**	**121**	*e*P	**Pn**	**10 24 15.7**	**-1.8**
MK02	**Makanchi Array** comp=Z,2.3nm,0.6s	**13.38**	**26**	⇑P	**Pn**	**10 24 35.3**	**+9.1**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.3s,baz=204,slow=17,SNR=3.4	**13.39**	**25**	Pn	**Pn**	**10 24 28.8**	**+2.4**
AB31	**Akbulak array** comp=Z,1.7nm,0.6s,baz=0.8,slow=28,SNR=21	**17.62**	**328**	P	**Pn**	**10 25 20.8**	**-1.0**
AB31				S	**Sn**	**10 28 22.9**	**-14**
VOSK	**Vostochnaya** comp=Z,1.6nm,0.5s	**17.88**	**354**	⇓P	**Pn**	**10 25 23.7**	**-1.4**
BVA0	**Borovoye Array** comp=Z,0.6nm,0.4s,baz=160,slow=9.7,SNR=26	**18.24**	**353**	P	**Pn**	**10 25 30.7**	**+1.4**
BVAR	**Borovoye Array** comp=Z,2.7nm,0.3s,baz=157,slow=9.1,SNR=25	**18.24**	**353**	P	**Pn**	**10 25 29.5**	**+0.2**
ZRNK	**Zerenda** comp=Z,1.8nm,0.5s	**18.33**	**350**	⇑P	**Pn**	**10 25 31.1**	**+0.7**
ZRNK	**Zerenda** comp=Z,3.0nm,0.4s	**18.33**	**350**	*e*P pmax	**Pn** pmax	**10 25 30.7**	**+0.3**
ZRNK	**Zerenda** comp=Z,3.1nm,0.4s	**18.33**	**350**	*e*P	**Pn**	**10 25 30.7**	**+0.3**
CHKZ	**Chkalovo** comp=Z,2.0nm,0.6s	**18.86**	**354**	⇓P	**Pn**	**10 25 36.7**	**-0.2**
CHKZ	**Chkalovo** comp=Z,3.0nm,0.6s	**18.86**	**354**	*e*P pmax	**Pn** pmax	**10 25 36.3**	**-0.6**
CHKZ	**Chkalovo** comp=Z,3.2nm,0.6s	**18.86**	**354**	*e*P	**Pn**	**10 25 36.3**	**-0.6**
AKTK	**Aktyubinsk**	**19.33**	**328**	P	**Pn**	**10 25 42.0**	**-0.7**
AKTK				S	**Sn**	**10 29 09.7**	**-9.1**
AKTO	**Aktyubinsk** comp=Z,0.2nm,0.8s	**19.33**	**328**	⇓P	**Pn**	**10 25 41.5**	**-1.1**
AKTO	comp=Z,0.2nm,1.4s			⇑S	**Sn**	**10 29 05.8**	**-13**
AKTO	**Aktyubinsk** comp=Z,1.2nm,0.3s,baz=125,slow=8.1,SNR=14	**19.33**	**328**	P	**Pn**	**10 25 42.0**	**-0.7**
AKTO	comp=Z,0.4nm,0.3s,baz=33,slow=17,SNR=3.4			S	**Sn**	**10 29 09.7**	**-9.1**
ZAL	**Zalesovo** comp=Z,8.2nm,0.4s,baz=307,slow=3.1,SNR=14	**20.45**	**19**	P	**P**	**10 25 53.4**	**-0.3**
NVS	**Novosibirsk**	**20.90**	**15**	*e*P	**P**	**10 25 58.0**	**-0.6**
ZAK	**Zakamensk** comp=Z,2.0nm,1.0s,mb3.6	**26.28**	**45**	*e*P pmax	**P** pmax	**10 26 53.0**	**+1.5**
SONM	**Songino Array** comp=Z,1.1nm,0.5s,mb3.6,baz=249,slow=9.6,SNR=7.3	**27.31**	**52**	P	**P**	**10 27 02.5**	**+1.8**
BOD	**Bodaibo**	**35.09**	**37**	*e*P	**P**	**10 28 09.6**	**+0.4**
BOD	comp=Z,2.0nm,2.0s,mb3.7			pmax	pmax		
AKASG	**Malin Array Be**	**35.77**	**310**	P	**P**	**10 28 14.8**	**-0.3**
JOF	**Joensuu** comp=Z,2.7nm,0.4s,mb4.3	**38.40**	**330**	*ep*	**P**	**10 28 37.1**	**-0.3**
FINES	**FINESS Array B** comp=Z,1.3nm,0.4s,mb4.0,baz=122,slow=11,SNR=18	**40.09**	**326**	P	**P**	**10 28 51.6**	**0.0**
KAF	**Kangasniemi** comp=Z,0.6nm,0.3s,mb3.8,baz=109,slow=8.2	**40.22**	**327**	*ep*	**P**	**10 28 52.2**	**-0.4**
KAF	**Kangasniemi** comp=Z,1.0nm,0.3s,mb4.0	**40.22**	**327**	*e*P pmax	**P** pmax	**10 28 52.2**	**-0.4**
ARCES	**ARCESS Array B** comp=Z,0.7nm,0.4s,mb3.8,baz=114,slow=8.7,SNR=26	**43.48**	**338**	P	**P**	**10 29 19.8**	**+0.5**
ARCES	**ARCESS Array B**	**43.48**	**338**	P	**P**	**10 29 19.8**	**+0.5**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.4s,mb3.7,baz=93,slow=7.5,SNR=3.4	**47.05**	**324**	P	**P**	**10 29 46.7**	**-0.9**
NOA	**NORSAR Array B**	**47.05**	**324**	P	**P**	**10 29 46.7**	**-0.9**
TORD	**Torodi Ar. Bea** comp=Z,1.7nm,0.5s,mb4.3,baz=46,slow=6.0,SNR=40	**68.11**	**271**	P	**P**	**10 32 15.2**	**-0.6**
INK	**Inuvik** comp=Z,2.0nm,0.7s	**75.02**	**10**	*e*P	**P**	**10 32 57.1**	**-0.4**
INK	**Inuvik** comp=Z,2.1nm,0.7s,mb4.2	**75.02**	**10**	*e*P pmax	**P** pmax	**10 32 57.1**	**-0.4**
BOSA	**Boshof** comp=Z,1.5nm,0.4s,mb4.2,baz=25,slow=6.0,SNR=7.6	**78.17**	**222**	P	**P**	**10 33 14.9**	**-0.4**
WRA	**Warramunga Arr** comp=Z,1.4nm,0.7s,mb4.0,baz=324,slow=4.8,SNR=23	**79.14**	**124**	P	**P**	**10 33 21.3**	**+0.7**
WRAB	**Tennant Creek**	**79.14**	**124**	*e*P	**P**	**10 33 20.5**	**-0.2**
WB2	**Warramunga Arr**	**79.15**	**124**	*e*P	**P**	**10 33 21.1**	**+0.4**
ASPA	**Alice Springs**	**81.41**	**127**	*e*P	**P**	**10 33 33.3**	**+0.4**
ASAR	**Alice Springs** comp=Z,1.0nm,0.6s,mb4.0,baz=307,slow=5.1,SNR=25	**81.41**	**127**	P	**P**	**10 33 33.5**	**+0.6**
YKA	**Yellowknife Ar** comp=Z,1.7nm,0.4s,mb4.5,baz=345,slow=5.5,SNR=12	**82.64**	**4**	P	**P**	**10 33 39.4**	**+0.1**
YKA	**Yellowknife Ar**	**82.64**	**4**	P	**P**	**10 33 39.4**	**+0.1**
CTA	**Charters Tower** comp=Z,1.4nm,0.7s,mb4.3,baz=320,slow=4.3,SNR=3.9	**87.71**	**116**	P	**P**	**10 34 04.6**	**-0.2**
CTA	**Charters Tower**	**87.71**	**116**	P	**P**	**10 34 04.6**	**-0.2**

*BJI **28** 10:27:28.2, 10.51S×107.58E, h33km, mb4.5*

*IDC **28** 10:27:32.1±0.8, 9.62S×107.34E, h0km, mb4.3/10, mb1 4.3/11, mb1mx4.2/20, mbtmp4.3/11, ML3.8/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/30, Error ellipse: s-maj=32.2km s-min=16.9km az=48.0*

*ISCJB **28** 10:27:35.1±0.6, 9.7S±0.1×107.4E±0.1, h33km, mb4.5/19, Error ellipse: s-maj=21.5km s-min=8.9km az=91.7*

*NEIC **28** 10:27:37.1±3.7, 9.64S×107.36E, h33km±26km, mb4.6/11, Error ellipse: s-maj=14.0km s-min=5.1km az=225.0*

ISC 28 10:27:37.4±0.6, 9.7S±0.1×107.4E±0.1, h35km, n39, σ0s70/30, mb4.5/19, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** comp=Z,206nm,20.2s,baz=61,slow=38	**14.99**	**325**	LR	LR	10 37 03.2	
MBWA	**Marble Bar** 6.2nm,0.6s	**16.48**	**135**	*e*P	**Pn**	**10 31 20.6**	**-5.3**
FITZ	**Fitzroy Crossi** 9.1nm,0.7s	**19.59**	**117**	*e*P	**Pn**	**10 32 03.1**	**-0.9**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=288,slow=8.3,SNR=19	**19.59**	**117**	P	**Pn**	**10 32 03.3**	**-0.8**
KAKA	**Kakadu** 4.4nm,0.8s,mb4.4	**24.77**	**99**	*e*P	**P**	**10 32 56.1**	**+0.3**
WRA	**Warramunga Arr** 0.7nm,1.1s,baz=294,slow=2.2,SNR=5.9	**27.95**	**114**	PcP	PcP	10 36 38.5	-0.7
ASAR	**Alice Springs** 0.5nm,0.6s,baz=304,slow=2.3,SNR=7.3	**28.90**	**122**	PcP	PcP	10 36 42.2	+0.7
AS31	**Alice Springs**	**28.90**	**122**	*e*P	**P**	**10 33 33.3**	**+0.4**
GYA	**Guiyang**	**35.94**	**359**	⇑*i* P	**P**	**10 34 35.5**	**+1.0**
GYA	comp=Z,10.0nm,0.7s,mb4.8			AMB	AMB		
STKA	**Stephens Creek** comp=Z,4.8nm,0.8s,mb4.3	**38.61**	**130**	*e*P	**P**	**10 34 57.1**	**-0.1**
STKA	**Stephens Creek** comp=Z,5.7nm,0.8s,mb4.4,baz=304,slow=9.8,SNR=6.2	**38.61**	**130**	P	**P**	**10 34 57.2**	**+0.1**
CTA	**Charters Tower** comp=Z,2.6nm,0.7s,mb4.1	**38.89**	**110**	*e*P	**P**	**10 35 00.4**	**+1.0**
CTA	**Charters Tower** comp=Z,2.2nm,0.7s,mb4.0,baz=265,slow=11,SNR=7.6	**38.89**	**110**	P	**P**	**10 35 00.7**	**+1.3**
CTAO	**Charters Tower**	**38.89**	**110**	*e*P	**P**	**10 35 00.7**	**+1.2**
CTAO				*e*	pP	10 35 10.9	+1.3
JIRN	**Jiri** comp=Z,39nm,0.7s,mb5.1	**42.42**	**332**	*e*P	**P**	**10 35 29.2**	**+0.6**
GUN	**Gumba** comp=Z,20nm,0.5s,mb5.1	**42.77**	**331**	*e*P	**P**	**10 35 31.7**	**+0.2**
DMN	**Daman** comp=Z,19nm,0.6s,mb5.0	**42.89**	**330**	*e*P	**P**	**10 35 32.8**	**+0.4**
KKN	**Kakani** comp=Z,24nm,0.7s,mb5.0	**42.96**	**331**	*e*P	**P**	**10 35 33.3**	**+0.3**
GKN	**Gorkha**	**43.45**	**330**	*e*P	**P**	**10 35 36.8**	**-0.1**
XAN	**Xi'an**	**43.51**	**2**	P	**P**	**10 35 36.5**	**-0.9**
KOLN	**Koldanda** comp=Z,16nm,0.7s,mb4.9	**43.77**	**329**	*e*P	**P**	**10 35 39.7**	**+0.1**
GTA	**Gaotai**	**49.35**	**352**	*e*P	**P**	**10 36 24.5**	**+1.3**
GTA				AP	pP	10 36 29.0	-4.7
GTA				XP	sP	10 36 31.8	-6.0
GTA	comp=Z,4.0nm,1.1s,mb4.4			AMB	AMB		
MJAR	**Matsushiro Arr** comp=Z,1.6nm,0.7s,mb4.1,baz=208,slow=8.6,SNR=4.2	**54.37**	**31**	P	**P**	**10 37 00.1**	**-0.6**
SONM	**Songino Array** comp=Z,1.4nm,0.7s,mb4.1,baz=176,slow=7.7,SNR=8.9	**57.27**	**359**	P	**P**	**10 37 21.5**	**0.0**
WSAR	**Wadi Sarin** comp=Z,12nm,1.1s,mb4.9,baz=74,slow=7.4,SNR=2.8	**57.82**	**305**	P	**P**	**10 37 26.9**	**+1.5**
MKAR	**Makanchi Array** comp=Z,3.7nm,0.6s,mb4.7,baz=140,slow=7.8,SNR=32	**60.52**	**340**	P	**P**	**10 37 43.6**	**-0.4**
MAW	**Mawson** comp=Z,1.5nm,0.9s,mb4.0,baz=58,slow=8.6,SNR=3.5	**64.92**	**197**	P	**P**	**10 38 13.1**	**-0.2**
BVAR	**Borovoye Array** comp=Z,2.3nm,0.6s,mb4.3,baz=144,slow=8.9,SNR=6.1	**69.97**	**337**	P	**P**	**10 38 44.7**	**-0.5**
CHKZ	**Chkalovo**	**70.39**	**338**	*e*P	**P**	**10 38 47.2**	**-0.6**
ZRNK	**Zerenda** comp=Z,2.0nm,0.7s,mb4.2	**70.45**	**337**	*e*P	**P**	**10 38 47.6**	**-0.6**
AKTK	**Aktyubinsk**	**73.61**	**330**	P	**P**	**10 39 06.2**	**-0.9**
AKTO	**Aktyubinsk** comp=Z,1.3nm,0.4s,mb4.2,baz=144,slow=14,SNR=2.3	**73.61**	**330**	P	**P**	**10 39 06.2**	**-0.9**
BRTR	**Keskin Array B** comp=Z,0.5nm,0.7s,mb3.8,baz=151,slow=8.1,SNR=4.3	**83.88**	**312**	P	**P**	**10 40 03.1**	**-0.4**
WMOK	**Wichita Mounta**	**145.46**	**40**	*e*PKPdf	PKPdf	10 47 12.8	+1.2
CCM	**Cathedral Cave**	**147.16**	**28**	*e*PKPbc	PKPbc	10 47 17.3	+0.5
JCT	**Junction City**	**147.31**	**47**	*e*PKPbc	PKPbc	10 47 18.9	+1.7
MIAR	**Mount Ida**	**148.70**	**35**	*e*PKPbc	PKPbc	10 47 21.3	+0.4
WVT	**Waverly**	**150.27**	**25**	*e*PKPbc	PKPbc	10 47 25.3	+0.5
WVT				*e*		10 47 35.7	
PLAL	**Pickwick Lake**	**151.14**	**27**	*e*PKPbc	PKPbc	10 47 27.0	+0.2
PLAL				*e*		10 47 37.2	

IDC 28 10:38:16.0±4.9, 2097N×14703E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=298.8km s-min=37.2km az=91.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=20,slow=8.7,SNR=5.9	**42.51**	**198**	P	P	10 46 13.0	-0.1
ASAR	**Alice Springs** 0.2nm,0.7s,baz=15,slow=7.2,SNR=4.5	**46.17**	**197**	P	P	10 46 42.8	+0.4
FINES	**FINESS Array B** 1.2nm,0.9s,baz=60,slow=4.6,SNR=3.5	**85.36**	**336**	P	P	10 50 54.9	-0.1

*ISCJB **28** 10:55:53.6±1.2, 18.15S±02×178.5W±0.1, h553km±20km, mb3.9/8, Error ellipse: s-maj=31.9km s-min=14.6km az=111.2*

*IDC **28** 10:55:54.1±1.8, 18.03S×178.48W, h545km±23km, mb3.4/8, mb1 3.6/10, mb1mx3.4/17, mbtmp4.3/10, Error ellipse: s-maj=25.9km s-min=13.2km az=148.0*

*NEIC **28** 10:55:54.2±0.8, 18.06S×178.45W, h551km±10km, mb3.9/2, Error ellipse: s-maj=20.2km s-min=9.2km az=149.0*

ISC 28 10:55:54.4±1.2, 18.15S±02×178.5W±01, h547km±17km, n22, σ0s77/15, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 4.3nm,0.3s,baz=120,slow=15,SNR=6.7	**7.64**	**58**	P	**P**	**10 57 48.2**	**-0.1**
DZM	**Mont Dzumac** 0.7nm,0.3s,baz=86,slow=19,SNR=5.7	**14.73**	**252**	P	**P**	**10 59 01.6**	**+0.6**
URZ	**Urewera** 4.7nm,0.6s,baz=0.0,slow=10,SNR=4.3	**20.49**	**190**	P	**P**	**10 59 53.8**	**-1.1**
CTA	**Charters Tower** 1.3nm,0.5s,mb3.7,baz=105,slow=8.1,SNR=4.2	**33.37**	**261**	P	**P**	**11 01 47.8**	**+0.1**
CTAO	**Charters Tower** 2.0nm,0.8s,mb3.7	**33.37**	**261**	*e*P	**P**	**11 01 47.8**	**+0.2**
STKA	**Stephens Creek** 4.0nm,0.5s,mb4.2,baz=78,slow=7.7,SNR=8.4	**38.51**	**241**	P	**P**	**11 02 31.7**	**+1.6**
STKA	**Stephens Creek**	**38.51**	**241**	*e*P	**P**	**11 02 31.0**	**+1.0**
WRA	**Warramunga Arr** 0.8nm,0.5s,mb3.5,baz=92,slow=6.8,SNR=38	**44.56**	**260**	P	**P**	**11 03 17.2**	**-0.6**
AS31	**Alice Springs**	**44.70**	**254**	*e*P	**P**	**11 03 18.8**	**-0.1**
ASAR	**Alice Springs** 9.1nm,0.6s,mb4.5,baz=89,slow=8.0,SNR=220	**44.70**	**254**	P	**P**	**11 03 19.1**	**+0.2**
ASAR				PcP	PcP	11 04 49.4	-0.1
MJAR	**Matsushiro Arr** 1.7nm,0.5s,mb3.8,baz=153,slow=5.6,SNR=5.4	**68.00**	**323**	P	**P**	**11 05 57.7**	**-1.5**
MJAR	**Matsushiro Arr**	**68.00**	**323**	P	**P**	**11 05 57.7**	**-1.5**
MDJ	**Mudanjiang** 7.3nm,1.1s,mb3.9	**78.29**	**325**	*e*P	**P**	**11 06 57.7**	**-0.3**
NVAR	**Mina Array Bea** 1.4nm,0.7s,mb3.4,baz=232,slow=11,SNR=17	**79.57**	**44**	P	**P**	**11 07 05.8**	**+1.0**
PDAR	**Pinedale Array** 1.2nm,0.5s,mb3.8,baz=230,slow=2.9,SNR=14	**87.50**	**43**	P	**P**	**11 07 44.5**	**+0.5**
FINES	**FINESS Array B** 0.5nm,0.6s,baz=222,slow=2.6,SNR=3.4	**133.33**	**344**	PKP	PKPdf	11 14 06.6	-1.7
BR131	**Keskin Array S**	**144.86**	**315**	*e*P	PKPdf	11 14 29.1	-0.1
BRTR	**Keskin Array B** 1.1nm,0.5s,baz=129,slow=0.8,SNR=9.1	**144.86**	**315**	PKP	PKPdf	11 14 29.3	+0.1
CLL	**Collm** comp=Z,5.0nm,0.7s	**145.61**	**347**	*i* PKPbc	PKPbc	11 14 30.9	-1.1
WET	**Wettzell**	**147.67**	**346**	*e*PKP	PKPdf	11 14 37.9	+4.0
GEC2	**GERESS Array S**	**147.75**	**345**	*e*PKP	PKPdf	11 14 37.1	+3.1
GERES	**GERESS Array B** comp=Z,2.1nm,0.5s,baz=11,slow=2.7,SNR=14	**147.75**	**345**	PKPbc	PKPbc	11 14 37.1	-0.7

*CSEM **28** 11:00:48.8, 36.72N×25.68E, h57km, MD3.2/9, After ATH*

*NEIC **28** 11:00:48.8, 36.72N×25.68E, h57km, MD3.2(ATH), After ATH.*

ATH 28 11:00:48.7, 36.72N×25.67E, h59km±4km, MD3.2/9, ML3.5, Dodecanese Islands

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

GTA				AP	pP	11 44 44.0	-5.8	
GTA				XP	sP	11 44 47.3	-7.0	
GTA				AMB	AMB			
	comp=Z,5.0nm,0.8s,mb4.6							
SONM	**Songino Array**	**57.04**	**358**	P	**P**	**11 45 35.8**	**+0.3**	
	comp=Z,2.4nm,0.6s,mb4.4,baz=177,slow=8.2,SNR=22							
SONM				pP	pP	11 45 47.1	+0.2	
	comp=Z,3.5nm,0.5s,baz=175,slow=7.7,SNR=18							
MKAR	**Makanchi Array**	**60.74**	**339**	P	**P**	**11 46 01.1**	**-0.1**	
	comp=Z,5.7nm,0.5s,mb4.9,baz=143,slow=7.6,SNR=46							
MKAR				pP	pP	11 46 12.1	-0.7	
	comp=Z,5.6nm,0.5s,baz=143,slow=7.2,SNR=14							
MKAR	**Makanchi Array**	**60.74**	**339**	P	**P**	**11 46 01.1**	**-0.1**	
MKAR				pP	pP	11 46 12.1	-0.7	
ZAL	**Zalesovo**	**66.30**	**345**	P	**P**	**11 46 36.6**	**-1.2**	
	comp=Z,1.8nm,0.7s,mb4.2,baz=334,slow=3.6,SNR=6.1							
ZAL				pP	pP	11 46 47.6	-1.9	
	comp=Z,2.7nm,0.4s,baz=358,slow=2.5,SNR=2.6							
BVAR	**Borovoye Array**	**70.27**	**337**	P	**P**	**11 47 02.5**	**-0.2**	
	comp=Z,3.4nm,0.6s,mb4.5,baz=140,slow=9.1,SNR=18							
BVAR				pP	pP	11 47 13.8	-0.7	
	comp=Z,5.8nm,0.5s,baz=146,slow=8.8,SNR=17							
CHKZ	**Chkalovo**	**70.67**	**337**	*e*P	**P**	**11 47 05.0**	**-0.3**	
	comp=Z,4.9nm,0.7s,mb4.5							
CHKZ				*e*	pP	11 47 15.7	-1.3	
ZRNK	**Zerenda**	**70.76**	**336**	*e*P	**P**	**11 47 05.1**	**-0.7**	
	comp=Z,4.2nm,0.6s,mb4.5							
ZRNK				*e*	pP	11 47 16.5	-1.0	
AB31	**Akbulak array**	**72.37**	**329**	P	**P**	**11 47 14.5**	**-0.9**	
	comp=Z,2.9nm,0.6s,mb4.4,baz=125,slow=5.5,SNR=27							
AB31				S	pP	11 47 26.3	-0.9	
	comp=Z,5.4nm,0.6s,baz=127,slow=5.5,SNR=7.4							
VNDA	**Vanda**	**73.29**	**170**	P	**P**	**11 47 21.0**	**+0.1**	
	comp=Z,1.2nm,0.8s,mb3.9,baz=321,slow=4.6,SNR=4.4							
VNDA				pP	pP	11 47 32.4	-0.3	
	comp=Z,1.5nm,0.8s,baz=276,slow=7.8,SNR=3.1							
QSPA	**South Pole Qui**	**80.59**	**180**	*e*P	**P**	**11 48 01.2**	**-0.7**	
	comp=Z,2.3nm,0.8s,mb4.2							
BRTR	**Keskin Array B**	**84.73**	**312**	P	**P**	**11 48 24.3**	**+0.8**	
	comp=Z,0.8nm,0.6s,mb4.0,baz=122,slow=6.9,SNR=5.7							
BRTR				pP	pP	11 48 35.1	-0.4	
	comp=Z,1.4nm,0.6s,baz=139,slow=6.5,SNR=5.7							

NEIC ***28*** *11:44:47.2, 4029S×17454E, h102km, MG3.8(WEL), After WEL.*

WEL 28 11:44:47.2±0.2, 4030S×17452E, h101km±2km, ML3.8/17, 17C-5D, Error ellipse: s-maj=1.1km s-min=0.5km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.64**	**152**	⇑P*N*	Pn	11 45 04.1	0.0
KIW				S*N*	Sn	11 45 15.6	-1.2
KIW	**Kapiti Island**	**0.64**	**152**	P	Pn	11 45 04.1	0.0
KIW				S	Sn	11 45 15.6	-1.3
WAZ	**Wanganui**	**0.65**	**34**	⇑P*N*	Pn	11 45 04.6	+0.4
WAZ				*e*S*N*	Sn	11 45 17.2	+0.1
WAZ	**Wanganui**	**0.65**	**34**	P	Pn	11 45 04.6	+0.4
WAZ				S	Sn	11 45 17.6	+0.6
DUWZ	**D'Urville Isla**	**0.68**	**222**	⇑P*N*	Pn	11 45 04.4	-0.1
DUWZ				S*N*	Sn	11 45 16.7	-0.8
MRZ	**Mangatainoka R**	**0.89**	**115**	⇑P*N*	Pn	11 45 06.4	-0.1
MRZ				S*N*	Sn	11 45 20.6	-0.4
MRZ	**Mangatainoka R**	**0.89**	**115**	P	Pn	11 45 06.4	-0.1
CAW	**Cannon Point**	**0.91**	**153**	⇑P*N*	Pn	11 45 06.9	+0.2
CAW	**Cannon Point**	**0.91**	**153**	P	Pn	11 45 06.9	+0.2
TCW	**Tory Channel**	**0.93**	**191**	P*N*	Pn	11 45 07.1	+0.2
TCW				S*N*	Sn	11 45 20.7	-1.2
TCW	**Tory Channel**	**0.93**	**191**	P	Pn	11 45 07.1	+0.1
MRW	**Makara Radio**	**0.94**	**172**	⇑P*N*	Pn	11 45 07.2	+0.2
MRW				S*N*	Sn	11 45 20.8	-1.1
MRW	**Makara Radio**	**0.94**	**172**	P	Pn	11 45 07.2	+0.2
WEL	**Wellington**	**1.00**	**169**	⇑P*N*	Pn	11 45 07.7	0.0
WEL				S*N*	Sn	11 45 21.8	-1.4
WEL	**Wellington**	**1.00**	**169**	P	Pn	11 45 07.7	0.0
RAEZ	**Rainy Point**	**1.01**	**354**	P*N*	Pn	11 45 08.3	+0.5
RAEZ	**Rainy Point**	**1.01**	**354**	P	Pn	11 45 08.3	+0.5
SNZO	**South Karori**	**1.02**	**172**	⇑P*N*	Pn	11 45 07.9	0.0
SNZO				S*N*	Sn	11 45 22.1	-1.4
SNZO	**South Karori**	**1.02**	**172**	P	Pn	11 45 07.9	0.0
NRZ	**Ngariki Road**	**1.06**	**335**	P*N*	Pn	11 45 08.2	-0.1
NEZ	**North Egmont**	**1.07**	**342**	P*N*	Pn	11 45 08.4	-0.1
NEZ	**North Egmont**	**1.07**	**342**	P	Pn	11 45 08.4	-0.1
TSZ	**Takapari Road**	**1.13**	**78**	⇑P*N*	Pn	11 45 08.7	-0.4
TSZ	**Takapari Road**	**1.13**	**78**	P	Pn	11 45 08.7	-0.4
NWEZ	**Newall Road**	**1.14**	**334**	⇓P*N*	Pn	11 45 09.3	+0.1
NWEZ	**Newall Road**	**1.14**	**334**	P	Pn	11 45 09.3	+0.1
MTW	**Mount Morrison**	**1.14**	**139**	⇑P*N*	Pn	11 45 09.1	-0.1
MTW	**Mount Morrison**	**1.14**	**139**	P	Pn	11 45 09.1	-0.1
TIWZ	**Tintock**	**1.15**	**115**	⇑P*N*	Pn	11 45 09.2	-0.1
PKE	**Pukeiti**	**1.18**	**339**	⇓P*N*	Pn	11 45 09.4	-0.2
VRZ	**Vera Road**	**1.19**	**9**	P*N*	Pn	11 45 09.7	0.0
VRZ	**Vera Road**	**1.19**	**9**	P	Pn	11 45 09.7	0.0
PKVZ	**Pokaka**	**1.19**	**33**	⇑P*N*	Pn	11 45 09.6	-0.2
TUWZ	**Tuamarina**	**1.21**	**201**	P*N*	Pn	11 45 09.8	-0.2
MSWZ	**Moikau Station**	**1.25**	**154**	⇑P*N*	Pn	11 45 10.4	-0.1
MSWZ	**Moikau Station**	**1.25**	**154**	P	Pn	11 45 10.4	0.0
NNZ	**Nelson**	**1.26**	**223**	⇓P*N*	Pn	11 45 10.2	-0.4
NNZ	**Nelson**	**1.26**	**223**	P	Pn	11 45 10.2	-0.4
WNVZ	**Wahianoa**	**1.28**	**41**	P*N*	Pn	11 45 10.7	-0.1
PAWZ	**Paruwai Farm**	**1.28**	**148**	⇑P*N*	Pn	11 45 10.8	0.0
PAWZ	**Paruwai Farm**	**1.28**	**148**	P	Pn	11 45 10.8	-0.1
MOVZ	**Moawhango**	**1.30**	**47**	⇑P*N*	Pn	11 45 10.6	-0.5
MOVZ	**Moawhango**	**1.30**	**47**	P	Pn	11 45 10.6	-0.5
FWVZ	**Far West T-bar**	**1.31**	**38**	P*N*	Pn	11 45 11.3	+0.1
FWVZ	**Far West T-bar**	**1.31**	**38**	P	Pn	11 45 11.0	-0.2
WPVZ	**Whakapapa**	**1.35**	**36**	⇑P*N*	Pn	11 45 11.3	-0.3
WPVZ	**Whakapapa**	**1.35**	**36**	P	Pn	11 45 11.3	-0.3
TUVZ	**Tukino**	**1.35**	**41**	P*N*	Pn	11 45 11.5	-0.1
TUVZ	**Tukino**	**1.35**	**41**	P	Pn	11 45 11.5	-0.2
BFZ	**Birch Farm**	**1.37**	**107**	P*N*	Pn	11 45 11.6	-0.3
BFZ	**Birch Farm**	**1.37**	**107**	P	Pn	11 45 11.6	-0.3
NGZ	**Ngauruhoe**	**1.40**	**37**	P*N*	Pn	11 45 11.8	-0.4
NGZ	**Ngauruhoe**	**1.40**	**37**	P	Pn	11 45 11.8	-0.4
TRWZ	**Traveller**	**1.41**	**142**	⇑P*N*	Pn	11 45 12.1	-0.3
TWVZ	**Taurewa**	**1.42**	**30**	P*N*	Pn	11 45 11.8	-0.6
TWVZ	**Taurewa**	**1.42**	**30**	P	Pn	11 45 11.8	-0.6
OTVZ	**Oturere**	**1.44**	**38**	P*N*	Pn	11 45 12.4	-0.3
WTVZ	**West Tongariro**	**1.44**	**35**	P*N*	Pn	11 45 12.2	-0.6
WTVZ	**West Tongariro**	**1.44**	**35**	P	Pn	11 45 12.2	-0.5
CMWZ	**Cape Campbell**	**1.47**	**189**	P*N*	Pn	11 45 13.6	+0.5
CMWZ				S*N*	Sn	11 45 33.1	+0.3
KRVZ	**Karewarewa**	**1.48**	**36**	P*N*	Pn	11 45 12.6	-0.7
BSWZ	**Blackbirch Sta**	**1.50**	**199**	P*N*	Pn	11 45 13.4	-0.1
BSWZ	**Blackbirch Sta**	**1.50**	**199**	P	Pn	11 45 13.4	0.0
KATZ	**Kakaramea**	**1.60**	**35**	P*N*	Pn	11 45 14.1	-0.7
KATZ	**Kakaramea**	**1.60**	**35**	P	Pn	11 45 14.2	-0.5
QRZ	**Quartz Range**	**1.60**	**250**	⇓P*N*	Pn	11 45 13.5	-1.3
QRZ	**Quartz Range**	**1.60**	**250**	P	Pn	11 45 13.5	-1.3
RITZ	**Rihia Road**	**1.68**	**39**	P*N*	Pn	11 45 15.0	-0.6
HIZ	**Hauiti**	**1.80**	**8**	⇓P*N*	Pn	11 45 17.1	-0.1
HIZ	**Hauiti**	**1.80**	**8**	P	Pn	11 45 17.1	-0.1
PXZ	**Pawanui**	**1.81**	**82**	P*N*	Pn	11 45 16.6	-0.8
WATZ	**Wairara**	**1.84**	**31**	P*N*	Pn	11 45 18.3	+0.5
WATZ	**Wairara**	**1.84**	**31**	P	Pn	11 45 18.0	+0.2
BKZ	**Black Stump Fm**	**1.90**	**54**	P*N*	Pn	11 45 17.4	-1.1
BKZ	**Black Stump Fm**	**1.90**	**54**	*e*P	Pn	11 45 17.4	-1.0
THZ	**Tophouse**	**1.91**	**219**	P*N*	Pn	11 45 18.0	-0.5
THZ	**Tophouse**	**1.91**	**219**	P	Pn	11 45 18.2	-0.4
KHZ	**Kahutara**	**2.24**	**199**	P*N*	Pn	11 45 22.6	-0.3
KHZ	**Kahutara**	**2.24**	**199**	*e*P	Pn	11 45 22.5	-0.4
DSZ	**Denniston Nort**	**2.51**	**234**	P*N*	Pn	11 45 25.3	-1.2
KNZ	**Kokohu**	**2.75**	**63**	P*N*	Pn	11 45 27.6	-2.0
LTZ	**Lake Taylor**	**3.00**	**213**	*e*P	Pn	11 45 31.4	-1.6
MWZ	**Matawai**	**3.05**	**51**	*e*P	Pn	11 45 32.2	-1.4
KUZ	**Kuaotunu**	**3.67**	**15**	*e*P	Pn	11 45 41.8	-0.1
MQZ	**McQueen's Vall**	**3.68**	**202**	*e*P	Pn	11 45 39.5	-2.5
WVZ	**Waitaha Valley**	**3.97**	**224**	*e*P	Pn	11 45 43.8	-2.1
FOZ	**Fox Glacier**	**4.86**	**226**	*e*P	Pn	11 45 54.1	-3.9
LBZ	**Lake Benmore**	**5.20**	**217**	*e*P	Pn	11 46 00.5	-2.0
ODZ	**Otahua Downs**	**5.54**	**210**	*e*P	Pn	11 46 05.0	-2.1
JCZ	**Jackson Bay**	**5.71**	**227**	*e*P	Pn	11 46 06.5	-2.9

ISCJB ***28*** *11:11:13.2±0.6, 3648N×2564E×005, h4km±5km, Error ellipse: s-maj=6.4km s-min=3.3km az=9.2*
NEIC ***28*** *11:11:13.6, 3648N×2557E, h12km, ML3.5(ATH), After ATH.*
ATH ***28*** *11:11:13.6, 3648N×2557E, h12km±4km, MD3.3/12, ML3.5*

CSEM ***28*** *11:11:14.3±0.2, 3649N×2557E, h5km, ML3.1, Error ellipse: s-maj=4.5km s-min=2.3km az=85.0*
THE ***28*** *11:11:14.4, 3651N×2556E, h1km, ML3.1*

ISC 28 12:11:13.9±0.6, 3648N±002×2565E±005, h6km±5km, n24, σ1°05/38, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANT	**Santorini**	**0.19**	**235**	*e*P*g*	**Pg**	**12 11 17.9**	**+0.2**
SANT				*e*S*g*	**Sg**	**12 11 20.3**	**+0.1**
APE	**Apeiranthos**	**0.60**	**351**	*e*P*g*	**Pg**	**12 11 25.5**	**+0.1**
APE				*e*S*g*	**Sg**	**12 11 33.2**	**0.0**
APE	**Apeiranthos**	**0.60**	**351**	*e*P*b*	**Pb**	**12 11 25.0**	**-1.7**
APE				*e*S*b*	**Sg**	**12 11 33.7**	**+0.5**
APE	**Apeiranthos**	**0.60**	**351**	*e*P*g*	**Pg**	**12 11 25.5**	**+0.1**
APE				*e*S*g*	**Sg**	**12 11 33.2**	**0.0**
APE				*e*S*b*	**Sg**	**12 11 33.7**	**+0.5**
NPS	**Neapolis**	**1.21**	**181**	*e*P*G*	**Pg**	**12 11 36.7**	**-0.5**
NPS				*e*S*B*	**Sb**	**12 11 51.8**	**-1.4**
LAST	**Lasithi**	**1.32**	**186**	*e*P*g*	**Pg**	**12 11 38.0**	**-1.3**
LAST				*e*S*g*	**Sg**	**12 11 58.7**	**+2.2**
ZKR	**Zakros**	**1.44**	**161**	*e*P*g*	**Pg**	**12 11 41.7**	**+0.1**
ZKR				*e*S*g*	**Sg**	**12 12 01.0**	**+0.8**
KARP	**Karpathos**	**1.54**	**127**	*e*P*B*	**Pb**	**12 11 43.3**	**+0.5**
SMG	**Samos**	**1.55**	**37**	*e*P*B*	**Pb**	**12 11 43.7**	**+0.7**
VAM	**Vamos**	**1.59**	**228**	*e*P*G*	**Pn**	**12 11 42.4**	**-0.2**
VAM				*e*S*B*	**Sb**	**12 12 03.4**	**-0.6**
XRY	**Khrisi**	**1.60**	**179**	*e*P*B*	**Pb**	**12 11 44.5**	**+0.6**
SIVA	**Sivas**	**1.61**	**205**	*e*P*g*	**Pg**	**12 11 43.5**	**-1.3**
SIVA				*e*S*g*	**Sg**	**12 12 05.0**	**-0.7**
CHOS	**Chios island**	**1.93**	**10**	*e*P*b*	**Pn**	**12 11 46.8**	**-0.5**
CHOS				*e*S*b*	**Sb**	**12 12 12.5**	**-1.3**
KVR	**Kavouri**	**2.02**	**312**	*e*P*G*	**Pn**	**12 11 50.0**	**+1.6**
GVD	**Gavdhos**	**2.07**	**218**	*e*P*n*	**Pn**	**12 11 49.1**	**-0.1**
GVD				*e*S*n*	**Sn**	**12 12 15.4**	**+0.1**
GVD	**Gavdhos**	**2.07**	**218**	*e*P*g*	**Pn**	**12 11 51.5**	**+2.3**
GVD				*e*S*n*	**Sn**	**12 12 15.4**	**+0.1**
PTL	**Penteli**	**2.12**	**318**	*e*P*G*	**Pn**	**12 11 53.0**	**+3.2**
KYTH	**Kithira**	**2.12**	**265**	*e*P*N*	**Pn**	**12 11 50.0**	**+0.2**
ATH	**Athens Observa**	**2.14**	**315**	*e*P*N*	**Pn**	**12 11 51.6**	**+1.4**
ATH				*e*S*N*	**Sn**	**12 12 17.1**	**0.0**
NAIG	**Nisos Aigina**	**2.15**	**307**	*e*P*G*	**Pn**	**12 11 52.0**	**+1.8**
VLI	**Veliai**	**2.19**	**277**	*e*P*N*	**Pn**	**12 11 48.8**	**-2.1**
PRK	**Paraskevi**	**2.81**	**10**	*e*P*N*	**Pn**	**12 11 58.5**	**-0.8**
LKR	**Lokris**	**3.02**	**317**	*e*P*N*	**Pn**	**12 12 02.2**	**0.0**
STIP	**Stip**	**5.86**	**334**	*e*P*n*	**Pn**	**12 12 41.3**	**0.0**

ISCJB ***28*** *12:24:29.2±0.6, 3650N×003×2550E×007, h6km, Error ellipse: s-maj=8.5km s-min=4.4km az=174.1*
CSEM ***28*** *12:24:29.0, 3650N×2562E, h10km, MD3.2/14, After ATH*
NEIC ***28*** *12:24:29.0, 3650N×2562E, h10km, ML3.5(ATH), After ATH.*
ATH ***28*** *12:24:29.0, 3649N×2562E, h6km, MD3.2/12, ML3.5*

ISC 28 12:24:29.5±0.6, 3649N±003×2554E±007, h6km, n16, σ1°00/18, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANT	**Santorini**	**0.13**	**208**	*e*P	**Pg**	**12 24 32.0**	**-0.3**
APE	**Apeiranthos**	**0.58**	**360**	⇑*i*P*B*	**Pg**	**12 24 39.8**	**-0.9**
APE				*e*S*B*	**Sg**	**12 24 47.7**	**-0.5**
NPS	**Neapolis**	**1.23**	**177**	*e*P*G*	**Pg**	**12 24 52.7**	**-0.3**
NPS				*e*S*B*	**Sb**	**12 25 09.2**	**+0.1**
VAM	**Vamos**	**1.53**	**226**	*e*P*B*	**Pb**	**12 24 59.0**	**+0.7**
SMG	**Samos**	**1.60**	**40**	*e*P*B*	**Pb**	**12 24 59.9**	**+0.4**
SMG	**Samos**	**1.60**	**40**	*e*P*b*	**Pb**	**12 25 00.0**	**+0.5**
XRY	**Khrisi**	**1.61**	**175**	*e*P*B*	**Pb**	**12 25 00.7**	**+1.0**
KARP	**Karpathos**	**1.62**	**125**	*e*P*G*	**Pn**	**12 24 57.8**	**-0.8**
KVR	**Kavouri**	**1.94**	**314**	*e*P*N*	**Pn**	**12 25 04.5**	**+1.4**
GVD	**Gavdhos**	**2.02**	**216**	*e*P*g*	**Pg**	**12 25 07.5**	**-0.8**
KYTH	**Kithira**	**2.03**	**265**	*e*P*B*	**Pn**	**12 25 04.2**	**0.0**
PTL	**Penteli**	**2.05**	**320**	*e*P*N*	**Pn**	**12 25 06.0**	**+1.5**
NAIG	**Nisos Aigina**	**2.07**	**308**	*e*P*G*	**Pg**	**12 25 08.0**	**-1.2**
ATH	**Athens Observa**	**2.07**	**316**	*e*P*N*	**Pn**	**12 25 07.4**	**+2.5**
VLI	**Veliai**	**2.10**	**277**	*e*P*n*	**Pn**	**12 25 03.6**	**-1.7**
LKR	**Lokris**	**2.95**	**318**	*e*P*n*	**Pn**	**12 25 16.7**	**-0.2**

CSEM ***28*** *12:26:46.5, 3661N×2585E, h31km, MD3.3/9, After ATH*
NEIC ***28*** *12:26:46.5, 3661N×2585E, h31km, ML3.6(ATH), After ATH.*

ATH 28 12:26:46.5, 3661N×2585E, h31km±1km, MD3.3/9, ML3.6, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANT	**Santorini**	**0.40**	**233**	*e*P	Pb	12 26 50.9	-4.4
APE	**Apeiranthos**	**0.53**	**331**	⇑*i*P*N*	Pn	12 26 57.5	-0.3
APE				*e*S*N*	Sn	12 27 06.3	+0.6
SMG	**Samos**	**1.35**	**35**	*e*P*N*	Pn	12 27 10.9	+1.7
NPS	**Neapolis**	**1.36**	**188**	*e*P*B*	Pb	12 27 10.4	-0.9
NPS				*e*S*N*	Sn	12 27 28.5	+2.2
KARP	**Karpathos**	**1.50**	**135**	*e*P*N*	Pn	12 27 13.3	+2.0
VAM	**Vamos**	**1.80**	**229**	*e*P*N*	Pn	12 27 17.1	+1.8
KVR	**Kavouri**	**2.06**	**307**	*e*P*N*	Pn	12 27 21.0	+2.1
PTL	**Penteli**	**2.14**	**313**	*e*P*N*	Pn	12 27 21.5	+1.5
ATH	**Athens Observa**	**2.18**	**309**	*e*P*N*	Pn	12 27 22.7	+2.1
NAIG	**Nisos Aigina**	**2.21**	**302**	*e*P*N*	Pn	12 27 23.5	+2.5
GVD	**Gavdhos**	**2.28**	**220**	*e*P*N*	Pn	12 27 24.5	+2.6
LKR	**Lokris**	**3.04**	**313**	*e*P*N*	Pn	12 27 35.6	+3.1

INMG ***28*** *12:45:17.5±1.0, 3682N×702W, h12km±2km, ML2.4, Error ellipse: s-maj=4.0km s-min=1.6km az=46.0*

MDD 28 12:45:17.2±1.0, 3683N×702W, h54km±8km, mb3.5/10, 4C-1D, Error ellipse: s-maj=7.5km s-min=2.7km az=35.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIP	**Rio Piedras**	**0.57**	**341**	P	Pn	12 45 29.3	-0.2
	42nm,0.1s,SNR=7.9						
ERIP				S	Sn	12 45 38.0	-0.4
	118nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**0.79**	**332**	⇑P	Pn	12 45 32.1	-0.1
	4.9nm,0.3s,SNR=18						
EGRO				S	Sn	12 45 42.7	-0.6
	37nm,0.3s,SNR=49						
ESPR	**Espera**	**0.93**	**88**	⇑P	Pn	12 45 33.6	-0.5
	6.4nm,0.2s,SNR=18						
ESPR				S	Sn	12 45 46.5	0.0
	12nm,0.3s,SNR=13						
EMIN	**Mina Concepcio**	**0.97**	**16**	⇓P	Pn	12 45 35.1	+0.5
	2.5nm,0.3s,SNR=18						
EMIN				S	Sn	12 45 48.8	+1.4
	6.7nm,0.3s,SNR=12						
EJIF	**Jimena Fronter**	**1.30**	**107**	P	Pn	12 45 38.9	-0.1
	0.4nm,0.1s,SNR=7.9						
EJIF				S	Sn	12 45 56.6	+1.2
	0.7nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**1.37**	**331**	*e*S	Sn	12 45 58.4	+1.4
PBEJ							
	15nm,0.1s						
PBEJ	**Beja**	**1.37**	**331**	S	Sn	12 45 58.4	+1.4
	7.5nm,0.1s						
EMIJ	**Mijas**	**1.82**	**98**	P	Pn	12 45 47.5	+1.4
	0.2nm,0.1s,SNR=7.9						
EMIJ				S	Sn	12 46 09.2	+1.1
	3.3nm,0.5s,SNR=7.9						
EBAD	**Badajoz**	**1.92**	**0**	⇑P	Pn	12 45 48.1	+0.7
	1.4nm,0.6s,SNR=18						
EBAD				S	Sn	12 46 12.2	+1.8
	2.3nm,0.2s,SNR=11						
MOE	**Montemor**	**1.99**	**328**	*e*P*n*	Pn	12 45 48.8	+0.4
MOE				*e*S*n*	Sn	12 46 11.9	-0.3
PESTR	**Estremoz**	**2.08**	**348**	*e*P*n*	Pn	12 45 50.2	+0.6
PESTR				*e*S*n*	Sn	12 46 15.3	+1.0
ELUQ	**Luque**	**2.31**	**71**	S	Sn	12 46 20.7	+0.7
	0.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.35**	**55**	P	Pn	12 45 54.2	+0.8
	0.2nm,0.1s,SNR=5.9						
EADA				S	Sn	12 46 21.8	+0.8
	1.2nm,0.3s,SNR=9.3						
EQUE	**Quentar**	**2.89**	**82**	P	Pn	12 46 01.7	+1.0
	0.4nm,0.1s,SNR=7.9						
EQUE				S	Sn	12 46 34.5	+0.4
	1.3nm,0.4s,SNR=7.9						
EBAN	**Banos Encina**	**2.89**	**62**	P	Pn	12 46 01.0	+0.3
	1.4nm,0.1s,SNR=7.9						
EBAN				S	Sn	12 46 34.7	+0.5
	5.8nm,0.5s,SNR=7.9						
PTOM	**Tomar**	**2.99**	**339**	*e*P*n*	Pn	12 46 03.4	+1.4
PTOM				*e*S*n*	Sn	12 46 36.9	+0.3
PTOM							
	15nm,0.2s						
PCBR	**Castelo Branco**	**3.02**	**353**	*e*P*n*	Pn	12 46 03.5	+1.0
PCBR				*e*S*n*	Sn	12 46 38.0	+0.5
PCBR							
	14nm,0.1s						
EQES	**Quesada**	**3.29**	**72**	P	Pn	12 46 06.5	+0.4
	0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	12 46 44.1	+0.1
	4.7nm,0.5s,SNR=9.0						
EPLA	**Plasencia**	**3.31**	**13**	P	Pn	12 46 07.8	+1.4
	1.7nm,0.0s,SNR=7.9						
EPLA				S	Sn	12 46 44.6	+0.2
	1.7nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.31**	**88**	P	Pn	12 46 07.9	+1.4
	0.2nm,0.1s,SNR=7.9						
EBER				S	Sn	12 46 44.4	-0.2
	17nm,0.8s,SNR=7.9						
MTE	**Manteigas**	**3.58**	**354**	*e*S*n*	Sn	12 46 51.8	+0.5
MTE							
	8.1nm,0.3s						
MTE	**Manteigas**	**3.58**	**354**	Sn	Sn	12 46 51.8	+0.5
	4.1nm,0.3s						
ESDC	**Sonseca Array**	**3.72**	**39**	P	Pn	12 46 13.2	+1.2
	2.5nm,0.1s,baz=222,slow=13,SNR=7.9						
ESDC				S	Sn	12 46 55.0	+0.4
	2.5nm,1.4s,baz=224,slow=23,SNR=4.5						
EVIA	**Vianos**	**4.01**	**62**	P	Pn	12 46 15.8	-0.2
	0.5nm,0.1s,SNR=7.9						
EVIA				S	Sn	12 47 02.0	+0.4
	2.1nm,0.4s,SNR=6.0						
GUD	**Guadarrama**	**4.41**	**30**	P	Pn	12 46 22.8	+1.2
	0.4nm,0.1s,SNR=7.9						
GUD				S	Sn	12 47 12.7	+1.0
	0.5nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**4.47**	**353**	*e*S*n*	Sn	12 47 11.1	-1.9
ETOB	**Tobarra**	**4.70**	**66**	P	Pn	12 46 25.2	-0.3
	2.2nm,0.5s,SNR=7.0						
ETOB				S	Sn	12 47 18.7	+0.1
	6.1nm,0.1s,SNR=14						
PCAB	**Cabril**	**4.93**	**351**	*e*S*n*	Sn	12 47 23.5	-0.9
PCAB							
	3.7nm,0.1s						
PCAB	**Cabril**	**4.93**	**351**	Sn	Sn	12 47 23.5	-0.9
	1.9nm,0.1s						
PBRG	**Braganca**	**4.97**	**2**	*e*S*n*	Sn	12 47 24.3	-1.0
PBRG							
	3.4nm,0.1s						
PBRG	**Braganca**	**4.97**	**2**	Sn	Sn	12 47 24.3	-1.0
	1.7nm,0.1s						
ELOB	**Lobios**	**5.09**	**351**	P	Pn	12 46 31.9	+1.1
	1.6nm,0.5s,SNR=7.9						
ELOB				S	Sn	12 47 29.2	+0.9
	40nm,1.5s,SNR=7.9						
ECAL	**Calabor**	**5.11**	**2**	⇑P	Pn	12 46 33.1	+2.0
	1.3nm,0.1s,SNR=18						
ECAL				S	Sn	12 47 29.9	+1.2
	3.5nm,0.2s,SNR=7.9						
**EBEN

ϕ_s25.00000°,δ50.00000°,λ-100.00000°. Principal axes: T 1.6230, Plg4.0000°, Azm122.0000°; N -0.4510, Plg8.0000°, Azm31.0000°; P -1.1790, Plg81.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*BGS **28** 12:56:52.3±1.9,5939N×30.18W,h15km±693km,mb5.6*
*REY **28** 12:56:53.7,5920N×3064W,h0km,ML4.1,ML4.4*
*SZGRF **28** 12:56:54.7,5946N×3008W,h33km,mb5.4,MS5.0, Reykjanes Ridge*

ISC 28 12:56:48.5±0.1,5922N±002×3070W±002,h10km, (h13km±1.2km:pP-P),n952,σ1§00/976,mb5.1/211, MS4.8/70,73C-71D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKRI	**Krysuvik**	**6.23**	**38**	P	**Pn**	**12 58 19.8**	**-0.6**
IVOS	**Vogsosar**	**6.33**	**39**	P	**Pn**	**12 58 20.5**	**-1.3**
IKAS	**Kald??rsel**	**6.40**	**37**	P	**Pn**	**12 58 21.4**	**-1.4**
ISAN	**Sandskeio**	**6.51**	**38**	P	**Pn**	**12 58 23.0**	**-1.4**
IBJA	**Bjarnastaoir**	**6.52**	**39**	P	**Pn**	**12 58 22.3**	**-2.2**
IKUD	**Kuludalsa**	**6.61**	**36**	P	**Pn**	**12 58 25.7**	**0.0**
ISOL	**Solvholt**	**6.63**	**40**	P	**Pn**	**12 58 23.0**	**-3.0**
IKRO	**Krokur**	**6.68**	**39**	P	**Pn**	**12 58 24.8**	**-1.9**
IHEI	**Heioarbar**	**6.72**	**38**	P	**Pn**	**12 58 25.9**	**-1.3**
BORG	**Borgarnes**	**7.08**	**35**	Pn	**Pn**	**12 58 35.3**	**+3.1**
	2μm,0.6s,SNR=39						
BORG	**Borgarnes**	**7.08**	**35**	Pn	**Pn**	**12 58 34.0**	**+1.8**
	33nm,0.3s,baz=210,slow=8.2,SNR=71						
BORG				Sn	**Sn**	**12 59 55.8**	**+3.0**
	7.4nm,0.3s,baz=54,slow=21,SNR=11						
BORG				LR	LR	13 00 43.5	
	comp=Z,4μm,18.1s,baz=284,slow=33						
BORG	**Borgarnes**	**7.08**	**35**	*e*Pn	**Pn**	**12 58 34.8**	**+2.6**
BORG				*e*Sn	**Sn**	**12 59 50.5**	**-2.2**
BORG	**Borgarnes**	**7.08**	**35**	*e*Pn	**Pn**	**12 58 34.8**	**+2.6**
BORG				*e*Sn	**Sn**	**12 59 50.5**	**-2.2**
SFJD	**Kangerlussuaq**	**11.86**	**319**	Pn	**Pn**	**12 59 37.9**	**+0.2**
	0.6nm,0.3s,baz=101,slow=8.2,SNR=6.9						
SFJD				Sn	**Sn**	**13 01 43.5**	**-6.6**
	1.0nm,0.3s,baz=110,slow=3.5,SNR=4.0						
SFJD				LR	LR	13 03 25.8	
	comp=Z,19μm,21.0s,baz=107,slow=34						
SFJD	**Kangerlussuaq**	**11.86**	**319**	*i* P	**Pn**	**12 59 38.2**	**+0.5**
	68nm,1.2s						
SFJD							
	comp=Z,15μm,17.0s						
SUMG	**Summit**	**13.76**	**350**	*e*Pn	**Pn**	**13 00 04.1**	**+0.5**
SUMG	**Summit**	**13.76**	**350**	*e*Pn	**Pn**	**13 00 04.1**	**+0.5**
MVH1	**Achvaich**	**13.86**	**84**	*e*P	**Pn**	**13 00 04.3**	**-0.7**
MVH1	**Achvaich**	**13.86**	**84**	*e*P	**Pn**	**13 00 04.3**	**-0.7**
DCN	**Croghan**	**14.23**	**104**	*e*P	**Pn**	**13 00 12.8**	**+2.7**
PMSU	**Muirshiel**	**14.30**	**92**	*e*P	**Pn**	**13 00 10.5**	**-0.6**
PMSU	**Muirshiel**	**14.30**	**92**	*e*P	**Pn**	**13 00 10.5**	**-0.6**
EAB	**Aberfoyle**	**14.38**	**91**	*e*P	**Pn**	**13 00 12.1**	**+0.1**
EAB	**Aberfoyle**	**14.38**	**91**	*e*P	**Pn**	**13 00 12.1**	**+0.1**
MCD	**Coleburn Disti**	**14.44**	**85**	*e*P	**Pn**	**13 00 12.8**	**-0.1**
MCD	**Coleburn Disti**	**14.44**	**85**	*e*P	**Pn**	**13 00 12.8**	**-0.1**
PCOU	**Corrie**	**14.58**	**91**	*e*P	**Pn**	**13 00 14.9**	**+0.1**
PCOU	**Corrie**	**14.58**	**91**	*e*P	**Pn**	**13 00 14.9**	**+0.1**
DLF	**Lyons Farm**	**14.63**	**103**	*e*P	**Pn**	**13 00 17.0**	**+1.5**
MME1	**Meikle Cairn**	**14.68**	**85**	*e*P	**Pn**	**13 00 15.1**	**-1.0**
MME1	**Meikle Cairn**	**14.68**	**85**	*e*P	**Pn**	**13 00 15.1**	**-1.0**
DSB	**Dublin**	**14.74**	**103**	*e*P	**Pn**	**13 00 17.4**	**+0.5**
DSB	**Dublin**	**14.74**	**103**	*e*P	**Pn**	**13 00 17.4**	**+0.4**
JMIC	**Jan Mayen**	**14.91**	**29**	Pn	**Pn**	**13 00 23.2**	**+3.9**
	comp=Z,0.9nm,0.3s,baz=114,slow=12,SNR=7.6						
JMIC				LR	LR	13 03 56.9	
	comp=Z,799nm,19.2s,baz=226,slow=29						
JMIC	**Jan Mayen**	**14.91**	**29**	*i*P	**Pn**	**13 00 24.0**	**+4.7**
JMIC				AMS	AMS	13 06 21.0	
	comp=Z,381nm,18.5s						
JMIC	**Jan Mayen**	**14.91**	**29**	*e*P	**Pn**	**13 00 24.0**	**+4.7**
EAU	**Auchinoon**	**14.97**	**91**	*e*P	**Pn**	**13 00 19.7**	**-0.4**
EAU	**Auchinoon**	**14.97**	**91**	*e*P	**Pn**	**13 00 19.7**	**-0.4**
EDI	**Edinburgh**	**15.07**	**91**	*e*P	**Pn**	**13 00 21.3**	**-0.3**
EDI	**Edinburgh**	**15.07**	**91**	*e*P	**Pn**	**13 00 21.3**	**-0.3**
WIM	**Isle of Man**	**15.12**	**98**	*e*P	**Pn**	**13 00 22.1**	**-0.1**
WIM				AMb	AMB	13 00 33.0	
	comp=Z,384nm,1.8s						
WIM	**Isle of Man**	**15.12**	**98**	*e*P	**Pn**	**13 00 22.1**	**-0.1**
WIM				AMb	AMB	13 00 33.0	
	comp=Z,384nm,1.8s						
BWH	**Wardlaw**	**15.15**	**94**	*e*P	**Pn**	**13 00 23.3**	**+0.7**
BWH	**Wardlaw**	**15.15**	**94**	*e*P	**Pn**	**13 00 23.3**	**+0.7**
EBL	**Broad Law**	**15.21**	**91**	*e*P	**Pn**	**13 00 22.4**	**-0.9**
EBL	**Broad Law**	**15.21**	**91**	*e*P	**Pn**	**13 00 22.4**	**-0.9**
ESK	**Eskdalemuir**	**15.32**	**93**	*e*P	**Pn**	**13 00 24.1**	**-0.7**
ESK	**Eskdalemuir**	**15.32**	**93**	*e*P	**Pn**	**13 00 24.1**	**-0.7**
ESK	**Eskdalemuir**	**15.32**	**93**	*e*P	**Pn**	**13 00 25.1**	**+0.3**
ESK				pmax	pmax		
	comp=Z,232nm,1.5s						
ESK	**Eskdalemuir**	**15.32**	**93**	*e*P	**Pn**	**13 00 25.1**	**+0.3**
	comp=Z,232nm,1.5s						
ESK	**Eskdalemuir**	**15.32**	**93**	*e*P	**Pn**	**13 00 25.1**	**+0.3**
	comp=Z,232nm,1.5s						
EKA	**Eskdalemuir Ar**	**15.34**	**93**	Pn	**Pn**	**13 00 24.9**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=295,slow=12,SNR=44						
ESY	**Stoneypath**	**15.37**	**90**	*e*P	**Pn**	**13 00 24.5**	**-1.0**
ESY	**Stoneypath**	**15.37**	**90**	*e*P	**Pn**	**13 00 24.5**	**-1.0**
BHH	**Howats Hill**	**15.41**	**94**	*e*P	**Pn**	**13 00 25.2**	**-0.8**
BHH	**Howats Hill**	**15.41**	**94**	*e*P	**Pn**	**13 00 25.2**	**-0.8**
XDE	**Dent Fell**	**15.55**	**96**	*e*P	**Pn**	**13 00 28.4**	**+0.7**
XDE				AMb	AMB	13 00 37.4	
	comp=Z,312nm,1.9s						
XDE	**Dent Fell**	**15.55**	**96**	*e*P	**Pn**	**13 00 28.4**	**+0.7**
XDE				AMb	AMB	13 00 37.4	
	comp=Z,312nm,1.9s						
BBO1	**Bothel**	**15.56**	**95**	*e*P	**Pn**	**13 00 28.4**	**+0.4**
BBO1	**Bothel**	**15.56**	**95**	*e*P	**Pn**	**13 00 28.4**	**+0.4**
WCB1	**Church Bay**	**15.59**	**101**	*e*P	**Pn**	**13 00 28.3**	**+0.1**
WCB1				AMb	AMB	13 00 38.8	
	comp=Z,346nm,1.7s						
WCB1	**Church Bay**	**15.59**	**101**	*e*P	**Pn**	**13 00 28.3**	**+0.1**
WCB1				AMb	AMB	13 00 38.8	
	comp=Z,346nm,1.7s						
YRC	**Rhoscolyn**	**15.64**	**101**	*e*P	**Pn**	**13 00 29.3**	**+0.4**
YRC				AMb	AMB	13 00 36.7	
	comp=Z,300nm,1.3s						
YRC	**Rhoscolyn**	**15.64**	**101**	*e*P	**Pn**	**13 00 29.3**	**+0.4**
YRC				AMb	AMB	13 00 36.7	
	comp=Z,300nm,1.3s						
WME	**Myndd Eilian**	**15.70**	**100**	*e*P	**Pn**	**13 00 29.9**	**+0.2**
WME	**Myndd Eilian**	**15.70**	**100**	*e*P	**Pn**	**13 00 29.9**	**+0.2**
CKE	**Keswick**	**15.71**	**95**	*e*P	**Pn**	**13 00 30.0**	**+0.2**
CKE	**Keswick**	**15.71**	**95**	*e*P	**Pn**	**13 00 30.0**	**+0.2**
YRE	**Yr Eifl**	**15.87**	**102**	*e*P	**Pn**	**13 00 32.1**	**+0.3**
YRE	**Yr Eifl**	**15.87**	**102**	*e*P	**Pn**	**13 00 32.1**	**+0.3**
WPM1	**Penmaenmawr**	**15.98**	**100**	*e*P	**Pn**	**13 00 33.1**	**-0.2**
WPM1	**Penmaenmawr**	**15.98**	**100**	*e*P	**Pn**	**13 00 33.1**	**-0.2**
SBD1	**Bryn Du**	**16.50**	**101**	*e*P	**Pn**	**13 00 40.5**	**+0.5**
SBD1	**Bryn Du**	**16.50**	**101**	*e*P	**Pn**	**13 00 40.5**	**+0.5**
LHO	**Holmfirth**	**16.87**	**97**	*e*P	**Pn**	**13 00 45.1**	**+0.5**
LHO	**Holmfirth**	**16.87**	**97**	*e*P	**Pn**	**13 00 45.1**	**+0.5**
HLM1	**Long Mynd**	**16.90**	**101**	*e*P	**Pn**	**13 00 45.6**	**+0.5**
HLM1				AMb	AMB	13 00 50.6	
	comp=Z,172nm,1.5s						
HLM1	**Long Mynd**	**16.90**	**101**	*e*P	**Pn**	**13 00 45.6**	**+0.5**
HLM1				AMb	AMB	13 00 50.6	
	comp=Z,172nm,1.5s						
HTR	**Trewern Hill**	**16.96**	**103**	*e*P	**Pn**	**13 00 46.0**	**+0.1**
HTR				AMb	AMB	13 00 53.5	
	comp=Z,304nm,1.7s						
HTR	**Trewern Hill**	**16.96**	**103**	*e*P	**Pn**	**13 00 46.0**	**+0.1**
HTR				AMb	AMB	13 00 53.5	
	comp=Z,304nm,1.7s						
MCH1	**Michaelchurch**	**17.14**	**103**	*e*P	**Pn**	**13 00 48.1**	**-0.1**
MCH1	**Michaelchurch**	**17.14**	**103**	*e*P	**Pn**	**13 00 48.1**	**-0.1**
HAE	**Alders End**	**17.35**	**102**	*e*P	**Pn**	**13 00 50.3**	**-0.3**
HAE				AMb	AMB	13 00 56.4	
	comp=Z,162nm,1.8s						
HAE	**Alders End**	**17.35**	**102**	*e*P	**Pn**	**13 00 50.3**	**-0.3**
HAE				AMb	AMB	13 00 56.4	
	comp=Z,162nm,1.8s						
HGH	**Gray Hill**	**17.45**	**104**	*e*P	**Pn**	**13 00 52.6**	**+0.6**
HGH				AMb	AMB	13 01 00.1	
	comp=Z,354nm,1.7s						
HGH	**Gray Hill**	**17.45**	**104**	*e*P	**Pn**	**13 00 52.6**	**+0.6**
HGH				AMb	AMB	13 01 00.1	
	comp=Z,354nm,1.7s						
SSW	**Stow on the Wo**	**17.74**	**101**	*e*P	**Pn**	**13 00 56.8**	**+1.3**
SSW	**Stow on the Wo**	**17.74**	**101**	*e*P	**Pn**	**13 00 56.8**	**+1.3**
BER	**Bergen**	**18.03**	**71**	*e*P	**Pn**	**13 01 00.2**	**+1.1**
BER				*e*Sn	**Sn**	**13 04 23.8**	**+3.6**
BER				AMS	AMS	13 07 14.9	
	comp=Z,2μm,19.4s						
BER	**Bergen**	**18.03**	**71**	*e*P	**Pn**	**13 01 00.2**	**+1.1**
	SNR=46						
SWK	**Warminster**	**18.03**	**104**	*e*P	**Pn**	**13 00 59.5**	**+0.4**
SWK	**Warminster**	**18.03**	**104**	*e*P	**Pn**	**13 00 59.5**	**+0.4**
SWN1	**Swindon**	**18.03**	**103**	*e*P	**Pn**	**13 01 01.7**	**+2.5**
SWN1	**Swindon**	**18.03**	**103**	*e*P	**Pn**	**13 01 01.7**	**+2.5**
HYA	**Hoyanger**	**18.29**	**68**	*e*P	**Pn**	**13 01 04.9**	**+2.7**
HYA				AMb	AMB	13 01 15.1	
	comp=Z,112nm,1.9s						
SKP1	**Kophill**	**18.41**	**101**	*e*P	**Pn**	**13 01 04.0**	**+0.2**
SKP1	**Kophill**	**18.41**	**101**	*e*P	**Pn**	**13 01 04.0**	**+0.2**
FRB	**Frobisher Bay**	**18.42**	**300**	P	**Pn**	**13 01 03.5**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=77,slow=11,SNR=9.0						
FRB				LR	LR	13 07 19.6	
	comp=Z,16μm,19.0s,baz=86,slow=34						
FRB	**Frobisher Bay**	**18.42**	**300**	P	**Pn**	**13 01 03.5**	**-0.4**
ABA1	**Baconsthorpe**	**18.75**	**96**	*e*P	**Pn**	**13 01 07.8**	**-0.1**
ABA1	**Baconsthorpe**	**18.75**	**96**	*e*P	**Pn**	**13 01 07.8**	**-0.1**
ROSF	**Rostrenen**	**19.38**	**112**	*e*P	**Pn**	**13 01 14.2**	**-1.3**
ROSF				pmax	pmax		
	comp=Z,106nm,1.3s						
ROSF	**Rostrenen**	**19.38**	**112**	*e*P	**Pn**	**13 01 14.2**	**-1.3**
	comp=Z,106nm,1.3s						
QUIF	**Quistinic**	**19.72**	**113**	*e*P	**Pn**	**13 01 18.2**	**-1.4**
	comp=Z,189nm,1.3s						
QUIF	**Quistinic**	**19.72**	**113**	*e*P	**Pn**	**13 01 18.2**	**-1.4**
QUIF				pmax	pmax		
	comp=Z,94nm,1.3s						
QUIF	**Quistinic**	**19.72**	**113**	*e*P	**Pn**	**13 01 18.2**	**-1.4**
	comp=Z,94nm,1.3s						
SGMF	**Saint Gilles**	**19.78**	**111**	*e*P	**Pn**	**13 01 18.8**	**-1.5**
	comp=Z,554nm,1.4s						
SGMF	**Saint Gilles**	**19.78**	**111**	*e*P	**Pn**	**13 01 18.8**	**-1.5**
SGMF				pmax	pmax		
	comp=Z,277nm,1.4s						
SGMF	**Saint Gilles**	**19.78**	**111**	*e*P	**Pn**	**13 01 18.8**	**-1.5**
	comp=Z,277nm,1.4s						
SCHQ	**Schefferville**	**19.98**	**273**	P	**Pn**	**13 01 19.7**	**-3.0**
	comp=Z,1.3nm,0.3s,baz=64,slow=8.5,SNR=42						
SCHQ				S	**Sn**	**13 05 05.8**	**-1.6**
	baz=62,slow=11,SNR=2.2						
SCHQ				LR	LR	13 07 51.1	
	comp=Z,5μm,18.5s,baz=66,slow=33						
SCHQ	**Schefferville**	**19.98**	**273**	*e*P	**Pn**	**13 01 19.4**	**-3.3**
	comp=Z,91nm,1.3s						
SCHQ	**Schefferville**	**19.98**	**273**	*e*P	**Pn**	**13 01 19.4**	**-3.3**
	comp=Z,91nm,1.3s						
KONO	**Kongsberg**	**20.28**	**71**	*i*P	**P**	**13 01 24.6**	**+0.3**
KONO				*e*S	**S**	**13 05 13.0**	**+1.3**
KONO	**Kongsberg**	**20.28**	**71**	*e*P	**P**	**13 01 24.5**	**+0.2**
KONO				pmax	pmax		
	comp=Z,240nm,1.8s						
KONO	**Kongsberg**	**20.28**	**71**	*e*P	**P**	**13 01 24.5**	**+0.2**
	comp=Z,240nm,1.8s						
KONO	**Kongsberg**	**20.28**	**71**	*e*P	**P**	**13 01 24.5**	**+0.2**
	comp=Z,240nm,1.8s						
FLN	**La Foliniere**	**20.43**	**107**	*e*P	**P**	**13 01 25.3**	**-0.6**
	comp=Z,690nm,1.5s						
FLN				*e*R			
	comp=Z,4μm,20.5s						
FLN	**La Foliniere**	**20.43**	**107**	*e*P	**P**	**13 01 25.3**	**-0.6**
FLN				pmax	pmax		
	comp=Z,345nm,1.5s						
FLN				MLR	MLR		
	comp=Z,4μm,20.5s,MS4.8						
FLN	**La Foliniere**	**20.43**	**107**	*e*P	**P**	**13 01 25.3**	**-0.6**
	comp=Z,345nm,1.5s						
FLN				LR	LR		
	comp=Z,4μm,20.5s,MS4.8						
NSS	**Namsos**	**20.48**	**57**	*i*P	**P**	**13 01 25.6**	**-0.8**
NSS				AMb	AMB	13 01 32.4	
	comp=Z,112nm,1.5s						
NSS				AMS	AMS	13 07 58.4	
	comp=Z,1μm,24.0s,MS4.2						
NSS	**Namsos**	**20.48**	**57**	*e*P	**P**	**13 01 25.0**	**-1.4**
	comp=Z,112nm,1.5s						
NSS				LR	LR		
	comp=Z,1μm,24.0s,MS4.2						
NSS	**Namsos**	**20.48**	**57**	*e*P	**P**	**13 01 25.0**	**-1.4**
	comp=Z,112nm,1.5s						
GRR	**Gorron**	**20.50**	**109**	*e*P	**P**	**13 01 26.4**	**-0.3**
	comp=Z,1μm,1.8s						
GRR	**Gorron**	**20.50**	**109**	*e*P	**P**	**13 01 26.4**	**-0.3**
GRR				pmax	pmax		
	comp=Z,558nm,1.8s						
GRR	**Gorron**	**20.50**	**109**	*e*P	**P**	**13 01 26.4**	**-0.3**
	comp=Z,558nm,1.8s						
NAO01	**NORSAR Array S**	**20.59**	**68**	*e*P	**P**	**13 01 28.4**	**+0.8**
NAO01	**NORSAR Array S**	**20.59**	**68**	*e*P	**P**	**13 01 28.4**	**+0.8**
NB2	**NORSAR Subarra**	**20.70**	**67**	P	**P**	**13 01 28.8**	**0.0**
	comp=Z,79nm,1.4s,baz=280,slow=11						
NOA	**NORSAR Array B**	**20.70**	**67**	P	**P**	**13 01 28.9**	**+0.1**
	comp=Z,12nm,1.0s,baz=280,slow=11,SNR=21						
NOA				PP		13 01 47.5	
	comp=Z,7.0nm,0.9s,baz=284,slow=10.0,SNR=3.8						
NOA				LR	LR	13 08 21.6	
	comp=Z,2μm,20.7s,MS4.5,baz=285,slow=33						
NOA	**NORSAR Array B**	**20.70**	**67**	P	**P**	**13 01 28.9**	**+0.1**
NOA						13 01 47.5	
NOA	**NORSAR Array B**	**20.70**	**67**	P	**P**	**13 01 28.9**	**+0.1**
NOA				PP		13 01 47.5	
NOA				LR	LR	13 08 21.6	
ADH	**Angra Heroismo**	**20.70**	**172**	*i* LR	LR	13 07 35.0	
LDF	**La Druitiere**	**20.73**	**107**	*e*P	**P**	**13 01 28.6**	**-0.5**
	comp=Z,721nm,1.6s						
LDF	**La Druitiere**	**20.73**	**107**	*e*P	**P**	**13 01 28.6**	**-0.5**
LDF				pmax	pmax		
	comp=Z,361nm,1.6s						
LDF	**La Druitiere**	**20.73**	**107**	*e*P	**P**	**13 01 28.6**	**-0.5**
	comp=Z,361nm,1.6s						
EMAZ	**Mazaricos**	**21.09**	**131**	P	**P**	**13 01 33.2**	**+0.2**
	comp=Z,401nm,1.5s,mb5.5						
EMAZ	**Mazaricos**	**21.09**	**131**	P	**P**	**13 01 33.2**	**+0.2**
	comp=Z,401nm,1.5s,mb5.5						
MUD	**Monsted U'grnd**	**21.18**	**80**	*i* P	**P**	**13 01 34.6**	**+0.6**
	comp=Z,114nm,1.1s,mb5.1						
MUD				*i* S	**S**	**13 05 34.0**	**+4.5**
MUD							
	comp=Z,2μm,22.0s						
MUD	**Monsted U'grnd**	**21.18**	**80**	*i* P	**P**	**13 01 34.6**	**+0.6**
	comp=Z,114nm,1.1s,mb5.1						
MUD				*i* S	**S**	**13 05 34.0**	**+4.5**
STS	**Santiago**	**21.31**	**130**	P	**P**	**13 01 36.3**	**+0.9**
STS				pmax	pmax		
	comp=Z,148nm,1.1s,mb5.2						
STS	**Santiago**	**21.31**	**130**	P	**P**	**13 01 36.3**	**+0.9**
	comp=Z,148nm,1.1s,mb5.2						
STS	**Santiago**	**21.31**	**130**	P	**P**	**13 01 36.3**	**+0.9**
	comp=Z,148nm,1.1s,mb5.2						
LRYF	**La Roche-sur-Y**	**21.45**	**113**	*e*P	**P**	**13 01 37.9**	**+1.0**
EPON	**Pontenova**	**21.50**	**127**	P	**P**	**13 01 37.9**	**+0.4**
	comp=Z,493nm,1.6s,mb5.7						
EPON	**Pontenova**	**21.50**	**127**	P	**P**	**13 01 37.9**	**+0.4**
	comp=Z,493nm,1.6s,mb5.7						
UCC	**Uccle**	**21.57**	**98**	P	**P**	**13 01 37.4**	**-0.9**
UCC				AP		13 01 41.8	
SNF	**Seneffe**	**21.71**	**98**	P	**P**	**13 01 39.1**	**-0.6**
LCHF	**La Chataignera**	**21.77**	**112**	*e*P	**P**	**13 01 40.3**	**0.0**
EZAM	**Zamans**	**21.88**	**132**	P	**P**	**13 01 42.2**	**+0.7**
EZAM				pmax	pmax		
	comp=Z,190nm,1.6s,mb5.3						
EZAM	**Zamans**	**21.88**	**132**	P	**P**	**13 01 42.2**	**+0.7**
	comp=Z,190nm,1.6s,mb5.3						
EZAM	**Zamans**	**21.88**	**132**	P	**P**	**13 01 42.2**	**+0.7**
	comp=Z,190nm,1.6s,mb5.3						
BAIF	**Baives**	**21.95**	**99**	*e*P	**P**	**13 01 41.4**	**-0.8**
	comp=Z,561nm,1.3s,mb5.5						
BAIF	**Baives**	**21.95**	**99**	*e*P	**P**	**13 01 41.4**	**-0.8**
BAIF				pmax	pmax		
	comp=Z,281nm,1.3s,mb5.5						
BAIF	**Baives**	**21.95**	**99**	*e*P	**P**	**13 01 41.4**	**-0.8**
	comp=Z,280nm,1.3s,mb5.5						
OLEF	**Ile d'Oleron**	**22.01**	**114**	*e*P	**P**	**13 01 37.7**	**-5.2**
MFF	**Saint Martin d**	**22.10**	**111**	*e*P	**P**	**13 01 43.2**	**-0.7**
	comp=Z,589nm,1.6s,mb5.5						
MFF	**Saint Martin d**	**22.10**	**111**	*e*P	**P**	**13 01 43.2**	**-0.7**
MFF				pmax	pmax		
	comp=Z,295nm,1.6s,mb5.5						
MFF	**Saint Martin d**	**22.10**	**111**	*e*P	**P**	**13 01 43.2**	**-0.7**
	comp=Z,294nm,1.6s,mb5.5						
DOU	**Dourbes**	**22.12**	**99**	P	**P**	**13 01 43.2**	**-0.9**
HFS	**Hagfors**	**22.12**	**68**	P	**P**	**13 01 43.9**	**-0.2**
	comp=Z,22nm,1.1s,mb4.5,baz=275,slow=8.8,SNR=21						
HFS				S	**S**	**13 05 51.7**	**+3.8**
	comp=Z,1.3nm,0.8s,baz=97,slow=12,SNR=2.2						
HFS				LR	LR	13 09 33.9	
	comp=Z,2μm,18.9s,MS4.6,baz=287,slow=35						
HFS	**Hagfors**	**22.12**	**68**	P	**P**	**13 01 43.9**	**-0.2**
HFS				S	**S**	**13 05 51.7**	**+3.8**
WTSB	**Winterswijk**	**22.15**	**93**	*e*P	**P**	**13 01 44.0**	**-0.4**
	comp=Z,162nm,1.3s,mb5.3						
GIVF	**Givet**	**22.23**	**99**	*e*P	**P**	**13 01 44.2**	**-1.1**
	comp=Z,597nm,1.6s,mb5.5						
GIVF	**Givet**	**22.23**	**99**	*e*P	**P**	**13 01 44.2**	**-1.1**
GIVF				pmax	pmax		
	comp=Z,298nm,1.6s,mb5.5						
GIVF	**Givet**	**22.23**	**99**	*e*P	**P**	**13 01 44.2**	**-1.1**
	comp=Z,298nm,1.6s,mb5.5						
BEBN	**Eben Emael**	**22.25**	**96**	P	**P**	**13 01 46.3**	**+0.8**
BCLA	**Clavier**	**22.28**	**97**	P	**P**	**13 01 44.8**	**-1.0**
EARI	**Arriondas**	**22.34**	**124**	P	**P**	**13 01 47.2**	**+0.8**
	comp=Z,841nm,2.2s,mb5.8						
EARI	**Arriondas**	**22.34**	**124**	P	**P**	**13 01 47.2**	**+0.8**
	comp=Z,841nm,2.2s,mb5.8						
ELOB	**Lobios**	**22.37**	**131**	P	**P**	**13 01 47.0**	**+0.3**
	comp=Z,596nm,2.3s,mb5.6						
ELOB	**Lobios**	**22.37**	**131**	P	**P**	**13 01 47.0**	**+0.3**
	comp=Z,596nm,2.3s,mb5.6						
HGN	**Heimansgroeve**	**22.40**	**96**	*e*P	**P**	**13 01 46.0**	**-1.1**
	comp=Z,152nm,1.4s,mb5.2						
HGN				*e*S	**S**	**13 05 53.8**	**+0.5**
PCAB	**Cabril**	**22.52**	**131**	*e*P	**P**	**13 01 48.6**	**+0.3**
	comp=Z,195nm,1.5s,mb5.3						
MEM	**Membach**	**22.53**	**96**	P	**P**	**13 01 47.4**	**-1.1**
BUG	**Bochum--Univer**	**22.69**	**93**	*e*P	**P**	**13 01 52.2**	**+2.1**
	comp=Z,217nm,1.5s,mb5.4						
ECAL	**Calabor**	**22.83**	**129**	P	**P**	**13 01 52.4**	**+0.8**
	comp=Z,686nm,1.8s,mb5.8						
ECAL	**Calabor**	**22.83**	**129**	P	**P**	**13 01 52.4**	**+0.8**
	comp=Z,686nm,1.8s,mb5.8						
BSEG	**Bad Segeberg**	**22.92**	**85**	*e*P	**P**	**13 01 52.2**	**-0.3**
	comp=Z,395nm,1.4s,mb5.7						
PBRG	**Braganca**	**22.94**	**129**	*e*P	**P**	**13 01 53.0**	**+0.2**
	comp=Z,78nm,1.3s,mb5.0						
HYF	**Humbligny**	**22.99**	**107**	*e*P	**P**	**13 01 51.7**	**-1.6**
PVRL	**Vila Real**	**23.01**	**131**	*e*P	**P**	**13 01 53.7**	**+0.2**
TRO	**Tromso**	**23.08**	**43**	*i*P	**P**	**13 01 54.5**	**+0.3**
TRO				AMb	AMB	13 02 01.8	
	comp=Z,100nm,0.9s,mb5.2						
TRO				*e*S	**S**	**13 06 07.3**	**+2.2**
TRO				*e*ScP	ScP	13 09 18.7	-2.5
TRO	**Tromso**	**23.08**	**43**	*e*P	**P**	**13 01 54.6**	**+0.4**
TRO				pmax	pmax		
	comp=Z,100nm,0.9s,mb5.2						
TRO	**Tromso**	**23.08**	**43**	*e*P	**P**	**13 01 54.6**	**+0.3**
	comp=Z,100nm,0.9s,mb5.2						
TRO	**Tromso**	**23.08**	**43**	*i*P	**P**	**13 01 54.5**	**+0.3**
	comp=Z,100nm,0.9s,mb5.2,SNR=38						
TRO	**Tromso**	**23.08**	**43**	*e*P	**P**	**13 01 54.6**	**+0.4**
	comp=Z,100nm,0.9s,mb5.2						
ELAN	**Lanestosa**	**23.16**	**122**	P	**P**	**13 01 55.8**	**+0.7**
	comp=Z,1μm,4.2s						
ELAN	**Lanestosa**	**23.16**	**122**	P	**P**	**13 01 55.8**	**+0.7**
	comp=Z,1μm,4.2s						
COP	**Copenhagen**	**23.16**	**80**	*i*P	**P**	**13 01 54.6**	**-0.6**
	comp=Z,50nm,1.0s,mb4.9						
COP				*i* S	**S**	**13 06 14.5**	**+7.9**
COP							

CLZ	**Clausthal**	**24.06**	**90**	*e*P		**P**	**13 02 04.0**	**+0.2**	
	comp=Z,467nm,2.2s,mb5.5								
CLZ	**Clausthal**	**24.06**	**90**	*e*P		**P**	**13 02 04.0**	**+0.2**	
CLZ					pmax	pmax			
	comp=Z,467nm,2.2s,mb5.5								
ELIZ	**Elizondo**	**24.06**	**119**	P		**P**	**13 02 06.0**	**+2.2**	
ELIZ					pmax	pmax			
	comp=Z,77nm,1.3s,mb5.0								
ELIZ	**Elizondo**	**24.06**	**119**	P		**P**	**13 02 06.0**	**+2.1**	
	comp=Z,77nm,1.3s,mb5.0								
ELIZ	**Elizondo**	**24.06**	**119**	P		**P**	**13 02 06.0**	**+2.2**	
	comp=Z,77nm,1.3s,mb5.0								
AGO	**Saint Agoulin**	**24.08**	**108**	*e*P		**P**	**13 02 03.4**	**-0.7**	
OSSF	**Osses**	**24.11**	**118**	*e*P		**P**	**13 02 04.7**	**+0.4**	
PTOM	**Tomar**	**24.18**	**134**	*e*P		**P**	**13 02 06.5**	**+1.5**	
	comp=Z,191nm,1.8s,mb5.2								
SJPF	**Ste Jean**	**24.23**	**119**	*e*P		**P**	**13 02 04.2**	**-1.2**	
	comp=Z,170nm,1.3s,mb5.0								
SJPF	**Ste Jean**	**24.23**	**119**	*e*P		**P**	**13 02 04.2**	**-1.2**	
SJPF					pmax	pmax			
	comp=Z,85nm,1.3s,mb5.0								
SJPF	**Ste Jean**	**24.23**	**119**	*e*P		**P**	**13 02 04.2**	**-1.2**	
	comp=Z,85nm,1.3s,mb5.0								
PYM	**Petit Puy Mans**	**24.24**	**109**	*e*P		**P**	**13 02 05.5**	**0.0**	
FRNF	**Fournols**	**24.29**	**110**	*e*P		**P**	**13 02 06.8**	**+0.9**	
SPB4	**Spitsbergen Ar**	**24.29**	**22**	*e*P		**P**	**13 02 09.3**	**+3.3**	
SPB4	**Spitsbergen Ar**	**24.29**	**22**	*e*P		**P**	**13 02 09.3**	**+3.3**	
PCBR	**Castelo Branco**	**24.34**	**133**	*e*P		**P**	**13 02 07.1**	**+0.7**	
	comp=Z,116nm,1.9s,mb5.0								
HAU	**Haudompre**	**24.34**	**101**	*e*P		**P**	**13 02 05.4**	**-1.0**	
	comp=Z,286nm,1.6s,mb5.2								
HAU					*e*R				
	comp=Z,12µm,19.0s								
HAU	**Haudompre**	**24.34**	**101**	*e*P		**P**	**13 02 05.4**	**-1.0**	
HAU					pmax	pmax			
	comp=Z,143nm,1.6s,mb5.2								
HAU					MLR	MLR			
	comp=Z,12µm,19.0s,MS5.4								
HAU	**Haudompre**	**24.34**	**101**	*e*P		**P**	**13 02 05.4**	**-1.0**	
	comp=Z,143nm,1.6s,mb5.2								
HAU					LR	LR			
	comp=Z,12µm,19.0s,MS5.4								
PLDF	**La Plantade**	**24.38**	**108**	*e*P		**P**	**13 02 06.0**	**-0.8**	
CAF	**Calviac**	**24.38**	**111**	*e*P		**P**	**13 02 06.0**	**-0.8**	
LANF	**Langenberg**	**24.45**	**98**	*e*P		**P**	**13 02 07.9**	**+0.5**	
UBBA	**Unterbreizbach**	**24.45**	**92**	*e*P		**P**	**13 02 08.0**	**+0.6**	
	comp=Z,122nm,1.6s,mb5.1								
CDF	**Champ du Feu**	**24.55**	**99**	*e*P		**P**	**13 02 07.5**	**-0.8**	
	comp=Z,99nm,1.3s,mb4.9								
CDF	**Champ du Feu**	**24.55**	**99**	*e*P		**P**	**13 02 07.5**	**-0.8**	
CDF					pmax	pmax			
	comp=Z,50nm,1.3s,mb4.9								
CDF	**Champ du Feu**	**24.55**	**99**	*e*P		**P**	**13 02 07.5**	**-0.8**	
	comp=Z,50nm,1.3s,mb4.9								
PLOU	**Loures**	**24.56**	**136**	*e*P		**P**	**13 02 09.6**	**+1.1**	
	comp=Z,248nm,1.6s,mb5.5								
TOD	**Tromm**	**24.57**	**96**	*e*P		**P**	**13 02 09.2**	**+0.7**	
WLS	**Welschbruch**	**24.59**	**99**	*e*P		**P**	**13 02 08.5**	**-0.1**	
ECH	**Echery**	**24.61**	**100**	*e*P		**P**	**13 02 07.9**	**-1.0**	
EPLA	**Plasencia**	**24.68**	**130**	P		**P**	**13 02 10.6**	**+1.0**	
EPLA					pmax	pmax			
	comp=Z,906nm,2.9s,mb5.8								
EPLA	**Plasencia**	**24.68**	**130**	P		**P**	**13 02 10.6**	**+1.0**	
	comp=Z,906nm,2.9s,mb5.8								
BSD	**Bornholm Skovb**	**24.69**	**79**⇑	*i*P		**P**	**13 02 10.9**	**+1.3**	
	comp=Z,40nm,1.1s,mb4.9								
BSD				*i* S		**S**	**13 06 41.9**	**+11**	
BSD									
	comp=Z,2µm,21.0s								
BSD	**Bornholm Skovb**	**24.69**	**79**⇑	*i*P		**P**	**13 02 10.9**	**+1.3**	
	comp=Z,40nm,1.1s,mb4.9								
BSD				*i* S		**S**	**13 06 41.9**	**+11**	
ETSF	**Etsaut**	**24.70**	**118**	*e*P		**P**	**13 02 09.3**	**-0.4**	
	comp=Z,64nm,1.1s,mb4.8								
ETSF	**Etsaut**	**24.70**	**118**	*e*P		**P**	**13 02 09.3**	**-0.4**	
ETSF					pmax	pmax			
	comp=Z,32nm,1.0s,mb4.8								
ETSF	**Etsaut**	**24.70**	**118**	*e*P		**P**	**13 02 09.3**	**-0.4**	
	comp=Z,32nm,1.1s,mb4.8								
LIS	**Lisbon**	**24.71**	**137**	*e*P		**P**	**13 02 09.5**	**-0.4**	
LIS				*e*S		**S**	**13 06 31.5**	**-0.2**	
LIS				*e*S		S	**13 06 31.5**	**-0.2**	
LIS					AMS	AMS	13 09 52.9		
	comp=N,4µm,18.8s								
LIS	**Lisbon**	**24.71**	**137**	*e*P		**P**	**13 02 09.5**	**-0.3**	
LIS				*e*S		**S**	**13 06 31.5**	**-0.2**	
LIS	**Lisbon**	**24.71**	**137**	*e*P		**P**	**13 02 09.5**	**-0.3**	
LIS				*e*S		**S**	**13 06 31.5**	**-0.2**	
LIS					pmax	pmax			
	comp=Z,700nm,1.0s,mb6.2								
LIS					smax				
	comp=N,300nm,1.0s								
LIS					MLR	MLR			
	comp=Z,4µm,18.8s,MS4.9								
HINF	**Hinteralfeld**	**24.72**	**101**	*e*P		**P**	**13 02 08.9**	**-1.0**	
LBL	**Lubilhac**	**24.73**	**109**	*e*P		**P**	**13 02 12.0**	**+2.0**	
COLF	**Collangettes**	**24.74**	**108**	*e*P		**P**	**13 02 09.7**	**-0.4**	
MOF	**Molkenrain**	**24.84**	**100**	*e*P		**P**	**13 02 09.8**	**-1.2**	
LIBD	**Limburg**	**24.88**	**99**	*e*P		**P**	**13 02 11.1**	**-0.3**	
GUD	**Guadarrama**	**24.97**	**126**	P		**P**	**13 02 12.0**	**-0.2**	
GUD					pmax	pmax			
	comp=Z,33nm,1.0s,mb4.8								
GUD	**Guadarrama**	**24.97**	**126**	P		**P**	**13 02 12.0**	**-0.2**	
	comp=Z,33nm,1.0s,mb4.8								
GUD	**Guadarrama**	**24.97**	**126**	P		**P**	**13 02 12.0**	**-0.2**	
	comp=Z,33nm,1.0s,mb4.8								
VIEF	**Viey**	**24.98**	**117**	*e*P		**P**	**13 02 14.1**	**+1.8**	
EPF	**Esparros**	**25.01**	**117**	*e*P		**P**	**13 02 12.1**	**-0.4**	
	comp=Z,381nm,1.7s,mb5.3								
EPF	**Esparros**	**25.01**	**117**	*e*P		**P**	**13 02 12.1**	**-0.4**	
EPF					pmax	pmax			
	comp=Z,191nm,1.7s,mb5.3								
EPF	**Esparros**	**25.01**	**117**	*e*P		**P**	**13 02 12.1**	**-0.4**	
	comp=Z,191nm,1.7s,mb5.3								
LOMF	**Lomont**	**25.02**	**102**	*e*P		**P**	**13 02 11.8**	**-0.8**	
BFO	**Black Forest**	**25.14**	**98**	P		**P**	**13 02 13.6**	**-0.1**	
	comp=Z,120nm,1.4s,mb5.2,SNR=7.0								
BFO	**Black Forest**	**25.14**	**98**	*e*P		**P**	**13 02 13.4**	**-0.3**	
	comp=Z,52nm,1.4s,mb4.9								
BFO	**Black Forest**	**25.14**	**98**	*e*P		**P**	**13 02 13.4**	**-0.3**	
BFO					pmax	pmax			
	comp=Z,52nm,1.4s,mb4.9								
PESTR	**Estremoz**	**25.15**	**134**	*e*P		**P**	**13 02 13.3**	**-0.5**	
	comp=Z,37nm,1.3s,mb4.8								
PESTR				*e*LQ			13 06 56.8		
PESTR				*e*LR		LR	13 08 16.2		
	comp=Z,1µm,26.8s								
CABF	**La Chapelle**	**25.15**	**104**	*e*P		**P**	**13 02 12.5**	**-1.3**	
	comp=Z,162nm,1.3s,mb5.1								
CABF	**La Chapelle**	**25.15**	**104**	*e*P		**P**	**13 02 12.5**	**-1.3**	
CABF					pmax	pmax			
	comp=Z,81nm,1.3s,mb5.1								
CABF	**La Chapelle**	**25.15**	**104**	*e*P		**P**	**13 02 12.5**	**-1.3**	
	comp=Z,81nm,1.3s,mb5.1								
RESF	**Ens**	**25.18**	**117**	*e*P		**P**	**13 02 16.2**	**+2.1**	
EBIE	**Bielsa**	**25.19**	**117**	P		**P**	**13 02 15.7**	**+1.6**	
	comp=Z,247nm,1.5s,mb5.5								
EBIE	**Bielsa**	**25.19**	**117**	P		**P**	**13 02 15.7**	**+1.5**	
	comp=Z,247nm,1.5s,mb5.5								
FELD	**Feldberg im Sc**	**25.27**	**99**	*e*P		**P**	**13 02 14.3**	**-0.5**	
BBS	**Basel-Blauen**	**25.29**	**101**	*e*P		**P**	**13 02 14.1**	**-0.9**	
STU	**Stuttgart**	**25.29**	**97**	*e*P		**P**	**13 02 15.0**	**-0.1**	
	comp=Z,64nm,1.0s,mb5.1								
MOX	**Moxa**	**25.39**	**91**	*e*P		**P**	**13 02 15.6**	**-0.3**	
	comp=Z,115nm,1.6s,mb5.2								
MOX					*e*R				
	comp=Z,5µm,18.0s								
MOX	**Moxa**	**25.39**	**91**	*e*P		**P**	**13 02 15.6**	**-0.3**	
MOX					pmax	pmax			
	comp=Z,115nm,1.6s,mb5.2								
MOX					MLR	MLR			
	comp=Z,5µm,18.0s,MS5.1								
ARCES	**ARCESS Array B**	**25.39**	**43**	P		**P**	**13 02 15.3**	**-0.6**	
	comp=Z,20nm,0.8s,mb4.7,baz=271,slow=9.3,SNR=43								
ARCES					LR	LR	13 09 36.1		
	comp=Z,459nm,21.2s,MS4.0,baz=270,slow=30								
ARCES	**ARCESS Array B**	**25.39**	**43**	P		**P**	**13 02 15.3**	**-0.6**	
ARCES					LR	LR	13 09 36.1		
ARE0	**ARCESS Array S**	**25.39**	**43**	*e*P		**P**	**13 02 16.7**	**+0.7**	
ARE0	**ARCESS Array S**	**25.39**	**43**	*e*P		**P**	**13 02 16.7**	**+0.8**	
MLS	**Moulis**	**25.42**	**116**	*e*P		**P**	**13 02 16.6**	**+0.4**	
RUE	**Ruedersdorf**	**25.45**	**86**	*e*P		**P**	**13 02 16.7**	**+0.1**	
	comp=Z,122nm,1.3s,mb5.3								
RUE	**Ruedersdorf**	**25.45**	**86**	*e*P		**P**	**13 02 16.5**	**-0.1**	
	comp=Z,141nm,1.4s,mb5.3								
RUE	**Ruedersdorf**	**25.45**	**86**	*e*P		**P**	**13 02 16.5**	**-0.1**	
	comp=Z,141nm,1.4s,mb5.3								
EBAD	**Badajoz**	**25.46**	**133**	P		**P**	**13 02 16.5**	**-0.1**	
	comp=Z,108nm,1.3s,mb5.2								
EBAD	**Badajoz**	**25.46**	**133**	P		**P**	**13 02 16.5**	**-0.1**	
	comp=Z,108nm,1.3s,mb5.2								
MTLF	**Montolieu**	**25.65**	**114**	*e*P		**P**	**13 02 17.1**	**-1.2**	
VIVF	**Saint-Julien-l**	**25.70**	**108**	*e*P		**P**	**13 02 17.9**	**-0.9**	
CLL	**Collm**	**25.71**	**89**	*e*P		**P**	**13 02 18.1**	**-0.8**	
	comp=Z,52nm,1.3s,mb4.9								
CLL				*e*PcP		PcP	13 05 49.6	+0.6	
	comp=Z,31nm,1.7s								
CLL				*e*S		**S**	**13 06 49.8**	**+2.2**	
CLL				*e*SSS			13 08 07.1		
CLL				*e*LR		LR	13 09 10.4		
CLL				*e*L			13 11 54.3		
	comp=Z,4µm,20.0s								
CLL	**Collm**	**25.71**	**89**	⇓P		**P**	**13 02 18.0**	**-0.9**	
	comp=Z,logA/T=1.6,mb4.9								
CLL				*i* *SP		sP	13 02 24.4	+1.2	
CLL				*i*			13 02 26.4		
CLL				*e*PP			13 02 54.0		
CLL				*e*PCP		PcP	13 05 50.0	+1.0	
CLL				*e*S		**S**	**13 06 51.0**	**+3.4**	
CLL				*e*			13 07 09.0		
CLL				*e*SSS			13 08 06.0		
CLL	**Collm**	**25.71**	**89**	⇓*i*P		**P**	**13 02 18.0**	**-0.9**	
	comp=Z,63nm,1.5s,mb4.9								
CLL				*i* sP		sP	13 02 24.4	+1.2	
CLL				*i* x		x	13 02 26.4		
CLL				*e*PP			13 02 54.0		
CLL				*e*PcP		PcP	13 05 50.0	+1.0	
CLL				*e*S		**S**	**13 06 51.0**	**+3.4**	
CLL				*e*x		x	13 07 09.0		
CLL				*e*SSS			13 08 06.0		
CLL	**Collm**	**25.71**	**89**	⇓*i*P		**P**	**13 02 18.0**	**-0.9**	
CLL				*i*			13 02 24.4		
CLL				*e*			13 05 50.0		
CLL				*e*S		**S**	**13 06 51.0**	**+3.4**	
CLL					pmax	pmax			
	comp=Z,63nm,1.5s,mb4.9								
CLL					MLR	MLR			
	comp=Z,4µm,15.7s,MS5.0								
CLL	**Collm**	**25.71**	**89**	⇓*i*P		**P**	**13 02 18.0**	**-0.9**	
	comp=Z,63nm,1.5s,mb4.9								
CLL				*i*			13 02 24.4		
CLL				*e*PcP		PcP	13 05 50.0	+1.0	
CLL				*e*S		**S**	**13 06 51.0**	**+3.4**	
CLL					LR	LR			
	comp=Z,4µm,15.7s,MS5.0								
GRA1	**Grafenberg Arr**	**25.76**	**93**	*e*P		**P**	**13 02 19.1**	**-0.2**	
	comp=Z,81nm,1.3s,mb5.1								
GRA1					LR	LR			
	comp=Z,5µm,21.2s,MS5.0								
GRF	**Grafenberg Arr**	**25.76**	**93**	*e*P		**P**	**13 02 19.1**	**-0.2**	
	comp=Z,81nm,1.3s,mb5.1								
GRF				*e*L			13 11 33.0		
	comp=Z,5µm,21.2s								
GRF	**Grafenberg Arr**	**25.76**	**93**	*e*P		**P**	**13 02 19.1**	**-0.2**	
GRF					pmax	pmax			
	comp=Z,81nm,1.3s,mb5.1								
GRF					MLR	MLR			
	comp=Z,5µm,21.2s,MS5.0								
GRF	**Grafenberg Arr**	**25.76**	**93**	*e*P		**P**	**13 02 19.1**	**-0.2**	
GRF					pmax	pmax			
	comp=Z,81nm,1.3s,mb5.1								
GRF					MLR	MLR			
	comp=Z,5µm,21.2s,MS5.0								
PBEJ	**Beja**	**25.79**	**135**	*e*P		**P**	**13 02 20.1**	**+0.5**	
	comp=Z,140nm,1.5s,mb5.3								
WERD	**Werda**	**25.86**	**91**	*e*P		**P**	**13 02 19.7**	**-0.5**	
	comp=Z,68nm,1.5s,mb5.0								
ESDC	**Sonseca Array**	**25.87**	**127**	P		**P**	**13 02 20.0**	**-0.3**	
	comp=Z,22nm,1.0s,mb4.7,baz=326,slow=8.0,SNR=28								
ESDC					LR	LR	13 10 40.1		
	comp=Z,2µm,18.7s,MS4.6,baz=315,slow=32								
ESDC	**Sonseca Array**	**25.87**	**127**	P		**P**	**13 02 21.4**	**+1.1**	
	comp=Z,16nm,0.8s,mb4.6								
ESDC	**Sonseca Array**	**25.87**	**127**	P		**P**	**13 02 21.4**	**+1.1**	
	comp=Z,16nm,0.8s,mb4.6								
ESLA	**Sonseca Array**	**25.87**	**127**	*e*P		**P**	**13 02 21.3**	**+1.0**	
	comp=Z,40nm,1.4s,mb4.8								
ESLA	**Sonseca Array**	**25.87**	**127**	*e*P		**P**	**13 02 21.3**	**+1.0**	
	comp=Z,40nm,1.4s,mb4.8								
LASF	**Ste Croix**	**25.88**	**110**	*e*P		**P**	**13 02 19.6**	**-0.8**	
	comp=Z,277nm,1.5s,mb5.3								
LASF	**Ste Croix**	**25.88**	**110**	*e*P		**P**	**13 02 19.6**	**-0.8**	
	comp=Z,138nm,1.5s,mb5.3								
KEV	**Kevo**	**25.89**	**42**	*e*p		**P**	**13 02 19.7**	**-0.8**	
	comp=Z,57nm,1.1s,mb5.0								
KEV	**Kevo**	**25.89**	**42**	*e*P		**P**	**13 02 19.7**	**-0.8**	
KEV					pmax	pmax			
	comp=Z,57nm,1.1s,mb5.0								
PTEO	**Sao Teotonio**	**25.91**	**137**	*e*P		**P**	**13 02 22.1**	**+1.4**	
	comp=Z,319nm,1.5s,mb5.6								
TANN	**Tannenbergstha**	**25.96**	**91**	*e*P		**P**	**13 02 20.7**	**-0.4**	
	comp=Z,183nm,2.2s,mb5.2								
WERN	**Wernitzgruen**	**25.99**	**91**	*e*P		**P**	**13 02 21.1**	**-0.3**	
	comp=Z,213nm,2.0s,mb5.3								
MANZ	**Manzenberg**	**26.03**	**92**	*e*P		**P**	**13 02 21.3**	**-0.5**	
	comp=Z,68nm,1.5s,mb5.0								
NKC	**Novy Kostel**	**26.06**	**91**	*e*P		**P**	**13 02 21.8**	**-0.2**	
NKC				*e*x		x	13 02 38.3		
CARF	**Carcanieres**	**26.07**	**115**	*e*P		**P**	**13 02 21.6**	**-0.6**	
FBE	**Freiberg**	**26.12**	**89**	*e*P		**P**	**13 02 22.1**	**-0.5**	
	comp=Z,151nm,1.7s,mb5.2								
MORF	**Marmelete**	**26.15**	**137**	*e*P		**P**	**13 02 22.0**	**-0.9**	
MORF				*e*S		**S**	**13 06 54.1**	**-0.4**	
MORF				*e*S		**S**	**13 06 54.2**	**-0.3**	
MORF					AMS	AMS	13 11 41.6		
	comp=E,3µm,20.8s								
MORF	**Marmelete**	**26.15**	**137**	*e*P		**P**	**13 02 22.0**	**-0.9**	
MORF				*e*S		**S**	**13 06 54.1**	**-0.4**	
MORF	**Marmelete**	**26.15**	**137**	*e*P		**P**	**13 02 22.0**	**-0.9**	
MORF				*e*S		**S**	**13 06 54.2**	**-0.3**	
MORF					pmax	pmax			
	comp=Z,100nm,1.0s,mb5.3								
MORF					smax				
	comp=N,500nm,1.0s								
MORF					MLR	MLR			
	comp=Z,3µm,20.8s,MS4.8								
ROTZ	**Rotzenmuhle**	**26.22**	**92**	*e*P		**P**	**13 02 23.3**	**-0.2**	
	comp=Z,51nm,1.6s,mb4.8								
LPL	**La Plagne**	**26.24**	**105**	*e*P		**P**	**13 02 23.3**	**-0.4**	
ORIF	**Oris-en-Rattie**	**26.24**	**107**	*e*P		**P**	**13 02 22.8**	**-0.9**	
	comp=Z,302nm,1.5s,mb5.3								
ORIF				*e*R					
	comp=Z,4µm,22.5s								
ORIF	**Oris-en-Rattie**	**26.24**	**107**	*e*P		**P**	**13 02 22.8**	**-0.9**	
ORIF					pmax	pmax			
	comp=Z,151nm,1.5s,mb5.3								
ORIF	**Oris-en-Rattie**	**26.24**	**107**	*e*P		**P**	**13 02 22.8**	**-0.9**	
	comp=Z,151nm,1.5s,mb5.3								
LPG	**La Plagne**	**26.26**	**105**	*e*P		**P**	**13 02 23.6**	**-0.3**	
	comp=Z,110nm,1.3s,mb4.9								
LPG	**La Plagne**	**26.26**	**105**	*e*P		**P**	**13 02 23.6**	**-0.3**	
LPG					pmax	pmax			
	comp=Z,55nm,1.3s,mb4.9								
LPG	**La Plagne**	**26.26**	**105**	*e*P		**P**	**13 02 23.6**	**-0.3**	
	comp=Z,55nm,1.3s,mb4.9								
VALF	**Valcebollere**	**26.28**	**115**	*e*P		**P**	**13 02 25.9**	**+1.9**	
EGRO	**El Granado**	**26.36**	**135**	P		**P**	**13 02 25.4**	**+0.6**	
	comp=Z,7.3nm,0.8s,mb4.3								
BRG	**Berggiesshubel**	**26.45**	**89**	*e*P		**P**	**13 02 24.6**	**-1.0**	
	comp=Z,144nm,2.1s,mb5.1								
BRG	**Berggiesshubel**	**26.45**	**89**	*e*P		**P**	**13 02 25.0**	**-0.5**	
	comp=Z,27nm,1.8s,mb4.5								
BRG				*e*		pP	13 02 28.3	-0.3	
	comp=Z,86nm,2.1s								
BRG					PP		13 03 03.0		
BRG					S	**S**	**13 06 57.0**	**-2.2**	
BRG									
	comp=N,3µm,16.5s								
BRG									
	comp=E,2µm,18.7s								
BRG									
	comp=Z,2µm,22.9s								
BRG	**Berggiesshubel**	**26.45**	**89**	*e*P		**P**	**13 02 25.0**	**-0.6**	
BRG				*e*		pP	13 02 28.3	-0.3	
BRG					PP		13 03 03.0		
BRG					S	**S**	**13 06 57.0**	**-2.2**	
BRG					pmax	pmax			
	comp=Z,27nm,1.8s,mb4.5								
BRG					MLR	MLR			
	comp=Z,2µm,22.9s,MS4.7								
BRG	**Berggiesshubel**	**26.45**	**89**	*e*P		**P**	**13 02 25.0**	**-0.5**	
	comp=Z,27nm,1.8s,mb4.5								
BRG				*e*		pP	13 02 28.3	-0.3	
BRG					PP		13 03 03.0		
BRG					S	**S**	**13 06 57.0**	**-2.2**	
BRG					LR	LR			
	comp=Z,2µm,22.9s,MS4.7								
EMIN	**Mina Concepcio**	**26.46**	**134**	P		**P**	**13 02 26.3**	**+0.7**	
	comp=Z,305nm,2.4s,mb5.4								
DAVA	**Damuels**	**26.61**	**99**⇓	*i*P		**P**	**13 02 27.0**	**0.0**	
	comp=Z,29nm,1.2s,mb4.7,SNR=7.7								
DAVA	**Damuels**	**26.61**	**99**⇓	*i*P		**P**	**13 02 27.0**	**0.0**	
	comp=Z,29nm,1.2s,mb4.7								
PRAF	**Pradon**	**26.71**	**109**	*e*P		**P**	**13 02 29.5**	**+1.6**	
FUR	**Furstenfeldbru**	**26.75**	**96**	*e*P		**P**	**13 02 28.7**	**+0.5**	
SMRF	**Simiane la Rot**	**26.78**	**109**	*e*P		**P**	**13 02 27.9**	**-0.7**	
GKP	**Gorka Klasztor**	**26.80**	**82**	*e*P		**P**	**13 02 30.7**	**+2.0**	
GKP					L		13 10 26.7		
	comp=Z,2.6nm,29.0s								
MBDF	**Montbardon**	**26.82**	**106**	*e*P		**P**	**13 02 28.4**	**-0.5**	
	comp=Z,160nm,1.5s,mb5.0								
MBDF	**Montbardon**	**26.82**	**106**	*e*P		**P**	**13 02 28.4**	**-0.5**	
MBDF					pmax	pmax			
	comp=Z,80nm,1.5s,mb5.0								
MBDF	**Montbardon**	**26.82**	**106**	*e*P		**P**	**13 02 28.4**	**-0.5**	
	comp=Z,80nm,1.5s,mb5.0								
EADA	**Adamuz**	**26.91**	**130**	P		**P**	**13 02 30.9**	**+1.1**	
	comp=Z,121nm,1.1s,mb5.3								
EADA	**Adamuz**	**26.91**	**130**	P		**P**	**13 02 30.9**	**+1.2**	
	comp=Z,121nm,1.1s,mb5.3								
WET	**Wettzell**	**26.95**	**93**	*e*P		**P**	**13 02 30.1**	**+0.1**	
	comp=Z,73nm,1.8s,mb4.9								
WET	**Wettzell**	**26.95**	**93**	*e*P		**P**	**13 02 30.1**	**+0.1**	
WET					pmax	pmax			
	comp=Z,73nm,1.8s,mb4.9								
DAVOX	**Davos**	**26.95**	**99**	P		**P**	**13 02 30.9**	**+0.8**	
	comp=Z,2.7nm,0.6s,mb4.0,baz=324,slow=11,SNR=15								
DAVOX					LR	LR	13 12 42.5		
	comp=Z,5µm,20.4s,MS5.0,baz=299,slow=35								
PVCC	**Panska Ves**	**26.97**	**89**	*e*P		**P**	**13 02 29.6**	**-0.7**	
PVCC					AMS	AMS	13 14 20.0		
	comp=Z,3µm,14.6s								
GELF	**Grande-Etoile**	**27.15**	**110**	*e*P		**P**	**13 02 32.1**	**+0.2**	
MOTA	**Moosalm**	**27.19**	**97**⇓	*i*P		**P**	**13 02 31.3**	**-1.0**	
	comp=Z,12nm,1.0s,mb4.4								
MOTA	**Moosalm**	**27.19**	**97**⇓	*i*P		**P**	**13 02 31.3**	**-1.0**	
MOTA					pmax	pmax			
	comp=Z,12nm,1.0s,mb4.4								
ECHE	**Chera**	**27.20**	**123**	P		**P**	**13 02 33.4**	**+1.1**	
ECHE					pmax	pmax			
	comp=Z,49nm,1.2s,mb4.9								
ECHE	**Chera**	**27.20**	**123**	P		**P**	**13 02 33.4**	**+1.1**	
	comp=Z,49nm,1.2s,mb4.9								
ECHE	**Chera**	**27.20**	**123**	P		**P**	**13 02 33.4**	**+1.1**	
	comp=Z,49nm,1.2s,mb4.9								
EBAN	**Banos Encina**	**27.23**	**129**	P		**P**	**13 02 33.8**	**+1.2**	
EBAN					pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.3								
EBAN	**Banos Encina**	**27.23**	**129**	P		**P**	**13 02 33.8**	**+1.2**	
	comp=Z,10.0nm,0.9s,mb4.3								
EBAN	**Banos Encina**	**27.23**	**129**	P		**P**	**13 02 33.8**	**+1.2**	
	comp=Z,10.0nm,0.9s,mb4.3								
PRU	**Pruhonice**	**27.28**	**90**	*e*P		**P**	**13 02 32.4**	**-0.7**	
PRU					AMS	AMS	13 14 10.0		
	comp=Z,6µm,15.5s								
KAF	**Kangasniemi**	**27.30**	**59**	*e*p		**P**	**13 02 32.8**	**-0.5**	
	comp=Z,45nm,1.0s,mb5.0								
KAF	**Kangasniemi**	**27.30**	**59**	*e*P		**P**	**13 02 32.8**	**-0.5**	
KAF					pmax	pmax			
	comp=Z,45nm,1.0s,mb5.0								
KHC	**Kasperske Hory**	**27.31**	**92**	*e*P		**P**	**13 02 33.2**	**-0.2**	
KHC					AMS	AMS	13 13 00.0		
	comp=Z,4µm,17.5s								
KHC	**Kasperske Hory**	**27.31**	**92**	*d*iP		**P**	**13 02 32.9**	**-0.5**	
EVIA	**Vianos**	**27.35**	**126**	P		**P**	**13 02 35.2**	**+1.6**	
EVIA					pmax	pmax			
	comp=Z,34nm,0.9s,mb4.9								
EVIA	**Vianos**	**27.35**	**126**	P		**P**	**13 02 35.2**	**+1.6**	
	comp=Z,34nm,0.9s,mb4.9							

comp=Z,3µm,18.3s,MS5.0,baz=303,slow=38
VRAC Vranov 28.75 89 *e*P **P 13 02 46.2 0.0**
MORC Moravsky Berou 28.95 87‖ *i*P **P 13 02 49.5 +1.5**
MORC Moravsky Berou 28.95 87 *e*P **P 13 02 47.1 -0.9**
MORC Moravsky Berou 28.95 87 *e*P **P 13 02 47.6 -0.4**
RAC Raciborz 29.10 86 *e*P **P 13 02 49.1 -0.2**
RAC MLR MLR
comp=Z,3µm,18.1s,MS5.0
JOF Joensuu 29.19 56 *e*p **P 13 02 48.9 -1.2**
OKC Ostrava-Krasne 29.23 87 *e*P **P 13 02 49.8 -0.6**
OKC AMS AMS 13 16 10.0
comp=Z,3µm,14.4s
CONA Conrad Observa 29.25 92 P **P 13 02 44.9 -5.7**
comp=Z,24nm,2.4s,mb4.5,SNR=9.2
CADS Cadrg 29.29 96 *e*P **P 13 02 49.7 -1.3**
SUW Suwalki 29.40 76 *e*P **P 13 02 51.9 0.0**
SUW L 13 11 49.7
comp=Z,1.4nm,30.4s
VOY Vojsko 29.50 97 *e*P **P 13 02 52.2 -0.6**
OBKA Obir 29.51 95‖ *i*P **P 13 02 52.4 -0.5**
comp=Z,31nm,1.3s,mb4.9,SNR=10.0
ARSA Arzberg 29.52 93‖ *i*P **P 13 02 53.1 +0.1**
comp=Z,23nm,1.1s,mb4.8,SNR=14
PGF Pioggiola 29.52 107 *e*P **P 13 02 52.4 -0.6**
comp=Z,160nm,1.5s,mb5.2
PGF Pioggiola 29.52 107 *e*P **P 13 02 52.4 -0.6**
PGF pmax pmax
comp=Z,80nm,1.5s,mb5.2
PGF Pioggiola 29.52 107 *e*P **P 13 02 52.4 -0.6**
comp=Z,80nm,1.5s,mb5.2
ZST Bratislava 29.72 90 *e*P **P 13 02 54.0 -0.8**
ZST pmax pmax
comp=Z,84nm,2.2s,mb5.1
ZST Bratislava 29.72 90 *e*P **P 13 02 54.0 -0.8**
comp=Z,84nm,2.2s,mb5.1
ZST Bratislava 29.72 90 *e*P **P 13 02 54.0 -0.8**
comp=Z,84nm,2.2s,mb5.1
LJU Ljubljana 29.81 96 *e*P **P 13 02 55.1 -0.5**
LJU *e* 13 05 58.6
OJC Ojcow 29.84 85 *e*P **P 13 02 55.1 -0.8**
OJC *e*S **S 13 07 56.8 +4.1**
OJC L 13 14 31.2
comp=Z,8.8nm,18.4s
OJC Ojcow 29.84 85 *e*P **P 13 02 55.1 -0.8**
OJC *e*S **S 13 07 56.8 +4.1**
MIV Mineville/With 29.97 259 *e*P **P 13 02 59.6 +2.7**
MIV Mineville/With 29.97 259 *e*P **P 13 02 59.6 +2.6**
VYHS Vyhne 30.42 88 *e*P **P 13 03 00.8 -0.2**
VYHS pmax pmax
comp=Z,17nm,1.4s,mb4.6
VYHS Vyhne 30.42 88 *e*P **P 13 03 00.8 -0.2**
comp=Z,17nm,1.4s,mb4.6
VYHS Vyhne 30.42 88 *e*P **P 13 03 00.8 -0.2**
comp=Z,17nm,1.4s,mb4.6
KOGS Kog 30.42 94 *i* P **P 13 03 00.3 -0.7**
BOJS Bojanci 30.55 96 *e*P **P 13 03 01.2 -0.9**
BOJS *e* 13 03 18.5
BOJS *e* 13 06 00.1
BOJS *e*S **S 13 08 09.9 +6.1**
BOJS *e* 13 09 45.0
NIE Niedzica 30.60 86 *e*P **P 13 03 04.1 +1.6**
NE53 Naroch' 30.71 72 *e*PcS PcS 13 09 41.0 -4.1
PSZ Piszkesteto 31.33 88‖ *e*P **P 13 03 09.2 +0.2**
MNK Minsk 31.44 73 *e*P **P 13 03 07.0 -3.0**
CRVS Cervenica-Dubn 31.51 86 *e*P **P 13 03 10.6 0.0**
FCC Fort Churchill 31.57 297 *e*P **P 13 03 11.3 +0.2**
FCC Fort Churchill 31.57 297 *e*P **P 13 03 11.2 +0.1**
KWP Kalwaria 31.69 84 *e*P **P 13 03 12.6 +0.4**
KWP L 13 12 45.8
comp=Z,1.4nm,36.7s
PKSM Moragy 31.81 92‖ *i*P **P 13 03 12.8 -0.4**
PKSM Moragy 31.81 92‖ *e*P **P 13 03 12.6 -0.6**
PKSM Moragy 31.81 92‖ *e*P **P 13 03 12.6 -0.6**
KOLS Kolonicke sedl 31.90 85 *e*P **P 13 03 14.1 0.0**
VSL Villasalto 32.03 110 *e*P **P 13 03 15.3 +0.1**
comp=Z,43nm,1.4s,mb5.1
VSL Villasalto 32.03 110 *e*P **P 13 03 15.3 +0.1**
comp=Z,43nm,1.4s,mb5.1
LVV L'vov 32.25 82 *e*P **P 13 03 16.8 -0.3**
LVV *e* 13 04 24.2
LVV *e*S **S 13 08 32.9 +2.6**
LVV MLR MLR
comp=N,700nm,15.0s,MS4.7
LVV MLR MLR
comp=Z,2µm,15.0s,MS5.0
LVV MLR MLR
comp=E,1µm,16.0s,MS4.7
KLMR Klimovskoe 33.59 56 *e*P **P 13 03 28.6 -0.2**
KLMR pmax pmax
comp=Z,200nm,1.6s,mb5.8
KLMR MLR MLR
comp=Z,1µm,15.0s,MS4.7
BZS Buzias 33.74 90‖ *i*P **P 13 03 30.7 +0.5**
AKASG Malin Array Be 34.34 77 P **P 13 03 33.7 -1.6**
comp=Z,9.3nm,1.0s,mb4.7,baz=302,slow=8.5,SNR=31
AKASG PcP PcP 13 06 09.2 -2.0
comp=Z,0.9nm,0.5s,baz=284,slow=3.8,SNR=6.5
AKASG LR LR 13 16 39.2
comp=Z,576nm,20.3s,MS4.3,baz=290,slow=35
AKASG Malin Array Be 34.34 77 P **P 13 03 33.7 -1.6**
AKASG 13 06 09.2
AKASG Malin Array Be 34.34 77 PcP PcP 13 06 09.2 -2.0
AKBB Malin Array Si 34.34 77 *e*P **P 13 03 34.3 -1.0**
MVL Millersville 34.39 257 *e*P **P 13 03 38.2 +2.5**
MVL Millersville 34.39 257 *e*P **P 13 03 38.2 +2.5**
SSPA Standing Stone 34.68 259 *e*P **P 13 03 37.7 -0.6**
SSPA Standing Stone 34.68 259 *e*P **P 13 03 37.7 -0.6**
KEST Kesra 35.02 114 P **P 13 03 40.0 -1.2**
comp=Z,16nm,1.2s,mb4.8,baz=287,slow=1.9,SNR=28
KEST LR LR 13 16 32.7
comp=Z,2µm,20.9s,MS4.8,baz=90,slow=34
OBN Obninsk 35.30 66‖ *e*P **P 13 03 43.8 +0.2**
OBN *e**PP pP 13 03 47.0 +0.3
OBN *e*S **S 13 09 24.2 +6.6**
OBN *e*SS SS 13 11 29.3 -22
OBN pmax pmax
comp=Z,65nm,1.8s,mb5.3
OBN MLR MLR
comp=Z,2µm,18.0s,MS4.8
MOS Moscow 35.44 65 *e*P **P 13 03 43.4 -1.4**
MOS MLR MLR
comp=E,900nm,17.6s
MOS MLR MLR
comp=Z,2µm,17.6s,MS4.8
SKO Skopje 36.22 95 *e*P **P 13 03 53.2 +1.7**
KIS Kishinev 36.51 83 *e*P **P 13 03 52.0 -2.0**
KIS *e* 13 05 20.0
KIS *e*S **S 13 09 40.0 +3.9**
KIS MLR MLR
comp=E,1µm,15.0s
KIS MLR MLR
comp=Z,2µm,15.0s,MS4.9
KIS MLR MLR
comp=Z,2µm,16.0s
OHR Ohrid 36.52 96 *e*P **P 13 03 55.3 +1.3**
EYMN Ely 36.53 280 *e*P **P 13 03 53.1 -1.0**
comp=Z,38nm,1.1s,mb5.1
EYMN Ely 36.53 280 *e*P **P 13 03 53.1 -1.0**
comp=Z,38nm,1.1s,mb5.1
ULM Lac du Bonnet 37.23 286 P **P 13 03 58.3 -1.8**
comp=Z,11nm,0.9s,mb4.7,baz=64,slow=8.1,SNR=10
ULM LR LR 13 17 58.2
comp=Z,3µm,19.9s,MS5.1,baz=64,slow=34
ULM Lac du Bonnet 37.23 286 *e*P **P 13 03 57.8 -2.3**
comp=Z,28nm,1.1s,mb5.0
ULM Lac du Bonnet 37.23 286 *e*P **P 13 03 57.8 -2.3**
comp=Z,28nm,1.1s,mb5.0
VAY Valandovo 37.27 95 *e*P **P 13 04 01.2 +0.7**
VAY Valandovo 37.27 95 *e*P **P 13 04 01.1 +0.6**
FFC Flin Flon 37.41 295 P **P 13 04 01.7 +0.1**
comp=Z,170nm,1.0s,mb5.8,SNR=12
FFC Flin Flon 37.41 295 *e*P **P 13 04 01.0 -0.6**
FFC pmax pmax
comp=Z,46nm,1.2s,mb5.2
FFC Flin Flon 37.41 295 *e*P **P 13 04 01.0 -0.6**
comp=Z,46nm,1.2s,mb5.2
FFC Flin Flon 37.41 295 *e*P **P 13 04 01.0 -0.6**
comp=Z,46nm,1.2s,mb5.2
PECR Pechory 38.06 61 *e*P **P 13 04 07.4 +0.2**
PECR *e* 13 05 34.0
PECR *e*S **S 13 10 04.0 +4.3**
PECR *e* 13 14 17.0
PECR pmax pmax
comp=Z,140nm,2.0s,mb5.3
PECR pmax pmax
comp=Z,700nm,5.0s
PECR smax
comp=N,700nm,9.0s
PECR smax
comp=E,600nm,5.0s
PECR MLR MLR
comp=Z,1µm,18.0s,MS4.8
PECR MLR MLR
comp=N,800nm,15.0s,MS4.9
PECR MLR MLR
comp=Z,1µm,14.0s
PECR MLR MLR
comp=E,900nm,12.0s,MS4.9
YKW3 Yellowknife Ar 38.25 312 *e*P **P 13 04 08.6 -0.1**
YKW3 Yellowknife Ar 38.25 312 *e*P **P 13 04 08.6 -0.1**
YKA Yellowknife Ar 38.28 312 P **P 13 04 07.7 -1.3**
comp=E,18nm,1.0s,mb4.8,baz=56,slow=8.9,SNR=15
YKA PcP PcP 13 06 21.9 -1.1
comp=E,4.4nm,0.8s,baz=42,slow=3.6,SNR=7.4
YKA LR LR 13 19 14.6
comp=E,5µm,18.4s,MS5.3,baz=55,slow=35
YKA Yellowknife Ar 38.28 312 P **P 13 04 07.7 -1.3**
YKA 13 06 21.9
YKA Yellowknife Ar 38.28 312 P **P 13 04 07.7 -1.3**
YKA PcP PcP 13 06 21.9 -1.1
YKA LR LR 13 19 14.6
YKA Yellowknife Ar 38.28 312 PcP PcP 13 06 21.9 -1.1
ELN Prospectdale 38.72 258 *e*P **P 13 04 12.0 -0.7**
ELN Prospectdale 38.72 258 *e*P **P 13 04 12.0 -0.7**
VRSR Storozhevoye 38.93 70 *e*P **P 13 04 13.9 -0.5**
VRSR pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,20nm,1.3s
JFWS Jewell Farm 39.34 273 *e*P **P 13 04 20.8 +2.9**
SIM Simferopol' 40.60 81 P **P 13 04 25.9 -2.5**
SIM 13 06 03.0
SIM pmax pmax
comp=Z,75nm,7.5s
SIM MLR MLR
comp=Z,1µm,13.0s,MS5.0
WCI Wyandotte Cave 40.77 264 *e*P **P 13 04 29.1 -0.6**
INK Inuvik 41.09 327 *e*P **P 13 04 31.5 -0.9**
SOKR Solikamsk 41.44 50 *d* *i*P **P 13 04 35.5 +0.2**
SOKR pmax pmax
comp=Z,90nm,1.3s,mb5.2
SOKR MLR MLR
comp=Z,440nm,14.0s,MS4.5
CPCT Cooper Cave 42.01 260 *e*P **P 13 04 39.4 -0.5**
CPCT *e*PcP PcP 13 06 37.5 +2.6
CPCT Cooper Cave 42.01 260 *e*P **P 13 04 39.4 -0.5**
CPCT Cooper Cave 42.01 260 *e*PcP PcP 13 06 37.5 +2.5
ANN Anapa 42.39 79 *e*P **P 13 04 42.5 -0.5**
ANN *e*S **S 13 11 03.5 -0.9**
ANN pmax pmax
comp=Z,87nm,1.6s,mb5.1
ANN MLR MLR
comp=Z,3µm,18.0s,MS5.2
GVD Gavdhos 42.98 100 *e*P **P 13 04 49.5 +1.7**
comp=Z,193nm,1.6s,mb5.6
GVD Gavdhos 42.98 100 *e*P **P 13 04 49.5 +1.7**
comp=Z,193nm,1.6s,mb5.6
GOGA Godfrey 43.09 257 *e*P **P 13 04 48.0 -0.7**
GOGA pmax pmax
comp=Z,273nm,1.2s,mb5.9
GOGA Godfrey 43.09 257 *e*P **P 13 04 48.0 -0.7**
comp=Z,273nm,1.2s,mb5.9
GOGA Godfrey 43.09 257 *e*P **P 13 04 48.0 -0.7**
comp=Z,273nm,1.2s,mb5.9
WVT Waverly 43.16 264 *e*P **P 13 04 47.4 -1.9**
WVT pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
WVT Waverly 43.16 264 *e*P **P 13 04 47.4 -1.9**
comp=Z,6.6nm,0.8s,mb4.4
CCM Cathedral Cave 43.44 269 *e*P **P 13 04 49.5 -2.0**
CCM pmax pmax
comp=Z,23nm,1.1s,mb4.8
CCM Cathedral Cave 43.44 269 *e*P **P 13 04 49.5 -2.0**
comp=Z,23nm,1.1s,mb4.8
CCM Cathedral Cave 43.44 269 *e*P **P 13 04 49.5 -2.0**
comp=Z,23nm,1.1s,mb4.8
EDM Edmonton 43.55 300 *e*P **P 13 04 52.5 +0.1**
BR131 Keskin Array S 44.14 87 *e*P **P 13 04 58.5 +1.3**
BR131 Keskin Array S 44.14 87 *e*P **P 13 04 58.5 +1.3**
BRTR Keskin Array B 44.14 87 P **P 13 04 56.5 -0.7**
comp=Z,8.3nm,1.1s,mb4.4,baz=310,slow=6.1,SNR=26
BRTR PcP PcP 13 06 40.6 -1.5
comp=Z,2.3nm,1.1s,baz=285,slow=2.4,SNR=5.6
BRTR LR LR 13 24 07.3
comp=Z,1µm,21.3s,MS4.8,baz=309,slow=37
BRTR Keskin Array B 44.14 87 P **P 13 04 56.5 -0.7**
BRTR 13 06 40.7
BRTR Keskin Array B 44.14 87 PcP PcP 13 06 40.7 -1.4
PLAL Pickwick Lake 44.18 263 *e*P **P 13 04 56.2 -1.3**
PLAL Pickwick Lake 44.18 263 *e*P **P 13 04 56.2 -1.3**
ARU Arti 44.21 53 P **P 13 04 58.3 +0.5**
comp=Z,251nm,1.5s,mb5.7,SNR=13
ARU Arti 44.21 53 *d* *i*P **P 13 04 58.2 +0.4**
ARU pmax pmax
comp=Z,88nm,1.4s,mb5.3
ARU MLR MLR
comp=Z,900nm,19.0s,MS4.7
ARU Arti 44.21 53 *e*P **P 13 04 58.3 +0.6**
ARU Arti 44.21 53 *e*P **P 13 04 58.3 +0.5**
SOC Sochi 44.41 78 *e*P **P 13 04 58.4 -0.9**
SOC *i* 13 06 44.4
SOC *e*PPP 13 07 22.5
SOC *e*S **S 13 11 33.4 -0.5**
SOC pmax pmax
comp=Z,46nm,1.1s,mb5.1
SOC pmax pmax
comp=Z,262nm,3.1s
SOC MLR MLR
comp=Z,1µm,17.0s,MS5.0
LAO LASA Array 44.72 289 *e*P **P 13 05 02.0 +0.2**
comp=Z,97nm,1.4s,mb5.4
LAO LASA Array 44.72 289 *e*P **P 13 05 02.0 +0.2**
comp=Z,97nm,1.4s,mb5.4
SVE Sverdlovsk 44.78 51 *e*P **P 13 05 01.3 -1.0**
SVE pmax pmax
comp=Z,136nm,2.2s,mb5.4
GOF Gofitskoye 45.00 74 *e*P **P 13 05 04.0 -0.1**
GOF pmax pmax
comp=Z,50nm,0.6s,mb5.5
LRAL Lakeview Retre 45.17 260 *e*P **P 13 05 04.5 -0.9**
comp=Z,15nm,1.1s,mb4.8
KSU1 Kansas State U 45.41 274 *e*P **P 13 05 08.7 +1.4**
KSU1 Kansas State U 45.41 274 *e*P **P 13 05 08.7 +1.4**
KIV Kislovodsk 45.62 76 P **P 13 05 09.9 +0.9**
SNR=10.0
KIV Kislovodsk 45.62 76 *e*P **P 13 05 10.0 +1.0**
DAWY Dawson 45.75 324 *e*P **P 13 05 10.7 +0.7**
DAWY Dawson 45.75 324 *e*P **P 13 05 10.7 +0.7**
UALR University of 46.53 267 *e*P **P 13 05 17.8 +1.7**
comp=Z,22nm,1.0s,mb5.0
UALR University of 46.53 267 *e*P **P 13 05 17.8 +1.7**
comp=Z,22nm,1.0s,mb5.0
WALA Waterton Lakes 46.69 296 *e*P **P 13 05 17.2 -0.2**
WALA Waterton Lakes 46.69 296 *e*P **P 13 05 17.2 -0.2**
DLBC Dease Lake 46.72 315 *e*P **P 13 05 20.0 +2.4**
DLBC Dease Lake 46.72 315 *e*P **P 13 05 20.0 +2.4**
ONI Oni 47.01 76 P **P 13 05 21.9 +2.0**
GCMT Greyclift 47.03 290 *e*P **P 13 05 20.2 +0.2**
GCMT Greyclift 47.03 290 *e*P **P 13 05 20.2 +0.1**
MIAR Mount Ida 47.34 267 *e*P **P 13 05 21.8 -0.7**
MIAR pmax pmax
comp=Z,38nm,1.3s,mb5.2
MIAR Mount Ida 47.34 267 *e*P **P 13 05 21.8 -0.7**
comp=Z,38nm,1.3s,mb5.2
MIAR Mount Ida 47.34 267 *e*P **P 13 05 21.8 -0.7**
comp=Z,38nm,1.3s,mb5.2
HRY Holter Researc 47.40 293 *e*P **P 13 05 23.4 +0.5**
COLA College 47.52 329 *e*P **P 13 05 24.6 +0.7**
MALT Malatya 47.65 84 *e*P **P 13 05 26.3 +1.4**
SKAG Skagway 47.85 318 *e*P **P 13 05 27.6 +1.1**
comp=Z,53nm,1.6s,mb5.3
SKAG LR LR
comp=Z,4µm,18.0s,MS5.5
CHMT Chamberlain Mo 47.92 294 *e*P **P 13 05 27.6 +0.6**
CHMT Chamberlain Mo 47.92 294 *e*P **P 13 05 27.6 +0.6**
BSMT Bassoo Peak 47.96 296 *e*P **P 13 05 28.7 +1.4**
BSMT Bassoo Peak 47.96 296 *e*P **P 13 05 28.7 +1.4**
IMA2 Indian Mountai 48.02 333 *e*P **P 13 05 28.6 +0.8**
BOZ Bozeman (W) 48.08 291 *e*P **P 13 05 28.5 +0.3**
BOZ pmax pmax
comp=Z,25nm,1.2s,mb5.1
BOZ Bozeman (W) 48.08 291 *e*P **P 13 05 28.5 +0.3**
comp=Z,25nm,1.2s,mb5.1
AKTK Aktyubinsk 48.19 59 *i* P **P 13 05 28.8 -0.3**
AKTO Aktyubinsk 48.19 59 *i* P **P 13 05 28.8 -0.3**
AKTO pmax pmax
comp=Z,12nm,1.3s,mb4.8
PHWY Pilot Hill 48.26 283 *e*P **P 13 05 29.6 0.0**
MSO Missoula 48.31 294 *e*P **P 13 05 31.9 +1.9**
MSO Missoula 48.31 294 *e*P **P 13 05 31.9 +1.9**
MTA Mtatsminda 48.34 76 P **P 13 05 32.9 +2.7**
LRM Limekiln Ridge 48.34 292 *e*P **P 13 05 30.6 +0.4**
LRM Limekiln Ridge 48.34 292 *e*P **P 13 05 30.6 +0.3**
YFT Old Faithful 48.57 290 *e*P **P 13 05 33.6 +1.6**
YFT Old Faithful 48.57 290 *e*P **P 13 05 33.7 +1.7**
QLMT Earthquake Lak 48.58 291 *e*P **P 13 05 33.2 +1.1**
QLMT Earthquake Lak 48.58 291 *e*P **P 13 05 33.2 +1.1**
MCK McKinley 48.72 329 *e*P **P 13 05 35.8 +2.7**
MCK pmax pmax
comp=Z,27nm,1.6s,mb5.0
MCK McKinley 48.72 329 *e*P **P 13 05 35.8 +2.7**
comp=Z,27nm,1.6s,mb5.0
MCK McKinley 48.72 329 *e*P **P 13 05 35.8 +2.7**
comp=Z,27nm,1.6s,mb5.0
MAK Makhachkala 48.74 73 *c* *i*P **P 13 05 34.8 +1.5**
MAK *i* 13 07 28.3
MAK *e*S **S 13 12 41.9 +6.0**
MAK *e*SS SS 13 15 57.5 -8.7
MAK pmax pmax
comp=Z,168nm,1.7s,mb5.8
MAK MLR MLR
comp=Z,2µm,16.0s,MS5.2
NEW Newport 48.74 297 *e*P **P 13 05 32.6 -0.7**
NEW pmax pmax
comp=Z,15nm,1.1s
NEW Newport 48.74 297 *e*P **P 13 05 32.6 -0.7**
comp=Z,15nm,1.1s,mb5.0
NEW Newport 48.74 297 *e*P **P 13 05 32.6 -0.7**
comp=Z,15nm,1.1s,mb5.0
DLMT Dillon 48.75 292 *e*P **P 13 05 34.0 +0.6**
DLMT *e*PcP PcP 13 07 01.4 +3.1
DLMT Dillon 48.75 292 *e*P **P 13 05 34.0 +0.6**
DLMT Dillon 48.75 292 *e*PcP PcP 13 07 01.4 +3.1
FLWY Flagg Ranch 48.78 289 *e*P **P 13 05 35.3 +1.7**
FLWY Flagg Ranch 48.78 289 *e*P **P 13 05 35.3 +1.7**
DGRG David-gareji 48.81 76 P **P 13 05 37.3 +3.4**
RWWY Rawlins 48.84 285 *e*P **P 13 05 35.7 +1.6**
comp=Z,47nm,1.5s,mb5.3
RWWY Rawlins 48.84 285 *e*P **P 13 05 35.7 +1.6**
comp=Z,47nm,1.5s,mb5.3
IMW Indian Meadow 49.03 289 *e*P **P 13 05 37.1 +1.5**
comp=Z,25nm,1.4s,mb5.1
IMW Indian Meadow 49.03 289 *e*P **P 13 05 37.1 +1.5**
comp=Z,25nm,1.4s,mb5.1
MOOW Moose Ponds 49.05 289 *e*P **P 13 05 36.0 +0.3**
comp=Z,69nm,2.1s,mb5.3
MOOW Moose Ponds 49.05 289 *e*P **P 13 05 36.0 +0.3**
comp=Z,69nm,2.1s,mb5.3
BW06 Boulder Array 49.20 287 *e*P **P 13 05 35.7 -1.2**
BW06 Boulder Array 49.20 287 *e*P **P 13 05 35.7 -1.1**
PDAR Pinedale Array 49.20 287 P **P 13 05 35.0 -1.8**
comp=Z,4.7nm,0.9s,mb4.5,baz=54,slow=7.7,SNR=19
PDAR PP PP 13 07 27.5 -3.1
comp=Z,1.8nm,0.8s,baz=68,slow=8.2,SNR=4.1
PDAR LR LR 13 25 22.4
comp=Z,3µm,19.1s,MS5.4,baz=26,slow=35
PDAR Pinedale Array 49.20 287 P **P 13 05 35.0 -1.8**
PDAR Pinedale Array 49.20 287 PP PP 13 07 27.5 -3.1
MCMT McKenzie Canyo 49.27 292 *e*P **P 13 05 37.4 0.0**
MCMT McKenzie Canyo 49.27 292 *e*P **P 13 05 37.4 +0.1**
SNOW Snow King Moun 49.27 289 *e*P **P 13 05 37.4 +0.1**
comp=Z,18nm,1.0s,mb5.1
SNOW Snow King Moun 49.27 289 *e*P **P 13 05 37.4 0.0**
comp=Z,18nm,1.0s,mb5.1
TPAW Teton Pass 49.34 289 *e*P **P 13 05 37.9 0.0**
comp=Z,17nm,1.1s,mb5.0
TPAW Teton Pass 49.34 289 *e*P **P 13 05 37.9 0.0**
comp=Z,17nm,1.1s,mb5.0
REDW Red Top Meadow 49.39 289 *e*P **P 13 05 38.4 +0.2**
comp=Z,14nm,1.1s,mb4.9
REDW Red Top Meadow 49.39 289 *e*P **P 13 05 38.4 +0.1**
comp=Z,14nm,1.1s,mb4.9
ISCO Idaho Springs 49.46 282 *e*P **P 13 05 39.2 +0.3**
ISCO pmax pmax
comp=Z,22nm,1.3s,mb5.0
ISCO Idaho Springs 49.46 282 *e*P **P 13 05 39.2 +0.4**
comp=Z,22nm,1.3s,mb5.0
ISCO Idaho Springs 49.46 282 *e*P **P 13 05 39.2 +0.3**
comp=Z,22nm,1.3s,mb5.0
GNI Garni 49.47 77 P **P 13 05 41.4 +2.5**
SNR=8.6
GNI Garni 49.47 77 *e*P **P 13 05 40.1 +1.2**
GNI pmax pmax
comp=Z,103nm,1.6s
GNI MLR MLR
comp=Z,800nm,19.0s
GNI Garni 49.47 77 *e*P **P 13 05 40.5 +1.6**
GNI Garni 49.47 77 *e*P **P 13 05 40.5 +1.6**
RRI2 Red Ridge 49.63 289 *e*P **P 13 05 40.4 +0.3**
WMOK Wichita Mounta 49.87 272 *e*P **P 13 05 40.4 -1.5**
WMOK pmax pmax
comp=Z,14nm,0.9s,mb5.0
WMOK Wichita Mounta 49.87 272 *e*P **P 13 05 40.4 -1.5**
comp=Z,14nm,0.9s,mb5.0
AB31 Akbulak array 49.90 59 *i* P **P 13 05 42.4 +0.2**
AB31 pmax pmax
comp=Z,119nm,1.4s,mb5.7
AB31 Akbulak array 49.90 59 *i* P **P 13 05 42.5 +0.3**
NATX Nacogdoches 50.09 266 P **P 13 05 42.6 -1.0**
EYAK Cordova Ski Ar 50.36 324 *e*P **P 13 05 47.0 +1.4**
PMR Palmer 50.50 327 *e*P **P 13 05 49.6 +2.9**
PMR pmax pmax
comp=Z,37nm,1.6s,mb5.2
PMR MLR MLR
comp=Z,1µm,18.0s,MS4.9
PMR Palmer 50.50 327 *e*P **P 13 05 49.6 +2.9**
comp=Z,37nm,1.6s,mb5.2
PMR LR LR
comp=Z,1µm,18.0s,MS4.9
PMR Palmer 50.50 327 *e*P **P 13 05 49.6 +2.9**
comp=Z,37nm,1.6s,mb5.2
SMCO Snowmass 50.62 282 *e*P **P 13 05 47.6 0.0**
comp=Z,24nm,1.4s,mb4.9
SMCO Snowmass 50.62 282 *e*P **P 13 05 47.6 0.0**
comp=Z,24nm,1.4s,mb4.9
ZRNK Zerenda 50.92 50 *e*P **P 13 05 50.1 +0.2**
ZRNK pmax pmax
comp=Z,26nm,1.3s,mb5.0
ZRNK Zerenda 50.92 50 *e*P **P 13 05 50.1 +0.1**
comp=Z,26nm,1.3s,mb5.0
ZRNK Zerenda 50.92 50 *e*P **P 13 05 50.1 +0.2**
comp=Z,26nm,1.3s,mb5.0
HLID Hailey 50.96 292 *e*P **P 13 05 50.2 0.0**
comp=Z,38nm,1.8s,mb5.0
HLID Hailey 50.96 292 *e*P **P 13 05 50.2 0.0**
comp=Z,38nm,1.8s,mb5.0
CHKZ Chkalovo 51.00 49 *e*P **P 13 05 50.8 +0.3**
TTA Tatalina 51.20 331 *e*P **P 13 05 54.7 +2.7**
HAWA Hanford 51.23 297 *e*P **P 13 05 53.5 +1.3**
HAWA Hanford 51.23 297 *e*P **P 13 05 53.5 +1.3**
AMTX Amarillo 51.24 275 *e*P **P 13 05 52.4 +0.1**
AMTX Amarillo 51.24 275 *e*P **P 13 05 52.3 0.0**
BRVK Borovoye 51.34 49 P **P 13 05 53.2 +0.1**
comp=Z,114nm,1.1s,mb5.7,SNR=13
BVA0 Borovoye Array 51.41 49 *i* P **P 13 05 53.6 0.0**
BVA0 pmax pmax
comp=Z,66nm,2.5s,mb5.1
HVU Hansel Valley 51.52 289 *e*P **P 13 05 54.9 +0.5**
SPUT South Promonto 51.71 288 *e*P **P 13 05 55.1 -0.8**
SPUT South Promonto 51.71 288 *e*P **P 13 05 55.1 -0.7**
DAU Daniels Canyon 51.81 287 *e*P **P 13 05 56.7 +0.1**
VOSK Vostochnaya 51.87 49 P **P 13 05 56.7 -0.3**
VOSK pmax pmax
comp=Z,46nm,1.2s,mb5.3
TOA0 Torodi Ar. Sit 51.92 138 *e*P **P 13 05 54.2 -3.2**
TOA0 Torodi Ar. Sit 51.92 138 *e*P **P 13 05 54.2 -3.2**
TORD Torodi Ar. Bea 51.92 138 P **P 13 05 54.4 -2.9**
comp=Z,14nm,1.1s,mb4.8,baz=334,slow=6.0,SNR=34
TORD LR LR 13 26 04.8
comp=Z,871nm,20.2s,MS4.8,baz=335,slow=34
TORD Torodi Ar. Bea 51.92 138 P **P 13 05 54.4 -2.9**
TORD LR LR 13 26 04.8

LON Longmire 51.99 299 eP P 13 05 59.0 +1.1
HKT Hockley 52.14 266 eP P 13 06 01.4 +2.4
HKT pmax pmax
comp=Z,36nm,1.4s,mb5.1
HKT Hockley 52.14 266 eP P 13 06 01.4 +2.4
comp=Z,36nm,1.4s,mb5.1
HKT Hockley 52.14 266 eP P 13 06 01.4 +2.4
comp=Z,36nm,1.4s,mb5.1
PV01 Paradox Valley 52.22 283 eP P 13 05 58.6 -1.0
PV01 Paradox Valley 52.22 283 eP P 13 05 58.6 -1.0
PV10 Paradox Valley 52.27 283 eP P 13 06 01.6 +1.7
PV10 Paradox Valley 52.27 283 eP P 13 06 01.6 +1.6
MPU Maple Canyon 52.30 287 eP P 13 06 00.5 +0.3
SRU San Rafael 52.45 285 eP P 13 06 01.8 +0.5
M13A Montello 52.51 290 ⇑P P 13 06 01.7 -0.1
baz=52,SNR=14
NLU North Lily Min 52.56 287 eP P 13 06 02.5 +0.3
NLU North Lily Min 52.56 287 eP P 13 06 02.5 +0.3
EIL Elat 52.64 94 eP P 13 06 03.6 +0.9
EIL Elat 52.64 94 eP P 13 06 03.6 +0.9
TMUT Trail Mountain 52.64 286 eP P 13 06 05.2 +2.4
TMUT Trail Mountain 52.64 286 eP P 13 06 05.2 +2.5
SVW2 Sparrevohn 52.65 330 eP P 13 06 04.9 +2.1
N13A Wendover, West 52.91 289 ⇓P P 13 06 04.4 -0.4
baz=53
E03A Lebam 52.92 300 ⇑P P 13 06 03.8 -1.0
baz=53
J08A Circle Bar Ran 53.03 294 ⇓P P 13 06 05.0 -0.6
baz=53,SNR=16
M11A Holland Ranch, 53.24 291 ⇑P P 13 06 06.6 -0.5
baz=53
N12A Clover Valley, 53.32 290 ⇑P P 13 06 07.2 -0.5
baz=53
H05A Madras 53.33 297 ⇑P P 13 06 07.1 -0.7
baz=53
I06A Prineville 53.40 296 ⇓P P 13 06 08.0 -0.3
baz=53
J07A Hines 53.42 295 ⇓P P 13 06 08.2 -0.3
baz=53
K08A Mann Creek Ran 53.53 294 ⇑P P 13 06 08.6 -0.7
baz=53,SNR=16
M10A I.L. Ranch, Tu 53.53 291 ⇑P P 13 06 09.6 +0.3
baz=53
ANMO Albuquerque 53.63 279 eP P 13 06 10.7 +0.7
O12A Currie 53.63 289 ⇓P P 13 06 10.3 +0.3
baz=54,SNR=6.2
L09A Wilkinson Ranc 53.69 293 ⇑P P 13 06 10.8 +0.4
baz=54
N11A Elko Archery C 53.69 290 ⇓P P 13 06 10.8 +0.3
baz=54
G03A Yamhill 53.74 299 ⇓P P 13 06 10.2 -0.6
baz=54
H04A Detroit Lake 53.74 298 ⇑P P 13 06 10.5 -0.3
baz=54
JCT Junction City 53.76 270 eP P 13 06 10.1 -0.9
JCT pmax pmax
comp=Z,26nm,1.1s,mb5.1
JCT Junction City 53.76 270 eP P 13 06 10.1 -0.9
comp=Z,26nm,1.1s,mb5.1
JCT Junction City 53.76 270 eP P 13 06 10.1 -0.9
comp=Z,26nm,1.1s,mb5.1
WVOR Wild Horse Val 53.82 294 eP P 13 06 10.9 -0.5
WVOR pmax pmax
comp=Z,21nm,1.3s,mb4.9
WVOR Wild Horse Val 53.82 294 eP P 13 06 10.9 -0.6
comp=Z,21nm,1.3s,mb4.9
WVOR Wild Horse Val 53.82 294 eP P 13 06 10.9 -0.5
comp=Z,21nm,1.3s,mb4.9
L08A Fields 53.87 293 ⇓P P 13 06 11.8 0.0
baz=54,SNR=15
J06A Christmas Vall 53.90 295 ⇓P P 13 06 11.3 -0.8
baz=54,SNR=16
M09A Marrel Ranch, 54.04 292 ⇑P P 13 06 12.7 -0.3
baz=54
N10A Dunphy 54.13 291 ⇓P P 13 06 13.4 -0.3
baz=54
K06A Valley Falls 54.30 295 ⇑P P 13 06 14.9 0.0
baz=54
P12A McGill 54.33 289 ⇑P P 13 06 15.2 +0.1
baz=54,SNR=22
BNM Barren Site 54.34 278 eP P 13 06 15.8 +0.5
BNM Barren Site 54.34 278 eP P 13 06 15.8 +0.6
J05A Fort Rock 54.38 296 ⇓P P 13 06 15.8 +0.3
baz=54,SNR=16
LAZ Ladron 54.41 279 eP P 13 06 16.1 +0.4
LAZ Ladron 54.41 279 eP P 13 06 16.1 +0.4
M08A Happy Creek Ra 54.46 293 ⇑P P 13 06 16.3 +0.2
baz=54,SNR=6.5
L07A Adell 54.48 294 ⇑P P 13 06 16.0 -0.2
baz=54
N09A Rock Creek Ran 54.52 292 ⇑P P 13 06 16.6 +0.1
baz=54
H02A Toledo 54.56 299 ⇓P P 13 06 16.8 0.0
baz=54
NVS Novosibirsk 54.63 40 ⇓i P P 13 06 17.9 +0.6
NVS i 13 08 18.5
NVS pmax pmax
comp=N,48nm,1.6s
NVS pmax pmax
comp=Z,121nm,1.6s,mb5.7
KDAK Kodiak Island 54.64 326 eP P 13 06 20.1 +2.7
KDAK Kodiak Island 54.64 326 eP P 13 06 20.1 +2.7
P11A Circle Ranch, 54.67 289 ⇑P P 13 06 18.0 +0.3
baz=54,SNR=5.5
BMN Battle Mountai 54.70 291 eP P 13 06 20.2 +2.4
M07A Soldier Meadow 54.88 293 ⇑P P 13 06 19.1 0.0
baz=55
O09A Fish Creek Ran 54.89 291 ⇑P P 13 06 19.6 +0.4
baz=55,SNR=25
ARUT Antelope Range 54.91 286 eP P 13 06 19.7 +0.3
P10A Eureka 54.96 290 ⇑P P 13 06 20.2 +0.5
baz=55,SNR=7.0
CCUT Cedar City 55.06 286 eP P 13 06 20.2 -0.2
CCUT Cedar City 55.06 286 eP P 13 06 20.2 -0.3
L05A Lakeview 55.15 295 ⇑P P 13 06 21.0 -0.1
baz=55
Q11A Duckwater 55.17 289 ⇓P P 13 06 21.3 0.0
baz=55,SNR=6.3
N07B Gerlach 55.26 293 ⇑P P 13 06 21.8 -0.1
baz=55
P09A Austin 55.35 290 ⇑P P 13 06 22.6 +0.1
baz=55
TRCR Troy Canyon 55.53 288 eP P 13 06 26.9 +3.1
TRCR Troy Canyon 55.53 288 eP P 13 06 26.9 +3.1
M06C Likely Place G 55.65 294 ⇑P P 13 06 24.7 0.0
baz=56
WUAZ Wupatki 55.67 283 eP P 13 06 24.5 -0.3
comp=Z,22nm,1.1s,mb5.1
P08A Dixie Valley 55.69 291 ⇑P P 13 06 24.7 -0.3
baz=56
N06A Buffalo Meadow 55.69 293 ⇑P P 13 06 25.1 +0.1
baz=56
O07A Toulon 55.70 292 ⇑P P 13 06 25.2 +0.1
baz=56,SNR=7.2
K02A Glendale 55.82 297 ⇑P P 13 06 25.0 -0.9
baz=56
M04C Macdoel 55.83 295 ⇑P P 13 06 25.7 -0.3
baz=56
M05C Lookout 55.84 295 ⇓P P 13 06 25.8 -0.3
baz=56
R10A Warm Springs 55.92 289 ⇑P P 13 06 26.9 +0.2
baz=56,SNR=22
Q09A Carvers 55.93 290 ⇑P P 13 06 26.7 0.0
baz=56,SNR=5.6
DBIC Dimbokro 56.03 149 P P 13 06 25.1 -2.4
comp=Z,6.7nm,0.8s,mb4.7,baz=354,slow=4.7,SNR=5.4
DBIC LR LR 13 27 53.1
comp=Z,2μm,18.9s,MS5.3,baz=336,slow=33
DBIC Dimbokro 56.03 149 eP P 13 06 26.9 -0.6
DBIC pmax pmax
comp=Z,59nm,1.6s
DBIC Dimbokro 56.03 149 eP P 13 06 26.9 -0.5
comp=Z,58nm,1.6s,mb5.4
DBIC Dimbokro 56.03 149 eP P 13 06 26.9 -0.6
comp=Z,58nm,1.6s,mb5.4
O06A Flanigan 56.16 293 ⇑P P 13 06 28.3 -0.1
baz=56,SNR=6.2
P07A Fallon 56.20 292 ⇑P P 13 06 27.3 -1.3
baz=56
ELFS Eagle Lake Fie 56.22 294 ⇑P P 13 06 26.7 -2.0
baz=56
Q08A Gabbs 56.27 290 P P 13 06 29.0 -0.1
baz=56,SNR=42
YBH Yreka Blue Hor 56.27 296 ⇑P P 13 06 27.8 -1.3
baz=56
PAHR Pah Rah Range 56.30 292 eP P 13 06 30.2 +0.9
comp=Z,38nm,1.1s,mb5.3
PAHR Pah Rah Range 56.30 292 eP P 13 06 30.2 +0.9
comp=Z,38nm,1.1s,mb5.3
R09A Tonopah 56.34 289 P P 13 06 29.6 0.0
baz=56,SNR=65
KURK Kurchatov 56.37 46 P P 13 06 29.2 -0.6
comp=Z,87nm,0.8s,mb5.8,SNR=15
KURK Kurchatov 56.37 46 i P P 13 06 29.1 -0.7
W15A Williams 56.38 283 ⇑P P 13 06 29.4 -0.6
baz=56
HATC Hat Creek Radi 56.41 294 ⇓P P 13 06 28.9 -1.2
baz=56,SNR=6.4
LIC Lamto 56.42 149 eP P 13 06 27.8 -2.4
comp=Z,24nm,0.8s,mb5.0
LIC eR
comp=Z,1μm,20.5s
LIC Lamto 56.42 149 eP P 13 06 27.8 -2.4
comp=Z,12nm,0.8s,mb5.0
LIC LR LR
comp=Z,510nm,20.5s,MS4.6
U12A Valley of Fire 56.52 286 ⇓P P 13 06 29.9 -1.1
baz=56
TPH Tonopah 56.54 289 eP P 13 06 31.5 +0.4
TPH pmax pmax
comp=Z,28nm,1.0s,mb5.2
TPH Tonopah 56.54 289 eP P 13 06 31.5 +0.4
comp=Z,28nm,1.0s,mb5.2
TPH Tonopah 56.54 289 eP P 13 06 31.5 +0.4
comp=Z,28nm,1.0s,mb5.2
O04C Chester 56.63 294 ⇓P P 13 06 31.3 -0.4
baz=56,SNR=6.4
R08A Mina 56.76 290 ⇓P P 13 06 30.9 -1.7
baz=57
W14A Seligman 56.76 284 ⇓P P 13 06 31.0 -1.6
baz=57,SNR=5.8
SHPR Sheep Range 56.77 287 eP P 13 06 32.4 -0.3
SHPR Sheep Range 56.77 287 eP P 13 06 32.4 -0.3
NVAR Mina Array Bea 56.79 290 P P 13 06 31.6 -1.2
comp=Z,7.4nm,0.9s,mb4.7,baz=49,slow=4.6,SNR=24
WCN Washoe City 56.80 292 ⇑P P 13 06 32.5 -0.4
baz=57
S09A Goldfield 56.82 289 P P 13 06 33.0 -0.1
baz=57,SNR=34
X15A Humboldt 56.91 283 ⇑P P 13 06 33.0 -0.6
baz=57
TPNV Topopah Spring 56.95 288 eP P 13 06 33.9 -0.1
TPNV pmax pmax
comp=Z,16nm,1.0s,mb5.0
TPNV Topopah Spring 56.95 288 eP P 13 06 33.9 -0.1
comp=Z,16nm,1.0s,mb5.0
TPNV Topopah Spring 56.95 288 eP P 13 06 33.9 -0.1
comp=Z,16nm,1.0s,mb5.0
P05C Yuba Gap, Truc 57.20 293 ⇑P P 13 06 35.3 -0.5
baz=57,SNR=6.8
V12A Nelson 57.23 286 ⇓P P 13 06 35.2 -0.8
baz=57
W13A Hualapai Mount 57.25 285 ⇑P P 13 06 35.6 -0.6
baz=57,SNR=5.9
X14A Yava 57.25 283 ⇓P P 13 06 35.7 -0.4
baz=57
R06C Coleville 57.27 291 ⇑P P 13 06 35.1 -1.1
baz=57,SNR=7.9
N02C Big Bar 57.27 296 ⇓P P 13 06 34.9 -1.3
baz=57
WAKR Walker 57.27 291 eP P 13 06 36.9 +0.7
WAKR Walker 57.27 291 eP P 13 06 36.9 +0.6
U10A Ash Meadows, A 57.41 287 ⇑P P 13 06 37.2 -0.1
baz=57,SNR=6.9
R07C Lee Vining 57.41 291 ⇓P P 13 06 37.3 0.0
baz=57
ORV Oroville 57.42 293 ⇓P P 13 06 36.2 -1.1
baz=57
R05C Kirkwood Meado 57.43 292 ⇓P P 13 06 37.1 -0.3
baz=57
V11A Goodsprings 57.43 286 ⇑P P 13 06 36.6 -0.8
baz=57
O02C Red Bluff 57.53 295 ⇓P P 13 06 37.5 -0.6
baz=57
OHCM Honcut 57.59 293 eP P 13 06 37.8 -0.7
OHCM Honcut 57.59 293 eP P 13 06 37.8 -0.7
LAVA Lava Cap Winer 57.69 292 ⇑P P 13 06 38.4 -0.8
baz=58
Y14A Wickenburg 57.73 283 ⇑P P 13 06 38.9 -0.6
baz=58
MTUM Tungsten Hills 57.76 290 eP P 13 06 41.1 +1.4
MTUM Tungsten Hills 57.76 290 eP P 13 06 41.1 +1.4
SUTB Sutter Butte 57.82 293 ⇑P P 13 06 39.3 -0.8
baz=58
TUC Tucson 57.91 280 eP P 13 06 43.6 +2.8
GASB Alder Springs 57.92 294 ⇓P P 13 06 40.4 -0.4
baz=58
S06C San Francisco 57.97 291 ⇑P P 13 06 41.0 -0.1
baz=58,SNR=24
TUQ Turquoise Mtn. 57.99 286 ⇑P P 13 06 40.7 -0.7
baz=58
CMB Columbia Colle 58.10 292 eP P 13 06 43.9 +1.8
CMB Columbia Colle 58.10 292 ⇓P P 13 06 41.6 -0.5
baz=58,SNR=5.6
YAK Yakutsk 58.13 11 eP P 13 06 43.3 +1.0
DAC Darwin (Calif) 58.15 288 eP P 13 06 43.0 +0.6
DAC pmax pmax
comp=Z,23nm,1.0s,mb5.2
DAC Darwin (Calif) 58.15 288 eP P 13 06 43.0 +0.6
comp=Z,23nm,1.0s,mb5.2
DAC Darwin (Calif) 58.15 288 eP P 13 06 43.0 +0.6
comp=Z,23nm,1.0s,mb5.2
KCC Kaiser Creek 58.15 290 ⇓P P 13 06 41.8 -0.7
baz=58
Z14A Wintersburg 58.17 283 ⇓P P 13 06 42.0 -0.5
baz=58
116A Eloy 58.18 281 ⇓P P 13 06 42.0 -0.6
baz=58
R04C Big Horse Ranc 58.19 292 ⇓P P 13 06 42.0 -0.7
baz=58
Y13A Salome 58.25 284 ⇑P P 13 06 42.6 -0.5
baz=58
CWC Cottonwood Cre 58.25 289 ⇑P P 13 06 43.0 -0.2
baz=58
115A Sonoran Desert 58.33 282 ⇓P P 13 06 43.1 -0.6
baz=58
P01C Double 8 Ranch 58.35 295 ⇓P P 13 06 43.1 -0.7
baz=58
GSC Goldstone 58.53 287 eP P 13 06 45.2 +0.1
GSC Goldstone 58.53 287 ⇑P P 13 06 44.8 -0.3
baz=58,SNR=21
T06C Millerton Lake 58.59 290 ⇓P P 13 06 44.8 -0.7
baz=58,SNR=7.3
HOPS Hopland 58.61 294 ⇓P P 13 06 43.9 -1.8
baz=58
S05C Merced 58.62 291 ⇓P P 13 06 43.8 -1.8
baz=58
Y12C Blythe 58.64 284 ⇓P P 13 06 45.7 -0.1
baz=58
NSHM Saint Helena R 58.77 294 eP P 13 06 49.4 +2.6
NSHM Saint Helena R 58.77 294 eP P 13 06 49.4 +2.7
CVS Carmenet Viney 58.84 293 ⇑P P 13 06 47.0 -0.2
baz=59
BDM Black Diamond 58.87 293 ⇑P P 13 06 47.1 -0.3
baz=59
S04C Ingram Canyon, 58.98 292 ⇓P P 13 06 47.2 -0.9
baz=59
ISA Isabella 59.06 288 eP P 13 06 49.6 +0.8
ISA pmax pmax
comp=Z,27nm,1.3s,mb5.1
ISA Isabella 59.06 288 eP P 13 06 49.6 +0.8
comp=Z,27nm,1.3s,mb5.1
ISA Isabella 59.06 288 eP P 13 06 49.6 +0.8
comp=Z,27nm,1.3s,mb5.1
ISA Isabella 59.06 288 ⇓P P 13 06 48.5 -0.3
baz=59,SNR=6.8
WENL Wente Brothers 59.08 292 ⇑P P 13 06 48.6 -0.3
baz=59
KK31 Karatay Array 59.29 57 i P P 13 06 50.6 +0.2
KKAR Karatay Array 59.29 57 i P P 13 06 50.6 +0.2
KKAR pmax pmax
comp=Z,231nm,2.1s,mb5.8
PACP Pacheco Peak 59.35 291 ⇑P P 13 06 50.5 -0.3
baz=59
GLA Glamis 59.35 284 eP P 13 06 50.7 -0.1
GLA Glamis 59.35 284 ⇑P P 13 06 50.5 -0.2
baz=59,SNR=6.8
JRSC Jasper Ridge 59.49 292 ⇑P P 13 06 51.2 -0.5
baz=59
SAO San Andreas Ge 59.62 291 eP P 13 06 53.2 +0.6
SAO pmax pmax
comp=Z,17nm,1.1s,mb5.0
SAO San Andreas Ge 59.62 291 eP P 13 06 53.2 +0.6
comp=Z,17nm,1.1s,mb5.0
U04C Hernandez Rese 59.62 291 ⇓P P 13 06 52.1 -0.5
baz=59
BNLO Ben Lomond (Sa 59.67 292 ⇓P P 13 06 53.1 +0.1
baz=60
PFO Pinyon Flat Ob 59.72 285 eP P 13 06 53.7 +0.4
PFO pmax pmax
comp=Z,20nm,1.0s,mb5.1
PFO Pinyon Flat Ob 59.72 285 eP P 13 06 53.7 +0.4
comp=Z,20nm,1.0s,mb5.1
PFO Pinyon Flat Ob 59.72 285 eP P 13 06 53.7 +0.4
comp=Z,20nm,1.0s,mb5.1
PFO Pinyon Flat Ob 59.72 285 ⇓P P 13 06 52.9 -0.4
baz=60,SNR=9.8
PKD Parkfield 59.84 290 ⇓P P 13 06 54.1 0.0
baz=60,SNR=7.1
PTRM Twissleman Ran 59.91 290 eP P 13 06 56.9 +2.2
PTRM Twissleman Ran 59.91 290 eP P 13 06 56.9 +2.2
HAST UC Hastings Re 59.97 291 ⇑P P 13 06 55.2 +0.2
baz=60,SNR=5.5
BOD Bodaibo 60.01 21 eP P 13 06 53.6 -1.7
BOD pmax pmax
comp=Z,14nm,1.9s,mb4.7
V03C Hunter Liggett 60.12 291 ⇓P P 13 06 56.1 +0.1
baz=60
V04C Ramage Ranch, 60.25 290 ⇑P P 13 06 56.7 -0.3
baz=60
BAR Barrett 60.57 285 eP P 13 06 59.6 +0.5
BAR Barrett 60.57 285 eP P 13 06 59.6 +0.4
MK31 Makanchi Array 60.98 46 P P 13 07 01.4 -0.5
MK31 pmax pmax
comp=Z,50nm,1.4s,mb5.5
MKAR Makanchi Array 60.98 46 P P 13 07 02.1 +0.2
comp=Z,7.6nm,0.6s,mb5.0,baz=336,slow=5.7,SNR=48
FRU Bishkek 61.25 54 eP P 13 07 05.0 +1.2
FRU pmax pmax
comp=Z,130nm,2.5s,mb5.6
FRU MLR MLR
comp=Z,900nm,14.0s,MS5.1
AAK Ala-Archa 61.36 54 P P 13 07 05.0 +0.5
comp=Z,5nm,1.3s,mb5.7,SNR=8.2
AAK Ala-Archa 61.36 54 P P 13 07 05.4 +0.9
SNR=17
AAK Ala-Archa 61.36 54 d i P P 13 07 05.0 +0.5
AAK pmax pmax
comp=Z,34nm,1.8s,mb5.2
AAK MLR MLR
comp=Z,600nm,17.0s,MS4.8
AAK Ala-Archa 61.36 54 eP P 13 07 05.2 +0.7
AAK Ala-Archa 61.36 54 eP P 13 07 05.2 +0.7
MA2 Magadan 61.54 359 eP P 13 07 07.7 +2.0
MA2 e 13 07 41.0
MA2 eS S 13 15 27.8 +0.4
MA2 eSS SS 13 19 33.8 +5.4
MA2 eSSS 13 22 09.4
MA2 pmax pmax
comp=Z,40nm,1.2s,mb5.4
MA2 MLR MLR
comp=Z,500nm,14.7s,MS4.8
MA2 Magadan 61.54 359 eP P 13 07 07.6 +1.9
ANR Andizhan 62.00 57 eP P 13 07 07.5 -1.4
CLNS Chul'man 62.67 15 eP P 13 07 12.6 -0.7
CLNS pmax pmax
comp=N,16nm,1.5s
CLNS pmax pmax
comp=Z,19nm,1.5s,mb5.0
CLNS pmax pmax
comp=E,5.0nm,0.8s
IRK Irkutsk 63.07 29 eP P 13 07 14.9 -1.1
IRK pmax pmax
comp=Z,88nm,1.5s,mb5.7
TLY Talaya 63.43 30 P P 13 07 19.3 +0.9
SNR=8.5
TLY Talaya 63.43 30 eP P 13 07 18.7 +0.3
ROSC El Rosal 63.70 230 P P 13 07 21.1 +0.9
comp=Z,7.4nm,0.5s,mb4.9,baz=89,slow=18,SNR=16
ROSC El Rosal 63.70 230 eP P 13 07 21.9 +1.7
ROSC El Rosal 63.70 230 eP P 13 07 21.9 +1.7
ZAK Zakamensk 64.52 31 eP P 13 07 26.2 +0.7
KSH Kashi 64.57 55 eP P 13 07 28.0 +2.1
KSH eAP pP 13 07 32.8 +3.7
KSH eXP sP 13 07 35.5 +5.2
KSH ePCP PcP 13 08 02.5 +2.6
KSH ePP PP 13 09 49.5 +1.7
KSH eS S 13 16 04.8 -0.6
KSH eXS sS 13 16 14.3 +3.6
KSH ePS 13 16 23.5
KSH eSCS ScS 13 17 18.3 -2.1
KSH eSS SS 13 20 17.0 +1.2
KSH AMB AMB
comp=Z,383nm,4.1s
KSH LR LR
comp=N,542nm,4.4s
KSH LR LR
comp=E,636nm,6.2s
KSH LR LR
comp=Z,559nm,7.3s
CIT Chita 65.39 23 eP P 13 07 31.4 +0.2
CIT e 13 08 05.0
CIT pmax pmax
comp=Z,64nm,1.8s,mb5.3
WMQ Urumqi 65.50 44 P P 13 07 35.5 +3.6
WMQ AP pP 13 07 40.0 +4.8
WMQ XP sP 13 07 42.5 +6.1
WMQ PCP PcP 13 08 06.8 +3.1
WMQ PP PP 13 10 02.0 +6.0
WMQ SCP 13 12 08.0
WMQ S S 13 16 19.0 +2.2
WMQ AMB AMB
comp=Z,34nm,1.4s,mb5.2
WMQ AMB AMB
comp=Z,192nm,5.0s
WMQ LR LR
comp=N,809nm,17.2s,MS5.1
WMQ LR LR
comp=E,607nm,16.1s,MS5.1
WMQ LR LR
comp=Z,779nm,17.7s,MS5.0
SONM Songino Array 67.67 30 P P 13 07 45.5 -0.3
comp=Z,11nm,1.1s,mb4.8,baz=323,slow=4.9,SNR=42
ULN Ulaanbaatar 67.81 29 P P 13 07 47.7 +1.0
SNR=48
ULN Ulaanbaatar 67.81 29 d i P P 13 07 47.3 +0.6
ULN Ulaanbaatar 67.81 29 eP P 13 07 47.5 +0.8
PET Petropavlovsk 67.86 354 eP P 13 07 49.2 +2.2
PET i S S 13 16 48.8 +3.5
PET e 13 17 45.6
PET pmax pmax
comp=Z,200nm,5.0s
PET pmax pmax
comp=Z,100nm,4.8s
PET smax
comp=N,200nm,5.4s
PET smax
comp=E,400nm,7.6s
PET smax
comp=E,300nm,11.5s
PET smax
comp=N,100nm,9.5s
PET MLR MLR
comp=Z,1μm,23.0s,MS5.0
HIA Hailar 69.21 20 eP P 13 07 56.3 +0.9
HIA pmax pmax
comp=Z,6.0nm,0.4s
HIA Hailar 69.21 20 eP P 13 07 56.3 +0.8
comp=Z,5.5nm,0.4s,mb4.8
HIA Hailar 69.21 20 eP P 13 07 56.3 +0.9
comp=Z,5.5nm,0.4s,mb4.8
OTAV Otavalo 69.56 232 eP P 13 07 59.9 +2.4
comp=Z,32nm,1.4s,mb5.1
KLR Kul'dur 70.96 12 eP P 13 08 04.8 -1.4
KLR e 13 08 05.5
KLR eS S 13 17 24.0 +2.1
HABR Khabarovsk 72.03 10 ⇑i P P 13 08 13.7 +1.1
HABR eS S 13 17 41.4 +7.1
HABR pmax pmax
comp=Z,28nm,1.7s,mb4.9
HABR MLR MLR
comp=Z,355nm,15.2s,MS4.8
GTA Gaotai 73.53 38 P P 13 08 22.0 +0.5
GTA AP pP 13 08 26.0 +1.2
GTA XP sP 13 08 29.3 +3.3
GTA PP PP 13 11 07.8 +2.4
GTA PPP 13 12 51.5
GTA S S 13 17 54.5 +3.1
GTA XS sS 13 17 58.5 +1.7

GTA					SS	SS	13 22 34.5	+0.4	
GTA					AMB	AMB			
	comp=Z,24nm,1.8s,mb4.8								
GTA					AMB	AMB			
	comp=Z,321nm,5.0s								
GTA					LR	LR			
	comp=N,277nm,19.8s,MS4.9								
GTA					LR	LR			
	comp=E,588nm,21.3s,MS4.9								
GTA					LR	LR			
	comp=Z,329nm,18.2s,MS4.7								
YSS	**Yuzh-Sakhalins**	**74.05**	**5**	*eP*	**P**		**13 08 25.2**	**+0.6**	
YSS				*eS*	S		13 18 04.0	+6.8	
YSS				MLR	MLR				
	comp=Z,1μm,19.0s,MS5.1								
YSS				MLR	MLR				
	comp=N,500nm,20.0s								
YSS	**Yuzh-Sakhalins**	**74.05**	**5**	*eP*	**P**		**13 08 26.3**	**+1.7**	
YSS	**Yuzh-Sakhalins**	**74.05**	**5**	*eP*	**P**		**13 08 26.3**	**+1.7**	
NDI	**New Delhi**	**74.31**	**60**	*eP*	**P**		**13 08 25.0**	**-1.1**	
MDJ	**Mudanjiang**	**75.25**	**14**	P	**P**		**13 08 30.5**	**-1.1**	
MDJ				AP	pP		13 08 33.8	-1.0	
MDJ				PCP	PcP		13 08 44.3	-0.6	
MDJ				PP	PP		13 11 18.0	-2.0	
MDJ				S	S		13 18 09.0	-1.7	
MDJ				SCS	ScS		13 18 42.8	-1.7	
MDJ				LR	LR				
	comp=N,283nm,18.6s,MS4.7								
MDJ				LR	LR				
	comp=E,182nm,20.1s,MS4.7								
MDJ				LR	LR				
	comp=Z,421nm,18.1s,MS4.8								
MDJ	**Mudanjiang**	**75.25**	**14**	*eP*	**P**		**13 08 31.4**	**-0.2**	
	comp=Z,21nm,1.2s,mb4.9								
MDJ	**Mudanjiang**	**75.25**	**14**	*eP*	**P**		**13 08 31.4**	**-0.2**	
	comp=Z,21nm,1.2s,mb4.9								
BTO	**Baotou**	**75.35**	**30**	*eP*	**P**		**13 08 31.3**	**-0.8**	
CN2	**Changchun**	**75.47**	**18**	*eP*	**P**		**13 08 33.0**	**+0.2**	
CN2				*e*XP	sP		13 08 40.0	+2.7	
CN2				*e*S	S		13 18 10.0	-3.0	
CN2				AMB	AMB				
	comp=Z,10.0nm,1.1s,mb4.7								
CN2				AMB	AMB				
	comp=Z,300nm,7.0s								
CN2				LR	LR				
	comp=N,300nm,15.0s,MS4.9								
CN2				LR	LR				
	comp=E,400nm,15.0s,MS4.9								
CN2				LR	LR				
	comp=Z,300nm,16.0s,MS4.7								
HHC	**Hu-ho-hao-te**	**75.51**	**29**	*eP*	**P**		**13 08 34.5**	**+1.5**	
HHC				XP	sP		13 08 40.5	+3.0	
HHC				PP	PP		13 11 24.8	+2.7	
HHC				S	S		13 18 13.3	-0.2	
HHC				SCS	ScS		13 18 42.3	-4.2	
HHC				PS			13 18 47.8		
HHC				SS	SS		13 23 00.0	-4.1	
HHC				AMB	AMB				
	comp=Z,38nm,1.3s,mb5.2								
HHC				AMB	AMB				
	comp=Z,310nm,5.5s								
HHC				LR	LR				
	comp=N,343nm,20.8s,MS4.8								
HHC				LR	LR				
	comp=E,454nm,21.4s,MS4.8								
HHC				LR	LR				
	comp=Z,291nm,17.2s,MS4.7								
BDFB	**Brasilia**	**75.92**	**197**	P	**P**		**13 08 34.1**	**-1.3**	
	comp=Z,6.3nm,0.7s,mb4.6,baz=32,slow=7.2,SNR=7.2								
BDFB				LR	LR		13 35 20.8		
	comp=Z,447nm,20.6s,MS4.8,baz=76,slow=30								
ASAJ	**Asahikawa**	**76.88**	**5**	P	**P**		**13 08 41.6**	**+0.8**	
	comp=Z,12nm,1.3s,mb4.7,baz=229,slow=4.8,SNR=3.6								
VLA	**Vladivostok**	**77.01**	**13**	*eP*	**P**		**13 08 42.8**	**+1.3**	
VLA				pmax	pmax				
	comp=Z,41nm,1.8s,mb5.1								
VLA	**Vladivostok**	**77.01**	**13**	*eP*	**P**		**13 08 42.9**	**+1.4**	
SNY	**Shenyang**	**77.08**	**19**	⇑P	**P**		**13 08 43.0**	**+1.0**	
SNY				AP	pP		13 08 47.3	+2.0	
SNY				XP	sP		13 08 49.5	+3.0	
SNY				S	S		13 18 34.5	+3.7	
SNY				XS	sS		13 18 43.5	+7.2	
SNY				SS	SS		13 23 32.3	+4.3	
SNY				AMB	AMB				
	comp=Z,17nm,1.9s,mb4.7								
SNY				AMB	AMB				
	comp=Z,135nm,4.5s								
SNY				LR	LR				
	comp=N,332nm,12.6s,MS5.0								
SNY				LR	LR				
	comp=E,337nm,13.8s,MS5.0								
SNY				LR	LR				
	comp=E,410nm,15.6s,MS4.8								
BJI	**Beijing**	**77.36**	**25**	*eP*	**P**		**13 08 43.8**	**+0.3**	
BJI				S	S		13 18 41.0	+7.2	
BJI				AMB	AMB				
	comp=Z,22nm,1.4s,mb4.9								
BJI				AMB	AMB				
	comp=Z,350nm,4.5s								
BJI				LR	LR				
	comp=N,343nm,16.4s,MS4.9								
BJI				LR	LR				
	comp=E,402nm,19.3s,MS4.9								
BJI				LR	LR				
	comp=Z,262nm,18.0s,MS4.6								
BJT	**Baijiatuau**	**77.38**	**25**	*eP*	**P**		**13 08 44.3**	**+0.7**	
BJT				pmax	pmax				
	comp=Z,81nm,1.8s								
BJT	**Baijiatuau**	**77.38**	**25**	*eP*	**P**		**13 08 44.3**	**+0.7**	
	comp=Z,81nm,1.8s,mb5.3								
BJT	**Baijiatuau**	**77.38**	**25**	*eP*	**P**		**13 08 44.3**	**+0.7**	
	comp=Z,81nm,1.8s,mb5.3								
LZH	**Lanzhou**	**77.84**	**36**	*eP*	**P**		**13 08 47.0**	**+0.8**	
LZH				AP	pP		13 08 52.0	+2.5	
LZH				XP	sP		13 08 55.0	+4.3	
LZH				PP	PP		13 11 45.5	+3.8	
LZH				*eS*	S		13 18 42.0	+3.0	
LZH				XS	sS		13 18 46.0	+1.6	
LZH				SS	SS		13 23 44.0	+4.7	
LZH				AMB	AMB				
	comp=Z,83nm,1.5s,mb5.4								
LZH				AMB	AMB				
	comp=Z,362nm,6.1s								
LZH				LR	LR				
	comp=N,446nm,12.7s								
LZH				LR	LR				
	comp=Z,851nm,14.6s,MS5.2								
GKN	**Gorkha**	**78.11**	**55**	*eP*	**P**		**13 08 48.5**	**+0.8**	
KKN	**Kakani**	**78.57**	**54**	*eP*	**P**		**13 08 50.5**	**+0.2**	
	comp=Z,96nm,1.5s,mb5.5								
KKN	**Kakani**	**78.57**	**54**	*eP*	**P**		**13 08 50.5**	**+0.2**	
KKN				pmax	pmax				
	comp=Z,96nm,1.5s,mb5.5								
DMN	**Daman**	**78.66**	**55**	*eP*	**P**		**13 08 51.8**	**+1.1**	
	comp=Z,120nm,1.4s,mb5.6								
PKI	**Pulchoki**	**78.82**	**54**	*eP*	**P**		**13 08 51.9**	**+0.3**	
	comp=Z,115nm,1.7s,mb5.5								
PKI	**Pulchoki**	**78.82**	**54**	*eP*	**P**		**13 08 51.9**	**+0.3**	
PKI				pmax	pmax				
	comp=Z,115nm,1.7s,mb5.5								
JIRN	**Jiri**	**79.06**	**54**	*eP*	**P**		**13 08 53.8**	**+0.8**	
DL2	**Dalian**	**79.57**	**22**	⇑P	**P**		**13 08 58.0**	**+2.3**	
DL2				S	S		13 19 01.5	+4.0	
DL2				AMB	AMB				
	comp=Z,20nm,1.1s,mb5.0								
DL2				AMB	AMB				
	comp=Z,140nm,5.6s								
DL2				LR	LR				
	comp=N,160nm,15.3s,MS4.7								
DL2				LR	LR				
	comp=E,240nm,17.0s,MS4.7								
DL2				LR	LR				
	comp=Z,170nm,13.7s,MS4.5								
KMBO	**Kilima Mbogo**	**79.85**	**110**	P	**P**		**13 08 57.1**	**-0.1**	
	comp=Z,1.1nm,0.5s,mb4.0,baz=232,slow=23,SNR=3.8								
KMBO				LR	LR		13 43 13.0		
	comp=Z,882nm,21.5s,MS5.1,baz=287,slow=35								
LPAZ	**La Paz**	**81.19**	**216**	P	**P**		**13 09 04.9**	**+0.4**	
	comp=Z,4.4nm,1.2s,mb4.2,baz=354,slow=8.1,SNR=5.9								
LPAZ				LR	LR		13 41 31.6		
	comp=Z,119nm,20.3s,MS4.2,baz=189,slow=33								
LPAZ	**La Paz**	**81.19**	**216**	P	**P**		**13 09 04.9**	**+0.4**	
LPAZ				LR	LR		13 41 31.6		
XAN	**Xi'an**	**81.23**	**33**	P	**P**		**13 09 03.5**	**-1.1**	
XAN				AMB	AMB				
	comp=Z,18nm,1.7s,mb4.7								
TIA	**Tai'an**	**81.23**	**26**	*eP*	**P**		**13 09 05.0**	**+0.3**	
MAT	**Matsushiro**	**84.14**	**9**	P	**P**		**13 09 20.9**	**+1.1**	
MAT				S			13 19 47.0		
MAT	**Matsushiro**	**84.14**	**9**	*eP*	**P**		**13 09 21.0**	**+1.2**	
MAT				*eS*			13 19 47.0		
MAT				pmax	pmax				
	comp=Z,33nm,1.4s,mb5.3								
MAT				MLR	MLR				
	comp=Z,350nm,20.0s,MS4.7								
MAT	**Matsushiro**	**84.14**	**9**	*eP*	**P**		**13 09 21.0**	**+1.2**	
	comp=Z,33nm,1.4s,mb5.3								
MAT				*eS*			13 19 47.0		
MAT				LR	LR				
	comp=Z,350nm,20.0s,MS4.7								
MAT	**Matsushiro**	**84.14**	**9**	*eP*	**P**		**13 09 21.0**	**+1.2**	
	comp=Z,33nm,1.4s,mb5.3								
MJAR	**Matsushiro Arr**	**84.15**	**9**	P	**P**		**13 09 20.0**	**+0.2**	
	comp=Z,8.5nm,1.2s,mb4.8,baz=345,slow=5.2,SNR=11								
NJ2	**Nanjing**	**85.62**	**26**	*eP*	**P**		**13 09 25.0**	**-2.2**	
NJ2				AP	pP		13 09 35.0	+4.5	
NJ2				XP	sP		13 09 39.3	+7.6	
NJ2				PP	PP		13 12 46.8	+0.9	
NJ2				S			13 19 55.0		
NJ2				XS	sS		13 20 11.0	+6.2	
NJ2				AMB	AMB				
	comp=Z,20nm,0.6s,mb5.5								
NJ2				AMB	AMB				
	comp=Z,240nm,4.3s								
NJ2				LR	LR				
	comp=N,500nm,21.6s								
NJ2				LR	LR				
	comp=E,630nm,16.4s								
NJ2				LR	LR				
	comp=Z,100nm,17.5s,MS4.3								
WHN	**Wuhan**	**85.99**	**30**	⇑P	**P**		**13 09 29.0**	**-0.1**	
SSE	**Sheshan**	**87.04**	**24**	*eP*	**P**		**13 09 31.0**	**-3.2**	
SSE				S			13 20 06.5		
SSE				AMB	AMB				
	comp=Z,18nm,1.0s,mb5.3								
SSE				AMB	AMB				
	comp=Z,34nm,3.8s								
SSE				LR	LR				
	comp=N,55nm,25.6s,MS4.5								
SSE				LR	LR				
	comp=E,241nm,25.6s,MS4.5								
SSE				LR	LR				
	comp=Z,158nm,19.9s								
KMI	**Kunming**	**87.62**	**41**	P	**P**		**13 09 37.3**	**+0.3**	
KMI				AP	pP		13 09 41.3	+0.9	
KMI				PP	PP		13 13 03.5	+1.4	
KMI				PPP			13 14 59.0		
KMI				SKS			13 20 03.3		
KMI				S			13 20 17.5		
KMI				SS	SS		13 26 05.5	+1.0	
KMI				SSS			13 29 37.0		
KMI				AMB	AMB				
	comp=Z,14nm,1.3s,mb5.0								
KMI				AMB	AMB				
	comp=Z,265nm,3.6s								
KMI				LR	LR				
	comp=N,260nm,17.2s,MS4.9								
KMI				LR	LR				
	comp=E,356nm,17.7s,MS4.9								
KMI				LR	LR				
	comp=Z,213nm,24.6s								
LSZ	**Lusaka**	**88.17**	**124**	*eP*	**P**		**13 09 40.8**	**+1.1**	
CHTO	**Chiang Mai**	**92.06**	**47**	*eP*	**P**		**13 09 57.8**	**0.0**	
CHTO				pmax	pmax				
	comp=Z,33nm,1.8s,mb5.4								
CHTO	**Chiang Mai**	**92.06**	**47**	*eP*	**P**		**13 09 57.8**	**0.0**	
	comp=Z,33nm,1.8s,mb5.4								
BOSA	**Boshof**	**98.94**	**132**	LR	LR		13 54 55.8		
	comp=Z,879nm,20.4s,MS5.2,baz=355,slow=35								
TAOE	**Nuku Hiva Isla**	**107.48**	**282**	*e*LR	LR		13 46 39.8		
	comp=Z,2μm,21.9s								
PPT	**Papeete**	**119.61**	**286**	*e*LR	LR		13 52 15.6		
	comp=Z,933nm,22.2s,baz=26								
SNAA	**Sanae**	**132.05**	**169**	*e*PKIKP	PKPdf		13 16 01.2	-1.1	
WRA	**Warramunga Arr**	**139.31**	**22**	PKP	PKPdf		13 16 14.2	-1.6	
	comp=Z,2.6nm,1.0s,baz=333,slow=2.4,SNR=5.9								
WB2	**Warramunga Arr**	**139.31**	**22**	*e*P	PKPdf		13 16 14.6	-1.3	
AS31	**Alice Springs**	**142.84**	**24**	*e*P	PKPdf		13 16 19.2	-3.0	
ASPA	**Alice Springs**	**142.84**	**24**	*e*P	PKPdf		13 16 19.2	-3.0	
ASAR	**Alice Springs**	**142.84**	**24**	PKhKP			13 16 16.5		
	comp=Z,2.1nm,1.1s,baz=341,slow=3.1,SNR=7.0								
MAW	**Mawson**	**143.56**	**140**	*e*P	PKPdf		13 16 18.2	-5.3	
	comp=Z,4.2nm,1.5s								
MAW	**Mawson**	**143.56**	**140**	PKP	PKPdf		13 16 19.3	-4.2	
	comp=Z,7.5nm,1.2s,baz=72,slow=5.9,SNR=5.3								
MUN	**Mundaring**	**144.90**	**54**	*e*P	PKPdf		13 16 24.0	-1.8	
KLBR	**Kellerberrin**	**145.19**	**51**	*e*P	PKPbc		13 16 24.5	-1.4	
	comp=Z,34nm,0.9s								
NWAO	**Narrogin (SRO)**	**146.15**	**53**	PKPbc	PKPbc		13 16 28.5	-0.4	
	comp=Z,18nm,1.1s,baz=356,slow=4.1,SNR=3.7								
FORT	**Forrest**	**148.13**	**36**	*e*P	PKPdf		13 16 34.1	+2.8	
	comp=Z,37nm,0.6s								
QSPA	**South Pole Qui**	**149.12**	**180**	*e*P	PKPdf		13 16 33.8	+0.9	
ARMA	**Armidale**	**151.15**	**356**	*e*P	PKPdf		13 16 40.7	+4.6	

IDC 28 13:00:10.5±14.0, 857S×10710E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/17, mbtmp3.8/4, Error ellipse: s-maj=229.8km s-min=130.8km az=131.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.35**	**120**	P	P	13 04 48.4	0.0
	1.0nm,0.9s,baz=280,slow=15,SNR=7.9						
WRA	**Warramunga Arr**	**28.66**	**116**	P	P	13 06 08.5	-0.5
	0.8nm,0.8s,baz=288,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**29.72**	**123**	P	P	13 06 20.6	+2.3
	0.6nm,0.7s,baz=300,slow=9.1,SNR=7.1						
STKA	**Stephens Creek**	**39.53**	**131**	P	P	13 07 42.4	-0.6
	2.3nm,0.7s,baz=292,slow=9.6,SNR=4.7						

*BJI **28** 13:01:02.3, 1079S×10837E, h10km, mB5.2, mb4.7, Ms4.7, Msz4.3*

*IDC **28** 13:01:09.4±0.5, 994S×10796E, h0km, mb4.6/16, mb1 4.5/18, mb1mx4.5/21, mbtmp4.5/18, ML4.3/2, MS4.1/2, Ms1 4.1/2, ms1mx3.5/12, Error ellipse: s-maj=20.1km s-min=12.1km az=56.0*

*NEIC **28** 13:01:11.3±0.3, 981S×10809E, h10km, mb4.8/11, Error ellipse: s-maj=11.8km s-min=6.7km az=49.0*

*HRVD **28** 13:01:11.3±0.4, 1009S×108.11E, h12km, MW4.9/56, Centroid moment Tensor Solution. LP body waves: s28,c39;Mantle waves: s56,c85; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.19±.13; Mθθ3.05±.08; Mϕϕ-0.85±.16; Mrθ-1.08±.28; Mϕθ-1.26±.09; Mϕr0.01±.41; Best double couple: Mo3.02600×10^16 NP1:ϕs301.00000°, δ37.00000°, λ-68.00000°. NP2: ϕs95.00000°, δ56.00000°, λ-106.00000°. Principal axes: T 3.6080, Plg10.0000°, Azm196.0000°; N -1.1570, Plg13.0000°, Azm103.0000°; P -2.4440, Plg73.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **28** 13:01:13.0±1.0, 987S×10803E, h33km, mb5.0/11 Error ellipse: s-maj=17.8km s-min=9.5km az=122.5*

*ISCJB **28** 13:01:13.8±0.3, 992S±006×10804E±006, h41km, mb4.6/32, MS4.3/4, Error ellipse: s-maj=10.2km s-min=6.0km az=101.8*

ISC 28 13:01:15.8±0.3, 994S±006×10800E±006, h43km, h43km±1.9km:pP-P, n79, σ1s03/70, mb4.6/32, MS4.3/4, 3C-2D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**8.23**	**319**	P	**Pn**	**13 03 11.5**	**-1.2**
	117nm,0.6s						
PCI	**Palu**	**14.80**	**53**	P	**Pn**	**13 04 42.1**	**-0.2**
	98nm,1.3s						
PSI	**Prapat**	**15.55**	**324**	Pn	**Pn**	**13 04 49.6**	**-2.4**
	0.9nm,0.3s,baz=137,slow=17,SNR=3.3						
PSI				LR	LR	13 11 51.0	
	comp=Z,959nm,18.7s,baz=137,slow=42						
KKM	**Kota Kinabalu**	**17.86**	**28**	*e*P	**Pn**	**13 05 15.8**	**-5.3**
FITZ	**Fitzroy Crossi**	**18.93**	**117**	*e*P	**Pn**	**13 05 33.0**	**-1.0**
	19nm,0.6s						
FITZ				*e*S	**S**	**13 08 46.0**	**-20**
FITZ	**Fitzroy Crossi**	**18.93**	**117**	Pn	**Pn**	**13 05 32.9**	**-1.0**
	0.9nm,0.3s,baz=278,slow=8.0,SNR=20						
FITZ				Sn	**Sn**	**13 08 45.0**	**-20**
	0.6nm,0.3s,baz=166,slow=22,SNR=4.5						
BSI	**Banda Aceh**	**19.88**	**320**	P	**Pn**	**13 05 45.1**	**-0.2**
	146nm,1.2s						
AAI	**Ambon**	**20.98**	**74**	P	**P**	**13 05 56.7**	**+1.3**
	87nm,1.1s						
KAKA	**Kakadu**	**24.12**	**99**	*e*P	**P**	**13 06 26.9**	**-0.6**
	19nm,0.6s,mb4.7						
NWAO	**Narrogin (SRO)**	**24.41**	**161**	P	**P**	**13 06 27.9**	**-2.2**
	13nm,0.8s,mb4.4,baz=315,slow=14,SNR=5.9						
NWAO				S	**S**	**13 10 53.9**	**+6.8**
	3.4nm,0.4s,baz=315,slow=22,SNR=3.0						
NWAO	**Narrogin (SRO)**	**24.41**	**161**	*e*P	**P**	**13 06 28.8**	**-1.4**
NST	**Nakhon Sawan**	**26.61**	**343**	P	**P**	**13 06 51.0**	**+0.9**
	42nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**27.28**	**114**	P	**P**	**13 06 55.3**	**-0.9**
	5.3nm,0.6s,mb4.3,baz=286,slow=11,SNR=26						
WRA				Sn	S	13 12 05.9	+33
	1.3nm,0.6s,baz=291,slow=25,SNR=5.6						
WRAB	**Tennant Creek**	**27.29**	**114**	*e*P	**P**	**13 06 55.8**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**27.29**	**114**	*e*P	**P**	**13 06 55.8**	**-0.4**
	comp=Z,10nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**27.30**	**114**	*e*P	**P**	**13 06 55.4**	**-0.9**
WB2				*e*S	S	13 12 04.4	+32
ASPA	**Alice Springs**	**28.24**	**122**	*e*P	**P**	**13 07 05.2**	**+0.5**
AS31	**Alice Springs**	**28.24**	**122**	*e*P	**P**	**13 07 05.2**	**+0.5**
ASAR	**Alice Springs**	**28.24**	**122**	P	**P**	**13 07 04.5**	**-0.2**
	comp=Z,4.0nm,0.7s,mb4.2,baz=302,slow=8.6,SNR=25						
ASAR				PcP	PcP	13 10 16.6	-0.6
	comp=Z,0.6nm,0.5s,baz=9.5,slow=1.5,SNR=4.3						
ASAR				Sn	S	13 12 30.8	+43
	comp=Z,2.3nm,0.7s,baz=304,slow=22,SNR=10						
ASAR	**Alice Springs**	**28.24**	**122**	P	**P**	**13 07 04.5**	**-0.2**
ASAR						13 10 16.7	
NANT	**Nan**	**29.45**	**346**	P	**P**	**13 07 19.0**	**+3.6**
CHG	**Chiang Mai**	**29.93**	**343**	⇓P	**P**	**13 07 22.7**	**+3.0**
CHTO	**Chiang Mai**	**29.93**	**343**	*e*P	**P**	**13 07 20.4**	**+0.7**
CHTO				*e*	pP	13 07 32.4	+1.1
CHTO				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.9						
CHTO	**Chiang Mai**	**29.93**	**343**	*e*P	**P**	**13 07 20.4**	**+0.6**
	comp=Z,21nm,0.8s,mb4.9						
CHTO				*e*	pP	13 07 32.4	+1.1
KMI	**Kunming**	**35.22**	**352**	P	**P**	**13 08 09.0**	**+3.0**
KMI				AP	pP	13 08 18.5	+0.8
KMI				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,186nm,5.2s						
KMI				LR	LR		
	comp=N,947nm,13.6s						
KMI				LR	LR		
	comp=E,1μm,19.6s						
KMI				LR	LR		
	comp=Z,1μm,14.8s,MS4.7						
GYA	**Guiyang**	**36.20**	**358**	⇑*i*P	**P**	**13 08 15.0**	**+0.6**
GYA				AP	pP	13 08 19.8	-6.3
GYA				XP	sP	13 08 22.5	-8.7
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
GYA				AMB	AMB		
	comp=Z,260nm,6.3s						
GYA				LR	LR		
	comp=N,410nm,18.7s,MS4.4						
GYA				LR	LR		
	comp=E,460nm,17.9s,MS4.4						
GYA				LR	LR		
	comp=Z,390nm,18.4s,MS4.2						
STKA	**Stephens Creek**	**37.98**	**130**	*e*P	**P**	**13 08 29.3**	**-0.1**
	comp=Z,15nm,0.7s,mb4.8						
STKA				*e*	pP	13 08 41.8	+0.6
STKA	**Stephens Creek**	**37.98**	**130**	P	**P**	**13 08 29.6**	**+0.2**
	comp=Z,18nm,0.7s,mb4.9,baz=296,slow=7.6,SNR=25						
CTA	**Charters Tower**	**38.22**	**110**	*e*P	**P**	**13 08 32.6**	**+1.2**
	comp=Z,3.1nm,0.7s,mb4.2						
CTA	**Charters Tower**	**38.22**	**110**	P	**P**	**13 08 31.6**	**+0.1**
	comp=Z,3.4nm,0.7s,mb4.2,baz=274,slow=13,SNR=6.2						
CTA	**Charters Tower**	**38.22**	**110**	*e*P	**P**	**13 08 32.6**	**+1.2**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CTAO	**Charters Tower**	**38.22**	**110**	*e*P	**P**	**13 08 32.5**	**+1.1**
PMG	**Port Moresby**	**38.59**	**93**	P	**P**	**13 08 35.9**	**+1.3**
	comp=Z,12nm,0.7s,mb4.8,baz=286,slow=5.8,SNR=9.2						
CD2	**Chengdu**	**40.82**	**354**	P	**P**	**13 08 54.0**	**+0.9**
CD2				XP	sP	13 09 00.8	-9.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CD2				AMB	AMB		
	comp=Z,90nm,6.0s						
CD2				LR	LR		
	comp=N,270nm,13.2s						
CD2				LR	LR		
	comp=Z,240nm,11.4s,MS4.3						
JOW	**Kunigami**	**41.51**	**28**	P	**P**	**13 08 57.6**	**-1.2**
	comp=Z,5.0nm,0.7s,mb4.2,baz=198,slow=11,SNR=4.2						
JOW				LR	LR	13 25 27.3	
	comp=Z,175nm,20.0s,MS3.9,baz=239,slow=35						
MJAR	**Matsushiro Arr**	**54.27**	**30**	P	**P**	**13 10 34.2**	**-3.3**
	comp=Z,2.9nm,0.7s,mb4.3,baz=207,slow=7.7,SNR=5.0						
SONM	**Songino Array**	**57.53**	**359**	P	**P**	**13 11 01.5**	**+0.6**
	comp=Z,9.0nm,0.5s,mb5.0,baz=177,slow=8.4,SNR=39						
WSAR	**Wadi Sarin**	**58.48**	**305**	P	**P**	**13 11 08.5**	**+1.1**
	comp=Z,5.0nm,0.7s,mb4.7,baz=130,slow=7.9,SNR=2.5						
WSAR	**Wadi Sarin**	**58.48**	**305**	P	**P**	**13 11 08.5**	**+1.1**
ZAK	**Zakamensk**	**60.21**	**357**	*e*P	**P**	**13 11 18.7**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**60.97**	**340**	P	**P**	**13 11 24.3**	**-0.3**
	comp=Z,6.2nm,0.7s,mb4.9,baz=150,slow=7.5,SNR=11						
CIT	**Chita**	**61.89**	**4**	*e*P	**P**	**13 11 31.7**	**+0.9**
CIT				pmax	pmax		
	comp=Z,40nm,2.3s,mb5.1						
KLR	**Kul'dur**	**62.51**	**17**	*e*P	**P**	**13 11 30.4**	**-4.5**
MAW	**Mawson**	**64.87**	**197**	P	**P**	**13 11 48.5**	**-2.0**
	comp=Z,3.9nm,1.0s,mb4.4,baz=65,slow=13,SNR=6.6						
MAW	**Mawson**	**64.87**	**197**	*e*P	**P**	**13 11 50.4**	**-0.1**
MAW				pmax	pmax		
	comp=Z,12nm,1.4s						
MAW	**Mawson**	**64.87**	**197**	*e*P	**P**	**13 11 50.4**	**-0.1**
	comp=Z,12nm,1.4s,mb4.7

ARCES	**ARCES Array B**	**96.62**	**339**	P		**P**		**13 14 39.1**	**-2.0**
	comp=Z,1.8nm,0.8s,mb4.6,baz=76,slow=5.1,SNR=6.2								
NVAR	**Mina Array Bea**	**129.84**	**48**	PKP		PKPdf		13 20 22.6	+2.1
	comp=Z,0.6nm,0.7s,baz=236,slow=1.9,SNR=5.2								
FRNY	**Flat Rock**	**145.20**	**2**	*e*PKPdf		PKPdf		13 20 48.7	0.0
BDFB	**Brasilia**	**145.21**	**223**	PKPbc		PKPbc		13 20 49.7	+1.3
	comp=Z,9.6nm,0.9s,baz=135,slow=1.8,SNR=6.8								
WMOK	**Wichita Mounta**	**145.25**	**41**	*e*PKIKP		PKPdf		13 20 49.7	+1.0
LONY	**Lake Ozonia**	**145.37**	**3**	*e*PKPdf		PKPdf		13 20 49.2	+0.3
NCB	**Newcomb**	**146.04**	**3**	*e*PKPdf		PKPdf		13 20 51.8	+1.7
ACCN	**Adirondack Com**	**146.65**	**2**	*e*PKPdf		PKPdf		13 20 51.2	0.0
JCT	**Junction City**	**147.02**	**48**	*e*PKP2		PKPab		13 20 55.8	+0.4
MIAR	**Mount Ida**	**148.55**	**36**	*e*PKP2		PKPbc		13 20 59.1	+1.2
WVT	**Waverly**	**150.23**	**26**	*e*PKIKP		PKPbc		13 21 03.0	+0.9
LPAZ	**La Paz**	**153.66**	**188**	PKPbc		PKPbc		13 21 11.3	+1.4
	comp=Z,0.6nm,0.5s,baz=188,slow=7.1,SNR=2.9								

ISCJB ***28*** *13:49:41.5±1.6, 4502N±007×1488E±007, h10km, Error ellipse: s-maj=10.8km s-min=6.5km az=141.6*
CSEM ***28*** *13:49:41.5±0.5, 4498N×1490E, h10km, ML2.7/4, Error ellipse: s-maj=8.6km s-min=3.9km az=168.0*
VIE ***28*** *13:49:43.5±0.6, 4510N×1498E, h8km, mb1.5/1, ML2.3/1, Error ellipse: s-maj=3.2km s-min=2.6km az=169.0 52 km ESE of Rijeka*
LJU ***28*** *13:49:43.0, 4507N×1491E, h6km, ML1.4*

ISC 28 13:49:41.4±1.9, 4497N±008×1491E±007, h10km, n20, σ0§53/29, 2C, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
BOJS	**Bojanci**	**0.59**	**24**	*i* Pg		**Pg**		**13 49 52.7**	**-0.1**
BOJS				*e*Sg		**Sg**		**13 49 59.4**	**-1.1**
BOJS									
	comp=Z,18nm,0.2s								
BOJS	**Bojanci**	**0.59**	**24**	*i* Pg		**Pg**		**13 49 52.7**	**-0.1**
BOJS				*e*Sg		**Sg**		**13 49 59.4**	**-1.1**
	comp=Z,18nm,0.2s								
KNDS	**Knezji Dol**	**0.67**	**326**	*i* Pg		**Pg**		**13 49 55.0**	**+0.6**
KNDS									
	comp=Z,13nm,0.3s								
KNDS	**Knezji Dol**	**0.67**	**326**	*i* Pg		**Pg**		**13 49 55.0**	**+0.6**
	comp=Z,13nm,0.3s								
VISS	**Visnje**	**0.84**	**357**	*i* Pg		**Pg**		**13 49 57.4**	**-0.2**
VISS									
	comp=Z,8.0nm,0.2s								
VISS	**Visnje**	**0.84**	**357**	*i* Pg		**Pg**		**13 49 57.3**	**-0.2**
	comp=Z,8.0nm,0.2s								
CRES	**Cresnjev**	**0.94**	**24**	*e*Pg		**Pg**		**13 49 59.0**	**-0.5**
CRES									
	comp=Z,4.0nm,0.1s								
CRES	**Cresnjev**	**0.94**	**24**	*e*Pg		**Pg**		**13 49 59.0**	**-0.5**
	comp=Z,4.0nm,0.1s								
LEGS	**Legarje**	**1.02**	**16**	*i* Pg		**Pg**		**13 50 01.1**	**+0.1**
LEGS				*e*Sg		**Sg**		**13 50 14.2**	**-0.2**
LEGS	**Legarje**	**1.02**	**16**	*i* Pg		**Pg**		**13 50 01.1**	**+0.1**
LEGS				*e*Sg		**Sg**		**13 50 14.1**	**-0.2**
GCIS	**Gornji Cirnik**	**1.03**	**29**	*i* Pg		**Pg**		**13 50 01.6**	**+0.4**
GCIS				*i* Sg		**Sg**		**13 50 15.2**	**+0.5**
GCIS									
	comp=Z,9.0nm,0.3s								
GCIS	**Gornji Cirnik**	**1.03**	**29**	*i* Pg		**Pg**		**13 50 01.6**	**+0.4**
GCIS				*i* Sg		**Sg**		**13 50 15.1**	**+0.5**
	comp=Z,9.0nm,0.3s								
JAVS	**Javornik**	**1.10**	**328**	*i* Pg		**Pg**		**13 50 02.2**	**-0.3**
JAVS									
	comp=Z,11nm,0.4s								
JAVS	**Javornik**	**1.10**	**328**	*i* Pg		**Pg**		**13 50 02.2**	**-0.3**
	comp=Z,11nm,0.4s								
GOLS	**Golise**	**1.16**	**26**	*e*Sg		**Sg**		**13 50 19.8**	**+1.2**
GOLS									
	comp=Z,5.0nm,0.2s								
GOLS	**Golise**	**1.16**	**26**	*e*Sg		**Sg**		**13 50 19.8**	**+1.1**
	comp=Z,5.0nm,0.2s								
VOJS	**Vojsko**	**1.28**	**326**	*i* Pg		**Pg**		**13 50 06.2**	**+0.1**
GORS	**Gorjuse**	**1.49**	**335**	*i* Pg		**Pg**		**13 50 09.8**	**-0.3**
GORS				*i* Sg		**Sg**		**13 50 30.0**	**+0.6**
GORS									
	comp=Z,6.0nm,0.3s								
GORS	**Gorjuse**	**1.49**	**335**	*i* Pg		**Pg**		**13 50 09.8**	**-0.3**
GORS				*i* Sg		**Sg**		**13 50 30.0**	**+0.6**
	comp=Z,6.0nm,0.3s								
OBKA	**Obir**	**1.56**	**351**	⇑*i* Pg		**Pg**		**13 50 11.2**	**-0.1**
OBKA				⇑*i* Sg		**Sg**		**13 50 31.1**	**-0.6**
	comp=Z,11nm,0.3s								

GUC 28 13:55:22.1±0.6, 3371S×7181W, h27km±5km, MD3.5, ML2.4, 6C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
LCCH	**Las Cruces**	**0.31**	**40**	⇑*i* P			Pb	13 55 29.2	-0.1
LCCH				*i* S			Sb	13 55 34.6	+0.3
LNV	**Longovilo**	**0.41**	**127**	*e*P			Pb	13 55 30.8	-0.1
LNV				*i* S			Sb	13 55 37.3	+0.4
TACH	**Talagante**	**0.73**	**86**	⇑*i* P			Pb	13 55 35.5	-0.7
TACH				*i* S			Sb	13 55 45.8	0.0
RCDM	**Rinconada Maip**	**0.86**	**75**	⇑*i* P			Pb	13 55 37.4	-1.1
RCDM				*i* S			Sb	13 55 48.7	-1.0
RCDM				AML		AML		13 55 56.4	
	comp=N,216nm,0.2s								
CHCH	**Chadas Angostu**	**0.99**	**103**	⇑*i* P			Pn	13 55 39.9	-0.3
CHCH				*i* S			Sb	13 55 53.3	+0.2
ROCH	**El Roble**	**0.99**	**42**	⇓*i* P			Pn	13 55 40.4	+0.1
ROCH				*i* S			Sb	13 55 54.1	+0.8
CACH	**El Canelo**	**1.08**	**112**	⇓*i* P			Pn	13 55 42.2	+0.7
CACH				*e*S			Sn	13 55 57.7	+2.1
PCH	**Pirque**	**1.08**	**86**	⇑*i* P			Pn	13 55 41.3	-0.2
PEL	**Peldehue**	**1.10**	**59**	⇑*i* P			Pn	13 55 41.7	0.0
PEL				*i* S			Sn	13 55 56.4	+0.4
PEL				AML		AML		13 56 02.5	
	comp=E,215nm,0.5s								
SFDO	**San Fernando**	**1.11**	**144**	⇓*i* P			Pn	13 55 41.5	-0.4
SFDO				*i* S			Sn	13 55 56.4	0.0
CICH	**Cipreses**	**1.30**	**118**	*e*P			Pn	13 55 45.3	+0.8
CICH				*i* S			Sn	13 56 02.2	+1.2
JACH	**Jahuel**	**1.45**	**45**	*e*P			Pn	13 55 47.1	+0.6

ISCJB ***28*** *13:57:39.6±0.8, 67S±02×1114E±02, h10km, mb3.9/6, Error ellipse: s-maj=39.5km s-min=8.7km az=104.0*
IDC ***28*** *13:57:39.5±1.4, 704S×111.10E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/17, mbtmp4.0/7, Error ellipse: s-maj=86.3km s-min=17.8km az=50.0*
NEIC ***28*** *13:57:40.9±0.8, 706S×11104E, h10km, Error ellipse: s-maj=52.5km s-min=7.9km az=47.0*

ISC 28 13:57:41.6±0.8, 68S±02×1113E±02, h10km, n16, σ0§71/16, mb3.9/6, Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KSM	**Kuching**	**8.29**	**353**	P			**Pn**	**13 59 40.9**	**-0.9**
KULM	**Kulim**	**16.03**	**318**	*e*P			**Pn**	**14 01 26.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**17.95**	**130**	P			**Pn**	**14 01 51.9**	**+0.7**
	0.1nm,0.3s,baz=323,slow=18,SNR=4.9								
WRA	**Warramunga Arr**	**25.91**	**122**	P			**P**	**14 03 12.6**	**-1.2**
	4.6nm,1.1s,mb3.9,baz=298,slow=12,SNR=24								
WRAB	**Tennant Creek**	**25.92**	**122**	*e*P			**P**	**14 03 13.7**	**-0.1**
WB2	**Warramunga Arr**	**25.92**	**122**	*e*P			**P**	**14 03 13.8**	**-0.1**
ASPA	**Alice Springs**	**27.45**	**130**	*e*P			**P**	**14 03 27.5**	**-0.1**
AS31	**Alice Springs**	**27.45**	**130**	*e*P			**P**	**14 03 27.5**	**-0.1**
ASAR	**Alice Springs**	**27.45**	**130**	P			**P**	**14 03 27.1**	**-0.5**
	2.9nm,0.6s,mb4.0,baz=305,slow=8.3,SNR=62								
STKA	**Stephens Creek**	**37.70**	**135**	P			**P**	**14 04 57.7**	**+0.5**
	1.1nm,0.4s,mb4.0,baz=308,slow=11,SNR=12								
STKA	**Stephens Creek**	**37.70**	**135**	P			**P**	**14 04 57.7**	**+0.5**
SONM	**Songino Array**	**54.58**	**356**	P			**P**	**14 07 11.5**	**+1.4**
	0.4nm,0.5s,mb3.7,baz=169,slow=8.9,SNR=4.3								
MKAR	**Makanchi Array**	**59.26**	**337**	P			**P**	**14 07 44.2**	**+1.0**
	0.9nm,0.7s,mb3.9,baz=144,slow=7.1,SNR=2.8								
MKAR	**Makanchi Array**	**59.26**	**337**	P			**P**	**14 07 44.2**	**+1.0**
CHKZ	**Chkalovo**	**69.30**	**336**	*e*P			**P**	**14 08 49.5**	**+0.4**
BRTR	**Keskin Array B**	**84.89**	**311**	P			**P**	**14 10 16.3**	**-0.3**
	0.5nm,0.6s,mb3.8,baz=120,slow=8.5,SNR=3.1								

JMA 28 14:04:19.3±0.7, 4559N×15169E, h30km, M3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
NEM2	**Nemuro 2**	**4.80**	**245**	P			Pn	14 05 28.5	-1.0
NEM2				*e*S			Sn	14 06 20.5	-3.6
JRA	**Rausu**	**4.96**	**253**	P			Pn	14 05 33.7	+2.0
JNK	**Nakash**	**5.37**	**251**	P			Pn	14 05 38.1	+0.8
JAK	**Akkeshi**	**5.65**	**245**	P			Pn	14 05 40.6	-0.6
JAK				*e*S			Sn	14 06 40.1	-4.9
JTKR	**Abashiri--Toko**	**5.77**	**256**	P			Pn	14 05 45.4	+2.5
JAR	**Ashorobuto**	**6.12**	**251**	P			Pn	14 05 49.0	+1.4
JMP	**Maruseppu**	**6.13**	**258**	P			Pn	14 05 50.6	+2.7
JKK2	**Kamakawa 2**	**6.60**	**258**	P			Pn	14 05 57.3	+3.1
JKB	**Kayabe**	**8.56**	**248**	P			Pn	14 06 20.9	-0.2
JKB				*e*S			Sn	14 07 49.0	-7.6
JANG	**Nango**	**9.10**	**239**	P			Pn	14 06 25.9	-2.6
JANG				*e*S			Sn	14 07 58.5	-11

MAN 28 14:08:07.8, 1030N×12605E, h23km, mb2.3, ML3.9, MS2.5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
MSLP	**Maasin**	**1.18**	**262**	*e*P			Pn	14 08 28.2	-0.7
MSLP				*e*S			Sn	14 08 45.0	+0.7
PLP	**Palo**	**1.36**	**309**	*e*P			Pn	14 08 30.7	-0.6
PLP				*i* S			Sn	14 08 49.4	+0.8
BUTP	**Butuan**	**1.39**	**198**	*e*P			Pn	14 08 32.0	+0.2
BESP	**Borongan**	**1.42**	**335**	*e*P			Pn	14 08 31.7	-0.5
OCLP	**Ormoc**	**1.60**	**298**	*e*P			Pn	14 08 35.3	+0.6
LLP	**Lapu-Lapu**	**2.05**	**271**	*e*P			Pn	14 08 41.0	+0.1
BUKP	**Musuan**	**2.60**	**202**	*e*P			Pn	14 08 48.9	+0.5
BUKP				*e*S			Sn	14 09 24.9	+5.6
PVCP	**Virac**	**3.76**	**331**	*e*P			Pn	14 09 06.0	+1.6

NIED ***28*** *14:14:00, 45.10N×141.70E, h290km, Mw4.3 Best double couple: M0 3.05000×10^15 NP1:φs248.00000°, δ88.00000°, λ-158.00000°. NP2:φs157.00000°, δ68.00000°, λ-2.00000°.*
BJI ***28*** *14:14:32.6, 4523N×141.71E, h277km, mB4.4, mb4.2*
MOS ***28*** *14:14:32.7±1.1, 4508N×14158E, h274km, mb4.2/10, Error ellipse: s-maj=11.2km s-min=8.2km az=85.0*
NEIC ***28*** *14:14:33.5±0.7, 4505N×141 65E, h265km±7km, mb4.2/17, Error ellipse: s-maj=9.8km s-min=6.2km az=146.0*
ISCJB ***28*** *14:14:33.2±0.2, 4505N±004×14170E±004, h279km±2km, mb4.0/28, Error ellipse: s-maj=6.3km s-min=4.6km az=153.6*
JMA ***28*** *14:14:34.0±0.2, 4507N×14171E, h277km±2km, M3.8 Broadband fault plane solution: P waves. NP1: φs216.00000°, δ35.00000°, λ-11.00000°. NP2: φs315.00000°, δ84.00000°, λ-125.00000°. Principal axes: T Plg30.0000°, Azm73.0000°; N Plg34.0000°, Azm320.0000°; P Plg41.0000°, Azm193.0000°;*
IDC ***28*** *14:14:34.3±0.5, 4507N×14160E, h269km±5km, mb3.5/12, mb1 3.7/13, mb1mx3.5/23, mbtmp4.1/13 Error ellipse: s-maj=14.7km s-min=12.1km az=153.0*

ISC 28 14:14:34.0±0.2, 4507N±004×14170E±004, h274km±2km, n95, σ1§01/122, mb4.0/28, 10C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
JWK2	**Keihoku**	**0.28**	**29**	⇓P			**Pn**	**14 15 09.5**	**+0.3**
JWK2				*e*S			**S**	**14 15 36.9**	**-0.1**
JRR	**Rishiri**	**0.29**	**284**	P			**Pn**	**14 15 09.9**	**+0.7**
JRR				*e*S			**S**	**14 15 38.1**	**+1.1**
JSE	**Soyaes**	**0.63**	**100**	⇓P			**Pn**	**14 15 10.3**	**+0.2**
JSE				*e*S			**S**	**14 15 38.3**	**-0.3**
JYG	**Yagishiri**	**0.67**	**197**	⇑P			**Pn**	**14 15 10.4**	**+0.2**
JYG				*e*S			**S**	**14 15 38.6**	**-0.2**
JSS	**Shosan**	**0.68**	**171**	P			**Pn**	**14 15 10.9**	**+0.7**
JSS				*e*S			**S**	**14 15 39.5**	**+0.7**
ASAJ	**Asahikawa**	**1.15**	**146**	P			**Pn**	**14 15 13.1**	**+0.7**
	17nm,0.3s,baz=356,slow=4.9,SNR=217								
ASAJ				S			**S**	**14 15 42.8**	**+0.1**
	8.5nm,0.3s,baz=140,slow=32,SNR=44								
ASAJ	**Asahikawa**	**1.15**	**146**	P			**Pn**	**14 15 12.9**	**+0.5**
ASAJ				*e*S			**S**	**14 15 42.6**	**-0.1**
ASAJ	**Asahikawa**	**1.15**	**146**	PN			**Pn**	**14 15 13.1**	**+0.7**
ASAJ				S			**S**	**14 15 42.8**	**+0.1**
ASAJ				pmax		pmax			
	comp=Z,17nm,0.3s								
ASAJ				smax					
	comp=E,9.0nm,0.3s								
JHR	**Hokuryu**	**1.32**	**179**	⇑P			**Pn**	**14 15 14.2**	**+0.7**
JHR				*e*S			**S**	**14 15 45.1**	**+0.4**
JKK2	**Kamakawa 2**	**1.41**	**148**	⇑P			**Pn**	**14 15 14.6**	**+0.6**
JKK2				*e*S			**S**	**14 15 45.8**	**+0.1**
JMP	**Maruseppu**	**1.59**	**131**	⇓P			**Pn**	**14 15 15.9**	**+0.6**
JMP				*e*S			**S**	**14 15 47.7**	**-0.2**
JAB	**Ashibetsu**	**1.61**	**166**	⇑P			**Pn**	**14 15 15.8**	**+0.4**
JAB				*e*S			**S**	**14 15 48.5**	**+0.3**
JTKR	**Abashiri--Toko**	**1.92**	**124**	⇓P			**Pn**	**14 15 18.7**	**+0.9**
JTKR				*e*S			**S**	**14 15 53.3**	**+0.7**
JSK	**Shakotan**	**1.93**	**208**	⇑P			**Pn**	**14 15 18.0**	**+0.1**
JFR	**Furan**	**2.01**	**161**	⇑P			**Pn**	**14 15 18.6**	**0.0**
JFR				*e*S			**S**	**14 15 54.4**	**+0.5**
YSS	**Yuzh-Sakhalins**	**2.02**	**21**	⇓*i* PN			**Pn**	**14 15 19.3**	**+0.6**
YSS				*i* S			**S**	**14 15 53.2**	**-1.0**
YSS				pmax		pmax			
	comp=Z,270nm,0.3s								
YSS				smax					
	comp=N,490nm,0.8s								
YSS				smax					
	comp=E,440nm,0.8s								
YSS	**Yuzh-Sakhalins**	**2.02**	**21**	*e*Pn			**Pn**	**14 15 19.2**	**+0.4**
YSS				*e*S			**S**	**14 15 48.3**	**-5.9**
JEW	**Eniwo**	**2.23**	**185**	⇑P			**Pn**	**14 15 21.1**	**+0.5**
JEW				*e*S			**S**	**14 15 57.4**	**-0.1**
JAR	**Ashorobuto**	**2.31**	**139**	P			**Pn**	**14 15 22.2**	**+0.9**
JAR				*e*S			**S**	**14 15 58.8**	**+0.1**
JRA	**Rausu**	**2.69**	**114**	⇓P			**Pn**	**14 15 26.2**	**+1.3**
JCH	**Churui**	**2.73**	**153**	⇑P			**Pn**	**14 15 23.9**	**-1.4**
JCH				*e*S			**S**	**14 16 01.9**	**-4.1**
JNBK	**Urakawa-nobuka**	**2.89**	**164**	P			**Pn**	**14 15 26.4**	**-0.5**
JAK	**Akkeshi**	**2.99**	**133**	⇑P			**Pn**	**14 15 26.8**	**-1.1**
JAK				*e*S			**S**	**14 16 08.4**	**-2.4**
YUK	**Yuzh-Kuril'sk**	**3.15**	**108**	PN			**Pn**	**14 15 31.0**	**+1.5**
YUK				pmax		pmax			
	comp=Z,140nm,0.4s								
JKB	**Kayabe**	**3.21**	**189**	⇑P			**Pn**	**14 15 29.3**	**-1.0**
JKB				*e*S			**S**	**14 16 12.1**	**-2.9**
NEM2	**Nemuro 2**	**3.37**	**119**	P			**Pn**	**14 15 30.7**	**-1.2**
NEM2				*e*S			**S**	**14 16 14.6**	**-3.3**
KUR	**Kuril'sk**	**4.36**	**86**	*e*PN			**Pn**	**14 15 41.5**	**-1.6**
KUR				*e*S			**S**	**14 16 37.5**	**-0.8**
KUR				pmax		pmax			
	comp=Z,260nm,1.0s								
KUR				smax					
	comp=N,310nm,1.2s								
KUR				smax					
	comp=E,160nm,1.2s								
KLR	**Kul'dur**	**7.96**	**305**	*e*PN			**Pn**	**14 16 23.8**	**-3.1**
MDJ	**Mudanjiang**	**8.62**	**271**	P			**Pn**	**14 16 35.0**	**-0.1**
MDJ				S			**S**	**14 18 12.8**	**-0.4**
MDJ				SCP		ScP		14 25 40.0	+0.2
MDJ				PCS		PcS		14 26 07.5	0.0
MDJ				SCS		ScS		14 29 14.3	+0.4
MDJ				AMB		AMB			
	comp=Z,20nm,0.9s								
MDJ				AMB		AMB			
	comp=Z,73nm,14.2s								
MDJ	**Mudanjiang**	**8.62**	**271**	*e*Pn			**Pn**	**14 16 35.1**	**0.0**
	comp=Z,18nm,1.0s								
MAT	**Matsushiro**	**8.92**	**198**	P			**Pn**	**14 16 37.1**	**-1.7**
MAT	**Matsushiro**	**8.92**	**198**	*e*PN			**Pn**	**14 16 37.0**	**-1.8**
MAT				pmax		pmax			
	comp=Z,11nm,0.7s								
MAT	**Matsushiro**	**8.92**	**198**	*e*P			**Pn**	**14 16 37.0**	**-1.8**
	comp=Z,11nm,0.7s								
MJAR	**Matsushiro Arr**	**8.92**	**198**	P			**Pn**	**14 16 37.1**	**-1.7**
	comp=Z,2.1nm,0.3s,baz=9.7,slow=13,SNR=22								
SKR	**Severo-Kuril's**	**11.19**	**55**	*e*PN			**Pn**	**14 17 06.9**	**-0.1**
SKR				*e*				14 19 06.8	
CN2	**Changchun**	**11.69**	**270**	*e*P			**Pn**	**14 17 12.8**	**-0.5**
CN2				*e*S			**S**	**14 19 18.3**	**-5.4**
CN2				AMB		AMB			
	comp=Z,10.0nm,0.7s								
CN2				AMB		AMB			
	comp=Z,200nm,3.0s								
PET	**Petropavlovsk**	**13.65**	**48**	*e*P			**Pn**	**14 17 35.1**	**-2.0**
PET				pmax		pmax			
	comp=Z,19nm,1.1s								

PET	**Petropavlovsk**	**13.65**	**48**	*e*P			**Pn**	**14 17 35.1**	**-2.0**
	comp=Z,19nm,1.1s								
HIA	**Hailar**	**15.50**	**294**	*e*P			**Pn**	**14 17 57.8**	**-1.4**
HIA				pmax		pmax			
	comp=Z,38nm,1.1s								
HIA	**Hailar**	**15.50**	**294**	*e*P			**Pn**	**14 17 57.8**	**-1.4**
	comp=Z,38nm,1.1s								
MA2	**Magadan**	**15.53**	**17**	*e*P			**Pn**	**14 18 00.1**	**+0.6**
MA2				pmax		pmax			
	comp=N,7.0nm,0.4s								
MA2				pmax		pmax			
	comp=Z,10.0nm,0.4s								
MA2	**Magadan**	**15.53**	**17**	*e*P			**Pn**	**14 17 59.0**	**-0.5**
	comp=Z,15nm,0.6s								
YAK	**Yakutsk**	**18.38**	**342**	*e*P			**P**	**14 18 27.9**	**-1.3**
YAK				pmax		pmax			
	comp=Z,16nm,0.3s								
YAK	**Yakutsk**	**18.38**	**342**	*e*P			**P**	**14 18 27.9**	**-1.3**
	comp=Z,16nm,0.3s								
BJI	**Beijing**	**19.43**	**264**	*e*P			**P**	**14 18 40.3**	**-0.1**
BJI				AMB		AMB			
	comp=Z,12nm,0.6s								
BJT	**Baijiatuao**	**19.44**	**264**	*e*P			**P**	**14 18 37.8**	**-2.7**
HHC	**Hu-ho-hao-te**	**22.39**	**270**	*e*P			**P**	**14 19 10.0**	**+0.5**
HHC				XP		sP		14 20 31.8	+1.5
HHC				S		**S**		**14 22 52.0**	**-2.8**
HHC				PCP		PcP		14 22 53.8	-0.7
HHC				PCS		PcS		14 26 34.5	+1.1
HHC				SCS		ScS		14 29 46.5	-4.5
HHC				AMB		AMB			
	comp=Z,33nm,1.1s,mb4.6								
HHC				AMB		AMB			
	comp=Z,117nm,4.9s								
ULN	**Ulaanbaatar**	**23.91**	**289**	*e*P			**P**	**14 19 23.3**	**0.0**
ULN				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb3.8								
ULN	**Ulaanbaatar**	**23.91**	**289**	*e*P			**P**	**14 19 23.3**	**0.0**
	comp=Z,4.1nm,0.8s,mb3.8								
SONM	**Songino Array**	**24.36**	**289**	P			**P**	**14 19 28.0**	**+0.7**
	comp=Z,6.7nm,0.5s,mb4.2,baz=82,slow=8.9,SNR=80								
ZAK	**Zakamensk**	**26.18**	**296**	*e*P			**P**	**14 19 43.7**	**0.0**
ZAK				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb3.6								
LZH	**Lanzhou**	**29.89**	**266**	*e*P			**P**	**14 20 18.0**	**+1.4**
LZH				AMB		AMB			
	comp=Z,25nm,1.0s,mb4.7								
LZH				AMB		AMB			
	comp=Z,123nm,4.8s								
GTA	**Gaotai**	**31.26**	**275**	*e*P			**P**	**14 20 30.0**	**+1.5**
GTA				AMB		AMB			
	comp=Z,5.0nm,0.7s,mb4.2								
ZAL	**Zalesovo**	**37.08**	**305**	P			**P**	**14 21 18.3**	**0.0**
	comp=Z,0.8nm,0.5s,mb3.4,baz=99,slow=3.8,SNR=3.7								
KMI	**Kunming**	**37.12**	**251**	P			**P**	**14 21 19.0**	**+0.4**
KMI				AP		pP		14 22 17.0	+3.4
KMI				PP		PP		14 22 53.0	+3.3
KMI				AMB		AMB			
	comp=Z,7.0nm,0.8s,mb4.1								
WMQ	**Urumqi**	**37.98**	**288**	P			**P**	**14 21 26.5**	**+0.7**
IMA2	**Indian Mountai**	**39.81**	**35**	*e*P			**P**	**14 21 40.2**	**-0.8**
MKAR	**Makanchi Array**	**40.50**	**294**	P			**P**	**14 21 46.8**	**+0.3**
	comp=Z,5.3nm,0.7s,mb3.9,baz=80,slow=9.0,SNR=29								
KDAK	**Kodiak Island**	**41.24**	**48**	P			**P**	**14 21 53.4**	**+0.8**
	comp=Z,4.3nm,0.4s,mb4.0,baz=280,slow=7.4,SNR=8.2								
PMR	**Palmer**	**42.25**	**42**	*e*P			**P**	**14 22 00.5**	**-0.2**
PMR				pmax		pmax			
	comp=Z,8.0nm,0.5s,mb4.2								
PMR	**Palmer**	**42.25**	**42**	*e*P			**P**	**14 22 00.5**	**-0.2**
	comp=Z,7.6nm,0.5s,mb4.2								
COLA	**College**	**42.33**	**37**	*e*P			**P**	**14 22 01.3**	**0.0**
COLA				pmax		pmax			
	comp=Z,6.0nm,0.6s,mb4.0								
COLA	**College**	**42.33**	**37**	*e*P			**P**	**14 22 01.3**	**-0.1**
	comp=Z,6.5nm,0.6s,mb4.0								
SML	**Sawmill**	**42.59**	**41**	*e*P			**P**	**14 22 03.3**	**-0.1**
DAWY	**Dawson**	**46.08**	**37**	*e*P			**P**	**14 22 30.5**	**-0.4**
ZRNK	**Zerenda**	**46.43**	**307**	*e*P			**P**	**14 22 33.0**	**-0.6**
ZRNK				pmax		pmax			
	comp=Z,1.0nm,0.6s,mb3.3								
ZRNK	**Zerenda**	**46.43**	**307**	*e*P			**P**	**14 22 33.0**	**-0.6**
	comp=Z,1.1nm,0.6s,mb3.4								
JIRN	**Jiri**	**47.02**	**268**	*e*P			**P**	**14 22 39.6**	**+1.4**
GUN	**Gumba**

ROSC	**El Rosal**	**2.32**	**215**	P		**Pn**	**14 28 42.9**	**+1.3**
	76nm,0.3s,baz=98,slow=0.2,SNR=129								
ROSC				S		**Sn**	**14 29 11.8**	**-0.6**
	41nm,0.3s,baz=102,slow=15,SNR=8.1								
SDV	**Santo Domingo**	**3.14**	**48**	P		**Pn**	**14 28 52.3**	**+0.7**
	64nm,0.3s,baz=239,slow=3.0,SNR=42								
SDV				S		**Sn**	**14 29 29.2**	**-1.0**
	143nm,0.3s,baz=69,slow=19,SNR=47								
SDV	**Santo Domingo**	**3.14**	**48**	*e*Pn		**Pn**	**14 28 52.2**	**+0.6**
SDV				*e*S		**Sn**	**14 29 28.7**	**-1.4**
OTAV	**Otavalo**	**8.47**	**220**	Pn		**Pn**	**14 30 02.8**	**+1.4**
OTAV				*e*Sn		**Sn**	**14 31 34.3**	**-1.6**
PCRV	**Puerto La Cruz**	**8.93**	**67**	P		**Pn**	**14 30 07.5**	**+0.1**
	2.0nm,0.3s,baz=254,slow=7.9,SNR=3.8								
PCRV				S		**Sn**	**14 31 47.4**	**+0.7**
	1.1nm,0.3s,baz=207,slow=19,SNR=2.6								
SJG	**San Juan**	**13.10**	**30**	Pn		**Pn**	**14 31 08.5**	**+6.8**
SAML	**Samuel**	**18.42**	**148**	*e*P		**P**	**14 32 03.6**	**-0.9**
	5.5nm,0.9s								
SAML				*e*pP			14 32 31.0		
TEIG	**Tepich**	**19.98**	**314**	*e*P		**P**	**14 32 22.0**	**+0.6**
	6.5nm,0.6s								
LPAZ	**La Paz**	**23.40**	**168**	P		**P**	**14 32 57.9**	**+2.1**
	1.0nm,0.9s,mb3.2,baz=318,slow=14,SNR=3.1								
LPAZ				pP			14 33 28.6		
	2.2nm,0.7s,baz=1.6,slow=12,SNR=6.6								
LPAZ	**La Paz**	**23.40**	**168**	*e*P		**P**	**14 32 49.5**	**-6.3**
	2.5nm,0.7s,mb3.8								
LPAZ				pP			14 33 28.6		
LPAZ				*e*pP			14 33 29.0		
WVT	**Waverly**	**32.23**	**337**	*e*P		**P**	**14 34 15.1**	**+0.6**
	3.1nm,0.5s,mb4.3								
BDFB	**Brasilia**	**33.28**	**132**	P		**P**	**14 34 16.4**	**-7.2**
	5.5nm,0.9s,mb4.3								
CCM	**Cathedral Cave**	**35.28**	**335**	*e*P		**P**	**14 34 39.1**	**-1.6**
	12nm,0.8s,mb4.6								
PV01	**Paradox Valley**	**44.86**	**319**	*e*P		**P**	**14 36 00.7**	**+1.1**
ULM	**Lac du Bonnet**	**47.38**	**340**	P		**P**	**14 36 18.5**	**-0.8**
	3.4nm,0.4s,mb4.3,baz=150,slow=5.7,SNR=8.5								
SCHQ	**Schefferville**	**48.18**	**5**	P		**P**	**14 36 25.3**	**-0.1**
	1.5nm,0.4s,mb3.9,baz=224,slow=7.3,SNR=5.4								
SCHQ	**Schefferville**	**48.18**	**5**	P		**P**	**14 36 24.6**	**-0.8**
	2.6nm,0.6s,mb4.0								
PDAR	**Pinedale Array**	**48.20**	**324**	P		**P**	**14 36 25.1**	**-0.5**
	1.0nm,0.5s,mb3.7,baz=123,slow=9.2,SNR=10								
REDW	**Red Top Meadow**	**49.32**	**324**	*e*P		**P**	**14 36 34.0**	**-0.1**
	4.3nm,0.6s,mb4.3								
MCMT	**McKenzie Canyo**	**51.34**	**324**	*e*P		**P**	**14 36 50.5**	**+1.2**
HLID	**Hailey**	**51.56**	**322**	*e*P		**P**	**14 36 51.4**	**+0.5**
	1.4nm,0.9s,mb3.6								
NVAR	**Mina Array Bea**	**51.62**	**315**	P		**P**	**14 36 52.2**	**+0.9**
	0.8nm,0.6s,mb3.5,baz=122,slow=8.1,SNR=8.2								
YKA	**Yellowknife Ar**	**63.36**	**340**	P		**P**	**14 38 11.7**	**-1.7**
	2.8nm,0.6s,mb4.3,baz=131,slow=6.6,SNR=11								
YKA	**Yellowknife Ar**	**63.36**	**340**	P		**P**	**14 38 11.7**	**-1.7**
DBIC	**Dimbokro**	**67.61**	**86**	P		**P**	**14 38 40.8**	**+0.2**
	1.2nm,0.6s,mb3.8,baz=74,slow=18,SNR=3.2								
INK	**Inuvik**	**73.13**	**340**	*e*P		**P**	**14 39 13.7**	**-0.5**
	1.1nm,0.6s,mb3.8								
NOA	**NORSAR Array B**	**81.31**	**29**	P		**P**	**14 40 00.3**	**+0.6**
	0.4nm,0.6s,mb3.2,baz=266,slow=5.4,SNR=3.4								
ARCES	**ARCESS Array B**	**86.68**	**20**	P		**P**	**14 40 25.9**	**-1.0**
	1.4nm,0.9s,mb3.8,baz=278,slow=3.6,SNR=5.0								
AS31	**Alice Springs**	**149.19**	**234**	*e*P		PKPbc	14 47 31.0	+0.3
ASAR	**Alice Springs**	**149.19**	**234**	PKP		PKPdf	14 47 27.1	+0.8
	1.8nm,0.7s,baz=125,slow=2.7,SNR=14								
ASAR				PKPbc		PKPbc	14 47 30.9	+0.2
	1.8nm,0.7s,baz=118,slow=3.4,SNR=7.3								
ASPA	**Alice Springs**	**149.19**	**234**	*e*P		PKPbc	14 47 31.0	+0.3
WB2	**Warramunga Arr**	**150.42**	**241**	*e*P		PKPbc	14 47 34.1	+0.4
WRA	**Warramunga Arr**	**150.43**	**241**	PKP		PKPdf	14 47 27.9	-0.4
	1.1nm,1.2s,baz=108,slow=2.7,SNR=5.0								
WRA				PKPbc		PKPbc	14 47 33.8	+0.1
	1.6nm,0.4s,baz=104,slow=3.2,SNR=88								
WRA				pPKP		pPKPdf	14 48 11.2	-0.7
	0.4nm,0.8s,baz=108,slow=2.7,SNR=1.6								
WRA				pPKPbc		pPKPbc	14 48 17.9	+1.0
	0.4nm,0.4s,baz=106,slow=2.8,SNR=2.0								

*NEIC **28** 14:47:59.9, 3693N×2792E, h31km, MD3.1(ATH), After ATH.*
*ISK **28** 14:47:59.8, 3690N×2788E, h25km, MD3.1*
*ATH **28** 14:47:59.9, 3693N×2792E, h31km±1km, MD3.1/3*
*CSEM **28** 14:48:00.8±0.1, 3694N×2794E, h25km, MD3.1, Error ellipse: s-maj=2.2km s-min=2.0km az=110.0*
*ISCJB **28** 14:48:01.0±0.4, 3692N±003×2789E±004, h24km±5km, Error ellipse: s-maj=5.5km s-min=4.3km az=39.5*

ISC 28 14:48:00.9±0.5, 3692N±003×2789E±004, h18km±4km, n19, σ0°75/29, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DAT	**Datca**	**0.32**	**233**	*i* PG		**Pg**	**14 48 07.2**	**-0.5**
DAT				*i* SG		**Sg**	**14 48 12.3**	**-0.1**
YER	**Yerkesik**	**0.38**	**55**	*i* PG		**Pg**	**14 48 08.6**	**-0.2**
YER				*i* SG		**Sg**	**14 48 15.5**	**+1.4**
MLSB	**Milas**	**0.39**	**346**	*i* PG		**Pg**	**14 48 09.3**	**+0.4**
BODT	**Bodrum**	**0.49**	**287**	*i* PG		**Pg**	**14 48 10.7**	**-0.1**
DALT	**Dalyan (Mudla)**	**0.61**	**104**	PG		**Pg**	**14 48 13.1**	**0.0**
NISR	**Nisiros**	**0.69**	**244**	*e*PN		**Pb**	**14 48 14.1**	**-0.3**
NISR				*e*SN		**Sb**	**14 48 25.0**	**+1.5**
ARG	**Arkhangelos**	**0.73**	**165**	*e*PN		**Pb**	**14 48 14.4**	**-0.6**
ARG				*e*SN		**Sb**	**14 48 25.6**	**+0.9**
AYDN	**Tasoluk**	**0.74**	**359**	*i* P		**Pb**	**14 48 15.5**	**+0.3**
AYDN				*i* S		**Sb**	**14 48 25.1**	**+0.1**
AYDN	**Tasoluk**	**0.74**	**359**	*i* P		**Pb**	**14 48 15.5**	**+0.3**
AYDN				*i* S		**Sb**	**14 48 25.0**	**0.0**
FETY	**Fethiye**	**1.00**	**106**	PG		**Pg**	**14 48 19.0**	**-1.3**
SMG	**Samos**	**1.15**	**313**	*e*PN		**Pn**	**14 48 22.2**	**+0.1**
SMG				*e*SN		**Sn**	**14 48 37.4**	**0.0**
DNZL	**Cakiroluk**	**1.20**	**50**	*i* P		**Pn**	**14 48 23.9**	**+1.1**
DNZL				*i* S		**Sb**	**14 48 42.8**	**+4.7**
DENT	**Denizli**	**1.23**	**47**	*e*PN		**Pn**	**14 48 22.8**	**-0.4**
KARP	**Karpathos**	**1.49**	**204**	*e*PN		**Pn**	**14 48 26.9**	**+0.1**
KARP				*e*SN		**Sn**	**14 48 46.1**	**+0.3**
IZM	**Izmir**	**1.56**	**341**	*e*PN		**Pn**	**14 48 26.2**	**-1.5**
BLCB	**Balcova**	**1.61**	**335**	PN		**Pn**	**14 48 26.8**	**-1.6**
ELL	**Elmali**	**1.62**	**95**	*e*PN		**Pn**	**14 48 28.1**	**-0.5**
AKHS	**Akhisar**	**1.96**	**358**	*i* P		**Pn**	**14 48 33.2**	**+0.1**
AKHS				*i* S		**Sb**	**14 49 00.9**	**+0.8**
AKS	**Akhisar**	**1.96**	**358**	*e*PN		**Pn**	**14 48 33.1**	**-0.1**

MAN 28 15:12:38.4, 1318N×12437E, h1km, mb2.1, ML3.8, MS3.7, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PVCP	**Virac**	**0.47**	**333**	*e*P		Pg	15 12 47.6	+0.3
PVCP				*e*S		Sg	15 12 54.8	+1.4
PVCP	**Virac**	**0.47**	**333**	⇑*i*P		Pg	15 12 48.2	+0.8
PVCP				*i* S		Sg	15 12 56.6	+3.2
AUQP	**San Andres**	**1.66**	**275**	*e*P		Pn	15 13 06.8	-1.7
PLP	**Palo**	**2.09**	**163**	*e*P		Pn	15 13 14.4	-0.1
PLP				*i* S		Sn	15 13 42.3	+1.2
OCLP	**Ormoc**	**2.13**	**174**	*e*P		Pn	15 13 16.1	+1.0
RCP	**Roxas**	**2.26**	**225**	⇑*e*P		Pn	15 13 17.9	+1.1
BOAC	**Boac**	**2.47**	**277**	*e*P		Pn	15 13 14.5	-5.3
POLP	**Polilio Island**	**2.82**	**303**	*e*P		Pn	15 13 26.6	+2.0

MEX 28 15:37:14.1±0.3, 1951N×9906W, h5km±999km, MD3.5, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PBVM	**Pinon**	**0.07**	**199**	*i* P		Pg	15 37 15.3	-0.3
PBVM				*i* S		Sg	15 37 16.4	-0.3
UNM	**Universidad Na**	**0.21**	**212**	*i* P		Pg	15 37 18.0	-0.1
UNM				*i* P			15 37 18.1	
UNM				*i* P			15 37 18.7	
UNM				*i* S		Sg	15 37 20.4	-0.5
UNM				*i* S		Sg	15 37 20.9	0.0
UNM				*i* S		Sg	15 37 21.4	+0.5

*ISCJB **28** 15:43:52.4±0.2, 5146N±001×1603E±002, h0km, mb4.3/16, MS4.3/2, Error ellipse: s-maj=1.9km s-min=1.5km az=167.8*
*MOS **28** 15:43:53.2±1.3, 5162N×1590E, h10km, mb4.4/4, Error ellipse: s-maj=5.8km s-min=3.5km az=68.3*
*BJI **28** 15:43:53.2, 5160N×1600E, h5km, mB4.8, mb4.7, Ms4.6, Msz4.1*
*IPEC **28** 15:43:53.7±0.2, 5158N×1617E, h0km, ML3.5/4, Error ellipse: s-maj=1.3km s-min=1.3km az=8.0*
*IDC **28** 15:43:55.0±0.5, 5149N×1591E, h0km, mb3.9/5, mb1 3.9/13, mb1mx3.8/26, mbtmp3.9/13, ML3.8/8, Error ellipse: s-maj=9.8km s-min=5.7km az=110.0*
*CSEM **28** 15:43:54.7±0.1, 5154N×1614E, h1km, mb4.2/5, ML4.2/28, Error ellipse: s-maj=1.7km s-min=1.2km az=16.0*
*NEIC **28** 15:43:54.3±0.2, 5158N×1603E, h5km, mb4.2/5, ML4.0(SZGRF), ML4.2(STR), Error ellipse: s-maj=3.4km s-min=3.2km az=170.0*
*LDG **28** 15:43:55.0±0.2, 5140N×1622E, h1km, Ml4.2/19, Error ellipse: s-maj=5.1km s-min=2.4km az=1.0, Suspected Mining induced.*
*PRU **28** 15:43:55.8, 5147N×1607E, h0km, Felt In Harrachov*
*BGR **28** 15:43:55.6±0.5, 5148N×1610E, h1km, ML4.0, Error ellipse: s-maj=7.8km s-min=6.7km az=132.0*
*WAR **28** 15:43:56.3, 5149N×1606E, ML3.5, Mining Induced*
*VIE **28** 15:43:57.9±0.5, 5125N×1601E, h0km, mb3.3/6, ML3.4/9, Error ellipse: s-maj=2.9km s-min=2.2km az=6.0 72 km WNW of Breslau Suspected Mining induced.*
*STR **28** 15:44:02.5±1.0, 5084N×1549E, h5km±1km, Ml4.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 28 15:43:53.9±0.2, 5152N±001×1605E±002, h0km, n193, σ1s25/325, mb4.3/16, MS4.3/2, 11C-14D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.70**	**167**	*i* Pg		**Pg**	**15 44 08.4**	**+1.1**
KSP				*i* Sg		**Sg**	**15 44 17.6**	**+1.3**
KSP				*e*L			15 44 20.5	
KSP	**Ksiaz**	**0.70**	**167**	⇓*i*Pg		**Pg**	**15 44 08.4**	**+1.1**
KSP				*i* Sg		**Sg**	**15 44 17.6**	**+1.3**
KSP				*e*			15 44 20.8	
KSP	**Ksiaz**	**0.70**	**167**	*e*Pg		**Pg**	**15 44 08.3**	**+1.0**
KSP				*e*Sg		**Sg**	**15 44 17.3**	**+1.0**
KSP				*e*S		**Sg**	**15 44 20.8**	**+4.5**
UPC	**Upice**	**1.02**	**181**	*e*PG		**Pg**	**15 44 14.2**	**+0.8**
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*PG		**Pg**	**15 44 17.1**	**+0.4**
DPC				*e*SG		**Sg**	**15 44 31.6**	**-0.5**
	674nm,0.8s							
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*Pg		**Pg**	**15 44 17.1**	**+0.4**
DPC				*e*Sg		**Sg**	**15 44 32.0**	**-0.1**
PVCC	**Panska Ves**	**1.37**	**224**	*e*SG		**Sg**	**15 44 39.1**	**+1.2**
	2µm,0.5s							
PVCC	**Panska Ves**	**1.37**	**224**	*e*Pn		**Pn**	**15 44 20.8**	**+0.6**
PVCC				*e*Sg		**Sg**	**15 44 40.1**	**+2.2**
BRG	**Berggiesshubel**	**1.48**	**245**	*e*Pn		**Pn**	**15 44 22.0**	**+0.2**
BRG				*e*Sg		**Sg**	**15 44 43.4**	**+2.0**
BRG	**Berggiesshubel**	**1.48**	**245**	PN		**Pn**	**15 44 21.9**	**+0.2**
BRG				PG		**Pg**	**15 44 22.9**	**+0.6**
BRG				SG		**Sg**	**15 44 43.3**	**+1.9**
	334nm,0.7s							
RUE	**Ruedersdorf**	**1.70**	**305**	*e*Pn		**Pn**	**15 44 25.2**	**+0.4**
RUE				*e*Sg		**Sg**	**15 44 51.5**	**+3.0**
RUE	**Ruedersdorf**	**1.70**	**305**	*e*Pn		**Pn**	**15 44 25.2**	**+0.4**
RUE				*e*Sg		**Sg**	**15 44 51.5**	**+3.0**
PRA	**Prague**	**1.78**	**216**	PG		**Pg**	**15 44 26.0**	**-2.0**
PRA				SG		**Sg**	**15 44 50.0**	**-1.1**
FBE	**Freiberg**	**1.80**	**251**	*e*Pn		**Pn**	**15 44 26.6**	**+0.4**
FBE				*e*Sg		**Sg**	**15 44 52.7**	**+0.9**
PRU	**Pruhonice**	**1.81**	**213**	*e*PN		**Pn**	**15 44 26.5**	**+0.2**
PRU				*e*PG		**Pg**	**15 44 28.0**	**-0.6**
PRU				*e*SG		**Sg**	**15 44 50.0**	**-2.1**
	239nm,0.5s							
GKP	**Gorka Klasztor**	**1.89**	**22**	*e*Pn		**Pn**	**15 44 29.7**	**+2.3**
GKP				*e*Pg		**Pg**	**15 44 33.0**	**+2.8**
GKP				*e*PP			15 44 37.3	
GKP				*e*Sn		**Sn**	**15 44 56.9**	**+4.9**
GKP				*e*Sg		**Sg**	**15 44 59.5**	**+4.8**
GKP	**Gorka Klasztor**	**1.89**	**22**	*e*P		**Pn**	**15 44 29.7**	**+2.3**
GKP				*e*			15 44 56.9	
GKP	**Gorka Klasztor**	**1.89**	**22**	*e*Pg		**Pg**	**15 44 33.0**	**+2.8**
GKP				*e*S		**Sn**	**15 44 56.9**	**+4.9**
GKP				*e*Sg		**Sg**	**15 44 59.5**	**+4.8**
CLL	**Collm**	**1.92**	**265**	*e*Pn		**Pn**	**15 44 28.1**	**+0.3**
CLL				*i* Pg		**Pg**	**15 44 31.4**	**+0.7**
CLL				*e*Sg		**Sg**	**15 44 56.6**	**+1.0**
CLL	**Collm**	**1.92**	**265**	*i* Pn		**Pn**	**15 44 28.1**	**+0.3**
CLL				*i* Pg		**Pg**	**15 44 31.4**	**+0.7**
CLL				*i* x		x	15 44 35.4	
CLL				*i* Sg		**Sg**	**15 44 57.0**	**+1.4**
	comp=Z,363nm,1.0s							
CLL				*i* x		x	15 45 04.3	
CLL	**Collm**	**1.92**	**265**	*i* Pn		**Pn**	**15 44 28.1**	**+0.3**
CLL				*i* Pg		**Pg**	**15 44 31.4**	**+0.7**
CLL				*i* Sg		**Sg**	**15 44 57.0**	**+1.4**
CLL	**Collm**	**1.92**	**265**	*i* Pg		**Pg**	**15 44 31.4**	**+0.7**
CLL				*e*Sg		**Sg**	**15 44 56.6**	**+1.0**
RAC	**Raciborz**	**1.98**	**136**	*e*Pg		**Pg**	**15 44 31.8**	**-0.1**
RAC				*e*Sg		**Sg**	**15 44 57.4**	**-0.2**
MORC	**Moravsky Berou**	**1.99**	**151**	⇑*i*P		**Pn**	**15 44 29.2**	**+0.4**
MORC	**Moravsky Berou**	**1.99**	**151**	*e*Pn		**Pn**	**15 44 28.6**	**-0.1**
MORC				*e*Sn		**Sn**	**15 44 52.3**	**-2.1**
MORC	**Moravsky Berou**	**1.99**	**151**	*e*Pn		**Pn**	**15 44 28.6**	**-0.2**
MORC				*e*Sn		**Sn**	**15 44 52.3**	**-2.1**
MORC				*e*Sg		**Sg**	**15 44 56.3**	**-1.5**
	comp=Z,209nm,0.4s							
OKC	**Ostrava-Krasne**	**2.15**	**141**	*e*PN		**Pn**	**15 44 30.9**	**-0.1**
OKC				*e*PG		**Pg**	**15 44 34.9**	**-0.2**
OKC				*e*SG		**Sg**	**15 45 01.4**	**-1.6**
	comp=Z,267nm,0.6s							
VRAC	**Vranov**	**2.25**	**171**	Pn		**Pn**	**15 44 32.7**	**+0.4**
	comp=Z,12nm,0.3s,baz=330,slow=13,SNR=38							
VRAC				Lg			15 45 04.5	
	comp=Z,36nm,0.3s,baz=68,slow=22,SNR=15							
VRAC	**Vranov**	**2.25**	**171**	⇓*i*P		**Pn**	**15 44 33.1**	**+0.8**
VRAC	**Vranov**	**2.25**	**171**	Pn		**Pn**	**15 44 32.7**	**+0.4**
VRAC				*e*Sg		**Sg**	**15 45 05.5**	**-0.5**
	comp=Z,236nm,0.4s							
TREC	**Trest**	**2.26**	**189**	*e*PG		**Pg**	**15 44 37.0**	**-0.2**
TREC	**Trest**	**2.26**	**189**	*e*Sg		**Sg**	**15 45 06.0**	**-0.5**
KRUC	**Moravsky**	**2.48**	**175**	*e*Sg		**Sg**	**15 45 13.1**	**-0.3**
	comp=Z,176nm,0.5s							
TANN	**Tannenbergstha**	**2.53**	**245**	*e*Pn		**Pn**	**15 44 37.2**	**+1.1**
TANN				*e*Sg		**Sg**	**15 45 15.6**	**+0.5**
WERD	**Werda**	**2.60**	**247**	*e*Pn		**Pn**	**15 44 38.0**	**+0.8**
WERD				*e*Sg		**Sg**	**15 45 16.8**	**-0.6**
NKC	**Novy Kostel**	**2.62**	**242**	*e*PN		**Pn**	**15 44 38.5**	**+1.0**
NKC				*e*PG		**Pg**	**15 44 44.7**	**+0.5**
NKC				*e*SG		**Sg**	**15 45 19.3**	**+1.1**
	comp=Z,437nm,0.3s							
WERN	**Wernitzgruen**	**2.64**	**243**	*e*Pn		**Pn**	**15 44 38.7**	**+1.0**
WERN				*e*Sg		**Sg**	**15 45 19.7**	**+1.1**
OJC	**Ojcow**	**2.71**	**117**	*e*Pn		**Pn**	**15 44 37.5**	**-1.2**
OJC				*e*Pg		**Pg**	**15 44 46.1**	**+0.3**
OJC				*e*Sn		**Sn**	**15 45 08.7**	**-3.4**
OJC				*e*Sg		**Sg**	**15 45 21.3**	**+0.4**
OJC	**Ojcow**	**2.71**	**117**	*e*P		**Pn**	**15 44 37.5**	**-1.2**
OJC				*e*			15 45 08.7	
JAVC	**Velka Javorina**	**2.86**	**158**	*e*Sg		**Sg**	**15 45 26.6**	**+0.7**
	comp=Z,220nm,0.8s							
KHC	**Kasperske Hory**	**2.87**	**214**	*e*PN		**Pn**	**15 44 41.4**	**+0.5**
KHC				*e*PG		**Pg**	**15 44 47.6**	**-1.4**
KHC				*e*SN		**Sn**	**15 45 15.8**	**-0.4**
KHC				*e*SG		**Sg**	**15 45 25.2**	**-1.0**
	comp=Z,122nm,0.6s							
KHC	**Kasperske Hory**	**2.87**	**214**	*e*P		**Pn**	**15 44 41.4**	**+0.5**
KHC				*e*			15 45 15.8	
KHC	**Kasperske Hory**	**2.87**	**214**	*e*Pg		**Pg**	**15 44 47.6**	**-1.4**
KHC				*e*S		**Sn**	**15 45 15.8**	**-0.4**
KHC				*e*Sn		**Sn**	**15 45 15.8**	**-0.4**
KHC				*e*Sg		**Sg**	**15 45 25.2**	**-1.0**
	comp=Z,122nm,0.6s							
MGBB	**Grossbuechelbe**	**2.89**	**239**	⇓*i*Pn		**Pn**	**15 44 42.1**	**+0.9**
MOX	**Moxa**	**2.93**	**254**	*e*Pn		**Pn**	**15 44 42.5**	**+0.7**
MOX				*e*Pg		**Pg**	**15 44 50.5**	**+0.4**
MOX				*e*Sg		**Sg**	**15 45 30.3**	**+2.2**
MANZ	**Manzenberg**	**2.94**	**240**	*e*Pn		**Pn**	**15 44 43.2**	**+1.4**
MANZ				*e*Sg		**Sg**	**15 45 31.6**	**+3.2**
ROTZ	**Rotzenmuhle**	**3.01**	**236**	*e*Pn		**Pn**	**15 44 43.9**	**+1.0**
ROTZ				*e*Sg		**Sg**	**15 45 31.4**	**+0.6**
GEC2	**GERESS Array S**	**3.08**	**210**	*e*Pn		**Pn**	**15 44 44.4**	**+0.7**
GEC2				*e*Sg		**Sg**	**15 45 30.3**	**-2.5**
GEC2	**GERESS Array S**	**3.08**	**210**	*e*Pn		**Pn**	**15 44 44.4**	**+0.7**
GEC2				*e*Sg		**Sg**	**15 45 30.3**	**-2.5**
GERES	**GERESS Array B**	**3.08**	**210**	Pn		**Pn**	**15 44 43.9**	**+0.1**
	comp=Z,9.9nm,0.3s,baz=30,slow=12,SNR=198							
GERES				Pg		**Pg**	**15 44 50.2**	**-2.7**
	comp=Z,20nm,0.3s,baz=27,slow=20,SNR=56							
GERES				Sn		**Sn**	**15 45 21.2**	**0.0**
	comp=Z,16nm,0.3s,baz=32,slow=26,SNR=7.3							
GERES				Lg			15 45 31.1	
	comp=Z,41nm,0.3s,baz=34,slow=30,SNR=9.7							
GERES	**GERESS Array B**	**3.08**	**210**	P		**Pn**	**15 44 43.9**	**+0.2**
GERES							15 45 21.2	
GERES	**GERESS Array B**	**3.08**	**210**	Pg		**Pg**	**15 44 50.2**	**-2.7**
GERES				S		**Sn**	**15 45 21.2**	**0.0**
WET	**Wettzell**	**3.13**	**222**	*e*Pn		**Pn**	**15 44 45.2**	**+0.8**
WET				*e*Sg		**Sg**	**15 45 34.4**	**-0.2**
WET	**Wettzell**	**3.13**	**222**	*e*Pn		**Pn**	**15 44 45.2**	**+0.7**
WET				*e*Sg		**Sg**	**15 45 34.4**	**-0.1**
SMOL	**Smolenice**	**3.14**	**163**	*e*PG		**Pg**	**15 44 54.2**	**+0.1**
SMOL				*e*SG		**Sg**	**15 45 35.2**	**+0.4**
LIKS	**Likavka**	**3.16**	**140**	*e*SG		**Sg**	**15 45 37.5**	**+2.2**
ZST	**Bratislava**	**3.40**	**168**	*e*PG		**Pg**	**15 44 59.6**	**+0.5**
ZST				*e*SG		**Sg**	**15 45 41.9**	**-1.2**
NIE	**Niedzica**	**3.44**	**126**	*e*P		**Pg**	**15 44 59.5**	**-0.4**
NIE				*e*S		**Sg**	**15 45 44.5**	**0.0**
VYHS	**Vyhne**	**3.52**	**148**	*e*PN		**Pn**	**15 44 49.9**	**0.0**
VYHS				*e*PG		**Pg**	**15 45 01.9**	**+0.4**
VYHS				*e*SG		**Sg**	**15 45 45.4**	**-1.7**
CLZ	**Clausthal**	**3.55**	**277**	*e*Pn		**Pn**	**15 44 51.8**	**+1.6**
CLZ	**Clausthal**	**3.55**	**277**	*e*Pn		**Pn**	**15 44 51.8**	**+1.6**
GRA1	**Grafenberg Arr**	**3.58**	**241**	*e*Pn		**Pn**	**15 44 52.0**	**+1.3**
GRA1				*e*Sg		**Sg**	**15 45 50.4**	**+1.4**
GRA1	**Grafenberg Arr**	**3.58**	**241**	Pn		**Pn**	**15 44 52.0**	**+1.3**
GRA1				Sg		**Sg**	**15 45 50.4**	**+1.4**
GRF	**Grafenberg Arr**	**3.58**	**241**	*e*Pn		**Pn**	**15 44 52.0**	**+1.3**
GRF				*e*Sg		**Sg**	**15 45 50.4**	**+1.4**
CONA	**Conrad Observa**	**3.60**	**182**	⇓*i*Pn		**Pn**	**15 44 46.9**	**-4.1**
	SNR=21							
CONA				⇑*i*Sg		**Sg**	**15 45 43.0**	**-6.7**
	comp=Z,115nm,0.5s							
BSD	**Bornholm Skovb**	**3.66**	**350**	*i* P		**Pn**	**15 44 51.6**	**-0.1**
BSD				*i* S		**Sn**	**15 45 34.0**	**-1.6**
HROE	**Hohe Rhon--Fla**	**3.85**	**257**	⇓*i*Pn		**Pn**	**15 44 55.4**	**+1.0**
MOA	**Molln**	**3.86**	**198**	⇓*i*Pn		**Pn**	**15 44 55.1**	**+0.7**
	SNR=23							
MOA				⇑*i*Sg		**Sg**	**15 45 57.0**	**-0.8**
	comp=Z,250nm,0.8s							
UBBA	**Unterbreizbach**	**3.87**	**262**	*e*Pn		**Pn**	**15 44 55.3**	**+0.6**
UBBA				*e*Sg		**Sg**	**15 45 58.4**	**0.0**
ARSA	**Arzberg**	**4.29**	**185**	⇑*i*Pn		**Pn**	**15 45 01.8**	**+1.4**
	SNR=9.3							
ARSA				⇑*i*Sg		**Sg**	**15 46 10.6**	**-1.1**
	comp=Z,120nm,0.5s							
CRVS	**Cervenica-Dubn**	**4.35**	**125**	*e*PN		**Pn**	**15 45 02.6**	**+1.3**
CRVS				*e*PG		**Pg**	**15 45 16.9**	**-0.4**
CRVS				*e*SG		**Sg**	**15 45 36.7**	**+0.1**
PSZ	**Piszkesteto**	**4.39**	**144**	⇑*e*Pn		**Pn**	**15 45 02.9**	**+1.2**
KWP	**Kalwaria**	**4.64**	**111**	*e*Pn		**Pn**	**15 45 05.2**	**-0.1**
KWP				*e*P*		**Pb**	**15 45 14.8**	**-1.4**
KWP				*e*Pg		**Pg**	**15 45 23.7**	**+0.8**
KWP				*e*Sg		**Sg**	**15 46 31.8**	**+

MEZF					*e*Sg		**Sg**	**15 47 56.9 -4.4**
	comp=Z,28nm,0.6s							
MEZF	**Maizieres J'vi**	**7.71**	**251**	*e*Pn			**Pn**	**15 45 46.2 -1.1**
MEZF					*e*Sg		**Sg**	**15 47 56.9 -4.4**
	comp=Z,14nm,0.6s							
SFTF	**Sexfontaines**	**7.85**	**249**	*e*Pn			**Pn**	**15 45 48.5 -0.8**
SFTF					*e*Sg		**Sg**	**15 48 03.0 -3.1**
	comp=Z,52nm,0.9s							
SFTF	**Sexfontaines**	**7.85**	**249**	*e*Pn			**Pn**	**15 45 48.5 -0.8**
SFTF					*e*Sg		**Sg**	**15 48 03.0 -3.1**
	comp=Z,26nm,0.9s							
CABF	**La Chapelle**	**8.18**	**237**	*e*Pg			**Pg**	**15 46 27.6 -3.0**
CABF					*e*Sg		**Sg**	**15 48 11.1 -5.5**
	comp=Z,97nm,1.0s							
CABF	**La Chapelle**	**8.18**	**237**	*e*Pn			**Pn**	**15 45 52.8 -1.1**
CABF					*e*Pg		**Pg**	**15 46 27.6 -3.0**
CABF					*e*Sg		**Sg**	**15 48 11.1 -5.5**
CABF	**La Chapelle**	**8.18**	**237**	*e*Pg			**Pg**	**15 46 27.6 -3.0**
CABF					*e*Sg		**Sg**	**15 48 11.1 -5.5**
	comp=Z,48nm,1.0s							
AKASG	**Malin Array Be**	**8.33**	**91**	Pn			**Pn**	**15 45 54.9 -1.0**
	comp=Z,3.5nm,0.3s,baz=279,slow=12,SNR=17							
AKASG					Sn		**Sn**	**15 47 26.7 -4.0**
	comp=Z,1.8nm,0.3s,baz=276,slow=23,SNR=4.1							
AKASG					Lg			15 48 22.3
	comp=Z,0.6nm,0.3s,baz=278,slow=28,SNR=4.8							
AKASG	**Malin Array Be**	**8.33**	**91**	P			**Pn**	**15 45 54.9 -1.0**
AKASG								15 47 26.7
AKASG	**Malin Array Be**	**8.33**	**91**	Pn			**Pn**	**15 45 54.9 -1.0**
AKASG					Sn		**Sn**	**15 47 26.7 -4.0**
AKASG					Lg			15 48 22.3
AKBB	**Malin Array Si**	**8.33**	**91**	*e*Pn			**Pn**	**15 45 54.9 -1.0**
AKBB					*e*Pg		**Pg**	**15 46 31.7 -1.8**
AKBB					*e*Sn		**Sn**	**15 47 24.8 -5.9**
LPL	**La Plagne**	**8.62**	**229**	*e*Pn			**Pn**	**15 45 58.8 -1.1**
LPL					*e*Sg		**Sg**	**15 48 26.6 -4.1**
	comp=Z,35nm,1.1s							
LPG	**La Plagne**	**8.63**	**229**	*e*Pn			**Pn**	**15 46 00.2 +0.3**
LPG					*e*Sg		**Sg**	**15 48 24.4 -6.4**
	comp=Z,58nm,1.1s							
HFS	**Hagfors**	**8.73**	**352**	Pn			**Pn**	**15 46 00.7 -0.7**
	comp=Z,0.6nm,0.3s,baz=169,slow=14,SNR=21							
HFS					Sn		**Sn**	**15 47 39.6 -0.9**
	comp=Z,0.2nm,0.3s,baz=179,slow=30,SNR=2.8							
HFS					Lg			15 48 30.8
	comp=Z,0.2nm,0.3s,baz=178,slow=20,SNR=2.0							
HFS	**Hagfors**	**8.73**	**352**	P			**Pn**	**15 46 00.7 -0.7**
HFS								15 47 39.6
LOR	**Lormes**	**9.02**	**247**	*e*Pn			**Pn**	**15 46 04.1 -1.2**
LOR					*e*Sg		**Sg**	**15 48 40.0 -3.4**
	comp=Z,27nm,0.8s							
LOR	**Lormes**	**9.02**	**247**	*e*Pn			**Pn**	**15 46 04.1 -1.2**
LOR					*e*Sg		**Sg**	**15 48 40.0 -3.4**
	comp=Z,14nm,0.8s							
MBDF	**Montbardon**	**9.20**	**226**	*e*Pn			**Pn**	**15 46 06.7 -1.1**
VSU	**Vasula**	**9.27**	**37**	*i* P			**Pn**	**15 46 10.2 +1.5**
SSF	**Saint Saulge**	**9.33**	**246**	*e*Pn			**Pn**	**15 46 08.8 -0.8**
SSF					*e*Sg		Sn	15 48 47.5 +52
	comp=Z,30nm,0.9s							
SSF	**Saint Saulge**	**9.33**	**246**	*e*Pn			**Pn**	**15 46 08.8 -0.8**
SSF					*e*Sg		Sn	15 48 47.5 +52
	comp=Z,15nm,0.9s							
SMF	**Signal de Mont**	**9.38**	**243**	*e*Pn			**Pn**	**15 46 10.2 -0.1**
SMF					*e*Sg		Sn	15 48 49.6 +53
	comp=Z,29nm,0.9s							
SMF	**Signal de Mont**	**9.38**	**243**	*e*Pn			**Pn**	**15 46 10.2 -0.1**
SMF					*e*Sg		Sn	15 48 49.6 +53
	comp=Z,15nm,0.9s							
ORIF	**Oris-en-Rattie**	**9.47**	**230**	*e*Pn			**Pn**	**15 46 10.9 -0.6**
AVF	**Avril sur Loir**	**9.57**	**245**	*e*Pn			**Pn**	**15 46 12.2 -0.7**
AVF					*e*Sg		Sn	15 48 55.1 +54
	comp=Z,37nm,1.1s							
AVF	**Avril sur Loir**	**9.57**	**245**	*e*Pn			**Pn**	**15 46 12.2 -0.7**
AVF					*e*Sg		Sn	15 48 55.1 +54
	comp=Z,18nm,1.1s							
SBF	**Sospel**	**9.61**	**220**	*e*Pn			**Pn**	**15 46 11.9 -1.6**
NAO01	**NORSAR Array S**	**9.77**	**345**	*e*Pn			**Pn**	**15 46 13.5 -2.2**
NOA	**NORSAR Array B**	**9.91**	**346**	Pn			**Pn**	**15 46 15.3 -2.2**
	comp=Z,0.5nm,0.3s,baz=166,slow=12,SNR=5.7							
NOA					Lg			15 49 09.4
	comp=Z,0.3nm,0.3s,baz=304,slow=13,SNR=3.7							
BGF	**Bois d'Agland**	**9.99**	**245**	*e*Pn			**Pn**	**15 46 17.1 -1.5**
BGF					*e*Sn		**Sn**	**15 48 03.2 -8.2**
BGF					*e*Sg		Sn	15 49 08.9 +57
	comp=Z,23nm,0.7s							
BGF	**Bois d'Agland**	**9.99**	**245**	*e*P			**Pn**	**15 46 17.1 -1.5**
BGF				*e*				15 48 03.2
BGF	**Bois d'Agland**	**9.99**	**245**	*e*Pn			**Pn**	**15 46 17.1 -1.5**
BGF					*e*Sn		**Sn**	**15 48 03.2 -8.2**
BGF					*e*Sg		Sn	15 49 08.9 +57
	comp=Z,12nm,0.7s							
TCF	**Toulx Ste Croi**	**10.51**	**245**	*e*Pn			**Pn**	**15 46 24.6 -1.1**
TCF					*e*Pg		Pn	15 47 10.3 +45
TCF					*e*Sg		Sn	15 49 26.6 +63
FINES	**FINESS Array B**	**11.37**	**25**	Pn			**Pn**	**15 46 35.2 -2.3**
	comp=Z,0.9nm,0.3s,baz=208,slow=11,SNR=46							
FINES					Sn		**Sn**	**15 48 37.8 -7.4**
	comp=Z,0.5nm,0.3s,baz=202,slow=20,SNR=4.1							
EKA	**Eskdalemuir Ar**	**12.07**	**296**	Pn			**Pn**	**15 46 43.9 -3.2**
	comp=Z,0.5nm,0.3s,baz=101,slow=14,SNR=7.7							
ESK	**Eskdalemuir**	**12.09**	**296**	*e*P			**Pn**	**15 46 44.1 -3.3**
OBN	**Obninsk**	**12.77**	**66**	P			**Pn**	**15 46 54.0 -2.7**
OBN					*e*S		**Sn**	**15 49 13.0 -6.6**
OBN						pmax	pmax	
	comp=Z,28nm,1.2s							
ANN	**Anapa**	**15.74**	**107**	*e*P			**Pn**	**15 47 37.9 +1.0**
ANN					*e*S		**Sn**	**15 50 33.7 +1.7**
ANN						pmax	pmax	
	comp=Z,38nm,1.3s							
ANN	**Anapa**	**15.74**	**107**	*e*P			**Pn**	**15 47 37.9 +1.0**
	comp=Z,38nm,1.3s							
ANN					*e*S		**Sn**	**15 50 33.7 +1.7**
ARCES	**ARCESS Array B**	**18.62**	**10**	Pn			**Pn**	**15 48 09.9 -3.1**
	comp=Z,1.2nm,0.3s,baz=193,slow=13,SNR=16							
ARE0	**ARCESS Array S**	**18.62**	**10**	*e*Pn			**Pn**	**15 48 09.7 -3.3**
ARU	**Arti**	**25.16**	**62**	*i* P			**P**	**15 49 20.4 -0.4**
ARU					*e*PPP			15 49 59.4
ARU					*e*S		**S**	**15 53 47.7 +0.9**
ARU					*e*SS			15 54 36.0
ARU						pmax	pmax	
	comp=Z,7.0nm,1.0s,mb4.3							
ARU	**Arti**	**25.16**	**62**	*e*P			**P**	**15 49 20.7 -0.1**
	comp=Z,7.8nm,0.9s,mb4.4							
AKTK	**Aktyubinsk**	**26.19**	**76**	P			**P**	**15 49 30.4 +0.3**
AKTK	**Aktyubinsk**	**26.19**	**76**	P			**P**	**15 49 30.4 +0.3**
AKTO	**Aktyubinsk**	**26.19**	**76**	P			**P**	**15 49 30.4 +0.3**
	comp=Z,1.4nm,0.5s,mb3.9,baz=290,slow=12,SNR=6.2							
SVE	**Sverdlovsk**	**26.25**	**61**	*e*P			**P**	**15 49 30.6 -0.1**
SVE						pmax	pmax	
	comp=Z,20nm,1.5s,mb4.5							
SVE	**Sverdlovsk**	**26.25**	**61**	*e*P			**P**	**15 49 30.6 -0.1**
	comp=Z,20nm,1.5s,mb4.5							
SUMG	**Summit**	**31.37**	**332**	P			**P**	**15 50 16.2 -0.1**
	comp=Z,3.2nm,0.9s,mb4.2							
ZRNK	**Zerenda**	**31.85**	**66**	*e*P			**P**	**15 50 21.7 +1.2**
ZRNK						pmax	pmax	
	comp=Z,4.0nm,1.2s,mb4.2							
ZRNK	**Zerenda**	**31.85**	**66**	*e*P			**P**	**15 50 21.6 +1.2**
	comp=Z,3.6nm,1.2s,mb4.2							
ZRNK	**Zerenda**	**31.85**	**66**	*e*P			**P**	**15 50 21.7 +1.2**
	comp=Z,4.0nm,1.2s,mb4.2							
CHKZ	**Chkalovo**	**32.53**	**64**	P			**P**	**15 50 26.1 -0.4**
CHKZ						pmax	pmax	
	comp=Z,1.0nm,0.8s,mb3.8							
CHKZ	**Chkalovo**	**32.53**	**64**	P			**P**	**15 50 26.1 -0.4**
	comp=Z,0.8nm,0.8s,mb3.7							
CHKZ	**Chkalovo**	**32.53**	**64**	P			**P**	**15 50 26.1 -0.4**
	comp=Z,0.8nm,0.8s,mb3.7							
BVAR	**Borovoye Array**	**32.62**	**66**	P			**P**	**15 50 28.3 +1.1**
	comp=Z,0.8nm,0.5s,mb3.9,baz=280,slow=8.3,SNR=7.3							
NVS	**Novosibirsk**	**39.01**	**58**	*e*P			**P**	**15 51 23.7 +1.7**
AAK	**Ala-Archa**	**39.81**	**79**	*i* P			**P**	**15 51 29.0 +0.3**
AAK						pmax	pmax	
	comp=Z,5.0nm,1.3s,mb4.0							
AAK	**Ala-Archa**	**39.81**	**79**	P			**P**	**15 51 29.9 +1.3**
	comp=Z,5.6nm,0.9s,mb4.2							
AAK	**Ala-Archa**	**39.81**	**79**	*i* P			**P**	**15 51 29.0 +0.3**
	comp=Z,5.0nm,1.3s,mb4.0							
TORD	**Torodi Ar. Bea**	**40.00**	**202**	P			**P**	**15 51 30.5 +0.2**
	comp=Z,2.3nm,1.0s,mb3.8,baz=12,slow=8.8,SNR=9.7							
TORD	**Torodi Ar. Bea**	**40.00**	**202**	P			**P**	**15 51 30.5 +0.2**
BOD	**Bodaibo**	**52.17**	**42**	*e*P			**P**	**15 53 06.1 -0.1**
SONM	**Songino Array**	**54.94**	**55**	P			**P**	**15 53 27.8 +1.3**
	comp=Z,1.2nm,1.1s,mb3.9,baz=283,slow=9.0,SNR=7.3							
LZH	**Lanzhou**	**61.49**	**67**	*e*P			**P**	**15 54 10.5 -1.8**
LZH						AP		15 54 20.8
LZH						XP		15 54 24.8
LZH						PP	PP	15 56 28.0 +0.4
LZH						AMB	AMB	
	comp=Z,21nm,1.4s,mb5.1							
HHC	**Hu-ho-hao-te**	**62.41**	**58**	*e*P			**P**	**15 54 19.5 +1.0**
HHC						AP		15 54 23.3
HHC						PP	PP	15 56 37.5 +1.8
HHC						S	**S**	**16 02 44.0 -2.4**
HHC						PS		16 03 00.3
HHC						SCS	ScS	16 04 08.3 -3.8
HHC						SS	SS	16 06 50.0 +0.1
HHC						AMB	AMB	
	comp=Z,94nm,8.1s							
HHC						LR	LR	
	comp=N,183nm,16.7s,MS4.4							
HHC						LR	LR	
	comp=E,108nm,15.5s,MS4.4							
HHC						LR	LR	
	comp=Z,112nm,17.2s,MS4.1							
CN2	**Changchun**	**67.15**	**48**	*e*P			**P**	**15 54 50.8 +1.3**
CN2						AMB	AMB	
	comp=Z,10.0nm,0.6s,mb5.2							
MDJ	**Mudanjiang**	**68.39**	**45**	P			**P**	**15 54 55.3 -2.0**
MDJ						AMB	AMB	
	comp=Z,3.0nm,1.4s,mb4.3							
MDJ						AMB	AMB	
	comp=Z,27nm,3.9s							
KMI	**Kunming**	**68.75**	**76**	P			**P**	**15 54 58.0 -1.6**
KMI						AP		15 55 01.5
KMI						PP	PP	15 57 34.0 +2.8
KMI						PPP		15 59 12.3
KMI						S	S	16 04 02.5 -1.5
KMI						SS	SS	16 08 28.5 -0.1
KMI						SSS		16 11 30.0
KMI						AMB	AMB	
	comp=Z,8.0nm,0.8s,mb5.0							
KMI						AMB	AMB	
	comp=Z,66nm,4.8s							
KMI						LR	LR	
	comp=N,118nm,12.4s,MS4.5							
KMI						LR	LR	
	comp=E,141nm,16.2s,MS4.5							
KMI						LR	LR	
	comp=Z,80nm,14.3s,MS4.1							
NJ2	**Nanjing**	**72.85**	**60**	*e*P			**P**	**15 55 24.0 -0.5**
NJ2						AMB	AMB	
	comp=Z,10.0nm,0.5s,mb5.2							
SSE	**Sheshan**	**74.85**	**59**	*e*P			**P**	**15 55 33.3 -2.9**
SSE						AMB	AMB	
	comp=Z,74nm,6.4s							
PDAR	**Pinedale Array**	**74.91**	**322**	P			**P**	**15 55 37.0 +0.4**
	comp=Z,0.4nm,0.6s,mb3.7,baz=62,slow=6.1,SNR=4.5							
ASAR	**Alice Springs**	**125.40**	**84**	PKP			PKPdf	16 02 57.2 +0.5
	comp=Z,0.4nm,0.9s,baz=300,slow=1.3,SNR=4.5							

KRSC 28 15:55:09,5275N×15957E,h43km,ML3.5,1D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PET	**Petropavlovsk**	**0.62**	**297**	*i* P		Pn	15 55 21.4	0.0
PET				*i* S		Sn	15 55 31.0	+0.7
PET				pmax		pmax		
	comp=Z,200nm,0.2s							
PET				pmax		pmax		
	comp=Z,170nm,0.3s							

CASC 28 16:17:17.4±3.1,1351N×9138W,h0km±14km,MD4.2, 3C-4D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
IXG	**Ixpaco**	**1.11**	**54**	*e*P		Pg	16 17 39.3	+0.6
IXG					*e*S	Sg	16 17 55.1	+1.9
TP2	**Tecpan 2**	**1.31**	**15**	*e*P		Pg	16 17 43.0	+0.5
RTR	**El Retiro**	**1.73**	**77**	*e*P		x	16 18 10.2	
RTR					*e*S	x	16 18 34.5	
SBLS	**San Blas**	**1.74**	**79**	*e*P		x	16 18 10.0	
SBLS					*e*S	x	16 18 35.3	
RBDL	**Robledal**	**1.75**	**70**	*e*P		x	16 18 10.9	
RBDL					*e*S	x	16 18 35.2	
SNJE	**San Jose**	**1.76**	**78**	*e*P		x	16 18 10.5	
SNJE					*e*S	x	16 18 35.3	
BOQS	**Boqueron**	**2.06**	**84**	*e*P		x	16 18 14.9	
BOQS					*e*S	x	16 18 43.0	
MTO2	**Montecristo 2**	**2.15**	**66**	*e*P		x	16 18 16.5	
MTO2					*e*S	x	16 18 43.8	
LFRS	**El Faro**	**2.26**	**87**	*e*P		x	16 18 18.2	
LFRS					*e*S	x	16 18 46.8	
LBRS	**Las Brisas**	**2.28**	**84**	*e*P		x	16 18 20.2	
LBRS					*e*S	x	16 18 52.3	
LCBS	**La Ceiba**	**2.34**	**86**	*e*P		x	16 18 19.7	
LCBS					*e*S	x	16 18 52.1	
SNVI	**San Vicente**	**2.47**	**87**	*e*P		x	16 18 21.1	
SNVI					*e*S	x	16 18 54.4	
VSM	**San Miguel**	**3.02**	**91**	*e*P		x	16 18 30.0	
VSM					*e*S	x	16 19 08.6	
CNCH	**Conchagua**	**3.46**	**93**	*e*P		x	16 18 34.9	
CNCH					*e*S	x	16 19 19.5	

*ISCJB **28** 16:31:51.9±0.9,3815S±01.1×923W±02.1,h10km,mb4.1/10, MS3.7/4,Error ellipse: s-maj=22.4km s-min=17.8km az=75.7*

*IDC **28** 16:31:52.7±1.4,3785S×9243W,h0km,mb3.9/7,mb1 4.1/7, mb1mx4.0/16,mbtmp3.9/7,MS3.7/5,Ms1 3.6/5, ms1mx3.4/20,Error ellipse: s-maj=32.7km s-min=29.9km az=27.0*

*NEIC **28** 16:31:53.7±0.8,3796S×9237W,h10km,mb4.3/5,Error ellipse: s-maj=20.5km s-min=16.2km az=125.0*

ISC 28 16:31:53.5±0.9,380S±01×924W±02,h10km,n16,σ1§04/13, mb4.1/10,MS3.7/4,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PLCA	**Paso Flores**	**17.11**	**106**	LR		LR	16 40 43.4	
	comp=Z,109nm,18.7s,baz=275,slow=31							
CFAA	**Coronel Fontan**	**20.83**	**79**	P			**P**	**16 36 35.7 +0.5**
	1.1nm,0.7s,baz=240,slow=10,SNR=20							
CFAA				LR		LR	16 43 24.8	
	comp=Z,8.2nm,21.2s,baz=61,slow=33							
CFAA	**Coronel Fontan**	**20.83**	**79**	P			**P**	**16 36 35.7 +0.5**
CFAA				LR		LR	16 43 24.8	
LPAZ	**La Paz**	**30.43**	**51**	P			**P**	**16 38 08.2 +2.2**
	3.6nm,0.7s,mb4.2,baz=208,slow=8.0,SNR=11							
LPAZ				LR		LR	16 48 19.0	
	comp=Z,58nm,19.3s,MS3.2,baz=226,slow=32							
LPAZ	**La Paz**	**30.43**	**51**	*e*P			**P**	**16 38 07.1 +1.1**
LPAZ						LR	LR	16 48 19.0
CPUP	**Villa Florida**	**31.73**	**79**	*e*P			**P**	**16 38 15.9 -1.6**
	13nm,0.7s,mb4.9							
CPUP					*e*			16 38 22.8
SIV	**San Ignacio**	**35.25**	**60**	P			**P**	**16 38 47.9 -0.3**
	2.1nm,0.8s,mb4.1,baz=240,slow=7.5,SNR=11							
SAML	**Samuel**	**39.14**	**50**	*e*P			**P**	**16 39 20.7 -0.5**
	2.4nm,0.7s,mb4.0							
OTAV	**Otavalo**	**40.20**	**22**	*e*P			**P**	**16 39 31.1 +1.0**
	5.7nm,0.9s,mb4.3							
BDFB	**Brasilia**	**44.94**	**73**	P			**P**	**16 40 07.6 -0.9**
	2.0nm,0.4s,mb4.3,baz=240,slow=11,SNR=3.8							
BDFB				LR		LR	16 57 49.6	
	comp=Z,77nm,19.6s,MS3.6,baz=244,slow=35							
SNAA	**Sanae**	**54.28**	**157**	P			**P**	**16 41 21.7 +1.9**
	0.7nm,1.2s,mb3.5,baz=267,slow=9.1,SNR=5.9							
PCRV	**Puerto La Cruz**	**54.54**	**34**	LR		LR	17 02 03.0	
	comp=Z,105nm,19.7s,MS3.9,baz=273,slow=33							
SBA	**Scott Base**	**55.38**	**195**	*e*P			**P**	**16 41 26.8 -0.9**
	8.2nm,1.3s,mb4.6							
NVAR	**Mina Array Bea**	**79.73**	**340**	P			**P**	**16 44 01.6 +0.1**
	1.0nm,0.8s,mb3.8,baz=169,slow=7.2,SNR=5.4							
PDAR	**Pinedale Array**	**81.92**	**347**	P			**P**	**16 44 12.7 -0.6**
	0.7nm,0.9s,mb3.6,baz=163,slow=6.3,SNR=5.6							
BOSA	**Boshof**	**91.73**	**129**	LR		LR	17 24 05.7	
	comp=Z,74nm,19.1s,MS4.2,baz=338,slow=34							

*NEIC **28** 16:43:17.7,1761N×9512W,h138km,MD3.7(MEX),After MEX.*

MEX 28 16:43:17.7±0.5,1761N×9512W,h138km±6km,MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CMIG	**Matias Romero**	**0.56**	**157**	*i* P		Pn	16 43 37.1	-0.9
CMIG				*i* S		Sn	16 43 51.3	-2.1
TUIG	**Tuzandepetl**	**0.78**	**58**	*i* P		Pn	16 43 38.6	-0.9
TUIG				*i* S		Sn	16 43 54.0	-2.0
OXX	**Oaxaca**	**1.62**	**251**	*i* P		Pn	16 43 46.0	-1.7
OXX				*i* S		Sn	16 44 09.0	-1.6
VHO	**Vista Hermosa**	**1.63**	**251**	*i* P		Pn	16 43 46.7	-1.1
VHO				*i* S		Sn	16 44 09.6	-1.2
HUIG	**Huatulco**	**2.06**	**208**	*i* P		Pn	16 43 51.3	-1.5
HUIG				*i* S		Sn	16 44 17.9	-1.9
UTMO	**Huajuapan**	**2.57**	**275**	*e*P		Pn	16 43 57.7	-1.4

*ISCJB **28** 16:52:39.0±0.4,4251N±004×138.10E±008,h265km±6km, mb3.4/8,Error ellipse: s-maj=9.9km s-min=5.6km az=30.4*

*MOS **28** 16:52:39.0±1.1,4260N×13784E,h259km,mb4.1/2,Error ellipse: s-maj=18.4km s-min=10.1km az=92.9*

*NEIC **28** 16:52:39.9±0.6,4261N×13791E,h252km±8km,mb3.9/8, Error ellipse: s-maj=11.1km s-min=7.9km az=99.0*

*IDC **28** 16:52:39.4±1.4,4250N×13795E,h243km±20km,mb3.1/6, mb1 3.4/10,mb1mx3.2/24,mbtmp4.0/10,Error ellipse: s-maj=24.7km s-min=13.5km az=92.0*

*JMA **28** 16:52:40.5±0.2,4252N×13805E,h252km±2km,M3.4*

ISC 28 16:52:39.8±0.3,4253N±004×13810E±008,h259km±6km, n52,σ1§09/65,mb3.4/8,Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JOSM	**Okushiri--Mats**	**1.11**	**113**	P		Pn	**16 53 16.5**	**+0.1**
JOSM					*e*S	**S**	**16 53 44.8**	**-0.5**
JSH	**Shimam**	**1.44**	**85**	P		Pn	**16 53 19.0**	**+0.5**
JYM2	**Yakumo 2**	**1.73**	**103**	P		Pn	**16 53 21.6**	**+0.8**
JSK	**Shakotan**	**1.93**	**64**	P		Pn	**16 53 22.8**	**+0.4**
JSK					*e*S	**S**	**16 53 56.2**	**+0.2**
JKB	**Kayabe**	**2.27**	**105**	P		Pn	**16 53 26.0**	**+0.5**
JOT	**Ohata**	**2.48**	**117**	P		Pn	**16 53 27.8**	**+0.3**
JOT					*e*S	**S**	**16 54 04.9**	**-0.4**
JEW	**Eniwo**	**2.49**	**82**	P		Pn	**16 53 28.6**	**+1.0**
JHR	**Hokuryu**	**2.92**	**64**	P		Pn	**16 53 33.3**	**+1.3**
JYG	**Yagishiri**	**3.08**	**51**	P		Pn	**16 53 34.5**	**+0.9**
JANG	**Nango**	**3.35**	**129**	P		Pn	**16 53 36.0**	**-0.6**
JANG					*e*S	**S**	**16 54 19.5**	**-2.3**
JFR	**Furan**	**3.37**	**78**	P		Pn	**16 53 37.5**	**+0.7**
JNBK	**Urakawa-nobuka**	**3.46**	**93**	P		Pn	**16 53 37.8**	**0.0**
ASAJ	**Asahikawa**	**3.65**	**63**	P		Pn	**16 53 40.8**	**+0.9**
	12nm,0.3s,baz=255,slow=9.1,SNR=184							
ASAJ						S	**S**	**16 54 27.9**	**+0.2**
	0.3nm,0.3s,baz=113,slow=29,SNR=9.4							
ASAJ	**Asahikawa**	**3.65**	**63**	P		Pn	**16 53 40.8**	**+0.9**
ASAJ						S	**S**	**16 54 27.9**	**+0.2**
ASAJ						pmax	pmax	
	comp=Z,12nm,0.3s							
JKK2	**Kamakawa 2**	**3.66**	**67**	P		Pn	**16 53 41.2**	**+1.2**
JKK2					*e*S	**S**	**16 54 27.6**	**-0.3**
JCH	**Churui**	**3.89**	**87**	P		Pn	**16 53 42.3**	**-0.4**
JCH					*e*S	**S**	**16 54 30.0**	**-2.7**
JOM	**Ohasama**	**3.89**	**141**	P		Pn	**16 53 42.9**	**+0.1**
JWK2	**Keihoku**	**3.91**	**43**	P		Pn	**16 53 44.9**	**+2.0**
JYK	**Kaneyama**	**4.00**	**154**	P		Pn	**16 53 43.8**	**-0.1**
JYK					*e*S	**S**	**16 54 33.3**	**-1.7**
JMK	**Ichinoseki**	**4.29**	**145**	P		Pn	**16 53 46.5**	**-0.9**
JTKR	**Abashiri--Toko**	**4.48**	**69**	P		Pn	**16 53 50.1**	**+0.5**
JTKR					*e*S	**S**	**16 54 43.6**	**-1.7**
YSS	**Yuzh-Sakhalins**	**5.53**	**35**	P		Pn	**16 54 03.5**	**+1.2**
YSS					*e*S	**S**	**16 55 06.9**	**-1.3**
YSS					smax			
	comp=N,50nm,0.9s							
YSS	**Yuzh-Sakhalins**	**5.53**	**35**	*e*Pn		Pn	**16 54 02.7**	**+0.4**
YSS					*e*S	**S**	**16 55 07.1**	**-1.1**
MAJO	**Matsushiro**	**5.98**	**179**	*e*P		Pn	**16 54 08.4**	**+0.6**
MAJO					pmax	pmax		
	comp=Z,14nm,0.8s							
MAJO	**Matsushiro**	**5.98**	**179**	*e*P		Pn	**16 54 08.4**	**+0.6**
	comp=Z,14nm,0.8s							
MAT	**Matsushiro**	**5.98**	**179**	P		Pn	**16 54 08.6**	**+0.8**
MAT					*e*S	**S**	**16 55 20.6**	**+2.2**
MAT	**Matsushiro**	**5.98**	**179**	*e*P		Pn	**16 54 09.0**	**+1.2**
MAT					pmax	pmax		
	comp=Z,7.0nm,0.6s							
MAT	**Matsushiro**	**5.98**	**179**	*e*P		Pn	**16 54 09.0**	**+1.2**
	comp=Z,6.7nm,0.6s							
MJAR	**Matsushiro Arr**	**5.98**	**179**	P		Pn	**16 54 09.0**	**+1.1**
	comp=Z,2.6nm,0.3s,baz=360,slow=11,SNR=34							
MDJ	**Mudanjiang**	**6.52**	**292**	P		Pn	**16 54 13.5**	**-1.1**
	comp=Z,8.5nm,1.0s							
JHJ	**Hachijo jima 2**	**9.49**	**171**	P		Pn	**16 54 50.0**	**-1.8**
	comp=Z,24

HYT	**Haines Junctio**	**3.21**	**322**	Pn	Pn	17 02 52.4	+0.4
HYT				Pg	Pg	17 02 58.7	-3.4
HYT				Sg	Sg	17 03 39.7	-4.0
HYT				Trac		17 03 44.7	
	comp=Z,16nm,0.3s						
PNL	**Peninsula**	**3.33**	**296**	P	Pn	17 02 52.8	-0.8
RUBB	**Prince Rupert**	**4.42**	**154**	Pn	Pn	17 03 07.8	-0.8
RUBB				Sg	Sg	17 04 17.2	-5.1
RUBB				Trac		17 04 30.9	
	comp=Z,83nm,1.4s						
DAWY	**Dawson**	**6.40**	**336**	Trac		17 05 24.8	
	comp=Z,28nm,0.8s						
DAWY	**Dawson**	**6.40**	**336**	Sg	Sg	17 05 20.6	-5.5
DAWY	**Dawson**	**6.40**	**336**	*e*Pn	Pn	17 03 32.0	-3.9
DAWY				*e*Pg	Pg	17 03 55.7	-7.5
DAWY				*e*Sg	Sg	17 05 22.3	-3.9
INK	**Inuvik**	**10.00**	**360**	Pn	Pn	17 04 25.5	+0.2
INK				Sg	Sn	17 07 13.1	+55
INK				Trac		17 07 29.5	
	comp=Z,3.0nm,1.1s						
INK	**Inuvik**	**10.00**	**360**	*e*Pn	Pn	17 04 24.9	-0.4
	4.3nm,1.0s						

CASC 28 17:03:46.9±1.8, 1078N×8507W, h156km±4km, MD3.7, ML3.4, 16C-8D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIM1	**Limonal**	**0.20**	**246**⇑	*i*P	Pn	17 04 08.3	+0.4
LIM1				*i* S	Sn	17 04 24.9	+1.1
RIN3	**Volcan Rincon**	**0.30**	**272**⇑	*e*P	Pn	17 04 08.5	+0.4
VACR	**Volcan Arenal**	**0.49**	**128**⇑	*e*P	Pn	17 04 09.9	+1.1
FORC	**Fortuna**	**0.50**	**128**⇑	*i*P	Pn	17 04 09.9	+1.0
FORC				*e*S	Sn	17 04 27.5	+1.9
CRZC	**La Cruz**	**0.54**	**289**⇑	*i*P	Pn	17 04 09.2	+0.1
CRZC				*e*S	Sn	17 04 26.2	+0.2
MADN	**Villa Maderas**	**0.77**	**324**⇑	*i*P	Pn	17 04 10.8	+0.4
MADN				*e*S	Sn	17 04 29.2	+0.7
VCR	**Vista de Mar**	**0.85**	**220**⇑	*i*P	Pn	17 04 10.8	-0.2
VCR				*e*S	Sn	17 04 29.9	+0.5
SSNN	**San Juan del S**	**0.92**	**304**⇑	*i*P	Pn	17 04 11.6	+0.1
SSNN				*e*S	Sn	17 04 30.4	+0.1
EPA	**Esparza**	**0.92**	**149**⇓	*e*P	Pn	17 04 11.8	+0.3
EPA				*e*S	Sn	17 04 30.0	-0.3
JCR	**Jicaral**	**0.93**	**182**⇑	*i*P	Pn	17 04 11.7	+0.2
JCR				*e*S	Sn	17 04 30.9	+0.4
CONN	**Concepcion**	**0.95**	**325**⇑	*i*P	Pn	17 04 12.2	+0.5
CGA2	**Cerro Gallo 2**	**0.96**	**142**⇓	*e*P	Pn	17 04 12.6	+0.7
CGA2				*e*S	Sn	17 04 31.4	+0.4
POA2	**Poas 2**	**1.01**	**126**⇑	*i*P	Pn	17 04 13.4	+1.2
CAO	**Cobano**	**1.07**	**182**⇓	*e*P	Pn	17 04 12.6	-0.2
CAO				*e*S	Sn	17 04 32.5	-0.1
PRS1	**Puriscal**	**1.09**	**137**	*e*P	Pn	17 04 14.1	+1.2
OCM	**Ochomogo**	**1.40**	**129**⇑	*e*P	Pn	17 04 16.4	+0.5
OCM				*e*S	Sn	17 04 38.4	+0.3
IRZ2	**Volcan Irazu 2**	**1.41**	**125**⇓	*e*P	Pn	17 04 17.3	+1.3
IRZ2				*e*S	Sn	17 04 40.0	+1.8
ICR	**Volcan Irazu**	**1.46**	**123**	*e*P	Pn	17 04 17.8	+1.4
LCR2	**La Lucha 2**	**1.47**	**134**	*e*P	Pn	17 04 17.5	+0.9
URSC	**Urasca**	**1.58**	**126**⇑	*e*P	Pn	17 04 18.9	+1.2
URSC				*e*S	Sn	17 04 42.9	+1.5
TICN	**Ticuantepe**	**1.69**	**318**⇓	*e*P	Pn	17 04 19.7	+0.9
TICN				*e*S	Sn	17 04 44.7	+1.4
BUS	**Buena Vista**	**1.78**	**133**⇓	*e*P	Pn	17 04 21.4	+1.6
BUS				*e*S	Sn	17 04 46.2	+1.2
MGAN	**Managua**	**1.78**	**320**⇑	*e*P	Pn	17 04 20.2	+0.3
MGAN				*e*S	Sn	17 04 45.4	+0.2
MGAN				*i*		17 04 50.0	
	comp=N,245nm,0.8s						
COPN	**Copaltepe**	**2.04**	**313**⇓	*e*P	Pn	17 04 23.3	+0.5
COPN				*e*S	Sn	17 04 50.1	-0.3
COPN				*i*		17 04 55.4	
	comp=Z,278nm,0.4s						
MOMJ	**Momotombo**	**2.17**	**319**⇑	*e*P	Pn	17 04 25.5	+1.3
MOMJ				*e*S	Sn	17 04 54.7	+1.7
LEON	**Leon**	**2.41**	**313**⇓	*e*P	Pn	17 04 27.8	+0.6
CTCR	**Cotoan**	**2.95**	**129**⇓	*e*P	Pn	17 04 35.2	+1.4

*CSEM **28** 17:13:57.4±0.1, 4032N×108W, h8km, ML3.0/27, Error ellipse: s-maj=2.0km s-min=1.4km az=117.0*
*LDG **28** 17:13:57.6±0.1, 4030N×105W, h10km, Ml3.0/7, Error ellipse: s-maj=2.1km s-min=1.5km az=120.0*
*NEIC **28** 17:13:57.8, 4030N×106W, h11km, ML3.0(LDG), ML3.1(STR), MN2.5(MDD), After MDD.*
NEIC Felt [II] at Teruel and Villaspesa.
*STR **28** 17:14:02.4±0.6, 4065N×112W, h5km±1km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 28 17:13:57.9±0.3, 4030N×105W, h11km, mbLg2.4/33, 1C, Error ellipse: s-maj=2.7km s-min=1.9km az=145.0, PRXIMO I-II TERUEL CAPITAL, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMOS	**Mosqueruela**	**0.45**	**81**	⇑Pg	Pg	17 14 06.2	-0.4
	SNR=18						
EMOS				Lg		17 14 12.6	
	172nm,0.2s,SNR=29						
EMOS	**Mosqueruela**	**0.45**	**81**	Pg	Pg	17 14 06.2	-0.4
	41nm,0.1s,SNR=18						
ECHE	**Chera**	**0.71**	**175**	Pg	Pg	17 14 10.5	-1.0
	3.8nm,0.2s,SNR=6.8						
ECHE				Lg		17 14 20.8	
	55nm,0.4s,SNR=10						
ERTA	**Horta de San J**	**1.24**	**57**	Pg	Pg	17 14 20.6	-1.1
	40nm,0.1s,SNR=134						
ERTA				Lg		17 14 37.3	
	90nm,0.2s,SNR=18						
ERTA	**Horta de San J**	**1.24**	**57**	Pg	Pg	17 14 20.6	-1.1
ERTA				Lg		17 14 37.3	
ERTA	**Horta de San J**	**1.24**	**57**	Pg	Pg	17 14 20.6	-1.1
	40nm,0.1s,SNR=134						
ETOB	**Tobarra**	**1.69**	**193**	Pn	Pn	17 14 26.2	-1.2
	1.3nm,0.2s,SNR=7.9						
ETOB				Pg	Pg	17 14 29.0	-1.3
	6.8nm,0.2s,SNR=11						
ETOB				Sn	Sn	17 14 47.0	-2.0
	2.3nm,0.1s,SNR=5.0						
ETOB	**Tobarra**	**1.69**	**193**	Pg	Pg	17 14 29.1	-1.3
ETOB				Sn	Sn	17 14 47.0	-2.0
ETOB	**Tobarra**	**1.69**	**193**	Pg	Pg	17 14 29.0	-1.3
	6.8nm,0.2s,SNR=11						
ETOB				Sn	Sn	17 14 47.0	-2.0
	2.3nm,0.1s,SNR=5.0						
EBEN	**Beniarda**	**1.71**	**158**	Pg	Pg	17 14 27.8	-2.9
	4.4nm,0.3s,SNR=11						
EBEN				Sn	Sn	17 14 47.2	-2.3
	3.6nm,0.2s,SNR=5.0						
EBEN	**Beniarda**	**1.71**	**158**	Pg	Pg	17 14 29.6	-1.1
EBEN				Sn	Sn	17 14 47.2	-2.3
EBEN	**Beniarda**	**1.71**	**158**	Pg	Pg	17 14 29.6	-1.1
	4.4nm,0.3s,SNR=11						
EBEN				Sn	Sn	17 14 47.2	-2.3
	3.6nm,0.2s,SNR=5.0						
EPOB	**Poblet**	**1.93**	**56**	Pn	Pn	17 14 30.0	-0.6
	1.1nm,0.1s,SNR=7.9						
EPOB				Pg	Pg	17 14 32.3	-2.5
	3.3nm,0.1s,SNR=22						
EPOB				Sn	Sn	17 14 53.0	-1.9
	3.3nm,0.1s,SNR=7.9						
EPOB				Lg		17 14 57.2	
	15nm,0.1s,SNR=16						
EPOB	**Poblet**	**1.93**	**56**	Pn	Pn	17 14 30.0	-0.6
EPOB				Pg	Pg	17 14 32.5	-2.4
EPOB				Sn	Sn	17 14 53.0	-1.9
EPOB				Lg		17 14 57.2	
EPOB	**Poblet**	**1.93**	**56**	Pn	Pn	17 14 30.0	-0.6
	1.1nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.93**	**56**	Pg	Pg	17 14 32.5	-2.4
	3.3nm,0.1s,SNR=22						
EPOB				Sn	Sn	17 14 53.0	-1.9
	3.3nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**2.00**	**215**	Pn	Pn	17 14 30.2	-1.4
	1.1nm,0.2s,SNR=7.9						
EVIA				Pg	Pg	17 14 34.1	-2.1
	15nm,0.2s,SNR=23						
EVIA	**Vianos**	**2.00**	**215**	Pg	Pg	17 14 34.1	-2.1
EVIA	**Vianos**	**2.00**	**215**	Pg	Pg	17 14 34.1	-2.1
	15nm,0.2s,SNR=23						
EIBI	**Ibiza**	**2.24**	**124**	Pn	Pn	17 14 33.5	-1.4
	3.2nm,0.2s,SNR=11						
EIBI				Sn	Sn	17 14 59.5	-3.0
	7.8nm,0.3s,SNR=5.0						
EIBI	**Ibiza**	**2.24**	**124**	Pn	Pn	17 14 33.5	-1.4
	3.2nm,0.2s,SNR=11						
EIBI				Sn	Sn	17 14 59.5	-3.0
	7.8nm,0.3s,SNR=5.0						
ESDC	**Sonseca Array**	**2.32**	**255**	Pn	Pn	17 14 34.6	-1.4
	1.6nm,0.2s,baz=75,slow=14,SNR=3.8						
ESDC				Pg	Pg	17 14 40.0	-2.4
	16nm,0.2s,baz=77,slow=17,SNR=7.9						
ESDC				Sn	Sn	17 15 01.1	-3.5
	7.8nm,0.3s,baz=74,slow=25,SNR=7.9						
ESDC				Lg		17 15 11.1	
	12nm,0.4s,baz=75,slow=30,SNR=7.9						
ESDC	**Sonseca Array**	**2.32**	**255**	Pn	Pn	17 14 34.6	-1.4
	1.6nm,0.2s,SNR=3.8						
ESDC	**Sonseca Array**	**2.32**	**255**	Pg	Pg	17 14 40.0	-2.4
	16nm,0.2s,SNR=7.9						
ESDC				Sn	Sn	17 15 01.1	-3.5
	7.8nm,0.3s,SNR=7.9						
ESLA	**Sonseca Array**	**2.32**	**255**	*e*Pn	Pn	17 14 36.6	+0.6
ESLA				*e*Pb	Pb	17 14 40.0	+0.3
ESLA				*e*Pg	Pg	17 14 42.9	+0.5
ESLA				*e*Sn	Sn	17 15 03.2	-1.4
ESLA				*e*Sb	Sb	17 15 06.8	-1.7
ESLA	**Sonseca Array**	**2.32**	**255**	*e*Pn	Pn	17 14 36.6	+0.6
ESLA	**Sonseca Array**	**2.32**	**255**	*e*Pb	Pb	17 14 40.0	+0.2
GUD	**Guadarrama**	**2.39**	**279**	Pn	Pn	17 14 35.8	-1.2
	0.7nm,0.3s,SNR=7.9						
GUD				Pg	Pg	17 14 40.9	-2.8
	2.4nm,0.2s,SNR=7.9						
GUD				Sn	Sn	17 15 02.7	-3.7
	5.3nm,0.3s,SNR=7.9						
GUD				Lg		17 15 10.9	
	17nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**2.39**	**279**	Pn	Pn	17 14 35.5	-1.5
GUD				Pg	Pg	17 14 40.9	-2.8
GUD				Sn	Sn	17 15 02.7	-3.7
GUD				Lg		17 15 10.9	
GUD	**Guadarrama**	**2.39**	**279**	Pn	Pn	17 14 35.5	-1.5
	0.7nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**2.39**	**279**	Pg	Pg	17 14 40.9	-2.8
	2.4nm,0.2s,SNR=7.9						
GUD				Sn	Sn	17 15 02.7	-3.6
	5.3nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**2.45**	**184**	Pg	Pg	17 14 43.3	-1.6
	7.8nm,0.2s,SNR=7.9						
EMUR				Lg		17 15 14.1	
	10nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**2.45**	**184**	Pg	Pg	17 14 43.3	-1.6
	7.8nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**2.48**	**352**	Pg	Pg	17 14 42.1	-3.4
	2.6nm,0.2s,SNR=7.9						
IUNC				Lg		17 15 14.9	
	8.3nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**2.48**	**352**	Pg	Pg	17 14 42.1	-3.3
	2.6nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**2.51**	**351**	Pg	Pg	17 14 43.1	-2.8
	2.6nm,0.2s,SNR=4.0						
EARA				Lg		17 15 15.3	
	12nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**2.52**	**355**	Pg	Pg	17 14 45.6	-0.5
	1.7nm,0.1s,SNR=7.9						
IPRE				Lg		17 15 15.7	
	4.1nm,0.3s,SNR=7.9						
IPRE	**Itoiz**	**2.52**	**355**	Pg	Pg	17 14 43.0	-3.1
	1.7nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**2.55**	**20**	Pn	Pn	17 14 38.9	-0.2
	0.4nm,0.2s,SNR=7.9						
EBIE				Pg	Pg	17 14 43.5	-3.2
	1.2nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	17 15 08.1	-2.1
	3.4nm,0.2s,SNR=7.9						
EBIE				Lg		17 15 16.6	
	4.2nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**2.55**	**20**	Pn	Pn	17 14 38.9	-0.3
	0.4nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**2.55**	**20**	Pg	Pg	17 14 43.5	-3.3
	1.2nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	17 15 08.1	-2.1
	3.4nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**2.63**	**8**	*e*Pg	Pg	17 14 45.2	-3.0
ETSF				*e*Sg	Sg	17 15 19.6	-2.7
	16nm,0.3s						
ETSF	**Etsaut**	**2.63**	**8**	Pn	Pn	17 14 39.2	-1.0
ETSF				Pg	Pg	17 14 45.2	-3.0
ETSF				Lg		17 15 19.6	
	8.1nm,0.3s						
ETSF	**Etsaut**	**2.63**	**8**	*e*Pn	Pn	17 14 39.2	-1.0
ETSF				*e*Pg	Pg	17 14 45.2	-3.0
ETSF				*e*Sg	Sg	17 15 19.6	-2.7
ETSF	**Etsaut**	**2.63**	**8**	*e*Pg	Pg	17 14 45.2	-3.0
ETSF				*e*Sg	Sg	17 15 19.6	-2.7
	8.1nm,0.3s						
IUSE	**Utxeti**	**2.68**	**352**	Pg	Pg	17 14 46.4	-2.8
	0.7nm,0.1s,SNR=7.9						
IUSE				Lg		17 15 20.6	
	2.8nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**2.68**	**352**	Pg	Pg	17 14 46.4	-2.7
	0.7nm,0.1s,SNR=7.9						
VIEF	**Viey**	**2.71**	**17**	Pn	Pn	17 14 40.5	-0.8
VIEF				Sg	Sg	17 15 20.8	-4.1
EHUE	**Huescar**	**2.75**	**206**	Pg	Pg	17 14 48.6	-2.0
	1.4nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**2.82**	**357**	*e*Pg	Pg	17 14 49.1	-2.8
SJPF				*e*Sn	Sn	17 15 13.8	-3.0
SJPF				*e*Sg	Sg	17 15 25.3	-3.1
	25nm,0.5s						
SJPF	**Ste Jean**	**2.82**	**357**	Pn	Pn	17 14 43.0	+0.2
SJPF				Pg	Pg	17 14 49.1	-2.8
SJPF				Sn	Sn	17 15 13.8	-3.0
SJPF				Lg		17 15 25.3	
	13nm,0.5s						
SJPF	**Ste Jean**	**2.82**	**357**	*e*Pn	Pn	17 14 43.0	+0.2
SJPF				*e*Pg	Pg	17 14 49.1	-2.8
SJPF				*e*Sn	Sn	17 15 13.8	-3.0
SJPF				*e*Sg	Sg	17 15 25.3	-3.1
SJPF	**Ste Jean**	**2.82**	**357**	*e*Pg	Pg	17 14 49.1	-2.8
SJPF				*e*Sn	Sn	17 15 13.8	-3.0
SJPF				*e*Sg	Sg	17 15 25.3	-3.1
	13nm,0.5s						
ELIZ	**Elizondo**	**2.89**	**353**	Pg	Pg	17 14 49.8	-3.4
	1.7nm,0.2s,SNR=7.9						
ELIZ				Lg		17 15 27.5	
	7.4nm,0.3s,SNR=5.0						
MELF	**Melles**	**2.91**	**27**	Pn	Pn	17 14 44.4	+0.3
MELF				Sg	Sg	17 15 28.3	-3.1
EPF	**Esparros**	**2.92**	**20**	*e*Pg	Pg	17 14 51.1	-2.8
EPF				*e*Sn	Sn	17 15 17.7	-1.7
EPF				*e*Sg	Sg	17 15 27.8	-4.0
	24nm,0.2s						
EPF	**Esparros**	**2.92**	**20**	Pn	Pn	17 14 42.9	-1.4
EPF				Pg	Pg	17 14 51.1	-2.8
EPF				Sn	Sn	17 15 17.7	-1.7
EPF				Lg		17 15 27.8	
	12nm,0.2s						
EPF	**Esparros**	**2.92**	**20**	*e*Pn	Pn	17 14 42.9	-1.4
EPF				*e*Pg	Pg	17 14 51.1	-2.8
EPF				*e*Sn	Sn	17 15 17.7	-1.7
EPF				*e*Sg	Sg	17 15 27.8	-4.0
EPF	**Esparros**	**2.92**	**20**	*e*Pg	Pg	17 14 51.1	-2.8
EPF				*e*Sn	Sn	17 15 17.7	-1.7
EPF				*e*Sg	Sg	17 15 27.8	-4.0
	12nm,0.2s						
EALK	**Alkurruntz**	**2.94**	**353**	Pn	Pn	17 14 45.1	+0.5
	2.4nm,0.4s,SNR=7.9						
EALK				Pg	Pg	17 14 51.5	-2.7
	1.8nm,0.2s,SNR=7.9						
EALK				Sn	Sn	17 15 17.7	-2.2
	7.1nm,0.2s,SNR=7.9						
EALK				Lg		17 15 29.8	
	38nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**2.94**	**353**	Pg	Pg	17 14 51.5	-2.7
	1.8nm,0.2s,SNR=7.9						
EALK				Sn	Sn	17 15 17.7	-2.2
	7.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.94**	**213**	Pn	Pn	17 14 43.1	-1.4
	0.9nm,0.1s,SNR=7.9						
EQES				Pg	Pg	17 14 52.5	-1.8
	11nm,0.2s,SNR=35						
EQES				Sn	Sn	17 15 17.4	-2.5
	1.8nm,0.2s,SNR=7.9						
EQES				Lg		17 15 30.6	
	2.8nm,0.2s,SNR=5.0						
EQES	**Quesada**	**2.94**	**213**	Pn	Pn	17 14 43.1	-1.4
EQES				Pg	Pg	17 14 52.2	-2.1
EQES				Sn	Sn	17 15 17.4	-2.5
EQES				Lg		17 15 30.6	
EQES	**Quesada**	**2.94**	**213**	Pn	Pn	17 14 43.1	-1.5
	0.9nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.94**	**213**	Pg	Pg	17 14 52.2	-2.1
	11nm,0.2s,SNR=35						
EQES				Sn	Sn	17 15 17.4	-2.5
	1.8nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**3.01**	**226**	Pn	Pn	17 14 44.1	-1.3
	1.3nm,0.2s,SNR=7.9						
EBAN				Pg	Pg	17 14 53.0	-2.5
	13nm,0.3s,SNR=13						
EBAN				Sn	Sn	17 15 19.0	-2.4
	3.6nm,0.2s,SNR=5.0						
EBAN				Lg		17 15 30.9	
	2.8nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**3.01**	**226**	Pn	Pn	17 14 43.7	-1.8
EBAN				Pg	Pg	17 14 52.7	-2.8
EBAN				Sn	Sn	17 15 19.0	-2.4
EBAN				Lg		17 15 30.9	
EBAN	**Banos Encina**	**3.01**	**226**	Pn	Pn	17 14 43.7	-1.7
	1.3nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**3.01**	**226**	Pg	Pg	17 14 52.7	-2.8
	13nm,0.3s,SNR=13						
EBAN				Sn	Sn	17 15 19.0	-2.5
	3.6nm,0.2s,SNR=5.0						
ETOS	**Mallorca**	**3.01**	**99**	Pn	Pn	17 14 44.3	-1.2
	0.7nm,0.1s,SNR=5.6						
ETOS				Sn	Sn	17 15 18.0	-3.6
	3.5nm,0.4s,SNR=5.0						
ETOS	**Mallorca**	**3.01**	**99**	Pn	Pn	17 14 44.3	-1.2
	0.7nm,0.1s,SNR=5.6						
ETOS				Sn	Sn	17 15 18.0	-3.6
	3.5nm,0.4s,SNR=5.0						
ELAN	**Lanestosa**	**3.43**	**329**	Pn	Pn	17 14 50.4	-0.9
	1.6nm,0.3s,SNR=7.9						
ELAN				Pg	Pg	17 15 00.2	-3.5
	1.8nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	17 15 28.8	-3.2
	2.7nm,0.2s,SNR=7.9						
ELAN				Lg		17 15 45.9	
	4.3nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**3.43**	**329**	Pn	Pn	17 14 50.4	-0.9
	1.6nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**3.43**	**329**	Pg	Pg	17 15 00.2	-3.5
	1.8nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	17 15 28.8	-3.2
	2.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.47**	**233**	Pn	Pn	17 14 49.8	-1.9
	1.3nm,0.3s,SNR=17						
EADA				Pg	Pg	17 15 01.2	-3.1
	4.5nm,0.2s,SNR=7.9						
EADA				Sn	Sn	17 15 29.0	-3.8
	2.6nm,0.1s,SNR=7.9						
EADA				Lg		17 15 45.7	
	4.6nm,0.3s,SNR=5.0						
EADA	**Adamuz**	**3.47**	**233**	Pn	Pn	17 14 49.8	-2.0
	1.3nm,0.3s,SNR=17						
EADA	**Adamuz**	**3.47**	**233**	Pg	Pg	17 15 01.2	-3.1
	4.5nm,0.2s,SNR=7.9						
EADA				Sn	Sn	17 15 29.0	-3.8
	2.6nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**3.61**	**212**	Pn	Pn	17 14 53.5	-0.2
	1.2nm,0.3s,SNR=4.7						
EQUE				Pg	Pg	17 15 05.2	-1.8
	2.3nm,0.2s,SNR=7.9						
EQUE				Lg		17 15 51.1	
	6.6nm,0.5s,SNR=7.9						
EBER	**Berja**	**3.69**	**204**	Pn	Pn	17 14 55.2	+0.5
	2.1nm,0.3s,SNR=7.9						
EBER				Pg	Pg	17 15 07.0	-1.5
	2.7nm,0.4s,SNR=7.9						
EBER				Lg		17 15 54.9	
	2.0nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.69**	**204**	Pn	Pn	17 14 55.2	+0.4
	2.1nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.69**	**204**	Pg	Pg	17 15 07.0	-1.5
	2.7nm,0.4s,SNR=7.9						
EPLA	**Plasencia**	**3.86**	**268**	Pn	Pn	17 14 55.7	-1.5
	0.7nm,0.1s,SNR=7.9						
EPLA				Pg	Pg	17 15 06.3	-5.5
	1.4nm,0.3s,SNR=7.9						
EPLA				Sn	Sn	17 15 38.9	-3.7
	3.6nm,0.2s,SNR=7.9						
EPLA				Lg		17 15 59.4	
	4.9nm,0.4s,SNR=7.9						
MTLF	**Montolieu**	**3.90**	**38**	*e*Pg	Pg	17 15 09.5	-3.1
MTLF				*e*Sg	Sg	17 15 58.7	-4.4
	11nm,0.4s						
MTLF	**Montolieu**	**3.90**	**38**	Pn	Pn	17 14 56.9	-0.8
MTLF				Pg	Pg	17 15 09.5	-3.1
MTLF				Lg		17 15 58.7	
	5.6nm,0.4s						
MTLF	**Montolieu**	**3.90**	**38**	*e*Pn	Pn	17 14 56.9	-0.8
MTLF				*e*Pg	Pg	17 15 09.5	-3.1
MTLF				*e*Sg	Sg	17 15 58.7	-4.4
MTLF	**Montolieu**	**3.90**	**38**	*e*Pg	Pg	17 15 09.5	-3.1
MTLF				*e*Sg	Sg	17 15 58.7	-4.4
	5.6nm,0.4s						
EARI	**Arriondas**	**4.32**	**315**	Pn	Pn	17 15 02.4	-1.2
	0.5nm,0.3s,SNR=7.9						
EARI				Sn	Sn	17 15 49.0	-4.9
	1.7nm,0.7s,SNR=7.9						
EARI				Lg		17 16 13.0	
	1.7nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**4.32**	**315**	Pn	Pn	17 15 02.4	-1.1
	0.5nm,0.3s,SNR=7.9						
EARI				Sn	Sn	17 15 49.0	-4.9
	1.7nm,0.7s,SNR=7.9						
PBRG	**Braganca**	**4.56**	**291**	*e*Sn	Sn	17 15 55.9	-3.9
PBRG				*e*Sg	Sg	17 16 20.

1.0nm,0.3s,SNR=7.9
EPON Lg 17 16 49.0
3.1nm,0.5s,SNR=7.9
EPON Pontenova 5.47 306 Sn Sn 17 16 16.9 -5.4
1.0nm,0.3s,SNR=7.9
ELOB Lobios 5.53 289 Pn Pn 17 15 18.4 -1.7
1.1nm,0.2s,SNR=4.8
ELOB Sn Sn 17 16 19.1 -4.6
2.0nm,0.2s,SNR=7.9
ELOB Lg 17 16 50.3
5.9nm,0.7s,SNR=5.0
ELOB Lobios 5.53 289 Pn Pn 17 15 18.4 -1.7
1.1nm,0.2s,SNR=4.8
ELOB Sn Sn 17 16 19.1 -4.5
EGRO El Granado 5.72 243 Pn Pn 17 15 20.3 -2.5
1.1nm,0.3s,SNR=7.9
EGRO Sn Sn 17 16 22.6 -5.8
1.1nm,0.3s,SNR=7.9
EGRO Lg 17 16 58.7
2.7nm,0.5s,SNR=7.9
EGRO El Granado 5.72 243 Pn Pn 17 15 20.3 -2.5
EGRO Sn Sn 17 16 22.6 -5.9

*NEIC **28** 17:35:22.6, 3249S×7184W, h25km, ML3.6(GUC), After GUC.*

GUC 28 17:35:22.6±0.8, 3249S×7184W, h25km±5km, MD4.2, ML3.6, 9C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.56**	**163**	⇓*iP*		Pb	17 35 33.3	-0.6
IHA				*i* S		Sb	17 35 41.3	-0.2
CHNG	**Los Chungos**	**0.67**	**26**	⇓*iP*		Pb	17 35 35.0	-0.6
CHNG				*i* S		Sb	17 35 44.5	+0.1
CHNG				AML	AML	17 35 46.4	
	comp=E,3μm,0.4s						
ROCH	**El Roble**	**0.85**	**125**	⇑*iP*		Pb	17 35 38.4	-0.3
ROCH				*i* S		Sb	17 35 49.9	+0.2
JACH	**Jahuel**	**1.07**	**101**	⇑*iP*		Pn	17 35 41.8	-0.2
JACH				*i* S		Sb	17 35 56.0	0.0
PEL	**Peldehue**	**1.17**	**124**	⇓*iP*		Pn	17 35 43.5	+0.1
PEL				*i* S		Sn	17 35 58.9	+0.3
PEL				AML	AML	17 36 01.8	
	comp=N,6μm,0.6s						
PEL	**Peldehue**	**1.17**	**124**	⇓*iP*		Pn	17 35 43.5	+0.1
PEL				*i* S		Sn	17 35 58.9	+0.3
RCDM	**Rinconada Maip**	**1.32**	**139**	*eP*		Pn	17 35 45.5	0.0
RCDM				*i* S		Sn	17 36 03.1	+0.8
RCDM				AML	AML	17 36 05.8	
	comp=N,2μm,0.4s						
RCDM	**Rinconada Maip**	**1.32**	**139**	*eP*		Pn	17 35 45.5	0.0
RCDM				*i* S		Sn	17 36 03.1	+0.8
SAN	**Santiago**	**1.38**	**135**	⇓*iP*		Pn	17 35 46.9	+0.6
SAN				*i* S		Sn	17 36 04.8	+1.0
SAN				AML	AML	17 36 11.0	
	comp=E,2μm,0.3s						
SAN	**Santiago**	**1.38**	**135**	⇓*iP*		Pn	17 35 46.9	+0.6
SAN				*i* S		Sn	17 36 04.8	+1.0
STL	**Santa Lucia**	**1.38**	**134**	⇑*iP*		Pn	17 35 46.1	-0.2
STL				*i* S		Sn	17 36 04.4	+0.6
STL				AML	AML	17 36 09.2	
	comp=E,1μm,0.6s						
TACH	**Talagante**	**1.39**	**147**	*eP*		Pn	17 35 46.7	+0.3
TACH				*i* S		Sn	17 36 05.1	+1.2
DSCH	**Colegio Aleman**	**1.40**	**131**	⇓*iP*		Pn	17 35 46.4	-0.2
DSCH				*i* S		Sn	17 36 05.0	+0.7
CLCH	**Cerro Calan**	**1.42**	**130**	⇓*iP*		Pn	17 35 47.4	+0.5
CLCH				*i* S		Sn	17 36 06.3	+1.5
CLCH				AML	AML	17 36 08.8	
	comp=N,2μm,0.4s						
CLCH				AML	AML	17 36 10.4	
	comp=N,2μm,0.4s						
ANTU	**Antumapu**	**1.48**	**137**	*eP*		Pn	17 35 48.6	+1.0
ANTU				*eS*		Sn	17 36 08.1	+1.9
ANTU				AML	AML	17 36 13.3	
	comp=N,2μm,0.5s						
ANTU	**Antumapu**	**1.48**	**137**	*eP*		Pn	17 35 48.6	+1.0
ANTU				*eS*		Sn	17 36 08.1	+1.9
CMCH	**Combarbala**	**1.49**	**29**	⇑*iP*		Pn	17 35 48.0	+0.3
CMCH				*i* S		Sn	17 36 07.8	+1.5
CMCH				AML	AML	17 36 13.4	
	comp=N,6μm,0.6s						
CMCH	**Combarbala**	**1.49**	**29**	⇑*iP*		Pn	17 35 48.0	+0.3
CMCH				*i* S		Sn	17 36 07.8	+1.5
LNV	**Longovilo**	**1.51**	**166**	⇑*iP*		Pn	17 35 48.8	+0.8
LNV				*i* S		Sn	17 36 07.8	+0.9
PCH	**Pirque**	**1.59**	**136**	⇑*iP*		Pn	17 35 49.9	+0.8
PCH				*i* S		Sn	17 36 10.6	+1.8
SJCH	**San Jose de Ma**	**1.70**	**133**	*eP*		Pn	17 35 51.4	+0.8
SJCH				*i* S		Sn	17 36 13.7	+2.1
SJCH				AML	AML	17 36 18.7	
	comp=N,640nm,0.5s						
SJCH	**San Jose de Ma**	**1.70**	**133**	*eP*		Pn	17 35 51.4	+0.8
SJCH				*i* S		Sn	17 36 13.7	+2.1
CHCH	**Chadas Angostu**	**1.75**	**146**	⇓*iP*		Pn	17 35 52.5	+1.1
CACH	**El Canelo**	**1.93**	**148**	⇑*iP*		Pn	17 35 55.5	+1.6
CACH				*i* S		Sn	17 36 21.6	+4.3
CICH	**Cipreses**	**2.18**	**147**	⇑*iP*		Pn	17 35 58.8	+1.5
CICH				*i* S		Sn	17 36 28.1	+4.6
MDZ	**Mendoza**	**2.55**	**100**	*eP*		Pn	17 36 06.8	+4.4
MDZ				*e*			17 36 18.7	
MDZ				*e*			17 36 46.6	

*IDC **28** 17:47:43.1±5.5, 9285×12766E, h0km, mb4.1/1, mb1 4.1/4, mb1mx3.7/14, mbtmp3.9/4, ML4.0/3, Error ellipse: s-maj=69.9km s-min=54.7km az=126.0*

*ISCJB **28** 17:47:44.4±1.9, 935±01×1276E±0.1, h33km, mb3.9/1, Error ellipse: s-maj=16.4km s-min=13.7km az=95.3*

ISC 28 17:47:45.4±1.9, 92S±01×1275E±01, h35km, n9, σ1⅘25/16, mb3.9/1, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**5.98**	**127**	*eP*		**Pn**	**17 49 13.2**	**+1.8**
	15nm,0.8s						
KAKA				*eS*		**Sn**	**17 50 25.6**	**+7.0**
FITZ	**Fitzroy Crossi**	**9.08**	**191**	*eP*		**Pn**	**17 49 53.6**	**-0.3**
	7.2nm,0.4s						
FITZ				*eS*		**Sn**	**17 51 35.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**9.08**	**191**	Pn		**Pn**	**17 49 54.1**	**+0.2**
	1.6nm,0.3s,baz=32,slow=13,SNR=46						
FITZ				Sn		**Sn**	**17 51 38.8**	**+3.9**
	2.1nm,0.3s,baz=104,slow=24,SNR=7.7						
WRA	**Warramunga Arr**	**12.59**	**149**	Pn		**Pn**	**17 50 40.9**	**-1.0**
	1.1nm,0.3s,baz=323,slow=14,SNR=53						
WRA				Sn		**Sn**	**17 53 00.7**	**-0.1**
	1.0nm,0.3s,baz=328,slow=22,SNR=7.4						
WB2	**Warramunga Arr**	**12.59**	**149**	*eP*		**Pn**	**17 50 40.8**	**-1.2**
WB2				*eS*		**Sn**	**17 52 59.8**	**-1.1**
ASPA	**Alice Springs**	**15.67**	**158**	*eP*		**Pn**	**17 51 22.7**	**-0.7**
ASPA				*eS*		**S**	**17 54 15.1**	**-15**
ASAR	**Alice Springs**	**15.67**	**158**	Pn		**Pn**	**17 51 22.3**	**-1.1**
	0.4nm,0.3s,baz=322,slow=10,SNR=22						
ASAR				Sn		**Sn**	**17 54 18.5**	**+2.6**
	0.3nm,0.3s,baz=327,slow=18,SNR=7.4						
STKA	**Stephens Creek**	**26.11**	**152**	*eP*		**P**	**17 53 17.5**	**+1.6**
	6.4nm,1.5s,mb3.9						
STKA	**Stephens Creek**	**26.11**	**152**	P		**P**	**17 53 17.4**	**+1.5**
	3.5nm,1.0s,mb3.8,baz=328,slow=15,SNR=3.6						

*NEIC **28** 17:50:01.2, 3186S×6989W, h136km, MG3.7(GUC), After GUC.*

GUC 28 17:50:01.2±0.8, 3186S×6989W, h136km±7km, MD3.6, ML3.7, 17C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACH	**Jahuel**	**1.01**	**216**	⇑*iP*		Pn	17 50 25.1	+0.4
JACH				*i* S		Sn	17 50 43.5	+0.9
CMCH	**Combarbala**	**1.17**	**305**	⇓*iP*		Pn	17 50 26.6	+0.4
CMCH				*i* S		Sn	17 50 46.0	+0.7
CMCH				AML	AML	17 50 47.3	
	comp=N,3μm,0.5s						
CMCH	**Combarbala**	**1.17**	**305**	⇓*iP*		Pn	17 50 26.6	+0.4
CMCH				*i* S		Sn	17 50 46.0	+0.7
CHNG	**Los Chungos**	**1.37**	**269**	⇑*iP*		Pn	17 50 29.0	+0.8
CHNG				*i* S		Sn	17 50 48.9	0.0
PEL	**Peldehue**	**1.45**	**207**	⇑*iP*		Pn	17 50 29.3	+0.2
PEL				*i* S		Sn	17 50 50.8	+0.4
PEL				AML	AML	17 50 51.1	
	comp=N,1μm,0.3s						
PEL	**Peldehue**	**1.45**	**207**	⇑*iP*		Pn	17 50 29.3	+0.2
PEL				*i* S		Sn	17 50 50.8	+0.4
ROCH	**El Roble**	**1.46**	**220**	⇑*iP*		Pn	17 50 29.7	+0.4
ROCH				*i* S		Sn	17 50 51.3	+0.7
CLCH	**Cerro Calan**	**1.63**	**199**	⇓*iP*		Pn	17 50 31.7	+0.6
CLCH				*i* S		Sn	17 50 54.5	+0.5
CLCH				AML	AML	17 50 59.2	
	comp=E,841nm,0.4s						
CLCH				AML	AML	17 50 59.8	
	comp=E,1μm,0.4s						
OVCH	**Ovalle**	**1.68**	**318**	⇑*iP*		Pn	17 50 32.0	+0.4
OVCH				*i* S		Sn	17 50 55.8	+0.8
OVCH				AML	AML	17 50 56.9	
	comp=E,489nm,0.2s						
OVCH	**Ovalle**	**1.68**	**318**	⇑*iP*		Pn	17 50 32.0	+0.4
OVCH				*i* S		Sn	17 50 55.8	+0.8
SAN	**Santiago**	**1.72**	**202**	*i* S		Sn	17 50 56.4	+0.6
SAN				AML	AML	17 50 57.9	
	comp=E,447nm,0.3s						
RCDM	**Rinconada Maip**	**1.80**	**205**	⇓*iP*		Pn	17 50 33.5	+0.4
RCDM				*i* S		Sn	17 50 58.1	+0.6
RCDM				AML	AML	17 50 58.8	
	comp=E,929nm,0.1s						
ANTU	**Antumapu**	**1.82**	**200**	⇑*iP*		Pn	17 50 33.8	+0.5
ANTU				*i* S		Sn	17 50 58.5	+0.7
ANTU				AML	AML	17 50 59.6	
	comp=N,511nm,0.3s						
ANTU	**Antumapu**	**1.82**	**200**	⇑*iP*		Pn	17 50 33.8	+0.5
ANTU				*i* S		Sn	17 50 58.5	+0.7
PCH	**Pirque**	**1.83**	**197**	*eP*		Pn	17 50 34.0	+0.5
PCH				*i* S		Sn	17 50 59.4	+1.2
TLL	**Tololo Astrono**	**1.86**	**335**	⇑*iP*		Pn	17 50 34.9	+1.1
TLL				*i* S		Sn	17 51 00.1	+1.3
TLL				AML	AML	17 51 04.6	
	comp=N,951nm,0.4s						
TLL	**Tololo Astrono**	**1.86**	**335**	⇑*iP*		Pn	17 50 34.9	+1.1
TLL				*i* S		Sn	17 51 00.1	+1.3
TACH	**Talagante**	**2.00**	**206**	⇑*iP*		Pn	17 50 35.4	0.0
TACH				*i* S		Sn	17 51 02.7	+1.1
LCCH	**Las Cruces**	**2.15**	**221**	⇑*iP*		Pn	17 50 37.7	+0.5
CHCH	**Chadas Angostu**	**2.17**	**197**	⇑*iP*		Pn	17 50 37.8	+0.4
CHCH				*i* S		Sn	17 51 06.0	+0.7
LSCH	**La Serena**	**2.27**	**329**	*eP*		Pn	17 50 39.0	+0.3
LSCH				*i* S		Sn	17 51 07.4	-0.1
CACH	**El Canelo**	**2.33**	**195**	⇑*iP*		Pn	17 50 40.5	+1.0
CACH				*i* S		Sn	17 51 10.5	+1.6
LNV	**Longovilo**	**2.45**	**211**	⇓*iP*		Pn	17 50 40.6	-0.4
CICH	**Cipreses**	**2.50**	**190**	⇑*iP*		Pn	17 50 42.3	+0.7
CICH				*i* S		Sn	17 51 14.1	+1.5
SFDO	**San Fernando**	**2.91**	**199**	⇑*iP*		Pn	17 50 46.5	-0.3
SFDO				*i* S		Sn	17 51 21.6	-0.3

*ISCJB **28** 18:00:24.8±1.3, 1950S±008×708W±0.1, h109km±16km, mb4.0/5, Error ellipse: s-maj=17.0km s-min=13.2km az=46.5*

*NEIC **28** 18:00:24.4±1.2, 1948S×7073W, h78km±11km, mb4.0/3, Error ellipse: s-maj=20.2km s-min=11.4km az=99.0*

*IDC **28** 18:00:26.7±3.2, 1961S×7045W, h91km±26km, mb3.9/4, mb1 3.7/6, mb1mx3.5/18, mbtmp4.0/6, MS3.5/7, Ms1 3.5/7, ms1mx3.3/32, Error ellipse: s-maj=37.7km s-min=22.3km az=116.0*

ISC 28 18:00:26.0±1.2, 1953S±008×707W±02, h96km±16km, n24, σ0⅘94/20, mb4.0/5, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**3.15**	**345**	*eP*		**Pn**	**18 01 10.0**	**-3.6**
ARE				*eS*		**Sn**	**18 01 51.0**	**+0.7**
LPAZ	**La Paz**	**4.02**	**37**	P		**Pn**	**18 01 25.3**	**-0.1**
	2.9nm,0.3s,baz=247,slow=9.6,SNR=30						
LPAZ				S		**Sn**	**18 02 26.2**	**+15**
	2.4nm,0.3s,baz=214,slow=21,SNR=1.7						
LPAZ				LR	LR	18 03 13.6	
	comp=Z,609nm,18.2s,baz=231,slow=42						
LPAZ	**La Paz**	**4.02**	**37**	*eP*		**Pn**	**18 01 26.1**	**+0.7**
SIV	**San Ignacio**	**9.79**	**70**	P		**Pn**	**18 02 39.0**	**-4.8**
	2.9nm,0.3s,baz=259,slow=11,SNR=52						
SIV				S		**Sn**	**18 04 37.9**	**+6.1**
	baz=175,slow=23,SNR=2.0						
CFAA	**Coronel Fontan**	**12.22**	**170**	P		**Pn**	**18 03 17.0**	**+0.3**
	0.1nm,0.3s,baz=2.2,slow=12,SNR=5.6						
CFAA				S		**Sn**	**18 05 40.0**	**+9.0**
	0.1nm,0.3s,baz=31,slow=16,SNR=2.3						
CFAA				LR	LR	18 08 00.9	
	comp=Z,31nm,18.3s,baz=146,slow=38						
CFAA	**Coronel Fontan**	**12.22**	**170**	P		**Pn**	**18 03 17.0**	**+0.3**
CFAA				S		**Sn**	**18 05 40.0**	**+9.0**
CFAA				LR	LR	18 08 00.9	
SAML	**Samuel**	**12.77**	**36**	*eP*		**Pn**	**18 03 22.0**	**-1.9**
	5.8nm,1.0s						
CPUP	**Villa Florida**	**14.02**	**121**	P		**Pn**	**18 03 31.0**	**-9.2**
	7.8nm,0.6s						
ATAH	**Atahualpa**	**14.54**	**328**	LR	LR	18 10 26.5	
	comp=Z,131nm,19.6s,baz=148,slow=41						
TRQA	**Tornquist**	**19.95**	**160**	*eP*		**Pn**	**18 04 45.4**	**-7.5**
	6.1nm,0.8s						
PLCA	**Paso Flores**	**21.14**	**180**	P		**P**	**18 05 03.1**	**0.0**
	3.0nm,0.9s,mb3.6,baz=340,slow=14,SNR=4.3						
PLCA	**Paso Flores**	**21.14**	**180**	*eP*		**P**	**18 05 03.3**	**+0.2**
	4.4nm,1.0s,mb3.7						
BDFB	**Brasilia**	**21.93**	**83**	P		**P**	**18 05 11.9**	**+0.3**
	5.6nm,0.7s,mb4.0,baz=267,slow=7.1,SNR=5.5						
BDFB				LR	LR	18 14 43.8	
	comp=Z,230nm,20.8s,baz=259,slow=39						
ROSC	**El Rosal**	**24.50**	**351**	LR	LR	18 16 41.3	
	comp=Z,116nm,18.9s,baz=134,slow=40						
DBIC	**Dimbokro**	**69.78**	**75**	P		**P**	**18 11 26.4**	**+0.5**
	2.4nm,0.7s,mb4.2,baz=156,slow=3.4,SNR=3.5						
QSPA	**South Pole Qui**	**70.65**	**180**	*eP*		**P**	**18 11 30.2**	**-1.0**
	4.7nm,1.2s,mb4.2						
YBH	**Yreka Blue Hor**	**77.65**	**323**	LR	LR	18 49 35.9	
	comp=Z,77nm,19.4s,baz=211,slow=38						
TORD	**Torodi Ar. Bea**	**78.27**	**71**	P		**P**	**18 12 15.9**	**+0.7**
	2.8nm,0.6s,mb4.2,baz=251,slow=5.2,SNR=16						
BOSA	**Boshof**	**85.83**	**119**	LR	LR	18 45 17.7	
	comp=Z,68nm,19.0s,baz=176,slow=31						
ASAR	**Alice Springs**	**130.84**	**210**	PKP	PKPdf	18 19 27.0	+1.0
	0.7nm,1.0s,baz=110,slow=1.3,SNR=5.2						
WRA	**Warramunga Arr**	**133.75**	**213**	PKP	PKPdf	18 19 33.2	+1.7
	0.3nm,0.8s,baz=150,slow=1.5,SNR=8.3						
MKAR	**Makanchi Array**	**144.94**	**33**	PKP	PKPdf	18 19 53.0	+1.2
	1.1nm,0.5s,baz=332,slow=4.0,SNR=4.9						
MJAR	**Matsushiro Arr**	**149.56**	**310**	PKPbc	PKPbc	18 20 06.3	+2.1
	0.7nm,0.5s,baz=166,slow=0.5,SNR=4.1						
SONM	**Songino Array**	**151.66**	**4**	PKPbc	PKPbc	18 20 11.4	+2.3
	0.5nm,0.5s,baz=290,slow=0.5,SNR=5.1						

*MOS **28** 18:45:03.9±1.9, 8047N×12005E, h10km, mb4.3/6, Error ellipse: s-maj=54.1km s-min=11.7km az=89.8*

*ISCJB **28** 18:45:05.3±0.5, 8036N±007×1194E±04, h10km, mb3.9/27, MS3.2/8, Error ellipse: s-maj=10.7km s-min=9.7km az=169.5*

*IDC **28** 18:45:05.8±0.8, 8042N×11853E, h0km, mb3.8/16, mb1 4.0/16, mb1mx3.9/25, mbtmp3.8/16, MS3.3/8, Ms1 3.3/8, ms1mx3.0/32, Error ellipse: s-maj=21.2km s-min=17.4km az=146.0*

*NEIC **28** 18:45:07.7±0.6, 8050N×11891E, h10km, mb4.1/3, Error ellipse: s-maj=14.6km s-min=10.5km az=156.0*

ISC 28 18:45:06.7±0.5, 8039N±008×1191E±04, h10km, (h33km±4.3km; pP-P), n53, σ1⅘34/50, mb3.9/27, MS3.2/8, 3C-2D, East of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YAK	**Yakutsk**	**18.69**	**164**	*i* P		**Pn**	**18 49 21.9**	**-3.5**
DAG	**Danmarks Havn**	**21.47**	**335**	⇓*iP*		**P**	**18 49 50.8**	**-4.5**
	3.4nm,0.9s,mb3.7						
DAG	**Danmarks Havn**	**21.47**	**335**	⇓*iP*		**P**	**18 49 50.8**	**-4.5**
DAG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.6						
BOD	**Bodaibo**	**22.73**	**187**	*eP*		**P**	**18 50 08.3**	**-0.4**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.8						
ARCES	**ARCESS Array B**	**23.21**	**297**	P		**P**	**18 50 13.3**	**-0.5**
	comp=Z,3.2nm,0.8s,mb3.8,baz=39,slow=9.8,SNR=12						
ARCES				LR	LR	19 00 03.8	
	comp=Z,30nm,19.5s,MS2.8,baz=251,slow=39						
ARE0	**ARCESS Array S**	**23.21**	**297**	*eP*		**P**	**18 50 14.4**	**+0.6**
INK	**Inuvik**	**26.31**	**53**	P		**P**	**18 50 36.7**	**-5.7**
	comp=Z,0.8nm,0.5s,mb3.5,baz=3.3,slow=8.4,SNR=6.1						
INK				LR	LR	18 59 55.9	
	comp=Z,85nm,19.3s,MS3.3,baz=111,slow=34						
INK	**Inuvik**	**26.31**	**53**	*eP*		**P**	**18 50 36.7**	**-5.8**
INK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
INK	**Inuvik**	**26.31**	**53**	*eP*		**P**	**18 50 36.7**	**-5.8**
	comp=Z,7.3nm,1.0s,mb4.2						
JOF	**Joensuu**	**28.43**	**286**	*ep*		**P**	**18 51 08.1**	**+6.6**
	comp=Z,2.8nm,0.5s,mb4.2						
ZAL	**Zalesovo**	**28.70**	**224**	LR	LR	19 04 13.3	
	comp=Z,143nm,19.2s,MS3.6,baz=88,slow=40						
KAF	**Kangasniemi**	**29.99**	**290**	*ep*		**P**	**18 51 21.9**	**+6.6**
	comp=Z,3.5nm,0.6s,mb4.3,baz=22,slow=8.5						
SML	**Sawmill**	**30.24**	**70**	*eP*		**P**	**18 51 17.8**	**+0.3**
FINES	**FINESS Array B**	**30.66**	**290**	P		**P**	**18 51 20.6**	**-0.7**
	comp=Z,0.9nm,0.7s,mb3.7,baz=28,slow=8.6,SNR=3.8						
FINES	**FINESS Array B**	**30.66**	**290**	⇑*eP*		**P**	**18 51 20.7**	**-0.5**
CHKZ	**Chkalovo**	**30.84**	**240**	*eP*		**P**	**18 51 25.0**	**+2.2**
BVAR	**Borovoye Array**	**31.50**	**240**	P		**P**	**18 51 28.1**	**-0.6**
	comp=Z,0.1nm,0.3s,mb3.1,baz=46,slow=10,SNR=2.3						
ZRNK	**Zerenda**	**31.78**	**242**	*eP*		**P**	**18 51 33.6**	**+2.5**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.0						
ZRNK	**Zerenda**	**31.78**	**242**	*eP*		**P**	**18 51 33.6**	**+2.4**
	comp=Z,3.1nm,1.3s,mb4.0						
SONM	**Songino Array**	**32.97**	**196**	P		**P**	**18 51 43.5**	**+1.9**
	comp=Z,0.2nm,0.2s,mb3.6,baz=16,slow=7.5,SNR=2.9						
SONM				PcP	PcP	18 54 23.8	-1.7
	comp=Z,0.4nm,0.5s,baz=5.9,slow=0.8,SNR=4.0						
SONM				LR	LR	19 06 29.2	
	comp=Z,68nm,19.1s,MS3.4,baz=185,slow=39						
SONM	**Songino Array**	**32.97**	**196**	P		**P**	**18 51 43.5**	**+1.9**
SONM							18 54 23.8	
NB2	**NORSAR Subarra**	**33.28**	**302**	P		**P**	**18 51 43.0**	**-1.3**
	comp=Z,1.7nm,0.6s,mb4.2,baz=15,slow=9.3						
NOA	**NORSAR Array B**	**33.28**	**302**	P		**P**	**18 51 43.2**	**-1.1**
	comp=Z,1.4nm,0.5s,mb4.1,baz=16,slow=8.8,SNR=7.3						
NOA				LR	LR	19 06 05.9	
	comp=Z,25nm,20.4s,MS2.9,baz=15,slow=38						
NOA	**NORSAR Array B**	**33.28**	**302**	P		**P**	**18 51 43.2**	**-1.1**
NOA				LR	LR	19 06 05.9	
YKA	**Yellowknife Ar**	**34.22**	**42**	LR	LR	19 04 25.1	
	comp=Z,22nm,18.8s,MS2.9,baz=335,slow=34						
YSS	**Yuzh-Sakhalins**	**34.55**	**151**	*eP*		**P**	**18 51 53.6**	**-1.7**
YSS				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
AKTK	**Aktyubinsk**	**35.92**	**253**	P		**P**	**18 52 05.9**	**-1.2**
AKTO	**Aktyubinsk**	**35.92**	**253**	P		**P**	**18 52 05.9**	**-1.2**
	comp=Z,0.5nm,0.3s,mb3.9,baz=16,slow=5.9,SNR=4.3						
MKAR	**Makanchi Array**	**36.03**	**224**	P		**P**	**18 52 08.3**	**+0.2**
	comp=Z,0.5nm,0.9s,mb3.5,baz=331,slow=5.6,SNR=3.4						
MKAR				PcP	PcP	18 54 32.1	-2.2
	comp=Z,0.6nm,0.6s,baz=358,slow=3.6,SNR=7.2						
MKAR	**Makanchi Array**	**36.03**	**224**	P		**P**	**18 52 08.3**	**+0.2**
MKAR				PcP	PcP	18 54 32.1	-2.2
AKASG	**Malin Array Be**	**40.45**	**281**	P		**P**	**18 52 44.5**	**-0.8**
	comp=Z,0.5nm,0.4s,mb3.6,baz=15,slow=8.9,SNR=4.5						
AKASG	**Malin Array Be**	**40.45**	**281**	P		**P**	**18 52 44.5**	**-0.8**
EKA	**Eskdalemuir Ar**	**40.74**	**312**	P		**P**	**18 52 46.1**	**-1.6**
	comp=Z,0.8nm,0.8s,mb3.4,baz=6.2,slow=9.2,SNR=4.7						
CLL	**Collm**	**42.43**	**297**	⇑P		**P**	**18 53 09.1**	**+7.6**
	comp=Z,logA/T=0.9,mb4.3						
CLL	**Collm**	**42.43**	**297**	⇑*iP*		**P**	**18 53 09.1**	**+7.6**
	comp=Z,8.0nm,1.0s,mb4.3						
BRG	**Berggiesshubel**	**42.71**	**296**	*eP*		**P**	**18 53 11.6**	**+7.8**
	comp=Z,3.4nm,1.4s,mb3.9						
DPC	**Dobruska-Polom**	**42.85**	**293**	*eP*		**P**	**18 53 05.2**	**+0.2**
DPC				*epP*	*pP*	18 53 13.3	+5.2
MOX	**Moxa**	**43.28**	**298**	*eP*		**P**	**18 53 16.4**	**+8.0**
	comp=Z,6.0nm,0.9s,mb4.3						
KOLS	**Kolonicke sedl**	**43.29**	**287**	*e*		**P**	**18 53 17.1**	**+8.6**
CRVS	**Cervenica-Dubn**	**43.45**	**288**	*e*		**P**	**18 53 17.5**	**+7.7**
NKC	**Novy Kostel**	**43.56**	**297**	*eP*		**P**	**18 53 11.0**	**+0.3**
NKC				*epP*	*pP*	18 53 19.0	+5.2
VYHS	**Vyhne**	**44.27**	**290**	*e*		**P**	**18 53 00.0**	**-16**
VYHS				*e*			18 53 24.5	
KHC	**Kasperske Hory**	**44.46**	**295**	*eP*		**P**	**18 53 13.8**	**-4.1**
KHC				*epP*	*pP*	18 53 26.1	+5.0
GERES	**GERESS Array B**	**44.72**	**295**	P		**P**	**18 53 19.3**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.5,baz=23,slow=7.2,SNR=6.4						
GERES				LR	LR	19 17 13.6	
	comp=Z,58nm,18.1s,MS3.5,baz=121,slow=43						
KIV	**Kislovodsk**	**44.74**	**266**	P		**P**	**18 53 23.0**	**+2.9**
KIV				*e*			18 53 30.3	
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
MLR	**Muntele Rosu**	**46.04**	**283**	P		**P**	**18 53 31.8**	**+1.4**
	comp=Z,2.3nm,0.7s,mb4.2,baz=169,slow=6.5,SNR=3.8						
**ULM

MD3.9/13, **11C-1D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.62**	**129**⇓	*e*P	Pn	20 07 06.8	-0.8
AGPR				*e*S	Sn	20 07 27.2	-0.1
LSP	**Las Mesas**	**1.83**	**135**⇑	*e*P	Pn	20 07 09.1	-1.4
LSP				*e*S	Sn	20 07 31.3	-1.2
LRS	**Lares**	**1.92**	**128**⇑	*e*P	Pn	20 07 10.5	-1.2
LRS				*e*S	Sn	20 07 33.6	-1.1
CRPR	**Cabo Rojo, PR**	**1.94**	**139**⇑	*e*P	Pn	20 07 10.4	-1.6
CRPR				*e*S	Sn	20 07 34.6	-0.6
MGP	**Maguayo**	**1.95**	**139**⇑	*e*P	Pn	20 07 11.4	-0.7
MGP				*e*S	Sn	20 07 35.1	-0.3
AOPR	**Arecibo Observ**	**1.96**	**125**⇑	*e*P	Pn	20 07 11.2	-1.0
AOPR				*e*S	Sn	20 07 35.0	-0.7
CELP	**Cerrillos**	**2.25**	**128**⇑	*i*P	Pn	20 07 16.2	0.0
CELP				*e*S	Sn	20 07 42.2	-0.7
OBIP	**Obispado Ponce**	**2.25**	**129**⇑	*e*P	Pn	20 07 15.2	-1.0
OBIP				*e*S	Sn	20 07 42.3	-0.6
ICM	**Isla Caja Muer**	**2.41**	**131**⇑	*e*P	Pn	20 07 18.7	+0.3
ICM				*e*S	Sn	20 07 46.0	-0.8
SJG	**San Juan**	**2.56**	**122**⇑	*e*P	Pn	20 07 19.5	-1.0
SJG				*e*S	Sn	20 07 49.3	-1.3
CBYP	**Canovanas**	**2.73**	**116**⇑	*e*P	Pn	20 07 21.7	-1.1
CPD	**Cerro la Pandu**	**2.79**	**121**	*e*Pn	Pn	20 07 21.6	-2.0
HUMP	**Col San Antoni**	**2.79**	**118**⇑	*e*P	Pn	20 07 23.8	+0.2
HUMP				*e*S	Sn	20 07 56.6	+0.4
MTP	**Monte Pirata**	**3.06**	**116**⇑	*e*P	Pn	20 07 26.5	-0.9

ISCJB ***28*** *20:18:29.2±0.5, 3662N±007×504E±007, h10km, Error ellipse: s-maj=12.1km s-min=4.3km az=74.0*
CRAAG ***28*** *20:18:29.9, 3654N×529E, Ml3.1*
MDD ***28*** *20:18:31.4±0.9, 3680N×525E, h0km, mb3.9/3, Error ellipse: s-maj=34.9km s-min=5.9km az=35.0, PRXIMO*
CSEM ***28*** *20:18:34.8±0.1, 3689N×527E, h25km, ML2.8/4, Error ellipse: s-maj=3.2km s-min=1.2km az=43.0*

ISC 28 20:18:30.7±1.1, 3662N±008×513E±007, h12km±14km, n20, σ1@44/28, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	**Setif**	**0.48**	**152**	P	**Pg**	**20 18 39.0**	**-1.1**
DFRA	**Djebel Bou Aff**	**0.61**	**97**	P	**Pg**	**20 18 41.0**	**-1.6**
CKHR	**Kef el Ahmar**	**0.68**	**153**	P	**Sg**	**20 18 52.0**	**-0.9**
CASM	**Ain Smara**	**1.16**	**108**	P	**Pb**	**20 18 53.0**	**+0.3**
EMHD	**Djebel Mahouad**	**1.80**	**257**	P	**Pg**	**20 19 08.5**	**+3.2**
CMAH	**Djebel Manchou**	**1.84**	**89**	P	**Pg**	**20 19 07.0**	**+0.9**
ABSA	**Djebel Ababsia**	**1.93**	**100**	P	**Pn**	**20 19 06.0**	**+2.6**
CABS	**Djebel Ababsia**	**1.93**	**100**	P	**Pn**	**20 19 06.0**	**+2.6**
ETOS	**Mallorca** 1.4nm,0.1s,SNR=18	**3.63**	**331**	Pn	**Pn**	**20 19 27.0**	**+0.2**
ETOS	1.9nm,0.1s,SNR=7.9			Sn	**Sn**	**20 20 06.7**	**-2.9**
ETOS	**Mallorca** 1.4nm,0.1s,SNR=18	**3.63**	**331**	Pn	**Pn**	**20 19 27.0**	**+0.2**
ETOS	1.9nm,0.1s,SNR=7.9			Sn	**Sn**	**20 20 03.6**	**-5.9**
EIBI	**Ibiza** 1.9nm,0.2s,SNR=7.9	**3.84**	**310**	Pn	**Pn**	**20 19 30.6**	**+0.9**
EIBI	1.2nm,0.2s,SNR=7.9			Sn	**Sn**	**20 20 12.5**	**-2.1**
EIBI	**Ibiza** 1.9nm,0.2s,SNR=7.9	**3.84**	**310**	Pn	**Pn**	**20 19 30.6**	**+1.0**
EIBI	1.2nm,0.2s,SNR=7.9			Sn	**Sn**	**20 20 12.5**	**-2.1**
EBEN	**Beniarda** 0.5nm,0.1s,SNR=7.9	**4.73**	**298**	Pn	**Pn**	**20 19 42.4**	**+0.5**
EBEN	**Beniarda** 0.5nm,0.1s,SNR=7.9	**4.73**	**298**	Pn	**Pn**	**20 19 42.4**	**+0.6**
ETOB	**Tobarra** 0.7nm,0.1s,SNR=7.9	**5.67**	**293**	Pn	**Pn**	**20 19 56.2**	**+1.4**
ETOB	0.2nm,0.1s,SNR=4.0			Sn	**Sn**	**20 20 58.6**	**-1.2**
ETOB	**Tobarra** 0.7nm,0.1s,SNR=7.9	**5.67**	**293**	Pn	**Pn**	**20 19 56.2**	**+1.4**
ETOB	0.2nm,0.1s,SNR=4.0			Sn	**Sn**	**20 20 58.6**	**-1.2**
EPOB	**Poblet** 1.3nm,0.1s,SNR=7.0	**5.68**	**328**	Pn	**Pn**	**20 19 55.0**	**+0.1**
EPOB	0.8nm,0.2s,SNR=7.9			Sn	**Sn**	**20 20 55.0**	**-5.1**
EPOB	**Poblet** 1.3nm,0.1s,SNR=7.0	**5.68**	**328**	Pn	**Pn**	**20 19 55.0**	**+0.1**
EPOB	0.8nm,0.2s,SNR=7.9			Sn	**Sn**	**20 20 55.0**	**-5.0**
ERTA	**Horta de San J** 0.2nm,0.1s,SNR=4.0	**5.72**	**321**	Pn	**Pn**	**20 19 53.7**	**-1.8**
EMOS	**Mosqueruela** 0.2nm,0.1s,SNR=4.0	**5.76**	**312**	Pn	**Pn**	**20 19 58.0**	**+1.9**

ISCJB ***28*** *21:23:52.6±0.7, 372N±0.1×1353E±0.1, h393km±8km, mb3.2/3, Error ellipse: s-maj=18.3km s-min=12.9km az=122.2*
JMA ***28*** *21:23:52.9±0.2, 3724N×13522E, h386km, M2.9*
NEIC ***28*** *21:23:53.9±0.9, 3730N×1354 2E, h391km±22km, Error ellipse: s-maj=70.8km s-min=22.0km az=63.0*
IDC ***28*** *21:23:53.8±1.1, 3728N×1353 6E, h389km±24km, mb2.9/3, mb1 3.1/4, mb1mx2.7/21, mbtmp3.5/4, Error ellipse: s-maj=62.2km s-min=18.1km az=66.0*

ISC 28 21:23:53.6±0.7, 372N±01×1353E±01, h387km±8km, n18, σ0@75/22, mb3.2/3, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**1.23**	**138**	P	**Pn**	**21 24 43.8**	**-0.3**
JGM	**Miyama**	**1.87**	**142**	P	**Pn**	**21 24 47.3**	**-0.1**
JWT	**Wachi**	**1.91**	**178**	P	**Pn**	**21 24 47.5**	**-0.2**
JWT				S	**S**	**21 25 30.1**	**-1.2**
MAJO	**Matsushiro**	**2.41**	**105**	*e*P	**Pn**	**21 24 51.5**	**+0.5**
MAT	**Matsushiro**	**2.41**	**105**	P	**Pn**	**21 24 51.4**	**+0.4**
MAT	**Matsushiro**	**2.41**	**105**	*e*P	**Pn**	**21 24 51.0**	**0.0**
MJAR	**Matsushiro Arr** 3.7nm,0.3s,baz=281,slow=9.5,SNR=55	**2.41**	**105**	P	**Pn**	**21 24 51.9**	**+0.9**
MJAR	0.6nm,0.3s,baz=308,slow=30,SNR=5.7			S	**S**	**21 25 39.0**	**+1.5**
MJAR	**Matsushiro Arr**	**2.41**	**105**	P	**Pn**	**21 24 51.9**	**+0.9**
MJAR				S	**S**	**21 25 39.0**	**+1.5**
JWY	**Kouya**	**2.98**	**176**	P	**Pn**	**21 24 55.5**	**0.0**
JIE	**Ise**	**3.02**	**158**	P	**Pn**	**21 24 56.6**	**+0.8**
JRY	**Ryogami san**	**3.11**	**111**	P	**Pn**	**21 24 57.7**	**+1.0**
JOD2	**Odawara 2**	**3.61**	**121**	P	**Pn**	**21 25 00.3**	**-0.7**
JWZ	**Kozaga**	**3.67**	**175**	P	**Pn**	**21 25 01.4**	**-0.2**
JMK	**Ichinoseki**	**4.98**	**68**	*e*S	**S**	**21 26 19.7**	**-0.7**
BSO1	**Boso 1**	**5.25**	**117**	P	**Pn**	**21 25 17.4**	**-0.1**
BSO1				*e*S	**S**	**21 26 24.4**	**-1.2**
SONM	**Songino Array** 0.2nm,0.3s,mb3.0,baz=103,slow=9.2,SNR=2.8	**23.69**	**306**	P	**P**	**21 28 32.4**	**+0.1**
WRA	**Warramunga Arr** 0.5nm,0.4s,mb3.2,baz=357,slow=7.6,SNR=19	**56.83**	**181**	P	**P**	**21 33 00.0**	**+0.8**
FINES	**FINESS Array B** 1.1nm,1.0s,mb3.5,baz=87,slow=7.5,SNR=3.6	**66.33**	**330**	P	**P**	**21 34 01.1**	**-0.9**

WEL 28 21:24:30.7±0.3, 3745S×17722E, h153km±2km, ML3.5/11, 3C-1D, Error ellipse: s-maj=2.6km s-min=2.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.69**	**219**	⇑PN	Pn	21 24 53.6	+0.2
URZ	**Urewera**	**0.81**	**186**	⇑PN	Pn	21 24 54.0	-0.2
URZ				SN	Sn	21 25 12.1	-0.1
MXZ	**Matakaoa Point**	**0.87**	**98**	⇓PN	Pn	21 24 54.5	-0.1
MXZ				SN	Sn	21 25 13.0	+0.1
MWZ	**Matawai**	**0.91**	**165**	⇑PN	Pn	21 24 55.0	0.0
MWZ				SN	Sn	21 25 13.9	+0.4
TAZ	**Tarawera**	**0.96**	**216**	PN	Pn	21 24 56.1	+0.8
PUZ	**Puketiti**	**1.03**	**127**	PN	Pn	21 24 56.0	+0.1
PUZ				SN	Sn	21 25 14.8	-0.5
PATZ	**Paeroa**	**1.20**	**219**	PN	Pn	21 24 58.0	+0.6
KNZ	**Kokohu**	**1.61**	**167**	PN	Pn	21 25 01.6	0.0
WNVZ	**Wahianoa**	**2.27**	**214**	PN	Pn	21 25 08.7	-0.4
MOVZ	**Moawhango**	**2.27**	**210**	PN	Pn	21 25 08.0	-1.1
PXZ	**Pawanui**	**2.59**	**186**	*e*PN	Pn	21 25 11.5	-1.5
TSZ	**Takapari Road**	**2.78**	**200**	PN	Pn	21 25 13.7	-1.7
CAW	**Cannon Point**	**4.01**	**204**	PN	Pn	21 25 27.9	-3.3
CAW				*e*SN	Sn	21 26 14.3	-3.9
TCW	**Tory Channel**	**4.39**	**210**	PN	Pn	21 25 32.4	-3.7
TCW				*e*SN	Sn	21 26 22.5	-4.6
NNZ	**Nelson**	**4.80**	**217**	PN	Pn	21 25 37.3	-4.1
NNZ				SN	Sn	21 26 31.7	-4.8
THZ	**Tophouse**	**5.44**	**216**	*e*PN	Pn	21 25 45.2	-4.8
KHZ	**Kahutara**	**5.71**	**209**	PN	Pn	21 25 49.0	-4.4
MQZ	**McQueen's Vall**	**7.15**	**208**	*e*SN	Sn	21 27 22.5	-10

CSEM ***28*** *21:45:59.7±0.1, 3907N×2459E, h5km, ML2.6, Error ellipse: s-maj=2.0km s-min=1.9km az=145.0*
NEIC ***28*** *21:46:00.2, 39.12N×2451E, h31km, ML3.1(ATH), After ATH.*
ATH ***28*** *21:46:00.2, 39.12N×2451E, h31km±4km, MD3.2/11, ML3.1*
ISCJB ***28*** *21:46:01.2±0.6, 3909N±003×2454E±004, h23km±6km, Error ellipse: s-maj=6.1km s-min=3.9km az=98.8*
THE ***28*** *21:46:01.6, 39.18N×2452E, h5km, ML2.6*

ISC 28 21:46:00.2±0.8, 3909N±003×2454E±004, h11km±5km, n26, σ0@68/37, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.52**	**279**	*e*Pg	**Pg**	**21 46 10.7**	**+0.3**
AOS				*e*Sg	**Sg**	**21 46 18.3**	**+1.0**
LOS	**Limnos**	**0.94**	**26**	*e*Pg	**Pg**	**21 46 18.8**	**+0.4**
LOS				*e*Sg	**Sg**	**21 46 31.8**	**+1.2**
LIA	**Limnos Island**	**0.95**	**311**⇑	*i*PN	**Pg**	**21 46 18.5**	**0.0**
LIA				*e*SN	**Sg**	**21 46 31.1**	**+0.3**
NEO	**Neokhori**	**1.05**	**282**	*e*PN	**Pg**	**21 46 19.8**	**-0.6**
NEO				*e*SN	**Sg**	**21 46 33.1**	**-0.9**
PAIG	**Paliouri**	**1.07**	**322**	*e*Pg	**Pg**	**21 46 19.9**	**-1.0**
PAIG				*e*Sg	**Sg**	**21 46 35.1**	**+0.3**
XOR	**Xorichti**	**1.08**	**285**	*e*Pg	**Pg**	**21 46 20.9**	**-0.2**
XOR				*e*Sg	**Sg**	**21 46 36.5**	**+1.3**
PTL	**Penteli**	**1.17**	**207**	*e*PN	**Pn**	**21 46 22.5**	**0.0**
LKR	**Lokris**	**1.28**	**250**	*e*PB	**Pn**	**21 46 22.9**	**-1.2**
ATH	**Athens Observa**	**1.29**	**210**	*e*PN	**Pn**	**21 46 23.7**	**-0.5**
ATH				*e*SN	**Sn**	**21 46 41.7**	**+0.2**
OUR	**Ouranopolis**	**1.32**	**341**	*e*Pg	**Pg**	**21 46 24.2**	**-1.3**
OUR				*e*Sg	**Sg**	**21 46 41.8**	**-0.9**
PRK	**Paraskevi**	**1.35**	**83**	*e*PN	**Pn**	**21 46 24.9**	**-0.2**
PRK				*e*SN	**Sn**	**21 46 43.7**	**+0.7**
KVR	**Kavouri**	**1.40**	**206**	*e*PN	**Pn**	**21 46 27.0**	**+1.3**
MGER	**Gerania Oros**	**1.49**	**223**	*e*PB	**Pn**	**21 46 26.5**	**-0.5**
PLG	**Polygyros**	**1.54**	**327**	*e*PN	**Pn**	**21 46 26.9**	**-0.7**
NAIG	**Nisos Aigina**	**1.57**	**212**	*e*PB	**Pn**	**21 46 27.5**	**-0.5**
AGG	**Agios Georgios**	**1.72**	**268**	*e*Pb	**Pb**	**21 46 32.2**	**+0.2**
AGG				*e*Sb	**Sb**	**21 46 54.4**	**+0.8**
HORT	**Hortiatis**	**1.87**	**324**	*e*Pb	**Pn**	**21 46 32.4**	**+0.2**
EVR	**Evrytania**	**2.14**	**266**	*e*PB	**Pn**	**21 46 36.5**	**+0.6**
ALN	**Alexandroupoli**	**2.14**	**32**	*e*Pn	**Pn**	**21 46 35.6**	**-0.3**
ALN				*e*Sn	**Sn**	**21 47 02.8**	**+0.2**
SRS	**Serrai**	**2.15**	**340**	*e*Pn	**Pn**	**21 46 35.9**	**-0.2**
SRS	**Serrai**	**2.15**	**340**	*e*Pn	**Pn**	**21 46 35.8**	**-0.3**
RDO	**Rodhopi**	**2.19**	**20**	*e*PN	**Pn**	**21 46 36.0**	**-0.6**
SMG	**Samos**	**2.27**	**127**	*e*PN	**Pn**	**21 46 37.4**	**-0.3**
KNT	**Kendrikon**	**2.42**	**329**	*e*Pn	**Pn**	**21 46 40.3**	**+0.5**
GRG	**Griva**	**2.49**	**319**	*e*Pn	**Pn**	**21 46 41.3**	**+0.7**
MMB	**Musomiste**	**2.57**	**346**	*e*Pn	**Pn**	**21 46 41.6**	**-0.3**

ISCJB ***28*** *21:50:46.3±1.2, 3702N±005×328E±009, h15km±8km, Error ellipse: s-maj=12.3km s-min=7.2km az=136.4*
MDD ***28*** *21:50:47.9±1.2, 3695N×353E, h21km±6km, mb3.5/2, Error ellipse: s-maj=14.2km s-min=7.3km az=68.0, PRXIMO*
CSEM ***28*** *21:50:48.1±0.2, 3688N×338E, h29km±1km, ML2.6/3, Error ellipse: s-maj=5.7km s-min=2.5km az=63.0*
CRAAG ***28*** *21:50:50.1, 3670N×336E, Ml2.6*

ISC 28 21:50:46.7±1.1, 3698N±006×333E±009, h14km±8km, n15, σ1@03/23, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.26**	**152**	P	**Pg**	**21 50 46.5**	**-5.7**
ABA	**Alger-Bouzarea**	**0.30**	**234**	P	**Sg**	**21 50 56.7**	**-0.4**
ADJB	**Djebel Djouab**	**0.82**	**174**	P	**Pg**	**21 51 02.4**	**-0.3**
EMHD	**Djebel Mahouad**	**0.83**	**202**	P	**Pb**	**21 51 03.0**	**+0.1**
AKET	**Djebel Ketaf**	**1.03**	**154**	P	**Pb**	**21 51 05.6**	**-0.7**
EIBI	**Ibiza** 1.0nm,0.1s,SNR=7.9	**2.58**	**323**	Pn	**Pn**	**21 51 29.2**	**+1.2**
EIBI	1.7nm,0.1s,SNR=7.9			Pg	**Pg**	**21 51 35.8**	**-0.4**
EIBI	1.7nm,0.1s,SNR=7.9			Sn	**Sn**	**21 51 58.4**	**-0.7**
EIBI	**Ibiza** 1.0nm,0.1s,SNR=7.9	**2.58**	**323**	Pn	**Pn**	**21 51 29.2**	**+1.2**
EIBI	1.7nm,0.1s,SNR=7.9			Sn	**Sn**	**21 51 58.4**	**-0.7**
ETOS	**Mallorca** 1.3nm,0.2s,SNR=7.2	**2.82**	**352**	Pn	**Pn**	**21 51 31.5**	**+0.2**
ETOS	1.2nm,0.1s,SNR=5.0			Sn	**Sn**	**21 52 02.4**	**-2.5**
ETOS	**Mallorca** 1.3nm,0.2s,SNR=7.2	**2.82**	**352**	Pn	**Pn**	**21 51 31.8**	**+0.6**
ETOS	1.2nm,0.1s,SNR=5.0			Sn	**Sn**	**21 52 02.4**	**-2.6**
ETOB	**Tobarra** 1.1nm,0.2s,SNR=7.2	**4.21**	**295**	Pn	**Pn**	**21 51 52.0**	**+1.6**
ETOB	0.8nm,0.4s,SNR=5.0			Sn	**Sn**	**21 52 38.1**	**-1.2**
ETOB	**Tobarra** 1.1nm,0.2s,SNR=7.2	**4.21**	**295**	Pn	**Pn**	**21 51 52.0**	**+1.6**
ETOB	0.8nm,0.4s,SNR=5.0			Sn	**Sn**	**21 52 38.1**	**-1.2**
EMOS	**Mosqueruela** 0.5nm,0.1s,SNR=9.3	**4.51**	**320**	Pn	**Pn**	**21 51 56.2**	**+1.8**
EMOS	0.4nm,0.2s,SNR=7.9			Sn	**Sn**	**21 52 47.0**	**+0.4**
EMOS	**Mosqueruela** 0.5nm,0.1s,SNR=9.3	**4.51**	**320**	Pn	**Pn**	**21 51 56.5**	**+2.0**
EPOB	**Poblet** 0.2nm,0.2s,SNR=7.9	**4.71**	**339**	Pn	**Pn**	**21 51 57.4**	**+0.1**
EPOB	**Poblet** 0.2nm,0.2s,SNR=7.9	**4.71**	**339**	Pn	**Pn**	**21 51 57.4**	**+0.2**

MAN 28 22:03:11.9, 1749N×11950E, h10km, mb3.2, ML4.5, MS8.9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.17**	**82**	*e*P	Pb	22 03 32.7	-1.5
ABRA				*e*S	Sb	22 03 45.1	-4.3
BOLP	**Bolinao**	**1.17**	**160**	*e*P	Pn	22 03 32.9	-1.2
APYP	**Conner**	**1.70**	**77**	*e*P	Pn	22 03 40.8	-0.9
CVP	**Callao Caves**	**2.23**	**84**	*e*P	Pn	22 03 49.5	+0.7
CAUP	**Cauayan**	**2.29**	**103**	*e*P	Pn	22 03 51.0	+1.3
BALP	**Baler**	**2.64**	**131**	*e*P	Pn	22 03 55.0	+0.5
BALP				*e*S	Sn	22 04 29.6	+2.9

IDC ***28*** *22:18:06.3±9.2, 3610N×7020E, h170km±85km, mb3.2/7, mb1 3.3/10, mb1mx3.1/23, mbtmp3.7/10, Error ellipse: s-maj=41.1km s-min=17.5km az=18.0*
MOS ***28*** *22:18:09.7±1.1, 3641N×7025E, h210km, mb3.7/1, Error ellipse: s-maj=20.3km s-min=11.9km az=99.4*
ISCJB ***28*** *22:18:10.6±1.4, 3648N±008×704E±0.1, h216km±15km, mb3.4/8, Error ellipse: s-maj=18.8km s-min=7.5km az=108.1*
NEIC ***28*** *22:18:10.1±2.1, 3635N×7023E, h198km±21km, mb4.8/7, Error ellipse: s-maj=24.6km s-min=8.9km az=51.0*

ISC 28 22:18:11.3±1.5, 3646N±009×704E±01, h206km±16km, n27, σ1@07/28, mb3.4/8, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 0.6nm,0.3s,baz=170,slow=11,SNR=38	**6.65**	**1**	Pn	**Pn**	**22 19 47.2**	**+0.3**
KK31	3.1nm,0.4s,baz=246,slow=56,SNR=8.9			Lg		22 20 57.4	
AAK	**Ala-Archa** comp=Z,4.0nm,0.3s	**6.94**	**26**	*e*PN	**Pn**	**22 19 49.4**	**-1.3**
AAK				pmax	pmax		
AAK	**Ala-Archa** comp=Z,3.8nm,0.3s	**6.94**	**26**	*e*Pn	**Pn**	**22 19 49.4**	**-1.3**
AAK				*e*Sn	**Sn**	**22 21 07.3**	**-2.5**
MKAR	**Makanchi Array** comp=Z,0.1nm,0.3s,baz=221,slow=16,SNR=7.3	**13.63**	**37**	P	**Pn**	**22 21 16.2**	**0.0**
KOLN	**Koldanda** comp=Z,6.2nm,0.3s	**14.14**	**124**	*e*P	**Pn**	**22 21 21.4**	**-1.2**
GKN	**Gorkha** comp=Z,32nm,0.3s	**14.70**	**121**	*e*P	**Pn**	**22 21 29.1**	**-0.4**
AB31	**Akbulak array** comp=Z,0.9nm,0.4s,baz=146,slow=13,SNR=34	**14.89**	**332**	P	**Pn**	**22 21 32.9**	**+1.0**
DMN	**Daman**	**15.27**	**121**	*e*P	**Pn**	**22 21 36.4**	**0.0**
KKN	**Kakani** comp=Z,34nm,0.6s	**15.28**	**120**	*e*P	**Pn**	**22 21 36.5**	**0.0**
KKN	**Kakani** comp=Z,35nm,0.6s	**15.28**	**120**	*e*P	**Pn**	**22 21 36.5**	**0.0**
KKN				pmax	pmax		
PKI	**Pulchoki** comp=Z,18nm,0.4s	**15.50**	**121**	*e*P	**Pn**	**22 21 40.9**	**+1.7**
PKI	**Pulchoki** comp=Z,18nm,0.4s	**15.50**	**121**	*e*P	**Pn**	**22 21 40.9**	**+1.7**
PKI				pmax	pmax		
GUN	**Gumba** comp=Z,24nm,0.5s	**15.62**	**119**	*e*P	**Pn**	**22 21 42.5**	**+1.8**
BVAR	**Borovoye Array** comp=Z,0.3nm,0.3s,baz=167,slow=8.8,SNR=5.9	**16.57**	**0**	P	**P**	**22 21 52.0**	**+0.9**
AKTK	**Aktyubinsk**	**16.58**	**331**	P	**P**	**22 21 52.0**	**+0.9**
AKTO	**Aktyubinsk** comp=Z,0.3nm,0.3s,baz=148,slow=12,SNR=6.1	**16.58**	**331**	P	**P**	**22 21 52.0**	**+0.9**
CHKZ	**Chkalovo** comp=Z,1.0nm,0.3s	**17.23**	**0**	*e*P	**P**	**22 21 58.3**	**+0.1**
CHKZ				pmax	pmax		
CHKZ	**Chkalovo** comp=Z,0.8nm,0.3s	**17.23**	**0**	*e*P	**P**	**22 21 58.3**	**+0.1**
SONM	**Songino Array** comp=Z,0.3nm,0.5s,mb3.2,baz=273,slow=8.7,SNR=2.7	**28.77**	**55**	P	**P**	**22 23 51.6**	**+1.8**
ENH	**Enshi** comp=Z,6.3nm,0.4s,mb4.5	**33.07**	**89**	P	**P**	**22 24 27.9**	**+0.4**
FINES	**FINESS Array B** comp=Z,0.8nm,0.8s,mb3.3,baz=124,slow=10,SNR=3.3	**37.25**	**326**	P	**P**	**22 25 03.2**	**+0.1**
ARCES	**ARCESS Array B** comp=Z,0.8nm,0.5s,mb3.4,baz=104,slow=8.0,SNR=9.7	**41.00**	**338**	P	**P**	**22 25 33.5**	**-0.6**
NB2	**NORSAR Subarra** comp=Z,0.3nm,0.6s,mb2.8,baz=95,slow=7.9	**44.12**	**323**	P	**P**	**22 25 58.5**	**-0.7**
NOA	**NORSAR Array B** comp=Z,1.2nm,0.9s,mb3.2,baz=96,slow=7.7,SNR=4.0	**44.12**	**323**	P	**P**	**22 25 59.0**	**-0.3**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.6s,mb3.3,baz=47,slow=6.6,SNR=12	**65.22**	**268**	P	**P**	**22 28 28.9**	**-1.7**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.6s,mb3.2,baz=326,slow=4.9,SNR=8.3	**82.39**	**121**	P	**P**	**22 30 09.2**	**-1.1**
ASAR	**Alice Springs** comp=Z,0.3nm,0.5s,mb3.3,baz=307,slow=5.3,SNR=5.8	**84.63**	**124**	P	**P**	**22 30 20.2**	**-1.4**

IDC 28 22:25:40.9±2.0, 161N×12587E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, Error ellipse: s-maj=180.8km s-min=24.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=338,slow=10,SNR=37	**22.98**	**159**	P	P	22 30 47.2	+0.2
ASAR	**Alice Springs** 0.2nm,0.3s,baz=347,slow=11,SNR=5.4	**26.31**	**163**	P	P	22 31 18.5	+0.3
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=129,slow=5.9,SNR=3.8	**58.81**	**326**	P	P	22 35 41.3	+0.2

IDC ***28*** *22:29:59.7±2.1, 657N×12680E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=116.6km s-min=24.3km az=69.0*
NEIC ***28*** *22:30:04.9±1.0, 669N×12699E, h35km, mb4.2/4, Error ellipse: s-maj=33.0km s-min=10.6km az=55.0*
ISCJB ***28*** *22:30:05.3±1.3, 661N±008×1268E±0.1, h58km±13km, mb3.8/6, Error ellipse: s-maj=20.5km s-min=10.3km az=131.6*
MAN ***28*** *22:30:14.5, 695N×12640E, h10km, mb3.7, ML4.8, MS2.5*

ISC 28 22:30:06.6±1.4, 659N±008×1268E±01, h47km±15km, n17, σ0@92/22, mb3.8/6, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.66**	**303**	*e*P	**Pn**	**22 30 18.6**	**-1.0**
MATI				*e*S	**Sn**	**22 30 28.5**	**-0.5**
DAV	**Davao City (W)**	**1.32**	**291**⇑	*i*P	**Pn**	**22 30 29.0**	**+0.5**
DAV	**Davao City (W)**	**1.32**	**291**	*e*Pn	**Pn**	**22 30 28.9**	**+0.4**
DAV				*e*Sn	**Sn**	**22 30 43.5**	**-1.4**
KCP	**Kidapawan**	**1.76**	**284**⇓	*i*P	**Pn**	**22 30 37.2**	**+2.6**
KCP				*i* S	**Sn**	**22 30 56.8**	**+0.9**
BUKP	**Musuan**	**2.16**	**307**	*e*P	**Pn**	**22 30 41.8**	**+1.7**
BUKP				*e*S	**Sn**	**22 31 04.9**	**-0.8**
CTBH	**Cotabato--PC H**	**2.63**	**284**⇑	*i*P	**Pn**	**22 30 46.2**	**-0.2**
BUTP	**Butuan**	**2.65**	**334**	*e*P	**Pn**	**22 30 52.1**	**+5.4**
SCPH	**Surigao**	**3.44**	**338**	*e*P	**Pn**	**22 31 03.0**	**+5.5**
SCPH				*e*S	**Sn**	**22 31 37.2**	**+0.2**
KAKA	**Kakadu** 8.4nm,0.6s	**19.97**	**164**	*e*P	**Pn**	**22 34 36.0**	**-0.8**
FITZ	**Fitzroy Crossi** 2.7nm,0.3s,mb4.2	**24.56**	**183**	*e*P	**P**	**22 35 21.7**	**-0.2**
FITZ	**Fitzroy Crossi** 1.6nm,0.4s,mb3.9,baz=2.4,slow=8.8,SNR=21	**24.56**	**183**	P	**P**	**22 35 21.4**	**-0.5**
WRAB	**Tennant Creek** 2.4nm,0.5s,mb4.0	**27.38**	**164**	*e*P	**P**	**22 35 48.2**	**+0.9**
WRA	**Warramunga Arr** 1.2nm,0.4s,mb3.8,baz=345,slow=11,SNR=26	**27.38**	**164**	P	**P**	**22 35 47.5**	**+0.1**
WB2	**Warramunga Arr**	**27.39**	**164**	*e*P	**P**	**22 35 47.9**	**+0.5**
ASAR	**Alice Springs** 0.4nm,0.4s,mb3.6,baz=345,slow=7.3,SNR=8.8	**30.86**	**167**	P	**P**	**22 36 17.2**	**-1.0**
MKAR	**Makanchi Array** 0.3nm,0.5s,mb3.6,baz=116,slow=7.1

*CSEM **28** 22:59:47.1±1.0,3793N×2626W,h5km±5km,ML2.0,Error ellipse: s-maj=7.7km s-min=1.4km az=37.0,After PDA*
*PDA **28** 22:59:47.1±1.0,3793N×2626W,h5km±5km,MD2.7,ML2.0, Error ellipse: s-maj=7.7km s-min=1.4km az=37.0*

SVSA 28 22:59:47.1±1.0,3793N×2626W,h5km±5km,MD2.7,ML2.0, Error ellipse: s-maj=7.7km s-min=1.4km az=37.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET2	**Ginetes**	**0.37**	**104**	*eP*	Pg	22 59 53.8	-0.5
SET2				*eS*	Sg	22 59 59.0	-0.1
SET4	**Mosteiros**	**0.37**	**99**	*eP*	Pg	22 59 53.5	-0.8
SET4				*eS*	Sg	22 59 58.7	-0.4
PFET	**Feteiras**	**0.39**	**107**	*eP*	Pg	22 59 53.9	-0.8
PFET				*eS*	Sg	22 59 59.5	-0.3
PSAN	**Santo Antonio**	**0.43**	**101**	*eP*	Pg	22 59 54.5	-0.9
PSAN				*eS*	Sg	23 00 00.4	-0.7
CML	**Cha da Macela**	**0.59**	**106**	*eP*	Pg	22 59 57.7	-0.7
CML				*eS*	Sg	23 00 04.7	-1.4
PVER	**Pico Vermelho**	**0.61**	**103**	*eS*	Sg	23 00 05.3	-1.4
PVER	52nm,0.3s						
LFA	**Lagoa do Fogo**	**0.64**	**104**	*eP*	Pg	22 59 58.2	-1.1
PMAT	**Coroa da Mata**	**0.64**	**100**	*eS*	Sg	23 00 05.6	-2.0
PMAT	42nm,0.2s						
PRCH	**Ribeira Ch**	**0.65**	**108**	*eS*	Sg	23 00 06.3	-1.8
PRCH	34nm,0.2s						
MESC	**Monte Escuro**	**0.66**	**102**	*eP*	Pg	22 59 58.3	-1.5
MESC				*eS*	Sg	23 00 06.2	-2.2
VIF	**Vila Franca**	**0.68**	**106**	*eS*	Sg	23 00 07.1	-1.8
VIF	26nm,0.1s						
PCNG	**Congro**	**0.71**	**103**	*eS*	Sg	23 00 07.4	-2.4
PCNG	12nm,0.3s						
FRA1	**Furnas**	**0.74**	**105**	*eP*	Pg	22 59 59.5	-1.8
PFAD	**Fenais da Ajud**	**0.75**	**97**	*eS*	Sg	23 00 08.5	-2.7
MIRA	**Miradouro**	**0.79**	**100**	*eP*	Pg	22 59 59.7	-2.6
PFAV	**Pico das Favas**	**1.01**	**320**	*eS*	Sg	23 00 14.8	-4.8
PFAV	11nm,0.2s						
RIB2	**Ribeirinha**	**1.03**	**316**	*eP*	Pg	23 00 03.0	-3.8
RIB2				*eS*	Sg	23 00 15.6	-4.5
RIB2	32nm,0.3s						
RIB2	**Ribeirinha**	**1.03**	**316**	*eP*	Pg	23 00 03.0	-3.8
RIB2				*eS*	Sg	23 00 15.6	-4.5
PVNV	**Vila Nova**	**1.08**	**320**	*eP*	Pg	23 00 03.6	-4.3
PVNV				*eS*	Sg	23 00 16.8	-5.2
PVNV	20nm,0.2s						
PVNV	**Vila Nova**	**1.08**	**320**	*eP*	Pg	23 00 03.6	-4.3
PVNV				*eS*	Sg	23 00 16.8	-5.2
PPAD	**Pico dos Padre**	**1.11**	**314**	*eS*	Sg	23 00 17.7	-5.1
PPAD	13nm,0.2s						
PSMN	**Pico do Norte,**	**1.33**	**134**	*eS*	Sb	23 00 22.6	-7.2

*NEIC **28** 23:03:27.7±2.0,1752S×6950W,h165km±23km,mb3.7/1, Error ellipse: s-maj=44.3km s-min=18.5km az=112.0*
*ISCJB **28** 23:03:28.7±1.3,177S±0.1×694W±0.1,h155km±12km, mb3.7/3,Error ellipse: s-maj=26.2km s-min=15.1km az=92.2*
*IDC **28** 23:03:28.9±2.1,1780S×6938W,h140km±14km,mb3.6/3, mb1 3.7/4,mb1mx3.3/18,mbtmp4.1/4,Error ellipse: s-maj=37.6km s-min=20.9km az=121.0*

ISC 28 23:03:29.6±1.4,178S±01×694W±01,h141km±13km,n9, σ0§48/12,mb3.7/3,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.94**	**38**	P	**Pn**	**23 04 02.7**	**-0.7**
LPAZ	6.3nm,0.3s,baz=225,slow=5.7,SNR=187			S	**Sn**	**23 04 30.0**	**+0.7**
LPAZ	**La Paz**	**1.94**	**38**	P	**Pn**	**23 04 02.7**	**-0.7**
LPAZ	2.1nm,0.3s,baz=96,slow=19,SNR=4.3			S	**Sn**	**23 04 30.0**	**+0.7**
SIV	**San Ignacio**	**8.14**	**78**	P	**Pn**	**23 05 24.2**	**-0.7**
SIV	5.3nm,0.3s,baz=268,slow=10,SNR=97			S	**Sn**	**23 06 55.5**	**+0.1**
SAML	**Samuel**	**10.68**	**35**	*e*Pn	**Pn**	**23 05 53.6**	**-5.2**
SAML	1.3nm,0.5s			*e*Sn	**Sn**	**23 07 49.0**	**-7.7**
CFAA	**Coronel Fontan**	**13.74**	**176**	P	**Pn**	**23 06 39.0**	**+0.5**
PLCA	**Paso Flores**	**22.84**	**182**	P	**P**	**23 08 20.4**	**-0.2**
DBIC	**Dimbokro**	**68.15**	**75**	P	**P**	**23 14 14.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**76.56**	**71**	P	**P**	**23 15 04.3**	**0.0**
WRA	**Warramunga Arr**	**135.83**	**213**	PKP	PKPdf	23 22 33.4	-0.1

0.4nm,0.4s,mb3.4,baz=260,slow=4.9,SNR=17
0.0nm,0.3s,baz=315,slow=8.6,SNR=3.5
1.7nm,0.8s,mb3.5,baz=49,slow=12,SNR=3.8
6.3nm,1.1s,mb4.2,baz=236,slow=7.3,SNR=3.2
0.1nm,0.3s,baz=146,slow=1.8,SNR=7.9

*IDC **28** 23:03:54.4±4.5,2012N×12329E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.5/18,mbtmp3.6/3,MS2.9/1,Ms1 2.9/1, ms1mx2.5/25,Error ellipse: s-maj=328.9km s-min=26.1km az=62.0*
*ISCJB **28** 23:04:02.3±3.3,196N±02×1222E±03,h60km±28km, mb3.4/3,Error ellipse: s-maj=41.6km s-min=26.9km az=142.2*
*MAN **28** 23:04:27.3,1763N×12141E,h1km,MS0.1*

ISC 28 23:04:03.5±3.3,196N±02×1222E±03,h53km±30km,n6, σ0§87/7,mb3.4/3,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**1.91**	**190**	*eP*	**Pn**	**23 04 34.0**	**+0.4**
APYP	**Conner**	**1.93**	**207**	*eP*	**Pn**	**23 04 32.9**	**-1.0**
APYP				*eS*	**Sn**	**23 04 57.3**	**+0.2**
BALP	**Baler**	**3.87**	**189**	*eP*	**Pn**	**23 05 00.8**	**+0.4**
WRA	**Warramunga Arr**	**41.06**	**162**	P	**P**	**23 11 40.8**	**-0.9**
MKAR	**Makanchi Array**	**42.33**	**319**	P	**P**	**23 11 52.4**	**+0.2**
ASAR	**Alice Springs**	**44.49**	**165**	P	**P**	**23 12 10.2**	**+0.6**

1.0nm,1.0s,mb3.4,baz=344,slow=9.0,SNR=5.7
0.5nm,0.4s,mb3.5,baz=107,slow=8.1,SNR=10
0.3nm,0.4s,mb3.3,baz=356,slow=7.7,SNR=5.1

*IDC **28** 23:10:11.1±1.1,9.11S×10776E,h0km,mb3.7/5,mb1 3.8/6, mb1mx3.6/17,mbtmp3.7/6,ML3.0/1,Error ellipse: s-maj=38.1km s-min=20.8km az=57.0*
*NEIC **28** 23:10:12.6±0.8,9.13S×10771E,h10km,mb4.4/1,Error ellipse: s-maj=31.7km s-min=14.3km az=50.0*
*ISCJB **28** 23:10:13.8±1.0,9.1S±02×1078E±02,h33km,mb3.8/6, Error ellipse: s-maj=36.7km s-min=16.4km az=100.7*

ISC 28 23:10:16.2±1.0,92S±02×1077E±02,h35km,n7,σ0§33/7, mb3.8/6,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.52**	**119**	P	**Pn**	**23 14 42.2**	**+0.3**
WRA	**Warramunga Arr**	**27.84**	**116**	P	**P**	**23 16 01.8**	**-0.5**
ASAR	**Alice Springs**	**28.87**	**123**	P	**P**	**23 16 11.6**	**+0.1**
SONM	**Songino Array**	**56.75**	**359**	P	**P**	**23 19 57.1**	**+0.5**
MKAR	**Makanchi Array**	**60.15**	**340**	P	**P**	**23 20 20.1**	**-0.2**
MAW	**Mawson**	**65.53**	**197**	P	**P**	**23 20 56.2**	**+0.1**
CHKZ	**Chkalovo**	**70.04**	**338**	*eP*	**P**	**23 21 24.2**	**-0.3**

0.0nm,0.3s,baz=227,slow=19,SNR=2.4
0.6nm,1.1s,mb3.1,baz=288,slow=11,SNR=2.9
0.3nm,0.6s,mb3.2,baz=296,slow=8.5,SNR=4.6
0.6nm,0.6s,mb3.8,baz=172,slow=8.3,SNR=6.9
1.6nm,0.6s,mb4.2,baz=154,slow=8.3,SNR=15
1.1nm,0.6s,mb4.1,baz=63,slow=2.5,SNR=6.9
0.9nm,0.3s,mb4.2

CASC 28 23:16:38.8±1.6,1161N×8362W,h10km,MD3.8,2C-2D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRZ2	**Volcan Irazu 2**	**1.66**	**189⇑**	*iP*	Pn	23 17 08.2	+0.3
IRZ2				*eS*	Sn	23 17 29.3	+0.2
OCM	**Ochomogo**	**1.74**	**191⇑**	*eP*	Pn	23 17 09.3	+0.3
OCM				*eS*	Sn	23 17 31.0	-0.2
PRS1	**Puriscal**	**1.75**	**203**	*e*P	Pn	23 17 10.9	+1.6
PRS1				*e*S	Sn	23 17 35.7	+4.1
URSC	**Urasca**	**1.77**	**185**	*e*P	Pn	23 17 09.8	+0.3
URSC				*e*S	Sn	23 17 33.4	+1.3
LCR2	**La Lucha 2**	**1.90**	**191⇓**	*e*P	Pn	23 17 11.3	+0.2
LCR2				*e*S	Sn	23 17 36.0	+0.9
BUS	**Buena Vista**	**2.05**	**184⇓**	*e*P	Pn	23 17 14.0	+0.8
BUS				*e*S	Sn	23 17 41.0	+2.1
JCR	**Jicaral**	**2.28**	**220**	*e*P	Pn	23 17 17.2	+0.7
JCR				*e*S	Sn	23 17 47.0	+2.4

*NEIC **28** 23:27:26.4,1770N×6345W,h15km,MD3.6(TRN), MD3.7(RSPR),After TRN.*
*TRN **28** 23:27:26.6,1770N×6345W,h16km,MD3.5*
*ISCJB **28** 23:27:28.0±0.6,1767N±006×6349W±003,h12km±4km, Error ellipse: s-maj=9.7km s-min=3.7km az=26.9*
*RSPR **28** 23:27:28.7,1775N×6325W,h27km±43km,MD3.7/11, MD3.7/11*

ISC 28 23:27:28.6±0.6,1767N±006×6349W±004,h13km±5km,n23, σ0§91/38,7C-7D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABS	**Saba**	**0.24**	**101**	*e*P	**Pg**	**23 27 33.0**	**-0.7**
SABS				*e*S	**Sg**	**23 27 37.4**	**+0.3**
SABT	**Saba**	**0.24**	**101**	*e*P	**Pg**	**23 27 33.0**	**-0.7**
SABT				*e*S	**Sg**	**23 27 37.4**	**+0.3**
STAT	**Sint Eustatius**	**0.51**	**109**	*e*P	**Pg**	**23 27 38.9**	**+0.2**
STAT				*e*S	**Sg**	**23 27 46.7**	**+1.1**
STMA	**St. Maarten, A**	**0.52**	**44⇑**	*e*P	**Pg**	**23 27 39.0**	**+0.2**
STMA				*e*S	**Sg**	**23 27 45.9**	**+0.2**
CDVI	**St. Croix**	**1.22**	**274⇑**	*e*P	**Pn**	**23 27 51.4**	**-0.1**
CDVI				*e*S	**Sb**	**23 28 08.1**	**+0.8**
STVI	**Saint Thomas**	**1.56**	**296⇑**	*e*P	**Pn**	**23 27 54.4**	**-1.7**
STVI				*e*S	**Sn**	**23 28 14.9**	**-1.3**
BPA	**Boggy Peak**	**1.67**	**111**	*e*P	**Pn**	**23 27 57.0**	**-0.6**
BPA				*e*S	**Sn**	**23 28 19.2**	**+0.2**
CULB	**Culebra**	**1.87**	**290⇑**	*e*P	**Pn**	**23 27 59.0**	**-1.4**
CULB				*e*S	**Sn**	**23 28 24.0**	**+0.2**
MTP	**Monte Pirata**	**2.02**	**282⇑**	*e*P	**Pn**	**23 28 02.1**	**-0.2**
MTP				*e*S	**Sn**	**23 28 26.4**	**-1.1**
LZG	**Guadaloupe-1**	**2.23**	**133**	*e*P	**Pn**	**23 28 04.6**	**-0.7**
LZG				*e*S	**Pg**	**23 28 08.1**	**-3.3**
SEG	**Port Louis**	**2.27**	**123**	*e*P	**Pn**	**23 28 07.8**	**+1.9**
HUMP	**Col San Antoni**	**2.30**	**282⇓**	*e*P	**Pn**	**23 28 07.0**	**+0.7**
HUMP				*e*S	**Sn**	**23 28 34.9**	**+0.5**
CBYP	**Canovanas**	**2.33**	**285⇓**	*e*P	**Pn**	**23 28 07.2**	**+0.5**
CBYP				*e*S	**Sn**	**23 28 38.0**	**+2.7**
CPD	**Cerro la Pandu**	**2.34**	**279⇑**	*e*P	**Pn**	**23 28 07.3**	**+0.4**
HMG	**Houelmont**	**2.39**	**134**	*e*P	**Pn**	**23 28 06.9**	**-0.6**
PHG	**Guadaloupe-2**	**2.41**	**133**	*e*P	**Pn**	**23 28 07.7**	**-0.1**
SJG	**San Juan**	**2.58**	**280**	*e*Pn	**Pn**	**23 28 09.6**	**-0.5**
SJG				*e*Sn	**Sn**	**23 28 40.7**	**-0.5**
ICM	**Isla Caja Muer**	**2.90**	**275⇑**	*e*P	**Pn**	**23 28 14.6**	**0.0**
CELP	**Cerrillos**	**2.97**	**278⇓**	*e*P	**Pn**	**23 28 15.8**	**+0.2**
AOPR	**Arecibo Observ**	**3.18**	**283⇓**	*e*P	**Pn**	**23 28 18.6**	**+0.3**
AOPR	**Arecibo Observ**	**3.18**	**283⇓**	*e*P	**Pn**	**23 28 13.6**	**-4.7**
AOPR				*e*S	**Sn**	**23 28 58.1**	**+1.9**
AOPR	**Arecibo Observ**	**3.18**	**283⇓**	*e*P	**Pn**	**23 28 18.6**	**+0.3**
AOPR				*e*S	**Sn**	**23 28 58.1**	**+1.9**
CRPR	**Cabo Rojo, PR**	**3.47**	**276⇓**	*e*P	**Pn**	**23 28 22.2**	**-0.2**

*ISCJB **29** 00:00:05.8±1.5,299N±02×5757E±008,h10km,Error ellipse: s-maj=34.4km s-min=8.3km az=17.7*
*THR **29** 00:00:05.5±0.5,2991N×5760E,h15km±5km,ML3.3*
*CSEM **29** 00:00:05.5,2991N×5760E,h15km,ML3.3,After THR*
*TEH **29** 00:00:08.4,3012N×5777E,h18km,Mn3.7*

ISC 29 00:00:05.5±1.6,298N±03×5762E±008,h10km,n9, σ0§92/13,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.78**	**287**	*e*PG	**Pg**	**00 00 19.9**	**-0.7**
KRBR				*e*SG	**Sg**	**00 00 30.0**	**-0.8**
KRBR				AML	AML	00 00 34.4	
	comp=N,1μm,0.2s						
KRBR				AML	AML	00 00 36.2	
	comp=E,1μm,0.1s						
KRBR	**Kerman**	**0.78**	**287**	*e*Pg	**Pg**	**00 00 19.9**	**-0.7**
	SNR=91						
KRBR				*e*Sg	**Sg**	**00 00 30.0**	**-0.9**
	comp=E,1μm,0.1s,SNR=91						
IBAF	**Bafgh**	**2.55**	**316**	*e*Pn	**Pn**	**00 00 46.7**	**-0.2**
ZHSF	**Zahedan**	**2.75**	**92**	*e*PN	**Pn**	**00 00 51.5**	**+1.9**
ZHSF				*e*SG	**Sg**	**00 01 32.2**	**-1.5**
ZHSF				AML	AML	00 01 34.9	
	comp=N,85nm,0.5s						
ZHSF	**Zahedan**	**2.75**	**92**	*e*Pn	**Pn**	**00 00 51.5**	**+1.9**
	SNR=52						
ZHSF				*e*Sg	**Sg**	**00 01 32.2**	**-1.6**
	comp=N,85nm,0.5s,SNR=90						
IMEH	**Mehriz**	**3.06**	**303**	*e*Pn	**Pn**	**00 00 54.7**	**+0.7**
ICHK	**Chekchek**	**3.71**	**313**	*e*Pn	**Pn**	**00 01 02.9**	**0.0**
ISAD	**Sadrabad**	**4.01**	**303**	*e*Pn	**Pn**	**00 01 07.4**	**+0.4**
NASN	**Na'in**	**5.12**	**308**	*e*PN	**Pn**	**00 01 22.6**	**+0.4**

*CSEM **29** 00:11:46.8,3738N×6874E,h10km,ML5.5*
*IDC **29** 00:11:46.4±0.5,3724N×6876E,h0km,mb4.4/24, mb1 4.6/28,mb1mx4.6/29,mbtmp4.5/28,ML4.2/3,MS5.1/28, Ms1 5.1/28,ms1mx5.0/30,Error ellipse: s-maj=13.3km s-min=11.4km az=14.0*
*ISCJB **29** 00:11:50.7±0.1,3738N±002×6869E±002,h35km, mb4.7/142,MS5.2/117,Error ellipse: s-maj=2.9km s-min=2.1km az=19.0*
*MOS **29** 00:11:50.0±0.9,3735N×6874E,h33km,mb5.0/64, MS5.1/47,Error ellipse: s-maj=5.5km s-min=3.6km az=128.4*
*SZGRF **29** 00:11:51.2,3753N×6900E,h35km,mb4.8,MS5.0, Afghanistan-Tajikistan border region*
*NEIC **29** 00:11:51.3±0.2,3726N×6883E,mb4.8/80,MS5.2/53, MW5.4,Error ellipse: s-maj=5.4km s-min=3.0km az=23.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^{17}Nm; M_{rr}1.47; $M_{\theta\theta}$-0.17; $M_{\phi\phi}$-1.31; $M_{r\theta}$-0.37; $M_{\theta\phi}$0.28; $M_{\phi r}$0.10; Best double couple: $M_0$1.50000×10^{17} NP1: ϕ_s336.00000°,δ50.00000°,λ75.00000°. NP2: ϕ_s178.00000°,δ42.00000°,λ107.00000°. Principal axes: T 1.5400, Plg78.0000°, Azm184.0000°; N -0.1600, Plg11.0000°, Azm345.0000°; P -1.3800, Plg4.0000°, Azm76.0000°;*
NEIC Three people killed, 19 injured, 1,083 houses destroyed, 1,500 damaged and power outages occurred in the Panj-Qumsangir area.
*HRVD **29** 00:11:51.3±0.1,3736N×6856E,h12km,MW5.6/100, Centroid moment Tensor Solution. LP body waves: s73,c142;Mantle waves: s100,c261; Half duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}2.70±.03; $M_{\theta\theta}$0.05±.03; $M_{\phi\phi}$-2.75±.02; $M_{r\theta}$0.04±.08; $M_{\theta\phi}$0.11±.02; $M_{\phi r}$-0.33±.08; Best double couple: $M_0$2.74800×10^{17} NP1:ϕ_s358.00000°, δ42.00000°,λ91.00000°. NP2:ϕ_s177.00000°,δ48.00000°, λ89.00000°. Principal axes: T 2.7210, Plg86.0000°, Azm78.0000°; N 0.0540, Plg1.0000°, Azm178.0000°; P -2.7750, Plg3.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NNC **29** 00:11:52.3±1.5,3763N×6840E,h33km,mb5.0,mpv4.9 Error ellipse: s-maj=14.8km s-min=10.9km az=168.0*
*BJI **29** 00:11:54.5,3783N×6906E,h34km,mB5.2,mb4.7,ML5.3, Ms5.6,Msz5.4*

ISC 29 00:11:52.8±0.1,3737N±002×6867E±002,h37km, h37km±1.1km:pP-P,n554,σ1§12/553,mb4.7/142,MS5.2/117, 36C-17D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**3.98**	**7**	*e*PN	**Pn**	**00 12 51.9**	**+0.7**
CEP	**Cherat**	**4.41**	**142**	P	**Pn**	**00 13 00.4**	**+3.2**
THW	**Thamme Wali**	**5.21**	**150**	P	**Pn**	**00 13 07.5**	**-0.7**
CHCP	**Chirah Chowk**	**5.27**	**133**	P	**Pn**	**00 13 10.7**	**+1.8**
SBDP	**Sheikh Budin**	**5.36**	**160**	P	**Pn**	**00 13 11.5**	**+1.3**
DRP	**Derazinda**	**5.75**	**167**	⇓P	**Pn**	**00 13 17.6**	**+2.0**
KK31	**Karatay Array**	**5.90**	**13**	⇑Pn	**Pn**	**00 13 17.2**	**-0.4**
KK31	21nm,0.3s,baz=188,slow=12,SNR=5.2			⇑Sn	**Sn**	**00 14 24.5**	**+0.6**
KK31	262nm,0.8s,baz=199,slow=20			⇑Lg		00 14 50.8	
KKAR	**Karatay Array**	**5.90**	**13**	*e*PN	**Pn**	**00 13 16.7**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,12nm,0.3s						
KSH	**Kashi**	**6.12**	**67**	⇑P	**Pn**	**00 13 21.8**	**+1.2**
KSH				AP		00 13 29.1	
KSH				XS		00 14 34.4	
KSH				LR	LR		
	comp=N,260μm,7.5s						
KSH				LR	LR		
	comp=E,154μm,5.3s						
AML	**Almayashu**	**6.13**	**38**	P	**Pn**	**00 13 21.6**	**+0.8**
	SNR=18						
SARP	**Sargodha**	**6.36**	**148**	P	**Pn**	**00 13 25.0**	**+1.1**
SARP				S	**Sn**	**00 14 38.0**	**+2.8**
EKS2	**Erkin-Say**	**6.58**	**35**	P	**Pn**	**00 13 27.5**	**+0.6**
	SNR=70						
UCH	**Uchtor**	**6.61**	**41**	P	**Pn**	**00 13 27.8**	**+0.3**
	SNR=528						
AAK	**Ala-Archa**	**6.90**	**39**	P	**Pn**	**00 13 31.8**	**+0.4**
	SNR=41						
AAK	**Ala-Archa**	**6.90**	**39**	*c i*PN	**Pn**	**00 13 30.8**	**-0.5**
AAK	**Ala-Archa**	**6.90**	**39**	*e*Pn	**Pn**	**00 13 30.7**	**-0.6**
KZA	**Kyzart**	**6.91**	**45**	P	**Pn**	**00 13 32.3**	**+0.7**
	SNR=141						
FRU	**Bishkek**	**7.11**	**38**	⇑*i*PN	**Pn**	**00 13 34.0**	**-0.2**
FRU				*i* S	**Sn**	**00 14 56.0**	**+2.3**
FRU				pmax	pmax		
	comp=Z,2μm,3.0s						
FRU				pmax	pmax		
	comp=N,8μm,2.6s						
KBK	**Karagaybulak**	**7.14**	**40**	P	**Pn**	**00 13 35.8**	**+1.1**
	SNR=445						
CHMS	**Chumysh**	**7.29**	**38**	P	**Pn**	**00 13 37.1**	**+0.3**
	SNR=12						
USP	**Ospenovka**	**7.38**	**35**	P	**Pn**	**00 13 37.6**	**-0.3**
	SNR=42						
ULHL	**Ulahol**	**7.59**	**48**	P	**Pn**	**00 13 41.0**	**+0.2**
	SNR=10						
TKM2	**Tokmak 2**	**7.67**	**42**	P	**Pn**	**00 13 42.3**	**+0.4**
	SNR=19						
TKM2	**Tokmak 2**	**7.67**	**42**	⇑Pn	**Pn**	**00 13 41.8**	**-0.1**
	comp=N,15nm,0.6s						
TKM2	**Tokmak 2**	**7.67**	**42**	P	**Pn**	**00 13 41.1**	**-0.8**
TKM2				pmax	pmax		
	comp=Z,92nm,0.6s						
PONG	**Pong**	**8.07**	**130**	*e*P	**Pn**	**00 13 50.0**	**+2.6**
KNDC	**Almaty**	**8.61**	**45**	⇑Pn	**Pn**	**00 13 55.1**	**+0.2**
	comp=Z,425nm,1.1s						
KNDC				⇑Lg		00 16 20.8	
	comp=Z,0.5nm,0.1s						
AAA	**Alma-Ata**	**8.64**	**44**	*c i*P	**Pn**	**00 13 55.0**	**-0.2**
AAA				*e*S	**Sn**	**00 15 32.5**	**+1.1**
AAA				pmax	pmax		
	comp=Z,5μm,1.0s						
AAA				smax			
	comp=E,24μm,3.0s						
AAA				MLR	MLR		
	comp=Z,281μm,10.5s						
BHK	**Bhakra**	**8.73**	**131**	*ex*	**Pn**	**00 14 03.0**	**+6.5**
BHK				*ex*	x	00 16 50.8	
SMLA	**Simla**	**9.39**	**129**	*e*P	**Pn**	**00 14 04.0**	**-1.5**
DDI	**Dehra Dun**	**10.50**	**129**	*e*P	**Pn**	**00 14 22.0**	**+1.3**
DDI				*ex*	x	00 16 28.3	
KHET	**Khetri**	**11.04**	**145**	*e*S	**Sn**	**00 16 22.3**	**-8.0**
NDI	**New Delhi**	**11.24**	**138**	*e*P	**Pn**	**00 14 29.6**	**-1.2**
NDI				*e*S	**Sn**	**00 16 30.0**	**-5.2**
AYAN	**Aya Nagar**	**11.35**	**139**	*e*S	**Sn**	**00 16 29.6**	**-8.3**
AJM	**Ajmer**	**11.98**	**153**	*e*P	**Pn**	**00 14 36.9**	**-4.0**
AJM				AMb	AMB	00 14 41.3	
	comp=Z,15nm,0.5s						
PTH	**Pithoragarh**	**12.39**	**126**	*ex*	x	00 15 04.3	
PTH				*ex*	x	00 17 21.3	
LGTI	**Lohaghat**	**12.48**	**126**	*i x*	**Pn**	**00 14 41.5**	**-6.3**
LGTI				*ex*	**Sn**	**00 17 11.0**	**+5.6**
AB31	**Akbulak array**	**13.46**	**335**	⇑P	**Pn**	**00 14 56.5**	**-4.7**
	comp=Z,13nm,0.5s						
AB31				⇑S	**Sn**	**00 17 21.9**	**-7.5**
	comp=Z,67nm,1.0s,baz=156,slow=25,SNR=4.1						
AB31	**Akbulak array**	**13.46**	**335**	P	**Pn**	**00 14 56.5**	**-4.7**
AB31						00 17 24.0	
AB31				pmax	pmax		
	comp=Z,14nm,0.6s						
AB31				smax			
	comp=Z,13nm,0.6s						
MK31	**Makanchi Array**	**13.80**	**43**	P	**Pn**	**00 15 02.2**	**-3.6**
MK31				pmax	pmax		
	comp=Z,371nm,1.7s						
MKAR	**Makanchi Array**	**13.80**	**43**	Pn	**Pn**	**00 15 03.2**	**-2.6**
	comp=Z,0.7nm,0.3s,baz=235,slow=13,SNR=49						
MKAR	**Makanchi Array**	**13.80**	**43**	*i* P	**Pn**	**00 15 03.5**	**-2.3**
MKAR				pmax	pmax		
	comp=Z,15nm,0.7s						
MK05	**Makanchi Array**	**13.80**	**43**	⇑P	**Pn**	**00 15 02.6**	**-3.2**
	comp=Z,68nm,1.2s						
KURK	**Kurchatov**	**15.12**	**25**	P	**Pn**	**00 15 18.8**	**-4.7**
KURK				Lg		00 19 51.2	
AKTK	**Aktyubinsk**	**15.13**	**333**	Pn	**Pn**	**00 15 19.9**	**-3.8**
AKTK				LR	LR	00 21 29.3	
AKTO	**Aktyubinsk**	**15.13**	**333**	⇑P	**Pn**	**00 15 19.5**	**-4.2**
	comp=Z,0.6nm,0.7s						
AKTO				⇑S	S	00 17 57.5	-29
	comp=Z,5.9nm,1.6s						
AKTO				⇓Lg		00 19 33.6	
	comp=Z,105nm,3.5s						
AKTO	**Aktyubinsk**	**15.13**	**333**	Pn	**Pn**	**00 15 19.9**	**-3.8**
	comp=Z,1.1nm,0.3s,baz=138,slow=14,SNR=20						
AKTO				LR	LR	00 21 29.3	
	comp=Z,5μm,22.0s,baz=346,slow=38						
AKTO	**Aktyubinsk**	**15.13**	**333**	P	**Pn**	**00 15 19.9**	**-3.8**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,5μm,22.0s						
VOSK	**Vostochnaya**	**15.44**	**5**	⇓P	**Pn**	**00 15 23.9**	**-3.9**
	comp=Z,47nm,0.8s						
VOSK				⇓Lg		00 19 60.0	
	comp=Z,300nm,1.6s						
VOSK	**Vostochnaya**	**15.44**	**5**	P	**Pn**	**00 15 24.1**	**-3.6**
VOSK				pmax	pmax		
	comp=Z,40nm,0.9s						
ZRNK	**Zerenda**	**15.58**	**1**	⇑P	**Pn**	**00 15 25.2**	**-4.4**
	comp=Z,56nm,0.7s						
ZRNK				⇓Lg		00 20 05.6	
	comp=Z,474nm,1.9s						
ZRNK	**Zerenda**	**15.58**	**1**	P	**Pn**	**00 15 25.1**	**-4.5**
ZRNK				pmax	pmax		
	comp=Z,39nm,0.7s						
BVA0	**Borovoye Array**	**15.70**	**4**	⇑P	**Pn**	**00 15 28.6**	**-2.5**
	comp=Z,15nm,0.8s,baz=241,slow=40,SNR=467						
BVA0			

comp=Z,26nm,0.8s
CHKZ Chkalovo 16.36 4 P **Pn** **00 15 37.0 -2.6**
CHKZ pmax pmax
comp=Z,20nm,0.8s
DMN Daman 16.92 120 *e*P **Pn** **00 15 41.7 -4.9**
comp=Z,315nm,0.8s
KKN Kakani 16.93 120 *e*P **Pn** **00 15 41.8 -4.9**
comp=Z,1µm,0.7s
KKN Kakani 16.93 120 *e*P **Pn** **00 15 41.8 -4.9**
KKN pmax pmax
comp=Z,1µm,0.7s
MAK Makhachkala 17.10 296 *e*P **Pn** **00 15 56.0 +7.1**
MAK pmax pmax
comp=Z,597nm,2.6s
MAK MLR MLR
comp=Z,21µm,16.0s
PKI Pulchoki 17.15 120 *e*P **Pn** **00 15 44.9 -4.6**
comp=Z,888nm,0.7s
PKI Pulchoki 17.15 120 *e*P **Pn** **00 15 44.9 -4.6**
PKI pmax pmax
comp=Z,888nm,0.7s
JBP Jabalpur 17.18 142 *e*P **Pn** **00 15 49.6 -0.2**
JBP *ex* x 00 19 26.2
GUN Gumba 17.27 118 *e*P **Pn** **00 15 46.7 -4.3**
comp=Z,723nm,0.9s
AKL Akola 18.12 154 *e*P **Pn** **00 16 00.7 -0.8**
AKL *i* S **S** **00 19 25.4 -1.8**
DGRG David-gareji 18.44 290 P **Pn** **00 16 02.8 -2.7**
DGRG David-gareji 18.44 290 P **Pn** **00 16 02.8 -2.7**
NGP Nagpur 18.50 148 *e*P **Pn** **00 16 04.3 -1.9**
NGP *ex* x 00 16 25.6
comp=Z,109nm,1.3s
NGP *ex* x 00 19 36.2
BOM Bombay 18.76 168 *i* x x 00 16 21.5
BOM *i* x x 00 20 01.1
GNI Garni 18.86 286 *e*P **Pn** **00 16 17.2 +6.8**
GNI Garni 18.86 286 P **Pn** **00 16 10.8 +0.4**
comp=Z,1.3nm,0.3s,baz=64,slow=2.5,SNR=9.8
GNI LR LR 00 25 20.4
comp=Z,6µm,19.0s,baz=100,slow=43
GNI Garni 18.86 286 *e*P **Pn** **00 16 08.2 -2.2**
GNI Garni 18.86 286 *e*Pn **Pn** **00 16 10.8 +0.4**
comp=Z,161nm,1.3s
MTA Mtatsminda 18.90 291 P **Pn** **00 16 10.9 0.0**
MTA Mtatsminda 18.90 291 P **Pn** **00 16 10.9 0.0**
TBLG Delisi 18.94 291 P **Pn** **00 16 09.9 -1.5**
TBLG Delisi 18.94 291 P **Pn** **00 16 09.9 -1.5**
TBLG Delisi 18.94 291 P **Pn** **00 16 09.9 -1.6**
UMR Umm Al-Rimmam 19.12 252 *e*P **Pn** **00 16 12.8 -0.7**
UMR AMb AMB 00 16 22.6
comp=Z,60nm,0.9s
BLSP Bilaspur 19.13 139 *e*P **Pn** **00 16 13.0 -0.7**
BLSP *ex* x 00 20 14.0
MIB Mutribah 19.29 253 *e*P **Pn** **00 16 13.5 -2.0**
MIB AMb AMB 00 16 16.7
comp=Z,42nm,0.8s
POO Poona 19.31 165⇑ *i* x x 00 16 55.0
comp=Z,40nm,1.0s
POO *ex* x 00 17 16.0
KBD Kabd 19.32 251 *e*P **Pn** **00 16 14.2 -1.9**
KBD AMb AMB 00 16 19.5
comp=Z,182nm,1.0s
GOR Gori 19.44 291 P **Pn** **00 16 15.1 -2.3**
GOR Gori 19.44 291 P **Pn** **00 16 15.1 -2.3**
CLDR Caldiran 19.51 283 *e*P **Pn** **00 16 18.6 +0.4**
RDF Al-Radifah 19.56 251 *e*P **Pn** **00 16 16.2 -2.7**
RDF AMb AMB 00 16 23.5
comp=Z,45nm,0.8s
NAY Al-Naaiem 19.63 252 *e*P **Pn** **00 16 15.2 -4.5**
NAY AMb AMB 00 16 25.3
comp=Z,39nm,1.0s
ZEI Tsey 19.68 294 *e*P **Pn** **00 16 23.2 +2.9**
CUKT Cukurca 19.93 277 *e*P **Pn** **00 16 22.0 -1.2**
TVAN Van 19.95 281 *i* P sP 00 16 32.3 -3.5
VANB Van 19.95 281 *e*P **Pn** **00 16 26.3 +2.8**
ONI Oni 19.98 293 P **Pn** **00 16 20.8 -3.1**
ONI Oni 19.98 293 P **Pn** **00 16 20.8 -3.1**
BOK Bokaro 20.02 128 *e*P **P** **00 16 22.7 +0.3**
BOK AMb AMB 00 16 30.6
comp=Z,76nm,1.1s
NVS Novosibirsk 20.11 25⇓ *e*P **P** **00 16 20.6 -2.7**
NVS pmax pmax
comp=N,5.0nm,0.9s
LATR Latur 20.11 158 *ex* x 00 19 05.0
SVE Sverdlovsk 20.19 347 *e*P **P** **00 16 23.2 -1.0**
SVE *e*S **S** **00 20 06.0 -2.8**
SVE pmax pmax
comp=Z,200nm,3.5s
SVE MLR MLR
comp=Z,11µm,11.0s,MS5.5
BHD Baghdad 20.22 266 *ex* x 00 16 18.0
BHD *ex* x 00 17 10.0
BHD *ex* x 00 20 17.0
BHD *ex* x 00 20 57.0
ARU Arti 20.24 344 *e*P **P** **00 16 23.7 -1.0**
ARU *e* 00 16 45.4
ARU *e*PPP 00 16 56.5
ARU *e*S **S** **00 20 10.1 +0.4**
ARU *e*SS 00 20 25.7
ARU MLR MLR
comp=Z,4µm,17.0s,MS4.8
ARU MLR MLR
comp=N,3µm,16.0s,MS4.8
ARU MLR MLR
comp=E,1µm,15.0s,MS4.8
ARU Arti 20.24 344 *e*P **P** **00 16 23.8 -0.9**
comp=E,52nm,1.0s
ARU LR LR
comp=Z,6µm,19.0s,MS5.0
KAD Karad 20.57 165 *e*P **P** **00 16 25.5 -2.8**
KAD AMb AMB 00 16 59.3
comp=Z,74nm,1.1s
GOF Gofitskoye 20.70 300 *e*P **P** **00 16 29.6 -0.1**
GOF pmax pmax
comp=Z,90nm,0.7s
KIV Kislovodsk 20.73 297 *e*P **P** **00 16 28.6 -1.4**
KIV *e* 00 16 46.9
KIV *e*S **S** **00 20 24.8 +5.3**
KIV pmax pmax
comp=Z,62nm,1.3s
KIV MLR MLR
comp=Z,8µm,16.0s,MS5.2
KIV Kislovodsk 20.73 297 *e*P **P** **00 16 30.0 -0.1**
comp=Z,68nm,0.9s
BCA Borcka 21.26 289 *e*P **P** **00 16 39.3 +3.6**
ERZM Erzurum 21.45 285 *i* P **P** **00 16 39.3 +1.5**
EZM Erzurum 21.45 285 *e*P **P** **00 16 38.3 +0.5**
BTMT Batman 21.48 281 *e*P **P** **00 16 39.8 +1.7**
BNGL BINGOL 21.67 283 *i* P **P** **00 16 45.1 +4.9**
BEST Besiri 21.68 280 *i* P **P** **00 16 41.3 +1.0**
HYB Hyderabad 21.70 154 *i* P **P** **00 16 39.5 -1.0**
HYB *e*S **S** **00 20 34.0 -4.5**
HYB LR LR 00 30 06.0
comp=Z,35nm,12.0s
HYB Hyderabad 21.70 154 *e*P **P** **00 16 39.5 -1.0**
HYB *e*S **S** **00 20 40.0 +1.5**
MARD Mardin 22.15 278 *i* P **P** **00 16 45.9 +0.6**
BINT Bingol 22.19 283 *e*P **P** **00 16 50.8 +5.1**
CAL Calcutta 22.49 126 *e*P **P** **00 16 50.9 +2.0**
CAL *e*S **S** **00 20 57.9 +4.2**
DIY Diyarbakir 22.50 280 *e*P **P** **00 16 50.8 +1.8**
EZC Erzincan 22.65 285 *e*P **P** **00 16 54.6 +4.0**
SOC Sochi 22.81 295 *e*P **P** **00 16 50.8 -1.5**
SOC *e*PP 00 16 59.7
SOC *e*PPP 00 17 26.3
SOC *e*SS 00 21 35.4
SOC *e*SSS 00 21 49.1
SOC pmax pmax
comp=Z,37nm,1.2s,mb4.7
SOC MLR MLR
comp=Z,11µm,21.0s,MS5.2
KELT Kelkit 23.06 286 *i* P **P** **00 16 56.2 +1.3**
ELZG Elazig 23.40 282 *i* P **P** **00 16 57.7 -0.7**
VIS Vishakhapatnam 23.44 143 *e*P **P** **00 16 58.8 0.0**
SOKR Solikamsk 23.50 345⇑ *i* P **P** **00 16 58.4 -0.9**
SOKR pmax pmax
comp=Z,100nm,2.3s,mb4.8
SOKR MLR MLR
comp=Z,4µm,15.0s,MS5.0
VRHR Novokhopersk 23.58 314 *e*P **P** **00 16 58.1 -2.0**
VRHR *e*S **S** **00 21 13.8 +2.3**
VRHR pmax pmax
comp=Z,10.0nm,0.4s,mb4.6
VRHR pmax pmax
comp=N,4.0nm,0.3s
VRHR pmax pmax
comp=E,5.0nm,0.5s
VRHR smax
comp=N,3µm,19.0s
VRHR smax
comp=Z,2µm,16.4s
VRHR smax
comp=E,970nm,12.3s
VRHR MLR MLR
comp=Z,3µm,22.0s,MS4.8
VRHR MLR MLR
comp=N,2µm,21.0s,MS4.9
VRHR MLR MLR
comp=E,5µm,26.0s,MS4.9
URFA Urfa 23.67 279 *e*P **P** **00 17 02.8 +1.9**
GRSN GIRESUNGRSN 23.79 288 *i* P **P** **00 17 04.0 +2.0**
MALT Malatya 23.86 282 *e*P **P** **00 17 04.4 +1.8**
ATAB Bozova 24.08 280 *i* P **P** **00 17 06.0 +1.3**
GTA Gaotai 24.44 76 *e*P **P** **00 17 08.8 +0.9**
GTA AP 00 17 18.3
GTA XP sP 00 17 22.0 -0.7
GTA S **S** **00 21 26.8 +1.4**
GTA SCS ScS 00 28 15.5 +6.0
GTA AMB AMB
comp=Z,12nm,0.7s,mb4.4
GTA AMB AMB
comp=Z,464nm,4.9s
GTA LR LR
comp=N,8µm,16.7s,MS5.4
GTA LR LR
comp=E,8µm,18.6s,MS5.4
GTA LR LR
comp=Z,11µm,19.4s,MS5.4
ANN Anapa 24.58 297 *e*P **P** **00 17 08.3 -0.9**
ANN *i* *PP 00 17 18.2
ANN *e* 00 17 40.0
ANN *e*S **S** **00 21 28.8 +1.1**
ANN *e*SS 00 22 22.7
ANN pmax pmax
comp=Z,37nm,1.1s,mb4.8
ANN MLR MLR
comp=Z,8µm,17.0s,MS5.3
GZT Gaziantep 24.67 280 *i* P **P** **00 17 11.6 +1.6**
SVSK Karacayir 24.80 286 *e*P **P** **00 17 10.9 -0.3**
VRSR Storozhevoye 25.03 313 *e*P **P** **00 17 13.0 -0.3**
VRSR *e**PP pP 00 17 22.4 -1.3
VRSR pmax pmax
comp=Z,20nm,1.0s,mb4.6
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,40nm,0.9s
VRSR MLR MLR
comp=Z,4µm,18.0s,MS5.0
VRSR MLR MLR
comp=N,2µm,17.0s,MS5.0
VRSR MLR MLR
comp=E,4µm,19.0s,MS5.0
PECR Pechory 25.11 327 *e*P **P** **00 17 13.4 -0.6**
PECR pmax pmax
comp=Z,300nm,1.6s,mb5.6
PECR MLR MLR
comp=Z,6µm,16.0s,MS5.2
PECR MLR MLR
comp=N,4µm,13.0s
MDRS Chennai 26.32 154 *ex* **P** **00 17 29.0 +4.0**
MDRS *ex* x 00 18 40.0
ASF Jabal al Asfar 26.54 268 P **P** **00 17 28.4 +1.5**
comp=N,4.5nm,0.9s,mb4.0,baz=314,slow=3.7,SNR=5.0
ASF LR LR 00 30 47.3
comp=N,13µm,18.3s,MS5.5,baz=116,slow=43
ASF Jabal al Asfar 26.54 268 P **P** **00 17 28.4 +1.5**
ASF LR LR 00 30 47.3
AVNT Avonos 26.57 284 *i* P **P** **00 17 28.9 +1.6**
CDAG Cicekdag 26.85 285 *i* P sP 00 17 48.3 +3.7
MOY Mondy 26.85 47 *e*P **P** **00 17 30.3 +0.5**
MOY pmax pmax
comp=Z,122nm,2.5s,mb5.0
SIM Simferopol' 26.94 297 P **P** **00 17 33.0 +2.4**
SIM pmax pmax
comp=Z,34nm,1.0s,mb4.8
SIM pmax pmax
comp=Z,220nm,16.4s
KAMT Kaman 27.38 285 *e*P **P** **00 17 33.0 -1.6**
BR131 Keskin Array S 27.40 286 *e*P **P** **00 17 35.5 +0.8**
BR131 LR LR
comp=Z,4µm,20.0s,MS5.0
BRTR Keskin Array B 27.40 286 P **P** **00 17 35.1 +0.4**
comp=Z,3.9nm,0.7s,mb4.0,baz=98,slow=8.9,SNR=22
BRTR LR LR 00 31 34.5
comp=Z,2µm,21.1s,MS4.8,baz=249,slow=43
BRTR Keskin Array B 27.40 286 *i* P **P** **00 17 35.0 +0.3**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
MMAI Mount Meron Ar 27.45 271 LR LR 00 30 46.7
comp=Z,6µm,20.4s,MS5.1,baz=70,slow=41
ELDT Eldivan 27.48 288 *i* P **P** **00 17 36.3 +0.9**
MOS Moscow 27.81 321 *e*P pP 00 17 54.2 +5.4
MOS *i* 00 18 32.6
MOS *e* **S** **00 22 14.9 -4.0**
MOS pmax pmax
comp=Z,31nm,0.9s,mb4.9
MOS MLR MLR
comp=Z,4µm,17.4s,MS5.1
ZAK Zakamensk 27.86 51 *e*P **P** **00 17 38.9 +0.1**
ZAK pmax pmax
comp=Z,24nm,1.7s,mb4.5
SAFT Safranbolu 27.98 289 *e*P **P** **00 17 38.3 -1.7**
ANTO Ankara 28.03 286 PFAKE 00 17 50.0 +10
ANTO LR LR
comp=Z,5µm,22.0s,MS5.0
OBN Obninsk 28.07 320 *e*P **P** **00 17 39.6 -1.0**
OBN *e* 00 18 31.0
OBN pmax pmax
comp=Z,16nm,1.1s,mb4.6
OBN MLR MLR
comp=Z,3µm,19.0s,MS4.9
OBN Obninsk 28.07 320 *e*P **P** **00 17 40.2 -0.4**
comp=Z,58nm,1.1s,mb5.1
LZH Lanzhou 28.12 82 *e*P **P** **00 17 46.0 +4.8**
LZH AP pP 00 17 55.0 +3.4
LZH XP sP 00 17 58.0 +1.9
LZH PP PP 00 18 36.0 -9.0
LZH *e*S **S** **00 22 27.0 +3.2**
LZH XS sS 00 22 39.0 -2.1
LZH SS 00 23 47.0
LZH AMB AMB
comp=Z,67nm,1.1s,mb5.2
LZH AMB AMB
comp=Z,356nm,4.4s
LZH LR LR
comp=E,12µm,13.7s
LZH LR LR
comp=Z,15µm,15.4s,MS5.7
TLY Talaya 28.43 49 *e*P **P** **00 17 44.9 +1.0**
TLY *e*SS SS 00 23 49.5 -40
TLY pmax pmax
comp=Z,21nm,1.2s,mb4.6
TLY MLR MLR
comp=Z,4µm,19.0s,MS5.1
TLY Talaya 28.43 49 *e*P **P** **00 17 43.5 -0.4**
comp=Z,45nm,1.5s,mb4.9
SGKT Sivrigoynuk 28.52 288 *i* P **P** **00 17 45.9 +1.2**
IRK Irkutsk 28.96 48 *e*P **P** **00 17 49.0 +0.4**
IRK pmax pmax
comp=Z,80nm,2.4s,mb5.0
EIL Elat 29.03 265 *e*P **P** **00 17 50.3 +1.0**
SONM Songino Array 29.40 57 P **P** **00 17 52.9 +0.4**
comp=Z,2.9nm,0.6s,mb4.2,baz=271,slow=11,SNR=14
SONM LR LR 00 31 40.6
comp=Z,5µm,21.9s,MS5.1,baz=269,slow=41
ESKT Eskisehir 29.56 286 *i* P **P** **00 17 53.0 -1.0**
BORA Eskisehir 29.82 287 *i* P **P** **00 17 56.5 +0.3**
KLMR Klimovskoe 29.82 331 *e*P **P** **00 17 53.3 -2.9**
KLMR *e*S **S** **00 22 45.9 -4.5**
KLMR pmax pmax
comp=Z,20nm,1.2s,mb4.7
KLMR MLR MLR
comp=Z,3µm,15.0s,MS5.1
ULN Ulaanbaatar 29.85 57 *e*P **P** **00 17 56.0 -0.5**
ULN pmax pmax
comp=Z,16nm,1.0s,mb4.7
ULN Ulaanbaatar 29.85 57 *e*P **P** **00 17 56.0 -0.5**
comp=Z,16nm,1.0s,mb4.7
TKTP Tekketepe 30.21 283 *i* P **P** **00 18 02.6 +2.9**
KIS Kishinev 30.77 301 *e*P **P** **00 18 14.0 +9.4**
KIS *e* 00 19 10.0
KIS MLR MLR
comp=N,4µm,16.0s,MS5.3
KIS MLR MLR
comp=Z,4µm,16.0s,MS5.2
KIS MLR MLR
comp=E,4µm,17.0s,MS5.3
KIS MLR MLR
comp=Z,5µm,16.0s
ULDT Uludag 30.78 288 *i* P **P** **00 18 00.0 -4.7**
AKASG Malin Array Be 30.95 308 P **P** **00 18 05.4 -0.8**
comp=Z,0.9nm,0.4s,mb4.0,baz=88,slow=7.0,SNR=10
AKASG LR LR 00 33 38.0
comp=Z,3µm,19.8s,MS4.9,baz=70,slow=42
AKASG Malin Array Be 30.95 308 P **P** **00 18 05.4 -0.8**
AKASG LR LR 00 33 38.0
AKBB Malin Array Si 30.95 308 P **P** **00 18 05.1 -1.1**
AKBB *e* 00 19 15.9
KMI Kunming 31.41 103 P **P** **00 18 11.8 +1.5**
KMI AP pP 00 18 21.5 +0.7
KMI XP sP 00 18 25.8 +0.6
KMI PP PP 00 19 15.3 -6.3
KMI PPP 00 19 30.3
KMI S **S** **00 23 14.0 -1.4**
KMI XS sS 00 23 31.3 -1.4
KMI SS SS 00 25 01.3 -29
KMI SSS 00 25 23.8
KMI AMB AMB
comp=Z,13nm,2.0s,mb4.4
KMI AMB AMB
comp=Z,217nm,12.6s
KMI LR LR
comp=N,4µm,18.1s
KMI LR LR
comp=E,4µm,23.3s
KMI LR LR
comp=Z,9µm,23.3s
BTO Baotou 32.09 71 *e*P **P** **00 18 17.3 +1.0**
BTO LR LR
comp=N,2µm,11.8s
BTO LR LR
comp=E,2µm,20.6s
PLOR Plostina 32.23 299⇓ *i*P **P** **00 18 19.1 +1.6**
CHTO Chiang Mai 32.28 117 *e*P **P** **00 18 16.8 -1.1**
CHTO *e**PP pP 00 18 26.3 -2.1
CHTO pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
CHTO MLR MLR
comp=Z,5µm,20.0s,MS5.2
CHTO Chiang Mai 32.28 117 *e*P **P** **00 18 16.8 -1.1**
comp=Z,8.5nm,0.9s,mb4.6
CHTO *e*pP pP 00 18 26.3 -2.1
CHTO LR LR
comp=Z,5µm,20.0s,MS5.2
CM31 Chiang Mai Arr 32.51 117 *e*P **P** **00 18 19.7 -0.2**
comp=Z,6.5nm,0.6s,mb4.7
CM31 LR LR
comp=Z,4µm,20.0s,MS5.2
MNK Minsk 32.60 315 *e*P **P** **00 18 17.0 -3.7**
XAN Xi'an 32.68 84 P **P** **00 18 24.3 +2.9**
XAN AP pP 00 18 29.0 -2.9
XAN AMB AMB
comp=Z,6.0nm,1.7s,mb4.2
MLR Muntele Rosu 32.73 298⇓ *i*P **P** **00 18 24.2 +2.4**
MLR Muntele Rosu 32.73 298⇓ P **P** **00 18 24.2 +2.4**
PUL Pulkovo 33.13 325 P **P** **00 18 26.7 +1.4**
PUL *e*S **S** **00 23 49.9 +7.8**
HHC Hu-ho-hao-te 33.22 70 *e*P **P** **00 18 26.0 -0.1**
HHC AP pP 00 18 36.8 +0.2
HHC XP sP 00 18 39.8 -1.3
HHC PP PP 00 19 38.0 -3.6
HHC PCP PcP 00 21 09.5 +1.4
HHC S **S** **00 23 43.0 -0.5**
HHC XS sS 00 23 58.3 -2.6
HHC SS SS 00 25 44.0 -24
HHC AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
HHC AMB AMB
comp=Z,354nm,6.4s
HHC LR LR
comp=N,5µm,20.2s,MS5.3
HHC LR LR
comp=E,3µm,19.0s,MS5.3
HHC LR LR
comp=Z,6µm,22.6s,MS5.2
BURAR Bucovina Array 33.24 302⇓ *i*P **P** **00 18 26.9 +0.5**
BURAR Bucovina Array 33.24 302⇓ P **P** **00 18 26.9 +0.6**
GYA Guiyang 33.83 98⇑ *i*P **P** **00 18 33.3 +1.9**
GYA AP pP 00 18 43.0 +1.0
GYA XP sP 00 18 47.0 +0.6
GYA PP PP 00 19 47.3 -1.1
GYA S **S** **00 23 53.8 +0.8**
GYA XS sS 00 24 10.3 -0.1
GYA SCP ScP 00 24 53.0 +1.4
GYA SS SS 00 26 00.0 -20
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,340nm,6.6s
GYA LR LR
comp=N,8µm,24.0s,MS5.5
GYA LR LR
comp=E,10µm,25.2s,MS5.5
GYA LR LR
comp=Z,12µm,25.8s,MS5.5
LVV L'vov 34.14 306 *e*P **P** **00 18 33.3 -0.9**
LVV *e* pP 00 18 44.3 -0.4
JOF Joensuu 34.19 330 *e*p **P** **00 18 33.5 -1.1**
comp=Z,4.9nm,0.5s,mb4.7
VSU Vasula 34.34 321 *e*P **P** **00 18 34.1 -1.8**
ENH Enshi 34.44 90 PFAKE 00 18 50.0 +13
ENH LR LR
comp=Z,18nm,20.0s
CIT Chita 34.51 50 *e*P **P** **00 18 37.3 0.0**
CIT pmax pmax
comp=Z,156nm,2.2s,mb5.5
VTS Vitosha 34.90 293⇑ *i*P **P** **00 18 41.4 +0.7**
DRGR 34.95 300⇑ *i*P **P** **00 18 41.0 -0.1**
DRGR 34.95 300⇑ P **P** **00 18 41.0 -0.1**
KWP Kalwaria 34.99 305 *e*P **P** **00 18 41.7 +0.2**
KWP *e*pP pP 00 18 52.1 +0.1
KWP L 00 31 48.1
comp=Z,5.9nm,31.1s
KWP Kalwaria 34.99 305 *e*P **P** **00 18 41.7 +0.2**
KWP *e*PP pP 00 18 52.1 +0.1
SUW Suwalki 35.16 313 *e*P **P** **00 18 42.1 -0.9**
SUW *e*pP pP 00 18 52.6 -0.9
SUW L 00 35 04.3
comp=Z,4.1nm,18.3s
SUW Suwalki 35.16 313 *e*P **P** **00 18 42.1 -0.9**
SUW *e*PP pP 00 18 52.6 -0.9
NST Nakhon Sawan 35.23 119 P **P** **00 18 43.4 -0.1**
KOLS Kolonicke sedl 35.25 304 *e*P **P** **00 18 42.8 -0.9**
KOLS *e*sP sP 00 18 55.7 -3.0
KOLS *e*PP PP 00 20 04.8 +0.7
KOLS *e*SS SS 00 26 52.4 +3.5
KOLS Kolonicke sedl 35.25 304 *e*P **P** **00 18 42.8 -0.9**
KOLS *e* pP 00 18 55.7 +1.5
KOLS *e* 00 20 04.8
FINES FINESS Array B 35.72 326 P **P** **00 18 47.0 -0.8**
comp=Z,3.8nm,0.8s,mb4.4,baz=125,slow=11,SNR=11
BZS Buzias 35.76 298⇑ *i*P **P** **00 18 48.1 0.0**
BZS Buzias 35.76 298⇑ P **P** **00 18 48.1 0.0**
CRVS Cervenica-Dubn 35.78 304 *e*P **P** **00 18 50.4 +2.1**
CRVS *e* 00 19 11.2
CRVS *e*SS SS 00 26 57.5 -2.2
CRVS Cervenica-Dubn 35.78 304 *e*P **P** **00 18 50.5 +2.2**
CRVS *e* 00 19 11.2
CRVS *e*SS SS 00 26 57.5 -2.2
BOD Bodaibo 35.88 41 *e*P **P** **00 18 48.5 -0.6**
BOD pmax pmax
comp=Z,35nm,1.1s,mb5.2
KAF Kangasniemi 35.89 327 *e*p **P** **00 18 47.1 -2.1**
comp=Z,3.1nm,0.5s,mb4.5,baz=113,slow=8.6
KAF Kangasniemi 35.89 327 *e*P **P** **00 18 47.1 -2.1**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
APA Apatity 36.12 338⇓ *i*P **P** **00 18 54.0 +2.8**
APA *i* S **S** **00 24 34.0 +5.7**
APA *i* SS SS 00 27 16.0 +9.3
APA pmax pmax
comp=Z,12nm,0.8s,mb4.9

APA MLR MLR
comp=Z,4μm,7.0s
NIE Niedzica 36.54 305 eP P 00 18 55.8 +1.0
KKTK Khon Kaen 36.68 116 P P 00 18 55.0 -1.0
comp=Z,556nm,0.7s
BJT Baijiatuan 36.82 71 PFAKE 00 19 10.0 +13
BJT LR LR
comp=Z,12μm,21.0s,MS5.6
BJI Beijing 36.83 71 eP P 00 19 00.0 +2.8
BJI PP PP 00 20 22.8 +1.4
BJI S **S 00 24 45.5 +6.5**
BJI AMB AMB
comp=Z,8.0nm,1.0s,mb4.5
BJI AMB AMB
comp=Z,304nm,3.7s
BJI LR LR
comp=N,6μm,16.6s,MS5.5
BJI LR LR
comp=E,2μm,16.6s,MS5.5
BJI LR LR
comp=Z,8μm,20.8s,MS5.5
PSZ Piszkesteto 36.84 302⇑ eP P 00 18 58.1 +0.8
OJC Ojcow 36.89 306 *i* P **P 00 18 57.6 -0.1**
OJC *e*S **S 00 24 43.4 +3.5**
OJC L 00 37 07.3
comp=Z,13nm,18.1s
VYHS Vyhne 37.52 303 eP P 00 19 03.1 0.0
VYHS *e*PP PP 00 20 24.7 -4.4
VYHS *e*S **S 00 24 48.5 -1.1**
VYHS *e* 00 20 24.7
VYHS *e*S **S 00 24 48.5 -1.1**
VYHS pmax pmax
comp=Z,11nm,1.7s,mb4.3
VYHS MLR MLR
comp=Z,2μm,29.6s,MS4.7
VYHS Vyhne 37.52 303 eP P 00 19 03.1 0.0
comp=Z,11nm,1.7s,mb4.3
VYHS *e*PP PP 00 20 24.7 -4.4
VYHS *e*S **S 00 24 48.5 -1.1**
VYHS LR LR
comp=Z,2μm,29.6s,MS4.7
PKSM Moragy 37.79 300⇑ eP P 00 19 05.8 +0.4
OKC Ostrava-Krasne 37.95 306 eP P 00 19 09.9 +3.2
OKC *e*S **S 00 25 06.1 +10**
OKC AMS AMS 00 34 20.0
comp=Z,3μm,25.0s
OKC Ostrava-Krasne 37.95 306 eP P 00 19 09.9 +3.2
OKC *e*S **S 00 25 06.1 +10**
HIA Hailar 38.32 55 eP P 00 19 08.9 -0.9
HIA *e**PP pP 00 19 18.3 -2.1
HIA *e**SP sP 00 19 22.2 -2.7
HIA pmax pmax
comp=Z,12nm,0.8s
HIA Hailar 38.32 55 eP P 00 19 08.9 -1.0
comp=Z,12nm,0.8s,mb4.7
HIA *e*pP pP 00 19 18.3 -2.2
HIA *e*sP sP 00 19 22.2 -2.6
MORC Moravsky Berou 38.34 306⇓ iP P 00 19 11.1 +1.1
MORC Moravsky Berou 38.34 306 eP P 00 19 09.9 -0.1
TIA Tai'an 38.48 77 eP P 00 19 12.0 +0.8
TIA LR LR
comp=N,3μm,16.0s,MS5.3
TIA LR LR
comp=E,1μm,16.0s,MS5.3
GKP Gorka Klasztor 38.60 311 eP P 00 19 11.7 -0.5
GKP *e*pP pP 00 19 19.8 -3.0
GKP *e*S **S 00 25 03.2 -2.7**
GKP *e*sS sS 00 25 20.9 -2.5
GKP L 00 37 21.2
comp=Z,4.2nm,20.6s
ZST Bratislava 38.69 303 epP pP 00 19 21.8 -1.8
VRAC Vranov 38.98 305⇑ iP P 00 19 16.2 +0.9
VRAC Vranov 38.98 305 ⇑P P 00 19 16.2 +0.9
DPC Dobruska-Polom 39.12 306 eP P 00 19 16.8 +0.3
DPC *e*S **S 00 25 20.1 +6.4**
DPC AMS AMS 00 35 10.0
comp=Z,3μm,21.6s
KSP Ksiaz 39.13 307 eP P 00 19 15.2 -1.4
KSP *e*pP pP 00 19 26.2 -1.1
KSP L 00 35 33.7
comp=Z,5.4nm,26.3s
KSP Ksiaz 39.13 307 eP P 00 19 16.6 0.0
KSP *e*PP PP 00 20 48.5 +1.8
KSP *e*S **S 00 25 15.0 +1.2**
KSP LR LR
comp=Z,6μm,27.3s,MS5.3
KEV Kevo 39.31 339 *ep* **P 00 19 18.4 +0.3**
comp=Z,1.2nm,0.4s,mb4.0
KEV Kevo 39.31 339 eP P 00 19 18.4 +0.3
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
UPC Upice 39.31 307 eP P 00 19 18.7 +0.5
UPC *e*pP pP 00 19 29.3 +0.5
KOGS Kog 39.41 300 eP P 00 19 28.8 +10
CONA Conrad Observa 39.54 303 P **P 00 19 15.5 -4.5**
comp=Z,22nm,1.6s,mb4.6
ARCES ARCESS Array B 39.63 338 P **P 00 19 20.4 -0.5**
comp=Z,3.6nm,0.7s,mb4.2,baz=105,slow=7.6,SNR=9.7
ARCES LR LR 00 36 22.3
comp=Z,2μm,18.7s,MS5.0,baz=125,slow=37
ARE0 ARCESS Array S 39.63 338 P **P 00 19 19.2 -1.6**
ARE0 *e*PP PP 00 20 51.6 -0.6
TREC Trest 39.70 305 *eP* **P 00 19 20.7 -0.7**
TREC *e*pP pP 00 19 32.5 +0.5
TREC AMS AMS 00 34 40.0
comp=Z,5μm,29.9s
CRES Cresnjev 40.03 299 eP P 00 19 33.8 +10
KTK1 Kautokeino 40.07 337 *i* P **P 00 19 23.8 -0.7**
KTK1 AMb AMB 00 19 26.6
comp=Z,23nm,1.7s,mb4.6
KTK1 Kautokeino 40.07 337 *i* P **P 00 19 23.8 -0.7**
comp=Z,23nm,1.7s,mb4.6
PERS Pernice 40.17 301 eP P 00 19 25.6 +0.3
BOJS Bojanci 40.22 299 eP P 00 19 35.6 +10
PVCC Panska Ves 40.23 307 eP P 00 19 27.4 +1.6
PVCC *e*sP sP 00 19 43.5 +2.6
PVCC AMS AMS 00 35 50.0
comp=Z,3μm,21.9s
QIZ Qiongzhong 40.25 105 P **P 00 19 26.5 +0.5**
QIZ AP pP 00 19 35.3 -1.3
QIZ XP sP 00 19 39.3 -1.7
QIZ PP PP 00 21 04.5 +5.6
QIZ S **S 00 25 34.3 +3.6**
QIZ XS sS 00 25 48.3 0.0
QIZ AMB AMB
comp=Z,37nm,2.3s,mb4.7
QIZ LR LR
comp=E,3μm,21.1s
QIZ LR LR
comp=Z,6μm,22.3s,MS5.4
PRU Pruhonice 40.28 306 eP P 00 19 26.4 +0.2
PRU *e*pP pP 00 19 37.8 +1.0
PRU *e*PP PP 00 21 05.1 +5.9
PRU *e*S **S 00 25 38.7 +7.7**
PRU AMS AMS 00 34 30.0
comp=Z,3μm,29.4s
BRG Berggiesshubel 40.62 307 eP P 00 19 29.2 +0.2
comp=Z,26nm,1.6s,mb4.6
BRG Berggiesshubel 40.62 307 eP P 00 19 29.1 +0.1
comp=Z,3.2nm,0.9s,mb4.0
BRG *i* pP 00 19 41.4 +1.7
comp=Z,6.5nm,1.0s
BRG *e*PP PP 00 21 17.7 +15
comp=Z,27nm,1.9s
MOA Molln 40.62 303⇑ iP P 00 19 29.2 +0.2
comp=Z,8.3nm,1.2s,mb4.2
LJU Ljubljana 40.65 300 eP P 00 19 29.6 +0.3
RUE Ruedersdorf 40.68 310 eP P 00 19 29.0 -0.5
comp=Z,22nm,1.3s,mb4.6
GZH Guangzhou 40.77 97 P **P 00 19 31.8 +1.6**
GZH S **S 00 25 43.0 +4.7**
GZH LR LR
comp=N,4μm,14.1s,MS5.6
GZH LR LR
comp=E,5μm,15.3s,MS5.6
GZH LR LR
comp=Z,7μm,22.9s
GEC2 GERESS Array S 40.90 304 *eP* **P 00 19 31.4 +0.1**
comp=Z,100nm,3.3s
GEC2 GERESS Array S 40.90 304 *eP* **P 00 19 31.4 +0.1**
GEC2 pmax pmax
comp=Z,100nm,3.3s
GERES GERESS Array B 40.90 304 P **P 00 19 31.4 +0.1**
comp=Z,1.2nm,0.7s,baz=81,slow=8.2,SNR=13
GERES PP PP 00 21 03.2 -2.9
comp=Z,1.8nm,1.0s,baz=71,slow=10.0,SNR=4.0
GERES LR LR 00 40 06.0
comp=Z,2μm,18.7s,MS5.0,baz=80,slow=41
GERES GERESS Array B 40.90 304 P **P 00 19 31.4 +0.1**
GERES 00 21 03.2
KHC Kasperske Hory 40.96 305 *eP* **P 00 19 32.3 +0.5**
KHC *e*pP pP 00 19 43.1 +0.6
KHC *e*PP PP 00 21 08.9 +2.3
KHC AMS AMS 00 35 20.0
comp=Z,4μm,25.2s
FBE Freiberg 40.99 307 *eP* **P 00 19 32.3 +0.3**
comp=Z,22nm,1.4s,mb4.6
CLL Collm 41.19 308 P **P 00 19 33.0 -0.7**
comp=Z,logA/T=1.0,mb4.4
CLL *e**PP pP 00 19 45.0 +0.6
CLL *i* *SP sP 00 19 50.5 +1.7
CLL *e* 00 20 22.0
CLL *e*PP PP 00 21 11.0 +1.9
CLL *e**SPP 00 21 22.0
CLL *e* 00 21 49.0
CLL *e*S **S 00 25 50.0 +5.4**
CLL *e*SS SS 00 28 44.0 -4.4
CLL Collm 41.19 308 *eP* **P 00 19 33.0 -0.7**
comp=Z,13nm,1.2s,mb4.4
CLL *e*pP pP 00 19 45.0 +0.6
CLL *i* sP sP 00 19 50.5 +1.7
CLL *ex* x 00 20 22.0
CLL *e*PP PP 00 21 11.0 +1.9
CLL *es*PP 00 21 22.0
CLL *e*PPPP 00 21 49.0
CLL *e*S **S 00 25 50.0 +5.4**
CLL *e*SS SS 00 28 44.0 -4.4
CLL Collm 41.19 308 *eP* **P 00 19 33.0 -0.7**
CLL *e* pP 00 19 45.0 +0.6
CLL *e*S **S 00 25 50.0 +5.4**
CLL pmax pmax
comp=Z,13nm,1.2s,mb4.4
CLL MLR MLR
comp=Z,3μm,15.9s,MS5.2
CLL Collm 41.19 308 *eP* **P 00 19 33.0 -0.7**
comp=Z,13nm,1.2s,mb4.4
CLL *e* pP 00 19 45.0 +0.6
CLL *i* 00 19 50.5
CLL *e*S **S 00 25 50.0 +5.4**
CLL LR LR
comp=Z,3μm,15.9s,MS5.2
DL2 Dalian 41.19 71 P **P 00 19 36.0 +2.3**
DL2 PP PP 00 21 13.5 +4.3
DL2 S **S 00 25 49.8 +5.1**
DL2 AMB AMB
comp=Z,30nm,1.0s,mb4.9
DL2 AMB AMB
comp=Z,150nm,5.2s
DL2 LR LR
comp=N,1μm,18.9s,MS5.2
DL2 LR LR
comp=E,3μm,17.4s,MS5.2
DL2 LR LR
comp=Z,4μm,18.5s,MS5.4
NJ2 Nanjing 41.20 82 *eP* **P 00 19 33.0 -0.8**
NJ2 AP pP 00 19 43.5 -1.0
NJ2 XP sP 00 19 46.5 -2.4
NJ2 PP PP 00 21 13.5 +4.2
NJ2 S **S 00 25 45.0 +0.2**
NJ2 XS sS 00 26 00.0 -2.5
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
NJ2 AMB AMB
comp=Z,120nm,3.7s
NJ2 LR LR
comp=N,6μm,17.5s,MS5.7
NJ2 LR LR
comp=E,5μm,14.2s,MS5.7
NJ2 LR LR
comp=Z,25μm,12.0s,MS6.3
HFS Hagfors 41.23 322 LR LR 00 38 04.9
comp=Z,5μm,19.3s,MS5.4,baz=102,slow=38
KBA Koelnbreinsper 41.33 302⇑ iP P 00 19 39.8 +5.0
comp=Z,14nm,1.3s,mb4.4
KBA Koelnbreinsper 41.33 302⇑ iP P 00 19 34.6 -0.3
comp=Z,14nm,1.3s,mb4.4
KBA Koelnbreinsper 41.33 302⇑ iP P 00 19 39.8 +5.0
KBA pmax pmax
comp=Z,14nm,1.3s,mb4.4
WET Wettzell 41.42 305 *eP* **P 00 19 35.8 +0.2**
comp=Z,46nm,2.5s,mb4.7
WET Wettzell 41.42 305 *eP* **P 00 19 35.8 +0.2**
WET pmax pmax
comp=Z,46nm,2.5s,mb4.7
COP Copenhagen 41.51 315 *i* P pP 00 19 47.8 +0.8
COP *i* 00 21 18.5
COP *e* 00 25 57.6
COP
comp=Z,860nm,18.0s
COP Copenhagen 41.51 315 *eP* pP 00 19 47.8 +0.8
COP *i* 00 21 18.5
COP *e* 00 25 57.6
COP MLR MLR
comp=Z,860nm,18.0s,MS4.7
CLNS Chul'man 41.55 44 *eP* **P 00 19 44.4 +7.7**
CLNS *e**PP pP 00 19 51.4 +4.1
CLNS *e* 00 21 16.4
CLNS *e* 00 21 36.4
CLNS *e*PPP 00 21 44.2
CLNS *e*SS SS 00 28 44.2 -11
CLNS pmax pmax
comp=Z,30nm,1.0s,mb4.9
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,13nm,1.0s
CLNS pmax pmax
comp=Z,13nm,1.0s,mb4.5
CLNS pmax pmax
comp=N,6.0nm,0.6s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS MLR MLR
comp=Z,4μm,11.0s,MS5.5
CLNS MLR MLR
comp=N,2μm,10.0s,MS5.5
CLNS MLR MLR
comp=E,3μm,13.0s,MS5.5
TANN Tannenbergstha 41.59 307 *eP* **P 00 19 37.3 +0.4**
comp=Z,17nm,1.4s,mb4.5
NKC Novy Kostel 41.61 306 *eP* **P 00 19 37.5 +0.4**
NKC AMS AMS 00 37 30.0
comp=Z,3μm,20.2s
WERN Wernitzgruen 41.65 307 *eP* **P 00 19 38.0 +0.5**
comp=Z,94nm,2.9s,mb4.9
WERD Werda 41.68 307 *eP* **P 00 19 37.9 +0.2**
comp=Z,25nm,1.8s,mb4.5
TRO Tromso 41.72 336 *e* **P 00 19 46.1 +8.1**
TRO *e*S **S 00 25 53.5 +0.9**
TRO *e*SS SS 00 28 55.8 -3.1
ROTZ Rotzenmuhle 41.80 306 *eP* **P 00 19 39.6 +0.9**
comp=Z,54nm,2.2s,mb4.8
HKC Hong Kong 41.83 98 P **P 00 19 38.0 -0.9**
MANZ Manzenberg 41.84 306 *eP* **P 00 19 39.8 +0.7**
comp=Z,267nm,4.1s
SNY Shenyang 41.94 66 ⇓P P 00 19 41.5 +1.7
SNY AP pP 00 19 51.5 +1.0
SNY XP sP 00 19 54.5 -0.4
SNY PP PP 00 21 24.5 +7.3
SNY XS sS 00 26 11.5 -1.9
SNY AMB AMB
comp=Z,15nm,0.8s,mb4.7
SNY AMB AMB
comp=Z,382nm,12.0s
SNY LR LR
comp=N,10μm,20.4s,MS5.8
SNY LR LR
comp=E,4μm,18.6s,MS5.8
SNY LR LR
comp=Z,7μm,18.2s,MS5.6
AQU L'Aquila 42.09 295 *eP* **P 00 19 46.8 +5.8**
MOX Moxa 42.11 307 *eP* **P 00 19 41.4 +0.2**
comp=Z,50nm,2.1s,mb4.8
MOX Moxa 42.11 307 *eP* **P 00 19 41.3 +0.1**
MOX *e* 00 19 58.1
comp=Z,38nm,2.0s
MOX pmax pmax
comp=Z,2μm,17.0s
MOX MLR MLR
comp=Z,2μm,17.0s,MS5.1
MOX Moxa 42.11 307 *eP* **P 00 19 41.3 +0.1**
comp=Z,38nm,2.0s,mb4.7
MOX *e* 00 19 58.1
MOX LR LR
comp=Z,2μm,17.0s,MS5.1
MOR8 Moi Rana 42.14 331 *eP* **P 00 19 39.9 -1.7**
MOR8 AMb AMB 00 19 43.4
comp=Z,20nm,0.8s,mb4.8
MOR8 Moi Rana 42.14 331 *eP* **P 00 19 39.9 -1.7**
comp=Z,20nm,0.8s,mb4.8
GRA1 Grafenberg Arr 42.44 306 *eP* **P 00 19 45.1 +1.2**
comp=Z,44nm,1.5s,mb4.9
GRA1 *e*pP pP 00 19 54.5 -0.1
GRA1 *e*S **S 00 26 20.1 +17**
GRA1 *e*SS SS 00 29 38.9 +26
GRA1 LR LR
comp=Z,2μm,19.5s,MS5.0
GRF Grafenberg Arr 42.44 306 *eP* **P 00 19 45.1 +1.2**
comp=Z,44nm,1.5s,mb4.9
GRF *e*pP pP 00 19 54.5 -0.1
GRF *e*S **S 00 26 20.1 +17**
GRF *e*SS SS 00 29 38.9 +26
GRF *e*L 00 42 18.8
comp=Z,2μm,19.5s
GRF Grafenberg Arr 42.44 306 *eP* **P 00 19 45.1 +1.2**
GRF *e**PP pP 00 19 54.5 -0.1
GRF *e*SS SS 00 29 38.9 +26
GRF pmax pmax
comp=Z,44nm,1.5s,mb4.9
GRF MLR MLR
comp=Z,2μm,19.5s,MS5.0
GRF Grafenberg Arr 42.44 306 *eP* **P 00 19 45.1 +1.2**
GRF *e**PP pP 00 19 54.5 -0.1
GRF *e*SS SS 00 29 38.9 +26
GRF pmax pmax
comp=Z,44nm,1.5s,mb4.9
GRF MLR MLR
comp=Z,2μm,19.5s,MS5.0
NB2 NORSAR Subarra 42.56 323 P **P 00 19 43.6 -1.3**
comp=Z,4.6nm,0.7s,mb4.3,baz=96,slow=8.6
NOA NORSAR Array B 42.56 323 P **P 00 19 43.5 -1.4**
comp=Z,10.0nm,0.9s,mb4.6,baz=98,slow=8.1,SNR=26
NOA LR LR 00 40 34.2
comp=Z,2μm,19.4s,MS5.0,baz=105,slow=40
NOA NORSAR Array B 42.56 323 P **P 00 19 43.5 -1.4**
NOA LR LR 00 40 34.2
FUR Furstenfeldbru 42.58 304 *eP* **P 00 19 45.2 +0.2**
comp=Z,170nm,2.4s,mb5.3
FUR Furstenfeldbru 42.58 304 *eP* **P 00 19 45.2 +0.2**
FUR pmax pmax
comp=Z,170nm,2.4s,mb5.3
NAO01 NORSAR Array S 42.70 322 *eP* **P 00 19 46.2 +0.2**
BSEG Bad Segeberg 42.73 312 *eP* **P 00 19 46.5 +0.2**
comp=Z,44nm,1.8s,mb4.9
CLZ Clausthal 42.80 309 *eP* **P 00 19 47.1 +0.3**
comp=Z,37nm,1.8s,mb4.8
CLZ Clausthal 42.80 309 *eP* **P 00 19 47.1 +0.3**
CLZ pmax pmax
comp=Z,37nm,1.8s,mb4.8
MOTA Moosalm 42.80 302⇓ iP P 00 19 46.0 -0.8
comp=Z,6.1nm,1.0s,mb4.3
MOTA Moosalm 42.80 302⇓ iP P 00 19 46.1 -0.8
MOTA pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
CN2 Changchun 42.87 63 *eP* **P 00 19 49.3 +1.9**
CN2 *e*AP pP 00 19 59.3 +1.2
CN2 *e*PP PP 00 21 32.5 +5.3
CN2 *e*S **S 00 26 10.8 +1.4**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,7μm,22.0s,MS5.5
CN2 LR LR
comp=E,2μm,22.0s,MS5.5
CN2 LR LR
comp=Z,6μm,18.0s,MS5.5
UBBA Unterbreizbach 43.11 308 *eP* **P 00 19 49.3 -0.1**
comp=Z,21nm,1.7s,mb4.6
KONO Kongsberg 43.23 321 *e*PP PP 00 21 32.9 +1.7
KONO *e*S **S 00 26 16.1 +1.3**
KONO Kongsberg 43.23 321 *eP* **P 00 19 49.1 -1.2**
SSE Sheshan 43.41 82 P **P 00 19 54.5 +2.8**
SSE AP pP 00 20 03.3 +0.8
SSE XP sP 00 20 07.3 +0.4
SSE PCP PcP 00 21 41.5 +1.8
SSE S **S 00 26 22.0 +4.7**
SSE XS sS 00 26 34.8 -0.2
SSE SCS ScS 00 29 53.3 +4.7
SSE AMB AMB
comp=Z,34nm,0.9s,mb5.1
SSE AMB AMB
comp=Z,319nm,5.0s
SSE LR LR
comp=N,3μm,19.2s,MS5.5
SSE LR LR
comp=E,6μm,18.9s,MS5.5
SSE LR LR
comp=Z,3μm,16.4s,MS5.3
DAVA Damuels 43.64 302⇑ iP P 00 19 53.2 -0.4
comp=Z,11nm,1.0s,mb4.5
STU Stuttgart 43.87 305 *eP* **P 00 19 55.7 +0.2**
comp=Z,12nm,0.9s,mb4.6
QZH Quanzhou 44.02 92 P **P 00 19 55.0 -1.6**
QZH S **S 00 26 31.0 +4.8**
QZH LR LR
comp=N,11μm,18.0s,MS5.8
QZH LR LR
comp=E,6μm,19.6s,MS5.8
QZH LR LR
comp=Z,12μm,18.7s,MS5.8
TNS Taunus Mts 44.16 307 *eP* **P 00 19 58.1 +0.3**
comp=Z,14nm,1.4s,mb4.5
TNS Taunus Mts 44.16 307 *eP* **P 00 19 58.1 +0.3**
TNS pmax pmax
comp=Z,14nm,1.4s,mb4.5
PSI Prapat 44.22 134 P **P 00 19 57.6 -0.6**
comp=Z,8.8nm,0.7s,mb4.6,baz=307,slow=8.5,SNR=5.4
YAK Yakutsk 44.35 36 *eP* **P 00 19 58.5 -0.8**
YAK *e**PP pP 00 20 09.9 -0.2
YAK *e* 00 21 37.3
YAK *e* 00 21 49.4
YAK *eS* **S 00 26 44.4 +13**
YAK *e* 00 29 41.4
YAK pmax pmax
comp=Z,35nm,0.8s,mb5.1
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=E,5.0nm,0.8s
YAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
YAK smax
comp=N,148nm,13.0s
YAK smax
comp=E,129nm,16.0s
YAK MLR MLR
comp=Z,2μm,16.0s,MS5.1
YAK MLR MLR
comp=N,865nm,12.0s,MS5.1
YAK MLR MLR
comp=E,1μm,14.0s,MS5.1
YAK Yakutsk 44.35 36 *eP* **P 00 19 58.1 -1.2**
BFO Black Forest 44.51 304 *eP* **P 00 20 00.2 -0.3**
comp=Z,7.0nm,1.0s,mb4.5
BFO Black Forest 44.51 304 *eP* **P 00 20 00.2 -0.3**
BFO pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
DGAR Diego Garcia 44.69 175 PFAKE 00 20 10.0 +8.0
DGAR LR LR
comp=Z,2μm,20.0s,MS5.1
BUG Bochum-Univer 44.76 309 *eP* **P 00 20 02.6 0.0**
comp=Z,32nm,1.7s,mb4.9
FELD Feldberg im Sc 44.79 304 *eP* **P 00 20 02.5 -0.4**
CDF Champ du Feu 45.19 304 *eP* **P 00 20 05.4 -0.6**
PGF Pioggiola 45.21 296 *eP* **P 00 20 05.7 -0.5**
comp=Z,28nm,0.9s,mb4.8
PGF Pioggiola 45.21 296 *eP* **P 00 20 05.7 -0.5**

PGF pmax pmax
comp=Z,14nm,0.9s,mb4.8
PGF Pioggiola 45.21 296 *e*P **P 00 20 05.7 -0.5**
comp=Z,14nm,0.9s,mb4.8
HINF Hinteralfeld 45.57 304 *e*P **P 00 20 08.3 -0.7**
comp=Z,9.0nm,0.9s,mb4.4
HINF Hinteralfeld 45.57 304 *e*P **P 00 20 08.3 -0.7**
HINF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
HINF Hinteralfeld 45.57 304 *e*P **P 00 20 08.3 -0.7**
comp=Z,4.5nm,0.9s,mb4.4
MDJ Mudanjiang 45.61 61 P **P 00 20 09.5 +0.2**
MDJ AP pP 00 20 19.3 -0.8
MDJ XP sP 00 20 23.3 -1.2
MDJ PP PP 00 21 56.0 -0.4
MDJ SCP ScP 00 25 38.3 +1.1
MDJ S **S 00 26 46.5 -2.7**
MDJ XS sS 00 27 06.0 -1.1
MDJ AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
MDJ AMB AMB
comp=Z,90nm,4.2s
MDJ LR LR
comp=N,8µm,23.1s,MS5.6
MDJ LR LR
comp=E,2µm,22.6s,MS5.6
MDJ LR LR
comp=Z,8µm,19.3s,MS5.7
WLF Walferdange 45.71 306 *e*P **P 00 20 10.7 +0.6**
comp=Z,14nm,1.1s,mb4.8
VSL Villasalto 45.76 292 P **P 00 20 10.8 +0.2**
comp=Z,14nm,1.1s,mb4.8
HAU Haudompre 45.87 304 *e*P **P 00 20 11.0 -0.4**
HAU *e*R
comp=Z,2µm,22.2s
HAU Haudompre 45.87 304 *e*P **P 00 20 11.0 -0.4**
HAU LR LR
comp=Z,2µm,22.3s,MS5.0
SAOF Saorge 45.89 298 *e*P **P 00 20 12.1 +0.6**
AUTN L'Aution 45.98 298 *e*P **P 00 20 12.9 +0.7**
SBF Sospel 46.00 298 *e*P **P 00 20 12.3 -0.1**
TOUF Mont Tournerai 46.10 298 *e*P **P 00 20 13.4 +0.2**
LPG La Plagne 46.10 301 *e*P **P 00 20 13.3 +0.1**
LPL La Plagne 46.11 301 *e*P **P 00 20 13.5 +0.2**
comp=Z,3.3nm,0.4s,mb4.3
KLR Kul'dur 46.14 54 *e*P **P 00 20 10.5 -3.0**
KLR *e*S **S 00 26 58.0 +1.1**
KLR *e* 00 30 09.0
KLR MLR MLR
comp=E,2µm,13.0s
KLR MLR MLR
comp=Z,4µm,13.0s,MS5.5
MBDF Montbardon 46.26 300 *e*P **P 00 20 14.9 +0.4**
comp=Z,13nm,0.8s,mb4.6
MBDF Montbardon 46.26 300 *e*P **P 00 20 14.9 +0.4**
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MBDF Montbardon 46.26 300 *e*P **P 00 20 14.9 +0.4**
comp=Z,6.6nm,0.8s,mb4.6
CABF La Chapelle 46.31 302 *e*P **P 00 20 14.8 -0.1**
comp=Z,20nm,1.0s,mb4.7
CABF La Chapelle 46.31 302 *e*P **P 00 20 14.8 -0.1**
CABF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CABF La Chapelle 46.31 302 *e*P **P 00 20 14.8 -0.1**
comp=Z,10.0nm,1.0s,mb4.7
GIVF Givet 46.49 307 *e*P **P 00 20 16.5 +0.3**
MEZF Maizieres J'vi 46.63 305 *e*P **P 00 20 17.4 +0.1**
comp=Z,13nm,0.7s,mb4.7
MEZF Maizieres J'vi 46.63 305 *e*P **P 00 20 17.4 +0.1**
comp=Z,13nm,0.7s,mb5.0
FRF La Foret Royal 46.63 298 *e*P **P 00 20 17.0 -0.4**
comp=Z,29nm,1.0s,mb4.9
FRF La Foret Royal 46.63 298 *e*P **P 00 20 17.0 -0.4**
FRF pmax pmax
comp=Z,14nm,1.0s,mb4.8
FRF La Foret Royal 46.63 298 *e*P **P 00 20 17.0 -0.4**
comp=Z,14nm,1.0s,mb4.9
LMR La Mourre 46.79 298 *e*P **P 00 20 18.2 -0.4**
ORIF Oris-en-Rattie 46.83 300 *e*P **P 00 20 18.7 -0.3**
ORIF *e*R
comp=Z,4µm,23.0s
BAIF Baives 46.89 307 *e*P **P 00 20 19.6 +0.2**
KEST Kesra 46.99 287 P **P 00 20 20.6 +0.4**
comp=Z,1.8nm,0.5s,mb4.3,baz=19,slow=10,SNR=16
KBS Kingsbay 47.35 347 *e*P **P 00 20 23.4 +0.4**
KBS *e*PP PP 00 22 13.6 -0.7
KBS Kingsbay 47.35 347 *e*P **P 00 20 23.2 +0.2**
VLA Vladivostok 47.59 62 *e*P **P 00 20 23.7 -1.1**
VLA pmax pmax
comp=Z,24nm,0.8s,mb5.3
VLA MLR MLR
comp=Z,5µm,20.0s,MS5.5
LOR Lormes 47.66 304 *e*P **P 00 20 24.8 -0.6**
LOR *e*R
comp=Z,3µm,19.8s
LOR Lormes 47.66 304 *e*P **P 00 20 24.8 -0.6**
LOR LR LR
comp=Z,3µm,19.8s,MS5.2
VIVF Saint-Julien-l 47.68 300 *e*P **P 00 20 25.5 0.0**
comp=Z,33nm,1.1s,mb5.0
VIVF Saint-Julien-l 47.68 300 *e*P **P 00 20 25.5 0.0**
VIVF pmax pmax
comp=Z,17nm,1.1s,mb5.0
VIVF Saint-Julien-l 47.68 300 *e*P **P 00 20 25.5 0.0**
comp=Z,16nm,1.1s,mb5.0
SMF Signal de Mont 47.82 303 *e*P **P 00 20 26.3 -0.3**
comp=Z,23nm,1.0s,mb4.9
SMF Signal de Mont 47.82 303 *e*P **P 00 20 26.3 -0.3**
SMF pmax pmax
comp=Z,12nm,1.0s,mb4.9
SMF Signal de Mont 47.82 303 *e*P **P 00 20 26.3 -0.3**
comp=Z,12nm,1.0s,mb4.9
SSF Saint Saulge 47.95 303 *e*P **P 00 20 27.5 -0.1**
KMBO Kilima Mbogo 48.09 224 P **P 00 20 29.0 +0.3**
comp=Z,1.8nm,0.8s,mb4.2,baz=47,slow=15,SNR=5.5
KMBO LR LR 00 41 46.2
comp=Z,4µm,20.8s,MS5.3,baz=45,slow=38
KMBO Kilima Mbogo 48.09 224 *i* P **P 00 20 29.7 +1.0**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
AVF Avril sur Loir 48.11 303 *e*P **P 00 20 28.5 -0.4**
comp=Z,15nm,1.0s,mb4.7
AVF Avril sur Loir 48.11 303 *e*P **P 00 20 28.5 -0.4**
AVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
AVF Avril sur Loir 48.11 303 *e*P **P 00 20 28.5 -0.4**
comp=Z,7.5nm,1.0s,mb4.7
HABR Khabarovsk 48.43 55 *e*P **P 00 20 29.8 -1.5**
HABR *e*S **S 00 27 29.0 -0.5**
HABR pmax pmax
comp=Z,21nm,0.8s,mb5.2
HABR MLR MLR
comp=Z,5µm,19.2s,MS5.5
AGO Saint Agoulin 48.44 302 *e*P **P 00 20 31.2 -0.2**
LASF Ste Croix 48.45 299 *e*P **P 00 20 31.6 +0.1**
BGF Bois d'Agland 48.51 303 *e*P **P 00 20 32.0 +0.1**
LBL Lubilhac 48.56 301 *e*P **P 00 20 32.8 +0.4**
PYM Petit Puy Mans 48.59 302 *e*P **P 00 20 32.6 0.0**
TCF Toulx Ste Croi 49.00 303 *e*P **P 00 20 35.7 0.0**
comp=Z,22nm,1.0s,mb4.8
TCF Toulx Ste Croi 49.00 303 *e*P **P 00 20 35.7 0.0**
TCF pmax pmax
comp=Z,11nm,1.0s,mb4.8
TCF Toulx Ste Croi 49.00 303 *e*P **P 00 20 35.7 0.0**
comp=Z,11nm,1.0s,mb4.8
CAF Calviac 49.45 301 *e*P **P 00 20 39.2 0.0**
comp=Z,16nm,1.1s,mb4.7
CAF Calviac 49.45 301 *e*P **P 00 20 39.2 0.0**
CAF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
CAF Calviac 49.45 301 *e*P **P 00 20 39.2 0.0**
comp=Z,7.8nm,1.1s,mb4.7
RJF Les Rejaudoux 49.72 302 *e*P **P 00 20 41.3 +0.1**
RJF *e*R
comp=Z,2µm,20.2s
RJF Les Rejaudoux 49.72 302 *e*P **P 00 20 41.3 +0.1**
RJF LR LR
comp=Z,2µm,20.3s,MS5.2
MTLF Montolieu 49.80 299 *e*P **P 00 20 41.7 -0.1**
comp=Z,10nm,0.9s,mb4.5
MTLF Montolieu 49.80 299 *e*P **P 00 20 41.7 -0.1**
MTLF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
MTLF Montolieu 49.80 299 *e*P **P 00 20 41.7 -0.1**
comp=Z,5.1nm,0.9s,mb4.5
LDF La Druitiere 49.96 306 *e*P **P 00 20 42.3 -0.7**
FLN La Foliniere 50.15 306 *e*P **P 00 20 43.7 -0.8**
FLN *e*R
comp=Z,1µm,17.2s
FLN La Foliniere 50.15 306 *e*P **P 00 20 43.7 -0.8**
FLN LR LR
comp=Z,1µm,17.3s,MS4.9
LFF La Frestale 50.35 301 *e*P **P 00 20 46.1 +0.1**
comp=Z,11nm,0.7s,mb4.7
LFF La Frestale 50.35 301 *e*P **P 00 20 46.1 +0.1**
LFF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
LFF La Frestale 50.35 301 *e*P **P 00 20 46.1 +0.1**
comp=Z,5.6nm,0.7s,mb4.7
EKA Eskdalemuir Ar 50.36 315 P **P 00 20 45.2 -0.9**
comp=Z,3.1nm,0.8s,mb4.4,baz=92,slow=7.8,SNR=14
ESK Eskdalemuir 50.39 315 PFAKE 00 21 00.0 +14
ESK LR LR
comp=Z,2µm,19.0s,MS5.1
GRR Gorron 50.49 306 *e*P **P 00 20 47.1 +0.1**
comp=Z,45nm,1.3s,mb5.0
GRR Gorron 50.49 306 *e*P **P 00 20 47.1 +0.1**
GRR pmax pmax
comp=Z,23nm,1.3s,mb5.0
GRR Gorron 50.49 306 *e*P **P 00 20 47.1 +0.1**
comp=Z,22nm,1.3s,mb5.0
MFF Saint Martin d 50.49 304 *e*P **P 00 20 47.3 +0.3**
comp=Z,16nm,1.1s,mb4.7
MFF Saint Martin d 50.49 304 *e*P **P 00 20 47.3 +0.3**
MFF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
MFF Saint Martin d 50.49 304 *e*P **P 00 20 47.3 +0.3**
comp=Z,7.8nm,1.1s,mb4.7
JMIC Jan Mayen 51.03 336 *e*P **P 00 20 50.9 -0.3**
JMIC AMS AMS 00 49 22.5
comp=Z,1µm,17.9s,MS5.0
EPF Esparros 51.20 299 *e*P **P 00 20 51.8 -0.6**
EBIE Bielsa 51.44 299 P **P 00 20 54.8 +0.6**
comp=Z,5.2nm,0.7s,mb4.6
MBAR Mbarara 51.54 232 *e*P **P 00 20 55.7 +0.8**
SGMF Saint Gilles 51.62 306 *e*P **P 00 20 55.7 +0.2**
ETSF Etsaut 51.87 299 *e*P **P 00 20 57.5 +0.1**
comp=Z,20nm,0.9s,mb4.8
ETSF Etsaut 51.87 299 *e*P **P 00 20 57.5 +0.1**
ETSF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ETSF Etsaut 51.87 299 *e*P **P 00 20 57.5 +0.1**
comp=Z,10nm,0.9s,mb4.8
ROSF Rostrenen 52.05 306 *e*P **P 00 20 58.7 -0.1**
comp=Z,30nm,1.1s,mb4.8
ROSF Rostrenen 52.05 306 *e*P **P 00 20 58.7 -0.1**
ROSF pmax pmax
comp=Z,15nm,1.1s,mb4.8
ROSF Rostrenen 52.05 306 *e*P **P 00 20 58.7 -0.1**
comp=Z,15nm,1.1s,mb4.8
QUIF Quistinic 52.10 306 *e*P **P 00 20 59.3 +0.2**
SJPF Ste Jean 52.26 300 *e*P **P 00 21 00.2 -0.1**
EMOS Mosqueruela 52.66 296 P **P 00 21 04.7 +1.5**
comp=Z,16nm,1.1s,mb4.8
KKM Kota Kinabalu 53.27 114 *e*P **P 00 21 06.8 -1.0**
KKM *e*pP pP 00 21 17.0 -1.7
DAG Danmarks Havn 53.37 343 ⇑ *i* P **P 00 21 04.0 -4.5**
comp=Z,3.3nm,0.6s,mb4.4
DAG
comp=Z,810nm,17.0s
DAG Danmarks Havn 53.37 343 ⇑ *i* P **P 00 21 04.0 -4.5**
DAG pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
DAG MLR MLR
comp=Z,820nm,17.0s,MS4.8
ELAN Lanestosa 53.74 300 P **P 00 21 11.9 +0.6**
comp=Z,17nm,0.9s,mb5.0
YSS Yuzh-Sakhalins 53.84 55 *e*P **P 00 21 11.0 -1.0**
YSS *e**PP pP 00 21 22.0 -0.9
YSS *e* 00 22 17.6
YSS *e*S **S 00 28 38.0 -6.3**
YSS *e*PS 00 28 48.0
YSS *e*SS SS 00 32 29.0 +3.5
YSS MLR MLR
comp=Z,3µm,17.0s,MS5.5
YSS MLR MLR
comp=N,1µm,16.0s,MS5.6
YSS MLR MLR
comp=E,4µm,20.0s,MS5.6
YSS Yuzh-Sakhalins 53.84 55 *e*P **P 00 21 11.5 -0.4**
comp=E,34nm,0.9s,mb5.3
YSS *e*PcP PcP 00 22 17.7 +0.4
MAJO Matsushiro 54.37 68 *e*P **P 00 21 17.4 +1.6**
MAJO pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
MAJO Matsushiro 54.37 68 *e*P **P 00 21 17.4 +1.6**
comp=Z,9.4nm,0.7s,mb4.8
MAT Matsushiro 54.37 68 P **P 00 21 15.0 -0.8**
MAT S **S 00 28 56.0 +4.7**
MAT Matsushiro 54.37 68 *e*P **P 00 21 15.0 -0.8**
MAT *e*S **S 00 28 56.0 +4.7**
MAT pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MAT MLR MLR
comp=Z,2µm,20.0s,MS5.3
MAT Matsushiro 54.37 68 *e*P **P 00 21 15.0 -0.8**
comp=Z,9.2nm,0.9s,mb4.7
MAT *e*S **S 00 28 56.0 +4.7**
MAT LR LR
comp=Z,2µm,20.0s,MS5.3
MJAR Matsushiro Arr 54.37 68 P **P 00 21 15.3 -0.5**
comp=Z,7.4nm,0.9s,mb4.6,baz=292,slow=11,SNR=16
MJAR LR LR 00 45 54.8
comp=Z,2µm,20.4s,MS5.3,baz=270,slow=38
MA2 Magadan 54.83 38 *e*P **P 00 21 18.6 -0.5**
MA2 *e* 00 22 20.0
MA2 *e*S **S 00 28 55.0 -2.6**
MA2 *e*SS SS 00 32 40.6 -0.5
MA2 pmax pmax
comp=Z,30nm,0.5s,mb5.6
MA2 MLR MLR
comp=Z,2µm,26.5s,MS4.9
EARI Arriondas 54.94 301 P **P 00 21 20.1 +0.2**
comp=Z,8.0nm,1.0s,mb4.7
ESDC Sonseca Array 55.40 297 P **P 00 21 23.0 -0.2**
comp=Z,2.3nm,0.8s,mb4.2,baz=57,slow=7.5,SNR=13
ESDC LR LR 00 47 47.9
comp=Z,906nm,21.3s,MS4.8,baz=85,slow=39
ESDC Sonseca Array 55.40 297 P **P 00 21 22.9 -0.4**
comp=Z,1.9nm,0.8s,mb4.2
ESLA Sonseca Array 55.40 297 *e*P **P 00 21 23.0 -0.3**
comp=Z,3.7nm,1.1s,mb4.3
ESLA *e*pP pP 00 21 35.0 +0.8
ESLA LR LR
comp=Z,6µm,19.0s,MS5.7
EQES Quesada 55.49 294 P **P 00 21 23.9 0.0**
comp=Z,6.8nm,0.7s,mb4.8
EBER Berja 55.72 293 P **P 00 21 26.4 +0.8**
comp=Z,3.3nm,0.9s,mb4.4
ERM Erimo 55.82 60 PFAKE 00 21 40.0 +14
ERM LR LR
comp=Z,24nm,22.0s
COCO West Island 55.95 146 PFAKE 00 21 40.0 +13
COCO LR LR
comp=Z,3µm,22.0s,MS5.4
EADA Adamuz 56.43 295 P **P 00 21 30.5 -0.2**
comp=Z,12nm,0.9s,mb4.9
BORG Borgarnes 56.91 329 PFAKE 00 21 50.0 +16
BORG LR LR
comp=Z,2µm,21.0s,MS5.2
ELOB Lobios 57.42 300 P **P 00 21 38.2 +0.6**
comp=Z,14nm,0.8s,mb5.0
MTE Manteigas 57.65 299 *e*P **P 00 21 40.5 +1.3**
comp=Z,21nm,1.3s,mb5.0
MTE *e*S **S 00 29 39.8 +4.9**
MTE *e*LQ 00 38 16.8
MTE *e*LR LR 00 39 43.0
comp=Z,1µm,19.3s
MTE Manteigas 57.65 299 *e*P **P 00 21 40.5 +1.3**
comp=Z,16nm,1.0s,mb5.0
PVIS Viseu 57.76 299 *e*P **P 00 21 40.8 +0.7**
comp=Z,19nm,1.0s,mb5.1
EBAD Badajoz 57.94 297 P **P 00 21 41.2 0.0**
comp=Z,10nm,1.2s,mb4.7
EMIN Mina Concepcio 58.11 295 P **P 00 21 41.6 -0.8**
comp=Z,5.9nm,0.8s,mb4.7
BILL Bilibino 58.64 26 *e*P **P 00 21 46.0 -0.2**
BILL *e* 00 22 35.9
BILL pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BILL MLR MLR
comp=Z,1µm,17.0s,MS5.1
BILL Bilibino 58.64 26 PFAKE 00 22 00.0 +14
BILL LR LR
comp=Z,2µm,19.0s,MS5.2
EGRO El Granado 58.79 296 P **P 00 21 48.0 +0.7**
comp=Z,6.0nm,0.9s,mb4.6
DAV Davao City (W) 59.63 105 PFAKE 00 22 00.0 +7.0
DAV LR LR
comp=Z,2µm,19.0s,MS5.2
SUMG Summit 59.63 341 *e*P **P 00 21 53.3 +0.3**
PET Petropavlovsk 61.20 44 *e*P **P 00 22 06.0 +2.3**
PET *e* 00 24 23.0
PET *i* S **S 00 30 19.9 -0.9**
PET *e*SSS 00 36 59.8
PET pmax pmax
comp=Z,200nm,13.6s
PET pmax pmax
comp=Z,100nm,16.0s
PET MLR MLR
comp=Z,2µm,18.0s,MS5.3
TOA0 Torodi Ar. Sit 63.89 267 *e*P **P 00 22 20.7 -1.0**
TOA0 *e*pP pP 00 22 31.8 -1.0
TOA0 *e*sP sP 00 22 35.8 -1.4
TORD Torodi Ar. Bea 63.89 267 P **P 00 22 20.7 -1.0**
comp=Z,8.3nm,0.8s,mb4.8,baz=45,slow=5.4,SNR=53
TORD LR LR 00 53 33.2
comp=Z,3µm,18.7s,MS5.4,baz=55,slow=39
TORD Torodi Ar. Bea 63.89 267 P **P 00 22 20.7 -1.0**
TORD LR LR 00 53 33.2
LSZ Lusaka 64.75 224 *e*P **P 00 22 27.4 +0.1**
LSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LSZ Lusaka 64.75 224 *e*P **P 00 22 27.4 +0.1**
comp=Z,5.6nm,0.8s,mb4.7
GUMO Guam 70.98 87 LR LR 00 54 37.2
comp=Z,1µm,21.7s,MS5.1,baz=119,slow=36
GUMO Guam 70.98 87 PFAKE 00 23 20.0 +13
GUMO LR LR
comp=Z,1.0nm,21.0s
IMA2 Indian Mountai 71.84 17 *e*P **P 00 23 11.4 -0.3**
DBIC Dimbokro 72.89 265 P **P 00 23 17.8 -0.2**
comp=Z,8.0nm,0.8s,mb4.7,baz=29,slow=7.5,SNR=6.4
DBIC LR LR 00 57 41.6
comp=Z,2µm,19.2s,MS5.3,baz=32,slow=38
DBIC Dimbokro 72.89 265 *e*P **P 00 23 17.6 -0.4**
DBIC pmax pmax
comp=Z,14nm,1.0s
DBIC MLR MLR
comp=Z,2µm,22.0s
DBIC Dimbokro 72.89 265 *e*P **P 00 23 17.6 -0.4**
comp=Z,14nm,1.0s,mb4.8
DBIC LR LR
comp=Z,2µm,22.0s,MS5.4
LIC Lamto 73.30 265 *e*P **P 00 23 19.7 -0.7**
comp=Z,22nm,1.0s,mb4.7
LIC *e*R
comp=Z,2µm,20.5s
LIC Lamto 73.30 265 *e*P **P 00 23 19.7 -0.7**
comp=Z,11nm,1.0s,mb4.8
LIC LR LR
comp=Z,1µm,20.5s,MS5.1
INK Inuvik 73.33 8 P **P 00 23 20.5 -0.1**
comp=Z,13nm,0.8s,mb4.9,baz=9.9,slow=8.0,SNR=33
INK Inuvik 73.33 8 P **P 00 23 20.5 -0.1**
INK pmax pmax
comp=Z,13nm,0.8s
INK Inuvik 73.33 8 *e*P **P 00 23 20.8 +0.2**
comp=Z,17nm,0.9s,mb5.0
TSUM Tsumeb 74.02 230 *e*P **P 00 23 24.9 +0.2**
comp=Z,9.2nm,0.9s,mb4.7
LBTB Lobatse 74.11 220 *e*P **P 00 23 25.2 +0.1**
LBTB pmax pmax
comp=Z,44nm,1.6s,mb5.1
LBTB Lobatse 74.11 220 *e*P **P 00 23 25.2 +0.1**
comp=Z,44nm,1.6s,mb5.1
COLA College 74.15 15 *e*P **P 00 23 24.1 -1.3**
COLA *e**PP pP 00 23 33.9 -2.8
COLA pmax pmax
comp=Z,29nm,0.8s,mb5.3
COLA MLR MLR
comp=Z,740nm,20.0s,MS5.0
COLA College 74.15 15 *e*P **P 00 23 24.1 -1.3**
comp=Z,29nm,0.8s,mb5.3
COLA *e*pP pP 00 23 33.9 -2.8
COLA LR LR
comp=Z,740nm,20.0s,MS5.0
MCK McKinley 74.91 16 *e*P **P 00 23 28.4 -1.4**
DAWY Dawson 76.49 12 *e*P **P 00 23 39.0 +0.2**
PMR Palmer 76.72 18 *e*P **P 00 23 39.3 -0.8**
SML Sawmill 76.72 17 *e*P **P 00 23 38.6 -1.5**
FITZ Fitzroy Crossi 76.91 125 *e*P **P 00 23 39.6 -1.6**
comp=Z,9.9nm,1.1s,mb4.7
FITZ Fitzroy Crossi 76.91 125 P **P 00 23 40.2 -1.0**
comp=Z,2.6nm,0.8s,mb4.2,baz=258,slow=4.7,SNR=5.3
FITZ LR LR 00 58 32.2
comp=Z,827nm,21.9s,MS5.0,baz=318,slow=36
BOSA Boshof 77.24 218 P **P 00 23 42.2 -0.8**
comp=Z,3.8nm,0.8s,mb4.4,baz=37,slow=5.1,SNR=6.2
BOSA LR LR 01 01 33.8
comp=Z,1µm,20.8s,MS5.2,baz=23,slow=39
KDAK Kodiak Island 79.08 21 *e*P **P 00 23 53.5 +0.3**
YKW3 Yellowknife Ar 80.38 2 *e*P **P 00 23 59.7 -0.5**
YKA Yellowknife Ar 80.45 2 P **P 00 24 00.1 -0.5**
comp=Z,7.2nm,0.8s,mb4.7,baz=352,slow=5.2,SNR=17
YKA LR LR 01 05 17.5
comp=Z,824nm,20.6s,MS5.1,baz=40,slow=40
YKA Yellowknife Ar 80.45 2 P **P 00 24 00.1 -0.5**
YKA LR LR 01 05 17.5
SCHQ Schefferville 80.55 336 P **P 00 24 00.8 -0.4**
comp=Z,5.8nm,0.8s,mb4.6,baz=53,slow=4.8,SNR=6.8
SCHQ LR LR 01 03 48.1
comp=Z,646nm,21.0s,MS5.0,baz=36,slow=39
SCHQ Schefferville 80.55 336 P **P 00 24 00.8 -0.4**
SCHQ LR LR 01 03 48.1
DLBC Dease Lake 83.28 10 *e*P **P 00 24 16.8 +1.2**
NWAO Narrogin (SRO) 83.31 141 LR LR 01 01 01.4
comp=Z,2µm,18.1s,MS5.5,baz=336,slow=36
WRA Warramunga Arr 84.04 120 P **P 00 24 16.8 -2.6**
comp=Z,3.7nm,0.7s,mb4.6,baz=322,slow=4.7,SNR=28
WRA Warramunga Arr 84.04 120 *i* P **P 00 24 16.7 -2.7**
WRA pmax pmax
comp=Z,4.0nm,0.7s
WRAB Tennant Creek 84.04 120 *e*P **P 00 24 17.1 -2.3**
WRAB *e**PP pP 00 24 27.2 -3.8
WB2 Warramunga Arr 84.04 120 *e*P **P 00 24 16.6 -2.9**
AS31 Alice Springs 86.28 123 *e*P **P 00 24 28.5 -2.1**
ASAR Alice Springs 86.28 123 P **P 00 24 28.5 -2.2**
comp=Z,3.7nm,0.7s,mb4.8,baz=311,slow=4.9,SNR=23
ASAR LR LR 01 07 58.7
comp=Z,1µm,21.3s,MS5.2,baz=312,slow=39
PMG Port Moresby 86.63 104 LR LR 01 04 35.7
comp=Z,319nm,20.6s,MS4.7,baz=184,slow=37
FORT Forrest 87.62 132 *e*P **P 00 24 35.5 -1.7**
comp=Z,28nm,0.7s,mb5.6
FFC Flin Flon 87.92 355 *e*P **P 00 24 38.6 0.0**
FFC pmax pmax
comp=Z,20nm,1.3s,mb5.2
FFC MLR MLR
comp=Z,1µm,21.0s,MS5.2
FFC Flin Flon 87.92 355 *e*P **P 00 24 38.6 0.0**
comp=Z,20nm,1.3s,mb5.2
FFC LR LR
comp=Z,1µm,21.0s,MS5.2
ASCN Ascension 89.26 260 PFAKE 00 25 00.0 +15
ASCN LR LR
comp=Z,1µm,21.0s,MS5.3
EDM Edmonton 89.76 1 *e*P **P 00 24 48.3 +1.0**
ULM Lac du Bonnet 91.70 350 P **P 00 24 55.3 -1.0**
comp=Z,3.5nm,0.9s,mb4.7,baz=339,slow=4.1,SNR=4.5
ULM LR LR 01 12 25.4
comp=Z,570nm,18.4s,MS5.0,baz=25,slow=40
ULM Lac du Bonnet 91.70 350 *e*P **P 00 24 55.8 -0.5**
comp=Z,6.2nm,1.0s,mb4.9
ULM *e*pP pP 00 25 07.6 -0.3
CTAO Charters Tower 92.60 113 PFAKE 00 25 10.0 +10
CTAO LR LR
comp=Z,2µm,19.0s,MS5.5
EYMN Ely 93.24 347 PFAKE 00 25 10.0 +6.6
EYMN LR LR
comp=Z,1µm,20.0s,MS5.4
WALA Waterton Lakes 93.92 2 *e*P **P 00 25 07.1 +0.6**
comp=Z,7.7nm,1.0s,mb5.1
BINY Binghamton 94.50 334 PFAKE 00 25 20.0 +11
BINY LR LR
comp=Z,836nm,20.0s,MS5.2
EGMT Eagleton 94.97 359 *e*P **P 00 25 14.8 +3.4**

comp=Z,1.9nm,0.3s,mb5.0
EGMT LR LR
comp=Z,737nm,19.0s,MS5.2
ERPA Erie 95.88 337 PFAKE 00 25 30.0 +15
ERPA LR LR
comp=Z,841nm,21.0s,MS5.2
CHMT Chamberlain Mo 96.08 1 *eP* **P 00 25 17.1 +0.7**
HRY Holter Researc 96.30 0 *eP* **P 00 25 18.5 +1.1**
HNR Honiara 96.65 97 LR LR 01 08 39.7
comp=Z,847nm,22.0s,MS5.2,baz=360,slow=35
AAM Ann Arbor 96.79 340 PFAKE 00 25 30.0 +10
AAM LR LR
comp=Z,635nm,19.0s,MS5.1
STKA Stephens Creek 96.81 125 LR LR 01 11 05.4
comp=Z,1µm,21.4s,MS5.4,baz=310,slow=37
BOZ Bozeman (W) 97.36 0 *eP* **P 00 25 25.3 +3.1**
BOZ MLR MLR
comp=Z,723nm,22.0s,MS5.1
COR Corvallis 97.71 9 PFAKE 00 25 30.0 +6.3
COR LR LR
comp=Z,637nm,20.0s,MS5.1
BMO Blue Mountains 97.98 4 PFAKE 00 25 40.0 +15
BMO LR LR
comp=Z,587nm,20.0s,MS5.1
BBSR BB Station 98.10 322 PFAKE 00 25 40.0 +14
BBSR LR LR
comp=Z,462nm,19.0s,MS5.0
ACSO Alum Creek Sta 98.51 338 PFAKE 00 25 40.0 +13
ACSO LR LR
comp=Z,476nm,21.0s,MS5.0
CBN Corbin 98.53 334 PFAKE 00 25 40.0 +13
CBN LR LR
comp=Z,1µm,22.0s,MS5.3
IMW Indian Meadow 99.11 360 *eP* **P 00 25 27.8 -2.2**
comp=Z,2.6nm,0.8s,mb4.8
REDW Red Top Meadow 99.64 360 *e*Pdif Pdif 00 25 39.9 +7.5
BW06 Boulder Array 100.22 359 PFAKE 00 25 50.0 +15
BW06 LR LR
comp=Z,710nm,20.0s,MS5.2
AHID Auburn Hatcher 100.24 360 PFAKE 00 25 50.0 +15
AHID LR LR
comp=Z,888nm,21.0s,MS5.2
BLA Blacksburg 100.47 335 PFAKE 00 25 50.0 +14
BLA LR LR
comp=Z,89nm,19.0s,MS4.3
ELK Elko 102.18 3 PFAKE 00 25 50.0 +6.3
ELK LR LR
comp=Z,624nm,21.0s,MS5.1
BMN Battle Mountai 102.39 5 PFAKE 00 26 00.0 +15
BMN LR LR
comp=Z,539nm,21.0s,MS5.0
CCM Cathedral Cave 102.69 344 PFAKE 00 26 00.0 +14
CCM LR LR
comp=Z,1µm,21.0s,MS5.3
DUG Dugway 102.80 1 PFAKE 00 26 00.0 +14
DUG LR LR
comp=Z,779nm,19.0s,MS5.2
CMB Columbia Colle 104.50 7 PFAKE 00 26 00.0 +6.0
CMB LR LR
comp=Z,515nm,20.0s,MS5.1
GOGA Godfrey 104.95 336 PFAKE 00 30 20.0 +9.2
GOGA LR LR
comp=Z,10µm,19.0s
DAC Darwin (Calif) 106.49 5 *eP* Pdif 00 26 00.1 -2.8
DAC MLR MLR
comp=Z,597nm,22.0s,MS5.1
AMTX Amarillo 107.56 352 PFAKE 00 30 30.0 +14
AMTX LR LR
comp=Z,837nm,19.0s,MS5.3
ANMO Albuquerque 107.90 356 PFAKE 00 30 30.0 +14
ANMO LR LR
comp=Z,864nm,22.0s,MS5.3
CASY Casey 108.22 163 PFAKE 00 30 30.0 +13
CASY LR LR
comp=Z,1µm,21.0s,MS5.4
DWPF Disney 109.08 332 PFAKE 00 30 30.0 +12
DWPF LR LR
comp=Z,504nm,19.0s,MS5.1
FUNA Funafuti 111.43 84 PFAKE 00 30 30.0 +7.1
FUNA LR LR
comp=Z,9µm,20.0s,MS6.3
BDFB Brasilia 120.44 273 PFAKE 00 30 50.0 +10
BDFB LR LR
comp=Z,1µm,19.0s,MS5.6
LPAZ La Paz 136.57 287 PKP PKPdf 00 31 13.0 +2.2
comp=Z,1.4nm,0.8s,baz=76,slow=5.3,SNR=6.2
PPT Papeete 141.09 70 *e*LR LR 01 17 17.2
comp=Z,1µm,26.8s
TAOE Nuku Hiva Isla 141.47 50 *e*LR LR 01 17 30.5
comp=Z,4µm,24.1s
PLCA Paso Flores 148.36 251 PKPbc PKPbc 00 31 35.9 +0.8
comp=Z,3.9nm,0.9s,baz=94,slow=5.0,SNR=4.8
PLCA Paso Flores 148.36 251 PKP2 PKPab 00 31 35.9 -2.4
PLCA pmax pmax
comp=Z,4.0nm,0.9s
PLCA Paso Flores 148.36 251 *e*PKPbc PKPbc 00 31 36.0 +0.9

*ISCJB **29** 00:19:38.8±0.3, 8305N∧005ᵒ×45W∧05, h10km, mb4.3/44, MS3.6/2, Error ellipse: s-maj=11.0km s-min=3.2km az=94.2*
*IDC **29** 00:19:38.8±0.8, 8293N×630W, h0km, mb3.9/13, mb1 4.1/15, mb1mx4.0/23, mbtmp4.0/15, ML4.6/1, MS3.8/3, Ms1 3.7/3, ms1mx3.2/22, Error ellipse: s-maj=22.9km s-min=15.2km az=36.0*
*CSEM **29** 00:19:38.5±99.0, 8326N×359W, h20km, mb4.7*
*NEIC **29** 00:19:40.3±0.4, 8305N×453W, h10km, mb4.5/30, Error ellipse: s-maj=11.5km s-min=5.5km az=224.0*
*MOS **29** 00:19:42.9±0.8, 8268N×230W, h14km, mb4.7/22, Error ellipse: s-maj=98.1km s-min=5.3km az=92.2*
*NAO **29** 00:19:45.8±6.6, 8244N×291W, ML2.4*
ISC 29 00:19:40.3±0.2, 8301N∧005ᵒ×47W±04, h10km, n207, σ0§97/212, mb4.3/44, MS3.6/2, 34C-20D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
KBS	**Kingsbay**	**4.83**	**139**	Pn	**Pn**	**00 20 50.8**	**-2.3**
KBS				Sn	**Sn**	**00 21 42.4**	**-6.8**
KBS	**Kingsbay**	**4.83**	**139**	*e*P	**Pn**	**00 20 51.7**	**-1.4**
KBS				*e*S	**Sn**	**00 21 42.9**	**-6.3**
KBS				AML	AML	00 21 46.8	
	comp=Z,34nm,0.5s						
KBS				*e*		00 24 50.7	
KBS	**Kingsbay**	**4.83**	**139**	*e*P	**Pn**	**00 20 51.7**	**-1.4**
KBS				*e*S	**Sn**	**00 21 42.3**	**-6.9**
KBS	**Kingsbay**	**4.83**	**139**	*e*P	**Pn**	**00 20 51.7**	**-1.4**
KBS				*e*S	**Sn**	**00 21 42.2**	**-6.9**
KBS				*e*		00 24 50.7	
SPB4	**Spitsbergen Ar**	**5.89**	**134**	*e*Pn	**Pn**	**00 21 06.7**	**-0.9**
SPB4	**Spitsbergen Ar**	**5.89**	**134**	*e*Pn	**Pn**	**00 21 06.7**	**-0.9**
SPA0	**Spitsbergen Ar**	**5.89**	**134**	Pn	**Pn**	**00 21 04.9**	**-2.7**
	baz=4.4,slow=10						
SPA0				Sn	**Sn**	**00 22 06.0**	**-9.2**
HOPEN	**Hopen**	**8.22**	**126**	*e*P	**Pn**	**00 21 39.3**	**-0.4**
HOPEN				*e*S	**Sn**	**00 23 03.6**	**-9.0**
HOPEN				AML	AML	00 23 08.5	
	comp=N,55nm,0.7s						
JMIC	**Jan Mayen**	**12.11**	**186**	Pn	**Pn**	**00 22 30.7**	**-2.2**
	comp=N,3.7nm,0.3s,baz=112,slow=3.0,SNR=14						
JMIC	**Jan Mayen**	**12.11**	**186**	*e*P	**Pn**	**00 22 29.5**	**-3.5**
SCO	**Scoresbysund**	**13.08**	**206**	*i* P	**Pn**	**00 22 43.5**	**-2.6**
	comp=N,7.0nm,0.8s						
TRO	**Tromso**	**14.31**	**145**	*e*Pn	**Pn**	**00 23 00.7**	**-2.3**
TRO	**Tromso**	**14.31**	**145**	*e*Pn	**Pn**	**00 23 00.6**	**-2.4**
	SNR=50						
KEV	**Kevo**	**14.83**	**134**	*ep*	**Pn**	**00 23 07.3**	**-2.7**
	comp=N,18nm,0.8s						
KEV	**Kevo**	**14.83**	**134**	*e*P	**Pn**	**00 23 07.3**	**-2.7**
KEV				pmax	pmax		
	comp=Z,18nm,0.8s						
ARA0	**ARCESS Array S**	**14.91**	**137**	Pn	**Pn**	**00 23 08.2**	**-3.0**
	baz=346,slow=12						
ARCES	**ARCESS Array B**	**14.91**	**137**	Pn	**Pn**	**00 23 08.4**	**-2.8**
	comp=Z,1.8nm,0.3s,baz=356,slow=11,SNR=33						
ARCES				Sn	**Sn**	**00 25 40.2**	**-16**
	comp=Z,0.1nm,0.3s,baz=76,slow=16,SNR=2.6						
ARCES	**ARCESS Array B**	**14.91**	**137**	Pn	**Pn**	**00 23 08.4**	**-2.8**
ARCES				Sn	**Sn**	**00 25 40.2**	**-16**
ARE0	**ARCESS Array S**	**14.91**	**137**	*e*Pn	**Pn**	**00 23 09.5**	**-1.7**
ARE0	**ARCESS Array S**	**14.91**	**137**	*e*Pn	**Pn**	**00 23 09.5**	**-1.7**
KTK1	**Kautokeino**	**15.24**	**140**	*e*Pn	**Pn**	**00 23 14.5**	**-1.0**
LOF	**Lofoten**	**15.46**	**154**	*e*Pn	**Pn**	**00 23 20.8**	**+2.3**
LOF	**Lofoten**	**15.46**	**154**	*e*P	**Pn**	**00 23 21.9**	**+3.4**
LOF	**Lofoten**	**15.46**	**154**	*e*P	**Pn**	**00 23 21.9**	**+3.4**
RES	**Resolute Bay**	**16.93**	**294**	*e*P	**Pn**	**00 23 30.6**	**-6.7**
RES				pmax	pmax		
	comp=Z,17nm,0.9s						
RES	**Resolute Bay**	**16.93**	**294**	*e*Pn	**Pn**	**00 23 30.6**	**-6.8**
	comp=Z,17nm,0.9s						
RES	**Resolute Bay**	**16.93**	**294**	*e*Pn	**Pn**	**00 23 30.5**	**-6.8**
	comp=Z,16nm,0.9s						
STOK	**Stokkvaagen**	**17.23**	**156**	*e*Pn	**Pn**	**00 23 44.5**	**+3.5**
APA0	**Apatity Array**	**17.47**	**129**	P	**Pn**	**00 23 43.3**	**-0.7**
	baz=338,slow=11						
SFJD	**Kangerlussuaq**	**18.90**	**241**	LR	LR	00 30 55.5	
	comp=Z,252nm,18.5s,baz=297,slow=36						
JOF	**Joensuu**	**21.91**	**134**	*ep*	**P**	**00 24 33.0**	**-0.6**
	comp=Z,17nm,0.9s,mb4.5						
KAF	**Kangasniemi**	**22.28**	**140**	*ep*	**P**	**00 24 37.1**	**-0.6**
	comp=Z,13nm,1.0s,mb4.3						
KAF	**Kangasniemi**	**22.28**	**140**	*e*P	**P**	**00 24 37.1**	**-0.6**
KAF				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.3						
NB2	**NORSAR Subarra**	**22.43**	**160**	P	**P**	**00 24 39.6**	**+0.4**
NB2	**NORSAR Subarra**	**22.43**	**160**	P	**P**	**00 24 37.5**	**-1.7**
	comp=Z,13nm,1.4s,mb4.2,baz=355,slow=11						
NOA	**NORSAR Array B**	**22.43**	**160**	P	**P**	**00 24 38.2**	**-1.0**
	comp=Z,2.2nm,0.9s,mb3.6,baz=348,slow=13,SNR=3.9						
NOA	**NORSAR Array B**	**22.43**	**160**	P	**P**	**00 24 38.2**	**-1.0**
FIA0	**FINESS Array S**	**22.93**	**141**	P	**P**	**00 24 44.2**	**-0.2**
	baz=8.1,slow=10						
FIA0	**FINESS Array S**	**22.93**	**141**	P	**P**	**00 24 44.2**	**-0.3**
	SNR=47						
FINES	**FINESS Array B**	**22.93**	**141**	P	**P**	**00 24 44.4**	**-0.1**
	comp=Z,3.3nm,0.8s,mb3.8,baz=339,slow=10,SNR=3.6						
FINES	**FINESS Array B**	**22.93**	**141**	P	**P**	**00 24 44.4**	**-0.1**
HFS	**Hagfors**	**23.45**	**157**	P	**P**	**00 24 49.6**	**-0.3**
	comp=Z,3.4nm,0.8s,mb3.8,baz=331,slow=8.5,SNR=5.6						
HFS	**Hagfors**	**23.45**	**157**	P	**P**	**00 24 50.1**	**+0.2**
	baz=346,slow=8.6						
HFS	**Hagfors**	**23.45**	**157**	P	**P**	**00 24 49.6**	**-0.4**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FRB	**Frobisher Bay**	**24.09**	**258**	LR	LR	00 34 24.6	
	comp=Z,356nm,19.2s,MS3.9,baz=307,slow=37						
YKA	**Yellowknife Ar**	**30.73**	**301**	LR	LR	00 38 43.3	
	comp=Z,85nm,19.9s,MS3.4,baz=270,slow=37						
BAIF	**Baives**	**33.19**	**170**	*e*P	**P**	**00 26 18.3**	**+1.2**
FLN	**La Foliniere**	**34.41**	**175**	*e*P	**P**	**00 26 28.8**	**+1.0**
LDF	**La Druitiere**	**34.58**	**175**	*e*P	**P**	**00 26 30.3**	**+1.0**
GERES	**GERESS Array B**	**34.72**	**159**	P	**P**	**00 26 31.2**	**+0.7**
	comp=Z,2.2nm,0.7s,mb4.2,baz=1.9,slow=8.0,SNR=7.1						
MEZF	**Maizieres J'vi**	**34.77**	**169**	*e*P	**P**	**00 26 31.9**	**+1.0**
	comp=Z,7.7nm,0.7s,mb4.4						
MEZF	**Maizieres J'vi**	**34.77**	**169**	*e*P	**P**	**00 26 31.9**	**+1.0**
	comp=Z,3.8nm,0.7s,mb4.4						
GRR	**Gorron**	**34.78**	**176**	*e*P	**P**	**00 26 31.9**	**+0.9**
ROSF	**Rostrenen**	**34.82**	**178**	*e*P	**P**	**00 26 32.2**	**+0.9**
	comp=Z,88nm,1.8s,mb5.1						
ROSF	**Rostrenen**	**34.82**	**178**	*e*P	**P**	**00 26 32.2**	**+0.9**
ROSF				pmax	pmax		
	comp=Z,44nm,1.8s,mb5.1						
ROSF	**Rostrenen**	**34.82**	**178**	*e*P	**P**	**00 26 32.2**	**+0.9**
	comp=Z,44nm,1.8s,mb5.1						
SGMF	**Saint Gilles**	**34.90**	**178**	*e*P	**P**	**00 26 32.3**	**+0.3**
CDF	**Champ du Feu**	**34.92**	**166**	*e*P	**P**	**00 26 33.4**	**+1.3**
	comp=Z,13nm,1.1s,mb4.5						
CDF	**Champ du Feu**	**34.92**	**166**	*e*P	**P**	**00 26 33.4**	**+1.3**
CDF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
CDF	**Champ du Feu**	**34.92**	**166**	*e*P	**P**	**00 26 33.4**	**+1.3**
	comp=Z,6.5nm,1.1s,mb4.5						
QUIF	**Quinic**	**35.24**	**178**	*e*P	**P**	**00 26 35.6**	**+0.7**
LOR	**Lormes**	**35.97**	**170**	*e*P	**P**	**00 26 41.9**	**+0.7**
	comp=Z,9.6nm,0.9s,mb4.4						
LOR	**Lormes**	**35.97**	**170**	*e*P	**P**	**00 26 41.9**	**+0.7**
LOR				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
LOR	**Lormes**	**35.97**	**170**	*e*P	**P**	**00 26 41.9**	**+0.7**
	comp=Z,4.8nm,0.9s,mb4.4						
SSF	**Saint Saulge**	**36.17**	**170**	*e*P	**P**	**00 26 44.0**	**+1.1**
	comp=Z,14nm,1.0s,mb4.6						
SSF	**Saint Saulge**	**36.17**	**170**	*e*P	**P**	**00 26 44.0**	**+1.1**
SSF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
SSF	**Saint Saulge**	**36.17**	**170**	*e*P	**P**	**00 26 44.0**	**+1.1**
	comp=Z,6.9nm,1.0s,mb4.6						
AVF	**Avril sur Loir**	**36.44**	**171**	*e*P	**P**	**00 26 46.0**	**+0.8**
	comp=Z,16nm,1.0s,mb4.6						
AVF	**Avril sur Loir**	**36.44**	**171**	*e*P	**P**	**00 26 46.0**	**+0.8**
AVF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
AVF	**Avril sur Loir**	**36.44**	**171**	*e*P	**P**	**00 26 46.0**	**+0.8**
	comp=Z,7.8nm,1.0s,mb4.6						
MFF	**Saint Martin d**	**36.58**	**175**	*e*P	**P**	**00 26 46.0**	**-0.4**
	comp=Z,8.5nm,0.9s,mb4.3						
MFF	**Saint Martin d**	**36.58**	**175**	*e*P	**P**	**00 26 46.0**	**-0.4**
MFF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
MFF	**Saint Martin d**	**36.58**	**175**	*e*P	**P**	**00 26 46.0**	**-0.4**
	comp=Z,4.2nm,0.9s,mb4.2						
SMF	**Signal de Mont**	**36.60**	**170**	*e*P	**P**	**00 26 47.2**	**+0.6**
	comp=Z,9.0nm,0.9s,mb4.3						
SMF	**Signal de Mont**	**36.60**	**170**	*e*P	**P**	**00 26 47.2**	**+0.6**
SMF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
SMF	**Signal de Mont**	**36.60**	**170**	*e*P	**P**	**00 26 47.2**	**+0.6**
	comp=Z,4.5nm,0.9s,mb4.3						
BGF	**Bois d'Agland**	**36.66**	**171**	*e*P	**P**	**00 26 47.4**	**+0.3**
	comp=Z,22nm,0.9s,mb4.7						
BGF	**Bois d'Agland**	**36.66**	**171**	*e*P	**P**	**00 26 47.4**	**+0.3**
BGF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
BGF	**Bois d'Agland**	**36.66**	**171**	*e*P	**P**	**00 26 47.4**	**+0.3**
	comp=Z,11nm,0.9s,mb4.7						
CABF	**La Chapelle**	**36.68**	**168**	*e*P	**P**	**00 26 48.1**	**+0.8**
	comp=Z,32nm,1.2s,mb4.7						
CABF	**La Chapelle**	**36.68**	**168**	*e*P	**P**	**00 26 48.1**	**+0.8**
CABF				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.7						
CABF	**La Chapelle**	**36.68**	**168**	*e*P	**P**	**00 26 48.1**	**+0.8**
	comp=Z,16nm,1.2s,mb4.7						
TCF	**Toulx Ste Croi**	**36.92**	**172**	*e*P	**P**	**00 26 50.4**	**+1.1**
	comp=Z,18nm,1.2s,mb4.5						
TCF	**Toulx Ste Croi**	**36.92**	**172**	*e*P	**P**	**00 26 50.4**	**+1.1**
TCF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.5						
TCF	**Toulx Ste Croi**	**36.92**	**172**	*e*P	**P**	**00 26 50.4**	**+1.1**
	comp=Z,8.8nm,1.2s,mb4.5						
AKTK	**Aktyubinsk**	**36.97**	**109**	P	**P**	**00 26 51.1**	**+1.4**
	comp=Z,5.0nm,0.9s,mb4.3						
AKTO	**Aktyubinsk**	**36.97**	**109**	P	**P**	**00 26 51.1**	**+1.4**
	comp=Z,5.4nm,0.9s,mb4.4,baz=5.9,slow=8.1,SNR=4.7						
AKTO	**Aktyubinsk**	**36.97**	**109**	P	**P**	**00 26 51.1**	**+1.4**
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
LPL	**La Plagne**	**37.80**	**167**	*e*P	**P**	**00 26 57.8**	**+1.1**
	comp=Z,12nm,1.1s,mb4.2						
LPL	**La Plagne**	**37.80**	**167**	*e*P	**P**	**00 26 57.8**	**+1.1**
LPL				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
LPL	**La Plagne**	**37.80**	**167**	*e*P	**P**	**00 26 57.8**	**+1.1**
	comp=Z,5.9nm,1.1s,mb4.2						
LPG	**La Plagne**	**37.81**	**167**	*e*P	**P**	**00 26 57.9**	**+1.0**
	comp=Z,16nm,1.0s,mb4.4						
LPG	**La Plagne**	**37.81**	**167**	*e*P	**P**	**00 26 57.9**	**+1.0**
LPG				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
LPG	**La Plagne**	**37.81**	**167**	*e*P	**P**	**00 26 57.9**	**+1.0**
	comp=Z,8.2nm,1.0s,mb4.4						
RJF	**Les Rejaudoux**	**37.90**	**173**	*e*P	**P**	**00 26 58.5**	**+0.9**
	comp=Z,29nm,1.1s,mb4.6						
RJF	**Les Rejaudoux**	**37.90**	**173**	*e*P	**P**	**00 26 58.5**	**+0.9**
RJF				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.6						
RJF	**Les Rejaudoux**	**37.90**	**173**	*e*P	**P**	**00 26 58.5**	**+0.9**
	comp=Z,15nm,1.1s,mb4.6						
CAF	**Calviac**	**38.28**	**172**	*e*P	**P**	**00 27 01.7**	**+0.9**
ORIF	**Oris-en-Rattie**	**38.37**	**168**	*e*P	**P**	**00 27 02.6**	**+1.0**
	comp=Z,20nm,1.1s,mb4.5						
ORIF	**Oris-en-Rattie**	**38.37**	**168**	*e*P	**P**	**00 27 02.6**	**+1.0**
ORIF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.5						
ORIF	**Oris-en-Rattie**	**38.37**	**168**	*e*P	**P**	**00 27 02.6**	**+1.0**
	comp=Z,9.8nm,1.1s,mb4.5						
VIVF	**Saint-Julien-l**	**38.40**	**169**	*e*P	**P**	**00 27 02.9**	**+1.0**
MBDF	**Montbardon**	**38.59**	**167**	*e*P	**P**	**00 27 04.3**	**+0.9**
LASF	**Ste Croix**	**39.16**	**170**	*e*P	**P**	**00 27 08.7**	**+0.4**
SMRF	**Simiane la Rot**	**39.30**	**168**	*e*P	**P**	**00 27 10.0**	**+0.6**
	comp=Z,57nm,1.5s,mb4.8						
SMRF	**Simiane la Rot**	**39.30**	**168**	*e*P	**P**	**00 27 10.0**	**+0.6**
	comp=Z,28nm,1.5s,mb4.8						
SBF	**Sospel**	**39.47**	**166**	*e*P	**P**	**00 27 11.4**	**+0.6**
	comp=Z,18nm,0.8s,mb4.5						
SBF	**Sospel**	**39.47**	**166**	*e*P	**P**	**00 27 11.4**	**+0.6**
SBF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
SBF	**Sospel**	**39.47**	**166**	*e*P	**P**	**00 27 11.4**	**+0.6**
	comp=Z,8.8nm,0.8s,mb4.5						
FRF	**La Foret Royal**	**39.75**	**167**	*e*P	**P**	**00 27 13.3**	**+0.2**
MTLF	**Montolieu**	**39.87**	**172**	*e*P	**P**	**00 27 14.7**	**+0.6**
	comp=Z,7.0nm,1.0s,mb4.1						
MTLF	**Montolieu**	**39.87**	**172**	*e*P	**P**	**00 27 14.7**	**+0.6**
MTLF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
MTLF	**Montolieu**	**39.87**	**172**	*e*P	**P**	**00 27 14.7**	**+0.6**
	comp=Z,3.5nm,1.0s,mb4.1						
EPF	**Esparros**	**40.15**	**174**	*e*P	**P**	**00 27 16.5**	**0.0**
	comp=Z,12nm,1.0s,mb4.3						
EPF	**Esparros**	**40.15**	**174**	*e*P	**P**	**00 27 16.5**	**0.0**
EPF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
EPF	**Esparros**	**40.15**	**174**	*e*P	**P**	**00 27 16.5**	**0.0**
	comp=Z,6.2nm,1.0s,mb4.3						
ETSF	**Etsaut**	**40.27**	**175**	*e*P	**P**	**00 27 17.9**	**+0.4**
	comp=Z,7.6nm,0.8s,mb4.2						
ETSF	**Etsaut**	**40.27**	**175**	*e*P	**P**	**00 27 17.9**	**+0.4**
ETSF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
ETSF	**Etsaut**	**40.27**	**175**	*e*P	**P**	**00 27 17.9**	**+0.4**
	comp=Z,3.8nm,0.8s,mb4.2						
ULM	**Lac du Bonnet**	**40.60**	**279**	P	**P**	**00 27 18.5**	**-1.6**
	comp=Z,1.4nm,0.5s,mb3.9,baz=4.6,slow=6.8,SNR=4.1						
ULM	**Lac du Bonnet**	**40.60**	**279**	P	**P**	**00 27 18.5**	**-1.6**
ESDC	**Sonseca Array**	**43.48**	**179**	P	**P**	**00 27 42.3**	**-1.3**
	comp=Z,0.8nm,0.6s,mb3.6,baz=354,slow=7.9,SNR=4.7						
MKAR	**Makanchi Array**	**43.49**	**86**	P	**P**	**00 27 44.5**	**+0.7**
	comp=Z,1.3nm,0.7s,mb3.8,baz=335,slow=6.0,SNR=7.4						
MKAR	**Makanchi Array**	**43.49**	**86**	P	**P**	**00 27 44.5**	**+0.7**
WALA	**Waterton Lakes**	**43.87**	**296**	*e*P	**P**	**00 27 45.1**	**-1.7**
	comp=Z,6.5nm,0.9s,mb4.4						
WALA	**Waterton Lakes**	**43.87**	**296**	*e*P	**P**	**00 27 45.1**	**-1.7**
	comp=Z,6.5nm,0.9s,mb4.4						
BRTR	**Keskin Array B**	**45.10**	**138**	P	**P**	**00 27 57.0**	**+0.4**
	comp=Z,1.2nm,0.8s,mb3.8,baz=343,slow=4.9,SNR=5.0						
BRTR	**Keskin Array B**	**45.10**	**138**	P	**P**	**00 27 57.0**	**+0.4**
SONM	**Songino Array**	**45.28**	**62**	P	**P**	**00 27 59.3**	**+1.2**
	comp=Z,1.7nm,0.8s,mb3.9,baz=340,slow=6.6,SNR=6.6						
ULN	**Ulaanbaatar**	**45.32**	**62**	*e*P	**P**	**00 28 00.1**	**+1.7**
ULN				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.6						
ULN	**Ulaanbaatar**	**45.32**	**62**	*e*P	**P**	**00 28 00.1**	**+1.7**
	comp=Z,14nm,1.4s,mb4.6						
CHMT	**Chamberlain Mo**	**45.91**	**295**	*e*P	**P**	**00 28 02.1**	**-1.0**
CHMT	**Chamberlain Mo**	**45.91**	**295**	*e*P	**P**	**00 28 02.1**	**-1.0**
HRY	**Holter Researc**	**45.95**	**294**	*e*P	**P**	**00 28 02.2**	**-1.3**
HRY	**Holter Researc**	**45.95**	**294**	*e*P	**P**	**00 28 02.2**	**-1.2**
MSO	**Missoula**	**46.07**	**296**	*e*P	**P**	**00 28 03.5**	**-0.9**
	comp=Z,9.0nm,1.1s,mb4.6						
MSO				*e*		00 28 14.9	
MSO	**Missoula**	**46.07**	**296**	*e*P	**P**	**00 28 03.5**	**-0.9**
C03A	**Quillayute Air**	**46.08**	**306**	⇑P	**P**	**00 28 06.2**	**+1.8**
	baz=46						
MALT	**Malatya**	**46.91**	**133**	*e*P	**P**	**00 28 08.9**	**-2.1**
BMO	**Blue Mountains**	**48.39**	**299**	*e*P	**P**	**00 28 21.6**	**-0.9**
	comp=Z,7.3nm,1.2s,mb4.6						
BMO				*e*		00 28 32.5	
BMO	**Blue Mountains**	**48.39**	**299**	*e*P	**P**	**00 28 21.5**	**-0.9**
IMW	**Indian Meadow**	**48.63**	**292**	*e*P	**P**	**00 28 23.6**	**-0.7**
	comp=Z,5.8nm,0.9s,mb4.6						
IMW	**Indian Meadow**	**48.63**	**292**	*e*P	**P**	**00 28 23.6**	**-0.7**
	comp=Z,5.8nm,0.9s,mb4.6						
HLID	**Hailey**	**49.35**	**296**	*e*P	**P**	**00 28 28.9**	**-0.9**
	comp=Z,2.5nm,0.9s,mb4.2						
HLID	**Hailey**	**49.35**	**296**	*e*P	**P**	**00 28 28.9**	**-0.9**
	comp=Z,2.5nm,0.9s,mb4.2						
PDAR	**Pinedale Array**	**49.59**	**291**	P	**P**	**00 28 29.5**	**-2.1**
	comp=Z,2.3nm,1.1s,mb4.1,baz=0.0,slow=4.4,SNR=7.5						
I06A	**Prineville**	**49.60**	**301**	⇑P	**P**	**00 28 32.2**	**+0.5**
	baz=49						
J08A	**Circle Bar Ran**	**49.99**	**299**	⇓P	**P**	**00 28 35.2**	**+0.6**
	baz=50						
J07A	**Hines**	**50.07**	**300**	⇓P	**P**	**00 28 35.9**	**+0.6**
	baz=50						
J06A	**Christmas Vall**	**50.28**	**301**	⇑P	**P**	**00 28 37.4**	**+0.5**
	baz=50						
J05A	**Fort Rock**	**50.36**	**302**	⇑P	**P**	**00 28 38.3**	**+0.8**
	baz=50						
K06A	**Valley Falls**	**50.73**	**301**	⇓P	**P**	**00 28 41.0**	**+0.6**
	baz=50						
K07A	**Rock Creek Ran**	**50.74**	**300**	⇓P	**P**	**00 28 40.8**	**+0.4**
	baz=50,SNR=10						
K02A	**Glendale**	**51.10**	**304**	⇓P	**P**	**00 28 44.4**	**+1.3**
	baz=51						
L08A	**Fields**	**51.13**	**299**	⇓P	**P**	**00 28 43.5**	**+0.2**
	baz=51						
L09A	**Wilkinson Ranc**	**51.23**	**298**	⇓P	**P**	**00 28 43.9**	**-0.1**
	baz=51						
L07A	**Adell**	**

comp=Z,3.0nm,0.8s,mb4.4
S05C Merced 56.13 300 ⇑P P 00 29 20.5 +0.5
baz=56
V11A Goodsprings 57.09 295 ⇑P P 00 29 26.2 -0.6
baz=57
V12A Nelson 57.14 295 ⇑P P 00 29 27.0 -0.1
baz=57,SNR=5.0
HAST UC Hastings Re 57.21 301 ⇑P P 00 29 27.6 0.0
baz=57
PKD Parkfield 57.55 300 ⇑P P 00 29 30.1 +0.1
baz=57
V03C Hunter Liggett 57.55 301 ⇑P P 00 29 30.7 +0.7
baz=57
TUQ Turquoise Mtn. 57.55 296 ⇓P P 00 29 29.0 -1.0
baz=57
W13A Hualapai Mount 57.65 294 ⇓P P 00 29 30.2 -0.6
baz=58
GSC Goldstone 57.78 296 ⇓P P 00 29 31.3 -0.3
baz=58,SNR=5.5
X15A Humboldt 58.07 292 ⇑P P 00 29 33.3 -0.4
baz=58
X13A Yucca 58.15 293 ⇑P P 00 29 34.0 -0.2
baz=58
X14A Yava 58.16 293 ⇑P P 00 29 34.5 +0.2
baz=58
Y14A Wickenburg 58.70 293 ⇑P P 00 29 37.8 -0.3
baz=58
Y12C Blythe 59.06 294 ⇑P P 00 29 40.0 -0.5
baz=59
116A Eloy 59.91 291 ⇑P P 00 29 45.5 -1.0
baz=60
TORD Torodi Ar. Bea 69.94 173 P P 00 30 50.9 -0.9
comp=Z,1.0nm,1.0s,mb3.7,baz=1.1,slow=5.2,SNR=8.1
LIC Lamto 76.78 180 *eP* **P 00 31 31.4 -0.7**

NNC 29 00:43:16.6±8.7, 3732N×6856E, h0km, mb3.3, mpv2.9, 5C-1D, Error ellipse: s-maj=160.0km s-min=68.9km az=107.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.96**	**14**	⇑Pn	Pn	00 44 46.9	+0.8
	0.5nm,0.3s,baz=185,slow=11,SNR=20						
KK31				⇑Sn	Sn	00 45 57.9	+2.9
	0.9nm,0.4s,baz=299,slow=34,SNR=4.2						
KK31				⇑Lg		00 46 26.2	
	2.7nm,0.5s,baz=201,slow=30,SNR=4.2						
TKM2	**Tokmak 2**	**7.76**	**42**	⇑Pn	Pn	00 45 12.2	+1.5
	0.3nm,0.5s						
AB31	**Akbulak array**	**13.46**	**335**	⇑P	Pn	00 46 26.6	-2.2
	0.3nm,0.5s,baz=151,slow=14,SNR=5.9						
BVA0	**Borovoye Array**	**15.75**	**4**	⇓P	Pn	00 47 03.3	+3.6
	0.3nm,0.7s,baz=175,slow=8.8,SNR=9.1						

IDC 29 00:48:36.3±3.9, 756S×10952E, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.7/17, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=182.5km s-min=23.9km az=53.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.87**	**125**	P	Pn	00 52 57.4	-1.1
	0.1nm,0.3s,baz=260,slow=8.9,SNR=7.2						
ASAR	**Alice Springs**	**28.35**	**127**	P	P	00 54 32.8	+0.9
	0.3nm,0.4s,baz=298,slow=8.7,SNR=6.3						
SONM	**Songino Array**	**55.22**	**357**	P	P	00 58 11.2	+0.2
	1.0nm,0.6s,baz=176,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**59.29**	**339**	P	P	00 58 39.6	-0.1
	0.5nm,0.4s,baz=146,slow=7.5,SNR=3.6						

IDC 29 00:50:17.3±4.0, 2229S×14814E, h0km, mb3.2/1, mb1 3.6/5, mb1mx3.5/11, mbtmp3.4/5, ML3.6/3, Error ellipse: s-maj=43.5km s-min=23.6km az=73.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**2.81**	**321**	Pn	Pn	00 51 04.2	+0.8
	3.8nm,0.3s,baz=134,slow=16,SNR=46						
CTA				Lg		00 51 46.2	
	34nm,0.3s,baz=242,slow=12,SNR=9.1						
STKA	**Stephens Creek**	**11.19**	**210**	Pn	Pn	00 52 57.5	-1.0
	0.4nm,0.3s,baz=57,slow=20,SNR=5.8						
WRA	**Warramunga Arr**	**13.09**	**278**	Pn	Pn	00 53 22.9	-1.6
	0.3nm,0.3s,baz=97,slow=12,SNR=22						
WRA				Sn	Sn	00 55 53.3	+2.5
	0.1nm,0.3s,baz=99,slow=23,SNR=4.0						
WRA				Lg		00 57 13.3	
	0.2nm,0.3s,baz=111,slow=28,SNR=6.2						
ASAR	**Alice Springs**	**13.19**	**261**	Pn	Pn	00 53 25.9	+0.1
	0.2nm,0.3s,baz=91,slow=14,SNR=5.9						
ASAR				Lg		00 57 16.4	
	0.1nm,0.3s,baz=76,slow=28,SNR=4.0						
FITZ	**Fitzroy Crossi**	**21.52**	**277**	P	P	00 55 08.9	+1.0
	1.4nm,1.1s,baz=90,slow=15,SNR=4.7						

NEIC ***29*** *00:59:38.3, 3274S×7188W, h28km, ML3.4(GUC), After GUC.*

GUC 29 00:59:38.3±0.6, 3274S×7188W, h28km±2km, MD3.5, ML3.4, 15C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.35**	**145**	⇓*iP*	Pb	00 59 46.2	0.0
IHA				*iS*	Sb	00 59 51.8	+0.2
ROCH	**El Roble**	**0.77**	**108**	⇓*iP*	Pb	00 59 52.7	-0.3
ROCH				*iS*	Sb	01 00 03.9	+0.8
LCCH	**Las Cruces**	**0.78**	**161**	⇑*iP*	Pb	00 59 52.8	-0.5
LCCH				*iS*	Sb	01 00 03.1	-0.4
CHNG	**Los Chungos**	**0.91**	**21**	⇑*iP*	Pn	00 59 55.9	+0.7
CHNG				*iS*	Sb	01 00 08.7	+1.5
PEL	**Peldehue**	**1.08**	**112**	⇑*iP*	Pn	00 59 57.8	+0.1
PEL				*iS*	Sn	01 00 12.1	+0.4
PEL				AML	AML	01 00 15.6	
	comp=N,3μm,0.4s						
PEL	**Peldehue**	**1.08**	**112**	⇑*iP*	Pn	00 59 57.8	+0.1
PEL				*iS*	Sn	01 00 12.1	+0.4
JACH	**Jahuel**	**1.08**	**87**	⇑*iP*	Pn	00 59 57.5	-0.1
JACH				*iS*	Sn	01 00 12.1	+0.3
RCDM	**Rinconada Maip**	**1.17**	**130**	⇓*iP*	Pn	00 59 58.7	-0.1
RCDM				*iS*	Sn	01 00 14.3	+0.4
RCDM				AML	AML	01 00 20.4	
	comp=N,682nm,0.2s						
RCDM	**Rinconada Maip**	**1.17**	**130**	⇓*iP*	Pn	00 59 58.7	-0.1
RCDM				*iS*	Sn	01 00 14.3	+0.4
TACH	**Talagante**	**1.21**	**139**	⇑*iP*	Pn	00 59 59.3	0.0
TACH				*iS*	Sn	01 00 15.2	+0.5
STL	**Santa Lucia**	**1.25**	**124**	*eP*	Pn	01 00 00.1	+0.2
STL				*iS*	Sn	01 00 16.6	+0.7
LNV	**Longovilo**	**1.28**	**162**	⇓*iP*	Pn	01 00 00.0	-0.3
LNV				*iS*	Sn	01 00 17.2	+0.8
CLCH	**Cerro Calan**	**1.30**	**121**	AML	AML	01 00 28.8	
	comp=E,980nm,0.5s						
ANTU	**Antumapu**	**1.33**	**129**	⇑*iP*	Pn	01 00 01.4	+0.3
ANTU				*iS*	Sn	01 00 18.9	+1.0
ANTU				AML	AML	01 00 21.4	
	comp=N,662nm,0.6s						
ANTU	**Antumapu**	**1.33**	**129**	⇑*iP*	Pn	01 00 01.4	+0.3
ANTU				*iS*	Sn	01 00 18.9	+1.0
PCH	**Pirque**	**1.44**	**128**	⇑*iP*	Pn	01 00 03.5	+0.9
PCH				*iS*	Sn	01 00 22.5	+1.9
FCH	**Farellones**	**1.46**	**114**	⇓*iP*	Pn	01 00 03.8	+1.1
FCH				*iS*	Sn	01 00 23.8	+2.8
SJCH	**San Jose de Ma**	**1.56**	**126**	⇑*iP*	Pn	01 00 04.8	+0.6
SJCH				*iS*	Sn	01 00 25.1	+1.6
SJCH				AML	AML	01 00 26.8	
	comp=E,633nm,0.4s						
SJCH	**San Jose de Ma**	**1.56**	**126**	⇑*iP*	Pn	01 00 04.8	+0.6
SJCH				*iS*	Sn	01 00 25.1	+1.6
CHCH	**Chadas Angostu**	**1.57**	**140**	*eP*	Pn	01 00 05.2	+0.8
CHCH				*iS*	Sn	01 00 25.6	+1.8
CMCH	**Combarbala**	**1.73**	**26**	⇑*iP*	Pn	01 00 08.1	+1.6
CMCH				*iS*	Sn	01 00 29.9	+2.3
CMCH				AML	AML	01 00 35.5	
	comp=E,1μm,0.6s						
CMCH	**Combarbala**	**1.73**	**26**	⇑*iP*	Pn	01 00 08.1	+1.6
CMCH				*iS*	Sn	01 00 29.9	+2.3
CACH	**El Canelo**	**1.74**	**142**	⇑*iP*	Pn	01 00 08.6	+1.9
CACH				*iS*	Sn	01 00 32.2	+4.3
CICH	**Cipreses**	**1.99**	**143**	⇓*iP*	Pn	01 00 11.7	+1.6
CICH				*iS*	Sn	01 00 37.1	+2.9
SFDO	**San Fernando**	**2.00**	**159**	⇑*iP*	Pn	01 00 11.5	+1.2
SFDO				*iS*	Sn	01 00 37.2	+2.7
TLL	**Tololo Astrono**	**2.72**	**20**	AML	AML	01 01 10.0	
	comp=E,272nm,0.4s						

STR ***29*** *01:23:48.4±0.0, 4311N×090W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***29*** *01:23:48.6±0.1, 4308N×089W, h5km, Md1.8/2, Error ellipse: s-maj=2.9km s-min=1.0km az=5.0*
CSEM 29 01:23:48.8±0.1, 4308N×089W, h5km, ML2.0, Error ellipse: s-maj=3.0km s-min=1.0km az=5.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LARF	**Larrau**	**0.08**	**242**	Pg	Pg	01 23 50.6	0.0
LARF				Sg	Sg	01 23 52.2	+0.3
ATE	**Arette**	**0.14**	**86**	Pg	Pg	01 23 51.5	0.0
ATE				Sg	Sg	01 23 53.7	+0.3
SJPF	**Ste Jean**	**0.25**	**278**	*e*Pg	Pg	01 23 53.5	-0.2
SJPF				*e*Sg	Sg	01 23 57.5	+0.5
	2.7nm,0.3s						
SJPF	**Ste Jean**	**0.25**	**278**	*e*Pg	Pg	01 23 53.5	-0.2
SJPF				*e*Sg	Sg	01 23 57.5	+0.5
	1.4nm,0.3s						
ETSF	**Etsaut**	**0.30**	**127**	*e*Pg	Pg	01 23 54.5	-0.1
ETSF				*e*Sg	Sg	01 23 58.8	+0.3
	3.0nm,0.3s						
ETSF	**Etsaut**	**0.30**	**127**	*e*Pg	Pg	01 23 54.5	-0.1
ETSF				*e*Sg	Sg	01 23 58.8	+0.3
	1.5nm,0.3s						

ISCJB ***29*** *01:26:16.7±0.9, 1770N×006×6347W×005, h11km±6km, Error ellipse: s-maj=11.2km s-min=7.1km az=67.8*
NEIC ***29*** *01:26:17.0, 1774N×6333W, h12km, MD3.6(TRN), After TRN.*
TRN ***29*** *01:26:17.1, 1774N×6332W, h12km, MD3.5*
ISC 29 01:26:17.3±0.9, 1770N×006×6346W×006, h10km±6km, n9, σ0°71/16, 1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SABS	**Saba**	**0.22**	**110**	*eP*	**Pg**	**01 26 22.1**	**+0.2**
SABS				*eS*	**Sg**	**01 26 24.7**	**-0.4**
SABT	**Saba**	**0.22**	**110**	*eP*	**Pg**	**01 26 22.1**	**+0.2**
SABT				*eS*	**Sg**	**01 26 24.7**	**-0.4**
STMA	**St. Maarten, A**	**0.48**	**44**	*eP*	**Pg**	**01 26 26.3**	**-0.3**
STMA				*eS*	**Sg**	**01 26 33.2**	**+0.2**
STMA	**St. Maarten, A**	**0.48**	**44**	*eP*	**Pg**	**01 26 26.3**	**-0.3**
STMA				*eS*	**Sg**	**01 26 33.2**	**+0.2**
STMA				*e*		01 26 52.9	
STAT	**Sint Eustatius**	**0.50**	**114**	*eP*	**Pg**	**01 26 26.9**	**-0.2**
STAT				*eS*	**Sg**	**01 26 35.0**	**+1.3**
BPA	**Boggy Peak**	**1.66**	**113**	*eP*	**Pn**	**01 26 46.5**	**0.0**
BPA				*eS*	**Sn**	**01 27 07.8**	**0.0**
LZG	**Guadaloupe-1**	**2.24**	**134**	⇓*eP*	**Pn**	**01 26 52.9**	**-1.5**
SEG	**Port Louis**	**2.27**	**124**	*eP*	**Pn**	**01 26 55.6**	**+0.8**
SJG	**San Juan**	**2.59**	**280**	*e*Pn	**Pn**	**01 26 58.3**	**-1.0**
SJG				*e*Sn	**Sn**	**01 27 31.9**	**+1.1**

IDC ***29*** *01:36:53.1±0.8, 1322N×5104E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.1/23, mbtmp4.1/15, ML4.7/1, MS4.0/17, Ms1 4.0/17, ms1mx3.8/42, Error ellipse: s-maj=20.2km s-min=18.4km az=149.0*
NEIC ***29*** *01:36:54.6±0.4, 1322N×5103E, h10km, mb4.3/8, Error ellipse: s-maj=10.1km s-min=7.8km az=147.0*
HRVD ***29*** *01:36:54.6±0.6, 1313N×5097E, h20km±1km, MW5.0/49, Centroid moment Tensor Solution. LP body waves: s17,c20;Mantle waves: s49,c71; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.74±.27; $M_{\theta\theta}$1.82±.16; $M_{\phi\phi}$0.92±.19; $M_{r\theta}$-1.28±.28; $M_{\theta\phi}$-1.63±.13; $M_{\phi r}$-1.04±.42; Best double couple: M_o3.32500×10^{16} NP1:ϕ_s331.00000°,δ47.00000°,λ-53.00000°. NP2: ϕ_s103.00000°,δ55.00000°,λ-123.00000°. Principal axes: T 3.0930, Plg4.0000°, Azm215.0000°; N 0.4710, Plg26.0000°, Azm123.0000°; P -3.5560, Plg64.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***29*** *01:36:55.5±4.0, 1329N×009×5090E×008, h26km±29km, mb4.1/22, MS3.9/14 Error ellipse: s-maj=15.1km s-min=13.0km az=64.4*
CSEM ***29*** *01:36:55.6±0.1, 1328N×5092E, h26km, mb4.3/7, Error ellipse: s-maj=4.0km s-min=2.7km az=175.0*
DHMR ***29*** *01:36:59.1±2.2, 1343N×5041E, h10km±937km, ML3.8*
ISC 29 01:36:58.6±4.2, 1333N×009×5089E×008, h31km±31km, h27km±1.1km:pP-P, n54, σ0°88/42, mb4.1/22, MS3.9/14, 2C, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MUKL	**Al Mukalla**	**2.13**	**303**	*i*P	**Pn**	**01 37 29.7**	**-2.2**
MUKL				*i*S	**Sn**	**01 37 55.3**	**-1.9**
MUKL				AML	AML	01 37 57.8	
	comp=N,1μm,0.8s						
BDHA	**Al Bayda'**	**5.21**	**278**	⇑*eP*	**Pn**	**01 38 14.7**	**+0.4**
BDHA				*e*		01 38 14.8	
	baz=113,slow=16						
LBOS		**5.51**	**276**	⇑*iP*	**Pn**	**01 38 18.7**	**+0.3**
ATD	**Arta Tunnel**	**8.05**	**258**	Pn	**Pn**	**01 38 53.5**	**+0.2**
	comp=N,8.9nm,0.3s,baz=118,slow=6.6,SNR=30						
ATD				LR	LR	01 41 19.8	
	comp=N,2μm,19.8s,baz=47,slow=33						
ATD	**Arta Tunnel**	**8.05**	**258**	Pn	**Pn**	**01 38 53.5**	**+0.1**
WSAR	**Wadi Sarin**	**12.29**	**36**	LR	LR	01 44 15.7	
	comp=N,2μm,20.2s,baz=208,slow=36						
KMBO	**Kilima Mbogo**	**19.73**	**224**	LR	LR	01 48 55.6	
	comp=N,523nm,19.1s,baz=95,slow=37						
BHD	**Baghdad**	**20.71**	**344**	*ex*	x	01 41 18.0	
ASF	**Jabal al Asfar**	**22.71**	**328**	LR	LR	01 51 11.0	
	comp=N,315nm,18.6s,MS3.8,baz=230,slow=38						
MMAI	**Mount Meron Ar**	**24.16**	**327**	LR	LR	01 52 16.5	
	comp=N,247nm,20.4s,MS3.7,baz=160,slow=38						
MALT	**Malatya**	**27.23**	**338**	*eP*	**P**	**01 42 41.1**	**+1.5**
	comp=N,11nm,1.4s,mb4.2						
MALT				*e*	pP	01 42 48.6	-0.1
MALT	**Malatya**	**27.23**	**338**	*eP*	**P**	**01 42 41.1**	**+1.4**
GNI	**Garni**	**27.25**	**350**	LR	LR	01 55 41.0	
	comp=N,563nm,20.8s,MS4.1,baz=342,slow=41						
BRTR	**Keskin Array B**	**30.36**	**333**	P	**P**	**01 43 08.7**	**+1.1**
	comp=N,1.3nm,0.9s,mb3.6,baz=148,slow=7.3,SNR=7.5						
BRTR				LR	LR	01 55 06.8	
	comp=N,172nm,21.8s,MS3.7,baz=128,slow=36						
BRTR	**Keskin Array B**	**30.36**	**333**	P	**P**	**01 43 08.6**	**+1.1**
ANTO	**Ankara**	**30.86**	**332**	*eP*	**P**	**01 43 12.7**	**+0.8**
	comp=N,7.2nm,0.8s,mb4.5						
ANTO	**Ankara**	**30.86**	**332**	*eP*	**P**	**01 43 12.7**	**+0.8**
	comp=N,7.2nm,0.8s,mb4.5						
LSZ	**Lusaka**	**36.23**	**219**	P	**P**	**01 43 58.3**	**-0.3**
	comp=N,1.7nm,0.7s,mb4.1,baz=18,slow=5.4,SNR=4.6						
AKTK	**Aktyubinsk**	**37.45**	**8**	P	**P**	**01 44 09.2**	**+0.2**
AKTK				LR	LR	02 02 50.6	
AKTK	**Aktyubinsk**	**37.45**	**8**	P	**P**	**01 44 09.2**	**+0.2**
AKTO	**Aktyubinsk**	**37.45**	**8**	P	**P**	**01 44 09.2**	**+0.2**
	comp=N,2.7nm,0.9s,mb4.1,baz=214,slow=8.1,SNR=7.8						
AKTO				LR	LR	02 02 50.6	
	comp=N,448nm,19.3s,MS4.3,baz=183,slow=42						
MLR	**Muntele Rosu**	**38.40**	**331**	LR	LR	02 02 42.3	
	comp=N,186nm,18.1s,MS3.9,baz=4.0,slow=40						
AKASG	**Malin Array Be**	**41.23**	**339**	P	**P**	**01 44 40.2**	**-0.3**
	comp=N,1.0nm,0.6s,mb3.6,baz=147,slow=7.0,SNR=9.2						
ZRNK	**Zerenda**	**42.08**	**16**	*eP*	**P**	**01 44 47.4**	**-0.1**
	comp=N,5.9nm,0.9s,mb4.2						
ZRNK				*ep*P	pP	01 44 55.5	-1.3
ZRNK				*es*P	sP	01 45 01.2	+0.8
ZRNK	**Zerenda**	**42.08**	**16**	*eP*	**P**	**01 44 47.3**	**-0.2**
	comp=N,5.9nm,0.9s,mb4.2						
ZRNK				*ep*P	pP	01 44 55.5	-1.2
MKAR	**Makanchi Array**	**42.50**	**32**	P	**P**	**01 44 50.6**	**-0.2**
	comp=N,1.8nm,0.8s,mb3.7,baz=222,slow=7.9,SNR=9.4						
BVAR	**Borovoye Array**	**42.53**	**17**	P	**P**	**01 44 51.0**	**-0.2**
	comp=N,2.5nm,0.8s,mb4.0,baz=191,slow=6.9,SNR=15						
BVAR				PcP	PcP	01 46 43.0	-0.4
	comp=N,1.2nm,0.8s,baz=193,slow=5.6,SNR=4.0						
BVAR				LR	LR	02 05 04.5	
	comp=N,213nm,21.4s,MS4.0,baz=140,slow=40						
BVAR	**Borovoye Array**	**42.53**	**17**	P	**P**	**01 44 51.0**	**-0.2**
BVAR				PcP	PcP	01 46 43.0	-0.4
BVAR				LR	LR	02 05 04.5	
BVAR	**Borovoye Array**	**42.53**	**17**	PcP	PcP	01 46 43.0	-0.4

PSZ Piszkesteto 43.04 330 *eP* **P 01 44 55.8 +0.5**
comp=N,1.8nm,0.6s,mb4.0
PSZ Piszkesteto 43.04 330 *eP* **P 01 44 55.8 +0.5**
comp=N,1.8nm,0.6s,mb4.0
CHKZ Chkalovo 43.17 17 *eP* **P 01 44 56.3 0.0**
comp=N,1.6nm,0.9s,mb3.8
CHKZ Chkalovo 43.17 17 *eP* **P 01 44 56.3 -0.1**
comp=N,1.6nm,0.9s,mb3.8
KEST Kesra 43.45 308 LR LR 02 07 30.4
comp=N,52nm,18.2s,MS3.5,baz=213,slow=42
MORC Moravsky Berou 45.44 330 P **P 01 45 15.5 +0.9**
comp=N,4.3nm,1.1s,mb4.2
MORC *epP* pP 01 45 22.8 -1.0
MORC Moravsky Berou 45.44 330 P **P 01 45 15.5 +1.0**
comp=N,4.3nm,1.1s,mb4.2
MORC *epP* pP 01 45 22.8 -1.0
VRAC Vranov 45.50 329 LR LR 02 05 10.0
comp=N,101nm,19.1s,MS3.8,baz=261,slow=37
GERES GERESS Array B 46.82 327 P **P 01 45 24.9 -0.5**
comp=N,0.3nm,0.6s,mb3.4,baz=145,slow=9.6,SNR=3.8
TORD Torodi Ar. Bea 47.82 276 P **P 01 45 34.8 +1.7**
comp=N,2.4nm,0.8s,mb4.3,baz=89,slow=7.3,SNR=17
BOSA Boshof 48.51 211 LR LR 02 07 52.3
comp=N,184nm,18.7s,MS4.1,baz=130,slow=38
FINES FINESS Array B 51.28 345 P **P 01 46 00.0 +0.5**
comp=N,1.0nm,0.8s,mb3.8,baz=127,slow=12,SNR=5.1
FINES LR LR 02 11 24.2
comp=N,82nm,19.0s,MS3.8,baz=220,slow=40
HFS Hagfors 54.09 338 LR LR 02 13 21.6
comp=N,90nm,19.5s,MS3.8,baz=300,slow=40
ESDC Sonseca Array 54.67 309 P **P 01 46 25.6 +1.0**
comp=N,2.0nm,0.8s,mb4.2,baz=85,slow=6.6,SNR=9.5
NOA NORSAR Array B 55.61 338 P **P 01 46 31.1 -0.2**
comp=N,0.8nm,0.8s,mb3.8,baz=124,slow=8.0,SNR=3.3
NOA LR LR 02 14 17.7
comp=N,98nm,18.4s,MS3.9,baz=150,slow=40
SONM Songino Array 57.27 41 P **P 01 46 43.0 -0.1**
comp=N,3.6nm,0.9s,mb4.4,baz=243,slow=7.4,SNR=20
ULN Ulaanbaatar 57.70 41 *eP* **P 01 46 45.9 -0.2**
comp=N,2.5nm,0.9s,mb4.2
ULN Ulaanbaatar 57.70 41 *eP* **P 01 46 45.9 -0.2**
comp=N,2.5nm,0.9s,mb4.2
ARCES ARCESS Array B 58.41 350 LR LR 02 14 52.3
comp=N,208nm,21.1s,MS4.2,baz=317,slow=39
DAG Danmarks Havn 72.46 347 *iP* **P 01 48 20.0 -2.0**
DAG Danmarks Havn 72.46 347 *eP* **P 01 48 20.0 -2.0**
SUMG Summit 77.18 342 *eP* **P 01 48 49.6 +0.3**
comp=N,9.6nm,1.0s,mb4.7
SUMG Summit 77.18 342 *eP* **P 01 48 49.6 +0.3**
comp=N,9.6nm,1.0s,mb4.7
WRA Warramunga Arr 88.47 111 P **P 01 49 47.0 -0.8**
comp=N,4.9nm,1.0s,mb4.7,baz=297,slow=4.1,SNR=17
ASAR Alice Springs 89.02 114 P **P 01 49 49.2 -1.2**
comp=N,4.2nm,1.1s,mb4.7,baz=287,slow=4.3,SNR=11

ISCJB ***29*** *01:47:52.3±0.5, 4795N±003×782E±005, h16km±13km, Error ellipse: s-maj=6.8km s-min=4.1km az=80.3*
CSEM ***29*** *01:47:52.3±0.1, 4795N×780E, h15km, ML1.4, Error ellipse: s-maj=2.3km s-min=1.4km az=35.0*
LDG ***29*** *01:47:52.1±0.7, 4795N×781E, h10km, Md1.9/2, Error ellipse: s-maj=16.6km s-min=6.3km az=111.0*
ZUR ***29*** *01:47:52.1, 4793N×784E, h18km±4km, ML1.2/5*
STR ***29*** *01:47:52.8±0.1, 4795N×781E, h5km±1km, Ml1.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 29 01:47:52.1±0.9, 4795N±003×781E±004, h18km±12km, n16, σ0°56/25, 1C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FELD	**Feldberg im Sc**	**0.14**	**118**	Pg	**Pg**	**01 47 56.2**	**-0.1**
FELD				Sg	**Sg**	**01 47 59.1**	**+0.1**
SULZ	**Sulz-Cheisache**	**0.46**	**154**	*i* Sg	**Pg**	**01 48 01.2**	**-0.3**
	37nm,0.1s						
SULZ	**Sulz-Cheisache**	**0.46**	**154**	⇓*i*Pg	**Sg**	**01 48 07.4**	**-0.4**
	37nm,0.1s						
MOF	**Molkenrain**	**0.47**	**259**	Pg	**Pg**	**01 48 01.9**	**+0.3**
MOF				Sg	**Sg**	**01 48 08.4**	**+0.5**
SLE	**Schleitheim**	**0.49**	**111**	*e*Sg	**Pg**	**01 48 03.8**	**+1.8**
	27nm,0.2s						
SLE	**Schleitheim**	**0.49**	**111**	⇓*i*Pg	**Sg**	**01 48 07.9**	**-0.8**
	27nm,0.2s						
ECH	**Echery**	**0.52**	**302**	Pg	**Pg**	**01 48 02.5**	**0.0**
ECH				Sg	**Sg**	**01 48 09.7**	**+0.2**
WLS	**Welschbruch**	**0.56**	**327**	Pg	**Pg**	**01 48 03.0**	**-0.3**
WLS				Sg	**Sg**	**01 48 11.4**	**+0.5**
CDF	**Champ du Feu**	**0.59**	**323**	*e*Pg	**Pg**	**01 48 03.6**	**-0.2**
CDF				*e*Sg	**Sg**	**01 48 10.9**	**-0.9**
	3.8nm,0.2s						
CDF	**Champ du Feu**	**0.59**	**323**	*e*Pg	**Pg**	**01 48 03.6**	**-0.2**
CDF				*e*Sg	**Sg**	**01 48 10.9**	**-0.9**
	1.9nm,0.2s						
BALST	**Balsthal**	**0.61**	**188**	⇑*i*Pg	**Pg**	**01 48 04.2**	**-0.1**
	36nm,1.3s						
BALST				*e*Sg	**Sg**	**01 48 12.3**	**-0.2**
	36nm,1.3s						
TRULL	**Truellikon**	**0.66**	**117**	*i* Pg	**Pg**	**01 48 05.2**	**+0.1**
	14nm,0.3s						
HINF	**Hinteralfeld**	**0.66**	**259**	*e*Pg	**Pg**	**01 48 04.5**	**-0.6**
HINF				*e*Sg	**Sg**	**01 48 13.6**	**-0.3**
	3.6nm,0.2s						
HINF	**Hinteralfeld**	**0.66**	**259**	*e*Pg	**Pg**	**01 48 04.5**	**-0.6**
HINF				*e*Sg	**Sg**	**01 48 13.6**	**-0.3**
	1.8nm,0.2s						
BOURR	**Bourrignon**	**0.68**	**216**	*eP*	**Pg**	**01 48 06.2**	**+0.7**
STEIN	**Stein am Rhein**	**0.76**	**111**	*i* Pg	**Pg**	**01 48 07.0**	**-0.1**

NEIC ***29*** *01:49:07.1, 1776N×6341W, h18km, MD3.9(RSPR), MD3.9(TRN), After TRN.*
TRN ***29*** *01:49:07.1, 1775N×6342W, h18km, MD3.9*
RSPR ***29*** *01:49:08.6, 1757N×6325W, h29km±18km, MD3.9/12, MD3.9/12*
ISCJB ***29*** *01:49:09.0±0.4, 1772N±005×6343W±003, h22km±5km, Error ellipse: s-maj=9.1km s-min=3.6km az=39.3*
ISC 29 01:49:09.5±0.4, 1774N±005×6342W±003, h18km±4km, n30, σ0°83/51, 14C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SABS	**Saba**	**0.20**	**126**	*eP*	**Pg**	**01 49 14.3**	**-0.2**
SABS				*eS*	**Sg**	**01 49 18.1**	**+0.1**
SABT	**Saba**	**0.20**	**126**	*eP*	**Pg**	**01 49 14.3**	**-0.2**
SABT				*eS*	**Sg**	**01 49 18.1**	**+0.1**
STMA	**St. Maarten, A**	**0

AOPR				*eS*	**Sn**	**01 50 38.1**	**+1.0**
LRS	**Lares**	**3.31**	**280**⇑	*eP*	**Pn**	**01 50 00.1**	**-0.2**
LRS				*eS*	**Sn**	**01 50 40.2**	**+1.1**
MGP	**Maguayo**	**3.51**	**275**⇑	*eP*	**Pn**	**01 50 02.5**	**-0.5**
MGP				*eS*	**Sn**	**01 50 44.5**	**+0.5**
LSP	**Las Mesas**	**3.52**	**278**	*eP*	**Pn**	**01 50 03.2**	**0.0**
LSP				*eS*	**Sn**	**01 50 45.2**	**+0.8**
CRPR	**Cabo Rojo, PR**	**3.53**	**275**	*eP*	**Pn**	**01 50 02.9**	**-0.4**
CRPR				*eS*	**Sn**	**01 50 45.8**	**+1.3**

NSSP ***29*** *01:51:07.2, 3843N×4488E, h8km, ML3.7*
MOS ***29*** *01:51:08.9±1.5, 3835N×4490E, h10km, mb4.2/14, Error ellipse: s-maj=10.5km s-min=5.3km az=112.0*
IDC ***29*** *01:51:08.5±1.1, 3831N×4481E, h0km, mb3.8/10, mb1 3.9/12, mb1mx3.8/22, mbtmp3.8/12, ML3.4/2, Error ellipse: s-maj=20.0km s-min=12.8km az=119.0*
ISCJB ***29*** *01:51:10.5±0.4, 3853N±002×4493E±002, h9km±3km, mb3.9/22, Error ellipse: s-maj=3.6km s-min=2.9km az=89.2*
TEH ***29*** *01:51:10.4, 3840N×4478E, h10km, Mn4.0*
ISK ***29*** *01:51:10.1, 3842N×4486E, h7km, MD3.6*
NEIC ***29*** *01:51:10.4, 3840N×4478E, h10km, mb4.1/11, MN4.0(TEH), After TEH.*
THR ***29*** *01:51:11.9±0.3, 3853N×4491E, h14km±6km, ML3.8*
CSEM ***29*** *01:51:11.2±0.1, 3848N×4487E, h16km, mb4.1/13, Error ellipse: s-maj=2.1km s-min=1.3km az=11.0*

ISC 29 01:51:12.1±0.4, 3850N±002×4494E±002, h15km±3km, n137, σ1§29/163, mb3.9/22, 3C-2D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISHB	**Shabestar**	**0.57**	**112**	*ePg*	**Pg**	**01 51 23.0**	**-0.4**
ISHB				*eSg*	**Sg**	**01 51 31.8**	**+0.8**
ISHB	**Shabestar**	**0.57**	**112**	Pg	**Pg**	**01 51 22.9**	**-0.5**
ISHB				Sg	**Sg**	**01 51 31.7**	**+0.7**
IMRD	**Marand**	**0.64**	**70**	*ePg*	**Pg**	**01 51 24.7**	**+0.1**
MAKU	**Maku**	**0.88**	**347**	*ePG*	**Pg**	**01 51 28.0**	**-1.2**
MAKU				AML	AML	01 51 44.2	
	comp=E,3μm,0.4s						
MAKU				AML	AML	01 51 46.2	
	comp=N,3μm,0.4s						
ITBZ	**Tabriz**	**0.98**	**105**	*ePg*	**Pg**	**01 51 30.0**	**-1.2**
ITBZ	**Tabriz**	**0.98**	**105**	Pg	**Pg**	**01 51 29.9**	**-1.3**
CLDR	**Caldiran**	**1.03**	**309**	*i* PG	**Pg**	**01 51 29.4**	**-2.6**
CLDR				*i* SG	**Sg**	**01 51 45.0**	**-0.4**
IAZR	**Azarshahr**	**1.16**	**135**	*ePg*	**Pn**	**01 51 31.6**	**-2.2**
IAZR	**Azarshahr**	**1.16**	**135**	Pg	**Pn**	**01 51 31.5**	**-2.3**
TVAN	**Van**	**1.21**	**272**	*iP*	**Pn**	**01 51 32.2**	**-2.3**
TVAN				*i* S	**Sb**	**01 51 51.0**	**+1.0**
VANT	**Van**	**1.22**	**268**	PN	**Pn**	**01 51 35.0**	**+0.3**
VANB	**Van**	**1.22**	**275**	PN	**Pn**	**01 51 32.1**	**-2.6**
VANB				SN	**Sn**	**01 51 49.7**	**-1.3**
CUKT	**Cukurca**	**1.63**	**221**	PN	**Pn**	**01 51 38.9**	**-1.5**
VRNZ	**Vardanashen**	**1.66**	**340**	P	**Pn**	**01 51 33.5**	**-7.2**
VRNZ				S	**Sn**	**01 52 01.3**	**-0.4**
GNI	**Garni**	**1.66**	**355**	PN	**Pn**	**01 51 41.9**	**+1.2**
GNI	**Garni**	**1.66**	**355**	Pn	**Pn**	**01 51 42.7**	**+2.0**
	comp=N,61nm,0.3s,baz=241,slow=1.2,SNR=254						
GNI				Lg		01 52 07.8	
	comp=N,106nm,0.3s,baz=168,slow=23,SNR=17						
GNI	**Garni**	**1.66**	**355**	*ePn*	**Pn**	**01 51 41.9**	**+1.2**
GNI				*eSn*	**Sn**	**01 52 02.1**	**+0.4**
GNI				Lg		01 52 07.8	
GNI	**Garni**	**1.66**	**355**	*ePn*	**Pn**	**01 51 41.9**	**+1.2**
GNI				*eSn*	**Sn**	**01 52 02.1**	**+0.4**
GNI				Sg	**Sg**	**01 52 07.8**	**+2.3**
IBST	**Bostanabad**	**1.73**	**117**	*ePg*	**Pn**	**01 51 42.1**	**+0.4**
IHSH	**Hashtroud**	**1.83**	**95**	*ePn*	**Pg**	**01 51 49.9**	**+2.5**
DIGO	**Kars**	**2.27**	**328**	*i* P	**Pg**	**01 51 55.0**	**-0.6**
DIGO				*i* S	**Sg**	**01 52 25.7**	**+0.6**
GRMI	**Germi**	**2.33**	**81**	*ePN*	**Pn**	**01 51 52.1**	**+2.1**
GRMI				*eSG*	**Sg**	**01 52 25.6**	**-1.5**
GRMI				AML	AML	01 52 28.3	
	comp=E,635nm,0.4s						
GRMI				AML	AML	01 52 32.5	
	comp=N,557nm,0.6s						
GRMI	**Germi**	**2.33**	**81**	*ePn*	**Pn**	**01 51 52.1**	**+2.1**
	SNR=52						
GRMI				*eSg*	**Sg**	**01 52 25.6**	**-1.5**
	SNR=90						
KARS	**Kars**	**2.55**	**327**	*ePN*	**Pn**	**01 51 53.8**	**+0.8**
BTMT	**Batman**	**2.73**	**265**	*ePN*	**Pn**	**01 51 56.8**	**+1.3**
BEST	**Besiri**	**2.96**	**259**	*i* P	**Pn**	**01 51 59.2**	**+0.6**
DGRG	**David-gareji**	**2.97**	**6**	P	**Pg**	**01 52 09.7**	**+0.7**
DGRG				S	**Sg**	**01 52 47.9**	**+0.4**
DGRG	**David-gareji**	**2.97**	**6**	P	**Pb**	**01 52 02.2**	**-2.5**
DGRG				S	**Sb**	**01 52 41.4**	**+0.5**
BNGL	**BINGOL**	**3.00**	**280**	*i* P	**Pb**	**01 52 05.3**	**0.0**
BNGL				*i* S	**Sb**	**01 52 44.8**	**+3.0**
ERZM	**Erzurum**	**3.11**	**298**	*i* P	**Pb**	**01 52 07.3**	**+0.1**
MTA	**Mtatsminda**	**3.20**	**358**	P	**Pb**	**01 52 10.0**	**+1.4**
MTA				S	**Sg**	**01 52 53.6**	**-1.2**
MTA	**Mtatsminda**	**3.20**	**358**	P	**Pn**	**01 52 05.7**	**+3.8**
MTA				S	**Sg**	**01 52 53.7**	**-1.0**
TBLG	**Delisi**	**3.23**	**357**	P	**Pb**	**01 52 11.1**	**+1.8**
TBLG				S	**Sg**	**01 52 54.9**	**-1.1**
TBLG	**Delisi**	**3.23**	**357**	P	**Pn**	**01 52 05.4**	**+3.1**
TBLG				S	**Sg**	**01 52 54.9**	**-1.2**
TBLG	**Delisi**	**3.23**	**357**	PN	**Pn**	**01 52 05.4**	**+3.0**
TBLG				S	**Sg**	**01 52 54.9**	**-1.1**
MARD	**Mardin**	**3.50**	**252**	*i* P	**Pn**	**01 52 06.5**	**+0.5**
MARD				*i* S	**Sg**	**01 53 05.2**	**+0.7**
GOR	**Gori**	**3.54**	**350**	P	**Pg**	**01 52 18.3**	**-1.7**
GOR				S	**Sg**	**01 53 07.9**	**+1.9**
DIY	**Diyarbakir**	**3.76**	**262**	*ePN*	**Pn**	**01 52 09.7**	**+0.1**
SNGE	**Sanandaj**	**3.91**	**150**	*ePN*	**Pn**	**01 52 14.2**	**+2.6**
SNGE				AML	AML	01 53 21.8	
	comp=E,90nm,0.7s						
ILIN	**Laeen**	**3.92**	**155**	*ePn*	**Pb**	**01 52 21.5**	**+0.5**
ILIN	**Laeen**	**3.92**	**155**	Pn	**Pn**	**01 52 21.4**	**+10**
EZC	**Erzincan**	**4.18**	**289**	*ePN*	**Pn**	**01 52 20.9**	**+5.5**
ONI	**Oni**	**4.23**	**345**	P	**Pb**	**01 52 21.0**	**-5.3**
ONI				S	**Sg**	**01 53 29.6**	**+1.5**
ONI	**Oni**	**4.23**	**345**	P	**Pb**	**01 52 21.2**	**-5.1**
ONI				S	**Sg**	**01 53 22.2**	**-5.9**
IVIS	**Veys**	**4.25**	**158**	*ePn*	**Pn**	**01 52 17.9**	**+1.5**
ZEI	**Tsey**	**4.34**	**350**	*ePN*	**Pn**	**01 52 19.0**	**+1.4**
ZEI				*e*		01 52 32.1	
ZEI				*e*		01 53 31.9	
ZEI				pmax	pmax		
	comp=Z,33nm,0.1s						
ZEI				pmax	pmax		
	comp=Z,28nm,0.1s						
ZEI	**Tsey**	**4.34**	**350**	*ePn*	**Pn**	**01 52 19.0**	**+1.4**
	comp=Z,33nm,0.1s						
IGHG	**Ghaleghazi**	**4.36**	**162**	*ePn*	**Pn**	**01 52 19.8**	**+1.9**
IGHG	**Ghaleghazi**	**4.36**	**162**	Pn	**Pn**	**01 52 19.7**	**+1.8**
MAK	**Makhachkala**	**4.87**	**23**	*ePN*	**Pb**	**01 52 35.2**	**-1.9**
MAK				MLR	MLR		
	comp=Z,590nm,16.0s						
URFA	**Urfa**	**4.95**	**260**	*ePN*	**Pn**	**01 52 26.5**	**+0.5**
IRAZ	**Razeghan**	**5.05**	**126**	*ePn*	**Pn**	**01 52 34.5**	**+7.2**
MALT	**Malatya**	**5.12**	**270**	*ePn*	**Pn**	**01 52 25.9**	**-2.4**
MYA	**Malatya**	**5.12**	**270**	*ePN*	**Pn**	**01 52 29.3**	**+1.0**
BHD	**Baghdad**	**5.24**	**185**	*ex*	x	01 52 24.0	
KIV	**Kislovodsk**	**5.71**	**343**	*eP*	**Pn**	**01 52 35.9**	**-0.5**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KIV	**Kislovodsk**	**5.71**	**343**	*eP*	**Pn**	**01 52 35.9**	**-0.5**
	comp=Z,8.0nm,0.8s						
IDMV	**Damavand**	**6.38**	**115**	*ePn*	**Pn**	**01 52 44.9**	**-0.7**
IFIR	**Firoozkooh**	**6.87**	**112**	*ePn*	**Pn**	**01 52 51.3**	**-1.0**
IFIR				*eSn*	**Sn**	**01 54 06.2**	**-3.9**
BR131	**Keskin Array S**	**8.87**	**281**	*ePn*	**Pn**	**01 53 24.2**	**+4.4**
	comp=Z,1.1nm,0.3s						
BR131	**Keskin Array S**	**8.87**	**281**	*ePn*	**Pn**	**01 53 24.2**	**+4.4**
	comp=Z,1.1nm,0.3s						
BRTR	**Keskin Array B**	**8.87**	**281**	Pn	**Pn**	**01 53 24.4**	**+4.6**
	comp=Z,0.4nm,0.3s,baz=112,slow=14,SNR=11						
BRTR	**Keskin Array B**	**8.87**	**281**	Pn	**Pn**	**01 53 24.4**	**+4.6**
AKTK	**Aktyubinsk**	**15.12**	**34**	Pn	**Pn**	**01 54 44.6**	**-0.6**
AKTK	**Aktyubinsk**	**15.12**	**34**	P	**Pn**	**01 54 44.7**	**-0.5**
AKTO	**Aktyubinsk**	**15.12**	**34**	Pn	**Pn**	**01 54 44.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=224,slow=12,SNR=4.0						
AKASG	**Malin Array Be**	**16.52**	**323**	Pn	**Pn**	**01 55 02.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=134,slow=11,SNR=18						
AKBB	**Malin Array Si**	**16.52**	**323**	*eP*	**Pn**	**01 55 01.7**	**-1.5**
BURAR	**Bucovina Array**	**17.02**	**309**⇑	*iP*	**Pn**	**01 55 12.9**	**+3.3**
OBN	**Obninsk**	**17.56**	**344**	*eP*	**Pn**	**01 55 16.0**	**-0.4**
OBN				pmax	pmax		
	comp=Z,21nm,1.0s						
OBN	**Obninsk**	**17.56**	**344**	*eP*	**Pn**	**01 55 16.0**	**-0.4**
	comp=Z,21nm,1.0s						
DRGR		**18.29**	**304**⇓	*iP*	**Pn**	**01 55 23.8**	**-1.6**
KOLS	**Kolonicke sedl**	**19.35**	**310**	*eP*	**Pn**	**01 55 36.7**	**-1.5**
KWP	**Kalwaria**	**19.40**	**312**	*eP*	**Pn**	**01 55 39.1**	**+0.4**
KWP				pmax	pmax		
	comp=Z,31nm,1.1s						
KWP	**Kalwaria**	**19.40**	**312**	*eP*	**Pn**	**01 55 39.1**	**+0.3**
	comp=Z,31nm,1.1s						
KWP	**Kalwaria**	**19.40**	**312**	*eP*	**Pn**	**01 55 39.1**	**+0.4**
	comp=Z,31nm,1.1s						
CRVS	**Cervenica-Dubn**	**19.83**	**309**	*eP*	**Pn**	**01 55 43.8**	**-0.1**
ARU	**Arti**	**20.10**	**22**⇑	*iP*	**P**	**01 55 45.1**	**-0.1**
ARU				*e*		01 56 04.9	
ARU				*eS*	**S**	**01 59 29.4**	**-1.2**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ARU				MLR	MLR		
	comp=N,100nm,18.0s						
ARU				MLR	MLR		
	comp=Z,200nm,18.0s						
ARU				MLR	MLR		
	comp=E,50nm,17.0s						
ARU	**Arti**	**20.10**	**22**	*eP*	**P**	**01 55 44.7**	**-0.6**
	comp=E,5.5nm,0.9s						
ARU	**Arti**	**20.10**	**22**	*i* P	**P**	**01 55 45.1**	**-0.1**
	comp=E,9.0nm,1.3s						
ARU				*eS*	**S**	**01 59 29.4**	**-1.2**
PSZ	**Piszkesteto**	**20.46**	**305**	*eP*	**P**	**01 55 46.9**	**-2.3**
PSZ				pmax	pmax		
	comp=Z,21nm,1.7s						
PSZ	**Piszkesteto**	**20.46**	**305**	*eP*	**P**	**01 55 46.9**	**-2.3**
	comp=Z,21nm,1.7s						
NIE	**Niedzica**	**20.73**	**310**	*eP*	**P**	**01 55 53.2**	**+1.1**
PKSM	**Moragy**	**20.84**	**300**⇓	*iP*	**P**	**01 55 53.8**	**+0.5**
SVE	**Sverdlovsk**	**21.07**	**24**	*eP*	**P**	**01 55 54.0**	**-1.8**
SVE				*e*		01 56 27.0	
SVE				pmax	pmax		
	comp=E,200nm,11.0s						
SVE				pmax	pmax		
	comp=Z,300nm,11.0s						
VYHS	**Vyhne**	**21.32**	**306**	*eP*	**P**	**01 55 59.1**	**+0.7**
VYHS				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb3.7						
VYHS	**Vyhne**	**21.32**	**306**	*eP*	**P**	**01 55 59.1**	**+0.7**
	comp=Z,5.7nm,1.6s,mb3.6						
ZRNK	**Zerenda**	**22.02**	**41**	*eP*	**P**	**01 56 05.6**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7						
ZRNK	**Zerenda**	**22.02**	**41**	*eP*	**P**	**01 56 05.6**	**-0.3**
	comp=Z,2.8nm,0.9s,mb3.7						
ZRNK	**Zerenda**	**22.02**	**41**	*eP*	**P**	**01 56 05.6**	**-0.3**
	comp=Z,2.8nm,0.9s,mb3.7						
OKC	**Ostrava-Krasne**	**22.19**	**309**	*eP*	**P**	**01 56 08.1**	**+0.3**
KLMR	**Klimovskoe**	**22.64**	**353**	*eP*	**P**	**01 56 14.5**	**+2.0**
KLMR				pmax	pmax		
	comp=E,20nm,1.9s,mb4.2						
KLMR	**Klimovskoe**	**22.64**	**353**	*eP*	**P**	**01 56 14.5**	**+2.0**
	comp=Z,20nm,1.9s,mb4.2						
AAK	**Ala-Archa**	**22.77**	**70**	*eP*	**P**	**01 56 18.0**	**+4.0**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.5						
BVAR	**Borovoye Array**	**22.78**	**42**	P	**P**	**01 56 15.0**	**+1.0**
	comp=Z,0.7nm,0.5s,mb3.3,baz=216,slow=7.3,SNR=7.4						
VSU	**Vasula**	**23.20**	**335**	*eP*	**P**	**01 56 17.7**	**-0.8**
DPC	**Dobruska-Polom**	**23.47**	**310**	*eP*	**P**	**01 56 20.8**	**-0.5**
UPC	**Upice**	**23.71**	**310**	*eP*	**P**	**01 56 23.2**	**-0.4**
PRU	**Pruhonice**	**24.45**	**308**	*eP*	**P**	**01 56 31.6**	**+1.3**
GEC2	**GERESS Array S**	**24.69**	**305**	*eP*	**P**	**01 56 32.2**	**-0.3**
	comp=Z,5.0nm,1.0s,mb4.0						
GEC2	**GERESS Array S**	**24.69**	**305**	*eP*	**P**	**01 56 32.2**	**-0.3**
GEC2				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.0						
GERES	**GERESS Array B**	**24.69**	**305**	P	**P**	**01 56 31.7**	**-0.8**
	comp=Z,2.7nm,0.8s,mb3.8,baz=99,slow=7.4,SNR=22						
KHC	**Kasperske Hory**	**24.83**	**306**	*eP*	**P**	**01 56 33.5**	**-0.3**
KHC	**Kasperske Hory**	**24.83**	**306**	*eP*	**P**	**01 56 33.7**	**-0.1**
BRG	**Berggiesshubel**	**25.07**	**310**	*eP*	**P**	**01 56 36.7**	**+0.7**
	comp=Z,11nm,1.6s,mb4.1						
BRG	**Berggiesshubel**	**25.07**	**310**	*e*(P)	**P**	**01 56 36.8**	**+0.7**
	comp=Z,1.4nm,1.0s,mb3.5						
BRG	**Berggiesshubel**	**25.07**	**310**	P	**P**	**01 56 36.8**	**+0.8**
BRG				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.3						
WET	**Wettzell**	**25.29**	**305**	*eP*	**P**	**01 56 37.3**	**-0.6**
	comp=Z,6.0nm,1.1s,mb4.0						
WET	**Wettzell**	**25.29**	**305**	*eP*	**P**	**01 56 37.3**	**-0.6**
WET				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.0						
FINES	**FINESS Array B**	**25.78**	**339**	P	**P**	**01 56 41.7**	**-0.8**
	comp=Z,1.1nm,0.5s,mb3.6,baz=151,slow=11,SNR=11						
FINES	**FINESS Array B**	**25.78**	**339**	*iP*	**P**	**01 56 43.5**	**+1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**25.78**	**339**	P	**P**	**01 56 41.7**	**-0.8**
FINES	**FINESS Array B**	**25.78**	**339**	*iP*	**P**	**01 56 43.5**	**+1.0**
	comp=Z,1.0nm,0.5s,mb3.6						
NKC	**Novy Kostel**	**25.81**	**308**	*eP*	**P**	**01 56 44.4**	**+1.7**
JOF	**Joensuu**	**25.82**	**346**	*ep*	**P**	**01 56 41.5**	**-1.3**
	comp=Z,6.0nm,0.8s,mb4.2						
ROTZ	**Rotzenmuhle**	**25.85**	**306**	*eP*	**P**	**01 56 44.0**	**+0.9**
	comp=Z,4.0nm,0.9s,mb4.0						
WERN	**Wernitzgruen**	**25.87**	**308**	*eP*	**P**	**01 56 45.1**	**+1.8**
	comp=Z,6.0nm,1.2s,mb4.0						
KAF	**Kangasniemi**	**26.27**	**340**	*ep*	**P**	**01 56 48.5**	**+1.6**
	comp=Z,5.6nm,0.8s,mb4.2						
KAF	**Kangasniemi**	**26.27**	**340**	*eP*	**P**	**01 56 48.5**	**+1.6**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
GRA1	**Grafenberg Arr**	**26.46**	**306**	*eP*	**P**	**01 56 49.2**	**+0.6**
	comp=Z,14nm,1.4s,mb4.3						
GRF	**Grafenberg Arr**	**26.46**	**306**	*eP*	**P**	**01 56 49.2**	**+0.6**
	comp=Z,14nm,1.4s,mb4.3						
GRF	**Grafenberg Arr**	**26.46**	**306**	*eP*	**P**	**01 56 49.2**	**+0.6**
GRF				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.3						
GRF	**Grafenberg Arr**	**26.46**	**306**	*eP*	**P**	**01 56 49.3**	**+0.7**
GRF				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.3						
GRF	**Grafenberg Arr**	**26.46**	**306**	*eP*	**P**	**01 56 49.3**	**+0.7**
	comp=Z,14nm,1.4s,mb4.3						
DAVOX	**Davos**	**26.91**	**299**	P	**P**	**01 56 51.8**	**-0.9**
	comp=Z,1.1nm,0.6s,mb3.6,baz=326,slow=23,SNR=2.9						
MKAR	**Makanchi Array**	**28.48**	**61**	P	**P**	**01 57 06.9**	**+0.2**
	comp=Z,1.6nm,0.7s,mb3.8,baz=262,slow=7.2,SNR=9.5						
MKAR	**Makanchi Array**	**28.48**	**61**	*i* P	**P**	**01 57 08.3**	**+1.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**28.48**	**61**	*i* P	**P**	**01 57 08.3**	**+1.6**
	comp=Z,2.0nm,0.7s,mb3.9						
HFS	**Hagfors**	**29.26**	**328**	P	**P**	**01 57 12.3**	**-1.3**
	comp=Z,3.3nm,0.9s,mb4.1,baz=116,slow=5.8,SNR=5.2						
NB2	**NORSAR Subarra**	**30.78**	**328**	PKP	**P**	**01 57 30.2**	**+3.1**
	comp=Z,0.5nm,0.5s,mb3.6,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**30.78**	**328**	P	**P**	**01 57 26.4**	**-0.6**
	comp=Z,0.9nm,0.8s,mb3.7,baz=131,slow=7.6,SNR=4.3						
ESDC	**Sonseca Array**	**37.60**	**288**	P	**P**	**01 58 24.3**	**-1.9**
	comp=Z,0.3nm,0.5s,mb3.3,baz=70,slow=9.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**45.82**	**249**	P	**P**	**01 59 30.6**	**-2.9**
	comp=Z,0.9nm,0.9s,mb3.7,baz=32,slow=7.9,SNR=7.1						
BOD	**Bodaibo**	**47.65**	**43**⇑	*iP*	**P**	**01 59 47.8**	**+0.1**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
BOD	**Bodaibo**	**47.65**	**43**	*i* P	**P**	**01 59 47.8**	**+0.1**
	comp=Z,5.0nm,0.9s,mb4.5						
DBIC	**Dimbokro**	**54.92**	**248**	P	**P**	**02 00 40.5**	**-1.8**
	comp=Z,3.8nm,1.0s,mb4.4,baz=68,slow=5.4,SNR=3.0						
YHNB	**Yeheng**	**64.86**	**78**	*eP*	**P**	**02 01 50.5**	**-0.1**

CSEM ***29*** *02:03:14.6±0.1, 1300N×5103E, h10km, mb5.1/51, Ms4.1, Error ellipse: s-maj=2.9km s-min=2.4km az=169.0*
ISCJB ***29*** *02:03:15.5±0.3, 1311N±004×5102E±003, h10km, mb4.8/111, MS4.5/43, Error ellipse: s-maj=6.2km s-min=4.3km az=176.8*
MOS ***29*** *02:03:15.0±0.8, 1306N×5097E, h10km, mb5.1/52, MS4.5/18, Error ellipse: s-maj=8.9km s-min=3.8km az=114.6*
BJI ***29*** *02:03:15.3, 1279N×5097E, h23km, mB5.2, mb4.8, Ms4.8, Msz4.6*
NEIC ***29*** *02:03:17.0±0.2, 1307N×5102E, h10km, mb5.0/57, Error ellipse: s-maj=5.4km s-min=4.1km az=172.0*
IDC ***29*** *02:03:16.4±0.6, 1324N×5111E, h0km, mb4.4/24, mb1 4.5/27, mb1mx4.4/32, mbtmp4.4/27, ML3.5/2, MS4.5/21, Ms1 4.5/21, ms1mx4.4/27, Error ellipse: s-maj=16.8km s-min=12.0km az=102.0*
HRVD ***29*** *02:03:17.0±0.2, 1331N×5080E, h12km, MW5.2/84, Centroid moment Tensor Solution. LP body waves: s55,c90;Mantle waves: s84,c166; Half duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.80±.02; $M_{\theta\theta}$0.76±.01; $M_{\phi\phi}$0.04±.02; $M_{r\theta}$-0.05±.04; $M_{\theta\phi}$-0.46±.01; $M_{\phi r}$0.16±.05; Best double couple: $M_0$0.91200×10^{17} NP1:ϕ_s286.00000°, δ42.00000°, λ-105.00000°. NP2: ϕ_s126.00000°, δ50.00000°, λ-76.00000°. Principal axes: T 0.9910, Plg4.0000°, Azm206.0000°; N -0.1570, Plg10.0000°, Azm297.0000°; P -0.8340, Plg79.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
DHMR ***29*** *02:03:22.4±0.3, 1339N×5044E, h2km±55km, ML4.5*
SZGRF ***29*** *02:03:32.7, 1432N×4979E, h33km, mb5.1, MS4.1, Eastern Arabian Peninsula*

ISC 29 02:03:17.8±0.3, 1314N±004×5100E±003, h10km, (h22km±4.9km:pP-P), n348, σ0§97/366, mb4.8/111, MS4.5/43, 4C-15D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MUKL	**Al Mukalla**	**2.32**	**305**⇓	*eP*	**Pn**	**02 03 54.0**	**-2.0**
MUKL				*i* S	**Sn**	**02 04 18.8**	**-5.7**
MUKL				AML	AML	02 04 21.1	
	comp=N,8μm,0.7s						
BDHA	**Al Bayda'**	**5.34**	**280**⇓	*iP*	**Pn**	**02 04 37.8**	**+0.2**
BDHA				*i* S	**Sn**	**02 05 36.5**	**-2.7**
LBOS		**5.64**	**278**⇓	*iP*	**Pn**	**02 04 41.9**	**+0.3**
LBOS				*i* S	**Sn**	**02 05 43.8**	**-2.6**
DHBB	**Dhamar BB**	**6.57**	**283**	*i* P	**Pn**	**02 04 54.2**	**-0.2**
DHBB				*i* S	**Sn**	**02 06 05.8**	**-3.6**
ATD	**Arta Tunnel**	**8.12**	**259**	Pn	**Pn**	**02 05 17.1**	**+1.4**
	comp=N,36nm,0.3s,baz=119,slow=3.3,SNR=120						
ATD				LR	LR	02 07 42.5	
	comp=N,9μm,19.9s,baz=24,slow=32						
WSAR	**Wadi Sarin**	**12.38**	**35**	Pn	**Pn**	**02 06 13.8**	**-0.3**
	comp=N,0.3nm,0.3s,baz=166,slow=14,SNR=4.1						
WSAR				Sn	**Sn**	**02 08 19.8**	**-12**
	comp=N,0.2nm,0.3s,baz=298,slow=17,SNR=2.8						
WSAR				LR	LR	02 10 39.0	
	comp=N,8μm,19.8s,baz=211,slow=36						
KBD	**Kabd**	**16.25**	**350**	*eP*	**Pn**	**02 07 06.0**	**-0.1**
KBD				AMb	AMB	02 07 12.7	
	comp=Z,227nm,0.7s						
NAY	**Al-Naaiem**	**16.40**	**348**	*eP*	**Pn**	**02 07 07.5**	**-0.5**
NAY				AMb	AMB	02 07 13.3	
	comp=Z,37nm,1.1s						
UMR	**Umm Al-Rimmam**	**16.61**	**350**	*eP*	**Pn**	**02 07 11.0**	**+0.4**
RST	**Umm Al-Ruwaisa**	**16.69**	**348**	*eP*	**Pn**	**02 07 11.7**	**-0.1**
RST				AMb	AMB	02 07 18.6	
	comp=Z,151nm,1.1s						
MIB	**Mutribah**	**16.92**	**349**	*eP*	**Pn**	**02 07 13.8**	**-0.9**
MIB				AMb	AMB	02 07 21.0	
	comp=Z,129nm,1.1s						
KMBO	**Kilima Mbogo**	**19.67**	**225**	P	**Pn**	**02 07 48.5**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=48,slow=12,SNR=5.0						
KMBO				LR	LR	02 15 18.4	
	comp=Z,2μm,19.1s,baz=196,slow=36						
BHD	**Baghdad**	**20.93**	**344**	*i* x	x	02 07 56.0	
BHD				*ex*	x	02 11 51.0	
BHD				*ex*	x	02 14 51.0	
BHD				*ex*	x	02 15 42.0	
EIL	**Elat**	**22.17**	**320**	*eP*	**P**	**02 08 15.0**	**+1.1**
	comp=Z,726nm,1.3s,mb6.0						
EIL	**Elat**	**22.17**	**320**	*eP*	**P**	**02 08 15.0**	**+1.1**
	comp=Z,726nm,1.3s,mb6.0						
ASF	**Jabal al Asfar**	**22.93**	**328**	P	**P**	**02 08 22.8**	**+0.8**
	comp=Z,4.3nm,1.0s,mb3.9,baz=11,slow=8.5,SNR=4.6				

comp=Z,23nm,1.0s,mb5.0
ESKT Eskisehir 31.72 330 *i* P **P 02 09 43.3 +1.5**
SEYT Eskypehyr 31.72 330 *i* P **P 02 09 43.3 +1.6**
OPO Ambohidratompo 31.74 187 P **P 02 09 44.7 +2.9**
comp=Z,2.0nm,0.8s,mb4.0,baz=76,slow=7.5,SNR=3.7
SOC Sochi 31.85 344 *e*P **P 02 09 43.0 +0.2**
SOC *e* 02 10 46.7
SOC *e*S **S 02 14 54.1 +0.8**
SOC *e*SSS 02 17 03.4
SOC pmax pmax
comp=Z,194nm,3.4s
SOC MLR MLR
comp=Z,2µm,16.0s,MS5.0
SOC Sochi 31.85 344 *e*P **P 02 09 43.0 +0.2**
comp=Z,194nm,3.4s
SGKT Sivrigoynuk 31.98 332 *i* P **P 02 09 45.8 +1.8**
GDZ Gediz 32.09 328 *i* P **P 02 09 46.1 +1.1**
BORA Eskisehir 32.20 330 *i* P **P 02 09 46.8 +0.9**
HENT Hendek 32.71 331 *i* P **P 02 09 51.6 +1.2**
KOLN Koldanda 33.71 59 *e*P **P 02 09 59.2 +0.1**
comp=Z,68nm,1.3s,mb5.4
GKN Gorkha 34.65 59 *e*P **P 02 10 07.6 +0.3**
comp=Z,64nm,1.3s,mb5.4
SIM Simferopol' 34.81 339 *ce*P **P 02 10 10.0 +1.3**
SIM *e* 02 11 28.0
SIM *e*S **S 02 15 46.0 +6.7**
SIM pmax pmax
comp=Z,22nm,0.9s,mb5.1
SIM MLR MLR
comp=Z,600nm,16.8s,MS4.4
SIM Simferopol' 34.81 339 *e*P **P 02 10 10.0 +1.3**
comp=Z,22nm,0.9s,mb5.1
DMN Daman 34.93 60 *e*P **P 02 10 10.4 +0.7**
KKN Kakani 35.13 60 *e*P **P 02 10 11.3 -0.1**
comp=Z,46nm,1.0s,mb5.4
KKN Kakani 35.13 60 *e*P **P 02 10 11.3 -0.1**
KKN pmax pmax
comp=Z,46nm,1.0s,mb5.4
PKI Pulchoki 35.17 61 *e*P **P 02 10 11.9 +0.1**
GUN Gumba 35.67 60 *e*P **P 02 10 17.1 +1.0**
comp=Z,68nm,1.0s,mb5.5
AAK Ala-Archa 35.73 30 *e*P **P 02 10 17.9 +1.3**
AAK pmax pmax
comp=Z,51nm,1.8s,mb5.2
AAK Ala-Archa 35.73 30 *e*P **P 02 10 17.9 +1.3**
comp=Z,51nm,1.8s,mb5.2
AAK Ala-Archa 35.73 30 *e*P **P 02 10 17.9 +1.3**
comp=Z,51nm,1.8s,mb5.2
JIRN Jiri 35.86 61 *e*P **P 02 10 18.4 +0.7**
comp=Z,63nm,1.2s,mb5.4
FRU Bishkek 35.94 30 *e*P **P 02 10 19.8 +1.4**
FRU pmax pmax
comp=Z,84nm,2.5s,mb5.2
FRU Bishkek 35.94 30 *e*P **P 02 10 19.8 +1.4**
comp=Z,84nm,2.5s,mb5.2
LSZ Lusaka 36.15 219 P **P 02 10 22.9 +2.7**
comp=Z,4.1nm,0.9s,mb4.3,baz=18,slow=7.3,SNR=7.6
LSZ Lusaka 36.15 219 *e*P **P 02 10 18.4 -1.8**
LSZ pmax pmax
comp=Z,48nm,1.9s,mb5.1
LSZ Lusaka 36.15 219 *e*P **P 02 10 18.4 -1.8**
comp=Z,48nm,1.9s,mb5.1
LSZ Lusaka 36.15 219 *e*P **P 02 10 18.4 -1.8**
comp=Z,48nm,1.9s,mb5.1
TIRR Tirgusor 36.70 333 ||*i*P **P 02 10 24.7 -0.1**
VTS Vitosha 37.93 326 ||*i*P **P 02 10 36.3 +1.0**
KIS Kishinev 38.54 336 *e*P **P 02 10 38.0 -2.5**
KIS *e* 02 16 45.0
KIS MLR MLR
comp=Z,800nm,15.0s,MS4.7
KIS MLR MLR
comp=E,500nm,17.0s
KIS MLR MLR
comp=Z,1µm,16.0s
MLR Muntele Rosu 38.61 331 P **P 02 10 41.4 +0.4**
comp=Z,3.3nm,0.8s,mb4.1,baz=103,slow=2.2,SNR=5.1
MLR LR LR 02 29 06.6
comp=Z,775nm,18.9s,MS4.5,baz=1.5,slow=40
MLR Muntele Rosu 38.61 331 ||*i*P **P 02 10 44.9 +3.8**
MTUR Matau 38.83 330 ||*i*P **P 02 10 45.0 +2.1**
BURAR Bucovina Array 40.55 333 ||*i*P **P 02 10 59.8 +2.6**
DRGR 41.10 330 ||*i*P **P 02 11 03.4 +1.7**
AKASG Malin Array Be 41.44 339 P **P 02 11 03.7 -0.9**
comp=Z,6.7nm,0.9s,mb4.3,baz=152,slow=7.2,SNR=30
AKASG LR LR 02 31 54.4
comp=Z,286nm,19.1s,MS4.2,baz=140,slow=42
AKASG Malin Array Be 41.44 339 P **P 02 11 03.7 -0.9**
AKASG LR LR 02 31 54.4
AKBB Malin Array Si 41.44 339 *e*P **P 02 11 04.4 -0.1**
ZRNK Zerenda 42.23 16 *e*P **P 02 11 10.6 -0.4**
ZRNK pmax pmax
comp=Z,11nm,1.0s,mb4.4
ZRNK Zerenda 42.23 16 *e*P **P 02 11 10.6 -0.4**
comp=Z,11nm,1.0s,mb4.5
ZRNK Zerenda 42.23 16 *e*P **P 02 11 10.6 -0.4**
comp=Z,11nm,1.0s,mb4.5
MKAR Makanchi Array 42.60 32 P **P 02 11 13.5 -0.5**
comp=Z,2.8nm,0.8s,mb4.0,baz=220,slow=9.0,SNR=14
MKAR Makanchi Array 42.60 32 *i* P **P 02 11 14.5 +0.5**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 42.68 17 P **P 02 11 15.2 +0.5**
comp=Z,35nm,0.9s,mb5.1,SNR=5.5
BVAR Borovoye Array 42.68 17 P **P 02 11 14.2 -0.5**
comp=Z,4.0nm,0.8s,mb4.2,baz=198,slow=7.3,SNR=21
BVAR PcP PcP 02 13 05.8 -0.6
comp=Z,2.9nm,0.9s,baz=222,slow=2.0,SNR=5.0
PKSM Moragy 42.77 327 ||*i*P **P 02 11 16.1 +0.7**
PKSM Moragy 42.77 327 *e*P **P 02 11 16.3 +0.9**
KOLS Kolonicke sedl 42.84 332 *e*P **P 02 11 16.5 +0.5**
KWP Kalwaria 43.16 333 *e*P **P 02 11 19.0 +0.4**
KWP *e* 02 12 59.8
KWP *e* 02 13 02.7
CRVS Cervenica-Dubn 43.19 332 *e*P **P 02 11 18.9 +0.1**
PSZ Piszkesteto 43.26 330 ||*e*P **P 02 11 18.4 -1.0**
CHKZ Chkalovo 43.32 17 *e*P **P 02 11 19.1 -0.8**
CHKZ *e* 02 13 08.8
CHKZ pmax pmax
comp=Z,17nm,1.4s,mb4.6
CHKZ Chkalovo 43.32 17 *e*P **P 02 11 19.1 -0.8**
comp=Z,17nm,1.4s,mb4.6
CHKZ *e*PcP PcP 02 13 08.8 +0.2
CHKZ Chkalovo 43.32 17 *e*P **P 02 11 19.1 -0.8**
comp=Z,16nm,1.4s,mb4.6
OBN Obninsk 43.37 348 *e*P **P 02 11 20.4 +0.2**
OBN *e* 02 13 02.3
OBN *i*S **S 02 17 52.0 +4.0**
OBN pmax pmax
comp=Z,36nm,2.2s,mb4.7
OBN MLR MLR
comp=Z,1µm,18.0s,MS4.8
OBN Obninsk 43.37 348 *e*P **P 02 11 20.4 +0.2**
comp=Z,36nm,2.2s,mb4.7
ARU Arti 43.59 6 ||*i*P **P 02 11 21.0 -1.0**
ARU *e* 02 13 06.4
ARU *e*PPP 02 13 36.1
ARU *e*S **S 02 17 48.8 -2.4**
ARU *e*SS SS 02 21 03.5 -2.5
ARU pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
ARU MLR MLR
comp=N,800nm,19.0s,MS4.7
ARU MLR MLR
comp=Z,800nm,19.0s,MS4.7
ARU MLR MLR
comp=E,200nm,18.0s,MS4.7
ARU Arti 43.59 6 *e*P **P 02 11 21.7 -0.3**
comp=E,5.3nm,1.0s,mb4.2
ARU Arti 43.59 6 *e*P **P 02 11 21.7 -0.3**
comp=E,5.3nm,1.0s,mb4.2
KEST Kesra 43.65 308 P **P 02 11 23.4 +1.0**
comp=E,2.3nm,1.0s,mb3.9,baz=18,slow=1.2,SNR=5.0
KEST LR LR 02 31 42.3
comp=E,166nm,18.6s,MS4.0,baz=28,slow=39
KURK Kurchatov 43.69 25 P **P 02 11 22.4 -0.4**
comp=E,35nm,1.0s,mb5.0,SNR=6.2
MOS Moscow 43.75 349 *e*P **P 02 11 23.4 +0.1**
MOS *e* 02 13 05.2
MOS *e* 02 13 10.8
MOS *e*PPP 02 13 40.6
MOS pmax pmax
comp=Z,300nm,3.3s
MOS pmax pmax
comp=N,400nm,3.8s
MOS MLR MLR
comp=Z,1µm,20.0s,MS4.8
MOS Moscow 43.75 349 *e*P **P 02 11 23.4 +0.1**
comp=Z,400nm,3.8s
WMQ Urumqi 43.84 39 P **P 02 11 25.8 +1.7**
WMQ AP pP 02 11 30.3 +3.1
WMQ XP sP 02 11 32.8 +4.4
WMQ PP PP 02 13 10.0 +3.9
WMQ AMB AMB
WMQ comp=Z,13nm,1.0s,mb4.6
WMQ AMB AMB
WMQ comp=Z,137nm,4.2s
WMQ LR LR
WMQ comp=N,682nm,12.0s,MS4.9
WMQ LR LR
WMQ comp=E,511nm,10.9s,MS4.9
WMQ LR LR
WMQ comp=Z,690nm,12.5s,MS4.8
VYHS Vyhne 44.17 329 *e*P **P 02 11 26.6 -0.1**
VYHS *e* 02 13 15.6
VYHS pmax pmax
comp=Z,32nm,2.5s,mb4.6
VYHS Vyhne 44.17 329 *e*P **P 02 11 26.6 -0.1**
comp=Z,32nm,2.5s,mb4.6
VYHS *e*PP PP 02 13 15.6 +6.0
SVE Sverdlovsk 44.22 8 *e*P **P 02 11 26.8 -0.3**
SVE *e*PPP 02 13 15.0
SVE pmax pmax
comp=Z,104nm,3.8s
SVE MLR MLR
comp=E,400nm,14.0s
SVE MLR MLR
comp=Z,2µm,14.0s,MS5.2
SVE Sverdlovsk 44.22 8 *e*P **P 02 11 26.8 -0.3**
comp=Z,104nm,3.8s
BOJS Bojanci 44.22 324 *e*P **P 02 11 28.2 +1.1**
ZST Bratislava 44.85 328 *e*P **P 02 11 32.1 0.0**
ZST pmax pmax
comp=Z,11nm,1.4s,mb4.5
ZST Bratislava 44.85 328 *e*P **P 02 11 32.1 0.0**
comp=Z,11nm,1.4s,mb4.5
LJU Ljubljana 44.95 324 *e*P **P 02 11 34.0 +1.1**
PERS Pernice 44.96 325 *e*P **P 02 11 33.9 +0.9**
VSL Villasalto 45.04 313 *e*P **P 02 11 34.9 +1.3**
comp=Z,38nm,1.1s,mb5.1
VSL Villasalto 45.04 313 *e*P **P 02 11 34.9 +1.3**
comp=Z,38nm,1.1s,mb5.1
LBTB Lobatse 45.30 213 P **P 02 11 37.5 +1.7**
comp=Z,8.0nm,0.9s,mb4.5,baz=55,slow=8.6,SNR=8.8
LBTB Lobatse 45.30 213 *e*P **P 02 11 33.6 -2.1**
LBTB pmax pmax
comp=Z,36nm,1.4s,mb5.0
LBTB Lobatse 45.30 213 *e*P **P 02 11 33.6 -2.1**
comp=Z,36nm,1.4s,mb5.0
LBTB Lobatse 45.30 213 *e*P **P 02 11 33.6 -2.1**
comp=Z,36nm,1.4s,mb5.0
OKC Ostrava-Krasne 45.41 330 *e*P **P 02 11 36.6 +0.1**
OKC *ex* x 02 11 46.2
OKC *e*S **S 02 18 11.3 -6.4**
OKC AMS AMS 02 35 10.0
comp=Z,300nm,14.1s
OKC Ostrava-Krasne 45.41 330 *e*P **P 02 11 36.6 +0.1**
OKC *e* 02 11 46.2
OKC *e*S **S 02 18 11.3 -6.4**
MORC Moravsky Berou 45.66 330 *e*P **P 02 11 38.3 -0.2**
MORC pmax pmax
comp=Z,17nm,1.5s,mb4.8
MORC Moravsky Berou 45.66 330 *e*P **P 02 11 38.3 -0.2**
comp=Z,17nm,1.5s,mb4.7
MORC Moravsky Berou 45.66 330 *e*P **P 02 11 38.3 -0.2**
comp=Z,17nm,1.5s,mb4.7
VRAC Vranov 45.82 329 P **P 02 11 39.7 -0.1**
comp=Z,1.3nm,0.3s,mb4.3,baz=182,slow=18,SNR=8.6
SUW Suwalki 46.30 338 *e*P **P 02 11 43.0 -0.6**
TREC Trest 46.37 328 *e*P **P 02 11 43.9 -0.3**
PGF Pioggiola 46.59 317 *e*P **P 02 11 44.1 -1.8**
DPC Dobruska-Polom 46.63 330 *e*P **P 02 11 45.6 -0.6**
DPC *e*S **S 02 18 33.3 -2.0**
UPC Upice 46.88 330 *e*P **P 02 11 48.4 +0.2**
KSP Ksiaz 46.96 330 *e*P **P 02 11 48.7 -0.1**
KSP *e* 02 13 43.1
KSP Ksiaz 46.96 330 ||*e*P **P 02 11 48.5 -0.3**
KSP *e*PP PP 02 13 40.5 +1.3
KSP *e*S **S 02 18 41.0 +1.0**
GEC2 GERESS Array S 47.03 327 *e*P **P 02 11 48.9 -0.5**
comp=Z,50nm,2.2s,mb5.1
GEC2 GERESS Array S 47.03 327 *e*P **P 02 11 48.9 -0.5**
GEC2 pmax pmax
comp=Z,50nm,2.2s,mb5.1
GERES GERESS Array B 47.03 327 P **P 02 11 49.2 -0.2**
comp=Z,0.8nm,0.7s,mb3.8,baz=138,slow=8.2,SNR=9.6
GERES PcP PcP 02 13 21.0 -0.5
comp=Z,1.5nm,1.0s,baz=106,slow=3.3,SNR=4.8
GERES LR LR 02 34 55.6
comp=Z,202nm,18.6s,MS4.1,baz=113,slow=40
GERES GERESS Array B 47.03 327 P **P 02 11 49.2 -0.2**
GERES 02 13 21.0
KHC Kasperske Hory 47.27 327 *e*P **P 02 11 50.1 -1.1**
KHC *ex* x 02 11 50.8
KHC *e*S **S 02 18 29.5 -15**
KHC AMS AMS 02 33 40.0
comp=Z,300nm,21.0s
KHC Kasperske Hory 47.27 327 *e*P **P 02 11 50.1 -1.1**
comp=Z,300nm,21.0s
PRU Pruhonice 47.29 329 *e*P **P 02 11 51.0 -0.3**
PRU *ex* x 02 12 00.5
PRU *e*S **S 02 18 29.6 -15**
PRU AMS AMS 02 35 00.0
comp=Z,400nm,19.7s
PRU Pruhonice 47.29 329 *e*P **P 02 11 51.0 -0.3**
comp=Z,400nm,19.7s
PVCC Panska Ves 47.61 329 *e*P **P 02 11 53.6 -0.2**
PVCC *ex* x 02 12 04.7
PVCC AMS AMS 02 35 50.0
comp=Z,300nm,15.7s
PVCC Panska Ves 47.61 329 *e*P **P 02 11 53.6 -0.2**
comp=Z,300nm,15.7s
WET Wettzell 47.65 327 *e*P **P 02 11 53.0 -1.1**
comp=Z,24nm,2.0s,mb4.9
WET Wettzell 47.65 327 *e*P **P 02 11 53.0 -1.1**
WET pmax pmax
comp=Z,24nm,2.0s,mb4.9
TOA0 Torodi Ar. Sit 47.95 276 *e*P **P 02 11 57.2 +0.8**
TOA0 Torodi Ar. Sit 47.95 276 *e*P **P 02 11 57.2 +0.8**
TORD Torodi Ar. Bea 47.95 276 P **P 02 11 57.1 +0.7**
comp=Z,5.1nm,0.7s,mb4.7,baz=89,slow=6.1,SNR=29
TORD LR LR 02 33 33.4
comp=Z,294nm,18.7s,MS4.3,baz=100,slow=38
FUR Furstenfeldbru 47.97 325 *e*P **P 02 11 56.1 -0.6**
comp=Z,67nm,1.7s,mb5.4
FUR Furstenfeldbru 47.97 325 *e*P **P 02 11 56.1 -0.6**
FUR pmax pmax
comp=Z,67nm,1.7s,mb5.4
DAVOX Davos 48.05 323 P **P 02 11 57.9 +0.6**
comp=Z,6.0nm,0.9s,mb4.6,baz=149,slow=7.4,SNR=5.8
BRG Berggiesshubel 48.13 329 *e*P **P 02 11 57.5 -0.4**
comp=Z,19nm,1.9s,mb4.8
BRG Berggiesshubel 48.13 329 *e*P **P 02 11 52.8 -5.1**
comp=Z,3.0nm,1.4s,mb4.1
BRG *e* pP 02 11 57.4 -3.7
comp=Z,11nm,1.9s
BRG Berggiesshubel 48.13 329 *e*P **P 02 11 52.8 -5.1**
BRG *e* pP 02 11 57.4 -3.7
BRG pmax pmax
comp=Z,3.0nm,1.4s,mb4.1
GKP Gorka Klasztor 48.16 333 *e*P **P 02 11 57.4 -0.7**
SBF Sospel 48.19 318 *e*P **P 02 11 58.2 -0.2**
comp=Z,48nm,0.9s,mb5.2
SBF Sospel 48.19 318 *e*P **P 02 11 58.2 -0.2**
SBF pmax pmax
comp=Z,24nm,0.9s,mb5.2
SBF Sospel 48.19 318 *e*P **P 02 11 58.2 -0.2**
comp=Z,24nm,0.9s,mb5.2
KLMR Klimovskoe 48.37 353 *e*P **P 02 11 58.3 -1.4**
KLMR pmax pmax
comp=Z,40nm,1.9s,mb5.1
KLMR MLR MLR
comp=Z,2µm,19.0s,MS5.0
ROTZ Rotzenmuhle 48.37 327 *e*P **P 02 11 59.0 -0.7**
comp=Z,13nm,1.5s,mb4.7
BOSA Boshof 48.41 211 P **P 02 12 02.5 +2.6**
comp=Z,6.5nm,0.9s,mb4.6,baz=68,slow=4.2,SNR=6.4
BOSA LR LR 02 34 23.3
comp=Z,797nm,19.1s,MS4.7,baz=44,slow=38
BOSA Boshof 48.41 211 *e*P **P 02 11 58.4 -1.6**
BOSA pmax pmax
comp=Z,16nm,1.2s,mb4.9
BOSA Boshof 48.41 211 *e*P **P 02 11 58.4 -1.6**
comp=Z,16nm,1.2s,mb4.9
BOSA Boshof 48.41 211 *e*P **P 02 11 58.4 -1.6**
comp=Z,16nm,1.2s,mb4.9
FBE Freiberg 48.46 329 *e*P **P 02 12 00.1 -0.3**
comp=Z,11nm,1.2s,mb4.8
NKC Novy Kostel 48.51 328 *e*P **P 02 12 00.0 -0.8**
NKC *ex* x 02 12 10.7
MANZ Manzenberg 48.55 327 *e*P **P 02 12 00.4 -0.7**
comp=Z,27nm,2.0s,mb4.9
LMR La Mourre 48.58 317 *e*P **P 02 12 01.3 0.0**
comp=Z,17nm,1.0s,mb4.7
LMR La Mourre 48.58 317 *e*P **P 02 12 01.3 0.0**
LMR pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
LMR La Mourre 48.58 317 *e*P **P 02 12 01.3 0.0**
comp=Z,8.3nm,1.0s,mb4.7
WERN Wernitzgruen 48.58 328 *e*P **P 02 12 01.2 -0.2**
comp=Z,39nm,1.8s,mb5.1
FRF La Foret Royal 48.58 317 *e*P **P 02 12 01.8 +0.4**
comp=Z,41nm,1.1s,mb5.1
FRF La Foret Royal 48.58 317 *e*P **P 02 12 01.8 +0.4**
FRF pmax pmax
comp=Z,21nm,1.1s,mb5.1
FRF La Foret Royal 48.58 317 *e*P **P 02 12 01.8 +0.4**
comp=Z,21nm,1.1s,mb5.1
TANN Tannenbergstha 48.61 328 *e*P **P 02 12 01.2 -0.4**
comp=Z,61nm,2.2s,mb5.2
NVS Novosibirsk 48.63 24 *e*P **P 02 11 59.6 -2.1**
NVS *e* 02 13 51.8
NVS pmax pmax
comp=N,32nm,1.6s
NVS pmax pmax
comp=Z,26nm,1.6s,mb5.0
WERD Werda 48.71 328 *e*P **P 02 12 02.0 -0.4**
comp=Z,23nm,1.5s,mb5.0
GRA1 Grafenberg Arr 48.85 327 *e*P **P 02 12 02.3 -1.1**
comp=Z,36nm,1.8s,mb5.1
GRA1 *e*S **S 02 19 07.3 +0.5**
GRA1 LR LR
comp=Z,200nm,18.5s,MS4.1
GRA1 Grafenberg Arr 48.85 327 *e*P **P 02 12 02.3 -1.1**
comp=Z,36nm,1.8s,mb5.1
GRA1 *e*S **S 02 19 07.3 +0.5**
GRF Grafenberg Arr 48.85 327 *e*P **P 02 12 02.3 -1.1**
comp=Z,36nm,1.8s,mb5.1
GRF *e*S **S 02 19 07.3 +0.5**
GRF *e*L 02 38 38.2
comp=Z,212nm,18.5s
GRF Grafenberg Arr 48.85 327 *e*P **P 02 12 02.3 -1.1**
GRF *e*S **S 02 19 07.3 +0.5**
GRF pmax pmax
comp=Z,36nm,1.8s,mb5.1
GRF MLR MLR
comp=Z,200nm,18.5s,MS4.1
GRF Grafenberg Arr 48.85 327 *e*P **P 02 12 02.3 -1.1**
GRF *e*S **S 02 19 07.3 +0.5**
GRF pmax pmax
comp=Z,36nm,1.8s,mb5.1
GRF MLR MLR
comp=Z,200nm,18.5s,MS4.1
GRF Grafenberg Arr 48.85 327 *e*P **P 02 12 02.3 -1.1**
comp=Z,36nm,1.8s,mb5.1
GRF *e*S **S 02 19 07.3 +0.5**
GRFO Grafenberg 48.85 327 *e*P **P 02 12 02.3 -1.1**
CLL Collm 48.87 329 *e*P **P 02 12 03.2 -0.4**
comp=Z,66nm,2.2s,mb5.3
CLL Collm 48.87 329 P **P 02 12 02.6 -1.0**
comp=Z,logA/T=1.5,mb5.3
CLL *i* 02 12 13.9
CLL Collm 48.87 329 *i*P **P 02 12 02.6 -1.0**
comp=Z,65nm,2.2s,mb5.3
CLL *i* x x 02 12 13.9
CLL Collm 48.87 329 *i*P **P 02 12 02.6 -1.0**
CLL pmax pmax
comp=Z,65nm,2.2s,mb5.3
CLL MLR MLR
comp=Z,300nm,11.9s,MS4.5
CLL Collm 48.87 329 *i*P **P 02 12 02.6 -1.0**
comp=Z,65nm,2.2s,mb5.3
CLL *i* 02 12 13.9
CLL LR LR
comp=Z,300nm,11.9s,MS4.5
MBDF Montbardon 49.00 319 *e*P **P 02 12 04.8 +0.2**
comp=Z,12nm,1.0s,mb4.6
MBDF Montbardon 49.00 319 *e*P **P 02 12 04.8 +0.2**
MBDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MBDF Montbardon 49.00 319 *e*P **P 02 12 04.8 +0.2**
comp=Z,5.9nm,1.0s,mb4.6
MOX Moxa 49.18 328 *e*P **P 02 12 05.6 -0.4**
comp=Z,131nm,2.8s,mb5.5
MOX Moxa 49.18 328 *e*P **P 02 12 05.8 -0.2**
MOX pmax pmax
comp=Z,45nm,2.1s,mb5.1
MOX Moxa 49.18 328 *e*P **P 02 12 05.8 -0.2**
comp=Z,45nm,2.1s,mb5.1
RUE Ruedersdorf 49.21 331 *e*P **P 02 12 05.7 -0.5**
LPG La Plagne 49.35 320 *e*P **P 02 12 07.2 -0.1**
comp=Z,23nm,1.1s,mb4.8
LPG La Plagne 49.35 320 *e*P **P 02 12 07.2 -0.1**
LPG pmax pmax
comp=Z,12nm,1.1s,mb4.8
LPG La Plagne 49.35 320 *e*P **P 02 12 07.2 -0.1**
comp=Z,12nm,1.1s,mb4.8
LPL La Plagne 49.37 320 *e*P **P 02 12 07.1 -0.3**
SMRF Simiane la Rot 49.46 317 *e*P **P 02 12 07.8 -0.3**
comp=Z,27nm,1.1s,mb4.9
SMRF Simiane la Rot 49.46 317 *e*P **P 02 12 07.8 -0.3**
comp=Z,27nm,1.1s,mb5.2
STU Stuttgart 49.47 325 *e*P **P 02 12 07.1 -1.1**
comp=Z,21nm,1.6s,mb4.9
ORIF Oris-en-Rattie 49.65 319 *e*P **P 02 12 09.5 -0.1**
ORIF *e*R
comp=Z,306nm,22.5s
BFO Black Forest 49.74 324 *e*P **P 02 12 09.9 -0.3**
comp=Z,35nm,1.5s,mb5.2
BFO Black Forest 49.74 324 *e*P **P 02 12 09.9 -0.3**
BFO pmax pmax
comp=Z,35nm,1.5s,mb5.2
KMI Kunming 50.05 68 P **P 02 12 11.0 -1.6**
KMI PP PP 02 14 07.0 -0.5
KMI AMB AMB
comp=Z,9.0nm,0.6s,mb5.0
KMI AMB AMB
comp=Z,102nm,5.5s
KMI LR LR
comp=N,373nm,22.5s,MS4.5
KMI LR LR
comp=E,430nm,22.5s,MS4.5
KMI LR LR
comp=Z,597nm,21.5s,MS4.6
UBBA Unterbreizbach 50.13 327 *e*P **P 02 12 12.2 -1.0**
comp=Z,27nm,2.1s,mb4.9
GTA Gaotai 50.22 49 *e*P **P 02 12 12.3 -1.6**
GTA PCP PcP 02 13 35.3 +2.3
GTA PP PP 02 14 05.8 -3.4
GTA PPP 02 15 00.5
GTA AMB AMB
comp=Z,3.0nm,1.4s,mb4.1
GTA AMB AMB
comp=Z,135nm,4.6s
GTA LR LR
comp=N,217nm,18.6s,MS4.6
GTA LR LR
comp=E,510nm,19.4s,MS4.6
GTA LR LR
comp=Z,715nm,23.6s,MS4.6
CABF La Chapelle 50.26 321 *e*P **P 02 12 14.1 -0.1**
HINF Hinteralfeld 50.35 322 *e*P **P 02 12 14.6 -0.3**
CDF Champ du Feu 50.39 323 *e*P **P 02 12 14.7 -0.5**
VIVF Saint-Julien-l 50.41 318 *e*P **P 02 12 15.2 -0.1**
CLZ Clausthal 50.51 328 *e*P **P 02 12 15.9 -0.2**
comp=Z,83nm,2.4s,mb5.2
CLZ Clausthal 50.51 328 *e*P **P 02 12 15.9 -0.2**
CLZ pmax pmax
comp=Z,83nm,2.4s,mb5.2
LASF Ste Croix 50.64 317 *e*P **P 02 12 16.6 -0.4**
TNS Taunus Mts 50.64 326 *e*P **P 02 12 16.3 -0.8**
comp=Z,47nm,2.5s,mb5.0
TNS Taunus Mts 50.64 326 *e*P **P 02 12 16.3 -0.8**
TNS pmax pmax
comp=Z,47nm,2.5s,mb5.0
HAU Haudompre 50.74 322 *e*P **P 02 12 17.6 -0.2**
HAU *e*R

comp=Z,236nm,19.8s
HAU Haudompre 50.74 322 *e*P **P 02 12 17.6 -0.2**
HAU LR LR
comp=Z,240nm,19.8s,MS4.2
MTLF Montolieu 51.47 315 *e*P **P 02 12 22.9 -0.4**
FINES FINESS Array B 51.49 345 P **P 02 12 22.1 -1.4**
comp=Z,1.7nm,0.6s,mb4.1,baz=148,slow=9.5,SNR=10.0
FINES LR LR 02 38 09.4
comp=Z,306nm,19.8s,MS4.3,baz=319,slow=41
CD2 Chengdu 51.53 61 *e*P **P 02 12 22.5 -1.2**
CD2 PP PP 02 14 20.8 -0.2
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,30nm,5.6s
CD2 LR LR
comp=E,270nm,20.4s
CD2 LR LR
comp=Z,250nm,19.2s,MS4.3
JOF Joensuu 51.63 349 *e*p **P 02 12 23.8 -0.7**
WLF Walferdange 51.64 324 *e*P **P 02 12 24.4 -0.2**
comp=Z,30nm,1.4s,mb5.0
WLF Walferdange 51.64 324 *e*P **P 02 12 24.0 -0.6**
WLF pmax pmax
comp=Z,13nm,1.0s,mb4.8
WLF Walferdange 51.64 324 *e*P **P 02 12 24.0 -0.6**
comp=Z,13nm,1.0s,mb4.8
WLF Walferdange 51.64 324 P **P 02 12 25.1 +0.5**
SMF Signal de Mont 51.67 320 *e*P **P 02 12 24.4 -0.4**
MEZF Maizieres J'vi 51.74 323 *e*P **P 02 12 24.9 -0.4**
BSEG Bad Segeberg 51.75 331 *e*P **P 02 12 25.0 -0.4**
comp=Z,7.0nm,1.3s,mb4.4
BUG Bochum--Univer 51.92 327 *e*P **P 02 12 27.0 +0.4**
LOR Lormes 51.92 321 *e*P **P 02 12 26.5 -0.2**
LOR eR
comp=Z,240nm,20.2s
LOR Lormes 51.92 321 *e*P **P 02 12 26.5 -0.2**
LOR LR LR
comp=Z,240nm,20.3s,MS4.2
AVF Avril sur Loir 52.04 320 *e*P **P 02 12 27.2 -0.3**
comp=Z,26nm,1.5s,mb4.6
AVF Avril sur Loir 52.04 320 *e*P **P 02 12 27.2 -0.3**
AVF pmax pmax
comp=Z,13nm,1.5s,mb4.6
AVF Avril sur Loir 52.04 320 *e*P **P 02 12 27.2 -0.3**
comp=Z,13nm,1.5s,mb4.6
SSF Saint Saulge 52.05 320 *e*P **P 02 12 27.3 -0.4**
comp=Z,22nm,1.1s,mb4.7
SSF Saint Saulge 52.05 320 *e*P **P 02 12 27.3 -0.4**
SSF pmax pmax
comp=Z,11nm,1.1s,mb4.7
SSF Saint Saulge 52.05 320 *e*P **P 02 12 27.3 -0.4**
comp=Z,11nm,1.1s,mb4.7
CAF Calviac 52.15 317 *e*P **P 02 12 27.3 -1.0**
comp=Z,29nm,1.5s,mb4.7
CAF Calviac 52.15 317 *e*P **P 02 12 27.3 -1.0**
CAF pmax pmax
comp=Z,15nm,1.5s,mb4.7
CAF Calviac 52.15 317 *e*P **P 02 12 27.3 -1.0**
comp=Z,15nm,1.5s,mb4.7
BGF Bois d'Agland 52.26 319 *e*P **P 02 12 29.3 +0.1**
comp=Z,52nm,1.4s,mb5.0
BGF Bois d'Agland 52.26 319 *e*P **P 02 12 29.3 +0.1**
BGF pmax pmax
comp=Z,26nm,1.4s,mb5.0
BGF Bois d'Agland 52.26 319 *e*P **P 02 12 29.3 +0.1**
comp=Z,26nm,1.4s,mb5.0
BEBN Eben Emael 52.46 325 P **P 02 12 31.2 +0.5**
BEBN Eben Emael 52.46 325 P **P 02 12 31.1 +0.4**
LZH Lanzhou 52.48 54 *e*P **P 02 12 30.8 0.0**
LZH AP pP 02 12 35.3 +1.3
LZH XP sP 02 12 37.8 +2.6
LZH PP PP 02 14 31.0 +1.4
LZH AMB AMB
comp=Z,22nm,1.3s,mb4.9
BCLA Clavier 52.49 325 P **P 02 12 31.4 +0.5**
BCLA Clavier 52.49 325 P **P 02 12 31.3 +0.4**
TCF Toulx Ste Croi 52.56 319 *e*P **P 02 12 31.4 0.0**
EPF Esparros 52.66 315 *e*P **P 02 12 31.8 -0.4**
comp=Z,34nm,1.5s,mb4.8
EPF Esparros 52.66 315 *e*P **P 02 12 31.8 -0.4**
EPF pmax pmax
comp=Z,17nm,1.5s,mb4.8
EPF Esparros 52.66 315 *e*P **P 02 12 31.8 -0.4**
comp=Z,17nm,1.5s,mb4.8
DOU Dourbes 52.73 324 P **P 02 12 33.3 +0.6**
BAIF Baives 52.94 324 *e*P **P 02 12 34.2 0.0**
comp=Z,45nm,1.2s,mb5.0
BAIF Baives 52.94 324 *e*P **P 02 12 34.2 0.0**
BAIF pmax pmax
comp=Z,22nm,1.3s,mb4.9
BAIF Baives 52.94 324 *e*P **P 02 12 34.2 0.0**
comp=Z,22nm,1.3s,mb4.9
LFF La Frestale 53.03 317 *e*P **P 02 12 34.7 -0.2**
comp=Z,33nm,1.3s,mb4.8
LFF La Frestale 53.03 317 *e*P **P 02 12 34.7 -0.2**
LFF pmax pmax
comp=Z,16nm,1.3s,mb4.8
LFF La Frestale 53.03 317 *e*P **P 02 12 34.7 -0.2**
comp=Z,16nm,1.3s,mb4.8
SNF Seneffe 53.10 324 P **P 02 12 35.9 +0.5**
SNF Seneffe 53.10 324 P **P 02 12 35.8 +0.4**
UCC Uccle 53.20 325 P **P 02 12 33.6 -2.5**
UCC Uccle 53.20 325 P **P 02 12 36.2 +0.1**
UCC Uccle 53.20 325 P **P 02 12 36.2 +0.1**
ETSF Etsaut 53.25 314 *e*P **P 02 12 36.9 +0.4**
comp=Z,10nm,0.9s,mb4.5
ETSF Etsaut 53.25 314 *e*P **P 02 12 36.9 +0.4**
ETSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ETSF Etsaut 53.25 314 *e*P **P 02 12 36.9 +0.4**
comp=Z,5.3nm,0.9s,mb4.5
SJPF Ste Jean 53.78 314 *e*P **P 02 12 40.5 +0.1**
comp=Z,37nm,1.4s,mb4.8
SJPF Ste Jean 53.78 314 *e*P **P 02 12 40.5 +0.1**
SJPF pmax pmax
comp=Z,19nm,1.4s,mb4.8
SJPF Ste Jean 53.78 314 *e*P **P 02 12 40.5 +0.1**
comp=Z,19nm,1.4s,mb4.8
MFF Saint Martin d 54.19 319 *e*P **P 02 12 42.7 -0.7**
comp=Z,48nm,1.7s,mb4.8
MFF Saint Martin d 54.19 319 *e*P **P 02 12 42.7 -0.7**
MFF pmax pmax
comp=Z,24nm,1.7s,mb4.8
MFF Saint Martin d 54.19 319 *e*P **P 02 12 42.7 -0.7**
comp=Z,24nm,1.7s,mb4.8
HFS Hagfors 54.31 338 P **P 02 12 43.6 -0.7**
comp=Z,3.2nm,0.8s,mb4.3,baz=142,slow=7.4,SNR=6.1
ESDC Sonseca Array 54.88 309 P **P 02 12 48.5 +0.1**
comp=Z,5.2nm,0.8s,mb4.6,baz=89,slow=6.4,SNR=23
ESDC LR LR 02 40 44.7
comp=Z,98nm,18.2s,MS3.9,baz=40,slow=41
ESLA Sonseca Array 54.88 309 *e*P **P 02 12 48.5 +0.1**
comp=Z,26nm,1.8s,mb5.0
ESLA Sonseca Array 54.88 309 *e*P **P 02 12 48.5 +0.1**
comp=Z,26nm,1.8s,mb5.0
LDF La Druitiere 54.91 321 *e*P **P 02 12 48.2 -0.4**
FLN La Foliniere 55.19 321 *e*P **P 02 12 50.2 -0.4**
comp=Z,33nm,1.2s,mb4.9
FLN eR
comp=Z,312nm,19.5s
FLN La Foliniere 55.19 321 *e*P **P 02 12 50.2 -0.4**
FLN pmax pmax
comp=Z,16nm,1.2s,mb4.9
FLN MLR MLR
comp=Z,310nm,19.5s,MS4.4
FLN La Foliniere 55.19 321 *e*P **P 02 12 50.2 -0.4**
comp=Z,16nm,1.2s,mb4.9
FLN LR LR
comp=Z,310nm,19.5s,MS4.4
GRR Gorron 55.28 320 *e*P **P 02 12 51.0 -0.3**
DBIC Dimbokro 55.30 269 LR LR 02 34 54.7
comp=Z,347nm,21.3s,MS4.4,baz=67,slow=34
NAO01 NORSAR Array S 55.82 338 *e*P **P 02 12 55.0 -0.2**
comp=Z,6.1nm,0.9s,mb4.6
NAO01 NORSAR Array S 55.82 338 *e*P **P 02 12 55.0 -0.2**
comp=Z,6.1nm,0.9s,mb4.6
NB2 NORSAR Subarra 55.82 338 P **P 02 12 53.5 -1.7**
comp=Z,16nm,1.4s,mb4.9,baz=133,slow=7.4
NOA NORSAR Array B 55.82 338 P **P 02 12 54.0 -1.2**
comp=Z,1.8nm,1.0s,mb4.1,baz=125,slow=7.6,SNR=6.4
NOA PcP PcP 02 13 53.5 -0.6
comp=Z,1.2nm,0.8s,baz=125,slow=3.5,SNR=3.9
ZAK Zakamensk 56.28 38 *e*P **P 02 12 58.0 -0.5**
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
SGMF Saint Gilles 56.30 320 *e*P **P 02 12 58.6 0.0**
comp=Z,44nm,1.2s,mb5.0
SGMF Saint Gilles 56.30 320 *e*P **P 02 12 58.6 0.0**
SGMF pmax pmax
comp=Z,22nm,1.2s,mb5.1
SGMF Saint Gilles 56.30 320 *e*P **P 02 12 58.6 0.0**
comp=Z,22nm,1.2s,mb5.1
QUIF Quistinic 56.57 319 *e*P **P 02 12 59.8 -0.8**
QIZ Qiongzhong 56.63 76 P **P 02 12 58.3 -2.7**
QIZ S **S 02 20 51.5 -1.6**
QIZ AMB AMB
comp=Z,16nm,1.4s,mb4.9
QIZ LR LR
comp=E,302nm,25.6s
QIZ LR LR
comp=Z,344nm,36.7s
ROSF Rostrenen 56.78 320 *e*P **P 02 13 01.9 -0.1**
TLY Talaya 56.99 36 *e*P **P 02 13 04.1 +0.6**
TLY pmax pmax
comp=Z,9.0nm,2.1s,mb4.4
TLY MLR MLR
comp=Z,697nm,24.0s,MS4.7
SONM Songino Array 57.34 41 P **P 02 13 05.6 -0.4**
comp=Z,6.1nm,0.9s,mb4.6,baz=246,slow=5.3,SNR=30
SONM LR LR 02 41 06.9
comp=Z,261nm,21.8s,MS4.3,baz=238,slow=40
PBRG Braganca 57.40 311 *e*P **P 02 13 07.4 +1.0**
comp=Z,26nm,2.1s,mb4.9
PBEJ Beja 57.56 307 *e*P **P 02 13 08.3 +0.8**
comp=Z,21nm,1.8s,mb4.9
PCBR Castelo Branco 57.56 309 *e*P **P 02 13 08.3 +0.7**
ULN Ulaanbaatar 57.77 41 *e*P **P 02 13 08.9 -0.1**
ULN pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ULN Ulaanbaatar 57.77 41 *e*P **P 02 13 08.9 -0.1**
comp=Z,6.1nm,0.9s,mb4.6
ULN Ulaanbaatar 57.77 41 *e*P **P 02 13 08.9 -0.1**
comp=Z,6.1nm,0.9s,mb4.6
PVRL Vila Real 58.01 311 *e*P **P 02 13 11.7 +1.0**
comp=Z,41nm,1.8s,mb5.2
PVIS Viseu 58.03 310 *e*P **P 02 13 11.8 +0.9**
comp=Z,24nm,1.4s,mb5.0
PTOM Tomar 58.23 309 *e*P **P 02 13 13.2 +0.9**
comp=Z,25nm,1.8s,mb4.9
PCAB Cabril 58.32 311 *e*P **P 02 13 14.1 +1.2**
KEV Kevo 58.56 350 *e*p **P 02 13 13.3 -1.2**
ARCES ARCESS Array B 58.62 350 P **P 02 13 15.0 0.0**
comp=Z,5.1nm,0.9s,mb4.5,baz=140,slow=7.7,SNR=8.8
ARCES LR LR 02 41 15.1
comp=Z,1μm,20.8s,MS5.0,baz=145,slow=39
HHC Hu-ho-hao-te 59.31 50 *e*P **P 02 13 20.8 +1.0**
HHC AMB AMB
comp=Z,13nm,0.5s,mb5.2
HHC AMB AMB
comp=Z,203nm,4.4s
HHC LR LR
comp=N,529nm,29.1s,MS4.6
HHC LR LR
comp=E,406nm,25.0s,MS4.6
HHC LR LR
comp=Z,753nm,26.2s,MS4.7
NJ2 Nanjing 64.46 61 *e*P **P 02 13 54.5 +0.1**
NJ2 AP pP 02 14 05.0 +7.3
NJ2 XP sP 02 14 08.3 +9.4
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,130nm,4.0s
NJ2 LR LR
comp=N,330nm,14.6s
NJ2 LR LR
comp=E,210nm,20.2s
NJ2 LR LR
comp=Z,2μm,18.0s,MS5.4
SSE Sheshan 66.47 62 P **P 02 14 05.5 -1.9**
SSE AMB AMB
comp=Z,22nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,130nm,4.6s
SNY Shenyang 68.40 50 ⇓P **P 02 14 19.0 -0.7**
SNY AP pP 02 14 29.3 +6.4
SNY XP sP 02 14 33.5 +9.4
SNY AMB AMB
comp=Z,20nm,0.5s,mb5.4
SNY AMB AMB
comp=Z,200nm,3.9s
SNY LR LR
comp=N,290nm,23.9s,MS4.7
SNY LR LR
comp=E,462nm,22.7s,MS4.7
SNY LR LR
comp=Z,491nm,19.0s,MS4.8
CN2 Changchun 69.82 48 *e*P **P 02 14 29.0 +0.5**
CN2 eXP sP 02 14 35.5 +2.6
CN2 PCP PcP 02 14 51.5 +0.5
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,600nm,21.0s,MS4.9
CN2 LR LR
comp=E,300nm,21.0s,MS4.9
CN2 LR LR
comp=Z,200nm,21.0s,MS4.3
DAG Danmarks Havn 72.67 347 ⇓ *i*P **P 02 14 44.5 -1.2**
comp=Z,5.2nm,0.8s,mb4.5
DAG Danmarks Havn 72.67 347 ⇓ *e*P **P 02 14 44.5 -1.2**
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
DAG Danmarks Havn 72.67 347 ⇓ *e*P **P 02 14 44.5 -1.2**
comp=Z,5.2nm,0.8s,mb4.5
MDJ Mudanjiang 72.80 47 P **P 02 14 45.8 -0.7**
MDJ AMB AMB
comp=Z,68nm,0.9s,mb5.6
MDJ AMB AMB
comp=Z,210nm,3.9s
MDJ LR LR
comp=N,275nm,22.1s,MS4.5
MDJ LR LR
comp=E,63nm,23.8s,MS4.5
MDJ LR LR
comp=Z,277nm,23.8s,MS4.5
MDJ Mudanjiang 72.80 47 *e*P **P 02 14 46.0 -0.5**
comp=Z,55nm,0.9s,mb5.5
SUMG Summit 77.39 342 *e*P **P 02 15 12.4 -0.6**
comp=Z,26nm,1.1s,mb5.1
MJAR Matsushiro Arr 80.09 55 LR LR 02 53 25.8
comp=Z,234nm,21.4s,MS4.5,baz=280,slow=38
MAW Mawson 80.99 175 LR LR 02 47 03.4
comp=Z,358nm,18.3s,MS4.8,baz=267,slow=32
WRA Warramunga Arr 88.30 111 P **P 02 16 08.8 -0.8**
comp=Z,9.8nm,1.0s,mb5.0,baz=300,slow=4.0,SNR=6.7
WRA Warramunga Arr 88.30 111 *i* P **P 02 16 09.8 +0.3**
WRA pmax pmax
comp=Z,10.0nm,1.0s
ASAR Alice Springs 88.85 114 P **P 02 16 12.2 0.0**
comp=Z,6.2nm,1.0s,mb4.9,baz=288,slow=5.0,SNR=8.5
ASAR LR LR 02 49 21.4
comp=Z,199nm,21.8s,MS4.5,baz=89,slow=31
NVAR Mina Array Bea 127.73 349 PKP PKPdf 02 22 24.4 +1.0
comp=Z,1.0nm,0.8s,baz=30,slow=1.5,SNR=4.5

*ORF **29** 02:02:29.7, 2103S×179.76E, h30km, mb6.5*
*IDC **29** 02:03:30.7±0.8, 2215S×179.41W, h592km±8km, mb4.6/21, mb1 4.6/23, mb1mx4.6/23, mbtmp5.5/23, Error ellipse: s-maj=10.5km s-min=9.4km az=92.0*
*CRAAG **29** 02:03:30.4, 22.13S×179.58W, Mb5.3*
*ISCJB **29** 02:03:31.8±0.6, 22.29S×0.004×179.62W±0.03, h614km±8km, mb5.2/127, Error ellipse: s-maj=6.6km s-min=3.9km az=138.9*
*MOS **29** 02:03:31.3±0.8, 2201S×179.58W, h599km, mb5.3/41, Error ellipse: s-maj=9.4km s-min=7.6km az=71.6*
*BJI **29** 02:03:32.0, 2188S×179.22W, h614km, mB5.1, mb5.2*
*NEIC **29** 02:03:33.2±0.4, 2225S×179.58W, h622km±5km, mb5.3/88, Error ellipse: s-maj=4.8km s-min=3.6km az=129.0*
*SZGRF **29** 02:03:33.5, 2188S×178.69W, h600km, Fiji Islands region*
*HRVD **29** 02:03:33.2±0.2, 22.17S×179.37W, h628km±2km, MW5.5/82, Centroid moment Tensor Solution. LP body waves: s82,c133; Half duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr=2.10±.05; Mθθ 0.57±.08; Mϕϕ 1.52±.09; Mrθ -0.71±.09; Mθϕ -0.06±.08; Mϕr 0.53±.09; Best double couple: M0 1.98100×10^17 NP1:ϕ8 4.00000°, δ37.00000°, λ-70.00000°. NP2:ϕ8 160.00000°, δ56.00000°, λ-104.00000°. Principal axes: T 1.6220, Plg10.0000°, Azm260.0000°; N 0.7110, Plg12.0000°, Azm168.0000°; P -2.3400, Plg75.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s.*
*BGS **29** 02:03:33.4±1.8, 2225S×179.58W, h622km, mb5.3(NEIC)*
ISC 29 02:03:32.0±0.6, 2226S±004×17956W±003, h600km±7km, h615km±3.7km; pP-P, n1092, σ0 86/536, mb5.2/126, 141C-184D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**7.12**	**168**	P	**P**	**02 05 23.5**	**+0.5**
	1μm,0.3s,baz=37,slow=1.1,SNR=56						
RAO				S	**S**	**02 06 49.5**	**-4.5**
	116nm,0.3s,baz=262,slow=23,SNR=5.6						
RAO	**Raoul Island**	**7.12**	**168**	*e*P	**P**	**02 05 26.1**	**+3.0**
RAO				*e*S	**S**	**02 06 53.2**	**-0.8**
RAO				pmax	pmax		
	comp=Z,4μm,0.3s						
RAO	**Raoul Island**	**7.12**	**168**	*e*Pn	**P**	**02 05 26.1**	**+3.1**
	comp=Z,4μm,0.3s						
RAO				*e*S	**S**	**02 06 53.2**	**-0.8**
AFI	**Afiamalu**	**11.12**	**43**	P	**P**	**02 05 57.8**	**-4.0**
	comp=Z,52nm,0.3s,baz=28,slow=4.5,SNR=49						
AFI				S	**S**	**02 07 54.5**	**-10**
	comp=Z,18nm,0.3s,baz=18,slow=22,SNR=5.6						
AFI	**Afiamalu**	**11.12**	**43**	P	**P**	**02 05 57.8**	**-4.0**
AFI				S	**S**	**02 07 54.5**	**-10**
AFI				pmax	pmax		
	comp=Z,52nm,0.3s						
AFI				smax			
	comp=E,18nm,0.3s						
AFI	**Afiamalu**	**11.12**	**43**	*e*P	**P**	**02 05 57.2**	**-4.6**
	comp=E,458nm,0.7s						
AFI				*e*S	**S**	**02 07 55.2**	**-10**
DZM	**Mont Dzumac**	**12.97**	**268**	*e*P	**P**	**02 06 20.9**	**+0.5**
DZM	**Mont Dzumac**	**12.97**	**268**	P	**P**	**02 06 21.0**	**+0.6**
	comp=E,17nm,0.3s,baz=81,slow=18,SNR=41						
DZM				ScP	ScP	02 13 41.3	+2.1
	comp=E,0.2nm,0.3s,baz=115,slow=21,SNR=4.4						
NOUC	**Port Laguerre**	**13.10**	**268**	*e*P	**P**	**02 06 21.9**	**+0.2**
FUNA	**Funafuti**	**13.70**	**355**	*e*P	**P**	**02 06 25.6**	**-2.2**
WCZ	**Waipu Caves**	**14.63**	**200**	PN	**P**	**02 06 39.1**	**+2.4**
WCZ	**Waipu Caves**	**14.63**	**200**	*e*P	**P**	**02 06 39.4**	**+2.7**
KUZ	**Kuaotunu**	**15.01**	**195**	PN	**P**	**02 06 41.8**	**+1.7**
KUZ	**Kuaotunu**	**15.01**	**195**	P	**P**	**02 06 41.8**	**+1.6**
MTAZ	**Motutapu**	**15.25**	**197**	PN	**P**	**02 06 44.7**	**+2.2**
MTAZ	**Motutapu**	**15.25**	**197**	*e*P	**P**	**02 06 44.7**	**+2.3**
KAAZ	**Kauri Point**	**15.35**	**198**	PN	**P**	**02 06 45.9**	**+2.6**
KAAZ	**Kauri Point**	**15.35**	**198**	P	**P**	**02 06 46.1**	**+2.9**
MXZ	**Matakaoa Point**	**15.37**	**186**	PN	**P**	**02 06 41.8**	**-1.6**
MXZ	**Matakaoa Point**	**15.37**	**186**	P	**P**	**02 06 42.1**	**-1.3**
OTAZ	**Otara**	**15.40**	**197**	PN	**P**	**02 06 46.2**	**+2.4**
OTAZ	**Otara**	**15.40**	**197**	*e*P	**P**	**02 06 46.2**	**+2.4**
WIZ	**White Island**	**15.48**	**190**	PN	**P**	**02 06 46.7**	**+2.3**
WIZ	**White Island**	**15.48**	**190**	P	**P**	**02 06 46.7**	**+2.2**
WTAZ	**Waiatarua**	**15.48**	**198**	PN	**P**	**02 06 47.0**	**+2.5**
WTAZ	**Waiatarua**	**15.48**	**198**	P	**P**	**02 06 47.0**	**+2.5**
MKAZ	**Moumakai**	**15.49**	**196**	PN	**P**	**02 06 46.9**	**+2.3**
MKAZ	**Moumakai**	**15.49**	**196**	P	**P**	**02 06 46.9**	**+2.3**
PUZ	**Puketiti**	**15.88**	**186**	PN	**P**	**02 06 46.7**	**-1.5**
PUZ	**Puketiti**	**15.88**	**186**	*e*P	**P**	**02 06 47.1**	**-1.0**
URZ	**Urewera**	**16.21**	**189**	P	**P**	**02 06 48.7**	**-2.4**
	comp=E,61nm,0.3s,baz=284,slow=2.8,SNR=182						
URZ				S	**S**	**02 09 26.8**	**-6.6**
	comp=E,3.9nm,0.3s,baz=222,slow=21,SNR=8.4						
URZ				ScP	ScP	02 13 43.6	-1.4
	comp=E,1.7nm,0.3s,baz=314,slow=1.5,SNR=6.9						
URZ	**Urewera**	**16.21**	**189**	PN	**P**	**02 06 48.6**	**-2.6**
URZ				SN	**S**	**02 09 26.8**	**-6.6**
URZ	**Urewera**	**16.21**	**189**	P	**P**	**02 06 48.6**	**-2.5**
MWZ	**Matawai**	**16.22**	**188**	PN	**P**	**02 06 49.3**	**-1.9**
MWZ	**Matawai**	**16.22**	**188**	*e*P	**P**	**02 06 49.3**	**-2.0**
TAZ	**Tarawera**	**16.28**	**191**	PN	**P**	**02 06 52.2**	**+0.4**
TAZ	**Tarawera**	**16.28**	**191**	P	**P**	**02 06 52.5**	**+0.7**
PATZ	**Paeroa**	**16.47**	**192**	PN	**P**	**02 06 53.9**	**+0.3**
PATZ	**Paeroa**	**16.47**	**192**	P	**P**	**02 06 54.2**	**+0.7**
KNZ	**Kokohu**	**16.88**	**187**	PN	**P**	**02 06 57.0**	**-0.3**
KNZ	**Kokohu**	**16.88**	**187**	*e*P	**P**	**02 06 56.9**	**-0.4**
BKZ	**Black Stump Fm**	**17.19**	**190**	PN	**P**	**02 06 57.6**	**-2.5**
BKZ				SN	**S**	**02 09 42.0**	**-7.4**
BKZ	**Black Stump Fm**	**17.19**	**190**	*e*P	**P**	**02 06 58.1**	**-2.1**
WNVZ	**Wahianoa**	**17.51**	**193**	*e*PN	**P**	**02 07 01.1**	**-2.0**
WNVZ	**Wahianoa**	**17.51**	**193**	P	**P**	**02 07 01.4**	**-1.7**
PXZ	**Pawanui**	**17.98**	**189**	PN	**P**	**02 07 05.9**	**-1.4**
WAZ	**Wanganui**	**18.05**	**194**	PN	**P**	**02 07 07.5**	**-0.5**
WAZ	**Wanganui**	**18.05**	**194**	*e*P	**P**	**02 07 07.9**	**-0.1**
TSZ	**Takapari Road**	**18.15**	**191**	PN	**P**	**02 07 08.1**	**-0.8**
TSZ	**Takapari Road**	**18.15**	**191**	P	**P**	**02 07 07.6**	**-1.3**
MRZ	**Mangatainoka R**	**18.81**	**192**	PN	**P**	**02 07 12.7**	**-2.2**
MRZ	**Mangatainoka R**	**18.81**	**192**	P	**P**	**02 07 12.8**	**-2.0**
KIW	**Kapiti Island**	**19.13**	**193**	PN	**P**	**02 07 16.7**	**-1.1**
KIW	**Kapiti Island**	**19.13**	**193**	P	**P**	**02 07 16.7**	**-1.1**
CAW	**Cannon Point**	**19.34**	**192**	PN	**P**	**02 07 18.5**	**-1.2**
CAW	**Cannon Point**	**19.34**	**192**	P	**P**	**02 07 18.5**	**-1.1**
TCW	**Tory Channel**	**19.60**	**194**	PN	**P**	**02 07 21.6**	**-0.5**
TCW	**Tory Channel**	**19.60**	**194**	P	**P**	**02 07 21.6**	**-0.5**
SNZO	**South Karori**	**19.60**	**193**	PN	**P**	**02 07 21.5**	**-0.5**
SNZO	**South Karori**	**19.60**	**193**	P	**P**	**02 07 21.5**	**-0.6**
QRZ	**Quartz Range**	**19.69**	**198**	PN	**P**	**02 07 23.3**	**+0.5**
QRZ	**Quartz Range**	**19.69**	**198**	*e*P	**P**	**02 07 23.3**	**+0.5**
NNZ	**Nelson**	**19.82**	**196**	PN	**P**	**02 07 23.1**	**-0.9**
NNZ				SN	**S**	**02 10 27.8**	**-3.8**
NNZ	**Nelson**	**19.82**	**196**	*e*P	**P**	**02 07 23.1**	**-0.9**
BSWZ	**Blackbirch Sta**	**20.17**	**194**	PN	**P**	**02 07 27.2**	**0.0**
BSWZ	**Blackbirch Sta**	**20.17**	**194**	*e*P	**P**	**02 07 27.2**	**0.0**
THZ	**Tophouse**	**20.45**	**196**	PN	**P**	**02 07 29.1**	**-0.7**
THZ				SN	**S**	**02 10 37.7**	**-3.9**
THZ	**Tophouse**	**20.45**	**196**	P	**P**	**02 07 29.1**	**-0.6**
DSZ	**Denniston Nort**	**20.75**	**198**	PN	**P**	**02 07 32.3**	**-0.1**
DSZ	**Denniston Nort**	**20.75**	**198**	P	**P**	**02 07 32.3**	**0.0**
KHZ	**Kahutara**	**20.92**	**194**	PN	**P**	**02 07 32.6**	**-1.3**
KHZ	**Kahutara**	**20.92**	**194**	*e*P	**P**	**02 07 32.6**	**-1.3**
RPZ	**Rata Peaks**	**22.77**	**198**	P	**P**	**02 07 49.9**	**-0.5**
	comp=E,44nm,0.7s,mb5.2,baz=20,slow=2.8,SNR=16						
RPZ				ScP	ScP	02 13 59.2	-1.2
	comp=E,34nm,1.0s,baz=255,slow=2.4,SNR=5.8						
FOZ	**Fox Glacier**	**23.05**	**200**	PN	**P**	**02 07 51.7**	**-1.1**
FOZ	**Fox Glacier**	**23.05**	**200**	*e*P	**P**	**02 07 51.7**	**-1.2**
LBZ	**Lake Benmore**	**23.64**	**199**	PN	**P**	**02 07 56.7**	**-1.4**
LBZ	**Lake Benmore**	**23.64**	**199**	*e*P	**P**	**02 07 56.7**	**-1.4**
JCZ	**Jackson Bay**	**23.81**	**201**	PN	**P**	**02 07 59.7**	**+0.1**
JCZ	**Jackson Bay**	**23.81**	**201**	*e*P	**P**	**02 07 59.8**	**+0.2**
WKZ	**Wanaka**	**24.39**	**200**	PN	**P**	**02 08 04.3**	**-0.5**
WKZ	**Wanaka**	**24.39**	**200**	*e*P	**P**	**02 08 04.5**	**-0.3**
EAZ	**Earnscleugh**	**24.67**	**199**	PN	**P**	**02 08 07.1**	**-0.1**
EAZ	**Earnscleugh**	**24.67**	**199**	P	**P**	**02 08 07.1**	**-0.1**
ARMA	**Armidale**	**27.01**	**246**	⇑ *i*P	**P**	**02 08 30.1**	**+2.3**
ARMA				*e*SCP	ScP	02 14 16.1	+3.5
RIV	**Riverview**	**28.20**	**239**	*e*P	**P**	**02 08 40.0**	**+1.9**
PPT	**Papeete**	**28.55**	**86**	P	**P**	**02 08 38.8**	**-2.4**
	comp=E,129nm,0.3s,mb6.0,baz=188,slow=18,SNR=4.7						
CNB	**Canberra Magne**	**30.05**	**237**	*e*P	**P**	**02 08 55.9**	**+1.9**
	comp=E,68nm,0.6s,mb5.5						
CNB				*e*SCP	ScP	02 14 25.4	+3.1
PMOR	**Pomariorio Ree**	**30.82**	**82**	*e*P	**P**	**02 09 00.1**	**-0.5**
	comp=E,89nm,0.8s,mb5.4						
VAH	**Vaihoa**	**30.99**	**83**	*e*P	**P**	**02 09 01.3**	**-0.8**
	comp=E,108nm,0.8s,mb5.5						
CTA	**Charters Tower**	**31.91**	**267**	⇑ *i*P	**P**	**02 09 10.9**	**+1.0**
	comp=E,63nm,0.5s,mb5.5						
CTA				*e*PCP	PcP	02 11 42.1	+0.7
CTA				*e*S	**S**	**02 13 40.5**	**+0.7**
CTA				*e*SCP	ScP	02 14 30.8	+2.2
CTA				*e*SCS	ScS	02 18 31.0	+2.1
CTA	**Charters Tower**	**31.91**	**267**	P	**P**	**02 09 11.0**	**+1.1**
	comp=E,83nm,0.5s,mb5.6,baz=94,slow=10,SNR=195						
CTA				PcP	PcP	02 11 40.9	-0.5
	comp=E,31nm,0.8s,baz=86,slow=3.4,SNR=5.2						
CTA				S	**S**	**02 13 40.7**	**+0.8**
	comp=E,7.4nm,0.9s,baz=245,slow=16,SNR=9.3						
CTA				ScP	ScP	02 14 29.9	+1.3
	comp=E,22nm,1.0s,baz=165,slow=1.8,SNR=8.6						
CTA	**Charters Tower**	**31.91**	**267**	⇑ *i*P	**P**	**02 09 10.9**	**+1.0**
CTA				*e*		02 11 42.1	
CTA				*e*S	**S**	**02 13 40.5**	**+0.7**
CTA				*e*		02 18 31.0	
CTA				pmax	pmax		
	comp=Z,63nm,0.5s						
CTAO	**Charters Tower**	**31.91**	**267**	⇑ *e*P	**P**	**02 09 10.8**	**+0.9**

CTAO *e* 02 11 41.9
CTAO pmax pmax
comp=Z,94nm,0.6s,mb5.6
CTAO Charters Tower 31.91 267⇑*e*P P 02 09 10.8 +0.9
comp=Z,94nm,0.6s,mb5.6
CTAO *e*PcP PcP 02 11 41.9 +0.5
TOO Toolangi 33.70 235 *e*P P 02 09 26.1 +1.2
comp=Z,38nm,0.6s,mb5.2
TOO Toolangi 33.70 235 *e*P P 02 09 26.1 +1.2
TOO pmax pmax
comp=Z,38nm,0.6s,mb5.2
TAU Tasmania Unive 34.36 225 P P 02 09 32.6 +2.2
comp=Z,395nm,0.6s,mb6.2,SNR=5.4
PMG Port Moresby 34.38 286 PcP PcP 02 11 49.2 +0.7
comp=Z,27nm,0.9s,baz=330,slow=20,SNR=3.3
PMG S **S 02 14 17.2 +0.1**
comp=Z,8.6nm,0.8s,baz=345,slow=20,SNR=9.9
PMG ScP ScP 02 14 39.5 +2.2
comp=Z,20nm,0.9s,baz=74,slow=4.0,SNR=4.6
PMG Port Moresby 34.38 286 *e*P P 02 09 31.3 +0.7
PMG Port Moresby 34.38 286⇑*i*P P 02 09 30.9 +0.4
comp=Z,138nm,1.0s,mb5.5
STKA Stephens Creek 35.73 246⇑*i*P P 02 09 43.0 +1.2
comp=Z,41nm,1.0s,mb4.9
STKA *e*SCP ScP 02 14 44.8 +2.5
STKA *e*SCS ScS 02 18 50.7 +1.2
STKA Stephens Creek 35.73 246 P P 02 09 43.0 +1.2
comp=Z,48nm,0.8s,mb5.0,baz=90,slow=9.1,SNR=44
STKA ScP ScP 02 14 43.7 +1.4
comp=Z,26nm,0.9s,baz=42,slow=3.4,SNR=12
TAOE Nuku Hiva Isla 40.10 77 *e*P P 02 10 16.4 -0.8
comp=Z,448nm,1.3s,mb5.8
AS31 Alice Springs 42.72 259 *e*P P 02 10 38.2 +0.5
AS31 *e*ScP ScP 02 15 12.3 +2.7
AS31 *e*S **S 02 16 18.3 -0.7**
AS31 *e*ScS ScS 02 19 33.2 +1.8
ASAR Alice Springs 42.72 259 P P 02 10 38.4 +0.7
comp=Z,50nm,0.7s,mb5.2,baz=85,slow=7.7,SNR=330
ASAR PcP PcP 02 12 13.8 -1.4
comp=Z,16nm,0.6s,baz=104,slow=4.5,SNR=9.6
ASAR ScP ScP 02 15 11.6 +2.0
comp=Z,10.0nm,0.9s,baz=103,slow=3.9,SNR=10.0
ASAR S **S 02 16 18.6 -0.4**
comp=Z,19nm,0.9s,baz=94,slow=16,SNR=26
ASAR Alice Springs 42.72 259 P P 02 10 38.4 +0.7
ASAR 02 12 13.8
ASAR S **S 02 16 18.6 -0.4**
ASPA Alice Springs 42.73 259 *e*P P 02 10 38.2 +0.4
ASPA *e*SCP ScP 02 15 12.3 +2.7
ASPA *e*S **S 02 16 18.3 -0.8**
ASPA *e*SCS ScS 02 19 33.2 +1.7
WB2 Warramunga Arr 42.93 264⇑*i*P P 02 10 39.4 0.0
WB2 *e*SCP ScP 02 15 13.1 +2.6
WB2 *e*S **S 02 16 19.0 -3.0**
WB2 *e*SCS ScS 02 19 35.3 +2.5
WRAB Tennant Creek 42.94 264 P P 02 10 39.0 -0.4
comp=Z,488nm,0.7s,mb6.1
WRAB Tennant Creek 42.94 264 *e*P P 02 10 39.3 -0.1
WRAB *e*S **S 02 16 19.6 -2.5**
WRAB pmax pmax
comp=Z,157nm,1.0s,mb5.5
WRAB Tennant Creek 42.94 264 *e*P P 02 10 39.3 -0.1
comp=Z,157nm,1.0s,mb5.5
WRAB *e*ScP ScP 02 15 12.3 +1.9
WRAB *e*S **S 02 16 19.6 -2.4**
WRA Warramunga Arr 42.95 264 P P 02 10 39.5 0.0
comp=Z,47nm,0.2s,mb5.6,baz=96,slow=8.2,SNR=1131
WRA PcP PcP 02 12 16.3 +0.3
comp=Z,9.7nm,0.8s,baz=96,slow=4.0,SNR=8.1
WRA ScP ScP 02 15 12.1 +1.6
comp=Z,33nm,1.0s,baz=100,slow=4.3,SNR=21
WRA S **S 02 16 20.6 -1.6**
comp=Z,18nm,1.1s,baz=97,slow=14,SNR=16
WRA Warramunga Arr 42.95 264 P P 02 10 39.5 0.0
WRA 02 12 16.3
WRA S **S 02 16 20.6 -1.6**
KAKA Kakadu 46.59 273⇑*i*P P 02 11 07.3 0.0
comp=Z,31nm,0.2s,mb5.5
KAKA *e*SCP ScP 02 15 27.4 +1.8
KAKA *e*S **S 02 17 06.7 -6.5**
FORT Forrest 47.28 248 *e*P P 02 11 12.6 +0.2
comp=Z,63nm,0.6s,mb5.3
FORT *e*SCP ScP 02 15 29.7 +1.2
FORT *e*S **S 02 17 21.0 -1.7**
GUMO Guam 49.85 312 P P 02 11 31.2 -0.2
comp=Z,83nm,0.8s,mb5.2,baz=168,slow=8.1,SNR=7.9
GUMO Guam 49.85 312 P **P 02 11 31.2 -0.2**
GUMO pmax pmax
comp=Z,83nm,0.9s,mb5.2
FITZ Fitzroy Crossi 51.38 264⇓*i*P P 02 11 43.2 +0.7
comp=Z,9.9nm,0.3s,mb4.7
FITZ *e*SCP ScP 02 15 48.1 +2.0
FITZ *e*S **S 02 18 19.0 +0.8**
FITZ Fitzroy Crossi 51.38 264 ScP ScP 02 15 47.8 +1.7
comp=Z,9.1nm,1.1s,baz=73,slow=3.1,SNR=5.6
FITZ S **S 02 18 18.7 +0.5**
comp=Z,14nm,1.3s,baz=275,slow=23,SNR=12
KLBR Kellerberrin 56.01 246⇓*i*P P 02 12 15.2 +0.2
comp=Z,44nm,0.7s,mb4.8
SBA Scott Base 56.03 183 *e*P P 02 12 17.0 +1.8
SBA pmax pmax
comp=Z,62nm,0.9s,mb4.8
SBA Scott Base 56.03 183 *e*P P 02 12 17.0 +1.7
comp=Z,62nm,0.9s,mb4.8
VNDA Vanda 56.04 185 P P 02 12 15.9 +0.6
comp=Z,16nm,0.8s,mb4.3,baz=358,slow=7.4,SNR=60
VNDA ScP ScP 02 16 05.9 -0.7
comp=Z,6.2nm,0.9s,baz=354,slow=3.6,SNR=5.4
VNDA Vanda 56.04 185 P P 02 12 15.9 +0.6
VNDA 02 16 05.9
VNDA pmax pmax
comp=Z,16nm,0.8s
VNDA pmax pmax
comp=E,6.0nm,0.9s
VNDA Vanda 56.04 185 *e*P P 02 12 16.5 +1.2
comp=E,22nm,0.9s,mb4.4
VNDA *e*ScP ScP 02 16 05.3 -1.3
MUN Mundaring 57.27 245 *e*P P 02 12 24.4 +0.8
CBIJ Chichi jima 61.45 321 P **P 02 12 50.9 -0.5**
comp=E,71nm,0.7s,mb5.0,baz=218,slow=5.5,SNR=8.8
CASY Casey 61.76 206 *e*P P 02 12 53.5 +0.1
JHJ Hachijo jima 2 67.35 324 P **P 02 13 28.1 -0.4**
comp=E,98nm,0.4s,mb5.5,baz=139,slow=13,SNR=5.2
QSPA South Pole Qui 67.82 180 *e*P P 02 13 32.1 +0.7
comp=E,95nm,0.9s,mb5.2
KKM Kota Kinabalu 68.82 286 P **P 02 13 39.3 +1.8**
KKM Kota Kinabalu 68.82 286 *e*P P 02 13 37.5 0.0
JOW Kunigami 70.20 311 P **P 02 13 46.3 +0.6**
comp=E,65nm,0.7s,mb5.2,baz=148,slow=6.9,SNR=23
MJAR Matsushiro Arr 70.78 325 P 02 13 48.3 -0.8
comp=E,38nm,0.8s,mb5.0,baz=159,slow=5.7,SNR=74
MAJO Matsushiro 70.78 325⇓*i*P P 02 13 48.2 -0.9
MAJO pmax pmax
comp=Z,44nm,0.9s,mb5.0
MAJO Matsushiro 70.78 325⇓*i*P P 02 13 48.2 -0.9
comp=Z,44nm,0.9s,mb5.0
MAT Matsushiro 70.78 325 P **P 02 13 48.4 -0.7**
MAT Matsushiro 70.78 325 *e*P P 02 13 48.0 -1.1
MAT pmax pmax
comp=Z,40nm,0.9s,mb5.0
MAT Matsushiro 70.78 325 *e*P P 02 13 48.0 -1.1
comp=Z,40nm,0.9s,mb4.9
KSM Kuching 72.23 279 *e*P P 02 13 57.0 -0.4
AMKA Amchitka 73.32 359 *e*P P 02 14 02.1 -1.6
NACB Ninganchiao 73.47 305 *e*P P 02 14 03.5 -1.1
YHNB Yeheng 73.92 306 *e*P P 02 14 06.4 -0.7
TATO Taipei 74.00 306 *e*P P 02 14 06.8 -0.8
comp=Z,36nm,0.6s,mb5.1
ASAJ Asahikawa 74.59 333 P P 02 14 11.2 +0.3
comp=Z,63nm,0.8s,mb5.2,baz=217,slow=6.4,SNR=45
ASAJ Asahikawa 74.59 333 P **P 02 14 11.2 +0.3**
ASAJ pmax pmax
comp=Z,63nm,0.8s
NIKO Nikolski 75.49 7 *e*P P 02 14 13.7 -2.2
QZH Quanzhou 76.18 304⇑*i*P P 02 14 21.0 +1.3
QZH S S 02 23 15.3 -0.7
QZH AMB AMB
comp=Z,160nm,0.8s,mb5.5
YSS Yuzh-Sakhalins 76.83 335⇓*e*P P 02 14 23.0 -0.2
YSS *e* 02 23 24.0
YSS pmax pmax
comp=Z,100nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 76.83 335⇓*i*P P 02 14 23.3 +0.1
comp=Z,198nm,1.3s,mb5.4
PET Petropavlovsk 77.32 347*d*iP P 02 14 24.3 -1.6
PET pmax pmax
comp=Z,165nm,2.1s,mb5.1
PET Petropavlovsk 77.32 347⇓*i*P P 02 14 24.1 -1.8
comp=Z,17nm,0.6s,mb4.6
SSE Sheshan 77.71 311 P **P 02 14 28.0 0.0**
SSE S S 02 23 33.0 +0.8
SSE AMB AMB
comp=Z,39nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,99nm,9.9s
FALS False Pass 78.04 9 *e*P P 02 14 27.8 -1.9
INCN Inchon 78.05 319 *e*P P 02 14 28.7 -1.1
comp=Z,50nm,0.9s,mb4.9
VLA Vladivostok 78.89 326*c i*P P 02 14 33.5 -0.8
VLA Vladivostok 78.89 326⇑*i*P P 02 14 33.6 -0.7
SDPT Sand Point 78.99 11 *e*P P 02 14 33.3 -1.5
comp=Z,170nm,0.9s,mb5.4
GZH Guangzhou 79.33 300 P **P 02 14 35.5 -1.1**
MAW Mawson 79.42 200 *e*P P 02 14 37.0 -0.1
comp=Z,9.4nm,0.6s,mb4.3
MAW Mawson 79.42 200 P **P 02 14 37.0 -0.1**
comp=Z,14nm,0.8s,mb4.3,baz=125,slow=6.7,SNR=55
MAW Mawson 79.42 200 *e*P P 02 14 37.0 -0.1
MAW pmax pmax
comp=Z,9.0nm,0.6s
FARB Farallon Islan 79.89 42⇑P P 02 14 39.8 +0.4
baz=80
NJ2 Nanjing 79.89 311 *e*P P 02 14 40.3 +0.8
NJ2 AP pP 02 16 46.8 +1.7
NJ2 XP sP 02 17 47.0 +1.1
NJ2 PP PP 02 17 54.3 +2.0
NJ2 AMB AMB
comp=Z,50nm,0.6s,mb5.0
NJ2 AMB AMB
comp=Z,140nm,4.3s
V03C Hunter Liggett 79.99 44⇑P P 02 14 40.8 +0.8
baz=80,SNR=19
V04C Ramage Ranch, 80.00 45⇓P P 02 14 40.6 +0.5
baz=80,SNR=16
HAST UC Hastings Re 80.00 44⇑P P 02 14 40.7 +0.6
baz=80,SNR=52
BNLO Ben Lomond (Sa 80.06 43⇓P P 02 14 40.8 +0.4
baz=80,SNR=8.2
SBC Santa Barbara 80.06 47⇑P P 02 14 41.0 +0.5
baz=80
JRSC Jasper Ridge 80.18 43⇑P P 02 14 41.5 +0.4
baz=80,SNR=6.9
MCCM Marconi Confer 80.24 42⇑P P 02 14 41.4 +0.1
baz=80
CHGN Chignik 80.27 12 *e*P P 02 14 40.1 -1.4
SAO San Andreas Ge 80.30 44⇓*i*P P 02 14 41.7 +0.1
SAO pmax pmax
comp=Z,63nm,1.0s,mb4.9
SAO San Andreas Ge 80.30 44⇓*i*P P 02 14 41.7 0.0
comp=Z,63nm,1.0s,mb4.9
LRV Little Rabbit 80.37 44 *e*P P 02 14 42.5 +0.5
PKD Parkfield 80.39 45⇓P P 02 14 42.5 +0.3
baz=81,SNR=32
U04C Hernandez Rese 80.49 44⇑P P 02 14 43.4 +0.8
baz=81,SNR=42
PACP Pacheco Peak 80.55 44⇑P P 02 14 43.7 +0.7
baz=81,SNR=29
FMP Fort Macarthur 80.61 48⇓P P 02 14 43.2 0.0
baz=81
WENL Wente Brothers 80.62 43⇑P P 02 14 43.7 +0.4
baz=81,SNR=7.3
CVS Carmenet Viney 80.62 42⇑P P 02 14 43.5 +0.2
baz=81,SNR=17
NSHM Saint Helena R 80.64 42 *e*P P 02 14 43.3 -0.1
HOPS Hopland 80.64 41⇓*i*P P 02 14 43.8 +0.4
comp=Z,143nm,1.1s,mb5.3
HOPS Hopland 80.64 41⇓P P 02 14 43.9 +0.4
baz=81,SNR=11
BDM Black Diamond 80.75 43⇓P P 02 14 44.3 +0.4
baz=81,SNR=6.1
V05C Boulder Hill, 80.77 45⇓P P 02 14 45.0 +1.0
baz=81
P01C Double 8 Ranch 80.78 41⇑P P 02 14 44.6 +0.4
baz=81,SNR=7.9
S04C Ingram Canyon, 80.82 43 P **P 02 14 44.8 +0.5**
baz=81,SNR=34
OSI Osito Adit 80.83 47⇓P P 02 14 44.6 +0.2
baz=81
T05C Eagle Field, D 80.87 44⇓P P 02 14 45.5 +0.9
baz=81,SNR=5.1
KIPM Iron Peak 80.91 40 *e*P P 02 14 45.3 +0.6
O01C Eel River Cons 80.91 40⇓P P 02 14 45.7 +0.9
baz=81,SNR=28
MNRC McLaughlin Nat 80.96 42⇓P P 02 14 45.8 +0.8
baz=81,SNR=25
109C Camp Elliot, M 80.97 49⇓P P 02 14 45.2 +0.1
baz=81,SNR=8.0
Q03C Winters 81.07 42⇑P P 02 14 46.9 +1.3
baz=81,SNR=11
JCC Jacoby Creek 81.22 39⇓P P 02 14 47.0 +0.7
baz=81,SNR=5.2
HABR Khabarovsk 81.26 331⇓*i*P P 02 14 47.2 +0.6
HABR *e*S S 02 24 08.6 +0.1
HABR pmax pmax
comp=Z,227nm,1.3s,mb5.4
GASB Alder Springs 81.27 41⇓P P 02 14 47.9 +1.3
baz=82,SNR=35
S05C Merced 81.36 44 P **P 02 14 47.2 +0.1**
baz=82,SNR=48
KHMM Horse Mountain 81.43 39⇓*i*P P 02 14 48.3 +0.9
R04C Big Horse Ranc 81.52 43⇑P P 02 14 47.4 -0.5
baz=82
O02C Red Bluff 81.55 40 P **P 02 14 49.0 +1.0**
baz=82,SNR=61
T06C Millerton Lake 81.56 44 P **P 02 14 48.0 -0.1**
baz=82,SNR=42
SUTB Sutter Butte 81.58 42⇓P P 02 14 47.9 -0.3
baz=82,SNR=23
Q04C Lincoln 81.59 42⇑P P 02 14 48.2 -0.1
baz=82
ISA Isabella 81.60 46⇑P P 02 14 48.5 +0.2
baz=82,SNR=48
N02C Big Bar 81.64 40 P **P 02 14 49.2 +0.7**
baz=82,SNR=29
CMB Columbia Colle 81.73 43⇓*i*P P 02 14 48.7 -0.3
CMB pmax pmax
comp=Z,102nm,0.9s,mb5.3
CMB Columbia Colle 81.73 43⇓*i*P P 02 14 48.7 -0.3
comp=Z,102nm,0.9s,mb5.4
CMB Columbia Colle 81.73 43 P **P 02 14 49.0 0.0**
baz=82,SNR=105
KRMB Red Mountain 81.73 39⇓*i*P P 02 14 49.6 +0.7
M01C Crescent City 81.82 38⇓P P 02 14 50.2 +0.8
baz=82,SNR=9.5
PFO Pinyon Flat Ob 81.82 49 P **P 02 14 49.6 +0.1**
comp=Z,190nm,1.3s,mb5.5,SNR=5.9
PFO Pinyon Flat Ob 81.82 49⇓*i*P P 02 14 49.2 -0.3
PFO pmax pmax
comp=Z,76nm,1.5s,mb5.0
PFO Pinyon Flat Ob 81.82 49⇓*i*P P 02 14 49.1 -0.3
comp=Z,76nm,1.5s,mb5.0
PFO Pinyon Flat Ob 81.82 49⇑P P 02 14 49.5 +0.1
baz=82,SNR=15
OHCM Honcut 81.83 42 *e*P P 02 14 48.9 -0.6
O03C Acorn Hollow, 81.90 41 P **P 02 14 50.0 +0.2**
baz=82,SNR=24
LAVA Lava Cap Winer 81.94 43 P **P 02 14 50.0 0.0**
baz=82,SNR=37
WDC Whiskeytown Da 81.95 40⇓*i*P P 02 14 49.8 -0.3
WDC pmax pmax
comp=Z,181nm,1.3s,mb5.4
WDC Whiskeytown Da 81.95 40⇓*i*P P 02 14 49.8 -0.3
comp=Z,181nm,1.3s,mb5.4
WDC Whiskeytown Da 81.95 40⇓P P 02 14 50.0 -0.1
baz=82,SNR=46
ORV Oroville 81.95 42 P **P 02 14 50.0 0.0**
baz=82,SNR=47
S06C San Francisco 81.98 44 P **P 02 14 50.2 -0.1**
baz=82,SNR=66
KBO Bosley Butte 81.99 38⇓*i*P P 02 14 51.2 +0.9
KCC Kaiser Creek 82.00 44 P **P 02 14 50.6 +0.3**
baz=82,SNR=52
DL2 Dalian 82.02 318 P **P 02 14 50.8 +0.3**
DL2 *e*XP sP 02 17 59.5 +2.0
DL2 SKS 02 24 12.3
DL2 S S 02 24 18.3 +2.2
DL2 AMB AMB
comp=Z,20nm,1.0s,mb4.6
DL2 AMB AMB
comp=Z,110nm,4.2s
K01A Sixes 82.23 38⇑P P 02 14 52.3 +0.8
baz=82,SNR=5.4
M02C Callahan 82.27 39⇓P P 02 14 52.6 +0.9
baz=82,SNR=55
CWC Cottonwood Cre 82.30 46⇑P P 02 14 52.0 +0.2
baz=82,SNR=7.0
L02A Cave Junction 82.31 38⇑P P 02 14 52.7 +0.8
baz=82,SNR=11
WHN Wuhan 82.32 307 P **P 02 14 54.0 +2.0**
R05C Kirkwood Meado 82.33 43 P **P 02 14 52.3 +0.3**
baz=82,SNR=87
KEBM Edson Butte 82.35 38 *e*P P 02 14 52.2 +0.1
P05C Yuba Gap, Truc 82.35 42 P **P 02 14 52.3 +0.2**
baz=83,SNR=72
MLAC Mammoth Lakes 82.49 44⇑P P 02 14 53.5 +0.7
baz=83
MTUM Tungsten Hills 82.51 45 *e*P P 02 14 53.3 +0.4
GSC Goldstone 82.52 47 P **P 02 14 53.1 +0.2**
baz=83,SNR=44
DAC Darwin (Calif) 82.53 46⇓*i*P P 02 14 52.8 -0.2
DAC pmax pmax
comp=Z,29nm,0.9s,mb4.8
DAC Darwin (Calif) 82.53 46⇓*i*P P 02 14 52.8 -0.2
comp=Z,29nm,0.9s,mb4.8
O05C Quincy 82.55 41⇑P P 02 14 53.2 0.0
baz=83,SNR=13
TIN Tinemaha 82.56 45⇓P P 02 14 53.2 +0.1
baz=83,SNR=6.2
YBH Yreka Blue Hor 82.56 39⇓*i*P P 02 14 53.4 +0.2
YBH pmax pmax
comp=Z,85nm,0.9s
YBH Yreka Blue Hor 82.56 39⇓*i*P P 02 14 53.4 +0.2
comp=Z,85nm,0.9s,mb5.3
YBH Yreka Blue Hor 82.56 39⇓P P 02 14 53.7 +0.5
baz=83,SNR=45
KULM Kulim 82.58 279 *e*P P 02 14 53.5 +0.2
R06C Coleville 82.61 43⇑P P 02 14 53.9 +0.5
baz=83,SNR=72
R07C Lee Vining 82.62 44⇓P P 02 14 53.8 +0.4
baz=83,SNR=11
SNY Shenyang 82.63 321⇓P P 02 14 53.0 -0.5
SNY AMB AMB
comp=Z,53nm,0.8s,mb5.1
GLA Glamis 82.67 50⇓P P 02 14 54.6 +0.9
baz=83,SNR=71
O04C Chester 82.67 41⇑P P 02 14 53.9 +0.2
baz=83,SNR=9.7
HATC Hat Creek Radi 82.74 41 P **P 02 14 54.6 +0.6**
baz=83,SNR=38
K02A Glendale 82.76 38 P **P 02 14 54.8 +0.6**
baz=83,SNR=26
CN2 Changchun 82.81 323 *e*P P 02 14 58.0 +3.6
CN2 *e*PP PP 02 18 17.3 +1.4
CN2 AMB AMB
comp=Z,200nm,4.0s
KDAK Kodiak Island 82.86 14 P **P 02 14 53.9 -0.8**
comp=Z,391nm,1.2s,mb5.8,SNR=13
KDAK Kodiak Island 82.86 14 P **P 02 14 53.5 -1.1**
comp=Z,53nm,1.0s,mb5.0,baz=233,slow=4.9
KDAK Kodiak Island 82.86 14⇓*i*P P 02 14 53.3 -1.4
comp=Z,156nm,1.4s,mb5.3
WCN Washoe City 82.88 43 P **P 02 14 55.2 +0.5**
baz=83,SNR=22
HUMO Hull Mountain 82.97 38⇓*i*P P 02 14 55.9 +0.7
comp=Z,140nm,1.1s,mb5.4
HUMO Hull Mountain 82.97 38⇓P P 02 14 55.7 +0.5
baz=83,SNR=66
P06A Stead Airport, 83.01 42⇑P P 02 14 55.6 +0.2
baz=83
ELFS Eagle Lake Fie 83.06 41⇑P P 02 14 55.8 +0.1
baz=83
J02A Umpqua 83.09 38 P **P 02 14 56.3 +0.5**
baz=83,SNR=19
M04C Macdoel 83.11 40 P **P 02 14 56.3 +0.4**
baz=83,SNR=31
TUQ Turquoise Mtn. 83.19 47⇑P P 02 14 56.4 +0.1
baz=83,SNR=18
PSI Prapat 83.21 276 P **P 02 14 55.7 -0.7**
comp=Z,16nm,0.7s,mb4.7,baz=144,slow=5.7,SNR=14
PSI Prapat 83.21 276 P **P 02 14 55.7 -0.7**
Y12C Blythe 83.25 50 P **P 02 14 57.1 +0.5**
baz=83,SNR=30
M05C Lookout 83.26 40 P **P 02 14 57.0 +0.3**
baz=84,SNR=53
Q07A Schurz 83.27 43⇓P P 02 14 56.9 +0.2
baz=84
NVAR Mina Array Bea 83.29 44 P **P 02 14 56.6 -0.2**
comp=Z,59nm,0.9s,mb5.1,baz=211,slow=6.3,SNR=252
NVAR PKKPbc PKKPbc 02 33 13.8 +2.2
comp=Z,0.8nm,0.7s,baz=102,slow=4.3,SNR=5.8
KLR Kul'dur 83.31 330 *e*P P 02 14 50.2 -6.7
KLR *e*S S 02 24 27.0 -1.8
KLR pmax pmax
comp=E,40nm,1.6s
KLR pmax pmax
comp=Z,100nm,1.6s,mb5.1
L04A Klamath Falls 83.32 39 P **P 02 14 57.4 +0.4**
baz=84,SNR=32
O06A Flanigan 83.35 42 P **P 02 14 57.2 +0.1**
baz=84,SNR=61
PAHR Pah Rah Range 83.35 42⇓*i*P P 02 14 57.0 -0.1
comp=Z,93nm,1.0s,mb5.3
I02A Mapleton 83.36 37⇓P P 02 14 57.5 +0.4
baz=84,SNR=14
R08A Mina 83.38 44⇑P P 02 14 57.1 -0.1
baz=84,SNR=12
TIA Tai'an 83.40 313⇓P P 02 14 57.8 +0.5
TIA AMB AMB
comp=Z,90nm,1.0s,mb5.2
J03A Ideyld Park 83.44 38⇓P P 02 14 58.1 +0.6
baz=84,SNR=24
U10A Ash Meadows, A 83.46 46⇓P P 02 14 58.1 +0.4
baz=84,SNR=35
HOG Hogback Mounta 83.47 39 P **P 02 14 58.3 +0.6**
P07A Fallon 83.56 43⇑P P 02 14 58.5 +0.4
baz=84
M06C Likely Place G 83.57 41 P **P 02 14 58.6 +0.5**
baz=84,SNR=20
S09A Goldfield 83.59 45⇑P P 02 14 57.8 -0.5
baz=84,SNR=46
I03A Eugene 83.64 37 P **P 02 14 59.0 +0.4**
baz=84,SNR=15
K04A Chilquin 83.68 39⇑P P 02 14 59.1 +0.3
baz=84,SNR=7.2
N06A Buffalo Meadow 83.69 41 P **P 02 14 58.8 0.0**
baz=84,SNR=44
H02A Toledo 83.69 36⇓P P 02 14 59.3 +0.5
baz=84
V11A Goodsprings 83.75 47⇓P P 02 14 59.2 +0.1
baz=84
Y13A Salome 83.78 50⇓P P 02 14 59.9 +0.6
baz=84,SNR=43
Q08A Gabbs 83.78 44 P **P 02 14 59.0 -0.2**
baz=84,SNR=74
TPH Tonopah 83.79 45⇓*i*P P 02 14 59.1 -0.2
TPH pmax pmax
comp=Z,119nm,1.1s,mb5.3
TPH Tonopah 83.79 45⇓*i*P P 02 14 59.1 -0.2
comp=Z,119nm,1.1s,mb5.3
TPNV Topopah Spring 83.81 46⇓*i*P P 02 14 59.2 -0.1
comp=Z,88nm,1.3s,mb5.1
MPOR Mary's Peak 83.83 37 P **P 02 15 00.1 +0.6**
W12A Cal Nev Ari 83.84 48⇑P P 02 14 59.9 +0.4
baz=84,SNR=7.6
L05A Lakeview 83.86 40 P **P 02 15 00.3 +0.7**
baz=84,SNR=39
O07A Toulon 83.93 42 P **P 02 15 00.1 +0.1**
baz=84,SNR=46
R09A Tonopah 83.98 45⇑P P 02 15 00.2 0.0
baz=84,SNR=14
H03A Soap Creek Ran 84.08 37⇓P P 02 15 01.1 +0.4
baz=84
V12A Nelson 84.08 48⇓P P 02 15 01.0 +0.3
baz=84,SNR=21
U11A Corn Creek 84.10 47⇓P P 02 15 01.1 +0.3
baz=84,SNR=5.3
P08A Dixie Valley 84.16 43⇓P P 02 15 01.3 +0.2
baz=84
Z14A Wintersburg 84.17 51⇑P P 02 15 01.7 +0.6
baz=84,SNR=36
X13A Yucca 84.19 49⇓P P 02 15 01.6 +0.4
baz=84,SNR=13
Q09A Carvers 84.25 44⇑P P 02 15 01.6 +0.1
baz=84,SNR=9.3
115A Sonoran Desert 84.35 51⇑P P 02 15 02.6 +0.6
baz=84,SNR=24
J05A Fort Rock 84.38 39 P **P 02 15 02.8 +0.6**
baz=85,SNR=86
W13A Hualapai Mount 84.42 49 P **P 02 15 02.8 +0.4**
baz=85,SNR=46

Y14A Wickenburg 84.43 50 P P 02 15 02.7 +0.3
baz=85,SNR=31
O08A Rochester Mine 84.46 42 ⇑P P 02 15 02.8 +0.2
baz=85
M07A Soldier Meadow 84.47 41 P P 02 15 02.9 +0.2
baz=85,SNR=46
G03A Yamhill 84.49 36 ⇑P P 02 15 03.0 +0.3
baz=85,SNR=6.4
R10A Warm Springs 84.51 45 ⇓P P 02 15 03.1 +0.3
baz=85
116A Eloy 84.66 52 P P 02 15 04.2 +0.7
baz=85,SNR=53
K06A Valley Falls 84.66 39 P P 02 15 03.9 +0.3
baz=85,SNR=34
U12A Valley of Fire 84.67 47 ⇑P P 02 15 03.8 +0.2
baz=85,SNR=18
P09A Austin 84.68 43 ⇑P P 02 15 03.3 -0.3
baz=85
SYO Syowa Base 84.70 193⇑eP P 02 15 02.0 -1.7
H04A Detroit Lake 84.70 37 P P 02 15 03.5 -0.2
baz=85,SNR=23
F03A Seaside 84.73 36 ⇑P P 02 15 03.8 -0.1
baz=85,SNR=10
L07A Adell 84.74 41 P P 02 15 04.3 +0.4
baz=85,SNR=40
X14A Yava 84.78 50 P P 02 15 04.8 +0.7
baz=85,SNR=43
G04A Mulino 84.86 37 ⇑P P 02 15 04.3 -0.2
baz=85,SNR=13
I05A Bend 84.90 38 P P 02 15 05.1 +0.4
baz=85,SNR=18
M08A Happy Creek Ra 84.99 41 P P 02 15 05.4 +0.3
baz=85,SNR=28
J06A Christmas Vall 84.99 39 P P 02 15 04.9 -0.2
baz=85,SNR=63
O09A Fish Creek Ran 85.00 43 ⇑P P 02 15 05.1 0.0
baz=85,SNR=29
TRCR Troy Canyon 85.02 45 eP P 02 15 05.0 -0.3
W14A Seligman 85.03 49 P P 02 15 06.1 +0.8
baz=85,SNR=52
MA2 Magadan 85.09 345deP P 02 15 03.9 -1.7
MA2 e*SP sP 02 18 11.6 -2.0
MA2 eS S 02 24 41.9 -4.2
MA2 eSP 02 25 46.0
MA2 pmax pmax
comp=Z,200nm,1.0s,mb5.7
MA2 Magadan 85.09 345⇓iP P 02 15 03.8 -1.8
comp=Z,108nm,0.9s,mb5.5
KKTK Khon Kaen 85.09 290 P P 02 15 07.0 +1.4
comp=Z,370nm,0.6s,mb6.2
E03A Lebam 85.12 35 ⇑P P 02 15 06.0 +0.2
baz=85,SNR=14
BMN Battle Mountai 85.12 43⇓iP P 02 15 05.5 -0.3
comp=Z,24nm,0.8s,mb4.9
P10A Eureka 85.15 44 ⇑P P 02 15 05.8 -0.1
baz=85,SNR=6.9
N09A Rock Creek Ran 85.17 42 P P 02 15 06.1 +0.1
baz=85,SNR=21
K07A Rock Creek Ran 85.19 40 P P 02 15 06.3 +0.3
baz=85,SNR=81
TUC Tucson 85.20 52⇓iP P 02 15 07.0 +0.9
TUC pmax pmax
comp=Z,70nm,0.9s,mb5.3
TUC Tucson 85.20 52⇓iP P 02 15 07.0 +0.8
comp=Z,70nm,0.9s,mb5.3
H05A Madras 85.22 38 ⇑P P 02 15 06.0 -0.2
baz=85,SNR=19
Q11A Duckwater 85.24 45 ⇓P P 02 15 06.2 -0.2
baz=85,SNR=19
X15A Humboldt 85.25 50 P P 02 15 07.0 +0.6
baz=85,SNR=48
SVW2 Sparrevohn 85.29 11 eP P 02 15 04.6 -2.0
F04A Amboy 85.35 36 P P 02 15 06.6 -0.2
baz=86,SNR=21
I06A Prineville 85.37 39 P P 02 15 07.5 +0.6
baz=86,SNR=91
D03A Wishkah Elem. 85.37 35 ⇓P P 02 15 07.5 +0.5
baz=86,SNR=6.0
WVOR Wild Horse Val 85.41 40⇓iP P 02 15 07.1 0.0
WVOR pmax pmax
comp=Z,59nm,0.9s,mb5.2
WVOR Wild Horse Val 85.41 40⇓iP P 02 15 07.1 -0.1
comp=Z,59nm,0.9s,mb5.2
L08A Fields 85.44 41 P P 02 15 07.5 +0.2
baz=86,SNR=78
VIPM Ingram Point 85.48 38 P P 02 15 07.5 0.0
C03A Quillayute Air 85.50 34 ⇓P P 02 15 07.9 +0.4
baz=86
G05A Wamic 85.53 37 ⇓P P 02 15 07.6 -0.1
baz=86,SNR=9.7
M09A Marrel Ranch, 85.55 42 ⇑P P 02 15 08.0 +0.2
baz=86,SNR=28
J07A Hines 85.56 39 ⇑P P 02 15 07.8 0.0
baz=86,SNR=30
P11A Circle Ranch, 85.57 44 ⇓P P 02 15 07.8 -0.1
baz=86,SNR=9.0
W15A Williams 85.59 49 ⇓P P 02 15 08.8 +0.8
baz=86,SNR=9.5
E04A Onalaska 85.60 35 ⇓P P 02 15 08.6 +0.6
baz=86,SNR=5.4
K08A Mann Creek Ran 85.67 40 P P 02 15 08.6 +0.3
baz=86,SNR=113
OTR Olympics--Tyee 85.70 34 P P 02 15 09.5 +1.0
N10A Dunphy 85.73 43 ⇓P P 02 15 08.8 +0.1
baz=86
F05A White Salmon 85.84 36 ⇑P P 02 15 08.9 -0.3
baz=86,SNR=15
SLKM Skilak Lake 85.85 14 eP P 02 15 07.9 -1.3
D04A Dobbs Creek Ra 85.88 35 ⇓P P 02 15 09.9 +0.5
baz=86
O11A Cowboy Ranch, 85.95 44 P P 02 15 09.9 +0.2
baz=86,SNR=43
J08A Circle Bar Ran 86.04 40 P P 02 15 10.2 +0.1
baz=86,SNR=84
CCUT Cedar City 86.07 47⇓iP P 02 15 10.8 +0.5
P12A McGill 86.07 45 ⇓P P 02 15 10.4 +0.1
baz=86,SNR=20
E05A Randle 86.10 36 P P 02 15 10.1 -0.3
baz=86,SNR=52
B04A Port Angeles 86.11 34 ⇑P P 02 15 10.7 +0.2
baz=86
BJT Baijiatuau 86.12 316 eP P 02 15 10.5 0.0
BJT pmax pmax
comp=Z,25nm,0.7s
BJT Baijiatuau 86.12 316 eP P 02 15 10.5 0.0
comp=Z,25nm,0.7s,mb5.0
BJI Beijing 86.13 316 P P 02 15 10.5 0.0
BJI S S 02 24 57.0 +1.1
BJI AMB AMB
comp=Z,46nm,1.0s,mb5.1
BJI AMB AMB
comp=Z,462nm,4.2s
ARUT Antelope Range 86.14 47 eP P 02 15 10.8 +0.2
M10A I.L. Ranch, Tu 86.17 42 ⇓P P 02 15 11.0 +0.3
baz=86,SNR=29
GYA Guiyang 86.26 300⇓iP P 02 15 12.0 +0.8
GYA AP pP 02 17 21.5 +2.1
GYA XP sP 02 18 20.5 +1.0
GYA PP PP 02 18 46.0 +2.6
GYA SKS 02 24 39.8
GYA S S 02 24 55.5 -1.6
GYA XS sS 02 28 44.0 -1.6
GYA AMB AMB
comp=Z,20nm,1.2s,mb4.6
GYA AMB AMB
comp=Z,190nm,5.7s
N11A Elko Archery C 86.28 43 ⇓P P 02 15 11.2 -0.1
baz=86,SNR=9.6
SNAA Sanae 86.30 179 eP P 02 15 09.1 -2.2
SNAA e*PP pP 02 17 21.5 +1.9
SNAA pmax pmax
comp=Z,6.0nm,0.8s
SNAA Sanae 86.30 179 eP P 02 15 09.1 -2.3
comp=Z,6.3nm,0.8s,mb4.3
SNAA epP pP 02 17 21.5 +1.9
D05A Enumclaw 86.36 35 ⇓P P 02 15 11.9 +0.3
baz=87,SNR=44
WUAZ Wupatki 86.39 49⇓iP P 02 15 11.9 +0.2
comp=Z,85nm,1.3s,mb5.2
PGC Sidney 86.52 33⇓iP P 02 15 12.2 -0.2
comp=Z,300nm,1.1s,mb5.9
ELK Elko 86.55 43⇓iP P 02 15 12.1 -0.4
ELK pmax pmax
comp=Z,35nm,0.9s
ELK Elko 86.55 43⇓iP P 02 15 12.1 -0.4
comp=Z,35nm,0.9s,mb5.1
M11A Holland Ranch, 86.58 43 ⇑P P 02 15 13.1 +0.4
baz=87,SNR=56
O12A Currie 86.61 44 ⇓P P 02 15 12.7 -0.1
baz=87,SNR=14
NAC Naches 86.71 36 P P 02 15 13.7 +0.4
N12A Clover Valley, 86.74 43 ⇑P P 02 15 13.5 0.0
baz=87,SNR=43
SNB Saturna Island 86.74 33 P P 02 15 13.8 +0.3
C05A Toit Reservoir 86.84 35 ⇓P P 02 15 13.6 -0.3
baz=87,SNR=51
NVL N'lazarevskaya 86.89 184 eP P 02 15 13.4 -0.7
NVL pmax pmax
comp=Z,33nm,0.8s,mb5.1
MXC Moxie City 86.91 36 P P 02 15 14.6 +0.4
TTA Tatalina 86.92 11 eP P 02 15 13.2 -1.1
TTA pmax pmax
comp=Z,80nm,0.7s,mb5.6
TTA Tatalina 86.92 11 eP P 02 15 13.2 -1.1
comp=Z,80nm,0.7s,mb5.6
A04A Legoe Bay, Lum 86.95 34 ⇓P P 02 15 14.5 +0.1
baz=87,SNR=44
EYAK Cordova Ski Ar 86.96 16⇓iP P 02 15 12.8 -1.7
B05A Bryant 86.98 34 ⇑P P 02 15 14.4 -0.1
baz=87,SNR=53
PMR Palmer 87.06 14 eP P 02 15 13.4 -1.5
PMR pmax pmax
comp=Z,203nm,1.1s,mb5.8
PMR Palmer 87.06 14 eP P 02 15 13.4 -1.5
comp=Z,203nm,1.1s,mb5.8
LTY Liberty 87.12 36 P P 02 15 14.8 -0.4
M12A Wells 87.12 43 ⇑P P 02 15 15.4 +0.2
baz=87,SNR=9.6
VNA1 Neumayer--Stat 87.15 177 eP P 02 15 15.6 +0.3
VNA1 e 02 15 17.0
VNA1 e pP 02 17 28.2 +4.2
VNA1 e 02 17 30.2
VNA1 e 02 17 38.5
VNA1 e 02 18 30.2
VNA1 e 02 18 49.1
HAWA Hanford 87.22 37⇓iP P 02 15 15.3 -0.3
comp=Z,111nm,0.9s,mb4.6
N13A Wendover, West 87.27 44 ⇑P P 02 15 16.0 +0.1
baz=88,SNR=23
SIT Sitka 87.29 22 eP P 02 15 15.8 -0.2
SIT pmax pmax
comp=Z,104nm,1.2s,mb5.4
SIT Sitka 87.29 22 eP P 02 15 15.8 -0.2
comp=Z,104nm,1.2s,mb5.4
A05A Maple Falls 87.44 34 ⇓P P 02 15 16.0 -0.7
baz=88,SNR=5.6
M13A Montello 87.57 43 ⇓P P 02 15 17.4 +0.1
baz=88,SNR=23
BMO Blue Mountains 87.59 39⇓iP P 02 15 16.7 -0.7
BMO pmax pmax
comp=Z,60nm,1.0s,mb5.3
BMO Blue Mountains 87.59 39⇓iP P 02 15 16.7 -0.7
comp=Z,60nm,1.0s,mb5.3
DUG Dugway 87.82 45⇓iP P 02 15 17.9 -0.6
DUG pmax pmax
comp=Z,60nm,1.6s,mb5.1
DUG Dugway 87.82 45⇓iP P 02 15 17.9 -0.6
comp=Z,60nm,1.6s,mb5.1
NANT Nan 87.95 291 ⇑P P 02 15 18.5 -0.6
XAN Xi'an 88.05 308 P P 02 15 20.3 +0.8
XAN AMB AMB
comp=Z,63nm,1.0s,mb5.3
XAN AMB AMB
comp=Z,116nm,10.4s
NLU North Lily Min 88.18 45⇓iP P 02 15 20.1 -0.1
TMUT Trail Mountain 88.42 46⇓iP P 02 15 22.0 +0.8
MPU Maple Canyon 88.50 45⇓iP P 02 15 21.8 +0.2
comp=Z,80nm,1.2s,mb5.4
NOQ North Oquirrh 88.51 45⇓iP P 02 15 21.4 -0.3
comp=Z,136nm,1.3s,mb5.6
HLID Hailey 88.60 41⇓iP P 02 15 22.1 -0.1
comp=Z,63nm,0.9s,mb5.5
SPUT South Promonto 88.64 44⇓iP P 02 15 21.7 -0.6
HVU Hansel Valley 88.67 43⇓iP P 02 15 22.3 -0.2
HVU pmax pmax
comp=Z,151nm,1.2s,mb5.7
HVU Hansel Valley 88.67 43⇓iP P 02 15 22.3 -0.1
comp=Z,151nm,1.2s,mb5.7
CTU Camp Tracy 88.77 45 eP P 02 15 22.9 0.0
comp=Z,102nm,1.1s,mb5.6
SRU San Rafael 88.78 47⇓iP P 02 15 22.9 -0.1
SRU pmax pmax
comp=Z,106nm,0.9s,mb5.7
SRU San Rafael 88.78 47⇓iP P 02 15 22.9 -0.1
comp=Z,106nm,0.9s,mb5.7
KMI Kunming 88.86 298 P P 02 15 24.5 +1.2
KMI AP pP 02 17 37.3 +4.8
KMI PP PP 02 19 06.8 +2.9
KMI AMB AMB
comp=Z,35nm,1.2s,mb5.1
LAZ Ladron 88.88 52 eP P 02 15 23.5 +0.1
Y22C IRIS PASSCAL I 88.89 52 ⇓P P 02 15 24.1 +0.7
baz=89
LENM Lemitar 88.89 52 eP P 02 15 24.1 +0.6
DAU Daniels Canyon 88.95 45 eP P 02 15 24.2 +0.5
MCK McKinley 89.00 13⇓iP P 02 15 21.7 -2.3
MCK pmax pmax
comp=Z,55nm,1.0s,mb5.3
MCK McKinley 89.00 13⇓iP P 02 15 21.6 -2.3
comp=Z,55nm,1.0s,mb5.3
PLCA Paso Flores 89.12 134 P P 02 15 25.0 +0.5
comp=Z,13nm,0.9s,mb4.7,baz=213,slow=6.7,SNR=19
PLCA Paso Flores 89.12 134 P P 02 15 25.0 +0.5
PLCA pmax pmax
comp=Z,13nm,0.9s
PLCA Paso Flores 89.12 134 eP P 02 15 25.1 +0.6
SKAG Skagway 89.13 21 eP P 02 15 24.4 -0.2
comp=Z,70nm,1.1s,mb5.4
BNM Barren Site 89.14 52 eP P 02 15 24.7 +0.1
CHRT Chiangrai 89.18 292 ⇓P P 02 15 26.5 +1.7
TCUT Toone Canyon 89.21 45⇓iP P 02 15 24.8 -0.1
HIA Hailar 89.28 325 eP P 02 15 24.6 -0.7
HIA Hailar 89.28 325 eP P 02 15 24.7 -0.6
CM31 Chiang Mai Arr 89.34 290 eP P 02 15 27.2 +1.7
HWUT Hardware Ranch 89.36 44⇓iP P 02 15 25.1 -0.6
comp=Z,38nm,0.8s,mb5.3
PV10 Paradox Valley 89.43 48 eP P 02 15 25.1 -0.9
CHG Chiang Mai 89.48 290 ⇓P P 02 15 29.7 +3.5
CHTO Chiang Mai 89.48 290⇓iP P 02 15 27.4 +1.2
CHTO pmax pmax
comp=Z,55nm,0.9s,mb5.4
CHTO Chiang Mai 89.48 290⇓iP P 02 15 27.4 +1.2
comp=Z,55nm,0.9s,mb5.4
MENT Mentasta 89.51 16 eP P 02 15 25.3 -1.0
HHC Hu-ho-hao-te 89.54 315 eP P 02 15 27.5 +1.0
HHC AP pP 02 17 38.0 +2.1
HHC XP sP 02 18 41.0 +5.4
HHC PP PP 02 19 12.5 +3.3
HHC AMB AMB
comp=Z,59nm,1.1s,mb5.3
HHC AMB AMB
comp=Z,138nm,6.3s
ANMO Albuquerque 89.63 52dⅈP P 02 15 25.8 -1.1
ANMO Albuquerque 89.63 52⇓iP P 02 15 26.8 -0.1
comp=Z,48nm,1.0s,mb5.3
PV01 Paradox Valley 89.64 48 eP P 02 15 26.3 -0.6
NEW Newport 89.64 36⇓iP P 02 15 25.8 -1.1
NEW pmax pmax
comp=Z,7.0nm,0.8s
NEW Newport 89.64 36⇓iP P 02 15 25.8 -1.2
comp=Z,6.9nm,0.8s,mb4.5
IMA2 Indian Mountai 90.22 10 eP P 02 15 28.1 -1.5
MCMT McKenzie Canyo 90.23 41 eP P 02 15 29.7 +0.1
MCMT ePP PP 02 19 12.9 -1.6
COLA College 90.23 13 eP P 02 15 26.4 -3.3
COLA College 90.23 13⇓iP P 02 15 27.0 -2.7
comp=Z,111nm,1.1s,mb5.6
DLBC Dease Lake 90.23 24 eP P 02 15 28.7 -1.0
AHID Auburn Hatcher 90.25 43 eP P 02 15 29.4 -0.4
comp=Z,147nm,1.2s,mb5.7
RRI2 Red Ridge 90.40 43⇓iP P 02 15 30.5 0.0
comp=Z,209nm,1.3s,mb5.8
BTO Baotou 90.44 314 eP P 02 15 28.8 -1.8
CD2 Chengdu 90.52 303 P P 02 15 32.5 +1.5
CD2 AP pP 02 17 45.5 +5.0
CD2 XP sP 02 18 41.8 +1.6
CD2 PP PP 02 19 22.0 +5.2
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,70nm,4.2s
DCID1 Drake Creek 90.61 42 eP P 02 15 31.9 +0.5
BILL Bilibino 90.63 355 eP P 02 15 30.2 -1.3
BILL pmax pmax
comp=Z,67nm,0.9s,mb5.6
BILL Bilibino 90.63 355 eP P 02 15 30.1 -1.4
comp=Z,67nm,0.9s,mb5.6
MSO Missoula 90.64 39 eP P 02 15 30.2 -1.3
comp=Z,4.1nm,0.7s,mb4.5
DLMT Dillon 90.66 40⇓iP P 02 15 31.3 -0.3
comp=Z,53nm,1.3s,mb5.3
REDW Red Top Meadow 90.71 43⇓iP P 02 15 31.5 -0.3
comp=Z,123nm,1.1s,mb5.8
TPAW Teton Pass 90.71 43⇓iP P 02 15 31.7 -0.1
comp=Z,113nm,1.3s,mb5.6
SNOW Snow King Moun 90.82 43⇓iP P 02 15 32.2 -0.1
comp=Z,98nm,1.0s,mb5.7
IMW Indian Meadow 90.92 42⇓iP P 02 15 32.7 -0.2
comp=Z,82nm,1.1s,mb5.6
MOOW Moose Ponds 90.97 43⇓iP P 02 15 32.6 -0.5
comp=Z,35nm,1.4s,mb5.1
CHMT Chamberlain Mo 91.09 39 eP P 02 15 32.8 -0.8
QLMT Earthquake Lak 91.09 41 eP P 02 15 34.2 +0.5
FLWY Flagg Ranch 91.17 42⇓iP P 02 15 34.0 0.0
comp=Z,77nm,1.3s,mb5.5
SMCO Snowmass 91.23 48⇓iP P 02 15 34.1 -0.1
comp=Z,33nm,0.8s,mb5.3
PDAR Pinedale Array 91.23 44 P P 02 15 33.5 -0.8
comp=Z,31nm,1.0s,mb5.2,baz=200,slow=3.0,SNR=146
PDAR PKKPbc PKKPbc 02 32 53.0 +0.3
comp=Z,1.1nm,0.8s,baz=66,slow=3.6,SNR=8.5
YFT Old Faithful 91.27 42 eP P 02 15 35.0 +0.6
YMR Madison River 91.30 42 eP P 02 15 35.1 +0.6
comp=Z,64nm,1.4s,mb5.4
BOZ Bozeman (W) 91.39 41⇓iP P 02 15 34.6 -0.4
BOZ pmax pmax
comp=Z,30nm,0.9s,mb5.2
BOZ Bozeman (W) 91.39 41⇓iP P 02 15 34.6 -0.4
comp=Z,30nm,0.9s,mb5.2
CLNS Chul'man 91.52 333 eP P 02 15 32.8 -2.8
CLNS pmax pmax
comp=Z,26nm,1.2s,mb5.1
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,1.1s
DAWY Dawson 91.54 16⇓iP P 02 15 34.3 -1.4
HRY Holter Researc 91.81 40 eP P 02 15 36.6 -0.4
WALA Waterton Lakes 91.86 37⇓iP P 02 15 36.1 -1.0
comp=E,12nm,0.7s,mb5.0
WALA ePP PP 02 19 24.7 -2.5
RWWY Rawlins 92.24 46 eP P 02 15 38.2 -0.7
comp=E,93nm,1.4s,mb5.6
ISCO Idaho Springs 92.45 48⇓iP P 02 15 39.6 -0.3
ISCO pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ISCO Idaho Springs 92.45 48⇓iP P 02 15 39.6 -0.3
comp=Z,6.4nm,0.6s,mb4.8
GCMT Greycliff 92.65 41 eP P 02 15 40.2 -0.6
LZH Lanzhou 92.68 308 P P 02 15 42.5 +1.6
LZH AP pP 02 17 53.5 +2.8
LZH XP sP 02 18 52.3 +2.0
LZH PP PP 02 19 38.5 +5.0
LZH AMB AMB
comp=Z,80nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,320nm,5.9s
JCT Junction City 92.75 58⇓iP P 02 15 40.1 -1.1
JCT pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
JCT Junction City 92.75 58⇓iP P 02 15 40.1 -1.1
comp=Z,9.7nm,0.6s,mb5.0
AMTX Amarillo 93.12 54 eP P 02 15 41.9 -1.1
comp=Z,8.9nm,0.8s,mb4.8
YAK Yakutsk 93.20 339 eP P 02 15 41.4 -1.9
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=Z,62nm,1.0s,mb5.6
YAK pmax pmax
comp=E,11nm,1.2s
YAK Yakutsk 93.20 339 eP P 02 15 41.2 -2.0
comp=E,75nm,0.7s,mb5.8
PHWY Pilot Hill 93.23 47 eP P 02 15 43.1 -0.4
PHWY ePP PP 02 19 36.2 -1.6
EDM Edmonton 94.37 33 eP P 02 15 46.8 -1.8
LAO LASA Array 95.18 41 eP P 02 15 51.4 -0.9
comp=E,24nm,1.1s,mb5.2
WMOK Wichita Mounta 95.24 55 eP P 02 15 51.3 -1.3
WMOK pmax pmax
comp=Z,4.0nm,1.3s,mb4.4
WMOK Wichita Mounta 95.24 55 eP P 02 15 51.2 -1.3
comp=Z,4.1nm,1.3s,mb4.4
RSSD Black Hills 95.42 44⇓iP P 02 15 52.3 -1.1
RSSD pmax pmax
comp=Z,19nm,0.9s,mb5.2
RSSD Black Hills 95.42 44⇓iP P 02 15 52.3 -1.1
comp=Z,19nm,0.9s,mb5.2
HKT Hockley 95.69 60 eP P 02 15 54.5 -0.1
HKT pmax pmax
comp=Z,16nm,1.4s,mb5.1
HKT Hockley 95.69 60 eP P 02 15 54.5 -0.1
comp=Z,16nm,1.4s,mb5.0
ULN Ulaanbaatar 95.74 320 eP P 02 15 53.8 -1.0
SONM Songino Array 96.12 319 P P 02 15 54.8 -1.7
comp=Z,1.9nm,0.8s,mb4.4,baz=118,slow=5.1,SNR=9.3
SONM PKiKP PKiKP 02 20 30.2 -0.7
comp=Z,0.6nm,0.6s,baz=140,slow=4.7,SNR=2.4
SONM PKKPbc PKKPbc 02 32 39.9 -0.2
comp=Z,1.9nm,0.7s,baz=318,slow=2.0,SNR=7.8
INK Inuvik 96.34 16⇓iP P 02 15 55.0 -2.5
INK pmax pmax
comp=Z,45nm,1.4s
INK Inuvik 96.34 16⇓iP P 02 15 55.0 -2.5
comp=Z,45nm,1.4s,mb5.5
GTA Gaotai 96.96 310 eP P 02 16 00.5 +0.2
GTA AP pP 02 18 16.5 +6.0
GTA XP sP 02 19 11.8 +1.9
GTA PP PP 02 20 08.3 +2.2
GTA PPP 02 22 18.5
GTA AMB AMB
comp=Z,11nm,1.2s,mb5.0
GTA AMB AMB
comp=Z,125nm,9.9s
YKA Yellowknife Ar 98.71 25 P Pdif 02 16 05.7 -2.4
comp=Z,3.5nm,0.8s,baz=242,slow=4.2,SNR=10
ZAK Zakamensk 99.06 321 eP Pdif 02 16 01.9 -7.7
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.5
TLY Talaya 99.38 322 eP Pdif 02 16 12.6 +1.6
TLY pmax pmax
comp=Z,6.0nm,1.6s,mb4.7
LPAZ La Paz 102.72 114 PKKPbc PKKPbc 02 32 22.1 +0.3
comp=Z,1.6nm,0.7s,baz=39,slow=2.2,SNR=4.9
WMQ Urumqi 106.97 311 PDIF Pdif 02 16 44.3 -0.5
WMQ PP PP 02 21 22.8 +2.9
WMQ PP PP
comp=Z,412nm,9.8s
RES Resolute Bay 109.88 16 ePKP PKiKP 02 20 55.3 -0.6
SAML Samuel 110.39 109 ePKP PKiKP 02 20 56.3 -0.7
MK31 Makanchi Array 111.33 313 PKIKP PKiKP 02 20 56.5 -2.2
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 111.33 313 Pdiff Pdif 02 17 04.8 +0.7
comp=Z,0.6nm,0.6s,baz=102,slow=5.8,SNR=5.3
MKAR PKiKP PKiKP 02 20 56.8 -2.0
comp=Z,5.2nm,0.6s,baz=207,slow=1.1,SNR=39
MKAR PKKPbc PKKPbc 02 31 55.4 -0.2
comp=Z,3.1nm,0.8s,baz=282,slow=3.7,SNR=14
MKAR Makanchi Array 111.33 313⇑iPKIKP PKiKP 02 20 56.7 -2.0
MKAR Makanchi Array 111.33 313 Pdif Pdif 02 17 04.8 +0.6
NVS Novosibirsk 111.98 322 ePKIKP PKiKP 02 20 57.6 -2.4
NVS e 02 26 42.1
KSH Kashi 114.69 304 ePKP PKPdf 02 21 05.5 +0.4
KSH ePKS 02 24 41.0
KSH PP PP
comp=Z,247nm,5.7s
ULHL Ulahol 114.89 307 P PKPdf 02 21 05.2 -0.4
SNR=9.4
TKM2 Tokmak 2 115.45 308 P PKPdf 02 21 05.3 -1.3
SNR=14
KZA Kyzart 115.60 307 P PKPdf 02 21 06.8 -0.1
SNR=6.3
KBK Karagaybulak 115.89 308 P PKPdf 02 21 06.7 -0.7
SNR=6.9
CHMS Chumysh 116.08 308 P PKPdf 02 21 06.7 -1.1
SNR=7.4
UCH Uchtor 116.16 307 P PKPdf 02 21 08.5 +0.5

SNR=19
AAK Ala-Archa 116.22 308 *i* PKIKP PKPdf 02 21 06.4 -1.7
AAK Ala-Archa 116.22 308 *e*PKPdf PKPdf 02 21 06.0 -2.1
USP Ospenovka 116.29 308 P PKPdf 02 21 06.9 -1.3
SNR=13
MIV Mineville/With 116.45 51 *e*PKPdf PKPdf 02 21 06.5 -2.0
EKS2 Erkin-Say 116.75 308 P PKPdf 02 21 08.9 -0.2
SNR=9.3
AML Almayashu 116.75 307 P PKPdf 02 21 09.0 -0.1
SNR=19
SJG San Juan 117.80 81 *e*PKIKP PKPdf 02 21 10.2 -0.9
VOSK Vostochnaya 119.12 319 PKIKP PKPdf 02 21 11.9 -1.8
KKAR Karatay Array 119.18 308 *i* PKIKP PKPdf 02 21 12.4 -1.4
KKAR pmax pmax
comp=Z,12nm,0.7s
CHKZ Chkalovo 119.31 320 PKIKP PKPdf 02 21 11.4 -2.6
CHKZ pmax pmax
comp=Z,28nm,1.1s
CHKZ Chkalovo 119.31 320 *e*PKPdf PKPdf 02 21 11.6 -2.4
BDFB Brasilia 119.41 124 PKP PKPdf 02 21 13.8 -0.4
comp=Z,6.9nm,0.8s,baz=220,slow=2.2,SNR=5.3
BDFB PKKPbc PKKPbc 02 31 28.4 +0.3
comp=Z,3.2nm,0.6s,baz=182,slow=5.3,SNR=5.8
BVA0 Borovoye Array 119.47 319 *i* PKIKP PKPdf 02 21 12.5 -1.8
BVA0 pmax pmax
comp=Z,5.0nm,0.7s
BVAR Borovoye Array 119.47 319 PKP PKPdf 02 21 12.4 -1.9
comp=Z,16nm,0.4s,baz=133,slow=1.2,SNR=127
ZRNK Zerenda 120.31 319 PKIKP PKPdf 02 21 13.6 -2.3
ZRNK pmax pmax
comp=Z,15nm,0.7s
ZRNK Zerenda 120.31 319 *e*PKPdf PKPdf 02 21 13.8 -2.1
SCHQ Schefferville 120.95 38 PKP PKPdf 02 21 14.7 -2.4
comp=Z,7.4nm,0.8s,baz=346,slow=2.5,SNR=8.6
SUR Sutherland 122.28 200 *e*PKPdf PKPdf 02 21 20.0 +0.3
KBS Kingsbay 123.02 357 *i* PKIKP PKPdf 02 21 18.8 -2.4
KBS Kingsbay 123.02 357 *e*PKPdf PKPdf 02 21 19.1 -2.0
SPB4 Spitsbergen Ar 123.52 356 *e*PKPdf PKPdf 02 21 19.6 -2.5
BOSA Boshof 124.05 206 PKP PKPdf 02 21 23.4 +0.3
comp=Z,9.6nm,0.9s,baz=131,slow=3.0,SNR=15
BOSA PKKPbc PKKPbc 02 31 09.5 -1.5
comp=Z,7.7nm,0.8s,baz=351,slow=1.9,SNR=18
BOSA Boshof 124.05 206 *e*PKPdf PKPdf 02 21 23.4 +0.3
SVE Sverdlovsk 124.59 325⇓ *e*PKIKP PKPdf 02 21 22.0 -2.1
SVE pmax pmax
comp=Z,36nm,1.5s
DAG Danmarks Havn 124.61 5⇓ *i*P PKPdf 02 21 20.9 -3.3
comp=Z,21nm,0.8s
SFJD Kangerlussuaq 125.11 22 *i* P PKPdf 02 21 22.5 -2.6
comp=Z,37nm,1.5s
SUMG Summit 125.19 13 *e*PKPdf PKPdf 02 21 23.5 -1.8
ARU Arti 125.79 324 *i* PKIKP PKPdf 02 21 24.7 -1.8
ARU Arti 125.79 324 *e*PKPdf PKPdf 02 21 25.0 -1.5
SOKR Solikamsk 125.83 328 *c i*PKIKP PKPdf 02 21 25.2 -1.3
SOKR pmax pmax
comp=Z,80nm,1.0s
AB31 Akbulak array 126.33 316 *i* PKIKP PKPdf 02 21 25.5 -2.0
AB31 pmax pmax
comp=Z,1.0nm,0.4s
LBTB Lobatse 127.04 209 PKP PKPdf 02 21 29.1 +0.3
comp=Z,5.3nm,0.6s,baz=134,slow=4.0,SNR=11
LBTB Lobatse 127.04 209 PKIKP PKPdf 02 21 29.1 +0.3
LBTB pmax pmax
comp=Z,5.0nm,0.6s
LBTB Lobatse 127.04 209 *e*PKPdf PKPdf 02 21 29.3 +0.5
AKTO Aktyubinsk 127.38 317 PKIKP PKPdf 02 21 27.7 -1.8
AKTO pmax pmax
comp=Z,19nm,1.5s
KEV Kevo 129.90 348 *e*pkp 02 21 21.5
ARCES ARCESS Array B 130.36 349 PKhKP 02 21 21.9
comp=Z,2.3nm,0.7s,baz=87,slow=1.1,SNR=11
ARCES PKP PKPdf 02 21 33.0 -2.2
comp=Z,26nm,0.6s,baz=168,slow=0.3,SNR=6.2
ARCES SKPbc SKPbc 02 24 02.5 -0.9
comp=Z,6.9nm,0.6s,baz=21,slow=4.2,SNR=12
ARCES ARCESS Array B 130.36 349 PKP 02 21 21.9
ARCES PKP PKPdf 02 21 33.0 -2.2
ARCES SKPbc SKPbc 02 24 02.5 -0.9
ARE0 ARCESS Array S 130.36 349 *e*PKPdf PKPdf 02 21 33.1 -2.0
KLMR Klimovskoe 132.87 335 *i* PKHKP 02 21 29.7
KLMR pmax pmax
comp=Z,50nm,1.2s
LSZ Lusaka 133.84 219 *e*PKPdf PKPdf 02 21 42.7 +1.0
LSZ *e*SKPbc SKPbc 02 24 15.6 +0.4
JOF Joensuu 134.32 341 *e*pkp 02 21 27.5
TSUM Tsumeb 135.52 203 *e*PKPdf PKPdf 02 21 45.2 +0.4
TSUM *e*SKPbc SKPbc 02 24 21.1 +0.6
KAF Kangasniemi 136.41 343 *e*p 02 21 31.9
MOS Moscow 136.72 330 *e*PKIKP PKPdf 02 21 44.6 -2.4
FIA1 FINESS Array S 137.01 342 *e*PKPpre 02 21 37.0
FIA1 *e*PKPdf PKPdf 02 21 45.7 -1.9
FIA1 *e*SKPbc SKPbc 02 24 23.3 -1.6
FINES FINESS Array B 137.02 342 PKhKP 02 21 33.9
comp=Z,2.0nm,0.5s,baz=90,slow=4.2,SNR=23
FINES PKP PKPdf 02 21 45.5 -2.0
comp=Z,13nm,0.6s,baz=94,slow=4.2,SNR=19
FINES SKPbc SKPbc 02 24 23.8 -1.2
comp=Z,4.3nm,0.6s,baz=61,slow=4.4,SNR=6.1
FINES FINESS Array B 137.02 342 PKHKP 02 21 33.9
FINES 02 21 45.6
KMBO Kilima Mbogo 137.24 242 PKP PKPdf 02 21 49.6 +1.7
comp=Z,4.2nm,0.6s,baz=21,slow=2.0,SNR=11
KMBO SKPbc SKPbc 02 24 26.8 +1.2
comp=Z,16nm,0.9s,baz=45,slow=1.5,SNR=15
OBN Obninsk 137.57 330 *i* PKIKP PKPdf 02 21 46.7 -1.9
OBN *e* 02 24 39.1
OBN pmax pmax
comp=Z,96nm,1.6s
OBN Obninsk 137.57 330 *e*PKPpre 02 21 41.0
OBN *e*PKPdf PKPdf 02 21 47.7 -0.9
OBN *e*PKP PKPdf 02 21 48.4 -0.2
OBN *e*SKPbc SKPbc 02 24 25.1 -1.5
VRSR Storozhevoye 138.34 324 *e*PKIKP PKPdf 02 21 50.8 +0.8
VRSR pmax pmax
comp=N,9.0nm,1.0s
VRSR pmax pmax
comp=Z,20nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,2.0s
ZEI Tsey 138.58 310 *e*PKIKP PKPdf 02 21 52.2 +1.7
GNI Garni 138.59 306 PKP PKPdf 02 21 49.8 -0.7
comp=E,17nm,0.8s,baz=43,slow=7.0,SNR=5.6
GNI Garni 138.59 306 *i* PKIKP PKPdf 02 21 50.2 -0.3
GNI Garni 138.59 306 *e*PKPdf PKPdf 02 21 51.3 +0.8
KIV Kislovodsk 139.09 312 *i* PKIKP PKPdf 02 21 53.1 +1.7
KIV *e* 02 24 53.9
KIV pmax pmax
comp=Z,30nm,1.4s
KIV Kislovodsk 139.09 312 *e*PKPpre 02 21 44.8
KIV *e*PKPdf PKPdf 02 21 51.3 -0.1
KIV *e*PKP PKPdf 02 21 53.2 +1.8
VSU Vasula 139.19 339 *i* PKHKP 02 21 41.5
CUKT Cukurca 140.00 302 *e*P PKPdf 02 21 49.4 -3.6
NB2 NORSAR Subarra 140.52 352 PKP 02 21 46.3
comp=Z,85nm,1.4s,baz=12,slow=3.7
NOA NORSAR Array B 140.52 352 PKhKP 02 21 46.1
comp=Z,19nm,0.9s,baz=7.5,slow=2.2,SNR=67
NOA SKPbc SKPbc 02 24 33.7 -0.8
comp=Z,7.6nm,0.9s,baz=15,slow=4.3,SNR=6.9
NAO01 NORSAR Array S 140.75 352 *e*PKPpre 02 21 47.3
EZM Erzurum 141.17 307 *e*P PKPdf 02 21 50.9 -4.2
BTMT Batman 141.47 304 *e*P PKPdf 02 21 50.9 -4.8
BEST Besiri 141.71 303 *i* P PKPdf 02 21 51.5 -4.5
MNK Minsk 141.78 334 *e*PKHKP 02 21 49.0
WAL1 Walls 142.00 2 *e*P PKPdf 02 21 51.1 -5.5
WAL1 Walls 142.00 2 *e*P PKPdf 02 21 51.1 -5.5
KONO Kongsberg 142.08 352 *i* PKHKP 02 21 51.3
KONO Kongsberg 142.08 352 *e*PKPpre 02 21 51.4
BINT Bingol 142.08 305 *e*P PKPdf 02 21 52.8 -3.9
LRW Lerwick 142.13 1 *e*P PKPdf 02 21 52.0 -4.8
LRW Lerwick 142.13 1 *e*P PKPdf 02 21 52.0 -4.8
ANN Anapa 142.30 316 *i* PKHKP PKPdf 02 21 52.0 -5.1
ANN pmax pmax
comp=Z,188nm,1.5s
EZC Erzincan 142.36 307 *e*P PKPdf 02 21 55.7 -1.5
KELT Kelkit 142.66 308 *i* P PKPdf 02 21 55.6 -2.2
MBAR Mbarara 142.74 236 *i* PKHKP PKPdf 02 21 55.9 -2.0
GRSN GIRESUNGRSN 143.15 309 *i* P PKPdf 02 21 56.0 -2.6
ELZG Elazig 143.32 305 *i* P PKPdf 02 21 58.8 -0.1
OBR Brabster 143.59 3 *e*P PKPdf 02 21 56.1 -3.3
OBR Brabster 143.59 3 *e*P PKPdf 02 21 56.1 -3.3
ORE Reay 143.62 4 *e*P PKPdf 02 21 55.9 -3.5
ORE Reay 143.62 4 *e*P PKPdf 02 21 55.9 -3.5
URFA Urfa 143.70 303 *e*P PKPdf 02 21 58.2 -1.4

MYA Malataya 143.78 305 *e*P PKPdf 02 21 57.7 -2.1
MALT Malatya 143.79 305⇑ *i*P PKPdf 02 22 00.0 +0.3
MALT Malatya 143.79 305 *e*PKPdf PKPdf 02 21 59.3 -0.4
AKASG Malin Array Be 143.80 329 PKP PKPdf 02 21 57.3 -2.5
comp=Z,39nm,0.4s,baz=40,slow=3.8,SNR=293
AKASG SKPbc SKPbc 02 24 41.6 -1.0
comp=Z,4.2nm,0.7s,baz=46,slow=2.4,SNR=4.4
AKBB Malin Array Si 143.80 329 *e*PKIKP PKPdf 02 21 57.1 -2.7
SUW Suwalki 143.92 337 *e*PKPdf PKPdf 02 21 58.3 -1.7
MVH1 Achvaich 144.21 4 *e*P PKPdf 02 21 57.1 -3.3
MVH1 Achvaich 144.21 4 *e*P PKPdf 02 21 57.1 -3.3
SIM Simferopol' 144.35 318 *d i*PKIKP PKPdf 02 22 00.9 +0.2
SIM pmax pmax
comp=Z,135nm,0.9s
SVSK Karacayir 144.39 308 *e*P PKPdf 02 22 00.1 -0.7
KSK Scoval 144.45 7 *e*P PKPdf 02 21 59.5 -1.4
KSK Scoval 144.45 7 *e*P PKPdf 02 21 59.5 -1.4
KAC Achnashellach 144.55 5 *e*P PKPdf 02 21 59.4 -1.7
KAC Achnashellach 144.55 5 *e*P PKPdf 02 21 59.4 -1.7
TOKT Tokat 144.58 309 *e*P PKPdf 02 21 59.6 -1.5
MCD Coleburn Disti 144.61 3 *e*P PKPdf 02 21 58.9 -2.3
MCD Coleburn Disti 144.61 3 *e*P PKPdf 02 21 58.9 -2.3
KPL Plockton 144.68 6 *e*P PKPdf 02 21 59.9 -1.4
KPL Plockton 144.68 6 *e*P PKPdf 02 21 59.9 -1.4
KSB Sheil Bridge 144.82 6 *e*P PKPdf 02 21 60.0 -1.6
KSB Sheil Bridge 144.82 6 *e*P PKPdf 02 21 60.0 -1.6
MME1 Meikle Cairn 144.89 3 *e*P PKPdf 02 21 59.5 -2.2
MME1 Meikle Cairn 144.89 3 *e*P PKPdf 02 21 59.5 -2.2
GAZ Gaziantep 145.01 303 *e*P PKPdf 02 22 03.0 +1.2
KAR1 Arisaig 145.07 6 *e*P PKPdf 02 22 01.1 -0.8
KAR1 Arisaig 145.07 6 *e*P PKPdf 02 22 01.1 -0.8
MUD Monsted U'grnd 145.24 351 *i* P PKPdf 02 22 01.7 -0.5
comp=Z,224nm,1.1s
MUD
comp=Z,220nm,19.0s
BOYT Boyabat 145.34 312 *i* P PKPdf 02 22 04.2 +1.7
BYBT Boyabat 145.42 312 *e*P PKPdf 02 22 02.5 0.0
COP Copenhagen 145.44 348 *i* P PKPdf 02 22 02.6 0.0
comp=Z,93nm,0.9s
COP
comp=Z,150nm,19.0s
BSD Bornholm Skovb 145.44 345⇑ *i*P PKPdf 02 22 02.0 -0.6
comp=Z,262nm,0.9s
BNN Bunyan 145.57 307 *e*P PKPdf 02 22 01.6 -1.2
EAB Aberfoyle 145.93 5 *e*P PKPdf 02 22 01.6 -1.8
EAB Aberfoyle 145.93 5 *e*P PKPdf 02 22 01.6 -1.8
CORM Corum 146.00 310 *e*P PKPdf 02 22 04.0 +0.4
TOS Tosya 146.11 311 *e*P PKPdf 02 22 05.4 +1.7
HTY Hatay 146.11 302 *e*P PKPdf 02 22 06.1 +2.4
WAR Warsaw 146.12 337 *e*PKPdf PKPdf 02 22 05.7 +2.0
PCOU Corrie 146.14 5 *e*P PKPdf 02 22 01.9 -1.9
PCOU Corrie 146.14 5 *e*P PKPdf 02 22 01.9 -1.9
CEYT Ceyhan 146.18 304 *e*P PKPdf 02 22 02.5 -1.3
PMSU Muirshiel 146.23 5 *e*P PKPdf 02 22 03.0 -0.9
PMSU Muirshiel 146.23 5 *e*P PKPdf 02 22 03.0 -0.9
ASF Jabal al Asfar 146.24 295 PKPbc PKPbc 02 22 06.2 -0.1
comp=Z,43nm,0.8s,baz=348,slow=2.2,SNR=44
EDI Edinburgh 146.27 4 *e*P PKPdf 02 22 03.1 -0.9
EDI Edinburgh 146.27 4 *e*P PKPdf 02 22 03.1 -0.9
PGBU Glenifferbraes 146.29 5 *e*P PKPdf 02 22 02.9 -1.1
PGBU Glenifferbraes 146.29 5 *e*P PKPdf 02 22 02.9 -1.1
ESY Stoneypath 146.31 3 *e*P PKPdf 02 22 02.3 -1.7
ESY Stoneypath 146.31 3 *e*P PKPdf 02 22 02.3 -1.7
RGN Rugen 146.32 346 *e*PKPbc PKPbc 02 22 05.6 -0.9
AVNT Avonos 146.33 307 *i* P PKPdf 02 22 06.7 +2.6
EAU Auchinoon 146.33 4 *e*P PKPdf 02 22 02.5 -1.6
EAU Auchinoon 146.33 4 *e*P PKPdf 02 22 02.5 -1.6
BALT Daday 146.34 313 *i* P PKPbc 02 22 07.1 +0.6
KIS Kishinev 146.35 324 *c i*PKIKP PKPdf 02 22 04.0 -0.1
KIS pmax pmax
comp=Z,1μm,1.0s
CDAG Cicekdag 146.39 309 *i* P PKPdf 02 22 06.4 +2.2
EBL Broad Law 146.43 4 *e*P PKPdf 02 22 03.3 -0.9
EBL Broad Law 146.43 4 *e*P PKPdf 02 22 03.3 -0.9
GKP Gorka Klasztor 146.49 342 *e*PKP PKPbc 02 22 06.0 -0.9
CANT Cankiri 146.56 311 *e*P PKPdf 02 22 04.5 0.0
KARA Karaisali 146.65 304 *e*P PKPdf 02 22 04.9 +0.3
ELDT Eldivan 146.74 311 *i* P PKPbc 02 22 07.5 -0.1
LVV L'vov 146.80 332 *i* PKP2 PKPbc 02 22 06.9 -0.9
ESK Eskdalemuir 146.87 4 *e*P PKPdf 02 22 03.9 -1.1
ESK Eskdalemuir 146.87 4 *e*P PKPdf 02 22 03.9 -1.1
ESK Eskdalemuir 146.87 4 *e*PKPdf PKPdf 02 22 04.5 -0.5
ESK *e*PKPbc PKPbc 02 22 06.5 -1.5
BR131 Keskin Array S 146.88 309 *e*PKPdf PKPdf 02 22 04.0 -1.0
BR131 *e*PKPbc PKPbc 02 22 07.4 -0.6
BRTR Keskin Array B 146.88 309 PKP PKPdf 02 22 03.7 -1.3
comp=Z,30nm,0.7s,baz=137,slow=3.0,SNR=39
BRTR PKPbc PKPbc 02 22 07.0 -0.9
comp=Z,30nm,0.7s,baz=141,slow=4.3,SNR=127
IAS Iasi 146.90 325⇑ *i*P PKPbc 02 22 07.8 -0.2
IAS Iasi 146.90 325 P PKPbc 02 22 07.8 -0.2
SAFT Safranbolu 146.94 312 *e*P PKPdf 02 22 03.0 -2.1
KAMT Kaman 146.96 309 *e*P PKPdf 02 22 04.7 -0.4
BWH Wardlaw 146.98 4 *e*P PKPdf 02 22 04.2 -0.9
BWH Wardlaw 146.98 4 *e*P PKPdf 02 22 04.2 -0.9
BHH Howats Hill 147.09 4 *e*P PKPdf 02 22 06.0 +0.6
BHH Howats Hill 147.09 4 *e*P PKPdf 02 22 06.0 +0.6
MERS Mersin 147.17 304 *e*P PKPdf 02 22 05.4 0.0
MMAI Mount Meron Ar 147.36 297 PKP PKPdf 02 22 05.5 -0.2
comp=Z,26nm,0.5s,baz=18,slow=6.1,SNR=7.8
MMAI PKPbc PKPbc 02 22 10.1 +0.9
comp=Z,46nm,0.5s,baz=73,slow=7.1,SNR=74
BDL Dobcross Hall 147.40 4 *e*P PKPdf 02 22 07.2 +1.4
BDL Dobcross Hall 147.40 4 *e*P PKPdf 02 22 07.2 +1.4
ANTO Ankara 147.43 310 *e*P PKPdf 02 22 06.9 +1.0
ANTO Ankara 147.43 310⇓ *i*P PKPdf 02 22 06.0 +0.1
ANTO Ankara 147.43 310 *e*PKPdf PKPdf 02 22 05.1 -0.8
ANTO *e*PKPbc PKPbc 02 22 09.1 -0.3
ANTO P 02 22 09.2
LOD Lodumlu 147.44 310 *e*P PKPbc 02 22 09.3 -0.2
BBO1 Bothel 147.45 4 *e*P PKPdf 02 22 04.5 -1.4
BBO1 Bothel 147.45 4 *e*P PKPdf 02 22 04.5 -1.4
BSEG Bad Segeberg 147.49 349 *e*PKPdf PKPdf 02 22 04.1 -1.9
BSEG *e*PKPbc PKPbc 02 22 08.8 -0.8
BSEG *e*PKPab PKPab 02 22 13.0 -0.8
KWP Kalwaria 147.51 333 *e*PKPdf PKPbc 02 22 09.0 -0.6
KWP Kalwaria 147.51 333 *e*PKPdf PKPdf 02 22 05.0 -1.0
KWP *e*PKPbc PKPbc 02 22 08.7 -1.0
KWP ⇓ *e*PKP PKPdf 02 22 09.0 +3.0
MEST Erdemli 147.54 304 *i* P PKPbc 02 22 09.3 -0.4
HLG Helgoland 147.62 352 *e*PKPbc PKPbc 02 22 09.5 -0.4
HLG *e*PKPab PKPab 02 22 13.9 -0.5
SGKT Sivrigoynuk 147.66 312 *i* P PKPbc 02 22 09.6 -0.4
CFR Carcaliu 147.82 322⇑ *i*P PKPdf 02 22 06.4 -0.1
CFR Carcaliu 147.82 322 ⇑P PKPdf 02 22 06.4 -0.1
BURAR Bucovina Array 147.82 328⇓ *i*P PKPbc 02 22 10.0 -0.4
BURAR Bucovina Array 147.82 328 ⇓P PKPbc 02 22 10.0 -0.4
WIM Isle of Man 147.92 6 *e*P PKPdf 02 22 08.4 +1.7
WIM Isle of Man 147.92 6 *e*P PKPdf 02 22 08.4 +1.7
LWH Whinny Nab 147.96 1 *e*P PKPdf 02 22 05.5 -1.3
LWH Whinny Nab 147.96 1 *e*P PKPdf 02 22 05.5 -1.3
IKL Isikli 147.99 303 *e*P PKPdf 02 22 07.4 +0.5
TIRR Tirgusor 148.07 321⇑ *i*P PKPdf 02 22 06.1 -0.8
TIRR Tirgusor 148.07 321⇑ *i*P PKPbc 02 22 10.8 -0.2
TIRR Tirgusor 148.07 321 *e*PKPdf PKPdf 02 22 05.6 -1.4
TIRR *e*PKPbc PKPbc 02 22 10.1 -0.9
TIRR P 02 22 10.8
TIRR *e*PKPab PKPab 02 22 15.7 -0.5
RUE Ruedersdorf 148.13 344 *e*PKPdf PKPdf 02 22 06.0 -1.0
RUE *e*PKPbc PKPbc 02 22 10.6 -0.6
RUE *e*PKPab PKPab 02 22 15.6 -0.8
RUE Ruedersdorf 148.13 344 *e*PKPbc PKPbc 02 22 10.4 -0.7
VRI Vrincioaia 148.18 324⇑ *i*P PKPbc 02 22 11.0 -0.3
VRI Vrincioaia 148.18 324⇑ *i*P PKPbc 02 22 11.2 -0.1
VRI Vrincioaia 148.18 324 P PKPbc 02 22 11.2 -0.1
EIL Elat 148.19 291 *e*PKPdf PKPdf 02 22 07.2 0.0
EIL *e*PKPbc PKPbc 02 22 11.8 +0.5
EIL *e*PKPab PKPab 02 22 18.1 +1.5
OJC Ojcow 148.22 336 *e*PKPdf PKPdf 02 22 05.7 -1.5
OJC *e*PKPbc PKPbc 02 22 10.7 -0.7
OJC *e*PKPab PKPab 02 22 16.5 -0.3
KOLS Kolonicke sedl 148.23 332 *e*PKP PKPdf 02 22 06.8 -0.4
KOLS *e* 02 22 11.8
PLOR Plostina 148.24 324⇑ *i*P PKPbc 02 22 11.2 -0.2
MDU Mudurnu 148.28 312 *e*P PKPbc 02 22 11.2 -0.4
HENT Hendek 148.34 313 *i* P PKPdf 02 22 05.4 -2.0
CVD Cernavoda 148.38 321⇑ *i*P PKPbc 02 22 12.0 +0.2
DCN Croghan 148.41 9⇑ *i*P PKPdf 02 22 06.1 -1.4
DCN Croghan 148.41 9⇓ *i*P PKPbc 02 22 10.4 -1.5
KDHN Kadinhani 148.43 308 *i* P PKPbc 02 22 11.3 -0.6
KIZT Kizilcal 148.46 309 *e*P PKPdf 02 22 07.2 -0.3

ERMK Ermenek 148.47 304 *i* P PKPbc 02 22 12.0 0.0
DLF Lyons Farm 148.56 8⇑ *i*P PKPdf 02 22 06.3 -1.4
DLF Lyons Farm 148.56 8⇓ *i*P PKPbc 02 22 10.6 -1.6
CRVS Cervenica-Dubn 148.60 333 *e*PKP PKPdf 02 22 07.2 -0.6
CRVS *e* 02 22 12.0
CSS Prodhromos 148.62 301 P PKPbc 02 22 12.0 -0.4
comp=Z,1.2nm,0.7s
CSS Prodhromos 148.62 301 *e*P PKPdf 02 22 10.3 +2.4
DSB Dublin 148.63 8 *e*PKPdf PKPdf 02 22 06.4 -1.4
DSB *e*PKPbc PKPbc 02 22 10.7 -1.7
DSB *e*PKPab PKPab 02 22 17.3 -1.2
MAMC Mammari 148.65 302⇑ P PKPbc 02 22 12.8 +0.3
MAMC Mammari 148.65 302⇑ *i*P PKPbc 02 22 12.8 +0.3
NIE Niedzica 148.66 335 *e*PKPdf PKPdf 02 22 07.6 -0.3
NIE *e*PKPbc PKPbc 02 22 12.4 -0.1
NIE e 02 22 17.2
NIE Niedzica 148.66 335 *e*PKPdf PKPdf 02 22 07.6 -0.3
NIE *e*PKPbc PKPbc 02 22 12.4 -0.1
NIE *e* 02 22 17.2
HDMB Hadim 148.69 305 *e*P PKPdf 02 22 09.8 +1.8
WCB1 Church Bay 148.70 6 *e*P PKPdf 02 22 08.1 +0.1
WCB1 Church Bay 148.70 6 *e*P PKPdf 02 22 08.1 +0.1
WME Myndd Eilian 148.70 5 *e*P PKPdf 02 22 06.3 -1.7
WME Myndd Eilian 148.70 5 *e*P PKPdf 02 22 06.3 -1.7
LHO Holmfirth 148.71 3 *e*P PKPdf 02 22 06.6 -1.4
LHO Holmfirth 148.71 3 *e*P PKPdf 02 22 06.6 -1.4
YRC Rhoscolyn 148.82 6 *e*P PKPdf 02 22 06.2 -1.9
YRC Rhoscolyn 148.82 6 *e*P PKPdf 02 22 06.2 -1.9
MLR Muntele Rosu 148.84 324 PKP PKPdf 02 22 07.2 -1.0
comp=Z,23nm,1.2s,baz=36,slow=3.0,SNR=15
MLR PKPbc PKPbc 02 22 12.1 -0.8
comp=Z,56nm,0.8s,baz=8.4,slow=3.4,SNR=54
MLR Muntele Rosu 148.84 324⇓ *i*P PKPdf 02 22 07.7 -0.5
MLR Muntele Rosu 148.84 324 ⇓P PKPdf 02 22 07.7 -0.5
MLR P 02 22 12.2
WPM1 Penmaenmawr 148.87 5 *e*P PKPdf 02 22 06.7 -1.5
WPM1 Penmaenmawr 148.87 5 *e*P PKPdf 02 22 06.7 -1.5
KSP Ksiaz 148.89 340 *e*PKPdf PKPbc 02 22 12.7 -0.3
KSP Ksiaz 148.89 340 *e*PKPdf PKPdf 02 22 07.5 -0.8
KSP *i* PKPdf PKPdf 02 22 12.6 +4.3
KSP *e*PKPab PKPab 02 22 19.0 -0.6
ESKT Eskisehir 148.94 311 *e*P PKPbc 02 22 11.7 -1.4
ESKT Eskisehir 148.94 311 *i* P PKPbc 02 22 13.1 -0.1
BORA Eskisehir 149.06 312 *i* P PKPbc 02 22 12.8 -0.7
YRE Yr Eifl 149.10 6 *e*P PKPdf 02 22 06.2 -2.4
YRE Yr Eifl 149.10 6 *e*P PKPdf 02 22 06.2 -2.4
WIT Witteveen 149.12 353 *e*PKP PKPdf 02 22 08.4 -0.3
WIT *ex* x 02 22 13.5
WIT *e*PKP pPKPdf 02 24 34.4 +6.9
OKC Ostrava-Krasne 149.13 337 *e*PKPDF PKPdf 02 22 08.0 -0.6
OKC ⇑ *e*PKP PKPdf 02 22 12.9 +4.3
OKC *e*PKPAB PKPab 02 22 20.0 -0.6
OKC *e*PKP pPKPdf 02 24 35.7 +8.1
ALFC Alevga 149.14 302⇑ P PKPbc 02 22 13.3 -0.4
comp=Z,2.9nm,0.6s
ALFC Alevga 149.14 302⇑ *e*P PKPbc 02 22 13.3 -0.4
HRT Hereke 149.18 314 *e*P PKPdf 02 22 10.3 +1.6
VAL Valentia 149.24 13⇑ *i*P PKPbc 02 22 12.4 -1.5
SBD1 Bryn Du 149.27 4 *e*P PKPdf 02 22 07.5 -1.4
SBD1 Bryn Du 149.27 4 *e*P PKPdf 02 22 07.5 -1.4
UPC Upice 149.27 340 *e*PKPDF PKPdf 02 22 07.6 -1.3
UPC ⇑ *e*PKP PKPdf 02 22 13.6 +4.7
UPC *e*PKPAB PKPab 02 22 20.8 -0.4
UPC *e*PKP pPKPdf 02 24 33.4 +5.6
UPC Upice 149.27 340 *e*PKIKP PKPdf 02 22 07.6 -1.3
UPC *e* 02 22 20.8
ADVT Abdulvahap 149.31 313 *e*P PKPdf 02 22 09.3 +0.4
DPC Dobruska-Polom 149.31 340 *e*PKPDF PKPdf 02 22 08.1 -0.8
DPC ⇑ *e*PKP PKPdf 02 22 13.8 +4.9
DPC *e*PKPAB PKPab 02 22 21.6 +0.3
DPC *e*PKP pPKPdf 02 24 34.1 +6.2
PRD Provadia 149.39 319 P PKPbc 02 22 14.0 -0.2
CLL Collm 149.40 344 *e*PKPdf PKPdf 02 22 07.8 -1.3
CLL *e*PKPbc PKPbc 02 22 13.6 -0.7
CLL *e*PKPab PKPab 02 22 20.7 -1.0
CLL *e*PKPbc pPKPbc 02 24 35.5 +4.0
CLL Collm 149.40 344 *i* PKIKP PKPdf 02 22 08.2 -0.9
comp=Z,logA/T=1.4
CLL *i* PKP1 PKPbc 02 22 13.5 -0.8
CLL *i* PKP2 PKPab 02 22 20.6 -1.1
CLL *i* 02 22 28.4
CLL *e* 02 22 36.0
CLL *i* *PPKP 02 24 35.8
CLL *e*PP PP 02 25 48.0 -5.1
CLL Collm 149.40 344 *i* PKPdf PKPdf 02 22 08.2 -0.9
comp=Z,34nm,1.4s
CLL ⇓ *i*PKPbc PKPbc 02 22 13.5 -0.8
comp=Z,344nm,0.8s
CLL ⇑ *i*PKPab PKPab 02 22 20.6 -1.1
comp=Z,146nm,0.8s
CLL *i* x x 02 22 28.4
CLL *ex* x 02 22 36.0
CLL *i* pPKPbc pPKPbc 02 24 35.8 +4.3
comp=Z,32nm,1.2s
CLL *e*PP PP 02 25 48.0 -5.1
CLL Collm 149.40 344 *i* PKIKP PKPdf 02 22 08.2 -0.9
CLL *i* 02 22 20.6
CLL Collm 149.40 344 *i* PKP PKPdf 02 22 08.2 -0.9
CLL ⇓ *i*PKP PKPbc 02 22 13.5 -0.8
CLL ⇑ *i*PKP PKPab 02 22 20.6 -1.1
CLL *i* pPKP pPKPdf 02 24 35.8 +7.8
MORC Moravsky Berou 149.40 338⇓ *i*P PKPdf 02 22 08.9 -0.2
MORC Moravsky Berou 149.40 338 *e*PKPdf PKPdf 02 22 08.1 -0.9
MORC *e*PKPbc PKPbc 02 22 13.9 -0.4
PPCY Paphos 149.42 301⇑ P PKPbc 02 22 13.8 -0.5
PPCY Paphos 149.42 301⇑ *i*P PKPbc 02 22 13.8 -0.5
LIKS Likavka 149.43 336 *e*PKP PKPbc 02 22 15.1 +0.8
AWI1 Witton 149.47 359 *e*P PKPdf 02 22 08.1 -1.1
AWI1 Witton 149.47 359 *e*P PKPdf 02 22 08.1 -1.1
CLZ Clausthal 149.48 348 *e*PKPdf PKPdf 02 22 08.6 -0.6
CLZ *e*PKPbc PKPbc 02 22 14.2 -0.3
CLZ *e*PKPab PKPab 02 22 21.4 -0.6
CLZ *e*pPKPbc pPKPbc 02 24 34.9 +3.2
CLZ Clausthal 149.48 348 *e*PKIKP PKPdf 02 22 08.6 -0.6
CLZ *e* 02 22 21.4
MTUR Matau 149.49 325 PKHKP PKPbc 02 22 13.5 -1.0
BRG Berggiesshubel 149.55 343 *e*PKPdf PKPdf 02 22 08.1 -1.2
BRG *e*PKPbc PKPbc 02 22 14.1 -0.5
BRG *e*PKPab PKPab 02 22 22.0 -0.3
BRG *e*pPKPbc pPKPbc 02 24 35.0 +3.1
BRG Berggiesshubel 149.55 343 *i* PKP PKPdf 02 22 08.8 -0.5
comp=Z,21nm,1.4s
BRG Berggiesshubel 149.55 343 *i* PKP PKPbc 02 22 14.2 -0.4
comp=Z,151nm,0.8s
BRG Berggiesshubel 149.55 343 *i* PKP PKPab 02 22 22.0 -0.3
comp=Z,44nm,0.8s
BRG *e*pPKP pPKPdf 02 24 32.0 +3.7
comp=Z,18nm,1.3s
BRG Berggiesshubel 149.55 343 *i* PKP PKPdf 02 22 08.8 -0.5
BRG *i* PKP PKPbc 02 22 14.2 -0.4
BRG *i* PKP PKPab 02 22 22.0 -0.3
BRG *e*pPKP pPKPdf 02 24 32.0 +3.7
DRGR 149.61 329⇑ *i*P PKPbc 02 22 14.8 0.0
DRGR 149.61 329 ⇑P PKPbc 02 22 14.8 0.0
FBE Freiberg 149.66 344 *e*PKPdf PKPdf 02 22 08.6 -0.9
FBE *e*PKPbc PKPbc 02 22 14.8 -0.1
FBE *e*PKPab PKPab 02 22 22.4 -0.4
FBE *e*pPKPbc pPKPbc 02 24 34.9 +2.7
GEMT Gemlik 149.68 313 *e*P PKPbc 02 22 13.7 -1.3
HLM1 Long Mynd 149.68 4 *e*P PKPdf 02 22 08.1 -1.4
HLM1 Long Mynd 149.68 4 *e*P PKPdf 02 22 08.1 -1.4
PVCC Panska Ves 149.69 342 *e*PKPDF PKPdf 02 22 08.7 -0.8
PVCC ⇑ *e*PKP PKPdf 02 22 14.5 +5.0
PVCC *e*PKPAB PKPab 02 22 23.2 +0.3
PVCC *e*pPKP

PSZ	Piszkesteto	150.02	333	⇓	ePKP		PKPbc	02 22 15.1	-0.6
PSZ	Piszkesteto	150.02	333		ePKPdf		PKPdf	02 22 08.6	-1.4
PSZ					ePKPbc		PKPbc	02 22 15.0	-0.7
PSZ					ePKPab		PKPab	02 22 23.3	-0.9
ORLT	Orhaneli	150.06	313		eP		PKPdf	02 22 08.8	-1.3
GDZ	Gediz	150.08	311		*i* P		PKPbc	02 22 15.1	-0.8
HTR	Trewern Hill	150.09	5		eP		PKPdf	02 22 08.7	-1.4
HTR	Trewern Hill	150.09	5		eP		PKPdf	02 22 08.7	-1.4
VRAC	Vranov	150.12	339	⇓	*i* P		PKPbc	02 22 15.9	-0.1
VRAC	Vranov	150.12	339		P		PKPbc	02 22 15.6	-0.4
PRA	Prague	150.13	342		PKPDF		PKPdf	02 22 10.0	-0.2
PRA				⇑	PKP		PKPdf	02 22 16.0	+5.8
PRA					PKPAB		PKPab	02 22 24.0	-0.8
PRU	Pruhonice	150.18	342		ePKPDF		PKPdf	02 22 09.5	-0.8
PRU				⇑	ePKP		PKPdf	02 22 15.4	+5.1
PRU					ePKPAB		PKPab	02 22 24.0	-0.9
PRU					epPKP		pPKPdf	02 24 37.2	+7.9
PRU	Pruhonice	150.18	342		ePKIKP		PKPdf	02 22 09.5	-0.8
PRU					*e*			02 22 24.0	
MCH1	Michaelchurch	150.19	4		eP		PKPdf	02 22 08.6	-1.7
MCH1	Michaelchurch	150.19	4		eP		PKPdf	02 22 08.6	-1.7
SZH	Strazhica	150.22	321		*i* P		PKPbc	02 22 16.2	0.0
JMB	Yambol	150.30	319		eP		PKPdf	02 22 09.4	-1.0
MOX	Moxa	150.34	346		ePKPdf		PKPdf	02 22 09.4	-1.1
MOX					ePKPbc		PKPbc	02 22 15.9	-0.6
MOX					ePKPab		PKPab	02 22 24.8	-0.8
MOX	Moxa	150.34	346		ePKP		PKPdf	02 22 09.7	-0.8
MOX					*e*			02 22 15.6	
	comp=Z,153nm,1.1s								
MOX					*e*			02 22 24.9	
TANN	Tannenbergstha	150.35	344		ePKPdf		PKPdf	02 22 09.2	-1.3
TANN					ePKPbc		PKPbc	02 22 16.0	-0.5
TANN					ePKPab		PKPab	02 22 25.0	-0.7
WERD	Werda	150.36	345		ePKPdf		PKPdf	02 22 09.6	-1.0
WERD					ePKPbc		PKPbc	02 22 16.2	-0.3
WERD					ePKPab		PKPab	02 22 24.9	-0.8
BUG	Bochum--Univer	150.39	351		ePKPdf		PKPdf	02 22 09.1	-1.5
BUG					ePKPbc		PKPbc	02 22 15.7	-0.9
BUG					ePKPab		PKPab	02 22 24.5	-1.3
WERN	Wernitzgruen	150.49	344		ePKPdf		PKPdf	02 22 09.9	-0.9
WERN					ePKPbc		PKPbc	02 22 16.5	-0.3
WERN					ePKPab		PKPab	02 22 25.9	-0.4
WERN					epPKPbc		pPKPbc	02 24 38.4	+4.1
TREC	Trest	150.50	340		ePKPDF		PKPdf	02 22 09.4	-1.4
TREC				⇑	ePKP		PKPdf	02 22 16.1	+5.3
TREC					ePKPAB		PKPab	02 22 25.7	-0.6
TREC					epPKP		pPKPdf	02 24 33.2	+3.4
TREC	Trest	150.50	340		ePKIKP		PKPdf	02 22 09.4	-1.4
TREC					*e*			02 22 25.7	
SMOL	Smolenice	150.50	337		ePKP		PKPdf	02 22 11.0	+0.2
SMOL					*e*			02 22 17.1	
SMOL					*e*			02 24 35.4	
ROSA	Rosais	150.50	50		*i* PKP		PKPbc	02 22 16.7	-0.1
NKC	Novy Kostel	150.52	344		ePKPDF		PKPdf	02 22 09.8	-1.0
NKC				⇑	ePKP		PKPdf	02 22 16.2	+5.4
NKC					ePKPAB		PKPab	02 22 26.1	-0.3
NKC					epPKP		pPKPdf	02 24 38.3	+8.5
NKC	Novy Kostel	150.52	344		ePKIKP		PKPdf	02 22 09.8	-1.0
NKC					*e*			02 22 26.1	
UBBA	Unterbreizbach	150.53	348		ePKPdf		PKPdf	02 22 09.1	-1.7
UBBA					ePKPbc		PKPbc	02 22 15.9	-1.0
UBBA					ePKPab		PKPab	02 22 25.0	-1.4
UBBA					epPKPbc		pPKPbc	02 24 38.5	+4.1
HGH	Gray Hill	150.56	4		eP		PKPdf	02 22 09.4	-1.5
HGH	Gray Hill	150.56	4		eP		PKPdf	02 22 09.4	-1.5
MRMT	Marmara Adasi	150.66	315		eP		PKPbc	02 22 14.6	-2.6
ELL	Elmali	150.71	306		eP		PKPbc	02 22 15.6	-1.7
BUD	Budapest	150.72	334	⇓	ePKP		PKPbc	02 22 16.6	-0.8
PKSN	Nyarlorinc	150.83	332	⇑	*i* P		PKPbc	02 22 17.7	+0.1
MANZ	Manzenberg	150.84	344		ePKPdf		PKPdf	02 22 09.9	-1.4
MANZ					ePKPbc		PKPbc	02 22 17.4	-0.2
MANZ					ePKPab		PKPab	02 22 27.4	-0.3
MANZ					epPKPbc		pPKPbc	02 24 39.4	+4.3
ZST	Bratislava	150.89	337		ePKP		PKPbc	02 22 17.8	+0.1
ZST					*e*			02 22 28.0	
ZST					*e*			02 24 37.5	
RKY	Sarkoy-Tekirda	150.89	315		eP		PKPdf	02 22 09.3	-2.1
DENT	Denizli	150.96	309		eP		PKPdf	02 22 09.8	-1.7
DNZL	Cakiroluk	150.98	308		*i* P		PKPbc	02 22 17.8	-0.1
BZS	Buzias	150.99	328	⇓	*i* P		PKPdf	02 22 10.9	-0.6
BZS	Buzias	150.99	328	⇓	P		PKPdf	02 22 10.9	-0.6
PKS7	Kunszentmiklos	151.01	333	⇑	*i* P		PKPbc	02 22 17.7	-0.3
ROTZ	Rotzenmuhle	151.01	344		ePKPdf		PKPdf	02 22 10.2	-1.4
ROTZ					ePKPab		PKPab	02 22 28.3	-0.2
ROTZ					epPKPbc		pPKPbc	02 24 39.7	+4.1
DIM	Dimitrovgrad	151.18	319		*i* P		PKPbc	02 22 18.0	-0.4
PKS6	Bocsa	151.19	332	⇑	*i* P		PKPbc	02 22 18.4	0.0
BEBN	Eben Emael	151.22	353		PKP		PKPdf	02 22 08.7	-3.1
BEBN					PKPbc		PKPbc	02 22 17.4	-1.0
BEBN					PKPab		PKPab	02 22 28.2	-1.2
HGN	Heimansgroeve	151.22	353		ePKP		PKPdf	02 22 10.4	-1.5
	comp=Z,25nm,1.3s								
HGN					*ex*		x	02 22 16.8	
HGN					*ex*		x	02 22 28.4	
HGN					epPKP		pPKPdf	02 24 40.5	+10
KHC	Kasperske Hory	151.22	342		ePKPDF		PKPdf	02 22 11.0	-0.9
KHC				⇑	ePKP		PKPdf	02 22 17.8	+5.9
KHC					ePKPAB		PKPab	02 22 28.8	-0.5
KHC					epPKP		pPKPdf	02 24 38.8	+7.9
KHC	Kasperske Hory	151.22	342		ePKIKP		PKPdf	02 22 11.0	-0.9
KHC					*e*			02 22 28.8	
GRA1	Grafenberg Arr	151.32	345		ePKPdf		PKPdf	02 22 10.9	-1.1
GRA1					ePKPbc		PKPbc	02 22 18.2	-0.5
GRA1					ePKPab		PKPab	02 22 29.5	-0.3
GRF	Grafenberg Arr	151.32	345		ePKPdf		PKPdf	02 22 10.9	-1.1
GRF					ePKPbc		PKPbc	02 22 18.2	-0.5
GRF					ePKPab		PKPab	02 22 29.5	-0.3
AKHS	Akhisar	151.34	312		*i* P		PKPbc	02 22 17.9	-0.9
AKS	Akhisar	151.34	312		eP		PKPbc	02 22 15.6	-3.2
UCC	Uccle	151.35	355		PKPbc		PKPbc	02 22 17.6	-1.2
UCC					PKPab		PKPab	02 22 28.6	-1.3
UCC					E			02 22 40.4	
PKS8	Sarbogard	151.35	333	⇑	*i* P		PKPbc	02 22 18.0	-0.8
FETY	Fethiye	151.36	306		eP		PKPdf	02 22 11.7	-0.4
TNS	Taunus Mts	151.39	349		ePKPdf		PKPdf	02 22 10.9	-1.2
TNS					ePKPbc		PKPbc	02 22 18.6	-0.4
TNS					ePKPab		PKPab	02 22 28.9	-1.1
TNS					epPKPbc		pPKPbc	02 24 40.5	+4.0
TNS	Taunus Mts	151.39	349		ePKIKP		PKPbc	02 22 18.4	-0.4
WET	Wettzell	151.41	343		ePKPdf		PKPdf	02 22 10.6	-1.5
WET					ePKPbc		PKPbc	02 22 18.4	-0.5
WET					ePKPab		PKPab	02 22 30.1	0.0
WET					epPKPbc		pPKPbc	02 24 41.0	+4.5
WET	Wettzell	151.41	343		ePKIKP		PKPdf	02 22 10.6	-1.5
WET					*e*			02 22 30.1	
GEC2	GERESS Array S	151.44	342		ePKPdf		PKPdf	02 22 10.8	-1.4
GEC2					ePKPbc		PKPbc	02 22 18.4	-0.6
GEC2					ePKPab		PKPab	02 22 29.7	-0.6
GEC2					epPKPbc		pPKPbc	02 24 41.3	+4.7
GEC2	GERESS Array S	151.44	342		ePKIKP		PKPdf	02 22 10.8	-1.4
GEC2					*e*			02 22 29.7	
GERES	GERESS Array B	151.44	342		PKP		PKPdf	02 22 11.0	-1.2
	comp=Z,4.7nm,0.9s,baz=75,slow=1.5,SNR=35								
GERES					PKPbc		PKPbc	02 22 18.0	-1.0
	comp=Z,25nm,0.6s,baz=22,slow=2.2,SNR=122								
ALN	Alexandroupoli	151.51	317		eP		PKPbc	02 22 18.0	-1.1
CONA	Conrad Observa	151.56	338		P		PKPdf	02 22 06.2	-6.2
	comp=Z,22nm,1.6s,SNR=6.3								
CONA								02 22 14.1	
	comp=Z,102nm,1.1s								
CONA								02 22 26.3	
	comp=Z,71nm,1.0s								
BCLA	Clavier	151.63	353		PKP		PKPdf	02 22 11.4	-1.0
BCLA					PKPbc		PKPbc	02 22 18.6	-0.8
BCLA					PKPab		PKPab	02 22 29.9	-1.2
SNF	Seneffe	151.64	355		PKP		PKPdf	02 22 11.4	-1.1
SNF					PKPbc		PKPbc	02 22 18.4	-1.1
SNF					PKPab		PKPab	02 22 30.2	-0.9
PLD	Plovdiv	151.64	320		eP		PKPbc	02 22 18.6	-0.8
CSA1	St Austell	151.65	7		eP		PKPdf	02 22 11.0	-1.5
CSA1	St Austell	151.65	7		eP		PKPdf	02 22 11.0	-1.5
CPZ	Penzance	151.75	8		eP		PKPdf	02 22 11.7	-1.0
CPZ	Penzance	151.75	8		eP		PKPdf	02 22 11.7	-1.0
CRQ2	Rosemanowes 2	151.80	8		eP		PKPdf	02 22 11.5	-1.2
CRQ2	Rosemanowes 2	151.80	8		eP		PKPdf	02 22 11.5	-1.2
AYDN	Tasoluk	151.83	309		*i* P		PKPbc	02 22 19.6	-0.2
RZN	Rozhen	151.88	319		*i* P		PKPbc	02 22 18.0	-2.0
PKSM	Moragy	151.89	333	⇑	*i* P		PKPdf	02 22 11.8	-1.1
PKSM	Moragy	151.89	333	⇓	eP		PKPdf	02 22 11.3	-1.6
AYVA	Ayvalik	151.91	313		*i* P		PKPbc	02 22 18.7	-1.3
TOD	Tromm	151.91	348		PKIKP		PKPdf	02 22 11.5	-1.4
KDAG	Bornova	151.94	311		*i* P		PKPbc	02 22 18.7	-1.3
IZM	Izmir	151.94	311		eP		PKPbc	02 22 16.6	-3.5
GIVF	Givet	152.00	354		ePKIKP		PKPdf	02 22 11.8	-1.2
DOU	Dourbes	152.02	354		PKP		PKPdf	02 22 12.4	-0.6
DOU					PKPbc		PKPbc	02 22 19.2	-1.0
DOU					PKPab		PKPab	02 22 31.2	-1.6
BAIF	Baives	152.09	355		ePKIKP		PKPdf	02 22 12.0	-1.2
RUP	Ruppelstein	152.11	351		PKIKP		PKPdf	02 22 12.2	-1.0
MOA	Molln	152.16	340	⇓	*i*		PKPbc	02 22 19.9	-0.7
	comp=Z,18nm,0.6s								
MOA	Molln	152.16	340	⇑	*i*		PKPab	02 22 33.4	+0.1
	comp=Z,52nm,1.0s								
MOA	Molln	152.16	340	⇑	*i* PKPdf		PKPdf	02 22 12.0	-1.2
	comp=Z,9.9nm,1.1s								
MOA				⇓	*i* PKiKP		PKiKP	02 22 19.9	-0.8
	comp=Z,18nm,0.6s								
MOA				⇑	*i* PKPab		PKPab	02 22 33.4	+0.1
	comp=Z,52nm,1.0s								
MOA	Molln	152.16	340	⇑	*i* P		PKPdf	02 22 12.0	-1.2
MOA					*i*			02 22 19.9	
MOA					*i*			02 22 33.4	
VTS	Vitosha	152.21	322		*i* P		PKPbc	02 22 19.7	-1.0
ARSA	Arzberg	152.25	338	⇑	*i*		PKPbc	02 22 19.9	-0.8
	comp=Z,25nm,1.4s								
ARSA	Arzberg	152.25	338	⇑	*i*		PKPab	02 22 33.7	0.0
	comp=Z,29nm,1.1s								
ARSA	Arzberg	152.25	338	⇑	*i* PKPdf		PKPdf	02 22 12.2	-1.2
	comp=Z,12nm,1.5s								
ARSA				⇑	*i* PKiKP		PKiKP	02 22 19.9	-1.0
	comp=Z,25nm,1.4s								
ARSA				⇑	*i* PKPab		PKPab	02 22 33.7	0.0
	comp=Z,29nm,1.1s								
WLF	Walferdange	152.28	352		ePKPdf		PKPdf	02 22 12.5	-0.9
WLF					ePKPbc		PKPbc	02 22 20.5	-0.3
WLF					ePKPab		PKPab	02 22 33.1	-0.7
WLF					epPKPbc		pPKPbc	02 24 43.5	+4.9
WLF	Walferdange	152.28	352		PKP		PKPdf	02 22 13.1	-0.3
WLF					PKPbc		PKPbc	02 22 20.5	-0.3
WLF					PKPab		PKPab	02 22 33.2	-0.6
WLF					APKPbc			02 24 43.7	
WLF					E			02 24 55.3	
WLF	Walferdange	152.28	352		ePKIKP		PKPdf	02 22 12.6	-0.8
WLF					*e*			02 22 32.8	
WLF	Walferdange	152.28	352		ePKPdf		PKPdf	02 22 12.6	-0.9
WLF					ePKPbc		PKPbc	02 22 20.4	-0.4
WLF					ePKPab		PKPab	02 22 32.8	-1.0
WLF					eSKP			02 24 43.8	
BODT	Bodrum	152.50	308		eP		PKPdf	02 22 12.7	-1.1
MMB	Musomiste	152.54	320		eP		PKPdf	02 22 12.2	-1.6
MMB	Musomiste	152.54	320		*i* P		PKPbc	02 22 20.5	-0.9
STU	Stuttgart	152.64	347		ePKPdf		PKPdf	02 22 12.9	-1.0
STU					ePKPbc		PKPbc	02 22 21.0	-0.6
STU					ePKPab		PKPab	02 22 34.5	-0.8
STU	Stuttgart	152.64	347		ePKPdf		PKPdf	02 22 12.7	-1.2
STU					ePKPbc		PKPbc	02 22 20.6	-0.9
STU					ePKPab		PKPab	02 22 34.5	-0.9
LANF	Langenberg	152.69	349		PKP		PKPdf	02 22 12.8	-1.2
FUR	Furstenfeldbru	152.73	344		ePKPdf		PKPdf	02 22 13.1	-1.0
FUR					ePKPbc		PKPbc	02 22 21.2	-0.6
FUR					ePKPab		PKPab	02 22 35.3	-0.4
KKB	Krupnik	152.75	321		*i* P		PKPbc	02 22 20.9	-0.9
PERS	Pernice	152.92	337		ePKPdf		PKPdf	02 22 12.6	-1.8
PERS					*i* PKPbc		PKPbc	02 22 20.9	-1.3
STR	Strasbourg	153.09	349		PKP		PKPdf	02 22 13.7	-0.9
OUR	Ouranopolis	153.12	318		eP		PKPbc	02 22 21.5	-1.1
KBA	Koelnbreinsper	153.13	340	⇑	*i*		PKPbc	02 22 21.6	-1.1
	comp=Z,36nm,1.0s								
KBA	Koelnbreinsper	153.13	340	⇓	*i*		PKPab	02 22 37.6	+0.1
	comp=Z,26nm,0.7s								
KBA	Koelnbreinsper	153.13	340	⇓	*i* PKPdf		PKPdf	02 22 13.3	-1.3
	comp=Z,12nm,0.9s								
KBA				⇑	*i* PKPbc		PKPbc	02 22 21.6	-1.1
	comp=Z,36nm,1.0s								
KBA				⇓	*i* PKPab		PKPab	02 22 37.6	+0.1
	comp=Z,26nm,0.7s								
SOH	Sokhos	153.22	319		eP		PKPab	02 22 37.6	-0.2
BFO	Black Forest	153.23	348		ePKPdf		PKPdf	02 22 13.2	-1.6
BFO					ePKPbc		PKPbc	02 22 22.0	-0.9
BFO					ePKPab		PKPab	02 22 36.9	-1.0
KNT	Kendrikon	153.29	320		eP		PKPbc	02 22 21.7	-1.3
WLS	Welschbruch	153.32	350		PKP		PKPdf	02 22 13.3	-1.6
CDF	Champ du Feu	153.33	350		ePKIKP		PKPdf	02 22 13.3	-1.6
	comp=Z,37nm,1.3s								
SPAK	Spaichingen-Ko	153.36	347		PKP		PKPdf	02 22 13.3	-1.7
STIP	Stip	153.37	322		eP		PKPdf	02 22 13.7	-1.3
STIP	Stip	153.37	322		ePKP		PKPdf	02 22 14.0	-1.0
WATA	Walderalm	153.41	343	⇑	*i*		PKPbc	02 22 22.1	-1.2
	comp=Z,26nm,1.1s								
WATA	Walderalm	153.41	343	⇓	*i*		PKPab	02 22 38.4	-0.2
	comp=Z,58nm,1.1s								
WATA	Walderalm	153.41	343	⇑	*i* PKPdf		PKPdf	02 22 13.8	-1.2
	comp=Z,16nm,1.1s								
WATA				⇑	*i* PKPbc		PKPbc	02 22 22.1	-1.2
	comp=Z,26nm,1.1s								
WATA				⇓	*i* PKPab		PKPab	02 22 38.4	-0.2
	comp=Z,58nm,1.1s								
WTTA	Wattenberg	153.47	343	⇑	*i*		PKPbc	02 22 22.7	-0.6
	comp=Z,33nm,0.5s								
WTTA	Wattenberg	153.47	343	⇑	*i*		PKPab	02 22 38.7	-0.2
	comp=Z,105nm,1.0s								
WTTA	Wattenberg	153.47	343	⇓	*i* PKPdf		PKPdf	02 22 13.0	-2.1
	comp=Z,25nm,1.0s								
WTTA				⇑	*i* PKiKP		PKiKP	02 22 22.7	-0.7
	comp=Z,33nm,0.5s								
WTTA				⇑	*i* PKPab		PKPab	02 22 38.7	-0.2
	comp=Z,105nm,1.0s								
CRES	Cresnjev	153.49	336		ePKPdf		PKPdf	02 22 13.9	-1.2
CRES					*i* PKPbc		PKPbc	02 22 22.6	-0.8
CRES					ePKPab		PKPab	02 22 38.3	-0.7
HORT	Hortiatis	153.51	319		eP		PKPbc	02 22 22.0	-1.5
MOTA	Moosalm	153.53	344	⇑	*i*		PKPbc	02 22 22.8	-0.8
	comp=Z,22nm,1.0s								
MOTA	Moosalm	153.53	344	⇑	*i*		PKPab	02 22 38.7	-0.4
	comp=Z,83nm,1.2s								
MOTA	Moosalm	153.53	344	⇑	*i* PKPdf		PKPdf	02 22 14.1	-1.2
	comp=Z,22nm,1.0s,SNR=16								
MOTA				⇑	*i* PKiKP		PKiKP	02 22 22.8	-0.8
	comp=Z,22nm,1.0s								
MOTA				⇑	*i* PKPab		PKPab	02 22 38.7	-0.4
	comp=Z,83nm,1.2s								
FLN	La Foliniere	153.54	1		ePKIKP		PKPdf	02 22 13.6	-1.6
	comp=Z,69nm,0.9s								
ECH	Echery	153.54	350		PKP		PKPdf	02 22 13.5	-1.7
PAIG	Paliouri	153.54	317		eP		PKPbc	02 22 22.4	-1.1
MEZF	Maizieres J'vi	153.55	353		ePKIKP		PKPdf	02 22 14.1	-1.1
	comp=Z,46nm,1.1s								
THE	Thessaloniki	153.57	319		eP		PKPbc	02 22 22.2	-1.4
SKO	Skopje	153.61	323		eP		PKPab	02 22 40.9	+1.4
SKO	Skopje	153.61	323		ePKP		PKPbc	02 22 23.4	-0.3
SQTA	Sankt Quirin	153.62	343	⇓	*i*		PKPbc	02 22 23.0	-0.7
	comp=Z,22nm,1.0s								
SQTA	Sankt Quirin	153.62	343	⇓	*i*		PKPab	02 22 39.4	-0.2
	comp=Z,41nm,1.0s								
SQTA	Sankt Quirin	153.62	343	⇑	*i* PKPdf		PKPdf	02 22 14.3	-1.1
	comp=Z,19nm,1.0s,SNR=13								
SQTA				⇓	*i* PKiKP		PKiKP	02 22 23.0	-0.7
	comp=Z,22nm,1.0s								
SQTA				⇓	*i* PKPab		PKPab	02 22 39.4	-0.2
	comp=Z,41nm,1.0s								
SQTA	Sankt Quirin	153.62	343	⇑	*i* P		PKPdf	02 22 14.3	-1.1
SQTA					*i*			02 22 23.0	
SQTA					*i*			02 22 39.4	
LJU	Ljubljana	153.64	338		ePKPdf		PKPdf	02 22 14.2	-1.2
LJU					*i* PKPbc		PKPbc	02 22 23.1	-0.7
LJU					*i* PKPab		PKPab	02 22 38.7	-0.9
LJU					epPKPbc		pPKPbc	02 24 46.6	+4.9
LJU	Ljubljana	153.64	338		ePKIKP		PKPdf	02 22 14.2	-1.2
LJU					*i*			02 22 38.7	
THEF	They Montfort	153.71	352		PKP		PKPdf	02 22 14.3	-1.2
GRG	Griva	153.71	320		eP		PKPdf	02 22 14.0	-1.5
LDF	La Druitiere	153.72	1		ePKIKP		PKPdf	02 22 13.8	-1.7
	comp=Z,56nm,1.1s								
FELD	Feldberg im Sc	153.72	348	⇓	eP		PKPdf	02 22 14.0	-1.5
ROSF	Rostrenen	153.81	6		ePKIKP		PKPdf	02 22 14.3	-1.3
ROBS	Robic	153.81	339		*i* PKPdf		PKPdf	02 22 13.7	-1.9
BOJS	Bojanci	153.84	336		ePKPdf		PKPdf	02 22 14.4	-1.2
BOJS					ePKPbc		PKPbc	02 22 23.4	-0.8
BOJS					epPKPbc		pPKPbc	02 24 47.5	+5.4
VOY	Vojsko	153.87	338		ePKPdf		PKPdf	02 22 13.7	-2.0
VOY					*e*			02 22 19.6	
HAU	Haudompre	153.87	351		ePKIKP		PKPdf	02 22 14.6	-1.1
DAVA	Damuels	153.89	345	⇑	*i*		PKPbc	02 22 23.9	-0.3
	comp=Z,44nm,1.6s								
DAVA	Damuels	153.89	345	⇑	*i*		PKPab	02 22 40.6	-0.1
	comp=Z,61nm,0.8s								
DAVA	Damuels	153.89	345	⇑	*i* PKPdf		PKPdf	02 22 15.1	-0.6
	comp=Z,17nm,0.9s								
DAVA				⇑	*i* PKiKP		PKiKP	02 22 23.9	-0.3
	comp=Z,44nm,1.6s								
DAVA				⇑	*i* PKPab		PKPab	02 22 40.6	-0.1
	comp=Z,61nm,0.8s								
MOF	Molkenrain	153.90	350		PKP		PKPdf	02 22 14.3	-1.4
GRR	Gorron	153.90	2		ePKIKP		PKPdf	02 22 14.2	-1.5
	comp=Z,43nm,1.0s								
SGMF	Saint Gilles	153.95	5		ePKIKP		PKPdf	02 22 14.4	-1.4
	comp=Z,51nm,1.2s								
HINF	Hinteralfeld	153.98	350		ePKIKP		PKPdf	02 22 14.0	-1.8
	comp=Z,56nm,1.4s								
XOR	Xorichti	154.17	317		eP		PKPdf	02 22 15.1	-1.0
LIT	Litokhoron	154.18	319		eP		PKPbc	02 22 23.9	-1.0
BBS	Basel-Blauen	154.21	349		PKIKP		PKPdf	02 22 14.1	-2.1
QUIF	Quistinic	154.23	6		ePKIKP		PKPdf	02 22 15.0	-1.2
BIA	Bitola	154.30	322		eP		PKPbc	02 22 23.7	-1.5
BIA	Bitola	154.30	322		ePKP		PKPbc	02 22 23.6	-1.5
FNA	Florina	154.43	321		eP		PKPbc	02 22 15.4	-1.0
LOMF	Lomont	154.44	350		PKP		PKPdf	02 22 15.0	-1.5
OHR	Ohrid	154.54	322		eP		PKPdf	02 22 15.6	-1.0
LOR	Lormes	154.89	355		ePKIKP		PKPdf	02 22 15.9	-1.2
	comp=Z,60nm,1.1s								
AGG	Agios Georgios	154.92	317		eP		PKPdf	02 22 17.2	+0.1
HYF	Humbligny	154.98	356		ePKIKP		PKPdf	02 22 16.2	-1.0
SSF	Saint Saulge	155.13	355		ePKIKP		PKPdf	02 22 16.2	-1.2
	comp=Z,59nm,1.1s								
MEV	Metsovon	155.14	319		eP		PKPdf	02 22 18.3	+0.9
CABF	La Chapelle	155.27	351		ePKIKP		PKPdf	02 22 16.6	-1.0
	comp=Z,119nm,1.3s								
AVF	Avril sur Loir	155.41	355		ePKIKP		PKPdf	02 22 16.6	-1.2
SMF	Signal de Mont	155.51	354		ePKIKP		PKPdf	02 22 16.7	-1.2
	comp=Z,45nm,1.1s								
BGF	Bois d'Agland	155.68	356		ePKIKP		PKPdf	02 22 17.0	-1.1
	comp=Z,53nm,1.0s								
MFF	Saint Martin d	155.71	1		ePKIKP		PKPdf	02 22 17.9	-0.3
	comp=Z,74nm,1.1s								
IGT	Igoumenitsa

TOA0	**Torodi Ar. Sit**	**170.86**	**188**	*e*PKPdf	PKPdf	02 22 31.6	-0.5
TOA0				*e*PKPab	PKPab	02 23 55.2	0.0
TORD	**Torodi Ar. Bea**	**170.86**	**188**	PKP	PKPdf	02 22 31.4	-0.8
	comp=Z,16nm,0.9s,baz=330,slow=0.9,SNR=75						
TORD				PKPab	PKPab	02 23 54.9	-0.3
	comp=Z,6.8nm,0.7s,baz=179,slow=3.6,SNR=16						
TORD	**Torodi Ar. Bea**	**170.86**	**188**	PKP	PKPdf	02 22 31.4	-0.8
TORD				PKPab	PKPab	02 23 54.9	-0.3

IDC ***29*** *02:16:14.6±0.6, 1204N×14287E, h0km, mb4.4/14, mb1 4.6/15, mb1mx4.4/22, mbtmp4.4/15, ML4.7/1, MS3.7/5, Ms1 3.7/5, ms1mx3.3/34, Error ellipse: s-maj=24.8km s-min=13.7km az=89.0*

BJI ***29*** *02:16:16.8, 1180N×143.15E, h37km, mB4.9, mb4.7, Ms4.6, Msz4.4*

MOS ***29*** *02:16:17.6±0.9, 1202N×14282E, h33km, mb4.7/17, Error ellipse: s-maj=17.0km s-min=9.1km az=89.7*

NEIC ***29*** *02:16:18.0±2.9, 1206N×14286E, h22km±20km, mb4.5/19, Error ellipse: s-maj=9.7km s-min=5.5km az=100.0*

ISCJB ***29*** *02:16:18.1±1.3, 1199N±004×14295E±006, h34km±11km, mb4.5/43, MS4.0/8, Error ellipse: s-maj=10.3km s-min=7.5km az=5.4*

ISC 29 02:16:20.9±1.2, 1203N±005×14301E±006, h43km±10km, h37km±4.0km; pP-P, n82, σ1°14/78, mb4.5/43, MS4.0/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.39**	**49**	Pn	**Pn**	**02 16 57.1**	**-0.4**
	171nm,0.3s,baz=191,slow=9.8,SNR=86						
GUMO				Sn	**Sn**	**02 17 25.2**	**-0.3**
	147nm,0.3s,baz=339,slow=21,SNR=4.4						
CBIJ	**Chichi jima**	**15.01**	**357**	Pn	**Pn**	**02 19 51.0**	**+0.9**
	0.8nm,0.3s,baz=290,slow=18,SNR=1.9						
CBIJ				LR	LR	02 25 14.4	
	comp=Z,252nm,18.4s,baz=53,slow=36						
JOW	**Kunigami**	**20.22**	**319**	P	**P**	**02 20 54.5**	**+2.3**
	23nm,0.5s,baz=161,slow=11,SNR=19						
JOW				LR	LR	02 27 22.3	
	comp=Z,134nm,19.1s,MS3.3,baz=251,slow=33						
JOW	**Kunigami**	**20.22**	**319**	P	**P**	**02 20 54.5**	**+2.3**
JOW				LR	LR	02 27 22.3	
PMG	**Port Moresby**	**21.69**	**169**	LR	LR	02 28 36.7	
	comp=Z,94nm,18.6s,MS3.2,baz=92,slow=34						
MJAR	**Matsushiro Arr**	**24.79**	**351**	P	**P**	**02 21 37.1**	**-1.6**
	2.0nm,0.6s,mb3.8,baz=234,slow=2.1,SNR=7.4						
MAJO	**Matsushiro**	**24.79**	**351**	*e*P	**P**	**02 21 37.4**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
MAJO	**Matsushiro**	**24.79**	**351**	*e*P	**P**	**02 21 37.4**	**-1.3**
	comp=Z,4.6nm,0.6s,mb4.2						
NJ2	**Nanjing**	**29.85**	**316**	*e*P	**P**	**02 22 25.8**	**+1.7**
NJ2				AP	pP	02 22 34.3	-1.3
NJ2				XP	sP	02 22 39.5	-1.2
NJ2				PP	PP	02 23 23.0	-8.9
NJ2				S	**S**	**02 27 17.0**	**-1.0**
NJ2				XS	sS	02 27 34.0	-3.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,120nm,4.2s						
NJ2				LR	LR		
	comp=N,2μm,21.9s,MS4.6						
NJ2				LR	LR		
	comp=E,670nm,24.3s,MS4.6						
NJ2				LR	LR		
	comp=Z,2μm,24.5s,MS4.6						
ASAJ	**Asahikawa**	**31.98**	**359**	LR	LR	02 33 56.0	
	comp=Z,171nm,21.1s,MS3.7,baz=338,slow=33						
CTA	**Charters Tower**	**32.07**	**174**	P	**P**	**02 22 43.6**	**-0.1**
	comp=Z,4.3nm,0.9s,mb4.3,baz=343,slow=9.2,SNR=4.9						
WRAB	**Tennant Creek**	**32.88**	**195**	*e*P	**P**	**02 22 50.3**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**32.88**	**195**	*e*P	**P**	**02 22 50.3**	**-0.5**
	comp=Z,11nm,0.9s,mb4.8						
WB2	**Warramunga Arr**	**32.89**	**195**	*e*P	**P**	**02 22 50.7**	**-0.2**
WRA	**Warramunga Arr**	**32.90**	**195**	P	**P**	**02 22 50.3**	**-0.6**
	comp=Z,6.2nm,0.8s,mb4.6,baz=18,slow=9.7,SNR=20						
MDJ	**Mudanjiang**	**34.46**	**343**	P	**P**	**02 23 07.8**	**+3.3**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,77nm,4.1s						
CN2	**Changchun**	**35.10**	**338**	*e*P	**P**	**02 23 11.3**	**+1.3**
CN2				*e*XP	sP	02 23 21.0	-5.7
CN2				*e*S	**S**	**02 28 40.3**	**+0.6**
CN2				LR	LR		
	comp=N,700nm,21.0s,MS4.5						
CN2				LR	LR		
	comp=E,500nm,21.0s,MS4.5						
CN2				LR	LR		
	comp=Z,200nm,21.0s,MS3.8						
AS31	**Alice Springs**	**36.57**	**194**	*e*P	**P**	**02 23 23.4**	**+0.8**
ASAR	**Alice Springs**	**36.58**	**194**	P	**P**	**02 23 22.9**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.0,baz=26,slow=11,SNR=16						
ASPA	**Alice Springs**	**36.58**	**194**	*e*P	**P**	**02 23 23.4**	**+0.7**
KLR	**Kul'dur**	**38.25**	**348**	*e*P	**P**	**02 23 33.7**	**-3.1**
HHC	**Hu-ho-hao-te**	**39.82**	**322**	*e*P	**P**	**02 23 47.3**	**-2.7**
HHC				PP	PP	02 25 23.8	+1.8
HHC				PCP	PcP	02 25 53.5	-1.9
HHC				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.6						
HHC				AMB	AMB		
	comp=Z,119nm,6.8s						
HHC				LR	LR		
	comp=N,529nm,25.6s,MS4.4						
HHC				LR	LR		
	comp=E,462nm,25.6s,MS4.4						
HHC				LR	LR		
	comp=Z,753nm,26.2s,MS4.4						
KMI	**Kunming**	**40.17**	**295**	P	**P**	**02 23 53.0**	**+0.1**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.6						
CD2	**Chengdu**	**40.80**	**304**	*e*P	**P**	**02 23 56.0**	**-2.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
DZM	**Mont Dzumac**	**40.95**	**146**	P	**P**	**02 23 59.9**	**+0.6**
	comp=Z,8.6nm,0.6s,mb4.6,baz=308,slow=9.5,SNR=9.5						
LZH	**Lanzhou**	**42.62**	**311**	*e*P	**P**	**02 24 15.0**	**+2.0**
LZH				AP	pP	02 24 27.0	+2.2
LZH				PP	PP	02 25 58.0	+5.7
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.8						
STKA	**Stephens Creek**	**43.67**	**182**	P	**P**	**02 24 20.3**	**-1.2**
	comp=Z,2.9nm,0.9s,mb4.0,baz=328,slow=16,SNR=4.6						
STKA	**Stephens Creek**	**43.67**	**182**	P	**P**	**02 24 20.3**	**-1.2**
ULN	**Ulaanbaatar**	**46.66**	**327**	*e*P	**P**	**02 24 45.1**	**-0.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
ULN	**Ulaanbaatar**	**46.66**	**327**	*e*P	**P**	**02 24 45.1**	**0.0**
	comp=Z,3.8nm,1.1s,mb4.2						
GTA	**Gaotai**	**46.88**	**313**	*e*P	**P**	**02 24 48.0**	**+1.1**
GTA				AP	pP	02 24 57.8	-1.1
GTA				XP	sP	02 25 02.0	-1.8
GTA				PCP	PcP	02 26 21.0	+1.8
GTA				PP	PP	02 26 39.0	+1.4
GTA				PPP		02 27 25.5	
GTA				SCP	ScP	02 30 11.5	+2.1
GTA				PCS	PcS	02 30 14.0	-0.2
GTA				S	**S**	**02 31 36.3**	**+1.6**
GTA				XS	sS	02 31 53.8	-0.8
GTA				SS	SS	02 34 55.8	-5.8
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.3						
GTA				AMB	AMB		
	comp=Z,98nm,7.6s						
GTA				LR	LR		
	comp=N,129nm,12.2s,MS4.3						
GTA				LR	LR		
	comp=E,132nm,11.0s,MS4.3						
GTA				LR	LR		
	comp=Z,129nm,11.4s,MS4.1						
SONM	**Songino Array**	**46.99**	**327**	P	**P**	**02 24 48.2**	**+0.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=142,slow=7.4,SNR=7.9						
SONM				PcP	PcP	02 26 20.5	+0.9
	comp=Z,1.9nm,0.9s,baz=146,slow=1.7,SNR=4.8						
ZAK	**Zakamensk**	**50.15**	**328**	*e*P	**P**	**02 25 12.6**	**+0.5**
ZAK				*e*		02 26 32.0	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.0						
BOD	**Bodaibo**	**50.74**	**340**	*e*P	**P**	**02 25 16.5**	**0.0**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
WMQ	**Urumqi**	**56.92**	**315**	P	**P**	**02 26 03.3**	**+1.7**
MKAR	**Makanchi Array**	**61.37**	**317**	P	**P**	**02 26 31.9**	**-0.5**
	comp=Z,2.7nm,0.8s,mb4.4,baz=107,slow=8.1,SNR=8.2						
MKAR	**Makanchi Array**	**61.37**	**317**	P	**P**	**02 26 31.9**	**-0.5**
KDAK	**Kodiak Island**	**66.34**	**32**	P	**P**	**02 27 05.3**	**+0.2**
	comp=Z,3.0nm,0.3s,mb4.8,baz=266,slow=2.0,SNR=10						
PMR	**Palmer**	**69.01**	**28**	*e*P	**P**	**02 27 21.1**	**-0.9**
PMR				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.1						
PMR	**Palmer**	**69.01**	**28**	*e*P	**P**	**02 27 21.1**	**-0.9**
	comp=Z,17nm,0.7s,mb5.1						
MCK	**McKinley**	**69.63**	**26**	*e*P	**P**	**02 27 25.2**	**-0.6**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
MCK	**McKinley**	**69.63**	**26**	*e*P	**P**	**02 27 25.2**	**-0.6**
	comp=Z,4.7nm,1.0s,mb4.4						
CHKZ	**Chkalovo**	**69.97**	**323**	*e*P	**P**	**02 27 27.1**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**69.97**	**323**	*e*P	**P**	**02 27 27.1**	**-0.8**
	comp=Z,1.3nm,0.5s,mb4.1						
COLA	**College**	**70.37**	**25**	*e*P	**P**	**02 27 29.6**	**-0.7**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
COLA	**College**	**70.37**	**25**	*e*P	**P**	**02 27 29.6**	**-0.8**
	comp=Z,2.9nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**70.86**	**322**	*e*P	**P**	**02 27 33.0**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**70.86**	**322**	*e*P	**P**	**02 27 33.0**	**-0.3**
	comp=Z,6.0nm,1.0s,mb4.5						
DAWY	**Dawson**	**73.84**	**27**	*e*P	**P**	**02 27 51.5**	**+0.4**
INK	**Inuvik**	**76.49**	**22**	*e*P	**P**	**02 28 06.1**	**-0.2**
INK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
INK	**Inuvik**	**76.49**	**22**	*e*P	**P**	**02 28 06.1**	**-0.3**
	comp=Z,4.0nm,0.9s,mb4.3						
DLBC	**Dease Lake**	**78.27**	**32**	*e*P	**P**	**02 28 16.3**	**+0.1**
YKA	**Yellowknife Ar**	**85.07**	**27**	P	**P**	**02 28 52.2**	**+0.1**
	comp=Z,3.0nm,0.7s,mb4.6,baz=286,slow=5.1,SNR=8.5						
YKA	**Yellowknife Ar**	**85.07**	**27**	P	**P**	**02 28 52.2**	**+0.1**
KEV	**Kevo**	**87.43**	**342**	*e*p	**P**	**02 29 02.5**	**-1.3**
	comp=Z,1.9nm,0.3s,mb4.8						
KEV	**Kevo**	**87.43**	**342**	*e*P	**P**	**02 29 02.5**	**-1.3**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.8						
NEW	**Newport**	**87.59**	**41**	*e*P	**P**	**02 29 05.0**	**+0.5**
NEW				pmax	pmax		
	comp=Z,5.0nm,1.1s						
NEW	**Newport**	**87.59**	**41**	*e*P	**P**	**02 29 05.0**	**+0.4**
	comp=Z,4.9nm,1.1s,mb4.7						
ARCES	**ARCESS Array B**	**88.00**	**342**	P	**P**	**02 29 05.9**	**-0.5**
	comp=Z,2.0nm,0.5s,mb4.6,baz=84,slow=8.2,SNR=28						
BMO	**Blue Mountains**	**88.37**	**45**	*e*P	**P**	**02 29 08.6**	**+0.4**
BMO				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
BMO	**Blue Mountains**	**88.37**	**45**	*e*P	**P**	**02 29 08.6**	**+0.4**
	comp=Z,3.7nm,1.0s,mb4.6						
JOF	**Joensuu**	**88.94**	**335**	*e*p	**P**	**02 29 08.7**	**-2.2**
	comp=Z,7.8nm,0.7s,mb5.2						
NVAR	**Mina Array Bea**	**89.31**	**51**	P	**P**	**02 29 14.4**	**+1.8**
	comp=Z,3.8nm,0.6s,mb4.9,baz=266,slow=7.3,SNR=31						
HLID	**Hailey**	**90.73**	**45**	*e*P	**P**	**02 29 20.5**	**+1.2**
	comp=Z,1.5nm,1.0s,mb4.3						
ELK	**Elko**	**90.96**	**48**	*e*P	**P**	**02 29 21.3**	**+1.0**
ELK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ELK	**Elko**	**90.96**	**48**	*e*P	**P**	**02 29 21.3**	**+0.9**
	comp=Z,1.5nm,0.9s,mb4.3						
KAF	**Kangasniemi**	**91.38**	**335**	*e*p	**P**	**02 29 20.1**	**-2.2**
	comp=Z,0.5nm,0.4s,mb4.2,baz=58,slow=4.4						
KAF	**Kangasniemi**	**91.38**	**335**	*e*P	**P**	**02 29 20.1**	**-2.2**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.5						
FINES	**FINESS Array B**	**91.80**	**335**	P	**P**	**02 29 22.2**	**-2.0**
	comp=Z,2.8nm,0.6s,mb4.8,baz=62,slow=4.7,SNR=17						
BOZ	**Bozeman (W)**	**91.96**	**43**	*e*P	**P**	**02 29 26.1**	**+1.1**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.3						
BOZ	**Bozeman (W)**	**91.96**	**43**	*e*P	**P**	**02 29 26.1**	**+1.2**
	comp=Z,1.0nm,0.6s,mb4.3						
TPAW	**Teton Pass**	**93.14**	**44**	*e*P	**P**	**02 29 32.2**	**+1.8**
	comp=Z,1.4nm,0.5s,mb4.7						
MOOW	**Moose Ponds**	**93.19**	**44**	*e*P	**P**	**02 29 31.2**	**+0.5**
	comp=Z,1.8nm,0.9s,mb4.5						
FFC	**Flin Flon**	**94.09**	**32**	*e*P	**P**	**02 29 34.7**	**-0.1**
FFC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
FFC	**Flin Flon**	**94.09**	**32**	*e*P	**P**	**02 29 34.6**	**-0.1**
	comp=Z,3.5nm,0.9s,mb4.8						
NOA	**NORSAR Array B**	**97.84**	**339**	P	**P**	**02 29 50.4**	**-1.5**
	comp=Z,1.2nm,0.8s,mb4.5,baz=50,slow=4.9,SNR=4.9						
ULM	**Lac du Bonnet**	**99.55**	**34**	LR	LR	03 09 27.0	
	comp=Z,128nm,19.9s,MS4.4,baz=30,slow=32						
TORD	**Torodi Ar. Bea**	**134.20**	**302**	PKP	PKPdf	02 35 36.0	+2.1
	comp=Z,0.5nm,0.6s,baz=43,slow=2.5,SNR=9.0						
DBIC	**Dimbokro**	**143.04**	**299**	PKHKP		02 35 47.7	
	comp=Z,2.9nm,0.6s,baz=47,slow=22,SNR=7.8						
DBIC	**Dimbokro**	**143.04**	**299**	PKP	PKPdf	02 35 47.7	-2.3
LPAZ	**La Paz**	**149.53**	**102**	PKPbc	PKPbc	02 36 07.4	+1.9
	comp=Z,1.4nm,0.7s,baz=281,slow=3.7,SNR=8.1						
LPAZ	**La Paz**	**149.53**	**102**	*e*PKPbc	PKPbc	02 36 08.4	+2.9

IDC 29 03:04:06.1±3.8, 949S×10870E, h0km, mb3.8/3, mb1 3.7/4, mb1mx3.5/16, mbtmp3.7/4, ML3.0/1, Error ellipse: s-maj=144.1km s-min=26.4km az=48.0, South of Java

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.53**	**119**	P	Pn	03 08 25.9	+1.7
	0.0nm,0.3s,baz=306,slow=14,SNR=3.4						
WRA	**Warramunga Arr**	**26.85**	**116**	P	P	03 09 47.7	-0.6
	0.3nm,0.8s,baz=286,slow=11,SNR=4.5						
SONM	**Songino Array**	**57.10**	**358**	P	P	03 13 54.5	+0.3
	0.8nm,0.5s,baz=189,slow=6.8,SNR=6.1						
MKAR	**Makanchi Array**	**60.78**	**340**	P	P	03 14 19.8	0.0
	0.9nm,0.6s,baz=159,slow=7.3,SNR=4.4						

MOS ***29*** *03:05:04.3±1.1, 3579N×7126E, h33km, mb4.5/9, Error ellipse: s-maj=12.4km s-min=5.7km az=103.6*

BJI ***29*** *03:05:11.5, 3598N×7134E, h105km, mB5.0, mb4.5*

IDC ***29*** *03:05:11.8±5.8, 3604N×7134E, h82km±51km, mb3.6/11, mb1 3.8/14, mb1mx3.6/24, mbtmp4.0/14, ML3.9/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/28, Error ellipse: s-maj=28.2km s-min=16.5km az=12.0*

NEIC ***29*** *03:05:12.5±0.9, 3612N×7140E, h87km±9km, mb4.6/10, Error ellipse: s-maj=9.0km s-min=4.4km az=51.0*

ISCJB ***29*** *03:05:15.4±0.4, 3626N±002×7159E±005, h132km±6km, mb4.2/27, Error ellipse: s-maj=6.6km s-min=4.1km az=168.0*

NNC ***29*** *03:05:22.1±4.1, 3680N×7114E, h128km±44km, mb3.5, mpv4.5, Error ellipse: s-maj=48.7km s-min=27.2km az=54.0*

ISC 29 03:05:16.6±0.4, 3626N±002×7161E±005, h131km±5km, n132, σ1°13/140, mb4.2/27, 11C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.44**	**174**	⇑P	**Pn**	**03 05 57.7**	**+1.6**
CHCP	**Chirah Chowk**	**2.93**	**152**	⇑P	**Pn**	**03 06 04.8**	**+2.5**
THW	**Thamme Wali**	**3.46**	**178**	⇓P	**Pn**	**03 06 10.0**	**+0.8**
SBDP	**Sheikh Budin**	**4.00**	**190**	⇓P	**Pn**	**03 06 16.5**	**+0.1**
SARP	**Sargodha**	**4.41**	**168**	⇓P	**Pn**	**03 06 22.4**	**+0.5**
DRP	**Derazinda**	**4.65**	**195**	⇓P	**Pn**	**03 06 23.9**	**-1.1**
KSH	**Kashi**	**4.74**	**45**	P	**Pn**	**03 06 29.0**	**+2.8**
KSH				S	**Sn**	**03 07 20.0**	**-0.4**
KSH				Smax			
	comp=N,255nm,0.2s						
KSH				Smax			
	comp=E,203nm,0.2s						
PONG	**Pong**	**5.60**	**139**	*e*P	**Pn**	**03 06 40.0**	**+2.2**
PONG				*ex*	x	03 07 42.0	
AML	**Almayashu**	**6.08**	**15**	P	**Pn**	**03 06 44.2**	**0.0**
	SNR=66						
BHK	**Bhakra**	**6.27**	**139**	*ex*	x	03 06 51.2	
UCH	**Uchtor**	**6.37**	**20**	P	**Pn**	**03 06 48.4**	**+0.3**
	SNR=44						
KZA	**Kyzart**	**6.46**	**25**	P	**Pn**	**03 06 50.1**	**+0.7**
	SNR=9.6						
SDNR	**Sundarnagar**	**6.51**	**135**	*e*P	**Pn**	**03 06 49.6**	**-0.4**
SDNR				*ex*	x	03 08 02.2	
EKS2	**Erkin-Say**	**6.61**	**14**	P	**Pn**	**03 06 51.0**	**-0.4**
	SNR=19						
AAK	**Ala-Archa**	**6.75**	**18**	P	**Pn**	**03 06 53.7**	**+0.5**
	SNR=19						
AAK	**Ala-Archa**	**6.75**	**18**	*c i*P	**Pn**	**03 06 52.3**	**-0.9**
AAK				pmax	pmax		
	comp=Z,28nm,0.8s						
AAK	**Ala-Archa**	**6.75**	**18**	*e*Pn	**Pn**	**03 06 52.2**	**-1.0**
	comp=Z,24nm,0.3s						
KK31	**Karatay Array**	**6.89**	**353**	P	**Pn**	**03 06 53.1**	**-2.0**
	comp=Z,22nm,0.2s,baz=175,slow=13,SNR=196						
KK31				S	**Sn**	**03 08 04.5**	**-7.6**
	comp=Z,32nm,0.2s,baz=172,slow=19,SNR=11						
KK31	**Karatay Array**	**6.89**	**353**	*i* P	**Pn**	**03 06 53.1**	**-2.0**
KK31				pmax	pmax		
	comp=Z,22nm,0.2s						
KKAR	**Karatay Array**	**6.89**	**353**	P	**Pn**	**03 06 53.1**	**-2.0**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.2s						
KBK	**Karagaybulak**	**6.89**	**21**	P	**Pn**	**03 06 56.4**	**+1.3**
	SNR=7.0						
SMLA	**Simla**	**6.90**	**136**	*e*P	**Pn**	**03 06 56.5**	**+1.3**
SMLA				*ex*	x	03 08 12.5	
FRU	**Bishkek**	**6.96**	**19**	⇓*i*P	**Pn**	**03 06 56.2**	**+0.1**
FRU				*e*S	**Sn**	**03 08 09.0**	**-4.9**
FRU				pmax	pmax		
	comp=Z,130nm,1.8s						
FRU				pmax	pmax		
	comp=E,230nm,1.8s						
ULHL	**Ulahol**	**6.97**	**30**	P	**Pn**	**03 06 57.5**	**+1.3**
	SNR=6.7						
CHMS	**Chumysh**	**7.15**	**19**	P	**Pn**	**03 06 59.3**	**+0.7**
	SNR=9.9						
TKM2	**Tokmak 2**	**7.33**	**24**	P	**Pn**	**03 07 01.6**	**+0.5**
	SNR=35						
TKM2	**Tokmak 2**	**7.33**	**24**	⇑P	**Pn**	**03 07 01.5**	**+0.4**
	comp=E,14nm,1.3s						
TKM2	**Tokmak 2**	**7.33**	**24**	P	**Pn**	**03 07 00.1**	**-0.9**
TKM2				pmax	pmax		
	comp=Z,91nm,1.3s						
USP	**Ospenovka**	**7.34**	**17**	P	**Pn**	**03 07 01.6**	**+0.4**
	SNR=15						
KKR	**Kurukshetra**	**7.65**	**144**	*e*P	**Pn**	**03 07 05.6**	**+0.2**
KKR				AML	AML	03 08 48.7	
	comp=Z,199nm,0.3s						
BHGR	**Bahadurgarh**	**8.79**	**148**	*ex*	x	03 07 51.0	
KHET	**Khetri**	**8.90**	**155**	*e*P	**Pn**	**03 07 20.6**	**-1.6**
KHET				*e*S	**Sn**	**03 08 52.7**	**-7.9**
KHET				AML	AML	03 08 57.6	
	comp=N,310nm,0.1s						
KHET				AML	AML	03 08 59.6	
	comp=E,348nm,0.3s						
NDI	**New Delhi**	**8.91**	**146**	*e*P	**Pn**	**03 07 22.5**	**+0.2**
NDI				*e*S	**Sn**	**03 08 52.1**	**-8.8**
AYAN	**Aya Nagar**	**9.04**	**147**	*e*P	**Pn**	**03 07 24.0**	**-0.1**
AYAN				*e*S	**Sn**	**03 08 56.9**	**-7.3**
AYAN				AML	AML	03 08 59.6	
	comp=Z,90nm,0.1s						
AJM	**Ajmer**	**10.09**	**164**	*e*P	**Pn**	**03 07 37.4**	**-0.6**
AJM				*e*S	**Sn**	**03 09 20.9**	**-8.4**
AJM				AML	AML	03 09 25.2	
	comp=N,852nm,0.1s						
AJM				AML	AML	03 09 26.2	
	comp=E,1μm,0.2s						
MK02	**Makanchi Array**	**13.20**	**34**	⇑P	**Pn**	**03 08 26.4**	**+7.4**
	comp=E,8.6nm,0.9s						
MKAR	**Makanchi Array**	**13.21**	**34**	P	**Pn**	**03 08 18.2**	**-0.9**
	comp=E,0.2nm,0.3s,baz=221,slow=13,SNR=6.8						
MKAR	**Makanchi Array**	**13.21**	**34**	*i* P	**Pn**	**03 08 20.1**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KOLN	**Koldanda**	**13.22**	**126**	*e*P	**Pn**	**03 08 17.8**	**-1.5**
	comp=Z,23nm,0.3s						
GKN	**Gorkha**	**13.76**	**123**	*e*P	**Pn**	**03 08 25.3**	**-0.8**
	comp=Z,79nm,0.4s						
DMN	**Daman**	**14.33**	**123**	*e*P	**Pn**	**03 08 32.0**	**-1.4**
	comp=Z,26nm,0.3s						
KKN	**Kakani**	**14.33**	**122**	*e*P	**Pn**	**03 08 32.3**	**-1.1**
	comp=Z,58nm,0.6s						
KKN	**Kakani**	**14.33**	**122**	*e*P	**Pn**	**03 08 32.3**	**-1.1**
KKN				pmax	pmax		
	comp=Z,58nm,0.6s						
WMQ	**Urumqi**	**14.44**	**54**	P	**Pn**	**03 08 32.8**	**-2.0**
WMQ				AMB	AMB		
	comp=Z,16nm,0.9s						
WMQ				AMB	AMB		
	comp=Z,174nm,3.9s						
PKI	**Pulchoki**	**14.56**	**123**	*e*P	**Pn**	**03 08 35.7**	**-0.6**
GUN	**Gumba**	**14.67**	**121**	*e*P	**Pn**	**03 08 36.0**	**-1.7**
	comp=Z,37nm,0.4s						
JIRN	**Jiri**	**15.04**	**121**	*e*P	**Pn**	**03 08 41.2**	**-1.1**
	comp=Z,99nm,0.3s						
KURK	**Kurchatov**	**15.31**	**17**	⇑P	**Pn**	**03 08 46.5**	**+0.8**
	comp=Z,6.8nm,1.3s						
KURK	**Kurchatov**	**15.31**	**17**	P	**Pn**	**03 08 40.7**	**-5.0**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AB31	**Akbulak array**	**15.54**	**330**	P	**Pn**	**03 08 45.3**	**-3.2**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
VOSK	**Vostochnaya**	**16.47**	**359**	⇑P	**Pn**	**03 08 56.9**	**-3.1**
	comp=Z,8.0nm,1.1s						

TBLG	**Delisi**		**21.55**	**293**	P	**P**	**03 09 57.7**	**+2.3**
NAY	**Al-Naaiem**		**21.62**	**258**	*e*P	**P**	**03 09 55.4**	**-0.9**
NAY					AMb	AMB	03 09 56.6	
	comp=Z,14nm,0.7s,mb4.5							
RST	**Umm Al-Ruwaisa**		**21.71**	**259**	*e*P	**P**	**03 09 56.0**	**-1.1**
RST					AMb	AMB	03 09 57.2	
	comp=Z,51nm,0.8s,mb5.0							
SVE	**Sverdlovsk**		**21.86**	**344**	*e*P	**P**	**03 10 00.0**	**+1.2**
SVE					*e*		03 10 44.0	
SVE					*e*S	sS	03 14 40.0	+6.8
SVE					MLR	MLR		
	comp=E,100nm,14.0s							
SVE					MLR	MLR		
	comp=Z,200nm,14.0s							
ARU	**Arti**		**22.02**	**340**	⇓*i*P	**P**	**03 10 01.4**	**+0.9**
ARU					*e*		03 10 33.9	
ARU					*e*S	**S**	**03 13 52.1**	**-2.5**
ARU					*e*SS		03 14 34.5	
ARU					pmax	pmax		
	comp=E,32nm,1.2s,mb4.6							
ARU	**Arti**		**22.02**	**340**	*e*P	**P**	**03 10 00.4**	**0.0**
	comp=Z,68nm,1.4s,mb4.9							
ZEI	**Tsey**		**22.29**	**295**	*e*P	**P**	**03 10 03.9**	**+0.6**
ZEI					*e**PP		03 10 41.4	
ZEI					pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.4							
GTA	**Gaotai**		**22.46**	**73**	*e*P	**P**	**03 10 10.8**	**+5.8**
GTA					AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.0							
ONI	**Oni**		**22.59**	**295**	P	**P**	**03 10 08.3**	**+2.0**
ONI	**Oni**		**22.59**	**295**	P	**P**	**03 10 08.3**	**+2.0**
KIV	**Kislovodsk**		**23.34**	**298**	*e*P	**P**	**03 10 19.9**	**+6.8**
KIV					*i*		03 10 28.9	
KIV					pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2							
KIV	**Kislovodsk**		**23.34**	**298**	*e*P	**P**	**03 10 14.2**	**+1.1**
	comp=Z,31nm,0.9s,mb4.7							
SONM	**Songino Array**		**28.07**	**55**	P	**P**	**03 10 58.9**	**+3.1**
	comp=Z,0.8nm,0.6s,mb3.7,baz=266,slow=9.6,SNR=6.2							
BRTR	**Keskin Array B**		**29.98**	**288**	P	**P**	**03 11 12.2**	**-0.4**
	comp=Z,0.3nm,0.6s,mb3.2,baz=97,slow=9.8,SNR=2.3							
OBN	**Obninsk**		**30.44**	**319**	*e*P	**P**	**03 11 18.4**	**+1.6**
OBN					pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2							
JOF	**Joensuu**		**36.33**	**330**	*e*p	**P**	**03 12 08.1**	**+0.4**
	comp=Z,2.1nm,0.4s,mb4.1							
FINES	**FINESS Array B**		**37.96**	**326**	P	**P**	**03 12 22.1**	**+0.6**
	comp=Z,0.6nm,0.3s,mb3.7,baz=120,slow=8.4,SNR=17							
FINES	**FINESS Array B**		**37.96**	**326**	*i* P	**P**	**03 12 22.2**	**+0.7**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.3s							
KAF	**Kangasniemi**		**38.10**	**327**	*e*p	**P**	**03 12 22.1**	**-0.6**
	baz=108,slow=8.4							
KEV	**Kevo**		**41.21**	**338**	*e*p	**P**	**03 12 48.9**	**+0.5**
ARCES	**ARCESS Array B**		**41.56**	**338**	P	**P**	**03 12 52.3**	**+1.1**
	comp=Z,1.7nm,0.4s,mb4.0,baz=118,slow=9.2,SNR=52							
NB2	**NORSAR Subarra**		**44.87**	**323**	P	**P**	**03 13 17.5**	**-0.4**
	comp=Z,1.7nm,0.6s,mb3.9,baz=97,slow=7.9							
NOA	**NORSAR Array B**		**44.87**	**323**	P	**P**	**03 13 17.8**	**-0.1**
	comp=Z,2.1nm,0.7s,mb3.9,baz=96,slow=7.7,SNR=13							
NOA	**NORSAR Array B**		**44.87**	**323**	P	**P**	**03 13 17.8**	**-0.1**
CDF	**Champ du Feu**		**47.75**	**306**	*e*P	**P**	**03 13 40.1**	**-0.3**
PGF	**Pioggiola**		**47.82**	**298**	*e*P	**P**	**03 13 40.6**	**-0.3**
	comp=Z,18nm,1.1s,mb4.3							
PGF	**Pioggiola**		**47.82**	**298**	*e*P	**P**	**03 13 40.6**	**-0.3**
PGF					pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3							
PGF	**Pioggiola**		**47.82**	**298**	*e*P	**P**	**03 13 40.6**	**-0.3**
	comp=Z,9.3nm,1.1s,mb4.3							
LPG	**La Plagne**		**48.70**	**302**	*e*P	**P**	**03 13 47.6**	**0.0**
LPL	**La Plagne**		**48.70**	**302**	*e*P	**P**	**03 13 47.6**	**-0.1**
MBDF	**Montbardon**		**48.86**	**301**	*e*P	**P**	**03 13 48.6**	**-0.3**
	comp=Z,9.5nm,1.2s,mb4.0							
MBDF	**Montbardon**		**48.86**	**301**	*e*P	**P**	**03 13 48.6**	**-0.3**
MBDF					pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.0							
MBDF	**Montbardon**		**48.86**	**301**	*e*P	**P**	**03 13 48.6**	**-0.3**
	comp=Z,4.8nm,1.2s,mb4.0							
ORIF	**Oris-en-Rattie**		**49.43**	**301**	*e*P	**P**	**03 13 52.9**	**-0.3**
LOR	**Lormes**		**50.24**	**305**	*e*P	**P**	**03 13 59.5**	**+0.2**
	comp=Z,2.3nm,0.7s,mb3.6							
LOR	**Lormes**		**50.24**	**305**	*e*P	**P**	**03 13 59.5**	**+0.2**
LOR					pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5							
LOR	**Lormes**		**50.24**	**305**	*e*P	**P**	**03 13 59.5**	**+0.2**
	comp=Z,1.1nm,0.7s,mb3.6							
VIVF	**Saint-Julien-l**		**50.28**	**302**	*e*P	**P**	**03 13 59.2**	**-0.4**
LASF	**Ste Croix**		**51.05**	**301**	*e*P	**P**	**03 14 04.5**	**-0.9**
	comp=Z,9.5nm,0.9s,mb4.1							
BGF	**Bois d'Agland**		**51.09**	**304**	*e*P	**P**	**03 14 05.6**	**-0.1**
TCF	**Toulx Ste Croi**		**51.58**	**304**	*e*P	**P**	**03 14 09.6**	**+0.2**
CAF	**Calviac**		**52.05**	**302**	*e*P	**P**	**03 14 12.4**	**-0.4**
LDF	**La Druitiere**		**52.52**	**307**	*e*P	**P**	**03 14 16.1**	**-0.2**
	comp=Z,38nm,1.6s,mb4.6							
LDF	**La Druitiere**		**52.52**	**307**	*e*P	**P**	**03 14 16.1**	**-0.2**
LDF					pmax	pmax		
	comp=Z,19nm,1.5s,mb4.6							
LDF	**La Druitiere**		**52.52**	**307**	*e*P	**P**	**03 14 16.1**	**-0.2**
	comp=Z,19nm,1.5s,mb4.6							
MJAR	**Matsushiro Arr**		**52.58**	**69**	P	**P**	**03 14 19.1**	**+2.3**
	comp=Z,2.3nm,0.8s,mb4.0,baz=290,slow=9.8,SNR=6.3							
EPF	**Esparros**		**53.80**	**301**	*e*P	**P**	**03 14 26.0**	**+0.3**
ETSF	**Etsaut**		**54.46**	**301**	*e*P	**P**	**03 14 30.9**	**+0.4**
TORD	**Torodi Ar. Bea**		**66.21**	**269**	P	**P**	**03 15 49.0**	**-1.4**
	comp=Z,0.7nm,0.5s,mb3.8,baz=52,slow=5.9,SNR=22							
TORD	**Torodi Ar. Bea**		**66.21**	**269**	P	**P**	**03 15 49.0**	**-1.4**
INK	**Inuvik**		**74.06**	**9**	P	**P**	**03 16 39.7**	**+1.4**
	comp=Z,1.0nm,0.4s,mb3.9,baz=331,slow=6.0,SNR=8.0							
INK	**Inuvik**		**74.06**	**9**	P	**P**	**03 16 39.7**	**+1.4**
LIC	**Lamto**		**75.58**	**267**	*e*P	**P**	**03 16 45.3**	**-1.6**
	comp=Z,104nm,1.5s,mb4.9							
LIC	**Lamto**		**75.58**	**267**	*e*P	**P**	**03 16 45.3**	**-1.6**
	comp=Z,52nm,1.5s,mb4.9							
WRA	**Warramunga Arr**		**81.44**	**122**	P	**P**	**03 17 21.0**	**+1.9**
	comp=Z,0.2nm,0.4s,mb3.1,baz=325,slow=5.0,SNR=9.1							
YKA	**Yellowknife Ar**		**81.46**	**3**	P	**P**	**03 17 19.8**	**+0.6**
	comp=Z,1.0nm,0.5s,mb3.7,baz=352,slow=5.6,SNR=7.6							
ASAR	**Alice Springs**		**83.71**	**125**	P	**P**	**03 17 32.2**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=309,slow=5.2,SNR=5.5							

*IDC **29** 03:09:10.4±1.4,5296N×16927W,h0km,mb3.8/11, mb1 4.0/12,mb1mx3.8/24,mbtmp3.9/12,ML3.4/1, MS3.4/1, Ms1 3.4/1,ms1mx2.8/32,Error ellipse: s-maj=37.6km s-min=19.4km az=168.0*
*NEIC **29** 03:09:11.8,5236N×16924W,h2km,mb4.3/3, ML3.7(AEIC),After AEIC.*
*ISCJB **29** 03:09:12.8±1.6,524N±02×1693W±0.1,h54km±9km, mb3.9/14,MS3.2/1,Error ellipse: s-maj=26.6km s-min=11.0km az=142.7*

ISC 29 03:09:14.5±1.5,526N±02×1694W±01,h51km±8km,n27, σ0°95/30,mb3.9/14,MS3.2/1,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.53**	**35**	P		P	**Pn**	**03 09 24.6**	**-1.4**
NIKO				S		S	**Sn**	**03 09 34.5**	**+0.2**
OKCD	**Okmok Cone D**	**1.16**	**40**	P		P	**Pn**	**03 09 35.2**	**+0.9**
OKCD				S		S	**Sn**	**03 09 53.5**	**+4.3**
AKUT	**Akutan**	**2.67**	**52**	*e*Pn		P	**Pn**	**03 09 56.5**	**+1.5**
AKUT				*e*Sg		S	**Sn**	**03 10 35.0**	**+8.9**
ATKA	**Atka Island**	**2.99**	**265**	P		P	**Pn**	**03 09 59.2**	**-0.2**
SPIA	**Saint Paul Isl**	**4.67**	**354**	P		P	**Pn**	**03 10 25.9**	**+3.5**
KDAK	**Kodiak Island**	**10.92**	**55**	Pn		P	**Pn**	**03 11 45.7**	**-2.3**
	0.3nm,0.3s,baz=121,slow=19,SNR=7.5								
KDAK	**Kodiak Island**	**10.92**	**55**	Pn		P	**Pn**	**03 11 45.7**	**-2.3**
SLKM	**Skilak Lake**	**13.19**	**45**	*e*Pn		P	**Pn**	**03 12 19.2**	**+0.3**
DAWY	**Dawson**	**19.29**	**42**	*e*P		P	**Pn**	**03 13 35.4**	**-1.1**
SKAG	**Skagway**	**20.07**	**56**	*e*P		P	**P**	**03 13 44.6**	**+1.2**
INK	**Inuvik**	**23.19**	**34**	P		P	**P**	**03 14 15.6**	**-1.4**
	1.4nm,0.6s,mb3.6,baz=237,slow=7.2,SNR=12								
INK				LR		LR	LR	03 22 36.5	
	comp=Z,92nm,19.2s,MS3.2,baz=103,slow=35								
INK	**Inuvik**	**23.19**	**34**	*e*P		P	**P**	**03 14 15.7**	**-1.2**
	1.7nm,0.7s,mb3.6								
YKA	**Yellowknife Ar**	**30.12**	**49**	P		P	**P**	**03 15 19.8**	**+0.6**
	0.6nm,0.4s,mb3.7,baz=274,slow=8.9,SNR=8.8								
YKA	**Yellowknife Ar**	**30.12**	**49**	P		P	**P**	**03 15 19.8**	**+0.6**
PDAR	**Pinedale Array**	**40.36**	**79**	P		P	**P**	**03 16 47.5**	**+0.3**
	0.5nm,0.5s,mb3.5,baz=294,slow=4.5,SNR=5.4								
SONM	**Songino Array**	**51.22**	**301**	P		P	**P**	**03 18 13.6**	**+0.7**
	0.4nm,0.4s,mb3.7,baz=61,slow=6.1,SNR=5.2								
SONM				PcP		PcP		03 19 31.5	+4.0
	0.5nm,0.7s,baz=87,slow=1.1,SNR=4.2								

BVAR	**Borovoye Array**		**63.57**	**324**	P	**P**	**03 19 40.4**	**+0.6**
	2.1nm,0.5s,mb4.4,baz=51,slow=6.5,SNR=14							
MKAR	**Makanchi Array**		**63.69**	**313**	P	**P**	**03 19 40.4**	**-0.3**
	1.0nm,0.8s,mb3.9,baz=52,slow=4.9,SNR=5.2							
JOF	**Joensuu**		**63.74**	**350**	*e*p	**P**	**03 19 40.4**	**-0.5**
	0.7nm,0.4s,mb4.0							
ZRNK	**Zerenda**		**64.11**	**325**	*e*P	**P**	**03 19 43.5**	**+0.1**
	1.5nm,0.6s,mb4.2							
KAF	**Kangasniemi**		**65.02**	**352**	*e*p	**P**	**03 19 47.9**	**-1.4**
	1.7nm,0.5s,mb4.3,baz=7.0,slow=6.1							
FINES	**FINESS Array B**		**65.70**	**352**	P	**P**	**03 19 53.5**	**-0.2**
	1.2nm,0.7s,mb4.0,baz=16,slow=7.9,SNR=9.0							
NB2	**NORSAR Subarra**		**66.77**	**360**	P	**P**	**03 20 00.6**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.7,baz=360,slow=6.2							
NOA	**NORSAR Array B**		**66.77**	**360**	P	**P**	**03 20 00.9**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=0.5,slow=6.2,SNR=5.0							
GERES	**GERESS Array B**		**78.95**	**358**	P	**P**	**03 21 12.9**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=0.0,slow=4.0,SNR=4.3							
ESDC	**Sonseca Array**		**87.28**	**11**	P	**P**	**03 21 55.9**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.6,baz=352,slow=4.3,SNR=4.4							
ASAR	**Alice Springs**		**90.52**	**230**	P	**P**	**03 22 15.9**	**+5.1**
	comp=Z,0.4nm,0.8s,mb3.8,baz=36,slow=4.8,SNR=4.6							

KRSC 29 03:13:32,4909N×15687E,h5km,ML3.9,Kuril Islands

*CSEM **29** 03:39:58.9±0.1,3504N×298W,h8km,mb3.1/3,Error ellipse: s-maj=2.9km s-min=2.2km az=93.0*
*ISCJB **29** 03:39:59.8±0.6,3504N±004×295W±005,h10km,Error ellipse: s-maj=6.5km s-min=5.1km az=165.3*
*MDD **29** 03:40:00.1±1.0,3493N×270W,h22km±3km,mb2.9/6, Error ellipse: s-maj=15.4km s-min=7.2km az=93.0, PRXIMO*
*SFS **29** 03:40:02.0,3504N×306W,h31km,ML2.3*
*NEIC **29** 03:40:02.9,3504N×306W,h24km,MG3.1(MDD),After MDD.*

ISC 29 03:40:00.0±0.6,3501N±004×295W±005,h10km,n23, σ1°11/37,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.17**	**103**	P		P	**Pg**	**03 40 04.0**	**+0.2**
ZAI				S		S	**Sg**	**03 40 06.0**	**-0.3**
ZAI	**Zaio**	**0.17**	**103**	*i* P		P	**Pg**	**03 40 04.0**	**+0.2**
MELI	**Melilla**	**0.28**	**3**	P		P	**Pg**	**03 40 11.3**	**+5.5**
MELI				S		S	**Sg**	**03 40 15.6**	**+6.0**
MELI	**Melilla**	**0.28**	**3**	*e*P		P	**Pg**	**03 40 11.3**	**+5.5**
MELI				*e*S		S	**Sg**	**03 40 15.6**	**+6.0**
EALB	**Alboran**	**0.93**	**356**	P		P	**Pg**	**03 40 18.8**	**+0.8**
	4.7nm,0.3s,SNR=7.9								
EALB				S		S	**Sg**	**03 40 31.5**	**+1.4**
	7.9nm,0.2s,SNR=7.9								
EALB	**Alboran**	**0.93**	**356**	P		P	**Pg**	**03 40 18.8**	**+0.8**
	SNR=7.9								
EALB				S		S	**Sg**	**03 40 31.5**	**+1.4**
	7.9nm,0.2s,SNR=7.9								
TZK	**Tazeka**	**1.37**	**228**	*i* P		P	**Pn**	**03 40 25.0**	**-0.2**
TZK				*i* S		S	**Sb**	**03 40 44.0**	**+0.7**
EBER	**Berja**	**1.89**	**1**	P		P	**Pn**	**03 40 31.9**	**-0.4**
	0.2nm,0.1s,SNR=4.0								
EBER				S		S	**Sn**	**03 40 54.0**	**-2.2**
	2.5nm,0.3s,SNR=7.9								
EBER	**Berja**	**1.89**	**1**	P		P	**Pn**	**03 40 31.9**	**-0.4**
	0.2nm,0.1s,SNR=4.0								
EBER				S		S	**Sn**	**03 40 54.0**	**-2.1**
	2.5nm,0.3s,SNR=7.9								
EGUA	**Guajares**	**1.89**	**345**	P		P	**Pn**	**03 40 31.3**	**-1.0**
EGUA				S		S	**Sn**	**03 40 51.0**	**-5.2**
EGUA	**Guajares**	**1.89**	**345**	P		P	**Pn**	**03 40 31.3**	**-1.0**
	1.0nm,0.2s,SNR=7.9								
EMIJ	**Mijas**	**2.15**	**317**	P		P	**Pn**	**03 40 35.4**	**-0.5**
	0.4nm,0.2s,SNR=4.0								
EMIJ				S		S	**Sn**	**03 40 58.8**	**-3.7**
	0.6nm,0.2s,SNR=4.0								
EMIJ	**Mijas**	**2.15**	**317**	P		P	**Pn**	**03 40 35.0**	**-0.9**
EMIJ				S		S	**Sn**	**03 40 58.8**	**-3.7**
EMIJ	**Mijas**	**2.15**	**317**	P		P	**Pn**	**03 40 35.0**	**-0.9**
	0.4nm,0.2s,SNR=4.0								
EQUE	**Quentar**	**2.23**	**350**	P		P	**Pn**	**03 40 37.5**	**+0.5**
	0.8nm,0.2s,SNR=8.0								
EQUE				S		S	**Sn**	**03 41 02.6**	**-1.9**
	0.5nm,0.2s,SNR=7.9								
EQES	**Quesada**	**2.79**	**358**	P		P	**Pn**	**03 40 46.7**	**+1.9**
	0.9nm,0.2s,SNR=9.0								
EQES				S		S	**Sn**	**03 41 20.5**	**+2.0**
	1.0nm,0.2s,SNR=5.8								
EQES	**Quesada**	**2.79**	**358**	P		P	**Pn**	**03 40 45.9**	**+1.1**
EQES				S		S	**Sn**	**03 41 20.5**	**+2.0**
EQES	**Quesada**	**2.79**	**358**	P		P	**Pn**	**03 40 45.9**	**+1.2**
	0.9nm,0.2s,SNR=9.0								
EADA	**Adamuz**	**3.41**	**338**	P		P	**Pn**	**03 40 53.3**	**0.0**
	0.2nm,0.1s,SNR=4.0								
EADA	**Adamuz**	**3.41**	**338**	P		P	**Pn**	**03 40 53.3**	**0.0**
EMIN	**Mina Concepcio**	**4.07**	**314**	P		P	**Pn**	**03 41 02.1**	**-0.2**
	0.5nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**4.07**	**314**	P		P	**Pn**	**03 41 02.2**	**-0.2**
EMIN	**Mina Concepcio**	**4.07**	**314**	P		P	**Pn**	**03 41 02.2**	**-0.2**

*ISCJB **29** 03:59:47.6±1.3,4299N±007×028W±004,h11km±13km, Error ellipse: s-maj=11.8km s-min=4.7km az=15.8*
*LDG **29** 03:59:48.2±0.1,4299N×027W,h2km,Md2.0/3,Error ellipse: s-maj=3.2km s-min=1.3km az=9.0*
*STR **29** 03:59:48.1±0.1,4296N×029W,h2km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **29** 03:59:48.8±0.4,4297N×028W,h0km,mbLg0.2/1,Error ellipse: s-maj=4.9km s-min=2.0km az=9.0*

ISC 29 03:59:48.2±1.2,4299N±007×028W±004,h8km±17km,n9, σ0°25/14,1D,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.12**	**314**	Pg		**Pg**	**Pg**	**03 59 50.6**	**-0.2**
REYF				Sg		**Sg**	**Sg**	**03 59 52.6**	**0.0**
ETSF	**Etsaut**	**0.23**	**247**	*e*Pg		**Pg**	**Pg**	**03 59 53.0**	**+0.3**
ETSF				*e*Sg		**Sg**	**Sg**	**03 59 55.9**	**+0.1**
	2.8nm,0.2s								
ETSF	**Etsaut**	**0.23**	**247**	Pg		**Pg**	**Pg**	**03 59 53.0**	**+0.3**
ETSF				Lg				03 59 55.9	
	1.4nm,0.2s								
VIEF	**Viey**	**0.24**	**115**	Pg		**Pg**	**Pg**	**03 59 52.8**	**-0.3**
VIEF				Sg		**Sg**	**Sg**	**03 59 56.2**	**-0.2**
EBIE	**Bielsa**	**0.43**	**134**	⇓Pg		**Pg**	**Pg**	**03 59 56.5**	**-0.1**
	0.7nm,0.1s,SNR=18								
EBIE				Lg				04 00 02.3	
	0.7nm,0.2s,SNR=12								
EPF	**Esparros**	**0.46**	**84**	*e*Pg		**Pg**	**Pg**	**03 59 57.0**	**0.0**
EPF				*e*Sg		**Sg**	**Sg**	**04 00 03.5**	**+0.5**
	1.1nm,0.2s								
EPF	**Esparros**	**0.46**	**84**	Pg		**Pg**	**Pg**	**03 59 57.0**	**0.0**
EPF				Lg				04 00 03.5	
	0.6nm,0.2s								
SJPF	**Ste Jean**	**0.71**	**281**	*e*Pg		**Pg**	**Pg**	**04 00 01.4**	**-0.4**
SJPF				*e*Sg		**Sg**	**Sg**	**04 00 11.2**	**+0.2**
	1.1nm,0.3s								
SJPF	**Ste Jean**	**0.71**	**281**	Pg		**Pg**	**Pg**	**04 00 01.4**	**-0.4**
SJPF				Lg				04 00 11.2	
	0.6nm,0.3s								

*CSEM **29** 04:00:16.4±0.2,3697N×2797E,h2km,MD2.7,Error ellipse: s-maj=4.1km s-min=3.1km az=169.0*

ISK 29 04:00:17.0,3696N×2801E,h5km,MD2.7,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.28**	**52**	PG		Pg	Pg	04 00 22.6	+0.2
YER				SG		Sg	Sg	04 00 27.5	+1.4
MLSB	**Milas**	**0.38**	**331**	PG		Pg	Pg	04 00 24.9	+0.6
DAT	**Datca**	**0.42**	**236**	PG		Pg	Pg	04 00 24.9	-0.1
DAT				SG		Sg	Sg	04 00 31.9	+1.5
DALT	**Dalyan (Mudla)**	**0.54**	**111**	*e*PG		Pg	Pg	04 00 28.9	+1.5
BODT	**Bodrum**	**0.56**	**280**	PG		Pg	Pg	04 00 29.2	+1.3
AYDN	**Tasoluk**	**0.70**	**352**	*i* P		Pg	Pg	04 00 30.7	+0.2
AYDN				*i* S		Sg	Sg	04 00 40.2	+0.6
FETY	**Fethiye**	**0.93**	**110**	*e*PG		Pg	Pg	04 00 35.6	+0.9
DNZL	**Cakiroluk**	**1.10**	**49**	*i* P		Pg	Pg	04 00 39.3	+1.2
DNZL				*i* S		Sg	Sg	04 00 57.1	+4.7

*CSEM **29** 04:03:33.9±0.2,3750N×3871E,h4km±1km,MD3.5,Error ellipse: s-maj=1.9km s-min=1.3km az=10.0*
*ISK **29** 04:03:33.8,3754N×3869E,h5km,MD3.5*
*ISCJB **29** 04:03:34.8±0.5,3750N±002×3871E±002,h6km±4km, Error ellipse: s-maj=4.1km s-min=2.9km az=166.8*
*NSSC **29** 04:03:34.6,3758N×3876E,h6km±2km*

ISC 29 04:03:35.4±0.5,3748N±003×3872E±002,h5km±3km,n49, σ0°91/76,12D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.09**	**118**	*i* PG		**Pg**	**Pg**	**04 03 37.1**	**-0.2**
URFA				*i* SG		**Sg**	**Sg**	**04 03 40.3**	**+1.7**
ATAB	**Bozova**	**0.34**	**268**	*i* P		**Pg**	**Pg**	**04 03 41.3**	**-0.7**
ATAB				*i* S		**Sg**	**Sg**	**04 03 46.1**	**-0.3**
MYA	**Malataya**	**0.88**	**344**	*i* PG		**Pg**	**Pg**	**04 03 50.3**	**-1.9**
GZT	**Gaziantep**	**0.93**	**263**	*i* P		**Pg**	**Pg**	**04 03 52.4**	**-0.8**
GZT				*i* S		**Sg**	**Sg**	**04 04 06.5**	**+1.2**
ELZG	**Elazig**	**1.03**	**11**	*i* P		**Pg**	**Pg**	**04 03 53.6**	**-1.6**
ELZG				*i* S		**Sg**	**Sg**	**04 04 09.8**	**+1.1**
ELZG	**Elazig**	**1.03**	**11**	*i* S		**Sg**	**Sg**	**04 04 09.8**	**+1.1**
DRBT	**Darb Altahta**	**1.07**	**126**	⇓P		**Pg**	**Pg**	**04 03 55.0**	**-1.0**
DRBT				⇓S		**Sg**	**Sg**	**04 04 10.2**	**+0.3**
DRBT	**Darb Altahta**	**1.07**	**126**	⇓*i*P		**Pg**	**Pg**	**04 03 55.0**	**-1.0**
DRBT				⇓*i*S		**Sg**	**Sg**	**04 04 10.2**	**+0.3**
GAZ	**Gaziantep**	**1.24**	**256**	*i* PN		**Pn**	**Pn**	**04 03 58.4**	**-1.0**
DIY	**Diyarbakir**	**1.26**	**70**	*i* PN		**Pn**	**Pn**	**04 03 58.7**	**-0.9**
KBSD	**Kabsdagh**	**1.53**	**108**	⇑P		**Pn**	**Pn**	**04 04 02.2**	**-1.1**
KBSD				⇑S		**Sn**	**Sn**	**04 04 22.7**	**-0.9**
KBSD	**Kabsdagh**	**1.53**	**108**	⇑*i*P		**Pn**	**Pn**	**04 04 02.2**	**-1.1**
KBSD				⇑*i*S		**Sn**	**Sn**	**04 04 22.7**	**-0.9**
SFNV	**Sufian**	**1.54**	**133**	⇑P		**Pn**	**Pn**	**04 04 02.4**	**-1.0**
SFNV				⇑S		**Sn**	**Sn**	**04 04 23.6**	**-0.2**
SFNV	**Sufian**	**1.54**	**133**	⇑*i*P		**Pn**	**Pn**	**04 04 02.4**	**-1.0**
SFNV				⇑*i*S		**Sn**	**Sn**	**04 04 23.6**	**-0.2**
MNKR	**ALMNKUR**	**1.60**	**164**	⇑P		**Pn**	**Pn**	**04 04 03.8**	**-0.4**
MNKR				⇑S		**Sn**	**Sn**	**04 04 26.1**	**+0.8**
MNKR	**ALMNKUR**	**1.60**	**164**	⇑*i*P		**Pn**	**Pn**	**04 04 03.8**	**-0.5**
MNKR				⇑*i*S		**Sn**	**Sn**	**04 04 26.1**	**+0.8**
MARD	**Mardin**	**1.65**	**95**	*i* P		**Pn**	**Pn**	**04 04 04.1**	**-0.8**
MARD				*i* S		**Sn**	**Sn**	**04 04 26.5**	**+0.1**
DRWC	**Darouich**	**1.86**	**243**	⇑P		**Pn**	**Pn**	**04 04 08.4**	**+0.6**
DRWC				⇑S		**Sn**	**Sn**	**04 04 31.1**	**-0.5**
DRWC	**Darouich**	**1.86**	**243**	⇑*i*P		**Pn**	**Pn**	**04 04 08.4**	**+0.6**
DRWC				⇑*i*S		**Sn**	**Sn**	**04 04 31.1**	**-0.5**
BINT	**Bingol**	**1.97**	**44**	*i* PN		**Pn**	**Pn**	**04 04 09.3**	**-0.1**
BEST	**Besiri**	**2.06**	**78**	*i* P		**Pn**	**Pn**	**04 04 12.0**	**+1.4**
BEST				*i* S		**Sn**	**Sn**	**04 04 40.5**	**+3.8**
COBT	**Iskenderun**	**2.20**	**245**	*i* P		**Pn**	**Pn**	**04 04 16.4**	**+3.9**
COBT				*i* S		**Sn**	**Sn**	**04 04 42.2**	**+2.2**
MZRK	**Al-Mazaregh**	**2.27**	**136**	⇑P		**Pn**	**Pn**	**04 04 13.1**	**-0.4**
MZRK	**Al-Mazaregh**	**2.27**	**136**	⇑*i*P		**Pn**	**Pn**	**04 04 13.1**	**-0.4**
BTMT	**Batman**	**2.30**	**71**	PN		**

MID	**Middleton Isla**	**3.58**	**90**	P		Pn	04 44 03.6	-1.6
EYAK	**Cordova Ski Ar**	**3.92**	**73**	P		Pn	04 44 08.1	-1.7
KTH	**Kantishna Hill**	**4.10**	**15**	P		Pn	04 44 10.3	-2.0
CHGN	**Chignik**	**4.29**	**221**	*e*P		Pn	04 44 13.2	-1.6
MCK	**McKinley**	**4.62**	**25**	P		Pn	04 44 17.9	-1.3
COLA	**College**	**5.85**	**24**	P		Pn	04 44 33.4	-2.5
IMA2	**Indian Mountai**	**6.46**	**359**	*e*Pn		Pn	04 44 41.6	-2.6
PNL	**Peninsula**	**7.07**	**84**	P		Pn	04 44 50.7	-1.7
COLD	**Coldfoot**	**7.75**	**9**	P		Pn	04 44 59.3	-2.3
DAWY	**Dawson**	**7.95**	**50**	P		Pn	04 45 02.6	-1.7
SKAG	**Skagway**	**9.15**	**83**	*e*Pn		Pn	04 45 20.7	+0.1
WHY	**Whitehorse**	**9.27**	**76**	P		Pn	04 45 20.4	-1.8
CRAG	**Craig**	**11.62**	**102**	*e*Pn		Pn	04 45 52.4	-1.3
INK	**Inuvik**	**12.24**	**37**	*e*Pn		Pn	04 45 59.9	-2.1
	1.6nm,0.6s							

KRSC 29 04:54:05,5353N×16790E,h10km,ML3.7,Komandorsky Islands region

KRSC 29 05:16:23,5350N×16770E,h10km,ML3.8,Komandorsky Islands region

MAN 29 05:37:08.4,975N×12249E,h20km,mb2.5,ML4.1,MS3.6, 2D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.84**	**119**	⇓*i* P	Pb	05 37 25.0	+0.7
SNPH				*i* S	Sb	05 37 34.5	-0.7
TBP	**Tagbilaran**	**1.36**	**92**	*e*P	Pn	05 37 32.3	+0.1
TBP				*e*S	Sn	05 37 47.7	-1.8
RCP	**Roxas**	**1.82**	**8**	⇓*e*P	Pn	05 37 39.0	+0.5
RCP				*e*S	Sn	05 38 01.6	+0.6

MEX 29 05:38:12.6±0.8,1693N×10019W,h14km±5km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.14**	**326**	*i* P	Pg	05 38 15.5	-0.7
CAIG				*i* S	Sg	05 38 18.2	-0.5
ACX	**Acapulco**	**0.26**	**104**	*i* P	Pg	05 38 17.5	-0.7
ACX				*i* S	Sg	05 38 22.0	+0.1
MEIG	**Mezcala**	**1.13**	**28**	*i* P	Pb	05 38 30.5	-3.4
MEIG				*i* S	Sb	05 38 43.8	-4.7
PLIG	**Platanillo**	**1.59**	**24**	*i* P	Pn	05 38 39.2	-1.2
PLIG				*i* S	Sn	05 38 55.9	-4.9
IIZ	**Mezontepec**	**2.42**	**22**	*e*P	Pn	05 38 50.2	-1.5
IIZ				*i* S	Sn	05 39 18.3	-2.8
PPM	**Popocatepetl**	**2.59**	**35**	*i* P	Pn	05 38 54.1	0.0
PPM				*i* S	Sn	05 39 21.8	-3.7

IDC 29 05:49:47.3±7.1,1835S×17504W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.6/13,mbtmp3.6/2,Error ellipse: s-maj=303.5km s-min=114.2km az=152.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.70**	**259**	P	P	05 58 26.4	+0.8
	0.5nm,0.7s,baz=96,slow=7.8,SNR=16						
ASAR	**Alice Springs**	**47.75**	**254**	P	P	05 58 26.1	0.0
	0.8nm,0.8s,baz=95,slow=8.3,SNR=10						
AKASG	**Malin Array Be**	**142.39**	**335**	PKP	PKPdf	06 09 20.7	-1.1
	0.4nm,0.4s,baz=38,slow=4.2,SNR=5.1						

*BJI **29** 05:57:02.2,4856N×8563E,h23km,ML3.4*
*NNC **29** 05:57:06.5±4.1,4875N×8510E,h25km±14km,mb4.4, mpv3.9,Error ellipse: s-maj=29.2km s-min=12.2km az=80.0*

ISC 29 05:56:59.4±1.9,4889N±007×854E±02,h10km,n9, σ1§10/13,13C-2D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK02	**Makanchi Array**	**2.97**	**226**	⇑Pn	**Pn**	**05 57 49.1**	**+2.5**
	30nm,0.5s,baz=56,slow=13						
MK02				⇑Pg	**Pg**	**05 57 55.9**	**-0.5**
	baz=56,slow=18						
MK01	**Makanchi Array**	**2.97**	**226**	⇓Sn	**Sn**	**05 58 22.0**	**-0.4**
	46nm,0.3s,baz=65,slow=27						
MK01				⇑Lg		05 58 33.6	
	74nm,0.4s,baz=48,slow=30						
KURK	**Kurchatov**	**4.75**	**295**	⇑Pn	**Pn**	**05 58 16.5**	**+5.4**
KURK				⇑Sn	**Sn**	**05 59 10.2**	**+4.0**
	6.2nm,0.3s						
KURK				⇑Lg		05 59 36.4	
	69nm,0.7s						
WMQ	**Urumqi**	**5.32**	**162**	P	**Pn**	**05 58 18.5**	**-0.3**
WMQ				S	**Sn**	**05 59 13.0**	**-7.1**
WMQ				SG	**Sg**	**05 59 32.5**	**-18**
WMQ				Smax			
	comp=N,40nm,0.6s						
WMQ				Smax			
	comp=E,60nm,0.6s						
VOSK	**Vostochnaya**	**9.89**	**298**	⇑Sn	**Sn**	**06 01 13.6**	**+0.9**
	comp=E,4.7nm,0.9s						
VOSK				⇑Lg		06 02 17.7	
	comp=E,7.6nm,0.8s						
BVA0	**Borovoye Array**	**10.33**	**299**	⇑Sn	**Sn**	**06 01 23.7**	**+0.3**
	comp=E,0.4nm,0.5s,baz=111,slow=23,SNR=11						
CHKZ	**Chkalovo**	**10.42**	**303**	⇑Sn	**Sn**	**06 01 23.8**	**-1.8**
	comp=E,1.5nm,0.5s						
CHKZ				⇓Lg		06 02 36.8	
	comp=E,5.0nm,0.8s						
ZRNK	**Zerenda**	**11.11**	**298**	⇑Sn	**Sn**	**06 01 42.7**	**+0.1**
	comp=E,2.8nm,0.8s						
ZRNK				⇑Lg		06 02 55.7	
	comp=E,11nm,1.6s						
KK31	**Karatay Array**	**11.85**	**246**	⇑Sn	**Sn**	**06 01 51.1**	**-10**
	comp=E,0.7nm,0.3s						

*CSEM **29** 06:18:00.7±0.9,3803N×2629W,h4km±4km,ML2.7,Error ellipse: s-maj=8.5km s-min=1.0km az=40.0,After PDA*
*PDA **29** 06:18:00.7±0.9,3803N×2629W,h4km±4km,MD2.6,ML2.7, Error ellipse: s-maj=8.5km s-min=1.0km az=40.0*

SVSA 29 06:18:00.7±0.9,3803N×2629W,h4km±4km,MD2.6,ML2.7, Error ellipse: s-maj=8.5km s-min=1.0km az=40.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET4	**Mosteiros**	**0.42**	**111**	*i* P	Pg	06 18 08.3	-0.4
SET4				*i* S	Sg	06 18 13.4	-0.7
SET2	**Ginetes**	**0.42**	**115**	*e*P	Pg	06 18 08.5	-0.3
SET2				*i* S	Sg	06 18 13.5	-0.9
PFET	**Feteiras**	**0.45**	**118**	*e*P	Pg	06 18 08.6	-0.7
PFET				*e*S	Sg	06 18 14.4	-0.7
PSAN	**Santo Antonio**	**0.48**	**111**	*e*P	Pg	06 18 09.2	-0.7
PSAN				*e*S	Sg	06 18 15.3	-0.8
FAC	**Faja de Cima**	**0.56**	**116**	*e*P	Pg	06 18 10.7	-0.9
FAC				*e*S	Sg	06 18 17.7	-1.2
CML	**Cha da Macela**	**0.64**	**113**	*e*P	Pg	06 18 11.6	-1.4
CML				*e*S	Sg	06 18 19.4	-1.9
PVER	**Pico Vermelho**	**0.66**	**110**	*i* P	Pg	06 18 12.0	-1.3
PVER				*e*S	Sg	06 18 20.1	-1.7
PVER							
	221nm,0.3s						
PVER	**Pico Vermelho**	**0.66**	**110**	*e*S	Sg	06 18 20.1	-1.7
PMAT	**Coroa da Mata**	**0.68**	**108**	*e*P	Pg	06 18 12.1	-1.7
PMAT				*e*S	Sg	06 18 20.6	-2.0
PMAT							
	486nm,0.2s						
PMAT	**Coroa da Mata**	**0.68**	**108**	*e*P	Pg	06 18 12.1	-1.7
PMAT				*e*S	Sg	06 18 20.6	-2.0
LFA	**Lagoa do Fogo**	**0.69**	**111**	*e*P	Pg	06 18 12.3	-1.6
MESC	**Monte Escuro**	**0.71**	**109**	*e*P	Pg	06 18 12.4	-1.9
MESC				*e*S	Sg	06 18 21.2	-2.3
PRCH	**Ribeira Ch**	**0.71**	**115**	*i* P	Pg	06 18 12.7	-1.6
PRCH				*e*S	Sg	06 18 21.8	-1.6
PRCH							
	302nm,0.3s						
PRCH	**Ribeira Ch**	**0.71**	**115**	*e*S	Sg	06 18 21.8	-1.6
VIF	**Vila Franca**	**0.73**	**112**	*e*S	Sg	06 18 22.3	-1.9
VIF							
	120nm,0.3s						
PCNG	**Congro**	**0.75**	**110**	*e*S	Sg	06 18 22.8	-2.1
PCNG							
	11nm,0.2s						
PFAD	**Fenais da Ajud**	**0.79**	**103**	*e*P	Pg	06 18 13.3	-2.5
FRA1	**Furnas**	**0.79**	**111**	*e*P	Pg	06 18 13.8	-2.1
FRA1				*e*S	Sg	06 18 23.8	-2.3
MIRA	**Miradouro**	**0.83**	**106**	*e*P	Pg	06 18 14.2	-2.5
MIRA				*e*S	Sg	06 18 24.2	-3.4
PFAV	**Pico das Favas**	**0.93**	**318**	*i* P	Pg	06 18 15.2	-3.3
PFAV				*i* S	Sg	06 18 26.4	-4.1
PFAV							
	57nm,0.2s						
RIB2	**Ribeirinha**	**0.95**	**313**	*i* P	Pg	06 18 15.7	-3.2
RIB2				*e*S	Sg	06 18 27.1	-4.1
RIB2							
	134nm,0.2s						
PVNV	**Vila Nova**	**1.00**	**317**	*i* P	Pg	06 18 16.4	-3.5
PVNV				*i* S	Sg	06 18 28.3	-4.6
PVNV							
	88nm,0.2s						
PPAD	**Pico dos Padre**	**1.03**	**311**	*e*P	Pg	06 18 17.0	-3.5
PPAD				*e*S	Sg	06 18 29.6	-4.3
PPAD							
	36nm,0.1s						
PPAD	**Pico dos Padre**	**1.03**	**311**	*e*P	Pg	06 18 17.0	-3.5
PPAD				*e*S	Sg	06 18 29.6	-4.3
PBIS	**Biscoitos**	**1.05**	**314**	*e*S	Sg	06 18 29.9	-4.7
PBIS							
	18nm,0.2s						
ASBA	**Santa Barbara**	**1.07**	**311**	*e*S	Sg	06 18 30.5	-4.6
ASBA							
	54nm,0.2s						
PSMN	**Pico do Norte,**	**1.41**	**136**	*e*P	Pn	06 18 22.1	-5.0
PSMN				*e*S	Sb	06 18 38.1	-7.8

*IDC **29** 06:32:07.5±28.0,3599N×7121E,h0km,mb3.7/3, mb1 3.7/3,mb1mx3.3/21,mbtmp3.7/3,Error ellipse: s-maj=671.8km s-min=56.8km az=105.0*
*ISCJB **29** 06:32:23.7±6.1,369N±03×706E±08,h77km±47km, mb3.6/3,Error ellipse: s-maj=105.3km s-min=42.3km az=22.5*

ISC 29 06:32:22.4±5.3,367N±03×705E±08,h67km±43km,n6, σ1§40/7,mb3.6/3,3C,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.37**	**0**	⇑Pn	**Pn**	**06 33 54.0**	**+0.5**
	3.0nm,0.3s,baz=163,slow=12,SNR=76						
KK31				⇑Sn	**Sn**	**06 35 03.9**	**-0.9**
	1.8nm,0.3s,baz=179,slow=22,SNR=4.7						
AB31	**Akbulak array**	**14.68**	**332**	⇑P	**Pn**	**06 35 46.6**	**+0.4**
	0.9nm,0.5s,baz=137,slow=12,SNR=34						
FINES	**FINESS Array B**	**37.05**	**326**	P	**P**	**06 39 27.0**	**+1.2**
	1.4nm,1.0s,mb3.8,baz=119,slow=11,SNR=5.2						
NB2	**NORSAR Subarra**	**43.94**	**323**	P	**P**	**06 40 23.0**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.3,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**43.94**	**323**	P	**P**	**06 40 23.1**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.5,baz=97,slow=7.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**65.29**	**268**	P		**06 42 55.4**	**-1.8**
	comp=Z,0.3nm,0.4s,mb3.5,baz=45,slow=5.3,SNR=5.9						

*IDC **29** 06:37:51.3±1.2,1967N×122.41E,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.5/21,mbtmp3.7/5,ML3.4/1,Error ellipse: s-maj=49.3km s-min=24.3km az=77.0*
*ISCJB **29** 06:37:55.6±1.9,197N±0.1×1226E±02,h43km±21km, mb3.5/4,Error ellipse: s-maj=38.7km s-min=17.5km az=30.3*
*MAN **29** 06:38:22.7,1759N×12139E,h1km,MS0.8*

ISC 29 06:37:57.3±1.7,197N±01×1225E±02,h43km±19km,n6, σ0§45/6,mb3.5/4,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.10**	**197**	*e*P	**Pn**	**06 38 30.0**	**0.0**
JOW	**Kunigami**	**8.86**	**36**	Pn	**Pn**	**06 40 02.8**	**0.0**
	0.9nm,0.3s,baz=216,slow=8.7,SNR=3.8						
WRA	**Warramunga Arr**	**41.10**	**163**	P	**P**	**06 45 36.4**	**-0.5**
	0.9nm,1.0s,mb3.4,baz=345,slow=9.4,SNR=5.0						
MKAR	**Makanchi Array**	**42.41**	**319**	P	**P**	**06 45 47.6**	**-0.1**
	0.6nm,0.5s,mb3.5,baz=2.2,slow=8.1,SNR=4.7						
ASAR	**Alice Springs**	**44.54**	**165**	P	**P**	**06 46 05.2**	**+0.4**
	0.2nm,0.5s,mb3.2,baz=2.2,slow=8.1,SNR=4.7						
YKA	**Yellowknife Ar**	**86.60**	**23**	P	**P**	**06 50 36.1**	**+0.1**
	0.4nm,0.6s,mb3.8,baz=304,slow=4.4,SNR=4.1						

PGC 29 07:22:13.7,4885N×12913W,h10km,MLSn2.9/3,Mw3.5, 2C,237km southwest of Tofino, Bc West of Vancouver Island, British Columbia,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.58**	**34**	Pn	Pn	07 22 39.5	-2.2
BPBC				Sn	Sn	07 22 58.6	-3.7
	comp=Z,107nm,0.3s						
BPBC				Trac		07 22 59.1	
	comp=Z,107nm,0.3s						
EDB	**Eliza Dome**	**1.67**	**51**	⇑Pn	Pn	07 22 40.8	-2.1
EDB				Sn	Sn	07 22 59.8	-4.6
EDB				Trac		07 23 00.9	
	comp=Z,13nm,0.2s						
HOLB	**Holberg**	**1.91**	**20**	Pn	Pn	07 22 44.1	-2.2
HOLB				Sn	Sn	07 23 06.4	-3.9
	comp=Z,22nm,0.2s						
HOLB				Trac		07 23 10.8	
	comp=Z,22nm,0.2s						
MAYB	**Maynard**	**2.01**	**39**	Pn	Pn	07 22 45.9	-1.8
MAYB				Trac		07 23 14.9	
	comp=Z,12nm,0.2s						
WOSB	**Woss**	**2.12**	**51**	Pn	Pn	07 22 48.1	-1.2
WOSB				Sn	Sn	07 23 12.8	-2.8
	comp=Z,24nm,0.3s						
WOSB				Trac		07 23 15.7	
	comp=Z,24nm,0.3s						
PHC	**Port Hardy**	**2.16**	**30**	Pn	Pn	07 22 47.9	-1.8
PHC				Sn	Sn	07 23 12.4	-4.2
PHC				Trac		07 23 18.1	
	comp=Z,9.0nm,0.2s						
GDR	**Gold River**	**2.23**	**64**	Pn	Pn	07 22 49.0	-1.7
GDR				Trac		07 23 16.2	
	comp=Z,4.0nm,0.2s						
OZB	**Mount Ozzard**	**2.41**	**86**	Pn	Pn	07 22 51.1	-2.0
OZB				Sn	Sn	07 23 18.0	-4.5
OZB				Trac		07 23 20.8	
	comp=Z,13nm,0.2s						
BTB	**Buttle Lake**	**2.45**	**74**	Pn	Pn	07 22 52.5	-1.2
BTB				Sn	Sn	07 23 20.8	-2.9
	comp=Z,40nm,0.3s						
BTB				Trac		07 23 23.5	
	comp=Z,40nm,0.3s						
NCRB	**Newcastle Ridg**	**2.54**	**51**	⇑Pn	Pn	07 22 54.3	-0.6
NCRB				Sn	Sn	07 23 24.6	-1.2
	comp=Z,23nm,0.3s						
NCRB				Trac		07 23 25.2	
	comp=Z,23nm,0.3s						
CBB	**Campbell River**	**2.73**	**63**	⇑Pn	Pn	07 22 56.6	-0.9
CBB				Sn	Sn	07 23 28.6	-1.9
CBB				Trac		07 23 31.6	
	comp=Z,5.0nm,0.2s						
ALB	**Alberni**	**2.86**	**80**	Pn	Pn	07 22 58.5	-0.8
ALB				Trac		07 23 34.0	
	comp=Z,1.0nm,0.1s						
MGB	**Mount Grey**	**2.93**	**85**	Pn	Pn	07 22 58.6	-1.8
MGB				Sn	Sn	07 23 32.0	-3.6
MGB				Trac		07 23 34.2	
	comp=Z,4.0nm,0.1s						
PFB	**Port Renfrew**	**3.12**	**93**	Trac		07 23 41.4	
	comp=Z,3.0nm,0.4s						
PFB	**Port Renfrew**	**3.12**	**93**	Pn	Pn	07 23 02.3	-0.6
TXB	**Texada**	**3.19**	**73**	Pn	Pn	07 23 03.1	-0.7
TXB				Sn	Sn	07 23 38.4	-3.6
	comp=Z,6.0nm,0.3s						
TXB				Trac		07 23 41.2	
	comp=Z,6.0nm,0.3s						
BBB	**Bella Bella**	**3.40**	**11**	Pn	Pn	07 23 05.8	-1.0
BBB				Sn	Sn	07 23 42.9	-4.3
BBB				Trac		07 23 45.5	
	comp=Z,11nm,0.2s						
NLLB	**Nanaimo Lost L**	**3.41**	**82**	Pn	Pn	07 23 06.8	-0.1
NLLB				Sn	Sn	07 23 44.8	-2.5
NLLB				Trac		07 23 48.3	
	comp=Z,3.0nm,0.3s						
SHB	**Sechelt**	**3.53**	**76**	Pn	Pn	07 23 08.3	-0.2
SHB				Sn	Sn	07 23 46.7	-3.6
SHB				Trac		07 23 52.6	
	comp=Z,7.0nm,0.3s						
BIB	**Bowen Island**	**3.87**	**80**	Pn	Pn	07 23 13.0	-0.2
BIB				Sn	Sn	07 23 55.2	-3.4
	comp=Z,2.0nm,0.3s						
BIB				Trac		07 24 00.4	
	comp=Z,2.0nm,0.3s						
WPB	**Watts Point**	**3.96**	**76**	Pn	Pn	07 23 14.4	-0.1
HNB	**Haney**	**4.33**	**82**	Pn	Pn	07 23 18.9	-0.6
VDB	**Vedder Mountai**	**4.64**	**85**	Pn	Pn	07 23 24.1	+0.3
LLLB	**Lillooet**	**5.02**	**67**	Pn	Pn	07 23 29.5	+0.5
FSB	**Fort Saint Jam**	**6.38**	**26**	Pn	Pn	07 23 49.7	+2.0

*ISCJB **29** 07:33:09.6±0.3,5144N±002×1609E±002,h0km,mb3.6/2, Error ellipse: s-maj=2.3km s-min=1.8km az=22.5*
*MOS **29** 07:33:09.3±0.9,5163N×1614E,h10km,mb4.0/1,Error ellipse: s-maj=8.4km s-min=4.4km az=80.5*
*IPEC **29** 07:33:10.4±0.3,5154N×1623E,h0km,ML3.3/4,Error ellipse: s-maj=1.9km s-min=1.5km az=41.0*
*IDC **29** 07:33:11.5±0.6,5148N×1579E,h0km,mb3.7/2, mb1 3.5/10,mb1mx3.4/25,mbtmp3.5/10,ML3.2/8,Error ellipse: s-maj=12.7km s-min=6.3km az=95.0*
*BGR **29** 07:33:12.8±0.5,5150N×1604E,h1km,ML3.6,Error ellipse: s-maj=6.7km s-min=4.4km az=142.0*
*CSEM **29** 07:33:12.5±0.1,5145N×1612E,h2km,mb4.0/1,ML3.9/8, Error ellipse: s-maj=1.3km s-min=1.1km az=177.0*
*PRU **29** 07:33:12.2,5145N×1610E,h0km*
*WAR **29** 07:33:12.4,5148N×1611E,ML3.2,Mining Induced*
*NEIC **29** 07:33:13.0,5150N×1600E,h1km,ML3.2(CSEM), ML3.6(SZGRF),After SZGRF.*
*LDG **29** 07:33:13.8±0.3,5125N×1591E,h1km,Ml3.9/12,Error ellipse: s-maj=7.4km s-min=2.3km az=11.0,Suspected Mining induced.*
*VIE **29** 07:33:14.4±0.8,5122N×1607E,h0km,mb2.8/5,ML3.2/5, Error ellipse: s-maj=5.4km s-min=4.3km az=43.0 67 km WNW of Breslau Suspected Mining induced.*

ISC 29 07:33:11.0±0.3,5147N±002×1610E±002,h0km,n104, σ1§07/193,mb3.6/2,6C-5D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**169**	*e*Pg	**Pg**	**07 33 24.2**	**+0.8**
KSP				*i*		07 33 24.5	
KSP				*e*Sg	**Sg**	**07 33 33.0**	**+1.3**
KSP				*e*L		07 33 36.6	
KSP	**Ksiaz**	**0.64**	**169**	*e*Pg	**Pg**	**07 33 24.2**	**+0.8**
KSP				*i*		07 33 24.5	
KSP				*e*Sg	**Sg**	**07 33 33.0**	**+1.3**
KSP				*e*		07 33 36.5	
KSP	**Ksiaz**	**0.64**	**169**	*e*Pg	**Pg**	**07 33 24.2**	**+0.8**
KSP				*e*Sg	**Sg**	**07 33 32.2**	**+0.5**
UPC	**Upice**	**0.97**	**183**	*e*PG	**Pg**	**07 33 30.5**	**+0.9**
DPC	**Dobruska-Polom**	**1.13**	**173**	*e*PG	**Pg**	**07 33 33.0**	**+0.2**
DPC				*e*SG	**Sg**	**07 33 47.4**	**-0.1**
	319nm,1.0s						
PVCC	**Panska Ves**	**1.35**	**226**	*e*Pg	**Pg**	**07 33 37.2**	**+0.2**
PVCC				*e*Sg	**Sg**	**07 33 56.0**	**+1.5**
BRG	**Berggiesshubel**	**1.48**	**247**	*e*Pn	**Pn**	**07 33 38.6**	**-0.3**
BRG				*e*Sg	**Sg**	**07 33 59.9**	**+1.2**
BRG	**Berggiesshubel**	**1.48**	**247**	PN	**Pn**	**07 33 38.5**	**-0.4**
BRG				PG	**Pg**	**07 33 40.0**	**+0.5**
BRG				SG	**Sg**	**07 33 59.9**	**+1.1**
	175nm,0.4s						
BRG	**Berggiesshubel**	**1.48**	**247**	P	**Pn**	**07 33 38.5**	**-0.5**
BRG						07 33 59.9	
BRG				smax			
	comp=N,175nm,0.4s						
BRG	**Berggiesshubel**	**1.48**	**247**	**Pg**	**Pg**	**07 33 40.0**	**+0.5**
BRG				Sg	**Sg**	**07 33 59.9**	**+1.1**
RUE	**Ruedersdorf**	**1.75**	**306**	*e*Pn	**Pn**	**07 33 41.9**	**-0.7**
RUE				*e*Sg	**Sg**	**07 34 08.5**	**+1.2**
RUE	**Ruedersdorf**	**1.75**	**306**	*e*Pn	**Pn**	**07 33 41.9**	**-0.8**
RUE				*e*Sg	**Sg**	**07 34 08.5**	**+1.1**
RUE	**Ruedersdorf**	**1.75**	**306**	Pn	**Pn**	**07 33 41.9**	**-0.8**
RUE				Sg	**Sg**	**07 34 08.5**	**+1.1**
PRA	**Prague**	**1.76**	**218**	PG	**Pg**	**07 33 42.0**	**-2.8**
PRA				SG	**Sg**	**07 34 06.0**	**-1.6**
PRU	**Pruhonice**	**1.79**	**214**	*e*PG	**Pg**	**07 33 44.9**	**-0.4**
PRU				*e*SG	**Sg**	**07 34 08.1**	**-0.3**
	comp=N,159nm,0.7s						
FBE	**Freiberg**	**1.81**	**253**	*e*Pn	**Pn**	**07 33 45.5**	**+2.0**
FBE				*e*Sg	**Sg**	**07 34 09.6**	**+0.2**
GKP	**Gorka Klasztor**	**1.93**	**21**	*e*Pn	**Pn**	**07 33 45.9**	**+0.8**
GKP				*e*Pg	**Pg**	**07 33 49.1**	**+1.1**
GKP				*e*PP		07 33 53.2	
GKP				*e*Sg	**Sg**	**07 34 14.9**	**+1.9**
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	**Pn**	**07 33 44.7**	**-0.4**
MORC				*e*Sg	**Sg**	**07 34 12.5**	**-0.6**
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	**Pn**	**07 33 44.7**	**-0.4**
MORC				*e*Sg	**Sg**	**07 34 12.5**	**-0.6**
CLL	**Collm**	**1.95**	**266**	*e*Pn	**Pn**	**07 33 44.6**	**-0.8**
CLL				*i* Pg	**Pg**	**07 33 48.0**	**-0.4**
CLL				*e*Sg	**Sg**	**07 34 13.9**	**+0.3**
CLL	**Collm**	**1.95**	**266**	*e*Pn	**Pn**	**07 33 45.0**	**-0.3**
CLL				*i* Pg	**Pg**	**07 33 48.0**	**-0.4**
CLL				*i* x	x	07 33 52.1	
CLL				*i* Sg	**Sg**	**07 34 13.5**	**-0.1**
	comp=Z,134nm,0.8s						
CLL				*i* x	x	07 34 23.3	
CLL	**Collm**	**1.95**	**266**	*e*Pn	**Pn**	**07 33 45.0**	**-0.3**
CLL				*i* Pg	**Pg**	**07 33 48.0**	**-0.4**
CLL				*i* Sg	**Sg**	**07 34 13.5**	**-0.1**
OKC	**Ostrava-Krasne**	**2.09**	**141**	*e*PN	**Pn**	**07 33 46.1**	**-1.2**
OKC				*e*PG	**Pg**	**07 33 50.5**	**-0.7**
OKC				*e*SG	**Sg**	**07 34 17.0**	**-1.3**
VRAC	**Vranov**	**2.19**	**172**	Pn	**Pn**	**07 33 49.3**	**+0.6**
	comp=Z,4.1nm,0.3s,baz=349,slow=16,SNR=21						
VRAC				Lg		07 34 20.7	
	comp=Z,8.2nm,0.3s,baz=257,slow=18,SNR=14						
VRAC	**Vranov**	**2.19**	**172**	*e*Pn	**Pn**	**07 33 49.1**	**+0.4**
VRAC				*e*Sg	**Sg**	**07 34 20.8**	**-0.6**
	comp=Z,204nm,0.9s						
TREC	**Trest**	**2.22**	**190**	*e*PN	**Pn**	**07 33 50.4**	**+1.4**
TREC				*e*PG	**Pg**	**07 33 53.2**	**-0.3**
KRUC	**Moravsky**	**2.42**	**175**	*e*Pn	**Pn**	**07 33 52.0**	**+0.1**
KRUC				*e*Sg	**Sg**	**07 34 28.1**	**-0.8**
	comp=Z,160nm,1.0s						
TANN	**Tannenbergstha**	**2.53**	**247**	*e*Pn	**Pn**	**07 33 53.8**	**+0.4**
TANN				*e*Sg	**Sg**	**07 34 31.5**	**-1.0**
WERD	**Werda**	**2.61**	**248**	*e*Pn	**Pn**	**07 33 54.7**	**+0.3**
WERD				*e*Sg	**Sg**	**07 34 35.8**	**+0.9**
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	**Pn**	**07 33 55.3**	**+0.6**
NKC				*e*PG	**Pg**	**07 34 01.6**	**+0.2**
NKC				*e*SG	**Sg**	**07 34 35.8**	**+0.4**
	comp

MOX	**Moxa**	**2.95**	**255**	Pg		**Pg**	07 34 08.2	+0.6	
MOX				Sg		**Sg**	07 34 46.2	+0.4	
ROTZ	**Rotzenmuhle**	**3.01**	**237**	*e*Pn		**Pn**	07 34 00.3	+0.4	
ROTZ				*e*Sg		**Sg**	07 34 47.3	-0.5	
GEC2	**GERESS Array S**	**3.05**	**211**	*e*Pn		**Pn**	07 34 01.6	+1.1	
GEC2				*e*Sg		**Sg**	07 34 47.6	-1.5	
GEC2	**GERESS Array S**	**3.05**	**211**	*e*Pn		**Pn**	07 34 01.6	+1.1	
GEC2				*e*Sg		**Sg**	07 34 47.6	-1.4	
GERES	**GERESS Array B**	**3.05**	**211**	Pn		**Pn**	07 34 00.7	+0.2	
	comp=Z,1.5nm,0.3s,baz=30,slow=12,SNR=35								
GERES				Pg		**Pg**	07 34 08.0	-1.5	
	comp=Z,5.5nm,0.3s,baz=30,slow=18,SNR=58								
GERES				Lg			07 34 45.4		
	comp=Z,4.0nm,0.3s,baz=39,slow=28,SNR=5.5								
GERES	**GERESS Array B**	**3.05**	**211**	Pg		**Pg**	07 34 08.0	-1.5	
SMOL	**Smolenice**	**3.08**	**163**	*e*PN		**Pn**	07 34 03.4	+2.4	
SMOL				*e*PG		**Pg**	07 34 10.3	+0.1	
SMOL				*e*SG		**Sg**	07 34 51.9	+1.8	
LIKS	**Likavka**	**3.10**	**140**	*e*SG		**Sg**	07 34 53.5	+2.9	
WET	**Wettzell**	**3.12**	**223**	*e*Pn		**Pn**	07 34 01.8	+0.4	
WET				*e*Sg		**Sg**	07 34 51.9	+0.7	
WET	**Wettzell**	**3.12**	**223**	*e*Pn		**Pn**	07 34 01.8	+0.4	
WET				*e*Sg		**Sg**	07 34 51.9	+0.8	
ZST	**Bratislava**	**3.34**	**168**	*e*SG		**Sg**	07 34 58.2	-0.3	
NIE	**Niedzica**	**3.39**	**126**	*e*P		**Pg**	07 34 16.3	+0.3	
NIE				*e*S		**Sg**	07 35 01.5	+1.6	
VYHS	**Vyhne**	**3.47**	**148**	*e*PN		**Pn**	07 34 06.4	+0.2	
VYHS				*e*PG		**Pg**	07 34 17.5	**0.0**	
VYHS				*e*			07 35 08.6		
CONA	**Conrad Observa**	**3.55**	**183**	⇑*i*Pn		**Pn**	07 34 03.0	-4.4	
	SNR=12								
CONA				⇑*i*Sg		**Sg**	07 34 58.5	-6.7	
	comp=Z,56nm,0.6s								
GRA1	**Grafenberg Arr**	**3.58**	**242**	*e*Pn		**Pn**	07 34 08.5	+0.7	
GRA1				*e*Sg		**Sg**	07 35 06.5	+0.3	
GRF	**Grafenberg Arr**	**3.58**	**242**	*e*Pn		**Pn**	07 34 08.5	+0.7	
GRF				*e*Sg		**Sg**	07 35 06.5	+0.3	
CLZ	**Clausthal**	**3.59**	**278**	*e*Pn		**Pn**	07 34 08.7	+0.8	
CLZ				*e*Sg		**Sg**	07 35 08.5	+2.2	
CLZ	**Clausthal**	**3.59**	**278**	*e*Pn		**Pn**	07 34 08.6	+0.7	
CLZ				*e*Sg		**Sg**	07 35 08.5	+2.2	
CLZ	**Clausthal**	**3.59**	**278**	Pn		**Pn**	07 34 08.6	+0.7	
CLZ				Sg		**Sg**	07 35 08.5	+2.2	
BSD	**Bornholm Skovb**	**3.72**	**349**	*i*P		**Pn**	07 34 07.9	-1.7	
BSD				*e*			07 34 08.8		
BSD				*i*			07 34 14.2		
BSD				*i*S		**Sn**	07 34 49.0	-5.1	
BSD				*e*			07 37 57.7		
BSD	**Bornholm Skovb**	**3.72**	**349**	*i*P		**Pn**	07 34 07.9	-1.7	
BSD				*i*S		**Sn**	07 34 49.0	-5.1	
MOA	**Molln**	**3.82**	**199**	⇑*i*Pn		**Pn**	07 34 12.0	+0.9	
	SNR=12								
MOA				⇓*i*Sg		**Sg**	07 35 13.9	+0.1	
	comp=Z,82nm,0.7s								
MOA	**Molln**	**3.82**	**199**	⇑*i*Pn		**Pn**	07 34 12.0	+0.9	
MOA				*i*Sg		**Sg**	07 35 13.8	+0.1	
HROE	**Hohe Rhon--Fla**	**3.87**	**258**	⇓*i*Pn		**Pn**	07 34 11.9	+0.1	
ARSA	**Arzberg**	**4.24**	**185**	⇓*i*Pn		**Pn**	07 34 17.4	+0.5	
ARSA				⇓*i*Sg		**Sg**	07 35 25.9	-1.5	
	comp=Z,71nm,0.9s								
CRVS	**Cervenica-Dubn**	**4.30**	**125**	*e*PN		**Pn**	07 34 18.1	+0.4	
CRVS				*e*PG		**Pg**	07 34 34.8	+1.4	
KOLS	**Kolonicke sedl**	**4.71**	**120**	*e*PN		**Pn**	07 34 23.5	+0.2	
KOLS				*e*PG		**Pg**	07 34 42.1	+0.8	
KOLS	**Kolonicke sedl**	**4.71**	**120**	*e*Pn		**Pn**	07 34 23.5	+0.2	
KOLS				*e*Pg		**Pg**	07 34 42.2	+0.9	
KBA	**Koelnbreinsper**	**4.75**	**203**	⇓*i*Pn		**Pn**	07 34 25.1	+1.1	
KBA				⇑*i*Sg		**Sg**	07 35 42.9	-0.9	
	comp=Z,45nm,0.8s								
TNS	**Taunus Mts**	**5.01**	**259**	*e*SG		**Sg**	07 35 51.6	-0.3	
BFO	**Black Forest**	**5.92**	**241**	*e*Pn		**Pn**	07 34 39.9	-0.1	
DAVOX	**Davos**	**6.22**	**223**	Pn		**Pn**	07 34 41.7	-2.4	
	comp=Z,0.4nm,0.3s,baz=6.7,slow=17,SNR=3.8								
DAVOX				Lg			07 36 22.6		
	comp=Z,0.2nm,0.3s,baz=48,slow=23,SNR=4.6								
CDF	**Champ du Feu**	**6.47**	**245**	*e*Pg		**Pg**	07 35 09.6	-5.3	
CDF				*e*Sg		**Sg**	07 36 29.8	-8.9	
	comp=Z,89nm,1.0s								
CDF	**Champ du Feu**	**6.47**	**245**	*e*Pn		**Pn**	07 34 46.0	-1.5	
CDF				*e*Pg		**Pg**	07 35 09.6	-5.3	
CDF				*e*Sg		**Sg**	07 36 29.8	-8.9	
HINF	**Hinteralfeld**	**7.03**	**242**	*e*Pg		**Pg**	07 35 19.8	-5.9	
HINF				*e*Sg		**Sg**	07 36 48.2	-8.6	
	comp=Z,33nm,0.8s								
HAU	**Haudompre**	**7.21**	**245**	*e*Pn		**Pn**	07 34 55.9	-1.7	
HAU				*e*Sg		**Sg**	07 36 52.8	-10	
	comp=Z,37nm,0.9s								
GIVF	**Givet**	**7.28**	**264**	*e*Sg		**Sg**	07 36 57.6	-7.3	
	comp=Z,3.5nm,0.2s								
RFYF	**Reffroy**	**7.41**	**252**	*e*Pg		**Pg**	07 35 27.2	-5.8	
BAIF	**Baives**	**7.67**	**264**	*e*Pn		**Pn**	07 35 02.7	-1.3	
BAIF				*e*Sg		**Sg**	07 37 10.1	-7.4	
	comp=Z,45nm,1.1s								
SFTF	**Sexfontaines**	**7.86**	**250**	*e*Sg		**Sg**	07 37 13.9	-10	
	comp=Z,4.1nm,0.3s								
CABF	**La Chapelle**	**8.18**	**237**	*e*Pn		**Pn**	07 35 08.9	-2.1	
CABF				*e*Sg		**Sg**	07 37 23.9	-10	
	comp=Z,79nm,1.2s								
AKASG	**Malin Array Be**	**8.30**	**90**	Pn		**Pn**	07 35 12.8	+0.1	
	comp=Z,1.6nm,0.3s,baz=280,slow=12,SNR=6.4								
AKASG				Pg		**Pg**	07 35 44.4	-5.7	
	comp=Z,0.3nm,0.3s,baz=281,slow=15,SNR=5.1								
AKASG				Lg			07 37 40.0		
	comp=Z,0.3nm,0.3s,baz=277,slow=27,SNR=3.0								
AKASG	**Malin Array Be**	**8.30**	**90**	Pn		**Pn**	07 35 12.8	+0.1	
AKASG				Pg		**Pg**	07 35 44.4	-5.7	
AKASG				Lg			07 37 40.0		
AKASG	**Malin Array Be**	**8.30**	**90**	Pg		**Pg**	07 35 44.4	-5.7	
AKBB	**Malin Array Si**	**8.30**	**90**	Pn		**Pn**	07 35 10.9	-1.7	
HFS	**Hagfors**	**8.79**	**352**	Pn		**Pn**	07 35 17.3	-2.0	
	comp=Z,0.1nm,0.3s,baz=165,slow=14,SNR=8.4								
HFS				Sn		**Sn**	07 36 53.4	-5.5	
	comp=Z,0.4nm,0.3s,baz=179,slow=26,SNR=5.6								
HFS				Lg			07 37 48.0		
	comp=Z,0.1nm,0.3s,baz=186,slow=28,SNR=2.2								
HFS	**Hagfors**	**8.79**	**352**	Pn		**Pn**	07 35 17.3	-2.0	
HFS				Sn		**Sn**	07 36 53.5	-5.5	
HFS				Lg			07 37 48.0		
HFS	**Hagfors**	**8.79**	**352**	Pn		**Pn**	07 35 17.3	-2.0	
HFS				Sn		**Sn**	07 36 53.5	-5.5	
LOR	**Lormes**	**9.03**	**247**	*e*Sg		**Sg**	07 37 53.2	-7.6	
	comp=Z,29nm,1.1s								
NOA	**NORSAR Array B**	**9.96**	**346**	Pn		**Pn**	07 35 30.7	-4.7	
	comp=Z,0.1nm,0.3s,baz=162,slow=12,SNR=2.4								
NOA				Sn		**Sn**	07 37 20.1	-7.8	
	comp=Z,0.2nm,0.3s,baz=160,slow=20,SNR=2.7								
NOA	**NORSAR Array B**	**9.96**	**346**	Pn		**Pn**	07 35 30.7	-4.8	
NOA				Sn		**Sn**	07 37 20.1	-7.8	
FINES	**FINESS Array B**	**11.40**	**25**	Pn		**Sn**	07 35 52.5	-2.6	
	comp=Z,0.2nm,0.3s,baz=203,slow=12,SNR=10								
FINES				Sn		**Sn**	07 37 53.8	-9.3	
	comp=Z,0.2nm,0.3s,baz=213,slow=20,SNR=5.4								
KAF	**Kangasniemi**	**12.02**	**24**	*e*p		**Pn**	07 35 56.8	-6.8	
	comp=Z,0.5nm,0.4s								
KAF	**Kangasniemi**	**12.02**	**24**	*e*P		**Pn**	07 35 56.8	-6.8	
KAF				pmax		pmax			
	comp=Z,1.0nm,0.4s								
EKA	**Eskdalemuir Ar**	**12.12**	**296**	Pn		**Pn**	07 36 00.1	-4.8	
	comp=Z,0.1nm,0.3s,baz=100,slow=14,SNR=3.4								
JOF	**Joensuu**	**14.07**	**30**	*e*p		**Pn**	07 36 27.7	-3.9	
ARCES	**ARCESS Array B**	**18.66**	**10**	Pn		**Pn**	07 37 25.9	-4.7	
	comp=Z,0.4nm,0.3s,baz=195,slow=12,SNR=13								
KEV	**Kevo**	**19.05**	**12**	*e*p		**Pn**	07 37 33.1	-2.3	
	comp=Z,2.8nm,0.8s								
KEV	**Kevo**	**19.05**	**12**	*e*P		**Pn**	07 37 33.1	-2.3	
KEV				pmax		pmax			
	comp=Z,3.0nm,0.8s								
BVAR	**Borovoye Array**	**32.61**	**66**	P		**P**	07 39 44.6	+0.3	
	comp=Z,0.7nm,0.5s,mb3.8,baz=304,slow=11,SNR=4.1								
BVAR	**Borovoye Array**	**32.61**	**66**	P		**P**	07 39 44.6	+0.3	
BVAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
TORD	**Torodi Ar. Bea**	**39.96**	**202**	P		**P**	07 40 47.0	-0.2	
	comp=Z,1.0nm,1.0s,mb3.4,baz=20,slow=4.6,SNR=4.1								

*NEIC **29** 07:53:55.3, 5839N×13346W, h1km, ML2.7(AEIC), ML3.0(PGC), After PGC.*

PGC 29 07:53:55.3, 5839N×13346W, h1km, ML3.0/4, 56km northeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKAG	**Skagway**	**1.45**	**319**	P	Pn	07 54 21.1	-1.5
SKAG				S	Sg	07 54 40.2	-1.6
SIT	**Sitka**	**1.67**	**218**	P	Pn	07 54 22.9	-2.8
SIT				S	Sn	07 54 44.0	-3.7
DLBC	**Dease Lake**	**1.81**	**87**	Pn	Pn	07 54 26.3	-1.3
DLBC				Pg	Pg	07 54 27.9	-2.1
DLBC				Sn	Sn	07 54 50.6	-0.5
DLBC				Sg	Sg	07 54 53.0	-0.5
DLBC				Trac		07 54 53.5	
	comp=Z,91nm,0.6s						
DLBC	**Dease Lake**	**1.81**	**87**	Pn	Pn	07 54 26.3	-1.3
DLBC				P		07 54 26.5	
DLBC				Pg	Pg	07 54 27.9	-2.1
DLBC				S	Sn	07 54 50.6	-0.5
PLBC	**Pleasant Camp**	**1.85**	**307**	Pn	Pn	07 54 28.3	+0.1
PLBC				Sn	Sn	07 54 51.8	-0.4
PLBC				Sg	Sg	07 54 53.6	-1.1
PLBC	**Pleasant Camp**	**1.85**	**307**	Pn	Pn	07 54 28.3	+0.1
PLBC				Sn	Sn	07 54 51.8	-0.4
WHY	**Whitehorse**	**2.39**	**343**	Pn	Pn	07 54 34.4	-1.2
WHY				Sg	Sg	07 55 08.9	-3.3
WHY				Trac		07 55 18.1	
	comp=Z,49nm,0.7s						
WHY	**Whitehorse**	**2.39**	**343**	Pn	Pn	07 54 34.4	-1.2
WHY				P		07 54 34.7	
WHY				S	Sn	07 55 05.6	+0.1
WHY				Sg	Sg	07 55 08.9	-3.3
HYT	**Haines Junctio**	**3.19**	**322**	Pn	Pn	07 54 47.1	+0.5
HYT				Pg	Pg	07 54 53.2	-3.3
HYT				Sg	Sg	07 55 34.1	-3.8
HYT				Trac		07 55 39.2	
	comp=Z,11nm,0.3s						
HYT	**Haines Junctio**	**3.19**	**322**	Pn	Pn	07 54 47.1	+0.5
HYT				Sg	Sg	07 55 34.1	-3.8
RUBB	**Prince Rupert**	**4.45**	**155**	Trac		07 56 24.6	
	comp=Z,64nm,1.4s						
RUBB	**Prince Rupert**	**4.45**	**155**	Sg	Sg	07 56 13.2	-5.0
DAWY	**Dawson**	**6.37**	**336**	Pn	Pn	07 55 29.9	-0.5
DAWY				Pg	Pg	07 55 51.3	-6.1
DAWY				Sg	Sg	07 57 14.7	-5.3
DAWY				Trac		07 57 19.2	
	comp=Z,16nm,0.7s						
INK	**Inuvik**	**9.96**	**360**	Pn	Pn	07 56 17.8	-1.7
INK				Trac		07 59 23.5	
	comp=Z,2.0nm,0.9s						

*ISK **29** 08:17:53.5, 3754N×3869E, h4km, MD3.5*
*ISCJB **29** 08:17:54.4±0.4, 3744N±003×3871E±002, h13km±3km, Error ellipse: s-maj=4.7km s-min=3.0km az=161.6*
*CSEM **29** 08:17:54.3±0.1, 3749N×3873E, h12km, MD3.5, Error ellipse: s-maj=2.4km s-min=1.3km az=162.0*
*NSSC **29** 08:17:57.6, 3739N×3877E, h27km±5km*

ISC 29 08:17:54.9±0.4, 3743N±003×3874E±002, h12km±3km, n47, σ1§16/74, 12D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.07**	**82**	PG	**Pg**	08 17 57.3	-0.1
URFA				SG	**Sg**	08 17 59.7	+0.6
ATAB	**Bozova**	**0.36**	**276**	*i*P	**Pg**	08 18 01.0	-1.0
ATAB				*i*S	**Sg**	08 18 05.7	-1.1
MYA	**Malataya**	**0.93**	**345**	PG	**Pg**	08 18 09.6	-3.2
GZT	**Gaziantep**	**0.94**	**266**	*i*P	**Pg**	08 18 11.8	-1.2
GZT				*i*S	**Sg**	08 18 26.9	+1.6
DRBT	**Darb Altahta**	**1.03**	**124**	⇓P	**Pb**	08 18 14.4	-0.2
DRBT				⇓S	**Sb**	08 18 25.6	-2.6
DRBT	**Darb Altahta**	**1.03**	**124**	⇓*i*P	**Pb**	08 18 14.4	-0.3
DRBT				⇓*i*S	**Sb**	08 18 25.5	-2.7
ELZG	**Elazig**	**1.08**	**10**	*i*P	**Pb**	08 18 13.0	-2.4
ELZG				*i*S	**Sb**	08 18 22.9	-6.6
GAZ	**Gaziantep**	**1.25**	**258**	PN	**Pn**	08 18 17.3	-0.8
DIY	**Diyarbakir**	**1.27**	**68**	PN	**Pn**	08 18 18.1	-0.2
DIY				SN	**Sn**	08 18 36.5	+1.2
SLMH	**Al Salmeh**	**1.38**	**208**	⇑*i*P	**Pn**	08 18 19.8	-0.1
SLMH				⇑*i*S	**Sn**	08 18 37.2	-0.8
SFNV	**Sufian**	**1.49**	**132**	⇑P	**Pn**	08 18 22.6	+1.1
SFNV				⇑S	**Sn**	08 18 40.5	-0.3
SFNV	**Sufian**	**1.49**	**132**	⇑*i*P	**Pn**	08 18 22.6	+1.1
SFNV				⇑*i*S	**Sn**	08 18 40.5	-0.4
KBSD	**Kabsdagh**	**1.50**	**106**	⇑P	**Pn**	08 18 22.0	+0.4
KBSD				⇑S	**Sn**	08 18 39.9	-1.1
KBSD	**Kabsdagh**	**1.50**	**106**	⇑*i*P	**Pn**	08 18 22.0	+0.4
KBSD				⇑*i*S	**Sn**	08 18 39.9	-1.2
MNKR	**ALMNKUR**	**1.55**	**164**	⇑P	**Pn**	08 18 22.6	+0.4
MNKR				⇑S	**Sn**	08 18 41.7	-0.5
MNKR	**ALMNKUR**	**1.55**	**164**	⇑*i*P	**Pn**	08 18 22.6	+0.4
MNKR				⇑*i*S	**Sn**	08 18 41.7	-0.5
MARD	**Mardin**	**1.63**	**94**	*i*P	**Pn**	08 18 23.5	+0.2
MARD				*i*S	**Sn**	08 18 46.9	+2.7
JHLN	**Al Jahlan**	**1.77**	**188**	⇓*i*P	**Pn**	08 18 26.7	+1.4
JHLN				⇓*i*S	**Sn**	08 18 46.2	-1.5
DRWC	**Darouich**	**1.85**	**245**	⇓P	**Pn**	08 18 26.9	+0.5
DRWC	**Darouich**	**1.85**	**245**	⇓*i*P	**Pn**	08 18 26.9	+0.6
COBT	**Iskenderun**	**2.19**	**246**	*i*P	**Pg**	08 18 36.3	-0.5
COBT				*i*S	**Sg**	08 19 05.3	+0.1
MZRK	**Al-Mazaregh**	**2.22**	**136**	⇑P	**Pn**	08 18 31.8	+0.4
MZRK				⇑S	**Sn**	08 18 56.9	-1.9
MZRK	**Al-Mazaregh**	**2.22**	**136**	⇑*i*P	**Pn**	08 18 31.8	+0.3
MZRK				⇑*i*S	**Sn**	08 18 56.9	-1.9
BTCH	**Batrach**	**2.30**	**233**	⇑P	**Pn**	08 18 33.4	+0.8
BTCH				⇑S	**Sn**	08 19 00.1	-0.7
BTCH	**Batrach**	**2.30**	**233**	⇑*i*P	**Pn**	08 18 33.4	+0.8
BTCH				⇑*i*S	**Sn**	08 19 00.1	-0.7
BTMT	**Batman**	**2.31**	**70**	PN	**Pn**	08 18 32.0	-0.6
KOZT	**Kozan**	**2.32**	**272**	PN	**Pn**	08 18 33.1	+0.3
CEYT	**Ceyhan**	**2.42**	**261**	PN	**Pn**	08 18 34.9	+0.6
EZC	**Erzincan**	**2.46**	**20**	PN	**Pn**	08 18 33.5	-1.3
HTY	**Hatay**	**2.46**	**239**	*e*PN	**Pn**	08 18 36.1	+1.3
WRDH	**Warideh**	**2.69**	**225**	⇓P	**Pn**	08 18 40.0	+2.1
WRDH				⇓S	**Sn**	08 19 08.6	-1.6
WRDH	**Warideh**	**2.69**	**225**	⇓*i*P	**Pn**	08 18 40.0	+2.2
WRDH				⇓*i*S	**Sn**	08 19 08.6	-1.6
BNN	**Bunyan**	**2.69**	**303**	*e*PN	**Pn**	08 18 37.4	-0.5
ARNB	**Al Arnab**	**2.72**	**236**	⇑P	**Pn**	08 18 39.4	+1.0
ARNB				⇑S	**Sn**	08 19 11.2	0.0
SLNF	**Slenfeh**	**2.73**	**229**	⇑P	**Pn**	08 18 40.6	+2.1
SLNF				⇑S	**Sn**	08 19 11.2	-0.2
SLNF	**Slenfeh**	**2.73**	**229**	⇑*i*P	**Pn**	08 18 40.6	+2.1
SLNF				⇑*i*S	**Sn**	08 19 11.2	-0.2
SVSK	**Karacayir**	**2.83**	**332**	*e*PN	**Pn**	08 18 38.8	-1.1
KARA	**Karaisali**	**2.94**	**268**	*e*PN	**Pn**	08 18 42.0	+0.6
BIDA	**Albida**	**3.11**	**220**	⇑P	**Pn**	08 18 45.2	+1.5
BIDA				⇑S	**Sn**	08 19 19.4	-1.2
BIDA	**Albida**	**3.11**	**220**	⇑*i*P	**Pn**	08 18 45.2	+1.6
BIDA				⇑*i*S	**Sn**	08 19 19.4	-1.2
EZM	**Erzurum**	**3.21**	**39**	*e*PN	**Pn**	08 18 44.9	-0.2
ERZM	**Erzurum**	**3.21**	**39**	*i*P	**Pn**	08 18 46.8	+3.5
MERS	**Mersin**	**3.42**	**262**	*e*PN	**Pn**	08 18 49.5	+1.6
MSL	**Mosul**	**3.67**	**107**	*ex*	x	08 19 03.5	
MSL				*ex*	x	08 19 52.0	
CUKT	**Cukurca**	**3.88**	**91**	*e*PN	**Pn**	08 18 56.1	+1.8
CORM	**Corum**	**4.22**	**312**	*e*PN	**Pn**	08 18 59.1	+0.1
RCY	**Rachaya**	**4.60**	**212**	*e*Pn	**Pn**	08 19 09.1	+4.9

*NEIC **29** 08:28:41.8, 5837N×13348W, h1km, ML2.9(AEIC), ML3.3(PGC), After PGC.*

PGC 29 08:28:41.8, 5837N×13348W, h1km, ML3.3/4, 55km northeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKAG	**Skagway**	**1.45**	**319**	P	Pn	08 29 07.1	-2.0
SKAG				S	Sg	08 29 26.5	-2.0
SIT	**Sitka**	**1.65**	**218**	P	Pn	08 29 08.7	-3.2
SIT				S	Sn	08 29 31.2	-2.5
DLBC	**Dease Lake**	**1.82**	**86**	Pn	Pn	08 29 12.6	-1.6
DLBC				Pg	Pg	08 29 14.0	-2.6
DLBC				Sn	Sn	08 29 37.7	-0.1
DLBC				Sg	Sg	08 29 39.3	-0.9
DLBC				Trac		08 29 44.8	
	comp=Z,222nm,0.7s						
DLBC	**Dease Lake**	**1.82**	**86**	P	Pn	08 29 13.0	-1.2
DLBC				S	Sn	08 29 39.3	+1.5
PLBC	**Pleasant Camp**	**1.85**	**307**	Pn	Pn	08 29 14.3	-0.4
PLBC				Sg	Sg	08 29 39.5	-1.8
WHY	**Whitehorse**	**2.40**	**343**	Pn	Pn	08 29 20.6	-1.6
WHY				Pg	Pg	08 29 25.6	-2.2
WHY				Sn	Sn	08 29 49.0	-3.3
WHY				Sg	Sg	08 29 55.2	-3.8
WHY				Trac		08 30 05.3	
	comp=Z,43nm,0.6s						
WHY	**Whitehorse**	**2.40**	**343**	P	Pn	08 29 20.6	-1.6
WHY				S	Sn	08 29 49.8	-2.5
CRAG	**Craig**	**2.92**	**176**	P	Pn	08 29 27.7	-1.6
HYT	**Haines Junctio**	**3.20**	**322**	Pn	Pn	08 29 33.3	+0.1
HYT				Pg	Pg	08 29 39.1	-4.0
HYT				Sg	Sg	08 30 21.6	-3.0
HYT				Trac		08 30 26.9	
	comp=Z,38nm,0.7s						
RUBB	**Prince Rupert**	**4.43**	**155**	Trac		08 31 02.4	
	comp=Z,59nm,0.8s						
RUBB	**Prince Rupert**	**4.43**	**155**	Sg	Sg	08 31 00.2	-4.0
DAWY	**Dawson**	**6.38**	**336**	Pn	Pn	08 30 15.9	-1.0
DAWY				Pg	Pg	08 30 38.1	-5.9
DAWY				Sg	Sg	08 32 03.8	-3.0
DAWY				Trac		08 32 05.4	
	comp=Z,19nm,0.8s						
INK	**Inuvik**	**9.97**	**360**	Pn	Pn	08 31 05.5	-0.7
INK				Sg	Sn	08 33 54.4	+56
INK				Trac		08 34 21.8	
	comp=Z,2.0nm,1.1s						

*NIED **29** 08:30:00, 4440N×15120E, h5km, Mw3.9 Best double couple: M0 9.41000×10^14 NP1:φ=271.00000°, δ=65.00000°, λ=-77.00000°. NP2:φ=62.00000°, δ=28.00000°, λ=-116.00000°.*
*MOS **29** 08:30:46.5±1.6, 4420N×15108E, h33km, mb4.0/6, Error ellipse: s-maj=29.3km s-min=22.1km az=23.6*
*JMA **29** 08:30:47.3±0.6, 4440N×15115E, h30km, M4.3*
*ISCJB **29** 08:30:49.4±1.3, 4394N±010×15089E±008, h57km±12km, mb3.7/7, Error ellipse: s-maj=16.3km s-min=9.7km az=156.7*
*IDC **29** 08:30:49.6±4.9, 4412N×15116E, h41km±43km, mb3.5/7, mb1 3.7/9, mb1mx3.5/22, mbtmp3.7/9, ML3.6/2, Error ellipse: s-maj=33.6km s-min=21.7km az=85.0*

ISC 29 08:30:50.7±1.2, 4402N±010×15095E±009, h52km±11km, n42, σ1§01/50, mb3.7/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.51**	**300**	*e*PN	**Pn**	08 31 24.0	-5.1
KUR				*e*S	**Sn**	08 31 54.5	-4.0
KUR				pmax	pmax		
	comp=Z,90nm,0.7s						
KUR				smax			
	comp=N,990nm,0.9s						
KUR				smax			
	comp=E,540nm,0.9s						
NEM2	**Nemuro 2**	**3.83**	**262**	P	**Pn**	08 31 46.3	-0.8
NEM2				*e*S	**Sn**	08 32 30.5	-0.3
JRA	**Rausu**	**4.21**	**271**	P	**Pn**	08 31 52.7	+0.4
JRA				*e*S	**Sn**	08 32 42.1	+2.0
JNK	**Nakash**	**4.53**	**267**	P	**Pn**	08 31 56.5	-0.2
JNK				*e*S	**Sn**	08 32 48.3	+0.3
JAK	**Akkeshi**	**4.66**	**260**	P	**Pn**	08 31 57.9	-0.6
JAK				*e*S	**Sn**	08 32 50.7	-0.5
JTKR	**Abashiri--Toko**	**5.08**	**272**	P	**Pn**	08 32 05.1	+0.9
JAR	**Ashorobuto**	**5.26**	**265**	P	**Pn**	08 32 06.9	+0.2
JAR				*e*S	**Sn**	08 33 07.1	+1.2
JOB	**Onbets**	**5.29**	**260**	P	**Pn**	08 32 07.1	-0.1
JOB				*e*S	**Sn**	08 33 06.6	-0.3
JMP	**Maruseppu**	**5.47**	**273**	P	**Pn**	08 32 10.0	+0.4
JCH	**Churui**	**5.71**	**258**	P	**Pn**	08 32 10.2	-0.4
JCH				*e*S	**Sn**	08 33 15.7	-1.3
**

0.5nm,0.6s,mb3.3,baz=100,slow=7.7,SNR=10
WRA Warramunga Arr 44.26 272 P **P** 09 03 11.5 **+0.1**
1.3nm,0.5s,mb3.9,baz=111,slow=7.5,SNR=17
FINES FINESS Array B 144.88 340 PKP PKPdf 09 14 36.8 +1.5
0.6nm,0.5s,baz=60,slow=3.4,SNR=11
NB2 NORSAR Subarra148.44 352 PKP PKPbc 09 14 48.6 +3.5
comp=Z,0.5nm,0.6s,baz=13,slow=2.9
NOA NORSAR Array B 148.44 352 PKPbc PKPbc 09 14 48.8 +3.7
comp=Z,0.6nm,0.7s,baz=15,slow=4.4,SNR=3.9

*BJI **29** 09:16:44.2, 1102S×10898E, h34km, mB4.9, mb4.8, Ms4.3, Msz4.0*
*IDC **29** 09:16:48.1±0.7, 1010S×10869E, h0km, mb4.4/9, mb1 4.5/10, mb1mx4.4/17, mbtmp4.4/10, ML4.5/1, MS3.9/3, Ms1 3.9/3, ms1mx3.1/19, Error ellipse: s-maj=28.3km s-min=15.7km az=56.0*
*MOS **29** 09:16:52.1±0.8, 989S×10890E, h33km, mb5.2/7, Error ellipse: s-maj=24.2km s-min=11.6km az=117.0*
*ISCJB **29** 09:16:53.6±0.5, 1007S±007×10874E±009, h53km, mb4.7/30, MS4.0/6, Error ellipse: s-maj=15.2km s-min=6.6km az=106.8*
*NEIC **29** 09:16:53.5±3.2, 1011S×10869E, h35km±22km, mb5.1/10, Error ellipse: s-maj=16.4km s-min=5.5km az=48.0*
ISC 29 09:16:55.0±0.5, 1007S±007×10873E±009, h46km, h46km±4.2km:pP-P, n62, σ0s99/50, mb4.7/30, MS4.0/6, 1C-3D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.89**	**20**	P		**P**	**Pn**	**09 17 39.4**	**+0.9**
	0.0nm,0.0s								
LEM	**Lembang**	**3.41**	**341**	P		**P**	**Pn**	**09 17 44.5**	**-1.1**
	0.0nm,0.0s								
JCJI	**Jatiwangi**	**3.59**	**353**	P		**P**	**Pn**	**09 17 45.0**	**-3.1**
	0.0nm,0.0s								
WSI	**Waingapu**	**11.40**	**89**	P		**P**	**Pn**	**09 19 30.1**	**-5.1**
	0.0nm,0.0s								
KULM	**Kulim**	**17.25**	**332**	*e*Pn		**P**	**Pn**	**09 20 52.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**18.23**	**118**	*e*P		**P**	**Pn**	**09 21 03.3**	**-1.2**
	14nm,0.8s								
FITZ				*e*S		S		09 24 08.9	-22
FITZ	**Fitzroy Crossi**	**18.23**	**118**	P		**P**	**Pn**	**09 21 02.6**	**-1.9**
	1.1nm,0.3s,baz=291,slow=8.7,SNR=35								
NWAO	**Narrogin (SRO)**	**24.06**	**162**	LR		LR		09 31 04.5	
	comp=Z,187nm,21.2s,MS3.5,baz=176,slow=36								
WRA	**Warramunga Arr**	**26.57**	**115**	P		**P**		**09 22 28.4**	**-0.3**
	3.5nm,0.8s,mb3.9,baz=284,slow=11,SNR=21								
WRAB	**Tennant Creek**	**26.58**	**115**	*e*P		**P**		**09 22 28.6**	**-0.1**
WRAB				pmax		pmax			
	comp=Z,9.0nm,1.0s,mb4.2								
WRAB	**Tennant Creek**	**26.58**	**115**	*e*P		**P**		**09 22 28.6**	**-0.1**
	comp=Z,8.5nm,1.0s,mb4.2								
WB2	**Warramunga Arr**	**26.58**	**115**	*e*P		**P**		**09 22 28.7**	**-0.1**
ASPA	**Alice Springs**	**27.55**	**123**	*e*P		**P**		**09 22 40.0**	**+2.5**
AS31	**Alice Springs**	**27.56**	**123**	*e*P		**P**		**09 22 40.0**	**+2.5**
ASAR	**Alice Springs**	**27.56**	**123**	P		**P**		**09 22 37.4**	**-0.2**
	comp=Z,3.0nm,0.8s,mb4.0,baz=296,slow=8.1,SNR=25								
ASAR				PcP		PcP		09 25 55.6	+1.1
	comp=Z,1.1nm,0.7s,baz=312,slow=1.5,SNR=8.0								
GYA	**Guiyang**	**36.36**	**357**	⇓*i*P		**P**		**09 23 56.3**	**+1.7**
GYA				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.8								
STKA	**Stephens Creek**	**37.34**	**130**	P		**P**		**09 24 03.4**	**+0.4**
	comp=Z,11nm,0.8s,mb4.7,baz=298,slow=7.6,SNR=13								
SSE	**Sheshan**	**42.64**	**16**	P		**P**		**09 24 46.5**	**-0.4**
SSE				AMB		AMB			
	comp=Z,16nm,0.8s,mb4.8								
SSE				AMB		AMB			
	comp=Z,63nm,5.3s								
NJ2	**Nanjing**	**42.99**	**13**	*e*P		**P**		**09 24 49.5**	**-0.2**
NJ2				AP		pP		09 24 59.3	-2.9
NJ2				XP		sP		09 25 03.8	-3.8
NJ2				S		**S**		**09 31 12.0**	**+0.2**
NJ2				AMB		AMB			
	comp=Z,130nm,1.2s,mb5.5								
NJ2				AMB		AMB			
	comp=Z,90nm,4.6s								
NJ2				LR		LR			
	comp=N,200nm,20.4s,MS4.1								
NJ2				LR		LR			
	comp=E,120nm,19.4s,MS4.1								
NJ2				LR		LR			
	comp=Z,170nm,19.1s,MS4.0								
JIRN	**Jiri**	**43.40**	**330**	*e*P		**P**		**09 24 53.8**	**+0.8**
	comp=Z,96nm,1.2s,mb5.4								
PKI	**Pulchoki**	**43.71**	**329**	*e*P		**P**		**09 24 56.3**	**+0.7**
GUN	**Gumba**	**43.76**	**330**	*e*P		**P**		**09 24 56.8**	**+0.9**
	comp=Z,40nm,0.7s,mb5.2								
XAN	**Xi'an**	**43.87**	**0**	P		**P**		**09 24 56.5**	**-0.3**
XAN				AP		pP		09 25 10.5	+1.2
XAN				AMB		AMB			
	comp=Z,8.0nm,0.7s,mb4.6								
DMN	**Daman**	**43.90**	**329**	*e*P		**P**		**09 24 57.3**	**+0.3**
	comp=Z,44nm,1.0s,mb5.2								
KKN	**Kakani**	**43.96**	**329**	*e*P		**P**		**09 24 57.7**	**+0.2**
	comp=Z,31nm,0.9s,mb5.0								
KKN	**Kakani**	**43.96**	**329**	*e*P		**P**		**09 24 57.7**	**+0.2**
KKN				pmax		pmax			
	comp=Z,31nm,0.9s,mb5.0								
KOLN	**Koldanda**	**44.80**	**328**	*e*P		**P**		**09 25 04.5**	**+0.2**
	comp=Z,40nm,0.8s,mb5.3								
LZH	**Lanzhou**	**46.14**	**355**	*e*P		**P**		**09 25 16.0**	**+1.2**
LZH				AP		pP		09 25 29.5	+2.0
LZH				AMB		AMB			
	comp=Z,26nm,1.0s,mb5.1								
GTA	**Gaotai**	**49.92**	**351**	*e*P		**P**		**09 25 45.8**	**+1.8**
GTA				AP		pP		09 25 50.0	-6.8
GTA				XP		sP		09 25 53.5	-8.6
GTA				AMB		AMB			
	comp=Z,5.0nm,1.2s,mb4.4								
MJAR	**Matsushiro Arr**	**54.02**	**29**	P		**P**		**09 26 13.2**	**-1.4**
	comp=Z,1.6nm,0.7s,mb4.1,baz=212,slow=8.4,SNR=8.0								
MDJ	**Mudanjiang**	**57.61**	**18**	P		**P**		**09 26 39.8**	**-0.5**
MDJ				AMB		AMB			
	comp=Z,7.0nm,0.8s,mb4.7								
MDJ				AMB		AMB			
	comp=Z,25nm,3.9s								
SONM	**Songino Array**	**57.68**	**358**	P		**P**		**09 26 41.5**	**+0.7**
	comp=Z,3.0nm,0.6s,mb4.5,baz=177,slow=8.1,SNR=15								
SONM				LR		LR		09 51 42.1	
	comp=Z,108nm,21.1s,MS3.9,baz=40,slow=36								
ULN	**Ulaanbaatar**	**57.70**	**359**	*d*P		**P**		**09 26 41.6**	**+0.7**
ZAK	**Zakamensk**	**60.38**	**356**	*e*P		**P**		**09 26 59.6**	**+0.1**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.4s,mb4.0								
AAK	**Ala-Archa**	**61.08**	**332**	⇑*e*P		**P**		**09 27 04.0**	**-0.2**
AAK				pmax		pmax			
	comp=Z,3.0nm,1.1s,mb4.3								
AAK				MLR		MLR			
	comp=Z,100nm,26.0s,MS3.9								
MKAR	**Makanchi Array**	**61.34**	**340**	P		**P**		**09 27 06.2**	**+0.2**
	comp=Z,5.2nm,0.7s,mb4.8,baz=145,slow=7.8,SNR=40								
MKAR	**Makanchi Array**	**61.34**	**340**	*i* P		**P**		**09 27 06.1**	**+0.1**
MKAR				pmax		pmax			
	comp=Z,5.0nm,0.7s								
KLR	**Kul'dur**	**62.42**	**17**	*e*P		**P**		**09 27 09.7**	**-3.5**
MAW	**Mawson**	**64.96**	**198**	P		**P**		**09 27 28.8**	**-1.2**
	comp=Z,2.3nm,0.7s,mb4.3,baz=74,slow=5.1,SNR=5.3								
ZAL	**Zalesovo**	**66.91**	**345**	P		**P**		**09 27 42.1**	**-0.4**
	comp=Z,1.8nm,0.3s,mb4.5,baz=306,slow=2.4,SNR=4.8								
BOD	**Bodaibo**	**67.79**	**3**	*e*P		**P**		**09 27 47.5**	**-0.5**
BOD				pmax		pmax			
	comp=Z,4.0nm,1.8s,mb4.2								
CHKZ	**Chkalovo**	**71.26**	**337**	*e*P		**P**		**09 28 09.4**	**0.0**
CHKZ				*e*				09 28 27.5	
CHKZ				pmax		pmax			
	comp=Z,21nm,0.7s,mb5.2								
CHKZ	**Chkalovo**	**71.26**	**337**	*e*P		**P**		**09 28 09.4**	**0.0**
	comp=Z,21nm,0.7s,mb5.2								
CHKZ				*e*PcP		PcP		09 28 27.5	-1.6
ZRNK	**Zerenda**	**71.34**	**336**	*e*P		**P**		**09 28 09.8**	**-0.1**
ZRNK				*e*				09 28 27.9	
ZRNK				pmax		pmax			
	comp=Z,16nm,0.7s,mb5.1								
ZRNK	**Zerenda**	**71.34**	**336**	*e*P		**P**		**09 28 09.8**	**-0.1**
	comp=Z,16nm,0.7s,mb5.0								
ZRNK				*e*PcP		PcP		09 28 27.9	-1.6
SVE	**Sverdlovsk**	**77.50**	**335**	*e*P		**P**		**09 28 44.8**	**-0.9**
SVE				*e*		pP		09 28 57.0	-2.2
SVE				pmax		pmax			
	comp=Z,40nm,2.3s,mb4.9								
SVE				MLR		MLR			
	comp=E,200nm,13.0s								

SVE MLR MLR
comp=Z,200nm,13.0s,MS4.6
ARU Arti 78.11 334 ⇓*i*P **P** **09 28 48.5 -0.6**
ARU *e* 09 31 45.2
ARU *e*S S 09 38 41.6 +1.7
ARU *e*SS SS 09 43 47.8 +5.6
ARU pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BOSA Boshof 79.56 243 LR LR 09 58 13.5
comp=Z,91nm,18.1s,MS4.2,baz=292,slow=31
TIXI Tiksi 82.64 6 *e*P **P** **09 29 11.0 -2.4**
TIXI pmax pmax
comp=Z,14nm,0.8s,mb5.0
BR131 Keskin Array S 85.14 312 *e*P **P** **09 29 26.5 +0.3**
comp=Z,4.2nm,0.9s,mb4.6
BRTR Keskin Array B 85.14 312 *e*P P **P** **09 29 26.4 +0.3**
comp=Z,3.5nm,0.8s,mb4.5,baz=134,slow=7.0,SNR=17
WMOK Wichita Mounta 144.87 41 *e*PKIKP PKPdf 09 36 27.6 +0.7
BDFB Brasilia 145.61 222 PKPbc PKPbc 09 36 28.1 -0.4
comp=Z,1.6nm,0.6s,baz=90,slow=3.0,SNR=2.7
JCT Junction City 146.57 48 *e*PKP2 PKPbc 09 36 30.6 -0.8
CCM Cathedral Cave 146.85 30 *e*PKPbc PKPbc 09 36 33.2 +1.0
CCM *e*PKPab PKPab 09 36 35.4 +1.8
ACSO Alum Creek Sta 148.21 17 *e*PKPbc PKPbc 09 36 36.6 +0.7
ACSO *e*PKPab PKPab 09 36 40.2 +1.3
MIAR Mount Ida 148.23 37 *e*PKPbc PKPbc 09 36 37.8 +1.9
MIAR *e*PKPab PKPab 09 36 41.1 +2.1
WCI Wyandotte Cave 148.88 23 *e*PKP2 PKPbc 09 36 38.3 +0.7
SWET Sewanee 151.62 26 *e*PKPbc PKPbc 09 36 44.9 +0.7
SWET *e*PKPab PKPab 09 36 54.1 +1.1
ELN Prospectdale 151.64 16 *e*PKPbc PKPbc 09 36 44.1 -0.1
ELN *e*PKPab PKPab 09 36 53.0 0.0
LPAZ La Paz 153.63 187 PKPbc PKPbc 09 36 50.7 +2.0
comp=Z,0.8nm,0.6s,baz=107,slow=3.9,SNR=6.6
LPAZ La Paz 153.63 187 PKPbc PKPbc 09 36 50.7 +2.0

*STR **29** 09:21:09.7±0.3, 4305N×0.16E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **29** 09:21:10.2±0.1, 4303N×0.14E, h9km±1km, Md2.1/2, Ml2.2/7, Error ellipse: s-maj=1.5km s-min=0.9km az=169.0*
MDD 29 09:21:10.6±0.3, 4302N×014E, h10km±2km, mbLg1.5/15, 1C, Error ellipse: s-maj=2.1km s-min=1.7km az=10.0, PRXIMO, France

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.15**	**86**	*e*Pg		Pg		09 21 13.6	-0.3
EPF				*e*Sg		Sg		09 21 16.4	+0.3
	35nm,0.2s								
EPF	**Esparros**	**0.15**	**86**	Pg		Pg		09 21 13.6	-0.3
EPF				Lg				09 21 16.4	
	18nm,0.2s								
VIEF	**Viey**	**0.16**	**212**	Pg		Pg		09 21 13.9	-0.2
VIEF				Sg		Sg		09 21 16.7	+0.2
VIEF	**Viey**	**0.16**	**212**	P		Pg		09 21 13.9	-0.1
VIEF				S		Sg		09 21 16.7	+0.2
RESF	**Ens**	**0.26**	**145**	Pg		Pg		09 21 15.7	-0.1
RESF				Sg		Sg		09 21 20.1	+0.8
RESF	**Ens**	**0.26**	**145**	P		Pg		09 21 15.7	-0.1
RESF				S		Sg		09 21 20.0	+0.7
EBIE	**Bielsa**	**0.33**	**180**	⇑Pg		Pg		09 21 17.0	-0.2
	7.5nm,0.1s,SNR=18								
EBIE				Lg				09 21 21.7	
	12nm,0.1s,SNR=35								
REYF	**Montagne du Re**	**0.39**	**277**	Pg		Pg		09 21 17.9	-0.4
REYF				Sg		Sg		09 21 23.1	-0.4
REYF	**Montagne du Re**	**0.39**	**277**	P		Pg		09 21 17.5	-0.8
REYF				S		Sg		09 21 23.2	-0.4
MELF	**Melles**	**0.48**	**108**	P		Pg		09 21 19.1	-0.8
MELF				S		Sg		09 21 26.2	+0.1
ETSF	**Etsaut**	**0.53**	**257**	*e*Pg		Pg		09 21 20.1	-0.7
ETSF				*e*Sg		Sg		09 21 27.3	-0.4
	29nm,0.2s								
ETSF	**Etsaut**	**0.53**	**257**	Pg		Pg		09 21 20.1	-0.7
ETSF				Lg				09 21 27.3	
	15nm,0.2s								
FDAF	**Les Forges d'A**	**0.56**	**249**	P		Pg		09 21 20.7	-0.6
FDAF				S		Sg		09 21 28.4	-0.3
ATE	**Arette**	**0.62**	**276**	Pg		Pg		09 21 22.2	-0.4
ATE				Sg		Sg		09 21 30.1	-0.6
ATE	**Arette**	**0.62**	**276**	P		Pg		09 21 21.9	-0.6
ATE				S		Sg		09 21 30.3	-0.3
SALF	**Salau**	**0.81**	**108**	Pg		Pg		09 21 25.7	-0.6
SALF				Sg		Sg		09 21 35.1	-1.8
SALF	**Salau**	**0.81**	**108**	P		Pg		09 21 25.7	-0.6
SALF				S		Sg		09 21 36.0	-0.9
LARF	**Larrau**	**0.83**	**272**	S		Sg		09 21 36.4	-0.8
SJPF	**Ste Jean**	**1.00**	**276**	*e*Pg		Pg		09 21 29.1	-0.8
SJPF				*e*Sg		Sg		09 21 42.8	-0.1
	3.1nm,0.3s								
SJPF	**Ste Jean**	**1.00**	**276**	Pg		Pg		09 21 29.1	-0.8
SJPF				Lg				09 21 42.8	
	1.6nm,0.3s								
IPRE	**Itoiz**	**1.12**	**259**	Lg				09 21 48.4	
	1.7nm,0.4s,SNR=4.0								
EALK	**Alkurruntz**	**1.22**	**280**	Pg		Pg		09 21 34.0	0.0
	6.3nm,0.9s,SNR=7.7								
EALK				Lg				09 21 51.0	
	4.7nm,0.3s,SNR=6.0								
ELIZ	**Elizondo**	**1.23**	**277**	Pg		Pg		09 21 34.5	+0.3
	0.6nm,0.2s,SNR=7.9								
ELIZ				Lg				09 21 50.7	
	1.3nm,0.1s,SNR=7.9								
IUNC	**Unciti**	**1.23**	**258**	Pg		Pg		09 21 35.3	+1.0
	0.9nm,0.1s,SNR=4.0								
IUNC				Lg				09 21 51.4	
	9.1nm,0.4s,SNR=7.9								
IUSE	**Utxeti**	**1.24**	**267**	Pg		Pg		09 21 35.4	+1.0
	0.9nm,0.1s,SNR=7.9								
IUSE				Lg				09 21 51.0	
	4.7nm,0.3s,SNR=7.9								
MTLF	**Montolieu**	**1.55**	**77**	*e*Pg		Pg		09 21 39.4	-1.0
MTLF				*e*Sg		Sg		09 21 59.0	-1.5
	4.1nm,0.2s								
MTLF	**Montolieu**	**1.55**	**77**	Pg		Pg		09 21 39.4	-1.0
MTLF				Lg				09 21 59.0	
	2.0nm,0.2s								
EPOB	**Poblet**	**1.81**	**157**	Pg		Pg		09 21 43.2	-2.0
	0.9nm,0.2s,SNR=7.9								
EPOB				Lg				09 22 07.7	
	3.9nm,0.2s,SNR=7.9								
LFF	**La Frestale**	**1.97**	**13**	*e*Pn		Pn		09 21 41.7	-2.3
LFF	**La Frestale**	**1.97**	**13**	*e*Pg		Pg		09 21 46.7	-1.6
LFF				*e*Sg		Sg		09 22 12.1	-1.7
	5.9nm,0.3s								
LFF	**La Frestale**	**1.97**	**13**	Pn		Pn		09 21 41.7	-2.3
LFF				Pg		Pg		09 21 46.7	-1.6
LFF				Lg				09 22 12.1	
	3.0nm,0.3s								
ERTA	**Horta de San J**	**2.07**	**176**	Pg		Pg		09 21 49.5	-0.6
	0.5nm,0.2s,SNR=4.0								
ERTA				Lg				09 22 16.7	
	3.3nm,0.3s,SNR=7.9								
CAF	**Calviac**	**2.36**	**35**	*e*Sn		Sn		09 22 14.6	-3.7
CAF				*e*Sg		Sg		09 22 23.3	-3.0
	2.2nm,0.3s								
RJF	**Les Rejaudoux**	**2.49**	**23**	*e*Pg		Pg		09 21 56.1	-2.2
RJF				*e*Sg		Sg		09 22 28.2	-2.4
	3.9nm,0.3s								
RJF	**Les Rejaudoux**	**2.49**	**23**	Pg		Pg		09 21 56.1	-2.2
RJF				Lg				09 22 28.2	
	1.9nm,0.3s								
EMOS	**Mosqueruela**	**2.69**	**190**	Pg		Pg		09 21 59.6	-2.5
	0.2nm,0.3s,SNR=7.9								
EMOS				Lg				09 22 37.3	
	1.5nm,0.3s,SNR=7.9								
TCF	**Toulx Ste Croi**	**3.59**	**24**	*e*Sg		Sg		09 23 02.1	-3.6
	1.2nm,0.3s								
MFF	**Saint Martin d**	**3.59**	**357**	*e*Sg		Sg		09 23 01.8	-4.0
	1.1nm,0.3s								

IDC 29 09:33:51.0±3.4, 842S×10891E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.5/18, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=145.0km s-min=22.5km az=51.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.90**	**122**	P		P	Pn	09 38 13.8	+0.3
	0.1nm,0.3s,baz=303,slow=12,SNR=16								
WRA	**Warramunga Arr**	**27.14**	**118**	P		P		09 39 35.2	-0.5
	0.5nm,0.9s,baz=287,slow=11,SNR=3.7								
ASAR	**Alice Springs**	**28.33**	**125**	P		P		09 39 47.5	+1.1
	0.2nm,0.5s,baz=299,slow=8.5,SNR=5.3								
SONM	**Songino Array**	**56.05**	**358**	P		P		09 43 31.3	-0.3
	0.7nm,0.9s,baz=198,slow=8.7,SNR=3.8								
MKAR	**Makanchi Array**	**59.87**	**339**	P		P		09 43 58.8	+0.4
	0.4nm,0.5s,baz=153,slow=8.8,SNR=4.8								

*SFS **29** 09:36:30.0, 35.10N×303W, h20km, ML2.4*
*CNRM **29** 09:36:36.0, 35.14N×278W, h10km, MD3.7*
*CSEM **29** 09:36:37.0±0.1, 35.12N×297W, h25km, MD3.7, Error ellipse: s-maj=2.5km s-min=1.2km az=120.0*
*INMG **29** 09:36:40.0±0.8, 35.18N×302W, h19km±5km, ML2.5, Error ellipse: s-maj=4.9km s-min=2.6km az=158.0*
MDD 29 09:36:37.2±0.3, 3505N×289W, h9km±3km, mbLg2.5/23, 2C-4D, Error ellipse: s-maj=4.2km s-min=3.0km az=89.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.14**	**124**	P		Pg		09 36 39.9	-0.4
ZAI				S		Sg		09 36 42.5	+0.1
MELI	**Melilla**	**0.25**	**351**	P		Pg		09 36 41.3	-0.8
MELI				S		Sg		09 36 46.4	+0.9
MELI	**Melilla**	**0.25**	**351**	*e*P		Pg		09 36 41.3	-0.9
MELI				*e*S		Sg		09 36 46.4	+0.9
TOU	**Touzarine**	**0.71**	**263**	*i* P		Pg		09 36 49.0	-2.0
TOU				*i* S		Sg		09 37 02.0	+1.7
MPAL	**Palemas**	**0.88**	**282**	*i* P		Pg		09 36 53.0	-1.1
MPAL				*i* S		Sg		09 37 07.0	+1.4
EALB	**Alboran**	**0.90**	**352**	⇓P		Pg		09 36 53.7	-0.7
	104nm,0.3s,SNR=18								
EALB				S		Sg		09 37 06.3	+0.2
	238nm,0.4s,SNR=7.9								
EALB	**Alboran**	**0.90**	**352**	P		Pg		09 36 53.7	-0.7
	104nm,0.3s,SNR=7.9								
EALB				S		Sg		09 37 06.3	+0.2
	238nm,0.4s,SNR=7.9								
TZK	**Tazeka**	**1.43**	**229**	*i* P		Pn		09 37 01.0	-2.3
TZK				*i* S		Sn		09 37 20.0	-2.3
EBER	**Berja**	**1.85**	**360**	P		Pn		09 37 07.1	-1.9
	8.9nm,0.3s,SNR=15								
EBER				S		Sn		09 37 29.1	-3.3
	105nm,0.7s,SNR=5.0								
EBER	**Berja**	**1.85**	**360**	P		Pn		09 37 07.1	-1.9
	8.9nm,0.3s,SNR=15								
EBER				S		Sn		09 37 29.1	-3.4
	105nm,0.7s,SNR=5.0								
EGUA	**Guajares**	**1.86**	**343**	⇓P		Pn		09 37 06.6	-2.7
	17nm,0.2s,SNR=18								
EGUA				S		Sn		09 37 29.0	-4.0
	4.9nm,0.3s,SNR=7.9								
EGUA	**Guajares**	**1.86**	**343**	P		Pn		09 37 06.6	-2.7
	17nm,0.2s,SNR=7.9								
EGUA				S		Sn		09 37 28.5	-4.4
	4.9nm,0.3s,SNR=7.9								
ENIJ	**Nijar**	**2.00**	**16**	⇓P		Pn		09 37 09.2	-1.9
	8.6nm,0.3s,SNR=18								
ENIJ				S		Sn		09 37 33.4	-2.8
	26nm,0.4s,SNR=8.3								
MAL	**Malaga**	**2.08**	**324**	*i* P		Pn		09 37 10.0	-2.2
ERON	**Agron**	**2.10**	**340**	⇓P		Pn		09 37 09.9	-2.6
	21nm,0.3s,SNR=18								
ERON				S		Sn		09 37 35.5	-3.3
	15nm,0.4s,SNR=7.9								
ERON	**Agron**	**2.10**	**340**	P		Pn		09 37 09.9	-2.6
	21nm,0.3s,SNR=13								
ERON				S		Sn		09 37 34.4	-4.4
	14nm,0.3s,SNR=7.9								
EMIJ	**Mijas**	**2.15**	**315**	P		Pn		09 37 09.9	-3.3
	9.2nm,0.3s,SNR=17								
EMIJ				S		Sn		09 37 35.4	-4.6
	28nm,0.4s,SNR=8.0								
EQUE	**Quentar**	**2.20**	**348**	P		Pn		09 37 12.9	-0.9
	23nm,0.3s,SNR=34								
EQUE				S		Sn		09 37 38.2	-2.9
	13nm,0.4s,SNR=9.3								
ECOG	**Cogollos-Vega**	**2.29**	**346**	P		Pn		09 37 14.9	-0.2
	14nm,0.3s,SNR=14								
ECOG	**Cogollos-Vega**	**2.29**	**346**	P		Pn		09 37 14.2	-0.9
	14nm,0.3s,SNR=14								
ELOJ	**Sierra Loja**	**2.33**	**334**	P		Pn		09 37 14.2	-1.5
	16nm,0.3s,SNR=16								
ELOJ				S		Sn		09 37 42.2	-2.2
	5.1nm,0.4s,SNR=8.2								
ELOJ	**Sierra Loja**	**2.33**	**334**	P		Pn		09 37 14.2	-1.5
	16nm,0.3s,SNR=16								
ELOJ				S		Sn		09 37 39.3	-5.1
	9.1nm,0.3s,SNR=8.2								
EJIF	**Jimena Fronter**	**2.52**	**304**	P		Pn		09 37 17.1	-1.2
	5.7nm,0.3s,SNR=5.9								
EJIF				S		Sn		09 37 48.0	-1.2
	6.4nm,0.4s								
EJIF	**Jimena Fronter**	**2.52**	**304**	P		Pn		09 37 17.1	-1.2
	5.7nm,0.3s,SNR=5.9								
EJIF				S		Sn		09 37 44.6	-4.6
	7.5nm,0.5s								
MIF	**Mishlifen**	**2.54**	**231**	*e*P		Pn		09 37 18.0	-0.5
MIF				*i* S		Sn		09 37 48.0	-1.5
CZD	**Col de Zad**	**2.69**	**222**	*e*P		Pn		09 37 21.0	+0.4
CZD				*i* S		Sn		09 37 51.0	-2.3
ELUQ	**Luque**	**2.74**	**336**	P		Pn		09 37 21.1	-0.2
	17nm,0.2s,SNR=7.9								
ELUQ				S		Sn		09 37 52.1	-2.5
	9.1nm,0.2s,SNR=4.0		

EMIN				S		Sn	09 38 24.0	-3.7
	2.6nm,0.3s							
EMIN	**Mina Concepcio**	**4.08**	**313**	P		Pn	09 37 37.4	-2.4
	1.7nm,0.3s,SNR=7.9							
EMIN				S		Sn	09 38 21.0	-6.7
	3.0nm,0.4s							
TZC	**Tazercounte**	**4.17**	**227**	*e*P		Pn	09 37 41.0	0.0
TZC				*e*S		Sn	09 38 29.0	-0.8
EBEN	**Beniarda**	**4.23**	**30**	P		Pn	09 37 41.3	-0.4
	0.8nm,0.3s,SNR=7.9							
EBEN				S		Sn	09 38 28.2	-3.0
	3.0nm,0.3s,SNR=7.9							
EBEN	**Beniarda**	**4.23**	**30**	P		Pn	09 37 41.3	-0.4
	0.8nm,0.3s,SNR=7.9							
EBEN				S		Sn	09 38 28.2	-3.0
	3.0nm,0.3s,SNR=7.9							
EGRO	**El Granado**	**4.46**	**305**	P		Pn	09 37 42.6	-2.4
	5.8nm,0.5s							
EGRO				S		Sn	09 38 33.8	-3.3
	3.9nm,0.4s,SNR=7.9							
EGRO	**El Granado**	**4.46**	**305**	P		Pn	09 37 42.6	-2.4
	5.8nm,0.5s							
ESDC	**Sonseca Array**	**4.70**	**350**	P		Pn	09 37 47.5	-0.7
	0.6nm,0.3s,baz=172,slow=12,SNR=4.0							
ESDC				S		Sn	09 38 35.5	-7.3
	3.9nm,0.6s,baz=98,slow=36,SNR=6.4							
ESDC	**Sonseca Array**	**4.70**	**350**	P		Pn	09 37 47.5	-0.7
	0.6nm,0.3s,SNR=4.0							
ECHE	**Chera**	**4.79**	**18**	P		Pn	09 37 49.1	-0.3
	0.8nm,0.2s,SNR=7.9							
ECHE				S		Sn	09 38 40.8	-4.2
	1.8nm,0.5s,SNR=7.9							
ECHE	**Chera**	**4.79**	**18**	P		Pn	09 37 48.9	-0.5
	0.8nm,0.2s,SNR=7.9							
ECHE				S		Sn	09 38 40.8	-4.2
	1.8nm,0.5s,SNR=7.9							
EBAD	**Badajoz**	**4.96**	**319**	⇑P		Pn	09 37 50.0	-1.8
	9.3nm,0.2s,SNR=18							
EBAD				S		Sn	09 38 45.2	-4.1
	4.3nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**4.96**	**319**	P		Pn	09 37 49.9	-1.9
	9.3nm,0.2s,SNR=7.9							
EBAD				S		Sn	09 38 42.1	-7.2
	4.3nm,0.2s,SNR=7.9							
PBEJ	**Beja**	**4.99**	**308**	*e*Pn		Pn	09 37 50.5	-1.7
EIBI	**Ibiza**	**5.22**	**39**	P		Pn	09 37 55.2	-0.2
	3.2nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**5.22**	**39**	P		Pn	09 37 55.2	-0.2
	3.2nm,0.2s,SNR=7.9							
PTEO	**Sao Teotonio**	**5.33**	**300**	*e*Pn		Pn	09 37 55.7	-1.2
PTEO				*e*Sn		Sn	09 38 52.7	-5.7
PESTR	**Estremoz**	**5.36**	**317**	*e*Pn		Pn	09 37 56.1	-1.2
MOE	**Montemor**	**5.59**	**310**	*e*Pn		Pn	09 37 58.9	-1.5
EPLA	**Plasencia**	**5.61**	**334**	P		Pn	09 37 59.7	-1.1
	1.6nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**5.64**	**19**	P		Pn	09 38 01.3	+0.1
	0.2nm,0.4s,SNR=7.9							
EMOS	**Mosqueruela**	**5.64**	**19**	P		Pn	09 38 01.3	+0.1
	0.2nm,0.4s,SNR=7.9							
GUD	**Guadarrama**	**5.67**	**350**	P		Pn	09 38 01.4	-0.3
	2.0nm,0.2s							
GUD	**Guadarrama**	**5.67**	**350**	P		Pn	09 38 00.8	-0.8
	2.0nm,0.2s							
PCBR	**Castelo Branco**	**6.02**	**324**	*e*Pn		Pn	09 38 05.0	-1.3
PCBR				*e*Sn		Sn	09 39 09.9	-5.4
PCBR								
	2.7nm,0.3s							
PTOM	**Tomar**	**6.34**	**318**	*e*Pn		Pn	09 38 09.1	-1.6
ERTA	**Horta de San J**	**6.42**	**22**	P		Pn	09 38 11.9	0.0
	0.6nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**6.42**	**22**	P		Pn	09 38 11.9	0.0
	0.6nm,0.2s,SNR=7.9							
MTE	**Manteigas**	**6.49**	**327**	*e*Pn		Pn	09 38 11.7	-1.1
ETOS	**Mallorca**	**6.54**	**42**	P		Pn	09 38 14.1	+0.5
	0.4nm,0.2s,SNR=7.9							
ETOS	**Mallorca**	**6.54**	**42**	P		Pn	09 38 14.4	+0.9
	0.4nm,0.2s,SNR=7.9							
PVIS	**Viseu**	**6.90**	**327**	*e*Pn		Pn	09 38 17.4	-1.1
EPOB	**Poblet**	**7.03**	**25**	P		Pn	09 38 20.3	+0.1
	2.1nm,0.4s,SNR=7.9							
EPOB	**Poblet**	**7.03**	**25**	P		Pn	09 38 20.3	+0.1
	2.1nm,0.4s,SNR=7.9							
PVRL	**Vila Real**	**7.29**	**330**	*e*Pn		Pn	09 38 22.8	-1.0
PBRG	**Braganca**	**7.39**	**337**	*e*Pn		Pn	09 38 24.7	-0.5
ECAL	**Calabor**	**7.51**	**337**	P		Pn	09 38 25.8	-1.0
	3.8nm,0.4s,SNR=5.0							
ECAL				S		Sn	09 39 43.6	-8.6
	1.2nm,0.3s,SNR=4.8							
ECAL	**Calabor**	**7.51**	**337**	P		Pn	09 38 25.8	-1.1
	3.8nm,0.4s,SNR=5.0							
PCAB	**Cabril**	**7.78**	**330**	*e*Pn		Pn	09 38 29.6	-0.9
ELOB	**Lobios**	**7.92**	**331**	P		Pn	09 38 31.2	-1.3
	5.9nm,0.5s,SNR=7.9							
ELOB	**Lobios**	**7.92**	**331**	P		Pn	09 38 31.2	-1.3
	5.9nm,0.5s,SNR=7.9							
EALK	**Alkurruntz**	**8.23**	**7**	P		Pn	09 38 36.4	-0.4
	0.7nm,0.4s,SNR=7.9							
EALK	**Alkurruntz**	**8.23**	**7**	P		Pn	09 38 36.3	-0.4
	0.7nm,0.4s,SNR=7.9							
EARI	**Arriondas**	**8.44**	**348**	P		Pn	09 38 39.7	+0.2
	1.4nm,0.6s,SNR=7.9							
EARI	**Arriondas**	**8.44**	**348**	P		Pn	09 38 39.7	+0.2
	1.4nm,0.6s,SNR=7.9							

*MOS **29** 09:50:25.5±0.2, 4099N×4385E, h63km, mb3.8/1, Error ellipse: s-maj=70.4km s-min=9.8km az=82.8*
*CSEM **29** 09:50:25.0, 4099N×4385E, h63km, mb3.8, After OBN TIF **29** 09:50:28.6, 4136N×4385E, h20km±4km*
*ISCJB **29** 09:50:30.4±1.4, 4136N±006×4384E±008, h21km±8km, Error ellipse: s-maj=11.9km s-min=8.3km az=73.3*

ISC 29 09:50:29.8±1.5, 4138N±006×4382E±007, h11km±6km, n16, σ0§61/32, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOR	**Gori**	**0.65**	**19**	P	**Pg**	**09 50 43.0**	**+0.6**
GOR				S	**Sg**	**09 50 51.1**	**+0.3**
TBLG	**Delisi**	**0.77**	**62**	P	**Pg**	**09 50 44.5**	**-0.3**
TBLG				S	**Sg**	**09 50 54.7**	**-0.2**
TBLG	**Delisi**	**0.77**	**62**	P	**Pg**	**09 50 44.4**	**-0.4**
TBLG				S	**Sg**	**09 50 54.8**	**-0.1**
MTA	**Mtatsminda**	**0.79**	**66**	P	**Pg**	**09 50 44.6**	**-0.5**
MTA				S	**Sg**	**09 50 55.5**	**0.0**
DGRG	**David-gareji**	**1.17**	**86**	P	**Pb**	**09 50 52.1**	**0.0**
DGRG				S	**Sb**	**09 51 08.4**	**+1.3**
DGRG	**David-gareji**	**1.17**	**86**	P	**Pb**	**09 50 51.7**	**-0.4**
DGRG				S	**Sb**	**09 51 08.9**	**+1.7**
ONI	**Oni**	**1.23**	**347**	P	**Pn**	**09 50 54.9**	**+1.8**
ONI				S	**Sb**	**09 51 09.4**	**+0.3**
ONI	**Oni**	**1.23**	**347**	P	**Pn**	**09 50 54.0**	**+1.0**
ONI				S	**Sb**	**09 51 09.3**	**+0.2**
ZEI	**Tsey**	**1.40**	**2**	*e*P	**Pn**	**09 50 55.5**	**+0.3**
ZEI				*e*S	**Sn**	**09 51 15.0**	**+1.4**
DIGR	**Digorskoe uzhe**	**1.53**	**353**	*e*P	**Pn**	**09 50 57.0**	**-0.1**
DIGR				*e*S	**Sn**	**09 51 17.5**	**+0.5**
KORR	**Kora**	**1.72**	**6**	*e*P	**Pn**	**09 50 59.4**	**-0.3**
KORR				*e*S	**Sn**	**09 51 21.6**	**0.0**
VLKR	**Vladikavkaz**	**1.79**	**20**	*e*P	**Pn**	**09 51 00.3**	**-0.3**
VLKR				*e*S	**Sn**	**09 51 23.2**	**-0.1**
ARNR	**Ardon**	**1.84**	**10**	*e*P	**Pn**	**09 51 01.0**	**-0.4**
ARNR				*e*S	**Sn**	**09 51 24.4**	**-0.3**
SNJR	**Sundja**	**1.84**	**23**	*e*P	**Pn**	**09 51 01.0**	**-0.4**
SNJR				*e*S	**Sn**	**09 51 24.5**	**-0.2**
KMSR	**Komsomolskaya**	**2.02**	**10**	*e*P	**Pn**	**09 51 03.3**	**-0.6**
KMSR				*e*S	**Sn**	**09 51 28.4**	**-0.8**
BTKR	**Batakoyurt**	**2.06**	**15**	*e*P	**Pn**	**09 51 03.9**	**-0.5**
BTKR				*e*S	**Sn**	**09 51 29.4**	**-0.8**

*NIED **29** 10:01:00, 2960N×130.10E, h8km, Mw3.8 Best double couple: M0 5.54000×10^14 NP1:φs284.00000°, δ56.00000°, λ-105.00000°. NP2:φs129.00000°, δ37.00000°, λ-70.00000°.*
*NEIC **29** 10:01:54.5, 2958N×130.13E, h26km, mb4.3/2, After JMA.*
*JMA **29** 10:01:54.5±0.1, 2958N×130.13E, h26km±3km, M3.7*
*ISCJB **29** 10:01:55.1±0.4, 2962N±004×13000E±0.10, h40km±8km, mb4.2/4, Error ellipse: s-maj=15.2km s-min=4.0km az=50.7*
*IDC **29** 10:01:56.7±6.3, 2984N×12945E, h51km±27km, mb3.7/2, mb1 3.7/4, mb1mx3.3/23, mbtmp3.7/4, ML3.3/2, Error ellipse: s-maj=229.6km s-min=20.0km az=118.0*

ISC 29 10:01:55.3±1.1, 2959N±006×1301E±01, h26km±11km, n16, σ0§84/27, mb4.2/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.31**	**323**	P	**Pb**	**10 02 02.0**	**-0.5**
JNN				*e*S	**Sb**	**10 02 07.7**	**+0.3**
JKC	**Kuchinoerabu**	**0.87**	**6**	P	**Pb**	**10 02 11.0**	**-0.7**
JKC				*e*S	**Sb**	**10 02 23.4**	**+0.4**
JAM	**Amami Oshima**	**1.25**	**200**	P	**Pn**	**10 02 15.9**	**-1.2**
JAM				*e*S	**Sn**	**10 02 31.7**	**-1.3**
JZK	**Kikaishima**	**1.28**	**185**	P	**Pn**	**10 02 17.9**	**+0.5**
JZK				*e*S	**Sn**	**10 02 34.1**	**+0.4**
JTN	**Tanegashima 3**	**1.31**	**36**	P	**Pn**	**10 02 17.2**	**-0.6**
JTN				*e*S	**Sn**	**10 02 33.8**	**-0.6**
JTSR	**Tashiro 2**	**1.73**	**24**	P	**Pn**	**10 02 23.2**	**-0.4**
JTSR				*e*S	**Sn**	**10 02 45.0**	**+0.3**
JTK	**Tokunoshima**	**2.06**	**209**	P	**Pn**	**10 02 27.5**	**-0.7**
JTK				*e*S	**Sn**	**10 02 52.9**	**-0.1**
JIH	**Iheya**	**3.16**	**217**	P	**Pn**	**10 04 46.4**	**+1.3**
JIH				*e*S	**Sn**	**10 03 19.0**	**-1.2**
JOW	**Kunigami**	**3.18**	**211**	P	**Pn**	**10 02 44.8**	**+1.2**
	6.8nm,0.3s,baz=92,slow=19,SNR=25						
JOW				S	**Sn**	**10 03 21.1**	**+0.4**
	9.4nm,0.3s,baz=132,slow=26,SNR=5.6						
JOW	**Kunigami**	**3.18**	**211**	P	**Pn**	**10 02 44.3**	**+0.7**
JOW				*e*S	**Sn**	**10 03 20.7**	**0.0**
JAGN	**Aguni-jima**	**3.91**	**221**	P	**Pn**	**10 02 54.7**	**+1.1**
JAGN				*e*S	**Sn**	**10 03 38.9**	**+0.3**
MJAR	**Matsushiro Arr**	**9.71**	**42**	P	**Pn**	**10 04 16.5**	**+3.2**
	0.3nm,0.3s,baz=239,slow=12,SNR=3.6						
PET	**Petropavlovsk**	**31.39**	**34**	*e*P	**P**	**10 08 13.8**	**-0.2**
	2.4nm,0.4s,mb4.4						
WRAB	**Tennant Creek**	**49.41**	**175**	*e*P	**P**	**10 10 41.9**	**-0.9**
	1.6nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**49.42**	**175**	P	**P**	**10 10 43.2**	**+0.4**
	2.1nm,0.7s,mb4.3,baz=353,slow=8.2,SNR=24						
ASAR	**Alice Springs**	**53.08**	**176**	P	**P**	**10 11 11.7**	**+1.4**
	0.8nm,0.6s,mb3.8,baz=6.5,slow=13,SNR=18						

*ISCJB **29** 10:11:05.6±0.5, 6190N±003×12757W±007, h10km, mb3.1/2, Error ellipse: s-maj=5.2km s-min=4.1km az=91.9*
*IDC **29** 10:11:09.4±1.8, 6203N×12741W, h8km±12km, mb3.2/3, mb1 3.8/6, mb1mx3.5/25, mbtmp3.6/6, ML4.1/3, MS2.9/2, Ms1 2.9/2, ms1mx2.4/19, Error ellipse: s-maj=16.7km s-min=8.5km az=136.0*
*PGC **29** 10:11:10.2, 6201N×12748W, h1km, ML3.9/4, MN3.5/6, Mw3.9, 222km northeast of Watson Lk., Yt Southern Northwest Territories - Yukon Territory border.*
*NEIC **29** 10:11:10.2, 6201N×12748W, h1km, MW3.9(PGC), After PGC.*

ISC 29 10:11:08.4±0.4, 6193N±003×12748W±006, h10km, n32, σ1§69/69, mb3.1/2, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLBC	**Dease Lake**	**3.73**	**201**	Pn	**Pn**	**10 12 09.0**	**+3.0**
	7.9nm,0.3s,baz=37,slow=8.1,SNR=65						
DLBC				Pg	**Pg**	**10 12 19.8**	**0.0**
	25nm,0.3s,baz=27,slow=11,SNR=24						
DLBC				Sn	**Sn**	**10 12 54.6**	**+4.7**
	12nm,0.3s,baz=152,slow=26,SNR=7.0						
DLBC				Lg		10 13 08.4	
	41nm,0.3s,baz=114,slow=19,SNR=11						
DLBC	**Dease Lake**	**3.73**	**201**	Pn	**Pn**	**10 12 08.8**	**+2.8**
DLBC				Pg	**Pg**	**10 12 19.8**	**0.0**
DLBC				Sn	**Sn**	**10 12 53.0**	**+3.1**
DLBC				Sg	**Sg**	**10 13 08.6**	**+0.5**
DLBC				Trac		10 13 14.6	
	comp=Z,121nm,0.3s						
DLBC	**Dease Lake**	**3.73**	**201**	Pn	**Pn**	**10 12 08.8**	**+2.8**
DLBC				Pg	**Pg**	**10 12 19.8**	**0.0**
DLBC				Sn	**Sn**	**10 12 53.0**	**+3.1**
DLBC				*e*Sg	**Sg**	**10 13 08.6**	**+0.5**
FNBB	**Fort Nelson**	**3.77**	**142**	⇑Pn	**Pn**	**10 12 08.3**	**+1.8**
FNBB				Sn	**Sn**	**10 12 50.5**	**-0.4**
FNBB				Sg	**Sg**	**10 13 09.6**	**+0.2**
FNBB				Trac		10 13 12.2	
	comp=Z,50nm,0.2s						
FNBB				Trac		10 13 12.2	
	comp=Z,50nm,0.2s						
FNBB	**Fort Nelson**	**3.77**	**142**	*i* Pn	**Pn**	**10 12 08.3**	**+1.8**
FNBB				*e*Sn	**Sn**	**10 12 50.5**	**-0.4**
FNBB				*e*Sg	**Sg**	**10 13 09.6**	**+0.2**
WHY	**Whitehorse**	**3.79**	**254**	Pn	**Pn**	**10 12 09.6**	**+2.8**
WHY				Pg	**Pg**	**10 12 21.6**	**+0.6**
WHY				Sg	**Sg**	**10 13 08.3**	**-1.8**
WHY				Trac		10 13 13.4	
	comp=Z,67nm,0.3s						
WHY	**Whitehorse**	**3.79**	**254**	Pn	**Pn**	**10 12 09.6**	**+2.8**
WHY				Sg	**Sg**	**10 13 08.3**	**-1.8**
HYT	**Haines Junctio**	**4.95**	**262**	Pn	**Pn**	**10 12 25.5**	**+2.7**
HYT				Sg	**Sg**	**10 13 44.0**	**-3.2**
HYT				Trac		10 13 48.8	
	comp=Z,47nm,0.4s						
HYT	**Haines Junctio**	**4.95**	**262**	Pn	**Pn**	**10 12 25.5**	**+2.7**
HYT				Sg	**Sg**	**10 13 44.0**	**-3.2**
PLBC	**Pleasant Camp**	**5.02**	**244**	Pn	**Pn**	**10 12 27.2**	**+3.4**
PLBC				Sg	**Sg**	**10 13 46.7**	**-2.9**
DAWY	**Dawson**	**5.84**	**297**	Pn	**Pn**	**10 12 37.2**	**+2.3**
DAWY				Pg	**Pg**	**10 12 58.1**	**-2.0**
DAWY				Sn	**Sn**	**10 13 42.4**	**+0.5**
DAWY				Sg	**Sg**	**10 14 06.6**	**-9.1**
DAWY				Sg	**Sg**	**10 14 09.7**	**-6.0**
DAWY				Trac		10 14 19.3	
	comp=Z,74nm,0.5s						
DAWY	**Dawson**	**5.84**	**297**	*e*Pn	**Pn**	**10 12 37.0**	**+2.1**
DAWY				*e*Pg	**Pg**	**10 12 58.1**	**-2.0**
DAWY				*e*Sn	**Sn**	**10 13 42.4**	**+0.5**
DAWY				Sg	**Sg**	**10 14 06.6**	**-9.1**
YKW3	**Yellowknife Ar**	**6.04**	**78**	Pn	**Pn**	**10 12 38.5**	**+0.7**
YKW3				Pn	**Pn**	**10 12 38.5**	**+0.8**
YKW3				Sn	**Sn**	**10 13 43.2**	**-3.8**
YKW3				Trac		10 14 24.6	
	comp=Z,41nm,0.4s						
YKW3				Trac		10 14 24.6	
	comp=Z,41nm,0.4s						
YKW3				Trac		10 14 24.8	
	comp=Z,58nm,0.6s						
YKW3				Trac		10 14 24.8	
	comp=Z,58nm,0.6s						
YKW3	**Yellowknife Ar**	**6.04**	**78**	Pn	**Pn**	**10 12 38.5**	**+0.7**
YKW3				*e*Sn	**Sn**	**10 13 43.2**	**-3.8**
YKA	**Yellowknife Ar**	**6.05**	**79**	Pn	**Pn**	**10 12 38.0**	**+0.2**
	baz=265,slow=13,SNR=192						
YKA				Sn	**Sn**	**10 13 43.4**	**-3.7**
	baz=268,slow=23,SNR=3.6						
YKA				Lg		10 14 16.4	
	baz=267,slow=30,SNR=11						
YKA	**Yellowknife Ar**	**6.05**	**79**	Pn	**Pn**	**10 12 38.0**	**+0.2**
YKA				Sn	**Sn**	**10 13 43.4**	**-3.7**
YKA				Lg		10 14 16.4	
BMBC				Trac		10 14 41.6	
	comp=Z,66nm,0.4s						
BMBC				Trac		10 14 41.6	
	comp=Z,66nm,0.4s						
BMBC	**Bull Mountain**	**6.51**	**153**	Pn	**Pn**	**10 12 46.1**	**+1.9**
BMBC				*e*Sn	**Sn**	**10 13 56.6**	**-2.0**
BMBC				*e*Sg	**Sg**	**10 14 35.8**	**-1.7**
INK	**Inuvik**	**6.89**	**341**	Pn	**Pn**	**10 12 49.1**	**-0.3**
	1.3nm,0.3s,baz=158,slow=11,SNR=46						
INK				Sn	**Sn**	**10 14 06.2**	**-1.6**
	1.7nm,0.3s,baz=224,slow=16,SNR=2.0						
INK				LR	LR	10 15 55.0	
	comp=Z,72nm,18.9s,baz=149,slow=42						
INK	**Inuvik**	**6.89**	**341**	Pn	**Pn**	**10 12 48.9**	**-0.5**
INK				Sn	**Sn**	**10 14 06.7**	**-1.2**
INK				Trac		10 14 29.9	
	comp=Z,6.0nm,0.3s						
INK				Trac		10 14 29.9	
	comp=Z,6.0nm,0.3s						
INK	**Inuvik**	**6.89**	**341**	Pn	**Pn**	**10 12 48.9**	**-0.5**
INK				*e*Sn	**Sn**	**10 14 06.7**	**-1.2**
FSB	**Fort Saint Jam**	**7.66**	**166**	Sg	**Sg**	**10 15 11.5**	**-2.5**
FSB				Trac		10 15 30.5	
	comp=Z,25nm,0.8s						
FSB	**Fort Saint Jam**	**7.66**	**166**	*e*Sg	**Sg**	**10 15 11.5**	**-2.5**
EDM	**Edmonton**	**11.53**	**133**	*e*Pn	**Pn**	**10 13 52.3**	**-0.7**
NEW	**Newport**	**14.89**	**152**	LR	LR	10 21 31.3	
	comp=Z,54nm,18.4s,baz=178,slow=42						
RES	**Resolute Bay**	**17.20**	**29**	Trac		10 18 06.3	
	comp=Z,7.0nm,0.7s						
RES				Trac		10 18 06.3	
	comp=Z,7.0nm,0.7s						
RES	**Resolute Bay**	**17.20**	**29**	*e*Pn	**Pn**	**10 15 07.5**	**-1.2**
RES				*e*Sn	**Sn**	**10 17 59.8**	**-20**
TPAW	**Teton Pass**	**20.89**	**145**	*e*P	**P**	**10 15 53.3**	**+2.6**
TPAW				*e*Pn	**P**	**10 15 55.4**	**+4.7**
ULM	**Lac du Bonnet**	**20.91**	**109**	P	**P**	**10 15 52.0**	**+1.1**
	1.4nm,0.5s,baz=325,slow=13,SNR=5.0						
RRI2	**Red Ridge**	**20.92**	**145**	*e*P	**P**	**10 15 55.1**	**+4.1**
PDAR	**Pinedale Array**	**21.95**	**143**	P	**P**	**10 16 05.8**	**+3.8**
	0.3nm,0.4s,mb3.0,baz=6.9,slow=8.2,SNR=4.0						
NVAR	**Mina Array Bea**	**24.20**	**162**	P	**P**	**10 16 29.1**	**+4.2**
	0.5nm,0.6s,mb3.1,baz=357,slow=9.3,SNR=5.4						

IDC 29 10:45:11.3±2.6, 2140S×6872W, h98km±23km, mb3.8/3, mb1 3.7/6, mb1mx3.5/18, mbtmp3.9/6, MS3.1/1, Ms1 3.0/1, ms1mx2.3/20, Error ellipse: s-maj=32.7km s-min=24.2km az=116.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.12**	**6**	P	Pn	10 46 27.1	+1.6
	0.9nm,0.3s,baz=193,slow=11,SNR=28						
SIV	**San Ignacio**	**9.02**	**55**	P	Pn	10 47 18.5	-0.1
	2.8nm,0.3s,baz=248,slow=12,SNR=47						
SIV				S	Sn	10 48 58.2	-0.2
	0.1nm,0.3s,baz=162,slow=22,SNR=2.5						
CFAA	**Coronel Fontan**	**10.17**	**178**	P	Pn	10 47 34.1	-0.2
	0.1nm,0.3s,baz=348,slow=14,SNR=17						
CFAA				S	Sn	10 49 21.9	-4.5
	0.1nm,0.3s,baz=194,slow=18,SNR=3.8						
BDFB	**Brasilia**	**20.44**	**77**	P	P	10 49 41.0	+0.3
	6.6nm,0.4s,baz=264,slow=9.2,SNR=7.6						
BDFB				LR	LR	10 57 56.9	
	comp=Z,44nm,18.6s,baz=283,slow=38						
TORD	**Torodi Ar. Bea**	**77.16**	**70**	P	P	10 56 55.2	+1.1
	1.0nm,0.5s,baz=249,slow=5.2,SNR=8.0						
YKA	**Yellowknife Ar**	**91.15**	**341**	P	P	10 58 03.9	-1.1
	0.5nm,0.7s,baz=133,slow=5.6,SNR=5.5						

*IDC **29** 10:46:49.8±1.1, 1963N×6462W, h0km, mb3.8/5, mb1 4.2/9, mb1mx3.9/25, mbtmp4.1/9, ML3.7/3, MS3.6/5, Ms1 3.6/5, ms1mx3.3/36, Error ellipse: s-maj=28.0km s-min=19.6km az=83.0*
*ISCJB **29** 10:46:50.3±1.4, 1964N±005×6465W±005, h17km±10km, mb3.9/5, MS3.7/3, Error ellipse: s-maj=9.3km s-min=6.1km az=95.0.*
*RSPR **29** 10:46:51.8, 1973N×6456W, h25km±20km, MD3.9/11, MD3.9/11*
*NEIC **29** 10:46:51.8, 1973N×6456W, h25km, MD3.9(RSPR), After RSPR.*

ISC 29 10:46:50.4±1.2, 1958N±004×6469W±005, h3km±7km, n33, σ0§73/45, mb3.9/5, MS3.7/3, 14C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.25**	**192**	⇑*e*P	**Pg**	**10 47 13.7**	**-0.6**
STVI				*e*S	**Sg**	**10 47 30.9**	**+0.5**
CULB	**Culebra**	**1.40**	**206**	⇑*e*P	**Pn**	**10 47 16.3**	**-0.6**
CULB	**Culebra**	**1.40**	**206**	*e*S	**Sg**	**10 47 35.4**	**0.0**
MTP	**Monte Pirata**	**1.69**	**209**	⇑*e*P	**Pn**	**10 47 20.4**	**-0.4**
MTP				*e*S	**Sn**	**10 47 42.9**	**0.0**
CBYP	**Canovanas**	**1.70**	**220**	⇑*e*P	**Pn**	**10 47 20.3**	**-0.7**
CBYP				*e*S	**Sn**	**10 47 42.9**	**-0.5**
HUMP	**Col San Antoni**	**1.80**	**218**	⇑*e*P	**Pn**	**10 47 21.6**	**-0.7**
HUMP				*e*S	**Sn**	**10 47 45.4**	**-0.3**
CDVI	**St. Croix**	**1.82**	**182**	⇑*e*P	**Pn**	**10 47 22.5**	**-0.1**
CDVI				*e*S	**Sn**	**10 47 45.5**	**-0.7**
CPD	**Cerro la Pandu**	**1.92**	**217**	⇑*e*P	**Pn**	**10 47 23.6**	**-0.4**
CPD				*e*S	**Sn**	**10 47 49.1**	**+0.4**
SJG	**San Juan**	**2.01**	**224**	⇑*e*P	**Pn**	**10 47 25.1**	**-0.1**
SJG	**San Juan**	**2.01**	**224**	*e*S	**Sn**	**10 47 50.9**	**0.0**
SJG	**San Juan**	**2.01**	**224**	Pn	**Pn**	**10 47 24.8**	**-0.4**
	20nm,0.3s,baz=53,slow=6.1,SNR=31						
SJG				Sn	**Sn**	**10 47 49.4**	**-1.4**
	60nm,0.3s,baz=296,slow=15,SNR=8.4						
SJG	**San Juan**	**2.01**	**224**	⇑*e*P	**Pn**	**10 47 25.1**	**-0.1**
SJG				*e*S	**Sn**	**10 47 50.9**	**0.0**
AOPR	**Arecibo Observ**	**2.30**	**238**	⇑*e*P	**Pn**	**10 47 28.8**	**-0.4**
AOPR				*e*S	**Sn**	**10 47 57.8**	**-0.2**
CELP	**Cerrillos**	**2.33**	**230**	⇓*i*P	**Pn**	**10 47 29.7**	**0.0**
CELP				*e*S	**Sn**	**10 47 58.8**	**0.0**
OBIP	**Obispado Ponce**	**2.37**	**230**	⇑*e*P	**Pn**	**10 47 30.1**	**-0.1**
LRS	**Lares**	**2.41**	**238**	⇓*e*P	**Pn**	**10 47 30.1**	**-0.6**
LRS				*e*S	**Sn**	**10 48 00.7**	**+0.1**
ICM	**Isla Caja Muer**	**2.41**	**226**	⇑*e*P	**Pn**	**10 47 30.8**	**+0.1**
ICM				*e*S	**Sn**	**10 48 01.3**	**+0.5**
LSP	**Las Mesas**	**2.66**	**239**	⇑*e*P	**Pn**	**10 47 34.0**	**-0.1**
LSP				*e*S	**Sn**	**10

λ81.00000°. Principal axes: T 1.6660, Plg82.0000°, Azm26.0000°; N 0.0700, Plg7.0000°, Azm172.0000°; P -1.7360, Plg5.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

BJI **29** 10:57:16.4, 3739N×6895E, h10km, mB5.6, mb5.0, Ms5.9, Msz5.7

MOS **29** 10:57:18.0±0.9, 3727N×6874E, h33km, mb5.5/80, MS5.3/47, Error ellipse: s-maj=5.5km s-min=3.1km az=43.7

CRAAG **29** 10:57:30.4, 3729N×6879E, Mw5.4

ISC 29 10:57:17.3±0.1, 3723N±002×6873E±002, h16km, h16km±1.8km: pP-P, n726, σ1s08/786, mb5.2/190, MS5.3/90, 69C-25D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h m s	ISC
TAS	**Tashkent**	**4.12**	**6**	*e*PN		**Pn**	**10 58 21.0**	**+1.4**
CEP	**Cherat**	**4.27**	**142**	P		**Pn**	**10 58 27.0**	**+5.3**
THW	**Thamme Wali**	**5.07**	**150**	P		**Pn**	**10 58 35.4**	**+2.8**
CHCP	**Chirah Chowk**	**5.13**	**133**	P		**Pn**	**10 58 36.1**	**+2.6**
DRP	**Derazinda**	**5.60**	**167**	P		**Pn**	**10 58 44.1**	**+4.2**
KK31	**Karatay Array**	**6.03**	**13**	Pn		**Pn**	**10 58 45.3**	**-0.5**
	258nm,0.7s,baz=217,slow=13,SNR=806							
KK31				⇑Pg		**Pg**	**10 59 05.4**	**-7.3**
	163nm,0.9s,baz=206,slow=14,SNR=4.0							
KK31				⇑Lg			11 00 26.6	
	2μm,1.0s,baz=238,slow=82,SNR=4.0							
KK31	**Karatay Array**	**6.03**	**13**	*i* P		**Pn**	**10 58 45.3**	**-0.5**
AML	**Almayashu**	**6.22**	**36**	P		**Pn**	**10 58 48.8**	**+0.3**
	SNR=131							
EKS2	**Erkin-Say**	**6.67**	**34**	P		**Pn**	**10 58 55.7**	**+1.1**
	SNR=117							
UCH	**Uchtor**	**6.70**	**40**	P		**Pn**	**10 58 55.8**	**+0.8**
	SNR=879							
AAK	**Ala-Archa**	**6.99**	**38**	*e*PN		**Pn**	**10 58 58.8**	**-0.2**
AAK				pmax		pmax		
	comp=Z,588nm,1.0s							
AAK	**Ala-Archa**	**6.99**	**38**	*e*Pn		**Pn**	**10 58 58.8**	**-0.2**
	comp=Z,588nm,1.0s							
KZA	**Kyzart**	**6.99**	**44**	P		**Pn**	**10 59 00.2**	**+1.2**
	SNR=567							
FRU	**Bishkek**	**7.20**	**37**	⇑*i*PN		**Pn**	**10 59 02.8**	**+1.0**
FRU				*i*			11 00 26.0	
FRU				*i*			11 00 53.0	
FRU				pmax		pmax		
	comp=Z,5μm,3.0s							
FRU				pmax		pmax		
	comp=Z,3μm,2.5s							
KBK	**Karagaybulak**	**7.23**	**39**	P		**Pn**	**10 59 03.1**	**+0.8**
	SNR=699							
CHMS	**Chumysh**	**7.38**	**37**	P		**Pn**	**10 59 04.7**	**+0.3**
	SNR=148							
USP	**Ospenovka**	**7.47**	**34**	P		**Pn**	**10 59 05.9**	**+0.2**
	SNR=14							
DLH	**Dalhousie**	**7.56**	**126**	*ex*		**Pn**	**10 59 10.0**	**+3.1**
DLH				*ex*		x	11 00 15.0	
ULHL	**Ulahol**	**7.66**	**47**	P		**Pn**	**10 59 09.3**	**+1.1**
	SNR=21							
TKM2	**Tokmak 2**	**7.75**	**41**	P		**Pn**	**10 59 10.6**	**+1.1**
	SNR=13							
TKM2	**Tokmak 2**	**7.75**	**41**	⇓Pn		**Pn**	**10 59 09.9**	**+0.4**
	comp=Z,45nm,0.8s							
TKM2				⇑Lg			11 01 28.5	
	comp=Z,2μm,2.3s							
PONG	**Pong**	**7.94**	**129**	*e*P		**Pn**	**10 59 15.0**	**+2.9**
ABKT	**Ailbek**	**8.45**	**278**	Pn		**Pn**	**10 59 16.0**	**-3.1**
	comp=Z,352nm,0.6s,SNR=17							
BHK	**Bhakra**	**8.60**	**130**	*ex*		**Pn**	**10 59 30.0**	**+8.9**
BHK				*ex*		x	11 02 15.4	
KNDC	**Almaty**	**8.69**	**44**	⇑Pn		**Pn**	**10 59 23.7**	**+1.3**
	comp=Z,954nm,0.9s							
KNDC				⇑Lg			11 01 51.6	
	comp=Z,5μm,1.6s							
AAA	**Alma-Ata**	**8.71**	**44**	*e*P		**Pn**	**10 59 23.0**	**+0.3**
AAA				*e*S		**Sn**	**11 01 07.0**	**+6.4**
AAA				pmax		pmax		
	comp=Z,4μm,2.0s							
AAA				smax				
	comp=E,82μm,3.5s							
AAA				MLR		MLR		
	comp=Z,720μm,8.0s							
SDNR	**Sundarnagar**	**8.89**	**128**	*e*P		**Pn**	**10 59 26.0**	**+0.9**
SMLA	**Simla**	**9.26**	**129**	*e*P		**Pn**	**10 59 31.5**	**+1.3**
SMLA				AMb		AMB	11 00 03.4	
	comp=Z,324nm,0.0s							
SMLA				*ex*		x	11 01 20.0	
KKR	**Kurukshetra**	**9.90**	**135**	*e*P		**Pn**	**10 59 38.2**	**-0.7**
KKR				*ex*		x	11 02 49.7	
DDI	**Dehra Dun**	**10.37**	**129**	*e*P		**Pn**	**10 59 47.1**	**+1.7**
DDI				*ex*		x	11 01 42.6	
JASL	**Jaisalmer**	**10.43**	**169**	*e*P		**Pn**	**10 59 45.4**	**-0.8**
JASL				*ex*		x	10 59 47.5	
KHET	**Khetri**	**10.90**	**145**	*e*P		**Pn**	**10 59 53.0**	**+0.4**
KHET				AMb		AMB	10 59 57.4	
	comp=Z,41nm,1.2s							
KHET				*ex*		x	11 01 53.3	
BHGR	**Bahadurgarh**	**10.95**	**139**	*e*P		**Pn**	**10 59 54.3**	**+1.0**
BHGR				AMb		AMB	10 59 56.1	
	comp=Z,166nm,0.6s							
NDI	**New Delhi**	**11.10**	**138**	*e*P		**Pn**	**10 59 54.9**	**-0.5**
NDI				AMb		AMB	11 00 00.6	
	comp=Z,277nm,1.1s							
NDI				*e*S		**Sn**	**11 01 47.0**	**-12**
JOSI	**Joshimath**	**11.19**	**123**	*ex*		x	10 59 45.0	
JOSI				*ex*		x	11 01 03.9	
AYAN	**Aya Nagar**	**11.21**	**139**	*e*P		**Pn**	**10 59 55.7**	**-1.2**
AYAN				AMb		AMB	10 59 59.8	
	comp=Z,161nm,1.2s							
AYAN				*ex*		x	11 02 01.7	
ASOR	**Ausora**	**11.35**	**135**	*e*P		**Pn**	**10 59 58.6**	**-0.2**
KALG	**Kalgarh**	**11.37**	**130**	*ex*		x	10 59 34.8	
KALG				*e*S		**Sn**	**11 01 55.1**	**-11**
AJM	**Ajmer**	**11.83**	**153**	*e*P		**Pn**	**11 00 05.5**	**+0.2**
AJM				AMb		AMB	11 00 09.5	
	comp=Z,39nm,1.4s							
AJM				*ex*		x	11 02 15.4	
PTH	**Pithoragarh**	**12.27**	**125**	*ex*		x	11 00 21.8	
PTH				*ex*		x	11 02 34.6	
LGTI	**Lohaghat**	**12.36**	**126**	*i* P		**Pn**	**11 00 08.5**	**-4.0**
LGTI				*ex*		x	11 03 40.0	
AGRA	**Agra**	**12.65**	**139**	*e*P		**Pn**	**11 00 14.3**	**-2.2**
AGRA				AMb		AMB	11 00 16.3	
	comp=Z,53nm,0.2s							
AGRA				*ex*		x	11 02 38.1	
AB31	**Akbulak array**	**13.61**	**335**	⇑P		**Pn**	**11 00 25.1**	**-4.6**
	comp=Z,40nm,0.7s							
AB31				⇓S		**Sn**	**11 02 49.4**	**-11**
	comp=Z,91nm,0.9s,baz=168,slow=21,SNR=6.3							
AB31				⇓Lg			11 04 26.1	
	comp=Z,665nm,1.5s							
MK05	**Makanchi Array**	**13.88**	**42**	⇑P		**Pn**	**11 00 31.5**	**-1.8**
	comp=Z,143nm,1.1s							
MK05				⇑Lg			11 04 44.1	
	comp=Z,170nm,1.2s							
MKAR	**Makanchi Array**	**13.88**	**42**	Pn		**Pn**	**11 00 31.6**	**-1.7**
	comp=Z,1.5nm,0.3s,baz=230,slow=11,SNR=233							
KURK	**Kurchatov**	**15.23**	**25**	⇑P		**Pn**	**11 00 46.8**	**-4.8**
	comp=Z,94nm,1.4s							
KURK				⇓Lg			11 05 15.3	
	comp=Z,2μm,2.4s							
AKTK	**Aktyubinsk**	**15.28**	**333**	Pn		**Pn**	**11 00 48.4**	**-3.9**
AKTK				Lg			11 05 31.4	
AKTK				LR		LR	11 06 40.7	
AKTO	**Aktyubinsk**	**15.28**	**333**	⇑P		**Pn**	**11 00 48.4**	**-3.9**
	comp=Z,7.5nm,1.3s							
AKTO				⇓S		**Sn**	**11 03 33.6**	**-7.6**
	comp=Z,5.5nm,1.4s							
AKTO				⇑Lg			11 05 18.7	
	comp=Z,98nm,2.2s							
AKTO	**Aktyubinsk**	**15.28**	**333**	Pn		**Pn**	**11 00 48.4**	**-3.9**
	comp=Z,1.0nm,0.3s,baz=150,slow=14,SNR=56							
AKTO				Lg			11 05 31.4	
	comp=Z,0.8nm,0.3s,baz=55,slow=23,SNR=4.1							
AKTO				LR		LR	11 06 40.7	
	comp=Z,6μm,20.3s,baz=146,slow=37							
VOSK	**Vostochnaya**	**15.58**	**5**	⇑P		**Pn**	**11 00 51.9**	**-4.3**
	comp=Z,166nm,1.2s							
VOSK				⇑Lg			11 05 33.5	
	comp=Z,2μm,2.4s							
KOLN	**Koldanda**	**15.68**	**123**	*e*P		**Pn**	**11 00 53.7**	**-3.8**
	comp=Z,236nm,0.7s							
ZRNK	**Zerenda**	**15.73**	**1**	⇓P		**Pn**	**11 00 54.2**	**-3.9**
	comp=Z,242nm,1.2s							
ZRNK				⇓Lg			11 05 42.9	
	comp=Z,3μm,2.2s							
ZRNK	**Zerenda**	**15.73**	**1**	*e*Pn		**Pn**	**11 00 54.1**	**-4.0**
	comp=Z,13μm,1.1s							
BHPL	**Bhopal**	**15.82**	**149**	*i* x		**Pn**	**11 01 05.6**	**+6.2**
BHPL				*i* x		x	11 03 50.1	
WMQ	**Urumqi**	**15.84**	**60**	P		**Pn**	**11 01 01.0**	**+1.4**
WMQ				AP		pP	11 01 04.5	-3.2
WMQ				XP		sP	11 01 08.0	-1.8
WMQ				PP			11 01 13.8	
WMQ				S		**Sn**	**11 03 56.3**	**+1.4**
WMQ				XS		sS	11 04 01.8	-14
WMQ				PCP		PcP	11 06 01.0	+2.8
WMQ				SCP		ScP	11 09 33.3	+1.5
WMQ				SCS		ScS	11 13 10.8	+0.3
WMQ				AMB		AMB		
	comp=Z,256nm,1.1s							
WMQ				AMB		AMB		
	comp=Z,1μm,3.8s							
WMQ				LR		LR		
	comp=N,46μm,10.4s							
WMQ				LR		LR		
	comp=E,26μm,8.5s							
WMQ				LR		LR		
	comp=Z,46μm,11.0s							
BVA0	**Borovoye Array**	**15.84**	**4**	P		**Pn**	**11 00 54.8**	**-4.8**
	comp=Z,64nm,1.6s,baz=217,slow=35,SNR=406							
BVA0				⇓S		**Sn**	**11 04 06.4**	**+11**
	comp=Z,116nm,2.2s,baz=176,slow=18,SNR=6.4							
BVA0				⇑Lg			11 05 36.0	
	comp=Z,321nm,3.2s,baz=171,slow=23,SNR=4.4							
BVAR	**Borovoye Array**	**15.84**	**4**	Pn		**Pn**	**11 00 55.6**	**-4.1**
	comp=Z,1.8nm,0.3s,baz=172,slow=12,SNR=48							
BVAR				Lg			11 05 41.5	
	baz=192,slow=21,SNR=2.8							
BVAR				LR		LR	11 07 42.1	
	comp=Z,7μm,19.8s,baz=139,slow=40							
GKN	**Gorkha**	**16.24**	**120**	*e*P		**Pn**	**11 01 00.7**	**-4.0**
	comp=Z,2μm,1.1s							
WSAR	**Wadi Sarin**	**16.43**	**215**	Pn		**Pn**	**11 01 06.5**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=24,slow=13,SNR=5.4							
CHKZ	**Chkalovo**	**16.50**	**4**	⇑P		**Pn**	**11 01 04.1**	**-4.0**
	comp=Z,71nm,0.8s							
CHKZ				⇑S		**Sn**	**11 04 17.6**	**+6.6**
	comp=Z,318nm,1.9s							
CHKZ				⇑Lg			11 05 60.0	
	comp=Z,818nm,2.8s							
CHKZ	**Chkalovo**	**16.50**	**4**	*e*P		**Pn**	**11 01 04.7**	**-3.4**
CHKZ				pmax		pmax		
	comp=Z,240nm,1.1s							
CHKZ	**Chkalovo**	**16.50**	**4**	*e*Pn		**Pn**	**11 01 04.7**	**-3.5**
	comp=Z,240nm,1.1s							
DMN	**Daman**	**16.81**	**120**	*e*P		**Pn**	**11 01 08.5**	**-3.4**
	comp=Z,748nm,0.8s							
KKN	**Kakani**	**16.82**	**119**	*e*P		**Pn**	**11 01 08.4**	**-3.7**
	comp=Z,844nm,0.6s							
KKN	**Kakani**	**16.82**	**119**	*e*P		**Pn**	**11 01 08.4**	**-3.7**
KKN				pmax		pmax		
	comp=Z,844nm,0.6s							
JBP	**Jabalpur**	**17.04**	**142**	⇓*i*P		**Pn**	**11 01 13.8**	**-1.1**
JBP				*ex*		x	11 01 22.4	
	comp=Z,185nm,1.9s							
JBP				*e*S		**Sn**	**11 04 23.0**	**-0.9**
PKI	**Pulchoki**	**17.04**	**120**	*e*P		**Pn**	**11 01 11.5**	**-3.4**
	comp=Z,1μm,0.8s							
PKI	**Pulchoki**	**17.04**	**120**	*e*P		**Pn**	**11 01 11.5**	**-3.4**
PKI				pmax		pmax		
	comp=Z,1μm,0.8s							
GUN	**Gumba**	**17.16**	**118**	*e*P		**Pn**	**11 01 12.6**	**-3.8**
	comp=Z,2μm,1.0s							
MAK	**Makhachkala**	**17.20**	**296**	*i* P		**Pn**	**11 01 17.3**	**+0.4**
MAK				*e*S		**Sn**	**11 04 32.7**	**+4.7**
MAK				pmax		pmax		
	comp=Z,347nm,2.0s							
MAK				MLR		MLR		
	comp=Z,45μm,20.0s							
JIRN	**Jiri**	**17.53**	**118**	*e*P		**Pn**	**11 01 17.2**	**-3.8**
	comp=Z,1μm,1.0s							
AKL	**Akola**	**17.97**	**154**	*e*P		**Pn**	**11 01 26.5**	**0.0**
AKL				AMb		AMB	11 01 35.0	
	comp=Z,268nm,1.7s							
AKL				*e*S		**Sn**	**11 04 44.3**	**-2.3**
NGP	**Nagpur**	**18.36**	**148**	*ex*		x	11 01 23.5	
NGP				*ex*		x	11 01 53.9	
	comp=Z,175nm,1.0s							
NGP				*ex*		x	11 04 43.5	
DGRG	**David-gareji**	**18.54**	**290**	P		**Pn**	**11 01 32.0**	**-1.4**
DGRG	**David-gareji**	**18.54**	**290**	P		**Pn**	**11 01 31.6**	**-1.8**
GNI	**Garni**	**18.94**	**286**	*e*P		**Pn**	**11 01 37.4**	**-0.9**
GNI	**Garni**	**18.94**	**286**	P		**Pn**	**11 01 37.6**	**-0.6**
	comp=Z,3.3nm,0.3s,baz=230,slow=0.6,SNR=22							
GNI				LR		LR	11 10 52.0	
	comp=Z,8μm,18.0s,baz=96,slow=43							
GNI	**Garni**	**18.94**	**286**	*d* iP		**Pn**	**11 01 38.8**	**+0.5**
GNI				pmax		pmax		
	comp=Z,228nm,2.2s							
BLSP	**Bilaspur**	**18.99**	**139**	*ex*		x	11 01 32.2	
BLSP				*ex*		x	11 05 19.0	
MTA	**Mtatsminda**	**18.99**	**291**	P		**Pn**	**11 01 37.3**	**-1.6**
MTA	**Mtatsminda**	**18.99**	**291**	P		**Pn**	**11 01 37.0**	**-1.9**
TBLG	**Delisi**	**19.04**	**291**	P		**Pn**	**11 01 37.6**	**-1.8**
TBLG	**Delisi**	**19.04**	**291**	P		**Pn**	**11 01 37.2**	**-2.3**
UMR	**Umm Al-Rimmam**	**19.12**	**253**	*e*P		**Pn**	**11 01 40.3**	**-0.1**
UMR				AMb		AMB	11 01 46.9	
	comp=Z,259nm,1.5s							
POO	**Poona**	**19.16**	**165**	⇓*i*P		**Pn**	**11 01 40.0**	**-0.9**
	comp=Z,60nm,1.0s							
POO				*i* x		x	11 03 15.0	
POO				*ex*		x	11 03 45.0	
KBD	**Kabd**	**19.32**	**252**	*e*P		**Pn**	**11 01 42.0**	**-0.8**
KBD				AMb		AMB	11 01 49.2	
	comp=Z,724nm,1.6s							
QRN	**Al-Qurain**	**19.37**	**250**	*e*P		**Pn**	**11 01 43.2**	**-0.2**
QRN				AMb		AMB	11 01 47.3	
	comp=Z,216nm,1.4s							
RDF	**Al-Radifah**	**19.55**	**251**	*e*P		**Pn**	**11 01 44.4**	**-1.3**
RDF				AMb		AMB	11 01 52.6	
	comp=Z,123nm,1.0s							
CLDR	**Caldiran**	**19.59**	**283**	*e*P		**Pn**	**11 01 46.3**	**+0.3**
NAY	**Al-Naaiem**	**19.63**	**252**	*e*P		**Pn**	**11 01 45.8**	**-0.7**
NAY				AMb		AMB	11 01 50.5	
	comp=Z,94nm,1.4s							
ZEI	**Tsey**	**19.78**	**294**	*e*P		**Pn**	**11 01 46.0**	**-2.3**
BOK	**Bokaro**	**19.90**	**127**	*e*P		**Pn**	**11 01 48.0**	**-1.8**
BOK				AMb		AMB	11 01 50.7	
	comp=Z,88nm,0.7s							
BOK				*ex*		x	11 05 23.9	
LATR	**Latur**	**19.96**	**158**	*ex*		**Sn**	**11 05 39.0**	**+4.4**
CUKT	**Cukurca**	**19.99**	**278**	*e*P		**Pn**	**11 01 50.1**	**-0.7**
DIGO	**Kars**	**19.99**	**287**	*i* P		**Pn**	**11 01 50.9**	**+0.1**
TVAN	**Van**	**20.02**	**281**	*i* P		**P**	**11 01 55.9**	**+6.5**
VANB	**Van**	**20.03**	**282**	*e*P		**P**	**11 01 52.5**	**+3.0**
ZAL	**Zalesovo**	**20.06**	**28**	P		**P**	**11 01 47.5**	**-2.3**
	comp=Z,39nm,0.7s,baz=251,slow=11,SNR=70							
ZAL				S		**S**	**11 05 35.6**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=251,slow=23,SNR=2.0							
ZAL				LR		LR	11 11 05.3	
	comp=Z,9μm,21.7s,MS5.0,baz=250,slow=41							
ZAL	**Zalesovo**	**20.06**	**28**	P		**P**	**11 01 47.5**	**-2.4**
ZAL				S		**S**	**11 05 35.6**	**+0.8**
ONI	**Oni**	**20.08**	**293**	P		**P**	**11 01 51.0**	**+0.9**
KARS	**Kars**	**20.21**	**288**	*e*P		**P**	**11 01 54.8**	**+3.4**
NVS	**Novosibirsk**	**20.22**	**25**	*i* P		**P**	**11 01 48.8**	**-2.8**
NVS				*i* S		**S**	**11 05 34.7**	**-3.2**
NVS				pmax		pmax		
	comp=Z,149nm,1.0s							
NVS				pmax		pmax		
	comp=N,162nm,1.2s							
NVS				pmax		pmax		
	comp=E,47nm,0.7s							
NVS				smax				
	comp=N,478nm,1.9s							
NVS				smax				
	comp=E,303nm,1.9s							
BHD	**Baghdad**	**20.26**	**266**	*i* x		x	11 01 50.0	
BHD				*i* x		x	11 03 20.0	
BHD				*i* x		x	11 04 16.0	
BHD				*ex*		x	11 05 40.0	
BHD				*ex*		x	11 07 32.0	
SVE	**Sverdlovsk**	**20.34**	**347**	*α* iP		**P**	**11 01 50.9**	**-2.0**
SVE				*e*			11 02 06.0	
SVE				*e*S		**S**	**11 05 40.0**	**-0.4**
SVE				*e*SS			11 06 12.0	
SVE				pmax		pmax		
	comp=N,2μm,3.0s							
SVE				pmax		pmax		
	comp=E,1μm,3.0s							
SVE				pmax		pmax		
	comp=Z,3μm,3.0s							
SVE				MLR		MLR		
	comp=N,10μm,9.0s							
SVE				MLR		MLR		
	comp=E,12μm,9.0s							
SVE				MLR		MLR		
	comp=Z,20μm,9.0s							
ARU	**Arti**	**20.39**	**344**	P		**P**	**11 01 53.7**	**+0.3**
	comp=Z,475nm,1.1s,SNR=31							
ARU	**Arti**	**20.39**	**344**	*e*P		**P**	**11 01 51.7**	**-1.7**
ARU				*e*			11 02 07.2	
ARU				*e*PPP			11 02 16.0	
ARU				*e*S		**S**	**11 05 41.0**	**-0.3**
ARU				*e*SS			11 06 05.5	
ARU				*e*SSS			11 06 16.0	
ARU				MLR		MLR		
	comp=Z,6μm,16.0s,MS5.0							
ARU				MLR		MLR		
	comp=N,4μm,15.0s,MS5.0							
ARU				MLR		MLR		
	comp=E,3μm,15.0s,MS5.0							
ARU	**Arti**	**20.39**	**344**	*e*P		**P**	**11 01 51.6**	**-1.8**
	comp=E,164nm,1.1s							
KAD	**Karad**	**20.42**	**165**	*e*P		**P**	**11 01 53.6**	**-0.1**
KAD				*ex*		x	11 08 21.3	
MSL	**Mosul**	**20.55**	**275**	*ex*		x	11 02 01.5	
MSL				*ex*		x	11 02 22.0	
MSL				*ex*		x	11 02 40.0	
MSL				*ex*		x	11 05 53.0	
MSL				*ex*		x	11 06 08.0	
MSL				*ex*		x	11 06 18.5	
MSL				*ex*		x	11 06 30.0	
MSL				*ex*		x	11 09 20.0	
MSL				*ex*		x	11 10 48.0	
GOF	**Gofitskoye**	**20.81**	**300**	⇑*i*P		**P**	**11 01 57.2**	**-0.8**
GOF				*i* S		**S**	**11 05 47.4**	**-2.3**
GOF				pmax		pmax		
	comp=Z,310nm,1.2s							
GOF				smax				
	comp=E,240nm,1.4s							
KIV	**Kislovodsk**	**20.84**	**297**	*c* iP		**P**	**11 01 57.5**	**-0.8**
KIV				*e*			11 02 15.1	
KIV				*i* S		**S**	**11 05 48.4**	**-1.8**
KIV				pmax		pmax		
	comp=Z,97nm,1.3s							
KIV				MLR		MLR		
	comp=Z,11μm,17.0s,MS5.3							
KIV	**Kislovodsk**	**20.84**	**297**	*e*P		**P**	**11 01 58.0**	**-0.3**
	comp=Z,164nm,1.0s							
BCA	**Borcka**	**21.35**	**290**	*e*P		**P**	**11 02 05.2**	**+1.5**
ERZM	**Erzurum**	**21.53**	**286**	*i* P		**P**	**11 02 10.8**	**+5.0**
EZM	**Erzurum**	**21.54**	**286**	*e*P		**P**	**11 02 09.0**	**+3.2**
HYB	**Hyderabad**	**21.55**	**154**	*i* P		**P**	**11 02 07.5**	**+1.6**
	comp=Z,667nm,1.5s,mb5.8							
HYB				*e*PP			11 02 32.0	
HYB				*e*S		**S**	**11 06 02.0**	**-2.2**
HYB				LR		LR	11 09 12.0	
	comp=Z,17nm,14.0s							
HYB	**Hyderabad**	**21.55**	**154**	*e*P		**P**	**11 02 07.5**	**+1.6**
HYB				*e*S		**S**	**11 06 06.0**	**+1.8**
HYB				pmax		pmax		
	comp=Z,667nm,1.5s,mb5.8							
HYB	**Hyderabad**	**21.55**	**154**	*e*P		**P**	**11 02 07.5**	**+1.6**
	comp=Z,667nm,1.5s,mb5.8							
HYB				*e*S		**S**	**11 06 06.0**	**+1.8**
BNGL	**BINGOL**	**21.75**	**283**	*i* P		**P**	**11 02 11.4**	**+3.4**
BEST	**Besiri**	**21.75**	**280**	*i* P		**P**	**11 02 11.4**	**+3.3**
MARD	**Mardin**	**22.21**	**279**	*i* P		**P**	**11 02 13.8**	**+0.7**
CAL	**Calcutta**	**22.36**	**125**	*e*P		**P**	**11 02 12.6**	**-2.0**
CAL				*ex*		x	11 06 26.3	
EZC	**Erzincan**	**22.73**	**285**	*e*P		**P**	**11 02 22.2**	**+3.7**
MACK	**Trabzon**	**22.74**	**288**	*i* P		**P**	**11 02 19.4**	**+0.8**
SOC	**Sochi**	**22.92**	**295**	*d* iP		**P**	**11 02 21.5**	**+1.0**
SOC				*e*PPP			11 02 52.7	
SOC				*e*S		**S**	**11 06 32.3**	**+2.4**
SOC				pmax		pmax		
	comp=Z,89nm,1.4s,mb5.0							
SOC				pmax		pmax		
	comp=Z,2μm,4.6s							
SOC				MLR		MLR		
	comp=Z,10μm,19.0s,MS5.3							
KELT	**Kelkit**	**23.14**	**286**	*i* P		**P**	**11 02 24.0**	**+1.1**
VIS	**Vishakhapatnam**	**23.30**	**143**	*e*P		**P**	**11 02 23.4**	**-1.1**
VIS				AMb		AMB	11 02 31.3	
	comp=Z,206nm,2.4s,mb5.1							
ELZG	**Elazig**	**23.48**	**282**	*i* P		**P**	**11 02 28.6**	**+2.2**
ELZG	**Elazig**	**23.48**	**282**	*i* P		**P**	**11 02 34.4**	**+8.0**
SOKR	**Solikamsk**	**23.65**	**345**	*c* iP		**P**	**11 02 27.1**	**-0.9**
SOKR				S		**S**	**11 06 42.8**	**+0.9**
SOKR				pmax		pmax		
	comp=Z,470nm,3.0s							
SOKR				MLR		MLR		
	comp=Z,5μm,15.0s,MS5.1							
VRHR	**Novokhopersk**	**23.71**	**314**	*e*P		**P**	**11 02 28.1**	**-0.5**
VRHR				*e*S		**S**	**11 06 37.0**	**-5.9**
VRHR				pmax		pmax		
	comp=E,150nm,0.9s							
VRHR				pmax		pmax		
	comp=Z,150nm,0.9s,mb5.4							
VRHR				pmax		pmax		
	comp=N,200nm,1.4s							
VRHR				smax				
	comp=N,2μm,14.4s							
VRHR				smax				
	comp=Z,470nm,10.4s							
VRHR				smax				
	comp=E,780nm,14.0s							
VRHR				MLR		MLR		
	comp=N,2μm,9.0s							
VRHR				MLR		MLR		
	comp=Z,1μm,9.0s							
VRHR				MLR		MLR		
	comp=E,760nm,13.0s							
URFA	**Urfa**	**23.74**	**280**	*e*P		**P**	**11 02 28.4**	**-0.5**
GRSN	**GIRESUNGRSN**	**23.87**	**288**	*i* P		**P**	**11 02 31.8**	**+1.7**
MALT	**Malatya**	**23.93**	**282**	⇑*i*P		**P**	**11 02 32.3**	**+1.7**
MALT	**Malatya**	**23.93**	**282**	*e*P		**P**	**11 02 31.9**	**+1.3**
MAL

comp=N,1μm,3.5s
VRSR smax
comp=Z,520nm,6.0s
VRSR MLR MLR
comp=Z,4μm,18.0s,MS5.0
VRSR MLR MLR
comp=N,2μm,11.0s
VRSR MLR MLR
comp=E,5μm,19.0s
PECR Pechory 25.25 327 *de*P **P 11 02 40.6 -2.0**
PECR *e* 11 03 16.7
PECR *e*S **S 11 07 07.0 -0.7**
PECR *e*SS 11 08 02.6
PECR pmax pmax
comp=Z,240nm,2.0s,mb5.4
PECR pmax pmax
comp=E,800nm,4.0s
PECR pmax pmax
comp=Z,1μm,4.0s
PECR pmax pmax
comp=N,500nm,3.0s
PECR smax
comp=N,2μm,12.0s
PECR smax
comp=E,2μm,12.0s
PECR MLR MLR
comp=Z,11μm,16.0s,MS5.5
PECR MLR MLR
comp=N,8μm,10.0s
PECR MLR MLR
comp=E,6μm,10.0s
VOR Voronezh 25.36 314 *e*P **P 11 02 43.0 -0.6**
VOR pmax pmax
comp=N,280nm,1.3s
VOR pmax pmax
comp=E,430nm,1.3s
VOR pmax pmax
comp=Z,370nm,1.3s,mb5.8
COBT Iskenderun 25.92 278 *i* P **P 11 02 52.2 +3.4**
KOZT Kozan 26.09 281 *e*P **P 11 02 50.1 -0.1**
DIKM Dikmen 26.13 290 *e*P **P 11 02 44.0 -6.6**
MDRS Chennai 26.17 154 *ex* **P 11 02 50.3 -0.7**
BOYT Boyabat 26.40 290 *i* P **P 11 02 54.5 +1.5**
ASF Jabal al Asfar 26.58 269 P **P 11 02 56.4 +1.8**
comp=Z,4.9nm,0.8s,mb4.1,baz=312,slow=4.2,SNR=11
ASF LR LR 11 16 10.5
comp=Z,15μm,18.1s,MS5.6,baz=116,slow=43
AVNT Avonos 26.65 284 *i* P **P 11 02 56.7 +1.4**
CORM Corum 26.68 287 *e*P **P 11 02 56.3 +0.7**
KARA Karaisali 26.73 280 *e*P **P 11 02 55.8 -0.2**
MOY Mondy 26.92 47 *e*P **P 11 02 59.0 +1.3**
MOY pmax pmax
comp=Z,280nm,2.7s,mb5.3
CDAG Cicekdag 26.93 286 *i* P **P 11 02 58.9 +1.1**
SIM Simferopol' 27.05 298 *de*P **P 11 02 59.8 +0.9**
SIM pmax pmax
comp=Z,73nm,1.0s,mb5.2
TOS Tosya 27.08 289 *e*P **P 11 03 00.6 +1.5**
MERS Mersin 27.22 280 *e*P **P 11 03 00.5 +0.1**
CANT Cankiri 27.41 288 *e*P **P 11 03 04.4 +2.2**
KAMT Kaman 27.46 285 *e*P **P 11 03 03.2 +0.6**
BR131 Keskin Array S 27.48 286 *e*P **P 11 03 03.0 +0.2**
BRTR Keskin Array B 27.48 286 P **P 11 03 03.2 +0.5**
comp=Z,5.9nm,0.5s,mb4.3,baz=104,slow=9.4,SNR=23
BRTR LR LR 11 16 21.8
comp=Z,4μm,21.4s,MS5.0,baz=246,slow=42
MMAI Mount Meron Ar 27.50 271 LR LR 11 16 19.7
comp=Z,5μm,18.6s,MS5.1,baz=70,slow=42
BALT Daday 27.53 290 *i* P **P 11 03 04.5 +1.2**
ELDT Eldivan 27.57 288 *i* P **P 11 03 05.0 +1.4**
MEST Erdemli 27.57 279 *i* P **P 11 03 06.6 +3.0**
ZAK Zakamensk 27.92 51 ⇑ *i*P **P 11 03 07.7 +1.0**
ZAK *e* 11 04 07.6
ZAK pmax pmax
comp=Z,150nm,1.1s,mb5.5
MOS Moscow 27.95 321 *e*P **P 11 03 04.3 -2.7**
MOS *e*PPP 11 04 01.2
MOS *e* 11 06 20.0
MOS *e*S **S 11 07 50.4 0.0**
MOS *e*SS 11 09 09.4
MOS pmax pmax
comp=Z,900nm,3.0s
MOS pmax pmax
comp=Z,193nm,1.6s,mb5.5
MOS MLR MLR
comp=Z,5μm,17.1s,MS5.2
MOS MLR MLR
comp=N,5μm,14.2s
IKL Isikli 28.01 279 *e*P **P 11 03 07.1 -0.4**
SAFT Safranbolu 28.07 289 *e*P **P 11 03 10.0 +1.9**
LZH Lanzhou 28.10 82 *e*P **P 11 03 09.3 +1.0**
LZH AP pP 11 03 15.0 +1.9
LZH XP sP 11 03 19.0 +4.0
LZH AMB AMB
comp=Z,380nm,1.4s,mb5.8
LZH AMB AMB
comp=Z,1μm,4.5s
LZH LR LR
comp=N,20μm,11.0s
LZH LR LR
comp=Z,22μm,12.7s,MS5.9
ANTO Ankara 28.11 287 *e*P **P 11 03 08.1 -0.3**
OBN Obninsk 28.20 320 *c* *i*P **P 11 03 08.3 -0.9**
OBN *e* 11 04 02.7
OBN *i*S **S 11 08 00.0 +5.7**
OBN pmax pmax
comp=Z,122nm,1.5s,mb5.3
OBN MLR MLR
comp=Z,3μm,15.0s,MS5.1
OBN Obninsk 28.20 320 *e*P **P 11 03 08.6 -0.7**
TLY Talaya 28.49 48 ⇑ *i*P **P 11 03 13.0 +1.2**
TLY *e* 11 04 09.7
TLY *e*S **S 11 08 01.8 +3.0**
TLY *e*SSS 11 09 47.6
TLY pmax pmax
comp=Z,43nm,1.1s,mb5.0
TLY MLR MLR
comp=Z,6μm,14.0s,MS5.3
TLY Talaya 28.49 48 *e*P **P 11 03 10.4 -1.4**
ERMK Ermenek 28.53 280 *i* P **P 11 03 12.6 +0.5**
SGKT Sivrigoynuk 28.60 288 *i* P **P 11 03 14.2 +1.4**
KONT Konya--Tatoy 28.72 283 *e*P **P 11 03 14.2 +0.4**
HDMB Hadim 28.80 281 *e*P **P 11 03 12.8 -1.7**
KDHN Kadinhani 28.81 284 *i* P **P 11 03 14.4 -0.2**
KIZT Kizilcal 28.94 285 *e*P **P 11 03 14.7 -1.1**
KDZE Karadeniz Ereo 29.01 290 *e*P **P 11 03 15.7 -0.7**
IRK Irkutsk 29.03 47 *e*P **P 11 03 17.1 +0.6**
IRK pmax pmax
comp=Z,196nm,2.5s,mb5.4
EIL Elat 29.06 265 *e*P **P 11 03 17.2 +0.4**
SONM Songino Array 29.45 57 P **P 11 03 20.6 +0.3**
comp=Z,11nm,0.8s,mb4.7,baz=261,slow=8.2,SNR=40
SONM LR LR 11 16 19.4
comp=Z,22μm,21.2s,MS5.8,baz=270,slow=39
TRD Trivandrum 29.55 163 ⇓ *ex* x 11 08 46.0
TRD *i* x 11 12 19.0
CD2 Chengdu 29.58 92 ⇓ *i*P **P 11 03 23.0 +1.6**
CD2 XP sP 11 03 30.0 +1.8
CD2 PP PP 11 04 16.5 -12
CD2 S **S 11 08 10.8 -5.1**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
CD2 AMB AMB
comp=Z,260nm,5.8s
CD2 LR LR
comp=N,7μm,12.0s
CD2 LR LR
comp=Z,7μm,11.4s,MS5.5
ESKT Eskisehir 29.64 286 *i* P **P 11 03 22.8 +0.8**
ULN Ulaanbaatar 29.89 57 *c* *i*P **P 11 03 24.9 +0.7**
ULN Ulaanbaatar 29.89 57 *e*P **P 11 03 24.7 +0.5**
BORA Eskisehir 29.90 287 *i* P **P 11 03 24.7 +0.4**
KLMR Klimovskoe 29.97 331 *c* *i*P **P 11 03 23.4 -1.5**
KLMR *e*S **S 11 08 13.7 -8.3**
KLMR pmax pmax
comp=Z,90nm,1.1s,mb5.4
KLMR pmax pmax
comp=Z,70nm,4.1s
KLMR MLR MLR
comp=Z,6μm,18.0s,MS5.3
ISP Isparta 30.18 283 *e*P **P 11 03 25.6 -1.2**
ISP Isparta 30.18 283 *e*P **P 11 03 23.5 -3.2**
TKTP Tekketepe 30.29 283 *i* P **P 11 03 30.2 +2.4**
ADVT Abdulvahap 30.38 288 *e*P **P 11 03 25.6 -2.9**

GEMT Gemlik 30.79 288 *e*P **P 11 03 30.3 -1.9**
KLYT Kilyos 30.81 290 *e*P **P 11 03 32.2 -0.2**
ISK Istanbul-Kandi 30.82 290 *e*P **P 11 03 31.7 -0.7**
ISK Istanbul-Kandi 30.82 290 *e*P **P 11 03 29.9 -2.5**
ULDT Uludag 30.87 288 *i* P **P 11 03 33.5 +0.7**
KIS Kishinev 30.88 301 *e*P **P 11 03 32.0 -1.0**
KIS *e* 11 04 30.0
KIS *e*S **S 11 08 34.0 -2.3**
KIS pmax pmax
comp=Z,600nm,4.0s
AKASG Malin Array Be 31.07 308 P **P 11 03 33.8 -0.8**
comp=Z,7.5nm,0.6s,mb4.7,baz=89,slow=7.3,SNR=33
AKASG LR LR 11 17 49.4
comp=Z,3μm,21.4s,MS4.9,baz=95,slow=40
AKBB Malin Array Si 31.07 308 *e*P **P 11 03 34.1 -0.5**
PSN Preselentsi 31.28 295 *i* P **P 11 03 36.5 0.0**
ELBA Catalca 31.28 290 *i* P **P 11 03 36.4 -0.1**
KMI Kunming 31.34 103 P **P 11 03 37.8 +0.8**
KMI AP pP 11 03 40.5 -1.3
KMI PP PP 11 04 41.3 -6.5
KMI PPP 11 04 56.3
KMI S **S 11 08 43.8 +0.4**
KMI XS sS 11 08 49.0 -2.3
KMI SS SS 11 10 30.8 -27
KMI SSS 11 10 53.0
KMI AMB AMB
comp=Z,21nm,2.0s,mb4.6
KMI AMB AMB
comp=Z,372nm,3.4s
KMI LR LR
comp=N,4μm,11.9s
KMI LR LR
comp=E,5μm,19.0s
KMI LR LR
comp=Z,8μm,19.0s
PALK Pallekele 31.74 157 *e*P **P 11 03 42.1 +1.5**
AKHS Akhisar 32.07 286 *i* P **P 11 03 43.6 +0.2**
BTO Baotou 32.10 71 *e*P **P 11 03 44.3 +0.6**
BTO S **S 11 08 50.0 -5.3**
BTO LR LR
comp=N,4μm,15.7s,MS5.3
BTO LR LR
comp=E,3μm,15.3s,MS5.3
CHG Chiang Mai 32.17 116 ⇓ P **P 11 03 45.8 +1.5**
CHTO Chiang Mai 32.17 116 *e*P **P 11 03 44.6 +0.3**
CHTO pmax pmax
comp=Z,11nm,0.7s,mb4.8
CHTO Chiang Mai 32.17 116 *e*P **P 11 03 44.6 +0.3**
comp=Z,11nm,0.7s,mb4.8
RKY Sarkoy-Tekirda 32.28 289 *e*P **P 11 03 45.4 +0.1**
VRI Vrincioaia 32.28 299 ⇑ *i*P **P 11 03 46.4 +1.1**
VRI Vrincioaia 32.28 299 ⇑ P **P 11 03 46.4 +1.1**
PLOR Plostina 32.34 299 ⇑ *i*P **P 11 03 47.4 +1.6**
EDRB Edirne 32.47 291 *e*P **P 11 03 44.0 -2.9**
JMB Yambol 32.53 293 *e*P **P 11 03 48.5 +1.1**
JMB Yambol 32.53 293 *i* P **P 11 03 47.2 -0.3**
XAN Xi'an 32.65 83 P **P 11 03 49.0 +0.5**
XAN AP pP 11 03 55.5 +2.2
XAN AMB AMB
comp=Z,19nm,2.0s,mb4.7
XAN AMB AMB
comp=Z,260nm,6.6s
XAN LR LR
comp=N,6μm,13.4s,MS5.6
XAN LR LR
comp=E,7μm,15.6s,MS5.6
XAN LR LR
comp=Z,11μm,15.6s,MS5.7
DAT Datca 32.70 282 *e*P **P 11 03 45.4 -3.5**
MNK Minsk 32.73 315 *e*P **P 11 03 46.0 -3.2**
MNK *e*PPP 11 05 00.0
MNK *e*S **S 11 08 52.0 -13**
MNK *e*SSS 11 11 00.0
MNK MLR MLR
comp=N,13μm,12.0s,MS6.0
MNK MLR MLR
comp=E,13μm,12.0s,MS6.0
MNK MLR MLR
comp=Z,22μm,9.0s
BLCB Balcova 32.76 285 *e*P **P 11 03 50.5 +1.0**
BODT Bodrum 32.83 283 *e*P **P 11 03 48.6 -1.5**
MLR Muntele Rosu 32.84 298 P **P 11 03 50.2 0.0**
comp=Z,30nm,1.1s,mb5.1,baz=64,slow=4.3,SNR=25
MLR LR LR 11 21 07.6
comp=Z,6μm,18.1s,MS5.3,baz=69,slow=44
MLR Muntele Rosu 32.84 298 ⇑ *i*P **P 11 03 51.9 +1.8**
MLR Muntele Rosu 32.84 298 ⇑ P **P 11 03 51.9 +1.8**
SZH Strazhica 32.94 294 *i* P **P 11 03 51.7 +0.6**
ENEZ Enez 33.05 289 *e*P **P 11 03 51.6 -0.4**
ALN Alexandroupoli 33.10 290 *e*P **P 11 03 53.8 +1.3**
BOZC Bozcaada 33.26 288 *i* P **P 11 03 52.9 -0.9**
GADA Gvkgeada 33.32 289 *e*P **P 11 03 53.5 -0.9**
DIM Dimitrovgrad 33.35 292 *i* P **P 11 03 53.6 -1.0**
BURAR Bucovina Array 33.36 302 ⇓ *i*P **P 11 03 55.0 +0.3**
BURAR Bucovina Array 33.36 302 ⇓ P **P 11 03 55.0 +0.3**
PVL Pavlikeni 33.38 294 *i* P **P 11 03 54.1 -0.8**
NANT Nan 33.45 114 ⇓ P **P 11 03 54.0 -1.5**
RDO Rodhopi 33.45 290 *e*P **P 11 03 56.0 +0.5**
GYA Guiyang 33.77 97 ⇑ *i*P **P 11 03 59.0 +0.7**
GYA AP pP 11 04 03.3 +0.2
GYA XP sP 11 04 05.8 +0.8
GYA PP PP 11 05 10.0 -4.7
GYA PCP PcP 11 06 39.0 +1.6
GYA S **S 11 09 20.0 -1.3**
GYA SCP ScP 11 10 21.3 -0.2
GYA SS SS 11 11 27.0 -20
GYA AMB AMB
comp=Z,30nm,1.1s,mb5.1
GYA AMB AMB
comp=Z,330nm,6.3s
GYA LR LR
comp=N,10μm,19.4s,MS5.6
GYA LR LR
comp=E,4μm,19.1s,MS5.6
GYA LR LR
comp=Z,10μm,23.9s,MS5.5
LIA Limnos Island 33.91 288 *e*P **P 11 04 00.9 +1.4**
PLD Plovdiv 33.95 292 *e*P **P 11 03 53.6 -6.3**
PLD Plovdiv 33.95 292 *i* P **P 11 03 57.0 -2.9**
RZN Rozhen 33.99 291 *i* P **P 11 03 59.0 -1.2**
APE Apeiranthos 34.21 283 *e*P **P 11 04 04.4 +2.3**
LVV L'vov 34.27 306 *e*P **P 11 04 00.0 -2.6**
LVV *e* 11 05 29.9
LVV *e*S **S 11 09 26.1 -2.9**
LVV *e*SSS 11 11 42.3
LVV MLR MLR
comp=E,2μm,13.0s,MS5.0
LVV MLR MLR
comp=Z,2μm,13.0s,MS5.1
LVV MLR MLR
comp=N,500nm,14.0s,MS5.0
PGB Panagyurishte 34.30 293 *i* P **P 11 04 03.4 +0.5**
JOF Joensuu 34.34 330 *ep* **P 11 04 02.1 -1.1**
comp=N,42nm,0.7s,mb5.5
VSU Vasula 34.49 322 ⇑ *i*P **P 11 04 03.6 -0.9**
CIT Chita 34.57 50 *e*P **P 11 04 05.2 0.0**
CIT *e* 11 04 21.0
CIT pmax pmax
comp=Z,384nm,2.4s,mb5.9
MMB Musomiste 34.74 291 *i* P **P 11 04 05.4 -1.3**
OUR Ouranopolis 34.74 289 *e*P **P 11 04 07.9 +1.2**
LAST Lasithi 34.74 280 *e*P **P 11 04 02.2 -4.5**
VTS Vitosha 35.00 293 *e*P **P 11 04 03.4 -5.6**
VTS Vitosha 35.00 293 *i* P **P 11 04 07.8 -1.1**
VTS Vitosha 35.00 293 ⇑ *i*P **P 11 04 09.2 +0.3**
PAIG Paliouri 35.04 289 *e*P **P 11 04 09.7 +0.4**
DRGR 35.06 301 ⇑ *i*P **P 11 04 10.3 +0.8**
DRGR 35.06 301 ⇑ P **P 11 04 10.3 +0.8**
KWP Kalwaria 35.11 306 *e*P **P 11 04 10.2 +0.3**
comp=Z,0.8nm,2.9s
KWP L 11 17 44.3
comp=Z,4.2nm,27.8s
NST Nakhon Sawan 35.12 119 P **P 11 04 11.0 +1.1**
SOH Sokhos 35.13 290 *e*P **P 11 04 04.4 -5.8**
PLG Polygyros 35.14 289 *e*P **P 11 04 12.1 +1.9**
KKB Krupnik 35.18 292 *i* P **P 11 04 07.8 -2.7**
SUW Suwalki 35.30 313 *e*P **P 11 04 10.7 -0.8**
comp=Z,0.6nm,3.1s
SUW *e*PP PP 11 05 29.5 -2.1
SUW *e*S **S 11 09 41.5 -3.3**
SUW L 11 20 26.4
comp=Z,4.5nm,18.6s
SUW Suwalki 35.30 313 *e*P **P 11 04 10.7 -0.8**
SUW *e*PP PP 11 05 29.5 -2.1
SUW *e*S **S 11 09 41.5 -3.3**
HORT Hortiatis 35.36 290 *e*P **P 11 04 06.6 -5.5**
KOLS Kolonicke sedl 35.37 304 *e*P **P 11 04 12.4 +0.3**
KOLS *e*SS SS 11 12 18.6 -1.2
ATH Athens Observa 35.41 285 *e*P **P 11 04 12.9 +0.4**
KNT Kendrikon 35.42 291 *e*P **P 11 04 12.0 -0.5**
THE Thessaloniki 35.46 290 *e*P **P 11 04 11.1 -1.8**
NEO Neokhori 35.50 288 *e*P **P 11 04 14.2 +0.9**
XOR Xorichti 35.52 288 *e*P **P 11 04 12.8 -0.6**
VAM Vamos 35.68 281 *e*P **P 11 04 15.7 +0.9**
LKR Lokris 35.81 287 *e*P **P 11 04 15.9 0.0**
GRG Griva 35.83 291 *e*P **P 11 04 16.2 +0.2**
FIA1 FINESS Array S 35.87 326 *e*P **P 11 04 14.3 -2.1**
FIA1 *e*PP PP 11 05 32.3 -5.6
BZS Buzias 35.87 299 ⇑ *i*P **P 11 04 17.3 +0.9**
BZS Buzias 35.87 299 P **P 11 04 17.5 +1.1**
FINES FINESS Array B 35.87 326 P **P 11 04 14.6 -1.8**
comp=Z,12nm,0.6s,mb5.0,baz=130,slow=6.0,SNR=31
FINES LR LR 11 20 16.5
comp=Z,3μm,20.9s,MS5.0,baz=328,slow=38
FINES FINESS Array B 35.87 326 *i* P **P 11 04 13.8 -2.6**
FINES pmax pmax
comp=Z,12nm,0.6s
CRVS Cervenica-Dubn 35.90 304 *e*P **P 11 04 18.4 +1.7**
CRVS *e*PP PP 11 05 36.2 -2.1
CRVS *e*SS SS 11 12 30.7 0.0
CRVS Cervenica-Dubn 35.90 304 *e*P **P 11 04 18.4 +1.7**
CRVS *e* 11 05 36.2
LIT Litokhoron 35.91 289 *e*P **P 11 04 11.8 -4.9**
GVD Gavdhos 35.93 280 *e*P **P 11 04 15.6 -1.3**
BOD Bodaibo 35.96 40 *e*P **P 11 04 16.2 -1.0**
BOD pmax pmax
comp=Z,73nm,1.2s,mb5.5
KAF Kangasniemi 36.03 327 *ep* **P 11 04 14.4 -3.4**
comp=Z,28nm,0.9s,mb5.2,baz=113,slow=8.6
KAF Kangasniemi 36.03 327 *e*P **P 11 04 14.4 -3.4**
KAF pmax pmax
comp=Z,28nm,0.9s,mb5.2
AGG Agios Georgios 36.24 287 *e*P **P 11 04 20.4 +0.8**
APA Apatity 36.28 338 ⇑ *i*P **P 11 04 19.4 -0.5**
APA *i* 11 06 40.0
APA *e*S **S 11 10 00.0 +0.1**
APA pmax pmax
comp=Z,33nm,0.9s,mb5.3
APA MLR MLR
comp=Z,8μm,9.0s
VLI Veliai 36.31 283 *e*P **P 11 04 18.6 -1.6**
WAR Warsaw 36.36 310 *e*P **P 11 04 21.0 +0.4**
WAR *e*PP PP 11 05 45.7 +2.4
WAR L 11 22 28.4
comp=Z,6.5nm,16.9s
SKO Skopje 36.38 293 *e*P **P 11 04 17.1 -3.7**
SKO Skopje 36.38 293 *e*P **P 11 04 20.8 0.0**
KZN Kozani 36.41 290 *e*P **P 11 04 22.3 +1.2**
BIA Bitola 36.62 291 *e*P **P 11 04 23.9 +1.0**
FNA Florina 36.62 291 *e*P **P 11 04 23.2 +0.3**
EVR Evrytania 36.66 287 *e*P **P 11 04 22.9 -0.3**
NIE Niedzica 36.66 305 *e*P **P 11 04 24.7 +1.5**
BJT Baijiatuau 36.83 71 *e*P **P 11 04 25.8 +1.2**
BJT pmax pmax
comp=Z,15nm,0.6s
BJT Baijiatuau 36.83 71 *e*P **P 11 04 25.8 +1.2**
comp=Z,14nm,0.6s,mb5.0
BJI Beijing 36.83 71 *e*P **P 11 04 26.0 +1.4**
BJI PP PP 11 05 49.3 +0.8
BJI S **S 11 10 06.8 -1.5**
BJI AMB AMB
comp=Z,24nm,1.3s,mb4.9
BJI AMB AMB
comp=Z,730nm,6.0s
BJI LR LR
comp=N,8μm,13.7s,MS5.9
BJI LR LR
comp=E,14μm,17.8s,MS5.9
BJI LR LR
comp=Z,11μm,18.9s,MS5.7
PSZ Piszkesteto 36.95 303 ⇑ *e*P **P 11 04 26.6 +0.9**
OJC Ojcow 37.01 306 *i* P **P 11 04 25.9 -0.3**
OJC *e*S **S 11 10 12.5 +1.4**
OJC L 11 20 50.3
comp=Z,10nm,21.6s
DIVS Divcibare 37.15 296 *e*P **P 11 04 26.5 -0.8**
BUD Budapest 37.55 302 ⇑ *e*P **P 11 04 31.3 +0.5**
LKD Levkas 37.59 287 *e*P **P 11 04 29.4 -1.7**
VYHS Vyhne 37.64 304 *e*P **P 11 04 31.8 +0.3**
VYHS *e*PP PP 11 05 55.1 -2.4
VYHS *e*SS SS 11 13 03.6 -2.3
VYHS Vyhne 37.64 304 *e*P **P 11 04 31.8 +0.3**
VYHS *e* 11 05 55.1
VYHS pmax pmax
comp=Z,164nm,2.8s,mb5.3
VYHS Vyhne 37.64 304 *e*P **P 11 04 31.8 +0.3**
comp=Z,164nm,2.8s,mb5.3
VYHS *e*PP PP 11 05 55.1 -2.4
VYHS *e*SS SS 11 13 03.6 -2.3
VYHS LR LR
comp=Z,1μm,29.5s,MS4.5
IGT Igoumenitsa 37.65 289 *e*P **P 11 04 31.3 -0.2**
VLS Valsamata 37.76 287 *e*P **P 11 04 31.6 -0.9**
PKSM Moragy 37.90 300 ⇓ *i*P **P 11 04 33.8 +0.1**
PKSM Moragy 37.90 300 ⇓ *e*P **P 11 04 34.1 +0.4**
KEK Kerkira 38.01 289 *e*P **P 11 04 33.3 -1.4**
RAC Raciborz 38.04 306 *e*P **P 11 04 36.0 +1.1**
RAC MLR MLR
comp=Z,3μm,22.9s,MS5.0
OKC Ostrava-Krasne 38.07 306 *e*P **P 11 04 35.1 -0.1**
OKC *e*PP PP 11 06 01.8 -0.4
OKC AMS AMS 11 23 50.0
comp=Z,3μm,14.9s
OKC Ostrava-Krasne 38.07 306 *e*P **P 11 04 35.1 -0.1**
OKC *e* 11 06 01.8
WHN Wuhan 38.17 86 P **P 11 04 36.3 +0.4**
WHN S **S 11 10 33.0 +4.4**
WHN LR LR
comp=Z,12μm,18.0s,MS5.7
HIA Hailar 38.36 55 *e*P **P 11 04 38.0 +0.4**
HIA pmax pmax
comp=Z,40nm,1.0s
HIA Hailar 38.36 55 *e*P **P 11 04 38.0 +0.4**
comp=Z,40nm,1.0s,mb5.1
MORC Moravsky Berou 38.47 306 ⇑ *i*P **P 11 04 38.8 +0.3**
MORC Moravsky Berou 38.47 306 *e*P **P 11 04 38.5 0.0**
comp=Z,113nm,1.8s,mb5.3
TIA Tai'an 38.47 76 ⇑ P **P 11 04 39.5 +1.0**
TIA S **S 11 10 35.0 +1.8**
TIA LR LR
comp=N,5μm,13.0s,MS5.6
TIA LR LR
comp=E,2μm,13.0s,MS5.6
GKP Gorka Klasztor 38.73 311 *e*P **P 11 04 40.5 -0.2**
comp=Z,0.9nm,3.6s
GKP *e*PP PP 11 06 09.4 0.0
GKP L 11 22 30.8
comp=Z,5.0nm,18.2s
ZST Bratislava 38.81 303 *e*P **P 11 04 40.9 -0.5**
ZST *e*PP PP 11 06 12.7 +2.4
ZST Bratislava 38.81 303 *e*P **P 11 04 40.9 -0.5**
ZST *e* 11 06 12.7
ZST pmax pmax
comp=Z,131nm,2.1s,mb5.3
ZST MLR MLR
comp=Z,3μm,13.2s,MS5.2
ZST Bratislava 38.81 303 *e*P **P 11 04 40.9 -0.5**
comp=Z,131nm,2.1s,mb5.3
ZST *e*PP PP 11 06 12.7 +2.4
ZST LR LR
comp=Z,3μm,13.2s,MS5.2
VRAC Vranov 39.10 305 P **P 11 04 43.8 +0.1**
comp=Z,27nm,1.0s,mb4.9,baz=89,slow=8.1,SNR=30
VRAC LR LR 11 24 25.3
comp=Z,3μm,18.6s,MS5.2,baz=93,slow=42
VRAC Vranov 39.10 305 ⇑ *i*P **P 11 04 44.5 +0.8**
VRAC Vranov 39.10 305 P **P 11 04 44.8 +1.0**
DPC Dobruska-Polom 39.24 307 *e*P **P 11 04 45.5 +0.5**
DPC *e*PP PP 11 06 16.2 +1.2
KSP Ksiaz 39.25 307 *e*P **P 11 04 45.2 +0.1**
comp=Z,0.7nm,3.8s
KSP *e*PP PP 11 06 16.4 +1.3
KSP L 11 20 52.8
comp=Z,4.3nm,25.9s
UPC Upice 39.44 307 *e*P **P 11 04 47.3 +0.7**
KEV Kevo 39.46 339 *ep* **P 11 04 45.7 -1.1**

comp=Z,8.1nm,0.7s,mb4.6
KEV Kevo 39.46 339 *e*P **P** **11 04 45.7 -1.1**
KEV pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
KOGS Kog 39.53 300 *e*P **P** **11 04 47.8 +0.4**
KOGS *e*S **S** **11 11 01.1 +12**
CONA Conrad Observa 39.66 303 P **P** **11 04 43.5 -4.9**
comp=Z,518nm,2.9s,mb5.8,SNR=16
ARCES ARCESS Array B 39.78 338 P **P** **11 04 48.6 -0.9**
comp=Z,19nm,0.9s,mb4.8,baz=123,slow=4.5,SNR=29
ARCES LR LR 11 22 20.6
comp=Z,2μm,18.2s,MS5.0,baz=126,slow=38
ARE0 ARCESS Array S 39.78 338 *e*P **P** **11 04 48.2 -1.3**
TREC Trest 39.82 305 *e*P **P** **11 04 49.9 +0.1**
TREC *e*PP PP 11 06 22.2 +0.9
TREC AMS AMS 11 24 10.0
comp=Z,4μm,13.2s
ARSA Arzberg 39.95 302⇑ *i*P **P** **11 04 51.2 +0.3**
comp=Z,425nm,3.1s,SNR=14
DOBS Dobrina 40.10 300 *i* P **P** **11 04 50.1 -2.0**
CRES Cresnjev 40.15 300 *e*P **P** **11 04 52.6 +0.2**
CRES *e*PP PP 11 06 25.3 +0.4
QIZ Qiongzhong 40.17 105 P **P** **11 04 52.5 -0.2**
QIZ AP pP 11 04 57.3 -0.2
QIZ XP sP 11 05 00.0 +0.5
QIZ S **S** **11 10 59.5 +0.7**
QIZ XS sS 11 11 07.5 +0.8
QIZ LR LR
comp=E,4μm,17.9s
QIZ LR LR
comp=Z,5μm,21.8s,MS5.3
PERS Pernice 40.28 301 *e*P **P** **11 04 54.1 +0.4**
BOJS Bojanci 40.33 299 *e*P **P** **11 04 54.4 +0.4**
BOJS *e*S **S** **11 11 03.5 +2.4**
PVCC Panska Ves 40.36 307 *e*P **P** **11 04 54.7 +0.5**
PVCC *e*PP PP 11 06 26.7 -0.5
PVCC AMS AMS 11 25 00.0
comp=Z,4μm,13.5s
PRU Pruhonice 40.40 306 *e*P **P** **11 04 55.0 +0.4**
PRU *e*PP PP 11 06 27.8 +0.2
PRU *e*S **S** **11 11 04.1 +1.9**
PRU AMS AMS 11 24 00.0
comp=Z,2μm,12.1s
PRA Prague 40.46 306 P **P** **11 04 58.0 +2.9**
PRA PP PP 11 06 30.0 +1.7
OBKA Obir 40.69 301⇑ *i*P **P** **11 04 57.6 +0.7**
comp=Z,760nm,3.0s,SNR=13
GZH Guangzhou 40.70 97 P **P** **11 04 57.3 +0.2**
GZH S **S** **11 11 08.8 +2.1**
GZH LR LR
comp=N,3μm,11.5s,MS5.6
GZH LR LR
comp=E,5μm,12.9s,MS5.6
GZH LR LR
comp=Z,6μm,14.0s,MS5.6
MOA Molln 40.74 303 *i* P **P** **11 04 57.4 0.0**
comp=Z,400nm,3.5s,SNR=17
BRG Berggiesshubel 40.74 308 *e*P **P** **11 04 57.3 -0.1**
comp=Z,43nm,1.0s,mb5.0
BRG *e*PP PP 11 06 33.9 +2.6
BRG Berggiesshubel 40.74 308 *i* P **P** **11 04 58.0 +0.6**
comp=Z,26nm,1.0s,mb4.8
BRG PP PP 11 06 33.0 +1.7
BRG S **S** **11 11 03.0 -4.3**
BRG SS SS 11 14 25.0 +17
BRG
comp=N,2μm,14.6s
BRG
comp=E,1μm,10.4s
BRG
comp=Z,3μm,15.2s
BRG Berggiesshubel 40.74 308 *i* P **P** **11 04 58.0 +0.6**
BRG 11 06 33.0
BRG S **S** **11 11 03.0 -4.3**
BRG pmax pmax
comp=Z,26nm,1.0s,mb4.8
BRG MLR MLR
comp=Z,3μm,15.1s,MS5.3
BRG Berggiesshubel 40.74 308 *i* P **P** **11 04 58.0 +0.6**
comp=Z,26nm,1.0s,mb4.8
BRG PP PP 11 06 33.0 +1.7
BRG S **S** **11 11 03.0 -4.3**
BRG SS SS 11 14 25.0 +17
BRG LR LR
comp=Z,3μm,15.1s,MS5.3
LJU Ljubljana 40.76 300 *e*P **P** **11 04 58.1 +0.5**
LJU *e*S **S** **11 11 19.3 +12**
RUE Ruedersdorf 40.80 310 *e*P **P** **11 04 57.2 -0.7**
comp=Z,120nm,1.6s,mb5.3
GEC2 GERESS Array S 41.02 304 *e*P **P** **11 04 59.6 -0.1**
comp=Z,101nm,2.1s,mb5.1
GEC2 *e*PP PP 11 06 38.9 +4.5
GEC2 GERESS Array S 41.02 304 *e*P **P** **11 04 59.6 -0.1**
GEC2 *e* 11 06 38.9
GEC2 pmax pmax
comp=Z,101nm,2.1s,mb5.1
GERES GERESS Array B 41.02 304 P **P** **11 04 59.3 -0.4**
comp=Z,2.2nm,0.7s,baz=86,slow=8.2,SNR=21
GERES LR LR 11 25 26.2
comp=Z,3μm,18.4s,MS5.2,baz=80,slow=41
GERES PKIKP 11 28 46.0
comp=Z,0.2nm,0.4s,baz=238,slow=7.7,SNR=3.4
KHC Kasperske Hory 41.08 305 *e*P **P** **11 05 00.1 -0.1**
KHC *e*PP PP 11 06 42.5 +7.5
KHC *e*S **S** **11 11 13.5 +1.2**
KHC AMS AMS 11 25 10.0
comp=Z,4μm,15.7s
RGN Rugen 41.10 313 *e*P **P** **11 05 00.0 -0.4**
comp=Z,148nm,1.1s,mb5.5
FBE Freiberg 41.11 308 *e*P **P** **11 05 00.4 -0.1**
comp=Z,66nm,1.2s,mb5.1
NJ2 Nanjing 41.18 82 *e*P **P** **11 05 00.0 -1.0**
NJ2 AP pP 11 05 04.5 -1.4
NJ2 XP sP 11 05 06.8 -1.0
NJ2 PP PP 11 06 39.3 +3.2
NJ2 S **S** **11 11 14.0 +0.2**
NJ2 XS sS 11 11 22.0 +0.2
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
NJ2 AMB AMB
comp=Z,290nm,4.1s
NJ2 LR LR
comp=N,14μm,10.7s,MS6.1
NJ2 LR LR
comp=E,8μm,12.0s,MS6.1
NJ2 LR LR
comp=Z,11μm,12.9s,MS5.9
DL2 Dalian 41.20 71⇑ *i*P **P** **11 05 02.0 +0.8**
DL2 PP PP 11 06 38.8 +2.5
DL2 S **S** **11 11 16.0 +1.9**
DL2 AMB AMB
comp=Z,20nm,1.1s,mb4.7
DL2 AMB AMB
comp=Z,320nm,3.8s
DL2 LR LR
comp=N,2μm,16.2s,MS5.5
DL2 LR LR
comp=E,5μm,17.1s,MS5.5
DL2 LR LR
comp=Z,6μm,16.3s,MS5.6
VOY Vojsko 41.20 300 *e*P **P** **11 05 01.2 0.0**
VOY *e* 11 05 19.7
CADS Cadrg 41.28 300 *e*P **P** **11 05 02.0 +0.1**
CLL Collm 41.32 308 *e*P **P** **11 05 01.7 -0.5**
comp=Z,89nm,1.8s,mb5.1
CLL *e*PP PP 11 06 43.0 +5.4
CLL *e*PcP PcP 11 07 01.7 +1.2
CLL *e*S **S** **11 11 14.8 -1.1**
CLL *e*SS SS 11 14 27.4 +7.9
CLL *e*LR LR 11 16 56.5
CLL *e*L 11 22 31.2
comp=Z,3μm,22.0s
CLL Collm 41.32 308⇑ P **P** **11 05 01.7 -0.5**
comp=Z,logA/T=1.7,mb5.1
CLL *e*PP PP 11 06 38.0 +0.4
CLL *e*PCP PcP 11 07 02.0 +1.5
CLL *e* 11 07 18.0
CLL *e*S **S** **11 11 12.0 -3.9**
CLL *e*SS SS 11 14 12.0 -7.5
CLL Collm 41.32 308⇑ *i*P **P** **11 05 01.7 -0.5**
comp=Z,86nm,1.8s,mb5.1
CLL *e*PP PP 11 06 38.0 +0.4
CLL *e*(PcP) PcP 11 07 02.0 +1.5
CLL *e*PPPP 11 07 18.0
CLL *e*S **S** **11 11 12.0 -3.9**
CLL *e*SS SS 11 14 12.0 -7.5
CLL Collm 41.32 308⇑ *i*P **P** **11 05 01.7 -0.5**
CLL *e*S **S** **11 11 12.0 -3.9**
CLL pmax pmax
comp=Z,86nm,1.8s,mb5.1
CLL MLR MLR
comp=Z,4μm,16.6s,MS5.3
CLL Collm 41.32 308⇑ *i*P **P** **11 05 01.7 -0.5**
comp=Z,86nm,1.8s,mb5.1
CLL *e*S **S** **11 11 12.0 -3.9**
CLL LR LR
comp=Z,4μm,16.6s,MS5.3
HFS Hagfors 41.37 322 P **P** **11 05 01.6 -1.0**
comp=Z,30nm,0.6s,mb5.1,baz=96,slow=9.1,SNR=82
HFS LR LR 11 25 02.6
comp=Z,4μm,21.4s,MS5.3,baz=101,slow=40
KBA Koelnbreinsper 41.44 302⇑ *i*P **P** **11 05 03.3 +0.1**
comp=Z,454nm,3.0s,mb5.6,SNR=10
KBA Koelnbreinsper 41.44 302⇑ *i*P **P** **11 05 03.3 +0.1**
KBA pmax pmax
comp=Z,454nm,3.0s
WET Wettzell 41.54 305 *e*P **P** **11 05 03.8 -0.2**
comp=Z,162nm,2.6s,mb5.2
WET Wettzell 41.54 305 *e*P **P** **11 05 03.8 -0.2**
WET pmax pmax
comp=Z,162nm,2.6s,mb5.2
CLNS Chul'man 41.63 43 *e*P **P** **11 05 04.7 0.0**
CLNS *e**PP pP 11 05 11.2 +1.6
CLNS *e*PPP 11 06 49.8
CLNS *e* 11 07 12.3
CLNS pmax pmax
comp=E,33nm,1.0s
CLNS pmax pmax
comp=Z,53nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,16nm,1.1s
CLNS MLR MLR
comp=Z,7μm,11.0s,MS5.8
CLNS MLR MLR
comp=N,6μm,13.0s,MS5.8
CLNS MLR MLR
comp=E,7μm,12.0s,MS5.8
TANN Tannenbergstha 41.71 307 *e*P **P** **11 05 05.3 -0.1**
comp=Z,80nm,1.8s,mb5.0
TANN *e*PP PP 11 06 46.9 +5.1
NKC Novy Kostel 41.73 307 *e*P **P** **11 05 05.7 +0.2**
NKC AMS AMS 11 26 00.0
WERN Wernitzgruen 41.77 307 *e*P **P** **11 05 06.1 +0.2**
comp=Z,161nm,2.5s,mb5.2
WERN *e*PP PP 11 06 48.4 +5.9
WERD Werda 41.80 307 *e*P **P** **11 05 06.0 -0.2**
comp=Z,59nm,1.6s,mb5.0
WERD *e*PP PP 11 06 50.4 +7.5
TRO Tromso 41.87 336 *e*P **P** **11 05 05.1 -1.6**
TRO AMb AMB 11 05 18.4
comp=Z,44nm,1.6s,mb4.8
TRO *e*PP PP 11 06 41.1 -2.5
TRO *e*PP PP 11 06 42.2 -1.4
TRO AMS AMS 11 23 59.6
comp=Z,979nm,19.0s,MS4.7
TRO Tromso 41.87 336 *e*P **P** **11 05 05.1 -1.6**
TRO pmax pmax
comp=Z,44nm,1.6s,mb4.8
TRO MLR MLR
comp=Z,980nm,19.0s,MS4.7
TRO Tromso 41.87 336 *e*P **P** **11 05 05.1 -1.6**
comp=Z,44nm,1.6s,mb4.8
TRO LR LR
comp=Z,980nm,19.0s,MS4.7
ROTZ Rotzenmuhle 41.92 306 *e*P **P** **11 05 07.7 +0.6**
comp=Z,211nm,2.1s,mb5.4
SNY Shenyang 41.95 66⇑ P **P** **11 05 07.8 +0.4**
SNY AP pP 11 05 12.0 -0.3
SNY XP sP 11 05 13.8 -0.4
SNY S **S** **11 11 21.3 -4.0**
SNY AMB AMB
comp=Z,30nm,2.1s,mb4.5
SNY AMB AMB
comp=Z,778nm,5.4s
SNY LR LR
comp=N,13μm,19.0s
SNY LR LR
comp=Z,12μm,16.1s,MS5.9
MANZ Manzenberg 41.97 306 *e*P **P** **11 05 08.0 +0.5**
comp=Z,80nm,1.7s,mb5.1
AQU L'Aquila 42.19 295 *e*P **P** **11 05 10.8 +1.5**
MOX Moxa 42.23 307 *e*P **P** **11 05 09.5 -0.1**
comp=Z,168nm,2.2s,mb5.3
MOX Moxa 42.23 307 *e*P **P** **11 05 10.3 +0.7**
comp=Z,155nm,2.2s,mb5.2
MOX
comp=Z,4μm,16.0s
MOX Moxa 42.23 307 *e*P **P** **11 05 10.3 +0.7**
MOX pmax pmax
comp=Z,155nm,2.2s,mb5.2
MOX MLR MLR
comp=Z,4μm,16.0s,MS5.4
MOR8 Moi Rana 42.29 331 *e*P **P** **11 05 08.6 -1.6**
MOR8 AMb AMB 11 05 10.4
comp=Z,72nm,0.9s,mb5.3
MOR8 Moi Rana 42.29 331 *e*P **P** **11 05 08.6 -1.6**
comp=Z,72nm,0.9s,mb5.3
GRA1 Grafenberg Arr 42.56 306 *e*P **P** **11 05 13.1 +0.7**
comp=Z,247nm,1.9s,mb5.6
GRA1 *e* 11 05 35.4
GRA1 *e*PP PP 11 06 56.6 +5.5
GRA1 *e*S **S** **11 11 40.2 +5.9**
GRA1 LR LR
comp=Z,2μm,20.3s,MS5.0
GRF Grafenberg Arr 42.56 306 *e*P **P** **11 05 13.1 +0.7**
comp=Z,247nm,1.9s,mb5.6
GRF *e* 11 05 35.4
GRF *e*PP PP 11 06 56.6 +5.5
GRF *e*S **S** **11 11 40.2 +5.9**
GRF *e*L 11 24 22.6
comp=Z,2μm,20.3s
GRF Grafenberg Arr 42.56 306 *e*P **P** **11 05 13.1 +0.7**
GRF *e* 11 06 56.6
GRF *e*S **S** **11 11 40.2 +5.9**
GRF pmax pmax
comp=Z,247nm,1.9s,mb5.6
GRF MLR MLR
comp=Z,2μm,20.3s,MS5.0
GRF Grafenberg Arr 42.56 306 *e*P **P** **11 05 13.1 +0.7**
GRF *e* 11 06 56.6
GRF *e*S **S** **11 11 40.2 +5.9**
GRF pmax pmax
comp=Z,247nm,1.9s,mb5.6
GRF MLR MLR
comp=Z,2μm,20.3s,MS5.0
WTTA Wattenberg 42.57 302⇑ *i*P **P** **11 05 11.8 -0.6**
comp=Z,427nm,3.1s,SNR=8.9
WTTA Wattenberg 42.57 302⇑ *i*P **P** **11 05 11.8 -0.6**
WTTA pmax pmax
comp=Z,427nm,3.1s
VAE Valguarnera 42.66 288 P **P** **11 05 14.7 +1.5**
comp=Z,1.0nm,0.4s,mb4.8,baz=306,slow=9.1,SNR=11
FUR Furstenfeldbru 42.70 304 *e*P **P** **11 05 13.4 0.0**
comp=Z,173nm,1.7s,mb5.5
FUR Furstenfeldbru 42.70 304 *e*P **P** **11 05 13.4 0.0**
FUR pmax pmax
comp=Z,173nm,1.7s,mb5.5
NB2 NORSAR Subarra 42.70 323 P **P** **11 05 11.8 -1.7**
comp=Z,132nm,1.4s,mb5.5,baz=98,slow=8.6
NOA NORSAR Array B 42.70 323 P **P** **11 05 11.5 -2.0**
comp=Z,17nm,0.6s,mb5.0,baz=98,slow=8.2,SNR=93
NOA LR LR 11 23 28.0
comp=Z,2μm,18.9s,MS5.1,baz=105,slow=37
NOA NORSAR Array B 42.70 323 P **P** **11 05 11.5 -2.0**
NOA LR LR 11 23 28.0
BSEG Bad Segeberg 42.86 312 *e*P **P** **11 05 14.7 -0.1**
CN2 Changchun 42.89 63 *e*P **P** **11 05 16.0 +1.0**
CN2 *e*XP sP 11 05 23.0 +1.2
CN2 *e*PP PP 11 06 55.3 +0.7
CN2 *e*S **S** **11 11 39.5 +0.3**
CN2 *e*SS SS 11 14 44.0 -6.7
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,5μm,19.0s,MS5.8
CN2 LR LR
comp=E,9μm,19.0s,MS5.8
CN2 LR LR
comp=Z,13μm,18.0s,MS5.8
NSS Namsos 42.92 328 *e*P **P** **11 05 12.8 -2.5**
NSS AMS AMS 11 26 57.6
comp=Z,3μm,22.1s,MS5.1
MOTA Moosalm 42.92 302⇑ *i*P **P** **11 05 14.2 -1.0**
comp=Z,26nm,1.3s,mb4.8,SNR=11
MOTA Moosalm 42.92 302⇑ *i*P **P** **11 05 14.2 -1.1**
MOTA pmax pmax
comp=Z,26nm,1.3s,mb4.8
CLZ Clausthal 42.93 309 *e*P **P** **11 05 15.2 -0.1**
comp=Z,144nm,1.9s,mb5.4
CLZ *e*PP PP 11 06 59.8 +4.8
CLZ Clausthal 42.93 309 *e*P **P** **11 05 15.2 -0.1**
CLZ *e* 11 06 59.8
CLZ pmax pmax
comp=Z,144nm,1.9s,mb5.4
UBBA Unterbreizbach 43.24 308 *e*P **P** **11 05 17.4 -0.4**
comp=Z,72nm,1.8s,mb5.1
KONO Kongsberg 43.37 321 *e*P **P** **11 05 19.0 +0.1**
KONO Kongsberg 43.37 321 *i* P **P** **11 05 18.3 -0.6**
KONO Kongsberg 43.37 321 *e*P **P** **11 05 18.2 -0.7**
comp=Z,58nm,1.3s,mb5.2
SSE Sheshan 43.38 82 P **P** **11 05 20.0 +1.0**
SSE AP pP 11 05 22.8 -1.0
SSE XP sP 11 05 24.5 -1.3
SSE PCP PcP 11 07 10.8 +3.4
SSE S **S** **11 11 45.5 -0.8**
SSE XS sS 11 11 50.8 -3.5
SSE AMB AMB
comp=Z,31nm,1.0s,mb5.0
SSE AMB AMB
comp=Z,378nm,3.5s
SSE LR LR
comp=N,5μm,13.3s,MS5.6
SSE LR LR
comp=E,2μm,13.3s,MS5.6
SSE LR LR
comp=Z,4μm,16.2s,MS5.5
DAVA Damuels 43.75 303 *i* P **P** **11 05 21.4 -0.6**
comp=Z,400nm,3.3s,SNR=10.0
DAVOX Davos 43.83 302 P **P** **11 05 22.0 -0.6**
comp=Z,9.0nm,0.6s,mb4.7,baz=90,slow=4.8,SNR=14
DAVOX LR LR 11 27 09.0
comp=Z,4μm,18.5s,MS5.3,baz=81,slow=41
QZH Quanzhou 43.97 91⇑ *i*P **P** **11 05 22.0 -1.7**
QZH S **S** **11 11 54.3 -0.6**
QZH LR LR
comp=N,2μm,10.7s,MS5.9
QZH LR LR
comp=E,9μm,13.0s,MS5.9
QZH LR LR
comp=Z,15μm,16.0s,MS6.0
STU Stuttgart 43.99 305 *e*P **P** **11 05 23.9 0.0**
comp=Z,236nm,2.2s,mb5.5
BJO Bjornoya 43.99 343 AMS AMS 11 25 52.8
comp=Z,1μm,15.6s,MS5.0
TOD Tromm 44.13 306 *e*P **P** **11 05 25.4 +0.4**
HLG Helgoland 44.28 313 *e*P **P** **11 05 26.0 -0.2**
comp=Z,251nm,1.5s,mb5.7
TNS Taunus Mts 44.29 307 *e*P **P** **11 05 26.4 +0.1**
TNS *e*PP PP 11 07 12.7 +3.2
SPAK Spaichingen-Ko 44.36 304 *e*P **P** **11 05 26.5 -0.3**
YAK Yakutsk 44.45 36*c* *i*P **P** **11 05 27.2 -0.3**
YAK *e**PP pP 11 05 36.3 +3.9
YAK *e* 11 07 09.9
YAK *e* 11 07 11.1
YAK *e*PPP 11 07 51.5
YAK *e*S **S** **11 12 01.1 -0.7**
YAK *e**SS sS 11 12 16.1 +6.3
YAK *e* 11 15 22.2
YAK *e*SSS 11 16 01.0
YAK pmax pmax
comp=E,22nm,1.2s
YAK pmax pmax
comp=Z,61nm,1.2s,mb5.2
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK smax
comp=N,27nm,1.5s
YAK smax
comp=E,23nm,1.6s
YAK MLR MLR
comp=Z,2μm,13.0s,MS5.3
YAK MLR MLR
comp=N,2μm,16.0s,MS5.3
YAK MLR MLR
comp=E,2μm,12.0s,MS5.3
MOL Molde 44.60 325 *e*P **P** **11 05 28.9 +0.2**
MOL AMS AMS 11 25 36.2
comp=Z,4μm,20.2s,MS5.3
BFO Black Forest 44.62 304 *e*P **P** **11 05 28.4 -0.5**
comp=Z,47nm,1.5s,mb5.1
BFO Black Forest 44.62 304 *e*P **P** **11 05 28.4 -0.5**
BFO pmax pmax
comp=Z,47nm,1.5s,mb5.1
LANF Langenberg 44.87 305 *e*P **P** **11 05 31.0 +0.1**
BUG Bochum--Univer 44.89 309 *e*P **P** **11 05 30.8 -0.3**
comp=Z,77nm,1.6s,mb5.3
FELD Feldberg im Sc 44.91 304 *e*P **P** **11 05 30.8 -0.4**
LIBD Limburg 45.13 304 *e*P **P** **11 05 33.2 +0.2**
RUP Ruppelstein 45.24 306 *e*P **P** **11 05 33.8 -0.1**
WLS Welschbruch 45.25 305 *e*P **P** **11 05 33.6 -0.4**
CDF Champ du Feu 45.30 305 *e*P **P** **11 05 34.0 -0.4**
comp=Z,27nm,1.1s,mb4.7
CDF Champ du Feu 45.30 305 *e*P **P** **11 05 34.0 -0.4**
CDF pmax pmax
comp=Z,14nm,1.1s,mb4.7
CDF Champ du Feu 45.30 305 *e*P **P** **11 05 34.0 -0.4**
comp=Z,14nm,1.1s,mb4.7
BBS Basel-Blauen 45.31 303 *e*P **P** **11 05 34.0 -0.4**
PGF Pioggiola 45.32 296 *e*P **P** **11 05 34.0 -0.5**
comp=Z,59nm,1.0s,mb5.1
PGF Pioggiola 45.32 296 *e*P **P** **11 05 34.0 -0.5**
PGF pmax pmax
comp=Z,29nm,1.0s,mb5.1
PGF Pioggiola 45.32 296 *e*P **P** **11 05 34.0 -0.5**
comp=Z,29nm,1.0s,mb5.1
INCN Inchon 45.38 71 *e*P **P** **11 05 34.2 -0.8**
comp=Z,16nm,0.6s,mb5.0
ECH Echery 45.41 304 *e*P **P** **11 05 34.9 -0.3**
MOF Molkenrain 45.49 304 *e*P **P** **11 05 35.3 -0.6**
BER Bergen 45.54 322 *e*SS SS 11 15 44.2 +2.5
BER AMS AMS 11 26 28.4
comp=Z,3μm,23.2s,MS5.2
MDJ Mudanjiang 45.64 61 P **P** **11 05 37.5 +0.5**
MDJ AP pP 11 05 41.5 -0.4
MDJ PP PP 11 07 22.0 -1.9
MDJ SCP ScP 11 11 07.8 +0.4
MDJ S **S** **11 12 18.0 -1.1**
MDJ SCS ScS 11 15 30.5 -2.2
MDJ AMB AMB
comp=Z,15nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,306nm,3.1s
MDJ LR LR
comp=N,2μm,22.6s,MS5.5
MDJ LR LR
comp=E,6μm,21.1s,MS5.5
MDJ LR LR
comp=Z,8μm,22.6s,MS5.6
HINF Hinteralfeld 45.69 304 *e*P **P** **11 05 36.6 -0.8**
comp=Z,52nm,1.2s,mb5.0
HINF Hinteralfeld 45.69 304 *e*P **P** **11 05 36.6 -0.8**
HINF pmax pmax
comp=Z,26nm,1.2s,mb5.0
HINF Hinteralfeld 45.69 304 *e*P **P** **11 05 36.6 -0.8**
comp=Z,26nm,1.2s,mb5.0
LOMF Lomont 45.79 303 *e*P **P** **11 05 37.7 -0.5**
TIXI Tiksi 45.80 23 *e*P **P** **11 05 36.5 -1.7**
TIXI *e* 11 07 25.4
TIXI *e*S **S** **11 12 14.7 -6.6**
TIXI pmax pmax
comp=Z,46nm,0.8s,mb5.5
TIXI MLR MLR
comp=Z,4μm,15.0s,MS5.5
TIXI Tiksi 45.80 23⇑ *i*P **P** **11 05 37.6 -0.6**
WLF Walferdange 45.83 306 P **P** **11 05 37.3 -1.2**
WLF AP pP 11 05 39.2 -4.3
BEBN Eben Emael 45.97 308 AP pP 11 05 39.4 -5.1
HAU Haudompre 45.99 304 *e*P **P** **11 05 39.1 -0.7**
HAU *e*R
comp=Z,2μm,17.8s
HAU Haudompre 45.99 304 *e*P **P** **11 05 39.1 -0.7**
HAU LR LR
comp=Z,2μm,17.8s,MS5.2

SAOF Saorge 46.00 298 *e*P P **11 05 39.6 -0.2**
AUTN L'Aution 46.09 299 *e*P P **11 05 41.3 +0.8**
SBF Sospel 46.11 298 *e*P P **11 05 40.6 -0.1**
comp=E,54nm,0.8s,mb5.2
SBF Sospel 46.11 298 *e*P P **11 05 40.6 -0.1**
SBF pmax pmax
comp=E,27nm,0.8s,mb5.2
SBF Sospel 46.11 298 *e*P P **11 05 40.6 -0.1**
comp=Z,27nm,0.8s,mb5.2
THEF They Montfort 46.18 305 *e*P P **11 05 40.7 -0.6**
KLR Kul'dur 46.19 54|| *i*P P **11 05 38.0 -3.4**
KLR *e* 11 07 32.0
KLR *e*S S **11 12 23.5 -3.5**
KLR *e* 11 15 35.0
KLR pmax pmax
comp=E,350nm,2.8s
KLR pmax pmax
comp=Z,540nm,2.8s,mb6.0
KLR MLR MLR
comp=E,8µm,13.5s
KLR MLR MLR
comp=Z,11µm,13.5s,MS6.0
TOUF Mont Tournerai 46.21 299 *e*P P **11 05 42.0 +0.5**
LPG La Plagne 46.22 301 *e*P P **11 05 41.8 +0.2**
LPL La Plagne 46.22 301 *e*P P **11 05 41.7 +0.1**
BCLA Clavier 46.26 308 P P **11 05 39.7 -2.2**
BCLA AP pP 11 05 42.4 -4.4
BCLA S sP 11 05 50.1 +1.4
MBDF Montbardon 46.37 300 *e*P P **11 05 42.4 -0.4**
comp=Z,17nm,0.7s,mb4.8
MBDF Montbardon 46.37 300 *e*P P **11 05 42.4 -0.4**
MBDF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
MBDF Montbardon 46.37 300 *e*P P **11 05 42.4 -0.4**
comp=Z,8.4nm,0.7s,mb4.8
SPB4 Spitsberger An 46.38 347 *e*P P **11 05 43.1 +0.3**
CABF La Chapelle 46.43 302 *e*P P **11 05 43.2 -0.1**
comp=Z,132nm,1.4s,mb5.4
CABF La Chapelle 46.43 302 *e*P P **11 05 43.2 -0.1**
CABF pmax pmax
comp=Z,66nm,1.4s,mb5.4
CABF La Chapelle 46.43 302 *e*P P **11 05 43.2 -0.1**
comp=Z,66nm,1.4s,mb5.4
GIVF Givet 46.61 307 *e*P P **11 05 44.5 -0.2**
FRF La Foret Royal 46.74 298 *e*P P **11 05 45.1 -0.6**
comp=Z,34nm,0.8s,mb5.0
FRF La Foret Royal 46.74 298 *e*P P **11 05 45.1 -0.6**
FRF pmax pmax
comp=Z,17nm,0.8s,mb5.0
FRF La Foret Royal 46.74 298 *e*P P **11 05 45.1 -0.6**
comp=Z,17nm,0.8s,mb5.0
MEZF Maizieres J'vi 46.75 305 *e*P P **11 05 45.8 +0.1**
comp=Z,279nm,1.7s,mb5.6
MEZF Maizieres J'vi 46.75 305 *e*P P **11 05 45.8 +0.1**
comp=Z,279nm,1.7s,mb5.9
DOU Dourbes 46.76 307 AP pP 11 05 46.1 -4.6
UCC Uccle 46.79 308 AP pP 11 05 46.4 -4.6
UCC E 11 06 01.0
SNF Seneffe 46.89 308 AP pP 11 05 46.3 -5.4
SNF XP sP 11 05 49.4 -4.2
LMR La Mourre 46.89 298 *e*P P **11 05 46.7 -0.2**
ORIF Oris-en-Rattie 46.95 300 *e*P P **11 05 46.7 -0.6**
ORIF *e*R
comp=Z,3µm,22.5s
OG05 Jujurieux 46.98 302 *e*P P **11 05 47.7 +0.2**
BAIF Baives 47.01 307 *e*P P **11 05 47.6 -0.2**
comp=Z,123nm,1.4s,mb5.3
BAIF Baives 47.01 307 *e*P P **11 05 47.6 -0.2**
BAIF pmax pmax
comp=Z,61nm,1.4s,mb5.3
BAIF Baives 47.01 307 *e*P P **11 05 47.6 -0.2**
comp=Z,62nm,1.4s,mb5.3
KEST Kesra 47.08 287 P P **11 05 49.5 +1.2**
comp=Z,12nm,1.0s,mb4.8,baz=231,slow=1.7,SNR=17
TAVF Tavernes 47.14 298 *e*P P **11 05 49.8 +1.0**
SMRF Simiane la Rot 47.39 299 *e*P P **11 05 50.3 -0.4**
PUYF Puyloubier 47.41 298 *e*P P **11 05 52.2 +1.3**
KBS Kingsbay 47.51 347 *e*P P **11 05 51.2 -0.4**
KBS AMS AMS 11 28 59.8
comp=Z,1µm,15.8s,MS4.9
KBS Kingsbay 47.51 347 *c i*P P **11 05 51.2 -0.5**
KBS Kingsbay 47.51 347 *e*P P **11 05 51.1 -0.5**
comp=Z,88nm,1.1s,mb5.7
TREF Trevaresse 47.61 299 *e*P P **11 05 53.5 +1.0**
VLA Vladivostok 47.62 62 *i*P P **11 05 51.8 -0.7**
PRAF Pradon 47.71 299 *e*P P **11 05 54.6 +1.3**
LOR Lormes 47.78 304 *e*P P **11 05 52.8 -1.0**
LOR *e*R
comp=Z,3µm,20.0s
LOR Lormes 47.78 304 *e*P P **11 05 52.8 -1.0**
LOR LR LR
comp=Z,3µm,20.0s,MS5.2
VIVF Saint-Julien-l 47.79 300 *e*P P **11 05 53.9 0.0**
comp=Z,274nm,1.6s,mb5.7
VIVF Saint-Julien-l 47.79 300 *e*P P **11 05 53.9 0.0**
VIVF pmax pmax
comp=Z,137nm,1.6s,mb5.7
VIVF Saint-Julien-l 47.79 300 *e*P P **11 05 53.9 0.0**
comp=Z,137nm,1.6s,mb5.7
SMF Signal de Mont 47.93 303 *e*P P **11 05 54.5 -0.5**
comp=Z,103nm,1.4s,mb5.4
SMF Signal de Mont 47.93 303 *e*P P **11 05 54.5 -0.5**
SMF pmax pmax
comp=Z,51nm,1.4s,mb5.4
SMF Signal de Mont 47.93 303 *e*P P **11 05 54.5 -0.5**
comp=Z,51nm,1.4s,mb5.4
KMBO Kilima Mbogo 48.02 225 LR LR 11 27 11.1
comp=Z,3µm,21.9s,MS5.2,baz=14,slow=37
SSF Saint Saulge 48.06 303 *e*P P **11 05 55.3 -0.7**
AVF Avril sur Loir 48.23 303 *e*P P **11 05 56.6 -0.6**
comp=Z,63nm,1.0s,mb5.3
AVF Avril sur Loir 48.23 303 *e*P P **11 05 56.6 -0.6**
AVF pmax pmax
comp=Z,32nm,1.0s,mb5.3
AVF Avril sur Loir 48.23 303 *e*P P **11 05 56.6 -0.6**
comp=Z,32nm,1.0s,mb5.3
CMAH Djebel Manchou 48.23 289 P P **11 05 57.8 +0.5**
PLDF La Plantade 48.24 302 *e*P P **11 05 57.6 +0.3**
COLF Collangettes 48.30 301 *e*P P **11 05 58.0 +0.2**
ABSA Djebel Ababsia 48.31 288 P P **11 06 02.0 +4.1**
HABR Khabarovsk 48.48 54|| *i*P P **11 05 58.7 -0.5**
HABR *e* 11 07 55.3
HABR *e*S S **11 13 00.5 +0.9**
HABR pmax pmax
comp=Z,169nm,2.9s,mb5.6
HABR MLR MLR
comp=Z,5µm,14.7s,MS5.6
AGO Saint Agoulin 48.55 302 *e*P P **11 05 59.7 0.0**
LASF Ste Croix 48.56 299 *e*P P **11 06 00.1 +0.3**
comp=Z,238nm,1.6s,mb5.7
BGF Bois d'Agland 48.62 303 *e*P P **11 05 59.7 -0.6**
LBL Lubilhac 48.68 301 *e*P P **11 06 00.4 -0.3**
PYM Petit Puy Mans 48.71 302 *e*P P **11 06 01.8 +0.8**
CASM Ain Smara 49.06 289 P P **11 06 06.0 +2.3**
VERF Verneugheol 49.06 302 *e*P P **11 06 03.6 -0.1**
FRNF Fournols 49.10 301 *e*P P **11 06 05.7 +1.7**
TCF Toulx Ste Croi 49.11 303 *e*P P **11 06 04.1 0.0**
comp=Z,82nm,1.1s,mb5.4
TCF Toulx Ste Croi 49.11 303 *e*P P **11 06 04.1 0.0**
TCF pmax pmax
comp=Z,41nm,1.1s,mb5.4
TCF Toulx Ste Croi 49.11 303 *e*P P **11 06 04.1 0.0**
comp=Z,41nm,1.1s,mb5.4
DFRA Djebel Bou Aff 49.43 289 P P **11 06 06.0 -0.4**
CAF Calviac 49.57 301 *e*P P **11 06 07.6 +0.1**
comp=Z,48nm,1.1s,mb5.1
CAF Calviac 49.57 301 *e*P P **11 06 07.6 +0.1**
CAF pmax pmax
comp=Z,24nm,1.1s,mb5.1
CAF Calviac 49.57 301 *e*P P **11 06 07.6 +0.1**
comp=Z,24nm,1.1s,mb5.1
LRDF Laroque-de-Fa 49.80 298 *e*P P **11 06 07.5 -1.8**
RJF Les Rejaudoux 49.84 302 *e*P P **11 06 10.1 +0.5**
RJF *e*R
comp=Z,3µm,19.0s
RJF Les Rejaudoux 49.84 302 *e*P P **11 06 10.1 +0.5**
RJF LR LR
comp=Z,3µm,19.0s,MS5.3
CKHR Kef el Ahmar 49.89 289 P P **11 06 10.0 0.0**
MTLF Montolieu 49.90 299 *e*P P **11 06 09.8 -0.3**
comp=Z,77nm,1.3s,mb5.3
MTLF Montolieu 49.90 299 *e*P P **11 06 09.8 -0.3**
MTLF pmax pmax
comp=Z,38nm,1.3s,mb5.3
MTLF Montolieu 49.90 299 *e*P P **11 06 09.8 -0.3**
comp=Z,38nm,1.3s,mb5.3
SET Setif 49.91 289 P P **11 06 11.0 +0.9**
LDF La Druitiere 50.08 306 *e*P P **11 06 10.6 -0.9**
comp=Z,22nm,0.8s,mb5.0
LDF La Druitiere 50.08 306 *e*P P **11 06 10.6 -0.9**
LDF pmax pmax
comp=Z,11nm,0.8s,mb4.9
LDF La Druitiere 50.08 306 *e*P P **11 06 10.6 -0.9**
comp=Z,11nm,0.8s,mb5.0
FLN La Foliniere 50.27 306 *e*P P **11 06 12.1 -0.8**
comp=Z,94nm,1.2s,mb5.4
FLN *e*R
comp=Z,2µm,17.2s
FLN La Foliniere 50.27 306 *e*P P **11 06 12.1 -0.8**
FLN pmax pmax
comp=Z,47nm,1.2s,mb5.4
FLN MLR MLR
comp=Z,2µm,17.3s,MS5.2
FLN La Foliniere 50.27 306 *e*P P **11 06 12.1 -0.8**
comp=Z,47nm,1.2s,mb5.4
FLN LR LR
comp=Z,2µm,17.3s,MS5.2
LFF La Frestale 50.47 301 *e*P P **11 06 14.3 -0.1**
ESK Eskdalemuir 50.52 315 *e*P P **11 06 13.7 -1.1**
ESK pmax pmax
comp=Z,32nm,1.1s,mb5.2
ESK Eskdalemuir 50.52 315 *e*P P **11 06 13.7 -1.1**
comp=Z,32nm,1.1s,mb5.2
MFF Saint Martin d 50.61 304 *e*P P **11 06 15.3 -0.1**
comp=Z,73nm,1.3s,mb5.2
MFF Saint Martin d 50.61 304 *e*P P **11 06 15.3 -0.1**
MFF pmax pmax
comp=Z,37nm,1.3s,mb5.2
MFF Saint Martin d 50.61 304 *e*P P **11 06 15.3 -0.1**
comp=Z,37nm,1.3s,mb5.2
GRR Gorron 50.61 306 *e*P P **11 06 14.8 -0.6**
comp=Z,46nm,1.1s,mb5.0
GRR Gorron 50.61 306 *e*P P **11 06 14.8 -0.6**
GRR pmax pmax
comp=Z,23nm,1.1s,mb5.0
GRR Gorron 50.61 306 *e*P P **11 06 14.8 -0.6**
comp=Z,23nm,1.1s,mb5.0
MLS Moulis 50.80 299 *e*P P **11 06 14.9 -2.0**
JMIC Jan Mayen 51.18 336 P P **11 06 19.4 -0.3**
comp=Z,11nm,0.7s,mb4.9,baz=175,slow=6.4,SNR=6.0
JMIC Jan Mayen 51.18 336 *e* P **11 06 18.9 -0.9**
JMIC AMS AMS 11 35 03.4
comp=Z,2µm,19.6s,MS5.0
JMIC Jan Mayen 51.18 336 *e*P P **11 06 18.9 -0.9**
JMIC LR LR
comp=Z,2µm,19.6s,MS5.0
EPF Esparros 51.31 299 *e*P P **11 06 19.7 -1.0**
EPOB Poblet 51.32 297 P P **11 06 20.6 -0.2**
comp=Z,90nm,2.5s,mb5.3
ABA Alger-Bouzarea 51.46 291 P P **11 06 22.0 +0.1**
MBAR Mbarara 51.48 232|| *e*P P **11 06 22.7 +0.7**
EBIE Bielsa 51.55 299 P P **11 06 22.6 0.0**
comp=Z,3.0nm,0.5s,mb4.5
VIEF Viey 51.57 299 *e*P P **11 06 22.8 +0.1**
TGY Tagaytay City 51.65 102 LR LR 11 30 19.1
comp=Z,12nm,21.9s,baz=154,slow=38
SGMF Saint Gilles 51.74 306 *e*P P **11 06 23.3 -0.6**
EIBI Ibiza 51.91 294 P P **11 06 26.7 +1.4**
comp=Z,135nm,2.0s,mb5.5
ETSF Etsaut 51.98 299 *e*P P **11 06 25.6 -0.1**
comp=Z,109nm,1.2s,mb5.3
ETSF Etsaut 51.98 299 *e*P P **11 06 25.6 -0.1**
ETSF pmax pmax
comp=Z,54nm,1.2s,mb5.3
ETSF Etsaut 51.98 299 *e*P P **11 06 25.6 -0.1**
comp=Z,54nm,1.2s,mb5.4
ERTA Horta de San J 51.98 297 P P **11 06 25.4 -0.3**
comp=Z,12nm,0.9s,mb4.8
ATE Arette 52.01 300 *e*P P **11 06 25.4 -0.6**
ROSF Rostrenen 52.18 307 *e*P P **11 06 26.9 -0.3**
comp=Z,166nm,1.4s,mb5.5
ROSF Rostrenen 52.18 307 *e*P P **11 06 26.9 -0.3**
ROSF pmax pmax
comp=Z,83nm,1.4s,mb5.5
ROSF Rostrenen 52.18 307 *e*P P **11 06 26.9 -0.3**
comp=Z,83nm,1.4s,mb5.5
QUIF Quistinic 52.22 306 *e*P P **11 06 26.9 -0.6**
LARF Larrau 52.23 300 *e*P P **11 06 27.4 -0.2**
KSM Kuching 52.24 123 *e*P P **11 06 27.8 +0.1**
SJPF Ste Jean 52.37 300 *e*P P **11 06 28.3 -0.3**
EALK Alkurruntz 52.53 300 P P **11 06 29.6 -0.2**
comp=Z,5.3nm,0.6s,mb4.7
ELIZ Elizondo 52.56 300 P P **11 06 29.1 -0.9**
ELIZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ELIZ Elizondo 52.56 300 P P **11 06 29.1 -1.0**
comp=Z,3.4nm,0.6s,mb4.5
EMOS Mosqueruela 52.76 296 P P **11 06 31.6 +0.1**
comp=Z,5.2nm,0.6s,mb4.6
KKM Kota Kinabalu 53.17 114 *e*P P **11 06 34.8 +0.2**
ECHE Chera 53.39 295 P P **11 06 37.8 +1.7**
ECHE pmax pmax
comp=Z,16nm,1.1s,mb4.9
ECHE Chera 53.39 295 P P **11 06 37.8 +1.6**
comp=Z,16nm,1.1s,mb4.8
DAG Danmarks Havn 53.52 343|| *i*P P **11 06 36.3 -0.8**
comp=Z,28nm,1.0s,mb5.2
DAG
comp=Z,1µm,17.0s
DAG Danmarks Havn 53.52 343|| *i*P P **11 06 36.3 -0.8**
DAG pmax pmax
comp=Z,28nm,1.0s,mb5.2
DAG MLR MLR
comp=Z,1µm,17.0s,MS5.0
ELAN Lanestosa 53.86 301 P P **11 06 38.9 -0.7**
comp=Z,41nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 53.89 55*c e*P P **11 06 39.6 -0.2**
YSS *e* 11 06 48.8
YSS *e*S S **11 14 16.0 +1.5**
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.7
YSS pmax pmax
comp=Z,800nm,3.0s
YSS MLR MLR
comp=Z,6µm,19.0s,MS5.7
YSS MLR MLR
comp=N,2µm,17.0s,MS5.9
YSS MLR MLR
comp=E,8µm,16.0s,MS5.9
YSS Yuzh-Sakhalins 53.89 55 *e*P P **11 06 40.3 +0.5**
ETOB Tobarra 54.16 295 P P **11 06 41.1 -0.7**
comp=E,5.7nm,0.7s,mb4.6
CART Cartagena 54.16 293 *e*P P **11 06 42.0 +0.2**
MAJO Matsushiro 54.38 68 *e*P P **11 06 43.7 +0.3**
MAJO pmax pmax
comp=Z,20nm,0.9s,mb5.0
MAJO Matsushiro 54.38 68 *e*P P **11 06 43.7 +0.3**
comp=Z,20nm,0.9s,mb5.0
MAT Matsushiro 54.38 68 P P **11 06 42.9 -0.5**
MAT S S **11 14 21.0 0.0**
MAT Matsushiro 54.38 68 *e*P P **11 06 43.0 -0.4**
MAT *e*S S **11 14 22.0 +1.0**
MAT pmax pmax
comp=Z,40nm,1.3s,mb5.2
MAT MLR MLR
comp=Z,6µm,18.0s,MS5.7
MAT Matsushiro 54.38 68 *e*P P **11 06 43.0 -0.4**
comp=Z,40nm,1.3s,mb5.2
MAT *e*S S **11 14 22.0 +1.0**
MAT LR LR
comp=Z,6µm,18.0s,MS5.7
MJAR Matsushiro Arr 54.38 68 P P **11 06 43.1 -0.3**
comp=Z,18nm,1.1s,mb4.9,baz=291,slow=8.9,SNR=31
MJAR LR LR 11 31 16.6
comp=Z,4µm,18.9s,MS5.5,baz=280,slow=38
EVIA Vianos 54.85 295 P P **11 06 46.8 0.0**
EVIA pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
EVIA Vianos 54.85 295 P P **11 06 46.8 0.0**
comp=Z,5.7nm,0.6s,mb4.8
MA2 Magadan 54.92 38 *e*P P **11 06 47.4 +0.1**
MA2 *e* 11 08 56.7
MA2 PPP 11 10 10.6
MA2 *e*S S **11 14 24.7 -3.5**
MA2 *e* 11 14 46.4
MA2 *e* 11 16 29.4
MA2 pmax pmax
comp=Z,50nm,1.1s,mb5.5
MA2 MLR MLR
comp=Z,2µm,23.0s,MS5.1
MA2 Magadan 54.92 38 *e*P P **11 06 46.7 -0.6**
comp=Z,38nm,1.3s,mb5.3
EARI Arriondas 55.05 301 P P **11 06 49.0 +0.7**
comp=Z,14nm,0.9s,mb5.0
EHUE Huescar 55.23 294 P P **11 06 49.4 -0.2**
EHUE pmax pmax
comp=Z,79nm,1.7s,mb5.5
EHUE Huescar 55.23 294 P P **11 06 49.4 -0.2**
comp=Z,79nm,1.7s,mb5.5
GUD Guadarrama 55.28 298 P P **11 06 50.5 +0.6**
comp=Z,4.1nm,0.6s,mb4.6
ENIJ Nijar 55.28 293 P P **11 06 51.1 +1.2**
ENIJ pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ENIJ Nijar 55.28 293 P P **11 06 51.1 +1.1**
comp=Z,10.0nm,0.7s,mb5.0
ESDC Sonseca Array 55.51 297 P P **11 06 51.3 -0.2**
comp=Z,3.7nm,0.7s,mb4.5,baz=58,slow=7.5,SNR=21
ESDC LR LR 11 33 10.7
comp=Z,912nm,21.6s,MS4.8,baz=60,slow=39
ESDC Sonseca Array 55.51 297 P P **11 06 51.6 +0.1**
comp=Z,2.2nm,0.6s,mb4.4
ESLA Sonseca Array 55.51 297 *e*P P **11 06 52.0 +0.4**
comp=Z,40nm,1.8s,mb5.2
EQES Quesada 55.59 294 P P **11 06 52.8 +0.7**
comp=Z,11nm,0.9s,mb4.9
EBER Berja 55.81 293 P P **11 06 56.1 +2.4**
comp=Z,12nm,0.8s,mb5.0
EBAN Banos Encina 55.96 295 P P **11 06 55.2 +0.3**
comp=Z,4.0nm,0.5s,mb4.7
EPON Pontenova 56.36 302 P P **11 06 57.9 +0.3**
comp=Z,12nm,0.8s,mb5.0
EADA Adamuz 56.53 295 P P **11 06 58.8 -0.1**
comp=Z,8.3nm,0.9s,mb4.8
ECAL Calabor 56.59 300 P P **11 06 58.6 -0.7**
comp=Z,17nm,1.1s,mb5.0
PBRG Braganca 56.65 300 *e*P P **11 07 00.4 +0.7**
comp=Z,41nm,2.0s,mb5.1
EPLA Plasencia 56.86 298 P P **11 07 00.9 -0.3**
EPLA pmax pmax
comp=Z,205nm,2.1s,mb5.8
EPLA Plasencia 56.86 298 P P **11 07 00.8 -0.3**
comp=Z,205nm,2.1s,mb5.8
YUK Yuzh-Kuril'sk 56.95 57 *e*P P **11 06 56.5 -5.3**
YUK *e* 11 09 07.0
YUK S S **11 15 07.0 +12**
YUK pmax pmax
comp=Z,2µm,2.0s
YUK MLR MLR
comp=N,6µm,14.0s,MS6.2
YUK MLR MLR
comp=E,13µm,14.0s,MS6.2
YUK MLR MLR
comp=Z,13µm,14.0s,MS6.2
EMIJ Mijas 57.33 294 P P **11 07 03.3 -1.2**
comp=Z,159nm,2.9s,mb5.5
PVRL Vila Real 57.53 300 *e*P P **11 07 08.2 +2.3**
comp=Z,64nm,2.3s,mb5.2
ELOB Lobios 57.54 300 P P **11 07 05.5 -0.4**
comp=Z,23nm,0.9s,mb5.2
PCAB Cabril 57.57 300 *e*P P **11 07 07.4 +1.2**
comp=Z,49nm,1.2s,mb5.4
MTE Manteigas 57.76 299 *e*P P **11 07 08.5 +1.0**
comp=Z,79nm,2.5s,mb5.3
MTE *e*S S **11 15 09.1 +3.2**
MTE *e*LQ 11 21 26.8
MTE *e*LR LR 11 24 24.2
comp=Z,1µm,18.0s
MTE Manteigas 57.76 299 *e*P P **11 07 07.4 -0.1**
comp=Z,89nm,1.6s,mb5.5
PVIS Viseu 57.88 299 *e*P P **11 07 09.6 +1.2**
comp=Z,55nm,1.6s,mb5.3
PCBR Castelo Branco 57.93 298 *e*P P **11 07 09.8 +1.0**
comp=Z,80nm,2.0s,mb5.4
ESPR Espera 57.99 294 P P **11 07 07.8 -1.4**
comp=Z,9.8nm,1.0s,mb4.8
EBAD Badajoz 58.05 297 P P **11 07 07.2 -2.3**
comp=Z,17nm,0.9s,mb5.1
ALE Alert 58.11 353 P P **11 07 10.6 +0.6**
comp=Z,149nm,1.4s,mb5.8,SNR=17
EMIN Mina Concepcio 58.21 296 P P **11 07 09.4 -1.3**
comp=Z,7.7nm,1.0s,mb4.7
PESTR Estremoz 58.41 297 *e*P P **11 07 12.3 +0.2**
comp=Z,80nm,1.8s,mb5.5
PESTR *e*S S **11 15 15.6 +1.1**
PESTR *e*LQ 11 22 53.2
PESTR *e*LR LR 11 26 38.5
SFS San Fernando 58.42 294 *e*P P **11 07 12.4 +0.2**
PTOM Tomar 58.68 298 *e*P P **11 07 15.1 +1.1**
comp=Z,68nm,1.2s,mb5.5
BILL Bilibino 58.76 26*c i*P P **11 07 14.9 +0.4**
BILL *e* 11 08 02.5
BILL *e* 11 09 25.2
BILL pmax pmax
comp=Z,74nm,2.1s,mb5.3
BILL MLR MLR
comp=Z,2µm,16.0s,MS5.2
BILL Bilibino 58.76 26|| *i*P P **11 07 14.0 -0.5**
EGRO El Granado 58.89 296 P P **11 07 15.3 -0.1**
comp=Z,12nm,0.9s,mb4.9
PBEJ Beja 58.96 296 *e*P P **11 07 16.9 +1.0**
comp=Z,75nm,2.0s,mb5.4
MOE Montemor 59.09 297 *e*P P **11 07 18.5 +1.6**
PLOU Loures 59.51 298 *e*P P **11 07 21.7 +2.0**
comp=Z,125nm,1.8s,mb5.6
PMAFR Mafra 59.57 298 *e*P P **11 07 22.1 +1.9**
SUMG Summit 59.78 341 *e*P P **11 07 21.9 +0.3**
SKR Severo-Kuril's 60.80 47 *e*P P **11 07 24.0 -4.6**
SKR *e* 11 08 10.0
SKR *e*S S **11 15 36.0 -9.3**
SKR *e*PS 11 15 52.0
SKR *e* 11 16 07.0
SKR pmax pmax
comp=Z,180nm,1.0s,mb6.2
SKR smax
comp=E,2µm,8.0s
SKR MLR MLR
comp=N,5µm,16.0s,MS5.8
SKR MLR MLR
comp=E,3µm,16.0s,MS5.8
SKR MLR MLR
comp=Z,5µm,16.0s,MS5.8
PET Petropavlovsk 61.27 44 *e*P P **11 07 28.8 -3.0**
PET *e* 11 09 42.1
PET *e*S S **11 15 43.1 -8.2**
PET *e*SS SS 11 19 48.3 -3.3
PET *e*SSS 11 22 23.5
PET pmax pmax
comp=Z,400nm,3.9s
PET pmax pmax
comp=Z,20nm,1.4s,mb5.0
PET pmax pmax
comp=Z,300nm,6.8s
PET smax
comp=N,100nm,18.5s
PET MLR MLR
comp=Z,3µm,14.0s,MS5.6
TOA0 Torodi Ar. Sit 63.92 267 *e*P P **11 07 49.1 -0.4**
TORD Torodi Ar. Bea 63.92 267 P P **11 07 48.7 -0.8**
comp=Z,8.3nm,0.9s,mb4.8,baz=47,slow=5.8,SNR=33
TORD LR LR 11 39 49.4
comp=Z,2µm,18.8s,MS5.4,baz=60,slow=40
LSZ Lusaka 64.68 224 *e*P P **11 07 55.1 +0.7**
LSZ pmax pmax
comp=Z,42nm,1.5s,mb5.2
LSZ Lusaka 64.68 224 *e*P P **11 07 55.1 +0.6**
comp=Z,42nm,1.5s,mb5.2
SFJD Kangerlussuaq 66.42 338 *e*P P **11 08 05.1 -0.6**
PMAR Madeira 67.96 295 *e*P P **11 08 18.6 +3.1**
comp=Z,219nm,1.6s,mb5.9
GUMO Guam 70.94 87 LR LR 11 40 11.5
comp=Z,970nm,21.3s,MS5.0,baz=108,slow=36
IMA2 Indian Mountai 71.97 17 *e*P P **11 08 39.4 -0.7**
DBIC Dimbokro 72.93 265 P P **11 08 44.8 -1.0**
comp=Z,8.9nm,1.0s,mb4.7,baz=352,slow=7.0,SNR=4.2
DBIC LR LR 11 44 55.0
comp=Z,2µm,19.1s,MS5.4,baz=32,slow=39
LIC Lamto 73.33 265 *e*P P **11 08 47.6 -0.6**
comp=Z,106nm,1.5s,mb5.3
LIC *e*R
comp=Z,2µm,21.2s
LIC Lamto 73.33 265 *e*P P **11 08 47.6 -0.6**
comp=Z,53nm,1.5s,mb5.2
LIC LR LR
comp=Z,750nm,21.3s,MS4.9
INK Inuvik 73.47 8 *e*P P **11 08 48.9 -0.1**
TSUM Tsumeb 73.96 230 *e*P P **11 08 52.4 +0.5**

LBTB	**Lobatse**	**74.02**	**220**	*eP*		**P**	**11 08 53.0**	**+0.7**
COLA	**College**	**74.28**	**15**	⇑*iP*		**P**	**11 08 53.4**	**-0.3**
MCK	**McKinley**	**75.03**	**16**	*eP*		**P**	**11 08 58.8**	**+0.7**
SVW2	**Sparrevohn**	**75.58**	**21**	*eP*		**P**	**11 09 01.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**76.79**	**125**	P		**P**	**11 09 06.7**	**-1.5**
	comp=Z,6.5nm,0.9s,mb4.5,baz=317,slow=4.9,SNR=7.0							
PMR	**Palmer**	**76.84**	**18**	*eP*		**P**	**11 09 08.0**	**-0.5**
PMR				pmax	pmax			
	comp=Z,252nm,2.4s,mb5.7							
PMR				MLR	MLR			
	comp=Z,1μm,19.0s,MS5.2							
PMR	**Palmer**	**76.84**	**18**	*eP*		**P**	**11 09 08.0**	**-0.5**
	comp=Z,252nm,2.4s,mb5.7							
PMR				LR	LR			
	comp=Z,1μm,19.0s,MS5.2							
MENT	**Mentasta**	**76.85**	**15**	*eP*		**P**	**11 09 09.7**	**+1.2**
BOSA	**Boshof**	**77.15**	**218**	P		**P**	**11 09 09.8**	**-0.4**
BOSA				LR	LR		11 47 09.1	
	comp=Z,1μm,20.5s,MS5.2,baz=25,slow=39							
BOSA	**Boshof**	**77.15**	**218**	*eP*		**P**	**11 09 10.5**	**+0.3**
EYAK	**Cordova Ski Ar**	**78.55**	**17**	*eP*		**P**	**11 09 17.8**	**-0.2**
KDAK	**Kodiak Island**	**79.20**	**21**	P		**P**	**11 09 21.3**	**-0.3**
	comp=Z,25nm,1.1s,mb5.1,baz=29,slow=3.8,SNR=4.8							
KDAK	**Kodiak Island**	**79.20**	**21**	P		**P**	**11 09 21.3**	**-0.3**
YKW3	**Yellowknife Ar**	**80.52**	**2**	*eP*		**P**	**11 09 27.8**	**-0.9**
YKA	**Yellowknife Ar**	**80.59**	**2**	P		**P**	**11 09 27.9**	**-1.2**
	comp=Z,25nm,1.0s,mb5.1,baz=349,slow=5.4,SNR=56							
YKA				LR	LR		11 48 48.5	
	comp=Z,1μm,19.4s,MS5.2,baz=0.0,slow=38							
SCHQ	**Schefferville**	**80.70**	**336**	P		**P**	**11 09 28.4**	**-1.3**
	comp=Z,14nm,0.8s,mb4.9,baz=55,slow=6.3,SNR=11							
SCHQ				LR	LR		11 48 59.2	
	comp=Z,516nm,19.6s,MS4.9,baz=40,slow=38							
SKAG	**Skagway**	**81.62**	**12**	*eP*		**P**	**11 09 35.3**	**+0.7**
	comp=Z,288nm,2.6s,mb5.7							
SKAG				LR	LR			
	comp=Z,500nm,18.0s,MS4.9							
NWAO	**Narrogin (SRO)**	**83.17**	**141**	LR		LR	11 46 26.4	
	comp=Z,1μm,21.7s,MS5.2,baz=324,slow=36							
FCC	**Fort Churchill**	**83.30**	**351**	*eP*		**P**	**11 09 43.6**	**+0.3**
FCC				pmax	pmax			
	comp=Z,39nm,1.1s,mb5.3							
FCC	**Fort Churchill**	**83.30**	**351**	*eP*		**P**	**11 09 43.6**	**+0.2**
	comp=Z,39nm,1.1s,mb5.3							
DLBC	**Dease Lake**	**83.41**	**10**	*eP*		**P**	**11 09 45.0**	**+1.1**
WRA	**Warramunga Arr**	**83.92**	**120**	P		**P**	**11 09 44.1**	**-2.5**
	comp=Z,6.2nm,0.7s,mb4.9,baz=324,slow=5.0,SNR=38							
WRA				PP		PP	11 13 02.4	+2.3
	comp=Z,6.4nm,1.3s,baz=316,slow=7.9,SNR=5.0							
WRAB	**Tennant Creek**	**83.92**	**120**	*eP*		**P**	**11 09 44.8**	**-1.7**
WRAB				pmax	pmax			
	comp=Z,16nm,0.8s,mb5.2							
WRAB	**Tennant Creek**	**83.92**	**120**	*eP*		**P**	**11 09 44.8**	**-1.7**
	comp=Z,16nm,0.8s,mb5.2							
WB2	**Warramunga Arr**	**83.93**	**120**	*eP*		**P**	**11 09 44.8**	**-1.8**
ASPA	**Alice Springs**	**86.17**	**123**	*eP*		**P**	**11 09 56.2**	**-1.6**
AS31	**Alice Springs**	**86.17**	**123**	*eP*		**P**	**11 09 56.2**	**-1.6**
ASAR	**Alice Springs**	**86.17**	**123**	P		**P**	**11 09 55.5**	**-2.3**
	comp=Z,5.4nm,0.7s,mb4.9,baz=314,slow=4.8,SNR=39							
FORT	**Forrest**	**87.49**	**132**	*eP*		**P**	**11 10 03.2**	**-1.1**
	comp=Z,34nm,0.6s,mb5.3							
FFC	**Flin Flon**	**88.07**	**355**	*eP*		**P**	**11 10 06.8**	**-0.2**
FFC				pmax	pmax			
	comp=Z,158nm,1.9s,mb5.9							
FFC	**Flin Flon**	**88.07**	**355**	*eP*		**P**	**11 10 06.8**	**-0.2**
	comp=Z,158nm,1.9s,mb5.9							
EDM	**Edmonton**	**89.91**	**1**	*eP*		**P**	**11 10 16.5**	**+0.9**
ULM	**Lac du Bonnet**	**91.85**	**350**	P		**P**	**11 10 23.6**	**-1.1**
	comp=Z,15nm,1.1s,mb5.2,baz=334,slow=7.1,SNR=10							
ULM				LR	LR		11 58 48.8	
	comp=Z,633nm,18.5s,MS5.1,baz=194,slow=40							
CTA	**Charters Tower**	**92.50**	**113**	*eP*		**P**	**11 10 26.7**	**-1.0**
	comp=Z,5.1nm,1.0s,mb4.8							
CTA	**Charters Tower**	**92.50**	**113**	P		**P**	**11 10 25.9**	**-1.8**
	comp=Z,5.2nm,0.9s,mb4.9,baz=280,slow=3.6,SNR=4.7							
CTA	**Charters Tower**	**92.50**	**113**	*eP*		**P**	**11 10 26.7**	**-1.0**
CTA				pmax	pmax			
	comp=Z,50nm,1.0s							
WALA	**Waterton Lakes**	**94.06**	**2**	*eP*		**P**	**11 10 35.3**	**+0.4**
	comp=Z,10nm,1.1s,mb5.2							
NEW	**Newport**	**94.73**	**4**	*eP*		**P**	**11 10 38.2**	**+0.3**
NEW				pmax	pmax			
	comp=Z,12nm,1.3s							
NEW	**Newport**	**94.73**	**4**	*eP*		**P**	**11 10 38.2**	**+0.2**
	comp=Z,12nm,1.3s,mb5.2							
EGMT	**Eagleton**	**95.12**	**359**	*eP*		**P**	**11 10 41.1**	**+1.4**
	comp=Z,5.3nm,0.3s,mb5.5							
BSMT	**Bassoo Peak**	**95.24**	**2**	*eP*		**P**	**11 10 41.6**	**+1.3**
CHMT	**Chamberlain Mo**	**96.22**	**1**	*eP*		**P**	**11 10 45.2**	**+0.4**
HRY	**Holter Researc**	**96.44**	**0**	*eP*		**P**	**11 10 46.0**	**+0.3**
STKA	**Stephens Creek**	**96.69**	**125**	LR		LR	11 58 38.8	
	comp=Z,724nm,21.0s,MS5.1,baz=119,slow=38							
GCMT	**Greycliff**	**97.35**	**359**	*eP*		**P**	**11 10 50.3**	**+0.4**
DLMT	**Dillon**	**97.78**	**1**	*eP*		**P**	**11 10 52.7**	**+0.9**
	comp=Z,12nm,1.3s,mb5.3							
MCMT	**McKenzie Canyo**	**98.31**	**1**	*eP*		**P**	**11 10 55.4**	**+1.2**
ECSD	**EROS,Sioux Fal**	**98.33**	**349**	*eP*		**P**	**11 10 54.2**	**0.0**
RSSD	**Black Hills**	**98.77**	**355**	*eP*		**P**	**11 10 56.1**	**-0.1**
RSSD				pmax	pmax			
	comp=Z,8.0nm,1.3s,mb5.1							
RSSD	**Black Hills**	**98.77**	**355**	*eP*		**P**	**11 10 56.1**	**-0.1**
	comp=Z,8.1nm,1.3s,mb5.1							
FLWY	**Flagg Ranch**	**99.07**	**360**	*eP*		**P**	**11 10 57.7**	**+0.2**
	comp=Z,5.5nm,1.2s,mb5.0							
FLWY				*e*PP		PP	11 14 59.4	-0.3
IMW	**Indian Meadow**	**99.26**	**360**	*eP*		**P**	**11 10 56.1**	**-2.3**
	comp=Z,18nm,1.6s,mb5.4							
PDAR	**Pinedale Array**	**100.37**	**359**	P		Pdif	11 11 02.7	-0.7
	comp=Z,0.7nm,0.8s,baz=7.1,slow=3.6,SNR=5.6							
MVCO	**Mesa Verde**	**105.89**	**358**	*e*PKP		PKiKP	11 15 40.1	-0.2
PPT	**Papeete**	**141.10**	**70**	*e*LR		LR	12 02 41.7	
	comp=Z,1μm,26.2s							
TAOE	**Nuku Hiva Isla**	**141.52**	**50**	*e*LR		LR	12 02 55.7	
	comp=Z,4μm,23.8s							
PLCA	**Paso Flores**	**148.35**	**251**	PKPbc		PKPbc	11 17 03.4	+0.5
	comp=Z,18nm,1.0s,baz=116,slow=3.0,SNR=17							
PLCA	**Paso Flores**	**148.35**	**251**	PKP2		PKPab	11 17 04.2	-1.8

NEIC ***29*** *10:58:31.8±1.4, 768S×12469E, h47km±18km, mb3.9/1, Error ellipse: s-maj=26.1km s-min=7.5km az=63.0*
ISCJB ***29*** *10:58:46.6±1.2, 666S±008×1277E±02, h234km±15km, mb4.8/1, Error ellipse: s-maj=29.9km s-min=9.3km az=143.9*
IDC ***29*** *10:58:50.3±4.4, 675S×12771E, h265km±44km, mb3.9/1, mb1 3.6/4, mb1mx3.3/14, mbtmp4.3/4, Error ellipse: s-maj=68.0km s-min=16.2km az=67.0*

ISC 29 10:58:50.3±1.1, 679S±008×1275E±02, h267km±15km, n11, σ0§88/18, mb4.9/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.65**	**141**	*eP*	**Pn**	**11 00 41.4**	**+2.1**
	20nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.38**	**189**	*eP*	**Pn**	**11 01 26.2**	**+0.4**
	7.9nm,0.6s						
FITZ				*e*S	**S**	11 03 31.8	-1.2
FITZ	**Fitzroy Crossi**	**11.38**	**189**	P	**Pn**	**11 01 26.2**	**+0.4**
	1.1nm,0.3s,baz=24,slow=9.8,SNR=63						
FITZ				S	**S**	**11 03 37.3**	**+4.3**
	0.3nm,0.3s,baz=72,slow=21,SNR=3.5						
DAV	**Davao City (W)**	**13.90**	**352**	*e*Pn	**Pn**	**11 01 55.7**	**-0.9**
WRAB	**Tennant Creek**	**14.67**	**154**	*e*Pn	**Pn**	**11 02 05.2**	**-0.7**
	3.6nm,0.4s						
WRA	**Warramunga Arr**	**14.68**	**154**	P	**Pn**	**11 02 05.1**	**-0.8**
	0.7nm,0.3s,baz=330,slow=12,SNR=62						
WRA				S	**S**	**11 04 42.9**	**-4.7**
	0.4nm,0.3s,baz=332,slow=21,SNR=8.3						
WB2	**Warramunga Ar**	**14.68**	**154**	*eP*	**Pn**	**11 02 05.3**	**-0.7**
WB2				*e*S	**S**	**11 04 40.7**	**-7.0**
AS31	**Alice Springs**	**17.88**	**160**	*eP*	**P**	**11 02 40.7**	**+0.2**
AS31				*e*S	**S**	**11 05 51.3**	**-0.5**
ASAR	**Alice Springs**	**17.88**	**160**	P	**P**	**11 02 41.0**	**+0.4**
	0.6nm,0.3s,baz=345,slow=12,SNR=71						
ASAR				S	**S**	**11 05 52.5**	**+0.7**
	0.3nm,0.3s,baz=339,slow=24,SNR=8.5						
ASPA	**Alice Springs**	**17.88**	**160**	*eP*	**P**	**11 02 40.7**	**+0.2**
ASPA				*e*S	**S**	**11 05 51.3**	**-0.5**
MKAR	**Makanchi Array**	**66.70**	**328**	P	**P**	**11 09 13.7**	**+0.9**
	31nm,1.3s,mb4.9,baz=120,slow=7.8,SNR=5.4						

IDC 29 10:59:34.2±3.5, 549S×14976E, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, ML2.7/1, Error ellipse: s-maj=135.5km s-min=35.7km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.67**	**213**	Pn	Pn	11 00 47.7	+1.7
	2.2nm,0.3s,baz=346,slow=7.2,SNR=8.7						
PMG				Sn	Sn	11 01 40.8	-0.1
	2.4nm,0.3s,baz=196,slow=18,SNR=4.0						
WRA	**Warramunga Arr**	**20.77**	**225**	P	P	11 04 17.4	+0.6
	5.2nm,0.6s,baz=50,slow=10,SNR=8.9						
ASAR	**Alice Springs**	**23.66**	**219**	P	P	11 04 46.8	-0.7
	2.2nm,0.6s,baz=55,slow=8.9,SNR=14						
TORD	**Torodi Ar. Bea**	**147.61**	**286**	PKPbc	PKPbc	11 19 21.2	+0.7
	0.5nm,0.4s,baz=70,slow=2.2,SNR=8.3						

MEX 29 11:16:09.4±0.3, 1596N×9750W, h20km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**1.33**	**34**	*i* P	Pn	11 16 29.8	-2.9
VHO				*i* S	Sn	11 16 45.7	-4.1
OXX	**Oaxaca**	**1.34**	**34**	*i* P	Pn	11 16 30.2	-2.8
OXX				*i* S	Sn	11 16 46.7	-3.5
UTMO	**Huajuapan**	**1.88**	**351**	*i* P	Pn	11 16 37.7	-2.7
UTMO				*i* S	Sn	11 16 59.8	-3.7
TPIG	**Tehuac#an**	**2.45**	**3**	*i* S	Sn	11 17 14.7	-2.8
CMIG	**Matias Romero**	**2.75**	**66**	*e*P	Pn	11 16 50.0	-2.3
CMIG				*i* S	Sn	11 17 24.4	-0.6

NNC ***29*** *11:36:34.1±3.0, 3708N×6841E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=29.6km s-min=28.0km az=74.0*
BJI ***29*** *11:36:35.0, 3740N×6870E, h10km, mb4.5*
ISCJB ***29*** *11:36:38.5±2.9, 3735N±006×6865E±009, h19km±22km, mb3.8/12, MS3.9/2, Error ellipse: s-maj=13.8km s-min=6.8km az=103.4*
NEIC ***29*** *11:36:39.0±0.4, 3736N×6873E, h10km, mb4.9/8, Error ellipse: s-maj=10.0km s-min=5.4km az=48.0*
MOS ***29*** *11:36:40.6±1.0, 3741N×6875E, h33km, mb4.3/2, Error ellipse: s-maj=14.2km s-min=8.8km az=90.3*
IDC ***29*** *11:36:41.6±7.8, 3717N×6881E, h32km±57km, mb3.7/11, mb1 3.8/14, mb1mx3.7/24, mbtmp3.9/14, ML3.4/3, MS4.0/2, Ms1 4.0/2, ms1mx3.2/29, Error ellipse: s-maj=34.6km s-min=17.4km az=14.0*

ISC 29 11:36:39.9±3.6, 3730N±006×6861E±008, h19km±23km, n52, σ1§24/52, mb3.8/12, MS3.9/2, 7C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.98**	**14**	Pn	**Pn**	**11 38 08.1**	**+0.7**
	1.3nm,0.3s,baz=208,slow=9.5,SNR=53						
KK31				⇑Lg		11 39 49.8	
	22nm,0.7s,baz=198,slow=30,SNR=5.5						
AML	**Almayashu**	**6.21**	**38**	P	**Pn**	**11 38 12.1**	**+1.5**
	SNR=10						
UCH	**Uchtor**	**6.70**	**41**	P	**Pn**	**11 38 19.1**	**+1.8**
	SNR=29						
AAK	**Ala-Archa**	**6.98**	**38**	*e*PN	**Pn**	**11 38 20.8**	**-0.4**
AAK				pmax	pmax		
	comp=Z,15nm,0.8s						
AAK	**Ala-Archa**	**6.98**	**38**	*e*Pn	**Pn**	**11 38 20.8**	**-0.4**
	comp=Z,15nm,0.8s						
KZA	**Kyzart**	**7.00**	**45**	P	**Pn**	**11 38 23.5**	**+2.1**
	SNR=34						
KBK	**Karagaybulak**	**7.23**	**40**	P	**Pn**	**11 38 26.8**	**+2.2**
	SNR=20						
ULHL	**Ulahol**	**7.67**	**48**	P	**Pn**	**11 38 31.6**	**+0.9**
	SNR=5.6						
TKM2	**Tokmak 2**	**7.75**	**41**	P	**Pn**	**11 38 33.3**	**+1.5**
	SNR=12						
TKM2	**Tokmak 2**	**7.75**	**41**	⇑Pn	**Pn**	**11 38 33.2**	**+1.4**
	comp=Z,1.1nm,0.7s						
NDI	**New Delhi**	**11.22**	**137**	*eP*	**Pn**	**11 39 16.0**	**-3.3**
NDI				*e*S	**Sn**	**11 41 23.0**	**-1.2**
AB31	**Akbulak array**	**13.50**	**335**	P	**Pn**	**11 39 48.4**	**-2.1**
	comp=Z,1.4nm,0.5s,baz=153,slow=13,SNR=32						
MKAR	**Makanchi Array**	**13.88**	**43**	Pn	**Pn**	**11 39 54.1**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=233,slow=12,SNR=14						
MK05	**Makanchi Array**	**13.89**	**43**	⇑P	**Pn**	**11 39 54.3**	**-1.4**
	comp=Z,6.2nm,1.1s						
AKTK	**Aktyubinsk**	**15.17**	**333**	Pn	**Pn**	**11 40 12.2**	**-0.9**
AKTO	**Aktyubinsk**	**15.17**	**333**	⇑P	**Pn**	**11 40 15.3**	**+2.3**
	comp=Z,0.1nm,0.8s						
AKTO	**Aktyubinsk**	**15.17**	**333**	Pn	**Pn**	**11 40 12.2**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=151,slow=15,SNR=3.2						
VOSK	**Vostochnaya**	**15.51**	**5**	⇓P	**Pn**	**11 40 15.4**	**-2.2**
	comp=Z,6.4nm,1.1s						
ZRNK	**Zerenda**	**15.65**	**1**	⇑P	**Pn**	**11 40 18.5**	**-1.0**
	comp=Z,8.3nm,0.9s						
ZRNK	**Zerenda**	**15.65**	**1**	*e*P	**Pn**	**11 40 18.4**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZRNK	**Zerenda**	**15.65**	**1**	*e*Pn	**Pn**	**11 40 18.4**	**-1.0**
	comp=Z,10nm,0.9s						
BVA0	**Borovoye Array**	**15.77**	**4**	⇑P	**Pn**	**11 40 19.7**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=208,slow=22,SNR=18						
BVAR	**Borovoye Array**	**15.77**	**4**	Pn	**Pn**	**11 40 19.5**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=184,slow=15,SNR=11						
KOLN	**Kolanda**	**15.80**	**123**	*e*P	**Pn**	**11 40 22.1**	**+0.8**
	comp=Z,26nm,0.9s						
GKN	**Gorkha**	**16.36**	**120**	*e*P	**Pn**	**11 40 27.8**	**-0.7**
	comp=Z,85nm,0.8s						
CHKZ	**Chkalovo**	**16.44**	**4**	⇑P	**Pn**	**11 40 27.7**	**-1.8**
	comp=Z,4.6nm,1.1s						
CHKZ	**Chkalovo**	**16.44**	**4**	*e*P	**Pn**	**11 40 28.4**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CHKZ	**Chkalovo**	**16.44**	**4**	*e*Pn	**Pn**	**11 40 28.4**	**-1.1**
	comp=Z,4.6nm,0.9s						
DMN	**Daman**	**16.93**	**120**	*e*P	**Pn**	**11 40 36.2**	**+0.5**
	comp=Z,106nm,1.0s						
KKN	**Kakani**	**16.93**	**119**	*e*P	**Pn**	**11 40 35.4**	**-0.4**
	comp=Z,127nm,0.9s						
KKN	**Kakani**	**16.93**	**119**	*e*P	**Pn**	**11 40 35.4**	**-0.4**
KKN				pmax	pmax		
	comp=Z,127nm,0.9s						
PKI	**Pulchoki**	**17.16**	**120**	*e*P	**Pn**	**11 40 39.4**	**+0.8**
	comp=Z,93nm,0.9s						
PKI	**Pulchoki**	**17.16**	**120**	*e*P	**Pn**	**11 40 39.4**	**+0.8**
PKI				pmax	pmax		
	comp=Z,93nm,0.9s						
GUN	**Gumba**	**17.28**	**118**	*e*P	**Pn**	**11 40 40.1**	**0.0**
	comp=Z,154nm,1.0s						
JIRN	**Jiri**	**17.65**	**118**	*e*P	**Pn**	**11 40 44.7**	**0.0**
	comp=Z,36nm,0.6s						
ZAL	**Zalesovo**	**20.04**	**29**	P	**P**	**11 41 11.1**	**-0.7**
	comp=Z,2.9nm,0.5s,baz=259,slow=9.4,SNR=3.2						
ARU	**Arti**	**20.29**	**344**	*e*P	**P**	**11 41 22.0**	**+7.5**
ARU				*e*		11 41 39.6	
GTA	**Gaotai**	**24.50**	**75**	*e*P	**P**	**11 41 59.0**	**+1.0**
GTA				AP		11 42 04.0	
GTA				XP	sP	11 42 06.8	+0.8
ASF	**Jabal al Asfar**	**26.48**	**268**	LR	LR	11 54 51.2	
	comp=Z,238nm,20.0s,MS3.7,baz=294,slow=41						
BRTR	**Keskin Array B**	**27.37**	**286**	P	**P**	**11 42 26.6**	**+2.7**
	comp=Z,0.8nm,0.7s,mb3.4,baz=67,slow=9.5,SNR=4.1						
ZAK	**Zakamensk**	**27.94**	**51**	*e*P	**P**	**11 42 28.6**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.7						
SONM	**Songino Array**	**29.48**	**57**	P	**P**	**11 42 43.0**	**+0.2**
	comp=Z,0.2nm,0.4s,mb3.2,baz=281,slow=9.3,SNR=3.8						
SONM				LR	LR	11 55 40.1	
	comp=Z,494nm,20.3s,MS4.1,baz=259,slow=39						
AKASG	**Malin Array Be**	**30.95**	**308**	P	**P**	**11 42 57.0**	**+1.3**
	comp=Z,1.9nm,0.7s,mb4.1,baz=84,slow=7.5,SNR=6.9						
FINES	**FINESS Array B**	**35.75**	**326**	P	**P**	**11 43 38.5**	**+0.9**
	comp=Z,0.9nm,0.6s,mb3.9,baz=131,slow=10,SNR=6.4						
BOD	**Bodaibo**	**35.96**	**40**	*e*P	**P**	**11 43 39.5**	**+0.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
ARCES	**ARCESS Array B**	**39.68**	**338**	P	**P**	**11 44 11.7**	**+0.9**
	comp=Z,2.4nm,0.9s,mb3.9,baz=137,slow=9.6,SNR=4.9						
NB2	**NORSAR Subarra**	**42.59**	**323**	P	**P**	**11 44 34.6**	**-0.1**
	comp=Z,1.1nm,0.6s,mb3.8,baz=97,slow=8.6						
NOA	**NORSAR Array B**	**42.59**	**323**	P	**P**	**11 44 34.3**	**-0.4**
	comp=Z,1.6nm,0.7s,mb3.9,baz=98,slow=8.2,SNR=8.0						
TORD	**Torodi Ar. Bea**	**63.83**	**267**	P	**P**	**11 47 12.2**	**+1.2**
	comp=Z,1.2nm,0.9s,mb3.9,baz=38,slow=6.4,SNR=6.1						
YKA	**Yellowknife Ar**	**80.52**	**2**	P	**P**	**11 48 51.1**	**+0.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=351,slow=5.4,SNR=5.2						
WRA	**Warramunga Arr**	**84.04**	**120**	P	**P**	**11 49 07.1**	**-2.1**
	comp=Z,0.9nm,0.8s,mb3.9,baz=324,slow=4.9,SNR=7.7						
ASAR	**Alice Springs**	**86.29**	**123**	P	**P**	**11 49 20.1**	**-0.4**
	comp=Z,0.6nm,0.8s,mb3.9,baz=313,slow=5.6,SNR=5.0						

NEIC ***29*** *11:56:59.9, 2430S×6938W, h0km, ML3.0(GUC), After GUC.*

GUC 29 11:56:59.9±0.6, 2430S×6938W, h0km±6km, MD3.5, ML3.0, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPN1	**Cerro Paranal**	**0.99**	**251**	⇑*iP*	Pg	11 57 19.9	+1.0
CPN1				*i* S	Sg	11 57 34.7	+3.0
CPN1				AML	AML	11 57 39.2	
	comp=E,444nm,0.1s						
ANCH	**Antofagasta**	**1.13**	**303**	⇓*iP*	Pg	11 57 21.2	-0.4
ANCH				*i* S	Sg	11 57 37.5	+1.2
ANCH				AML	AML	11 57 40.5	
	comp=N,849nm,0.1s						
ANCH	**Antofagasta**	**1.13**	**303**	⇓*iP*	Pg	11 57 21.2	-0.4
ANCH				*i* S	Sg	11 57 37.5	+1.2
CEN1	**Los Morros**	**1.18**	**320**	⇓*iP*	Pg	11 57 21.5	-1.1
CEN1				*i* S	Sg	11 57 38.0	+0.1
CDCH	**Caldera**	**3.05**	**205**	*i* P	Pn	11 57 50.1	+0.7
CDCH				*i* S	Sn	11 58 29.2	+2.6
CDCH				AML	AML	11 58 31.9	
	comp=N,85nm,0.2s						
CDCH	**Caldera**	**3.05**	**205**	*i* P	Pn	11 57 50.1	+0.7
CDCH				*i* S	Sn	11 58 29.2	+2.6
CPUP	**Villa Florida**	**11.08**	**103**	*e*Pn	Pn	11 59 40.1	+0.5
NNA	**Nana**	**14.15**	**329**	*e*Pn	Pn	12 00 22.1	+0.6
NNA				*e*P		12 00 30.2	
SJG	**San Juan**	**42.27**	**5**	*e*P	P	12 04 58.7	+3.7
	comp=N,48nm,1.3s						

KRSC 29 12:06:45, 5251N×16255E, h42km, ML3.5, Off east coast of Kamchatka Peninsula

ISCJB ***29*** *12:26:43.5±1.2, 2981N±005×3626E±007, h10km, Error ellipse: s-maj=9.0km s-min=6.9km az=77.5*
GII ***29*** *12:26:43.5±1.0, 2988N×3623E, h0km, ML2.0/5*
HLW ***29*** *12:26:48.0, 3007N×3593E, h17km, Mb3.1*

ISC 29 12:26:43.9±1.2, 2982N±006×3629E±007, h10km, n16, σ1§21/24, 2C-2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**1.08**	**266**	Pg	**Pg**	**12 27 03.8**	**-0.9**
HRFI	**Mount Harif**	**1.11**	**282**	Pg	**Pg**	**12 27 04.0**	**-1.2**
HRFI				Sg	**Sg**	**12 27 20.3**	**+0.7**
EIL	**Elat**	**1.17**	**263**	Pg	**Pg**	**12 27 05.8**	**-0.6**
EIL				Sg	**Sg**	**12 27 23.0**	**+1.3**
MBH	**Mount Berech**	**1.20**	**269**	Pg	**Pg**	**12 27 05.9**	**-0.9**
ZFRI	**Zfri**	**1.21**	**308**	Pg	**Pg**	**12 27 04.9**	**-2.3**
PRNI	**Paran**	**1.24**	**296**	Pg	**Pg**	**12 27 05.8**	**-1.8**
PRNI				Sg	**Sg**	**12 27 22.7**	**-1.0**
HBST	**Basata**	**1.48**	**247**	⇑P	**Pn**	**12 27 12.4**	**+1.8**
MZDA	**Masada**	**1.69**	**332**	Pn	**Pn**	**12 27 13.7**	**+0.3**
MZDA				Sn	**Sn**	**12 27 35.9**	**+0.7**
MKRJ	**Makawir**	**1.82**	**342**	Pn	**Pn**	**12 27 14.6**	**-0.6**
DRGI	**Dragot**	**1.93**	**337**	Pn	**Pn**	**12 27 16.8**	**0.0**
KZIT	**Kziot**	**1.96**	**304**	Pn	**Pn**	**12 27 17.4**	**+0.2**
KZIT				Sn	**Sn**	**12 27 43.4**	**+1.5**
AMAZ	**Amatzia**	**2.08**	**326**	Pn	**Pn**	**12 27 18.9**	**+0.1**
AMAZ				Sn	**Sn**	**12 27 46.1**	**+1.3**
AMAZ	**Amatzia**	**2.08**	**326**	Pn	**Pn**	**12 27 18.9**	**+0.1**
AMAZ				Sn	**Sn**	**12 27 46.1**	**+1.3**
HKAT	**Jabal Katrina**	**2.39**	**238**	⇑*iP*	**Pn**	**12 27 24.0**	**+1.0**
AMAG	**Maghara**	**2.79**	**288**	⇓P	**Pn**	**12 27 30.8**	**+2.2**
SUZ		**3.00**	**271**	⇓P	**Pn**	**12 27 29.6**	**-1.

TUVZ	**Tukino**	**0.98**	**193**	PN	Pn	12 47 07.8	+0.4
TUVZ				SN	Sn	12 47 28.7	+0.4
TUVZ	**Tukino**	**0.98**	**193**	P	Pn	12 47 07.8	+0.4
TUVZ				S	Sn	12 47 29.3	+1.0
FWVZ	**Far West T-bar**	**0.99**	**198**	PN	Pn	12 47 07.7	+0.1
FWVZ	**Far West T-bar**	**0.99**	**198**	*e*P	Pn	12 47 07.9	+0.4
WNVZ	**Wahianoa**	**1.05**	**195**	⇑PN	Pn	12 47 08.2	+0.3
WNVZ				SN	Sn	12 47 29.3	0.0
WNVZ	**Wahianoa**	**1.05**	**195**	P	Pn	12 47 08.2	+0.2
WNVZ				S	Sn	12 47 29.8	+0.6
PKVZ	**Pokaka**	**1.08**	**206**	PN	Pn	12 47 08.2	0.0
PKVZ				SN	Sn	12 47 30.2	+0.5
MOVZ	**Moawhango**	**1.10**	**188**	PN	Pn	12 47 08.2	-0.2
MOVZ				SN	Sn	12 47 28.9	-1.1
MTVZ	**Mangateitei**	**1.14**	**199**	PN	Pn	12 47 08.7	0.0
VRZ	**Vera Road**	**1.23**	**229**	PN	Pn	12 47 09.4	-0.1
VRZ	**Vera Road**	**1.23**	**229**	P	Pn	12 47 09.4	-0.1
MWZ	**Matawai**	**1.24**	**92**	⇓PN	Pn	12 47 09.6	+0.1
MWZ				SN	Sn	12 47 31.6	-0.4
MWZ	**Matawai**	**1.24**	**92**	P	Pn	12 47 09.6	+0.1
KNZ	**Kokohu**	**1.52**	**118**	PN	Pn	12 47 12.5	+0.3
KNZ	**Kokohu**	**1.52**	**118**	P	Pn	12 47 12.5	+0.4
WAZ	**Wanganui**	**1.62**	**207**	PN	Pn	12 47 12.7	-0.5
WAZ	**Wanganui**	**1.62**	**207**	*e*P	Pn	12 47 12.7	-0.4
NEZ	**North Egmont**	**1.74**	**236**	PN	Pn	12 47 13.5	-0.7
NEZ	**North Egmont**	**1.74**	**236**	P	Pn	12 47 14.0	-0.2
TSZ	**Takapari Road**	**1.75**	**180**	⇑PN	Pn	12 47 13.9	-0.5
TSZ	**Takapari Road**	**1.75**	**180**	P	Pn	12 47 13.9	-0.4
PUZ	**Puketiti**	**1.83**	**83**	PN	Pn	12 47 14.9	-0.3
PUZ	**Puketiti**	**1.83**	**83**	*e*P	Pn	12 47 14.9	-0.4
PXZ	**Pawanui**	**1.86**	**158**	PN	Pn	12 47 15.2	-0.3
PXZ				SN	Sn	12 47 42.0	-0.7
MXZ	**Matakaoa Point**	**2.01**	**69**	PN	Pn	12 47 17.0	-0.2
MXZ	**Matakaoa Point**	**2.01**	**69**	P	Pn	12 47 17.0	-0.2
MRZ	**Mangatainoka R**	**2.36**	**187**	PN	Pn	12 47 19.5	-1.6
MRZ	**Mangatainoka R**	**2.36**	**187**	P	Pn	12 47 19.5	-1.6
KIW	**Kapiti Island**	**2.67**	**197**	PN	Pn	12 47 22.5	-2.3
KIW	**Kapiti Island**	**2.67**	**197**	P	Pn	12 47 22.5	-2.2
MTW	**Mount Morrison**	**2.86**	**187**	P	Pn	12 47 24.6	-2.5
CAW	**Cannon Point**	**2.87**	**193**	P	Pn	12 47 24.9	-2.3
MRW	**Makara Radio**	**3.07**	**198**	P	Pn	12 47 26.9	-2.7
SNZO	**South Karori**	**3.14**	**197**	P	Pn	12 47 27.7	-2.8
MSWZ	**Moikau Station**	**3.15**	**190**	P	Pn	12 47 27.7	-2.8
TCW	**Tory Channel**	**3.17**	**203**	P	Pn	12 47 28.1	-2.7
NNZ	**Nelson**	**3.51**	**213**	P	Pn	12 47 31.8	-3.3
QRZ	**Quartz Range**	**3.65**	**225**	*e*P	Pn	12 47 32.6	-4.1
BSWZ	**Blackbirch Sta**	**3.75**	**204**	P	Pn	12 47 35.0	-3.1
THZ	**Tophouse**	**4.16**	**213**	*e*P	Pn	12 47 39.5	-3.8
KHZ	**Kahutara**	**4.49**	**203**	*e*P	Pn	12 47 44.2	-3.4
DSZ	**Denniston Nort**	**4.68**	**222**	*e*P	Pn	12 47 45.1	-4.9
LTZ	**Lake Taylor**	**5.27**	**211**	*e*P	Pn	12 47 53.3	-4.4
MQZ	**McQueen's Vall**	**5.94**	**204**	*e*P	Pn	12 48 00.9	-5.5
ODZ	**Otahua Downs**	**7.81**	**209**	*e*P	Pn	12 48 26.2	-4.8

KRSC 29 12:53:20,5093N×15806E,h41km,ML3.9,East of Kuril Islands

IDC 29 13:07:18.7±5.3,1761S×17493W,h200km±35km,mb3.3/3, mb1 3.6/4,mb1mx3.3/14,mbtmp3.9/4,MS3.8/1,Ms1 3.8/1, ms1mx3.0/14,Error ellipse: s-maj=144.8km s-min=20.0km az=148.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.77**	**40**	P	Pn	13 08 31.6	+1.5
	3.5nm,0.3s,baz=251,slow=21,SNR=9.5						
AFI				S	Sn	13 09 26.4	0.0
	18nm,0.3s,baz=37,slow=20,SNR=12						
RAO	**Raoul Island**	**11.90**	**193**	LR	LR	13 14 10.1	
	comp=Z,476nm,21.6s,baz=152,slow=35						
WRA	**Warramunga Arr**	**47.94**	**259**	P	P	13 15 36.8	-0.2
	0.4nm,0.5s,baz=97,slow=6.8,SNR=15						
ASAR	**Alice Springs**	**48.06**	**254**	P	P	13 15 38.5	+0.6
	3.3nm,0.7s,baz=88,slow=8.8,SNR=66						
ASAR				PcP	PcP	13 17 03.0	+0.5
	0.4nm,0.7s,baz=105,slow=4.0,SNR=4.8						
NVAR	**Mina Array Bea**	**76.94**	**42**	P	P	13 18 49.1	+0.1
	0.1nm,0.3s,baz=218,slow=8.7,SNR=4.3						
BRTR	**Keskin Array B**	**146.87**	**318**	PKPbc	PKPbc	13 26 38.0	+0.7
	0.3nm,0.4s,baz=353,slow=6.0,SNR=3.6						

*ISCJB **29** 13:11:06.9±0.5,3819N±004×10653E±004,h10km, mb3.5/2,Error ellipse: s-maj=5.4km s-min=4.1km az=130.3*
*IDC **29** 13:11:08.3±1.5,3823N×10661E,h0km,mb3.3/2, mb1 3.5/4,mb1mx3.3/22,mbtmp3.3/4,Error ellipse: s-maj=59.9km s-min=23.4km az=71.0*
*NEIC **29** 13:11:09.9±0.9,3821N×10656E,h10km,Error ellipse: s-maj=30.3km s-min=13.8km az=76.0*
NEIC Felt at Yinchuan.
*BJI **29** 13:11:11.4,3814N×10608E,h15km,mb3.1,MLS.3.6*
ISC 29 13:11:09.1±0.5,3814N±003×10644E±004,h10km,n11, σ0s95/20,mb3.5/2,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**2.92**	**226**	PG	**Pb**	**13 12 01.0**	**-0.2**
LZH				SG	**Sb**	**13 12 33.8**	**-3.1**
LZH				Smax			
	comp=N,2μm,0.9s						
LZH				Smax			
	comp=E,830nm,0.8s						
BTO	**Baotou**	**3.71**	**47**	*e*PG	**Pg**	**13 12 20.8**	**+0.6**
BTO				SG	**Sg**	**13 13 08.0**	**-0.3**
BTO				Smax			
	comp=N,21nm,0.3s						
BTO				Smax			
	comp=E,25nm,0.4s						
XAN	**Xi'an**	**4.56**	**153**	P	**Pn**	**13 12 21.0**	**+2.9**
XAN				PG	**Pg**	**13 12 31.5**	**-5.0**
XAN				S	**Sb**	**13 13 23.5**	**-0.7**
XAN				SG	**Sg**	**13 13 35.5**	**0.0**
XAN				Smax			
	comp=N,112nm,0.6s						
XAN				Smax			
	comp=E,67nm,0.7s						
HHC	**Hu-ho-hao-te**	**4.80**	**54**	*e*PG	**Pg**	**13 12 39.8**	**-1.3**
HHC				SG	**Sg**	**13 13 43.0**	**-0.2**
HHC				Smax			
	comp=N,144nm,0.4s						
HHC				Smax			
	comp=E,218nm,0.4s						
GTA	**Gaotai**	**5.33**	**286**	P	**Pn**	**13 12 29.3**	**+0.5**
GTA				PG	**Pb**	**13 12 42.0**	**-0.4**
GTA				S	**Sn**	**13 13 30.3**	**+0.1**
GTA				SG	**Sb**	**13 13 46.8**	**+0.4**
GTA				Smax			
	comp=N,106nm,0.8s						
GTA				Smax			
	comp=E,85nm,0.9s						
SONM	**Songino Array**	**9.69**	**360**	Pn	**Pn**	**13 13 29.5**	**+0.9**
	comp=E,0.2nm,0.3s,baz=187,slow=13,SNR=8.1						
SONM				Lg		13 16 10.7	
	comp=E,1.0nm,0.3s,baz=181,slow=26,SNR=6.6						
SONM	**Songino Array**	**9.69**	**360**	Pn	**Pn**	**13 13 29.5**	**+0.9**
SONM				Lg		13 16 10.7	
ULN	**Ulaanbaatar**	**9.73**	**2**	Pn	**Pn**	**13 13 28.1**	**-1.1**
MKAR	**Makanchi Array**	**19.74**	**304**	P	**Pn**	**13 15 40.1**	**-0.4**
	comp=E,0.1nm,0.3s,baz=108,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**63.44**	**151**	P	**P**	**13 21 39.5**	**+0.4**
	comp=E,0.3nm,0.7s,mb3.5,baz=344,slow=6.7,SNR=4.0						
ASAR	**Alice Springs**	**66.67**	**153**	P	**P**	**13 22 01.6**	**+1.5**
	comp=E,0.2nm,0.5s,mb3.4,baz=340,slow=6.9,SNR=3.4						

IDC 29 13:54:22.0±2.5,2297N×14453E,h0km,mb3.7/5, mb1 3.8/7,mb1mx3.6/21,mbtmp3.7/7,ML3.7/2,MS3.3/1, Ms1 3.3/1,ms1mx2.2/40,Error ellipse: s-maj=121.2km s-min=22.0km az=83.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.62**	**333**	Pn	Pn	13 55 33.5	+0.4
	7.7nm,0.3s,baz=266,slow=21,SNR=5.6						
CBIJ				Sn	Sn	13 56 21.8	-5.6
	6.5nm,0.3s,baz=287,slow=19,SNR=4.5						
MJAR	**Matsushiro Arr**	**14.59**	**339**	Pn	Pn	13 57 48.6	-1.0
	0.2nm,0.3s,baz=160,slow=12,SNR=4.3						
JOW	**Kunigami**	**15.24**	**288**	LR	LR	14 03 09.2	
	comp=Z,113nm,18.3s,baz=122,slow=35						
WRA	**Warramunga Arr**	**43.80**	**194**	P	P	14 02 27.8	-1.6
	0.3nm,0.4s,baz=18,slow=9.5,SNR=13						
FITZ	**Fitzroy Crossi**	**44.80**	**206**	P	P	14 02 37.9	+0.4
	1.0nm,0.8s,baz=29,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**47.49**	**193**	P	P	14 02 59.5	+0.8
	0.6nm,1.0s,baz=12,slow=6.3,SNR=6.9						
STKA	**Stephens Creek**	**54.61**	**183**	P	P	14 03 53.9	+1.7
	1.6nm,0.7s,baz=0.9,slow=12,SNR=3.6						
FINES	**FINESS Array B**	**82.57**	**335**	P	P	14 06 46.5	-0.3
	1.9nm,1.0s,baz=58,slow=5.2,SNR=4.4						

*ISCJB **29** 14:02:21.7±0.7,4349N±002×12606W±008,h10km,Error ellipse: s-maj=8.0km s-min=2.9km az=159.5*
*NEIC **29** 14:02:22.1±1.3,4348N×126.15W,h10km,Error ellipse: s-maj=16.8km s-min=4.5km az=84.0*
ISC 29 14:02:23.3±0.7,4349N±002×12599W±008,h10km,n76, σ0s92/96,18C-37D,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K01A	**Sixes**	**1.30**	**121**	⇓P	**Pn**	**14 02 45.9**	**-1.7**
	baz=1.4,SNR=53						
K01A				⇓S	**Sb**	**14 03 04.4**	**-0.2**
	baz=1.4						
KEBM	**Edson Butte**	**1.36**	**116**	*e*Pn	**Pn**	**14 02 46.7**	**-1.6**
KEBM				*e*Sn	**Sn**	**14 03 05.8**	**-0.5**
I02A	**Mapleton**	**1.65**	**71**	⇓P	**Pn**	**14 02 51.2**	**-1.1**
	baz=1.8,SNR=61						
J02A	**Umpqua**	**1.77**	**93**	⇓P	**Pn**	**14 02 52.8**	**-1.1**
	baz=1.9,SNR=20						
J02A				⇓S	**Sn**	**14 03 16.0**	**-0.4**
	baz=1.9						
KBO	**Bosley Butte**	**1.82**	**134**	*e*Pn	**Pn**	**14 02 54.2**	**-0.4**
KBO				*e*Sn	**Sn**	**14 03 14.2**	**-3.5**
H02A	**Toledo**	**1.86**	**50**	⇓P	**Pn**	**14 02 53.9**	**-1.3**
	baz=2.0,SNR=18						
H02A				⇑S	**Sn**	**14 03 18.4**	**-0.4**
	baz=2.0						
MPOR	**Mary's Peak**	**2.03**	**59**	P	**Pn**	**14 02 56.6**	**-1.0**
M01C	**Crescent City**	**2.14**	**139**	⇑P	**Pn**	**14 02 58.2**	**-0.9**
	baz=2.2,SNR=6.9						
M01C				⇓S	**Sn**	**14 03 25.7**	**0.0**
	baz=2.2						
L02A	**Cave Junction**	**2.20**	**126**	⇓P	**Pn**	**14 02 59.1**	**-0.8**
	baz=2.3,SNR=32						
L02A				⇓S	**Sn**	**14 03 27.2**	**0.0**
	baz=2.3						
J03A	**Ideyld Park**	**2.21**	**92**	⇑P	**Pn**	**14 02 59.3**	**-0.7**
	baz=2.3,SNR=49						
COR	**Corvallis**	**2.23**	**60**	*e*Pn	**Pn**	**14 02 59.3**	**-0.9**
COR				*e*Sn	**Sn**	**14 03 30.9**	**+3.2**
H03A	**Soap Creek Ran**	**2.28**	**58**	⇓P	**Pn**	**14 03 00.1**	**-0.9**
	baz=2.4,SNR=20						
H03A				⇓S	**Sn**	**14 03 28.4**	**-0.8**
	baz=2.4						
HUMO	**Hull Mountain**	**2.39**	**111**	*e*Pn	**Pn**	**14 03 01.8**	**-0.7**
HUMO				*e*Sn	**Sn**	**14 03 26.9**	**-5.0**
HUMO				*e*Sg	**Sg**	**14 03 35.4**	**-4.7**
HUMO	**Hull Mountain**	**2.39**	**111**	⇑P	**Pn**	**14 03 01.9**	**-0.7**
	baz=2.5,SNR=46						
HUMO				⇑S	**Sn**	**14 03 30.5**	**-1.3**
	baz=2.5						
BBOR	**Butler Butte**	**2.50**	**103**	P	**Pn**	**14 03 04.0**	**+0.1**
KRMB	**Red Mountain**	**2.50**	**141**	*e*Pn	**Pn**	**14 03 03.3**	**-0.7**
G03A	**Yamhill**	**2.67**	**46**	⇑P	**Pn**	**14 03 05.4**	**-0.9**
	baz=2.8,SNR=11						
G03A				⇑S	**Sn**	**14 03 38.2**	**-0.5**
	baz=2.8						
BROR	**Big Rock Looko**	**2.67**	**72**	P	**Pn**	**14 03 06.6**	**+0.3**
HBO	**Huckleberry Mo**	**2.69**	**81**	P	**Pn**	**14 03 07.4**	**+0.9**
IRO	**Indian Ridge**	**2.76**	**78**	P	**Pn**	**14 03 08.2**	**+0.7**
KMOR	**Kings Mountain**	**2.79**	**39**	P	**Pn**	**14 03 06.6**	**-1.4**
SSOR	**Sweet Springs**	**2.88**	**61**	P	**Pn**	**14 03 10.2**	**+0.9**
H04A	**Detroit Lake**	**2.98**	**65**	⇑P	**Pn**	**14 03 10.8**	**+0.1**
	baz=3.1						
YBH	**Yreka Blue Hor**	**2.99**	**125**	*e*Pn	**Pn**	**14 03 12.3**	**+1.6**
YBH				*e*Sn	**Sn**	**14 03 49.0**	**+2.3**
YBH	**Yreka Blue Hor**	**2.99**	**125**	⇓P	**Pn**	**14 03 11.9**	**+1.1**
	baz=3.1						
YBH				⇑S	**Sn**	**14 03 46.2**	**-0.5**
	baz=3.1						
F03A	**Seaside**	**2.99**	**35**	⇑P	**Pn**	**14 03 09.1**	**-1.6**
	baz=3.1,SNR=20						
F03A				⇓S	**Sn**	**14 03 46.0**	**-0.7**
	baz=3.1						
BUOR	**Burton Butte**	**3.01**	**112**	⇓P	**Pn**	**14 03 12.6**	**+1.6**
G04A	**Mulino**	**3.05**	**54**	⇑P	**Pn**	**14 03 11.4**	**-0.2**
	baz=3.1						
HUOR	**Husband**	**3.06**	**77**	P	**Pn**	**14 03 12.9**	**+1.1**
KHMM	**Horse Mountain**	**3.11**	**147**	*e*Pn	**Pn**	**14 03 12.3**	**-0.1**
KHMM				*e*Sn	**Sn**	**14 03 48.7**	**-0.8**
KHMM				*e*Sg	**Sg**	**14 04 03.5**	**+0.4**
M02C	**Callahan**	**3.13**	**131**	⇓P	**Pn**	**14 03 13.3**	**+0.6**
	baz=3.2						
NLO	**Nicolai Mounta**	**3.17**	**34**	⇓P	**Pn**	**14 03 12.3**	**-0.9**
BKCOR	**Black Crater**	**3.21**	**74**	P	**Pn**	**14 03 14.7**	**+1.0**
BPO	**Bald Peter**	**3.31**	**68**	P	**Pn**	**14 03 16.4**	**+1.3**
N02C	**Big Bar**	**3.33**	**142**	⇓P	**Pn**	**14 03 15.6**	**+0.2**
	baz=3.4,SNR=7.2						
VLMM	**Larch Mountain**	**3.49**	**53**	⇓P	**Pn**	**14 03 18.2**	**+0.6**
TDH	**Tom, Dick, Har**	**3.51**	**58**	⇑P	**Pn**	**14 03 18.8**	**+0.9**
E03A	**Lebam**	**3.51**	**29**	⇑P	**Pn**	**14 03 16.3**	**-1.6**
	baz=3.6,SNR=20						
E03A				⇓S	**Sn**	**14 03 58.4**	**-1.1**
	baz=3.6						
RVW	**Rose Valley**	**3.52**	**40**	P	**Pn**	**14 03 17.7**	**-0.3**
F04A	**Amboy**	**3.52**	**45**	⇓P	**Pn**	**14 03 18.1**	**0.0**
	baz=3.6,SNR=26						
VBEM	**Beaver Butte**	**3.53**	**62**	⇓P	**Pn**	**14 03 19.5**	**+1.3**
HOOD	**Mount Hood Mea**	**3.61**	**58**	⇓P	**Pn**	**14 03 20.5**	**+1.2**
H05A	**Madras**	**3.62**	**70**	⇓P	**Pn**	**14 03 19.8**	**+0.4**
	baz=3.7						
LVP	**Lakeview Peak**	**3.63**	**43**	P	**Pn**	**14 03 19.6**	**+0.2**
VLL	**Laurance Lake**	**3.66**	**56**	⇓P	**Pn**	**14 03 21.2**	**+1.3**
MTMW	**Mount Mitchell**	**3.70**	**45**	⇓P	**Pn**	**14 03 20.6**	**+0.1**
VFP	**Flag Point**	**3.72**	**59**	P	**Pn**	**14 03 22.2**	**+1.4**
FL2	**Flat Top 2**	**3.75**	**42**	⇓P	**Pn**	**14 03 21.5**	**+0.4**
G05A	**Wamic**	**3.78**	**61**	⇓P	**Pn**	**14 03 22.3**	**+0.7**
	baz=3.8						
SHW	**Mount Saint He**	**3.80**	**43**	⇓P	**Pn**	**14 03 22.4**	**+0.6**
ERK	**Elk Rock**	**3.83**	**41**	P	**Pn**	**14 03 22.1**	**-0.1**
STD	**Studebaker Rid**	**3.84**	**43**	⇓P	**Pn**	**14 03 22.7**	**+0.3**
CDFW	**Cedar Flats**	**3.84**	**46**	P	**Pn**	**14 03 22.6**	**+0.1**
ESD	**East Dome**	**3.84**	**44**	⇓P	**Pn**	**14 03 23.0**	**+0.5**
E04A	**Onalaska**	**3.87**	**36**	⇑P	**Pn**	**14 03 22.9**	**0.0**
	baz=4.0						
WDC	**Whiskeytown Da**	**3.88**	**137**	*e*Pn	**Pn**	**14 03 23.8**	**+0.9**
SOSW	**Source of Smit**	**3.88**	**44**	⇑P	**Pn**	**14 03 23.8**	**+0.7**
TDL	**Tradedollar La**	**3.92**	**42**	⇓P	**Pn**	**14 03 23.7**	**+0.2**
KOSW	**Kosmos**	**4.01**	**41**	P	**Pn**	**14 03 25.2**	**+0.4**
F05A	**White Salmon**	**4.02**	**52**	⇓P	**Pn**	**14 03 25.5**	**+0.6**
	baz=4.1						
L05A	**Lakeview**	**4.06**	**109**	⇓P	**Pn**	**14 03 26.1**	**+0.7**
	baz=4.2						
ASR	**Mount Adams--S**	**4.11**	**48**	P	**Pn**	**14 03 26.7**	**+0.6**
D04A	**Dobbs Creek Ra**	**4.26**	**31**	⇑P	**Pn**	**14 03 27.6**	**-0.7**
	baz=4.3						
E05A	**Randle**	**4.29**	**43**	⇑P	**Pn**	**14 03 29.3**	**+0.7**
	baz=4.4						
LON	**Longmire**	**4.40**	**41**	P	**Pn**	**14 03 30.8**	**+0.6**
GL2	**New Goldendale**	**4.43**	**54**	⇓P	**Pn**	**14 03 31.3**	**+0.7**
REMR	**Mount Rainier-**	**4.44**	**40**	⇓P	**Pn**	**14 03 31.1**	**+0.5**
WPW	**White Pass**	**4.49**	**43**	P	**Pn**	**14 03 31.9**	**+0.5**
RCS	**Mount Rainier-**	**4.53**	**40**	⇓P	**Pn**	**14 03 32.4**	**+0.6**
FMW	**Mount Fremont**	**4.60**	**40**	⇑P	**Pn**	**14 03 33.3**	**+0.4**
D05A	**Enumclaw**	**4.65**	**36**	⇓P	**Pn**	**14 03 33.8**	**+0.2**
	baz=4.7						
EBG	**Ellensburg**	**5.13**	**46**	P	**Pn**	**14 03 41.1**	**+0.9**
HAWA	**Hanford**	**5.42**	**55**	*e*Pn	**Pn**	**14 03 44.2**	**0.0**
	0.7nm,0.6s						
PGC	**Sidney**	**5.46**	**18**	*e*Pn	**Pn**	**14 03 43.4**	**-1.2**
PGC				*e*Sn	**Sn**	**14 04 44.6**	**-2.8**
BMO	**Blue Mountains**	**6.39**	**75**	*e*Pn	**Pn**	**14 03 55.4**	**-2.1**
	1.4nm,0.6s						
WALA	**Waterton Lakes**	**10.04**	**52**	*e*Pn	**Pn**	**14 04 50.9**	**+3.3**

*NIED **29** 14:11:00,23.10N×121.50E,h29km,Mw4.2 Best double couple: M0 2.47000×10^15 NP1:φs135.00000°,δ46.00000°, λ-82.00000°. NP2:φs303.00000°,δ44.00000°, λ-99.00000°.*

*IDC **29** 14:11:41.3±0.7,2310N×12143E,h0km,mb4.1/13, mb1 4.2/15,mb1mx4.1/25,mbtmp4.1/15,ML3.6/2,MS3.7/8, Ms1 3.7/8,ms1mx3.4/36,Error ellipse: s-maj=24.4km s-min=16.2km az=64.0*
*ISCJB **29** 14:11:44.8±0.8,2318N±004×12144E±003,h34km±7km, mb4.1/20,MS3.9/7,Error ellipse: s-maj=7.2km s-min=4.8km az=12.4*
*BJI **29** 14:11:44.6,2315N×12143E,h33km,mB4.4,mb4.3,ML4.3, Ms4.2,Msz3.9*
*JMA **29** 14:11:45.3±0.3,2313N×12149E,h77km,M4.1*
*NEIC **29** 14:11:46.4±0.5,2322N×12153E,h35km,mb4.3/6,Error ellipse: s-maj=15.3km s-min=9.0km az=85.0*
NEIC Recorded [3 TAP] in Hua-lien and T'ai-tung; [1 TAP] in Chang-hua, Chia-i, Kao-hsiung, Nan-t'ou, T'ai-nan and Yun-lin Counties.
ISC 29 14:11:43.6±1.1,2322N±004×12144E±003,h12km±6km, n59,σ1s108/73,mb4.1/20,MS3.9/7,1C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.96**	**8**	*e*Pg	**Pg**	**14 12 01.6**	**-0.5**
NACB				*e*Sg	**Sg**	**14 12 15.4**	**+0.7**
YHNB	**Yeheng**	**1.44**	**358**	*e*Pn	**Pn**	**14 12 09.9**	**+0.4**
TATO	**Taipei**	**1.75**	**1**	*e*Pn	**Pn**	**14 12 14.4**	**+0.7**
YOJ	**Yonaguni jima**	**1.90**	**49**	P	**Pn**	**14 12 16.7**	**+1.0**
YOJ				S	**Sn**	**14 12 39.9**	**+0.4**
HATJ	**Hateruma jima**	**2.32**	**69**	P	**Pn**	**14 12 22.0**	**+0.5**
HATJ				S	**Sn**	**14 12 49.2**	**-0.8**
IRIF	**Iriomote-Funau**	**2.37**	**62**	P	**Pn**	**14 12 23.0**	**+0.8**
IRIF				S	**Sn**	**14 12 51.8**	**+0.6**
JKRS	**Kuro-shima**	**2.56**	**66**	P	**Pn**	**14 12 25.4**	**+0.6**
JKRS				S	**Sn**	**14 12 57.0**	**+1.1**
JIJ	**Ishigaki jima**	**2.72**	**65**	P	**Pn**	**14 12 27.4**	**+0.3**
JIJ				S	**Sn**	**14 12 58.8**	**-1.1**
QZH	**Quanzhou**	**3.12**	**304**	⇑*i*P	**Pn**	**14 12 32.5**	**0.0**
QZH				PG	**Pg**	**14 12 41.3**	**-2.0**
QZH				S	**Sn**	**14 13 07.3**	**-2.3**
QZH				Smax			
	comp=N,760nm,0.6s						
QZH				Smax			
	comp=E,970nm,1.0s						
JTJ	**Tarama**	**3.30**	**64**	P	**Pn**	**14 12 35.5**	**+0.5**
JTJ				S	**Sn**	**14 13 13.7**	**-0.5**
JMJ	**Miyako jima 2**	**3.86**	**65**	P	**Pn**	**14 12 43.7**	**+1.0**
JMJ				S	**Sn**	**14 13 29.4**	**+1.4**
JOGS	**Gusukube**	**3.94**	**66**	P	**Pn**	**14 12 44.7**	**+0.9**
JOGS				S	**Sn**	**14 13 30.9**	**+1.1**
CVP	**Callao Caves**	**5.50**	**176**	*e*P	**Pn**	**14 13 09.0**	**+3.8**
JKE	**Kume jima 2**	**5.76**	**56**	P	**Pn**	**14 13 08.4**	**-0.4**
JKE				S	**Sn**	**14 14 11.6**	**-3.1**
JAGN	**Aguni-jima**	**6.24**	**56**	P	**Pn**	**14 13 15.5**	**+0.1**
JAGN				*e*S	**Sn**	**14 14 26.7**	**0.0**
JIH	**Iheya**	**7.03**	**56**	P	**Pn**	**14 13 24.9**	**-1.3**
JIH				*e*S	**Sn**	**14 14 44.3**	**-1.7**
JOW	**Kunigami**	**7.17**	**58**	Pn	**Pn**	**14 13 26.5**	**-1.6**
	comp=E,5.8nm,0.3s,baz=218,slow=9.0,SNR=22						
JOW				Sn	**Sn**	**14 14 47.1**	**-2.2**
	comp=E,1.3nm,0.3s,baz=0.0,slow=20,SNR=2.9						
JOW	**Kunigami**	**7.17**	**58**	P	**Pn**	**14 13 26.4**	**-1.7**
JOW				*e*S	**Sn**	**14 14 45.7**	**-3.7**
JTK	**Tokunoshima**	**8.16**	**55**	P	**Pn**	**14 13 40.3**	**-1.5**
JTK				S	**Sn**	**14 15 09.1**	**-4.9**
JAM	**Amami Oshima**	**8.99**	**53**	P	**Pn**	**14 13 51.7**	**-1.4**
JAM				*e*S	**Sn**	**14 15 29.2**	**-5.0**
NJ2	**Nanjing**	**9.09**	**346**	*e*P	**Pn**	**14 13 58.8**	**+4.3**
NJ2				AP		14 14 03.3	
NJ2				XP		14 14 06.5	
NJ2				S	**Sn**	**14 15 41.3**	**+4.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				LR	LR		
	comp=N,2μm,7.8s						
NJ2				LR	LR		
	comp=E,1μm,8.3s						
GYA	**Guiyang**	**13.80**	**287**	P	**Pn**	**14 15 00.5**	**+1.6**
GYA				S	**Sn**	**14 17 33.0**	**+1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GYA				AMB	AMB		
	comp=Z,70nm,6.2s						
GYA				LR	LR		
	comp=N,330nm,11.4s						
GYA				LR	LR		
	comp=E,450nm,11.9s						
GYA				LR	LR		
	comp=Z,950nm,12.5s						
BJT	**Baijiatuau**	**17.33**	**346**	Pn	**Pn**	**14 15 44.9**	**-0.4**
CBIJ	**Chichi jima**	**19.17**	**74**	LR	LR	14 22 03.7	
	comp=Z,36nm,22.0s,baz=273,slow=32						
MAJO	**Matsushiro**	**19.65**	**44**	P	**Pn**	**14 16 14.8**	**+1.3**

comp=Z,52nm,18.5s,MS4.0,baz=64,slow=40

MOS ***29*** *14:12:08.8±2.2,5535N×11042E,h9km,mb4.3/1,Error ellipse: s-maj=24.1km s-min=13.6km az=49.6*

BYKL 29 14:12:08.1±0.2,5539N×11043E,h1km±10km,3C,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIZ	**Nizh Angarsk**	**0.64**	**308**	*i*Pg	Pg	14 12 19.4	-0.9
NIZ				*e*Sg	Sg	14 12 28.4	-0.1
NIZ				Pmax			
	107nm,0.2s						
NIZ				Smax			
	360nm,0.4s						
KMO	**Kumora**	**0.66**	**41**	*i*Pg	Pg	14 12 19.5	-1.3
KMO				*e*Sg	Sg	14 12 28.9	-0.5
KMO				Pmax			
	122nm,0.4s						
KMO				Smax			
	312nm,0.8s						
YOA	**Uoyan**	**1.04**	**44**	*e*Pg	Pg	14 12 27.3	-0.8
YOA				*e*Sg	Sg	14 12 42.4	+0.8
YOA				Pmax			
	212nm,0.4s						
YOA				Smax			
	783nm,0.4s						
YOA	**Uoyan**	**1.04**	**44**	*i*PG	Pg	14 12 27.3	-0.8
YOA				*e*		14 12 43.0	
YOA				pmax	pmax		
	comp=Z,231nm,0.3s						
YOA				smax			
	comp=N,783nm,0.4s						
SYVR	**Suvo**	**1.75**	**188**	*e*Pg	Pg	14 12 39.0	-2.7
SYVR				*e*Sg	Sg	14 13 03.0	-1.5
SYVR				Pmax			
	comp=N,54nm,0.2s						
SYVR				Smax			
	comp=N,340nm,0.8s						
SYVR	**Suvo**	**1.75**	**188**	*e*PN	Pn	14 12 39.5	-0.1
SYVR				*e*		14 13 04.1	
SYVR				pmax	pmax		
	comp=Z,69nm,0.5s						
SYVR				smax			
	comp=E,312nm,0.6s						
UKT	**Uakit**	**1.82**	**86**	*e*Pg	Pg	14 12 40.0	-3.1
UKT				*e*Sg	Sg	14 13 04.7	-2.0
UKT				Pmax			
	comp=E,49nm,0.3s						
UKT				Smax			
	comp=E,221nm,0.6s						
UKT	**Uakit**	**1.82**	**86**	*e*PN	Pn	14 12 40.9	+0.3
UKT				*e*		14 13 04.6	
UKT				pmax	pmax		
	comp=Z,49nm,0.2s						
UKT				smax			
	comp=N,169nm,0.2s						
SVKR	**Severomuysk**	**1.91**	**66**	*e*Sg	Sg	14 13 08.7	-0.9
SVKR				Smax			
	comp=N,444nm,0.6s						
MXMB	**Maximikha**	**2.35**	**206**	*e*Pg	Pg	14 12 49.6	-3.5
MXMB				*e*Sg	Sg	14 13 21.3	-2.3
MXMB				Pmax			
	comp=N,75nm,0.3s						
MXMB				Smax			
	comp=N,587nm,1.0s						
OGRR	**Ongureny**	**2.41**	**225**	*e*Pn	Pn	14 12 48.6	0.0
OGRR				*e*Pg	Pg	14 12 50.9	-3.3
OGRR				*e*Sg	Sg	14 13 22.4	-3.0
OGRR				Pmax			
	comp=N,56nm,0.3s						
OGRR				Smax			
	comp=N,157nm,0.4s						
OGRR	**Ongureny**	**2.41**	**225**	*e*PN	Pn	14 12 48.7	+0.1
OGRR				*e*		14 12 51.2	
OGRR				*e*		14 13 23.0	
OGRR				pmax	pmax		
	comp=Z,56nm,0.3s						
OGRR				smax			
	comp=E,155nm,0.4s						
KELR	**Kotokel**	**2.98**	**209**	*e*Pg	Pg	14 13 01.3	-3.9
KELR				*e*Sg	Sg	14 13 41.3	-2.4
KELR				Pmax			
	comp=E,53nm,0.3s						
KELR				Smax			
	comp=E,370nm,0.5s						
BOD	**Bodaibo**	**3.13**	**38**	*e*Pn	Pn	14 12 59.2	+0.6
BOD				*e*Sg	Sg	14 13 45.1	-3.7
BOD				Smax			
	comp=E,73nm,0.9s						
NLYR	**Nelyaty**	**3.17**	**67**	*e*Pn	Pn	14 12 59.9	+0.9
NLYR				*e*Sg	Sg	14 13 46.3	-3.5
NLYR				Smax			
	comp=E,81nm,1.1s						
TRG	**Tyrgan**	**3.57**	**224**	*e*Pn	Pn	14 13 05.5	+0.9
TRG				*e*Pg	Pg	14 13 13.0	-3.5
TRG				*e*Sg	Sg	14 13 59.1	-3.6
TRG				Pmax			
	comp=E,10.0nm,0.4s						
TRG				Smax			
	comp=E,57nm,0.4s						
TRTB	**Turuntaevo**	**3.58**	**209**	*e*Pn	Pn	14 13 04.6	-0.1
TRTB				*e*		14 13 10.9	
TRTB				*e*Sg	Sg	14 13 59.6	-3.4
TRTB				Smax			
	comp=E,47nm,0.5s						
CIT	**Chita**	**3.85**	**150**	Pg	Pg	14 13 16.3	-5.6
CIT				*e*Sg	Sg	14 14 06.6	-5.2
CIT				Pmax			
	comp=E,8.0nm,0.3s						
CIT				Smax			
	comp=E,39nm,0.9s						
HRMR	**Khuramsha**	**4.30**	**210**	*e*Pn	Pn	14 13 15.0	+0.3
HRMR				*e*Pg	Pg	14 13 25.1	-5.4
HRMR				*e*Sg	Sg	14 14 21.0	-5.3
HRMR				*e*		14 14 25.5	
HRMR				Pmax			
	comp=E,31nm,0.5s						
HRMR				max			
	comp=E,206nm,0.9s						
CRS	**Chara**	**4.64**	**68**	*e*Pg	Pg	14 13 31.4	-5.6
CRS				*e*Sg	Sg	14 14 32.6	-4.5
CRS				Pmax			
	comp=E,19nm,1.1s						
CRS				Smax			
	comp=E,40nm,1.4s						
CRS	**Chara**	**4.64**	**68**	*e*PN	Pn	14 13 33.0	+14
CRS				*e*		14 14 35.1	
CRS				pmax	pmax		
	comp=Z,24nm,1.2s						
CRS				smax			
	comp=E,40nm,1.4s						
LSTR	**Listvyanka**	**4.85**	**226**	*e*Pn	Pn	14 13 22.3	+0.1
LSTR				*e*		14 13 32.0	
LSTR				*e*Sg	Sg	14 14 37.7	-6.3
LSTR				Smax			
	comp=E,44nm,0.8s						
TUP	**Tupik**	**5.58**	**96**	*e*Pn	Pn	14 13 31.7	-0.5
TUP				*e*		14 13 39.3	
TUP				*e*Sg	Sg	14 15 01.0	-6.3
TUP				*e*		14 15 10.3	
TUP				max			
	comp=E,80nm,0.9s						
TUP	**Tupik**	**5.58**	**96**	*e*PN	Pn	14 13 31.8	-0.4
TUP				*e*		14 13 48.0	
TUP				*e*S	Sn	14 14 34.4	-2.6
TUP				*e*		14 15 00.7	
TUP				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TUP				smax			
	comp=N,80nm,0.9s						
ARS	**Arshan**	**5.89**	**237**	*e*Pn	Pn	14 13 38.0	+1.5
ARS				*e*		14 13 56.4	
ARS				*e*Sn	Sn	14 14 41.0	-3.7
ARS				*e*Sg	Sg	14 15 09.4	-8.0
ARS				Smax			
	comp=N,142nm,0.9s						
ZAK	**Zakamensk**	**6.62**	**224**	*e*Sg	Sg	14 15 35.1	-5.7
ZAK				Smax			
	comp=N,16nm,1.1s						
MOY	**Mondy**	**6.75**	**240**	*e*Pn	Pn	14 13 48.9	+0.6
MOY				*e*		14 15 05.4	
MOY				*e*Sg	Sg	14 15 37.1	-7.7
MOY				Smax			
	comp=N,32nm,1.5s						
MOY	**Mondy**	**6.75**	**240**	*e*PN	Pn	14 13 49.2	+0.9
MOY				*e*		14 14 09.0	
MOY				*e*		14 15 38.0	
MOY				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MOY				smax			
	comp=E,32nm,1.1s						
ORL	**Orlik**	**6.89**	**250**	*e*PN	Pn	14 13 50.5	+0.3
ORL				*e*Sn	Sn	14 15 06.7	-2.4
ORL				*e*Sg	Sg	14 15 40.7	-8.5
ORL				Smax			
	comp=E,78nm,1.1s						
ORL	**Orlik**	**6.89**	**250**	*e*PN	Pn	14 13 50.5	+0.3
ORL				*e*S	Sn	14 15 07.0	-2.1
ORL				*e*S	Sn	14 15 42.0	+33
ORL				smax			
	comp=N,77nm,1.1s						

ISK ***29*** *14:17:56.8,3755N×3870E,h2km,MD3.5*

ISCJB ***29*** *14:17:57.4±0.4,3747N±002×3874E±002,h11km±3km, Error ellipse: s-maj=4.0km s-min=2.8km az=147.7*

CSEM ***29*** *14:17:57.2±0.1,3747N×3877E,h12km,MD3.5,Error ellipse: s-maj=2.1km s-min=1.7km az=163.0*

NSSC ***29*** *14:17:58.3,3749N×3882E,h14km±1km*

ISC 29 14:17:57.7±0.4,3747N±002×3876E±002,h9km±3km,n47,σ1§01/79,12D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.06**	**121**	*i* PG	**Pg**	**14 18 00.3**	**+0.6**
URFA				*i* SG	**Sg**	**14 18 03.1**	**+2.0**
ATAB	**Bozova**	**0.37**	**270**	*i* P	**Pg**	**14 18 04.2**	**-0.8**
ATAB				*i* S	**Sg**	**14 18 09.3**	**-0.6**
MYA	**Malataya**	**0.90**	**343**	*i* PG	**Pg**	**14 18 13.2**	**-1.8**
GZT	**Gaziantep**	**0.96**	**264**	*i* P	**Pg**	**14 18 15.2**	**-1.0**
GZT				*i* S	**Sg**	**14 18 26.1**	**-2.6**
DRBT	**Darb Altahta**	**1.04**	**126**	⇓P	**Pg**	**14 18 17.5**	**-0.2**
DRBT				⇓S	**Sg**	**14 18 30.9**	**-0.4**
DRBT	**Darb Altahta**	**1.04**	**126**	⇓*i*P	**Pg**	**14 18 17.5**	**-0.2**
DRBT				⇓*i*S	**Sg**	**14 18 30.9**	**-0.4**
ELZG	**Elazig**	**1.04**	**10**	*i* P	**Pg**	**14 18 16.4**	**-1.3**
ELZG				*i* S	**Sg**	**14 18 30.9**	**-0.4**
DIY	**Diyarbakir**	**1.24**	**69**	*i* PN	**Pn**	**14 18 21.3**	**+0.2**
GAZ	**Gaziantep**	**1.27**	**257**	*i* PN	**Pn**	**14 18 21.0**	**-0.6**
GAZ				*i* SN	**Sn**	**14 18 39.5**	**+0.8**
SLMH	**Al Salmeh**	**1.42**	**208**	⇑*i*P	**Pn**	**14 18 24.1**	**+0.5**
SLMH				⇑*i*S	**Sn**	**14 18 42.3**	**-0.1**
KBSD	**Kabsdagh**	**1.50**	**108**	⇓P	**Pn**	**14 18 24.0**	**-0.7**
KBSD				⇓S	**Sn**	**14 18 43.2**	**-1.1**
KBSD	**Kabsdagh**	**1.50**	**108**	⇓*i*P	**Pn**	**14 18 24.0**	**-0.7**
KBSD				⇓*i*S	**Sn**	**14 18 43.2**	**-1.1**
SFNV	**Sufian**	**1.51**	**134**	⇑P	**Pn**	**14 18 24.1**	**-0.8**
SFNV				⇑S	**Sn**	**14 18 43.5**	**-1.1**
SFNV	**Sufian**	**1.51**	**134**	⇑*i*P	**Pn**	**14 18 24.1**	**-0.7**
SFNV				⇑*i*S	**Sn**	**14 18 43.5**	**-1.1**
MNKR	**ALMNKUR**	**1.58**	**165**	⇑P	**Pn**	**14 18 25.8**	**0.0**
MNKR				⇑S	**Sn**	**14 18 46.4**	**0.0**
MNKR	**ALMNKUR**	**1.58**	**165**	⇑*i*P	**Pn**	**14 18 25.8**	**0.0**
MNKR				⇑*i*S	**Sn**	**14 18 46.4**	**+0.1**
MARD	**Mardin**	**1.61**	**95**	*i* P	**Pn**	**14 18 26.7**	**+0.4**
MARD				*i* S	**Sn**	**14 18 52.1**	**+4.9**
JHLN	**Al Jahlan**	**1.81**	**188**	⇓P	**Pn**	**14 18 29.9**	**+0.8**
JHLN				⇓S	**Sn**	**14 18 52.0**	**-0.1**
JHLN	**Al Jahlan**	**1.81**	**188**	⇓*i*P	**Pn**	**14 18 29.9**	**+0.9**
JHLN				⇓*i*S	**Sn**	**14 18 52.0**	**-0.1**
DRWC	**Darouich**	**1.88**	**244**	⇑P	**Pn**	**14 18 30.2**	**+0.3**
DRWC				⇑S	**Sn**	**14 18 54.1**	**+0.4**
DRWC	**Darouich**	**1.88**	**244**	⇑*i*P	**Pn**	**14 18 30.2**	**+0.3**
DRWC				⇑*i*S	**Sn**	**14 18 54.1**	**+0.4**
BINT	**Bingol**	**1.96**	**44**	*i* PN	**Pn**	**14 18 31.7**	**+0.7**
COBT	**Iskenderun**	**2.22**	**245**	*i* P	**Pg**	**14 18 39.5**	**-0.7**
COBT				*i* S	**Sg**	**14 19 09.1**	**+0.1**
MZRK	**Al-Mazaregh**	**2.24**	**137**	⇑P	**Pn**	**14 18 34.1**	**-0.8**
MZRK				⇑S	**Sn**	**14 19 00.6**	**-2.0**
MZRK	**Al-Mazaregh**	**2.24**	**137**	⇑*i*P	**Pn**	**14 18 34.1**	**-0.8**
MZRK				⇑*i*S	**Sn**	**14 19 00.6**	**-2.0**
BTMT	**Batman**	**2.28**	**71**	PN	**Pn**	**14 18 35.4**	**0.0**
KOZT	**Kozan**	**2.33**	**271**	PN	**Pn**	**14 18 36.6**	**+0.4**
BTCH	**Batrach**	**2.34**	**233**	⇑P	**Pn**	**14 18 37.4**	**+1.1**
BTCH				⇑S	**Sn**	**14 19 04.7**	**-0.4**
BTCH	**Batrach**	**2.34**	**233**	⇑*i*P	**Pn**	**14 18 37.4**	**+1.1**
BTCH				⇑*i*S	**Sn**	**14 19 04.7**	**-0.3**
BNGL	**BINGOL**	**2.39**	**51**	*i* P	**Pb**	**14 18 41.4**	**+0.5**
BNGL				*i* S	**Sg**	**14 19 16.3**	**+1.7**
EZC	**Erzincan**	**2.42**	**20**	PN	**Pn**	**14 18 36.3**	**-1.1**
HTY	**Hatay**	**2.50**	**238**	PN	**Pn**	**14 18 40.3**	**+1.8**
BNN	**Bunyan**	**2.68**	**302**	PN	**Pn**	**14 18 41.7**	**+0.7**
WRDH	**Warideh**	**2.72**	**225**	⇑P	**Pn**	**14 18 42.1**	**+0.5**
WRDH				⇑S	**Sn**	**14 19 13.9**	**-0.7**
WRDH	**Warideh**	**2.72**	**225**	⇑*i*P	**Pn**	**14 18 42.1**	**+0.5**
WRDH				⇑*i*S	**Sn**	**14 19 13.9**	**-0.7**
ARNB	**Al Arnab**	**2.76**	**235**	⇑P	**Pn**	**14 18 43.1**	**+1.1**
ARNB				⇑S	**Sn**	**14 19 15.9**	**+0.5**
ARNB	**Al Arnab**	**2.76**	**235**	⇑*i*P	**Pn**	**14 18 43.2**	**+1.2**
ARNB				⇑*i*S	**Sn**	**14 19 15.9**	**+0.5**
SLNF	**Slenfeh**	**2.77**	**228**	⇑P	**Pn**	**14 18 42.8**	**+0.6**
SLNF				⇑S	**Sn**	**14 19 16.8**	**+1.0**
SLNF	**Slenfeh**	**2.77**	**228**	⇑*i*P	**Pn**	**14 18 42.8**	**+0.6**
SLNF				⇑*i*S	**Sn**	**14 19 16.8**	**+1.0**
SVSK	**Karacayir**	**2.81**	**331**	PN	**Pn**	**14 18 43.0**	**+0.3**
BIDA	**Albida**	**3.15**	**220**	⇑P	**Pn**	**14 18 47.5**	**+0.1**
BIDA				⇑S	**Sn**	**14 19 23.7**	**-1.3**
BIDA	**Albida**	**3.15**	**220**	⇑*i*P	**Pn**	**14 18 47.5**	**+0.1**
BIDA				⇑*i*S	**Sn**	**14 19 23.7**	**-1.3**
EZM	**Erzurum**	**3.17**	**39**	PN	**Pn**	**14 18 49.2**	**+1.5**
ERZM	**Erzurum**	**3.17**	**39**	*i* P	**Pn**	**14 18 45.2**	**-2.6**
MERS	**Mersin**	**3.44**	**261**	*e*PN	**Pn**	**14 18 53.2**	**+1.8**
MSL	**Mosul**	**3.67**	**107**	*ex*	x	14 19 12.0	
MSL				*ex*	x	14 20 00.0	
CUKT	**Cukurca**	**3.87**	**92**	*e*PN	**Pn**	**14 19 00.3**	**+3.0**

MAN 29 14:30:00.6,976N×12217E,h31km,mb2.0,ML3.8,MS7.0, 1C-1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**1.13**	**111**	⇓*i*P	Pn	14 30 20.5	+0.2
IPIL	**Ipil**	**2.00**	**168**	⇑*e*P	Pn	14 30 33.5	+1.3
IPIL				*e*S	Sn	14 30 56.0	-0.2

NEIC ***29*** *14:37:44.8±1.1,184N×9663E,h10km,mb4.1/4,Error ellipse: s-maj=24.5km s-min=15.7km az=47.0*

ISCJB ***29*** *14:37:45.8±1.0,19N±0.1×966E±0.1,h27km,mb4.0/10, Error ellipse: s-maj=20.5km s-min=14.0km az=80.5*

IDC ***29*** *14:37:48.6±1.6,190N×9670E,h26km±6km,mb3.7/6, mb1 3.8/7,mb1mx3.5/21,mbtmp3.8/7,ML2.5/1,Error ellipse: s-maj=45.2km s-min=19.9km az=53.0*

ISC 29 14:37:48.5±1.0,20N±01×967E±01,h28km, h28km±1.5km:pP-P,n18,σ1§10/18,mb4.0/10,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.38**	**69**	Pn	**Pn**	**14 38 25.9**	**+0.4**
	1.2nm,0.3s,baz=272,slow=7.3,SNR=5.9						
PSI	**Prapat**	**2.38**	**69**	Pn	**Pn**	**14 38 25.9**	**+0.4**
KULM	**Kulim**	**5.15**	**50**	*e*Pn	**Pn**	**14 39 03.5**	**-0.1**
KSM	**Kuching**	**13.61**	**92**	P	**Pn**	**14 40 52.4**	**-7.2**
KKM	**Kota Kinabalu**	**19.89**	**78**	P	**Pn**	**14 42 25.2**	**+6.0**
WRA	**Warramunga Arr**	**42.86**	**122**	P	**P**	**14 45 44.5**	**+0.4**
	0.8nm,0.7s,mb3.6,baz=301,slow=9.2,SNR=8.1						
WRAB	**Tennant Creek**	**42.87**	**122**	P	**P**	**14 45 41.1**	**-3.1**
ASAR	**Alice Springs**	**44.25**	**127**	P	**P**	**14 45 56.0**	**+0.6**
	0.7nm,0.8s,mb3.4,baz=300,slow=7.5,SNR=6.5						
MKAR	**Makanchi Array**	**46.39**	**346**	P	**P**	**14 46 13.3**	**+1.1**
	2.7nm,0.8s,mb4.2,baz=157,slow=7.2,SNR=16						
MKAR				pP	pP	14 46 21.0	+0.2
	2.7nm,0.8s,baz=157,slow=7.2,SNR=8.7						
MKAR	**Makanchi Array**	**46.39**	**346**	P	**P**	**14 46 13.3**	**+1.1**
MKAR				pP	pP	14 46 21.0	+0.2
SONM	**Songino Array**	**46.46**	**9**	P	**P**	**14 46 13.5**	**+0.7**
	0.8nm,0.4s,mb4.0,baz=189,slow=9.6,SNR=11						
SONM				pP	pP	14 46 22.5	+1.1
	1.1nm,0.9s,baz=192,slow=10.0,SNR=4.9						
SONM				PcP	PcP	14 47 47.4	+0.3
	0.4nm,0.6s,baz=196,slow=4.5,SNR=3.6						
ULN	**Ulaanbaatar**	**46.60**	**10**	P	**P**	**14 46 12.2**	**-1.8**
	3.5nm,1.5s,mb4.1						
TLY	**Talaya**	**49.89**	**6**	P	**P**	**14 46 37.2**	**-2.1**
	2.2nm,1.2s,mb4.1						
MJAR	**Matsushiro Arr**	**51.48**	**43**	P	**P**	**14 46 52.0**	**+0.7**
	0.3nm,0.4s,mb3.5,baz=214,slow=7.0,SNR=5.0						
ZAL	**Zalesovo**	**52.73**	**351**	P	**P**	**14 47 01.6**	**+1.1**
	2.4nm,0.6s,mb4.3,baz=311,slow=6.2,SNR=12						
ZAL				pP	pP	14 47 09.0	-0.2
	1.9nm,0.6s,baz=314,slow=8.4,SNR=4.8						
ZAL	**Zalesovo**	**52.73**	**351**	P	**P**	**14 47 01.6**	**+1.1**
ZAL				pP	pP	14 47 09.0	-0.2
ZRNK	**Zerenda**	**55.77**	**340**	*e*P	**P**	**14 47 22.2**	**-0.5**
	1.3nm,0.7s,mb4.1						
CHKZ	**Chkalovo**	**55.85**	**342**	*e*P	**P**	**14 47 23.7**	**+0.4**
	3.0nm,0.8s,mb4.4						
CHKZ				*e*	pP	14 47 32.1	+0.1

MAN 29 14:41:45.8,1805N×12058E,h32km,mb1.6,ML3.5,MS2.5, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.28**	**8**	*i*P	Pb	14 41 54.5	+1.3

ATH ***29*** *14:48:19.8,3766N×2174E,h29km±1km,MD3.6/16,ML3.3*

THE ***29*** *14:48:19.3,3760N×2182E,h5km,ML3.3*

NEIC ***29*** *14:48:19.8,3765N×2174E,h29km,ML3.3(ATH),After ATH.*

CSEM ***29*** *14:48:20.3±0.1,3766N×2175E,h12km,ML3.3,Error ellipse: s-maj=2.5km s-min=1.6km az=57.0*

ISCJB ***29*** *14:48:20.4±0.6,3764N±003×2176E±004,h19km±7km, mb3.4/4,Error ellipse: s-maj=5.9km s-min=3.8km az=107.8*

IDC ***29*** *14:48:21.4±11.0,3853N×2222E,h0km,mb3.4/4, mb1 3.5/4,mb1mx3.3/19,mbtmp3.4/4,MS2.5/1,Ms1 2.5/1, ms1mx2.1/24,Error ellipse: s-maj=212.4km s-min=44.8km az=36.0*

ISC 29 14:48:20.1±0.6,3764N±003×2177E±004,h11km±4km,n45, σ0§99/58,mb3.4/4,2C-2D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.48**	**165**	*i*PB	**Pg**	**14 48 30.1**	**+0.7**
ITM				*e*SB	**Sg**	**14 48 38.4**	**+2.6**
RLS	**Riolos of Patr**	**0.48**	**330**	⇓*i*PB	**Pg**	**14 48 30.0**	**+0.5**
RLS				*e*SB	**Sg**	**14 48 37.8**	**+1.9**
VLS	**Valsamata**	**1.07**	**300**	*e*PN	**Pn**	**14 48 39.9**	**-1.1**
VLS				*e*SN	**Sn**	**14 48 55.0**	**-0.9**
MGER	**Gerania Oros**	**1.23**	**73**	*e*PN	**Pn**	**14 48 43.5**	**+0.3**
EVR	**Evrytania**	**1.27**	**1**	*e*PN	**Pn**	**14 48 43.9**	**+0.1**
VLI	**Veliai**	**1.31**	**134**	⇓*i*PN	**Pn**	**14 48 45.0**	**+0.7**
VLI				*e*SN	**Sn**	**14 49 02.9**	**+1.2**
NAIG	**Nisos Aigina**	**1.37**	**85**	*e*PB	**Pb**	**14 48 44.6**	**-1.1**
LKD	**Levkas**	**1.38**	**321**	*e*Pg	**Pg**	**14 48 44.7**	**-2.0**
LKD				*e*Sg	**Sg**	**14 49 05.8**	**+1.3**
LKR	**Lokris**	**1.40**	**44**	*i*PB	**Pb**	**14 48 44.8**	**-1.4**
LKR				*e*SN	**Sn**	**14 49 04.7**	**+0.8**
AGG	**Agios Georgios**	**1.45**	**18**	*e*Pg	**Pg**	**14 48 46.7**	**-1.2**
AGG				*e*Sg	**Sg**	**14 49 06.8**	**+0.1**
ATH	**Athens Observa**	**1.58**	**77**	*e*PN	**Pn**	**14 48 47.9**	**-0.1**
ATH				*e*SN	**Sn**	**14 49 08.5**	**+0.1**
KVR	**Kavouri**	**1.60**	**83**	*e*PB	**Pb**	**14 48 48.0**	**-1.6**
KYTH	**Kithira**	**1.70**	**143**	*e*PN	**Pn**	**14 48 50.7**	**+1.1**
PTL	**Penteli**	**1.71**	**76**	*e*PN	**Pn**	**14 48 49.5**	**-0.3**
NEO	**Neokhori**	**2.02**	**34**	*e*PN	**Pn**	**14 48 53.4**	**-0.6**
NEO				*e*SN	**Sn**	**14 49 19.7**	**+0.5**
JAN	**Janina**	**2.14**	**341**	*e*PN	**Pn**	**14 48 55.5**	**-0.1**
MEV	**Metsovon**	**2.18**	**349**	*e*Pn	**Pn**	**14 48 57.1**	**+0.9**
MEV				*e*Sn	**Sn**	**14 49 24.9**	**+1.6**
IGT	**Igoumenitsa**	**2.20**	**330**	*e*Pn	**Pn**	**14 48 56.0**	**-0.5**
LIT	**Litokhoron**	**2.52**	**13**	*e*Pn	**Pn**	**14 49 00.8**	**-0.2**
KEK	**Kerkira**	**2.58**	**324**	*e*PN	**Pn**	**14 49 00.1**	**-1.6**
KZN	**Kozani**	**2.66**	**0**	*e*PN	**Pn**	**14 49 02.7**	**-0.2**
PAIG	**Paliouri**	**2.73**	**33**	*e*Pn	**Pn**	**14 49 03.2**	**-0.5**
PAIG				*e*Sn	**Sn**	**14 49 37.4**	**+0.7**
VAM	**Vamos**	**2.97**	**138**	*e*PN	**Pn**	**14 49 07.0**	**-0.1**
PLG	**Polygyros**	**3.03**	**25**	*e*PN	**Pn**	**14 49 07.2**	**-0.7**
APE	**Apeiranthos**	**3.05**	**100**	*e*Pn	**Pn**	**14 49 07.6**	**-0.6**
APE				*e*Sn	**Sn**	**14 49 44.0**	**-0.7**
HORT	**Hortiatis**	**3.13**	**19**	*e*Pn	**Pn**	**14 49 08.7**	**-0.6**
HORT				*e*Sn	**Sn**	**14 49 48.4**	**+1.7**
FNA	**Florina**	**3.15**	**355**	*e*Pn	**Pn**	**14 49 09.4**	**-0.2**
FNA	**Florina**	**3.15**	**355**	*e*Pn	**Pn**	**14 49 09.4**	**-0.2**
OUR	**Ouranopolis**	**3.20**	**32**	*e*Pn	**Pn**	**14 49 10.3**	**+0.1**
GRG	**Griva**	**3.35**	**8**	*e*Pn	**Pn**	**14 49 12.2**	**0.0**
GRG	**Griva**	**3.35**	**8**	*e*Pn	**Pn**	**14 49 12.2**	**-0.1**
SOH	**Sokhos**	**3.41**	**21**	*e*Pn	**Pn**	**14 49 13.5**	**+0.4**
CHOS	**Chios island**	**3.47**	**76**	*e*Pn	**Pn**	**14 49 14.0**	**0.0**
LIA	**Limnos Island**	**3.49**	**49**	*e*PN	**Pn**	**14 49 13.7**	**-0.6**
LIA	**Limnos Island**	**3.49**	**49**	*e*Pn	**Pn**	**14 49 13.3**	**-1.0**
MMB	**Musomiste**	**4.22**	**20**	*e*Pn	**Pn**	**14 49 23.9**	**-0.5**
MMB				*e*Sn	**Sn**	**14 50 15.7**	**+2.1**
GNI	**Garni**	**18.05**	**75**	LR	LR	15 00 08.9	
	comp=Z,18nm,20.7s,baz=179,slow=40						
FINES	**FINESS Array B**	**23.98**	**5**	P	**P**	**14 53 29.0**	**-5.5**
	1.4nm,0.9s,mb3.4,baz=170,slow=11,SNR=5.4						
FINES	**FINESS Array B**	**23.98**	**5**	P	**P**	**14 53 29.0**	**-5.5**
NOA	**NORSAR Array B**	**24.35**	**348**	P	**P**	**14 53 32.4**	**-5.4**
	0.4nm,0.6s,mb3.0,baz=153,slow=12,SNR=2.6						
NOA	**NORSAR Array B**	**24.35**	**348**	P	**P**	**14 53 32.4**	**-5.4**
NOA	**NORSAR Array B**	**24.35**	**348**	P	**P**	**14 53 32.4**	**-5.4**
ARCES	**ARCESS Array B**	**32.02**	**2**	P	**P**	**14 54 41.4**	**-5.0**
	1.0nm,0.8s,mb3.7,baz=187,slow=9.9,SNR=6.8						
ARCES	**ARCESS Array B**	**32.02**	**2**	P	**P**	**14 54 41.4**	**-5.0**
MKAR	**Makanchi Array**	**44.74**	**58**	P	**P**	**14 56 29.9**	**-3.5**
	0.2nm,0.3s,mb3.4,baz=287,slow=6.5,SNR=4.2

KSP	**Ksiaz**	**0.71**	**172**	*e*Pg	**Pg**	**15 37 18.6**	**+0.8**
KSP				*e*Sg	**Sg**	**15 37 27.7**	**+0.7**
UPC	**Upice**	**1.04**	**185**	*e*PG	**Pg**	**15 37 24.6**	**+0.4**
DPC	**Dobruska-Polom**	**1.20**	**175**	*e*PG	**Pg**	**15 37 27.4**	**+0.1**
DPC				*e*SG	**Sg**	**15 37 42.2**	**-0.6**
	177nm,0.8s						
DPC	**Dobruska-Polom**	**1.20**	**175**	*e*Pg	**Pg**	**15 37 27.4**	**+0.1**
DPC				*e*Sg	**Sg**	**15 37 42.5**	**-0.3**
PVCC	**Panska Ves**	**1.42**	**225**	*e*Pg	**Pg**	**15 37 31.4**	**-0.1**
PVCC				*e*Sg	**Sg**	**15 37 51.0**	**+1.0**
BRG	**Berggiesshubel**	**1.54**	**245**	*e*Pn	**Pn**	**15 37 32.4**	**-0.6**
BRG				*e*Sg	**Sg**	**15 37 54.4**	**+0.6**
BRG	**Berggiesshubel**	**1.54**	**245**	PN	**Pn**	**15 37 32.0**	**-0.9**
BRG				PG	**Pg**	**15 37 33.9**	**+0.1**
BRG				SG	**Sg**	**15 37 54.4**	**+0.6**
	98nm,0.5s						
RUE	**Ruedersdorf**	**1.74**	**304**	*e*Pn	**Pn**	**15 37 35.3**	**-0.4**
RUE				*e*Sg	**Sg**	**15 38 02.0**	**+1.9**
RUE	**Ruedersdorf**	**1.74**	**304**	*e*Pn	**Pn**	**15 37 35.3**	**-0.4**
RUE				*e*Sg	**Sg**	**15 38 02.0**	**+1.9**
PRA	**Prague**	**1.83**	**217**	PG	**Pg**	**15 37 38.0**	**-1.4**
PRA				SG	**Sg**	**15 38 02.0**	**-1.1**
GKP	**Gorka Klasztor**	**1.86**	**21**	*e*Pn	**Pn**	**15 37 46.6**	**+9.3**
GKP				*e*Pg	**Pg**	**15 37 48.6**	**+8.7**
GKP				*e*Sg	**Sg**	**15 38 11.5**	**+7.6**
GKP	**Gorka Klasztor**	**1.86**	**21**	*e*P	**Pn**	**15 37 46.6**	**+9.3**
GKP				*e*		15 37 48.6	
PRU	**Pruhonice**	**1.86**	**214**	*e*SG	**Sg**	**15 38 02.9**	**-1.1**
	117nm,0.3s						
FBE	**Freiberg**	**1.86**	**252**	*e*Pn	**Pn**	**15 37 39.2**	**+1.7**
FBE				*e*Sg	**Sg**	**15 38 04.0**	**-0.1**
RAC	**Raciborz**	**1.96**	**138**	*e*Pg	**Pg**	**15 37 42.4**	**+0.6**
RAC				*e*Sg	**Sg**	**15 38 07.9**	**+0.8**
MORC	**Moravsky Berou**	**1.98**	**153**	*e*Pn	**Pn**	**15 37 38.9**	**-0.2**
MORC				*e*Sn	**Sn**	**15 38 06.7**	**+2.2**
MORC	**Moravsky Berou**	**1.98**	**153**	*e*Pn	**Pn**	**15 37 38.9**	**-0.1**
MORC				*e*Sg	**Sg**	**15 38 05.6**	**-2.3**
MORC				*e*Sn	**Sn**	**15 38 06.7**	**+2.2**
CLL	**Collm**	**1.98**	**264**	*e*Pn	**Pn**	**15 37 38.6**	**-0.5**
CLL				*i* Pg	**Pg**	**15 37 42.0**	**-0.3**
CLL				*e*Sg	**Sg**	**15 38 08.6**	**+0.7**
CLL	**Collm**	**1.98**	**264**	*i* Pn	**Pn**	**15 37 38.6**	**-0.5**
CLL				*i* Pg	**Pg**	**15 37 42.0**	**-0.3**
CLL				*i* x	x	15 37 44.9	
CLL				*i* Sg	**Sg**	**15 38 08.4**	**+0.4**
	comp=Z,139nm,0.7s						
CLL				*i* x	x	15 38 14.3	
CLL	**Collm**	**1.98**	**264**	*i* Pn	**Pn**	**15 37 38.6**	**-0.5**
CLL				*i* Pg	**Pg**	**15 37 42.0**	**-0.3**
CLL				*i* Sg	**Sg**	**15 38 08.4**	**+0.4**
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*PG	**Pg**	**15 37 44.9**	**-0.2**
OKC				*e*SG	**Sg**	**15 38 11.4**	**-1.3**
	comp=Z,150nm,0.7s						
VRAC	**Vranov**	**2.25**	**173**	Pn	**Pn**	**15 37 43.7**	**+0.9**
	comp=Z,5.8nm,0.3s,baz=343,slow=14,SNR=9.5						
VRAC				Lg		15 38 15.2	
	comp=Z,14nm,0.3s,baz=82,slow=19,SNR=11						
VRAC	**Vranov**	**2.25**	**173**	*e*Pn	**Pn**	**15 37 43.2**	**+0.4**
VRAC				*e*Sg	**Sg**	**15 38 14.8**	**-1.9**
	comp=Z,60nm,0.4s						
TREC	**Trest**	**2.29**	**191**	*e*PN	**Pn**	**15 37 43.8**	**+0.5**
TREC				*e*PG	**Pg**	**15 37 47.5**	**-0.7**
KRUC	**Moravsky**	**2.49**	**176**	*e*Pn	**Pn**	**15 37 46.6**	**+0.6**
KRUC				*e*Sg	**Sg**	**15 38 22.6**	**-1.6**
	comp=Z,36nm,0.3s						
TANN	**Tannenbergstha**	**2.59**	**246**	*e*Pn	**Pn**	**15 37 47.5**	**+0.1**
TANN				*e*Sg	**Sg**	**15 38 27.0**	**-0.4**
WERD	**Werda**	**2.66**	**247**	*e*Pn	**Pn**	**15 37 48.6**	**+0.1**
WERD				*e*Sg	**Sg**	**15 38 30.2**	**+0.4**
OJC	**Ojcow**	**2.67**	**118**	*e*Pg	**Pg**	**15 37 56.2**	**+0.8**
OJC				*e*Sg	**Sg**	**15 38 30.9**	**+1.0**
NKC	**Novy Kostel**	**2.68**	**242**	*e*PN	**Pn**	**15 37 49.4**	**+0.7**
NKC				*e*PG	**Pg**	**15 37 55.5**	**-0.2**
NKC				*e*SG	**Sg**	**15 38 30.6**	**+0.1**
	comp=Z,108nm,0.4s						
WERN	**Wernitzgruen**	**2.70**	**244**	*e*Pn	**Pn**	**15 37 49.7**	**+0.9**
WERN				*e*Sg	**Sg**	**15 38 31.4**	**+0.4**
JAVC	**Velka Javorina**	**2.86**	**159**	*e*Sg	**Sg**	**15 38 37.2**	**+1.0**
	comp=Z,75nm,0.8s						
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PN	**Pn**	**15 37 52.0**	**0.0**
KHC				*e*PG	**Pg**	**15 37 57.7**	**-2.6**
KHC				*e*SN	**Sn**	**15 38 26.1**	**-1.7**
KHC				*e*SG	**Sg**	**15 38 35.7**	**-2.4**
	comp=Z,47nm,0.9s						
KHC	**Kasperske Hory**	**2.92**	**215**	*e*P	**Pn**	**15 37 52.0**	**0.0**
KHC				*e*		15 38 26.1	
MGBB	**Grossbuechelbe**	**2.95**	**239**	⇑*i*Pn	**Pn**	**15 37 53.0**	**+0.6**
MOX	**Moxa**	**2.99**	**254**	*e*Pn	**Pn**	**15 37 52.7**	**-0.3**
MOX				*e*Pg	**Pg**	**15 38 01.4**	**-0.3**
MOX				*e*Sg	**Sg**	**15 38 41.2**	**+0.7**
MOX	**Moxa**	**2.99**	**254**	*e*PN	**Pn**	**15 37 53.0**	**0.0**
MOX				*e*PG	**Pg**	**15 38 01.4**	**-0.3**
MOX				*e*SG	**Sg**	**15 38 41.5**	**+1.0**
MANZ	**Manzenberg**	**3.00**	**240**	*e*Pn	**Pn**	**15 37 53.3**	**+0.2**
MANZ				*e*Sg	**Sg**	**15 38 42.8**	**+2.1**
ROTZ	**Rotzenmuhle**	**3.07**	**236**	*e*Pn	**Pn**	**15 37 54.3**	**+0.2**
GEC2	**GERESS Array S**	**3.12**	**211**	*e*Pn	**Pn**	**15 37 55.8**	**+1.0**
GEC2	**GERESS Array S**	**3.12**	**211**	*e*Pn	**Pn**	**15 37 55.8**	**+1.0**
GERES	**GERESS Array B**	**3.12**	**211**	Pn	**Pn**	**15 37 55.3**	**+0.5**
	comp=Z,2.4nm,0.3s,baz=30,slow=12,SNR=25						
GERES				Pg	**Pg**	**15 38 01.4**	**-2.7**
	comp=Z,4.3nm,0.3s,baz=30,slow=14,SNR=27						
GERES				Lg		15 38 42.0	
	comp=Z,6.8nm,0.3s,baz=26,slow=27,SNR=5.0						
GERES	**GERESS Array B**	**3.12**	**211**	Pg	**Pg**	**15 38 01.4**	**-2.8**
SMOL	**Smolenice**	**3.14**	**164**	*e*SG	**Sg**	**15 38 45.8**	**+0.5**
WET	**Wettzell**	**3.19**	**222**	*e*Pn	**Pn**	**15 37 55.4**	**-0.2**
WET	**Wettzell**	**3.19**	**222**	*e*Pn	**Pn**	**15 37 55.4**	**-0.2**
ZST	**Bratislava**	**3.41**	**169**	*e*PG	**Pg**	**15 38 08.9**	**-0.7**
ZST				*e*SG	**Sg**	**15 38 52.7**	**-1.0**
RGN	**Rugen**	**3.46**	**332**	*e*Pn	**Pn**	**15 37 52.6**	**-6.8**
RGN				*e*S	**Sg**	**15 39 05.6**	**+10**
RGN	**Rugen**	**3.46**	**332**	*e*Pn	**Pn**	**15 37 52.6**	**-6.8**
VYHS	**Vyhne**	**3.51**	**149**	*e*P	**Pn**	**15 38 00.2**	**+0.1**
VYHS				*e*Pg	**Pg**	**15 38 12.1**	**+0.5**
VYHS				*e*Sg	**Sg**	**15 38 57.6**	**+0.5**
CLZ	**Clausthal**	**3.60**	**277**	*e*Pn	**Pn**	**15 38 02.2**	**+0.8**
CLZ	**Clausthal**	**3.60**	**277**	*e*Pn	**Pn**	**15 38 02.2**	**+0.8**
CONA	**Conrad Observa**	**3.62**	**183**	⇑*i*Pn	**Pn**	**15 37 57.0**	**-4.6**
CONA				⇑Sg	**Sg**	**15 38 53.2**	**-7.5**
	comp=Z,38nm,0.4s						
GRA1	**Grafenberg Arr**	**3.64**	**241**	*e*Pn	**Pn**	**15 38 02.7**	**+0.8**
GRA1				*e*Sg	**Sg**	**15 39 01.5**	**+0.2**
GRF	**Grafenberg Arr**	**3.64**	**241**	*e*Pn	**Pn**	**15 38 02.7**	**+0.8**
GRF				*e*Sg	**Sg**	**15 39 01.5**	**+0.2**
BSD	**Bornholm Skovb**	**3.65**	**349**	*i* P	**Pn**	**15 38 10.6**	**-0.5**
BSD				*i* S	**Sn**	**15 38 43.9**	**-2.0**
MOA	**Molln**	**3.89**	**199**	⇑*i*Pn	**Pn**	**15 38 06.0**	**+0.7**
	SNR=12						
MOA				⇓*i*Sg	**Sg**	**15 39 09.0**	**-0.3**
	comp=Z,51nm,0.6s						
CRVS	**Cervenica-Dubn**	**4.32**	**126**	*e*P	**Pn**	**15 38 11.6**	**+0.4**
CRVS				*e*Pg	**Pg**	**15 38 28.9**	**+1.9**
CRVS				*e*Sg	**Sg**	**15 39 28.8**	**+5.8**
PSZ	**Piszkesteto**	**4.37**	**145**	*e*Pn	**Pn**	**15 38 12.6**	**+0.7**
KWP	**Kalwaria**	**4.60**	**112**	*e*Pn	**Pn**	**15 38 30.0**	**-2.4**
KWP				*e*Sg	**Sg**	**15 39 37.8**	**+5.8**
KOLS	**Kolonicke sedl**	**4.72**	**121**	*e*	**Pn**	**15 38 16.9**	**+0.2**
KOLS				*e*		15 38 40.6	
KBA	**Koelnbreinsper**	**4.83**	**203**	⇑*i*Pn	**Pn**	**15 38 19.3**	**+1.1**
KBA				⇑*i*Sg	**Sg**	**15 39 39.7**	**+0.3**
	comp=Z,12nm,0.5s						
PDKS	**Podkum**	**5.54**	**188**	*i* Pn	**Pn**	**15 38 29.6**	**+1.6**
BFO	**Black Forest**	**5.98**	**241**	*e*Pn	**Pn**	**15 38 38.1**	**+4.0**
DAVOX	**Davos**	**6.29**	**223**	Pn	**Pn**	**15 38 38.6**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=41,slow=17,SNR=3.6						
CDF	**Champ du Feu**	**6.52**	**245**	*e*Pn	**Pn**	**15 38 38.5**	**-3.0**
CDF				*e*Sg	**Sg**	**15 40 25.1**	**-8.7**
	comp=Z,29nm,0.9s						
HINF	**Hinteralfeld**	**7.09**	**242**	*e*Pn	**Pn**	**15 38 46.5**	**-2.7**
HINF				*e*Sg	**Sg**	**15 40 44.2**	**-7.7**
	comp=Z,16nm,0.6s						
HAU	**Haudompre**	**7.26**	**245**	*e*Sg	**Sg**	**15 40 50.0**	**-7.6**
	comp=Z,7.4nm,0.3s						
AKASG	**Malin Array Be**	**8.27**	**91**	Pn	**Pn**	**15 39 04.2**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=279,slow=12,SNR=7.8						
AKASG				Sn	**Sn**	**15 40 35.6**	**-4.1**
	comp=Z,0.5nm,0.3s,baz=277,slow=23,SNR=4.1						
AKASG				Lg		15 41 32.6	
	comp=Z,0.3nm,0.3s,baz=268,slow=24,SNR=3.8						
AKASG	**Malin Array Be**	**8.27**	**91**	P	**Pn**	**15 39 04.3**	**-1.2**
AKASG						15 40 35.6	

AKASG	**Malin Array Be**	**8.27**	**91**	Pn	**Pn**	**15 39 04.2**	**-1.3**
AKBB	**Malin Array Si**	**8.27**	**91**	*e*P	**Pn**	**15 39 05.9**	**+0.4**
HFS	**Hagfors**	**8.72**	**352**	Pn	**Pn**	**15 39 11.0**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=171,slow=15,SNR=6.7						
HFS				Sn	**Sn**	**15 40 48.6**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=174,slow=27,SNR=3.4						
FINES	**FINESS Array B**	**11.32**	**25**	Pn	**Pn**	**15 39 45.5**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=199,slow=11,SNR=7.6						
EKA	**Eskdalemuir Ar**	**12.11**	**296**	Pn	**Pn**	**15 39 54.2**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=101,slow=15,SNR=3.3						
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn	**Pn**	**15 41 22.0**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=189,slow=11,SNR=4.8						
ARU	**Arti**	**25.10**	**62**	P	**P**	**15 42 32.3**	**+1.6**
ARU	**Arti**	**25.10**	**62**	P	**P**	**15 42 32.3**	**+1.7**
SONM	**Songino Array**	**54.88**	**55**	P	**P**	**15 46 37.9**	**+1.4**
	comp=Z,0.3nm,0.7s,mb3.4,baz=289,slow=4.4,SNR=3.8						

*NEIC **29** 15:45:12.2, 1781N×6529W, h34km, MD2.6(RSPR), After RSPR.*
RSPR 29 15:45:12.2, 1781N×6529W, h34km±3km**, MD2.6**/4**, MD2.6**/4**, 14C-1D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**0.37**	**318**	⇑*e*P	Pb	15 45 20.0	-1.0
MTP	**Monte Pirata**	**0.37**	**318**	*e*S	Sb	15 45 26.2	-0.7
MTP	**Monte Pirata**	**0.37**	**318**	⇑*e*P	Pb	15 45 20.1	-0.9
MTP	**Monte Pirata**	**0.37**	**318**	*e*S	Sb	15 45 26.4	-0.6
MTP	**Monte Pirata**	**0.37**	**318**	⇑*e*P	Pb	15 45 20.1	-0.9
MTP				*e*S	Sb	15 45 26.4	-0.6
CULB	**Culebra**	**0.49**	**356**	⇑*e*P	Pb	15 45 21.6	-1.2
CULB	**Culebra**	**0.49**	**356**	*e*S	Sb	15 45 28.1	-1.9
CULB	**Culebra**	**0.49**	**356**	⇑*e*P	Pb	15 45 21.9	-0.8
CULB	**Culebra**	**0.49**	**356**	*e*S	Sb	15 45 28.1	-1.9
HUMP	**Col San Antoni**	**0.62**	**302**	⇑*e*P	Pn	15 45 23.0	-1.5
HUMP	**Col San Antoni**	**0.62**	**302**	*e*S	Sb	15 45 31.6	-1.7
HUMP	**Col San Antoni**	**0.62**	**302**	⇑*e*P	Pn	15 45 24.5	-0.1
HUMP	**Col San Antoni**	**0.62**	**302**	*e*S	Sb	15 45 32.5	-0.8
HUMP	**Col San Antoni**	**0.62**	**302**	⇑*e*P	Pn	15 45 24.5	-0.1
HUMP				*e*S	Sb	15 45 32.5	-0.8
STVI	**Saint Thomas**	**0.62**	**30**	⇑*e*P	Pn	15 45 23.4	-1.2
STVI	**Saint Thomas**	**0.62**	**30**	*e*S	Sb	15 45 31.8	-1.6
STVI	**Saint Thomas**	**0.62**	**30**	⇑*e*P	Pn	15 45 23.5	-1.1
STVI	**Saint Thomas**	**0.62**	**30**	*e*S	Sb	15 45 31.1	-2.2
STVI	**Saint Thomas**	**0.62**	**30**	⇑*e*P	Pn	15 45 23.5	-1.1
STVI				*e*S	Sb	15 45 31.1	-2.2
CBYP	**Canovanas**	**0.70**	**310**	⇑*e*P	Pn	15 45 24.5	-1.2
CBYP	**Canovanas**	**0.70**	**310**	*e*S	Sn	15 45 34.0	-1.3
CBYP	**Canovanas**	**0.70**	**310**	⇑*e*P	Pn	15 45 25.2	-0.5
CBYP	**Canovanas**	**0.70**	**310**	*e*S	Sn	15 45 35.3	-1.7
CBYP	**Canovanas**	**0.70**	**310**	⇑*e*P	Pn	15 45 25.2	-0.5
CBYP				*e*S	Sn	15 45 33.6	-1.7
TBVI	**Tortola**	**0.88**	**48**	⇑*e*P	Pn	15 45 26.7	-1.4
TBVI				*e*S	Sn	15 45 38.2	-1.5

*CSEM **29** 15:56:37.7±0.1, 3754N×3876E, h8km, MD3.1, Error ellipse: s-maj=3.3km s-min=2.6km az=109.0*
*ISK **29** 15:56:37.6, 3754N×3871E, h4km, MD3.1.*
*ISCJB **29** 15:56:38.7±0.5, 3749N±003×3874E±002, h7km±3km, Error ellipse: s-maj=4.7km s-min=3.2km az=167.1*
*NSSC **29** 15:56:40.5, 3743N×3881E, h7km±2km*
ISC 29 15:56:38.8±0.5, 3750N±003×3876E±002, h5km±3km**, n34, σ1§14/62, 16D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.07**	**138**	*i* PG	**Pg**	**15 56 41.1**	**+0.6**
URFA				*i* SG	**Sg**	**15 56 43.5**	**+1.9**
ATAB	**Bozova**	**0.37**	**266**	*i* P	**Pg**	**15 56 45.1**	**-0.9**
ATAB				*i* S	**Sg**	**15 56 49.9**	**-0.9**
MYA	**Malataya**	**0.87**	**342**	*i* PG	**Pg**	**15 56 53.9**	**-1.6**
GZT	**Gaziantep**	**0.96**	**262**	*i* P	**Pg**	**15 56 56.0**	**-1.3**
GZT				*i* S	**Sg**	**15 57 10.3**	**+0.6**
ELZG	**Elazig**	**1.02**	**10**	*i* P	**Pg**	**15 56 57.2**	**-1.1**
ELZG				*i* S	**Sg**	**15 57 12.6**	**+1.1**
DRBT	**Darb Altahta**	**1.06**	**127**	⇓P	**Pg**	**15 56 58.5**	**-0.6**
DRBT				⇓S	**Sg**	**15 57 12.1**	**-0.7**
DRBT	**Darb Altahta**	**1.06**	**127**	⇓*i*P	**Pg**	**15 56 58.5**	**-0.6**
DRBT				⇓*i*S	**Sg**	**15 57 12.1**	**-0.8**
DIY	**Diyarbakir**	**1.23**	**71**	*i* PN	**Pn**	**15 57 02.1**	**-0.6**
GAZ	**Gaziantep**	**1.27**	**256**	*i* PN	**Pn**	**15 57 01.8**	**-1.5**
SLMH	**Al Salmeh**	**1.44**	**208**	⇑*i*P	**Pn**	**15 57 04.9**	**-0.7**
SLMH				⇑*i*S	**Sb**	**15 57 24.0**	**-0.8**
KBSD	**Kabsdagh**	**1.51**	**109**	⇑P	**Pn**	**15 57 06.6**	**+0.1**
KBSD				⇑S	**Sn**	**15 57 25.4**	**-1.2**
KBSD	**Kabsdagh**	**1.51**	**109**	⇑*i*P	**Pn**	**15 57 06.6**	**+0.1**
KBSD				⇑*i*S	**Sn**	**15 57 25.4**	**-1.1**
SFNV	**Sufian**	**1.53**	**134**	⇑P	**Pn**	**15 57 07.2**	**+0.5**
SFNV				⇑S	**Sn**	**15 57 26.4**	**-0.6**
SFNV	**Sufian**	**1.53**	**134**	⇑*i*P	**Pn**	**15 57 07.2**	**+0.4**
SFNV				⇑*i*S	**Sn**	**15 57 26.4**	**-0.6**
MARD	**Mardin**	**1.62**	**96**	*i* P	**Pn**	**15 57 08.4**	**+0.4**
MARD				*i* S	**Sn**	**15 57 31.8**	**+2.5**
JHLN	**Al Jahlan**	**1.84**	**188**	⇓P	**Pn**	**15 57 11.2**	**+0.1**
JHLN				⇓S	**Sn**	**15 57 34.1**	**-0.6**
JHLN	**Al Jahlan**	**1.84**	**188**	⇓*i*P	**Pn**	**15 57 11.2**	**+0.2**
JHLN				⇓*i*S	**Sn**	**15 57 34.1**	**-0.6**
DRWC	**Darouich**	**1.89**	**243**	⇑P	**Pn**	**15 57 13.1**	**+1.3**
DRWC				⇑S	**Sn**	**15 57 36.8**	**+0.9**
DRWC	**Darouich**	**1.89**	**243**	⇑*i*P	**Pn**	**15 57 13.1**	**+1.4**
DRWC				⇑*i*S	**Sn**	**15 57 36.8**	**+0.9**
BINT	**Bingol**	**1.94**	**44**	PN	**Pn**	**15 57 11.8**	**-0.6**
BEST	**Besiri**	**2.03**	**78**	*i* P	**Pn**	**15 57 35.6**	**+1.9**
BEST				*i* S	**Sn**	**15 57 42.9**	**+3.5**
COBT	**Iskenderun**	**2.23**	**245**	*i* P	**Pn**	**15 57 20.1**	**+3.7**
COBT				*i* S	**Sn**	**15 57 47.2**	**+2.9**
MZRK	**Al-Mazaregh**	**2.26**	**137**	⇓P	**Pn**	**15 57 16.1**	**-0.7**
MZRK				⇓S	**Sn**	**15 57 43.9**	**-1.1**
MZRK	**Al-Mazaregh**	**2.26**	**137**	⇓*i*P	**Pn**	**15 57 16.1**	**-0.7**
MZRK				⇓*i*S	**Sn**	**15 57 43.9**	**-1.1**
BTMT	**Batman**	**2.27**	**71**	PN	**Pn**	**15 57 15.6**	**-1.4**
KOZT	**Kozan**	**2.33**	**271**	PN	**Pn**	**15 57 18.1**	**+0.3**
BTCH	**Batrach**	**2.35**	**232**	⇑P	**Pn**	**15 57 19.8**	**+1.7**
BTCH				⇑S	**Sn**	**15 57 47.7**	**+0.3**
BTCH	**Batrach**	**2.35**	**232**	⇑*i*P	**Pn**	**15 57 19.8**	**+1.7**
BTCH				⇑*i*S	**Sn**	**15 57 47.7**	**+0.4**
WRDH	**Warideh**	**2.74**	**224**	⇑P	**Pn**	**15 57 24.8**	**+1.3**
WRDH				⇑S	**Sn**	**15 57 56.4**	**-0.5**
WRDH	**Warideh**	**2.74**	**224**	⇑*i*P	**Pn**	**15 57 24.8**	**+1.3**
WRDH				⇑*i*S	**Sn**	**15 57 56.4**	**-0.6**
SLNF	**Slenfeh**	**2.79**	**228**	⇑P	**Pn**	**15 57 25.7**	**+1.6**
SLNF				⇑S	**Sn**	**15 57 57.7**	**-0.4**
SLNF	**Slenfeh**	**2.79**	**228**	⇑*i*P	**Pn**	**15 57 25.7**	**+1.6**
SLNF				⇑*i*S	**Sn**	**15 57 57.7**	**-0.4**
BIDA	**Albida**	**3.17**	**219**	⇓P	**Pn**	**15 57 30.1**	**+0.9**
BIDA				⇓S	**Sn**	**15 58 06.0**	**-1.4**
BIDA	**Albida**	**3.17**	**219**	⇓*i*P	**Pn**	**15 57 30.1**	**+0.8**
BIDA				⇓*i*S	**Sn**	**15 58 06.0**	**-1.4**

*NEIC **29** 16:21:19.9±1.5, 997S×10798E, h10km, mb4.2/1, Error ellipse: s-maj=42.6km s-min=12.2km az=62.0*
*IDC **29** 16:21:19.2±2.5, 984S×10815E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/17, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=102.5km s-min=20.3km az=52.0*
*ISCJB **29** 16:21:21.7±1.7, 985S±02×1081E±03, h33km, mb3.8/6, Error ellipse: s-maj=46.7km s-min=13.2km az=121.3*
ISC 29 16:21:24.1±1.7, 995S±02×1081E±03, h35km**, n9, σ0§64/10, mb3.8/6, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**11.50**	**11**	Pn	**Pn**	**16 24 05.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**18.86**	**118**	P	**Pn**	**16 25 42.8**	**+0.8**
	0.1nm,0.3s,baz=315,slow=10,SNR=7.2						
FITZ				Sn	**Sn**	**16 28 57.2**	**-15**
	0.1nm,0.3s,baz=187,slow=23,SNR=3.5						
WRA	**Warramunga Arr**	**27.21**	**115**	P	**P**	**16 27 04.5**	**0.0**
	1.2nm,0.8s,mb3.5,baz=286,slow=11,SNR=11						
WRAB	**Tennant Creek**	**27.22**	**115**	*e*P	**P**	**16 27 03.8**	**-0.9**
	5.1nm,0.9s,mb4.0						
WRAB				*e*		16 27 17.8	
ASAR	**Alice Springs**	**28.18**	**122**	P	**P**	**16 27 13.3**	**+0.1**
	0.9nm,0.9s,mb3.4,baz=298,slow=7.5,SNR=11						
STKA	**Stephens Creek**	**37.93**	**130**	P	**P**	**16 28 37.9**	**-0.2**
	3.1nm,0.6s,mb4.2,baz=298,slow=12,SNR=9.6						
STKA	**Stephens Creek**	**37.93**	**130**	*e*P	**P**	**16 28 37.8**	**-0.3**
SONM	**Songino Array**	**57.48**	**359**	P	**P**	**16 31 10.8**	**+1.2**
	0.5nm,0.6s,mb3.7,baz=178,slow=8.4,SNR=6.8						
MKAR	**Makanchi Array**	**60.95**	**340**	P	**P**	**16 31 33.1**	**-0.5**
	0.3nm,0.5s,mb3.7,baz=145,slow=5.7,SNR=5.0						

*ISCJB **29** 17:00:11.8±0.4, 4395N±003×4319E±003, h10km, Error ellipse: s-maj=5.2km s-min=2.8km az=50.7*
*MOS **29** 17:00:11.3±1.6, 4396N×4302E, h23km, mb3.9/1, Error ellipse: s-maj=12.9km s-min=7.6km az=129.1*
ISC 29 17:00:12.3±0.4, 4393N±003×4317E±003, h10km**, n19, σ1§08/32, 5C-10D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYA	**Pyatigorsk**	**0.13**	**320**	⇓*e*PG	**Pg**	**17 00 14.5**	**-0.8**
KUBR	**Kubataba**	**0.22**	**128**	⇓*i*PG	**Pg**	**17 00 15.6**	**-1.2**
BEYR	**Belyy Ugol+**	**0.27**	**287**	*e*PG	**Pg**	**17 00 17.5**	**-0.2**
BEYR				*i* S	**Sg**	**17 00 22.1**	**+0.7**
KIV0	**Kislovodsk Ar**	**0.35**	**274**	⇓*e*PG	**Pg**	**17 00 19.1**	**0.0**
KIV0				*e*S	**Sg**	**17 00 24.7**	**+0.9**
KIV	**Kislovodsk**	**0.35**	**274**	⇑*e*PG	**Pg**	**17 00 19.2**	**-0.1**
KIV				*i* S	**Sg**	**17 00 24.9**	**+0.9**
SHAR	**Shatzhatmas**	**0.41**	**243**	⇓*i*PG	**Pg**	**17 00 20.5**	**+0.1**
SHAR				*e*S	**Sg**	**17 00 27.0**	**+1.1**
PRTR	**Priterechnaya**	**0.82**	**102**	⇓*e*PG	**Pg**	**17 00 29.7**	**+1.6**
PRTR				*e*S	**Sg**	**17 00 42.3**	**+3.4**
KMSR	**Komsomolskaya**	**0.99**	**124**	⇑*i*PG	**Pg**	**17 00 31.4**	**+0.1**
KMSR				*i* S	**Sg**	**17 00 45.4**	**+1.3**
KORR	**Kora**	**1.07**	**142**	⇑*e*PG	**Pg**	**17 00 32.0**	**-0.8**
KORR				*e*S	**Sg**	**17 00 46.2**	**-0.5**
DIGR	**Digorskoe uzhe**	**1.07**	**164**	⇓*e*PG	**Pg**	**17 00 31.0**	**-2.0**
ARNR	**Ardon**	**1.09**	**132**	⇓*e*PG	**Pg**	**17 00 33.0**	**-0.3**
ARNR				*e*S	**Sg**	**17 00 47.9**	**+0.3**
GOF	**Gofitskoye**	**1.13**	**355**	*e*PG	**Pg**	**17 00 32.6**	**-1.4**
GOF				*i* S	**Sb**	**17 00 48.1**	**-0.5**
GOF				pmax	pmax		
	comp=Z,20nm,0.6s						
GOF				smax			
	comp=N,150nm,0.8s						
GOF				smax			
	comp=E,70nm,0.8s						
BTKR	**Batakoyurt**	**1.14**	**119**	⇓*i*PG	**Pg**	**17 00 34.5**	**+0.3**
BTKR				*i* S

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.44**	**119**	P	Pn	17 26 17.4	+0.9
	0.1nm,0.3s,baz=330,slow=20,SNR=8.9						
WRA	**Warramunga Arr**	**26.76**	**116**	P	P	17 27 40.1	-0.8
	0.4nm,0.8s,baz=286,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**27.81**	**123**	P	P	17 27 51.3	+1.0
	0.2nm,0.6s,baz=298,slow=9.6,SNR=5.9						
SONM	**Songino Array**	**57.19**	**358**	P	P	17 31 49.0	+0.7
	0.4nm,0.5s,baz=181,slow=9.7,SNR=6.4						
MKAR	**Makanchi Array**	**60.88**	**339**	P	P	17 32 13.4	-0.4
	0.4nm,0.4s,baz=140,slow=8.4,SNR=6.9						

IDC 29 17:36:55.0±5.9, 1835S×17712W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/14, mbtmp4.1/3, Error ellipse: s-maj=116.8km s-min=50.5km az=62.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.47**	**193**	P	P	17 41 34.5	+0.3
	5.9nm,0.5s,baz=27,slow=3.4,SNR=7.8						
WRA	**Warramunga Arr**	**45.76**	**260**	P	P	17 45 19.0	+0.9
	0.8nm,0.3s,baz=97,slow=7.7,SNR=82						
ASAR	**Alice Springs**	**45.86**	**255**	P	P	17 45 18.7	-0.2
	1.1nm,0.5s,baz=91,slow=8.8,SNR=49						
AKASG	**Malin Array Be**	**141.51**	**333**	PKP	PKPdf	17 56 26.8	-1.3
	0.7nm,0.3s,baz=44,slow=4.6,SNR=7.8						

*NEIC **29** 17:43:41.4±1.1, 8203N×440W, h10km, Error ellipse: s-maj=20.0km s-min=9.4km az=196.0*
*MOS **29** 17:43:41.9±2.6, 8173N×579W, h10km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=13.1km az=94.8*
*IDC **29** 17:43:42.9±2.4, 8187N×482W, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.4/23, mbtmp3.6/7, ML4.1/2, MS3.2/5, Ms1 3.2/5, ms1mx2.9/23, Error ellipse: s-maj=50.0km s-min=27.8km az=106.0*
*ISCJB **29** 17:43:43.2±1.2, 816N±0.1×39W±0.5, h10km, mb3.7/8, MS3.3/5, Error ellipse: s-maj=17.9km s-min=9.4km az=168.2*
*CSEM **29** 17:43:44.0±0.1, 8183N×546W, h30km, mb4.2, Error ellipse: s-maj=4.1km s-min=2.6km az=15.0*
*BER **29** 17:43:49.8±4.2, 8142N×355W, h10km, MD3.1, ML3.0*
*NAO **29** 17:44:00.9, 8109N×878E, h33km, mb3.5*
*SZGRF **29** 17:44:12.7, 8016N×082W, h33km, mb4.3, North of Svalbard*

ISC 29 17:43:44.9±1.2, 817N±0.1×35W±0.4, h10km, n35, σ1§32/38, mb3.7/8, MS3.3/5, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**3.80**	**129**	*e*P	**Pn**	**17 44 42.6**	**-1.0**
KBS				*e*S	**Sn**	**17 45 23.5**	**-4.9**
KBS				AML	AML	17 45 28.5	
	comp=Z,38nm,0.3s						
KBS	**Kingsbay**	**3.80**	**129**	*e*Pn	**Pn**	**17 44 42.9**	**-0.7**
KBS				*e*Sn	**Sn**	**17 45 23.0**	**-5.4**
KBS	**Kingsbay**	**3.80**	**129**	*e*Pn	**Pn**	**17 44 42.9**	**-0.7**
KBS				*e*Sn	**Sn**	**17 45 23.0**	**-5.3**
SPB4	**Spitsbergen Ar**	**4.93**	**125**	*e*Pn	**Pn**	**17 44 58.3**	**-0.7**
SPB4				*e*		17 45 05.3	
SPB4	**Spitsbergen Ar**	**4.93**	**125**	*e*Pn	**Pn**	**17 44 58.3**	**-0.7**
DAG	**Danmarks Havn**	**5.68**	**217**	*i* P	**Pn**	**17 45 08.0**	**-1.4**
DAG	**Danmarks Havn**	**5.68**	**217**	*e*P	**Pn**	**17 45 08.0**	**-1.4**
HSP	**Hornsund**	**5.84**	**134**	Pg	**Pn**	**17 45 11.8**	**+0.2**
HSP				Sg	**Sn**	**17 46 16.4**	**-2.2**
HOPEN	**Hopen**	**7.38**	**119**	*e*P	**Pn**	**17 45 32.0**	**-0.8**
HOPEN				*e*S	**Sn**	**17 46 50.3**	**-6.2**
HOPEN				AML	AML	17 46 51.6	
	comp=N,54nm,0.6s						
BJO1	**Bjornoya**	**8.49**	**136**	*e*P	**Pn**	**17 45 48.2**	**+0.3**
BJO	**Bjornoya**	**8.51**	**136**	*e*P	**Pn**	**17 45 48.2**	**0.0**
JMIC	**Jan Mayen**	**10.84**	**189**	Pn	**Pn**	**17 46 21.1**	**+1.1**
	comp=N,5.7nm,0.3s,baz=126,slow=1.3,SNR=32						
SUMG	**Summit**	**11.68**	**239**	*e*Pn	**Pn**	**17 46 28.0**	**-3.7**
	comp=N,6.7nm,0.4s						
SUMG				*e*Sn	**Sn**	**17 48 24.8**	**-17**
SCO	**Scoresbysund**	**12.00**	**211**	*i* P	**Pn**	**17 46 37.8**	**+1.8**
SCO				*e*S	**Sn**	**17 48 44.1**	**-5.8**
SCO	**Scoresbysund**	**12.00**	**211**	*e*P	**Pn**	**17 46 37.8**	**+1.8**
KEV	**Kevo**	**13.81**	**132**	Pn	**Pn**	**17 47 01.0**	**+0.2**
ARCES	**ARCESS Array B**	**13.87**	**135**	Pn	**Pn**	**17 47 01.8**	**+0.3**
	comp=N,0.6nm,0.3s,baz=359,slow=11,SNR=18						
RES	**Resolute Bay**	**17.66**	**299**	*e*Pn	**Pn**	**17 47 43.5**	**-7.5**
RES	**Resolute Bay**	**17.66**	**299**	*e*P	**Pn**	**17 47 43.5**	**-7.5**
SFJD	**Kangerlussuaq**	**18.45**	**246**	LR	LR	17 55 18.2	
	comp=N,89nm,18.0s,baz=350,slow=38						
JOF	**Joensuu**	**20.89**	**133**	*e*p	**P**	**17 48 33.4**	**+6.1**
	comp=N,0.6nm,0.3s						
NB2	**NORSAR Subarra**	**21.14**	**160**	P	**P**	**17 48 32.1**	**+2.1**
	comp=Z,3.2nm,1.0s,mb3.6,baz=359,slow=11						
NOA	**NORSAR Array B**	**21.14**	**160**	P	**P**	**17 48 32.5**	**+2.5**
	comp=Z,0.9nm,0.9s,mb3.1,baz=357,slow=9.4,SNR=3.8						
KAF	**Kangasniemi**	**21.18**	**140**	*e*p	**P**	**17 48 40.0**	**+10**
	comp=Z,4.8nm,0.7s,mb3.9						
KAF	**Kangasniemi**	**21.18**	**140**	*e*P	**P**	**17 48 40.0**	**+10**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
FINES	**FINESS Array B**	**21.82**	**140**	P	**P**	**17 48 38.5**	**+1.3**
	comp=Z,3.0nm,1.1s,mb3.7,baz=152,slow=8.6,SNR=3.0						
FINES				LR	LR	17 56 34.4	
	comp=Z,56nm,21.2s,MS3.0,baz=340,slow=35						
HFS	**Hagfors**	**22.18**	**157**	P	**P**	**17 48 43.5**	**+2.4**
	comp=Z,1.3nm,0.8s,mb3.4,baz=12,slow=7.8,SNR=3.6						
SVE	**Sverdlovsk**	**30.54**	**103**	*e*P	**P**	**17 50 05.0**	**+6.6**
SVE				*e*		17 51 24.0	
SVE				MLR	MLR		
	comp=E,100nm,13.0s						
SVE				MLR	MLR		
	comp=Z,200nm,13.0s,MS4.0						
YKA	**Yellowknife Ar**	**31.57**	**304**	LR	LR	18 02 19.2	
	comp=Z,31nm,20.6s,MS3.0,baz=0.0,slow=36						
SCHQ	**Schefferville**	**32.36**	**255**	LR	LR	18 03 49.6	
	comp=Z,62nm,19.7s,MS3.3,baz=104,slow=38						
GRF	**Grafenberg Ar**	**32.48**	**162**	*e*P	**P**	**17 50 25.3**	**+10**
	comp=Z,5.0nm,1.3s,mb4.2						
GERES	**GERESS Array B**	**33.44**	**159**	P	**P**	**17 50 24.1**	**+0.1**
	comp=Z,0.7nm,0.8s,mb3.6,baz=27,slow=6.1,SNR=4.4						
ULM	**Lac du Bonnet**	**41.00**	**282**	LR	LR	18 07 13.4	
	comp=Z,38nm,19.1s,MS3.3,baz=100,slow=35						
SONM	**Songino Array**	**45.75**	**62**	P	**P**	**17 52 06.3**	**-0.1**
	comp=Z,0.2nm,0.6s,mb3.2,baz=11,slow=2.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**68.62**	**175**	P	**P**	**17 54 48.3**	**+0.1**
	comp=Z,1.4nm,0.8s,mb3.9,baz=351,slow=6.2,SNR=12						

*NIED **29** 17:45:00, 2360N×12580E, h11km, Mw3.8 Best double couple: M0 5.35000×10^14 NP1:φ=287.00000°, δ=78.00000°, λ=-75.00000°. NP2:φ=54.00000°, δ=19.00000°, λ=-141.00000°.*

JMA 29 17:45:36.0±0.3, 2356N×12580E, h8km, M3.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.25**	**343**	P	Pn	17 45 59.1	-0.6
JOGS				S	Sb	17 46 15.8	-0.2
JMJ	**Miyako jima 2**	**1.33**	**340**	P	Pn	17 46 00.8	-0.1
JMJ				S	Sb	17 46 18.2	-0.2
JTJ	**Tarama**	**1.47**	**317**	P	Pn	17 46 02.5	-0.3
JTJ				S	Sn	17 46 20.9	-1.3
JIJ	**Ishigaki jima**	**1.71**	**298**	P	Pn	17 46 06.3	+0.2
JIJ				S	Sn	17 46 28.8	+0.6
JKRS	**Kuro-shima**	**1.77**	**293**	P	Pn	17 46 07.8	+0.9
JKRS				S	Sn	17 46 29.8	+0.1
HATJ	**Hateruma jima**	**1.89**	**286**	P	Pn	17 46 09.3	+0.7
HATJ				S	Sn	17 46 32.8	+0.2
IRIF	**Iriomote-Funau**	**2.04**	**293**	P	Pn	17 46 11.3	+0.6
IRIF				S	Sn	17 46 36.9	+0.5
YOJ	**Yonaguni jima**	**2.70**	**290**	P	Pn	17 46 20.6	+0.9
YOJ				S	Sn	17 46 51.6	-1.0
JKE	**Kume jima 2**	**2.90**	**18**	P	Pn	17 46 18.9	-3.5
JKE				*e*S	Sn	17 46 49.8	-7.6
JJT2	**Tamagusuku 2**	**3.12**	**34**	P	Pn	17 46 21.4	-4.0
JJT2				*e*S	Sn	17 46 54.3	-8.6
JAGN	**Aguni-jima**	**3.29**	**23**	P	Pn	17 46 24.5	-3.3
JAGN				*e*S	Sn	17 46 59.6	-7.4
JOW	**Kunigami**	**3.96**	**34**	P	Pn	17 46 32.9	-4.0
JOW				S	Sn	17 47 14.3	-9.2
JIH	**Iheya**	**3.98**	**29**	P	Pn	17 46 33.2	-4.1
JIH				*e*S	Sn	17 47 14.1	-10
JTK	**Tokunoshima**	**5.08**	**33**	P	Pn	17 46 47.6	-4.8
JTK				*e*S	Sn	17 47 39.8	-11
JMZ	**Minamidaito 2**	**5.42**	**64**	P	Pn	17 46 49.8	-7.3
JMZ				S	Sn	17 47 44.6	-15
JAM	**Amami Oshima**	**5.92**	**35**	P	Pn	17 46 59.3	-4.7
JAM				S	Sn	17 47 59.5	-12
JZK	**Kikaishima**	**6.04**	**38**	P	Pn	17 47 01.3	-4.3
JZK				*e*S	Sn	17 48 06.8	-8.2
JNN	**Nakanoshima**	**7.24**	**29**	P	Pn	17 47 17.2	-4.9
JNN				*e*S	Sn	17 48 34.8	-10

*ISCJB **29** 17:51:30.4±0.6, 3909N±003×2358E±004, h16km±7km, Error ellipse: s-maj=5.7km s-min=5.2km az=144.6*
*CSEM **29** 17:51:30.3±0.1, 3910N×2357E, h20km, ML2.6, Error ellipse: s-maj=1.6km s-min=1.3km az=75.0*
*NEIC **29** 17:51:30.0, 3910N×2346E, h27km, ML2.9(ATH), After ATH.*
*THE **29** 17:51:30.3, 3908N×2356E, h11km, ML2.6*
*ATH **29** 17:51:30.0, 3910N×2346E, h27km±1km, MD2.8/7, ML2.9*

ISC 29 17:51:30.3±0.5, 3908N±003×2357E±004, h14km±4km, n17, σ0§60/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.26**	**70**	*e*Pg	**Pg**	**17 51 35.8**	**0.0**
AOS				*e*Sg	**Sg**	**17 51 39.9**	**+0.4**
NEO	**Neokhori**	**0.35**	**310**	*e*PB	**Pg**	**17 51 37.3**	**0.0**
NEO				*e*SB	**Sg**	**17 51 42.2**	**+0.1**
XOR	**Xorichti**	**0.41**	**314**	*e*Pg	**Pg**	**17 51 38.4**	**0.0**
XOR				*e*Sg	**Sg**	**17 51 43.9**	**0.0**
XOR	**Xorichti**	**0.41**	**314**	*e*Pg	**Pg**	**17 51 38.4**	**0.0**
XOR				*e*Sg	**Sg**	**17 51 43.8**	**-0.1**
LKR	**Lokris**	**0.62**	**226**	*e*PN	**Pg**	**17 51 41.8**	**-0.6**
LKR				*e*SN	**Sg**	**17 51 50.3**	**-0.2**
PAIG	**Paliouri**	**0.85**	**6**	*e*Pg	**Pg**	**17 51 46.9**	**+0.2**
AGG	**Agios Georgios**	**0.96**	**267**	*e*Pg	**Pg**	**17 51 47.8**	**-1.1**
AGG				*e*Sg	**Sg**	**17 52 02.3**	**+0.8**
PTL	**Penteli**	**1.06**	**167**	*e*PN	**Pn**	**17 51 50.5**	**-0.2**
ATH	**Athens Observa**	**1.12**	**174**	*e*PN	**Pn**	**17 51 51.5**	**0.0**
KVR	**Kavouri**	**1.26**	**173**	*e*PN	**Pn**	**17 51 54.0**	**+0.5**
PLG	**Polygyros**	**1.29**	**356**	*e*PN	**Pn**	**17 51 53.4**	**-0.5**
LIT	**Litokhoron**	**1.31**	**321**	*e*Pg	**Pn**	**17 51 53.9**	**-0.3**
LIT				*e*Sg	**Sb**	**17 52 12.7**	**+1.3**
NAIG	**Nisos Aigina**	**1.32**	**183**	*e*PN	**Pn**	**17 51 55.5**	**+1.1**
HORT	**Hortiatis**	**1.56**	**347**	*e*Pg	**Pn**	**17 51 57.4**	**-0.1**
HORT				*e*Sg	**Sn**	**17 52 17.2**	**-0.3**
SOH	**Sokhos**	**1.74**	**355**	*e*Pb	**Pn**	**17 51 58.9**	**-1.3**
KNT	**Kendrikon**	**2.14**	**346**	*e*Pn	**Pn**	**17 52 05.8**	**+0.3**
KNT	**Kendrikon**	**2.14**	**346**	*e*Pn	**Pn**	**17 52 05.8**	**+0.2**

IDC 29 17:59:57.6±1.6, 895S×15817E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/12, mbtmp3.9/4, Error ellipse: s-maj=53.5km s-min=22.6km az=164.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.82**	**105**	Pn	Pn	18 00 29.5	-0.7
	35nm,0.3s,baz=259,slow=4.3,SNR=28						
HNR				Sn	Sn	18 00 59.5	+5.5
	101nm,0.3s,baz=265,slow=22,SNR=7.8						
WRA	**Warramunga Arr**	**25.49**	**242**	P	P	18 05 26.7	-0.8
	1.3nm,0.8s,baz=66,slow=9.5,SNR=8.3						
ASAR	**Alice Springs**	**27.43**	**235**	P	P	18 05 46.6	+1.7
	1.1nm,0.9s,baz=69,slow=9.6,SNR=7.3						
STKA	**Stephens Creek**	**27.52**	**212**	P	P	18 05 45.6	-0.2
	2.8nm,0.8s,baz=31,slow=12,SNR=4.0						
NVAR	**Mina Array Bea**	**90.47**	**51**	P	P	18 13 02.4	+1.3
	0.5nm,0.7s,baz=253,slow=9.3,SNR=5.1						

*JMA **29** 18:38:43.6±0.2, 3528N×14124E, h37km±2km, M3.0*
*ISCJB **29** 18:38:44.4±1.0, 3525N±004×1412E±0.1, h43km±9km, mb3.6/3, Error ellipse: s-maj=14.0km s-min=6.1km az=4.7*
*IDC **29** 18:38:50.4±1.3, 3424N×13828E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, ML2.8/1, Error ellipse: s-maj=42.4km s-min=21.2km az=67.0*

ISC 29 18:38:45.1±1.0, 3525N±003×14115E±008, h33km±5km, n16, σ1§09/23, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.51**	**332**	P	**Pb**	**18 38 54.5**	**-1.3**
CHOJ				S	**Sb**	**18 39 02.9**	**-0.2**
BSO2	**Boso 2**	**0.60**	**213**	S	**Sb**	**18 39 07.0**	**+1.5**
BSO1	**Boso 1**	**0.61**	**193**	P	**Pb**	**18 38 56.3**	**-1.2**
BSO1				S	**Sb**	**18 39 05.7**	**-0.3**
KTR	**Katsuura**	**0.69**	**261**	P	Pn	**18 38 58.0**	**-0.5**
KTR				S	**Sb**	**18 39 07.9**	**-0.2**
BSO3	**Boso 3**	**0.69**	**229**	P	Pn	**18 38 58.0**	**-0.5**
BSO3				S	**Sb**	**18 39 09.4**	**+1.3**
BSO4	**Boso 4**	**0.71**	**249**	P	Pn	**18 38 58.8**	**0.0**
JCN	**Nagara**	**0.79**	**282**	P	Pn	**18 39 00.1**	**+0.2**
JYT	**Yasato**	**1.24**	**322**	P	Pn	**18 39 05.6**	**-0.5**
JHO	**Hitachi**	**1.43**	**341**	P	Pn	**18 39 08.6**	**-0.1**
JIM2	**Oshima 3**	**1.51**	**250**	P	Pn	**18 39 08.6**	**-1.1**
JIM2				S	**Sn**	**18 39 26.9**	**-1.3**
JHJ	**Hachijo jima 2**	**2.41**	**208**	Pn	Pn	**18 39 21.9**	**-0.2**
	5.7nm,0.3s,baz=186,slow=15,SNR=15						
JHJ				Sn	**Sn**	**18 39 49.5**	**-1.0**
	26nm,0.3s,baz=254,slow=24,SNR=7.6						
MJAR	**Matsushiro Arr**	**2.71**	**299**	Pn	**Pn**	**18 39 28.4**	**+2.2**
	2.4nm,0.3s,baz=118,slow=9.0,SNR=41						
MAT	**Matsushiro**	**2.71**	**299**	P	**Pn**	**18 39 28.9**	**+2.6**
MAT				S	**Sn**	**18 40 04.0**	**+6.1**
MKAR	**Makanchi Array**	**44.90**	**304**	P	**P**	**18 46 56.1**	**-0.3**
	0.4nm,0.7s,mb3.4,baz=79,slow=9.0,SNR=4.5						
WRA	**Warramunga Arr**	**55.27**	**188**	P	**P**	**18 48 15.1**	**+0.1**
	0.9nm,0.6s,mb4.0,baz=1.9,slow=7.6,SNR=21						
ASAR	**Alice Springs**	**59.00**	**188**	P	**P**	**18 48 43.9**	**+2.5**
	0.4nm,0.9s,mb3.5,baz=20,slow=11,SNR=4.2						

*IDC **29** 18:54:20.5±3.3, 3226S×17891W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/13, mbtmp3.9/4, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/27, Error ellipse: s-maj=73.7km s-min=40.8km az=52.0*
*ISCJB **29** 18:54:41.0±1.2, 3314S±006×1784E±02, h33km, mb3.9/3, Error ellipse: s-maj=18.2km s-min=8.1km az=172.4*

ISC 29 18:54:42.1±1.2, 3305S±006×1786E±02, h35km, n19, σ1§36/26, mb3.9/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.51**	**183**	PN	**Pn**	**18 55 48.4**	**+0.5**
MXZ				SN	**Sn**	**18 56 40.7**	**+1.6**
RAO	**Raoul Island**	**4.83**	**39**	LR	LR	18 55 48.1	
	comp=Z,163nm,20.3s,baz=222,slow=28						
PUZ	**Puketiti**	**5.02**	**183**	PN	**Pn**	**18 55 55.1**	**+0.2**
PUZ				SN	**Sn**	**18 56 49.6**	**-2.1**
URZ	**Urewera**	**5.34**	**193**	Pn	**Pn**	**18 56 02.2**	**+2.9**
	1.0nm,0.3s,baz=166,slow=16,SNR=20						
URZ				Sn	**Sn**	**18 57 02.9**	**+3.4**
	6.9nm,0.3s,baz=98,slow=19,SNR=16						
URZ	**Urewera**	**5.34**	**193**	PN	**Pn**	**18 56 02.1**	**+2.8**
URZ				SN	**Sn**	**18 57 01.8**	**+2.3**
MWZ	**Matawai**	**5.35**	**189**	PN	**Pn**	**18 56 01.0**	**+1.7**
BKZ	**Black Stump Fm**	**6.34**	**195**	SN	**Sn**	**18 57 27.2**	**+3.0**
PXZ	**Pawanui**	**7.11**	**191**	PN	**Pn**	**18 56 21.4**	**-2.2**
PXZ				SN	**Sn**	**18 57 38.3**	**-4.7**
TSZ	**Takapari Road**	**7.31**	**196**	*e*PN	**Pn**	**18 56 25.1**	**-1.3**
TSZ				SN	**Sn**	**18 57 47.9**	**-0.2**
MRZ	**Mangatainoka R**	**7.97**	**197**	PN	**Pn**	**18 56 33.7**	**-1.7**
MRZ				SN	**Sn**	**18 57 59.5**	**-4.8**
NNZ	**Nelson**	**9.15**	**205**	SN	**Sn**	**18 58 32.3**	**-1.0**
NNZ				SN	**Sn**	**18 58 34.2**	**+0.9**
THZ	**Tophouse**	**9.80**	**206**	*e*PN	**Pn**	**18 56 59.6**	**-0.9**
THZ				SN	**Sn**	**18 58 48.8**	**-0.5**
KHZ	**Kahutara**	**10.17**	**202**	SN	**Sn**	**18 58 54.0**	**-4.3**
DSZ	**Denniston Nort**	**10.22**	**210**	SN	**Sn**	**18 58 59.8**	**+0.3**
MQZ	**McQueen's Vall**	**11.61**	**202**	SN	**Sn**	**18 59 25.1**	**-8.6**
ASAR	**Alice Springs**	**40.16**	**272**	P	**P**	**19 02 15.5**	**+0.7**
	1.2nm,0.4s,mb4.0,baz=108,slow=7.4,SNR=32						
WRA	**Warramunga Arr**	**41.41**	**277**	P	**P**	**19 02 24.6**	**-0.4**
	0.7nm,0.5s,mb3.5,baz=117,slow=8.0,SNR=20						
FITZ	**Fitzroy Crossi**	**49.54**	**274**	P	**P**	**19 03 29.9**	**+0.6**
	1.2nm,0.6s,mb4.1,baz=168,slow=14,SNR=5.6						
TORD	**Torodi Ar. Bea**	**159.99**	**189**	PKPab	PKPab	19 15 05.2	-12
	0.3nm,0.7s,baz=161,slow=4.0,SNR=5.2						

*IDC **29** 18:56:45.7±3.7, 6366N×15053W, h115km±56km, mb3.6/4, mb1 3.5/7, mb1mx3.2/20, mbtmp3.8/7, Error ellipse: s-maj=70.0km s-min=26.4km az=133.0*
*ISCJB **29** 18:56:46.3±0.4, 6358N±004×15011W±0.1, h143km±4km, mb3.6/4, Error ellipse: s-maj=9.1km s-min=7.1km az=159.7*
*NEIC **29** 18:56:48.3, 6355N×14997W, h134km, MG3.4(AEIC), After AEIC.*

ISC 29 18:56:47.2±0.4, 6357N±004×1501W±01, h141km±4km, n32, σ0§73/36, mb3.6/4, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.14**	**212**	P	**Pn**	**18 57 06.8**	**+0.5**
TRF				S	**Sn**	**18 57 20.9**	**+0.1**
KTH	**Kantishna Hill**	**0.36**	**268**	P	**Pn**	**18 57 07.5**	**+0.5**
KTH				S	**Sn**	**18 57 21.7**	**-0.1**
MCK	**McKinley**	**0.55**	**72**	P	**Pn**	**18 57 08.1**	**+0.2**
MCK				S	**Sn**	**18 57 22.6**	**-0.9**
COLA	**College**	**1.64**	**36**	P	**Pn**	**18 57 17.8**	**+0.1**
PMR	**Palmer**	**2.04**	**167**	P	**Pn**	**18 57 22.1**	**-0.1**
KNK	**Knik Glacier**	**2.30**	**160**	P	**Pn**	**18 57 25.1**	**-0.3**
FIB	**Fire Island**	**2.41**	**181**	P	**Pn**	**18 57 27.6**	**+0.8**
RC01	**Rabbit Creek A**	**2.50**	**176**	P	**Pn**	**18 57 27.7**	**-0.2**
IMA2	**Indian Mountai**	**2.94**	**330**	*e*P	**Pn**	**18 57 34.0**	**+0.6**
MENT	**Mentasta**	**2.96**	**99**	*e*Pn	**Pn**	**18 57 33.0**	**-0.8**
SLKM	**Skilak Lake**	**3.07**	**181**	P	**Pn**	**18 57 35.4**	**+0.2**
SEW	**Seward**	**3.49**	**174**	P	**Pn**	**18 57 40.3**	**-0.3**
SVW2	**Sparrevohn**	**3.56**	**228**	P	**Pn**	**18 57 41.8**	**+0.4**
EYAK	**Cordova Ski Ar**	**3.66**	**144**	P	**Pn**	**18 57 42.6**	**-0.2**
COLD	**Coldfoot**	**3.67**	**360**	P	**Pn**	**18 57 43.5**	**+0.5**
DAWY	**Dawson**	**4.78**	**79**	P	**Pn**	**18 57 57.1**	**-0.4**
KDAK	**Kodiak Island**	**5.93**	**193**	P	**Pn**	**18 58 11.6**	**-1.3**
	2.1nm,0.3s,baz=35,slow=10,SNR=20						
KDAK				S	**Sn**	**18 59 13.8**	**-6.0**
	2.9nm,0.3s,baz=260,slow=22,SNR=8.9						
PNL	**Peninsula**	**6.43**	**123**	P	**Pn**	**18 58 19.3**	**-0.4**
SKAG	**Skagway**	**8.18**	**114**	*e*Pn	**Pn**	**18 58 42.2**	**-0.7**
INK	**Inuvik**	**8.26**	**48**	P	**Pn**	**18 58 43.4**	**-0.8**
	0.3nm,0.3s,baz=224,slow=14,SNR=4.3						
SIT	**Sitka**	**9.80**	**125**	*e*Pn	**Pn**	**18 59 04.7**	**0.0**
DLBC	**Dease Lake**	**11.00**	**109**	Pn	**Pn**	**18 59 22.2**	**+1.7**
CRAG	**Craig**	**11.81**	**126**	Pn	**Pn**	**18 59 34.1**	**+2.9**
YKA	**Yellowknife Ar**	**16.02**	**78**	P	**Pn**	**19 00 26.4**	**+1.8**
	baz=295,slow=12,SNR=4.5						
KEV	**Kevo**	**46.94**	**1**	*e*p	**P**	**19 05 03.0**	**-0.6**
ARCES	**ARCESS Array B**	**47.14**	**2**	P	**P**	**19 05 05.3**	**+0.2**
	0.9nm,0.5s,mb3.7,baz=3.0,slow=7.7,SNR=9.5						
ARCES	**ARCESS Array B**	**47.14**	**2**	P	**P**	**19 05 05.3**	**+0.1**
JOF	**Joensuu**	**53.82**	**359**	*e*p	**P**	**19 05 54.7**	**-0.6**
NOA	**NORSAR Array B**	**54.91**	**11**	P	**P**	**19 06 03.2**	**0.0**
	0.5nm,0.6s,mb3.4,baz=349,slow=7.3,SNR=2.5						
NOA	**NORSAR Array B**	**54.91**	**11**	P	**P**	**19 06 03.2**	**0.0**
FINES	**FINESS Array B**	**55.27**	**2**	P	**P**	**19 06 05.3**	**-0.5**
	1.1nm,0.6s,mb3.8,baz=352,slow=6.2,SNR=8.6						
MKAR	**Makanchi Array**	**62.47**	**322**	P	**P**	**19 06 55.1**	**-0.3**
	0.2nm,0.3s,mb3.4,baz=41,slow=6.8,SNR=7.4						

*SZGRF **29** 19:05:10.1, 5423N×16259E, h33km, mb4.2, Near east coast of Kamchatka Peninsula, Russia*
*KRSC **29** 19:05:14, 5632N×16326E, h15km, ML5.3*
*IDC **29** 19:05:15.2±0.6, 5625N×16258E, h0km, mb4.1/19, mb1 4.3/19, mb1mx4.3/23, mbtmp4.1/19, MS3.7/7, Ms1 3.7/7, ms1mx3.3/39, Error ellipse: s-maj=20.0km s-min=13.6km az=150.0*
*MOS **29** 19:05:15.3±1.4, 5631N×16288E, h12km, mb4.6/22, Error ellipse: s-maj=10.9km s-min=6.0km az=77.3*
*ISCJB **29** 19:05:17.1±0.6, 5634N±003×16278E±006, h23km±4km, mb4.4/52, MS4.0/14, Error ellipse: s-maj=6.8km s-min=4.5km az=88.7*
*BJI **29** 19:05:18.8, 5609N×16286E, h55km, mB4.8, mb4.7, Ms4.3, Msz4.1*
*NEIC **29** 19:05:21.2±0.8, 5629N×16264E, h46km±8km, mb4.4/24, Error ellipse: s-maj=7.4km s-min=4.9km az=153.0*

ISC 29 19:05:17.7±0.7, 5635N±003×16277E±006, h16km±4km, h52km±4.2km:pP-P, n133, σ1§21/148, mb4.4/52, MS4.0/14, 2C-4D, Near east coast of Kamchatka Peninsula

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

	comp=Z,6.8nm,1.2s,mb4.0									
COLA	**College**	**25.05**	**50**	*i*	P		**P**	**19 10 45.4**	**+4.2**	
COLA	**College**	**25.05**	**50**	*e*	P		**P**	**19 10 37.1**	**-4.0**	
	comp=Z,6.2nm,0.7s,mb4.2									
MAJO	**Matsushiro**	**25.81**	**230**	*e*	P		**P**	**19 10 46.0**	**-2.1**	
MAJO						pmax	pmax			
	comp=Z,12nm,0.8s,mb4.5									
MAJO	**Matsushiro**	**25.81**	**230**	*e*	P		**P**	**19 10 46.0**	**-2.0**	
	comp=Z,12nm,0.8s,mb4.5									
MAT	**Matsushiro**	**25.81**	**230**		P		**P**	**19 10 46.5**	**-1.6**	
MAT					eS		**S**	**19 15 28.2**	**+11**	
MAT	**Matsushiro**	**25.81**	**230**	*e*	P		**P**	**19 10 47.0**	**-1.1**	
MAT						pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.4									
MAT	**Matsushiro**	**25.81**	**230**	*e*	P		**P**	**19 10 47.0**	**-1.1**	
	comp=Z,8.2nm,0.7s,mb4.4									
MAT					S		**S**	**19 15 33.0**	**+16**	
MJAR	**Matsushiro Arr**	**25.81**	**230**		P		**P**	**19 10 47.0**	**-1.1**	
	comp=Z,7.1nm,0.7s,mb4.3,baz=30,slow=8.5,SNR=54									
MJAR					LR		LR	19 22 25.9		
	comp=Z,249nm,18.3s,MS3.8,baz=30,slow=40									
BOD	**Bodaibo**	**26.09**	**294**	*e*	P		**P**	**19 10 52.3**	**+1.7**	
BOD						pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.0									
BOD						pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.3									
HIA	**Hailar**	**26.59**	**273**	*i*	P		**P**	**19 10 55.2**	**+0.1**	
CN2	**Changchun**	**26.68**	**258**	*e*	P		**P**	**19 10 54.8**	**-1.2**	
CN2				*e*	XP		sP	19 11 09.3	+6.6	
CN2				*e*	S		**S**	**19 15 21.8**	**-8.8**	
CN2				*e*	SS			19 16 40.5		
CN2					AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.5									
CN2					LR		LR			
	comp=N,200nm,16.0s,MS3.9									
CN2					LR		LR			
	comp=E,200nm,16.0s,MS3.9									
CN2					LR		LR			
	comp=Z,200nm,14.0s,MS3.8									
JHJ	**Hachijo jima 2**	**28.14**	**224**		LR		LR	19 23 38.4		
	comp=Z,46nm,18.5s,MS3.1,baz=113,slow=39									
DAWY	**Dawson**	**28.79**	**51**	*e*	P		**P**	**19 11 14.6**	**-0.2**	
SNY	**Shenyang**	**29.03**	**257**	⇓	P		**P**	**19 11 15.3**	**-1.6**	
SNY					PP		PP	19 12 04.8	-18	
SNY					S		**S**	**19 15 58.8**	**-8.8**	
SNY					AMB		AMB			
	comp=Z,7.0nm,0.5s,mb4.7									
SNY					AMB		AMB			
	comp=Z,143nm,5.0s									
SNY					LR		LR			
	comp=N,236nm,15.1s,MS4.1									
SNY					LR		LR			
	comp=E,221nm,15.3s,MS4.1									
SNY					LR		LR			
	comp=Z,275nm,13.6s,MS4.0									
INK	**Inuvik**	**30.36**	**41**		P		**P**	**19 11 29.6**	**+0.8**	
	comp=Z,1.6nm,0.6s,mb3.9,baz=255,slow=7.6,SNR=3.3									
INK	**Inuvik**	**30.36**	**41**	*e*	P		**P**	**19 11 26.4**	**-2.3**	
INK						pmax	pmax			
	comp=Z,4.0nm,0.8s									
INK	**Inuvik**	**30.36**	**41**	*e*	P		**P**	**19 11 26.4**	**-2.4**	
	comp=Z,3.9nm,0.8s,mb4.2									
ULN	**Ulaanbaatar**	**34.38**	**280**	⇑	P		**P**	**19 12 04.1**	**+0.1**	
ULN	**Ulaanbaatar**	**34.38**	**280**	*e*	P		**P**	**19 12 02.5**	**-1.4**	
	comp=Z,2.5nm,0.8s,mb4.2									
SONM	**Songino Array**	**34.76**	**280**		P		**P**	**19 12 06.5**	**-0.8**	
	comp=Z,3.8nm,0.8s,mb4.4,baz=58,slow=8.2,SNR=36									
SONM					PcP		PcP	19 14 39.4	-1.2	
	comp=Z,0.7nm,0.8s,baz=78,slow=1.9,SNR=3.6									
SONM					LR		LR	19 27 47.2		
	comp=Z,158nm,18.7s,MS3.8,baz=54,slow=39									
SONM	**Songino Array**	**34.76**	**280**		P		**P**	**19 12 06.5**	**-0.7**	
SONM								19 14 39.4		
DLBC	**Dease Lake**	**34.92**	**58**		P		**P**	**19 12 10.4**	**+1.8**	
	comp=Z,3.0nm,0.9s,mb4.2,baz=278,slow=10,SNR=6.0									
DLBC	**Dease Lake**	**34.92**	**58**	*e*	P		**P**	**19 12 09.3**	**+0.7**	
ZAK	**Zakamensk**	**35.01**	**286**	*e*	P		**P**	**19 12 09.1**	**-0.3**	
ZAK						pmax	pmax			
	comp=Z,1.0nm,1.0s,mb3.7									
HHC	**Hu-ho-hao-te**	**36.31**	**267**	*e*	P		**P**	**19 12 19.5**	**-1.1**	
HHC					AP		pP	19 12 34.3	+8.9	
HHC					XP		sP	19 12 38.5	+11	
HHC					PP		PP	19 13 42.0	-1.2	
HHC					PCP		PcP	19 14 45.0	-0.2	
HHC					S		**S**	**19 17 54.3**	**-6.5**	
HHC					XS		sS	19 18 16.8	+8.1	
HHC					SCS		ScS	19 22 30.0	-7.0	
HHC					AMB		AMB			
	comp=Z,15nm,0.7s,mb5.0									
HHC					AMB		AMB			
	comp=Z,108nm,6.8s									
HHC					LR		LR			
	comp=N,259nm,17.2s,MS4.2									
HHC					LR		LR			
	comp=E,193nm,17.3s,MS4.2									
HHC					LR		LR			
	comp=Z,162nm,16.1s,MS3.9									
SSE	**Sheshan**	**38.36**	**247**		P		**P**	**19 12 33.8**	**-4.1**	
SSE					AMB		AMB			
	comp=Z,16nm,0.7s,mb4.9									
SSE					AMB		AMB			
	comp=Z,19nm,4.2s									
NJ2	**Nanjing**	**38.81**	**250**	*e*	P		**P**	**19 12 38.0**	**-3.7**	
NJ2					AP		pP	19 12 56.0	+9.4	
NJ2					XP		sP	19 13 05.0	+16	
NJ2					PP		PP	19 14 11.3	+0.7	
NJ2					S		**S**	**19 18 26.0**	**-13**	
NJ2					XS		sS	19 18 56.0	+9.3	
NJ2					AMB		AMB			
	comp=Z,100nm,0.8s,mb5.6									
NJ2					AMB		AMB			
	comp=Z,120nm,4.1s									
NJ2					LR		LR			
	comp=N,1μm,16.3s,MS4.7									
NJ2					LR		LR			
	comp=E,270nm,21.0s,MS4.7									
YKA	**Yellowknife Ar**	**39.74**	**46**		P		**P**	**19 12 49.7**	**+0.2**	
	comp=E,3.5nm,0.7s,mb4.2,baz=298,slow=7.7,SNR=9.0									
YKA	**Yellowknife Ar**	**39.74**	**46**		P		**P**	**19 12 49.7**	**+0.2**	
ZAL	**Zalesovo**	**42.40**	**301**		LR		LR	19 33 00.9		
	comp=E,109nm,19.3s,MS3.8,baz=55,slow=39									
NVS	**Novosibirsk**	**42.60**	**303**	*e*	P		pP	19 13 30.0	+12	
GTA	**Gaotai**	**43.84**	**275**	*e*	P		**P**	**19 13 23.3**	**+0.3**	
GTA					AP		pP	19 13 38.5	+11	
GTA					XP		sP	19 13 45.8	+16	
GTA					PP		PP	19 15 07.0	+1.9	
GTA					PCP		PcP	19 15 11.3	+2.0	
GTA					PPP			19 15 44.0		
GTA					SCP		ScP	19 18 55.8	-4.5	
GTA					S		**S**	**19 19 47.5**	**-5.8**	
GTA					AMB		AMB			
	comp=Z,23nm,0.9s,mb4.9									
GTA					AMB		AMB			
	comp=Z,87nm,6.1s									
GTA					LR		LR			
	comp=N,187nm,19.4s,MS4.2									
GTA					LR		LR			
	comp=E,178nm,19.4s,MS4.2									
GTA					LR		LR			
	comp=Z,227nm,18.2s,MS4.1									
LZH	**Lanzhou**	**43.96**	**268**	*e*	P		**P**	**19 13 24.5**	**+0.5**	
LZH					AP		pP	19 13 36.0	+7.1	
LZH					XP		sP	19 13 41.0	+10	
LZH					PP		PP	19 15 09.0	+2.6	
LZH					AMB		AMB			
	comp=Z,20nm,1.0s,mb4.8									
LZH					AMB		AMB			
	comp=Z,93nm,4.5s									
LZH					LR		LR			
	comp=E,450nm,13.0s									
LZH					LR		LR			
	comp=Z,760nm,14.0s,MS4.8									
SPB4	**Spitsbergen Ar**	**44.17**	**351**	*e*	P		**P**	**19 13 25.9**	**+0.1**	
EDM	**Edmonton**	**45.62**	**57**		P		**P**	**19 13 37.9**	**+0.7**	
WMQ	**Urumqi**	**47.40**	**288**		P		**P**	**19 13 51.8**	**+0.6**	
CD2	**Chengdu**	**47.86**	**264**	*e*	P		**P**	**19 13 52.0**	**-2.8**	
CD2					AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.9									
MKAR	**Makanchi Array**	**48.18**	**295**		P		**P**	**19 13 55.6**	**-1.6**	
	comp=Z,2.8nm,0.7s,mb4.4,baz=56,slow=7.5,SNR=37									
MKAR	**Makanchi Array**	**48.18**	**295**	*i*	P		**P**	**19 13 56.5**	**-0.7**	
MKAR						pmax	pmax			
	comp=Z,3.0nm,0.7s									
CHKZ	**Chkalovo**	**49.06**	**308**	*e*	P		**P**	**19 14 02.0**	**-2.0**	
CHKZ						pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3									
CHKZ	**Chkalovo**	**49.06**	**308**	*e*	P		**P**	**19 14 02.0**	**-2.0**	
	comp=Z,2.1nm,0.6s,mb4.3									
ZRNK	**Zerenda**	**50.27**	**308**		P		**P**	**19 14 06.7**	**-6.5**	
ZRNK						pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3									
ZRNK	**Zerenda**	**50.27**	**308**		P		**P**	**19 14 06.7**	**-6.5**	
	comp=Z,1.8nm,0.6s,mb4.3									
ARCES	**ARCESS Array B**	**50.67**	**342**		LR		LR	19 40 27.1		
	comp=Z,65nm,18.3s,MS3.7,baz=51,slow=42									
ARU	**Arti**	**52.06**	**317**		P		**P**	**19 14 24.2**	**-2.5**	
ARU						pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3									
ARU	**Arti**	**52.06**	**317**		P		**P**	**19 14 24.2**	**-2.5**	
	comp=Z,3.3nm,0.8s,mb4.3									
KMI	**Kunming**	**52.93**	**260**		P		**P**	**19 14 33.3**	**+0.2**	
KMI					AP		pP	19 14 47.5	+9.4	
KMI					XP		sP	19 14 53.5	+14	
KMI					PP		PP	19 16 30.0	-2.7	
KMI					PPP			19 17 41.3		
KMI					S		**S**	**19 21 56.0**	**-5.7**	
KMI					XS		sS	19 22 21.0	+11	
KMI					SS		SS	19 25 32.0	-8.7	
KMI					SSS			19 27 22.0		
KMI					AMB		AMB			
	comp=Z,4.0nm,1.0s,mb4.3									
KMI					AMB		AMB			
	comp=Z,124nm,5.3s									
KMI					LR		LR			
	comp=N,256nm,16.7s,MS4.5									
KMI					LR		LR			
	comp=E,225nm,16.1s,MS4.5									
KMI					LR		LR			
	comp=Z,183nm,16.1s,MS4.2									
NVAR	**Mina Array Bea**	**53.26**	**74**		P		**P**	**19 14 36.4**	**+0.8**	
	comp=Z,0.4nm,0.5s,mb3.6,baz=301,slow=5.1,SNR=4.2									
PDAR	**Pinedale Array**	**54.64**	**64**		P		**P**	**19 14 45.8**	**+0.2**	
	comp=Z,1.9nm,0.8s,mb4.2,baz=335,slow=3.8,SNR=14									
AAK	**Ala-Archa**	**55.05**	**296**	*d*	P		**P**	**19 14 47.4**	**-1.2**	
AAK						pmax	pmax			
	comp=Z,15nm,1.3s,mb4.9									
AAK	**Ala-Archa**	**55.05**	**296**	*e*	P		**P**	**19 14 46.6**	**-1.9**	
	comp=Z,10nm,0.8s,mb4.9									
JOF	**Joensuu**	**55.26**	**335**	*ep*			**P**	**19 14 49.8**	**-0.3**	
	comp=Z,1.1nm,0.4s,mb4.2									
ULM	**Lac du Bonnet**	**55.49**	**50**		P		**P**	**19 14 52.6**	**+0.9**	
	comp=Z,3.1nm,0.7s,mb4.5,baz=310,slow=13,SNR=3.2									
SRU	**San Rafael**	**56.85**	**68**	*e*	P		**P**	**19 15 01.8**	**+0.3**	
SRU						pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.7									
SRU	**San Rafael**	**56.85**	**68**	*e*	P		**P**	**19 15 01.8**	**+0.3**	
	comp=Z,6.0nm,0.8s,mb4.7									
KAF	**Kangasniemi**	**57.09**	**337**	*ep*			**P**	**19 15 03.1**	**-0.1**	
	comp=Z,0.8nm,0.3s,mb4.2									
KAF	**Kangasniemi**	**57.09**	**337**	*e*	P		**P**	**19 15 03.1**	**-0.1**	
KAF						pmax	pmax			
	comp=Z,1.0nm,0.3s,mb4.3									
FINES	**FINESS Array B**	**57.73**	**337**		P		**P**	**19 15 07.3**	**-0.4**	
	comp=Z,2.6nm,0.8s,mb4.3,baz=52,slow=8.1,SNR=7.8									
FINES					LR		LR	19 42 16.8		
	comp=Z,47nm,18.1s,MS3.6,baz=152,slow=38									
FINES	**FINESS Array B**	**57.73**	**337**	*i*	P		**P**	**19 15 08.1**	**+0.4**	
FINES						pmax	pmax			
	comp=Z,3.0nm,0.8s									
FINES	**FINESS Array B**	**57.73**	**337**		P		**P**	**19 15 07.3**	**-0.4**	
FINES					LR		LR	19 42 16.8		
GUN	**Gumba**	**60.10**	**276**	*e*	P		**P**	**19 15 23.4**	**-0.8**	
VSU	**Vasula**	**60.26**	**335**	*i*	P		**P**	**19 15 26.5**	**+1.2**	
KKN	**Kakani**	**60.52**	**277**	*e*	P		**P**	**19 15 26.5**	**-0.6**	
	comp=Z,17nm,0.8s,mb5.2									
KKN	**Kakani**	**60.52**	**277**	*e*	P		**P**	**19 15 26.5**	**-0.6**	
KKN						pmax	pmax			
	comp=Z,17nm,0.8s,mb5.2									
OBN	**Obninsk**	**60.60**	**328**	*i*	P		**P**	**19 15 28.2**	**+0.6**	
OBN						pmax	pmax			
	comp=Z,4.0nm,0.4s,mb4.9									
PKI	**Pulchoki**	**60.62**	**276**	*e*	P		**P**	**19 15 27.0**	**-0.7**	
GKN	**Gorkha**	**60.71**	**277**	*e*	P		**P**	**19 15 27.4**	**-1.0**	
	comp=Z,17nm,0.8s,mb5.2									
DMN	**Daman**	**60.76**	**277**	*e*	P		**P**	**19 15 27.1**	**-1.6**	
NB2	**NORSAR Subarra**	**60.83**	**345**		P		**P**	**19 15 29.3**	**+0.2**	
	comp=Z,1.4nm,0.6s,mb4.3,baz=19,slow=6.9									
NOA	**NORSAR Array B**	**60.83**	**345**		P		**P**	**19 15 28.8**	**-0.4**	
	comp=Z,0.9nm,0.6s,mb4.1,baz=19,slow=7.0,SNR=5.7									
NOA	**NORSAR Array B**	**60.83**	**345**		P		**P**	**19 15 28.8**	**-0.4**	
KOLN	**Koldanda**	**61.47**	**278**	*e*	P		**P**	**19 15 31.5**	**-2.0**	
ANMO	**Albuquerque**	**62.12**	**68**		P		**P**	**19 15 39.0**	**+1.1**	
	comp=Z,0.9nm,0.3s,mb4.4,baz=346,slow=6.1,SNR=5.1									
ANMO	**Albuquerque**	**62.12**	**68**	⇓	*e*	P	**P**	**19 15 39.8**	**+1.9**	
KONO	**Kongsberg**	**62.40**	**345**	*i*	P		**P**	**19 15 45.3**	**+5.6**	
WMOK	**Wichita Mounta**	**66.18**	**63**	*e*	P		**P**	**19 16 04.8**	**+0.3**	
WMOK						pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.8									
WMOK	**Wichita Mounta**	**66.18**	**63**	*e*	P		**P**	**19 16 04.8**	**+0.3**	
	comp=Z,8.6nm,1.0s,mb4.7									
AKASG	**Malin Array Be**	**66.60**	**330**		P		**P**	**19 16 06.3**	**-0.9**	
	comp=Z,0.6nm,0.3s,mb4.1,baz=29,slow=6.4,SNR=7.6									
AKASG	**Malin Array Be**	**66.60**	**330**		P		**P**	**19 16 06.3**	**-0.9**	
MIAR	**Mount Ida**	**68.87**	**59**		P		**P**	**19 16 16.2**	**-5.3**	
MIAR						pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5									
MIAR	**Mount Ida**	**68.87**	**59**		P		**P**	**19 16 16.2**	**-5.4**	
	comp=Z,5.1nm,0.8s,mb4.5									
KSM	**Kuching**	**68.88**	**238**	*e*	P		**P**	**19 16 20.4**	**-1.2**	
JCT	**Junction City**	**69.08**	**66**		P		**P**	**19 16 22.4**	**-0.4**	
JCT						pmax	pmax			
	comp=Z,12nm,1.0s,mb4.8									
JCT	**Junction City**	**69.08**	**66**		P		**P**	**19 16 22.4**	**-0.4**	
	comp=Z,12nm,1.0s,mb4.8									
CLL	**Collm**	**69.84**	**340**	*e*	P		**P**	**19 16 28.0**	**+0.5**	
CLL					*e*	(PcP)	PcP	19 16 52.0	+2.0	
MORC	**Moravsky Berou**	**70.37**	**337**	*e*	P		**P**	**19 16 30.6**	**-0.2**	
MORC						pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1									
MORC	**Moravsky Berou**	**70.37**	**337**	*e*	P		**P**	**19 16 30.6**	**-0.2**	
	comp=Z,2.3nm,0.8s,mb4.2									
GNI	**Garni**	**70.55**	**314**	*i*	P		**P**	**19 16 37.4**	**+5.5**	
PLAL	**Pickwick Lake**	**71.09**	**55**	*e*	P		**P**	**19 16 35.2**	**0.0**	
	comp=Z,5.0nm,0.8s,mb4.5									
GRA1	**Grafenberg Arr**	**71.71**	**341**	*e*	P		**P**	**19 16 39.0**	**+0.1**	
	comp=Z,3.0nm,1.2s,mb4.1									
GRF	**Grafenberg Arr**	**71.71**	**341**	*e*	P		**P**	**19 16 39.0**	**+0.1**	
	comp=Z,3.0nm,1.2s,mb4.1									
GRF	**Grafenberg Arr**	**71.71**	**341**	*e*	P		**P**	**19 16 39.0**	**+0.1**	
GRF						pmax	pmax			
	comp=Z,3.0nm,1.2s,mb4.1									
GRF	**Grafenberg Arr**	**71.71**	**341**	*e*	P		**P**	**19 16 39.0**	**+0.1**	
GRF						pmax	pmax			
	comp=Z,3.0nm,1.2s,mb4.1									
KHC	**Kasperske Hory**	**71.80**	**339**	⇑	*e*	P	**P**	**19 16 40.7**	**+1.2**	
SWET	**Sewanee**	**71.86**	**53**	*e*	P		**P**	**19 16 38.5**	**-1.3**	
GERES	**GERESS Array B**	**72.05**	**339**		P		**P**	**19 16 41.1**	**+0.2**	
	comp=Z,0.9nm,0.8s,mb3.8,baz=20,slow=4.7,SNR=9.5									
BRTR	**Keskin Array B**	**75.06**	**322**		P		**P**	**19 17 00.1**	**+1.4**	
	comp=Z,0.7nm,0.7s,mb3.7,baz=66,slow=4.6,SNR=5.1									
CTAO	**Charters Tower**	**77.41**	**196**	*e*	P		**P**	**19 17 09.4**	**-2.6**	
CTAO						pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5									
CTAO	**Charters Tower**	**77.41**	**196**	*e*	P		**P**	**19 17 09.4**	**-2.5**	
	comp=Z,6.0nm,0.9s,mb4.5									
WRA	**Warramunga Arr**	**79.69**	**207**		P		**P**	**19 17 23.1**	**-1.5**	
	comp=Z,1.3nm,0.8s,mb3.9,baz=20,slow=5.9,SNR=12									
WRA	**Warramunga Arr**	**79.69**	**207**	*i*	P		**P**	**19 17 26.2**	**+1.6**	
WRA						pmax	pmax			
	comp=Z,1.0nm,0.8s									
FITZ	**Fitzroy Crossi**	**80.47**	**216**		P		**P**	**19 17 28.5**	**-0.3**	
	comp=Z,1.6nm,1.0s,mb3.9,baz=52,slow=0.6,SNR=3.0									
ASAR	**Alice Springs**	**83.37**	**206**		P		**P**	**19 17 43.5**	**-0.6**	
	comp=Z,1.3nm,0.8s,mb4.0,baz=11,slow=5.6,SNR=11									
ESDC	**Sonseca Array**	**83.69**	**350**		P		**P**	**19 17 46.6**	**+1.0**	
	comp=Z,0.3nm,0.6s,mb3.6,baz=356,slow=5.4,SNR=4.3									
QSPA	**South Pole Qui**	**146.10**	**180**	*e*	PKPbc		PKPbc	19 24 54.2	-2.8	

*NEIC **29** 19:31:59.1, 3442S×7042W, h7km, ML2.9(GUC), After GUC.*

GUC 29 19:31:59.1±0.6, 3442S×7042W, h7km±4km, MD3.7, ML2.9, 3C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	**0.10**	**0**	⇓ *i*	P	g	19 32 01.4	+0.1
CACH	**El Canelo**	**0.33**	**334**	⇑ *i*	P	g	19 32 05.7	+0.1
CACH				*i*	S	g	19 32 10.1	+0.1
CHCH	**Chadas Angostu**	**0.52**	**338**	⇓ *i*	P	g	19 32 09.3	+0.1
CHCH				*i*	S	g	19 32 16.7	+0.8
SFDO	**San Fernando**	**0.53**	**248**	⇑ *i*	P	g	19 32 09.3	+0.1
SFDO				*i*	S	g	19 32 16.5	+0.3
SJCH	**San Jose de Ma**	**0.78**	**4**	*e*	P	g	19 32 12.8	-1.2
SJCH				*i*	S	g	19 32 23.9	-0.2
SJCH					AML	AML	19 32 24.9		
	comp=E,338nm,0.3s								
SJCH	**San Jose de Ma**	**0.78**	**4**	*e*	P	g	19 32 12.8	-1.2
SJCH				*i*	S	g	19 32 23.9	-0.2
PCH	**Pirque**	**0.80**	**354**	*e*	P	g	19 32 14.0	-0.4
PCH				*i*	S	g	19 32 25.6	+0.8
ANTU	**Antumapu**	**0.86**	**348**	⇓ *i*	P	g	19 32 15.3	-0.4
ANTU				*i*	S	g	19 32 27.5	+0.6
ANTU					AML	AML	19 32 28.8		
	comp=E,561nm,0.2s								
ANTU	**Antumapu**	**0.86**	**348**	⇓ *i*	P	g	19 32 15.3	-0.4
ANTU				*i*	S	g	19 32 27.5	+0.6
TACH	**Talagante**	**0.87**	**330**	⇓ *i*	P	g	19 32 15.4	-0.5
TACH				*i*	S	g	19 32 27.9	+0.7
LNV	**Longovilo**	**0.94**	**299**	⇑ *i*	P	g	19 32 16.4	-0.8
LNV				*i*	S	g	19 32 29.6	+0.2
RCDM	**Rinconada Maip**	**0.98**	**341**	*i*	P	g	19 32 17.1	-0.8
RCDM				*i*	S	g	19 32 30.9	+0.3
RCDM					AML	AML	19 32 31.3		
	comp=E,934nm,0.2s								
RCDM	**Rinconada Maip**	**0.98**	**341**	*i*	P	g	19 32 17.1	-0.8
RCDM				*i*	S	g	19 32 30.9	+0.3
SAN	**Santiago**	**0.98**	**348**	*e*	P	g	19 32 17.0	-0.9
SAN				*i*	S	g	19 32 31.0	+0.3
SAN					AML	AML	19 32 31.6		
	comp=N,447nm,0.2s								
PEL	**Peldehue**	**1.29**	**350**	⇓ *i*	P	g	19 32 22.4	-1.1
PEL				*i*	S	g	19 32 40.3	-0.1
PEL					AML	AML	19 32 41.7		
	comp=N,1μm,0.3s								
PEL	**Peldehue**	**1.29**	**350**	⇓ *i*	P	g	19 32 22.4	-1.1
PEL				*i*	S	g	19 32 40.3	-0.1
LCCH	**Las Cruces**	**1.34**	**314**	⇓ *i*	P	g	19 32 23.4	-0.8
LCCH				*i*	S	g	19 32 41.8	-0.1

*BGS **29** 19:53:29.1±1.4, 2257N×6579W, h10km, mb5.3*

*ISCJB **29** 19:53:40.8±0.1, 2353N±002×6388W±001, h9km, mb5.5/316, MS4.9/129, Error ellipse: s-maj=2.3km s-min=1.4km az=22.6*

*MOS **29** 19:53:41.7±0.8, 2372N×6390W, h10km, mb5.6/138, MS4.9/65, Error ellipse: s-maj=4.5km s-min=3.1km az=53.9*

*CRAAG **29** 19:53:41.9, 2374N×6383W, Mw5.6*

*IDC **29** 19:53:41.6±0.4, 2364N×6391W, h0km, mb5.3/36, mb1 5.4/38, mb1mx5.4/39, mbtmp5.3/38, ML5.3/1, MS4.8/22, Ms1 4.8/22, ms1mx4.7/28, Error ellipse: s-maj=11.7km s-min=10.2km az=102.0*

*HRVD **29** 19:53:43.0±0.1, 2378N×6401W, h12km, MW5.6/102, Centroid moment Tensor Solution. LP body waves: s78,c140;Mantle waves: s102,c264; Half duration: 1s5 Moment tensor: Scale 10^17Nm; Mrr=2.74±.03; Mθθ=0.18±.02; Mφφ=2.93±.03; Mrθ=0.75±.08; Mθφ=0.67±.02; Mφr=0.13±.08; Best double couple: M0=3.01300×10^17 NP1:φs=357.00000°, δ44.00000°, λ68.00000°. NP2:φs=206.00000°, δ50.00000°, λ110.00000°. Principal axes: T 2.9430, Plg75.0000°, Azm182.0000°; N 0.1330, Plg15.0000°, Azm13.0000°; P -3.0830, Plg3.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*BJI **29** 19:53:43.0, 2360N×6390W, h10km, mB5.5, Ms5.5, Msz5.0*

*NEIC **29** 19:53:43.0±0.1, 2359N×6392W, h10km, mb5.5/223, MS5.0/88, MW5.8, Error ellipse: s-maj=2.3km s-min=1.6km az=191.0, Moment Tensor Solution. s39 Moment tensor: Scale 10^17Nm; Mrr=0.14; Mθθ=0.31; Mφφ=0.17; Mrθ=0.59; Mθφ=5.39; Mφr=0.73; Best double couple: M0=5.50000×10^17 NP1:φs=358.00000°, δ84.00000°, λ-8.00000°. NP2: φs=89.00000°, δ82.00000°, λ-174.00000°. Principal axes: T 5.4700, Plg1.0000°, Azm44.0000°; N 0.0200, Plg80.0000°, Azm139.0000°; P -5.4900, Plg10.0000°, Azm314.0000°;*

*LDG **29** 19:53:44.9±0.3, 2347N×6364W, h33km, Mb5.5/41, Ms4.5/9 Error ellipse: s-maj=15.2km s-min=7.6km az=84.0*

*SZGR

GWJ Greenwich 13.18 248⇑ *e*P **Pn** **19 56 48.6 -1.7**
STH Stony Hill 13.24 248⇑ *e*P **Pn** **19 56 49.5 -1.8**
STH *e*S **Sn** **19 59 03.4 -15**
TBH Brigand Hill 13.30 168 *e*P **Pn** **19 56 52.8 +0.8**
PCRV Puerto La Cruz 13.34 183 Pn **Pn** **19 56 52.4 -0.2**
comp=E,17nm,0.3s,baz=320,slow=6.4,SNR=79
PCRV Sn **Sn** **19 59 15.2 -5.9**
comp=E,2.5nm,0.3s,baz=290,slow=21,SNR=3.1
PCRV LR LR 20 01 45.5
comp=E,1µm,20.1s,baz=24,slow=36
PCRV Puerto La Cruz 13.34 183 Pn **Pn** **19 56 52.4 -0.2**
PCRV Sn **Sn** **19 59 15.2 -5.9**
PCRV LR LR 20 01 45.5
TPP Pointe-a-Pierr 13.39 170 *e*P **Pn** **19 56 57.7 +4.4**
BBJ Bamboo Saint A 13.50 250 *e*P **Pn** **19 56 53.3 -1.5**
MBJ Montego Bay 14.01 251⇑ *e*P **Pn** **19 56 59.3 -2.5**
MGV Manicaragua 14.89 268 *e*P **Pn** **19 57 11.1 -2.6**
SDV Santo Domingo 15.96 205 Pn **Pn** **19 57 29.3 +1.5**
comp=E,7.4nm,0.3s,baz=52,slow=10,SNR=28
SDV Sn **Sn** **20 00 17.7 -7.2**
comp=E,2.9nm,0.3s,baz=41,slow=13,SNR=4.0
SDV Santo Domingo 15.96 205 *e*Pn **Pn** **19 57 29.4 +1.6**
comp=E,172nm,0.8s
DWPF Disney 16.41 290 *e*Pn **Pn** **19 57 27.2 -6.4**
comp=E,1µm,0.6s
CNNC Cliffs of the 16.82 317 *e*Pn **Pn** **19 57 34.8 -3.9**
CNNC *e*Sn Sn 20 00 12.8 -33
CPNY Central Park 19.14 336 *e*Pn **Pn** **19 58 04.6 -2.6**
CPNY *e*Sn Sn 20 01 08.5 -33
BRNJ Basking Ridge 19.27 335 *e*Pn **Pn** **19 58 07.2 -1.7**
PAL Palisades 19.30 337 *e*P **Pn** **19 58 05.9 -3.4**
PAL pmax pmax
comp=Z,347nm,0.5s
PAL Palisades 19.30 337 *e*Pn **Pn** **19 58 05.9 -3.4**
comp=Z,346nm,0.5s
PAL *e*Sn Sn 20 01 14.2 -32
MVL Millersville 19.46 330 *e*Pn **Pn** **19 58 07.9 -3.3**
MVL *e*Sn Sn 20 01 12.7 -37
BLA Blacksburg 19.65 318 *e*P **Pn** **19 58 09.5 -3.9**
BLA pmax pmax
comp=Z,13nm,0.8s
BLA Blacksburg 19.65 318 *e*P **Pn** **19 58 09.5 -4.0**
comp=Z,13nm,0.8s
BLA *e*S Sn 20 01 21.4 -33
WES Weston 19.75 344 *e*P **Pn** **19 58 12.0 -2.6**
WES pmax pmax
comp=Z,172nm,0.6s
WES Weston 19.75 344 *e*P **Pn** **19 58 12.0 -2.7**
comp=Z,172nm,0.6s
WES *e*S Sn 20 01 27.1 -29
GOGA Godfrey 19.76 304⇓ *i*P **Pn** **19 58 12.1 -2.7**
GOGA pmax pmax
comp=Z,48nm,0.8s
GOGA Godfrey 19.76 304⇓ *i*P **Pn** **19 58 12.1 -2.7**
comp=Z,48nm,0.8s
GOGA *e*S Sn 20 01 25.4 -31
ELN Prospectdale 19.86 317 *e*S **Pn** **19 58 13.5 -2.5**
ELN *e*S Sn 20 01 35.3 -24
HRV Harvard--Oak R 19.92 343 *e*P **Pn** **19 58 14.2 -2.5**
HRV pmax pmax
comp=Z,168nm,0.4s
HRV Harvard--Oak R 19.92 343 *e*P **Pn** **19 58 14.2 -2.5**
comp=Z,168nm,0.4s
HRV *e*S Sn 20 01 33.2 -28
QUA2 Belchertown 19.93 341 *e*P **Pn** **19 58 14.5 -2.4**
comp=Z,162nm,0.6s
QUA2 *e*S Sn 20 01 34.7 -26
FWV Forest Hill 20.12 318 *e*P **P** **19 58 16.1 -1.1**
FWV *e*S S 20 01 35.2 -28
SSPA Standing Stone 20.68 329⇓ *i*P **P** **19 58 22.6 -0.7**
comp=Z,236nm,0.8s
SSPA *e*S S 20 01 38.9 -35
SSPA LR LR
comp=Z,962nm,22.0s,MS4.1
FFD Franklin Falls 20.85 344 *e*P **P** **19 58 27.2 +2.1**
comp=Z,513nm,0.3s
FFD *e*S S 20 01 54.2 -23
MCWV Mont Chateau 20.96 324⇓ *e*P **P** **19 58 26.5 +0.2**
comp=Z,211nm,0.6s
MCWV LR LR
comp=Z,5µm,19.0s,MS4.9
MYNC Murphy 20.98 308⇓ *e*P **P** **19 58 26.2 -0.4**
MYNC pmax pmax
comp=Z,2.0nm,1.0s
MYNC MLR MLR
comp=Z,7µm,22.0s,MS5.0
MYNC Murphy 20.98 308⇓ *e*P **P** **19 58 26.2 -0.4**
comp=Z,2.1nm,1.0s
MYNC *e*S S 20 01 50.3 -30
MYNC LR LR
comp=Z,7µm,22.0s,MS5.0
BINY Binghamton 21.12 334 *e*P **P** **19 58 27.0 -1.1**
comp=Z,20µm,1.0s
BINY *e*S S 20 01 53.4 -30
BINY LR LR
comp=Z,2µm,21.0s,MS4.6
ROSC El Rosal 21.15 210 P **P** **19 58 30.4 +2.0**
comp=Z,626nm,0.7s,mb6.1,baz=87,slow=8.5,SNR=194
ROSC S **20 02 26.8 +3.1**
comp=Z,12nm,0.6s,baz=61,slow=18,SNR=2.7
ROSC El Rosal 21.15 210 *e*P **P** **19 58 30.3 +1.9**
ROSC *e*S **S** **20 02 11.0 -13**
HNH Hanover 21.23 343 *e*P **P** **19 58 26.6 -2.7**
comp=Z,8.8nm,0.4s,mb4.4
HNH *e*S S 20 01 51.1 -34
TZTN Tazewell 21.30 312 *e*P **P** **19 58 29.2 -0.9**
TZTN *e*S **S** **20 02 08.7 -18**
ACCN Adirondack Com 21.34 340 *e*P **P** **19 58 29.5 -0.9**
ACCN *e*S S 20 02 02.2 -25
CPCT Cooper Cave 21.45 308 *e*P **P** **19 58 31.1 -0.5**
CPCT *e*S **S** **20 02 16.7 -13**
LBNH Lisbon 21.64 344 *e*P **P** **19 58 31.0 -2.6**
LBNH pmax pmax
comp=Z,107nm,0.7s,mb5.4
LBNH MLR MLR
comp=Z,5µm,20.0s,MS4.9
LBNH Lisbon 21.64 344 *e*P **P** **19 58 31.0 -2.6**
comp=Z,107nm,0.7s,mb5.4
LBNH *e*S S 20 02 01.5 -32
LBNH LR LR
comp=Z,5µm,20.0s,MS4.9
MIV Mineville/With 21.93 341 *e*P **P** **19 58 35.7 -1.0**
MIV *e* 19 58 47.6
MIV *e*S S 20 02 12.3 -27
NCB Newcomb 22.04 340 *e*P **P** **19 58 36.5 -1.5**
comp=Z,208nm,0.5s,mb5.8
NCB *e* 19 58 48.5
NCB *e*S S 20 02 18.3 -23
NCB LR LR
comp=Z,2µm,20.0s,MS4.6
PKME Peaks-Kenny Pk 22.08 350 *e*P **P** **19 58 37.8 -0.5**
PKME *e*S **S** **20 02 30.4 -11**
SWET Sewanee 22.37 306⇓ *i*P **P** **19 58 40.5 -1.0**
SWET *e*S S 20 02 27.1 -20
ALLY Alegheny Colle 22.56 327⇓ *e*P **P** **19 58 42.5 -0.9**
ALLY *e*S **S** **20 02 43.6 -7.5**
FRNY Flat Rock 22.64 342 *e*P **P** **19 58 42.9 -1.4**
FRNY *e*S S 20 02 25.9 -27
LONY Lake Ozonia 22.74 340 *e*P **P** **19 58 45.1 -0.2**
LONY *e* 19 58 59.2
LONY *e*S **S** **20 02 35.2 -19**
ERPA Erie 22.83 328 *e*P **P** **19 58 45.7 -0.6**
comp=Z,184nm,0.6s,mb5.7
ERPA LR LR
comp=Z,3µm,19.0s,MS4.7
TEIG Tepich 22.85 266 *e*P **P** **19 58 46.2 -0.3**
comp=Z,67nm,0.8s,mb5.1
TEIG LR LR
comp=Z,2µm,19.0s,MS4.6
ACSO Alum Creek Sta 23.12 320⇓ *e*P **P** **19 58 48.0 -1.3**
comp=Z,117nm,0.8s,mb5.4
ACSO LR LR
comp=Z,2µm,19.0s,MS4.7
VACR Volcan Arenal 23.71 240 *e*P **P** **19 58 58.5 +3.1**
PLAL Pickwick Lake 23.89 304⇓ *e*P **P** **19 58 55.9 -1.1**
comp=Z,215nm,0.8s,mb5.6
PLAL *e*S **S** **20 03 12.6 -0.5**
PLAL LR LR
comp=Z,5µm,21.0s,MS5.0
WCI Wyandotte Cave 24.05 313⇓ *e*P **P** **19 58 57.6 -0.9**
WCI *e*S **S** **20 03 08.9 -6.8**
WCI pmax pmax
comp=Z,193nm,0.8s,mb5.6
WCI MLR MLR
comp=Z,1µm,21.0s,MS4.4
WCI Wyandotte Cave 24.05 313⇓ *e*P **P** **19 58 57.5 -0.9**
comp=Z,193nm,0.8s,mb5.6
WCI *e*S **S** **20 03 08.9 -6.8**
WCI LR LR
comp=Z,1µm,21.0s,MS4.4
RIN3 Volcan Rincon 24.09 242⇑ *e*P **P** **19 59 01.5 +2.7**
WVT Waverly 24.16 307⇓ *e*P **P** **19 58 58.2 -1.3**
WVT *e*S **S** **20 03 10.3 -7.2**
WVT pmax pmax
comp=Z,115nm,1.8s,mb5.0
WVT MLR MLR
comp=Z,2µm,20.0s,MS4.5
WVT Waverly 24.16 307⇓ *e*P **P** **19 58 58.2 -1.2**
comp=Z,115nm,1.8s,mb5.0
WVT *e*S **S** **20 03 10.3 -7.2**
WVT LR LR
comp=Z,2µm,20.0s,MS4.5
CAO Cobano 24.50 239 *e*P **P** **19 59 05.3 +2.7**
SADO Sadowa 24.54 333 P **P** **19 59 02.4 -0.5**
comp=Z,92nm,0.8s,mb5.3,baz=163,slow=8.3,SNR=32
SADO S **S** **20 03 23.5 -0.1**
comp=Z,51nm,0.8s,baz=233,slow=12,SNR=3.7
SADO LR LR 20 07 22.3
comp=Z,3µm,20.8s,MS4.8,baz=159,slow=34
SADO Sadowa 24.54 333 P **P** **19 59 02.4 -0.5**
SADO S **S** **20 03 23.5 -0.1**
SADO LR LR 20 07 22.3
BLO Bloomington 24.69 314 *e*P **P** **19 59 03.5 -0.8**
BLO *e*S **S** **20 03 26.9 +0.7**
BLO pmax pmax
comp=Z,214nm,0.7s,mb5.8
BLO Bloomington 24.69 314 *e*P **P** **19 59 03.5 -0.8**
comp=Z,214nm,0.7s,mb5.8
BLO *e*S **S** **20 03 26.9 +0.8**
OXF Oxford 24.75 302 PFAKE 19 59 20.0 +15
OXF LR LR
comp=Z,4µm,21.0s,MS4.9
USIN University of 24.86 311 *e*P **P** **19 59 05.4 -0.4**
comp=Z,163nm,0.8s,mb5.6
USIN *e* 19 59 16.6
USIN *e*S **S** **20 03 29.0 +0.2**
AAM Ann Arbor 24.86 323 *e*P **P** **19 59 05.4 -0.5**
AAM *e*S **S** **20 03 33.2 +4.3**
AAM pmax pmax
comp=Z,129nm,0.6s,mb5.6
AAM MLR MLR
comp=Z,4µm,19.0s,MS4.9
AAM Ann Arbor 24.86 323 *e*P **P** **19 59 05.4 -0.5**
comp=Z,129nm,0.6s,mb5.6
AAM *e* 19 59 16.5
AAM *e*S **S** **20 03 33.2 +4.3**
AAM LR LR
comp=Z,4µm,19.0s,MS4.9
CNCH Conchagua 24.87 250 *e*P x 19 59 11.9
UTMT University of 25.01 306 *e*P **P** **19 59 06.7 -0.5**
comp=Z,422nm,0.8s,mb6.0
UTMT *e*S **S** **20 03 34.0 +2.8**
BLLM Bellamira 25.14 251 *e*P x 19 59 15.1
VSM San Miguel 25.18 251 *e*P x 19 59 15.4
HALT Halls 25.19 305 *e*P **P** **19 59 08.9 0.0**
HALT *e*S **S** **20 03 43.1 +8.9**
GLAT Glass 25.29 306 *e*P **P** **19 59 11.4 +1.6**
PVMO Portageville 25.66 306 *e*P **P** **19 59 13.5 +0.4**
MTO2 Montecristo 2 25.71 254 *e*P x 19 59 19.8
LFRS El Faro 25.78 252 *e*P x 19 59 19.9
PARMO Parma 25.79 306 *e*P **P** **19 59 13.7 -0.7**
BOQS Boqueron 25.92 252 *e*P x 19 59 21.1
HBAR Harrisburg 26.07 303 *e*P **P** **19 59 17.1 +0.3**
RBDL Robledal 26.11 253 *e*P x 19 59 23.1
SNJE San Jose 26.14 253 *e*P x 19 59 24.0
SBLS San Blas 26.17 253 *e*P x 19 59 24.8
FVM French Village 26.82 309 *e*P **P** **19 59 22.6 -1.0**
FVM *e*S **S** **20 04 00.1 +0.2**
FVM pmax pmax
comp=Z,171nm,0.6s,mb5.8
FVM French Village 26.82 309 *e*P **P** **19 59 22.6 -1.0**
comp=Z,171nm,0.6s,mb5.8
FVM *e*S **S** **20 04 00.1 +0.2**
SLM Saint Louis 26.96 310 *e*P **P** **19 59 24.0 -0.9**
SLM pmax pmax
comp=Z,131nm,0.6s,mb5.6
SLM Saint Louis 26.96 310 *e*P **P** **19 59 24.0 -0.9**
comp=Z,131nm,0.6s,mb5.6
UALR University of 27.13 301 *e*P **P** **19 59 25.6 -0.8**
comp=Z,128nm,0.8s,mb5.5
UALR *e*S S 20 04 25.9 +21
OTAV Otavalo 27.16 213⇑ *e*P **P** **19 59 28.9 +2.2**
comp=Z,71nm,0.8s,mb5.2
OTAV *e*S S 20 04 28.1 +23
CCM Cathedral Cave 27.44 308⇓ *i*P **P** **19 59 27.4 -1.8**
CCM *e*S **S** **20 04 07.5 -2.1**
CCM pmax pmax
comp=Z,69nm,0.6s,mb5.4
CCM MLR MLR
comp=Z,1µm,22.0s,MS4.4
CCM Cathedral Cave 27.44 308⇓ *i*P **P** **19 59 27.4 -1.8**
comp=Z,69nm,0.6s,mb5.4
CCM *e*S **S** **20 04 07.5 -2.1**
CCM LR LR
comp=Z,1µm,22.0s,MS4.4
MIAR Mount Ida 28.05 300 *e*P **P** **19 59 33.8 -0.8**
MIAR *e*S **S** **20 04 21.7 +2.5**
MIAR pmax pmax
comp=Z,76nm,0.8s,mb5.4
MIAR MLR MLR
comp=Z,5µm,22.0s,MS5.0
MIAR Mount Ida 28.05 300 *e*P **P** **19 59 33.8 -0.8**
comp=Z,76nm,0.8s,mb5.4
MIAR *e*S **S** **20 04 21.7 +2.4**
MIAR *e*S S 20 04 50.2 +31
MIAR LR LR
comp=Z,5µm,22.0s,MS5.0
JFWS Jewell Farm 29.09 318 *e*P **P** **19 59 42.9 -1.0**
JFWS *e*S **S** **20 04 35.3 -0.3**
JFWS pmax pmax
comp=Z,88nm,0.4s,mb5.8
JFWS MLR MLR
comp=Z,4µm,22.0s,MS4.9
JFWS Jewell Farm 29.09 318 *e*P **P** **19 59 42.9 -1.0**
comp=Z,88nm,0.4s,mb5.8
JFWS *e*S **S** **20 04 35.3 -0.3**
JFWS LR LR
comp=Z,4µm,22.0s,MS4.9
HKT Hockley 29.14 290 *e*P **P** **19 59 44.8 +0.4**
HKT pmax pmax
comp=Z,54nm,1.0s,mb5.2
HKT MLR MLR
comp=Z,1µm,21.0s,MS4.4
HKT Hockley 29.14 290 *e*P **P** **19 59 44.8 +0.4**
comp=Z,54nm,1.0s,mb5.2
HKT LR LR
comp=Z,1µm,21.0s,MS4.4
KVTX Kingsville 30.86 285 *e*P **P** **20 00 00.0 +0.5**
KVTX *e* 20 00 11.3
SCHQ Schefferville 31.29 357 P **P** **20 00 02.6 -0.8**
comp=Z,12nm,0.5s,mb5.0,baz=178,slow=6.9,SNR=8.2
SCHQ PcP PcP 20 02 57.0 -0.6
comp=Z,6.1nm,0.6s,baz=168,slow=5.9,SNR=4.1
SCHQ LR LR 20 12 20.3
comp=Z,907nm,18.0s,MS4.5,baz=279,slow=36
SCHQ Schefferville 31.29 357 *e*P **P** **20 00 01.8 -1.6**
comp=Z,27nm,0.9s,mb5.1
KSU1 Kansas State U 31.73 307 *e*P **P** **20 00 05.9 -1.3**
WMOK Wichita Mounta 32.27 298⇓ *e*P **P** **20 00 11.3 -0.7**
WMOK *e*S **S** **20 05 20.5 -5.0**
WMOK pmax pmax
comp=Z,45nm,0.8s,mb5.3
WMOK MLR MLR
comp=Z,4µm,21.0s,MS5.1
WMOK Wichita Mounta 32.27 298⇓ *e*P **P** **20 00 11.3 -0.8**
comp=Z,45nm,0.8s,mb5.3
WMOK *e*PP PP 20 01 06.2 -19
WMOK *e*S **S** **20 05 20.5 -5.1**
WMOK *e*ScP ScP 20 06 38.4 -5.6
WMOK LR LR
comp=Z,4µm,21.0s,MS5.1
SAML Samuel 32.33 179⇑ *e*P **P** **20 00 12.3 -0.2**
comp=Z,44nm,0.7s,mb5.4
SAML *e*PcP PcP 20 03 00.1 -0.3
SAML LR LR
comp=Z,1µm,22.0s,MS4.6
JCT Junction City 32.61 290 *e*P **P** **20 00 14.5 -0.5**
JCT pmax pmax
comp=Z,70nm,0.7s,mb5.7
JCT MLR MLR
comp=Z,2µm,20.0s,MS4.9
JCT Junction City 32.61 290 *e*P **P** **20 00 14.5 -0.4**
comp=Z,70nm,0.7s,mb5.7
JCT LR LR
comp=Z,2µm,20.0s,MS4.9
EYMN Ely 32.74 325 PFAKE 20 00 30.0 +14
EYMN LR LR
comp=Z,3µm,20.0s,MS5.0
ECSD EROS,Sioux Fal 33.53 315 *e*P **P** **20 00 22.1 -0.9**
ECSD *e* 20 01 18.5
ECSD *e*S **S** **20 05 40.8 -4.3**
ECSD *e*ScP ScP 20 06 51.6 +3.3
AMTX Amarillo 34.65 298 *e*P **P** **20 00 32.3 -0.4**
comp=Z,80nm,0.8s,mb5.7
AMTX *e*PP PP 20 01 43.5 -7.7
AMTX LR LR
comp=Z,5µm,21.0s,MS5.2
ULM Lac du Bonnet 36.43 325 P **P** **20 00 47.0 -1.0**
comp=Z,28nm,0.5s,mb5.5,baz=130,slow=8.3,SNR=58
ULM S **S** **20 06 25.8 -3.8**
comp=Z,3.7nm,0.8s,baz=38,slow=20,SNR=1.8
ULM LR LR 20 14 19.2
comp=Z,2µm,21.5s,MS4.9,baz=126,slow=34
ULM Lac du Bonnet 36.43 325⇑ *e*P **P** **20 00 46.9 -1.1**
comp=Z,41nm,0.6s,mb5.5
ULM *e*S **S** **20 06 25.3 -4.4**
NNA Nana 37.54 201 P **P** **20 00 57.3 -0.2**
comp=Z,674nm,0.6s,mb6.5,SNR=11
NNA Nana 37.54 201⇑ *e*P **P** **20 00 56.5 -1.0**
comp=Z,102nm,0.6s,mb5.7
SDCO Great Sand Dun 38.15 302 *e*P **P** **20 01 04.3 +1.7**
comp=Z,113nm,0.8s,mb5.7
SDCO *e* 20 01 13.0
SDCO LR LR
comp=Z,3µm,21.0s,MS5.0
ANMO Albuquerque 38.56 297 *e*P **P** **20 01 06.7 +0.7**
ANMO *e* 20 02 35.3
ANMO pmax pmax
comp=Z,33nm,0.9s
ANMO MLR MLR
comp=Z,6µm,21.0s
ANMO Albuquerque 38.56 297 *e*P **P** **20 01 06.7 +0.6**
comp=Z,33nm,0.9s,mb5.1
ANMO *e*PP PP 20 02 35.3 +1.1
ANMO LR LR
comp=Z,6µm,21.0s,MS5.4
ISCO Idaho Springs 38.62 305 *e*P **P** **20 01 07.6 +1.0**
ISCO *e* 20 02 33.3
ISCO *e*S **S** **20 07 03.3 +0.3**
ISCO pmax pmax
comp=Z,152nm,0.4s,mb6.1
ISCO MLR MLR
comp=Z,4µm,20.0s,MS5.3
ISCO Idaho Springs 38.62 305 *e*P **P** **20 01 07.6 +1.0**
comp=Z,152nm,0.4s,mb6.1
ISCO *e*PP PP 20 02 33.3 -1.7
ISCO *e*S **S** **20 07 03.3 +0.3**
ISCO LR LR
comp=Z,4µm,20.0s,MS5.3
BNM Barren Site 38.63 296 *e*P **P** **20 01 07.3 +0.7**
RSSD Black Hills 38.63 312⇓ *e*P **P** **20 01 07.0 +0.3**
RSSD *e* 20 02 36.1
RSSD *e*S **S** **20 07 02.0 -1.2**
RSSD pmax pmax
comp=Z,44nm,0.8s,mb5.2
RSSD MLR MLR
comp=Z,2µm,22.0s,MS4.8
RSSD Black Hills 38.63 312⇓ *e*P **P** **20 01 07.0 +0.3**
comp=Z,44nm,0.8s,mb5.2
RSSD *e* 20 01 17.3
RSSD *e*PP PP 20 02 36.1 +1.0
RSSD *e*S **S** **20 07 02.0 -1.2**
RSSD LR LR
comp=Z,2µm,22.0s,MS4.8
LPM Los Pinos Moun 38.64 296 *e*P **P** **20 01 07.4 +0.6**
PHWY Pilot Hill 38.85 307 *e*P **P** **20 01 08.7 +0.2**
PHWY *e*PP PP 20 02 43.1 +5.7
PHWY *e*S **S** **20 07 07.4 +1.0**
Y22C IRIS PASSCAL I 38.87 296 ⇓P **P** **20 01 07.5 -1.2**
baz=39,SNR=6.2
Y22C ⇑S **S** **20 07 08.0 +1.4**
baz=39
LENM Lemitar 38.91 296 *e*P **P** **20 01 09.8 +0.8**
LAZ Ladron 39.07 296⇓ *e*P **P** **20 01 11.8 +1.4**
SMCO Snowmass 39.54 304 *e*P **P** **20 01 15.0 +0.7**
comp=Z,45nm,0.9s,mb5.2
SMCO *e*PP PP 20 02 37.5 -7.5
SMCO *e*S **S** **20 07 15.1 -1.7**
LPAZ La Paz 39.83 186 P **P** **20 01 17.7 +1.0**
comp=Z,9.7nm,0.5s,mb4.8,baz=7.0,slow=8.7,SNR=71
LPAZ PcP PcP 20 03 24.1 +1.5
comp=Z,9.9nm,0.6s,baz=334,slow=3.3,SNR=3.7
LPAZ La Paz 39.83 186⇑ *i*P **P** **20 01 17.2 +0.5**
LPAZ pmax pmax
comp=Z,7.0nm,0.8s
LPAZ MLR MLR
comp=Z,663nm,19.0s
LPAZ La Paz 39.83 186⇑ *i*P **P** **20 01 17.2 +0.5**
comp=Z,6.6nm,0.8s,mb4.4
LPAZ LR LR
comp=Z,663nm,19.0s,MS4.5
RCBR Riachuelo 40.02 133 *e*P **P** **20 01 19.0 +0.7**
comp=Z,23nm,0.9s,mb4.9
RCBR LR LR
comp=Z,2µm,21.0s,MS5.0
RWWY Rawlins 40.22 307 *e*P **P** **20 01 20.8 +0.9**
comp=Z,56nm,0.9s,mb5.3
RWWY *e*PP PP 20 02 48.5 -3.9
RWWY *e*S **S** **20 07 26.4 -0.6**
FRB Frobisher Bay 40.28 357 P **P** **20 01 18.9 -1.5**
comp=Z,57nm,1.0s,mb5.3,baz=163,slow=8.0,SNR=7.0
FRB Frobisher Bay 40.28 357 P **P** **20 01 18.9 -1.5**
MVCO Mesa Verde 40.44 300 *e*P **P** **20 01 22.5 +0.8**
MVCO *e*PP PP 20 02 57.6 +2.9
ARE Arequipa 40.48 191 *e*P **P** **20 01 22.0 0.0**
PV01 Paradox Valley 40.61 302 *e*P **P** **20 01 24.5 +1.3**
LAO LASA Array 40.93 315⇑ *e*P **P** **20 01 25.5 -0.3**
comp=Z,52nm,0.9s,mb5.2
LAO LR LR
comp=Z,2µm,19.0s,MS5.1
PV10 Paradox Valley 41.01 302⇑ *e*P **P** **20 01 27.0 +0.6**
BDFB Brasilia 41.96 157 P **P** **20 01 35.1 +0.9**
comp=Z,26nm,0.6s,mb5.0,baz=326,slow=8.4,SNR=32
BDFB LR LR 20 17 10.7
comp=Z,745nm,20.6s,MS4.5,baz=338,slow=34
BAO Brasilia Array 41.96 157 P **P** **20 01 37.0 +2.8**
FFC Flin Flon 42.02 328 P **P** **20 01 34.5 -0.2**
comp=Z,294nm,1.0s,mb5.9,SNR=16
FFC Flin Flon 42.02 328⇑ *e*P **P** **20 01 33.4 -1.3**
FFC 20 03 13.4
FFC *e*S **S** **20 07 49.8 -3.9**
FFC pmax pmax
comp=Z,44nm,0.8s,mb5.1
FFC MLR MLR
comp=Z,3µm,19.0s,MS5.2
FFC Flin Flon 42.02 328⇑ *e*P **P** **20 01 33.4 -1.3**
comp=Z,44nm,0.8s,mb5.1
FFC PP PP 20 03 13.4 +1.6
FFC *e*S **S** **20 07 49.8 -3.9**
FFC LR LR
comp=Z,3µm,19.0s,MS5.2
TUC Tucson 42.05 293⇑ *e*P **P** **20 01 35.9 +1.0**
TUC *e* 20 03 14.5
TUC *e*S **S** **20 07 59.7 +5.6**
TUC pmax pmax
comp=Z,56nm,0.8s,mb5.2
TUC Tucson 42.05 293⇑ *e*P **P** **20 01 35.9 +0.9**
comp=Z,56nm,0.8s,mb5.2
TUC *e*PP PP 20 03 14.4 +2.3
TUC *e*S **S** **20 07 59.7 +5.6**
EGOM La Gomera 42.07 74 P **P** **20 01 36.0 +0.8**
comp=Z,2.4nm,0.6s
BW06 Boulder Array 42.15 308 PFAKE 20 01 50.0 +14
BW06 LR LR
comp=Z,4µm,22.0s,MS5.2
PDAR Pinedale Array 42.15 308 P **P** **20 01 36.1 +0.3**
comp=Z,19nm,0.6s,mb4.9,baz=111,slow=8.8,SNR=78
PDAR PP PP 20 03 13.6 +0.2
comp=Z,35nm,1.0s,baz=99,slow=9.6,SNR=8.9
PDAR LR LR 20 17 50.4
comp=Z,3µm,22.0s,MS5.2,baz=118,slow=34
SRU San Rafael 42.26 303 *e*P **P** **20 01 37.5 +0.8**
SRU *e* 20 03 17.8
SRU *e*S **S** **20 07 53.1 -4.1**

SRU pmax pmax
comp=Z,64nm,0.9s,mb5.2
SRU San Rafael 42.26 303 *eP* **P 20 01 37.5 +0.8**
comp=Z,64nm,0.9s,mb5.2
SRU *ePP* PP 20 03 17.8 +3.3
SRU *eS* **S 20 07 53.1 -4.1**
WUAZ Wupatki 42.61 297 *eP* **P 20 01 40.5 +1.0**
comp=Z,61nm,0.8s,mb5.4
WUAZ *ePP* PP 20 03 16.5 -1.8
WUAZ *eS* **S 20 08 06.8 +4.3**
WUAZ LR LR
comp=Z,5μm,21.0s,MS5.4
TMUT Trail Mountain 42.81 303 *eP* **P 20 01 42.3 +1.1**
116A Eloy 42.82 293 ⇓P **P 20 01 41.2 -0.1**
baz=43,SNR=18
116A ⇓S **S 20 08 04.8 -0.7**
baz=43
GCMT Greycliff 42.95 313 *eP* **P 20 01 42.5 +0.3**
DAU Daniels Canyon 42.99 305 *eP* **P 20 01 43.9 +1.3**
LKWY Lake 43.15 311 PFAKE 20 02 00.0 +16
LKWY LR LR
comp=Z,8μm,20.0s,MS5.6
SNOW Snow King Moun 43.16 309⇑ *eP* **P 20 01 44.5 +0.5**
comp=Z,86nm,0.9s,mb5.5
SNOW *ePP* PP 20 03 31.0 +6.8
SNOW *eScP* ScP 20 07 15.8 -9.1
SNOW *eS* **S 20 08 07.3 -3.2**
REDW Red Top Meadow 43.20 309⇑ *eP* **P 20 01 44.7 +0.3**
comp=Z,161nm,0.9s,mb5.8
REDW *ePP* PP 20 03 28.9 +4.2
REDW *eS* **S 20 08 08.4 -2.7**
MOOW Moose Ponds 43.21 309⇑ *eP* **P 20 01 44.3 -0.1**
comp=Z,24nm,0.8s,mb5.0
MOOW *ePP* PP 20 03 29.9 +5.2
MOOW *eS* **S 20 08 07.3 -4.0**
TCUT Toone Canyon 43.21 306 *eP* **P 20 01 44.7 +0.3**
TCUT *ePP* PP 20 03 27.5 +2.7
TCUT *eS* **S 20 08 14.2 +2.9**
MPU Maple Canyon 43.22 304 *eP* **P 20 01 45.4 +0.9**
comp=Z,47nm,0.8s,mb5.3
MPU LR LR
comp=Z,4μm,19.0s,MS5.3
FLWY Flagg Ranch 43.25 310 *eP* **P 20 01 44.5 -0.2**
comp=Z,38nm,0.7s,mb5.2
FLWY *eS* **S 20 08 11.2 -0.6**
AHID Auburn Hatcher 43.27 308 *eP* **P 20 01 45.1 +0.2**
comp=Z,88nm,0.8s,mb5.5
AHID *ePP* PP 20 03 32.8 +7.4
AHID *eS* **S 20 08 09.4 -2.7**
AHID LR LR
comp=Z,3μm,22.0s,MS5.2
X15A Humboldt 43.28 296 ⇓P **P 20 01 46.0 +1.0**
baz=43,SNR=28
X15A ⇑S **S 20 08 11.3 -1.0**
baz=43
TPAW Teton Pass 43.30 309 *eP* **P 20 01 45.4 +0.2**
comp=Z,51nm,0.7s,mb5.4
TPAW *ePP* PP 20 03 24.4 -1.3
TPAW *ePcP* PcP 20 03 33.0 -1.0
TPAW *eS* **S 20 08 13.9 +1.4**
W15A Williams 43.32 297 ⇓P **P 20 01 46.4 +1.1**
baz=43
W15A ⇑S **S 20 08 13.4 +0.5**
baz=43
IMW Indian Meadow 43.38 310 *eP* **P 20 01 45.8 0.0**
comp=Z,31nm,0.6s,mb5.2
IMW *ePcP* PcP 20 03 32.7 -1.6
IMW *eS* **S 20 08 15.6 +1.9**
CTU Camp Tracy 43.41 305 *eP* **P 20 01 46.8 +0.8**
comp=Z,107nm,0.9s,mb5.6
HWUT Hardware Ranch 43.41 306 *eP* **P 20 01 46.2 +0.3**
comp=Z,144nm,0.8s,mb5.8
HWUT *ePcP* PcP 20 03 37.5 +3.2
HWUT *eS* **S 20 08 13.3 -0.8**
HWUT LR LR
comp=Z,4μm,21.0s,MS5.3
YFT Old Faithful 43.42 310 *eP* **P 20 01 48.0 +1.8**
DCID1 Drake Creek 43.49 309 *eP* **P 20 01 47.1 +0.4**
DCID1 *ePcP* PcP 20 03 35.4 +0.8
DCID1 *eS* **S 20 08 16.6 +1.3**
RRI2 Red Ridge 43.54 309 *eP* **P 20 01 47.7 +0.6**
comp=Z,156nm,0.7s,mb5.8
RRI2 *ePcP* PcP 20 03 35.2 +0.4
RRI2 *eS* **S 20 08 15.9 -0.2**
NLU North Lily Min 43.55 304 *eP* **P 20 01 48.0 +0.9**
YMR Madison River 43.56 311 *eP* **P 20 01 47.8 +0.5**
comp=Z,60nm,0.9s,mb5.3
YMR LR LR
comp=Z,2μm,21.0s,MS4.9
EGMT Eagleton 43.63 316 *eP* **P 20 01 47.7 -0.1**
comp=Z,41nm,0.9s,mb5.2
EGMT *ePP* PP 20 03 29.2 -0.1
EGMT *ePcP* PcP 20 03 37.1 +2.0
EGMT *eS* **S 20 08 19.8 +2.4**
EGMT LR LR
comp=Z,2μm,21.0s,MS5.0
NOQ North Oquirrh 43.68 305 *eP* **P 20 01 48.9 +0.7**
comp=Z,82nm,0.7s,mb5.6
X14A Yava 43.82 296 ⇓P **P 20 01 50.3 +1.0**
baz=44,SNR=21
X14A ⇑S **S 20 08 18.1 -2.1**
baz=44
Z14A Wintersburg 43.86 294 ⇓P **P 20 01 49.9 +0.3**
baz=44,SNR=6.6
Z14A ⇑S **S 20 08 21.3 +0.5**
baz=44
Y14A Wickenburg 43.91 295 ⇑P **P 20 01 50.6 +0.5**
baz=44,SNR=25
Y14A ⇑S **S 20 08 20.6 -0.9**
baz=44
QLMT Earthquake Lak 43.92 311 *eP* **P 20 01 51.6 +1.5**
W14A Seligman 43.99 297 ⇑P **P 20 01 52.0 +1.3**
baz=44,SNR=24
W14A ⇓S **S 20 08 23.0 +0.3**
baz=44
SPUT South Promonto 44.02 306 *eP* **P 20 01 51.2 +0.3**
DUG Dugway 44.14 304 *eP* **P 20 01 52.9 +1.0**
DUG *e* 20 03 36.5
DUG *eS* **S 20 08 21.6 -3.3**
DUG pmax pmax
comp=Z,81nm,0.8s,mb5.5
DUG MLR MLR
comp=Z,3μm,20.0s,MS5.3
DUG Dugway 44.14 304 *eP* **P 20 01 52.9 +1.0**
comp=Z,81nm,0.8s,mb5.5
DUG *e* 20 03 36.5
DUG *eS* **S 20 08 21.6 -3.4**
DUG LR LR
comp=Z,3μm,20.0s,MS5.3
SFJD Kangerlussuaq 44.22 7 P **P 20 01 51.9 -0.6**
comp=Z,26nm,0.7s,mb5.1,baz=166,slow=8.3,SNR=8.2
SFJD Kangerlussuaq 44.22 7 *i* P **P 20 01 52.0 -0.5**
comp=Z,33nm,0.9s,mb5.1
SFJD *i* S **S 20 08 26.5 +0.5**
SFJD
comp=Z,820nm,17.0s
SFJD Kangerlussuaq 44.22 7 *i* P **P 20 01 52.0 -0.5**
SFJD *i* S **S 20 08 26.5 +0.5**
SFJD pmax pmax
comp=Z,33nm,0.9s,mb5.1
SFJD MLR MLR
comp=Z,820nm,17.0s,MS4.7
CCUT Cedar City 44.33 300 *eP* **P 20 01 54.6 +1.2**
HVU Hansel Valley 44.33 306⇑ *eP* **P 20 01 53.6 +0.2**
HVU pmax pmax
comp=Z,84nm,0.6s,mb5.7
HVU Hansel Valley 44.33 306⇑ *eP* **P 20 01 53.6 +0.2**
comp=Z,84nm,0.6s,mb5.7
ARUT Antelope Range 44.40 301 *eP* **P 20 01 55.2 +1.2**
Y13A Salome 44.59 295 ⇑P **P 20 01 56.2 +0.7**
baz=44
Y13A ⇑S **S 20 08 31.3 -0.1**
baz=44
X13A Yucca 44.60 296 ⇑P **P 20 01 56.4 +0.8**
baz=44,SNR=16
X13A ⇑S **S 20 08 32.0 +0.5**
baz=44
HRY Holter Researc 44.63 313 *eP* **P 20 01 56.1 +0.3**
W13A Hualapai Mount 44.65 297 ⇓P **P 20 01 57.0 +1.0**
baz=45,SNR=20
W13A ⇓S **S 20 08 33.1 +0.9**
baz=45
DLMT Dillon 44.84 311⇑ *eP* **P 20 01 58.4 +0.9**
comp=Z,56nm,1.0s,mb5.3
MCMT McKenzie Canyo 44.91 311 *eP* **P 20 01 59.3 +1.3**

Y12C Blythe 45.17 295 ⇑P **P 20 02 00.5 +0.4**
baz=45
Y12C ⇑S **S 20 08 40.5 +0.6**
baz=45
U12A Valley of Fire 45.21 299 ⇑P **P 20 02 01.8 +1.4**
baz=45
U12A ⇑S **S 20 08 39.7 -0.7**
baz=45
N13A Wendover, West 45.27 305 ⇑P **P 20 02 01.7 +0.7**
baz=45,SNR=28
N13A ⇓S **S 20 08 41.2 -0.2**
baz=45
M13A Montello 45.30 305 P **P 20 02 02.0 +0.8**
baz=45,SNR=121
M13A ⇓S **S 20 08 40.0 -1.8**
baz=45
GLA Glamis 45.44 294 ⇑P **P 20 02 03.1 +0.8**
baz=45,SNR=27
GLA ⇓S **S 20 08 44.1 +0.3**
baz=45
V12A Nelson 45.45 298 ⇓P **P 20 02 03.4 +1.1**
baz=45,SNR=11
V12A ⇑S **S 20 08 45.1 +1.3**
baz=45
W12A Cal Nev Ari 45.46 297 ⇓P **P 20 02 03.0 +0.6**
baz=45,SNR=5.6
W12A ⇓S **S 20 08 45.2 +1.2**
baz=45
O12A Currie 45.62 304 ⇑P **P 20 02 04.6 +0.9**
baz=46,SNR=32
O12A ⇑S **S 20 08 48.1 +1.8**
baz=46
CHMT Chamberlain Mo 45.63 313 *eP* **P 20 02 04.0 +0.3**
HLID Hailey 45.79 308⇑ *eP* **P 20 02 06.0 +1.0**
comp=Z,58nm,0.8s,mb5.6
HLID LR LR
comp=Z,3μm,21.0s,MS5.2
M12A Wells 45.87 305 P **P 20 02 06.7 +1.0**
baz=46,SNR=217
M12A ⇑S **S 20 08 50.4 +0.5**
baz=46
U11A Corn Creek 45.89 298 ⇓P **P 20 02 06.5 +0.6**
baz=46
N12A Clover Valley, 45.90 305 ⇑P **P 20 02 06.9 +1.0**
baz=46,SNR=92
N12A ⇑S **S 20 08 52.4 +2.1**
baz=46
ELK Elko 46.04 305 *eP* **P 20 02 07.9 +0.9**
ELK *e* 20 03 53.4
ELK *eS* **S 20 08 52.1 -0.3**
ELK pmax pmax
comp=Z,39nm,0.7s
ELK MLR MLR
comp=Z,3μm,21.0s
ELK Elko 46.04 305 *eP* **P 20 02 07.9 +0.9**
comp=Z,40nm,0.7s,mb5.5
ELK *ePP* PP 20 03 53.4 -1.5
ELK *eS* **S 20 08 52.1 -0.3**
ELK LR LR
comp=Z,3μm,21.0s,MS5.2
TRCR Troy Canyon 46.13 301 *eP* **P 20 02 09.0 +1.3**
Q11A Duckwater 46.21 302 P **P 20 02 09.5 +1.2**
baz=46,SNR=99
Q11A ⇓S **S 20 08 53.8 -1.0**
baz=46
TUQ Turquoise Mtn. 46.32 297 ⇑P **P 20 02 09.9 +0.7**
baz=46,SNR=7.4
P11A Circle Ranch, 46.34 303 ⇑P **P 20 02 09.9 +0.6**
baz=46,SNR=16
P11A ⇓S **S 20 08 58.0 +1.4**
baz=46
N11A Elko Archery C 46.43 305 ⇓P **P 20 02 10.2 +0.1**
baz=46
N11A ⇓S **S 20 08 59.7 +1.8**
baz=46
M11A Holland Ranch, 46.53 305 ⇑P **P 20 02 11.8 +0.9**
baz=46,SNR=51
M11A ⇓S **S 20 08 59.8 +0.4**
baz=46
WALA Waterton Lakes 46.57 316 *eP* **P 20 02 10.4 -0.8**
comp=Z,24nm,0.9s,mb5.1
WALA *eS* **S 20 09 02.0 +2.0**
TPNV Topopah Spring 46.60 299 *eP* **P 20 02 12.9 +1.5**
TPNV pmax pmax
comp=Z,4.0nm,0.3s,mb4.8
TPNV MLR MLR
comp=Z,3μm,21.0s,MS5.2
TPNV Topopah Spring 46.60 299 *eP* **P 20 02 12.9 +1.5**
comp=Z,3.7nm,0.3s,mb4.8
TPNV LR LR
comp=Z,3μm,21.0s,MS5.2
U10A Ash Meadows, A 46.66 298 ⇓P **P 20 02 13.4 +1.5**
baz=47,SNR=11
R10A Warm Springs 46.69 301 ⇓P **P 20 02 13.4 +1.3**
baz=47,SNR=16
R10A ⇑S **S 20 09 03.9 +2.3**
baz=47
PFO Pinyon Flat Ob 46.79 295 P **P 20 02 14.8 +1.9**
comp=Z,115nm,1.1s,mb5.7,SNR=6.3
PFO Pinyon Flat Ob 46.79 295 *eP* **P 20 02 14.2 +1.3**
PFO pmax pmax
comp=Z,32nm,1.2s,mb5.1
PFO MLR MLR
comp=Z,2μm,20.0s,MS5.1
PFO Pinyon Flat Ob 46.79 295 *eP* **P 20 02 14.2 +1.4**
comp=Z,32nm,1.2s,mb5.1
PFO LR LR
comp=Z,2μm,20.0s,MS5.1
PFO Pinyon Flat Ob 46.79 295 ⇑P **P 20 02 13.7 +0.8**
baz=47,SNR=12
PFO ⇑S **S 20 09 04.5 +1.4**
baz=47
P10A Eureka 46.89 303 ⇓P **P 20 02 14.5 +0.8**
baz=47,SNR=14
P10A ⇑S **S 20 09 06.1 +1.6**
baz=47
N10A Dunphy 47.00 304 ⇑P **P 20 02 15.2 +0.7**
baz=47,SNR=7.2
N10A ⇑S **S 20 09 07.0 +0.9**
baz=47
GSC Goldstone 47.04 297 ⇓P **P 20 02 15.9 +1.1**
baz=47,SNR=18
GSC ⇓S **S 20 09 07.8 +1.1**
baz=47
M10A I.L. Ranch, Tu 47.10 305 ⇑P **P 20 02 16.0 +0.7**
baz=47,SNR=26
M10A ⇓S **S 20 09 07.7 +0.3**
baz=47
R09A Tonopah 47.29 301 ⇓P **P 20 02 17.9 +1.1**
baz=47,SNR=72
R09A ⇑S **S 20 09 10.4 +0.1**
baz=47
109C Camp Elliot, M 47.36 294 ⇓P **P 20 02 18.1 +0.7**
baz=47
109C ⇓S **S 20 09 11.0 -0.2**
baz=47
S09A Goldfield 47.40 300 ⇓P **P 20 02 18.5 +0.8**
baz=47,SNR=80
S09A ⇓S **S 20 09 12.3 +0.5**
baz=47
Q09A Carvers 47.40 302 ⇑S **S 20 09 11.9 +0.1**
baz=47
P09A Austin 47.41 303 ⇓P **P 20 02 18.6 +0.9**
baz=47
P09A ⇓S **S 20 09 13.3 +1.5**
baz=47
TPH Tonopah 47.41 301 *eP* **P 20 02 18.6 +0.9**
TPH pmax pmax
comp=Z,20nm,0.8s,mb5.1
TPH MLR MLR
comp=Z,4μm,22.0s,MS5.3
TPH Tonopah 47.41 301 *eP* **P 20 02 18.6 +0.9**
comp=Z,20nm,0.8s,mb5.1
TPH LR LR
comp=Z,4μm,22.0s,MS5.3
EDM Edmonton 47.43 322⇑ *eP* **P 20 02 16.6 -1.3**
EDM *e* 20 02 26.6
EDM *eS* **S 20 09 12.2 -0.1**
O09A Fish Creek Ran 47.48 304 ⇓P **P 20 02 18.8 +0.5**
baz=47,SNR=92
BMN Battle Mountai 47.52 304⇑ *eP* **P 20 02 19.2 +0.6**
BMN pmax pmax
comp=Z,50nm,0.8s,mb5.6
BMN MLR MLR
comp=Z,2μm,20.0s,MS5.2
BMN Battle Mountai 47.52 304⇑ *eP* **P 20 02 19.2 +0.6**
comp=Z,50nm,0.8s,mb5.6
BMN LR LR
comp=Z,2μm,20.0s,MS5.2
DAC Darwin (Calif) 47.68 298⇑ *eP* **P 20 02 21.0 +1.2**
DAC pmax pmax
comp=Z,38nm,0.8s,mb5.5
DAC MLR MLR
comp=Z,3μm,21.0s,MS5.2
DAC Darwin (Calif) 47.68 298⇑ *eP* **P 20 02 21.0 +1.2**
comp=Z,38nm,0.8s,mb5.5
DAC LR LR
comp=Z,3μm,21.0s,MS5.2
M09A Marrel Ranch, 47.77 305 ⇑P **P 20 02 21.2 +0.7**
baz=48,SNR=26
M09A ⇑S **S 20 09 18.6 +1.5**
baz=48
N09A Rock Creek Ran 47.78 304 ⇑P **P 20 02 21.1 +0.4**
baz=48,SNR=51
N09A ⇓S **S 20 09 17.6 +0.4**
baz=48
Q08A Gabbs 47.99 302 ⇓P **P 20 02 22.4 +0.1**
baz=48,SNR=45
BMO Blue Mountains 48.04 310⇑ *eP* **P 20 02 22.1 -0.5**
BMO pmax pmax
comp=Z,56nm,0.9s,mb5.6
BMO MLR MLR
comp=Z,5μm,19.0s,MS5.5
BMO Blue Mountains 48.04 310⇑ *eP* **P 20 02 22.1 -0.5**
comp=Z,56nm,0.9s,mb5.6
BMO LR LR
comp=Z,5μm,19.0s,MS5.5
CWC Cottonwood Cre 48.07 298 ⇓P **P 20 02 23.7 +0.9**
baz=48
R08A Mina 48.11 301 ⇓P **P 20 02 24.0 +0.8**
baz=48,SNR=12
R08A ⇑S **S 20 09 23.4 +1.5**
baz=48
P08A Dixie Valley 48.14 303 ⇑P **P 20 02 24.2 +0.8**
baz=48
TIN Tinemaha 48.19 299 ⇓P **P 20 02 25.2 +1.4**
baz=48
TIN ⇑S **S 20 09 25.4 +2.4**
baz=48
O08A Rochester Mine 48.23 304 ⇓P **P 20 02 24.6 +0.5**
baz=48
O08A ⇑S **S 20 09 24.9 +1.4**
baz=48
NVAR Mina Array Bea 48.27 301 P **P 20 02 25.0 +0.6**
comp=Z,18nm,0.9s,mb5.1,baz=92,slow=7.4,SNR=58
FMP Fort Macarthur 48.31 295 ⇑P **P 20 02 25.4 +0.7**
baz=48
ISA Isabella 48.40 297 PFAKE 20 02 40.0 +15
ISA LR LR
comp=Z,1μm,21.0s,MS4.8
ISA Isabella 48.40 297 ⇓P **P 20 02 26.6 +1.2**
baz=48,SNR=14
ISA ⇓S **S 20 09 27.4 +1.5**
baz=48
PMAFR Mafra 48.46 58 *eP* **P 20 02 26.3 +0.5**
MTUM Tungsten Hills 48.46 300 *eP* **P 20 02 27.0 +1.2**
NEW Newport 48.47 314⇑ *eP* **P 20 02 25.2 -0.8**
NEW *e* 20 04 19.6
NEW *eS* **S 20 09 24.5 -2.5**
NEW pmax pmax
comp=Z,85nm,0.9s
NEW MLR MLR
comp=Z,2μm,20.0s
NEW Newport 48.47 314⇑ *eP* **P 20 02 25.1 -0.8**
comp=Z,85nm,0.9s,mb5.8
NEW *ePP* PP 20 04 19.6 +1.0
NEW *eS* **S 20 09 24.5 -2.5**
NEW LR LR
comp=Z,2μm,20.0s,MS5.1
L08A Fields 48.50 306 ⇑P **P 20 02 26.4 +0.2**
baz=48,SNR=118
L08A ⇓S **S 20 09 27.4 0.0**
baz=48
K08A Mann Creek Ran 48.65 307 ⇓P **P 20 02 27.5 +0.2**
baz=49,SNR=42
K08A ⇑S **S 20 09 27.1 -2.4**
baz=49
Q07A Schurz 48.67 302 ⇑P **P 20 02 27.6 +0.1**
baz=49
MLAC Mammoth Lakes 48.67 300 ⇓P **P 20 02 29.3 +1.8**
baz=49
J08A Circle Bar Ran 48.70 308 P **P 20 02 28.0 +0.3**
baz=49,SNR=137
J08A ⇑S **S 20 09 29.2 -1.0**
baz=49
WVOR Wild Horse Val 48.73 306 *eP* **P 20 02 27.9 -0.1**
WVOR pmax pmax
comp=Z,57nm,1.0s,mb5.6
WVOR MLR MLR
comp=Z,2μm,19.0s,MS5.2
WVOR Wild Horse Val 48.73 306 *eP* **P 20 02 27.9 -0.1**
comp=Z,57nm,1.0s,mb5.6
WVOR LR LR
comp=Z,2μm,19.0s,MS5.2
P07A Fallon 48.76 303 ⇓P **P 20 02 28.0 -0.1**
baz=49
O07A Toulon 48.77 303 P **P 20 02 29.1 +0.8**
baz=49,SNR=55
O07A ⇑S **S 20 09 30.5 -0.7**
baz=49
R07C Lee Vining 48.84 301 ⇓P **P 20 02 29.9 +1.1**
baz=49
LNOR Lincton Mounta 48.86 311 P **P 20 02 29.4 +0.4**
PTEO Sao Teotonio 48.87 60 *eP* **P 20 02 29.4 +0.4**
comp=Z,74nm,0.9s,mb5.7
EMAZ Mazaricos 48.92 53 P **P 20 02 29.9 +0.5**
comp=Z,25nm,1.0s,mb5.2
KCC Kaiser Creek 49.06 300 ⇓P **P 20 02 31.6 +1.2**
baz=49,SNR=16
KCC ⇑S **S 20 09 32.8 -2.5**
baz=49
M07A Soldier Meadow 49.06 305 ⇓P **P 20 02 30.9 +0.4**
baz=49,SNR=85
M07A ⇑S **S 20 09 33.4 -1.8**
baz=49
EZAM Zamans 49.07 54 P **P 20 02 30.7 +0.2**
EZAM pmax pmax
comp=Z,27nm,0.6s,mb5.5
EZAM Zamans 49.07 54 P **P 20 02 30.7 +0.2**
comp=Z,27nm,0.6s,mb5.5
PAHR Pah Rah Range 49.14 303 *eP* **P 20 02 32.0 +0.9**
comp=Z,13nm,0.8s,mb5.0
PTOM Tomar 49.15 57 *eP* **P 20 02 31.5 +0.3**
comp=Z,70nm,0.9s,mb5.7
R06C Coleville 49.17 301 ⇓P **P 20 02 31.9 +0.6**
baz=49,SNR=14
R06C ⇓S **S 20 09 36.8 0.0**
baz=49
MOE Montemor 49.17 59 *eP* **P 20 02 31.8 +0.4**
K07A Rock Creek Ran 49.20 307 ⇑P **P 20 02 31.7 +0.1**
baz=49,SNR=28
K07A ⇓S **S 20 09 35.9 -1.4**
baz=49
L07A Adell 49.22 306 ⇓P **P 20 02 31.5 -0.2**
baz=49,SNR=18
L07A ⇑S **S 20 09 36.4 -1.2**
baz=49
STS Santiago 49.23 53 P **P 20 02 31.7 -0.1**
STS pmax pmax
comp=Z,22nm,0.8s,mb5.2
STS Santiago 49.23 53 P **P 20 02 31.7 -0.1**
comp=Z,22nm,0.8s,mb5.2
J07A Hines 49.31 308 ⇓P **P 20 02 32.1 -0.3**
baz=49,SNR=46
J07A ⇑S **S 20 09 37.4 -1.4**
baz=49
T06C Millerton Lake 49.37 299 ⇓P **P 20 02 32.6 -0.3**
baz=49
T06C ⇓S **S 20 09 39.8 +0.1**
baz=49
WCN Washoe City 49.42 302 ⇑P **P 20 02 32.7 -0.5**
baz=49
WCN ⇓S **S 20 09 41.1 +0.8**
baz=49
S06C San Francisco 49.48 300 ⇓P **P 20 02 34.9 +1.3**
baz=49,SNR=27
S06C ⇑S **S 20 09 41.6 +0.4**
baz=49
O06A Flanigan 49.50 303 ⇑P **P 20 02 34.0 +0.2**
baz=49,SNR=85
O06A ⇑S **S 20 09 41.4 -0.1**
baz=49
ELOB Lobios 49.52 54 P **P 20 02 34.2 +0.2**
comp=Z,39nm,0.5s,mb5.7
N06A Buffalo Meadow 49.53 304 ⇑P **P 20 02 34.1 +0.1**
baz=49,SNR=47

N06A ⇓S **S** **20 09 40.5 -1.3**
baz=49
BORG Borgarnes 49.53 22 PFAKE 20 02 50.0 +16
BORG LR LR
comp=Z,409nm,20.0s,MS4.4
PCAB Cabril 49.53 55 *e*P **P** **20 02 34.3 +0.2**
comp=Z,32nm,0.7s,mb5.5
P06A Stead Airport, 49.54 303 ⇑P **P** **20 02 34.3 +0.2**
baz=49
P06A ⇓S **S** **20 09 43.4 +1.4**
baz=49
PBEJ Beja 49.55 59 *e*P **P** **20 02 34.8 +0.6**
comp=Z,32nm,1.0s,mb5.3
V05C Boulder Hill, 49.55 298 ⇑P **P** **20 02 34.4 +0.2**
baz=50
PVIS Viseu 49.59 56 *e*P **P** **20 02 34.7 +0.2**
comp=Z,51nm,1.1s,mb5.5
R05C Kirkwood Meado 49.66 301 ⇑P **P** **20 02 35.9 +0.8**
baz=50,SNR=48
R05C ⇓S **S** **20 09 43.0 -0.7**
baz=50
U05C Westside ANR, 49.72 298 ⇓P **P** **20 02 35.3 -0.2**
baz=50
PVRL Vila Real 49.75 55 *e*P **P** **20 02 36.1 +0.4**
comp=Z,37nm,0.5s,mb5.7
GBL Gable Mountain 49.77 312 P **P** **20 02 36.4 +0.5**
PESTR Estremoz 49.77 58 *e*P **P** **20 02 36.3 +0.4**
comp=Z,34nm,1.9s,mb5.1
PESTR *e*S **S** **20 09 49.0 +3.7**
PESTR *e*LQ 20 14 24.6
PESTR *e*LR LR 20 15 04.3
HAWA Hanford 49.79 312 *e*P **P** **20 02 35.7 -0.4**
comp=Z,1.9nm,0.8s
HAWA LR LR
comp=Z,131nm,20.0s,MS3.9
RSW Rattlesnake Hi 49.83 312 P **P** **20 02 36.7 +0.3**
MTE Manteigas 49.84 56 *e*P **P** **20 02 36.5 +0.1**
comp=Z,60nm,0.5s,mb5.9
MTE *e*S **S** **20 09 47.9 +1.6**
MTE *e*LQ 20 14 32.5
MTE *e*LR LR 20 15 38.2
comp=Z,2µm,22.7s
MTE Manteigas 49.84 56⇑ *e*P **P** **20 02 36.1 -0.3**
comp=Z,39nm,0.6s,mb5.6
EGRO El Granado 49.86 60 P **P** **20 02 37.4 +0.9**
comp=Z,98nm,1.5s,mb5.6
S05C Merced 49.86 300 ⇓P **P** **20 02 36.8 +0.2**
baz=50,SNR=11
S05C ⇓S **S** **20 09 46.3 -0.2**
baz=50
PCBR Castelo Branco 49.88 57 *e*P **P** **20 02 37.0 +0.3**
comp=Z,42nm,1.1s,mb5.4
SAW Saint Andrews 49.88 313 P **P** **20 02 36.8 0.0**
JBO Jordan Butte 49.89 310 P **P** **20 02 37.2 +0.4**
CMB Columbia Colle 49.90 301⇑ *e*P **P** **20 02 37.1 +0.2**
CMB pmax pmax
comp=Z,20nm,0.8s,mb5.2
CMB MLR MLR
comp=Z,2µm,22.0s,MS5.2
CMB Columbia Colle 49.90 301⇑ *e*P **P** **20 02 37.1 +0.2**
comp=Z,20nm,0.8s,mb5.2
CMB LR LR
comp=Z,2µm,22.0s,MS5.2
CMB Columbia Colle 49.90 301 ⇑P **P** **20 02 37.2 +0.3**
baz=50,SNR=23
CMB ⇑S **S** **20 09 46.6 -0.5**
baz=50
J06A Christmas Vall 49.91 307 ⇓P **P** **20 02 36.7 -0.2**
baz=50,SNR=82
J06A ⇓S **S** **20 09 46.2 -1.0**
baz=50
K06A Valley Falls 49.95 307 ⇓P **P** **20 02 36.8 -0.5**
baz=50,SNR=9.2
K06A ⇓S **S** **20 09 45.8 -2.0**
baz=50
MDW Midway 49.98 312 P **P** **20 02 38.0 +0.5**
I06A Prineville 50.01 308 P **P** **20 02 38.0 +0.3**
baz=50,SNR=26
I06A ⇑S **S** **20 09 48.7 +0.1**
baz=50
CPUP Villa Florida 50.02 172⇑ *e*P **P** **20 02 36.3 -1.5**
CPUP *e* 20 03 58.1
CPUP pmax pmax
comp=Z,28nm,0.7s
CPUP Villa Florida 50.02 172⇑ *e*P **P** **20 02 36.3 -1.5**
comp=Z,28nm,0.7s,mb5.4
CPUP *e*PcP PcP 20 03 58.1 +0.5
M06C Likely Place G 50.03 305 ⇑P **P** **20 02 37.9 0.0**
baz=50,SNR=8.7
M06C ⇓S **S** **20 09 46.4 -2.5**
baz=50
PKD Parkfield 50.07 298 ⇑P **P** **20 02 38.4 +0.2**
baz=50,SNR=5.9
P05C Yuba Gap, Truc 50.08 302 ⇓P **P** **20 02 38.7 +0.4**
baz=50,SNR=11
P05C ⇑S **S** **20 09 49.7 +0.1**
baz=50
BVW Beverly 50.09 312 P **P** **20 02 39.0 +0.7**
LAVA Lava Cap Winer 50.18 302 ⇓P **P** **20 02 39.1 +0.1**
baz=50,SNR=30
LAVA ⇑S **S** **20 09 50.1 -0.9**
baz=50
EBAD Badajoz 50.22 58 P **P** **20 02 39.5 +0.2**
comp=Z,195nm,1.8s,mb5.8
U04C Hernandez Rese 50.25 298 ⇓P **P** **20 02 39.4 -0.2**
baz=50,SNR=15
U04C ⇑S **S** **20 09 50.3 -1.6**
baz=50
EPON Pontenova 50.28 53 P **P** **20 02 40.0 +0.1**
comp=Z,43nm,0.6s,mb5.7
O05C Quincy 50.33 303 ⇓P **P** **20 02 40.0 -0.1**
baz=50
O05C ⇓S **S** **20 09 52.6 -0.5**
baz=50
R04C Big Horse Ranc 50.34 301 ⇑P **P** **20 02 40.7 +0.5**
baz=50
R04C ⇓S **S** **20 09 53.7 +0.6**
baz=50
MXC Moxie City 50.34 312 P **P** **20 02 41.0 +0.8**
L05A Lakeview 50.34 306 ⇓P **P** **20 02 40.0 -0.2**
baz=50,SNR=11
L05A ⇓S **S** **20 09 52.3 -0.9**
baz=50
V04C Ramage Ranch, 50.35 298 ⇓P **P** **20 02 40.5 +0.2**
baz=50
VIPM Ingram Point 50.35 309 P **P** **20 02 41.4 +1.1**
VTHM Trough 50.37 310 P **P** **20 02 41.4 +1.0**
LRV Little Rabbit 50.44 299 *e*P **P** **20 02 42.0 +1.0**
O04C Chester 50.47 304 ⇓S **S** **20 09 54.3 -0.6**
baz=50
EMIN Mina Concepcio 50.50 60 P **P** **20 02 42.0 +0.6**
comp=Z,274nm,2.7s,mb5.8
PBRG Braganca 50.50 54 *e*P **P** **20 02 41.9 +0.5**
comp=Z,27nm,0.4s,mb5.5
ECAL Calabor 50.51 54 P **P** **20 02 42.1 +0.6**
comp=Z,69nm,0.7s,mb5.7
M05C Lookout 50.54 305 ⇓P **P** **20 02 41.7 0.0**
baz=50,SNR=17
M05C ⇑S **S** **20 09 55.9 -0.1**
baz=50
EBG Ellensburg 50.56 312 P **P** **20 02 42.8 +0.9**
NLW Nelson Butte 50.56 314 P **P** **20 02 41.7 -0.2**
V03C Hunter Liggett 50.63 298 ⇓P **P** **20 02 42.8 +0.4**
baz=50
PACP Pacheco Peak 50.63 299 ⇑P **P** **20 02 43.1 +0.6**
baz=50,SNR=6.2
PACP ⇑S **S** **20 09 59.5 +2.2**
baz=50
S04C Ingram Canyon, 50.66 300 ⇑P **P** **20 02 42.8 +0.2**
baz=51
S04C ⇓S **S** **20 09 59.0 +1.4**
baz=51
Q04C Lincoln 50.68 302 ⇑P **P** **20 02 43.1 +0.4**
baz=51
Q04C ⇓S **S** **20 09 59.5 +1.6**
baz=51
J05A Fort Rock 50.70 307 ⇑P **P** **20 02 43.1 +0.2**
baz=51,SNR=30
J05A ⇓S **S** **20 09 58.5 +0.3**
baz=51
OHCM Honcut 50.76 302 *e*P **P** **20 02 43.2 -0.2**
HATC Hat Creek Radi 50.76 304 ⇑P **P** **20 02 43.6 +0.2**
baz=51,SNR=15
SAO San Andreas Ge 50.77 299 *e*P **P** **20 02 44.0 +0.5**
SAO pmax pmax
comp=Z,29nm,1.1s,mb5.1
SAO MLR MLR
comp=Z,3µm,22.0s,MS5.3
SAO San Andreas Ge 50.77 299 *e*P **P** **20 02 44.0 +0.6**
comp=Z,29nm,1.1s,mb5.1
SAO LR LR
comp=Z,3µm,22.0s,MS5.3
ORV Oroville 50.77 303 ⇓P **P** **20 02 43.5 0.0**
baz=51,SNR=11
ORV ⇓S **S** **20 09 59.5 +0.2**
baz=51
I05A Bend 50.78 309 ⇑P **P** **20 02 44.1 +0.5**
baz=51,SNR=7.7
I05A ⇓S **S** **20 09 59.4 +0.1**
baz=51
H05A Madras 50.79 309 ⇑P **P** **20 02 44.7 +1.1**
baz=51,SNR=10.0
H05A ⇓S **S** **20 10 00.2 +0.7**
baz=51
TWW Teanaway 50.80 312 P **P** **20 02 44.5 +0.8**
HAST UC Hastings Re 50.87 299 ⇓P **P** **20 02 44.0 -0.2**
baz=51,SNR=14
HAST ⇓S **S** **20 10 00.6 +0.1**
baz=51
G05A Wamic 50.91 310 ⇓P **P** **20 02 44.9 +0.4**
baz=51,SNR=8.9
G05A ⇑S **S** **20 10 03.2 +2.1**
baz=51
EPLA Plasencia 50.95 57 P **P**
EPLA pmax pmax
comp=Z,119nm,1.5s,mb5.6
EPLA Plasencia 50.95 57 P **P** **20 02 45.0 +0.2**
comp=Z,118nm,1.5s,mb5.6
WENL Wente Brothers 50.99 300 ⇓P **P** **20 02 44.8 -0.3**
baz=51
SUTB Sutter Butte 50.99 302 ⇓P **P** **20 02 45.2 0.0**
baz=51,SNR=17
SUTB ⇑S **S** **20 10 03.6 +1.3**
baz=51
K04A Chilquin 51.03 307 ⇓P **P** **20 02 45.7 +0.3**
baz=51,SNR=15
K04A ⇑S **S** **20 10 03.4 +0.7**
baz=51
SUMG Summit 51.04 10 *i*P **P** **20 02 45.2 -0.3**
comp=Z,111nm,1.0s,mb5.7
F05A White Salmon 51.06 311 ⇑P **P** **20 02 45.8 +0.1**
baz=51,SNR=21
F05A ⇑S **S** **20 10 05.7 +2.5**
baz=51
BDM Black Diamond 51.07 301 ⇓P **P** **20 02 45.8 0.0**
baz=51
M04C Macdoel 51.08 305 ⇑P **P** **20 02 45.8 +0.1**
baz=51,SNR=27
M04C ⇑S **S** **20 10 03.4 0.0**
baz=51
VBEM Beaver Butte 51.08 310 P **P** **20 02 47.4 +1.5**
L04A Klamath Falls 51.13 306 ⇓P **P** **20 02 45.9 -0.3**
baz=51,SNR=55
L04A ⇑S **S** **20 10 04.2 0.0**
baz=51
WIFE Three Sisters- 51.17 308 P **P** **20 02 48.8 +2.3**
ESPR Espera 51.17 61 P **P** **20 02 46.4 -0.2**
comp=Z,35nm,0.9s,mb5.3
Q03C Winters 51.18 301 ⇓P **P** **20 02 47.3 +0.7**
baz=51
Q03C ⇑S **S** **20 10 06.7 +1.9**
baz=51
O03C Acorn Hollow, 51.19 303 ⇓P **P** **20 02 45.5 -1.1**
baz=51
WPW White Pass 51.21 312 P **P** **20 02 47.5 +0.7**
TDH Tom, Dick, Har 51.24 310 P **P** **20 02 48.1 +1.1**
BNLO Ben Lomond (Sa 51.34 299 ⇑P **P** **20 02 46.5 -1.3**
baz=51
E05A Randle 51.34 312 ⇓P **P** **20 02 47.4 -0.4**
baz=51,SNR=22
E05A ⇓S **S** **20 10 05.0 -2.1**
baz=51
JRSC Jasper Ridge 51.38 300 ⇓P **P** **20 02 46.6 -1.5**
baz=51
JRSC ⇓S **S** **20 10 07.9 +0.3**
baz=51
LON Longmire 51.39 312 P **P** **20 02 49.1 +0.9**
C05A Tolt Reservoir 51.42 313 ⇑P **P** **20 02 46.9 -1.5**
baz=51
C05A ⇑S **S** **20 10 04.1 -4.0**
baz=51
H04A Detroit Lake 51.48 309 ⇑P **P** **20 02 48.7 -0.1**
baz=51,SNR=13
H04A ⇑S **S** **20 10 08.5 -0.5**
baz=51
IRO Indian Ridge 51.48 308 P **P** **20 02 49.6 +0.8**
EJIF Jimena Fronter 51.50 61 P **P** **20 02 50.7 +1.7**
EJIF pmax pmax
comp=Z,26nm,1.0s,mb5.1
EJIF Jimena Fronter 51.50 61 P **P** **20 02 50.7 +1.7**
comp=Z,26nm,1.0s,mb5.1
MNRC McLaughlin Nat 51.51 302 ⇑P **P** **20 02 49.7 +0.7**
baz=51,SNR=18
MNRC ⇓S **S** **20 10 10.3 +0.9**
baz=51
CVS Carmenet Viney 51.53 301 ⇓P **P** **20 02 48.4 -0.8**
baz=51
CVS ⇑S **S** **20 10 12.2 +2.5**
baz=51
YKA Yellowknife Ar 51.53 333 P **P** **20 02 46.9 -2.3**
comp=Z,16nm,0.8s,mb5.0,baz=105,slow=7.6,SNR=62
YKA LR LR 20 23 23.4
comp=Z,2µm,19.5s,MS5.1,baz=95,slow=35
D05A Enumclaw 51.56 312 ⇑P **P** **20 02 48.4 -1.0**
baz=52,SNR=6.0
D05A ⇓S **S** **20 10 08.0 -2.1**
baz=52
WDC Whiskeytown Da 51.58 304 *e*P **P** **20 02 47.8 -1.8**
WDC pmax pmax
comp=Z,18nm,0.8s,mb5.0
WDC Whiskeytown Da 51.58 304 *e*P **P** **20 02 47.8 -1.7**
comp=Z,18nm,0.8s,mb5.0
WDC Whiskeytown Da 51.58 304 ⇑P **P** **20 02 48.0 -1.6**
baz=52,SNR=16
WDC ⇑S **S** **20 10 07.9 -2.4**
baz=52
DCN Croghan 51.62 40 *e*P **P** **20 02 48.5 -1.3**
JCW Jim Creek 51.64 314 P **P** **20 02 48.3 -1.7**
NSHM Saint Helena R 51.64 301 *e*P **P** **20 02 49.8 -0.2**
SSOR Sweet Springs 51.69 309 P **P** **20 02 50.3 0.0**
EARI Arriondas 51.70 53 P **P** **20 02 49.2 -1.2**
comp=Z,174nm,2.1s,mb5.6
GASB Alder Springs 51.72 303 ⇑P **P** **20 02 49.6 -1.0**
baz=52
G04A Mulino 51.72 310 ⇑P **P** **20 02 50.0 -0.6**
baz=52
G04A ⇑S **S** **20 10 11.0 -1.3**
baz=52
YBH Yreka Blue Hor 51.73 305⇑ *e*P **P** **20 02 49.3 -1.3**
YBH pmax pmax
comp=Z,47nm,0.8s
YBH MLR MLR
comp=Z,2µm,22.0s
YBH Yreka Blue Hor 51.73 305⇑ *e*P **P** **20 02 49.3 -1.3**
comp=Z,47nm,0.8s,mb5.5
YBH LR LR
comp=Z,2µm,22.0s,MS5.2
YBH Yreka Blue Hor 51.73 305 ⇓P **P** **20 02 49.5 -1.1**
baz=52,SNR=45
YBH ⇑S **S** **20 10 10.1 -2.3**
baz=52
F04A Amboy 51.74 311 ⇑P **P** **20 02 49.7 -1.1**
baz=52,SNR=8.5
F04A ⇑S **S** **20 10 10.1 -2.5**
baz=52
B05A Bryant 51.76 314 ⇑P **P** **20 02 48.0 -2.9**
baz=52,SNR=18
B05A ⇓S **S** **20 10 07.7 -5.1**
baz=52
O02C Red Bluff 51.77 303 ⇑P **P** **20 02 50.9 0.0**
baz=52,SNR=6.5
M02C Callahan 51.83 305 ⇓P **P** **20 02 49.9 -1.5**
baz=52,SNR=21
M02C ⇑S **S** **20 10 12.6 -1.2**
baz=52
A05A Maple Falls 51.84 315 ⇓P **P** **20 02 49.5 -2.0**
baz=52
A05A ⇓S **S** **20 10 11.5 -2.5**
baz=52
HUMO Hull Mountain 51.93 306 *e*P **P** **20 02 51.2 -1.0**
comp=Z,50nm,0.8s,mb5.5
HUMO LR LR
comp=Z,2µm,21.0s,MS5.1
HUMO Hull Mountain 51.93 306 ⇑P **P** **20 02 50.6 -1.6**
baz=52,SNR=53
HUMO ⇓S **S** **20 10 13.7 -1.5**
baz=52
J03A Ideyld Park 51.97 307 ⇓P **P** **20 02 51.3 -1.2**
baz=52
J03A ⇓S **S** **20 10 13.9 -1.8**
baz=52
HOPS Hopland 52.00 302 *e*P **P** **20 02 54.3 +1.7**
comp=Z,62nm,1.0s,mb5.5
HOPS Hopland 52.00 302 ⇓P **P** **20 02 52.1 -0.6**
baz=52,SNR=8.0
HOPS ⇑S **S** **20 10 18.8 +2.7**
baz=52
E04A Onalaska 52.00 312 ⇓P **P** **20 02 51.7 -1.0**
baz=52,SNR=8.6
DLF Lyons Farm 52.05 40 *e*P **P** **20 02 52.4 -0.6**
EMIJ Mijas 52.06 61 P **P** **20 02 53.7 +0.6**
comp=Z,69nm,1.3s,mb5.4
EADA Adamuz 52.15 59 P **P** **20 02 54.2 +0.4**
comp=Z,406nm,3.2s
N02C Big Bar 52.16 304 ⇓P **P** **20 02 53.4 -0.5**
baz=52,SNR=13
N02C ⇑S **S** **20 10 16.8 -1.5**
baz=52
P01C Double 8 Ranch 52.20 302 ⇓S **S** **20 10 18.9 0.0**
baz=52
A04A Legoe Bay, Lum 52.21 314 ⇓S **S** **20 10 15.7 -3.4**
baz=52
I03A Eugene 52.22 308 ⇓P **P** **20 02 53.4 -0.9**
baz=52,SNR=24
H03A Soap Creek Ran 52.27 309 ⇑P **P** **20 02 54.1 -0.6**
baz=52,SNR=9.1
H03A ⇓S **S** **20 10 19.3 -0.5**
baz=52
COR Corvallis 52.27 309 *e*P **P** **20 02 51.2 -3.5**
COR pmax pmax
comp=Z,46nm,1.0s,mb5.4
COR MLR MLR
comp=Z,1µm,22.0s,MS4.8
COR Corvallis 52.27 309 *e*P **P** **20 02 51.2 -3.4**
comp=Z,46nm,1.0s,mb5.4
COR LR LR
comp=Z,1µm,22.0s,MS4.8
G03A Yamhill 52.30 310 ⇑P **P** **20 02 54.9 0.0**
baz=52,SNR=6.8
G03A ⇑S **S** **20 10 20.5 +0.3**
baz=52
KIPM Iron Peak 52.30 303 *e*P **P** **20 02 55.1 +0.1**
CCA1 Carnmenellis 52.32 44 *e*P **P** **20 02 55.3 +0.2**
CCA1 Carnmenellis 52.32 44 *e*P **P** **20 02 55.3 +0.2**
CGH1 Goonhilly 52.34 44 *e*P **P** **20 02 55.5 +0.2**
CGH1 Goonhilly 52.34 44 *e*P **P** **20 02 55.5 +0.2**
L02A Cave Junction 52.40 306 ⇓P **P** **20 02 55.8 +0.2**
baz=52,SNR=7.3
L02A ⇓S **S** **20 10 21.0 -0.6**
baz=52
J02A Umpqua 52.41 307 ⇓P **P** **20 02 56.0 +0.3**
baz=52,SNR=7.2
J02A ⇑S **S** **20 10 20.0 -1.7**
baz=52
ELUQ Luque 52.41 60 P **P** **20 02 56.0 +0.2**
ELUQ pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ELUQ Luque 52.41 60 P **P** **20 02 56.0 +0.2**
comp=Z,10nm,0.7s,mb4.9
GUD Guadarrama 52.43 56 P **P** **20 02 56.6 +0.7**
GUD pmax pmax
comp=Z,19nm,0.6s,mb5.2
GUD Guadarrama 52.43 56 P **P** **20 02 56.6 +0.7**
comp=Z,19nm,0.6s,mb5.2
MPOR Mary's Peak 52.44 309 P **P** **20 02 56.7 +0.8**
KHMM Horse Mountain 52.49 304 *e*P **P** **20 02 57.4 +1.1**
ELOJ Sierra Loja 52.52 60 P **P** **20 02 57.7 +1.1**
ELOJ pmax pmax
comp=Z,14nm,0.6s,mb5.1
ELOJ Sierra Loja 52.52 60 P **P** **20 02 57.7 +1.1**
comp=Z,14nm,0.6s,mb5.1
F03A Seaside 52.53 311 ⇑P **P** **20 02 56.3 -0.4**
baz=52,SNR=19
CSA1 St Austell 52.56 44 *e*P **P** **20 02 56.5 -0.3**
CSA1 St Austell 52.56 44 *e*P **P** **20 02 56.5 -0.3**
O01C Eel River Cons 52.56 303 ⇓P **P** **20 02 57.6 +0.8**
baz=52,SNR=7.8
O01C ⇑S **S** **20 10 25.0 +1.2**
baz=52
E03A Lebam 52.58 311 ⇑P **P** **20 02 55.9 -1.1**
baz=52,SNR=11
E03A ⇓S **S** **20 10 22.3 -1.8**
baz=52
ESDC Sonseca Array 52.59 57 P **P** **20 02 57.4 +0.3**
comp=Z,21nm,0.7s,mb5.2,baz=275,slow=7.8,SNR=163
ESDC LR LR 20 20 51.5
comp=Z,1µm,18.6s,MS4.9,baz=260,slow=31
ESLA Sonseca Array 52.59 57⇑ *i*P **P** **20 02 57.2 +0.2**
comp=Z,11nm,1.0s,mb4.8
I02A Mapleton 52.62 308 ⇑P **P** **20 02 56.9 -0.3**
baz=52,SNR=13
I02A ⇓S **S** **20 10 23.7 -1.0**
baz=52
KRMB Red Mountain 52.62 305 *e*P **P** **20 02 57.4 +0.1**
B04A Port Angeles 52.67 313 ⇓P **P** **20 02 56.3 -1.4**
baz=53,SNR=8.5
B04A ⇑S **S** **20 10 22.2 -3.1**
baz=53
JCC Jacoby Creek 52.71 304 ⇓P **P** **20 02 57.8 -0.2**
baz=53
JCC ⇑S **S** **20 10 26.2 +0.3**
baz=53
D03A Wishkah Elem. 52.77 312 ⇑P **P** **20 02 58.0 -0.4**
baz=53,SNR=6.5
D03A ⇑S **S** **20 10 26.5 -0.2**
baz=53
EBAN Banos Encina 52.77 59 P **P** **20 02 58.7 +0.3**
EBAN pmax pmax
comp=Z,35nm,1.2s,mb5.2
EBAN Banos Encina 52.77 59 P **P** **20 02 58.7 +0.3**
comp=Z,35nm,1.2s,mb5.2
H02A Toledo 52.77 309 ⇓P **P** **20 02 57.6 -0.8**
baz=53
OSD Olympics--Snow 52.78 313 P **P** **20 02 58.5 0.0**
M01C Crescent City 52.78 305 ⇑P **P** **20 02 58.1 -0.4**
baz=53
M01C ⇓S **S** **20 10 27.7 +0.9**
baz=53
STW Striped Peak 52.79 313 P **P** **20 02 58.2 -0.4**
ERON Agron 52.81 61 P **P** **20 02 59.7 +1.0**
comp=Z,5.1nm,0.5s,mb4.7
SCO Scorebysund 52.85 16 *i*P **P** **20 02 58.0 -1.0**
comp=Z,5.7nm,0.6s,mb4.7
SCO *i* 20 10 27.1
KBO Bosley Butte 52.86 306 *e*P **P** **20 02 59.5 +0.4**
KEBM Edson Butte 52.95 307⇑ *e*P **P** **20 03 00.1 +0.4**
ECOG Cogollos-Vega 52.98 60 P **P** **20 03 00.8 +0.8**
ECOG pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
ECOG Cogollos-Vega 52.98 60 P **P** **20 03 00.8 +0.8**
comp=Z,8.7nm,0.6s,mb4.9
ELAN Lanestosa 52.99 53 P **P** **20 03 00.6 +0.5**
comp=Z,30nm,0.7s,mb5.3
EGUA Guajares 53.01 61 P **P** **20 03 01.3 +1.1**
EGUA pmax pmax
comp=Z,3.0nm,1.2s
EGUA Guajares 53.01 61 P **P** **20 03 01.3 +1.2**
comp=Z,3.4nm,1.2s
K01A Sixes 53.05 307 ⇑P **P** **20 03 00.7 +0.3**
baz=53,SNR=16
OOW Octopus West 53.10 313 P **P** **20 03 01.7 +0.8**
KAR1 Arisaig 53.23 36⇑ *e*P **P** **20 03 00.9 -0.9**
KAR1 Arisaig 53.23 36⇑ *e*P **P** **20 03 00.9 -0.9**
EQES Quesada 53.35 60 P **P** **20 03 03.5 +0.8**
comp=Z,244nm,2.8s,mb5.6
C03A Quillayute Air 53.37 313 ⇓S **S** **20 10 36.2 +1.3**
baz=53
WME Myndd Eilian 53.38 40 *e*P **P** **20 03 01.9 -1.0**
WME AMb AMB 20 03 04.5
comp=Z,70nm,1.9s,mb5.3
WME Myndd Eilian 53.38 40 *e*P **P** **20 03 01.9 -1.0**
WME AMb AMB 20 03 04.5
comp=Z,70nm,1.9s,mb5.3
ROSF Rostrenen 53.38 46 *e*P **P** **20 03 02.1 -0.8**
comp=Z,108nm,1.0s,mb5.4
ROSF Rostrenen 53.38 46 *e*P **P** **20 03 02.1 -0.8**
ROSF pmax pmax
comp=Z,54nm,1.0s,mb5.4
ROSF Rostrenen 53.38 46 *e*P **P** **20 03 02.1 -0.8**
comp=Z,54nm,1.0s,mb5.4
KPL Plockton 53.42 35⇑ *e*P **P** **20 03 01.9 -1.4**
KPL Plockton 53.42 35⇑ *e*P **P** **20 03 01.9 -1.4**

QUIF Quistinic 53.42 47 *e*P **P 20 03 02.9 -0.3**
comp=Z,184nm,1.2s,mb5.6
QUIF Quistinic 53.42 47 *e*P **P 20 03 02.9 -0.3**
QUIF pmax pmax
comp=Z,92nm,1.2s,mb5.6
QUIF Quistinic 53.42 47 *e*P **P 20 03 02.9 -0.3**
comp=Z,92nm,1.2s,mb5.6
EALB Alboran 53.50 62 P **P 20 03 04.3 +0.5**
comp=Z,253nm,2.2s,mb5.8
EBER Berja 53.55 61 P **P 20 03 05.5 +1.3**
comp=Z,17nm,0.5s,mb5.2
PMSU Muirshiel 53.58 37 *e*P **P 20 03 03.6 -0.8**
PMSU Muirshiel 53.58 37 *e*P **P 20 03 03.6 -0.8**
WPM1 Penmaenmawr 53.59 40 *e*P **P 20 03 04.0 -0.5**
WPM1 Penmaenmawr 53.59 40 *e*P **P 20 03 04.0 -0.5**
KAC Achnashellach 53.65 35 *e*P **P 20 03 03.8 -1.1**
KAC Achnashellach 53.65 35 *e*P **P 20 03 03.8 -1.1**
RES Resolute Bay 53.67 350⇑*e*P **P 20 03 00.4 -4.6**
RES pmax pmax
comp=Z,50nm,1.4s,mb5.2
RES Resolute Bay 53.67 350⇑*e*P **P 20 03 00.4 -4.7**
comp=Z,50nm,1.4s,mb5.2
EHUE Huescar 53.73 60 P **P 20 03 06.3 +0.8**
EHUE pmax pmax
comp=Z,19nm,1.0s,mb5.0
EHUE Huescar 53.73 60 P **P 20 03 06.3 +0.8**
comp=Z,19nm,1.0s,mb5.0
POB1 Observatory 53.76 37 *e*P **P 20 03 04.4 -1.2**
POB1 Observatory 53.76 37 *e*P **P 20 03 04.4 -1.2**
EVIA Vianos 53.76 58 P **P 20 03 06.3 +0.6**
EVIA pmax pmax
comp=Z,23nm,0.7s,mb5.2
EVIA Vianos 53.76 58 P **P 20 03 06.2 +0.6**
comp=Z,23nm,0.7s,mb5.2
HTR Trewern Hill 53.80 42 *e*P **P 20 03 05.3 -0.6**
HTR AMb AMB 20 03 08.0
comp=Z,71nm,2.1s,mb5.2
HTR Trewern Hill 53.80 42 *e*P **P 20 03 05.3 -0.6**
HTR AMb AMB 20 03 08.0
comp=Z,71nm,2.1s,mb5.2
SGMF Saint Gilles 53.85 47 *e*P **P 20 03 05.9 -0.5**
comp=Z,59nm,1.0s,mb5.2
SGMF Saint Gilles 53.85 47 *e*P **P 20 03 05.9 -0.5**
SGMF pmax pmax
comp=Z,30nm,1.0s,mb5.2
SGMF Saint Gilles 53.85 47 *e*P **P 20 03 05.9 -0.5**
comp=Z,30nm,1.0s,mb5.2
EAB Aberfoyle 53.87 37⇑*e*P **P 20 03 05.7 -0.9**
EAB Aberfoyle 53.87 37⇑*e*P **P 20 03 05.7 -0.9**
SBD1 Bryn Du 53.92 41 *e*P **P 20 03 06.3 -0.5**
SBD1 Bryn Du 53.92 41 *e*P **P 20 03 06.3 -0.5**
MCH1 Michaelchurch 53.96 42 *e*P **P 20 03 06.4 -0.7**
MCH1 Michaelchurch 53.96 42 *e*P **P 20 03 06.4 -0.7**
HGH Gray Hill 54.03 42 *e*P **P 20 03 07.3 -0.4**
HGH Gray Hill 54.03 42 *e*P **P 20 03 07.3 -0.4**
XDE Dent Fell 54.04 39⇑*e*P **P 20 03 07.6 -0.2**
XDE AMb AMB 20 03 08.8
comp=Z,139nm,1.9s,mb5.6
XDE Dent Fell 54.04 39⇑*e*P **P 20 03 07.6 -0.2**
XDE AMb AMB 20 03 08.8
comp=Z,139nm,1.9s,mb5.6
BWH Wardlaw 54.06 38⇑*e*P **P 20 03 07.4 -0.5**
BWH Wardlaw 54.06 38⇑*e*P **P 20 03 07.4 -0.5**
ENIJ Nijar 54.09 61 P **P 20 03 09.3 +1.2**
ENIJ pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
ENIJ Nijar 54.09 61 P **P 20 03 09.3 +1.2**
comp=Z,8.5nm,0.5s,mb4.9
HLM1 Long Mynd 54.10 41⇑*e*P **P 20 03 07.5 -0.6**
HLM1 AMb AMB 20 03 09.2
comp=Z,85nm,1.9s,mb5.3
HLM1 Long Mynd 54.10 41⇑*e*P **P 20 03 07.5 -0.6**
HLM1 AMb AMB 20 03 09.2
comp=Z,85nm,1.9s,mb5.3
CDU1 Dunnerdale 54.18 39 *e*P **P 20 03 08.5 -0.3**
CDU1 Dunnerdale 54.18 39 *e*P **P 20 03 08.5 -0.3**
BBO1 Bothel 54.22 39 *e*P **P 20 03 07.9 -1.1**
BBO1 AMb AMB 20 03 09.4
comp=Z,58nm,1.9s,mb5.2
BBO1 Bothel 54.22 39 *e*P **P 20 03 07.9 -1.1**
BBO1 AMb AMB 20 03 09.4
comp=Z,58nm,1.9s,mb5.2
CKE Keswick 54.27 39 *e*P **P 20 03 09.0 -0.4**
CKE Keswick 54.27 39 *e*P **P 20 03 09.0 -0.4**
BHH Howats Hill 54.29 38 *e*P **P 20 03 08.8 -0.8**
BHH Howats Hill 54.29 38 *e*P **P 20 03 08.8 -0.8**
EAU Auchinoon 54.30 37 *e*P **P 20 03 09.1 -0.5**
EAU Auchinoon 54.30 37 *e*P **P 20 03 09.1 -0.5**
MVH1 Achvaich 54.33 35 *e*P **P 20 03 07.7 -2.1**
MVH1 Achvaich 54.33 35 *e*P **P 20 03 07.7 -2.1**
ESK Eskdalemuir 54.34 38 P **P 20 03 09.9 0.0**
comp=Z,168nm,1.1s,mb5.9,SNR=11
ESK Eskdalemuir 54.34 38 *e*P **P 20 03 09.1 -0.9**
ESK Eskdalemuir 54.34 38 *e*P **P 20 03 09.1 -0.9**
ESK Eskdalemuir 54.34 38 *e*P **P 20 03 08.6 -1.3**
ESK pmax pmax
comp=Z,23nm,0.8s,mb5.2
ESK MLR MLR
comp=Z,662nm,22.0s,MS4.7
ESK Eskdalemuir 54.34 38 *e*P **P 20 03 08.6 -1.3**
comp=Z,23nm,0.8s,mb5.2
ESK LR LR
comp=Z,662nm,22.0s,MS4.7
ELIZ Elizondo 54.38 53 P **P 20 03 10.5 +0.3**
ELIZ pmax pmax
comp=Z,19nm,1.0s,mb5.0
ELIZ Elizondo 54.38 53 P **P 20 03 10.5 +0.2**
comp=Z,18nm,1.0s,mb5.0
EALK Alkurruntz 54.40 53 P **P 20 03 10.7 +0.3**
comp=Z,60nm,0.7s,mb5.6
EDI Edinburgh 54.46 37 *e*P **P 20 03 10.4 -0.4**
EDI Edinburgh 54.46 37 *e*P **P 20 03 10.4 -0.4**
ETOB Tobarra 54.50 58 P **P 20 03 12.1 +0.9**
comp=Z,19nm,0.8s,mb5.2
EBL Broad Law 54.51 37 *e*P **P 20 03 10.4 -0.7**
EBL Broad Law 54.51 37 *e*P **P 20 03 10.4 -0.7**
OSSF Osses 54.58 53⇑*e*P **P 20 03 11.9 +0.2**
SSW Stow on the Wo 54.66 42⇑*e*P **P 20 03 11.7 -0.5**
SSW Stow on the Wo 54.66 42⇑*e*P **P 20 03 11.7 -0.5**
ORE Reay 54.68 34 *e*P **P 20 03 11.4 -0.9**
ORE Reay 54.68 34 *e*P **P 20 03 11.4 -0.9**
MCD Coleburn Disti 54.74 35⇑*e*P **P 20 03 11.7 -1.1**
MCD Coleburn Disti 54.74 35⇑*e*P **P 20 03 11.7 -1.1**
ESY Stoneypath 54.77 37 *e*P **P 20 03 12.1 -1.0**
ESY Stoneypath 54.77 37 *e*P **P 20 03 12.1 -1.0**
LARF Larrau 54.78 53⇑*e*P **P 20 03 14.2 +1.1**
EMUR La Murta 54.79 59 P **P 20 03 14.0 +0.7**
comp=Z,21nm,0.8s,mb5.2
MME1 Meikle Cairn 54.84 35⇑*e*P **P 20 03 11.8 -1.7**
MME1 Meikle Cairn 54.84 35⇑*e*P **P 20 03 11.8 -1.7**
LHO Holmfirth 54.85 40⇑*e*P **P 20 03 12.9 -0.7**
LHO Holmfirth 54.85 40⇑*e*P **P 20 03 12.9 -0.7**
ECHE Chera 54.90 57 P **P 20 03 15.0 +1.0**
ECHE pmax pmax
comp=Z,16nm,0.7s,mb5.2
ECHE Chera 54.90 57 P **P 20 03 15.0 +1.0**
comp=Z,16nm,0.7s,mb5.2
ATE Arette 54.99 53⇑*e*P **P 20 03 14.9 +0.2**
GRR Gorron 54.99 47 *e*P **P 20 03 14.6 -0.1**
comp=Z,73nm,0.8s,mb5.5
GRR Gorron 54.99 47 *e*P **P 20 03 14.6 -0.1**
GRR pmax pmax
comp=Z,37nm,0.8s,mb5.5
GRR Gorron 54.99 47 *e*P **P 20 03 14.6 -0.1**
comp=Z,37nm,0.8s,mb5.5
LCHF La Chataignera 55.00 49⇑*e*P **P 20 03 15.6 +0.9**
CART Cartagena 55.00 60 *e*P **P 20 03 13.9 -0.9**
comp=Z,26nm,1.1s,mb5.2
ETSF Etsaut 55.10 53 *e*P **P 20 03 14.8 -0.6**
comp=Z,28nm,0.6s,mb5.2
ETSF Etsaut 55.10 53 *e*P **P 20 03 14.8 -0.6**
ETSF pmax pmax
comp=Z,14nm,0.6s,mb5.2
ETSF Etsaut 55.10 53 *e*P **P 20 03 14.8 -0.6**
comp=Z,14nm,0.6s,mb5.2
REYF Montagne du Re 55.22 53⇑*e*P **P 20 03 17.0 +0.7**
EMOS Mosqueruela 55.24 56 P **P 20 03 17.7 +1.3**
comp=Z,29nm,0.7s,mb5.4
FLN La Foliniere 55.26 46 *e*P **P 20 03 16.7 +0.1**
comp=Z,78nm,0.9s,mb5.5
FLN eR
comp=Z,937nm,22.8s
FLN La Foliniere 55.26 46 *e*P **P 20 03 16.7 +0.1**
FLN pmax pmax
comp=Z,39nm,0.9s,mb5.4
FLN MLR MLR
comp=Z,940nm,22.8s,MS4.8
FLN La Foliniere 55.26 46 *e*P **P 20 03 16.7 +0.1**
comp=Z,39nm,0.9s,mb5.4
FLN LR LR
comp=Z,940nm,22.8s,MS4.8
MFF Saint Martin d 55.41 49 *e*P **P 20 03 18.4 +0.7**
comp=Z,117nm,0.8s,mb5.7
MFF Saint Martin d 55.41 49 *e*P **P 20 03 18.4 +0.7**
MFF pmax pmax
comp=Z,58nm,0.8s,mb5.7
MFF Saint Martin d 55.41 49 *e*P **P 20 03 18.4 +0.7**
comp=Z,58nm,0.8s,mb5.7
LDF La Druitiere 55.49 46 *e*P **P 20 03 18.2 -0.1**
comp=Z,71nm,0.7s,mb5.5
LDF La Druitiere 55.49 46 *e*P **P 20 03 18.2 -0.1**
LDF pmax pmax
comp=Z,36nm,0.7s,mb5.5
LDF La Druitiere 55.49 46 *e*P **P 20 03 18.2 -0.1**
comp=Z,36nm,0.7s,mb5.5
VIEF Viey 55.53 53⇑*e*P **P 20 03 19.3 +0.8**
EBEN Beniarda 55.53 58 P **P 20 03 19.9 +1.3**
comp=Z,24nm,0.9s,mb5.2
EBIE Bielsa 55.62 53 P **P 20 03 20.1 +0.9**
comp=Z,28nm,0.7s,mb5.4
EPF Esparros 55.75 53 *e*P **P 20 03 20.5 +0.3**
comp=Z,180nm,1.2s,mb5.7
EPF Esparros 55.75 53 *e*P **P 20 03 20.5 +0.3**
EPF pmax pmax
comp=Z,90nm,1.2s,mb5.7
EPF Esparros 55.75 53 *e*P **P 20 03 20.5 +0.3**
comp=Z,90nm,1.2s,mb5.7
RESF Ens 55.76 53⇑*e*P **P 20 03 21.1 +0.9**
ERTA Horta de San J 55.83 56 P **P 20 03 21.6 +0.9**
comp=Z,34nm,0.4s,mb5.7
BBB Bella Bella 56.00 318 P **P 20 03 22.0 +0.1**
comp=Z,55nm,0.9s,mb5.6,baz=98,slow=7.3,SNR=16
LFF La Frestale 56.01 51 *e*P **P 20 03 21.6 -0.4**
comp=Z,197nm,1.1s,mb5.8
LFF La Frestale 56.01 51 *e*P **P 20 03 21.6 -0.4**
LFF pmax pmax
comp=Z,98nm,1.1s,mb5.8
LFF La Frestale 56.01 51 *e*P **P 20 03 21.6 -0.4**
comp=Z,98nm,1.1s,mb5.8
MELF Melles 56.07 53 *e*P **P 20 03 23.6 +1.2**
WAL1 Walls 56.12 32⇑*e*P **P 20 03 21.6 -1.1**
WAL1 Walls 56.12 32⇑*e*P **P 20 03 21.6 -1.1**
MLS Moulis 56.31 53⇑*e*P **P 20 03 24.5 +0.4**
MDZ Mendoza 56.34 185 *e*P **P 20 03 24.7 +0.4**
EPOB Poblet 56.37 55 P **P 20 03 25.0 +0.5**
comp=Z,21nm,0.6s,mb5.3
SALF Salau 56.39 53⇑*e*P **P 20 03 25.5 +0.8**
RJF Les Rejaudoux 56.56 50 *e*P **P 20 03 25.6 -0.3**
comp=Z,89nm,0.7s,mb5.6
RJF eR
comp=Z,571nm,17.2s
RJF Les Rejaudoux 56.56 50 *e*P **P 20 03 25.6 -0.3**
RJF pmax pmax
comp=Z,45nm,0.7s,mb5.6
RJF MLR MLR
comp=Z,570nm,17.3s,MS4.7
RJF Les Rejaudoux 56.56 50 *e*P **P 20 03 25.6 -0.3**
comp=Z,45nm,0.7s,mb5.6
RJF LR LR
comp=Z,570nm,17.3s,MS4.7
EIBI Ibiza 56.73 58 P **P 20 03 27.9 +0.8**
comp=Z,31nm,0.8s,mb5.4
EANR 'Ain N'Sour 56.84 61 P **P 20 03 29.0 +1.1**
JMIC Jan Mayen 56.87 19 *e*P **P 20 03 28.1 0.0**
JMIC *e*S **S 20 11 22.3 +0.5**
JMIC AMS AMS 20 23 45.0
comp=Z,714nm,25.2s,MS4.7
CAF Calviac 56.95 51 *e*P **P 20 03 28.9 +0.2**
comp=Z,124nm,0.9s,mb5.7
CAF Calviac 56.95 51 *e*P **P 20 03 28.9 +0.2**
CAF pmax pmax
comp=Z,62nm,0.9s,mb5.6
CAF Calviac 56.95 51 *e*P **P 20 03 28.9 +0.2**
comp=Z,62nm,0.9s,mb5.6
VALF Valcebollere 57.01 54⇑*e*P **P 20 03 30.1 +1.0**
ECHA Ech Chlef 57.03 61 P **P 20 03 29.5 +0.3**
TCF Toulx Ste Croi 57.03 49 *e*P **P 20 03 29.2 -0.1**
comp=Z,109nm,0.7s,mb5.7
TCF Toulx Ste Croi 57.03 49 *e*P **P 20 03 29.2 -0.1**
TCF pmax pmax
comp=Z,55nm,0.7s,mb5.7
TCF Toulx Ste Croi 57.03 49 *e*P **P 20 03 29.2 -0.1**
comp=Z,54nm,0.7s,mb5.7
ETRT Tiaret 57.07 62 P **P 20 03 31.0 +1.5**
MTLF Montolieu 57.12 53 *e*P **P 20 03 29.8 -0.1**
comp=Z,104nm,0.9s,mb5.6
MTLF Montolieu 57.12 53 *e*P **P 20 03 29.8 -0.1**
MTLF pmax pmax
comp=Z,52nm,0.9s,mb5.6
MTLF Montolieu 57.12 53 *e*P **P 20 03 29.8 -0.1**
comp=Z,52nm,0.9s,mb5.6
EBNR Beni Rached 57.15 61 P **P 20 03 32.0 +1.9**
VERF Verneugheol 57.23 50⇑*e*P **P 20 03 30.8 +0.1**
FRNF Fournols 57.30 50⇑*e*P **P 20 03 31.4 +0.3**
HYF Humbligny 57.32 48 *e*P **P 20 03 30.7 -0.6**
FILF Fillols 57.41 54⇑*e*P **P 20 03 31.7 -0.2**
BGF Bois d'Agland 57.47 49 *e*P **P 20 03 31.9 -0.5**
comp=Z,50nm,0.6s,mb5.4
BGF Bois d'Agland 57.47 49 *e*P **P 20 03 31.9 -0.5**
BGF pmax pmax
comp=Z,25nm,0.6s,mb5.4
BGF Bois d'Agland 57.47 49 *e*P **P 20 03 31.9 -0.5**
comp=Z,25nm,0.6s,mb5.4
PYM Petit Puy Mans 57.60 50 *e*P **P 20 03 33.6 +0.3**
DAG Danmarks Havn 57.60 11⇓*i*P **P 20 03 32.3 -1.0**
comp=Z,19nm,0.8s,mb5.2
DAG
comp=Z,2µm,20.0s
DAG Danmarks Havn 57.60 11⇓*i*P **P 20 03 32.3 -1.0**
DAG pmax pmax
comp=Z,19nm,0.8s,mb5.2
DAG MLR MLR
comp=Z,2µm,20.0s,MS5.2
SJAF Saint Jean de 57.65 54⇑*e*P **P 20 03 34.2 +0.6**
AGO Saint Agoulin 57.68 49 *e*P **P 20 03 34.5 +0.7**
DLBC Dease Lake 57.75 325 P **P 20 03 34.8 +0.4**
comp=Z,42nm,0.9s,mb5.5,baz=94,slow=6.0,SNR=80
DLBC Dease Lake 57.75 325⇑*i*P **P 20 03 34.8 +0.5**
LBL Lubilhac 57.78 50 *e*P **P 20 03 35.2 +0.6**
ETOS Mallorca 57.80 57 P **P 20 03 36.5 +1.8**
comp=Z,19nm,0.7s,mb5.2
AVF Avril sur Loir 57.81 48 *e*P **P 20 03 34.3 -0.5**
comp=Z,76nm,0.8s,mb5.5
AVF Avril sur Loir 57.81 48 *e*P **P 20 03 34.3 -0.5**
AVF pmax pmax
comp=Z,38nm,0.8s,mb5.5
AVF Avril sur Loir 57.81 48 *e*P **P 20 03 34.3 -0.5**
comp=Z,38nm,0.8s,mb5.5
SSF Saint Saulge 57.91 48 *e*P **P 20 03 35.1 -0.4**
comp=Z,38nm,0.5s,mb5.4
SSF Saint Saulge 57.91 48 *e*P **P 20 03 35.1 -0.4**
SSF pmax pmax
comp=Z,19nm,0.5s,mb5.4
SSF Saint Saulge 57.91 48 *e*P **P 20 03 35.1 -0.4**
comp=Z,19nm,0.5s,mb5.4
PLDF La Plantade 58.02 49⇑*e*P **P 20 03 36.4 +0.2**
COLF Collangettes 58.09 50⇑*e*P **P 20 03 37.0 +0.3**
LOR Lormes 58.15 48 *e*P **P 20 03 36.7 -0.4**
comp=Z,60nm,0.8s,mb5.4
LOR eR
comp=Z,885nm,21.2s
LOR Lormes 58.15 48 *e*P **P 20 03 36.7 -0.4**
LOR pmax pmax
comp=Z,30nm,0.8s,mb5.4
LOR MLR MLR
comp=Z,890nm,21.3s,MS4.8
LOR Lormes 58.15 48 *e*P **P 20 03 36.7 -0.4**
comp=Z,30nm,0.8s,mb5.4
LOR LR LR
comp=Z,890nm,21.3s,MS4.8
SMF Signal de Mont 58.15 49 *e*P **P 20 03 36.9 -0.3**
comp=Z,105nm,0.8s,mb5.6
SMF Signal de Mont 58.15 49 *e*P **P 20 03 36.9 -0.3**
SMF pmax pmax
comp=Z,52nm,0.8s,mb5.6
SMF Signal de Mont 58.15 49 *e*P **P 20 03 36.9 -0.3**
comp=Z,52nm,0.8s,mb5.6
LASF Ste Croix 58.27 52 *e*P **P 20 03 38.0 0.0**
comp=Z,156nm,1.2s,mb5.6
ABA Alger-Bouzarea 58.29 60 P **P 20 03 40.0 +1.9**
EMHD Djebel Mahouad 58.30 61 P **P 20 03 39.0 +0.8**
BAIF Baives 58.37 45 *e*P **P 20 03 38.1 -0.5**
comp=Z,140nm,1.3s,mb5.5
BAIF Baives 58.37 45 *e*P **P 20 03 38.1 -0.5**
BAIF pmax pmax
comp=Z,70nm,1.3s,mb5.5
BAIF Baives 58.37 45 *e*P **P 20 03 38.1 -0.5**
comp=Z,70nm,1.3s,mb5.5
SNF Seneffe 58.42 44 P **P 20 03 38.5 -0.5**
UCC Uccle 58.47 44 P **P 20 03 38.7 -0.7**
DOU Dourbes 58.61 45 P **P 20 03 40.1 -0.3**
DOU E 20 03 51.2
GIVF Givet 58.76 45 *e*P **P 20 03 41.0 -0.4**
comp=Z,70nm,0.8s,mb5.4
GIVF Givet 58.76 45 *e*P **P 20 03 41.0 -0.4**
GIVF pmax pmax
comp=Z,35nm,0.8s,mb5.4
GIVF Givet 58.76 45 *e*P **P 20 03 41.0 -0.4**
comp=Z,35nm,0.8s,mb5.4
VIVF Saint-Julien-l 58.81 51 *e*P **P 20 03 42.4 +0.7**
comp=Z,184nm,1.2s,mb5.7
VIVF Saint-Julien-l 58.81 51 *e*P **P 20 03 42.4 +0.7**
VIVF pmax pmax
comp=Z,92nm,1.2s,mb5.7
VIVF Saint-Julien-l 58.81 51 *e*P **P 20 03 42.4 +0.7**
comp=Z,92nm,1.2s,mb5.7
MEZF Maizieres J'vi 58.93 46 *e*P **P 20 03 42.7 +0.1**
comp=Z,345nm,0.8s,mb6.1
MEZF Maizieres J'vi 58.93 46 *e*P **P 20 03 42.7 +0.1**
comp=Z,345nm,0.8s,mb6.4
ALE Alert 59.02 0 P **P 20 03 41.0 -2.2**
comp=Z,658nm,1.0s,SNR=85
DBIC Dimbokro 59.03 97 P **P 20 03 43.8 +0.5**
comp=Z,30nm,0.5s,mb5.6,baz=279,slow=6.0,SNR=73
DBIC LR LR 20 24 03.8
comp=Z,3µm,21.3s,MS5.3,baz=269,slow=31
DBIC Dimbokro 59.03 97 P **P 20 03 43.8 +0.5**
DBIC pmax pmax
comp=Z,30nm,0.5s
DBIC MLR MLR
comp=Z,3µm,21.3s
DBIC Dimbokro 59.03 97 *e*P **P 20 03 43.2 0.0**
comp=Z,33nm,0.5s,mb5.6
DBIC LR LR
comp=Z,3µm,21.0s,MS5.3
LIC Lamto 59.05 97 *e*P **P 20 03 41.8 -1.6**
comp=Z,68nm,0.9s,mb5.4
LIC eR
comp=Z,534nm,21.8s
LIC Lamto 59.05 97 *e*P **P 20 03 41.8 -1.6**
comp=Z,34nm,0.9s,mb5.4
LIC LR LR
comp=Z,270nm,21.8s,MS4.3
BCLA Clavier 59.07 44 P **P 20 03 43.1 -0.4**
CRAG Craig 59.18 322 *e*P **P 20 03 44.3 -0.1**
PRAF Pradon 59.23 52⇑*e*P **P 20 03 46.2 +1.5**
OG05 Jujurieux 59.30 49⇑*e*P **P 20 03 44.9 -0.2**
BEBN Eben Emael 59.30 44 P **P 20 03 44.9 -0.3**
TREF Trevaresse 59.40 52⇑*e*P **P 20 03 47.5 +1.7**
GELF Grande-Etoile 59.45 52⇑*e*P **P 20 03 47.5 +1.3**
HGN Heimansgroeve 59.47 44⇑*e*P **P 20 03 45.7 -0.6**
comp=Z,42nm,1.1s,mb5.4
HGN *e*S **S 20 12 01.8 +6.1**
SMRF Simiane la Rot 59.51 52 *e*P **P 20 03 47.4 +0.8**
MEM Membach 59.52 44 P **P 20 03 46.5 -0.2**
BER Bergen 59.56 33 *e*P **P 20 03 46.4 -0.5**
BER *e*S **S 20 11 50.8 -6.0**
THEF They Montfort 59.56 47⇑*e*P **P 20 03 46.9 0.0**
VILF Villemus 59.62 52⇑*e*P **P 20 03 48.5 +1.1**
WLF Walferdange 59.63 45 *e*P **P 20 03 47.5 +0.1**
comp=Z,68nm,0.8s,mb5.7
WLF Walferdange 59.63 45 P **P 20 03 47.5 +0.1**
WLF Walferdange 59.63 45 *e*P **P 20 03 47.2 -0.2**
WLF pmax pmax
comp=Z,57nm,0.8s,mb5.7
WLF Walferdange 59.63 45 *e*P **P 20 03 47.2 -0.2**
comp=Z,57nm,0.8s,mb5.7
PUYF Puyloubier 59.64 52⇑*e*P **P 20 03 48.5 +1.0**
ORIF Oris-en-Rattie 59.66 51 *e*P **P 20 03 47.4 -0.2**
comp=Z,77nm,1.3s,mb5.3
ORIF eR
comp=Z,525nm,19.2s
ORIF Oris-en-Rattie 59.66 51 *e*P **P 20 03 47.4 -0.2**
ORIF pmax pmax
comp=Z,39nm,1.3s,mb5.3
ORIF Oris-en-Rattie 59.66 51 *e*P **P 20 03 47.4 -0.2**
comp=Z,38nm,1.3s,mb5.3
CABF La Chapelle 59.70 49 *e*P **P 20 03 48.0 +0.1**
comp=Z,63nm,0.6s,mb5.5
CABF La Chapelle 59.70 49 *e*P **P 20 03 48.0 +0.1**
CABF pmax pmax
comp=Z,32nm,0.6s,mb5.5
CABF La Chapelle 59.70 49 *e*P **P 20 03 48.0 +0.1**
comp=Z,32nm,0.6s,mb5.5
STOF St-Etienne Org 59.75 52⇑*e*P **P 20 03 49.0 +0.8**
HAU Haudompre 59.81 47 *e*P **P 20 03 48.4 -0.3**
comp=Z,106nm,0.8s,mb5.6
HAU eR
comp=Z,1µm,20.8s
HAU Haudompre 59.81 47 *e*P **P 20 03 48.4 -0.3**
HAU pmax pmax
comp=Z,53nm,0.8s,mb5.6
HAU MLR MLR
comp=Z,1µm,20.8s,MS4.9
HAU Haudompre 59.81 47 *e*P **P 20 03 48.4 -0.3**
comp=Z,53nm,0.8s,mb5.6
HAU LR LR
comp=Z,1µm,20.8s,MS4.9
OG25 Le Caire 59.84 51⇑*e*P **P 20 03 44.9 -4.0**
TAVF Tavernes 59.89 52⇑*e*P **P 20 03 50.3 +1.1**
BRANT Les Verrieres 59.95 48⇑*i*P **P 20 03 49.7 +0.1**
comp=Z,58nm,0.9s,mb5.6
WTSB Winterswijk 60.00 42⇑*e*P **P 20 03 49.8 -0.1**
comp=Z,110nm,0.9s,mb5.9
BLS5 Blasjo 60.04 34⇑*i*P **P 20 03 50.5 +0.2**
BLS5 AMb AMB 20 03 52.9
comp=Z,58nm,1.7s,mb5.3
BLS5 Blasjo 60.04 34⇑*i*P **P 20 03 50.5 +0.2**
comp=Z,58nm,1.7s,mb5.3
OG01 Vacheresse 60.13 49⇑*e*P **P 20 03 51.0 +0.1**
RSL Roselend 60.13 50⇑*e*P **P 20 03 51.1 +0.2**
HINF Hinteralfeld 60.16 47 *e*P **P 20 03 50.5 -0.6**
comp=Z,37nm,0.6s,mb5.3
HINF Hinteralfeld 60.16 47 *e*P **P 20 03 50.5 -0.6**
HINF pmax pmax
comp=Z,19nm,0.6s,mb5.3
HINF Hinteralfeld 60.16 47 *e*P **P 20 03 50.5 -0.6**
comp=Z,18nm,0.6s,mb5.3
LOMF Lomont 60.17 48⇑*e*P **P 20 03 50.8 -0.3**
RUP Ruppelstein 60.21 45⇑*e*P **P 20 03 51.9 +0.5**
LPL La Plagne 60.22 50 *e*P **P 20 03 52.0 +0.5**
comp=Z,74nm,1.0s,mb5.4
LPL La Plagne 60.22 50 *e*P **P 20 03 52.0 +0.5**
LPL pmax pmax
comp=Z,37nm,1.0s,mb5.4
LPL La Plagne 60.22 50 *e*P **P 20 03 52.0 +0.5**
comp=Z,37nm,1.0s,mb5.4
LPG La Plagne 60.23 50 *e*P **P 20 03 52.1 +0.5**
comp=Z,81nm,1.1s,mb5.4
LPG La Plagne 60.23 50 *e*P **P 20 03 52.1 +0.5**
LPG pmax pmax
comp=Z,41nm,1.1s,mb5.4
LPG La Plagne 60.23 50 *e*P **P 20 03 52.1 +0.5**
comp=Z,41nm,1.1s,mb5.4
LMR La Mourre 60.24 52 *e*P **P 20 03 51.0 -0.6**
comp=Z,60nm,1.1s,mb5.2
LMR La Mourre 60.24 52 *e*P **P 20 03 51.0 -0.6**
LMR pmax pmax
comp=Z,30nm,1.1s,mb5.2
LMR La Mourre 60.24 52 *e*P **P 20 03 51.0 -0.6**
comp=Z,30nm,1.1s,mb5.2
BUG Bochum--Univer 60.30 43 *e*P **P 20 03 51.6 -0.4**
comp=Z,76nm,1.2s,mb5.6
MBDF Montbardon 60.31 51 *e*P **P 20 03 51.7 -0.4**
comp=Z,49nm,0.8s,mb5.3
MBDF Montbardon 60.31 51 *e*P **P 20 03 51.7 -0.4**
MBDF pmax pmax
comp=Z,24nm,0.8s,mb5.3
MBDF Montbardon 60.31 51 *e*P **P 20 03 51.7 -0.4**
comp=Z,24nm,0.8s,mb5.3
AIGLE Aigle 60.32 49⇑*i*P **P 20 03 52.1 0.0**
comp=Z,128nm,2.8s,mb5.5
FRF La Foret Royal 60.32 52 *e*P **P 20 03 52.2 0.0**
comp=Z,72nm,1.0s,mb5.3
FRF La Foret Royal 60.32 52 *e*P **P 20 03 52.2 0.0**
FRF pmax pmax

comp=Z,36nm,1.0s,mb5.4
FRF La Foret Royal 60.32 52 *e*P **P 20 03 52.2 0.0**
comp=Z,36nm,1.0s,mb5.3
SALAN Lac Salanfe 60.34 49⇑*i*P **P 20 03 52.5 +0.2**
comp=Z,78nm,1.8s,mb5.4
ECH Echery 60.34 47⇑*e*P **P 20 03 52.1 -0.2**
MOF Molkenrain 60.35 47⇑*e*P **P 20 03 51.9 -0.4**
SNART Snartemo 60.36 35⇑*i*P **P 20 03 51.9 -0.6**
SNART AMb AMB 20 03 52.8
comp=Z,50nm,0.9s,mb5.5
CDF Champ du Feu 60.41 46 *e*P **P 20 03 52.5 -0.3**
comp=Z,59nm,0.8s,mb5.4
CDF Champ du Feu 60.41 46 *e*P **P 20 03 52.5 -0.3**
CDF pmax pmax
comp=Z,30nm,0.8s,mb5.4
CDF Champ du Feu 60.41 46 *e*P **P 20 03 52.5 -0.3**
comp=Z,30nm,0.8s,mb5.4
GRYON Gryon 60.43 49⇑*i*P **P 20 03 53.2 +0.3**
comp=Z,103nm,3.1s
BOURR Bourrignon 60.44 48⇑*e*P **P 20 03 52.6 -0.4**
comp=Z,260nm,2.4s,mb5.8
WLS Welschbruch 60.46 46⇑*e*P **P 20 03 52.9 -0.2**
SIT Sitka 60.48 323 *e*P **P 20 03 53.1 -0.1**
SIT pmax pmax
comp=Z,53nm,1.0s,mb5.5
SIT Sitka 60.48 323 *e*P **P 20 03 53.1 -0.1**
comp=Z,53nm,1.0s,mb5.5
SENIN Lac Senin 60.55 49⇑*i*P **P 20 03 54.3 +0.5**
comp=Z,151nm,2.2s,mb5.7
SKAG Skagway 60.58 326 *e*P **P 20 03 54.5 +0.6**
comp=Z,33nm,0.7s,mb5.6
BBS Basel-Blauen 60.62 48⇑*e*P **P 20 03 54.0 -0.2**
HLG Helgoland 60.64 40 *e*P **P 20 03 57.3 +2.9**
comp=Z,162nm,1.0s,mb6.1
LIBD Limburg 60.65 47⇑*e*P **P 20 03 54.5 +0.1**
DIX Grande Dixence 60.65 49⇑*e*P **P 20 03 54.8 +0.4**
comp=Z,104nm,2.5s,mb5.5
TOUF Mont Tournerai 60.71 52⇑*e*P **P 20 03 55.4 +0.6**
STR Strasbourg 60.73 46⇑*e*P **P 20 03 55.1 +0.2**
LANF Langenberg 60.73 46⇑*e*P **P 20 03 55.1 +0.1**
WIMIS Wimmis 60.76 48⇑*e*P **P 20 03 55.2 +0.1**
comp=Z,109nm,2.1s,mb5.6
BALST Balsthal 60.76 48⇑*i*P **P 20 03 55.2 +0.1**
comp=Z,92nm,1.1s,mb5.8
LKBD Leukerbad 60.78 49⇑*i*P **P 20 03 55.9 +0.6**
comp=Z,115nm,0.9s,mb6.0
INK Inuvik 60.79 336 P **P 20 03 53.8 -1.5**
comp=Z,142nm,0.9s,mb6.1,baz=98,slow=7.9,SNR=128
INK Inuvik 60.79 336⇑*i*P **P 20 03 53.5 -1.9**
INK pmax pmax
comp=Z,148nm,0.9s
INK Inuvik 60.79 336⇑*i*P **P 20 03 53.5 -1.8**
comp=Z,148nm,0.9s,mb6.1
LUCF Luceram 60.79 52⇑*e*P **P 20 03 55.8 +0.4**
REVF Revere 60.82 52⇑*e*P **P 20 03 55.9 +0.3**
AUTN L'Aution 60.84 52⇑*e*P **P 20 03 56.3 +0.6**
SBF Sospel 60.86 52 *e*P **P 20 03 55.9 +0.1**
comp=Z,87nm,0.9s,mb5.6
SBF Sospel 60.86 52 *e*P **P 20 03 55.9 +0.1**
SBF pmax pmax
comp=Z,43nm,0.9s,mb5.6
SBF Sospel 60.86 52 *e*P **P 20 03 55.9 +0.1**
comp=Z,43nm,0.9s,mb5.6
FELD Feldberg im Sc 60.93 47⇑*e*P **P 20 03 56.2 -0.1**
SAOF Saorge 60.94 52⇑*e*P **P 20 03 56.6 +0.3**
SULZ Sulz-Cheisache 61.03 47⇑*i*P **P 20 03 56.7 -0.3**
comp=Z,116nm,0.9s,mb6.0
MMK Mattmark 61.04 49⇑*i*P **P 20 03 57.7 +0.6**
comp=Z,69nm,0.8s,mb5.8
TNS Taunus Mts 61.09 44 *e*P **P 20 03 57.4 0.0**
comp=Z,68nm,1.2s,mb5.7
TNS Taunus Mts 61.09 44 *e*P **P 20 03 57.4 0.0**
TNS pmax pmax
comp=Z,68nm,1.2s,mb5.7
HASLI Hasliberg 61.11 48⇑*e*P **P 20 03 58.6 +1.1**
comp=Z,106nm,0.9s,mb6.0
BFO Black Forest 61.12 47 P **P 20 03 57.6 0.0**
comp=Z,139nm,1.0s,mb6.0,SNR=12
BFO Black Forest 61.12 47 *e*P **P 20 03 56.6 -1.0**
comp=Z,40nm,1.1s,mb5.5
BFO Black Forest 61.12 47 *e*P **P 20 03 56.6 -1.0**
BFO pmax pmax
comp=Z,40nm,1.1s,mb5.5
SLE Schleitheim 61.27 47⇑*e*P **P 20 03 58.1 -0.5**
comp=Z,130nm,1.2s,mb5.9
BNALP Bannalp 61.29 48⇑*e*P **P 20 03 58.9 +0.1**
comp=Z,115nm,0.8s,mb6.1
TOD Tromm 61.35 45⇑*e*P **P 20 03 58.8 -0.4**
ZUR Zurich 61.35 48⇑*i*P **P 20 03 59.2 0.0**
comp=Z,197nm,3.1s
MUD Monsted U'grnd 61.38 37⇑*i*P **P 20 03 59.4 0.0**
comp=Z,60nm,1.0s,mb5.7
MUD *i* S **S 20 12 25.7 +5.5**
MUD *i* 20 19 10.3
MUD
comp=Z,670nm,16.0s
MUD Monsted U'grnd 61.38 37⇑*i*P **P 20 03 59.4 0.0**
MUD *i* S **S 20 12 25.7 +5.5**
MUD pmax pmax
comp=Z,60nm,1.0s,mb5.7
MUD Monsted U'grnd 61.38 37⇑*i*P **P 20 03 59.4 0.0**
comp=Z,60nm,1.0s,mb5.7
MUD *i* S **S 20 12 25.7 +5.5**
MUD *i* 20 19 10.3
MUO Muotathal 61.43 48⇑*i*P **P 20 04 00.3 +0.6**
comp=Z,179nm,1.0s,mb6.2
SPAK Spaichingen-Ko 61.44 47⇑*e*P **P 20 03 59.4 -0.4**
FUSIO Fusio 61.49 49⇑*i*P **P 20 04 00.8 +0.7**
comp=Z,212nm,1.8s,mb6.0
STEIN Stein am Rhein 61.53 47⇑*i*P **P 20 04 00.4 0.0**
comp=Z,262nm,0.8s,mb6.4
WILA Wila 61.57 48⇑*i*P **P 20 04 01.8 +1.1**
comp=Z,234nm,2.1s,mb5.9
KONO Kongsberg 61.65 34 *e*P **P 20 04 01.7 +0.5**
KONO *e*S **S 20 12 23.8 +0.2**
KONO *e*SS SS 20 16 32.5 +7.5
KONO Kongsberg 61.65 34⇑*e*P **P 20 04 00.7 -0.5**
KONO pmax pmax
comp=Z,50nm,0.8s,mb5.7
KONO MLR MLR
comp=Z,1μm,20.0s,MS5.0
KONO Kongsberg 61.65 34⇑*e*P **P 20 04 00.7 -0.5**
comp=Z,50nm,0.8s,mb5.7
KONO LR LR
comp=Z,1μm,20.0s,MS5.0
STU Stuttgart 61.66 46 *e*P **P 20 04 00.9 -0.4**
comp=Z,59nm,0.8s,mb5.8
STU Stuttgart 61.66 46⇑*i*P **P 20 04 00.6 -0.7**
STU pmax pmax
comp=Z,44nm,0.7s,mb5.7
STU Stuttgart 61.66 46⇑*i*P **P 20 04 00.6 -0.6**
comp=Z,44nm,0.7s,mb5.7
MUGIO Muggio 61.80 49⇑*i*P **P 20 04 02.0 -0.2**
comp=Z,95nm,0.8s,mb6.0
PLONS Plons 61.93 48⇑*i*P **P 20 04 03.5 +0.4**
comp=Z,124nm,0.9s,mb6.0
LIENZ Alp Oberkamor 61.98 48⇑*i*P **P 20 04 03.8 +0.4**
comp=Z,143nm,1.1s,mb6.0
VDL Val di Lei 62.04 49⇑*i*P **P 20 04 04.4 +0.6**
comp=Z,171nm,2.3s,mb5.8
UBBA Unterbreizbach 62.05 44 *e*P **P 20 04 03.3 -0.6**
comp=Z,182nm,2.5s,mb5.8
BSEG Bad Segeberg 62.08 40 *e*P **P 20 04 03.7 -0.4**
comp=Z,52nm,1.2s,mb5.5
CLZ Clausthal 62.22 42 *e*P **P 20 04 05.0 0.0**
comp=Z,64nm,0.9s,mb5.8
CLZ Clausthal 62.22 42 *e*P **P 20 04 05.0 0.0**
CLZ pmax pmax
comp=Z,64nm,0.9s,mb5.8
DAVA Damuels 62.24 48 *i*P **P 20 04 05.6 +0.4**
comp=Z,340nm,2.5s,mb6.0,SNR=35
DAVOX Davos 62.29 48⇑*i*P **P 20 04 06.2 +0.7**
comp=Z,86nm,0.8s,mb5.9
DAVOX Davos 62.29 48 P **P 20 04 06.1 +0.6**
comp=Z,76nm,0.8s,mb5.8,baz=268,slow=6.4,SNR=82
DAVOX LR LR 20 25 23.4
comp=Z,533nm,20.1s,MS4.7,baz=280,slow=30
NAO01 NORSAR Array S 62.31 32⇑*i*P **P 20 04 05.0 -0.6**
comp=Z,23nm,0.8s,mb5.4
BERNI Berninapass 62.43 49⇑*i*P **P 20 04 07.2 +0.8**
comp=Z,350nm,2.2s,mb6.1
NB2 NORSAR Subarra 62.48 32 P **P 20 04 06.4 -0.4**
comp=Z,38nm,0.9s,mb5.5,baz=270,slow=6.9
NOA NORSAR Array B 62.48 32 P **P 20 04 06.5 -0.2**
comp=Z,20nm,0.8s,mb5.3,baz=271,slow=6.8,SNR=93
NOA LR LR 20 24 42.0
comp=Z,424nm,20.5s,MS4.6,baz=265,slow=30

TOA0 Torodi Ar. Sit 62.67 87⇑*i*P **P 20 04 07.8 -0.3**
TORD Torodi Ar. Bea 62.67 87 P **P 20 04 07.8 -0.2**
comp=Z,9.5nm,0.5s,mb5.2,baz=291,slow=7.4,SNR=113
TORD PcP PcP 20 04 46.7 -0.1
comp=Z,4.2nm,0.6s,baz=290,slow=7.1,SNR=5.0
TORD LR LR 20 26 35.7
comp=Z,2μm,20.9s,MS5.2,baz=285,slow=32
TORD PKP2bc 20 33 16.7
comp=Z,2.0nm,0.9s,baz=97,slow=3.0,SNR=5.4
TORD Torodi Ar. Bea 62.67 87 P **P 20 04 07.8 -0.2**
TORD PcP PcP 20 04 46.7 -0.1
TORD LR LR 20 26 35.7
TORD ⇑*e* 20 33 16.7
DAWY Dawson 62.72 331⇑*i*P **P 20 04 08.0 -0.4**
NSS Namsos 62.91 28 *e*P **P 20 04 08.2 -1.4**
GRA1 Grafenberg Arr 62.91 45 *e*P **P 20 04 09.6 -0.1**
comp=Z,54nm,1.0s,mb5.6
GRA1 *e*S **S 20 12 37.2 -2.4**
GRA1 *e*SS SS 20 16 39.9 -4.8
GRA1 LR LR
comp=Z,900nm,21.9s,MS4.9
GRF Grafenberg Arr 62.91 45 *e*P **P 20 04 09.6 -0.1**
comp=Z,54nm,1.0s,mb5.6
GRF *e*S **S 20 12 37.2 -2.4**
GRF *e*SS SS 20 16 39.9 -4.8
GRF *e*L 20 26 05.0
comp=Z,927nm,21.9s
GRF Grafenberg Arr 62.91 45 *e*P **P 20 04 09.6 -0.1**
GRF *e*S **S 20 12 37.2 -2.4**
GRF *e*SS SS 20 16 39.9 -4.8
GRF pmax pmax
comp=Z,54nm,1.0s,mb5.6
GRF MLR MLR
comp=Z,900nm,21.9s,MS4.9
GRF Grafenberg Arr 62.91 45 *e*P **P 20 04 09.6 -0.1**
GRF *e*S **S 20 12 37.2 -2.4**
GRF *e*SS SS 20 16 39.9 -4.8
GRF pmax pmax
comp=Z,54nm,1.0s,mb5.6
GRF MLR MLR
comp=Z,900nm,21.9s,MS4.9
VLC Villacollemand 62.94 51⇑*i*P **P 20 04 08.6 -1.3**
comp=Z,34nm,0.6s,mb5.7
MOTA Moosalm 63.07 47 *i*P **P 20 04 10.8 +0.1**
comp=Z,45nm,0.9s,mb5.6,SNR=63
MOTA Moosalm 63.07 47 *i*P **P 20 04 10.8 +0.1**
MOTA pmax pmax
comp=Z,45nm,0.9s,mb5.6
MOX Moxa 63.08 44 *e*P **P 20 04 10.1 -0.7**
comp=Z,102nm,2.0s,mb5.6
MOX
comp=Z,600nm,22.0s
MOX Moxa 63.08 44 *e*P **P 20 04 10.1 -0.7**
MOX pmax pmax
comp=Z,102nm,2.0s,mb5.6
MOX MLR MLR
comp=Z,600nm,22.0s,MS4.7
FUR Furstenfeldbru 63.09 47 *e*P **P 20 04 10.6 -0.3**
comp=Z,82nm,1.4s,mb5.7
FUR Furstenfeldbru 63.09 47 *e*P **P 20 04 10.6 -0.3**
FUR pmax pmax
comp=Z,82nm,1.4s,mb5.7
SQTA Sankt Quirin 63.15 48⇑*i*P **P 20 04 11.6 +0.4**
comp=Z,49nm,0.9s,mb5.6,SNR=62
SQTA Sankt Quirin 63.15 48⇑*i*P **P 20 04 11.6 +0.4**
SQTA pmax pmax
comp=Z,49nm,0.9s,mb5.6
COP Copenhagen 63.22 38⇑*i*P **P 20 04 11.6 -0.1**
comp=Z,47nm,1.1s,mb5.5
COP *i* S **S 20 12 46.2 +2.7**
COP
comp=Z,300nm,17.0s
COP Copenhagen 63.22 38⇑*e*P **P 20 04 11.6 -0.1**
COP *i* S **S 20 12 46.2 +2.7**
COP pmax pmax
comp=Z,47nm,1.1s,mb5.5
COP MLR MLR
comp=Z,310nm,17.0s,MS4.5
COP Copenhagen 63.22 38⇑*e*P **P 20 04 11.6 -0.1**
comp=Z,47nm,1.1s,mb5.5
COP *i* S **S 20 12 46.2 +2.7**
COP LR LR
comp=Z,310nm,17.0s,MS4.5
WATA Walderalm 63.39 47⇑*i*P **P 20 04 12.8 0.0**
comp=Z,76nm,1.6s,mb5.6,SNR=20
WATA Walderalm 63.39 47⇑*i*P **P 20 04 12.8 0.0**
WATA pmax pmax
comp=Z,76nm,1.6s,mb5.6
WTTA Wattenberg 63.44 48 *i*P **P 20 04 13.4 +0.3**
comp=Z,638nm,3.7s,SNR=24
WTTA Wattenberg 63.44 48 *i*P **P 20 04 13.4 +0.3**
WTTA pmax pmax
comp=Z,639nm,3.7s
MANZ Manzenberg 63.46 44 *e*P **P 20 04 13.3 0.0**
comp=Z,55nm,1.0s,mb5.6
KEST Kesra 63.49 61 P **P 20 04 14.2 +0.7**
comp=Z,9.2nm,0.8s,mb5.0,baz=207,slow=2.2,SNR=30
KEST LR LR 20 26 22.8
comp=Z,472nm,21.9s,MS4.6,baz=84,slow=31
WERD Werda 63.54 44 *e*P **P 20 04 13.2 -0.6**
comp=Z,34nm,1.2s,mb5.2
ROTZ Rotzenmuhle 63.54 45 *e*P **P 20 04 13.7 -0.1**
comp=Z,44nm,1.2s,mb5.4
WERN Wernitzgruen 63.60 44 *e*P **P 20 04 14.0 -0.2**
comp=Z,21nm,1.1s,mb5.1
TANN Tannenbergstha 63.64 44 *e*P **P 20 04 14.3 -0.2**
comp=Z,41nm,1.1s,mb5.4
NKC Novy Kostel 63.65 44⇑*i*P **P 20 04 14.5 0.0**
NKC AMS AMS 20 26 10.0
comp=Z,1μm,17.8s
LOF Lofoten 63.68 24 *e*P **P 20 04 15.9 +1.2**
HFS Hagfors 63.71 33 P **P 20 04 14.4 -0.5**
comp=Z,21nm,0.8s,mb5.2,baz=254,slow=3.4,SNR=24
HFS LR LR 20 28 14.4
comp=Z,930nm,18.3s,MS5.0,baz=268,slow=33
CLL Collm 63.89 43 *e*P **P 20 04 15.9 -0.2**
comp=Z,53nm,0.9s,mb5.6
CLL Collm 63.89 43⇑P **P 20 04 15.8 -0.3**
comp=Z,logA/T=1.7,mb5.5
CLL *i* *PP pP 20 04 19.3 +0.2
CLL *e*PPP 20 08 00.0
CLL *e*S **S 20 12 52.0 +0.2**
CLL *e*SS SS 20 17 06.0 +6.0
CLL Collm 63.89 43⇑*i*P **P 20 04 15.8 -0.3**
comp=Z,53nm,1.0s,mb5.5
CLL *i* pP pP 20 04 19.3 +0.2
CLL *e*PPP 20 08 00.0
CLL *e*S **S 20 12 52.0 +0.2**
CLL *e*SS SS 20 17 06.0 +6.0
CLL *ex* x 20 18 12.0
CLL LmH 20 22 00.0
comp=N,1μm,21.0s
CLL LmH 20 22 00.0
comp=E,400nm,20.5s
CLL Collm 63.89 43⇑*i*P **P 20 04 15.8 -0.3**
CLL *i* pP 20 04 19.3 +0.2
CLL *e*S **S 20 12 52.0 +0.2**
CLL pmax pmax
comp=Z,53nm,1.0s,mb5.5
CLL MLR MLR
comp=Z,900nm,15.8s,MS5.0
CLL Collm 63.89 43⇑*i*P **P 20 04 15.8 -0.3**
comp=Z,53nm,1.0s,mb5.5
CLL *i* pP pP 20 04 19.3 +0.2
CLL *e*S **S 20 12 52.0 +0.2**
CLL LR LR
comp=Z,900nm,15.8s,MS5.0
MOR8 Moi Rana 63.98 26 *e*P **P 20 04 16.4 -0.3**
MOR8 AMb AMB 20 04 19.4
comp=Z,26nm,1.3s,mb5.1
MOR8 Moi Rana 63.98 26 *e*P **P 20 04 16.4 -0.3**
comp=Z,26nm,1.3s,mb5.1
WET Wettzell 64.04 45 *e*P **P 20 04 17.1 0.0**
comp=Z,57nm,1.1s,mb5.5
WET Wettzell 64.04 45 *e*P **P 20 04 17.1 0.0**
WET pmax pmax
comp=Z,57nm,1.1s,mb5.5
FBE Freiberg 64.15 43 *e*P **P 20 04 17.8 -0.1**
comp=Z,89nm,0.8s,mb5.7
RUE Ruedersdorf 64.26 42 *e*P **P 20 04 18.3 -0.2**
comp=Z,65nm,0.9s,mb5.7
RUE Ruedersdorf 64.26 42⇑*i*P **P 20 04 17.9 -0.7**
comp=Z,36nm,0.8s,mb5.5
PLCA Paso Flores 64.27 186 P **P 20 04 18.9 +0.3**
comp=Z,26nm,0.7s,mb5.4,baz=0.6,slow=7.7,SNR=86
PLCA LR LR 20 34 17.0

comp=Z,401nm,18.2s,MS4.6,baz=17,slow=38
PLCA Paso Flores 64.27 186 P **P 20 04 19.0 +0.4**
PLCA pmax pmax
comp=Z,27nm,0.7s
PLCA MLR MLR
comp=Z,401nm,18.2s
PLCA Paso Flores 64.27 186⇑*e*P **P 20 04 19.3 +0.7**
comp=Z,27nm,0.7s,mb5.4
KBS Kingsbay 64.31 12 AMS AMS 20 34 15.3
comp=Z,596nm,15.3s,MS4.9
KBS Kingsbay 64.31 12 PFAKE 20 04 30.0 +11
KBS LR LR
comp=Z,800nm,19.0s,MS4.9
KHC Kasperske Hory 64.50 45⇑*i*P **P 20 04 20.1 0.0**
KHC *e*S **S 20 12 57.3 -2.0**
KHC AMS AMS 20 25 50.0
comp=Z,1μm,20.2s
BRG Berggiesshubel 64.53 43 *e*P **P 20 04 20.0 -0.3**
comp=Z,56nm,0.9s,mb5.6
BRG Berggiesshubel 64.53 43⇑*i*P **P 20 04 20.4 0.0**
comp=Z,34nm,0.9s,mb5.4
BRG S **S 20 13 00.0 +0.3**
BRG
comp=N,345nm,19.8s
BRG
comp=E,377nm,27.1s
BRG
comp=Z,494nm,17.4s
KBA Koelnbreinsper 64.61 48⇓*i*P **P 20 04 20.5 -0.4**
comp=Z,445nm,3.6s,SNR=15
KBA Koelnbreinsper 64.61 48⇓*i*P **P 20 04 20.5 -0.4**
KBA pmax pmax
comp=Z,445nm,3.6s
GEC2 GERESS Array S 64.62 46 *e*P **P 20 04 20.6 -0.3**
comp=Z,30nm,0.8s,mb5.4
GEC2 GERESS Array S 64.62 46 *e*P **P 20 04 20.6 -0.3**
GEC2 pmax pmax
comp=Z,30nm,0.8s,mb5.4
GERES GERESS Array B 64.62 46 P **P 20 04 20.7 -0.2**
comp=Z,21nm,0.7s,mb5.2,baz=272,slow=5.9,SNR=190
GERES LR LR 20 26 14.4
comp=Z,887nm,21.1s,MS4.9,baz=271,slow=30
GERES PKP2bc 20 33 11.7
comp=Z,0.7nm,0.8s,baz=123,slow=2.2,SNR=4.7
GERES GERESS Array B 64.62 46 P **P 20 04 20.7 -0.2**
GERES LR LR 20 26 14.4
GERES ⇑*e* 20 33 11.7
MENT Mentasta 64.67 330 *e*P **P 20 04 21.7 +0.5**
BSD Bornholm Skovb 64.68 39⇑*i*P **P 20 04 20.8 -0.5**
comp=Z,49nm,0.9s,mb5.5
BSD *i* S **S 20 13 03.7 +2.2**
BSD
comp=Z,710nm,17.0s
BSD Bornholm Skovb 64.68 39⇑*i*P **P 20 04 20.8 -0.5**
comp=Z,49nm,0.9s,mb5.5
BSD *i* S **S 20 13 03.7 +2.2**
PRA Prague 64.94 44⇑P **P 20 04 23.0 0.0**
PVCC Panska Ves 64.97 44⇑*i*P **P 20 04 23.1 -0.1**
PVCC AMS AMS 20 27 00.0
comp=Z,1μm,19.6s
CADS Cadrg 65.00 48 *i*P **P 20 04 23.1 -0.3**
CADS *e*S S 20 13 04.2 -1.3
PRU Pruhonice 65.02 44⇑*i*P **P 20 04 23.6 +0.1**
PRU *e*S S 20 13 05.4 -0.3
PRU AMS AMS 20 27 40.0
comp=Z,1μm,16.0s
SPB4 Spitsbergen Ar 65.09 13 *e*P **P 20 04 18.3 -5.7**
MOA Molln 65.13 47 *i*P **P 20 04 23.7 -0.5**
comp=Z,569nm,3.8s,SNR=56
VOY Vojsko 65.14 49 *e*P **P 20 04 24.0 -0.3**
AQU L'Aquila 65.39 53⇑*i*P **P 20 04 25.6 -0.3**
AQU L'Aquila 65.39 53⇑*i*P **P 20 04 25.4 -0.5**
AQU pmax pmax
comp=Z,45nm,0.8s,mb5.5
AQU L'Aquila 65.39 53⇑*i*P **P 20 04 25.4 -0.6**
comp=Z,45nm,0.8s,mb5.5
OBKA Obir 65.52 48 *i*P **P 20 04 26.3 -0.5**
comp=Z,646nm,3.6s,SNR=38
CEY Cerknica 65.56 49 *i*P **P 20 04 27.2 +0.2**
BJO1 Bjornoya 65.57 17 *e*P **P 20 04 27.2 +0.1**
LJU Ljubljana 65.58 49 *e*P **P 20 04 27.2 0.0**
LJU *e*S S 20 13 12.7 +0.1
BJO Bjornoya 65.62 17 *e*P **P 20 04 27.2 -0.2**
TRO Tromso 65.63 22 *e*P **P 20 04 26.1 -1.3**
TRO AMb AMB 20 04 28.9
comp=Z,52nm,1.9s,mb5.2
TRO AMS AMS 20 32 50.7
comp=Z,248nm,16.9s,MS4.5
TRO Tromso 65.63 22 *e*P **P 20 04 26.1 -1.3**
comp=Z,52nm,1.9s,mb5.2
TRO LR LR
comp=Z,250nm,16.9s,MS4.5
TREC Trest 65.72 45⇑*i*P **P 20 04 28.0 -0.1**
TREC AMS AMS 20 24 40.0
comp=Z,900nm,20.6s
EYAK Cordova Ski Ar 65.79 328⇑*e*P **P 20 04 28.8 +0.2**
UPC Upice 65.88 44⇑*i*P **P 20 04 28.9 -0.2**
PERS Pernice 65.88 48 *i*P **P 20 04 28.1 -1.0**
KSP Ksiaz 66.01 43 *e*P **P 20 04 29.9 0.0**
comp=Z,1.1nm,3.8s
KSP *e*S S 20 13 16.8 -1.0
KSP L 20 29 01.7
comp=Z,1.8nm,19.0s
KSP Ksiaz 66.01 43⇑*e*P **P 20 04 29.9 0.0**
KSP *e*S S 20 13 15.0 -2.8
KSP *e*SS SS 20 17 33.0 0.0
KSP LR LR
comp=Z,3μm,15.9s,MS5.5
ARSA Arzberg 66.06 47⇑*i*P **P 20 04 29.5 -0.7**
comp=Z,474nm,3.2s,SNR=20
DPC Dobruska-Polom 66.10 44⇑*i*P **P 20 04 30.4 -0.1**
DPC *e*S S 20 13 16.6 -2.3
BOJS Bojanci 66.17 49 *i*P **P 20 04 31.0 +0.1**
BOJS *e*S S 20 13 19.3 -0.4
CONA Conrad Observa 66.18 46 P **P 20 04 25.3 -5.7**
comp=Z,693nm,3.9s,SNR=45
MID Middleton Isla 66.20 326 *e*P **P 20 04 31.7 +0.6**
GKP Gorka Klasztor 66.25 40 *e*P **P 20 04 31.6 +0.2**
comp=Z,0.9nm,3.7s
GKP *e*pP pP 20 04 34.3 -0.1
GKP *e*S S 20 13 19.4 -1.3
GKP L 20 31 14.1
comp=Z,1.2nm,18.1s
GKP Gorka Klasztor 66.25 40⇑*e*P **P 20 04 31.6 +0.2**
GKP *e* pP 20 04 34.3 -0.1
GKP *e*S S 20 13 19.4 -1.3
GKP pmax pmax
comp=Z,1.0nm,3.7s
GKP MLR MLR
comp=Z,1μm,18.1s,MS5.1
COLA College 66.36 332⇑*e*P **P 20 04 30.3 -1.9**
COLA pmax pmax
comp=Z,65nm,0.8s,mb5.7
COLA MLR MLR
comp=Z,901nm,20.0s,MS5.0
COLA College 66.36 332⇑*e*P **P 20 04 30.3 -1.9**
comp=Z,65nm,0.8s,mb5.7
COLA LR LR
comp=Z,901nm,20.0s,MS5.0
VRAC Vranov 66.43 45 P **P 20 04 32.4 -0.3**
comp=Z,34nm,0.8s,mb5.4,baz=278,slow=6.6,SNR=36
VRAC Vranov 66.43 45⇑*i*P **P 20 04 32.4 -0.2**
VRAC Vranov 66.43 45 P **P 20 04 32.4 -0.2**
VRAC pmax pmax
comp=Z,34nm,0.8s
VRAC Vranov 66.43 45 P **P 20 04 32.7 +0.1**
KOGS Kog 66.69 48 *e*P **P 20 04 33.6 -0.7**
MCK McKinley 66.95 331⇑*i*P **P 20 04 34.7 -1.2**
MCK pmax pmax
comp=Z,25nm,0.6s,mb5.4
MCK McKinley 66.95 331⇑*i*P **P 20 04 34.7 -1.2**
comp=Z,25nm,0.6s,mb5.4
ZST Bratislava 66.95 46 *e*P **P 20 04 35.8 -0.1**
ZST *e*S S 20 13 25.9 -3.3
ZST Bratislava 66.95 46 *e*P **P 20 04 35.8 -0.1**
ZST *e*S S 20 13 25.9 -3.3
ZST pmax pmax
comp=Z,24nm,0.9s,mb5.2
ZST MLR MLR
comp=Z,400nm,15.1s,MS4.8
ZST Bratislava 66.95 46 *e*P **P 20 04 35.8 -0.1**
comp=Z,24nm,0.9s,mb5.2
ZST *e*S S 20 13 25.9 -3.3
ZST LR LR
comp=Z,400nm,15.1s,MS4.8

MORC	**Moravsky Berou**	**66.97**	**44**	⇑	*iP*		**P**	**20 04 36.1**	**+0.1**
MORC	**Moravsky Berou**	**66.97**	**44**	⇑	*iP*		**P**	**20 04 35.9**	**-0.1**
MORC					pmax	pmax			
	comp=Z,47nm,0.8s,mb5.6								
MORC	**Moravsky Berou**	**66.97**	**44**	⇑	*iP*		**P**	**20 04 35.9**	**-0.2**
	comp=Z,47nm,0.8s,mb5.6								
VAE	**Valguarnera**	**67.12**	**58**		P		**P**	**20 04 37.1**	**+0.1**
	comp=Z,5.6nm,0.5s,mb4.9,baz=341,slow=3.9,SNR=3.9								
VAE	**Valguarnera**	**67.12**	**58**		P		**P**	**20 04 37.1**	**+0.1**
PMR	**Palmer**	**67.31**	**329**		*e*P		**P**	**20 04 38.0**	**-0.2**
PMR						pmax	pmax		
	comp=Z,122nm,0.8s,mb6.0								
PMR	**Palmer**	**67.31**	**329**		*e*P		**P**	**20 04 38.0**	**-0.2**
	comp=Z,122nm,0.8s,mb6.0								
RAC	**Raciborz**	**67.33**	**44**		*e*P		**P**	**20 04 38.3**	**-0.1**
RAC						MLR	MLR		
	comp=Z,1μm,22.7s,MS5.1								
OKC	**Ostrava-Krasne**	**67.34**	**44**	⇑	*iP*		**P**	**20 04 38.5**	**+0.1**
OKC					*e*S		S	20 13 33.4	-0.6
OKC						AMS	AMS	20 28 30.0	
	comp=Z,1μm,19.5s								
OKC	**Ostrava-Krasne**	**67.34**	**44**	⇑	*iP*		**P**	**20 04 38.5**	**+0.1**
OKC					*e*S		S	20 13 33.4	-0.6
ARCES	**ARCESS Array B**	**67.94**	**22**		P		**P**	**20 04 41.5**	**-0.7**
	comp=Z,63nm,0.8s,mb5.7,baz=282,slow=5.8,SNR=162								
ARCES						LR	LR	20 28 44.7	
	comp=Z,279nm,20.9s,MS4.5,baz=149,slow=31								
ARCES	**ARCESS Array B**	**67.94**	**22**		P		**P**	**20 04 41.5**	**-0.7**
ARCES						LR	LR	20 28 44.7	
ARE0	**ARCESS Array S**	**67.94**	**22**	⇑	*iP*		**P**	**20 04 41.0**	**-1.2**
ARE0					*e*			20 04 51.5	
SLKM	**Skilak Lake**	**67.99**	**328**		P		**P**	**20 04 42.5**	**0.0**
SLKM	**Skilak Lake**	**67.99**	**328**		*e*P		**P**	**20 04 41.8**	**-0.7**
VYHS	**Vyhne**	**68.03**	**45**		*i*P		**P**	**20 04 42.9**	**+0.1**
VYHS					*e*S		S	20 13 42.3	0.0
VYHS	**Vyhne**	**68.03**	**45**		*i* P		**P**	**20 04 42.9**	**+0.1**
VYHS					*e*S		S	20 13 42.3	0.0
VYHS						pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2								
VYHS						MLR	MLR		
	comp=Z,500nm,33.1s,MS4.5								
VYHS	**Vyhne**	**68.03**	**45**		*i* P		**P**	**20 04 42.9**	**+0.1**
	comp=Z,24nm,1.0s,mb5.2								
VYHS					*e*S		S	20 13 42.3	0.0
VYHS						LR	LR		
	comp=Z,500nm,33.1s,MS4.5								
OJC	**Ojcow**	**68.32**	**43**		*i* P		**P**	**20 04 44.5**	**-0.1**
OJC					*e*S		S	20 13 46.1	+0.4
OJC					L			20 29 43.4	
	comp=Z,5.0nm,20.8s								
KEV	**Kevo**	**68.42**	**22**		*e*p		**P**	**20 04 43.5**	**-1.7**
	comp=Z,35nm,0.8s,mb5.4								
KEV	**Kevo**	**68.42**	**22**		*e*P		**P**	**20 04 43.5**	**-1.7**
KEV						pmax	pmax		
	comp=Z,35nm,0.8s,mb5.4								
IMA2	**Indian Mountai**	**68.62**	**334**		*e*P		**P**	**20 04 45.8**	**-0.7**
WAR	**Warsaw**	**68.69**	**41**		*e*P		**P**	**20 04 47.1**	**+0.2**
WAR					*e*pP		pP	20 04 49.5	-0.3
WAR					L			20 31 10.9	
	comp=Z,1.3nm,20.7s								
NIE	**Niedzica**	**68.81**	**44**		*e*P		**P**	**20 04 48.5**	**+0.9**
PSZ	**Piszkesteto**	**68.84**	**46**	⇑	*e*P		**P**	**20 04 48.1**	**+0.2**
BRY	**Bratogost**	**69.00**	**51**	⇑	*i*P		**P**	**20 04 48.8**	**0.0**
HCY	**Herceg Novi**	**69.07**	**52**	⇑	*i*P		**P**	**20 04 49.2**	**0.0**
UPM	**Unac-Piva**	**69.19**	**51**	⇑	*i*P		**P**	**20 04 50.3**	**+0.2**
NKY	**Niksic**	**69.35**	**51**	⇑	*i*P		**P**	**20 04 51.3**	**+0.3**
BUM	**Brajici-Budva**	**69.39**	**52**	⇑	*i*P		**P**	**20 04 51.8**	**+0.5**
PLE	**Pljevlja**	**69.51**	**51**	⇑	*i*P		**P**	**20 04 52.4**	**+0.4**
KAF	**Kangasniemi**	**69.55**	**30**		*e*p		**P**	**20 04 50.5**	**-1.7**
	comp=Z,49nm,0.6s,mb5.6								
KAF	**Kangasniemi**	**69.55**	**30**		*e*P		**P**	**20 04 50.5**	**-1.7**
KAF						pmax	pmax		
	comp=Z,49nm,0.6s,mb5.6								
FINES	**FINESS Array B**	**69.58**	**31**		P		**P**	**20 04 52.0**	**-0.4**
	comp=Z,36nm,0.6s,mb5.5,baz=259,slow=3.8,SNR=474								
FINES						LR	LR	20 30 17.7	
	comp=Z,418nm,21.0s,MS4.7,baz=108,slow=32								
FINES						PKP2bc		20 32 57.8	
	comp=Z,1.2nm,0.7s,baz=35,slow=7.0,SNR=6.9								
FINES	**FINESS Array B**	**69.58**	**31**		P		**P**	**20 04 52.0**	**-0.4**
FINES						LR	LR	20 30 17.7	
FINES				⇑	*e*			20 32 57.8	
FIA1	**FINESS Array S**	**69.58**	**31**	⇑	*e*P		**P**	**20 04 51.6**	**-0.8**
SUW	**Suwalki**	**69.60**	**39**		*e*P		**P**	**20 04 51.9**	**-0.6**
	comp=Z,0.7nm,2.9s								
SUW					*e*pP		pP	20 04 55.0	-0.5
SUW					L			20 28 48.2	
	comp=Z,0.8nm,19.8s								
TTG	**Podgorica**	**69.62**	**52**	⇑	*i*P		**P**	**20 04 53.0**	**+0.2**
CRVS	**Cervenica-Dubn**	**69.65**	**45**		*e*P		**P**	**20 04 53.4**	**+0.5**
CRVS					*e*S		S	20 14 04.1	+2.7
KDAK	**Kodiak Island**	**69.69**	**325**		P		**P**	**20 04 52.0**	**-1.1**
	comp=Z,344nm,0.6s,mb6.5,SNR=15								
KDAK	**Kodiak Island**	**69.69**	**325**		*e*P		**P**	**20 04 52.1**	**-1.0**
	comp=Z,38nm,0.7s,mb5.4								
KDAK						LR	LR		
	comp=Z,475nm,22.0s,MS4.7								
ULC	**Ulcinj**	**69.73**	**52**	⇑	*i*P		**P**	**20 04 53.3**	**0.0**
DIVS	**Divcibare**	**69.75**	**50**		*i* P		**P**	**20 04 53.7**	**+0.2**
DIVS	**Divcibare**	**69.75**	**50**		*e*P		**P**	**20 04 54.4**	**+0.9**
BEO	**Belgrade**	**69.91**	**49**		*i* P		**P**	**20 04 55.7**	**+1.3**
IVA	**Berane**	**69.98**	**51**	⇑	*i*P		**P**	**20 04 55.4**	**+0.5**
PVY	**Plav**	**70.10**	**51**	⇑	*i*P		**P**	**20 04 56.3**	**+0.7**
KOLS	**Kolonicke sedl**	**70.17**	**44**		*e*P		**P**	**20 04 56.5**	**+0.5**
KOLS					*e*S		S	20 14 03.6	-3.9
KWP	**Kalwaria**	**70.28**	**44**		*e*P		**P**	**20 04 57.6**	**+0.9**
	comp=Z,1.1nm,4.1s								
KWP					*e*pP		pP	20 05 00.5	+0.8
KWP					L			20 27 22.2	
	comp=Z,1.0nm,33.8s								
TIR	**Tirane**	**70.33**	**53**		*e*P		**P**	**20 04 57.6**	**+0.6**
SVW2	**Sparrevohn**	**70.45**	**329**		*e*P		**P**	**20 04 56.6**	**-1.2**
BZS	**Buzias**	**70.52**	**48**	⇑	*i*P		**P**	**20 04 58.3**	**+0.1**
BZS	**Buzias**	**70.52**	**48**		P		**P**	**20 04 58.4**	**+0.3**
VSU	**Vasula**	**70.55**	**34**	⇑	*i*P		**P**	**20 04 57.5**	**-0.9**
DRGR		**70.97**	**47**	⇑	*i*P		**P**	**20 05 00.8**	**-0.1**
DRGR		**70.97**	**47**	⇑	P		**P**	**20 05 00.8**	**-0.1**
OHR	**Ohrid**	**71.07**	**53**		*e*P		**P**	**20 05 01.9**	**+0.4**
OHR	**Ohrid**	**71.07**	**53**		*e*P		**P**	**20 05 01.7**	**+0.2**
LVV	**L'vov**	**71.07**	**43**		*i* P		**P**	**20 05 01.3**	**-0.2**
IGT	**Igoumenitsa**	**71.13**	**54**		*e*P		**P**	**20 05 02.5**	**+0.6**
APA	**Apatity**	**71.19**	**24**		*e*P		**P**	**20 05 00.0**	**-2.3**
APA					*i*			20 05 20.5	
APA					*i* S		S	20 14 16.0	-3.4
APA						pmax	pmax		
	comp=Z,82nm,0.8s,mb5.7								
APA						MLR	MLR		
	comp=Z,500nm,16.0s,MS4.9								
SKO	**Skopje**	**71.31**	**52**		*e*P		**P**	**20 05 02.9**	**-0.1**
SKO	**Skopje**	**71.31**	**52**		*e*P		**P**	**20 05 03.4**	**+0.4**
DJES	**Djerdap**	**71.38**	**49**		*i* P		**P**	**20 05 03.5**	**+0.1**
BIA	**Bitola**	**71.47**	**53**		*e*P		**P**	**20 05 04.2**	**+0.2**
LVZ	**Lovozero**	**71.55**	**23**		P		**P**	**20 05 04.7**	**+0.2**
	comp=Z,530nm,0.7s,SNR=19								
LVZ	**Lovozero**	**71.55**	**23**	⇓	*e*P		**P**	**20 05 04.4**	**-0.1**
LVZ					*e*S		S	20 14 23.5	-0.1
LVZ					*e*SS		SS	20 19 01.9	+3.3
LVZ					*e*SSS			20 22 01.4	
LVZ						pmax	pmax		
	comp=N,11nm,0.9s								
LVZ						pmax	pmax		
	comp=E,24nm,0.9s								
LVZ						pmax	pmax		
	comp=Z,71nm,0.9s,mb5.6								
LVZ						smax			
	comp=E,277nm,3.6s								
LVZ						MLR	MLR		
	comp=Z,340nm,17.0s,MS4.7								
LVZ						MLR	MLR		
	comp=N,185nm,15.0s,MS4.6								
LVZ						MLR	MLR		
	comp=E,165nm,12.0s,MS4.6								
FNA	**Florina**	**71.57**	**53**		*e*P		**P**	**20 05 05.2**	**+0.6**
LKD	**Levkas**	**71.59**	**55**		*e*P		**P**	**20 05 05.2**	**+0.5**
JOF	**Joensuu**	**71.61**	**29**		*e*p		**P**	**20 05 03.4**	**-1.4**
	comp=E,19nm,0.4s,mb5.4								
MEV	**Metsovon**	**71.73**	**54**		*e*P		**P**	**20 05 07.3**	**+1.8**
STIP	**Stip**	**71.92**	**52**		*e*P		**P**	**20 05 06.3**	**-0.4**
STIP	**Stip**	**71.92**	**52**		*e*P		**P**	**20 05 06.3**	**-0.3**
PUL	**Pulkovo**	**72.01**	**32**		*i* P		**P**	**20 05 07.4**	**+0.2**
MNK	**Minsk**	**72.13**	**38**		*e*P		**P**	**20 05 05.0**	**-3.0**
GRG	**Griva**	**72.28**	**53**		*e*P		**P**	**20 05 09.5**	**+0.7**
VAY	**Valandovo**	**72.30**	**52**		*e*P		**P**	**20 05 08.1**	**-0.8**
VAY	**Valandovo**	**72.30**	**52**		*e*P		**P**	**20 05 08.5**	**-0.5**
BURAR	**Bucovina Array**	**72.40**	**45**	⇑	*i*P		**P**	**20 05 10.1**	**+0.6**
BURAR	**Bucovina Array**	**72.40**	**45**	⇑	P		**P**	**20 05 10.1**	**+0.6**
VTS	**Vitosha**	**72.41**	**51**		*e*P		**P**	**20 05 10.0**	**+0.4**
VTS	**Vitosha**	**72.41**	**51**	⇑	*i*P		**P**	**20 05 09.9**	**+0.3**
LIT	**Litokhoron**	**72.58**	**53**		*e*P		**P**	**20 05 10.4**	**-0.2**
KNT	**Kendrikon**	**72.58**	**52**		*e*P		**P**	**20 05 10.9**	**+0.3**
AGG	**Agios Georgios**	**72.77**	**54**		*e*P		**P**	**20 05 11.9**	**+0.2**
THE	**Thessaloniki**	**72.78**	**53**		*e*P		**P**	**20 05 11.6**	**-0.2**
HORT	**Hortiatis**	**72.89**	**53**		*e*P		**P**	**20 05 12.6**	**+0.2**
MTUR	**Matau**	**72.96**	**48**		P		**P**	**20 05 13.4**	**+0.5**
SOH	**Sokhos**	**73.01**	**52**		*e*P		**P**	**20 05 13.8**	**+0.7**
MMB	**Musomiste**	**73.06**	**52**		*e*P		**P**	**20 05 14.2**	**+0.8**
SRS	**Serrai**	**73.09**	**52**		*e*P		**P**	**20 05 13.9**	**+0.3**
XOR	**Xorichti**	**73.31**	**54**		*e*P		**P**	**20 05 15.1**	**+0.1**
MLR	**Muntele Rosu**	**73.48**	**47**		P		**P**	**20 05 16.2**	**+0.2**
	comp=E,53nm,0.9s,mb5.5,baz=196,slow=0.5,SNR=76								
MLR	**Muntele Rosu**	**73.48**	**47**	⇓	*i*P		**P**	**20 05 16.8**	**+0.9**
MLR	**Muntele Rosu**	**73.48**	**47**		P		**P**	**20 05 16.1**	**+0.1**
PAIG	**Paliouri**	**73.50**	**53**		*e*P		**P**	**20 05 16.3**	**+0.2**
OUR	**Ouranopolis**	**73.61**	**53**		*e*P		**P**	**20 05 17.3**	**+0.6**
PLD	**Plovdiv**	**73.61**	**51**		*e*P		**P**	**20 05 17.0**	**+0.3**
PLOR	**Plostina**	**73.85**	**47**	⇑	*i*P		**P**	**20 05 18.4**	**+0.3**
AOS	**Alonnisos**	**73.88**	**54**		*e*P		**P**	**20 05 18.6**	**+0.4**
VRI	**Vrincioaia**	**73.89**	**47**	⇑	*i*P		**P**	**20 05 17.6**	**-0.8**
VRI	**Vrincioaia**	**73.89**	**47**		P		**P**	**20 05 18.5**	**+0.2**
AKASG	**Malin Array Be**	**74.03**	**41**		P		**P**	**20 05 18.3**	**-0.9**
	comp=E,16nm,0.5s,mb5.2,baz=288,slow=4.7,SNR=41								
AKASG						LR	LR	20 34 32.4	
	comp=E,718nm,19.1s,MS5.0,baz=290,slow=33								
AKBB	**Malin Array Si**	**74.03**	**41**		*e*P		**P**	**20 05 18.4**	**-0.8**
TNA	**Tin City**	**74.39**	**335**		*e*P		**P**	**20 05 20.3**	**-0.9**
	comp=E,59nm,1.2s,mb5.4								
LOS	**Limnos**	**74.53**	**53**		*e*P		**P**	**20 05 22.3**	**+0.2**
JMB	**Yambol**	**74.83**	**50**		*e*P		**P**	**20 05 24.0**	**+0.2**
KIS	**Kishinev**	**74.92**	**45**		*e*P		**P**	**20 05 22.0**	**-2.4**
ALN	**Alexandroupoli**	**74.93**	**52**		*e*P		**P**	**20 05 24.7**	**+0.3**
CFR	**Carcaliu**	**75.05**	**47**	⇑	*i*P		**P**	**20 05 24.0**	**-1.1**
CFR	**Carcaliu**	**75.05**	**47**	⇑	P		**P**	**20 05 23.9**	**-1.1**
HARR	**Harsova**	**75.06**	**48**	⇓	*i*P		**P**	**20 05 24.6**	**-0.6**
HARR	**Harsova**	**75.06**	**48**	⇓	P		**P**	**20 05 24.6**	**-0.6**
GVD	**Gavdhos**	**75.37**	**58**		*e*P		**P**	**20 05 26.8**	**-0.2**
TIRR	**Tirgusor**	**75.46**	**48**	⇑	*i*P		**P**	**20 05 26.8**	**-0.7**
TIRR	**Tirgusor**	**75.46**	**48**	⇑	*e*P		**P**	**20 05 26.6**	**-0.9**
CHOS	**Chios island**	**75.73**	**54**		*e*P		**P**	**20 05 30.2**	**+1.2**
KLMR	**Klimovskoe**	**75.97**	**29**		*c i*P		**P**	**20 05 29.3**	**-1.1**
KLMR					*e*			20 08 17.1	
KLMR					*e*S		S	20 15 08.9	-4.5
KLMR						pmax	pmax		
	comp=Z,150nm,3.2s								
KLMR						pmax	pmax		
	comp=Z,100nm,4.0s								
KLMR						MLR	MLR		
	comp=Z,610nm,17.0s,MS5.0								
LAST	**Lasithi**	**76.34**	**57**		*e*P		**P**	**20 05 33.0**	**+0.4**
ELBA	**Catalca**	**75.56**	**51**		*i* P		**P**	**20 05 33.4**	**-0.3**
OBN	**Obninsk**	**76.72**	**35**		P		**P**	**20 05 34.8**	**+0.2**
	comp=Z,2μm,0.5s,SNR=13								
OBN	**Obninsk**	**76.72**	**35**		*c i*P		**P**	**20 05 34.2**	**-0.4**
OBN					*e*			20 05 44.2	
OBN					*e*S		S	20 15 19.6	-2.1
OBN						pmax	pmax		
	comp=Z,225nm,1.0s,mb6.0								
OBN						MLR	MLR		
	comp=Z,1μm,20.0s,MS5.2								
OBN	**Obninsk**	**76.72**	**35**	⇑	*i*P		**P**	**20 05 33.8**	**-0.8**
	comp=Z,98nm,0.4s,mb6.1								
OBN						LR	LR		
	comp=Z,740nm,19.0s,MS5.0								
MOS	**Moscow**	**77.04**	**35**		*e*P		**P**	**20 05 35.9**	**-0.5**
MOS						pmax	pmax		
	comp=Z,85nm,0.9s,mb5.7								
MOS						pmax	pmax		
	comp=Z,700nm,3.3s								
ULDT	**Uludag**	**77.41**	**52**		*i* P		**P**	**20 05 38.2**	**-0.3**
UNV	**Unalaska Valle**	**78.36**	**324**		PFAKE			20 05 50.0	+6.2
UNV						LR	LR		
	comp=Z,3μm,19.0s,MS5.6								
BORA	**Eskisehir**	**78.44**	**52**		*i* P		**P**	**20 05 44.0**	**-0.2**
ESKT	**Eskisehir**	**78.86**	**52**		*i* P		**P**	**20 05 46.7**	**+0.2**
TKTP	**Tekketepe**	**79.01**	**53**		*i* P		**P**	**20 05 48.0**	**+0.6**
SIM	**Simferopol'**	**79.10**	**46**		*c i*P		**P**	**20 05 48.2**	**+0.3**
SIM						S	S	20 15 45.0	-2.4
SIM					*e*			20 16 21.6	
SIM					*e*SS		SS	20 20 58.0	+4.9
SIM						pmax	pmax		
	comp=Z,34nm,0.4s,mb5.6								
ISP	**Isparta**	**79.22**	**53**		*e*P		**P**	**20 05 47.9**	**-0.7**
SGKT	**Sivrigoynuk**	**79.33**	**50**		*i* P		**P**	**20 05 49.7**	**+0.6**
VRSR	**Storozhevoye**	**79.72**	**39**		*c i*P		**P**	**20 05 50.3**	**-1.0**
VRSR						pmax	pmax		
	comp=Z,50nm,0.8s,mb5.5								
VRSR						pmax	pmax		
	comp=N,20nm,1.2s								
VRSR						pmax	pmax		
	comp=E,10.0nm,0.9s								
BALT	**Daday**	**79.91**	**49**		*i* P		**P**	**20 05 52.4**	**+0.2**
PECR	**Pechory**	**80.08**	**33**		*d i*P		**P**	**20 05 52.4**	**-0.8**
PECR						pmax	pmax		
	comp=Z,420nm,3.0s								
PECR						pmax	pmax		
	comp=Z,500nm,3.0s								
ANTO	**Ankara**	**80.12**	**51**	⇑	*i*P		**P**	**20 05 54.0**	**+0.6**
ANTO	**Ankara**	**80.12**	**51**	⇑	*i*P		**P**	**20 05 53.8**	**+0.4**
ANTO						pmax	pmax		
	comp=Z,48nm,1.0s,mb5.4								
ANTO	**Ankara**	**80.12**	**51**	⇑	*i*P		**P**	**20 05 53.8**	**+0.4**
	comp=Z,48nm,1.0s,mb5.4								
KDHN	**Kadinhani**	**80.14**	**52**		*i* P		**P**	**20 05 51.4**	**-2.2**
BR131	**Keskin Array S**	**80.78**	**51**	⇑	*i*P		**P**	**20 05 56.8**	**-0.2**
	comp=Z,3.5nm,0.4s,mb4.6								
BRTR	**Keskin Array B**	**80.78**	**51**		P		**P**	**20 05 57.1**	**+0.2**
	comp=Z,12nm,0.6s,mb5.0,baz=279,slow=4.3,SNR=71								
BRTR						LR	LR	20 39 42.3	
	comp=Z,195nm,20.1s,MS4.5,baz=33,slow=34								
BOYT	**Boyabat**	**81.00**	**49**		*i* P		**P**	**20 05 58.9**	**+0.8**
TAOE	**Nuku Hiva Isla**	**81.09**	**256**		*e*S		S	20 16 01.1	-7.3
	comp=Z,730nm,26.1s								
TAOE					*e*SS		SS	20 21 14.3	-8.7
	comp=Z,951nm,28.2s								
TAOE					*e*LR		LR	20 31 20.3	
	comp=Z,3μm,26.8s,baz=76								
VRHR	**Novokhopersk**	**81.16**	**38**		*e*P		**P**	**20 05 58.4**	**-0.6**
VRHR						pmax	pmax		
	comp=Z,50nm,0.7s,mb5.5								
VRHR						pmax	pmax		
	comp=N,20nm,0.5s								
VRHR						pmax	pmax		
	comp=E,30nm,1.1s								
ANN	**Anapa**	**81.32**	**45**		*c i*P		**P**	**20 05 59.4**	**-0.5**
ANN					*i* *PP		pP	20 06 02.7	-0.2
ANN					*e*			20 06 05.8	
ANN					*e*			20 09 03.8	
ANN					*e*PPP			20 10 53.2	
ANN					*e*S		S	20 16 08.9	-1.8
ANN					*e*SS		SS	20 21 24.1	-2.3
ANN					*e*SSS			20 24 52.5	
ANN						pmax	pmax		
	comp=Z,45nm,1.1s,mb5.3								
CDAG	**Cicekdag**	**81.34**	**51**		*i* P		**P**	**20 05 58.9**	**-1.1**
BILL	**Bilibino**	**81.52**	**343**		*c i*P		**P**	**20 05 59.9**	**-1.0**
BILL					*e*S		S	20 16 09.5	-3.3
BILL					*i* SS		SS	20 21 24.9	-4.4
BILL						pmax	pmax		
	comp=Z,57nm,1.4s,mb5.3								
BILL						MLR	MLR		
	comp=Z,700nm,21.0s,MS5.0								
BILL	**Bilibino**	**81.52**	**343**	⇑	*e*P		**P**	**20 05 59.5**	**-1.4**
	comp=Z,38nm,0.8s,mb5.4								
BILL						LR	LR		
	comp=Z,552nm,19.0s,MS4.9								
CSS	**Prodhromos**	**82.42**	**55**		*e*P		**P**	**20 06 06.0**	**+0.4**
RKT	**Rikitea**	**83.18**	**241**		*e*LR		LR	20 32 11.0	
	comp=Z,1μm,34.0s								
SOC	**Sochi**	**83.33**	**45**		*c i*P		**P**	**20 06 11.3**	**+0.9**
SOC					*e*PP		pP	20 06 12.8	-0.6
SOC					*e*S		S	20 16 33.2	+1.9
SOC						pmax	pmax		
	comp=Z,49nm,1.0s,mb5.5								
SOC						pmax	pmax		
	comp=Z,787nm,3.2s								
SOKR	**Solikamsk**	**84.04**	**26**		*c i*P		**P**	**20 06 13.4**	**-0.6**
SOKR						pmax	pmax		
	comp=Z,80nm,2.3s,mb5.4								
TIXI	**Tiksi**	**84.62**	**356**		*e*P		**P**	**20 06 13.4**	**-3.5**
TIXI					*e*			20 09 28.1	
TIXI						pmax	pmax		
	comp=Z,18nm,0.7s,mb5.3								
TIXI						MLR	MLR		
	comp=Z,468nm,19.0s,MS4.9								
TIXI	**Tiksi**	**84.62**	**356**	⇑	*i*P		**P**	**20 06 15.6**	**-1.3**
TIXI						LR	LR		
	comp=Z,711nm,21.0s,MS5.0								
MALT	**Malatya**	**84.76**	**51**	⇑	*i*P		**P**	**20 06 18.4**	**+0.8**
MALT	**Malatya**	**84.76**	**51**	⇑	*i*P		**P**	**20 06 17.9**	**+0.3**
MALT						pmax	pmax		
	comp=Z,22nm,0.7s,mb5.4								
MALT	**Malatya**	**84.76**	**51**	⇑	*i*P		**P**	**20 06 17.9**	**+0.2**
	comp=Z,22nm,0.7s,mb5.4								
GOF	**Gofitskoye**	**84.78**	**43**		*e*P		**P**	**20 06 17.3**	**-0.4**
GOF						pmax	pmax		
	comp=Z,30nm,0.7s,mb5.5								
MMAI	**Mount Meron Ar**	**84.78**	**56**		P		**P**	**20 06 18.5**	**+0.7**
	comp=Z,12nm,0.7s,mb5.2,baz=352,slow=3.6,SNR=18								
KIV	**Kislovodsk**	**85.08**	**44**		P		**P**	**20 06 20.8**	**+1.6**
	comp=Z,154nm,1.1s,mb6.0,SNR=15								
KIV	**Kislovodsk**	**85.08**	**44**	*c*	*i*P		**P**	**20 06 19.9**	**+0.7**
KIV					*e*S		S	20 16 48.4	-0.4
KIV					*e*SS		SS	20 22 25.9	+3.9
KIV						pmax	pmax		
	comp=Z,48nm,1.2s,mb5.5								
KIV						MLR	MLR		
	comp=Z,200nm,14.0s,MS4.7								
KIV	**Kislovodsk**	**85.08**	**44**	⇑	*i*P		**P**	**20 06 19.5**	**+0.3**
	comp=Z,50nm,1.3s,mb5.5								
KIV						LR	LR		
	comp=Z,337nm,21.0s,MS4.7								
EIL	**Elat**	**85.82**	**60**	⇑	*i*P		**P**	**20 06 23.8**	**+0.9**
	comp=Z,527nm,1.0s								
ERZM	**Erzurum**	**86.09**	**48**		*i* P		**P**	**20 06 25.6**	**+1.3**
ONI	**Oni**	**86.22**	**45**		P		**P**	**20 06 25.4**	**+0.5**
ONI	**Oni**	**86.22**	**45**		P		**P**	**20 06 25.4**	**+0.5**
ASF	**Jabal al Asfar**	**86.28**	**57**		P		**P**	**20 06 26.4**	**+1.1**
	comp=Z,8.2nm,0.7s,mb5.1,baz=132,slow=3.0,SNR=12								
ZEI	**Tsey**	**86.42**	**45**		*e*P		**P**	**20 06 27.4**	**+1.5**
ZEI					*e*PP		pP	20 06 29.5	+0.6
ZEI						pmax	pmax		
	comp=Z,39nm,1.0s,mb5.6								
ARU	**Arti**	**86.73**	**28**		P		**P**	**20 06 27.0**	**-0.4**
	comp=Z,249nm,0.6s,SNR=11								
ARU	**Arti**	**86.73**	**28**	⇑	*i*P		**P**	**20 06 27.1**	**-0.3**
ARU					*e*			20 09 48.0	
ARU					*e*S		S	20 16 52.6	-12
ARU					*e*SS		SS	20 22 43.9	-2.4
ARU					*e*SSS			20 26 16.9	
ARU						pmax	pmax		
	comp=Z,22nm,0.7s,mb5.5								
ARU	**Arti**	**86.73**	**28**	⇑	*i*P		**P**	**20 06 27.0**	**-0.4**
	comp=Z,30nm,0.7s,mb5.6								
ARU						LR	LR		
	comp=Z,377nm,19.0s,MS4.8								
SVE	**Sverdlovsk**	**87.35**	**27**

NVS *i* S S 20 17 48.3 -49
NVS *i* *SS sS 20 18 37.6 -5.2
NVS pmax pmax
comp=Z,22nm,2.2s,mb5.2
NVS pmax pmax
comp=N,1.0nm,0.8s
NVS pmax pmax
comp=E,1.0nm,0.8s
NVS smax
comp=N,24nm,2.3s
NVS smax
comp=E,10.0nm,1.9s
LSZ Lusaka 97.84 103 LR LR 20 44 21.2
comp=E,871nm,20.4s,MS5.2,baz=307,slow=31
ZAL Zalesovo 98.21 18 P **P 20 07 19.5 -1.1**
comp=E,1.6nm,0.8s,mb4.6,baz=116,slow=3.2,SNR=6.5
ZAL Zalesovo 98.21 18 P **P 20 07 19.5 -1.1**
BOD Bodaibo 98.90 1 *eP* **P 20 07 22.2 -1.5**
BOD pmax pmax
comp=Z,5.0nm,1.3s,mb4.9
KURK Kurchatov 98.97 23 P **P 20 07 23.7 -0.3**
KURK pmax pmax
comp=Z,2.0nm,0.8s,mb4.7
KURK Kurchatov 98.97 23 *eP* **P 20 07 23.2 -0.8**
comp=Z,4.6nm,0.8s,mb5.1
VNA1 Neumayer--Stat 101.67 164 *e*Pdiff Pdif 20 07 36.5 +0.5
VNA1 *e* 20 07 38.0
VNA1 *e* 20 07 40.0
VNA1 *e* 20 07 41.4
VNA1 *e* 20 07 44.3
VNA1 *e* 20 07 48.2
MKAR Makanchi Array 103.58 23 Pdiff Pdif 20 07 45.1 +0.6
comp=Z,0.2nm,0.2s,baz=304,slow=2.6,SNR=3.7
MKAR PKKPbc PKKPbc 20 23 36.6 -0.2
comp=Z,1.1nm,0.7s,baz=76,slow=5.1,SNR=7.1
MKAR Makanchi Array 103.58 23 *i* P Pdif 20 07 47.9 +3.4
YSS Yuzh-Sakhalins 105.78 341 PFAKE 20 12 20.0 +13
YSS LR LR
comp=Z,538nm,20.0s,MS5.1
WMQ Urumqi 108.05 21 PDIF Pdif 20 08 04.8 +0.4
WMQ PP PP 20 12 36.8 +3.2
WMQ S Sdif 20 20 07.5 -3.0
WMQ PS PS 20 21 55.5 -1.3
WMQ PP PP
comp=Z,478nm,8.7s
WMQ LR LR
comp=N,2μm,20.6s,MS5.8
WMQ LR LR
comp=E,2μm,19.5s,MS5.8
WMQ LR LR
comp=E,2μm,21.1s,MS5.6
SONM Songino Array 108.39 7 Pdiff Pdif 20 08 05.3 -0.6
comp=Z,0.6nm,0.7s,baz=321,slow=4.7,SNR=6.4
SONM PKKPbc PKKPbc 20 23 21.8 -0.3
comp=Z,0.8nm,0.5s,baz=173,slow=3.5,SNR=9.2
SONM PKKPab PKKPab 20 23 35.0 -0.4
comp=Z,3.8nm,0.6s,baz=170,slow=4.1,SNR=24
MDJ Mudanjiang 111.03 350 PDIF Pdif 20 08 17.8 +0.2
MDJ PS PS 20 22 22.3 -3.9
MDJ SS SS 20 28 22.3 -4.5
MDJ PP PP
comp=Z,75nm,5.8s
MDJ LR LR
comp=N,128nm,21.5s,MS4.8
MDJ LR LR
comp=E,261nm,19.9s,MS4.8
MDJ LR LR
comp=Z,325nm,21.5s,MS4.9
WAKE Wake Island 114.84 307 PFAKE 20 12 40.0 +16
WAKE LR LR
comp=Z,1μm,22.0s,MS5.5
GTA Gaotai 115.52 14 *e*PKP PKPdf 20 12 25.0 -0.4
GTA PP PP 20 13 28.5 +1.3
GTA PKS 20 16 00.5
GTA SKS SKSdf 20 19 35.3 -2.4
GTA SKKS SKKSac 20 20 22.5 -6.4
GTA PP PP
comp=Z,129nm,6.8s
GTA LR LR
comp=N,277nm,18.6s,MS5.0
GTA LR LR
comp=E,222nm,18.6s,MS5.0
GTA LR LR
comp=Z,310nm,28.5s
HHC Hu-ho-hao-te 115.77 4 *e*PKP PKPdf 20 12 26.8 +0.9
HHC XPKP 20 12 32.5
HHC PP PP 20 13 32.3 +3.4
HHC SKS SKSdf 20 19 33.8 -4.4
HHC SKKS SKKSac 20 20 22.5 -8.1
HHC SS SS 20 29 27.0 -2.5
HHC LR LR
comp=N,220nm,18.4s,MS5.0
HHC LR LR
comp=E,282nm,17.8s,MS5.0
HHC LR LR
comp=Z,236nm,26.8s
MAJO Matsushiro 116.67 340 PFAKE 20 12 40.0 +12
MAJO LR LR
comp=Z,261nm,19.0s,MS4.9
MJAR Matsushiro Arr 116.67 340 PKP PKPdf 20 12 26.9 -0.7
comp=Z,3.5nm,0.6s,baz=105,slow=1.2,SNR=5.3
MJAR PKKPbc PKKPbc 20 22 55.1 +0.6
comp=Z,1.5nm,0.7s,baz=183,slow=4.5,SNR=7.1
MJAR Matsushiro Arr 116.67 340 PKP PKPdf 20 12 26.9 -0.7
MJAR PKKPbc PKKPbc 20 22 55.1 +0.6
BJI Beijing 116.72 360 PKP PKPdf 20 12 29.3 +1.6
BJI PP PP 20 13 38.5 +2.9
BJI LR LR
comp=E,291nm,20.2s
BJI LR LR
comp=Z,320nm,18.3s,MS5.0
FUNA Funafuti 117.98 273 PFAKE 20 12 40.0 +10
FUNA LR LR
comp=Z,15μm,20.0s
KOLN Koldanda 120.09 33 *eP* PKPdf 20 12 35.3 +1.1
GKN Gorkha 120.42 32 *eP* PKPdf 20 12 34.6 -0.3
comp=Z,21nm,0.5s
SBA Scott Base 120.79 191 *e*PKIKP PKPdf 20 12 35.0 -0.6
KKN Kakani 120.91 32 *eP* PKPdf 20 12 35.6 -0.2
comp=Z,28nm,0.6s
DMN Daman 120.98 32 *eP* PKPdf 20 12 35.5 -0.4
comp=Z,13nm,0.5s
GUN Gumba 121.10 31 *eP* PKPdf 20 12 36.2 0.0
comp=Z,36nm,0.8s
PKI Pulchoki 121.16 32 *eP* PKPdf 20 12 35.8 -0.5
comp=Z,14nm,0.6s
JIRN Jiri 121.46 31 *eP* PKPdf 20 12 36.1 -0.8
VNDA Vanda 121.83 191 PKP PKPdf 20 12 37.2 -0.4
comp=Z,2.8nm,0.8s,baz=306,slow=1.2,SNR=11
VNDA Vanda 121.83 191 PKIKP PKPdf 20 12 37.2 -0.4
VNDA pmax pmax
comp=Z,3.0nm,0.8s
VNDA Vanda 121.83 191 *e*PKPdf PKPdf 20 12 37.0 -0.6
XAN Xi'an 122.30 7 PKP PKPdf 20 12 37.5 -1.0
CD2 Chengdu 124.55 13 *e*PKP PKPdf 20 12 40.0 -2.8
CD2 PP PP 20 14 28.8 -0.4
CD2 PKS 20 16 15.3
CD2 SKS SKSdf 20 19 46.8 -8.1
CD2 PP PP
comp=Z,80nm,8.2s
CD2 LR LR
comp=E,180nm,18.0s
CD2 LR LR
comp=Z,160nm,15.6s,MS4.8
NJ2 Nanjing 124.63 357 *e*PKP PKPdf 20 12 39.8 -3.1
NJ2 PP PP 20 14 32.0 +2.3
NJ2 PKS 20 16 15.0
NJ2 LR LR
comp=N,920nm,27.8s,MS5.4
NJ2 LR LR
comp=E,470nm,23.6s,MS5.4
MAW Mawson 125.30 158 PKP PKPdf 20 12 43.7 -0.5
comp=E,18nm,0.6s,baz=237,slow=2.2,SNR=38
MAW Mawson 125.30 158 PKIKP PKPdf 20 12 43.7 -0.5
MAW pmax pmax
comp=Z,18nm,0.6s
MAW Mawson 125.30 158 *e*PKPdf PKPdf 20 12 43.4 -0.8
SSE Sheshan 125.42 355 PKP PKPdf 20 12 43.0 -1.5
SSE PP PP 20 14 39.3 +4.3
SSE SS SS 20 31 34.0 +0.6
SSE PP PP
comp=Z,52nm,4.6s
SSE LR LR
comp=N,178nm,19.7s,MS4.8
SSE LR LR
comp=E,86nm,19.7s,MS4.8
SSE LR LR
comp=Z,221nm,21.0s,MS4.8
URZ Urewera 126.53 239 PKP PKPdf 20 12 46.5 -0.1
comp=Z,17nm,0.7s,baz=45,slow=8.9,SNR=12
KMI Kunming 129.89 16 PKP PKPdf 20 12 50.3 -2.7
KMI XPKP 20 12 54.8
KMI PP PP 20 15 04.5 +0.1
KMI PKS 20 16 25.3
KMI PPP 20 17 52.3
KMI SKS SKSdf 20 19 59.3 -5.4
KMI SKKS SKKSac 20 21 55.0 -6.7
KMI S Sdif 20 23 04.3 -8.4
KMI SS SS 20 32 24.3 -4.6
KMI SSS 20 37 13.8
KMI LR LR
comp=Z,277nm,20.5s,MS4.9
RPZ Rata Peaks 130.98 232 PKP PKPdf 20 12 54.8 -0.2
comp=Z,8.5nm,0.5s,baz=74,slow=6.4,SNR=8.6
PMG Port Moresby 147.15 290 *e*PKIKP PKPdf 20 13 24.6 +0.2
PMG *e* 20 13 26.9
KULM Kulim 147.59 30 *e*PKPdf PKPdf 20 13 25.1 0.0
KULM *e*PKPbc PKPbc 20 13 27.6 -0.2
ARMA Armidale 147.71 250 *e*PKP PKPdf 20 13 28.9 +3.6
RIV Riverview 147.73 244 *e*PKP PKPdf 20 13 29.2 +3.9
IPM Ipoh 148.48 30 P PKPdf 20 13 30.1 +3.5
CNB Canberra Magne 148.90 240 *e*PKP PKPdf 20 13 32.0 +4.8
comp=Z,48nm,0.8s
KKM Kota Kinabalu 150.56 360 P PKPdf 20 13 36.0 +6.1
KKM Kota Kinabalu 150.56 360 *e*PKPbc PKPbc 20 13 35.6 +0.4
KKM *e*PKPab PKPab 20 13 42.5 +0.6
TOO Toolangi 151.24 234 *e*PKP PKPdf 20 13 31.4 +0.5
comp=Z,33nm,0.6s
KGM Kluang 151.69 28 P PKPdf 20 13 37.8 +6.2
CTA Charters Tower 151.81 271 *e*PKP PKPdf 20 13 32.4 +0.6
comp=Z,41nm,0.6s
CTAO Charters Tower 151.81 271 *e*PKIKP PKPdf 20 13 32.0 +0.2
CTAO *e* 20 13 38.6
KSM Kuching 154.47 14 *e*PKPdf PKPdf 20 13 35.9 +0.3
KSM *e*PKPbc PKPbc 20 13 44.3 +0.3
KSM *e*PKPab PKPab 20 13 58.1 -0.3
WRAB Tennant Creek 162.66 279 *e*PKIKP PKPdf 20 13 45.0 -0.4
WRAB *e* 20 14 34.3
WB2 Warramunga Arr 162.66 279 *e*PKP PKPdf 20 13 44.7 -0.7
WRA Warramunga Arr 162.67 279 PKP PKPdf 20 13 45.1 -0.4
comp=Z,10nm,0.9s,baz=4.0,slow=0.7,SNR=44
WRA PKPab PKPab 20 14 34.5 +0.6
comp=Z,2.3nm,0.6s,baz=40,slow=4.6,SNR=10
AS31 Alice Springs 163.67 266 *e*PKPdf PKPdf 20 13 45.7 -0.7
AS31 *e*PKPab PKPab 20 14 38.5 +0.2
ASAR Alice Springs 163.68 266 PKP PKPdf 20 13 46.0 -0.5
comp=Z,3.3nm,0.7s,baz=99,slow=1.2,SNR=26
ASAR PKPab PKPab 20 14 39.0 +0.7
comp=Z,20nm,0.6s,baz=93,slow=4.4,SNR=37
FORT Forrest 167.16 233 *e*PKP PKPdf 20 13 46.5 -2.8
comp=Z,11nm,0.7s
FITZ Fitzroy Crossi 169.55 300 *e*PKP PKPdf 20 13 49.7 -1.2
comp=Z,3.6nm,0.7s

*NEIC **29** 20:06:24.8, 1546N×9328W, h51km, mb3.5/1, MD4.2(MEX), After MEX.*

MEX 29 20:06:23.0±1.3, 1555N×9323W, h106km±27km, MD4.3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCX	**San Cristobal**	**1.31**	**26**	*i* P	Pn	20 06 46.3	-1.0
SCX				*i* S	Sn	20 07 04.5	-1.2
CMIG	**Matias Romero**	**2.21**	**314**	*i* P	Pn	20 06 58.5	0.0
CMIG				*i* S	Sn	20 07 23.6	-2.0
CMIG	**Matias Romero**	**2.21**	**314**	*i* P	Pn	20 06 58.6	+0.1
CMIG				*i* S	Sn	20 07 23.6	-2.0
TUIG	**Tuzandepetl**	**2.72**	**335**	*i* S	Sn	20 07 36.4	-1.2
HUIG	**Huatulco**	**2.79**	**275**	*i* P	Pn	20 07 05.4	-0.6
HUIG				*i* S	Sn	20 07 36.2	-2.9
OXX	**Oaxaca**	**3.69**	**295**	*i* P	Pn	20 07 19.0	+1.0
OXX	**Oaxaca**	**3.69**	**295**	*i* P	Pn	20 07 20.2	+2.2
VHO	**Vista Hermosa**	**3.69**	**295**	*i* S	Sn	20 08 01.2	+0.5
VHO	**Vista Hermosa**	**3.69**	**295**	*i* S	Sn	20 08 02.1	+1.3
SCIG		**3.92**	**30**	*i* P	Pn	20 07 18.6	-2.5
SCIG				*i* S	Sn	20 08 03.9	-2.2
TPIG	**Tehuac#an**	**4.88**	**306**	*i* S	Sn	20 08 29.1	-0.4
UTMO	**Huajuapan**	**4.94**	**298**	*i* P	Pn	20 07 36.0	+1.1
TEIG	**Tepich**	**6.62**	**45**	*e*Pn	Pn	20 07 52.9	-4.8
	24nm,0.4s						
TEIG				*e*Sn	Sn	20 09 07.2	-4.4
OTAV	**Otavalo**	**21.08**	**135**	*eP*	P	20 11 03.0	+4.3
	2.2nm,0.8s						

PGC 29 20:13:08.8, 4886N×12917W, h10km, MLSn3.0/1, Mw3.6, 239km southwest of Tofino, Bc West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPBC	**Brooks Peninsu**	**1.59**	**35**	Pn	Pn	20 13 34.8	-2.2
BPBC				Sn	Sn	20 13 54.0	-3.6
	comp=Z,96nm,0.3s						
BPBC				Trac		20 13 54.4	
	comp=Z,96nm,0.3s						
EDB	**Eliza Dome**	**1.68**	**52**	Pn	Pn	20 13 36.1	-2.2
EDB				Sn	Sn	20 13 56.4	-3.5
EDB				Trac		20 13 56.9	
	comp=Z,10.0nm,0.2s						
HOLB	**Holberg**	**1.91**	**20**	Pn	Pn	20 13 39.4	-2.0
HOLB				Sn	Sn	20 14 01.7	-3.7
	comp=Z,15nm,0.1s						
HOLB				Trac		20 14 05.6	
	comp=Z,15nm,0.1s						
MAYB	**Maynard**	**2.02**	**39**	Pn	Pn	20 13 41.2	-1.7
MAYB				Sn	Sn	20 14 04.0	-4.1
	comp=Z,14nm,0.3s						
MAYB				Trac		20 14 05.6	
	comp=Z,14nm,0.3s						
WOSB	**Woss**	**2.14**	**51**	Pn	Pn	20 13 43.3	-1.2
WOSB				Sn	Sn	20 14 08.7	-2.4
	comp=Z,25nm,0.4s						
WOSB				Trac		20 14 11.0	
	comp=Z,25nm,0.4s						
PHC	**Port Hardy**	**2.17**	**31**	Pn	Pn	20 13 43.5	-1.5
PHC				Sn	Sn	20 14 07.4	-4.4
PHC				Trac		20 14 10.8	
	comp=Z,4.0nm,0.1s						
GDR	**Gold River**	**2.25**	**65**	Pn	Pn	20 13 44.3	-1.8
GDR				Trac		20 14 14.4	
	comp=Z,2.0nm,0.2s						
OZB	**Mount Ozzard**	**2.43**	**86**	Pn	Pn	20 13 46.3	-2.2
OZB				Sn	Sn	20 14 14.1	-4.2
OZB				Trac		20 14 16.6	
	comp=Z,2.0nm,0.1s						
BTB	**Buttle Lake**	**2.47**	**74**	Pn	Pn	20 13 47.8	-1.4
BTB				Sn	Sn	20 14 16.5	-2.9
	comp=Z,47nm,0.4s						
BTB				Trac		20 14 19.0	
	comp=Z,47nm,0.4s						
NCRB	**Newcastle Ridg**	**2.55**	**51**	⇑Pn	Pn	20 13 49.5	-0.7
NCRB				Sn	Sn	20 14 19.8	-1.4
	comp=Z,27nm,0.4s						
NCRB				Trac		20 14 21.0	
	comp=Z,27nm,0.4s						
CBB	**Campbell River**	**2.75**	**63**	Pn	Pn	20 13 51.4	-1.5
CBB				Sn	Sn	20 14 23.7	-2.5
CBB				Trac		20 14 26.6	
	comp=Z,12nm,0.5s						
ALB	**Alberni**	**2.88**	**80**	Pn	Pn	20 13 53.9	-0.9
ALB				Sn	Sn	20 14 27.4	-2.2
	comp=Z,1.0nm,0.1s						
ALB				Trac		20 14 29.1	
	comp=Z,1.0nm,0.1s						
MGB	**Mount Grey**	**2.96**	**86**	Pn	Pn	20 13 53.9	-1.9
MGB				Sn	Sn	20 14 27.8	-3.5
MGB				Trac		20 14 29.1	
	comp=Z,2.0nm,0.1s						
TXB	**Texada**	**3.21**	**73**	Pn	Pn	20 13 58.5	-0.8
TXB				Sn	Sn	20 14 35.3	-2.3
	comp=Z,9.0nm,0.5s						
TXB				Trac		20 14 37.1	
	comp=Z,9.0nm,0.5s						
BBB	**Bella Bella**	**3.40**	**11**	Pn	Pn	20 14 01.3	-0.6
BBB				Sn	Sn	20 14 37.7	-4.5
BBB				Trac		20 14 42.6	
	comp=Z,14nm,0.2s						
LZB	**Mount Lazard**	**3.55**	**92**	Pn	Pn	20 14 00.3	-3.6
SHB	**Sechelt**	**3.55**	**76**	Pn	Pn	20 14 03.8	-0.1
SHB				Sg	Sg	20 14 53.5	-9.2
SHB				Trac		20 14 55.7	
	comp=Z,2.0nm,0.1s						
BIB	**Bowen Island**	**3.89**	**80**	Pn	Pn	20 14 07.9	-0.7
WPB	**Watts Point**	**3.98**	**76**	Pn	Pn	20 14 09.8	-0.2
FSB	**Fort Saint Jam**	**6.38**	**26**	Pn	Pn	20 14 43.9	+1.0

*IDC **29** 20:18:27.0±4.8, 429S×14527E, h0km, mb3.6/2, mb1 4.0/5, mb1mx3.7/14, mbtmp3.9/5, ML3.7/3, Error ellipse: s-maj=72.4km s-min=45.8km az=36.0*
*NEIC **29** 20:18:32.3±2.0, 437S×14521E, h35km, mb3.9/4, Error ellipse: s-maj=29.6km s-min=20.3km az=212.0*
*ISCJB **29** 20:18:39.1±5.3, 52S±05×1449E±02, h33km, mb3.6/2, Error ellipse: s-maj=71.1km s-min=18.3km az=40.9*

ISC 29 20:18:38.5±6.8, 49S±06×1450E±02, h35km, n14, σ1s22/13, mb3.7/2, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.95**	**155**	Pn	**Pn**	**20 19 49.1**	**-1.3**
	16nm,0.3s,baz=354,slow=7.0,SNR=46						
PMG				Sn	Sx	20 20 40.8	
	23nm,0.3s,baz=127,slow=22,SNR=9.2						
PMG	**Port Moresby**	**4.95**	**155**	*e*Pn	**Pn**	**20 19 48.8**	**-1.6**
PMG				*e*Sn	Sx	20 20 38.9	
KAKA	**Kakadu**	**14.65**	**237**	*eP*	**Pn**	**20 22 02.6**	**-0.5**
	5.7nm,0.6s						
CTA	**Charters Tower**	**15.14**	**176**	*eP*	**Pn**	**20 22 11.4**	**+1.7**
	3.7nm,0.6s						
CTA	**Charters Tower**	**15.14**	**176**	Pn	**Pn**	**20 22 09.6**	**-0.1**
	0.4nm,0.3s,baz=354,slow=13,SNR=11						
WRAB	**Tennant Creek**	**18.20**	**214**	*eP*	**Pn**	**20 22 47.5**	**-0.7**
	2.1nm,0.5s						
WB2	**Warramunga Arr**	**18.20**	**214**	*eP*	**Pn**	**20 22 47.4**	**-0.9**
WRA	**Warramunga Arr**	**18.21**	**214**	P	**Pn**	**20 22 47.3**	**-1.1**
	0.1nm,0.3s,baz=40,slow=11,SNR=16						
AS31	**Alice Springs**	**21.51**	**209**	*eP*	**P**	**20 23 26.0**	**+1.7**
ASAR	**Alice Springs**	**21.51**	**209**	P	**P**	**20 23 25.9**	**+1.6**
	1.6nm,0.7s,mb3.6,baz=36,slow=12,SNR=18						
ASPA	**Alice Springs**	**21.51**	**209**	*eP*	**P**	**20 23 26.1**	**+1.7**
FITZ	**Fitzroy Crossi**	**23.04**	**234**	*eP*	**P**	**20 23 40.3**	**-0.3**
	13nm,1.9s,mb4.0						
FITZ	**Fitzroy Crossi**	**23.04**	**234**	P	**P**	**20 23 39.5**	**-1.1**
	1.6nm,0.7s,mb3.6,baz=132,slow=18,SNR=12						
TORD	**Torodi Ar. Bea**	**142.91**	**285**	PKP	PKPdf	20 38 03.6	-4.7
	0.2nm,0.4s,baz=77,slow=3.8,SNR=3.7						

*IDC **29** 20:19:55.3±3.7, 577S×14880E, h0km, mb3.7/2, mb1 4.1/4, mb1mx3.7/13, mbtmp4.0/4, ML3.4/2, Error ellipse: s-maj=100.4km s-min=43.0km az=107.0*

NEIC 29 20:19:59.3±2.6, 585S×14895E, h35km, mb4.2/1, Error ellipse: s-maj=76.3km s-min=24.4km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.96**	**207**	Pn	Pn	20 20 58.1	+0.6
	7.4nm,0.3s,baz=12,slow=20,SNR=3.5						
PMG				Sn	Sn	20 21 39.5	-3.1
	4.2nm,0.3s,baz=10,slow=19,SNR=2.0						
WRAB	**Tennant Creek**	**19.94**	**224**	*eP*	Pn	20 24 27.8	-2.2
	10nm,0.8s						
WRA	**Warramunga Arr**	**19.95**	**224**	P	Pn	20 24 28.1	-2.0
	0.2nm,0.3s,baz=49,slow=10,SNR=14						
ASAR	**Alice Springs**	**22.88**	**218**	P	P	20 24 59.8	+0.1
	0.8nm,0.7s,baz=48,slow=9.5,SNR=3.5						
FITZ	**Fitzroy Crossi**	**25.81**	**240**	P	P	20 25 28.3	+1.2
	3.4nm,0.7s,baz=75,slow=9.3,SNR=6.7						
TORD	**Torodi Ar. Bea**	**146.93**	**285**	PKPbc	PKPbc	20 39 39.5	+1.5
	0.4nm,0.6s,baz=88,slow=3.0,SNR=5.5						

*IDC **29** 20:31:08.0±1.8, 603N×12645E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=116.1km s-min=22.5km az=69.0*
*NEIC **29** 20:31:14.4±1.4, 586N×12611E, h35km, mb3.9/2, Error ellipse: s-maj=98.6km s-min=16.9km az=67.0*
*ISCJB **29** 20:31:15.0±1.8, 57N±03×1267E±04, h33km, mb3.6/5, Error ellipse: s-maj=68.4km s-min=8.5km az=116.1*
*MAN **29** 20:31:18.2, 553N×12603E, h1km, mb3.6, ML4.7, MS9.8*

ISC 29 20:31:18.1±1.5, 55N±02×1264E±04, h35km, n10, σ0s52/9, mb3.6/5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**2.72**	**308**	⇓*eP*	**Pn**	**20 31 59.6**	**+0.4**
CGP	**Cagayan de Oro**	**3.36**	**330**	*eS*	**Sn**	**20 32 46.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**23.50**	**182**	*eP*	**P**	**20 36 24.3**	**-0.5**
	3.1nm,1.0s,mb3.7						
FITZ	**Fitzroy Crossi**	**23.50**	**182**	P	**P**	**20 36 24.2**	**-0.6**
	0.8nm,0.3s,mb3.6,baz=360,slow=11,SNR=15						
WRAB	**Tennant Creek**	**26.49**	**163**	*eP*	**P**	**20 36 51.8**	**-0.3**
	1.9nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**26.50**	**163**	P	**P**	**20 36 51.8**	**-0.3**
	0.7nm,0.5s,mb3.5,baz=344,slow=10,SNR=16						
WB2	**Warramunga Arr**	**26.50**	**163**	*eP*	**P**	**20 36 53.2**	**+1.1**
ASAR	**Alice Springs**	**29.94**	**166**	P	**P**	**20 37 22.6**	**-0.1**
	0.2nm,0.3s,mb3.3,baz=347,slow=7.6,SNR=12						
MKAR	**Makanchi Array**	**55.90**	**325**	P	**P**	**20 40 45.8**	**-6.5**
	0.6nm,0.5s,mb3.9,baz=121,slow=7.4,SNR=7.5						
TORD	**Torodi Ar. Bea**	**122.03**	**289**	PKP	PKPdf	20 50 03.9	-4.9
	0.4nm,0.5s,baz=64,slow=1.8,SNR=9.3						

*MAN **29** 20:42:27.1, 1264N×12525E, h71km, mb3.1, ML4.4, MS7.6*
*IDC **29** 20:42:33.0±1.7, 1319N×12485E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/17, mbtmp3.4/4, Error ellipse: s-maj=169.9km s-min=21.3km az=68.0*
*ISCJB **29** 20:42:40.1±1.1, 1324N±007×12459E±009, h65km±11km, mb3.4/4, Error ellipse: s-maj=16.6km s-min=9.1km az=123.8*

ISC 29 20:42:40.9±1.2, 1323N±007×1246E±01, h58km±13km, n8, σ1s17/11, mb3.4/4, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.56**	**310**	⇑*iP*	**Pn**	**20 42 52.2**	**-1.2**
PLP	**Palo**	**2.09**	**170**	*eP*	**Pn**	**20 43 14.4**	**+0.9**
PLP				*eS*	**Sn**	**20 43 39.8**	**+1.4**
GQP	**Guinayangan**	**2.20**	**288**	⇑*iP*	**Pn**	**20 43 13.9**	**-1.1**
GQP				*i* S	**Sn**	**20 43 42.8**	**+1.7**
RCP	**Roxas**	**2.46**	**228**	⇓*eP*	**Pn**	**20 43 17.9**	**-0.6**
RCP				*eS*	**Sn**	**20 43 46.9**	**-0.6**
WRA	**Warramunga Arr**	**34.33**	**164**	P	**P**	**20 49 19.6**	**-2.3**
	0.1nm,0.3s,mb3.2,baz=345,slow=8.6,SNR=7.7						
SONM	**Songino Array**	**37.69**	**340**	P	**P**	**20 49 51.6**	**+1.0**
	0.4nm,0.8s,mb3.2,baz=163,slow=10,SNR=4.1						
ASAR	**Alice Springs**	**37.78**	**166**	P	**P**	**20 49 51.0**	**-0.4**
	0.4nm,0.4s,mb3.5,baz=355,slow=8.9,SNR=13						
MKAR	**Makanchi Array**	**48.70**	**322**	P	**P**	**20 51 20.1**	**+0.8**
	0.4nm,0.5s,mb3.7,baz=114,slow=8.1,SNR=6.1						

IDC 29 20:45:00.1±1.7, 1025S×10813E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.6/16, mbtmp3.6/6, ML3.3/1, Error ellipse: s-maj=74.5km s-min=20.5km az=44.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.67**	**117**	P	Pn	20 49 19.2	-0.7
	0.1nm,0.3s,baz=232,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**27.04**	**114**	P	P	20 50 43.3	-0.7
	0.4nm,0.6s,baz=285,slow=12,SNR=6.9						
ASAR	**Alice Springs**	**27.96**	**122**	P	P	20 50 54.1	+1.8
	0.3nm,0.5s,baz=296,slow=9.4,SNR=7.3						
SONM	**Songino Array**	**57.84**	**359**	P	P	20 54 53.7	+0.3
	0.9nm,0.6s,baz=177,slow=7.7,SNR=9.8						
MKAR	**Makanchi Array**	**61.30**	**340**	P	P	20 55 18.1	+0.7
	0.7nm,0.7s,baz=146,slow=7.0,SNR=5.8						
BRTR	**Keskin Array B**	**84.81**	**312**	P	P	20 57 36.1	-0.4
	0.5nm,0.7s,baz=91,slow=6.9,SNR=3.5						

MAN 29 20:49:13.4, 1707N×12256E, h7km, mb1.8, ML3.6, MS2.8, 1C, Luzon

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

PALP **Palanan** **0.12 266**↑ *e*P Pg 20 49 16.4 +0.3
PALP *e*S Sg 20 49 19.3 +1.5

ISCJB **29** *20:50:52.9±0.2,2551S×004×17936E±004,h483km, mb4.6/45, Error ellipse: s-maj=6.5km s-min=4.2km az=106.3*
MOS **29** *20:50:53.7±0.9,2549S×17938E,h491km,mb4.6/12, Error ellipse: s-maj=12.6km s-min=11.6km az=176.0*
BJI **29** *20:50:54.1,2498S×17940E,h482km,mB4.9,mb4.6*
NEIC **29** *20:50:55.4±0.9,2550S×17939E,h504km±10km,mb4.7/24, Error ellipse: s-maj=10.1km s-min=7.7km az=174.0*
IDC **29** *20:50:55.0±0.6,2552S×17938E,h497km±5km,mb4.2/17, mb1 4.2/18,mb1mx4.2/20,mbtmp5.0/18, Error ellipse: s-maj=10.7km s-min=9.5km az=7.0*
ISC 29 20:50:54.2±0.2,2553S±004×17942E±004,h488km, h488km±5.1km:pP-P,n246,σ0s71/198,mb4.6/44,40C-53D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.40**	**148**	P	**P**	**20 52 16.4**	**+1.3**
	834nm,0.3s,baz=89,slow=22,SNR=48						
RAO	**Raoul Island**	**4.40**	**148**	*e*P	**P**	**20 52 16.1**	**+1.0**
RAO				*e*S	**S**	**20 53 23.9**	**+2.8**
MXZ	**Matakaoa Point**	**12.03**	**184**	PN	**P**	**20 53 33.9**	**+0.8**
DZM	**Mont Dzumac**	**12.37**	**283**	*e*P	**P**	**20 53 40.1**	**+3.5**
DZM	**Mont Dzumac**	**12.37**	**283**	P	**P**	**20 53 40.1**	**+3.5**
	0.9nm,0.3s,baz=91,slow=16,SNR=12						
PUZ	**Puketiti**	**12.54**	**184**	PN	**P**	**20 53 38.6**	**+0.1**
URZ	**Urewera**	**12.84**	**188**	P	**P**	**20 53 39.8**	**-1.9**
	18nm,0.3s,baz=339,slow=2.6,SNR=103						
URZ				S	**S**	**20 55 53.7**	**-6.1**
	2.2nm,0.3s,baz=240,slow=20,SNR=7.4						
URZ	**Urewera**	**12.84**	**188**	PN	**P**	**20 53 39.5**	**-2.2**
URZ				SN	**S**	**20 55 54.2**	**-5.6**
AFI	**Afiamalu**	**14.22**	**37**	S	**S**	**20 56 17.3**	**-9.2**
	2.4nm,0.3s,baz=133,slow=19,SNR=3.4						
AFI	**Afiamalu**	**14.22**	**37**	*e*P	**P**	**20 53 55.4**	**-0.9**
AFI				*e*S	**S**	**20 56 16.6**	**-10**
PXZ	**Pawanui**	**14.62**	**188**	SN	**S**	**20 56 24.1**	**-10**
SNZO	**South Karori**	**16.22**	**193**	*e*P	**P**	**20 54 26.7**	**+9.5**
	191nm,1.3s						
QRZ	**Quartz Range**	**16.30**	**199**	PN	**P**	**20 54 18.1**	**0.0**
QRZ				*e*SN	**S**	**20 57 06.4**	**+0.1**
NNZ	**Nelson**	**16.43**	**196**	PN	**P**	**20 54 17.5**	**-1.9**
THZ	**Tophouse**	**17.06**	**197**	PN	**P**	**20 54 24.5**	**-1.6**
RPZ	**Rata Peaks**	**19.38**	**199**	P	**P**	**20 54 47.8**	**+0.1**
	2.0nm,0.3s,baz=313,slow=20,SNR=12						
HNR	**Honiara**	**24.47**	**307**	P	**P**	**20 55 32.9**	**-0.6**
	267nm,0.9s,mb5.7,baz=97,slow=2.8,SNR=6.8						
HNR	**Honiara**	**24.47**	**307**	*e*P	**P**	**20 55 33.3**	**-0.2**
HNR				pmax	pmax		
	comp=Z,180nm,0.8s,mb5.5						
HNR	**Honiara**	**24.47**	**307**	*e*P	**P**	**20 55 33.3**	**-0.2**
	comp=Z,180nm,0.8s,mb5.5						
ARMA	**Armidale**	**24.99**	**252**	*e*P	**P**	**20 55 40.7**	**+2.5**
CNB	**Canberra Magne**	**27.60**	**242**	*e*P	**P**	**20 56 03.5**	**+2.3**
	comp=Z,18nm,0.9s,mb4.5						
CTA	**Charters Tower**	**31.00**	**273**	⇓*i*P	**P**	**20 56 32.2**	**+1.4**
	comp=Z,61nm,0.9s,mb5.0						
CTA	**Charters Tower**	**31.00**	**273**	P	**P**	**20 56 32.3**	**+1.5**
	comp=Z,46nm,0.5s,mb5.2,baz=98,slow=11,SNR=98						
CTA				ScP	ScP	21 02 09.9	+1.6
	comp=Z,7.6nm,1.1s,baz=35,slow=1.6,SNR=4.6						
CTA	**Charters Tower**	**31.00**	**273**	⇓*i*P	**P**	**20 56 32.2**	**+1.4**
CTA				pmax	pmax		
	comp=Z,61nm,0.9s						
CTAO	**Charters Tower**	**31.00**	**273**	*e*P	**P**	**20 56 32.1**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,80nm,0.8s,mb5.2						
CTAO	**Charters Tower**	**31.00**	**273**	*e*P	**P**	**20 56 32.1**	**+1.3**
	comp=Z,80nm,0.8s,mb5.2						
TOO	**Toolangi**	**31.14**	**239**	*e*P	**P**	**20 56 33.7**	**+1.7**
	comp=Z,9.5nm,0.7s,mb4.3						
TOO	**Toolangi**	**31.14**	**239**	*e*P	**P**	**20 56 33.7**	**+1.7**
TOO				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.3						
PMG	**Port Moresby**	**34.57**	**292**	P	**P**	**20 57 02.1**	**+0.9**
	comp=Z,99nm,0.7s,mb5.3,baz=111,slow=5.3,SNR=27						
PMG	**Port Moresby**	**34.57**	**292**↑	*e*P	**P**	**20 57 02.2**	**+1.1**
PMG	**Port Moresby**	**34.57**	**292**	*e*P	**P**	**20 57 01.3**	**+0.2**
AS31	**Alice Springs**	**41.27**	**263**	*e*P	**P**	**20 57 56.4**	**+0.4**
AS31				*e*PcS	PcS	21 03 33.4	-2.0
ASAR	**Alice Springs**	**41.27**	**263**	P	**P**	**20 57 56.5**	**+0.5**
	comp=Z,41nm,0.4s,mb5.2,baz=92,slow=7.4,SNR=1309						
ASAR				pP	pP	20 59 26.9	+1.7
	comp=Z,6.9nm,1.0s,baz=95,slow=8.2,SNR=3.1						
ASAR				ScP	ScP	21 02 46.8	+0.3
	comp=Z,2.0nm,0.8s,baz=100,slow=3.8,SNR=6.6						
ASAR				S	**S**	**21 03 33.7**	**-0.4**
	comp=Z,7.1nm,0.8s,baz=100,slow=17,SNR=29						
ASAR	**Alice Springs**	**41.27**	**263**	P	**P**	**20 57 56.5**	**+0.5**
ASAR				*PP	pP	20 59 26.9	+1.7
ASAR				S	**S**	**21 03 33.7**	**-0.4**
ASPA	**Alice Springs**	**41.28**	**263**	*e*P	**P**	**20 57 56.4**	**+0.4**
ASPA				*e*PCS	PcS	21 03 33.4	-2.0
WB2	**Warramunga Arr**	**41.79**	**268**	⇓*i*P	**P**	**20 57 59.9**	**-0.2**
WB2				*e*SCP	ScP	21 02 50.2	+1.7
WB2				*e*PCS	PcS	21 03 38.9	+1.4
WRAB	**Tennant Creek**	**41.79**	**268**	*e*P	**P**	**20 57 59.9**	**-0.2**
WRA	**Warramunga Arr**	**41.80**	**268**	P	**P**	**20 58 00.5**	**+0.4**
	comp=Z,54nm,0.3s,mb5.4,baz=100,slow=6.8,SNR=1331						
WRA				ScP	ScP	21 02 49.8	+1.3
	comp=Z,3.6nm,0.7s,baz=104,slow=3.9,SNR=7.2						
WRA				S	**S**	**21 03 39.7**	**-2.0**
	comp=Z,14nm,0.9s,baz=101,slow=14,SNR=28						
FORT	**Forrest**	**45.27**	**251**	*e*P	**P**	**20 58 26.8**	**-0.4**
	comp=Z,52nm,0.7s,mb5.1						
KAKA	**Kakadu**	**45.96**	**277**	*e*P	**P**	**20 58 31.8**	**-0.7**
	comp=Z,58nm,0.8s,mb5.1						
KAKA				*e*SCP	ScP	21 03 07.2	+1.6
KAKA				*e*S	**S**	**21 04 38.9**	**-2.0**
FITZ	**Fitzroy Crossi**	**50.20**	**267**	*e*P	**P**	**20 59 04.6**	**+0.3**
	comp=Z,56nm,0.9s,mb4.9						
FITZ				*e*S	**S**	**21 05 38.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**50.20**	**267**	P	**P**	**20 59 05.0**	**+0.7**
	comp=Z,31nm,0.8s,mb4.7,baz=117,slow=8.5,SNR=80						
FITZ				pP	pP	21 00 39.7	+1.4
	comp=Z,2.4nm,0.6s,baz=33,slow=8.9,SNR=2.1						
FITZ				S	**S**	**21 05 39.1**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=105,slow=23,SNR=3.4						
GUMO	**Guam**	**51.43**	**315**	P	**P**	**20 59 12.6**	**-0.6**
	comp=Z,61nm,0.7s,mb5.0,baz=150,slow=7.9,SNR=7.2						
VNDA	**Vanda**	**52.72**	**185**	P	**P**	**20 59 22.4**	**-0.1**
	comp=Z,2.2nm,0.7s,mb3.6,baz=359,slow=6.4,SNR=11						
VNDA				PcP	PcP	21 00 23.9	-0.5
	comp=Z,2.2nm,0.9s,baz=7.3,slow=4.4,SNR=3.8						
VNDA				ScP	ScP	21 03 33.1	-1.4
	comp=Z,1.4nm,0.5s,baz=2.6,slow=3.7,SNR=5.4						
VNDA	**Vanda**	**52.72**	**185**	*e*P	**P**	**20 59 22.2**	**-0.3**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
VNDA	**Vanda**	**52.72**	**185**	*e*P	**P**	**20 59 22.2**	**-0.3**
	comp=Z,2.0nm,0.7s,mb3.6						
SBA	**Scott Base**	**52.72**	**183**	*e*P	**P**	**20 59 23.2**	**+0.6**
SBA				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.3						
SBA	**Scott Base**	**52.72**	**183**	*e*P	**P**	**20 59 23.1**	**+0.5**
	comp=Z,16nm,1.1s,mb4.2						
KLBR	**Kellerberrin**	**53.89**	**248**	*e*P	**P**	**20 59 30.1**	**-0.8**
	comp=Z,12nm,0.7s,mb4.3						
NWAO	**Narrogin (SRO)**	**54.09**	**247**	P	**P**	**20 59 32.3**	**-0.1**
	comp=Z,11nm,1.1s,mb4.1,baz=190,slow=12,SNR=2.9						
MUN	**Mundaring**	**55.11**	**248**	*e*P	**P**	**20 59 39.6**	**+0.1**
QSPA	**South Pole Qui**	**64.56**	**180**	*e*P	**P**	**21 00 42.4**	**-0.2**
	comp=Z,31nm,0.6s,mb5.1						
KSM	**Kuching**	**71.88**	**281**	*e*P	**P**	**21 01 27.0**	**-0.1**
MJAR	**Matsushiro Arr**	**72.95**	**326**	P	**P**	**21 01 32.7**	**-0.6**
	comp=Z,26nm,0.8s,mb4.8,baz=160,slow=5.6,SNR=116						
MAJO	**Matsushiro**	**72.95**	**326**	*e*P	**P**	**21 01 32.5**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,42nm,0.8s,mb5.0						
MAJO	**Matsushiro**	**72.95**	**326**	*e*P	**P**	**21 01 32.5**	**-0.8**
	comp=Z,42nm,0.8s,mb5.0						
MAT	**Matsushiro**	**72.95**	**326**	P	**P**	**21 01 32.4**	**-0.9**
MAT	**Matsushiro**	**72.95**	**326**	*e*P	**P**	**21 01 32.0**	**-1.3**
MAT				pmax	pmax		
	comp=Z,23nm,0.7s,mb4.8						
MAT	**Matsushiro**	**72.95**	**326**	*e*P	**P**	**21 01 32.0**	**-1.3**
	comp=Z,23nm,0.7s,mb4.8						
MAW	**Mawson**	**76.04**	**201**	*e*P	**P**	**21 01 50.2**	**-0.6**
	comp=Z,5.3nm,0.6s,mb4.2						
MAW	**Mawson**	**76.04**	**201**	P	**P**	**21 01 50.2**	**-0.6**
	comp=Z,6.4nm,0.6s,mb4.4,baz=135,slow=7.0,SNR=21						
MAW	**Mawson**	**76.04**	**201**	*e*P	**P**	**21 01 50.2**	**-0.6**
MAW				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ASAJ	**Asahikawa**	**77.08**	**334**	P	**P**	**21 01 57.7**	**+1.2**
	comp=Z,9.7nm,0.7s,mb4.5,baz=220,slow=10,SNR=14						
PMSA	**Palmer Station**	**77.62**	**157**	*e*P	**P**	**21 01 58.4**	**-1.0**
	comp=Z,51nm,1.1s,mb4.9						
SSE	**Sheshan**	**79.18**	**312**	P	**P**	**21 02 08.5**	**+0.7**
SSE				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.7						
SSE				AMB	AMB		
	comp=Z,94nm,7.8s						
YSS	**Yuzh-Sakhalins**	**79.39**	**335**	*e*P	**P**	**21 02 09.3**	**+0.4**
YSS				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.7						
YSS	**Yuzh-Sakhalins**	**79.39**	**335**	*e*P	**P**	**21 02 09.3**	**+0.4**
	comp=Z,22nm,0.9s,mb4.7						
SYO	**Syowa Base**	**81.31**	**194**↓	*e*P	**P**	**21 02 16.0**	**-3.0**
SYO	**Syowa Base**	**81.31**	**194**↓	*e*PcP	PcP	21 02 22.0	-1.5
NJ2	**Nanjing**	**81.34**	**312**	*e*P	**P**	**21 02 18.5**	**-0.6**
NJ2				AP	pP	21 04 11.0	+5.4
NJ2				PP	PP	21 05 36.5	+3.1
NJ2				SKS		21 11 44.0	
NJ2				S	S	21 11 46.0	-3.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,180nm,7.2s						
PSI	**Prapat**	**82.63**	**277**	P	**P**	**21 02 24.6**	**-1.1**
	comp=Z,2.6nm,0.4s,mb4.1,baz=135,slow=11,SNR=4.3						
V03C	**Hunter Liggett**	**82.96**	**45**	⇓P	**P**	**21 02 27.5**	**+0.1**
	baz=83						
HAST	**UC Hastings Re**	**82.99**	**44**	⇓P	**P**	**21 02 27.0**	**-0.6**
	baz=83						
MDJ	**Mudanjiang**	**83.33**	**327**	P	**P**	**21 02 29.0**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,63nm,6.4s						
MDJ	**Mudanjiang**	**83.33**	**327**	*e*P	**P**	**21 02 29.0**	**-0.3**
	comp=Z,14nm,1.0s,mb4.5						
PKD	**Parkfield**	**83.36**	**45**	⇑P	**P**	**21 02 28.3**	**-1.1**
	baz=84						
U04C	**Hernandez Rese**	**83.46**	**45**	⇓P	**P**	**21 02 30.4**	**+0.5**
	baz=84						
PACP	**Pacheco Peak**	**83.55**	**44**	⇑P	**P**	**21 02 30.6**	**+0.3**
	baz=84						
HABR	**Khabarovsk**	**83.69**	**332**	*e*P	**P**	**21 02 30.9**	**-0.1**
HABR				*e*S	S	21 12 05.1	-7.6
HABR				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.5						
S04C	**Ingram Canyon,**	**83.83**	**43**	⇑P	**P**	**21 02 31.7**	**0.0**
	baz=84						
VNA1	**Neumayer--Stat**	**83.93**	**177**	*e*P	**P**	**21 02 31.5**	**-0.7**
VNA1				*e*		21 02 32.8	
VNA1				*e*		21 02 34.6	
VNA1				*e*		21 02 36.9	
VNA1				*e*		21 04 25.4	
VNA1				*e*		21 04 27.9	
MNRC	**McLaughlin Nat**	**84.01**	**42**	⇑P	**P**	**21 02 33.2**	**+0.5**
	baz=84						
GASB	**Alder Springs**	**84.34**	**41**	⇑P	**P**	**21 02 34.9**	**+0.6**
	baz=85						
S05C	**Merced**	**84.36**	**44**	⇓P	**P**	**21 02 34.7**	**+0.4**
	baz=85						
ISA	**Isabella**	**84.53**	**46**	⇑P	**P**	**21 02 34.9**	**-0.3**
	baz=85						
T06C	**Millerton Lake**	**84.54**	**45**	⇓P	**P**	**21 02 34.9**	**-0.4**
	baz=85						
SUTB	**Sutter Butte**	**84.63**	**42**	⇓P	**P**	**21 02 35.4**	**-0.3**
	baz=85						
O02C	**Red Bluff**	**84.64**	**41**	⇓P	**P**	**21 02 35.6**	**-0.1**
	baz=85						
PFO	**Pinyon Flat Ob**	**84.67**	**49**	⇓P	**P**	**21 02 35.5**	**-0.4**
	baz=85						
CMB	**Columbia Colle**	**84.74**	**43**	⇑P	**P**	**21 02 36.0**	**-0.2**
	baz=85						
N02C	**Big Bar**	**84.74**	**40**	⇓P	**P**	**21 02 35.8**	**-0.4**
	baz=85						
CN2	**Changchun**	**84.89**	**324**	*e*P	**P**	**21 02 37.0**	**+0.1**
CN2				*e*AP	pP	21 04 24.5	-0.1
CN2				*e*S		21 12 22.8	
CN2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
O03C	**Acorn Hollow,**	**84.97**	**41**	⇓P	**P**	**21 02 37.3**	**-0.1**
	baz=85						
KCC	**Kaiser Creek**	**84.98**	**45**	⇓P	**P**	**21 02 37.3**	**-0.1**
	baz=85						
S06C	**San Francisco**	**84.98**	**44**	⇓P	**P**	**21 02 36.3**	**-1.1**
	baz=85						
ORV	**Oroville**	**85.01**	**42**	⇓P	**P**	**21 02 36.8**	**-0.7**
	baz=85						
WDC	**Whiskeytown Da**	**85.04**	**40**	⇓P	**P**	**21 02 37.9**	**+0.3**
	baz=85						
R05C	**Kirkwood Meado**	**85.34**	**43**	⇑P	**P**	**21 02 39.5**	**+0.4**
	baz=86						
M02C	**Callahan**	**85.38**	**40**	⇓P	**P**	**21 02 39.1**	**-0.2**
	baz=86						
P05C	**Yuba Gap, Truc**	**85.39**	**42**	⇓P	**P**	**21 02 39.5**	**+0.1**
	baz=86						
GSC	**Goldstone**	**85.41**	**47**	*e*P	**P**	**21 02 39.9**	**+0.4**
GSC	**Goldstone**	**85.41**	**47**	⇑P	**P**	**21 02 39.6**	**+0.1**
	baz=86						
GLA	**Glamis**	**85.47**	**50**	*e*P	**P**	**21 02 41.1**	**+1.3**
GLA	**Glamis**	**85.47**	**50**	⇑P	**P**	**21 02 40.5**	**+0.7**
	baz=86						
O05C	**Quincy**	**85.61**	**42**	⇓P	**P**	**21 02 40.1**	**-0.3**
	baz=86						
YBH	**Yreka Blue Hor**	**85.68**	**39**	P	**P**	**21 02 41.3**	**+0.5**
	comp=Z,1.8nm,0.6s,mb3.9,baz=212,slow=5.0,SNR=5.6						
YBH	**Yreka Blue Hor**	**85.68**	**39**	⇑P	**P**	**21 02 41.1**	**+0.3**
	baz=86						
KLR	**Kul'dur**	**85.69**	**331**	*e*P	**P**	**21 02 37.3**	**-3.5**
O04C	**Chester**	**85.73**	**41**	⇑P	**P**	**21 02 40.5**	**-0.5**
	baz=86						
HATC	**Hat Creek Radi**	**85.83**	**41**	⇑P	**P**	**21 02 41.1**	**-0.4**
	baz=86						
Y12C	**Blythe**	**86.08**	**50**	⇓P	**P**	**21 02 42.7**	**0.0**
	baz=86						
TUQ	**Turquoise Mtn.**	**86.08**	**48**	⇑P	**P**	**21 02 42.7**	**0.0**
	baz=86						
HUMO	**Hull Mountain**	**86.10**	**39**	⇑P	**P**	**21 02 42.9**	**+0.1**
	baz=86						
NVAR	**Mina Array Bea**	**86.29**	**44**	P	**P**	**21 02 43.9**	**+0.2**
	comp=Z,4.2nm,0.8s,mb4.1,baz=211,slow=6.6,SNR=26						
M05C	**Lookout**	**86.35**	**41**	⇑P	**P**	**21 02 43.8**	**-0.2**
	baz=87						
U10A	**Ash Meadows, A**	**86.38**	**47**	⇓P	**P**	**21 02 44.3**	**+0.2**
	baz=87						
O06A	**Flanigan**	**86.39**	**42**	⇑P	**P**	**21 02 44.0**	**-0.2**
	baz=87						
L04A	**Klamath Falls**	**86.43**	**40**	⇑P	**P**	**21 02 44.9**	**+0.6**
	baz=87						
S09A	**Goldfield**	**86.56**	**45**	⇓P	**P**	**21 02 44.2**	**-0.7**
	baz=87						
J03A	**Idyll Park**	**86.59**	**38**	⇓P	**P**	**21 02 44.6**	**-0.5**
	baz=87						
M06C	**Likely Place G**	**86.64**	**41**	⇑P	**P**	**21 02 45.2**	**-0.2**
	baz=87						
TPNV	**Topopah Spring**	**86.73**	**46**	*e*P	**P**	**21 02 46.1**	**+0.3**
TPNV				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
TPNV	**Topopah Spring**	**86.73**	**46**	*e*P	**P**	**21 02 46.1**	**+0.3**
	comp=Z,5.6nm,0.7s,mb4.4						
N06A	**Buffalo Meadow**	**86.75**	**42**	⇓P	**P**	**21 02 45.3**	**-0.5**
	baz=87						
TPH	**Tonopah**	**86.76**	**45**	*e*P	**P**	**21 02 45.3**	**-0.6**
TPH				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
TPH	**Tonopah**	**86.76**	**45**	*e*P	**P**	**21 02 45.3**	**-0.6**
	comp=Z,6.6nm,0.9s,mb4.4						
Q08A	**Gabbs**	**86.78**	**44**	⇑P	**P**	**21 02 45.6**	**-0.4**
	baz=87						
Z14A	**Wintersburg**	**86.95**	**51**	⇓P	**P**	**21 02 47.7**	**+0.9**
	baz=87						
R09A	**Tonopah**	**86.96**	**45**	⇓P	**P**	**21 02 46.4**	**-0.4**
	baz=87						
L05A	**Lakeview**	**86.97**	**40**	⇑P	**P**	**21 02 46.9**	**+0.1**
	baz=87						
O07A	**Toulon**	**86.97**	**43**	⇓P	**P**	**21 02 46.7**	**-0.2**
	baz=87,SNR=7.3						
U11A	**Corn Creek**	**87.00**	**47**	⇓P	**P**	**21 02 47.3**	**+0.3**
	baz=87						
Y14A	**Wickenburg**	**87.23**	**50**	⇓P	**P**	**21 02 48.0**	**-0.1**
	baz=87						
W13A	**Hualapai Mount**	**87.26**	**49**	⇓P	**P**	**21 02 48.4**	**+0.1**
	baz=88						
116A	**Eloy**	**87.40**	**52**	⇑P	**P**	**21 02 49.7**	**+0.7**
	baz=88,SNR=6.2						
R10A	**Warm Springs**	**87.48**	**45**	⇓P	**P**	**21 02 49.1**	**-0.2**
	baz=88						
J05A	**Fort Rock**	**87.50**	**39**	⇓P	**P**	**21 02 49.6**	**+0.3**
	baz=88						
PLCA	**Paso Flores**	**87.51**	**134**	P	**P**	**21 02 49.8**	**+0.3**
	comp=Z,8.8nm,1.1s,mb4.4,baz=207,slow=3.7,SNR=12						
PLCA	**Paso Flores**	**87.51**	**134**	*e*P	**P**	**21 02 49.7**	**+0.3**
PLCA				pmax	pmax		
	comp=Z,24nm,1.3s						
PLCA	**Paso Flores**	**87.51**	**134**	*e*P	**P**	**21 02 49.7**	**+0.3**
	comp=Z,24nm,1.3s,mb4.8						
M07A	**Soldier Meadow**	**87.54**	**41**	⇑P	**P**	**21 02 49.3**	**-0.2**
	baz=88						
U12A	**Valley of Fire**	**87.57**	**48**	⇑P	**P**	**21 02 49.6**	**-0.1**
	baz=88						
X14A	**Yava**	**87.60**	**50**	P	**P**	**21 02 50.6**	**+0.7**
	baz=88,SNR=5.1						
K06A	**Valley Falls**	**87.77**	**40**	⇓P	**P**	**21 02 50.6**	**-0.1**
	baz=88						
L07A	**Adell**	**87.82**	**41**	⇓P	**P**	**21 02 50.9**	**+0.1**
	baz=88,SNR=5.0						
BJT	**Baijiatuau**	**87.84**	**317**	*e*P	**P**	**21 02 51.0**	**0.0**
BJT				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BJT	**Baijiatuau**	**87.84**	**317**	*e*P	**P**	**21 02 51.0**	**0.0**
	comp=Z,4.5nm,0.6s,mb4.4						
BJI	**Beijing**	**87.85**	**317**	*e*P	**P**	**21 02 51.5**	**+0.5**
BJI				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
BJI				AMB	AMB		
	comp=Z,151nm,3.9s						
W14A	**Seligman**	**87.88**	**49**	⇑P	**P**	**21 02 51.2**	**+0.1**
	baz=88						
TUC	**Tucson**	**87.92**	**53**	*e*P	**P**	**21 02 52.3**	**+0.9**
TUC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
TUC	**Tucson**	**87.92**	**53**	*e*P	**P**	**21 02 52.3**	**+0.9**
	comp=Z,2.7nm,0.8s,mb4.0						
I05A	**Bend**	**88.03**	**38**	⇓P	**P**	**21 02 52.0**	**+0.1**
	baz=88						
X15A	**Humboldt**	**88.06**	**50**	⇓P	**P**	**21 02 52.5**	**+0.5**
	baz=88,SNR=6.8						
J06A	**Christmas Vall**	**88.10**	**39**	⇑P	**P**	**21 02 51.4**	**-0.8**
	baz=88,SNR=8.0						
P10A	**Eureka**	**88.15**	**44**	⇓P	**P**	**21 02 52.1**	**-0.3**
	baz=88						
N09A	**Rock Creek Ran**	**88.21**	**43**	⇓P	**P**	**21 02 52.7**	**0.0**
	baz=88						
Q11A	**Duckwater**	**88.22**	**45**	⇑P	**P**	**21 02 52.7**	**0.0**
	baz=88						
K07A	**Rock Creek Ran**	**88.28**	**40**	⇓P	**P**	**21 02 53.0**	**-0.1**
	baz=88,SNR=9.1						
E03A	**Lebam**	**88.33**	**35**	⇑P	**P**	**21 02 53.5**	**+0.2**
	baz=89						
I06A	**Prineville**	**88.50**	**39**	⇓P	**P**	**21 02 54.4**	**+0.4**
	baz=89,SNR=5.9						
L08A	**Fields**	**88.52**	**41**	P	**P**	**21 02 54.5**	**+0.4**
	baz=89,SNR=7.5						
F04A	**Amboy**	**88.53**	**36**	⇑P	**P**	**21 02 53.7**	**-0.5**
	baz=89						
M09A	**Marrel Ranch,**	**88.59**	**42**	⇓P	**P**	**21 02 54.7**	**+0.2**
	baz=89						
J07A	**Hines**	**88.66**	**40**	⇑P	**P**	**21 02 55.2**	**+0.4**
	baz=89,SNR=5.4						
K08A	**Mann Creek Ran**	**88.75**	**41**	⇓P	**P**	**21 02 55.3**	**0.0**
	baz=89,SNR=14						
J08A	**Circle Bar Ran**	**89.14**	**40**	P	**P**	**21 02 57.1**	**+0.1**
	baz=89,SNR=8.7						
M10A	**I.L. Ranch, Tu**	**89.20**	**42**	⇓P	**P**	**21 02 57.5**	**+0.2**
	baz=89						
E05A	**Randle**	**89.28**	**36**	⇓P	**P**	**21 02 57.2**	**-0.5**
	baz=90						
ELK	**Elko**	**89.56**	**44**	*e*P	**P**	**21 02 59.3**	**+0.3**
KMI	**Kunming**	**89.56**	**298**	P	**P**	**21 03 00.3**	**+1.3**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
D05A	**Enumclaw**	**89.56**	**36**	⇓P	**P**	**21 02 59.0**	**0.0**
	baz=90						
O12A	**Currie**	**89.60**	**44**	⇑P	**P**	**21 02 58.7**	**-0.4**
	baz=90						
M11A	**Holland Ranch,**	**89.61**	**43**	⇑P	**P**	**21 02 59.4**	**+0.2**
	baz=90						
N12A	**Clover Valley,**	**89.75**	**44**	⇓P	**P**	**21 03 00.0**	**+0.2**
	baz=90						
C05A	**Tolt Reservoir**	**90.04**	**35**	⇑P	**P**	**21 03 00.7**	**-0.5**
	baz=90						
M12A	**Wells**	**90.14**	**43**

ARCES				PKP	PKPdf	21 09 12.7	-1.6		
	comp=Z,0.8nm,0.5s,baz=64,slow=2.2,SNR=6.4								
ARCES				SKPab		21 11 54.9			
	comp=Z,8.4nm,0.6s,baz=35,slow=3.3,SNR=38								
ARCES	**ARCESS Array B**	**133.37**	**348**	PKP	PKPdf	21 09 05.7	-8.6		
ARCES				PKP	PKPdf	21 09 12.7	-1.6		
ARCES				SKPab		21 11 54.9			
KMBO	**Kilima Mbogo**	**134.83**	**240**	SKPab		21 12 03.7			
	comp=Z,3.0nm,0.9s,baz=54,slow=2.4,SNR=5.8								
KAF	**Kangasniemi**	**139.22**	**341**	ep	PKPdf	21 09 15.5	-10		
FINES	**FINESS Array B**	**139.81**	**340**	PKhKP		21 09 16.6			
	comp=Z,1.3nm,0.7s,baz=90,slow=5.7,SNR=11								
FINES				SKPbc	SKPbc	21 12 14.1	-1.5		
	comp=Z,9.6nm,0.5s,baz=51,slow=3.6,SNR=46								
FINES	**FINESS Array B**	**139.81**	**340**	PKP	PKPdf	21 09 16.6	-10		
FINES				SKPbc	SKPbc	21 12 14.1	-1.5		
NB2	**NORSAR Subarra1**	**143.60**	**350**	PKP	PKPdf	21 09 29.3	-3.6		
	comp=Z,12nm,0.7s,baz=16,slow=3.3								
NOA	**NORSAR Array B**	**143.60**	**350**	PKP	PKPdf	21 09 29.6	-3.3		
	comp=Z,10nm,0.8s,baz=22,slow=3.9,SNR=52								
NOA				SKPbc	SKPbc	21 12 23.4	-1.7		
	comp=Z,1.8nm,0.9s,baz=15,slow=4.1,SNR=4.0								
NAO01	**NORSAR Array S**	**143.84**	**351**	*e*PKPdf	PKPdf	21 09 30.6	-2.7		
ANN	**Anapa**	**143.88**	**312**	*i* PKIKP	PKPdf	21 09 31.4	-2.0		
ANN				pmax	pmax				
	comp=Z,62nm,1.0s								
AKASG	**Malin Array Be**	**146.03**	**326**	PKPbc	PKPbc	21 09 37.1	-1.8		
	comp=Z,2.9nm,0.4s,baz=44,slow=4.1,SNR=23								
AKASG				pPKPbc		21 11 37.0			
	comp=Z,0.8nm,0.5s,baz=41,slow=3.9,SNR=3.2								
AKASG				SKPbc	SKPbc	21 12 29.3	-1.4		
	comp=Z,2.7nm,0.6s,baz=47,slow=2.8,SNR=9.6								
AKASG	**Malin Array Be**	**146.03**	**326**	PKPbc	PKPbc	21 09 37.1	-1.8		
AKASG				pPKPbc		21 11 37.0			
AKASG				SKPbc	SKPbc	21 12 29.3	-1.4		
AKBB	**Malin Array Si**	**146.03**	**326**	*e*PKIKP	PKPdf	21 09 37.2	+0.1		
AKBB				*e*		21 09 39.3			
SUW	**Suwalki**	**146.52**	**334**	*e*PKP	PKPbc	21 09 41.2	+0.9		
BR131	**Keskin Array S**	**148.11**	**305**	*e*PKPdf	PKPbc	21 09 43.9	-0.5		
BRTR	**Keskin Array B**	**148.11**	**305**	PKPbc	PKPbc	21 09 43.8	-0.6		
	comp=Z,1.3nm,0.6s,baz=155,slow=3.0,SNR=11								
BRTR				pPKPbc	pPKPbc	21 11 40.8	+1.7		
	comp=Z,1.2nm,0.7s,baz=119,slow=3.2,SNR=5.3								
CFR	**Carcaliu**	**149.71**	**318**	⇓*i*P	PKPbc	21 09 48.0	-0.3		
BURAR	**Bucovina Array**	**150.00**	**324**	⇓*i*P	PKPbc	21 09 49.4	+0.4		
KOLS	**Kolonicke sedl**	**150.61**	**329**	*e*PKP	PKPbc	21 09 50.0	-0.4		
OJC	**Ojcow**	**150.76**	**333**	*e*PKP	PKPbc	21 09 50.0	-0.8		
MLR	**Muntele Rosu**	**150.84**	**320**	⇑*i*P	PKPbc	21 09 50.6	-0.4		
CRVS	**Cervenica-Dubn**	**151.01**	**329**	*e*PKP	PKPab	21 10 00.6	-0.5		
CLL	**Collm**	**152.24**	**342**	*i* PKPbc	PKPbc	21 09 53.1	-1.0		
	comp=Z,3.0nm,0.7s								
CLL				⇑*i*PKPab	PKPab	21 10 05.1	-1.2		
	comp=Z,9.0nm,0.7s								
CLL				*e*pPKPab	pPKPab	21 11 57.0	0.0		
CLL				*ex*	x	21 12 09.0			
CLL	**Collm**	**152.24**	**342**	*i* PKIKP	PKPbc	21 09 53.1	-1.0		
CLL				*i*		21 10 05.1			
CLL	**Collm**	**152.24**	**342**	*i* PKP	PKPbc	21 09 53.1	-1.0		
CLL				⇑*i*PKP	PKPab	21 10 05.1	-1.2		
CLL				*i* pPKP	pPKPab	21 11 56.4	-0.6		
BRG	**Berggiesshubel**	**152.35**	**340**	*e*PKPab	PKPab	21 10 05.9	-0.8		
BRG	**Berggiesshubel**	**152.35**	**340**	*i* PKP	PKPab	21 10 06.0	-0.7		
	comp=Z,3.2nm,0.7s								
BRG				*e*		21 23 52.4			
	comp=Z,1.9nm,1.0s								
CLZ	**Clausthal**	**152.44**	**345**	*e*PKPab	PKPab	21 10 06.1	-1.0		
VYHS	**Vyhne**	**152.48**	**331**	*e*PKP	PKPbc	21 09 56.4	+1.8		
VYHS				*e*		21 10 05.6			
VYHS				*e*		21 11 56.7			
VYHS	**Vyhne**	**152.48**	**331**	*e*PKIKP	PKPbc	21 09 56.4	+1.8		
VYHS				*e*		21 10 05.6			
FBE	**Freiberg**	**152.48**	**341**	*e*PKPab	PKPab	21 10 06.7	-0.6		
WERD	**Werda**	**153.21**	**342**	*e*PKPab	PKPab	21 10 09.5	-0.9		
WERN	**Wernitzgruen**	**153.34**	**341**	*e*PKPab	PKPab	21 10 10.5	-0.4		
GERES	**GERESS Array B**	**154.18**	**338**	PKPab	PKPab	21 10 13.7	-0.9		
	comp=Z,0.6nm,0.6s,baz=42,slow=4.3,SNR=6.7								
GERES				pPKPbc	pPKPbc	21 11 55.0	+1.2		
	comp=Z,0.5nm,0.9s,baz=270,slow=4.9,SNR=2.0								
WET	**Wettzell**	**154.19**	**339**	*e*PKPab	PKPab	21 10 14.0	-0.6		
SANT	**Santorini**	**155.26**	**302**	*e*PKPdf	PKPdf	21 09 48.5	-2.7		
LOR	**Lormes**	**158.02**	**352**	*e*PKP2	PKPab	21 10 29.8	-1.4		
	comp=Z,5.2nm,0.7s								
SSF	**Saint Saulge**	**158.27**	**352**	*e*PKP2	PKPab	21 10 31.1	-1.1		
	comp=Z,24nm,1.0s								
CABF	**La Chapelle**	**158.30**	**347**	*e*PKP2	PKPab	21 10 30.3	-2.1		
AVF	**Avril sur Loir**	**158.56**	**353**	*e*PKP2	PKPab	21 10 31.9	-1.6		
	comp=Z,7.7nm,0.8s								
SMF	**Signal de Mont**	**158.64**	**352**	*e*PKP2	PKPab	21 10 32.4	-1.4		
	comp=Z,24nm,0.9s								
BGF	**Bois d'Agland**	**158.84**	**353**	*e*PKP2	PKPab	21 10 33.1	-1.6		
TCF	**Toulx Ste Croi**	**159.17**	**355**	*e*PKP2	PKPab	21 10 34.6	-1.6		
LPL	**La Plagne**	**159.21**	**345**	*e*PKP2	PKPab	21 10 35.2	-1.1		
	comp=Z,9.3nm,1.0s								
LPG	**La Plagne**	**159.22**	**345**	*e*PKP2	PKPab	21 10 35.1	-1.3		
MBDF	**Montbardon**	**159.94**	**345**	*e*PKP2	PKPab	21 10 38.4	-1.2		
LIC	**Lamto**	**160.34**	**167**	*e*PKP2	PKPab	21 10 41.1	-0.2		
	comp=Z,92nm,1.4s								
SBF	**Sospel**	**160.58**	**342**	*e*PKP2	PKPab	21 10 40.6	-1.7		
	comp=Z,24nm,0.8s								
FRF	**La Foret Royal**	**161.07**	**344**	*e*PKP2	PKPab	21 10 42.7	-1.8		
ESDC	**Sonseca Array**	**165.62**	**11**	PKPab	PKPab	21 11 03.6	-0.9		
	comp=Z,0.4nm,0.7s,baz=347,slow=5.1,SNR=4.2								
TORD	**Torodi Ar. Bea**	**167.50**	**190**	PKPab	PKPab	21 11 12.2	-0.6		
	comp=Z,4.3nm,0.8s,baz=182,slow=3.4,SNR=15								

*IDC **29** 21:00:41.5±3.5, 1042S×10788E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/15, mbtmp3.8/4, Error ellipse: s-maj=139.7km s-min=23.6km az=50.0*
*NEIC **29** 21:00:44.0±2.4, 1019S×1081.5E, h10km, mb4.2/1, Error ellipse: s-maj=77.7km s-min=18.0km az=54.0*
*ISCJB **29** 21:00:44.8±2.6, 102S±0.4×108.1E±0.5, h33km, mb3.8/5, Error ellipse: s-maj=81.4km s-min=18.8km az=107.1*
ISC 29 21:00:47.8±2.5, 102S±0.3×1082E±0.5, h35km, n6, σ1°39/6, mb3.8/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.05**	**114**	P	**P**	**21 06 26.9**	**+0.1**
	0.9nm,0.6s,mb3.5,baz=286,slow=11,SNR=6.1						
WRAB	**Tennant Creek**	**27.06**	**114**	*e*P	**P**	**21 06 26.6**	**-0.2**
	4.6nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**27.99**	**122**	P	**P**	**21 06 35.2**	**+0.1**
	0.7nm,0.6s,mb3.5,baz=296,slow=9.7,SNR=6.6						
NACB	**Ninganchiao**	**36.59**	**21**	P	**P**	**21 07 49.6**	**-0.7**
SONM	**Songino Array**	**57.78**	**359**	P	**P**	**21 10 37.5**	**+2.1**
	1.5nm,0.8s,mb4.0,baz=182,slow=7.6,SNR=8.8						
MKAR	**Makanchi Array**	**61.24**	**340**	P	**P**	**21 10 58.1**	**-1.1**
	0.5nm,0.6s,mb3.8,baz=133,slow=6.1,SNR=2.5						

*NEIC **29** 21:12:36.9, 39.10S×174.79E, h219km, MG4.2(WEL), After WEL.*
WEL 29 21:12:38.1±0.3, 3915S×17479E, h209km±2km, ML4.1/15, 8C-3D, Error ellipse: s-maj=2.7km s-min=2.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.03**	**311**	⇑PN	Pn	21 13 04.6	-0.6
VRZ	**Vera Road**	**0.03**	**311**	P	Pn	21 13 04.6	-0.7
RAEZ	**Rainy Point**	**0.34**	**245**	PN	Pn	21 13 05.4	-0.3
RAEZ	**Rainy Point**	**0.34**	**245**	P	Pn	21 13 05.4	-0.3
PKVZ	**Pokaka**	**0.46**	**109**	⇑PN	Pn	21 13 06.0	-0.1
TWVZ	**Taurewa**	**0.51**	**82**	⇑PN	Pn	21 13 05.8	-0.4
TWVZ				SN	Sn	21 13 27.0	-1.0
TWVZ	**Taurewa**	**0.51**	**82**	P	Pn	21 13 05.8	-0.4
NEZ	**North Egmont**	**0.55**	**256**	⇓PN	Pn	21 13 06.6	+0.2
NEZ	**North Egmont**	**0.55**	**256**	P	Pn	21 13 06.6	+0.2
MTVZ	**Mangateitei**	**0.58**	**115**	⇑PN	Pn	21 13 06.6	+0.1
MTVZ				SN	Sn	21 13 28.3	-0.3
WPVZ	**Whakapapa**	**0.59**	**96**	PN	Pn	21 13 06.6	+0.1
WPVZ				SN	Sn	21 13 28.3	-0.4
WPVZ	**Whakapapa**	**0.59**	**96**	P	Pn	21 13 06.6	+0.1
FWVZ	**Far West T-bar**	**0.61**	**101**	⇓PN	Pn	21 13 06.8	+0.2
FWVZ	**Far West T-bar**	**0.61**	**101**	P	Pn	21 13 06.8	+0.2
PKE	**Pukeiti**	**0.62**	**265**	PN	Pn	21 13 06.6	-0.1
PKE	**Pukeiti**	**0.62**	**265**	P	Pn	21 13 06.6	-0.1
WTVZ	**West Tongariro**	**0.63**	**88**	⇑PN	Pn	21 13 06.6	-0.1
WTVZ				SN	Sn	21 13 27.7	-1.2
WTVZ	**West Tongariro**	**0.63**	**88**	P	Pn	21 13 06.6	-0.1
WAZ	**Wanganui**	**0.63**	**166**	PN	Pn	21 13 07.1	+0.4
HIZ	**Hauiti**	**0.63**	**5**	⇑PN	Pn	21 13 05.8	-0.8
HIZ				SN	Sn	21 13 27.8	-1.1
HIZ	**Hauiti**	**0.63**	**5**	P	Pn	21 13 05.8	-0.9
NGZ	**Ngauruhoe**	**0.64**	**93**	PN	Pn	21 13 06.8	+0.1
NGZ				SN	Sn	21 13 29.0	0.0
NGZ	**Ngauruhoe**	**0.64**	**93**	P	Pn	21 13 04.6	-2.1
WNVZ	**Wahianoa**	**0.66**	**107**	PN	Pn	21 13 06.9	+0.1
WNVZ				SN	Sn	21 13 28.7	-0.4
WNVZ	**Wahianoa**	**0.66**	**107**	P	Pn	21 13 07.1	+0.3
KRVZ	**Karewarewa**	**0.67**	**86**	PN	Pn	21 13 06.8	-0.1
KRVZ				SN	Sn	21 13 28.7	-0.5
NRZ	**Ngariki Road**	**0.69**	**254**	PN	Pn	21 13 07.0	0.0
NRZ	**Ngariki Road**	**0.69**	**254**	P	Pn	21 13 07.0	0.0
MOVZ	**Moawhango**	**0.80**	**110**	PN	Pn	21 13 07.2	-0.3
MOVZ				SN	Sn	21 13 28.7	-1.6
MOVZ	**Moawhango**	**0.80**	**110**	P	Pn	21 13 07.2	-0.3
TSZ	**Takapari Road**	**1.29**	**136**	PN	Pn	21 13 11.0	+0.2
TSZ				SN	Sn	21 13 35.3	-0.9
TSZ	**Takapari Road**	**1.29**	**136**	*e*P	Pn	21 13 11.0	+0.2
BKZ	**Black Stump Fm**	**1.33**	**92**	PN	Pn	21 13 10.4	-0.7
BKZ				SN	Sn	21 13 34.5	-2.3
BKZ	**Black Stump Fm**	**1.33**	**92**	P	Pn	21 13 10.6	-0.5
MRZ	**Mangatainoka R**	**1.63**	**158**	⇑PN	Pn	21 13 13.4	-0.3
MRZ				SN	Sn	21 13 40.2	-1.3
MRZ	**Mangatainoka R**	**1.63**	**158**	P	Pn	21 13 13.4	-0.3
KIW	**Kapiti Island**	**1.72**	**177**	⇑PN	Pn	21 13 14.2	-0.3
KIW				SN	Sn	21 13 41.1	-1.8
KIW	**Kapiti Island**	**1.72**	**177**	P	Pn	21 13 14.2	-0.3
DUWZ	**D'Urville Isla**	**1.79**	**202**	PN	Pn	21 13 14.7	-0.4
DUWZ				SN	Sn	21 13 42.1	-1.9
PXZ	**Pawanui**	**1.83**	**120**	PN	Pn	21 13 15.5	-0.1
CAW	**Cannon Point**	**1.97**	**174**	PN	Pn	21 13 16.5	-0.4
CAW	**Cannon Point**	**1.97**	**174**	P	Pn	21 13 16.5	-0.5
URZ	**Urewera**	**2.02**	**65**	⇓PN	Pn	21 13 15.3	-2.2
URZ				SN	Sn	21 13 43.1	-5.0
URZ	**Urewera**	**2.02**	**65**	P	Pn	21 13 15.3	-2.1
MRW	**Makara Radio**	**2.08**	**182**	PN	Pn	21 13 17.5	-0.5
MRW	**Makara Radio**	**2.08**	**182**	P	Pn	21 13 17.5	-0.6
MTW	**Mount Morrison**	**2.09**	**165**	PN	Pn	21 13 17.3	-0.7
MTW	**Mount Morrison**	**2.09**	**165**	P	Pn	21 13 17.3	-0.8
TCW	**Tory Channel**	**2.10**	**191**	PN	Pn	21 13 17.9	-0.3
TCW	**Tory Channel**	**2.10**	**191**	P	Pn	21 13 17.9	-0.4
WEL	**Wellington**	**2.14**	**180**	P	Pn	21 13 18.0	-0.6
SNZO	**South Karori**	**2.16**	**182**	PN	Pn	21 13 18.0	-0.8
SNZO	**South Karori**	**2.16**	**182**	*e*Pn	Pn	21 13 18.2	-0.7
SNZO				*e*S	Sn	21 13 48.5	-2.2
MWZ	**Matawai**	**2.29**	**70**	P	Pn	21 13 18.4	-1.8
MSWZ	**Moikau Station**	**2.30**	**171**	P	Pn	21 13 19.4	-0.9
NNZ	**Nelson**	**2.33**	**207**	P	Pn	21 13 19.7	-1.0
TUWZ	**Tuamarina**	**2.37**	**195**	PN	Pn	21 13 20.5	-0.6
QRZ	**Quartz Range**	**2.42**	**225**	P	Pn	21 13 19.9	-1.7
BSWZ	**Blackbirch Sta**	**2.66**	**195**	P	Pn	21 13 23.9	-0.4
PUZ	**Puketiti**	**2.92**	**70**	P	Pn	21 13 24.8	-2.4
THZ	**Tophouse**	**2.98**	**208**	*e*P	Pn	21 13 26.4	-1.6
MXZ	**Matakaoa Point**	**3.19**	**61**	P	Pn	21 13 27.7	-2.6
KHZ	**Kahutara**	**3.40**	**196**	P	Pn	21 13 31.7	-1.2
DSZ	**Denniston Nort**	**3.46**	**220**	P	Pn	21 13 31.4	-2.1
LTZ	**Lake Taylor**	**4.10**	**207**	*e*P	Pn	21 13 39.7	-1.7
MQZ	**McQueen's Vall**	**4.83**	**199**	*e*P	Pn	21 13 47.6	-2.9
WVZ	**Waitaha Valley**	**4.98**	**217**	*e*P	Pn	21 13 49.7	-2.7
LBZ	**Lake Benmore**	**6.27**	**212**	*e*P	Pn	21 14 05.2	-3.6
ODZ	**Otahua Downs**	**6.65**	**206**	*e*P	Pn	21 14 11.1	-2.7

*ISCJB **29** 21:30:30.4±1.3, 3756N±006×207E±0.1, h3km, Error ellipse: s-maj=13.0km s-min=6.2km az=116.4*
*CSEM **29** 21:30:31.4±0.2, 3755N×2073E, h2km, MD3.2, Error ellipse: s-maj=5.9km s-min=2.9km az=42.0*
*THE **29** 21:30:31.7, 3756N×2070E, h3km, ML2.9*
*NEIC **29** 21:30:32.3, 3765N×2077E, h22km, MD3.2(ATH), After ATH.*
*ATH **29** 21:30:32.3, 3765N×2077E, h22km±2km, MD3.2/6*
ISC 29 21:30:31.7±1.8, 3756N±007×2079E±008, h4km±11km, n15, σ0°84/21, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.63**	**346**	*e*PN	**Pg**	**21 30 43.3**	**-0.5**
VLS				*e*SN	**Sg**	**21 30 52.2**	**+0.2**
RLS	**Riolos of Patr**	**0.73**	**47**	*e*PB	**Pb**	**21 30 45.2**	**-1.8**
RLS				*e*SN	**Sg**	**21 30 55.6**	**+0.4**
ITM	**Ithomi**	**0.98**	**112**	*e*PN	**Pn**	**21 30 51.5**	**-0.8**
ITM				*e*SN	**Sn**	**21 31 06.9**	**+0.2**
LKD	**Levkas**	**1.15**	**355**	*e*Pg	**Pg**	**21 30 52.9**	**-0.7**
LKD				*e*Sg	**Sg**	**21 31 10.2**	**+1.7**
LKD	**Levkas**	**1.15**	**355**	*e*Pg	**Pg**	**21 30 52.9**	**-0.8**
LKD				*e*Sg	**Sg**	**21 31 10.2**	**+1.7**
EVR	**Evrytania**	**1.57**	**30**	*e*PN	**Pn**	**21 30 59.6**	**-0.8**
AGG	**Agios Georgios**	**1.90**	**39**	*e*Pb	**Pb**	**21 31 05.8**	**-1.0**
AGG				*e*Sb	**Sb**	**21 31 30.5**	**-0.3**
VLI	**Veliai**	**1.91**	**115**	*e*PN	**Pn**	**21 31 06.9**	**+1.9**
LKR	**Lokris**	**2.06**	**57**	*e*PN	**Pn**	**21 31 07.9**	**+0.9**
KEK	**Kerkira**	**2.28**	**340**	*e*PN	**Pn**	**21 31 09.8**	**-0.3**
XOR	**Xorichti**	**2.61**	**46**	*e*Pn	**Pn**	**21 31 14.9**	**+0.3**
LIT	**Litokhoron**	**2.86**	**27**	*e*Pn	**Pn**	**21 31 18.0**	**-0.1**
FNA	**Florina**	**3.25**	**8**	*e*Pn	**Pn**	**21 31 23.7**	**+0.3**
HORT	**Hortiatis**	**3.52**	**30**	*e*Pn	**Pn**	**21 31 27.3**	**+0.1**
KNT	**Kendrikon**	**3.95**	**24**	*e*Pn	**Pn**	**21 31 33.5**	**+0.5**

*NEIC **29** 21:57:58.8, 4030N×105W, h11km, ML2.5(LDG), MN1.6(MDD), After MDD.*
*LDG **29** 21:58:01.0±0.2, 4038N×099W, h4km, Ml2.5/5, Error ellipse: s-maj=3.7km s-min=3.3km az=132.0*
MDD 29 21:57:58.9±0.4, 4029N×104W, h10km, mbLg1.8/12, 2C, Error ellipse: s-maj=3.4km s-min=2.1km az=137.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMOS	**Mosqueruela**	**0.44**	**80**	⇑Pg	Pg	21 58 07.1	-0.4
EMOS	12nm,0.1s,SNR=18			Lg		21 58 13.4	
	20nm,0.2s,SNR=26						
EMOS	**Mosqueruela**	**0.44**	**80**	⇑Pg	Pg	21 58 07.2	-0.4
EMOS				Lg		21 58 13.4	
ECHE	**Chera**	**0.70**	**176**	Pg	Pg	21 58 11.9	-0.6
ECHE	1.1nm,0.1s,SNR=28			Lg		21 58 21.8	
	4.4nm,0.2s,SNR=8.0						
ECHE	**Chera**	**0.70**	**176**	Pg	Pg	21 58 11.9	-0.5
ECHE				Lg		21 58 21.8	
ERTA	**Horta de San J**	**1.24**	**57**	Pg	Pg	21 58 21.3	-1.4
ERTA	7.4nm,0.1s,SNR=68			Lg		21 58 37.3	
	11nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**1.24**	**57**	Pg	Pg	21 58 21.6	-1.1
ERTA				Lg		21 58 37.3	
ETOB	**Tobarra**	**1.69**	**194**	Pn	Pn	21 58 26.9	-1.5
ETOB	0.2nm,0.1s,SNR=15			Pg	Pg	21 58 29.7	-1.6
	0.9nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	21 58 47.6	-2.5
	1.3nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**1.69**	**194**	Pn	Pn	21 58 26.9	-1.5
ETOB				Pg	Pg	21 58 29.7	-1.6
ETOB				Sn	Sn	21 58 47.6	-2.5
EBEN	**Beniarda**	**1.70**	**158**	Pg	Pg	21 58 29.9	-1.7
EBEN	0.3nm,0.2s,SNR=7.9			Sn	Sn	21 58 49.4	-1.0
	2.2nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**1.93**	**56**	Pn	Pn	21 58 30.2	-1.5
EPOB	0.5nm,0.1s,SNR=7.9			Pg	Pg	21 58 33.7	-2.1
	1.0nm,0.1s,SNR=13						
EPOB				Sn	Sn	21 58 54.4	-1.5
	1.0nm,0.1s,SNR=7.9						
EPOB				Lg		21 58 58.2	
	1.6nm,0.1s,SNR=7.1						
EVIA	**Vianos**	**2.00**	**215**	Pg	Pg	21 58 35.6	-1.7
	3.2nm,0.2s,SNR=5.1						
EVIA				Lg		21 59 01.8	
	0.7nm,0.1s,SNR=9.1						
EVIA	**Vianos**	**2.00**	**215**	Pg	Pg	21 58 35.6	-1.7
EVIA				Lg		21 59 01.9	
ESDC	**Sonseca Array**	**2.33**	**256**	Pn	Pn	21 58 35.5	-1.7
	0.1nm,0.1s,baz=74,slow=14,SNR=4.0						
ESDC				Pg	Pg	21 58 40.8	-2.8
	3.8nm,0.2s,baz=75,slow=18,SNR=19						
ESDC				Sn	Sn	21 59 03.2	-2.7
	0.9nm,0.2s,baz=74,slow=24,SNR=9.5						
ESDC				Lg		21 59 10.6	
	1.0nm,0.5s,baz=78,slow=30,SNR=5.4						
ESDC	**Sonseca Array**	**2.33**	**256**	Pn	Pn	21 58 35.5	-1.7
ESDC				Pg	Pg	21 58 40.8	-2.8
ESDC				Sn	Sn	21 59 03.2	-2.7
ESDC				Lg		21 59 10.6	
GUD	**Guadarrama**	**2.40**	**279**	Pg	Pg	21 58 42.1	-2.9
	0.7nm,0.2s,SNR=7.9						
GUD				Sn	Sn	21 59 03.9	-3.8
	0.6nm,0.2s,SNR=7.9						
GUD				Lg		21 59 11.7	
	2.5nm,0.3s,SNR=5.0						
GUD	**Guadarrama**	**2.40**	**279**	Pg	Pg	21 58 42.1	-2.9
GUD				Sn	Sn	21 59 04.0	-3.7
GUD				Lg		21 59 11.7	
EMUR	**La Murta**	**2.45**	**184**	Pg	Pg	21 58 44.3	-1.5
	1.7nm,0.2s,SNR=12						
EMUR				Sn	Sn	21 59 07.2	-1.6
	0.3nm,0.3s,SNR=7.9						
EMUR				Lg		21 59 16.0	
	0.1nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**2.55**	**20**	Pn	Pn	21 58 39.4	-0.9
	0.1nm,0.2s,SNR=7.9						
EBIE				Pg	Pg	21 58 46.0	-1.9
	0.2nm,0.1s,SNR=7.9						
EBIE				Sn	Sn	21 59 08.7	-2.7
	2.0nm,0.3s,SNR=7.9						
EBIE				Lg		21 59 18.1	
	1.3nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**2.63**	**8**	*e*Pg	Pg	21 58 48.2	-1.2
ETSF				*e*Sg	Sg	21 59 21.0	-2.5
	3.3nm,0.3s						
ETSF	**Etsaut**	**2.63**	**8**	Pn	Pn	21 58 41.1	-0.3
ETSF				Pg	Pg	21 58 48.2	-1.2
ETSF				Lg		21 59 21.0	
	1.6nm,0.3s						
ETSF	**Etsaut**	**2.63**	**8**	*e*Pn	Pn	21 58 41.1	-0.3
ETSF				*e*Pg	Pg	21 58 48.2	-1.2
ETSF				*e*Sg	Sg	21 59 21.0	-2.5
SJPF	**Ste Jean**	**2.83**	**357**	*e*Pg	Pg	21 58 51.5	-1.6
SJPF				*e*Sn	Sn	21 59 15.3	-2.8
SJPF				*e*Sg	Sg	21 59 26.8	-2.9
	6.9nm,0.5s						
SJPF	**Ste Jean**	**2.83**	**357**	Pn	Pn	21 58 43.8	-0.2
SJPF				Pg	Pg	21 58 51.5	-1.6
SJPF				Sn	Sn	21 59 15.3	-2.8
SJPF				Lg		21 59 26.8	
	3.5nm,0.5s						
SJPF	**Ste Jean**	**2.83**	**357**	*e*Pn	Pn	21 58 43.8	-0.2
SJPF				*e*Pg	Pg	21 58 51.5	-1.6
SJPF				*e*Sn	Sn	21 59 15.3	-2.8
SJPF				*e*Sg	Sg	21 59 26.8	-2.9
EPF	**Esparros**	**2.93**	**20**	*e*Pg	Pg	21 58 53.7	-1.3
EPF				*e*Sn	Sn	21 59 19.0	-1.6
EPF				*e*Sg	Sg	21 59 30.0	-3.0
	5.2nm,0.3s						
EPF	**Esparros**	**2.93**	**20**	Pn	Pn	21 58 45.1	-0.3
EPF				Pg	Pg	21 58 53.7	-1.3
EPF				Sn	Sn	21 59 19.0	-1.6
EPF				Lg		21 59 30.0	
	2.6nm,0.3s						
EPF	**Esparros**	**2.93**	**20**	*e*Pn	Pn	21 58 45.1	-0.3
EPF				*e*Pg	Pg	21 58 53.7	-1.3
EPF				*e*Sn	Sn	21 59 19.0	-1.6
EPF				*e*Sg	Sg	21 59 30.0	-3.0

comp=Z,104nm,21.6s,baz=204,slow=35
MJAR Matsushiro Arr 38.48 17 P **P 22 43 30.0 +0.5**
1.7nm,0.6s,mb4.0,baz=192,slow=8.7,SNR=11
SONM Songino Array 50.67 344 P **P 22 45 05.9 -0.5**
0.6nm,0.5s,mb3.9,baz=161,slow=9.4,SNR=5.1
MKAR Makanchi Array 60.12 327 P **P 22 46 14.1 0.0**
2.2nm,0.5s,mb4.4,baz=118,slow=8.6,SNR=27
ZAL Zalesovo 63.56 335 P **P 22 46 37.8 +0.6**
0.7nm,0.4s,mb3.9,baz=359,slow=8.1,SNR=4.3
ZRNK Zerenda 70.66 328 *e*P **P 22 47 21.2 -0.9**
2.3nm,0.7s,mb4.1
BRTR Keskin Array B 91.53 310 P **P 22 49 12.1 -0.6**
0.3nm,0.5s,mb3.8,baz=101,slow=6.0,SNR=3.2
TORD Torodi Ar. Bea 122.81 285 PKP PKPdf 22 55 03.7 +2.1
0.7nm,0.7s,baz=83,slow=1.4,SNR=13
TORD Torodi Ar. Bea 122.81 285 PKP PKPdf 22 55 03.7 +2.1

NEIC ***29*** *22:46:58.0±2.4, 5.73S×150.03E, h35km, mb3.8/1, Error ellipse: s-maj=52.6km s-min=12.5km az=172.0*
ISCJB ***29*** *22:47:05.3±4.9, 69.5S±06.1×150.3E±02.1, h86km±35km, mb3.3/2, Error ellipse: s-maj=100.8km s-min=14.8km az=148.2*
IDC ***29*** *22:47:06.9±7.8, 6.16S×149.44E, h63km±61km, mb3.3/3, mb1 3.6/4, mb1mx3.4/13, mbtmp3.7/4, ML3.1/1, Error ellipse: s-maj=86.3km s-min=51.0km az=128.0*
ISC 29 22:47:04.9±4.7, 66S±05.5×1502E±02.1, h58km±35km, n7, σ1°46/7, mb3.4/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.07**	**227**	P	**Pn**	**22 48 05.7**	**+1.1**
	8.8nm,0.3s,baz=19,slow=4.6,SNR=17						
PMG				S	**Sn**	**22 48 49.9**	**-1.0**
	16nm,0.3s,baz=43,slow=23,SNR=9.4						
HNR	**Honiara**	**10.05**	**107**	*e*Pn	**Pn**	**22 49 26.1**	**-0.4**
	64nm,1.0s						
WRAB	**Tennant Creek**	**20.28**	**228**	*e*P	**P**	**22 51 35.8**	**+0.1**
	2.8nm,0.6s						
WRA	**Warramunga Arr**	**20.29**	**228**	P	**P**	**22 51 36.0**	**+0.2**
	1.5nm,0.6s,baz=51,slow=11,SNR=19						
ASAR	**Alice Springs**	**23.06**	**221**	P	**P**	**22 52 06.9**	**+1.6**
	0.5nm,0.6s,mb3.1,baz=51,slow=9.7,SNR=8.7						
FITZ	**Fitzroy Crossi**	**26.51**	**242**	P	**P**	**22 52 35.2**	**-1.6**
	0.7nm,0.3s,mb3.6,baz=39,slow=13,SNR=10						
TORD	**Torodi Ar. Bea**	**148.32**	**284**	PKPbc	PKPbc	23 06 43.3	-1.3
	0.2nm,0.4s,baz=57,slow=2.2,SNR=10.0						

IDC ***29*** *22:55:46.3±1.1, 6.85N×93.10E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/21, mbtmp3.8/10, MS3.1/1, Ms1 3.1/1, ms1mx2.5/21, Error ellipse: s-maj=60.6km s-min=16.2km az=54.0*
ISCJB ***29*** *22:55:51.0±0.6, 76N±0.1×939E±0.1, h33km, mb4.0/15, Error ellipse: s-maj=24.4km s-min=6.4km az=84.6*
NEIC ***29*** *22:55:51.8±0.9, 733N×9355E, h30km, mb4.3/5, Error ellipse: s-maj=39.2km s-min=8.3km az=51.0*
ISC 29 22:55:53.2±0.6, 75N±01×939E±01, h35km, n29, σ0°89/30, mb4.0/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.90**	**133**	Pn	**Pn**	**22 57 36.6**	**+4.8**
	1.1nm,0.3s,baz=314,slow=9.0,SNR=5.7						
PSI				LR	LR	22 59 41.2	
	comp=Z,160nm,19.6s,baz=213,slow=33						
KULM	**Kulim**	**7.12**	**108**	*e*Pn	**Pn**	**22 57 34.8**	**0.0**
KULM				*e*Sn	**Sn**	**22 58 53.7**	**-0.6**
JIRN	**Jiri**	**21.29**	**341**	*e*P	**P**	**23 00 36.9**	**+0.3**
PKI	**Pulchoki**	**21.47**	**339**	*e*P	**P**	**23 00 40.8**	**+2.2**
DMN	**Daman**	**21.62**	**339**	*e*P	**P**	**23 00 41.6**	**+1.5**
GUN	**Gumba**	**21.62**	**341**	*e*P	**P**	**23 00 39.2**	**-1.0**
KKN	**Kakani**	**21.72**	**339**	*e*P	**P**	**23 00 40.9**	**-0.3**
	5.8nm,0.5s,mb4.3						
GKN	**Gorkha**	**22.15**	**338**	*e*P	**P**	**23 00 44.6**	**-1.2**
	9.8nm,0.5s,mb4.5						
KOLN	**Koldanda**	**22.34**	**335**	*e*P	**P**	**23 00 47.8**	**-0.1**
MKAR	**Makanchi Array**	**40.35**	**348**	P	**P**	**23 03 30.1**	**+2.7**
	0.3nm,0.3s,mb3.5,baz=173,slow=7.9,SNR=4.2						
FITZ	**Fitzroy Crossi**	**40.42**	**129**	*e*P	**P**	**23 03 27.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**40.42**	**129**	P	**P**	**23 03 27.0**	**-0.9**
	1.4nm,0.7s,mb3.8,baz=360,slow=19,SNR=4.2						
SONM	**Songino Array**	**41.55**	**13**	P	**P**	**23 03 41.9**	**+4.6**
	0.5nm,0.6s,mb3.4,baz=203,slow=8.6,SNR=4.5						
ZAL	**Zalesovo**	**46.84**	**353**	P	**P**	**23 04 23.6**	**+4.0**
	3.4nm,0.3s,mb4.7,baz=323,slow=4.4,SNR=9.6						
WRA	**Warramunga Arr**	**48.30**	**125**	P	**P**	**23 04 31.2**	**+0.3**
	0.8nm,0.3s,mb4.2,baz=306,slow=8.4,SNR=44						
WRA				PcP	PcP	23 05 58.2	+0.8
	0.3nm,0.8s,baz=315,slow=2.9,SNR=5.2						
WRAB	**Tennant Creek**	**48.30**	**125**	*e*P	**P**	**23 04 31.1**	**+0.2**
	2.2nm,0.3s,mb4.7						
WB2	**Warramunga Arr**	**48.31**	**125**	*e*P	**P**	**23 04 31.1**	**+0.1**
WB2	**Warramunga Arr**	**48.31**	**125**	*e*P	**P**	**23 04 31.2**	**+0.2**
CHKZ	**Chkalovo**	**49.70**	**342**	*e*P	**P**	**23 04 41.0**	**-0.7**
	0.5nm,0.4s,mb3.9						
ASPA	**Alice Springs**	**49.92**	**130**	*e*P	**P**	**23 04 43.9**	**+0.6**
AS31	**Alice Springs**	**49.92**	**130**	*e*P	**P**	**23 04 43.9**	**+0.6**
ASAR	**Alice Springs**	**49.92**	**130**	P	**P**	**23 04 43.7**	**+0.4**
	1.1nm,0.5s,mb4.1,baz=302,slow=8.1,SNR=19						
JOF	**Joensuu**	**71.03**	**335**	*e*p	**P**	**23 07 06.8**	**-0.6**
FINES	**FINESS Array B**	**72.88**	**332**	P	**P**	**23 07 17.8**	**-0.7**
	0.4nm,0.4s,mb3.7,baz=90,slow=4.2,SNR=7.1						
FINES	**FINESS Array B**	**72.88**	**332**	P	**P**	**23 07 17.8**	**-0.7**
KAF	**Kangasniemi**	**72.96**	**333**	*e*p	**P**	**23 07 18.0**	**-1.0**
	0.8nm,0.4s,mb4.0						
ARCES	**ARCESS Array B**	**75.48**	**340**	P	**P**	**23 07 34.1**	**+0.4**
	1.1nm,0.7s,mb3.9,baz=78,slow=4.2,SNR=3.9						
GERES	**GERESS Array B**	**77.39**	**318**	P	**P**	**23 07 47.0**	**-0.2**
	0.2nm,0.5s,mb3.3,baz=121,slow=5.0,SNR=4.1						
NOA	**NORSAR Array B**	**79.88**	**331**	P	**P**	**23 07 57.5**	**-0.7**
	0.3nm,0.6s,mb3.4,baz=96,slow=4.1,SNR=2.9						

NEIC ***29*** *22:57:59.6, 38.90N×26.80E, h30km, MD3.0(ISK), MD3.1(ATH), After ATH.*
ATH ***29*** *22:57:59.6, 38.90N×26.80E, h30km±5km, MD3.1/4*
ISCJB ***29*** *22:58:00.2±0.6, 38.78N±0.003×26.64E±0.006, h25km±6km, Error ellipse: s-maj=7.9km s-min=5.1km az=132.3*
ISK ***29*** *22:58:00.0, 38.76N×26.72E, h28km, MD3.0*
CSEM ***29*** *22:58:00.0±0.1, 38.77N×26.73E, h25km, MD3.0, Error ellipse: s-maj=3.2km s-min=1.4km az=61.0*
ISC 29 22:58:00.5±0.5, 3881N±003×2668E±005, h17km±4km, n26, σ0°76/36, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYVA	**Ayvalik**	**0.50**	**1**	*i* P	**Pg**	**22 58 10.2**	**-0.4**
AYVA				*i* S	**Sg**	**22 58 17.9**	**+0.5**
BLCB	**Balcova**	**0.51**	**146**	*i* PG	**Pg**	**22 58 10.3**	**-0.3**
BLCB				*i* SG	**Sg**	**22 58 17.3**	**-0.2**
PRK	**Paraskevi**	**0.54**	**324**	*e*PN	**Pg**	**22 58 11.3**	**0.0**
PRK				*e*SN	**Sg**	**22 58 19.2**	**+0.6**
KDAG	**Bornova**	**0.61**	**131**	*i* P	**Pg**	**22 58 12.3**	**-0.2**
KDAG				*i* S	**Sg**	**22 58 20.5**	**-0.2**
IZM	**Izmir**	**0.61**	**132**	*i* PG	**Pg**	**22 58 12.4**	**-0.2**
AKS	**Akhisar**	**0.89**	**85**	*i* PG	**Pg**	**22 58 17.2**	**-0.5**
AKHS	**Akhisar**	**0.89**	**85**	*i* P	**Pb**	**22 58 17.3**	**-0.1**
AKHS				*i* S	**Sb**	**22 58 30.0**	**+1.1**
EZN	**Ezine**	**1.06**	**345**	*i* PN	**Pn**	**22 58 20.3**	**-0.1**
SMG	**Samos**	**1.10**	**174**	*e*PB	**Pb**	**22 58 21.1**	**+0.1**
SMG				*e*SN	**Sn**	**22 58 38.6**	**+2.8**
BOZC	**Bozcaada**	**1.14**	**335**	*i* P	**Pn**	**22 58 21.7**	**+0.1**
BOZC				*i* S	**Sb**	**22 58 37.4**	**+1.1**
CANB	**Canakkale**	**1.25**	**14**	PN	**Pn**	**22 58 22.2**	**-0.8**
BTOK	**Tokmak**	**1.42**	**47**	*i* P	**Pn**	**22 58 26.4**	**+1.0**
BTOK				*i* S	**Sn**	**22 58 44.0**	**+0.4**
BTOK	**Tokmak**	**1.42**	**47**	*i* P	**Pn**	**22 58 26.4**	**+1.0**
BTOK				*i* S	**Sn**	**22 58 44.0**	**+0.4**
AYDN	**Tasoluk**	**1.48**	**140**	*i* P	**Pg**	**22 58 29.6**	**+0.6**
AYDN				*i* S	**Sg**	**22 58 49.6**	**+1.2**
GADA	**Gvkgeada**	**1.51**	**337**	PN	**Pn**	**22 58 26.8**	**+0.1**
LIA	**Limnos Island**	**1.59**	**314**	*e*PN	**Pn**	**22 58 28.5**	**+0.7**
MLSB	**Milas**	**1.74**	**150**	*e*PN	**Pn**	**22 58 28.5**	**-1.3**
EDC	**Edincik**	**1.79**	**30**	PN	**Pn**	**22 58 29.8**	**-0.7**
BODT	**Bodrum**	**1.81**	**164**	*e*PN	**Pn**	**22 58 29.4**	**-1.4**
BNT	**Bandirma**	**1.82**	**31**	PN	**Pn**	**22 58 29.8**	**-1.1**
RKY	**Sarkoy-Tekirda**	**1.92**	**11**	PN	**Pn**	**22 58 31.8**	**-0.5**
MRMT	**Marmara Adasi**	**1.93**	**21**	PN	**Pn**	**22 58 32.4**	**0.0**
ENEZ	**Enez**	**1.97**	**348**	*e*PN	**Pn**	**22 58 33.3**	**+0.3**
MFT	**Murefte**	**2.03**	**13**	*e*PN	**Pn**	**22 58 33.8**	**0.0**
ORLT	**Orhaneli**	**2.12**	**53**	*e*PN	**Pn**	**22 58 35.0**	**0.0**
RDO	**Rodhopi**	**2.50**	**340**	*e*PN	**Pn**	**22 58 39.0**	**-1.3**

WEL 30 00:07:30.0±0.1, 4386S×16931E, h5km, ML3.5/10, Error ellipse: s-maj=1.4km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FOZ	**Fox Glacier**	**0.40**	**43**	PG	Pg	00 07 39.8	+2.1
FOZ				SG	Sg	00 07 46.0	+3.1
JCZ	**Jackson Bay**	**0.45**	**241**	PG	Pg	00 07 39.1	+0.4
JCZ				SG	Sg	00 07 45.0	+0.3
LBZ	**Lake Benmore**	**0.82**	**130**	P*	Pb	00 07 46.2	-0.6
LBZ				S*	Sb	00 07 56.7	-1.4
WKZ	**Wanaka**	**0.99**	**192**	P*	Pb	00 07 48.5	-1.2
WKZ				S*	Sb	00 08 01.0	-2.0
RPZ	**Rata Peaks**	**1.27**	**84**	P*	Pb	00 07 54.4	0.0
MSZ	**Milford Sound**	**1.28**	**230**	P*	Pb	00 07 52.7	-1.9
MSZ				S*	Sb	00 08 10.4	-1.1
WVZ	**Waitaha Valley**	**1.30**	**54**	P*	Pb	00 07 53.2	-1.7
WVZ				S*	Sb	00 08 11.3	-0.5
EAZ	**Earnscleugh**	**1.38**	**180**	PN	Pn	00 07 55.0	-0.8
EAZ				S*	Sb	00 08 13.3	-0.8
ODZ	**Otahua Downs**	**1.52**	**142**	PN	Pn	00 07 57.7	-0.1
ODZ				SN	Sn	00 08 17.4	-0.6
WHZ	**Wether Hill Ro**	**2.26**	**205**	PN	Pn	00 08 07.5	-0.4
LTZ	**Lake Taylor**	**2.41**	**65**	PN	Pn	00 08 10.2	+0.1
SYZ	**Scrubby Hill**	**2.69**	**183**	PN	Pn	00 08 12.8	-1.0
APZ	**The Paps**	**3.12**	**197**	PN	Pn	00 08 18.9	-0.9
THZ	**Tophouse**	**3.37**	**53**	PN	Pn	00 08 23.3	+0.1

CSEM ***30*** *00:08:14.9±0.6, 76.08N×25.44E, h10km, ML2.3, Error ellipse: s-maj=12.4km s-min=10.0km az=41.0*
ISCJB ***30*** *00:08:15.2±0.5, 76.09N±0.003×24.4E±0.2, h10km, Error ellipse: s-maj=7.8km s-min=4.0km az=33.8*
HEL ***30*** *00:08:16.8±0.6, 76.16N×24.54E, h10km, ML2.7, MD1.8(BER), ML2.3(BER)*
NAO ***30*** *00:08:18.9±3.0, 75.89N×22.04E, h13km±17km, ML2.4*
BER ***30*** *00:08:18.2±4.1, 76.14N×24.78E, h17km±15km, MD1.8, ML2.3*
ISC 30 00:08:16.8±0.5, 7616N±003×241E±02, h10km, n21, σ0°71/40, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPEN	**Hopen**	**0.42**	**31**	*i* P	**Pg**	**00 08 25.5**	**+0.6**
HOPEN				*e*S	**Sg**	**00 08 30.9**	**+0.5**
HOPEN				AML	AML	00 08 33.9	
	comp=E,648nm,0.3s						
BJO	**Bjornoya**	**2.08**	**219**	*e*P	**Pn**	**00 08 52.0**	**+0.3**
BJO				*e*Pg	**Pg**	**00 08 57.2**	**+0.6**
BJO				*e*Sg	**Sg**	**00 09 24.6**	**+1.1**
BJO				AML	AML	00 09 30.9	
	comp=Z,19nm,0.8s						
BJO	**Bjornoya**	**2.08**	**219**	*e*Pg	**Pg**	**00 08 57.2**	**+0.6**
	SNR=91						
BJO				*e*Sg	**Sg**	**00 09 24.6**	**+1.0**
	SNR=91						
BJO1	**Bjornoya**	**2.11**	**220**	*e*P	**Pn**	**00 08 52.0**	**-0.1**
BJO1				*e*PG	**Pg**	**00 08 57.2**	**-0.1**
BJO1				*e*SG	**Sg**	**00 09 24.6**	**0.0**
BJO1				AML	AML	00 09 30.9	
	comp=Z,19nm,0.8s						
SPA0	**Spitsbergen Ar**	**2.66**	**323**	Pn	**Pn**	**00 09 00.7**	**+1.0**
	baz=139,slow=11						
SPA0				Sn	**Sn**	**00 09 32.5**	**+0.4**
	baz=131,slow=18						
SPA0				Lg		00 09 41.2	
	baz=135,slow=28						
SPA0	**Spitsbergen Ar**	**2.66**	**323**	*e*P	**Pn**	**00 09 00.7**	**+1.0**
SPA0				*e*S	**Sn**	**00 09 32.5**	**+0.4**
SPA0				*e*SG	**Sg**	**00 09 41.2**	**-1.1**
SPA0	**Spitsbergen Ar**	**2.66**	**323**	Pn	**Pn**	**00 09 00.7**	**+1.0**
	SNR=55						
SPA0				Sn	**Sn**	**00 09 32.5**	**+0.5**
	SNR=55						
KBS	**Kingsbay**	**3.82**	**322**	Pn	**Pn**	**00 09 15.9**	**+0.3**
KBS				Sn	**Sn**	**00 09 59.4**	**-1.2**
KBS				Lg		00 10 17.4	
KBS	**Kingsbay**	**3.82**	**322**	*e*P	**Pn**	**00 09 16.3**	**+0.7**
KBS				*e*S	**Sn**	**00 09 59.6**	**-1.1**
KBS				AML	AML	00 10 24.1	
	comp=Z,14nm,0.4s						
KBS	**Kingsbay**	**3.82**	**322**	*e*P	**Pn**	**00 09 16.3**	**+0.7**
	SNR=53						
KBS				*e*S	**Sn**	**00 09 59.6**	**-1.0**
	comp=Z,14nm,0.4s,SNR=53						
KEV	**Kevo**	**6.49**	**171**	*e*P	**Pn**	**00 09 53.3**	**+0.9**
KEV				*e*S	**Sn**	**00 11 00.1**	**-6.4**
KEV				MSN		00 11 03.5	
	comp=Z,1.9nm,0.3s						
KEV	**Kevo**	**6.49**	**171**	P	**Pn**	**00 09 53.2**	**+0.8**
ARA0	**ARCESS Array S**	**6.67**	**176**	Pn	**Pn**	**00 09 54.0**	**-0.9**
	baz=358,slow=10						
ARA0				Sn	**Sn**	**00 11 02.9**	**-8.0**
	baz=20,slow=22						
ARA0	**ARCESS Array S**	**6.67**	**176**	*e*P	**Pn**	**00 09 54.0**	**-0.9**
ARA0				*e*		00 11 02.9	
KIF	**Kilpisjarvi**	**7.26**	**189**	*e*P	**Pn**	**00 10 01.8**	**-1.1**
KIF				*e*S	**Sn**	**00 11 17.9**	**-7.4**
KIF				MSN		00 11 23.6	
	comp=Z,1.1nm,0.2s						
SGF	**Sodankyl**	**8.79**	**174**	*e*P	**Pn**	**00 10 23.9**	**-0.1**
SGF				*e*S	**Sn**	**00 11 54.6**	**-8.5**
SGF				MSN		00 11 56.5	
	comp=Z,1.0nm,0.4s						
SGF	**Sodankyl**	**8.79**	**174**	P	**Pn**	**00 10 23.8**	**-0.1**
KU4	**Liikasenvaara**	**9.99**	**167**	*e*P	**Pn**	**00 10 39.8**	**-0.6**
KU4				*e*S	**Sn**	**00 12 22.3**	**-10**
KU4				MSN		00 12 28.1	
	comp=Z,0.6nm,0.4s						
KU4	**Liikasenvaara**	**9.99**	**167**	P	**Pn**	**00 10 39.7**	**-0.7**
MSF	**Maaselka**	**10.42**	**169**	*e*P	**Pn**	**00 10 45.4**	**-0.8**
MSF				*e*S	**Sn**	**00 12 32.7**	**-10**
MSF				MSN		00 12 34.0	
	comp=Z,0.5nm,0.4s						
KJN	**Kajaani**	**12.19**	**172**	*e*S	**Sn**	**00 13 16.1**	**-10**
KJN				MSN		00 13 18.9	
	comp=Z,0.6nm,0.4s						

IDC ***30*** *00:10:49.6±1.2, 32.63N×85.36E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/20, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=36.5km s-min=27.1km az=47.0*
NEIC ***30*** *00:10:52.7±2.7, 32.84N×85.34E, h10km, mb3.6/1, Error ellipse: s-maj=43.2km s-min=26.9km az=176.0*
ISCJB ***30*** *00:10:53.1±1.2, 32.7N±0.02×85.4E±0.02, h33km, mb3.5/6, Error ellipse: s-maj=27.9km s-min=21.0km az=120.8*
ISC 30 00:10:55.3±1.1, 328N±02×854E±02, h35km, n8, σ0°67/8, mb3.5/6, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**14.18**	**351**	Pn	**Pn**	**00 14 12.5**	**-1.1**
	0.1nm,0.3s,baz=165,slow=10,SNR=5.0						
MKAR	**Makanchi Array**	**14.18**	**351**	Pn	**Pn**	**00 14 12.4**	**-1.1**
SONM	**Songino Array**	**21.85**	**40**	P	**P**	**00 15 45.5**	**+0.7**
	0.3nm,0.4s,mb3.0,baz=243,slow=6.3,SNR=3.5						
CHKZ	**Chkalovo**	**23.39**	**338**	*e*P	**P**	**00 16 01.6**	**+0.5**
	1.2nm,0.7s,mb3.4						
FINES	**FINESS Array B**	**47.21**	**326**	P	**P**	**00 19 25.3**	**+0.7**
	1.6nm,0.9s,mb4.0,baz=140,slow=11,SNR=4.0						
NOA	**NORSAR Array B**	**54.36**	**325**	P	**P**	**00 20 18.1**	**-0.5**
	0.8nm,0.9s,mb3.6,baz=86,slow=7.4,SNR=2.7						
WRA	**Warramunga Arr**	**70.27**	**131**	P	**P**	**00 22 04.3**	**-0.7**
	0.4nm,0.8s,mb3.4,baz=328,slow=6.3,SNR=6.4						
TORD	**Torodi Ar. Bea**	**77.77**	**278**	P	**P**	**00 22 49.1**	**+0.3**
	0.2nm,0.6s,mb3.2,baz=58,slow=4.7,SNR=4.7						

ISK ***30*** *00:42:54.3, 34.74N×25.39E, h53km, MD4.0*
MOS ***30*** *00:42:55.8±1.1, 35.21N×25.32E, h10km, mb4.4/10, Error ellipse: s-maj=7.2km s-min=3.6km az=114.4*
NEIC ***30*** *00:42:57.2, 35.38N×25.38E, h24km, mb4.1/24, ML4.0(ATH), After ATH.*
ATH ***30*** *00:42:57.2, 35.38N×25.38E, h24km±1km, MD4.0/22, ML4.0*
IDC ***30*** *00:42:57.9±0.9, 35.24N×25.39E, h0km, mb4.1/8, mb1 4.0/15, mb1mx3.9/25, mbtmp3.9/15, ML3.6/6, Error ellipse: s-maj=17.5km s-min=17.1km az=114.0*

ISCJB ***30*** *00:42:58.0±0.3, 3523N±002×2539E±002, h28km±2km, mb4.0/23, Error ellipse: s-maj=3.7km s-min=2.6km az=88.0*
CSEM ***30*** *00:42:58.3±0.0, 3521N×2544E, h40km, mb4.3/7, Error ellipse: s-maj=1.6km s-min=1.0km az=35.0*
THE ***30*** *00:42:58.8, 3533N×2543E, h10km, ML3.8*
HLW ***30*** *00:43:07.1, 3489N×2589E, h33km, Mb3.4*
ISC 30 00:42:59.1±0.3, 3530N±002×2539E±002, h17km±2km, n224, σ1°20/247, mb4.0/23, 18C-5D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**0.15**	**152**	*e*Pg	**Pg**	**00 43 03.0**	**-0.2**
LAST				*e*Sg	**Sg**	**00 43 06.6**	**+0.6**
NPS	**Neapolis**	**0.18**	**100**	⇑ *i* PB	**Pg**	**00 43 03.2**	**-0.5**
NPS				*e*SB	**Sg**	**00 43 06.7**	**-0.1**
XRY	**Khrisi**	**0.49**	**149**	⇑ *i* PN	**Pg**	**00 43 08.5**	**-0.4**
SIVA	**Sivas**	**0.55**	**240**	*e*Pg	**Pg**	**00 43 09.8**	**-0.3**
SIVA				*e*Sg	**Sg**	**00 43 19.3**	**+1.8**
ZKR	**Zakros**	**0.70**	**105**	*e*Pg	**Pg**	**00 43 12.5**	**-0.3**
ZKR				*e*Sg	**Sg**	**00 43 22.1**	**0.0**
VAM	**Vamos**	**0.98**	**277**	⇑ *i* PN	**Pn**	**00 43 16.4**	**-1.7**
VAM				*e*SN	**Sn**	**00 43 29.3**	**-2.3**
SANT	**Santorini**	**1.07**	**3**	*e*Pg	**Pg**	**00 43 18.2**	**-1.7**
SANT				*e*Sg	**Sg**	**00 43 33.2**	**-0.8**
SANT	**Santorini**	**1.07**	**3**	*e*P	**Pb**	**00 43 17.8**	**-1.4**
SANT				*e*S	**Sb**	**00 43 31.7**	**-1.3**
SANT	**Santorini**	**1.07**	**3**	*e*P	**Pb**	**00 43 17.8**	**-1.5**
SANT	**Santorini**	**1.07**	**3**	*e*Pg	**Pg**	**00 43 18.2**	**-1.7**
SANT				*e*S	**Sb**	**00 43 31.7**	**-1.3**
SANT				*e*Sg	**Sg**	**00 43 33.2**	**-0.8**
GVD	**Gavdhos**	**1.16**	**247**	*e*Pg	**Pg**	**00 43 21.3**	**-0.3**
GVD				*e*Sg	**Sg**	**00 43 39.7**	**+2.9**
GVD	**Gavdhos**	**1.16**	**247**	*e*Pn	**Pn**	**00 43 21.4**	**+0.8**
GVD				*e*Sn	**Sn**	**00 43 38.8**	**+2.7**
GVD	**Gavdhos**	**1.16**	**247**	*e*Pn	**Pn**	**00 43 20.0**	**-0.6**
KARP	**Karpathos**	**1.47**	**80**	*e*PN	**Pn**	**00 43 24.5**	**-0.3**
APE	**Apeiranthos**	**1.77**	**4**	*e*Pb	**Pb**	**00 43 30.5**	**-0.7**
APE				*e*Sb	**Sb**	**00 43 52.8**	**-0.4**
APE	**Apeiranthos**	**1.77**	**4**	*e*Pn	**Pn**	**00 43 27.2**	**-1.8**
APE				S	**Sb**	**00 43 52.8**	**-0.4**
APE	**Apeiranthos**	**1.77**	**4**	*e*Pb	**Pb**	**00 43 30.5**	**-0.7**
APE				*e*Sb	**Sb**	**00 43 52.8**	**-0.3**
KYTH	**Kithira**	**2.15**	**298**	*e*PN	**Pn**	**00 43 32.0**	**-2.2**
DAT	**Datca**	**2.28**	**50**	PN	**Pn**	**00 43 35.7**	**-0.2**
DAT				SN	**Sn**	**00 44 07.0**	**+3.4**
BODT	**Bodrum**	**2.35**	**41**	PN	**Pn**	**00 43 38.8**	**+1.9**
BODT				SN	**Sn**	**00 44 10.2**	**+4.8**
ARG	**Arkhangelos**	**2.41**	**67**	*e*PN	**Pn**	**00 43 37.2**	**-0.5**
VLI	**Veliai**	**2.44**	**306**	*e*PN	**Pn**	**00 43 36.3**	**-1.9**
SMG	**Samos**	**2.67**	**25**	*e*PN	**Pn**	**00 43 39.6**	**-1.8**
MLSB	**Milas**	**2.77**	**43**	PN	**Pn**	**00 43 43.6**	**+0.8**
KVR	**Kavouri**	**2.84**	**333**	*e*PB	**Pn**	**00 43 44.5**	**+0.8**
NAIG	**Nisos Aigina**	**2.90**	**329**	*e*PB	**Pn**	**00 43 45.3**	**+0.8**
YER	**Yerkesik**	**2.97**	**51**	PN	**Pn**	**00 43 45.6**	**+0.1**
ATH	**Athens Observa**	**2.99**	**334**	*e*PN	**Pn**	**00 43 44.1**	**-1.7**
PTL	**Penteli**	**3.01**	**336**	*e*PN	**Pn**	**00 43 45.0**	**-1.0**
DALT	**Dalyan (Mudla)**	**3.01**	**60**	PN	**Pn**	**00 43 46.1**	**0.0**
AYDN	**Tasoluk**	**3.10**	**40**	*i* P	**Pb**	**00 43 52.7**	**-1.0**
AYDN				*i* S	**Sg**	**00 44 39.3**	**+0.7**
CHOS	**Chios island**	**3.13**	**10**	*e*Pn	**Pn**	**00 43 47.4**	**-0.3**
MGER	**Gerania Oros**	**3.19**	**328**	*e*PN	**Pn**	**00 43 48.0**	**-0.4**
FETY	**Fethiye**	**3.28**	**65**	*e*PN	**Pn**	**00 43 49.1**	**-0.6**
ITM	**Ithomi**	**3.37**	**305**	*e*PN	**Pn**	**00 43 51.4**	**+0.4**
IZM	**Izmir**	**3.44**	**25**	*e*PN	**Pn**	**00 43 54.6**	**+2.7**
DNZL	**Cakiroluk**	**3.79**	**50**	*i* P	**Pn**	**00 43 58.0**	**+1.2**
DNZL				*i* S	**Sn**	**00 44 46.4**	**+5.6**
SLUM		**3.80**	**182**	⇑ P	**Pn**	**00 43 58.0**	**+1.1**
SLUM				S	**Sn**	**00 44 35.7**	**-5.4**
DENT	**Denizli**	**3.82**	**49**	*e*PN	**Pn**	**00 43 58.0**	**+0.8**
LKR	**Lokris**	**3.86**	**331**	*e*PN	**Pn**	**00 43 57.4**	**-0.3**
ELL	**Elmali**	**3.94**	**67**	*e*PN	**Pn**	**00 43 58.2**	**-0.6**
PRK	**Paraskevi**	**4.00**	**10**	*e*PN	**Pn**	**00 43 57.8**	**-1.9**
AOS	**Alonnisos**	**4.05**	**343**	*e*Pn	**Pn**	**00 44 01.4**

MLR	**Muntele Rosu**	**10.19**	**2**	⇓*i*P		**Pn**	**00 45 30.5**	**+5.9**
HDHB	**Dhahab**	**10.21**	**127**	⇑P		**Pn**	**00 45 25.0**	**+0.1**
HDK1	**Dakhla**	**10.32**	**159**	⇑P		**Pn**	**00 45 26.9**	**+0.6**
BZS	**Buzias**	**10.70**	**346**	⇑*i*P		**Pn**	**00 45 32.3**	**+0.7**
AKRG	**Al Kharijah**	**10.71**	**154**	P		**Pn**	**00 45 31.8**	**+0.1**
GTR	**Jabal at Tayr**	**10.72**	**154**	⇑P		**Pn**	**00 45 32.0**	**+0.1**
MALT	**Malatya**	**10.88**	**70**	*e*P		**Pn**	**00 45 30.5**	**-3.5**
MALT					pmax	pmax		
	comp=Z,1.0nm,0.7s							
MALT	**Malatya**	**10.88**	**70**	*e*Pn		**Pn**	**00 45 30.4**	**-3.5**
	comp=Z,1.3nm,0.7s							
APRS		**11.82**	**156**	P		**Pn**	**00 45 47.5**	**+0.6**
VRAC	**Vranov**	**15.43**	**338**	Pn		**Pn**	**00 46 39.3**	**+3.5**
	baz=135,slow=8.6,SNR=3.6							
MORC	**Moravsky Berou**	**15.57**	**341**	*e*P		**Pn**	**00 46 34.8**	**-3.0**
MORC					pmax	pmax		
	comp=Z,2.0nm,0.8s							
MORC	**Moravsky Berou**	**15.57**	**341**	*e*Pn		**Pn**	**00 46 34.8**	**-3.0**
	comp=Z,1.8nm,0.8s							
MORC	**Moravsky Berou**	**15.57**	**341**	*e*Pn		**Pn**	**00 46 34.8**	**-3.0**
	comp=Z,1.8nm,0.8s							
AKASG	**Malin Array Be**	**15.65**	**9**	Pn		**Pn**	**00 46 40.9**	**+2.2**
	comp=Z,1.5nm,0.3s,baz=200,slow=11,SNR=6.4							
AKASG	**Malin Array Be**	**15.65**	**9**	Pn		**Pn**	**00 46 40.9**	**+2.1**
GERES	**GERESS Array B**	**16.05**	**331**	Pn		**Pn**	**00 46 46.1**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=144,slow=12,SNR=9.9							
SBF	**Sospel**	**16.25**	**307**	*e*P		**Pn**	**00 46 45.6**	**-1.0**
KHC	**Kasperske Hory**	**16.33**	**331**	*e*P		**Pn**	**00 46 54.9**	**+7.3**
DPC	**Dobruska-Polom**	**16.43**	**339**	*e*P		**Pn**	**00 46 52.8**	**+3.9**
FRF	**La Foret Royal**	**16.64**	**305**	*e*P		**Pn**	**00 46 50.6**	**-1.0**
LMR	**La Mourre**	**16.65**	**304**	*e*P		**Pn**	**00 46 50.6**	**-1.0**
	comp=Z,46nm,1.5s							
LMR	**La Mourre**	**16.65**	**304**	*e*P		**Pn**	**00 46 50.6**	**-1.0**
LMR					pmax	pmax		
	comp=Z,23nm,1.5s							
LMR	**La Mourre**	**16.65**	**304**	*e*P		**Pn**	**00 46 50.6**	**-1.0**
	comp=Z,23nm,1.5s							
UPC	**Upice**	**16.66**	**339**	*e*P		**Pn**	**00 46 55.6**	**+3.8**
PRU	**Pruhonice**	**16.68**	**335**	*e*P		**Pn**	**00 46 55.0**	**+2.9**
MBDF	**Montbardon**	**17.06**	**309**	*e*P		**Pn**	**00 46 56.2**	**-0.6**
LPG	**La Plagne**	**17.44**	**311**	*e*P		**Pn**	**00 47 01.0**	**-0.5**
	comp=Z,8.0nm,0.9s							
LPG	**La Plagne**	**17.44**	**311**	*e*P		**Pn**	**00 47 01.0**	**-0.5**
LPG					pmax	pmax		
	comp=Z,4.0nm,0.9s							
LPG	**La Plagne**	**17.44**	**311**	*e*P		**Pn**	**00 47 01.0**	**-0.5**
	comp=Z,4.0nm,0.9s							
LPL	**La Plagne**	**17.46**	**311**	*e*P		**Pn**	**00 47 01.1**	**-0.7**
SMRF	**Simiane la Rot**	**17.52**	**306**	*e*P		**Pn**	**00 47 01.3**	**-1.3**
	comp=Z,30nm,1.3s							
SMRF	**Simiane la Rot**	**17.52**	**306**	*e*P		**Pn**	**00 47 01.3**	**-1.3**
	comp=Z,15nm,1.3s							
ORIF	**Oris-en-Rattie**	**17.71**	**309**	*e*P		**Pn**	**00 47 04.5**	**-0.4**
GRA1	**Grafenberg Arr**	**17.73**	**329**	*e*P		**Pn**	**00 47 07.9**	**+2.7**
GRF	**Grafenberg Arr**	**17.73**	**329**	*e*P		**Pn**	**00 47 07.9**	**+2.7**
CABF	**La Chapelle**	**18.40**	**314**	*e*P		**Pn**	**00 47 12.8**	**-0.5**
	comp=Z,18nm,1.0s							
CABF	**La Chapelle**	**18.40**	**314**	*e*P		**Pn**	**00 47 12.8**	**-0.5**
CABF					pmax	pmax		
	comp=Z,9.0nm,1.0s							
CABF	**La Chapelle**	**18.40**	**314**	*e*P		**Pn**	**00 47 12.8**	**-0.5**
	comp=Z,8.9nm,1.0s							
VIVF	**Saint-Julien-l**	**18.46**	**307**	*e*P		**Pn**	**00 47 13.7**	**-0.5**
	comp=Z,6.9nm,0.8s							
VIVF	**Saint-Julien-l**	**18.46**	**307**	*e*P		**Pn**	**00 47 13.7**	**-0.5**
VIVF					pmax	pmax		
	comp=Z,3.0nm,0.8s							
VIVF	**Saint-Julien-l**	**18.46**	**307**	*e*P		**Pn**	**00 47 13.7**	**-0.5**
	comp=Z,3.5nm,0.8s							
HINF	**Hinteralfeld**	**18.62**	**318**	*e*P		**Pn**	**00 47 15.6**	**-0.5**
	comp=Z,1.6nm,0.5s							
HINF	**Hinteralfeld**	**18.62**	**318**	*e*P		**Pn**	**00 47 15.6**	**-0.5**
HINF					pmax	pmax		
	comp=Z,1.0nm,0.5s							
HINF	**Hinteralfeld**	**18.62**	**318**	*e*P		**Pn**	**00 47 15.6**	**-0.5**
	comp=Z,0.9nm,0.5s							
LASF	**Ste Croix**	**18.71**	**304**	*e*P		**Pn**	**00 47 16.4**	**-0.7**
	comp=Z,14nm,1.2s							
LASF	**Ste Croix**	**18.71**	**304**	*e*P		**Pn**	**00 47 16.4**	**-0.7**
	comp=Z,7.2nm,1.2s							
CDF	**Champ du Feu**	**18.75**	**320**	*e*P		**Pn**	**00 47 16.7**	**-0.9**
MTLF	**Montolieu**	**19.61**	**301**	*e*P		**Pn**	**00 47 26.0**	**-1.9**
	comp=Z,10nm,1.0s							
MTLF	**Montolieu**	**19.61**	**301**	*e*P		**Pn**	**00 47 26.0**	**-1.9**
MTLF					pmax	pmax		
	comp=Z,5.0nm,1.0s							
MTLF	**Montolieu**	**19.61**	**301**	*e*P		**Pn**	**00 47 26.0**	**-1.9**
	comp=Z,5.2nm,1.0s							
SMF	**Signal de Mont**	**19.77**	**312**	*e*P		**Pn**	**00 47 28.2**	**-1.6**
MEZF	**Maizieres J'vi**	**20.00**	**317**	*e*P		**P**	**00 47 31.1**	**+0.2**
	comp=Z,17nm,1.1s							
MEZF	**Maizieres J'vi**	**20.00**	**317**	*e*P		**P**	**00 47 31.1**	**+0.2**
	comp=Z,8.4nm,1.1s							
LOR	**Lormes**	**20.05**	**313**	*e*P		**P**	**00 47 31.2**	**-0.1**
	comp=Z,4.9nm,0.7s							
LOR	**Lormes**	**20.05**	**313**	*e*P		**P**	**00 47 31.2**	**-0.1**
LOR					pmax	pmax		
	comp=Z,2.0nm,0.7s							
LOR	**Lormes**	**20.05**	**313**	*e*P		**P**	**00 47 31.2**	**-0.1**
	comp=Z,2.5nm,0.7s							
AVF	**Avril sur Loir**	**20.13**	**311**	*e*P		**P**	**00 47 32.7**	**+0.5**
SSF	**Saint Saulge**	**20.16**	**312**	*e*P		**P**	**00 47 32.0**	**-0.6**
	comp=Z,18nm,1.0s							
SSF	**Saint Saulge**	**20.16**	**312**	*e*P		**P**	**00 47 32.0**	**-0.6**
SSF					pmax	pmax		
	comp=Z,9.0nm,1.0s							
SSF	**Saint Saulge**	**20.16**	**312**	*e*P		**P**	**00 47 32.0**	**-0.6**
	comp=Z,9.0nm,1.0s							
CAF	**Calviac**	**20.21**	**305**	*e*P		**P**	**00 47 33.3**	**+0.2**
BGF	**Bois d'Agland**	**20.34**	**310**	*e*P		**P**	**00 47 34.6**	**+0.1**
TCF	**Toulx Ste Croi**	**20.63**	**309**	*e*P		**P**	**00 47 37.5**	**-0.1**
BAIF	**Baives**	**21.35**	**320**	*e*P		**P**	**00 47 45.2**	**-0.2**
	comp=Z,15nm,0.8s,mb4.1							
BAIF	**Baives**	**21.35**	**320**	*e*P		**P**	**00 47 45.2**	**-0.2**
BAIF					pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.1							
BAIF	**Baives**	**21.35**	**320**	*e*P		**P**	**00 47 45.2**	**-0.2**
	comp=Z,7.6nm,0.8s,mb4.1							
ETSF	**Etsaut**	**21.47**	**299**	*e*P		**P**	**00 47 46.2**	**-0.5**
SJPF	**Ste Jean**	**21.99**	**299**	*e*P		**P**	**00 47 51.4**	**-0.9**
	comp=Z,36nm,1.4s,mb4.3							
SJPF	**Ste Jean**	**21.99**	**299**	*e*P		**P**	**00 47 51.4**	**-0.9**
SJPF					pmax	pmax		
	comp=Z,18nm,1.4s,mb4.3							
SJPF	**Ste Jean**	**21.99**	**299**	*e*P		**P**	**00 47 51.4**	**-0.9**
	comp=Z,18nm,1.4s,mb4.3							
MFF	**Saint Martin d**	**22.25**	**308**	*e*P		**P**	**00 47 54.2**	**-0.9**
	comp=Z,21nm,1.1s,mb4.2							
MFF	**Saint Martin d**	**22.25**	**308**	*e*P		**P**	**00 47 54.2**	**-0.9**
MFF					pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2							
MFF	**Saint Martin d**	**22.25**	**308**	*e*P		**P**	**00 47 54.2**	**-0.9**
	comp=Z,11nm,1.1s,mb4.2							
EVIA	**Vianos**	**22.50**	**287**	P		**P**	**00 48 06.3**	**+8.5**
EBER	**Berja**	**22.88**	**282**	P		**P**	**00 48 03.5**	**+1.7**
	comp=Z,4.8nm,0.7s,mb4.0							
LDF	**La Druitiere**	**23.04**	**313**	*e*P		**P**	**00 48 01.7**	**-1.7**
FLN	**La Foliniere**	**23.32**	**313**	*e*P		**P**	**00 48 04.6**	**-1.8**
GRR	**Gorron**	**23.39**	**312**	*e*P		**P**	**00 48 04.9**	**-2.3**
	comp=Z,13nm,0.9s,mb4.0							
GRR	**Gorron**	**23.39**	**312**	*e*P		**P**	**00 48 04.9**	**-2.3**
GRR					pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.1							
GRR	**Gorron**	**23.39**	**312**	*e*P		**P**	**00 48 04.9**	**-2.3**
	comp=Z,6.6nm,0.9s,mb4.0							
ESDC	**Sonseca Array**	**23.65**	**289**	P		**P**	**00 48 10.0**	**+0.4**
	comp=Z,1.2nm,0.6s,mb3.5,baz=83,slow=9.9,SNR=13							
ESDC	**Sonseca Array**	**23.65**	**289**	P		**P**	**00 48 11.4**	**+1.8**
	comp=Z,1.8nm,0.8s,mb3.5							
ESLA	**Sonseca Array**	**23.65**	**289**	P		**P**	**00 48 07.8**	**-1.8**
	comp=Z,0.4nm,0.7s,mb3.0							
ESLA	**Sonseca Array**	**23.65**	**289**	P		**P**	**00 48 07.8**	**-1.9**
	comp=Z,0.4nm,0.7s,mb3.0							
EMIJ	**Mijas**	**24.41**	**282**	P		**P**	**00 48 21.1**	**+4.4**
	comp=Z,5.1nm,0.8s,mb4.0							
EMIN	**Mina Concepcio**	**25.82**	**285**	P		**P**	**00 48 30.9**	**+1.5**
HFS	**Hagfors**	**25.99**	**347**	P		**P**	**00 48 31.6**	**+0.7**
	comp=Z,14nm,0.7s,mb3.6,baz=149,slow=17,SNR=5.0							
EBAD	**Badajoz**	**26.03**	**287**	P		**P**	**00 48 32.1**	**+0.8**
EBAD	**Badajoz**	**26.03**	**287**	P		**P**	**00 48 32.1**	**+0.8**
FINES	**FINESS Array B**	**26.17**	**1**	P		**P**	**00 48 30.7**	**-1.9**
	comp=Z,0.9nm,0.8s,mb3.3,baz=163,slow=10,SNR=3.5							
EKA	**Eskdalemuir Ar**	**28.04**	**324**	P		**P**	**00 48 47.7**	**-1.7**
	comp=Z,0.6nm,0.7s,mb3.4,baz=116,slow=9.6,SNR=3.1							
TORD	**Torodi Ar. Bea**	**30.72**	**230**	P		**P**	**00 49 14.0**	**+0.8**
	comp=Z,1.5nm,0.3s,mb4.3,baz=31,slow=8.6,SNR=76							
ARU	**Arti**	**30.83**	**36**	P		**P**	**00 49 09.5**	**-4.7**
ARU					pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0							
ARU	**Arti**	**30.83**	**36**	P		**P**	**00 49 09.5**	**-4.7**
	comp=Z,1.4nm,0.4s,mb4.1							
ARCES	**ARCESS Array B**	**34.29**	**0**	P		**P**	**00 49 45.5**	**+1.0**
	comp=Z,1.2nm,0.9s,mb3.8,baz=171,slow=8.2,SNR=4.0							
ZRNK	**Zerenda**	**35.28**	**46**	*e*P		**P**	**00 49 51.6**	**-1.4**
ZRNK					pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5							
ZRNK	**Zerenda**	**35.28**	**46**	*e*P		**P**	**00 49 51.6**	**-1.4**
	comp=Z,4.2nm,0.6s,mb4.5							
ZRNK	**Zerenda**	**35.28**	**46**	*e*P		**P**	**00 49 51.6**	**-1.4**
	comp=Z,4.2nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**36.38**	**45**	*e*P		**P**	**00 50 00.6**	**-1.8**
CHKZ					pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
CHKZ	**Chkalovo**	**36.38**	**45**	*e*P		**P**	**00 50 00.6**	**-1.8**
	comp=Z,3.5nm,0.6s,mb4.5							
BORG	**Borgarnes**	**40.52**	**331**	*e*P		**P**	**00 50 34.7**	**-2.5**
	comp=Z,12nm,1.0s,mb4.5							
BORG	**Borgarnes**	**40.52**	**331**	*e*P		**P**	**00 50 34.7**	**-2.5**
	comp=Z,12nm,1.0s,mb4.5							
KURK	**Kurchatov**	**40.95**	**51**	*e*P		**P**	**00 50 42.1**	**+1.3**
KURK					pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1							
KURK	**Kurchatov**	**40.95**	**51**	*e*P		**P**	**00 50 42.1**	**+1.4**
	comp=Z,4.6nm,1.0s,mb4.1							
MKAR	**Makanchi Array**	**43.54**	**57**	P		**P**	**00 51 02.2**	**+0.3**
	comp=Z,2.2nm,0.4s,mb4.2,baz=275,slow=8.0,SNR=19							
MKAR	**Makanchi Array**	**43.54**	**57**	P		**P**	**00 51 02.2**	**+0.3**
NVS	**Novosibirsk**	**43.86**	**45**	*i* P		**P**	**00 51 06.1**	**+1.6**
TLY	**Talaya**	**56.37**	**47**	*e*P		**P**	**00 52 35.5**	**-3.9**
TLY					pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3							
TLY	**Talaya**	**56.37**	**47**	*e*P		**P**	**00 52 35.5**	**-3.8**
	comp=Z,2.3nm,0.6s,mb4.4							
SONM	**Songino Array**	**59.25**	**51**	P		**P**	**00 53 02.6**	**+3.0**
	comp=Z,0.9nm,0.7s,mb3.9,baz=286,slow=7.8,SNR=7.4							
SCHQ	**Schefferville**	**63.21**	**320**	P		**P**	**00 53 29.6**	**+3.3**
	comp=Z,3.9nm,0.8s,mb4.6,baz=61,slow=10,SNR=3.0							
BOSA	**Boshof**	**63.56**	**180**	P		**P**	**00 53 30.2**	**+1.5**
	comp=Z,5.1nm,1.0s,mb4.5,baz=302,slow=8.5,SNR=4.5							

*ISCJB **30** 00:55:19.3±0.9, 4376N±004×720W±005, h10km±5km, Error ellipse: s-maj=7.6km s-min=5.2km az=102.5*
*INMG **30** 00:55:20.7±1.5, 4387N×730W, h16km±8km, ML2.3, Error ellipse: s-maj=5.7km s-min=4.7km az=110.0*
*CSEM **30** 00:55:20.3±0.3, 4394N×723W, h15km, ML3.0/8, Error ellipse: s-maj=5.8km s-min=3.0km az=145.0*
*MDD **30** 00:55:21.8±0.8, 4383N×727W, h20km±1km, mbLg2.5/17, Error ellipse: s-maj=7.1km s-min=4.5km az=162.0, PRXIMO*
*NEIC **30** 00:55:21.8, 4383N×728W, h21km, MN2.6(MDD), After MDD.*

ISC 30 00:55:20.2±0.9, 4381N±004×725W±005, h16km±5km, n43, σ0°96/65, 1D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EPON	**Pontenova**	**0.48**	**172**	⇓Pg	**Pg**	**Pg**	**00 55 31.2**	**+1.3**
	5.3nm,0.1s,SNR=18							
EPON				Lg			00 55 38.1	
	195nm,0.1s,SNR=6.2							
EPON	**Pontenova**	**0.48**	**172**	Pg	**Pg**	**Pg**	**00 55 31.2**	**+1.3**
	5.3nm,0.1s,SNR=18							
EPON				Lg			00 55 38.1	
	195nm,0.1s,SNR=6.2							
STS	**Santiago**	**1.32**	**226**	Pg	**Pg**	**Pg**	**00 55 43.6**	**-2.2**
	29nm,0.1s,SNR=11							
STS				Lg			00 56 03.9	
	25nm,0.1s,SNR=7.6							
STS	**Santiago**	**1.32**	**226**	Pg	**Pg**	**Pg**	**00 55 43.6**	**-2.2**
STS				Lg			00 56 03.9	
EMAZ	**Mazaricos**	**1.53**	**236**	Pn	**Pn**	**Pn**	**00 55 46.0**	**-0.9**
	1.6nm,0.1s,SNR=7.9							
EMAZ				Pg	**Pg**	**Pg**	**00 55 49.3**	**-0.3**
	8.3nm,0.1s,SNR=28							
EMAZ				Lg			00 56 08.9	
	16nm,0.1s,SNR=9.7							
EMAZ	**Mazaricos**	**1.53**	**236**	Pn	**Pn**	**Pn**	**00 55 46.0**	**-0.9**
	1.6nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**1.53**	**236**	Pg	**Pg**	**Pg**	**00 55 49.3**	**-0.3**
	8.3nm,0.1s,SNR=28							
EARI	**Arriondas**	**1.56**	**108**	Pn	**Pn**	**Pn**	**00 55 47.3**	**-0.1**
	0.1nm,0.1s,SNR=27							
EARI				Pg	**Pg**	**Pg**	**00 55 50.5**	**+0.2**
	0.5nm,0.1s,SNR=7.9							
EARI				Lg			00 56 10.7	
	7.3nm,0.1s,SNR=5.7							
EARI	**Arriondas**	**1.56**	**108**	Pn	**Pn**	**Pn**	**00 55 47.3**	**-0.1**
	0.1nm,0.1s,SNR=27							
EARI	**Arriondas**	**1.56**	**108**	Pg	**Pg**	**Pg**	**00 55 50.5**	**+0.2**
	0.5nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**1.90**	**169**	Pn	**Pn**	**Pn**	**00 55 52.5**	**+0.5**
	0.3nm,0.1s,SNR=7.9							
ECAL				Pg	**Pg**	**Pg**	**00 55 57.4**	**+0.7**
	2.0nm,0.1s,SNR=17							
ECAL				Lg			00 56 21.2	
	47nm,0.2s,SNR=13							
ECAL	**Calabor**	**1.90**	**169**	Pn	**Pn**	**Pn**	**00 55 52.5**	**+0.5**
	0.3nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**1.90**	**169**	Pg	**Pg**	**Pg**	**00 55 57.4**	**+0.6**
	2.0nm,0.1s,SNR=17							
EZAM	**Zamans**	**1.97**	**213**	Pn	**Pn**	**Pn**	**00 55 53.1**	**+0.1**
	1.1nm,0.1s,SNR=4.0							
EZAM				Pg	**Pg**	**Pg**	**00 55 58.4**	**+0.3**
	2.2nm,0.1s,SNR=7.9							
EZAM				Lg			00 56 23.1	
	11nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**2.03**	**197**	Pn	**Pn**	**Pn**	**00 55 53.2**	**-0.6**
	0.4nm,0.1s,SNR=30							
ELOB				Pg	**Pg**	**Pg**	**00 55 59.4**	**+0.2**
	3.0nm,0.1s,SNR=19							
ELOB				Sn	**Sn**	**Sn**	**00 56 18.6**	**-0.2**
	3.6nm,0.2s,SNR=4.0							
ELOB				Lg			00 56 25.3	
	12nm,0.1s,SNR=5.0							
ELOB	**Lobios**	**2.03**	**197**	Pn	**Pn**	**Pn**	**00 55 53.2**	**-0.6**
ELOB				Pg	**Pg**	**Pg**	**00 55 59.4**	**+0.2**
ELOB				Sn	**Sn**	**Sn**	**00 56 18.6**	**-0.2**
ELOB				Lg			00 56 25.3	
ELOB	**Lobios**	**2.03**	**197**	Pn	**Pn**	**Pn**	**00 55 53.2**	**-0.6**
	0.4nm,0.1s,SNR=30							
ELOB	**Lobios**	**2.03**	**197**	Pg	**Pg**	**Pg**	**00 55 59.4**	**+0.2**
	3.0nm,0.1s,SNR=19							
ELOB				Sn	**Sn**	**Sn**	**00 56 18.6**	**-0.2**
	3.6nm,0.2s,SNR=4.0							
PBRG	**Braganca**	**2.04**	**169**	*e*Pn		**Pn**	**00 55 54.2**	**+0.3**
PBRG				*e*Sg		**Sg**	**00 56 25.8**	**+0.1**
PBRG								
	12nm,0.3s							
PBRG	**Braganca**	**2.04**	**169**	*e*Pn		**Pn**	**00 55 54.2**	**+0.3**
PBRG				*e*Sg		**Sg**	**00 56 25.8**	**+0.1**
	12nm,0.3s							
PCAB	**Cabril**	**2.17**	**196**	*e*Pn		**Pn**	**00 55 56.4**	**+0.6**
PCAB				*e*Sg		**Sg**	**00 56 30.4**	**+0.3**
PCAB								
	15nm,0.3s							
PCAB	**Cabril**	**2.17**	**196**	*e*Pn		**Pn**	**00 55 56.4**	**+0.6**
PCAB				*e*Sg		**Sg**	**00 56 30.4**	**+0.3**
	15nm,0.3s							
PVRL	**Vila Real**	**2.55**	**188**	*e*Pn		**Pn**	**00 56 02.1**	**+1.1**
PVRL				*e*Sg		**Sg**	**00 56 43.8**	**+1.5**
PVRL								
	17nm,0.1s							
PVRL	**Vila Real**	**2.55**	**188**	*e*Pn		**Pn**	**00 56 02.1**	**+1.1**
PVRL				*e*Sg		**Sg**	**00 56 43.8**	**+1.5**
	17nm,0.1s							
ELAN	**Lanestosa**	**2.83**	**100**	Pn		**Pn**	**00 56 05.2**	**+0.4**
	0.3nm,0.1s,SNR=7.6							
ELAN				Sn		**Sn**	**00 56 37.7**	**-0.9**
	1.8nm,0.1s,SNR=7.9							
ELAN				Lg			00 56 51.0	
	4.3nm,0.2s,SNR=4.0							
ELAN	**Lanestosa**	**2.83**	**100**	Pn		**Pn**	**00 56 04.8**	**0.0**
ELAN				Sn		**Sn**	**00 56 37.7**	**-0.9**
ELAN				Lg			00 56 51.0	
ELAN	**Lanestosa**	**2.83**	**100**	Pn		**Pn**	**00 56 04.8**	**0.0**
	4.1nm,0.9s,SNR=7.6							
ELAN				Sn		**Sn**	**00 56 37.7**	**-0.9**
	1.8nm,0.1s,SNR=7.9							
PVIS	**Viseu**	**3.13**	**189**	*e*Pn		**Pn**	**00 56 08.8**	**-0.1**
PVIS				*e*Sg		**Sg**	**00 57 01.1**	**+0.4**
MTE	**Manteigas**	**3.41**	**184**	*e*Sg		**Sg**	**00 57 09.2**	**-0.6**
MTE								
	8.9nm,0.4s							
MTE	**Manteigas**	**3.41**	**184**	*e*Sg		**Sg**	**00 57 09.2**	**-0.6**
	8.9nm,0.4s							
EPLA	**Plasencia**	**3.84**	**167**	Sn		**Sn**	**00 57 04.5**	**+1.0**
	SNR=7.9							
EPLA				Lg			00 57 21.6	
	4.7nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**3.91**	**143**	Pn		**Pn**	**00 56 23.4**	**+3.8**
	0.2nm,0.1s,SNR=4.0							
GUD				Pg		**Pg**	**00 56 34.9**	**-0.2**
	0.7nm,0.3s,SNR=4.0							
GUD				Sn		**Sn**	**00 57 06.0**	**+0.9**
	0.6nm,0.2s,SNR=4.0							
GUD				Lg			00 57 23.8	
	2.4nm,0.2s,SNR=6.9							
PCBR	**Castelo Branco**	**3.97**	**183**	*e*Pn		**Pn**	**00 56 20.9**	**+0.5**
PCBR				*e*Sg		**Sg**	**00 57 26.4**	**-1.2**
PCBR								
	3.9nm,0.7s							
ELIZ	**Elizondo**	**4.21**	**97**	Pn		**Pn**	**00 56 24.3**	**+0.5**
	1.0nm,0.1s,SNR=7.3							
ELIZ				Sn		**Sn**	**00 57 10.2**	**-2.4**
	0.5nm,0.2s,SNR=5.0							
EALK	**Alkurruntz**	**4.21**	**96**	Pn		**Pn**	**00 56 23.9**	**+0.1**
	1.7nm,0.1s,SNR=10							
EALK				Sn		**Sn**	**00 57 08.9**	**-3.8**
	1.2nm,0.2s,SNR=7.9							
PTOM	**Tomar**	**4.28**	**192**	*e*Sg		**Sg**	**00 57 36.6**	**-0.9**
PTOM								
	6.9nm,0.4s							
PTOM	**Tomar**	**4.28**	**192**	Lg			00 57 36.6	
	3.5nm,0.4s							
ESDC	**Sonseca Array**	**4.80**	**148**	Lg			00 57 51.3	
	0.6nm,0.3s,baz=329,slow=28,SNR=6.2							
PESTR	**Estremoz**	**4.94**	**183**	*e*Sg		**Sg**	**00 57 57.0**	**-1.9**
PESTR								
	2.3nm,0.5s							
EBAD	**Badajoz**	**5.05**	**178**	Lg			00 57 58.8	
	1.5nm,0.2s,SNR=4.0							
EBIE	**Bielsa**	**5.51**	**99**	Pn		**Pn**	**00 56 44.1**	**+2.4**
	0.1nm,0.1s,SNR=7.9							
EBIE				Sn		**Sn**	**00 57 43.7**	**-1.1**
	0.2nm,0.1s,SNR=7.9							
EBIE	**Bielsa**	**5.51**	**99**	Pn		**Pn**	**00 56 44.1**	**+2.4**
EBIE				Sn		**Sn**	**00 57 43.7**	**-1.0**
EMIN	**Mina Concepcio**	**6.05**	**176**	Lg			00 58 32.6	
	0.3nm,0.2s,SNR=4.0							

*FUNV **30** 01:01:48.4, 1145N×6153W, h1km, MW2.4*
*ISCJB **30** 01:01:49.9±0.8, 1139N±003×6139W±006, h33km±62km, Error ellipse: s-maj=10.0km s-min=4.4km az=163.3*
*NEIC **30** 01:01:49.6, 1141N×6122W, h58km, MD3.4(TRN), After TRN.*
*TRN **30** 01:01:49.6, 1141N×6122W, h58km, MD3.4*

ISC 30 01:01:50.0±1.1, 1139N±003×6136W±005, h42km±34km, n13, σ1°06/25, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TPR	**Prospect**	**0.60**	**110**	*e*P		**Pn**	**01 02 01.5**	**-0.7**
TPR				*e*S		**Sn**	**01 02 09.7**	**-1.2**
BOT	**Bacolet**	**0.67**	**109**	*e*P		**Pn**	**01 02 02.3**	**-0.7**
TRN	**Trinidad (W)**	**0.74**	**183**	*e*P		**Pn**	**01 02 04.3**	**+0.3**
TRN				*e*S		**Sn**	**01 02 14.5**	**+0.4**
GRW	**Mount Saint Ca**	**

LASF	**Ste Croix** 0.5nm,0.2s	**2.99**	**60**	*e*Sg	Sg	01 13 18.8	-3.4
LASF	**Ste Croix** 0.2nm,0.2s	**2.99**	**60**	Lg		01 13 18.8	

SZGRF ***30*** *01:20:56.7, 26.17N×112.44W, h33km, mb5.1, MS6.0, Baja California, Mexico*

ISCJB ***30*** *01:20:57.2±0.2, 2680N±002×11125W±002, h10km, mb5.1/137, MS5.7/152, Error ellipse: s-maj=3.9km s-min=1.6km az=90.5*

BJI ***30*** *01:20:57.2, 2690N×11120W, h10km, mB5.8, mb5.1, Ms6.2, Msz5.6*

NEIC ***30*** *01:20:59.2±0.2, 2686N×11121W, h10km, mb5.3/92, MS5.7/110, MW5.9, Error ellipse: s-maj=5.2km s-min=2.8km az=42.0, Moment Tensor Solution. s24 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.46; $M_{\theta\theta}$-8.05; $M_{\phi\phi}$8.50; $M_{r\theta}$-0.55; $M_{r\phi}$-2.11; $M_{\theta\phi}$-2.15; Best double couple: $M_0$8.80000×10^{17} NP1:ϕ_s218.00000°, δ86.00000°, λ13.00000°. NP2:ϕ_s127.00000°, δ77.00000°, λ176.00000°. Principal axes: T 9.2100, Plg12.0000°, Azm83.0000°; N -0.8100, Plg76.0000°, Azm236.0000°; P -8.4000, Plg6.0000°, Azm352.0000°;*

NEIC Felt [V] at Mulege, Baja California Sur. Also felt at Constitucion and Santa Rosalia, Sonora.

IDC ***30*** *01:20:59.4±0.6, 2707N×11089W, h0km, mb4.7/22, mb1 4.7/25, mb1mx4.7/27, mbtmp4.7/25, ML3.6/3, MS5.6/32, Ms1 5.6/32, ms1mx5.6/40 Error ellipse: s-maj=19.1km s-min=10.5km az=64.0*

HRVD ***30*** *01:20:59.2±0.1, 2687N×11136W, h23km, MW5.9/102, Centroid moment Tensor Solution. LP body waves: s89,c178;Mantle waves: s102,c229; Half duration: 2s2 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.03±.01; $M_{\theta\theta}$-0.85±.01; $M_{\phi\phi}$0.88±.01; $M_{r\theta}$-0.04±.01; $M_{\theta\phi}$-0.20±.01; $M_{r\phi}$0.04±.02; Best double couple: $M_0$0.89300×10^{18} NP1:ϕ_s38.00000°, δ87.00000°, λ0.00000°. NP2: ϕ_s308.00000°, δ90.00000°, λ177.00000°. Principal axes: T 0.9080, Plg2.0000°, Azm263.0000°; N -0.0300, Plg87.0000°, Azm128.0000°; P -0.8780, Plg2.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***30*** *01:20:59.6±1.2, 2705N×111.14W, h16km, mb5.4/60 Error ellipse: s-maj=5.9km s-min=3.6km az=89.6*

ISC 30 01:20:58.0±0.2, 2669N±002×11125W±002, h10km, n747, σ1§40/798, mb5.1/137, MS5.7/152, 153C-172D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**2.71**	**161**	*i*	P		**Pn**	**01 21 40.5**	**-1.1**
LPIG				*i*	S		**Sn**	**01 22 17.5**	**+3.0**
TUC	**Tucson**	**5.62**	**4**	*e*	P		**Pn**	**01 22 16.6**	**-5.0**
116A	**Eloy** baz=5.7	**5.87**	**356**	⇑	P		**Pn**	**01 22 20.6**	**-4.5**
116A				⇑	S		**Sn**	**01 23 33.2**	**+0.9**
115A	**Sonoran Desert** baz=5.9,SNR=9.1	**6.05**	**352**	⇓	P		**Pn**	**01 22 23.3**	**-4.2**
115A				⇓	S		**Sn**	**01 23 39.4**	**+2.5**
Z14A	**Wintersburg** baz=6.7,SNR=25	**6.81**	**348**	⇑	P		**Pn**	**01 22 34.3**	**-3.7**
Z14A				⇓	S		**Sn**	**01 23 56.3**	**+0.7**
GLA	**Glamis**	**7.06**	**335**	*e*	P		**Pn**	**01 22 36.8**	**-4.6**
GLA	**Glamis** baz=6.9	**7.06**	**335**	⇑	P		**Pn**	**01 22 36.6**	**-4.8**
GLA				⇓	S		**Sn**	**01 24 01.3**	**-0.4**
Y14A	**Wickenburg** baz=7.2	**7.38**	**349**	⇓	P		**Pn**	**01 22 42.3**	**-3.6**
Y14A				⇓	S		**Sn**	**01 24 09.1**	**-0.6**
Y13A	**Salome** baz=7.3,SNR=14	**7.44**	**343**	⇑	P		**Pn**	**01 22 42.5**	**-4.2**
Y13A				⇑	S		**Sn**	**01 24 07.2**	**-3.9**
Y12C	**Blythe** baz=7.5	**7.59**	**339**	⇑	P		**Pn**	**01 22 44.2**	**-4.4**
Y12C				⇓	S		**Sn**	**01 24 10.2**	**-4.5**
BAR	**Barrett**	**7.61**	**323**	*e*	Pn		**Pn**	**01 22 47.8**	**-1.2**
X15A	**Humboldt** baz=7.7	**7.82**	**354**	⇓	P		**Pn**	**01 22 48.5**	**-3.4**
X15A				⇓	S		**Sn**	**01 24 24.3**	**+3.8**
X14A	**Yava** baz=7.7,SNR=11	**7.88**	**350**	⇓	P		**Pn**	**01 22 49.1**	**-3.6**
X14A				⇓	S		**Sn**	**01 24 21.4**	**-0.6**
109C	**Camp Elliot, M** baz=7.9	**8.01**	**322**	⇓	P		**Pn**	**01 22 52.1**	**-2.3**
109C				⇓	S		**Sn**	**01 24 22.7**	**-2.3**
GDL2	**Guadalupe Moun**	**8.14**	**46**	*e*	Pn		**Pn**	**01 22 56.4**	**+0.2**
X13A	**Yucca** baz=8.1	**8.18**	**345**	⇑	P		**Pn**	**01 22 53.4**	**-3.5**
X13A				⇑	S		**Sn**	**01 24 27.7**	**-1.6**
PFO	**Pinyon Flat Ob**	**8.24**	**328**	*e*	P		**Pn**	**01 22 56.3**	**-1.3**
PFO	**Pinyon Flat Ob** baz=8.1	**8.24**	**328**	⇑	P		**Pn**	**01 22 55.1**	**-2.5**
PFO				⇑	S		**Sn**	**01 24 27.4**	**-3.3**
Y22C	**IRIS PASSCAL I** baz=8.1	**8.25**	**26**	⇑	P		**Pn**	**01 22 53.2**	**-4.6**
Y22C				⇑	S		**Sn**	**01 24 28.5**	**-2.5**
LENM	**Lemitar**	**8.32**	**25**	*e*	Pn		**Pn**	**01 22 57.2**	**-1.4**
BNM	**Barren Site**	**8.44**	**27**	*e*	Pn		**Pn**	**01 22 59.0**	**-1.4**
LAZ	**Ladron**	**8.47**	**24**	*e*	Pn		**Pn**	**01 22 58.0**	**-2.7**
LAZ				*e*	S		**Sn**	**01 25 24.3**	**+48**
W15A	**Williams** baz=8.4	**8.51**	**354**	⇑	P		**Pn**	**01 22 59.3**	**-2.0**
W15A				⇑	S		**Sn**	**01 24 37.6**	**+0.2**
LPM	**Los Pinos Moun**	**8.58**	**27**	*e*	Pn		**Pn**	**01 23 03.1**	**+0.8**
W14A	**Seligman** baz=8.5	**8.64**	**350**	⇑	P		**Pn**	**01 23 00.7**	**-2.3**
W14A				⇑	S		**Sn**	**01 24 40.5**	**0.0**
W13A	**Hualapai Mount** baz=8.5	**8.69**	**346**	⇑	P		**Pn**	**01 23 00.7**	**-3.0**
W13A				⇓	S		**Sn**	**01 24 40.5**	**-1.2**
WUAZ	**Wupatki**	**8.80**	**359**	*e*	Pn		**Pn**	**01 23 05.2**	**-0.1**
W12A	**Cal Nev Ari** baz=9.0	**9.13**	**341**	⇑	P		**Pn**	**01 23 06.8**	**-3.0**
W12A				⇓	S		**Sn**	**01 24 48.2**	**-4.4**
CJM	**Chamela**	**9.15**	**140**	*i*	P		**Pn**	**01 23 14.0**	**+3.8**
ANMO	**Albuquerque** 0.4nm,0.3s,baz=217,slow=14,SNR=39	**9.21**	**25**	P	n		**Pn**	**01 23 08.2**	**-2.7**
ANMO	comp=Z,39μm,20.2s,baz=47,slow=36				LR		LR	01 26 13.4	
ANMO	**Albuquerque**	**9.21**	**25**	*d*	P		**Pn**	**01 23 09.4**	**-1.5**
ANMO	**Albuquerque**	**9.21**	**25**	*e*	Pn		**Pn**	**01 23 11.2**	**+0.3**
ANMO					LR		LR	01 26 13.4	
FMP	**Fort Macarthur** baz=9.2	**9.28**	**321**	⇑	P		**Pn**	**01 23 09.6**	**-2.2**
FMP				⇓	S		**Sn**	**01 24 53.2**	**-2.9**
V12A	**Nelson** baz=9.4,SNR=8.2	**9.53**	**342**	⇑	P		**Pn**	**01 23 11.6**	**-3.6**
V12A				⇓	S		**Sn**	**01 24 58.5**	**-3.8**
MWC	**Mount Wilson**	**9.53**	**324**	*e*	P		**Pn**	**01 23 16.0**	**+0.7**
TUQ	**Turquoise Mtn.** baz=9.5	**9.60**	**336**	⇑	P		**Pn**	**01 23 14.3**	**-1.9**
TUQ				⇓	S		**Sn**	**01 25 06.0**	**+1.9**
V11A	**Goodsprings** baz=9.7	**9.80**	**340**	⇑	P		**Pn**	**01 23 16.5**	**-2.5**
V11A				⇑	S		**Sn**	**01 25 04.4**	**-4.6**
GSC	**Goldstone**	**9.82**	**332**	*e*	P		**Pn**	**01 23 20.6**	**+1.4**
GSC	**Goldstone** baz=9.7	**9.82**	**332**	⇓	P		**Pn**	**01 23 16.6**	**-2.6**
GSC				⇓	S		**Sn**	**01 25 10.1**	**+0.6**
U12A	**Valley of Fire** baz=10.0,SNR=25	**10.11**	**345**	⇓	P		**Pn**	**01 23 20.8**	**-2.4**
U12A				⇓	S		**Sn**	**01 25 20.8**	**+4.1**
OSI	**Osito Adit** baz=10	**10.19**	**323**	⇓	P		**Pn**	**01 23 21.7**	**-2.5**
OSI				⇓	S		**Sn**	**01 25 19.3**	**+0.8**
U11A	**Corn Creek** baz=10	**10.32**	**341**	⇓	P		**Pn**	**01 23 25.1**	**-1.1**
U11A				⇓	S		**Sn**	**01 25 20.9**	**-0.9**
SHPR	**Sheep Range**	**10.34**	**342**	*e*	Pn		**Pn**	**01 23 24.5**	**-1.9**
SBC	**Santa Barbara** baz=10	**10.62**	**319**	⇓	P		**Pn**	**01 23 27.7**	**-2.6**
SBC				⇓	S		**Sn**	**01 25 29.5**	**+0.3**
U10A	**Ash Meadows, A** baz=10	**10.62**	**337**	⇓	P		**Pn**	**01 23 28.5**	**-1.8**
U10A				⇓	S		**Sn**	**01 25 31.0**	**+1.7**
JCT	**Junction City**	**10.75**	**67**	*e*	P		**Pn**	**01 23 32.5**	**+0.5**
MVCO	**Mesa Verde**	**10.75**	**12**	⇓	*e*Pn		**Pn**	**01 23 30.6**	**-1.4**
MVCO					*e*S		Sn	01 26 30.9	+59
ISA	**Isabella**	**10.87**	**327**	*e*	P		**Pn**	**01 23 33.9**	**+0.2**
ISA	**Isabella** baz=11	**10.87**	**327**	⇑	P		**Pn**	**01 23 32.8**	**-0.9**
ISA				⇑	S		**Sn**	**01 25 36.4**	**+1.0**
CCUT	**Cedar City**	**10.98**	**351**	*e*	Pn		**Pn**	**01 23 34.9**	**-0.2**
CCUT					S		Sn	01 26 18.8	+41
DAC	**Darwin (Calif)**	**10.98**	**332**	*e*	P		**Pn**	**01 23 36.5**	**+1.3**
TPNV	**Topopah Spring**	**11.08**	**339**	*e*	P		**Pn**	**01 23 37.5**	**+1.0**
ARUT	**Antelope Range**	**11.22**	**351**	*e*	Pn		**Pn**	**01 23 38.2**	**-0.2**
ARUT				*e*	Sn		**Sn**	**01 25 53.5**	**+10**
CWC	**Cottonwood Cre** baz=11	**11.33**	**331**	⇑	P		**Pn**	**01 23 39.8**	**-0.1**
CWC				⇓	S		**Sn**	**01 25 47.1**	**+0.5**
MOIG	**Morelia**	**11.58**	**125**	*i*	P		**Pn**	**01 23 51.0**	**+7.6**
AMTX	**Amarillo**	**11.59**	**43**	*e*	Pn		**Pn**	**01 23 43.0**	**-0.5**
PV01	**Paradox Valley**	**11.64**	**11**	*e*	Pn		**Pn**	**01 23 43.0**	**-1.2**
PV01					*e*S		Sn	01 26 54.0	+60
V05C	**Boulder Hill,** baz=12	**11.76**	**323**	⇑	P		**Pn**	**01 23 45.2**	**-0.6**
V05C				⇓	S		**Sn**	**01 25 57.7**	**+0.5**
PV10	**Paradox Valley**	**11.80**	**9**	*e*	Pn		**Pn**	**01 23 45.2**	**-1.2**
TIN	**Tinemaha** baz=12	**11.91**	**332**	⇑	P		**Pn**	**01 23 47.4**	**-0.5**
TIN				⇓	S		**Sn**	**01 26 02.7**	**+1.8**
S09A	**Goldfield** baz=12	**12.10**	**337**	⇓	P		**Pn**	**01 23 50.6**	**+0.1**
S09A				⇑	S		**Sn**	**01 26 06.0**	**+0.5**
V04C	**Ramage Ranch,** baz=12	**12.14**	**320**	⇓	P		**Pn**	**01 23 49.0**	**-2.0**
V04C				⇑	S		**Sn**	**01 26 06.6**	**+0.2**
PKD	**Parkfield** baz=12	**12.17**	**322**	⇑	P		**Pn**	**01 23 50.4**	**-1.0**
PKD				⇓	S		**Sn**	**01 26 09.4**	**+2.2**
TRCR	**Troy Canyon**	**12.19**	**344**	*e*	Pn		**Pn**	**01 23 49.8**	**-1.9**
U05C	**Westside ANR,** baz=12	**12.23**	**324**	⇑	P		**Pn**	**01 23 51.5**	**-0.8**
U05C				⇓	S		**Sn**	**01 26 11.3**	**+2.6**
MTUM	**Tungsten Hills**	**12.31**	**332**	*e*	Pn		**Pn**	**01 23 54.6**	**+1.4**
R10A	**Warm Springs** baz=12	**12.33**	**341**	⇑	P		**Pn**	**01 23 53.6**	**+0.1**
TPH	**Tonopah**	**12.42**	**338**	*e*	P		**Pn**	**01 23 56.2**	**+1.3**
R09A	**Tonopah** baz=12	**12.52**	**338**	⇑	P		**Pn**	**01 23 56.6**	**+0.5**
R09A				⇓	S		**Sn**	**01 26 19.0**	**+3.3**
T06C	**Millerton Lake** baz=12	**12.55**	**327**	⇑	P		**Pn**	**01 23 56.2**	**-0.4**
T06C				⇓	S		**Sn**	**01 26 19.2**	**+2.8**
TMUT	**Trail Mountain**	**12.57**	**0**	*e*	Pn		**Pn**	**01 23 58.3**	**+1.4**
U04C	**Hernandez Rese** baz=12	**12.60**	**322**	⇑	P		**Pn**	**01 23 56.5**	**-0.9**
U04C				⇓	S		**Sn**	**01 26 19.6**	**+1.8**
KCC	**Kaiser Creek** baz=12	**12.62**	**329**	⇓	P		**Pn**	**01 23 57.6**	**+0.1**
KCC				⇓	S		**Sn**	**01 26 22.3**	**+4.3**
V03C	**Hunter Liggett** baz=12	**12.62**	**320**	⇓	P		**Pn**	**01 23 56.4**	**-1.1**
V03C				⇑	S		**Sn**	**01 26 19.3**	**+1.2**
MLAC	**Mammoth Lakes** baz=12	**12.65**	**331**	⇑	P		**Pn**	**01 23 59.3**	**+1.3**
MLAC				⇓	S		**Sn**	**01 26 25.0**	**+6.0**
LRV	**Little Rabbit**	**12.78**	**322**	*e*	Pn		**Pn**	**01 23 59.6**	**-0.2**
T05C	**Eagle Field, D** baz=13	**12.95**	**324**	⇑	P		**Pn**	**01 24 01.7**	**-0.3**
T05C				⇓	S		**Sn**	**01 26 31.3**	**+5.1**
SMCO	**Snowmass**	**12.96**	**15**	*e*	Pn		**Pn**	**01 24 03.0**	**+0.7**
R08A	**Mina** baz=13	**12.98**	**335**	⇓	P		**Pn**	**01 24 03.1**	**+0.6**
R08A				⇑	S		**Sn**	**01 26 31.6**	**+4.6**
HAST	**UC Hastings Re** baz=13	**13.06**	**320**	⇑	P		**Pn**	**01 24 01.8**	**-1.8**
HAST				⇑	S		**Sn**	**01 26 32.0**	**+3.2**
Q09A	**Carvers** baz=13	**13.09**	**339**	⇓	P		**Pn**	**01 24 05.4**	**+1.4**
Q09A				⇓	S		**Sn**	**01 26 35.3**	**+5.7**
P12A	**McGill** baz=13	**13.11**	**347**	⇑	P		**Pn**	**01 24 05.3**	**+1.0**
S05C	**Merced** baz=13	**13.12**	**326**	⇑	P		**Pn**	**01 24 03.7**	**-0.7**
S05C				⇑	S		**Sn**	**01 26 33.3**	**+2.9**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=149,slow=13,SNR=92	**13.13**	**335**		Pn		**Pn**	**01 24 05.3**	**+0.9**
R07C	**Lee Vining** baz=13	**13.13**	**332**	⇓	P		**Pn**	**01 24 05.5**	**+0.9**
R07C				⇑	S		**Sn**	**01 26 38.2**	**+7.5**
NLU	**North Lily Min**	**13.25**	**357**	*e*	Pn		**Pn**	**01 24 07.7**	**+1.5**
SAO	**San Andreas Ge**	**13.27**	**322**	*e*	P		**Pn**	**01 24 06.3**	**-0.1**
MPU	**Maple Canyon**	**13.30**	**359**	*e*	Pn		**Pn**	**01 24 08.5**	**+1.7**
S06C	**San Francisco** baz=13	**13.31**	**329**	⇑	P		**Pn**	**01 24 07.8**	**+0.8**
S06C				⇑	S		**Sn**	**01 26 41.0**	**+5.9**
PACP	**Pacheco Peak** baz=13	**13.36**	**323**	⇑	P		**Pn**	**01 24 06.3**	**-1.3**
PACP				⇓	S		**Sn**	**01 26 38.2**	**+2.1**
P11A	**Circle Ranch,** baz=13	**13.37**	**345**	⇑	P		**Pn**	**01 24 08.9**	**+1.2**
Q08A	**Gabbs** baz=13	**13.37**	**337**	⇓	P		**Pn**	**01 24 08.6**	**+0.8**
Q08A				⇑	S		**Sn**	**01 26 42.9**	**+6.5**
WMOK	**Wichita Mounta**	**13.39**	**50**	*e*	P		**Pn**	**01 24 09.0**	**+0.9**
DUG	**Dugway**	**13.54**	**355**	*e*	P		**Pn**	**01 24 13.9**	**+3.8**
P10A	**Eureka** baz=14	**13.61**	**343**	⇓	P		**Pn**	**01 24 12.5**	**+1.4**
PLIG	**Platanillo**	**13.63**	**125**	*i*	P		**Pn**	**01 24 14.2**	**+2.8**
WAKR	**Walker**	**13.65**	**332**	*e*	Pn		**Pn**	**01 24 12.7**	**+1.1**
R06C	**Coleville** baz=14	**13.66**	**332**	⇑	P		**Pn**	**01 24 12.6**	**+0.8**
R06C				⇑	S		**Sn**	**01 26 49.6**	**+5.9**
CMB	**Columbia Colle**	**13.69**	**328**	*e*	P		**Pn**	**01 24 11.5**	**-0.7**
CMB	**Columbia Colle** baz=14	**13.69**	**328**	⇓	P		**Pn**	**01 24 11.3**	**-0.9**
CMB				⇓	S		**Sn**	**01 26 49.2**	**+5.0**
DAU	**Daniels Canyon**	**13.69**	**360**	*e*	P		**Pn**	**01 24 13.3**	**+1.1**
P09A	**Austin** baz=14	**13.74**	**340**	⇑	P		**Pn**	**01 24 13.8**	**+1.0**
P09A				⇓	S		**Sn**	**01 26 51.5**	**+6.0**
S04C	**Ingram Canyon,** baz=14	**13.74**	**324**	⇓	P		**Pn**	**01 24 11.5**	**-1.4**
S04C				⇓	S		**Sn**	**01 26 49.2**	**+3.6**
Q07A	**Schurz** baz=14	**13.77**	**334**	⇓	P		**Pn**	**01 24 14.2**	**+1.0**
Q07A				⇑	S		**Sn**	**01 26 52.1**	**+6.0**
O12A	**Currie** baz=14	**13.86**	**349**	⇓	P		**Pn**	**01 24 15.0**	**+0.5**
O12A				⇑	S		**Sn**	**01 26 53.9**	**+5.5**
PPM	**Popocatepetl**	**13.88**	**121**	*e*	P		**Pn**	**01 24 17.2**	**+2.4**
ISCO	**Idaho Springs**	**13.90**	**18**	*e*	P		**Pn**	**01 24 15.0**	**0.0**
ISCO					pmax		pmax		
ISCO	comp=Z,30nm,0.9s **Idaho Springs** comp=Z,30nm,0.9s	**13.90**	**18**	*e*	Pn		**Pn**	**01 24 15.0**	**0.0**
O11A	**Cowboy Ranch,** baz=14	**13.90**	**346**	⇑	P		**Pn**	**01 24 16.0**	**+0.9**
O11A				⇑	S		**Sn**	**01 26 53.4**	**+4.0**
BNLO	**Ben Lomond (Sa** baz=14	**13.93**	**321**	⇓	P		**Pn**	**01 24 13.1**	**-2.4**
BNLO				⇓	S		**Sn**	**01 26 52.8**	**+2.6**
NOQ	**North Oquirrh**	**13.95**	**357**	*e*	Pn		**Pn**	**01 24 17.2**	**+1.5**
HKT	**Hockley**	**13.96**	**73**		Pn		**Pn**	**01 24 14.2**	**-1.7**
HKT	**Hockley**	**13.96**	**73**	*e*	Pn		**Pn**	**01 24 14.3**	**-1.6**
CTU	**Camp Tracy**	**13.97**	**358**	*e*	Pn		**Pn**	**01 24 18.0**	**+1.9**
CAIG	**El Cayaco**	**13.99**	**131**	*i*	P		**Pn**	**01 24 20.4**	**+4.2**
WENL	**Wente Brothers** baz=14	**14.06**	**323**	⇓	P		**Pn**	**01 24 16.1**	**-1.1**
WENL				⇓	S		**Sn**	**01 26 57.0**	**+3.7**
R05C	**Kirkwood Meado** baz=14	**14.09**	**330**	⇓	P		**Pn**	**01 24 17.9**	**+0.3**
R05C				⇑	S		**Sn**	**01 27 01.4**	**+7.4**
R04C	**Big Horse Ranc** baz=14	**14.13**	**327**	⇓	P		**Pn**	**01 24 17.3**	**-0.9**
R04C				⇑	S		**Sn**	**01 26 59.0**	**+4.0**
JRSC	**Jasper Ridge** baz=14	**14.16**	**322**	⇓	P		**Pn**	**01 24 16.5**	**-2.1**
JRSC				⇓	S		**Sn**	**01 26 57.7**	**+1.8**
P08A	**Dixie Valley** baz=14	**14.16**	**338**	⇑	P		**Pn**	**01 24 19.8**	**+1.1**
O10A	**Cortez Mining,** baz=14	**14.25**	**343**	⇑	P		**Pn**	**01 24 21.0**	**+1.2**
P07A	**Fallon** baz=14	**14.32**	**335**	⇑	P		**Pn**	**01 24 21.7**	**+1.0**
P07A				⇓	S		**Sn**	**01 27 05.7**	**+6.0**
O09A	**Fish Creek Ran** baz=14	**14.33**	**341**	⇓	P		**Pn**	**01 24 21.5**	**+0.6**
O09A				⇑	S		**Sn**	**01 27 05.2**	**+5.3**
N13A	**Wendover, West** baz=14	**14.34**	**351**	⇑	P		**Pn**	**01 24 21.6**	**+0.5**
BDM	**Black Diamond** baz=14	**14.37**	**324**	⇑	P		**Pn**	**01 24 19.7**	**-1.7**
BDM				⇓	S		**Sn**	**01 27 02.9**	**+2.2**
SAC	**San Andreas**	**14.39**	**322**	*e*	P		**Pn**	**01 24 29.2**	**+7.5**
TCUT	**Toone Canyon**	**14.39**	**360**	*e*	Pn		**Pn**	**01 24 22.8**	**+1.0**
LAVA	**Lava Cap Winer** baz=14	**14.44**	**329**	⇓	P		**Pn**	**01 24 21.7**	**-0.6**
LAVA				⇓	S		**Sn**	**01 27 08.1**	**+5.7**
WCN	**Washoe City** baz=14	**14.45**	**333**	⇑	P		**Pn**	**01 24 23.3**	**+0.7**
WCN				⇑	S		**Sn**	**01 27 12.4**	**+9.5**
N12A	**Clover Valley,** baz=14	**14.47**	**348**	⇑	P		**Pn**	**01 24 22.8**	**0.0**
N12A				⇑	S		**Sn**	**01 27 11.4**	**+8.1**
BMN	**Battle Mountai**	**14.58**	**342**	*e*	P		**Pn**	**01 24 24.6**	**+0.3**
N11A	**Elko Archery C** baz=14	**14.58**	**346**	⇑	P		**Pn**	**01 24 24.5**	**+0.2**
N11A				⇑	S		**Sn**	**01 27 10.7**	**+4.7**
SPUT	**South Promonto**	**14.62**	**356**	*e*	Pn		**Pn**	**01 24 25.1**	**+0.2**
PAHR	**Pah Rah Range**	**14.65**	**334**	*e*	Pn		**Pn**	**01 24 26.2**	**+0.9**
N10A	**Dunphy** baz=14	**14.66**	**344**	⇓	P		**Pn**	**01 24 25.5**	**+0.1**
N10A				⇑	S		**Sn**	**01 27 11.1**	**+3.2**
O08A	**Rochester Mine** baz=15	**14.73**	**339**	⇓	P		**Pn**	**01 24 26.7**	**+0.3**
O08A				⇑	S		**Sn**	**01 27 16.6**	**+6.9**
FARB	**Farallon Islan** baz=15	**14.80**	**321**	⇓	P		**Pn**	**01 24 27.7**	**+0.4**
FARB				⇓	S		**Sn**	**01 27 12.1**	**+0.7**
Q04C	**Lincoln** baz=15	**14.80**	**327**	⇑	P		**Pn**	**01 24 26.7**	**-0.7**
Q04C				⇑	S		**Sn**	**01 27 12.1**	**+0.7**
P05C	**Yuba Gap, Truc** baz=15	**14.81**	**330**	⇓	P		**Pn**	**01 24 27.6**	**+0.1**
P05C				⇓	S		**Sn**	**01 27 15.0**	**+3.3**
P06A	**Stead Airport,** baz=15	**14.83**	**333**	⇑	P		**Pn**	**01 24 28.3**	**+0.5**
P06A				⇓	S		**Sn**	**01 27 17.5**	**+5.4**
M13A	**Montello** baz=15	**14.83**	**351**	⇑	P		**Pn**	**01 24 27.5**	**-0.2**
O07A	**Toulon** baz=15	**14.86**	**337**	⇑	P		**Pn**	**01 24 28.4**	**+0.3**
O07A				⇑	S		**Sn**	**01 27 16.2**	**+3.4**
HWUT	**Hardware Ranch**	**14.88**	**359**	*e*	Pn		**Pn**	**01 24 28.8**	**+0.3**
Q03C	**Winters** baz=15	**14.95**	**325**	⇑	P		**Pn**	**01 24 28.2**	**-1.2**
Q03C				⇓	S		**Sn**	**01 27 18.0**	**+3.0**
CVS	**Carmenet Viney** baz=15	**14.97**	**324**	⇓	P		**Pn**	**01 24 27.4**	**-2.2**
CVS				⇓	S		**Sn**	**01 27 18.5**	**+3.0**
M12A	**Wells** baz=15	**15.00**	**349**	⇑	P		**Pn**	**01 24 29.7**	**-0.3**
MCCM	**Marconi Confer**	**15.05**	**322**	*e*	P		**Pn**	**01 24 34.7**	**+4.0**
MCCM	**Marconi Confer** baz=15	**15.05**	**322**	⇓	P		**Pn**	**01 24 30.3**	**-0.4**
MCCM				⇓	S		**Sn**	**01 27 19.6**	**+2.1**
N09A	**Rock Creek Ran** baz=15	**15.05**	**341**	⇑	P		**Pn**	**01 24 30.3**	**-0.4**
N09A				⇓	S		**Sn**	**01 27 24.2**	**+6.7**
HVU	**Hansel Valley**	**15.11**	**356**	*e*	P		**Pn**	**01 24 31.8**	**+0.3**
M11A	**Holland Ranch,** baz=15	**15.18**	**347**	⇓	P		**Pn**	**01 24 32.7**	**+0.3**
NSHM	**Saint Helena R**	**15.18**	**324**	*e*	Pn		**Pn**	**01 24 30.3**	**-2.1**
O06A	**Flanigan** baz=15	**15.21**	**334**	⇓	P		**Pn**	**01 24 33.7**	**+0.8**
O06A				⇓	S		**Sn**	**01 27 28.0**	**+6.5**
OHCM	**Honcut**	**15.24**	**328**	*e*	Pn		**Pn**	**01 24 36.5**	**+3.2**
SUTB	**Sutter Butte** baz=15	**15.30**	**327**	⇓	P		**Pn**	**01 24 32.9**	**-1.2**
SUTB				⇓	S		**Sn**	**01 27 28.2**	**+4.6**
NATX	**Nacogdoches** comp=Z,239nm,1.3s	**15.34**	**67**	*e*	Pn		**Pn**	**01 24 34.6**	**+0.1**
PHWY	**Pilot Hill**	**15.34**	**17**	*e*	Pn		**Pn**	**01 24 34.9**	**+0.3**
MNRC	**McLaughlin Nat** baz=15	**15.36**	**325**	⇓	P		**Pn**	**01 24 33.5**	**-1.3**
MNRC				⇓	S		**Sn**	**01 27 27.9**	**+2.9**
ORV	**Oroville** baz=15	**15.42**	**329**	⇓	P		**Pn**	**01 24 34.6**	**-1.0**
ORV				⇑	S		**Sn**	**01 27 29.2**	**+2.6**
M10A	**I.L. Ranch, Tu** baz=15	**15.43**	**345**	⇑	P		**Pn**	**01 24 36.0**	**+0.3**
M10A				⇑	S		**Sn**	**01 27 31.6**	**+5.0**
N07B	**Gerlach** baz=15	**15.44**	**337**	⇓	P		**Pn**	**01 24 36.5**	**+0.6**
N07B				⇓	S		**Sn**	**01 27 33.8**	**+6.8**
O05C	**Quincy** baz=15	**15.49**	**331**	⇑	P		**Pn**	**01 24 36.0**	**-0.6**

O05C ⇑S Sn 01 27 33.7 +5.4
baz=15
M09A Marrel Ranch, 15.56 342 ⇓P Pn 01 24 37.4 0.0
baz=15
M09A ⇑S Sn 01 27 35.8 +5.9
baz=15
N06A Buffalo Meadow 15.72 335 ⇑P Pn 01 24 39.6 0.0
baz=16
N06A ⇓S Sn 01 27 41.6 +7.8
baz=16
HOPS Hopland 15.77 324 *e*Pn Pn 01 24 38.0 -2.1
comp=Z,218nm,1.4s
HOPS Hopland 15.77 324 ⇓P Pn 01 24 38.8 -1.3
baz=16
HOPS ⇓S Sn 01 27 41.3 +6.3
baz=16
O04C Chester 15.87 331 ⇑P Pn 01 24 41.1 -0.3
baz=16
O04C ⇓S Sn 01 27 43.4 +6.1
baz=16
ELFS Eagle Lake Fie 15.96 333 ⇓P Pn 01 24 43.5 +0.8
baz=16
ELFS ⇓S Sn 01 27 45.0 +5.3
baz=16
O03C Acorn Hollow, 16.02 329 ⇓P Pn 01 24 42.2 -1.3
baz=16
O03C ⇑S Sn 01 27 47.5 +6.3
baz=16
AHID Auburn Hatcher 16.04 0 *e*Pn Pn 01 24 42.0 -1.6
M07A Soldier Meadow 16.05 338 ⇓P Pn 01 24 43.6 -0.2
baz=16
M07A ⇓S Sn 01 27 51.5 +10
baz=16
GASB Alder Springs 16.08 326 ⇑P Pn 01 24 43.7 -0.5
baz=16
GASB ⇑S Sn 01 27 46.8 +4.2
baz=16
BW06 Boulder Array 16.10 4 *e*Pn Pn 01 24 42.4 -2.0
PDAR Pinedale Array 16.10 4 Pn Pn 01 24 42.2 -2.2
comp=Z,0.1nm,0.3s,baz=184,slow=12,SNR=39
P01C Double 8 Ranch 16.26 325 ⇓P Pn 01 24 45.8 -0.7
baz=16
P01C ⇓S Sn 01 27 53.2 +6.3
baz=16
M06C Likely Place G 16.36 335 ⇑P Pn 01 24 48.2 +0.5
baz=16
M06C ⇑S Sn 01 27 57.2 +7.9
baz=16
HATC Hat Creek Radi 16.44 332 ⇓P Pn 01 24 49.4 +0.6
baz=16
HATC ⇑S Sn 01 27 59.8 +8.6
baz=16
VHO Vista Hermosa 16.51 122 *i* P Pn 01 24 48.6 -1.1
VHO *i* P 01 25 00.0
L08A Fields 16.52 341 ⇓P Pn 01 24 49.6 -0.2
baz=16
L08A ⇑S Sn 01 28 02.5 +9.2
baz=16
O02C Red Bluff 16.53 327 ⇑P Pn 01 24 48.5 -1.3
baz=16
O02C ⇑S Sn 01 28 00.5 +7.2
baz=16
KIPM Iron Peak 16.59 325 *e*P Pn 01 24 51.1 +0.5
RRI2 Red Ridge 16.62 360 *e*Pn Pn 01 24 50.5 -0.6
REDW Red Top Meadow 16.64 1 *e*Pn Pn 01 24 50.0 -1.3
comp=Z,383nm,1.5s
L07A Adell 16.68 339 ⇓P Pn 01 24 51.9 +0.1
baz=17
L07A ⇑S Sn 01 28 07.5 +11
baz=17
WDC Whiskeytown Da 16.72 329 *e*P Pn 01 24 51.5 -0.9
WDC pmax pmax
comp=Z,198nm,1.5s
WDC Whiskeytown Da 16.72 329 *e*Pn Pn 01 24 51.5 -0.9
comp=Z,198nm,1.5s
WDC Whiskeytown Da 16.72 329 ⇓P Pn 01 24 51.7 -0.6
baz=17
WDC ⇓S Sn 01 28 05.1 +7.0
baz=17
SNOW Snow King Moun 16.74 1 *e*Pn Pn 01 24 52.9 +0.3
M05C Lookout 16.76 333 ⇑P Pn 01 24 52.9 0.0
baz=17
M05C ⇑S Sn 01 28 08.5 +9.5
baz=17
TPAW Teton Pass 16.77 1 *e*Pn Pn 01 24 52.0 -1.0
comp=Z,442nm,1.5s
WVOR Wild Horse Val 16.83 341 *e*P Pn 01 24 54.0 +0.2
WVOR pmax pmax
comp=Z,442nm,1.5s
WVOR Wild Horse Val 16.83 341 *e*P Pn 01 24 54.0 +0.2
comp=Z,442nm,1.5s
DCID1 Drake Creek 16.87 0 *e*Pn Pn 01 24 53.5 -0.7
O01C Eel River Cons 17.01 325 ⇑P Pn 01 24 55.8 -0.1
baz=17
O01C ⇓S Sn 01 28 11.8 +6.8
baz=17
MOOW Moose Ponds 17.03 1 *e*Pn Pn 01 24 55.2 -1.0
HLID Hailey 17.03 352 *e*Pn Pn 01 24 56.4 +0.1
comp=Z,240nm,1.6s
K08A Mann Creek Ran 17.06 342 ⇑P Pn 01 24 56.4 -0.3
baz=17
K08A ⇓S Sn 01 28 14.9 +8.5
baz=17
MIAR Mount Ida 17.10 58 *e*P Pn 01 24 55.2 -1.9
IMW Indian Meadow 17.17 1 *e*Pn Pn 01 24 56.9 -1.2
L05A Lakeview 17.23 335 ⇓P Pn 01 24 59.5 +0.8
baz=17
L05A ⇑S Sn 01 28 21.0 +11
baz=17
K07A Rock Creek Ran 17.25 340 ⇑P Pn 01 24 59.2 +0.2
baz=17
K07A ⇑S Sn 01 28 21.1 +10
baz=17
N02C Big Bar 17.27 328 ⇓P Pn 01 24 58.5 -0.7
baz=17
N02C ⇓S Sn 01 28 18.0 +6.5
baz=17
FLWY Flagg Ranch 17.36 1 *e*Pn Pn 01 25 00.5 +0.1
M04C Macdoel 17.39 333 ⇓P Pn 01 25 01.5 +0.7
baz=17
M04C ⇑S Sn 01 28 23.5 +9.1
baz=17
KSU1 Kansas State U 17.42 41 *e*P Pn 01 25 00.6 -0.5
M02C Callahan 17.51 330 ⇓P Pn 01 25 01.5 -0.7
baz=17
M02C ⇑S Sn 01 28 24.9 +7.7
baz=17
KHMM Horse Mountain 17.52 327 *e*Pn Pn 01 25 02.7 +0.3
JCC Jacoby Creek 17.62 326 ⇓P Pn 01 25 03.0 -0.6
baz=18
JCC ⇑S Sn 01 28 27.6 +7.7
baz=18
J08A Circle Bar Ran 17.64 342 ⇑P Pn 01 25 03.8 -0.1
baz=18
J08A ⇑S Sn 01 28 28.4 +8.1
baz=18
K06A Valley Falls 17.68 338 ⇓P Pn 01 25 04.6 +0.3
baz=18
K06A ⇑S Sn 01 28 30.2 +9.0
baz=18
YBH Yreka Blue Hor 17.72 331 P Pn 01 25 04.5 -0.4
comp=Z,0.1nm,0.3s,baz=138,slow=6.5,SNR=9.5
YBH S Sn 01 28 28.8 +6.4
comp=Z,0.1nm,0.3s,baz=205,slow=23,SNR=1.6
YBH LR LR 01 31 28.1
comp=Z,22µm,21.0s,baz=146,slow=36
YBH Yreka Blue Hor 17.72 331 P Pn 01 25 04.5 -0.4
YBH S Sn 01 28 28.8 +6.4
YBH LR LR 01 31 28.1
YBH Yreka Blue Hor 17.72 331 ⇑P Pn 01 25 03.6 -1.2
baz=18
YBH ⇑S Sn 01 28 29.9 +7.6
baz=18
YFT Old Faithful 17.73 1 *e*P Pn 01 25 06.3 +1.4
L04A Klamath Falls 17.74 333 ⇓P Pn 01 25 05.8 +0.7
baz=18
L04A ⇓S Sn 01 28 31.7 +8.9
baz=18
LKWY Lake 17.85 2 *e*P Pn 01 25 09.2 +2.7
LKWY pmax pmax
comp=Z,464nm,1.7s
LKWY Lake 17.85 2 *e*P Pn 01 25 09.2 +2.7
comp=Z,464nm,1.7s
J07A Hines 17.89 341 ⇓P Pn 01 25 07.1 +0.1
baz=18
J07A ⇓S Sn 01 28 35.0 +8.6
baz=18

CMIG Matias Romero 17.92 119 *i* P Pn 01 25 08.6 +1.3
YMR Madison River 17.95 1 *e*P Pn 01 25 07.8 +0.2
comp=Z,309nm,1.3s
J06A Christmas Vall 18.04 339 ⇓P Pn 01 25 08.4 -0.4
baz=18
J06A ⇓S Sn 01 28 37.2 +7.1
baz=18
K04A Chilquin 18.05 334 ⇓P Pn 01 25 09.1 +0.2
baz=18
K04A ⇑S Sn 01 28 36.2 +5.9
baz=18
KRMB Red Mountain 18.10 328 *e*P Pn 01 25 08.8 -0.8
QLMT Earthquake Lak 18.11 360 *e*Pn Pn 01 25 09.9 +0.3
UALR University of 18.13 59 *e*Pn Pn 01 25 07.5 -2.4
MCMT McKenzie Canyo 18.15 356 *e*P Pn 01 25 10.4 +0.3
KSXB Camp Six Broad 18.33 329 P Pn 01 25 10.9 -1.4
RSSD Black Hills 18.35 17 *e*P Pn 01 25 11.2 -1.4
J05A Fort Rock 18.44 336 ⇓P Pn 01 25 13.1 -0.6
baz=18
J05A ⇓S Sn 01 28 44.7 +5.0
baz=18
M01C Crescent City 18.46 328 ⇑P Pn 01 25 12.0 -1.9
baz=18
M01C ⇑S Sn 01 28 42.2 +2.1
baz=18
L02A Cave Junction 18.46 330 ⇑P Pn 01 25 11.3 -2.7
baz=18
L02A ⇑S Sn 01 28 44.8 +4.6
baz=18
HUMO Hull Mountain 18.54 332 *e*P Pn 01 25 12.7 -2.2
comp=Z,83nm,1.5s
HUMO Hull Mountain 18.54 332 ⇓P Pn 01 25 12.3 -2.7
baz=18
HUMO ⇑S Sn 01 28 42.6 +0.4
baz=18
DLMT Dillon 18.67 357 *e*Pn Pn 01 25 16.6 +0.1
I06A Prineville 18.68 339 ⇑P Pn 01 25 15.2 -1.4
baz=19
I06A ⇑S Sn 01 28 53.0 +7.5
baz=19
BMO Blue Mountains 18.77 347 *e*P Pn 01 25 16.1 -1.6
comp=Z,415nm,2.0s
NCOR Newberry Crate 18.78 337 P Pn 01 25 18.9 +1.2
KBO Bosley Butte 18.79 329 *e*Pn Pn 01 25 18.0 +0.1
BOZ Bozeman (W) 18.92 359 *e*P Pn 01 25 18.1 -1.5
BOZ pmax pmax
comp=Z,626nm,1.9s
BOZ Bozeman (W) 18.92 359 *e*P Pn 01 25 18.1 -1.5
comp=Z,626nm,1.9s
GCMT Greycliff 19.11 3 *e*P Pn 01 25 19.8 -2.0
LRM Limekiln Ridge 19.12 357 *e*P Pn 01 25 20.6 -1.4
J03A Ideyld Park 19.18 333 ⇓P Pn 01 25 20.0 -2.6
baz=19
J03A ⇑S Sn 01 28 58.0 +0.5
baz=19
I05A Bend 19.22 338 ⇓P Pn 01 25 20.8 -2.3
baz=19
I05A ⇑S Sn 01 29 02.1 +3.4
baz=19
VIPM Ingram Point 19.32 339 P Pn 01 25 24.4 +0.1
HBO Huckleberry Mo 19.33 335 P Pn 01 25 23.2 -1.2
WIFE Three Sisters- 19.33 336 P Pn 01 25 22.5 -1.9
KEBM Edson Butte 19.36 330 *e*P Pn 01 25 23.2 -1.5
K01A Sixes 19.37 330 ⇓P Pn 01 25 22.2 -2.7
baz=19
K01A ⇑S Sn 01 29 03.8 +1.7
baz=19
J02A Umpqua 19.43 332 ⇑P Pn 01 25 22.4 -3.2
baz=19
J02A ⇑S Sn 01 29 06.3 +2.8
baz=19
IRO Indian Ridge 19.44 336 P Pn 01 25 25.7 0.0
H05A Madras 19.64 338 ⇑P Pn 01 25 25.5 -2.7
baz=20
H05A ⇑S Sn 01 29 12.2 +3.5
baz=20
BROR Big Rock Looko 19.74 336 P Pn 01 25 28.1 -1.3
I03A Eugene 19.80 334 ⇑P Pn 01 25 27.0 -3.1
baz=20
I03A ⇓S Sn 01 29 11.5 -1.1
baz=20
LNOR Lincton Mounta 19.95 345 P Pn 01 25 29.0 -2.9
HRY Holter Researc 19.99 359 *e*P P 01 25 29.9 -0.7
H04A Detroit Lake 20.00 337 ⇓P P 01 25 28.9 -1.8
baz=20
H04A ⇓S S 01 29 14.7 -0.8
baz=20
I02A Mapleton 20.05 333 ⇑P P 01 25 29.2 -2.0
baz=20
I02A ⇑S S 01 29 15.9 -0.6
baz=20
G05A Wamic 20.20 339 ⇑P P 01 25 31.0 -1.9
baz=20
G05A ⇑S S 01 29 25.0 +5.5
baz=20
MSO Missoula 20.22 355 PFAKE 01 25 50.0 +17
MSO LR LR
comp=Z,19µm,21.0s,MS5.4
CHMT Chamberlain Mo 20.25 356 *e*P P 01 25 32.3 -1.1
CCM Cathedral Cave 20.30 51 *e*P P 01 25 32.8 -1.2
CCM pmax pmax
comp=Z,112nm,1.3s
CCM MLR MLR
comp=Z,27µm,20.0s,MS5.6
CCM Cathedral Cave 20.30 51 *e*P P 01 25 32.8 -1.2
comp=Z,112nm,1.3s
CCM LR LR
comp=Z,27µm,20.0s,MS5.6
COR Corvallis 20.33 335 *e*P P 01 25 34.5 +0.2
COR MLR MLR
comp=Z,25µm,19.0s,MS5.6
OXF Oxford 20.33 62 *e*P P 01 25 33.2 -1.1
OXF pmax pmax
comp=Z,615nm,1.4s
OXF MLR MLR
comp=Z,49µm,19.0s,MS5.9
OXF Oxford 20.33 62 *e*P P 01 25 33.2 -1.1
comp=Z,615nm,1.4s
OXF LR LR
comp=Z,49µm,19.0s,MS5.9
LAO LSA Array 20.36 10 *e*P P 01 25 33.2 -1.4
comp=Z,1µm,1.7s
HOOD Mount Hood Mea 20.38 339 *e*P P 01 25 34.9 +0.1
H03A Soap Creek Ran 20.40 335 ⇓P P 01 25 33.3 -1.8
baz=20
H03A ⇓S S 01 29 22.6 -1.0
baz=20
G04A Mulino 20.56 337 ⇑P P 01 25 34.3 -2.5
baz=20
G04A ⇑S S 01 29 29.2 +2.5
baz=20
H02A Toledo 20.68 334 ⇑P P 01 25 36.0 -2.1
baz=21
H02A ⇑S S 01 29 32.5 +3.5
baz=21
ECSD EROS,Sioux Fal 20.74 31 *e*P P 01 25 37.5 -1.2
HAWA Hanford 20.74 344 *e*P P 01 25 36.8 -1.9
HAWA LR LR
comp=Z,1µm,20.0s
RSW Rattlesnake Hi 20.75 344 P P 01 25 37.6 -1.3
PARMO Parma 20.79 56 *e*P P 01 25 40.9 +1.7
F05A White Salmon 20.81 340 ⇑P P 01 25 37.3 -2.2
baz=21
F05A ⇓S S 01 29 34.8 +3.1
baz=21
HALT Halls 20.82 58 *e*P P 01 25 40.3 +0.7
SNIWA Snively Ranch 20.84 343 P P 01 25 38.3 -1.5
FVM French Village 20.84 52 *e*P P 01 25 38.3 -1.6
FVM pmax pmax
comp=Z,157nm,1.2s
FVM French Village 20.84 52 *e*P P 01 25 38.3 -1.6
comp=Z,157nm,1.2s
BENWA Benson Ranch 20.90 343 P P 01 25 39.2 -1.3
G03A Yamhill 20.94 336 ⇑P P 01 25 38.4 -2.5
baz=21
G03A ⇑S S 01 29 35.1 +0.8
baz=21
GLAT Glass 20.99 58 *e*Pn P 01 25 41.9 +0.5
ASR Mount Adams--S 21.10 340 P P 01 25 43.3 +0.7
F04A Amboy 21.17 338 ⇓P P 01 25 40.6 -2.8
baz=21
F04A ⇑S S 01 29 39.7 +0.9
baz=21
SLM Saint Louis 21.27 51 *e*P P 01 25 42.8 -1.7
SLM pmax pmax
comp=Z,167nm,1.2s,mb5.2

SLM Saint Louis 21.27 51 *e*P P 01 25 42.8 -1.7
comp=Z,167nm,1.2s,mb5.2
KMOR Kings Mountain 21.29 336 P P 01 25 43.5 -1.2
BSMT Bassoo Peak 21.31 353 *e*P P 01 25 43.7 -1.2
EGMT Eagleton 21.33 3 *e*P P 01 25 43.6 -1.6
comp=Z,181nm,1.2s,mb5.3
EGMT LR LR
comp=Z,15µm,21.0s,MS5.3
UTMT University of 21.33 58 *e*P P 01 25 44.6 -0.6
STD Studebaker Rid 21.38 339 P P 01 25 43.6 -2.0
OD2 Odessa Site #2 21.49 346 P P 01 25 43.8 -3.0
EBG Ellensburg 21.49 342 P P 01 25 45.8 -1.0
PLAL Pickwick Lake 21.52 62 *e*P P 01 25 46.0 -1.1
comp=Z,105nm,1.1s,mb5.2
PLAL LR LR
comp=Z,27µm,21.0s,MS5.6
E05A Randle 21.52 340 ⇑P P 01 25 45.7 -1.5
baz=21
E05A ⇓S S 01 29 46.6 +1.0
baz=21
F03A Seaside 21.57 336 ⇑P P 01 25 46.6 -1.1
baz=21
F03A ⇓S S 01 29 49.5 +3.0
baz=21
LON Longmire 21.70 340 *e*P P 01 25 47.9 -1.2
FMW Mount Fremont 21.82 341 P P 01 25 49.7 -0.7
LTY Liberty 21.84 343 P P 01 25 48.4 -2.1
E04A Onalaska 21.85 338 ⇑P P 01 25 49.1 -1.6
baz=22
E04A ⇓S S 01 29 53.3 +1.2
baz=22
LRAL Lakeview Retre 21.94 67 PFAKE 01 26 00.0 +8.3
LRAL LR LR
comp=Z,22µm,20.0s,MS5.6
TEIG Tepich 22.02 102 *e*P P 01 25 53.6 +1.1
TEIG LR LR
comp=Z,6µm,20.0s,MS5.0
NEW Newport 22.02 349 P P 01 25 50.3 -2.2
comp=Z,81nm,1.2s,mb5.0,baz=166,slow=11,SNR=61
NEW LR LR 01 34 46.0
comp=Z,23µm,21.3s,MS5.6,baz=178,slow=38
NEW Newport 22.02 349 *e*P P 01 25 50.3 -2.3
NEW pmax pmax
comp=Z,122nm,1.0s
NEW MLR MLR
comp=Z,35µm,19.0s
NEW Newport 22.02 349 *e*P P 01 25 50.3 -2.3
comp=Z,122nm,1.0s,mb5.3
NEW LR LR
comp=Z,35µm,19.0s,MS5.8
WVT Waverly 22.05 59 PFAKE 01 26 00.0 +7.2
WVT LR LR
comp=Z,15µm,22.0s,MS5.4
ETW Entiat 22.07 343 P P 01 25 51.1 -1.9
E03A Lebam 22.10 337 ⇓P P 01 25 51.1 -2.3
baz=22
E03A ⇓S S 01 29 59.4 +2.5
baz=22
D05A Enumclaw 22.15 340 ⇓P P 01 25 52.0 -1.9
baz=22
D05A ⇓S S 01 30 00.4 +2.4
baz=22
CBSW Chelan Butte S 22.18 344 P P 01 25 52.5 -1.8
D04A Dobbs Creek Ra 22.33 339 ⇓P P 01 25 54.0 -1.9
baz=22
D04A ⇓S S 01 30 05.8 +4.3
baz=22
RMW Rattlesnake Mo 22.34 341 P P 01 25 54.2 -1.7
WALA Waterton Lakes 22.43 355 *e*P P 01 25 55.1 -1.8
comp=Z,93nm,1.3s,mb5.0
C05A Tolt Reservoir 22.51 341 ⇑P P 01 25 55.6 -2.2
baz=22
C05A ⇓S S 01 30 06.8 +1.8
baz=22
D03A Wishkah Elem. 22.66 337 ⇓P P 01 25 57.3 -2.1
baz=22
D03A ⇓S S 01 30 08.9 +1.0
baz=22
GNW Green Mountain 22.74 339 P P 01 25 57.9 -2.3
USIN University of 22.82 55 *e*P P 01 26 02.6 +1.6
C04A Brinnon 22.93 339 ⇑P P 01 25 59.6 -2.6
baz=23
C04A ⇓S S 01 30 12.8 +0.6
baz=23
B05A Bryant 23.15 341 ⇓P P 01 26 01.5 -3.0
baz=23
B05A ⇓S S 01 30 15.9 +0.1
baz=23
SWET Sewanee 23.27 62 *e*P P 01 26 05.3 -0.5
OOW Octopus West 23.34 338 P P 01 26 07.4 +0.9
B04A Port Angeles 23.39 339 ⇓P P 01 26 04.4 -2.7
baz=23
B04A ⇑S S 01 30 22.6 +2.8
baz=23
PNT Penticton 23.50 346 P P 01 26 05.3 -3.0
JFWS Jewell Farm 23.55 41 *e*P P 01 26 06.9 -1.9
JFWS pmax pmax
comp=Z,15µm,20.0s,MS5.5
VGZ Gonzales 23.65 340 P P 01 26 07.4 -2.2
C03A Quillayute Air 23.65 337 ⇓P P 01 26 07.6 -2.1
baz=24
C03A ⇓S S 01 30 25.8 +1.7
baz=24
A04A Legoe Bay, Lum 23.74 341 ⇑P P 01 26 08.0 -2.4
baz=24
A04A ⇓S S 01 30 27.6 +2.2
baz=24
A05A Maple Falls 23.82 342 ⇓P P 01 26 08.4 -2.7
baz=24
A05A ⇓S S 01 30 28.7 +2.0
baz=24
PGC Sidney 23.90 340 *e*P P 01 26 11.8 -0.1
WCI Wyandotte Cave 23.92 55 *e*P P 01 26 10.8 -1.3
WCI pmax pmax
comp=Z,90nm,1.1s,mb5.1
WCI MLR MLR
comp=Z,30µm,21.0s,MS5.7
WCI Wyandotte Cave 23.92 55 *e*P P 01 26 10.8 -1.3
comp=Z,90nm,1.1s,mb5.1
WCI LR LR
comp=Z,30µm,21.0s,MS5.7
BLO Bloomington 24.12 53 *e*P P 01 26 14.4 +0.5
BLO pmax pmax
comp=Z,128nm,1.3s,mb5.2
BLO Bloomington 24.12 53 *e*P P 01 26 14.4 +0.5
comp=Z,128nm,1.3s,mb5.2
CPCT Cooper Cave 24.45 63 *e*P P 01 26 15.9 -1.0
MYNC Murphy 24.68 64 *e*P P 01 26 18.7 -0.3
MYNC pmax pmax
comp=Z,239nm,1.8s,mb5.4
MYNC MLR MLR
comp=Z,29µm,20.0s,MS5.8
MYNC Murphy 24.68 64 *e*P P 01 26 18.6 -0.4
comp=Z,239nm,1.8s,mb5.4
MYNC LR LR
comp=Z,29µm,20.0s,MS5.8
GOGA Godfrey 24.92 68 *e*P P 01 26 20.4 -0.8
GOGA MLR MLR
comp=Z,473µm,20.0s
TZTN Tazewell 25.48 60 *e*P P 01 26 28.2 +1.9
EYMN Ely 26.26 31 *e*P P 01 26 34.1 +0.7
comp=Z,137nm,1.2s,mb5.4
EYMN LR LR
comp=Z,11µm,19.0s,MS5.4
ULM Lac du Bonnet 26.32 23 P P 01 26 30.9 -3.1
comp=Z,16nm,0.9s,mb4.6,baz=217,slow=9.9,SNR=9.3
ULM S S 01 31 05.6 -1.2
comp=Z,1.4nm,0.8s,baz=304,slow=22,SNR=1.5
ULM LR LR 01 37 51.6
comp=Z,5µm,21.0s,MS5.1,baz=209,slow=39
DWPF Disney 26.48 80 *e*P P 01 26 33.9 -1.5
comp=Z,113nm,1.1s,mb5.3
DWPF LR LR
comp=Z,8µm,21.0s,MS5.2
EDM Edmonton 26.55 357 *e*P P 01 26 33.8 -2.2
ACSO Alum Creek Sta 27.05 53 *e*P P 01 26 39.4 -1.0
comp=Z,46nm,1.1s,mb4.9
ACSO LR LR
comp=Z,14µm,20.0s,MS5.5
AAM Ann Arbor 27.41 48 *e*P P 01 26 44.9 +1.2
AAM pmax pmax
comp=Z,61nm,1.1s,mb5.0
AAM MLR MLR
comp=Z,8µm,22.0s,MS5.2
AAM Ann Arbor 27.41 48 *e*P P 01 26 44.9 +1.2
comp=Z,61nm,1.1s,mb5.0
AAM LR LR

comp=Z,8µm,22.0s,MS5.2
ELN Prospectdale 27.82 60 *e*P **P 01 26 46.1 -1.3**
FWV Forest Hill 27.86 59 *e*P **P 01 26 45.7 -2.1**
BLA Blacksburg 28.07 60 *e*P **P 01 26 49.8 +0.1**
BLA pmax pmax
comp=Z,3.0nm,1.0s
BLA MLR MLR
comp=Z,2µm,22.0s,MS4.6
BLA Blacksburg 28.07 60 *e*P **P 01 26 49.8 +0.1**
comp=Z,2.9nm,1.0s
BLA LR LR
comp=Z,2µm,22.0s
BBB Bella Bella 28.46 338 P **P 01 26 54.4 +1.2**
comp=Z,19nm,0.9s,mb4.7,baz=130,slow=8.7,SNR=5.1
BBB LR LR 01 37 57.2
comp=Z,18µm,20.6s,MS5.7,baz=165,slow=36
FFC Flin Flon 28.83 11 *e*P **P 01 26 53.9 -2.5**
FFC pmax pmax
comp=Z,174nm,2.0s,mb5.4
FFC MLR MLR
comp=Z,10µm,20.0s,MS5.4
FFC Flin Flon 28.83 11 *e*P **P 01 26 53.9 -2.5**
comp=Z,174nm,2.0s,mb5.4
FFC LR LR
comp=Z,10µm,20.0s,MS5.4
MCWV Mont Chateau 29.14 56 *e*P **P 01 26 59.5 +0.3**
MCWV LR LR
comp=Z,20µm,21.0s,MS5.7
ALLY Alegheny Colle 29.56 52 *e*P **P 01 27 03.0 +0.1**
ERPA Erie 29.83 51 *e*P **P 01 27 04.9 -0.4**
ERPA LR LR
comp=Z,16µm,19.0s,MS5.7
CBN Corbin 30.65 59 PFAKE 01 27 20.0 +7.5
CBN LR LR
comp=Z,49µm,20.0s,MS6.2
SSPA Standing Stone 30.86 55 *e*P **P 01 27 12.5 -1.9**
comp=Z,36nm,1.1s,mb5.1
SSPA LR LR
comp=Z,21µm,22.0s,MS5.8
SADO Sadowa 31.42 47 P **P 01 27 16.1 -3.2**
comp=Z,12nm,1.0s,mb4.7,baz=262,slow=8.5,SNR=5.7
MVL Millersville 31.82 56 *e*P **P 01 27 21.1 -1.8**
LMGC Las Mercedes 32.05 95 *e*P **P 01 27 22.5 -2.4**
BINY Binghamton 32.67 53 *e*P **P 01 27 28.6 -1.7**
comp=Z,38nm,1.0s,mb5.3
BINY LR LR
comp=Z,29µm,20.0s,MS6.0
DLBC Dease Lake 34.36 343 *e*P **P 01 27 44.0 -1.0**
LONY Lake Ozonia 34.39 49 *e*P **P 01 27 45.5 +0.1**
LONY *e*PP PP 01 29 08.7 +5.5
LONY *e*PcP PcP 01 30 26.1 +5.2
NCB Newcomb 34.43 50 *e*P **P 01 27 46.1 +0.5**
comp=Z,34nm,0.9s,mb5.3
NCB *e*PcP PcP 01 30 25.1 +4.0
NCB LR LR
comp=Z,6µm,20.0s,MS5.3
SIT Sitka 34.87 337 PFAKE 01 28 00.0 +11
SIT LR LR
comp=Z,11µm,19.0s,MS5.6
FRNY Flat Rock 35.13 49 *e*P **P 01 27 52.0 +0.2**
FRNY *e*PP PP 01 29 14.2 +2.8
QUA2 Belchertown 35.30 54 *e*P **P 01 27 53.0 -0.1**
comp=Z,46nm,0.9s,mb5.4
QUA2 *e*PcP PcP 01 30 29.2 +5.7
YKA Yellowknife Ar 35.87 357 P **P 01 27 56.2 -1.8**
comp=Z,3.5nm,0.8s,mb4.4,baz=178,slow=8.3,SNR=23
YKA PcP PcP 01 30 28.8 +3.6
comp=Z,7.8nm,1.1s,baz=175,slow=2.5,SNR=7.1
YKA LR LR 01 43 16.3
comp=Z,26µm,18.8s,MS6.0,baz=180,slow=38
YKA Yellowknife Ar 35.87 357 P **P 01 27 56.2 -1.9**
YKA 01 30 28.8
YKA Yellowknife Ar 35.87 357 P **P 01 27 56.2 -1.8**
YKA PcP PcP 01 30 28.8 +3.6
YKA LR LR 01 43 16.3
HRV Harvard--Oak R 35.92 54 PFAKE 01 28 10.0 +12
HRV LR LR
comp=Z,25µm,21.0s,MS6.0
WES Weston 36.07 54 PFAKE 01 28 10.0 +10
WES LR LR
comp=Z,12µm,19.0s,MS5.7
LBNH Lisbon 36.10 51 *e*P **P 01 28 00.3 +0.3**
LBNH pmax pmax
comp=Z,108nm,1.7s,mb5.5
LBNH MLR MLR
comp=Z,10µm,19.0s,MS5.6
LBNH Lisbon 36.10 51 *e*P **P 01 28 00.3 +0.3**
comp=Z,108nm,1.7s,mb5.5
LBNH LR LR
comp=Z,10µm,19.0s,MS5.6
SKAG Skagway 36.76 340 *e*P **P 01 28 04.4 -1.2**
SKAG LR LR
comp=Z,11µm,19.0s,MS5.7
BBSR BB Station 40.66 71 PFAKE 01 28 50.0 +12
BBSR LR LR
comp=Z,7µm,19.0s,MS5.5
OTAV Otavalo 41.07 124 *e*P **P 01 28 44.5 +2.8**
comp=Z,29nm,1.2s,mb4.8
OTAV LR LR
comp=Z,3µm,22.0s,MS5.1
POHA Pohakuloa 41.12 270 PFAKE 01 29 00.0 +18
POHA LR LR
comp=Z,11µm,20.0s,MS5.7
EYAK Cordova Ski Ar 41.17 335 *e*P **P 01 28 42.1 -0.5**
EYAK *e*PcP PcP 01 30 45.5 +3.7
ROSC El Rosal 41.38 115 P **P 01 28 48.0 +3.6**
comp=Z,3.9nm,0.5s,mb4.3,baz=113,slow=21,SNR=8.5
ROSC LR LR 01 48 06.5
comp=Z,4µm,18.6s,MS5.3,baz=345,slow=39
DIV Divide 41.55 336 PFAKE 01 29 00.0 +14
DIV LR LR
comp=Z,310nm,20.0s
DAWY Dawson 41.57 342 *e*P **P 01 28 45.1 -0.8**
DAWY PcP PcP 01 30 47.1 +4.1
DAWY *e*ScP ScP 01 34 33.2 0.0
SDV Santo Domingo 42.30 107 P **P 01 28 52.4 +0.6**
comp=Z,48nm,1.0s,mb5.1,baz=331,slow=1.3,SNR=8.1
SDV Santo Domingo 42.30 107 P **P 01 28 52.4 +0.6**
SDV LR LR
comp=Z,3µm,19.0s,MS5.2
SJG San Juan 42.38 92 P **P 01 28 53.1 +0.6**
comp=Z,9.6nm,0.5s,mb4.7,baz=350,slow=4.9,SNR=3.6
SJG LR LR 01 47 43.9
comp=Z,5µm,21.7s,MS5.3,baz=269,slow=38
KDAK Kodiak Island 42.52 328 P **P 01 28 55.4 +1.8**
comp=Z,182nm,1.4s,mb5.6,baz=121,slow=7.6,SNR=6.4
KDAK Kodiak Island 42.52 328 P **P 01 28 55.4 +1.8**
KDAK LR LR
comp=Z,2µm,20.0s,MS5.0
SCHQ Schefferville 42.77 37 P **P 01 28 55.1 -0.5**
comp=Z,34nm,1.0s,mb5.0,baz=241,slow=7.9,SNR=14
SCHQ LR LR 01 46 54.0
comp=Z,7µm,20.9s,MS5.5,baz=248,slow=37
KIP Kipapa 42.84 273 PFAKE 01 29 10.0 +14
KIP LR LR
comp=Z,10µm,21.0s,MS5.7
SLKM Skilak Lake 42.91 333 *e*P **P 01 28 56.2 -0.6**
SLKM *e* 01 30 52.4
PMR Palmer 43.11 335 *e*P **P 01 28 58.0 -0.4**
PMR pmax pmax
comp=Z,275nm,1.7s,mb5.7
PMR MLR MLR
comp=Z,5µm,21.0s,MS5.3
PMR Palmer 43.11 335 *e*P **P 01 28 58.0 -0.4**
comp=Z,275nm,1.7s,mb5.7
PMR LR LR
comp=Z,5µm,21.0s,MS5.3
INK Inuvik 43.74 348 *e*P **P 01 29 01.6 -1.9**
INK pmax pmax
comp=Z,34nm,1.1s
INK Inuvik 43.74 348 *e*P **P 01 29 01.6 -1.8**
comp=Z,34nm,1.1s,mb5.0
MCK McKinley 44.35 337 *e*P **P 01 29 07.2 -1.2**
MCK pmax pmax
comp=Z,32nm,1.2s,mb4.9
MCK MLR MLR
comp=Z,2µm,20.0s,MS5.1
MCK McKinley 44.35 337 *e*P **P 01 29 07.2 -1.2**
comp=Z,32nm,1.2s,mb4.9
MCK LR LR
comp=Z,2µm,20.0s,MS5.1
COLA College 44.72 339 *i* P **P 01 29 09.8 -1.5**
COLA MLR MLR
comp=Z,6µm,19.0s,MS5.5
COLA College 44.72 339 *i* P **P 01 29 09.8 -1.5**
COLA LR LR
comp=Z,6µm,19.0s,MS5.5
TAOE Nuku Hiva Isla 45.11 222 *e*LQ 01 40 04.8
comp=Z,47µm,26.8s
TAOE *e*LR LR 01 41 55.4
comp=Z,21µm,24.7s,baz=40
SVW2 Sparrevohn 45.46 332 *e*P **P 01 29 15.6 -1.6**
SDPT Sand Point 45.54 323 *e*P **P 01 29 15.9 -1.9**
TTA Tatalina 46.54 334 *e*P **P 01 29 24.3 -1.4**
PCRV Puerto La Cruz 46.89 101 P **P 01 29 31.1 +2.7**
comp=Z,8.8nm,0.9s,mb4.7,baz=266,slow=10,SNR=3.1
IMA2 Indian Mountai 47.38 338 *e*P **P 01 29 31.0 -1.3**
UNV Unalaska Valle 48.55 319 PFAKE 01 29 50.0 +8.7
UNV LR LR
comp=Z,7µm,19.0s,MS5.7
RES Resolute Bay 48.79 6 *e*P **P 01 29 43.9 +0.7**
RES pmax pmax
comp=Z,37nm,1.1s,mb5.3
RES Resolute Bay 48.79 6 *e*P **P 01 29 43.9 +0.7**
comp=Z,37nm,1.1s,mb5.3
NNA Nana 50.94 135 PFAKE 01 30 10.0 +10
NNA LR LR
comp=Z,3µm,20.0s,MS5.4
TNA Tin City 52.36 334 *e*P **P 01 30 08.2 -1.9**
comp=Z,112nm,1.8s,mb5.5
TNA LR LR
comp=Z,3µm,22.0s,MS5.3
RPN Rapa Nui 53.53 178 PFAKE 01 30 30.0 +11
RPN LR LR
comp=Z,7µm,20.0s,MS5.7
SFJD Kangerlussuaq 54.32 25 *i* P **P 01 30 28.2 +3.6**
comp=Z,46nm,0.9s,mb5.4
SFJD *i* S **S 01 38 00.9 -1.6**
SFJD *i* 01 41 45.5
SFJD
comp=Z,6µm,18.0s
SFJD Kangerlussuaq 54.32 25 *i* P **P 01 30 28.2 +3.6**
SFJD *i* S **S 01 38 00.9 -1.6**
SFJD *i* 01 41 45.5
SFJD pmax pmax
comp=Z,46nm,0.9s,mb5.4
SFJD MLR MLR
comp=Z,6µm,18.0s,MS5.7
RKT Rikitea 54.57 207 *e*S **S 01 38 13.2 +7.4**
comp=Z,2µm,27.8s
RKT *e*SS SS 01 41 58.0 +10
comp=Z,690nm,27.5s
RKT *e*LQ 01 44 10.5
comp=Z,2µm,35.5s
RKT *e*LR LR 01 45 59.5
comp=Z,2µm,29.5s
PPT Papeete 57.62 224 *e*S **S 01 38 53.6 +7.3**
comp=Z,4µm,28.2s
PPT *e*SS SS 01 42 46.9 +11
comp=Z,280nm,24.0s
PPT *e*LQ 01 45 24.3
comp=Z,7µm,23.2s
PPT *e*LR LR 01 47 54.5
comp=Z,7µm,24.0s,baz=29
PPT Papeete 57.62 224 LR LR 01 48 55.1
comp=Z,3µm,21.5s,MS5.4,baz=36,slow=29
ARE Arequipa 57.72 133 *e*P **P 01 30 55.0 +6.1**
MIDW Midway 58.01 288 PFAKE 01 31 00.0 +9.0
MIDW LR LR
comp=Z,5µm,20.0s,MS5.6
SUMG Summit 59.62 19 *e*P **P 01 31 03.4 +1.3**
comp=Z,47nm,1.1s,mb5.4
LPAZ La Paz 59.82 131 P **P 01 31 06.3 +2.8**
comp=Z,18nm,1.2s,mb5.0,baz=313,slow=6.2,SNR=5.5
LPAZ LR LR 01 55 27.1
comp=Z,2µm,21.2s,MS5.2,baz=32,slow=35
LPAZ La Paz 59.82 131 P **P 01 31 06.3 +2.8**
LPAZ LR LR 01 55 27.1
SMY Shemya 60.09 317 PFAKE 01 31 20.0 +15
SMY LR LR
comp=Z,3µm,22.0s,MS5.5
BILL Bilibino 62.74 335 *i* P **P 01 31 22.3 -1.0**
BILL MLR MLR
comp=Z,4µm,19.0s,MS5.6
SIV San Ignacio 64.61 125 P **P 01 31 38.1 +2.5**
comp=Z,9.5nm,0.9s,mb4.8,baz=319,slow=7.5,SNR=21
DAG Danmarks Havn 64.83 15‖ *i* P **P 01 31 34.3 -2.8**
comp=Z,9.7nm,0.8s,mb4.9
DAG Danmarks Havn 64.83 15‖ *e*P **P 01 31 34.3 -2.8**
DAG pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
DAG Danmarks Havn 64.83 15‖ *e*P **P 01 31 34.3 -2.8**
comp=Z,9.7nm,0.8s,mb4.9
SCO Scoresbysund 64.89 22 *i* P **P 01 31 41.0 +3.5**
comp=Z,8.7nm,1.1s,mb4.7
SCO *i* S **S 01 40 18.1 -0.7**
BORG Borgarnes 66.17 28 PFAKE 01 32 00.0 +14
BORG LR LR
comp=Z,3µm,20.0s,MS5.5
RAR Rarotonga 66.91 229 LR LR 01 54 16.6
comp=Z,5µm,18.9s,MS5.7,baz=44,slow=30
RAR Rarotonga 66.91 229 PFAKE 01 32 00.0 +10
RAR LR LR
comp=Z,1.0nm,20.0s
JMIC Jan Mayen 69.06 20 LR LR 02 02 31.7
comp=Z,7µm,18.5s,MS5.9,baz=122,slow=36
JMIC Jan Mayen 69.06 20 *e*S S 01 41 07.7 -1.4
JMIC *e*SS SS 01 45 37.7 +2.8
JMIC AMS AMS 02 02 39.9
comp=Z,6µm,14.8s,MS6.0
PET Petropavlovsk 69.20 320 *de*P **P 01 32 06.9 +2.0**
PET *e* 01 32 29.7
PET *e*S S 01 41 09.6 -1.2
PET *e*PS 01 41 37.1
PET *e*SS SS 01 45 42.0 +4.9
PET pmax pmax
comp=Z,200nm,9.0s
PET pmax pmax
comp=Z,400nm,14.9s
PET pmax pmax
comp=Z,55nm,1.4s,mb5.3
PET pmax pmax
comp=Z,26nm,1.3s,mb5.0
PET smax
comp=N,1µm,10.6s
PET smax
comp=N,2µm,15.0s
PET MLR MLR
comp=Z,2µm,20.0s,MS5.3
PET MLR MLR
comp=Z,2µm,17.0s
PET Petropavlovsk 69.20 320 *i* P **P 01 32 04.1 -0.8**
PET LR LR
comp=Z,2µm,20.0s,MS5.3
KBS Kingsbay 69.91 10 *e*P **P 01 32 10.6 +1.4**
KBS AMb AMB 01 32 20.0
comp=Z,37nm,1.5s,mb5.1
KBS *e*S S 01 41 21.5 +2.4
KBS *e*SS SS 01 45 52.0 +4.1
KBS AMS AMS 02 03 57.2
comp=Z,3µm,17.0s,MS5.6
KBS Kingsbay 69.91 10 *e*P **P 01 32 10.6 +1.4**
KBS pmax pmax
comp=Z,37nm,1.5s,mb5.1
KBS MLR MLR
comp=Z,3µm,17.0s,MS5.6
KBS Kingsbay 69.91 10 *e*P **P 01 32 10.6 +1.4**
comp=Z,37nm,1.5s,mb5.1
KBS LR LR
comp=Z,3µm,17.0s,MS5.6
CFAA Coronel Fontan 71.02 142 P **P 01 32 20.9 +4.8**
comp=Z,2.6nm,0.9s,mb4.1,baz=305,slow=7.2,SNR=8.0
MA2 Magadan 71.26 328 *i* P **P 01 32 18.2 +0.7**
MA2 MLR MLR
comp=Z,3µm,19.0s,MS5.6
AFI Afiamalu 71.29 243 LR LR 01 57 33.7
comp=Z,4µm,18.2s,MS5.7,baz=225,slow=31
AFI Afiamalu 71.29 243 PFAKE 01 32 30.0 +12
AFI LR LR
comp=Z,4µm,19.0s,MS5.7
TIXI Tiksi 73.59 343 *e*P **P 01 32 27.4 -4.0**
TIXI *e*S S 01 41 52.5 -9.1
TIXI pmax pmax
comp=Z,32nm,1.2s,mb5.1
TIXI Tiksi 73.59 343 PFAKE 01 32 40.0 +8.6
TIXI LR LR
comp=Z,3µm,22.0s,MS5.5
CPUP Villa Florida 73.99 131 PFAKE 01 32 50.0 +16
CPUP LR LR
comp=Z,234nm,19.0s
BJO1 Bjornoya 74.05 12 *e*P **P 01 32 38.1 +4.0**
BJO1 LR LR
comp=Z,3µm,16.4s,MS5.7
BJO Bjornoya 74.08 12 *e* **P 01 32 38.1 +3.8**
BJO AMS AMS 02 03 37.8
comp=Z,3µm,16.4s,MS5.7
BDFB Brasilia 74.43 117 P **P 01 32 39.6 +3.3**
comp=Z,14nm,1.1s,mb4.8,baz=87,slow=9.9,SNR=4.1
BDFB LR LR 02 08 24.9
comp=Z,3µm,20.0s,MS5.6,baz=155,slow=38
BAO Brasilia Array 74.44 117 P **P 01 32 39.0 +2.6**
WAKE Wake Island 74.76 284 PFAKE 01 32 50.0 +12
WAKE LR LR
comp=Z,3µm,20.0s,MS5.6
FUNA Funafuti 75.92 253 PFAKE 01 33 00.0 +15
FUNA LR LR
comp=Z,15µm,19.0s,MS6.3
PLCA Paso Flores 76.99 149 P **P 01 32 54.6 +3.7**
comp=Z,16nm,1.1s,mb4.9,baz=320,slow=7.1,SNR=9.7
PLCA LR LR 02 00 05.1
comp=Z,4µm,19.5s,MS5.7,baz=326,slow=30
TRO Tromso 77.51 16 *e*S S 01 42 45.0 +0.1
TRO *e*SS SS 01 47 40.8 -3.0
TRO AMS AMS 02 07 43.9
comp=Z,4µm,17.6s,MS5.8
ESK Eskdalemuir 77.99 34 PFAKE 01 33 10.0 +13
ESK LR LR
comp=Z,4µm,20.0s,MS5.7
MOL Molde 78.68 24 AMS AMS 02 08 34.2
comp=Z,5µm,19.4s,MS5.9
NSS Namsos 79.00 22 AMS AMS 02 08 07.4
comp=Z,4µm,18.2s,MS5.8
YAK Yakutsk 79.11 335 *e*P **P 01 33 03.3 +0.6**
YAK *e* 01 33 11.1
YAK *e* 01 36 03.3
YAK *e*PPP 01 37 55.5
YAK *e*S S 01 42 54.5 -7.6
YAK *e* 01 43 26.2
YAK *e**SS sS 01 43 44.4 +37
YAK pmax pmax
comp=Z,34nm,1.3s,mb5.1
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=Z,7.0nm,1.6s,mb4.3
YAK pmax pmax
comp=N,1.0nm,0.7s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK smax
comp=N,370nm,9.9s
YAK smax
comp=E,171nm,14.5s
YAK Yakutsk 79.11 335 *i* P **P 01 33 01.9 -0.8**
YAK LR LR
comp=Z,7µm,20.0s,MS6.0
ARCES ARCESS Array B 79.11 14 P **P 01 33 04.3 +1.6**
comp=Z,9.1nm,0.9s,mb4.7,baz=344,slow=8.2,SNR=11
ARCES LR LR 02 11 39.8
comp=Z,5µm,18.1s,MS5.9,baz=332,slow=39
ARCES ARCESS Array B 79.11 14 P **P 01 33 04.3 +1.6**
ARCES LR LR 02 11 39.8
BER Bergen 79.12 27 *e* **P 01 33 05.9 +3.1**
BER *e*S S 01 43 05.8 +3.6
BER *e*SS SS 01 48 03.9 -4.2
BER AMS AMS 02 06 26.4
comp=Z,2µm,20.3s,MS5.5
KEV Kevo 79.26 14 *e*P **P 01 33 04.4 +0.9**
KEV MLR MLR
comp=Z,4µm,20.0s,MS5.8
RCBR Riachuelo 79.62 102 PFAKE 01 33 20.0 +14
RCBR LR LR
comp=Z,3µm,22.0s,MS5.6
STS Santiago 80.89 47 P **P 01 33 14.6 +2.2**
STS pmax pmax
comp=Z,50nm,1.4s,mb5.2
STS Santiago 80.89 47 P **P 01 33 14.6 +2.2**
comp=Z,50nm,1.4s,mb5.2
YSS Yuzh-Sakhalins 80.99 318 *de*P **P 01 33 13.0 +0.1**
YSS *e**SP sP 01 33 23.0 +5.6
YSS *e*S S 01 43 20.0 -2.0
YSS *e*SS SS 01 48 42.0 +5.8
YSS pmax pmax
comp=Z,50nm,1.2s,mb5.3
YSS pmax pmax
comp=E,60nm,1.4s
YSS pmax pmax
comp=Z,400nm,5.0s
YSS smax
comp=N,1µm,16.0s
YSS MLR MLR
comp=Z,2µm,16.0s,MS5.4
YSS Yuzh-Sakhalins 80.99 318 *i* P **P 01 33 15.1 +2.2**
YSS LR LR
comp=Z,3µm,22.0s,MS5.6
NB2 NORSAR Subarra 81.00 25 P **P 01 33 12.3 -0.6**
comp=Z,33nm,1.4s,mb5.1,baz=310,slow=5.1
NOA NORSAR Array B 81.00 25 P **P 01 33 14.1 +1.2**
comp=Z,3.7nm,0.9s,mb4.3,baz=312,slow=5.2,SNR=4.7
NOA NORSAR Array B 81.00 25 P **P 01 33 14.1 +1.1**
NAO01 NORSAR Array S 81.00 25 PFAKE 01 33 20.0 +7.1
NAO01 LR LR
comp=Z,2µm,19.0s,MS5.6
KONO Kongsberg 81.27 26 *i* P **P 01 33 15.9 +1.5**
KONO Kongsberg 81.27 26 *e*P **P 01 33 17.3 +2.9**
KONO LR LR
comp=Z,4µm,19.0s,MS5.8
ROSF Rostrenen 81.46 40 *e*P **P 01 33 16.1 +0.7**
comp=Z,54nm,1.3s,mb5.0
ROSF Rostrenen 81.46 40 *e*P **P 01 33 16.1 +0.7**
ROSF pmax pmax
comp=Z,27nm,1.3s,mb5.0
ROSF Rostrenen 81.46 40 *e*P **P 01 33 16.1 +0.7**
comp=Z,27nm,1.3s,mb5.0
EPON Pontenova 81.58 46 P **P 01 33 17.2 +1.2**
comp=Z,111nm,1.9s,mb5.5
ELOB Lobios 81.69 47 P **P 01 33 18.0 +1.4**
comp=Z,49nm,1.7s,mb5.2
QUIF Quistinic 81.74 40 *e*P **P 01 33 17.5 +0.6**
comp=Z,251nm,1.6s,mb5.6
QUIF Quistinic 81.74 40 *e*P **P 01 33 17.5 +0.6**
QUIF pmax pmax
comp=Z,125nm,1.6s,mb5.6
QUIF Quistinic 81.74 40 *e*P **P 01 33 17.5 +0.6**
comp=Z,126nm,1.6s,mb5.6
PCAB Cabril 81.79 47 *e*P **P 01 33 19.0 +1.9**
comp=Z,28nm,1.0s,mb5.2
SGMF Saint Gilles 81.92 40 *e*P **P 01 33 18.1 +0.3**
comp=Z,135nm,1.5s,mb5.4
SGMF Saint Gilles 81.92 40 *e*P **P 01 33 18.1 +0.3**
SGMF pmax pmax
comp=Z,67nm,1.5s,mb5.3
SGMF Saint Gilles 81.92 40 *e*P **P 01 33 18.1 +0.3**
comp=Z,67nm,1.5s,mb5.3
PVRL Vila Real 82.20 48 *e*P **P 01 33 19.3 0.0**
comp=Z,33nm,1.3s,mb5.1
PMAFR Mafra 82.24 50 *e*LR LR 02 01 04.5
PVIS Viseu 82.35 48 *e*P **P 01 33 21.9 +1.8**
comp=Z,17nm,0.9s,mb5.0
LVZ Lovozero 82.35 12 *e*P **P 01 33 11.9 -8.2**
LVZ pmax pmax
comp=Z,44nm,1.3s,mb5.2
LVZ MLR MLR
comp=Z,4µm,18.0s,MS5.8
LVZ Lovozero 82.35 12 PFAKE 01 33 30.0 +10
LVZ LR LR
comp=Z,5µm,21.0s,MS5.8
HFS Hagfors 82.52 24 LR LR 02 10 46.6
comp=Z,5µm,18.9s,MS5.9,baz=37,slow=36
PTOM Tomar 82.52 49 *e*P **P 01 33 22.9 +1.9**
comp=Z,34nm,1.6s,mb5.1
PBRG Braganca 82.58 47 *e*P **P 01 33 24.3 +3.0**
comp=Z,15nm,1.3s,mb4.9
MTE Manteigas 82.73 48 *e*P **P 01 33 22.8 +0.7**
comp=Z,21nm,2.4s,mb4.8
MTE Manteigas 82.73 48 *e*S S 01 43 42.9 +3.0
MTE Manteigas 82.73 48 *e*LQ 01 57 16.5
MTE *e*LR LR 01 59 00.3
comp=Z,4µm,20.9s
GRR Gorron 82.81 39 *e*P **P 01 33 23.1 +0.6**
FLN La Foliniere 82.82 39 *e*P **P 01 33 23.4 +0.9**
comp=Z,293nm,1.9s,mb5.7
FLN *e*R
comp=Z,9µm,22.5s
FLN La Foliniere 82.82 39 *e*P **P 01 33 23.4 +0.9**
FLN pmax pmax

comp=Z,147nm,1.9s,mb5.7
FLN MLR MLR
comp=Z,9µm,22.5s,MS6.1
FLN La Foliniere 82.82 39 *e*P **P 01 33 23.4 +0.9**
comp=Z,147nm,1.9s,mb5.7
FLN LR LR
comp=Z,9µm,22.5s,MS6.1
EARI Arriondas 82.83 45 P **P 01 33 23.2 +0.6**
comp=Z,147nm,2.1s,mb5.6
PCBR Castelo Branco 83.05 49 *e*P **P 01 33 25.8 +2.1**
comp=Z,19nm,1.6s,mb4.9
MUD Monsted U'grnd 83.11 29 *i* S S 01 43 49.4 +5.7
MUD *i* 01 49 03.3
MUD
comp=Z,3µm,19.0s
MUD Monsted U'grnd 83.11 29 *i* P **P 01 33 26.2 +2.2**
MUD *i* 01 49 03.3
MUD pmax pmax
comp=Z,33nm,1.0s,mb5.3
MUD Monsted U'grnd 83.11 29 *i* P **P 01 33 26.2 +2.2**
comp=Z,33nm,1.0s,mb5.3
MUD *i* S S 01 43 49.4 +5.7
MUD *i* 01 49 03.3
LDF La Druitiere 83.11 39 *e*P **P 01 33 24.6 +0.6**
comp=Z,54nm,1.2s,mb5.1
LDF La Druitiere 83.11 39 *e*P **P 01 33 24.6 +0.6**
LDF pmax pmax
comp=Z,27nm,1.2s,mb5.2
LDF La Druitiere 83.11 39 *e*P **P 01 33 24.6 +0.6**
comp=Z,27nm,1.2s,mb5.2
ERM Erimo 83.19 314 PFAKE
ERM LR LR 01 33 40.0 +16
comp=Z,18nm,20.0s
PTEO Sao Teotonio 83.29 51 *e*P **P 01 33 24.4 -0.6**
comp=Z,26nm,1.1s,mb5.2
PESTR Estremoz 83.44 50 *e*P **P 01 33 27.2 +1.5**
comp=Z,19nm,1.2s,mb5.0
PESTR Estremoz 83.44 50 *e*S S 01 43 47.9 +0.8
PESTR Estremoz 83.44 50 *e*LQ 01 55 43.3
PESTR *e*LR LR 02 00 27.9
comp=Z,6µm,15.9s
PBEJ Beja 83.66 51 *e*P **P 01 33 27.1 +0.3**
comp=Z,15nm,1.3s,mb5.0
EPLA Plasencia 83.88 48 P **P 01 33 29.7 +1.7**
EPLA pmax pmax
comp=Z,375nm,3.2s
EPLA Plasencia 83.88 48 P **P 01 33 29.7 +1.8**
comp=Z,375nm,3.2s
EBAD Badajoz 83.89 50 P **P 01 33 30.4 +2.4**
comp=Z,147nm,2.1s,mb5.8
EGRO El Granado 84.16 51 P **P 01 33 31.8 +2.3**
comp=Z,263nm,3.1s
MFF Saint Martin d 84.18 40 *e*P **P 01 33 30.4 +0.9**
comp=Z,61nm,1.3s,mb5.3
MFF Saint Martin d 84.18 40 *e*P **P 01 33 30.4 +0.9**
MFF pmax pmax
comp=Z,30nm,1.3s,mb5.3
MFF Saint Martin d 84.18 40 *e*P **P 01 33 30.4 +0.9**
comp=Z,30nm,1.3s,mb5.3
WIT Witteveen 84.22 33 *e*P **P 01 33 33.0 +3.3**
UCC Uccle 84.27 35 P **P 01 33 31.4 +1.4**
HABR Khabarovsk 84.60 322 *e*P **P 01 33 33.1 +1.5**
HABR *e*S 01 43 53.7
HABR pmax pmax
comp=Z,127nm,1.9s,mb5.7
EMIN Mina Concepcio 84.61 50 P **P 01 33 33.5 +1.8**
comp=Z,313nm,2.5s,mb6.0
BAIF Baives 84.63 36 *e*P **P 01 33 32.3 +0.5**
comp=Z,48nm,1.2s,mb5.2
BAIF Baives 84.63 36 *e*P **P 01 33 32.3 +0.5**
BAIF pmax pmax
comp=Z,24nm,1.2s,mb5.2
BAIF Baives 84.63 36 *e*P **P 01 33 32.3 +0.5**
comp=Z,24nm,1.2s,mb5.2
RAO Raoul Island 84.69 234 PFAKE
RAO LR LR 01 33 50.0 +18
comp=Z,3µm,19.0s,MS5.7
WTSB Winterswijk 84.80 33 *e*P **P 01 33 37.6 +5.0**
DOU Dourbes 84.81 36 P **P 01 33 33.6 +0.9**
DOU E 01 33 54.7
GUD Guadarrama 84.86 47 P **P 01 33 35.6 +2.7**
GUD pmax pmax
comp=Z,13nm,1.2s,mb4.9
GUD Guadarrama 84.86 47 P **P 01 33 35.6 +2.6**
comp=Z,13nm,1.2s,mb4.9
GIVF Givet 84.92 36 *e*P **P 01 33 34.0 +0.7**
BEBN Eben Emael 84.95 35 P **P 01 33 33.6 +0.2**
BCLA Clavier 84.98 35 P **P 01 33 34.1 +0.6**
COP Copenhagen 85.00 28 *i* S 01 44 09.1
COP
comp=Z,1µm,18.0s
HGN Heimansgroeve 85.10 35 *e*P **P 01 33 35.9 +1.8**
comp=Z,20nm,1.9s,mb4.9
HGN Heimansgroeve 85.10 35 *e*S 01 44 05.6
HGN *e*SS SS 01 49 15.4 -22
KAF Kangasniemi 85.19 19 *e*p **P 01 33 34.0 -0.6**
baz=319,slow=4.8
BSEG Bad Segeberg 85.22 30 *e*P **P 01 33 34.3 -0.5**
comp=Z,29nm,0.9s,mb5.4
MEM Membach 85.23 35 P **P 01 33 36.3 +1.5**
BUG Bochum--Univer 85.35 33 *e*P **P 01 33 36.2 +0.8**
comp=Z,9.0nm,0.8s,mb5.0
BUG *e*PP PP 01 36 55.9 +2.6
SJPF Ste Jean 85.42 44 *e*P **P 01 33 36.6 +0.8**
comp=Z,46nm,1.5s,mb5.1
SJPF Ste Jean 85.42 44 *e*P **P 01 33 36.6 +0.8**
SJPF pmax pmax
comp=Z,23nm,1.5s,mb5.1
SJPF Ste Jean 85.42 44 *e*P **P 01 33 36.6 +0.8**
comp=Z,23nm,1.5s,mb5.1
ESDC Sonseca Array 85.48 48 P **P 01 33 36.1 0.0**
comp=Z,2.2nm,0.9s,mb4.3,baz=309,slow=5.2,SNR=7.3
ESDC LR LR 02 10 46.5
comp=Z,3µm,18.2s,MS5.7,baz=335,slow=35
ESDC Sonseca Array 85.48 48 P **P 01 33 37.0 +1.0**
comp=Z,2.8nm,1.4s,mb4.2
ESLA Sonseca Array 85.48 48 PFAKE
ESLA LR LR 01 33 50.0 +14
comp=Z,17µm,21.0s,MS6.4
LFF La Frestale 85.61 41 *e*P **P 01 33 37.5 +0.8**
ESPR Espera 85.62 51 P **P 01 33 38.9 +2.2**
comp=Z,45nm,1.6s,mb5.5
FINES FINESS Array B 85.66 19 P **P 01 33 36.8 -0.2**
comp=Z,8.1nm,0.9s,mb4.9,baz=311,slow=2.4,SNR=6.3
FINES LR LR 02 12 52.6
comp=Z,5µm,19.3s,MS5.9,baz=160,slow=36
TCF Toulx Ste Croi 85.71 40 *e*P **P 01 33 37.7 +0.5**
comp=Z,111nm,1.5s,mb5.6
TCF Toulx Ste Croi 85.71 40 *e*P **P 01 33 37.7 +0.5**
TCF pmax pmax
comp=Z,56nm,1.5s,mb5.6
TCF Toulx Ste Croi 85.71 40 *e*P **P 01 33 37.7 +0.5**
comp=Z,56nm,1.5s,mb5.6
EADA Adamuz 85.84 49 P **P 01 33 39.5 +1.7**
comp=Z,144nm,2.8s,mb5.7
RJF Les Rejaudoux 85.86 41 *e*P **P 01 33 38.7 +0.7**
comp=Z,55nm,1.3s,mb5.3
RJF *e*R
comp=Z,5µm,17.5s
RJF Les Rejaudoux 85.86 41 *e*P **P 01 33 38.7 +0.7**
RJF pmax pmax
comp=Z,27nm,1.3s,mb5.3
RJF MLR MLR
comp=Z,5µm,17.5s,MS5.9
RJF Les Rejaudoux 85.86 41 *e*P **P 01 33 38.7 +0.7**
comp=Z,27nm,1.3s,mb5.3
RJF LR LR
comp=Z,5µm,17.5s,MS5.9
JOF Joensuu 85.87 16 *e*p **P 01 33 37.3 -0.7**
comp=Z,8.4nm,0.9s,mb5.0
WLF Walferdange 85.87 35 *e*P **P 01 33 39.6 +1.6**
comp=Z,23nm,1.0s,mb5.4
WLF Walferdange 85.87 35 P **P 01 33 39.4 +1.3**
BGF Bois d'Agland 85.92 39 *e*P **P 01 33 38.8 +0.6**
comp=Z,54nm,1.2s,mb5.3
BGF Bois d'Agland 85.92 39 *e*P **P 01 33 38.8 +0.6**
BGF pmax pmax
comp=Z,27nm,1.2s,mb5.3
BGF Bois d'Agland 85.92 39 *e*P **P 01 33 38.8 +0.6**
comp=Z,27nm,1.2s,mb5.3
KLR Kul'dur 85.92 324 *e*P **P 01 33 36.0 -2.3**
ETSF Etsaut 85.95 44 *e*P **P 01 33 39.1 +0.7**
MEZF Maizieres J'vi 85.99 37 *e*P **P 01 33 39.3 +0.7**
comp=Z,59nm,1.5s,mb5.3
MEZF Maizieres J'vi 85.99 37 *e*P **P 01 33 39.3 +0.7**
comp=Z,59nm,1.5s,mb5.6

SSF Saint Saulge 86.00 38 *e*P **P 01 33 39.3 +0.7**
comp=Z,68nm,1.2s,mb5.4
SSF Saint Saulge 86.00 38 *e*P **P 01 33 39.3 +0.7**
SSF pmax pmax
comp=Z,34nm,1.2s,mb5.5
SSF Saint Saulge 86.00 38 *e*P **P 01 33 39.3 +0.7**
comp=Z,34nm,1.2s,mb5.5
AVF Avril sur Loir 86.07 39 *e*P **P 01 33 39.5 +0.5**
comp=Z,68nm,1.4s,mb5.4
AVF Avril sur Loir 86.07 39 *e*P **P 01 33 39.5 +0.5**
AVF pmax pmax
comp=Z,34nm,1.4s,mb5.4
AVF Avril sur Loir 86.07 39 *e*P **P 01 33 39.5 +0.5**
comp=Z,34nm,1.4s,mb5.4
LOR Lormes 86.07 38 *e*P **P 01 33 39.8 +0.8**
comp=Z,63nm,1.3s,mb5.4
LOR *e*R
comp=Z,10µm,21.0s
LOR Lormes 86.07 38 *e*P **P 01 33 39.8 +0.8**
LOR pmax pmax
comp=Z,32nm,1.3s,mb5.4
LOR MLR MLR
comp=Z,10µm,21.0s,MS6.2
LOR Lormes 86.07 38 *e*P **P 01 33 39.8 +0.8**
comp=Z,32nm,1.3s,mb5.4
LOR LR LR
comp=Z,10µm,21.0s,MS6.2
EJIF Jimena Fronter 86.10 51 P **P 01 33 44.0 +4.9**
EJIF pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
EJIF Jimena Fronter 86.10 51 P **P 01 33 44.0 +4.9**
comp=Z,9.9nm,1.2s,mb4.9
CAF Calviac 86.40 41 *e*P **P 01 33 41.1 +0.5**
comp=Z,51nm,1.6s,mb5.2
CAF Calviac 86.40 41 *e*P **P 01 33 41.1 +0.5**
CAF pmax pmax
comp=Z,26nm,1.6s,mb5.2
CAF Calviac 86.40 41 *e*P **P 01 33 41.1 +0.5**
comp=Z,26nm,1.6s,mb5.2
SMF Signal de Mont 86.42 39 *e*P **P 01 33 41.0 +0.3**
comp=Z,37nm,1.3s,mb5.2
SMF Signal de Mont 86.42 39 *e*P **P 01 33 41.0 +0.3**
SMF pmax pmax
comp=Z,18nm,1.3s,mb5.1
SMF Signal de Mont 86.42 39 *e*P **P 01 33 41.0 +0.3**
comp=Z,18nm,1.3s,mb5.2
EPF Esparros 86.43 43 *e*P **P 01 33 41.5 +0.8**
comp=Z,28nm,1.4s,mb5.0
EPF Esparros 86.43 43 *e*P **P 01 33 41.5 +0.8**
EPF pmax pmax
comp=Z,14nm,1.4s,mb5.0
EPF Esparros 86.43 43 *e*P **P 01 33 41.5 +0.8**
comp=Z,14nm,1.4s,mb5.0
BSD Bornholm Skovb 86.43 28 *i* P **P 01 33 41.4 +0.6**
comp=Z,17nm,1.4s,mb5.1
BSD Bornholm Skovb 86.43 28 *i* S 01 44 18.0
BSD
comp=Z,3µm,18.0s
BSD Bornholm Skovb 86.43 28 *e*P **P 01 33 41.4 +0.6**
BSD *i* S 01 44 18.0
BSD pmax pmax
comp=Z,17nm,1.4s,mb5.1
BSD Bornholm Skovb 86.43 28 *e*P **P 01 33 41.4 +0.6**
comp=Z,17nm,1.4s,mb5.1
BSD *i* S 01 44 18.0
EBIE Bielsa 86.50 43 P **P 01 33 42.5 +1.4**
comp=Z,40nm,2.0s,mb5.3
EMIJ Mijas 86.52 51 P **P 01 33 43.2 +2.0**
comp=Z,36nm,1.7s,mb5.3
CLZ Clausthal 86.60 32 *e*P **P 01 33 42.9 +1.3**
comp=Z,21nm,1.3s,mb5.2
CLZ Clausthal 86.60 32 *e*P **P 01 33 42.9 +1.3**
CLZ pmax pmax
comp=Z,21nm,1.3s,mb5.2
ELOJ Sierra Loja 86.65 50 P **P 01 33 43.9 +2.1**
ELOJ pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
ELOJ Sierra Loja 86.65 50 P **P 01 33 43.9 +2.1**
comp=Z,7nm,0.6s,mb4.7
TNS Taunus Mts 86.70 34 *e*P **P 01 33 41.7 -0.4**
comp=Z,12nm,1.1s,mb5.0
TNS *e*PP PP 01 37 06.3 +2.1
TNS Taunus Mts 86.70 34 *e*P **P 01 33 41.6 -0.5**
TNS *e* 01 37 06.3
TNS pmax pmax
comp=Z,12nm,1.1s,mb5.0
TNS Taunus Mts 86.70 34 *e*P **P 01 33 41.6 -0.5**
comp=Z,12nm,1.1s,mb5.0
TNS *e*PP PP 01 37 06.3 +2.1
HAU Haudompre 86.98 37 *e*P **P 01 33 44.1 +0.6**
HAU *e*R
comp=Z,9µm,18.0s
HAU Haudompre 86.98 37 *e*P **P 01 33 44.1 +0.6**
HAU LR LR
comp=Z,9µm,18.0s,MS6.2
ECOG Cogollos-Vega 86.98 50 P **P 01 33 45.6 +2.1**
ECOG pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
ECOG Cogollos-Vega 86.98 50 P **P 01 33 45.6 +2.2**
comp=Z,9.2nm,0.9s,mb5.0
EVIA Vianos 86.99 48 P **P 01 33 45.5 +2.0**
EVIA pmax pmax
comp=Z,19nm,1.2s,mb5.2
EVIA Vianos 86.99 48 P **P 01 33 45.5 +2.0**
comp=Z,19nm,1.2s,mb5.2
EQES Quesada 87.05 49 P **P 01 33 45.2 +1.5**
comp=Z,106nm,3.1s
UBBA Unterbreizbach 87.08 33 *e*P **P 01 33 44.4 +0.5**
comp=Z,22nm,1.6s,mb5.1
CDF Champ du Feu 87.22 36 *e*P **P 01 33 45.5 +0.9**
HINF Hinteralfeld 87.37 37 *e*P **P 01 33 45.9 +0.6**
MTLF Montolieu 87.39 42 *e*P **P 01 33 46.4 +1.0**
comp=Z,34nm,1.4s,mb5.1
MTLF Montolieu 87.39 42 *e*P **P 01 33 46.4 +1.0**
MTLF pmax pmax
comp=Z,17nm,1.4s,mb5.1
MTLF Montolieu 87.39 42 *e*P **P 01 33 46.4 +1.0**
comp=Z,17nm,1.4s,mb5.1
EBER Berja 87.64 50 P **P 01 33 52.2 +5.6**
comp=Z,62nm,2.6s,mb5.4
CABF La Chapelle 87.69 38 *e*P **P 01 33 47.0 +0.1**
BOD Bodaibo 87.69 338 *e*P **P 01 33 44.1 -2.8**
BOD pmax pmax
comp=Z,45nm,1.4s,mb5.5
RUE Ruedersdorf 87.75 30 *e*P **P 01 33 47.2 0.0**
BFO Black Forest 87.83 36 *e*P **P 01 33 47.8 +0.3**
comp=Z,16nm,1.5s,mb5.0
BFO Black Forest 87.83 36 *e*P **P 01 33 47.8 +0.3**
BFO pmax pmax
comp=Z,16nm,1.5s,mb5.0
LASF Ste Croix 87.94 41 *e*P **P 01 33 48.8 +0.8**
VIVF Saint-Julien-l 87.95 40 *e*P **P 01 33 49.1 +1.0**
MOX Moxa 87.97 32 *e*P **P 01 33 48.6 +0.4**
comp=Z,15nm,1.4s,mb5.0
MOX Moxa 87.97 32 *e*P **P 01 33 48.9 +0.7**
comp=Z,17nm,1.5s,mb5.0
MOX Moxa 87.97 32 *e*P **P 01 33 48.9 +0.7**
MOX pmax pmax
comp=Z,17nm,1.5s,mb5.0
STU Stuttgart 87.99 35 *e*P **P 01 33 48.1 -0.2**
comp=Z,9.0nm,1.0s,mb5.0
CLL Collm 88.19 31 *i* P **P 01 33 48.4 -0.8**
comp=Z,5.0nm,0.9s,mb4.7
CLL *e*PP PP 01 37 21.1 +4.9
CLL *e*PPP 01 39 17.7
CLL *e*SKSac SKSac 01 44 16.9 -1.1
CLL *e*S 01 44 34.2
CLL *e*PS 01 45 34.1
CLL *e*SS SS 01 50 21.6 -0.7
CLL *e*SSS 01 53 54.5
CLL *e*SSSS 01 57 06.8
CLL *e*L 02 12 12.3
comp=Z,5µm,22.0s
CLL Collm 88.19 31 P **P 01 33 48.4 -0.8**
CLL *i* *SP sP 01 33 55.0 +1.2
CLL *i* 01 33 58.0
CLL *e* 01 34 13.0
CLL *e*PP PP 01 37 20.0 +3.8
CLL *e*PPP 01 39 18.0
CLL *e* 01 44 17.0
CLL *e*S 01 44 34.0
CLL *e*PS 01 45 34.0
CLL *e*SS SS 01 50 18.0 -4.3
CLL *e*SSS 01 53 48.0
CLL Collm 88.19 31 *i* P **P 01 33 48.4 -0.8**
CLL *i* (sP) sP 01 33 55.0 +1.2
CLL *i* x x 01 33 58.0
CLL *e* x x 01 34 13.0
CLL *e*PP PP 01 37 20.0 +3.8
CLL *e*PPP 01 39 18.0
CLL *e*SKSac SKSac 01 44 17.0 -1.0
CLL *e*S 01 44 34.0
CLL *e*PS 01 45 34.0
CLL *e*SS SS 01 50 18.0 -4.3
CLL *e*SSS 01 53 48.0
CLL Collm 88.19 31 *i* P **P 01 33 48.4 -0.8**
CLL *i* 01 33 55.0
CLL *i* 01 33 58.0
CLL *e*SKS 01 44 17.0
CLL *e*S 01 44 34.0
CLL LR LR
comp=Z,5µm,16.6s,MS6.0
VSU Vasula 88.25 21 *i* P **P 01 33 49.0 -0.5**
GRA1 Grafenberg Arr 88.41 33 *e*P **P 01 33 51.3 +1.0**
comp=Z,37nm,1.6s,mb5.4
GRA1 *e*S 01 44 39.1
GRA1 *e*SS SS 01 50 22.5 -3.1
GRA1 LR LR
comp=Z,6µm,19.8s,MS6.0
GRF Grafenberg Arr 88.41 33 *e*P **P 01 33 51.3 +1.0**
comp=Z,37nm,1.6s,mb5.4
GRF *e*S 01 44 39.1
GRF *e*SS SS 01 50 22.5 -3.1
GRF *e*L 02 12 18.8
comp=Z,6µm,19.8s
GRF Grafenberg Arr 88.41 33 *e*P **P 01 33 51.3 +1.0**
GRF *e*S 01 44 39.1
GRF *e*SS SS 01 50 22.5 -3.1
GRF pmax pmax
comp=Z,37nm,1.6s,mb5.4
GRF MLR MLR
comp=Z,6µm,19.8s,MS6.0
GRF Grafenberg Arr 88.41 33 *e*P **P 01 33 51.3 +1.0**
GRF *e*S 01 44 39.1
GRF *e*SS SS 01 50 22.5 -3.1
GRF pmax pmax
comp=Z,37nm,1.6s,mb5.4
GRF MLR MLR
comp=Z,6µm,19.8s,MS6.0
WERD Werda 88.44 32 *e*P **P 01 33 50.6 +0.2**
comp=Z,8.0nm,1.4s,mb4.8
WERD *e*PP PP 01 37 23.4 +5.2
TANN Tannenbergstha 88.53 32 *e*P **P 01 33 51.2 +0.3**
comp=Z,18nm,1.9s,mb5.1
WERN Wernitzgruen 88.58 32 *e*P **P 01 33 51.7 +0.6**
comp=Z,31nm,1.8s,mb5.3
WERN *e*PP PP 01 37 22.8 +3.5
ORIF Oris-en-Rattie 88.60 39 *e*P **P 01 33 52.9 +1.7**
ORIF *e*R
comp=Z,7µm,21.0s
FBE Freiberg 88.61 31 *e*P **P 01 33 52.2 +1.0**
comp=Z,43nm,2.2s,mb5.4
NKC Novy Kostel 88.65 32 *e*P **P 01 33 53.4 +2.0**
NKC *e*PP PP 01 37 24.1 +4.2
MANZ Manzenberg 88.65 33 *e*P **P 01 33 51.9 +0.5**
comp=Z,14nm,1.7s,mb5.0
ROTZ Rotzenmuhle 88.84 33 *e*P **P 01 33 53.0 +0.7**
comp=Z,19nm,1.9s,mb5.1
BRG Berggiesshubel 88.92 31 *e*P **P 01 33 52.9 +0.2**
comp=Z,14nm,1.5s,mb5.1
BRG *e*PP PP 01 37 27.4 +5.4
BRG Berggiesshubel 88.92 31 *e*P **P 01 33 53.5 +0.8**
comp=Z,3.9nm,1.4s,mb4.5
BRG *e* 01 33 59.7
comp=Z,8.4nm,1.5s
BRG Berggiesshubel 88.92 31 *e*P **P 01 33 53.5 +0.8**
BRG *e* 01 33 59.7
BRG pmax pmax
comp=Z,4.0nm,1.4s,mb4.6
SMRF Simiane la Rot 88.99 40 *e*P **P 01 33 53.4 +0.4**
MBDF Montbardon 89.22 39 *e*P **P 01 33 55.1 +1.0**
MJAR Matsushiro Arr 89.31 311 P **P 01 33 59.1 +4.5**
comp=Z,0.5nm,0.3s,mb4.2,baz=64,slow=4.3,SNR=7.9
MJAR LR LR 02 08 25.3
comp=Z,3µm,19.7s,MS5.7,baz=60,slow=32
MAJO Matsushiro 89.31 311 PFAKE
MAJO LR LR 01 34 10.0 +15
comp=Z,4µm,19.0s,MS5.8
MAT Matsushiro 89.31 311 P **P 01 33 54.2 -0.3**
MAT Matsushiro 89.31 311 *e*P **P 01 33 54.0 -0.5**
FUR Furstenfeldbru 89.44 34 *e*P **P 01 33 56.8 +1.7**
comp=Z,32nm,1.4s,mb5.5
FUR Furstenfeldbru 89.44 34 *e*P **P 01 33 56.8 +1.7**
FUR pmax pmax
comp=Z,32nm,1.4s,mb5.5
PVCC Panska Ves 89.44 31 *e*P **P 01 33 54.9 -0.3**
PVCC *e*PP PP 01 37 28.2 +2.0
KLMR Klimovskoe 89.58 14 *e*P **P 01 34 00.2 +4.4**
KLMR pmax pmax
comp=Z,30nm,2.0s,mb5.3
WET Wettzell 89.58 33 *e*P **P 01 33 56.4 +0.6**
comp=Z,13nm,1.6s,mb5.0
WET *e*PP PP 01 37 30.7 +3.3
WET Wettzell 89.58 33 *e*P **P 01 33 56.4 +0.6**
WET *e* 01 37 30.7
WET pmax pmax
comp=Z,13nm,1.6s,mb5.0
DAVOX Davos 89.62 36 LR LR 02 11 25.9
comp=Z,5µm,19.6s,MS6.0,baz=299,slow=34
PRU Pruhonice 89.80 32 *e*PCP PcP 01 33 59.7 +1.6
FRF La Foret Royal 89.86 40 *e*P **P 01 33 57.7 +0.6**
comp=Z,17nm,1.0s,mb5.0
FRF La Foret Royal 89.86 40 *e*P **P 01 33 57.7 +0.6**
FRF pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
FRF La Foret Royal 89.86 40 *e*P **P 01 33 57.7 +0.6**
comp=Z,8.4nm,1.0s,mb5.0
MDJ Mudanjiang 89.92 321 P **P 01 33 56.5 -0.9**
MDJ AP pP 01 33 59.8 -0.9
MDJ AMB AMB
comp=Z,3.0nm,0.6s,mb4.8
MDJ AMB AMB
comp=Z,141nm,10.8s
MDJ LR LR
comp=N,6µm,17.1s,MS6.2
MDJ LR LR
comp=E,4µm,16.6s,MS6.2
MDJ LR LR
comp=Z,8µm,16.6s,MS6.2
MDJ Mudanjiang 89.92 321 PFAKE 01 34 10.0 +13
MDJ LR LR
comp=Z,5µm,19.0s,MS6.0
KHC Kasperske Hory 89.93 33 *e*P **P 01 33 57.8 +0.4**
KHC *e*PP PP 01 37 29.7 -0.4
JHJ Hachijo jima 2 90.06 307 LR LR 02 07 10.5
comp=Z,1µm,20.1s,MS5.4,baz=90,slow=31
UPC Upice 90.12 31 *e*P **P 01 34 08.3 +10**
GEC2 GERESS Array S 90.19 33 *e*P **P 01 33 58.8 +0.2**
comp=Z,18nm,1.8s,mb5.1
GEC2 GERESS Array S 90.19 33 *e*P **P 01 33 58.8 +0.2**
GEC2 pmax pmax
comp=Z,18nm,1.8s,mb5.1
GERES GERESS Array B 90.19 33 P **P 01 33 59.3 +0.6**
comp=Z,0.9nm,1.1s,baz=330,slow=7.7,SNR=5.2
GERES PP PP 01 37 36.0 +3.8
comp=Z,1.1nm,0.9s,baz=320,slow=5.4,SNR=7.2
GERES LR LR 02 16 41.2
comp=Z,5µm,18.0s,MS6.0,baz=290,slow=37
GERES GERESS Array B 90.19 33 P **P 01 33 59.3 +0.7**
GERES 01 37 36.0
DPC Dobruska-Polom 90.37 31 *e*P **P 01 34 03.1 +3.6**
VRAC Vranov 91.23 31 LR LR 02 18 34.8
comp=Z,5µm,18.5s,MS5.9,baz=298,slow=38
CBIJ Chichi jima 91.43 301 LR LR 02 06 02.1
comp=Z,4µm,21.9s,MS5.9,baz=72,slow=30
OKC Ostrava-Krasne 91.56 30 *e*P **P 01 34 06.1 +1.1**
HIA Hailar 91.80 329|| *e*P **P 01 34 08.4 +2.3**
HIA Hailar 91.80 329|| *e*P **P 01 34 08.5 +2.4**
HIA LR LR
comp=Z,2µm,19.0s,MS5.6
OJC Ojcow 92.01 29 *e*P **P 01 34 06.0 -1.1**
CIT Chita 92.35 334 *e*P **P 01 34 10.8 +2.1**
CIT *e*S 01 44 46.1
CIT *e* 01 46 54.2
CIT pmax pmax
comp=Z,290nm,1.6s
CN2 Changchun 92.73 323 *e*P **P 01 34 08.5 -1.9**
CN2 *e*XP sP 01 34 15.5 +0.6
CN2 AMB AMB
comp=Z,10.0nm,1.5s,mb5.0

CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,3μm,15.0s,MS5.9
CN2 LR LR
comp=E,2μm,15.0s,MS5.9
CN2 LR LR
comp=Z,700nm,15.0s,MS5.2
URZ Urewera 93.07 228 LR LR 02 06 46.9
comp=Z,4μm,21.6s,MS5.8,baz=358,slow=29
HNR Honiara 93.11 261 LR LR 02 07 57.2
comp=Z,6μm,21.2s,MS6.0,baz=360,slow=30
HNR Honiara 93.11 261 PFAKE 01 34 30.0 +18
HNR LR LR
comp=Z,6μm,21.0s,MS6.0
DZM Mont Dzumac 93.20 247 LR LR 02 09 08.0
comp=Z,4μm,19.9s,MS5.8,baz=188,slow=31
OBN Obninsk 93.98 18⇓*eP* **P 01 34 15.7 -0.5**
OBN *e* 01 37 57.8
OBN *eS* 01 44 44.8
OBN *ePS* PS 01 46 41.5 -0.2
OBN *eSS* SS 01 51 39.9 -6.0
OBN pmax pmax
comp=Z,34nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,6μm,15.0s,MS6.2
OBN Obninsk 93.98 18 *i* P **P 01 34 15.8 -0.4**
OBN LR LR
comp=Z,6μm,15.0s,MS6.2
AKASG Malin Array Be 95.40 24 P **P 01 34 24.3 +1.6**
comp=Z,3.2nm,0.9s,mb4.8,baz=316,slow=3.7,SNR=10.0
AKASG LR LR 02 19 00.8
comp=Z,4μm,18.7s,MS6.0,baz=290,slow=37
IRK Irkutsk 95.48 339 *eP* **P 01 34 22.4 -0.6**
IRK pmax pmax
comp=Z,80nm,2.0s,mb5.8
GUMO Guam 95.99 288 LR LR 02 08 47.6
comp=Z,4μm,21.7s,MS5.9,baz=53,slow=30
GUMO Guam 95.99 288 PFAKE 01 34 40.0 +15
GUMO LR LR
comp=Z,1.0nm,19.0s
TLY Talaya 96.16 339 *i* P **P 01 34 24.0 -2.2**
TLY Talaya 96.16 339 PFAKE 01 34 40.0 +14
TLY LR LR
comp=Z,2μm,21.0s,MS5.6
INCN Inchon 96.18 317 PFAKE 01 34 40.0 +14
INCN LR LR
comp=Z,2μm,20.0s,MS5.5
SNZO South Karori 96.23 227 PFAKE 01 34 40.0 +14
SNZO LR LR
comp=Z,4μm,20.0s,MS5.9
KEST Kesra 96.36 45 LR LR 02 15 50.3
comp=Z,2μm,21.2s,MS5.5,baz=261,slow=34
SVE Sverdlovsk 96.53 4 *eP* **P 01 34 31.0 +3.2**
ARU Arti 96.76 6⇑*iP* **P 01 34 30.7 +1.8**
ARU *e* 01 38 25.9
ARU *eS* 01 45 04.8
ARU *ePS* PS 01 47 12.4 +0.2
ARU *eSS* SS 01 52 21.6 -3.8
ARU pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
ARU Arti 96.76 6 *i* P **P 01 34 29.0 +0.1**
ARU LR LR
comp=Z,6μm,20.0s,MS6.0
MOY Mondy 97.00 340 *eP* **P 01 34 32.6 +2.7**
MOY pmax pmax
comp=Z,64nm,1.9s,mb5.7
ZAK Zakamensk 97.40 339 *eP* **P 01 34 33.4 +1.7**
ZAK pmax pmax
comp=Z,9.0nm,1.7s,mb4.9
ULN Ulaanbaatar 98.19 335 *i* P **P 01 34 37.5 +2.2**
ULN MLR MLR
comp=Z,2μm,21.0s,MS5.5
PMSA Palmer Station 98.23 161 PFAKE 01 34 50.0 +15
PMSA LR LR
comp=Z,3μm,20.0s,MS5.7
SONM Songino Array 98.47 335 P **P 01 34 37.2 +0.7**
comp=Z,4.5nm,0.8s,mb5.0,baz=12,slow=2.5,SNR=18
ASCN Ascension 99.65 94 PFAKE 01 34 50.0 +8.2
ASCN LR LR
comp=Z,1μm,22.0s,MS5.4
BJT Baijiatuan 100.30 325 PFAKE 01 35 00.0 +15
BJT LR LR
comp=Z,2μm,20.0s,MS5.6
BRVK Borovoye 100.58 359 PFAKE 01 35 00.0 +14
BRVK LR LR
comp=Z,3μm,19.0s,MS5.8
DBIC Dimbokro 101.50 77 PFAKE 01 35 00.0 +10
DBIC LR LR
comp=Z,3μm,20.0s,MS5.9
KURK Kurchatov 102.45 354 PFAKE 01 35 10.0 +16
KURK LR LR
comp=Z,5μm,19.0s,MS6.0
HOPE Hope Point 102.94 145 PFAKE 01 35 10.0 +14
HOPE LR LR
comp=Z,2μm,21.0s,MS5.6
PMG Port Moresby 104.47 267 PFAKE 01 35 20.0 +17
PMG LR LR
comp=Z,4μm,19.0s,MS5.9
SOC Sochi 105.17 21 *eP* Pdif 01 35 00.1 -6.3
SOC MLR MLR
comp=Z,5μm,18.0s,MS6.1
KIV Kislovodsk 105.75 19 PFAKE 01 39 30.0 +8.2
KIV LR LR
comp=Z,4μm,20.0s,MS6.0
ANTO Ankara 105.79 28 PFAKE 01 39 30.0 +8.1
ANTO LR LR
comp=Z,4μm,20.0s,MS5.9
MKAR Makanchi Array 105.85 350 Pdiff Pdif 01 35 14.8 +5.4
comp=Z,0.3nm,0.6s,baz=349,slow=4.4,SNR=3.7
BR131 Keskin Array S 106.27 28 PFAKE 01 39 40.0 +17
BR131 LR LR
comp=Z,2μm,20.0s,MS5.6
TATO Taipei 107.70 311 PFAKE 01 39 40.0 +15
TATO LR LR
comp=Z,2μm,20.0s,MS5.6
WMQ Urumqi 107.72 346 PDIF Pdif 01 35 17.0 -0.7
WMQ PP PP
comp=Z,139nm,9.5s
WMQ LR LR
comp=N,550nm,21.0s,MS5.2
WMQ LR LR
comp=E,412nm,19.9s,MS5.2
WMQ LR LR
comp=Z,503nm,21.5s,MS5.0
CTAO Charters Tower 109.54 257 PFAKE 01 39 40.0 +11
CTAO LR LR
comp=Z,2μm,21.0s,MS5.7
GNI Garni 109.85 19 PFAKE 01 39 40.0 +11
GNI LR LR
comp=Z,4μm,19.0s,MS6.0
AAK Ala-Archa 110.82 355 PFAKE 01 39 40.0 +8.7
AAK LR LR
comp=Z,3μm,20.0s,MS5.8
ENH Enshi 111.25 323 PFAKE 01 39 50.0 +18
ENH LR LR
comp=Z,24nm,19.0s
CD2 Chengdu 113.67 327 *e*PKP PKiKP 01 39 33.3 -3.4
CD2 PP PP 01 40 29.5 +0.6
CD2 SKS SKSdf 01 46 44.3 -4.6
CD2 SKKS SKKSac 01 47 21.3 -10
CD2 PP PP
comp=Z,120nm,8.2s
CD2 LR LR
comp=E,1μm,20.4s
CD2 LR LR
comp=Z,720nm,22.8s,MS5.2
SBA Scott Base 114.22 193 PFAKE 01 39 50.0 +12
SBA LR LR
comp=Z,2μm,20.0s,MS5.8
VNDA Vanda 115.18 194 PFAKE 01 39 50.0 +10
VNDA LR LR
comp=Z,2μm,20.0s,MS5.8
DAV Davao City (W) 115.55 293 PFAKE 01 39 50.0 +10
DAV LR LR
comp=Z,3μm,21.0s,MS5.8
TAU Tasmania Unive 115.68 233 PFAKE 01 39 50.0 +9.5
TAU LR LR
comp=Z,3μm,22.0s,MS5.9
QSPA South Pole Qui 116.55 180 PFAKE 01 39 50.0 +7.8
QSPA LR LR
comp=Z,2μm,21.0s,MS5.7
KMI Kunming 118.94 325 PKP PKPdf 01 39 42.0 -4.8
KMI LR LR
comp=Z,1μm,19.2s,MS5.6

QIZ Qiongzhong 119.55 314 PFAKE 01 40 00.0 +12
QIZ LR LR
comp=Z,2μm,19.0s,MS5.7
WRAB Tennant Creek 119.94 261 PFAKE 01 40 00.0 +11
WRAB LR LR
comp=Z,3μm,20.0s,MS5.9
WRA Warramunga Arr 119.95 261 PKhKP 01 39 49.3
comp=Z,2.1nm,0.7s,baz=69,slow=2.3,SNR=2.9
WRA PKP PKPdf 01 39 53.2 +4.4
comp=Z,2.9nm,0.7s,baz=65,slow=2.4,SNR=5.9
ASAR Alice Springs 121.53 257 PKhKP 01 39 52.2
comp=Z,1.4nm,0.6s,baz=52,slow=1.6,SNR=2.5
ASAR PKP PKPdf 01 39 56.2 +4.4
comp=Z,1.1nm,0.7s,baz=93,slow=2.1,SNR=4.4
DRV Dumont d'Urvil 121.62 206 SKKS SKKSac 01 48 23.0 -0.8
CHTO Chiang Mai 126.11 324 PFAKE 01 40 10.0 +9.4
CHTO LR LR
comp=Z,1μm,19.0s,MS5.6
CM31 Chiang Mai Arr 126.40 324 PFAKE 01 40 10.0 +8.9
CM31 LR LR
comp=Z,1μm,19.0s,MS5.6
TSUM Tsumeb 132.55 92 PFAKE 01 40 30.0 +17
TSUM LR LR
comp=Z,2μm,20.0s,MS5.8
CASY Casey 132.72 202 PFAKE 01 40 30.0 +17
CASY LR LR
comp=Z,2μm,21.0s,MS5.7
NWAO Narrogin (SRO) 137.77 250 PFAKE 01 40 40.0 +17
NWAO LR LR
comp=Z,3μm,22.0s,MS6.0
SUR Sutherland 138.18 110 PFAKE 01 40 40.0 +17
SUR LR LR
comp=Z,2μm,20.0s,MS5.8
LSZ Lusaka 140.62 82 PFAKE 01 40 40.0 +12
LSZ LR LR
comp=Z,2μm,21.0s,MS5.7
LBTB Lobatse 141.26 97 PFAKE 01 40 40.0 +11
LBTB LR LR
comp=Z,2μm,21.0s,MS5.8
BOSA Boshof 141.58 103 PFAKE 01 40 40.0 +11
BOSA LR LR
comp=Z,1μm,19.0s,MS5.7
PALK Pallekele 144.31 339 PFAKE 01 40 50.0 +16
PALK LR LR
comp=Z,2μm,19.0s,MS5.9
COCO West Island 149.94 293 PFAKE 01 41 00.0 +16
COCO LR LR
comp=Z,1μm,19.0s,MS5.7
DGAR Diego Garcia 160.51 349 PFAKE 01 41 10.0 +12
DGAR LR LR
comp=Z,3μm,21.0s

MOS ***30*** *01:28:13.8±1.2, 160N×97.19E, h33km, mb5.4/59, Error ellipse: s-maj=8.9km s-min=4.4km az=117.1*
ISCJB ***30*** *01:28:13.3±0.2, 146N±003×97.18E±002, h33km, mb5.2/151, MS5.6/55, Error ellipse: s-maj=4.3km s-min=3.3km az=45.9*
BJI ***30*** *01:28:13.2, 122N×9723E, h45km, mB5.8, mb5.5, Ms5.9, Msz5.7*
HRVD ***30*** *01:28:14.7±0.3, 102N×9691E, h33km, MW5.6/74, Centroid moment Tensor Solution. LP body waves: s61,c102;Mantle waves: s74,c134; Half duration: 1†5 Moment tensor: Scale 10¹⁷Nm; Mrr 1.94±.07; Mθθ -1.06±.04; Mϕϕ -0.87±.05; Mrθ 1.37±.07; Mϕθ 1.18±.04; Mϕr -1.17±.09; Best double couple: M₀2.72600×10¹⁷ NP1:ϕs315.00000°,δ24.00000°,λ93.00000°. NP2: ϕs131.00000°,δ66.00000°,λ89.00000°. Principal axes: T 2.6210, Plg69.0000°, Azm38.0000°; N 0.2140, Plg1.0000°, Azm132.0000°; P -2.8310, Plg21.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***30*** *01:28:14.7±0.2, 146N×97.18E, h30km, mb5.1/56, MW5.6 Error ellipse: s-maj=6.4km s-min=4.7km az=214.0, Moment Tensor Solution. s22 Moment tensor: Scale 10¹⁷Nm; Mrr 1.86; Mθθ -1.14; Mϕϕ -0.71; Mrθ 1.44; Mϕθ 1.12; Mϕr -1.34; Best double couple: M₀2.80000×10¹⁷ NP1: ϕs132.00000°,δ68.00000°,λ92.00000°. NP2: ϕs306.00000°,δ23.00000°,λ85.00000°. Principal axes: T 2.6800, Plg67.0000°, Azm46.0000°; N 0.2100, Plg2.0000°, Azm311.0000°; P -2.8800, Plg23.0000°, Azm220.0000°;*
NEIC Felt [VI] at Lahewa and [V] at Gunungsitoli.
SZGRF ***30*** *01:28:17.3, 171N×96.36E, h33km, mb5.0, Off west coast of northern Sumatera, Indonesia*
IDC ***30*** *01:28:18.1±1.7, 143N×9722E, h64km±14km, mb4.5/33, mb1 4.5/34, mb1mx4.5/34, mbtmp4.8/34, MS5.2/13, Ms1 5.2/13, ms1mx4.8/52, Error ellipse: s-maj=12.0km s-min=7.6km az=42.0*

ISC 30 01:28:15.6±0.2, 146N±003×9717E±002, h35km, h35km±2.2km; pP-P, n425, σ1†18/410, mb5.2/151, MS5.6/55, 56C-42D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.21**	**53**	P	**Pn**		**01 28 49.8**	**+0.1**
	52nm,0.3s,baz=242,slow=5.3,SNR=284							
PSI				LR	LR		01 29 30.6	
	comp=Z,31μm,18.8s,baz=283,slow=34							
PPI	**Padang Panjang**	**3.75**	**120**	P	**Pn**		**01 29 10.5**	**-0.4**
	415nm,1.2s							
BSI	**Banda Aceh**	**4.42**	**335**	P	**Pn**		**01 29 17.5**	**-2.7**
	237nm,0.7s							
IPM	**Ipoh**	**4.88**	**52**	P	**Pn**		**01 29 28.3**	**+1.8**
KULM	**Kulim**	**5.16**	**42**⇑*iP*		**Pn**		**01 29 30.7**	**+0.5**
KGM	**Kluang**	**6.17**	**85**	P	**Pn**		**01 29 45.6**	**+1.4**
SNG	**Songkhla**	**6.64**	**31**	P	**Pn**		**01 29 51.0**	**+0.4**
	2μm,1.0s							
KSI	**Kapahiang**	**7.43**	**133**	P	**Pn**		**01 30 03.5**	**+2.1**
	281nm,0.6s							
NNT	**Nongplab**	**11.35**	**13**	P	**Pn**		**01 30 55.0**	**-0.2**
KSM	**Kuching**	**13.14**	**90**⇓⇑*ePn*		**Pn**		**01 31 20.7**	**+1.1**
NST	**Nakhon Sawan**	**14.43**	**12**	P	**Pn**		**01 31 37.0**	**-0.2**
	42nm,0.8s							
CHTO	**Chiang Mai**	**17.34**	**6**	P	**Pn**		**01 32 14.0**	**-0.7**
	SNR=14							
CHTO	**Chiang Mai**	**17.34**	**6**	*eP*	**Pn**		**01 32 13.3**	**-1.4**
CHTO				pmax	pmax			
	comp=Z,47nm,1.0s							
CHTO	**Chiang Mai**	**17.34**	**6**	*ePn*	**Pn**		**01 32 13.3**	**-1.4**
	comp=Z,47nm,1.0s							
PALK	**Pallekele**	**17.40**	**290**	*eP*	**Pn**		**01 32 18.3**	**+2.8**
CHRT	**Chiangrai**	**18.48**	**8**	⇓P	**Pn**		**01 32 29.0**	**+0.3**
	comp=Z,395nm,0.7s							
KKM	**Kota Kinabalu**	**19.54**	**76**	P	**Pn**		**01 32 42.0**	**+0.5**
KKM	**Kota Kinabalu**	**19.54**	**76**	*eP*	**Pn**		**01 32 40.2**	**-1.3**
MDRS	**Chennai**	**20.34**	**305**	*ex*	x		01 32 56.0	
TSM	**Tawau**	**20.87**	**82**	P	**P**		**01 32 56.0**	**+1.5**
VIS	**Vishakhapatnam**	**21.12**	**321**	*eP*	**P**		**01 32 57.9**	**+0.7**
VIS				AMb	AMB		01 33 02.7	
	comp=Z,66nm,1.1s,mb4.9							
TRD	**Trivandrum**	**21.30**	**290**⇓	*eP*	**P**		**01 32 58.0**	**-1.2**
QIZ	**Qiongzhong**	**21.43**	**35**	P	**P**		**01 33 00.8**	**+0.3**
QIZ				AP			01 33 09.5	
QIZ				XP	sP		01 33 14.5	+0.3
QIZ				PP			01 33 30.5	
QIZ				AMB	AMB			
	comp=Z,74nm,1.0s,mb5.0							
QIZ				LR	LR			
	comp=N,11μm,14.1s							
QIZ				LR	LR			
	comp=Z,11μm,15.8s,MS5.3							
QIZ	**Qiongzhong**	**21.43**	**35**	*eP*	**P**		**01 33 00.1**	**-0.4**
	comp=Z,52nm,0.8s,mb4.9							
BATP	**Bataraza**	**21.79**	**70**	*eP*	**P**		**01 33 03.8**	**-0.6**
CAL	**Calcutta**	**22.65**	**338**	*eP*	**P**		**01 33 13.7**	**+0.2**
CAL				*ex*	x		01 37 17.6	
CAL				AMP			01 46 13.3	
	comp=Z,7μm,18.5s							
PCI	**Palu**	**22.79**	**96**	P	**P**		**01 33 15.2**	**+0.2**
	comp=Z,131nm,1.5s,mb5.1							
KMI	**Kunming**	**24.14**	**12**	P	**P**		**01 33 29.5**	**+1.4**
KMI				AP			01 33 37.8	
KMI				XP	sP		01 33 41.5	-0.9
KMI				PP			01 34 04.5	
KMI				PPP			01 34 15.0	
KMI				PCP	PcP		01 37 11.0	+2.5
KMI				S	**S**		**01 37 43.0**	**-0.7**
KMI				XS	sS		01 37 57.5	-2.6
KMI				SS			01 38 36.8	
KMI				SSS			01 38 52.8	

KMI AMB AMB
comp=Z,289nm,1.3s,mb5.5
KMI AMB AMB
comp=Z,2μm,6.5s
KMI LR LR
comp=N,31μm,15.3s,MS6.0
KMI LR LR
comp=E,18μm,14.4s,MS6.0
KMI LR LR
comp=Z,35μm,15.3s,MS6.0
HYB Hyderabad 24.21 312 *i* P **P 01 33 31.0 +2.1**
HYB *eS* **S 01 37 46.0 +1.0**
HYB Hyderabad 24.21 312 *eP* **P 01 33 31.0 +2.1**
HYB *eS* **S 01 37 40.0 -5.0**
SHL Shillong 24.50 348 *ex* x 01 33 37.2
BOK Bokaro 24.75 335 *eP* **P 01 33 35.5 +1.7**
BOK AMb AMB 01 33 38.9
comp=Z,278nm,1.0s,mb5.8
MNGI Mangalore 24.90 298 *eP* **P 01 33 37.4 +2.4**
MNGI AMb AMB 01 33 45.7
comp=Z,95nm,1.4s,mb5.1
BLSP Bilaspur 25.22 326 *eP* **P 01 33 38.0 0.0**
LUBP Lubang 25.89 61 *eP* **P 01 33 43.9 -0.2**
NGP Nagpur 26.37 319 *eP* **P 01 33 49.5 +1.1**
NGP *ex* x 01 34 10.5
comp=Z,110nm,1.7s
NGP *eS* **S 01 38 16.9 -2.4**
GYA Guiyang 26.48 19⇑*iP* **P 01 33 48.3 -1.1**
GYA PP 01 34 36.5
GYA AMB AMB
comp=Z,150nm,1.1s,mb5.4
GYA AMB AMB
comp=Z,830nm,7.0s
GYA LR LR
comp=N,27μm,15.2s,MS6.0
GYA LR LR
comp=E,9μm,12.9s,MS6.0
GYA LR LR
comp=Z,35μm,15.8s,MS6.0
HKC Hong Kong 26.51 37⇓*iP* **P 01 33 53.0 +3.3**
GZH Guangzhou 26.62 35 P **P 01 33 54.8 +4.1**
GZH LR LR
comp=N,6μm,15.6s,MS5.6
GZH LR LR
comp=E,11μm,13.2s,MS5.6
GZH LR LR
comp=Z,21μm,14.0s,MS5.8
OTRP Odiongan 26.91 65 *eP* **P 01 33 54.5 +1.2**
GTK Gangtok 27.00 343 *ex* x 01 34 07.0
AKL Akola 27.44 316 *eP* **P 01 33 59.1 +1.1**
AKL AMb AMB 01 34 09.1
comp=Z,82nm,2.2s,mb4.9
BALP Baler 27.94 58 *eP* **P 01 34 02.6 +0.1**
JIRN Jiri 28.10 339 *eP* **P 01 34 05.6 +1.7**
comp=Z,376nm,0.9s,mb6.0
PKI Pulchoki 28.30 338 *eP* **P 01 34 06.9 +1.1**
GUN Gumba 28.44 339 *eP* **P 01 34 08.5 +1.6**
comp=Z,331nm,0.7s,mb6.1
DMN Daman 28.46 337 *eP* **P 01 34 08.9 +1.8**
comp=Z,218nm,0.9s,mb5.8
BUKP Musuan 28.51 76 *eP* **P 01 34 08.3 +0.7**
KKN Kakani 28.55 338 *eP* **P 01 34 09.1 +1.1**
comp=Z,500nm,1.3s,mb6.1
KKN Kakani 28.55 338 *eP* **P 01 34 09.1 +1.1**
KKN pmax pmax
comp=Z,500nm,1.3s,mb6.1
APYP Conner 28.72 54 *eP* **P 01 34 09.2 -0.3**
GKN Gorkha 28.99 337 *eP* **P 01 34 13.0 +1.1**
comp=Z,507nm,1.1s,mb6.2
KOLN Koldanda 29.21 335 *eP* **P 01 34 15.2 +1.4**
comp=Z,306nm,0.7s,mb6.1
CD2 Chengdu 29.95 11 *eP* **P 01 34 21.5 +1.1**
CD2 PP PP 01 35 19.0 -9.3
CD2 S **S** **01 39 14.0 -1.6**
CD2 AMB AMB
comp=Z,30nm,0.6s,mb5.2
CD2 AMB AMB
comp=Z,120nm,5.2s
CD2 LR LR
comp=N,13μm,14.4s
CD2 LR LR
comp=Z,11μm,16.2s,MS5.6
QZH Quanzhou 31.20 40 P **P 01 34 31.5 +0.1**
QZH S **S** **01 39 34.3 -0.8**
QZH AMB AMB
comp=Z,930nm,2.6s,mb6.2
QZH LR LR
comp=N,20μm,12.5s,MS6.1
QZH LR LR
comp=E,16μm,13.8s,MS6.1
QZH LR LR
comp=Z,29μm,14.2s,MS6.1
LGTI Lohaghat 32.16 332 *i* x x 01 34 38.7
NACB Ninganchiao 32.69 44 *eP* **P 01 34 43.5 -0.9**
NACB *e*PP PP 01 36 01.8 +3.1
AJM Ajmer 32.98 321 *eP* **P 01 34 49.0 +2.0**
AJM AMb AMB 01 34 51.7
comp=Z,15nm,0.8s,mb5.0
NDI New Delhi 33.10 327 *eP* **P 01 34 48.0 -0.1**
NDI *eP* 01 34 48.6
NDI AMb AMB 01 34 53.0
comp=Z,72nm,1.5s,mb5.4
WHN Wuhan 33.20 28⇑P **P 01 34 49.0 0.0**
WHN AMB AMB
comp=Z,90nm,1.0s,mb5.7
WHN AMB AMB
comp=Z,1μm,7.3s
WHN LR LR
comp=Z,26μm,14.8s,MS6.1
FITZ Fitzroy Crossi 34.10 126 P **P 01 34 54.8 -2.1**
comp=Z,14nm,0.8s,mb5.0,baz=302,slow=6.0,SNR=33
FITZ LR LR 01 49 29.7
comp=Z,3μm,22.0s,MS5.0,baz=161,slow=37
XAN Xi'an 34.23 18 P **P 01 34 57.0 -0.9**
XAN AMB AMB
comp=Z,183nm,1.1s,mb5.9
XAN AMB AMB
comp=Z,726nm,13.2s
XAN LR LR
comp=E,9μm,15.7s
XAN LR LR
comp=Z,20μm,14.9s,MS6.0
LZH Lanzhou 35.01 9 *eP* **P 01 35 05.0 +0.4**
LZH AP pP 01 35 13.5 -1.3
LZH XP sP 01 35 19.5 +0.5
LZH PP PP 01 36 28.0 +3.7
LZH S **S** **01 40 34.3 0.0**
LZH *e*SS SS 01 42 53.0 -14
LZH AMB AMB
comp=Z,210nm,1.2s,mb5.9
LZH AMB AMB
comp=Z,2μm,5.0s
LZH LR LR
comp=E,24μm,16.3s
LZH LR LR
comp=Z,26μm,17.1s,MS6.0
SMLA Simla 35.06 329 *eP* **P 01 35 05.2 +0.1**
SMLA AMb AMB 01 35 10.4
comp=Z,142nm,1.8s,mb5.6
SDNR Sundarnagar 35.46 329 *eP* **P 01 35 09.0 +0.5**
NJ2 Nanjing 36.66 32 *eP* **P 01 35 19.5 +0.7**
NJ2 AP pP 01 35 29.0 0.0
NJ2 XP sP 01 35 33.8 +0.6
NJ2 PP PP 01 36 44.3 +1.7
NJ2 S **S** **01 40 58.0 -1.6**
NJ2 XS sS 01 41 15.0 -1.4
NJ2 AMB AMB
comp=Z,40nm,1.1s,mb5.2
NJ2 AMB AMB
comp=Z,590nm,5.0s
NJ2 LR LR
comp=N,18μm,14.1s,MS6.1
NJ2 LR LR
comp=E,13μm,13.8s,MS6.1
NJ2 LR LR
comp=Z,4μm,14.5s,MS5.4
DLH Dalhousie 36.80 329 *eP* **P 01 35 22.0 +2.0**
SSE Sheshan 37.22 35 P **P 01 35 23.8 +0.2**
SSE XP sP 01 35 36.5 -1.5
SSE PP PP 01 36 49.3 +0.5
SSE PCP PcP 01 37 43.0 +0.2
SSE S **S** **01 41 09.5 +1.3**
SSE XS sS 01 41 24.3 -0.7
SSE AMB AMB
comp=Z,53nm,0.7s,mb5.5

SSE AMB AMB
comp=Z,493nm,6.4s
SSE LR LR
comp=N,7μm,16.8s,MS5.6
SSE LR LR
comp=E,3μm,16.8s,MS5.6
SSE LR LR
comp=Z,10μm,16.4s,MS5.7
KAKA Kakadu 37.73 113 *e*P **P** **01 35 25.3 -2.6**
comp=Z,39nm,0.7s,mb5.2
KAKA *e*PCP PP 01 37 10.9 +17
MUN Mundaring 37.84 153 *e*P **P** **01 35 32.3 +3.6**
MUN *e*S **S** **01 41 23.9 +6.4**
MUN *e*SS SS 01 44 29.0 +25
GTA Gaotai 37.85 3 P **P** **01 35 28.5 -0.4**
GTA AP pP 01 35 38.3 -0.8
GTA XP sP 01 35 42.3 -1.0
GTA PP PP 01 36 57.5 +1.8
GTA PPP 01 37 20.8
GTA PCP PcP 01 37 47.0 +2.2
GTA S **S** **01 41 17.3 -0.4**
GTA PCS PcS 01 41 36.0 +2.5
GTA SS SS 01 43 53.0 -12
GTA SCS ScS 01 45 38.8 +0.3
GTA AMB AMB
comp=Z,20nm,1.4s,mb4.7
GTA AMB AMB
comp=Z,1μm,6.1s
GTA LR LR
comp=N,8μm,13.7s,MS5.7
GTA LR LR
comp=E,5μm,16.0s,MS5.7
GTA LR LR
comp=Z,8μm,14.5s,MS5.7
KLBR Kellerberrin 38.24 151 *e*P **P** **01 35 34.1 +2.0**
comp=Z,23nm,0.9s,mb4.9
JOW Kunigami 39.09 47 P **P** **01 35 39.9 +0.6**
comp=Z,117nm,0.6s,mb5.8,baz=244,slow=7.6,SNR=87
JOW LR LR 01 50 56.8
comp=Z,2μm,21.9s,MS4.9,baz=354,slow=35
NWAO Narrogin (SRO) 39.10 153 P **P** **01 35 38.0 -1.4**
comp=Z,7.2nm,0.8s,mb4.5,baz=277,slow=8.1,SNR=2.3
NWAO Narrogin (SRO) 39.10 153 *e*P **P** **01 35 41.7 +2.3**
NWAO pmax pmax
comp=Z,31nm,1.1s
NWAO Narrogin (SRO) 39.10 153 *e*P **P** **01 35 41.7 +2.3**
comp=Z,30nm,1.1s,mb4.9
TIA Tai'an 39.21 26 *e*P **P** **01 35 40.0 -0.3**
TIA S **S** **01 41 31.0 -7.3**
TIA LR LR
comp=N,7μm,13.0s,MS5.7
TIA LR LR
comp=E,5μm,14.0s,MS5.7
BTO Baotou 40.67 15 *e*P **P** **01 35 52.0 -0.4**
BTO LR LR
comp=N,2μm,13.7s,MS5.4
BTO LR LR
comp=E,4μm,15.5s,MS5.4
BJT Baijiatuau 42.09 22⇑ *i*P **P** **01 36 04.7 +0.6**
BJT pmax pmax
comp=Z,119nm,0.6s
BJT Baijiatuau 42.09 22⇑ *i*P **P** **01 36 04.7 +0.7**
comp=Z,119nm,0.6s,mb5.7
BJI Beijing 42.11 22 P **P** **01 36 05.0 +0.7**
BJI PP PP 01 37 50.0 +7.9
BJI S **S** **01 42 25.5 +4.0**
BJI AMB AMB
comp=Z,161nm,0.7s,mb5.8
BJI AMB AMB
comp=Z,2μm,4.9s
BJI LR LR
comp=N,4μm,17.3s,MS5.6
BJI LR LR
comp=E,5μm,15.8s,MS5.6
BJI LR LR
comp=Z,4μm,20.8s,MS5.2
WRA Warramunga Arr 42.20 122 P **P** **01 36 03.4 -1.6**
comp=Z,9.7nm,0.6s,mb4.6,baz=303,slow=9.0,SNR=106
WRA ScP ScP 01 41 50.0 +3.5
comp=Z,2.0nm,1.1s,baz=312,slow=3.0,SNR=5.0
WRA S **S** **01 42 19.2 -3.5**
comp=Z,2.3nm,1.0s,baz=294,slow=16,SNR=7.4
WRA LR LR 01 57 07.2
comp=Z,3μm,19.9s,MS5.2,baz=310,slow=41
WRA Warramunga Arr 42.20 122 P **P** **01 36 03.4 -1.5**
WRA S **S** **01 42 19.2 -3.5**
WRAB Tennant Creek 42.20 122‖ *e*P **P** **01 36 04.1 -0.9**
WRAB Tennant Creek 42.20 122 *e*P **P** **01 36 03.5 -1.5**
comp=Z,43nm,0.7s,mb5.2
WB2 Warramunga Arr 42.21 122 *e*P **P** **01 36 03.3 -1.7**
WB2 *e*PCP PcP 01 38 19.1 +20
WB2 *e*S **S** **01 42 18.4 -4.5**
KSH Kashi 42.52 336 ⇑P **P** **01 36 10.0 +2.4**
KSH *e*AP pP 01 36 20.0 +2.1
KSH *e*XP sP 01 36 24.0 +1.9
KSH *e*PP PP 01 37 52.0 +5.5
KSH *e*PCP PcP 01 38 01.3 +1.5
KSH S **S** **01 42 30.5 +3.0**
KSH *e*XS sS 01 42 47.8 +3.3
KSH *e*SS SS 01 45 37.0 -0.8
KSH *e*SCS ScS 01 46 06.8 +0.5
KSH AMB AMB
comp=Z,846nm,5.1s
KSH LR LR
comp=N,5μm,16.2s,MS5.7
KSH LR LR
comp=E,5μm,16.4s,MS5.7
KSH LR LR
comp=Z,3μm,14.4s,MS5.3
WMQ Urumqi 43.02 350 P **P** **01 36 12.8 +1.2**
WMQ AP pP 01 36 22.5 +0.6
WMQ XP sP 01 36 26.5 +0.4
WMQ PP PP 01 37 55.0 +3.2
WMQ PCP PcP 01 38 03.8 +2.4
WMQ SCP ScP 01 41 50.8 +1.0
WMQ S **S** **01 42 34.8 +0.1**
WMQ SS SS 01 45 40.5 -7.0
WMQ SCS ScS 01 46 08.5 -0.9
WMQ AMB AMB
comp=Z,125nm,1.2s,mb5.5
WMQ AMB AMB
comp=Z,742nm,4.5s
WMQ LR LR
comp=N,5μm,16.0s,MS5.6
WMQ LR LR
comp=E,4μm,14.9s,MS5.6
WMQ LR LR
comp=Z,5μm,16.5s,MS5.5
WSAR Wadi Sarin 43.18 303 P **P** **01 36 12.5 -0.4**
comp=Z,4.0nm,0.6s,mb4.3,baz=194,slow=4.2,SNR=2.3
WSAR LR LR 01 54 48.6
comp=Z,1μm,19.5s,MS4.8,baz=268,slow=37
DL2 Dalian 43.47 28⇑ *i*P **P** **01 36 14.8 -0.4**
DL2 AP pP 01 36 23.0 -2.5
DL2 PP PP 01 38 00.0 +3.4
DL2 S **S** **01 42 39.0 -2.3**
DL2 XS sS 01 42 56.8 -1.5
DL2 SCS ScS 01 46 12.0 -0.2
DL2 AMB AMB
comp=Z,50nm,0.7s,mb5.3
DL2 AMB AMB
comp=Z,470nm,5.5s
DL2 LR LR
comp=N,2μm,17.4s,MS5.3
DL2 LR LR
comp=E,2μm,15.7s,MS5.3
DL2 LR LR
comp=Z,3μm,14.9s,MS5.3
FORT Forrest 43.49 140 *e*P **P** **01 36 15.7 +0.3**
comp=Z,24nm,0.6s,mb5.1
FORT *e*pP pP 01 36 23.2 -2.6
comp=Z,72nm,0.6s
ASAR Alice Springs 43.58 127 P **P** **01 36 15.1 -1.0**
comp=Z,7.9nm,0.8s,mb4.5,baz=304,slow=7.6,SNR=64
ASAR ScP ScP 01 41 55.5 +3.4
comp=Z,1.9nm,0.8s,baz=302,slow=4.2,SNR=4.9
ASAR S **S** **01 42 40.1 -2.8**
comp=Z,2.3nm,1.0s,baz=298,slow=14,SNR=8.6
ASAR LR LR 01 57 04.0
comp=Z,3μm,20.9s,MS5.2,baz=300,slow=40
ASAR Alice Springs 43.58 127 P **P** **01 36 15.1 -1.0**
ASAR S **S** **01 42 40.2 -2.7**
AS31 Alice Springs 43.58 127 *e*P **P** **01 36 15.2 -0.9**
AS31 *e*S **S** **01 42 40.9 -2.0**
ULHL Ulahol 44.74 338 P **P** **01 36 26.4 +0.9**
SNR=16
INCN Inchon 44.95 34 *e*P **P** **01 36 27.4 +0.3**
UCH Uchtor 45.40 336 P **P** **01 36 32.1 +1.4**
SNR=38
TKM2 Tokmak 2 45.57 338 P **P** **01 36 33.1 +1.1**
SNR=16
KBK Karagaybulak 45.59 337 P **P** **01 36 33.8 +1.6**
SNR=20
AML Almayashu 45.66 336 P **P** **01 36 34.2 +1.5**
SNR=26
AAK Ala-Archa 45.75 337 P **P** **01 36 34.0 +0.6**
SNR=25
AAK Ala-Archa 45.75 337*c* *i*P **P** **01 36 34.1 +0.7**
AAK pmax pmax
comp=Z,60nm,2.5s,mb5.1
AAK Ala-Archa 45.75 337 *e*P **P** **01 36 34.3 +0.9**
FRU Bishkek 45.87 337 *e*P **P** **01 36 36.0 +1.6**
FRU *e* pP 01 36 48.0 +3.2
FRU *e* 01 43 18.0
FRU pmax pmax
comp=Z,100nm,2.0s,mb5.4
FRU MLR MLR
comp=Z,3μm,16.0s,MS5.3
CHMS Chumysh 45.96 337 P **P** **01 36 35.9 +0.8**
SNR=10.0
EKS2 Erkin-Say 46.06 336 P **P** **01 36 37.3 +1.4**
SNR=21
USP Ospenovka 46.28 337 P **P** **01 36 38.5 +0.8**
SNR=46
SNY Shenyang 46.69 27 ⇑P **P** **01 36 40.3 -0.5**
SNY AP pP 01 36 53.3 +2.1
SNY XP sP 01 36 55.0 -0.4
SNY PP PP 01 38 31.0 +0.2
SNY S **S** **01 43 25.0 -2.9**
SNY SCS ScS 01 46 33.3 +0.5
SNY SS SS 01 46 46.8 -7.6
SNY AMB AMB
comp=Z,50nm,1.3s,mb5.3
SNY AMB AMB
comp=Z,1μm,5.9s
SNY LR LR
comp=E,8μm,15.7s
SNY LR LR
comp=Z,10μm,15.7s,MS5.8
SONM Songino Array 46.88 9 P **P** **01 36 42.8 +0.5**
comp=Z,45nm,0.7s,mb5.5,baz=190,slow=8.1,SNR=121
MKAR Makanchi Array 46.98 346 P **P** **01 36 43.4 +0.3**
comp=Z,42nm,0.8s,mb5.4,baz=157,slow=6.8,SNR=108
ULN Ulaanbaatar 47.01 9 P **P** **01 36 44.2 +0.8**
SNR=20
ULN Ulaanbaatar 47.01 9*c* *i*P **P** **01 36 43.7 +0.3**
ULN Ulaanbaatar 47.01 9 *e*P **P** **01 36 43.8 +0.4**
comp=Z,37nm,0.9s,mb5.3
ZAK Zakamensk 49.02 5⇑ *i*P **P** **01 36 59.2 +0.3**
ZAK pmax pmax
comp=Z,16nm,1.0s,mb5.0
CN2 Changchun 49.09 27 *e*P **P** **01 37 00.5 +1.1**
CN2 *e*XP sP 01 37 14.3 +0.3
CN2 *e*PP PP 01 38 52.8 -0.4
CN2 *e*S **S** **01 44 02.5 +0.5**
CN2 *e*SS SS 01 47 30.0 -3.2
CN2 AMB AMB
comp=Z,60nm,1.3s,mb5.5
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,7μm,15.0s,MS5.9
CN2 LR LR
comp=E,7μm,15.0s,MS5.9
CN2 LR LR
comp=Z,7μm,17.0s,MS5.7
CBIJ Chichi jima 50.10 55 P **P** **01 37 07.1 0.0**
comp=Z,79nm,0.6s,mb5.9,baz=279,slow=1.6,SNR=9.4
TLY Talaya 50.34 5 P **P** **01 37 10.1 +1.2**
SNR=11
TLY Talaya 50.34 5*c* *i*P **P** **01 37 09.6 +0.7**
TLY *e* 01 38 23.6
TLY *e* 01 39 08.0
TLY *e*PPP 01 39 54.5
TLY *e*S **S** **01 44 22.4 +3.0**
TLY *e*PS 01 44 33.2
TLY pmax pmax
comp=Z,31nm,0.7s,mb5.5
TLY MLR MLR
comp=Z,7μm,16.0s,MS5.8
TLY Talaya 50.34 5 *e*P **P** **01 37 09.8 +0.9**
PMG Port Moresby 50.95 103 P **P** **01 37 14.1 +0.6**
comp=Z,25nm,0.7s,mb5.2,baz=346,slow=5.9,SNR=7.4
PMG Port Moresby 50.95 103*c* *i*P **P** **01 37 13.6 +0.1**
IRK Irkutsk 50.96 6 *e*P **P** **01 37 11.3 -2.3**
IRK pmax pmax
comp=Z,115nm,1.6s,mb5.6
HIA Hailar 51.41 19⇑ *e*P **P** **01 37 17.1 +0.1**
MAJO Matsushiro 51.52 42 *e*P **P** **01 37 19.3 +1.5**
MAJO pmax pmax
comp=Z,12nm,0.7s,mb4.9
MAJO Matsushiro 51.52 42 *e*P **P** **01 37 19.3 +1.5**
comp=Z,12nm,0.7s,mb4.9
MAT Matsushiro 51.52 42 P **P** **01 37 16.9 -0.9**
MAT *S* **S** **01 44 47.0 +11**
MAT Matsushiro 51.52 42 *e*P **P** **01 37 17.0 -0.8**
MAT *e*S **S** **01 44 48.0 +12**
MAT pmax pmax
comp=Z,42nm,1.4s,mb5.2
MAT MLR MLR
comp=Z,4μm,20.0s,MS5.4
MAT Matsushiro 51.52 42 *e*P **P** **01 37 17.0 -0.8**
comp=Z,42nm,1.4s,mb5.2
MAT *e*S **S** **01 44 48.0 +12**
MAT LR LR
comp=Z,4μm,20.0s,MS5.4
MJAR Matsushiro Arr 51.52 42 P **P** **01 37 19.1 +1.3**
comp=Z,9.3nm,0.8s,mb4.8,baz=225,slow=5.6,SNR=36
KURK Kurchatov 51.54 345 *e*P **P** **01 37 17.6 -0.3**
KURK pmax pmax
comp=Z,34nm,0.8s,mb5.3
KURK Kurchatov 51.54 345 *e*P **P** **01 37 17.6 -0.3**
comp=Z,34nm,0.8s,mb5.3
MDJ Mudanjiang 51.66 29 P **P** **01 37 18.8 0.0**
MDJ AP pP 01 37 28.5 -0.8
MDJ XP sP 01 37 32.3 -1.2
MDJ PCP PcP 01 38 32.8 +0.7
MDJ PP PP 01 39 16.8 +0.3
MDJ PCS PcS 01 42 30.5 +0.4
MDJ S **S** **01 44 39.5 +1.8**
MDJ XS sS 01 44 54.0 -1.0
MDJ SCS ScS 01 47 06.8 +0.5
MDJ AMB AMB
comp=Z,60nm,0.9s,mb5.5
MDJ AMB AMB
comp=Z,816nm,7.9s
MDJ LR LR
comp=N,6μm,17.3s,MS5.8
MDJ LR LR
comp=E,4μm,16.0s,MS5.8
MDJ LR LR
comp=Z,8μm,18.7s,MS5.8
MDJ Mudanjiang 51.66 29 *e*P **P** **01 37 19.2 +0.4**
comp=Z,60nm,0.8s,mb5.6
VLA Vladivostok 51.77 32 *i* P **P** **01 37 15.1 -4.6**
VLA *i* pP 01 37 22.7 -7.5
CTA Charters Tower 52.65 117 *e*P **P** **01 37 27.9 +1.7**
comp=Z,11nm,0.8s,mb4.8
CTA *e*S **S** **01 44 51.8 +0.6**
CTA Charters Tower 52.65 117 P **P** **01 37 27.2 +1.1**
comp=Z,12nm,0.8s,mb4.9,baz=297,slow=9.1,SNR=14
CTA Charters Tower 52.65 117 *e*P **P** **01 37 27.9 +1.7**
CTA *e*S **S** **01 44 51.8 +0.6**
CTA pmax pmax
comp=Z,11nm,0.8s
CTAO Charters Tower 52.65 117 *e*P **P** **01 37 28.1 +1.9**
CTAO pmax pmax
comp=Z,22nm,0.9s,mb5.1
CTAO Charters Tower 52.65 117 *e*P **P** **01 37 28.1 +2.0**
comp=Z,22nm,0.9s,mb5.1
OPO Ambohidratompo 53.00 245 P **P** **01 37 30.7 +1.9**
comp=Z,9.0nm,1.0s,mb4.7,baz=70,slow=10,SNR=5.6
NVS Novosibirsk 54.42 350 *i* P **P** **01 37 38.4 -0.8**
NVS *i* S **S** **01 45 14.2 -1.0**
NVS pmax pmax
comp=N,22nm,0.7s
NVS pmax pmax
comp=E,12nm,0.7s
NVS pmax pmax
comp=Z,28nm,0.7s,mb5.3
NVS smax
comp=N,31nm,1.6s
NVS smax
comp=E,28nm,1.0s
ATD Arta Tunnel 54.80 283 LR LR 01 59 00.4
comp=E,1μm,18.6s,MS5.0,baz=81,slow=34
BVAR Borovoye Array 56.00 341 P **P** **01 37 49.8 -0.8**
comp=E,30nm,0.7s,mb5.5,baz=146,slow=7.1,SNR=109
BVAR S **S** **01 45 34.2 -2.2**
comp=E,0.2nm,0.3s,baz=45,slow=46,SNR=2.2
KLR Kul'dur 56.04 27⇓ *i*P **P** **01 37 48.5 -2.3**
KLR *e* 01 45 38.0
KLR *e* 01 49 24.5
KLR pmax pmax
comp=E,350nm,2.6s
KLR pmax pmax
comp=Z,550nm,2.6s,mb6.1
KLR MLR MLR
comp=E,3μm,13.5s
KLR MLR MLR
comp=Z,9μm,13.5s,MS6.0
BRVK Borovoye 56.06 341 *e*P **P** **01 37 50.1 -0.9**
BRVK pmax pmax
comp=Z,16nm,0.6s,mb5.2
BRVK Borovoye 56.06 341 *e*P **P** **01 37 50.1 -0.9**
comp=Z,16nm,0.6s,mb5.2
ZRNK Zerenda 56.40 340 *e*P **P** **01 37 52.5 -0.9**
ZRNK pmax pmax
comp=Z,19nm,0.7s,mb5.2
ZRNK Zerenda 56.40 340 *e*P **P** **01 37 52.5 -0.9**
comp=Z,19nm,0.7s,mb5.2
CHKZ Chkalovo 56.47 341 *e*P **P** **01 37 53.5 -0.4**
HABR Khabarovsk 57.05 29⇑ *i*P **P** **01 37 57.8 -0.2**
HABR *e*S **S** **01 45 53.0 +2.7**
HABR pmax pmax
comp=Z,77nm,1.1s,mb5.7
HABR MLR MLR
comp=Z,5μm,22.8s,MS5.5
BOD Bodaibo 57.76 11⇑ *i*P **P** **01 38 03.1 0.0**
BOD pmax pmax
comp=Z,43nm,1.0s,mb5.4
AKTK Aktyubinsk 58.99 332 P **P** **01 38 10.6 -1.0**
AKTO Aktyubinsk 58.99 332 P **P** **01 38 10.6 -1.0**
comp=Z,21nm,0.8s,mb5.2,baz=137,slow=7.0,SNR=41
CLNS Chul'man 59.51 17 *e*P **P** **01 38 15.6 +0.4**
CLNS *e* 01 39 01.5
CLNS *e* 01 40 26.7
CLNS *e*S **S** **01 46 17.6 -4.7**
CLNS pmax pmax
comp=Z,68nm,0.8s,mb5.7
CLNS pmax pmax
comp=N,32nm,0.7s
CLNS pmax pmax
comp=E,22nm,0.6s
CLNS pmax pmax
comp=Z,11nm,0.7s,mb5.0
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS smax
comp=N,641nm,12.5s
CLNS smax
comp=Z,236nm,11.8s
CLNS smax
comp=E,269nm,13.1s
CLNS MLR MLR
comp=N,6μm,15.0s,MS6.0
CLNS MLR MLR
comp=Z,11μm,15.0s,MS6.1
CLNS MLR MLR
comp=E,8μm,18.0s,MS6.0
KMBO Kilima Mbogo 59.96 268 P **P** **01 38 19.6 +1.2**
comp=E,1.5nm,0.9s,baz=62,slow=15,SNR=2.8
KMBO LR LR 02 03 12.5
comp=E,2μm,18.2s,MS5.2,baz=91,slow=35
KMBO Kilima Mbogo 59.96 268 P **P** **01 38 19.6 +1.3**
KMBO *e**PP pP 01 38 32.2 +3.2
KMBO Kilima Mbogo 59.96 268 P **P** **01 38 19.6 +1.2**
KMBO *e*pP pP 01 38 32.2 +3.1
KMBO LR LR 02 03 12.5
YSS Yuzh-Sakhalins 60.16 34*o**e*P **P** **01 38 19.3 -0.3**
YSS *e**SP sP 01 38 34.3 -0.1
YSS S **S** **01 46 29.0 -1.7**
YSS pmax pmax
comp=N,20nm,1.0s
YSS pmax pmax
comp=E,30nm,1.0s
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
YSS pmax pmax
comp=Z,500nm,9.0s
YSS MLR MLR
comp=Z,4μm,16.0s,MS5.7
YSS MLR MLR
comp=N,2μm,15.0s,MS5.7
YSS MLR MLR
comp=E,4μm,16.0s,MS5.7
YSS Yuzh-Sakhalins 60.16 34 *e*P **P** **01 38 20.1 +0.5**
MAK Makhachkala 60.52 320*d* *i*P **P** **01 38 21.2 -0.9**
MAK *i* PPP 01 42 02.3
MAK *i* S **S** **01 46 33.1 -2.2**
MAK *i* 01 48 08.5
MAK *i* SS SS 01 50 35.0 +1.4
MAK pmax pmax
comp=Z,56nm,1.3s,mb5.5
ARMA Armidale 60.71 126 *e*P **P** **01 38 25.2 +1.8**
ARMA *e*pP pP 01 38 33.2 -0.9
GNI Garni 61.09 316*d* *i*P **P** **01 38 27.4 +1.4**
GNI pmax pmax
comp=Z,24nm,1.1s
GNI Garni 61.09 316 *e*P **P** **01 38 27.6 +1.6**
comp=Z,32nm,0.9s,mb5.5
DGRG David-gareji 61.22 318 P **P** **01 38 27.8 +0.9**
MTA Mtatsminda 61.72 318 P **P** **01 38 30.0 -0.2**
TBLG Delisi 61.77 318 P **P** **01 38 30.2 -0.4**
GOR Gori 62.30 318 P **P** **01 38 35.9 +1.8**
SVE Sverdlovsk 62.44 338 *e*P **P** **01 38 31.8 -3.3**
SVE *e* 01 39 16.0
SVE *e*S **S** **01 47 00.0 +0.3**
SVE *e* 01 48 24.0
SVE pmax pmax
comp=Z,100nm,2.0s,mb5.6
SVE MLR MLR
comp=E,700nm,16.0s
SVE MLR MLR
comp=Z,3μm,16.0s,MS5.5
ZEI Tsey 62.78 318 *e*P **P** **01 38 39.1 +1.7**
ZEI *e**PP pP 01 38 46.7 -1.4
ZEI *e* 01 39 17.6
ZEI pmax pmax
comp=Z,19nm,0.6s,mb5.4
MARD Mardin 62.84 312 *i* P **P** **01 38 35.3 -2.5**
ARU Arti 62.94 337*c* *i*P **P** **01 38 37.4 -1.0**
ARU pmax pmax
comp=Z,81nm,2.0s,mb5.5
ARU Arti 62.94 337 *e*P **P** **01 38 37.2 -1.1**
comp=Z,36nm,1.0s,mb5.5
ONI Oni 63.00 318 P **P** **01 38 38.9 +0.1**
KIV Kislovodsk 64.09 319 P **P** **01 38 46.5 +0.5**
SNR=7.5
KIV Kislovodsk 64.09 319 *e*P **P** **01 38 45.2 -0.8**
KIV *e* 01 41 07.4
KIV *e*S **S** **01 47 19.8 -0.5**
KIV *e*SS SS 01 51 30.2 +0.6
KIV pmax pmax
comp=Z,41nm,1.1s,mb5.4
KIV Kislovodsk 64.09 319 *e*P **P** **01 38 44.6 -1.5**
ASF Jabal al Asfar 64.29 305 P **P** **01 38 47.6 +0.3**
comp=Z,3.5nm,0.8s,mb4.5,baz=344,slow=3.5,SNR=5.9
GOF Gofitskoye 64.34 320 *e*P **P** **01 38 45.6 -2.1**
MALT Malatya 64.93 312‖ *i*P **P** **01 38 53.4 +1.9**
MALT Malatya 64.93 312 *e*P **P** **01 38 53.8 +2.3**
YAK Yakutsk 65.18 16*c* *i*P **P** **01 38 52.5 -0.7**
YAK *e**PP pP 01 39 02.2 -1.7
YAK *e* 01 39 24.2
YAK *e* 01 41 15.1
YAK *e*PPP 01 42 48.4
YAK *e*S S 01 47 33.3 -0.5
YAK *e* 01 48 45.4
YAK *e*SS SS 01 51 44.4 -2.2
YAK pmax pmax
comp=Z,101nm,1.0s,mb5.8
YAK pmax pmax
comp=N,52nm,1.2s

YAK pmax pmax
comp=E,32nm,1.2s
YAK pmax pmax
comp=Z,8.0nm,1.6s,mb4.5
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK smax
comp=N,94nm,6.3s
YAK smax
comp=E,14nm,5.8s
YAK MLR MLR
comp=Z,4µm,17.0s,MS5.7
YAK MLR MLR
comp=N,4µm,20.0s,MS5.7
YAK MLR MLR
comp=E,3µm,16.0s,MS5.7
YAK Yakutsk 65.18 16 *e*P **P 01 38 52.2 -1.0**
GZT Gaziantep 65.27 311 *i* P **P 01 38 54.7 +0.9**
EIL Elat 65.29 302 *e*P **P 01 38 54.8 +1.0**
SOKR Solikamsk 65.83 339*c i*P **P 01 38 55.4 -1.9**
SOKR S S 01 47 43.7 +2.0
SOKR pmax pmax
comp=Z,80nm,1.1s,mb5.7
SOC Sochi 65.91 318 *e*P **P 01 38 57.3 -0.5**
SOC *e**PP pP 01 39 07.2 -1.4
SOC *e*S S 01 47 39.3 -3.3
SOC *e**SS sS 01 48 09.1 +8.7
SOC *e*SS SS 01 51 55.9 -1.9
SOC pmax pmax
comp=Z,33nm,0.7s,mb5.5
SOC MLR MLR
comp=Z,573nm,16.0s,MS4.9
ANN Anapa 67.89 318 *e*P **P 01 39 09.0 -1.4**
ANN *i* 01 39 15.9
ANN pmax pmax
comp=Z,228nm,11.1s
VRHR Novokhopersk 67.90 326 *e*P **P 01 39 08.7 -1.8**
VRHR pmax pmax
comp=Z,30nm,0.6s,mb5.5
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,9.0nm,0.6s
CDAG Cicekdag 68.34 312 *i* P **P 01 39 12.0 -1.3**
BOYT Boyabat 68.50 314 *i* P **P 01 39 12.5 -1.8**
BR131 Keskin Array S 68.92 312 *e*P **P 01 39 16.0 -0.8**
BRTR Keskin Array B 68.92 312 P **P 01 39 15.9 -1.0**
comp=E,6.9nm,0.7s,mb4.7,baz=133,slow=5.9,SNR=37
PECR Pechory 69.17 332 *e*P **P 01 39 18.0 -0.5**
PECR *e*S S 01 48 17.6 -4.2
PECR *e* 01 49 03.0
PECR pmax pmax
comp=Z,220nm,2.0s,mb5.7
PECR pmax pmax
comp=Z,500nm,13.0s
PECR smax
comp=N,700nm,8.0s
PECR smax
comp=E,600nm,8.0s
ELDT Eldivan 69.29 313 *i* P **P 01 39 20.8 +1.6**
VRSR Storozhevoye 69.33 325 *e*P **P 01 39 17.7 -1.7**
VRSR *e*S S 01 48 16.0 -7.6
VRSR *e*SS SS 01 52 47.5 -3.3
VRSR pmax pmax
comp=Z,20nm,0.8s,mb5.1
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,30nm,0.9s
VRSR smax
comp=N,190nm,5.3s
VRSR smax
comp=Z,90nm,4.9s
VRSR smax
comp=E,100nm,3.9s
VOR Voronezh 69.54 326 *e*P **P 01 39 20.5 -0.2**
VOR pmax pmax
comp=Z,40nm,1.4s,mb5.2
ANTO Ankara 69.58 312 *e*P **P 01 39 19.6 -1.4**
ANTO pmax pmax
comp=Z,14nm,0.9s,mb4.9
ANTO Ankara 69.58 312 *e*P **P 01 39 19.6 -1.4**
comp=Z,14nm,0.9s,mb4.9
BALT Daday 69.62 314 *i* P **P 01 39 22.3 +1.1**
SKR Severo-Kuril's 69.67 36 *e*P **P 01 39 15.0 -6.5**
SKR *e* 01 39 33.0
SKR *e*PPP 01 43 41.0
SKR *e*PS 01 48 44.0
SKR *e*SS SS 01 52 52.0 -4.0
SKR pmax pmax
comp=E,2µm,4.0s
SKR pmax pmax
comp=Z,2µm,4.0s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
SKR MLR MLR
comp=N,3µm,14.0s,MS5.8
SKR MLR MLR
comp=Z,3µm,14.0s,MS5.6
SKR MLR MLR
comp=E,2µm,12.0s,MS5.8
KDHN Kadinhani 69.73 311 *i* P **P 01 39 12.6 -9.3**
SIM Simferopol' 70.15 318*ce*P **P 01 39 25.3 +0.8**
SIM *e* 01 41 57.0
SIM *i* S S 01 48 32.0 -1.3
SIM *e*PS 01 49 22.0
SIM pmax pmax
comp=Z,23nm,0.6s,mb5.3
LSZ Lusaka 70.16 253 LR LR 02 07 20.8
comp=Z,3µm,18.1s,MS5.5,baz=74,slow=33
LSZ Lusaka 70.16 253 *e*P **P 01 39 26.6 +2.1**
SGKT Sivrigoynuk 70.31 313 *i* P **P 01 39 24.2 -1.3**
ESKT Eskisehir 70.94 311 *i* P **P 01 39 28.6 -0.6**
TKTP Tekketepe 70.98 310 *i* P **P 01 39 28.4 -1.1**
MA2 Magadan 71.12 26*c i*P **P 01 39 30.1 -0.3**
MA2 pmax pmax
comp=Z,48nm,0.7s,mb5.5
MA2 Magadan 71.12 26 *e*P **P 01 39 30.0 -0.3**
comp=Z,41nm,0.8s,mb5.4
DZM Mont Dzumac 71.42 114 P **P 01 39 32.9 +0.8**
comp=Z,10nm,1.0s,mb4.7,baz=315,slow=23,SNR=3.4
PET Petropavlovsk 72.04 34*c i*P **P 01 39 35.4 -0.5**
PET pmax pmax
comp=Z,38nm,0.6s,mb5.5
PET Petropavlovsk 72.04 34 *e*P **P 01 39 35.5 -0.4**
MOS Moscow 72.10 329 *e*P **P 01 39 36.2 -0.1**
MOS *e* pP 01 39 45.2 -1.9
MOS *e* 01 39 54.0
MOS *e* 01 42 14.8
MOS *e*S S 01 48 55.4 -0.4
MOS pmax pmax
comp=Z,76nm,0.9s,mb5.6
MOS pmax pmax
comp=Z,300nm,2.0s,mb5.9
OBN Obninsk 72.38 328*ce*P **P 01 39 36.3 -1.7**
OBN *e*S S 01 48 53.0 -6.1
OBN pmax pmax
comp=Z,57nm,1.0s,mb5.5
OBN Obninsk 72.38 328 *e*P **P 01 39 37.9 -0.1**
comp=Z,57nm,1.1s,mb5.4
TIXI Tiksi 72.94 10 *e*P **P 01 39 38.7 -2.6**
TIXI pmax pmax
comp=Z,36nm,0.8s,mb5.3
TIXI MLR MLR
comp=Z,6µm,15.0s,MS6.0
TIXI Tiksi 72.94 10 *i* P **P 01 39 40.0 -1.3**
MAW Mawson 72.95 193 *e*P **P 01 39 40.6 -0.8**
comp=Z,6.3nm,1.0s,mb4.5
MAW Mawson 72.95 193 P **P 01 39 40.5 -0.9**
comp=Z,2.1nm,0.6s,mb4.2,baz=26,slow=8.2,SNR=7.4
MAW Mawson 72.95 193 *e*P **P 01 39 40.6 -0.8**
MAW pmax pmax
comp=Z,6.0nm,1.0s
KLMR Klimovskoe 73.51 334 *e*P **P 01 39 43.2 -1.4**
KLMR *e* 01 42 24.3
KLMR *e* 01 44 20.4
KLMR *e*S S 01 49 08.5 -3.4
KLMR *e*SS SS 01 54 00.6 +5.7
KLMR pmax pmax
comp=Z,60nm,1.5s,mb5.3
KLMR pmax pmax
comp=Z,130nm,7.3s
KLMR MLR MLR
comp=Z,6µm,20.0s,MS5.9
TIRR Tirgusor 73.92 316⇓ *i*P **P 01 39 47.5 +0.5**
LBTB Lobatse 73.97 244 P **P 01 39 47.0 -0.4**
comp=Z,5.7nm,0.8s,mb4.5,baz=123,slow=9.7,SNR=7.0
LBTB LR LR 02 10 23.7
comp=Z,2µm,18.1s,MS5.3,baz=85,slow=34
LBTB Lobatse 73.97 244 *e*P **P 01 39 49.3 +1.9**
CFR Carcaliu 74.28 317⇓ *i*P **P 01 39 48.4 -0.8**
CFR Carcaliu 74.28 317⇓ P **P 01 39 48.4 -0.8**
KIS Kishinev 74.28 319 *e*P **P 01 39 48.0 -1.2**
KIS *e*S S 01 49 17.0 -3.6
KIS *e*PS 01 49 46.0
HARR Harsova 74.31 316⇓ *i*P **P 01 39 49.5 +0.2**
HARR Harsova 74.31 316⇓ P **P 01 39 49.5 +0.2**
BOSA Boshof 74.88 240 P **P 01 39 52.4 -0.2**
comp=Z,4.3nm,0.9s,mb4.4,baz=67,slow=7.8,SNR=5.1
AKASG Malin Array Be 75.03 322 P **P 01 39 52.0 -1.6**
comp=Z,9.9nm,0.7s,mb4.8,baz=90,slow=5.1,SNR=41
AKBB Malin Array Si 75.03 322 *e*P **P 01 39 52.3 -1.2**
VRI Vrincioaia 75.41 317⇑ *i*P **P 01 39 56.3 +0.6**
VRI Vrincioaia 75.41 317 P **P 01 39 56.4 +0.8**
PLOR Plostina 75.46 317⇑ *i*P **P 01 39 58.3 +2.3**
MLR Muntele Rosu 75.86 317⇓ *i*P **P 01 39 59.6 +1.3**
MLR Muntele Rosu 75.86 317 P **P 01 39 58.9 +0.6**
VOIR 76.46 316⇓ *i*P **P 01 40 03.1 +1.4**
BURAR Bucovina Array 76.81 319⇓ *i*P **P 01 40 04.6 +0.9**
BURAR Bucovina Array 76.81 319⇓ P **P 01 40 04.6 +0.9**
MNK Minsk 76.92 326 *e*P **P 01 40 02.0 -2.3**
VTS Vitosha 77.23 313⇓ *i*P **P 01 40 06.3 +0.3**
VTS Vitosha 77.23 313 P **P 01 40 07.2 +1.2**
PUL Pulkovo 77.25 332 *e*P **P 01 40 09.1 +3.0**
PUL *e*S S 01 49 53.9 +0.5
PUL pmax pmax
comp=Z,68nm,0.3s,mb6.1
PUL MLR MLR
comp=Z,9µm,19.0s,MS6.1
PUL MLR MLR
comp=N,5µm,18.0s,MS6.0
PUL MLR MLR
comp=E,5µm,22.0s,MS6.0
JOF Joensuu 77.90 335 *ep* **P 01 40 08.0 -1.7**
comp=E,16nm,0.8s,mb5.0
LVV L'vov 78.05 321⇓ *i*P **P 01 40 11.7 +1.1**
LVV *e* pP 01 40 23.3 +1.8
LVV *i*S S 01 50 01.7 -0.3
LVV *i* 01 50 15.1
LVV *e*PS 01 50 49.7
LVV MLR MLR
comp=Z,3µm,19.0s,MS5.6
LVV MLR MLR
comp=N,2µm,20.0s,MS5.7
LVV MLR MLR
comp=E,3µm,20.0s,MS5.7
DRGR 78.32 317⇓ *i*P **P 01 40 13.3 +1.2**
DRGR 78.32 317 P **P 01 40 14.2 +2.1**
VSU Vasula 78.61 330 *i* P **P 01 40 13.8 +0.1**
KWP Kalwaria 78.85 320 *e*P **P 01 40 16.7 +1.7**
BZS Buzias 78.87 316⇑ *i*P **P 01 40 15.8 +0.7**
BZS Buzias 78.87 316 P **P 01 40 17.7 +2.6**
KOLS Kolonicke sedl 79.00 320 *e*P **P 01 40 15.9 +0.1**
KOLS *e*S S 01 50 10.6 -1.6
SUR Sutherland 79.28 237 P **P 01 40 18.5 +1.1**
comp=E,10nm,0.8s,mb4.8,baz=84,slow=3.3,SNR=4.4
SUR LR LR 02 13 12.6
comp=E,2µm,18.2s,MS5.4,baz=274,slow=34
RPZ Rata Peaks 79.41 135 P **P 01 40 18.0 0.0**
comp=E,14nm,0.8s,mb5.0,baz=357,slow=6.3,SNR=4.4
RPZ LR LR 02 13 34.3
comp=E,5µm,20.0s,MS5.8,baz=175,slow=34
SUW Suwalki 79.45 325 *e*P **P 01 40 17.2 -1.1**
CRVS Cervenica-Dubn 79.52 319 *e*P **P 01 40 19.4 +0.7**
CRVS *e* 01 40 34.7
CRVS *e*S S 01 50 15.7 -2.0
FIA1 FINESS Array S 79.76 332 *e*P **P 01 40 18.9 -1.1**
FINES FINESS Array B 79.76 332 P **P 01 40 18.9 -1.0**
comp=E,7.6nm,0.7s,mb4.8,baz=104,slow=5.4,SNR=33
FINES FINESS Array B 79.76 332 *i* P **P 01 40 18.8 -1.1**
FINES pmax pmax
comp=Z,8.0nm,0.7s
KAF Kangasniemi 79.84 333 *ep* **P 01 40 19.0 -1.4**
comp=Z,18nm,0.7s,mb5.1,baz=103,slow=5.1
KAF Kangasniemi 79.84 333 *e*P **P 01 40 19.0 -1.4**
KAF pmax pmax
comp=Z,18nm,0.7s,mb5.1
NIE Niedzica 80.35 320 *e*P **P 01 40 23.1 -0.1**
PSZ Piszkesteto 80.40 318⇑ *i*P **P 01 40 25.3 +1.9**
PSZ Piszkesteto 80.40 318 *e*P **P 01 40 24.4 +1.0**
PSZ pmax pmax
comp=Z,39nm,1.4s,mb5.1
PSZ Piszkesteto 80.40 318 *e*P **P 01 40 24.4 +1.0**
comp=Z,39nm,1.4s,mb5.1
TSUM Tsumeb 80.64 250 LR LR 02 15 04.9
comp=Z,989nm,18.3s,MS5.2,baz=46,slow=35
TSUM Tsumeb 80.64 250 *e*P **P 01 40 19.5 -5.3**
OJC Ojcow 80.81 321 *e*P **P 01 40 26.6 +1.0**
OJC *i*S S 01 50 30.6 -0.6
OJC L 02 19 53.2
comp=Z,18nm,19.6s
BILL Bilibino 80.94 21 *i* P **P 01 40 26.5 +0.2**
VYHS Vyhne 81.18 319 *e*P **P 01 40 27.1 -0.5**
VYHS *e* 01 43 28.6
VYHS *e*S S 01 50 32.6 -2.5
VYHS pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
VYHS Vyhne 81.18 319 *e*P **P 01 40 27.1 -0.5**
comp=Z,8.2nm,1.4s,mb4.5
VYHS *e*PP PP 01 43 28.6 -4.4
VYHS *e*S S 01 50 32.6 -2.5
OKC Ostrava-Krasne 81.81 320 *e*P **P 01 40 30.4 -0.5**
OKC *e*pP pP 01 40 39.9 -2.0
OKC AMS AMS 02 20 10.0
comp=Z,3µm,15.3s
OKC Ostrava-Krasne 81.81 320 *e*P **P 01 40 30.4 -0.5**
OKC *e* pP 01 40 39.9 -2.0
KEV Kevo 81.85 341 *ep* **P 01 40 30.2 -0.9**
comp=Z,14nm,0.9s,mb4.9
KEV Kevo 81.85 341 *e*P **P 01 40 30.2 -0.9**
KEV pmax pmax
comp=Z,14nm,0.9s,mb4.9
MORC Moravsky Berou 82.19 320⇑ *i*P **P 01 40 32.9 0.0**
MORC Moravsky Berou 82.19 320 *e*P **P 01 40 32.6 -0.2**
ARCES ARCESS Array B 82.28 340 P **P 01 40 32.7 -0.7**
comp=Z,16nm,0.9s,mb5.0,baz=102,slow=4.9,SNR=27
ARE0 ARCESS Array S 82.28 340 *e*P **P 01 40 33.8 +0.4**
ZST Bratislava 82.29 318 *e*P **P 01 40 33.2 -0.2**
ZST *e*S S 01 50 49.4 +2.9
ZST pmax pmax
comp=Z,14nm,0.8s,mb4.9
ZST MLR MLR
comp=Z,3µm,17.2s,MS5.7
ZST Bratislava 82.29 318 *e*P **P 01 40 33.2 -0.2**
comp=Z,14nm,0.8s,mb5.0
ZST *e*S S 01 50 49.4 +2.9
ZST LR LR
comp=Z,3µm,17.2s,MS5.7
URZ Urewera 83.00 129 P **P 01 40 36.6 -0.5**
comp=Z,6.3nm,0.8s,mb4.7,baz=207,slow=8.9,SNR=3.1
DPC Dobruska-Polom 83.03 320 *e*P **P 01 40 36.8 -0.5**
DPC *e*pP pP 01 40 52.5 +4.2
DPC AMS AMS 02 13 50.0
comp=Z,4µm,16.4s
KSP Ksiaz 83.10 321 *e*P **P 01 40 35.9 -1.8**
KSP Ksiaz 83.10 321 *e*P **P 01 40 37.3 -0.4**
KSP *e* 01 44 51.0
KSP *e*S S 01 50 48.0 -6.9
KSP LR LR
comp=Z,7µm,19.1s,MS6.1
GROS Grobnik 83.20 316 *e*P **P 01 40 38.8 +0.7**
UPC Upice 83.25 321 *e*P **P 01 40 33.4 -5.0**
ARSA Arzberg 83.25 317⇓ *i*P **P 01 40 38.5 +0.1**
comp=Z,12nm,1.0s,mb4.9
TREC Trest 83.47 319 *e*P **P 01 40 40.5 +1.0**
TREC *e*pP pP 01 40 53.3 +2.7
TREC AMS AMS 02 14 10.0
comp=Z,6µm,17.9s
PERS Pernice 83.48 317 *e*P **P 01 40 39.2 -0.4**
LJU Ljubljana 83.84 316 *e*P **P 01 40 41.1 -0.3**
PRU Pruhonice 84.14 320 *e*P **P 01 40 41.7 -1.3**
PRU AMS AMS 02 13 40.0
comp=Z,6µm,18.3s
MOA Molln 84.15 318⇑ *i*P **P 01 40 44.0 +1.0**
comp=Z,5.5nm,0.8s,mb4.8

PVCC Panska Ves 84.17 320 *e*P **P 01 40 42.3 -0.8**
PVCC AMS AMS 02 12 40.0
comp=Z,4µm,18.2s
VOY Vojsko 84.28 316 *e*P **P 01 40 43.8 +0.1**
VOY *e* 01 41 05.9
VOY *e* 01 41 20.8
TRO Tromso 84.55 340 *e*P **P 01 40 43.3 -1.8**
TRO Tromso 84.55 340 *e*P **P 01 40 43.1 -1.9**
TRO LR LR
comp=Z,4µm,17.6s,MS5.9
BRG Berggiesshubel 84.59 321 *e*P **P 01 40 43.9 -1.4**
comp=Z,9.0nm,1.0s,mb4.8
BRG Berggiesshubel 84.59 321 *e*P **P 01 40 46.1 +0.8**
comp=Z,3.8nm,1.1s,mb4.5
BRG Berggiesshubel 84.59 321 *e*P **P 01 40 46.1 +0.8**
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
GEC2 GERESS Array S 84.60 319 *e*P **P 01 40 44.1 -1.2**
comp=Z,26nm,1.4s,mb5.2
GEC2 GERESS Array S 84.60 319 *e*P **P 01 40 44.1 -1.2**
GEC2 pmax pmax
comp=Z,26nm,1.4s,mb5.2
GERES GERESS Array B 84.60 319 P **P 01 40 44.9 -0.4**
comp=Z,5.0nm,0.8s,mb4.7,baz=92,slow=3.2,SNR=40
KHC Kasperske Hory 84.70 319 *e*P **P 01 40 45.3 -0.5**
KHC x x 01 41 23.5
KHC AMS AMS 02 13 40.0
comp=Z,6µm,18.6s
KHC Kasperske Hory 84.70 319 *e*P **P 01 40 45.3 -0.5**
KHC *e* 01 41 23.5
KHC *e* 02 00 05.5
KHC LR LR
comp=Z,6µm,18.6s,MS6.0
RUE Ruedersdorf 84.81 322 *e*P **P 01 40 45.0 -1.4**
comp=Z,15nm,0.8s,mb5.2
FBE Freiberg 84.97 321 *e*P **P 01 40 45.8 -1.3**
comp=Z,26nm,1.7s,mb5.1
WET Wettzell 85.16 319 *e*P **P 01 40 46.8 -1.3**
comp=Z,12nm,1.0s,mb5.0
WET Wettzell 85.16 319 *e*P **P 01 40 46.8 -1.3**
WET pmax pmax
comp=Z,12nm,1.0s,mb5.0
CLL Collm 85.21 321 *e*P **P 01 40 46.5 -1.9**
comp=Z,7.0nm,1.2s,mb4.7
CLL Collm 85.21 321 P **P 01 40 49.0 +0.6**
comp=Z,logA/T=1.1,mb5.0
CLL *i* 01 40 54.8
CLL *e* 01 41 06.0
CLL *e* 01 41 21.0
CLL *e*S 01 51 12.0
CLL *e*PS 01 52 15.0
CLL *e*SS SS 01 57 11.0 +21
CLL Collm 85.21 321 *i* P **P 01 40 49.0 +0.6**
comp=Z,23nm,1.9s,mb5.0
CLL *i* x x 01 40 54.8
CLL *e* x x 01 41 06.0
CLL *e* x x 01 41 21.0
CLL *e*S 01 51 12.0
CLL *e*PS 01 52 15.0
CLL *e*SS SS 01 57 11.0 +21
CLL *e*(SSS) 02 00 06.0
CLL Collm 85.21 321 *i* P **P 01 40 49.0 +0.6**
CLL *i* 01 40 54.8
CLL *e*S 01 51 12.0
CLL pmax pmax
comp=Z,23nm,1.9s,mb5.0
CLL Collm 85.21 321 *i* P **P 01 40 49.0 +0.6**
comp=Z,23nm,1.9s,mb5.0
CLL *i* 01 40 54.8
CLL *e*S 01 51 12.0
NKC Novy Kostel 85.50 320 AMS AMS 02 13 00.0
comp=Z,6µm,19.5s
TANN Tannenbergstha 85.50 320 *e*P **P 01 40 48.4 -1.4**
comp=Z,9.0nm,1.3s,mb4.8
WERN Wernitzgruen 85.55 320 *e*P **P 01 40 48.8 -1.3**
comp=Z,7.0nm,0.9s,mb4.9
WERD Werda 85.60 320 *e*P **P 01 40 48.8 -1.5**
comp=Z,10.0nm,1.0s,mb5.0
ROTZ Rotzenmuhle 85.63 320 *e*P **P 01 40 49.5 -1.0**
comp=Z,10.0nm,0.9s,mb5.0
MANZ Manzenberg 85.71 320 *e*P **P 01 40 50.0 -0.8**
comp=Z,13nm,1.0s,mb5.1
WTTA Wattenberg 85.90 317⇑ *i*P **P 01 40 52.1 +0.3**
comp=Z,8.7nm,0.8s,mb5.0
WTTA Wattenberg 85.90 317⇑ *i*P **P 01 40 52.1 +0.3**
WTTA pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
MOX Moxa 86.05 320 *e*P **P 01 40 51.2 -1.4**
comp=Z,32nm,1.9s,mb5.2
MOX Moxa 86.05 320 *e*P **P 01 40 53.8 +1.2**
comp=Z,12nm,1.6s,mb4.9
MOX
comp=Z,5µm,20.0s
MOX Moxa 86.05 320 *e*P **P 01 40 53.8 +1.2**
MOX pmax pmax
comp=Z,12nm,1.6s,mb4.9
MOX MLR MLR
comp=Z,5µm,20.0s,MS5.9
VNDA Vanda 86.08 169 P **P 01 40 51.8 -0.9**
comp=Z,1.9nm,1.0s,mb4.3,baz=338,slow=5.4,SNR=3.4
VNDA Vanda 86.08 169 *e*P **P 01 40 53.6 +0.9**
VNDA pmax pmax
comp=Z,12nm,1.3s
VNDA Vanda 86.08 169 *e*P **P 01 40 53.6 +0.9**
comp=Z,12nm,1.3s,mb5.0
FUR Furstenfeldbru 86.17 318 *e*P **P 01 40 51.3 -1.9**
comp=Z,11nm,0.9s,mb5.1
FUR Furstenfeldbru 86.17 318 *e*P **P 01 40 51.3 -1.9**
FUR pmax pmax
comp=Z,11nm,0.9s,mb5.1
SQTA Sankt Quirin 86.19 317⇑ *i*P **P 01 40 52.2 -1.0**
comp=Z,5.0nm,0.8s,mb4.8
SQTA Sankt Quirin 86.19 317⇑ *i*P **P 01 40 52.2 -1.0**
SQTA pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
MOTA Moosalm 86.26 317⇑ *i*P **P 01 40 52.5 -1.1**
comp=Z,4.7nm,1.0s,mb4.7
MOTA Moosalm 86.26 317⇑ *i*P **P 01 40 52.5 -1.1**
MOTA pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
GRA1 Grafenberg Arr 86.27 320 *e*P **P 01 40 52.6 -1.0**
comp=Z,18nm,1.0s,mb5.3
GRF Grafenberg Arr 86.27 320 *e*P **P 01 40 52.5 -1.1**
comp=Z,18nm,1.0s,mb5.3
GRF Grafenberg Arr 86.27 320 *e*P **P 01 40 52.6 -1.0**
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.3
GRF Grafenberg Arr 86.27 320 *e*P **P 01 40 52.6 -1.0**
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.3
GRF Grafenberg Arr 86.27 320 *e*P **P 01 40 52.6 -1.0**
comp=Z,18nm,1.0s,mb5.3
NSS Namsos 86.62 334 *e*P **P 01 40 53.7 -1.7**
NSS AMb AMB 01 40 56.0
comp=Z,34nm,2.4s,mb5.2
NSS Namsos 86.62 334 *e*P **P 01 40 53.6 -1.8**
NSS LR LR
comp=Z,4µm,18.2s,MS5.9
SPB4 Spitsbergen Ar 86.70 348 *e*P **P 01 40 55.0 -0.7**
NB2 NORSAR Subarra 86.77 331 P **P 01 40 54.9 -1.2**
comp=Z,8.4nm,0.8s,mb5.0,baz=97,slow=4.6
NOA NORSAR Array B 86.77 331 P **P 01 40 55.0 -1.1**
comp=Z,6.1nm,0.8s,mb4.9,baz=94,slow=4.9,SNR=32
NOA PP PP 01 44 21.0 +2.3
comp=Z,2.4nm,0.9s,baz=93,slow=7.6,SNR=3.4
NOA NORSAR Array B 86.77 331 P **P 01 40 55.0 -1.1**
NOA PP PP 01 44 21.0 +2.3
CLZ Clausthal 86.88 322 *e*P **P 01 40 55.3 -1.3**
comp=Z,10.0nm,0.9s,mb5.0
CLZ Clausthal 86.88 322 *e*P **P 01 40 55.3 -1.3**
CLZ pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
NAO01 NORSAR Array S 86.92 331 *e*P **P 01 40 57.6 +0.9**
comp=Z,9.6nm,0.9s,mb5.0
BSEG Bad Segeberg 86.97 324 *e*P **P 01 40 56.0 -1.1**
comp=Z,24nm,1.4s,mb5.2
UBBA Unterbreizbach 87.08 321 *e*P **P 01 40 56.3 -1.3**
comp=Z,6.0nm,1.2s,mb4.7
DAVA Damuels 87.09 317⇑ *i*P **P 01 40 59.1 +1.5**
comp=Z,11nm,1.1s,mb5.0
SBA Scott Base 87.18 169 *e*P **P 01 41 00.0 +1.9**
SBA pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
SBA Scott Base 87.18 169 *e*P **P 01 40 60.0 +1.9**
comp=Z,8.8nm,0.9s,mb5.0
KEST Kesra 87.39 306 P **P 01 41 00.1 +1.0**

comp=Z,3.1nm,0.7s,mb4.6,baz=287,slow=1.6,SNR=12

KONO	**Kongsberg**	**87.52**	**329**	*e*P	**P**	**01 41 00.8**	**+1.1**
KONO				*e**PP	pP	01 41 16.6	+5.8
KONO				pmax	pmax		

comp=Z,35nm,1.4s,mb5.4

KONO	**Kongsberg**	**87.52**	**329**	*e*P	**P**	**01 41 00.8**	**+1.1**

comp=Z,35nm,1.4s,mb5.4

KONO				*e*pP	pP	01 41 16.6	+5.8
STU	**Stuttgart**	**87.57**	**319**	*e*P	**P**	**01 40 58.5**	**-1.5**

comp=Z,6.0nm,0.8s,mb4.9

KBS	**Kingsbay**	**87.66**	**349**	*e*P	**P**	**01 41 00.4**	**0.0**
KBS	**Kingsbay**	**87.66**	**349**	*e*P	**P**	**01 40 59.4**	**-1.0**
KBS				*e**PP	pP	01 41 15.5	+4.0
KBS				pmax	pmax		

comp=Z,19nm,1.0s,mb5.3

KBS	**Kingsbay**	**87.66**	**349**	*e*P	**P**	**01 40 59.4**	**-1.0**

comp=Z,19nm,1.0s,mb5.3

KBS				*e*pP	pP	01 41 15.5	+4.0
TNS	**Taunus Mts**	**88.07**	**320**	*e*P	**P**	**01 41 01.3**	**-1.0**

comp=Z,12nm,1.0s,mb5.1

TNS	**Taunus Mts**	**88.07**	**320**	*e*P	**P**	**01 41 01.3**	**-1.0**
TNS				pmax	pmax		

comp=Z,12nm,1.0s,mb5.1

BFO	**Black Forest**	**88.15**	**318**	*e*P	**P**	**01 41 00.9**	**-1.8**

comp=Z,6.0nm,0.9s,mb4.8

BFO	**Black Forest**	**88.15**	**318**	*e*P	**P**	**01 41 01.0**	**-1.7**
BFO				pmax	pmax		

comp=Z,6.0nm,0.9s,mb4.8

BFO	**Black Forest**	**88.15**	**318**	*e*P	**P**	**01 41 01.0**	**-1.7**

comp=Z,6.0nm,0.9s,mb4.8

BUG	**Bochum--Univer**	**88.81**	**321**	*e*P	**P**	**01 41 04.7**	**-1.1**

comp=Z,19nm,1.0s,mb5.4

WLF	**Walferdange**	**89.56**	**319**	*e*P	**P**	**01 41 08.6**	**-0.7**

comp=Z,18nm,1.3s,mb5.2

NVL	**N'lazarevskaya**	**89.82**	**199**⇓	*i*P	**P**	**01 41 19.0**	**+8.4**
NVL				*e*SS	SS	01 58 06.5	+8.8
NVL				pmax	pmax		

comp=Z,27nm,0.9s,mb5.6

QSPA	**South Pole Qui**	**91.40**	**180**	*e*P	**P**	**01 41 24.4**	**+6.5**

comp=Z,6.3nm,0.9s,mb5.0

DAG	**Danmarks Havn**	**94.34**	**348**⇑	*i*P	**P**	**01 41 30.7**	**-0.8**

comp=Z,2.5nm,1.1s,mb4.6

DAG

comp=Z,15μm,20.0s

DAG	**Danmarks Havn**	**94.34**	**348**⇑	*e*P	**P**	**01 41 30.7**	**-0.8**
DAG				pmax	pmax		

comp=Z,3.0nm,1.1s,mb4.6

DAG				MLR	MLR		

comp=Z,15μm,20.0s,MS6.5

DAG	**Danmarks Havn**	**94.34**	**348**⇑	*e*P	**P**	**01 41 30.7**	**-0.8**

comp=Z,2.5nm,1.1s,mb4.6

DAG				LR	LR		

comp=Z,15μm,20.0s,MS6.5

TORD	**Torodi Ar. Bea**	**95.00**	**283**	P	**P**	**01 41 36.1**	**+1.6**

comp=Z,1.1nm,0.9s,mb4.3,baz=93,slow=2.9,SNR=8.5

IMA2	**Indian Mountai**	**96.36**	**23**	*e*P	**P**	**01 41 40.8**	**+0.1**
VNA1	**Neumayer--Stat**	**96.46**	**199**	*e*P	**P**	**01 41 48.8**	**+7.7**
VNA1				*e*		01 41 52.4	
VNA1				*e*		01 41 54.4	
VNA1				*e*	pP	01 42 00.2	+7.9
ESDC	**Sonseca Array**	**97.64**	**310**	P	**P**	**01 41 46.1**	**-0.3**

comp=Z,0.6nm,0.7s,mb4.2,baz=54,slow=4.5,SNR=4.8

MCK	**McKinley**	**99.07**	**24**	*e*P	**P**	**01 41 53.6**	**+0.7**
MCK				pmax	pmax		

comp=Z,8.0nm,1.3s,mb5.1

MCK	**McKinley**	**99.07**	**24**	*e*P	**P**	**01 41 53.5**	**+0.7**

comp=Z,8.2nm,1.3s,mb5.1

YKA	**Yellowknife Ar**	**111.85**	**15**	PP	PP	01 47 24.1	-5.7

comp=Z,1.6nm,0.7s,baz=329,slow=7.3,SNR=6.3

PPT	**Papeete**	**112.59**	**108**	*e*LR	LR	02 20 23.0	

comp=Z,996nm,24.5s

B05A	**Bryant**	**119.89**	**29**⇓	P	PKPdf	01 47 03.0	+0.8

baz=120

F04A	**Amboy**	**121.31**	**31**⇓	P	PKPdf	01 47 05.9	+1.0

baz=121

H03A	**Soap Creek Ran**	**121.67**	**33**⇓	P	PKPdf	01 47 07.4	+1.8

baz=122

I02A	**Mapleton**	**121.80**	**34**⇑	P	PKPdf	01 47 07.4	+1.6

baz=122

I03A	**Eugene**	**122.13**	**34**⇓	P	PKPdf	01 47 08.1	+1.7

baz=122

J02A	**Umpqua**	**122.35**	**34**⇑	P	PKPdf	01 47 07.4	+0.5

baz=122

TAOE	**Nuku Hiva Isla**	**122.50**	**100**	*e*LR	LR	02 24 58.3	

comp=Z,2μm,24.1s

J03A	**Ideyld Park**	**122.69**	**34**⇑	P	PKPdf	01 47 07.9	+0.4

baz=122

HUMO	**Hull Mountain**	**123.18**	**35**⇓	P	PKPdf	01 47 09.2	+0.7

baz=123

J05A	**Fort Rock**	**123.70**	**33**⇓	P	PKPdf	01 47 10.5	+1.0

baz=124

I06A	**Prineville**	**123.81**	**32**⇑	P	PKPdf	01 47 11.8	+2.1

baz=124

M02C	**Callahan**	**124.02**	**36**⇑	P	PKPdf	01 47 11.9	+1.9

baz=124

I07A	**Izee**	**124.08**	**31**⇓	P	PKPdf	01 47 12.1	+1.8

baz=124

J06A	**Christmas Vall**	**124.31**	**32**⇑	P	PKPdf	01 47 12.3	+1.6

baz=124

M04C	**Macdoel**	**124.35**	**35**⇓	P	PKPdf	01 47 12.2	+1.5

baz=124

K06A	**Valley Falls**	**124.56**	**33**⇓	P	PKPdf	01 47 13.2	+2.1

baz=124

J07A	**Hines**	**124.67**	**32**⇑	P	PKPdf	01 47 13.2	+1.8

baz=124

I08A	**Drewsey**	**124.68**	**31**⇓	P	PKPdf	01 47 13.1	+1.8

baz=124

WDC	**Whiskeytown Da**	**124.71**	**36**⇓	P	PKPdf	01 47 13.3	+1.9

baz=125

L05A	**Lakeview**	**124.74**	**34**⇓	P	PKPdf	01 47 13.3	+1.8

baz=125

O02C	**Red Bluff**	**124.81**	**37**⇓	P	PKPdf	01 47 13.6	+2.0

baz=125

RKT	**Rikitea**	**125.08**	**117**	*e*LR	LR	02 26 11.0	

comp=Z,2μm,26.2s

J08A	**Circle Bar Ran**	**125.12**	**31**⇓	P	PKPdf	01 47 13.8	+1.6

baz=125

K07A	**Rock Creek Ran**	**125.17**	**32**⇑	P	PKPdf	01 47 13.9	+1.6

baz=125

GASB	**Alder Springs**	**125.18**	**37**⇑	P	PKPdf	01 47 14.7	+2.4

baz=125

HATC	**Hat Creek Radi**	**125.19**	**35**⇑	P	PKPdf	01 47 14.5	+2.2

baz=125

K08A	**Mann Creek Ran**	**125.55**	**32**⇓	P	PKPdf	01 47 14.9	+1.9

baz=125

MNRC	**McLaughlin Nat**	**125.83**	**38**⇓	P	PKPdf	01 47 15.9	+2.4

baz=126

O05C	**Quincy**	**126.06**	**36**⇑	P	PKPdf	01 47 15.2	+1.2

baz=126

M07A	**Soldier Meadow**	**126.11**	**33**⇓	P	PKPdf	01 47 15.8	+1.7

baz=126

ULM	**Lac du Bonnet**	**127.29**	**10**	PKP	PKPdf	01 47 15.6	-0.8

comp=Z,2.7nm,0.8s,baz=19,slow=3.6,SNR=6.6

S06C	**San Francisco**	**128.04**	**37**⇑	P	PKPdf	01 47 18.9	+1.1

baz=128

M12A	**Wells**	**128.35**	**31**⇓	P	PKPdf	01 47 20.6	+2.2

baz=128

NVAR	**Mina Array Bea**	**128.59**	**36**	PKP	PKPdf	01 47 20.2	+1.3

comp=Z,3.3nm,0.9s,baz=276,slow=0.6,SNR=16

NVAR	**Mina Array Bea**	**128.59**	**36**	PKP	PKPdf	01 47 20.2	+1.3
M13A	**Montello**	**128.77**	**30**⇓	P	PKPdf	01 47 21.6	+2.5

baz=129

PDAR	**Pinedale Array**	**129.82**	**26**	PKP	PKPdf	01 47 19.7	-1.5

comp=Z,1.2nm,0.7s,baz=315,slow=0.4,SNR=8.5

PDAR				PP	PP	01 49 36.1	+3.5

comp=Z,4.5nm,1.3s,baz=279,slow=2.9,SNR=5.7

V12A	**Nelson**	**132.45**	**36**⇑	P	PKPdf	01 47 29.3	+3.1

baz=132

W13A	**Hualapai Mount**	**133.45**	**36**⇑	P	PKPdf	01 47 31.1	+3.0

baz=133

X13A	**Yucca**	**133.84**	**36**⇓	P	PKPdf	01 47 31.6	+2.9

baz=134

X15A	**Humboldt**	**134.84**	**35**⇑	P	PKPdf	01 47 33.3	+2.6

baz=135

ANMO	**Albuquerque**	**137.56**	**29**⇑	*i*PKIKP	PKPdf	01 47 37.2	+1.5
BDFB	**Brasilia**	**142.89**	**246**	PKP	PKPdf	01 47 47.5	+2.2

comp=Z,2.8nm,0.8s,baz=204,slow=8.7,SNR=3.2

LPAZ	**La Paz**	**159.34**	**224**	PKP	PKPdf	01 48 12.9	+2.8

comp=Z,1.2nm,0.8s,baz=66,slow=10,SNR=4.3

*CSEM **30** 01:30:44.8±0.1, 4063N×2065E, h2km, ML2.8, Error ellipse: s-maj=2.7km s-min=1.4km az=103.0*
*ISCJB **30** 01:30:45.4±0.6, 4064N±003×2074E±005, h5km±4km, Error ellipse: s-maj=6.5km s-min=3.7km az=61.1*
*SKO **30** 01:30:45.5, 4059N×2071E, h3km, M1.6, ML2.0*

*THE **30** 01:30:46.1, 4065N×2076E, h10km, ML2.8*
*NEIC **30** 01:30:48.1, 4047N×2093E, h13km, MD3.0(ATH), After ATH.*
*ATH **30** 01:30:48.1, 4047N×2093E, h13km±6km, MD3.0/4*

ISC 30 01:30:45.9±0.5, 4063N±003×2075E±005, h6km±4km, n32, σ1$03/45, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.03**	**106**	*i* Pg	**Pg**	**01 30 46.8**	**-0.3**
KBN				*i* Sg	**Sg**	**01 30 48.4**	**+0.5**
KBN	**Korca**	**0.03**	**106**	*e*Pg	**Pg**	**01 30 46.8**	**-0.3**
KBN				*e*Sg	**Sg**	**01 30 48.4**	**+0.5**
OHR	**Ohrid**	**0.48**	**5**	*e*Pg	**Pg**	**01 30 54.9**	**-0.3**
OHR				*i* Sg	**Sg**	**01 31 02.4**	**+0.9**
OHR				*e*Lg		01 31 02.6	

comp=E,121nm,0.5s

OHR				*e*Lg		01 31 02.7	

comp=N,76nm,0.7s

OHR	**Ohrid**	**0.48**	**5**	*e*Pg	**Pg**	**01 30 54.3**	**-0.9**
OHR				*e*Sg	**Sg**	**01 31 03.1**	**+1.7**
LSK	**Leskovik**	**0.49**	**193**	*i* Pg	**Pg**	**01 30 54.6**	**-0.8**
LSK				*i* Sg	**Sg**	**01 31 02.8**	**+0.9**
FNA	**Florina**	**0.50**	**72**	*e*Pg	**Pg**	**01 30 55.0**	**-0.5**
FNA				*e*Sg	**Sg**	**01 31 03.3**	**+1.1**
BIA	**Bitola**	**0.58**	**48**	*e*Pg	**Pg**	**01 30 56.2**	**-0.9**
BIA				*e*Sg	**Sg**	**01 31 05.5**	**+0.8**
BIA	**Bitola**	**0.58**	**48**	*i* Pg	**Pg**	**01 30 56.2**	**-1.0**
BIA				*i* Sg	**Sg**	**01 31 06.0**	**+1.2**
BIA				*e*Lg		01 31 06.4	

comp=N,48nm,0.2s

BIA				*e*Lg		01 31 06.9	

comp=E,67nm,0.4s

BIA	**Bitola**	**0.58**	**48**	*i* Pg	**Pg**	**01 30 56.1**	**-1.0**
BIA				*i* Sg	**Sg**	**01 31 05.9**	**+1.1**
KZN	**Kozani**	**0.85**	**112**	*e*PB	**Pg**	**01 31 01.2**	**-1.0**
KZN				*e*SB	**Sg**	**01 31 10.4**	**-2.8**
MEV	**Metsovon**	**0.92**	**156**	*e*Pg	**Pg**	**01 31 03.9**	**+0.2**
MEV	**Metsovon**	**0.92**	**156**	*e*Pg	**Pg**	**01 31 03.8**	**+0.2**
SRN	**Sarande**	**0.94**	**217**	*i* Pn	**Pn**	**01 31 04.7**	**-1.0**
SRN	**Sarande**	**0.94**	**217**	*e*Pn	**Pn**	**01 31 04.7**	**-1.0**
JAN	**Janina**	**0.98**	**175**	*e*PG	**Pg**	**01 31 03.1**	**-1.6**
IGT	**Igoumenitsa**	**1.14**	**196**	*e*Pg	**Pg**	**01 31 08.0**	**+0.2**
IGT				*e*Sg	**Sg**	**01 31 25.3**	**+2.6**
KEK	**Kerkira**	**1.17**	**219**	*e*PB	**Pb**	**01 31 09.9**	**+1.3**
GRG	**Griva**	**1.30**	**75**	*e*Pg	**Pg**	**01 31 10.6**	**-0.2**
LIT	**Litokhoron**	**1.44**	**111**	*e*Pg	**Pg**	**01 31 11.9**	**-1.5**
LIT				*e*Sg	**Sg**	**01 31 33.7**	**+1.7**
SKO	**Skopje**	**1.44**	**21**	*e*Pg	**Pg**	**01 31 12.6**	**-0.9**
SKO	**Skopje**	**1.44**	**21**	*e*Pb	**Pg**	**01 31 12.5**	**-0.9**
VAY	**Valandovo**	**1.54**	**63**	*e*Pg	**Pn**	**01 31 13.7**	**-0.2**
KNT	**Kendrikon**	**1.71**	**71**	*e*Pb	**Pn**	**01 31 16.2**	**-0.1**
KNT				*e*Sb	**Sb**	**01 31 40.7**	**+1.0**
HORT	**Hortiatis**	**1.79**	**90**	*e*Pb	**Pn**	**01 31 16.5**	**-0.9**
EVR	**Evrytania**	**1.90**	**154**	*e*PG	**Pn**	**01 31 20.6**	**+1.7**
LKD	**Levkas**	**1.92**	**182**	*e*Pb	**Pb**	**01 31 20.4**	**-1.0**
SOH	**Sokhos**	**1.99**	**84**	*e*Pn	**Pn**	**01 31 20.1**	**0.0**
AGG	**Agios Georgios**	**2.02**	**142**	*e*Pn	**Pn**	**01 31 20.7**	**+0.2**
PLG	**Polygyros**	**2.08**	**96**	*e*PN	**Pn**	**01 31 21.6**	**+0.3**
SRS	**Serrai**	**2.21**	**76**	*e*Pn	**Pn**	**01 31 23.4**	**+0.3**
XOR	**Xorichti**	**2.27**	**123**	*e*Pn	**Pn**	**01 31 23.6**	**-0.2**
XOR	**Xorichti**	**2.27**	**123**	*e*Pn	**Pn**	**01 31 23.6**	**-0.3**

MEX 30 01:36:54.9±0.9, 1957N×9889W, h13km±12km, MD3.5, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTVM	**Pico Tres Padr**	**0.21**	**276**	*e*P	Pg	01 36 58.9	-0.7
PBVM	**Pinon**	**0.22**	**235**	*i* P	Pg	01 36 57.9	-1.8
PBVM				*i* S	Sg	01 37 02.9	-0.2
UNM	**Universidad Na**	**0.36**	**228**	*e*P	Pg	01 36 60.0	-2.2
UNM				*i* P		01 37 02.4	
UNM				*i* P		01 37 02.9	
UNM				*i* S	Sg	01 37 05.7	-1.5
UNM				*i* S	Sg	01 37 07.3	+0.2
UNM				*i* S	Sg	01 37 07.7	+0.6
IIZ	**Mezontepec**	**0.51**	**221**	*e*P	Pg	01 37 02.3	-2.5
IIZ				*i* S	Sg	01 37 11.1	-0.4
SZVM	**Salazar**	**0.52**	**242**	*e*P	Pg	01 37 05.5	+0.3

*IDC **30** 01:37:38.5±1.2, 1.19N×96.97E, h0km, mb4.1/12, mb1 4.1/13, mb1mx4.0/22, mbtmp4.1/13, ML2.8/1, MS4.1/1, Ms1 4.1/1, ms1mx3.3/42, Error ellipse: s-maj=31.8km s-min=22.2km az=19.0*
*BJI **30** 01:37:40.6, 1.13N×9759E, h30km, mB5.2, mb4.7*
*ISCJB **30** 01:37:43.9±3.2, 13N±02×972E±01, h48km±25km, mb4.3/21, Error ellipse: s-maj=31.4km s-min=15.1km az=86.5*
*NEIC **30** 01:37:43.2±0.6, 120N×97.11E, h30km, mb4.8/8, Error ellipse: s-maj=13.8km s-min=10.2km az=200.0*

ISC 30 01:37:45.6±3.1, 13N±02×972E±02, h45km±25km, n29, σ0$91/27, mb4.3/21, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.27**	**49**	Pn	**Pn**	**01 38 20.1**	**-0.5**

2.1nm,0.3s,baz=216,slow=5.1,SNR=23

PSI				LR	LR	01 39 30.3	

comp=Z,4μm,20.0s,baz=160,slow=45

KULM	**Kulim**	**5.25**	**41**	*e*Pn	**Pn**	**01 39 00.7**	**-0.7**
JIRN	**Jiri**	**28.26**	**339**	*e*P	**P**	**01 43 35.9**	**+1.5**

44nm,1.0s,mb5.1

PKI	**Pulchoki**	**28.47**	**338**	*e*P	**P**	**01 43 37.2**	**+0.9**
GUN	**Gumba**	**28.60**	**339**	*e*P	**P**	**01 43 38.5**	**+1.1**

23nm,0.6s,mb5.1

DMN	**Daman**	**28.62**	**337**	*e*P	**P**	**01 43 39.4**	**+1.8**
KKN	**Kakani**	**28.71**	**338**	*e*P	**P**	**01 43 39.3**	**+0.8**
GKN	**Gorkha**	**29.15**	**337**	*e*P	**P**	**01 43 43.0**	**+0.6**

45nm,1.2s,mb5.1

KOLN	**Koldanda**	**29.37**	**335**	*e*P	**P**	**01 43 45.1**	**+0.8**

30nm,0.8s,mb5.1

LZH	**Lanzhou**	**35.16**	**9**	*e*P	**P**	**01 44 34.5**	**-0.4**
LZH				AP	pP	01 44 41.5	-5.5
LZH				XP	sP	01 44 44.5	-7.8
LZH				AMB	AMB		

comp=Z,20nm,1.4s,mb4.8

JOW	**Kunigami**	**39.17**	**47**	P	**P**	**01 45 09.3**	**+0.4**

comp=Z,8.9nm,0.6s,mb4.7,baz=271,slow=11,SNR=7.7

WRA	**Warramunga Arr**	**42.08**	**122**	P	**P**	**01 45 34.1**	**+1.1**

comp=Z,1.3nm,0.9s,mb3.6,baz=300,slow=9.1,SNR=7.8

WRAB	**Tennant Creek**	**42.08**	**122**	P	**P**	**01 45 33.8**	**+0.7**

comp=Z,2.8nm,0.7s,mb4.0

BJT	**Baijiatuan**	**42.22**	**22**	*e*P	**P**	**01 45 33.4**	**-0.7**

comp=Z,8.2nm,0.6s,mb4.5

SONM	**Songino Array**	**47.03**	**8**	P	**P**	**01 46 13.1**	**+0.6**

comp=Z,5.2nm,0.9s,mb4.5,baz=189,slow=9.0,SNR=22

MKAR	**Makanchi Array**	**47.15**	**346**	P	**P**	**01 46 13.8**	**+0.4**

comp=Z,4.5nm,0.8s,mb4.4,baz=152,slow=7.9,SNR=14

ULN	**Ulaanbaatar**	**47.16**	**9**	*e*P	**P**	**01 46 12.5**	**-1.0**

comp=Z,1.4nm,0.8s,mb3.9

KURK	**Kurchatov**	**51.70**	**345**	*e*P	**P**	**01 46 47.8**	**-0.3**

comp=Z,3.7nm,0.9s,mb4.3

BVAR	**Borovoye Array**	**56.16**	**341**	P	**P**	**01 47 19.8**	**-0.9**

comp=Z,2.7nm,0.8s,mb4.4,baz=140,slow=7.7,SNR=11

AKTK	**Aktyubinsk**	**59.15**	**332**	P	**P**	**01 47 40.7**	**-0.9**
AKTO	**Aktyubinsk**	**59.15**	**332**	P	**P**	**01 47 40.7**	**-0.9**

comp=Z,1.9nm,0.8s,mb4.2,baz=154,slow=7.9,SNR=5.2

BRTR	**Keskin Array B**	**69.05**	**312**	P	**P**	**01 48 45.9**	**-0.7**

comp=Z,0.6nm,0.8s,mb3.6,baz=134,slow=7.2,SNR=4.0

AKASG	**Malin Array Be**	**75.19**	**322**	P	**P**	**01 49 21.6**	**-1.7**

comp=Z,0.2nm,0.4s,mb3.4,baz=97,slow=4.2,SNR=4.5

FINES	**FINESS Array B**	**79.92**	**332**	P	**P**	**01 49 49.3**	**-0.4**

comp=Z,1.3nm,0.8s,mb3.9,baz=134,slow=9.9,SNR=3.5

ARCES	**ARCESS Array B**	**82.45**	**340**	P	**P**	**01 50 02.8**	**-0.3**

comp=Z,1.6nm,0.9s,mb4.0,baz=101,slow=3.9,SNR=4.6

GERES	**GERESS Array B**	**84.75**	**319**	P	**P**	**01 50 15.3**	**+0.4**

comp=Z,0.6nm,0.9s,mb3.7,baz=81,slow=8.2,SNR=5.4

TORD	**Torodi Ar. Bea**	**95.08**	**283**	P	**P**	**01 51 02.1**	**-1.6**

comp=Z,1.7nm,1.2s,mb4.3,baz=81,slow=3.9,SNR=3.5

WVOR	**Wild Horse Val**	**125.79**	**32**	*e*P	Pdif	01 53 25.7	+5.2
HRY	**Holter Researc**	**125.81**	**24**	*e*P	Pdif	01 53 28.4	+7.8

*ISCJB **30** 01:52:37.1±0.4, 62.15N±003×14550W±0.07, h6km, Error ellipse: s-maj=5.5km s-min=4.5km az=91.2*
*NEIC **30** 01:52:38.9, 62.12N×145.46W, h6km, ML3.7(AEIC), ML3.8(PMR), After AEIC.*
NEIC Felt at Anchorage and Glennallen.
*PGC **30** 01:52:44.8, 62.19N×144.89W, h20km, ML3.5/2, 141km northeast of Valdez, Ak Western Wrangell Mountains, Alaska.*

ISC 30 01:52:37.9±0.4, 6213N±004×14544W±007, h6km, n27, σ1$02/34, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MENT	**Mentasta**	**1.14**	**44**	P	**Pg**	**01 52 58.9**	**-0.8**
MENT				S	**Sg**	**01 53 14.1**	**-0.4**
EYAK	**Cordova Ski Ar**	**1.59**	**186**	P	**Pn**	**01 53 06.3**	**-0.2**
EYAK				S	**Sn**	**01 53 26.0**	**-1.3**
GHO	**Glory Hole Cre**	**1.69**	**259**	P	**Pn**	**01 53 06.7**	**-1.2**
PMR	**Palmer**	**1.83**	**255**	P	**Pn**	**01 53 08.4**	**-1.4**
MCK	**McKinley**	**2.27**	**317**	P	**Pn**	**01 53 16.3**	**+0.4**
RC01	**Rabbit Creek A**	**2.30**	**245**	P	**Pn**	**01 53 16.7**	**+0.4**
FIB	**Fire Island**	**2.46**	**249**	P	**Pn**	**01 53 19.1**	**+0.6**
TRF	**Thorofare Moun**	**2.60**	**303**	P	**Pn**	**01 53 20.7**	**+0.4**
MID	**Middleton Isla**	**2.74**	**190**	*e*P	**Pn**	**01 53 24.1**	**+1.7**
SEW	**Seward**	**2.81**	**226**	P	**Pn**	**01 53 22.7**	**-0.7**
SLKM	**Skilak Lake**	**2.82**	**237**	P	**Pn**	**01 53 24.4**	**+0.9**
KTH	**Kantishna Hill**	**2.90**	**302**	P	**Pn**	**01 53 24.4**	**-0.1**
COLA	**College**	**2.96**	**340**	P	**Pn**	**01 53 25.4**	**0.0**
DAWY	**Dawson**	**3.37**	**52**	Pn	**Pn**	**01 53 32.1**	**+1.2**
DAWY				Pg	**Pg**	**01 53 41.2**	**-1.2**
DAWY				Sg	**Sg**	**01 54 22.2**	**-3.9**
DAWY				Trac		01 54 31.4	

comp=Z,115nm,0.4s

DAWY	**Dawson**	**3.37**	**52**	*e*Pn	**Pn**	**01 53 32.8**	**+1.8**
DAWY				*e*S	**Sn**	**01 54 22.7**	**+11**
PNL	**Peninsula**	**3.84**	**127**	P	**Pn**	**01 53 37.7**	**+0.2**
HYT	**Haines Junctio**	**4.02**	**105**	Pn	**Pn**	**01 53 42.4**	**+2.4**
HYT				Sg	**Sg**	**01 54 42.9**	**-4.2**
HYT				Trac		01 54 50.3	

comp=Z,30nm,0.8s

HYT	**Haines Junctio**	**4.02**	**105**	*e*Pn	**Pn**

comp=Z,6nm,1.5s
KIV Kislovodsk 18.56 16 *e*P **Pn 01 59 14.1 +0.8**
comp=Z,43nm,1.0s
KIV Kislovodsk 18.56 16 *e*P **Pn 01 59 14.1 +0.9**
comp=Z,43nm,1.0s
ASHO Ashiyiah 18.56 90 ⇑P **Pn 01 59 12.8 -0.4**
VTS Vitosha 19.18 331 ⇓*i*P **Pn 01 59 22.2 +1.6**
ARQ Araqi 19.24 94 ⇓P **Pn 01 59 18.7 -2.7**
SNR=5.6
MAK Makhachkala 19.29 27 *e*P **Pn 01 59 25.8 +3.7**
MAK *e*S **Sn 02 03 03.9 +5.6**
MAK pmax pmax
comp=Z,105nm,1.1s
MAK MLR MLR
comp=Z,917nm,13.0s
BUC1 Bucharest 19.62 339 ⇑*i*P **Pn 01 59 37.5 +12**
GOF Gofitskoye 19.68 16 *e*P **Pn 01 59 29.8 +3.1**
GOF pmax pmax
comp=Z,20nm,1.7s
CFR Carcaliu 19.79 344 ⇓*i*P **Pn 01 59 27.4 -0.6**
HOQ Hoqain 19.89 93 ⇑P **Pn 01 59 24.3 -4.9**
BSY Bisya 19.99 95 ⇓P **Pn 01 59 29.5 -0.8**
BSYO Bisya 20.03 95 P **P 01 59 29.5 +0.5**
BIDO Bidbid 20.64 93 ⇓P **P 01 59 34.3 -1.4**
SMDO Samad 20.67 94 ⇑P **P 01 59 36.0 0.0**
SNR=6.0
MLR Muntele Rosu 20.68 341 P **P 01 59 37.3 +1.2**
comp=Z,5.6nm,0.8s,baz=242,slow=5.4,SNR=9.0
MLR Muntele Rosu 20.68 341 ⇓*i*P **P 01 59 37.1 +1.0**
VRI Vrincioaia 20.79 342 ⇓*i*P **P 01 59 38.9 +1.5**
PLOR Plostina 20.80 342 ⇓*i*P **P 01 59 39.0 +1.5**
JMDO Jabal Madar 20.89 96 ⇑P **P 01 59 39.2 +0.8**
VAE Valguarnera 21.11 307 P **P 01 59 42.2 +1.4**
comp=Z,9.3nm,0.9s,mb4.1,baz=278,slow=8.2,SNR=4.0
WSAR Wadi Sarin 21.15 93 P **P 01 59 42.9 +1.6**
comp=Z,37nm,1.0s,mb4.7,baz=286,slow=12,SNR=7.3
WBK Wadi Bani Khal 21.60 95 ⇑P **P 01 59 47.0 +0.9**
BZS Buzias 22.31 334 ⇑*i*P **P 01 59 53.9 +0.3**
BURAR Bucovina Array 22.81 342 ⇓*i*P **P 02 00 01.6 +2.6**
DRGR 22.88 337 ⇓*i*P **P 02 00 02.3 +2.6**
AQU L'Aquila 24.24 317 *e*P **P 02 00 15.1 +2.1**
AQU pmax pmax
comp=Z,44nm,1.4s,mb4.7
AQU L'Aquila 24.24 317 *e*P **P 02 00 15.1 +2.0**
comp=Z,44nm,1.4s,mb4.7
KEST Kesra 24.32 299 P **P 02 00 14.1 +0.3**
comp=Z,6.1nm,0.8s,mb4.1,baz=294,slow=1.4,SNR=22
PSZ Piszkesteto 24.87 334 ⇓*e*P **P 02 00 19.5 +0.7**
PSZ Piszkesteto 24.87 334 *e*P **P 02 00 18.7 -0.1**
PSZ pmax pmax
comp=Z,28nm,1.0s,mb4.8
PSZ Piszkesteto 24.87 334 *e*P **P 02 00 18.7 -0.1**
comp=Z,28nm,1.0s,mb4.8
AKASG Malin Array Be 24.87 350 P **P 02 00 18.2 -0.6**
comp=Z,11nm,0.7s,mb4.5,baz=174,slow=8.4,SNR=30
AKASG PcP PcP 02 03 53.6 -1.0
comp=Z,0.6nm,0.6s,baz=102,slow=1.8,SNR=5.1
AKASG Malin Array Be 24.87 350 P **P 02 00 18.2 -0.7**
AKASG PcP PcP 02 03 53.6 -0.9
AKASG Malin Array Be 24.87 350 PcP PcP 02 03 53.6 -1.0
AKBB Malin Array Si 24.87 350 *e*P **P 02 00 17.9 -0.9**
KOLS Kolonicke sedl 24.88 339 *e*P **P 02 00 19.7 +0.8**
VRSR Storozhevoye 25.06 5 *e*P **P 02 00 20.7 +0.2**
VRSR pmax pmax
comp=Z,20nm,0.8s,mb4.7
VRSR pmax pmax
comp=N,90nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR Storozhevoye 25.06 5 *e*P **P 02 00 20.7 +0.2**
comp=E,20nm,0.8s,mb4.7
CRVS Cervenica-Dubn 25.12 338 *e*P **P 02 00 21.2 +0.1**
CRVS Cervenica-Dubn 25.12 338 *e*P **P 02 00 21.3 +0.2**
BOJS Bojanci 25.16 325 *e*P **P 02 00 22.6 +1.2**
BOJS Bojanci 25.16 325 P **P 02 00 22.6 +1.2**
KOGS Kog 25.32 328 *e*P **P 02 00 24.2 +1.3**
KWP Kalwaria 25.36 340 *e*P **P 02 00 24.2 +1.0**
KWP L 02 16 19.0
comp=Z,3.2nm,20.4s
KWP Kalwaria 25.36 340 *e*P **P 02 00 23.8 +0.6**
KWP pmax pmax
comp=Z,19nm,0.8s,mb4.7
KWP Kalwaria 25.36 340 *e*P **P 02 00 23.8 +0.6**
comp=Z,19nm,0.8s,mb4.7
VSL Villasalto 25.54 308 *e*P **P 02 00 24.0 -0.9**
comp=Z,34nm,1.0s,mb4.8
VSL Villasalto 25.54 308 *e*P **P 02 00 24.0 -0.9**
comp=Z,34nm,1.0s,mb4.8
VOR Voronezh 25.57 5 P **P 02 00 26.0 +0.8**
VOR pmax pmax
comp=N,30nm,1.1s
VOR Voronezh 25.57 5 P **P 02 00 26.0 +0.8**
comp=N,30nm,1.1s,mb4.7
CEY Cerknica 25.75 324 *e*P **P 02 00 27.7 +1.0**
VYHS Vyhne 25.75 334 *e*P **P 02 00 27.1 +0.3**
VYHS pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
VYHS Vyhne 25.75 334 *e*P **P 02 00 27.1 +0.3**
comp=Z,10.0nm,1.1s,mb4.3
LJU Ljubljana 25.90 325 *e*P **P 02 00 29.3 +1.2**
NIE Niedzica 25.96 337 *e*P **P 02 00 29.0 +0.3**
PERS Pernice 26.01 327 *e*P **P 02 00 30.8 +1.7**
VOY Vojsko 26.22 324 *e*P **P 02 00 32.3 +1.3**
ZST Bratislava 26.24 331 *e*P **P 02 00 31.7 +0.5**
ZST pmax pmax
comp=Z,26nm,1.4s,mb4.6
ZST Bratislava 26.24 331 *e*P **P 02 00 31.7 +0.5**
comp=Z,26nm,1.4s,mb4.6
ARSA Arzberg 26.25 328 *i*P **P 02 00 32.8 +1.6**
comp=Z,23nm,1.2s,mb4.6,SNR=14
CONA Conrad Observa 26.58 330 P **P 02 00 30.0 -4.3**
comp=Z,15nm,1.1s,mb4.4
OJC Ojcow 26.82 337 *e*P **P 02 00 36.4 0.0**
OKC Ostrava-Krasne 27.10 335 *e*P **P 02 00 39.1 +0.1**
KBA Koelnbreinsper 27.20 326 ⇑*i*P **P 02 00 41.6 +1.8**
comp=Z,50nm,1.4s,mb4.8,SNR=5.7
KBA Koelnbreinsper 27.20 326 ⇑*i*P **P 02 00 41.6 +1.7**
KBA pmax pmax
comp=Z,50nm,1.4s,mb4.8
MOA Molln 27.27 328 ⇑*i*P **P 02 00 41.8 +1.3**
comp=Z,9.1nm,1.1s,mb4.8
KMBO Kilima Mbogo 27.29 176 PcP PcP 02 04 01.1 +1.0
comp=Z,0.7nm,0.2s,baz=320,slow=2.8,SNR=5.3
MORC Moravsky Berou 27.29 334 ⇓*i*P **P 02 00 40.9 +0.2**
MORC Moravsky Berou 27.29 334 *e*P **P 02 00 40.3 -0.4**
MORC pmax pmax
comp=Z,5.0nm,0.9s,mb4.0
MORC Moravsky Berou 27.29 334 *e*P **P 02 00 40.2 -0.4**
comp=Z,5.2nm,0.9s,mb4.1
MORC Moravsky Berou 27.29 334 *e*P **P 02 00 40.3 -0.4**
comp=Z,5.0nm,0.9s,mb4.0
VRAC Vranov 27.31 332 P **P 02 00 41.7 +0.8**
comp=Z,9.5nm,0.9s,mb4.3,baz=144,slow=7.8,SNR=15
TREC Trest 27.77 331 *e*P **P 02 00 45.4 +0.5**
WTTA Wattenberg 28.20 324 ⇑*i*P **P 02 00 50.5 +1.7**
comp=Z,30nm,1.0s,mb4.9,SNR=11
WTTA Wattenberg 28.20 324 ⇑*i*P **P 02 00 50.5 +1.7**
WTTA pmax pmax
comp=Z,30nm,1.0s,mb4.9
DPC Dobruska-Polom 28.23 333 *e*P **P 02 00 49.2 +0.1**
GEC2 GERESS Array S 28.24 329 *e*P **P 02 00 50.0 +0.8**
comp=Z,22nm,1.0s,mb4.7
GEC2 GERESS Array S 28.24 329 *e*P **P 02 00 50.0 +0.8**
GEC2 pmax pmax
comp=Z,22nm,1.0s,mb4.7
GERES GERESS Array B 28.24 329 P **P 02 00 50.0 +0.8**
comp=Z,8.1nm,0.9s,mb4.4,baz=134,slow=7.6,SNR=36
GERES PcP PcP 02 04 01.4 -1.0
comp=Z,1.4nm,0.8s,baz=116,slow=3.1,SNR=5.6
GERES GERESS Array B 28.24 329 PcP PcP 02 04 01.4 -1.1
WATA Walderalm 28.28 324 ⇑*i*P **P 02 00 50.7 +1.2**
comp=Z,13nm,1.0s,mb4.5,SNR=6.0
WATA Walderalm 28.28 324 ⇑*i*P **P 02 00 50.7 +1.2**
WATA pmax pmax
comp=Z,13nm,1.0s,mb4.5
SQTA Sankt Quirin 28.40 324 ⇓*i*P **P 02 00 51.7 +1.1**
comp=Z,9.4nm,1.0s,mb4.4
SQTA Sankt Quirin 28.40 324 ⇓*i*P **P 02 00 51.7 +1.1**
SQTA pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
UPC Upice 28.47 333 *e*P **P 02 00 51.3 0.0**
KHC Kasperske Hory 28.50 329 *e*P **P 02 00 50.7 -0.8**
KHC x x 02 01 05.5
KHC Kasperske Hory 28.50 329 *i*P **P 02 00 51.8 +0.3**
MOTA Moosalm 28.54 324 *i*P **P 02 00 52.7 +0.9**
comp=Z,9.8nm,1.0s,mb4.5,SNR=9.5
MOTA Moosalm 28.54 324 *i*P **P 02 00 52.7 +0.9**
MOTA pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
KSP Ksiaz 28.62 334 *e*P **P 02 00 52.5 -0.1**
PRU Pruhonice 28.69 331 *e*P **P 02 00 53.4 +0.2**
SBF Sospel 28.75 315 *e*P **P 02 00 53.8 0.0**
OBN Obninsk 28.82 1 *d i*P **P 02 00 53.8 -0.6**
OBN *e* 02 01 43.2
OBN *e*S **S 02 05 44.5 +0.5**
OBN pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
OBN Obninsk 28.82 1 *e*P **P 02 00 53.7 -0.6**
comp=Z,14nm,0.8s,mb4.8
OBN Obninsk 28.82 1 *i*P **P 02 00 53.8 -0.6**
comp=Z,10.0nm,0.6s,mb4.7
WET Wettzell 28.84 328 *e*P **P 02 00 54.3 -0.2**
comp=Z,10.0nm,0.9s,mb4.5
WET Wettzell 28.84 328 *e*P **P 02 00 54.3 -0.2**
WET pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
DAVOX Davos 28.85 322 P **P 02 00 55.9 +1.3**
comp=Z,10.0nm,0.9s,mb4.6,baz=144,slow=11,SNR=12
PVCC Panska Ves 29.09 332 *e*P **P 02 00 55.9 -0.8**
LMR La Mourre 29.11 313 *e*P **P 02 00 56.8 -0.1**
FRF La Foret Royal 29.12 314 *e*P **P 02 00 56.6 -0.4**
comp=Z,19nm,1.0s,mb4.5
FRF La Foret Royal 29.12 314 *e*P **P 02 00 56.6 -0.4**
FRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
FRF La Foret Royal 29.12 314 *e*P **P 02 00 56.6 -0.4**
comp=Z,9.6nm,1.0s,mb4.6
DAVA Damuels 29.16 323 *i*P **P 02 00 58.3 +0.9**
comp=Z,17nm,1.2s,mb4.7,SNR=6.4
SUW Suwalki 29.20 345 *e*P **P 02 00 57.4 -0.3**
SUW L 02 16 40.7
comp=Z,6.6nm,17.5s
SUW Suwalki 29.20 345 *e*P **P 02 00 57.3 -0.4**
SUW pmax pmax
comp=Z,44nm,1.3s,mb5.0
SUW Suwalki 29.20 345 *e*P **P 02 00 57.3 -0.3**
comp=Z,44nm,1.3s,mb5.0
SUW Suwalki 29.20 345 *e*P **P 02 00 57.3 -0.4**
comp=Z,44nm,1.3s,mb5.0
MOS Moscow 29.48 2 *e*P **P 02 00 56.8 -3.4**
MOS *e* 02 01 06.0
MOS *e* 02 01 54.4
MBDF Montbardon 29.59 316 *e*P **P 02 01 00.8 -0.3**
comp=Z,19nm,0.9s,mb4.5
MBDF Montbardon 29.59 316 *e*P **P 02 01 00.8 -0.3**
MBDF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
MBDF Montbardon 29.59 316 *e*P **P 02 01 00.8 -0.3**
comp=Z,9.4nm,0.9s,mb4.5
ROTZ Rotzenmuhle 29.59 329 *e*P **P 02 01 01.0 -0.1**
comp=Z,8.0nm,1.2s,mb4.3
BRG Berggiesshubel 29.61 332 *e*P **P 02 01 01.4 +0.1**
comp=Z,21nm,0.9s,mb4.9
BRG Berggiesshubel 29.61 332 *i*P **P 02 01 01.8 +0.5**
comp=Z,12nm,0.9s,mb4.6
BRG
comp=N,1μm,19.9s
BRG
comp=E,2μm,19.8s
BRG
comp=Z,3μm,18.6s
AKTK Aktyubinsk 29.64 30 P **P 02 01 03.2 +1.6**
AKTO Aktyubinsk 29.64 30 P **P 02 01 03.2 +1.6**
comp=Z,0.9nm,0.7s,mb3.6,baz=194,slow=8.3,SNR=4.0
MANZ Manzenberg 29.79 329 *e*P **P 02 01 03.0 +0.1**
comp=Z,8.0nm,0.8s,mb4.5
NKC Nove Kostel 29.80 330 *e*P **P 02 01 01.3 -1.7**
WERN Wernitzgruen 29.87 330 *e*P **P 02 01 04.5 +0.8**
comp=Z,14nm,1.4s,mb4.5
FBE Freiberg 29.89 331 *e*P **P 02 01 03.9 0.0**
comp=Z,26nm,1.5s,mb4.7
TANN Tannenbergstha 29.92 330 *e*P **P 02 01 04.6 +0.5**
comp=Z,61nm,2.2s,mb4.9
LPG La Plagne 29.98 317 *e*P **P 02 01 04.5 -0.1**
LPL La Plagne 30.00 317 *e*P **P 02 01 04.9 +0.1**
comp=Z,8.3nm,0.9s,mb4.2
LPL La Plagne 30.00 317 *e*P **P 02 01 04.9 +0.1**
LPL pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
LPL La Plagne 30.00 317 *e*P **P 02 01 04.9 +0.1**
comp=Z,4.2nm,0.9s,mb4.2
SMRF Simiane la Rot 30.00 314 *e*P **P 02 01 04.4 -0.4**
comp=Z,12nm,0.9s,mb4.3
SMRF Simiane la Rot 30.00 314 *e*P **P 02 01 04.4 -0.4**
comp=Z,6.2nm,0.9s,mb4.3
GRA1 Grafenberg Arr 30.00 328 *e*P **P 02 01 04.3 -0.5**
GRF Grafenberg Arr 30.00 328 *e*P **P 02 01 04.3 -0.5**
WERD Werda 30.02 330 *e*P **P 02 01 05.4 +0.4**
comp=Z,29nm,1.3s,mb4.8
ORIF Oris-en-Rattie 30.23 316 *e*P **P 02 01 06.7 -0.2**
comp=Z,16nm,1.0s,mb4.4
ORIF Oris-en-Rattie 30.23 316 *e*P **P 02 01 06.7 -0.2**
ORIF pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
ORIF Oris-en-Rattie 30.23 316 *e*P **P 02 01 06.7 -0.2**
comp=Z,8.1nm,1.0s,mb4.4
CLL Collm 30.33 332 *e*P **P 02 01 07.6 -0.1**
comp=Z,23nm,1.2s,mb4.8
CLL Collm 30.33 332 ⇓P **P 02 01 07.8 +0.1**
comp=Z,logA/T=1.3,mb4.8
CLL *e**SP sP 02 01 19.0 +6.1
CLL *e* 02 01 42.0
CLL Collm 30.33 332 ⇓*i*P **P 02 01 07.8 +0.1**
comp=Z,23nm,1.2s,mb4.8
CLL *e*(sP) sP 02 01 19.0 +6.1
CLL *ex* x 02 01 42.0
CLL Collm 30.33 332 ⇓*i*P **P 02 01 07.8 +0.1**
CLL pmax pmax
comp=Z,23nm,1.2s,mb4.8
CLL Collm 30.33 332 ⇓*i*P **P 02 01 07.8 +0.1**
comp=Z,23nm,1.2s,mb4.8
CLL *e* 02 01 19.0
STU Stuttgart 30.43 325 *e*P **P 02 01 08.1 -0.5**
MOX Moxa 30.47 329 *e*P **P 02 01 09.2 +0.2**
comp=Z,28nm,1.1s,mb4.9
MOX Moxa 30.47 329 *e*P **P 02 01 09.5 +0.5**
comp=Z,35nm,1.3s,mb4.9
MOX *e* 02 01 25.7
MOX Moxa 30.47 329 *e*P **P 02 01 09.5 +0.5**
MOX pmax pmax
comp=Z,35nm,1.3s,mb4.9
BFO Black Forest 30.62 323 *e*P **P 02 01 10.8 +0.5**
comp=Z,11nm,1.1s,mb4.6
BFO Black Forest 30.62 323 *e*P **P 02 01 10.8 +0.5**
BFO pmax pmax
comp=Z,11nm,1.1s,mb4.6
RUE Ruedersdorf 30.88 334 *e*P **P 02 01 12.4 -0.2**
comp=Z,30nm,1.3s,mb5.0
RUE Ruedersdorf 30.88 334 *e*P **P 02 01 12.1 -0.5**
comp=Z,21nm,1.1s,mb4.9
RUE Ruedersdorf 30.88 334 *e*P **P 02 01 12.1 -0.5**
comp=Z,21nm,1.1s,mb4.9
CABF La Chapelle 30.94 319 *e*P **P 02 01 12.9 -0.2**
comp=Z,20nm,0.9s,mb4.7
CABF La Chapelle 30.94 319 *e*P **P 02 01 12.9 -0.2**
CABF pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
CABF La Chapelle 30.94 319 *e*P **P 02 01 12.9 -0.2**
comp=Z,10.0nm,0.9s,mb4.7
VIVF Saint-Julien-l 30.97 315 *e*P **P 02 01 12.9 -0.5**
comp=Z,14nm,1.0s,mb4.5
VIVF Saint-Julien-l 30.97 315 *e*P **P 02 01 12.9 -0.5**
VIVF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
VIVF Saint-Julien-l 30.97 315 *e*P **P 02 01 12.9 -0.5**
comp=Z,6.9nm,1.0s,mb4.4
HINF Hinteralfeld 31.14 321 *e*P **P 02 01 14.6 -0.2**
comp=Z,23nm,0.8s,mb4.8
HINF Hinteralfeld 31.14 321 *e*P **P 02 01 14.6 -0.2**
HINF pmax pmax
comp=Z,12nm,0.8s,mb4.8
HINF Hinteralfeld 31.14 321 *e*P **P 02 01 14.6 -0.2**
comp=Z,12nm,0.8s,mb4.8
LASF Ste Croix 31.17 313 *e*P **P 02 01 15.2 +0.1**
comp=Z,40nm,1.2s,mb4.8
CDF Champ du Feu 31.24 322 *e*P **P 02 01 15.6 -0.1**
comp=Z,18nm,1.1s,mb4.5
CDF Champ du Feu 31.24 322 *e*P **P 02 01 15.6 -0.1**
CDF pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
CDF Champ du Feu 31.24 322 *e*P **P 02 01 15.6 -0.1**
comp=Z,9.1nm,1.1s,mb4.5
HAU Haudompre 31.52 321 *e*P **P 02 01 17.8 -0.5**
TNS Taunus Mts 31.71 326 *e*P **P 02 01 19.9 0.0**
comp=Z,11nm,1.1s,mb4.6
TNS Taunus Mts 31.71 326 *e*P **P 02 01 19.9 0.0**
TNS pmax pmax
comp=Z,11nm,1.1s,mb4.6
CLZ Clausthal 31.86 330 *e*P **P 02 01 20.8 -0.4**
comp=Z,11nm,1.4s,mb4.5
CLZ Clausthal 31.86 330 *e*P **P 02 01 20.8 -0.4**
CLZ pmax pmax
comp=Z,11nm,1.4s,mb4.5
MTLF Montolieu 31.98 311 *e*P **P 02 01 21.7 -0.6**
EPOB Poblet 32.13 307 P **P 02 01 21.6 -1.9**
comp=Z,12nm,1.1s,mb4.7
EPOB Poblet 32.13 307 P **P 02 01 21.6 -1.9**
comp=Z,12nm,1.1s,mb4.7
SMF Signal de Mont 32.30 317 *e*P **P 02 01 24.5 -0.6**
comp=Z,22nm,1.1s,mb4.6
SMF Signal de Mont 32.30 317 *e*P **P 02 01 24.5 -0.6**
SMF pmax pmax
comp=Z,11nm,1.1s,mb4.6
SMF Signal de Mont 32.30 317 *e*P **P 02 01 24.5 -0.6**
comp=Z,11nm,1.1s,mb4.6
MEZF Maizieres J'vi 32.52 321 *e*P **P 02 01 26.9 -0.1**
comp=Z,27nm,1.0s,mb4.8
MEZF Maizieres J'vi 32.52 321 *e*P **P 02 01 26.9 -0.1**
comp=Z,27nm,1.0s,mb5.1
ERTA Horta de San J 32.55 306 P **P 02 01 27.4 +0.1**
comp=Z,48nm,2.1s,mb5.1
ERTA Horta de San J 32.55 306 P **P 02 01 27.4 +0.1**
comp=Z,48nm,2.1s,mb5.1
WLF Walferdange 32.56 324 *e*P **P 02 01 27.6 +0.2**
comp=Z,22nm,1.4s,mb4.9
WLF Walferdange 32.56 324 P **P 02 01 27.8 +0.4**
WLF Walferdange 32.56 324 *e*P **P 02 01 27.5 +0.1**
WLF pmax pmax
comp=Z,19nm,1.4s,mb4.8
WLF Walferdange 32.56 324 *e*P **P 02 01 27.5 +0.1**
comp=Z,19nm,1.4s,mb4.8
WLF Walferdange 32.56 324 *e*P **P 02 01 27.5 +0.1**
comp=Z,19nm,1.4s,mb4.8
LOR Lormes 32.59 318 *e*P **P 02 01 27.3 -0.3**
comp=Z,22nm,0.9s,mb4.8
LOR Lormes 32.59 318 *e*P **P 02 01 27.3 -0.3**
LOR pmax pmax
comp=Z,11nm,0.9s,mb4.8
LOR Lormes 32.59 318 *e*P **P 02 01 27.3 -0.3**
comp=Z,11nm,0.9s,mb4.8
AVF Avril sur Loir 32.67 317 *e*P **P 02 01 27.7 -0.6**
comp=Z,6.6nm,0.8s,mb4.3
AVF Avril sur Loir 32.67 317 *e*P **P 02 01 27.7 -0.6**
AVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AVF Avril sur Loir 32.67 317 *e*P **P 02 01 27.7 -0.6**
comp=Z,3.3nm,0.8s,mb4.3
CAF Calviac 32.68 313 *e*P **P 02 01 28.5 +0.1**
comp=Z,11nm,1.0s,mb4.4
CAF Calviac 32.68 313 *e*P **P 02 01 28.5 +0.1**
CAF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CAF Calviac 32.68 313 *e*P **P 02 01 28.5 +0.1**
comp=Z,5.6nm,1.0s,mb4.5
SSF Saint Saulge 32.70 318 *e*P **P 02 01 28.1 -0.5**
comp=Z,18nm,1.0s,mb4.7
SSF Saint Saulge 32.70 318 *e*P **P 02 01 28.1 -0.5**
SSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
SSF Saint Saulge 32.70 318 *e*P **P 02 01 28.1 -0.5**
comp=Z,9.1nm,1.0s,mb4.7
CART Cartagena 32.84 299 *e*P **P 02 01 28.4 -1.3**
comp=Z,12nm,0.8s,mb4.9
CART Cartagena 32.84 299 *e*P **P 02 01 28.4 -1.4**
comp=Z,12nm,0.8s,mb4.9
BGF Bois d'Agland 32.88 317 *e*P **P 02 01 30.2 +0.1**
comp=Z,57nm,0.8s,mb5.2
BGF Bois d'Agland 32.88 317 *e*P **P 02 01 30.2 +0.1**
BGF pmax pmax
comp=Z,28nm,0.8s,mb5.2
BGF Bois d'Agland 32.88 317 *e*P **P 02 01 30.2 +0.1**
comp=Z,28nm,0.8s,mb5.2
EMUR La Murta 33.07 300 P **P 02 01 32.6 +0.8**
comp=Z,34nm,2.1s,mb4.9
TCF Toulx Ste Croi 33.15 316 *e*P **P 02 01 32.7 +0.2**
comp=Z,10nm,0.9s,mb4.5
TCF Toulx Ste Croi 33.15 316 *e*P **P 02 01 32.7 +0.2**
TCF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
TCF Toulx Ste Croi 33.15 316 *e*P **P 02 01 32.7 +0.2**
comp=Z,5.2nm,0.9s,mb4.5
EPF Esparros 33.16 309 *e*P **P 02 01 31.8 -0.8**
MEM Membach 33.19 325 P **P 02 01 33.2 +0.4**
RJF Les Rejaudoux 33.19 314 *e*P **P 02 01 32.8 0.0**
ECHE Chera 33.19 303 P **P 02 01 34.7 +1.8**
ECHE pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ECHE Chera 33.19 303 P **P 02 01 34.7 +1.8**
comp=Z,3.8nm,0.6s,mb4.5
ECHE Chera 33.19 303 P **P 02 01 34.7 +1.8**
comp=Z,3.8nm,0.6s,mb4.5
EBIE Bielsa 33.19 309 P **P 02 01 33.2 +0.3**
comp=Z,45nm,2.1s,mb5.0
EBIE Bielsa 33.19 309 P **P 02 01 33.2 +0.3**
comp=Z,45nm,2.1s,mb5.0
BSEG Bad Segeberg 33.36 333 *e*P **P 02 01 33.5 -0.9**
comp=Z,12nm,1.0s,mb4.8
BCLA Clavier 33.44 324 P **P 02 01 35.9 +0.9**
ETOB Tobarra 33.44 301 P **P 02 01 35.2 +0.1**
comp=Z,143nm,3.1s
ETOB Tobarra 33.44 301 P **P 02 01 35.2 +0.1**
comp=Z,143nm,3.1s
GIVF Givet 33.52 323 *e*P **P 02 01 35.3 -0.4**
LFF La Frestale 33.56 313 *e*P **P 02 01 36.8 +0.8**
comp=Z,72nm,0.9s,mb5.3
LFF La Frestale 33.56 313 *e*P **P 02 01 36.8 +0.8**
LFF pmax pmax
comp=Z,36nm,0.9s,mb5.3
LFF La Frestale 33.56 313 *e*P **P 02 01 36.8 +0.8**
comp=Z,36nm,0.9s,mb5.3
DOU Dourbes 33.64 323 P **P 02 01 36.1 -0.7**
ETSF Etsaut 33.75 309 *e*P **P 02 01 37.3 -0.4**
comp=Z,52nm,0.9s,mb5.1
ETSF Etsaut 33.75 309 *e*P **P 02 01 37.3 -0.4**
ETSF pmax pmax
comp=Z,26nm,0.9s,mb5.2
ETSF Etsaut 33.75 309 *e*P **P 02 01 37.3 -0.4**
comp=Z,26nm,0.9s,mb5.2
BAIF Baives 33.83 323 *e*P **P 02 01 37.7 -0.7**
comp=Z,23nm,1.0s,mb4.8
BAIF Baives 33.83 323 *e*P **P 02 01 37.7 -0.7**
BAIF pmax pmax
comp=Z,12nm,1.0s,mb4.8
BAIF Baives 33.83 323 *e*P **P 02 01 37.7 -0.7**
comp=Z,12nm,1.0s,mb4.8
SNF Seneffe 34.03 324 P **P 02 01 40.7 +0.5**
SNF Seneffe 34.03 324 P **P 02 01 40.6 +0.4**
EVIA Vianos 34.18 301 P **P 02 01 42.3 +0.8**
EVIA pmax pmax
comp=Z,12nm,1.4s,mb4.6
EVIA Vianos 34.18 301 P **P 02 01 42.3 +0.8**
comp=Z,12nm,1.4s,mb4.6
EBER Berja 34.23 298 P **P 02 01 42.9 +1.0**
comp=Z,63nm,2.4s,mb5.1
EBER Berja 34.23 298 P **P 02 01 42.9 +1.0**
comp=Z,63nm,2.4s,mb5.1
SJPF Ste Jean 34.28 309 *e*P **P 02 01 41.9 -0.4**
comp=Z,43nm,1.0s,mb5.0
SJPF Ste Jean 34.28 309 *e*P **P 02 01 41.9 -0.4**
SJPF pmax pmax
comp=Z,22nm,1.0s,mb5.0
SJPF Ste Jean 34.28 309 *e*P **P 02 01 41.9 -0.4**
comp=Z,22nm,1.0s,mb5.0
TOA0 Torodi Ar. Sit 34.35 254 *e*P **P 02 01 42.1 -0.8**
TOA0 Torodi Ar. Sit 34.35 254 *e*P **P 02 01 42.1 -0.8**
TORD Torodi Ar. Bea 34.35 254 P **P 02 01 42.6 -0.3**
comp=Z,6.0nm,1.2s,mb4.4,baz=63,slow=7.3,SNR=11
TORD PcP PcP 02 04 18.3 -0.4
comp=Z,0.8nm,0.7s,baz=41,slow=2.3,SNR=8.6
ARU Arti 34.39 23 *e*P **P 02 01 42.0 -1.3**
ARU pmax pmax
comp=Z,32nm,1.2s,mb5.1
ARU Arti 34.39 23 *e*P **P 02 01 42.0 -1.3**
comp=Z,32nm,1.2s,mb5.1
EQES Quesada 34.49 299 P **P 02 01 44.7 +0.5**
comp=Z,41nm,2.6s,mb4.9
EQES Quesada 34.49 299 P **P 02 01 44.7 +0.5**
comp=Z,41nm,2.6s,mb4.9

KLMR **Klimovskoe** **34.67** **3** *e*P **P** **02 01 44.7 -1.1**
KLMR pmax pmax
comp=Z,40nm,1.4s,mb5.2
MFF **Saint Martin d** **34.77 315** *e*P **P** **02 01 46.1 -0.4**
comp=Z,23nm,0.9s,mb4.8
MFF **Saint Martin d** **34.77 315** *e*P **P** **02 01 46.1 -0.4**
MFF pmax pmax
comp=Z,11nm,0.9s,mb4.8
MFF **Saint Martin d** **34.77 315** *e*P **P** **02 01 46.1 -0.4**
comp=Z,11nm,0.9s,mb4.8
ECOG **Cogollos-Vega** **34.81 298** P **P** **02 01 48.8 +1.8**
ECOG pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
ECOG **Cogollos-Vega** **34.81 298** P **P** **02 01 48.8 +1.9**
comp=Z,8.5nm,1.6s,mb4.4
ECOG **Cogollos-Vega** **34.81 298** P **P** **02 01 48.8 +1.8**
comp=Z,8.5nm,1.6s,mb4.4
ERON **Agron** **34.98 298** P **P** **02 01 49.5 +1.2**
comp=Z,1.2nm,0.2s,mb4.5
ERON **Agron** **34.98 298** P **P** **02 01 49.5 +1.1**
comp=Z,1.2nm,0.2s,mb4.5
ESDC **Sonseca Array** **35.48 302** P **P** **02 01 53.5 +0.8**
comp=Z,6.6nm,0.9s,mb4.5,baz=90,slow=8.3,SNR=33
ESDC PcP PcP 02 04 22.0 0.0
comp=Z,1.2nm,0.7s,baz=51,slow=2.6,SNR=6.7
ESDC **Sonseca Array** **35.48 302** P **P** **02 01 53.4 +0.8**
comp=Z,6.9nm,1.8s,mb4.3
ESDC **Sonseca Array** **35.48 302** P **P** **02 01 53.4 +0.7**
comp=Z,6.9nm,1.8s,mb4.3
ESLA **Sonseca Array** **35.48 302** *e*P **P** **02 01 49.8 -2.8**
comp=Z,3.4nm,1.0s,mb4.2
ESLA LR LR
comp=Z,17µm,21.0s,MS5.8
LDF **La Druitiere** **35.58 318** *e*P **P** **02 01 52.8 -0.7**
comp=Z,44nm,0.9s,mb5.1
LDF **La Druitiere** **35.58 318** *e*P **P** **02 01 52.8 -0.7**
LDF pmax pmax
comp=Z,22nm,0.9s,mb5.1
LDF **La Druitiere** **35.58 318** *e*P **P** **02 01 52.8 -0.7**
comp=Z,22nm,0.9s,mb5.1
AAK **Ala-Archa** **35.65** **53** *i* P **P** **02 01 55.1 +1.0**
AAK pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
AAK **Ala-Archa** **35.65** **53** P **P** **02 01 55.5 +1.3**
comp=Z,1.4nm,0.3s,mb4.4
AAK **Ala-Archa** **35.65** **53** P **P** **02 01 55.5 +1.4**
comp=Z,1.4nm,0.3s,mb4.4
EMIJ **Mijas** **35.70 297** P **P** **02 01 54.5 -0.1**
comp=Z,25nm,2.2s,mb4.8
EMIJ **Mijas** **35.70 297** P **P** **02 01 54.5 -0.1**
comp=Z,25nm,2.2s,mb4.8
EADA **Adamuz** **35.72 299** P **P** **02 01 51.6 -3.1**
comp=Z,170nm,3.5s
FINES **FINESS Array B** **35.75 352** P **P** **02 01 54.4 -0.6**
comp=Z,4.4nm,0.7s,mb4.5,baz=148,slow=11,SNR=19
GUD **Guadarrama** **35.80 304** P **P** **02 01 55.9 +0.5**
GUD pmax pmax
comp=Z,25nm,1.5s,mb4.9
GUD **Guadarrama** **35.80 304** P **P** **02 01 55.9 +0.5**
comp=Z,24nm,1.5s,mb4.9
GUD **Guadarrama** **35.80 304** P **P** **02 01 55.9 +0.5**
comp=Z,24nm,1.5s,mb4.9
ELAN **Lanestosa** **35.86 308** P **P** **02 01 55.6 -0.4**
comp=Z,144nm,2.5s,mb5.5
ELAN **Lanestosa** **35.86 308** P **P** **02 01 55.6 -0.4**
comp=Z,144nm,2.5s,mb5.5
FLN **La Foliniere** **35.87 318** *e*P **P** **02 01 55.1 -0.9**
comp=Z,71nm,0.9s,mb5.3
FLN **La Foliniere** **35.87 318** *e*P **P** **02 01 55.1 -0.9**
FLN pmax pmax
comp=Z,35nm,0.9s,mb5.3
FLN **La Foliniere** **35.87 318** *e*P **P** **02 01 55.1 -0.9**
comp=Z,36nm,0.9s,mb5.3
GRR **Gorron** **35.93 318** *e*P **P** **02 01 55.8 -0.8**
comp=Z,47nm,0.9s,mb5.1
GRR **Gorron** **35.93 318** *e*P **P** **02 01 55.8 -0.8**
GRR pmax pmax
comp=Z,24nm,0.9s,mb5.1
GRR **Gorron** **35.93 318** *e*P **P** **02 01 55.8 -0.8**
comp=Z,24nm,0.9s,mb5.1
KSH **Kashi** **36.11** **58** *e*P **P** **02 02 05.8 +7.7**
KSH *e*AP pP 02 02 12.0 +10
KSH *e*XP sP 02 02 14.0 +11
KSH *e*PS 02 07 58.3
KSH *e*PCS PcS 02 08 15.3 +3.9
KSH *e*SCS ScS 02 12 17.5 +1.8
KSH AMB AMB
comp=Z,1µm,10.8s
KSH LR LR
comp=N,1µm,13.6s,MS5.0
KSH LR LR
comp=E,1µm,12.6s,MS5.0
KSH LR LR
comp=Z,2µm,17.4s,MS4.9
EJIF **Jimena Fronter** **36.25 296** P **P** **02 02 00.1 +0.8**
EJIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
EJIF **Jimena Fronter** **36.25 296** P **P** **02 02 00.1 +0.8**
comp=Z,6.5nm,0.9s,mb4.6
EJIF **Jimena Fronter** **36.25 296** P **P** **02 02 00.1 +0.8**
comp=Z,6.5nm,0.9s,mb4.6
KAF **Kangasniemi** **36.37 353** *e*p **P** **02 01 58.3 -2.0**
comp=Z,5.8nm,0.7s,mb4.6,baz=164,slow=8.8
KAF **Kangasniemi** **36.37 353** *e*P **P** **02 01 58.3 -2.0**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ZRNK **Zerenda** **36.49** **34** *e*P **P** **02 02 00.9 -0.5**
ZRNK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ZRNK **Zerenda** **36.49** **34** *e*P **P** **02 02 00.9 -0.5**
comp=Z,9.0nm,0.9s,mb4.7
ZRNK **Zerenda** **36.49** **34** *e*P **P** **02 02 00.9 -0.5**
comp=Z,9.0nm,0.9s,mb4.7
ESPR **Espera** **36.59 297** P **P** **02 02 01.3 -1.0**
comp=Z,46nm,2.1s,mb4.9
ESPR **Espera** **36.59 297** P **P** **02 02 01.3 -1.0**
comp=Z,46nm,2.1s,mb4.9
JOF **Joensuu** **36.75 357** *e*p **P** **02 02 02.0 -1.6**
comp=Z,14nm,0.7s,mb4.9
SGMF **Saint Gilles** **36.92 317** *e*P **P** **02 02 03.9 -1.1**
HFS **Hagfors** **37.05 342** P **P** **02 02 05.4 -0.7**
comp=Z,4.4nm,0.8s,mb4.3,baz=138,slow=6.9,SNR=10
QUIF **Quistinic** **37.17 316** *e*P **P** **02 02 06.3 -0.8**
BRVK **Borovoye** **37.20** **35** *e*P **P** **02 02 06.7 -0.7**
BRVK pmax pmax
comp=Z,20nm,1.4s,mb4.8
BRVK **Borovoye** **37.20** **35** *e*P **P** **02 02 06.7 -0.8**
comp=Z,20nm,1.4s,mb4.8
BRVK **Borovoye** **37.20** **35** *e*P **P** **02 02 06.7 -0.7**
comp=Z,20nm,1.4s,mb4.8
BVAR **Borovoye Array** **37.24** **35** P **P** **02 02 08.4 +0.6**
comp=Z,1.2nm,0.6s,mb3.9,baz=224,slow=10,SNR=7.4
ROSF **Rostrenen** **37.39 316** *e*P **P** **02 02 08.0 -1.0**
comp=Z,37nm,0.8s,mb5.0
ROSF **Rostrenen** **37.39 316** *e*P **P** **02 02 08.0 -1.0**
ROSF pmax pmax
comp=Z,19nm,0.8s,mb5.0
ROSF **Rostrenen** **37.39 316** *e*P **P** **02 02 08.0 -1.0**
comp=Z,19nm,0.8s,mb5.0
EBAD **Badajoz** **37.69 300** P **P** **02 02 11.1 -0.5**
comp=Z,29nm,1.1s,mb4.9
EBAD **Badajoz** **37.69 300** P **P** **02 02 11.1 -0.5**
comp=Z,29nm,1.1s,mb4.9
CHKZ **Chkalovo** **37.70** **34** *e*P **P** **02 02 11.6 0.0**
CHKZ pmax pmax
comp=Z,34nm,1.4s,mb4.9
CHKZ **Chkalovo** **37.70** **34** *e*P **P** **02 02 11.6 0.0**
comp=Z,34nm,1.4s,mb4.9
KONO **Kongsberg** **37.89 339** P **P** **02 02 12.2 -1.1**
KONO pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
KONO **Kongsberg** **37.89 339** P **P** **02 02 12.2 -1.1**
comp=Z,5.3nm,0.8s,mb4.3
KONO **Kongsberg** **37.89 339** P **P** **02 02 12.2 -1.1**
comp=Z,5.3nm,0.8s,mb4.3
PBRG **Braganca** **37.93 305** *e*P **P** **02 02 13.7 +0.1**
comp=Z,18nm,1.4s,mb4.6
EGRO **El Granado** **37.94 298** P **P** **02 02 13.3 -0.4**
comp=Z,32nm,1.5s,mb4.8
EGRO **El Granado** **37.94 298** P **P** **02 02 13.3 -0.4**
comp=Z,32nm,1.5s,mb4.8
ECAL **Calabor** **37.95 305** P **P** **02 02 13.5 -0.3**
comp=Z,186nm,2.9s,mb5.3
ECAL **Calabor** **37.95 305** P **P** **02 02 13.5 -0.3**
comp=Z,186nm,2.9s,mb5.3
PESTR **Estremoz** **38.15 300** *e*P **P** **02 02 15.7 +0.3**
comp=Z,31nm,1.4s,mb4.8

PCBR **Castelo Branco** **38.18 302** *e*P **P** **02 02 15.9 +0.2**
comp=Z,19nm,1.1s,mb4.7
PBEJ **Beja** **38.29 299** *e*P **P** **02 02 16.4 -0.2**
comp=Z,18nm,1.3s,mb4.7
MTE **Manteigas** **38.30 303** *e*P **P** **02 02 17.0 +0.3**
comp=Z,18nm,1.4s,mb4.6
NAO01 **NORSAR Array S** **38.43 341** *e*P **P** **02 02 16.5 -1.3**
comp=Z,4.4nm,0.8s,mb4.2
NAO01 **NORSAR Array S** **38.43 341** *e*P **P** **02 02 16.5 -1.3**
comp=Z,4.4nm,0.8s,mb4.2
NB2 **NORSAR Subarra** **38.49 341** P **P** **02 02 16.8 -1.5**
comp=Z,7.4nm,1.0s,mb4.4,baz=140,slow=9.3
NOA **NORSAR Array B** **38.49 341** P **P** **02 02 16.9 -1.4**
comp=Z,3.6nm,0.8s,mb4.1,baz=140,slow=8.6,SNR=14
NOA **NORSAR Array B** **38.49 341** P **P** **02 02 16.9 -1.4**
PVRL **Vila Real** **38.56 304** *e*P **P** **02 02 18.1 -0.8**
comp=Z,8.2nm,1.0s,mb4.4
PVIS **Viseu** **38.61 303** *e*P **P** **02 02 18.6 -0.7**
comp=Z,33nm,1.4s,mb4.9
PCAB **Cabril** **38.86 305** *e*P **P** **02 02 21.4 0.0**
comp=Z,36nm,1.5s,mb4.9
PTOM **Tomar** **38.87 301** *e*P **P** **02 02 21.7 +0.3**
comp=Z,30nm,1.0s,mb5.0
EKA **Eskdalemuir Ar** **40.40 327** P **P** **02 02 34.0 -0.3**
comp=Z,8.7nm,0.8s,mb4.6,baz=124,slow=10,SNR=31
ESK **Eskdalemuir** **40.42 326** *e*P **P** **02 02 33.7 -0.7**
ESK pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
ESK **Eskdalemuir** **40.42 326** *e*P **P** **02 02 33.7 -0.7**
comp=Z,5.9nm,0.6s,mb4.5
ESK **Eskdalemuir** **40.42 326** *e*P **P** **02 02 33.7 -0.7**
comp=Z,5.9nm,0.6s,mb4.5
KURK **Kurchatov** **40.80** **42** *e*P **P** **02 02 38.5 +0.9**
KURK pmax pmax
comp=Z,88nm,1.5s,mb5.2
KURK **Kurchatov** **40.80** **42** *e*P **P** **02 02 38.5 +0.9**
comp=Z,88nm,1.5s,mb5.2
KURK **Kurchatov** **40.80** **42** *e*P **P** **02 02 38.5 +0.9**
comp=Z,88nm,1.5s,mb5.2
LSZ **Lusaka** **41.92 191** P **P** **02 02 46.5 -0.3**
comp=Z,3.5nm,0.8s,mb4.0,baz=6.5,slow=8.4,SNR=10
LSZ PcP PcP 02 04 42.6 +0.4
comp=Z,3.1nm,0.9s,baz=94,slow=2.0,SNR=4.3
LSZ **Lusaka** **41.92 191** P **P** **02 02 46.5 -0.2**
LSZ 02 04 42.6
LSZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
LSZ pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
LSZ **Lusaka** **41.92 191** *e*P **P** **02 02 47.4 +0.7**
comp=Z,13nm,1.2s,mb4.4
LSZ LR LR
comp=Z,692nm,20.0s,MS4.5
LSZ **Lusaka** **41.92 191** *e*P **P** **02 02 47.4 +0.7**
comp=Z,13nm,1.2s,mb4.4
MKAR **Makanchi Array** **42.03** **48** P **P** **02 02 48.6 +1.0**
comp=Z,7.0nm,0.8s,mb4.3,baz=258,slow=6.1,SNR=35
MKAR **Makanchi Array** **42.03** **48** *e*P **P** **02 02 48.5 +0.9**
DBIC **Dimbokro** **43.14 250** P **P** **02 02 56.8 +0.2**
comp=Z,9.3nm,0.9s,mb4.5,baz=55,slow=11,SNR=5.7
LIC **Lamto** **43.52 250** *e*P **P** **02 02 58.8 -0.9**
comp=Z,22nm,0.7s,mb4.7
LIC **Lamto** **43.52 250** *e*P **P** **02 02 58.8 -0.9**
comp=Z,11nm,0.7s,mb4.7
ARCES **ARCESS Array B** **43.69 355** P **P** **02 03 00.5 -0.7**
comp=Z,4.6nm,0.8s,mb4.3,baz=179,slow=8.1,SNR=15
ARCES **ARCESS Array B** **43.69 355** P **P** **02 03 00.5 -0.7**
ARE0 **ARCESS Array S** **43.69 355** *e*P **P** **02 03 00.4 -0.7**
ARE0 **ARCESS Array S** **43.69 355** *e*P **P** **02 03 00.4 -0.7**
KEV **Kevo** **43.80 356** *e*p **P** **02 03 01.0 -1.0**
NVS **Novosibirsk** **44.85** **37** *i* P **P** **02 03 10.2 -0.2**
NVS pmax pmax
comp=N,33nm,1.5s
NVS pmax pmax
comp=E,21nm,1.5s
NVS pmax pmax
comp=Z,44nm,1.5s,mb5.1
WMQ **Urumqi** **45.35** **53** P **P** **02 03 16.5 +2.2**
WMQ AP pP 02 03 20.5 +2.4
WMQ XP sP 02 03 23.0 +3.4
WMQ PP PP 02 05 03.5 +3.1
WMQ AMB AMB
comp=Z,11nm,1.3s,mb4.5
WMQ AMB AMB
comp=Z,83nm,4.0s
WMQ LR LR
comp=N,245nm,14.3s,MS4.4
WMQ LR LR
comp=E,184nm,13.2s,MS4.4
WMQ LR LR
comp=Z,251nm,14.8s,MS4.3
OPO **Ambohidratompo** **45.98 165** P **P** **02 03 21.4 +2.0**
comp=Z,3.4nm,0.8s,mb4.3,baz=100,slow=22,SNR=3.1
TSUM **Tsumeb** **48.46 203** P **P** **02 03 38.7 0.0**
comp=Z,1.3nm,0.8s,mb4.0,baz=176,slow=17,SNR=3.4
TSUM **Tsumeb** **48.46 203** *e*P **P** **02 03 38.4 -0.3**
comp=Z,15nm,1.6s,mb4.8
TSUM **Tsumeb** **48.46 203** *e*P **P** **02 03 38.4 -0.3**
comp=Z,15nm,1.6s,mb4.8
LBTB **Lobatse** **51.89 192** P **P** **02 04 05.2 +0.5**
comp=Z,3.5nm,0.8s,mb4.3,baz=44,slow=12,SNR=7.5
LBTB **Lobatse** **51.89 192** *e*P **P** **02 04 04.8 +0.1**
LBTB pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
LBTB **Lobatse** **51.89 192** *e*P **P** **02 04 04.8 +0.1**
comp=Z,2.2nm,0.5s,mb4.3
LBTB **Lobatse** **51.89 192** *e*P **P** **02 04 04.8 +0.1**
comp=Z,2.2nm,0.5s,mb4.3
GTA **Gaotai** **54.50** **59** *e*P **P** **02 04 24.8 +0.9**
GTA AP pP 02 04 29.8 +2.1
GTA XP sP 02 04 32.3 +3.1
GTA PCP PcP 02 05 27.5 +0.2
GTA PP PP 02 06 30.5 +4.4
GTA PPP 02 07 43.0
GTA PCS PcS 02 09 25.5 -1.3
GTA S **S** **02 12 04.5 +1.8**
GTA XS sS 02 12 12.5 +3.5
GTA SS SS 02 15 49.8 +4.7
GTA AMB AMB
comp=Z,7.0nm,0.8s,mb4.7
GTA AMB AMB
comp=Z,888nm,8.7s
GTA LR LR
comp=N,2µm,23.6s,MS5.2
GTA LR LR
comp=E,1µm,19.4s,MS5.2
GTA LR LR
comp=Z,3µm,20.2s,MS5.3
BOSA **Boshof** **55.46 191** P **P** **02 04 30.5 -0.4**
comp=Z,5.2nm,1.1s,mb4.5,baz=84,slow=10,SNR=3.1
BOSA **Boshof** **55.46 191** P **P** **02 04 29.3 -1.6**
BOSA pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BOSA **Boshof** **55.46 191** P **P** **02 04 29.3 -1.5**
comp=Z,4.5nm,0.9s,mb4.5
BOSA **Boshof** **55.46 191** P **P** **02 04 29.3 -1.6**
comp=Z,4.5nm,0.9s,mb4.5
ZAK **Zakamensk** **56.20** **45** *e*P **P** **02 04 36.0 -0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
TLY **Talaya** **56.41** **44** *e*P **P** **02 04 38.4 +0.8**
TLY pmax pmax
comp=Z,16nm,1.4s,mb4.9
TLY **Talaya** **56.41** **44** *e*P **P** **02 04 38.4 +0.8**
comp=Z,16nm,1.4s,mb4.8
TLY **Talaya** **56.41** **44** *e*P **P** **02 04 38.4 +0.8**
comp=Z,16nm,1.4s,mb4.8
LZH **Lanzhou** **58.17** **62** *e*P **P** **02 04 50.0 -0.1**
LZH AP pP 02 04 57.0 +3.1
LZH XP sP 02 05 01.5 +6.1
LZH PP PP 02 07 01.5 +2.7
LZH AMB AMB
comp=Z,20nm,1.0s,mb5.1
SONM **Songino Array** **58.40** **48** P **P** **02 04 52.3 +0.7**
comp=Z,2.6nm,0.8s,mb4.3,baz=266,slow=7.4,SNR=17
CD2 **Chengdu** **59.22** **68** *e*P **P** **02 04 56.5 -0.9**
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
KMI **Kunming** **59.89** **75** P **P** **02 05 04.8 +2.8**
KMI AP pP 02 05 09.5 +3.7
KMI XP sP 02 05 12.5 +5.2
KMI PP PP 02 07 18.8 +4.7
KMI PPP 02 08 44.5
KMI S **S** **02 13 12.3 -1.3**
KMI XS sS 02 13 27.5 +7.6
KMI SS SS 02 17 10.0 +0.2

KMI SSS 02 19 43.3
KMI AMB AMB
comp=Z,8.0nm,0.5s,mb5.0
KMI AMB AMB
comp=Z,214nm,7.8s
KMI LR LR
comp=N,799nm,22.2s,MS5.1
KMI LR LR
comp=E,1µm,22.2s,MS5.1
KMI LR LR
comp=Z,1µm,22.2s,MS4.9
SUMG **Summit** **60.38 341** *e*P **P** **02 05 05.4 0.0**
comp=Z,4.3nm,0.9s,mb4.5
SUMG **Summit** **60.38 341** *e*P **P** **02 05 05.4 0.0**
comp=Z,4.3nm,0.9s,mb4.5
BOD **Bodaibo** **62.08** **36** *e*P **P** **02 05 16.2 -0.7**
BOD pmax pmax
comp=Z,20nm,1.1s,mb5.2
CIT **Chita** **62.50** **43** *e*P **P** **02 05 20.0 +0.3**
GYA **Guiyang** **62.87** **72** *i* P **P** **02 05 21.8 -0.4**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
HHC **Hu-ho-hao-te** **63.15** **56** *e*P **P** **02 05 24.5 +0.5**
HHC PP PP 02 07 44.5 +1.7
HHC S **S** **02 13 54.3 -0.7**
HHC PS 02 14 13.8
HHC SCS ScS 02 15 12.0 -4.8
HHC SS SS 02 18 02.0 +1.1
HHC AMB AMB
comp=Z,17nm,0.9s,mb5.2
HHC AMB AMB
comp=Z,742nm,6.0s
HHC LR LR
comp=N,1µm,19.0s,MS5.4
HHC LR LR
comp=E,2µm,17.8s,MS5.4
HHC LR LR
comp=Z,2µm,20.2s,MS5.4
YAK **Yakutsk** **69.03** **30** *i* P **P** **02 06 01.3 -0.5**
YAK pmax pmax
comp=Z,21nm,1.2s,mb4.9
NJ2 **Nanjing** **71.23** **63** *e*P **P** **02 06 16.3 +1.0**
NJ2 AP pP 02 06 26.8 +7.6
NJ2 XP sP 02 06 30.3 +10
NJ2 PP PP 02 08 56.0 +2.8
NJ2 S S 02 15 32.0 -0.4
NJ2 XS sS 02 15 49.0 +10
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,540nm,9.9s
NJ2 LR LR
comp=N,760nm,16.6s,MS5.2
NJ2 LR LR
comp=E,810nm,16.0s,MS5.2
NJ2 LR LR
comp=Z,7µm,24.4s
CN2 **Changchun** **72.24** **49** *e*P **P** **02 06 22.3 +0.9**
CN2 PCP PcP 02 06 40.5 +1.0
CN2 *e*S S 02 15 43.0 -1.0
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 LR LR
comp=N,600nm,16.0s,MS5.1
CN2 LR LR
comp=E,600nm,16.0s,MS5.1
CN2 LR LR
comp=Z,800nm,15.0s,MS5.1
SSE **Sheshan** **73.43** **63** P **P** **02 06 27.0 -1.5**
SSE AMB AMB
comp=Z,16nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,713nm,15.3s
KLR **Kul'dur** **74.39** **43** *e*P **P** **02 06 30.3 -3.8**
MDJ **Mudanjiang** **74.74** **48** P **P** **02 06 35.5 -0.6**
MDJ AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
KSM **Kuching** **75.67** **96** *e*P **P** **02 06 41.0 -0.4**
KSM **Kuching** **75.67** **96** *e*P **P** **02 06 41.0 -0.4**
SCHQ **Schefferville** **75.67 324** P **P** **02 06 40.9 -0.6**
comp=Z,5.5nm,0.8s,mb4.5,baz=92,slow=6.2,SNR=5.1
KKM **Kota Kinabalu** **78.97** **89** P **P** **02 07 01.0 +1.0**
KKM **Kota Kinabalu** **78.97** **89** P **P** **02 07 01.0 +1.0**
BILL **Bilibino** **79.18** **17** *e*P **P** **02 07 01.5 +0.4**
BILL *e*S S 02 16 59.7 -1.0
BILL pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BILL MLR MLR
comp=Z,400nm,17.0s,MS4.8
MA2 **Magadan** **79.37** **28** *e*P **P** **02 07 01.9 -0.3**
MA2 pmax pmax
comp=Z,11nm,0.8s,mb4.8
MA2 **Magadan** **79.37** **28** *e*P **P** **02 07 01.9 -0.2**
comp=Z,11nm,0.8s,mb4.8
MA2 **Magadan** **79.37** **28** *e*P **P** **02 07 01.9 -0.3**
comp=Z,11nm,0.8s,mb4.8
JOW **Kunigami** **80.80** **65** P **P** **02 07 10.4 +0.5**
comp=Z,7.2nm,0.7s,mb4.7,baz=262,slow=1.6,SNR=6.0
YSS **Yuzh-Sakhalins** **82.01** **41** *i* P **P** **02 07 15.8 -0.5**
YSS pmax pmax
comp=Z,20nm,1.8s,mb4.8
MAJO **Matsushiro** **84.10** **52** *e*P **P** **02 07 26.4 -0.7**
MAJO pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
MAJO **Matsushiro** **84.10** **52** *e*P **P** **02 07 26.4 -0.7**
comp=Z,6.9nm,0.9s,mb4.8
MAJO **Matsushiro** **84.10** **52** *e*P **P** **02 07 26.4 -0.7**
comp=Z,6.9nm,0.9s,mb4.8
MAT **Matsushiro** **84.10** **52** P **P** **02 07 26.1 -1.0**
MAT **Matsushiro** **84.10** **52** *e*P **P** **02 07 26.0 -1.1**
MAT pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
MAT **Matsushiro** **84.10** **52** *e*P **P** **02 07 26.0 -1.1**
comp=Z,10.0nm,1.0s,mb4.9
MJAR **Matsushiro Arr** **84.10** **52** P **P** **02 07 27.0 -0.1**
comp=Z,8.9nm,0.9s,mb4.9,baz=296,slow=4.5,SNR=23
INK **Inuvik** **85.36 356** P **P** **02 07 32.2 -1.3**
comp=Z,2.7nm,0.9s,mb4.4,baz=24,slow=4.5,SNR=4.0
INK **Inuvik** **85.36 356** *e*P **P** **02 07 31.9 -1.5**
INK pmax pmax
comp=Z,7.0nm,1.3s
INK **Inuvik** **85.36 356** *e*P **P** **02 07 31.9 -1.6**
comp=Z,7.2nm,1.3s,mb4.6
INK **Inuvik** **85.36 356** *e*P **P** **02 07 31.9 -1.5**
comp=Z,7.2nm,1.3s,mb4.6
IMA2 **Indian Mountai** **87.68** **4** *e*P **P** **02 07 44.6 -0.2**
IMA2 **Indian Mountai** **87.68** **4** *e*P **P** **02 07 44.6 -0.2**
YKA **Yellowknife Ar** **88.38 347** P **P** **02 07 46.9 -1.2**
comp=Z,1.3nm,0.8s,mb4.2,baz=29,slow=5.8,SNR=5.4
YKA **Yellowknife Ar** **88.38 347** P **P** **02 07 46.9 -1.2**
YKA **Yellowknife Ar** **88.38 347** P **P** **02 07 46.9 -1.3**
COLA **College** **89.12** **1** *i* P **P** **02 07 51.7 +0.1**
COLA **College** **89.12** **1** *e*P **P** **02 07 50.9 -0.7**
comp=Z,4.4nm,0.8s,mb4.8
COLA **College** **89.12** **1** *e*P **P** **02 07 50.9 -0.7**
comp=Z,4.3nm,0.8s,mb4.8
DAWY **Dawson** **89.88 358** *e*P **P** **02 07 54.6 -0.6**
DAWY **Dawson** **89.88 358** *e*P **P** **02 07 54.6 -0.6**
BDFB **Brasilia** **91.22 253** P **P** **02 08 01.3 -0.1**
comp=Z,3.1nm,0.9s,mb4.6,baz=61,slow=13,SNR=3.2
FFC **Flin Flon** **91.47 337** *e*P **P** **02 08 01.6 -1.0**
FFC pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
FFC **Flin Flon** **91.47 337** *e*P **P** **02 08 01.6 -1.0**
comp=Z,8.5nm,1.0s,mb5.0
ULM **Lac du Bonnet** **92.52 331** P **P** **02 08 05.3 -2.1**
comp=Z,2.5nm,1.0s,mb4.6,baz=83,slow=4.6,SNR=4.9
ULM LR LR 02 48 40.2
comp=Z,2µm,19.9s,MS5.6,baz=2.5,slow=35
ULM **Lac du Bonnet** **92.52 331** *e*P **P** **02 08 04.6 -2.9**
comp=Z,6.2nm,1.1s,mb5.0

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*ISCJB **30** 02:02:06.1±1.3, 2597S±003×711W±03, h33km, mb4.1/2, Error ellipse: s-maj=32.4km s-min=4.9km az=2.1*
*GUC **30** 02:02:06.5±0.9, 2599S×7078W, h34km±9km, MD4.3, ML3.7*
*NEIC **30** 02:02:06.5, 2599S×7078W, h34km, mb3.7/1, ML3.7(GUC), After GUC.*
*IDC **30** 02:02:10.4±4.8, 2586S×7041W, h36km±35km, mb4.0/2, mb1 3.7/5, mb1mx3.5/18, mbtmp3.7/5, ML3.3/3, Error ellipse: s-maj=54.5km s-min=30.3km az=106.0*
ISC 30 02:02:07.9±1.3, 2600S±004×710W±03, h35km, n19, σ1§03/24, mb4.1/2, 4C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**1.08**	**173**	⇑*i*P	**Pn**	**02 02 25.7**	**-0.7**
CDCH				*i* S	**Sn**	**02 02 39.5**	**-0.6**
CDCH				AML	AML	02 02 44.8	
	comp=E,858nm,0.5s						
CDCH	**Caldera**	**1.08**	**173**	⇑*i*P	**Pn**	**02 02 25.7**	**-0.7**
CDCH				*i* S	**Sn**	**02 02 39.5**	**-0.6**
CPCH	**Copiapo**	**1.46**	**158**	⇓*i*P	**Pn**	**02 02 31.4**	**-0.3**
CPCH				*i* S	**Sn**	**02 02 49.1**	**-0.5**
CPCH				AML	AML	02 02 51.6	
	comp=N,10μm,0.1s						
CPCH	**Copiapo**	**1.46**	**158**	⇓*i*P	**Pn**	**02 02 31.4**	**-0.3**
CPCH				*i* S	**Sn**	**02 02 49.1**	**-0.5**
CPN1	**Cerro Paranal**	**1.46**	**21**	*e*P	**Pn**	**02 02 31.9**	**+0.1**
CPN1				*i* S	**Sn**	**02 02 50.2**	**+0.5**
CPN1				AML	AML	02 02 54.7	
	comp=E,3μm,0.4s						
ANCH	**Antofagasta**	**2.37**	**13**	⇑*i*P	**Pn**	**02 02 43.6**	**-0.6**
CEN1	**Los Morros**	**2.69**	**15**	⇑*i*P	**Pn**	**02 02 45.1**	**-3.6**
CEN1				AML	AML	02 03 31.9	
	comp=N,362nm,0.6s						
LCO	**Las Campanas**	**3.01**	**175**	*e*P	**Pn**	**02 02 54.1**	**+1.0**
CFAA	**Coronel Fontan**	**6.08**	**157**	Pn	**Pn**	**02 03 38.0**	**+2.8**
	comp=N,0.1nm,0.3s,baz=348,slow=14,SNR=5.0						
CFAA				Sn	**Sn**	**02 04 56.3**	**+13**
	comp=N,0.5nm,0.3s,baz=212,slow=20,SNR=7.5						
CFAA	**Coronel Fontan**	**6.08**	**157**	Pn	**Pn**	**02 03 38.0**	**+2.7**
CFAA				Sn	**Sn**	**02 04 56.3**	**+13**
LPAZ	**La Paz**	**10.02**	**16**	Pn	**Pn**	**02 04 30.0**	**+0.7**
	comp=N,0.3nm,0.3s,baz=203,slow=7.7,SNR=9.7						
LPAZ	**La Paz**	**10.02**	**16**	*e*Pn	**Pn**	**02 04 29.7**	**+0.4**
SIV	**San Ignacio**	**13.58**	**45**	Pn	**Pn**	**02 05 13.2**	**-4.8**
	comp=N,0.2nm,0.3s,baz=219,slow=11,SNR=6.4						
SAML	**Samuel**	**18.50**	**25**	P	**P**	**02 06 20.2**	**-1.2**
	comp=N,8.5nm,1.5s						
BDFB	**Brasilia**	**23.77**	**69**	P	**P**	**02 07 13.2**	**-4.0**
	comp=N,2.1nm,0.5s,mb3.8,baz=253,slow=19,SNR=4.0						
TORD	**Torodi Ar. Bea**	**80.64**	**70**	P	**P**	**02 14 18.0**	**+1.0**
	comp=N,2.7nm,0.6s,mb4.3,baz=257,slow=5.0,SNR=62						
TORD	**Torodi Ar. Bea**	**80.64**	**70**	P	**P**	**02 14 18.0**	**+1.0**
WRA	**Warramunga Arr**	**128.14**	**211**	PKP	PKPdf	02 21 12.8	+2.5
	comp=N,0.2nm,0.6s,baz=161,slow=1.6,SNR=3.7						
MKAR	**Makanchi Array**	**150.34**	**39**	PKPbc	PKPbc	02 21 56.8	+1.4
	comp=N,0.3nm,0.5s,baz=359,slow=1.5,SNR=3.8						

*STR **30** 02:30:43.6±0.4, 4281N×151W, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ISCJB **30** 02:30:44.2±0.4, 4283N±002×142W±002, h14km±2km, Error ellipse: s-maj=3.5km s-min=2.9km az=147.3*
*CSEM **30** 02:30:45.5±0.1, 4280N×139W, h0km, ML2.8/18, Error ellipse: s-maj=1.3km s-min=0.9km az=170.0*
*MDD **30** 02:30:45.3±0.1, 4281N×137W, h0km, mbLg2.1/18, Error ellipse: s-maj=1.5km s-min=0.9km az=7.0, PRXIMO*
*NEIC **30** 02:30:46.3, 4279N×136W, h5km, ML2.7(STR), ML2.9(LDG), MN2.1(MDD), After LDG.*
*LDG **30** 02:30:46.3±0.3, 4279N×136W, h5km, Md2.4/2, Ml2.9/15, Error ellipse: s-maj=5.2km s-min=3.4km az=37.0*

ISC 30 02:30:45.1±0.3, 4284N±002×140W±002, h12km±2km, n97, σ1$21/161, 4C-2D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRE	**Itoiz**	**0.05**	**140**	⇓Pg	**Pg**	**02 30 45.3**	**-2.1**
	272nm,0.1s,SNR=18						
IPRE				Lg		02 30 45.7	
	583nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.05**	**140**	Pg	**Pg**	**02 30 45.3**	**-2.1**
	272nm,0.1s,SNR=18						
IPRE				Lg		02 30 45.7	
	583nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.15**	**243**	⇑Pg	**Pg**	**02 30 48.2**	**-0.5**
	192nm,0.1s,SNR=18						
EARA				Lg		02 30 51.3	
	2μm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.15**	**313**	⇓Pg	**Pg**	**02 30 48.7**	**+0.1**
	16nm,0.1s,SNR=18						
IUSE				Lg		02 30 51.9	
	300nm,0.3s,SNR=7.9						
IUSE	**Utxeti**	**0.15**	**313**	Pg	**Pg**	**02 30 48.6**	**-0.1**
	16nm,0.1s,SNR=7.9						
IUSE				Lg		02 30 51.9	
	300nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**0.30**	**25**	*e*Pg	**Pg**	**02 30 51.4**	**+0.2**
SJPF				*e*Sg	**Sg**	**02 30 56.2**	**+0.9**
	198nm,0.3s						
SJPF	**Ste Jean**	**0.30**	**25**	*e*Pg	**Pg**	**02 30 51.4**	**+0.2**
SJPF				*e*Sg	**Sg**	**02 30 56.2**	**+0.9**
	99nm,0.3s						
ELIZ	**Elizondo**	**0.34**	**343**	⇑Pg	**Pg**	**02 30 52.0**	**+0.2**
	13nm,0.2s,SNR=18						
ELIZ				Lg		02 30 57.3	
	38nm,0.2s,SNR=5.0						
LARF	**Larrau**	**0.36**	**57**	Pg	**Pg**	**02 30 52.1**	**-0.2**
LARF				Sg	**Sg**	**02 30 58.9**	**+1.8**
LARF	**Larrau**	**0.36**	**57**	P	**Pg**	**02 30 52.2**	**-0.1**
LARF				S	**Sg**	**02 30 59.0**	**+1.9**
EALK	**Alkurruntz**	**0.39**	**348**	⇑Pg	**Pg**	**02 30 52.9**	**+0.1**
	10nm,0.2s,SNR=18						
EALK				Lg		02 30 58.9	
	203nm,0.3s,SNR=5.0						
EALK	**Alkurruntz**	**0.39**	**348**	⇑Pg	**Pg**	**02 30 52.9**	**+0.1**
EALK				Lg		02 30 58.9	
EALK	**Alkurruntz**	**0.39**	**348**	Pg	**Pg**	**02 30 52.9**	**+0.1**
	10nm,0.2s,SNR=18						
EALK				Lg		02 30 58.8	
OSSF	**Osses**	**0.42**	**13**	P	**Pg**	**02 30 53.5**	**0.0**
OSSF				S	**Sg**	**02 30 59.9**	**+0.7**
ORDF	**Ordiarp**	**0.50**	**42**	Pg	**Pg**	**02 30 55.2**	**+0.3**
ORDF				Sg	**Sg**	**02 31 02.5**	**+0.9**
ORDF	**Ordiarp**	**0.50**	**42**	P	**Pg**	**02 30 55.2**	**+0.3**
ORDF				S	**Sg**	**02 31 03.3**	**+1.7**
ATE	**Arette**	**0.57**	**64**	Pg	**Pg**	**02 30 55.9**	**-0.2**
ATE				Sg	**Sg**	**02 31 05.0**	**+1.4**
ATE	**Arette**	**0.57**	**64**	P	**Pg**	**02 30 56.0**	**-0.2**
ATE				S	**Sg**	**02 31 04.7**	**+1.1**
FDAF	**Les Forges d'A**	**0.61**	**92**	P	**Pg**	**02 30 57.4**	**+0.4**
FDAF				S	**Sg**	**02 31 06.3**	**+1.3**
ETSF	**Etsaut**	**0.62**	**85**	*e*Pg	**Pg**	**02 30 56.6**	**-0.5**
ETSF				*e*Sg	**Sg**	**02 31 05.6**	**+0.3**
	17nm,0.2s						
ETSF	**Etsaut**	**0.62**	**85**	*e*Pg	**Pg**	**02 30 56.6**	**-0.5**
ETSF				*e*Sg	**Sg**	**02 31 05.6**	**+0.3**
	8.3nm,0.2s						
REYF	**Montagne du Re**	**0.77**	**73**	Pg	**Pg**	**02 30 59.6**	**-0.4**
REYF				Sg	**Sg**	**02 31 12.2**	**+2.1**
REYF	**Montagne du Re**	**0.77**	**73**	P	**Pg**	**02 30 59.6**	**-0.5**
REYF				S	**Sg**	**02 31 11.0**	**+0.9**
VIEF	**Viey**	**1.05**	**87**	Pg	**Pg**	**02 31 04.1**	**-1.1**
VIEF				Sg	**Sg**	**02 31 20.6**	**+1.7**
VIEF	**Viey**	**1.05**	**87**	P	**Pb**	**02 31 04.2**	**-0.8**
VIEF				S	**Sb**	**02 31 19.0**	**+0.3**
EBIE	**Bielsa**	**1.15**	**97**	Pg	**Pg**	**02 31 05.7**	**-1.4**
	0.4nm,0.2s,SNR=55						
EBIE				Lg		02 31 25.0	
	2.0nm,0.2s,SNR=4.6						
EBIE	**Bielsa**	**1.15**	**97**	Pg	**Pg**	**02 31 05.7**	**-1.4**
	0.4nm,0.2s,SNR=55						
RESF	**Ens**	**1.28**	**91**	Pg	**Pg**	**02 31 09.3**	**-0.3**
RESF	**Ens**	**1.28**	**91**	P	**Pn**	**02 31 08.6**	**0.0**
RESF				S	**Sb**	**02 31 28.6**	**+3.2**
EPF	**Esparros**	**1.29**	**81**	*e*Pg	**Pg**	**02 31 10.3**	**+0.4**
EPF				*e*Sg	**Sg**	**02 31 27.2**	**+0.6**
	24nm,0.3s						
EPF	**Esparros**	**1.29**	**81**	*e*Pn	**Pn**	**02 31 09.0**	**+0.2**
EPF				*e*Pg	**Pg**	**02 31 10.3**	**+0.4**
EPF				*e*Sg	**Sg**	**02 31 27.2**	**+0.6**
EPF	**Esparros**	**1.29**	**81**	*e*Pg	**Pg**	**02 31 10.3**	**+0.4**
EPF				*e*Sg	**Sg**	**02 31 27.2**	**+0.6**
	12nm,0.3s						
ELAN	**Lanestosa**	**1.54**	**285**	Pg	**Pg**	**02 31 14.3**	**-0.4**
	2.7nm,0.3s,SNR=24						
ELAN				Lg		02 31 36.3	
	4.6nm,0.3s,SNR=10						
ELAN	**Lanestosa**	**1.54**	**285**	Pg	**Pg**	**02 31 14.3**	**-0.4**
ELAN				Lg		02 31 36.3	
ELAN	**Lanestosa**	**1.54**	**285**	Pg	**Pg**	**02 31 14.3**	**-0.4**
	2.7nm,0.3s,SNR=24						
MELF	**Melles**	**1.59**	**88**	Pg	**Pg**	**02 31 15.5**	**0.0**
MELF	**Melles**	**1.59**	**88**	P	**Pn**	**02 31 15.9**	**+3.0**
MELF				S	**Sn**	**02 31 37.8**	**+4.5**
MLS	**Moulis**	**1.83**	**86**	S	**Sn**	**02 31 46.5**	**+7.1**
SALF	**Salau**	**1.91**	**92**	Pg	**Pg**	**02 31 21.1**	**-0.5**
SALF				Sg	**Sg**	**02 31 48.6**	**+2.2**
SALF	**Salau**	**1.91**	**92**	P	**Pn**	**02 31 21.3**	**+4.0**
SALF				S	**Sn**	**02 31 47.5**	**+6.3**
GRBF	**Gourbit**	**2.16**	**89**	P	**Pn**	**02 31 25.9**	**+5.1**
ERTA	**Horta de San J**	**2.29**	**145**	Pg	**Pg**	**02 31 26.1**	**-2.7**
	0.4nm,0.2s,SNR=10.0						
ERTA				Sn	**Sn**	**02 31 50.8**	**+0.3**
	4.7nm,0.3s,SNR=4.7						
ERTA				Lg		02 31 57.4	
	7.6nm,0.4s,SNR=6.3						
ERTA	**Horta de San J**	**2.29**	**145**	Pg	**Pg**	**02 31 26.1**	**-2.8**
	0.4nm,0.2s,SNR=10.0						
ERTA				Sn	**Sn**	**02 31 50.8**	**+0.3**
	4.7nm,0.3s,SNR=4.7						
EPOB	**Poblet**	**2.37**	**128**	Pn	**Pn**	**02 31 24.0**	**+0.4**
	0.2nm,0.1s,SNR=10						
EPOB				Pg	**Pg**	**02 31 28.6**	**-1.9**
	0.3nm,0.1s,SNR=6.4						
EPOB				Sn	**Sn**	**02 31 51.1**	**-1.5**
	0.9nm,0.3s,SNR=8.1						
EPOB				Lg		02 31 59.4	
	13nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**2.37**	**128**	Pn	**Pn**	**02 31 24.0**	**+0.3**
	0.2nm,0.1s,SNR=10						
EPOB	**Poblet**	**2.37**	**128**	Pg	**Pg**	**02 31 28.6**	**-1.9**
	0.3nm,0.1s,SNR=6.4						
EPOB				Sn	**Sn**	**02 31 51.1**	**-1.5**
	0.9nm,0.3s,SNR=8.1						
EMOS	**Mosqueruela**	**2.57**	**164**	Pg	**Pg**	**02 31 33.0**	**-1.3**
	0.1nm,0.1s,SNR=6.6						
EMOS				Sn	**Sn**	**02 31 57.0**	**-0.6**
	2.9nm,0.4s,SNR=7.9						
EMOS				Lg		02 32 07.9	
	0.3nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.57**	**164**	Pg	**Pg**	**02 31 33.0**	**-1.4**
	0.1nm,0.1s,SNR=6.6						
EMOS				Sn	**Sn**	**02 31 57.0**	**-0.6**
	2.9nm,0.4s,SNR=7.9						
LFF	**La Frestale**	**2.60**	**36**	*e*Pn	**Pn**	**02 31 28.3**	**+1.4**
LFF				*e*Sg	**Sg**	**02 32 07.1**	**-1.7**
	14nm,0.5s						
LFF	**La Frestale**	**2.60**	**36**	*e*Pn	**Pn**	**02 31 28.3**	**+1.4**
LFF				*e*Sg	**Sg**	**02 32 07.1**	**-1.7**
	6.9nm,0.5s						
MTLF	**Montolieu**	**2.69**	**78**	*e*Pg	**Pg**	**02 31 34.1**	**-2.6**
MTLF				*e*Sg	**Sg**	**02 32 10.4**	**-1.2**
	6.8nm,0.5s						
MTLF	**Montolieu**	**2.69**	**78**	Pn	**Pn**	**02 31 28.8**	**+0.6**
MTLF				Pg	**Pg**	**02 31 34.1**	**-2.6**
MTLF				Lg		02 32 10.4	
	3.4nm,0.5s						
MTLF	**Montolieu**	**2.69**	**78**	*e*Pn	**Pn**	**02 31 28.8**	**+0.6**
MTLF				*e*Pg	**Pg**	**02 31 34.1**	**-2.6**
MTLF				*e*Sg	**Sg**	**02 32 10.4**	**-1.2**
MTLF	**Montolieu**	**2.69**	**78**	*e*Pg	**Pg**	**02 31 34.1**	**-2.6**
MTLF				*e*Sg	**Sg**	**02 32 10.4**	**-1.2**
	3.4nm,0.5s						
EARI	**Arriondas**	**2.83**	**281**	Pn	**Pn**	**02 31 32.5**	**+2.5**
	1.7nm,0.6s,SNR=7.9						
EARI				Sn	**Sn**	**02 32 04.8**	**+0.7**
	30nm,1.2s,SNR=6.6						
EARI				Lg		02 32 17.5	
	1.3nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**2.83**	**281**	Pn	**Pn**	**02 31 32.5**	**+2.5**
EARI				Sn	**Sn**	**02 32 04.8**	**+0.7**
EARI				Lg		02 32 17.5	
EARI	**Arriondas**	**2.83**	**281**	Pn	**Pn**	**02 31 32.5**	**+2.5**
	1.7nm,0.6s,SNR=7.9						
EARI				Sn	**Sn**	**02 32 04.8**	**+0.8**
	30nm,1.2s,SNR=6.6						
GUD	**Guadarrama**	**3.01**	**224**	Pn	**Pn**	**02 31 33.7**	**+1.2**
	0.8nm,0.4s,SNR=5.1						
GUD				Lg		02 32 21.6	
	4.3nm,0.6s,SNR=7.9						
EJON	**La Jonquera**	**3.19**	**96**	Pn	**Pn**	**02 31 36.6**	**+1.7**
	1.1nm,0.3s,SNR=4.0						
EJON				Pg	**Pg**	**02 31 42.8**	**-3.3**
	6.2nm,0.7s,SNR=5.2						
EJON				Lg		02 32 27.4	
	1.0nm,0.2s,SNR=4.0						
EJON	**La Jonquera**	**3.19**	**96**	Pn	**Pn**	**02 31 36.6**	**+1.7**
	1.1nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**3.19**	**96**	Pg	**Pg**	**02 31 42.8**	**-3.3**
	6.2nm,0.7s,SNR=5.2						
RJF	**Les Rejaudoux**	**3.23**	**39**	*e*Pn	**Pn**	**02 31 37.8**	**+2.2**
RJF				*e*Sn	**Sn**	**02 32 13.8**	**-0.2**
	4.6nm,0.3s						
RJF				*e*Sg	**Sg**	**02 32 28.2**	**-0.8**
RJF	**Les Rejaudoux**	**3.23**	**39**	*e*Pn	**Pn**	**02 31 37.8**	**+2.2**
RJF				*e*Sn	**Sn**	**02 32 13.8**	**-0.2**
	2.3nm,0.3s						
RJF				*e*Sg	**Sg**	**02 32 28.2**	**-0.8**
CAF	**Calviac**	**3.26**	**49**	*e*Pn	**Pn**	**02 31 36.6**	**+0.7**
CAF				*e*Sn	**Sn**	**02 32 13.9**	**-0.6**
	4.2nm,0.4s						
CAF	**Calviac**	**3.26**	**49**	*e*Pn	**Pn**	**02 31 36.6**	**+0.7**
CAF				*e*Sn	**Sn**	**02 32 13.9**	**-0.6**
	2.1nm,0.4s						
ESDC	**Sonseca Array**	**3.71**	**212**	Pn	**Pn**	**02 31 45.0**	**+2.9**
	0.4nm,0.5s,baz=36,slow=13,SNR=7.9						
ESDC				Pg	**Pg**	**02 31 54.4**	**-1.7**
	0.6nm,0.4s,baz=37,slow=15,SNR=4.8						
ESDC				Lg		02 32 42.0	
	0.3nm,0.3s,baz=27,slow=27,SNR=3.7						
ESDC	**Sonseca Array**	**3.71**	**212**	Pn	**Pn**	**02 31 45.0**	**+2.9**
	0.4nm,0.5s,SNR=7.9						
ESDC	**Sonseca Array**	**3.71**	**212**	Pg	**Pg**	**02 31 54.4**	**-1.7**
	0.6nm,0.4s,SNR=4.8						
MFF	**Saint Martin d**	**3.86**	**13**	*e*Pn	**Pn**	**02 31 44.9**	**+0.7**
MFF				*e*Sn	**Sn**	**02 32 28.9**	**-0.6**
	2.1nm,0.2s						
MFF	**Saint Martin d**	**3.86**	**13**	*e*Pn	**Pn**	**02 31 44.9**	**+0.7**
MFF				*e*Sn	**Sn**	**02 32 28.9**	**-0.6**
	1.0nm,0.2s						
LASF	**Ste Croix**	**4.02**	**70**	*e*Pn	**Pn**	**02 31 46.9**	**+0.5**
LASF				*e*Pg	**Pg**	**02 32 00.6**	**-1.5**
ECAL	**Calabor**	**4.06**	**259**	Pn	**Pn**	**02 31 47.9**	**+1.0**
	1.9nm,0.4s,SNR=7.9						
ECAL				Sn	**Sn**	**02 32 34.6**	**+0.3**
	2.4nm,0.4s,SNR=7.9						
ECAL				Lg		02 32 54.4	
	8.5nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**4.06**	**259**	Pn	**Pn**	**02 31 47.9**	**+1.0**
	1.9nm,0.4s,SNR=7.9						
ECAL				Sn	**Sn**	**02 32 34.6**	**+0.3**
	2.4nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**4.28**	**192**	Pn	**Pn**	**02 31 51.2**	**+1.3**
	1.2nm,0.3s,SNR=7.9						
EVIA				Lg		02 33 00.7	
	0.3nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**4.28**	**192**	Pn	**Pn**	**02 31 51.2**	**+1.2**
	1.2nm,0.3s,SNR=7.9						
TCF	**Toulx Ste Croi**	**4.30**	**36**	*e*Pn	**Pn**	**02 31 50.8**	**+0.5**
TCF				*e*Sn	**Sn**	**02 32 39.0**	**-1.3**
	9.5nm,0.6s						
TCF	**Toulx Ste Croi**	**4.30**	**36**	*e*Pn	**Pn**	**02 31 50.8**	**+0.5**
TCF				*e*Sn	**Sn**	**02 32 39.0**	**-1.3**
	4.8nm,0.6s						
BGF	**Bois d'Agland**	**4.79**	**38**	*e*Pn	**Pn**	**02 31 57.6**	**+0.6**
BGF				*e*Sn	**Sn**	**02 32 50.6**	**-1.8**
	13nm,0.5s						
BGF	**Bois d'Agland**	**4.79**	**38**	*e*Pn	**Pn**	**02 31 57.6**	**+0.6**
BGF				*e*Sn	**Sn**	**02 32 50.6**	**-1.8**
	6.6nm,0.5s						
EQES	**Quesada**	**5.19**	**195**	Pn	**Pn**	**02 32 02.9**	**+0.4**
	1.5nm,0.8s,SNR=7.9						
EQES				Pg	**Pg**	**02 32 18.6**	**-6.0**
	0.3nm,0.3s,SNR=7.9						
EQES				Lg		02 33 30.1	
	0.6nm,0.4s,SNR=7.9						
EQES	**Quesada**	**5.19**	**195**	Pn	**Pn**	**02 32 02.9**	**+0.4**
	1.5nm,0.8s,SNR=7.9						
EQES	**Quesada**	**5.19**	**195**	Pg	**Pg**	**02 32 18.6**	**-5.9**
	SNR=7.9						
AVF	**Avril sur Loir**	**5.20**	**39**	*e*Pn	**Pn**	**02 32 02.6**	**+0.1**
AVF				*e*Sn	**Sn**	**02 33 00.4**	**-2.0**
	2.6nm,0.4s						
AVF	**Avril sur Loir**	**5.20**	**39**	*e*Pn	**Pn**	**02 32 02.6**	**+0.1**
AVF				*e*Sn	**Sn**	**02 33 00.4**	**-2.0**
	1.3nm,0.4s						
QUIF	**Quistinic**	**5.22**	**347**	*e*Pn	**Pn**	**02 32 03.5**	**+0.6**
EADA	**Adamuz**	**5.26**	**208**	Lg		02 33 33.4	
	0.6nm,0.3s,SNR=7.9						
SSF	**Saint Saulge**	**5.47**	**38**	*e*Pn	**Pn**	**02 32 07.0**	**+0.7**
SSF				*e*Sn	**Sn**	**02 33 06.0**	**-3.1**
	5.5nm,0.7s						
SSF	**Saint Saulge**	**5.47**	**38**	*e*Pn	**Pn**	**02 32 07.0**	**+0.7**
SSF				*e*Sn	**Sn**	**02 33 06.0**	**-3.1**
	2.8nm,0.7s						
SGMF	**Saint Gilles**	**5.47**	**352**	*e*Sn	**Sn**	**02 33 07.8**	**-1.4**
	17nm,0.8s						
SGMF	**Saint Gilles**	**5.47**	**352**	*e*Sn	**Sn**	**02 33 07.8**	**-1.4**
	8.6nm,0.8s						
GRR	**Gorron**	**5.56**	**4**	*e*Pn	**Pn**	**02 32 08.2**	**+0.7**
ROSF	**Rostrenen**	**5.65**	**347**	*e*Sn	**Sn**	**02 33 11.7**	**-1.8**
	7.0nm,0.5s						
ROSF	**Rostrenen**	**5.65**	**347**	*e*Sn	**Sn**	**02 33 11.7**	**-1.8**
	3.5nm,0.5s						
LDF	**La Druitiere**	**5.82**	**8**	*e*Sn	**Sn**	**02 33 15.9**	**-1.9**
	2.8nm,0.4s						
LDF	**La Druitiere**	**5.82**	**8**	*e*Sn	**Sn**	**02 33 15.9**	**-1.9**
	1.4nm,0.4s						
HAU	**Haudompre**	**7.50**	**44**	*e*Pn	**Pn**	**02 32 33.7**	**-0.5**
HAU				*e*Sn	**Sn**	**02 33 55.6**	**-3.6**
	4.0nm,0.2s						
HAU	**Haudompre**	**7.50**	**44**	*e*Pn	**Pn**	**02 32 33.7**	**-0.5**
HAU				*e*Sn	**Sn**	**02 33 55.6**	**-3.6**
	2.0nm,0.2s						

*NEIC **30** 02:38:56.6, 3500S×7036W, h18km, ML3.2(GUC), After GUC.*

GUC 30 02:38:56.6±0.6, 3500S×7036W, h18km±3km, MD3.8, ML3.2, 4C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.66**	**305**	⇓*i*P	Pg	02 39 09.1	-0.5
SFDO				*i* S	Sg	02 39 18.6	+0.2
CICH	**Cipreses**	**0.68**	**356**	*e*P	Pb	02 39 09.1	-0.8
CICH				*e*S	Sg	02 39 19.1	+0.2
CACH	**El Canelo**	**0.90**	**347**	⇑*i*P	Pb	02 39 13.0	-0.7
CHCH	**Chadas Angostu**	**1.09**	**347**	*e*P	Pb	02 39 17.1	+0.2
CHCH				*i* S	Sb	02 39 32.4	+1.6
TALC	**Talca**	**1.12**	**249**	⇑*i*P	Pn	02 39 17.4	0.0
TALC				*i* S	Sb	02 39 32.3	+0.8
TALC				AML	AML	02 39 33.5	
	comp=N,1μm,0.1s						
TALC	**Talca**	**1.12**	**249**	⇑*i*P	Pn	02 39 17.4	0.0
TALC				*i* S	Sb	02 39 32.3	+0.8
LNV	**Longovilo**	**1.35**	**320**	⇓*i*P	Pn	02 39 21.0	+0.4
LNV				*i* S	Sn	02 39 39.3	+1.2
PCH	**Pirque**	**1.38**	**355**	*e*P	Pn	02 39 21.9	+1.0
PCH				*i* S	Sn	02 39 40.8	+2.0
TACH	**Talagante**	**1.42**	**340**	⇑*i*P	Pn	02 39 22.0	+0.4
LCCH	**Las Cruces**	**1.82**	**326**	*e*P	Pn	02 39 28.7	+1.7
LCCH				*i* S	Sn	02 39 53.6	+4.0

*ISCJB **30** 02:47:19.0±0.4, 3670N±002×7139E±005, h181km±5km, mb3.9/21, Error ellipse: s-maj=7.1km s-min=3.6km az=167.1*
*MOS **30** 02:47:19.4±1.1, 3679N×7142E, h181km, mb4.1/5, Error ellipse: s-maj=14.4km s-min=7.1km az=105.3*
*IDC **30** 02:47:19.9±4.3, 3654N×7140E, h178km±41km, mb3.5/13, mb1 3.7/17, mb1mx3.6/24, mbtmp4.1/17, Error ellipse: s-maj=19.6km s-min=13.1km az=15.0*
*NEIC **30** 02:47:19.9±1.2, 3673N×7140E, h172km±14km, mb4.6/17, Error ellipse: s-maj=11.2km s-min=5.8km az=62.0*
*BJI **30** 02:47:19.8, 3670N×7140E, h171km, mB4.6, mb4.6*
*NNC **30** 02:47:26.0±2.3, 3725N×7117E, h194km±16km, mb3.3, mpv4.3, Error ellipse: s-maj=19.2km s-min=16.0km az=24.0*

ISC 30 02:47:20.1±0.4, 3672N±002×7143E±005, h180km±5km, n99, σ1$19/115, mb3.9/21, 8C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.92**	**172**	P	**Pn**	**02 48 09.1**	**+1.4**
CHCP	**Chirah Chowk**	**3.40**	**153**	⇓P	**Pn**	**02 48 15.7**	**+2.1**
THW	**Thamme Wali**	**3.92**	**176**	⇑P	**Pn**	**02 48 21.2**	**+1.0**
THW				S	**Sn**	**02 49 01.0**	**-6.1**
SBDP	**Sheikh Budin**	**4.44**	**187**	P	**Pn**	**02 48 26.3**	**-0.4**
KSH	**Kashi**	**4.54**	**51**	P	**Pn**	**02 48 30.5**	**+2.4**
KSH				S	**Sn**	**02 49 22.5**	**+1.1**
KSH				Smax			
	comp=N,799nm,0.3s						
KSH				Smax			
	comp=E,608nm,0.3s						
SARP	**Sargodha**	**4.89**	**167**	P	**Pn**	**02 48 32.8**	**+0.2**
DRP	**Derazinda**	**5.07**	**192**	⇑P	**Pn**	**02 48 35.6**	**+0.8**
DLH	**Dalhousie**	**5.60**	**137**	*e*P	**Pn**	**02 48 41.0**	**-0.8**
DLH				*e*S	**Sn**	**02 49 43.0**	**-3.1**
AML	**Almayashu**	**5.68**	**17**	P	**Pn**	**02 48 43.1**	**+0.2**
	SNR=127			

	comp=Z,56nm,3.8s							
KKN	**Kakani**	**14.71**	**123**	*e*P		**Pn**	**02 50 41.2**	**+1.7**
	comp=Z,44nm,0.4s							
KKN	**Kakani**	**14.71**	**123**	*e*P		**Pn**	**02 50 41.2**	**+1.7**
KKN				pmax	pmax			
	comp=Z,44nm,0.4s							
DMN	**Daman**	**14.71**	**124**	*e*P		**Pn**	**02 50 40.9**	**+1.4**
	comp=Z,57nm,0.5s							
KURK	**Kurchatov**	**14.91**	**18**	⇓P		**Pn**	**02 50 41.3**	**-0.7**
	comp=Z,8.0nm,1.0s							
KURK	**Kurchatov**	**14.91**	**18**	*e*P		**Pn**	**02 50 39.4**	**-2.7**
KURK				pmax	pmax			
	comp=Z,15nm,0.9s							
KURK	**Kurchatov**	**14.91**	**18**	*e*Pn		**Pn**	**02 50 39.4**	**-2.6**
	comp=Z,15nm,0.9s							
PKI	**Pulchoki**	**14.94**	**124**	*e*P		**Pn**	**02 50 44.2**	**+1.9**
	comp=Z,63nm,0.6s							
PKI	**Pulchoki**	**14.94**	**124**	*e*P		**Pn**	**02 50 44.2**	**+1.9**
PKI				pmax	pmax			
	comp=Z,63nm,0.6s							
GUN	**Gumba**	**15.04**	**122**	*e*P		**Pn**	**02 50 44.4**	**+0.9**
	comp=Z,41nm,0.4s							
AB31	**Akbulak array**	**15.06**	**330**	P		**Pn**	**02 50 41.6**	**-2.2**
	comp=Z,2.6nm,0.3s,baz=146,slow=8.0,SNR=118							
AB31				⇑S		**S**	**02 53 20.3**	**-11**
	comp=Z,6.9nm,0.5s,baz=145,slow=26,SNR=17							
JIRN	**Jiri**	**15.41**	**122**	*e*P		**Pn**	**02 50 48.9**	**+0.8**
	comp=Z,133nm,0.4s							
VOSK	**Vostochnaya**	**16.01**	**359**	⇓P		**Pn**	**02 50 53.8**	**-1.6**
	comp=Z,8.7nm,0.8s							
ZRNK	**Zerenda**	**16.32**	**355**	⇑P		**Pn**	**02 50 57.6**	**-1.5**
	comp=Z,9.1nm,0.6s							
ZRNK				⇓S		**S**	**02 53 51.7**	**-8.5**
	comp=Z,2.9nm,1.1s							
ZRNK	**Zerenda**	**16.32**	**355**	*e*P		**Pn**	**02 50 57.7**	**-1.5**
ZRNK				pmax	pmax			
	comp=Z,12nm,0.5s							
ZRNK	**Zerenda**	**16.32**	**355**	*e*P		**Pn**	**02 50 57.6**	**-1.5**
	comp=Z,12nm,0.5s							
BVA0	**Borovoye Array**	**16.32**	**358**	P		**Pn**	**02 50 58.4**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=163,slow=12,SNR=44							
BVA0				⇓S		**S**	**02 53 53.9**	**-6.3**
	comp=Z,0.6nm,0.8s,baz=167,slow=23,SNR=4.3							
BVAR	**Borovoye Array**	**16.32**	**358**	P		**Pn**	**02 50 58.8**	**-0.4**
	comp=Z,3.8nm,0.3s,baz=155,slow=9.2,SNR=46							
BRVK	**Borovoye**	**16.36**	**358**	*e*P		**Pn**	**02 50 58.6**	**-1.0**
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
BRVK	**Borovoye**	**16.36**	**358**	*e*P		**Pn**	**02 50 58.6**	**-1.0**
	comp=Z,4.4nm,0.6s							
AKTK	**Aktyubinsk**	**16.77**	**329**	P		**Pn**	**02 51 04.3**	**-0.2**
AKTO	**Aktyubinsk**	**16.77**	**329**	⇓P		**Pn**	**02 51 04.3**	**-0.2**
	comp=Z,0.9nm,1.0s							
AKTO				⇑S		**S**	**02 54 00.4**	**-9.1**
	comp=Z,0.2nm,0.8s							
AKTO	**Aktyubinsk**	**16.77**	**329**	P		**Pn**	**02 51 04.3**	**-0.2**
	comp=Z,3.2nm,0.3s,baz=137,slow=11,SNR=87							
CHKZ	**Chkalovo**	**16.97**	**358**	⇑P		**Pn**	**02 51 05.7**	**-1.2**
	comp=Z,6.7nm,0.8s							
CHKZ				⇓S		**S**	**02 54 09.3**	**-4.3**
	comp=Z,5.8nm,1.4s							
CHKZ	**Chkalovo**	**16.97**	**358**	*e*P		**Pn**	**02 51 05.5**	**-1.4**
CHKZ				pmax	pmax			
	comp=Z,7.0nm,0.4s							
CHKZ	**Chkalovo**	**16.97**	**358**	*e*P		**Pn**	**02 51 05.5**	**-1.5**
	comp=Z,6.5nm,0.4s							
WSAR	**Wadi Sarin**	**17.39**	**223**	P		**Pn**	**02 51 10.3**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=357,slow=9.7,SNR=4.3							
WSAR	**Wadi Sarin**	**17.39**	**223**	P		**Pn**	**02 51 10.3**	**-1.6**
NVS	**Novosibirsk**	**19.86**	**20**	*i* P		**P**	**02 51 37.5**	**+0.2**
NVS				*e*S		**S**	**02 55 09.3**	**-1.6**
NVS				pmax	pmax			
	comp=N,15nm,0.5s							
NVS				pmax	pmax			
	comp=Z,15nm,0.5s							
NVS				pmax	pmax			
	comp=E,3.0nm,0.4s							
NVS				smax				
	comp=N,11nm,1.3s							
NVS				smax				
	comp=E,6.0nm,0.8s							
ARU	**Arti**	**21.54**	**340**	*e*P		**P**	**02 51 55.2**	**+0.1**
ARU				pmax	pmax			
	comp=Z,13nm,0.9s,mb4.4							
ARU	**Arti**	**21.54**	**340**	*e*P		**P**	**02 51 55.2**	**+0.1**
	comp=Z,13nm,0.9s,mb4.4							
IMP	**Imphal**	**22.65**	**115**	*ex*		x	02 57 10.0	
IMP				*ex*		x	02 57 23.0	
SONM	**Songino Array**	**27.93**	**56**	P		**P**	**02 52 56.0**	**+2.5**
	comp=Z,0.4nm,0.7s,mb3.3,baz=257,slow=8.3,SNR=3.6							
BRTR	**Keskin Array B**	**29.70**	**287**	P		**P**	**02 53 11.0**	**+1.9**
	comp=Z,0.4nm,0.5s,mb3.4,baz=102,slow=7.7,SNR=5.2							
HHC	**Hu-ho-hao-te**	**31.37**	**70**	*e*P		**P**	**02 53 22.5**	**-1.3**
HHC				AP		pP	02 53 59.0	-2.0
HHC				XP		sP	02 54 19.0	-2.7
HHC				PP		PP	02 54 32.3	-6.0
HHC				AMB		AMB		
	comp=Z,14nm,0.5s,mb5.0							
HHC				AMB		AMB		
	comp=Z,634nm,8.0s							
HHC				LR		LR		
	comp=N,359nm,16.6s							
HHC				LR		LR		
	comp=E,302nm,18.4s							
HHC				LR		LR		
	comp=Z,422nm,16.7s							
AKASG	**Malin Array Be**	**33.08**	**308**	P		**P**	**02 53 38.8**	**+0.1**
	comp=Z,1.8nm,0.5s,mb4.1,baz=81,slow=7.8,SNR=9.7							
AKBB	**Malin Array Si**	**33.08**	**308**	*e*P		**P**	**02 53 38.6**	**-0.1**
MLR	**Muntele Rosu**	**34.97**	**299**	P		**P**	**02 53 57.5**	**+2.5**
	comp=Z,2.2nm,0.7s,mb3.9,baz=144,slow=6.2,SNR=7.1							
JOF	**Joensuu**	**35.85**	**330**	*ep*		**P**	**02 54 02.4**	**-0.1**
	comp=Z,5.7nm,0.3s,mb4.7							
FINES	**FINESS Array B**	**37.49**	**326**	P		**P**	**02 54 16.7**	**+0.3**
	comp=Z,2.2nm,0.5s,mb4.1,baz=116,slow=10,SNR=36							
KAF	**Kangasniemi**	**37.63**	**327**	*ep*		**P**	**02 54 17.4**	**-0.1**
	baz=111,slow=8.5							
MORC	**Moravsky Berou**	**40.51**	**306**	*e*P		**P**	**02 54 42.4**	**+1.0**
MORC				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb3.9							
MORC	**Moravsky Berou**	**40.51**	**306**	*e*P		**P**	**02 54 42.4**	**+0.9**
	comp=Z,1.6nm,0.7s,mb3.8							
KEV	**Kevo**	**40.73**	**338**	*ep*		**P**	**02 54 43.3**	**+0.1**
	comp=Z,1.1nm,0.3s,mb4.0							
KEV	**Kevo**	**40.73**	**338**	*e*P		**P**	**02 54 43.3**	**+0.1**
KEV				pmax	pmax			
	comp=Z,1.0nm,0.3s,mb3.9							
ARCES	**ARCESS Array B**	**41.07**	**337**	P		**P**	**02 54 46.6**	**+0.6**
	comp=Z,3.3nm,0.5s,mb4.2,baz=113,slow=8.2,SNR=44							
GERES	**GERESS Array B**	**43.08**	**305**	P		**P**	**02 55 03.1**	**+0.8**
	comp=Z,0.1nm,0.4s,mb2.8,baz=54,slow=6.8,SNR=3.5							
HFS	**Hagfors**	**43.11**	**322**	P		**P**	**02 55 02.6**	**+0.1**
	baz=101,slow=12							
NB2	**NORSAR Subarra**	**44.41**	**323**	P		**P**	**02 55 12.6**	**-0.3**
	comp=Z,4.1nm,0.5s,mb4.3,baz=93,slow=7.9							
NOA	**NORSAR Array B**	**44.41**	**323**	P		**P**	**02 55 12.7**	**-0.2**
	comp=Z,3.9nm,0.6s,mb4.2,baz=97,slow=7.2,SNR=35							
ESDC	**Sonseca Array**	**57.66**	**298**	P		**P**	**02 56 53.6**	**+2.1**
	comp=Z,0.2nm,0.5s,mb3.2,baz=55,slow=7.8,SNR=5.1							
SUMG	**Summit**	**60.97**	**341**	*e*P		**P**	**02 57 15.5**	**+1.3**
	comp=Z,3.3nm,0.7s,mb4.3							
LSZ	**Lusaka**	**65.85**	**226**	*e*P		**P**	**02 57 46.4**	**+0.1**
LSZ				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.1							
LSZ	**Lusaka**	**65.85**	**226**	*e*P		**P**	**02 57 46.4**	**+0.1**
	comp=Z,1.8nm,0.6s,mb4.1							
TORD	**Torodi Ar. Bea**	**66.06**	**269**	P		**P**	**02 57 46.1**	**-1.5**
	comp=Z,2.6nm,0.6s,mb4.3,baz=49,slow=5.8,SNR=89							
LBTB	**Lobatse**	**75.07**	**222**	*e*P		**P**	**02 58 42.1**	**0.0**
LBTB				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.0							
LBTB	**Lobatse**	**75.07**	**222**	*e*P		**P**	**02 58 42.1**	**0.0**
	comp=Z,2.1nm,0.5s,mb4.0							
YKA	**Yellowknife Ar**	**81.01**	**3**	P		**P**	**02 59 15.2**	**+0.4**
	comp=Z,0.5nm,0.4s,mb3.5,baz=350,slow=5.5,SNR=9.7							
YKA	**Yellowknife Ar**	**81.01**	**3**	P		**P**	**02 59 15.2**	**+0.4**
WRA	**Warramunga Arr**	**81.82**	**122**	P		**P**	**02 59 18.5**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.5,baz=326,slow=5.1,SNR=15							
ASAR	**Alice Springs**	**84.10**	**125**	P		**P**	**02 59 30.4**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.5,baz=310,slow=5.1,SNR=13							

*ISCJB **30** 03:22:15.1±0.9, 24.38S×005×672W±0.1, h167km±25km, mb3.3/1, Error ellipse: s-maj=22.4km s-min=8.6km az=6.7*
*IDC **30** 03:22:15.8±1.9, 24.36S×6708W, h152km±21km, mb3.3/1, mb1 3.5/4, mb1mx3.3/17, mbtmp4.0/4, Error ellipse: s-maj=41.4km s-min=16.4km az=105.0*
*NEIC **30** 03:22:15.9±0.8, 24.31S×6709W, h156km±14km, mb3.5/1, Error ellipse: s-maj=19.2km s-min=9.9km az=113.0*
*GUC **30** 03:22:18.1±0.7, 24.53S×6756W, h188km, ML3.9*

ISC 30 03:22:16.0±0.8, 2438S±005×671W±01, h154km±23km, n13, σ1§16/18, mb3.3/1, 2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEN1	**Los Morros**	**2.98**	**289**	⇓*i* P	**Pn**	**03 23 05.0**	**+1.8**
CEN1				*i* S	**Sn**	**03 23 40.2**	**+0.3**
CEN1				AML	AML	03 23 41.3	
	comp=N,200nm,0.7s						
CPN1	**Cerro Paranal**	**3.00**	**265**	*e*P	**Pn**	**03 23 04.8**	**+1.3**
CPN1				*i* S	**Sn**	**03 23 39.5**	**-0.8**
CPN1				AML	AML	03 23 41.6	
	comp=E,224nm,0.2s						
ANCH	**Antofagasta**	**3.08**	**282**	*e*P	**Pn**	**03 23 05.6**	**+1.0**
ANCH				*i* S	**Sn**	**03 23 41.4**	**-0.8**
ANCH				AML	AML	03 23 43.0	
	comp=N,383nm,0.1s						
ANCH	**Antofagasta**	**3.08**	**282**	*e*P	**Pn**	**03 23 05.6**	**+1.0**
ANCH				*i* S	**Sn**	**03 23 41.4**	**-0.8**
CDCH	**Caldera**	**4.29**	**230**	⇓*i* P	**Pn**	**03 23 19.6**	**-0.5**
CDCH				*i* S	**Sn**	**03 24 07.3**	**-2.6**
CFAA	**Coronel Fontan**	**7.27**	**188**	P	**Pn**	**03 24 01.0**	**+1.5**
	comp=N,0.1nm,0.3s,baz=0.6,slow=12,SNR=20						
CFAA				S	**Sn**	**03 25 20.6**	**-0.3**
	comp=N,0.1nm,0.3s,baz=281,slow=18,SNR=3.0						
LPAZ	**La Paz**	**8.10**	**353**	P	**Pn**	**03 24 11.6**	**+0.9**
	comp=N,1.4nm,0.3s,baz=170,slow=7.7,SNR=54						
LPAZ	**La Paz**	**8.10**	**353**	*e*Pn	**Pn**	**03 24 11.2**	**+0.5**
	comp=N,3.4nm,0.3s						
SIV	**San Ignacio**	**10.09**	**35**	P	**Pn**	**03 24 35.3**	**-1.8**
	comp=N,1.3nm,0.3s,baz=232,slow=11,SNR=20						
SAML	**Samuel**	**15.80**	**14**	*e*P	**Pn**	**03 25 48.4**	**-1.6**
	comp=N,1.6nm,0.6s						
BDFB	**Brasilia**	**19.93**	**68**	P	**P**	**03 26 36.4**	**+0.6**
	comp=N,0.3nm,0.3s,baz=250,slow=9.7,SNR=5.7						
TORD	**Torodi Ar. Bea**	**76.81**	**69**	P	**P**	**03 33 50.8**	**+0.2**
	comp=N,0.8nm,1.1s,mb3.3,baz=260,slow=5.8,SNR=5.8						
WRA	**Warramunga Arr**	**131.24**	**207**	PKP	PKPdf	03 41 10.3	+0.7
	comp=N,0.2nm,0.8s,baz=153,slow=1.7,SNR=6.4						

KRSC 30 03:28:27, 5135N×15251E, h190km, ML3.5, Northwest of Kuril Islands

*IDC **30** 03:39:21.5±0.9, 957S×10751E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/17, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=38.5km s-min=19.0km az=50.0*
*NEIC **30** 03:39:23.0±0.4, 960S×10750E, h10km, mb4.8/10, Error ellipse: s-maj=19.8km s-min=6.5km az=225.0*
*ISCJB **30** 03:39:31.8±1.0, 95S±02×1077E±02, h100km, mb4.3/16, Error ellipse: s-maj=46.5km s-min=9.8km az=84.9*

ISC 30 03:39:29.4±5.7, 96S±03×1076E±02, h58km±57km, n22, σ0§49/19, mb4.3/16, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.43**	**118**	P	**Pn**	**03 43 51.9**	**-0.6**
	0.2nm,0.3s,baz=238,slow=5.4,SNR=10						
WRA	**Warramunga Arr**	**27.78**	**115**	P	**P**	**03 45 12.9**	**+0.2**
	1.3nm,0.7s,mb3.7,baz=286,slow=11,SNR=23						
WRA				PcP	PcP	03 48 29.0	+1.1
	0.4nm,0.6s,baz=299,slow=2.0,SNR=6.3						
WRAB	**Tennant Creek**	**27.79**	**115**	*e*P	**P**	**03 45 13.2**	**+0.4**
	2.8nm,0.7s,mb4.0						
ASAR	**Alice Springs**	**28.75**	**122**	P	**P**	**03 45 21.9**	**+0.5**
	0.6nm,0.5s,mb3.6,baz=297,slow=9.0,SNR=13						
ASAR				PcP	PcP	03 48 31.8	+1.5
	0.5nm,0.6s,baz=308,slow=2.1,SNR=7.2						
JIRN	**Jiri**	**42.43**	**331**	*e*P	**P**	**03 47 18.9**	**+0.6**
	27nm,0.6s,mb5.0						
PKI	**Pulchoki**	**42.73**	**330**	*e*P	**P**	**03 47 20.6**	**-0.2**
	10nm,0.6s,mb4.8						
GUN	**Gumba**	**42.79**	**331**	*e*P	**P**	**03 47 21.8**	**+0.6**
	20nm,0.6s,mb5.0						
DMN	**Daman**	**42.91**	**330**	*e*P	**P**	**03 47 22.2**	**0.0**
KKN	**Kakani**	**42.98**	**330**	*e*P	**P**	**03 47 23.0**	**+0.2**
	22nm,0.8s,mb4.9						
GKN	**Gorkha**	**43.47**	**330**	*e*P	**P**	**03 47 26.5**	**-0.2**
	31nm,1.1s,mb4.9						
KOLN	**Koldanda**	**43.80**	**329**	*e*P	**P**	**03 47 29.4**	**0.0**
	25nm,1.0s,mb4.9						
MJAR	**Matsushiro Arr**	**54.14**	**30**	P	**P**	**03 48 47.7**	**-0.8**
	1.2nm,0.9s,mb3.8,baz=194,slow=8.6,SNR=5.2						
MJAR	**Matsushiro Arr**	**54.14**	**30**	P	**P**	**03 48 47.7**	**-0.8**
SONM	**Songino Array**	**57.16**	**359**	P	**P**	**03 49 11.3**	**+1.1**
	1.1nm,0.7s,mb4.0,baz=174,slow=6.3,SNR=8.0						
MKAR	**Makanchi Array**	**60.49**	**340**	P	**P**	**03 49 33.3**	**0.0**
	2.6nm,0.6s,mb4.4,baz=139,slow=7.9,SNR=17						
KURK	**Kurchatov**	**65.11**	**340**	*e*P	**P**	**03 50 03.6**	**-0.3**
	2.7nm,0.7s,mb4.4						
CHKZ	**Chkalovo**	**70.38**	**338**	*e*P	**P**	**03 50 36.7**	**-0.4**
	1.4nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**70.44**	**336**	*e*P	**P**	**03 50 37.0**	**-0.5**
	1.8nm,0.6s,mb4.2						
BRTR	**Keskin Array B**	**83.98**	**312**	P	**P**	**03 51 52.8**	**-0.5**
	0.4nm,0.6s,mb3.7,baz=156,slow=7.2,SNR=3.9						
WMOK	**Wichita Mounta**	**145.21**	**40**	*e*PKPbc	PKPbc	03 59 01.3	+1.2
BDFB	**Brasilia**	**145.22**	**224**	PKPbc	PKPbc	03 59 00.9	+0.8
	1.9nm,0.7s,baz=153,slow=4.5,SNR=4.3						
LPAZ	**La Paz**	**153.97**	**189**	PKPbc	PKPbc	03 59 24.8	+2.6
	0.6nm,0.6s,baz=202,slow=5.4,SNR=4.4						

*ISCJB **30** 03:45:47.6±4.0, 220S±04×1712E±02, h118km±26km, mb3.9/4, Error ellipse: s-maj=70.0km s-min=33.2km az=150.6*
*IDC **30** 03:45:49.8±8.4, 2203S×171.16E, h117km±51km, mb3.6/4, mb1 3.9/5, mb1mx3.6/12, mbtmp4.1/5, MS3.8/1, Ms1 3.8/1, ms1mx2.9/20, Error ellipse: s-maj=82.7km s-min=39.5km az=133.0*

ISC 30 03:45:48.4±3.8, 221S±04×1713E±02, h108km±24km, n8, σ0§44/10, mb3.9/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.46**	**269**	*e*P	**Pn**	**03 46 53.7**	**-0.1**
DZM				*e*S	**Sn**	**03 47 45.0**	**+0.4**
DZM	**Mont Dzumac**	**4.46**	**269**	P	**Pn**	**03 46 54.0**	**+0.2**
	7.8nm,0.3s,baz=75,slow=22,SNR=258						
DZM				S	**Sn**	**03 47 45.3**	**+0.7**
	26nm,0.3s,baz=137,slow=20,SNR=20						
NOUC	**Port Laguerre**	**4.59**	**269**	*e*P	**Pn**	**03 46 55.5**	**-0.1**
NOUC				*e*S	**Sn**	**03 47 47.3**	**-0.5**
CTA	**Charters Tower**	**23.40**	**270**	LR	LR	03 58 02.1	
	comp=Z,201nm,18.3s,baz=223,slow=31						
ASAR	**Alice Springs**	**34.38**	**260**	P	**P**	**03 52 25.4**	**+0.3**
	2.5nm,0.7s,mb4.1,baz=81,slow=9.3,SNR=29						
WRA	**Warramunga Arr**	**34.47**	**267**	P	**P**	**03 52 25.0**	**-0.8**
	0.3nm,0.4s,mb3.5,baz=96,slow=8.7,SNR=17						
FITZ	**Fitzroy Crossi**	**42.90**	**267**	P	**P**	**03 53 36.7**	**+0.5**
	4.3nm,0.8s,mb4.2,baz=148,slow=8.5,SNR=14						
MJAR	**Matsushiro Arr**	**66.13**	**331**	P	**P**	**03 56 24.2**	**0.0**
	1.1nm,0.7s,mb3.8,baz=174,slow=8.1,SNR=5.3						

IDC 30 03:46:07.4±3.7, 220S×10191E, h175km±33km, mb3.1/4, mb1 3.2/5, mb1mx3.0/18, mbtmp3.6/5, Error ellipse: s-maj=104.2km s-min=17.5km az=46.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.80**	**329**	P	Pn	03 47 30.7	-0.9
	0.9nm,0.3s,baz=154,slow=8.4,SNR=8.5						
WRA	**Warramunga Arr**	**36.25**	**121**	P	P	03 52 53.6	-0.1
	0.3nm,0.4s,baz=301,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**37.60**	**127**	P	P	03 53 05.8	+0.7
	0.5nm,0.5s,baz=302,slow=8.0,SNR=7.5						
MKAR	**Makanchi Array**	**51.76**	**343**	P	P	03 54 57.1	+0.1
	1.0nm,0.6s,baz=153,slow=7.9,SNR=5.5						
BRTR	**Keskin Array B**	**74.87**	**312**	P	P	03 57 29.1	+0.4
	0.5nm,0.8s,baz=149,slow=8.2,SNR=3.9						

*TIF **30** 03:48:28.9, 4049N×4261E, h14km±2km*
*CSEM **30** 03:48:29.0±0.2, 4051N×4261E, h10km, MD3.4, Error ellipse: s-maj=4.6km s-min=3.7km az=47.0*
*ISK **30** 03:48:29.4, 4052N×4261E, h14km, MD3.4*
*ISCJB **30** 03:48:32.0±0.6, 4037N±005×4265E±005, h10km, Error ellipse: s-maj=7.6km s-min=4.3km az=107.6*

ISC 30 03:48:32.3±0.6, 4036N±005×4263E±005, h10km, n15, σ1§70/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARS	**Kars**	**0.43**	**55**	*i* PG	**Pg**	**03 48 37.6**	**-3.2**
KARS				*i* SG	**Sg**	**03 48 42.9**	**-3.7**
DIGO	**Kars**	**0.57**	**85**	*i* P	**Pg**	**03 48 40.5**	**-3.0**
DIGO				*i* S	**Sg**	**03 48 50.2**	**-0.7**
DIGO	**Kars**	**0.57**	**85**	*i* P	**Pg**	**03 48 40.5**	**-2.9**
DIGO				*i* S	**Sg**	**03 48 50.2**	**-0.8**
ERZM	**Erzurum**	**1.07**	**245**	*i* P	**Pg**	**03 48 50.9**	**-2.0**
ERZM				*i* S	**Sg**	**03 49 07.3**	**+0.5**
EZM	**Erzurum**	**1.07**	**245**	PN	**Pn**	**03 48 50.4**	**-3.0**
BCA	**Borcka**	**1.32**	**325**	PN	**Pn**	**03 48 52.6**	**-4.2**
BCA				SN	**Sn**	**03 49 08.6**	**-5.9**
CLDR	**Caldiran**	**1.57**	**140**	*e*PN	**Pn**	**03 48 59.7**	**-0.6**
GNI	**Garni**	**1.63**	**97**	PN	**Pn**	**03 48 59.1**	**-2.0**
VANB	**Van**	**1.86**	**161**	*e*PN	**Pn**	**03 49 04.2**	**0.0**
TVAN	**Van**	**1.93**	**162**	*i* P	**Pn**	**03 49 08.4**	**+3.3**
TVAN				*i* S	**Sn**	**03 49 32.2**	**+0.8**
TBLG	**Delisi**	**2.10**	**49**	P	**Pn**	**03 49 10.3**	**+2.7**
TBLG				S	**Sn**	**03 49 34.7**	**+1.0**
MTA	**Mtatsminda**	**2.11**	**50**	P	**Pn**	**03 49 09.5**	**+1.9**
MTA				S	**Sn**	**03 49 34.5**	**+0.6**
ONI	**Oni**	**2.30**	**15**	P	**Pn**	**03 49 10.1**	**-0.2**
ONI				S	**Sn**	**03 49 45.1**	**+6.4**
BTMT	**Batman**	**2.34**	**203**	*e*PN	**Pn**	**03 49 12.9**	**+2.1**
DGRG	**David-gareji**	**2.35**	**62**	P	**Pn**	**03 49 12.8**	**+1.9**
DGRG				S	**Sn**	**03 49 45.1**	**+5.3**

NEIC 30 03:51:03.1, 5923N×15450W, h150km, mb4.1/2, After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**1.77**	**144**	P	Pn	03 51 33.8	-1.7
SVW2	**Sparrevohn**	**1.95**	**344**	P	Pn	03 51 36.9	-0.7
SLKM	**Skilak Lake**	**2.51**	**57**	P	Pn	03 51 43.3	-1.0
SEW	**Seward**	**2.71**	**69**	P	Pn	03 51 45.8	-0.9
FIB	**Fire Island**	**2.90**	**46**	P	Pn	03 51 48.6	-0.5
RC01	**Rabbit Creek A**	**3.02**	**50**	P	Pn	03 51 49.3	-1.3
PMR	**Palmer**	**3.56**	**46**	P	Pn	03 51 55.2	-2.4
CHGN	**Chignik**	**3.61**	**217**	*e*P	Pn	03 51 56.6	-1.6
KNK	**Knik Glacier**	**3.72**	**51**	P	Pn	03 51 57.1	-2.5
GHO	**Glory Hole Cre**	**3.76**	**45**	P	Pn	03 51 57.8	-2.2
TTA	**Tatalina**	**3.78**	**349**	*e*P	Pn	03 51 59.5	-0.9
MID	**Middleton Isla**	**4.19**	**84**	*e*P	Pn	03 52 03.9	-1.8
EYAK	**Cordova Ski Ar**	**4.60**	**70**	*e*Pn	Pn	03 52 08.8	-2.4
MCK	**McKinley**	**5.24**	**28**	P	Pn	03 52 17.7	-1.9
MENT	**Mentasta**	**6.41**	**50**	*e*Pn	Pn	03 52 33.6	-1.6
COLA	**College**	**6.46**	**26**	*e*Pn	Pn	03 52 32.9	-3.0
	11nm,0.4s						
COLA				*e*Sn	Sn	03 53 43.6	-5.0
DAWY	**Dawson**	**8.66**	**50**	*e*Pn	Pn	03 53 03.9	-1.3
INK	**Inuvik**	**12.91**	**37**	*e*P	Pn	03 53 59.4	-1.6
	1.5nm,0.5s						

*ISCJB **30** 03:53:15.5±0.7, 4042N±003×2583E±007, h14km±4km, Error ellipse: s-maj=8.4km s-min=4.6km az=179.1*
*CSEM **30** 03:53:15.9±0.1, 4039N×2595E, h12km, MD2.9, Error ellipse: s-maj=2.6km s-min=1.8km az=101.0*
*ISK **30** 03:53:16.0, 4037N×2594E, h19km, MD2.9*
*ATH **30** 03:53:16.0, 4040N×2581E, h30km±1km, MD3.0/3*
*NEIC **30** 03:53:16.0, 4040N×2581E, h30km, MD3.0(ATH), After ATH.*

ISC 30 03:53:15.7±0.7, 4042N±003×2582E±007, h16km±4km, n17, σ0§79/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GADA	**Gvkgeada**	**0.23**	**165**	*i* PG	**Pg**	**03 53 21.3**	**+0.3**
GADA				*i* SG	**Sg**	**03 53 24.8**	**+0.3**
ENEZ	**Enez**	**0.41**	**39**	*i* PG	**Pg**	**03 53 24.7**	**+0.7**
ENEZ				*i* SG	**Sg**	**03 53 30.9**	**+1.3**
BOZC	**Bozcaada**	**0.60**	**162**	*i* P	**Pg**	**03 53 27.5**	**-0.1**
BOZC				*i* S	**Sg**	**03 53 35.3**	**-0.3**
EZN	**Ezine**	**0.71**	**146**	*i* PG	**Pg**	**03 53 28.6**	**-1

LIT eSn Sn 04 05 33.8 +2.5
KZN Kozani 2.98 12 ⇑iPN Pn 04 04 58.5 +1.5
VAM Vamos 3.27 126 ePn Pn 04 05 01.5 +0.5
PAIG Paliouri 3.30 39 ePn Pn 04 05 01.0 -0.5
FNA Florina 3.40 5 ePn Pn 04 05 02.6 -0.2
FNA eSn Sn 04 05 46.9 +4.5
PLG Polygyros 3.54 32 ⇑iPN Pn 04 05 04.7 -0.1
GVD Gavdhos 3.58 134 ePn Pn 04 05 04.7 -0.6
GVD Gavdhos 3.58 134 ePN Pn 04 05 05.3 0.0
THE Thessaloniki 3.59 25 ePn Pn 04 05 05.1 -0.3
HORT Hortiatis 3.60 27 ePn Pn 04 05 05.7 +0.1
HORT eSn Sn 04 05 49.6 +2.2
BIA Bitola 3.63 4 ePn Pn 04 05 06.9 +0.9
BIA Bitola 3.63 4 ePN Pn 04 05 06.5 +0.5
APE Apeiranthos 3.65 94 ePN Pn 04 05 07.2 +0.9
APE Apeiranthos 3.65 94 ⇑iP Pn 04 05 05.4 -0.9
APE Apeiranthos 3.65 94 ePn Pn 04 05 07.2 +0.9
OHR Ohrid 3.72 358 ePn Pn 04 05 07.5 +0.3
OHR Ohrid 3.72 358 ePn Pn 04 05 08.1 +0.9
GRG Griva 3.73 17 ePn Pn 04 05 07.9 +0.5
OUR Ouranopolis 3.76 38 ePn Pn 04 05 08.0 +0.3
SOH Sokhos 3.89 28 ePn Pn 04 05 09.6 0.0
SOH eSn Sn 04 05 57.8 +3.3
SIVA Sivas 3.90 126 ePn Pn 04 05 10.3 +0.5
TIR Tirane 4.04 348 ePn Pn 04 05 12.7 +1.0
TIR Tirane 4.04 348 ePn Pn 04 05 12.6 +0.9
KNT Kendrikon 4.05 21 ePn Pn 04 05 12.7 +0.9
LOS Limnos 4.09 50 ePn Pn 04 05 12.4 +0.1
VAY Valandovo 4.11 17 ePn Pn 04 05 12.8 +0.1
VAY Valandovo 4.11 17 ePn Pn 04 05 12.6 0.0
LIA Limnos Island 4.13 51 ePN Pn 04 05 12.9 0.0
CHOS Chios island 4.14 75 ePn Pn 04 05 12.9 -0.1
QSH Qafa e Shtames 4.21 349 iPn Pn 04 05 16.5 +2.6
QSH iSn Sn 04 05 40.5 -22
QSH Qafa e Shtames 4.21 349 ePN Pn 04 05 16.5 +2.6
SRS Serrai 4.24 28 ePn Pn 04 05 14.8 +0.4
NPS Neapolis 4.30 118 ePN Pn 04 05 17.0 +1.7
STIP Stip 4.40 12 ePn Pn 04 05 17.7 +1.1
STIP Stip 4.40 12 ePN Pn 04 05 17.1 +0.6
PRK Paraskevi 4.56 64 ePN Pn 04 05 19.3 +0.6
XRY Khrisi 4.57 122 ePN Pn 04 05 21.6 +2.7
SKO Skopje 4.59 4 ePn Pn 04 05 19.6 +0.5
SMG Samos 4.67 84 ePN Pn 04 05 21.0 +0.7
MMB Musomiste 4.70 26 ePn Pn 04 05 20.9 +0.2
MMB eSn Sn 04 06 16.8 +2.3
MMB Musomiste 4.70 26 iP Pn 04 05 20.7 0.0
GADA Gvkgeada 4.75 52 ePN Pn 04 05 20.9 -0.5
KKB Krupnik 4.75 19 iP Pn 04 05 21.8 +0.3
ULC Ulcinj 4.75 344 ⇓iPn Pn 04 05 21.6 +0.1
ULC eSn Sn 04 06 14.1 -1.7
SG1 Sgolgore (BA) 4.80 317 ePn Pn 04 05 23.8 +1.7
BAI Bari 4.89 321 ePn Pn 04 05 24.9 +1.6
BLCB Balcova 4.90 76 ePN Pn 04 05 23.6 +0.2
BODT Bodrum 5.06 92 ePN Pn 04 05 25.9 +0.2
IZM Izmir 5.07 77 ePN Pn 04 05 25.5 -0.4
RDO Rodhopi 5.15 42 ePN Pn 04 05 26.5 -0.4
BUM Brajici-Budva 5.16 343 ⇓iPn Pn 04 05 26.8 -0.1
BUM eSn Sn 04 06 23.9 -1.8
RZN Rozhen 5.17 33 iP Pn 04 05 27.9 +0.7
CDT Castel del Mon 5.19 317 ePn Pn 04 05 29.3 +1.9
TTG Podgorica 5.20 346 ⇑iPn Pn 04 05 27.7 +0.1
TTG eSn Sn 04 06 25.5 -1.3
VAE Valguarnera 5.23 273 P Pn 04 05 32.8 +4.8
3.3nm,0.3s,baz=291,slow=5.0,SNR=10
VAE S Sn 04 06 34.4 +6.9
11nm,0.3s,baz=101,slow=17,SNR=3.2
VAE Valguarnera 5.23 273 P Pn 04 05 32.8 +4.8
VAE S Sn 04 06 34.4 +6.9
ENEZ Enez 5.23 49 ePN Pn 04 05 26.4 -1.6
PVY Plav 5.25 352 ⇓iPn Pn 04 05 29.6 +1.2
PVY eSn Sn 04 06 27.3 -0.8
ALN Alexandroupoli 5.27 47 ePn Pn 04 05 29.1 +0.6
ALN eSn Sn 04 06 31.4 +2.9
DAT Datca 5.32 95 ePN Pn 04 05 29.9 +0.7
HCY Herceg Novi 5.40 340 ⇓iPn Pn 04 05 29.8 -0.5
HCY eSn Sn 04 06 29.2 -2.4
CANB Canakkale 5.43 59 ePN Pn 04 05 30.0 -0.7
KDZ Kurdzhali 5.46 38 iP Pn 04 05 30.2 -1.0
VTS Vitosha 5.47 18 ePn Pn 04 05 32.4 +1.2
VTS Vitosha 5.47 18 iP Pn 04 05 32.2 +0.9
VTS Vitosha 5.47 18 ⇓P Pn 04 05 32.1 +0.8
PLD Plovdiv 5.51 30 ePn Pn 04 05 32.1 +0.2
IVA Berane 5.53 352 ⇓iPn Pn 04 05 33.3 +1.2
IVA eSn Sn 04 06 34.0 -1.0
NKY Niksic 5.62 345 ⇓iPn Pn 04 05 33.3 -0.1
NKY eSn Sn 04 06 35.1 -2.1
TREB Trebinje 5.69 340 P Pn 04 05 33.3 -1.0
BRY Bratogost 5.81 342 ⇑iPn Pn 04 05 35.7 -0.2
BRY eSn Sn 04 06 39.5 -2.3
YER Yerkesik 5.83 90 ePN Pn 04 05 37.8 +1.5
ARG Arkhangelos 5.86 99 ePN Pn 04 05 38.6 +2.0
MFT Murefte 5.96 53 ePN Pn 04 05 36.9 -1.1
UPM Unac-Piva 6.01 345 ⇓iPn Pn 04 05 38.9 +0.1
UPM eSn Sn 04 06 44.0 -2.9
STON Ston 6.02 336 iPn Pn 04 05 37.9 -1.0
STON iSn Sn 04 06 43.7 -3.3
PLE Pljevlja 6.05 349 ⇑iPn Pn 04 05 40.1 +0.8
PLE eSn Sn 04 06 46.5 -1.3
MRMT Marmara Adasi 6.07 56 ePN Pn 04 05 39.7 -0.8
DALT Dalyan (Mudla) 6.16 93 ePN Pn 04 05 41.5 +0.8
EDRB Edirne 6.29 43 ePN Pn 04 05 41.9 -0.7
FETY Fethiye 6.53 94 ePN Pn 04 05 47.9 +2.0
SLUM 6.85 148 ⇑P Pn 04 05 46.5 -3.7
SLUM S Sn 04 06 57.8 -10
ELL Elmali 7.17 92 ePN Pn 04 05 56.1 +1.5
YLV Yalova 7.27 62 ePN Pn 04 05 55.6 -0.3
KLYT Kilyos 7.34 56 ePN Pn 04 05 56.6 -0.5
ESKT Eskisehir 8.03 72 ePN Pn 04 06 06.6 +0.2
BZS Buzias 8.23 3 ⇑iPn Pn 04 06 08.3 -0.9
KIZT Kizilcal 8.72 77 ePN Pn 04 06 16.2 +0.3
MLR Muntele Rosu 8.91 23 P Pn 04 06 19.7 +1.3
0.9nm,0.3s,baz=226,slow=3.8,SNR=18
MLR LR 04 09 10.9
comp=Z,98nm,20.2s,baz=191,slow=34
MLR Muntele Rosu 8.91 23 ⇑iP Pn 04 06 19.9 +1.4
SWA2 8.95 154 P Pn 04 06 16.4 -2.6
HARR Harsova 8.98 34 ⇑iP Pn 04 06 20.0 +0.5
SWA1 9.02 153 ⇓P Pn 04 06 17.5 -2.6
SWA1 S Sn 04 07 51.0 -10
CRES Cresnjev 9.38 336 ePn Pn 04 06 24.6 -0.4
CRES Sn Sn 04 08 00.9 -8.9
PLOR Plostina 9.46 25 ⇓iP Pn 04 06 27.3 +1.3
CFR Carcaliu 9.46 32 ⇑iP Pn 04 06 26.3 +0.3
VRI Vrincioaia 9.49 25 ⇑iP Pn 04 06 27.7 +1.2
KEST Kesra 9.50 263 P Pn 04 06 29.2 +2.5
0.5nm,0.3s,baz=29,slow=7.0,SNR=16
VOY Vojsko 10.12 331 ePn Pn 04 06 36.8 +1.7
VOY e 04 06 45.8
VOY e 04 06 54.9
VOY eSn Sn 04 08 22.2 -5.7
BR131 Keskin Array S 10.19 73 ePn Pn 04 06 38.2 +2.2
1.2nm,0.5s
BRTR Keskin Array B 10.19 73 P Pn 04 06 37.8 +1.7
0.2nm,0.3s,baz=256,slow=14,SNR=9.6
BRTR Keskin Array B 10.19 73 iP Pn 04 06 41.4 +5.4
BRTR pmax pmax
comp=Z,1.0nm,0.5s
PERS Pernice 10.21 337 ePn Pn 04 06 35.4 -1.0
OBKA Obir 10.29 334 ⇑iSn Sn 04 08 26.3 -5.6
OBKA Obir 10.29 334 ⇑iPn Pn 04 06 37.1 -0.3
OBKA ⇓iSn Sn 04 08 30.6 -1.3
OBKA Obir 10.29 334 ⇑iPn Pn 04 06 37.1 -1.3
OBKA iSn Sn 04 08 26.3 -5.6
PSZ Piszkesteto 10.55 356 ⇑e Pn 04 06 40.6 -0.4
ARSA Arzberg 10.64 339 ⇑iSn Sn 04 08 33.2 -7.5
ARSA Arzberg 10.64 339 ⇑iPn Pn 04 06 41.5 -0.8
ARSA ⇑iSn Sn 04 08 41.0 +0.4
ARSA Arzberg 10.64 339 ⇑iPn Pn 04 06 41.5 -0.8
ARSA iSn Sn 04 08 33.2 -7.5
BURAR Bucovina Array 10.68 16 ⇑iP Pn 04 06 43.7 +0.9
KBA Koelnbreinsper 11.20 332 ⇑iSn Sn 04 08 48.7 -5.7
KBA Koelnbreinsper 11.20 332 ⇓iPn Pn 04 06 50.5 +0.6
KBA ⇓iSn Sn 04 08 51.1 -3.3
KBA Koelnbreinsper 11.20 332 ⇓iPn Pn 04 06 50.5 +0.6
KBA iSn Sn 04 08 48.7 -5.7
VYHS Vyhne 11.21 353 ePN Pn 04 06 48.2 -1.7
AWBH 11.23 141 ⇑P Pn 04 06 47.0 -3.2
AWBH 11.23 141 P Pn 04 06 47.0 -3.3
MOA Molln 11.55 337 ⇓iSn Sn 04 08 56.0 -7.0
MOA Molln 11.55 337 ⇑⇑iPn Pn 04 06 54.4 -0.4
MOA ⇑⇑iSn Sn 04 08 58.9 -4.1
MOA Molln 11.55 337 ⇑⇑iPn Pn 04 06 54.4 -0.4
MOA iSn Sn 04 08 56.0 -7.0
GLL Jalalah 11.87 128 ⇑⇑P Pn 04 06 55.4 -3.7
GLL Jalalah 11.87 128 P Pn 04 06 55.3 -3.7
SBF Sospel 12.14 306 eP Pn 04 07 10.4 +7.6
comp=Z,25nm,0.9s
SBF Sospel 12.14 306 eP Pn 04 07 10.4 +7.6
SBF pmax pmax
comp=Z,13nm,0.9s
SBF Sospel 12.14 306 eP Pn 04 07 10.4 +7.6
comp=Z,13nm,0.9s
AMAG Maghara 12.17 120 P Pn 04 06 59.9 -3.3
VRAC Vranov 12.33 346 P Pn 04 07 05.2 -0.1
comp=Z,0.2nm,0.3s,baz=165,slow=12,SNR=3.0
SUZ 12.42 124 ⇑⇑P Pn 04 07 03.1 -3.4
LMR La Mourre 12.52 303 eP Pn 04 07 15.4 +7.4
comp=Z,16nm,1.0s
LMR La Mourre 12.52 303 eP Pn 04 07 15.4 +7.4
LMR pmax pmax
comp=Z,8.0nm,1.0s
LMR La Mourre 12.52 303 eP Pn 04 07 15.4 +7.4
comp=Z,8.3nm,1.0s
FRF La Foret Royal 12.52 304 eP Pn 04 07 15.3 +7.3
TREC Trest 12.54 343 AMS AMS 04 12 30.0
comp=Z,600nm,11.8s
MMAI Mount Meron Ar 12.58 106 P Pn 04 07 10.1 +1.4
comp=Z,1.0nm,0.3s,baz=313,slow=14,SNR=3.4
ZAF 12.60 127 ⇑⇑P Pn 04 07 05.3 -3.7
OKC Ostrava-Krasne 12.61 352 eP Pn 04 07 07.9 -1.2
OKC AMS AMS 04 12 40.0
comp=Z,300nm,11.4s
GEC2 GERESS Array S 12.61 337 eP Pn 04 07 10.0 +0.8
GERES GERESS Array B 12.61 337 P Pn 04 07 10.6 +1.4
comp=Z,0.2nm,0.3s,baz=152,slow=13,SNR=16
MORC Moravsky Berou 12.62 350 eP Pn 04 07 09.9 +0.5
ZNM 12.75 125 P Pn 04 07 07.3 -3.8
KHC Kasperske Hory 12.90 338 eP Pn 04 07 12.6 -0.6
KHC ex x 04 07 26.0
KHC ex x 04 08 44.0
KHC eS Sn 04 09 37.0 +1.0
KHC AMS AMS 04 13 00.0
comp=Z,400nm,10.9s
KHC Kasperske Hory 12.90 338 eP Pn 04 07 12.6 -0.6
KHC e 04 07 26.0
KHC e 04 08 44.0
KHC e 04 09 37.0
MBDF Montbardon 12.97 309 eP Pn 04 07 21.6 +7.5
comp=Z,7.2nm,0.9s
MBDF Montbardon 12.97 309 eP Pn 04 07 21.6 +7.5
MBDF pmax pmax
comp=Z,4.0nm,0.9s
MBDF Montbardon 12.97 309 eP Pn 04 07 21.6 +7.5
comp=Z,3.6nm,0.9s
DPC Dobruska-Polom 13.38 347 eP Pn 04 07 30.4 +11
ASUT 13.38 135 ⇑⇑P Pn 04 07 16.5 -3.2
LPG La Plagne 13.38 312 eP Pn 04 07 26.7 +7.0
SMRF Simiane la Rot 13.40 304 eP Pn 04 07 26.7 +6.7
comp=Z,38nm,1.4s
SMRF Simiane la Rot 13.40 304 eP Pn 04 07 26.7 +6.7
comp=Z,38nm,1.4s
LPL La Plagne 13.40 312 eP Pn 04 07 26.9 +6.9
PRU Pruhonice 13.42 342 eP Pn 04 07 19.9 -0.3
PRU AMS AMS 04 13 10.0
comp=Z,500nm,9.6s
PRU Pruhonice 13.42 342 eP Pn 04 07 19.9 -0.3
UPC Upice 13.59 346 eP Pn 04 07 32.1 +10
ORIF Oris-en-Rattie 13.62 308 eP Pn 04 07 29.9 +6.9
HDK1 Dakhla 13.82 146 P Pn 04 07 23.1 -2.6
HDK1 Dakhla 13.82 146 P Pn 04 07 23.0 -2.7
PVCC Panska Ves 13.91 343 eP Pn 04 07 27.2 +0.3
PVCC AMS AMS 04 13 30.0
comp=Z,500nm,12.2s
EIL Elat 13.96 119 ePn Pn 04 07 28.6 +1.0
GRA1 Grafenberg Arr 14.17 333 ePn Pn 04 07 36.6 +6.2
GRF Grafenberg Arr 14.17 333 ePn Pn 04 07 36.6 +6.2
AKRG Al Kharijah 14.36 143 P Pn 04 07 30.5 -2.6
VIVF Saint-Julien-l 14.36 306 eP Pn 04 07 39.4 +6.4
BRG Berggiesshubel 14.38 342 eP Pn 04 07 33.6 +0.3
comp=Z,1.6nm,0.9s
BRG e 04 07 41.7
comp=Z,2.4nm,0.8s
BRG
comp=N,166nm,12.3s
BRG
comp=E,118nm,10.8s
BRG
comp=Z,255nm,10.8s
BRG Berggiesshubel 14.38 342 eP Pn 04 07 33.6 +0.3
comp=Z,1.6nm,0.9s
BRG e 04 07 41.7
CABF La Chapelle 14.38 314 eP Pn 04 07 39.6 +6.3
GTR Jabal at Tayr 14.38 143 ⇑P Pn 04 07 31.3 -2.0
AKASG Malin Array Be 14.55 21 P Pn 04 07 33.0 -2.6
comp=Z,0.3nm,0.3s,baz=207,slow=12,SNR=6.8
AKBB Malin Array Si 14.55 21 ePn Pn 04 07 33.0 -2.7
AKBB eP 04 07 40.5
AKBB Malin Array Si 14.55 21 eP Pn 04 07 33.0 -2.7
HINF Hinteralfeld 14.70 320 eP Pn 04 07 43.9 +6.3
comp=Z,5.9nm,0.8s
HINF Hinteralfeld 14.70 320 eP Pn 04 07 43.9 +6.3
HINF pmax pmax
comp=Z,3.0nm,0.8s
HINF Hinteralfeld 14.70 320 eP Pn 04 07 43.9 +6.3
comp=Z,3.0nm,0.8s
MOX Moxa 14.84 336 eP Pn 04 07 42.3 +2.7
comp=Z,7.0nm,1.2s
MOX Moxa 14.84 336 eP Pn 04 07 42.3 +2.7
MOX pmax pmax
comp=Z,7.0nm,1.2s
CDF Champ du Feu 14.88 322 eP Pn 04 07 45.4 +5.3
comp=Z,7.8nm,0.9s
CDF Champ du Feu 14.88 322 eP Pn 04 07 45.4 +5.3
CDF pmax pmax
comp=Z,4.0nm,0.9s
CDF Champ du Feu 14.88 322 eP Pn 04 07 45.4 +5.3
comp=Z,3.9nm,0.9s
CLL Collm 15.02 340 i PP 04 07 48.6
CLL e*SPP 04 07 56.0
CLL eL 04 11 08.0
CLL Collm 15.02 340 i PP 04 07 48.6
comp=Z,13nm,1.2s
CLL esPP 04 07 56.0
CLL Collm 15.02 340 P Pn 04 07 48.6 +6.6
CLL e 04 07 56.0
HAU Haudompre 15.08 319 eP Pn 04 07 48.4 +5.6
comp=Z,20nm,0.9s
HAU Haudompre 15.08 319 eP Pn 04 07 48.4 +5.6
HAU pmax pmax
comp=Z,10.0nm,0.9s
HAU Haudompre 15.08 319 eP Pn 04 07 48.4 +5.6
comp=Z,10nm,0.9s
MTLF Montolieu 15.47 298 eP Pn 04 07 54.0 +6.1
comp=Z,8.5nm,1.1s
MTLF Montolieu 15.47 298 eP Pn 04 07 54.0 +6.1
MTLF pmax pmax
comp=Z,4.0nm,1.1s
MTLF Montolieu 15.47 298 eP Pn 04 07 54.0 +6.1
comp=Z,4.3nm,1.1s
SMF Signal de Mont 15.71 311 eP Pn 04 07 56.7 +5.7
LOR Lormes 16.02 313 eP Pn 04 08 00.5 +5.5
comp=Z,13nm,1.1s
LOR Lormes 16.02 313 eP Pn 04 08 00.5 +5.5
LOR pmax pmax
comp=Z,7.0nm,1.1s
LOR Lormes 16.02 313 eP Pn 04 08 00.5 +5.5
comp=Z,6.7nm,1.1s
MEZF Maizieres J'vi 16.07 319 eP Pn 04 08 01.1 +5.5
AVF Avril sur Loir 16.07 311 eP Pn 04 08 01.1 +5.4
SSF Saint Saulge 16.12 312 eP Pn 04 08 01.5 +5.2
BGF Bois d'Agland 16.27 310 eP Pn 04 08 03.7 +5.5
WLF Walferdange 16.27 324 P Pn 04 07 58.6 +0.3
WLF pmax pmax
comp=Z,6.0nm,0.8s
WLF Walferdange 16.27 324 P Pn 04 07 58.6 +0.4
comp=Z,6.4nm,0.8s
WLF Walferdange 16.27 324 P Pn 04 07 58.6 +0.3
comp=Z,6.4nm,0.8s
TCF Toulx Ste Croi 16.54 308 eP Pn 04 08 07.2 +5.6
RJF Les Rejaudoux 16.59 305 eP Pn 04 08 08.2 +5.9
SUW Suwalki 16.69 5 eP Pn 04 08 02.7 -0.9
SUW pmax pmax
comp=Z,111nm,0.6s
SUW Suwalki 16.69 5 ePn Pn 04 08 02.7 -0.9
comp=Z,111nm,0.6s
SUW eP 04 08 05.2
EPF Esparros 16.73 296 eP Pn 04 08 09.7 +5.7
ETSF Etsaut 17.34 295 eP Pn 04 08 17.7 +6.0
comp=Z,9.8nm,1.0s
ETSF Etsaut 17.34 295 eP Pn 04 08 17.7 +6.0
ETSF pmax pmax
comp=Z,5.0nm,1.0s
ETSF Etsaut 17.34 295 eP Pn 04 08 17.7 +6.0
comp=Z,4.9nm,1.0s
BAIF Baives 17.48 322 eP Pn 04 08 18.2 +4.8
comp=Z,8.9nm,0.8s
BAIF Baives 17.48 322 eP Pn 04 08 18.2 +4.8
BAIF pmax pmax
comp=Z,4.0nm,0.8s
BAIF Baives 17.48 322 eP Pn 04 08 18.2 +4.8
comp=Z,4.4nm,0.8s
KIV Kislovodsk 17.70 61 eP Pn 04 08 23.3 +7.2
KIV pmax pmax
comp=Z,5.0nm,0.8s
VRSR Storozhevoye 18.92 37 eP Pn 04 08 28.6 -2.5
VRSR pmax pmax
comp=Z,3.0nm,0.6s
VRSR pmax pmax
comp=N,8.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,0.8s
VRSR Storozhevoye 18.92 37 eP Pn 04 08 28.6 -2.5
comp=E,8.0nm,1.0s
ESDC Sonseca Array 19.63 284 P Pn 04 08 39.7 +0.2
comp=E,0.2nm,0.3s,baz=80,slow=12,SNR=18
ESDC Sonseca Array 19.63 284 P Pn 04 08 39.7 +0.2
ESDC Sonseca Array 19.63 284 P Pn 04 08 39.7 +0.1
OBN Obninsk 20.66 26 deP P 04 08 47.4 -1.9
OBN eS S 04 12 24.5 -15
OBN pmax pmax
comp=Z,35nm,1.1s
OBN MLR MLR
comp=Z,100nm,14.0s,MS3.3
OBN Obninsk 20.66 26 eP P 04 08 47.0 -2.3
comp=Z,16nm,0.6s
OBN Obninsk 20.66 26 eP P 04 08 47.4 -1.9
comp=Z,100nm,14.0s
VSU Vasula 21.42 8 ciP P 04 08 56.1 -1.4
VSU Vasula 21.42 8 iP P 04 08 56.1 -1.4
MOS Moscow 21.52 26 eP P 04 08 57.6 -1.0
MOS e 04 09 33.5
HFS Hagfors 23.23 351 P P 04 09 14.6 -2.2
comp=Z,3.4nm,0.5s,mb4.0,baz=169,slow=10,SNR=35
EKA Eskdalemuir Ar 24.28 325 P P 04 09 26.4 -0.3
comp=Z,2.6nm,0.5s,mb3.9,baz=128,slow=9.8,SNR=15
FINES FINESS Array B 24.29 6 P P 04 09 24.1 -2.6
comp=Z,3.2nm,0.5s,mb4.0,baz=162,slow=12,SNR=24
FINES LR LR 04 19 04.7
comp=Z,59nm,20.3s,MS3.1,baz=332,slow=37
FINES FINESS Array B 24.29 6 iP P 04 09 24.8 -1.9
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 24.29 6 iP P 04 09 24.8 -1.9
comp=Z,3.0nm,0.5s,mb4.0
ESK Eskdalemuir 24.29 325 eP P 04 09 27.3 +0.6
ESK pmax pmax
comp=Z,13nm,0.9s,mb4.4
ESK Eskdalemuir 24.29 325 eP P 04 09 27.3 +0.6
comp=Z,14nm,0.9s,mb4.4
NAO01 NORSAR Array S 24.33 348 eP P 04 09 26.1 -1.0
comp=Z,5.6nm,0.7s,mb4.1
NAO01 NORSAR Array S 24.33 348 eP P 04 09 26.1 -1.0
comp=Z,5.6nm,0.7s,mb4.1
NB2 NORSAR Subarra 24.46 349 P P 04 09 28.1 -0.2
comp=Z,3.7nm,0.8s,mb3.9,baz=164,slow=11
NOA NORSAR Array B 24.46 349 P P 04 09 27.2 -1.1
comp=Z,1.8nm,0.7s,mb3.6,baz=154,slow=11,SNR=12
KLMR Klimovskoe 26.24 21 eP P 04 09 44.2 -0.3
KLMR pmax pmax
comp=Z,20nm,2.1s,mb4.3
KLMR Klimovskoe 26.24 21 eP P 04 09 44.2 -0.3
comp=Z,20nm,2.1s,mb4.3
AKTK Aktyubinsk 29.37 52 P P 04 10 10.2 -2.2
AKTK Aktyubinsk 29.37 52 P P 04 10 10.3 -2.2
AKTO Aktyubinsk 29.37 52 P P 04 10 10.2 -2.2
comp=Z,2.0nm,0.5s,mb4.1,baz=259,slow=9.0,SNR=9.5
TORD Torodi Ar. Bea 29.66 221 P P 04 10 16.4 +1.4
comp=Z,2.8nm,0.7s,mb4.1,baz=33,slow=9.2,SNR=29
TORD Torodi Ar. Bea 29.66 221 P P 04 10 16.4 +1.4
ARCES ARCESS Array B 32.30 3 P P 04 10 36.6 -1.7
comp=Z,1.5nm,0.6s,mb4.0,baz=183,slow=8.3,SNR=3.7
ZRNK Zerenda 36.51 49 eP P 04 11 13.2 -1.6
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
ZRNK Zerenda 36.51 49 eP P 04 11 13.2 -1.6
comp=Z,3.9nm,0.8s,mb4.3
ZRNK Zerenda 36.51 49 eP P 04 11 13.2 -1.6
comp=Z,3.9nm,0.8s,mb4.3
CHKZ Chkalovo 37.54 48 eP P 04 11 21.4 -2.1
CHKZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
CHKZ Chkalovo 37.54 48 eP P 04 11 21.4 -2.1
comp=Z,4.7nm,0.7s,mb4.3
CHKZ Chkalovo 37.54 48 eP P 04 11 21.4 -2.1
comp=Z,4.7nm,0.7s,mb4.3
DBIC Dimbokro 38.57 224 P P 04 11 34.1 +1.9
comp=Z,6.8nm,0.5s,mb4.6,baz=28,slow=9.7,SNR=15
DBIC Dimbokro 38.57 224 eP P 04 11 33.9 +1.7
DBIC pmax pmax
comp=Z,8.0nm,0.6s
DBIC Dimbokro 38.57 224 eP P 04 11 33.9 +1.7
comp=Z,7.5nm,0.6s,mb4.6
DBIC Dimbokro 38.57 224 eP P 04 11 33.9 +1.7
comp=Z,7.5nm,0.6s,mb4.6
LIC Lamto 39.03 224 eP P 04 11 35.6 -0.5
comp=Z,20nm,0.6s,mb4.8
LIC Lamto 39.03 224 eP P 04 11 35.6 -0.5
comp=Z,9.9nm,0.6s,mb4.8
KURK Kurchatov 42.46 53 eP P 04 12 01.4 -2.9
KURK pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
KURK Kurchatov 42.46 53 eP P 04 12 01.4 -2.9
comp=Z,2.4nm,0.8s,mb3.9
KURK Kurchatov 42.46 53 eP P 04 12 01.4 -2.9
comp=Z,2.4nm,0.8s,mb3.9
MKAR Makanchi Array 45.41 58 P P 04 12 25.8 -2.2
comp=Z,2.4nm,0.6s,mb4.2,baz=277,slow=7.1,SNR=19
MKAR Makanchi Array 45.41 58 iP P 04 12 25.7 -2.3
MKAR pmax pmax
comp=Z,2.0nm,0.6s
ZAL Zalesovo 45.94 48 P P 04 12 29.3 -2.9
comp=Z,2.8nm,0.5s,mb4.4,baz=200,slow=11,SNR=6.8
WMQ Urumqi 49.83 60 P P 04 13 03.3 +1.0
LSZ Lusaka 52.82 171 eP P 04 13 26.3 +1.5
LSZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
LSZ Lusaka 52.82 171 eP P 04 13 26.3 +1.5
comp=Z,2.4nm,0.7s,mb4.2
LSZ Lusaka 52.82 171 eP P 04 13 26.3 +1.5
comp=Z,2.4nm,0.7s,mb4.2
SONM Songino Array 60.68 50 P P 04 14 18.7 -1.9
comp=Z,0.2nm,0.3s,mb3.7,baz=280,slow=7.2,SNR=4.2
BOD Bodaibo 60.77 38 eP P 04 14 10.3 -11
LBTB Lobatse 62.23 175 P P 04 14 33.3 +2.3
comp=Z,2.6nm,0.7s,mb4.5,baz=4.0,slow=8.3,SNR=5.2
LBTB Lobatse 62.23 175 eP P 04 14 32.9 +1.9
LBTB pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
LBTB Lobatse 62.23 175 eP P 04 14 32.9 +1.9
comp=Z,3.3nm,0.8s,mb4.5
LBTB Lobatse 62.23 175 eP P 04 14 32.9 +1.9
comp=Z,3.3nm,0.8s,mb4.5
BOSA Boshof 65.78 176 P P 04 14 56.3 +1.9
comp=Z,1.9nm,0.7s,mb4.2,baz=329,slow=6.0,SNR=3.1
HHC Hu-ho-hao-te 67.18 55 eP P 04 15 02.3 -1.0
HHC AP pP 04 15 12.3 +1.5
HHC XP sP 04 15 17.0 +3.4
HHC PP PP 04 17 30.8 -0.6
HHC S S 04 23 49.5 -7.0
HHC SCS ScS 04 24 53.0 -6.7
HHC AMB AMB
comp=Z,15nm,0.7s,mb5.1
HHC AMB AMB
comp=Z,102nm,8.0s
HHC LR LR
comp=N,125nm,17.8s,MS4.4
HHC LR LR
comp=E,139nm,16.7s,MS4.4
HHC LR LR
comp=Z,143nm,15.5s,MS4.3
YKA Yellowknife Ar 74.25 340 P P 04 15 46.1 -0.2

comp=Z,0.3nm,0.5s,mb3.5,baz=35,slow=6.0,SNR=4.9

YKA	**Yellowknife Ar**	**74.25**	**340**	*i* P		**P**	**04 15 47.0**	**+0.6**
NJ2	**Nanjing**	**76.90**	**60**	*e*P		**P**	**04 16 02.5**	**+1.0**
NJ2				AP		pP	04 16 12.8	+3.7
NJ2				XP		sP	04 16 16.0	+4.1
NJ2				PP		PP	04 18 56.5	+1.9
NJ2				S		S	04 25 46.0	-2.0
NJ2				XS		sS	04 26 04.0	+3.4
NJ2				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.7							
NJ2				AMB		AMB		
	comp=Z,90nm,5.0s							
NJ2				LR		LR		
	comp=N,150nm,12.7s,MS4.7							
NJ2				LR		LR		
	comp=E,150nm,12.1s,MS4.7							
SSE	**Sheshan**	**79.07**	**59**	P		**P**	**04 16 11.8**	**-1.8**
SSE				AMB		AMB		
	comp=Z,36nm,4.0s							
WRA	**Warramunga Arr**	**120.14**	**93**	PKP		PKPdf	04 22 58.8	-1.3
	comp=Z,0.6nm,1.1s,baz=223,slow=2.5,SNR=3.7							
WRA	**Warramunga Arr**	**120.14**	**93**	PKP		PKPdf	04 22 58.8	-1.3
ASAR	**Alice Springs**	**121.72**	**97**	PKP		PKPdf	04 23 03.0	-0.2
	comp=Z,0.2nm,0.4s,baz=344,slow=2.0,SNR=4.9							

*NAO **30** 04:07:05.6±1.3, 6768N×3361E, ML2.3*
*CSEM **30** 04:07:08.2±0.1, 6767N×3284E, h1km, ML2.1, Error ellipse: s-maj=3.7km s-min=2.8km az=29.0, Mining explosion.*

HEL 30 04:07:04.6±0.3, 6767N×3379E, h0km, ML2.6, ML2.1(BER), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
APA0	**Apatity Array**	**0.31**	**258**	*i* P		Pg	04 07 09.9	-0.6
APA0				*i* S		Sg	04 07 14.1	-0.5
APA0				*e*RG			04 07 15.0	
APA0	**Apatity Array**	**0.31**	**258**	Pg		Pg	04 07 09.9	-0.6
	baz=73,slow=14							
APA0				Lg			04 07 14.1	
	baz=80,slow=37							
APA0				Rg			04 07 15.0	
	baz=80,slow=37							
APA0	**Apatity Array**	**0.31**	**258**	Pg		Pg	04 07 09.9	-0.7
	SNR=91							
KU4	**Liikasenvaara**	**2.11**	**233**	*e*P		Pn	04 07 41.5	+0.3
KU4				*e*S		Sn	04 08 08.4	+0.3
KU4	**Liikasenvaara**	**2.11**	**233**	P		Pn	04 07 41.4	+0.3
KU4				S		Sn	04 08 08.3	+0.2
MSF	**Maaselka**	**2.58**	**229**	*e*P		Pn	04 07 47.8	+0.2
MSF				*e*SB		Sb	04 08 22.3	-1.7
SGF	**Sodankyl**	**2.80**	**269**	*e*P		Pn	04 07 49.6	-0.9
SGF				*e*S		Sn	04 08 24.2	-0.8
SGF	**Sodankyl**	**2.80**	**269**	P		Pn	04 07 49.6	-1.0
SGF				S		Sn	04 08 24.1	-0.9
KEV	**Kevo**	**3.24**	**313**	*e*P		Pn	04 07 57.1	+0.5
KEV				*e*S		Sn	04 08 35.0	-0.9
KEV				MSG			04 08 51.0	
	comp=Z,14nm,0.3s							
KEV	**Kevo**	**3.24**	**313**	P		Pn	04 07 57.1	+0.4
KEV				S		Sn	04 08 35.0	-1.0
	comp=Z,14nm,0.3s							
ARA0	**ARCESS Array S**	**3.57**	**305**	*e*P		Pn	04 08 00.8	-0.3
ARA0				*e*PG		Pg	04 08 09.4	-3.5
ARA0				*e*S		Sn	04 08 41.9	-2.1
ARA0				*e*SB		Sb	04 08 51.6	-0.7
ARA0	**ARCESS Array S**	**3.57**	**305**	Pn		Pn	04 08 00.8	-0.3
	baz=123,slow=16							
ARA0				Pg		Pg	04 08 09.4	-3.5
	baz=114,slow=16							
ARA0				Sn		Sn	04 08 41.9	-2.1
	baz=122,slow=28							
ARA0				Lg			04 08 51.6	
	baz=124,slow=37							
OUL	**Oulu**	**4.10**	**234**	*e*P		Pn	04 08 08.3	-0.2
OUL				*e*SG		Sg	04 09 11.3	-5.1
OUL				MSG			04 09 15.5	
	comp=Z,14nm,0.5s							
OUL	**Oulu**	**4.10**	**234**	P		Pn	04 08 08.3	-0.2
OUL				Sg		Sg	04 09 11.3	-5.1
	comp=Z,14nm,0.5s							
KTK1	**Kautokeino**	**4.14**	**294**	*e*P		Pn	04 08 09.2	+0.2
KTK1				AML		AML	04 09 12.2	
	comp=Z,9.8nm,0.8s							
KIF	**Kilpisjarvi**	**4.99**	**291**	*e*P		Pn	04 08 19.9	-0.9
KIF				*e*S		Sn	04 09 14.9	-4.3
KIF				MSG			04 09 40.1	
	comp=Z,7.1nm,0.3s							
FIA0	**FINESS Array S**	**7.07**	**212**	Pn		Pn	04 08 48.4	-1.0
	baz=20,slow=14							
FIA0	**FINESS Array S**	**7.07**	**212**	*e*P		Pn	04 08 48.4	-1.0

IDC 30 04:15:16.6±1.3, 1986N×10341E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/20, mbtmp3.8/4, Error ellipse: s-maj=204.4km s-min=22.7km az=55.0, Low Confidence Location, Laos

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AKTO	**Aktyubinsk**	**46.98**	**321**	P		P	04 23 51.1	+1.8
	1.7nm,0.8s,baz=112,slow=5.4,SNR=6.0							
WRA	**Warramunga Arr**	**49.83**	**141**	P		P	04 24 12.6	+1.3
	0.5nm,0.5s,baz=322,slow=7.5,SNR=17							
ASAR	**Alice Springs**	**52.49**	**144**	P		P	04 24 30.6	-0.7
	0.4nm,0.4s,baz=322,slow=6.8,SNR=9.7							
ARCES	**ARCESS Array B**	**67.33**	**338**	P		P	04 26 11.2	-2.1
	1.3nm,0.9s,baz=98,slow=6.5,SNR=4.1							

*LDG **30** 04:19:22.5±0.7, 4284N×147W, h5km, Md1.9/2, Ml1.6/1, Error ellipse: s-maj=13.3km s-min=8.9km az=54.0*

MDD 30 04:19:22.6±0.2, 4279N×137W, h0km, mbLg1.0/5, 1C, Error ellipse: s-maj=3.3km s-min=1.2km az=150.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
IPRE	**Itoiz**	**0.02**	**33**	⇑Pg		Pg	04 19 22.6	-0.3
	17nm,0.0s,SNR=18							
IPRE				Lg			04 19 23.0	
	52nm,0.1s,SNR=7.9							
EARA	**Aranguren**	**0.16**	**263**	Pg		Pg	04 19 25.4	-0.2
	1.5nm,0.0s,SNR=32							
EARA				Lg			04 19 28.4	
	37nm,0.1s,SNR=7.9							
IUSE	**Utxeti**	**0.20**	**320**	Pg		Pg	04 19 26.1	-0.4
	0.8nm,0.1s,SNR=7.9							
IUSE				Lg			04 19 29.2	
	1.5nm,0.1s,SNR=7.9							
SJPF	**Ste Jean**	**0.34**	**18**	*e*Pg		Pg	04 19 28.7	-0.4
SJPF				*e*Sg		Sg	04 19 33.9	+0.4
	2.8nm,0.2s							
SJPF	**Ste Jean**	**0.34**	**18**	Pg		Pg	04 19 28.7	-0.4
SJPF				Lg			04 19 33.9	
	1.4nm,0.2s							
EALK	**Alkurruntz**	**0.44**	**347**	Pg		Pg	04 19 31.1	0.0
	0.1nm,0.1s,SNR=9.4							
EALK				Lg			04 19 36.7	
	1.1nm,0.1s,SNR=6.0							
ETSF	**Etsaut**	**0.60**	**80**	*e*Pg		Pg	04 19 34.5	+0.3
ETSF				*e*Sg		Sg	04 19 43.3	+1.2
	1.0nm,0.2s							
ETSF	**Etsaut**	**0.60**	**80**	Pg		Pg	04 19 34.5	+0.3
ETSF				Lg			04 19 43.3	
	0.5nm,0.2s							
EBIE	**Bielsa**	**1.12**	**95**	Pg		Pg	04 19 45.1	+1.1
	0.2nm,0.1s,SNR=7.9							
EBIE				Lg			04 20 03.0	
	0.3nm,0.2s,SNR=7.9							
EPF	**Esparros**	**1.28**	**79**	*e*Pn		Pn	04 19 46.6	-1.1
EPF	**Esparros**	**1.28**	**79**	*e*Pg		Pg	04 19 47.7	+0.6
EPF				*e*Sg		Sg	04 20 05.7	+2.0
	0.9nm,0.2s							
EPF	**Esparros**	**1.28**	**79**	Pn		Pn	04 19 46.6	-1.1
EPF				Pn		Pn	04 19 47.7	0.0
EPF				Lg			04 20 05.7	
	0.4nm,0.2s							

*KNET **30** 04:25:24.7±0.7, 4289N×7783E, h0km, ml4.0, Error ellipse: s-maj=6.7km s-min=4.7km az=171.0*

*ISCJB **30** 04:25:25.6±1.3, 4345N±006×7790E±009, h6km±7km, Error ellipse: s-maj=14.0km s-min=5.6km az=76.0*
*NNC **30** 04:25:26.2±1.5, 4332N×7784E, h5km±5km, mb3.8, mpv3.5, Error ellipse: s-maj=12.6km s-min=6.7km az=130.0*

ISC 30 04:25:26.6±1.4, 4333N±005×7792E±009, h4km±8km, n19, σ1§25/33, 20C-19D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KNDC	**Almaty**	**0.70**	**261**	⇑P		**Pg**	**04 25 38.5**	**-1.6**
	103nm,0.3s							
KNDC				⇑S		**Sg**	**04 25 50.2**	**+0.9**
	2µm,0.8s							
ULHL	**Ulahol**	**1.64**	**229**	⇑P		**Pn**	**04 25 50.3**	**-5.9**
	439nm,0.1s,SNR=3162							
ULHL				⇓S		**Sn**	**04 26 10.1**	**-7.7**
	2µm,0.2s							
TKM2	**Tokmak 2**	**1.75**	**257**	⇓P		**Pn**	**04 25 55.5**	**-2.1**
	100nm,0.2s,SNR=220							
TKM2				⇓S		**Sn**	**04 26 19.7**	**-0.6**
	1µm,0.5s							
TKM2	**Tokmak 2**	**1.75**	**257**	⇓P		**Pn**	**04 25 55.6**	**-2.0**
	9.2nm,0.6s							
TKM2				⇑S		**Sn**	**04 26 19.7**	**-0.7**
	51nm,0.6s							
KBK	**Karagaybulak**	**2.28**	**254**	⇓P		**Pn**	**04 26 04.7**	**-0.3**
	286nm,0.2s,SNR=110							
KBK				⇑S		**Sn**	**04 26 35.6**	**+2.1**
	2µm,0.5s							
KZA	**Kyzart**	**2.33**	**238**	⇓P		**Pn**	**04 26 03.4**	**-2.3**
	97nm,0.2s,SNR=133							
KZA				⇑S		**Sn**	**04 26 34.1**	**-0.6**
	452nm,0.3s							
CHMS	**Chumysh**	**2.34**	**263**	⇓P		**Pn**	**04 26 05.8**	**+0.1**
	148nm,0.2s,SNR=153							
CHMS				⇑S		**Sn**	**04 26 38.5**	**+3.6**
	396nm,0.2s							
USP	**Ospenovka**	**2.50**	**270**	⇓P		**Pn**	**04 26 08.5**	**+0.6**
	121nm,0.2s,SNR=135							
USP				⇓S		**Sn**	**04 26 44.3**	**+5.5**
	508nm,0.3s							
AAK	**Ala-Archa**	**2.61**	**256**	⇑P		**Pn**	**04 26 09.8**	**+0.4**
	138nm,0.2s,SNR=82							
AAK				⇑S		**Sn**	**04 26 45.1**	**+3.6**
	344nm,0.3s							
UCH	**Uchtor**	**2.74**	**247**	⇑P		**Pn**	**04 26 10.7**	**-0.5**
	111nm,0.4s,SNR=282							
EKS2	**Erkin-Say**	**3.11**	**259**	⇓P		**Pn**	**04 26 16.4**	**0.0**
	55nm,0.2s,SNR=80							
MK05	**Makanchi Array**	**4.64**	**40**	⇑Pn		**Pn**	**04 26 38.1**	**+0.6**
	17nm,0.2s							
MK05				⇑Lg			04 27 51.2	
	34nm,0.5s							
KK31	**Karatay Array**	**5.42**	**270**	Pn		**Pn**	**04 26 49.6**	**+1.5**
	0.6nm,0.7s,baz=228,slow=21,SNR=7.7							
KK31				⇑Pg		**Pg**	**04 27 01.2**	**-9.2**
	5.9nm,0.5s,baz=94,slow=14,SNR=46							
KK31				⇓Lg			04 28 14.1	
	20nm,0.3s							
KURK	**Kurchatov**	**7.40**	**3**	⇓Pn		**Pn**	**04 27 15.5**	**+0.2**
	1.7nm,0.9s							
KURK				⇑Lg			04 29 22.9	
	69nm,1.0s							
VOSK	**Vostochnaya**	**10.48**	**336**	⇓Pn		**Pn**	**04 27 58.4**	**+0.9**
	1.1nm,0.4s							
VOSK				⇓Sn		**Sn**	**04 29 53.2**	**-2.0**
	3.4nm,0.6s							
VOSK				⇑Lg			04 30 58.5	
	38nm,1.1s							
BVA0	**Borovoye Array**	**10.92**	**335**	⇑Pn		**Pn**	**04 28 05.5**	**+2.0**
	0.2nm,0.2s,baz=230,slow=42,SNR=6.5							
BVA0				⇓Sn		**Sn**	**04 30 06.6**	**+0.5**
	0.4nm,0.2s							
BVA0				⇓Lg			04 31 14.8	
	13nm,1.4s							
ZRNK	**Zerenda**	**11.31**	**331**	⇑Pn		**Pn**	**04 28 08.5**	**-0.3**
	1.4nm,0.5s							
ZRNK				⇓Sn		**Sn**	**04 30 11.5**	**-4.2**
	2.8nm,0.4s							
ZRNK				⇑Lg			04 31 25.8	
	34nm,1.1s							
CHKZ	**Chkalovo**	**11.42**	**338**	⇑Pn		**Pn**	**04 28 11.6**	**+1.1**
	1.2nm,0.5s							
CHKZ				⇓Sn		**Sn**	**04 30 16.4**	**-2.0**
	3.9nm,0.7s							
CHKZ				⇓Lg			04 31 26.6	
	23nm,1.1s							
AB31	**Akbulak array**	**13.75**	**302**	⇑Pn		**Pn**	**04 28 41.9**	**-0.4**
	0.4nm,0.5s,baz=92,slow=9.0,SNR=5.3							

MAN 30 04:29:57.4, 1047N×12543E, h1km, mb2.6, ML4.1, MS2.0, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MSLP	**Maasin**	**0.66**	**239**	*e*P		Pg	04 30 09.7	-0.3
SCPH	**Surigao**	**0.69**	**175**	*e*P		Pg	04 30 10.9	+0.3
PLP	**Palo**	**0.82**	**327**	*e*P		Pg	04 30 13.4	+0.3
PLP				*i* S		Sg	04 30 25.5	+1.8
OCLP	**Ormoc**	**0.99**	**305**	*e*P		Pg	04 30 16.7	+0.2
BEOP	**Borongan**	**1.12**	**0**	*e*P		Pg	04 30 19.0	+0.1
LLP	**Lapu-Lapu**	**1.45**	**264**	*e*P		Pn	04 30 25.0	+0.2
PVCP	**Virac**	**3.35**	**338**	*e*P		Pn	04 30 56.1	+5.3

*ATH **30** 04:48:56.2, 4095N×2092E, h32km, MD3.1/4*
*CSEM **30** 04:48:58.7±0.1, 4067N×2081E, h5km, ML2.2, Error ellipse: s-maj=1.6km s-min=1.3km az=97.0*
*ISCJB **30** 04:48:58.5±0.4, 4064N±002×2080E±003, h7km±3km, Error ellipse: s-maj=4.5km s-min=3.2km az=54.1*
*NEIC **30** 04:48:58.6, 4064N×2078E, h0km, MD3.1(ATH), After THE.*
*THE **30** 04:48:58.7, 4064N×2080E, h10km, ML2.6*
*SKO **30** 04:48:59.6, 4070N×2082E, h13km, M1.8, ML2.2*

ISC 30 04:48:58.9±0.4, 4064N±002×2079E±003, h9km±3km, n47, σ1§12/84, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KBN	**Korca**	**0.02**	**176**	*i* Pg		**Pg**	**04 49 00.1**	**-0.4**
KBN				*i* Sg		**Sg**	**04 49 02.4**	**+0.7**
KBN	**Korca**	**0.02**	**176**	*e*Pg		**Pg**	**04 49 00.1**	**-0.4**
KBN				*e*Sg		**Sg**	**04 49 02.4**	**+0.7**
OHR	**Ohrid**	**0.47**	**1**	*i* Pg		**Pg**	**04 49 07.3**	**-0.7**
OHR				*e*Sg		**Sg**	**04 49 14.7**	**+0.5**
OHR				*e*Lg			04 49 14.8	
	comp=E,186nm,0.5s							
OHR				*e*Lg			04 49 14.9	
	comp=N,79nm,0.4s							
OHR	**Ohrid**	**0.47**	**1**	P		**Pg**	**04 49 07.5**	**-0.6**
OHR				S		**Sg**	**04 49 14.9**	**+0.6**
OHR	**Ohrid**	**0.47**	**1**	*e*Pg		**Pg**	**04 49 07.4**	**-0.6**
OHR				*e*Sg		**Sg**	**04 49 14.8**	**+0.6**
FNA	**Florina**	**0.47**	**72**	*e*Pg		**Pg**	**04 49 07.8**	**-0.3**
FNA				*e*Sg		**Sg**	**04 49 15.1**	**+0.8**
FNA	**Florina**	**0.47**	**72**	P		**Pg**	**04 49 07.8**	**-0.3**
FNA				S		**Sg**	**04 49 15.9**	**+1.6**
FNA	**Florina**	**0.47**	**72**	*e*Pg		**Pg**	**04 49 07.8**	**-0.3**
FNA				*e*Sg		**Sg**	**04 49 15.1**	**+0.8**
FNA				S		**Sg**	**04 49 15.9**	**+1.6**
LSK	**Leskovik**	**0.51**	**196**	*i* Pg		**Pg**	**04 49 07.8**	**-1.0**
LSK				*i* Sg		**Sg**	**04 49 16.1**	**+0.5**
BIA	**Bitola**	**0.56**	**47**	*e*Pg		**Pg**	**04 49 08.7**	**-1.0**
BIA				*e*Sg		**Sg**	**04 49 17.4**	**+0.5**
BIA	**Bitola**	**0.56**	**47**	*i* Pg		**Pg**	**04 49 08.6**	**-1.1**
BIA				*e*Sg		**Sg**	**04 49 17.4**	**+0.4**
BIA				*e*Lg			04 49 18.6	
	comp=N,84nm,0.2s							
BIA				*e*Lg			04 49 19.2	
	comp=E,112nm,0.5s							
BIA	**Bitola**	**0.56**	**47**	P		**Pg**	**04 49 08.7**	**-1.0**
BIA				S		**Sg**	**04 49 17.9**	**+0.9**
BIA	**Bitola**	**0.56**	**47**	*e*Pg		**Pg**	**04 49 08.7**	**-1.0**
BIA				*e*Sg		**Sg**	**04 49 17.5**	**+0.5**
BIA				S		**Sg**	**04 49 17.9**	**+0.9**
KZN	**Kozani**	**0.82**	**114**	*e*PN		**Pn**	**04 49 13.9**	**-2.8**
KZN				*e*SN		**Sn**	**04 49 26.9**	**-2.0**
MEV	**Metsovon**	**0.92**	**158**	*e*Pg		**Pg**	**04 49 15.4**	**-1.2**
MEV				*e*Sg		**Sg**	**04 49 29.2**	**+0.6**
MEV	**Metsovon**	**0.92**	**158**	P		**Pg**	**04 49 15.6**	**-1.0**
MEV				S		**Sg**	**04 49 29.2**	**+0.6**
MEV	**Metsovon**	**0.92**	**158**	P		**Pg**	**04 49 15.6**	**-1.0**
MEV				*e*Sg		**Sg**	**04 49 29.2**	**+0.6**
JAN	**Janina**	**0.98**	**177**	*e*PN		**Pn**	**04 49 19.7**	**+0.8**
TIR	**Tirane**	**0.99**	**316**	*e*Pg		**Pg**	**04 49 17.7**	**-0.3**
TIR				*e*Sg		**Sg**	**04 49 32.7**	**+1.8**
IGT	**Igoumenitsa**	**1.16**	**198**	*e*Pg		**Pg**	**04 49 20.5**	**-0.8**
IGT				*e*Sg		**Sg**	**04 49 37.3**	**+1.0**
IGT	**Igoumenitsa**	**1.16**	**198**	P		**Pb**	**04 49 20.5**	**-0.6**
IGT				S		**Sg**	**04 49 38.1**	**+1.8**
IGT	**Igoumenitsa**	**1.16**	**198**	*e*Pg		**Pg**	**04 49 20.5**	**-0.7**
IGT				*e*Sg		**Sg**	**04 49 37.3**	**+1.0**
IGT				S		**Sg**	**04 49 38.1**	**+1.8**
KEK	**Kerkira**	**1.20**	**220**	*e*PN		**Pn**	**04 49 22.7**	**+0.9**
GRG	**Griva**	**1.27**	**75**	*e*Pg		**Pg**	**04 49 22.1**	**-1.2**
GRG	**Griva**	**1.27**	**75**	P		**Pn**	**04 49 22.2**	**-0.6**
GRG	**Griva**	**1.27**	**75**	*e*Pg		**Pg**	**04 49 22.0**	**-1.2**
GRG	**Griva**	**1.27**	**75**	P		**Pn**	**04 49 22.2**	**-0.6**
LIT	**Litokhoron**	**1.41**	**112**	*e*Pg		**Pn**	**04 49 24.9**	**+0.2**
LIT				*e*Sg		**Sg**	**04 49 45.4**	**+1.2**
LIT	**Litokhoron**	**1.41**	**112**	P		**Pn**	**04 49 24.9**	**+0.2**
LIT				S		**Sb**	**04 49 45.6**	**+2.2**
KNT	**Kendrikon**	**1.68**	**71**	*e*Pb		**Pb**	**04 49 28.4**	**-1.7**
KNT				*e*Sb		**Sb**	**04 49 51.8**	**+0.5**
KNT	**Kendrikon**	**1.68**	**71**	P		**Pn**	**04 49 28.5**	**0.0**
KNT				S		**Sn**	**04 49 52.4**	**+2.3**
KNT	**Kendrikon**	**1.68**	**71**	*e*Pb		**Pb**	**04 49 28.4**	**-1.6**
KNT				*e*Sb		**Sb**	**04 49 51.8**	**+0.5**
KNT				S		**Sn**	**04 49 52.4**	**+2.2**
HORT	**Hortiatis**	**1.76**	**91**	*e*Pb		**Pb**	**04 49 29.2**	**-2.2**
EVR	**Evrytania**	**1.90**	**155**	*e*PB		**Pb**	**04 49 32.6**	**-1.0**
EVR	**Evrytania**	**1.90**	**155**	*e*Pb		**Pb**	**04 49 33.6**	**0.0**
LKD	**Levkas**	**1.94**	**183**	*e*Pb		**Pb**	**04 49 33.3**	**-1.0**
SOH	**Sokhos**	**1.96**	**84**	*e*Pb		**Pn**	**04 49 32.4**	**+0.1**
SOH				*e*Sb		**Sb**	**04 49 58.2**	**-1.1**
SOH	**Sokhos**	**1.96**	**84**	P		**Pn**	**04 49 32.4**	**+0.1**
SOH				S		**Sn**	**04 49 58.5**	**+1.5**
SOH	**Sokhos**	**1.96**	**84**	S		**Sn**	**04 49 58.5**	**+1.5**
AGG	**Agios Georgios**	**2.01**	**143**	*e*Pn		**Pn**	**04 49 33.0**	**+0.1**
AGG				*e*Sn		**Sn**	**04 50 00.0**	**+1.8**
AGG	**Agios Georgios**	**2.01**	**143**	P		**Pn**	**04 49 33.1**	**+0.2**
AGG				S		**Sn**	**04 50 01.1**	**+3.0**
AGG	**Agios Georgios**	**2.01**	**143**	*e*Pn		**Pn**	**04 49 33.0**	**0.0**
AGG				*e*Sn		**Sn**	**04 50 00.0**	**+1.8**
XOR	**Xorichti**	**2.25**	**124**	*e*Pn		**Pn**	**04 49 35.8**	**-0.4**
XOR	**Xorichti**	**2.25**	**124**	P		**Pn**	**04 49 35.8**	**-0.4**
XOR				S		**Sn**	**04 50 04.1**	**+0.1**
XOR	**Xorichti**	**2.25**	**124**	*e*Pn		**Pn**	**04 49 35.8**	**-0.4**
XOR				S		**Sn**	**04 50 04.1**	**+0.1**
PAIG	**Paliouri**	**2.33**	**107**	*e*Pn		**Pn**	**04 49 36.8**	**-0.5**
PAIG	**Paliouri**	**2.33**	**107**	P		**Pn**	**04 49 36.8**	**-0.6**

*ATH **30** 05:07:03.0, 4040N×2595E, h10km, MD3.1/3*
*ISCJB **30** 05:07:04.8±0.9, 4035N±004×2565E±009, h19km±9km, Error ellipse: s-maj=11.6km s-min=6.5km az=177.1*
*ISK **30** 05:07:05.7, 4040N×2573E, h15km, MD2.9*
*CSEM **30** 05:07:05.7±0.2, 4039N×2575E, h15km, MD3.1, Error ellipse: s-maj=5.4km s-min=2.9km az=115.0*

ISC 30 05:07:05.0±0.9, 4035N±004×2565E±009, h20km±7km, n13, σ1§21/17, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GADA	**Gvkgeada**	**0.25**	**130**	*i* PG		**Pb**	**05 07 10.9**	**0.0**
GADA				*i* SG		**Sb**	**05 07 16.3**	**+1.4**
ENEZ	**Enez**	**0.55**	**45**	*i* PG		**Pb**	**05 07 15.6**	**-0.2**
ENEZ				*i* SG		**Sb**	**05 07 22.1**	**-1.1**
LIA	**Limnos Island**	**0.57**	**219**	*e*PB		**Pb**	**05 07 17.8**	**+1.5**
BOZC	**Bozcaada**	**0.59**	**148**	*i* P		**Pb**	**05 07 13.8**	**-2.9**
BOZC				*i* S		**Sb**	**05 07 23.3**	**-1.3**
EZN	**Ezine**	**0.74**	**135**	PG		**Pb**	**05 07 20.1**	**+1.0**
RDO	**Rodhopi**	**0.80**	**354**	*e*PB		**Pb**	**05 07 18.3**	**-1.9**
CANB	**Canakkale**	**1.13**	**107**	PN		**Pn**	**05 07 26.6**	**+1.0**
PRK	**Paraskevi**	**1.20**	**156**	*e*PB		**Pn**	**05 07 25.3**	**-1.3**
RKY	**Sarkoy-Tekirda**	**1.21**	**73**	PN		**Pn**	**05 07 27.8**	**+1.1**
AYVA	**Ayvalik**	**1.31**	**142**	*i* P		**Pn**	**05 07 26.7**	**-1.4**
AYVA				*i* S		**Sn**	**05 07 44.8**	**-0.2**
MFT	**Murefte**	**1.32**	**70**	*e*PN		**Pn**	**05 07 29.0**	**+0.8**
MRMT	**Marmara Adasi**	**1.51**	**80**	*e*PN		**Pn**	**05 07 31.0**	**+0.2**
EDRB	**Edirne**	**1.71**	**29**	*e*PN		**Pn**	**05 07 35.1**	**+1.5**

*ISK **30** 05:41:53.9, 4040N×2588E, h12km, MD3.0*
*CSEM **30** 05:41:53.8±0.1, 4042N×2596E, h5km, MD3.0, Error ellipse: s-maj=1.6km s-min=1.3km az=72.0*
*SOF **30** 05:41:54.2, 4047N×2591E, h8km, MD2.9*
*NEIC **30** 05:41:54.9, 4036N×2599E, h0km, MD2.9(SOF), MD3.3(ATH), After THE.*
*ISCJB **30** 05:41:54.6±0.3, 4040N±002×2595E±003, h5km, Error ellipse: s-maj=2.9km s-min=2.7km az=125.2*
*THE **30** 05:41:54.9, 4036N×2599E, h10km, ML3.1*
*ATH **30** 05:41:54.5, 4041N×2597E, h10km, MD3.3/3*

ISC 30 05:41:54.6±0.4, 4040N±002×2595E±003, h0km±4km, n40, σ1§04/57, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GADA	**Gvkgeada**	**0.21**	**190**	P		**Pg**	**05 41 59.1**	**+0.4**
GADA				S		**Sg**	**05 42 02.4**	**+1.0**
ENEZ	**Enez**	**0.37**	**25**	PG		**Pg**	**05 42 02.1**	**+0.4**
ENEZ				SG		**Sg**	**05 42 08.1**	**+1.5**
ALN	**Alexandroupoli**	**0.50**	**8**	*e*Pg		**Pg**	**05 42 04.8**	**+0.6**
ALN				*e*Sg		**Sg**	**05 42 12.3**	**+1.5**
BOZC	**Bozcaada**	**0.56**	**172**	*i* P		**Pg**	**05 42 05.9

*THE **30** 05:49:47.6, 4036N×2599E, h10km, ML3.5*
*CSEM **30** 05:49:47.1±0.1, 4041N×2597E, h8km, MD3.2, Error ellipse: s-maj=1.4km s-min=1.2km az=79.0*
*ISK **30** 05:49:47.1, 4039N×2590E, h15km, MD3.2*
*NEIC **30** 05:49:47.6, 4036N×2599E, h0km, MD3.1(SOF), MD3.4(ATH), After THE.*

ISC 30 05:49:47.5±0.4, 4040N±002×2595E±002, h3km±3km, n58, σ1°21/83, 9C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GADA	**Gvkgeada**	**0.21**	**190**	PG	**Pg**	**05 49 52.4**	**+0.7**
GADA				SG	**Sg**	**05 49 55.6**	**+1.1**
ENEZ	**Enez**	**0.37**	**25**	PG	**Pg**	**05 49 55.5**	**+0.9**
ENEZ				SG	**Sg**	**05 50 01.5**	**+2.1**
ALN	**Alexandroupoli**	**0.50**	**8**	*e*Pg	**Pg**	**05 49 57.9**	**+0.8**
ALN				*e*Sg	**Sg**	**05 50 05.5**	**+1.9**
BOZC	**Bozcaada**	**0.56**	**172**	*i* P	**Pg**	**05 49 58.5**	**+0.1**
BOZC				*i* S	**Sg**	**05 50 06.6**	**+0.9**
EZN	**Ezine**	**0.64**	**153**	PG	**Pg**	**05 50 00.0**	**+0.1**
LIA	**Limnos Island**	**0.77**	**230**	*e*PB	**Pg**	**05 50 01.7**	**-0.6**
LIA				*e*SB	**Sg**	**05 50 12.3**	**-0.1**
RDO	**Rodhopi**	**0.81**	**337**	*e*PB	**Pg**	**05 50 02.1**	**-0.9**
RDO				*e*SB	**Sg**	**05 50 13.4**	**0.0**
LOS	**Limnos**	**0.81**	**235**	*e*Pg	**Pg**	**05 50 02.3**	**-0.8**
LOS				*e*Sg	**Sg**	**05 50 15.4**	**+1.7**
CANB	**Canakkale**	**0.94**	**114**	PG	**Pg**	**05 50 06.3**	**+0.9**
RKY	**Sarkoy-Tekirda**	**0.98**	**73**	PG	**Pg**	**05 50 07.0**	**+0.7**
MFT	**Murefte**	**1.08**	**69**	PN	**Pn**	**05 50 08.5**	**-1.1**
PRK	**Paraskevi**	**1.18**	**168**	*e*PB	**Pb**	**05 50 09.8**	**-0.7**
PRK				*e*SB	**Sb**	**05 50 26.3**	**+0.1**
AYVA	**Ayvalik**	**1.23**	**152**	*i* P	**Pg**	**05 50 11.0**	**-0.1**
AYVA				*i* S	**Sg**	**05 50 28.1**	**+1.0**
AYVA	**Ayvalik**	**1.23**	**152**	*i* P	**Pg**	**05 50 11.0**	**-0.1**
AYVA				*i* S	**Sg**	**05 50 28.1**	**+1.0**
MRMT	**Marmara Adasi**	**1.27**	**80**	PN	**Pn**	**05 50 10.6**	**-1.5**
KDZ	**Kurdzhali**	**1.31**	**342**	*i* P	**Pn**	**05 50 11.4**	**-1.3**
EDRB	**Edirne**	**1.56**	**22**	PN	**Pn**	**05 50 15.5**	**-0.6**
RZN	**Rozhen**	**1.59**	**324**	*i* P	**Pn**	**05 50 15.5**	**-1.0**
RZN				*i* Pg	**Pg**	**05 50 17.4**	**-0.5**
DIM	**Dimitrovgrad**	**1.68**	**349**	*i* P	**Pn**	**05 50 17.2**	**-0.5**
BTOK	**Tokmak**	**1.72**	**111**	*i* P	**Pn**	**05 50 19.1**	**+0.8**
BTOK				*i* S	**Sn**	**05 50 41.7**	**+1.0**
PAIG	**Paliouri**	**1.80**	**255**	*e*Pb	**Pb**	**05 50 19.5**	**-1.6**
PLG	**Polygyros**	**1.91**	**270**	*e*PN	**Pn**	**05 50 22.9**	**+2.0**
PLG				*e*SN	**Sn**	**05 50 48.0**	**+2.5**
SRS	**Serrai**	**1.93**	**293**	*e*Pb	**Pb**	**05 50 20.5**	**-2.7**
PLD	**Plovdiv**	**1.94**	**331**	*e*Pn	**Pn**	**05 50 21.1**	**-0.3**
PLD				*e*Sn	**Sn**	**05 50 48.1**	**+1.9**
AOS	**Alonnisos**	**2.01**	**233**	*e*Pn	**Pn**	**05 50 23.0**	**+0.7**
CHOS	**Chios island**	**2.01**	**178**	*e*Pb	**Pb**	**05 50 22.4**	**-2.3**
CHOS				*e*Sb	**Sb**	**05 50 47.3**	**-2.9**
SOH	**Sokhos**	**2.02**	**283**	*e*Pn	**Pn**	**05 50 23.6**	**+1.2**
CTT	**Catalca**	**2.02**	**68**	PN	**Pn**	**05 50 22.2**	**-0.3**
ELBA	**Catalca**	**2.03**	**68**	*i* P	**Pn**	**05 50 21.7**	**-0.8**
ELBA				*i* S	**Sn**	**05 50 48.4**	**+0.1**
MMB	**Musomiste**	**2.06**	**306**	*e*Pn	**Pn**	**05 50 22.8**	**-0.1**
MMB				*e*Sn	**Sn**	**05 50 51.8**	**+2.7**
MMB	**Musomiste**	**2.06**	**306**	*i* Pg	**Pg**	**05 50 24.5**	**-2.4**
MMB				*e*Sn	**Sn**	**05 50 51.8**	**+2.7**
AKS	**Akhisar**	**2.09**	**136**	PN	**Pn**	**05 50 23.6**	**+0.2**
JMB	**Yambol**	**2.12**	**13**	*e*Pn	**Pn**	**05 50 24.4**	**+0.6**
JMB	**Yambol**	**2.12**	**13**	P	**Pn**	**05 50 24.4**	**+0.6**
JMB				*i* Pg	**Pg**	**05 50 28.8**	**+0.7**
JMB	**Yambol**	**2.12**	**13**	*i* Pg	**Pg**	**05 50 28.8**	**+0.7**
HORT	**Hortiatis**	**2.18**	**276**	*e*Pn	**Pn**	**05 50 23.5**	**-1.2**
HORT				*e*Sn	**Sn**	**05 50 54.1**	**+1.9**
IZM	**Izmir**	**2.25**	**153**	PN	**Pn**	**05 50 24.5**	**-1.0**
ORLT	**Orhaneli**	**2.28**	**98**	*e*PN	**Pn**	**05 50 26.2**	**+0.2**
KNT	**Kendrikon**	**2.44**	**289**	*e*Pn	**Pn**	**05 50 27.4**	**-0.7**
KNT				*e*Sn	**Sn**	**05 51 00.9**	**+2.5**
ISK	**Istanbul-Kandi**	**2.45**	**73**	*e*PN	**Pn**	**05 50 29.1**	**+0.7**
KLYT	**Kilyos**	**2.50**	**69**	*e*PN	**Pn**	**05 50 28.0**	**-1.0**
YLV	**Yalova**	**2.62**	**85**	*e*PN	**Pn**	**05 50 29.7**	**-0.9**
VAY	**Valandovo**	**2.72**	**291**	*e*Pn	**Pn**	**05 50 37.6**	**+5.6**
VAY				*e*Sg	**Sg**	**05 51 15.3**	**+0.3**
HRT	**Hereke**	**2.86**	**80**	*e*PN	**Pn**	**05 50 34.3**	**+0.3**
ADVT	**Abdulvahap**	**2.89**	**88**	*e*PN	**Pn**	**05 50 34.1**	**-0.3**
VTS	**Vitosha**	**3.00**	**318**	*e*Pn	**Pn**	**05 50 37.7**	**+1.7**
VTS				*e*Sn	**Sn**	**05 51 15.0**	**+2.5**
VTS	**Vitosha**	**3.00**	**318**	S	**Sg**	**05 51 22.5**	**-1.5**
VTS	**Vitosha**	**3.00**	**318**	⇑*i*P	**Pn**	**05 50 38.0**	**+2.0**
VTS				*e*Sn	**Sn**	**05 51 18.0**	**+2.6**
STIP	**Stip**	**3.12**	**296**	*e*Pn	**Pn**	**05 50 42.7**	**+5.1**
STIP				*e*Sg	**Sg**	**05 51 25.9**	**-2.0**
VOIR		**5.08**	**353**	⇑*i*P	**Pn**	**05 51 03.8**	**-0.6**
VOIR		**5.08**	**353**	⇑P	**Pn**	**05 51 03.8**	**-0.7**
MLR	**Muntele Rosu**	**5.09**	**360**	⇑*i*P	**Pn**	**05 51 03.6**	**-1.0**
MLR	**Muntele Rosu**	**5.09**	**360**	⇑P	**Pn**	**05 51 03.6**	**-0.9**
VRI	**Vrincioaia**	**5.49**	**6**	⇑*i*P	**Pn**	**05 51 08.4**	**-1.7**
VRI	**Vrincioaia**	**5.49**	**6**	⇑P	**Pn**	**05 51 08.4**	**-1.7**
BZS	**Buzias**	**6.10**	**330**	⇑*i*P	**Pn**	**05 51 17.5**	**-1.0**
BZS	**Buzias**	**6.10**	**330**	S	**Sg**	**05 52 59.2**	**-4.3**
BZS	**Buzias**	**6.10**	**330**	⇑P	**Pn**	**05 51 17.5**	**-1.0**

MAN 30 05:55:49.6, 1182N×12420E, h17km, mb2.4, ML4.0, MS1.1, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.00**	**131**	*e*P	Pb	05 56 07.7	-0.8
PLP				*i* S	Sb	05 56 23.1	+1.6
PVCP	**Virac**	**1.76**	**358**	*e*P	Pn	05 56 19.3	0.0
SCPH	**Surigao**	**2.39**	**148**	⇓*e*P	Pn	05 56 28.4	+0.4

*ISCJB **30** 05:57:18.9±0.4, 4043N±002×2588E±004, h6km±4km, Error ellipse: s-maj=4.9km s-min=3.1km az=153.7*
*NEIC **30** 05:57:19.5, 4041N×2595E, h3km, MD3.0(SOF), MD3.4(ATH), After ATH.*
*ISK **30** 05:57:19.3, 4040N×2592E, h11km, MD3.3*
*SOF **30** 05:57:19.1, 4034N×2554E, h12km, MD3.0*
*ATH **30** 05:57:19.5, 4041N×2595E, h3km±2km, MD3.4/4*
*CSEM **30** 05:57:19.5±0.1, 4040N×2592E, h12km, MD3.3, Error ellipse: s-maj=2.0km s-min=1.9km az=18.0*

ISC 30 05:57:19.8±0.4, 4040N±002×2589E±004, h9km±4km, n36, σ0°71/46, 3C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GADA	**Gvkgeada**	**0.21**	**179**	PG	**Pg**	**05 57 24.5**	**+0.3**
GADA				SG	**Sg**	**05 57 27.5**	**+0.3**
ENEZ	**Enez**	**0.39**	**31**	PG	**Pg**	**05 57 27.6**	**+0.2**
ENEZ				SG	**Sg**	**05 57 33.3**	**+0.7**
BOZC	**Bozcaada**	**0.57**	**168**	*i* P	**Pg**	**05 57 30.9**	**-0.1**
BOZC				*i* S	**Sg**	**05 57 38.9**	**+0.3**
BOZC	**Bozcaada**	**0.57**	**168**	*i* P	**Pg**	**05 57 30.9**	**-0.1**
BOZC				*i* S	**Sg**	**05 57 38.8**	**+0.3**
EZN	**Ezine**	**0.67**	**150**	PG	**Pg**	**05 57 31.9**	**-0.8**
LIA	**Limnos Island**	**0.74**	**227**	*e*PB	**Pg**	**05 57 34.5**	**+0.3**
LIA				*e*SG	**Sg**	**05 57 44.9**	**+1.0**
RDO	**Rodhopi**	**0.79**	**340**	*e*PB	**Pg**	**05 57 34.9**	**-0.2**
RDO				*e*SG	**Sg**	**05 57 45.7**	**+0.4**
CANB	**Canakkale**	**0.97**	**113**	PG	**Pg**	**05 57 37.7**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.02**	**73**	PG	**Pg**	**05 57 39.1**	**-0.3**
MFT	**Murefte**	**1.12**	**70**	PN	**Pn**	**05 57 40.6**	**-1.1**
PRK	**Paraskevi**	**1.19**	**166**	*e*PB	**Pb**	**05 57 41.9**	**-0.7**
PRK				*e*SB	**Sb**	**05 57 58.0**	**-0.1**
AYVA	**Ayvalik**	**1.25**	**150**	*i* P	**Pn**	**05 57 43.4**	**0.0**
AYVA				*i* S	**Sb**	**05 58 00.6**	**+0.7**
KDZ	**Kurdzhali**	**1.30**	**344**	*i* P	**Pn**	**05 57 43.5**	**-0.5**
MRMT	**Marmara Adasi**	**1.31**	**81**	PN	**Pn**	**05 57 42.8**	**-1.5**
EDC	**Edincik**	**1.51**	**92**	PN	**Pn**	**05 57 46.6**	**-0.3**
RZN	**Rozhen**	**1.56**	**326**	*i* P	**Pn**	**05 57 47.6**	**-0.1**
RZN				*i* Pg	**Pg**	**05 57 49.4**	**-0.4**
EDRB	**Edirne**	**1.58**	**24**	PN	**Pn**	**05 57 47.4**	**-0.5**
DIM	**Dimitrovgrad**	**1.67**	**351**	*i* P	**Pn**	**05 57 50.4**	**+1.3**
PLG	**Polygyros**	**1.87**	**270**	*e*PG	**Pg**	**05 57 54.9**	**-0.8**
KCT	**Karacabey**	**1.89**	**93**	PN	**Pn**	**05 57 52.6**	**+0.4**
MMB	**Musomiste**	**2.02**	**307**	*i* Pg	**Pn**	**05 57 54.9**	**+0.9**
CTT	**Catalca**	**2.06**	**68**	PN	**Pn**	**05 57 54.1**	**-0.5**
ELBA	**Catalca**	**2.06**	**68**	*i* P	**Pn**	**05 57 53.9**	**-0.7**
ELBA				*i* S	**Sn**	**05 58 20.3**	**-0.2**
AKS	**Akhisar**	**2.12**	**135**	*e*PN	**Pn**	**05 57 55.3**	**-0.2**
IZM	**Izmir**	**2.27**	**152**	*e*PN	**Pn**	**05 57 57.3**	**-0.1**
ORLT	**Orhaneli**	**2.33**	**98**	*e*PN	**Pn**	**05 57 59.0**	**+0.8**
ISK	**Istanbul-Kandi**	**2.50**	**74**	*e*PN	**Pn**	**05 58 01.2**	**+0.7**
KLYT	**Kilyos**	**2.54**	**69**	*e*PN	**Pn**	**05 58 01.8**	**+0.7**
YLV	**Yalova**	**2.66**	**85**	*e*PN	**Pn**	**05 58 03.6**	**+0.8**
VTS	**Vitosha**	**2.97**	**318**	⇑*i*P	**Pg**	**05 58 15.2**	**-1.6**
VTS	**Vitosha**	**2.97**	**318**	S	**Sg**	**05 58 55.0**	**-0.4**
ESKT	**Eskisehir**	**3.91**	**101**	*e*PN	**Pn**	**05 58 20.7**	**+0.7**
MLR	**Muntele Rosu**	**5.08**	**0**	⇑*i*P	**Pn**	**05 58 36.8**	**+0.7**
MLR	**Muntele Rosu**	**5.08**	**0**	S	**Sg**	**06 00 04.5**	**+1.4**
BZS	**Buzias**	**6.08**	**330**	⇑*i*P	**Pn**	**05 58 49.3**	**-0.5**
BZS	**Buzias**	**6.08**	**330**	S	**Sg**	**06 00 31.0**	**-4.0**

*IDC **30** 06:00:47.0±1.3, 362N×9533E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/20, mbtmp4.0/8, MS3.4/2, Ms1 3.4/2, ms1mx2.8/21, Error ellipse: s-maj=64.6km s-min=19.4km az=54.0*
*NEIC **30** 06:00:51.0±0.7, 344N×9513E, h30km, mb4.5/10, Error ellipse: s-maj=18.1km s-min=8.2km az=221.0*
*ISCJB **30** 06:00:54.7±2.6, 36N±01×954E±01, h74km±22km, mb4.2/18, Error ellipse: s-maj=24.9km s-min=12.0km az=100.3*

ISC 30 06:00:55.7±2.6, 36N±01×954E±01, h67km±23km, n25, σ0°84/28, mb4.2/18, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.63**	**103**	Pn	**Pn**	**06 01 49.2**	**-0.3**
	3.9nm,0.3s,baz=306,slow=7.8,SNR=13						
PSI				Sn	**Sn**	**06 02 45.4**	**+14**
	4.6nm,0.3s,baz=175,slow=9.9,SNR=3.7						
PSI				LR	LR	06 03 02.5	
	comp=Z,265nm,20.2s,baz=65,slow=37						
PSI	**Prapat**	**3.63**	**103**	Pn	**Pn**	**06 01 49.2**	**-0.3**
PSI				Sn	**Sn**	**06 02 45.4**	**+14**
PSI				LR	LR	06 03 02.5	
KULM	**Kulim**	**5.52**	**72**	*e*Pn	**Pn**	**06 02 14.3**	**-1.0**
KULM				*e*Sn	**Sn**	**06 03 17.6**	**+0.2**
CHTO	**Chiang Mai**	**15.51**	**13**	*e*P	**Pn**	**06 04 31.9**	**+1.5**
	5.4nm,0.9s						
JIRN	**Jiri**	**25.47**	**341**	*e*P	**P**	**06 06 18.5**	**+1.0**
	24nm,0.6s,mb4.8						
PKI	**Pulchoki**	**25.66**	**339**	*e*P	**P**	**06 06 18.4**	**-0.8**
DMN	**Daman**	**25.80**	**339**	*e*P	**P**	**06 06 19.0**	**-1.5**
GUN	**Gumba**	**25.81**	**340**	*e*P	**P**	**06 06 21.8**	**+1.3**
	24nm,0.7s,mb4.8						
KKN	**Kakani**	**25.90**	**339**	*e*P	**P**	**06 06 21.3**	**-0.1**
	6.4nm,0.4s,mb4.5						
GKN	**Gorkha**	**26.33**	**338**	*e*P	**P**	**06 06 26.3**	**+1.0**
	29nm,0.9s,mb4.7						
KOLN	**Koldanda**	**26.52**	**336**	*e*P	**P**	**06 06 28.4**	**+1.4**
	19nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**44.49**	**347**	P	**P**	**06 09 00.2**	**-0.2**
	1.2nm,0.4s,mb4.0,baz=157,slow=8.6,SNR=16						
MKAR	**Makanchi Array**	**44.49**	**347**	P	**P**	**06 09 00.2**	**-0.2**
WRA	**Warramunga Arr**	**44.86**	**123**	P	**P**	**06 09 03.0**	**-0.3**
	1.2nm,0.7s,mb3.7,baz=300,slow=9.2,SNR=10						
WRAB	**Tennant Creek**	**44.86**	**123**	*e*P	**P**	**06 09 04.3**	**+0.9**
	3.3nm,0.6s,mb4.2						
SONM	**Songino Array**	**45.07**	**10**	P	**P**	**06 09 04.3**	**-0.7**
	0.8nm,0.5s,mb3.7,baz=196,slow=8.2,SNR=8.3						
SONM				PcP	PcP	06 10 46.1	+1.4
	0.7nm,0.5s,baz=193,slow=3.9,SNR=5.9						
ASAR	**Alice Springs**	**46.30**	**128**	P	**P**	**06 09 15.7**	**+1.0**
	0.6nm,0.6s,mb3.5,baz=298,slow=8.0,SNR=10						
KURK	**Kurchatov**	**49.02**	**346**	*e*P	**P**	**06 09 35.0**	**-0.8**
	1.9nm,0.5s,mb4.3						
ZAL	**Zalesovo**	**50.91**	**352**	P	**P**	**06 09 49.8**	**-0.3**
	3.4nm,0.5s,mb4.6,baz=326,slow=5.6,SNR=12						
ZRNK	**Zerenda**	**53.78**	**341**	*e*P	**P**	**06 10 10.8**	**-0.6**
	1.0nm,0.5s,mb4.1						
CHKZ	**Chkalovo**	**53.88**	**342**	*e*P	**P**	**06 10 11.6**	**-0.5**
	1.8nm,0.5s,mb4.4						
FINES	**FINESS Array B**	**77.03**	**333**	P	**P**	**06 12 41.1**	**-0.4**
	1.0nm,0.5s,mb3.8,baz=100,slow=6.5,SNR=11						
FINES				LR	LR	06 51 22.5	
	comp=Z,36nm,18.4s,baz=48,slow=39						
KAF	**Kangasniemi**	**77.12**	**333**	*ep*	**P**	**06 12 40.7**	**-1.3**
	0.9nm,0.3s,mb4.0						
ARCES	**ARCESS Array B**	**79.67**	**340**	P	**P**	**06 12 56.0**	**0.0**
	0.9nm,0.6s,mb3.8,baz=101,slow=6.3,SNR=12						
GERES	**GERESS Array B**	**81.81**	**319**	P	**P**	**06 13 07.9**	**+0.4**
	0.5nm,0.6s,mb3.5,baz=123,slow=4.9,SNR=5.2						

*NEIC **30** 06:11:59.8, 2285N×6447W, h12km, MD4.2(RSPR), After RSPR.*

RSPR 30 06:11:59.8, 2285N×6447W, h11km±19km, MD4.2/5, MD4.2/5, 9C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**4.50**	**186**	⇑*e*P	Pn	06 13 05.6	-2.2
STVI				*e*S	Sn	06 13 57.7	-2.4
MTP	**Monte Pirata**	**4.84**	**192**	⇑*e*P	Pn	06 13 10.2	-2.3
MTP				*e*S	Sn	06 14 05.5	-3.0
HUMP	**Col San Antoni**	**4.86**	**196**	⇑*e*P	Pn	06 13 10.9	-1.9
HUMP				*e*S	Sn	06 14 06.8	-2.2
AOPR	**Arecibo Observ**	**4.96**	**206**	⇑*e*P	Pn	06 13 12.4	-1.8
AOPR				*e*S	Sn	06 14 08.8	-2.8
SJG	**San Juan**	**4.97**	**199**	⇑*e*P	Pn	06 13 12.4	-1.9
SJG				*e*S	Sn	06 14 08.8	-2.9
CPD	**Cerro la Pandu**	**4.98**	**196**	⇑*e*P	Pn	06 13 12.3	-2.1
CPD				*e*S	Sn	06 14 09.5	-2.4
CELP	**Cerrillos**	**5.15**	**203**	⇑*e*P	Pn	06 13 15.3	-1.4
OBIP	**Obispado Ponce**	**5.19**	**203**	⇑*e*P	Pn	06 13 15.5	-1.8
LSP	**Las Mesas**	**5.26**	**208**	⇑*e*P	Pn	06 13 16.9	-1.3

IDC 30 06:21:16.3±2.3, 940S×10775E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=102.8km s-min=23.2km az=52.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.73**	**115**	P	P	06 27 06.2	-0.2
	0.6nm,0.6s,baz=287,slow=11,SNR=8.5						
WRA				PcP	PcP	06 30 22.4	-0.8
	0.3nm,0.7s,baz=292,slow=2.4,SNR=5.1						
ASAR	**Alice Springs**	**28.73**	**123**	P	P	06 27 16.9	+1.5
	0.5nm,0.8s,baz=302,slow=8.9,SNR=4.6						
SONM	**Songino Array**	**57.00**	**359**	P	P	06 31 04.8	+1.1
	0.4nm,0.5s,baz=179,slow=6.9,SNR=3.7						
MKAR	**Makanchi Array**	**60.38**	**340**	P	P	06 31 26.9	-0.4
	0.8nm,0.5s,baz=138,slow=8.0,SNR=14						

*SOF **30** 06:31:24.3, 4039N×2585E, h5km, MD2.6*
*ISK **30** 06:31:25.0, 4039N×2589E, h17km, MD3.0*
*ISCJB **30** 06:31:25.2±0.5, 4042N±002×2590E±005, h6km±5km, Error ellipse: s-maj=6.3km s-min=4.0km az=157.2*
*CSEM **30** 06:31:25.4±0.1, 4039N×2596E, h15km, MD3.0, Error ellipse: s-maj=1.7km s-min=1.6km az=86.0*
*NEIC **30** 06:31:25.6, 4039N×2590E, h10km, MD2.6(SOF), MD3.1(ATH), After ATH.*
*ATH **30** 06:31:25.6, 4039N×2590E, h10km, MD3.1/3*

ISC 30 06:31:25.7±0.5, 4041N±002×2591E±004, h9km±4km, n22, σ0°79/30, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GADA	**Gvkgeada**	**0.22**	**183**	PG	**Pg**	**06 31 30.5**	**+0.2**
GADA				SG	**Sg**	**06 31 33.8**	**+0.5**
ENEZ	**Enez**	**0.37**	**29**	PG	**Pg**	**06 31 33.6**	**+0.5**
ENEZ				SG	**Sg**	**06 31 39.7**	**+1.7**
BOZC	**Bozcaada**	**0.58**	**169**	*i* P	**Pg**	**06 31 36.9**	**0.0**
BOZC				*i* S	**Sg**	**06 31 44.7**	**+0.2**
EZN	**Ezine**	**0.67**	**151**	PG	**Pg**	**06 31 38.0**	**-0.6**
LIA	**Limnos Island**	**0.76**	**228**	*e*PB	**Pg**	**06 31 39.7**	**-0.6**
RDO	**Rodhopi**	**0.79**	**339**	*e*PB	**Pg**	**06 31 40.8**	**-0.1**
CANB	**Canakkale**	**0.97**	**114**	PG	**Pg**	**06 31 44.5**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.00**	**74**	*e*PG	**Pg**	**06 31 45.1**	**+0.1**
MFT	**Murefte**	**1.11**	**70**	*e*PN	**Pn**	**06 31 46.6**	**-0.8**
PRK	**Paraskevi**	**1.20**	**166**	*e*PB	**Pb**	**06 31 47.8**	**-0.7**
AYVA	**Ayvalik**	**1.25**	**151**	*i* P	**Pn**	**06 31 49.5**	**+0.1**
AYVA				*i* S	**Sb**	**06 32 06.9**	**+1.2**
KDZ	**Kurdzhali**	**1.29**	**343**	*i* P	**Pn**	**06 31 49.5**	**-0.4**
KDZ				*i* Pg	**Pg**	**06 31 50.2**	**-0.3**
MRMT	**Marmara Adasi**	**1.30**	**81**	*e*PN	**Pn**	**06 31 49.2**	**-0.8**
EDC	**Edincik**	**1.49**	**92**	*e*PN	**Pn**	**06 31 52.0**	**-0.6**
RZN	**Rozhen**	**1.56**	**325**	*i* P	**Pn**	**06 31 53.8**	**+0.2**
RZN				*i* Pg	**Pg**	**06 31 55.5**	**-0.2**
EDRB	**Edirne**	**1.57**	**23**	*e*PN	**Pn**	**06 31 53.2**	**-0.5**
DIM	**Dimitrovgrad**	**1.66**	**350**	*i* P	**Pn**	**06 31 56.5**	**+1.5**
BTOK	**Tokmak**	**1.75**	**111**	*i* P	**Pg**	**06 32 00.2**	**+0.9**
BTOK				*i* S	**Sn**	**06 32 20.4**	**+1.8**
MMB	**Musomiste**	**2.03**	**306**	*i* P	**Pn**	**06 32 00.0**	**0.0**
CTT	**Catalca**	**2.05**	**68**	*e*PN	**Pn**	**06 31 59.6**	**-0.7**
ULDT	**Uludag**	**2.48**	**95**	*i* P	**Pg**	**06 32 12.6**	**-0.7**
ULDT				*i* S	**Sg**	**06 32 43.5**	**-2.0**
YLV	**Yalova**	**2.64**	**86**	*e*PN	**Pn**	**06 32 08.6**	**+0.1**

IDC 30 06:32:00.3±3.7, 910S×10765E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, ML2.9/1, Error ellipse: s-maj=155.5km s-min=22.9km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.62**	**119**	P	Pn	06 36 30.0	-1.5
	0.0nm,0.3s,baz=318,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**27.95**	**116**	P	P	06 37 51.8	-0.5
	0.5nm,0.7s,baz=287,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**28.98**	**123**	P	P	06 38 02.8	+1.3
	0.3nm,0.8s,baz=307,slow=8.0,SNR=4.2						
SONM	**Songino Array**	**56.70**	**359**	P	P	06 41 46.8	+1.2
	0.2nm,0.3s,baz=196,slow=9.0,SNR=3.6						
MKAR	**Makanchi Array**	**60.07**	**340**	P	P	06 42 08.4	-0.7
	0.5nm,0.5s,baz=142,slow=8.2,SNR=6.0						

BJI 30 06:42:20.3, 3682N×9641E, h14km, ML3.5, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**3.73**	**45**	*e*PG	Pg	06 43 29.5	-2.2

*NAO **30** 07:16:50.8±1.5, 7201N×0.11W, ML3.2*
*ISCJB **30** 07:16:54.7±0.1, 7220N±001×070E±006, h10km, mb4.9/190, MS4.8/163, Error ellipse: s-maj=2.7km s-min=1.6km az=115.2*
*MOS **30** 07:16:54.9±1.1, 7217N×062E, h10km, mb5.2/81, MS4.9/53, Error ellipse: s-maj=15.9km s-min=2.6km az=95.6*
*BJI **30** 07:16:54.5, 7242N×007W, h18km, mB5.1, mb4.8, Ms5.0, Msz4.7*
*HEL **30** 07:16:54.6±0.3, 7218N×006E, h10km, ML4.4, mb5.0(NEIC), MS4.9(NEIC)*
*IDC **30** 07:16:54.9±0.5, 7222N×076E, h0km, mb4.3/18, mb1 4.5/23, mb1mx4.5/28, mbtmp4.3/23, ML4.1/5, MS4.7/35, Ms1 4.7/35, ms1mx4.6/39, Error ellipse: s-maj=16.5km s-min=10.5km az=47.0*
*CSEM **30** 07:16:54.0±0.0, 7219N×057E, h10km, mb5.0/99, Ms4.6, Mw5.3, Error ellipse: s-maj=1.9km s-min=1.0km az=53.0*
*BER **30** 07:16:56.4±5.3, 7229N×006W, h15km, ML3.7, ML3.2(NAO)*
*NEIC **30** 07:16:56.5±0.1, 7219N×083E, h10km, mb5.0/135, MS4.9/126, MW5.2, Error ellipse: s-maj=4.1km s-min=2.3km az=53.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^{16}Nm; M_{rr}-7.39; $M_{\theta\theta}$2.30; $M_{\phi\phi}$5.08; $M_{r\theta}$-1.11; $M_{\theta\phi}$3.77; $M_{r\phi}$2.05; Best double couple: $M_0$7.90000×10^{16} NP1:ϕ_s200.00000°,δ51.00000°, λ-110.00000°. NP2:ϕ_s49.00000°,δ43.00000°, λ-68.00000°. Principal axes: T 7.7800, Plg4.0000°, Azm304.0000°; N 0.2400, Plg15.0000°, Azm213.0000°; P -8.0200, Plg74.0000°, Azm49.0000°;*
*HRVD **30** 07:16:56.5±0.1, 7216N×061E, h12km, MW5.3/92, Centroid moment Tensor Solution. LP body waves: s58,c88;Mantle waves: s92,c195; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.00±.02; $M_{\theta\theta}$0.37±.02; $M_{\phi\phi}$0.62±.01; $M_{r\theta}$-0.05±.05; $M_{\theta\phi}$0.70±.01; $M_{r\phi}$-0.46±.05; Best double couple: $M_0$1.20300×10^{17} NP1:$\phi_

KTK1 eS Sn 07 20 18.1 -6.7
KTK1 eT 07 24 48.9
KTK1 Kautokeino 8.07 102 eP Pn **07 18 52.7 -0.7**
SNR=51
KTK1 eS Sn **07 20 18.1 -6.7**
SNR=51
ARA0 ARCESS Array S 8.49 96 eP Pn **07 18 57.4 -1.7**
ARA0 ARCESS Array S 8.49 96 P Pn **07 18 57.4 -1.7**
baz=291,slow=8.6
ARCES ARCESS Array B 8.49 96 Pn Pn **07 18 57.4 -1.7**
comp=Z,6.6nm,0.3s,baz=310,slow=11,SNR=122
ARCES LR LR 07 22 04.9
comp=Z,5μm,21.9s,baz=300,slow=36
ARE0 ARCESS Array S 8.49 96 ePn Pn **07 18 59.4 +0.2**
ARE0 ARCESS Array S 8.49 96 ePn Pn **07 18 59.4 +0.3**
NSS Namsos 8.69 146 eP Pn **07 19 00.2 -1.7**
NSS eS Sn **07 20 33.3 -6.7**
NSS Namsos 8.69 146 eP Pn **07 19 00.2 -1.7**
NSS eS Sn **07 20 31.2 -8.8**
KEV Kevo 8.85 93 eP Pn **07 19 01.3 -2.7**
KEV e 07 20 33.4
KEV Kevo 8.85 93 ep Pn **07 19 01.1 -2.9**
KEV Kevo 8.85 93 eP Pn **07 19 01.1 -2.9**
MOL Molde 9.98 162 eP Pn **07 19 18.3 -1.3**
MOL eS Sn **07 21 01.7 -10**
SGF Sodankyl 10.00 106 eP Pn **07 19 18.3 -1.6**
SGF MPN 07 19 21.2
comp=Z,17nm,0.3s
SGF eS Sn **07 21 05.5 -6.6**
SGF Sodankyl 10.00 106 P Pn **07 19 18.2 -1.6**
comp=Z,17nm,0.3s
SGF S Sn **07 21 05.5 -6.6**
DOMB Dombas 10.66 159 eP Pn **07 19 27.4 -1.5**
DOMB eS Sn **07 21 17.6 -11**
DOMB AML AML 07 21 33.1
comp=Z,68nm,0.5s
DOMB Dombas 10.66 159 eP Pn **07 19 27.4 -1.5**
DOMB eS Sn **07 21 17.6 -11**
FOO Floro 10.75 169 eP Pn **07 19 26.2 -3.9**
FOO eS Sn **07 21 16.5 -14**
FOO Floro 10.75 169 eP Pn **07 19 26.2 -3.9**
FOO eS Sn **07 21 16.5 -14**
FOO AML AML 07 21 19.9
comp=Z,101nm,0.6s
BORG Borgarnes 10.96 238 Pn Pn **07 19 35.4 +2.4**
comp=Z,1.0nm,0.3s,baz=48,slow=7.4,SNR=9.9
BORG LR LR 07 22 37.3
comp=Z,2μm,20.3s,baz=33,slow=31
BORG Lg 07 22 38.4
comp=Z,0.3nm,0.3s,baz=268,slow=21,SNR=1.7
BORG Borgarnes 10.96 238 Pn Pn **07 19 33.5 +0.6**
comp=Z,320nm,1.4s
BORG Borgarnes 10.96 238 Pn Pn **07 19 33.5 +0.5**
comp=Z,320nm,1.4s
HYA Hoyanger 11.26 167 eP Pn **07 19 36.1 -0.9**
HYA eS Sn **07 21 33.0 -10**
SUE Sulen 11.28 170 eS Sn **07 21 31.3 -12**
OUL Oulu 11.48 116 eP Pn **07 19 38.0 -2.1**
OUL MPN 07 19 43.1
comp=Z,5.2nm,0.3s
OUL Oulu 11.48 116 P Pn **07 19 38.0 -2.1**
comp=Z,5.2nm,0.3s
KU4 Liikasenvaara 11.62 106 eP Pn **07 19 40.5 -1.5**
KU4 MPN 07 19 44.4
comp=Z,7.0nm,0.5s
KU4 Liikasenvaara 11.62 106 P Pn **07 19 40.5 -1.5**
comp=Z,7.0nm,0.5s
SUMG Summit 11.76 291 ePn Pn **07 19 41.9 -2.1**
comp=Z,46nm,0.8s
SUMG Summit 11.76 291 ePn Pn **07 19 41.9 -2.0**
comp=Z,46nm,0.8s
MSF Maaselka 11.78 108 eP Pn **07 19 42.0 -2.1**
MSF MPN 07 19 44.4
comp=Z,13nm,0.5s
MSF Maaselka 11.78 108 P Pn **07 19 42.0 -2.1**
comp=Z,13nm,0.5s
APA0 Apatity Array 11.85 97 Pn Pn **07 19 42.9 -2.3**
baz=307,slow=10
APA0 Apatity Array 11.85 97 eP Pn **07 19 42.9 -2.3**
ASK Askoy 11.87 169 eS Sn **07 21 49.4 -8.6**
NOA NORSAR Array B 11.89 155 Pn Pn **07 19 44.1 -1.6**
comp=Z,1.1nm,0.3s,baz=322,slow=13,SNR=30
NOA Sn Sn **07 21 41.2 -17**
comp=Z,1.5nm,0.3s,baz=145,slow=8.8,SNR=7.4
NOA LR LR 07 24 16.1
comp=Z,5μm,19.1s,baz=345,slow=37
NOA NORSAR Array B 11.89 155 Pn Pn **07 19 44.1 -1.6**
NOA Sn Sn **07 21 41.2 -17**
RUND Rundenannen 11.95 169 eS Sn **07 21 48.8 -11**
BER Bergen 11.98 169 eP Pn **07 19 45.5 -1.5**
BER eS Sn **07 21 47.6 -13**
BER eS Sn **07 21 48.8 -12**
APA Apatity 12.00 96⇓ iP Pn **07 19 48.2 +1.0**
APA *i* 07 22 04.0
APA pmax pmax
comp=Z,23nm,1.0s
APA MLR MLR
comp=Z,4μm,21.0s
APA Apatity 12.00 96 *i* P Pn **07 19 48.2 +1.0**
comp=Z,23nm,1.0s
WAL1 Walls 12.02 186 eP Pn **07 19 46.0 -1.5**
WAL1 Walls 12.02 186 eP Pn **07 19 46.0 -1.5**
NAO01 NORSAR Array S 12.04 156 ePn Pn **07 19 46.9 -0.8**
comp=Z,9.4nm,0.6s
NAO01 NORSAR Array S 12.04 156 ePn Pn **07 19 46.9 -0.8**
comp=Z,9.4nm,0.6s
LRW Lerwick 12.12 185 eP Pn **07 19 47.2 -1.7**
LRW Lerwick 12.12 185 eP Pn **07 19 47.2 -1.7**
LVZ Lovozero 12.19 94⇓ eP Pn **07 19 45.0 -4.7**
LVZ MLR MLR
comp=Z,4μm,22.0s
LVZ MLR MLR
comp=N,2μm,15.0s
NC6 NORSAR Subarra 12.21 155 eP Pn **07 19 47.0 -3.0**
NC6 NORSAR Subarra 12.21 155 P Pn **07 19 47.0 -3.0**
SNR=51
VAF Ylistaro 12.28 127 eP Pn **07 19 49.6 -1.4**
VAF MPN 07 19 51.7
comp=Z,26nm,0.7s
VAF *e* 07 21 53.3
VAF Ylistaro 12.28 127 P Pn **07 19 49.6 -1.4**
comp=Z,26nm,0.7s
KJN Kajaani 12.75 116 eP Pn **07 19 55.6 -1.9**
KJN MPN 07 19 58.7
comp=Z,21nm,0.5s
KJN Kajaani 12.75 116 P Pn **07 19 55.6 -1.9**
comp=Z,21nm,0.5s
BLS5 Blasjo 13.01 167 ePn Pn **07 20 01.6 +0.7**
KONO Kongsberg 13.06 160 eP Pn **07 19 59.6 -2.0**
KONO eS Sn **07 22 16.9 -10**
KONO Kongsberg 13.06 160 eP Pn **07 19 59.5 -2.2**
KONO pmax pmax
comp=Z,61nm,1.3s
KONO Kongsberg 13.06 160 ePn Pn **07 19 59.5 -2.1**
comp=Z,61nm,1.3s
HFS Hagfors 13.11 151 eP Pn **07 20 00.6 -1.9**
HFS eS Sn **07 22 18.9 -9.5**
HFS Hagfors 13.11 151 Pn Pn **07 20 01.2 -1.2**
comp=Z,1.3nm,0.3s,baz=357,slow=14,SNR=56
HFS Sn Sn **07 22 21.2 -7.2**
comp=Z,2.0nm,0.3s,baz=346,slow=21,SNR=7.9
HFS LR LR 07 24 54.6
comp=Z,6μm,19.9s,baz=343,slow=36
HFS Hagfors 13.11 151 P Pn **07 20 00.6 -1.9**
baz=359,slow=12
HFS Sn Sn **07 22 18.9 -9.5**
baz=342,slow=28
SUF Sumiainen 13.43 122 eP Pn **07 20 04.7 -2.0**
SUF MPN 07 20 06.7
comp=Z,18nm,0.6s
KEF Keuruu 13.57 125 eP Pn **07 20 07.1 -1.5**
KEF MPN 07 20 11.1
comp=Z,9.2nm,0.3s
ORE Reay 13.82 190 eP Pn **07 20 11.4 -0.6**
ORE Reay 13.82 190 eP Pn **07 20 11.4 -0.6**
KAF Kangasniemi 13.98 123 eP Pn **07 20 12.0 -2.3**
KAF MPN 07 20 16.5
comp=Z,11nm,0.6s
KAF Kangasniemi 13.98 123 ep Pn **07 20 11.2 -3.0**
comp=Z,12nm,0.5s
KAF Kangasniemi 13.98 123 eP Pn **07 20 11.2 -3.0**
KAF pmax pmax
comp=Z,12nm,0.5s
KAF Kangasniemi 13.98 123 eP Pn **07 20 11.2 -3.0**
comp=Z,12nm,0.5s

MVH1 Achvaich 14.46 191 eP Pn **07 20 21.3 +0.5**
MVH1 Achvaich 14.46 191 eP Pn **07 20 21.3 +0.5**
FIA0 FINESS Array S 14.49 125 P Pn **07 20 18.8 -2.4**
baz=328,slow=14
FIA0 FINESS Array S 14.49 125 eP Pn **07 20 19.6 -1.6**
FIA1 FINESS Array S 14.49 125 ePn Pn **07 20 18.9 -2.2**
FINES FINESS Array B 14.49 125 Pn Pn **07 20 19.0 -2.2**
comp=Z,0.8nm,0.3s,baz=331,slow=8.2,SNR=29
FINES Sn Sn **07 22 55.3 -6.5**
comp=Z,0.6nm,0.3s,baz=334,slow=25,SNR=3.3
FINES Lg 07 24 23.7
comp=Z,0.2nm,0.3s,baz=297,slow=27,SNR=2.2
FINES LR LR 07 25 27.6
comp=Z,8μm,19.2s,baz=314,slow=35
FINES FINESS Array B 14.49 125 Pn Pn **07 20 19.0 -2.2**
FINES Sn Sn **07 22 55.3 -6.5**
JOF Joensuu 14.68 114 eP Pn **07 20 20.1 -3.6**
JOF Joensuu 14.68 114 ep Pn **07 20 20.2 -3.6**
comp=Z,20nm,0.5s
MCD Coleburn Disti 14.75 189 eP Pn **07 20 24.2 -0.6**
MCD Coleburn Disti 14.75 189 eP Pn **07 20 24.2 -0.6**
KAC Achnashellach 14.95 193 eP Pn **07 20 27.3 -0.3**
KAC Achnashellach 14.95 193 eP Pn **07 20 27.3 -0.3**
MME1 Meikle Cairn 15.01 188 eP Pn **07 20 28.5 +0.2**
MME1 Meikle Cairn 15.01 188 eP Pn **07 20 28.5 +0.2**
MEF Metsahovi 15.14 130 eP Pn **07 20 27.1 -3.0**
MEF MPN 07 20 30.4
comp=Z,5.8nm,0.4s
PVF Pernaja 15.21 127 eP Pn **07 20 29.1 -1.8**
PVF MPN 07 20 30.4
comp=Z,24nm,0.6s
KSB Sheil Bridge 15.25 193 eP Pn **07 20 31.8 +0.3**
KSB Sheil Bridge 15.25 193 eP Pn **07 20 31.8 +0.3**
KAR1 Arisaig 15.57 194 eP Pn **07 20 35.2 -0.4**
KAR1 Arisaig 15.57 194 eP Pn **07 20 35.2 -0.4**
MUD Monsted U'grnd 16.16 163⇑ iP Pn **07 20 40.6 -2.8**
comp=Z,165nm,1.3s
MUD eS Sn **07 23 42.4 -0.3**
comp=Z,5μm,20.0s
MUD Monsted U'grnd 16.16 163⇑ iP Pn **07 20 40.6 -2.8**
comp=Z,165nm,1.3s
MUD eS Sn **07 23 42.4 -0.3**
ESY Stoneypath 16.39 187 eP Pn **07 20 45.7 -0.5**
ESY Stoneypath 16.39 187 eP Pn **07 20 45.7 -0.5**
EDI Edinburgh 16.41 188 eP Pn **07 20 45.8 -0.7**
EDI Edinburgh 16.41 188 eP Pn **07 20 45.8 -0.7**
EAU Auchinoon 16.50 189 eP Pn **07 20 47.0 -0.6**
EAU Auchinoon 16.50 189 eP Pn **07 20 47.0 -0.6**
EBL Broad Law 16.55 188 eP Pn **07 20 47.8 -0.5**
EBL Broad Law 16.55 188 eP Pn **07 20 47.8 -0.5**
EKA Eskdalemuir Ar 17.00 188 P Pn **07 20 52.5 -1.4**
comp=Z,1.5nm,0.3s,baz=1.6,slow=9.7,SNR=41
EKA S Sn **07 23 52.2 -11**
comp=Z,0.6nm,0.3s,baz=358,slow=22,SNR=8.2
EKA Eskdalemuir Ar 17.00 188 P Pn **07 20 52.6 -1.3**
EKA S Sn **07 23 52.2 -11**
PUL Pulkovo 17.01 122 eP Pn **07 20 47.1 -7.0**
PUL eS Sn **07 24 04.8 +1.6**
PUL pmax pmax
comp=Z,70nm,0.3s
PUL MLR MLR
comp=Z,10μm,21.0s
ESK Eskdalemuir 17.02 188 eP Pn **07 20 53.9 -0.3**
ESK Eskdalemuir 17.02 188 eP Pn **07 20 53.9 -0.3**
ESK Eskdalemuir 17.02 188 eP Pn **07 20 54.3 +0.1**
ESK pmax pmax
comp=Z,169nm,1.4s
ESK Eskdalemuir 17.02 188 ePn Pn **07 20 54.3 +0.1**
comp=Z,169nm,1.4s
ESK Eskdalemuir 17.02 188 eP Pn **07 20 54.3 +0.1**
comp=Z,169nm,1.4s
ECK Cauldkaine Hil 17.15 188 eP Pn **07 20 55.3 -0.5**
ECK Cauldkaine Hil 17.15 188 eP Pn **07 20 55.3 -0.5**
BWH Wardlaw 17.18 189 eP Pn **07 20 56.2 +0.1**
BWH Wardlaw 17.18 189 eP Pn **07 20 56.2 +0.1**
BHH Howats Hill 17.24 188 eP Pn **07 20 56.5 -0.4**
BHH Howats Hill 17.24 188 eP Pn **07 20 56.5 -0.4**
VSU Vasula 17.26 129 *c* iP Pn **07 20 54.5 -2.7**
VSU Vasula 17.26 129 *i* P Pn **07 20 54.5 -2.7**
COP Copenhagen 17.26 157⇑ iP Pn **07 20 54.7 -2.5**
comp=Z,85nm,1.2s
COP *i* S Sn **07 24 12.6 +3.3**
COP
comp=Z,2μm,20.0s
COP Copenhagen 17.26 157⇑ iP Pn **07 20 54.7 -2.5**
comp=Z,85nm,1.2s
COP *i* S Sn **07 24 12.6 +3.3**
BBO1 Bothel 17.60 188 eP Pn **07 21 02.0 +0.6**
BBO1 Bothel 17.60 188 eP Pn **07 21 02.0 +0.6**
CKE Keswick 17.74 188 eP Pn **07 21 03.0 -0.2**
CKE Keswick 17.74 188 eP Pn **07 21 03.0 -0.2**
XDE Dent Fell 17.84 188 eP Pn **07 21 05.1 +0.6**
XDE AMb AMB 07 21 09.3
comp=Z,262nm,1.3s
XDE Dent Fell 17.84 188 eP Pn **07 21 05.1 +0.6**
XDE AMb AMB 07 21 09.3
comp=Z,262nm,1.3s
CDU1 Dunnerdale 18.00 188 eP Pn **07 21 05.9 -0.4**
CDU1 Dunnerdale 18.00 188 eP Pn **07 21 05.9 -0.4**
BSD Bornholm Skovb 18.14 153⇑ iP Pn **07 21 05.3 -2.8**
comp=Z,215nm,1.4s
BSD *i* S Sn **07 24 32.1 +1.6**
BSD
comp=Z,5μm,18.0s
BSD Bornholm Skovb 18.14 153⇑ iP Pn **07 21 05.3 -2.8**
comp=Z,215nm,1.4s
BSD *i* S Sn **07 24 32.1 +1.6**
SFJD Kangerlussuaq 18.15 279 P Pn **07 21 07.9 -0.3**
comp=Z,0.6nm,0.3s,baz=56,slow=15,SNR=3.6
SFJD LR LR 07 27 08.7
comp=Z,6μm,19.7s,baz=25,slow=34
SFJD Kangerlussuaq 18.15 279 *i* P Pn **07 21 05.9 -2.3**
SFJD *i* S Sn **07 24 40.8 +10**
SFJD
comp=Z,4μm,18.0s
SFJD Kangerlussuaq 18.15 279 *i* P Pn **07 21 05.9 -2.3**
SFJD *i* S Sn **07 24 40.8 +10**
RGN Rugen 18.48 157 eP Pn **07 21 11.1 -1.2**
comp=Z,727nm,1.8s
RGN Rugen 18.48 157 eP Pn **07 21 11.0 -1.3**
comp=Z,377nm,1.4s
RGN Rugen 18.48 157 eP Pn **07 21 11.0 -1.3**
comp=Z,377nm,1.4s
KLMR Klimovskoe 18.69 107 *c* iP Pn **07 21 11.3 -3.5**
KLMR *e* 07 24 44.4
KLMR pmax pmax
comp=Z,240nm,2.0s
KLMR MLR MLR
comp=Z,4μm,16.0s
KLMR Klimovskoe 18.69 107 *i* P Pn **07 21 11.3 -3.5**
comp=Z,240nm,2.0s
LHO Holmfirth 18.74 185⇑ eP Pn **07 21 14.9 -0.6**
LHO Holmfirth 18.74 185⇑ eP Pn **07 21 14.9 -0.6**
BSEG Bad Segeberg 18.76 162 eP Pn **07 21 14.2 -1.5**
comp=Z,316nm,2.3s
KBI1 Birley Grange 19.02 184 eP Pn **07 21 17.7 -1.2**
KBI1 AMb AMB 07 21 23.8
comp=Z,197nm,1.1s
KBI1 Birley Grange 19.02 184 eP Pn **07 21 17.7 -1.2**
KBI1 AMb AMB 07 21 23.8
comp=Z,197nm,1.1s
DLF Lyons Farm 19.22 194 eP Pn **07 21 16.4 -4.9**
DCN Croghan 19.23 195 eP Pn **07 21 17.2 -4.2**
DSB Dublin 19.26 193 eP Pn **07 21 20.7 -1.1**
comp=Z,104nm,1.5s
DSB Dublin 19.26 193 eP Pn **07 21 20.7 -1.0**
comp=Z,104nm,1.5s
KWE Weaver Farm 19.27 185 eP Pn **07 21 21.5 -0.4**
KWE AMb AMB 07 21 27.1
comp=Z,173nm,1.4s
KWE Weaver Farm 19.27 185 eP Pn **07 21 21.5 -0.4**
KWE AMb AMB 07 21 27.1
comp=Z,173nm,1.4s
SBD1 Bryn Du 19.43 187 eP Pn **07 21 22.2 -1.5**
SBD1 Bryn Du 19.43 187 eP Pn **07 21 22.2 -1.5**
WIT Witteveen 19.61 169 eP Pn **07 21 28.8 +3.0**
HLM1 Long Mynd 19.80 187 eP Pn **07 21 26.8 -1.4**
HLM1 AMb AMB 07 21 31.6
comp=Z,132nm,1.5s
HLM1 Long Mynd 19.80 187 eP Pn **07 21 26.8 -1.4**
HLM1 AMb AMB 07 21 31.6
comp=Z,132nm,1.5s
HTR Trewern Hill 20.25 187 eP P **07 21 31.7 +0.1**

HTR AMb AMB 07 21 39.4
comp=Z,142nm,1.8s
HTR Trewern Hill 20.25 187 eP P **07 21 31.7 +0.1**
HTR AMb AMB 07 21 39.4
comp=Z,142nm,1.8s
GKP Gorka Klasztor 20.27 151 eP P **07 21 31.3 -0.4**
GKP epP 07 21 34.6
GKP eS S **07 25 21.7 +2.7**
GKP L 07 29 03.6
comp=Z,6.1nm,19.3s
GKP Gorka Klasztor 20.27 151 eP P **07 21 31.3 -0.4**
GKP epP 07 21 34.6
WTSB Winterswijk 20.46 169 eP P **07 21 33.4 -0.4**
comp=Z,102nm,1.9s
RUE Ruedersdorf 20.57 157 eP P **07 21 34.8 -0.2**
comp=Z,761nm,2.0s
RUE Ruedersdorf 20.57 157 eP P **07 21 35.4 +0.4**
comp=Z,365nm,1.5s
RUE Ruedersdorf 20.57 157 eP P **07 21 35.4 +0.4**
comp=Z,365nm,1.5s
SUW Suwalki 20.59 140 eP P **07 21 34.4 -0.8**
SUW epP 07 21 36.6
SUW eS S **07 25 24.0 -1.4**
SUW L 07 28 54.5
comp=Z,5.9nm,20.3s
SUW Suwalki 20.59 140 eP P **07 21 34.4 -0.8**
SUW ePP 07 21 36.6
SUW eS S **07 25 24.0 -1.4**
HGH Gray Hill 20.68 186 eP P **07 21 36.6 +0.4**
HGH AMb AMB 07 21 45.4
comp=Z,269nm,1.7s
HGH Gray Hill 20.68 186 eP P **07 21 36.6 +0.4**
HGH AMb AMB 07 21 45.4
comp=Z,269nm,1.7s
CLZ Clausthal 20.84 163 eP P **07 21 37.8 -0.2**
comp=Z,444nm,1.6s
CLZ Clausthal 20.84 163 eP P **07 21 37.8 -0.2**
CLZ pmax pmax
comp=Z,444nm,1.6s
BUG Bochum--Univer 21.01 169 eP P **07 21 39.5 -0.3**
comp=Z,219nm,1.2s,mb5.4
MNK Minsk 21.12 133 eP P **07 21 38.0 -3.0**
MNK *e* 07 22 03.0
MNK eS S **07 25 28.0 -7.9**
MNK eSS 07 25 42.0
MNK pmax pmax
comp=N,2μm,1.5s
MNK pmax pmax
comp=E,990nm,1.5s
MNK pmax pmax
comp=Z,490nm,1.5s,mb5.6
MNK MLR MLR
comp=N,5μm,16.0s,MS5.3
MNK MLR MLR
comp=Z,16μm,18.0s,MS5.5
MNK MLR MLR
comp=E,8μm,16.0s,MS5.3
SWK Warminster 21.15 185 eP P **07 21 41.8 +0.5**
SWK Warminster 21.15 185 eP P **07 21 41.8 +0.5**
HEX Exmoor 21.29 188 eP P **07 21 42.0 -0.8**
HEX Exmoor 21.29 188 eP P **07 21 42.0 -0.8**
UCC Uccle 21.52 174 P P **07 21 44.8 -0.4**
UCC XP sP 07 21 49.7 +0.3
BEBN Eben Emael 21.57 172 P P **07 21 45.4 -0.4**
BEBN XP sP 07 21 50.4 +0.5
HGN Heimansgroeve 21.61 171 eP P **07 21 45.7 -0.6**
comp=E,211nm,1.2s,mb5.5
HGN eS S **07 25 38.6 -6.9**
CLL Collm 21.63 159 eP P **07 21 45.8 -0.7**
comp=Z,975nm,2.5s,mb5.8
CLL Collm 21.63 159⇑ iP P **07 21 45.7 -0.8**
comp=Z,logA/T=2.6,mb5.8
CLL *e* 07 21 49.0
CLL *i* 07 22 00.3
CLL *i* PP 07 22 08.6
CLL *i* PPP 07 22 18.8
CLL eS S **07 25 42.0 -4.0**
CLL Collm 21.63 159⇑ iP P **07 21 45.7 -0.8**
comp=Z,972nm,2.5s,mb5.8
CLL ePlp 07 21 49.0
comp=Z,1μm,15.7s
CLL *i* x x 07 22 00.3
CLL *i* PP 07 22 08.6
CLL *i* PPP 07 22 18.8
CLL eS S **07 25 42.0 -4.0**
CLL eS S **07 25 42.0 -4.0**
comp=E,2μm,12.6s
CLL Collm 21.63 159⇑ iP P **07 21 45.7 -0.8**
CLL eS S **07 25 42.0 -4.0**
CLL pmax pmax
comp=Z,972nm,2.5s,mb5.8
CLL MLR MLR
comp=Z,4μm,20.4s,MS4.8
CLL Collm 21.63 159⇑ iP P **07 21 45.7 -0.8**
comp=Z,972nm,2.5s,mb5.8
CLL *i* 07 22 00.3
CLL eS S **07 25 42.0 -4.0**
CLL LR LR
comp=Z,4μm,20.4s,MS4.8
MEM Membach 21.77 171 P P **07 21 47.4 -0.5**
SNF Seneffe 21.80 174 P P **07 21 48.4 0.0**
SNF Seneffe 21.80 174 P P **07 21 48.3 0.0**
UBBA Unterbreizbach 21.82 164 eP P **07 21 48.1 -0.4**
comp=Z,331nm,1.7s,mb5.5
WAR Warsaw 21.88 145 eP P **07 21 49.6 +0.5**
WAR eS S **07 25 52.4 +1.7**
WAR L 07 29 45.3
comp=Z,4.8nm,21.5s
WAR Warsaw 21.88 145 eP P **07 21 49.6 +0.5**
WAR eS S **07 25 52.4 +1.7**
BCLA Clavier 21.93 172 P P **07 21 49.5 -0.1**
FBE Freiberg 22.05 159 eP P **07 21 50.4 -0.6**
comp=Z,222nm,1.4s,mb5.4
MOX Moxa 22.14 162 eP P **07 21 51.4 -0.5**
comp=Z,209nm,1.7s,mb5.3
MOX Moxa 22.14 162 eP P **07 21 51.5 -0.4**
comp=Z,194nm,1.6s,mb5.3
MOX
comp=Z,3μm,22.0s
MOX Moxa 22.14 162 eP P **07 21 51.5 -0.4**
MOX pmax pmax
comp=Z,194nm,1.6s,mb5.3
MOX MLR MLR
comp=Z,3μm,22.0s,MS4.6
BRG Berggiesshubel 22.17 158 eP P **07 21 51.0 -1.2**
comp=Z,506nm,2.2s,mb5.6
BRG Berggiesshubel 22.17 158 *i* P P **07 21 51.3 -0.9**
comp=Z,114nm,1.6s,mb5.0
BRG S S **07 25 53.0 -3.4**
BRG
comp=N,1μm,21.7s
BRG
comp=E,716nm,20.8s
BRG
comp=Z,2μm,22.4s
DOU Dourbes 22.23 174 P P **07 21 53.1 +0.3**
GIVF Givet 22.23 173 eP P **07 21 52.7 -0.1**
CCA1 Carnmenellis 22.24 190 eP P **07 21 52.5 -0.5**
CCA1 AMb AMB 07 22 03.0
comp=Z,23nm,2.1s,mb4.2
CCA1 Carnmenellis 22.24 190 eP P **07 21 52.5 -0.5**
CCA1 AMb AMB 07 22 03.0
comp=Z,23nm,2.1s,mb4.2
BAIF Baives 22.25 174 eP P **07 21 52.8 -0.3**
comp=Z,165nm,1.3s,mb5.0
BAIF Baives 22.25 174 eP P **07 21 52.8 -0.3**
BAIF pmax pmax
comp=Z,82nm,1.3s,mb5.0
BAIF Baives 22.25 174 eP P **07 21 52.8 -0.3**
comp=Z,82nm,1.3s,mb5.0
CRQ2 Rosemanowes 2 22.25 190 eP P **07 21 52.8 -0.3**
CRQ2 AMb AMB 07 21 58.8
comp=Z,28nm,1.1s,mb4.6
CRQ2 Rosemanowes 2 22.25 190 eP P **07 21 52.8 -0.3**
CRQ2 AMb AMB 07 21 58.8
comp=Z,28nm,1.1s,mb4.6
TNS Taunus Mts 22.30 167 eP P **07 21 54.6 +1.0**
comp=Z,258nm,1.4s,mb5.5
TNS Taunus Mts 22.30 167 eP P **07 21 54.6 +1.0**
TNS pmax pmax
comp=Z,258nm,1.4s,mb5.5
WERD Werda 22.41 161 eP P **07 21 54.2 -0.6**
comp=Z,120nm,1.2s,mb5.2
TANN Tannenbergstha 22.45 160 eP P **07 21 54.7 -0.6**
comp=Z,149nm,1.3s,mb5.3

MOS Moscow 22.47 118⇓ *i*P P 07 21 53.5 -1.9
MOS *e* 07 22 19.3
MOS *i* S S 07 26 01.4 -0.8
MOS *e*SS 07 26 35.6
MOS pmax pmax
comp=Z,232nm,1.7s,mb5.3
MOS smax
comp=E,700nm,5.3s
MOS MLR MLR
comp=Z,9μm,16.1s,MS5.3
KSP Ksiaz 22.50 154 *e*P P 07 21 55.1 -0.6
KSP *e*S S 07 26 03.7 +1.0
KSP *e*S S 07 26 05.2 +2.5
KSP L 07 30 49.3
comp=Z,4.8nm,18.5s
KSP Ksiaz 22.50 154⇑ *e*P P 07 21 54.9 -0.8
KSP *e*PP 07 22 00.2
KSP *e*S S 07 26 00.0 -2.7
KSP LR LR
comp=E,6μm,18.5s,MS5.0
WERN Wernitzgruen 22.57 160 *e*P P 07 21 56.4 -0.1
comp=Z,263nm,1.2s,mb5.5
PVCC Panska Ves 22.58 157 *e*P P 07 21 55.8 -0.8
PVCC *e*S S 07 26 03.0 -1.4
PVCC AMS AMS 07 31 20.0
comp=Z,2μm,15.2s
PVCC Panska Ves 22.58 157 *e*P P 07 21 55.8 -0.8
PVCC *e*S S 07 26 03.0 -1.4
NKC Novy Kostel 22.63 160 *e*P P 07 21 56.9 -0.3
NKC AMS AMS 07 31 40.0
comp=Z,3μm,14.6s
WLF Walferdange 22.72 171 *e*P P 07 21 58.1 0.0
comp=Z,172nm,1.4s,mb5.3
WLF Walferdange 22.72 171 P P 07 21 59.0 +0.9
WLF AP 07 22 02.6
WLF Walferdange 22.72 171 *e*P P 07 21 58.6 +0.5
WLF pmax pmax
comp=Z,153nm,1.4s,mb5.2
WLF Walferdange 22.72 171 *e*P P 07 21 58.6 +0.5
comp=Z,153nm,1.4s,mb5.2
WLF Walferdange 22.72 171 *e*P P 07 21 58.6 +0.5
comp=Z,153nm,1.4s,mb5.2
RUP Ruppelstein 22.73 170 *e*P P 07 21 58.1 -0.1
OBN Obninsk 22.73 120*c* *i*P P 07 21 56.8 -1.4
OBN *i* S S 07 26 07.2 0.0
OBN pmax pmax
comp=Z,333nm,1.4s,mb5.6
OBN MLR MLR
comp=Z,8μm,16.0s,MS5.2
OBN Obninsk 22.73 120 *e*P P 07 21 57.8 -0.5
comp=Z,190nm,1.1s,mb5.4
OBN LR LR
comp=E,10μm,19.0s,MS5.2
OBN Obninsk 22.73 120 *e*P P 07 21 57.8 -0.4
comp=Z,189nm,1.1s,mb5.4
UPC Upice 22.79 154 *e*P P 07 21 58.3 -0.5
MANZ Manzenberg 22.84 161 *e*P P 07 21 59.1 -0.3
comp=Z,105nm,1.5s,mb5.0
DPC Dobruska-Polom 22.98 154 *e*P P 07 22 00.0 -0.8
DPC *e*S S 07 26 10.6 -0.6
DPC AMS AMS 07 31 30.0
comp=Z,3μm,14.5s
DPC Dobruska-Polom 22.98 154 *e*P P 07 22 00.0 -0.8
DPC *e*S S 07 26 10.6 -0.6
PRA Prague 23.02 157 P P 07 22 00.0 -1.2
GRA1 Grafenberg Arr 23.05 163 *e*P P 07 22 00.9 -0.7
comp=Z,113nm,1.3s,mb5.1
GRA1 *e*S S 07 26 10.8 -1.5
GRA1 LR LR
comp=Z,3μm,21.4s,MS4.7
GRA1 Grafenberg Arr 23.05 163 *e*P P 07 22 00.9 -0.7
comp=Z,113nm,1.3s,mb5.1
GRA1 *e*S S 07 26 10.8 -1.5
GRF Grafenberg Arr 23.05 163 *e*P P 07 22 00.9 -0.7
comp=Z,113nm,1.3s,mb5.1
GRF *e*S S 07 26 10.8 -1.5
GRF *e*L 07 30 38.5
comp=Z,3μm,21.4s
GRF Grafenberg Arr 23.05 163 *e*P P 07 22 00.9 -0.7
GRF *e*S S 07 26 10.8 -1.5
GRF pmax pmax
comp=Z,113nm,1.3s,mb5.1
GRF MLR MLR
comp=Z,3μm,21.4s,MS4.7
GRF Grafenberg Arr 23.05 163 *e*P P 07 22 00.9 -0.7
GRF *e*S S 07 26 10.8 -1.5
GRF pmax pmax
comp=Z,113nm,1.3s,mb5.1
GRF MLR MLR
comp=Z,3μm,21.4s,MS4.7
GRF Grafenberg Arr 23.05 163 *e*P P 07 22 00.9 -0.7
comp=Z,113nm,1.3s,mb5.1
GRF *e*S S 07 26 10.8 -1.5
ROTZ Rotzenmuhle 23.07 161 *e*P P 07 22 01.2 -0.6
comp=Z,85nm,1.3s,mb5.0
PRU Pruhonice 23.11 157 *e*P P 07 22 01.8 -0.4
PRU *e*S S 07 26 12.8 -0.5
PRU AMS AMS 07 30 00.0
comp=Z,2μm,20.4s
PRU Pruhonice 23.11 157 *e*P P 07 22 01.8 -0.4
PRU *e*S S 07 26 12.8 -0.5
LANF Langenberg 23.49 168 *e*P P 07 22 06.1 -0.1
FLN La Foliniere 23.50 182 *e*P P 07 22 04.9 -1.4
comp=Z,178nm,1.3s,mb5.0
FLN *e*R
comp=Z,833nm,19.5s
FLN La Foliniere 23.50 182 *e*P P 07 22 04.9 -1.4
FLN pmax pmax
comp=Z,89nm,1.3s,mb5.0
FLN MLR MLR
comp=Z,830nm,19.5s,MS4.2
FLN La Foliniere 23.50 182 *e*P P 07 22 04.9 -1.4
comp=Z,89nm,1.3s,mb5.0
FLN LR LR
comp=Z,830nm,19.5s,MS4.2
RAC Raciborz 23.51 151 *e*P P 07 22 05.3 -1.1
RAC *e*S S 07 26 24.0 +4.2
RAC MLR MLR
comp=Z,4μm,17.5s,MS5.0
RAC Raciborz 23.51 151 *e*P P 07 22 05.3 -1.1
RAC *e*S S 07 26 24.0 +4.2
OJC Ojcow 23.62 149 *i*P P 07 22 06.6 -0.9
OJC *i*S S 07 26 21.8 +0.1
OJC L 07 31 03.6
comp=Z,23nm,20.1s
OJC Ojcow 23.62 149⇑ *i*P P 07 22 06.6 -0.9
OJC *i*S S 07 26 21.8 +0.1
LDF La Druitiere 23.67 182 *e*P P 07 22 06.5 -1.4
comp=Z,72nm,0.9s,mb4.8
LDF La Druitiere 23.67 182 *e*P P 07 22 06.5 -1.4
LDF pmax pmax
comp=Z,36nm,0.9s,mb4.8
LDF La Druitiere 23.67 182 *e*P P 07 22 06.5 -1.4
comp=Z,36nm,0.9s,mb4.8
MORC Moravsky Berou 23.71 152⇓ *i*P P 07 22 03.2 -5.1
MORC Moravsky Berou 23.71 152 *e*P P 07 22 07.7 -0.6
MORC pmax pmax
comp=Z,85nm,1.3s,mb5.0
MORC Moravsky Berou 23.71 152 *e*P P 07 22 07.7 -0.6
comp=Z,85nm,1.3s,mb5.0
MORC Moravsky Berou 23.71 152 *e*P P 07 22 07.7 -0.6
comp=Z,85nm,1.3s,mb5.0
OKC Ostrava-Krasne 23.74 151 *e*P P 07 22 07.9 -0.7
OKC *e*S S 07 26 24.8 +1.2
OKC AMS AMS 07 31 40.0
comp=Z,3μm,14.9s
OKC Ostrava-Krasne 23.74 151 *e*P P 07 22 07.9 -0.7
OKC *e*S S 07 26 24.8 +1.2
WET Wettzell 23.75 160 *e*P P 07 22 08.7 0.0
comp=Z,178nm,1.5s,mb5.3
WET Wettzell 23.75 160 *e*P P 07 22 08.7 0.0
WET pmax pmax
comp=Z,178nm,1.5s,mb5.3
PECR Pechory 23.79 109*k* *i*P P 07 22 08.5 -0.5
PECR *e*SS 07 26 30.0
PECR pmax pmax
comp=Z,530nm,2.0s,mb5.6
PECR pmax pmax
comp=N,1μm,3.2s
PECR pmax pmax
comp=E,1μm,3.2s
PECR pmax pmax
comp=Z,2μm,3.2s
PECR MLR MLR
comp=E,2μm,14.0s,MS4.9
PECR MLR MLR
comp=Z,5μm,14.0s,MS5.2
PECR MLR MLR
comp=N,2μm,15.0s,MS4.9
STU Stuttgart 23.80 166 *e*P P 07 22 09.1 0.0
comp=Z,329nm,2.2s,mb5.4
STU Stuttgart 23.80 166 *e*P P 07 22 10.7 +1.6
STU pmax pmax
comp=Z,25nm,0.9s,mb4.6
STU Stuttgart 23.80 166 *e*P P 07 22 10.7 +1.6
comp=Z,25nm,0.9s,mb4.6
STU Stuttgart 23.80 166 *e*P P 07 22 10.7 +1.6
comp=Z,25nm,0.9s,mb4.6
MEZF Maizieres J'vi 23.84 173 *e*P P 07 22 08.2 -1.2
KHC Kasperske Hory 23.84 159 *e*P P 07 22 09.8 +0.3
KHC x x 07 22 19.0
KHC *e*S S 07 26 28.7 +3.5
KHC AMS AMS 07 30 30.0
comp=Z,3μm,22.2s
KHC Kasperske Hory 23.84 159 *e*P P 07 22 09.8 +0.3
KHC *e* 07 22 19.0
KHC *e*S S 07 26 28.7 +3.5
KHC LR LR
comp=Z,3μm,22.2s,MS4.8
LBG Lerchenberg 23.87 167 P P 07 22 11.7 +1.9
GRR Gorron 23.88 183 *e*P P 07 22 08.8 -1.1
comp=Z,71nm,1.0s,mb4.7
GRR Gorron 23.88 183 *e*P P 07 22 08.8 -1.1
GRR pmax pmax
comp=Z,36nm,1.0s,mb4.8
GRR Gorron 23.88 183 *e*P P 07 22 08.8 -1.1
comp=Z,36nm,1.0s,mb4.7
TREC Trest 23.91 156 *e*P P 07 22 10.6 +0.5
TREC AMS AMS 07 32 10.0
comp=Z,3μm,13.5s
ROSF Rostrenen 24.00 187 *e*P P 07 22 09.2 -1.7
comp=Z,50nm,1.0s,mb4.6
ROSF Rostrenen 24.00 187 *e*P P 07 22 09.2 -1.7
ROSF pmax pmax
comp=Z,25nm,1.0s,mb4.6
ROSF Rostrenen 24.00 187 *e*P P 07 22 09.2 -1.7
comp=Z,25nm,1.0s,mb4.6
CDF Champ du Feu 24.03 169 *e*P P 07 22 11.1 -0.1
comp=Z,322nm,1.8s,mb5.2
CDF Champ du Feu 24.03 169 *e*P P 07 22 11.1 -0.1
CDF pmax pmax
comp=Z,161nm,1.8s,mb5.2
CDF Champ du Feu 24.03 169 *e*P P 07 22 11.1 -0.1
comp=Z,161nm,1.8s,mb5.2
WLS Welschbruch 24.03 169 *e*P P 07 22 11.5 +0.3
VRAC Vranov 24.04 154 P P 07 22 11.5 +0.2
SGMF Saint Gilles 24.05 186 *e*P P 07 22 10.3 -1.1
comp=Z,115nm,1.3s,mb4.8
SGMF Saint Gilles 24.05 186 *e*P P 07 22 10.3 -1.1
SGMF pmax pmax
comp=Z,57nm,1.3s,mb4.8
SGMF Saint Gilles 24.05 186 *e*P P 07 22 10.3 -1.1
comp=Z,57nm,1.3s,mb4.8
BUCH Bad Vrach 24.13 166 P P 07 22 14.4 +2.3
GEC2 GERESS Array S 24.14 159 *e*P P 07 22 12.9 +0.7
comp=Z,110nm,1.3s,mb5.1
GEC2 GERESS Array S 24.14 159 *e*P P 07 22 12.9 +0.7
GEC2 pmax pmax
comp=Z,110nm,1.3s,mb5.1
GERES GERESS Array B 24.14 159 P P 07 22 12.9 +0.7
comp=Z,25nm,0.8s,mb4.7,baz=354,slow=8.2,SNR=109
GERES S S 07 26 29.0 -1.0
comp=Z,0.3nm,0.8s,baz=4.6,slow=35,SNR=2.3
GERES Lg 07 29 43.9
comp=Z,0.2nm,0.5s,baz=148,slow=40,SNR=2.6
GERES LR LR 07 31 53.3
comp=Z,3μm,19.5s,MS4.8,baz=349,slow=37
GERES GERESS Array B 24.14 159 P P 07 22 12.9 +0.7
GERES S S 07 26 29.0 -1.0
THEF They Montfort 24.15 172 *e*P P 07 22 12.2 -0.1
BFO Black Forest 24.18 168 P P 07 22 12.2 -0.3
comp=Z,198nm,1.7s,mb5.3,SNR=12
BFO Black Forest 24.18 168 *e*P P 07 22 12.6 +0.1
comp=Z,267nm,2.1s,mb5.3
BFO Black Forest 24.18 168 *e*P P 07 22 12.6 +0.1
BFO pmax pmax
comp=Z,267nm,2.1s,mb5.3
ECH Echery 24.22 170 *e*P P 07 22 13.3 +0.4
KRUC Moravsky 24.25 155 P P 07 22 13.7 +0.5
LIBD Limburg 24.31 169 *e*P P 07 22 14.6 +0.8
HAU Haudompre 24.39 171 *e*P P 07 22 14.0 -0.5
comp=Z,231nm,1.7s,mb5.0
HAU *e*R
comp=Z,972nm,18.5s
HAU Haudompre 24.39 171 *e*P P 07 22 14.0 -0.5
HAU pmax pmax
comp=Z,116nm,1.7s,mb5.0
HAU MLR MLR
comp=Z,970nm,18.5s,MS4.3
HAU Haudompre 24.39 171 *e*P P 07 22 14.0 -0.5
comp=Z,116nm,1.7s,mb5.0
HAU LR LR
comp=Z,970nm,18.5s,MS4.3
QUIF Quistinic 24.41 187 *e*P P 07 22 13.2 -1.5
SPAK Spaichingen-Ko 24.43 167 *e*P P 07 22 15.0 +0.1
NIE Niedzica 24.48 148 *e*P P 07 22 15.5 +0.2
KIZ Kirchzarten 24.52 168 P P 07 22 17.2 +1.5
FUR Furstenfeldbru 24.57 163 *e*P P 07 22 16.1 0.0
comp=Z,205nm,1.8s,mb5.4
FUR Furstenfeldbru 24.57 163 *e*P P 07 22 16.1 0.0
FUR pmax pmax
comp=Z,205nm,1.8s,mb5.4
MOF Molkenrain 24.58 170 *e*P P 07 22 16.3 +0.1
HINF Hinteralfeld 24.60 170 *e*P P 07 22 16.1 -0.3
comp=Z,185nm,1.6s,mb5.1
HINF Hinteralfeld 24.60 170 *e*P P 07 22 16.1 -0.3
HINF pmax pmax
comp=Z,92nm,1.6s,mb5.1
HINF Hinteralfeld 24.60 170 *e*P P 07 22 16.1 -0.3
comp=Z,92nm,1.6s,mb5.1
FELD Feldberg im Sc 24.61 168 *e*P P 07 22 17.7 +1.2
JAVC Velka Javorina 24.63 153 P P 07 22 17.4 +0.8
KWP Kalwaria 24.68 145 *e*P P 07 22 17.3 +0.1
KWP *e*pP 07 22 20.7
KWP L 07 31 38.0
comp=Z,4.8nm,21.0s
KWP Kalwaria 24.68 145 *e*P P 07 22 17.3 +0.1
KWP *e*PP 07 22 20.7
LVV L'vov 24.75 142⇑ *i*P P 07 22 17.6 -0.1
LVV *e* 07 22 52.9
LVV *e*S S 07 26 37.8 -2.0
LVV *e*SS 07 27 35.1
LVV MLR MLR
comp=N,3μm,14.0s,MS5.0
LVV MLR MLR
comp=Z,3μm,14.0s,MS5.0
LVV MLR MLR
comp=E,300nm,13.0s,MS5.0
SLE Schleitheim 24.75 168 ⇓P P 07 22 19.0 +1.2
SMOL Smolenice 24.93 153 *e*P P 07 22 21.0 +1.6
SOKR Solikamsk 24.95 91*c* *i*P P 07 22 19.1 -0.5
SOKR S S 07 26 44.9 +1.8
SOKR pmax pmax
comp=Z,40nm,1.1s,mb4.9
SOKR MLR MLR
comp=Z,2μm,20.0s,MS4.6
AKASG Malin Array Be 24.97 134 P P 07 22 18.6 -1.2
comp=Z,3.0nm,0.4s,mb4.2,baz=336,slow=9.6,SNR=35
AKASG Lg 07 30 14.4
comp=Z,0.1nm,0.3s,baz=184,slow=37,SNR=2.4
AKASG LR LR 07 31 44.8
comp=Z,5μm,20.2s,MS5.0,baz=330,slow=36
AKASG Malin Array Be 24.97 134 P P 07 22 18.5 -1.3
BBS Basel-Blauen 24.99 169 *e*P P 07 22 23.0 +3.1
LOR Lormes 25.03 175 *e*P P 07 22 19.8 -0.5
comp=Z,80nm,1.4s,mb4.8
LOR *e*R
comp=Z,2μm,21.8s
LOR Lormes 25.03 175 *e*P P 07 22 19.8 -0.5
LOR pmax pmax
comp=Z,40nm,1.4s,mb4.8
LOR MLR MLR
comp=Z,2μm,21.8s,MS4.5
LOR Lormes 25.03 175 *e*P P 07 22 19.8 -0.5
comp=Z,40nm,1.4s,mb4.8
LOR LR LR
comp=Z,2μm,21.8s,MS4.5
LOMF Lomont 25.06 170 *e*P P 07 22 19.1 -1.5
VYHS Vyhne 25.15 151 *e*P P 07 22 21.4 0.0
VYHS *e*S S 07 26 40.2 -6.1
VYHS pmax pmax
comp=Z,29nm,1.3s,mb4.7
VYHS MLR MLR
comp=Z,1μm,22.2s,MS4.3
VYHS Vyhne 25.15 151 *e*P P 07 22 21.4 0.0
comp=Z,29nm,1.3s,mb4.6
VYHS *e*S S 07 26 40.2 -6.1
VYHS LR LR
comp=Z,1μm,22.2s,MS4.3
VYHS Vyhne 25.15 151 *e*P P 07 22 21.4 0.0
comp=Z,29nm,1.3s,mb4.6
VYHS *e*S S 07 26 40.2 -6.1
CRVS Cervenica-Dubn 25.17 147 *e*P P 07 22 22.0 +0.4
CRVS *e*S S 07 26 45.7 -0.9
CRVS Cervenica-Dubn 25.17 147 *e*P P 07 22 22.1 +0.5
CRVS *e*S S 07 26 45.7 -0.9
MOA Molln 25.18 158⇑ *i*P P 07 22 21.9 +0.2
comp=Z,303nm,1.6s,mb5.6,SNR=19
ZST Bratislava 25.20 154 *e*P P 07 22 24.3 +2.5
ZST *e*S S 07 26 53.3 +6.3
ZST pmax pmax
comp=Z,64nm,1.3s,mb5.0
ZST MLR MLR
comp=Z,2μm,16.1s,MS4.6
ZST Bratislava 25.20 154 *e*P P 07 22 24.3 +2.5
comp=Z,64nm,1.3s,mb5.0
ZST *e*S S 07 26 53.3 +6.3
ZST LR LR
comp=Z,2μm,16.1s,MS4.6
ZST Bratislava 25.20 154 *e*P P 07 22 24.3 +2.5
comp=Z,64nm,1.3s,mb5.0
ZST *e*S S 07 26 53.3 +6.3
SSF Saint Saulge 25.23 176 *e*P P 07 22 22.2 +0.1
comp=Z,103nm,1.4s,mb4.9
SSF Saint Saulge 25.23 176 *e*P P 07 22 22.2 +0.1
SSF pmax pmax
comp=Z,52nm,1.4s,mb4.9
SSF Saint Saulge 25.23 176 *e*P P 07 22 22.2 +0.1
comp=Z,52nm,1.4s,mb4.9
KOLS Kolonicke sedl 25.28 146 *e*P P 07 22 23.0 +0.4
KOLS *e*S S 07 26 56.1 +7.7
CONA Conrad Observa 25.30 156 P P 07 22 19.0 -3.7
comp=Z,305nm,1.6s,mb5.6,SNR=44
DAVA Damuels 25.32 166⇓ *i*P P 07 22 24.0 +1.0
comp=Z,207nm,1.8s,mb5.4,SNR=10
MOTA Moosalm 25.37 164⇑ *i*P P 07 22 23.7 +0.4
comp=Z,94nm,1.4s,mb5.1,SNR=18
MOTA Moosalm 25.37 164⇑ *i*P P 07 22 23.7 +0.3
MOTA pmax pmax
comp=Z,94nm,1.4s,mb5.1
WATA Walderalm 25.42 163⇑ *i*P P 07 22 25.8 +1.9
comp=Z,141nm,1.5s,mb5.3
WATA Walderalm 25.42 163⇑ *i*P P 07 22 25.8 +2.0
WATA pmax pmax
comp=Z,141nm,1.5s,mb5.3
WTTA Wattenberg 25.49 163⇑ *i*P P 07 22 25.7 +1.2
comp=Z,220nm,1.5s,mb5.5,SNR=44
WTTA Wattenberg 25.49 163⇑ *i*P P 07 22 25.7 +1.2
WTTA pmax pmax
comp=Z,221nm,1.5s,mb5.5
AVF Avril sur Loir 25.50 176 *e*P P 07 22 23.9 -0.7
comp=Z,78nm,1.2s,mb4.8
AVF Avril sur Loir 25.50 176 *e*P P 07 22 23.9 -0.7
AVF pmax pmax
comp=Z,39nm,1.2s,mb4.8
AVF Avril sur Loir 25.50 176 *e*P P 07 22 23.9 -0.7
comp=Z,39nm,1.2s,mb4.8
SQTA Sankt Quirin 25.50 163⇑ *i*P P 07 22 26.6 +2.1
comp=Z,110nm,1.4s,mb5.2,SNR=22
SQTA Sankt Quirin 25.50 163⇑ *i*P P 07 22 26.6 +2.0
SQTA pmax pmax
comp=Z,111nm,1.4s,mb5.2
UZH Uzhgorod 25.57 146 *e*P P 07 22 25.0 -0.3
UZH *e*S S 07 26 55.0 +2.0
UZH MLR MLR
comp=Z,2μm,15.2s,MS4.6
LCHF La Chataignera 25.60 183 *e*P P 07 22 24.4 -1.1
SMF Signal de Mont 25.65 175 *e*P P 07 22 26.1 +0.1
comp=Z,32nm,1.6s,mb5.2
SMF Signal de Mont 25.65 175 *e*P P 07 22 26.1 +0.1
SMF pmax pmax
comp=Z,116nm,1.6s,mb5.2
SMF Signal de Mont 25.65 175 *e*P P 07 22 26.1 +0.1
comp=Z,116nm,1.6s,mb5.2
MFF Saint Martin d 25.66 182 *e*P P 07 22 25.6 -0.5
comp=Z,58nm,1.0s,mb4.8
MFF Saint Martin d 25.66 182 *e*P P 07 22 25.6 -0.5
MFF pmax pmax
comp=Z,29nm,1.0s,mb4.8
MFF Saint Martin d 25.66 182 *e*P P 07 22 25.6 -0.5
comp=Z,29nm,1.0s,mb4.8
LLS Linth-Limmern 25.70 167⇑P P 07 22 28.5 +2.1
BGF Bois d'Agland 25.72 177 *e*P P 07 22 26.4 -0.2
comp=Z,64nm,0.9s,mb4.8
BGF Bois d'Agland 25.72 177 *e*P P 07 22 26.4 -0.2
BGF pmax pmax
comp=Z,32nm,0.9s,mb4.8
BGF Bois d'Agland 25.72 177 *e*P P 07 22 26.4 -0.2
comp=Z,32nm,0.9s,mb4.8
CABF La Chapelle 25.77 172 *e*P P 07 22 27.2 +0.2
comp=Z,155nm,1.2s,mb5.1
CABF La Chapelle 25.77 172 *e*P P 07 22 27.2 +0.2
CABF pmax pmax
comp=Z,77nm,1.2s,mb5.1
CABF La Chapelle 25.77 172 *e*P P 07 22 27.2 +0.2
comp=Z,77nm,1.2s,mb5.1
FRB Frobisher Bay 25.79 287 P P 07 22 29.6 +2.3
comp=Z,13nm,1.0s,mb4.4,baz=357,slow=12,SNR=3.0
FRB LR LR 07 32 00.0
comp=Z,3μm,18.1s,MS4.9,baz=30,slow=35
FRB Frobisher Bay 25.79 287 P P 07 22 29.6 +2.3
FRB LR LR 07 32 00.0
FRB Frobisher Bay 25.79 287 P P 07 22 29.5 +2.2
DAVOX Davos 25.83 166 P P 07 22 29.5 +2.0
comp=Z,4.4nm,0.7s,mb4.1,baz=336,slow=11,SNR=7.3
DAVOX LR LR 07 33 40.4
comp=Z,3μm,19.2s,MS4.8,baz=349,slow=39
KBA Koelnbreinsper 25.84 160 *i*P P 07 22 30.5 +2.8
comp=Z,196nm,2.1s,mb5.3,SNR=25
KBA Koelnbreinsper 25.84 160 *i*P P 07 22 30.5 +2.8
KBA pmax pmax
comp=Z,197nm,2.1s,mb5.3
PSZ Piszkesteto 25.87 150 *e*P P 07 22 30.2 +2.2
ARSA Arzberg 25.92 157⇑ *i*P P 07 22 31.0 +2.6
comp=Z,218nm,2.4s,mb5.3,SNR=21
TCF Toulx Ste Croi 25.98 178 *e*P P 07 22 28.5 -0.4
comp=Z,83nm,1.1s,mb4.9
TCF Toulx Ste Croi 25.98 178 *e*P P 07 22 28.5 -0.4
TCF pmax pmax
comp=Z,41nm,1.1s,mb4.9
TCF Toulx Ste Croi 25.98 178 *e*P P 07 22 28.5 -0.4
comp=Z,42nm,1.1s,mb4.9
LKBD Leukerbad 26.07 169 ⇑P P 07 22 32.0 +2.3
VDL Val di Lei 26.09 166 ⇓P P 07 22 32.1 +2.2
TUE Stuetta 26.09 167 P P 07 22 30.7 +0.7
PKSG 26.16 152 *e*P P 07 22 32.7 +2.1
BRMO Bormio 26.17 165 P P 07 22 33.7 +3.1
FVI Forni Avoltri 26.26 161 P P 07 22 33.2 +1.7
PLDF La Plantade 26.32 176 *e*P P 07 22 33.1 +1.1
DIX Grande Dixence 26.36 170 ⇓P P 07 22 34.3 +1.9
MMK Mattmark 26.42 169 ⇓P P 07 22 35.2 +2.3
PERS Pernice 26.48 158 *e*P P 07 22 33.9 +0.4
PERS *e* 07 25 48.2
PTCC Patocco-Chiusa 26.51 160 P P 07 22 37.1 +3.3
MCGN Macugnaga 26.52 169 P P 07 22 36.1 +2.3
VERF Verneugheol 26.52 177 *e*P P 07 22 35.3 +1.5
PYM Petit Puy Mans 26.53 177 *e*P P 07 22 34.7 +0.8
OBKA Obir 26.54 159⇑ *i*P P 07 22 34.8 +0.8
comp=Z,212nm,2.3s,mb5.3,SNR=8.9
MABI Malga Bissina 26.60 165 P P 07 22 37.0 +2.5
GMNA Gemona 26.63 161 P P 07 22 37.1 +2.3
VAI Varese 26.66 168 P P 07 22 36.9 +1.8
PKS8 Sarbogard 26.71 152 *e*P P 07 22 35.0 -0.5
CADS Cadrg 26.73 160 *e*P P 07 22 37.6 +1.9
KOGS Kog 26.80 156 *e*P P 07 22 38.4 +2.0
KOGS Kog 26.80 156 *e*P P 07 22 38.3 +1.9
LPL La Plagne 26.89 171 *e*P P 07 22 37.6 +0.4
LPG La Plagne 26.91 171 *e*P P 07 22 37.9 +0.6
VRSR Storozhevoye 26.93 120*c* *i*P P 07 22 36.8 -0.8
VRSR pmax pmax

comp=Z,40nm,0.9s,mb5.0
VRSR pmax pmax
comp=N,40nm,0.7s
VRSR pmax pmax
comp=E,20nm,0.7s
PKS9 Tamasi 26.93 153 *e*P **P 07 22 42.5 +4.9**
VOY Vojsko 26.94 160 *e*P **P 07 22 39.0 +1.4**
VOY *e* pP 07 22 43.4 +2.8
RJF Les Rejaudoux 26.96 179 *e*P **P 07 22 37.4 -0.4**
comp=E,82nm,1.1s,mb4.9
RJF *e*R
comp=E,752nm,20.8s
RJF Les Rejaudoux 26.96 179 *e*P **P 07 22 37.4 -0.4**
RJF pmax pmax
comp=Z,41nm,1.1s,mb4.9
RJF MLR MLR
comp=Z,750nm,20.8s,MS4.2
RJF Les Rejaudoux 26.96 179 *e*P **P 07 22 37.4 -0.4**
comp=Z,41nm,1.1s,mb4.9
RJF LR LR
comp=Z,750nm,20.8s,MS4.2
LJU Ljubljana 27.00 159 *e*P **P 07 22 40.1 +2.0**
LJU *e* 07 25 46.6
LJU *e*S **S 07 27 15.6 +0.1**
BURAR Bucovina Array 27.08 142 ‖ *i*P **P 07 22 31.2 -7.7**
LEGS Legarje 27.18 158 *e*P **P 07 22 41.5 +1.7**
LFF La Frestale 27.32 180 *e*P **P 07 22 40.9 -0.1**
CAF Calviac 27.34 178 *e*P **P 07 22 41.4 +0.2**
DRGR 27.43 146 ‖ *i*P **P 07 22 35.6 -6.4**
DRGR 27.43 146 P **P 07 22 42.6 +0.6**
DRGR 27.43 146 P **P 07 22 42.5 +0.5**
ORIF Oris-en-Rattie 27.45 172 *e*P **P 07 22 42.4 +0.2**
comp=Z,113nm,1.5s,mb4.9
ORIF *e*R
comp=Z,2µm,21.0s
ORIF Oris-en-Rattie 27.45 172 *e*P **P 07 22 42.4 +0.2**
ORIF pmax pmax
comp=Z,57nm,1.5s,mb4.9
ORIF Oris-en-Rattie 27.45 172 *e*P **P 07 22 42.4 +0.2**
comp=Z,56nm,1.5s,mb4.9
VIVF Saint-Julien-I 27.46 174 *e*P **P 07 22 42.6 +0.3**
comp=Z,89nm,1.2s,mb4.9
VIVF Saint-Julien-I 27.46 174 *e*P **P 07 22 42.6 +0.3**
VIVF pmax pmax
comp=Z,45nm,1.2s,mb4.9
VIVF Saint-Julien-I 27.46 174 *e*P **P 07 22 42.6 +0.3**
comp=Z,44nm,1.2s,mb4.9
MBDF Montbardon 27.68 171 *e*P **P 07 22 44.7 +0.5**
comp=Z,63nm,1.1s,mb4.9
MBDF Montbardon 27.68 171 *e*P **P 07 22 44.7 +0.5**
MBDF pmax pmax
comp=Z,32nm,1.1s,mb4.9
MBDF Montbardon 27.68 171 *e*P **P 07 22 44.7 +0.5**
comp=Z,32nm,1.1s,mb4.9
VRHR Novokhopersk 27.70 118 *e*P **P 07 22 49.7 +5.3**
VRHR pmax pmax
comp=Z,40nm,1.0s,mb5.0
VRHR pmax pmax
comp=N,160nm,1.8s
VRHR pmax pmax
comp=E,50nm,1.7s
ARU Arti 28.06 93 *e*P **P 07 22 47.9 +0.2**
ARU *e* 07 23 36.9
ARU *e*PPP 07 23 46.2
ARU *e* 07 25 58.4
ARU *e*S **S 07 27 36.0 +3.7**
ARU *e*SS 07 28 57.2
ARU MLR MLR
comp=Z,2µm,19.0s,MS4.7
ARU MLR MLR
comp=N,1µm,18.0s,MS4.6
ARU MLR MLR
comp=E,500nm,19.0s,MS4.6
ARU Arti 28.06 93 *e*P **P 07 22 47.6 -0.1**
comp=E,33nm,1.2s,mb4.8
ARU LR LR
comp=Z,2µm,19.0s,MS4.7
ARU Arti 28.06 93 *e*P **P 07 22 47.6 -0.1**
comp=Z,33nm,1.2s,mb4.8
LASF Ste Croix 28.22 175 *e*P **P 07 22 49.4 +0.3**
comp=Z,97nm,1.8s,mb4.8
LASF Ste Croix 28.22 175 *e*P **P 07 22 49.4 +0.3**
comp=Z,48nm,1.8s,mb4.8
SVE Sverdlovsk 28.37 91 *e*P **P 07 22 50.4 0.0**
SVE *e* 07 27 40.0
SVE pmax pmax
comp=Z,70nm,2.6s,mb4.8
SMRF Simiane la Rot 28.38 173 *e*P **P 07 22 50.6 +0.1**
BZS Buzias 28.39 148 ‖ *i*P **P 07 22 51.1 +0.5**
BZS Buzias 28.39 148 P **P 07 22 51.7 +1.1**
BZS Buzias 28.39 148 P **P 07 22 52.1 +1.5**
KIS Kishinev 28.39 138 *e*P **P 07 22 48.0 -2.6**
KIS *e*S **S 07 27 30.0 -7.5**
KIS *e*SS 07 29 00.0
KIS MLR MLR
comp=N,2µm,16.0s,MS5.0
KIS MLR MLR
comp=E,2µm,16.0s,MS5.0
KIS MLR MLR
comp=Z,4µm,16.0s,MS5.0
KIS MLR MLR
comp=Z,4µm,18.0s
AUTN L'Aution 28.44 170 *e*P **P 07 22 53.3 +2.2**
SAOF Saorge 28.46 170 *e*P **P 07 22 53.5 +2.3**
VLC Villacollemand 28.47 165 *e*P **P 07 22 54.0 +2.7**
comp=Z,76nm,1.6s,mb5.1
VLC Villacollemand 28.47 165 *e*P **P 07 22 54.0 +2.7**
comp=Z,76nm,1.6s,mb5.1
FGSL Fruska Gora 28.55 151 P **P 07 22 52.5 +0.4**
SBF Sospel 28.57 170 *e*P **P 07 22 51.1 -1.1**
comp=Z,187nm,1.6s,mb5.3
SBF Sospel 28.57 170 *e*P **P 07 22 51.1 -1.1**
SBF pmax pmax
comp=Z,93nm,1.6s,mb5.3
SBF Sospel 28.57 170 *e*P **P 07 22 51.1 -1.1**
comp=Z,93nm,1.6s,mb5.3
FRF La Foret Royal 28.84 171 *e*P **P 07 22 54.9 +0.3**
comp=Z,35nm,1.1s,mb4.7
FRF La Foret Royal 28.84 171 *e*P **P 07 22 54.9 +0.3**
FRF pmax pmax
comp=Z,18nm,1.1s,mb4.7
FRF La Foret Royal 28.84 171 *e*P **P 07 22 54.9 +0.3**
comp=Z,18nm,1.1s,mb4.7
MTLF Montolieu 28.93 178 *e*P **P 07 22 55.4 0.0**
comp=Z,27nm,1.2s,mb4.6
MTLF Montolieu 28.93 178 *e*P **P 07 22 55.4 0.0**
MTLF pmax pmax
comp=Z,13nm,1.2s,mb4.5
MTLF Montolieu 28.93 178 *e*P **P 07 22 55.4 0.0**
comp=Z,13nm,1.2s,mb4.6
BEO Belgrade 28.98 150 *i*P **P 07 23 00.6 +4.8**
VRI Vrincioaia 29.05 141 ‖ *i*P **P 07 22 57.3 +0.8**
VRI Vrincioaia 29.05 141 P **P 07 22 56.9 +0.4**
LMR La Mourre 29.05 171 *e*P **P 07 22 56.8 +0.3**
CRE Caprese Michel 29.14 163 P **P 07 23 00.2 +3.0**
FSSB Fossombrone 29.14 162 P **P 07 22 59.4 +2.1**
SJPF Ste Jean 29.16 183 *e*P **P 07 22 57.7 +0.2**
CSNT Castellina Chi 29.23 164 P **P 07 23 00.6 +2.6**
EPF Esparros 29.23 181 *e*P **P 07 22 57.6 -0.5**
comp=Z,22nm,0.9s,mb4.6
EPF Esparros 29.23 181 *e*P **P 07 22 57.6 -0.5**
EPF pmax pmax
comp=Z,11nm,0.9s,mb4.6
EPF Esparros 29.23 181 *e*P **P 07 22 57.6 -0.5**
comp=Z,11nm,0.9s,mb4.6
MLR Muntele Rosu 29.27 142 P **P 07 22 59.9 +1.5**
comp=Z,7.0nm,1.1s,mb4.3,baz=134,slow=5.0,SNR=7.5
MLR LR LR 07 34 59.9
comp=Z,6µm,18.4s,MS5.3,baz=326,slow=37
MLR Muntele Rosu 29.27 142 ‖ *i*P **P 07 22 59.8 +1.4**
MLR Muntele Rosu 29.27 142 P **P 07 22 59.9 +1.5**
MLR LR LR 07 34 59.9
BADI Badiali 29.27 163 P **P 07 23 01.6 +3.2**
ARV Arcevia 29.35 162 P **P 07 23 01.3 +2.2**
ETSF Etsaut 29.37 182 *e*P **P 07 22 59.4 +0.1**
comp=Z,36nm,1.2s,mb4.7
ETSF Etsaut 29.37 182 *e*P **P 07 22 59.4 +0.1**
ETSF pmax pmax
comp=Z,18nm,1.2s,mb4.7
ETSF Etsaut 29.37 182 *e*P **P 07 22 59.4 +0.1**
comp=Z,18nm,1.2s,mb4.7
DJES Djerdap 29.49 148 *i*P **P 07 23 05.9 +5.5**
CING Cingoli 29.50 162 P **P 07 23 01.8 +1.4**
EBIE Bielsa 29.57 181 P **P 07 23 01.4 +0.3**
comp=Z,7.2nm,0.9s,mb4.4
EBIE Bielsa 29.57 181 P **P 07 23 01.4 +0.3**
comp=Z,7.2nm,0.9s,mb4.4
SNTG Esanatoglia 29.59 162 P **P 07 23 04.3 +3.0**
DIVS Divcibare 29.62 151 *i*P **P 07 23 01.9 +0.3**
STS Santiago 29.73 194 P **P 07 23 01.4 -1.1**
STS pmax pmax
comp=Z,23nm,0.9s,mb4.9
STS Santiago 29.73 194 P **P 07 23 01.4 -1.1**
comp=Z,23nm,0.9s,mb4.9
GRUS Gruza 29.93 150 *i*P **P 07 23 06.7 +2.4**
SJES Sjenica 30.42 152 P **P 07 23 10.4 +1.8**
AQU L'Aquila 30.53 161 *e*P **P 07 23 10.4 +0.9**
AQU pmax pmax
comp=Z,87nm,1.5s,mb5.4
AQU L'Aquila 30.53 161 *e*P **P 07 23 10.4 +0.8**
comp=Z,87nm,1.5s,mb5.4
AQU *e* 07 23 22.9
AQU L'Aquila 30.53 161 *e*P **P 07 23 10.4 +0.9**
ECAL Calabor 30.54 191 P **P 07 23 08.2 -1.5**
comp=Z,16nm,0.9s,mb4.8
ECAL Calabor 30.54 191 P **P 07 23 08.1 -1.6**
comp=Z,16nm,0.9s,mb4.8
PBRG Braganca 30.68 191 *e*P **P 07 23 10.9 0.0**
comp=Z,36nm,1.4s,mb5.0
PCAB Cabril 30.86 193 *e*P **P 07 23 12.5 0.0**
PVRL Vila Real 31.27 192 *e*P **P 07 23 16.2 +0.1**
comp=Z,41nm,1.5s,mb5.0
SIM Simferopol' 31.50 132 *e*P **P 07 23 21.5 +3.4**
SIM *e*S **S 07 28 31.0 +4.8**
SIM pmax pmax
comp=Z,160nm,14.5s
SIM MLR MLR
comp=Z,6µm,16.8s,MS5.4
VTS Vitosha 31.59 148 *e*P **P 07 23 18.0 -1.0**
VTS Vitosha 31.59 148 ‖ *i*P **P 07 23 21.2 +2.3**
VTS Vitosha 31.59 148 *e*P **P 07 23 17.6 -1.3**
GUD Guadarrama 31.71 187 P **P 07 23 19.8 -0.2**
GUD pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
GUD Guadarrama 31.71 187 P **P 07 23 19.8 -0.2**
comp=Z,4.5nm,1.0s,mb4.2
GUD Guadarrama 31.71 187 P **P 07 23 19.8 -0.2**
comp=Z,4.5nm,1.0s,mb4.2
PVIS Viseu 31.84 193 *e*P **P 07 23 21.1 0.0**
comp=Z,34nm,0.9s,mb5.2
SKO Skopje 31.91 150 *e*P **P 07 23 23.5 +1.7**
SKO Skopje 31.91 150 *e*P **P 07 23 23.4 +1.6**
MTE Manteigas 32.13 192 *e*P **P 07 23 23.9 +0.2**
comp=Z,32nm,1.0s,mb5.1
MTE *e*S **S 07 28 35.5 -0.6**
MTE Manteigas 32.13 192 *e*P **P 07 23 23.6 0.0**
comp=Z,16nm,0.8s,mb4.9
KKB Krupnik 32.28 148 *e*P **P 07 23 24.2 -0.8**
TIR Tirane 32.30 153 *e*P **P 07 23 29.9 +4.7**
STIP Stip 32.30 149 *e*P **P 07 23 25.2 +0.1**
PLD Plovdiv 32.32 146 *e*P **P 07 23 26.7 +1.4**
EPLA Plasencia 32.38 190 P **P 07 23 24.1 -1.7**
EPLA pmax pmax
comp=Z,26nm,1.5s,mb4.8
EPLA Plasencia 32.38 190 P **P 07 23 24.1 -1.7**
comp=Z,26nm,1.5s,mb4.8
EPLA Plasencia 32.38 190 P **P 07 23 24.1 -1.7**
comp=Z,26nm,1.5s,mb4.8
ANN Anapa 32.42 128 *e*P **P 07 23 22.0 -4.2**
ANN *i* *PP pP 07 23 25.8 -3.5
ANN *e* 07 24 29.1
ANN *e*S **S 07 28 36.2 -4.4**
ANN pmax pmax
comp=Z,166nm,6.4s
ANN MLR MLR
comp=Z,4µm,15.0s,MS5.3
SCHQ Schefferville 32.47 274 LR LR 07 35 21.6
comp=Z,2µm,20.2s,MS4.8,baz=46,slow=34
SCHQ Schefferville 32.47 274 PFAKE 07 23 40.0 +13
SCHQ LR LR
comp=Z,3µm,20.0s,MS5.0
TIXI Tiksi 32.61 28 PFAKE 07 23 40.0 +12
TIXI LR LR
comp=Z,282nm,19.0s,MS4.0
MMB Musomiste 32.65 147 *e*P **P 07 23 28.2 -0.1**
MMB Musomiste 32.65 147 *e*P **P 07 23 28.0 -0.3**
OHR Ohrid 32.66 151 *e*P **P 07 23 31.6 +3.2**
OHR Ohrid 32.66 151 *e*P **P 07 23 29.3 +1.0**
ESDC Sonseca Array 32.67 187 P **P 07 23 28.3 -0.1**
comp=Z,1.3nm,0.6s,mb4.0,baz=1.4,slow=8.0,SNR=16
ESDC LR LR 07 35 57.7
comp=Z,486nm,19.5s,MS4.2,baz=20,slow=35
ESDC Sonseca Array 32.67 187 P **P 07 23 27.5 -0.9**
ESDC Sonseca Array 32.67 187 P **P 07 23 27.5 -0.9**
ESLA Sonseca Array 32.67 187 *e*P **P 07 23 28.1 -0.3**
comp=Z,8.0nm,1.4s,mb4.5
ESLA LR LR
comp=Z,4µm,20.0s,MS5.1
ESLA Sonseca Array 32.67 187 *e*P **P 07 23 28.1 -0.3**
comp=Z,8.0nm,1.4s,mb4.5
PCBR Castelo Branco 32.68 192 *e*P **P 07 23 28.5 0.0**
comp=Z,30nm,1.5s,mb5.0
RZN Rozhen 32.73 146 *e*P **P 07 23 28.1 -0.8**
VAY Valandovo 32.73 149 *e*P **P 07 23 29.3 +0.4**
VAY Valandovo 32.73 149 *e*P **P 07 23 29.5 +0.6**
KDZ Kurdzhali 32.88 145 *e*P **P 07 23 29.0 -1.3**
KNT Kendrikon 32.94 149 *e*P **P 07 23 31.0 +0.3**
PTOM Tomar 32.97 193 *e*P **P 07 23 31.2 +0.2**
comp=Z,69nm,1.8s,mb5.3
AKTO Aktyubinsk 33.05 100 LR LR 07 37 00.7
comp=Z,2µm,19.8s,MS4.9,baz=176,slow=36
GRG Griva 33.06 149 *e*P **P 07 23 33.0 +1.2**
FNA Florina 33.07 151 *e*P **P 07 23 31.6 -0.3**
SRS Serrai 33.09 148 *e*P **P 07 23 31.7 -0.4**
SOH Sokhos 33.34 148 *e*P **P 07 23 34.9 +0.6**
THE Thessaloniki 33.46 149 *e*P **P 07 23 36.7 +1.4**
GOF Gofitskoye 33.61 121 *e*P **P 07 23 37.2 +0.6**
GOF pmax pmax
comp=Z,50nm,0.6s,mb5.6
PESTR Estremoz 33.66 192 *e*P **P 07 23 36.1 -0.9**
EVIA Vianos 33.66 185 P **P 07 23 36.9 -0.1**
EVIA pmax pmax
comp=Z,11nm,0.9s,mb4.8
EVIA Vianos 33.66 185 P **P 07 23 36.9 -0.1**
comp=Z,11nm,0.9s,mb4.8
EVIA Vianos 33.66 185 P **P 07 23 36.9 -0.1**
comp=Z,11nm,0.9s,mb4.8
EBAD Badajoz 33.73 191 P **P 07 23 36.5 -1.2**
comp=Z,32nm,1.7s,mb5.0
EBAD Badajoz 33.73 191 P **P 07 23 36.5 -1.2**
comp=Z,32nm,1.7s,mb5.0
LIT Litokhoron 33.91 150 *e*P **P 07 23 38.3 -0.9**
ELBA Catalca 33.93 141 *i*P **P 07 23 38.3 -1.1**
CHKZ Chkalovo 34.10 85 *e*P **P 07 23 42.8 +1.9**
CHKZ *e* 07 26 17.8
CHKZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CHKZ Chkalovo 34.10 85 *e*P **P 07 23 42.8 +1.9**
comp=Z,7.6nm,1.0s,mb4.6
CHKZ *e*PcP PcP 07 26 17.8 -0.4
CHKZ Chkalovo 34.10 85 *e*P **P 07 23 42.8 +1.9**
comp=Z,7.6nm,1.0s,mb4.6
CHKZ Chkalovo 34.10 85 *e*PcP PcP 07 26 17.8 -0.4
EBAN Banos Encina 34.17 186 P **P 07 23 41.0 -0.5**
EADA Adamuz 34.20 188 P **P 07 23 41.1 -0.6**
comp=Z,18nm,1.3s,mb4.8
EADA Adamuz 34.20 188 P **P 07 23 41.1 -0.6**
comp=Z,18nm,1.3s,mb4.8
ZRNK Zerenda 34.23 87 *e*P **P 07 23 42.9 +0.9**
ZRNK *e* 07 26 18.4
ZRNK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ZRNK Zerenda 34.23 87 *e*P **P 07 23 42.9 +0.9**
comp=Z,6.6nm,1.0s,mb4.5
ZRNK *e*PcP PcP 07 26 18.4 -0.1
ZRNK Zerenda 34.23 87 *e*P **P 07 23 42.9 +0.9**
comp=Z,6.6nm,1.0s,mb4.5
ZRNK Zerenda 34.23 87 *e*PcP PcP 07 26 18.4 -0.2
PAIG Paliouri 34.27 148 *e*P **P 07 23 42.2 -0.1**
EMUR La Murta 34.43 183 P **P 07 23 44.5 +0.8**
comp=Z,30nm,1.6s,mb5.0
EMUR La Murta 34.43 183 P **P 07 23 44.5 +0.8**
comp=Z,30nm,1.6s,mb5.0
EHUE Huescar 34.48 185 P **P 07 23 44.7 +0.5**
EHUE pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
EHUE Huescar 34.48 185 P **P 07 23 44.7 +0.5**
comp=Z,1.6nm,0.8s,mb4.0
EQES Quesada 34.51 185 P **P 07 23 43.0 -1.4**
comp=Z,19nm,1.3s,mb4.9
EQES Quesada 34.51 185 P **P 07 23 43.0 -1.4**
comp=Z,19nm,1.3s,mb4.9
PBEJ Beja 34.51 192 *e*P **P 07 23 44.3 -0.1**
comp=Z,40nm,1.6s,mb5.1
BRVK Borovoye 34.53 86 PFAKE 07 24 00.0 +15
BRVK LR LR
comp=Z,440nm,22.0s,MS4.2
KIV Kislovodsk 34.54 122 *e*P **P 07 23 44.9 +0.2**
KIV pmax pmax
comp=Z,46nm,1.3s,mb5.2
KIV MLR MLR
comp=Z,3µm,20.0s,MS5.1
KIV Kislovodsk 34.54 122 *e*P **P 07 23 44.9 +0.2**
comp=Z,46nm,1.3s,mb5.2
KIV LR LR
comp=Z,3µm,20.0s,MS5.1
HENT Hendek 34.73 138 *i*P **P 07 23 46.9 +0.6**
XOR Xorichti 34.74 149 *e*P **P 07 23 47.5 +1.1**
ELUQ Luque 34.79 187 P **P 07 23 47.8 +1.0**
ELUQ pmax pmax
comp=Z,14nm,1.2s,mb4.8
ELUQ Luque 34.79 187 P **P 07 23 47.8 +0.9**
comp=Z,14nm,1.2s,mb4.8
ELUQ Luque 34.79 187 P **P 07 23 47.8 +1.0**
comp=Z,14nm,1.2s,mb4.8
AGG Agios Georgios 34.94 150 *e*P **P 07 23 48.3 +0.2**
LKD Levkas 35.00 152 *e*P **P 07 23 39.2 -9.5**
BOYT Boyabat 35.03 133 *i*P **P 07 23 50.9 +2.0**
ULDT Uludag 35.04 141 *i*P **P 07 23 51.8 +2.8**
SGKT Sivrigoynuk 35.22 137 *i*P **P 07 23 52.2 +1.7**
ENIJ Nijar 35.31 184 P **P 07 23 49.9 -1.5**
ENIJ pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ENIJ Nijar 35.31 184 P **P 07 23 49.9 -1.4**
comp=Z,2.1nm,0.7s,mb4.2
ENIJ Nijar 35.31 184 P **P 07 23 49.9 -1.5**
comp=Z,2.1nm,0.7s,mb4.2
EBER Berja 35.41 185 P **P 07 23 50.8 -1.4**
comp=Z,20nm,1.4s,mb4.8
EBER Berja 35.41 185 P **P 07 23 50.8 -1.4**
comp=Z,20nm,1.4s,mb4.8
EGUA Guajares 35.49 186 P **P 07 23 53.8 +0.9**
EGUA pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
EGUA Guajares 35.49 186 P **P 07 23 53.8 +0.9**
comp=Z,1.7nm,0.9s,mb4.0
EGUA Guajares 35.49 186 P **P 07 23 53.8 +0.9**
comp=Z,1.7nm,0.9s,mb4.0
ESPR Espera 35.55 189 P **P 07 23 52.5 -0.9**
comp=Z,26nm,1.5s,mb4.9
ESPR Espera 35.55 189 P **P 07 23 52.5 -0.9**
comp=Z,26nm,1.5s,mb4.9
BORA Eskisehir 35.55 139 *i*P **P 07 23 54.0 +0.6**
ELDT Eldivan 35.59 135 *i*P **P 07 23 56.3 +2.6**
CTKT Corum 35.76 133 *i*P **P 07 23 57.0 +1.8**
EMIJ Mijas 35.80 188 P **P 07 23 56.5 +1.0**
comp=Z,24nm,1.3s,mb5.0
EMIJ Mijas 35.80 188 P **P 07 23 56.5 +0.9**
comp=Z,24nm,1.3s,mb5.0
ZEI Tsey 35.97 121 *e*P **P 07 23 57.8 +0.8**
ZEI *e*PP pP 07 24 00.5 +0.5
ZEI *e* 07 25 16.0
ZEI pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
ESKT Eskisehir 35.98 139 *i*P **P 07 24 04.1 +7.0**
AKHS Akhisar 36.01 143 *i*P **P 07 23 58.6 +1.3**
ONI Oni 36.02 122 P **P 07 23 57.7 +0.2**
ANTO Ankara 36.05 136 PFAKE 07 24 10.0 +12
ANTO LR LR
comp=Z,1µm,21.0s,MS4.6
GDZ Gediz 36.12 141 *i*P **P 07 23 59.5 +1.2**
BR131 Keskin Array S 36.37 135 *e*P **P 07 24 01.4 +1.0**
comp=Z,3.5nm,0.8s,mb4.3
BR131 LR LR
comp=Z,955nm,20.0s,MS4.6
BR131 Keskin Array S 36.37 135 *e*P **P 07 24 01.4 +1.0**
comp=Z,3.5nm,0.8s,mb4.3
BRTR Keskin Array B 36.37 135 P **P 07 24 00.8 +0.4**
comp=Z,1.9nm,0.7s,mb4.1,baz=341,slow=7.1,SNR=8.9
BRTR LR LR 07 39 33.0
comp=Z,1µm,21.3s,MS4.7,baz=347,slow=37
BRTR Keskin Array B 36.37 135 *i*P **P 07 24 02.0 +1.6**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
KDAG Bornova 36.37 144 *i*P **P 07 24 00.3 -0.1**
INK Inuvik 36.57 333 LR LR 07 40 27.4
comp=Z,2µm,18.7s,MS4.8,baz=19,slow=39
INK Inuvik 36.57 333 *e*P **P 07 24 00.7 -1.4**
INK pmax pmax
comp=Z,21nm,1.1s
INK Inuvik 36.57 333 *e*P **P 07 24 00.7 -1.4**
comp=Z,21nm,1.1s,mb4.9
INK *e* 07 24 15.0
INK Inuvik 36.57 333 *e*P **P 07 24 00.7 -1.4**
CDAG Cicekdag 36.62 134 *i*P **P 07 24 03.5 +0.9**
MAK Makhachkala 36.76 117 *e*P **P 07 24 04.1 +0.4**
MAK *e* 07 25 25.5
MAK *i* 07 26 25.1
MAK *i*S **S 07 29 45.9 -1.6**
MAK *e*SS SS 07 32 20.4 -7.8
MAK *e* 07 34 16.8
MAK pmax pmax
comp=Z,49nm,0.4s,mb5.7
MAK MLR MLR
comp=Z,6µm,22.0s,MS5.4
KEST Kesra 36.78 168 P **P 07 24 05.5 +1.5**
comp=Z,1.4nm,0.8s,mb3.9,baz=275,slow=10,SNR=4.3
KEST LR LR 07 39 52.3
comp=Z,424nm,19.8s,MS4.2,baz=126,slow=37
NVS Novosibirsk 36.90 73 *i*P **P 07 24 08.6 +3.6**
NVS pmax pmax
comp=N,10.0nm,0.8s
NVS pmax pmax
comp=Z,11nm,0.8s,mb4.7
NVS pmax pmax
comp=E,4.0nm,0.5s
MTA Mtatsminda 37.21 121 P **P 07 24 06.4 -1.1**
KELT Kelkit 37.26 128 *i*P **P 07 24 11.4 +3.4**
TKTP Tekketepe 37.30 140 *i*P **P 07 24 09.6 +1.3**
ISP Isparta 37.53 140 *e*P **P 07 24 11.3 +1.0**
ISP Isparta 37.53 140 *e*P **P 07 24 10.6 +0.3**
AVNT Avonos 37.54 134 *i*P **P 07 24 11.9 +1.5**
DGRG David-gareji 37.59 120 P **P 07 24 07.1 -3.7**
ERZM Erzurum 38.01 126 *i*P **P 07 24 17.9 +3.6**
ZAL Zalesovo 38.15 72 LR LR 07 43 57.6
comp=E,596nm,19.4s,MS4.4,baz=143,slow=42
YKW3 Yellowknife Ar 38.57 318 *e*P **P 07 24 18.1 -1.0**
YKW3 Yellowknife Ar 38.57 318 *e*P **P 07 24 18.1 -1.0**
YKA Yellowknife Ar 38.63 318 P **P 07 24 18.5 -1.0**
comp=E,8.7nm,1.0s,mb4.4,baz=23,slow=9.0,SNR=19
YKA PcP PcP 07 26 31.3 -0.4
comp=E,2.3nm,0.8s,baz=20,slow=3.0,SNR=7.5
YKA LR LR 07 39 38.8
comp=E,2µm,20.7s,MS5.0,baz=0.0,slow=35
YKA Yellowknife Ar 38.63 318 P **P 07 24 18.6 -0.9**
YKA 07 26 31.3
YKA Yellowknife Ar 38.63 318 P **P 07 24 18.6 -1.0**
YKA PcP PcP 07 26 31.3 -0.4
YKA LR LR 07 39 38.8
YKA Yellowknife Ar 38.63 318 P **P 07 24 18.5 -1.0**
YKA Yellowknife Ar 38.63 318 PcP PcP 07 26 31.3 -0.4
GNI Garni 38.64 122 *e*P **P 07 24 20.2 +0.6**
GNI pmax pmax
comp=Z,72nm,1.4s
GNI MLR MLR
comp=Z,2µm,19.0s
GNI Garni 38.64 122 *e*P **P 07 24 20.2 +0.6**
comp=Z,72nm,1.4s,mb5.2
GNI LR LR
comp=Z,2µm,19.0s,MS5.0
GNI Garni 38.64 122 *e*P **P 07 24 20.2 +0.6**
comp=Z,72nm,1.4s,mb5.2
MALT Malatya 38.80 130 *e*P **P 07 24 23.0 +2.0**
MALT pmax pmax
comp=Z,41nm,1.3s,mb5.0
MALT Malatya 38.80 130 *e*P **P 07 24 23.0 +2.0**
comp=Z,41nm,1.3s,mb5.0
MALT Malatya 38.80 130 *e*P **P 07 24 23.0 +2.0**
comp=Z,41nm,1.3s,mb5.0
KURK Kurchatov 39.12 80 PFAKE 07 24 40.0 +16
KURK LR LR
comp=Z,896nm,20.0s,MS4.6
GVD Gavdhos 39.31 149 *e*P **P 07 24 28.3 +3.1**
GZT Gaziantep 39.51 132 *i*P **P 07 24 28.5 +1.5**
MARD Mardin 40.32 128 *i*P **P 07 24 32.5 -1.1**

DAWY **Dawson** 41.37 335 *e*P **P** 07 24 41.2 -1.2
DAWY **Dawson** 41.37 335 *e*P **P** 07 24 41.2 -1.2
COLA **College** 41.58 340 PFAKE 07 25 00.0 +16
COLA LR LR
comp=Z,771nm,19.0s,MS4.6
YAK **Yakutsk** 41.58 34 PFAKE 07 25 00.0 +16
YAK LR LR
comp=Z,396nm,21.0s,MS4.3
MSL **Mosul** 41.86 125 *ex* x 07 24 51.5
MSL *ex* x 07 30 20.0
TNA **Tin City** 42.31 353 PFAKE 07 25 00.0 +10
TNA LR LR
comp=Z,332nm,21.0s,MS4.2
BOD **Bodaibo** 42.37 47 *e*P **P** 07 24 48.5 -2.0
BOD pmax pmax
comp=Z,8.0nm,1.9s,mb4.0
WVL **Waterville** 42.37 269 *e*P **P** 07 24 51.4 +0.9
comp=Z,33nm,1.3s,mb4.8
WVL **Waterville** 42.37 269 *e*P **P** 07 24 51.4 +0.9
comp=Z,33nm,1.3s,mb4.8
FFC **Flin Flon** 42.66 303 *e*P **P** 07 24 51.9 -1.0
FFC pmax pmax
comp=Z,31nm,1.0s,mb5.0
FFC MLR MLR
comp=Z,1µm,21.0s,MS4.8
FFC **Flin Flon** 42.66 303 *e*P **P** 07 24 51.9 -0.9
comp=Z,31nm,1.0s,mb5.0
FFC LR LR
comp=Z,1µm,21.0s,MS4.8
FFC **Flin Flon** 42.66 303 *e*P **P** 07 24 51.9 -1.0
comp=Z,31nm,1.0s,mb5.0
MCK **McKinley** 42.81 341 PFAKE 07 25 10.0 +16
MCK LR LR
comp=Z,359nm,19.0s,MS4.3
FRNY **Flat Rock** 43.34 273 *e*P **P** 07 24 57.9 -0.4
LBNH **Lisbon** 43.36 271 *e*P **P** 07 24 59.1 +0.6
LBNH pmax pmax
comp=Z,50nm,1.6s,mb5.0
LBNH MLR MLR
comp=Z,2µm,20.0s,MS4.9
LBNH **Lisbon** 43.36 271 *e*P **P** 07 24 59.1 +0.6
comp=Z,50nm,1.6s,mb5.0
LBNH LR LR
comp=Z,2µm,20.0s,MS4.9
LBNH **Lisbon** 43.36 271 *e*P **P** 07 24 59.1 +0.6
comp=Z,50nm,1.6s,mb5.0
MKAR **Makanchi Array** 43.72 79 P **P** 07 25 03.0 +1.6
comp=Z,0.4nm,0.4s,baz=342,slow=7.6,SNR=4.8
MKAR PP PP 07 26 46.2 +3.0
comp=Z,0.8nm,0.6s,baz=348,slow=6.3,SNR=2.2
MKAR **Makanchi Array** 43.72 79 P **P** 07 25 03.0 +1.6
MKAR PP PP 07 26 46.2 +3.0
LONY **Lake Ozonia** 43.84 274 *e*P **P** 07 25 02.6 +0.2
LONY **Lake Ozonia** 43.84 274 *e*P **P** 07 25 02.6 +0.2
MIV **Mineville/With** 44.00 272 *e*P **P** 07 25 03.2 -0.5
MIV **Mineville/With** 44.00 272 *e*P **P** 07 25 03.2 -0.5
NCB **Newcomb** 44.31 273 *e*P **P** 07 25 05.8 -0.3
comp=Z,37nm,1.5s,mb4.9
NCB LR LR
comp=Z,925nm,21.0s,MS4.7
NCB **Newcomb** 44.31 273 *e*P **P** 07 25 05.8 -0.4
comp=Z,37nm,1.5s,mb4.9
ABKT **Ailbek** 44.44 108 P **P** 07 25 08.1 +0.9
comp=Z,112nm,1.0s,mb5.5,SNR=5.5
SML **Sawmill** 44.63 340 *e*P **P** 07 25 10.5 +1.8
SML **Sawmill** 44.63 340 *e*P **P** 07 25 10.4 +1.7
MOY **Mondy** 44.72 61 *e*P **P** 07 25 12.7 +3.2
MOY pmax pmax
comp=Z,64nm,2.6s,mb5.0
HRV **Harvard--Oak R** 44.82 270 PFAKE 07 25 20.0 +10
HRV LR LR
comp=Z,1µm,19.0s,MS4.9
WES **Weston** 44.86 269 PFAKE 07 25 20.0 +9.5
WES LR LR
comp=Z,1µm,21.0s,MS4.7
PMR **Palmer** 44.92 340 PFAKE 07 25 20.0 +8.9
PMR LR LR
comp=Z,483nm,20.0s,MS4.4
FRU **Bishkek** 44.95 89 *e*P **P** 07 25 14.0 +2.7
BHD **Baghdad** 45.05 125 *ex* x 07 25 20.0
ULM **Lac du Bonnet** 45.06 296 P **P** 07 25 11.4 -0.7
comp=Z,5.3nm,0.9s,mb4.4,baz=8.3,slow=5.1,SNR=7.6
ULM PcP PcP 07 26 51.3 -1.6
comp=Z,2.1nm,0.7s,baz=37,slow=4.1,SNR=3.0
ULM LR LR 07 43 39.5
comp=Z,2µm,19.4s,MS5.0,baz=35,slow=36
ULM **Lac du Bonnet** 45.06 296 P **P** 07 25 10.5 -1.7
comp=Z,9.7nm,1.1s,mb4.5
ULM *e*PcP PcP 07 26 50.9 -2.0
ULM LR LR
comp=Z,3µm,20.0s,MS5.2
ULM **Lac du Bonnet** 45.06 296 P **P** 07 25 10.5 -1.7
comp=Z,9.7nm,1.1s,mb4.5
ULM **Lac du Bonnet** 45.06 296 *e*PcP PcP 07 26 50.9 -2.0
IRK **Irkutsk** 45.06 58 *e*P **P** 07 25 13.3 +1.1
IRK *e* 07 26 59.6
IRK pmax pmax
comp=Z,40nm,2.7s,mb4.8
AAK **Ala-Archa** 45.09 89 *e*P **P** 07 25 12.8 +0.4
AAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
AAK MLR MLR
comp=Z,663nm,19.0s,MS4.6
AAK **Ala-Archa** 45.09 89 *e*P **P** 07 25 12.8 +0.3
comp=Z,6.7nm,1.0s,mb4.4
AAK LR LR
comp=Z,663nm,19.0s,MS4.6
AAK **Ala-Archa** 45.09 89 *e*P **P** 07 25 12.8 +0.4
comp=Z,6.7nm,1.0s,mb4.4
TLY **Talaya** 45.41 58 *e*P **P** 07 25 17.0 +2.1
TLY *e*S **S** 07 31 58.9 +2.8
TLY pmax pmax
comp=Z,8.0nm,1.4s,mb4.4
TLY MLR MLR
comp=Z,274nm,15.0s,MS4.3
TLY **Talaya** 45.41 58 *e*P **P** 07 25 15.3 +0.3
comp=Z,1.6nm,0.6s,mb4.0
TLY LR LR
comp=Z,427nm,19.0s,MS4.4
TLY **Talaya** 45.41 58 *e*P **P** 07 25 15.3 +0.4
comp=Z,1.6nm,0.6s,mb4.0
EYMN **Ely** 45.90 291 *e*P **P** 07 25 18.9 +0.1
comp=Z,16nm,1.1s,mb4.9
EYMN LR LR
comp=Z,2µm,20.0s,MS5.1
EYMN **Ely** 45.90 291 *e*P **P** 07 25 18.9 +0.1
comp=Z,16nm,1.1s,mb4.9
EIL **Elat** 46.34 138 *e*P **P** 07 25 22.5 +0.3
comp=Z,238nm,0.9s
EIL **Elat** 46.34 138 *e*P **P** 07 25 22.5 +0.3
comp=Z,238nm,0.9s
BINY **Binghamton** 46.46 274 *e*P **P** 07 25 23.0 -0.2
comp=Z,59nm,1.4s,mb5.3
BINY LR LR
comp=Z,2µm,21.0s,MS4.9
BINY **Binghamton** 46.46 274 *e*P **P** 07 25 23.0 -0.2
comp=Z,59nm,1.4s,mb5.3
ZAK **Zakamensk** 46.50 60 *e*P **P** 07 25 23.8 +0.3
ZAK pmax pmax
comp=Z,3.0nm,1.8s,mb3.9
EDM **Edmonton** 46.82 311 *e*P **P** 07 25 26.6 +0.6
MA2 **Magadan** 46.89 20 PFAKE 07 25 40.0 +13
MA2 LR LR
comp=Z,452nm,19.0s,MS4.5
SIT **Sitka** 47.51 329 PFAKE 07 25 40.0 +8.6
SIT LR LR
comp=Z,5µm,19.0s,MS5.5
CIT **Chita** 47.58 51 *e*P **P** 07 25 33.0 +1.0
CIT *e* 07 26 55.8
CIT *e* 07 27 25.2
ERPA **Erie** 47.76 277 PFAKE 07 25 50.0 +17
ERPA LR LR
comp=Z,766nm,22.0s,MS4.6
WMQ **Urumqi** 48.04 76 P **P** 07 25 37.5 +2.0
WMQ AP pP 07 25 42.0 +3.3
WMQ XP sP 07 25 44.5 +4.6
WMQ PCP PcP 07 27 06.0 +2.6
WMQ PP PP 07 27 29.0 +1.4
WMQ SCP ScP 07 30 58.5 +0.6
WMQ PCS PcS 07 31 00.3 +1.2
WMQ S **S** 07 32 34.0 +0.3
WMQ SCS ScS 07 35 27.5 -1.4
WMQ SS SS 07 35 57.5 -5.0
WMQ AMB AMB
comp=Z,60nm,1.2s,mb5.5
WMQ AMB AMB
comp=Z,347nm,4.4s
WMQ LR LR
comp=N,2µm,13.0s,MS5.3
WMQ LR LR
comp=E,1µm,11.9s,MS5.3
WMQ LR LR
comp=Z,2µm,13.5s,MS5.2
ALLY **Alegheny Colle** 48.24 277 *e*P **P** 07 25 36.5 -0.5
ALLY **Alegheny Colle** 48.24 277 *e*P **P** 07 25 36.5 -0.5
SSPA **Standing Stone** 48.47 274 *e*P **P** 07 25 38.4 -0.5
comp=Z,17nm,1.0s,mb5.0
SSPA *e*PcP PcP 07 27 06.0 +1.1
SSPA LR LR
comp=Z,1µm,20.0s,MS4.9
SSPA **Standing Stone** 48.47 274 *e*P **P** 07 25 38.4 -0.5
comp=Z,17nm,1.0s,mb5.0
SSPA **Standing Stone** 48.47 274 *e*PcP PcP 07 27 06.0 +1.1
MVL **Millersville** 48.58 273 *e*P **P** 07 25 40.4 +0.7
MVL **Millersville** 48.58 273 *e*P **P** 07 25 40.3 +0.6
AAM **Ann Arbor** 48.71 281 *e*P **P** 07 25 42.2 +1.5
AAM MLR MLR
comp=Z,1µm,19.0s,MS5.0
KDAK **Kodiak Island** 49.02 341 LR LR 07 46 59.8
comp=Z,596nm,21.6s,MS4.5,baz=300,slow=37
KDAK **Kodiak Island** 49.02 341 PFAKE 07 25 50.0 +7.0
KDAK LR LR
comp=Z,161nm,20.0s,MS4.0
SONM **Songino Array** 49.65 58 P **P** 07 25 48.6 +0.7
comp=Z,2.5nm,0.9s,mb4.2,baz=324,slow=6.6,SNR=10
SONM LR LR 07 49 45.6
comp=Z,596nm,20.0s,MS4.6,baz=342,slow=40
ULN **Ulaanbaatar** 49.80 58 *e*P **P** 07 25 49.5 +0.5
ULN **Ulaanbaatar** 49.80 58 *e*P **P** 07 25 49.7 +0.6
comp=Z,10nm,1.3s,mb4.7
ULN LR LR
comp=Z,461nm,21.0s,MS4.5
ULN **Ulaanbaatar** 49.80 58 *e*P **P** 07 25 49.7 +0.7
comp=Z,10nm,1.3s,mb4.7
MCWV **Mont Chateau** 49.97 276 *e*P **P** 07 25 50.1 -0.2
comp=Z,16nm,0.8s,mb5.1
MCWV LR LR
comp=Z,1µm,21.0s,MS4.9
JFWS **Jewell Farm** 50.12 287 *e*P **P** 07 25 55.6 +4.1
JFWS MLR MLR
comp=Z,2µm,19.0s,MS5.1
ACSO **Alum Creek Sta** 50.40 279 *e*P **P** 07 25 52.5 -1.0
comp=Z,14nm,0.9s,mb5.0
ACSO LR LR
comp=Z,505nm,22.0s,MS4.5
ACSO **Alum Creek Sta** 50.40 279 *e*P **P** 07 25 52.5 -1.1
comp=Z,14nm,0.9s,mb5.0
CBN **Corbin** 50.54 273 PFAKE 07 26 10.0 +15
CBN LR LR
comp=Z,2µm,20.0s,MS5.2
EGMT **Eagleton** 50.77 306 *e*P **P** 07 25 55.1 -1.3
EGMT LR LR
comp=Z,2µm,19.0s,MS5.1
EGMT **Eagleton** 50.77 306 *e*P **P** 07 25 55.1 -1.3
WALA **Waterton Lakes** 50.82 310 *e*P **P** 07 25 55.4 -1.3
WALA **Waterton Lakes** 50.82 310 *e*P **P** 07 25 55.4 -1.3
LAO **LASA Array** 51.10 302 *e*P **P** 07 25 59.0 +0.1
comp=Z,66nm,1.8s,mb5.3
LAO *e*PcP PcP 07 27 15.6 +1.0
LAO LR LR
comp=Z,1µm,20.0s,MS5.0
HIA **Hailar** 51.58 47 PFAKE 07 26 10.0 +7.5
HIA LR LR
comp=Z,919nm,19.0s,MS4.8
BSMT **Bassoo Peak** 52.15 310 *e*P **P** 07 26 06.7 -0.1
BSMT **Bassoo Peak** 52.15 310 *e*P **P** 07 26 06.7 0.0
FWV **Forest Hill** 52.17 276 *e*P **P** 07 26 05.5 -1.3
FWV **Forest Hill** 52.17 276 *e*P **P** 07 26 05.5 -1.4
NEW **Newport** 52.31 312 *e*P **P** 07 26 07.4 -0.5
NEW pmax pmax
comp=Z,8.0nm,1.0s
NEW MLR MLR
comp=Z,3µm,20.0s
NEW **Newport** 52.31 312 *e*P **P** 07 26 07.4 -0.5
comp=Z,8.5nm,1.0s,mb4.6
NEW LR LR
comp=Z,3µm,20.0s,MS5.3
NEW **Newport** 52.31 312 *e*P **P** 07 26 07.4 -0.5
comp=Z,8.5nm,1.0s,mb4.6
BLA **Blacksburg** 52.39 275 *e*P **P** 07 26 08.8 +0.3
BLA pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
BLA **Blacksburg** 52.39 275 *e*P **P** 07 26 08.8 +0.3
comp=Z,2.4nm,1.2s,mb4.0
BLA **Blacksburg** 52.39 275 *e*P **P** 07 26 08.8 +0.3
comp=Z,2.4nm,1.2s,mb4.0
BLO **Bloomington** 52.44 282 *e*P **P** 07 26 08.4 -0.5
BLO *e* 07 27 19.3
BLO pmax pmax
comp=Z,26nm,1.0s,mb5.1
BLO **Bloomington** 52.44 282 *e*P **P** 07 26 08.4 -0.5
comp=Z,26nm,1.0s,mb5.1
BLO *e*PcP PcP 07 27 19.3 -0.3
BLO **Bloomington** 52.44 282 *e*P **P** 07 26 08.4 -0.5
comp=Z,26nm,1.0s,mb5.1
BLO **Bloomington** 52.44 282 *e*PcP PcP 07 27 19.3 -0.3
ELN **Prospectdale** 52.48 275 *e*P **P** 07 26 08.0 -1.1
ELN epP pP 07 26 15.7 +3.4
ELN **Prospectdale** 52.48 275 *e*P **P** 07 26 08.0 -1.1
ELN epP pP 07 26 15.7 +3.4
CHMT **Chamberlain Mo** 52.66 308 *e*P **P** 07 26 09.7 -0.9
CHMT **Chamberlain Mo** 52.66 308 *e*P **P** 07 26 09.7 -0.8
GCMT **Greycliff** 52.82 305 *e*P **P** 07 26 11.5 -0.2
RSSD **Black Hills** 52.91 299 *e*P **P** 07 26 11.8 -0.5
RSSD *e* 07 27 22.6
RSSD pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
RSSD MLR MLR
comp=Z,3µm,19.0s,MS5.3
RSSD **Black Hills** 52.91 299 *e*P **P** 07 26 11.8 -0.5
comp=Z,3.7nm,1.0s,mb4.3
RSSD *e*PcP PcP 07 27 22.6 +1.2
RSSD LR LR
comp=Z,3µm,19.0s,MS5.3
RSSD **Black Hills** 52.91 299 *e*P **P** 07 26 11.8 -0.5
comp=Z,3.7nm,1.0s,mb4.3
RSSD **Black Hills** 52.91 299 *e*PcP PcP 07 27 22.5 +1.2
MSO **Missoula** 52.91 309 *e*P **P** 07 26 11.5 -0.9
comp=Z,5.3nm,1.1s,mb4.4
MSO LR LR
comp=Z,848nm,21.0s,MS4.8
MSO **Missoula** 52.91 309 *e*P **P** 07 26 11.5 -0.8
comp=Z,5.2nm,1.1s,mb4.4
WCI **Wyandotte Cave** 53.24 281 *e*P **P** 07 26 14.4 -0.4
WCI pmax pmax
comp=Z,27nm,1.1s,mb5.1
WCI MLR MLR
comp=Z,1µm,20.0s,MS4.9
WCI **Wyandotte Cave** 53.24 281 *e*P **P** 07 26 14.4 -0.4
comp=Z,27nm,1.1s,mb5.1
WCI LR LR
comp=Z,1µm,20.0s,MS4.9
WCI **Wyandotte Cave** 53.24 281 *e*P **P** 07 26 14.4 -0.4
comp=Z,27nm,1.1s,mb5.1
BOZ **Bozeman (W)** 53.45 306 *e*P **P** 07 26 16.6 +0.3
BOZ pmax pmax
comp=Z,12nm,1.7s,mb4.5
BOZ MLR MLR
comp=Z,2µm,20.0s,MS5.2
BOZ **Bozeman (W)** 53.45 306 *e*P **P** 07 26 16.6 +0.2
comp=Z,12nm,1.7s,mb4.5
BOZ LR LR
comp=Z,2µm,20.0s,MS5.2
BOZ **Bozeman (W)** 53.45 306 *e*P **P** 07 26 16.6 +0.3
comp=Z,12nm,1.7s,mb4.5
LRM **Limekiln Ridge** 53.49 307 *e*P **P** 07 26 16.8 +0.1
LRM **Limekiln Ridge** 53.49 307 *e*P **P** 07 26 16.8 +0.2
UNV **Unalaska Valle** 53.96 351 PFAKE 07 26 30.0 +10
UNV LR LR
comp=Z,1µm,19.0s,MS5.0
TZTN **Tazewell** 53.96 278 *e*P **P** 07 26 20.2 +0.1
TZTN **Tazewell** 53.96 278 *e*P **P** 07 26 20.2 +0.1
KLR **Kul'dur** 54.11 38 *e*P **P** 07 26 18.0 -3.1
KLR MLR MLR
comp=E,600nm,14.0s
KLR MLR MLR
comp=Z,900nm,14.0s,MS5.0
C04A **Brinnon** 54.12 316 ⇑P **P** 07 26 22.6 +1.4
baz=54
PET **Petropavlovsk** 54.13 16 PFAKE 07 26 30.0 +8.7
PET LR LR
comp=Z,374nm,19.0s,MS4.5
LKWY **Lake** 54.15 305 PFAKE 07 26 30.0 +8.5
LKWY LR LR
comp=Z,1µm,19.0s,MS5.0
YMR **Madison River** 54.20 305 *e*P **P** 07 26 22.1 +0.3
comp=Z,6.3nm,0.4s,mb4.9
YMR **Madison River** 54.20 305 *e*P **P** 07 26 22.1 +0.3
comp=Z,6.3nm,0.4s,mb4.9
C03A **Quillayute Air** 54.24 318 ⇑P **P** 07 26 23.5 +1.3
baz=54
D05A **Enumclaw** 54.41 315 ⇓P **P** 07 26 23.7 +0.3
baz=54
MCMT **McKenzie Canyo** 54.52 307 *e*P **P** 07 26 23.8 -0.4
MCMT **McKenzie Canyo** 54.52 307 *e*P **P** 07 26 23.8 -0.3
HAWA **Hanford** 54.62 313 *e*P **P** 07 26 24.3 -0.6
comp=Z,0.5nm,0.9s
HAWA LR LR
comp=Z,141nm,21.0s
HAWA **Hanford** 54.62 313 *e*P **P** 07 26 24.3 -0.6
comp=Z,0.5nm,0.9s
D04A **Dobbs Creek Ra** 54.66 316 ⇑P **P** 07 26 26.2 +1.0
baz=54
FLWY **Flagg Ranch** 54.68 305 *e*P **P** 07 26 26.5 +1.2
comp=Z,40nm,1.6s,mb5.2
FLWY **Flagg Ranch** 54.68 305 *e*P **P** 07 26 26.5 +1.2
comp=Z,40nm,1.6s,mb5.2
FVM **French Village** 54.71 285 *e*P **P** 07 26 25.6 +0.1
FVM pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
FVM **French Village** 54.71 285 *e*P **P** 07 26 25.6 0.0
comp=Z,10nm,1.0s,mb4.8
FVM **French Village** 54.71 285 *e*P **P** 07 26 25.6 +0.1
comp=Z,10nm,1.0s,mb4.8
LON **Longmire** 54.79 315 *e*P **P** 07 26 27.2 +1.1
CCM **Cathedral Cave** 54.89 285 *e*P **P** 07 26 23.9 -2.9
CCM pmax pmax
comp=Z,13nm,1.0s,mb4.9
CCM MLR MLR
comp=Z,1µm,20.0s,MS5.0
CCM **Cathedral Cave** 54.89 285 *e*P **P** 07 26 23.9 -2.9
comp=Z,13nm,1.0s,mb4.9
CCM LR LR
comp=Z,1µm,20.0s,MS5.0
CCM **Cathedral Cave** 54.89 285 *e*P **P** 07 26 23.9 -2.9
comp=Z,13nm,1.0s,mb4.9
IMW **Indian Meadow** 54.92 305 *e*P **P** 07 26 27.3 +0.3
comp=Z,26nm,1.5s,mb5.0
IMW **Indian Meadow** 54.92 305 *e*P **P** 07 26 27.3 +0.3
comp=Z,26nm,1.5s,mb5.0
E05A **Randle** 54.96 315 P **P** 07 26 26.2 -1.1
baz=55,SNR=8.1
MOOW **Moose Ponds** 55.01 305 *e*P **P** 07 26 30.8 +3.1
MOOW **Moose Ponds** 55.01 305 *e*P **P** 07 26 30.8 +3.1
CPCT **Cooper Cave** 55.27 278 *e*P **P** 07 26 29.8 +0.2
CPCT *e*PcP PcP 07 27 30.3 0.0
CPCT **Cooper Cave** 55.27 278 *e*P **P** 07 26 29.8 +0.2
CPCT **Cooper Cave** 55.27 278 *e*PcP PcP 07 27 30.3 0.0
SNOW **Snow King Moun** 55.28 305 *e*P **P** 07 26 32.3 +2.7
comp=Z,25nm,1.6s,mb5.0
SNOW **Snow King Moun** 55.28 305 *e*P **P** 07 26 32.3 +2.7
comp=Z,25nm,1.6s,mb5.0
TPAW **Teton Pass** 55.30 305 *e*P **P** 07 26 30.7 +0.9
comp=Z,13nm,1.4s,mb4.8
TPAW **Teton Pass** 55.30 305 *e*P **P** 07 26 30.7 +0.9
comp=Z,13nm,1.4s,mb4.8
SMY **Shemya** 55.30 5 PFAKE 07 26 40.0 +10
SMY LR LR
comp=Z,479nm,22.0s,MS4.5
E03A **Lebam** 55.36 316 ⇑P **P** 07 26 28.8 -1.4
baz=55
REDW **Red Top Meadow** 55.39 305 *e*P **P** 07 26 31.1 +0.7
comp=Z,14nm,1.3s,mb4.8
REDW **Red Top Meadow** 55.39 305 *e*P **P** 07 26 31.1 +0.6
comp=Z,14nm,1.3s,mb4.8
HABR **Khabarovsk** 55.44 35 *e*P **P** 07 26 31.6 +0.8
KSU1 **Kansas State U** 55.49 291 *e*P **P** 07 26 29.4 -1.8
KSU1 *e*PcP PcP 07 27 31.6 +0.4
KSU1 **Kansas State U** 55.49 291 *e*P **P** 07 26 29.4 -1.8
KSU1 **Kansas State U** 55.49 291 *e*PcP PcP 07 27 31.6 +0.4
MYNC **Murphy** 55.50 278 PFAKE 07 26 40.0 +8.8
MYNC LR LR
comp=Z,907nm,22.0s,MS4.8
RRI2 **Red Ridge** 55.53 305 *e*P **P** 07 26 31.7 +0.3
comp=Z,5.2nm,1.0s,mb4.5
F05A **White Salmon** 55.54 314 ⇓P **P** 07 26 30.8 -0.7
baz=55
BMO **Blue Mountains** 55.57 310 *e*P **P** 07 26 30.6 -1.1
comp=Z,14nm,1.4s,mb4.8
BMO LR LR
comp=Z,1µm,21.0s,MS5.0
BMO **Blue Mountains** 55.57 310 *e*P **P** 07 26 30.6 -1.1
comp=Z,14nm,1.4s,mb4.8
BW06 **Boulder Array** 55.62 303 *e*P **P** 07 26 31.4 -0.7
BW06 LR LR
comp=Z,1µm,21.0s,MS5.0
BW06 **Boulder Array** 55.62 303 *e*P **P** 07 26 31.4 -0.7
PDAR **Pinedale Array** 55.62 303 P **P** 07 26 30.9 -1.2
comp=Z,1.9nm,0.9s,mb4.1,baz=23,slow=8.0,SNR=13
PDAR LR LR 07 49 17.9
comp=Z,951nm,21.9s,MS4.8,baz=27,slow=35
GTA **Gaotai** 55.64 68 *e*P **P** 07 26 34.8 +2.5
GTA AP pP 07 26 39.5 +4.0
GTA XP sP 07 26 42.0 +5.3
GTA PP PP 07 28 38.8 +2.4
GTA PPP 07 29 52.8
GTA S **S** 07 34 26.5 +8.2
GTA AMB AMB
comp=Z,8.0nm,2.4s,mb4.3
GTA AMB AMB
comp=Z,117nm,3.4s
GTA LR LR
comp=N,342nm,24.3s,MS4.6
GTA LR LR
comp=E,428nm,20.5s,MS4.6
GTA LR LR
comp=Z,358nm,28.9s
WVT **Waverly** 55.65 281 PFAKE 07 26 40.0 +7.7
WVT LR LR
comp=Z,2µm,19.0s,MS5.1
F04A **Amboy** 55.70 315 ⇑P **P** 07 26 32.7 0.0
baz=55
PHWY **Pilot Hill** 55.91 299 *e*P **P** 07 26 34.6 +0.4
PHWY **Pilot Hill** 55.91 299 *e*P **P** 07 26 34.6 +0.4
SWET **Sewanee** 55.92 279 *e*P **P** 07 26 32.9 -1.3
F03A **Seaside** 55.95 316 ⇑P **P** 07 26 34.4 0.0
baz=56
AHID **Auburn Hatcher** 56.02 305 PFAKE 07 26 50.0 +15
AHID LR LR
comp=Z,949nm,20.0s,MS4.9
HLID **Hailey** 56.09 308 *e*P **P** 07 26 34.8 -0.7
comp=Z,19nm,1.5s,mb4.9
HLID LR LR
comp=Z,2µm,19.0s,MS5.1
HLID **Hailey** 56.09 308 *e*P **P** 07 26 34.8 -0.7
comp=Z,19nm,1.5s,mb4.9
G03A **Yamhill** 56.47 316 ⇓P **P** 07 26 37.2 -1.0
baz=56
PLAL **Pickwick Lake** 56.78 281 PFAKE 07 26 50.0 +10
PLAL LR LR
comp=Z,2µm,19.0s,MS5.2
H04A **Detroit Lake** 56.84 314 ⇓P **P** 07 26 40.1 -0.7
baz=57
GOGA **Godfrey** 56.84 276 *e*P **P** 07 26 39.2 -1.6
GOGA *e* 07 26 46.5
GOGA pmax pmax
comp=Z,322nm,1.3s
GOGA MLR MLR
comp=Z,12µm,20.0s
GOGA **Godfrey** 56.84 276 *e*P **P** 07 26 39.1 -1.7
comp=Z,322nm,1.3s
GOGA *e* 07 26 46.5
GOGA LR LR
comp=Z,12µm,20.0s
GOGA **Godfrey** 56.84 276 *e*P **P** 07 26 39.2 -1.6
H03A **Soap Creek Ran** 57.09 315 ⇓P **P** 07 26 42.9 +0.4
baz=57
I06A **Prineville** 57.10 313 ⇑P **P** 07 26 42.3 -0.3
baz=57
I05A **Bend** 57.13 313 ⇑P **P** 07 26 42.9 0.0
baz=57
COR **Corvallis** 57.17 315 PFAKE 07 27 00.0 +17
COR LR LR
comp=Z,1µm,19.0s,MS5.0
HWUT **Hardware Ranch** 57.22 304 *e*P **P** 07 26 43.5 0.0
comp=Z,14nm,1.3s,mb4.8
HWUT *e*PcP PcP 07 27 40.1 +2.2

HWUT LR LR
comp=Z,1µm,21.0s,MS5.0
HWUT Hardware Ranch 57.22 304 *e*P **P 07 26 43.5 0.0**
comp=Z,14nm,1.3s,mb4.8
HWUT Hardware Ranch 57.22 304 *e*PcP PcP 07 27 40.1 +2.2
ISCO Idaho Springs 57.36 299 *e*P **P 07 26 44.3 -0.2**
ISCO pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
ISCO MLR MLR
comp=Z,4µm,19.0s,MS5.6
ISCO Idaho Springs 57.36 299 *e*P **P 07 26 44.3 -0.2**
comp=Z,8.2nm,1.3s,mb4.6
ISCO LR LR
comp=Z,4µm,19.0s,MS5.6
ISCO Idaho Springs 57.36 299 *e*P **P 07 26 44.3 -0.2**
comp=Z,8.2nm,1.3s,mb4.6
J07A Hines 57.43 312 ⇑P **P 07 26 45.4 +0.4**
baz=57
HHC Hu-ho-hao-te 57.51 57 *e*P **P 07 26 45.5 0.0**
HHC AP pP 07 26 55.0 +6.3
HHC PP PP 07 28 54.0 +1.0
HHC S **S 07 34 38.3 -4.7**
HHC PS 07 34 52.5
HHC SCS ScS 07 36 31.3 -3.8
HHC SS SS 07 38 30.0 -2.7
HHC AMB AMB
comp=Z,14nm,0.8s,mb5.0
HHC AMB AMB
comp=Z,174nm,7.0s
HHC LR LR
comp=N,452nm,17.2s,MS4.8
HHC LR LR
comp=E,617nm,18.4s,MS4.8
HHC LR LR
comp=Z,543nm,18.4s,MS4.7
OXF Oxford 57.62 282 PFAKE 07 27 00.0 +14
OXF LR LR
comp=Z,1µm,20.0s,MS5.0
J06A Christmas Vall 57.74 312 ⇑P **P 07 26 47.3 +0.1**
baz=58,SNR=13
I03A Eugene 57.75 315 ⇑P **P 07 26 46.2 -1.0**
baz=58
J05A Fort Rock 57.96 313 ⇑P **P 07 26 49.5 +0.8**
baz=58
CN2 Changchun 58.02 45 *e*P **P 07 26 50.3 +1.1**
CN2 *e*XP sP 07 26 57.0 +3.4
CN2 AMB AMB
comp=Z,10.0nm,1.5s,mb4.6
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,400nm,21.0s,MS4.7
CN2 LR LR
comp=E,500nm,21.0s,MS4.7
CN2 LR LR
comp=Z,400nm,16.0s,MS4.6
MDJ Mudanjiang 58.11 41 P **P 07 26 48.8 -1.0**
MDJ PCP PcP 07 27 41.0 -0.4
MDJ S **S 07 34 48.0 -2.9**
MDJ SCS ScS 07 36 38.3 -1.2
MDJ SS SS 07 38 40.0 -2.2
MDJ AMB AMB
comp=Z,3.0nm,0.6s,mb4.5
MDJ AMB AMB
comp=Z,29nm,3.0s
MDJ LR LR
comp=N,149nm,29.1s,MS4.4
MDJ LR LR
comp=E,347nm,27.1s,MS4.4
MDJ LR LR
comp=Z,181nm,27.1s,MS4.0
MDJ Mudanjiang 58.11 41 PFAKE 07 27 00.0 +10
MDJ LR LR
comp=Z,254nm,19.0s,MS4.3
WVOR Wild Horse Val 58.17 311 PFAKE 07 27 00.0 +10
WVOR LR LR
comp=Z,968nm,21.0s,MS4.9
YSS Yuzh-Sakhalins 58.19 30 PFAKE 07 27 00.0 +10
YSS LR LR
comp=Z,421nm,20.0s,MS4.5
K06A Valley Falls 58.19 312 ⇑P **P 07 26 50.8 +0.4**
baz=58
M12A Wells 58.24 307 ⇑P **P 07 26 50.8 +0.1**
baz=58
J03A Ideyld Park 58.26 315 ⇑P **P 07 26 51.2 +0.4**
baz=58
LRAL Lakeview Retre 58.27 279 PFAKE 07 27 00.0 +9.1
LRAL LR LR
comp=Z,642nm,21.0s,MS4.7
L08A Fields 58.33 310 ⇑P **P 07 26 51.1 -0.2**
baz=58
J02A Umpqua 58.40 315 ⇓P **P 07 26 53.6 +1.8**
baz=58
M11A Holland Ranch, 58.44 308 ⇓P **P 07 26 51.5 -0.6**
baz=58
M10A i.L. Ranch, Tu 58.53 309 ⇑P **P 07 26 53.6 +0.8**
baz=58
L07A Adell 58.73 311 ⇓P **P 07 26 54.2 +0.1**
baz=58
MPU Maple Canyon 58.74 304 PFAKE 07 27 10.0 +16
MPU LR LR
comp=Z,3µm,19.0s,MS5.4
N12A Clover Valley, 58.80 307 ⇑P **P 07 26 54.1 -0.5**
baz=58
MIAR Mount Ida 58.84 286 *e*P **P 07 26 54.4 -0.4**
MIAR *e* 07 27 44.5
MIAR pmax pmax
comp=Z,18nm,1.3s,mb4.9
MIAR MLR MLR
comp=Z,1µm,19.0s,MS5.0
MIAR Mount Ida 58.84 286 *e*P **P 07 26 54.4 -0.5**
comp=Z,18nm,1.3s,mb4.9
MIAR *e*PcP PcP 07 27 44.5 +0.3
MIAR LR LR
comp=Z,1µm,19.0s,MS5.0
MIAR Mount Ida 58.84 286 *e*P **P 07 26 54.4 -0.4**
comp=Z,18nm,1.3s,mb4.9
MIAR Mount Ida 58.84 286 *e*PcP PcP 07 27 44.5 +0.2
M09A Marrel Ranch, 58.85 309 ⇓P **P 07 26 54.3 -0.6**
baz=59
DUG Dugway 58.87 305 *e*P **P 07 26 55.1 0.0**
DUG pmax pmax
comp=Z,11nm,1.1s,mb4.8
DUG MLR MLR
comp=Z,982nm,20.0s,MS4.9
DUG Dugway 58.87 305 *e*P **P 07 26 55.1 +0.1**
comp=Z,11nm,1.1s,mb4.8
DUG LR LR
comp=Z,982nm,20.0s,MS4.9
DUG Dugway 58.87 305 *e*P **P 07 26 55.1 0.0**
comp=Z,11nm,1.1s,mb4.8
HUMO Hull Mountain 58.98 314 PFAKE 07 27 10.0 +14
HUMO LR LR
comp=Z,1µm,20.0s,MS5.0
HUMO Hull Mountain 58.98 314 ⇓P **P 07 26 55.2 -0.6**
baz=59
TOA0 Torodi Ar. Sit 59.01 179 *e*P **P 07 26 54.7 -1.3**
TOA0 Torodi Ar. Sit 59.01 179 *e*P **P 07 26 54.7 -1.3**
TORD Torodi Ar. Bea 59.01 179 P **P 07 26 55.0 -1.0**
comp=Z,15nm,1.1s,mb4.9,baz=353,slow=7.3,SNR=25
TORD LR LR 07 53 19.3
comp=Z,732nm,18.1s,MS4.8,baz=355,slow=37
N11A Elko Archery C 59.01 308 ⇓P **P 07 26 56.2 +0.2**
baz=59
L05A Lakeview 59.04 312 ⇑P **P 07 26 56.4 +0.1**
baz=59
L04A Klamath Falls 59.16 313 ⇓P **P 07 26 58.2 +1.2**
baz=59
SDCO Great Sand Dun 59.25 298 PFAKE 07 27 10.0 +12
SDCO LR LR
comp=Z,3µm,21.0s,MS5.4
O12A Currie 59.28 307 ⇓P **P 07 26 57.4 -0.5**
baz=59
M07A Soldier Meadow 59.28 311 ⇑P **P 07 26 57.4 -0.6**
baz=59
SRU San Rafael 59.30 303 *e*P **P 07 26 59.1 +1.0**
N09A Rock Creek Ran 59.41 309 ⇓P **P 07 26 59.6 +0.9**
baz=59
BJI Beijing 59.44 54 P **P 07 27 02.0 +3.0**
BJI AMB AMB
comp=Z,8.0nm,0.6s,mb4.9
BJI AMB AMB
comp=Z,75nm,3.3s
BJI LR LR
comp=N,365nm,16.3s,MS4.9
BJI LR LR
comp=E,727nm,16.3s,MS4.9
BJI LR LR
comp=Z,545nm,19.6s,MS4.7
BJT Baijiatuau 59.46 54 PFAKE 07 27 10.0 +11
BJT LR LR
comp=Z,749nm,21.0s,MS4.8
M04C Macdoel 59.52 313 ⇓P **P 07 26 59.7 +0.1**
baz=59
L02A Cave Junction 59.56 315 ⇓P **P 07 26 58.9 -1.0**
baz=59
PV10 Paradox Valley 59.61 301 *e*P **P 07 27 01.2 +1.0**
PV10 Paradox Valley 59.61 301 *e*P **P 07 27 01.2 +1.0**
O11A Cowboy Ranch, 59.64 307 ⇑P **P 07 27 00.6 +0.2**
baz=59
PV01 Paradox Valley 59.71 301 *e*P **P 07 27 00.2 -0.7**
PV01 *e* 07 27 08.8
PV01 Paradox Valley 59.71 301 *e*P **P 07 27 00.2 -0.7**
BMN Battle Mountai 59.73 309 PFAKE 07 27 10.0 +9.0
BMN LR LR
comp=Z,1µm,20.0s,MS5.1
M06C Likely Place G 59.76 312 ⇑P **P 07 27 00.7 -0.6**
baz=60
YBH Yreka Blue Hor 59.76 314 PFAKE 07 27 10.0 +8.7
YBH LR LR
comp=Z,1µm,19.0s,MS5.1
YBH Yreka Blue Hor 59.76 314 ⇓P **P 07 26 58.6 -2.7**
baz=60
M05C Lookout 59.77 312 ⇓P **P 07 27 00.7 -0.6**
baz=60,SNR=7.3
N07B Gerlach 59.82 310 ⇓P **P 07 27 02.5 +0.9**
baz=60
LZH Lanzhou 59.88 66 *e*P **P**
LZH AP pP 07 27 09.5 +4.2
LZH XP sP 07 27 12.5 +6.0
LZH PP PP 07 29 18.5 +4.4
LZH AMB AMB
comp=Z,30nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,162nm,5.1s
LZH LR LR
comp=E,700nm,14.0s
LZH LR LR
comp=Z,960nm,16.0s,MS5.0
M01C Crescent City 59.97 315 ⇓P **P 07 27 03.1 +0.5**
baz=60
O09A Fish Creek Ran 59.97 309 ⇓P **P 07 27 02.9 +0.2**
baz=60
N06A Buffalo Meadow 60.05 311 P **P 07 27 03.4 +0.2**
baz=60,SNR=6.3
P12A McGill 60.08 306 ⇑P **P 07 27 03.6 +0.2**
baz=60
M02C Callahan 60.12 314 ⇑P **P 07 27 03.5 -0.2**
baz=60
WMOK Wichita Mounta 60.18 291 *e*P **P 07 27 02.8 -1.3**
WMOK *e* 07 27 50.2
WMOK pmax pmax
comp=Z,27nm,1.5s,mb5.1
WMOK MLR MLR
comp=Z,2µm,19.0s,MS5.3
WMOK Wichita Mounta 60.18 291 *e*P **P 07 27 02.8 -1.3**
comp=Z,27nm,1.5s,mb5.1
WMOK *e*PcP PcP 07 27 50.2 +0.6
WMOK LR LR
comp=Z,2µm,19.0s,MS5.3
WMOK Wichita Mounta 60.18 291 *e*P **P 07 27 02.8 -1.3**
comp=Z,27nm,1.5s,mb5.1
WMOK Wichita Mounta 60.18 291 *e*PcP PcP 07 27 50.2 +0.6
P11A Circle Ranch, 60.21 307 ⇓P **P 07 27 04.9 +0.6**
baz=60
MVU Marysvale 60.31 304 PFAKE 07 27 20.0 +15
MVU LR LR
comp=Z,862nm,22.0s,MS4.8
MVCO Mesa Verde 60.56 300 *e*P **P 07 27 06.4 -0.3**
MVCO Mesa Verde 60.56 300 *e*P **P 07 27 06.4 -0.3**
O06A Flanigan 60.60 311 ⇑P **P 07 27 06.8 -0.2**
baz=60
N02C Big Bar 60.77 314 ⇓P **P 07 27 07.9 -0.2**
baz=60
WDC Whiskeytown Da 60.83 313 *e*P **P 07 27 09.1 +0.6**
WDC pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
WDC MLR MLR
comp=Z,1µm,19.0s,MS5.0
WDC Whiskeytown Da 60.83 313 *e*P **P 07 27 09.1 +0.5**
comp=Z,3.9nm,0.9s,mb4.5
WDC LR LR
comp=Z,1µm,19.0s,MS5.0
WDC Whiskeytown Da 60.83 313 *e*P **P 07 27 09.1 +0.6**
comp=Z,3.9nm,0.9s,mb4.5
WDC Whiskeytown Da 60.83 313 ⇓P **P 07 27 08.3 -0.2**
baz=61
AMTX Amarillo 60.87 293 PFAKE 07 27 20.0 +11
AMTX LR LR
comp=Z,1µm,21.0s,MS5.1
ASAJ Asahikawa 60.94 31 LR LR 07 52 42.9
comp=Z,145nm,18.8s,MS4.2,baz=175,slow=35
P07A Fallon 60.98 310 ⇑P **P 07 27 10.1 +0.6**
baz=61
O05C Quincy 61.05 312 ⇓P **P 07 27 08.8 -1.2**
baz=61
DWPF Disney 61.15 272 PFAKE 07 27 20.0 +9.3
DWPF LR LR
comp=Z,1µm,21.0s,MS5.0
Q09A Carvers 61.24 308 ⇑P **P 07 27 11.2 -0.1**
baz=61
ARUT Antelope Range 61.30 305 *e*P **P 07 27 12.0 +0.3**
Q08A Gabbs 61.39 309 ⇑P **P 07 27 12.2 -0.1**
baz=61,SNR=9.8
WCN Washoe City 61.41 310 ⇓P **P 07 27 13.0 +0.6**
baz=61
R10A Warm Springs 61.54 307 ⇓P **P 07 27 13.3 -0.1**
baz=61,SNR=6.0
ORV Oroville 61.57 312 ⇑P **P 07 27 13.8 +0.2**
baz=61
P05C Yuba Gap, Truc 61.60 311 ⇑P **P 07 27 12.6 -1.2**
baz=61
KOLN Koldanda 61.62 88 *e*P **P 07 27 14.7 +0.8**
comp=Z,93nm,1.8s,mb5.6
GKN Gorkha 61.72 87 *e*P **P 07 27 16.0 +1.4**
NATX Nacogdoches 61.76 286 PFAKE 07 27 30.0 +15
NATX LR LR
comp=Z,976nm,22.0s,MS4.9
OHCM Honcut 61.77 312 *e*P **P 07 27 14.3 -0.6**
OHCM Honcut 61.77 312 *e*P **P 07 27 14.3 -0.6**
R09A Tonopah 61.77 308 ⇓P **P 07 27 14.8 -0.1**
baz=62
NVAR Mina Array Bea 61.89 309 P **P 07 27 14.8 -1.0**
comp=Z,1.6nm,0.8s,mb4.2,baz=33,slow=4.7,SNR=15
R08A Mina 61.92 309 ⇑P **P 07 27 16.2 +0.2**
baz=62
SUTB Sutter Butte 61.95 312 ⇑P **P 07 27 14.9 -1.2**
baz=62
TPH Tonopah 61.97 308 PFAKE 07 27 30.0 +14
TPH LR LR
comp=Z,1µm,21.0s,MS5.1
R05C Kirkwood Meado 62.05 311 ⇓P **P 07 27 16.3 -0.5**
baz=62
R06C Coleville 62.08 310 ⇓P **P 07 27 16.9 -0.1**
baz=62
WAKR Walker 62.09 310 *e*P **P 07 27 19.0 +2.0**
KKN Kakani 62.12 86 *e*P **P 07 27 18.6 +1.3**
ANMO Albuquerque 62.14 297 *e*P **P 07 27 18.0 +0.6**
ANMO pmax pmax
comp=Z,10.0nm,1.4s
ANMO MLR MLR
comp=Z,2µm,19.0s
ANMO Albuquerque 62.14 297 *e*P **P 07 27 17.9 +0.6**
comp=Z,10nm,1.4s,mb4.8
ANMO LR LR
comp=Z,2µm,19.0s,MS5.4
ANMO Albuquerque 62.14 297 *e*P **P 07 27 18.0 +0.6**
comp=Z,10nm,1.4s,mb4.8
LAVA Lava Cap Winer 62.16 311 ⇓P **P 07 27 17.0 -0.5**
baz=62
GUN Gumba 62.19 85 *e*P **P 07 27 19.6 +1.9**
comp=Z,63nm,1.1s,mb5.7
DMN Daman 62.23 86 *e*P **P 07 27 19.0 +1.0**
comp=Z,48nm,1.3s,mb5.5
S09A Goldfield 62.30 308 P **P 07 27 18.0 -0.5**
baz=62,SNR=14
PKI Pulchoki 62.36 86 *e*P **P 07 27 20.7 +1.8**
MNRC McLaughlin Nat 62.43 313 ⇑P **P 07 27 19.9 +0.6**
baz=62
HOPS Hopland 62.46 313 PFAKE 07 27 30.0 +10
HOPS LR LR
comp=Z,1µm,19.0s,MS5.1
JIRN Jiri 62.52 85 *e*P **P 07 27 21.4 +1.5**
comp=Z,143nm,1.7s,mb5.8
CMB Columbia Colle 62.76 311 PFAKE 07 27 30.0 +8.4
CMB LR LR
comp=Z,878nm,19.0s,MS5.0
CMB Columbia Colle 62.76 311 ⇓P **P 07 27 20.1 -1.5**
baz=62
MLAC Mammoth Lakes 62.78 309 ⇑P **P 07 27 22.3 +0.6**
baz=62
S06C San Francisco 62.78 310 ⇓P **P 07 27 21.6 -0.1**
baz=62
LPM Los Pinos Moun 62.78 297 *e*P **P 07 27 22.3 +0.6**
LPM *e* 07 27 28.9
TPNV Topopah Spring 62.80 307 *e*P **P 07 27 20.8 -1.0**
TPNV *e* 07 27 27.6
TPNV pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
TPNV MLR MLR
comp=Z,1µm,20.0s,MS5.1
TPNV Topopah Spring 62.80 307 *e*P **P 07 27 20.8 -1.0**
comp=Z,7.2nm,0.8s,mb4.8
TPNV *e* 07 27 27.6
TPNV LR LR
comp=Z,1µm,20.0s,MS5.1
LAZ Ladron 62.84 298 *e*P **P 07 27 21.6 -0.5**
U12A Valley of Fire 62.86 305 ⇓P **P 07 27 22.2 0.0**
baz=63
WUAZ Wupatki 62.92 302 *e*P **P 07 27 23.2 +0.6**
comp=Z,9.1nm,1.0s,mb4.9
WUAZ LR LR
comp=Z,1µm,21.0s,MS5.1
BNM Barren Site 62.94 297 *e*P **P 07 27 22.8 +0.1**
SHPR Sheep Range 62.95 306 *e*P **P 07 27 24.9 +2.1**
MTUM Tungsten Hills 62.98 309 *e*P **P 07 27 24.8 +1.8**
KCC Kaiser Creek 63.19 309 ⇓P **P 07 27 24.3 -0.1**
baz=63
S05C Merced 63.40 310 ⇑P **P 07 27 26.8 +1.0**
baz=63
W15A Williams 63.47 303 ⇓P **P 07 27 27.0 +0.7**
baz=63
T06C Millerton Lake 63.58 310 ⇑P **P 07 27 27.6 +0.6**
baz=63
V12A Nelson 63.61 305 ⇑P **P 07 27 26.8 -0.3**
baz=63
W14A Seligman 63.65 303 ⇑P **P 07 27 27.8 +0.4**
baz=63,SNR=7.9
V11A Goodsprings 63.65 306 ⇑P **P 07 27 25.7 -1.8**
baz=63
CWC Cottonwood Cre 63.73 308 ⇓P **P 07 27 28.7 +0.7**
baz=64
DAC Darwin (Calif) 63.77 308 PFAKE 07 27 40.0 +12
DAC LR LR
comp=Z,2µm,19.0s,MS5.2
HKT Hockley 63.80 286 *e*P **P 07 27 28.2 -0.2**
HKT *e* 07 27 34.3
HKT pmax pmax
comp=Z,37nm,2.0s,mb5.1
HKT MLR MLR
comp=Z,1µm,20.0s,MS5.2
HKT Hockley 63.80 286 *e*P **P 07 27 28.2 -0.2**
comp=Z,37nm,2.0s,mb5.1
HKT *e* 07 27 34.3
HKT LR LR
comp=Z,1µm,20.0s,MS5.2
W13A Hualapai Mount 63.96 304 ⇓P **P 07 27 29.5 0.0**
baz=64
X15A Humboldt 64.12 302 ⇓P **P 07 27 29.9 -0.6**
baz=64
GDL2 Guadalupe Moun 64.14 295 *e*P **P 07 27 31.5 +0.8**
SAO San Andreas Ge 64.22 311 PFAKE 07 27 40.0 +8.8
SAO LR LR
comp=Z,1µm,21.0s,MS5.0
X14A Yava 64.30 303 ⇑P **P 07 27 32.2 +0.4**
baz=64
INCN Inchon 64.33 46 PFAKE 07 27 40.0 +8.1
INCN LR LR
comp=Z,243nm,19.0s,MS4.4
X13A Yucca 64.43 304 ⇓P **P 07 27 31.9 -0.6**
baz=64
JCT Junction City 64.46 290 *e*P **P 07 27 32.7 -0.1**
JCT pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
JCT MLR MLR
comp=Z,2µm,21.0s,MS5.2
JCT Junction City 64.46 290 *e*P **P 07 27 32.7 -0.1**
comp=Z,8.5nm,0.9s,mb4.8
JCT LR LR
comp=Z,2µm,21.0s,MS5.2
GSC Goldstone 64.50 307 P **P 07 27 31.7 -1.4**
baz=64
ISA Isabella 64.57 308 *e*P **P 07 27 34.2 +0.7**
ISA pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ISA MLR MLR
comp=Z,547nm,19.0s,MS4.8
ISA Isabella 64.57 308 *e*P **P 07 27 34.2 +0.7**
comp=Z,5.1nm,0.9s,mb4.5
ISA LR LR
comp=Z,547nm,19.0s,MS4.8
ISA Isabella 64.57 308 ⇑P **P 07 27 33.8 +0.4**
baz=64
CD2 Chengdu 64.72 68 *e*P **P 07 27 34.8 +0.4**
CD2 AP pP 07 27 39.5 +1.8
CD2 XP sP 07 27 41.8 +2.9
CD2 PP PP 07 29 58.8 +2.1
CD2 S **S 07 36 12.3 -2.5**
CD2 SS SS 07 40 24.5 -1.2
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
CD2 AMB AMB
comp=Z,80nm,6.4s
CD2 LR LR
comp=E,390nm,25.2s
CD2 LR LR
comp=Z,230nm,19.2s
PKD Parkfield 64.79 310 ⇑P **P 07 27 33.9 -1.1**
baz=64
Y14A Wickenburg 64.83 303 ⇑P **P 07 27 35.7 +0.4**
baz=65
Z14A Wintersburg 65.36 303 ⇓P **P 07 27 38.4 -0.2**
baz=65
Y12C Blythe 65.40 304 ⇓P **P 07 27 39.7 +0.8**
baz=65
DBIC Dimbokro 65.53 186 LR LR 07 56 10.7
comp=Z,452nm,20.7s,MS4.7,baz=349,slow=36
DBIC Dimbokro 65.53 186 PFAKE 07 27 50.0 +10
DBIC LR LR
comp=Z,606nm,21.0s,MS4.8
ATD Arta Tunnel 65.60 134 LR LR 07 57 25.1
comp=Z,309nm,19.9s,MS4.5,baz=316,slow=37
TUC Tucson 65.80 300 *e*P **P 07 27 41.9 +0.5**
TUC pmax pmax
comp=Z,19nm,1.8s,mb4.8
TUC MLR MLR
comp=Z,2µm,19.0s,MS5.3
TUC Tucson 65.80 300 *e*P **P 07 27 41.9 +0.4**
comp=Z,19nm,1.8s,mb4.8
TUC LR LR
comp=Z,2µm,19.0s,MS5.3
116A Eloy 65.80 301 ⇓P **P 07 27 40.9 -0.6**
baz=66
115A Sonoran Desert 65.81 302 ⇑P **P 07 27 41.3 -0.2**
baz=66
SJG San Juan 65.89 254 PFAKE 07 27 50.0 +7.9
SJG LR LR
comp=Z,401nm,21.0s,MS4.6
LIC Lamto 65.98 186 *e*P **P 07 27 41.9 -0.8**
comp=Z,139nm,1.6s,mb5.5
LIC *e*R
comp=Z,124nm,20.0s
LIC Lamto 65.98 186 *e*P **P 07 27 41.9 -0.8**
comp=Z,69nm,1.6s,mb5.4
LIC LR LR
comp=Z,60nm,20.0s,MS3.8
LIC Lamto 65.98 186 *e*P **P 07 27 41.9 -0.8**
comp=Z,69nm,1.6s,mb5.5
PFO Pinyon Flat Ob 66.03 306 PFAKE 07 28 00.0 +17
PFO LR LR
comp=Z,776nm,20.0s,MS4.9
GLA Glamis 66.14 304 ⇑P **P 07 27 45.2 +1.5**
baz=66
MAJO Matsushiro 67.57 36 PFAKE 07 28 00.0 +7.2
MAJO LR LR
comp=Z,289nm,21.0s,MS4.5
MJAR Matsushiro Arr 67.57 36 P **P 07 27 52.7 -0.1**
comp=Z,3.2nm,1.0s,mb4.3,baz=350,slow=5.9,SNR=7.2
MJAR LR LR 08 01 56.3
comp=Z,215nm,19.8s,MS4.4,baz=345,slow=40
NJ2 Nanjing 67.69 54 *e*P **P 07 27 53.5 0.0**

NJ2				AP	pP	07 27 58.5	+1.7	
NJ2				XP	sP	07 28 01.0	+3.0	
NJ2				PP	PP	07 30 26.0	+3.3	
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.5s,mb5.1							
NJ2				AMB	AMB			
	comp=Z,110nm,4.1s							
NJ2				LR	LR			
	comp=N,1μm,16.4s,MS5.4							
NJ2				LR	LR			
	comp=E,930nm,14.0s,MS5.4							
NJ2				LR	LR			
	comp=Z,1μm,17.4s,MS5.2							
KMI	**Kunming**	**69.87**	**71**	P	**P**	**07 28 08.5**	**+1.4**	
KMI				AP	pP	07 28 14.0	+3.6	
KMI				XP	sP	07 28 16.3	+4.7	
KMI				PP	PP	07 30 45.0	+3.4	
KMI				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.7							
KMI				AMB	AMB			
	comp=Z,63nm,5.0s							
KMI				LR	LR			
	comp=N,210nm,36.8s							
KMI				LR	LR			
	comp=E,358nm,27.0s							
KMI				LR	LR			
	comp=Z,279nm,27.0s							
TEIG	**Tepich**	**70.64**	**276**	PFAKE		07 28 20.0	+8.2	
TEIG				LR	LR			
	comp=Z,578nm,21.0s,MS4.8							
CHTO	**Chiang Mai**	**74.70**	**76**	PFAKE		07 28 50.0	+14	
CHTO				LR	LR			
	comp=Z,181nm,20.0s,MS4.4							
SDV	**Santo Domingo**	**75.95**	**255**	PFAKE		07 29 00.0	+17	
SDV				LR	LR			
	comp=Z,211nm,20.0s,MS4.4							
KMBO	**Kilima Mbogo**	**76.75**	**142**	P	**P**	**07 28 50.3**	**+2.6**	
	comp=Z,2.8nm,0.9s,mb4.2,baz=22,slow=11,SNR=3.9							
QIZ	**Qiongzhong**	**77.67**	**66**	P	**P**	**07 28 51.5**	**-1.4**	
QIZ				S	S	07 38 43.8	-1.1	
QIZ				AMB	AMB			
	comp=Z,22nm,1.5s,mb4.9							
QIZ				LR	LR			
	comp=N,305nm,17.4s							
QIZ	**Qiongzhong**	**77.67**	**66**	PFAKE		07 29 00.0	+7.1	
QIZ				LR	LR			
	comp=Z,377nm,19.0s,MS4.7							
PALK	**Pallekele**	**80.02**	**97**	PFAKE		07 29 20.0	+14	
PALK				LR	LR			
	comp=Z,568nm,19.0s,MS4.9							
ROSC	**El Rosal**	**80.88**	**257**	P	**P**	**07 29 12.5**	**+2.1**	
	comp=Z,6.9nm,0.8s,mb4.6,baz=103,slow=9.9,SNR=5.9							
ROSC				LR	LR	08 00 56.1		
	comp=Z,172nm,21.5s,MS4.4,baz=36,slow=33							
ROSC	**El Rosal**	**80.88**	**257**	*e*P	**P**	**07 29 11.9**	**+1.6**	
RCBR	**Riachuelo**	**81.40**	**217**	PFAKE		07 29 20.0	+6.8	
RCBR				LR	LR			
	comp=Z,260nm,20.0s,MS4.6							
OTAV	**Otavalo**	**86.49**	**260**	PFAKE		07 29 50.0	+11	
OTAV				LR	LR			
	comp=Z,309nm,22.0s,MS4.7							
LSZ	**Lusaka**	**89.15**	**154**	LR	LR	08 11 55.4		
	comp=Z,267nm,20.1s,MS4.7,baz=338,slow=37							
LSZ	**Lusaka**	**89.15**	**154**	PFAKE		07 30 00.0	+8.1	
LSZ				LR	LR			
	comp=Z,372nm,20.0s,MS4.8							
SAML	**Samuel**	**90.79**	**243**	PFAKE		07 30 10.0	+10	
SAML				LR	LR			
	comp=Z,136nm,20.0s,MS4.4							
TSUM	**Tsumeb**	**91.86**	**164**	LR	LR	08 17 21.9		
	comp=Z,359nm,18.6s,MS4.8,baz=141,slow=40							
TSUM	**Tsumeb**	**91.86**	**164**	PFAKE		07 30 20.0	+16	
TSUM				LR	LR			
	comp=Z,488nm,20.0s,MS5.0							
BDFB	**Brasilia**	**93.42**	**227**	LR	LR	08 06 07.8		
	comp=Z,249nm,19.1s,MS4.7,baz=18,slow=32							
LBTB	**Lobatse**	**98.42**	**157**	LR	LR	08 13 44.7		
	comp=Z,370nm,21.8s,MS4.8,baz=0.2,slow=35							
LBTB	**Lobatse**	**98.42**	**157**	PFAKE		07 30 50.0	+16	
LBTB				LR	LR			
	comp=Z,527nm,20.0s,MS5.0							
LPAZ	**La Paz**	**99.15**	**245**	LR	LR	08 13 26.7		
	comp=Z,98nm,18.0s,MS4.3,baz=203,slow=34							
LPAZ	**La Paz**	**99.15**	**245**	PFAKE		07 30 50.0	+12	
LPAZ				LR	LR			
	comp=Z,124nm,19.0s,MS4.4							
BOSA	**Boshof**	**101.93**	**158**	PFAKE		07 31 00.0	+10	
BOSA				LR	LR			
	comp=Z,322nm,20.0s,MS4.8							
SUR	**Sutherland**	**105.20**	**163**	PFAKE		07 35 30.0	+11	
SUR				LR	LR			
	comp=Z,971nm,20.0s,MS5.3							
TAOE	**Nuku Hiva Isla**	**112.45**	**318**	*e*LR	LR	08 09 07.1		
	comp=Z,2μm,24.1s							
HNR	**Honiara**	**116.02**	**23**	PFAKE		07 35 50.0	+11	
HNR				LR	LR			
	comp=Z,332nm,21.0s,MS4.9							
FUNA	**Funafuti**	**116.40**	**2**	PFAKE		07 35 50.0	+10	
FUNA				LR	LR			
	comp=Z,22μm,19.0s							
WRA	**Warramunga Arr**	**121.47**	**53**	PKP	PKPdf	07 35 47.6	-2.2	
	comp=Z,0.8nm,0.7s,baz=322,slow=2.6,SNR=11							
PPT	**Papeete**	**122.74**	**326**	*e*LR	LR	08 13 52.6		
	comp=Z,662nm,24.8s							
PLCA	**Paso Flores**	**122.94**	**239**	PKP	PKPdf	07 35 52.0	-0.6	
	comp=Z,1.8nm,1.0s,baz=214,slow=11,SNR=3.2							
ASAR	**Alice Springs**	**124.93**	**55**	PKP	PKPdf	07 35 55.7	-0.7	
	comp=Z,1.4nm,0.8s,baz=350,slow=1.8,SNR=16							
RKT	**Rikitea**	**125.08**	**308**	*e*LR	LR	08 14 57.3		
	comp=Z,679nm,29.0s							
MAW	**Mawson**	**145.43**	**143**	PKPbc	PKPbc	07 36 32.9	-1.4	
	comp=Z,6.0nm,0.8s,baz=314,slow=6.9,SNR=16							
MAW	**Mawson**	**145.43**	**143**	*e*PKPdf	PKPdf	07 36 32.1	-2.2	
MAW				*ep*PKPdf	pPKPdf	07 36 38.9	+1.1	
CASY	**Casey**	**155.79**	**112**	PFAKE		07 37 00.0	+10	
CASY				LR	LR			
	comp=Z,487nm,20.0s,MS5.3							
VNDA	**Vanda**	**172.73**	**146**	PFAKE		07 37 10.0	+4.6	
VNDA				LR	LR			
	comp=Z,543nm,20.0s							
SBA	**Scott Base**	**173.26**	**154**	PFAKE		07 37 10.0	+4.4	
SBA				LR	LR			
	comp=Z,374nm,19.0s							

*BJI **30** 07:25:37.9, 5200N×177.10E, h10km, mB4.7, mb4.7, Ms4.3, Msz4.1*
*IDC **30** 07:25:38.6±0.6, 5208N×17704E, h0km, mb4.1/17, mb1 4.3/18, mb1mx4.2/27, mbtmp4.1/18, ML4.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/28, Error ellipse: s-maj=20.5km s-min=15.1km az=154.0*
*NEIC **30** 07:25:39.9±3.5, 5199N×17706E, h10km±22km, mb4.3/10, ML4.0(AEIC), Error ellipse: s-maj=9.0km s-min=6.4km az=174.0*
*ISCJB **30** 07:25:41.8±0.3, 52.10N±0.007×17706E±0.06, h33km, mb4.4/33, MS3.7/2, Error ellipse: s-maj=9.4km s-min=5.0km az=6.8*
*MOS **30** 07:25:42.5±1.2, 5223N×17691E, h37km, mb4.3/8, Error ellipse: s-maj=14.5km s-min=11.9km az=93.2*

ISC 30 07:25:43.5±0.3, 5208N±006×17708E±005, h35km, n64, σ1®03/65, mb4.4/33, MS3.7/2, 2D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**1.55**	**116**	P	**Pn**	**07 26 06.3**	**-2.3**
AMKA				S	**Sn**	**07 26 28.5**	**+1.1**
SMY	**Shemya**	**1.94**	**291**	P	**Pn**	**07 26 12.7**	**-1.3**
SMY				S	**Sn**	**07 26 38.7**	**+1.6**
PET	**Petropavlovsk**	**11.26**	**282**	*e*P	**Pn**	**07 28 20.2**	**-1.7**
PET				*e*S	**Sn**	**07 30 22.4**	**-4.1**
PET				pmax	pmax		
	comp=Z,100nm,7.6s						
PET				pmax	pmax		
	comp=Z,200nm,8.4s						
PET				smax			
	comp=N,54nm,0.9s						
PET				MLR	MLR		
	comp=Z,200nm,19.0s						
PET				MLR	MLR		
	comp=Z,200nm,20.0s						
KDAK	**Kodiak Island**	**18.24**	**60**	P	**Pn**	**07 29 54.0**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=30,slow=13,SNR=8.7						
SLKM	**Skilak Lake**	**19.82**	**52**	*e*P	**Pn**	**07 30 11.9**	**-1.0**
IMA2	**Indian Mountai**	**20.27**	**35**	*e*P	**P**	**07 30 17.4**	**+1.4**
PMR	**Palmer**	**20.56**	**49**	*e*P	**P**	**07 30 18.6**	**-0.5**
PMR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
PMR	**Palmer**	**20.56**	**49**	*e*P	**P**	**07 30 18.6**	**-0.5**
	comp=Z,3.7nm,0.6s						
MCK	**McKinley**	**21.20**	**43**	*e*P	**P**	**07 30 26.6**	**+0.6**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb3.8						
MCK	**McKinley**	**21.20**	**43**	*e*P	**P**	**07 30 26.6**	**+0.6**
	comp=Z,5.2nm,1.1s,mb3.8						
COLA	**College**	**22.00**	**41**	*e*P	**P**	**07 30 35.3**	**+0.7**
COLA				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.1						
COLA	**College**	**22.00**	**41**	*e*P	**P**	**07 30 35.3**	**+0.7**
	comp=Z,10.0nm,1.2s,mb4.1						
ASAJ	**Asahikawa**	**24.18**	**265**	P	**P**	**07 30 57.5**	**+1.0**
	comp=Z,10nm,0.9s,mb4.3,baz=42,slow=3.8,SNR=6.2						
ASAJ				LR	LR	07 39 00.8	
	comp=Z,83nm,19.5s,MS3.2,baz=356,slow=33						
ASAJ	**Asahikawa**	**24.18**	**265**	P	**P**	**07 30 57.6**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,83nm,19.5s						
DAWY	**Dawson**	**25.39**	**45**	*e*P	**P**	**07 31 08.4**	**+0.9**
KLR	**Kul'dur**	**28.53**	**283**	*e*P	**P**	**07 31 33.1**	**-2.6**
CN2	**Changchun**	**34.91**	**277**	*e*P	**P**	**07 32 33.5**	**+1.8**
CN2				*e*S	**S**	**07 38 04.0**	**+3.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				LR	LR		
	comp=N,200nm,20.0s,MS4.2						
CN2				LR	LR		
	comp=E,400nm,20.0s,MS4.2						
CN2				LR	LR		
	comp=Z,300nm,17.0s,MS4.1						
BOD	**Bodaibo**	**35.49**	**305**	*e*P	**P**	**07 32 34.0**	**-2.8**
YKA	**Yellowknife Ar**	**36.61**	**46**	P	**P**	**07 32 47.4**	**+1.1**
	comp=Z,6.1nm,0.8s,mb4.5,baz=285,slow=8.4,SNR=25						
YKA	**Yellowknife Ar**	**36.61**	**46**	P	**P**	**07 32 47.4**	**+1.1**
EDM	**Edmonton**	**40.69**	**60**	*e*P	**P**	**07 33 20.3**	**-0.3**
OHCM	**Honcut**	**43.48**	**82**	*e*P	**P**	**07 33 41.1**	**-2.2**
SONM	**Songino Array**	**44.03**	**294**	P	**P**	**07 33 47.5**	**-0.2**
	comp=Z,1.1nm,0.7s,mb3.7,baz=64,slow=7.0,SNR=9.0						
SONM				PcP	PcP	07 35 33.0	+0.2
	comp=Z,0.8nm,0.7s,baz=77,slow=2.8,SNR=5.8						
HLID	**Hailey**	**45.20**	**72**	*e*P	**P**	**07 33 57.2**	**+0.2**
	comp=Z,1.8nm,1.2s,mb3.8						
NVAR	**Mina Array Bea**	**45.99**	**81**	P	**P**	**07 34 03.5**	**+0.3**
	comp=Z,0.9nm,0.8s,mb3.8,baz=285,slow=11,SNR=7.1						
NVAR				PcP	PcP	07 35 40.5	+0.9
	comp=Z,0.7nm,0.8s,baz=315,slow=1.1,SNR=3.9						
NJ2	**Nanjing**	**46.25**	**268**	*e*P	**P**	**07 34 05.3**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
TPNV	**Topopah Spring**	**48.19**	**81**	*e*P	**P**	**07 34 20.3**	**-0.1**
TPNV				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
TPNV	**Topopah Spring**	**48.19**	**81**	*e*P	**P**	**07 34 20.3**	**-0.1**
	comp=Z,2.1nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**48.51**	**70**	P	**P**	**07 34 22.4**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.8,baz=308,slow=5.1,SNR=7.0						
ULM	**Lac du Bonnet**	**51.41**	**55**	P	**P**	**07 34 44.5**	**-0.4**
	comp=Z,2.0nm,0.9s,mb4.0,baz=50,slow=15,SNR=3.0						
LZH	**Lanzhou**	**52.73**	**283**	*e*P	**P**	**07 34 53.8**	**-0.9**
LZH				AP	pP	07 34 58.5	-6.8
LZH				XP	sP	07 35 01.3	-8.1
LZH				PP	PP	07 36 54.0	-0.2
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.9						
KURK	**Kurchatov**	**56.66**	**311**	*e*P	**P**	**07 35 22.6**	**-0.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
KURK	**Kurchatov**	**56.66**	**311**	*e*P	**P**	**07 35 22.6**	**-0.6**
	comp=Z,3.0nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**57.57**	**306**	P	**P**	**07 35 28.7**	**-1.0**
	comp=Z,0.4nm,0.4s,mb3.8,baz=55,slow=5.0,SNR=4.5						
ZRNK	**Zerenda**	**59.30**	**318**	*e*P	**P**	**07 35 41.2**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
ZRNK	**Zerenda**	**59.30**	**318**	*e*P	**P**	**07 35 41.2**	**-0.6**
	comp=Z,1.7nm,0.5s,mb4.3						
KMI	**Kunming**	**61.10**	**274**	P	**P**	**07 35 54.5**	**+0.4**
KMI				AP	pP	07 35 57.5	-7.3
KMI				XP	sP	07 35 59.0	-10
KMI				AMB	AMB		
	comp=Z,13nm,0.7s,mb5.2						
FINES	**FINESS Array B**	**64.49**	**345**	P	**P**	**07 36 15.0**	**-1.7**
	comp=Z,1.8nm,0.8s,mb4.1,baz=315,slow=1.1,SNR=5.1						
AKTK	**Aktyubinsk**	**65.60**	**322**	P	**P**	**07 36 23.9**	**+0.1**
AKTO	**Aktyubinsk**	**65.60**	**322**	P	**P**	**07 36 23.9**	**+0.1**
	comp=Z,3.0nm,0.7s,mb4.4,baz=51,slow=5.5,SNR=9.8						
NB2	**NORSAR Subarra**	**66.67**	**353**	P	**P**	**07 36 30.2**	**-0.5**
	comp=Z,1.2nm,0.8s,mb4.0,baz=9.2,slow=6.5						
NOA	**NORSAR Array B**	**66.67**	**353**	P	**P**	**07 36 30.2**	**-0.5**
	comp=Z,1.1nm,0.8s,mb3.9,baz=8.7,slow=6.4,SNR=3.0						
HFS	**Hagfors**	**67.35**	**351**	P	**P**	**07 36 34.5**	**-0.5**
	comp=Z,1.4nm,0.8s,mb4.0,baz=3.8,slow=4.5,SNR=6.0						
GUN	**Gumba**	**69.21**	**289**	*e*P	**P**	**07 36 47.7**	**+1.0**
	comp=Z,31nm,0.7s,mb5.3						
JIRN	**Jiri**	**69.22**	**288**	*e*P	**P**	**07 36 47.9**	**+1.2**
	comp=Z,23nm,0.8s,mb5.2						
KKN	**Kakani**	**69.65**	**289**	*e*P	**P**	**07 36 49.9**	**+0.5**
PKI	**Pulchoki**	**69.74**	**289**	*e*P	**P**	**07 36 50.4**	**+0.5**
	comp=Z,19nm,0.7s,mb5.1						
GKN	**Gorkha**	**69.87**	**290**	*e*P	**P**	**07 36 51.4**	**+0.7**
	comp=Z,21nm,0.7s,mb5.2						
DMN	**Daman**	**69.89**	**289**	*e*P	**P**	**07 36 50.7**	**-0.2**
AKASG	**Malin Array Be**	**74.04**	**339**	P	**P**	**07 37 15.3**	**-0.5**
	comp=Z,0.9nm,0.5s,mb4.0,baz=25,slow=6.1,SNR=7.4						
AKASG	**Malin Array Be**	**74.04**	**339**	P	**P**	**07 37 15.3**	**-0.5**
KAKA	**Kakadu**	**75.14**	**225**	*e*P	**P**	**07 37 22.3**	**+0.2**
	comp=Z,3.9nm,0.6s,mb4.9						
CTA	**Charters Tower**	**76.73**	**210**	*e*P	**P**	**07 37 31.6**	**+0.4**
	comp=Z,4.3nm,0.9s,mb4.4						
CTA	**Charters Tower**	**76.73**	**210**	*e*P	**P**	**07 37 31.6**	**+0.4**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MLR	**Muntele Rosu**	**79.69**	**340**	P	**P**	**07 37 48.9**	**+1.4**
	comp=Z,0.8nm,0.3s,mb4.1,baz=315,slow=7.1,SNR=3.4						
WB2	**Warramunga Arr**	**80.81**	**220**	*e*P	**P**	**07 37 53.1**	**-0.5**
WRA	**Warramunga Arr**	**80.81**	**220**	P	**P**	**07 37 53.6**	**0.0**
	comp=Z,4.3nm,0.8s,mb4.5,baz=31,slow=6.3,SNR=35						
FITZ	**Fitzroy Crossi**	**82.94**	**229**	↓*i*P	**P**	**07 38 04.9**	**+0.1**
	comp=Z,7.3nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**82.94**	**229**	P	**P**	**07 38 04.5**	**-0.2**
	comp=Z,5.6nm,0.9s,mb4.6,baz=69,slow=2.8,SNR=12						
BRTR	**Keskin Array B**	**83.19**	**332**	P	**P**	**07 38 08.0**	**+1.9**
	comp=Z,0.4nm,0.8s,mb3.5,baz=38,slow=9.0,SNR=3.9						
ASAR	**Alice Springs**	**84.34**	**219**	P	**P**	**07 38 12.5**	**+0.5**
	comp=Z,1.9nm,0.7s,mb4.3,baz=20,slow=5.3,SNR=23						
PLCA	**Paso Flores**	**133.62**	**104**	PKP	PKPdf	07 44 55.1	-1.2
	comp=Z,1.1nm,0.8s,baz=307,slow=5.1,SNR=2.7						
MAW	**Mawson**	**145.46**	**218**	PKPbc	PKPbc	07 45 16.6	-1.2
	comp=Z,2.3nm,0.5s,baz=103,slow=4.1,SNR=20						
BOSA	**Boshof**	**148.56**	**307**	PKPbc	PKPbc	07 45 27.1	+0.4
	comp=Z,2.1nm,0.8s,baz=18,slow=3.2,SNR=5.5						

KRSC 30 07:30:27, 5499N×16197E, h58km, ML3.5, Near east coast of Kamchatka Peninsula

IDC 30 07:33:57.9±1.7, 200N×9704E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/20, mbtmp3.8/6, Error ellipse: s-maj=48.7km s-min=21.1km az=50.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.04**	**67**	Pn	Pn	07 34 33.1	-0.4
	1.6nm,0.3s,baz=264,slow=2.0,SNR=9.9						
PSI				Sn	Sn	07 35 06.5	+6.7
	3.7nm,0.3s,baz=196,slow=18,SNR=5.6						
WRA	**Warramunga Arr**	**42.60**	**123**	P	P	07 41 54.5	-1.2
	0.3nm,0.6s,baz=300,slow=9.0,SNR=4.2						
ASAR	**Alice Springs**	**44.01**	**128**	P	P	07 42 09.0	+1.9
	0.6nm,1.0s,baz=304,slow=7.5,SNR=4.5						
SONM	**Songino Array**	**46.37**	**9**	P	P	07 42 26.1	+0.3
	1.6nm,0.8s,baz=187,slow=8.7,SNR=11						
MKAR	**Makanchi Array**	**46.43**	**346**	P	P	07 42 27.0	+0.8
	1.8nm,0.9s,baz=162,slow=8.3,SNR=11						
ZAL	**Zalesovo**	**52.74**	**351**	P	P	07 43 14.2	-0.1
	1.9nm,0.5s,baz=345,slow=4.5,SNR=4.8						
BVAR	**Borovoye Array**	**55.44**	**341**	P	P	07 43 33.1	-1.0
	1.1nm,0.7s,baz=125,slow=7.4,SNR=5.7						

*HLW **30** 07:56:11.2, 3123N×3524E, h12km, Mb3.4*
*ISCJB **30** 07:56:14.9±0.5, 3087N±003×3498E±005, h5km±6km, Error ellipse: s-maj=8.0km s-min=4.2km az=19.9*
*GII **30** 07:56:14.3±0.8, 3086N×3501E, h0km, ML2.4/4*

ISC 30 07:56:15.4±0.5, 3088N±003×3497E±005, h5km±6km, n19, σ0®93/23, 4C, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASH	**Mash'abbe Sade**	**0.20**	**307**	Pg	**Pg**	**07 56 19.9**	**+0.6**
SVTA	**Shivta**	**0.31**	**280**	Pg	**Pg**	**07 56 21.9**	**+0.5**
ZFRI	**Zfri**	**0.37**	**151**	Pg	**Pg**	**07 56 22.0**	**-0.5**
KZIT	**Kziot**	**0.49**	**274**	Pg	**Pg**	**07 56 25.5**	**+0.5**
PRNI	**Paran**	**0.52**	**177**	Pg	**Pg**	**07 56 25.2**	**-0.3**
MZDA	**Masada**	**0.55**	**38**	Pg	**Pg**	**07 56 25.7**	**-0.3**
MZDA				Sg	**Sg**	**07 56 33.9**	**+0.8**
DRGI	**Dragot**	**0.80**	**27**	Pg	**Pg**	**07 56 31.3**	**+0.5**
HRFI	**Mount Harif**	**0.84**	**176**	Pg	**Pg**	**07 56 30.6**	**-0.9**
HRFI				Sg	**Sg**	**07 56 44.1**	**+1.7**
MKRJ	**Makawir**	**0.89**	**40**	Pg	**Pg**	**07 56 32.0**	**-0.4**
MBH	**Mount Berech**	**1.08**	**183**	Pg	**Pg**	**07 56 35.0**	**-1.2**
AQBJ	**Aqaba**	**1.15**	**177**	Pg	**Pg**	**07 56 36.1**	**-1.3**
EIL	**Elat**	**1.20**	**181**	Pg	**Pg**	**07 56 37.7**	**-0.8**
EIL				Sg	**Sg**	**07 56 56.1**	**+2.1**
HMDT	**Nahal Hemdat**	**1.45**	**19**	Pn	**Pn**	**07 56 42.5**	**+0.2**
AMAG	**Maghara**	**1.54**	**262**	⇑P	**Pn**	**07 56 42.1**	**-1.3**
HBST	**Basata**	**1.67**	**187**	P	**Pn**	**07 56 45.2**	**-0.1**
HBST				S	**Sn**	**07 57 09.4**	**+2.4**
SUZ		**2.12**	**241**	⇑P	**Pn**	**07 56 50.9**	**-0.5**
MMA0B	**Mount Meron ar**	**2.17**	**10**	Pn	**Pn**	**07 56 52.4**	**+0.3**
HDHB	**Dhahab**	**2.17**	**188**	⇑P	**Pn**	**07 56 51.4**	**-0.7**
HKAT	**Jabal Katrina**	**2.49**	**200**	⇑P	**Pn**	**07 56 56.6**	**0.0**

JMA 30 07:59:00.2±0.2, 2668N×12908E, h40km±4km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**0.74**	**282**	P	Pn	07 59 14.2	+0.1
JOW				S	Sn	07 59 24.0	-0.1
JIH	**Iheya**	**1.05**	**290**	P	Pn	07 59 19.2	+0.7
JIH				S	Sn	07 59 32.4	+0.4
JTK	**Tokunoshima**	**1.11**	**354**	P	Pn	07 59 19.8	+0.6
JTK				S	Sn	07 59 33.1	-0.2
JJT2	**Tamagusuku 2**	**1.31**	**246**	P	Pn	07 59 22.6	+0.6
JJT2				S	Sn	07 59 39.4	+1.1
NAH1	**Naha**	**1.33**	**249**	P	Pn	07 59 22.8	+0.5
NAH1				S	Sn	07 59 39.5	+0.7
JAGN	**Aguni-jima**	**1.65**	**267**	P	Pn	07 59 27.4	+0.8
JAGN				S	Sn	07 59 46.3	-0.3
JAM	**Amami Oshima**	**1.79**	**15**	P	Pn	07 59 29.4	+0.9
JAM				S	Sn	07 59 53.5	+0.5
JZK	**Kikaishima**	**1.81**	**26**	S	Sn	07 59 53.6	+2.9
JKE	**Kume jima 2**	**2.09**	**261**	P	Pn	07 59 32.1	-0.5
JKE				S	Sn	07 59 56.9	-0.5
JMZ	**Minamidaito 2**	**2.10**	**114**	P	Pn	07 59 33.3	+0.4
JMZ				S	Sn	07 59 56.2	-1.6

*SZGRF **30** 07:59:38.9, 772S×2930E, h33km, mb4.6, Lake Tanganyika region*
*ISCJB **30** 07:59:42.8±0.3, 634S±004×2968E±009, h10km, mb4.4/35, MS3.9/6, Error ellipse: s-maj=13.0km s-min=5.8km az=6.0*
*IDC **30** 07:59:43.6±0.6, 628S×2972E, h0km, mb4.1/17, mb1 4.3/19, mb1mx4.2/24, mbtmp4.2/19, ML4.7/2, MS3.9/6, Ms1 4.0/6, ms1mx3.5/23, Error ellipse: s-maj=22.1km s-min=11.8km az=89.0*
*NEIC **30** 07:59:44.9±0.3, 632S×2977E, h10km, mb4.6/23, Error ellipse: s-maj=9.1km s-min=5.4km az=92.0*
*MOS **30** 07:59:46.2±0.7, 637S×2972E, h36km, mb4.7/19, Error ellipse: s-maj=20.2km s-min=5.9km az=99.8*

ISC 30 07:59:44.8±0.3, 636S±004×2979E±008, h10km, n108, σ0®89/114, mb4.4/35, MS3.9/6, 3C-1D, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**8.99**	**190**	Pn	**Pn**	**08 01 56.1**	**+1.4**
	15nm,0.3s,baz=360,slow=12,SNR=59						
LSZ				Sn	**Sn**	**08 03 33.4**	**-2.6**
	14nm,0.3s,baz=0.1,slow=16,SNR=7.2						
LSZ				Lg		08 04 24.2	
	21nm,0.3s,baz=172,slow=13,SNR=8.0						
LSZ	**Lusaka**	**8.99**	**190**	P	**Pn**	**08 01 56.1**	**+1.4**
LSZ						08 03 33.4	
KMBO	**Kilima Mbogo**	**9.08**	**55**	Pn	**Pn**	**08 01 53.7**	**-2.2**
	baz=224,slow=17,SNR=3.5						
KMBO				Sn	**Sn**	**08 03 29.6**	**-8.5**
	9.2nm,0.3s,baz=308,slow=20,SNR=7.8						
KMBO				Lg		08 04 19.2	
	21nm,0.3s,baz=166,slow=24,SNR=12						
KMBO	**Kilima Mbogo**	**9.08**	**55**	Pn	**Pn**	**08 01 53.7**	**-2.2**
KMBO				Sn	**Sn**	**08 03 29.6**	**-8.5**
KMBO				Lg		08 04 19.2	
TSUM	**Tsumeb**	**17.43**	**222**	P	**Pn**	**08 03 45.8**	**-2.2**
	1.1nm,

DRGR		**53.29**	**354**⇑	*iP*	**P**	**08 09 04.9**	**+1.1**
BURAR	**Bucovina Array**	**53.90**	**356**⇓	*iP*	**P**	**08 09 10.4**	**+2.2**
FRF	**La Foret Royal**	**53.93**	**339**	*eP*	**P**	**08 09 08.3**	**-0.2**
	comp=Z,12nm,1.0s,mb4.5						
FRF	**La Foret Royal**	**53.93**	**339**	*eP*	**P**	**08 09 08.3**	**-0.2**
FRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
FRF	**La Foret Royal**	**53.93**	**339**	*eP*	**P**	**08 09 08.3**	**-0.2**
	comp=Z,6.1nm,1.0s,mb4.5						
PSZ	**Piszkesteto**	**54.75**	**352**	*eP*	**P**	**08 09 14.0**	**-0.4**
PSZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
PSZ	**Piszkesteto**	**54.75**	**352**	*eP*	**P**	**08 09 14.0**	**-0.4**
	comp=Z,3.5nm,0.7s,mb4.5						
MBDF	**Montbardon**	**54.91**	**340**	*eP*	**P**	**08 09 15.8**	**+0.2**
ORIF	**Oris-en-Rattie**	**55.38**	**340**	*eP*	**P**	**08 09 19.3**	**+0.3**
LASF	**Ste Croix**	**55.40**	**337**	*eP*	**P**	**08 09 18.9**	**-0.2**
	comp=Z,33nm,1.3s,mb4.9						
ESDC	**Sonseca Array**	**55.40**	**329**	P	**P**	**08 09 20.3**	**+1.1**
	comp=Z,0.1nm,0.3s,mb3.3,baz=141,slow=7.1,SNR=5.6						
MTLF	**Montolieu**	**55.42**	**336**	*eP*	**P**	**08 09 19.2**	**-0.1**
KOLS	**Kolonicke sedl**	**55.46**	**354**	*eP*	**P**	**08 09 20.3**	**+0.8**
VYHS	**Vyhne**	**55.47**	**351**	*eP*	**P**	**08 09 18.6**	**-1.0**
LPG	**La Plagne**	**55.59**	**341**	*eP*	**P**	**08 09 21.0**	**+0.5**
LPL	**La Plagne**	**55.62**	**341**	*eP*	**P**	**08 09 21.1**	**+0.4**
	comp=Z,8.5nm,0.8s,mb4.5						
LPL	**La Plagne**	**55.62**	**341**	*eP*	**P**	**08 09 21.1**	**+0.4**
LPL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
LPL	**La Plagne**	**55.62**	**341**	*eP*	**P**	**08 09 21.1**	**+0.4**
	comp=Z,4.3nm,0.8s,mb4.5						
VIVF	**Saint-Julien-l**	**55.76**	**339**	*eP*	**P**	**08 09 21.7**	**0.0**
ETSF	**Etsaut**	**56.25**	**333**	*eP*	**P**	**08 09 25.6**	**+0.4**
	comp=Z,4.0nm,0.7s,mb4.3						
ETSF	**Etsaut**	**56.25**	**333**	*eP*	**P**	**08 09 25.6**	**+0.4**
ETSF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
ETSF	**Etsaut**	**56.25**	**333**	*eP*	**P**	**08 09 25.6**	**+0.4**
	comp=Z,2.0nm,0.7s,mb4.3						
SJPF	**Ste Jean**	**56.72**	**333**	*eP*	**P**	**08 09 28.3**	**-0.2**
GEC2	**GERESS Array S**	**56.76**	**347**	*eP*	**P**	**08 09 29.5**	**+0.7**
GERES	**GERESS Array B**	**56.76**	**347**	P	**P**	**08 09 28.7**	**-0.2**
	comp=Z,1.7nm,0.6s,mb4.3,baz=158,slow=7.1,SNR=18						
GERES				LR	LR	08 35 51.9	
	comp=Z,56nm,18.7s,MS3.7,baz=72,slow=38						
CABF	**La Chapelle**	**56.80**	**341**	*eP*	**P**	**08 09 29.2**	**+0.1**
	comp=Z,5.6nm,0.6s,mb4.5						
CABF	**La Chapelle**	**56.80**	**341**	*eP*	**P**	**08 09 29.2**	**+0.1**
CABF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
CABF	**La Chapelle**	**56.80**	**341**	*eP*	**P**	**08 09 29.2**	**+0.1**
	comp=Z,2.8nm,0.6s,mb4.5						
CAF	**Calviac**	**56.80**	**337**	*eP*	**P**	**08 09 29.2**	**0.0**
AKASG	**Malin Array Be**	**56.84**	**360**	P	**P**	**08 09 28.5**	**-0.9**
	comp=Z,1.8nm,0.6s,mb4.3,baz=185,slow=6.6,SNR=13						
MORC	**Moravsky Berou**	**56.92**	**351**⇑	*iP*	**P**	**08 09 29.4**	**-0.6**
MORC	**Moravsky Berou**	**56.92**	**351**	*eP*	**P**	**08 09 29.4**	**-0.6**
MORC				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
MORC	**Moravsky Berou**	**56.92**	**351**	*eP*	**P**	**08 09 29.4**	**-0.6**
	comp=Z,6.6nm,1.2s,mb4.5						
KHC	**Kasperske Hory**	**57.05**	**347**	*eP*	**P**	**08 09 30.6**	**-0.3**
RJF	**Les Rejaudoux**	**57.33**	**337**	*eP*	**P**	**08 09 33.0**	**+0.1**
LFF	**La Frestale**	**57.34**	**336**	*eP*	**P**	**08 09 33.2**	**+0.2**
	comp=Z,9.0nm,0.6s,mb4.7						
LFF	**La Frestale**	**57.34**	**336**	*eP*	**P**	**08 09 33.2**	**+0.2**
LFF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
LFF	**La Frestale**	**57.34**	**336**	*eP*	**P**	**08 09 33.2**	**+0.2**
	comp=Z,4.5nm,0.6s,mb4.7						
SMF	**Signal de Mont**	**57.59**	**339**	*eP*	**P**	**08 09 34.8**	**0.0**
HINF	**Hinteralfeld**	**57.62**	**342**	*eP*	**P**	**08 09 35.1**	**+0.2**
	comp=Z,2.2nm,0.4s,mb4.2						
HINF	**Hinteralfeld**	**57.62**	**342**	*eP*	**P**	**08 09 35.1**	**+0.2**
HINF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
HINF	**Hinteralfeld**	**57.62**	**342**	*eP*	**P**	**08 09 35.1**	**+0.2**
	comp=Z,1.1nm,0.4s,mb4.2						
DPC	**Dobruska-Polom**	**57.68**	**350**	*eP*	**P**	**08 09 36.2**	**+0.9**
TCF	**Toulx Ste Croi**	**57.89**	**338**	*eP*	**P**	**08 09 37.0**	**+0.2**
	comp=Z,14nm,1.1s,mb4.6						
TCF	**Toulx Ste Croi**	**57.89**	**338**	*eP*	**P**	**08 09 37.0**	**+0.2**
TCF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
TCF	**Toulx Ste Croi**	**57.89**	**338**	*eP*	**P**	**08 09 37.0**	**+0.2**
	comp=Z,7.2nm,1.1s,mb4.6						
AVF	**Avril sur Loir**	**57.89**	**339**	*eP*	**P**	**08 09 36.7**	**-0.2**
CDF	**Champ du Feu**	**58.02**	**342**	*eP*	**P**	**08 09 38.1**	**+0.4**
	comp=Z,2.5nm,0.5s,mb4.2						
CDF	**Champ du Feu**	**58.02**	**342**	*eP*	**P**	**08 09 38.1**	**+0.4**
CDF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
CDF	**Champ du Feu**	**58.02**	**342**	*eP*	**P**	**08 09 38.1**	**+0.4**
	comp=Z,1.3nm,0.5s,mb4.2						
SSF	**Saint Saulge**	**58.07**	**339**	*eP*	**P**	**08 09 38.0**	**-0.1**
GRA1	**Grafenberg Arr**	**58.12**	**346**	*eP*	**P**	**08 09 39.4**	**+0.9**
	comp=Z,9.0nm,1.3s,mb4.6						
GRF	**Grafenberg Arr**	**58.12**	**346**	*eP*	**P**	**08 09 39.4**	**+0.9**
	comp=Z,9.0nm,1.3s,mb4.6						
GRF	**Grafenberg Arr**	**58.12**	**346**	*eP*	**P**	**08 09 39.4**	**+0.9**
GRF				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
GRF	**Grafenberg Arr**	**58.12**	**346**	*eP*	**P**	**08 09 39.4**	**+0.9**
GRF				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
LOR	**Lormes**	**58.12**	**339**	*eP*	**P**	**08 09 38.7**	**+0.2**
	comp=Z,4.9nm,0.7s,mb4.3						
LOR	**Lormes**	**58.12**	**339**	*eP*	**P**	**08 09 38.7**	**+0.2**
LOR				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
LOR	**Lormes**	**58.12**	**339**	*eP*	**P**	**08 09 38.7**	**+0.2**
	comp=Z,2.5nm,0.7s,mb4.3						
MOX	**Moxa**	**58.91**	**347**	*eP*	**P**	**08 09 44.9**	**+0.9**
	comp=Z,9.0nm,1.4s,mb4.6						
MOX	**Moxa**	**58.91**	**347**	*eP*	**P**	**08 09 44.9**	**+0.9**
MOX				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.6						
BAIF	**Baives**	**60.42**	**341**	*eP*	**P**	**08 09 54.4**	**0.0**
LDF	**La Druitiere**	**60.68**	**338**	*eP*	**P**	**08 09 56.1**	**-0.1**
GRR	**Gorron**	**60.80**	**337**	*eP*	**P**	**08 09 57.1**	**+0.2**
MAW	**Mawson**	**65.11**	**167**	P	**P**	**08 10 28.1**	**+2.4**
	comp=Z,1.9nm,0.8s,mb4.2,baz=304,slow=8.8,SNR=6.5						
ARU	**Arti**	**66.89**	**17**	*eP*	**P**	**08 10 35.7**	**-1.4**
ARU				*e*		08 10 41.4	
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
ARU	**Arti**	**66.89**	**17**	*eP*	**P**	**08 10 35.7**	**-1.4**
	comp=Z,8.4nm,1.0s,mb4.7						
ARU				*e*		08 10 41.4	
FINES	**FINESS Array B**	**67.67**	**358**	P	**P**	**08 10 41.4**	**-0.6**
	comp=Z,1.3nm,0.6s,mb4.2,baz=182,slow=4.8,SNR=9.0						
KAF	**Kangasniemi**	**68.33**	**358**	*ep*	**P**	**08 10 44.7**	**-1.5**
	comp=Z,3.0nm,0.5s,mb4.6,baz=175,slow=6.0						
KAF	**Kangasniemi**	**68.33**	**358**	*eP*	**P**	**08 10 44.7**	**-1.5**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
NAO01	**NORSAR Array S**	**68.63**	**350**	*eP*	**P**	**08 10 47.9**	**-0.2**
	comp=Z,3.4nm,0.7s,mb4.4						
NB2	**NORSAR Subarra**	**68.75**	**350**	P	**P**	**08 10 48.5**	**-0.3**
	comp=Z,6.5nm,1.0s,mb4.5,baz=162,slow=5.9						
NOA	**NORSAR Array B**	**68.75**	**350**	P	**P**	**08 10 48.6**	**-0.2**
	comp=Z,3.0nm,0.8s,mb4.2,baz=162,slow=5.7,SNR=11						
JOF	**Joensuu**	**69.09**	**1**	*ep*	**P**	**08 10 49.7**	**-1.2**
MKAR	**Makanchi Array**	**70.39**	**35**	P	**P**	**08 10 58.6**	**-0.3**
	comp=Z,1.3nm,0.6s,mb4.0,baz=237,slow=5.7,SNR=9.1						
ZAL	**Zalesovo**	**75.63**	**30**	P	**P**	**08 11 29.2**	**-0.8**
	comp=Z,1.3nm,0.3s,mb4.4,baz=198,slow=3.2,SNR=3.1						
ZAL	**Zalesovo**	**75.63**	**30**	P	**P**	**08 11 29.2**	**-0.8**
ARCES	**ARCESS Array B**	**75.79**	**358**	P	**P**	**08 11 30.2**	**-0.7**
	comp=Z,3.0nm,0.7s,mb4.3,baz=174,slow=4.9,SNR=11						
ARCES	**ARCESS Array B**	**75.79**	**358**	P	**P**	**08 11 30.2**	**-0.7**
KEV	**Kevo**	**75.97**	**359**	*ep*	**P**	**08 11 28.7**	**-3.2**
	comp=Z,6.4nm,0.8s,mb4.6						
KEV	**Kevo**	**75.97**	**359**	*eP*	**P**	**08 11 28.7**	**-3.2**
KEV				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
SONM	**Songino Array**	**85.77**	**41**	P	**P**	**08 12 25.3**	**+1.1**
	comp=Z,0.7nm,0.9s,mb3.9,baz=237,slow=5.8,SNR=5.1						
VNDA	**Vanda**	**92.14**	**171**	LR	LR	08 54 52.8	
	comp=Z,492nm,20.0s,MS5.0,baz=129,slow=36						
PLCA	**Paso Flores**	**93.67**	**229**	LR	LR	08 48 23.9	
	comp=Z,119nm,18.8s,MS4.4,baz=270,slow=31						

IDC 30 08:13:45.5±3.0, 943S×10855E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=123.0km s-min=21.3km az=50.0, South of Java

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.68**	**119**	P	Pn	08 18 06.0	+0.6
	0.3nm,0.3s,baz=286,slow=8.6,SNR=12						
FITZ				Sn	Sn	08 21 22.3	-13
	0.1nm,0.3s,baz=0.4,slow=15,SNR=3.0						
WRA	**Warramunga Arr**	**27.00**	**116**	P	P	08 19 28.6	-0.4
	0.6nm,0.4s,baz=289,slow=11,SNR=14						
ASAR	**Alice Springs**	**28.05**	**123**	P	P	08 19 39.4	+0.9
	1.0nm,0.8s,baz=296,slow=9.2,SNR=8.3						
SONM	**Songino Array**	**57.04**	**358**	P	P	08 23 34.2	+1.0
	1.0nm,0.6s,baz=185,slow=7.6,SNR=6.6						
MKAR	**Makanchi Array**	**60.68**	**340**	P	P	08 23 57.9	-0.7
	0.8nm,0.7s,baz=148,slow=7.3,SNR=7.1						

*ISK **30** 08:41:25.6, 4038N×2593E, h18km, MD2.8*
*CSEM **30** 08:41:25.8±0.1, 4035N×2599E, h20km, MD2.9, Error ellipse: s-maj=4.2km s-min=2.2km az=136.0*
*ISCJB **30** 08:41:26.2±0.6, 4039N±004×2591E±007, h19km±8km, Error ellipse: s-maj=9.8km s-min=6.0km az=66.9*
*THE **30** 08:41:26.8, 4042N×2583E, h15km, ML2.4*

ISC 30 08:41:26.1±0.6, 4039N±004×2592E±007, h17km±5km, n11, σ0s53/14, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GADA	**Gvkgeada**	**0.20**	**184**	PG	**Pg**	**08 41 31.0**	**+0.2**
GADA				SG	**Sg**	**08 41 33.9**	**-0.2**
ENEZ	**Enez**	**0.40**	**27**	PG	**Pg**	**08 41 33.9**	**-0.3**
ALN	**Alexandroupoli**	**0.52**	**11**	*e*Pg	**Pg**	**08 41 36.2**	**-0.3**
ALN				*e*Sg	**Sg**	**08 41 44.1**	**+0.6**
LOS	**Limnos**	**0.78**	**235**	*e*Pg	**Pg**	**08 41 40.9**	**-0.4**
LOS				*e*Sg	**Sg**	**08 41 52.0**	**+0.4**
CANB	**Canakkale**	**0.95**	**112**	*e*PG	**Pg**	**08 41 44.8**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.01**	**72**	*e*PG	**Pg**	**08 41 45.4**	**-0.2**
MFT	**Murefte**	**1.11**	**68**	*e*PN	**Pn**	**08 41 46.1**	**-0.7**
MRMT	**Marmara Adasi**	**1.30**	**80**	*e*PN	**Pn**	**08 41 49.1**	**-0.3**
OUR	**Ouranopolis**	**1.48**	**269**	*e*Pg	**Pn**	**08 41 51.1**	**-0.8**
EDRB	**Edirne**	**1.59**	**23**	*e*PN	**Pn**	**08 41 54.3**	**+0.9**
CHOS	**Chios island**	**2.00**	**177**	*e*Pn	**Pn**	**08 41 59.9**	**+0.9**

*NEIC **30** 08:48:13.2, 3832S×17767E, h54km, ML3.7(WEL), After WEL.*

WEL 30 08:48:13.0±0.2, 3831S×17766E, h57km±3km, ML3.7/5, Error ellipse: s-maj=1.3km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.44**	**276**	PN	Pn	08 48 23.7	-0.4
URZ				SN	Sn	08 48 31.9	-0.2
URZ	**Urewera**	**0.44**	**276**	P	Pn	08 48 23.7	-0.4
PUZ	**Puketiti**	**0.52**	**64**	PN	Pn	08 48 24.8	-0.2
PUZ				SN	Sn	08 48 34.0	+0.3
KNZ	**Kokohu**	**0.71**	**179**	PN	Pn	08 48 27.0	-0.3
KNZ				SN	Sn	08 48 36.5	-1.1
KNZ	**Kokohu**	**0.71**	**179**	P	Pn	08 48 27.0	-0.2
KNZ				S	Sn	08 48 36.5	-1.1
EDRZ	**Edgecumbe**	**0.76**	**285**	PN	Pn	08 48 27.7	-0.1
EDRZ				SN	Sn	08 48 38.5	0.0
EDRZ	**Edgecumbe**	**0.76**	**285**	P	Pn	08 48 27.7	-0.1
WIZ	**White Island**	**0.86**	**334**	PN	Pn	08 48 28.4	-0.8
WIZ	**White Island**	**0.86**	**334**	P	Pn	08 48 28.4	-0.7
MXZ	**Matakaoa Point**	**0.90**	**35**	PN	Pn	08 48 29.8	+0.2
MXZ				SN	Sn	08 48 42.4	+0.5
MXZ	**Matakaoa Point**	**0.90**	**35**	P	Pn	08 48 29.8	+0.2
TAZ	**Tarawera**	**0.91**	**274**	PN	Pn	08 48 30.0	+0.2
TAZ	**Tarawera**	**0.91**	**274**	P	Pn	08 48 30.0	+0.2
LIRZ	**Lichensteins R**	**1.05**	**286**	PN	Pn	08 48 31.2	-0.4
LIRZ				SN	Sn	08 48 45.2	-0.2
LIRZ	**Lichensteins R**	**1.05**	**286**	P	Pn	08 48 31.2	-0.4
PATZ	**Paeroa**	**1.11**	**266**	PN	Pn	08 48 32.8	+0.5
PATZ	**Paeroa**	**1.11**	**266**	P	Pn	08 48 32.8	+0.5
KARZ	**Kaharoa**	**1.15**	**284**	PN	Pn	08 48 32.5	-0.5
BKZ	**Black Stump Fm**	**1.25**	**226**	PN	Pn	08 48 34.3	0.0
BKZ	**Black Stump Fm**	**1.25**	**226**	*e*P	Pn	08 48 34.3	0.0
KRVZ	**Karewarewa**	**1.77**	**243**	PN	Pn	08 48 41.2	-0.1
OTVZ	**Oturere**	**1.78**	**241**	PN	Pn	08 48 41.5	+0.1
WTVZ	**West Tongariro**	**1.81**	**243**	PN	Pn	08 48 41.9	+0.1
WTVZ	**West Tongariro**	**1.81**	**243**	P	Pn	08 48 41.9	+0.1
PXZ	**Pawanui**	**1.83**	**200**	PN	Pn	08 48 40.4	-1.7
FWVZ	**Far West T-bar**	**1.90**	**239**	PN	Pn	08 48 43.1	+0.1
FWVZ	**Far West T-bar**	**1.90**	**239**	P	Pn	08 48 43.1	0.0
KUZ	**Kuaotunu**	**2.19**	**315**	PN	Pn	08 48 45.6	-1.5
KUZ	**Kuaotunu**	**2.19**	**315**	P	Pn	08 48 45.8	-1.2
TSZ	**Takapari Road**	**2.19**	**217**	PN	Pn	08 48 45.3	-1.8
TSZ	**Takapari Road**	**2.19**	**217**	P	Pn	08 48 45.3	-1.7
VRZ	**Vera Road**	**2.42**	**249**	PN	Pn	08 48 50.6	+0.6
WAZ	**Wanganui**	**2.54**	**234**	P	Pn	08 48 52.4	+0.7
BFZ	**Birch Farm**	**2.61**	**204**	PN	Pn	08 48 50.5	-2.2
BFZ	**Birch Farm**	**2.61**	**204**	*e*P	Pn	08 48 50.5	-2.2
MRZ	**Mangatainoka R**	**2.85**	**214**	PN	Pn	08 48 53.3	-2.7
MRZ	**Mangatainoka R**	**2.85**	**214**	P	Pn	08 48 53.2	-2.8
MTW	**Mount Morrison**	**3.30**	**210**	PN	Pn	08 48 58.5	-3.7
CAW	**Cannon Point**	**3.44**	**215**	PN	Pn	08 49 00.5	-3.6
CAW	**Cannon Point**	**3.44**	**215**	P	Pn	08 49 00.3	-3.8
TCW	**Tory Channel**	**3.90**	**221**	P	Pn	08 49 07.0	-3.4
NNZ	**Nelson**	**4.40**	**227**	*e*P	Pn	08 49 13.8	-3.4
BSWZ	**Blackbirch Sta**	**4.48**	**219**	P	Pn	08 49 14.1	-4.2
THZ	**Tophouse**	**5.03**	**225**	*e*P	Pn	08 49 21.9	-3.9
KHZ	**Kahutara**	**5.17**	**216**	*e*P	Pn	08 49 22.9	-4.9
MQZ	**McQueen's Vall**	**6.59**	**213**	*e*P	Pn	08 49 41.8	-5.5
LBZ	**Lake Benmore**	**8.28**	**220**	*e*P	Pn	08 50 05.4	-4.9
ODZ	**Otahua Downs**	**8.54**	**216**	*e*P	Pn	08 50 08.4	-5.5

*ISCJB **30** 09:20:14.3±0.8, 280S±0.1×1776W±0.2, h356km±10km, mb3.5/5, Error ellipse: s-maj=31.7km s-min=10.2km az=58.3*
*NEIC **30** 09:20:17.5±1.0, 2757S×178.14W, h333km±17km, mb4.1/3, Error ellipse: s-maj=50.6km s-min=18.5km az=143.0*
*IDC **30** 09:20:17.6±1.6, 2734S×178.40W, h312km±17km, mb3.3/3, mb1 3.7/4, mb1mx3.4/12, mbtmp4.3/4, Error ellipse: s-maj=36.7km s-min=23.7km az=166.0*

ISC 30 09:20:14.5±0.9, 281S±01×1773W±02, h357km±9km, n15, σ1s07/15, mb3.5/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.23**	**204**	P	**Pn**	**09 21 05.1**	**+3.2**
	160nm,0.3s,baz=94,slow=22,SNR=11						
RAO				S	**S**	**09 21 39.0**	**-1.0**
	221nm,0.3s,baz=233,slow=24,SNR=6.5						
URZ	**Urewera**	**11.12**	**203**	P	**Pn**	**09 22 46.7**	**+1.1**
	1.5nm,0.3s,baz=332,slow=19,SNR=17						
URZ				S	**S**	**09 24 48.7**	**-1.3**
	2.7nm,0.3s,baz=254,slow=21,SNR=7.1						
AFI	**Afiamalu**	**15.07**	**21**	P	**P**	**09 23 30.4**	**+0.9**
	8.4nm,0.3s,baz=120,slow=23,SNR=9.7						
AFI				S	**S**	**09 26 09.6**	**-1.5**
	2.2nm,0.3s,baz=152,slow=22,SNR=2.6						
AFI	**Afiamalu**	**15.07**	**21**	*e*P	**P**	**09 23 31.0**	**+1.5**
	30nm,0.5s						
AFI				S	**S**	**09 26 09.6**	**-1.5**
DZM	**Mont Dzumac**	**15.87**	**289**	P	**P**	**09 23 38.2**	**0.0**
	1.0nm,0.3s,baz=95,slow=14,SNR=14						
ASAR	**Alice Springs**	**43.85**	**264**	P	**P**	**09 27 47.0**	**+0.4**
	0.8nm,0.5s,mb3.1,baz=99,slow=7.1,SNR=30						
ASAR				PcP	PcP	09 29 31.2	+5.4
	0.3nm,0.5s,baz=116,slow=4.4,SNR=4.5						
WB2	**Warramunga Arr**	**44.63**	**270**	*e*P	**P**	**09 27 52.3**	**-0.4**
WRAB	**Tennant Creek**	**44.63**	**270**	*e*P	**P**	**09 27 52.4**	**-0.4**
	3.5nm,0.4s,mb3.8						
WRA	**Warramunga Arr**	**44.64**	**270**	P	**P**	**09 27 52.7**	**-0.2**
	1.7nm,0.4s,mb3.6,baz=108,slow=6.2,SNR=58						
FITZ	**Fitzroy Crossi**	**52.98**	**268**	P	**P**	**09 28 56.3**	**+0.8**
	1.5nm,0.9s,mb3.3,baz=166,slow=9.1,SNR=5.2						
QSPA	**South Pole Qui**	**61.97**	**180**	*e*P	**P**	**09 30 10.7**	**+13**
	1.5nm,0.5s,mb3.8						
FINES	**FINESS Array B**	**143.20**	**341**	PKhKP		09 39 07.7	
	0.4nm,0.5s,baz=54,slow=3.3,SNR=5.9						
NOA	**NORSAR Array B**	**146.59**	**352**	PKPbc	PKPbc	09 39 19.1	+4.6
	0.7nm,0.7s,baz=14,slow=4.3,SNR=3.5						
AKASG	**Malin Array Be**	**149.80**	**326**	PKPbc	PKPbc	09 39 27.3	+4.7
	1.0nm,0.4s,baz=44,slow=3.7,SNR=8.4						
TORD	**Torodi Ar. Bea**	**165.07**	**176**	PKPab	PKPab	09 40 46.6	+11
	0.5nm,0.7s,baz=194,slow=3.0,SNR=6.2						

IDC 30 09:49:39.1±2.6, 345S×10357E, h370km±47km, mb2.8/5, mb1 3.0/6, mb1mx2.8/19, mbtmp3.6/6, Error ellipse: s-maj=131.1km s-min=14.7km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.76**	**323**	P	Pn	09 51 30.1	-0.6
	0.7nm,0.3s,baz=161,slow=2.2,SNR=5.5						
FITZ	**Fitzroy Crossi**	**26.06**	**126**	P	P	09 54 40.0	-0.2
	0.6nm,0.4s,baz=194,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**34.19**	**121**	P	P	09 55 51.8	+0.7
	0.4nm,0.3s,baz=305,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**35.52**	**127**	P	P	09 56 02.3	-0.1
	0.3nm,0.5s,baz=294,slow=7.3,SNR=13						
SONM	**Songino Array**	**51.13**	**2**	P	P	09 58 06.5	+1.0
	0.5nm,0.6s,baz=185,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**53.45**	**342**	P	P	09 58 21.4	-0.9
	0.2nm,0.4s,baz=172,slow=9.0,SNR=4.1						

MAN 30 10:39:28.0, 1371N×12285E, h8km, mb1.7, ML3.5, MS0.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GQP	**Guinayangan**	**0.44**	**296**⇑	*e*P	Pg	10 39 37.0	+0.5
GQP				*i* S	Sg	10 39 44.0	+1.8
BOAC	**Boac**	**1.01**	**256**	*e*P	Pg	10 39 47.0	-0.5
PVCP	**Virac**	**1.27**	**95**	*e*P	Pn	10 39 51.1	-1.0
LQP	**Lukban**	**1.33**	**287**	*e*P	Pn	10 39 42.4	-11
POLP	**Polilio Island**	**1.34**	**319**	*e*P	Pn	10 39 52.1	-0.9

IDC 30 10:46:27.3±3.8, 883S×10819E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/16, mbtmp3.4/4, Error ellipse: s-maj=157.8km s-min=25.8km az=52.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.59**	**116**	P	P	10 52 16.5	+0.4
	0.4nm,0.9s,baz=289,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**28.68**	**124**	P	P	10 52 26.3	+0.4
	0.3nm,0.8s,baz=303,slow=8.6,SNR=2.6						
SONM	**Songino Array**	**56.43**	**359**	P	P	10 56 10.8	+0.1
	0.1nm,0.3s,baz=168,slow=8.8,SNR=2.5						
MKAR	**Makanchi Array**	**60.00**	**340**	P	P	10 56 35.6	0.0
	0.3nm,0.5s,baz=155,slow=8.6,SNR=4.4						

*STR **30** 10:48:01.4±0.2, 4266N×072W, h2km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **30** 10:48:02.1±0.5, 4349N×063W, h2km, Md2.2/3, Error ellipse: s-maj=8.0km s-min=3.8km az=177.0*

MDD 30 10:48:02.4±0.9, 4351N×060W, h0km, mbLg1.0/7, Error ellipse: s-maj=6.6km s-min=3.1km az=11.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.42**	**190**	Pg	Pg	10 48 09.6	-0.9
ATE				Sg	Sg	10 48 15.7	-0.3
ATE	**Arette**	**0.42**	**190**	P	Pg	10 48 09.8	-0.7
ATE				S	Sg	10 48 15.9	-0.1
REYF	**Montagne du Re**	**0.46**	**161**	Pg	Pg	10 48 10.6	-0.6
REYF				Sg	S

MLNI				*e*Sg		**Sg**	**10 51 33.2**	**+1.0**
CSO	**Casso**	**0.55**	**241**	⇓*e*Pg		**Pg**	**10 51 26.1**	**-0.9**
CSO				*e*Sg		**Sg**	**10 51 34.2**	**-0.1**
CSO	**Casso**	**0.55**	**241**	*e*Pg		**Pg**	**10 51 26.1**	**-0.9**
CSO				*e*Sg		**Sg**	**10 51 34.2**	**-0.1**
DRE	**Drenchia**	**0.57**	**130**	⇓*i*Pg		**Pg**	**10 51 27.2**	**-0.3**
DRE				*i* Sg		**Sg**	**10 51 35.9**	**+0.9**
AFL	**Alpe Faloria**	**0.58**	**269**	⇑*e*Pg		**Pg**	**10 51 28.1**	**+0.5**
AFL				*e*Sg		**Sg**	**10 51 36.4**	**+1.3**
KBA	**Koelnbreinsper**	**0.58**	**23**	*e*Pg		**Pg**	**10 51 28.5**	**+0.9**
	SNR=14							
KBA				⇑*i*Sg		**Sg**	**10 51 36.8**	**+1.6**
	comp=Z,40nm,0.2s							
SEST	**Monte Rota**	**0.59**	**291**	Pg		**Pg**	**10 51 27.8**	**+0.1**
	comp=Z,21µm,8.7s							
CADS	**Cadrg**	**0.59**	**122**	*e*Pg		**Pg**	**10 51 27.2**	**-0.7**
CADS				*e*Sg		**Sg**	**10 51 35.8**	**+0.2**
CADS								
	comp=Z,72nm,0.2s							
CADS	**Cadrg**	**0.59**	**122**	*e*Pg		**Pg**	**10 51 27.2**	**-0.6**
CADS				*e*Sg		**Sg**	**10 51 35.8**	**+0.2**
	comp=Z,72nm,0.2s							
GORS	**Gorjuse**	**0.71**	**108**	*i* Pg		**Pg**	**10 51 29.6**	**-0.6**
GORS				*e*Sg		**Sg**	**10 51 40.2**	**+0.7**
GORS								
	comp=Z,45nm,0.2s							
GORS	**Gorjuse**	**0.71**	**108**	*i* Pg		**Pg**	**10 51 29.6**	**-0.6**
GORS				*e*Sg		**Sg**	**10 51 40.2**	**+0.7**
	comp=Z,45nm,0.2s							
FAU	**Forcella Aurin**	**0.78**	**247**	⇓*i*Pg		**Pg**	**10 51 31.8**	**+0.3**
FAU				*i* Sg		**Sg**	**10 51 42.5**	**+0.9**
VOJS	**Vojsko**	**0.79**	**130**	*i* Pg		**Pg**	**10 51 30.5**	**-1.1**
VOJS				*e*Sg		**Sg**	**10 51 43.3**	**+1.3**
VOY	**Vojsko**	**0.80**	**130**	*e*Pg		**Pg**	**10 51 30.7**	**-1.0**
VOY				*e*			10 51 32.5	
VOY				*e*Sg		**Sg**	**10 51 43.0**	**+0.9**
JAVS	**Javornik**	**0.98**	**131**	*i* Pg		**Pg**	**10 51 34.0**	**-1.2**
JAVS				*e*Sg		**Sg**	**10 51 49.7**	**+1.8**
OBKA	**Obir**	**1.06**	**91**	⇓*e*Pg		**Pg**	**10 51 36.6**	**-0.1**
	SNR=15							
OBKA				⇓*i*Sg		**Sg**	**10 51 52.2**	**+1.7**
	comp=Z,49nm,0.4s							
CTI	**Castel Tesino**	**1.07**	**243**	Pg		**Pg**	**10 51 36.9**	**0.0**
CTI				Sg		**Sg**	**10 51 52.2**	**+1.4**
	comp=Z,114nm,0.3s							
WTTA	**Wattenberg**	**1.19**	**308**	⇓*i*Pg		**Pg**	**10 51 39.2**	**0.0**
WTTA				*i* Sg		**Sg**	**10 51 55.5**	**+0.9**
	comp=Z,16nm,0.3s							
APPI	**Appiano**	**1.24**	**268**	Pg		**Pg**	**10 51 40.1**	**0.0**
	comp=Z,39nm,0.3s							
WATA	**Walderalm**	**1.26**	**309**	⇑*i*Pg		**Pg**	**10 51 40.5**	**-0.1**
WATA				⇓*i*Sg		**Sg**	**10 51 57.9**	**+0.9**
	comp=Z,6.0nm,0.1s							
CEY	**Cerknica**	**1.27**	**129**	*e*Sg		**Sg**	**10 51 59.5**	**+2.3**
CEY	**Cerknica**	**1.27**	**129**	*e*Sg		**Sg**	**10 51 59.5**	**+2.3**
SQTA	**Sankt Quirin**	**1.41**	**299**	⇑*i*Pg		**Pg**	**10 51 42.9**	**-0.5**
SQTA				⇑*i*Sg		**Sg**	**10 52 02.5**	**+0.8**
	comp=Z,5.2nm,0.2s							
PERS	**Pernice**	**1.45**	**86**	*i* Pg		**Pg**	**10 51 43.5**	**-0.7**
PDKS	**Podkum**	**1.46**	**109**	*e*Pg		**Pg**	**10 51 43.8**	**-0.5**
VISS	**Visnje**	**1.47**	**120**	*e*Sg		**Sg**	**10 52 04.1**	**+0.5**
MOTA	**Moosalm**	**1.54**	**302**	⇓*i*Pg		**Pg**	**10 51 45.4**	**-0.4**
MOTA				⇑*i*Sg		**Sg**	**10 52 06.1**	**+0.4**
	comp=Z,6.5nm,0.2s							
MOA	**Molln**	**1.56**	**33**	⇑*e*Pg		**Pg**	**10 51 46.9**	**+0.7**
	SNR=30							
MOA				⇑*i*Sg		**Sg**	**10 52 08.8**	**+2.3**
	comp=Z,20nm,0.4s							
MABI	**Malga Bissina**	**1.80**	**255**	Pg		**Pg**	**10 51 50.4**	**-0.5**
	comp=Z,7.0nm,0.3s							
BRMO	**Bormio**	**1.83**	**269**	Pg		**Pg**	**10 51 50.5**	**-0.8**
	comp=Z,18nm,0.4s							
MAGA	**Magasa**	**1.83**	**246**	Pg		**Pg**	**10 51 50.6**	**-0.8**
	comp=Z,191nm,0.5s							
ARSA	**Arzberg**	**1.86**	**67**	⇓*i*Pn		**Pn**	**10 51 48.0**	**-0.1**
ARSA				⇑*e*Pg		**Pg**	**10 51 51.6**	**-0.4**
	SNR=9.2							
ARSA	**Arzberg**	**1.86**	**67**	⇓*i*Sn		**Sn**	**10 52 12.6**	**+1.0**
ARSA				⇑*i*Sg		**Sg**	**10 52 18.1**	**+2.0**
	comp=Z,3.3nm,0.3s							
ARSA	**Arzberg**	**1.86**	**67**	⇓*i*Pn		**Pn**	**10 51 48.0**	**-0.1**
ARSA				⇑*e*Pg		**Pg**	**10 51 51.6**	**-0.4**
	SNR=9.2							
ARSA				⇓*i*Sn		**Sn**	**10 52 12.6**	**+1.0**
ARSA				⇑*i*Sg		**Sg**	**10 52 18.1**	**+2.0**
	comp=Z,3.3nm,0.3s							
DAVA	**Damuels**	**2.27**	**290**	⇑*i*Pn		**Pn**	**10 51 53.4**	**-0.4**
DAVA				⇓*i*Pg		**Pg**	**10 51 59.0**	**-0.9**
DAVA				⇓*i*Sg		**Sg**	**10 52 30.6**	**+1.2**
	comp=Z,5.2nm,0.2s							
DAVA	**Damuels**	**2.27**	**290**	Pg		**Pg**	**10 51 59.0**	**-0.9**
DAVA				Sg		**Sg**	**10 52 30.6**	**+1.2**
	comp=Z,5.2nm,0.2s							
CONA	**Conrad Observa**	**2.38**	**53**	⇑*i*Pn		**Pn**	**10 51 52.9**	**-2.4**
KHC	**Kasperske Hory**	**2.62**	**8**	*e*PN		**Pn**	**10 52 01.7**	**+3.2**
KHC				PG		**Pg**	**10 52 06.0**	**-0.5**
KHC				*e*SG		**Sg**	**10 52 40.3**	**-0.1**
	comp=Z,5.9nm,0.3s							
PRU	**Pruhonice**	**3.59**	**16**	*e*SG		**Sg**	**10 53 11.0**	**-0.8**
	comp=Z,13nm,0.9s							
NKC	**Novy Kostel**	**3.71**	**354**	*e*SG		**Sg**	**10 53 14.2**	**-1.3**
PVCC	**Panska Ves**	**4.12**	**14**	*e*SG		**Sg**	**10 53 27.7**	**-0.9**
MOX	**Moxa**	**4.21**	**348**	*e*PN		**Pn**	**10 52 17.8**	**-2.6**
MOX				*e*SN		**Sn**	**10 53 11.7**	**+2.2**
MOX				*e*SG		**Sg**	**10 53 31.5**	**+0.1**
BRG	**Berggiesshubel**	**4.38**	**8**	SG		**Sg**	**10 53 33.0**	**-3.9**
	comp=Z,1.3nm,0.5s							
DPC	**Dobruska-Polom**	**4.40**	**29**	*e*SG		**Sg**	**10 53 35.3**	**-2.3**
	comp=Z,4.6nm,0.5s							
UPC	**Upice**	**4.44**	**26**	*e*SG		**Sg**	**10 53 36.5**	**-2.3**
CLL	**Collm**	**4.77**	**360**	*e*Sg		**Sg**	**10 53 49.0**	**-0.4**
	comp=Z,6.0nm,0.7s							

*ISCJB **30** 11:05:40.3±1.7, 1735N±006×1456E±02, h56km±17km, mb4.0/13, MS3.4/3, Error ellipse: s-maj=28.5km s-min=10.4km az=176.0*

*IDC **30** 11:05:42.2±3.0, 1736N×14578E, h62km±27km, mb3.5/11, mb1 3.7/12, mb1mx3.6/20, mbtmp3.9/12, ML3.9/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/22, Error ellipse: s-maj=34.3km s-min=14.6km az=88.0*

*NEIC **30** 11:05:42.1±1.7, 1734N×14571E, h61km±17km, mb4.5/3, Error ellipse: s-maj=18.9km s-min=11.2km az=82.0*

ISC 30 11:05:42.3±1.5, 1732N±006×1457E±02, h61km±14km, n22, σ0§80/22, mb4.0/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.79**	**192**	P		**P**	**Pn**	**11 06 38.1**	**-0.2**
	40nm,0.3s,baz=24,slow=1.7,SNR=14								
GUMO				S			**Sn**	**11 07 21.1**	**-0.4**
	88nm,0.3s,baz=357,slow=20,SNR=10								
GUMO				LR		LR	LR	11 08 05.2	
	comp=Z,431nm,20.4s,baz=64,slow=37								
CBIJ	**Chichi jima**	**10.25**	**342**	P			**Pn**	**11 08 06.7**	**+0.1**
	2.1nm,0.3s,baz=278,slow=22,SNR=2.1								
JOW	**Kunigami**	**18.68**	**303**	P			**Pn**	**11 10 02.3**	**+5.9**
	0.7nm,0.3s,baz=120,slow=12,SNR=8.8								
JOW				LR		LR	LR	11 15 59.1	
	comp=Z,95nm,21.9s,baz=137,slow=33								
MJAR	**Matsushiro Arr**	**20.25**	**342**	P			**P**	**11 10 13.6**	**+1.0**
	2.0nm,0.6s,baz=167,slow=10.0,SNR=7.7								
ASAJ	**Asahikawa**	**26.84**	**355**	P			**P**	**11 11 17.1**	**+0.2**
	7.2nm,0.7s,mb4.3,baz=185,slow=13,SNR=8.0								
ASAJ				LR		LR	LR	11 20 41.8	
	comp=Z,57nm,19.0s,baz=355,slow=34								
WRA	**Warramunga Arr**	**38.67**	**197**	P			**P**	**11 13 00.4**	**+0.4**
	0.5nm,0.4s,mb3.6,baz=32,slow=9.0,SNR=16								
ASAR	**Alice Springs**	**42.33**	**196**	P			**P**	**11 13 31.3**	**+1.1**
	0.2nm,0.4s,mb3.1,baz=25,slow=7.5,SNR=6.5								
ASAR				LR		LR	LR	11 32 49.3	
	comp=Z,85nm,18.9s,baz=180,slow=38								
SONM	**Songino Array**	**44.21**	**322**	P			**P**	**11 13 45.2**	**-0.1**
	0.6nm,0.6s,mb3.5,baz=127,slow=7.8,SNR=4.9								
SONM				LR		LR	LR	11 34 19.2	
	comp=Z,59nm,18.4s,baz=240,slow=39								
MKAR	**Makanchi Array**	**59.40**	**314**	P			**P**	**11 15 38.9**	**+0.5**
	0.3nm,0.5s,mb3.6,baz=87,slow=8.4,SNR=4.7								
BVAR	**Borovoye Array**	**67.52**	**321**	P			**P**	**11 16 31.9**	**-0.1**
	0.7nm,0.4s,mb4.0,baz=91,slow=7.5,SNR=5.0								
DAWY	**Dawson**	**67.98**	**27**	*e*P			**P**	**11 16 34.3**	**-0.5**
YKA	**Yellowknife Ar**	**79.21**	**28**	P			**P**	**11 17 39.0**	**-1.7**
	1.4nm,0.7s,mb4.0,baz=283,slow=5.6,SNR=10								
YKA	**Yellowknife Ar**	**79.21**	**28**	P			**P**	**11 17 39.0**	**-1.7**

CMB	**Columbia Colle**	**82.54**	**53**	*e*P			**P**	**11 17 53.4**	**-5.1**
	2.5nm,0.4s,mb4.6								
CMB				*e*pP		pP	pP	11 18 11.2	-4.4
CMB				*e*sP		sP	sP	11 18 19.4	-2.8
ARCES	**ARCESS Array B**	**83.79**	**342**	P			**P**	**11 18 03.2**	**-1.8**
	1.0nm,0.8s,mb4.0,baz=65,slow=5.8,SNR=3.7								
ARCES	**ARCESS Array B**	**83.79**	**342**	P			**P**	**11 18 03.2**	**-1.8**
HRY	**Holter Researc**	**85.84**	**42**	*e*P			**P**	**11 18 15.8**	**+0.6**
RRI2	**Red Ridge**	**87.39**	**45**	*e*P			**P**	**11 18 23.6**	**+0.8**
	2.7nm,0.7s,mb4.6								
IMW	**Indian Meadow**	**87.44**	**45**	*e*P			**P**	**11 18 24.0**	**+0.9**
	2.0nm,0.6s,mb4.5								
FINES	**FINESS Array B**	**88.12**	**335**	P			**P**	**11 18 25.4**	**-0.8**
	0.5nm,0.5s,mb4.0,baz=35,slow=4.7,SNR=4.7								
PDAR	**Pinedale Array**	**88.80**	**45**	P			**P**	**11 18 29.3**	**-0.2**
	0.3nm,0.4s,mb4.0,baz=198,slow=1.3,SNR=5.2								
LPAZ	**La Paz**	**147.64**	**93**	PKPbc		PKPbc		11 25 21.9	+2.1
	1.1nm,0.6s,baz=285,slow=5.9,SNR=7.6								

MAN 30 11:25:31.2, 1390N×12282E, h7km, mb2.4, ML4.0, MS1.5, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.36**	**271**	⇑*e*P			Pg	11 25 38.7	+0.4
GQP				*i* S			Sg	11 25 45.6	+2.5
AUQP	**San Andres**	**0.59**	**194**	*e*P			Pg	11 25 43.1	+0.5
BOAC	**Boac**	**1.05**	**245**	*e*P			Pg	11 25 51.3	+0.1
POLP	**Polilio Island**	**1.19**	**314**	*e*P			Pg	11 25 53.5	-0.5
POLP				*e*S			Sg	11 26 10.7	+1.4
PVCP	**Virac**	**1.33**	**103**	⇑*e*P			Pn	11 25 52.1	-4.1
PVCP	**Virac**	**1.33**	**103**	*e*P			Pn	11 25 52.0	-4.1
PVCP				*e*S			Sb	11 26 09.4	-4.3
OTRP	**Odiongan**	**1.72**	**207**	*e*P			Pn	11 26 00.8	-0.7
BALP	**Baler**	**2.19**	**327**	*e*P			Pn	11 26 08.7	+0.7
CAUP	**Cauayan**	**3.17**	**342**	*e*P			Pn	11 26 21.4	-0.1
APYP	**Conner**	**4.22**	**339**	*e*P			Sn	11 27 26.4	+0.9

*IDC **30** 11:33:48.7±1.4, 3399N×7203E, h0km, mb3.6/4, mb1 3.6/7, mb1mx3.4/23, mbtmp3.5/7, ML3.3/3, MS3.2/2, Ms1 3.2/2, ms1mx2.5/35, Error ellipse: s-maj=55.5km s-min=22.6km az=55.0*

*ISCJB **30** 11:33:51.2±0.9, 340N±0.1×723E±0.2, h33km, mb3.4/4, MS3.5/1, Error ellipse: s-maj=25.8km s-min=7.5km az=96.3*

*NNC **30** 11:34:02.9±26.0, 3505N×7454E, h178km±200km, mb2.9, mpv3.8, Error ellipse: s-maj=210.6km s-min=188.6km az=2.0*

ISC 30 11:33:52.1±4.3, 3411N±01×7722E±02, h23km±33km, n17, σ1§05/17, mb3.4/4, MS3.5/1, 1C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**9.10**	**352**	P			**Pn**	**11 36 04.5**	**+2.5**
	1.4nm,0.3s,baz=164,slow=12,SNR=58								
KK31				⇑S			**Sn**	**11 37 41.4**	**-2.3**
	1.7nm,0.6s,baz=155,slow=22								
GKN	**Gorkha**	**12.27**	**116**	*e*P			**Pn**	**11 36 45.7**	**+0.5**
	7.5nm,0.3s								
DMN	**Daman**	**12.83**	**117**	*e*P			**Pn**	**11 36 51.8**	**-1.1**
	13nm,0.7s								
KKN	**Kakani**	**12.86**	**116**	*e*P			**Pn**	**11 36 52.8**	**-0.6**
	9.8nm,0.6s								
PKI	**Pulchoki**	**13.07**	**116**	*e*P			**Pn**	**11 36 55.4**	**-0.9**
	11nm,0.5s								
JIRN	**Jiri**	**13.61**	**114**	*e*Pg			**Pn**	**11 37 03.5**	**-0.1**
	6.1nm,0.3s								
MKAR	**Makanchi Array**	**14.82**	**28**	Pn			**Pn**	**11 37 21.5**	**+1.4**
	0.0nm,0.3s,baz=208,slow=5.9,SNR=2.1								
AB31	**Akbulak array**	**17.67**	**333**	P			**Pn**	**11 37 56.0**	**-0.6**
	0.7nm,0.5s,baz=153,slow=14,SNR=19								
BVAR	**Borovoye Array**	**18.98**	**357**	P			**Pn**	**11 38 12.6**	**+0.1**
	0.2nm,0.3s,baz=170,slow=8.8,SNR=3.4								
BVAR						LR	LR	11 47 17.2	
	comp=Z,39nm,22.0s,baz=320,slow=42								
AKTO	**Aktyubinsk**	**19.36**	**332**	⇓P			**Pn**	**11 38 17.1**	**-0.1**
AKTO	**Aktyubinsk**	**19.36**	**332**	P			**Pn**	**11 38 17.1**	**0.0**
	0.2nm,0.3s,baz=150,slow=8.6,SNR=8.0								
FINES	**FINESS Array B**	**40.04**	**327**	P			**P**	**11 41 24.8**	**-0.5**
	0.6nm,0.7s,mb3.4,baz=110,slow=16,SNR=3.4								
NB2	**NORSAR Subarra**	**46.90**	**324**	P			**P**	**11 42 20.1**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.7,baz=96,slow=7.4								
NOA	**NORSAR Array B**	**46.90**	**324**	P			**P**	**11 42 20.1**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.6,baz=96,slow=7.6,SNR=4.8								
JMIC	**Jan Mayen**	**55.19**	**337**	LR		LR	LR	12 08 18.3	
	comp=Z,45nm,20.0s,MS3.5,baz=70,slow=38								
WRA	**Warramunga Arr**	**79.88**	**122**	P			**P**	**11 46 00.2**	**+1.4**
	comp=Z,0.2nm,0.6s,mb3.2,baz=323,slow=5.1,SNR=6.3								
ASAR	**Alice Springs**	**82.07**	**125**	P			**P**	**11 46 11.2**	**+0.8**
	comp=Z,0.4nm,1.0s,mb3.3,baz=312,slow=5.2,SNR=5.2								

IDC 30 11:41:09.0±5.5, 862S×10860E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/25, Error ellipse: s-maj=201.4km s-min=30.4km az=57.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**25.48**	**163**	LR		LR	LR	11 55 10.4	
	comp=Z,132nm,20.3s,baz=173,slow=33								
WRA	**Warramunga Arr**	**27.32**	**117**	P			P	11 46 56.4	+1.0
	0.4nm,0.7s,baz=290,slow=10,SNR=5.1								
ASAR	**Alice Springs**	**28.47**	**125**	P			P	11 47 05.5	-0.2
	0.3nm,0.8s,baz=303,slow=8.5,SNR=5.1								
SONM	**Songino Array**	**56.24**	**358**	P			P	11 50 51.1	+0.1
	0.6nm,0.5s,baz=184,slow=8.6,SNR=5.8								

*ISCJB **30** 11:48:14.2±0.9, 4144N±002×7272E±002, h1km±6km, mb4.6/90, MS4.0/45, Error ellipse: s-maj=3.7km s-min=3.0km az=2.2*

*IDC **30** 11:48:15.6±0.5, 4146N×7277E, h0km, mb4.5/27, mb1 4.6/31, mb1mx4.6/34, mbtmp4.5/31, ML4.3/4, MS3.9/21, Ms1 3.9/21, ms1mx3.8/37, Error ellipse: s-maj=10.7km s-min=9.2km az=4.0*

*MOS **30** 11:48:16.1±1.1, 4154N×7270E, h12km, mb4.9/38, MS4.1/23, Error ellipse: s-maj=6.7km s-min=4.5km az=125.5*

MOS Felt (V) at Kara-Kul', (IV) at Toktogul.

*NEIC **30** 11:48:16.9±0.2, 4149N×7285E, h10km, mb4.8/45, MS4.1/7, Error ellipse: s-maj=5.5km s-min=4.0km az=28.0*

NEIC Felt [V] at Kara-Kul', [IV] at Toktogul and [III] at Tash-Kumyr. Felt [II] at Taraz, Kazakhstan.

*KNET **30** 11:48:17.6±1.1, 4171N×7282E, h1km±4km, ml4.7, Error ellipse: s-maj=6.1km s-min=5.6km az=126.0*

*BJI **30** 11:48:17.6, 4165N×7259E, h26km, mB4.9, mb4.6, ML4.6, Ms4.4, Msz4.1*

*NNC **30** 11:48:21.2±2.4, 4206N×7262E, h3km±16km, mb5.0, mpv4.9, Error ellipse: s-maj=16.6km s-min=9.6km az=2.0*

*SZGRF **30** 11:48:23.0, 4276N×7352E, h33km, mb4.6, MS4.2, Kyrgyzstan*

ISC 30 11:48:16.0±0.8, 4155N±002×7271E±002, h0km±5km, n305, σ1§22/340, mb4.7/91, MS4.0/45, 29C-24D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.94**	**51**	⇑P			**Pg**	**11 48 33.2**	**-0.8**
	1µm,0.2s,SNR=10								
AML				⇑S			**Sg**	**11 48 45.5**	**-0.6**
	3µm,0.2s								
EKS2	**Erkin-Say**	**1.37**	**35**	P			**Pn**	**11 48 40.7**	**-1.6**
	241nm,0.1s,SNR=406								
EKS2				⇑S			**Sb**	**11 48 58.4**	**-2.1**
	1µm,0.2s								
UCH	**Uchtor**	**1.51**	**63**	⇑P			**Pn**	**11 48 43.6**	**-0.6**
	526nm,0.1s,SNR=2750								
UCH				⇑S			**Sn**	**11 49 04.4**	**-0.1**
	4µm,0.3s								
AAK	**Ala-Archa**	**1.72**	**50**	*e*Pn			**Pn**	**11 48 46.1**	**-0.9**
AAK				*e*Sn			**Sn**	**11 49 11.0**	**+1.4**
FRU	**Bishkek**	**1.91**	**47**	*i* PN			**Pn**	**11 48 50.5**	**+0.7**
FRU					pmax	pmax		11 49 18.5	
	comp=Z,5µm,2.0s								
KZA	**Kyzart**	**1.97**	**73**	P			**Pn**	**11 48 52.2**	**+1.6**
	comp=Z,961nm,0.2s,SNR=2043								
KZA				⇓S			**Sn**	**11 49 18.7**	**+2.8**
	comp=Z,2µm,0.3s								
KBK	**Karagaybulak**	**2.00**	**56**	⇑P			**Pn**	**11 48 52.4**	**+1.4**
	comp=Z,918nm,0.2s,SNR=597								
KBK				⇓S			**Sn**	**11 49 21.1**	**+4.4**
	comp=Z,7µm,0.6s								
CHMS	**Chumysh**	**2.10**	**46**	P			**Pn**	**11 48 54.0**	**+1.7**
	comp=Z,1µm,0.3s,SNR=453								
CHMS				⇑S			**Sn**	**11 49 22.1**	**+3.0**
	comp=Z,4µm,0.5s								
USP	**Ospenovka**	**2.17**	**37**	⇑P			**Pn**	**11 48 55.1**	**+1.8**
	comp=Z,1µm,0.2s,SNR=641								
USP				⇑S			**Sn**	**11 49 23.0**	**+2.1**
	comp=Z,5µm,0.3s								
KK31	**Karatay Array**	**2.25**	**314**	⇓Pn			**Pn**	**11 48 56.0**	**+1.5**
	comp=Z,808nm,0.6s,baz=137,slow=11,SNR=8198								
KK31				⇓Sn			**Sn**	**11 49 26.9**	**+3.9**
	comp=Z,1µm,0.3s								
KK31	**Karatay Array**	**2.25**	**314**	*i* PN			**Pn**	**11 48 56.4**	**+1.9**
KK31					pmax	pmax			
	comp=Z,631nm,0.2s								
TKM2	**Tokmak 2**	**2.55**	**56**	⇓P			**Pn**	**11 49 01.1**	**+2.7**
	comp=Z,2µm,0.5s,SNR=1314								
TKM2	**Tokmak 2**	**2.55**	**56**	⇑Pn			**Pn**	**11 49 00.9**	**+2.4**
	comp=Z,88nm,0.5s								
TKM2				⇑Lg				11 49 37.0	
	comp=Z,199nm,0.5s								
TKM2	**Tokmak 2**	**2.55**	**56**	*i* PN			**Pn**	**11 49 02.0**	**+3.5**
TKM2				*i* S			**Sn**	**11 49 36.8**	**+6.7**
TKM2					pmax	pmax			
	comp=Z,1µm,0.4s								
TKM2					smax				
	comp=Z,4µm,0.7s								
ULHL	**Ulahol**	**2.73**	**74**	⇑P			**Pn**	**11 49 03.2**	**+2.3**
	comp=Z,284nm,0.2s,SNR=497								
KSH	**Kashi**	**3.21**	**128**	*e*P			**Pn**	**11 49 11.5**	**+3.9**
KSH				*e*S			**Sn**	**11 49 52.0**	**+5.5**
KSH					LR	LR			
	comp=Z,857nm,16.2s								
KNDC	**Almaty**	**3.57**	**61**	⇓Pn			**Pn**	**11 49 16.0**	**+3.4**
	comp=Z,442nm,0.4s								
KNDC				⇓Lg				11 50 08.4	
	comp=Z,3µm,0.9s								
CHCP	**Chirah Chowk**	**7.88**	**177**	P			**Pn**	**11 50 14.8**	**+3.0**
MKAR	**Makanchi Array**	**8.65**	**49**	Pn			**Pn**	**11 50 23.2**	**+0.8**
	comp=Z,3.8nm,0.3s,baz=234,slow=14,SNR=47								
MKAR				Lg				11 52 46.6	
	comp=Z,3.9nm,0.3s,baz=235,slow=28,SNR=4.4								
MKAR	**Makanchi Array**	**8.65**	**49**	Pn			**Pn**	**11 50 23.2**	**+0.8**
MKAR				Lg				11 52 46.6	
MK05	**Makanchi Array**	**8.65**	**49**	⇓Pn			**Pn**	**11 50 24.1**	**+1.7**
	comp=Z,44nm,0.9s								
MK05				⇓Lg				11 52 47.2	
	comp=Z,18nm,0.6s								
THW	**Thamme Wali**	**8.77**	**185**	P			**Pn**	**11 50 24.8**	**+0.8**
PONG	**Pong**	**9.92**	**164**	*ex*			x	11 52 32.0	
DRP	**Derazinda**	**9.99**	**192**	P			**Pn**	**11 50 42.7**	**+2.0**
KURK	**Kurchatov**	**10.04**	**22**	⇑Pn			**Pn**	**11 50 39.5**	**-1.9**
	comp=Z,19nm,1.0s								
KURK				⇑Sn			**Sn**	**11 52 29.9**	**-4.8**
	comp=Z,83nm,1.1s								
KURK				⇑Lg				11 53 26.3	
	comp=Z,494nm,1.6s								
KURK	**Kurchatov**	**10.04**	**22**	*e*P			**Pn**	**11 50 39.4**	**-2.0**
KURK					pmax	pmax			
	comp=Z,40nm,1.0s								
KURK	**Kurchatov**	**10.04**	**22**	*e*Pn			**Pn**	**11 50 39.4**	**-2.0**
	comp=Z,40nm,1.0s								
KURK				*e*Sn			**Sn**	**11 52 18.3**	**-16**
SDNR	**Sundarnagar**	**10.59**	**160**	*e*P			**Pn**	**11 50 47.4**	**-1.6**
SDNR				*ex*			x	11 52 42.0	
KLP	**Kalpa**	**10.94**	**154**	*e*P			**Pn**	**11 50 52.5**	**-1.2**
KLP					AMb	AMB	AMB	11 50 59.6	
	comp=Z,16nm,0.4s								
KLP				*ex*			x	11 52 54.5	
SMLA	**Simla**	**11.00**	**160**	*e*P			**Pn**	**11 50 52.4**	**-2.1**
SMLA					AMb	AMB

AKTO Lg 11 55 24.6
baz=327,slow=24,SNR=2.0
AKTO LR LR 11 57 04.4
comp=Z,843nm,19.9s,baz=344,slow=39
AKTO Aktyubinsk 13.52 316 P **Pn 11 51 27.9 -1.1**
AKTO 11 53 53.1
AYAN Aya Nagar 13.52 163 *e*P **Pn 11 51 24.9 -4.1**
AYAN AMb AMB 11 51 38.4
comp=Z,32nm,0.9s
AYAN *e*S Sn 11 53 42.3 -18
LGTI Lohaghat 13.53 151 *e*P **Pn 11 51 26.5 -2.6**
LGTI *e*x x 11 52 51.0
KHET Khetri 13.68 168 *e*P **Pn 11 51 27.3 -3.8**
KHET AMb AMB 11 51 29.6
comp=Z,9.5nm,0.6s
KHET *e*x x 11 52 52.2
ZAL Zalesovo 14.80 29 Pn **Pn 11 51 45.9 -0.5**
comp=Z,2.1nm,0.3s,baz=254,slow=12,SNR=15
ZAL Sn **Sn 11 54 23.6 -7.5**
comp=Z,0.8nm,0.3s,baz=213,slow=18,SNR=2.9
ZAL Lg 11 56 03.9
comp=Z,1.2nm,0.3s,baz=350,slow=22,SNR=3.1
ZAL Zalesovo 14.80 29 P **Pn 11 51 45.9 -0.5**
ZAL 11 54 23.6
AGRA Agra 14.91 162 *e*P **Pn 11 51 44.3 -3.7**
AGRA AMb AMB 11 51 55.8
comp=Z,85nm,1.0s
AGRA *e*x x 11 54 13.7
NVS Novosibirsk 15.02 24 *i* P **Pn 11 51 51.3 +1.9**
NVS *i* 11 54 29.7
AJM Ajmer 15.11 173 *e*P **Pn 11 51 49.0 -1.7**
KOLN Koldanda 16.38 144 *e*P **Pn 11 52 03.8 -3.4**
comp=Z,114nm,0.9s
GKN Gorkha 16.66 140 *e*P **Pn 11 52 07.5 -3.3**
comp=Z,178nm,0.9s
KKN Kakani 17.15 139 *e*P **Pn 11 52 14.3 -2.7**
comp=Z,120nm,0.8s
KKN Kakani 17.15 139 *e*P **Pn 11 52 14.3 -2.7**
KKN pmax pmax
comp=Z,120nm,0.8s
SVE Sverdlovsk 17.17 337 *e*P **Pn 11 52 12.0 -5.2**
SVE pmax pmax
comp=Z,40nm,1.2s
SVE MLR MLR
comp=N,900nm,7.0s
SVE MLR MLR
comp=E,400nm,7.0s
SVE MLR MLR
comp=Z,1μm,7.0s
DMN Daman 17.22 140 *e*P **Pn 11 52 14.8 -3.0**
GUN Gumba 17.35 137 *e*P **Pn 11 52 16.9 -2.6**
comp=Z,244nm,1.0s
PKI Pulchoki 17.40 139 *e*P **Pn 11 52 16.6 -3.5**
comp=Z,172nm,0.9s
PKI Pulchoki 17.40 139 *e*P **Pn 11 52 16.6 -3.5**
PKI pmax pmax
comp=Z,173nm,0.9s
ARU Arti 17.50 333 ⇑*i*P **Pn 11 52 19.2 -2.1**
ARU *e*S **Sn 11 55 31.7 -5.0**
ARU pmax pmax
comp=Z,36nm,0.8s
ARU MLR MLR
comp=Z,700nm,18.0s
ARU MLR MLR
comp=N,300nm,16.5s
ARU MLR MLR
comp=E,400nm,18.0s
ARU Arti 17.50 333 *e*Pn **Pn 11 52 21.8 +0.5**
comp=E,35nm,0.6s
ARU *e*Sn **Sn 11 55 41.1 +4.4**
JIRN Jiri 17.72 137 *e*P **Pn 11 52 21.5 -2.5**
comp=E,51nm,0.4s
BHPL Bhopal 18.68 166 *e*P **Pn 11 52 33.1 -2.7**
BHPL AMb AMB 11 52 37.2
comp=Z,29nm,0.5s
BHPL *e*x x 11 55 28.1
SOKR Solikamsk 20.59 337 *c i*P **P 11 52 58.8 +2.4**
SOKR S **S 11 56 49.1 +1.7**
SOKR pmax pmax
comp=Z,40nm,1.1s
SOKR MLR MLR
comp=Z,640nm,18.0s,MS4.0
GTA Gaotai 20.70 87 *e*P **P 11 52 58.8 +1.2**
GTA AP 11 53 04.0
GTA XP sP 11 53 06.8 +9.1
GTA PP 11 53 22.8
GTA PPP 11 53 33.5
GTA S **S 11 56 52.8 +3.2**
GTA XS sS 11 57 01.8 +12
GTA AMB AMB
comp=Z,13nm,1.0s
GTA AMB AMB
comp=Z,258nm,5.3s
GTA LR LR
comp=N,339nm,14.1s,MS4.0
GTA LR LR
comp=E,278nm,12.6s,MS4.0
GTA LR LR
comp=Z,292nm,9.9s
BOK Bokaro 20.84 144 *e*P **P 11 52 59.0 -0.2**
BOK AMb AMB 11 53 04.0
comp=Z,111nm,1.6s
NGP Nagpur 21.03 163 *e*P **P 11 52 59.7 -1.5**
NGP AMb AMB 11 53 04.0
comp=Z,53nm,1.1s,mb4.8
AKL Akola 21.10 169 *e*P **P 11 53 01.7 -0.2**
AKL AMb AMB 11 53 09.0
comp=Z,78nm,1.9s,mb4.7
GNI Garni 21.17 276 P **P 11 53 04.2 +1.4**
comp=Z,46nm,1.0s,mb4.8,baz=334,slow=11,SNR=10
GNI LR LR 12 02 43.5
comp=Z,171nm,20.4s,MS3.4,baz=73,slow=41
GNI Garni 21.17 276 *e*P **P 11 53 06.2 +3.4**
GNI pmax pmax
comp=Z,63nm,1.0s
GNI Garni 21.17 276 *e*P **P 11 53 06.2 +3.5**
comp=Z,63nm,1.0s,mb4.9
ZEI Tsey 21.36 283 *e*P **P 11 53 06.3 +1.6**
ZEI *e**PP 11 53 10.6
ZEI pmax pmax
comp=Z,15nm,0.6s,mb4.5
WSAR Wadi Sarin 21.73 217 P **P 11 53 09.2 +0.5**
comp=Z,15nm,0.7s,mb4.6,baz=24,slow=7.4,SNR=20
WSAR LR LR 12 03 24.1
comp=Z,235nm,19.0s,MS3.6,baz=202,slow=42
WSAR Wadi Sarin 21.73 217 P **P 11 53 09.2 +0.5**
WSAR LR LR 12 03 24.1
GOF Gofitskoye 21.82 289 *e*P **P 11 53 18.3 +8.5**
KIV Kislovodsk 22.12 286 *e*P **P 11 53 14.4 +1.4**
KIV *e* 11 53 34.5
KIV *e*S **S 11 57 16.1 -1.5**
KIV pmax pmax
comp=Z,28nm,1.0s,mb4.7
KIV MLR MLR
comp=Z,369nm,13.0s,MS4.0
KIV Kislovodsk 22.12 286 *e*P **P 11 53 15.2 +2.2**
comp=Z,45nm,0.9s,mb4.9
ZAK Zakamensk 22.88 57 *e*P **P 11 53 21.5 +0.5**
ZAK pmax pmax
comp=Z,7.0nm,1.4s,mb4.0
TLY Talaya 23.38 54 *e*P **P 11 53 28.7 +2.4**
TLY *e* 11 54 00.0
TLY pmax pmax
comp=Z,12nm,1.8s,mb4.1
TLY MLR MLR
comp=Z,134nm,13.0s,MS3.6
TLY Talaya 23.38 54 *e*P **P 11 53 27.2 +1.0**
comp=Z,6.7nm,1.0s,mb4.1
PECR Pechory 23.69 318 *e*P **P 11 53 32.0 +2.6**
PECR MLR MLR
comp=Z,900nm,11.0s,MS4.5
IRK Irkutsk 23.89 53 *e*P **P 11 53 32.4 +1.2**
IRK pmax pmax
comp=Z,26nm,0.9s,mb4.8
SONM Songino Array 24.62 64 P **P 11 53 37.7 -0.2**
comp=Z,3.0nm,0.8s,mb4.1,baz=277,slow=11,SNR=16
SONM LR LR 12 03 57.4
comp=Z,260nm,19.4s,MS3.7,baz=261,slow=38
LZH Lanzhou 24.78 92 *e*P **P 11 53 40.0 +0.6**
LZH AP 11 53 44.5
LZH XP sP 11 53 47.3 +7.8
LZH eS **S 11 57 57.8 -4.9**
LZH *e*SS 11 58 53.5
LZH AMB AMB
comp=Z,42nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,172nm,4.0s
LZH LR LR
comp=E,1μm,11.5s
LZH LR LR
comp=Z,2μm,12.0s,MS4.7
VRSR Storozhevoye 24.87 304 *e*P **P 11 53 40.2 0.0**
VRSR pmax pmax
comp=Z,20nm,1.0s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,40nm,1.0s
ULN Ulaanbaatar 25.07 64 *e*P **P 11 53 42.1 +0.1**
ANN Anapa 25.81 289 *e*P **P 11 53 49.5 +0.8**
ANN *e*S **S 11 58 20.3 +1.3**
ANN pmax pmax
comp=Z,57nm,1.3s,mb5.0
ANN MLR MLR
comp=Z,215nm,13.0s,MS3.9
MALT Malatya 26.39 274 *e*P **P 11 53 57.3 +3.4**
MALT pmax pmax
comp=Z,23nm,1.1s,mb4.7
MALT Malatya 26.39 274 *e*P **P 11 53 57.3 +3.4**
comp=Z,23nm,1.1s,mb4.7
CD2 Chengdu 27.07 103 P **P 11 53 58.5 -1.6**
CD2 S **S 11 58 33.0 -5.9**
CD2 SS 11 59 47.5
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,190nm,19.2s
CD2 LR LR
comp=Z,170nm,15.6s,MS3.7
OBN Obninsk 27.25 312 ⇑*e*P **P 11 54 01.6 -0.1**
OBN *e* 11 54 46.6
OBN *e*S **S 11 58 42.6 +0.9**
OBN pmax pmax
comp=Z,17nm,1.2s,mb4.7
OBN MLR MLR
comp=Z,400nm,17.0s,MS4.0
KLMR Klimovskoe 27.92 325 *e*P **P 11 54 09.8 +2.1**
KLMR pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
KLMR MLR MLR
comp=Z,650nm,18.0s,MS4.3
HHC Hu-ho-hao-te 29.08 78 *e*P **P 11 54 17.8 -0.3**
HHC AP 11 54 22.5
HHC PP PP 11 55 10.8 -13
HHC S **S 11 59 06.3 -4.3**
HHC SS SS 12 00 33.0 -40
HHC PCS PcS 12 01 09.5 +0.6
HHC SCS ScS 12 04 59.5 -3.3
HHC AMB AMB
comp=Z,13nm,0.5s,mb5.0
HHC AMB AMB
comp=Z,136nm,6.9s
HHC LR LR
comp=N,297nm,15.5s,MS4.1
HHC LR LR
comp=E,232nm,16.1s,MS4.1
HHC LR LR
comp=Z,282nm,17.8s,MS3.9
CIT Chita 29.50 55 *e*P **P 11 54 21.0 -0.8**
BR131 Keskin Array S 29.54 280 *e*P **P 11 54 23.9 +1.8**
BRTR Keskin Array B 29.54 280 P **P 11 54 23.4 +1.3**
comp=Z,5.8nm,0.8s,mb4.4,baz=96,slow=7.6,SNR=19
BRTR LR LR 12 08 01.4
comp=Z,84nm,18.3s,MS3.4,baz=260,slow=40
KMI Kunming 29.76 114 P **P 11 54 25.3 +1.2**
KMI PP PP 11 55 23.0 -8.1
KMI S **S 11 59 19.0 -2.3**
KMI AMB AMB
comp=Z,9.0nm,0.8s,mb4.7
KMI LR LR
comp=Z,124nm,19.5s,MS3.5
ASF Jabal al Asfar 29.96 263 LR LR 12 07 38.9
comp=Z,68nm,19.6s,MS3.3,baz=312,slow=39
BOD Bodaibo 30.69 44 *e*P **P 11 54 26.3 -6.0**
BOD pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
AKASG Malin Array Be 31.10 302 P **P 11 54 35.5 -0.5**
comp=Z,1.9nm,0.5s,mb4.2,baz=77,slow=8.5,SNR=12
AKBB Malin Array Si 31.10 302 *e*P **P 11 54 35.7 -0.3**
GYA Guiyang 31.68 108 P **P 11 54 42.0 +0.9**
GYA AP 11 54 46.8
GYA XP sP 11 54 49.5 +8.3
GYA PP PP 11 55 46.5 -5.9
GYA S **S 11 59 49.3 -2.1**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,80nm,4.0s
GYA LR LR
comp=N,340nm,16.7s,MS4.3
GYA LR LR
comp=E,390nm,16.8s,MS4.3
GYA LR LR
comp=Z,310nm,16.3s,MS4.1
JOF Joensuu 32.31 326 *ep* **P 11 54 47.3 +0.7**
comp=Z,8.0nm,0.8s,mb4.7
EIL Elat 32.66 261 *e*P **P 11 54 52.1 +2.5**
VRI Vrincioaia 33.16 293 ⇓*i*P **P 11 54 57.5 +3.5**
VSU Vasula 33.25 316 *e*P **P 11 54 55.1 +0.3**
APA Apatity 33.59 334 *e*P **P 11 54 48.0 -10**
APA MLR MLR
comp=Z,1μm,16.0s,MS4.7
MLR Muntele Rosu 33.77 293 P **P 11 55 01.4 +2.0**
comp=Z,4.8nm,0.8s,mb4.5,baz=62,slow=2.2,SNR=6.7
MLR LR LR 12 11 59.2
comp=Z,381nm,18.5s,MS4.2,baz=72,slow=42
MLR Muntele Rosu 33.77 293 ⇑*i*P **P 11 55 05.0 +5.7**
BURAR Bucovina Array 33.94 297 ⇑*i*P **P 11 55 02.9 +2.1**
FINES FINESS Array B 34.20 322 P **P 11 55 02.6 -0.4**
comp=Z,3.6nm,0.7s,mb4.4,baz=110,slow=9.2,SNR=31
FINES LR LR 12 09 30.0
comp=Z,291nm,18.5s,MS4.0,baz=167,slow=37
KAF Kangasniemi 34.26 323 *ep* **P 11 55 02.9 -0.7**
baz=104,slow=8.7
LVV L'vov 34.47 301 *e*P **P 11 54 59.1 -6.3**
KOLS Kolonicke sedl 35.71 299 *e*P **P 11 55 17.7 +1.6**
KOLS *e* 11 56 26.3
CRVS Cervenica-Dubn 36.25 299 *ep*P pP 11 55 25.5 +4.7
KEV Kevo 36.69 335 *ep* **P 11 55 24.7 +0.2**
comp=Z,2.4nm,0.5s,mb4.2
KEV Kevo 36.69 335 *e*P **P 11 55 24.7 +0.2**
KEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
BZS Buzias 36.73 294 ⇓*i*P **P 11 55 27.6 +2.8**
ARCES ARCESS Array B 37.08 335 P **P 11 55 27.7 -0.1**
comp=Z,3.9nm,0.6s,mb4.3,baz=109,slow=8.4,SNR=33
ARCES LR LR 12 11 23.7
comp=Z,412nm,18.5s,MS4.2,baz=112,slow=37
ARCES ARCESS Array B 37.08 335 P **P 11 55 27.7 -0.1**
ARCES LR LR 12 11 23.7
ARE0 ARCESS Array S 37.08 335 *e*P **P 11 55 27.9 +0.2**
OJC Ojcow 37.14 302 *e*P **P 11 55 28.4 +0.1**
NJ2 Nanjing 37.76 89 *e*P **P 11 55 35.0 +1.4**
NJ2 AP 11 55 40.0
NJ2 XP sP 11 55 42.5 +8.8
NJ2 PP PP 11 57 04.5 +4.9
NJ2 S **S 12 01 26.0 +0.9**
NJ2 XS sS 12 01 33.0 +7.8
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
NJ2 AMB AMB
comp=Z,210nm,4.0s
NJ2 LR LR
comp=N,1μm,14.4s,MS4.9
NJ2 LR LR
comp=E,1μm,14.2s,MS4.9
NJ2 LR LR
comp=Z,1μm,15.4s,MS4.8
VYHS Vyhne 38.03 299 *e*P **P 11 55 37.9 +2.1**
VYHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
VYHS Vyhne 38.03 299 *e*P **P 11 55 37.9 +2.1**
comp=Z,3.4nm,1.0s,mb4.0
VYHS *e*PP PP 11 56 57.6 -5.0
OKC Ostrava-Krasne 38.25 302 AMS AMS 12 12 30.0
comp=Z,200nm,13.2s
CN2 Changchun 38.30 68 *e*P **P 11 55 38.3 +0.2**
CN2 *e*XP sP 11 55 45.3 +7.1
CN2 *e*S **S 12 01 29.5 -3.7**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,14.0s,MS4.2
CN2 LR LR
comp=E,200nm,14.0s,MS4.2
CN2 LR LR
comp=Z,200nm,16.0s,MS4.0
MORC Moravsky Berou 38.65 302 ⇑*i*P **P 11 55 41.7 +0.6**
MORC Moravsky Berou 38.65 302 *e*P **P 11 55 41.5 +0.5**
QIZ Qiongzhong 38.71 114 P **P 11 55 42.0 +0.4**
QIZ S **S 12 01 39.5 0.0**
QIZ AMB AMB
comp=Z,26nm,2.0s,mb4.5
YAK Yakutsk 39.14 39 *e*P **P 11 55 45.4 +0.2**
YAK pmax pmax
comp=Z,15nm,1.0s,mb4.6
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,12nm,1.4s
YAK MLR MLR
comp=Z,85nm,10.0s,MS3.9
YAK MLR MLR
comp=N,72nm,11.0s,MS3.9
YAK MLR MLR
comp=E,74nm,11.0s,MS3.9
YAK Yakutsk 39.14 39 *e*P **P 11 55 44.2 -1.0**
comp=E,20nm,0.8s,mb4.8
DPC Dobruska-Polom 39.33 303 *e*P **P 11 55 47.0 +0.2**
DPC *e*PP PP 11 57 06.1 -11
DPC AMS AMS 12 13 00.0
comp=E,300nm,14.9s
VRAC Vranov 39.34 301 P **P 11 55 47.9 +1.1**
comp=E,3.7nm,0.7s,mb4.2,baz=77,slow=9.4,SNR=5.1
VRAC LR LR 12 13 48.7
comp=E,174nm,18.7s,MS3.9,baz=82,slow=39
UPC Upice 39.50 303 *e*P **P 11 55 49.0 +0.8**
SSE Sheshan 39.97 89 P **P 11 55 51.8 -0.3**
SSE AMB AMB
comp=Z,39nm,0.6s,mb5.2
SSE AMB AMB
comp=Z,55nm,4.7s
TREC Trest 40.05 301 AMS AMS 12 13 30.0
comp=Z,300nm,15.5s
HFS Hagfors 40.06 318 P **P 11 55 52.2 -0.6**
comp=Z,8.2nm,0.8s,mb4.4,baz=105,slow=9.9,SNR=31
HFS LR LR 12 13 04.3
comp=Z,348nm,20.8s,MS4.2,baz=96,slow=37
PVCC Panska Ves 40.40 303 *e*P **P 11 55 58.4 +2.7**
PVCC AMS AMS 12 13 40.0
comp=Z,300nm,13.0s
PRU Pruhonice 40.52 302 *e*P **P 11 55 57.4 +0.7**
PRU *e*PP PP 11 57 32.7 +2.9
PRU AMS AMS 12 13 50.0
comp=Z,300nm,13.7s
TIXI Tiksi 40.62 24 *e*P **P 11 55 57.0 -0.5**
BRG Berggiesshubel 40.73 304 *e*P **P 11 55 58.9 +0.5**
comp=Z,10.0nm,1.0s,mb4.5
BRG Berggiesshubel 40.73 304 *e*P **P 11 55 59.2 +0.8**
comp=Z,1.5nm,0.8s,mb3.8
BRG *i* 11 56 02.0
comp=Z,6.0nm,1.0s
BRG
comp=N,107nm,13.7s
BRG
comp=E,182nm,13.1s
BRG
comp=Z,290nm,14.5s
BRG Berggiesshubel 40.73 304 *e*P **P 11 55 59.3 +0.9**
BRG *i* 11 56 02.0
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
BRG MLR MLR
comp=Z,290nm,14.5s,MS4.3
BRG Berggiesshubel 40.73 304 *e*P **P 11 55 59.2 +0.8**
comp=Z,1.5nm,0.8s,mb3.8
BRG *i* 11 56 02.0
BRG LR LR
comp=Z,290nm,14.5s,MS4.3
MDJ Mudanjiang 40.94 66 P **P 11 55 59.0 -1.2**
MDJ PCP PcP 11 58 00.5 -0.1
MDJ S **S 12 02 08.5 -4.4**
MDJ SCS ScS 12 06 04.0 -2.5
MDJ AMB AMB
comp=Z,5.0nm,0.7s,mb4.3
MDJ AMB AMB
comp=Z,44nm,4.4s
MDJ LR LR
comp=N,183nm,17.0s,MS4.1
MDJ LR LR
comp=E,109nm,16.4s,MS4.1
MDJ LR LR
comp=Z,188nm,16.4s,MS4.0
FBE Freiberg 41.09 304 *e*P **P 11 56 01.6 +0.2**
comp=Z,31nm,1.4s,mb4.8
KLR Kul'dur 41.23 59 *e*P **P 11 56 05.2 +2.7**
CLL Collm 41.24 305 *e*P **P 11 56 02.7 +0.1**
comp=Z,18nm,1.2s,mb4.7
CLL Collm 41.24 305 ⇓P **P 11 56 03.0 +0.4**
comp=Z,logA/T=0.9,mb4.4
CLL *i* 11 56 04.7
CLL *i* *SP sP 11 56 06.0 +3.3
CLL *e*PP PP 11 57 39.0 +1.4
CLL *i* 11 57 57.7
CLL *e*PPP 11 58 04.0
CLL Collm 41.24 305 ⇓*i*P **P 11 56 03.0 +0.4**
comp=Z,4.0nm,0.5s,mb4.4
CLL *i* x x 11 56 04.7
CLL *i* (sP) sP 11 56 06.0 +3.3
comp=Z,19nm,1.2s
CLL *e*PP PP 11 57 39.0 +1.4
CLL *i* x x 11 57 57.7
CLL *e*PPP 11 58 04.0
CLL Collm 41.24 305 ⇓*i*P **P 11 56 03.0 +0.4**
CLL *i* 11 56 04.7
CLL *i* 11 56 06.0
CLL pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
CLL MLR MLR
comp=Z,500nm,17.4s,MS4.4
CLL Collm 41.24 305 ⇓*i*P **P 11 56 03.0 +0.4**
comp=Z,4.0nm,0.5s,mb4.4
CLL *i* 11 56 04.7
CLL *i* 11 56 06.0
CLL LR LR
comp=Z,500nm,17.4s,MS4.4
NB2 NORSAR Subarra 41.28 320 P **P 11 56 01.7 -1.2**
comp=Z,2.9nm,0.7s,mb4.1,baz=90,slow=8.6
NOA NORSAR Array B 41.28 320 P **P 11 56 02.1 -0.8**
comp=Z,9.4nm,1.0s,mb4.5,baz=90,slow=8.1,SNR=24
NOA LR LR 12 13 40.4
comp=Z,219nm,20.1s,MS4.0,baz=80,slow=37
GEC2 GERESS Array S 41.29 301 *e*P **P 11 56 03.7 +0.7**
comp=Z,15nm,1.1s,mb4.6
GEC2 GERESS Array S 41.29 301 *e*P **P 11 56 03.7 +0.7**
GEC2 pmax pmax
comp=Z,15nm,1.1s,mb4.6
GERES GERESS Array B 41.29 301 P **P 11 56 04.1 +1.0**
comp=Z,7.3nm,0.8s,mb4.4,baz=68,slow=7.2,SNR=26
GERES LR LR 12 14 59.1
comp=Z,180nm,20.1s,MS3.9,baz=255,slow=39
KHC Kasperske Hory 41.31 301 *e*P **P 11 56 03.9 +0.7**
KHC *e*PP PP 11 57 40.6 +2.2
KHC AMS AMS 12 14 10.0
comp=Z,200nm,13.0s
NAO01 NORSAR Array S 41.44 319 *e*P **P 11 56 03.9 -0.4**
TANN Tannenbergstha 41.75 303 *e*P **P 11 56 07.2 +0.4**
comp=Z,8.0nm,1.1s,mb4.4
WET Wettzell 41.76 302 *e*P **P 11 56 07.3 +0.5**
comp=Z,12nm,1.1s,mb4.5
WET Wettzell 41.76 302 *e*P **P 11 56 07.3 +0.5**
WET pmax pmax
comp=Z,12nm,1.1s,mb4.5
WERD Werda 41.84 304 *e*P **P 11 56 07.9 +0.4**
comp=Z,11nm,1.2s,mb4.5
MANZ Manzenberg 42.06 303 *e*P **P 11 56 10.2 +0.9**
comp=Z,6.0nm,1.1s,mb4.2
MOX Moxa 42.23 304 *e*P **P 11 56 11.2 +0.5**
comp=Z,12nm,1.2s,mb4.5
MOX Moxa 42.23 304 *e*P **P 11 56 11.9 +1.2**
comp=Z,12nm,1.2s,mb4.5
MOX

comp=Z,400nm,18.0s
MOX Moxa 42.23 304 eP **P** 11 56 11.9 +1.2
MOX pmax pmax
comp=Z,12nm,1.2s,mb4.5
MOX MLR MLR
comp=Z,400nm,18.0s,MS4.3
GRA1 Grafenberg Arr 42.68 303 eP **P** 11 56 15.2 +0.8
comp=Z,34nm,1.3s,mb4.9
GRA1 LR LR
comp=Z,300nm,19.4s,MS4.2
GRF Grafenberg Arr 42.68 303 eP **P** 11 56 15.2 +0.8
comp=Z,34nm,1.3s,mb4.9
GRF eL 12 15 36.4
comp=Z,329nm,19.4s
GRF Grafenberg Arr 42.68 303 eP **P** 11 56 15.2 +0.8
GRF pmax pmax
comp=Z,34nm,1.3s,mb4.9
GRF MLR MLR
comp=Z,300nm,19.4s,MS4.2
GRF Grafenberg Arr 42.68 303 eP **P** 11 56 15.2 +0.8
GRF pmax pmax
comp=Z,34nm,1.3s,mb4.9
GRF MLR MLR
comp=Z,300nm,19.4s,MS4.2
CLZ Clausthal 42.75 306 eP **P** 11 56 14.0 -0.9
comp=Z,12nm,1.2s,mb4.5
CLZ Clausthal 42.75 306 eP **P** 11 56 14.0 -0.9
CLZ pmax pmax
comp=Z,12nm,1.2s,mb4.5
KBS Kingsbay 44.02 346 eP **P** 11 56 25.9 +0.7
STU Stuttgart 44.20 302 eP **P** 11 56 27.1 +0.5
comp=Z,15nm,1.1s,mb4.6
BUG Bochum--Univer 44.72 306 eP **P** 11 56 30.9 +0.1
comp=Z,15nm,1.1s,mb4.8
PSI Prapat 45.19 142 P **P** 11 56 35.2 +0.7
comp=Z,5.6nm,0.8s,mb4.5,baz=306,slow=19,SNR=2.7
PSI LR LR 12 16 36.2
comp=Z,276nm,18.6s,MS4.2,baz=126,slow=38
CDF Champ du Feu 45.52 302 eP **P** 11 56 36.1 -1.1
comp=Z,20nm,1.1s,mb4.8
CDF Champ du Feu 45.52 302 eP **P** 11 56 36.1 -1.1
CDF pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
CDF Champ du Feu 45.52 302 eP **P** 11 56 36.1 -1.1
comp=Z,9.9nm,1.1s,mb4.8
HINF Hinteralfeld 45.97 301 eP **P** 11 56 40.7 0.0
HAU Haudompre 46.24 302 eP **P** 11 56 42.1 -0.7
HAU eR
comp=Z,216nm,22.0s
HAU Haudompre 46.24 302 eP **P** 11 56 42.1 -0.7
HAU LR LR
comp=Z,220nm,22.0s,MS4.1
GIVF Givet 46.57 305 eP **P** 11 56 44.5 -1.0
CABF La Chapelle 46.85 300 eP **P** 11 56 47.2 -0.4
comp=Z,9.5nm,1.0s,mb4.6
CABF La Chapelle 46.85 300 eP **P** 11 56 47.2 -0.4
CABF pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
CABF La Chapelle 46.85 300 eP **P** 11 56 47.2 -0.4
comp=Z,4.8nm,1.0s,mb4.6
SBF Sospel 46.90 296 eP **P** 11 56 46.8 -1.2
comp=Z,51nm,1.2s,mb5.2
SBF Sospel 46.90 296 eP **P** 11 56 46.8 -1.2
SBF pmax pmax
comp=Z,26nm,1.2s,mb5.2
SBF Sospel 46.90 296 eP **P** 11 56 46.8 -1.2
comp=Z,26nm,1.2s,mb5.2
MEZF Maizieres J'vi 46.91 303 eP **P** 11 56 47.1 -1.0
comp=Z,43nm,1.2s,mb5.1
MEZF Maizieres J'vi 46.91 303 eP **P** 11 56 47.1 -1.0
comp=Z,43nm,1.2s,mb5.5
BAIF Baives 46.97 305 eP **P** 11 56 48.0 -0.5
comp=Z,32nm,1.3s,mb5.0
BAIF Baives 46.97 305 eP **P** 11 56 48.0 -0.5
BAIF pmax pmax
comp=Z,16nm,1.3s,mb5.0
BAIF Baives 46.97 305 eP **P** 11 56 48.0 -0.5
comp=Z,16nm,1.3s,mb5.0
MBDF Montbardon 47.04 297 eP **P** 11 56 48.8 -0.3
comp=Z,18nm,0.9s,mb4.9
MBDF Montbardon 47.04 297 eP **P** 11 56 48.8 -0.3
MBDF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
MBDF Montbardon 47.04 297 eP **P** 11 56 48.8 -0.3
comp=Z,9.1nm,0.9s,mb4.9
JOW Kunigami 47.47 90 P **P** 11 56 52.5 -0.1
comp=Z,4.8nm,0.7s,mb4.7,baz=90,slow=4.0,SNR=3.7
JOW LR LR 12 18 25.9
comp=Z,57nm,18.3s,MS3.6,baz=148,slow=38
FRF La Foret Royal 47.54 296 eP **P** 11 56 51.9 -1.1
ORIF Oris-en-Rattie 47.56 298 eP **P** 11 56 52.8 -0.4
ORIF eR
comp=Z,254nm,19.2s
LMR La Mourre 47.72 296 eP **P** 11 56 53.2 -1.2
LOR Lormes 48.07 301 eP **P** 11 56 56.6 -0.5
LOR eR
comp=Z,200nm,20.2s
LOR Lormes 48.07 301 eP **P** 11 56 56.6 -0.5
LOR LR LR
comp=Z,200nm,20.3s,MS4.1
SMRF Simiane la Rot 48.11 297 eP **P** 11 56 56.7 -0.7
SMF Signal de Mont 48.29 301 eP **P** 11 56 58.4 -0.5
SSF Saint Saulge 48.37 301 eP **P** 11 56 59.0 -0.4
VIVF Saint-Julien-l 48.39 298 eP **P** 11 56 58.7 -0.9
AVF Avril sur Loir 48.56 301 eP **P** 11 57 00.2 -0.7
comp=Z,38nm,1.2s,mb5.0
AVF Avril sur Loir 48.56 301 eP **P** 11 57 00.2 -0.7
AVF pmax pmax
comp=Z,19nm,1.2s,mb5.0
AVF Avril sur Loir 48.56 301 eP **P** 11 57 00.2 -0.7
comp=Z,19nm,1.2s,mb5.0
KEST Kesra 48.86 285 P **P** 11 57 04.1 +0.9
comp=Z,2.6nm,1.0s,mb4.2,baz=273,slow=4.7,SNR=4.3
BGF Bois d'Agland 48.97 301 eP **P** 11 57 03.3 -0.7
LASF Ste Croix 49.22 297 eP **P** 11 57 05.0 -1.0
comp=Z,33nm,1.2s,mb4.9
TCF Toulx Ste Croi 49.48 301 eP **P** 11 57 07.0 -0.9
comp=Z,29nm,1.3s,mb4.8
TCF Toulx Ste Croi 49.48 301 eP **P** 11 57 07.0 -0.9
TCF pmax pmax
comp=Z,14nm,1.3s,mb4.8
TCF Toulx Ste Croi 49.48 301 eP **P** 11 57 07.0 -0.9
comp=Z,14nm,1.3s,mb4.8
MAJO Matsushiro 50.03 73 eP **P** 11 57 11.5 -0.7
MAT Matsushiro 50.03 73 P **P** 11 57 11.4 -0.8
MAT Matsushiro 50.03 73 eP **P** 11 57 11.0 -1.1
MAT pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MAT Matsushiro 50.03 73 eP **P** 11 57 11.0 -1.1
comp=Z,10nm,0.8s,mb4.8
MJAR Matsushiro Arr 50.03 73 P **P** 11 57 11.4 -0.8
comp=Z,19nm,1.0s,mb5.0,baz=293,slow=8.9,SNR=40
CAF Calviac 50.08 299 eP **P** 11 57 11.8 -0.7
comp=Z,20nm,1.3s,mb4.6
CAF Calviac 50.08 299 eP **P** 11 57 11.8 -0.7
CAF pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
CAF Calviac 50.08 299 eP **P** 11 57 11.8 -0.7
comp=Z,10nm,1.3s,mb4.6
LDF La Druitiere 50.12 304 eP **P** 11 57 12.1 -0.8
comp=Z,51nm,1.3s,mb5.0
LDF La Druitiere 50.12 304 eP **P** 11 57 12.1 -0.8
LDF pmax pmax
comp=Z,26nm,1.3s,mb5.0
LDF La Druitiere 50.12 304 eP **P** 11 57 12.1 -0.8
comp=Z,26nm,1.3s,mb5.0
FLN La Foliniere 50.28 305 eP **P** 11 57 13.6 -0.5
comp=Z,9.2nm,0.8s,mb4.4
FLN eR
comp=Z,243nm,22.0s
FLN La Foliniere 50.28 305 eP **P** 11 57 13.6 -0.5
FLN pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
FLN MLR MLR
comp=Z,240nm,22.0s,MS4.2
FLN La Foliniere 50.28 305 eP **P** 11 57 13.6 -0.5
comp=Z,4.6nm,0.8s,mb4.5
FLN LR LR
comp=Z,240nm,22.0s,MS4.2
RJF Les Rejaudoux 50.29 300 eP **P** 11 57 13.6 -0.6
RJF eR
comp=Z,114nm,22.0s
RJF Les Rejaudoux 50.29 300 eP **P** 11 57 13.6 -0.6
RJF LR LR
comp=Z,110nm,22.0s,MS3.8
DAG Danmarks Havn 50.30 343 *i* P **P** 11 57 14.0 -0.2
comp=Z,2.5nm,0.9s,mb4.1
DAG Danmarks Havn 50.30 343 eP **P** 11 57 14.0 -0.2
DAG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
DAG Danmarks Havn 50.30 343 eP **P** 11 57 14.0 -0.2
comp=Z,2.5nm,0.9s,mb4.1
MTLF Montolieu 50.60 297 eP **P** 11 57 15.7 -0.8
comp=Z,14nm,1.0s,mb4.5
MTLF Montolieu 50.60 297 eP **P** 11 57 15.7 -0.8
MTLF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MTLF Montolieu 50.60 297 eP **P** 11 57 15.7 -0.8
comp=Z,7.1nm,1.0s,mb4.5
GRR Gorron 50.65 304 eP **P** 11 57 16.3 -0.6
MFF Saint Martin d 50.87 302 eP **P** 11 57 18.1 -0.4
SGMF Saint Gilles 51.75 305 eP **P** 11 57 24.5 -0.6
ROSF Rostrenen 52.16 305 eP **P** 11 57 27.6 -0.6
QUIF Quistinic 52.26 304 eP **P** 11 57 27.9 -1.0
comp=Z,42nm,1.2s,mb4.9
QUIF Quistinic 52.26 304 eP **P** 11 57 27.9 -1.0
QUIF pmax pmax
comp=Z,21nm,1.2s,mb4.9
QUIF Quistinic 52.26 304 eP **P** 11 57 27.9 -1.0
comp=Z,21nm,1.2s,mb4.9
ETSF Etsaut 52.63 298 eP **P** 11 57 30.8 -0.9
KMBO Kilima Mbogo 53.24 226 ⇑*i*P **P** 11 57 39.0 +2.8
KMBO pmax pmax
comp=Z,18nm,0.3s
ESDC Sonseca Array 56.38 296 P **P** 11 57 58.5 -0.4
comp=Z,1.9nm,0.6s,mb4.3,baz=55,slow=7.0,SNR=14
ESDC LR LR 12 26 57.9
comp=Z,62nm,20.4s,MS3.7,baz=35,slow=41
ESLA Sonseca Array 56.38 296 eP **P** 11 58 00.8 +1.8
IMA2 Indian Mountai 66.92 19 eP **P** 11 59 09.3 -0.8
TORD Torodi Ar. Bea 67.22 268 P **P** 11 59 11.0 -1.0
comp=Z,2.9nm,0.7s,mb4.6,baz=45,slow=5.3,SNR=10
TORD Torodi Ar. Bea 67.22 268 P **P** 11 59 11.0 -1.0
INK Inuvik 68.72 10 eP **P** 11 59 21.1 -0.3
INK pmax pmax
comp=Z,11nm,1.0s
INK Inuvik 68.72 10 eP **P** 11 59 21.1 -0.3
comp=Z,11nm,1.0s,mb5.0
COLA College 69.27 17 eP **P** 11 59 24.0 -0.8
COLA pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
COLA College 69.27 17 eP **P** 11 59 24.0 -0.9
comp=Z,9.9nm,0.9s,mb5.0
SML Sawmill 71.78 19 eP **P** 11 59 36.4 -3.8
YKW3 Yellowknife Ar 76.08 3 eP **P** 12 00 04.4 -0.9
YKA Yellowknife Ar 76.14 3 P **P** 12 00 04.7 -1.0
comp=Z,3.9nm,0.8s,mb4.6,baz=350,slow=5.7,SNR=20
YKA LR LR 12 36 54.9
comp=Z,51nm,19.2s,MS3.9,baz=320,slow=38
DBIC Dimbokro 76.31 267 P **P** 12 00 07.9 +1.3
comp=Z,4.2nm,0.6s,mb4.7,baz=101,slow=4.4,SNR=5.3
FITZ Fitzroy Crossi 76.92 129 P **P** 12 00 09.2 -0.9
comp=Z,5.7nm,1.1s,mb4.6,baz=340,slow=8.4,SNR=9.8
SCHQ Schefferville 77.97 337 LR LR 12 34 18.6
comp=Z,83nm,18.9s,MS4.1,baz=307,slow=35
DLBC Dease Lake 78.59 12 eP **P** 12 00 18.9 -0.6
TSUM Tsumeb 79.07 232 eP **P** 12 00 22.5 +0.5
BOSA Boshof 82.44 221 P **P** 12 00 39.5 -0.6
comp=Z,5.1nm,1.1s,mb4.6,baz=59,slow=5.3,SNR=3.6
WRA Warramunga Arr 83.59 124 P **P** 12 00 45.2 -0.9
comp=Z,2.1nm,0.8s,mb4.5,baz=317,slow=5.1,SNR=22
WB2 Warramunga Arr 83.60 124 eP **P** 12 00 45.3 -0.8
FFC Flin Flon 84.00 357 eP **P** 12 00 46.9 -1.2
NWAO Narrogin (SRO) 84.68 144 P **P** 12 00 49.6 -2.0
comp=Z,8.3nm,1.0s,mb4.9,baz=329,slow=6.1,SNR=3.9
EDM Edmonton 85.47 4 eP **P** 12 00 55.3 -0.2
ASPA Alice Springs 86.10 126 ⇓*i*P **P** 12 00 57.7 -1.0
AS31 Alice Springs 86.11 126 ⇓*i*P **P** 12 00 57.7 -1.0
ASAR Alice Springs 86.11 126 P **P** 12 00 57.6 -1.1
comp=Z,5.5nm,0.9s,mb4.7,baz=321,slow=4.8,SNR=40
ULM Lac du Bonnet 88.04 353 LR LR 12 42 57.2
comp=Z,70nm,19.4s,MS4.1,baz=20,slow=37
FORT Forrest 88.23 135 eP **P** 12 01 08.5 -0.5
comp=Z,13nm,0.6s,mb5.5
EYMN Ely 89.80 349 eP **P** 12 01 16.4 -0.1
comp=Z,10.0nm,0.9s,mb5.0
NEW Newport 90.15 7 eP **P** 12 01 18.0 0.0
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 90.15 7 eP **P** 12 01 18.0 -0.1
comp=Z,7.9nm,1.0s,mb4.8
GNW Green Mountain 90.21 10 eP **P** 12 01 19.6 +1.3
BSMT Bassoo Peak 90.74 5 eP **P** 12 01 21.5 +0.7
EGMT Eagleton 90.79 2 eP **P** 12 01 21.5 +0.5
LON Longmire 91.14 10 eP **P** 12 01 23.2 +0.5
CHMT Chamberlain Mo 91.77 4 eP **P** 12 01 25.3 -0.3
DLMT Dillon 93.35 4 eP **P** 12 01 33.2 +0.4
comp=Z,4.0nm,1.0s,mb4.8
MCMT McKenzie Canyo 93.87 4 eP **P** 12 01 35.7 +0.5
JFWS Jewell Farm 94.53 348 eP **P** 12 01 37.6 -0.7
JFWS pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
JFWS Jewell Farm 94.53 348 eP **P** 12 01 37.6 -0.7
comp=Z,4.9nm,0.7s,mb5.0
RSSD Black Hills 94.67 358 eP **P** 12 01 39.3 +0.4
RSSD pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
RSSD Black Hills 94.67 358 eP **P** 12 01 39.3 +0.4
comp=Z,2.6nm,0.8s,mb4.7
IMW Indian Meadow 94.88 3 eP **P** 12 01 41.4 +1.6
comp=Z,2.9nm,0.9s,mb4.7
PDAR Pinedale Array 96.05 2 P **P** 12 01 45.0 -0.2
comp=Z,0.9nm,0.7s,mb4.4,baz=43,slow=3.6,SNR=9.6
PDAR LR LR 12 49 22.6
comp=Z,73nm,21.1s,MS4.1,baz=170,slow=38
HWUT Hardware Ranch 97.14 3 eP **P** 12 01 51.5 +1.3
comp=Z,5.0nm,0.8s,mb5.2
NVAR Mina Array Bea 99.77 9 P Pdif 12 02 03.3 +1.3
comp=Z,0.4nm,0.7s,baz=14,slow=4.5,SNR=4.2

*LDG **30** 11:56:54.8±0.2, 4298N×044W, h24km, Md1.9/2, Ml1.7/1, Error ellipse: s-maj=11.0km s-min=3.6km az=178.0*
*ISCJB **30** 11:56:55.5±1.2, 4309N±007×045W±004, h7km±9km, Error ellipse: s-maj=12.3km s-min=5.3km az=9.9*
*STR **30** 11:56:55.7±0.2, 4308N×047W, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **30** 11:56:56.6±0.6, 4307N×045W, h0km, mbLg0.5/1, Error ellipse: s-maj=5.2km s-min=2.8km az=5.0, PRXIMO SIN SOLUCIN*

ISC 30 11:56:55.4±1.0, 4311N±007×043W±004, h7km±10km, n11, σ0s69/13, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.05**	**144**	Pg		**Pg**		**11 56 57.2**	**+0.2**
REYF				Sg		**Sg**		**11 56 58.2**	**0.0**
ATE	**Arette**	**0.20**	**263**	Pg		**Pg**		**11 56 59.0**	**-0.4**
ATE				Sg		**Sg**		**11 57 01.6**	**-0.5**
ETSF	**Etsaut**	**0.23**	**204**	e**P**g		**Pg**		**11 56 59.7**	**-0.3**
ETSF				e**S**g		**Sg**		**11 57 02.6**	**-0.5**
	7.1nm,0.2s								
ETSF	**Etsaut**	**0.23**	**204**	Pg		**Pg**		**11 56 59.7**	**-0.3**
ETSF				Lg				11 57 02.6	
	3.5nm,0.2s								
EPF	**Esparros**	**0.57**	**98**	e**S**g		**Sg**		**11 57 15.0**	**+1.1**
	1.3nm,0.2s								
EPF	**Esparros**	**0.57**	**98**	Lg				11 57 15.0	
	0.6nm,0.2s								
SJPF	**Ste Jean**	**0.58**	**271**	e**P**g		**Pg**		**11 57 06.8**	**+0.2**
SJPF				e**S**g		**Sg**		**11 57 15.0**	**+0.8**
	1.6nm,0.2s								
SJPF	**Ste Jean**	**0.58**	**271**	Pg		**Pg**		**11 57 06.8**	**+0.2**
SJPF				Lg				11 57 15.0	
	0.8nm,0.2s								
EBIE	**Bielsa**	**0.60**	**135**	Pg		**Pg**		**11 57 07.6**	**+0.7**
	0.1nm,0.1s,SNR=7.9								
EBIE				Lg				11 57 15.1	
	0.7nm,0.1s,SNR=7.9								
MTLF	**Montolieu**	**1.95**	**82**	e**S**g		**Sg**		**11 57 56.6**	**-1.5**
	1.6nm,0.6s								
MTLF	**Montolieu**	**1.95**	**82**	Lg				11 57 56.6	
	0.8nm,0.6s								

*IDC **30** 11:58:15.7±1.3, 523S×15336E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/14, mbtmp3.8/6, MS2.9/2, Ms1 2.9/2, ms1mx2.7/23, Error ellipse: s-maj=34.2km s-min=26.3km az=90.0*
*ISCJB **30** 11:58:17.9±5.9, 545±02×1536E±01, h32km±45km, mb3.8/6, MS2.8/1, Error ellipse: s-maj=29.2km s-min=13.4km az=133.3*
*NEIC **30** 11:58:19.4±6.8, 528S×15358E, h30km±49km, mb4.4/2, Error ellipse: s-maj=29.2km s-min=15.1km az=178.0*

ISC 30 11:58:20.4±2.2, 545±02×15365E±009, h37km±20km, n17, σ0s58/15, mb3.8/6, MS2.8/1, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.41**	**123**	Pn		**Pn**		**12 00 05.6**	**-0.4**
	33nm,0.3s,baz=262,slow=6.8,SNR=6.9								
PMG	**Port Moresby**	**7.55**	**238**	Pn		**Pn**		**12 00 09.1**	**+1.1**
	1.3nm,0.3s,baz=41,slow=6.1,SNR=5.4								
PMG				Sn		**Sn**		**12 01 31.6**	**-0.7**
	4.3nm,0.3s,baz=352,slow=19,SNR=5.8								
CTA	**Charters Tower**	**16.25**	**206**	LR		LR		12 06 17.7	
	comp=Z,34nm,21.4s,baz=229,slow=30								
DZM	**Mont Dzumac**	**20.67**	**144**	P		**P**		**12 03 01.5**	**+4.5**
	5.7nm,0.5s,baz=307,slow=14,SNR=18								
GUMO	**Guam**	**20.80**	**335**	LR		LR		12 10 05.1	
	comp=Z,46nm,20.3s,MS2.8,baz=103,slow=35								
KAKA	**Kakadu**	**22.14**	**249**	e**P**		**P**		**12 03 11.9**	**-0.9**
	9.6nm,0.5s,mb4.5								
WB2	**Warramunga Arr**	**23.68**	**231**	e**P**		**P**		**12 03 29.5**	**+1.0**
WRA	**Warramunga Arr**	**23.69**	**231**	P		**P**		**12 03 28.2**	**-0.4**
	0.7nm,0.7s,mb3.2,baz=53,slow=9.7,SNR=7.8								
AS31	**Alice Springs**	**26.28**	**224**	e**P**		**P**		**12 03 52.4**	**+0.2**
ASAR	**Alice Springs**	**26.28**	**224**	P		**P**		**12 03 52.2**	**0.0**
	0.4nm,0.6s,mb3.1,baz=56,slow=9.3,SNR=6.2								
ASAR				Sc**P**		ScP		12 10 59.6	+5.0
	0.3nm,0.8s,baz=34,slow=3.5,SNR=4.5								
ASPA	**Alice Springs**	**26.28**	**224**	e**P**		**P**		**12 03 52.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**30.12**	**243**	e**P**		**P**		**12 04 26.4**	**0.0**
	4.6nm,1.0s,mb4.2								
FITZ	**Fitzroy Crossi**	**30.12**	**243**	P		**P**		**12 04 26.5**	**+0.1**
	0.9nm,0.5s,mb3.8,baz=67,slow=10,SNR=8.9								
SONM	**Songino Array**	**67.30**	**328**	P		**P**		**12 09 11.1**	**-0.1**
	0.9nm,0.5s,mb4.1,baz=143,slow=4.5,SNR=5.1								
MKAR	**Makanchi Array**	**81.35**	**319**	P		**P**		**12 10 33.0**	**0.0**
	0.5nm,0.4s,mb3.6,baz=101,slow=6.3,SNR=3.8								
MKAR	**Makanchi Array**	**81.35**	**319**	P		**P**		**12 10 33.0**	**0.0**
TORD	**Torodi Ar. Bea**	**151.30**	**287**	PKPbc		PKPbc		12 18 10.3	+0.4
	0.8nm,0.4s,baz=46,slow=1.9,SNR=14								

*NEIC **30** 12:09:11.7, 2257N×6443W, h4km, MD4.4(RSPR), After RSPR.*

RSPR 30 12:09:11.7, 2257N×6443W, h4km±14km, MD4.4/6, MD4.4/6, 16C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**4.15**	**182**	⇑e**P**		Pn		12 10 13.2	-2.6
TBVI				e**S**		Sn		12 11 02.1	-2.6
STVI	**Saint Thomas**	**4.23**	**187**	⇑e**P**		Pn		12 10 14.6	-2.4
STVI				e**S**		Sn		12 11 03.7	-3.1
CULB	**Culebra**	**4.33**	**191**	⇑e**P**		Pn		12 10 16.4	-1.9
CULB	**Culebra**	**4.33**	**191**	e**S**		Sn		12 11 07.5	-1.7
CBYP	**Canovanas**	**4.49**	**198**	⇑e**P**		Pn		12 10 18.2	-2.3
CBYP				e**S**		Sn		12 11 10.8	-2.4
MTP	**Monte Pirata**	**4.58**	**194**	⇑e**P**		Pn		12 10 19.8	-2.0
MTP				e**S**		Sn		12 11 12.8	-2.7
HUMP	**Col San Antoni**	**4.61**	**197**	⇑e**P**		Pn		12 10 19.7	-2.4
HUMP				e**S**		Sn		12 11 13.6	-2.5
CPD	**Cerro la Pandu**	**4.72**	**197**	⇑e**P**		Pn		12 10 21.8	-1.9
CPD				e**S**		Sn		12 11 16.8	-2.2
SJG	**San Juan**	**4.73**	**200**	e**P**n		Pn		12 10 21.9	-1.9
SJG				e**S**g		Sb		12 11 26.0	-6.3
AOPR	**Arecibo Observ**	**4.74**	**208**	⇑e**P**		Pn		12 10 22.5	-1.4
AOPR				e**S**		Sn		12 11 17.0	-2.4
CDVI	**St. Croix**	**4.81**	**184**	⇑e**P**		Pn		12 10 22.9	-2.0
CDVI				e**S**		Sn		12 11 18.9	-2.1
LRS	**Lares**	**4.83**	**208**	⇑e**P**		Pn		12 10 23.3	-1.8
LRS				e**S**		Sn		12 11 18.8	-2.7
CELP	**Cerrillos**	**4.91**	**205**	⇑e**P**		Pn		12 10 24.9	-1.4
CELP				e**S**		Sn		12 11 20.9	-2.8
OBIP	**Obispado Ponce**	**4.95**	**205**	⇑e**P**		Pn		12 10 25.2	-1.7
OBIP				e**S**		Sn		12 11 21.7	-2.9
LSP	**Las Mesas**	**5.04**	**210**	⇑e**P**		Pn		12 10 26.5	-1.6
ICM	**Isla Caja Muer**	**5.06**	**203**	⇑e**P**		Pn		12 10 26.2	-2.1
ICM				e**S**		Sn		12 11 24.4	-2.8
MGP	**Maguayo**	**5.19**	**209**	⇑e**P**		Pn		12 10 28.4	-1.7
CRPR	**Cabo Rojo, PR**	**5.20**	**209**	⇑e**P**		Pn		12 10 28.6	-1.6
CRPR				e**S**		Sn		12 11 28.5	-2.1

*ISCJB **30** 12:11:08.0±1.0, 194S±02×1777W±0.2, h500km, mb3.5/3, Error ellipse: s-maj=29.4km s-min=16.1km az=113.8*
*IDC **30** 12:11:10.2±1.9, 1941S×17734W, h546km±24km, mb3.0/3, mb1 3.3/5, mb1mx3.0/15, mbtmp4.2/5, Error ellipse: s-maj=28.5km s-min=20.2km az=134.0*
*NEIC **30** 12:11:10.2±0.9, 1940S×17733W, h552km±15km, mb3.6/1, Error ellipse: s-maj=24.9km s-min=14.2km az=138.0*

ISC 30 12:11:09.2±1.0, 195S±02×1776W±02, h500km, n13, σ0s20/10, mb3.5/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.90**	**46**	P		**P**		**12 13 04.5**	**0.0**
	5.4nm,0.3s,baz=52,slow=19,SNR=6.8								
URZ	**Urewera**	**19.23**	**193**	P		**P**		**12 15 00.6**	**-0.1**
	4.4nm,0.3s,baz=328,slow=2.7,SNR=25								
WB2	**Warramunga Arr**	**45.09**	**261**	e**P**		**P**		**12 18 39.7**	**-0.3**
WRAB	**Tennant Creek**	**45.09**	**261**	e**P**		**P**		**12 18 39.8**	**-0.2**
AS31	**Alice Springs**	**45.10**	**256**	e**P**		**P**		**12 18 40.3**	**+0.3**
ASAR	**Alice Springs**	**45.10**	**256**	P		**P**		**12 18 40.3**	**+0.3**
	0.9nm,0.4s,mb3.6,baz=86,slow=8.1,SNR=44								
ASAR				Pc**P**		PcP		12 20 08.1	-2.1
	0.4nm,0.6s,baz=102,slow=4.1,SNR=6.5								
WRA	**Warramunga Arr**	**45.10**	**261**	P		**P**		**12 18 39.8**	**-0.2**
	0.7nm,0.3s,mb3.5,baz=97,slow=7.6,SNR=32								
WRA				Pc**P**		PcP		12 20 08.1	-2.1
	0.3nm,0.4s,baz=94,slow=3.5,SNR=5.1								
ASPA	**Alice Springs**	**45.10**	**256**	e**P**		**P**		**12 18 40.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**53.52**	**262**	e**P**		**P**		**12 19 42.2**	**-0.1**
	1.9nm,0.6s,mb3.6								
FITZ	**Fitzroy Crossi**	**53.52**	**262**	P		**P**		**12 19 42.3**	**0.0**
	0.7nm,0.5s,mb3.3,baz=121,slow=5.9,SNR=18								
ARCES	**ARCESS Array B**	**128.03**	**350**	PKP		PKPdf		12 29 12.5	-5.4
	1.7nm,0.9s,baz=82,slow=1.9,SNR=5.7								
ARCES	**ARCESS Array B**	**128.03**	**350**	PKP		PKPdf		12 29 12.5	-5.4
GERES	**GERESS Array B**	**149.36**	**345**	PKPbc		PKPbc		12 29 57.4	-3.8
	0.6nm,0.6s,baz=74,slow=4.7,SNR=6.0								

IDC 30 12:14:52.8±2.2, 2114S×17394W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.8/13, mbtmp3.6/4, Error ellipse: s-maj=99.2km s-min=31.5km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**48.07**	**257**	P		P		12 23 34.3	+0.3
	0.6nm,0.8s,baz=107,slow=7.2,SNR=6.9								
WRA	**Warramunga Arr**	**48.27**	**262**	P		P		12 23 35.6	+0.1
	0.6nm,0.6s,baz=97,slow=8.8,SNR=12								
MJAR	**Matsushiro Arr**	**73.02**	**321**	P		P		12 26 24.4	0.0
	0.6nm,0.6s,baz=145,slow=6.2,SNR=4.3								
NVAR	**Mina Array Bea**	**78.94**	**41**	P		P		12 26 58.2	+0.1
	0.4nm,0.5s,baz=228,slow=9.7,SNR=4.1								
AKASG	**Malin Array Be**	**145.33**	**334**	PKP		PKPdf		12 34 31.5	-1.1
	1.6nm,0.6s,baz=41,slow=4.3,SNR=8.2								
BRTR	**Keskin Array B**	**150.04**	**314**	PKPbc		PKPbc		12 34 46.5	+1.3
	0.6nm,0.6s,baz=126,slow=2.0,SNR=5.3								

IDC 30 12:38:24.8±3.6, 911S×10849E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/17, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=175.7km s-min=25.9km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.89**	**120**	P		Pn		12 42 48.0	+0.7
	0.0nm,0.3s,baz=286,slow=17,SNR=2.1								
WRA	**Warramunga Arr**	**27.20**	**116**	P		P		12 44 09.0	-1.0
	0.2nm,0.6s,baz=286,slow=11,SNR=4.7								
ASAR	**Alice Springs**	**28.28**	**124**	P		P		12 44 20.9	+1.2
	0.3nm,0.6s,baz=300,slow=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.66**	**353**	⇑*e*P	Pg	13 00 17.5	+0.5
PALP	**Palanan**	**0.66**	**353**	*e*P	Pg	13 00 17.4	+0.5
CAUP	**Cauayan**	**0.85**	**309**	*e*P	Pg	13 00 18.8	-1.7
BALP	**Baler**	**1.12**	**234**	*e*P	Pb	13 00 23.4	-2.0
CVP	**Callao Caves**	**1.45**	**333**	⇑*i*P	Pn	13 00 29.9	-0.4
CVP				*i* S	Sn	13 00 49.0	-0.3
PCPH	**Palayan**	**1.60**	**239**	⇓*e*P	Pn	13 00 31.4	-0.9
PCPH				*e*S	Sn	13 00 52.7	-0.2
POLP	**Polillo Island**	**1.75**	**198**	*e*P	Pn	13 00 46.7	+12
BCPH	**Baguio City Da**	**1.85**	**270**	⇓*i*P	Pn	13 00 35.5	-0.4
BCPH				*i* S	Sn	13 00 60.0	+0.8
SGCP	**Mt. Cagua**	**1.88**	**346**	*e*P	Pn	13 00 35.9	-0.3
APYP	**Conner**	**1.89**	**320**	*e*P	Pn	13 00 34.8	-1.6
ABRA	**Dolores**	**2.12**	**306**	*e*P	Pn	13 00 38.2	-1.3
LQP	**Lukban**	**2.46**	**203**	*e*P	Pn	13 00 49.5	+5.3
GQP	**Guinayangan**	**2.48**	**181**	⇑*i*P	Pn	13 00 45.6	+1.1
GQP				*i* S	Sn	13 01 15.4	+0.6
BOLP	**Bolinao**	**2.50**	**270**	*e*P	Pn	13 00 46.1	+1.5
SCZP	**Santa Cruz**	**2.58**	**256**	*e*P	Pn	13 00 47.5	+1.7
BOAC	**Boac**	**3.00**	**193**	*e*P	Sn	13 01 29.0	+1.6
PVCP	**Virac**	**3.21**	**150**	⇑*i*P	Pn	13 00 54.7	+0.2
PVCP				*e*S	Sn	13 01 33.3	+0.6
PVCP	**Virac**	**3.21**	**150**	*e*P	Pn	13 00 54.6	+0.1
LUBP	**Lubang**	**3.44**	**220**	*e*P	Pn	13 00 59.2	+1.6
PAGZ	**Pagadian**	**8.55**	**174**	*e*P	Pn	13 02 07.6	-0.2

*BJI **30** 13:13:37.4, 4231N×7247E, h33km, ML3.5*
*ISCJB **30** 13:13:41.8±1.2, 4185N±004×7252E±005, h17km±9km, mb3.4/4, MS3.1/1, Error ellipse: s-maj=8.4km s-min=5.3km az=77.7*
*KNET **30** 13:13:41.7±0.8, 4167N×7289E, h3km±3km, ml3.6, Error ellipse: s-maj=6.8km s-min=4.6km az=104.0*
*IDC **30** 13:13:42.2±1.8, 4169N×7260E, h0km, mb3.5/4, mb1 3.8/8, mb1mx3.5/25, mbtmp3.7/8, ML3.6/4, MS3.3/1, Ms1 3.3/1, ms1mx2.4/36, Error ellipse: s-maj=25.0km s-min=14.7km az=10.0*
*NNC **30** 13:13:44.0±2.3, 4191N×7267E, h14km±14km, mb3.9, mpv3.9, Error ellipse: s-maj=21.1km s-min=8.4km az=6.0*
*NEIC **30** 13:13:44.3±1.8, 4187N×7269E, h10km, Error ellipse: s-maj=26.2km s-min=13.1km az=6.0*
*MOS **30** 13:13:45.9±1.8, 42.17N×7265E, h20km, mb3.7/1, Error ellipse: s-maj=18.3km s-min=9.6km az=87.2*

ISC 30 13:13:42.3±1.2, 4182N±004×7266E±005, h2km±6km, n37, σ1§24/52, mb3.4/4, MS3.1/1, 18C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.83**	**68**	P	**Pg**	**13 13 56.6**	**-1.7**
	234nm,0.2s,SNR=263						
AML				⇓S	**Sg**	**13 14 08.8**	**-0.2**
	517nm,0.3s						
EKS2	**Erkin-Say**	**1.18**	**44**	⇑P	**Pg**	**13 14 04.1**	**-0.8**
	78nm,0.2s,SNR=71						
EKS2				⇑S	**Sg**	**13 14 21.6**	**+1.3**
	198nm,0.2s						
UCH	**Uchtor**	**1.44**	**73**	⇑P	**Pn**	**13 14 07.1**	**-2.4**
	153nm,0.1s,SNR=531						
AAK	**Ala-Archa**	**1.58**	**59**	*e*PG	**Pg**	**13 14 09.5**	**-3.2**
KBK	**Karagaybulak**	**1.89**	**63**	⇓P	**Pn**	**13 14 16.5**	**+0.8**
	161nm,0.2s,SNR=91						
CHMS	**Chumysh**	**1.94**	**52**	⇑P	**Pn**	**13 14 17.4**	**+1.0**
	102nm,0.2s,SNR=118						
CHMS				⇓S	**Sn**	**13 14 45.4**	**+4.0**
	362nm,0.4s						
KZA	**Kyzart**	**1.95**	**82**	⇑P	**Pn**	**13 14 15.6**	**-0.9**
	192nm,0.2s,SNR=268						
KZA				⇑S	**Sn**	**13 14 41.5**	**0.0**
	470nm,0.4s						
USP	**Ospenovka**	**1.98**	**43**	P	**Pn**	**13 14 18.5**	**+1.6**
	148nm,0.2s,SNR=334						
USP				⇓S	**Sn**	**13 14 46.6**	**+4.3**
	307nm,0.2s						
KK31	**Karatay Array**	**2.04**	**310**	⇑Pn	**Pn**	**13 14 19.5**	**+1.8**
	26nm,0.2s,baz=226,slow=15,SNR=1280						
KK31				⇑Lg		13 14 49.9	
	65nm,0.3s,baz=250,slow=62,SNR=10						
TKM2	**Tokmak 2**	**2.44**	**62**	⇑P	**Pn**	**13 14 25.1**	**+1.9**
	464nm,0.5s,SNR=490						
TKM2	**Tokmak 2**	**2.44**	**62**	⇑Pn	**Pn**	**13 14 24.3**	**+1.1**
	21nm,0.5s						
TKM2				⇑Lg		13 14 59.6	
	17nm,0.5s						
ULHL	**Ulahol**	**2.70**	**80**	⇓P	**Pn**	**13 14 27.0**	**+0.2**
	80nm,0.3s,SNR=121						
KSH	**Kashi**	**3.41**	**131**	*e*P	**Pn**	**13 14 35.3**	**-1.3**
KSH				S	**Sn**	**13 15 16.8**	**-0.9**
KSH				Smax			
	comp=N,181nm,1.0s						
KSH				Smax			
	comp=E,185nm,1.0s						
KNDC	**Almaty**	**3.47**	**65**	⇑Pg	**Pg**	**13 14 45.1**	**-3.8**
	comp=E,88nm,0.7s						
KNDC				⇓Lg		13 15 31.1	
	comp=E,144nm,0.5s						
MKAR	**Makanchi Array**	**8.51**	**51**	Pn	**Pn**	**13 15 47.9**	**+1.3**
	comp=E,0.5nm,0.3s,baz=235,slow=14,SNR=8.1						
MKAR				Lg		13 17 58.2	
	comp=E,0.3nm,0.3s,baz=229,slow=26,SNR=3.5						
MK06	**Makanchi Array**	**8.51**	**51**	⇑Pn	**Pn**	**13 15 48.1**	**+1.5**
	comp=E,1.8nm,0.5s						
MK06				⇓Lg		13 18 12.9	
	comp=E,5.7nm,0.8s						
KURK	**Kurchatov**	**9.80**	**23**	⇓Lg		13 18 52.5	
	comp=E,20nm,1.5s						
KURK	**Kurchatov**	**9.80**	**23**	P	**Pn**	**13 16 01.3**	**-3.0**
VOSK	**Vostochnaya**	**10.96**	**355**	⇓Pn	**Pn**	**13 16 20.6**	**+0.3**
	comp=E,1.8nm,0.8s						
VOSK				⇓Sn	**Sn**	**13 18 22.8**	**-0.8**
	comp=E,6.1nm,0.8s						
BVA0	**Borovoye Array**	**11.31**	**353**	Pn	**Pn**	**13 16 25.6**	**+0.6**
	comp=E,0.2nm,0.5s,baz=151,slow=13,SNR=11						
BVA0				Sn	**Sn**	**13 18 32.4**	**+0.3**
	comp=E,0.5nm,0.7s,baz=160,slow=23,SNR=5.1						
BVAR	**Borovoye Array**	**11.31**	**353**	Pn	**Pn**	**13 16 24.9**	**-0.1**
	comp=E,1.0nm,0.3s,baz=155,slow=11,SNR=13						
BVAR				Sn	**Sn**	**13 18 31.2**	**-0.9**
	comp=E,0.8nm,0.3s,baz=161,slow=22,SNR=6.5						
BRVK	**Borovoye**	**11.36**	**353**	*e*P	**Pn**	**13 16 27.1**	**+1.5**
ZRNK	**Zerenda**	**11.40**	**349**	⇑Pn	**Pn**	**13 16 26.3**	**+0.1**
	comp=E,0.9nm,0.4s						
ZRNK				⇑Sn	**Sn**	**13 18 30.2**	**-4.1**
	comp=E,2.4nm,0.6s						
ZRNK	**Zerenda**	**11.40**	**349**	P	**Pn**	**13 16 27.6**	**+1.3**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZRNK	**Zerenda**	**11.40**	**349**	P	**Pn**	**13 16 27.6**	**+1.3**
	comp=Z,2.1nm,0.5s						
AB31	**Akbulak array**	**11.60**	**314**	⇑Pn	**Pn**	**13 16 28.5**	**-0.4**
	comp=Z,4.1nm,0.4s						
AB31				⇓Sn	**Sn**	**13 18 34.3**	**-4.8**
	comp=Z,0.9nm,0.4s						
CHKZ	**Chkalovo**	**11.94**	**354**	⇓Pn	**Pn**	**13 16 31.2**	**-2.4**
	comp=Z,0.8nm,0.2s						
CHKZ				⇑Sn	**Sn**	**13 18 45.7**	**-1.7**
	comp=Z,5.0nm,0.8s						
CHKZ	**Chkalovo**	**11.94**	**354**	*e*P	**Pn**	**13 16 32.0**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CHKZ	**Chkalovo**	**11.94**	**354**	*e*Pn	**Pn**	**13 16 31.9**	**-1.7**
	comp=Z,1.5nm,0.4s						
AKTK	**Aktyubinsk**	**13.30**	**315**	Pn	**Pn**	**13 16 51.7**	**-0.5**
AKTK				Sn	**Sn**	**13 19 15.5**	**-5.1**
AKTO	**Aktyubinsk**	**13.30**	**315**	⇑Pn	**Pn**	**13 16 51.5**	**-0.7**
	comp=Z,0.1nm,0.8s						
AKTO				Sn	**Sn**	**13 19 15.6**	**-5.0**
AKTO	**Aktyubinsk**	**13.30**	**315**	Pn	**Pn**	**13 16 51.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=125,slow=14,SNR=25						
AKTO				Sn	**Sn**	**13 19 15.5**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=143,slow=20,SNR=3.4						
ZAL	**Zalesovo**	**14.57**	**30**	Pn	**Pn**	**13 17 10.4**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=267,slow=9.6,SNR=4.5						
ZAL				Sn	**Sn**	**13 19 51.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=167,slow=8.8,SNR=4.6						
SONM	**Songino Array**	**24.54**	**64**	P	**P**	**13 19 04.6**	**+1.3**
	comp=Z,0.2nm,0.5s,mb2.9,baz=283,slow=13,SNR=2.8						
SONM				LR	LR	13 28 52.7	
	comp=Z,63nm,18.2s,MS3.1,baz=91,slow=37						
FINES	**FINESS Array B**	**33.96**	**321**	P	**P**	**13 20 26.6**	**-0.6**
	comp=Z,0.9nm,0.8s,mb3.7,baz=106,slow=10,SNR=4.4						
ARCES	**ARCESS Array B**	**36.81**	**335**	P	**P**	**13 20 52.1**	**+0.5**
	comp=Z,1.0nm,0.7s,mb3.8,baz=100,slow=10,SNR=5.0						
GERES	**GERESS Array B**	**41.12**	**301**	P	**P**	**13 21 29.0**	**+1.2**
	comp=Z,0.5nm,0.6s,mb3.3,baz=66,slow=7.5,SNR=4.9						

CASC 30 13:16:18.0±1.4, 1375N×9120W, h60km±37km, MD3.6, 2C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.70**	**323**	⇑*e*P	Pn	13 16 32.4	+0.1
TER	**Terranova**	**0.75**	**42**	*e*P	Pn	13 16 33.7	+0.9
FUG	**Fuego 3**	**0.78**	**27**	*e*P	Pn	13 16 33.8	+0.6
IXG	**Ixpaco**	**0.84**	**60**	⇓*e*P	Pn	13 16 34.0	0.0
IXG				*e*S	Sn	13 16 46.5	+0.8
TP2	**Tecpan 2**	**1.04**	**10**	⇓*e*P	Pn	13 16 37.1	+0.6
TP2				*e*S	Sn	13 16 52.4	+2.1
RBDL	**Robledal**	**1.52**	**76**	⇑*e*P	x	13 16 55.1	
RBDL				*e*S	x	13 17 15.7	
SBLS	**San Blas**	**1.54**	**86**	*e*P	x	13 16 54.8	
SBLS				*e*S	x	13 17 14.9	
SNJE	**San Jose**	**1.56**	**85**	*e*P	x	13 16 55.5	
SNJE				*e*S	x	13 17 15.2	

*ISCJB **30** 13:18:51.7±0.6, 2938N±007×5197E±008, h10km, mb3.8/8, Error ellipse: s-maj=13.4km s-min=4.8km az=98.2*
*CSEM **30** 13:18:51.7±0.2, 2947N×5192E, h10km, ML3.5, Error ellipse: s-maj=7.1km s-min=3.7km az=49.0*
*IDC **30** 13:18:51.6±1.5, 2939N×5202E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.6/24, mbtmp3.8/8, ML3.7/2, Error ellipse: s-maj=28.7km s-min=26.8km az=177.0*
*THR **30** 13:18:53.9±0.6, 2946N×5206E, h16km±11km, ML3.5*
*NEIC **30** 13:18:54.1, 2946N×5207E, h15km, mb4.2/2, ML3.5(THR), After THR.*

ISC 30 13:18:53.5±0.5, 2939N±007×5198E±009, h10km, n29, σ1§16/36, mb3.8/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.41**	**141**	*e*PG	**Pg**	**13 19 20.3**	**-0.3**
GHIR				*e*SG	**Sg**	**13 19 39.4**	**+0.6**
GHIR				AML	AML	13 19 48.3	
	comp=N,872nm,0.6s						
GHIR				AML	AML	13 19 48.7	
	comp=E,957nm,0.5s						
GHIR	**Ghir-Karzin**	**1.41**	**141**	*e*Pg	**Pg**	**13 19 20.0**	**-0.5**
GHIR				*e*Sg	**Sg**	**13 19 39.0**	**+0.2**
GHIR	**Ghir-Karzin**	**1.41**	**141**	*e*Pg	**Pg**	**13 19 20.3**	**-0.2**
	SNR=91						
GHIR				*e*Sg	**Sg**	**13 19 39.4**	**+0.6**
	SNR=91						
NASN	**Na'in**	**3.48**	**12**	*e*Pn	**Pn**	**13 19 48.4**	**+0.7**
NASN	**Na'in**	**3.48**	**12**	*e*Pn	**Pn**	**13 19 48.0**	**+0.3**
SHGR	**Shooshtar-Gavs**	**3.86**	**316**	*e*Pn	**Pn**	**13 19 54.6**	**+1.7**
SHGR				AML	AML	13 20 44.9	
	comp=N,80nm,0.7s						
SHGR				AML	AML	13 20 49.6	
	comp=E,84nm,0.6s						
SHGR	**Shooshtar-Gavs**	**3.86**	**316**	*e*Pn	**Pn**	**13 19 54.0**	**+1.1**
SHGR				*e*Sn	**Sn**	**13 20 39.0**	**+0.7**
SHGR	**Shooshtar-Gavs**	**3.86**	**316**	*e*Pn	**Pn**	**13 19 54.6**	**+1.7**
	SNR=52						
SHGR				*e*Sn	**Sn**	**13 20 39.0**	**+0.7**
BNDS	**Bandar-Abbas**	**4.19**	**117**	*e*Pn	**Pn**	**13 19 58.9**	**+1.4**
BNDS	**Bandar-Abbas**	**4.19**	**117**	*e*Pn	**Pn**	**13 19 59.0**	**+1.6**
KRBR	**Kerman**	**4.20**	**81**	*e*PN	**Pn**	**13 19 59.0**	**+1.4**
KRBR				AML	AML	13 20 55.9	
	comp=E,28nm,0.5s						
KRBR				AML	AML	13 20 59.0	
	comp=N,32nm,0.5s						
ASAO	**Ashtian**	**5.41**	**343**	*e*Pn	**Pn**	**13 20 15.7**	**+1.5**
ASAO	**Ashtian**	**5.41**	**343**	*e*Pn	**Pn**	**13 20 16.0**	**+1.7**
WSAR	**Wadi Sarin**	**8.54**	**134**	Pn	**Pn**	**13 20 56.1**	**-1.2**
	comp=N,1.3nm,0.3s,baz=321,slow=10,SNR=11						
WSAR				Sn	**Sn**	**13 22 27.0**	**-6.7**
	comp=N,1.1nm,0.3s,baz=253,slow=19,SNR=4.3						
WSAR	**Wadi Sarin**	**8.54**	**134**	Pn	**Pn**	**13 20 56.1**	**-1.1**
WSAR				Sn	**Sn**	**13 22 27.0**	**-6.7**
CSS	**Prodhromos**	**16.74**	**294**	*e*P	**Pn**	**13 22 43.1**	**-4.9**
	comp=N,22nm,0.6s						
BRTR	**Keskin Array B**	**18.26**	**309**	P	**Pn**	**13 23 08.4**	**+1.4**
	comp=N,0.2nm,0.3s,baz=136,slow=12,SNR=4.4						
AKTK	**Aktyubinsk**	**21.51**	**11**	P	**P**	**13 23 42.2**	**-0.4**
AKTK	**Aktyubinsk**	**21.51**	**11**	P	**P**	**13 23 42.2**	**-0.4**
AKTO	**Aktyubinsk**	**21.51**	**11**	P	**P**	**13 23 42.2**	**-0.4**
	comp=N,1.7nm,0.5s,mb3.8,baz=178,slow=9.9,SNR=6.2						
MKAR	**Makanchi Array**	**29.26**	**45**	P	**P**	**13 24 55.5**	**-0.3**
	comp=N,1.3nm,0.7s,mb3.8,baz=235,slow=8.5,SNR=6.7						
JOF	**Joensuu**	**36.12**	**344**	*e*p	**P**	**13 25 53.9**	**-1.8**
	comp=N,1.4nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**36.36**	**339**	P	**P**	**13 25 57.0**	**-0.7**
	comp=N,1.1nm,0.9s,mb3.8,baz=152,slow=8.6,SNR=6.9						
FINES	**FINESS Array B**	**36.36**	**339**	P	**P**	**13 25 57.0**	**-0.7**
KAF	**Kangasniemi**	**36.80**	**340**	*e*p	**P**	**13 25 59.0**	**-2.5**
	comp=N,1.0nm,0.4s,mb4.0						
NOA	**NORSAR Array B**	**41.57**	**331**	P	**P**	**13 26 39.7**	**-1.7**
	comp=N,0.3nm,0.4s,mb3.2,baz=105,slow=7.0,SNR=2.7						
ARCES	**ARCESS Array B**	**42.97**	**347**	P	**P**	**13 26 52.0**	**-0.8**
	comp=N,1.1nm,0.9s,mb3.6,baz=152,slow=8.2,SNR=6.6						
ARCES	**ARCESS Array B**	**42.97**	**347**	P	**P**	**13 26 52.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**49.19**	**262**	P	**P**	**13 27 42.0**	**+0.2**
	comp=N,1.1nm,0.4s,mb4.2,baz=58,slow=8.2,SNR=13						

*LDG **30** 13:23:23.0±0.1, 4425N×631E, h6km, Md2.3/4, Ml2.2/5, Error ellipse: s-maj=3.0km s-min=2.4km az=177.0*

STR 30 13:23:21.1±0.7, 4439N×624E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG25	**Le Caire**	**0.12**	**260**	Pg	Pg	13 23 21.8	-1.8
OG25				Sg	Sg	13 23 25.7	+0.5
MBDF	**Montbardon**	**0.51**	**48**	*e*Pg	Pg	13 23 34.8	+3.9
	SNR=1.0						
MBDF				*e*Sg	Sg	13 23 41.9	+4.4
	4.8nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.59**	**334**	*e*Pg	Pg	13 23 36.8	+4.4
	SNR=1.0						
ORIF				*e*Sg	Sg	13 23 47.6	+7.6
	7.9nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**0.63**	**229**	*e*Pg	Pg	13 23 33.8	+0.5
	SNR=1.0						
SMRF				*e*Sg	Sg	13 23 43.7	+2.2
	9.5nm,0.2s,SNR=1.0						
VILF	**Villemus**	**0.66**	**215**	Pg	Pg	13 23 35.0	+1.3
TAVF	**Tavernes**	**0.78**	**190**	Pg	Pg	13 23 34.8	-1.3
TAVF				Sg	Sg	13 23 45.0	-1.3
TOUF	**Mont Tournerai**	**0.82**	**117**	Pg	Pg	13 23 35.7	-1.1
MVIF	**Mont Vial**	**0.82**	**127**	Pg	Pg	13 23 36.2	-0.7
FRF	**La Foret Royal**	**0.88**	**160**	*e*Pg	Pg	13 23 35.8	-2.2
	SNR=1.0						
FRF				*e*Sg	Sg	13 23 46.0	-3.4
	16nm,0.2s,SNR=1.0						
FRF				*e*Sn	Sn	13 23 49.0	-4.3
	SNR=1.0						
AUTN	**L'Aution**	**0.94**	**114**	Pg	Pg	13 23 39.8	+0.6
AUTN				Sg	Sg	13 23 51.6	+0.2
PUYF	**Puyloubier**	**0.94**	**205**	Pg	Pg	13 23 39.1	-0.1
PRAF	**Pradon**	**0.97**	**233**	Pg	Pg	13 23 41.2	+1.5
TREF	**Trevaresse**	**0.98**	**219**	Pg	Pg	13 23 41.1	+1.1
TREF				Sg	Sg	13 23 55.9	+3.2
SBF	**Sospel**	**1.01**	**121**	*e*Pn	Pn	13 23 40.3	-1.6
	SNR=1.0						
SBF				*e*Sg	Sg	13 23 51.4	-2.1
	20nm,0.3s,SNR=1.0						
SBF				*e*Sn	Sn	13 23 53.2	-3.3
	SNR=1.0						
SAOF	**Saorge**	**1.03**	**113**	Pg	Pg	13 23 40.4	-0.4
SAOF				Sg	Sg	13 23 55.9	+1.7
REVF	**Revere**	**1.04**	**128**	Pg	Pg	13 23 40.7	-0.4
LMR	**La Mourre**	**1.07**	**169**	*e*Pg	Pg	13 23 39.8	-1.9
	SNR=1.0						
LMR				*e*Sg	Sg	13 23 51.9	-3.7
	8.9nm,0.2s,SNR=1.0						
GELF	**Grande-Etoile**	**1.17**	**211**	Pg	Pg	13 23 43.1	-0.3
GELF				Sg	Sg	13 23 58.4	-0.2
LPL	**La Plagne**	**1.18**	**17**	*e*Pn	Pn	13 23 46.1	+1.9
	SNR=1.0						
VIVF	**Saint-Julien-l**	**1.21**	**293**	*e*Pn	Pn	13 23 46.4	+1.7
	SNR=1.0						
VIVF				*e*Sn	Sn	13 24 03.5	+2.0
	4.1nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**1.74**	**260**	*e*Pn	Pn	13 23 51.7	-0.3
LASF				*e*Sn	Sn	13 24 13.0	-1.5
	3.0nm,0.4s,SNR=1.0						
MTLF	**Montolieu**	**3.09**	**252**	*e*Pn	Pn	13 24 11.2	+0.7
MTLF				*e*Sg	Sg	13 24 59.8	-0.6
	0.9nm,0.3s,SNR=1.0						

*NEIC **30** 13:31:29.1, 31.11S×69.45W, h151km, MG3.8(GUC), After GUC.*

GUC 30 13:31:29.1±0.9, 3111S×6945W, h151km±15km, MD3.8, ML3.8, 5C-12D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.33**	**267**	⇓*i*P	Pn	13 31 57.5	+0.5
CMCH				*i* S	Sn	13 32 19.3	+0.9
CMCH				AML	AML	13 32 19.9	
	comp=E,5μm,0.7s						
TLL	**Tololo Astrono**	**1.50**	**308**	⇑*i*P	Pn	13 31 59.8	+1.1
TLL				*i* S	Sn	13 32 22.5	+1.1
TLL				AML	AML	13 32 26.3	
	comp=N,1μm,0.8s						
TLL	**Tololo Astrono**	**1.50**	**308**	⇑*i*P	Pn	13 31 59.8	+1.1
TLL				*i* S	Sn	13 32 22.5	+1.1
OVCH	**Ovalle**	**1.59**	**288**	⇑*i*P	Pn	13 32 00.3	+0.7
OVCH				*i* S	Sn	13 32 23.5	+0.4
OVCH				AML	AML	13 32 24.6	
	comp=N,1μm,0.2s						
OVCH	**Ovalle**	**1.59**	**288**	⇑*i*P	Pn	13 32 00.3	+0.7
OVCH				*i* S	Sn	13 32 23.5	+0.4
MDZ	**Mendoza**	**1.84**	**164**	*e*P	Pn	13 32 00.8	-1.6
MDZ				S	Sn	13 32 22.9	-5.1
JACH	**Jahuel**	**1.84**	**212**	*e*P	Pn	13 32 03.3	+0.8
JACH				*i* S	Sn	13 32 29.2	+1.1
CHNG	**Los Chungos**	**1.91**	**246**	⇓*i*P	Pn	13 32 03.8	+0.6
CHNG				*i* S	Sn	13 32 29.4	-0.1
CHNG				AML	AML	13 32 38.3	
	comp=E,181nm,0.4s						
LSCH	**La Serena**	**1.96**	**307**	⇓*i*P	Pn	13 32 04.7	+0.9
LSCH				*i* S	Sn	13 32 30.4	0.0
LSCH				AML	AML	13 32 31.0	
	comp=E,44nm,0.3s						
LSCH	**La Serena**	**1.96**	**307**	⇓*i*P	Pn	13 32 04.7	+0.9
LSCH				*i* S	Sn	13 32 30.4	0.0
ROCH	**El Roble**	**2.28**	**215**	⇑*i*P	Pn	13 32 08.3	+0.8
ROCH				*i* S	Sn	13 32 37.6	+0.4
PEL	**Peldehue**	**2.28**	**207**	*e*P	Pn	13 32 07.8	+0.2
PEL				*i* S	Sn	13 32 37.9	+0.6
PEL				AML	AML	13 32 39.1	
	comp=N,303nm,0.3s						
PEL	**Peldehue**	**2.28**	**207**	*e*P	Pn	13 32 07.8	+0.2
PEL				*i* S	Sn	13 32 37.9	+0.6
RCDM	**Rinconada Maip**	**2.64**	**205**	⇓*i*P	Pn	13 32 12.4	+0.5
RCDM				*i* S	Sn	13 32 45.6	+0.7
RCDM				AML	AML	13 32 47.1	
	comp=E,322nm,0.3s						
RCDM	**Rinconada Maip**	**2.64**	**205**	⇓*i*P	Pn	13 32 12.4	+0.5
RCDM				*i* S	Sn	13 32 45.6	+0.7
ANTU	**Antumapu**	**2.65**	**202**	AML	AML	13 32 47.1	
	comp=E,282nm,0.3s						
PCH	**Pirque**	**2.66**	**199**	*e*P	Pn	13 32 13.1	+0.9
VACH	**Vallenar**	**2.77**	**335**	⇓*i*P	Pn	13 32 14.3	+0.8
VACH				*i* S	Sn	13 32 47.5	-0.4
VACH				AML	AML	13 32 48.8	
	comp=N,2μm,0.5s						
VACH	**Vallenar**	**2.77**	**335**	⇓*i*P	Pn	13 32 14.3	+0.8
VACH				*i* S	Sn	13 32 47.5	-0.4
TACH	**Talagante**	**2.83**	**206**	⇓*i*P	Pn	13 32 14.7	+0.3
LCCH	**Las Cruces**	**2.96**	**217**	⇓*i*P	Pn	13 32 16.3	+0.2
CHCH	**Chadas Angostu**	**2.99**	**200**	⇓*i*P	Pn	13 32 16.8	+0.5
CACH	**El Canelo**	**3.15**	**198**	⇓*i*P	Pn	13 32 19.4	+1.0
CICH	**Cipreses**	**3.30**	**194**	*e*P	Pn	13 32 21.7	+1.4

MEX 30 14:30:26.6±0.5, 1817N×10101W, h83km±13km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.71**	**218**	*i* P	Pn	14 30 41.3	-1.3
ZIIG				*i* S	Sn	14 30 52.7	-1.7
MOIG	**Morelia**	**1.51**	**353**	*i* P	Pn	14 30 51.1	-1.0
MOIG				*i* S	Sn	14 31 09.8	-1.7
ACX	**Acapulco**	**1.66**	**141**	*e*P	Pn	14 30 59.5	+5.5
MMIG	**Aquila**	**2.23**	**274**	*i* P	Pn	14 30 59.1	-2.4
MMIG				*i* S	Sn	14 31 27.4	-0.9

*ISCJB **30** 14:31:45.2±0.4, 4238N±004×14153E±005, h110km±3km, mb3.5/6, Error ellipse: s-maj=8.1km s-min=4.9km az=100.7*
*MOS **30** 14:31:45.6±1.2, 4249N×141.10E, h103km, mb4.0/2, Error ellipse: s-maj=31.5km s-min=21.4km az

PDAR Pinedale Array 73.89 46 P **P** **14 43 09.8 +0.4**
comp=Z,0.4nm,0.4s,mb3.5,baz=14,slow=1.5,SNR=5.6

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*ISCJB **30** 14:50:25.7±0.7, 41.7S±0.1×146.8W±0.1, h10km, mb4.0/8, MS4.4/11, Error ellipse: s-maj=17.5km s-min=10.8km az=172.9*
*IDC **30** 14:50:25.6±1.0, 41.73S×146.50W, h0km, mb4.0/7, mb1 4.1/8, mb1mx4.0/16, mbtmp3.9/8, ML3.1/1, MS4.3/13, Ms1 4.3/13, ms1mx4.2/17, Error ellipse: s-maj=36.5km s-min=23.6km az=106.0*
*HRVD **30** 14:50:26.5±0.2, 41.54S×146.89W, h16km±1km, MW5.2/82, Centroid moment Tensor Solution. LP body waves: s43,c62;Mantle waves: s82,c141; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.28±.19; $M_{\theta\theta}$2.09±.16; $M_{\phi\phi}$-0.80±.17; $M_{r\theta}$-0.27±.43; $M_{\theta\phi}$-6.41±.14; $M_{\phi r}$-0.32±.45; Best double couple: M_o6.59000×10^{16} NP1:ϕs354.00000°, δ86.00000°, λ-4.00000°. NP2: ϕs84.00000°, δ86.00000°, λ-176.00000°. Principal axes: T 7.2130, Plg0.0000°, Azm219.0000°; N -1.2430, Plg85.0000°, Azm128.0000°; P -5.9670, Plg5.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 14:50:26.5±0.9, 41.70S×146.501W, h10km, mb4.6/1 Error ellipse: s-maj=22.0km s-min=19.5km az=113.0*

ISC 30 14:50:27.0±0.7, 418S±01×847W±01, h10km, n24, σ1§18/15, mb4.0/8, MS4.4/11, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLCA	**Paso Flores**	**10.71**	**89**	Pn		**Pn**	**14 53 02.5**	**+2.1**
	0.3nm,0.3s,baz=301,slow=10,SNR=8.7							
PLCA				Sn		**Sn**	**14 54 43.4**	**-17**
	0.2nm,0.3s,baz=262,slow=17,SNR=3.7							
PLCA				LR		LR	14 56 20.9	
	comp=Z,3μm,18.4s,baz=261,slow=34							
PLCA	**Paso Flores**	**10.71**	**89**	*e*Pn		**Pn**	**14 53 04.7**	**+4.3**
PLCA				*e*Sn		**Sn**	**14 55 01.8**	**+1.4**
CFAA	**Coronel Fontan**	**16.62**	**58**	Pn		**Pn**	**14 54 16.6**	**-3.4**
	0.1nm,0.3s,baz=235,slow=11,SNR=5.4							
CFAA				LR		LR	14 59 25.7	
	comp=Z,337nm,19.2s,baz=221,slow=33							
RPN	**Rapa Nui**	**24.90**	**298**	LR		LR	15 02 27.8	
	comp=Z,919nm,21.5s,MS4.2,baz=187,slow=29							
CPUP	**Villa Florida**	**27.25**	**64**	P		**P**	**14 56 17.1**	**+5.8**
	9.7nm,0.8s,mb4.4							
LPAZ	**La Paz**	**29.11**	**34**	P		**P**	**14 56 27.8**	**-0.1**
	1.0nm,0.7s,mb3.7,baz=190,slow=7.4,SNR=4.7							
LPAZ				LR		LR	15 05 35.9	
	comp=Z,548nm,19.8s,MS4.2,baz=189,slow=31							
SIV	**San Ignacio**	**32.76**	**45**	P		**P**	**14 56 59.4**	**-0.7**
	1.7nm,1.0s,mb3.9,baz=232,slow=12,SNR=4.2							
BDFB	**Brasilia**	**40.90**	**62**	LR		LR	15 15 07.6	
	comp=Z,1μm,19.3s,MS4.8,baz=222,slow=36							
RKT	**Rikitea**	**45.63**	**278**	*e*LQ			15 09 48.5	
	592nm,34.0s							
RKT				*e*LR		LR	15 11 38.9	
	716nm,28.0s							
ROSC	**El Rosal**	**47.34**	**14**	LR		LR	15 17 00.6	
	comp=Z,945nm,18.8s,MS4.8,baz=198,slow=34							
SNAA	**Sanae**	**48.48**	**155**	P		**P**	**14 59 09.8**	**-0.1**
	2.0nm,1.0s,mb4.1,baz=312,slow=12,SNR=3.6							
VNDA	**Vanda**	**54.35**	**194**	P		**P**	**14 59 52.2**	**-1.6**
	0.9nm,0.9s,mb3.7,baz=108,slow=7.1,SNR=4.1							
VNDA				LR		LR	15 19 17.9	
	comp=Z,491nm,18.9s,MS4.6,baz=123,slow=32							
TAOE	**Nuku Hiva Isla**	**58.61**	**288**	*e*S		**S**	**15 08 29.5**	**+1.2**
	375nm,25.6s							
TAOE				*e*LR		LR	15 17 41.9	
	1μm,28.1s							
PPT	**Papeete**	**59.86**	**273**	*e*S		**S**	**15 08 46.4**	**+1.9**
	66nm,24.2s							
PPT				*e*LQ			15 15 49.1	
	776nm,26.5s							
PPT				*e*LR		LR	15 18 03.1	
	350nm,27.8s							
PPT	**Papeete**	**59.86**	**273**	LR		LR	15 19 31.2	
	comp=Z,20nm,19.9s,MS3.2,baz=125,slow=29							
MAW	**Mawson**	**68.24**	**167**	LR		LR	15 27 43.6	
	comp=Z,589nm,18.9s,MS4.8,baz=209,slow=33							
BOSA	**Boshof**	**84.75**	**124**	P		**P**	**15 03 02.0**	**+0.6**
	2.8nm,0.8s,mb4.4,baz=151,slow=5.6,SNR=3.2							
BOSA				LR		LR	15 36 23.2	
	comp=Z,195nm,21.7s,MS4.5,baz=200,slow=33							
NVAR	**Mina Array Bea**	**85.48**	**334**	P		**P**	**15 03 05.5**	**+0.4**
	0.3nm,0.7s,mb3.5,baz=211,slow=6.3,SNR=3.1							
DBIC	**Dimbokro**	**86.88**	**78**	LR		LR	15 38 06.8	
	comp=Z,168nm,18.3s,MS4.5,baz=199,slow=33							
PDAR	**Pinedale Array**	**87.07**	**342**	P		**P**	**15 03 12.2**	**-0.7**
	0.9nm,1.0s,mb4.0,baz=113,slow=3.4,SNR=5.9							
TORD	**Torodi Ar. Bea**	**95.98**	**78**	LR		LR	15 42 58.5	
	comp=Z,149nm,20.2s,MS4.5,baz=170,slow=33							
SCHQ	**Schefferville**	**97.42**	**10**	LR		LR	15 46 28.4	
	comp=Z,76nm,20.9s,MS4.2,baz=197,slow=34							
MJAR	**Matsushiro Arr**	**146.58**	**275**	PKPbc		PKPbc	15 10 10.1	+1.4
	3.7nm,1.1s,baz=150,slow=2.1,SNR=6.2							
MJAR	**Matsushiro Arr**	**146.58**	**275**	PKPbc		PKPbc	15 10 10.1	+1.4

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*ISCJB **30** 14:55:33.1±2.6, 85S±03×1582E±02, h154km±34km, mb4.0/7, Error ellipse: s-maj=60.4km s-min=18.9km az=106.0*
*NEIC **30** 14:55:33.8±2.0, 838S×1582.6E, h148km±26km, mb4.3/2, Error ellipse: s-maj=43.9km s-min=13.4km az=143.0*
*IDC **30** 14:55:34.1±2.3, 844S×1583.4E, h153km±29km, mb3.8/5, mb1 4.0/5, mb1mx3.7/12, mbtmp4.2/5, Error ellipse: s-maj=41.1km s-min=20.5km az=141.0*

ISC 30 14:55:33.9±2.7, 845S±03×1583E±02, h145km±34km, n14, σ0§57/16, mb4.0/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.98**	**122**	P		**Pn**	**14 56 08.7**	**+0.3**
	139nm,0.3s,baz=262,slow=1.8,SNR=43							
HNR				S		**Sn**	**14 56 34.2**	**-0.7**
	224nm,0.3s,baz=250,slow=2.2,SNR=19							
HNR	**Honiara**	**1.98**	**122**	*e*Pn		**Pn**	**14 56 08.4**	**0.0**
HNR				*e*Sn		**Sn**	**14 56 35.3**	**+0.4**
CTA	**Charters Tower**	**16.44**	**224**	P		**Pn**	**14 59 20.4**	**+4.2**
	0.3nm,0.3s,baz=37,slow=11,SNR=3.8							
WRAB	**Tennant Creek**	**25.83**	**241**	*e*P		**P**	**15 00 52.1**	**+0.5**
	6.2nm,0.6s,mb4.4							
WB2	**Warramunga Arr**	**25.83**	**241**	*e*P		**P**	**15 00 52.2**	**+0.6**
WRA	**Warramunga Arr**	**25.84**	**241**	P		**P**	**15 00 52.3**	**+0.6**
	2.9nm,0.5s,mb4.1,baz=67,slow=8.9,SNR=62							
WRA				PcP		PcP	15 04 16.4	-0.8
	0.5nm,1.1s,baz=69,slow=3.2,SNR=4.8							
AS31	**Alice Springs**	**27.83**	**234**	*e*P		**P**	**15 01 09.0**	**-0.6**
ASAR	**Alice Springs**	**27.84**	**234**	P		**P**	**15 01 09.4**	**-0.1**
	1.4nm,0.5s,mb3.9,baz=63,slow=9.6,SNR=60							
ASPA	**Alice Springs**	**27.84**	**234**	*e*P		**P**	**15 01 09.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**33.13**	**250**	*e*P		**P**	**15 01 55.9**	**-0.3**
	2.3nm,0.5s,mb4.2							
SONM	**Songino Array**	**72.25**	**326**	P		**P**	**15 06 43.6**	**+0.4**
	2.4nm,0.6s,mb4.1,baz=137,slow=6.2,SNR=22							
MKAR	**Makanchi Array**	**86.58**	**318**	P		**P**	**15 07 59.7**	**-1.0**
	0.9nm,0.7s,mb3.7,baz=90,slow=5.8,SNR=8.5							
MKAR	**Makanchi Array**	**86.58**	**318**	P		**P**	**15 07 59.7**	**-1.0**
NVAR	**Mina Array Bea**	**90.05**	**51**	P		**P**	**15 08 17.6**	**+0.5**
	0.7nm,0.8s,mb3.6,baz=250,slow=4.8,SNR=5.0							

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*STR **30** 14:58:00.8±1.8, 42.98N×0.33W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ISCJB **30** 14:58:01.6±2.0, 43.1N±0.1×0.35W±0.09, h10km±11km, Error ellipse: s-maj=18.9km s-min=10.9km az=26.0*
*CSEM **30** 14:58:01.3±0.8, 43.15N×0.35W, h10km, ML2.1, Error ellipse: s-maj=17.8km s-min=11.9km az=37.0*
*LDG **30** 14:58:01.2±0.9, 43.15N×0.35W, h10km, Md1.8/1, Error ellipse: s-maj=19.1km s-min=12.0km az=38.0*
*MDD **30** 14:58:03.7±1.8, 43.04N×0.34W, h0km, mbLg0.2/1, Error ellipse: s-maj=15.2km s-min=3.7km az=2.0, PRXIMO SIN SOLUCIN*

ISC 30 14:58:01.9±2.1, 431N±01×035W±009, h8km±12km, n5, σ0§49/9, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
REYF	**Montagne du Re**	**0.06**	**212**	Pg		**Pg**	**14 58 03.9**	**+0.2**
REYF				Sg		**Sg**	**14 58 04.9**	**-0.1**
ATE	**Arette**	**0.26**	**263**	Pg		**Pg**	**14 58 06.1**	**-1.0**
ATE				Sg		**Sg**	**14 58 11.3**	**+0.8**
ETSF	**Etsaut**	**0.27**	**215**	*e*Pg		**Pg**	**14 58 07.4**	**+0.2**
ETSF				*e*Sg		**Sg**	**14 58 10.6**	**-0.2**
	3.0nm,0.2s							
ETSF	**Etsaut**	**0.27**	**215**	*e*Pg		**Pg**	**14 58 07.4**	**+0.2**
ETSF				*e*Sg		**Sg**	**14 58 10.6**	**-0.2**
	1.5nm,0.2s							
EBIE	**Bielsa**	**0.56**	**140**	Pg		**Pg**	**14 58 13.1**	**+0.2**
	0.1nm,0.1s,SNR=7.9							
EBIE				Lg			14 58 19.6	
	0.3nm,0.0s,SNR=7.9							

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*CSEM **30** 15:01:42.3, 37.43N×21.59E, h12km, MD3.5/13, After ATH*
*NEIC **30** 15:01:42.3, 37.43N×21.59E, h12km, ML3.4(ATH), After ATH.*

ATH 30 15:01:42.3, 37.43N×21.59E, h12km±2km, MD3.5/13, ML3.4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ITM	**Ithomi**	**0.37**	**133**	*e*PG		Pg	15 01 48.7	-0.9
ITM				*e*SB		Sg	15 01 54.6	0.0
RLS	**Riolos of Patr**	**0.63**	**351**	*e*PG		Pg	15 01 54.2	-0.4
RLS				*e*SB		Sb	15 02 04.3	+0.2
VLS	**Valsamata**	**1.09**	**314**	*e*PN		Pn	15 02 03.0	-0.3
VLI	**Veliai**	**1.29**	**123**	*e*PN		Pn	15 02 05.4	-0.7
MGER	**Gerania Oros**	**1.44**	**67**	*e*PG		Pg	15 02 09.0	-0.9
EVR	**Evrytania**	**1.49**	**7**	*e*PB		Pb	15 02 10.7	+0.7
NAIG	**Nisos Aigina**	**1.54**	**77**	*e*PN		Pn	15 02 10.1	+0.5
KYTH	**Kithira**	**1.63**	**134**	*e*PB		Pb	15 02 13.5	+1.2
LKR	**Lokris**	**1.65**	**42**	*e*PG		Pg	15 02 12.8	-1.2
ATH	**Athens Observa**	**1.77**	**72**	*e*PG		Pg	15 02 15.2	-1.1
ATH				*e*SN		Sn	15 02 37.2	+2.0
KVR	**Kavouri**	**1.77**	**76**	*e*PN		Pn	15 02 14.0	+1.2
PTL	**Penteli**	**1.91**	**70**	*e*PN		Pn	15 02 16.5	+1.9
NEO	**Neokhori**	**2.27**	**34**	*e*PN		Pn	15 02 22.9	+3.3

IDC 30 15:11:09.4±2.2, 584S×13038E, h0km, mb3.9/1, mb1 3.7/4, mb1mx3.5/12, mbtmp3.6/4, ML3.5/2, MS4.2/1, Ms1 4.2/1, ms1mx2.9/23, Error ellipse: s-maj=93.0km s-min=28.2km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.04**	**200**	Pn		Pn	15 14 16.4	+0.6
	baz=0.0,slow=20							
FITZ				Sn		Sn	15 16 27.5	-14
	0.3nm,0.3s,baz=235,slow=19,SNR=3.6							
WRA	**Warramunga Arr**	**14.54**	**165**	Pn		Pn	15 14 36.2	0.0
	0.2nm,0.3s,baz=348,slow=13,SNR=27							
WRA				Sn		Sn	15 17 05.4	-13
	0.5nm,0.3s,baz=342,slow=21,SNR=10							
ASAR	**Alice Springs**	**18.05**	**170**	P		Pn	15 15 21.6	+0.2
	0.1nm,0.3s,baz=342,slow=8.8,SNR=14							
ASAR				S		Sn	15 18 29.9	-14
	0.2nm,0.3s,baz=349,slow=9.9,SNR=14							
JHJ	**Hachijo jima 2**	**39.76**	**12**	LR		LR	15 32 13.0	
	comp=Z,326nm,22.0s,baz=100,slow=32							
MKAR	**Makanchi Array**	**67.47**	**326**	P		P	15 22 07.2	+0.2
	0.6nm,0.4s,baz=110,slow=7.8,SNR=6.5							

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*MAN **30** 15:15:01.4, 4.63N×125.26E, h34km, mb3.5, ML4.7, MS4.3*
*ISCJB **30** 15:15:08.0±0.7, 5.17N±0.04×125.41E±0.06, h66km±6km, mb4.5/34, Error ellipse: s-maj=11.3km s-min=5.7km az=135.8*
*IDC **30** 15:15:08.3±2.1, 5.22N×125.36E, h54km±18km, mb4.1/19, mb1 4.1/19, mb1mx4.1/24, mbtmp4.4/19, MS3.9/7, Ms1 3.9/7, ms1mx3.5/28, Error ellipse: s-maj=22.2km s-min=9.4km az=76.0*
*NEIC **30** 15:15:09.2±1.1, 5.24N×125.48E, h63km±10km, mb4.8/17, Error ellipse: s-maj=10.7km s-min=5.3km az=68.0*
*BJI **30** 15:15:09.2, 5.20N×125.50E, h62km, mB5.1, mb4.7, Ms4.2, Msz4.0*

ISC 30 15:15:09.8±0.6, 518N±004×12546E±007, h65km±6km, n83, σ1§30/90, mb4.5/34, 1C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KCP	**Kidapawan**	**1.86**	**348**	↓*i*P		**Pn**	**15 15 41.1**	**+1.7**
KCP				*i* S		**Sn**	**15 16 06.0**	**+4.2**
DAV	**Davao City (W)**	**1.88**	**3**	*e*P		**Pn**	**15 15 39.0**	**-0.8**
DAV	**Davao City (W)**	**1.88**	**3**	*e*P		**Pn**	**15 15 38.8**	**-1.0**
DMPH	**Davao City--Mi**	**1.89**	**1**	↓*e*P		**Pn**	**15 15 38.9**	**-1.0**
DMPH				*i* S		**Sn**	**15 16 11.2**	**+8.5**
MATI	**Mati**	**1.93**	**24**	*e*P		**Pn**	**15 15 35.7**	**-4.7**
CTBH	**Cotabato--PC H**	**2.36**	**329**	↓*e*P		**Pn**	**15 15 43.8**	**-2.5**
CTBH				*i* S		**Sn**	**15 16 16.8**	**+2.6**
BUKP	**Musuan**	**2.71**	**352**	*e*P		**Pn**	**15 15 50.9**	**-0.2**
CGP	**Cagayan de Oro**	**3.34**	**347**	*e*S		**Sn**	**15 16 42.4**	**+4.3**
CGP	**Cagayan de Oro**	**3.34**	**347**	↓*i*P		**Pn**	**15 16 02.2**	**+2.5**
PAGZ	**Pagadian**	**3.36**	**322**	*e*P		**Pn**	**15 15 57.5**	**-2.4**
BUTP	**Butuan**	**3.77**	**2**	*e*P		**Pn**	**15 16 14.2**	**+8.7**
IPIL	**Ipil**	**3.87**	**312**	↓*e*P		**Pn**	**15 16 03.8**	**-3.1**
IPIL				*e*S		**Sn**	**15 16 47.0**	**-4.1**
IPIL	**Ipil**	**3.87**	**312**	*e*P		**Pn**	**15 16 03.9**	**-2.9**
DCPH	**Dipolog City**	**3.98**	**328**	*e*P		**Pn**	**15 16 07.1**	**-1.3**
SCPH	**Surigao**	**4.57**	**0**	↓*e*P		**Pn**	**15 16 18.1**	**+1.7**
TBP	**Tagbilaran**	**4.76**	**341**	*e*P		**Pn**	**15 16 18.9**	**0.0**
MSLP	**Maasin**	**4.96**	**353**	*e*P		**Pn**	**15 16 22.9**	**+1.1**
PVCP	**Virac**	**8.46**	**351**	*e*P		**Pn**	**15 17 11.8**	**+2.1**
KKM	**Kota Kinabalu**	**9.24**	**276**	*e*P		**Pn**	**15 17 19.3**	**-1.1**
CAUP	**Cauayan**	**12.22**	**343**	*e*P		**Pn**	**15 17 55.3**	**-5.7**
KSM	**Kuching**	**15.57**	**257**	*e*P		**Pn**	**15 18 49.6**	**+4.3**
KAKA	**Kakadu**	**19.08**	**159**	*e*P		**Pn**	**15 19 26.4**	**-2.0**
	27nm,0.4s							
GUMO	**Guam**	**20.87**	**65**	LR		LR	15 26 46.8	
	comp=Z,268nm,21.8s,baz=243,slow=33							
JOW	**Kunigami**	**21.70**	**7**	P		**P**	**15 19 54.8**	**-0.6**
	14nm,0.8s,mb4.3,baz=166,slow=12,SNR=9.8							
JOW				LR		LR	15 26 35.6	
	comp=Z,288nm,20.8s,baz=322,slow=32							
JOW	**Kunigami**	**21.70**	**7**	P		**P**	**15 19 54.8**	**-0.6**
JOW				LR		LR	15 26 35.6	
FITZ	**Fitzroy Crossi**	**23.13**	**180**	*e*P		**P**	**15 20 10.6**	**+0.2**
	12nm,0.3s,mb4.7							
FITZ				*e*			15 20 21.1	
FITZ	**Fitzroy Crossi**	**23.13**	**180**	P		**P**	**15 20 10.5**	**0.0**
	6.0nm,0.3s,mb4.3,baz=11,slow=10,SNR=25							
PMG	**Port Moresby**	**26.03**	**124**	P		**P**	**15 20 37.8**	**+1.0**
	16nm,0.7s,mb4.6,baz=318,slow=3.1,SNR=5.8							
PMG				LR		LR	15 31 25.9	
	comp=Z,272nm,20.9s,baz=346,slow=37							
PMG	**Port Moresby**	**26.03**	**124**	*e*P		**P**	**15 20 37.5**	**+0.7**
	16nm,0.7s,mb4.5							
PMG				LR		LR	15 31 25.9	
WRAB	**Tennant Creek**	**26.44**	**161**	*e*P		**P**	**15 20 39.1**	**-1.3**
	43nm,0.9s,mb4.9							
WRA	**Warramunga Arr**	**26.45**	**161**	P		**P**	**15 20 40.2**	**-0.4**
	14nm,0.5s,mb4.6,baz=340,slow=10,SNR=41							
WRA				S		**S**	**15 25 07.8**	**-1.8**
	4.1nm,1.1s,baz=335,slow=16,SNR=4.2							
WRA				ScP		ScP	15 27 41.2	+2.7
	2.0nm,1.0s,baz=338,slow=3.6,SNR=4.8							
WB2	**Warramunga Arr**	**26.45**	**161**	*e*P		**P**	**15 20 40.1**	**-0.5**
WB2				*e*S		**S**	**15 25 05.9**	**-3.7**
CBIJ	**Chichi jima**	**27.00**	**34**	P		**P**	**15 20 44.6**	**-1.0**
	33nm,0.4s,mb5.2,baz=279,slow=13,SNR=5.8							
CBIJ				LR		LR	15 29 35.4	
	comp=Z,116nm,21.6s,baz=146,slow=32							
AS31	**Alice Springs**	**29.83**	**164**	*e*P		**P**	**15 21 10.5**	**-0.2**
ASPA	**Alice Springs**	**29.83**	**164**	*e*P		**P**	**15 21 10.5**	**-0.2**
ASAR	**Alice Springs**	**29.83**	**164**	P		**P**	**15 21 10.6**	**-0.1**
	6.4nm,0.5s,mb4.5,baz=345,slow=7.2,SNR=86							
ASAR				PcP		PcP	15 24 12.9	+0.4
	1.1nm,0.4s,baz=352,slow=2.6,SNR=4.7							
ASAR				S		**S**	**15 26 04.3**	**+1.5**
	1.0nm,0.9s,baz=359,slow=22,SNR=5.0							
ASAR				ScP		ScP	15 27 51.6	+2.7
	1.6nm,0.7s,baz=345,slow=2.6,SNR=9.1							
CTA	**Charters Tower**	**32.38**	**141**	*e*P		**P**	**15 21 34.2**	**+1.1**
	4.5nm,0.9s,mb4.2							
CTA				*e*			15 21 42.6	
CTA	**Charters Tower**	**32.38**	**141**	P		**P**	**15 21 34.2**	**+1.1**
	2.5nm,0.5s,mb4.2,baz=309,slow=13,SNR=6.1							
CTAO	**Charters Tower**	**32.38**	**141**	*e*P		**P**	**15 21 34.1**	**+1.0**
	10nm,0.9s,mb4.5							
CD2	**Chengdu**	**32.74**	**324**	P		**P**	**15 21 35.8**	**-0.5**
CD2				LR		LR		
	comp=N,310nm,18.0s							
CD2				LR		LR		
	comp=Z,250nm,21.0s							
MAT	**Matsushiro**	**33.33**	**19**	P		**P**	**15 21 39.7**	**-1.8**
MAT	**Matsushiro**	**33.33**	**19**	*e*P		**P**	**15 21 40.0**	**-1.5**
MJAR	**Matsushiro Arr**	**33.33**	**19**	P		**P**	**15 21 39.7**	**-1.8**
	comp=Z,5.0nm,0.7s,mb4.5,baz=191,slow=9.1,SNR=21							
MJAR				LR		LR	15 34 37.8	
	comp=Z,268nm,19.3s,baz=205,slow=35							
FORT	**Forrest**	**35.84**	**176**	*e*P		**P**	**15 22 03.2**	**+0.1**
	comp=Z,14nm,0.5s,mb5.2							
FORT				*e*		pP	15 22 14.7	-4.4
LZH	**Lanzhou**	**36.62**	**330**	*e*P		**P**	**15 22 10.0**	**+0.2**
LZH				PP		PP	15 23 35.0	+0.8
LZH				S		**S**	**15 27 48.5**	**+0.5**
LZH				AMB		AMB		
	comp=Z,20nm,1.0s,mb5.0							
LZH				AMB		AMB		
	comp=Z,140nm,4.6s							
LZH				LR		LR		
	comp=E,760nm,14.0s							
LZH				LR		LR		
	comp=Z,980nm,15.8s							
KLBR	**Kellerberrin**	**37.30**	**191**	*e*P		**P**	**15 22 16.4**	**+0.9**
	comp=Z,28nm,1.4s,mb5.0							
MUN	**Mundaring**	**37.99**	**193**	*e*P		**P**	**15 22 22.2**	**+0.9**
NWAO	**Narrogin (SRO)**	**38.69**	**191**	P		**P**	**15 22 27.9**	**+0.7**
	comp=Z,4.7nm,0.5s,mb4.6,baz=24,slow=5.7,SNR=8.1							
NWAO	**Narrogin (SRO)**	**38.69**	**191**	*e*P		**P**	**15 22 27.5**	**+0.2**
MDJ	**Mudanjiang**	**39.45**	**5**	P		**P**	**15 22 37.5**	**+4.0**
MDJ				AMB		AMB		
	comp=Z,9.0nm,1.0s,mb4.5							
MDJ				AMB		AMB		
	comp=Z,51nm,6.5s							
MDJ				LR		LR		
	comp=N,115nm,21.4s							
MDJ				LR		LR		
	comp=E,146nm,25.0s							
MDJ				LR		LR		
	comp=Z,167nm,18.6s							
GTA	**Gaotai**	**41.21**	**329**	*e*P		**P**	**15 22 48.8**	**+0.7**
GTA				AMB		AMB		
	comp=Z,1.0nm,0.9s,mb3.6							
ASAJ	**Asahikawa**	**41.61**	**19**	P		**P**	**15 22 52.6**	**+1.3**
	comp=Z,12nm,0.8s,mb4.7,baz=245,slow=7.6,SNR=15							
ADE	**Adelaide**	**41.84**	**164**	*e*P		**P**	**15 22 53.3**	**+0.1**
ARMA	**Armidale**	**43.36**	**146**	*e*P		**P**	**15 23 08.2**	**+2.6**
ARMA				*e*			15 23 16.8	
JIRN	**Jiri**	**43.51**	**305**	*e*P		**P**	**15 23 09.2**	**+2.4**
	comp=Z,17nm,0.5s,mb5.0							
GUN	**Gumba**	**43.86**	**306**	*e*P		**P**	**15 23 10.4**	**+0.8**
	comp=Z,20nm,0.6s,mb5.0							
KKN	**Kakani**	**44.30**	**305**	*e*P		**P**	**15 23 14.5**	**+1.4**
DMN	**Daman**	**44.37**	**305**	*e*P		**P**	**15 23 15.7**	**+2.0**
	comp=Z,13nm,0.8s,mb4.7							
GKN	**Gorkha**	**44.91**	**305**	*e*P		**P**	**15 23 17.6**	**-0.3**
SONM	**Songino Array**	**45.53**	**342**	P		**P**	**15 23 23.2**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.4,baz=153,slow=5.3,SNR=3.1							
SONM				LR		LR	15 43 28.3	
	comp=Z,263nm,21.7s,baz=157,slow=37							
KOLN	**Koldanda**	**45.67**	**304**	*e*P		**P**	**15 23 24.5**	**+0.5**
TOO	**Toolangi**	**46.44**	**158**	*e*P		**P**	**15 23 33.7**	**+3.6**
	comp=Z,16nm,1.7s,mb4.5							
DZM	**Mont Dzumac**	**48.40**	**126**	P		**P**	**15 23 47.0**	**+1.8**
	comp=Z,7.5nm,0.7s,mb4.7,baz=238,slow=7.1,SNR=11							
MKAR	**Makanchi Array**	**55.65**	**325**	P		**P**	**15 24 38.5**	**-0.6**
	comp=Z,1.5nm,0.4s,mb4.3,baz=122,slow=7.5,SNR=17							
YAK	**Yakutsk**	**56.81**	**2**	*e*P		**P**	**15 24 46.0**	**-1.4**
	comp=Z,22nm,0.8s,mb5.2							
ULHL	**Ulahol**	**57.11**	**318**	P		**P**	**15 24 50.6**	**+1.1**
	SNR=5.6							
UCH	**Uchtor**	**58.26**	**317**	P		**P**	**15 24 58.6**	**+1.0**
	SNR=10							
USP	**Ospenovka**	**58.70**	**318**	P		**P**	**15 25 01.2**	**+0.5**
	SNR=5.3							
ZAL	**Zalesovo**	**58.73**	**333**	P		**P**	**15 24 59.6**	**-1.3**
	comp=Z,0.8nm,0.3s,mb4.2,baz=335,slow=14,SNR=3.4							
ZAL				LR		LR	15 53 35.0	
	comp=Z,130nm,18.9s,baz=150,slow=39							
AML	**Almayashu**	**58.78**	**317**	P		**P**	**15 25 02.7**	**+1.6**
	SNR=6.6							
EKS2	**Erkin-Say**	**58.94**	**317**	P		**P**	**15 25 03.1**	**+0.8**
	SNR=5.4							
KURK	**Kurchatov**	**59.85**	**328**	*e*P		**P**	**15 25 06.8**	**-1.8**
	comp=Z,13nm,1.3s,mb4.8							
BVAR	**Borovoye Array**	**

*ISCJB **30** 15:18:57.9±1.2,4163N×009×7275E±006,h10km,Error ellipse: s-maj=12.6km s-min=6.7km az=4.3*
*NNC **30** 15:18:58.4±10.0,4173N×7274E,h0km,mb3.4,mpv2.7, Error ellipse: s-maj=137.3km s-min=29.1km az=10.0*
ISC 30 15:18:59.0±1.2,4166N±009×7276E±006,h10km,n13, σ1§68/20,12C-7D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
AML	**Almayashu**	**0.84**	**55**	⇓P		**Pg**	**15 19 11.5**	**-3.7**
	28nm,0.2s,SNR=41							
AML				⇑S		**Sg**	**15 19 23.7**	**-2.4**
	47nm,0.1s							
EKS2	**Erkin-Say**	**1.26**	**36**	⇓P		**Pn**	**15 19 19.0**	**-3.5**
	7.7nm,0.1s,SNR=14							
EKS2				⇑S		**Sb**	**15 19 36.7**	**-2.3**
	18nm,0.1s							
UCH	**Uchtor**	**1.43**	**66**	⇑P		**Pn**	**15 19 22.2**	**-2.7**
	12nm,0.1s,SNR=32							
AAK	**Ala-Archa**	**1.62**	**52**	⇓P		**Pn**	**15 19 26.0**	**-1.5**
	20nm,0.2s,SNR=12							
KZA	**Kyzart**	**1.90**	**76**	⇑P		**Pn**	**15 19 30.6**	**-0.9**
	16nm,0.2s,SNR=36							
KZA				⇑S		**Sn**	**15 19 57.5**	**+2.1**
	31nm,0.2s							
KBK	**Karagaybulak**	**1.91**	**58**	⇓P		**Pn**	**15 19 31.5**	**0.0**
	18nm,0.2s,SNR=18							
KBK				⇑S		**Sn**	**15 19 59.0**	**+3.4**
	44nm,0.2s							
CHMS	**Chumysh**	**1.99**	**47**	⇑P		**Pn**	**15 19 33.0**	**+0.3**
	11nm,0.2s,SNR=13							
CHMS				⇓S		**Sn**	**15 20 00.1**	**+2.4**
	30nm,0.3s							
USP	**Ospenovka**	**2.06**	**38**	⇑P		**Pn**	**15 19 33.8**	**+0.2**
	32nm,0.4s,SNR=28							
USP				⇑S		**Sn**	**15 20 01.6**	**+2.3**
	64nm,0.3s							
KK31	**Karatay Array**	**2.21**	**312**	P		**Pn**	**15 19 34.5**	**-1.1**
	3.1nm,0.2s,baz=212,slow=15,SNR=192							
KK31				⇓S		**Sn**	**15 20 04.3**	**+1.3**
	10nm,0.3s,baz=159,slow=26							
TKM2	**Tokmak 2**	**2.45**	**58**	⇑P		**Pn**	**15 19 40.0**	**+1.0**
	8.2nm,0.1s,SNR=31							
TKM2	**Tokmak 2**	**2.45**	**58**	⇓Pn		**Pn**	**15 19 40.4**	**+1.4**
	1.3nm,0.5s							
TKM2				⇑Lg			15 20 14.5	
	1.7nm,0.5s							
ULHL	**Ulahol**	**2.66**	**76**	⇑P		**Pn**	**15 19 42.7**	**+0.9**
	5.5nm,0.3s,SNR=14							
AB31	**Akbulak array**	**11.77**	**315**	P		**Pn**	**15 21 42.3**	**-4.6**
	0.5nm,0.3s,baz=117,slow=15,SNR=6.0							

*NEIC **30** 15:28:00.0,3265S×70.13W,h108km,MG3.8(GUC),After GUC.*
GUC 30 15:28:00.0±0.7,3265S×7013W,h108km±3km,MD3.9, ML3.8,9C-14D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JACH	**Jahuel**	**0.39**	**265**	⇑*i*P		Pn	15 28 16.3	+0.4
JACH				*i* S		Sn	15 28 29.2	+1.2
PEL	**Peldehue**	**0.68**	**223**	⇓*i*P		Pn	15 28 17.8	-0.1
PEL				*i* S		Sn	15 28 32.2	+0.7
PEL				AML		AML	15 28 33.9	
	comp=N,4μm,0.2s							
PEL	**Peldehue**	**0.68**	**223**	⇓*i*P		Pn	15 28 17.8	-0.1
PEL				*i* S		Sn	15 28 32.2	+0.7
FCH	**Farellones**	**0.69**	**191**	⇓*i*P		Pn	15 28 19.0	+0.9
FCH				*i* S		Sn	15 28 33.3	+1.6
ROCH	**El Roble**	**0.81**	**246**	⇓*i*P		Pn	15 28 19.7	+0.6
ROCH				*i* S		Sn	15 28 34.5	+0.9
CLCH	**Cerro Calan**	**0.82**	**204**	⇓*i*P		Pn	15 28 20.4	+1.2
CLCH				*i* S		Sn	15 28 35.3	+1.6
CLCH				AML		AML	15 28 40.8	
	comp=E,3μm,0.3s							
CLCH	**Cerro Calan**	**0.82**	**204**	⇓*i*P		Pn	15 28 20.4	+1.2
CLCH				*i* S		Sn	15 28 35.3	+1.6
DSCH	**Colegio Aleman**	**0.83**	**206**	⇑*i*P		Pn	15 28 19.0	-0.4
DSCH				*i* S		Sn	15 28 34.1	+0.1
STL	**Santa Lucia**	**0.89**	**208**	⇓*i*P		Pn	15 28 19.8	-0.2
STL				*i* S		Sn	15 28 35.2	+0.2
SAN	**Santiago**	**0.92**	**209**	⇑*i*P		Pn	15 28 20.5	+0.4
SAN				*i* S		Sn	15 28 36.1	+0.7
SAN				AML		AML	15 28 36.5	
	comp=N,3μm,0.5s							
SJCH	**San Jose de Ma**	**1.01**	**191**	*e*P		Pn	15 28 20.9	-0.2
SJCH				*i* S		Sn	15 28 37.5	+0.5
SJCH				AML		AML	15 28 41.9	
	comp=N,526nm,0.3s							
SJCH	**San Jose de Ma**	**1.01**	**191**	*e*P		Pn	15 28 20.9	-0.2
SJCH				*i* S		Sn	15 28 37.5	+0.5
ANTU	**Antumapu**	**1.01**	**205**	⇓*i*P		Pn	15 28 21.7	+0.6
ANTU				*i* S		Sn	15 28 38.1	+1.1
ANTU				AML		AML	15 28 39.2	
	comp=N,2μm,0.7s							
ANTU	**Antumapu**	**1.01**	**205**	⇓*i*P		Pn	15 28 21.7	+0.6
ANTU				*i* S		Sn	15 28 38.1	+1.1
RCDM	**Rinconada Maip**	**1.01**	**214**	⇑*i*P		Pn	15 28 21.5	+0.4
RCDM				*i* S		Sn	15 28 38.1	+1.0
RCDM				AML		AML	15 28 38.5	
	comp=E,4μm,0.2s							
RCDM	**Rinconada Maip**	**1.01**	**214**	⇑*i*P		Pn	15 28 21.5	+0.4
RCDM				*i* S		Sn	15 28 38.1	+1.0
PCH	**Pirque**	**1.02**	**198**	⇑*i*P		Pn	15 28 21.8	+0.6
PCH				*i* S		Sn	15 28 38.1	+0.8
MDZ	**Mendoza**	**1.10**	**103**	*e*P		Pn	15 28 22.0	-0.1
MDZ				*i*			15 28 29.9	
MDZ				*i* S		Sn	15 28 39.0	+0.1
TACH	**Talagante**	**1.21**	**214**	⇓*i*P		Pn	15 28 23.5	+0.2
TACH				*i* S		Sn	15 28 41.8	+0.9
IHA	**Instituto Hidr**	**1.33**	**253**	⇑*i*P		Pn	15 28 24.4	-0.2
IHA				*i* S		Sn	15 28 44.0	+0.7
CHCH	**Chadas Angostu**	**1.35**	**199**	⇓*i*P		Pn	15 28 25.5	+0.5
CHCH				*i* S		Sn	15 28 44.8	+0.9
CHNG	**Los Chungos**	**1.39**	**303**	⇓*i*P		Pn	15 28 26.0	+0.7
CHNG				*i* S		Sn	15 28 45.0	+0.4
LCCH	**Las Cruces**	**1.46**	**235**	⇓*i*P		Pn	15 28 26.5	+0.2
LCCH				*i* S		Sn	15 28 46.5	+0.3
CACH	**El Canelo**	**1.52**	**195**	⇓*i*P		Pn	15 28 27.8	+0.9
CACH				*i* S		Sn	15 28 49.3	+2.1
CMCH	**Combarbala**	**1.65**	**333**	⇑*i*P		Pn	15 28 29.2	+0.7
CMCH				*i* S		Sn	15 28 51.1	+1.0
CMCH				AML		AML	15 28 52.6	
	comp=N,10μm,0.9s							
CMCH	**Combarbala**	**1.65**	**333**	⇑*i*P		Pn	15 28 29.2	+0.7
CMCH				*i* S		Sn	15 28 51.1	+1.0
CICH	**Cipreses**	**1.68**	**188**	*e*P		Pn	15 28 29.6	+0.7
CICH				*i* S		Sn	15 28 52.1	+1.2

*NEIC **30** 15:35:57.6,4040S×17326E,h213km,MG3.9(WEL),After WEL.*
WEL 30 15:35:57.5±0.3,4040S×17324E,h214km±2km,ML3.9/13, Error ellipse: s-maj=2.2km s-min=1.4km az=90.0,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.66**	**128**	PN		Pn	15 36 27.1	+0.3
DUWZ				SN		S	15 36 49.0	-0.6
QRZ	**Quartz Range**	**0.69**	**231**	PN		Pn	15 36 26.9	-0.1
QRZ				SN		S	15 36 48.6	-1.4
QRZ	**Quartz Range**	**0.69**	**231**	P		Pn	15 36 26.9	-0.1
QRZ				S		S	15 36 48.6	-1.4
NNZ	**Nelson**	**0.83**	**173**	PN		Pn	15 36 27.8	+0.1
NNZ				SN		S	15 36 50.3	-0.8
NNZ	**Nelson**	**0.83**	**173**	*e*P		Pn	15 36 27.8	+0.1
TCW	**Tory Channel**	**1.13**	**136**	PN		Pn	15 36 29.9	+0.3
TCW				SN		S	15 36 53.4	-1.2
TCW	**Tory Channel**	**1.13**	**136**	P		Pn	15 36 29.9	+0.3
TCW				S		S	15 36 53.4	-1.2
TUWZ	**Tuamarina**	**1.16**	**153**	PN		Pn	15 36 29.8	0.0
TUWZ				SN		S	15 36 54.1	-0.9
NWEZ	**Newall Road**	**1.22**	**23**	PN		Pn	15 36 30.1	-0.1
NWEZ	**Newall Road**	**1.22**	**23**	P		Pn	15 36 30.1	-0.1
PKE	**Pukeiti**	**1.33**	**26**	PN		Pn	15 36 30.8	-0.2
PKE	**Pukeiti**	**1.33**	**26**	P		Pn	15 36 30.8	-0.3
KIW	**Kapiti Island**	**1.35**	**111**	PN		Pn	15 36 31.2	0.0
KIW	**Kapiti Island**	**1.35**	**111**	P		Pn	15 36 31.2	0.0
KIW				S		S	15 36 55.6	-1.9
MRW	**Makara Radio**	**1.38**	**127**	PN		Pn	15 36 31.5	0.0
MRW	**Makara Radio**	**1.38**	**127**	P		Pn	15 36 31.5	0.0
THZ	**Tophouse**	**1.39**	**191**	PN		Pn	15 36 31.6	+0.1
THZ	**Tophouse**	**1.39**	**191**	*e*P		Pn	15 36 31.6	+0.1
BSWZ	**Blackbirch Sta**	**1.40**	**160**	PN		Pn	15 36 31.5	-0.1
BSWZ	**Blackbirch Sta**	**1.40**	**160**	P		Pn	15 36 31.5	-0.1
RAEZ	**Rainy Point**	**1.42**	**39**	PN		Pn	15 36 32.0	+0.3
RAEZ	**Rainy Point**	**1.42**	**39**	P		Pn	15 36 32.0	+0.2
SNZO	**South Karori**	**1.44**	**130**	PN		Pn	15 36 31.7	-0.2
SNZO	**South Karori**	**1.44**	**130**	P		Pn	15 36 31.7	-0.2
WEL	**Wellington**	**1.46**	**128**	PN		Pn	15 36 32.0	-0.1
WAZ	**Wanganui**	**1.48**	**65**	PN		Pn	15 36 32.6	+0.3
WAZ	**Wanganui**	**1.48**	**65**	P		Pn	15 36 32.6	+0.3
CAW	**Cannon Point**	**1.56**	**118**	PN		Pn	15 36 32.8	-0.1
CAW	**Cannon Point**	**1.56**	**118**	P		Pn	15 36 32.8	-0.1
BHW	**Baring Head**	**1.59**	**130**	PN		Pn	15 36 32.8	-0.5
VRZ	**Vera Road**	**1.72**	**43**	PN		Pn	15 36 33.6	-0.9
VRZ	**Vera Road**	**1.72**	**43**	*e*P		Pn	15 36 33.8	-0.6
DSZ	**Denniston Nort**	**1.73**	**218**	PN		Pn	15 36 33.9	-0.6
DSZ	**Denniston Nort**	**1.73**	**218**	P		Pn	15 36 33.9	-0.6
MRZ	**Mangatainoka R**	**1.80**	**99**	PN		Pn	15 36 34.7	-0.4
MRZ	**Mangatainoka R**	**1.80**	**99**	P		Pn	15 36 34.7	-0.4
MSWZ	**Moikau Station**	**1.83**	**124**	PN		Pn	15 36 34.9	-0.5
MSWZ	**Moikau Station**	**1.83**	**124**	P		Pn	15 36 34.9	-0.5
MTW	**Mount Morrison**	**1.88**	**115**	PN		Pn	15 36 35.4	-0.5
PAWZ	**Paruwai Farm**	**1.93**	**121**	PN		Pn	15 36 35.8	-0.5
PAWZ	**Paruwai Farm**	**1.93**	**121**	P		Pn	15 36 35.8	-0.5
KHZ	**Kahutara**	**2.03**	**174**	PN		Pn	15 36 36.3	-1.1
KHZ	**Kahutara**	**2.03**	**174**	P		Pn	15 36 36.3	-1.1
TIWZ	**Tintock**	**2.05**	**102**	PN		Pn	15 36 37.3	-0.3
TRVZ	**Turoa**	**2.08**	**59**	PN		Pn	15 36 37.5	-0.4
TRWZ	**Traveller**	**2.11**	**119**	PN		Pn	15 36 37.8	-0.3
TSZ	**Takapari Road**	**2.11**	**82**	PN		Pn	15 36 37.5	-0.7
TSZ	**Takapari Road**	**2.11**	**82**	P		Pn	15 36 37.5	-0.6
FWVZ	**Far West T-bar**	**2.11**	**58**	PN		Pn	15 36 37.5	-0.7
FWVZ	**Far West T-bar**	**2.11**	**58**	P		Pn	15 36 37.5	-0.7
TWVZ	**Taurewa**	**2.15**	**53**	P		Pn	15 36 37.4	-1.1
MOVZ	**Moawhango**	**2.17**	**64**	PN		Pn	15 36 37.6	-1.2
MOVZ	**Moawhango**	**2.17**	**64**	P		Pn	15 36 37.6	-1.2
WTVZ	**West Tongariro**	**2.21**	**55**	P		Pn	15 36 38.3	-0.9
HIZ	**Hauiti**	**2.26**	**34**	PN		Pn	15 36 38.6	-1.1
HIZ	**Hauiti**	**2.26**	**34**	*e*P		Pn	15 36 38.1	-1.6
BFZ	**Birch Farm**	**2.31**	**98**	P		Pn	15 36 39.7	-0.5
LTZ	**Lake Taylor**	**2.49**	**197**	*e*P		Pn	15 36 41.1	-1.1
PXZ	**Pawanui**	**2.79**	**84**	PN		Pn	15 36 44.9	-0.6
CRLZ	**Canterbury Las**	**3.21**	**188**	PN		Pn	15 36 47.8	-2.5
CRLZ	**Canterbury Las**	**3.21**	**188**	*e*P		Pn	15 36 47.8	-2.5
WVZ	**Waitaha Valley**	**3.27**	**214**	*e*P		Pn	15 36 49.3	-1.7
MQZ	**McQueen's Vall**	**3.34**	**187**	*e*P		Pn	15 36 49.1	-2.7
URZ	**Urewera**	**3.68**	**56**	*e*P		Pn	15 36 53.4	-2.5
KNZ	**Kokohu**	**3.68**	**70**	P		Pn	15 36 54.5	-1.4
RPZ	**Rata Peaks**	**3.70**	**205**	*e*P		Pn	15 36 54.4	-1.7
FOZ	**Fox Glacier**	**4.13**	**219**	*e*P		Pn	15 36 58.0	-3.4
PUZ	**Puketiti**	**4.53**	**61**	*e*P		Pn	15 37 03.8	-2.6
LBZ	**Lake Benmore**	**4.59**	**209**	*e*P		Pn	15 37 04.7	-2.3
JCZ	**Jackson Bay**	**4.96**	**221**	*e*P		Pn	15 37 09.0	-2.7
ODZ	**Otahua Downs**	**5.02**	**202**	*e*P		Pn	15 37 11.1	-1.4
WKZ	**Wanaka**	**5.42**	**214**	*e*P		Pn	15 37 14.1	-3.4
EAZ	**Earnscleugh**	**5.63**	**210**	*e*P		Pn	15 37 16.6	-3.7

*IDC **30** 15:42:51.6±1.6,1665N×12283E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.3/19,mbtmp3.5/4,ML3.9/1,Error ellipse: s-maj=58.3km s-min=29.4km az=76.0*
*MAN **30** 15:42:54.9,1644N×12251E,h13km,mb3.3,ML4.5,MS2.1*
*ISCJB **30** 15:42:55.1±1.1,1646N±004×12257E±006,h26km±10km, mb3.4/3,Error ellipse: s-maj=9.6km s-min=6.5km az=131.3*
ISC 30 15:42:55.5±1.4,1647N±005×12254E±006,h19km±11km, n22,σ1§10/27,mb3.4/3,6C,Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PALP	**Palanan**	**0.60**	**349**	⇑*e*P		**Pg**	**15 43 08.0**	**+0.6**
PALP	**Palanan**	**0.60**	**349**	*e*P		**Pg**	**15 43 07.6**	**+0.2**
CAUP	**Cauayan**	**0.83**	**304**	*e*P		**Pb**	**15 43 09.7**	**-1.7**
BALP	**Baler**	**1.18**	**232**	*e*P		**Pn**	**15 43 14.3**	**-2.6**
CVP	**Callao Caves**	**1.41**	**331**	⇑*e*P		**Pn**	**15 43 20.0**	**-0.1**
CVP				*i* S		**Sn**	**15 43 49.0**	**+11**
PCPH	**Palayan**	**1.66**	**237**	⇑*e*P		**Pn**	**15 43 22.3**	**-1.3**
PCPH				*e*S		**Sn**	**15 43 43.8**	**-0.6**
SGCP	**Mt. Cagua**	**1.82**	**345**	*e*P		**Pn**	**15 43 26.9**	**+1.1**
POLP	**Polilio Island**	**1.83**	**199**	*e*P		**Pn**	**15 43 24.9**	**-1.0**
APYP	**Conner**	**1.86**	**318**	*e*P		**Pn**	**15 43 25.7**	**-0.6**
BCPH	**Baguio City Da**	**1.89**	**268**	⇑*i*P		**Pn**	**15 43 26.5**	**-0.1**
BCPH				*i* S		**Sn**	**15 43 50.6**	**+0.7**
ABRA	**Dolores**	**2.11**	**304**	*e*P		**Pn**	**15 43 28.9**	**-0.8**
ABRA				*e*S		**Sn**	**15 43 56.1**	**+0.7**
BOLP	**Bolinao**	**2.53**	**268**	*e*P		**Pn**	**15 43 37.0**	**+1.5**
LQP	**Lukban**	**2.54**	**203**	*e*P		**Pn**	**15 43 40.7**	**+5.0**
GQP	**Guinayangan**	**2.55**	**182**	⇑*i*P		**Pn**	**15 43 36.5**	**+0.7**
GQP				*i* S		**Sn**	**15 44 06.1**	**-0.3**
SCZP	**Santa Cruz**	**2.62**	**255**	*e*P		**Pn**	**15 43 37.4**	**+0.6**
TGY	**Tagaytay City**	**2.82**	**214**	Pn		**Pn**	**15 43 42.1**	**+2.5**
	13nm,0.3s,baz=315,slow=1.4,SNR=4.1							
PVCP	**Virac**	**3.25**	**151**	⇑*i*P		**Pn**	**15 43 45.5**	**0.0**
PVCP	**Virac**	**3.25**	**151**	*e*P		**Pn**	**15 43 45.4**	**-0.1**
LUBP	**Lubang**	**3.51**	**220**	*e*P		**Pn**	**15 43 50.5**	**+1.5**
WRA	**Warramunga Arr**	**38.00**	**162**	P		**P**	**15 50 11.1**	**-1.1**
	0.5nm,0.8s,mb3.3,baz=343,slow=9.2,SNR=5.0							
ASAR	**Alice Springs**	**41.41**	**164**	P		**P**	**15 50 41.8**	**+1.2**
	0.8nm,1.2s,mb3.2,baz=344,slow=7.8,SNR=5.0							
FINES	**FINESS Array B**	**78.74**	**331**	P		**P**	**15 54 55.7**	**-1.0**
	0.9nm,0.9s,mb3.7,baz=66,slow=4.8,SNR=4.8							

*MOS **30** 16:06:30.7±1.5,5507N×11156E,h17km,mb5.0/1,Error ellipse: s-maj=12.2km s-min=7.0km az=61.1*
MOS Felt (II) at Ulyunkhan.
BYKL 30 16:06:31.2±0.2,5504N×11168E,h13km±3km,9C-3D, FELT I=II MSK at Ulyunkhan,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.34**	**241**	⇑*i*Pg		Pg	16 06 37.5	-0.6
YLYR				Pmax			16 06 39.0	
	498nm,0.1s							
YLYR				*e*Sg		Sg	16 06 42.5	-0.3
YLYR				Smax			16 06 42.9	
	25μm,0.1s							
YLYR	**Ulyunkhan**	**0.34**	**241**	⇑*i*PG		Pg	16 06 37.5	-0.6
YLYR				*e*			16 06 42.4	
YLYR				pmax		pmax		
	comp=Z,864nm,0.1s							
YLYR				smax				
	comp=N,26μm,0.1s							
KMO	**Kumora**	**0.89**	**342**	⇑*i*Pg		Pg	16 06 46.9	-1.5
KMO				Pmax			16 06 47.2	
	comp=N,574nm,0.5s							
KMO				*e*Sg		Sg	16 06 58.8	-1.3
KMO				Smax			16 07 05.1	
	comp=N,2μm,1.2s							
KMO	**Kumora**	**0.89**	**342**	*e*PG		Pg	16 06 46.8	-1.6
KMO				*e*			16 06 58.4	
KMO				pmax		pmax		
	comp=Z,550nm,0.4s							
KMO				smax				
	comp=N,2μm,0.9s							
YOA	**Uoyan**	**1.10**	**1**	*e*Pg		Pg	16 06 51.1	-1.2
YOA				Pmax			16 06 53.8	
	comp=N,574nm,0.2s							
YOA				*e*Sg		Sg	16 07 06.4	-0.2
YOA				Smax			16 07 13.3	
	comp=N,4μm,0.6s							
YOA	**Uoyan**	**1.10**	**1**	⇓*i*PG		Pg	16 06 51.1	-1.2
YOA				*e*			16 07 06.3	
YOA				pmax		pmax		
	comp=Z,603nm,0.2s							
YOA				smax				
	comp=N,4μm,0.5s							
UKT	**Uakit**	**1.20**	**67**	⇑*i*Pg		Pg	16 06 52.6	-1.7
UKT				Pmax			16 06 54.8	
	comp=N,298nm,0.3s							
UKT				*e*Sg		Sg	16 07 08.9	-1.1
UKT				*e*			16 07 13.1	
UKT				max			16 07 13.5	
	comp=N,2μm,1.3s							
UKT	**Uakit**	**1.20**	**67**	⇑*i*PG		Pg	16 06 52.6	-1.7
UKT				*e*			16 07 08.9	
UKT				pmax		pmax		
	comp=Z,242nm,0.2s							
UKT				smax				
	comp=N,2μm,0.3s							
NIZ	**Nizh Angarsk**	**1.43**	**302**	⇑*e*Pg		Pg	16 06 56.4	-2.2
NIZ				Pmax			16 06 56.9	
	comp=N,772nm,0.4s							
NIZ				*e*Sg		Sg	16 07 15.9	-1.2
NIZ				*e*Sb		Sb	16 07 18.2	+2.5
NIZ				max			16 07 19.4	
	comp=N,2μm,0.5s							
NIZ	**Nizh Angarsk**	**1.43**	**302**	*e*PG		Pg	16 06 56.7	-1.9
NIZ				*e*			16 07 16.0	
NIZ				pmax		pmax		
	comp=Z,766nm,0.4s							
NIZ				smax				
	comp=N,2μm,0.5s							
SVKR	**Severomuysk**	**1.52**	**44**	⇑*i*Pg		Pg	16 06 59.3	-1.1
SVKR				Pmax			16 07 05.6	
	comp=N,412nm,0.3s							
SVKR				*e*Sg		Sg	16 07 20.2	+0.1
SVKR				Smax			16 07 23.8	
	comp=N,6μm,0.7s							
SVKR	**Severomuysk**	**1.52**	**44**	*e*PN		Pn	16 06 59.2	+1.2
SVKR				*e*			16 07 00.1	
SVKR				*e*			16 07 19.8	
SVKR				pmax		pmax		
	comp=Z,534nm,0.6s							
SVKR				smax				
	comp=N,6μm,0.8s							
SYVR	**Suvo**	**1.70**	**216**	*e*Pg		Pg	16 07 01.1	-2.7
SYVR				*e*			16 07 05.9	
SYVR				max			16 07 06.7	
	comp=N,345nm,0.8s							
SYVR				*e*Sg		Sg	16 07 24.6	-1.3
SYVR				*e*			16 07 26.6	
SYVR				max			16 07 29.3	
	comp=N,741nm,0.3s							
SYVR	**Suvo**	**1.70**	**216**	*e*PN		Pn	16 07 01.1	+0.6
SYVR				*e*			16 07 02.0	
SYVR				*e*			16 07 24.4	
SYVR				pmax		pmax		
	comp=Z,531nm,0.6s							
SYVR				smax				
	comp=N,702nm,0.3s							
MXMB	**Maximikha**	**2.48**	**225**	*e*Pn		Pn	16 07 11.6	+0.3
MXMB				*e*Pg		Pg	16 07 15.4	-3.3
MXMB				Pmax			16 07 19.8	
	comp=N,154nm,0.4s							
MXMB				*e*			16 07 43.6	
MXMB				*e*Sg		Sg	16 07 48.8	-2.1
MXMB				Smax			16 07 52.7	
	comp=N,2μm,0.7s							
NLYR	**Nelyaty**	**2.70**	**56**	*e*Pn		Pn	16 07 14.9	+0.6
NLYR				*e*Pg		Pg	16 07 19.3	-3.6
NLYR				Pmax			16 07 25.9	
	comp=N,110nm,0.7s							
NLYR				*e*Sg		Sg	16 07 55.2	-2.7
NLYR				Smax			16 07 55.7	
	comp=N,894nm,1.2s							
NLYR	**Nelyaty**	**2.70**	**56**	*e*PN		Pn	16 07 18.7	+4.4
NLYR				*e*			16 07 53.9	
NLYR				pmax		pmax		
	comp=Z,69nm,0.5s							
NLYR				smax				
	comp=N,882nm,0.2s							
OGRR	**Ongureny**	**2.77**	**241**	⇑*i*Pn		Pn	16 07 15.9	+0.6
OGRR				*e*Pg		Pg	16 07 19.8	-4.5
OGRR				Pmax			16 07 20.5	
	comp=N,88nm,0.3s							
OGRR				*e*Sn		Sn	16 07 49.3	+0.7
OGRR				*e*Sg		Sg	16 07 56.4	-3.8
OGRR				Smax			16 08 01.1	
	comp=N,454nm,0.4s							
OGRR	**Ongureny**	**2.77**	**241**	*e*PN		Pn	16 07 15.9	+0.6
OGRR				*e*			16 07 19.7	
OGRR				*e*S		Sn	16 07 49.0	+0.4
OGRR				*e*			16 07 56.8	
OGRR				pmax		pmax		
	comp=Z,94nm,0.7s							
OGRR				smax				
	comp=N,523nm,0.6s							
BOD	**Bodaibo**	**3.07**	**24**	*e*Pn		Pn	16 07 19.6	+0.2
BOD				Pg		Pg	16 07 26.4	-3.6
BOD				Pmax			16 07 32.2	
	comp=N,43nm,0.5s							
BOD				*e*Sn		Sn	16 07 56.5	+0.5
BOD				*e*Sg		Sg	16 08 05.9	-3.9
BOD				Smax			16 08 09.5	
	comp=N,371nm,1.2s							
BOD	**Bodaibo**	**3.07**	**24**	*e*PN		Pn	16 07 19.2	-0.2
KELR	**Kotokel**	**3.12**	**224**	*e*Pn		Pn	16 07 21.2	+1.1
KELR				*e*Pg		Pg	16 07 27.9	-3.1
KELR				Pmax			16 07 36.8	
	comp=N,142nm,0.4s							
KELR				*e*Sg		Sg	16 08 09.1	-2.4
KELR				Smax			16 08 14.2	
	comp=N,1μm,0.5s							
CIT	**Chita**	**3.22**	**159**	⇓*i*Pn		Pn	16 07 21.6	+0.1
CIT				*e*Pg		Pg	16 07 28.1	-4.9
CIT				Pmax			16 07 37.3	
	comp=N,91nm,0.

TUP					Smax			16 09 06.4	
	comp=E,430nm,0.7s								
TUP	**Tupik**	**4.83**	**94**	*e*PN		Pn		16 07 44.0	+0.4
TUP				*e*				16 07 57.7	
TUP				*e*S		Sn		16 08 39.2	-0.3
TUP				*e*				16 09 00.0	
TUP					pmax	pmax			
	comp=Z,46nm,0.7s								
TUP					smax				
	comp=E,431nm,0.8s								
LSTR	**Listvyanka**	**5.18**	**235**	*e*PN		Pn		16 07 49.4	+1.0
LSTR				*e*				16 08 05.8	
LSTR				*e*				16 09 09.8	
LSTR					pmax	pmax			
	comp=Z,21nm,0.6s								
LSTR					smax				
	comp=N,123nm,1.1s								
IRK	**Irkutsk**	**5.22**	**241**	*e*Sg		Sg		16 09 10.9	-7.9
IRK					Smax			16 09 21.1	
	comp=N,567nm,0.5s								
IRK	**Irkutsk**	**5.22**	**241**	*e*PN		Pn		16 08 06.2	+17
IRK				*e*				16 09 12.0	
IRK					pmax	pmax			
	comp=Z,55nm,0.1s								
IRK					smax				
	comp=N,567nm,0.5s								
TLY	**Talaya**	**5.87**	**238**	*e*PN		Pn		16 07 58.3	+0.4
TLY				*e*S		Sn		16 09 04.5	-0.5
ZAK	**Zakamensk**	**6.91**	**231**	*e*Pg		Pg		16 08 36.8	-6.7
ZAK					Pmax			16 08 50.9	
	comp=N,5.0nm,0.5s								
ZAK				*e*Sg		Sg		16 10 05.5	-7.5
ZAK					Smax			16 10 21.3	
	comp=N,101nm,1.8s								
ZAK	**Zakamensk**	**6.91**	**231**	*e*PN		Pn		16 08 16.1	+3.9
ZAK				*e*				16 08 35.1	
ZAK				*e*				16 09 28.8	
ZAK				*e*S		Sn		16 10 04.8	+34
ZAK					pmax	pmax			
	comp=Z,5.0nm,0.6s								
ZAK					smax				
	comp=E,102nm,1.7s								
MOY	**Mondy**	**7.23**	**247**	*e*Pn		Pn		16 08 18.0	+1.4
MOY					max			16 08 51.1	
	comp=E,18nm,0.6s								
MOY				*e*Sn		Sn		16 09 34.9	-3.7
MOY				*e*Sg		Sn		16 10 13.8	+35
MOY					Smax			16 10 28.0	
	comp=E,153nm,1.3s								
MOY	**Mondy**	**7.23**	**247**	*e*PN		Pn		16 08 18.0	+1.4
MOY				*e*				16 08 39.6	
MOY				*e*				16 10 14.5	
MOY					pmax	pmax			
	comp=Z,12nm,0.5s								
MOY					smax				
	comp=E,151nm,1.3s								
ORL	**Orlik**	**7.46**	**255**	⇓*i*Pn		Pn		16 08 20.8	+1.0
ORL					max			16 08 27.0	
	comp=E,29nm,1.2s								
ORL				*e*Sn		Sn		16 09 42.1	-2.2
ORL				*e*Sg		Sn		16 10 21.0	+37
ORL					Smax			16 10 31.3	
	comp=E,277nm,1.9s								
ORL	**Orlik**	**7.46**	**255**	*e*PN		Pn		16 08 20.6	+0.8
ORL				*e*S		Sn		16 10 21.0	+37
ORL					smax				
	comp=N,278nm,1.6s								
ULN	**Ulaanbaatar**	**7.74**	**204**	*e*PN		Pn		16 08 19.7	-3.9
YAK	**Yakutsk**	**11.70**	**46**	*e*P		Pn		16 09 14.3	-3.4
YAK					pmax	pmax			
	comp=Z,9.0nm,0.8s								
ZAL	**Zalesovo**	**15.63**	**277**	*i* P		Pn		16 10 10.3	-0.8
ZAL					pmax	pmax			
	comp=Z,2.0nm,0.6s								
MKAR	**Makanchi Array**	**20.16**	**258**	*i* P		P		16 11 10.8	+5.6
KURK	**Kurchatov**	**20.30**	**271**	*e*P		P		16 11 04.3	-2.4
OBN	**Obninsk**	**41.04**	**302**	*ce*P		P		16 14 09.3	-4.9
OBN				*e*				16 15 48.3	
OBN				*e*S		S		16 20 18.4	-7.9
OBN					pmax	pmax			
	comp=Z,7.0nm,0.5s								

IDC 30 16:11:20.1±2.1, 229N×12798E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/14, mbtmp3.3/3, Error ellipse: s-maj=152.6km s-min=24.7km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.95**	**165**	P	P	16 16 25.0	-1.0
	1.0nm,0.5s,baz=344,slow=11,SNR=21						
WB2	**Warramunga Arr**	**22.96**	**164**	*e*P	P	16 16 25.1	-0.9
ASAR	**Alice Springs**	**26.43**	**168**	P	P	16 16 59.8	+1.2
	0.1nm,0.3s,baz=343,slow=11,SNR=7.2						
ASPA	**Alice Springs**	**26.43**	**168**	*e*P	P	16 16 59.4	+0.8
MKAR	**Makanchi Array**	**59.45**	**325**	P	P	16 21 25.0	+0.3
	0.2nm,0.3s,baz=109,slow=8.1,SNR=3.1						

*ISCJB **30** 16:32:31.7±0.6, 44.05N×003.12880W±0.05, h10km, mb3.9/1, MS3.6/4, Error ellipse: s-maj=5.2km s-min=3.8km az=137.3*
*BJI **30** 16:32:34.1, 44.20N×128.60W, h10km, mB5.0, mb4.4, Ms4.5, Msz4.1*
*IDC **30** 16:32:35.4±6.0, 44.21N×128.31W, h0km, mb3.9/1, mb1 3.9/4, mb1mx3.5/22, mbtmp3.6/4, ML3.8/3, MS3.4/3, Ms1 3.4/3, ms1mx2.8/30, Error ellipse: s-maj=87.0km s-min=28.8km az=68.0*
*NEIC **30** 16:32:36.1±1.8, 44.20N×128.60W, h10km, mb4.0/4, Error ellipse: s-maj=21.9km s-min=6.8km az=80.0*

ISC 30 16:32:33.5±0.6, 4404N±003×12881W±005, h10km, n100, σ1♀30/121, mb3.9/1, MS3.6/4, 26C-30D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K01A	**Sixes**	**3.39**	**110**	⇓P	Pn	**16 33 23.8**	**-2.7**
	baz=3.3						
K01A				⇓S	Sn	**16 34 04.3**	**-2.5**
	baz=3.3						
KEBM	**Edson Butte**	**3.46**	**108**	*e*P	Pn	**16 33 24.4**	**-3.1**
H02A	**Toledo**	**3.51**	**78**	⇓P	Pn	**16 33 27.1**	**-1.0**
	baz=3.3						
H02A				⇑S	Sn	**16 34 08.5**	**-1.2**
	baz=3.3						
I02A	**Mapleton**	**3.59**	**89**	⇓P	Pn	**16 33 28.0**	**-1.2**
	baz=3.4,SNR=32						
I02A				⇓S	Sn	**16 34 11.2**	**-0.5**
	baz=3.4						
KBO	**Bosley Butte**	**3.82**	**117**	*e*P	Pn	**16 33 36.5**	**+4.2**
J02A	**Umpqua**	**3.86**	**98**	⇑P	Pn	**16 33 31.2**	**-1.7**
	baz=3.7,SNR=8.2						
J02A				⇑S	Sn	**16 34 17.1**	**-1.2**
	baz=3.7						
COR	**Corvallis**	**3.99**	**80**	*e*P	Pn	**16 33 33.8**	**-0.9**
I03A	**Eugene**	**3.99**	**89**	⇓P	Pn	**16 33 32.7**	**-2.0**
	baz=3.8,SNR=157						
I03A				⇓S	Sn	**16 34 21.1**	**-0.5**
	baz=3.8						
H03A	**Soap Creek Ran**	**4.01**	**79**	⇓P	Pn	**16 33 33.8**	**-1.2**
	baz=3.8,SNR=36						
H03A				⇑S	Sn	**16 34 21.7**	**-0.3**
	baz=3.8						
G03A	**Yamhill**	**4.15**	**70**	⇓P	Pn	**16 33 35.8**	**-1.1**
	baz=3.9,SNR=11						
G03A				⇓S	Sn	**16 34 25.4**	**-0.1**
	baz=3.9						
HSO	**Harness Mounta**	**4.17**	**95**	P	Pn	**16 33 36.9**	**-0.4**
F03A	**Seaside**	**4.18**	**61**	⇓P	Pn	**16 33 36.4**	**-0.9**
	baz=4.0,SNR=8.6						
F03A				⇑S	Sn	**16 34 26.2**	**0.0**
	baz=4.0						
L02A	**Cave Junction**	**4.25**	**114**	⇑P	Pn	**16 33 36.6**	**-1.7**
	baz=4.2,SNR=5.9						
L02A				⇓S	Sn	**16 34 27.0**	**-1.0**
	baz=4.2						
J03A	**Ideyld Park**	**4.29**	**97**	⇑P	Pn	**16 33 36.9**	**-2.0**
	baz=4.2,SNR=99						
J03A				⇓S	Sn	**16 34 29.2**	**+0.1**
	baz=4.2						
E03A	**Lebam**	**4.48**	**54**	⇑P	Pn	**16 33 39.9**	**-1.5**
	baz=4.2						
HUMO	**Hull Mountain**	**4.50**	**106**	*e*P	Pn	**16 33 39.6**	**-2.1**
HUMO				*e*S	Sn	**16 34 32.2**	**-2.0**
HUMO	**Hull Mountain**	**4.50**	**106**	⇑P	Pn	**16 33 40.4**	**-1.3**
	baz=4.4,SNR=43						
HUMO				⇓S	Sn	**16 34 33.9**	**-0.3**
	baz=4.4						
BROR	**Big Rock Looko**	**4.58**	**85**	P	Pn	**16 33 42.1**	**-0.8**
BBOR	**Butler Butte**	**4.61**	**102**	P	Pn	**16 33 42.6**	**-0.6**
SSOR	**Sweet Springs**	**4.62**	**78**	P	Pn	**16 33 44.0**	**+0.6**
G04A	**Mulino**	**4.67**	**73**	⇓P	Pn	**16 33 42.9**	**-1.1**
	baz=4.5						
G04A				⇑S	Sn	**16 34 40.2**	**+1.9**
	baz=4.5						
HBO	**Huckleberry Mo**	**4.69**	**90**	P	Pn	**16 33 45.3**	**+0.9**
D03A	**Wishkah Elem.**	**4.69**	**47**	⇓P	Pn	**16 33 43.3**	**-1.1**
	baz=4.5						
D03A				⇑S	Sn	**16 34 40.8**	**+1.9**
	baz=4.5						
IRO	**Indian Ridge**	**4.73**	**88**	P	Pn	**16 33 44.1**	**-0.8**
PGO	**Gresham**	**4.75**	**70**	P	Pn	**16 33 46.0**	**+0.9**
RVW	**Rose Valley**	**4.79**	**62**	P	Pn	**16 33 45.4**	**-0.2**
H04A	**Detroit Lake**	**4.79**	**80**	⇓P	Pn	**16 33 45.2**	**-0.5**
	baz=4.6,SNR=30						
H04A				⇓S	Sn	**16 34 42.9**	**+1.6**
	baz=4.6						
C03A	**Quillayute Air**	**4.90**	**36**	⇑P	Pn	**16 33 45.8**	**-1.4**
	baz=4.7,SNR=29						
C03A				⇓S	Sn	**16 34 42.3**	**-1.8**
	baz=4.7						
OOW	**Octopus West**	**4.91**	**39**	P	Pn	**16 33 46.5**	**-0.8**
F04A	**Amboy**	**4.91**	**65**	⇓P	Pn	**16 33 46.8**	**-0.6**
	baz=4.7,SNR=7.1						
F04A				⇑S	Sn	**16 34 46.2**	**+1.9**
	baz=4.7						
HUOR	**Husband**	**5.02**	**87**	P	Pn	**16 33 49.9**	**+1.1**
YBH	**Yreka Blue Hor**	**5.04**	**115**	*e*P	Pn	**16 33 47.9**	**-1.2**
YBH	**Yreka Blue Hor**	**5.04**	**115**	⇑P	Pn	**16 33 48.1**	**-1.0**
	baz=5.0						
YBH				⇑S	Sn	**16 34 47.1**	**-0.3**
	baz=5.0						
OTR	**Olympics--Tyee**	**5.10**	**36**	P	Pn	**16 33 49.0**	**-1.0**
TDH	**Tom, Dick, Har**	**5.16**	**74**	P	Pn	**16 33 51.4**	**+0.5**
OBC	**Olympics--Boni**	**5.18**	**38**	P	Pn	**16 33 50.1**	**-0.9**
HOOD	**Mount Hood Mea**	**5.26**	**73**	P	Pn	**16 33 52.5**	**+0.3**
VFP	**Flag Point**	**5.39**	**74**	P	Pn	**16 33 55.4**	**+1.4**
L04A	**Klamath Falls**	**5.40**	**108**	⇓S	Sn	**16 34 55.8**	**-0.4**
	baz=5.3						
HDW	**Hoodsport**	**5.41**	**46**	P	Pn	**16 33 54.0**	**-0.2**
B04A	**Port Angeles**	**5.46**	**41**	⇓P	Pn	**16 33 53.9**	**-1.1**
	baz=5.2,SNR=17						
B04A				⇑S	Sn	**16 34 56.8**	**-1.1**
	baz=5.2						
H05A	**Madras**	**5.47**	**81**	⇑P	Pn	**16 33 53.9**	**-1.1**
	baz=5.3						
H05A				⇓S	Sn	**16 34 59.5**	**+1.4**
	baz=5.3						
G05A	**Wamic**	**5.48**	**75**	⇑P	Pn	**16 33 55.9**	**+0.7**
	baz=5.3						
G05A				⇑S	Sn	**16 35 00.1**	**+1.8**
	baz=5.3						
ASR	**Mount Adams--S**	**5.53**	**65**	P	Pn	**16 33 56.5**	**+0.6**
F05A	**White Salmon**	**5.53**	**68**	⇑P	Pn	**16 33 56.1**	**+0.2**
	baz=5.3						
F05A				⇑S	Sn	**16 35 02.4**	**+2.8**
	baz=5.3						
J05A	**Fort Rock**	**5.54**	**95**	⇑P	Pn	**16 33 55.4**	**-0.7**
	baz=5.4						
E05A	**Randle**	**5.58**	**61**	⇓P	Pn	**16 33 56.9**	**+0.3**
	baz=5.4,SNR=25						
E05A				⇓S	Sn	**16 35 03.0**	**+2.4**
	baz=5.4						
M04C	**Macdoel**	**5.59**	**111**	⇓S	Sn	**16 35 03.6**	**+2.5**
	baz=5.5						
BLN	**Blyn Mountain**	**5.68**	**44**	P	Pn	**16 33 58.8**	**+0.8**
D05A	**Enumclaw**	**5.73**	**54**	⇑P	Pn	**16 33 56.7**	**-1.9**
	baz=5.5						
PGC	**Sidney**	**5.92**	**37**	*e*Pn	Pn	**16 33 59.7**	**-1.5**
	27nm,0.6s						
C05A	**Tolt Reservoir**	**6.17**	**51**	⇑P	Pn	**16 34 05.0**	**+0.3**
	baz=5.9						
M05C	**Lookout**	**6.25**	**113**	⇓S	Sn	**16 35 16.6**	**-0.5**
	baz=6.2						
GASB	**Alder Springs**	**6.32**	**132**	⇓P	Pn	**16 34 07.0**	**+0.4**
	baz=6.3						
J06A	**Christmas Vall**	**6.33**	**94**	⇑P	Pn	**16 34 06.8**	**-0.1**
	baz=6.2						
CMW	**Cultus Mountai**	**6.39**	**44**	P	Pn	**16 34 08.0**	**+0.3**
WRW	**Wenatchee Ridg**	**6.72**	**53**	P	Pn	**16 34 12.9**	**+0.7**
MBW	**Mount Baker**	**6.74**	**43**	P	Pn	**16 34 12.9**	**+0.5**
A05A	**Maple Falls**	**6.79**	**41**	⇓P	Pn	**16 34 13.4**	**+0.2**
	baz=6.6						
VDB	**Vedder Mountai**	**6.80**	**40**	P	Pn	**16 34 13.2**	**-0.1**
HAWA	**Hanford**	**6.96**	**67**	*e*P	Pn	**16 34 14.7**	**-0.9**
	0.6nm,0.6s						
K07A	**Rock Creek Ran**	**7.10**	**98**	⇓P	Pn	**16 34 17.2**	**-0.2**
	baz=7.0						
OHCM	**Honcut**	**7.22**	**128**	*e*P	Pn	**16 34 21.2**	**+2.2**
J08A	**Circle Bar Ran**	**7.53**	**92**	⇑P	Pn	**16 34 23.3**	**+0.1**
	baz=7.4						
CMB	**Columbia Colle**	**8.74**	**130**	P	Pn	**16 34 40.1**	**+0.1**
	42nm,2.0s						
NEW	**Newport**	**9.15**	**58**	P	Pn	**16 34 46.2**	**+0.7**
	3.7nm,0.7s						
NVAR	**Mina Array Bea**	**9.69**	**122**	Pn	Pn	**16 34 55.2**	**+2.2**
	0.2nm,0.3s,baz=297,slow=14,SNR=13						
NVAR	**Mina Array Bea**	**9.69**	**122**	Pn	Pn	**16 34 55.2**	**+2.2**
HLID	**Hailey**	**10.42**	**88**	*e*P	Pn	**16 35 07.0**	**+4.0**
	6.4nm,0.8s						
MSO	**Missoula**	**10.82**	**70**	*e*P	Pn	**16 35 09.1**	**+0.7**
	2.9nm,0.8s						
WALA	**Waterton Lakes**	**11.42**	**59**	P	Pn	**16 35 17.2**	**+0.5**
DLMT	**Dillon**	**11.62**	**78**	*e*P	Pn	**16 35 22.5**	**+3.1**
	4.9nm,0.9s						
TPNV	**Topopah Spring**	**11.89**	**122**	*e*P	Pn	**16 35 27.4**	**+4.3**
	20nm,1.6s						
DUG	**Dugway**	**12.48**	**102**	*e*P	Pn	**16 35 38.3**	**+7.1**
	3.1nm,1.0s						
RRI2	**Red Ridge**	**12.68**	**87**	*e*P	Pn	**16 35 37.4**	**+3.5**
	1.0nm,0.5s						
RRI2				*e*		16 35 44.4	
IMW	**Indian Meadow**	**12.88**	**84**	*e*P	Pn	**16 35 40.7**	**+4.1**
	6.0nm,0.9s						
TPAW	**Teton Pass**	**12.93**	**86**	*e*P	Pn	**16 35 40.2**	**+2.9**
	8.9nm,1.1s						
REDW	**Red Top Meadow**	**13.02**	**87**	*e*P	Pn	**16 35 41.3**	**+2.8**
	9.3nm,1.2s						
FLWY	**Flagg Ranch**	**13.03**	**83**	*e*P	Pn	**16 35 42.8**	**+4.1**
	19nm,1.0s						
GCMT	**Greycliff**	**13.68**	**76**	*e*P	Pn	**16 35 50.5**	**+2.9**
EGMT	**Eagleton**	**13.82**	**67**	P	Pn	**16 35 50.9**	**+1.4**
	10nm,1.1s						
TMUT	**Trail Mountain**	**13.98**	**104**	P	Pn	**16 35 56.2**	**+4.5**
PDAR	**Pinedale Array**	**14.06**	**88**	Pn	Pn	**16 35 55.5**	**+2.8**
	0.2nm,0.3s,baz=289,slow=11,SNR=7.6						
SRU	**San Rafael**	**14.54**	**103**	*e*P	Pn	**16 36 09.3**	**+10**
	22nm,1.0s						
WUAZ	**Wupatki**	**15.86**	**117**	*e*P	Pn	**16 36 18.1**	**+1.3**
	24nm,1.3s						
PV10	**Paradox Valley**	**15.91**	**104**	P	Pn	**16 36 16.5**	**-0.9**
PV01	**Paradox Valley**	**16.34**	**104**	*e*P	Pn	**16 36 22.2**	**-0.8**
MVCO	**Mesa Verde**	**16.84**	**107**	*e*P	Pn	**16 36 30.3**	**+0.9**
ISCO	**Idaho Springs**	**17.76**	**96**	*e*P	Pn	**16 36 44.1**	**+3.3**
	3.1nm,0.9s						
LAZ	**Ladron**	**19.30**	**113**	*e*P	Pn	**16 37 01.6**	**+1.9**
ANMO	**Albuquerque**	**19.44**	**110**	*e*P	Pn	**16 37 01.1**	**-0.2**
	4.3nm,1.0s						
LPM	**Los Pinos Moun**	**19.70**	**112**	*e*P	Pn	**16 37 06.8**	**+2.5**
BNM	**Barren Site**	**19.79**	**112**	*e*P	Pn	**16 37 05.7**	**+0.2**
YKA	**Yellowknife Ar**	**20.26**	**19**	P	P	**16 37 09.1**	**+0.1**
	baz=209,slow=10.0,SNR=4.6						
FFC	**Flin Flon**	**20.35**	**49**	*e*P	P	**16 37 09.1**	**-0.9**
	30nm,1.3s						
ULM	**Lac du Bonnet**	**23.12**	**63**	P	P	**16 37 38.5**	**-1.2**
	3.3nm,0.7s,mb3.9,baz=272,slow=10,SNR=5.5						
ULM				LR	LR	16 46 03.9	
	comp=Z,87nm,21.4s,MS3.2,baz=285,slow=36						
INK	**Inuvik**	**24.46**	**356**	LR	LR	16 47 02.8	
	comp=Z,91nm,18.1s,MS3.3,baz=183,slow=36						
SCHQ	**Schefferville**	**40.45**	**52**	LR	LR	16 56 06.2	
	comp=Z,70nm,21.1s,MS3.5,baz=131,slow=35						
HHC	**Hu-ho-hao-te**	**79.58**	**318**	*e*P	P	**16 44 43.5**	**+2.7**
HHC				XP	sP	16 44 48.8	+3.5
HHC				PP	PP	16 47 44.3	+3.0
HHC				S	S	16 54 43.5	+0.9
HHC				SKS		16 54 54.0	
HHC				PS		16 55 28.5	
HHC				SS	SS	16 59 52.5	+2.0
HHC				AMB	AMB		
	comp=Z,150nm,7.0s						
HHC				LR	LR		
	comp=N,118nm,25.6s,MS4.5						
HHC				LR	LR		
	comp=E,254nm,24.4s,MS4.5						
HHC				LR	LR		
	comp=Z,117nm,24.4s,MS4.1						
LZH	**Lanzhou**	**87.03**	**320**	*e*P	**P**	**16 45 21.5**	**+2.3**
LZH				AP	pP	16 45 26.5	+4.0
LZH				XP	sP	16 45 28.5	+4.8
LZH				PP	PP	16 48 46.3	+4.0

*ISCJB **30** 16:39:48.9±0.5, 6071N±008×1669E±0.1, h18km, mb3.7/10, MS3.0/2, Error ellipse: s-maj=11.8km s-min=9.8km az=142.0*
*IDC **30** 16:39:48.2±0.9, 6076N×16696E, h0km, mb3.7/10, mb1 4.0/10, mb1mx3.8/22, mbtmp3.7/10, MS3.2/2, Ms1 3.2/2, ms1mx2.7/32, Error ellipse: s-maj=30.4km s-min=19.3km az=138.0*
*MOS **30** 16:39:48.7±1.3, 6075N×16680E, h19km, mb3.9/3, Error ellipse: s-maj=28.1km s-min=16.7km az=81.9*
*NEIC **30** 16:39:51.0±4.2, 6076N×16687E, h18km±28km, mb3.7/3, Error ellipse: s-maj=11.4km s-min=8.3km az=156.0*

ISC 30 16:39:51.2±3.7, 6077N±009×1669E±02, h21km±29km, n21, σ0♀75/20, mb3.7/10, MS3.0/2, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MA2	**Magadan**	**8.12**	**269**	*e*PN	Pn	**16 41 47.5**	**-0.3**
SMY	**Shemya**	**8.98**	**151**	PN	Pn	**16 41 58.7**	**-0.9**
AMKA	**Amchitka**	**11.67**	**138**	*e*Pn	Pn	**16 42 37.2**	**+0.7**
IMA2	**Indian Mountai**	**18.18**	**56**	*e*P	Pn	**16 44 01.8**	**-0.5**
MCK	**McKinley**	**20.48**	**62**	*e*P	P	**16 44 28.3**	**+0.8**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MCK	**McKinley**	**20.48**	**62**	*e*P	P	**16 44 28.3**	**+0.8**
	comp=Z,3.1nm,0.9s						
COLA	**College**	**20.72**	**59**	*e*P	P	**16 44 31.0**	**+0.8**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
COLA	**College**	**20.72**	**59**	*e*P	P	**16 44 31.0**	**+0.7**
	comp=Z,2.3nm,0.8s						
ASAJ	**Asahikawa**	**22.08**	**232**	LR	LR	16 54 13.3	
	comp=Z,67nm,20.0s,MS3.0,baz=355,slow=39						
INK	**Inuvik**	**25.70**	**48**	P	P	**16 45 19.8**	**0.0**
	comp=Z,3.1nm,0.8s,mb3.9,baz=270,slow=6.3,SNR=4.1						
INK				LR	LR	16 56 58.5	
	comp=Z,49nm,20.3s,MS3.0,baz=190,slow=40						
INK	**Inuvik**	**25.70**	**48**	*e*P	P	**16 45 19.5**	**-0.3**
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	**Inuvik**	**25.70**	**48**	*e*P	P	**16 45 19.5**	**-0.3**
	comp=Z,2.7nm,0.7s,mb3.9						
INK				LR	LR	16 56 58.5	
MJAR	**Matsushiro Arr**	**30.30**	**230**	P	P	**16 46 01.2**	**+0.2**
	comp=Z,2.2nm,0.9s,mb3.9,baz=16,slow=8.2,SNR=6.5						
YKA	**Yellowknife Ar**	**35.22**	**52**	P	P	**16 46 43.4**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.8,baz=305,slow=8.1,SNR=6.1						
MKAR	**Makanchi Array**	**48.33**	**294**	P	P	**16 48 32.8**	**+1.7**
	comp=Z,0.2nm,0.2s,mb3.7,baz=50,slow=4.5,SNR=2.2						
PDAR	**Pinedale Array**	**50.96**	**70**	P	P	**16 48 51.5**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.7,baz=350,slow=4.5,SNR=5.5						
NOA	**NORSAR Array B**	**57.08**	**346**	P	P	**16 49 35.6**	**-0.3**
	comp=Z,0.7nm,0.7s,mb3.8,baz=15,slow=7.1,SNR=2.6						
GERES	**GERESS Array B**	**68.61**	**341**	P	P	**16 50 52.8**	**+0.2**
	comp=Z,0.3nm,0.7s,mb3.4,baz=27,slow=7.5,SNR=3.8						
ESDC	**Sonseca Array**	**79.63**	**353**	P	P	**16 51 55.2**	**-1.8**
	comp=Z,0.6nm,0.8s,mb3.5,baz=359,slow=7.8,SNR=5.3						
WRA	**Warramunga Arr**	**84.61**	**211**	P	P	**16 52 22.8**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.8,baz=15,slow=5.3,SNR=6.9						
ASAR	**Alice Springs**	**88.29**	**210**	P	P	**16 52 41.3**	**+0.2**
	comp=Z,0.4nm,0.9s,mb3.7,baz=8.1,slow=6.5,SNR=5.9						

*NEIC **30** 16:44:32.4, 3258S×7179W, h14km, ML3.6(GUC), After GUC.*

GUC 30 16:44:32.4±0.6, 3258S×7179W, h14km±2km, MD3.7, ML3.6, 9C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.46**	**164**	⇓*i*P	Pg	16 44 41.4	-0.1
IHA				*i* S	Sg	16 44 48.1	+0.4
CHNG	**Los Chungos**	**0.74**	**19**	⇓*i*P	Pg	16 44 46.1	-0.7
CHNG				*i* S	Sg	16 44 56.4	-0.1
ROCH	**El Roble**	**0.76**	**121**	⇑*i*P	Pg	16 44 47.0	-0.2
ROCH				*i* S	Sg	16 44 57.9	+0.6
LCCH	**Las Cruces**	**0.91**	**168**	⇓*i*P	Pb	16 44 48.6	-1.3
LCCH				*i* S	Sb	16 45 01.2	-0.6
JACH	**Jahuel**	**1.01**	**96**	⇑*i*P	Pb	16 44 50.9	-0.8
JACH				*i* S	Sb	16 45 04.3	-0.6
PEL	**Peldehue**	**1.08**	**121**	⇑*i*P	Pb	16 44 52.3	-0.6
PEL				*i* S	Sb	16 45 07.0	+0.1
PEL				AML	AML	16 45 07.9	
	comp=E,4μm,0.2s						
RCDM	**Rinconada Maip**	**1.22**	**138**	⇓*i*P	Pn	16 44 54.0	-1.1
RCDM				*i* S	Sb	16 45 10.2	-0.8
SAN	**Santiago**	**1.28**	**133**	*e*P	Pn	16 44 54.9	-1.0
SAN				*i* S	Sb	16 45 11.7	-0.9
TACH	**Talagante**	**1.28**	**146**	⇓*i*P	Pn	16 44 54.9	-1.0
TACH				*i* S	Sb	16 45 11.3	-1.3
STL	**Santa Lucia**	**1.29**	**132**	⇑*i*P	Pn	16 44 54.6	-1.3
STL				*i* S	Sb	16 45 12.0	-0.7
DSCH	**Colegio Aleman**	**1.31**	**129**	⇑*i*P	Pn	16 44 54.9	-1.3
DSCH				*i* S	Sb	16 45 12.5	-0.8
CLCH	**Cerro Calan**	**1.33**	**128**	*i* P	Pn	16 44 56.4	-0.1
CLCH				*i* S	Sb	16 45 14.1	+0.1
CLCH				AML	AML	16 45 20.5	
	comp=N,1μm,0.5s						
CLCH	**Cerro Calan**	**1.33**	**128**	*i* P	Pn	16 44 56.4	-0.1
CLCH				*i* S	Sb	16 45 14.1	+0.1
ANTU	**Antumapu**	**1.38**	**136**	⇓*

ISC 30 17:05:19.6±2.9, 100S±06×1084E±07, h35km, n9, σ0§42/9, mb3.8/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.54**	**118**	*eP*	**Pn**	**17 09 33.7**	**+0.1**
	4.2nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.54**	**118**	P	**Pn**	**17 09 32.4**	**-1.2**
	0.3nm,0.3s,baz=285,slow=6.6,SNR=15						
WRA	**Warramunga Arr**	**26.89**	**115**	P	**P**	**17 10 57.2**	**+0.1**
	1.0nm,0.6s,mb3.5,baz=284,slow=12,SNR=14						
WRAB	**Tennant Creek**	**26.90**	**115**	*eP*	**P**	**17 10 57.6**	**+0.3**
	2.9nm,0.8s,mb3.9						
WB2	**Warramunga Arr**	**26.90**	**115**	*eP*	**P**	**17 10 57.0**	**-0.3**
ASAR	**Alice Springs**	**27.87**	**122**	P	**P**	**17 11 06.5**	**+0.5**
	1.4nm,0.7s,mb3.7,baz=296,slow=9.5,SNR=33						
ASAR				PcP	PcP	17 14 22.3	+1.1
	0.5nm,0.7s,baz=297,slow=2.5,SNR=6.0						
SONM	**Songino Array**	**57.56**	**358**	P	**P**	**17 15 06.1**	**+0.4**
	0.9nm,0.8s,mb3.9,baz=164,slow=6.1,SNR=5.5						
MKAR	**Makanchi Array**	**61.13**	**340**	P	**P**	**17 15 30.1**	**-0.2**
	0.4nm,0.4s,mb3.9,baz=138,slow=6.6,SNR=9.0						
CHKZ	**Chkalovo**	**71.04**	**337**	*eP*	**P**	**17 16 33.7**	**-0.2**

IDC 30 17:36:29.0±3.6, 1638S×17455W, h275km±16km, mb3.5/4, mb1 3.8/5, mb1mx3.5/13, mbtmp4.1/5, Error ellipse: s-maj=171.5km s-min=17.3km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.63**	**48**	P	Pn	17 37 30.6	+0.8
	5.2nm,0.3s,baz=148,slow=9.3,SNR=9.8						
AFI				S	S	17 38 18.8	+0.5
	16nm,0.3s,baz=23,slow=23,SNR=17						
WB2	**Warramunga Arr**	**48.54**	**258**	*eP*	P	17 44 44.9	+0.3
WRA	**Warramunga Arr**	**48.55**	**258**	P	P	17 44 44.7	0.0
	3.1nm,0.9s,baz=94,slow=7.9,SNR=27						
ASAR	**Alice Springs**	**48.76**	**253**	P	P	17 44 46.9	+0.6
	16nm,0.6s,baz=86,slow=8.0,SNR=450						
ASPA	**Alice Springs**	**48.76**	**253**	*eP*	P	17 44 46.8	+0.5
NVAR	**Mina Array Bea**	**75.79**	**42**	P	P	17 47 45.3	+0.5
	0.5nm,0.7s,baz=238,slow=12,SNR=3.6						
PDAR	**Pinedale Array**	**83.73**	**42**	P	P	17 48 27.0	-0.3
	0.3nm,0.7s,baz=266,slow=4.5,SNR=3.6						
VYHS	**Vyhne**	**146.14**	**344**	*e*	PKPdf	17 55 33.9	-1.4
BRTR	**Keskin Array B**	**146.19**	**319**	PKPbc	PKPbc	17 55 36.6	-0.3
	1.0nm,0.7s,baz=125,slow=3.5,SNR=5.3						
GERES	**GERESS Array B**	**146.93**	**350**	PKPbc	PKPbc	17 55 39.0	0.0
	0.8nm,0.9s,baz=29,slow=3.0,SNR=5.8						

ISC 30 17:36:34.7±0.8, 3851N±003×2724E±006, h12km±8km, n8, σ0§57/13, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAG	**Bornova**	**0.11**	**168**	*i* P	**Pg**	**17 36 37.4**	**-0.2**
KDAG				*i* S	**Sg**	**17 36 40.5**	**+0.7**
IZM	**Izmir**	**0.12**	**170**	*i* PG	**Pg**	**17 36 37.1**	**-0.6**
BLCB	**Balcova**	**0.20**	**230**	*i* PG	**Pg**	**17 36 38.9**	**-0.2**
AKS	**Akhisar**	**0.58**	**51**	PG	**Pg**	**17 36 45.1**	**-0.9**
AKS				SG	**Sg**	**17 36 54.1**	**+0.4**
AKHS	**Akhisar**	**0.58**	**51**	*i* P	**Pg**	**17 36 45.0**	**-1.0**
AKHS				*i* S	**Sg**	**17 36 54.2**	**+0.5**
AYVA	**Ayvalik**	**0.90**	**332**	*i* P	**Pg**	**17 36 51.7**	**-0.4**
AYVA				*i* S	**Sg**	**17 37 04.6**	**+0.8**
AYDN	**Tasoluk**	**0.99**	**149**	*i* P	**Pg**	**17 36 54.3**	**+0.5**
AYDN				*i* S	**Sg**	**17 37 06.7**	**0.0**
DNZL	**Cakiroluk**	**1.65**	**119**	*i* P	**Pn**	**17 37 03.8**	**+0.4**

ISK 30 18:08:48.5, 37.11N×2824E, h17km, MD3.1
CSEM 30 18:08:48.3±0.1, 37.10N×2824E, h15km, MD3.1, Error ellipse: s-maj=2.6km s-min=2.4km az=147.0
ISCJB 30 18:08:49.0±0.5, 3707N±003×2821E±004, h13km±4km, Error ellipse: s-maj=6.4km s-min=5.3km az=97.9
ATH 30 18:08:52.9, 3684N×2779E, h10km, MD3.1/3

ISC 30 18:08:49.2±0.5, 3707N±003×2823E±004, h16km±4km, n17, σ0§91/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.08**	**37**	*i* PG	**Pg**	**18 08 52.1**	**-0.3**
YER				*i* SG	**Sg**	**18 08 53.9**	**-0.5**
MLSB	**Milas**	**0.42**	**302**	PG	**Pg**	**18 08 58.1**	**+0.4**
DALT	**Dalyan (Mudla)**	**0.45**	**132**	*i* PG	**Pg**	**18 08 57.9**	**-0.3**
DALT				*i* SG	**Sg**	**18 09 06.1**	**+1.8**
DAT	**Datca**	**0.62**	**237**	PG	**Pg**	**18 09 01.2**	**-0.2**
AYDN	**Tasoluk**	**0.65**	**335**	*i* P	**Pg**	**18 09 02.1**	**+0.2**
AYDN				*i* S	**Sg**	**18 09 11.6**	**+1.1**
BODT	**Bodrum**	**0.73**	**269**	PG	**Pg**	**18 09 03.2**	**-0.3**
FETY	**Fethiye**	**0.82**	**122**	PG	**Pg**	**18 09 04.1**	**-1.0**
ARG	**Arkhangelos**	**0.86**	**185**	*e*PB	**Pb**	**18 09 06.0**	**+0.2**
DNZL	**Cakiroluk**	**0.90**	**47**	*i* P	**Pb**	**18 09 05.7**	**-0.7**
DNZL				*i* S	**Sb**	**18 09 19.8**	**+1.6**
DENT	**Denizli**	**0.94**	**43**	PG	**Pb**	**18 09 06.1**	**-1.0**
SMG	**Samos**	**1.27**	**300**	*e*PB	**Pb**	**18 09 14.6**	**+1.8**
ELL	**Elmali**	**1.39**	**103**	*e*PN	**Pn**	**18 09 14.2**	**+0.3**
IZM	**Izmir**	**1.53**	**330**	*e*PN	**Pn**	**18 09 15.2**	**-0.6**
KDAG	**Bornova**	**1.53**	**331**	*i* P	**Pn**	**18 09 13.3**	**-2.6**
KDAG				*i* S	**Sn**	**18 09 35.8**	**+0.4**
BLCB	**Balcova**	**1.61**	**325**	*e*PN	**Pn**	**18 09 17.1**	**+0.1**
KARP	**Karpathos**	**1.75**	**210**	*e*PB	**Pn**	**18 09 19.0**	**+0.1**
AKS	**Akhisar**	**1.83**	**350**	*e*PN	**Pn**	**18 09 19.4**	**-0.6**

IDC 30 18:14:26.2±1.3, 4.91N×12530E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/15, mbtmp3.4/4, Error ellipse: s-maj=151.7km s-min=21.2km az=69.0
NEIC 30 18:14:26.6±0.8, 5.38N×12622E, h10km, mb3.7/1, Error ellipse: s-maj=86.1km s-min=10.7km az=72.0
ISCJB 30 18:14:27.4±1.5, 5.7N±0.1×1266E±0.1, h45km±22km, mb3.3/5, Error ellipse: s-maj=25.1km s-min=12.8km az=81.0
MAN 30 18:14:32.5, 6.08N×12642E, h102km, mb4.2, ML5.1, MS4.9

ISC 30 18:14:28.9±3.4, 558N±009×1264E±01, h34km±28km, n20, σ1§00/23, mb3.3/5, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.37**	**353**	*eP*	**Pn**	**18 14 52.6**	**+1.0**
DAV	**Davao City (W)**	**1.70**	**331**	Pn	**Pn**	**18 14 56.3**	**+0.2**
DMPH	**Davao City--Mi**	**1.75**	**329**	⇑*i*P	**Pn**	**18 14 56.7**	**-0.1**
DMPH				*i* S	**Sn**	**18 15 15.7**	**-2.2**
KCP	**Kidapawan**	**1.94**	**317**	⇓*e*P	**Pn**	**18 15 01.2**	**+1.7**
KCP				*i* S	**Sn**	**18 15 23.3**	**+0.8**
BUKP	**Musuan**	**2.65**	**330**	*eP*	**Pn**	**18 15 08.6**	**-0.6**
CGP	**Cagayan de Oro**	**3.33**	**329**	*eS*	**Sn**	**18 15 52.3**	**-4.6**
BUTP	**Butuan**	**3.46**	**347**	*eP*	**Pn**	**18 15 14.2**	**-6.2**
PAGZ	**Pagadian**	**3.76**	**307**	*eP*	**Pn**	**18 15 22.4**	**-2.1**
SCPH	**Surigao**	**4.28**	**348**	⇓*eP*	**Pn**	**18 15 30.7**	**-0.8**
IPIL	**Ipil**	**4.40**	**300**	*eP*	**Pn**	**18 15 33.1**	**-0.3**
IPIL				*i* S	**Sn**	**18 16 29.2**	**+5.8**
IPIL	**Ipil**	**4.40**	**300**	*eP*	**Pn**	**18 15 35.5**	**+2.1**
FITZ	**Fitzroy Crossi**	**23.54**	**182**	*eP*	**P**	**18 19 35.9**	**-0.3**
	2.6nm,1.0s,mb3.6						
WRAB	**Tennant Creek**	**26.53**	**163**	P	**P**	**18 20 03.7**	**+0.4**
WRA	**Warramunga Arr**	**26.53**	**163**	P	**P**	**18 20 03.0**	**-0.4**
	0.3nm,0.5s,mb3.1,baz=340,slow=11,SNR=13						
WB2	**Warramunga Arr**	**26.54**	**163**	*eP*	**P**	**18 20 03.3**	**-0.1**
AS31	**Alice Springs**	**29.97**	**166**	*eP*	**P**	**18 20 33.9**	**-0.1**
ASPA	**Alice Springs**	**29.97**	**166**	*eP*	**P**	**18 20 33.9**	**-0.1**
ASAR	**Alice Springs**	**29.97**	**166**	P	**P**	**18 20 33.9**	**-0.2**
	0.2nm,0.5s,mb3.1,baz=343,slow=7.7,SNR=8.0						
SONM	**Songino Array**	**45.46**	**341**	P	**P**	**18 22 49.5**	**+4.9**
	0.4nm,0.8s,mb3.3,baz=159,slow=8.6,SNR=3.5						
MKAR	**Makanchi Array**	**55.87**	**325**	P	**P**	**18 24 04.5**	**+1.4**
	0.2nm,0.4s,mb3.5,baz=118,slow=8.0,SNR=4.5						

NEIC 30 18:20:16.8, 3201S×6989W, h111km, MG3.5(GUC), After GUC.

GUC 30 18:20:16.8±0.6, 3201S×6989W, h111km±4km, MD3.4, ML3.5, 7C-5D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACH	**Jahuel**	**0.90**	**222**	*i* P	Pn	18 20 37.5	+0.4
JACH				*i* S	Sn	18 20 53.1	+0.9
MDZ	**Mendoza**	**1.23**	**135**	⇓*i*P	Pn	18 20 40.9	+0.3
MDZ				*i* S	Sn	18 21 00.0	+1.4
CMCH	**Combarbala**	**1.27**	**311**	⇓*i*P	Pn	18 20 41.1	+0.2
CMCH				*i* S	Sn	18 21 00.1	+0.9
PEL	**Peldehue**	**1.32**	**211**	⇓*i*P	Pn	18 20 41.9	+0.4
PEL				*i* S	Sn	18 21 00.5	+0.3
PEL				AML	AML	18 21 01.5	
	comp=N,922nm,0.5s						
PEL	**Peldehue**	**1.32**	**211**	⇓*i*P	Pn	18 20 41.9	+0.4
PEL				*i* S	Sn	18 21 00.5	+0.3
FCH	**Farellones**	**1.36**	**194**	⇑*i*P	Pn	18 20 43.1	+1.2
FCH				*i* S	Sn	18 21 03.1	+2.0
CHNG	**Los Chungos**	**1.38**	**275**	*i* P	Pn	18 20 42.4	+0.2
CHNG				*i* S	Sn	18 21 01.6	+0.2
CLCH	**Cerro Calan**	**1.49**	**201**	AML	AML	18 21 08.1	
	comp=E,524nm,0.7s						
RCDM	**Rinconada Maip**	**1.67**	**207**	*i* P	Pn	18 20 45.8	+0.2
RCDM				*i* S	Sn	18 21 08.1	+0.5
RCDM				AML	AML	18 21 09.4	
	comp=E,593nm,0.2s						
RCDM	**Rinconada Maip**	**1.67**	**207**	*i* P	Pn	18 20 45.8	+0.2
RCDM				*i* S	Sn	18 21 08.1	+0.5
ANTU	**Antumapu**	**1.68**	**202**	⇑*i*P	Pn	18 20 45.8	0.0
ANTU				*i* S	Sn	18 21 08.6	+0.8
ANTU				AML	AML	18 21 09.7	
	comp=E,436nm,0.4s						
ANTU	**Antumapu**	**1.68**	**202**	⇑*i*P	Pn	18 20 45.8	0.0
ANTU				*i* S	Sn	18 21 08.6	+0.8
PCH	**Pirque**	**1.69**	**198**	*i* P	Pn	18 20 46.4	+0.5
PCH				*i* S	Sn	18 21 09.3	+1.2
TACH	**Talagante**	**1.86**	**208**	⇑*i*P	Pn	18 20 48.3	+0.2
TACH				*i* S	Sn	18 21 12.5	+0.5
TLL	**Tololo Astrono**	**2.00**	**337**	⇑*i*P	Pn	18 20 51.0	+1.2
TLL				*i* S	Sn	18 21 16.5	+1.5
TLL				AML	AML	18 21 23.6	
	comp=N,340nm,0.4s						
TLL	**Tololo Astrono**	**2.00**	**337**	⇑*i*P	Pn	18 20 51.0	+1.2
TLL				*i* S	Sn	18 21 16.5	+1.5
CHCH	**Chadas Angostu**	**2.02**	**198**	⇑*i*P	Pn	18 20 50.4	+0.3
CHCH				*i* S	Sn	18 21 16.1	+0.6
LCCH	**Las Cruces**	**2.04**	**224**	*i* P	Pn	18 20 50.5	+0.3
LCCH				*i* S	Sn	18 21 16.6	+0.8
CACH	**El Canelo**	**2.19**	**196**	*i* P	Pn	18 20 53.1	+1.0
CACH				*i* S	Sn	18 21 20.9	+1.7
CICH	**Cipreses**	**2.35**	**191**	*i* P	Pn	18 20 55.2	+1.0
CICH				*i* S	Sn	18 21 24.1	+1.1

IDC 30 18:31:17.3±37.0, 1922S×17754W, h520km±333km, mb2.9/2, mb1 3.2/2, mb1mx2.8/12, mbtmp3.8/2, Error ellipse: s-maj=314.1km s-min=93.4km az=123.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WB2	**Warramunga Arr**	**45.21**	**261**	*eP*	P	18 38 47.8	+0.2
WRA	**Warramunga Arr**	**45.22**	**261**	P	P	18 38 47.8	+0.2
	0.6nm,0.4s,baz=98,slow=7.9,SNR=37						
ASAR	**Alice Springs**	**45.25**	**255**	P	P	18 38 48.3	+0.5
	0.6nm,0.4s,baz=86,slow=8.2,SNR=37						
ASAR				PcP	PcP	18 40 16.7	-0.1
	0.4nm,0.7s,baz=102,slow=4.0,SNR=5.8						
ASPA	**Alice Springs**	**45.25**	**255**	*eP*	P	18 38 48.3	+0.4
ARCES	**ARCESS Array B**	**127.75**	**350**	PKP	PKPdf	18 49 22.4	-1.0
	1.4nm,0.8s,baz=20,slow=3.9,SNR=3.8						
GERES	**GERESS Array B**	**149.09**	**345**	PKPbc	PKPbc	18 50 06.4	-0.2
	0.5nm,0.6s,baz=20,slow=3.1,SNR=6.5						

IDC 30 19:05:40.4±4.6, 930S×10886E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=161.7km s-min=27.9km az=55.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.48**	**120**	P	Pn	19 09 59.5	+1.6
	0.1nm,0.3s,baz=307,slow=15,SNR=4.3						
WRA	**Warramunga Arr**	**26.78**	**116**	P	P	19 11 22.5	+0.5
	0.6nm,0.9s,baz=289,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**27.87**	**124**	P	P	19 11 31.4	-0.4
	0.6nm,0.5s,baz=302,slow=8.8,SNR=12						
SONM	**Songino Array**	**56.93**	**358**	P	P	19 15 27.5	+0.2
	0.4nm,0.5s,baz=182,slow=8.3,SNR=5.4						

IDC 30 19:10:45.3±1.3, 3.45S×13144E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/13, mbtmp3.9/6, MS3.1/1, Ms1 3.1/1, ms1mx2.4/27, Error ellipse: s-maj=72.5km s-min=22.2km az=66.0
NEIC 30 19:10:47.1±0.7, 3.54S×13126E, h10km, mb4.2/9, Error ellipse: s-maj=28.6km s-min=11.5km az=67.0
ISCJB 30 19:10:49.0±0.8, 3.79S±0.1×1310E±0.2, h33km, mb4.0/9, MS3.0/1, Error ellipse: s-maj=30.3km s-min=11.7km az=149.6

ISC 30 19:10:51.6±0.8, 390S±007×1308E±01, h35km, n22, σ1§49/22, mb4.0/9, MS3.0/1, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**8.90**	**170**	*eP*	**Pn**	**19 12 56.8**	**-0.8**
	10nm,0.4s						
FITZ	**Fitzroy Crossi**	**15.00**	**199**	*eP*	**Pn**	**19 14 21.2**	**+0.3**
	9.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**15.00**	**199**	Pn	**Pn**	**19 14 19.8**	**-1.1**
	0.6nm,0.3s,baz=35,slow=11,SNR=24						
FITZ				Sn	**Sn**	**19 17 04.4**	**-1.4**
	0.1nm,0.3s,baz=52,slow=19,SNR=2.1						
WRAB	**Tennant Creek**	**16.30**	**168**	*eP*	**Pn**	**19 14 41.5**	**+3.7**
	9.8nm,0.6s						
WRA	**Warramunga Arr**	**16.31**	**168**	Pn	**Pn**	**19 14 34.3**	**-3.6**
	0.3nm,0.3s,baz=344,slow=14,SNR=20						
WB2	**Warramunga Arr**	**16.31**	**168**	*eP*	**Pn**	**19 14 33.1**	**-4.8**
AS31	**Alice Springs**	**19.87**	**172**	*eP*	**Pn**	**19 15 21.4**	**-0.1**
ASAR	**Alice Springs**	**19.87**	**172**	P	**Pn**	**19 15 21.4**	**-0.1**
	8.8nm,0.6s,baz=353,slow=10.0,SNR=201						
ASPA	**Alice Springs**	**19.87**	**172**	*eP*	**Pn**	**19 15 21.4**	**-0.1**
CTA	**Charters Tower**	**22.02**	**138**	*eP*	**P**	**19 15 41.3**	**-1.6**
	3.2nm,0.6s,mb3.9						
CTA	**Charters Tower**	**22.02**	**138**	P	**P**	**19 15 41.2**	**-1.7**
	2.5nm,0.5s,mb3.9,baz=334,slow=14,SNR=7.9						
CTAO	**Charters Tower**	**22.02**	**138**	*eP*	**P**	**19 15 41.3**	**-1.5**
	2.6nm,0.5s,mb3.9						
FORT	**Forrest**	**26.86**	**185**	*eP*	**P**	**19 16 30.6**	**+1.7**
	8.5nm,0.6s,mb4.5						
KLBR	**Kellerberrin**	**30.16**	**203**	*eP*	**P**	**19 17 01.0**	**+2.7**
	35nm,1.4s,mb4.9						
CBIJ	**Chichi jima**	**32.71**	**19**	LR	LR	19 29 36.0	
	comp=Z,32nm,20.1s,MS3.0,baz=167,slow=35						
MKAR	**Makanchi Array**	**66.12**	**326**	P	**P**	**19 21 35.2**	**-0.1**
	0.5nm,0.5s,mb3.8,baz=125,slow=6.4,SNR=5.1						
KURK	**Kurchatov**	**70.34**	**328**	P	**P**	**19 22 00.6**	**-1.1**
	2.3nm,0.8s,mb4.2						
VNDA	**Vanda**	**75.41**	**173**	P	**P**	**19 22 33.0**	**+1.2**
	1.0nm,0.6s,mb3.9,baz=333,slow=3.8,SNR=8.0						
VNDA	**Vanda**	**75.41**	**173**	*eP*	**P**	**19 22 32.8**	**+1.1**
	0.9nm,0.6s,mb3.9						
BVAR	**Borovoye Array**	**75.91**	**327**	P	**P**	**19 22 32.5**	**-2.1**
	0.8nm,0.9s,mb3.7,baz=114,slow=10,SNR=3.9						
SBA	**Scott Base**	**76.28**	**173**	*eP*	**P**	**19 22 39.0**	**+2.3**
	1.0nm,0.7s,mb3.9						
MAW	**Mawson**	**78.12**	**201**	P	**P**	**19 22 49.8**	**+2.8**
	0.5nm,0.6s,mb3.7,baz=68,slow=18,SNR=4.7						

IDC 30 19:11:39.7±1.1, 3.40S×13903E, h0km, mb4.2/3, mb1 4.3/7, mb1mx4.0/13, mbtmp4.2/7, ML3.8/4, MS3.1/1, Ms1 3.1/1, ms1mx2.4/21, Error ellipse: s-maj=38.7km s-min=21.4km az=74.0
ISCJB 30 19:11:42.5±0.7, 3.44S±007×1391E±0.1, h33km, mb4.0/5, Error ellipse: s-maj=17.7km s-min=9.6km az=166.2
NEIC 30 19:11:43.0±6.2, 3.40S×13903E, h24km±45km, mb4.0/4, Error ellipse: s-maj=18.8km s-min=15.8km az=156.0

ISC 30 19:11:44.8±0.7, 346S±007×1390E±01, h35km, n18, σ1§15/21, mb4.0/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**10.05**	**126**	Pn	**Pn**	**19 14 05.7**	**-1.0**
	0.3nm,0.3s,baz=232,slow=16,SNR=2.1						
PMG				Sn	**Sn**	**19 15 50.9**	**-7.3**
	0.6nm,0.3s,baz=227,slow=19,SNR=2.4						
WRAB	**Tennant Creek**	**16.99**	**195**	*e*Pn	**Pn**	**19 15 39.3**	**-0.3**
	7.0nm,0.6s						
WRAB				*e*Sn	**Sn**	**19 18 37.9**	**-9.4**
WB2	**Warramunga Arr**	**17.00**	**195**	*eP*	**Pn**	**19 15 40.7**	**+1.0**
WRA	**Warramunga Arr**	**17.00**	**195**	P	**Pn**	**19 15 38.9**	**-0.9**
	2.0nm,0.3s,baz=11,slow=12,SNR=16						
WRA				S	**S**	**19 18 38.3**	**-18**
	0.4nm,0.3s,baz=13,slow=22,SNR=3.8						
CTA	**Charters Tower**	**17.99**	**157**	P	**Pn**	**19 15 52.2**	**+0.2**
	0.3nm,0.3s,baz=340,slow=11,SNR=4.5						
CTA				LR	LR	19 22 39.9	
	comp=Z,59nm,20.1s,baz=147,slow=37						
CTAO	**Charters Tower**	**17.99**	**157**	P	**Pn**	**19 15 52.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.55**	**221**	P	**Pn**	**19 16 09.1**	**-1.9**
	0.1nm,0.3s,baz=80,slow=11,SNR=2.4						
FITZ				S	**S**	**19 19 40.5**	**-7.9**
	0.6nm,0.3s,baz=190,slow=14,SNR=6.7						
AS31	**Alice Springs**	**20.68**	**193**	*eP*	**P**	**19 16 23.0**	**+1.3**
ASAR	**Alice Springs**	**20.68**	**193**	P	**P**	**19 16 23.6**	**+1.9**
	6.6nm,0.6s,baz=20,slow=10,SNR=14						
ASAR				S	**S**	**19 20 08.0**	**-2.8**
	1.6nm,0.7s,baz=18,slow=27,SNR=4.2						
ASPA	**Alice Springs**	**20.68**	**193**	*eP*	**P**	**19 16 23.0**	**+1.3**
MKAR	**Makanchi Array**	**70.53**	**322**	P	**P**	**19 22 57.0**	**+1.0**
	1.4nm,0.6s,mb4.0,baz=109,slow=8.0,SNR=8.6						
KURK	**Kurchatov**	**74.47**	**325**	*eP*	**P**	**19 23 17.8**	**-1.7**
	1.0nm,0.6s,mb3.9						
SBA	**Scott Base**	**75.78**	**174**	P	**P**	**19 23 27.3**	**+0.2**
BVAR	**Borovoye Array**	**80.07**	**325**	P	**P**	**19 23 51.2**	**+0.3**
	1.6nm,0.5s,mb4.2,baz=112,slow=7.5,SNR=13						
BRVK	**Borovoye**	**80.14**	**325**	*eP*	**P**	**19 23 51.4**	**+0.2**
	1.7nm,1.0s,mb3.9						
CHKZ	**Chkalovo**	**80.16**	**326**	*eP*	**P**	**19 23 51.1**	**-0.3**
	0.6nm,0.5s,mb3.8						
LPAZ	**La Paz**	**146.79**	**127**	PKPbc	PKPbc	19 31 23.8	+0.6
	1.4nm,0.8s,baz=227,slow=1.7,SNR=6.3						
LPAZ	**La Paz**	**146.79**	**127**	*e*PKPbc	PKPbc	19 31 23.1	-0.1

IDC 30 19:18:22.9±1.1, 5.209N×17469W, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.7/22, mbtmp3.7/10, Error ellipse: s-maj=32.8km s-min=25.1km az=159.0
ISCJB 30 19:18:32.0±0.9, 5.19N±0.1×1745W±0.2, h89km±5km, mb3.5/10, Error ellipse: s-maj=24.2km s-min=11.8km az=96.7
NEIC 30 19:18:33.5±1.0, 5.197N×17451W, h88km±7km, MG3.6(AEIC), Error ellipse: s-maj=23.7km s-min=11.7km az=152.0

ISC 30 19:18:32.7±1.0, 519N±01×1746W±02, h85km±6km, n17, σ1§34/18, mb3.5/10, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.40**	**39**	P	**Pn**	**19 18 45.3**	**-0.9**
ATKA				S	**Sn**	**19 18 54.8**	**-1.5**
AMKA	**Amchitka**	**3.83**	**265**	P	**Pn**	**19 19 31.5**	**+2.2**
SPIA	**Saint Paul Isl**	**5.87**	**24**	*eP*	**Pn**	**19 19 58.8**	**+1.7**
SPIA				*eS*	**Sn**	**19 21 04.2**	**+1.1**
KDAK	**Kodiak Island**	**13.96**	**56**	Pn	**Pn**	**19 21 50.6**	**+4.0**
	5.3nm,0.3s,baz=274,slow=6.9,SNR=31						
KDAK				Sn	**Sn**	**19 24 22.7**	**+2.7**
	0.2nm,0.3s,baz=295,slow=17,SNR=1.9						
INK	**Inuvik**	**25.55**	**35**	P	**P**	**19 23 52.5**	**-1.0**
	0.8nm,0.5s,mb3.4,baz=234,slow=3.7,SNR=3.6						
INK				PcP	PcP	19 27 23.4	+0.7
	1.1nm,0.6s,baz=138,slow=1.9,SNR=4.4						
YKA	**Yellowknife Ar**	**32.97**	**48**	P	**P**	**19 24 58.0**	**-1.3**
	0.2nm,0.4s,mb3.3,baz=273,slow=9.3,SNR=3.7						
YKA				PcP	PcP	19 27 42.7	+1.2
	0.6nm,0.4s,baz=286,slow=3.1,SNR=9.4						
YKA	**Yellowknife Ar**	**32.97**	**48**	P	**P**	**19 24 58.0**	**-1.3**
YKA				PcP	PcP	19 27 42.7	+1.2
PDAR	**Pinedale Array**	**43.66**	**75**	P	**P**	**19 26 29.3**	**+0.4**
	0.4nm,0.5s,mb3.4,baz=295,slow=0.8,SNR=5.3						
SONM	**Songino Array**	**48.73**	**298**	P	**P**	**19 27 09.0**	**+0.3**
	0.3nm,0.6s,mb3.4,baz=59,slow=6.6,SNR=4.1						
ARCES	**ARCESS Array B**	**57.99**	**352**	P	**P**	**19 28 15.5**	**-1.0**
	1.0nm,0.6s,mb4.0,baz=45,slow=7.0,SNR=5.0						
FINES	**FINESS Array B**	**65.82**	**349**	P	**P**	**19 29 07.1**	**-1.8**
	0.4nm,0.6s,mb3.4,baz=26,slow=4.9,SNR=4.7						
NOA	**NORSAR Array B**	**67.33**	**357**	P	**P**	**19 29 18.1**	**-0.4**
	0.4nm,0.5s,mb3.5,baz=4.0,slow=6.6,SNR=2.9						
HFS	**Hagfors**	**68.13**	**356**	P	**P**	**19 29 22.7**	**-0.8**
	1.6nm,0.4s,mb4.2,baz=8.5,slow=3.0,SNR=28						
GERES	**GER

ISC 30 19:42:29.4±1.3, 128N±007×1255E±02, h51km±15km, n19, σ0s90/18, mb4.3/11, MS2.9/1, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**6.57**	**356**	*eP*	**Pn**	**19 44 05.2**	**+1.7**
PAGZ	**Pagadian**	**6.87**	**342**	*eP*	**Pn**	**19 44 06.7**	**-0.8**
IPIL	**Ipil**	**7.10**	**336**	*iP*	**Pn**	**19 44 10.3**	**-0.4**
IPIL	**Ipil**	**7.10**	**336**	*eP*	**Pn**	**19 44 10.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**19.26**	**180**	P	**Pn**	**19 46 49.9**	**-1.1**
	0.1nm,0.3s,baz=20,slow=17,SNR=3.9						
WRAB	**Tennant Creek**	**22.79**	**158**	*eP*	**P**	**19 47 27.1**	**-0.4**
	14nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**22.79**	**158**	P	**P**	**19 47 27.0**	**-0.6**
	6.3nm,0.5s,mb4.3,baz=333,slow=11,SNR=55						
WB2	**Warramunga Arr**	**22.80**	**158**	*eP*	**P**	**19 47 27.1**	**-0.5**
JOW	**Kunigami**	**25.55**	**6**	P	**P**	**19 47 53.1**	**-0.2**
	16nm,0.6s,mb4.7,baz=201,slow=8.9,SNR=18						
JOW				LR	LR	19 57 09.6	
	comp=Z,32nm,19.1s,MS2.9,baz=210,slow=35						
AS31	**Alice Springs**	**26.10**	**162**	*eP*	**P**	**19 47 59.1**	**+0.8**
ASAR	**Alice Springs**	**26.10**	**162**	P	**P**	**19 47 59.5**	**+1.1**
	7.8nm,0.6s,mb4.4,baz=349,slow=14,SNR=158						
ASAR				PcP	PcP	19 51 26.7	+1.9
	0.3nm,0.5s,baz=356,slow=2.8,SNR=5.2						
FORT	**Forrest**	**31.97**	**176**	*eP*	**P**	**19 48 51.9**	**+1.4**
	8.8nm,0.5s,mb4.8						
MJAR	**Matsushiro Arr**	**37.00**	**17**	P	**P**	**19 49 33.0**	**-1.0**
	2.7nm,0.7s,mb4.2,baz=193,slow=9.0,SNR=11						
MDJ	**Mudanjiang**	**43.31**	**4**	*eP*	**P**	**19 50 26.5**	**+0.3**
	7.4nm,0.7s,mb4.5						
ASAJ	**Asahikawa**	**45.28**	**17**	P	**P**	**19 50 42.0**	**+0.1**
	2.6nm,0.4s,mb4.4,baz=38,slow=19,SNR=4.9						
SONM	**Songino Array**	**49.25**	**343**	P	**P**	**19 51 13.2**	**+0.4**
	0.1nm,0.3s,mb3.4,baz=163,slow=6.5,SNR=4.3						
MKAR	**Makanchi Array**	**58.90**	**327**	P	**P**	**19 52 23.9**	**+0.8**
	0.5nm,0.4s,mb3.9,baz=116,slow=7.5,SNR=5.8						
ARCES	**ARCESS Array B**	**92.32**	**340**	P	**P**	**19 55 32.5**	**-1.6**
	2.0nm,0.9s,mb4.5,baz=75,slow=5.3,SNR=5.1						
TORD	**Torodi Ar. Bea**	**122.49**	**286**	PKP	PKPdf	20 01 20.6	+1.6
	1.1nm,0.7s,baz=47,slow=2.2,SNR=7.7						

*NIED **30** 20:23:00, 4380N×13850E, h250km, Mw4.1 Best double couple: M0 1.60000×10^15 NP1:φ98.00000°, δ85.00000°, λ-30.00000°. NP2:φ191.00000°, δ60.00000°, λ-175.00000°.*

*ISCJB **30** 20:23:51.8±0.3, 4379N±003×13846E±005, h264km±4km, mb3.9/37, Error ellipse: s-maj=6.6km s-min=5.0km az=59.2*

*BJI **30** 20:23:51.1, 4388N×13842E, h256km, mB4.3, mb4.0*

*MOS **30** 20:23:51.3±1.2, 4390N×13831E, h255km, mb4.0/6, Error ellipse: s-maj=12.9km s-min=7.3km az=109.2*

*IDC **30** 20:23:52.4±1.5, 4386N×13838E, h252km±15km, mb3.3/17, mb1 3.6/20, mb1mx3.5/25, mbtmp4.0/20, Error ellipse: s-maj=13.7km s-min=10.5km az=64.0*

*JMA **30** 20:23:52.9±0.3, 4382N×13849E, h260km±3km, M3.5*

*NEIC **30** 20:23:52.7±0.5, 4384N×13838E, h256km±6km, mb4.3/18, Error ellipse: s-maj=6.3km s-min=5.8km az=100.0*

ISC 30 20:23:52.6±0.3, 4381N±004×13847E±005, h259km±4km, n100, σ0s94/116, mb3.9/37, 3C, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSK	**Shakotan**	**1.52**	**107**	P	**Pn**	**20 24 32.3**	**+0.4**
JSK				*eS*	**S**	**20 25 02.9**	**0.0**
JOSM	**Okushiri--Mats**	**1.87**	**157**	P	**Pn**	**20 24 35.5**	**+0.8**
JOSM				*eS*	**S**	**20 25 08.9**	**+0.9**
JYG	**Yagishiri**	**2.22**	**73**	P	**Pn**	**20 24 37.7**	**0.0**
JHR	**Hokuryu**	**2.36**	**90**	P	**Pn**	**20 24 39.8**	**+0.7**
JEW	**Eniwo**	**2.38**	**113**	P	**Pn**	**20 24 40.1**	**+0.8**
JKB	**Kayabe**	**2.69**	**135**	P	**Pn**	**20 24 42.6**	**+0.2**
JKB				*eS*	**S**	**20 25 22.3**	**+0.5**
JWK2	**Keihoku**	**2.88**	**57**	P	**Pn**	**20 24 45.4**	**+1.1**
ASAJ	**Asahikawa**	**2.99**	**83**	P	**Pn**	**20 24 45.9**	**+0.3**
	14nm,0.3s,baz=270,slow=7.6,SNR=111						
ASAJ	**Asahikawa**	**2.99**	**83**	P	**Pn**	**20 24 45.9**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,14nm,0.3s						
JFR	**Furan**	**3.07**	**101**	P	**Pn**	**20 24 46.7**	**+0.4**
JOT	**Ohata**	**3.08**	**141**	P	**Pn**	**20 24 46.6**	**+0.1**
JKK2	**Kamakawa 2**	**3.09**	**87**	P	**Pn**	**20 24 47.2**	**+0.6**
JKK2				*eS*	**S**	**20 25 29.8**	**+0.3**
JSE	**Soyaes**	**3.17**	**67**	P	**Pn**	**20 24 48.3**	**+0.9**
JNBK	**Urakawa-nobuka**	**3.49**	**114**	P	**Pn**	**20 24 50.8**	**-0.2**
JNBK				*eS*	**S**	**20 25 36.2**	**-1.1**
JCH	**Churui**	**3.77**	**107**	P	**Pn**	**20 24 53.0**	**-1.1**
JCH				*eS*	**S**	**20 25 39.1**	**-3.9**
JAR	**Ashorobuto**	**3.88**	**96**	P	**Pn**	**20 24 55.8**	**+0.4**
JAR				*eS*	**S**	**20 25 45.0**	**-0.4**
JTKR	**Abashiri--Toko**	**3.93**	**86**	P	**Pn**	**20 24 56.3**	**+0.3**
JANG	**Nango**	**4.11**	**146**	P	**Pn**	**20 24 57.9**	**-0.2**
JANG				*eS*	**S**	**20 25 46.3**	**-3.9**
YSS	**Yuzh-Sakhalins**	**4.36**	**42**	*eP*	**Pn**	**20 25 01.2**	**+0.2**
YSS				*eS*	**S**	**20 25 55.3**	**-0.1**
JAK	**Akkeshi**	**4.61**	**98**	P	**Pn**	**20 25 02.7**	**-1.2**
JAK				*eS*	**S**	**20 25 56.0**	**-4.8**
JMK	**Ichinoseki**	**5.27**	**156**	P	**Pn**	**20 25 11.2**	**-0.8**
JMK				*eS*	**S**	**20 26 12.2**	**-3.2**
NEM2	**Nemuro 2**	**5.30**	**92**	P	**Pn**	**20 25 10.7**	**-1.6**
NEM2				*eS*	**S**	**20 26 09.5**	**-6.5**
MDJ	**Mudanjiang**	**6.43**	**280**	P	**Pn**	**20 25 25.5**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,13nm,3.3s						
KLR	**Kul'dur**	**7.13**	**322**	*eP*	**Pn**	**20 25 29.8**	**-5.2**
MAJO	**Matsushiro**	**7.26**	**182**	*eP*	**Pn**	**20 25 36.7**	**+0.1**
MAJO				S	**S**	**20 26 58.7**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,19nm,0.4s						
MAJO	**Matsushiro**	**7.26**	**182**	*ePn*	**Pn**	**20 25 36.7**	**+0.1**
	comp=Z,19nm,0.4s						
MAJO				S	**S**	**20 26 58.7**	**-1.6**
MAT	**Matsushiro**	**7.26**	**182**	P	**Pn**	**20 25 36.7**	**+0.1**
MAT	**Matsushiro**	**7.26**	**182**	*eP*	**Pn**	**20 25 38.0**	**+1.4**
MAT				pmax	pmax		
	comp=Z,13nm,0.5s						
MAT	**Matsushiro**	**7.26**	**182**	*eP*	**Pn**	**20 25 38.0**	**+1.4**
	comp=Z,13nm,0.5s						
MJAR	**Matsushiro Arr**	**7.26**	**182**	P	**Pn**	**20 25 37.2**	**+0.6**
	comp=Z,7.7nm,0.3s,baz=1.3,slow=13,SNR=80						
MJAR	**Matsushiro Arr**	**7.26**	**182**	P	**Pn**	**20 25 37.2**	**+0.6**
JHJ	**Hachijo jima 2**	**10.72**	**174**	P	**Pn**	**20 26 17.5**	**-2.5**
	comp=Z,36nm,0.3s,baz=248,slow=23,SNR=7.3						
INCN	**Inchon**	**10.99**	**239**	Pn	**Pn**	**20 26 21.1**	**-2.3**
HIA	**Hailar**	**13.99**	**300**	P	**Pn**	**20 27 00.6**	**+0.3**
CBIJ	**Chichi jima**	**16.94**	**169**	P	**P**	**20 27 33.2**	**+0.1**
	comp=Z,12nm,0.3s,baz=339,slow=22,SNR=14						
BJI	**Beijing**	**17.00**	**265**	P	**P**	**20 27 33.5**	**-0.3**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.9s						
BJT	**Baijiatuau**	**17.02**	**265**	*eP*	**P**	**20 27 33.8**	**-0.2**
BJT				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BJT	**Baijiatuau**	**17.02**	**265**	*eP*	**P**	**20 27 33.8**	**-0.2**
	comp=Z,4.9nm,0.4s						
YAK	**Yakutsk**	**18.98**	**347**	*eP*	**P**	**20 27 52.5**	**-2.6**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.5s						
NJ2	**Nanjing**	**19.37**	**239**	*eP*	**P**	**20 28 00.5**	**+1.2**
NJ2				S	**S**	**20 31 20.0**	**-4.1**
NJ2				PCS	PcS	20 35 50.0	+3.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,60nm,3.8s						
NJ2				LR	LR		
	comp=N,360nm,14.1s						
NJ2				LR	LR		
	comp=E,90nm,19.5s						
NJ2				LR	LR		
	comp=Z,7μm,14.4s						
HHC	**Hu-ho-hao-te**	**20.08**	**271**	*eP*	**P**	**20 28 07.3**	**+0.5**
HHC				XP	sP	20 29 20.5	-0.3
HHC				S	**S**	**20 31 31.5**	**-6.3**
HHC				PCP	PcP	20 32 14.0	+3.7
HHC				PCS	PcS	20 35 50.5	+2.5
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s						
HHC				AMB	AMB		
	comp=Z,87nm,6.5s						
HHC				LR	LR		
	comp=N,183nm,19.6s						
HHC				LR	LR		
	comp=E,87nm,19.0s						
HHC				LR	LR		
	comp=Z,102nm,20.8s						
ULN	**Ulaanbaatar**	**22.18**	**292**	*iP* *eP*	**P**	**20 28 23.4**	**-4.0**
SONM	**Songino Array**	**22.62**	**292**	P	**P**	**20 28 30.5**	**-1.0**
	comp=Z,0.5nm,0.3s,mb3.3,baz=77,slow=8.4,SNR=9.2						
YHNB	**Yeheng**	**23.67**	**222**	P	**P**	**20 28 40.9**	**0.0**
LZH	**Lanzhou**	**27.49**	**266**	*eP*	**P**	**20 29 17.0**	**+1.8**
LZH				AP	pP	20 30 06.8	+1.1
LZH				XP	sP	20 30 36.5	+0.7
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.4						
CD2	**Chengdu**	**30.22**	**257**	*eP*	**P**	**20 29 38.0**	**-1.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
KMI	**Kunming**	**34.51**	**249**	P	**P**	**20 30 18.5**	**+2.0**
KMI				AP	pP	20 31 09.3	+1.1
KMI				XP	sP	20 31 38.0	0.0
KMI				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.0						
ZAL	**Zalesovo**	**35.91**	**306**	P	**P**	**20 30 27.7**	**-0.8**
	comp=Z,2.0nm,0.4s,mb4.0,baz=15,slow=7.0,SNR=5.8						
ZAL	**Zalesovo**	**35.91**	**306**	P	**P**	**20 30 27.7**	**-0.8**
WMQ	**Urumqi**	**36.16**	**288**	P	**P**	**20 30 31.8**	**+1.3**
MKAR	**Makanchi Array**	**38.92**	**295**	P	**P**	**20 30 53.1**	**-0.4**
	comp=Z,1.4nm,0.5s,mb3.6,baz=76,slow=9.4,SNR=15						
KURK	**Kurchatov**	**40.22**	**302**	*eP*	**P**	**20 31 03.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.2						
KURK	**Kurchatov**	**40.22**	**302**	*eP*	**P**	**20 31 03.8**	**-0.4**
	comp=Z,9.6nm,0.7s,mb4.2						
BVAR	**Borovoye Array**	**44.52**	**307**	P	**P**	**20 31 38.7**	**0.0**
	comp=Z,2.1nm,0.3s,mb3.9,baz=80,slow=10,SNR=38						
BVAR				PcP	PcP	20 33 16.8	-0.3
	comp=Z,0.6nm,0.5s,baz=50,slow=3.1,SNR=4.7						
BRVK	**Borovoye**	**44.58**	**307**	*eP*	**P**	**20 31 39.4**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.1						
BRVK	**Borovoye**	**44.58**	**307**	*eP*	**P**	**20 31 39.4**	**+0.2**
	comp=Z,1.4nm,0.7s,mb3.3						
JIRN	**Jiri**	**44.65**	**267**	*eP*	**P**	**20 31 40.9**	**+1.1**
	comp=Z,11nm,0.5s,mb4.3						
GUN	**Gumba**	**44.73**	**267**	*eP*	**P**	**20 31 41.5**	**+1.1**
	comp=Z,14nm,0.4s,mb4.5						
KKN	**Kakani**	**45.23**	**268**	*eP*	**P**	**20 31 44.7**	**+0.4**
ZRNK	**Zerenda**	**45.34**	**307**	*eP*	**P**	**20 31 45.3**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**45.34**	**307**	*eP*	**P**	**20 31 45.2**	**0.0**
	comp=Z,3.7nm,0.6s,mb3.8						
GKN	**Gorkha**	**45.58**	**268**	*eP*	**P**	**20 31 47.6**	**+0.6**
	comp=Z,27nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**45.58**	**292**	P	**P**	**20 31 47.0**	**-0.1**
INK	**Inuvik**	**49.48**	**29**	*eP*	**P**	**20 32 16.7**	**-0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
INK	**Inuvik**	**49.48**	**29**	*eP*	**P**	**20 32 16.7**	**-0.2**
	comp=Z,2.3nm,0.3s,mb4.0						
ARU	**Arti**	**49.91**	**314**	*eP*	**P**	**20 32 19.6**	**-0.5**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb3.9						
ARU	**Arti**	**49.91**	**314**	*eP*	**P**	**20 32 19.6**	**-0.5**
	comp=Z,2.1nm,0.3s,mb4.0						
AKTK	**Aktyubinsk**	**52.62**	**307**	P	**P**	**20 32 40.4**	**+0.1**
AKTO	**Aktyubinsk**	**52.62**	**307**	P	**P**	**20 32 40.4**	**+0.1**
	comp=Z,1.1nm,0.5s,mb3.5,baz=76,slow=8.7,SNR=5.7						
PMG	**Port Moresby**	**53.54**	**169**	*eP*	**P**	**20 32 47.6**	**+0.7**
PMG				pmax	pmax		
	comp=Z,61nm,0.8s						
PMG	**Port Moresby**	**53.54**	**169**	*eP*	**P**	**20 32 47.6**	**+0.7**
	comp=Z,61nm,0.8s,mb5.0						
KEV	**Kevo**	**56.33**	**337**	*ep*	**P**	**20 33 06.1**	**-0.7**
	comp=Z,1.3nm,0.3s,mb3.8						
KEV	**Kevo**	**56.33**	**337**	*eP*	**P**	**20 33 06.1**	**-0.7**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7						
ARCES	**ARCESS Array B**	**56.88**	**337**	P	**P**	**20 33 10.7**	**0.0**
	comp=Z,1.1nm,0.5s,mb3.5,baz=63,slow=8.3,SNR=11						
JOF	**Joensuu**	**58.97**	**329**	*ep*	**P**	**20 33 23.0**	**-2.1**
	comp=Z,0.7nm,0.4s,mb3.4						
YKA	**Yellowknife Ar**	**59.13**	**31**	P	**P**	**20 33 26.2**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.1,baz=307,slow=6.6,SNR=5.2						
YKA	**Yellowknife Ar**	**59.13**	**31**	P	**P**	**20 33 26.2**	**0.0**
KAF	**Kangasniemi**	**61.29**	**330**	*ep*	**P**	**20 33 39.3**	**-1.5**
	comp=Z,1.0nm,0.5s,mb3.6						
KAF	**Kangasniemi**	**61.29**	**330**	*eP*	**P**	**20 33 39.3**	**-1.5**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
FINES	**FINESS Array B**	**61.81**	**330**	P	**P**	**20 33 43.0**	**-1.2**
	comp=Z,0.9nm,0.3s,mb3.8,baz=66,slow=8.3,SNR=17						
FINES				PcP	PcP	20 34 21.7	-0.9
	comp=Z,0.5nm,0.3s,baz=62,slow=3.4,SNR=5.9						
WRAB	**Tennant Creek**	**63.54**	**184**	P	**P**	**20 33 55.9**	**+0.3**
	comp=Z,0.4nm,0.3s,mb3.5						
WRA	**Warramunga Arr**	**63.55**	**184**	P	**P**	**20 33 55.6**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.4,baz=1.5,slow=6.8,SNR=19						
WRA				PcP	PcP	20 34 30.6	+0.8
	comp=Z,0.8nm,0.4s,baz=360,slow=4.7,SNR=23						
KIV	**Kislovodsk**	**64.89**	**307**	*iP* *eP*	**P**	**20 34 05.7**	**+1.3**
KIV	**Kislovodsk**	**64.89**	**307**	*eP*	**P**	**20 34 05.5**	**+1.1**
	comp=Z,9.6nm,1.0s,mb4.4						
NB2	**NORSAR Subarra**	**67.09**	**335**	P	**P**	**20 34 17.4**	**-0.9**
	comp=Z,0.4nm,0.5s,mb3.4,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**67.09**	**335**	P	**P**	**20 34 17.1**	**-1.2**
	comp=Z,1.0nm,0.8s,mb3.6,baz=38,slow=6.3,SNR=4.7						
ASAR	**Alice Springs**	**67.27**	**185**	P	**P**	**20 34 21.2**	**+1.8**
	comp=Z,0.5nm,0.5s,mb3.5,baz=356,slow=5.3,SNR=15						
AKASG	**Malin Array Be**	**67.63**	**320**	P	**P**	**20 34 21.2**	**-0.5**
	comp=Z,0.6nm,0.4s,mb3.7,baz=44,slow=6.1,SNR=9.1						
AKASG	**Malin Array Be**	**67.63**	**320**	P	**P**	**20 34 21.2**	**-0.5**
NVAR	**Mina Array Bea**	**72.73**	**53**	P	**P**	**20 34 54.0**	**+1.5**
	comp=Z,0.7nm,0.5s,mb3.5,baz=285,slow=7.6,SNR=5.7						
BRTR	**Keskin Array B**	**72.77**	**309**	P	**P**	**20 34 52.5**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.3,baz=92,slow=6.2,SNR=3.6						
BRTR	**Keskin Array B**	**72.77**	**309**	*iP* *eP*	**P**	**20 34 53.2**	**+0.4**
PDAR	**Pinedale Array**	**74.50**	**45**	P	**P**	**20 35 03.4**	**+0.6**
	comp=Z,0.8nm,0.6s,mb3.5,baz=334,slow=2.9,SNR=9.6						
ULM	**Lac du Bonnet**	**75.05**	**33**	P	**P**	**20 35 05.5**	**-0.4**
	comp=Z,1.5nm,0.5s,mb3.9,baz=330,slow=10,SNR=4.9						
GERES	**GERESS Array B**	**75.81**	**326**	P	**P**	**20 35 10.3**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.5,baz=36,slow=5.4,SNR=7.1						
JFWS	**Jewell Farm**	**83.28**	**34**	*eP*	**P**	**20 35 51.6**	**+1.3**
JFWS				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.2						
JFWS	**Jewell Farm**	**83.28**	**34**	*eP*	**P**	**20 35 51.6**	**+1.3**
	comp=Z,25nm,0.7s,mb5.2						
MIAR	**Mount Ida**	**88.75**	**41**	*eP*	**P**	**20 36 18.0**	**+1.0**
MIAR				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.8						
MIAR	**Mount Ida**	**88.75**	**41**	*eP*	**P**	**20 36 18.0**	**+1.0**
	comp=Z,13nm,0.8s,mb4.8						
MIAR				*e*		20 36 29.5	
MCWV	**Mont Chateau**	**90.00**	**29**	*eP*	**P**	**20 36 21.9**	**-0.9**
	comp=Z,28nm,1.0s,mb5.0						

KRSC 30 20:42:42, 4988N×15845E, h20km, ML3.7, East of Kuril Islands

*IDC **30** 20:57:47.7±0.7, 961N×12550E, h126km±6km, mb3.9/13, mb1 4.0/14, mb1mx3.9/22, mbtmp4.3/14, Error ellipse: s-maj=34.9km s-min=9.0km az=71.0*

*ISCJB **30** 20:57:48.2±0.4, 974N±003×12571E±006, h139km±3km, mb4.3/37, Error ellipse: s-maj=9.5km s-min=4.4km az=143.6*

*MAN **30** 20:57:48.5, 981N×12572E, h121km, mb4.0, ML5.0, MS2.6*

*BJI **30** 20:57:49.6, 973N×12575E, h159km, mB4.6, mb4.6*

*NEIC **30** 20:57:51.5±0.8, 969N×12561E, h156km±8km, mb4.6/23, Error ellipse: s-maj=12.1km s-min=4.7km az=68.0*

ISC 30 20:57:49.2±0.4, 975N±003×12571E±006, h131km±3km, h127km±2.7km: pP-P, n112, σ1s18/117, mb4.3/37, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.78**	**186**	*eP*	**Pn**	**20 58 10.5**	**+0.2**
BUTP	**Butuan**	**0.78**	**186**	*eP*	**Pn**	**20 58 10.4**	**+0.1**
MSLP	**Maasin**	**0.92**	**295**	*eP*	**Pn**	**20 58 11.4**	**0.0**
MSLP	**Maasin**	**0.92**	**295**	*eP*	**Pn**	**20 58 11.4**	**0.0**
PLP	**Palo**	**1.58**	**333**	*i P*	**Pn**	**20 58 17.6**	**-0.7**
PLP				*eS*	**Sn**	**20 58 38.0**	**-2.5**
CGP	**Cagayan de Oro**	**1.63**	**218**	*eS*	**Sn**	**20 58 38.5**	**-3.0**
OCLP	**Ormoc**	**1.69**	**320**	*eP*	**Pn**	**20 58 19.5**	**0.0**
OCLP	**Ormoc**	**1.69**	**320**	*eP*	**Pn**	**20 58 19.5**	**0.0**
LLP	**Lapu-Lapu**	**1.81**	**288**	*iP*	**Pn**	**20 58 20.0**	**-0.9**
LLP				*i S*	**Sn**	**20 58 44.0**	**-1.1**
TBP	**Tagbilaran**	**1.82**	**268**	*eP*	**Pn**	**20 58 21.1**	**+0.1**
TBP				*eS*	**Sn**	**20 58 44.3**	**-1.1**
BESP	**Borongan**	**1.86**	**352**	*eP*	**Pn**	**20 58 20.7**	**-0.8**
BESP	**Borongan**	**1.86**	**352**	*eP*	**Pn**	**20 58 20.9**	**-0.6**
BUKP	**Musuan**	**1.96**	**199**	*eP*	**Pn**	**20 58 23.8**	**+1.0**
BUKP	**Musuan**	**1.96**	**199**	*eP*	**Pn**	**20 58 23.7**	**+0.9**
DCPH	**Dipolog City**	**2.60**	**244**	*eP*	**Pn**	**20 58 30.9**	**+0.3**
DAV	**Davao City (W)**	**2.66**	**183**	*ePn*	**Pn**	**20 58 32.2**	**+0.7**
KCP	**Kidapawan**	**2.79**	**193**	*iP*	**Pn**	**20 58 36.8**	**+3.7**
MATI	**Mati**	**2.84**	**169**	*eP*	**Pn**	**20 58 33.3**	**-0.4**
MATI	**Mati**	**2.84**	**169**	*eP*	**Pn**	**20 58 33.6**	**-0.1**
CTBH	**Cotabato--PC H**	**2.90**	**210**	*iP*	**Pn**	**20 58 34.9**	**+0.4**
PAGZ	**Pagadian**	**2.98**	**231**	*eP*	**Pn**	**20 58 36.1**	**+0.6**
PAGZ	**Pagadian**	**2.98**	**231**	*eP*	**Pn**	**20 58 36.4**	**+0.9**
GUIM	**Jordan**	**3.19**	**286**	*eP*	**Pn**	**20 58 38.1**	**-0.2**
GUIM	**Jordan**	**3.19**	**286**	*eP*	**Pn**	**20 58 38.2**	**-0.2**
RCP	**Roxas**	**3.42**	**302**	*eP*	**Pn**	**20 58 41.8**	**+0.4**
KALP	**Kalibo**	**3.83**	**300**	*eP*	**Pn**	**20 58 49.7**	**+3.0**
PVCP	**Virac**	**4.12**	**338**	*iP*	**Pn**	**20 58 48.2**	**-2.3**
PVCP	**Virac**	**4.12**	**338**	*eP*	**Pn**	**20 58 49.4**	**-1.1**
PVCP	**Virac**	**4.12**	**338**	*eP*	**Pn**	**20 58 48.4**	**-2.1**
OTRP	**Odiongan**	**4.46**	**306**	*eP*	**Pn**	**20 58 56.2**	**+1.2**
OTRP	**Odiongan**	**4.46**	**306**	*eP*	**Pn**	**20 58 56.2**	**+1.2**
AUQP	**San Andres**	**4.63**	**320**	*eP*	**Pn**	**20 58 58.7**	**+1.3**
AUQP	**San Andres**	**4.63**	**320**	*eP*	**Pn**	**20 58 58.7**	**+1.3**
CUYO	**Cuyo Island**	**4.74**	**284**	*eP*	**Pn**	**20 58 58.2**	**-0.6**
CUYO	**Cuyo Island**	**4.74**	**284**	*eP*	**Pn**	**20 58 59.0**	**+0.1**
BOAC	**Boac**	**5.29**	**315**	*eP*	**Pn**	**20 59 06.0**	**-0.1**
BOAC	**Boac**	**5.29**	**315**	*eP*	**Pn**	**20 59 06.0**	**-0.1**
BUSP	**Coron**	**5.86**	**293**	*eP*	**Pn**	**20 59 14.8**	**+1.0**
BUSP	**Coron**	**5.86**	**293**	*eP*	**Pn**	**20 59 14.9**	**+1.1**
POLP	**Polillo Island**	**6.17**	**324**	*eP*	**Pn**	**20 59 17.1**	**-0.9**
POLP	**Polillo Island**	**6.17**	**324**	*eP*	**Pn**	**20 59 19.8**	**+1.8**
TGY	**Tagaytay City**	**6.37**	**313**	P	**Pn**	**20 59 22.9**	**+2.3**
	42nm,0.3s,baz=165,slow=3.6,SNR=6.9						
BALP	**Baler**	**7.19**	**326**	*eP*	**Pn**	**20 59 29.3**	**-2.4**
BALP	**Baler**	**7.19**	**326**	*eP*	**Pn**	**20 59 29.2**	**-2.5**
CAUP	**Cauayan**	**8.09**	**333**	*eP*	**Pn**	**20 59 42.1**	**-1.8**
CAUP	**Cauayan**	**8.09**	**333**	*eP*	**Pn**	**20 59 42.1**	**-1.8**
SCZP	**Santa Cruz**	**8.24**	**317**	*eP*	**Pn**	**20 59 46.8**	**+0.9**
BOLP	**Bolinao**	**8.68**	**320**	*eP*	**Pn**	**20 59 53.7**	**+1.9**
BOLP	**Bolinao**	**8.68**	**320**	*eP*	**Pn**	**20 59 52.7**	**+0.9**
APYP	**Conner**	**9.16**	**332**	*eP*	**Pn**	**20 59 56.6**	**-1.6**
APYP	**Conner**	**9.16**	**332**	*eP*	**Pn**	**20 59 56.5**	**-1.6**
NACB	**Ninganchiao**	**14.87**	**345**	*eP*	**Pn**	**21 01 15.8**	**+3.0**
YHNB	**Yeheng**	**15.40**	**345**	*eP*	**Pn**	**21 01 22.0**	**+2.6**
TATO	**Taipei**	**15.67**	**346**	*eP*	**Pn**	**21 01 24.9**	**+2.3**
	18nm,0.4s						
JOW	**Kunigami**	**17.17**	**8**	P	**Pn**	**21 01 42.6**	**+1.6**
	6.0nm,0.3s,baz=188,slow=8.8,SNR=45						
KSM	**Kuching**	**17.38**	**243**	*eP*	**Pn**	**21 01 46.9**	**+3.3**
QIZ	**Qiongzhong**	**17.

comp=Z,22nm,0.9s,mb4.8
DMN Daman 42.12 301 *e*P P **21 05 28.8 +0.5**
comp=Z,7.7nm,0.6s,mb4.5
GKN Gorkha 42.64 301 *e*P P **21 05 32.3 -0.2**
comp=Z,9.5nm,0.5s,mb4.7
NWAO Narrogin (SRO) 43.20 190 *e*P P **21 05 37.2 +0.2**
comp=Z,5.1nm,0.6s,mb4.3
ARMA Armidale 47.07 149 *e*P P **21 06 08.8 +1.2**
WMQ Urumqi 47.30 323 P P **21 06 10.0 +0.7**
CNB Canberra Magne 50.09 155 *e*P P **21 06 32.5 +1.9**
comp=Z,14nm,0.5s,mb4.8
DZM Mont Dzumac 50.95 129 *e*P P **21 06 37.5 +0.4**
MKAR Makanchi Array 52.11 323 P P **21 06 45.4 -0.3**
comp=Z,1.6nm,0.5s,mb3.9,baz=122,slow=7.5,SNR=23
MKAR pP pP 21 07 14.2 -2.1
comp=Z,2.3nm,0.8s,baz=120,slow=7.2,SNR=4.4
MKAR ScP ScP 21 11 38.8 -1.7
comp=Z,0.2nm,0.2s,baz=103,slow=4.6,SNR=3.1
MKAR Makanchi Array 52.11 323 P P **21 06 45.4 -0.3**
MKAR pP pP 21 07 14.2 -2.1
MKAR ScP ScP 21 11 38.8 -1.7
KURK Kurchatov 56.18 326 *e*P P **21 07 14.6 -0.7**
comp=Z,2.5nm,0.8s,mb4.1
KURK *e* 21 07 31.7
BVAR Borovoye Array 61.78 326 P P **21 07 52.8 -1.1**
comp=Z,1.4nm,0.6s,mb3.9,baz=130,slow=8.0,SNR=9.9
BRVK Borovoye 61.85 326 *e*P P **21 07 53.9 -0.5**
comp=Z,1.2nm,0.7s,mb3.8
ZRNK Zerenda 62.52 325 *e*P P **21 07 57.8 -1.1**
comp=Z,3.0nm,0.6s,mb4.3
JOF Joensuu 83.40 333 *e*p P **21 10 00.0 -1.7**
comp=Z,1.5nm,0.5s,mb4.0
DAWY Dawson 83.45 26 *e*P P **21 10 03.0 +1.0**
ARCES ARCESS Array B 84.49 340 P P **21 10 05.8 -1.4**
comp=Z,2.3nm,0.9s,mb3.9,baz=83,slow=6.7,SNR=9.5
ARCES ARCESS Array B 84.49 340 P P **21 10 05.8 -1.4**
INK Inuvik 84.97 22 P P **21 10 08.6 -1.0**
comp=Z,1.2nm,0.8s,mb3.7,baz=276,slow=8.6,SNR=4.0
BRTR Keskin Array B 85.43 309 P P **21 10 10.9 -1.0**
comp=Z,0.6nm,0.8s,mb3.4,baz=84,slow=3.8,SNR=4.2
KAF Kangasniemi 85.83 332 *e*p P **21 10 11.3 -2.6**
comp=Z,0.5nm,0.4s,mb3.6,baz=72,slow=4.5
FINES FINESS Array B 86.09 332 P P **21 10 13.7 -1.4**
comp=Z,0.9nm,0.7s,mb3.6,baz=76,slow=5.9,SNR=7.9
FINES pP pP 21 10 45.0 -3.5
comp=Z,2.6nm,0.9s,baz=81,slow=4.3,SNR=3.7
VNDA Vanda 89.48 173 P P **21 10 31.2 -0.2**
comp=Z,4.4nm,0.8s,mb4.5,baz=314,slow=6.0,SNR=24
VNDA Vanda 89.48 173 P P **21 10 31.2 -0.2**
YKA Yellowknife Ar 94.46 24 P P **21 10 52.8 -1.5**
comp=Z,1.6nm,0.8s,mb4.2,baz=306,slow=4.6,SNR=8.9
YKA pP pP 21 11 27.3 -0.8
comp=Z,0.9nm,0.8s,baz=284,slow=4.1,SNR=3.3
TORD Torodi Ar. Bea 119.94 291 PKP PKPdf 21 16 23.6 -0.4
comp=Z,1.3nm,0.6s,baz=57,slow=1.9,SNR=27
TORD pPKP pPKPdf 21 16 56.0 -3.2
comp=Z,0.5nm,0.8s,baz=132,slow=2.2,SNR=2.3
PLCA Paso Flores 145.94 158 PKPbc PKPbc 21 17 14.2 +0.8
comp=Z,13nm,0.7s,baz=209,slow=2.8,SNR=52
LPAZ La Paz 165.04 117 PKP PKPdf 21 17 40.1 +2.5
comp=Z,0.4nm,0.4s,baz=293,slow=1.0,SNR=4.1

MAN 30 21:11:36.8, 1817N×12065E, h23km, mb2.6, ML4.1, MS2.1, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.15**	**351**	*i*P	Pb	21 11 43.3	+1.5
PIP				*e*S	Sb	21 11 49.4	+4.3
ABRA	**Dolores**	**0.52**	**173**	*e*P	Pb	21 11 47.7	+0.4
ABRA				*e*S	Sb	21 11 57.0	+2.5
APYP	**Conner**	**0.65**	**118**	*e*P	Pb	21 11 49.6	+0.1
APYP				*e*S	Sb	21 12 00.8	+2.7
SGCP	**Mt. Cagua**	**1.33**	**87**	*e*P	Pn	21 12 00.1	+0.1
CAUP	**Cauayan**	**1.66**	**137**	*e*P	Pn	21 12 05.7	+1.2
BOLP	**Bolinao**	**1.91**	**202**	*e*P	Pn	21 12 08.7	+0.7
PALP	**Palanan**	**2.02**	**123**	*e*P	Pn	21 12 10.2	+0.6
PALP				*e*S	Sn	21 12 40.8	+6.7
PALP	**Palanan**	**2.02**	**123**	*e*P	Pn	21 12 10.2	+0.7
BALP	**Baler**	**2.58**	**160**	*e*P	Pn	21 12 18.7	+1.6

*IDC **30** 21:57:37.4±0.7, 1756S×17348W, h0km, mb4.4/8, mb1 4.7/9, mb1mx4.4/15, mbtmp4.4/9, ML2.2/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/21, Error ellipse: s-maj=29.5km s-min=17.8km az=120.0*
*NEIC **30** 21:57:39.2±0.4, 1756S×17352W, h10km, mb4.5/11, Error ellipse: s-maj=12.9km s-min=9.2km az=132.0*
*ISCJB **30** 21:57:40.9±0.4, 1753S±008×17361W±008, h33km, mb4.5/18, MS3.7/5, Error ellipse: s-maj=13.4km s-min=9.1km az=108.2*
ISC 30 21:57:42.9±0.4, 1758S±008×17350W±009, h35km, n49, σ0$81/35, mb4.5/18, MS3.7/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.00**	**25**	Pn	**Pn**	**21 58 41.0**	**-0.7**
	9.6nm,0.3s,baz=235,slow=22,SNR=9.6						
AFI				Sn	**Sn**	**21 59 22.3**	**-5.1**
	62nm,0.3s,baz=39,slow=21,SNR=5.9						
AFI				LR	LR	21 59 25.1	
	comp=Z,288nm,18.7s,baz=219,slow=27						
RAO	**Raoul Island**	**12.31**	**198**	Pn	**Pn**	**22 00 22.7**	**-13**
	173nm,0.3s,baz=111,slow=22,SNR=4.2						
RAR	**Rarotonga**	**13.45**	**108**	Pn	**Pn**	**22 00 41.8**	**-9.4**
	3.7nm,0.3s,baz=263,slow=8.1,SNR=7.3						
RAR				LR	LR	22 04 08.6	
	comp=Z,290nm,20.8s,baz=130,slow=29						
DZM	**Mont Dzumac**	**19.39**	**253**	P	**Pn**	**22 02 11.5**	**+4.5**
	0.8nm,0.3s,baz=75,slow=17,SNR=15						
DZM				LR	LR	22 06 44.0	
	comp=Z,81nm,20.4s,baz=70,slow=28						
URZ	**Urewera**	**22.19**	**200**	P	**P**	**22 02 36.7**	**+0.8**
	19nm,0.4s,mb4.9,baz=304,slow=2.2,SNR=28						
PPT	**Papeete**	**22.81**	**94**	*e*LR	LR	22 07 47.6	
	339nm,27.5s,baz=251						
PPT	**Papeete**	**22.81**	**94**	LR	LR	22 08 05.9	
	comp=Z,194nm,21.4s,MS3.5,baz=294,slow=28						
HNR	**Honiara**	**27.03**	**284**	LR	LR	22 10 57.9	
	comp=Z,48nm,18.3s,MS3.1,baz=180,slow=30						
HNR	**Honiara**	**27.03**	**284**	P	**P**	**22 03 21.3**	**-0.4**
RPZ	**Rata Peaks**	**29.15**	**203**	P	**P**	**22 03 45.1**	**+4.5**
	10nm,0.6s,mb4.8,baz=57,slow=1.7,SNR=5.6						
CTAO	**Charters Tower**	**38.11**	**260**	*e*P	**P**	**22 04 59.3**	**+0.9**
	3.7nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**49.28**	**259**	*e*P	**P**	**22 06 27.6**	**-0.6**
WRAB	**Tennant Creek**	**49.28**	**259**	*e*P	**P**	**22 06 28.4**	**+0.2**
	6.2nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**49.29**	**259**	P	**P**	**22 06 27.6**	**-0.7**
	2.8nm,0.6s,mb4.5,baz=97,slow=7.4,SNR=74						
AS31	**Alice Springs**	**49.38**	**254**	*e*P	**P**	**22 06 29.1**	**+0.2**
AS31				*e*S	**S**	**22 13 30.4**	**-2.9**
ASAR	**Alice Springs**	**49.38**	**254**	P	**P**	**22 06 29.2**	**+0.3**
	14nm,0.7s,mb5.1,baz=89,slow=8.5,SNR=158						
ASAR				PcP	PcP	22 07 53.3	+2.3
	2.2nm,0.8s,baz=102,slow=4.3,SNR=5.6						
ASAR				S	**S**	**22 13 29.9**	**-3.5**
	0.7nm,0.8s,baz=93,slow=16,SNR=7.1						
ASAR				LR	LR	22 26 50.1	
	comp=Z,108nm,18.8s,MS3.9,baz=8.6,slow=36						
ASPA	**Alice Springs**	**49.38**	**254**	*e*P	**P**	**22 06 29.1**	**+0.1**
ASPA				*e*S	**S**	**22 13 30.4**	**-3.0**
KAKA	**Kakadu**	**52.27**	**267**	*e*P	**P**	**22 06 51.1**	**+0.4**
	5.2nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**57.69**	**259**	*e*P	**P**	**22 07 30.5**	**+0.6**
	1.8nm,0.4s,mb4.5						
SBA	**Scott Base**	**61.09**	**185**	*e*P	**P**	**22 07 54.4**	**+1.1**
	3.7nm,0.5s,mb4.8						
VNDA	**Vanda**	**61.21**	**186**	P	**P**	**22 07 53.8**	**-0.4**
	1.7nm,0.8s,mb4.2,baz=1.6,slow=7.1,SNR=12						
VNDA	**Vanda**	**61.21**	**186**	*e*P	**P**	**22 07 54.1**	**0.0**
	1.1nm,0.6s,mb4.2						
MJAR	**Matsushiro Arr**	**70.53**	**320**	P	**P**	**22 08 55.1**	**+1.0**
	3.9nm,0.7s,mb4.4,baz=162,slow=6.4,SNR=15						
MAJO	**Matsushiro**	**70.54**	**320**	*e*P	**P**	**22 08 54.0**	**-0.2**
QSPA	**South Pole Qui**	**72.48**	**180**	*e*P	**P**	**22 09 05.4**	**-0.5**
	10.0nm,0.9s,mb4.8						
NVAR	**Mina Array Bea**	**76.00**	**42**	P	**P**	**22 09 27.1**	**+0.6**
	2.7nm,0.8s,mb4.2,baz=233,slow=13,SNR=18						
TUC	**Tucson**	**77.84**	**50**	P	**P**	**22 09 37.5**	**+0.8**
	2.4nm,0.5s,mb4.4						
PV01	**Paradox Valley**	**82.29**	**46**	*e*P	**P**	**22 10 01.2**	**+0.5**
PDAR	**Pinedale Array**	**83.94**	**42**	P	**P**	**22 10 08.7**	**-0.6**
	1.0nm,0.7s,mb4.1,baz=224,slow=4.1,SNR=6.5						

MAW Mawson 85.71 199 P **P** **22 10 17.0 -1.2**
3.2nm,1.0s,mb4.5,baz=107,slow=6.8,SNR=4.6
MAW Mawson 85.71 199 *e*P **P** **22 10 18.2 0.0**
1.7nm,0.6s,mb4.5
PLCA Paso Flores 88.13 132 LR LR 22 43 31.0
comp=Z,71nm,20.9s,MS4.1,baz=271,slow=31
PLCA Paso Flores 88.13 132 *e*P **P** **22 10 29.9 0.0**
0.5nm,0.7s,mb3.9
SNAA Sanae 90.75 177 *e*P **P** **22 10 41.0 -1.3**
2.1nm,0.7s,mb4.6
MDZ Mendoza 92.34 125 *e*P **P** **22 10 45.9 -3.7**
LPAZ La Paz 99.16 110 LR LR 22 45 36.0
comp=Z,63nm,18.2s,MS4.2,baz=164,slow=29
BVAR Borovoye Array 119.52 321 PKP PKPdf 22 16 29.1 +0.3
0.7nm,0.6s,baz=129,slow=2.0,SNR=3.7
MALT Malatya 145.30 313 *e*PKP PKPdf 22 17 19.9 +3.0
CLL Collm 145.95 353 *e* PKPdf 22 17 21.0 +3.0
CLL *e* 22 17 27.0
CLL *i* 22 17 36.7
CLL Collm 145.95 353 *e*(PKiKP) 22 17 21.0
comp=Z,5.0nm,0.8s
CLL *ep*PKiKP 22 17 27.0
CLL *i* x x 22 17 36.7
comp=Z,13nm,1.2s
BRG Berggiesshubel 146.25 352 *e*P PKPdf 22 17 21.3 +2.8
comp=Z,2.3nm,1.2s
BRG *e* 22 17 37.8
comp=Z,2.3nm,1.2s
UPC Upice 146.27 349 *e*PKP PKPdf 22 17 14.3 -4.2
UPC *ex* x 22 17 29.0
DPC Dobruska-Polom 146.37 349 *e*PKP PKPab 22 17 27.8 +6.9
DPC *ex* x 22 17 37.4
PVCC Panska Ves 146.50 351 *e*PKP PKPab 22 17 23.0 +1.6
PVCC *ex* x 22 17 30.4
PRU Pruhonice 147.02 350 *e*PKP pPKPdf 22 17 31.9 +0.6
PRU *ex* x 22 17 39.7
BRTR Keskin Array B 147.75 319 PKPbc PKPbc 22 17 23.5 -0.4
comp=Z,0.9nm,0.8s,baz=108,slow=2.7,SNR=5.2
KHC Kasperske Hory 148.00 351 *e*PKP PKPab 22 17 28.3 +1.0
KHC *ex* x 22 17 37.3
GERES GERESS Array B 148.26 351 PKPbc PKPbc 22 17 24.3 -1.0
comp=Z,0.5nm,0.6s,baz=354,slow=4.0,SNR=5.3
MMAI Mount Meron Ar 149.81 306 PKPab PKPab 22 17 33.7 -0.9
comp=Z,0.6nm,0.5s,baz=315,slow=57,SNR=3.0

IDC 30 22:08:49.4±4.3, 893S×10740E, h0km, mb4.0/3, mb1 4.0/3, mb1mx3.6/16, mbtmp4.0/3, Error ellipse: s-maj=165.2km s-min=30.9km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.25**	**116**	P	P	22 14 44.5	+0.3
	0.2nm,0.4s,baz=287,slow=11,SNR=4.5						
SONM	**Songino Array**	**56.52**	**359**	P	P	22 18 33.7	+0.3
	1.6nm,0.5s,baz=177,slow=8.1,SNR=15						
MKAR	**Makanchi Array**	**59.82**	**340**	P	P	22 18 56.4	-0.1
	2.0nm,0.4s,baz=144,slow=7.7,SNR=29						

*IDC **30** 22:43:30.9±4.0, 526S×14609E, h0km, mb4.0/2, mb1 4.5/5, mb1mx4.0/14, mbtmp4.3/5, ML4.2/3, Error ellipse: s-maj=62.4km s-min=45.4km az=50.0*
*ISCJB **30** 22:43:34.8±3.6, 53S±02×1463E±02, h53km±32km, mb4.0/3, Error ellipse: s-maj=33.7km s-min=27.1km az=87.7*
*NEIC **30** 22:43:35.1±1.1, 5.19S×14607E, h35km, mb4.2/4, Error ellipse: s-maj=25.5km s-min=13.6km az=82.0*
ISC 30 22:43:35.7±3.4, 53S±02×1463E±02, h47km±32km, n17, σ1$42/17, mb4.0/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.22**	**168**	Pn	**Pn**	**22 44 37.0**	**-0.5**
	16nm,0.3s,baz=8.8,slow=6.0,SNR=36						
PMG				Sn	**Sn**	**22 45 16.0**	**-9.4**
	33nm,0.3s,baz=172,slow=20,SNR=11						
CTA	**Charters Tower**	**14.74**	**180**	*e*P	**Pn**	**22 47 03.2**	**+2.0**
	24nm,0.6s						
CTA	**Charters Tower**	**14.74**	**180**	Pn	**Pn**	**22 47 02.9**	**+1.6**
	6.1nm,0.3s,baz=360,slow=14,SNR=63						
CTAO	**Charters Tower**	**14.74**	**180**	*e*P	**Pn**	**22 47 03.3**	**+2.0**
	27nm,0.6s						
KAKA	**Kakadu**	**15.53**	**241**	*e*P	**Pn**	**22 47 14.9**	**+3.5**
	10nm,0.5s						
WRAB	**Tennant Creek**	**18.63**	**217**	*e*P	**Pn**	**22 47 48.9**	**-1.2**
	4.9nm,0.4s						
WB2	**Warramunga Arr**	**18.64**	**217**	*e*P	**Pn**	**22 47 48.4**	**-1.8**
WRA	**Warramunga Arr**	**18.65**	**217**	P	**Pn**	**22 47 48.2**	**-2.1**
	0.6nm,0.3s,baz=41,slow=11,SNR=16						
AS31	**Alice Springs**	**21.84**	**212**	*e*P	**P**	**22 48 25.1**	**+1.0**
ASAR	**Alice Springs**	**21.84**	**212**	P	**P**	**22 48 23.4**	**-0.6**
	3.8nm,0.6s,mb4.0,baz=41,slow=8.0,SNR=42						
ASPA	**Alice Springs**	**21.84**	**212**	*e*P	**P**	**22 48 25.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**23.86**	**236**	*e*P	**P**	**22 48 45.7**	**+1.1**
	6.5nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**23.86**	**236**	P	**P**	**22 48 45.3**	**+0.7**
	4.0nm,0.7s,mb4.0,baz=69,slow=10.0,SNR=15						
KURK	**Kurchatov**	**80.18**	**323**	P	**P**	**22 55 41.9**	**+0.9**
MAW	**Mawson**	**82.65**	**203**	*e*P	**P**	**22 55 54.2**	**+0.2**
	0.5nm,0.4s,mb3.9						
BRVK	**Borovoye**	**85.81**	**324**	P	**P**	**22 56 08.4**	**-1.7**
TORD	**Torodi Ar. Bea**	**144.19**	**285**	PKP	PKPdf	23 03 09.3	+3.0
	1.0nm,0.7s,baz=78,slow=3.3,SNR=5.9						

*CSEM **30** 22:52:24.8±0.1, 3883N×27.17E, h15km, MD3.3, Error ellipse: s-maj=1.7km s-min=1.1km az=79.0*
*NEIC **30** 22:52:24.0, 3883N±27.13E, h16km, MD3.3(ISK), ML3.5(ATH), After ISK.*
*ISCJB **30** 22:52:25.1±0.5, 3882N±002±27.17E±003, h11km±5km, Error ellipse: s-maj=4.3km s-min=3.8km az=169.1*
*ISK **30** 22:52:25.0, 3883N±27.15E, h16km, MD3.3*
*ATH **30** 22:52:26.4, 3852N±2600E, h41km±10km, MD3.2/6, ML3.5*
ISC 30 22:52:25.8±0.4, 3881N±002×2714E±003, h16km±3km, n38, σ0$52/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAG	**Bornova**	**0.42**	**166**	*i*P	**Pg**	**22 52 34.5**	**+0.1**
KDAG				*i*S	**Sg**	**22 52 40.1**	**-0.1**
IZM	**Izmir**	**0.42**	**167**	*i*PG	**Pg**	**22 52 34.1**	**-0.3**
IZM				*i*SG	**Sg**	**22 52 40.7**	**+0.6**
BLCB	**Balcova**	**0.43**	**190**	*i*PG	**Pg**	**22 52 34.4**	**-0.1**
AKS	**Akhisar**	**0.53**	**83**	*i*PG	**Pg**	**22 52 35.7**	**-0.6**
AKHS	**Akhisar**	**0.53**	**83**	*i*P	**Pg**	**22 52 35.9**	**-0.4**
AKHS				*i*S	**Sg**	**22 52 44.2**	**+0.7**
AYVA	**Ayvalik**	**0.61**	**325**	*i*P	**Pg**	**22 52 37.9**	**+0.1**
AYVA				*i*S	**Sg**	**22 52 46.3**	**+0.5**
PRK	**Paraskevi**	**0.80**	**303**	*e*P	**Pb**	**22 52 41.3**	**-0.1**
PRK				*e*S	**Sg**	**22 52 52.8**	**+0.8**
SMG	**Samos**	**1.13**	**192**	*e*P	**Pb**	**22 52 46.0**	**-0.9**
BTOK	**Tokmak**	**1.17**	**36**	*i*P	**Pn**	**22 52 47.5**	**-0.1**
BTOK				*i*S	**Sb**	**22 53 03.9**	**+1.1**
BTOK	**Tokmak**	**1.17**	**36**	*i*P	**Pn**	**22 52 47.5**	**-0.1**
BTOK				*i*S	**Sb**	**22 53 03.8**	**+1.1**
EZN	**Ezine**	**1.19**	**328**	PN	**Pn**	**22 52 47.2**	**-0.6**
CANB	**Canakkale**	**1.20**	**357**	PN	**Pn**	**22 52 48.1**	**+0.1**
AYDN	**Tasoluk**	**1.29**	**153**	*i*P	**Pn**	**22 52 48.7**	**-0.5**
AYDN				*i*S	**Sb**	**22 53 06.4**	**+0.4**
BOZC	**Bozcaada**	**1.33**	**321**	*i*P	**Pn**	**22 52 49.5**	**-0.2**
BOZC				*i*S	**Sn**	**22 53 07.1**	**0.0**
MLSB	**Milas**	**1.60**	**161**	PN	**Pn**	**22 52 53.3**	**-0.1**
EDC	**Edincik**	**1.63**	**20**	PN	**Pn**	**22 52 53.3**	**-0.6**
GADA	**Gvkgeada**	**1.68**	**326**	PN	**Pn**	**22 52 54.1**	**-0.4**
KCT	**Karacabey**	**1.73**	**33**	PN	**Pn**	**22 52 54.3**	**-0.9**
BODT	**Bodrum**	**1.75**	**175**	PN	**Pn**	**22 52 55.5**	**0.0**
MRMT	**Marmara Adasi**	**1.82**	**11**	PN	**Pn**	**22 52 56.0**	**-0.5**
ORLT	**Orhaneli**	**1.84**	**47**	PN	**Pn**	**22 52 57.0**	**+0.3**
GDZ	**Gediz**	**1.85**	**81**	*i*P	**Pg**	**22 53 00.0**	**-1.3**
GDZ				*i*S	**Sg**	**22 53 25.5**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.87**	**1**	PN	**Pn**	**22 52 57.3**	**+0.1**
DNZL	**Cakiroluk**	**1.87**	**126**	*i*P	**Pn**	**22 52 57.6**	**+0.3**
DNZL				*i*S	**Sg**	**22 53 26.7**	**+0.6**
YER	**Yerkesik**	**1.90**	**151**	PN	**Pn**	**22 52 58.2**	**+0.6**
ULDT	**Uludag**	**2.04**	**49**	*i*P	**Pn**	**22 52 59.4**	**0.0**
ULDT				*i*S	**Sb**	**22 53 28.5**	**+0.9**
ENEZ	**Enez**	**2.07**	**339**	PN	**Pn**	**22 53 00.0**	**+0.1**
DAT	**Datca**	**2.11**	**170**	PN	**Pn**	**22 53 01.2**	**+0.8**
GEMT	**Gemlik**	**2.27**	**44**	*e*PN	**Pn**	**22 53 02.3**	**-0.3**
YLV	**Yalova**	**2.46**	**44**	*e*PN	**Pn**	**22 53 05.0**	**-0.2**
ADVT	**Abdulvahap**	**2.58**	**50**	*e*PN	**Pn**	**22 53 06.9**	**0.0**
RDO	**Rodhopi**	**2.64**	**333**	*e*P	**Pn**	**22 53 08.1**	**+0.4**
FETY	**Fethiye**	**2.67**	**144**	*e*PN	**Pn**	**22 53 08.3**	**+0.2**
ISK	**Istanbul-Kandi**	**2.69**	**33**	*e*PN	**Pn**	**22 53 08.3**	**-0.2**
BORA	**Eskisehir**	**2.78**	**66**	*i*P	**Pn**	**22 53 09.7**	**0.0**
BORA				*i*S	**Sg**	**22 54 04.0**	**+8.8**
ESKT	**Eskisehir**	**2.97**	**75**	*e*PN	**Pn**	**22 53 12.6**	**+0.3**
ESKT	**Eskisehir**	**2.97**	**75**	*i*P	**Pg**	**22 53 21.4**	**-1.3**
EDRB	**Edirne**	**3.05**	**354**	*e*PN	**Pn**	**22 53 13.6**	**+0.3**

*IDC **30** 23:40:16.9±4.5, 468S×15338E, h105km±37km, mb3.7/8, mb1 3.9/9, mb1mx3.8/16, mbtmp4.1/9, MS3.6/3, Ms1 3.6/3, ms1mx3.1/19, Error ellipse: s-maj=28.5km s-min=20.9km az=56.0*
*ISCJB **30** 23:40:18.4±2.8, 474S±009×1533E±0.1, h124km±24km, mb4.2/20, Error ellipse: s-maj=20.0km s-min=14.0km az=135.7*
*NEIC **30** 23:40:29.8±1.6, 468S×15298E, h213km±16km, mb4.2/10, Error ellipse: s-maj=13.1km s-min=11.9km az=128.0*
*BJI **30** 23:40:30.0, 488S×15308E, h224km, mB4.7, mb4.5*
ISC 30 23:40:18.5±2.6, 478S±009×1534E±01, h111km±22km, n34, σ1$21/32, mb4.2/20, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.71**	**233**	P	**Pn**	**23 42 07.3**	**-0.7**
	4.6nm,0.3s,baz=35,slow=9.4,SNR=15						
PMG				S	**Sn**	**23 43 33.6**	**0.0**
	9.0nm,0.3s,baz=150,slow=18,SNR=8.3						
PMG	**Port Moresby**	**7.71**	**233**	*e*Pn	**Pn**	**23 42 07.2**	**-0.7**
	63nm,0.8s						
HNR	**Honiara**	**7.98**	**126**	Pn	**Pn**	**23 42 27.9**	**+16**
CTA	**Charters Tower**	**16.73**	**204**	LR	LR	23 50 00.6	
	comp=Z,49nm,18.6s,baz=49,slow=35						
DZM	**Mont Dzumac**	**21.34**	**145**	P	**P**	**23 44 56.6**	**+0.1**
	5.4nm,1.0s,mb3.8,baz=18,slow=1.3,SNR=2.7						
DZM				LR	LR	23 51 58.6	
	comp=Z,102nm,18.4s,baz=296,slow=33						
KAKA	**Kakadu**	**22.14**	**248**	*e*P	**P**	**23 45 04.5**	**-0.6**
	16nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**23.89**	**229**	*e*P	**P**	**23 45 22.7**	**+0.9**
	13nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**23.90**	**229**	*e*P	**P**	**23 45 23.1**	**+1.3**
WB2				*e*		23 45 28.4	
WRA	**Warramunga Arr**	**23.91**	**229**	P	**P**	**23 45 22.4**	**+0.6**
	5.2nm,0.7s,mb4.0,baz=51,slow=9.7,SNR=25						
WRA				PcP	PcP	23 49 00.6	-1.0
	1.4nm,0.7s,baz=16,slow=1.7,SNR=4.7						
AS31	**Alice Springs**	**26.57**	**223**	P	**P**	**23 45 50.9**	**+4.9**
ASAR	**Alice Springs**	**26.57**	**223**	P	**P**	**23 45 46.4**	**+0.4**
	0.9nm,0.8s,mb3.4,baz=60,slow=9.4,SNR=7.0						
ASAR				PcP	PcP	23 49 07.0	-0.6
	0.9nm,0.7s,baz=70,slow=2.6,SNR=7.4						
FITZ	**Fitzroy Crossi**	**30.19**	**242**	*e*P	**P**	**23 46 17.6**	**-0.6**
	3.7nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**30.19**	**242**	P	**P**	**23 46 17.3**	**-0.8**
	2.5nm,0.7s,mb3.9,baz=120,slow=7.5,SNR=12						
KKM	**Kota Kinabalu**	**38.65**	**286**	P	**P**	**23 47 29.2**	**-1.8**
RAR	**Rarotonga**	**48.25**	**114**	LR	LR	00 06 54.8	
	comp=Z,305nm,18.9s,baz=270,slow=33						
NJ2	**Nanjing**	**49.20**	**321**	*e*P	**P**	**23 48 55.8**	**+0.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
MDJ	**Mudanjiang**	**53.61**	**339**	P	**P**	**23 49 30.8**	**+2.7**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,77nm,5.1s						
KMI	**Kunming**	**57.47**	**304**	P	**P**	**23 49 58.3**	**+2.6**
KMI				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.4						
HHC	**Hu-ho-hao-te**	**59.38**	**324**	*e*P	**P**	**23 50 10.8**	**+1.8**
HHC				PP	PP	23 52 25.5	+4.3
HHC				PcS	PcS	23 54 58.5	+0.6
HHC				S	**S**	**23 58 03.0**	**-6.1**
HHC				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.9						
HHC				AMB	AMB		
	comp=Z,98nm,8.3s						
HHC				LR	LR		
	comp=N,115nm,17.8s						
HHC				LR	LR		
	comp=E,112nm,16.0s						
HHC				LR	LR		
	comp=Z,74nm,17.2s						
LZH	**Lanzhou**	**61.63**	**316**	*e*P	**P**	**23 50 26.0**	**+1.7**
LZH				PP	PP	23 52 45.0	+3.9
LZH				AMB	AMB		
	comp=Z,23nm,1.5s,mb5.0						
SONM	**Songino Array**	**66.62**	**328**	P	**P**	**23 50 56.2**	**-0.7**
	comp=Z,0.4nm,0.7s,mb3.4,baz=128,slow=2.4,SNR=3.5						
VNDA	**Vanda**	**72.83**	**178**	P	**P**	**23 51 34.5**	**-0.4**
	comp=Z,3.1nm,0.8s,mb4.2,baz=316,slow=6.1,SNR=18						
VNDA	**Vanda**	**72.83**	**178**	*e*P	**P**	**23 51 34.8**	**-0.2**
	comp=Z,4.5nm,1.0s,mb4.2						
SBA	**Scott Base**	**73.37**	**177**	P	**P**	**23 51 39.2**	**+1.0**
	comp=Z,1.9nm,0.8s,mb4.0						
WMQ	**Urumqi**	**76.13**	**317**	P	**P**	**23 51 54.5**	**+0.4**
MKAR	**Makanchi Array**	**80.30**	**319**	P	**P**	**23 52 18.4**	**-0.7**
	comp=Z,0.9nm,0.6s,mb3.8,baz=98,slow=7.5,SNR=10				

VHO Vista Hermosa 10.28 45 *i* P **Pn 23 47 48.2 +0.2**
PPM Popocatepetl 10.70 30 *i* P **Pn 23 47 53.0 -0.7**
CMIG Matias Romero 11.64 50 Pn **Pn 23 48 05.8 -0.7**
0.1nm,0.3s,baz=218,slow=12,SNR=16
CMIG LR LR 23 51 28.8
comp=Z,7µm,20.6s,baz=232,slow=32
CCIG Comitan 13.44 60 *i* P **Pn 23 48 32.9 +1.7**
TEIG Tepich 18.57 54 *e*Pn **Pn 23 49 37.2 -0.5**
KVTX Kingsville 18.64 18 *e*P **Pn 23 49 40.0 +1.5**
JCT Junction City 20.99 11 *e*P **P 23 50 03.9 0.0**
JCT MLR MLR
comp=Z,6µm,19.0s,MS5.0
HKT Hockley 21.53 20 P **P 23 50 08.9 -0.8**
HKT Hockley 21.53 20 *e*P **P 23 50 08.9 -0.8**
HKT pmax pmax
comp=Z,135nm,1.8s,mb5.1
HKT MLR MLR
comp=Z,2µm,19.0s,MS4.6
HKT Hockley 21.53 20 *e*Pn **P 23 50 08.9 -0.8**
comp=Z,135nm,1.8s,mb5.1
HKT LR LR
comp=Z,2µm,19.0s,MS4.6
GDL2 Guadalupe Moun 22.29 360 *e*P **P 23 50 17.7 -0.1**
TUC Tucson 23.20 346 *e*P **P 23 50 27.0 -0.5**
TUC pmax pmax
comp=Z,83nm,1.8s,mb4.9
TUC MLR MLR
comp=Z,2µm,19.0s,MS4.5
TUC Tucson 23.20 346 *e*P **P 23 50 27.0 -0.5**
comp=Z,83nm,1.8s,mb4.9
TUC LR LR
comp=Z,2µm,19.0s,MS4.5
NATX Nacogdoches 23.59 21 *e*P **P 23 50 30.8 -0.7**
NATX LR LR
comp=Z,2µm,22.0s,MS4.5
116A Eloy 23.67 344 ⇑P **P 23 50 31.9 -0.4**
baz=24,SNR=8.4
116A ⇓S **S 23 54 48.9 +2.2**
baz=24
115A Sonoran Desert 23.95 343 ⇓P **P 23 50 34.3 -0.5**
baz=24
Y22C IRIS PASSCAL I 24.28 355 ⇑P **P 23 50 38.8 +1.0**
baz=24
BNM Barren Site 24.33 355 *e*P **P 23 50 38.9 +0.6**
LENM Lemitar 24.38 355 *e*P **P 23 50 39.7 +1.0**
LPM Los Pinos Moun 24.49 355 *e*P **P 23 50 41.6 +1.8**
LAZ Ladron 24.63 354 *e*P **P 23 50 42.1 +1.1**
Z14A Wintersburg 24.78 342 ⇓P **P 23 50 42.1 -0.3**
baz=25
AMTX Amarillo 25.08 5 *e*P **P 23 50 46.1 +1.1**
AMTX LR LR
comp=Z,3µm,22.0s,MS4.8
GLA Glamis 25.11 339 *e*P **P 23 50 44.7 -0.7**
GLA Glamis 25.11 339 ⇓P **P 23 50 44.4 -1.0**
baz=25,SNR=14
ANMO Albuquerque 25.11 356 P **P 23 50 45.1 -0.3**
comp=Z,5.5nm,0.9s,mb4.1,baz=169,slow=10,SNR=18
ANMO LR LR 23 58 44.7
comp=Z,409nm,21.2s,MS3.9,baz=8.1,slow=32
ANMO Albuquerque 25.11 356 *e*P **P 23 50 45.5 +0.1**
ANMO Albuquerque 25.11 356 *e*P **P 23 50 45.8 +0.4**
ANMO LR LR
comp=Z,863nm,20.0s,MS4.3
WMOK Wichita Mounta 25.32 11 *e*P **P 23 50 46.2 -1.1**
WMOK *e* 23 54 26.1
WMOK pmax pmax
comp=Z,91nm,1.8s,mb5.0
WMOK MLR MLR
comp=Z,4µm,19.0s,MS5.0
WMOK Wichita Mounta 25.32 11 *e*P **P 23 50 46.2 -1.1**
comp=Z,91nm,1.8s,mb5.0
WMOK *e*PcP PcP 23 54 26.1 +6.1
WMOK LR LR
comp=Z,4µm,19.0s,MS5.0
Y14A Wickenburg 25.33 343 ⇓P **P 23 50 47.0 -0.4**
baz=25,SNR=8.2
Y14A ⇑S **S 23 55 14.3 +0.8**
baz=25
Y13A Salome 25.47 341 ⇑P **P 23 50 48.4 -0.2**
baz=25
Y13A ⇓S **S 23 55 18.6 +3.0**
baz=25
BAR Barrett 25.50 335 *e*P **P 23 50 48.3 -0.5**
Y12C Blythe 25.64 340 ⇓P **P 23 50 49.7 -0.5**
baz=26
X15A Humboldt 25.64 345 ⇑P **P 23 50 50.6 +0.4**
baz=26,SNR=14
X15A ⇑S **S 23 55 18.1 -0.3**
baz=26
X14A Yava 25.80 343 ⇑P **P 23 50 51.9 +0.3**
baz=26
109C Camp Elliot, M 25.86 335 ⇑P **P 23 50 51.4 -0.8**
baz=26
X13A Yucca 26.19 342 ⇓P **P 23 50 55.3 +0.2**
baz=26,SNR=13
X13A ⇓S **S 23 55 26.6 -0.4**
baz=26
PFO Pinyon Flat Ob 26.22 336 *e*P **P 23 50 55.1 -0.3**
PFO MLR MLR
comp=Z,1µm,19.0s,MS4.5
PFO Pinyon Flat Ob 26.22 336 ⇓P **P 23 50 54.7 -0.8**
baz=26
W15A Williams 26.30 345 ⇓P **P 23 50 56.3 +0.1**
baz=26
WUAZ Wupatki 26.41 347 *e*P **P 23 50 58.6 +1.4**
WUAZ LR LR
comp=Z,1µm,21.0s,MS4.5
MIAR Mount Ida 26.50 20 *e*P **P 23 50 56.3 -1.6**
MIAR pmax pmax
comp=Z,41nm,1.2s,mb4.8
MIAR MLR MLR
comp=Z,2µm,20.0s,MS4.6
MIAR Mount Ida 26.50 20 *e*P **P 23 50 56.3 -1.7**
comp=Z,41nm,1.2s,mb4.8
MIAR LR LR
comp=Z,2µm,20.0s,MS4.6
W14A Seligman 26.55 344 P **P 23 50 59.3 +1.0**
baz=26,SNR=5.2
W14A ⇓S **S 23 55 33.5 +0.8**
baz=26
W13A Hualapai Mount 26.68 342 ⇓P **P 23 50 59.8 +0.2**
baz=27
W13A ⇓S **S 23 55 38.4 +3.6**
baz=27
FMP Fort Macarthur 27.07 334 ⇓P **P 23 51 01.9 -1.2**
baz=27
UALR University of 27.14 22 *e*P **P 23 51 02.8 -0.9**
W12A Cal Nev Ari 27.17 341 ⇑P **P 23 51 04.3 +0.4**
baz=27
OTAV Otavalo 27.37 109 *e*P **P 23 51 10.2 +4.4**
comp=Z,22nm,1.0s,mb4.7
OTAV LR LR
comp=Z,2µm,22.0s,MS4.7
MWC Mount Wilson 27.41 335 *e*P **P 23 51 05.8 -0.3**
MVCO Mesa Verde 27.56 353 *e*P **P 23 51 07.7 +0.2**
V12A Nelson 27.56 341 ⇓P **P 23 51 07.1 -0.4**
baz=28
TUQ Turquoise Mtn. 27.65 339 ⇑P **P 23 51 08.1 -0.2**
baz=28
SDCO Great Sand Dun 27.84 358 P **P 23 51 09.8 -0.2**
SDCO LR LR
comp=Z,2µm,20.0s,MS4.7
GSC Goldstone 27.85 338 *e*P **P 23 51 10.0 -0.1**
GSC Goldstone 27.85 338 ⇓P **P 23 51 10.4 +0.4**
baz=28,SNR=11
LRAL Lakeview Retre 28.06 32 *e*P **P 23 51 11.2 -0.8**
comp=Z,56nm,1.7s,mb4.9
LRAL LR LR
comp=Z,578nm,20.0s,MS4.2
OXF Oxford 28.10 27 *e*P **P 23 51 10.2 -2.1**
OXF MLR MLR
comp=Z,944nm,20.0s,MS4.4
U12A Valley of Fire 28.11 342 ⇑P **P 23 51 13.0 +0.6**
baz=28
DWPF Disney 28.14 47 PFAKE 23 51 20.0 +7.3
DWPF LR LR
comp=Z,1µm,20.0s,MS4.5
SHPR Sheep Range 28.37 341 *e*P **P 23 51 15.5 +0.8**
MET Memphis--Engin 28.39 25 P **P 23 51 18.9 +4.0**
PV01 Paradox Valley 28.48 353 P **P 23 51 16.0 +0.3**
U10A Ash Meadows, A 28.68 339 ⇑P **P 23 51 17.5 0.0**
baz=29
PV10 Paradox Valley 28.78 352 *e*P **P 23 51 17.2 -1.1**
ISA Isabella 28.82 335 *e*P **P 23 51 18.8 +0.1**
ISA pmax pmax
comp=Z,35nm,1.4s,mb4.9
ISA MLR MLR
comp=Z,578nm,19.0s,MS4.2
ISA Isabella 28.82 335 *e*P **P 23 51 18.8 0.0**
comp=Z,35nm,1.4s,mb4.9
ISA LR LR
comp=Z,578nm,19.0s,MS4.2
ISA Isabella 28.82 335 ⇑P **P 23 51 18.3 -0.4**
baz=29
DAC Darwin (Calif) 29.01 337 *e*P **P 23 51 20.5 +0.1**
DAC pmax pmax
comp=Z,42nm,1.6s,mb4.9
DAC MLR MLR
comp=Z,3µm,22.0s,MS4.8
DAC Darwin (Calif) 29.01 337 *e*P **P 23 51 20.5 0.0**
comp=Z,42nm,1.6s,mb4.9
DAC LR LR
comp=Z,3µm,22.0s,MS4.8
ARUT Antelope Range 29.07 345 *e*P **P 23 51 21.8 +0.8**
PLAL Pickwick Lake 29.10 28 *e*P **P 23 51 19.4 -1.7**
comp=Z,17nm,0.9s,mb4.8
PLAL *e*PcP PcP 23 54 34.7 +5.7
PLAL LR LR
comp=Z,700nm,20.0s,MS4.3
TPNV Topopah Spring 29.13 340 *e*P **P 23 51 22.4 +0.9**
TPNV *e* 23 54 35.9
TPNV pmax pmax
comp=Z,26nm,1.4s,mb4.8
TPNV MLR MLR
comp=Z,3µm,19.0s,MS4.9
TPNV Topopah Spring 29.13 340 *e*P **P 23 51 22.4 +0.9**
comp=Z,26nm,1.4s,mb4.8
TPNV *e*PcP PcP 23 54 35.9 +6.8
TPNV LR LR
comp=Z,3µm,19.0s,MS4.9
CWC Cottonwood Cre 29.34 337 ⇓P **P 23 51 23.0 -0.4**
baz=29
SMCO Snowmass 29.35 356 *e*P **P 23 51 22.7 -0.8**
MVU Marysvale 29.46 347 PFAKE 23 51 40.0 +16
MVU LR LR
comp=Z,1µm,20.0s,MS4.6
SRU San Rafael 29.72 350 *e*P **P 23 51 28.0 +1.3**
V04C Ramage Ranch, 29.84 332 ⇑P **P 23 51 26.5 -1.4**
baz=30
ISCO Idaho Springs 29.90 358 *e*P **P 23 51 29.5 +1.2**
ISCO MLR MLR
comp=Z,3µm,20.0s,MS5.0
HELL Mitchell Peak, 29.92 336 ⇓P **P 23 51 27.5 -1.0**
baz=30,SNR=38
PKD Parkfield 29.95 333 ⇓P **P 23 51 27.3 -1.4**
baz=30
KSU1 Kansas State U 29.97 12 *e*P **P 23 51 27.8 -1.1**
TMUT Trail Mountain 30.02 349 *e*P **P 23 51 29.8 +0.4**
ROSC El Rosal 30.07 97 P **P 23 51 33.7 +3.9**
comp=Z,2.8nm,0.5s,mb4.2,baz=254,slow=23,SNR=4.0
ROSC LR LR 00 00 43.8
comp=Z,2µm,21.8s,MS4.6,baz=103,slow=31
S09A Goldfield 30.16 339 ⇑P **P 23 51 30.8 +0.2**
baz=30,SNR=13
WVT Waverly 30.16 27 *e*P **P 23 51 28.2 -2.4**
WVT pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
WVT MLR MLR
comp=Z,572nm,20.0s,MS4.2
WVT Waverly 30.16 27 *e*P **P 23 51 28.2 -2.4**
comp=Z,6.4nm,0.9s,mb4.3
WVT LR LR
comp=Z,572nm,20.0s,MS4.2
TRCR Troy Canyon 30.20 342 *e*P **P 23 51 33.3 +2.4**
GOGA Godfrey 30.30 36 *e*P **P 23 51 33.0 +1.2**
GOGA MLR MLR
comp=Z,7µm,20.0s,MS5.3
SWET Sewanee 30.32 31 P **P 23 51 31.7 -0.3**
MTUM Tungsten Hills 30.32 337 *e*P **P 23 51 32.2 +0.2**
V03C Hunter Liggett 30.33 332 ⇑P **P 23 51 31.2 -0.9**
baz=30
R10A Warm Springs 30.36 341 ⇓P **P 23 51 33.2 +0.8**
baz=30
U04C Hernandez Rese 30.40 333 ⇑P **P 23 51 32.6 -0.1**
baz=30
CCM Cathedral Cave 30.47 21 *e*P **P 23 51 33.4 +0.1**
CCM *e* 23 54 38.3
CCM pmax pmax
comp=Z,53nm,1.8s,mb5.0
CCM MLR MLR
comp=Z,2µm,19.0s,MS4.8
CCM Cathedral Cave 30.47 21 *e*P **P 23 51 33.4 0.0**
comp=Z,53nm,1.8s,mb5.0
CCM *e*PcP PcP 23 54 38.3 +5.8
CCM LR LR
comp=Z,2µm,19.0s,MS4.8
TPH Tonopah 30.48 340 P **P 23 51 41.3 +7.9**
T06C Millerton Lake 30.49 335 ⇑P **P 23 51 32.6 -0.9**
baz=30
R09A Tonopah 30.57 340 ⇓P **P 23 51 34.4 +0.2**
baz=30
KCC Kaiser Creek 30.59 336 ⇓P **P 23 51 33.8 -0.7**
baz=30
MLAC Mammoth Lakes 30.67 337 ⇑P **P 23 51 34.8 -0.4**
baz=31
ATAH Atahualpa 30.69 122 P **P 23 51 41.0 +5.7**
comp=Z,9.3nm,0.9s,mb4.6,baz=88,slow=10,SNR=6.0
ATAH LR LR 00 01 34.3
comp=Z,7µm,19.5s,MS5.3,baz=300,slow=32
HAST UC Hastings Re 30.77 332 ⇑P **P 23 51 35.2 -0.9**
baz=31
MPU Maple Canyon 30.80 349 *e*P **P 23 51 37.9 +1.6**
MPU LR LR
comp=Z,1µm,21.0s,MS4.6
SAO San Andreas Ge 31.03 333 PFAKE 23 51 50.0 +12
SAO LR LR
comp=Z,1µm,20.0s,MS4.6
DAU Daniels Canyon 31.11 350 *e*P **P 23 51 37.7 -1.3**
R07C Lee Vining 31.15 337 ⇓P **P 23 51 39.2 -0.2**
baz=31
NVAR Mina Array Bea 31.17 338 P **P 23 51 39.5 -0.1**
comp=Z,5.4nm,1.1s,mb4.3,baz=148,slow=7.7,SNR=26
NVAR PcP PcP 23 54 35.6 +1.2
comp=Z,0.7nm,1.0s,baz=282,slow=10,SNR=2.9
DUG Dugway 31.21 347 *e*P **P 23 51 40.2 +0.3**
DUG *e* 23 54 41.2
DUG MLR MLR
comp=Z,2µm,20.0s,MS4.7
CPCT Cooper Cave 31.23 32 *e*P **P 23 51 39.8 -0.3**
S06C San Francisco 31.29 336 ⇑P **P 23 51 40.2 -0.3**
baz=31
PHWY Pilot Hill 31.39 358 *e*P **P 23 51 41.2 -0.3**
Q08A Gabbs 31.42 339 P **P 23 51 42.1 +0.3**
baz=31,SNR=15
S04C Ingram Canyon, 31.59 334 ⇑P **P 23 51 42.8 -0.4**
baz=32
P10A Eureka 31.63 342 ⇑P **P 23 51 44.4 +0.9**
baz=32
CMB Columbia Colle 31.64 335 *e*P **P 23 51 43.2 -0.5**
CMB pmax pmax
comp=Z,24nm,1.4s,mb4.8
CMB MLR MLR
comp=Z,1µm,21.0s,MS4.5
CMB Columbia Colle 31.64 335 *e*P **P 23 51 43.2 -0.5**
comp=Z,24nm,1.4s,mb4.8
CMB LR LR
comp=Z,1µm,21.0s,MS4.5
CMB Columbia Colle 31.64 335 ⇓P **P 23 51 43.4 -0.2**
baz=32
CMB ⇑S **S 23 56 53.5 +0.7**
baz=32
WAKR Walker 31.66 337 *e*P **P 23 51 44.6 +0.7**
R06C Coleville 31.68 337 ⇓P **P 23 51 44.5 +0.5**
baz=32,SNR=8.1
O12A Currie 31.75 345 ⇑P **P 23 51 45.1 +0.5**
baz=32,SNR=10
O12A ⇑S **S 23 56 58.5 +4.0**
baz=32
USIN University of 31.77 25 *e*P **P 23 51 44.0 -0.7**
P09A Austin 31.78 341 ⇓P **P 23 51 45.5 +0.6**
baz=32
TCUT Toone Canyon 31.83 350 *e*P **P 23 51 47.0 +1.7**
R04C Big Horse Ranc 32.06 335 ⇑S **S 23 57 01.7 +2.4**
baz=32
R05C Kirkwood Meado 32.09 336 ⇓P **P 23 51 47.5 -0.1**
baz=32,SNR=5.7
R05C ⇑S **S 23 57 00.2 +0.5**
baz=32
N13A Wendover, West 32.16 346 ⇓S **S 23 57 06.3 +5.4**
baz=32
O10A Cortez Mining, 32.26 342 ⇓P **P 23 51 50.1 +1.0**
baz=32,SNR=7.9
O10A ⇑S **S 23 57 03.9 +1.6**
baz=32
HWUT Hardware Ranch 32.33 350 *e*P **P 23 51 51.0 +1.3**
comp=Z,42nm,1.7s,mb5.0
HWUT *e*PcP PcP 23 54 43.9 +6.4
HWUT LR LR
comp=Z,1µm,21.0s,MS4.5
O09A Fish Creek Ran 32.36 341 ⇑P **P 23 51 50.9 +0.9**
baz=32,SNR=9.8
N12A Clover Valley, 32.37 345 ⇓P **P 23 51 51.1 +1.1**
baz=32
N12A ⇑S **S 23 57 12.6 +8.5**
baz=32
LAVA Lava Cap Winer 32.40 336 ⇓P **P 23 51 50.1 -0.2**
baz=32
LAVA ⇓S **S 23 57 05.5 +0.8**
baz=32
WCN Washoe City 32.48 337 ⇓P **P 23 51 51.5 +0.4**
baz=32
N11A Elko Archery C 32.53 344 ⇓P **P 23 51 52.3 +0.9**
baz=32
TZTN Tazewell 32.57 32 *e*P **P 23 51 52.5 +0.7**
TZTN *e*PcP PcP 23 54 45.1 +6.9
WCI Wyandotte Cave 32.58 27 *e*P **P 23 51 51.6 -0.3**
WCI pmax pmax
comp=Z,28nm,1.3s,mb5.0
WCI MLR MLR
comp=Z,619nm,19.0s,MS4.3
WCI Wyandotte Cave 32.58 27 *e*P **P 23 51 51.6 -0.3**
comp=Z,28nm,1.3s,mb5.0
WCI LR LR
comp=Z,619nm,19.0s,MS4.3
BMN Battle Mountai 32.61 341 *e*P **P 23 51 52.7 +0.5**
BMN MLR MLR
comp=Z,2µm,19.0s,MS4.7
M13A Montello 32.63 346 ⇑P **P 23 51 53.1 +0.8**
baz=33
M13A ⇑S **S 23 57 12.5 +4.3**
baz=33
N10A Dunphy 32.66 343 ⇑P **P 23 51 52.9 +0.4**
baz=33
PAHR Pah Rah Range 32.70 338 *e*P **P 23 51 52.7 -0.2**
comp=Z,32nm,1.4s,mb5.1
CVS Carmenet Viney 32.79 333 ⇓P **P 23 51 52.7 -1.0**
baz=33
P05C Yuba Gap, Truc 32.81 336 ⇓P **P 23 51 54.1 +0.1**
baz=33,SNR=9.4
P05C ⇑S **S 23 57 15.2 +4.2**
baz=33
Q03C Winters 32.83 334 ⇑P **P 23 51 53.1 -1.0**
baz=33
M12A Wells 32.87 345 ⇑P **P 23 51 55.4 +1.0**
baz=33
M12A ⇓S **S 23 57 19.0 +7.1**
baz=33
O07A Toulon 32.91 339 ⇓P **P 23 51 55.1 +0.3**
baz=33
O07A ⇓S **S 23 57 18.5 +5.9**
baz=33
N09A Rock Creek Ran 33.08 341 ⇓P **P 23 51 56.6 +0.3**
baz=33
N09A ⇑S **S 23 57 20.3 +5.1**
baz=33
M11A Holland Ranch, 33.11 344 ⇑P **P 23 51 57.5 +1.0**
baz=33
BW06 Boulder Array 33.16 353 *e*P **P 23 51 57.4 +0.4**
BW06 *e*PcP PcP 23 54 46.4 +6.5
BW06 LR LR
comp=Z,1µm,20.0s,MS4.6
PDAR Pinedale Array 33.16 353 P **P 23 51 56.0 -1.1**
comp=Z,3.4nm,0.8s,mb4.3,baz=168,slow=7.6,SNR=20
PDAR PcP PcP 23 54 40.8 +0.9
comp=Z,0.7nm,0.3s,baz=152,slow=6.1,SNR=4.1
PDAR LR LR 00 04 04.7
comp=Z,879nm,21.5s,MS4.4,baz=187,slow=34
SDV Santo Domingo 33.17 89 P **P 23 51 59.8 +2.7**
comp=Z,8.7nm,0.4s,mb5.0,baz=178,slow=24,SNR=3.7
SDV LR LR 00 03 45.3
comp=Z,1µm,20.7s,MS4.6,baz=288,slow=33
OHCM Honcut 33.20 335 *e*P **P 23 51 57.5 +0.2**
MNRC McLaughlin Nat 33.22 334 ⇑P **P 23 51 56.6 -0.9**
baz=33
SUTB Sutter Butte 33.23 335 ⇑P **P 23 51 56.9 -0.7**
baz=33,SNR=7.8
SUTB ⇑S **S 23 57 20.6 +3.0**
baz=33
O06A Flanigan 33.26 338 ⇓P **P 23 51 58.2 +0.3**
baz=33
BLO Bloomington 33.26 26 *e*P **P 23 51 57.6 -0.3**
ORV Oroville 33.39 335 ⇓P **P 23 51 59.0 0.0**
baz=33,SNR=22
ORV ⇓S **S 23 57 22.7 +2.8**
baz=33
M10A I.L. Ranch, Tu 33.40 343 ⇑P **P 23 51 59.6 +0.5**
baz=33
N07B Gerlach 33.50 340 ⇓P **P 23 51 59.7 -0.2**
baz=33
O05C Quincy 33.50 336 ⇑P **P 23 52 00.1 +0.2**
baz=33,SNR=7.6
O05C ⇓S **S 23 57 25.9 +4.2**
baz=33
M09A Marrel Ranch, 33.58 342 ⇓P **P 23 52 01.0 +0.3**
baz=34
HOPS Hopland 33.60 333 PFAKE 23 52 10.0 +9.2
HOPS LR LR
comp=Z,2µm,22.0s,MS4.7
HOPS Hopland 33.60 333 ⇑P **P 23 52 00.1 -0.7**
baz=34
N06A Buffalo Meadow 33.77 338 ⇓P **P 23 52 03.0 +0.6**
baz=34,SNR=8.7
O04C Chester 33.88 337 ⇑P **P 23 52 03.2 0.0**
baz=34
REDW Red Top Meadow 33.93 351 *e*P **P 23 52 04.1 +0.4**
comp=Z,38nm,1.6s,mb5.1
GASB Alder Springs 33.98 334 ⇓P **P 23 52 03.8 -0.4**
baz=34,SNR=11
GASB ⇑S **S 23 57 31.1 +1.9**
baz=34
O03C Acorn Hollow, 33.98 335 ⇓P **P 23 52 04.1 0.0**
baz=34
O03C ⇓S **S 23 57 38.5 +9.3**
baz=34
RRI2 Red Ridge 33.98 351 *e*P **P 23 52 07.3 +3.1**
RRI2 *e*PcP PcP 23 54 48.0 +5.8
TPAW Teton Pass 34.07 351 *e*P **P 23 52 05.5 +0.6**
comp=Z,22nm,1.4s,mb4.9
P01C Double 8 Ranch 34.10 333 ⇓P **P 23 52 04.5 -0.7**
baz=34
P01C ⇓S **S 23 57 36.0 +4.9**
baz=34
M07A Soldier Meadow 34.11 340 ⇑P **P 23 52 05.7 +0.5**
baz=34
M07A ⇑S **S 23 57 35.0 +3.8**
baz=34
RSSD Black Hills 34.19 0 *e*P **P 23 52 06.5 +0.5**
RSSD *e* 23 54 44.5
RSSD pmax pmax
comp=Z,41nm,1.8s,mb5.1
RSSD MLR MLR
comp=Z,3µm,20.0s,MS5.0
RSSD Black Hills 34.19 0 *e*P **P 23 52 06.5 +0.6**
comp=Z,41nm,1.8s,mb5.1
RSSD *e*PcP PcP 23 54 44.5 +1.8
RSSD LR LR
comp=Z,3µm,20.0s,MS5.0
M06C Likely Place G 34.41 338 ⇓P **P 23 52 07.8 -0.1**
baz=34,SNR=14
M06C ⇑S **S 23 57 39.3 +3.6**
baz=34
HATC Hat Creek Radi 34.45 337 ⇑P **P 23 52 08.1 -0.1**
baz=34
HATC ⇑S **S 23 57 37.4 +1.1**
baz=34
O02C Red Bluff 34.45 334 ⇓P **P 23 52 07.5 -0.7**
baz=34
IMW Indian Meadow 34.46 351 P **P 23 52 15.9 +7.6**
L08A Fields 34.55 341 ⇓P **P 23 52 09.2 +0.1**
baz=34
L08A ⇑S **S 23 57 39.1 +1.1**
baz=34
WDC Whiskeytown Da 34.68 335 *e*P **P 23 52 10.4 +0.2**
WDC pmax pmax
comp=Z,25nm,1.4s,mb5.0
WDC MLR MLR
comp=Z,803nm,21.0s,MS4.4
WDC Whiskeytown Da 34.68 335 *e*P **P 23 52 10.3 +0.1**
comp=Z,25nm,1.4s,mb5.0
WDC LR LR
comp=Z,803nm,21.0s,MS4.4

WDC	**Whiskeytown Da**	**34.68**	**335**	⇑P		**P**	**23 52 09.5**	**-0.7**
	baz=35								
WDC				⇑S		**S**	**23 57 38.0**	**-2.0**
	baz=35								
L07A	**Adell**	**34.73**	**340**	⇑P		**P**	**23 52 10.9**	**+0.3**
	baz=35								
L07A				⇓S		**S**	**23 57 43.7**	**+3.0**
	baz=35								
BLA	**Blacksburg**	**34.75**	**34**	P		**P**	**23 52 13.0**	**+2.2**
BLA				pmax		pmax			
	comp=Z,1.0nm,1.0s								
BLA				MLR		MLR			
	comp=Z,54nm,19.0s								
BLA	**Blacksburg**	**34.75**	**34**	P		**P**	**23 52 13.0**	**+2.2**
	comp=Z,1.3nm,1.0s								
BLA				LR		LR			
	comp=Z,54nm,19.0s								
HLID	**Hailey**	**34.78**	**347**	*e*P		**P**	**23 52 09.6**	**-1.5**
HLID				LR		LR			
	comp=Z,1μm,19.0s,MS4.7								
NNA	**Nana**	**34.79**	**128**	PFAKE			23 52 30.0	+19	
NNA				LR		LR			
	comp=Z,1μm,19.0s,MS4.6								
M05C	**Lookout**	**34.79**	**337**	⇓P		**P**	**23 52 10.8**	**-0.4**
	baz=35,SNR=9.5								
FWV	**Forest Hill**	**34.80**	**34**	*e*P		**P**	**23 52 10.3**	**-1.0**
O01C	**Eel River Cons**	**34.87**	**333**	⇓P		**P**	**23 52 11.0**	**-0.8**
	baz=35								
WVOR	**Wild Horse Val**	**34.87**	**341**	*e*P		**P**	**23 52 11.2**	**-0.6**
WVOR				pmax		pmax			
	comp=Z,33nm,1.5s,mb5.0								
WVOR				MLR		MLR			
	comp=Z,1μm,19.0s,MS4.8								
WVOR	**Wild Horse Val**	**34.87**	**341**	*e*P		**P**	**23 52 11.2**	**-0.6**
	comp=Z,33nm,1.5s,mb5.0								
WVOR				LR		LR			
	comp=Z,1μm,19.0s,MS4.8								
LKWY	**Lake**	**35.04**	**352**	PFAKE			23 52 30.0	+17	
LKWY				LR		LR			
	comp=Z,2μm,22.0s,MS4.8								
K08A	**Mann Creek Ran**	**35.09**	**342**	⇑P		**P**	**23 52 14.1**	**+0.3**
	baz=35								
K08A				⇓S		**S**	**23 57 46.4**	**+0.2**
	baz=35								
JFWS	**Jewell Farm**	**35.19**	**18**	PFAKE			23 52 30.0	+15	
JFWS				LR		LR			
	comp=Z,2μm,20.0s,MS4.8								
N02C	**Big Bar**	**35.20**	**335**	⇓P		**P**	**23 52 14.1**	**-0.6**
	baz=35,SNR=11								
N02C				⇑S		**S**	**23 57 49.0**	**+1.0**
	baz=35								
YMR	**Madison River**	**35.22**	**352**	PFAKE			23 52 30.0	+15	
YMR				LR		LR			
	comp=Z,2μm,21.0s,MS4.8								
L05A	**Lakeview**	**35.27**	**338**	⇑P		**P**	**23 52 15.4**	**+0.1**
	baz=35,SNR=12								
L05A				⇑S		**S**	**23 57 50.2**	**+1.1**
	baz=35								
K07A	**Rock Creek Ran**	**35.30**	**341**	⇓P		**P**	**23 52 16.1**	**+0.6**
	baz=35,SNR=8.1								
K07A				⇑S		**S**	**23 57 50.7**	**+1.3**
	baz=35								
M04C	**Macdoel**	**35.42**	**337**	⇓P		**P**	**23 52 15.6**	**-1.0**
	baz=35,SNR=12								
M04C				⇓S		**S**	**23 57 49.9**	**-1.4**
	baz=35								
KHMM	**Horse Mountain**	**35.43**	**334**	*e*P		**P**	**23 52 15.2**	**-1.4**
M02C	**Callahan**	**35.49**	**336**	⇓P		**P**	**23 52 15.5**	**-1.7**
	baz=35								
M02C				⇑S		**S**	**23 57 51.6**	**-0.7**
	baz=35								
JCC	**Jacoby Creek**	**35.51**	**334**	⇓S		**S**	**23 57 50.9**	**-1.8**
	baz=35								
ACSO	**Alum Creek Sta**	**35.71**	**28**	*e*P		**P**	**23 52 24.6**	**+5.5**
	comp=Z,20nm,1.1s,mb5.0								
ACSO				LR		LR			
	comp=Z,255nm,20.0s,MS4.0								
YBH	**Yreka Blue Hor**	**35.72**	**336**	P		**P**	**23 52 17.4**	**-1.7**
	comp=Z,1.6nm,0.3s,mb4.4,baz=168,slow=14,SNR=4.2								
YBH				LR		LR	00 04 34.6		
	comp=Z,1μm,19.7s,MS4.6,baz=145,slow=33								
YBH	**Yreka Blue Hor**	**35.72**	**336**	*e*P		**P**	**23 52 20.2**	**+1.1**
YBH				LR		LR			
	comp=Z,1μm,20.0s,MS4.6								
YBH	**Yreka Blue Hor**	**35.72**	**336**	⇓P		**P**	**23 52 18.1**	**-1.1**
	baz=36								
YBH				⇓S		**S**	**23 57 55.7**	**-0.3**
	baz=36								
K06A	**Valley Falls**	**35.73**	**340**	⇑P		**P**	**23 52 19.3**	**0.0**
	baz=36								
K06A				⇑S		**S**	**23 57 58.3**	**+2.2**
	baz=36								
L04A	**Klamath Falls**	**35.77**	**337**	⇓P		**P**	**23 52 19.3**	**-0.4**
	baz=36								
L04A				⇓S		**S**	**23 58 00.3**	**+3.6**
	baz=36								
J07A	**Hines**	**35.93**	**341**	⇑P		**P**	**23 52 21.2**	**+0.2**
	baz=36								
K04A	**Chilquin**	**36.09**	**338**	⇑S		**S**	**23 58 00.5**	**-1.1**
	baz=36								
J06A	**Christmas Vall**	**36.09**	**340**	⇑P		**P**	**23 52 22.8**	**+0.4**
	baz=36,SNR=9.9								
J06A				⇑S		**S**	**23 58 02.2**	**+0.5**
	baz=36								
DLMT	**Dillon**	**36.15**	**350**	*e*P		**P**	**23 52 24.1**	**+1.2**
	comp=Z,21nm,1.0s,mb5.0								
BOZ	**Bozeman (W)**	**36.28**	**351**	*e*P		**P**	**23 52 23.4**	**-0.5**
BOZ				*e*			23 54 56.0		
BOZ				pmax		pmax			
	comp=Z,21nm,1.4s,mb4.9								
BOZ				MLR		MLR			
	comp=Z,756nm,20.0s,MS4.5								
BOZ	**Bozeman (W)**	**36.28**	**351**	*e*P		**P**	**23 52 23.4**	**-0.5**
	comp=Z,22nm,1.4s,mb4.9								
BOZ				*e*PcP		PcP	23 54 56.0	+7.1	
BOZ				LR		LR			
	comp=Z,756nm,20.0s,MS4.5								
M01C	**Crescent City**	**36.40**	**335**	⇓S		**S**	**23 58 05.3**	**-1.0**
	baz=36								
L02A	**Cave Junction**	**36.44**	**335**	⇓P		**P**	**23 52 25.3**	**0.0**
	baz=36								
L02A				⇑S		**S**	**23 58 07.1**	**+0.1**
	baz=36								
J05A	**Fort Rock**	**36.50**	**339**	⇑P		**P**	**23 52 26.0**	**+0.2**
	baz=36,SNR=9.0								
J05A				⇑S		**S**	**23 58 06.8**	**-1.0**
	baz=36								
HUMO	**Hull Mountain**	**36.56**	**337**	PFAKE			23 52 40.0	+14	
HUMO				LR		LR			
	comp=Z,1μm,21.0s,MS4.7								
HUMO	**Hull Mountain**	**36.56**	**337**	⇑P		**P**	**23 52 26.0**	**-0.3**
	baz=36								
HUMO				⇑S		**S**	**23 58 08.3**	**-0.5**
	baz=36								
LRM	**Limekiln Ridge**	**36.58**	**350**	*e*P		**P**	**23 52 26.6**	**+0.1**
LRM				*e*PcP		PcP	23 54 52.9	+3.1	
I06A	**Prineville**	**36.73**	**341**	⇓P		**P**	**23 52 27.9**	**+0.2**
	baz=37								
I06A				⇑S		**S**	**23 58 13.7**	**+2.3**
	baz=37								
KBO	**Bosley Butte**	**36.74**	**335**	*e*P		**P**	**23 52 35.7**	**+7.8**
LAO	**LASA Array**	**36.80**	**358**	*e*P		**P**	**23 52 26.8**	**-1.6**
LAO				LR		LR			
	comp=Z,2μm,19.0s,MS5.0								
MCWV	**Mont Chateau**	**36.83**	**32**	*e*P		**P**	**23 52 28.2**	**-0.5**
AAM	**Ann Arbor**	**37.07**	**26**	*e*P		**P**	**23 52 29.7**	**-1.0**
AAM				pmax		pmax			
	comp=Z,60nm,1.0s,mb5.4								
AAM				MLR		MLR			
	comp=Z,601nm,21.0s,MS4.4								
AAM	**Ann Arbor**	**37.07**	**26**	*e*P		**P**	**23 52 29.7**	**-1.0**
	comp=Z,60nm,1.0s,mb5.4								
AAM				LR		LR			
	comp=Z,601nm,21.0s,MS4.4								
CBN	**Corbin**	**37.18**	**36**	PFAKE			23 52 40.0	+8.4	
CBN				LR		LR			
	comp=Z,972nm,21.0s,MS4.6								
J03A	**Ideyld Park**	**37.21**	**337**	⇑P		**P**	**23 52 31.5**	**-0.4**
	baz=37								
I05A	**Bend**	**37.28**	**340**	⇑P		**P**	**23 52 32.6**	**+0.1**
	baz=37								
I05A				⇓S		**S**	**23 58 22.2**	**+2.4**
	baz=37								
J02A	**Umpqua**	**37.44**	**337**	⇑P		**P**	**23 52 33.7**	**-0.2**
	baz=37								
J02A				⇑S		**S**	**23 58 23.1**	**+0.9**
	baz=37								
H05A	**Madras**	**37.70**	**340**	⇓S		**S**	**23 58 27.7**	**+1.6**
	baz=38								
CHMT	**Chamberlain Mo**	**37.77**	**350**	*e*P		**P**	**23 52 37.0**	**+0.3**
MSO	**Missoula**	**37.81**	**349**	*e*P		**P**	**23 52 37.1**	**+0.1**
MSO				*e*PcP		PcP	23 55 00.4	+6.9	
MSO				LR		LR			
	comp=Z,810nm,21.0s,MS4.5								
SJG	**San Juan**	**37.82**	**73**	P		**P**	**23 52 37.7**	**+0.7**
	comp=Z,12nm,0.7s,mb4.7,baz=276,slow=6.1,SNR=4.0								
SJG	**San Juan**	**37.82**	**73**	*e*P		**P**	**23 52 37.7**	**+0.6**
SJG				pmax		pmax			
	comp=Z,7.0nm,0.6s								
SJG				MLR		MLR			
	comp=Z,440nm,21.0s								
SJG	**San Juan**	**37.82**	**73**	*e*P		**P**	**23 52 37.7**	**+0.6**
	comp=Z,7.0nm,0.6s,mb4.6								
SJG				LR		LR			
	comp=Z,440nm,21.0s,MS4.2								
I03A	**Eugene**	**37.84**	**337**	⇓P		**P**	**23 52 37.2**	**0.0**
	baz=38,SNR=7.1								
H04A	**Detroit Lake**	**38.05**	**339**	⇓P		**P**	**23 52 39.0**	**0.0**
	baz=38								
H04A				⇓S		**S**	**23 58 31.3**	**-0.2**
	baz=38								
I02A	**Mapleton**	**38.07**	**337**	⇑S		**S**	**23 58 30.5**	**-1.3**
	baz=38								
ALLY	**Alegheny Colle**	**38.17**	**30**	*e*P		**P**	**23 52 45.3**	**+5.3**
COR	**Corvallis**	**38.37**	**338**	PFAKE			23 52 50.0	+8.3	
COR				LR		LR			
	comp=Z,1μm,21.0s,MS4.7								
EGMT	**Eagleton**	**38.38**	**354**	PFAKE			23 52 50.0	+8.2	
EGMT				LR		LR			
	comp=Z,564nm,21.0s,MS4.4								
H03A	**Soap Creek Ran**	**38.45**	**338**	⇓P		**P**	**23 52 42.1**	**-0.3**
	baz=38								
H03A				⇑S		**S**	**23 58 36.5**	**-1.0**
	baz=38								
SSPA	**Standing Stone**	**38.58**	**33**	*e*P		**P**	**23 52 42.4**	**-1.0**
SSPA				LR		LR			
	comp=Z,470nm,20.0s,MS4.3								
ERPA	**Erie**	**38.60**	**29**	PFAKE			23 53 00.0	+16	
ERPA				LR		LR			
	comp=Z,718nm,22.0s,MS4.5								
HAWA	**Hanford**	**38.73**	**343**	*e*P		**P**	**23 52 46.1**	**+1.4**
HAWA				LR		LR			
	comp=Z,23nm,20.0s								
F05A	**White Salmon**	**38.86**	**341**	⇑P		**P**	**23 52 45.9**	**+0.1**
	baz=39								
F05A				⇓S		**S**	**23 58 45.0**	**+1.3**
	baz=39								
EYMN	**Ely**	**39.51**	**13**	PFAKE			23 53 00.0	+8.7	
EYMN				LR		LR			
	comp=Z,912nm,21.0s,MS4.6								
E05A	**Randle**	**39.56**	**341**	⇓P		**P**	**23 52 51.6**	**0.0**
	baz=40								
E05A				⇑S		**S**	**23 58 54.2**	**0.0**
	baz=40								
LON	**Longmire**	**39.74**	**341**	*e*P		**P**	**23 52 54.2**	**+1.0**
NEW	**Newport**	**39.84**	**347**	*e*P		**P**	**23 52 53.4**	**-0.6**
NEW				MLR		MLR			
	comp=Z,1μm,21.0s								
WALA	**Waterton Lakes**	**39.96**	**350**	*e*P		**P**	**23 52 55.0**	**0.0**
E03A	**Lebam**	**40.15**	**339**	⇓P		**P**	**23 52 56.8**	**+0.2**
	baz=40								
E03A				⇓S		**S**	**23 59 01.4**	**-1.7**
	baz=40								
TAOE	**Nuku Hiva Isla**	**40.26**	**244**	*e*LR		LR	00 03 52.0		
	comp=Z,4μm,25.7s								
D04A	**Dobbs Creek Ra**	**40.38**	**340**	⇑S		**S**	**23 59 05.7**	**-0.9**
	baz=40								
C05A	**Tolt Reservoir**	**40.54**	**342**	⇑P		**P**	**23 52 59.9**	**+0.1**
	baz=40								
BINY	**Binghamton**	**40.69**	**33**	*e*P		**P**	**23 53 00.6**	**-0.5**
	comp=Z,48nm,1.4s,mb4.9								
BINY				LR		LR			
	comp=Z,926nm,22.0s,MS4.6								
D03A	**Wishkah Elem.**	**40.72**	**340**	⇑S		**S**	**23 59 13.6**	**+2.0**
	baz=41								
GNW	**Green Mountain**	**40.79**	**341**	*e*P		**P**	**23 53 07.5**	**+5.6**
ULM	**Lac du Bonnet**	**40.92**	**8**	P		**P**	**23 53 00.8**	**-2.1**
	comp=Z,14nm,1.3s,mb4.4,baz=193,slow=10,SNR=9.2								
ULM				PcP		PcP	23 55 03.6	+0.3	
	comp=Z,5.2nm,0.9s,baz=90,slow=1.0,SNR=2.4								
ULM				LR		LR	00 09 33.7		
	comp=Z,926nm,21.9s,MS4.6,baz=196,slow=36								
SADO	**Sadowa**	**41.02**	**27**	P		**P**	**23 53 00.6**	**-3.2**
	comp=Z,5.4nm,0.9s,mb4.2,baz=261,slow=3.8,SNR=4.0								
B05A	**Bryant**	**41.17**	**342**	⇑P		**P**	**23 53 04.9**	**-0.1**
	baz=41								
B05A				⇓S		**S**	**23 59 15.8**	**-2.5**
	baz=41								
B04A	**Port Angeles**	**41.44**	**340**	⇓S		**S**	**23 59 18.4**	**-3.9**
	baz=41								
C03A	**Quillayute Air**	**41.71**	**339**	⇓S		**S**	**23 59 24.4**	**-1.8**
	baz=42								
A04A	**Legoe Bay, Lum**	**41.77**	**342**	⇓P		**P**	**23 53 09.1**	**-0.8**
	baz=42								
A04A				⇓S		**S**	**23 59 26.6**	**-0.6**
	baz=42								
A05A	**Maple Falls**	**41.83**	**342**	⇑P		**P**	**23 53 10.3**	**-0.1**
	baz=42								
A05A				⇓S		**S**	**23 59 25.2**	**-2.9**
	baz=42								
BBSR	**BB Station**	**42.85**	**52**	PFAKE			23 53 30.0	+11	
BBSR				LR		LR			
	comp=Z,1μm,21.0s,MS4.8								
NCB	**Newcomb**	**42.85**	**32**	PFAKE			23 53 30.0	+11	
NCB				LR		LR			
	comp=Z,763nm,20.0s,MS4.6								
LONY	**Lake Ozonia**	**43.12**	**31**	*e*P		**P**	**23 53 26.2**	**+5.3**
HRV	**Harvard--Oak R**	**43.35**	**36**	PFAKE			23 53 30.0	+7.3	
HRV				LR		LR			
	comp=Z,674nm,20.0s,MS4.5								
WES	**Weston**	**43.41**	**36**	PFAKE			23 53 30.0	+6.8	
WES				LR		LR			
	comp=Z,698nm,22.0s,MS4.5								
EDM	**Edmonton**	**43.92**	**352**	*e*P		**P**	**23 53 26.5**	**-0.8**
LPAZ	**La Paz**	**44.15**	**126**	P		**P**	**23 53 32.9**	**+3.6**
	comp=Z,3.9nm,0.8s,mb4.2,baz=334,slow=9.6,SNR=19								
LPAZ	**La Paz**	**44.15**	**126**	P		**P**	**23 53 32.9**	**+3.6**
LPAZ				LR		LR			
	comp=Z,874nm,21.0s,MS4.7								
LBNH	**Lisbon**	**44.26**	**33**	PFAKE			23 53 40.0	+10	
LBNH				LR		LR			
	comp=Z,2μm,19.0s,MS5.0								
RKT	**Rikitea**	**44.44**	**222**	*e*S		**S**	**00 00 13.2**	**+6.9**	
	comp=Z,310nm,28.0s								
RKT				*e*LQ			00 04 07.1		
	comp=Z,746nm,26.5s								
RKT				*e*LR		LR	00 06 05.8		
	comp=Z,2μm,26.0s,baz=39								
FFC	**Flin Flon**	**44.84**	**2**	*e*P		**P**	**23 53 34.4**	**-0.3**
FFC				pmax		pmax			
	comp=Z,32nm,1.3s,mb5.0								
FFC				MLR		MLR			
	comp=Z,3μm,19.0s,MS5.2								
FFC	**Flin Flon**	**44.84**	**2**	*e*P		**P**	**23 53 34.4**	**-0.4**
	comp=Z,32nm,1.3s,mb5.0								
FFC				LR		LR			
	comp=Z,3μm,19.0s,MS5.2								
SAML	**Samuel**	**44.92**	**113**	*e*P		**P**	**23 53 36.8**	**+1.4**
	comp=Z,22nm,1.2s,mb4.9								
SAML				LR		LR			
	comp=Z,1μm,20.0s,MS4.8								
POHA	**Pohakuloa**	**50.40**	**287**	PFAKE			23 54 30.0	+12	
POHA				LR		LR			
	comp=Z,1μm,20.0s,MS5.0								
PPT	**Papeete**	**52.39**	**239**	*e*S		**S**	**00 02 05.4**	**+6.8**	
	comp=Z,295nm,27.0s								
PPT				*e*SS		SS	00 05 45.4	+9.0	
	comp=Z,64nm,21.1s								
PPT				*e*LQ			00 07 30.1		
	comp=Z,1μm,26.8s								
PPT				*e*LR		LR	00 09 31.2		
	comp=Z,1μm,26.0s,baz=55								
PPT	**Papeete**	**52.39**	**239**	LR		LR	00 10 27.0		
	comp=Z,414nm,21.3s,MS4.4,baz=330,slow=29								
YKA	**Yellowknife Ar**	**53.13**	**354**	P		**P**	**23 54 35.7**	**-2.6**
	comp=Z,4.5nm,1.1s,mb4.3,baz=164,slow=7.8,SNR=17								
YKA				PcP		PcP	23 55 45.5	-0.9	
	comp=Z,0.1nm,0.3s,baz=75,slow=38,SNR=3.1								
YKA				LR		LR	00 17 26.1		
	comp=Z,892nm,18.2s,MS4.8,baz=180,slow=36								
YKA	**Yellowknife Ar**	**53.13**	**354**	P		**P**	**23 54 35.7**	**-2.6**
YKA							23 55 45.5		
YKA	**Yellowknife Ar**	**53.13**	**354**	P		**P**	**23 54 35.7**	**-2.6**
YKA				PcP		PcP	23 55 45.5	-0.9	
YKA				LR		LR	00 17 26.1		
YKW3	**Yellowknife Ar**	**53.20**	**354**	*e*P		**P**	**23 54 37.9**	**-0.9**
SCHQ	**Schefferville**	**53.78**	**26**	P		**P**	**23 54 45.4**	**+2.3**
	comp=Z,10.0nm,1.0s,mb4.7,baz=236,slow=5.3,SNR=7.6								
SCHQ				LR		LR	00 18 18.0		
	comp=Z,510nm,21.5s,MS4.5,baz=28,slow=37								
SCHQ	**Schefferville**	**53.78**	**26**	*e*P		**P**	**23 54 46.7**	**+3.6**
SCHQ				LR		LR			
	comp=Z,1μm,20.0s,MS4.9								
CPUP	**Villa Florida**	**58.03**	**129**	*e*P		**P**	**23 55 16.3**	**+2.8**
CPUP				pmax		pmax			
	comp=Z,38nm,1.0s								
CPUP	**Villa Florida**	**58.03**	**129**	*e*P		**P**	**23 55 16.3**	**+2.8**
	comp=Z,38nm,1.0s,mb5.4								
PLCA	**Paso Flores**	**59.12**	**151**	P		**P**	**23 55 24.9**	**+3.8**
	comp=Z,9.4nm,1.0s,mb4.8,baz=332,slow=9.3,SNR=14								
PLCA				LR		LR	00 15 19.7		
	comp=Z,1μm,20.3s,MS5.0,baz=321,slow=30								
DAWY	**Dawson**	**59.58**	**343**	*e*P		**P**	**23 55 24.6**	**+0.3**
DIV	**Divide**	**59.60**	**338**	PFAKE			23 55 40.0	+16	
DIV				LR		LR			
	comp=Z,560nm,21.0s,MS4.7								
KDAK	**Kodiak Island**	**60.41**	**333**	PFAKE			23 55 40.0	+10	
KDAK				LR		LR			
	comp=Z,172nm,19.0s,MS4.2								
PMR	**Palmer**	**61.15**	**337**	*e*P		**P**	**23 55 35.6**	**+0.6**
PMR				pmax		pmax			
	comp=Z,24nm,1.4s,mb5.1								
PMR				MLR		MLR			
	comp=Z,369nm,20.0s,MS4.5								
PMR	**Palmer**	**61.15**	**337**	*e*P		**P**	**23 55 35.6**	**+0.6**
	comp=Z,24nm,1.4s,mb5.1								
PMR				LR		LR			
	comp=Z,369nm,20.0s,MS4.5								
BDFB	**Brasilia**	**61.16**	**114**	P		**P**	**23 55 37.7**	**+2.7**
	comp=Z,6.2nm,0.9s,mb4.8,baz=269,slow=8.5,SNR=5.0								
BDFB				LR		LR	00 20 40.6		
	comp=Z,2μm,19.9s,MS5.2,baz=298,slow=35								
BDFB	**Brasilia**	**61.16**	**114**	*e*P		**P**	**23 55 33.5**	**-1.6**
BDFB						pP	23 55 37.7	-0.6	
BDFB	**Brasilia**	**61.16**	**114**	*e*P		**P**	**23 55 33.5**	**-1.5**
BDFB				P		pP	23 55 37.7	-0.6	
BDFB				LR		LR	00 20 40.6		
INK	**Inuvik**	**61.53**	**348**	*e*P		**P**	**23 55 37.8**	**+0.2**
MCK	**McKinley**	**62.40**	**339**	*e*P		**P**	**23 55 43.8**	**+0.3**
MCK				pmax		pmax			
	comp=Z,12nm,1.2s,mb4.9								
MCK				MLR		MLR			
	comp=Z,204nm,20.0s,MS4.3								
MCK	**McKinley**	**62.40**	**339**	*e*P		**P**	**23 55 43.8**	**+0.3**
	comp=Z,12nm,1.2s,mb4.9								
MCK				LR		LR			
	comp=Z,204nm,20.0s,MS4.3								
RAR	**Rarotonga**	**62.63**	**240**	PFAKE			23 56 00.0	+15	
RAR				LR		LR			
	comp=Z,1.0nm,21.0s								
COLA	**College**	**62.76**	**341**	*e*P		**P**	**23 55 45.6**	**-0.3**
COLA	**College**	**62.76**	**341**	*e*P		**P**	**23 55 45.9**	**0.0**
	comp=Z,8.2nm,1.1s,mb4.8								
COLA				LR		LR			
	comp=Z,315nm,20.0s,MS4.5								
TTA	**Tatalina**	**64.57**	**337**	*e*P		**P**	**23 55 57.3**	**-0.5**
IMA2	**Indian Mountai**	**65.43**	**340**	*e*P		**P**	**23 56 02.8**	**-0.6**
UNV	**Unalaska Valle**	**65.91**	**325**	PFAKE			23 56 20.0	+13	
UNV				LR		LR			
	comp=Z,3μm,19.0s,MS5.5								
RCBR	**Riachuelo**	**69.83**	**100**	PFAKE			23 56 50.0	+19	
RCBR				LR		LR			
	comp=Z,744nm,20.0s,MS4.9								
TNA	**Tin City**	**70.39**	**337**	PFAKE			23 56 50.0	+15	
TNA				LR		LR			
	comp=Z,213nm,19.0s,MS4.4								
MIDW	**Midway**	**70.61**	**296**	PFAKE			23 56 50.0	+14	
MIDW				LR		LR			
	comp=Z,914nm,19.0s,MS5.0								
SUMG	**Summit**	**73.56**	**17**	*e*P		**P**	**23 56 53.4**	**-0.2**
	comp=Z,19nm,1.3s,mb4.9								
BORG	**Borgarnes**	**78.18**	**26**	LR		LR	00 32 12.6		
	comp=Z,348nm,18.7s,MS4.7,baz=222,slow=36								
FUNA	**Funafuti**	**78.36**	**259**	PFAKE			23 57 40.0	+19	
FUNA				LR		LR			
	comp=Z,12μm,19.0s								
DAG	**Danmarks Havn**	**79.51**	**14**	⇑*i*P		**P**	**23 57 26.8**	**-0.5**
	comp=Z,12nm,1.2s,mb4.7								
DAG	**Danmarks Havn**	**79.51**	**14**	⇑*e*P		**P**	**23 57 26.8**	**-0.5**
DAG				pmax		pmax			
	comp=Z,13nm,1.2s,mb4.7								
DAG	**Danmarks Havn**	**79.51**	**14**	⇑*e*P		**P**	**23 57 26.8**	**-0.5**
	comp=Z,12nm,1.2s,mb4.7								
BILL	**Bilibino**	**80.79**	**338**	⇓*e*P		**P**	**23 57 31.7**	**-2.5**
BILL				pmax		pmax			
	comp=Z,7.0nm,1.2s,mb4.5								
BILL				MLR		MLR			
	comp=Z,300nm,20.0s,MS4.6								
BILL	**Bilibino**	**80.79**	**338**	PFAKE			23 57 50.0	+16	
BILL				LR		LR			
	comp=Z,463nm,19.0s,MS4.8								
JMIC	**Jan Mayen**	**82.67**	**19**	LR		LR	00 35 06.8		
	comp=Z,202nm,19.5s,MS4.5,baz=89,slow=36								
KBS	**Kingsbay**	**85.31**	**10**	*e*P		**P**	**23 57 55.3**	**-2.3**
KBS	**Kingsbay**	**85.31**	**10**	PFAKE			23 58 10.0	+12	
KBS				LR		LR			
	comp=Z,616nm,19.0s,MS5.0								
WAKE	**Wake Island**	**85.98**	**289**	PFAKE			23 58 10.0	+9.1	
WAKE				LR		LR			
	comp=Z,871nm,19.0s,MS5.2								
PET	**Petropavlovsk**	**86.49**	**323**	PFAKE			23 58 20.0	+17	
PET				LR		LR			
	comp=Z,332nm,22.0s,MS4.7								
ESK	**Eskdalemuir

MAJO LR LR
comp=Z,1μm,22.0s,MS5.3
MDJ Mudanjiang 107.28 323 PFAKE 00 04 00.0 +13
MDJ LR LR
comp=Z,269nm,20.0s,MS4.8
OBN Obninsk 107.49 22 *e*P Pdif 23 59 36.6 -2.5
OBN *e*PS PS 00 13 26.6 -1.7
OBN *e*SS SS 00 19 17.8 +1.5
OBN pmax pmax
comp=Z,5.0nm,0.6s
OBN Obninsk 107.49 22 PFAKE 00 04 00.0 +13
OBN LR LR
comp=Z,346nm,20.0s,MS4.9
GUMO Guam 107.59 288 PFAKE 00 04 00.0 +12
GUMO LR LR
comp=Z,2.0nm,21.0s
HIA Hailar 109.68 331 PFAKE 00 04 00.0 +8.5
HIA LR LR
comp=Z,369nm,20.0s,MS5.0
PMG Port Moresby 109.73 263 PFAKE 00 04 10.0 +18
PMG LR LR
comp=Z,361nm,21.0s,MS4.9
CN2 Changchun 110.18 324 *e*PDIF Pdif 23 59 48.5 -2.6
CN2 LR LR
comp=N,800nm,22.0s,MS5.3
CN2 LR LR
comp=E,500nm,22.0s,MS5.3
CN2 LR LR
comp=Z,300nm,21.0s,MS4.8
CTAO Charters Tower 111.53 252 PFAKE 00 04 10.0 +15
CTAO LR LR
comp=Z,158nm,20.0s,MS4.6
ARU Arti 112.49 10 PFAKE 00 04 10.0 +13
ARU LR LR
comp=Z,274nm,21.0s,MS4.8
INCN Inchon 113.09 318 PFAKE 00 04 10.0 +12
INCN LR LR
comp=Z,286nm,20.0s,MS4.9
TLY Talaya 114.21 341 PFAKE 00 04 10.0 +10
TLY LR LR
comp=Z,302nm,21.0s,MS4.9
ULN Ulaanbaatar 116.23 337 PFAKE 00 04 20.0 +16
ULN LR LR
comp=Z,444nm,21.0s,MS5.0
ANTO Ankara 116.56 36 PFAKE 00 04 20.0 +15
ANTO LR LR
comp=Z,236nm,21.0s,MS4.8
BR131 Keskin Array S 117.14 36 PFAKE 00 04 20.0 +14
BR131 LR LR
comp=Z,189nm,19.0s,MS4.7
BRTR Keskin Array B 117.14 36 PKP PKPdf 00 04 07.0 +1.3
comp=Z,1.3nm,0.8s,baz=320,slow=5.3,SNR=3.6
BRVK Borovoye 117.22 4 PFAKE 00 04 20.0 +14
BRVK LR LR
comp=Z,244nm,20.0s,MS4.8
ZRNK Zerenda 117.23 5 *e*PKIKP PKPdf 00 04 07.8 +1.9
BVAR Borovoye Array 117.26 4 PKP PKPdf 00 04 06.8 +0.8
comp=Z,0.9nm,0.7s,baz=284,slow=1.2,SNR=4.1
BJI Beijing 117.88 326 PKP PKPdf 00 04 11.5 +4.3
BJI LR LR
comp=N,316nm,19.4s,MS5.0
BJI LR LR
comp=E,171nm,19.5s,MS5.0
BJI LR LR
comp=Z,266nm,19.7s,MS4.9
BJT Baijiatuan 117.90 326 PFAKE 00 04 20.0 +13
BJT LR LR
comp=Z,425nm,20.0s,MS5.1
KIV Kislovodsk 118.66 27 PFAKE 00 04 20.0 +11
KIV LR LR
comp=Z,146nm,21.0s,MS4.6
CASY Casey 118.83 195 PFAKE 00 04 20.0 +11
CASY LR LR
comp=Z,549nm,20.0s,MS5.2
KURK Kurchatov 119.69 358 *i* PKIKP PKPdf 00 04 08.6 -2.1
KURK Kurchatov 119.69 358 *e*PKPdf PKPdf 00 04 12.0 +1.4
KURK LR LR
comp=Z,510nm,21.0s,MS5.1
GNI Garni 122.61 28 PFAKE 00 04 30.0 +14
GNI LR LR
comp=Z,235nm,20.0s,MS4.8
WRA Warramunga Arr 122.72 253 PKP PKPdf 00 04 19.5 +3.0
comp=Z,3.5nm,1.0s,baz=90,slow=1.0,SNR=9.7
ASAR Alice Springs 122.98 248 PKP PKPdf 00 04 19.1 +2.1
comp=Z,2.7nm,1.1s,baz=72,slow=1.9,SNR=6.3
TSUM Tsumeb 123.13 107 PFAKE 00 04 30.0 +13
TSUM LR LR
comp=Z,720nm,19.0s,MS5.3
MKAR Makanchi Array 123.36 355 PKP PKPdf 00 04 18.1 +0.4
comp=Z,6.4nm,1.0s,baz=288,slow=1.2,SNR=19
TATO Taipei 123.59 309 PFAKE 00 04 30.0 +12
TATO LR LR
comp=Z,346nm,19.0s,MS5.0
WMQ Urumqi 125.54 349 PKP PKPdf 00 04 20.0 -1.9
WMQ XPKP 00 04 25.0
WMQ PP PP 00 06 14.5 +1.5
WMQ PP PP
comp=Z,192nm,10.5s
WMQ LR LR
comp=N,704nm,21.8s,MS5.4
WMQ LR LR
comp=E,528nm,20.7s,MS5.4
WMQ LR LR
comp=Z,654nm,22.3s,MS5.2
GTA Gaotai 126.18 337 *e*PKP PKPdf 00 04 29.5 +6.4
USP Ospenovka 127.18 1 P PKPdf 00 04 32.2 +7.2
SNR=5.9
LZH Lanzhou 127.24 331 *e*PKP PKPdf 00 04 32.5 +7.4
LZH LR LR
comp=E,790nm,20.0s
LZH LR LR
comp=Z,700nm,22.0s,MS5.3
TKM2 Tokmak 2 127.54 0 P PKPdf 00 04 32.9 +7.1
SNR=6.2
DAV Davao City (W) 127.61 287 PFAKE 00 04 40.0 +14
DAV LR LR
comp=Z,540nm,19.0s,MS5.2
EKS2 Erkin-Say 127.76 2 P PKPdf 00 04 29.1 +2.9
SNR=5.7
AAK Ala-Archa 127.81 1 *i* PKIKP PKPdf 00 04 25.5 -0.7
AAK Ala-Archa 127.81 1 PFAKE 00 04 40.0 +14
AAK LR LR
comp=Z,555nm,21.0s,MS5.2
ULHL Ulahol 128.21 360 P PKPdf 00 04 30.4 +3.4
SNR=6.9
UCH Uchtor 128.22 1 P PKPdf 00 04 35.1 +8.1
SNR=7.0
AML Almayashu 128.29 2 P PKPdf 00 04 35.1 +8.0
SNR=5.9
KZA Kyzart 128.38 0 P PKPdf 00 04 35.4 +8.1
SNR=5.4
ENH Enshi 128.63 322 PFAKE 00 04 40.0 +12
ENH LR LR
comp=Z,52nm,22.0s,MS4.2
FITZ Fitzroy Crossi 131.01 255 PKP PKPdf 00 04 35.6 +3.3
comp=Z,3.4nm,1.1s,baz=65,slow=11,SNR=3.1
CD2 Chengdu 131.41 327 *e*PKP PKPdf 00 04 32.0 -1.1
CD2 PP PP 00 06 53.5 +2.0
CD2 PKS 00 08 07.0
CD2 SKS SKSdf 00 11 38.3 -6.3
CD2 SKKS SKKSac 00 13 41.3 -6.9
CD2 PP PP
comp=Z,120nm,9.2s
LSZ Lusaka 133.32 102 PFAKE 00 04 50.0 +13
LSZ LR LR
comp=Z,679nm,22.0s,MS5.3
QIZ Qiongzhong 135.84 310 PFAKE 00 05 00.0 +19
QIZ LR LR
comp=Z,333nm,19.0s,MS5.1
KMI Kunming 136.45 323 PKP PKPdf 00 04 44.3 +1.8
KMI XPKP 00 04 51.0
KMI PP PP 00 07 27.0 +3.4
KMI PPP 00 10 23.0
KMI SKKS SKKSac 00 14 20.0 +1.3
KMI SS SS 00 25 25.0 -0.5
KMI SSS 00 30 28.5
KMI PP PP
comp=Z,86nm,7.6s
KMI LR LR
comp=N,155nm,20.7s,MS4.9
KMI LR LR
comp=E,208nm,22.5s,MS4.9
KMI LR LR
comp=Z,283nm,24.2s,MS4.9
KMBO Kilima Mbogo 140.76 80 PFAKE 00 05 10.0 +20
KMBO LR LR
comp=Z,291nm,19.0s,MS5.0
CHTO Chiang Mai 143.51 321 PFAKE 00 05 10.0 +15
CHTO LR LR
comp=Z,230nm,21.0s,MS4.9
HYB Hyderabad 152.82 354 *e*PKIKP pPKPbc 00 05 24.0 +2.9
PALK Pallekele 162.34 344 PFAKE 00 05 40.0 +18
PALK LR LR
comp=Z,423nm,21.0s

JMA 31 00:43:24.7±0.1, 2804N×13042E, h47km±1km, M3.8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.48**	**305**	P	Pn	00 43 35.4	-0.1
JZK				S	Sn	00 43 43.3	+0.1
JAM	**Amami Oshima**	**0.81**	**297**	P	Pn	00 43 39.9	+0.1
JAM				S	Sn	00 43 50.6	-0.1
JTK	**Tokunoshima**	**1.32**	**259**	P	Pn	00 43 47.5	+0.7
JTK				S	Sn	00 44 03.5	+0.3
JNN	**Nakanoshima**	**1.86**	**345**	P	Pn	00 43 54.7	+0.7
JOW	**Kunigami**	**2.25**	**238**	P	Pn	00 43 59.9	+0.4
JOW				*e*S	Sn	00 44 26.1	0.0
JIH	**Iheya**	**2.40**	**246**	P	Pn	00 44 02.1	+0.7
JIH				S	Sn	00 44 28.7	-0.9
JKC	**Kuchinoerabu**	**2.42**	**355**	P	Pn	00 44 03.3	+1.5
JKC				*e*S	Sn	00 44 31.0	+0.8
JTN	**Tanegashima 3**	**2.65**	**10**	P	Pn	00 44 06.6	+1.7
JTN				*e*S	Sn	00 44 37.3	+1.5

*BJI **31** 01:24:13.7, 1020N×10390W, h10km, mB5.5, Ms5.5, Msz5.1*
*ISCJB **31** 01:24:13.8±0.5, 1014N±006×10390W±007, h10km, mb4.4/36, MS4.9/113, Error ellipse: s-maj=10.1km s-min=8.8km az=131.6*
*IDC **31** 01:24:13.6±1.1, 1005N×10429W, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.3/19, mbtmp4.2/12, ML2.6/1, MS4.8/14, Ms1 4.8/14, ms1mx4.6/18, Error ellipse: s-maj=32.3km s-min=16.8km az=58.0*
*MOS **31** 01:24:14.0±1.1, 1020N×10382W, h10km, mb4.7/15, MS4.7/17, Error ellipse: s-maj=20.0km s-min=8.2km az=89.3*
*HRVD **31** 01:24:15.8±0.2, 1020N×104.18W, h12km, MW5.4/88, Centroid moment Tensor Solution. LP body waves: s72,c128;Mantle waves: s88,c178; Half duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr0.06±.02; Mθθ-0.65±.02; Mφφ0.59±.03; Mrθ0.48±.05; Mθφ1.37±.02; Mφr-0.58±.06; Best double couple: M0 1.66500×10^17 NP1:φs256.00000°, δ68.00000°, λ-8.00000°. NP2: φs349.00000°, δ82.00000°, λ-157.00000°. Principal axes: T 1.5150, Plg10.0000°, Azm120.0000°; N 0.3000, Plg66.0000°, Azm7.0000°; P -1.8140, Plg21.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **31** 01:24:15.8±0.5, 1017N×10386W, h10km, mb4.6/29, MS4.9/95, MW5.5 Error ellipse: s-maj=12.4km s-min=7.6km az=60.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^17Nm; Mrr0.40; Mθθ-1.26; Mφφ0.86; Mrθ-0.59; Mθφ2.23; Mφr0.41; Best double couple: M0 2.50000×10^17 NP1:φs168.00000°, δ82.00000°, λ-170.00000°. NP2:φs77.00000°, δ80.00000°, λ-8.00000°. Principal axes: T 2.2700, Plg1.0000°, Azm302.0000°; N 0.5600, Plg77.0000°, Azm208.0000°; P -2.8300, Plg13.0000°, Azm32.0000°;*

ISC 31 01:24:15.8±0.5, 1014N×006×10392W±007, h10km, n185, σ1s11/83, mb4.4/36, MS4.9/113, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**11.17**	**51**	Pn	**Pn**	**01 26 58.5**	**+3.0**
	0.0nm,0.3s,baz=217,slow=11,SNR=3.6						
CMIG				Sn	**Sn**	**01 29 08.4**	**+7.9**
	0.1nm,0.3s,baz=224,slow=23,SNR=2.0						
CMIG				LR	LR	01 30 20.3	
	comp=Z,11μm,20.3s,baz=232,slow=32						
TEIG	**Tepich**	**18.11**	**55**	*e*Pn	**Pn**	**01 28 25.9**	**-1.6**
	14nm,0.9s						
JCT	**Junction City**	**20.60**	**10**	*e*P	**P**	**01 28 55.3**	**+0.3**
JCT				pmax	pmax		
	comp=Z,20nm,0.8s						
JCT				MLR	MLR		
	comp=Z,9μm,19.0s,MS5.1						
JCT	**Junction City**	**20.60**	**10**	*e*P	**P**	**01 28 55.3**	**+0.3**
	comp=Z,20nm,0.8s						
JCT				LR	LR		
	comp=Z,9μm,19.0s,MS5.1						
HKT	**Hockley**	**21.11**	**20**	*e*P	**P**	**01 29 00.6**	**+0.1**
HKT				pmax	pmax		
	comp=Z,83nm,1.6s,mb4.8						
HKT				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.5						
HKT	**Hockley**	**21.11**	**20**	*e*P	**P**	**01 29 00.6**	**+0.1**
	comp=Z,83nm,1.6s,mb4.8						
HKT				LR	LR		
	comp=Z,2μm,20.0s,MS4.5						
TUC	**Tucson**	**22.95**	**345**	*e*P	**P**	**01 29 19.7**	**-0.5**
TUC				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
TUC	**Tucson**	**22.95**	**345**	*e*P	**P**	**01 29 19.7**	**-0.6**
	comp=Z,5.3nm,0.9s,mb4.0						
NATX	**Nacogdoches**	**23.16**	**20**	*e*P	**P**	**01 29 22.2**	**-0.2**
	comp=Z,115nm,1.3s,mb5.2						
BNM	**Barren Site**	**24.02**	**354**	*e*P	**P**	**01 29 30.5**	**-0.4**
LAZ	**Ladron**	**24.33**	**354**	*e*P	**P**	**01 29 35.8**	**+2.2**
AMTX	**Amarillo**	**24.71**	**4**	*e*P	**P**	**01 29 36.4**	**-0.7**
	comp=Z,25nm,0.9s,mb4.8						
AMTX				LR	LR		
	comp=Z,5μm,19.0s,MS5.1						
ANMO	**Albuquerque**	**24.80**	**355**	P	**P**	**01 29 39.5**	**+1.5**
	comp=Z,3.2nm,1.0s,mb3.8,baz=176,slow=10,SNR=6.1						
ANMO	**Albuquerque**	**24.80**	**355**	*e*P	**P**	**01 29 38.7**	**+0.8**
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ANMO				MLR	MLR		
	comp=Z,921nm,19.0s						
ANMO	**Albuquerque**	**24.80**	**355**	*e*P	**P**	**01 29 38.7**	**+0.8**
	comp=Z,7.8nm,1.0s,mb4.2						
ANMO				LR	LR		
	comp=Z,921nm,19.0s,MS4.3						
WMOK	**Wichita Mounta**	**24.93**	**10**	*e*P	**P**	**01 29 38.5**	**-0.6**
WMOK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
WMOK				MLR	MLR		
	comp=Z,7μm,19.0s,MS5.2						
WMOK	**Wichita Mounta**	**24.93**	**10**	*e*P	**P**	**01 29 38.5**	**-0.6**
	comp=Z,4.8nm,0.8s,mb4.1						
WMOK				LR	LR		
	comp=Z,7μm,19.0s,MS5.2						
PFO	**Pinyon Flat Ob**	**26.04**	**336**	PFAKE		01 30 00.0	+11
PFO				LR	LR		
	comp=Z,1μm,21.0s,MS4.4						
MIAR	**Mount Ida**	**26.07**	**20**	*e*P	**P**	**01 29 47.6**	**-1.9**
MIAR				pmax	pmax		
	comp=Z,42nm,1.5s,mb4.8						
MIAR				MLR	MLR		
	comp=Z,3μm,20.0s,MS4.8						
MIAR	**Mount Ida**	**26.07**	**20**	*e*P	**P**	**01 29 47.6**	**-1.8**
	comp=Z,42nm,1.5s,mb4.8						
MIAR				LR	LR		
	comp=Z,3μm,20.0s,MS4.8						
WUAZ	**Wupatki**	**26.16**	**346**	*e*P	**P**	**01 29 51.1**	**+0.9**
	comp=Z,13nm,1.0s,mb4.4						
OTAV	**Otavalo**	**27.18**	**110**	*e*P	**P**	**01 30 02.8**	**+3.4**
	comp=Z,17nm,1.1s,mb4.5						
OTAV				LR	LR		
	comp=Z,3μm,22.0s,MS4.9						
SDCO	**Great Sand Dun**	**27.52**	**357**	PFAKE		01 30 10.0	+7.5
SDCO				LR	LR		
	comp=Z,4μm,20.0s,MS5.0						
OXF	**Oxford**	**27.65**	**26**	*e*P	**P**	**01 30 04.9**	**+1.2**
OXF				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.4						
DWPF	**Disney**	**27.68**	**47**	PFAKE		01 30 20.0	+16
DWPF				LR	LR		
	comp=Z,2μm,20.0s,MS4.7						
PV01	**Paradox Valley**	**28.18**	**352**	*e*P	**P**	**01 30 08.9**	**+0.5**
PV10	**Paradox Valley**	**28.49**	**352**	P	**P**	**01 30 11.2**	**0.0**
PLAL	**Pickwick Lake**	**28.65**	**28**	*e*P	**P**	**01 30 11.8**	**-0.7**
	comp=Z,13nm,1.1s,mb4.6						
ISA	**Isabella**	**28.65**	**335**	PFAKE		01 30 20.0	+7.4
ISA				LR	LR		
	comp=Z,676nm,19.0s,MS4.3						
DAC	**Darwin (Calif)**	**28.82**	**337**	PFAKE		01 30 30.0	+16
DAC				LR	LR		
	comp=Z,3μm,22.0s,MS4.8						
TPNV	**Topopah Spring**	**28.92**	**339**	*e*P	**P**	**01 30 16.4**	**+1.4**
TPNV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
TPNV	**Topopah Spring**	**28.92**	**339**	*e*P	**P**	**01 30 16.4**	**+1.4**
	comp=Z,4.7nm,1.0s,mb4.2						
SMCO	**Snowmass**	**29.04**	**355**	P	**P**	**01 30 21.2**	**+5.2**
	comp=Z,13nm,1.3s,mb4.5						
KSU1	**Kansas State U**	**29.57**	**12**	P	**P**	**01 30 19.4**	**-1.4**
ISCO	**Idaho Springs**	**29.57**	**357**	P	**P**	**01 30 19.5**	**-1.3**
ISCO				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.3						
ISCO				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.1						
ISCO	**Idaho Springs**	**29.57**	**357**	P	**P**	**01 30 19.5**	**-1.3**
	comp=Z,9.7nm,1.4s,mb4.3						
ISCO				LR	LR		
	comp=Z,4μm,19.0s,MS5.1						
WVT	**Waverly**	**29.71**	**27**	*e*P	**P**	**01 30 19.6**	**-2.4**
WVT				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
WVT				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.5						
WVT	**Waverly**	**29.71**	**27**	*e*P	**P**	**01 30 19.6**	**-2.4**
	comp=Z,4.4nm,1.0s,mb4.1						
WVT				LR	LR		
	comp=Z,1μm,19.0s,MS4.5						
ROSC	**El Rosal**	**29.79**	**98**	P	**P**	**01 30 27.8**	**+5.1**
	comp=Z,1.9nm,0.6s,mb4.0,baz=83,slow=19,SNR=2.3						
ROSC				LR	LR	01 39 35.2	
	comp=Z,2μm,21.9s,MS4.8,baz=344,slow=31						
ROSC	**El Rosal**	**29.79**	**98**	P	**P**	**01 30 27.8**	**+5.1**
ROSC				LR	LR	01 39 35.2	
GOGA	**Godfrey**	**29.83**	**36**	PFAKE		01 30 30.0	+6.9
GOGA				LR	LR		
	comp=Z,14μm,22.0s,MS5.5						
SWET	**Sewanee**	**29.87**	**31**	*e*P	**P**	**01 30 23.3**	**-0.1**
CCM	**Cathedral Cave**	**30.04**	**20**	PFAKE		01 30 40.0	+15
CCM				LR	LR		
	comp=Z,3μm,19.0s,MS4.9						
TPH	**Tonopah**	**30.27**	**339**	PFAKE		01 30 40.0	+13
TPH				LR	LR		
	comp=Z,3μm,19.0s,MS4.9						
MPU	**Maple Canyon**	**30.53**	**348**	PFAKE		01 30 40.0	+11
MPU				LR	LR		
	comp=Z,772nm,20.0s,MS4.3						
CPCT	**Cooper Cave**	**30.77**	**32**	*e*P	**P**	**01 30 30.8**	**-0.6**
DUG	**Dugway**	**30.95**	**347**	*e*P	**P**	**01 30 32.7**	**-0.3**
DUG				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
DUG				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.8						
DUG	**Dugway**	**30.95**	**347**	*e*P	**P**	**01 30 32.7**	**-0.3**
	comp=Z,6.7nm,1.1s,mb4.4						
DUG				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
NVAR	**Mina Array Bea**	**30.98**	**338**	P	**P**	**01 30 33.6**	**+0.4**
	comp=Z,1.2nm,0.8s,mb3.8,baz=153,slow=9.8,SNR=6.2						
CMB	**Columbia Colle**	**31.47**	**335**	PFAKE		01 30 50.0	+12
CMB				LR	LR		
	comp=Z,1μm,21.0s,MS4.6						
HWUT	**Hardware Ranch**	**32.06**	**349**	PFAKE		01 31 00.0	+17
HWUT				LR	LR		
	comp=Z,1μm,21.0s,MS4.6						
BMN	**Battle Mountai**	**32.39**	**341**	PFAKE		01 31 00.0	+14
BMN				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
SDV	**Santo Domingo**	**32.85**	**89**	PFAKE		01 31 00.0	+10
SDV				LR	LR		
	comp=Z,953nm,20.0s,MS4.5						
BW06	**Boulder Array**	**32.87**	**352**	PFAKE		01 31 00.0	+10
BW06				LR	LR		
	comp=Z,1μm,22.0s,MS4.7						
PDAR	**Pinedale Array**	**32.87**	**352**	P	**P**	**01 30 50.0**	**+0.2**
	comp=Z,1.2nm,0.8s,mb3.9,baz=161,slow=8.5,SNR=5.6						
PDAR				LR	LR	01 42 58.1	
	comp=Z,939nm,21.6s,MS4.5,baz=188,slow=34						
AHID	**Auburn Hatcher**	**33.10**	**350**	PFAKE		01 31 00.0	+8.2
AHID				LR	LR		
	comp=Z,1μm,21.0s,MS4.6						
HOPS	**Hopland**	**33.44**	**332**	PFAKE		01 31 10.0	+15
HOPS				LR	LR		
	comp=Z,2μm,22.0s,MS4.8						
REDW	**Red Top Meadow**	**33.64**	**351**	*e*P	**P**	**01 30 57.1**	**+0.5**
	comp=Z,9.9nm,1.2s,mb4.6						
TPAW	**Teton Pass**	**33.78**	**351**	P	**P**	**01 30 58.6**	**+0.8**
	comp=Z,4.8nm,1.0s,mb4.4						
RSSD	**Black Hills**	**33.85**	**360**	*e*P	**P**	**01 31 00.0**	**+1.6**
RSSD				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
RSSD				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.2						
RSSD	**Black Hills**	**33.85**	**360**	*e*P	**P**	**01 30 60.0**	**+1.6**
	comp=Z,5.7nm,1.3s,mb4.3						
RSSD				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
BLA	**Blacksburg**	**34.29**	**34**	*e*P	**P**	**01 31 02.6**	**+0.4**
BLA				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
BLA				MLR	MLR		
	comp=Z,85nm,19.0s						
BLA	**Blacksburg**	**34.29**	**34**	*e*P	**P**	**01 31 02.6**	**+0.4**
	comp=Z,1.0nm,1.0s,mb3.7						
BLA				LR	LR		
	comp=Z,85nm,19.0s						
HLID	**Hailey**	**34.52**	**346**	*e*P	**P**	**01 31 04.8**	**+0.6**
	comp=Z,6.6nm,1.1s,mb4.5						
HLID				LR	LR		
	comp=Z,2μm,22.0s,MS4.8						
NNA	**Nana**	**34.75**	**129**	PFAKE		01 31 20.0	+14
NNA				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
JFWS	**Jewell Farm**	**34.76**	**18**	PFAKE		01 31 20.0	+14
JFWS				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
YMR	**Madison River**	**34.94**	**351**	PFAKE		01 31 20.0	+12
YMR				LR	LR		
	comp=Z,2μm,21.0s,MS4.9						
ACSO	**Alum Creek Sta**	**35.26**	**28**	*e*P	**P**	**01 31 10.5**	**-0.1**
ACSO				LR	LR		
	comp=Z,381nm,19.0s,MS4.2						
GCMT	**Greycliff**	**35.86**	**353**	*e*P	**P**	**01 31 18.1**	**+2.4**
DLMT	**Dillon**	**35.88**	**350**	*e*P	**P**	**01 31 16.8**	**+0.9**
	comp=Z,21nm,1.3s,mb4.9						
BOZ	**Bozeman (W)**	**35.99**	**351**	PFAKE		01 31 30.0	+13
BOZ				LR	LR		
	comp=Z,1μm,21.0s,MS4.6						
HUMO	**Hull Mountain**	**36.38**	**336**	PFAKE		01 31 30.0	+10
HUMO				LR	LR		
	comp=Z,2μm,21.0s,MS4.8						
BMO	**Blue Mountains**	**36.46**	**344**	PFAKE		01 31 30.0	+9.1
BMO				LR	LR		
	comp=Z,947nm,19.0s,MS4.6						
AAM	**Ann Arbor**	**36.63**	**26**	PFAKE		01 31 30.0	+7.7
AAM				LR	LR		
	comp=Z,1μm,21.0s,MS4.6						
CBN	**Corbin**	**36.72**	**36**	PFAKE		01 31 30.0	+7.0
CBN				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
SJG	**San Juan**	**37.42**	**73**	P	**P**	**01 31 32.8**	**+3.8**
	comp=Z,11nm,0.8s,mb4.7,baz=257,slow=5.0,SNR=3.6						
SJG	**San Juan**	**37.42**	**73**	P	**P**	**01 31 28.6**	**-0.4**
SJG				LR	LR		
	comp=Z,664nm,21.0s,MS4.4						
EGMT	**Eagleton**	**38.08**	**354**	PFAKE		01 31 50.0	+15
EGMT				LR	LR		
	comp=Z,1μm,21.0s,MS4.6						
ERPA	**Erie**	**38.15**	**29**	PFAKE		01 31 50.0	+15
ERPA				LR	LR		
	comp=Z,873nm,22.0s,MS4.5						
COR	**Corvallis**	**38.18**	**337**	PFAKE		01 31 50.0	+15
COR				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
HAWA	**Hanford**	**38.50**	**343**	PFAKE		01 31 50.0	+12
HAWA				LR	LR		
	comp=Z,71nm,19.0s						
EYMN	**Ely**	**39.11**	**13**	PFAKE		01 31 50.0	+6.7
EYMN				LR	LR		
	comp=Z,5μm,19.0s,MS5.3						

NEW Newport 39.59 346 P **P** **01 31 47.8 +0.5**
comp=Z,4.5nm,0.9s,mb4.2,baz=142,slow=8.3,SNR=5.6
NEW Newport 39.59 346 *e*P **P** **01 31 47.9 +0.6**
NEW pmax pmax
comp=Z,8.0nm,0.8s
NEW MLR MLR
comp=Z,1μm,21.0s
NEW Newport 39.59 346 *e*P **P** **01 31 47.9 +0.6**
comp=Z,8.3nm,0.8s,mb4.5
NEW LR LR
comp=Z,1μm,21.0s,MS4.8
WALA Waterton Lakes 39.68 350 P **P** **01 31 42.6 -5.5**
BINY Binghamton 40.23 33 PFAKE 01 32 00.0 +7.4
BINY LR LR
comp=Z,1μm,19.0s,MS4.7
ULM Lac du Bonnet 40.54 8 P **P** **01 31 55.5 +0.3**
comp=Z,3.1nm,0.8s,mb4.0,baz=214,slow=7.3,SNR=4.4
ULM LR LR 01 48 37.4
comp=Z,1μm,21.5s,MS4.7,baz=194,slow=36
TAOE Nuku Hiva Isla 40.70 244 *e*LR LR 01 42 49.3
comp=Z,5μm,25.8s,baz=66
BBSR BB Station 42.38 53 PFAKE 01 32 20.0 +10
BBSR LR LR
comp=Z,2μm,22.0s,MS4.9
HRV Harvard--Oak R 42.88 36 PFAKE 01 32 30.0 +16
HRV LR LR
comp=Z,1μm,20.0s,MS4.7
WES Weston 42.94 36 PFAKE 01 32 30.0 +15
WES LR LR
comp=Z,696nm,21.0s,MS4.5
EDM Edmonton 43.63 352 *e*P **P** **01 32 18.8 -1.6**
LPAZ La Paz 44.09 126 P **P** **01 32 25.8 +1.7**
comp=Z,3.9nm,0.9s,mb4.1,baz=330,slow=12,SNR=8.0
LPAZ La Paz 44.09 126 *e*P **P** **01 32 24.4 +0.3**
LPAZ LR LR
comp=Z,1μm,21.0s,MS4.8
FFC Flin Flon 44.49 2 *e*P **P** **01 32 23.6 -3.7**
FFC pmax pmax
comp=Z,15nm,1.3s,mb4.6
FFC MLR MLR
comp=Z,1μm,20.0s,MS4.9
FFC Flin Flon 44.49 2 *e*P **P** **01 32 23.6 -3.7**
comp=Z,15nm,1.3s,mb4.6
FFC LR LR
comp=Z,1μm,20.0s,MS4.9
SAML Samuel 44.76 114 *e*P **P** **01 32 28.6 -0.9**
comp=Z,36nm,1.6s,mb5.0
SAML LR LR
comp=Z,2μm,20.0s,MS5.0
RKT Rikitea 44.91 222 *e*S **S** **01 39 07.2 -1.3**
comp=Z,305nm,31.5s
RKT eLQ 01 42 59.0
comp=Z,745nm,28.0s
RKT eLR LR 01 44 59.8
comp=Z,3μm,26.2s,baz=40
POHA Pohakuloa 50.61 287 PFAKE 01 33 30.0 +15
POHA LR LR
comp=Z,2μm,19.0s,MS5.1
DLBC Dease Lake 52.13 343 *e*P **P** **01 33 26.5 +0.2**
YKA Yellowknife Ar 52.83 354 P **P** **01 33 29.1 -2.3**
comp=Z,1.7nm,0.9s,mb4.0,baz=167,slow=7.6,SNR=9.1
YKA LR LR 01 56 20.5
comp=Z,1μm,19.5s,MS5.0,baz=180,slow=36
PPT Papeete 52.84 239 *e*S **S** **01 40 59.3 -0.8**
comp=Z,448nm,26.5s
PPT eSS SS 01 44 39.5 +0.6
comp=Z,102nm,25.8s
PPT eLQ 01 46 10.8
comp=Z,2μm,27.5s
PPT eLR LR 01 48 28.0
comp=Z,2μm,26.2s,baz=55
SCHQ Schefferville 53.34 26 P **P** **01 33 34.3 -0.9**
comp=Z,6.8nm,1.0s,mb4.5,baz=266,slow=9.4,SNR=4.0
SCHQ LR LR 01 57 19.1
comp=Z,1μm,18.5s,MS5.0,baz=204,slow=37
SCHQ Schefferville 53.34 26 PFAKE 01 33 50.0 +15
SCHQ LR LR
comp=Z,2μm,22.0s,MS5.1
CPUP Villa Florida 57.99 130 *e*P **P** **01 34 04.0 -4.6**
PLCA Paso Flores 59.26 151 P **P** **01 34 17.8 +0.4**
comp=Z,4.4nm,1.0s,mb4.4,baz=324,slow=8.8,SNR=4.8
PLCA LR LR 01 54 31.2
comp=Z,1μm,18.4s,MS5.2,baz=321,slow=31
PLCA Paso Flores 59.26 151 *e*P **P** **01 34 17.5 +0.1**
PLCA LR LR
comp=Z,2μm,20.0s,MS5.2
DAWY Dawson 59.35 343 *e*P **P** **01 34 17.1 -1.0**
DIV Divide 59.41 338 PFAKE 01 34 30.0 +12
DIV LR LR
comp=Z,2μm,20.0s,MS5.2
KDAK Kodiak Island 60.26 332 PFAKE 01 34 40.0 +16
KDAK LR LR
comp=Z,227nm,19.0s,MS4.3
PMR Palmer 60.97 337 P **P** **01 34 29.5 +0.4**
PMR pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
PMR MLR MLR
comp=Z,431nm,20.0s,MS4.6
PMR Palmer 60.97 337 P **P** **01 34 29.5 +0.3**
comp=Z,8.8nm,0.7s,mb5.0
PMR LR LR
comp=Z,431nm,20.0s,MS4.6
BDFB Brasilia 61.00 114 LR LR 01 59 32.2
comp=Z,3μm,20.0s,MS5.4,baz=296,slow=35
INK Inuvik 61.27 348 *e*P **P** **01 34 30.6 -0.6**
INK pmax pmax
comp=Z,13nm,1.1s
INK Inuvik 61.27 348 *e*P **P** **01 34 30.6 -0.6**
comp=Z,13nm,1.1s,mb5.0
MCK McKinley 62.20 339 *e*P **P** **01 34 37.5 0.0**
MCK MLR MLR
comp=Z,235nm,21.0s,MS4.3
COLA College 62.55 341 PFAKE 01 34 50.0 +10
COLA LR LR
comp=Z,447nm,21.0s,MS4.6
RCBR Riachuelo 69.58 100 P **P** **01 35 27.4 +2.5**
RCBR LR LR
comp=Z,981nm,21.0s,MS5.0
MIDW Midway 70.74 296 PFAKE 01 35 40.0 +7.9
MIDW LR LR
comp=Z,1μm,20.0s,MS5.1
SUMG Summit 73.14 17 *e*P **P** **01 35 45.7 -0.8**
comp=Z,13nm,1.1s,mb4.8
BORG Borgarnes 77.73 26 PFAKE 01 36 20.0 +7.1
BORG LR LR
comp=Z,356nm,19.0s,MS4.7
FUNA Funafuti 78.74 259 PFAKE 01 36 30.0 +12
FUNA LR LR
comp=Z,20μm,19.0s
DAG Danmarks Havn 79.11 14 *i* P **P** **01 36 20.0 -0.5**
DAG
comp=Z,1μm,17.0s
DAG Danmarks Havn 79.11 14 *e*P **P** **01 36 20.0 -0.5**
DAG LR LR
comp=Z,1μm,17.0s,MS5.3
BILL Bilibino 80.60 338 PFAKE 01 36 40.0 +11
BILL LR LR
comp=Z,572nm,19.0s,MS4.9
JMIC Jan Mayen 82.25 19 *e*S S 01 46 54.1 +1.4
JMIC *e*SS SS 01 52 17.6 +4.9
JMIC AMS AMS 02 15 04.2
comp=Z,370nm,14.8s,MS4.9
KBS Kingsbay 84.92 10 *e*S 01 47 20.2
KBS *e*SS SS 01 52 53.1 +0.9
KBS AMS AMS 02 15 55.5
comp=Z,552nm,19.3s,MS5.0
KBS Kingsbay 84.92 10 PFAKE 01 37 00.0 +9.0
KBS LR LR
comp=Z,792nm,20.0s,MS5.1
PET Petropavlovsk 86.41 323 PFAKE 01 37 10.0 +12
PET LR LR
comp=Z,406nm,20.0s,MS4.8
URZ Urewera 87.68 231 LR LR 02 07 11.8
comp=Z,375nm,21.2s,MS4.8,baz=67,slow=30
ESK Eskdalemuir 87.77 34 PFAKE 01 37 20.0 +15
ESK LR LR
comp=Z,593nm,21.0s,MS5.0
BJO Bjornoya 88.63 13 AMS AMS 02 18 11.1
comp=Z,1μm,19.7s,MS5.4
MA2 Magadan 88.95 331 PFAKE 01 37 20.0 +9.4
MA2 LR LR
comp=Z,287nm,21.0s,MS4.7
ESDC Sonseca Array 91.16 49 LR LR 02 12 33.6
comp=Z,458nm,20.9s,MS4.9,baz=280,slow=32
ESLA Sonseca Array 91.16 49 PFAKE 01 37 30.0 +9.1
ESLA LR LR
comp=Z,4μm,20.0s,MS5.8
TRO Tromso 91.33 17 *e* SKSac 01 47 49.4 -4.7
TRO AMS AMS 02 18 19.4
comp=Z,288nm,18.5s,MS4.8
KONO Kongsberg 92.80 28 *e*SS SS 01 54 47.3 +0.5
KONO Kongsberg 92.80 28 PFAKE 01 37 40.0 +11
KONO LR LR
comp=Z,342nm,19.0s,MS4.8
NOA NORSAR Array B 92.91 26 LR LR 02 19 35.9
comp=Z,202nm,19.6s,MS4.6,baz=300,slow=36
ARCES ARCESS Array B 93.22 16 LR LR 02 20 11.1
comp=Z,582nm,20.9s,MS5.0,baz=321,slow=36
RPZ Rata Peaks 93.36 226 LR LR 02 07 17.2
comp=Z,244nm,21.0s,MS4.6,baz=322,slow=28
KEV Kevo 93.47 15 PFAKE 01 37 40.0 +8.4
KEV LR LR
comp=Z,870nm,22.0s,MS5.2
HNR Honiara 97.60 262 LR LR 02 16 55.7
comp=Z,194nm,19.1s,MS4.6,baz=360,slow=32
DBIC Dimbokro 97.70 82 PFAKE 01 38 00.0 +9.1
DBIC LR LR
comp=Z,447nm,19.0s,MS5.0
NKC Novy Kostel 98.44 36 *e*SP SP 01 50 46.9 0.0
PVCC Panska Ves 99.50 35 AMS AMS 02 22 00.0
comp=Z,400nm,17.9s
KHC Kasperske Hory 99.60 36 *e*SS SS 01 56 26.5 +3.4
KHC AMS AMS 02 20 50.0
comp=Z,600nm,19.8s
SBA Scott Base 99.70 192 PFAKE 01 38 10.0 +10
SBA LR LR
comp=Z,376nm,20.0s,MS4.9
PRU Pruhonice 99.75 35 *e*SP SP 01 51 05.3 +4.2
PRU *e*SS SS 01 56 28.8 +3.6
PRU AMS AMS 02 21 30.0
comp=Z,400nm,25.8s
QSPA South Pole Qui 100.10 180 PFAKE 01 38 10.0 +8.4
QSPA LR LR
comp=Z,496nm,21.0s,MS5.0
DPC Dobruska-Polom 100.57 34 AMS AMS 02 22 40.0
comp=Z,600nm,21.7s
TREC Trest 100.62 35 AMS AMS 02 20 20.0
comp=Z,500nm,25.4s
VNDA Vanda 100.75 193 PFAKE 01 38 20.0 +15
VNDA LR LR
comp=Z,558nm,22.0s,MS5.0
OKC Ostrava-Krasne 101.84 34 AMS AMS 02 23 20.0
comp=Z,300nm,20.0s
MAJO Matsushiro 105.48 312 PFAKE 01 42 50.0 +11
MAJO LR LR
comp=Z,1μm,22.0s,MS5.3
MDJ Mudanjiang 107.20 323 PFAKE 01 42 50.0 +7.7
MDJ LR LR
comp=Z,352nm,19.0s,MS4.9
HIA Hailar 109.54 331 PFAKE 01 43 00.0 +13
HIA LR LR
comp=Z,455nm,20.0s,MS5.0
CN2 Changchun 110.09 324 *e*PDIF Pdif 01 38 43.3 -2.8
CN2 *e*PP PP 01 43 22.0 +0.9
CN2 LR LR
comp=N,300nm,22.0s,MS5.0
CN2 LR LR
comp=E,300nm,22.0s,MS5.0
CN2 LR LR
comp=Z,300nm,21.0s,MS4.8
CTAO Charters Tower 111.94 252 PFAKE 01 43 00.0 +8.8
CTAO LR LR
comp=Z,181nm,19.0s,MS4.7
ARU Arti 112.10 10 PFAKE 01 43 00.0 +8.5
ARU LR LR
comp=Z,285nm,19.0s,MS4.9
INCN Inchon 113.06 318 PFAKE 01 43 10.0 +17
INCN LR LR
comp=Z,355nm,20.0s,MS5.0
TLY Talaya 113.99 342 PFAKE 01 43 10.0 +15
TLY LR LR
comp=Z,382nm,20.0s,MS5.0
ANTO Ankara 116.10 36 PFAKE 01 43 10.0 +11
ANTO LR LR
comp=Z,387nm,21.0s,MS5.0
BR131 Keskin Array S 116.68 36 PFAKE 01 43 10.0 +10
BR131 LR LR
comp=Z,281nm,22.0s,MS4.8
BRTR Keskin Array B 116.68 36 PKP PKPdf 01 42 59.9 -0.4
comp=Z,0.5nm,0.7s,baz=156,slow=3.9,SNR=4.2
BRVK Borovoye 116.86 4 PFAKE 01 43 10.0 +9.4
BRVK LR LR
comp=Z,416nm,20.0s,MS5.0
ZRNK Zerenda 116.87 5 PKIKP PKPdf 01 42 59.5 -1.1
BJT Baijiatuan 117.80 326 PFAKE 01 43 10.0 +7.6
BJT LR LR
comp=Z,468nm,20.0s,MS5.1
KIV Kislovodsk 118.21 27 PFAKE 01 43 20.0 +17
KIV LR LR
comp=Z,278nm,19.0s,MS4.9
CASY Casey 119.23 195 PKPdf PKPdf 01 43 05.5 +0.3
CASY LR LR
comp=Z,463nm,19.0s,MS5.1
GNI Garni 122.16 28 PFAKE 01 43 20.0 +9.2
GNI LR LR
comp=Z,242nm,20.0s,MS4.8
MKAR Makanchi Array 123.05 355 PKP PKPdf 01 43 12.0 -0.5
comp=Z,0.8nm,0.7s,baz=5.7,slow=2.4,SNR=6.2
WRAB Tennant Creek 123.12 253 *e*PKIKP PKPdf 01 43 12.5 -0.1
SUR Sutherland 124.60 122 PKPdf PKPdf 01 43 16.4 +0.9
WMQ Urumqi 125.27 350 PKP PKPdf 01 43 13.8 -2.9
WMQ XPKP 01 43 18.8
WMQ PP PP 01 45 08.8 +2.2
WMQ PP PP
comp=Z,194nm,10.6s
WMQ LR LR
comp=N,710nm,22.0s,MS5.4
WMQ LR LR
comp=E,532nm,20.9s,MS5.4
WMQ LR LR
comp=Z,666nm,22.5s,MS5.2
AAK Ala-Archa 127.47 1 PFAKE 01 43 30.0 +9.1
AAK LR LR
comp=Z,671nm,21.0s,MS5.3
DAV Davao City (W) 127.82 287 PFAKE 01 43 30.0 +8.4
DAV LR LR
comp=Z,596nm,22.0s,MS5.2
ENH Enshi 128.56 322 PFAKE 01 43 40.0 +17
ENH LR LR
comp=Z,26nm,20.0s,MS3.9
BOSA Boshof 129.06 119 PFAKE 01 43 40.0 +16
BOSA LR LR
comp=Z,614nm,22.0s,MS5.2
CD2 Chengdu 131.30 328 *e*PKP PKPdf 01 43 25.5 -2.7
CD2 PP PP 01 45 47.5 +1.3
CD2 PKS 01 47 00.5
CD2 SKS SKSdf 01 50 35.5 -4.3
CD2 SKKS SKKSac 01 52 38.5 -4.4
CD2 SS SS 02 03 16.8 -1.9
CD2 PP PP
comp=Z,180nm,10.0s
CD2 LR LR
comp=E,970nm,18.0s
CD2 LR LR
comp=Z,130nm,24.0s
LSZ Lusaka 133.08 101 PFAKE 01 43 40.0 +8.4
LSZ LR LR
comp=Z,797nm,21.0s,MS5.4
QIZ Qiongzhong 135.86 311 PKP PKPdf 01 43 34.0 -2.8
QIZ SS SS 02 04 17.5 +3.7
QIZ LR LR
comp=E,339nm,21.4s
QIZ LR LR
comp=Z,420nm,20.0s,MS5.2
KMBO Kilima Mbogo 140.38 79 PFAKE 01 44 00.0 +15
KMBO LR LR
comp=Z,406nm,19.0s,MS5.2
CHTO Chiang Mai 143.44 322 PFAKE 01 44 00.0 +9.4
CHTO LR LR
comp=Z,278nm,21.0s,MS5.0

*NEIC **31** 01:30:34.6, 4195N×2305E, h19km, MD2.8(SOF), After SOF.*
*SOF **31** 01:30:34.6, 4195N×2305E, h19km, MD2.8*
*SKO **31** 01:30:34.6, 4192N×2300E, h28km, M1.8, ML2.0*
*ISCJB **31** 01:30:36.0±0.6, 4196N±003×2296E±005, h20km±6km, Error ellipse: s-maj=6.3km s-min=4.5km az=52.0*
*CSEM **31** 01:30:35.0±0.1, 4197N×2301E, h12km, ML2.7, Error ellipse: s-maj=1.6km s-min=1.2km az=119.0*

*THE **31** 01:30:35.8, 4193N×2298E, h5km, ML2.7*

ISC 31 01:30:35.4±0.6, 4194N±003×2297E±004, h13km±5km, n25, σ0674/44, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKB	**Krupnik**	**0.12**	**132**	*i* Pg	**Pg**	**01 30 38.7**	**+0.1**
STIP	**Stip**	**0.64**	**247**	*e*Pg	**Pg**	**01 30 47.9**	**+0.1**
STIP				*e*Lg		01 30 56.8	
	comp=E,34nm,0.5s						
STIP				*e*Sg	**Sg**	**01 30 56.8**	**+0.6**
STIP				*e*Lg		01 30 56.9	
	comp=N,42nm,0.3s						
STIP	**Stip**	**0.64**	**247**	*e*Pg	**Pg**	**01 30 48.0**	**+0.2**
STIP				*e*Sg	**Sg**	**01 30 56.9**	**+0.7**
MMB	**Musomiste**	**0.67**	**122**	*e*Pg	**Pg**	**01 30 48.4**	**0.0**
MMB				*e*Sg	**Sg**	**01 30 57.7**	**+0.3**
MMB	**Musomiste**	**0.67**	**122**	*i* Pg	**Pg**	**01 30 48.8**	**+0.3**
MMB				*e*Sg	**Sg**	**01 30 57.7**	**+0.4**
VTS	**Vitosha**	**0.67**	**15**	*e*Pg	**Pg**	**01 30 48.7**	**+0.2**
VTS				*e*Sg	**Sg**	**01 30 58.0**	**+0.6**
VTS	**Vitosha**	**0.67**	**15**	↑ *i*P	**Pg**	**01 30 48.5**	**0.0**
VTS				S	**Sg**	**01 30 58.0**	**+0.6**
VTS	**Vitosha**	**0.67**	**15**	*i* Pg	**Pg**	**01 30 48.8**	**+0.3**
VTS				*e*Sg	**Sg**	**01 30 58.0**	**+0.6**
VAY	**Valandovo**	**0.69**	**206**	*e*Pg	**Pg**	**01 30 49.2**	**+0.3**
VAY				*e*Sg	**Sg**	**01 30 58.8**	**+0.8**
VAY	**Valandovo**	**0.69**	**206**	*e*Pg	**Pg**	**01 30 48.8**	**-0.1**
VAY				*e*Sg	**Sg**	**01 30 57.9**	**-0.1**
VAY				*e*Lg		01 30 58.4	
	comp=E,47nm,0.2s						
VAY				*e*Lg		01 30 58.7	
	comp=N,67nm,0.5s						
VAY	**Valandovo**	**0.69**	**206**	*e*Pg	**Pg**	**01 30 48.7**	**-0.2**
VAY				*e*Sg	**Sg**	**01 30 58.8**	**+0.8**
KNT	**Kendrikon**	**0.78**	**184**	*e*Pg	**Pg**	**01 30 50.3**	**-0.4**
KNT				*e*Sg	**Sg**	**01 31 01.0**	**+0.1**
SRS	**Serrai**	**0.95**	**150**	*e*Pg	**Pg**	**01 30 52.9**	**-0.9**
SRS				*e*Sg	**Sg**	**01 31 07.2**	**+1.0**
GRG	**Griva**	**1.07**	**204**	*e*Pg	**Pg**	**01 30 55.5**	**-0.7**
GRG				*e*Sg	**Sg**	**01 31 10.6**	**+0.4**
SOH	**Sokhos**	**1.16**	**165**	*e*Pg	**Pg**	**01 30 57.0**	**-0.7**
SOH				*e*Sg	**Sg**	**01 31 13.5**	**+0.6**
PLD	**Plovdiv**	**1.30**	**82**	*e*Pg	**Pg**	**01 31 00.5**	**0.0**
PLD				*e*Sg	**Sg**	**01 31 19.3**	**+1.9**
THE	**Thessaloniki**	**1.31**	**180**	*e*Pg	**Pg**	**01 30 59.8**	**-0.8**
THE				*e*Sg	**Sg**	**01 31 18.0**	**+0.3**
RZN	**Rozhen**	**1.33**	**101**	*i* Pg	**Pg**	**01 31 00.0**	**-1.0**
HORT	**Hortiatis**	**1.35**	**176**	*e*Pg	**Pg**	**01 31 00.8**	**-0.5**
HORT				*e*Sg	**Sg**	**01 31 18.6**	**-0.3**
HORT	**Hortiatis**	**1.35**	**176**	*e*Pg	**Pg**	**01 31 00.8**	**-0.6**
HORT				*e*Sg	**Sg**	**01 31 18.6**	**-0.3**
KDZ	**Kurdzhali**	**1.85**	**98**	*i* Pg	**Pg**	**01 31 08.9**	**-2.1**
PAIG	**Paliouri**	**2.09**	**165**	*e*Pn	**Pn**	**01 31 10.5**	**+0.4**
PAIG				*e*Sn	**Sn**	**01 31 36.6**	**+0.8**
ALN	**Alexandroupoli**	**2.54**	**113**	*e*Pn	**Pn**	**01 31 15.4**	**-0.9**
MARD	**Mardin**	**14.48**	**103**	*i* S	**Sn**	**01 36 40.6**	**+0.3**
MARD	**Mardin**	**14.48**	**103**	*i* S	**Sn**	**01 36 40.6**	**+0.3**

*IDC **31** 01:45:45.2±1.0, 2.14N×9643E, h0km, mb4.1/11, mb1 4.1/12, mb1mx3.9/23, mbtmp4.0/12, ML3.5/1, MS3.9/3, Ms1 3.9/3, ms1mx3.4/29, Error ellipse: s-maj=31.5km s-min=15.7km az=42.0*
*BJI **31** 01:45:48.0, 229N×9664E, h23km, mB5.0, mb4.6*
*NEIC **31** 01:45:49.7±0.5, 2.16N×9642E, h30km, mb4.2/4, Error ellipse: s-maj=12.4km s-min=7.6km az=222.0*
*ISCJB **31** 01:45:53.7±2.7, 22N±01×966E±01, h76km±22km, mb4.1/20, Error ellipse: s-maj=27.1km s-min=9.9km az=99.8*

ISC 31 01:45:55.2±2.7, 22N±01×967E±01, h72km±22km, n34, σ1§19/32, mb4.1/20, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.32**	**76**	Pn	**Pn**	**01 46 30.1**	**-1.1**
	9.9nm,0.3s,baz=272,slow=9.0,SNR=30						
PSI				Sn	**Sn**	**01 47 00.4**	**+1.9**
	13nm,0.3s,baz=143,slow=13,SNR=5.9						
PSI				LR	LR	01 47 22.8	
	comp=Z,340nm,18.9s,baz=257,slow=38						
KULM	**Kulim**	**5.00**	**52**	*e*Pn	**Pn**	**01 47 06.3**	**-1.4**
KULM				*e*		01 47 14.7	
KKM	**Kota Kinabalu**	**19.85**	**78**	*e*P	**Pn**	**01 50 20.9**	**-1.6**
GYA	**Guiyang**	**25.93**	**21**	P	**P**	**01 51 21.0**	**+0.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
JIRN	**Jiri**	**27.20**	**339**	*e*P	**P**	**01 51 32.9**	**+0.8**
PKI	**Pulchoki**	**27.41**	**338**	*e*P	**P**	**01 51 35.5**	**+1.6**
GUN	**Gumba**	**27.54**	**339**	*e*P	**P**	**01 51 35.4**	**+0.2**
	comp=Z,21nm,0.7s,mb4.8						
DMN	**Daman**	**27.56**	**337**	*e*P	**P**	**01 51 37.3**	**+2.0**
KKN	**Kakani**	**27.65**	**338**	*e*P	**P**	**01 51 37.5**	**+1.4**
GKN	**Gorkha**	**28.09**	**337**	*e*P	**P**	**01 51 41.6**	**+1.6**
	comp=Z,16nm,0.7s,mb4.7						
KOLN	**Koldanda**	**28.31**	**335**	*e*P	**P**	**01 51 44.0**	**+2.0**
	comp=Z,13nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**34.96**	**126**	P	**P**	**01 52 39.6**	**-0.7**
	comp=Z,1.9nm,0.8s,mb4.0,baz=308,slow=8.2,SNR=6.4						
GTA	**Gaotai**	**37.12**	**4**	*e*P	**P**	**01 52 58.5**	**-0.2**
GTA				AP	pP	01 53 02.8	-13
GTA				XP	sP	01 53 06.0	-18
GTA				AMB	AMB		
	comp=Z,3.0nm,1.6s,mb4.0						
JOW	**Kunigami**	**38.94**	**48**	P	**P**	**01 53 15.1**	**+1.0**
	comp=Z,4.4nm,0.8s,mb4.4,baz=128,slow=29,SNR=3.0						
WRA	**Warramunga Arr**	**43.03**	**123**	P	**P**	**01 53 48.0**	**+0.3**
	comp=Z,1.0nm,0.6s,mb3.8,baz=301,slow=9.2,SNR=5.5						
WRAB	**Tennant Creek**	**43.03**	**123**	*e*P	**P**	**01 53 48.1**	**+0.4**
	comp=Z,3.1nm,0.7s,mb4.2						
WRAB				*e*		01 53 56.5	
WB2	**Warramunga Arr**	**43.04**	**123**	*e*P	**P**	**01 53 49.2**	**+1.6**
ASAR	**Alice Springs**	**44.43**	**128**	P	**P**	**01 53 59.4**	**+0.5**
	comp=Z,0.8nm,0.7s,mb3.6,baz=300,slow=7.8,SNR=9.4						
MKAR	**Makanchi Array**	**46.12**	**346**	P	**P**	**01 54 11.1**	**-1.2**
	comp=Z,8.1nm,0.8s,mb4.5,baz=160,slow=7.4,SNR=36						
MKAR	**Makanchi Array**	**46.12**	**346**	P	**P**	**01 54 11.1**	**-1.2**
SONM	**Songino Array**	**46.20**	**9**	P	**P**	**01 54 12.3**	**-0.6**
	comp=Z,0.7nm,0.6s,mb3.5,baz=200,slow=8.1,SNR=5.8						
SONM				PP	PP	01 55 56.1	-6.3
	comp=Z,0.7nm,0.6s,baz=189,slow=1.9,SNR=4.2						
KURK	**Kurchatov**	**50.67**	**345**	*e*P	**P**	**01 54 46.0**	**-1.3**
	comp=Z,5.4nm,1.0s,mb4.5						
MJAR	**Matsushiro Arr**	**51.30**	**43**	LR	LR	02 16 50.7	
	comp=Z,532nm,21.9s,baz=75,slow=36						
ZAL	**Zalesovo**	**52.46**	**351**	P	**P**	**01 54 59.2**	**-1.4**
	comp=Z,3.6nm,0.7s,mb4.5,baz=312,slow=5.4,SNR=9.9						
BVAR	**Borovoye Array**	**55.11**	**341**	P	**P**	**01 55 18.2**	**-1.7**
	comp=Z,2.0nm,0.8s,mb4.2,baz=161,slow=9.4,SNR=8.1						
BRVK	**Borovoye**	**55.17**	**341**	*e*P	**P**	**01 55 18.6**	**-1.8**
	comp=Z,0.8nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**55.51**	**340**	*e*P	**P**	**01 55 21.1**	**-1.6**
	comp=Z,3.5nm,1.1s,mb4.3						
BRTR	**Keskin Array B**	**68.03**	**312**	LR	LR	02 30 39.4	
	comp=Z,161nm,21.8s,baz=123,slow=40						
AKASG	**Malin Array Be**	**74.13**	**322**	P	**P**	**01 57 24.2**	**+0.5**
	comp=Z,0.1nm,0.3s,mb3.0,baz=179,slow=36,SNR=3.0						
FINES	**FINESS Array B**	**78.85**	**332**	P	**P**	**01 57 49.7**	**-0.8**
	comp=Z,0.9nm,0.9s,mb3.6,baz=163,slow=20,SNR=2.1						
ARCES	**ARCESS Array B**	**81.39**	**340**	P	**P**	**01 58 04.6**	**+0.4**
	comp=Z,1.0nm,0.8s,mb3.7,baz=83,slow=7.4,SNR=2.7						
ARCES	**ARCESS Array B**	**81.39**	**340**	P	**P**	**01 58 04.6**	**+0.4**
VNDA	**Vanda**	**86.93**	**169**	P	**P**	**01 58 31.6**	**-0.7**
CHMT	**Chamberlain Mo**	**124.44**	**24**	*e*Pdif	Pdif	02 01 21.3	+0.3

*STR **31** 01:48:54.9±0.4, 4290N×0.37E, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **31** 01:48:55.5±0.1, 4286N×0.36E, h6km, Md1.9/2, Ml1.5/2, Error ellipse: s-maj=2.0km s-min=0.8km az=171.0*

MDD 31 01:48:55.8±0.4, 4285N×036E, h0km, mbLg0.5/1, Error ellipse: s-maj=5.0km s-min=2.3km az=109.0, PRXIMO SIN SOLUCIN, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RESF	**Ens**	**0.04**	**206**	Pg	Pg	01 48 56.7	+0.1
RESF				Sg	Sg	01 48 58.5	+1.4
EPF	**Esparros**	**0.19**	**355**	*e*Pg	Pg	01 48 59.1	-0.2
EPF				*e*Sg	Sg	01 49 01.8	0.0
	5.3nm,0.2s						
EPF	**Esparros**	**0.19**	**355**	Pg	Pg	01 48 59.1	-0.2
EPF				Lg		01 49 01.8	

	2.7nm,0.2s							
EBIE	**Bielsa**	**0.23**	**226**	Pg	Pg	01 49 00.0	-0.1	
	2.5nm,0.0s,SNR=38							
EBIE				Lg		01 49 03.2		
	0.7nm,0.1s,SNR=7.9							
MELF	**Melles**	**0.29**	**84**	Pg	Pg	01 49 00.5	-0.9	
MELF				Sg	Sg	01 49 04.4	-0.8	
SALF	**Salau**	**0.61**	**98**	Pg	Pg	01 49 06.9	-0.6	
SALF				Sg	Sg	01 49 15.2	-0.3	
ETSF	**Etsaut**	**0.68**	**275**	*e*Pg	Pg	01 49 08.3	-0.5	
ETSF				*e*Sg	Sg	01 49 17.3	-0.3	
	1.0nm,0.2s							
ETSF	**Etsaut**	**0.68**	**275**	Pg	Pg	01 49 08.3	-0.5	
ETSF				Lg		01 49 17.3		
	0.0nm,0.2s							
SJPF	**Ste Jean**	**1.20**	**283**	*e*Sg	Sg	01 49 33.2	-1.0	
	1.4nm,0.3s							
SJPF	**Ste Jean**	**1.20**	**283**	Lg		01 49 33.2		
	0.7nm,0.3s							
MTLF	**Montolieu**	**1.45**	**69**	*e*Pg	Pg	01 49 22.5	-1.0	
MTLF				*e*Sg	Sg	01 49 40.8	-1.4	
	0.4nm,0.2s							
MTLF	**Montolieu**	**1.45**	**69**	Pg	Pg	01 49 22.5	-1.0	
MTLF				Lg		01 49 40.8		
	0.2nm,0.2s							
EPOB	**Poblet**	**1.58**	**160**	Lg		01 49 45.8		
	0.6nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**1.89**	**181**	Lg		01 49 56.0		
	0.2nm,0.1s,SNR=7.9							

IDC 31 01:53:40.6±3.2, 862S×10868E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.7/4, MS4.4/2, Ms1 4.4/2, ms1mx3.4/25, Error ellipse: s-maj=139.4km s-min=28.3km az=47.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.25**	**117**	P	P	01 59 26.9	+0.4
	0.3nm,0.7s,baz=289,slow=11,SNR=2.8						
GUMO	**Guam**	**42.16**	**59**	LR	LR	02 16 51.7	
	comp=Z,428nm,21.7s,baz=61,slow=33						
SONM	**Songino Array**	**56.24**	**358**	P	P	02 03 22.6	0.0
	0.4nm,0.5s,baz=172,slow=8.8,SNR=3.9						
SONM				LR	LR	02 29 48.8	
	comp=Z,451nm,21.3s,baz=275,slow=39						
MKAR	**Makanchi Array**	**59.97**	**339**	P	P	02 03 48.9	+0.1
	1.0nm,0.4s,baz=159,slow=9.2,SNR=5.8						
BVAR	**Borovoye Array**	**69.50**	**336**	P	P	02 04 51.0	0.0
	0.8nm,0.6s,baz=141,slow=9.6,SNR=5.7						

*INMG **31** 02:26:35.9±0.7, 3632N×752W, h10km, ML1.6, Error ellipse: s-maj=4.1km s-min=1.8km az=33.0*

MDD 31 02:26:36.4±1.7, 3636N×751W, h14km±21km, mbLg2.0/5, Error ellipse: s-maj=23.3km s-min=6.8km az=25.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**1.17**	**1**	P	Pn	02 26 57.3	-1.1
	0.6nm,0.1s,SNR=7.9						
EGRO				S	Sb	02 27 12.3	-1.2
	4.0nm,0.1s,SNR=7.9						
ESPR	**Espera**	**1.42**	**69**	P	Pn	02 27 00.7	-1.1
	0.5nm,0.1s,SNR=7.9						
ESPR				S	Sn	02 27 17.9	-2.4
	1.4nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**1.53**	**321**	*e*Pn	Pn	02 27 01.8	-1.5
PTEO				*e*Sn	Sn	02 27 21.3	-1.8
PTEO							
	6.5nm,0.3s						
EMIN	**Mina Concepcio**	**1.55**	**25**	P	Pn	02 27 02.4	-1.2
	0.1nm,0.1s,SNR=10.0						
EMIN				S	Sn	02 27 21.2	-2.3
	1.1nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**2.21**	**84**	S	Sn	02 27 37.8	-2.0
	0.5nm,0.1s,SNR=7.9						
MOE	**Montemor**	**2.26**	**343**	*e*Sn	Sn	02 27 39.4	-1.6
EBAD	**Badajoz**	**2.42**	**9**	P	Pn	02 27 14.0	-1.5
	0.2nm,0.1s,SNR=5.9						
EBAD				S	Sn	02 27 43.4	-1.6
	0.8nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**2.50**	**358**	*e*Pn	Pn	02 27 15.8	-0.9
PESTR				*e*Sn	Sn	02 27 45.4	-1.6
PMAFR	**Mafra**	**2.95**	**332**	*e*Pn	Pn	02 27 21.7	-1.1
PMAFR				*e*Sn	Sn	02 27 55.7	-2.3
EADA	**Adamuz**	**2.95**	**51**	P	Pn	02 27 22.3	-0.5
	0.1nm,0.1s,SNR=7.9						
EADA				S	Sn	02 27 55.4	-2.6
	1.1nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**3.33**	**348**	*e*Sn	Sn	02 28 05.0	-2.4
EQUE	**Quentar**	**3.37**	**74**	P	Pn	02 27 28.6	0.0
	0.0nm,0.0s,SNR=7.9						
EQUE				S	Sn	02 28 05.1	-3.3
	0.2nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**3.47**	**58**	P	Pn	02 27 28.7	-1.2
	0.4nm,0.1s,SNR=7.9						
EBAN				S	Sn	02 28 07.7	-3.1
	1.4nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.47**	**0**	*e*Pn	Pn	02 27 28.9	-1.1
PCBR				*e*Sn	Sn	02 28 08.0	-2.9
PCBR							
	1.1nm,0.3s						
EQES	**Quesada**	**3.83**	**67**	P	Pn	02 27 34.1	-0.8
	0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	02 28 17.4	-2.2
	0.4nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**4.03**	**360**	*e*Sn	Sn	02 28 21.7	-3.0
MTE							
	1.2nm,0.4s						
MTE	**Manteigas**	**4.03**	**360**	Sn	Sn	02 28 21.7	-3.0
	0.6nm,0.4s						
PVRL	**Vila Real**	**4.91**	**358**	*e*Sn	Sn	02 28 41.9	-4.5
ETOB	**Tobarra**	**5.26**	**63**	P	Pn	02 27 52.7	-1.8
	0.1nm,0.1s,SNR=7.9						
ETOB				S	Sn	02 28 50.0	-4.9
	0.1nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.52**	**356**	P	Pn	02 27 57.0	-1.1
	0.1nm,0.1s,SNR=7.9						
ELOB				S	Sn	02 28 57.9	-3.4
	0.3nm,0.1s,SNR=7.9						

JMA 31 02:39:02.1±0.3, 4387N×14747E, h37km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.35**	**249**	P	Pn	02 39 25.3	+0.8
NEM2				*e*S	Sn	02 39 42.2	+1.0
JRA	**Rausu**	**1.70**	**273**	P	Pn	02 39 30.1	+0.9
JAK	**Akkeshi**	**2.20**	**248**	P	Pn	02 39 37.2	+1.1
JAK				*e*S	Sn	02 40 03.8	+1.7
JAR	**Ashorobuto**	**2.75**	**259**	P	Pn	02 39 45.8	+2.1
JAR				*e*S	Sn	02 40 17.8	+2.2
JCH	**Churui**	**3.25**	**249**	*e*S	Sn	02 40 29.0	+0.9
JNBK	**Urakawa-nobuka**	**3.80**	**247**	P	Pn	02 40 00.7	+2.5

NNC 31 02:47:37.8±19.0, 3802N×7178E, h155km±399km, mb2.1, mpv2.7, 4C-1D, Error ellipse: s-maj=215.7km s-min=92.9km az=4.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.17**	**350**	⇓P	Pn	02 48 55.7	+2.2
	1.9nm,0.3s,baz=177,slow=13,SNR=50						
KK31				⇑S	Sn	02 49 53.7	+1.0
	4.9nm,0.4s,baz=174,slow=23,SNR=16						
TKM2	**Tokmak 2**	**5.70**	**30**	⇑P	Pn	02 48 59.7	-0.8
	0.1nm,0.7s						
TKM2				⇑S	Sn	02 50 04.1	-1.0
	0.3nm,0.7s						
AB31	**Akbulak array**	**14.11**	**327**	⇑P	Pn	02 50 50.0	-0.7
	0.5nm,0.7s,baz=213,slow=38,SNR=5.6						

*IDC **31** 02:48:18.5±1.5, 178N×12862E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.7/14, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=92.9km s-min=19.6km az=74.0*

NEIC 31 02:48:23.9±0.8, 164N×12829E, h35km, mb3.9/1, Error ellipse: s-maj=58.2km s-min=10.9km az=73.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.79**	**187**	P	Pn	02 52 51.2	-1.6
	0.1nm,0.3s,baz=19,slow=10.0,SNR=8.2						
WRAB	**Tennant Creek**	**22.25**	**165**	*e*P	P	02 53 18.0	+0.3
	3.5nm,0.6s						
WRA	**Warramunga Arr**	**22.25**	**165**	P	P	02 53 17.9	+0.2
	2.1nm,0.7s,baz=347,slow=12,SNR=3.3						
WB2	**Warramunga Arr**	**22.26**	**165**	*e*P	P	02 53 17.6	-0.1
ASAR	**Alice Springs**	**25.74**	**168**	P	P	02 53 52.1	+1.0
	0.5nm,0.6s,baz=345,slow=11,SNR=12						
SONM	**Songino Array**	**49.77**	**341**	P	P	02 57 12.9	0.0
	0.4nm,0.6s,baz=160,slow=8.1,SNR=3.9						
MKAR	**Makanchi Array**	**60.15**	**325**	P	P	02 58 28.4	+0.4
	1.0nm,0.6s,baz=114,slow=8.4,SNR=12						

*ISCJB **31** 02:54:10.9±0.6, 1519N±005×9307W±003, h33km, Error ellipse: s-maj=7.5km s-min=3.7km az=31.8*
*CASC **31** 02:54:11.0±2.4, 1670N×9113W, h20km±333km, MD4.3*
*MEX **31** 02:54:13.7±1.3, 1520N×9308W, h27km±75km, MD4.3*
*NEIC **31** 02:54:13.7, 1520N×9308W, h27km, MD4.3(MEX), After MEX.*

ISC 31 02:54:12.6±0.6, 1522N±005×9302W±003, h35km, n19, σ1§50/31, 2C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.35**	**39**	*i* P	Pn	02 54 34.6	-0.4
CCIG				*i* S	Sn	02 54 52.8	+1.1
SCX	**San Cristobal**	**1.55**	**14**	*i* P	Pn	02 54 37.3	-0.4
SCX				*i* S	Sn	02 54 57.8	+1.2
TP2	**Tecpan 2**	**1.98**	**102**	⇑*e*P	Pn	02 54 42.2	-1.4
TP2				*e*S	Sn	02 55 06.7	-0.4
CMIG	**Matias Romero**	**2.58**	**316**	*i* P	Pn	02 54 53.0	+1.1
CMIG				*i* S	Sn	02 55 19.9	-2.2
IXG	**Ixpaco**	**2.69**	**112**	⇓*e*P	Pn	02 54 51.2	-2.1
IXG				*e*S	Sn	02 55 24.4	-0.2
HUIG	**Huatulco**	**3.03**	**281**	*i* P	Pn	02 54 57.6	-0.4
HUIG				*i* S	Sn	02 55 31.4	-1.7
TUIG	**Tuzandepetl**	**3.11**	**334**	*i* P	Pn	02 54 58.2	-0.9
TUIG				*i* S	Sn	02 55 33.2	-1.8
SBLS	**San Blas**	**3.56**	**112**	*e*P	x	02 55 19.0	
SBLS				*e*S	x	02 55 58.2	
SNJE	**San Jose**	**3.56**	**112**	*e*P	x	02 55 18.1	
SNJE				*e*S	x	02 55 56.2	
OXX	**Oaxaca**	**4.01**	**298**	*i* P	Pn	02 55 12.7	+1.1
VHO	**Vista Hermosa**	**4.02**	**298**	*i* P	Pn	02 55 14.0	+2.4
VHO				*i* S	Sn	02 55 55.1	-2.4
TPIG	**Tehuac#an**	**5.24**	**308**	*i* P	Pn	02 55 29.7	+1.3
TPIG				*i* S	Sn	02 56 25.7	-1.8
UTMO	**Huajuapan**	**5.28**	**300**	*i* P	Pn	02 55 31.1	+2.2
UTMO				*i* S	Sn	02 56 26.3	-2.1
PPM	**Popocatepetl**	**6.59**	**306**	*e*P	Pn	02 55 48.0	+1.1
PPM				*i* P		02 55 49.7	
PPM				*i* S	Sn	02 57 01.2	+0.4
PPM	**Popocatepetl**	**6.59**	**306**	*i* P	Pn	02 55 49.7	+2.8
PPM				*i* S	Sn	02 57 01.2	+0.4
TEIG	**Tepich**	**6.72**	**42**	⇑*i* Pn	Pn	02 55 41.8	-7.0
	22nm,0.3s						
TEIG				*e*Sn	Sn	02 56 53.9	-10
MEIG	**Mezcala**	**6.88**	**294**	*i* P	Pn	02 55 53.4	+2.5
MEIG				*i* S	Sn	02 57 08.4	+0.4
PLIG	**Platanillo**	**6.97**	**298**	*i* P	Pn	02 55 54.8	+2.6
CAIG	**El Cayaco**	**7.20**	**286**	*i* P	Pn	02 55 56.5	+1.1

*ISCJB **31** 02:57:58.5±1.1, 3646N±005×873W±007, h10km, Error ellipse: s-maj=8.5km s-min=5.3km az=109.8*
*MDD **31** 02:57:58.7±1.8, 3640N×891W, h6km±10km, mbLg2.2/6, Error ellipse: s-maj=16.2km s-min=10.0km az=74.0, PRXIMO*
*IGIL **31** 02:57:59.1, 3639N×887W, h2km, ML2.5*
*INMG **31** 02:57:59.8±0.9, 3643N×884W, h10km, ML1.9, Error ellipse: s-maj=6.5km s-min=2.9km az=78.0*

ISC 31 02:57:57.9±1.1, 3640N±005×884W±007, h10km, n22, σ1§12/35, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.92**	**9**	*e*P	**Pg**	**02 58 15.7**	**+0.1**
MORF				*e*S	**Sg**	**02 58 28.1**	**+0.5**
MORF				*e*S	**Sg**	**02 58 28.1**	**+0.5**
MORF				AML	AML	02 58 31.0	
	comp=N,99nm,0.3s						
MORF	**Marmelete**	**0.92**	**9**	*e*P	**Pg**	**02 58 15.7**	**+0.1**
MORF				*e*S	**Sg**	**02 58 28.1**	**+0.5**
PTEO	**Sao Teotonio**	**1.15**	**5**	*i* P	**Pb**	**02 58 19.6**	**-0.3**
PTEO				*e*S	**Sb**	**02 58 35.2**	**+0.3**
PTEO							
	comp=N,22nm,0.1s						
EGRO	**El Granado**	**1.57**	**43**	P	**Pn**	**02 58 25.8**	**0.0**
	comp=N,0.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**02 58 48.2**	**+2.0**
	comp=N,2.2nm,0.1s,SNR=6.4						
PBEJ	**Beja**	**1.80**	**25**	*e*Sg	**Sg**	**02 58 56.6**	**+0.7**
PBEJ							
	comp=N,8.1nm,0.1s						
PBEJ	**Beja**	**1.80**	**25**	Lg		02 58 56.6	
	comp=N,4.1nm,0.1s						
MOE	**Montemor**	**2.16**	**10**	*e*Pn	**Pn**	**02 58 34.3**	**+0.4**
MOE				*e*Sg	**Sg**	**02 59 07.9**	**+0.6**
EMIN	**Mina Concepcio**	**2.21**	**51**	P	**Pn**	**02 58 36.9**	**+2.4**
	comp=N,0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**02 59 03.2**	**+1.3**
	comp=N,0.4nm,0.1s,SNR=6.5						
ESPR	**Espera**	**2.44**	**78**	P	**Pn**	**02 58 37.6**	**-0.2**
	comp=N,0.5nm,0.1s,SNR=4.8						
ESPR				S	**Sn**	**02 59 06.5**	**-1.2**
	comp=N,2.0nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**2.58**	**352**	*e*Pn	**Pn**	**02 58 39.7**	**0.0**
PMAFR				*e*Sn	**Sn**	**02 59 10.4**	**-0.7**
PESTR	**Estremoz**	**2.66**	**22**	*e*Sg	**Sg**	**02 59 23.8**	**+0.5**
PESTR							
	comp=N,2.6nm,0.2s						
EBAD	**Badajoz**	**2.77**	**31**	P	**Pn**	**02 58 41.5**	**-0.7**
	comp=N,1.2nm,0.7s,SNR=9.2						
EBAD				S	**Sn**	**02 59 16.5**	**+0.8**
	comp=N,2.1nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**3.24**	**6**	*e*Pn	**Pn**	**02 58 49.0**	**+0.3**
PTOM				*e*Sg	**Sg**	**02 59 42.0**	**+0.2**
PTOM							
	comp=N,4.6nm,0.2s						
PCBR	**Castelo Branco**	**3.60**	**17**	*e*Sn	**Sn**	**02 59 33.7**	**-2.6**
PCBR							
	comp=N,1.9nm,0.3s						
PCBR	**Castelo Branco**	**3.60**	**17**	Sn	**Sn**	**02 59 33.7**	**-2.6**
	comp=N,0.9nm,0.3s						
EADA	**Adamuz**	**3.83**	**61**	P	**Pn**	**02 58 56.9**	**0.0**
	SNR=7.9						
EADA				S	**Sn**	**02 59 40.4**	**-1.5**
	comp=N,0.3nm,0.1s,SNR=4.0						
MTE	**Manteigas**	**4.13**	**14**	*e*Sn	**Sn**	**02 59 47.6**	**-1.6**
MTE							
	comp=N,2.7nm,0.7s						
MTE	**Manteigas**	**4.13**	**14**	Sn	**Sn**	**02 59 47.6**	**-1.6**
	comp=N,1.4nm,0.7s						
EPLA	**Plasencia**	**4.26**	**30**	S	**Sn**	**02 59 51.0**	**-1.5**
	SNR=4.0						
EQES	**Quesada**	**4.82**	**71**	P	**Pn**	**02 59 13.1**	**+2.6**
	comp=N,0.1nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**03 00 05.4**	**-0.9**
	comp=N,0.2nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**4.95**	**10**	*e*Sn	**Sn**	**03 00 05.1**	**-4.5**
ELOB	**Lobios**	**5.50**	**6**	P	**Pn**	**02 59 19.9**	**+0.1**
	comp=N,0.1nm,0.1s,SNR=4.0						
ELOB				S	**Sn**	**03 00 19.9**	**-3.1**
	comp=N,0.4nm,0.1s,SNR=7.9						

*IDC **31** 03:00:20.8±7.3, 3550N×7148E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/21, mbtmp3.6/5, ML3.8/2, Error ellipse: s-maj=168.3km s-min=40.0km az=109.0*
*NEIC **31** 03:00:24.0±2.6, 3551N×7102E, h10km, mb3.7/2, Error ellipse: s-maj=45.3km s-min=18.0km az=133.0*
*ISCJB **31** 03:00:43.1±2.4, 367N±0.1×710E±0.2, h132km±26km, mb3.5/4, Error ellipse: s-maj=24.8km s-min=17.0km az=123.8*
*NNC **31** 03:00:46.0±8.9, 3691N×7118E, h200km±75km, mb2.0, mpv3.1, Error ellipse: s-maj=86.6km s-min=52.7km az=29.0*

ISC 31 03:00:38.8±2.8, 364N±02×711E±02, h105km±26km, n15, σ1§39/19, mb3.6/4, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.72**	**356**	⇑P	**Pn**	**03 02 15.6**	**+0.8**
	1.5nm,0.3s,baz=169,slow=11,SNR=65						
KK31				⇓S	**Sn**	**03 03 28.2**	**-1.6**
	4.3nm,0.3s,baz=177,slow=33,SNR=14						
AAK	**Ala-Archa**	**6.77**	**22**	*e*Pn	**Pn**	**03 02 16.0**	**+0.4**
	6.0nm,0.4s						
AAK				*e*Sn	**Sn**	**03 03 30.1**	**-1.0**
TKM2	**Tokmak 2**	**7.39**	**27**	⇑P	**Pn**	**03 02 23.3**	**-0.7**
	0.2nm,0.5s						
AB31	**Akbulak array**	**15.21**	**331**	P	**Pn**	**03 04 07.3**	**-0.6**
	0.3nm,0.3s,baz=140,slow=11,SNR=20						
AB31				⇓S	**S**	**03 06 48.0**	**-18**
	1.7nm,0.6s						
BVAR	**Borovoye Array**	**16.64**	**359**	P	**Pn**	**03 04 28.5**	**+2.8**
	0.2nm,0.3s,baz=175,slow=6.9,SNR=5.2						
BRVK	**Borovoye**	**16.68**	**358**	*e*Pn	**Pn**	**03 04 27.6**	**+1.5**
	1.0nm,0.6s						
AKTK	**Aktyubinsk**	**16.91**	**330**	P	**Pn**	**03 04 31.2**	**+2.3**
AKTO	**Aktyubinsk**	**16.91**	**330**	⇑P	**Pn**	**03 04 28.7**	**-0.2**
	0.1nm,0.9s						
AKTO				⇓S	**S**	**03 07 25.8**	**-12**
AKTO	**Aktyubinsk**	**16.91**	**330**	P	**Pn**	**03 04 31.2**	**+2.3**
	0.5nm,0.3s,baz=146,slow=10,SNR=12						
KIV	**Kislovodsk**	**22.90**	**298**	*e*P	**P**	**03 05 32.0**	**-1.6**
	3.2nm,0.4s,mb4.0						
ARCES	**ARCESS Array B**	**41.27**	**338**	P	**P**	**03 08 14.6**	**+1.0**
	1.2nm,0.8s,mb3.8,baz=106,slow=8.9,SNR=4.3						
NB2	**NORSAR Subarra**	**44.51**	**323**	P	**P**	**03 08 39.3**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.4,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.51**	**323**	P	**P**	**03 08 39.5**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.4,baz=96,slow=7.7,SNR=3.6						
NOA	**NORSAR Array B**	**44.51**	**323**	P	**P**	**03 08 39.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**65.78**	**269**	P	**P**	**03 11 10.4**	**-2.2**
	comp=Z,0.2nm,0.6s,mb3.1,baz=52,slow=6.2,SNR=3.0						

*NEIC **31** 03:19:43.4, 1131N×6167W, h8km, MD2.9(TRN), After TRN.*
*TRN **31** 03:19:43.4, 1131N×6167W, h9km, MD2.9*
*ISCJB **31** 03:19:45.8±0.6, 1126N±004×6188W±003, h33km, Error ellipse: s-maj=5.9km s-min=4.7km az=163.3*
*FUNV **31** 03:19:45.1, 1125N×6181W, h30km, MW2.0*

ISC 31 03:19:45.8±1.4, 1126N±005×6187W±004, h32km±12km, n9, σ0§98/18, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.70**	**209**	*e*P	**Pn**	**03 19 59.2**	**-0.3**
GUIV				*e*S	**Sb**	**03 20 09.6**	**+0.5**
TRN	**Trinidad (W)**	**0.77**	**143**	*e*P	**Pn**	**03 20 00.0**	**-0.4**
TRN				*e*S	**Sn**	**03 20 10.6**	**-0.2**
GRW	**Mount Saint Ca**	**0.91**	**13**	*e*P	**Pn**	**03 20 01.5**	**-0.9**
GRW				*e*S	**Sn**	**03 20 16.5**	**+2.0**
TPR	**Prospect**	**1.08**	**94**	*e*P	**Pn**	**03 20 03.4**	**-1.3**
TPR				*e*S	**Sn**	**03 20 17.1**	**-1.4**
TPR	**Prospect**	**1.08**	**94**	*e*P	**Pn**	**03 20 03.4**	**-1.3**
TPR				*e*S	**Sn**	**03 20 17.1**	**-1.4**
TBH	**Brigand Hill**	**1.11**	**134**	*e*P	**Pn**	**03 20 06.4**	**+1.4**
TBH				*e*S	**Sn**	**03 20 21.5**	**+2.3**
ITEV	**Isla Los Testi**	**1.24**	**274**	*e*P	**Pn**	**03 20 06.8**	**0.0**
ITEV				*e*S	**Sn**	**03 20 22.9**	**+0.5**
CRUV	**Carupano**	**1.46**	**246**	*e*P	**Pn**	**03 20 09.6**	**-0.4**
CRUV				*e*S	**Sn**	**03 20 27.5**	**-0.4**
GUNV	**Guanoco**	**1.52**	**224**	*e*P	**Pn**	**03 20 10.4**	**-0.3**
GUNV				*e*S	**Sn**	**03 20 29.1**	**-0.2**

*ISCJB **31** 03:25:00.8±0.8, 1375N±008×3011E±02, h10km, mb4.2/4, MS4.1/1, Error ellipse: s-maj=23.1km s-min=9.5km az=40.6*
*IDC **31** 03:25:00.4±3.1, 1393S×3024E, h0km, mb3.6/1, mb1 4.3/3, mb1mx3.6/21, mbtmp4.2/3, ML4.7/2, MS3.7/2, Ms1 3.7/2, ms1mx3.1/24, Error ellipse: s-maj=73.0km s-min=28.4km az=100.0*
*NEIC **31** 03:25:03.0±0.9, 1369S×3008E, h10km, mb4.5/4, Error ellipse: s-maj=23.9km s-min=9.9km az=113.0*

ISC 31 03:25:02.8±0.8, 1380S±007×302E±01, h10km, n13, σ1§36/19, mb4.2/4, MS4.1/1, 2D, Zambia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**2.46**	**233**	⇓*e*Pn	**Pn**	**03 25 44.4**	**+1.3**
LSZ				*e*Sn	**Sn**	**03 26 14.1**	**+0.9**
LBTB	**Lobatse**	**11.98**	**201**	⇓*e*Pn	**Pn**	**03 27 55.2**	**+1.6**
	87nm,0.6s						
LBTB				*e*Sn	**Sn**	**03 30 05.1**	**-2.3**
TSUM	**Tsumeb**	**13.26**	**244**	*e*Pn	**Pn**	**03 28 08.4**	**-2.7**
	12nm,0.4s						
TSUM				*e*Sn	**Sn**	**03 30 29.4**	**-9.2**
KMBO	**Kilima Mbogo**	**14.38**	**29**	Pn	**Pn**	**03 28 26.7**	**+0.3**
	0.7nm,0.3s,baz=218,slow=16,SNR=12						
KMBO				Sn	**Sn**	**03 31 17.6**	**+12**
	0.8nm,0.3s,baz=276,slow=20,SNR=3.2						
KMBO				Lg		03 32 24.6	
	0.5nm,0.3s,baz=301,slow=23,SNR=5.8						
KMBO				LR	LR	03 33 59.6	
	comp=Z,137nm,19.0s,baz=92,slow=37						
KMBO	**Kilima Mbogo**	**14.38**	**29**	Pn	**Pn**	**03 28 26.7**	**+0.3**
KMBO				Sn	**Sn**	**03 31 17.6**	**+12**
KMBO				Lg		03 32 24.6	
KMBO				LR	LR	03 33 59.6	
BOSA	**Boshof**	**15.45**	**197**	Pn	**Pn**	**03 28 40.5**	**-0.3**
	4.3nm,0.3s,baz=21,slow=14,SNR=69						
BOSA				Sn	**Sn**	**03 31 27.6**	**-4.4**
	2.5nm,0.3s,baz=128,slow=14,SNR=6.6						
BOSA				Lg		03 33 04.9	
	1.7nm,0.3s,baz=119,slow=17,SNR=4.3						
BOSA	**Boshof**	**15.45**	**197**	Pn	**Pn**	**03 28 40.5**	**-0.3**
BOSA				Sn	**Sn**	**03 31 27.6**	**-4.4**
BOSA				Lg		03 33 04.9	
SUR	**Sutherland**	**20.41**	**203**	*e*P	**P**	**03 29 42.2**	**+2.3**
	8.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**38.93**	**312**	P	**P**	**03 32 29.0**	**+0.2**
	0.8nm,0.8s,mb3.5,baz=130,slow=7.1,SNR=7.1						
DBIC	**Dimbokro**	**40.33**	**298**	P	**P**	**03 32 40.0**	**-0.4**
	27nm,1.4s,mb4.8						
CSS	**Prodhromos**	**48.58**	**3**	P	**P**	**03 33 45.2**	**-1.2

ellipse: s-maj=8.0km s-min=2.3km az=43.0
*ISCJB **31** 03:30:04.0±0.4, 43.47N×004.×1737E±005, h10km, Error ellipse: s-maj=7.4km s-min=2.4km az=90.1*
*NEIC **31** 03:30:05.2±0.9, 4340N×1737E, h10km, MD2.7(PDG), Error ellipse: s-maj=21.5km s-min=5.7km az=223.0*
*PDG **31** 03:30:06.1±0.5, 4333N×1741E, h2km±1km*
*VIE **31** 03:30:07.3±0.5, 4359N×1734E, h10km, mb2.3/4, ML2.5/4, Error ellipse: s-maj=6.6km s-min=3.5km az=58.0 71 km E of Split*
*PRU **31** 03:30:07.1, 4365N×1748E, h0km*

ISC 31 03:30:04.3±1.1, 4346N±004×1733E±006, h2km±2.9km, n18, σ0§93/36, 9C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.65**	**155**	*i* Pg	**Pg**	**03 30 16.1**	**-0.6**
STON				*i* Sg	**Sg**	**03 30 26.5**	**+1.4**
STON	**Ston**	**0.65**	**155**	*i* Pg	**Pg**	**03 30 16.0**	**-0.7**
STON				*i* Sg	**Sg**	**03 30 26.4**	**+1.3**
BRY	**Bratogost**	**1.05**	**122**	⇓*i*Pg	**Pg**	**03 30 23.1**	**-1.3**
BRY				*e*Sg	**Sg**	**03 30 38.2**	**+0.2**
UPM	**Unac-Piva**	**1.18**	**102**	⇑*i*Pg	**Pg**	**03 30 26.0**	**-1.0**
UPM				*e*Sg	**Sg**	**03 30 43.9**	**+1.6**
HCY	**Herceg Novi**	**1.33**	**139**	⇑*i*Pg	**Pg**	**03 30 28.2**	**-1.6**
HCY				*e*Sg	**Sg**	**03 30 47.1**	**+0.1**
NKY	**Niksic**	**1.38**	**117**	⇓*i*Pg	**Pn**	**03 30 29.4**	**-1.2**
NKY				*e*Sg	**Sg**	**03 30 49.7**	**+0.9**
PLE	**Pljevlja**	**1.51**	**94**	⇓*i*Pg	**Pn**	**03 30 33.1**	**+0.7**
PLE				*e*Sg	**Sg**	**03 30 55.0**	**+2.1**
BUM	**Brajici-Budva**	**1.63**	**134**	⇓*i*Pg	**Pn**	**03 30 34.0**	**-0.1**
BUM				*e*Sg	**Sg**	**03 30 56.8**	**0.0**
TTG	**Podgorica**	**1.75**	**125**	⇑*i*Pn	**Pn**	**03 30 36.0**	**+0.2**
TTG				*e*Sn	**Sg**	**03 31 00.5**	**-0.1**
IVA	**Berane**	**1.97**	**106**	⇑*i*Pn	**Pb**	**03 30 40.5**	**-0.4**
IVA				*e*Sn	**Sg**	**03 31 06.7**	**-1.0**
ULC	**Ulcinj**	**2.06**	**136**	⇑*i*Pn	**Pn**	**03 30 40.0**	**+0.1**
ULC				*e*Sn	**Sb**	**03 31 08.7**	**+0.2**
PVY	**Plav**	**2.12**	**113**	⇓*i*Pn	**Pb**	**03 30 43.1**	**-0.4**
PVY				*e*Sn	**Sg**	**03 31 11.5**	**-1.1**
VOY	**Vojsko**	**3.55**	**318**	*e*Pn	**Pn**	**03 31 01.2**	**+0.7**
VOY				*e*Sn	**Sn**	**03 31 44.3**	**+1.3**
OBKA	**Obir**	**3.63**	**328**	⇑*i*Pn	**Pn**	**03 31 01.9**	**+0.4**
OBKA				⇓*i*Sn	**Sn**	**03 31 45.5**	**+0.4**
ARSA	**Arzberg**	**4.00**	**342**	⇓*i*Pn	**Pn**	**03 31 06.9**	**+0.3**
ARSA				⇓*i*Sn	**Sn**	**03 31 53.1**	**-1.0**
KBA	**Koelnbreinsper**	**4.58**	**324**	⇓*i*Pn	**Pn**	**03 31 15.3**	**+0.6**
KBA				⇑*i*Sn	**Sn**	**03 32 08.0**	**-0.5**
MOA	**Molln**	**4.89**	**335**	⇑*i*Pn	**Pn**	**03 31 19.3**	**+0.4**
MOA				⇑*i*Sn	**Sn**	**03 32 15.5**	**-0.5**
KHC	**Kasperske Hory**	**6.24**	**337**	*e*PN	**Pn**	**03 31 38.6**	**+1.2**
KHC				*e*SN	**Sn**	**03 32 46.7**	**-2.6**

*IDC **31** 03:33:19.2±1.2, 4145N×7268E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.6/25, mbtmp3.7/9, ML3.7/3, Error ellipse: s-maj=16.8km s-min=11.6km az=153.0*
*NNC **31** 03:33:19.4±10.0, 4114N×7242E, h117km±105km, mb3.1, mpv3.7, Error ellipse: s-maj=113.4km s-min=34.8km az=7.0*
*NEIC **31** 03:33:20.6±0.9, 4151N×7267E, h10km, Error ellipse: s-maj=15.2km s-min=11.4km az=141.0*
*ISCJB **31** 03:33:20.4±0.7, 4176N±005×7243E±004, h10km, mb3.6/6, Error ellipse: s-maj=7.8km s-min=3.9km az=13.6*
*KNET **31** 03:33:21.7±0.5, 4168N×7285E, h0km, ml3.6, Error ellipse: s-maj=3.5km s-min=2.8km az=131.0*
*MOS **31** 03:33:22.2±1.6, 4174N×7249E, h23km, mb3.8/1, Error ellipse: s-maj=19.7km s-min=11.8km az=98.8*

ISC 31 03:33:21.6±0.6, 4165N±005×7252E±004, h10km, n37, σ1§52/57, mb3.6/6, 16C-13D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**0.99**	**61**	⇑P	**Pg**	**03 33 37.0**	**-3.7**
	197nm,0.2s,SNR=197						
AML				⇑S	**Sg**	**03 33 48.8**	**-4.9**
	338nm,0.1s						
EKS2	**Erkin-Say**	**1.37**	**42**	⇓P	**Pn**	**03 33 44.5**	**-2.2**
	92nm,0.2s,SNR=39						
EKS2				⇓S	**Sb**	**03 34 01.9**	**-3.0**
	173nm,0.2s						
UCH	**Uchtor**	**1.59**	**68**	⇑P	**Pn**	**03 33 47.5**	**-2.3**
	59nm,0.1s,SNR=168						
UCH				⇓S	**Sn**	**03 34 08.7**	**-1.7**
	345nm,0.2s						
AAK	**Ala-Archa**	**1.76**	**56**	⇑P	**Pn**	**03 33 51.7**	**-0.4**
	132nm,0.2s,SNR=124						
AAK				⇑S	**Sn**	**03 34 15.2**	**+0.6**
	170nm,0.3s						
AAK	**Ala-Archa**	**1.76**	**56**	*e*Pn	**Pn**	**03 33 50.1**	**-2.0**
AAK				*e*Sn	**Sn**	**03 34 14.2**	**-0.4**
KBK	**Karagaybulak**	**2.06**	**60**	⇓P	**Pn**	**03 33 56.4**	**+0.1**
	98nm,0.2s,SNR=105						
KK31	**Karatay Array**	**2.08**	**315**	⇑Pn	**Pn**	**03 33 60.0**	**+3.5**
	19nm,0.2s,baz=224,slow=17,SNR=966						
KK31				⇓Sn	**Sn**	**03 34 30.5**	**+8.1**
	151nm,0.3s,baz=237,slow=34,SNR=21						
KZA	**Kyzart**	**2.08**	**77**	⇓P	**Pn**	**03 33 56.0**	**-0.4**
	125nm,0.2s,SNR=379						
KZA				⇑S	**Sn**	**03 34 23.1**	**+0.6**
	479nm,0.4s						
CHMS	**Chumysh**	**2.13**	**50**	P	**Pn**	**03 33 58.0**	**+0.9**
	99nm,0.3s,SNR=70						
CHMS				⇓S	**Sn**	**03 34 26.0**	**+2.3**
	366nm,0.4s						
USP	**Ospenovka**	**2.18**	**42**	P	**Pn**	**03 33 59.0**	**+1.2**
	168nm,0.2s,SNR=359						
USP				⇑S	**Sn**	**03 34 28.4**	**+3.6**
	466nm,0.3s						
TKM2	**Tokmak 2**	**2.61**	**60**	⇑P	**Pn**	**03 34 05.6**	**+1.8**
	67nm,0.2s,SNR=163						
TKM2	**Tokmak 2**	**2.61**	**60**	⇓Pn	**Pn**	**03 34 06.0**	**+2.3**
	19nm,0.9s						
TKM2				⇓Sn	**Sn**	**03 34 39.9**	**+4.4**
	14nm,0.4s						
ULHL	**Ulahol**	**2.83**	**77**	⇑P	**Pn**	**03 34 08.2**	**+1.3**
	34nm,0.2s,SNR=58						
MK02	**Makanchi Array**	**8.69**	**51**	⇑Pn	**Pn**	**03 35 28.7**	**+1.4**
	1.9nm,0.6s						
MK02				⇑Lg		03 38 07.3	
	4.3nm,0.6s						
MKAR	**Makanchi Array**	**8.69**	**50**	Pn	**Pn**	**03 35 28.1**	**+0.8**
	0.4nm,0.3s,baz=234,slow=14,SNR=11						
MKAR				Sn	**Sn**	**03 37 03.2**	**-2.1**
	baz=257,slow=26,SNR=2.6						
MKAR				Lg		03 37 58.1	
	0.6nm,0.3s,baz=234,slow=28,SNR=5.4						
MKAR	**Makanchi Array**	**8.69**	**50**	P	**Pn**	**03 35 28.1**	**+0.8**
MKAR						03 37 03.2	
KURK	**Kurchatov**	**10.00**	**23**	⇓Pn	**Pn**	**03 35 44.0**	**-1.2**
	1.7nm,1.3s						
KURK				⇑Lg		03 38 51.7	
	8.3nm,0.8s						
BVA0	**Borovoye Array**	**11.47**	**353**	Pn	**Pn**	**03 36 05.8**	**+0.4**
	0.4nm,0.7s,baz=192,slow=13,SNR=15						
BVA0				⇓Sn	**Sn**	**03 38 16.0**	**+2.5**
	0.9nm,0.8s,baz=156,slow=24,SNR=3.9						
BVAR	**Borovoye Array**	**11.47**	**353**	Pn	**Pn**	**03 36 05.9**	**+0.6**
	0.6nm,0.3s,baz=157,slow=14,SNR=12						
BVAR				Sn	**Sn**	**03 38 12.1**	**-1.4**
	1.3nm,0.3s,baz=162,slow=24,SNR=7.1						
BVAR				Lg		03 39 34.9	
	0.7nm,0.3s,baz=140,slow=30,SNR=3.9						
BVAR	**Borovoye Array**	**11.47**	**353**	P	**Pn**	**03 36 05.9**	**+0.5**
BVAR						03 38 12.1	
BVAR	**Borovoye Array**	**11.47**	**353**	Pn	**Pn**	**03 36 05.9**	**+0.6**
BVAR				Sn	**Sn**	**03 38 12.1**	**-1.4**
BVAR				Lg		03 39 34.9	
BRVK	**Borovoye**	**11.51**	**353**	*e*P	**Pn**	**03 36 06.9**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**11.51**	**353**	*e*Pn	**Pn**	**03 36 06.9**	**+1.0**
	comp=Z,2.8nm,0.8s						
ZRNK	**Zerenda**	**11.55**	**349**	⇑Pn	**Pn**	**03 36 06.9**	**+0.4**
	comp=Z,1.4nm,0.5s						
ZRNK				⇓Sn	**Sn**	**03 38 15.1**	**-0.4**
	comp=Z,3.9nm,0.6s						
ZRNK	**Zerenda**	**11.55**	**349**	*e*P	**Pn**	**03 36 06.6**	**+0.1**
ZRNK				*e*		03 38 12.6	
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZRNK	**Zerenda**	**11.55**	**349**	*e*Pn	**Pn**	**03 36 06.6**	**+0.1**
	comp=Z,3.3nm,0.6s						
ZRNK				*e*Sn	**Sn**	**03 38 12.6**	**-2.9**
AB31	**Akbulak array**	**11.64**	**315**	⇑Pn	**Pn**	**03 36 08.3**	**+0.6**
	comp=Z,1.6nm,0.3s,baz=117,slow=14,SNR=71						
AB31				Sn	**Sn**	**03 38 15.1**	**-2.7**
	comp=Z,3.7nm,0.6s,baz=117,slow=23,SNR=12						
AKTK	**Aktyubinsk**	**13.35**	**316**	Pn	**Pn**	**03 36 32.7**	**+1.7**
AKTK				Sn	**Sn**	**03 38 57.2**	**-2.2**
AKTO	**Aktyubinsk**	**13.35**	**316**	⇓Pn	**Pn**	**03 36 32.1**	**+1.1**
AKTO				⇑Sn	**Sn**	**03 38 56.3**	**-3.1**
	comp=Z,0.1nm,0.7s						
AKTO	**Aktyubinsk**	**13.35**	**316**	Pn	**Pn**	**03 36 32.7**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=125,slow=14,SNR=14						
AKTO				Sn	**Sn**	**03 38 57.2**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=329,slow=19,SNR=5.1						
MAK	**Makhachkala**	**18.54**	**282**	*e*P	**Pn**	**03 37 36.2**	**-2.2**
MAK				pmax	pmax		
	comp=E,257nm,0.4s						
WSAR	**Wadi Sarin**	**21.73**	**217**	P	**P**	**03 38 10.9**	**-2.1**
	comp=E,4.6nm,0.8s,mb3.9,baz=190,slow=20,SNR=4.2						
FINES	**FINESS Array B**	**34.03**	**322**	P	**P**	**03 40 06.2**	**+0.5**
	comp=E,0.3nm,0.4s,mb3.6,baz=100,slow=10,SNR=5.1						
ARCES	**ARCESS Array B**	**36.92**	**335**	P	**P**	**03 40 31.0**	**+0.5**
	comp=E,2.0nm,0.8s,mb4.0,baz=98,slow=8.7,SNR=7.7						
NOA	**NORSAR Array B**	**41.10**	**320**	P	**P**	**03 41 05.3**	**-0.3**
	comp=E,0.4nm,0.7s,mb3.2,baz=116,slow=9.3,SNR=2.9						
GERES	**GERESS Array B**	**41.12**	**301**	P	**P**	**03 41 07.5**	**+1.8**
	comp=E,1.0nm,0.7s,mb3.5,baz=61,slow=8.2,SNR=8.0						
TORD	**Torodi Ar. Bea**	**67.08**	**267**	P	**P**	**03 44 14.7**	**-0.4**
	comp=E,0.3nm,0.7s,mb3.4,baz=53,slow=6.5,SNR=4.6						

*NNC **31** 03:54:47.3±15.0, 3952N×7210E, h9km±47km, mb3.4, mpv3.0, Error ellipse: s-maj=110.1km s-min=64.6km az=2.0*

ISC 31 03:54:39.6±2.8, 386N±02×713E±02, h35km, n9, σ0§50/11, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.96**	**26**	P	**Pn**	**03 55 38.0**	**+0.2**
	SNR=8.8						
UCH	**Uchtor**	**4.36**	**3**	P	**Pn**	**03 55 43.5**	**+0.3**
	SNR=9.9						
KK31	**Karatay Array**	**4.54**	**352**	Pn	**Pn**	**03 55 46.6**	**+0.9**
	8.4nm,0.3s,baz=151,slow=12,SNR=100						
KK31				⇓Sn	**Sn**	**03 56 37.0**	**-0.3**
	4.8nm,0.5s,baz=135,slow=24,SNR=4.0						
KK31				⇑Lg		03 56 49.4	
	14nm,0.7s,baz=150,slow=30,SNR=4.0						
CHMS	**Chumysh**	**5.10**	**29**	P	**Pn**	**03 55 53.3**	**-0.1**
	SNR=11						
ULHL	**Ulahol**	**5.22**	**44**	P	**Pn**	**03 55 54.5**	**-0.7**
	SNR=7.5						
USP	**Ospenovka**	**5.24**	**26**	P	**Pn**	**03 55 55.7**	**+0.3**
	SNR=6.1						
TKM2	**Tokmak 2**	**5.39**	**36**	P	**Pn**	**03 55 58.0**	**+0.5**
	SNR=5.1						
TKM2	**Tokmak 2**	**5.39**	**36**	⇑Pn	**Pn**	**03 55 56.7**	**-0.8**
	0.3nm,0.5s						
TKM2				⇑Sn	**Sn**	**03 56 46.2**	**-12**
	0.8nm,0.7s						
TKM2				Lg		03 57 08.6	
AB31	**Akbulak array**	**13.43**	**326**	Pn	**Pn**	**03 57 47.0**	**-0.5**
	0.2nm,0.3s,baz=128,slow=9.7,SNR=12						

*NEIC **31** 03:59:06.7±0.8, 1420N×11951E, h35km, mb4.4/1, Error ellipse: s-maj=22.1km s-min=13.8km az=57.0*
*ISCJB **31** 03:59:08.9±0.8, 1457N±005×11995E±0.10, h81km±8km, mb3.9/5, Error ellipse: s-maj=15.8km s-min=7.5km az=8.4*
*MAN **31** 03:59:09.1, 1459N×11980E, h38km, mb2.3, ML3.9, MS4.5*
*IDC **31** 03:59:09.2±5.8, 1430N×11972E, h56km±57km, mb3.6/4, mb1 3.8/4, mb1mx3.4/17, mbtmp3.8/4, Error ellipse: s-maj=63.0km s-min=19.9km az=68.0*

ISC 31 03:59:09.6±0.8, 1459N±005×11993E±010, h72km±8km, n12, σ0§99/17, mb3.9/5, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.91**	**160**	*e*P	**Pn**	**03 59 26.4**	**-0.7**
LUBP				*e*S	**Sn**	**03 59 40.5**	**+0.5**
TGY	**Tagaytay City**	**1.09**	**117**	⇓*e*P	**Pn**	**03 59 30.5**	**+1.2**
TGY				*e*S	**Sn**	**03 59 45.6**	**+1.6**
TGY	**Tagaytay City**	**1.09**	**117**	P	**Pn**	**03 59 29.6**	**+0.3**
	151nm,0.3s,baz=225,slow=2.2,SNR=11						
TGY				S	**Sn**	**03 59 45.2**	**+1.2**
	593nm,0.3s,baz=74,slow=21,SNR=18						
SCZP	**Santa Cruz**	**1.18**	**359**	*e*P	**Pn**	**03 59 29.9**	**-0.6**
BOLP	**Bolinao**	**1.78**	**359**	*e*P	**Pn**	**03 59 38.1**	**-0.2**
BALP	**Baler**	**1.95**	**54**	*e*P	**Pn**	**03 59 40.3**	**-0.4**
BALP				*e*S	**Sn**	**04 00 03.5**	**-0.8**
BUSP	**Coron**	**2.59**	**174**	*e*P	**Pn**	**03 59 49.7**	**+0.4**
BUSP				*e*S	**Sn**	**04 00 18.9**	**-0.7**
SONM	**Songino Array**	**35.00**	**344**	P	**P**	**04 05 58.3**	**+3.3**
	0.2nm,0.3s,mb3.4,baz=172,slow=12,SNR=3.6						
WRAB	**Tennant Creek**	**37.12**	**157**	*e*P	**P**	**04 06 11.8**	**-1.4**
	2.5nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**37.13**	**157**	P	**P**	**04 06 12.4**	**-0.8**
	0.6nm,0.4s,mb3.8,baz=336,slow=9.4,SNR=8.9						
ASAR	**Alice Springs**	**40.40**	**160**	P	**P**	**04 06 40.6**	**0.0**
	1.2nm,0.4s,mb4.1,baz=336,slow=6.6,SNR=12						
FINES	**FINESS Array B**	**79.15**	**331**	P	**P**	**04 11 08.2**	**+1.8**
	1.7nm,1.1s,mb3.8,baz=64,slow=6.3,SNR=4.6						

IDC 31 04:00:53.5±2.3, 586S×13065E, h0km, mb4.0/1, mb1 3.8/4, mb1mx3.6/11, mbtmp3.6/4, ML3.5/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/26, Error ellipse: s-maj=99.3km s-min=27.7km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.11**	**201**	Pn	Pn	04 04 00.8	-0.2
	0.2nm,0.3s,baz=16,slow=13,SNR=15						
FITZ				Sn	Sn	04 06 13.9	-14
	0.7nm,0.3s,baz=186,slow=18,SNR=8.2						
WRA	**Warramunga Arr**	**14.45**	**166**	Pn	Pn	04 04 18.6	-0.5
	0.1nm,0.3s,baz=350,slow=12,SNR=6.8						
WRA				Sn	Sn	04 06 49.0	-11
	1.0nm,0.3s,baz=342,slow=21,SNR=12						
ASAR	**Alice Springs**	**17.97**	**170**	P	Pn	04 05 05.7	+0.9
	0.3nm,0.3s,baz=346,slow=10.0,SNR=13						
ASAR				S	Sn	04 08 16.1	-10
	0.2nm,0.3s,baz=358,slow=25,SNR=5.1						
GUMO	**Guam**	**23.93**	**36**	LR	LR	04 14 48.8	
	comp=Z,38nm,19.5s,baz=110,slow=35						
MKAR	**Makanchi Array**	**67.64**	**326**	P	P	04 11 52.4	+0.2
	0.9nm,0.5s,baz=127,slow=8.2,SNR=9.5						

IDC 31 04:07:00.7±3.8, 810S×11862E, h193km±38km, mb2.9/2, mb1 3.0/4, mb1mx2.9/16, mbtmp3.5/4, Error ellipse: s-maj=98.0km s-min=15.1km az=44.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.06**	**146**	*e*P	Pn	04 09 47.0	+0.5
	2.7nm,0.6s						
FITZ				*e*S	Sn	04 11 50.7	-10
FITZ	**Fitzroy Crossi**	**12.06**	**146**	P	Pn	04 09 47.2	+0.8
	0.2nm,0.3s,baz=340,slow=16,SNR=7.9						
FITZ				S	Sn	04 11 50.2	-10
	0.2nm,0.3s,baz=0.0,slow=20,SNR=3.8						
WRA	**Warramunga Arr**	**19.24**	**129**	P	P	04 11 10.1	-0.2
	0.4nm,0.3s,baz=302,slow=12,SNR=41						
WRA				S	S	04 14 39.2	+1.4
	0.2nm,0.3s,baz=11,slow=13,SNR=4.6						
WB2	**Warramunga Arr**	**19.25**	**129**	*e*P	P	04 11 10.1	-0.3
WB2				*e*S	S	04 14 41.1	+3.1
ASAR	**Alice Springs**	**21.31**	**138**	P	P	04 11 32.5	+0.1
	0.4nm,0.3s,baz=315,slow=9.2,SNR=5.8						
MKAR	**Makanchi Array**	**63.49**	**333**	P	P	04 17 10.4	+0.3
	0.3nm,0.4s,baz=124,slow=9.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**117.93**	**281**	PKP	PKPdf	04 25 25.0	+0.8
	0.5nm,1.1s,baz=66,slow=1.9,SNR=7.7						

*ISCJB **31** 04:14:46.8±0.5, 4590N±002×136W±003, h3km±3km, Error ellipse: s-maj=4.1km s-min=2.8km az=144.4*
*CSEM **31** 04:14:50.5±0.1, 4586N×145W, h2km, ML2.6/19, Error ellipse: s-maj=1.9km s-min=1.3km az=65.0*
*LDG **31** 04:14:51.0±0.1, 4589N×143W, h2km, Ml2.5/20, Error ellipse: s-maj=2.3km s-min=1.6km az=72.0*
*NEIC **31** 04:14:52.0, 4592N×141W, h5km, ML2.5(LDG), ML2.5(STR), After STR.*
*STR **31** 04:14:52.0±0.7, 4592N×141W, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 31 04:14:49.7±0.4, 4589N±002×141W±003, h14km±3km, n46, σ1§28/104, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OLEF	**Ile d'Oleron**	**0.07**	**35**	Pg	**Pg**	**04 14 53.3**	**+0.9**
OLEF				Sg	**Sg**	**04 14 54.8**	**+0.4**
LRYF	**La Roche-sur-Y**	**0.70**	**352**	Pg	**Pg**	**04 15 04.4**	**+1.1**
LRYF				Sg	**Sg**	**04 15 13.5**	**+1.0**
CHIF	**Chize**	**0.74**	**70**	Pg	**Pg**	**04 15 06.4**	**+2.4**
CHIF				Sg	**Sg**	**04 15 15.8**	**+2.1**
LCHF	**La Chataignera**	**0.91**	**30**	Pg	**Pg**	**04 15 09.5**	**+2.3**
LCHF				Sg	**Sg**	**04 15 21.3**	**+2.2**
MFF	**Saint Martin d**	**1.13**	**50**	*e*Pg	**Pg**	**04 15 14.0**	**+2.6**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**04 15 27.9**	**+1.7**
	22nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**1.13**	**50**	*e*Pg	**Pg**	**04 15 14.0**	**+2.6**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**04 15 27.9**	**+1.7**
	11nm,0.3s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.13**	**105**	*e*Pg	**Pg**	**04 15 30.3**	**-0.3**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**04 15 57.4**	**-0.9**
	7.2nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.13**	**105**	*e*Pg	**Pg**	**04 15 30.3**	**-0.3**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**04 15 57.4**	**-0.9**
	3.6nm,0.2s,SNR=1.0						
QUIF	**Quistinic**	**2.36**	**330**	*e*Pg	**Pg**	**04 15 34.4**	**-0.5**
QUIF				*e*Sg	**Sg**	**04 16 04.5**	**-1.1**
	61nm,1.2s,SNR=1.0						
QUIF	**Quistinic**	**2.36**	**330**	*e*Pg	**Pg**	**04 15 34.4**	**-0.5**
QUIF				*e*Sg	**Sg**	**04 16 04.5**	**-1.1**
	30nm,1.2s,SNR=1.0						
SGMF	**Saint Gilles**	**2.50**	**342**	*e*Pg	**Pg**	**04 15 37.6**	**+0.1**
SGMF				*e*Sg	**Sg**	**04 16 08.0**	**-1.8**
	3.8nm,0.3s						
SGMF	**Saint Gilles**	**2.50**	**342**	*e*Pg	**Pg**	**04 15 37.6**	**+0.1**
SGMF				*e*Sg	**Sg**	**04 16 08.0**	**-1.8**
	1.9nm,0.3s						
GRR	**Gorron**	**2.53**	**8**	*e*Pg	**Pg**	**04 15 37.8**	**-0.4**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**04 16 01.4**	**+0.5**
	5.7nm,0.4s,SNR=1.0						
GRR				*e*Sg	**Sg**	**04 16 10.0**	**-1.0**
	5.0nm,0.3s						
GRR	**Gorron**	**2.53**	**8**	*e*Pg	**Pg**	**04 15 37.8**	**-0.4**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**04 16 01.4**	**+0.5**
	2.8nm,0.4s,SNR=1.0						
GRR				*e*Sg	**Sg**	**04 16 10.0**	**-1.0**
	2.5nm,0.3s						
TCF	**Toulx Ste Croi**	**2.55**	**80**	*e*Pn	**Pn**	**04 15 32.4**	**+1.8**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**04 16 02.4**	**+1.0**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**04 16 10.0**	**-1.6**
	7.1nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**2.55**	**80**	*e*Pn	**Pn**	**04 15 32.4**	**+1.8**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**04 16 02.4**	**+1.0**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**04 16 10.0**	**-1.6**
	3.5nm,0.4s,SNR=1.0						
CAF	**Calviac**	**2.63**	**110**	*e*Pg	**Pg**	**04 15 39.8**	**-0.2**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**04 16 13.0**	**-1.1**
	2.5nm,0.2s,SNR=1.0						
CAF	**Calviac**	**2.63**	**110**	*e*Pg	**Pg**	**04 15 39.8**	**-0.2**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**04 16 13.0**	**-1.1**
	1.2nm,0.2s,SNR=1.0						
ROSF	**Rostrenen**	**2.76**	**333**	*e*Pg	**Pg**	**04 15 41.6**	**-1.0**
ROSF				*e*Sg	**Sg**	**04 16 17.5**	**-0.9**
	5.3nm,0.4s						
ROSF	**Rostrenen**	**2.76**	**333**	*e*Pg	**Pg**	**04 15 41.6**	**-1.0**
ROSF				*e*Sg	**Sg**	**04 16 17.5**	**-0.9**
	2.7nm,0.4s						
SJPF	**Ste Jean**	**2.78**	**177**	*e*Pg	**Pg**	**04 15 43.0**	**+0.1**
	SNR=1.0						
SJPF				*e*Sn	**Sn**	**04 16 05.3**	**-1.7**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**04 16 18.5**	**-0.4**
	2.6nm,0.3s,SNR=1.0						
SJPF	**Ste Jean**	**2.78**	**177**	*e*Pn	**Pn**	**04 15 35.9**	**+2.2**
SJPF				*e*Pg	**Pg**	**04 15 43.0**	**+0.1**
SJPF				*e*Sn	**Sn**	**04 16 05.3**	**-1.7**
SJPF				*e*Sg	**Sg**	**04 16 18.5**	**-0.4**
SJPF	**Ste Jean**	**2.78**	**177**	*e*Pg	**Pg**	**04 15 43.0**	**+0.1**
	SNR=1.0						
SJPF				*e*Sn	**Sn**	**04 16 05.3**	**-1.7**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**04 16 18.5**	**-0.4**
	1.3nm,0.

MTLF					*e*Sn		**Sn**	04 16 27.0	**-1.0**
	1.6nm,0.7s,SNR=1.0								
SMF	**Signal de Mont**	**3.72**	**76**		*e*Sn		**Sn**	04 16 29.6	**-0.6**
	SNR=1.0								
SMF					*e*Sg		**Sg**	04 16 48.1	**-1.0**
	3.1nm,0.4s,SNR=1.0								
SMF	**Signal de Mont**	**3.72**	**76**		*e*Sn		**Sn**	04 16 29.6	**-0.6**
	SNR=1.0								
SMF					*e*Sg		**Sg**	04 16 48.1	**-1.0**
	1.5nm,0.4s,SNR=1.0								
LOR	**Lormes**	**3.88**	**67**		*e*Sg		**Sg**	04 16 51.6	**-2.8**
	2.6nm,0.3s,SNR=1.0								
LOR	**Lormes**	**3.88**	**67**		*e*Sg		**Sg**	04 16 51.6	**-2.8**
	1.3nm,0.3s,SNR=1.0								

PRE 31 04:44:07.7±1.7, 2093S×3279E, h5km, ML4.3, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**2.93**	**241**	*e*P	Pn	04 44 57.0	+2.0
MSNA				*e*S	Sn	04 45 32.4	+1.9
MSNA				AML	AML	04 45 51.1	
	comp=Z,338nm,0.6s						
POGA	**Pongola**	**6.50**	**189**	*e*P	Pn	04 45 43.6	-0.3
POGA				*e*S	Sn	04 46 55.3	-3.1
POGA				AML	AML	04 47 34.3	
	comp=Z,40nm,0.5s						
LBTB	**Lobatse**	**7.77**	**237**	*e*P	Pn	04 46 02.4	+0.9
LBTB				*e*S	Sn	04 47 26.0	-3.9
LBTB				AML	AML	04 47 52.2	
	comp=Z,13nm,0.6s						
KSD	**Kokstad**	**10.04**	**197**	*e*P	Pn	04 46 34.4	+1.9
KSD				*e*S	Sn	04 48 42.5	+17
KSD				AML	AML	04 49 31.6	
	comp=Z,17nm,0.7s						
BOSA	**Boshof**	**10.26**	**220**	*e*P	Pn	04 46 36.4	+0.8
BOSA				*e*S	Sn	04 48 25.7	-5.3
BOSA				AML	AML	04 49 37.6	
	comp=Z,22nm,0.7s						

*NEIC **31** 04:45:45.6, 3259S×7181W, h26km, ML2.8(GUC), After GUC.*

GUC 31 04:45:45.6±0.9, 3259S×7181W, h26km±7km, MD3.7, ML2.8, 5C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.46**	**162**	⇓*i*P	Pb	04 45 54.6	-0.6
IHA				*i* S	Sb	04 46 01.3	-0.4
CHNG	**Los Chungos**	**0.75**	**21**	⇓*i*P	Pb	04 45 59.2	-0.8
CHNG				*i* S	Sb	04 46 09.5	-0.3
CHNG				AML	AML	04 46 11.9	
	comp=E,290nm,0.4s						
ROCH	**El Roble**	**0.78**	**120**	⇑*i*P	Pb	04 46 00.2	-0.2
ROCH				*i* S	Sb	04 46 11.0	+0.4
LCCH	**Las Cruces**	**0.91**	**167**	⇓*i*P	Pn	04 46 01.8	-0.9
LCCH				*i* S	Sb	04 46 14.7	+0.2
JACH	**Jahuel**	**1.03**	**96**	⇑*i*P	Pn	04 46 04.0	-0.4
JACH				*i* S	Sb	04 46 18.2	+0.3
PEL	**Peldehue**	**1.10**	**121**	⇓*i*P	Pn	04 46 05.3	0.0
PEL				*i* S	Sn	04 46 20.1	+0.5
PEL				AML	AML	04 46 20.9	
	comp=E,1μm,0.3s						
RCDM	**Rinconada Maip**	**1.23**	**137**	⇑*i*P	Pn	04 46 07.2	0.0
RCDM				*i* S	Sn	04 46 23.4	+0.4
RCDM				AML	AML	04 46 33.0	
	comp=E,275nm,0.2s						
RCDM	**Rinconada Maip**	**1.23**	**137**	⇑*i*P	Pn	04 46 07.2	0.0
RCDM				*i* S	Sn	04 46 23.4	+0.4
TACH	**Talagante**	**1.29**	**146**	⇓*i*P	Pn	04 46 08.2	+0.3
TACH				*i* S	Sn	04 46 24.5	+0.1
SAN	**Santiago**	**1.30**	**132**	*i* P	Pn	04 46 08.4	+0.3
SAN				*i* S	Sn	04 46 25.5	+1.0
SAN				AML	AML	04 46 30.5	
	comp=E,325nm,0.5s						
SAN	**Santiago**	**1.30**	**132**	*i* P	Pn	04 46 08.4	+0.3
SAN				*i* S	Sn	04 46 25.5	+1.0
STL	**Santa Lucia**	**1.30**	**131**	*i* P	Pn	04 46 07.7	-0.3
STL				*i* S	Sn	04 46 25.1	+0.5
STL				AML	AML	04 46 26.9	
	comp=N,113nm,0.3s						
DSCH	**Colegio Aleman**	**1.32**	**128**	⇑*i*P	Pn	04 46 08.0	-0.4
DSCH				*i* S	Sn	04 46 25.8	+0.7
CLCH	**Cerro Calan**	**1.34**	**127**	*e*P	Pn	04 46 09.7	+1.0
CLCH				*i* S	Sn	04 46 27.1	+1.5
CLCH				AML	AML	04 46 33.3	
	comp=N,528nm,0.6s						
CLCH	**Cerro Calan**	**1.34**	**127**	*e*P	Pn	04 46 09.7	+1.0
CLCH				*i* S	Sn	04 46 27.1	+1.5
ANTU	**Antumapu**	**1.39**	**135**	*e*P	Pn	04 46 09.9	+0.5
ANTU				*i* S	Sn	04 46 27.8	+0.9
ANTU				AML	AML	04 46 35.3	
	comp=E,300nm,0.4s						
ANTU	**Antumapu**	**1.39**	**135**	*e*P	Pn	04 46 09.9	+0.5
ANTU				*i* S	Sn	04 46 27.8	+0.9
LNV	**Longovilo**	**1.41**	**166**	⇓*i*P	Pn	04 46 10.4	+0.8
LNV				*i* S	Sn	04 46 27.9	+0.6
PCH	**Pirque**	**1.50**	**134**	*e*P	Pn	04 46 11.7	+0.9
PCH				*i* S	Sn	04 46 31.0	+1.4
CMCH	**Combarbala**	**1.57**	**26**	*e*P	Pn	04 46 11.3	-0.4
CMCH				*i* S	Sn	04 46 32.2	+1.0
CMCH				AML	AML	04 46 37.8	
	comp=E,712nm,0.5s						
CMCH	**Combarbala**	**1.57**	**26**	*e*P	Pn	04 46 11.3	-0.4
CMCH				*i* S	Sn	04 46 32.2	+1.0
CHCH	**Chadas Angostu**	**1.66**	**145**	*e*P	Pn	04 46 14.1	+1.1
CACH	**El Canelo**	**1.83**	**147**	*e*P	Pn	04 46 17.2	+1.8
CACH				*i* S	Sn	04 46 41.9	+4.1
CICH	**Cipreses**	**2.08**	**147**	*e*P	Pn	04 46 20.3	+1.4
SFDO	**San Fernando**	**2.13**	**162**	*i* P	Pn	04 46 20.3	+0.8

*NIED **31** 04:50:00, 3300N×13140E, h110km, Mw3.9 Best double couple: M0 7.71000×10^14 NP1:ϕs173.00000°, δ49.00000°, λ68.00000°. NP2:ϕs25.00000°, δ46.00000°, λ113.00000°.*
*ISCJB **31** 04:50:09.4±0.6, 3300N±007×1313E±01, h127km±4km, mb3.7/6, Error ellipse: s-maj=16.7km s-min=10.7km az=57.4*
*JMA **31** 04:50:10.4±0.1, 3303N×13136E, h117km±1km, M3.6*
JMA Felt II J1.
*NEIC **31** 04:50:10.4, 3303N×13136E, h118km, mb3.8/1, After JMA.*
*IDC **31** 04:50:14.5±6.2, 3317N×13154E, h170km±74km, mb3.2/5, mb1 3.3/6, mb1mx3.2/21, mbtmp3.7/6, Error ellipse: s-maj=69.2km s-min=17.4km az=60.0*

ISC 31 04:50:10.5±0.5, 3303N±008×1313E±01, h121km±5km, n13, σ0 s72/18, mb3.7/6, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OIT2	**Oita 2**	**0.30**	**35**	P	**Pn**	**04 50 27.3**	**-0.2**
OIT2				S	**Sn**	**04 50 40.1**	**-0.3**
JUS	**Usuki**	**0.42**	**85**	P	**Pn**	**04 50 27.2**	**-0.9**
JIU2	**Izumi 2**	**0.61**	**217**	P	**Pn**	**04 50 29.3**	**+0.1**
JIU2				*e*S	**Sn**	**04 50 43.6**	**+0.2**
JTZ	**Takazaki**	**1.14**	**187**	P	**Pn**	**04 50 33.8**	**-0.2**
JTZ				S	**Sn**	**04 50 52.3**	**+0.5**
MAT	**Matsushiro**	**6.71**	**57**	P	**Pn**	**04 51 46.8**	**+0.3**
MAT				*e*S	**Sn**	**04 52 52.3**	**-9.2**
MAT	**Matsushiro**	**6.71**	**57**	*e*P	**Pn**	**04 51 47.0**	**+0.5**
MAT				S	**Sn**	**04 52 52.0**	**-9.5**
MJAR	**Matsushiro Arr**	**6.71**	**57**	P	**Pn**	**04 51 47.3**	**+0.8**
	2.0nm,0.3s,baz=243,slow=14,SNR=12						
ULN	**Ulaanbaatar**	**23.50**	**316**	⇑*e*P	**P**	**04 55 10.1**	**+0.9**
	2.5nm,0.6s,mb3.7						
SONM	**Songino Array**	**23.87**	**316**	P	**P**	**04 55 13.2**	**+0.6**
	2.8nm,0.7s,mb3.7,baz=129,slow=10,SNR=21						
MKAR	**Makanchi Array**	**39.36**	**305**	P	**P**	**04 57 27.9**	**0.0**
	1.0nm,0.9s,mb3.6,baz=82,slow=11,SNR=6.1						
WRA	**Warramunga Arr**	**52.76**	**176**	P	**P**	**04 59 11.9**	**-1.0**
	0.5nm,0.8s,mb3.6,baz=353,slow=7.9,SNR=4.7						
ASAR	**Alice Springs**	**56.44**	**177**	P	**P**	**04 59 40.0**	**+0.6**
	0.5nm,0.6s,mb3.8,baz=10,slow=13,SNR=8.1						
FINES	**FINESS Array B**	**68.27**	**330**	P	**P**	**05 00 56.4**	**-1.8**
	0.4nm,0.4s,mb3.6,baz=64,slow=4.4,SNR=3.4						

*IDC **31** 05:20:32.2±1.2, 1573N×9057W, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.1/21, mbtmp4.0/11, ML3.7/1, MS3.5/8, Ms1 3.5/8, ms1mx3.2/27, Error ellipse: s-maj=30.3km s-min=16.8km az=28.0*
*MEX **31** 05:20:33.6±0.5, 1556N×9044W, h123km±20km, MD4.7*
*CASC **31** 05:20:34.2±3.5, 1583N×9136W, h124km±34km, MD4.5, mb4.3(NEIC)*
*ISCJB **31** 05:20:37.6±0.3, 1604N±003×9066W±003, h33km, mb4.2/19, MS3.5/7, Error ellipse: s-maj=4.7km s-min=4.2km az=105.7*
*NEIC **31** 05:20:37.8±0.5, 1587N×9055W, h35km, mb4.3/15, MD4.7(MEX), Error ellipse: s-maj=8.6km s-min=6.3km az=196.0*

ISC 31 05:20:39.0±0.3, 1597N±003×9063W±003, h35km, n84, σ1 s23/91, mb4.2/19, MS3.5/7, 3C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TP2	**Tecpan 2**	**1.24**	**198**	⇓*e*P	**Pn**	**05 20 58.0**	**-1.9**
TP2				*e*S	**Sn**	**05 21 16.8**	**+1.4**
GCG	**Guatemala City**	**1.38**	**176**	⇑*e*P	**Pn**	**05 21 01.5**	**-0.3**
CCIG	**Comitan**	**1.48**	**282**	*i* P	**Pn**	**05 21 03.8**	**+0.6**
CCIG				*i* S	**Sn**	**05 21 26.7**	**+5.4**
IXG	**Ixpaco**	**1.80**	**175**	*e*P	**Pn**	**05 21 07.3**	**-0.2**
IXG				*e*S	**Sn**	**05 21 33.8**	**+4.7**
SCX	**San Cristobal**	**2.07**	**292**	*i* P	**Pn**	**05 21 11.3**	**+0.1**
SCX				*i* S	**Sn**	**05 21 42.5**	**+6.7**
RTR	**El Retiro**	**2.27**	**155**	*e*P	x	05 21 32.0	
RTR				*e*S	x	05 22 05.0	
SNJE	**San Jose**	**2.31**	**155**	⇓*e*P	x	05 21 33.3	
SNJE				*e*S	x	05 22 04.8	
SBLS	**San Blas**	**2.33**	**155**	*e*P	x	05 21 33.3	
SBLS				*e*S	x	05 22 04.0	
BOQS	**Boqueron**	**2.58**	**149**	*e*P	x	05 21 38.5	
BOQS				*e*S	x	05 22 13.3	
LFU	**La Fuente**	**2.65**	**146**	⇑*e*P	x	05 21 41.1	
LFU				*e*S	x	05 22 16.0	
LBRS	**Las Brisas**	**2.70**	**145**	*e*P	x	05 21 38.4	
LBRS				*e*S	x	05 22 16.1	
LFRS	**El Faro**	**2.79**	**147**	*e*P	x	05 21 39.7	
LFRS				*e*S	x	05 22 19.1	
LCBS	**La Ceiba**	**2.80**	**145**	⇑*e*P	x	05 21 37.6	
LCBS				*e*S	x	05 22 18.4	
SNVI	**San Vicente**	**2.92**	**143**	*e*P	x	05 21 44.4	
SNVI				*e*S	x	05 22 23.7	
CNCH	**Conchagua**	**3.81**	**134**	⇓*e*P	x	05 22 01.7	
CNCH				*e*S	x	05 22 52.9	
TUIG	**Tuzandepetl**	**4.17**	**300**	*i* P	**Pn**	**05 21 38.7**	**-1.3**
TUIG				*i* S	**Sn**	**05 22 32.4**	**+4.8**
TUIG	**Tuzandepetl**	**4.17**	**300**	*i* P	**Pn**	**05 21 49.0**	**+8.9**
TUIG				*i* S	Sn	05 22 51.9	+24
CMIG	**Matias Romero**	**4.23**	**286**	Pn	**Pn**	**05 21 40.5**	**-0.4**
	4.3nm,0.3s,baz=102,slow=5.9,SNR=12						
CMIG				Pg	**Pn**	**05 21 52.9**	**+12**
	18nm,0.3s,baz=92,slow=15,SNR=46						
CMIG				Lg		05 22 48.8	
	53nm,0.3s,baz=45,slow=18,SNR=5.5						
CMIG				LR	LR	05 23 39.4	
	comp=Z,625nm,18.2s,baz=98,slow=43						
CMIG	**Matias Romero**	**4.23**	**286**	*i* P	**Pn**	**05 21 38.3**	**-2.7**
CMIG				*i* S	**Sn**	**05 22 28.8**	**-0.3**
CMIG	**Matias Romero**	**4.23**	**286**	Pn	**Pn**	**05 21 40.5**	**-0.4**
CMIG				Pg	**Pn**	**05 21 52.9**	**+12**
CMIG				*i* S	**Sn**	**05 22 26.7**	**-2.4**
CMIG				Lg		05 22 48.8	
CMIG				LR	LR	05 23 39.4	
TEIG	**Tepich**	**4.78**	**28**	*i* P	**Pn**	**05 21 46.6**	**-1.9**
TEIG				*i* S	**Sn**	**05 22 42.8**	**0.0**
TEIG	**Tepich**	**4.78**	**28**	*e*Pn	**Pn**	**05 21 47.0**	**-1.6**
TEIG				*e*Sn	**Sn**	**05 22 39.6**	**-3.1**
HUIG	**Huatulco**	**5.28**	**269**	*i* P	**Pn**	**05 21 53.7**	**-1.6**
HUIG				*i* S	**Sn**	**05 22 54.2**	**-0.7**
OXX	**Oaxaca**	**5.95**	**282**	*i* P	**Pn**	**05 22 00.5**	**-4.1**
VHO	**Vista Hermosa**	**5.96**	**281**	*i* P	**Pn**	**05 22 02.2**	**-2.5**
VHO				*i* S	**Sn**	**05 23 11.8**	**+0.1**
VHO	**Vista Hermosa**	**5.96**	**281**	*i* P	**Pn**	**05 22 05.0**	**+0.3**
VHO				*i* S	**Sn**	**05 23 11.8**	**+0.1**
TPIG	**Tehuac#an**	**6.88**	**292**	*i* P	**Pn**	**05 22 16.2**	**-1.1**
TPIG				*i* S	**Sn**	**05 23 35.0**	**+0.7**
UTMO	**Huajuapan**	**7.11**	**286**	*e*P	**Pn**	**05 22 18.5**	**-2.0**
PPM	**Popocatepetl**	**8.23**	**293**	*i* P	**Pn**	**05 22 36.0**	**+0.2**
PPM				*e*P		05 22 44.0	
PPM				*i* S	**Sn**	**05 24 05.0**	**-2.5**
PPM	**Popocatepetl**	**8.23**	**293**	*i* P	**Pn**	**05 22 37.3**	**+1.4**
PPM				*i* S	**Sn**	**05 24 05.0**	**-2.5**
ACX	**Acapulco**	**8.96**	**277**	*e*P	**Pn**	**05 22 53.0**	**+7.2**
HKT	**Hockley**	**14.71**	**342**	*e*Pn	**Pn**	**05 24 03.9**	**-0.5**
JCT	**Junction City**	**16.71**	**331**	*e*Pn	**Pn**	**05 24 29.1**	**-1.2**
	13nm,1.0s						
OXF	**Oxford**	**18.49**	**3**	*e*Pn	**Pn**	**05 24 52.1**	**-0.2**
	8.9nm,0.5s						
GOGA	**Godfrey**	**18.53**	**19**	*e*P	**Pn**	**05 24 51.9**	**-0.9**
	385nm,1.6s						
UALR	**University of**	**18.79**	**356**	*e*Pn	**Pn**	**05 24 55.6**	**-0.3**
PLAL	**Pickwick Lake**	**19.07**	**6**	*e*Pn	**Pn**	**05 24 58.0**	**-1.3**
ROSC	**El Rosal**	**19.45**	**123**	P	**Pn**	**05 25 05.0**	**+1.2**
	0.2nm,0.3s,baz=112,slow=19,SNR=11						
ROSC	**El Rosal**	**19.45**	**123**	*e*P	**Pn**	**05 25 01.9**	**-1.9**
SWET	**Sewanee**	**19.62**	**12**	*e*Pn	**Pn**	**05 25 04.8**	**-1.0**
OTAV	**Otavalo**	**19.72**	**141**	*e*P	**Pn**	**05 25 08.4**	**+1.3**
	7.6nm,1.3s						
WVT	**Waverly**	**20.23**	**7**	*e*P	**P**	**05 25 10.8**	**-0.1**
	7.0nm,1.0s						
WVT				*e*S	**S**	**05 28 55.3**	**-0.7**
GDL2	**Guadalupe Moun**	**20.41**	**325**	*e*Pn	**P**	**05 25 15.1**	**+2.1**
SDV	**Santo Domingo**	**20.75**	**107**	P	**P**	**05 25 17.2**	**+0.6**
	17nm,0.6s,baz=329,slow=7.8,SNR=5.5						
SDV	**Santo Domingo**	**20.75**	**107**	P	**P**	**05 25 12.9**	**-3.7**
	18nm,0.7s						
AMTX	**Amarillo**	**21.28**	**334**	*e*P	**P**	**05 25 22.9**	**+0.5**
CCM	**Cathedral Cave**	**22.00**	**359**	*e*P	**P**	**05 25 30.0**	**-0.1**
	21nm,1.1s,mb4.5						
USIN	**University of**	**22.06**	**6**	*e*P	**P**	**05 25 31.4**	**+0.7**
	21nm,0.8s,mb4.6						
WCI	**Wyandotte Cave**	**22.50**	**9**	*e*P	**P**	**05 25 35.5**	**+0.1**
	12nm,0.9s,mb4.3						
BNM	**Barren Site**	**23.13**	**324**	*e*P	**P**	**05 25 43.6**	**+1.6**
LPM	**Los Pinos Moun**	**23.25**	**325**	*e*P	**P**	**05 25 44.1**	**+0.8**
LENM	**Lemitar**	**23.34**	**324**	*e*P	**P**	**05 25 46.0**	**+1.8**
BLO	**Bloomington**	**23.39**	**8**	*e*P	**P**	**05 25 44.8**	**+0.1**
SJG	**San Juan**	**23.50**	**81**	P	**P**	**05 25 46.2**	**+0.5**
	14nm,1.0s,mb4.4						
LAZ	**Ladron**	**23.60**	**324**	*e*P	**P**	**05 25 48.1**	**+1.4**
KSU1	**Kansas State U**	**23.63**	**348**	*e*P	**P**	**05 25 45.6**	**-1.4**
ANMO	**Albuquerque**	**23.63**	**326**	P	**P**	**05 25 48.1**	**+1.1**
	2.7nm,1.0s,mb3.6,baz=147,slow=13,SNR=7.4						
ANMO	**Albuquerque**	**23.63**	**326**	*e*P	**P**	**05 25 48.2**	**+1.3**
	11nm,1.4s,mb4.1						
TUC	**Tucson**	**24.48**	**315**	*e*P	**P**	**05 25 55.0**	**+0.3**
	13nm,1.5s,mb4.1						
ACSO	**Alin Creek Sta**	**25.07**	**14**	*e*P	**P**	**05 26 00.7**	**+0.7**
	7.1nm,0.9s,mb4.2						
ATAH	**Atahualpa**	**25.84**	**151**	LR	LR	05 35 29.7	
	comp=Z,57nm,18.4s,MS3.1,baz=207,slow=35						
ISCO	**Idaho Springs**	**27.10**	**334**	*e*P	**P**	**05 26 19.4**	**+0.9**
	8.2nm,1.5s,mb4.0						
PV01	**Paradox Valley**	**27.15**	**328**	P	**P**	**05 26 20.4**	**+1.6**
ARUT	**Antelope Range**	**29.62**	**322**	*e*P	**P**	**05 26 42.3**	**+1.4**
SHPR	**Sheep Range**	**29.89**	**318**	*e*P	**P**	**05 26 44.6**	**+1.4**
SADO	**Sadowa**	**30.30**	**16**	P	**P**	**05 26 46.9**	**0.0**
	2.6nm,0.7s,mb4.0,baz=240,slow=11,SNR=3.0						
SADO				LR	LR	05 39 01.7	
	comp=Z,136nm,20.5s,MS3.6,baz=270,slow=36						
PDAR	**Pinedale Array**	**31.23**	**333**	P	**P**	**05 26 56.4**	**+1.3**
	0.2nm,0.7s,mb3.1,baz=119,slow=12,SNR=2.5						
DAC	**Darwin (Calif)**	**31.37**	**315**	*e*P	**P**	**05 26 59.6**	**+3.3**
REDW	**Red Top Meadow**	**32.29**	**332**	*e*P	**P**	**05 27 05.5**	**+1.1**
	5.3nm,0.8s,mb4.4						
SNOW	**Snow King Moun**	**32.32**	**332**	*e*P	**P**	**05 27 07.1**	**+2.4**
RRI2	**Red Ridge**	**32.49**	**331**	*e*P	**P**	**05 27 05.3**	**-0.8**
MOOW	**Moose Ponds**	**32.54**	**332**	*e*P	**P**	**05 27 10.6**	**+4.0**
NVAR	**Mina Array Bea**	**33.04**	**318**	P	**P**	**05 27 11.7**	**+0.7**
	2.9nm,0.9s,mb4.2,baz=123,slow=9.8,SNR=13						
ULM	**Lac du Bonnet**	**34.45**	**354**	P	**P**	**05 27 22.1**	**-1.1**
	5.6nm,1.0s,mb4.5,baz=176,slow=6.2,SNR=7.1						
ULM				LR	LR	05 42 32.8	
	comp=Z,65nm,20.0s,MS3.4,baz=178,slow=38						
HRY	**Holter Researc**	**35.36**	**335**	*e*P	**P**	**05 27 29.0**	**-2.1**
SAML	**Samuel**	**36.76**	**130**	*e*P	**P**	**05 27 40.5**	**-2.6**
	16nm,1.4s,mb4.7						
LPAZ	**La Paz**	**38.99**	**144**	P	**P**	**05 27 58.8**	**-3.2**
	0.5nm,0.6s,mb3.4,baz=320,slow=7.9,SNR=3.3						
LPAZ				LR	LR	05 45 09.2	
	comp=Z,58nm,21.6s,MS3.4,baz=205,slow=38						
EDM	**Edmonton**	**41.23**	**339**	*e*P	**P**	**05 28 20.1**	**-0.4**
YKA	**Yellowknife Ar**	**49.44**	**346**	P	**P**	**05 29 25.0**	**-0.5**
	2.2nm,0.8s,mb4.2,baz=144,slow=8.3,SNR=16						
YKA				LR	LR	05 52 05.2	
	comp=Z,33nm,18.2s,MS3.4,baz=125,slow=38						
DLBC	**Dease Lake**	**51.42**	**335**	*e*P	**P**	**05 29 42.0**	**+1.5**
NB2	**NORSAR Subarra**	**81.79**	**29**	P	**P**	**05 32 55.1**	**+0.9**
	comp=Z,1.4nm,0.7s,mb4.0,baz=288,slow=5.3						
NOA	**NORSAR Array B**	**81.79**	**29**	P	**P**	**05 32 55.5**	**+1.3**
	comp=Z,2.2nm,0.8s,mb4.2,baz=289,slow=5.2,SNR=9.5						
ARCES	**ARCESS Array B**	**83.86**	**19**	P	**P**	**05 33 03.9**	**-1.1**
	comp=Z,1.9nm,0.6s,mb4.4,baz=308,slow=4.0,SNR=8.9						
ARCES				LR	LR	06 08 56.1	
	comp=Z,52nm,20.1s,MS3.9,baz=107,slow=34						
GERES	**GERESS Array B**	**87.25**	**40**	P	**P**	**05 33 21.7**	**-0.1**
	comp=Z,0.6nm,0.8s,mb3.9,baz=228,slow=1.6,SNR=6.1						
GERES				LR	LR	06 17 20.4	
	comp=Z,27nm,18.0s,MS3.7,baz=310,slow=39						

*ISCJB **31** 06:16:29.8±0.3, 1.17N±006×12088E±009, h10km, mb4.5/32, MS3.8/13, Error ellipse: s-maj=14.9km s-min=5.2km az=123.8*
*IDC **31** 06:16:29.9±0.6, 122N×12093E, h0km, mb4.3/14, mb1 4.5/15, mb1mx4.4/22, mbtmp4.4/15, ML4.7/1, MS3.8/13, Ms1 3.8/13, ms1mx3.7/27, Error ellipse: s-maj=29.3km s-min=12.7km az=68.0*
*MOS **31** 06:16:32.9±0.6, 124N×12097E, h33km, mb4.7/10, Error ellipse: s-maj=21.7km s-min=9.0km az=117.3*
*BJI **31** 06:16:33.1, 078N×12076E, h48km, mB4.9, mb4.6, Ms4.4, Msz4.1*
*NEIC **31** 06:16:34.4±0.3, 1.17N×12088E, h30km, mb4.8/19, Error ellipse: s-maj=13.4km s-min=4.6km az=59.0*
NEIC Felt [III] at Tolitoli.

ISC 31 06:16:31.8±3.3, 115N±006×12087E±010, h10km±20km, n67, σ0 s93/64, mb4.5/32, MS3.8/13, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TSM	**Tawau**	**4.32**	**316**	P	**Pn**	**06 17 35.6**	**-2.0**
KKM	**Kota Kinabalu**	**6.72**	**316**	P	**Pn**	**06 18 11.2**	**+0.7**
KKM	**Kota Kinabalu**	**6.72**	**316**	*e*Pn	**Pn**	**06 18 10.1**	**-0.4**
KKM				*e*Sn	**Sn**	**06 19 22.8**	**-4.4**
KAKA	**Kakadu**	**17.93**	**141**	*e*P	**Pn**	**06 20 43.4**	**+2.1**
	45nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.70**	**166**	⇓*i*P	**Pn**	**06 21 02.0**	**-0.7**
	68nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.70**	**166**	P	**Pn**	**06 21 03.0**	**+0.3**
	1.7nm,0.3s,baz=3.5,slow=9.0,SNR=80						
FITZ				LR	LR	06 29 34.7	
	comp=Z,337nm,21.4s,baz=356,slow=40						
PSI	**Prapat**	**21.99**	**275**	P	**P**	**06 21 27.5**	**+1.4**
	5.9nm,0.8s,mb4.1,baz=84,slow=7.2,SNR=5.2						
PSI				LR	LR	06 31 09.6	
	comp=Z,315nm,18.4s,MS3.8,baz=282,slow=40						
WRAB	**Tennant Creek**	**24.78**	**148**	*e*P	**P**	**06 21 53.5**	**-0.2**
WRAB				*e*		06 22 10.9	
WRAB				pmax	pmax		
	comp=Z,82nm,1.0s,mb5.2						
WRAB	**Tennant Creek**	**24.78**	**148**	*e*P	**P**	**06 21 53.5**	**-0.2**
	comp=Z,82nm,1.0s,mb5.2						
WRAB				*e*		06 22 10.9	
WRA	**Warramunga Arr**	**24.78**	**148**	P	**P**	**06 21 53.6**	**-0.1**
	comp=Z,40nm,0.8s,mb5.0,baz=330,slow=10,SNR=225						
WB2	**Warramunga Arr**	**24.79**	**148**	*e*P	**P**	**06 21 51.4**	**-2.4**
JOW	**Kunigami**	**26.50**	**15**	LR	LR	06 31 42.5	
	comp=Z,321nm,20.5s,MS3.9,baz=148,slow=34						
GUMO	**Guam**	**26.77**	**61**	LR	LR	06 32 12.5	
	comp=Z,130nm,19.6s,MS3.5,baz=250,slow=35						
AS31	**Alice Springs**	**27.73**	**154**	*e*P	**P**	**06 22 21.1**	**+0.7**
ASPA	**Alice Springs**	**27.73**	**154**	*e*P	**P**	**06 22 21.1**	**+0.7**
ASAR	**Alice Springs**	**27.74**	**154**	P	**P**	**06 22 21.0**	**+0.6**
	comp=Z,8.7nm,0.8s,mb4.5,baz=330,slow=7.4,SNR=92						
ASAR				LR	LR	06 33 29.0	
	comp=Z,283nm,21.6s,MS3.8,baz=335,slow=37						
FORT	**Forrest**	**32.48**	**168**	*e*P	**P**	**06 23 02.1**	**-0.4**
	comp=Z,22nm,0.6s,mb5.2						
CTA	**Charters Tower**	**32.63**	**132**	*e*P	**P**	**06 22 59.2**	**-4.5**
	comp=Z,11nm,1.8s,mb4.5						
CTA	**Charters Tower**	**32.63**	**132**	P	**P**	**06 23 05.0**	**+1.3**
	comp=Z,4.6nm,0.8s,mb4.5,baz=312,slow=11,SNR=4.7						
CTA	**Charters Tower**	**32.63**	**132**	*e*P	**P**	**06 22 59

BVAR				LR	LR	06 59 16.1		
	comp=Z,62nm,20.1s,MS3.8,baz=229,slow=39							
BRVK	**Borovoye**	**66.48**	**329**	*e*P	**P**	**06 27 21.3**	**-0.2**	
BRVK				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1							
BRVK	**Borovoye**	**66.48**	**329**	*e*P	**P**	**06 27 21.3**	**-0.2**	
	comp=Z,0.9nm,0.5s,mb4.1							
ZRNK	**Zerenda**	**67.08**	**329**	*e*P	**P**	**06 27 24.7**	**-0.6**	
ZRNK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4							
ZRNK	**Zerenda**	**67.08**	**329**	*e*P	**P**	**06 27 24.7**	**-0.6**	
	comp=Z,2.8nm,0.8s,mb4.3							
AKTK	**Aktyubinsk**	**72.11**	**323**	P	**P**	**06 27 56.1**	**-0.3**	
AKTO	**Aktyubinsk**	**72.11**	**323**	P	**P**	**06 27 56.1**	**-0.3**	
	comp=Z,0.7nm,0.7s,mb3.7,baz=37,slow=5.1,SNR=2.9							
MAW	**Mawson**	**79.36**	**199**	P	**P**	**06 28 37.6**	**-0.3**	
	comp=Z,5.3nm,1.0s,mb4.4,baz=37,slow=7.2,SNR=10							
MAW	**Mawson**	**79.36**	**199**	*e*P	**P**	**06 28 37.0**	**-0.9**	
MAW				pmax	pmax			
	comp=Z,8.0nm,1.0s							
MAW	**Mawson**	**79.36**	**199**	*e*P	**P**	**06 28 37.0**	**-0.9**	
	comp=Z,8.4nm,1.0s,mb4.6							
VNDA	**Vanda**	**81.68**	**172**	P	**P**	**06 28 49.4**	**-1.0**	
	comp=Z,4.0nm,0.8s,mb4.4,baz=313,slow=6.2,SNR=17							
VNDA				LR	LR	07 03 41.8		
	comp=Z,108nm,18.3s,MS4.2,baz=312,slow=35							
VNDA	**Vanda**	**81.68**	**172**	*e*P	**P**	**06 28 49.1**	**-1.2**	
VNDA				*e**PP	pP	06 28 58.3	+4.7	
VNDA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
VNDA	**Vanda**	**81.68**	**172**	*e*P	**P**	**06 28 49.1**	**-1.3**	
	comp=Z,3.7nm,0.9s,mb4.3							
VNDA				*e*pP	pP	06 28 58.3	+4.7	
SBA	**Scott Base**	**82.65**	**171**	*e*P	**P**	**06 28 55.1**	**-0.3**	
SBA				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.6							
SBA	**Scott Base**	**82.65**	**171**	*e*P	**P**	**06 28 55.1**	**-0.4**	
	comp=Z,6.7nm,1.1s,mb4.6							
KMBO	**Kilima Mbogo**	**83.64**	**269**	LR	LR	07 06 31.3		
	comp=Z,91nm,18.5s,MS4.2,baz=88,slow=36							
BRTR	**Keskin Array B**	**87.14**	**310**	P	**P**	**06 29 17.2**	**-0.8**	
	comp=Z,1.1nm,0.8s,mb4.2,baz=103,slow=5.5,SNR=6.3							
BRTR				LR	LR	07 16 41.8		
	comp=Z,26nm,19.8s,MS3.6,baz=280,slow=42							
ARCES	**ARCESS Array B**	**90.81**	**340**	LR	LR	07 14 09.0		
	comp=Z,57nm,19.3s,MS4.0,baz=98,slow=38							
QSPA	**South Pole Qui**	**91.08**	**180**	*e*P	**P**	**06 29 35.9**	**-0.7**	
	comp=Z,6.1nm,1.1s,mb4.8							

CASC 31 06:18:45.4±2.7, 1296N×8901W, h37km±14km, MD3.8, ML2.8, 7C-7D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.66**	**356**	*i*P	x	06 19 15.8	
LFRS				*e*S	x	06 19 25.1	
SNVI	**San Vicente**	**0.67**	**14**	*e*P	x	06 19 16.1	
SNVI				*e*S	x	06 19 26.5	
LCBS	**La Ceiba**	**0.69**	**3**	*e*P	x	06 19 16.1	
LCBS				*e*S	x	06 19 25.7	
SNET	**Serv Nac Est T**	**0.75**	**343**	*e*P	x	06 19 25.3	
SNET				*e*S	x	06 19 40.8	
LBRS	**Las Brisas**	**0.77**	**358**	*e*P	x	06 19 17.5	
LBRS				*e*S	x	06 19 30.8	
LFU	**La Fuente**	**0.79**	**353**	*e*P	x	06 19 17.7	
LFU				*e*S	x	06 19 29.4	
BOQS	**Boqueron**	**0.81**	**341**	*e*P	x	06 19 18.1	
BOQS				*e*S	x	06 19 29.8	
VSM	**San Miguel**	**0.85**	**57**	*e*P	x	06 19 19.2	
VSM				*e*S	x	06 19 32.3	
BLLM	**Bellamira**	**0.89**	**58**	*e*P	x	06 19 19.5	
BLLM				*e*S	x	06 19 32.8	
SBLS	**San Blas**	**1.06**	**326**	*e*P	x	06 19 21.5	
SBLS				*e*S	x	06 19 35.5	
SNJE	**San Jose**	**1.07**	**327**	*e*P	x	06 19 21.7	
SNJE				*e*S	x	06 19 37.1	
RTR	**El Retiro**	**1.12**	**326**	*e*P	x	06 19 22.5	
RTR				*e*S	x	06 19 38.3	
CNCH	**Conchagua**	**1.19**	**75**	*e*P	x	06 19 23.4	
CNCH				*e*S	x	06 19 38.7	
RBDL	**Robledal**	**1.32**	**330**	*e*P	x	06 19 25.3	
RBDL				*e*S	x	06 19 42.4	
IXG	**Ixpaco**	**1.85**	**311**	*e*P	Pn	06 19 14.6	0.0
IXG				*e*S	Sn	06 19 37.1	+0.3
TP2	**Tecpan 2**	**2.66**	**313**	*e*S	Sn	06 20 00.2	+3.4

*IDC **31** 07:35:16.6±1.0, 3703N×2774E, h0km, mb3.7/4, mb1 3.8/9, mb1mx3.6/24, mbtmp3.7/9, ML3.8/5, Error ellipse: s-maj=24.2km s-min=16.4km az=141.0*
*ISK **31** 07:35:17.8, 3691N×2787E, h15km, MD3.6*
*ISCJB **31** 07:35:17.4±0.4, 3688N±002×2787E±002, h12km±3km, mb3.7/4, Error ellipse: s-maj=3.0km s-min=2.7km az=37.3*
*CSEM **31** 07:35:17.8±0.1, 3691N×2789E, h15km, Mw3.4, Error ellipse: s-maj=1.9km s-min=1.4km az=15.0*
*MOS **31** 07:35:17.3±1.7, 3697N×2787E, h11km, mb4.1/1, Error ellipse: s-maj=12.7km s-min=10.0km az=83.7*
*NEIC **31** 07:35:18.6, 3690N×2783E, h26km, MD3.2(ISK), MD3.8(ATH), ML3.1(NIC), After ATH,*
*ATH **31** 07:35:18.5, 3688N×2781E, h25km±1km, MD3.7/10*
*NIC **31** 07:35:21.9±0.3, 3699N×2790E, h25km, ML3.1, MW3.4*
*HLW **31** 07:35:25.4, 3647N×2798E, h33km, Mb3.8*

ISC 31 07:35:18.6±0.3, 3689N±002×2783E±002, h10km±3km, n84, σ1§06/114, mb3.7/4, 5C-3D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.26**	**232**	*i*PG	**Pg**	**07 35 24.7**	**+0.8**
DAT				*i*SG	**Sg**	**07 35 29.2**	**+1.8**
MLSB	**Milas**	**0.41**	**354**	PG	**Pg**	**07 35 26.2**	**-0.5**
MLSB	**Milas**	**0.41**	**354**	Pg	**Pg**	**07 35 25.1**	**-1.5**
YER	**Yerkesik**	**0.44**	**56**	PG	**Pg**	**07 35 26.5**	**-0.7**
YER				SG	**Sg**	**07 35 32.3**	**-0.7**
YER	**Yerkesik**	**0.44**	**56**	Pg	**Pg**	**07 35 26.3**	**-0.9**
YER				Sg	**Sg**	**07 35 32.3**	**-0.7**
YER	**Yerkesik**	**0.44**	**56**	*e*Pg	**Pg**	**07 35 26.5**	**-0.7**
YER				*e*Sg	**Sg**	**07 35 32.3**	**-0.7**
BODT	**Bodrum**	**0.45**	**293**	PG	**Pg**	**07 35 27.8**	**+0.3**
BODT				SG	**Sg**	**07 35 34.5**	**+1.0**
BODT	**Bodrum**	**0.45**	**293**	Pg	**Pg**	**07 35 27.4**	**-0.1**
BODT				Sg	**Sg**	**07 35 34.4**	**+0.9**
BODT	**Bodrum**	**0.45**	**293**	Pg	**Pg**	**07 35 27.4**	**-0.1**
BODT				Sg	**Sg**	**07 35 34.4**	**+0.9**
NISR	**Nisiros**	**0.63**	**244**	*e*PN	**Pg**	**07 35 31.3**	**+0.5**
NISR	**Nisiros**	**0.63**	**244**	*e*Pn	**Pg**	**07 35 31.7**	**+0.9**
DALT	**Dalyan (Mudla)**	**0.66**	**100**	PG	**Pg**	**07 35 30.2**	**-1.2**
DALT	**Dalyan (Mudla)**	**0.66**	**100**	Pg	**Pg**	**07 35 30.6**	**-0.8**
ARG	**Arkhangelos**	**0.71**	**160**	*e*PN	**Pg**	**07 35 32.1**	**-0.3**
ARG				*e*SN	**Sg**	**07 35 42.8**	**+1.1**
AYDN	**Tasoluk**	**0.77**	**3**	*i*P	**Pg**	**07 35 33.3**	**-0.2**
AYDN				*i*S	**Sg**	**07 35 43.8**	**+0.2**
FETY	**Fethiye**	**1.04**	**104**	PG	**Pg**	**07 35 37.8**	**-0.8**
FETY	**Fethiye**	**1.04**	**104**	Pg	**Pg**	**07 35 38.1**	**-0.4**
SMG	**Samos**	**1.14**	**316**	*e*PN	**Pn**	**07 35 40.2**	**-0.4**
SMG				*e*SN	**Sn**	**07 35 56.4**	**+0.2**
DNZL	**Cakiroluk**	**1.26**	**50**	*i*P	**Pn**	**07 35 41.6**	**-0.5**
DNZL				*i*S	**Sb**	**07 35 59.9**	**+1.3**
DENT	**Denizli**	**1.29**	**48**	PN	**Pn**	**07 35 41.9**	**-0.7**
DENT	**Denizli**	**1.29**	**48**	Pn	**Pn**	**07 35 42.0**	**-0.7**
KARP	**Karpathos**	**1.44**	**202**	*e*PN	**Pn**	**07 35 44.6**	**-0.1**
KARP				*e*SN	**Sn**	**07 36 03.9**	**+0.2**
IZM	**Izmir**	**1.57**	**343**	PN	**Pn**	**07 35 45.7**	**-0.8**
IZM	**Izmir**	**1.57**	**343**	Pn	**Pn**	**07 35 45.8**	**-0.8**
IZM	**Izmir**	**1.57**	**343**	Pn	**Pn**	**07 35 45.8**	**-0.7**
KDAG	**Bornova**	**1.58**	**344**	*i*P	**Pn**	**07 35 45.6**	**-1.0**
KDAG				*i*S	**Sg**	**07 36 10.3**	**+0.9**
KSL	**Kastellorizon**	**1.59**	**117**	*e*PN	**Pn**	**07 35 47.6**	**+0.8**
BLCB	**Balcova**	**1.62**	**337**	*e*PN	**Pn**	**07 35 46.2**	**-1.0**
APE	**Apeiranthos**	**1.85**	**276**	*e*PN	**Pn**	**07 35 50.6**	**+0.3**
AKHS	**Akhisar**	**1.99**	**360**	*i*P	**Pn**	**07 35 51.4**	**-0.8**
AKHS				*i*S	**Sg**	**07 36 22.1**	**-0.4**
AKS	**Akhisar**	**1.99**	**360**	*e*PN	**Pn**	**07 35 51.2**	**-1.0**
AKS	**Akhisar**	**1.99**	**360**	Pn	**Pn**	**07 35 51.3**	**-0.9**
AKS	**Akhisar**	**1.99**	**360**	Pn	**Pn**	**07 35 51.3**	**-0.9**
ISP	**Isparta**	**2.34**	**65**	*e*PN	**Pn**	**07 35 56.3**	**-0.7**
ISP	**Isparta**	**2.34**	**65**	Pn	**Pn**	**07 35 56.9**	**-0.1**
NPS	**Neapolis**	**2.42**	**229**	*e*PN	**Pn**	**07 35 58.4**	**+0.2**
NPS	**Neapolis**	**2.42**	**229**	*e*Pb	**Pb**	**07 36 00.5**	**-1.7**
AYVA	**Ayvalik**	**2.58**	**340**	*i*P	**Pg**	**07 36 06.9**	**-1.1**
AYVA				*i*S	**Sg**	**07 36 42.5**	**+1.1**
XRY	**Khrisi**	**2.66**	**221**	*e*PB	**Pb**	**07 36 03.5**	**-2.7**
XRY	**Khrisi**	**2.66**	**221**	*e*Pb	**Pb**	**07 36 04.1**	**-2.1**
PRK	**Paraskevi**	**2.66**	**333**	*e*PN	**Pn**	**07 36 01.3**	**-0.1**
IDI	**Anoyia**	**2.87**	**237**	Pn	**Pn**	**07 36 05.4**	**+1.0**
	4.7nm,0.3s,baz=63,slow=17,SNR=16						
IDI				Sn	**Sn**	**07 36 40.7**	**+1.8**
	6.4nm,0.3s,baz=329,slow=18,SNR=7.0						
BTOK	**Tokmak**	**2.87**	**3**	*i*P	**Pn**	**07 36 06.4**	**+2.0**
BTOK				*i*S	**Sg**	**07 36 51.3**	**+0.4**
BOZC	**Bozcaada**	**3.26**	**335**	*i*P	**Pn**	**07 36 10.1**	**+0.3**
BOZC				*i*S	**Sg**	**07 37 03.3**	**-0.1**
VAM	**Vamos**	**3.29**	**244**	*e*Pb	**Pb**	**07 36 15.0**	**-2.0**
ULDT	**Uludag**	**3.41**	**17**	*i*P	**Pn**	**07 36 11.8**	**0.0**
ULDT				*i*S	**Sg**	**07 37 10.3**	**+2.3**
ESKT	**Eskisehir**	**3.54**	**41**	*i*P	**Pn**	**07 36 09.3**	**-4.4**
ESKT				*i*S	**Sn**	**07 36 54.6**	**-0.9**
SEYT	**Eskypehyr**	**3.54**	**41**	*i*P	**Pn**	**07 36 09.3**	**-4.3**
SEYT				*i*S	**Sn**	**07 36 54.7**	**-0.8**
LIA	**Limnos Island**	**3.66**	**326**	*e*PN	**Pn**	**07 36 15.7**	**+0.6**
KDHN	**Kadinhani**	**3.77**	**63**	*i*P	**Pn**	**07 36 17.9**	**+1.2**
KDHN				*i*S	rx	07 37 47.5	
VLI	**Veliai**	**3.93**	**269**	*e*PN	**Pn**	**07 36 20.7**	**+1.7**
ERMK	**Ermenek**	**4.09**	**92**	*i*P	**Pn**	**07 36 24.1**	**+3.0**
ERMK				*i*S	**Sn**	**07 37 14.4**	**+5.5**
ALFC	**Alevga**	**4.23**	**113**	P	**Pn**	**07 36 23.3**	**+0.2**
	3.0nm,0.3s						
ALFC				S	**Sn**	**07 37 11.8**	**-0.7**
HENT	**Hendek**	**4.60**	**30**	*i*P	**Pg**	**07 36 44.6**	**-2.2**
HENT				*i*S	**Sg**	**07 37 53.1**	**+6.8**
RDO	**Rodhopi**	**4.61**	**338**	*e*PN	**Pn**	**07 36 28.4**	**+0.1**
RDO	**Rodhopi**	**4.61**	**338**	*e*Pn	**Pn**	**07 36 27.6**	**-0.7**
SZAC	**Souni-Zanaja**	**4.62**	**116**	P	**Pn**	**07 36 29.4**	**+0.9**
SZAC				S	**Sn**	**07 37 22.2**	**0.0**
CSS	**Prodhromos**	**4.86**	**112**	P	**Pn**	**07 36 32.7**	**+1.0**
CSS				S	**Sn**	**07 37 28.0**	**0.0**
MEST	**Erdemli**	**5.08**	**92**	*i*P	**Pn**	**07 36 38.2**	**+3.4**
MEST				*i*S	**Sn**	**07 37 35.4**	**+2.0**
BRTR	**Keskin Array B**	**5.37**	**56**	Pn	**Pn**	**07 36 40.0**	**+1.3**
	1.6nm,0.3s,baz=255,slow=15,SNR=27						
BRTR				Sn	**Sn**	**07 37 41.5**	**+0.8**
	0.9nm,0.3s,baz=236,slow=28,SNR=6.4						
SLUM		**5.80**	**203**	⇑P	**Pn**	**07 36 45.2**	**+0.5**
SLUM				S	**Sn**	**07 37 42.8**	**-8.4**
HBRG	**Burj al 'Arab**	**6.52**	**165**	⇓P	**Pn**	**07 36 53.2**	**-1.3**
COBT	**Iskenderun**	**6.78**	**91**	*i*P	**Pn**	**07 37 00.3**	**+2.3**
COBT				*i*S	**Sn**	**07 38 16.9**	**+1.6**
MMAI	**Mount Meron Ar**	**7.32**	**120**	Pn	**Pn**	**07 37 05.0**	**-0.5**
	7.2nm,0.3s,baz=307,slow=12,SNR=16						
MMAI				Sn	**Sn**	**07 38 25.0**	**-3.6**
	10nm,0.3s,baz=312,slow=21,SNR=6.7						
HMYD	**Mayadein**	**7.50**	**160**	P	**Pn**	**07 37 07.4**	**-0.6**
AMAG	**Maghara**	**7.67**	**143**	⇑P	**Pn**	**07 37 10.2**	**-0.1**
KOT	**Kottamia**	**7.70**	**153**	⇓P	**Pn**	**07 37 10.7**	**-0.1**
SWA1		**7.81**	**194**	⇑P	**Pn**	**07 37 12.2**	**-0.1**
SWA1				S	**Sn**	**07 38 30.4**	**-10**
SWA2		**7.88**	**195**	⇑P	**Pn**	**07 37 12.9**	**-0.3**
HSAF	**As Saff**	**7.89**	**156**	P	**Pn**	**07 37 12.4**	**-1.0**
GLL	**Jalalah**	**7.98**	**155**	P	**Pn**	**07 37 13.9**	**-0.7**
SUZ		**8.18**	**148**	⇓*e*P	**Pn**	**07 37 16.6**	**-0.6**
ZAF		**8.55**	**151**	⇑P	**Pn**	**07 37 21.8**	**-0.7**
MLR	**Muntele Rosu**	**8.71**	**351**	Pn	**Pn**	**07 37 21.7**	**-2.9**
	0.5nm,0.3s,baz=142,slow=14,SNR=3.6						
ASF	**Jabal al Asfar**	**8.83**	**120**	Pn	**Pn**	**07 37 26.2**	**-0.1**
	0.8nm,0.3s,baz=202,slow=6.7,SNR=3.5						
CLL	**Collm**	**17.87**	**328**	*e**PP	pP	07 39 32.0	+1.2
CLL	**Collm**	**17.87**	**328**	*e*pP	pP	07 39 32.0	+1.2
FINES	**FINESS Array B**	**24.60**	**358**	P	**P**	**07 40 36.4**	**-2.4**
	0.7nm,0.6s,mb3.4,baz=182,slow=1.5,SNR=2.8						
FINES	**FINESS Array B**	**24.60**	**358**	P	**P**	**07 40 36.4**	**-2.4**
TORD	**Torodi Ar. Bea**	**33.26**	**231**	P	**P**	**07 41 55.5**	**-0.4**
	0.8nm,0.5s,mb3.9,baz=35,slow=8.5,SNR=9.7						
MKAR	**Makanchi Array**	**41.02**	**58**	P	**P**	**07 43 01.5**	**-0.3**
	0.9nm,0.7s,mb3.5,baz=288,slow=6.4,SNR=9.1						
MKAR	**Makanchi Array**	**41.02**	**58**	P	**P**	**07 43 01.5**	**-0.3**
SONM	**Songino Array**	**56.72**	**52**	P	**P**	**07 45 02.3**	**0.0**
	0.7nm,0.5s,mb4.0,baz=288,slow=7.9,SNR=8.7						
SONM	**Songino Array**	**56.72**	**52**	P	**P**	**07 45 02.3**	**-0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						

MAN 31 08:02:46.8, 775N×12481E, h1km, mb2.1, ML3.8, MS2.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.28**	**63**	*e*P	Pg	08 02 52.2	0.0
BUKP				*e*S	Sg	08 03 01.8	+5.9
PAGZ	**Pagadian**	**1.42**	**274**	*e*P	Pn	08 03 13.1	-0.5
BUTP	**Butuan**	**1.45**	**34**	*e*P	Pn	08 03 13.9	-0.3

MAN 31 08:09:24.2, 897N×12630E, h21km, mb3.1, ML4.4, MS1.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.67**	**270**	*e*P	Pb	08 09 37.8	+0.7
BUTP				*e*S	Sb	08 09 48.7	+2.8
SCPH	**Surigao**	**1.14**	**316**	⇓*e*P	Pn	08 09 43.9	-0.9
SCPH				*e*S	Sb	08 10 00.6	+1.2
BUKP	**Musuan**	**1.63**	**229**	*e*P	Pn	08 09 51.5	0.0
BUKP				*e*S	Sn	08 10 13.0	+1.1
CGP	**Cagayan de Oro**	**1.66**	**252**	⇑*e*P	Pn	08 09 57.4	+5.3
CGP				*i*S	Sn	08 10 07.8	-5.0
MSLP	**Maasin**	**1.83**	**309**	*e*P	Pn	08 09 57.9	+3.5
TBP	**Tagbilaran**	**2.51**	**287**	*e*P	Pn	08 10 03.5	-0.1
TBP				*i*S	Sn	08 10 31.0	-2.6
PLP	**Palo**	**2.54**	**329**	*e*P	Pn	08 10 04.5	+0.3
PLP				*e*S	Sn	08 10 36.3	+1.9

IDC 31 08:09:58.9±3.7, 909S×10798E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.6/17, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=146.3km s-min=25.8km az=48.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.35**	**119**	P	Pn	08 14 27.2	+0.3
	0.1nm,0.3s,baz=309,slow=6.5,SNR=4.2						
WRA	**Warramunga Arr**	**27.66**	**116**	P	P	08 15 48.1	-0.2
	0.6nm,0.6s,baz=287,slow=11,SNR=7.2						
SONM	**Songino Array**	**56.69**	**359**	P	P	08 19 44.9	+0.8
	0.3nm,0.5s,baz=176,slow=8.4,SNR=4.1						
MKAR	**Makanchi Array**	**60.16**	**340**	P	P	08 20 08.0	-0.4
	0.7nm,0.5s,baz=147,slow=8.4,SNR=5.6						

IDC 31 08:15:06.3±3.6, 865S×10822E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, Error ellipse: s-maj=177.5km s-min=29.5km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.64**	**117**	P	P	08 20 54.4	-1.2
	0.3nm,0.6s,baz=288,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**28.76**	**124**	P	P	08 21 07.8	+2.2
	0.2nm,0.4s,baz=299,slow=9.5,SNR=4.9						
MKAR	**Makanchi Array**	**59.84**	**340**	P	P	08 25 13.6	0.0
	0.4nm,0.4s,baz=159,slow=8.8,SNR=4.1						

IDC 31 08:18:55.1±3.4, 909S×10791E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=139.2km s-min=24.8km az=52.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.72**	**116**	P	P	08 24 44.7	-0.4
	0.4nm,0.6s,baz=287,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**28.77**	**123**	P	P	08 24 55.6	+1.1
	0.3nm,0.6s,baz=300,slow=9.1,SNR=5.0						
SONM	**Songino Array**	**56.69**	**359**	P	P	08 28 41.3	+1.0
	0.4nm,0.5s,baz=172,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**60.14**	**340**	P	P	08 29 03.7	-0.8
	0.5nm,0.5s,baz=155,slow=7.8,SNR=5.0						

*ISCJB **31** 08:43:38.2±0.3, 4560N±002×287E±002, h5km, Error ellipse: s-maj=2.6km s-min=2.2km az=51.7*
*STR **31** 08:43:39.6±0.1, 4559N×286E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **31** 08:43:40.1±0.1, 4560N×290E, h3km, Md2.4/2, Ml2.4/14, Error ellipse: s-maj=1.4km s-min=1.0km az=98.0*

ISC 31 08:43:39.1±0.3, 4560N±002×287E±003, h16km±4km, n26, σ0§70/46, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYM	**Petit Puy Mans**	**0.18**	**33**	Pg	**Pg**	**08 43 43.9**	**+0.4**
FRNF	**Fournols**	**0.30**	**225**	Pg	**Pg**	**08 43 45.8**	**+0.3**
FRNF				Sg	**Sg**	**08 43 49.8**	**0.0**
VERF	**Verneugheol**	**0.31**	**299**	Pg	**Pg**	**08 43 46.0**	**+0.4**
VERF				Sg	**Sg**	**08 43 50.1**	**+0.1**
LBL	**Lubilhac**	**0.45**	**144**	Pg	**Pg**	**08 43 48.6**	**+0.4**
LBL				Sg	**Sg**	**08 43 54.3**	**-0.1**
AGO	**Saint Agoulin**	**0.49**	**22**	Pg	**Pg**	**08 43 49.5**	**+0.6**
AGO				Sg	**Sg**	**08 43 56.0**	**+0.5**
COLF	**Collangettes**	**0.59**	**98**	Pg	**Pg**	**08 43 51.1**	**+0.4**
COLF				Sg	**Sg**	**08 43 59.0**	**+0.5**
PLDF	**La Plantade**	**0.64**	**55**	Pg	**Pg**	**08 43 52.4**	**+0.6**
PLDF				Sg	**Sg**	**08 44 00.9**	**+0.6**
TCF	**Toulx Ste Croi**	**0.83**	**327**	*e*Pg	**Pg**	**08 43 55.8**	**+0.5**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**08 44 06.6**	**+0.4**
	9.2nm,0.2s						
CAF	**Calviac**	**0.88**	**220**	*e*Sg	**Sg**	**08 44 07.7**	**-0.1**
	12nm,0.2s,SNR=1.0						
CAF				*e*Sn	**Sn**	**08 44 10.5**	**+1.1**
BGF	**Bois d'Agland**	**0.96**	**359**	*e*Pg	**Pg**	**08 43 58.3**	**+0.6**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**08 44 10.5**	**+0.2**
	26nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**1.00**	**253**	*e*Pg	**Pg**	**08 43 59.0**	**+0.6**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**08 44 12.1**	**+0.6**
	9.8nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**1.24**	**16**	*e*Pg	**Pg**	**08 44 03.2**	**+0.2**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**08 44 19.0**	**-0.2**
	4.8nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**1.25**	**33**	*e*Pg	**Pg**	**08 44 03.2**	**0.0**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**08 44 18.7**	**-0.7**
	6.9nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.48**	**120**	*e*Pg	**Pg**	**08 44 07.6**	**+0.1**
VIVF				*e*Sg	**Sg**	**08 44 26.3**	**-0.4**
	7.1nm,0.2s						
SSF	**Saint Saulge**	**1.53**	**17**	*e*Pg	**Pg**	**08 44 07.4**	**-1.1**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**08 44 28.2**	**-0.2**
	9.6nm,0.4s,SNR=1.0						
LFF	**La Frestale**	**1.64**	**247**	*e*Sg	**Sg**	**08 44 32.6**	**+0.6**
	7.4nm,0.3s						
LASF	**Ste Croix**	**1.68**	**155**	*e*Pg	**Pg**	**08 44 11.2**	**-0.2**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**08 44 32.7**	**-0.5**
	3.9nm,0.3s						
LOR	**Lormes**	**1.81**	**22**	*e*Pg	**Pg**	**08 44 12.9**	**-0.9**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**08 44 36.5**	**-0.8**
	3.1nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**2.31**	**192**	*e*Pg	**Pg**	**08 44 23.2**	**-0.2**
MTLF				*e*Sg	**Sg**	**08 44 52.1**	**-1.2**
	1.3nm,0.2s						
MFF	**Saint Martin d**	**2.33**	**297**	*e*Pn	**Pn**	**08 44 18.0**	**+1.2**
MFF				*e*Sn	**Sn**	**08 44 45.6**	**+0.6**
MFF				*e*Sg	**Sg**	**08 44 53.1**	**-0.8**
	3.0nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**2.52**	**129**	*e*Pn	**Pn**	**08 44 19.9**	**+0.5**
	SNR=1.0						
ETSF	**Etsaut**	**3.65**	**224**	*e*Pg	**Pg**	**08 44 48.6**	**-0.5**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**08 45 35.4**	**-1.1**
	1.2nm,0.3s						
GRR	**Gorron**	**3.78**	**319**	*e*Pn	**Pn**	**08 44 36.0**	**-0.8**
	SNR=1.0						
FLN	**La Foliniere**	**3.90**	**325**	*e*Sn	**Sn**	**08 45 21.8**	**-2.2**
	2.5nm,0.2s,SNR=1.0						
**QUI

comp=Z,22nm,0.3s
SIM Simferopol' 2.90 228 *e*P **Pg 09 05 20.6 -0.1**
comp=Z,22nm,0.3s
SIM *e*S **Sb 09 05 53.2 +1.1**
ALU Alushta 2.96 221 *e*P **Pb 09 05 17.5 -0.2**
ALU *e*S **Sn 09 05 50.2 +3.0**
ALU pmax pmax
comp=Z,30nm,0.5s
ALU smax
comp=N,190nm,0.5s
ALU smax
comp=E,190nm,0.6s
ALU Alushta 2.96 221 *e*P **Pb 09 05 17.5 -0.2**
comp=E,30nm,0.5s
ALU *e*S **Sn 09 05 50.2 +3.0**
comp=E,190nm,0.5s
YAL Yalta 3.22 222 *e*P **Pb 09 05 22.7 +0.5**
YAL *e*S **Sb 09 06 00.8 -0.5**
YAL *e*S **Sg 09 06 04.6 -3.9**
YAL Yalta 3.22 222 *e*P **Pb 09 05 22.7 +0.5**
YAL *e*S **Sb 09 06 00.8 -0.5**
SEV Sevastopol' 3.41 227 *e*P **Pn 09 05 19.3 +1.2**
SEV *e*S **Sn 09 05 57.3 -1.1**
SEV pmax pmax
comp=Z,40nm,0.3s
SEV smax
comp=N,70nm,0.3s
SEV smax
comp=E,30nm,0.3s
SEV Sevastopol' 3.41 227 *e*P **Pn 09 05 19.3 +1.2**
comp=E,40nm,0.3s
SEV *e*S **Sn 09 05 57.3 -1.1**
SOC Sochi 3.81 151 *e*P **Pg 09 05 45.0 +6.8**
SOC *e*S **Sn 09 06 08.1 -0.2**
NAGR Nagutskaya 4.66 120 *i*P **Pg 09 05 52.0 -2.4**
KIV Kislovodsk 4.91 125 *de*P **Pb 09 05 50.8 -0.2**
KIV *i*S **Sn 09 06 33.9 -1.5**
SHAR Shatzhatmas 5.04 127 *c i*P **Pn 09 05 43.6 +3.2**
KUBR Kubataba 5.42 123 *i*P **Pn 09 05 46.9 +1.3**
BOYT Boyabat 5.74 197 *i*P **Pn 09 05 51.1 +0.9**
BALT Daday 6.03 208 *i*P **Pn 09 05 55.2 +1.1**
AKASG Malin Array Be 6.44 309 Pn **Pn 09 05 58.8 -1.0**
comp=E,1.9nm,0.3s,baz=124,slow=13,SNR=6.1
AKASG Sn **Sn 09 07 06.6 -6.6**
comp=E,4.0nm,0.3s,baz=126,slow=24,SNR=4.1
AKASG Lg 09 07 40.4
comp=E,17nm,0.3s,baz=122,slow=29,SNR=15
AKASG Malin Array Be 6.44 309 P **Pn 09 05 58.8 -1.0**
AKASG 09 07 06.6
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG smax
comp=N,4.0nm,0.3s
AKASG Malin Array Be 6.44 309 P **Pn 09 05 58.8 -1.0**
comp=N,2.0nm,0.3s
AKASG *e* 09 07 06.6
AKASG Malin Array Be 6.44 309 P **Pn 09 05 58.8 -1.0**
comp=N,2.0nm,0.3s
AKASG S **Sn 09 07 06.6 -6.6**
comp=N,4.0nm,0.3s
CTKT Corum 6.53 196 *i*P **Pn 09 06 02.2 +1.2**
BRTR Keskin Array B 7.64 201 Pn **Pn 09 06 19.0 +2.8**
comp=N,0.1nm,0.3s,baz=315,slow=42,SNR=3.1
BRTR Sn **Sn 09 07 36.9 -5.8**
comp=N,0.1nm,0.3s,baz=37,slow=14,SNR=2.7
MLR Muntele Rosu 7.90 264 Pn **Pn 09 06 20.8 +1.0**
comp=N,0.2nm,0.3s,baz=113,slow=14,SNR=2.6
MLR Sn **Sn 09 07 45.3 -3.8**
comp=N,0.8nm,0.3s,baz=238,slow=10,SNR=2.6
MLR Muntele Rosu 7.90 264 P **Pn 09 06 20.8 +1.0**
MLR 09 07 45.3
MLR smax
comp=N,1.0nm,0.3s
AKTK Aktyubinsk 14.22 68 Pn **Pn 09 07 46.2 -0.1**
AKTK Aktyubinsk 14.22 68 P **Pn 09 07 46.2 0.0**
AKTO Aktyubinsk 14.22 68 Pn **Pn 09 07 46.2 -0.1**
comp=N,0.3nm,0.3s,baz=252,slow=20,SNR=4.3
FINES FINESS Array B 15.88 340 Pn **Pn 09 08 02.8 -5.5**
comp=N,0.1nm,0.3s,baz=150,slow=14,SNR=4.9
FINES Sn **Sn 09 10 51.3 -13**
comp=N,0.2nm,0.3s,baz=156,slow=24,SNR=3.3
FINES FINESS Array B 15.88 340 Pn **Pn 09 08 02.8 -5.5**
FINES Sn **Sn 09 10 51.3 -13**
JOF Joensuu 16.35 350 *ep* **Pn 09 08 17.1 +2.6**
comp=N,0.8nm,0.4s
JOF Joensuu 16.35 350 *e*P **Pn 09 08 17.1 +2.6**
JOF pmax pmax
comp=Z,1.0nm,0.4s
HFS Hagfors 19.06 322 Pn **Pn 09 08 47.1 -0.9**
comp=Z,0.4nm,0.3s,baz=131,slow=17,SNR=4.3
NOA NORSAR Array B 20.58 323 P **P 09 09 03.6 -0.2**
comp=N,0.3nm,0.4s,baz=126,slow=11,SNR=3.4
ARCES ARCESS Array B 23.39 350 P **P 09 09 33.3 -0.6**
comp=Z,2.1nm,0.9s,mb3.5,baz=163,slow=8.7,SNR=5.8

BJI ***31*** *09:19:06.4, 6.15S×102.22E, h26km, mB5.1, mb4.9, Ms4.5, Msz4.3*
IDC ***31*** *09:19:10.7±1.1, 5.31S×102.13E, h0km, mb4.5/12, mb1 4.5/13, mb1mx4.4/21, mbtmp4.5/13, ML3.5/1, MS3.8/7, Ms1 3.8/7, ms1mx3.5/30, Error ellipse: s-maj=43.5km s-min=12.0km az=45.0*
ISCJB ***31*** *09:19:12.4±0.4, 5.40S±0.06×102.11E±0.07, h26km, mb4.7/49, MS4.0/14, Error ellipse: s-maj=10.8km s-min=6.1km az=106.7*
MOS ***31*** *09:19:14.8±1.1, 5.06S×102.34E, h33km, mb4.9/15, Error ellipse: s-maj=14.5km s-min=7.2km az=111.4*
NEIC ***31*** *09:19:14.3±0.3, 5.41S×102.09E, mb4.8/21, Error ellipse: s-maj=11.8km s-min=6.1km az=51.0*
ISC 31 09:19:15.0±0.4, 5.35S±0.05×102.10E±0.06, h27km**,**
h27km**±1.0km:pP-P, n106, σ1§09/97, mb4.7**/49**, MS4.0**/14**,**
6C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSI	**Kapahiang**	**1.75**	**16**	P		**Pn**	**09 19 43.5**	**-0.1**
	0.0nm,0.0s							
PPI	**Padang Panjang**	**5.14**	**341**	P		**Pn**	**09 20 30.2**	**0.0**
	0.0nm,0.0s							
LEM	**Lembang**	**5.68**	**105**	P		**Pn**	**09 20 48.9**	**+11**
	0.0nm,0.0s							
COCO	**West Island**	**8.56**	**217**	*e*Pn		**Pn**	**09 21 14.8**	**-2.3**
PSI	**Prapat**	**8.69**	**339**	Pn		**Pn**	**09 21 16.5**	**-2.4**
	0.5nm,0.3s,baz=180,slow=9.5,SNR=11							
PSI				LR		LR	09 25 24.7	
	comp=Z,1μm,20.4s,baz=151,slow=44							
PSI	**Prapat**	**8.69**	**339**	Pn		**Pn**	**09 21 16.5**	**-2.4**
PSI				LR		LR	09 25 24.7	
CHTO	**Chiang Mai**	**24.21**	**353**	*e*P		**P**	**09 24 29.7**	**+0.5**
CHTO				pmax		pmax		
	comp=Z,12nm,0.9s,mb4.3							
CHTO	**Chiang Mai**	**24.21**	**353**	*e*P		**P**	**09 24 29.7**	**+0.5**
	comp=Z,12nm,0.9s,mb4.3							
QIZ	**Qiongzhong**	**25.39**	**17**	P		**P**	**09 24 40.5**	**+0.5**
QIZ				S		**S**	**09 28 58.5**	**-6.4**
QIZ				AMB		AMB		
	comp=Z,20nm,1.7s,mb4.4							
QIZ				LR		LR		
	comp=N,295nm,16.1s							
QIZ				LR		LR		
	comp=Z,330nm,17.4s,MS3.9							
QIZ	**Qiongzhong**	**25.39**	**17**	*e*P		**P**	**09 24 41.8**	**+1.7**
	comp=Z,25nm,0.9s,mb4.8							
FITZ	**Fitzroy Crossi**	**26.26**	**121**	*e*P		**P**	**09 24 47.4**	**-0.5**
	comp=Z,5.7nm,0.6s,mb4.3							
FITZ				*e*S		S	09 29 43.1	+24
FITZ	**Fitzroy Crossi**	**26.26**	**121**	P		**P**	**09 24 47.7**	**-0.1**
	comp=Z,2.7nm,1.0s,mb3.7,baz=280,slow=8.4,SNR=7.3							
KAKA	**Kakadu**	**30.82**	**106**	*e*P		**P**	**09 25 27.4**	**-1.1**
	comp=Z,5.2nm,0.8s,mb4.4							
NWAO	**Narrogin (SRO)**	**30.86**	**155**	LR		LR	09 36 40.2	
	comp=Z,292nm,21.8s,MS3.9,baz=200,slow=34							
WRA	**Warramunga Arr**	**34.54**	**118**	P		**P**	**09 26 01.3**	**+0.3**
	comp=Z,2.9nm,0.6s,mb4.4,baz=303,slow=9.5,SNR=19							
WRA				LR		LR	09 41 15.0	
	comp=Z,96nm,20.0s,MS3.5,baz=245,slow=38							
WRAB	**Tennant Creek**	**34.55**	**118**	*i*P		**P**	**09 26 01.6**	**+0.5**
WRAB	**Tennant Creek**	**34.55**	**118**	*e*P		**P**	**09 26 01.3**	**+0.2**
	comp=Z,6.9nm,0.6s,mb4.8							
WB2	**Warramunga Arr**	**34.55**	**118**	*e*P		**P**	**09 26 01.2**	**0.0**
WB2				*e*S		**S**	**09 31 24.9**	**-3.5**
ASPA	**Alice Springs**	**35.63**	**124**	*e*P		**P**	**09 26 11.3**	**+0.9**
AS31	**Alice Springs**	**35.63**	**124**	*e*P		**P**	**09 26 11.3**	**+0.9**
ASAR	**Alice Springs**	**35.63**	**124**	P		**P**	**09 26 11.4**	**+1.0**
	comp=Z,3.7nm,1.0s,mb4.3,baz=297,slow=8.1,SNR=26							
ASAR				S		**S**	**09 31 48.0**	**+3.1**
	comp=Z,0.7nm,1.1s,baz=202,slow=26,SNR=5.5							
CD2	**Chengdu**	**36.08**	**2**	P		**P**	**09 26 14.5**	**+0.2**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
CD2				LR		LR		
	comp=N,200nm,16.2s							
CD2				LR		LR		
	comp=Z,290nm,18.6s,MS4.1							
JIRN	**Jiri**	**36.23**	**336**	*e*P		**P**	**09 26 17.4**	**+1.8**
	comp=Z,31nm,0.9s,mb5.2							
PKI	**Pulchoki**	**36.48**	**335**	*e*P		**P**	**09 26 19.4**	**+1.7**
GUN	**Gumba**	**36.58**	**335**	*e*P		**P**	**09 26 20.4**	**+1.8**
	comp=Z,32nm,0.8s,mb5.2							
DMN	**Daman**	**36.64**	**334**	*e*P		**P**	**09 26 21.4**	**+2.3**
KKN	**Kakani**	**36.73**	**335**	*e*P		**P**	**09 26 21.5**	**+1.7**
GKN	**Gorkha**	**37.19**	**334**	*e*P		**P**	**09 26 25.2**	**+1.4**
	comp=Z,29nm,0.9s,mb5.1							
KOLN	**Koldanda**	**37.45**	**332**	*e*P		**P**	**09 26 27.7**	**+1.7**
	comp=Z,40nm,0.9s,mb5.3							
XAN	**Xi'an**	**39.70**	**9**	P		**P**	**09 26 44.5**	**-0.3**
XAN				AP		pP	09 26 51.0	-2.0
XAN				AMB		AMB		
	comp=Z,20nm,0.9s,mb4.8							
NJ2	**Nanjing**	**40.47**	**22**	*e*P		**P**	**09 26 51.8**	**+0.6**
NJ2				AP		pP	09 27 01.5	+2.1
NJ2				XP		sP	09 27 05.5	+2.8
NJ2				PP		PP	09 28 32.0	+7.4
NJ2				S		**S**	**09 32 57.0**	**-1.2**
NJ2				XS		sS	09 33 13.0	+1.3
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.6							
NJ2				AMB		AMB		
	comp=Z,210nm,3.8s							
NJ2				LR		LR		
	comp=N,290nm,23.7s							
NJ2				LR		LR		
	comp=E,320nm,16.8s							
SSE	**Sheshan**	**40.57**	**26**	P		**P**	**09 26 52.8**	**+0.8**
SSE				AP		pP	09 27 01.5	+1.3
SSE				XP		sP	09 27 05.5	+2.0
SSE				PCP		PcP	09 28 55.3	+1.4
SSE				S		**S**	**09 33 00.3**	**+0.6**
SSE				XS		sS	09 33 15.5	+2.4
SSE				AMB		AMB		
	comp=Z,19nm,0.8s,mb4.8							
SSE				AMB		AMB		
	comp=Z,76nm,8.2s							
SSE				LR		LR		
	comp=N,37nm,17.5s,MS3.5							
SSE				LR		LR		
	comp=E,42nm,17.5s,MS3.5							
SSE				LR		LR		
	comp=Z,69nm,18.5s,MS3.5							
LZH	**Lanzhou**	**41.24**	**2**	*e*P		**P**	**09 26 58.0**	**+0.4**
LZH				AP		pP	09 27 05.0	-0.8
LZH				XP		sP	09 27 09.0	-0.1
LZH				AMB		AMB		
	comp=Z,30nm,1.0s,mb4.9							
LZH				AMB		AMB		
	comp=Z,180nm,5.0s							
LZH				LR		LR		
	comp=N,630nm,13.4s							
LZH				LR		LR		
	comp=Z,930nm,15.4s,MS4.8							
GTA	**Gaotai**	**44.58**	**357**	*e*P		**P**	**09 27 25.0**	**+0.4**
GTA				AP		pP	09 27 32.3	-0.6
GTA				XP		sP	09 27 35.8	-0.4
GTA				AMB		AMB		
	comp=Z,7.0nm,1.6s,mb4.2							
GTA				AMB		AMB		
	comp=Z,103nm,4.9s							
GTA				LR		LR		
	comp=N,230nm,17.5s,MS4.2							
GTA				LR		LR		
	comp=E,102nm,13.7s,MS4.2							
GTA				LR		LR		
	comp=Z,301nm,17.1s,MS4.3							
PMG	**Port Moresby**	**44.84**	**98**	P		**P**	**09 27 26.9**	**+0.2**
	comp=Z,29nm,0.9s,mb5.1,baz=213,slow=5.9,SNR=5.3							
PMG	**Port Moresby**	**44.84**	**98**	*e*P		**P**	**09 27 25.9**	**-0.8**
PMG				*e**SP		sP	09 27 39.4	+1.1
PMG				pmax		pmax		
	comp=Z,25nm,0.8s							
PMG	**Port Moresby**	**44.84**	**98**	*e*P		**P**	**09 27 25.9**	**-0.8**
	comp=Z,25nm,0.8s,mb5.1							
PMG				*es*P		sP	09 27 39.4	+1.1
CTA	**Charters Tower**	**45.33**	**113**	*e*P		**P**	**09 27 31.3**	**+0.7**
	comp=Z,9.8nm,0.9s,mb4.6							
CTA	**Charters Tower**	**45.33**	**113**	P		**P**	**09 27 31.3**	**+0.7**
	comp=Z,15nm,0.9s,mb4.8,baz=288,slow=9.7,SNR=13							
CTA	**Charters Tower**	**45.33**	**113**	*e*P		**P**	**09 27 31.3**	**+0.7**
CTA				pmax		pmax		
	comp=Z,10.0nm,0.9s							
CTAO	**Charters Tower**	**45.33**	**113**	*e*P		**P**	**09 27 30.6**	**0.0**
CTAO				pmax		pmax		
	comp=Z,29nm,1.2s,mb5.0							
CTAO	**Charters Tower**	**45.33**	**113**	*e*P		**P**	**09 27 30.6**	**0.0**
	comp=Z,29nm,1.2s,mb5.0							
HHC	**Hu-ho-hao-te**	**46.78**	**10**	*e*P		**P**	**09 27 43.5**	**+1.5**
HHC				AP		pP	09 27 50.3	0.0
HHC				XP		sP	09 27 53.0	-0.6
HHC				PP		PP	09 29 33.5	+1.3
HHC				PCS		PcS	09 33 10.0	+0.1
HHC				S		**S**	**09 34 33.3**	**+2.9**
HHC				SCS		ScS	09 37 35.3	+0.5
HHC				SS		sS	09 37 52.5	-4.5
HHC				AMB		AMB		
	comp=Z,31nm,1.1s,mb5.2							
HHC				AMB		AMB		
	comp=Z,114nm,5.1s							
HHC				LR		LR		
	comp=N,244nm,19.0s,MS4.3							
HHC				LR		LR		
	comp=E,186nm,17.2s,MS4.3							
HHC				LR		LR		
	comp=Z,232nm,14.9s,MS4.3							
BJI	**Beijing**	**46.98**	**15**	P		**P**	**09 27 43.5**	**-0.1**
BJI				AMB		AMB		
	comp=Z,13nm,0.9s,mb4.9							
BJI				AMB		AMB		
	comp=Z,167nm,5.6s							
BJI				LR		LR		
	comp=N,152nm,17.6s,MS4.3							
BJI				LR		LR		
	comp=E,241nm,18.8s,MS4.3							
BJI				LR		LR		
	comp=Z,190nm,18.4s,MS4.1							
SONM	**Songino Array**	**53.09**	**4**	P		**P**	**09 28 30.9**	**+1.0**
	comp=Z,8.6nm,0.7s,mb4.8,baz=186,slow=9.2,SNR=72							
ULN	**Ulaanbaatar**	**53.16**	**4**	*e*P		**P**	**09 28 30.5**	**0.0**
ULN				*e**PP		pP	09 28 38.3	-0.6
ULN				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.8							
ULN	**Ulaanbaatar**	**53.16**	**4**	*e*P		**P**	**09 28 30.5**	**0.0**
	comp=Z,13nm,1.0s,mb4.8							
ULN				*ep*P		pP	09 28 38.3	-0.6
CN2	**Changchun**	**53.27**	**21**	*e*P		**P**	**09 28 30.8**	**-0.4**
CN2				*e*AP		pP	09 28 38.3	-1.3
CN2				AMB		AMB		
	comp=Z,30nm,0.9s,mb5.2							
MAJO	**Matsushiro**	**53.63**	**36**	*e*P		**P**	**09 28 32.4**	**-1.5**
MAJO				*e**PP		pP	09 28 39.8	-2.5
MAJO				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
MAJO	**Matsushiro**	**53.63**	**36**	*e*P		**P**	**09 28 32.4**	**-1.6**
	comp=Z,7.1nm,0.8s,mb4.7							
MAJO				*ep*P		pP	09 28 39.8	-2.5
MJAR	**Matsushiro Arr**	**53.63**	**36**	P		**P**	**09 28 32.5**	**-1.4**
	comp=Z,5.4nm,0.8s,mb4.5,baz=219,slow=7.7,SNR=13							
AAK	**Ala-Archa**	**53.93**	**335**	*ce*P		**P**	**09 28 36.0**	**-0.1**
AAK				pmax		pmax		
	comp=Z,13nm,2.5s,mb4.4							
MK31	**Makanchi Array**	**54.80**	**343**	P		**P**	**09 28 42.5**	**+0.1**
MK31				pmax		pmax		
	comp=Z,9.0nm,0.7s,mb4.9							
MKAR	**Makanchi Array**	**54.80**	**343**	P		**P**	**09 28 42.6**	**+0.2**
	comp=Z,14nm,0.7s,mb5.1,baz=144,slow=8.1,SNR=84							
MKAR	**Makanchi Array**	**54.80**	**343**	*e*P		**P**	**09 28 42.5**	**+0.1**
MDJ	**Mudanjiang**	**55.52**	**24**	*e*P		**P**	**09 28 46.9**	**-0.8**
	comp=Z,12nm,1.0s,mb4.9							
KK31	**Karatay Array**	**56.07**	**332**	*i*P		**P**	**09 28 51.1**	**-0.5**
KK31				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb4.0							
KKAR	**Karatay Array**	**56.07**	**332**	*i*P		**P**	**09 28 51.1**	**-0.5**
KKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb4.0							
HIA	**Hailar**	**56.52**	**14**	*ep*		**P**	**09 28 54.4**	**-0.4**
TLY	**Talaya**	**56.82**	**1**	*e*P		**P**	**09 28 57.7**	**+0.8**
TLY				pmax		pmax		
	comp=Z,12nm,1.7s,mb4.7							
TLY				MLR		MLR		
	comp=Z,109nm,19.0s,MS4.0							
TLY	**Talaya**	**56.82**	**1**	*e*P		**P**	**09 28 54.8**	**-2.1**
	comp=Z,7.3nm,1.0s,mb4.7							
KURK	**Kurchatov**	**59.39**	**343**	*c i*P		**P**	**09 29 14.7**	**-0.2**
KURK	**Kurchatov**	**59.39**	**343**	*e*P		**P**	**09 29 14.4**	**-0.5**
	comp=Z,14nm,0.9s,mb5.0							
KLR	**Kul'dur**	**60.17**	**22**	*e*P		**P**	**09 29 16.9**	**-3.4**
YSS	**Yuzh-Sakhalins**	**63.25**	**30**	P		**P**	**09 29 34.4**	**-6.6**
YSS				*e*			09 29 48.0	
BOD	**Bodaibo**	**63.69**	**7**	*e*P		**P**	**09 29 42.3**	**-1.6**
BOD				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.5							
BVAR	**Borovoye Array**	**64.03**	**339**	P		**P**	**09 29 45.2**	**-0.9**
	comp=Z,4.6nm,0.7s,mb4.6,baz=147,slow=8.9,SNR=22							
BVAR				LR		LR	10 03 16.8	
	comp=Z,61nm,18.2s,MS3.8,baz=318,slow=41							
BRVK	**Borovoye**	**64.09**	**339**	*e*P		**P**	**09 29 45.7**	**-0.9**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.5							
BRVK	**Borovoye**	**64.09**	**339**	*e*P		**P**	**09 29 45.7**	**-0.9**
	comp=Z,2.7nm,0.6s,mb4.5							
ZRNK	**Zerenda**	**64.47**	**339**	*e*P		**P**	**09 29 48.3**	**-0.7**
ZRNK				*e**PP		pP	09 29 56.5	-1.1
ZRNK				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.6							
ZRNK	**Zerenda**	**64.47**	**339**	*e*P		**P**	**09 29 48.3**	**-0.7**
	comp=Z,6.4nm,1.0s,mb4.6							
ZRNK				*ep*P		pP	09 29 56.5	-1.1
AB31	**Akbulak array**	**65.56**	**331**	*i*P		**P**	**09 29 56.0**	**-0.1**
AB31				pmax		pmax		
	comp=Z,11nm,0.8s,mb4.9							
AKTO	**Aktyubinsk**	**67.28**	**331**	LR		LR	10 04 60.0	
	comp=Z,47nm,19.2s,MS3.7,baz=332,slow=41							
YAK	**Yakutsk**	**70.46**	**13**	*e*P		**P**	**09 30 26.1**	**-0.8**
YAK				pmax		pmax		
	comp=Z,19nm,0.6s,mb5.2							
SVE	**Sverdlovsk**	**70.55**	**337**	*e*P		**P**	**09 30 27.0**	**-0.5**
SVE				*e*		pP	09 30 35.0	-1.1
ARU	**Arti**	**71.09**	**336**	*e*P		**P**	**09 30 29.0**	**-1.8**
ARU				*e**PP		pP	09 30 38.3	-1.1
ARU				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.7							
ARU	**Arti**	**71.09**	**336**	*e*P		**P**	**09 30 29.0**	**-1.8**
	comp=Z,11nm,1.0s,mb4.7							
ARU				*ep*P		pP	09 30 38.3	-1.1
KIV	**Kislovodsk**	**72.43**	**319**	*i*P		**P**	**09 30 38.7**	**-0.1**
PET	**Petropavlovsk**	**75.06**	**31**	*c i*P		**P**	**09 30 53.0**	**-1.2**
PET				pmax		pmax		
	comp=Z,33nm,1.3s,mb5.1							
LBTB	**Lobatse**	**75.54**	**246**	LR		LR	09 57 40.9	
	comp=Z,104nm,20.9s,MS4.1,baz=268,slow=31							
BRTR	**Keskin Array B**	**77.11**	**313**	P		**P**	**09 31 06.1**	**+0.2**
	comp=Z,1.7nm,0.9s,mb4.0,baz=126,slow=6.3,SNR=8.3							
BRTR	**Keskin Array B**	**77.11**	**313**	*e*P		**P**	**09 31 06.0**	**+0.1**
VNDA	**Vanda**	**78.50**	**169**	*e*P		**P**	**09 31 16.3**	**+2.7**
VNDA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
VNDA	**Vanda**	**78.50**	**169**	*e*P		**P**	**09 31 16.3**	**+2.7**
	comp=Z,1.3nm,0.7s,mb4.0							
TIXI	**Tiksi**	**78.82**	**8**	*i*P		**P**	**09 31 13.6**	**-1.8**
TIXI				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.5							
OBN	**Obninsk**	**80.72**	**328**	*e*P		**P**	**09 31 26.7**	**+1.0**
OBN				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.6							
AKASG	**Malin Array Be**	**83.39**	**322**	P		**P**	**09 31 39.5**	**-0.3**
	comp=Z,1.0nm,0.6s,mb4.0,baz=90,slow=4.8,SNR=5.9							
AKASG	**Malin Array Be**	**83.39**	**322**	P		**P**	**09 31 39.5**	**-0.3**
BILL	**Bilibino**	**85.56**	**20**	*e*P		**P**	**09 31 50.1**	**-0.6**
BILL				*e*S			09 42 03.9	
BILL				pmax		pmax		
	comp=Z,2.0nm,1.2s,mb4.2							
JOF	**Joensuu**	**86.12**	**334**	*ep*		**P**	**09 31 52.2**	**-1.3**
FINES	**FINESS Array B**	**88.03**	**332**	P		**P**	**09 32 02.5**	**-0.2**
	comp=Z,0.6nm,0.8s,mb3.9,baz=123,slow=9.4,SNR=6.7							
FINES	**FINESS Array B**	**88.03**	**332**	*i*P		**P**	**09 32 04.1**	**+1.4**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.8s							
FINES	**FINESS Array B**	**88.03**	**332**	P		**P**	**09 32 02.5**	**-0.2**
KAF	**Kangasniemi**	**88.10**	**333**	*ep*		**P**	**09 32 02.9**	**-0.1**
	baz=100,slow=4.3							
NOA	**NORSAR Array B**	**95.07**	**331**	LR		LR	10 19 49.2	
	comp=Z,32nm,21.1s,MS3.8,baz=240,slow=38							
SSPA	**Standing Stone**	**144.86**	**360**	*e*PKPdf		PKPdf	09 38 48.2	-1.2
WMOK	**Wichita Mounta**	**144.95**	**31**	*e*PKIKP		PKPdf	09 38 48.8	-0.8
ACSO	**Alum Creek Sta**	**144.97**	**7**	*e*PKPdf		PKPdf	09 38 48.5	-1.0
CCM	**Cathedral Cave**	**145.25**	**19**	*e*PKIKP		PKPdf	09 38 49.4	-0.7
MCWV	**Mont Chateau**	**145.80**	**3**	*e*PKPdf		PKPdf	09 38 51.6	+0.6
WCI	**Wyandotte Cave**	**146.39**	**12**	*e*PKP2		PKPab	09 38 53.2	-1.0
MIAR	**Mount Ida**	**147.52**	**25**	*e*PKP2		PKPab	09 38 57.1	-1.5
JCT	**Junction City**	**147.59**	**37**	*e*PKP2		PKPab	09 38 58.0	-0.9
TZTN	**Tazewell**	**148.52**	**9**	*e*PKPbc		PKPbc	09 38 59.2	0.0
PLAL	**Pickwick Lake**	**149.04**	**16**	*e*PKPbc		PKPbc	09 39 00.3	-0.2
CPCT	**Cooper Cave**	**149.43**	**11**	*e*PKPbc		PKPbc	09 39 01.9	+0.4

NEIC 31 09:33:59.6, 4620N×12219W, h1km**, MD3.6**(SEA)**, 4C-10D,**
After SEA., Washington

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YEL	**Yellow Rock**	**0.01**	**11**	*ip*		Pg	09 34 00.0	+0.1
HSR	**Sierra South Ridge**	**0.02**	**164**	*ip*		Pg	09 34 00.5	+0.4
ESD	**East Dome**	**0.03**	**85**	*ip*		Pg	09 34 00.5	+0.3
SHW	**Mount Saint He**	**0.03**	**265**	*ip*		Pg	09 34 00.6	+0.4
STD	**Studebaker Rid**	**0.05**	**333**	*ip*		Pg	09 34 00.8	+0.3
JLK	**June Lake**	**0.06**	**151**	*ip*		Pg	09 34 01.0	+0.4
SOSW	**Source of Smit**	**0.06**	**38**	*ip*		Pg	09 34 01.1	+0.3
FL2	**Flat Top 2**	**0.11**	**271**	*ip*		Pg	09 34 02.3	+0.6
CDFW	**Cedar Flats**	**0.13**	**128**	*ip*		Pg	09 34 02.7	+0.7
ERK	**Elk Rock**	**0.15**	**317**	*ip*		Pg	09 34 02.9	+0.4
TDL	**Tradedollar La**	**0.16**	**354**	*ip*		Pg	09 34 03.0	+0.5
MTMW	**Mount Mitchell**	**0.17**	**185**	*ip*		Pg

0.7nm,0.7s,mb3.2,baz=148,slow=12,SNR=3.0
BVAR Borovoye Array 23.22 2 P P 09 51 20.1 -0.4
0.5nm,0.4s,mb3.3,baz=153,slow=13,SNR=4.4
TORD Torodi Ar. Bea 64.01 271 P P 09 56 46.6 +0.2
0.5nm,0.8s,mb3.6,baz=64,slow=6.9,SNR=2.9
WRA Warramunga Arr 79.99 120 P P 09 58 25.2 +3.1
0.7nm,0.8s,mb3.6,baz=323,slow=5.2,SNR=10
ASAR Alice Springs 81.90 123 P P 09 58 35.0 +2.6
0.5nm,0.6s,mb3.6,baz=306,slow=5.7,SNR=11

NEIC ***31*** *09:53:40.6, 1706N×9641W, h70km, MD3.9(MEX), After MEX.*
MEX 31 09:53:40.6±0.5, 1706N×9641W, h70km±7km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OXX	**Oaxaca**	**0.30**	**274**	*i* P	Pn	09 53 50.3	-1.5
OXX				*i* S	Sn	09 53 57.8	-2.2
VHO	**Vista Hermosa**	**0.30**	**272**	*i* P	Pn	09 53 50.9	-0.9
VHO				*i* S	Sn	09 53 59.1	-1.0
CMIG	**Matias Romero**	**1.46**	**89**	*i* P	Pn	09 54 03.7	-1.3
CMIG				*i* S	Sn	09 54 21.8	-1.8
UTMO	**Huajuapan**	**1.53**	**300**	*i* P	Pn	09 54 04.9	-1.1
UTMO				*i* S	Sn	09 54 23.2	-1.9
TPIG	**Tehuac#an**	**1.62**	**326**	*i* P	Pn	09 54 06.5	-0.7
TPIG				*i* S	Sn	09 54 25.9	-1.4
PPM	**Popocatepetl**	**2.90**	**314**	*i* P	Pn	09 54 22.0	-2.4
PPM				*i* S	Sn	09 54 58.3	+0.2

NIED ***31*** *10:42:00, 37.10N×14120E, h71km, Mw3.5 Best double couple: M0 1.97000×10^14 NP1:φs=8.00000°, δ77.00000°, λ71.00000°. NP2:φs=245.00000°, δ23.00000°, λ145.00000°.*
JMA 31 10:42:28.3±0.1, 3706N×14119E, h49km±1km, M3.6, 8D Broadband fault plane solution: P waves. NP1: φs=210.00000°, δ13.00000°, λ82.00000°. **NP2:**φs=39.00000°, δ77.00000°, λ92.00000°. **Principal axes:** T Plg58.0000°, Azm311.0000°; N Plg2.0000°, Azm218.0000°; P Plg32.0000°, Azm127.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.32**	**278**	⇓P	Pn	10 42 37.5	0.0
ONAJ				S	Sn	10 42 44.0	0.0
JFK	**Kawauchi**	**0.40**	**321**	⇓P	Pn	10 42 38.2	-0.1
JFK				S	Sn	10 42 44.9	-0.5
JHO	**Hitachi**	**0.67**	**228**	⇓P	Pn	10 42 41.1	-0.5
JHO				S	Sn	10 42 50.5	-0.7
JFT	**Otama**	**0.82**	**304**	⇓P	Pn	10 42 44.5	+0.9
JFT				S	Sn	10 42 55.7	+1.0
JMM	**Marumori**	**0.86**	**339**	⇓P	Pn	10 42 43.9	-0.3
JMM				S	Sn	10 42 55.4	-0.3
JFY	**Yanaizu**	**1.23**	**287**	⇓P	Pn	10 42 49.8	+0.6
JOU	**Okura**	**1.37**	**342**	P	Pn	10 42 51.2	+0.2
JIO	**Ouri**	**1.40**	**5**	⇓P	Pn	10 42 51.0	-0.4
JIO				S	Sn	10 43 07.3	-1.4
JYS	**Shirataka**	**1.46**	**323**	⇓P	Pn	10 42 53.1	+0.8
MAT	**Matsushiro**	**2.45**	**259**	P	Pn	10 43 07.4	+1.6
MAT				S	Sn	10 43 38.4	+3.9

IDC 31 11:00:53.1±2.6, 5475S×14820E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.9/9, mbtmp3.8/4 Error ellipse: s-maj=207.1km s-min=23.5km az=74.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**23.39**	**173**	P	P	11 06 03.3	-0.3
	2.9nm,0.8s,baz=356,slow=5.2,SNR=9.7						
ASAR	**Alice Springs**	**32.82**	**335**	P	P	11 07 28.0	-0.3
	0.9nm,0.7s,baz=162,slow=9.2,SNR=15						
WRA	**Warramunga Arr**	**36.31**	**338**	P	P	11 07 58.5	0.0
	2.9nm,0.7s,baz=166,slow=7.6,SNR=35						
FITZ	**Fitzroy Crossi**	**40.46**	**326**	P	P	11 08 33.6	+0.2
	1.0nm,0.8s,baz=180,slow=14,SNR=3.2						
FINES	**FINESS Array B**	**149.62**	**306**	PKPbc	PKPbc	11 20 42.0	-2.6
	0.9nm,0.8s,baz=108,slow=4.2,SNR=4.6						

IDC ***31*** *11:22:19.6±9.0, 3200S×17941W, h84km±85km, mb3.4/2, mb1 3.7/3, mb1mx3.4/11, mbtmp3.8/3, ML3.5/1, Error ellipse: s-maj=68.6km s-min=54.0km az=170.0*
ISC 31 11:22:24.5±1.6, 321S±01×1794E±03, h51km±32km, n25, σ1≒32/27, mb3.5/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.52**	**189**	PN	**Pn**	**11 23 47.7**	**+3.6**
PUZ	**Puketiti**	**6.03**	**189**	*e*PN	**Pn**	**11 23 50.7**	**-0.4**
PUZ				SN	**Sn**	**11 24 59.0**	**+0.2**
MWZ	**Matawai**	**6.41**	**194**	PN	**Pn**	**11 23 57.0**	**+0.7**
URZ	**Urewera**	**6.43**	**197**	P	**Pn**	**11 23 58.6**	**+2.0**
	1.0nm,0.3s,baz=274,slow=19,SNR=23						
URZ				S	**Sn**	**11 25 13.5**	**+4.9**
	2.3nm,0.3s,baz=329,slow=22,SNR=13						
URZ	**Urewera**	**6.43**	**197**	PN	**Pn**	**11 23 58.5**	**+2.0**
KNZ	**Kokohu**	**7.05**	**191**	PN	**Pn**	**11 24 07.1**	**+2.1**
BKZ	**Black Stump Fm**	**7.44**	**198**	PN	**Pn**	**11 24 13.8**	**+3.4**
PXZ	**Pawanui**	**8.18**	**194**	PN	**Pn**	**11 24 20.5**	**0.0**
TSZ	**Takapari Road**	**8.42**	**199**	PN	**Pn**	**11 24 24.0**	**+0.1**
MRZ	**Mangatainoka R**	**9.09**	**199**	PN	**Pn**	**11 24 29.9**	**-3.1**
MRZ				SN	**Sn**	**11 26 11.3**	**-2.5**
KIW	**Kapiti Island**	**9.47**	**201**	*e*PN	**Pn**	**11 24 35.9**	**-2.2**
CAW	**Cannon Point**	**9.64**	**200**	PN	**Pn**	**11 24 39.8**	**-0.7**
TCW	**Tory Channel**	**9.99**	**203**	PN	**Pn**	**11 24 44.8**	**-0.5**
NNZ	**Nelson**	**10.31**	**206**	PN	**Pn**	**11 24 49.9**	**+0.2**
NNZ				SN	**Sn**	**11 26 46.2**	**+2.4**
QRZ	**Quartz Range**	**10.32**	**211**	PN	**Pn**	**11 24 50.6**	**+0.7**
QRZ				SN	**Sn**	**11 26 51.0**	**+6.9**
THZ	**Tophouse**	**10.96**	**207**	PN	**Pn**	**11 24 57.8**	**-0.8**
THZ				SN	**Sn**	**11 27 00.3**	**+0.6**
KHZ	**Kahutara**	**11.31**	**203**	PN	**Pn**	**11 25 01.8**	**-1.6**
KHZ				SN	**Sn**	**11 27 07.2**	**-1.0**
MQZ	**McQueen's Vall**	**12.75**	**203**	SN	**Sn**	**11 27 37.2**	**-6.3**
PPT	**Papeete**	**31.49**	**70**	*e*LR	LR	11 27 37.6	
	78nm,22.2s						
ASAR	**Alice Springs**	**40.87**	**270**	P	**P**	**11 30 01.8**	**+0.4**
	0.6nm,0.7s,mb3.3,baz=108,slow=7.6,SNR=8.3						
WRA	**Warramunga Arr**	**42.02**	**275**	P	**P**	**11 30 10.7**	**-0.1**
	1.1nm,0.5s,mb3.8,baz=113,slow=7.9,SNR=14						
KEV	**Kevo**	**139.26**	**346**	*ep*	PKPdf	11 41 56.9	+11
JOF	**Joensuu**	**143.15**	**336**	*ep*	PKPdf	11 41 42.0	-11
KAF	**Kangasniemi**	**145.37**	**338**	*ep*	PKPbc	11 41 46.4	-10
FINES	**FINESS Array B**	**145.93**	**337**	PKPbc	PKPbc	11 41 48.5	-10
	0.9nm,0.5s,baz=71,slow=4.3,SNR=9.1						

NEIC ***31*** *12:32:08.4±4.3, 1670N×10172W, h2km±21km, mb4.4/14, MD4.2(MEX), Error ellipse: s-maj=27.8km s-min=7.4km az=211.0*
ISCJB ***31*** *12:32:11.1±1.2, 1680N±005×10168W±003, h25km±8km, mb4.2/17, MS3.3/1, Error ellipse: s-maj=8.9km s-min=4.4km az=19.3*
MEX ***31*** *12:32:12.2±0.6, 1676N×10180W, h16km±23km, MD4.3*
IDC ***31*** *12:32:17.5±6.7, 1667N×10148W, h91km±50km, mb4.0/6, mb1 4.2/8, mb1mx3.8/22, mbtmp4.3/8, MS3.3/3, Ms1 3.3/3, ms1mx2.8/28, Error ellipse: s-maj=71.7km s-min=20.3km az=34.0*
ISC 31 12:32:11.3±1.2, 1683N±005×10166W±003, h12km±6km, n47, σ1≒02/60, mb4.2/17, MS3.3/1, 2C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.80**	**131**	⇑*i*P	**Pg**	**12 32 25.9**	**-0.8**
ZIIG				*i* S	**Sg**	**12 32 37.4**	**+0.2**
CAIG	**El Cayaco**	**1.35**	**80**	⇑*i*P	**Pn**	**12 32 34.8**	**-1.2**
CAIG				*i* S	**Sb**	**12 32 52.2**	**-1.5**
ACX	**Acapulco**	**1.67**	**88**	*i* P	**Pn**	**12 32 38.8**	**-1.6**
ACX				*i* S	**Sn**	**12 33 00.5**	**-1.2**
MEIG	**Mezcala**	**2.23**	**60**	*i* P	**Pn**	**12 32 48.2**	**+0.1**
MEIG				*i* S	**Sn**	**12 33 14.5**	**-1.1**
PLIG	**Platanillo**	**2.58**	**53**	*i* P	**Pn**	**12 32 53.1**	**+0.2**
PLIG				*i* S	**Sn**	**12 33 24.3**	**+0.1**
MOIG	**Morelia**	**2.87**	**9**	*i* P	**Pn**	**12 32 55.9**	**-1.1**
MOIG				*i* S	**Sn**	**12 33 30.3**	**-1.1**
IIZ	**Mezontepec**	**3.29**	**44**	*e*P	**Pn**	**12 33 03.2**	**+0.5**
IIZ				*i* S	**Sn**	**12 33 42.2**	**+0.6**
UNM	**Universidad Na**	**3.43**	**43**	*i* P	**Pn**	**12 33 04.6**	**0.0**
UNM				*i* S	**Sn**	**12 33 44.5**	**-0.6**
PPM	**Popocatepetl**	**3.65**	**52**	*i* P	**Pn**	**12 33 08.1**	**+0.5**
PPM				*i* S	**Sn**	**12 33 51.2**	**+0.7**
UTMO	**Huajuapan**	**3.81**	**74**	*e*P	**Pn**	**12 33 10.8**	**+0.9**
UTMO				*i* S	**Sn**	**12 33 56.6**	**+1.9**
TPIG	**Tehuac#an**	**4.39**	**68**	*i* P	**Pn**	**12 33 18.7**	**+0.9**
TPIG				*i* S	**Sn**	**12 34 11.0**	**+2.0**
VHO	**Vista Hermosa**	**4.72**	**86**	*i* P	**Pn**	**12 33 23.9**	**+1.6**
VHO				*i* S	**Sn**	**12 34 16.4**	**-0.6**
OXX	**Oaxaca**	**4.73**	**86**	*i* P	**Pn**	**12 33 23.0**	**+0.5**
OXX	**Oaxaca**	**4.73**	**86**	*i* P	**Pn**	**12 33 23.2**	**+0.7**
CMIG	**Matias Romero**	**6.49**	**87**	P	**Pn**	**12 33 47.7**	**+1.1**
	1.5nm,0.3s,baz=262,slow=11,SNR=15						
CMIG				S	**Sn**	**12 35 00.0**	**-0.6**
	0.5nm,0.3s,baz=3.4,slow=19,SNR=2.3						
CMIG				LR	LR	12 36 32.4	
	comp=Z,152nm,20.5s,baz=131,slow=40						
CMIG	**Matias Romero**	**6.49**	**87**	*e*P	**Pn**	**12 33 47.3**	**+0.7**
CMIG				S	**Sn**	**12 35 00.0**	**-0.6**
CMIG				LR	LR	12 36 32.4	
BNM	**Barren Site**	**17.82**	**346**	*e*P	**Pn**	**12 36 20.4**	**+1.3**
AMTX	**Amarillo**	**17.98**	**360**	*e*P	**Pn**	**12 36 20.4**	**-0.7**
	17nm,0.9s						
LAZ	**Ladron**	**18.18**	**345**	*e*P	**Pn**	**12 36 24.1**	**+0.6**
ANMO	**Albuquerque**	**18.55**	**348**	P	**Pn**	**12 36 29.3**	**+1.2**
	0.2nm,0.3s,baz=149,slow=8.9,SNR=14						
ANMO				LR	LR	12 44 26.4	
	comp=Z,123nm,18.3s,baz=280,slow=39						
ANMO	**Albuquerque**	**18.55**	**348**	*e*P	**Pn**	**12 36 28.9**	**+0.8**
	4.7nm,0.9s						
WUAZ	**Wupatki**	**20.53**	**337**	*e*P	**P**	**12 36 51.1**	**+1.5**
	24nm,0.8s						
PLAL	**Pickwick Lake**	**21.78**	**31**	*e*P	**P**	**12 37 05.7**	**+2.7**
	14nm,0.6s,mb4.6						
PV01	**Paradox Valley**	**22.08**	**345**	*e*P	**P**	**12 37 04.3**	**-1.9**
SMCO	**Snowmass**	**22.75**	**349**	*e*P	**P**	**12 37 14.1**	**+0.7**
	26nm,1.2s,mb4.5						
ISCO	**Idaho Springs**	**23.15**	**352**	*e*P	**P**	**12 37 17.6**	**+0.1**
	15nm,1.0s,mb4.4						
ARUT	**Antelope Range**	**23.32**	**336**	*e*P	**P**	**12 37 18.5**	**-0.8**
SRU	**San Rafael**	**23.52**	**343**	P	**P**	**12 37 20.0**	**-1.4**
	4.5nm,1.0s,mb3.9						
TPNV	**Topopah Spring**	**23.84**	**330**	*e*P	**P**	**12 37 24.5**	**+0.2**
	9.3nm,0.9s,mb4.2						
PHWY	**Pilot Hill**	**24.61**	**353**	*e*P	**P**	**12 37 31.8**	**+0.3**
DAU	**Daniels Canyon**	**24.93**	**342**	*e*P	**P**	**12 37 34.8**	**+0.4**
NVAR	**Mina Array Bea**	**26.00**	**329**	P	**P**	**12 37 44.4**	**+0.4**
	8.2nm,0.9s,mb4.3,baz=143,slow=9.1,SNR=27						
PDAR	**Pinedale Array**	**26.72**	**347**	P	**P**	**12 37 50.8**	**+0.2**
	3.5nm,0.9s,mb3.9,baz=148,slow=8.7,SNR=23						
REDW	**Red Top Meadow**	**27.58**	**345**	*e*P	**P**	**12 37 58.5**	**+0.2**
	13nm,1.1s,mb4.5						
RRI2	**Red Ridge**	**27.68**	**345**	*e*P	**P**	**12 37 58.4**	**-0.8**
	7.3nm,1.3s,mb4.2						
TPAW	**Teton Pass**	**27.73**	**345**	*e*P	**P**	**12 37 59.7**	**+0.2**
	12nm,1.2s,mb4.4						
MOOW	**Moose Ponds**	**27.92**	**346**	*e*P	**P**	**12 38 01.1**	**-0.2**
	3.6nm,1.1s,mb3.9						
MCMT	**McKenzie Canyo**	**29.46**	**344**	*e*P	**P**	**12 38 15.9**	**+0.8**
DLMT	**Dillon**	**29.89**	**344**	*e*P	**P**	**12 38 19.6**	**+0.8**
	3.7nm,0.9s,mb4.1						
LAO	**LASA Array**	**30.02**	**354**	*e*P	**P**	**12 38 19.9**	**0.0**
	4.4nm,0.8s,mb4.2						
ULM	**Lac du Bonnet**	**33.66**	**7**	P	**P**	**12 38 50.7**	**-1.3**
	3.6nm,0.9s,mb4.3,baz=207,slow=9.6,SNR=5.0						
ULM	**Lac du Bonnet**	**33.66**	**7**	P	**P**	**12 38 50.7**	**-1.3**
SADO	**Sadowa**	**33.68**	**29**	LR	LR	12 54 39.3	
	comp=Z,62nm,20.7s,MS3.3,baz=221,slow=40						
NEW	**Newport**	**33.82**	**341**	P	**P**	**12 38 52.4**	**-1.0**
	3.2nm,0.8s,mb4.3,baz=165,slow=11,SNR=4.3						
PCRV	**Puerto La Cruz**	**36.56**	**96**	P	**P**	**12 39 13.6**	**-3.3**
	3.1nm,0.4s,mb4.5,baz=45,slow=4.3,SNR=2.8						
YKA	**Yellowknife Ar**	**46.52**	**352**	P	**P**	**12 40 36.1**	**-2.5**
	2.3nm,0.7s,mb4.2,baz=157,slow=7.4,SNR=5.6						
DLBC	**Dease Lake**	**46.53**	**340**	*e*P	**P**	**12 40 38.9**	**+0.2**

IDC ***31*** *12:32:09.8±1.4, 3545N×7003E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/20, mbtmp3.6/5, ML3.1/1, Error ellipse: s-maj=51.5km s-min=25.9km az=53.0*
ISCJB ***31*** *12:32:13.5±1.2, 355N±01×70.1E±02, h33km, mb3.4/4, Error ellipse: s-maj=25.5km s-min=19.3km az=2.3*
NNC ***31*** *12:32:39.0±5.2, 3740N×7074E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=70.2km s-min=41.0km az=79.0*
ISC 31 12:32:15.2±1.2, 355N±01×700E±02, h35km, n8, σ0≒58/9, mb3.4/4, 1C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**7.59**	**3**	Pn	**Pn**	**12 34 07.8**	**+4.6**
	1.8nm,0.3s,baz=173,slow=13,SNR=50						
KK31				⇓Sn	**Sn**	**12 35 17.5**	**-10**
	1.5nm,0.4s,baz=181,slow=20,SNR=7.0						
TKM2	**Tokmak 2**	**8.58**	**29**	⇓Pn	**Pn**	**12 34 17.5**	**+0.7**
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**14.56**	**36**	Pn	**Pn**	**12 35 38.1**	**-0.6**
	0.1nm,0.3s,baz=214,slow=12,SNR=4.1						
AB31	**Akbulak array**	**15.59**	**335**	⇑Pn	**Pn**	**12 36 00.6**	**+8.4**
	0.4nm,0.4s,baz=170,slow=10,SNR=16						
ARCES	**ARCESS Array B**	**41.75**	**338**	P	**P**	**12 40 00.1**	**-0.8**
	1.6nm,0.9s,mb3.6,baz=112,slow=9.7,SNR=5.7						
NOA	**NORSAR Array B**	**44.68**	**324**	P	**P**	**12 40 25.2**	**+0.6**
	0.3nm,0.5s,mb3.4,baz=96,slow=5.2,SNR=3.1						
WRA	**Warramunga Arr**	**82.17**	**121**	P	**P**	**12 44 32.6**	**+0.2**
	0.3nm,0.8s,mb3.2,baz=327,slow=4.7,SNR=4.5						
ASAR	**Alice Springs**	**84.37**	**124**	P	**P**	**12 44 43.7**	**-0.1**
	0.3nm,0.9s,mb3.4,baz=309,slow=5.7,SNR=5.8						

ISCJB ***31*** *12:37:17.1±4.1, 1.11N±006×9703E±006, h7km±26km, mb4.5/24, MS4.1/5, Error ellipse: s-maj=11.7km s-min=9.3km az=97.6*
IDC ***31*** *12:37:17.6±1.0, 1.10N×9697E, h0km, mb4.1/8, mb1 4.2/9, mb1mx3.9/22, mbtmp4.0/9, ML3.1/1, MS3.7/3, Ms1 3.7/3, ms1mx3.2/21, Error ellipse: s-maj=31.2km s-min=16.6km az=51.0*
BJI ***31*** *12:37:20.7, 107N×9740E, h36km, mB5.1, mb4.6, Ms4.3, Msz4.1*
MOS ***31*** *12:37:21.9±1.1, 136N×9731E, h33km, mb5.0/7, Error ellipse: s-maj=21.2km s-min=9.7km az=101.5*
NEIC ***31*** *12:37:22.9±0.5, 1.16N×97.15E, h30km, mb5.0/6, Error ellipse: s-maj=13.7km s-min=6.9km az=51.0*
ISC 31 12:37:26.8±2.3, 13N±01×973E±01, h57km±18km, n45, σ0≒88/45, mb4.5/24, MS4.1/5, 4C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.17**	**47**	Pn	**Pn**	**12 38 00.0**	**-0.4**
	4.1nm,0.3s,baz=227,slow=6.8,SNR=68						
PSI				Sn	**Sn**	**12 38 32.4**	**+6.4**
	6.8nm,0.3s,baz=241,slow=9.7,SNR=5.0						
PSI				LR	LR	12 38 50.1	
	comp=Z,470nm,20.9s,baz=295,slow=37						
KULM	**Kulim**	**5.15**	**40**	*e*P	**Pn**	**12 38 40.8**	**-0.5**
CHTO	**Chiang Mai**	**17.46**	**5**	P	**Pn**	**12 41 22.4**	**-3.8**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHTO	**Chiang Mai**	**17.46**	**5**	P	**Pn**	**12 41 22.4**	**-3.8**
	comp=Z,4.1nm,0.8s						
KMI	**Kunming**	**24.23**	**12**	P	**P**	**12 42 39.3**	**+1.2**
KMI				AP		12 42 45.8	
KMI				XP	sP	12 42 48.8	-10
KMI				AMB	AMB		
	comp=Z,27nm,1.2s,mb4.5						
KMI				AMB	AMB		
	comp=Z,94nm,3.4s						
KMI				LR	LR		
	comp=N,487nm,15.0s,MS4.2						
KMI				LR	LR		
	comp=E,314nm,13.8s,MS4.2						
KMI				LR	LR		
	comp=Z,559nm,14.2s,MS4.2						
GYA	**Guiyang**	**26.56**	**19**	⇑*i*P	**P**	**12 42 59.5**	**+0.3**
GYA				AP	pP	12 43 09.5	-3.9
GYA				XP	sP	12 43 13.3	-6.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
GYA				AMB	AMB		
	comp=Z,70nm,3.2s						
GYA				LR	LR		
	comp=N,240nm,15.8s,MS4.0						
GYA				LR	LR		
	comp=E,280nm,15.7s,MS4.0						
GYA				LR	LR		
	comp=Z,310nm,16.0s,MS4.0						
JIRN	**Jiri**	**28.28**	**339**	*e*P	**P**	**12 43 15.6**	**+0.9**
	comp=Z,49nm,1.0s,mb5.1						
PKI	**Pulchoki**	**28.50**	**337**	*e*P	**P**	**12 43 17.7**	**+1.2**
GUN	**Gumba**	**28.62**	**338**	*e*P	**P**	**12 43 18.4**	**+0.7**
	comp=Z,36nm,0.7s,mb5.2						
DMN	**Daman**	**28.65**	**337**	*e*P	**P**	**12 43 19.3**	**+1.4**
	comp=Z,29nm,1.1s,mb4.9						
KKN	**Kakani**	**28.74**	**337**	*e*P	**P**	**12 43 19.0**	**+0.3**
	comp=Z,33nm,1.0s,mb5.0						
KKN	**Kakani**	**28.74**	**337**	*e*P	**P**	**12 43 19.0**	**+0.3**
KKN				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.0						
GKN	**Gorkha**	**29.18**	**337**	*e*P	**P**	**12 43 23.3**	**+0.6**
KOLN	**Koldanda**	**29.41**	**335**	*e*P	**P**	**12 43 25.3**	**+0.7**
	comp=Z,20nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**33.89**	**126**	P	**P**	**12 44 03.3**	**-0.7**
	comp=Z,0.8nm,0.8s,mb3.7,baz=312,slow=15,SNR=2.8						
XAN	**Xi'an**	**34.31**	**17**	P	**P**	**12 44 07.0**	**-0.6**
XAN				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7						
GTA	**Gaotai**	**37.98**	**3**	*e*P	**P**	**12 44 39.5**	**+0.5**
GTA				AP	pP	12 44 46.5	-7.1
GTA				XP	sP	12 44 50.5	-10
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**41.98**	**122**	P	**P**	**12 45 12.2**	**+0.1**
	comp=Z,1.2nm,0.8s,mb3.6,baz=303,slow=8.9,SNR=9.3						
WRAB	**Tennant Creek**	**41.99**	**122**	*e*P	**P**	**12 45 12.1**	**-0.1**
WB2	**Warramunga Arr**	**41.99**	**122**	*e*P	**P**	**12 45 12.5**	**+0.3**
ASPA	**Alice Springs**	**43.36**	**127**	*e*P	**P**	**12 45 23.9**	**+0.6**
ASAR	**Alice Springs**	**43.36**	**127**	P	**P**	**12 45 23.7**	**+0.4**
	comp=Z,1.2nm,0.8s,mb3.7,baz=298,slow=7.6,SNR=15						
AS31	**Alice Springs**	**43.36**	**127**	*e*P	**P**	**12 45 23.9**	**+0.6**
AAK	**Ala-Archa**	**45.94**	**337**	⇓*e*P	**P**	**12 45 44.1**	**+0.2**
SONM	**Songino Array**	**46.99**	**8**	P	**P**	**12 45 52.6**	**+0.5**
	comp=Z,4.5nm,0.8s,mb4.5,baz=188,slow=8.8,SNR=29						
SONM				LR	LR	13 08 06.7	
	comp=Z,106nm,18.3s,MS3.8,baz=195,slow=39						
ULN	**Ulaanbaatar**	**47.12**	**9**	*ce*P	**P**	**12 45 53.6**	**+0.5**
ULN	**Ulaanbaatar**	**47.12**	**9**	*e*P	**P**	**12 45 52.4**	**-0.7**
	comp=Z,2.4nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**47.16**	**346**	P	**P**	**12 45 53.2**	**-0.1**
	comp=Z,2.9nm,0.7s,mb4.3,baz=161,slow=7.7,SNR=20						
MKAR	**Makanchi Array**	**47.16**	**346**	⇑*e*P	**P**	**12 45 53.2**	**-0.2**
CN2	**Changchun**	**49.14**	**27**	*e*P	**P**	**12 46 09.0**	**+0.3**
CN2				LR	LR		
	comp=N,200nm,14.0s,MS4.4						
CN2				LR	LR		
	comp=E,200nm,14.0s,MS4.4						
CN2				LR	LR		
	comp=Z,200nm,15.0s,MS4.2						
HIA	**Hailar**	**51.48**	**19**	*d*P	**P**	**12 46 27.0**	**+0.6**
KURK	**Kurchatov**	**51.71**	**345**	*ce*P	**P**	**12 46 27.7**	**-0.4**
KLR	**Kul'dur**	**56.09**	**27**	*e*P	**P**	**12 46 57.8**	**-2.2**
BVAR	**Borovoye Array**	**56.18**	**341**	P	**P**	**12 46 59.4**	**-1.2**
	comp=Z,3.3nm,0.7s,mb4.5,baz=133,slow=8.5,SNR=8.5						
AB31	**Akbulak array**	**57.47**	**332**	*i* P	**P**	**12 47 08.4**	**-1.4**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BOD	**Bodaibo**	**57.87**	**10**	*e*P	**P**	**12 47 12.0**	**-0.6**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
AKTK	**Aktyubinsk**	**59.19**	**332**	P	**P**	**12 47 20.5**	**-1.3**
AKTO	**Aktyubinsk**	**59.19**	**332**	P	**P**	**12 47 20.5**	**-1.3**
	comp=Z,2.1nm,0.8s,mb4.2,baz=154,slow=5.4,SNR=9.0						
YSS	**Yuzh-Sakhalins**	**60.17**	**34**	*d* iP	**P**	**12 47 30.1**	**+1.5**
YSS				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0						
ARU	**Arti**	**63.13**	**337**	*i* P	**P**	**12 47 49.3**	**+0.9**
KIV	**Kislovodsk**	**64.31**	**319**	⇓*e*P	**P**	**12 48 02.9**	**+6.7**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
YAK	**Yakutsk**	**65.27**	**16**	*d* iP	**P**	**12 48 02.0**	**-0.5**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.0						
TIXI	**Tiksi**	**73.05**	**10**	⇓*e*P	**P**	**12 48 49.5**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.3						
BOSA	**Boshof**	**74.95**	**240**	LR	LR	13 16 01.5	
	comp=Z,85nm,18.3s,MS4.1,baz=163,slow=31						
GERES	**GERESS Array B**	**84.81**	**319**	P	**P**	**12 49 53.4**	**-1.6**
	comp=Z,0.4nm,0.2s,mb4.1,baz=90,slow=5.6,SNR=3.2						

HLW ***31*** *12:45:11.8, 3386N×2468E, h30km, Mb3.7*
CSEM ***31*** *12:45:11.7±0.2, 3368N×2480E, h40km, ML3.7, Error ellipse: s-maj

MTP	**Monte Pirata**	**5.08**	**198**⇑	*e*P	Pn	12 53 26.0	-1.5
MTP				*e*S	Sn	12 54 23.5	-2.6
HUMP	**Col San Antoni**	**5.12**	**201**⇑	*e*P	Pn	12 53 26.2	-1.8
HUMP				*e*S	Sn	12 54 24.6	-2.6
CPD	**Cerro la Pandu**	**5.24**	**201**⇑	*e*P	Pn	12 53 27.8	-1.8
CPD				*e*S	Sn	12 54 27.2	-2.8
SJG	**San Juan**	**5.25**	**204**⇑	*e*P	Pn	12 53 28.1	-1.7
AOPR	**Arecibo Observ**	**5.29**	**210**⇑	*e*P	Pn	12 53 28.6	-1.8
AOPR				*e*S	Sn	12 54 29.4	-2.1
LRS	**Lares**	**5.38**	**211**⇑	*e*P	Pn	12 53 29.6	-2.1
LRS				*e*S	Sn	12 54 31.1	-2.6
CELP	**Cerrillos**	**5.46**	**207**⇑	*e*P	Pn	12 53 30.9	-1.8
OBIP	**Obispado Ponce**	**5.50**	**207**⇑	*e*P	Pn	12 53 31.6	-1.7
OBIP				*e*S	Sn	12 54 34.6	-1.9
ICM	**Isla Caja Muer**	**5.59**	**206**⇑	*e*P	Pn	12 53 33.4	-1.2
LSP	**Las Mesas**	**5.60**	**212**⇑	*e*P	Pn	12 53 32.7	-1.9
LSP				*e*S	Sn	12 54 37.0	-2.0
MGP	**Maguayo**	**5.75**	**211**⇑	*e*P	Pn	12 53 35.2	-1.4
CRPR	**Cabo Rojo, PR**	**5.76**	**212**⇑	*e*P	Pn	12 53 35.0	-1.8
CRPR				*e*S	Sn	12 54 41.1	-1.7

*ISCJB **31** 13:07:38.4±0.6, 40.39N±0.003×25.80E±0.005, h12km±4km, Error ellipse: s-maj=6.0km s-min=4.5km az=22.0*
*ISK **31** 13:07:38.5, 40.36N×25.83E, h18km, MD3.0*
*CSEM **31** 13:07:39.3±0.1, 40.37N×25.93E, h15km, MD3.0, Error ellipse: s-maj=2.9km s-min=1.9km az=107.0*
*ATH **31** 13:07:39.0, 40.37N×25.85E, h25km±1km, MD3.5/4*

ISC 31 13:07:39.0±0.5, **4039N**±002×**2581E**±004, **h14**km±4km, **n17**, σ0≦**85**/26, **1D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.21**	**161**	*i*	Pg	**Pg**	**13 07 43.8**	**+0.2**
GADA				*i*	Sg	**Sg**	**13 07 46.5**	**-0.3**
ENEZ	**Enez**	**0.43**	**37**		PG	**Pg**	**13 07 47.8**	**+0.2**
ENEZ					SG	**Sg**	**13 07 55.0**	**+1.5**
BOZC	**Bozcaada**	**0.58**	**161**	*i*	P	**Pg**	**13 07 50.2**	**-0.1**
BOZC				*i*	S	**Sg**	**13 07 57.6**	**-0.3**
LIA	**Limnos Island**	**0.69**	**225**	*e*	PN	**Pn**	**13 07 53.2**	**-1.0**
LIA				*e*	SN	**Sg**	**13 08 02.7**	**+1.3**
EZN	**Ezine**	**0.69**	**145**		PG	**Pg**	**13 07 52.0**	**-0.3**
RDO	**Rodhopi**	**0.79**	**345**	*e*	PN	**Pn**	**13 07 54.7**	**-0.9**
CANB	**Canakkale**	**1.03**	**111**		PG	**Pg**	**13 07 58.5**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.08**	**74**		PG	**Pg**	**13 07 58.7**	**-1.2**
MFT	**Murefte**	**1.19**	**70**		PN	**Pn**	**13 08 00.1**	**-1.1**
MFT					SN	**Sn**	**13 08 17.1**	**0.0**
PRK	**Paraskevi**	**1.20**	**163**	*e*	PN	**Pn**	**13 08 01.4**	**+0.2**
PRK				*e*	SN	**Sn**	**13 08 17.5**	**+0.2**
AYVA	**Ayvalik**	**1.27**	**148**	*i*	P	**Pn**	**13 08 02.5**	**+0.1**
AYVA				*i*	S	**Sb**	**13 08 20.0**	**+1.0**
MRMT	**Marmara Adasi**	**1.38**	**80**	*e*	PN	**Pn**	**13 08 02.7**	**-1.1**
EDRB	**Edirne**	**1.62**	**26**	*e*	PN	**Pn**	**13 08 07.9**	**+0.8**
NVR	**Nevrokopi**	**1.76**	**304**	*e*	PN	**Pn**	**13 08 10.6**	**+1.6**
PLG	**Polygyros**	**1.81**	**270**	*e*	PB	**Pb**	**13 08 10.6**	**-1.2**
ELBA	**Cataleca**	**2.13**	**68**	*i*	P	**Pb**	**13 08 17.6**	**+0.2**
ELBA				*i*	S	**Sg**	**13 08 47.9**	**+0.4**
BZS	**Buzias**	**6.06**	**331**⇓	*i*	P	**Pn**	**13 09 09.6**	**+1.4**
BZS					S	**Sg**	**13 10 52.4**	**-1.1**

IDC 31 13:09:42.2±3.2, **965S**×**10751E**, **h0**km, **mb3.7**/4, **mb1 3.7**/5, **mb1mx3.6**/16, **mbtmp3.6**/5, **ML3.3**/1, **Error ellipse: s-maj=130.3km s-min=22.3km az=49.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.49**	**117**		P	Pn	13 14 11.2	-0.7
	0.1nm,0.3s,baz=301,slow=12,SNR=4.8							
WRA	**Warramunga Arr**	**27.85**	**115**		P	P	13 15 32.4	-0.9
	0.6nm,0.7s,baz=284,slow=12,SNR=5.2							
ASAR	**Alice Springs**	**28.80**	**122**		P	P	13 15 43.4	+1.5
	0.5nm,0.8s,baz=296,slow=8.9,SNR=6.4							
SONM	**Songino Array**	**57.23**	**359**		P	P	13 19 31.6	+0.3
	0.7nm,0.8s,baz=188,slow=6.5,SNR=4.8							
MKAR	**Makanchi Array**	**60.53**	**340**		P	P	13 19 54.1	-0.1
	0.9nm,0.5s,baz=148,slow=7.5,SNR=7.7							

*IDC **31** 13:19:01.6±0.8, 956S×10761E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.9/17, mbtmp4.0/8, ML3.5/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/24, Error ellipse: s-maj=34.6km s-min=17.6km az=48.0*
*BJI **31** 13:19:03.0, 960S×10760E, h10km, mB5.0, mb4.3*
*NEIC **31** 13:19:03.0±0.5, 965S×10764E, h10km, mb4.7/7, Error ellipse: s-maj=25.2km s-min=7.7km az=48.0*
*ISCJB **31** 13:19:04.6±0.6, 965S±0.1×1077E±0.1, h33km, mb4.3/15, MS3.2/2, Error ellipse: s-maj=26.6km s-min=8.6km az=97.5*

ISC 31 13:19:07.0±0.6, **96S**±01×**1077E**±01, **h35**km, **n27**, σ0≦**94**/21, **mb4.3**/15, **MS3.2**/2, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**16.30**	**136**	*e*	P	**Pn**	**13 22 49.9**	**-3.2**
MBWA				*e*	S	S	13 25 35.2	-29
FITZ	**Fitzroy Crossi**	**19.35**	**118**	*e*	P	**Pn**	**13 23 30.3**	**-0.3**
	3.1nm,0.6s							
FITZ	**Fitzroy Crossi**	**19.35**	**118**		P	**Pn**	**13 23 30.3**	**-0.3**
	0.1nm,0.3s,baz=315,slow=14,SNR=9.0							
NWAO	**Narrogin (SRO)**	**24.80**	**161**		LR	LR	13 33 39.8	
	comp=Z,66nm,18.7s,MS3.2,baz=140,slow=35							
WRA	**Warramunga Arr**	**27.70**	**115**		P	**P**	**13 24 51.7**	**0.0**
	2.2nm,0.8s,mb3.9,baz=285,slow=11,SNR=12							
WRA					PcP	PcP	13 28 08.8	+0.7
	0.4nm,0.7s,baz=290,slow=2.6,SNR=6.1							
WRAB	**Tennant Creek**	**27.70**	**115**		P	**P**	**13 24 52.2**	**+0.4**
ASAR	**Alice Springs**	**28.66**	**122**		P	**P**	**13 25 01.9**	**+1.5**
	1.1nm,0.8s,mb3.6,baz=298,slow=9.5,SNR=17							
ASAR					PcP	PcP	13 28 11.6	+1.1
	0.7nm,0.9s,baz=292,slow=1.9,SNR=5.5							
CTA	**Charters Tower**	**38.61**	**110**		P	**P**	**13 26 27.2**	**+0.5**
	1.5nm,0.7s,mb3.9,baz=320,slow=11,SNR=2.7							
JOW	**Kunigami**	**41.40**	**28**		LR	LR	13 45 16.2	
	comp=Z,36nm,19.0s,MS3.3,baz=116,slow=38							
JIRN	**Jiri**	**42.52**	**331**	*e*	P	**P**	**13 26 59.7**	**+0.7**
	21nm,0.7s,mb5.0							
PKI	**Pulchoki**	**42.82**	**330**	*e*	P	**P**	**13 27 02.4**	**+1.0**
GUN	**Gumba**	**42.88**	**331**	*e*	P	**P**	**13 27 02.6**	**+0.7**
DMN	**Daman**	**43.00**	**330**	*e*	P	**P**	**13 27 03.5**	**+0.6**
	6.5nm,0.3s,mb4.8							
KKN	**Kakani**	**43.07**	**330**	*e*	P	**P**	**13 27 03.6**	**+0.2**
	20nm,0.9s,mb4.9							
XAN	**Xi'an**	**43.45**	**1**		P	**P**	**13 27 06.0**	**-0.5**
XAN					AP	pP	13 27 14.3	-2.5
XAN					AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5							
GTA	**Gaotai**	**49.34**	**352**	*e*	P	**P**	**13 27 53.8**	**+1.1**
GTA					AP	pP	13 27 57.8	-5.4
GTA					XP	sP	13 28 01.0	-6.3
GTA					AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.2							
SONM	**Songino Array**	**57.23**	**359**		P	**P**	**13 28 50.8**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.1,baz=174,slow=8.8,SNR=12							
ULN	**Ulaanbaatar**	**57.25**	**359**	*e*	P	**P**	**13 28 50.2**	**-0.7**
	comp=Z,3.3nm,1.0s,mb4.3							
MKAR	**Makanchi Array**	**60.58**	**340**		P	**P**	**13 29 13.5**	**-0.5**
	comp=Z,3.0nm,0.7s,mb4.5,baz=145,slow=7.8,SNR=16							
MAW	**Mawson**	**65.06**	**197**		P	**P**	**13 29 44.3**	**+0.5**
	comp=Z,2.1nm,0.9s,mb4.2,baz=48,slow=10.0,SNR=6.6							
KURK	**Kurchatov**	**65.19**	**340**	*e*	P	**P**	**13 29 43.2**	**-1.4**
	comp=Z,7.6nm,1.2s,mb4.6							
ZRNK	**Zerenda**	**70.52**	**336**	*e*	P	**P**	**13 30 16.7**	**-1.5**
	comp=Z,4.4nm,1.0s,mb4.3							
BRTR	**Keskin Array B**	**84.07**	**312**		P	**P**	**13 31 32.8**	**-1.3**
	comp=Z,0.3nm,0.5s,mb3.7,baz=128,slow=5.6,SNR=3.4							
WMOK	**Wichita Mounta**	**145.22**	**40**	*e*	PKP	PKPdf	13 38 41.4	+0.6
JCT	**Junction City**	**147.05**	**47**	*e*	PKPbc	PKPbc	13 38 47.7	+1.7
MIAR	**Mount Ida**	**148.48**	**35**	*e*	PKPbc	PKPbc	13 38 51.0	+1.1
WVT	**Waverly**	**150.09**	**26**	*e*	PKPbc	PKPbc	13 38 54.5	+0.6

IDC 31 14:11:43.0±8.0, **1517S**×**17350W**, **h0**km, **mb3.8**/3, **mb1 4.2**/4, **mb1mx3.9**/14, **mbtmp3.9**/4, **MS3.6**/2, **Ms1 3.6**/2, **ms1mx2.8**/24, **Error ellipse: s-maj=641.5km s-min=22.4km az=151.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.09**	**53**		Pn	Pn	14 12 18.5	-0.7
	183nm,0.3s,baz=139,slow=0.7,SNR=191							
AFI						Sn	Sn	14 12 38.2	-7.7
	342nm,0.3s,baz=171,slow=23,SNR=19							
CTA	**Charters Tower**	**38.60**	**257**		LR	LR	14 32 37.1	
	comp=Z,60nm,21.0s,baz=48,slow=32							
WRA	**Warramunga Arr**	**49.80**	**257**		P	P	14 20 38.0	+0.5
	0.2nm,0.4s,baz=90,slow=7.0,SNR=6.9							
ASAR	**Alice Springs**	**50.09**	**252**		P	P	14 20 39.9	+0.2
	0.9nm,0.4s,baz=88,slow=7.8,SNR=8.9							
MJAR	**Matsushiro Arr**	**68.70**	**320**		LR	LR	14 48 33.6	
	comp=Z,56nm,20.0s,baz=285,slow=32							
NVAR	**Mina Array Bea**	**74.22**	**42**		P	P	14 23 22.8	+1.1
	0.7nm,0.7s,baz=234,slow=11,SNR=5.7							

*CSEM **31** 14:15:24.7±0.1, 4597N×1068E, h25km, ML3.2/4, Error ellipse: s-maj=2.0km s-min=1.5km az=167.0*
*ROM **31** 14:15:25.7±0.2, 4599N×1068E, h8km±2km, Md2.6/13, Ml2.5/10, Error ellipse: s-maj=2.2km s-min=2.0km az=105.0*
*VIE **31** 14:15:25.5±0.7, 4604N×1076E, h8km, mb1.8/3, ML2.7/3, Error ellipse: s-maj=4.6km s-min=1.7km az=8.0 14 km S of Pinzolo*
*ISCJB **31** 14:15:25.1±0.3, 4602N±002×1070E±002, h8km, Error ellipse: s-maj=3.0km s-min=2.2km az=161.7*
*ZUR **31** 14:15:26.7, 4602N×1059E, h9km±7km, ML2.2/7*
*PRU **31** 14:15:31.2, 46.17N×1075E, h0km*

ISC 31 14:15:26.0±0.3, **4601N**±002×**1069E**±002, **h5**km±9km, **n30**, σ0≦**89**/50, **6C-11D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MABI	**Malga Bissina**	**0.13**	**290**	⇓*i*	Pg	**Pg**	**14 15 29.1**	**+0.4**
MABI					Sg	**Sg**	**14 15 31.1**	**+0.6**
	322nm,0.1s							
MAGA	**Magasa**	**0.24**	**190**		Pg	**Pg**	**14 15 30.5**	**-0.2**
MAGA					Sg	**Sg**	**14 15 34.6**	**+0.8**
	1µm,0.3s							
SALO	**Salr**	**0.41**	**197**		Pg	**Pg**	**14 15 33.7**	**-0.2**
SALO					Sg	**Sg**	**14 15 40.2**	**+1.0**
	1µm,0.4s							
BRMO	**Bormio**	**0.52**	**335**		Pg	**Pg**	**14 15 36.2**	**+0.2**
BRMO					Sg	**Sg**	**14 15 43.1**	**+0.4**
	129nm,0.1s							
APPI	**Appiano**	**0.60**	**38**		Pg	**Pg**	**14 15 37.7**	**+0.1**
APPI					Sg	**Sg**	**14 15 46.0**	**+0.6**
	274nm,0.4s							
BERNI	**Berninapass**	**0.61**	**311**	⇓*i*	Pg	**Pg**	**14 15 38.7**	**+0.8**
	183nm,0.3s							
CTI	**Castel Tesino**	**0.67**	**86**		Pg	**Pg**	**14 15 38.8**	**-0.1**
	119nm,0.2s							
MDI	**Monti di Nese**	**0.72**	**252**		Pg	**Pg**	**14 15 39.7**	**-0.2**
MDI					Sg	**Sg**	**14 15 49.8**	**+0.5**
	182nm,0.3s							
CGRP	**Cima Grappa**	**0.79**	**99**⇑	*e*	Pg	**Pg**	**14 15 41.0**	**-0.1**
CGRP				*e*	Sg	**Sg**	**14 15 50.9**	**-0.4**
FAU	**Forcella Aurin**	**0.92**	**76**	⇓*i*	Pg	**Pg**	**14 15 44.8**	**+1.0**
FAU				*i*	Sg	**Sg**	**14 15 56.0**	**+0.2**
TEOL	**Teolo**	**0.94**	**133**	⇓*e*	Pg	**Pg**	**14 15 44.2**	**+0.1**
DAVOX	**Davos**	**0.95**	**324**	⇓*i*	Pg	**Pg**	**14 15 39.7**	**-4.6**
	145nm,0.3s							
DAVOX	**Davos**	**0.95**	**324**		Pg	**Pg**	**14 15 44.2**	**-0.1**
DAVOX					Sg	**Sg**	**14 15 57.3**	**+0.6**
VDL	**Val di Lei**	**0.97**	**300**	*e*	Pn	**Pn**	**14 15 44.3**	**-2.0**
	89nm,0.1s							
TUE	**Stuetta**	**1.04**	**297**		Pg	**Pg**	**14 15 45.3**	**-0.7**
TUE					Sg	**Sg**	**14 15 59.9**	**+0.4**
	47nm,0.2s							
MUGIO	**Muggio**	**1.15**	**266**		Pg	**Pg**	**14 15 47.5**	**-0.7**
MUGIO					Sg	**Sg**	**14 16 02.7**	**-0.4**
MUGIO	**Muggio**	**1.15**	**266**	⇑*i*	P	**Pg**	**14 15 44.4**	**-3.8**
	366nm,0.4s							
MUGIO	**Muggio**	**1.15**	**266**		Pg	**Pg**	**14 15 47.5**	**-0.7**
MUGIO					Sg	**Sg**	**14 16 02.7**	**-0.4**
SEST	**Monte Rota**	**1.29**	**54**		Pg	**Pg**	**14 15 50.8**	**0.0**
	1µm,2.0s							
MLNI	**Malnisio**	**1.34**	**83**	⇓*e*	Pg	**Pg**	**14 15 52.4**	**+0.6**
MLNI				*e*	Sg	**Sg**	**14 16 11.1**	**+1.9**
VAI	**Varese**	**1.35**	**265**		Pg	**Pg**	**14 15 51.2**	**-0.7**
	21nm,0.2s							
DAVA	**Damuels**	**1.39**	**337**	⇑*i*	Pg	**Pg**	**14 15 52.6**	**-0.1**
DAVA				⇓*i*	Sg	**Sg**	**14 16 11.9**	**+1.0**
	19nm,0.3s							
WTTA	**Wattenberg**	**1.41**	**27**	⇓*i*	Pg	**Pg**	**14 15 52.8**	**-0.3**
WTTA				⇓*i*	Sg	**Sg**	**14 16 11.2**	**-0.3**
	11nm,0.2s							
LLS	**Linth-Limmern**	**1.43**	**306**	⇑*i*	P	**Pn**	**14 15 47.4**	**-5.3**
	36nm,0.6s							
FUSIO	**Fusio**	**1.48**	**288**	⇑*i*	P	**Pg**	**14 15 52.8**	**-1.5**
	147nm,0.3s							
FVI	**Forni Avoltri**	**1.56**	**67**		Pg	**Pg**	**14 15 56.6**	**+0.6**
	52nm,0.6s							
PLRO	**Paularo**	**1.79**	**72**	⇑*e*	Pg	**Pg**	**14 15 59.6**	**-0.7**
PLRO				*e*	Sg	**Sg**	**14 16 23.6**	**+0.1**
PTCC	**Patocco-Chiusa**	**1.89**	**77**		Pg	**Pg**	**14 16 00.0**	**-2.3**
	13nm,0.3s							
KBA	**Koelnbreinsper**	**2.12**	**59**	⇓*i*	Pg	**Pg**	**14 16 04.9**	**-1.8**
KBA				⇓*i*	Sg	**Sg**	**14 16 33.6**	**-0.6**
	12nm,0.3s							
KHC	**Kasperske Hory**	**3.68**	**31**	*e*	PN	**Pn**	**14 16 28.0**	**+4.4**
KHC				*e*	PG	**Pg**	**14 16 36.5**	**-0.1**
KHC				*e*	SN	**Sn**	**14 17 10.0**	**+2.6**
KHC				*e*	SG	**Sg**	**14 17 23.0**	**-1.4**

*IDC **31** 14:16:20.1±2.3, 669S×130.35E, h0km, mb3.8/1, mb1 3.9/4, mb1mx3.7/12, mbtmp3.7/4, ML3.9/3, Error ellipse: s-maj=86.6km s-min=29.0km az=78.0*
*ISCJB **31** 14:16:33.0±4.5, 72S±02×1302E±02, h137km±49km, mb3.6/1, Error ellipse: s-maj=46.8km s-min=32.9km az=90.8*

ISC 31 14:16:25.6±4.8, **68S**±03×**1304E**±03, **h41**km±50km, **n8**, σ0≦**18**/9, **mb3.9**/1, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.23**	**161**	*e*	P	**Pn**	**14 17 59.7**	**+4.8**
	8.1nm,0.2s							
KAKA					*e*S	**Sn**	**14 19 04.8**	**0.0**
FITZ	**Fitzroy Crossi**	**12.15**	**202**	*e*	P	**Pn**	**14 19 16.0**	**-0.2**
	2.4nm,0.3s							
FITZ					*e*S	Sx	14 21 19.4	
FITZ	**Fitzroy Crossi**	**12.15**	**202**		Pn	**Pn**	**14 19 16.3**	**+0.2**
	0.6nm,0.3s,baz=43,slow=13,SNR=28							
FITZ					Sn	Sx	14 21 23.0	
	1.1nm,0.3s,baz=212,slow=15,SNR=7.9							
WRA	**Warramunga Arr**	**13.63**	**164**		Pn	**Pn**	**14 19 36.3**	**0.0**
	0.5nm,0.3s,baz=347,slow=13,SNR=50							
WRA					Sn	Sx	14 21 58.4	
	0.7nm,0.3s,baz=340,slow=24,SNR=11							
WB2	**Warramunga Arr**	**13.63**	**164**	*e*	P	**Pn**	**14 19 36.3**	**0.0**
WB2				*e*	S	Sx	14 21 55.6	
ASAR	**Alice Springs**	**17.12**	**169**		P	**Pn**	**14 20 21.8**	**0.0**
	0.3nm,0.3s,baz=337,slow=9.6,SNR=17							
ASAR					S	Sx	14 23 24.9	
	0.2nm,0.3s,baz=352,slow=28,SNR=6.3							
ASPA	**Alice Springs**	**17.12**	**169**	*e*	P	**Pn**	**14 20 21.8**	**0.0**
ASPA				*e*	S	Sx	14 23 22.3	
MKAR	**Makanchi Array**	**68.25**	**327**		P	**P**	**14 27 22.2**	**0.0**
	0.6nm,0.5s,mb3.9,baz=121,slow=8.2,SNR=4.8							

*IDC **31** 14:20:30.9±2.0, 3626N×14030E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.5/20, mbtmp3.9/4, ML3.8/2, Error ellipse: s-maj=34.4km s-min=15.0km az=33.0*
*ISCJB **31** 14:20:37.4±0.6, 3603N±004×13997E±006, h54km±6km, mb3.4/2, Error ellipse: s-maj=7.8km s-min=6.0km az=159.7*
*JMA **31** 14:20:38.5±0.1, 3606N×13992E, h47km±1km, M3.4 Broadband fault plane solution: P waves. NP1: ϕs245.00000°, δ14.00000°, λ106.00000°. NP2: ϕs49.00000°, δ77.00000°, λ86.00000°. Principal axes: T Plg58.0000°, Azm314.0000°; N Plg4.0000°, Azm50.0000°; P Plg32.0000°, Azm142.0000°;*
JMA Felt I J1.

ISC 31 14:20:38.5±0.6, **3604N**±004×**13995E**±006, **h46**km±7km, **n17**, σ0≦**50**/25, **mb3.4**/2, **1C-7D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.28**	**47**	⇑	P	**Pn**	**14 20 47.1**	**+0.1**
JYT					S	**Sn**	**14 20 53.1**	**+0.1**
JAG	**Ashikaga**	**0.55**	**314**	⇓	P	**Pn**	**14 20 50.0**	**-0.1**
JAG					S	**Sn**	**14 20 58.0**	**-0.5**
JHU	**Hanno**	**0.57**	**251**	⇓	P	**Pn**	**14 20 50.0**	**-0.4**
JHU					S	**Sn**	**14 20 58.2**	**-0.7**
JRY	**Ryogami san**	**0.85**	**269**	⇓	P	**Pn**	**14 20 53.7**	**-0.3**
JRY					S	**Sn**	**14 21 04.5**	**-0.8**
JKT	**Katashina**	**0.92**	**322**	⇓	P	**Pn**	**14 20 54.7**	**-0.3**
JOD2	**Odawara 2**	**1.04**	**222**		P	**Pn**	**14 20 57.0**	**+0.3**
JOD2					S	**Sn**	**14 21 10.3**	**+0.2**
JYN	**Shimob**	**1.26**	**245**		P	**Pn**	**14 21 00.8**	**+1.1**
BSO3	**Boso 3**	**1.32**	**159**	⇓	P	**Pn**	**14 21 00.5**	**+0.1**
JFY	**Yanaizu**	**1.38**	**352**	⇓	P	**Pn**	**14 21 01.5**	**+0.3**
JIM2	**Oshima 3**	**1.39**	**198**		P	**Pn**	**14 21 01.1**	**-0.2**
JIM2					S	**Sn**	**14 21 18.7**	**+0.2**
JHK	**Hiroka**	**1.42**	**329**	⇓	P	**Pn**	**14 21 01.9**	**+0.1**
MJAR	**Matsushiro Arr**	**1.49**	**290**		Pg	**Pn**	**14 21 02.9**	**+0.2**
	13nm,0.3s,baz=98,slow=8.9,SNR=116							
MJAR					Lg		14 21 23.3	
	10nm,0.3s,baz=101,slow=0.2,SNR=7.7							
MAT	**Matsushiro**	**1.49**	**290**		P	**Pn**	**14 21 03.1**	**+0.3**
MAT					S	**Sn**	**14 21 22.5**	**+1.4**
JHJ	**Hachijo jima 2**	**2.92**	**183**		Pn	**Pn**	**14 21 22.7**	**+0.4**
	28nm,0.3s,baz=87,slow=18,SNR=7.8							
JHJ					Sn	**Sn**	**14 21 56.1**	**0.0**
	28nm,0.3s,baz=66,slow=20,SNR=3.0							
CBIJ	**Chichi jima**	**9.12**	**167**		Pn	**Pn**	**14 22 46.9**	**-0.5**
	3.6nm,0.3s,baz=263,slow=19,SNR=5.2							
MKAR	**Makanchi Array**	**43.65**	**303**		P	**P**	**14 28 37.8**	**-0.7**
	0.2nm,0.4s,mb3.2,baz=88,slow=11,SNR=2.6							
WRA	**Warramunga Arr**	**55.93**	**186**		P	**P**	**14 30 11.6**	**-0.2**
	0.2nm,0.3s,mb3.6,baz=0.7,slow=7.5,SNR=9.8							

MEX 31 14:23:29.3±1.2, **1710N**×**10019W**, **h38**km±14km, **MD3.5, Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.09**	**236**	*i*	P	Pn	14 23 34.0	-1.7
CAIG				*i*	S	Sn	14 23 38.5	-1.5
ACX	**Acapulco**	**0.35**	**131**	*i*	P	Pn	14 23 36.5	-1.5
ACX				*i*	S	Sn	14 23 42.3	-1.7
MEIG	**Mezcala**	**0.99**	**33**	*i*	P	Pn	14 23 44.3	-2.3
MEIG				*i*	S	Sn	14 23 56.6	-2.8
PLIG	**Platanillo**	**1.45**	**27**	*i*	P	Pn	14 23 52.1	-0.8
PLIG				*i*	S	Sn	14 24 09.3	-1.4
UTMO	**Huajuapan**	**2.39**	**72**	*i*	P	Pn	14 24 05.6	-0.4
UTMO				*i*	S	Sn	14 24 32.9	-1.2

MAN 31 14:41:42.6, 1063N×12573E, h3km, **mb1.9, ML3.7, MS2.6, 1D, Leyte**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.87**	**196**	⇓*e*	P	Pg	14 41 59.0	-0.3
PLP	**Palo**	**0.91**	**306**	*e*	P	Pg	14 42 00.9	+0.8
PLP				*e*	S	Sg	14 42 15.0	+3.1
MSLP	**Maasin**	**0.99**	**240**	*e*	P	Pg	14 42 02.7	+1.2
MSLP				*e*	S	Sg	14 42 18.1	+3.8
BESP	**Borongan**	**1.01**	**343**	*e*	P	Pg	14 42 02.1	+0.1

*NEIC **31** 14:44:28.7±4.6, 3629N×7105E, h189km±38km, mb4.3/1, Error ellipse: s-maj=46.5km s-min=16.4km az=213.0*
*IDC **31** 14:44:33.2±14.0, 3650N×7120E, h229km±134km, mb3.1/5, mb1 3.1/8, mb1mx2.9/23, mbtmp3.7/8, Error ellipse: s-maj=115.9km s-min=23.2km az=35.0*
*ISCJB **31** 14:44:35.5±2.7, 368N±02×713E±02, h255km±22km, mb3.2/5, Error ellipse: s-maj=35.2km s-min=20.6km az=59.7*

ISC 31 14:44:32.0±4.0, **365N**±03×**711E**±02, **h219**km±31km, **n20**, σ0≦**51**/21, **mb3.3**/5, **4C, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.00**	**19**		P	**Pn**	**14 45 58.9**	**-0.6**
	SNR=22							
UCH	**Uchtor**	**6.33**	**23**		P	**Pn**	**14 46 04.5**	**+0.8**
	SNR=7.7							
EKS2	**Erkin-Say**	**6.52**	**17**		P	**Pn**	**14 46 06.3**	**+0.1**
	SNR=7.1							
KK31	**Karatay Array**	**6.65**	**356**	⇑	Pn	**Pn**	**14 46 08.1**	**+0.2**
	0.4nm,0.3s,baz=166,slow=11,SNR=12							
KK31				⇑	Lg		14 47 16.8	
	1.7nm,0.3s,baz=169,slow=20,SNR=4.3							
AAK	**Ala-Archa**	**6.69**	**22**		P	**Pn**	**14 46 08.5**	**+0.1**
	SNR=5.2							
AAK	**Ala-Archa**

CTAO	Charters Tower	34.41 140	*eP*		**P**		**14 55 20.8**	**+1.2**
FORT	Forrest	37.02 173	*eP*		**P**		**14 55 41.7**	**+0.7**
	11nm,0.7s,mb4.5							
NWAO	Narrogin (SRO)	39.34 188	P		**P**		**14 56 00.5**	**+0.7**
	17nm,1.0s,mb4.5,baz=44,slow=6.3,SNR=3.9							
ULN	Ulaanbaatar	43.83 344	*eP*		**P**		**14 56 35.2**	**+0.1**
	1.1nm,0.6s,mb3.6							
SONM	Songino Array	43.99 343	P		**P**		**14 56 36.2**	**-0.1**
	1.2nm,0.9s,mb3.4,baz=164,slow=8.9,SNR=7.8							
MKAR	Makanchi Array	53.70 326	P		**P**		**14 57 48.4**	**+0.6**
	3.7nm,0.5s,mb4.0,baz=124,slow=8.2,SNR=24							
MKAR			PcP		PcP		14 58 44.2	0.0
	0.7nm,0.5s,baz=145,slow=2.7,SNR=5.7							
KURK	Kurchatov	57.94 328	*eP*		**P**		**14 58 17.0**	**0.0**
	8.3nm,0.7s,mb4.0							
BVAR	Borovoye Array	63.51 327	P		**P**		**14 58 53.3**	**-0.1**
	0.5nm,0.6s,mb3.1,baz=123,slow=5.5,SNR=6.2							
BRVK	Borovoye	63.58 327	*eP*		**P**		**14 58 53.8**	**-0.1**
	1.3nm,0.6s,mb3.4							
AKTK	Aktyubinsk	69.73 322	P		**P**		**14 59 31.6**	**-0.1**
AKTO	Aktyubinsk	69.73 322	P		**P**		**14 59 31.6**	**-0.1**
	0.5nm,0.3s,mb3.4,baz=100,slow=6.1,SNR=3.4							
FINES	FINESS Array B	88.14 332	P		**P**		**15 01 07.5**	**-1.4**
	0.8nm,0.6s,mb3.6,baz=84,slow=4.6,SNR=5.0							

ISCJB ***31*** *14:54:05.2±1.4, 174S±03×1790W±02, h484km±19km, mb4.0/14, Error ellipse: s-maj=56.3km s-min=11.0km az=124.1*
IDC ***31*** *14:54:05.9±2.4, 1799S×17863W, h498km±20km, mb3.5/6, mb1 3.7/8, mb1mx3.5/16, mbtmp4.4/8, Error ellipse: s-maj=142.3km s-min=13.3km az=155.0*
NEIC ***31*** *14:54:06.8±0.8, 1740S×17891W, h495km±10km, mb4.1/10, Error ellipse: s-maj=31.7km s-min=6.5km az=152.0*

ISC 31 14:54:06.7±1.2, 174S±03×1789W±02, h490km±17km, n29, σ0§64/24, mb4.0/14, 4C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AFI	Afiamalu	7.69	64	P		**P**	**14 55 58.4**	**-1.2**
	5.0nm,0.3s,baz=360,slow=7.4,SNR=6.3							
AFI	Afiamalu	7.69	64	*eP*		**P**	**14 55 59.5**	**-0.1**
DZM	Mont Dzumac	14.56	249	P		**P**	**14 57 13.6**	**+1.3**
	0.5nm,0.3s,baz=227,slow=21,SNR=8.9							
ARMA	Armidale	29.79	239	*eP*		**P**	**14 59 33.5**	**+0.8**
CTA	Charters Tower	33.08	260	P		**P**	**15 00 01.2**	**+0.3**
	4.1nm,0.6s,mb4.0,baz=97,slow=11,SNR=7.2							
CTAO	Charters Tower	33.08	260	*eP*		**P**	**15 00 01.4**	**+0.5**
	3.7nm,0.7s,mb3.9							
CNB	Canberra Magne	33.36	232	*eP*		**P**	**15 00 03.2**	**-0.1**
	31nm,1.2s,mb4.6							
TOO	Toolangi	37.12	230⇑	*iP*		**P**	**15 00 34.8**	**+0.1**
	11nm,0.9s,mb4.3							
WB2	Warramunga Arr	44.26	259	*eP*		**P**	**15 01 31.0**	**-0.8**
WRAB	Tennant Creek	44.26	259	*eP*		**P**	**15 01 30.8**	**-1.0**
	3.0nm,0.6s,mb3.9							
WRA	Warramunga Arr	44.27	259	P		**P**	**15 01 31.2**	**-0.7**
	1.9nm,0.5s,mb3.8,baz=94,slow=7.0,SNR=44							
AS31	Alice Springs	44.48	254	*eP*		**P**	**15 01 33.4**	**-0.1**
ASAR	Alice Springs	44.48	254	P		**P**	**15 01 33.5**	**-0.1**
	18nm,0.5s,mb4.8,baz=89,slow=7.9,SNR=510							
ASAR				ScP		ScP	15 06 08.8	-2.8
	0.4nm,0.8s,baz=132,slow=1.9,SNR=4.2							
ASAR				S		**S**	**15 07 28.1**	**-4.2**
	1.0nm,1.0s,baz=83,slow=16,SNR=6.9							
ASPA	Alice Springs	44.49	254	*eP*		**P**	**15 01 33.4**	**-0.1**
KAKA	Kakadu	47.14	269⇑	*iP*		**P**	**15 01 54.3**	**+0.5**
	5.8nm,0.3s,mb4.5							
FORT	Forrest	49.80	244	*eP*		**P**	**15 02 12.7**	**-1.0**
	14nm,0.6s,mb4.5							
FITZ	Fitzroy Crossi	52.66	260	*eP*		**P**	**15 02 34.9**	**+0.4**
	2.9nm,0.8s,mb3.7							
FITZ	Fitzroy Crossi	52.66	260	P		**P**	**15 02 34.7**	**+0.2**
	0.7nm,0.3s,mb3.4,baz=136,slow=7.4,SNR=12							
NVAR	Mina Array Bea	79.40	44	P		**P**	**15 05 22.1**	**+0.8**
	1.8nm,0.7s,mb3.7,baz=231,slow=11,SNR=12							
WVOR	Wild Horse Val	81.35	41	*eP*		**P**	**15 05 31.3**	**-0.1**
	2.6nm,0.9s,mb3.8							
IMW	Indian Meadow	86.94	42	*eP*		**P**	**15 05 59.9**	**+0.8**
	0.9nm,0.6s,mb3.7							
BW06	Boulder Array	87.33	44	*eP*		**P**	**15 06 00.7**	**-0.2**
	1.3nm,0.5s,mb3.9							
PDAR	Pinedale Array	87.33	44	P		**P**	**15 06 00.8**	**0.0**
	1.2nm,0.5s,mb3.9,baz=215,slow=3.9,SNR=12							
BRTR	Keskin Array B	144.13	315	PKP		PKPdf	15 12 45.2	-0.9
	1.0nm,0.6s,baz=90,slow=3.7,SNR=5.8							
CLL	Collm	144.91	347⇑	*i*PKIKP		PKPdf	15 12 46.8	-0.6
	logA/T=1.0							
CLL	Collm	144.91	347⇑	*i*PKPdf		PKPdf	15 12 46.8	-0.6
	comp=Z,8.0nm,0.8s							
MLR	Muntele Rosu	145.20	329	PKPbc		PKPbc	15 12 49.4	+0.6
	comp=Z,1.6nm,0.6s,baz=237,slow=5.6,SNR=3.3							
GERES	GERESS Array B	147.04	345	PKPbc		PKPbc	15 12 52.8	-1.2
	comp=Z,1.1nm,0.4s,baz=56,slow=3.4,SNR=12							
DAVOX	Davos	149.86	348	PKPbc		PKPbc	15 13 00.5	-0.4
	comp=Z,1.2nm,0.3s,baz=188,slow=2.7,SNR=5.5							

NAO ***31*** *15:02:00.4±1.2, 6762N×3377E, ML2.0*
CSEM ***31*** *15:02:00.5±0.7, 6772N×3365E, h0km±4km, ML2.2, Error ellipse: s-maj=20.6km s-min=7.9km az=83.0, Mining explosion.*

HEL 31 15:02:00.1±0.4, 6769N×3389E, h0km, ML2.5, ML2.2(BER), ML2.0(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
APA0	Apatity Array	0.35	256	*i*	P	Pg	15 02 05.9	-0.9
APA0				*i*	S	Sg	15 02 11.0	-0.5
APA0				*e*	RG		15 02 11.8	
APA0	Apatity Array	0.35	256	P	g	Pg	15 02 05.9	-0.9
	baz=97,slow=16							
APA0				L	g		15 02 11.0	
	baz=84,slow=37							
APA0				R	g		15 02 11.8	
	baz=87,slow=37							
KU4	Liikasenvaara	2.15	234	*e*P		Pn	15 02 37.0	-0.2
KU4				*e*S		Sn	15 03 05.0	+0.3
KU4				MSG			15 03 07.8	
	comp=Z,22nm,0.1s							
KU4	Liikasenvaara	2.15	234	P		Pn	15 02 36.9	-0.3
KU4				S		Sn	15 03 04.9	+0.3
	comp=Z,22nm,0.1s							
MSF	Maaselka	2.62	229	*e*P		Pn	15 02 43.7	0.0
MSF				*e*SB		Sb	15 03 19.6	-1.1
MSF				MSG			15 03 23.0	
	comp=Z,13nm,0.3s							
MSF	Maaselka	2.62	229	P		Pn	15 02 43.6	-0.1
SGF	Sodankyl	2.83	268	*e*P		Pn	15 02 46.1	-0.5
SGF				*e*S		Sn	15 03 21.8	+0.3
SGF				MSG			15 03 26.9	
	comp=Z,31nm,0.2s							
SGF	Sodankyl	2.83	268	P		Pn	15 02 46.1	-0.5
SGF				S		Sn	15 03 21.7	+0.3
	comp=Z,31nm,0.2s							
KEV	Kevo	3.25	313	*e*P		Pn	15 02 53.0	+0.6
KEV				*e*S		Sn	15 03 31.6	-0.2
KEV	Kevo	3.25	313	P		Pn	15 02 52.9	+0.5
ARA0	ARCESS Array S	3.58	305	*e*P		Pn	15 02 56.6	-0.3
ARA0				*e*PG		Pg	15 03 04.5	-4.3
ARA0				*e*S		Sn	15 03 37.6	-2.3
ARA0				*e*SG			15 03 49.2	
ARA0	ARCESS Array S	3.58	305	Pn		Pn	15 02 56.6	-0.3
	baz=122,slow=14							
ARA0				P	g	Pg	15 03 04.5	-4.3
	baz=118,slow=16							
ARA0				S	n	Sn	15 03 37.6	-2.3
	baz=122,slow=28							
ARA0				L	g		15 03 49.2	
	baz=127,slow=37							
OUL	Oulu	4.14	235	*e*P		Pn	15 03 04.8	+0.2
OUL				*e*SG		Sg	15 04 07.9	-5.3
KTK1	Kautokeino	4.16	293	*e*P		Pn	15 03 05.5	+0.6
KTK1				AML		AML	15 04 12.9	
	comp=Z,11nm,0.7s							
FIA0	FINESS Array S	7.11	212	Pn		Pn	15 03 43.9	-1.5
	baz=23,slow=14							
FIA0				S	n	Sn	15 04 59.8	-7.1
	baz=41,slow=28							
FIA0				L	g		15 05 35.2	
	baz=21,slow=28							
FIA0	FINESS Array S	7.11	212	*e*P		Pn	15 03 43.9	-1.5
FIA0				*e*S		Sn	15 04 59.8	-7.1
FIA0				*e*SG			15 05 35.2	
FIA0	FINESS Array S	7.11	212	Pn		Pn	15 03 43.9	-1.5
	SNR=50							
FIA0				S	n	Sn	15 04 59.8	-7.1
	SNR=50							
SPA0	Spitsbergen Ar	11.63	342	Pn		Pn	15 04 45.1	-2.2
	baz=144,slow=16							
SPA0	Spitsbergen Ar	11.63	342	*e*P		Pn	15 04 45.1	-2.2

MOS 31 15:02:51.7±2.7, 5106N×9824E, h7km, mb4.4/1, Error ellipse: s-maj=20.9km s-min=14.0km az=137.6, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ORL	Orlik	1.77	33	*e*PN		Pn	15 03 23.4	+0.6
ORL				*e*			15 03 47.0	
ORL				pmax		pmax		
	comp=Z,51nm,0.7s							
ORL				smax				
	comp=E,524nm,1.1s							
ARS	Arshan	2.75	70	*e*PN		Pn	15 03 39.2	+3.0
ARS				*e*			15 04 19.2	
ARS				pmax		pmax		
	comp=Z,30nm,0.3s							
ARS				smax				
	comp=E,534nm,0.6s							
ZAK	Zakamensk	3.27	100	*e*PN		Pn	15 03 45.8	+2.4
ZAK				*e*			15 03 50.3	
ZAK				*e*S		Sn	15 04 34.1	+11
ZAK				pmax		pmax		
	comp=Z,36nm,0.8s							
ZAK				smax				
	comp=N,249nm,0.8s							
TLY	Talaya	3.44	78	*e*PN		Pn	15 03 53.0	+7.3
TLY				*e*			15 04 39.0	
TLY				pmax		pmax		
	comp=Z,11nm,0.4s							
TLY				smax				
	comp=N,103nm,0.6s							
IRK	Irkutsk	3.94	70	*e*PN		Pn	15 04 01.8	+9.3
IRK				*e*			15 04 52.1	
IRK				pmax		pmax		
	comp=Z,46nm,0.2s							
IRK				smax				
	comp=N,594nm,0.6s							
LSTR	Listvyanka	4.20	76	*e*PN		Pn	15 04 08.7	+13
LSTR				*e*			15 05 00.5	
LSTR				pmax		pmax		
	comp=Z,11nm,0.9s							
LSTR				smax				
	comp=N,125nm,1.2s							
TRG	Tyrgan	5.30	68	*e*PN		Pn	15 04 11.6	+0.3
TRG				*e*			15 04 26.8	
TRG				*e*S		Sn	15 05 11.6	-1.0
TRG				*e*			15 05 34.9	
TRG				pmax		pmax		
	comp=Z,7.0nm,0.7s							
TRG				smax				
	comp=N,129nm,1.1s							
OGRR	Ongureny	6.29	62	*e*PN		Pn	15 04 45.5	+21
OGRR				*e*			15 06 06.4	
OGRR				pmax		pmax		
	comp=Z,10.0nm,0.9s							
OGRR				smax				
	comp=N,121nm,1.3s							
NIZ	Nizh Angarsk	8.23	51	*e*P		Pn	15 04 52.8	+1.2
NIZ				pmax		pmax		
	comp=Z,5.0nm,1.0s							

ISCJB ***31*** *15:04:36.0±0.4, 4037N±002×2583E±003, h7km±4km, Error ellipse: s-maj=4.2km s-min=3.7km az=85.0*
ISK ***31*** *15:04:36.3, 4034N×2592E, h18km, MD3.0*
ATH ***31*** *15:04:36.9, 4039N×2579E, h34km, MD3.6/4*
CSEM ***31*** *15:04:36.7±0.1, 4034N×2597E, h12km±1km, MD3.0, Error ellipse: s-maj=2.7km s-min=1.7km az=114.0*
NEIC ***31*** *15:04:37.0, 4038N×2587E, h10km, MD3.6(ATH), After ATH.*
THE ***31*** *15:04:37.2, 4037N×2581E, h5km, ML3.6*

ISC 31 15:04:36.3±0.4, 4037N±002×2582E±003, h8km±4km, n31, σ1§01/45, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GADA	Gvkgeada	0.19	163	*i*	PG	**Pg**	**15 04 40.9**	**+0.6**
GADA				*i*	SG	**Sg**	**15 04 44.1**	**+1.2**
ENEZ	Enez	0.44	35	*i*	PG	**Pg**	**15 04 45.4**	**+0.5**
ALN	Alexandroupoli	0.55	18	*e*	Pg	**Pg**	**15 04 47.4**	**+0.5**
ALN				*e*	Sg	**Sg**	**15 04 55.5**	**+1.3**
EZN	Ezine	0.67	145	*i*	PG	**Pg**	**15 04 48.4**	**-0.8**
LIA	Limnos Island	0.68	226	*e*	PN	**Pg**	**15 04 50.6**	**+1.1**
LOS	Limnos	0.72	233	*e*	Pg	**Pg**	**15 04 50.9**	**+0.8**
LOS				*e*	Sg	**Sg**	**15 04 59.9**	**+0.4**
RDO	Rodhopi	0.80	344	*e*	PN	**Pg**	**15 04 52.4**	**+0.6**
RDO	Rodhopi	0.80	344	*e*	Pb	**Pg**	**15 04 52.0**	**+0.2**
CANB	Canakkale	1.01	110	PG		**Pg**	**15 04 55.0**	**-0.8**
RKY	Sarkoy-Tekirda	1.08	73	PG		**Pg**	**15 04 56.1**	**-0.9**
PRK	Paraskevi	1.18	163	*e*	PN	**Pn**	**15 04 59.1**	**+0.1**
MFT	Murefte	1.18	69	PN		**Pn**	**15 04 58.6**	**-0.5**
KDZ	Kurdzhali	1.31	347	*i*	P	**Pn**	**15 05 02.1**	**+1.2**
MRMT	Marmara Adasi	1.37	80	*e*	PN	**Pn**	**15 05 00.3**	**-1.4**
OUR	Ouranopolis	1.41	269	*e*	Pg	**Pg**	**15 05 01.0**	**-2.4**
OUR				*e*	Sg	**Sg**	**15 05 21.1**	**-0.5**
RZN	Rozhen	1.56	328	*i*	P	**Pn**	**15 05 06.5**	**+2.2**
EDRB	Edirne	1.63	25	*e*	PN	**Pn**	**15 05 05.0**	**-0.2**
DIM	Dimitrovgrad	1.69	353	*i*	P	**Pn**	**15 05 08.2**	**+2.1**
PAIG	Paliouri	1.70	256	*e*	Pb	**Pb**	**15 05 07.2**	**-0.7**
PAIG				*e*	Sb	**Sb**	**15 05 30.2**	**+0.8**
PLG	Polygyros	1.82	271	*e*	PN	**Pn**	**15 05 07.0**	**-0.8**
SRS	Serrai	1.85	294	*e*	Pb	**Pb**	**15 05 08.4**	**-2.0**
SRS				*e*	Sb	**Sb**	**15 05 33.8**	**+0.2**
AOS	Alonnisos	1.92	232	*e*	Pb	**Pb**	**15 05 10.2**	**-1.4**
AOS				*e*	Sb	**Sb**	**15 05 34.9**	**-0.8**
AOS	Alonnisos	1.92	232	*e*	Pb	**Pb**	**15 05 10.1**	**-1.5**
AOS				*e*	Sb	**Sb**	**15 05 34.9**	**-0.8**
PLD	Plovdiv	1.93	334	*e*	Pb	**Pb**	**15 05 10.4**	**-1.2**
PLD				*e*	Sb	**Sb**	**15 05 34.6**	**-1.1**
SOH	Sokhos	1.93	284	*e*	Pb	**Pb**	**15 05 10.4**	**-1.4**
SOH				*e*	Sb	**Sb**	**15 05 35.3**	**-0.7**
CHOS	Chios island	1.99	175	*e*	Pn	**Pn**	**15 05 10.1**	**-0.2**
CHOS				*e*	Sn	**Sn**	**15 05 36.5**	**+1.2**
MMB	Musomiste	2.00	308	*e*	Pn	**Pn**	**15 05 10.3**	**0.0**
HORT	Hortiatis	2.09	277	*e*	Pn	**Pn**	**15 05 12.3**	**+0.7**
HORT				*e*	Sn	**Sn**	**15 05 38.5**	**+0.7**
CTT	Catalca	2.12	68	*e*	PN	**Pn**	**15 05 11.4**	**-0.7**
KNT	Kendrikon	2.36	290	*e*	Pn	**Pn**	**15 05 15.3**	**0.0**
KNT				*e*	Sn	**Sn**	**15 05 45.2**	**+0.8**
GRG	Griva	2.67	284	*e*	Pn	**Pn**	**15 05 20.4**	**+0.9**
GRG				*e*	Sn	**Sn**	**15 05 52.8**	**+0.8**

IDC ***31*** *15:14:55.7±1.3, 1018S×10874E, h0km, mb4.3/6, mb1 4.3/7, mb1mx4.1/16, mbtmp4.2/7, ML4.1/1, MS3.4/5, Ms1 3.4/5, ms1mx2.9/32, Error ellipse: s-maj=64.5km s-min=17.7km az=46.0*
NEIC ***31*** *15:14:57.0±0.5, 1016S×10874E, h10km, mb4.3/9, Error ellipse: s-maj=22.5km s-min=8.0km az=46.0*
ISCJB ***31*** *15:14:58.6±0.7, 1015S±0.1×1088E±02, h33km, mb4.2/13, MS3.4/4, Error ellipse: s-maj=28.5km s-min=9.6km az=92.4*

ISC 31 15:15:00.9±0.7, 1025S±01×1088E±02, h35km, n24, σ0§84/20, mb4.2/13, MS3.4/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MBWA	Marble Bar	15.20	137	*e*P		**Pn**	**15 18 25.9**	**-7.0**
	6.2nm,0.5s							
PSI	Prapat	16.17	322	LR		LR	15 24 57.7	
	comp=Z,117nm,19.6s,baz=224,slow=37							
FITZ	Fitzroy Crossi	18.17	118	*e*P		**Pn**	**15 19 10.4**	**+0.1**
	4.6nm,0.4s							
FITZ				*e*S		S	15 22 14.0	-23
FITZ	Fitzroy Crossi	18.17	118	P		**Pn**	**15 19 09.1**	**-1.3**
	0.5nm,0.3s,baz=289,slow=10,SNR=25							
FITZ					Sn	**Sn**	**15 22 16.8**	**-15**
	0.5nm,0.3s,baz=140,slow=19,SNR=6.0							
NWAO	Narrogin (SRO)	23.97	162	LR		LR	15 28 22.3	
	comp=Z,76nm,21.4s,MS3.1,baz=234,slow=34							
WRA	Warramunga Arr	26.52	114	P		**P**	**15 20 34.9**	**-0.2**
	2.5nm,0.7s,mb3.8,baz=285,slow=11,SNR=22							
WRA					Sn	S	15 25 35.4	+28
	0.9nm,0.9s,baz=298,slow=26,SNR=5.7							
WRAB	Tennant Creek	26.53	114	*e*P		**P**	**15 20 35.3**	**+0.1**
	6.2nm,0.8s,mb4.2							
WB2	Warramunga Arr	26.53	114	*e*P		**P**	**15 20 33.2**	**-2.0**
ASPA	Alice Springs	27.50	122	*e*P		**P**	**15 20 45.4**	**+1.5**
ASAR	Alice Springs	27.50	122	P		**P**	**15 20 44.2**	**+0.3**
	1.4nm,0.6s,mb3.6,baz=291,slow=8.5,SNR=28							
ASAR				PcP		PcP	15 24 02.9	+1.3
	0.5nm,0.5s,baz=302,slow=2.0,SNR=6.1							
ASAR				S	n	S	15 26 02.1	+40
	1.9nm,0.9s,baz=305,slow=24,SNR=9.5							
AS31	Alice Springs	27.50	122	*e*P		**P**	**15 20 45.4**	**+1.5**
JOW	Kunigami	41.37	27	LR		LR	15 43 48.9	
	comp=Z,27nm,18.4s,MS3.1,baz=257,slow=42							
MJAR	Matsushiro Arr	54.09	29	LR		LR	15 51 10.0	
	comp=Z,53nm,18.7s,MS3.6,baz=330,slow=40							
SONM	Songino Array	57.77	358	P		**P**	**15 24 49.2**	**+0.8**
	1.5nm,0.6s,mb4.2,baz=176,slow=8.0,SNR=14							
SONM				LR		LR	15 49 48.7	
	comp=Z,59nm,18.7s,MS3.7,baz=80,slow=36							
ULN	Ulaanbaatar	57.78	359	*e*P		**P**	**15 24 47.9**	**-0.6**
	1.1nm,0.6s,mb4.1							
MKAR	Makanchi Array	61.42	340	P		**P**	**15 25 13.9**	**+0.3**
	3.1nm,0.7s,mb4.5,baz=146,slow=7.8,SNR=22							
MAW	Mawson	64.88	198	P		**P**	**15 25 35.7**	**-0.8**
	1.2nm,0.7s,mb4.0							
KURK	Kurchatov	66.04	340	*e*P		**P**	**15 25 44.0**	**0.0**
	5.0nm,1.1s,mb4.5							
BVAR	Borovoye Array	70.93	337	P		**P**	**15 26 14.8**	**+0.2**
	5.8nm,0.7s,mb4.6,baz=138,slow=7.9,SNR=36							
BRVK	Borovoye	71.00	337	*e*P		**P**	**15 26 15.1**	**+0.2**
	1.7nm,0.8s,mb4.0							
ZRNK	Zerenda	71.42	336	*e*P		**P**	**15 26 17.3**	**-0.2**
	3.0nm,0.5s,mb4.5							
YAK	Yakutsk	73.80	10	*e*P		**P**	**15 26 30.7**	**-1.0**
	6.6nm,0.8s,mb4.6							
BRTR	Keskin Array B	85.20	312	P		**P**	**15 27 34.1**	**+0.4**
	1.2nm,0.6s,mb4.2,baz=126,slow=6.3,SNR=7.7							
WMOK	Wichita Mounta	144.92	41	*e*PKP		PKPdf	15 34 35.3	+1.1

CASC 31 15:15:24.5±2.1, 1381N×9174W, h30km±50km, MD3.7, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
FUG	Fuego 3	1.08	54⇑	*e*P		Pn	15 15 44.7	+1.2
TER	Terranova	1.14	64	*e*P		Pn	15 15 43.1	-1.3
TER				*e*S		Sn	15 15 58.9	0.0
TP2	Tecpan 2	1.19	36⇓	*e*P		Pn	15 15 45.6	+0.5
TP2				*e*S		Sn	15 16 02.8	+2.5
IXG	Ixpaco	1.30	74	*e*P		Pn	15 15 47.3	+0.7
RTR	El Retiro	2.04	87	*e*P		x	15 15 57.1	
RTR				*e*S		x	15 16 22.8	
SBLS	San Blas	2.06	89	*e*P		x	15 15 57.0	
SBLS				*e*S		x	15 16 23.6	
SNJE	San Jose	2.07	88	*e*P		x	15 15 57.4	
SNJE				*e*S		x	15 16 24.2	
BOQS	Boqueron	2.39	92	*e*P		x	15 16 02.0	
BOQS				*e*S		x	15 16 31.1	
LFRS	El Faro	2.61	94	*e*P		x	15 16 04.5	
LFRS				*e*S		x	15 16 36.3	
LCBS	La Ceiba	2.69	93	*e*P		x	15 16 05.5	
SNVI	San Vicente	2.83	94	*e*P		x	15 16 07.8	
SNVI				*e*S		x	15 16 41.3	

IDC 31 15:18:34.9±4.1, 3217N×8369E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/20, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=115.0km s-min=37.4km az=87.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MKAR	Makanchi Array	14.64	356	Pn		Pn	15 22 02.1	-1.2
	0.1nm,0.3s,baz=174,slow=13,SNR=5.8							
SONM	Songino Array	23.27	41	P		P	15 23 44.2	+0.1
	0.4nm,0.6s,baz=229,slow=11,SNR=4.2							
ASAR	Alice Springs	73.37	133	P		P	15 30 08.9	+0.3
	0.2nm,0.7s,baz=314,slow=5.9,SNR=4.2							

IDC ***31*** *15:26:20.3±2.2, 978S×11944E, h0km, mb3.8/2, mb1 3.7/5, mb1mx3.6/13, mbtmp3.6/5, ML3.4/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/22, Error ellipse: s-maj=152.2km s-min=22.1km az=55.0*

NEIC 31 15:26:24.7±1.0, 1024S×11882E, h40km, Error ellipse: s-maj=32.1km s-min=12.8km az=61.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
FITZ	Fitzroy Crossi	10.24	141	*e*P		Pn	15 28 47.5	-1.5
	3.9nm,0.6s							
FITZ				*e*S		Sn	15 30 35.4	-7.0
FITZ	Fitzroy Crossi	10.24	141	Pn		Pn	15 28 47.3	-1.8
	0.3nm,0.3s,baz=324,slow=14,SNR=8.0							
FITZ				S	n	Sn	15 30 34.6	-7.9
	0.3nm,0.3s,baz=178,slow=18,SNR=6.2							
FITZ				LR		LR	15 32 20.5	
	comp=Z,50nm,19.1s,baz=98,slow=35							
MBWA	Marble Bar	10.89	176	*e*Pn		Pn	15 28 58.2	+0.2
MBWA				*e*Sn		Sn	15 30 49.5	-9.1
WRA	Warramunga Arr	17.81	125	P		Pn	15 30 26.1	-3.3
	0.2nm,0.3s,baz=305,slow=13,SNR=13							
WRA				S		S	15 33 32.1	-20
	0.1nm,0.3s,baz=299,slow=23,SNR=4.7							
WB2	Warramunga Arr	17.82	125	*e*P		Pn	15 30 29.9	+0.4
WB2				*e*S		S	15 33 29.9	-23
AS31	Alice Springs	19.63	135	*e*P		Pn	15 30 51.2	-0.3
ASAR	Alice Springs	19

BIRV	**Birongo**	**4.39**	**261**	*eP*	**Pn**	**15 29 07.9 +0.5**
BIRV				*eS*	**Sn**	**15 29 55.7 -1.5**
MERV	**Las Mercedes**	**4.77**	**247**	*eP*	**Pn**	**15 29 13.3 +0.7**
LUEV	**Luepa**	**5.31**	**176**	*eP*	**Pn**	**15 29 18.6 -1.4**
CAOV	**Caicara del Or**	**5.83**	**229**	*eP*	**Pn**	**15 29 26.6 -0.5**

*ISCJB **31** 15:31:23.2±3.1, 262S±02×1779W±02, h155km±31km, mb3.6/7, Error ellipse: s-maj=41.2km s-min=21.7km az=162.2*
*NEIC **31** 15:31:23.9±1.8, 2620S×17777W, h153km±17km, mb3.7/1, Error ellipse: s-maj=25.6km s-min=11.1km az=167.0*
*IDC **31** 15:31:24.3±3.0, 2621S×17779W, h154km±28km, mb3.4/6, mb1 3.8/7, mb1mx3.6/12, mbtmp3.9/7, MS3.1/1, Ms1 3.1/1, ms1mx2.6/17, Error ellipse: s-maj=32.9km s-min=20.2km az=167.0*

ISC 31 15:31:24.6±3.0, 262S±03×1778W±02, h156km±29km, n20, σ0§41/13, mb3.6/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.02**	**183**	P	**Pn**	**15 32 11.7**	**-0.7**
	30nm,0.3s,baz=270,slow=20,SNR=2.1						
RAO				S	**Sn**	**15 32 50.0**	**+0.6**
	386nm,0.3s,baz=109,slow=20,SNR=7.8						
RAO				LR	LR	15 33 02.7	
	comp=Z,322nm,18.9s,baz=358,slow=32						
NOUC	**Port Laguerre**	**15.11**	**282**	*eP*	**Pn**	**15 35 01.6**	**+12**
AS31	**Alice Springs**	**43.70**	**262**	*eP*	**P**	**15 39 14.6**	**+0.5**
ASAR	**Alice Springs**	**43.70**	**262**	P	**P**	**15 39 13.8**	**-0.2**
	0.7nm,0.5s,mb3.6,baz=102,slow=6.8,SNR=19						
ASAR				PcP	PcP	15 40 58.6	+0.3
	0.5nm,0.6s,baz=127,slow=3.9,SNR=4.1						
ASPA	**Alice Springs**	**43.71**	**262**	*eP*	**P**	**15 39 14.6**	**+0.5**
WB2	**Warramunga Arr**	**44.30**	**268**	*eP*	**P**	**15 39 18.8**	**0.0**
WRAB	**Tennant Creek**	**44.31**	**268**	*eP*	**P**	**15 39 18.6**	**-0.3**
	1.5nm,0.7s,mb3.7						
WRA	**Warramunga Arr**	**44.31**	**268**	P	**P**	**15 39 18.6**	**-0.4**
	0.6nm,0.6s,mb3.4,baz=104,slow=6.9,SNR=11						
WRA				PcP	PcP	15 41 00.9	+0.5
	1.5nm,0.9s,baz=100,slow=4.0,SNR=7.0						
FITZ	**Fitzroy Crossi**	**52.70**	**267**	P	**P**	**15 40 23.1**	**+0.1**
	0.8nm,0.6s,mb3.6,baz=133,slow=15,SNR=5.1						
MAW	**Mawson**	**76.28**	**200**	P	**P**	**15 42 55.6**	**-0.5**
	0.5nm,0.5s,mb3.4,baz=123,slow=6.9,SNR=5.5						
NVAR	**Mina Array Bea**	**85.04**	**43**	P	**P**	**15 43 43.0**	**+0.4**
	1.4nm,0.7s,mb3.8,baz=234,slow=8.4,SNR=8.4						
PDAR	**Pinedale Array**	**92.96**	**43**	P	**P**	**15 44 20.1**	**0.0**
	0.7nm,0.7s,mb3.9,baz=231,slow=1.3,SNR=7.6						
BVAR	**Borovoye Array**	**123.52**	**318**	PKP	PKPdf	15 50 01.8	-1.5
	0.4nm,0.4s,baz=144,slow=3.5,SNR=3.6						
FINES	**FINESS Array B**	**141.28**	**342**	PKhKP		15 50 29.8	
	0.6nm,0.5s,baz=52,slow=3.1,SNR=4.4						
FINES				PKP	PKPdf	15 50 36.6	-0.1
	0.5nm,0.5s,baz=96,slow=1.9,SNR=4.7						
NB2	**NORSAR Subarra1**	**44.66**	**352**	PKP	PKPdf	15 50 40.4	-2.2
	comp=Z,11nm,0.9s,baz=13,slow=3.4						
NOA	**NORSAR Array B**	**144.66**	**352**	PKP	PKPdf	15 50 40.6	-2.0
	comp=Z,6.2nm,0.8s,baz=15,slow=2.4,SNR=21						
NAO01	**NORSAR Array S**	**144.89**	**353**	*e*PKP	PKPdf	15 50 41.8	-1.2
HFS	**Hagfors**	**145.19**	**360**	PKPbc	PKPbc	15 50 42.2	-1.3
	comp=Z,3.6nm,0.5s,baz=66,slow=3.6,SNR=24						
AKASG	**Malin Array Be**	**148.01**	**327**	PKPbc	PKPbc	15 50 50.5	-1.1
	comp=Z,1.8nm,0.5s,baz=44,slow=4.2,SNR=12						
BRTR	**Keskin Array B**	**150.58**	**305**	PKPbc	PKPbc	15 50 57.6	-0.3
	comp=Z,1.0nm,0.7s,baz=116,slow=2.9,SNR=6.6						
BRTR				PKPab	PKPab	15 51 05.8	+0.6
	comp=Z,1.8nm,0.7s,baz=105,slow=4.0,SNR=8.6						

IDC 31 15:41:16.3±4.4, 2037S×17988W, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.8/11, mbtmp3.8/3, Error ellipse: s-maj=325.0km s-min=34.3km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.83**	**257**	P	P	15 49 16.5	+0.5
	1.1nm,0.8s,baz=94,slow=7.5,SNR=12						
WRA	**Warramunga Arr**	**42.87**	**262**	P	P	15 49 16.4	+0.1
	0.6nm,0.4s,baz=97,slow=8.5,SNR=12						
PDAR	**Pinedale Array**	**90.08**	**44**	P	P	15 54 18.4	+0.3
	0.8nm,0.9s,baz=233,slow=4.4,SNR=5.8						

*MOS **31** 15:44:13.9±0.7, 5074N×15801E, h15km, mb4.3/1, Error ellipse: s-maj=81.4km s-min=28.6km az=78.9*

KRSC 31 15:44:13, 5074N×15801E, h15km, ML4.2, 2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.21**	**268**	⇓*i*PN	Pn	15 44 29.5	-5.8
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,150nm,0.5s						
SKR				pmax	pmax		
	comp=Z,310nm,0.5s						
RUS	**Russkaya**	**1.72**	**10**	P	Pn	15 44 43.5	+1.1
RUS				S	Sn	15 45 05.0	+0.8
PET	**Petropavlovsk**	**2.32**	**10**	P	Pn	15 44 52.5	+1.8
PET				S	Sn	15 45 20.4	+1.5
PET	**Petropavlovsk**	**2.32**	**10**	⇓*i*PN	Pn	15 44 52.2	+1.5
PET				*e*S	Sn	15 45 20.4	+1.5
PET				pmax	pmax		
	comp=Z,44nm,0.5s						
PET				smax			
	comp=N,300nm,0.5s						
PET				smax			
	comp=N,291nm,0.4s						
PET				smax			
	comp=E,298nm,0.6s						
PET				smax			
	comp=E,200nm,0.5s						
PET				MLR	MLR		
	comp=Z,100nm,17.0s						
MKZ	**Mys Kozlova**	**4.44**	**29**	P	Pn	15 45 21.9	+2.1
MKZ				S	Sn	15 46 12.2	+0.9
KOZ	**Kozyrevsk**	**5.44**	**11**	P	Pn	15 45 37.5	+3.9
KOZR	**Kozyr**	**5.45**	**11**	PN	Pn	15 45 37.5	+3.8

IGQ 31 15:56:23.8, 095S×8082W, h15km±11km, Mb4.3, Ms4.1, 4C-5D, Error ellipse: s-maj=16.7km s-min=5.5km az=26.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALI	**Salinas**	**1.24**	**188**	P	Pn	15 56 50.0	+3.5
MAG1	**Magdalena**	**1.36**	**50**	⇓P	Pn	15 56 49.5	+1.3
MAG1				S	Sn	15 57 08.0	+2.0
QIL1	**Quilotoa**	**1.89**	**87**	P	Pn	15 56 54.9	-0.6
IGUA	**Igualata**	**2.25**	**104**	⇑P	Pn	15 57 02.0	+1.6
CAMI	**Rancho Maria**	**2.33**	**83**	P	Pn	15 57 05.8	+4.3
JUA2	**San Juan 2**	**2.33**	**72**	P	Pn	15 57 02.6	+1.1
TERV	**Terraza Guagua**	**2.35**	**71**	P	Pn	15 57 03.0	+1.3
PINO	**Pino**	**2.35**	**70**	⇓P	Pn	15 57 03.0	+1.3
GGP	**Refugio Guagua**	**2.35**	**71**	⇑P	Pn	15 57 03.1	+1.3
NAS1	**Nasa**	**2.36**	**82**	P	Pn	15 57 04.7	+2.7
YANA	**Yana**	**2.40**	**70**	P	Pn	15 57 03.5	+1.1
YANA				S	Sn	15 57 34.8	+3.3
JUIV	**Juive**	**2.40**	**101**	P	Pn	15 57 05.7	+3.2
RETU	**Refugio**	**2.42**	**102**	P	Pn	15 57 06.0	+3.2
ARRY	**Arrayan**	**2.43**	**103**	⇓P	Pn	15 57 04.5	+1.6
VC1	**Cotopaxi 1**	**2.44**	**83**	⇓P	Pn	15 57 05.9	+2.9
PISA	**Pisayambo**	**2.44**	**93**	⇓P	Pn	15 57 05.8	+2.8
RUN5	**Runtun**	**2.44**	**101**	P	Pn	15 57 05.2	+2.1
PATA	**Patacocha**	**2.45**	**103**	⇑P	Pn	15 57 05.3	+2.2
PATA				S	Sn	15 57 34.6	+1.8
ULBA	**Ulba**	**2.46**	**102**	P	Pn	15 57 05.3	+2.0
TAMB	**Tambo**	**2.46**	**84**	P	Pn	15 57 06.4	+3.1
ANTI	**Antisana**	**2.71**	**79**	⇑P	Pn	15 57 09.3	+2.6
ANTI				S	Sn	15 57 44.4	+5.2
COTA	**Cotacachi**	**2.79**	**63**	P	Pn	15 57 10.0	+2.1
CAYR	**Refugio Cayamb**	**2.97**	**71**	P	Pn	15 57 14.4	+4.1
CAYA	**Cayambe**	**3.01**	**70**	P	Pn	15 57 14.6	+3.8
CAYA				S	Sn	15 57 55.4	+8.8
CONE	**Cono NE Rev Vo**	**3.29**	**75**	P	Pn	15 57 21.8	+7.0

NEIC 31 16:44:25.5, 4620N×12219W, h1km, MD3.5(SEA), 6C-13D, After SEA., Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YEL	**Yellow Rock**	**0.01**	**6**	⇓P	Pg	16 44 25.9	+0.1
HSR	**South Ridge**	**0.02**	**168**	⇓P	Pg	16 44 26.3	+0.4
ESD	**East Dome**	**0.03**	**87**	⇓P	Pg	16 44 26.3	+0.3
SHW	**Mount Saint He**	**0.03**	**264**	⇓P	Pg	16 44 26.5	+0.4
STD	**Studebaker Rid**	**0.05**	**331**	⇓P	Pg	16 44 26.7	+0.3
JLK	**June Lake**	**0.06**	**152**	⇓P	Pg	16 44 26.9	+0.4
SOSW	**Source of Smit**	**0.06**	**37**	⇑P	Pg	16 44 27.0	+0.3
FL2	**Flat Top 2**	**0.11**	**270**	⇑P	Pg	16 44 28.2	+0.6
CDFW	**Cedar Flats**	**0.13**	**129**	⇑P	Pg	16 44 28.6	+0.7
ERK	**Elk Rock**	**0.15**	**316**	⇓P	Pg	16 44 28.8	+0.4
TDL	**Tradedollar La**	**0.16**	**353**	⇓P	Pg	16 44 28.9	+0.4
MTMW	**Mount Mitchell**	**0.17**	**185**	⇓P	Pg	16 44 29.3	+0.6
LVP	**Lakeview Peak**	**0.20**	**230**	⇓P	Pg	16 44 29.7	+0.5
KOSW	**Kosmos**	**0.27**	**360**	⇑P	Pg	16 44 31.0	+0.4
ASR	**Mount Adams--S**	**0.42**	**96**	⇓P	Pg	16 44 33.7	+0.3
GLK	**Glacier Lake**	**0.55**	**47**	⇑P	Pg	16 44 36.1	+0.2
LON	**Longmire**	**0.61**	**25**	⇓P	Pg	16 44 37.4	+0.2
WPW	**White Pass**	**0.67**	**41**	⇑P	Pg	16 44 38.3	0.0
FMW	**Mount Fremont**	**0.82**	**26**	⇓P	Pg	16 44 41.1	0.0
COR	**Corvallis**	**1.79**	**206**	Pn	Pn	16 44 55.2	-2.3
COR				*e*S	Sn	16 45 20.7	-0.2
HAWA	**Hanford**	**1.85**	**83**	*e*Pn	Pn	16 44 58.3	0.0
PGC	**Sidney**	**2.60**	**341**	*e*Pn	Pn	16 45 08.4	-0.2
PGC				*e*Sg	Sg	16 45 45.4	-3.6
HUMO	**Hull Mountain**	**3.63**	**189**	*e*P	Pn	16 45 25.8	+3.0
BMO	**Blue Mountains**	**3.69**	**110**	*e*Pg	Pg	16 45 32.2	-3.9

*NEIC **31** 16:50:43.5, 4031N×2593E, h0km, MD2.8(SOF), MD3.8(ATH), ML3.6(THE), After THE.*
*THE **31** 16:50:43.5, 4031N×2593E, h10km, ML3.6*
*ISCJB **31** 16:50:43.8±0.4, 4036N±002×2589E±002, h2km±3km, Error ellipse: s-maj=2.7km s-min=2.4km az=74.0*
*CSEM **31** 16:50:44.4±0.0, 4037N×2591E, h10km, MD3.6, Error ellipse: s-maj=1.0km s-min=0.9km az=45.0*
*ISK **31** 16:50:44.5, 4037N×2592E, h12km, MD3.6*
*SOF **31** 16:50:44.5, 4042N×2571E, h6km, MD2.8*
*ATH **31** 16:50:44.3, 4039N×2582E, h29km±1km, MD3.8/5*

ISC 31 16:50:44.6±0.4, 4037N±002×2589E±002, h4km±3km, n68, σ1§05/100, 1C-4D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GADA	**Gvkgeada**	**0.17**	**177**	*i* PG	**Pg**	**16 50 49.0**	**+1.0**
GADA				*i* SG	**Sg**	**16 50 52.1**	**+1.8**
ENEZ	**Enez**	**0.42**	**29**	PG	**Pg**	**16 50 53.0**	**+0.3**
BOZC	**Bozcaada**	**0.54**	**166**	*i* P	**Pg**	**16 50 55.8**	**+0.9**
BOZC				*i* S	**Sg**	**16 51 02.9**	**+1.0**
ALN	**Alexandroupoli**	**0.55**	**13**	*e*Pg	**Pg**	**16 50 55.6**	**+0.6**
ALN				*e*Sg	**Sg**	**16 51 02.8**	**+0.7**
EZN	**Ezine**	**0.63**	**148**	PG	**Pg**	**16 50 57.1**	**+0.3**
LIA	**Limnos Island**	**0.71**	**229**	*e*PN	**Pg**	**16 50 58.4**	**+0.1**
LIA				*e*SN	**Sg**	**16 51 08.2**	**+0.7**
LIA	**Limnos Island**	**0.71**	**229**	*e*Pn	**Pg**	**16 50 58.4**	**+0.1**
LIA				*e*Sn	**Sg**	**16 51 08.2**	**+0.7**
LIA				*e*Sn	**Sb**	**16 51 10.9**	**+1.2**
LOS	**Limnos**	**0.75**	**235**	*e*Pg	**Pg**	**16 50 58.7**	**-0.3**
LOS				*e*Sg	**Sg**	**16 51 09.6**	**+0.8**
RDO	**Rodhopi**	**0.82**	**341**	*e*PN	**Pg**	**16 51 00.3**	**-0.1**
RDO				*e*SN	**Sg**	**16 51 10.9**	**-0.2**
CANB	**Canakkale**	**0.96**	**111**	PG	**Pg**	**16 51 03.3**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.03**	**71**	PG	**Pg**	**16 51 03.8**	**-0.6**
MFT	**Murefte**	**1.14**	**68**	PN	**Pn**	**16 51 05.9**	**-1.4**
PRK	**Paraskevi**	**1.16**	**165**	*e*PN	**Pn**	**16 51 06.8**	**-0.7**
PRK				*e*SN	**Sn**	**16 51 22.8**	**-1.0**
AYVA	**Ayvalik**	**1.22**	**149**	*i* P	**Pg**	**16 51 08.2**	**+0.2**
AYVA				*i* S	**Sg**	**16 51 25.1**	**+1.2**
MRMT	**Marmara Adasi**	**1.32**	**79**	PN	**Pn**	**16 51 08.7**	**-1.1**
KDZ	**Kurdzhali**	**1.33**	**345**	*i* P	**Pn**	**16 51 09.4**	**-0.5**
OUR	**Ouranopolis**	**1.46**	**269**	*e*Pg	**Pn**	**16 51 09.7**	**-2.0**
OUR				*e*Sg	**Sg**	**16 51 32.1**	**+0.7**
EDC	**Edincik**	**1.51**	**90**	PN	**Pn**	**16 51 12.3**	**-0.1**
RZN	**Rozhen**	**1.59**	**327**	*i* P	**Pn**	**16 51 14.4**	**+0.9**
EDRB	**Edirne**	**1.62**	**23**	PN	**Pn**	**16 51 13.3**	**-0.5**
DIM	**Dimitrovgrad**	**1.71**	**351**	*i* P	**Pn**	**16 51 14.7**	**-0.4**
PAIG	**Paliouri**	**1.75**	**256**	*e*Pb	**Pn**	**16 51 13.7**	**-2.0**
BTOK	**Tokmak**	**1.75**	**109**	*i* P	**Pn**	**16 51 16.0**	**+0.2**
BTOK				*i* S	**Sn**	**16 51 39.5**	**+1.0**
NVR	**Nevrokopi**	**1.82**	**303**	*e*PN	**Pn**	**16 51 15.8**	**-0.9**
NVR				*e*SN	**Sn**	**16 51 36.9**	**-3.4**
PLG	**Polygyros**	**1.87**	**271**	*e*PB	**Pn**	**16 51 15.6**	**-1.7**
KCT	**Karacabey**	**1.89**	**92**	PN	**Pn**	**16 51 17.6**	**0.0**
SRS	**Serrai**	**1.90**	**294**	*e*Pb	**Pn**	**16 51 16.4**	**-1.3**
SRS				*e*Sb	**Sb**	**16 51 43.5**	**-0.3**
SRS	**Serrai**	**1.90**	**294**	*e*Pb	**Pn**	**16 51 16.5**	**-1.2**
SRS				*e*Sb	**Sb**	**16 51 43.5**	**-0.3**
AOS	**Alonnisos**	**1.95**	**233**	*e*Pb	**Pn**	**16 51 16.5**	**-1.9**
PLD	**Plovdiv**	**1.96**	**333**	*e*Pn	**Pn**	**16 51 18.3**	**-0.2**
PLD				*e*Sn	**Sn**	**16 51 45.8**	**+2.3**
PLD	**Plovdiv**	**1.96**	**333**	*i* P	**Pn**	**16 51 21.2**	**+2.7**
CHOS	**Chios island**	**1.98**	**176**	*e*Pb	**Pn**	**16 51 18.2**	**-0.6**
CHOS				*e*Sb	**Sn**	**16 51 42.4**	**-1.7**
SOH	**Sokhos**	**1.98**	**284**	*e*Pn	**Pn**	**16 51 17.6**	**-1.3**
SOH				*e*Sn	**Sn**	**16 51 45.4**	**+1.2**
MMB	**Musomiste**	**2.04**	**308**	*e*Pn	**Pn**	**16 51 18.5**	**-1.2**
MMB				*e*Sn	**Sn**	**16 51 47.5**	**+1.8**
MMB	**Musomiste**	**2.04**	**308**	*i* P	**Pn**	**16 51 18.8**	**-0.9**
MMB				*e*Sn	**Sn**	**16 51 47.5**	**+1.9**
CTT	**Catalca**	**2.08**	**67**	PN	**Pn**	**16 51 20.0**	**-0.3**
ELBA	**Catalca**	**2.08**	**67**	*i* P	**Pn**	**16 51 20.3**	**0.0**
ELBA				*i* S	**Sg**	**16 51 51.6**	**+0.1**
AKHS	**Akhisar**	**2.10**	**134**	*i* P	**Pn**	**16 51 20.8**	**+0.3**
AKHS				*i* S	**Sg**	**16 51 51.9**	**-0.2**
AKS	**Akhisar**	**2.10**	**134**	PN	**Pn**	**16 51 19.9**	**-0.6**
HORT	**Hortiatis**	**2.14**	**277**	*e*Pn	**Pn**	**16 51 20.0**	**-1.1**
HORT				*e*Sn	**Sn**	**16 51 49.2**	**+1.2**
JMB	**Yambol**	**2.16**	**14**	*e*Sn	**Sn**	**16 51 50.4**	**+1.7**
JMB				*e*Sn	**Sb**	**16 51 51.7**	**+0.2**
BLCB	**Balcova**	**2.17**	**155**	*e*PN	**Pn**	**16 51 21.3**	**-0.2**
IZM	**Izmir**	**2.23**	**151**	PN	**Pn**	**16 51 22.1**	**-0.3**
KNT	**Kendrikon**	**2.41**	**290**	*e*Pn	**Pn**	**16 51 23.9**	**-0.8**
KNT				*e*Sn	**Sn**	**16 51 56.6**	**+2.0**
KLYT	**Kilyos**	**2.55**	**69**	*e*PN	**Pn**	**16 51 26.8**	**+0.1**
KKB	**Krupnik**	**2.60**	**306**	*i* P	**Pn**	**16 51 27.6**	**+0.3**
KKB				*i* Pg	**Pg**	**16 51 31.8**	**-2.5**
LIT	**Litokhoron**	**2.61**	**265**	*e*Pn	**Pn**	**16 51 26.7**	**-0.9**
YLV	**Yalova**	**2.67**	**85**	*e*PN	**Pn**	**16 51 28.5**	**+0.2**
VAY	**Valandovo**	**2.69**	**292**	*e*Pn	**Pn**	**16 51 27.4**	**-1.2**
VAY				*e*Sn	**Sn**	**16 52 03.0**	**+1.3**
GRG	**Griva**	**2.72**	**284**	*e*Pn	**Pn**	**16 51 27.8**	**-1.2**
GRG				*e*Sn	**Sn**	**16 52 03.5**	**+1.2**
SMG	**Samos**	**2.75**	**164**	*e*PN	**Pn**	**16 51 29.3**	**-0.2**
SZH	**Strazhica**	**2.90**	**1**	*i* P	**Pn**	**16 51 31.8**	**+0.3**
ADVT	**Abdulvahap**	**2.94**	**87**	*e*PN	**Pn**	**16 51 32.3**	**+0.2**
VTS	**Vitosha**	**3.00**	**319**	*e*Pn	**Pn**	**16 51 32.9**	**+0.1**
VTS				*e*Sn	**Sn**	**16 52 12.2**	**+2.9**
VTS	**Vitosha**	**3.00**	**319**	*i* P	**Pg**	**16 51 40.0**	**-2.1**
VTS	**Vitosha**	**3.00**	**319**	P	**Pn**	**16 51 32.9**	**+0.1**
VTS				*i* P		16 51 40.0	
VTS				S	**Sn**	**16 52 12.2**	**+2.9**
VTS	**Vitosha**	**3.00**	**319**	*e*Pn	**Pn**	**16 51 32.9**	**0.0**
VTS				*e*Sn	**Sn**	**16 52 12.1**	**+2.8**
AGG	**Agios Georgios**	**3.05**	**245**	*e*Pn	**Pn**	**16 51 32.8**	**-0.8**
AGG				*e*Sn	**Sn**	**16 52 11.4**	**+0.8**
FNA	**Florina**	**3.46**	**278**	*e*Pn	**Pn**	**16 51 38.4**	**-0.8**
ALT	**Altintas**	**3.51**	**111**	*e*PN	**Pn**	**16 51 40.0**	**+0.1**
ESKT	**Eskisehir**	**3.91**	**101**	*e*PN	**Pn**	**16 51 46.0**	**+0.7**
LKD	**Levkas**	**4.37**	**249**	*e*Pn	**Pn**	**16 51 52.3**	**+0.6**
TIRR	**Tirgusor**	**4.50**	**24**	⇓*i*P	**Pg**	**16 52 09.3**	**-1.4**
KIZT	**Kizilcal**	**4.86**	**106**	*e*PN	**Pn**	**16 51 58.9**	**+0.5**
MLR	**Muntele Rosu**	**5.12**	**0**	⇑*i*P	**Pn**	**16 52 03.1**	**+1.0**
PLOR	**Plostina**	**5.51**	**6**	⇓*i*P	**Pn**	**16 52 09.7**	**+2.3**
VRI	**Vrincioaia**	**5.53**	**6**	⇓*i*P	**Pn**	**16 52 08.9**	**+1.2**
BZS	**Buzias**	**6.11**	**331**	⇓*i*P	**Pn**	**16 52 14.8**	**-0.8**

*ISK **31** 16:57:14.8, 4038N×2582E, h16km, MD2.9*
*ISCJB **31** 16:57:15.6±0.5, 4038N±002×2586E±003, h7km±4km, Error ellipse: s-maj=4.3km s-min=3.9km az=165.6*
*CSEM **31** 16:57:16.2±0.4, 4035N×2593E, h5km, MD3.3, Error ellipse: s-maj=9.3km s-min=6.0km az=66.0*
*ATH **31** 16:57:16.5, 4035N×2588E, h15km±3km, MD3.5/4*
*NEIC **31** 16:57:16.5, 4035N×2589E, h14km, MD3.3(ATH), After ATH.*

ISC 31 16:57:16.3±0.4, 4037N±002×2587E±003, h13km±4km, n18, σ0§88/28, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GADA	**Gvkgeada**	**0.18**	**172**	PG	**Pg**	**16 57 20.2**	**-0.3**
GADA				SG	**Sg**	**16 57 22.8**	**-0.6**
ENEZ	**Enez**	**0.43**	**31**	PG	**Pg**	**16 57 24.6**	**-0.2**
ENEZ				SG	**Sg**	**16 57 29.9**	**-0.6**
BOZC	**Bozcaada**	**0.55**	**165**	*i* P	**Pg**	**16 57 26.8**	**-0.2**
BOZC				*i* S	**Sg**	**16 57 34.2**	**-0.1**
EZN	**Ezine**	**0.65**	**147**	PG	**Pg**	**16 57 27.8**	**-1.1**
LIA	**Limnos Island**	**0.70**	**228**	*e*PN	**Pg**	**16 57 29.8**	**-0.2**
LIA				*e*SN	**Sg**	**16 57 39.9**	**+0.6**
RDO	**Rodhopi**	**0.81**	**342**	*e*PB	**Pg**	**16 57 31.8**	**-0.2**
RDO				*e*SN	**Sg**	**16 57 44.7**	**+2.0**
CANB	**Canakkale**	**0.98**	**111**	PG	**Pg**	**16 57 35.2**	**-0.1**
CANB				SG	**Sg**	**16 57 49.5**	**+1.4**
RKY	**Sarkoy-Tekirda**	**1.05**	**72**	PN	**Pn**	**16 57 35.2**	**-1.4**
MFT	**Murefte**	**1.16**	**68**	PN	**Pn**	**16 57 37.7**	**-0.4**
PRK	**Paraskevi**	**1.17**	**164**	*e*PN	**Pn**	**16 57 38.5**	**+0.2**
PRK				*e*SN	**Sn**	**16 57 54.0**	**0.0**
AYVA	**Ayvalik**	**1.24**	**149**	*i* P	**Pn**	**16 57 39.5**	**+0.2**
AYVA				*i* S	**Sb**	**16 57 56.1**	**+0.8**
MRMT	**Marmara Adasi**	**1.34**	**79**	PN	**Pn**	**16 57 39.8**	**-0.8**
EDRB	**Edirne**	**1.62**	**24**	*e*PN	**Pn**	**16 57 43.7**	**-0.8**
NVR	**Nevrokopi**	**1.81**	**303**	*e*PB	**Pn**	**16 57 47.2**	**+0.1**
NVR				*e*SN	**Sg**	**16 58 14.2**	**-0.2**
PLG	**Polygyros**	**1.85**	**271**	*e*PN	**Pb**	**16 57 49.8**	**-0.1**
PLG	**Polygyros**	**1.85**	**271**	*e*Pg	**Pg**	**16 57 51.0**	**-0.8**
ELBA	**Catalca**	**2.10**	**67**	*i* P	**Pb**	**16 57 53.6**	**-0.5**
ELBA				*i* S	**Sg**	**16 58 26.3**	**+2.5**
LKR	**Lokris**	**2.80**	**233**	*e*PN	**Pn**	**16 58 03.0**	**+2.2**

*ISCJB **31** 17:09:25.9±0.6, 2772N±009×1406E±04, h419km±12km, mb3.1/4, Error ellipse: s-maj=55.8km s-min=10.0km az=157.9*
*IDC **31** 17:09:26.4±1.4, 2763N×140.16E, h398km±27km, mb3.0/4, mb1 3.2/5, mb1mx2.9/18, mbtmp3.9/5, Error ellipse: s-maj=84.8km s-min=15.4km az=85.0*
*JMA **31** 17:09:27.4±0.2, 2783N×14062E, h409km, M3.9*

ISC 31 17:09:26.9±0.6, 2780N±009×1409E±04, h420km±12km, n14, σ0§56/17, mb3.1/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.36**	**121**	P	**P**	**17 10 21.8**	**+0.4**
	27nm,0.3s,baz=290,slow=19,SNR=33						
CBIJ				S	**S**	**17 11 05.8**	**+0.4**
	13nm,0.3s,baz=282,slow=24,SNR=8.1						
CBIJ	**Chichi jima**	**1.36**	**121**	P	**P**	**17 10 22.1**	**+0.7**
CBIJ				*e*S	**S**	**17 11 04.4**	**-1.1**
JHHJ	**Haha-jima-NKT**	**1.65**	**135**	P	**P**	**17 10 23.3**	**+0.6**
JHHJ				*e*S	**S**	**17 11 07.5**	**-0.4**
JHJ	**Hachijo jima 2**	**5.38**	**350**	P	**P**	**17 10 54.0**	**+0.3**
	19nm,0.3s,baz=240,slow=20,SNR=3.7						
BSO1	**Boso 1**	**6.83**	**1**	P	**P**	**17 11 09.9**	**+0.8**
BSO1				*e*S	**S**	**17 12 31.7**	**-0.9**
JIE	**Ise**	**7.48**	**332**	P	**P**	**17 11 16.0**	**-0.2**
JOD2	**Odawara 2**	**7.59**	**349**	P	**P**	**17 11 17.6**	**+0.2**
JRY	**Ryogami san**	**8.36**	**349**	P	**P**	**17 11 25.8**	**-0.1**
WRA	**Warramunga Arr**	**47.88**	**188**	P	**P**	**17 17 24.5**	**-0.5**
	0.2nm,0.5s,mb2.7,baz=5.2,slow=7.6,SNR=7.6						
ASAR	**Alice Springs**	**51.61**	**188**	P	**P**	**17 17 52.4**	**-0.3**
	0.1nm,0.3s,mb2.5,baz=359,slow=5.1,SNR=6.8						

comp=Z,60nm,5.6s
CD2 LR LR
comp=E,180nm,19.2s
CD2 LR LR
comp=Z,100nm,19.8s,MS3.6
JIRN Jiri 37.90 334 *e*P **P 17 36 52.1 +1.3**
comp=Z,53nm,0.7s,mb5.4
PKI Pulchoki 38.17 333 *e*P **P 17 36 53.8 +0.7**
GUN Gumba 38.25 334 *e*P **P 17 36 54.6 +0.8**
comp=Z,75nm,0.6s,mb5.6
DMN Daman 38.34 333 *e*P **P 17 36 55.1 +0.6**
comp=Z,24nm,0.9s,mb4.9
KKN Kakani 38.41 333 *e*P **P 17 36 55.7 +0.5**
comp=Z,37nm,0.7s,mb5.2
KKN Kakani 38.41 333 *e*P **P 17 36 55.7 +0.5**
KKN pmax pmax
comp=Z,37nm,0.7s,mb5.2
GKN Gorkha 38.89 332 *e*P **P 17 36 59.4 +0.2**
comp=Z,56nm,0.9s,mb5.3
KOLN Koldanda 39.18 331 *e*P **P 17 37 02.3 +0.7**
comp=Z,36nm,0.7s,mb5.2
XAN Xi'an 40.47 6 P **P 17 37 11.3 -1.0**
XAN AMB AMB
comp=Z,13nm,0.7s,mb4.8
JOW Kunigami 40.60 35 P **P 17 37 13.9 +0.5**
comp=Z,6.6nm,0.6s,mb4.4,baz=277,slow=8.3,SNR=6.3
JOW LR LR 17 51 36.9
comp=Z,136nm,21.3s,MS3.8,baz=172,slow=33
SSE Sheshan 40.77 23 P **P 17 37 14.3 -0.5**
SSE AP pP 17 37 23.3 -6.6
SSE PP PP 17 38 47.5 -2.1
SSE S **S 17 43 22.3 +1.1**
SSE SS SS 17 46 24.5 +0.6
SSE SCS ScS 17 47 17.5 +3.2
SSE AMB AMB
comp=Z,26nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,74nm,7.7s
SSE LR LR
comp=N,23nm,22.1s,MS3.5
SSE LR LR
comp=E,68nm,22.0s,MS3.5
SSE LR LR
comp=Z,100nm,21.2s,MS3.6
LZH Lanzhou 42.23 360 *e*P **P 17 37 30.0 +3.3**
LZH AP pP 17 37 40.0 -1.9
LZH XP sP 17 37 44.0 -4.7
LZH PP PP 17 39 12.3 +6.9
LZH AMB AMB
comp=Z,21nm,1.4s,mb4.6
PMG Port Moresby 42.97 97 P **P 17 37 33.3 +0.6**
comp=Z,70nm,0.7s,mb5.5,baz=256,slow=3.1,SNR=22
PMG Port Moresby 42.97 97 *c i*P **P 17 37 32.8 +0.1**
PMG Port Moresby 42.97 97 *e*P **P 17 37 33.2 +0.5**
comp=Z,84nm,0.8s,mb5.5
CTA Charters Tower 43.31 113 *e*P **P 17 37 36.7 +1.2**
comp=Z,7.8nm,1.0s,mb4.4
CTA Charters Tower 43.31 113 P **P 17 37 36.6 +1.1**
comp=Z,6.8nm,0.8s,mb4.4,baz=291,slow=10,SNR=5.8
CTA LR LR 17 56 49.3
comp=Z,205nm,19.5s,MS4.0,baz=281,slow=38
CTA Charters Tower 43.31 113 *e*P **P 17 37 36.7 +1.2**
CTA pmax pmax
comp=Z,8.0nm,1.0s
CTAO Charters Tower 43.31 113 *e*P **P 17 37 36.4 +0.9**
GTA Gaotai 45.70 356 *e*P **P 17 37 55.3 +0.8**
GTA AMB AMB
comp=Z,5.0nm,0.9s,mb4.4
GTA AMB AMB
comp=Z,69nm,6.8s
GTA LR LR
comp=N,151nm,20.1s,MS4.1
GTA LR LR
comp=E,149nm,16.7s,MS4.1
GTA LR LR
comp=Z,204nm,19.4s,MS4.1
HHC Hu-ho-hao-te 47.51 8 P **P 17 38 10.0 +1.3**
HHC AP pP 17 38 19.8 -4.3
HHC XP sP 17 38 23.3 -7.6
HHC PP PP 17 40 01.5 +1.0
HHC S **S 17 45 05.3 +6.1**
HHC XS sS 17 45 20.8 -4.4
HHC SCS ScS 17 47 56.5 -0.5
HHC AMB AMB
comp=Z,13nm,0.6s,mb5.1
HHC AMB AMB
comp=Z,108nm,5.7s
HHC LR LR
comp=N,256nm,20.2s,MS4.3
HHC LR LR
comp=E,141nm,19.0s,MS4.3
HHC LR LR
comp=Z,255nm,19.6s,MS4.2
BJT Baijiatuau 47.53 13 *e*P **P 17 38 09.2 +0.4**
BJT pmax pmax
comp=Z,9.0nm,0.6s
BJT Baijiatuau 47.53 13 *e*P **P 17 38 09.2 +0.3**
comp=Z,9.0nm,0.6s,mb5.0
WMQ Urumqi 52.05 345 P **P 17 38 44.0 +0.8**
WMQ AP pP 17 38 54.0 -4.8
WMQ XP sP 17 38 57.8 -7.7
WMQ PP PP 17 40 43.0 +1.3
WMQ S **S 17 46 04.3 +1.8**
WMQ AMB AMB
comp=Z,13nm,1.4s,mb4.7
WMQ AMB AMB
comp=Z,117nm,5.1s
WMQ LR LR
comp=N,605nm,17.5s,MS4.8
WMQ LR LR
comp=E,453nm,16.4s,MS4.8
WMQ LR LR
comp=Z,610nm,18.0s,MS4.7
MAT Matsushiro 53.45 34 P **P 17 38 51.7 -1.7**
MAT Matsushiro 53.45 34 *e*P **P 17 38 52.0 -1.4**
MJAR Matsushiro Arr 53.45 34 P **P 17 38 51.7 -1.8**
comp=Z,3.2nm,0.6s,mb4.4,baz=214,slow=7.6,SNR=13
CN2 Changchun 53.61 19 *e*P **P 17 38 54.0 -0.7**
CN2 *e*AP pP 17 39 06.5 -3.8
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 LR LR
comp=N,200nm,19.0s,MS4.3
CN2 LR LR
comp=E,200nm,19.0s,MS4.3
CN2 LR LR
comp=Z,200nm,21.0s,MS4.2
SONM Songino Array 54.01 2 P **P 17 38 58.5 +0.9**
comp=Z,14nm,0.7s,mb5.0,baz=180,slow=9.3,SNR=114
ULN Ulaanbaatar 54.07 3 *c i*P **P 17 38 58.4 +0.4**
ULN Ulaanbaatar 54.07 3 *e*P **P 17 38 58.8 +0.8**
comp=Z,7.5nm,0.8s,mb4.7
KZA Kyzart 54.83 334 P **P 17 39 04.7 +1.2**
SNR=7.1
TKM2 Tokmak 2 55.37 335 P **P 17 39 07.9 +0.5**
SNR=12
KBK Karagaybulak 55.43 334 P **P 17 39 08.9 +1.0**
SNR=5.3
AML Almayashu 55.56 333 P **P 17 39 09.6 +0.8**
SNR=7.6
HNR Honiara 55.59 97 P **P 17 39 09.2 +0.3**
comp=Z,56nm,0.8s,mb5.6,baz=264,slow=3.3,SNR=3.9
HNR Honiara 55.59 97 P **P 17 39 09.2 +0.3**
AAK Ala-Archa 55.61 334 *i*P **P 17 39 07.8 -1.3**
AAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
FRU Bishkek 55.72 334 *e*P **P 17 39 10.0 +0.1**
FRU *e* pP 17 39 23.0 -2.6
EKS2 Erkin-Say 55.95 333 P **P 17 39 12.4 +0.8**
SNR=16
MK31 Makanchi Array 56.29 342 P **P 17 39 13.2 -0.8**
MK31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
MKAR Makanchi Array 56.29 342 P **P 17 39 13.9 -0.1**
comp=Z,6.8nm,0.7s,mb4.8,baz=145,slow=7.6,SNR=62
MKAR Makanchi Array 56.29 342 *i*P **P 17 39 13.8 -0.2**
MKAR pmax pmax
comp=Z,7.0nm,0.7s
ZAK Zakamensk 56.52 360 *e*P **P 17 39 15.7 +0.1**
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.0
KK31 Karatay Array 57.79 332 *i*P **P 17 39 24.0 -0.6**
KK31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
KKAR Karatay Array 57.79 332 *i*P **P 17 39 24.0 -0.6**
KKAR pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
TLY Talaya 57.82 360 *e*P **P 17 39 25.7 +0.9**
TLY pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
TLY MLR MLR
comp=Z,142nm,19.0s,MS4.1
TLY Talaya 57.82 360 *e*P **P 17 39 25.8 +1.0**
comp=Z,2.6nm,0.6s,mb4.4
KLR Kul'dur 60.48 21 *e*P **P 17 39 39.0 -4.2**
KURK Kurchatov 60.89 342 *d i*P **P 17 39 46.0 0.0**
KURK Kurchatov 60.89 342 *e*P **P 17 39 45.0 -1.0**
comp=Z,8.5nm,0.8s,mb4.9
ASAJ Asahikawa 61.18 31 LR LR 18 02 54.8
comp=Z,43nm,20.6s,MS3.6,baz=337,slow=33
ZAL Zalesovo 62.19 347 P **P 17 39 53.7 -1.0**
comp=Z,6.0nm,0.6s,mb4.9,baz=319,slow=4.4,SNR=34
ZAL LR LR 18 10 31.5
comp=Z,123nm,18.9s,MS4.1,baz=320,slow=40
ZAL Zalesovo 62.19 347 *i*P **P 17 39 54.2 -0.5**
ZAL pmax pmax
comp=Z,6.0nm,0.6s
YSS Yuzh-Sakhalins 63.27 29 *c i*P **P 17 40 01.9 -0.1**
YSS pmax pmax
comp=Z,51nm,2.5s,mb5.2
NVS Novosibirsk 63.37 347 *e*P **P 17 40 01.6 -1.0**
NVS *e*S **S 17 48 28.5 -2.1**
NVS pmax pmax
comp=N,18nm,2.3s
NVS smax
comp=E,7.0nm,1.1s
BOD Bodaibo 64.50 6 *e*P **P 17 40 08.4 -1.6**
BOD pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
BVA0 Borovoye Array 65.61 339 *i*P **P 17 40 16.6 -0.6**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
BVAR Borovoye Array 65.61 339 P **P 17 40 16.9 -0.3**
comp=Z,5.5nm,0.6s,mb4.8,baz=143,slow=9.1,SNR=39
BVAR LR LR 18 10 13.2
comp=Z,58nm,22.0s,MS3.7,baz=320,slow=37
BVAR Borovoye Array 65.61 339 P **P 17 40 16.9 -0.3**
BVAR LR LR 18 10 13.2
BRVK Borovoye 65.67 339 *e*P **P 17 40 17.1 -0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BRVK Borovoye 65.67 339 *e*P **P 17 40 17.1 -0.5**
comp=Z,3.1nm,0.7s,mb4.5
ZRNK Zerenda 66.06 338 *i*P **P 17 40 19.6 -0.5**
ZRNK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
ZRNK Zerenda 66.06 338 *e*P **P 17 40 19.2 -0.9**
comp=Z,6.4nm,0.8s,mb4.7
KMBO Kilima Mbogo 66.63 272 LR LR 18 04 38.6
comp=Z,162nm,18.5s,MS4.3,baz=94,slow=32
MAW Mawson 67.09 196 P **P 17 40 26.8 +0.1**
comp=Z,2.3nm,0.6s,mb4.4,baz=32,slow=5.4,SNR=20
MAW LR LR 18 04 46.4
comp=Z,159nm,18.0s,MS4.3,baz=256,slow=32
AB31 Akbulak array 67.30 330 *i*P **P 17 40 27.7 -0.3**
AB31 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
RPZ Rata Peaks 69.19 134 LR LR 18 11 12.3
comp=Z,226nm,18.5s,MS4.4,baz=346,slow=36
YAK Yakutsk 71.05 13 *e*P **P 17 40 49.9 -1.3**
YAK pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
YAK Yakutsk 71.05 13 *e*P **P 17 40 49.9 -1.3**
comp=Z,9.3nm,0.6s,mb4.9
SVE Sverdlovsk 72.18 337 *e*P **P 17 40 58.3 +0.3**
ARU Arti 72.74 336 *i*P **P 17 41 01.1 -0.2**
ARU *e* pP 17 41 15.3 -2.3
ARU *e* 17 43 40.5
ARU *e*S S 17 50 25.1 +2.8
ARU *e*SS SS 17 55 03.6 +0.8
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ARU Arti 72.74 336 *e*P **P 17 41 01.0 -0.3**
comp=Z,23nm,1.3s,mb5.0
URZ Urewera 72.93 128 LR LR 18 12 16.4
comp=Z,153nm,19.2s,MS4.3,baz=318,slow=35
KIV Kislovodsk 74.34 319 *c e*P **P 17 41 11.4 +0.7**
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KIV Kislovodsk 74.34 319 P **P 17 41 10.5 -0.2**
comp=Z,4.8nm,0.5s,mb4.7
PET Petropavlovsk 75.03 31 *e*P **P 17 41 13.5 -1.2**
PET pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
VNDA Vanda 77.17 169 P **P 17 41 27.2 +0.4**
comp=Z,3.5nm,0.3s,mb4.8,baz=325,slow=7.6,SNR=57
VNDA LR LR 18 09 13.8
comp=Z,76nm,19.9s,MS4.0,baz=345,slow=31
BRTR Keskin Array B 79.09 312 P **P 17 41 37.9 +0.4**
comp=Z,0.8nm,0.8s,mb3.7,baz=140,slow=6.5,SNR=5.1
BRTR LR LR 18 19 35.4
comp=Z,51nm,18.1s,MS3.9,baz=321,slow=38
BRTR Keskin Array B 79.09 312 P **P 17 41 37.9 +0.4**
BRTR LR LR 18 19 35.4
TIXI Tiksi 79.58 8 *e*P **P 17 41 37.9 -2.3**
TIXI pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
OBN Obninsk 82.52 328 *c i*P **P 17 41 56.2 +0.4**
OBN *e* 17 42 04.3
OBN *e* pP 17 42 13.0 +0.6
OBN pmax pmax
comp=Z,18nm,1.2s,mb5.0
KLMR Klimovskoe 83.42 334 *e*P **P 17 42 01.1 +0.7**
KLMR pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
AKASG Malin Array Be 85.27 322 P **P 17 42 09.6 -0.3**
comp=Z,2.6nm,0.7s,mb4.5,baz=87,slow=4.8,SNR=14
BILL Bilibino 85.92 20 *e*P **P 17 42 13.3 +0.3**
BILL *e* 17 45 28.9
BILL pmax pmax
comp=Z,2.0nm,1.1s,mb4.3
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.2
JOF Joensuu 87.80 334 *ep* **P 17 42 22.1 -0.1**
comp=Z,0.8nm,0.4s,mb4.3
FINES FINESS Array B 89.75 332 P **P 17 42 32.1 +0.8**
comp=Z,2.2nm,0.7s,mb4.6,baz=117,slow=7.4,SNR=13
FINES FINESS Array B 89.75 332 *i*P **P 17 42 32.0 +0.7**
FINES pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 89.80 333 *ep* **P 17 42 31.9 +0.3**
comp=Z,7.8nm,0.7s,mb5.2,baz=96,slow=4.2
KAF Kangasniemi 89.80 333 *e*P **P 17 42 31.9 +0.3**
KAF pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
VNA1 Neumayer--Stat 91.20 198 *e*P **P 17 42 34.7 -3.4**
VNA1 *e* 17 42 36.0
VNA1 *e* 17 42 58.1
VNA1 *e* 17 43 05.3
VNA1 *e* 18 13 17.9
VNA1 *e* 18 13 32.2
VNA1 *e* 18 13 41.2
VNA1 *e* 18 43 50.3
VNA1 *e* 18 44 12.4
VNA1 *e* 18 44 40.2
NVAR Mina Array Bea 130.30 44 PKP PKPdf 17 48 45.4 +2.3
comp=Z,0.7nm,0.6s,baz=243,slow=1.9,SNR=4.7
PDAR Pinedale Array 133.27 34 PKP PKPdf 17 48 51.0 +2.3
comp=Z,0.4nm,0.6s,baz=48,slow=2.2,SNR=4.0
PDAR SKP 17 52 24.4
comp=Z,0.3nm,0.4s,baz=278,slow=0.6,SNR=3.3
WMOK Wichita Mounta 144.88 33 *e*PKIKP PKPdf 17 49 09.0 -0.8
CCM Cathedral Cave 145.60 21 *e*PKIKP PKPdf 17 49 10.3 -0.7
JCT Junction City 147.30 40 *e*PKP2 PKPab 17 49 17.8 -0.4
MIAR Mount Ida 147.66 28 *e*PKP2 PKPab 17 49 17.5 -2.2

*IDC **31** 17:45:08.9±0.8, 187.3N×121.03E, h0km, mb4.1/7, mb1 4.2/8, mb1mx3.9/21, mbtmp4.1/8, ML4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/31, Error ellipse: s-maj=46.4km s-min=15.7km az=72.0*
*NEIC **31** 17:45:12.5±3.0, 187.6N×121.14E, h24km±23km, mb4.0/2, Error ellipse: s-maj=11.7km s-min=7.7km az=74.0*
*ISCJB **31** 17:45:14.3±0.5, 19.15N±004×12098E±006, h33km, mb4.0/9, MS3.1/1, Error ellipse: s-maj=8.4km s-min=4.5km az=139.0*
*MAN **31** 17:45:14.4, 1894N×121.18E, h1km, mb3.5, ML4.7, MS1.8*
*BJI **31** 17:45:21.9, 1946N×12029E, h24km, mb4.3, ML3.6, Ms3.4*
ISC 31 17:45:16.4±0.5, 1911N±004×12100E±005, h35km, n34, σ1s30/41, mb4.0/9, MS3.1/1, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.86**	**205**	*e*P	**Pn**	**17 45 30.0**	**-1.9**
APYP	**Conner**	**1.26**	**169**	*e*P	**Pn**	**17 45 36.0**	**-1.4**
APYP				*e*S	**Sn**	**17 45 52.7**	**-0.5**
SGCP	**Mt. Cagua**	**1.31**	**131**	*e*P	**Pn**	**17 45 35.8**	**-2.4**
SGCP				*e*S	**Sn**	**17 45 51.5**	**-3.0**
ABRA	**Dolores**	**1.48**	**191**	*e*P	**Pn**	**17 45 39.8**	**-0.6**
CAUP	**Cauayan**	**2.29**	**160**	*e*P	**Pn**	**17 45 53.0**	**+1.4**
PALP	**Palanan**	**2.44**	**146**	*e*P	**Pn**	**17 45 54.0**	**+0.2**
PALP				*i*S	**Sn**	**17 46 25.4**	**+2.9**
PALP	**Palanan**	**2.44**	**146**	*e*P	**Pn**	**17 45 53.1**	**-0.7**
PALP				*e*S	**Sn**	**17 46 23.4**	**+0.9**
BCPH	**Baguio City Da**	**2.74**	**188**	*e*P	**Pn**	**17 45 57.7**	**-0.2**
BCPH				*e*S	**Sn**	**17 46 29.7**	**0.0**
BOLP	**Bolinao**	**2.90**	**201**	*e*P	**Pn**	**17 46 01.9**	**+1.9**
BALP	**Baler**	**3.39**	**171**	*e*P	**Pn**	**17 46 07.2**	**+0.4**
SCZP	**Santa Cruz**	**3.47**	**198**	*e*P	**Pn**	**17 46 11.7**	**+3.8**
PCPH	**Palayan**	**3.53**	**178**	*e*P	**Pn**	**17 46 09.6**	**+1.0**
POLP	**Polillo Island**	**4.45**	**168**	*e*P	**Pn**	**17 46 21.5**	**+0.2**
POLP				*e*S	**Sn**	**17 47 13.1**	**+1.3**
LUBP	**Lubang**	**5.39**	**188**	*e*P	**Pn**	**17 46 36.4**	**+2.1**
YHNB	**Yeheng**	**5.55**	**4**	*e*P	**Pn**	**17 46 38.9**	**+2.4**
BUSP	**Coron**	**7.11**	**186**	*e*P	**Pn**	**17 46 58.2**	**+0.4**
GZH	**Guangzhou**	**8.17**	**300**	P	**Pn**	**17 47 12.0**	**-0.4**
GZH				S	**Sn**	**17 48 36.5**	**-6.9**
GZH				Smax			
	comp=N,30nm,0.7s						
GZH				Smax			
	comp=E,22nm,0.6s						
GZH				LR	LR		
	comp=N,359nm,14.6s						
GZH				LR	LR		
	comp=E,245nm,15.8s						
JOW	**Kunigami**	**10.20**	**40**	Pn	**Pn**	**17 47 39.6**	**-0.6**
	comp=E,2.7nm,0.3s,baz=189,slow=11,SNR=18						
QIZ	**Qiongzhong**	**10.55**	**271**	P	**Pn**	**17 47 44.5**	**-0.5**
QIZ				S	**Sn**	**17 49 40.5**	**-1.4**
QIZ				AMB	AMB		
	comp=Z,23nm,0.7s						
QIZ	**Qiongzhong**	**10.55**	**271**	*e*Pn	**Pn**	**17 47 43.9**	**-1.1**
	comp=Z,22nm,0.5s						
GUMO	**Guam**	**23.54**	**100**	LR	LR	17 57 12.7	
	comp=Z,76nm,21.0s,MS3.1,baz=292,slow=31						
SONM	**Songino Array**	**31.02**	**341**	P	**P**	**17 51 31.8**	**+1.1**
	comp=Z,1.0nm,0.7s,mb3.7,baz=158,slow=9.4,SNR=6.5						
MBWA	**Marble Bar**	**40.04**	**182**	*e*P	**P**	**17 52 44.1**	**-3.9**
WRAB	**Tennant Creek**	**40.95**	**161**	*e*P	**P**	**17 52 49.8**	**-5.7**
	comp=Z,2.1nm,0.4s,mb4.1						
WRA	**Warramunga Arr**	**40.95**	**161**	P	**P**	**17 52 49.4**	**-6.2**
	comp=Z,0.7nm,0.4s,mb3.6,baz=333,slow=10,SNR=20						
WRA				PcP	PcP	17 54 53.6	-1.8
	comp=Z,1.1nm,0.5s,baz=343,slow=3.1,SNR=13						
WB2	**Warramunga Arr**	**40.96**	**161**	*e*P	**P**	**17 52 50.3**	**-5.3**
MKAR	**Makanchi Array**	**41.98**	**320**	P	**P**	**17 53 04.7**	**+0.7**
	comp=Z,0.6nm,0.7s,mb3.4,baz=120,slow=9.0,SNR=6.5						
MKAR				PcP	PcP	17 54 57.8	-1.0
	comp=Z,1.4nm,0.7s,baz=91,slow=5.8,SNR=7.8						
AS31	**Alice Springs**	**44.34**	**163**	*e*P	**P**	**17 53 18.7**	**-4.3**
ASAR	**Alice Springs**	**44.34**	**163**	P	**P**	**17 53 18.6**	**-4.4**
	comp=Z,2.0nm,0.4s,mb4.2,baz=342,slow=6.9,SNR=81						
ASPA	**Alice Springs**	**44.34**	**163**	*e*P	**P**	**17 53 18.7**	**-4.3**
BVAR	**Borovoye Array**	**51.55**	**323**	P	**P**	**17 54 19.8**	**+0.9**
	comp=Z,0.8nm,0.7s,mb3.8,baz=120,slow=10,SNR=5.4						
BVAR				PcP	PcP	17 55 31.3	-1.3
	comp=Z,1.6nm,0.6s,baz=113,slow=3.8,SNR=9.7						
BRVK	**Borovoye**	**51.62**	**323**	P	**P**	**17 54 19.4**	**0.0**
	comp=Z,0.8nm,0.6s,mb3.8						
NWAO	**Narrogin (SRO)**	**51.86**	**184**	P	**P**	**17 54 15.9**	**-5.2**
	comp=Z,19nm,1.1s,mb4.9,baz=51,slow=6.5,SNR=3.5						
ARCES	**ARCESS Array B**	**74.17**	**339**	P	**P**	**17 56 48.1**	**-1.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=69,slow=6.8,SNR=11						

*ISCJB **31** 17:54:43.2±1.2, 180N±0.1×104.47W±0.10, h10km, mb4.2/12, MS3.8/5, Error ellipse: s-maj=19.4km s-min=9.8km az=65.1*
*BJI **31** 17:54:43.5, 18.10N×104.50W, h10km, Ms4.5, Msz4.4*
*NEIC **31** 17:54:45.5±1.5, 18.08N×104.46W, h10km, mb4.4/10, MD3.7(MEX), Error ellipse: s-maj=23.6km s-min=11.5km az=214.0*
*IDC **31** 17:54:57.4±5.4, 1999N×103.15W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.8/21, mbtmp3.8/5, ML3.4/1, MS3.6/5, Ms1 3.6/5, ms1mx3.3/27, Error ellipse: s-maj=115.5km s-min=32.0km az=35.0*
ISC 31 17:54:45.5±1.2, 181N±01×10444W±010, h10km, n32, σ1s37/28, mb4.2/12, MS3.8/5, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFJM	**Santa Fe**	**2.75**	**29**	*i*P	**Pn**	**17 55 28.2**	**-1.5**
MOIG	**Morelia**	**3.48**	**62**	*i*P	**Pn**	**17 55 41.1**	**+1.5**
PPM	**Popocatepetl**	**5.61**	**79**	*i*P	**Pn**	**17 56 13.8**	**+4.9**
CMIG	**Matias Romero**	**9.17**	**95**	Pn	**Pn**	**17 57 00.7**	**+2.9**
	0.4nm,0.3s,baz=268,slow=13,SNR=7.3						
CMIG				LR	LR	18 00 53.8	
	comp=Z,261nm,18.3s,baz=280,slow=43						
CMIG	**Matias Romero**	**9.17**	**95**	Pn	**Pn**	**17 57 00.7**	**+2.9**
CMIG				*i*P		17 57 03.9	
CMIG				LR	LR	18 00 53.8	
JCT	**Junction City**	**13.06**	**18**	P	**Pn**	**17 57 51.5**	**+0.4**
	6.9nm,0.8s						
TEIG	**Tepich**	**15.43**	**79**	P	**Pn**	**17 58 23.1**	**-0.2**
BNM	**Barren Site**	**16.14**	**353**	P	**Pn**	**17 58 34.2**	**+1.8**
NATX	**Nacogdoches**	**16.25**	**31**	*e*P	**Pn**	**17 58 33.9**	**0.0**
LAZ	**Ladron**	**16.45**	**352**	*e*P	**Pn**	**17 58 37.7**	**+1.3**
ANMO	**Albuquerque**	**16.91**	**354**	P	**Pn**	**17 58 43.8**	**+1.5**
	5.0nm,1.0s						
MIAR	**Mount Ida**	**19.07**	**28**	P	**Pn**	**17 59 07.3**	**-1.5**
	20nm,1.4s						
PV01	**Paradox Valley**	**20.32**	**351**	*e*P	**P**	**17 59 19.9**	**-1.8**
TPNV	**Topopah Spring**	**21.49**	**333**	P	**P**	**17 59 32.5**	**-1.9**
	18nm,1.4s,mb4.2						
ISCO	**Idaho Springs**	**21.68**	**358**	*e*P	**P**	**17 59 35.1**	**-1.3**
	17nm,1.4s,mb4.3						
DAU	**Daniels Canyon**	**23.03**	**347**	P	**P**	**17 59 49.3**	**-1.5**
DUG	**Dugway**	**23.21**	**344**	P	**P**	**17 59 53.8**	**+1.1**
	7.7nm,1.1s,mb4.0						
WVT	**Waverly**	**23.23**	**36**	*e*P	**P**	**17 59 49.3**	**-3.6**
NVAR	**Mina Array Bea**	**23.62**	**332**	P	**P**	**17 59 59.0**	**+2.1**
	0.2nm,0.3s,mb3.0,baz=141,slow=12,SNR=6.5						
USIN	**University of**	**24.67**	**33**	*e*P	**P**	**18 00 05.6**	**-0.9**
	16nm,0.4s,mb4.9						
PDAR	**Pinedale Array**	**25.00**	**351**	P	**P**	**18 00 08.6**	**-0.9**
	0.6nm,0.6s,mb3.3,baz=163,slow=10,SNR=4.5						
REDW	**Red Top Meadow**	**25.80**	**349**	*e*P	**P**	**18 00 17.6**	**+0.9**
	20nm,1.3s,mb4.5						
RRI2	**Red Ridge**	**25.87**	**348**	*e*P	**P**	**18 00 17.8**	**+0.4**
	19nm,1.4s,mb4.4						
TPAW	**Teton Pass**	**25.94**	**349**	*e*P	**P**	**18 00 18.9**	**+0.9**
	16nm,1.2s,mb4.4						
YBH	**Yreka Blue Hor**	**28.29**	**330**	LR	LR	18 11 23.9	
	comp=Z,139nm,20.8s,MS3.5,baz=150,slow=36						
ULM	**Lac du Bonnet**	**32.84**	**10**	P	**P**	**18 01 15.3**	**-4.0**
	1.4nm,0.7s,mb4.0,baz=194,slow=8.3,SNR=3.6						
ULM				LR	LR	18 15 41.6	
	comp=Z,150nm,18.2s,MS3.7,baz=229,slow=40						
ULM	**Lac du Bonnet**	**32.84**	**10**	P	**P**	**18 01 15.3**	**-4.0**
ULM				LR	LR	18 15 41.6	
SCHQ	**Schefferville**	**46.58**	**29**	P	**P**	**18 03 07.0**	**-6.5**
	7.5nm,1.1s,mb4.5,baz=225,slow=8.6,SNR=2.4						
SCHQ				LR	LR	18 24 12.1	
	comp=Z,82nm,18.8s,MS3.7,baz=91,slow=40						
SAML	**Samuel**	**48.78**	**120**	P	**P**	**18 03 29.6**	**-1.1**
	3.7nm,1.0s,mb4.4						
LPAZ	**La Paz**	**49.44**	**132**	LR	LR	18 23 21.5	
	comp=Z,64nm,21.6s,MS3.6,baz=314,slow=34						
HHC	**Hu-ho-hao-te**	**112.52**	**331**	PKP	PKiKP	18 13 20.5	-1.5
HHC				PP	PP	18 14 09.5	+1.3
HHC				PKS		18 16 54.0	
HHC				SKS	SKSdf	18 20 31.3	-2.9
HHC				SKKS	SKKSac	18 21 03.3	-7.5
HHC				SS	SS	18 29 47.5	-1.4
HHC				LR	LR		
	comp=N,103nm,20.8s,MS4.5						
HHC				LR	LR		
	comp=E,105nm,25.0s,MS4.5						
HHC				LR	LR		
	comp=Z,122nm,20.8s,MS4.5						
NJ2	**Nanjing**	**115.16**	**320**	*e*PKP	PKiKP	18 13 23.3	-3.8

IDC 31 18:02:14.8±1.9, 792S×15712E, h410km±33km, mb3.0/4, mb1 3.2/6, mb1mx3.0/15, mbtmp3.9/6, Error ellipse: s-maj=56.5km s-min=23.9km az=133.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.17**	**118**	P	P	18 03 19.7	-0.4
	13nm,0.3s,baz=275,slow=0.8,SNR=7.5						
CTA	**Charters Tower**	**16.03**	**220**	P	P	18 05 39.8	+1.9
	1.0nm,0.3s,baz=46,slow=10,SNR=13						
WRA	**Warramunga Arr**	**25.09**	**239**	P	P	18 07 04.9	+0.5
	0.8nm,0.3s,baz=63,slow=8.8,SNR=23						
WRA				PcP	PcP	18 10 25.4	-0.5
	0.1nm,0.4s,baz=64,slow=3.2,SNR=4.5						
FITZ	**Fitzroy Crossi**	**32.25**	**249**	P	P	18 08 06.6	-0.6
	0.4nm,0.5s,baz=0.0,slow=20,SNR=5.3						
SONM	**Songino Array**	**71.26**	**327**	P	P	18 12 52.3	+1.3
	0.4nm,0.5s,baz=128,slow=4.5,SNR=4.7						
MKAR	**Makanchi Array**	**85.49**	**318**	P	P	18 14 07.6	-0.2
	0.5nm,0.6s,baz=92,slow=5.3,SNR=6.6						

*NIED **31** 18:14:00, 26.50N×127.60E, h35km, Mw3.6 Best double couple: M0 2.94000×10^14 NP1:φs 65.00000°, δ 63.00000°, λ 111.00000°. NP2:φs 205.00000°, δ 33.00000°, λ 55.00000°.*
*ISCJB **31** 18:14:57.7±0.5, 26.53N±0.05×127.65E±0.05, h53km±5km, mb3.4/3, Error ellipse: s-maj=10.1km s-min=3.9km az=100.9*
*JMA **31** 18:14:58.2±0.2, 26.53N×127.65E, h50km±2km, M3.5*
*IDC **31** 18:14:59.8±2.1, 26.74N×128.37E, h76km±6km, mb3.3/3, mb1 3.3/3, mb1mx3.0/19, mbtmp3.6/3, Error ellipse: s-maj=39.4km s-min=7.9km az=145.0*

ISC 31 18:14:58.8±0.4, 26.53N±0.05×127.66E±0.004, h45km±6km, n18, σ0 85/32, mb3.4/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NAH1	**Naha**	**0.33**	**176**	P	Pn	**18 15 07.4**	**-0.4**
NAH1				S	Sn	**18 15 13.8**	**-0.3**
JAGN	**Aguni-jima**	**0.38**	**279**	P	Pn	**18 15 08.1**	**-0.2**
JAGN				S	Sn	**18 15 15.1**	**0.0**
JJT2	**Tamagusuku 2**	**0.40**	**169**	P	Pn	**18 15 08.5**	**0.0**
JJT2				eS	Sn	**18 15 16.0**	**+0.6**
JIH	**Iheya**	**0.57**	**28**	P	Pn	**18 15 10.4**	**-0.2**
JIH				S	Sn	**18 15 18.8**	**-0.3**
JOW	**Kunigami**	**0.62**	**61**	P	Pn	**18 15 11.5**	**+0.2**
	94nm,0.3s,baz=144,slow=15,SNR=778						
JOW				S	Sn	**18 15 20.2**	**-0.1**
	492nm,0.3s,baz=122,slow=19,SNR=61						
JOW	**Kunigami**	**0.62**	**61**	P	Pn	**18 15 11.0**	**-0.3**
JOW				eS	Sn	**18 15 20.4**	**+0.1**
JKE	**Kume jima 2**	**0.81**	**256**	P	Pn	**18 15 13.0**	**-0.8**
JKE				eS	Sn	**18 15 23.4**	**-1.4**
JTK	**Tokunoshima**	**1.69**	**42**	P	Pn	**18 15 25.7**	**-0.2**
JTK				S	Sn	**18 15 45.6**	**-0.8**
JAM	**Amami Oshima**	**2.55**	**42**	P	Pn	**18 15 37.8**	**+0.2**
JAM				S	Sn	**18 16 07.1**	**-0.2**
JZK	**Kikaishima**	**2.71**	**49**	P	Pn	**18 15 40.6**	**+0.7**
JZK				eS	Sn	**18 16 12.2**	**+0.8**
JTJ	**Tarama**	**3.27**	**235**	P	Pn	**18 15 48.2**	**+0.7**
JTJ				eS	Sn	**18 16 25.7**	**+0.5**
JMZ	**Minamidaito 2**	**3.27**	**102**	P	Pn	**18 15 44.6**	**-3.0**
JMZ				eS	Sn	**18 16 18.9**	**-6.4**
JNN	**Nakanoshima**	**3.83**	**30**	P	Pn	**18 15 56.2**	**+1.0**
JNN				eS	Sn	**18 16 39.8**	**+0.8**
JIJ	**Ishigaki jima**	**3.85**	**237**	P	Pn	**18 15 55.8**	**+0.4**
JIJ				eS	Sn	**18 16 40.0**	**+0.7**
IRIF	**Iriomote-Funau**	**4.17**	**239**	P	Pn	**18 16 00.9**	**+1.0**
SONM	**Songino Array**	**27.02**	**327**	P	P	**18 20 38.2**	**+1.6**
	0.5nm,0.5s,mb3.3,baz=143,slow=10.0,SNR=6.4						
MKAR	**Makanchi Array**	**40.95**	**312**	P	P	**18 22 36.0**	**-1.0**
	0.2nm,0.4s,mb3.1,baz=87,slow=9.0,SNR=5.6						
FINES	**FINESS Array B**	**72.35**	**330**	P	P	**18 26 17.8**	**-2.1**
	0.9nm,0.9s,mb3.7,baz=64,slow=4.4,SNR=4.3						

IDC 31 18:18:25.8±4.6, 599S×10382E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/16, mbtmp3.3/4, Error ellipse: s-maj=192.9km s-min=24.4km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.73**	**118**	P	P	18 24 59.7	-0.4
	0.3nm,0.9s,baz=286,slow=9.3,SNR=4.0						
ASAR	**Alice Springs**	**33.85**	**124**	P	P	18 25 11.1	+1.2
	0.1nm,0.4s,baz=298,slow=7.8,SNR=3.1						
SONM	**Songino Array**	**53.64**	**2**	P	P	18 27 49.6	+0.6
	0.3nm,0.6s,baz=188,slow=8.7,SNR=4.1						
MKAR	**Makanchi Array**	**55.92**	**342**	P	P	18 28 05.2	-0.3
	0.4nm,0.6s,baz=138,slow=6.8,SNR=6.6						

*MEX **31** 18:25:13.0±0.5, 18.24N×104.17W, h7km±8km, MD5.3*
*BJI **31** 18:25:13.2, 18.60N×103.90W, h10km, mB5.6, mb5.4, Ms5.3, Msz4.9*
*MOS **31** 18:25:15.9±1.0, 18.66N×104.04W, h23km, mb5.5/74, MS4.7/31, Error ellipse: s-maj=6.9km s-min=4.1km az=86.3*
*HRVD **31** 18:25:15.3±0.2, 18.62N×104.08W, h24km, MW5.3/75, Centroid moment Tensor Solution. LP body waves: s74,c131; Mantle waves: s75,c139; Half duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr 0.99±.03; Mθθ 0.85±.02; Mφφ 0.14±.02; Mrθ 0.68±.03; Mθφ 0.53±.02; Mφr 0.29±.03; Best double couple: M0 1.29100×10^17 NP1:φs 302.00000°, δ 28.00000°, λ 96.00000°. NP2: φs 115.00000°, δ 62.00000°, λ 87.00000°. Principal axes: T 1.2220, Plg 72.0000°, Azm 17.0000°; N 0.1370, Plg 3.0000°, Azm 116.0000°; P -1.3590, Plg 17.0000°, Azm 207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BGS **31** 18:25:15.9±1.5, 18.59N×103.85W, h10km, mb5.4*
*NEIC **31** 18:25:15.3±0.2, 18.62N×103.90W, h10km, mb5.3/153, MS4.8/117, MD5.2(MEX), Error ellipse: s-maj=6.3km s-min=3.1km az=219.0*
NEIC Felt [III] at Colima. Felt at Cihuatlan, Guadalajara, Manzanillo and Tamazula.
*ISCJB **31** 18:25:16.1±0.2, 18.65N±0.03×104.03W±0.02, h24km, mb5.2/198, MS4.8/145, Error ellipse: s-maj=5.5km s-min=2.4km az=52.7*
*SZGRF **31** 18:25:18.3, 18.85N×103.96W, h28km, mb5.3, MS5.2, Near coast of Michoacan, Mexico*
*IDC **31** 18:25:22.0±3.4, 18.82N×103.90W, h58km±27km, mb4.6/23, mb1 4.7/25, mb1mx4.7/28, mbtmp4.9/25, ML4.0/2, MS4.8/24, Ms1 4.8/24, ms1mx4.6/38, Error ellipse: s-maj=24.7km s-min=11.8km az=47.0*

ISC 31 18:25:17.8±0.2, 18.63N±0.04×104.03W±0.02, h25km, h25km±7.7km: pP-P, n692, σ1 900/615, mb5.2/197, MS4.8/145, 20C-14D, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COLM	**Colima**	**0.64**	**30**	*i* P	**Pb**	**18 25 30.0**	**-0.3**
CJM	**Chamela**	**1.30**	**312**	*e*P	**Pn**	**18 25 36.7**	**-3.6**
CJM				*i* S	**Sn**	**18 25 55.2**	**-1.6**
SFJM	**Santa Fe**	**2.07**	**27**	*i* P	**Pn**	**18 25 51.0**	**0.0**
ZIIG	**Zihuatanejo**	**2.64**	**112**	*i* P	**Pn**	**18 25 53.9**	**-4.8**
ZIIG				*i* S	**Sn**	**18 26 24.4**	**-5.5**
ZIIG	**Zihuatanejo**	**2.64**	**112**	*e*P	**Pn**	**18 26 03.9**	**+5.2**
ZIIG				*i* S	**Sn**	**18 26 33.7**	**+3.7**
ZIIG				*i* S	**Sn**	**18 26 39.1**	**+9.2**
MOIG	**Morelia**	**2.88**	**68**	*e*P	**Pn**	**18 26 03.5**	**+1.4**
MOIG				*i* S	**Sn**	**18 26 37.7**	**+1.8**
CAIG	**El Cayaco**	**3.91**	**113**	*e*P	**Pn**	**18 26 09.9**	**-6.3**
CAIG				*i* S	**Sn**	**18 26 56.0**	**-5.2**
CAIG	**El Cayaco**	**3.91**	**113**	*i* P	**Pn**	**18 26 21.8**	**+5.6**
CAIG				*i* S	**Sn**	**18 27 07.3**	**+6.0**
MEIG	**Mezcala**	**4.24**	**99**	*i* P	**Pn**	**18 26 19.9**	**-0.9**
MEIG				*i* S	**Sn**	**18 27 08.3**	**-1.2**
ACX	**Acapulco**	**4.29**	**113**	*i* S	**Sn**	**18 27 03.9**	**-6.8**
ACX	**Acapulco**	**4.29**	**113**	*i* P	**Pn**	**18 26 24.0**	**+2.5**
ACX				*i* S	**Sn**	**18 27 20.0**	**+9.3**
PLIG	**Platanillo**	**4.30**	**92**	*e*P	**Pn**	**18 26 18.8**	**-2.8**
PLIG				*i* S	**Sn**	**18 27 11.4**	**+0.5**
PLIG	**Platanillo**	**4.30**	**92**	*i* P	**Pn**	**18 26 23.5**	**+1.9**
PLIG				*i* S	**Sn**	**18 27 14.2**	**+3.3**
SZVM	**Salazar**	**4.45**	**80**	*i* S	**Sn**	**18 27 20.4**	**+5.8**
IIZ	**Mezontepec**	**4.56**	**82**	*e*P	**Pn**	**18 26 24.9**	**-0.4**
IIZ				*i* S	**Sn**	**18 27 22.3**	**+4.9**
UNM	**Universidad Na**	**4.64**	**81**	*e*P	**Pn**	**18 26 28.5**	**+2.2**
UNM				*e*P		18 26 31.2	
UNM				*e*P		18 26 31.5	
UNM	**Universidad Na**	**4.64**	**81**	*e*P	**Pn**	**18 26 28.5**	**+2.2**
UNM				*e*P		18 26 31.2	
YAIG	**Yautepec**	**4.71**	**86**	*e*P	**Pn**	**18 26 25.3**	**-1.9**
YAIG				*i* S	**Sn**	**18 27 20.6**	**-0.4**
YAIG	**Yautepec**	**4.71**	**86**	*e*P	**Pn**	**18 26 29.0**	**+1.8**
YAIG				*i* S	**Sn**	**18 27 25.7**	**+4.8**
PTVM	**Pico Tres Padr**	**4.74**	**77**	*i* S	**Sn**	**18 27 22.7**	**+0.8**
RFVM	**Rio Frio**	**5.03**	**81**	*i* S	**Sn**	**18 27 29.4**	**+0.4**
MAIG	**Mazatlaan**	**5.06**	**334**	*i* P	**Pn**	**18 26 31.4**	**-0.7**
MAIG				*i* S	**Sn**	**18 27 32.9**	**+3.1**
MAIG	**Mazatlaan**	**5.06**	**334**	*i* P	**Pn**	**18 26 31.4**	**-0.7**
MAIG				*i* S	**Sn**	**18 27 24.4**	**-5.3**
PPM	**Popocatepetl**	**5.13**	**84**	*e*P	**Pn**	**18 26 35.0**	**+2.0**
PPM				*i* S	**Sn**	**18 27 33.5**	**+2.0**
PPM	**Popocatepetl**	**5.13**	**84**	*i* P	**Pn**	**18 26 38.0**	**+4.9**
PPM				*i* S	**Sn**	**18 27 36.5**	**+5.0**
UTMO	**Huajuapan**	**5.97**	**97**	*e*P	**Pn**	**18 26 43.6**	**-0.9**
UTMO				*i* S	**Sn**	**18 27 51.7**	**-0.3**
TPIG	**Tehuac#an**	**6.33**	**91**	*e*P	**Pn**	**18 26 49.2**	**-0.2**
VHO	**Vista Hermosa**	**7.12**	**101**	*e*P	**Pn**	**18 27 00.3**	**0.0**
VHO	**Vista Hermosa**	**7.12**	**101**	*i* P	**Pn**	**18 27 04.3**	**+4.1**
OXX	**Oaxaca**	**7.12**	**101**	*e*P	**Pn**	**18 27 02.5**	**+2.1**
LNIG	**Linares**	**7.54**	**33**	*e*P	**Pn**	**18 27 08.0**	**+1.8**
LNIG				*i* S	**Sn**	**18 28 39.6**	**+8.7**
LPIG	**La Paz**	**8.00**	**314**	*i* P	**Pn**	**18 27 12.0**	**-0.4**
LPIG	**La Paz**	**8.00**	**314**	*i* P	**Pn**	**18 27 15.4**	**+3.0**
HUIG	**Huatulco**	**8.08**	**109**	*i* P	**Pn**	**18 27 10.4**	**-3.1**
HUIG	**Huatulco**	**8.08**	**109**	*i* P	**Pn**	**18 27 16.2**	**+2.7**
CMIG	**Matias Romero**	**8.84**	**99**	P	**Pn**	**18 27 26.7**	**+2.8**
	1.5nm,0.3s,baz=259,slow=11,SNR=44						
CMIG				S	**Sn**	**18 29 15.8**	**+13**
	5.4nm,0.3s,baz=313,slow=21,SNR=5.9						
CMIG				LR	LR	18 31 10.3	
	comp=Z,9μm,18.0s,baz=268,slow=40						
CMIG	**Matias Romero**	**8.84**	**99**	*e*P	**Pn**	**18 27 20.4**	**-3.5**
CMIG	**Matias Romero**	**8.84**	**99**	P	**Pn**	**18 27 26.7**	**+2.8**
CMIG				S	**Sn**	**18 29 15.8**	**+13**
CMIG				LR	LR	18 31 10.2	
JCT	**Junction City**	**12.41**	**17**	*e*P	**Pn**	**18 28 15.9**	**+3.1**
JCT				pmax	pmax		
	comp=Z,458nm,1.6s						
JCT	**Junction City**	**12.41**	**17**	*e*P	**Pn**	**18 28 15.9**	**+3.1**
	comp=Z,458nm,1.6s						
HKT	**Hockley**	**13.52**	**32**	*e*P	**Pn**	**18 28 28.4**	**+0.5**
HKT				pmax	pmax		
	comp=Z,179nm,1.4s						
HKT	**Hockley**	**13.52**	**32**	*e*P	**Pn**	**18 28 28.4**	**+0.5**
	comp=Z,179nm,1.4s						
TUC	**Tucson**	**14.92**	**337**	*e*P	**Pn**	**18 28 48.2**	**+1.1**
TUC				pmax	pmax		
	comp=Z,46nm,1.0s						
TUC	**Tucson**	**14.92**	**337**	*e*P	**Pn**	**18 28 48.2**	**+1.1**
	comp=Z,46nm,1.0s						
NATX	**Nacogdoches**	**15.57**	**31**	*e*P	**Pn**	**18 28 56.0**	**+0.4**
	comp=Z,139nm,1.0s						
BNM	**Barren Site**	**15.64**	**352**	*e*P	**Pn**	**18 28 57.7**	**+1.3**
BNM				*e*		18 29 01.7	
LENM	**Lemitar**	**15.70**	**351**	*e*P	**Pn**	**18 28 59.0**	**+1.7**
LPM	**Los Pinos Moun**	**15.79**	**352**	*e*P	**Pn**	**18 29 00.6**	**+2.1**
LPM				*e*		18 29 03.9	
LAZ	**Ladron**	**15.96**	**351**	*e*P	**Pn**	**18 29 02.4**	**+1.8**
AMTX	**Amarillo**	**16.33**	**7**	*e*P	**Pn**	**18 29 05.2**	**-0.1**
	comp=Z,104nm,0.8s						
ANMO	**Albuquerque**	**16.40**	**353**	P	**Pn**	**18 29 07.7**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=164,slow=12,SNR=84						
ANMO				LR	LR	18 34 56.6	
	comp=Z,3μm,20.4s,baz=22,slow=35						
ANMO	**Albuquerque**	**16.40**	**353**	*e*P	**Pn**	**18 29 08.1**	**+1.8**
ANMO				pmax	pmax		
	comp=Z,77nm,0.9s						
ANMO	**Albuquerque**	**16.40**	**353**	*e*P	**Pn**	**18 29 08.1**	**+1.8**
	comp=Z,77nm,0.9s						
WMOK	**Wichita Mounta**	**16.71**	**15**	*e*P	**Pn**	**18 29 09.5**	**-0.7**
WMOK				pmax	pmax		
	comp=Z,78nm,0.9s						
WMOK	**Wichita Mounta**	**16.71**	**15**	*e*P	**Pn**	**18 29 09.5**	**-0.7**
	comp=Z,78nm,0.9s						
WUAZ	**Wupatki**	**18.04**	**340**	*e*P	**Pn**	**18 29 27.2**	**+0.5**
	comp=Z,106nm,1.1s						
PFO	**Pinyon Flat Ob**	**18.61**	**326**	*e*P	**Pn**	**18 29 34.9**	**+1.3**
PFO				pmax	pmax		
	comp=Z,101nm,1.0s						
PFO	**Pinyon Flat Ob**	**18.61**	**326**	*e*P	**Pn**	**18 29 34.9**	**+1.3**
	comp=Z,101nm,1.0s						
MVCO	**Mesa Verde**	**18.93**	**349**	*e*P	**Pn**	**18 29 37.2**	**-0.3**
UALR	**University of**	**19.15**	**31**	P	**Pn**	**18 29 34.3**	**-5.8**
	comp=Z,64nm,1.1s						
PV01	**Paradox Valley**	**19.84**	**349**	*e*P	**Pn**	**18 29 47.3**	**-1.1**
PV10	**Paradox Valley**	**20.16**	**349**	*e*P	**P**	**18 29 49.2**	**-1.0**
JTS	**JuntasAbangare**	**20.23**	**112**	P	**P**	**18 29 54.0**	**+3.0**
	comp=Z,14nm,1.0s,baz=305,slow=7.8,SNR=9.6						
OXF	**Oxford**	**20.48**	**37**	*e*P	**P**	**18 29 52.0**	**-1.7**
OXF				pmax	pmax		
	comp=Z,100nm,0.9s						
OXF				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.5						
OXF	**Oxford**	**20.48**	**37**	*e*P	**P**	**18 29 52.0**	**-1.8**
	comp=Z,100nm,0.9s						
OXF				LR	LR		
	comp=Z,2μm,20.0s,MS4.5						
CCUT	**Cedar City**	**20.55**	**338**	*e*P	**P**	**18 29 55.4**	**+0.9**
SMCO	**Snowmass**	**20.64**	**353**	*e*P	**P**	**18 29 56.3**	**+0.9**
	comp=Z,133nm,1.1s						
ARUT	**Antelope Range**	**20.79**	**339**	*e*P	**P**	**18 29 58.0**	**+0.9**
LRAL	**Lakeview Retre**	**20.95**	**43**	PFAKE		18 30 10.0	+11
LRAL				LR	LR		
	comp=Z,2μm,20.0s,MS4.5						
MVU	**Marysvale**	**21.05**	**342**	PFAKE		18 30 10.0	+10
MVU				LR	LR		
	comp=Z,1μm,20.0s,MS4.3						
ISCO	**Idaho Springs**	**21.15**	**357**	*e*P	**P**	**18 30 00.8**	**-0.1**
ISCO				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.5						
ISCO				MLR	MLR		
	comp=Z,1μm,21.0s,MS4.2						
ISCO	**Idaho Springs**	**21.15**	**357**	*e*P	**P**	**18 30 00.8**	**-0.1**
	comp=Z,21nm,0.9s,mb4.5						
ISCO				LR	LR		
	comp=Z,1μm,21.0s,MS4.2						
SRU	**San Rafael**	**21.18**	**346**	*e*P	**P**	**18 30 01.1**	**-0.1**
SRU				pmax	pmax		
	comp=Z,38nm,1.0s,mb4.7						
SRU	**San Rafael**	**21.18**	**346**	*e*P	**P**	**18 30 01.1**	**-0.1**
	comp=Z,38nm,1.0s,mb4.7						
TPNV	**Topopah Spring**	**21.18**	**332**	*e*P	**P**	**18 30 02.5**	**+1.2**
TPNV				pmax	pmax		
	comp=Z,219nm,0.9s,mb5.5						
TPNV				MLR	MLR		
	comp=Z,2μm,22.0s,MS4.5						
TPNV	**Topopah Spring**	**21.18**	**332**	*e*P	**P**	**18 30 02.5**	**+1.3**
	comp=Z,218nm,0.9s,mb5.5						
TPNV				LR	LR		
	comp=Z,2μm,22.0s,MS4.5						
DAC	**Darwin (Calif)**	**21.27**	**328**	*e*P	**P**	**18 30 03.6**	**+1.4**
DAC				pmax	pmax		
	comp=Z,97nm,1.1s,mb5.0						
DAC				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.6						
DAC	**Darwin (Calif)**	**21.27**	**328**	*e*P	**P**	**18 30 03.6**	**+1.4**
	comp=Z,97nm,1.1s,mb5.0						
DAC				LR	LR		
	comp=Z,2μm,20.0s,MS4.6						
KSU1	**Kansas State U**	**21.39**	**16**	*e*P	**P**	**18 30 00.9**	**-2.6**
PLAL	**Pickwick Lake**	**21.59**	**38**	*e*P	**P**	**18 30 03.2**	**-2.5**
	comp=Z,56nm,1.1s,mb4.9						
PLAL				LR	LR		
	comp=Z,2μm,19.0s,MS4.6						
TRCR	**Troy Canyon**	**22.09**	**335**	*e*P	**P**	**18 30 11.5**	**+0.5**
PTRM	**Twissleman Ran**	**22.20**	**323**	*e*P	**P**	**18 30 13.6**	**+1.5**
MPU	**Maple Canyon**	**22.30**	**344**	*e*P	**P**	**18 30 13.2**	**-0.1**
	comp=Z,87nm,1.4s,mb5.0						
MPU				LR	LR		
	comp=Z,7μm,20.0s,MS5.1						
CCM	**Cathedral Cave**	**22.35**	**27**	*e*P	**P**	**18 30 10.2**	**-3.5**
CCM				pmax	pmax		
	comp=Z,37nm,0.9s,mb4.8						
CCM				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.3						
CCM	**Cathedral Cave**	**22.35**	**27**	*e*P	**P**	**18 30 10.2**	**-3.5**
	comp=Z,37nm,0.9s,mb4.8						
CCM				LR	LR		
	comp=Z,1μm,19.0s,MS4.3						
NLU	**North Lily Min**	**22.36**	**344**	*e*P	**P**	**18 30 14.6**	**+0.6**
TPH	**Tonopah**	**22.55**	**332**	*e*P	**P**	**18 30 17.1**	**+1.2**
TPH				pmax	pmax		
	comp=Z,116nm,1.1s,mb5.2						
TPH				MLR	MLR		
	comp=Z,2μm,21.0s,MS4.5						
TPH	**Tonopah**	**22.55**	**332**	*e*P	**P**	**18 30 17.1**	**+1.2**
	comp=Z,116nm,1.1s,mb5.2						
TPH				LR	LR		
	comp=Z,2μm,21.0s,MS4.5						
WVT	**Waverly**	**22.55**	**36**	*e*P	**P**	**18 30 12.4**	**-3.5**
WVT				pmax	pmax		
	comp=Z,49nm,0.9s,mb4.9						
WVT				MLR	MLR		
	comp=Z,2μm,19.0s,MS4.5						
WVT	**Waverly**	**22.55**	**36**	*e*P	**P**	**18 30 12.4**	**-3.5**
	comp=Z,49nm,0.9s,mb4.9						
WVT				LR	LR		
	comp=Z,2μm,19.0s,MS4.5						
DAU	**Daniels Canyon**	**22.59**	**346**	*e*P	**P**	**18 30 16.0**	**-0.3**
MTUM	**Tungsten Hills**	**22.59**	**329**	*e*P	**P**	**18 30 17.5**	**+1.1**
PHWY	**Pilot Hill**	**22.64**	**357**	*e*P	**P**	**18 30 15.6**	**-1.3**
DWPF	**Disney**	**22.75**	**61**	*e*P	**P**	**18 30 17.4**	**-0.7**
	comp=Z,120nm,0.9s,mb5.3						
DWPF				LR	LR		
	comp=Z,2μm,22.0s,MS4.4						
DUG	**Dugway**	**22.79**	**342**	*e*P	**P**	**18 30 18.3**	**-0.2**
DUG				pmax	pmax		
	comp=Z,46nm,1.1s,mb4.8						
DUG				MLR	MLR		
	comp=Z,3μm,20.0s,MS4.7						
DUG	**Dugway**	**22.79**	**342**	*e*P	**P**	**18 30 18.3**	**-0.2**
	comp=Z,46nm,1.1s,mb4.8						
DUG				LR	LR		
	comp=Z,3μm,20.0s,MS4.7						
CTU	**Camp Tracy**	**22.97**	**345**	*e*P	**P**	**18 30 20.8**	**+0.4**
	comp=Z,35nm,1.0s,mb4.7						
SWET	**Sewanee**	**23.03**	**41**	*e*P	**P**	**18 30 18.4**	**-2.6**
RWWY	**Rawlins**	**23.15**	**354**	*e*P	**P**	**18 30 21.3**	**-0.9**
	comp=Z,147nm,1.4s,mb5.2						
SLM	**Saint Louis**	**23.27**	**28**	*e*P	**P**	**18 30 21.1**	**-2.4**
SLM				pmax	pmax		
	comp=Z,46nm,0.9s,mb4.9						
SLM	**Saint Louis**	**23.27**	**28**	*e*P	**P**	**18 30 21.1**	**-2.4**
	comp=Z,46nm,0.9s,mb4.9						
TCUT	**Toone Canyon**	**23.29**	**346**	*e*P	**P**	**18 30 24.3**	**+0.5**
NVAR	**Mina Array Bea**	**23.32**	**331**	P	**P**	**18 30 24.7**	**+0.6**
	comp=Z,62nm,1.1s,mb5.0,baz=143,slow=8.9,SNR=234						
NVAR				PcP	PcP	18 34 11.9	+1.4
	comp=Z,2.8nm,0.9s,baz=173,slow=3.5,SNR=6.6						
NVAR	**Mina Array Bea**	**23.32**	**331**	P	**P**	**18 30 24.7**	**+0.6**
NVAR				PcP	PcP	18 34 11.9	+1.4
GOGA	**Godfrey**	**23.56**	**47**	*e*P	**P**	**18 30 23.2**	**-3.2**
GOGA				pmax	pmax		
	comp=Z,693nm,0.9s,mb6.1						
GOGA				MLR	MLR		
	comp=Z,19μm,19.0s,MS5.6						
GOGA	**Godfrey**	**23.56**	**47**	*e*P	**P**	**18 30 23.2**	**-3.2**
	comp=Z,693nm,0.9s,mb6.1						
GOGA				LR	LR		
	comp=Z,19μm,19.0s,MS5.6						
SAO	**San Andreas Ge**	**23.69**	**323**	*e*P	**P**	**18 30 28.1**	**+0.5**
SAO				pmax	pmax		
	comp=Z,62nm,1.3s,mb4.9						
SAO				MLR	MLR		
	comp=Z,2μm,22.0s,MS4.5						
SAO	**San Andreas Ge**	**23.69**	**323**	*e*P	**P**	**18 30 28.1**	**+0.5**
	comp=Z,62nm,1.3s,mb4.9						
SAO				LR	LR		
	comp=Z,2μm,22.0s,MS4.5						
HWUT	**Hardware Ranch**	**23.80**	**346**	*e*P	**P**	**18 30 27.9**	**-0.6**
	comp=Z,96nm,1.4s,mb5.0						
HWUT				LR	LR		
	comp=Z,3μm,21.0s,MS4.8						
USIN	**University of**	**23.99**	**33**	*e*P	**P**	**18 30 28.7**	**-1.6**
	comp=Z,90nm,0.9s,mb5.2						
CMB	**Columbia Colle**	**24.04**	**327**	*e*P	**P**	**18 30 31.0**	**+0.2**
CMB				pmax	pmax		
	comp=Z,36nm,1.0s,mb4.8						
CMB				MLR	MLR		
	comp=Z,746nm,21.0s,MS4.1						
CMB	**Columbia Colle**	**24.04**	**327**	*e*P	**P**	**18 30 31.0**	**+0.2**
	comp=Z,36nm,1.0s,mb4.8						
CMB				LR	LR		
	comp=Z,746nm,21.0s,MS4.1						
CPCT	**Cooper Cave**	**24.06**	**42**	*e*P	**P**	**18 30 28.7**	**-2.3**
MYNC	**Murphy**	**24.08**	**43**	PFAKE		18 30 40.0	+8.8
MYNC				LR	LR		
	comp=Z,2μm,22.0s,MS4.6						
HVU	**Hansel Valley**	**24.26**	**344**	*e*P	**P**	**18 30 32.0**	**-0.8**
HVU				pmax	pmax		
	comp=Z,32nm,1.0s,mb4.7						
HVU	**Hansel Valley**	**24.26**	**344**	*e*P	**P**	**18 30 32.0**	**-0.7**
	comp=Z,32nm,1.0s,mb4.7						
BW06	**Boulder Array**	**24.52**	**350**	PFAKE		18 30 50.0	+15
BW06				LR	LR		
	comp=Z,3μm,22.0s,MS4.7						
PDAR	**Pinedale Array**	**24.52**	**350**	P	**P**	**18 30 34.8**	**-0.4**
	comp=Z,9.8nm,0.9s,mb4.3,baz=128,slow=12,SNR=29						
PDAR				PcP	PcP	18 34 13.6	+0.5
	comp=Z,2.5nm,0.

comp=Z,4µm,19.0s,MS5.0
WVOR Wild Horse Val 26.78 336 *e*P **P** **18 30 55.1 -0.6**
WVOR *e* 18 34 19.4
WVOR pmax pmax
comp=Z,27nm,1.0s,mb4.7
WVOR MLR MLR
comp=Z,1µm,20.0s,MS4.5
WVOR Wild Horse Val 26.78 336 *e*P **P** **18 30 55.1 -0.5**
comp=Z,27nm,1.0s,mb4.7
WVOR *e*PcP PcP 18 34 19.4 +1.2
WVOR LR LR
comp=Z,1µm,20.0s,MS4.5
QLMT Earthquake Lak 26.85 348 *e*P **P** **18 30 57.8 +1.4**
JFWS Jewell Farm 26.88 23 *e*P **P** **18 30 57.3 +0.8**
JFWS pmax pmax
comp=Z,67nm,1.1s,mb5.1
JFWS MLR MLR
comp=Z,5µm,19.0s,MS5.1
JFWS Jewell Farm 26.88 23 *e*P **P** **18 30 57.3 +0.8**
comp=Z,67nm,1.1s,mb5.1
JFWS LR LR
comp=Z,5µm,19.0s,MS5.1
KIPM Iron Peak 26.98 326 *e*P **P** **18 30 57.8 +0.4**
WDC Whiskeytown Da 27.05 328 *e*P **P** **18 30 56.8 -1.3**
WDC pmax pmax
comp=Z,42nm,1.0s,mb4.9
WDC MLR MLR
comp=Z,597nm,20.0s,MS4.2
WDC Whiskeytown Da 27.05 328 *e*P **P** **18 30 56.8 -1.3**
comp=Z,42nm,1.0s,mb4.9
WDC LR LR
comp=Z,597nm,20.0s,MS4.2
MCMT McKenzie Canyo 27.15 346 *e*P **P** **18 31 00.7 +1.7**
GCMT Greycliff 27.49 351 *e*P **P** **18 31 01.3 -0.7**
ELN Prospectdale 27.56 43 P **P** **18 31 02.3 -0.3**
DLMT Dillon 27.60 347 *e*P **P** **18 31 04.0 +1.0**
comp=Z,21nm,0.9s,mb4.8
BOZ Bozeman (W) 27.68 348 *e*P **P** **18 31 03.2 -0.5**
BOZ pmax pmax
comp=Z,12nm,1.1s,mb4.4
BOZ MLR MLR
comp=Z,2µm,20.0s,MS4.7
BOZ Bozeman (W) 27.68 348 *e*P **P** **18 31 03.2 -0.5**
comp=Z,12nm,1.1s,mb4.5
BOZ LR LR
comp=Z,2µm,20.0s,MS4.7
LHEM Herd Peak 27.69 330 P **P** **18 31 04.4 +0.6**
BLA Blacksburg 27.76 43 *e*P **P** **18 31 04.8 +0.3**
BLA pmax pmax
comp=Z,2.0nm,1.0s
BLA Blacksburg 27.76 43 *e*P **P** **18 31 04.8 +0.3**
comp=Z,1.7nm,1.0s
KHMM Horse Mountain 27.88 327 *e*P **P** **18 31 06.6 +1.0**
LCCM Lewis and Clar 27.91 348 P **P** **18 31 06.6 +0.8**
YBH Yreka Blue Hor 28.01 329 P **P** **18 31 05.6 -1.0**
comp=Z,21nm,1.0s,mb4.7,baz=125,slow=4.7,SNR=16
YBH LR LR 18 41 29.3
comp=Z,769nm,20.7s,MS4.3,baz=328,slow=35
YBH Yreka Blue Hor 28.01 329 *e*P **P** **18 31 05.5 -1.2**
YBH pmax pmax
comp=Z,19nm,1.0s
YBH MLR MLR
comp=Z,658nm,21.0s
YBH Yreka Blue Hor 28.01 329 *e*P **P** **18 31 05.5 -1.2**
comp=Z,19nm,1.0s,mb4.7
YBH LR LR
comp=Z,658nm,21.0s,MS4.2
LAO LASA Array 28.05 357 PFAKE 18 31 20.0 +13
LAO LR LR
comp=Z,1µm,22.0s,MS4.5
ACSO Alum Creek Sta 28.14 36 PFAKE 18 31 20.0 +12
ACSO LR LR
comp=Z,788nm,19.0s,MS4.3
BMO Blue Mountains 28.41 340 *e*P **P** **18 31 09.3 -0.9**
comp=Z,22nm,1.0s,mb4.8
BMO *e*PcP PcP 18 34 22.3 +0.1
BMO LR LR
comp=Z,2µm,19.0s,MS4.7
KRMB Red Mountain 28.45 328 *e*P **P** **18 31 11.2 +0.6**
KSXB Camp Six Broad 28.66 328 P **P** **18 31 13.2 +0.7**
HRY Holter Researc 28.74 349 *e*P **P** **18 31 13.5 +0.4**
HUMO Hull Mountain 28.80 330 *e*P **P** **18 31 12.2 -1.4**
comp=Z,5.5nm,0.9s,mb4.3
HUMO LR LR
comp=Z,1µm,20.0s,MS4.4
BBOR Butler Butte 28.88 331 P **P** **18 31 13.6 -0.9**
CHMT Chamberlain Mo 29.22 347 *e*P **P** **18 31 17.5 +0.1**
AAM Ann Arbor 29.27 32 PFAKE 18 31 30.0 +12
AAM LR LR
comp=Z,1µm,21.0s,MS4.4
MSO Missoula 29.29 346 *e*P **P** **18 31 17.3 -0.7**
comp=Z,6.0nm,0.9s,mb4.3
MSO LR LR
comp=Z,1µm,20.0s,MS4.6
VIPM Ingram Point 29.31 335 P **P** **18 31 20.1 +1.9**
WIFE Three Sisters- 29.43 333 P **P** **18 31 19.8 +0.5**
IRO Indian Ridge 29.57 333 P **P** **18 31 21.0 +0.4**
MCWV Mont Chateau 29.59 40 PFAKE 18 31 30.0 +9.3
MCWV LR LR
comp=Z,1µm,22.0s,MS4.4
KEBM Edson Butte 29.66 329 *e*P **P** **18 31 22.7 +1.3**
EGMT Eagleton 29.69 352 *e*P **P** **18 31 20.3 -1.4**
comp=Z,23nm,0.9s,mb4.9
EGMT LR LR
comp=Z,3µm,22.0s,MS4.8
VTHM Trough 29.85 336 P **P** **18 31 23.1 +0.1**
BPO Bald Peter 29.86 334 P **P** **18 31 24.0 +0.9**
BROR Big Rock Looko 29.87 333 P **P** **18 31 23.2 0.0**
RNO Roman Nose 30.17 331 P **P** **18 31 26.8 +1.0**
VFP Flag Point 30.31 335 P **P** **18 31 27.7 +0.5**
CBN Corbin 30.32 44 PFAKE 18 31 40.0 +13
CBN LR LR
comp=Z,979nm,20.0s,MS4.5
SSOR Sweet Springs 30.34 334 P **P** **18 31 27.3 -0.1**
HOOD Mount Hood Mea 30.39 335 P **P** **18 31 28.0 +0.2**
TDH Tom, Dick, Har 30.42 335 P **P** **18 31 28.6 +0.5**
COR Corvallis 30.49 332 *e*P **P** **18 31 29.5 +0.8**
COR pmax pmax
comp=Z,47nm,0.8s,mb5.3
COR MLR MLR
comp=Z,2µm,19.0s,MS4.8
COR Corvallis 30.49 332 *e*P **P** **18 31 29.5 +0.8**
comp=Z,47nm,0.8s,mb5.3
COR LR LR
comp=Z,2µm,19.0s,MS4.8
HAWA Hanford 30.51 339 *e*P **P** **18 31 28.3 -0.6**
comp=Z,0.7nm,0.9s
HAWA LR LR
comp=Z,54nm,20.0s
VLL Laurance Lake 30.52 335 P **P** **18 31 29.9 +1.0**
MPOR Mary's Peak 30.54 332 P **P** **18 31 30.5 +1.3**
GULW Guler Mountain 30.87 336 P **P** **18 31 33.1 +1.1**
EYMN Ely 30.98 16 PFAKE 18 31 40.0 +7.0
EYMN LR LR
comp=Z,844nm,20.0s,MS4.4
OTAV Otavalo 31.06 123 PFAKE 18 31 50.0 +16
OTAV LR LR
comp=Z,710nm,20.0s,MS4.3
ERPA Erie 31.08 36 PFAKE 18 31 50.0 +16
ERPA LR LR
comp=Z,2µm,19.0s,MS4.8
OD2 Odessa Site #2 31.11 341 P **P** **18 31 33.1 -1.0**
EBG Ellensburg 31.32 338 P **P** **18 31 36.7 +0.8**
SSPA Standing Stone 31.37 40 PFAKE 18 31 50.0 +14
SSPA LR LR
comp=Z,1µm,21.0s,MS4.5
WALA Waterton Lakes 31.39 347 *e*P **P** **18 31 37.1 +0.5**
comp=Z,14nm,1.1s,mb4.7
KMOR Kings Mountain 31.41 333 P **P** **18 31 37.4 +0.6**
NEW Newport 31.43 343 P **P** **18 31 37.9 +0.9**
comp=Z,14nm,0.9s,mb4.8,baz=170,slow=8.2,SNR=10
NEW PcP PcP 18 34 30.1 +0.1
comp=Z,7.1nm,0.8s,baz=163,slow=7.2,SNR=4.8
NEW LR LR 18 44 53.9
comp=Z,2µm,18.0s,MS4.7,baz=339,slow=38
NEW Newport 31.43 343 *e*P **P** **18 31 37.1 +0.2**
NEW pmax pmax
comp=Z,17nm,1.0s
NEW MLR MLR
comp=Z,2µm,21.0s
NEW Newport 31.43 343 *e*P **P** **18 31 37.1 +0.2**
comp=Z,17nm,1.0s,mb4.8
NEW LR LR
comp=Z,2µm,21.0s,MS4.7
WPW White Pass 31.49 337 P **P** **18 31 38.0 +0.5**

TBM Table Mountain 31.55 338 P **P** **18 31 39.0 +1.0**
TWW Teanaway 31.62 338 P **P** **18 31 40.0 +1.4**
LON Longmire 31.64 336 P **P** **18 31 38.7 -0.1**
LTY Liberty 31.65 338 P **P** **18 31 39.0 +0.1**
FMW Mount Fremont 31.74 337 P **P** **18 31 40.3 +0.6**
NLO Nicolai Mounta 31.75 334 P **P** **18 31 41.3 +1.5**
WTV Waterville 31.78 339 P **P** **18 31 40.5 +0.4**
ETW Entiat 31.83 339 P **P** **18 31 41.1 +0.6**
GSM Grass Mountain 32.01 337 P **P** **18 31 42.3 +0.2**
ULM Lac du Bonnet 32.22 10 P **P** **18 31 41.2 -2.7**
comp=Z,9.6nm,0.8s,mb4.7,baz=192,slow=9.8,SNR=21
ULM LR LR 18 44 37.2
comp=Z,1µm,18.5s,MS4.6,baz=344,slow=36
ULM Lac du Bonnet 32.22 10 *e*P **P** **18 31 41.1 -2.8**
comp=Z,10nm,0.8s,mb4.7
ULM LR LR
comp=Z,1µm,21.0s,MS4.5
NLW Nelson Butte 32.24 339 P **P** **18 31 44.9 +0.8**
HDW Hoodsport 32.86 336 P **P** **18 31 49.6 +0.1**
JCW Jim Creek 32.89 338 P **P** **18 31 49.3 -0.5**
RPW Rockport 32.96 338 P **P** **18 31 50.3 -0.1**
CMW Cultus Mountai 33.16 338 P **P** **18 31 52.0 -0.1**
SADO Sadowa 33.33 33 P **P** **18 31 50.3 -3.3**
comp=Z,8.7nm,0.7s,mb4.8,baz=244,slow=9.1,SNR=9.5
SADO PcP PcP 18 34 35.2 0.0
comp=Z,8.0nm,0.8s,baz=137,slow=1.5,SNR=4.3
SADO LR LR 18 45 26.5
comp=Z,349nm,20.2s,MS4.1,baz=197,slow=36
OOW Octopus West 33.38 335 P **P** **18 31 55.2 +1.1**
BINY Binghamton 33.45 39 PFAKE 18 32 10.0 +15
BINY LR LR
comp=Z,4µm,21.0s,MS5.2
VGZ Gonzales 33.59 337 P **P** **18 31 55.5 -0.4**
VDB Vedder Mountai 33.66 338 P **P** **18 31 56.4 -0.1**
SDV Santo Domingo 33.79 102 LR LR 18 45 56.2
comp=Z,1µm,21.8s,MS4.5,baz=340,slow=37
SDV Santo Domingo 33.79 102 PFAKE 18 32 10.0 +12
SDV LR LR
comp=Z,516nm,19.0s,MS4.3
EDM Edmonton 35.28 350 *e*P **P** **18 32 08.7 -1.9**
NCB Newcomb 35.53 38 *e*P **P** **18 32 10.6 -2.2**
comp=Z,5.0nm,0.5s,mb4.7
NCB LR LR
comp=Z,3µm,19.0s,MS5.1
ATAH Atahualpa 35.88 133 LR LR 18 44 55.6
comp=Z,1µm,18.0s,MS4.8,baz=343,slow=33
SJG San Juan 35.91 85 P **P** **18 32 15.5 -0.4**
comp=Z,68nm,0.7s,mb5.7,baz=266,slow=6.4,SNR=20
SJG LR LR 18 48 27.6
comp=Z,991nm,20.1s,MS4.6,baz=0.0,slow=39
SJG San Juan 35.91 85 *e*P **P** **18 32 15.8 -0.1**
SJG pmax pmax
comp=Z,91nm,0.9s
SJG MLR MLR
comp=Z,947nm,22.0s
SJG San Juan 35.91 85 *e*P **P** **18 32 15.8 -0.1**
comp=Z,91nm,0.9s,mb5.7
SJG LR LR
comp=Z,947nm,22.0s,MS4.5
MIV Mineville/With 36.00 38 P **P** **18 32 14.0 -2.7**
FFC Flin Flon 36.07 2 *e*P **P** **18 32 15.0 -2.3**
FFC pmax pmax
comp=Z,23nm,1.1s,mb5.0
FFC MLR MLR
comp=Z,2µm,21.0s,MS4.9
FFC Flin Flon 36.07 2 *e*P **P** **18 32 15.0 -2.3**
comp=Z,22nm,1.1s,mb5.0
FFC LR LR
comp=Z,2µm,21.0s,MS4.9
HRV Harvard--Oak R 36.36 42 PFAKE 18 32 30.0 +10
HRV LR LR
comp=Z,851nm,19.0s,MS4.5
WES Weston 36.45 42 PFAKE 18 32 30.0 +9.5
WES LR LR
comp=Z,972nm,20.0s,MS4.6
LBNH Lisbon 37.05 39 PFAKE 18 32 40.0 +14
LBNH LR LR
comp=Z,3µm,20.0s,MS5.1
BBSR BB Station 37.83 61 PFAKE 18 32 40.0 +7.7
BBSR LR LR
comp=Z,805nm,20.0s,MS4.5
BBB Bella Bella 38.45 336 P **P** **18 32 37.7 +0.2**
comp=Z,17nm,0.9s,mb4.8,baz=178,slow=6.7,SNR=5.0
BBB LR LR 18 48 36.7
comp=Z,1µm,19.0s,MS4.7,baz=150,slow=36
PCRV Puerto La Cruz 38.99 97 P **P** **18 32 42.6 +0.6**
comp=Z,7.7nm,0.6s,mb4.6,baz=263,slow=5.2,SNR=3.5
PCRV LR LR 18 50 55.4
comp=Z,1µm,18.8s,MS4.7,baz=108,slow=39
NNA Nana 40.55 137 PFAKE 18 33 10.0 +15
NNA LR LR
comp=Z,448nm,19.0s,MS4.3
YKA Yellowknife Ar 44.44 353 P **P** **18 33 24.0 -2.6**
comp=Z,6.1nm,0.8s,mb4.4,baz=163,slow=7.7,SNR=12
YKA LR LR 18 51 36.0
comp=Z,2µm,18.3s,MS5.0,baz=120,slow=36
TAOE Nuku Hiva Isla 44.89 236 *e*LR LR 18 46 00.7
comp=Z,3µm,26.3s
SCHQ Schefferville 45.90 29 P **P** **18 33 36.4 -1.8**
comp=Z,11nm,0.8s,mb4.8,baz=238,slow=6.0,SNR=9.2
SCHQ LR LR 18 54 15.2
comp=Z,1µm,18.8s,MS4.9,baz=104,slow=38
SAML Samuel 48.72 121 *e*P **P** **18 33 58.4 -1.8**
comp=Z,36nm,1.4s,mb5.2
SAML *e* pP 18 34 04.8 -3.1
SAML LR LR
comp=Z,729nm,19.0s,MS4.7
LPAZ La Paz 49.51 132 P **P** **18 34 07.3 +1.1**
comp=Z,1.8nm,0.9s,baz=338,slow=6.8,SNR=7.7
LPAZ LR LR 18 53 44.2
comp=Z,182nm,19.9s,MS4.1,baz=322,slow=34
LPAZ La Paz 49.51 132 *e*P **P** **18 34 06.9 +0.6**
LPAZ *e* pP 18 34 13.8 -0.2
LPAZ pmax pmax
comp=Z,6.0nm,0.9s
LPAZ MLR MLR
comp=Z,229nm,19.0s
LPAZ La Paz 49.51 132 *e*P **P** **18 34 06.9 +0.6**
comp=Z,5.7nm,0.9s,mb4.6
LPAZ *e* pP 18 34 13.8 -0.2
LPAZ LR LR
comp=Z,229nm,19.0s,MS4.2
EYAK Cordova Ski Ar 51.26 335 *e*P **P** **18 34 20.3 +0.8**
DAWY Dawson 51.31 341 *e*P **P** **18 34 19.3 -0.5**
RKT Rikitea 51.33 217 *e*S **S** **18 41 37.0 -0.7**
comp=Z,536nm,27.0s
RKT *e*LR LR 18 49 06.1
comp=Z,2µm,29.5s,baz=34
DIV Divide 51.62 336 *e*P **P** **18 34 21.4 -0.7**
comp=Z,105nm,1.0s,mb5.7
DIV LR LR
comp=Z,2µm,19.0s,MS5.1
MENT Mentasta 51.97 338 *e*P **P** **18 34 24.7 -0.1**
KDAK Kodiak Island 52.82 330 PFAKE 18 34 40.0 +8.9
KDAK LR LR
comp=Z,149nm,20.0s,MS4.0
INK Inuvik 53.02 347 P **P** **18 34 31.5 -1.1**
comp=Z,51nm,0.9s,mb5.5,baz=144,slow=8.2,SNR=76
INK Inuvik 53.02 347 *e*P **P** **18 34 31.4 -1.1**
INK pmax pmax
comp=Z,63nm,1.0s
INK Inuvik 53.02 347 *e*P **P** **18 34 31.4 -1.2**
comp=Z,62nm,1.0s,mb5.5
SLKM Skilak Lake 53.08 333 *e*P **P** **18 34 32.8 -0.2**
PMR Palmer 53.21 335 *e*P **P** **18 34 33.9 -0.1**
PMR pmax pmax
comp=Z,28nm,0.6s,mb5.4
PMR Palmer 53.21 335 *e*P **P** **18 34 33.9 -0.1**
comp=Z,28nm,0.6s,mb5.4
MCK McKinley 54.33 337 P **P** **18 34 41.7 -0.4**
MCK pmax pmax
comp=Z,32nm,1.0s,mb5.2
MCK MLR MLR
comp=Z,327nm,19.0s,MS4.4
MCK McKinley 54.33 337 P **P** **18 34 41.7 -0.4**
comp=Z,32nm,1.0s,mb5.2
MCK LR LR
comp=Z,327nm,19.0s,MS4.4
COLA College 54.61 339*c* *i*P **P** **18 34 43.1 -1.1**
COLA College 54.61 339 *e*P **P** **18 34 43.0 -1.2**
comp=Z,24nm,0.9s,mb5.2
COLA LR LR
comp=Z,1µm,20.0s,MS4.9
SVW2 Sparrevohn 55.67 333 *e*P **P** **18 34 50.9 -0.9**
TTA Tatalina 56.67 334 *e*P **P** **18 34 57.6 -1.4**
IMA2 Indian Mountai 57.30 338 *e*P **P** **18 35 02.2 -1.2**

PPT Papeete 57.44 234 *e*S **S** **18 43 00.4 +0.5**
comp=Z,530nm,28.5s
PPT *e*SS SS 18 46 51.9 +2.3
comp=Z,284nm,25.8s
PPT *e*LR LR 18 51 50.9
comp=Z,1µm,25.5s,baz=54
SFJD Kangerlussuaq 59.06 22 *i*P **P** **18 35 19.9 +4.1**
comp=Z,19nm,1.1s,mb5.0
SFJD *i* 18 38 55.6
SFJD *i* 18 49 41.1
SFJD
comp=Z,1µm,17.0s
SFJD Kangerlussuaq 59.06 22 *i*P **P** **18 35 19.9 +4.1**
SFJD *i* 18 38 55.6
SFJD *i* 18 49 41.1
SFJD pmax pmax
comp=Z,19nm,1.1s,mb5.0
SFJD MLR MLR
comp=Z,1µm,17.0s,MS5.2
CFAA Coronel Fontan 60.61 145 LR LR 18 56 05.1
comp=Z,47nm,18.6s,baz=70,slow=30
TNA Tin City 62.47 335 PFAKE 18 35 50.0 +11
TNA LR LR
comp=Z,504nm,20.0s,MS4.7
CPUP Villa Florida 63.66 133 P **P** **18 35 47.5 +0.6**
CPUP *e* pP 18 35 54.3 -0.5
CPUP pmax pmax
comp=Z,26nm,1.1s
CPUP Villa Florida 63.66 133 P **P** **18 35 47.5 +0.6**
comp=Z,26nm,1.1s,mb5.2
CPUP *e* pP 18 35 54.3 -0.5
BDFB Brasilia 64.81 118 P **P** **18 35 54.2 -0.1**
comp=Z,3.6nm,0.7s,mb4.5,baz=290,slow=5.5,SNR=5.2
BDFB LR LR 19 06 19.6
comp=Z,511nm,21.1s,MS4.7,baz=198,slow=38
ALE Alert 65.94 5 P **P** **18 35 59.9 -1.8**
comp=Z,152nm,0.9s,mb6.0,SNR=9.8
PLCA Paso Flores 66.75 153 P **P** **18 36 12.3 +5.4**
comp=Z,6.0nm,0.9s,mb4.6,baz=329,slow=8.0,SNR=11
PLCA LR LR 18 59 24.1
comp=Z,772nm,18.1s,MS5.0,baz=124,slow=30
PLCA Paso Flores 66.75 153 PFAKE 18 36 20.0 +13
PLCA LR LR
comp=Z,908nm,20.0s,MS5.0
BORG Borgarnes 70.22 27 PFAKE 18 36 40.0 +11
BORG LR LR
comp=Z,1µm,20.0s,MS5.1
DAG Danmarks Havn 70.94 14⇓ *i*P **P** **18 36 30.8 -2.2**
comp=Z,74nm,0.9s,mb5.6
DAG Danmarks Havn 70.94 14⇓ *i*P **P** **18 36 30.8 -2.2**
DAG pmax pmax
comp=Z,74nm,0.9s,mb5.6
RCBR Riachuelo 71.37 103 PFAKE 18 36 50.0 +14
RCBR LR LR
comp=Z,608nm,19.0s,MS4.9
BILL Bilibino 72.78 337*ce*P **P** **18 36 43.4 -0.6**
BILL pmax pmax
comp=Z,34nm,1.7s,mb5.0
BILL Bilibino 72.78 337 *e*P **P** **18 36 43.2 -0.9**
comp=Z,38nm,1.1s,mb5.2
BILL LR LR
comp=Z,693nm,20.0s,MS4.9
AFI Afiamalu 74.17 249 PFAKE 18 37 10.0 +18
AFI LR LR
comp=Z,3µm,19.0s,MS5.5
JMIC Jan Mayen 74.33 20 *e*P **P** **18 36 54.0 +0.8**
JMIC AMS AMS 19 10 54.4
comp=Z,778nm,16.7s,MS5.1
KBS Kingsbay 76.63 10⇑ *i*P **P** **18 37 06.5 +0.2**
KBS AMS AMS 19 12 59.5
comp=Z,651nm,15.5s,MS5.0
KBS Kingsbay 76.63 10*c* *i*P **P** **18 37 06.8 +0.5**
KBS Kingsbay 76.63 10 *e*P **P** **18 37 07.1 +0.7**
comp=Z,26nm,0.8s,mb5.2
KBS LR LR
comp=Z,834nm,20.0s,MS5.0
SPB4 Spitsbergen Ar 77.77 10 *e*P **P** **18 37 11.2 -1.6**
KSB Sheil Bridge 79.10 33 *e*P **P** **18 37 19.9 -0.2**
KSB Sheil Bridge 79.10 33 *e*P **P** **18 37 19.9 -0.2**
DCN Croghan 79.21 37 *e*P **P** **18 37 18.5 -2.2**
MVH1 Achvaich 79.52 32 *e*P **P** **18 37 21.8 -0.5**
MVH1 Achvaich 79.52 32 *e*P **P** **18 37 21.8 -0.5**
ORE Reay 79.53 32 *e*P **P** **18 37 22.8 +0.4**
ORE Reay 79.53 32 *e*P **P** **18 37 22.8 +0.4**
PET Petropavlovsk 79.63 322 PFAKE 18 37 30.0 +7.0
PET LR LR
comp=Z,264nm,19.0s,MS4.6
DLF Lyons Farm 79.65 37 *e*P **P** **18 37 20.2 -2.9**
EAB Aberfoyle 79.98 34 *e*P **P** **18 37 24.9 +0.1**
EAB Aberfoyle 79.98 34 *e*P **P** **18 37 24.9 +0.1**
WAL1 Walls 80.00 30 *e*P **P** **18 37 25.2 +0.3**
WAL1 Walls 80.00 30 *e*P **P** **18 37 25.2 +0.3**
MCD Coleburn Disti 80.10 32 *e*P **P** **18 37 25.9 +0.4**
MCD Coleburn Disti 80.10 32 *e*P **P** **18 37 25.9 +0.4**
LRW Lerwick 80.25 30 *e*P **P** **18 37 26.6 +0.3**
LRW Lerwick 80.25 30 *e*P **P** **18 37 26.6 +0.3**
MME1 Meikle Cairn 80.33 33 *e*P **P** **18 37 26.6 -0.1**
MME1 Meikle Cairn 80.33 33 *e*P **P** **18 37 26.6 -0.1**
FUNA Funafuti 80.34 258 PFAKE 18 37 40.0 +13
FUNA LR LR
comp=Z,15µm,19.0s
BJO1 Bjornoya 80.40 13 *e*P **P** **18 37 27.5 +0.4**
BJO1 LR LR
comp=Z,2µm,19.5s,MS5.4
BJO Bjornoya 80.44 13⇑ *i*P **P** **18 37 27.0 -0.4**
BJO AMS AMS 19 14 44.5
comp=Z,2µm,19.5s,MS5.4
EAU Auchinoon 80.56 34 *e*P **P** **18 37 28.4 +0.4**
EAU Auchinoon 80.56 34 *e*P **P** **18 37 28.4 +0.4**
BWH Wardlaw 80.67 35 *e*P **P** **18 37 28.9 +0.3**
BWH AMb AMB 18 37 30.9
comp=Z,6.9nm,1.3s,mb4.4
BWH Wardlaw 80.67 35 *e*P **P** **18 37 28.9 +0.3**
BWH AMb AMB 18 37 30.9
comp=Z,6.9nm,1.3s,mb4.4
EDI Edinburgh 80.68 34 *e*P **P** **18 37 29.2 +0.6**
EDI Edinburgh 80.68 34 *e*P **P** **18 37 29.2 +0.6**
EBL Broad Law 80.80 34 *e*P **P** **18 37 29.6 +0.3**
EBL Broad Law 80.80 34 *e*P **P** **18 37 29.6 +0.3**
ESK Eskdalemuir 80.87 35 *e*P **P** **18 37 29.4 -0.2**
ESK Eskdalemuir 80.87 35 *e*P **P** **18 37 29.4 -0.2**
ESK Eskdalemuir 80.87 35 *e*P **P** **18 37 29.2 -0.4**
ESK pmax pmax
comp=Z,34nm,0.9s,mb5.3
ESK MLR MLR
comp=Z,579nm,19.0s,MS5.0
ESK Eskdalemuir 80.87 35 *e*P **P** **18 37 29.2 -0.4**
comp=Z,34nm,0.9s,mb5.3
ESK LR LR
comp=Z,579nm,19.0s,MS5.0
ECK Cauldkaine Hil 80.96 35 *e*P **P** **18 37 30.3 +0.2**
ECK AMb AMB 18 37 33.2
comp=Z,121nm,1.4s,mb5.6
ECK Cauldkaine Hil 80.96 35 *e*P **P** **18 37 30.3 +0.2**
ECK AMb AMB 18 37 33.2
comp=Z,121nm,1.4s,mb5.6
ESY Stoneypath 80.98 34 *e*P **P** **18 37 30.8 +0.5**
ESY Stoneypath 80.98 34 *e*P **P** **18 37 30.8 +0.5**
BBO1 Bothel 81.04 35 *e*P **P** **18 37 30.9 +0.3**
BBO1 AMb AMB 18 37 32.1
comp=Z,13nm,1.2s,mb4.7
BBO1 Bothel 81.04 35 *e*P **P** **18 37 30.9 +0.3**
BBO1 AMb AMB 18 37 32.1
comp=Z,13nm,1.2s,mb4.7
HSA Swansea 81.51 38 *e*P **P** **18 37 33.4 +0.4**
HSA Swansea 81.51 38 *e*P **P** **18 37 33.4 +0.4**
MA2 Magadan 81.57 330⇑ *i*P **P** **18 37 33.7 +0.4**
MA2 pmax pmax
comp=Z,33nm,1.3s,mb5.1
MA2 Magadan 81.57 330 PFAKE 18 37 40.0 +6.7
MA2 LR LR
comp=Z,237nm,20.0s,MS4.5
SBD1 Bryn Du 81.65 37 *e*P **P** **18 37 33.8 +0.1**
SBD1 Bryn Du 81.65 37 *e*P **P** **18 37 33.8 +0.1**
HTR Trewern Hill 81.92 38 *e*P **P** **18 37 35.5 +0.3**
HTR AMb AMB 18 37 36.7
comp=Z,62nm,1.2s,mb5.4
HTR Trewern Hill 81.92 38 *e*P **P** **18 37 35.5 +0.3**
HTR AMb AMB 18 37 36.7
comp=Z,62nm,1.2s,mb5.4
HLM1 Long Mynd 82.00 37 *e*P **P** **18 37 36.0 +0.4**
HLM1 AMb AMB 18 37 37.2
comp=Z,115nm,1.1s,mb5.7
HLM1 Long Mynd 82.00 37 *e*P **P** **18 37 36.0 +0.4**

HLM1 AMb AMB 18 37 37.2
comp=Z,115nm,1.1s,mb5.7
DYA Yadsworthy 82.08 39 *eP* **P 18 37 36.5 +0.4**
DYA Yadsworthy 82.08 39 *eP* **P 18 37 36.5 +0.4**
PMAFR Mafra 82.09 52 *eP* **P 18 37 36.1 0.0**
ELOB Lobios 82.10 49 P **P 18 37 36.8 +0.7**
comp=Z,32nm,0.8s,mb5.3
MCH1 Michaelchurch 82.11 38 *eP* **P 18 37 36.3 +0.2**
MCH1 Michaelchurch 82.11 38 *eP* **P 18 37 36.3 +0.2**
PCAB Cabril 82.17 49 *eP* **P 18 37 37.2 +0.7**
comp=Z,77nm,2.2s,mb5.2
LHO Holmfirth 82.22 36 *eP* **P 18 37 37.4 +0.6**
LHO Holmfirth 82.22 36 *eP* **P 18 37 37.4 +0.6**
EPON Pontenova 82.29 47 P **P 18 37 37.4 +0.3**
comp=Z,28nm,1.0s,mb5.1
HGH Gray Hill 82.34 38 *eP* **P 18 37 37.4 0.0**
HGH AMb AMB 18 37 39.1
comp=Z,103nm,1.0s,mb5.7
HGH Gray Hill 82.34 38 *eP* **P 18 37 37.4 0.0**
HGH AMb AMB 18 37 39.1
comp=Z,103nm,1.0s,mb5.7
KWE Weaver Farm 82.41 37 *eP* **P 18 37 38.6 +0.8**
KWE AMb AMB 18 37 39.8
comp=Z,93nm,1.0s,mb5.7
KWE Weaver Farm 82.41 37 *eP* **P 18 37 38.6 +0.8**
KWE AMb AMB 18 37 39.8
comp=Z,93nm,1.0s,mb5.7
KBI1 Birley Grange 82.50 36 *eP* **P 18 37 38.8 +0.5**
KBI1 AMb AMB 18 37 40.1
comp=Z,82nm,1.3s,mb5.6
KBI1 Birley Grange 82.50 36 *eP* **P 18 37 38.8 +0.5**
KBI1 AMb AMB 18 37 40.1
comp=Z,82nm,1.3s,mb5.6
PVRL Vila Real 82.53 49 *eP* **P 18 37 37.7 -0.7**
comp=Z,47nm,1.8s,mb5.2
PTOM Tomar 82.53 51 *eP* **P 18 37 39.2 +0.8**
comp=Z,133nm,1.0s,mb5.9
SSW Stow on the Wo 82.78 38 *eP* **P 18 37 40.5 +0.8**
SSW Stow on the Wo 82.78 38 *eP* **P 18 37 40.5 +0.8**
MTE Manteigas 82.92 50 *eP* **P 18 37 40.5 +0.1**
comp=Z,101nm,1.6s,mb5.6
MTE Manteigas 82.92 50 *eS* S 18 48 04.3 +6.6
MTE Manteigas 82.92 50 *eP* **P 18 37 40.1 -0.3**
comp=Z,69nm,1.0s,mb5.6
PTEO Sao Teotonio 82.94 53 *eP* **P 18 37 41.7 +1.2**
comp=Z,104nm,0.5s,mb6.1
ECAL Calabor 83.01 48 P **P 18 37 39.8 -1.1**
comp=Z,255nm,3.8s
PBRG Braganca 83.06 48 *eP* **P 18 37 41.3 +0.2**
comp=Z,22nm,1.1s,mb5.1
MOL Molde 83.11 26 *eP* **P 18 37 40.9 -0.6**
MOL AMS AMS 19 16 17.1
comp=Z,595nm,21.9s,MS4.9
TIXI Tiksi 83.11 345*c iP* **P 18 37 39.8 -1.6**
TIXI pmax pmax
comp=Z,54nm,0.8s,mb5.6
TIXI Tiksi 83.11 345 PFAKE 18 37 50.0 +8.6
TIXI LR LR
comp=Z,643nm,21.0s,MS5.0
BER Bergen 83.14 28 *eP* **P 18 37 42.4 +0.8**
BER *eP* 18 37 42.7
BER AMb AMB 18 37 43.6
comp=Z,97nm,1.3s,mb5.7
BER *eS* S 18 48 01.2 +1.3
BER Bergen 83.14 28 *eP* **P 18 37 42.7 +1.1**
BER pmax pmax
comp=Z,97nm,1.3s,mb5.7
BER Bergen 83.14 28 *eP* **P 18 37 42.7 +1.1**
comp=Z,97nm,1.3s,mb5.7
EGD Espegrend 83.14 28 *eP* **P 18 37 43.0 +1.4**
EGD AMb AMB 18 37 44.4
comp=Z,100nm,1.3s,mb5.7
EGD Espegrend 83.14 28 *eP* **P 18 37 43.0 +1.4**
comp=Z,100nm,1.3s,mb5.7
PCBR Castelo Branco 83.15 50 *eP* **P 18 37 41.7 +0.1**
comp=Z,73nm,1.0s,mb5.7
ROSF Rostrenen 83.20 41 *eP* **P 18 37 41.2 -0.7**
TRO Tromso 83.30 17⇑*iP* **P 18 37 41.1 -1.3**
TRO AMb AMB 18 37 43.9
comp=Z,93nm,1.2s,mb5.7
TRO *eS* S 18 47 60.0 -1.5
TRO AMS AMS 19 15 13.3
comp=Z,543nm,19.5s,MS4.9
TRO Tromso 83.30 17 *eP* **P 18 37 41.1 -1.2**
TRO pmax pmax
comp=Z,93nm,1.2s,mb5.7
TRO MLR MLR
comp=Z,540nm,19.5s,MS4.9
TRO Tromso 83.30 17 *eP* **P 18 37 41.1 -1.3**
comp=Z,93nm,1.2s,mb5.7
TRO LR LR
comp=Z,540nm,19.5s,MS4.9
PESTR Estremoz 83.37 51 *eP* **P 18 37 42.8 +0.1**
PESTR Estremoz 83.37 51 *eS* S 18 48 06.2 +4.0
WAKE Wake Island 83.41 288 PFAKE 18 38 00.0 +17
WAKE LR LR
comp=Z,612nm,21.0s,MS5.0
QUIF Quistinic 83.41 42 *eP* **P 18 37 42.7 -0.3**
comp=Z,158nm,1.5s,mb5.5
QUIF Quistinic 83.41 42 *eP* **P 18 37 42.7 -0.3**
QUIF pmax pmax
comp=Z,79nm,1.5s,mb5.5
QUIF Quistinic 83.41 42 *eP* **P 18 37 42.7 -0.3**
comp=Z,79nm,1.5s,mb5.5
PBEJ Beja 83.43 52 *eP* **P 18 37 43.8 +0.7**
comp=Z,43nm,0.9s,mb5.5
SKP1 Kophill 83.47 38 *eP* **P 18 37 43.6 +0.3**
SKP1 Kophill 83.47 38 *eP* **P 18 37 43.6 +0.3**
EARI Arriondas 83.64 47 P **P 18 37 43.3 -0.8**
comp=Z,654nm,3.2s
SGMF Saint Gilles 83.68 41 *eP* **P 18 37 43.4 -0.9**
EBAD Badajoz 83.83 51 P **P 18 37 45.7 +0.5**
comp=Z,23nm,0.9s,mb5.3
EGRO El Granado 83.88 53 P **P 18 37 45.7 +0.4**
comp=Z,12nm,0.8s,mb5.1
NSS Namsos 83.89 23 *e* **P 18 37 44.7 -0.7**
NSS AMS AMS 19 15 42.2
comp=Z,1μm,20.8s,MS5.2
MOR8 Moi Rana 83.89 21 *eP* **P 18 37 45.7 +0.3**
MOR8 AMb AMB 18 37 47.6
comp=Z,40nm,1.0s,mb5.5
MOR8 Moi Rana 83.89 21 *eP* **P 18 37 45.7 +0.3**
comp=Z,40nm,1.0s,mb5.5
ODD1 Odda 83.93 28⇓*iP* **P 18 37 45.9 +0.3**
ODD1 AMb AMB 18 37 47.5
comp=Z,98nm,1.1s,mb5.9
ODD1 Odda 83.93 28 *eP* **P 18 37 45.9 +0.3**
comp=Z,98nm,1.1s,mb5.8
BLS5 Blasjo 84.08 29⇓*iP* **P 18 37 47.8 +1.4**
BLS5 AMb AMB 18 37 49.6
comp=Z,98nm,1.1s,mb5.8
BLS5 Blasjo 84.08 29 *eP* **P 18 37 47.8 +1.5**
comp=Z,98nm,1.1s,mb5.8
EPLA Plasencia 84.09 50 P **P 18 37 46.4 0.0**
EPLA pmax pmax
comp=Z,144nm,1.9s,mb5.8
EPLA Plasencia 84.09 50 P **P 18 37 46.4 0.0**
comp=Z,144nm,1.9s,mb5.8
AEU East Anglia Un 84.29 36 *eP* **P 18 37 48.6 +1.1**
AEU East Anglia Un 84.29 36 *eP* **P 18 37 48.6 +1.1**
EMIN Mina Concepcio 84.41 52 P **P 18 37 48.5 +0.4**
comp=Z,34nm,0.8s,mb5.5
GRR Gorron 84.68 41 *eP* **P 18 37 49.9 +0.5**
comp=Z,230nm,1.1s,mb5.9
GRR Gorron 84.68 41 *eP* **P 18 37 49.9 +0.5**
GRR pmax pmax
comp=Z,115nm,1.1s,mb5.9
GRR Gorron 84.68 41 *eP* **P 18 37 49.9 +0.5**
comp=Z,115nm,1.1s,mb5.9
FLN La Foliniere 84.78 40 *eP* **P 18 37 50.6 +0.7**
comp=Z,405nm,1.1s,mb6.2
FLN La Foliniere 84.78 40 *eP* **P 18 37 50.6 +0.7**
FLN pmax pmax
comp=Z,203nm,1.1s,mb6.2
FLN La Foliniere 84.78 40 *eP* **P 18 37 50.6 +0.7**
comp=Z,202nm,1.1s,mb6.2
ELAN Lanestosa 84.88 46 P **P 18 37 51.2 +0.8**
comp=Z,25nm,0.9s,mb5.3
SNART Snartemo 84.92 30⇓*iP* **P 18 37 51.7 +1.1**
SNART AMb AMB 18 37 53.4
comp=Z,46nm,1.0s,mb5.6
LDF La Druitiere 85.06 40 *eP* **P 18 37 51.6 +0.3**
comp=Z,165nm,1.1s,mb5.8
LDF La Druitiere 85.06 40 *eP* **P 18 37 51.6 +0.3**
LDF pmax pmax
comp=Z,82nm,1.1s,mb5.8
LDF La Druitiere 85.06 40 *eP* **P 18 37 51.6 +0.3**
comp=Z,82nm,1.1s,mb5.8
ARCES ARCESS Array B 85.13 16 P **P 18 37 51.5 -0.2**
comp=Z,46nm,0.9s,mb5.6,baz=304,slow=2.8,SNR=53
ARCES LR LR 19 16 20.4
comp=Z,941nm,18.1s,MS5.2,baz=354,slow=36
ARE0 ARCESS Array B 85.13 16 *eP* **P 18 37 51.2 -0.4**
GUD Guadarrama 85.28 49 P **P 18 37 53.8 +1.4**
GUD pmax pmax
comp=Z,58nm,1.0s,mb5.7
GUD Guadarrama 85.28 49 P **P 18 37 53.8 +1.3**
comp=Z,58nm,1.0s,mb5.7
ESPR Espera 85.32 53 P **P 18 37 53.8 +1.1**
comp=Z,54nm,0.9s,mb5.7
NAO01 NORSAR Array S 85.34 26 *eP* **P 18 37 51.3 -1.4**
comp=Z,11nm,0.9s,mb5.0
KEV Kevo 85.36 15 *ep* **P 18 37 46.1 -6.7**
KEV Kevo 85.36 15 *eP* **P 18 37 53.1 +0.3**
KEV pmax pmax
comp=Z,32nm,0.8s,mb5.5
KEV MLR MLR
comp=Z,798nm,20.0s,MS5.1
KEV Kevo 85.36 15 *eP* **P 18 37 53.0 +0.2**
comp=Z,32nm,0.8s,mb5.5
KEV LR LR
comp=Z,798nm,20.0s,MS5.1
NB2 NORSAR Subarra 85.38 26 P **P 18 37 51.9 -1.0**
comp=Z,0.9nm,0.8s,baz=307,slow=4.8
NOA NORSAR Array B 85.38 26 P **P 18 37 52.2 -0.8**
comp=Z,14nm,0.9s,mb5.1,baz=303,slow=5.0,SNR=34
NOA NORSAR Array B 85.38 26 P **P 18 37 52.2 -0.8**
KONO Kongsberg 85.38 28 *eP* **P 18 37 53.1 +0.1**
KONO Kongsberg 85.38 28*c iP* **P 18 37 52.7 -0.2**
KONO Kongsberg 85.38 28 *eP* **P 18 37 53.2 +0.2**
comp=Z,59nm,0.9s,mb5.7
KONO LR LR
comp=Z,523nm,19.0s,MS5.0
LCHF La Chataignera 85.40 42 *eP* **P 18 37 54.2 +1.2**
MENF Mencas 85.64 38 *eP* **P 18 37 54.9 +0.7**
RAO Raoul Island 85.67 237 PFAKE 18 38 10.0 +16
RAO LR LR
comp=Z,2μm,20.0s,MS5.5
EJIF Jimena Fronter 85.75 53 P **P 18 37 56.7 +1.9**
EJIF pmax pmax
comp=Z,30nm,0.9s,mb5.5
EJIF Jimena Fronter 85.75 53 P **P 18 37 56.7 +1.9**
comp=Z,30nm,0.9s,mb5.5
ESDC Sonseca Array 85.76 50 P **P 18 37 55.2 +0.4**
comp=Z,20nm,0.9s,mb5.3,baz=306,slow=5.1,SNR=71
ESDC LR LR 19 17 38.8
comp=Z,548nm,18.2s,MS5.0,baz=300,slow=37
ESDC Sonseca Array 85.76 50 P **P 18 37 55.1 +0.3**
comp=Z,20nm,0.9s,mb5.3
ESLA Sonseca Array 85.76 50 *eP* **P 18 37 55.0 +0.2**
comp=Z,7.5nm,1.0s,mb4.9
ESLA LR LR
comp=Z,4μm,19.0s,MS5.9
MFF Saint Martin d 85.81 42 *eP* **P 18 37 55.2 +0.1**
comp=Z,166nm,1.3s,mb5.8
MFF Saint Martin d 85.81 42 *eP* **P 18 37 55.2 +0.1**
MFF pmax pmax
comp=Z,83nm,1.3s,mb5.8
MFF Saint Martin d 85.81 42 *eP* **P 18 37 55.2 +0.1**
comp=Z,83nm,1.3s,mb5.8
EADA Adamuz 85.83 51 P **P 18 37 55.8 +0.6**
comp=Z,69nm,0.9s,mb5.9
EALK Alkurruntz 86.20 46 P **P 18 37 57.7 +0.8**
comp=Z,12nm,0.8s,mb5.2
EMIJ Mijas 86.24 53 P **P 18 37 58.4 +1.2**
comp=Z,25nm,0.8s,mb5.5
ELUQ Luque 86.28 52 P **P 18 37 57.5 +0.1**
ELUQ pmax pmax
comp=Z,42nm,2.5s,mb5.2
ELUQ Luque 86.28 52 P **P 18 37 57.5 +0.1**
comp=Z,42nm,2.5s,mb5.2
EBAN Banos Encina 86.42 51 P **P 18 37 59.1 +1.0**
EBAN pmax pmax
comp=Z,20nm,0.8s,mb5.4
EBAN Banos Encina 86.42 51 P **P 18 37 59.1 +1.0**
comp=Z,20nm,0.8s,mb5.4
SJPF Ste Jean 86.43 46 *eP* **P 18 37 57.6 -0.5**
comp=Z,26nm,1.0s,mb5.1
SJPF Ste Jean 86.43 46 *eP* **P 18 37 57.6 -0.5**
SJPF pmax pmax
comp=Z,13nm,1.0s,mb5.1
SJPF Ste Jean 86.43 46 *eP* **P 18 37 57.6 -0.5**
comp=Z,13nm,1.0s,mb5.1
ELOJ Sierra Loja 86.51 52 P **P 18 38 00.2 +1.7**
ELOJ pmax pmax
comp=Z,47nm,0.9s,mb5.7
ELOJ Sierra Loja 86.51 52 P **P 18 38 00.2 +1.7**
comp=Z,47nm,0.9s,mb5.7
LARF Larrau 86.62 46 *eP* **P 18 38 00.6 +1.6**
MUD Monsted U'grnd 86.75 31 *i P* **P 18 38 00.8 +1.1**
comp=Z,27nm,1.1s,mb5.4
MUD *e* 18 48 41.4
MUD
comp=Z,510nm,17.0s
MUD Monsted U'grnd 86.75 31 *i P* **P 18 38 00.8 +1.1**
comp=Z,27nm,1.1s,mb5.4
MUD *e* 18 48 41.4
ERON Agron 86.81 52 P **P 18 38 01.5 +1.5**
comp=Z,22nm,0.7s,mb5.5
ECOG Cogollos-Vega 86.90 52 P **P 18 38 01.9 +1.5**
ECOG pmax pmax
comp=Z,18nm,1.0s,mb5.3
ECOG Cogollos-Vega 86.90 52 P **P 18 38 01.9 +1.5**
comp=Z,18nm,1.0s,mb5.3
ETSF Etsaut 86.96 46 *eP* **P 18 38 00.5 -0.2**
comp=Z,65nm,0.9s,mb5.6
ETSF Etsaut 86.96 46 *eP* **P 18 38 00.5 -0.2**
ETSF pmax pmax
comp=Z,33nm,0.9s,mb5.6
ETSF Etsaut 86.96 46 *eP* **P 18 38 00.5 -0.2**
comp=Z,33nm,0.9s,mb5.6
LFF La Frestale 87.03 43 *eP* **P 18 38 00.6 -0.5**
comp=Z,72nm,1.0s,mb5.6
LFF La Frestale 87.03 43 *eP* **P 18 38 00.6 -0.5**
LFF pmax pmax
comp=Z,36nm,1.0s,mb5.6
LFF La Frestale 87.03 43 *eP* **P 18 38 00.6 -0.5**
comp=Z,36nm,1.0s,mb5.6
BAIF Baives 87.05 38 *eP* **P 18 38 00.7 -0.5**
comp=Z,55nm,1.0s,mb5.4
BAIF *epP* pP 18 38 32.4 +23
BAIF Baives 87.05 38 *eP* **P 18 38 00.7 -0.5**
BAIF pmax pmax
comp=Z,28nm,1.0s,mb5.5
BAIF Baives 87.05 38 *eP* **P 18 38 00.7 -0.5**
comp=Z,28nm,1.0s,mb5.4
BAIF *epP* pP 18 38 32.4 +23
EQES Quesada 87.08 51 P **P 18 38 02.5 +1.3**
comp=Z,27nm,1.0s,mb5.4
EVIA Vianos 87.19 50 P **P 18 38 02.9 +1.1**
EVIA pmax pmax
comp=Z,33nm,0.8s,mb5.6
EVIA Vianos 87.19 50 P **P 18 38 02.9 +1.1**
comp=Z,33nm,0.8s,mb5.6
DOU Dourbes 87.26 38 P **P 18 38 02.1 -0.1**
VIEF Viey 87.36 46 *eP* **P 18 38 03.4 +0.7**
RJF Les Rejaudoux 87.39 43 *eP* **P 18 38 01.9 -0.9**
comp=Z,66nm,1.0s,mb5.5
RJF Les Rejaudoux 87.39 43 *eP* **P 18 38 01.9 -0.9**
RJF pmax pmax
comp=Z,33nm,1.0s,mb5.5
RJF Les Rejaudoux 87.39 43 *eP* **P 18 38 01.9 -0.9**
comp=Z,33nm,1.0s,mb5.5
GIVF Givet 87.39 38 *eP* **P 18 38 02.1 -0.7**
EHUE Huescar 87.42 51 P **P 18 38 04.2 +1.2**
EHUE pmax pmax
comp=Z,14nm,0.8s,mb5.2
EHUE Huescar 87.42 51 P **P 18 38 04.2 +1.2**
comp=Z,14nm,0.8s,mb5.2
TCF Toulx Ste Croi 87.43 42 *eP* **P 18 38 02.1 -0.9**
comp=Z,65nm,1.2s,mb5.4
TCF Toulx Ste Croi 87.43 42 *eP* **P 18 38 02.1 -0.9**
TCF pmax pmax
comp=Z,32nm,1.2s,mb5.4
TCF Toulx Ste Croi 87.43 42 *eP* **P 18 38 02.1 -0.9**
comp=Z,32nm,1.2s,mb5.4
EPF Esparros 87.52 45 *eP* **P 18 38 03.0 -0.4**
comp=Z,58nm,1.0s,mb5.5
EPF Esparros 87.52 45 *eP* **P 18 38 03.0 -0.4**
EPF pmax pmax
comp=Z,29nm,1.0s,mb5.5
EPF Esparros 87.52 45 *eP* **P 18 38 03.0 -0.4**
comp=Z,29nm,1.0s,mb5.5
EBIE Bielsa 87.52 46 P **P 18 38 04.1 +0.7**
comp=Z,27nm,0.9s,mb5.5
BCLA Clavier 87.52 37 P **P 18 38 03.6 +0.1**
EBER Berja 87.54 52 P **P 18 38 05.1 +1.6**
comp=Z,45nm,0.8s,mb5.8
RESF Ens 87.60 46 *eP* **P 18 38 04.6 +0.8**
WTSB Winterswijk 87.66 35 *eP* **P 18 38 03.7 -0.4**
comp=Z,39nm,1.2s,mb5.5
WTSB ⇑*eP* 18 47 48.0
comp=Z,42nm,1.2s
BGF Bois d'Agland 87.72 41 *eP* **P 18 38 03.4 -1.0**
comp=Z,45nm,1.1s,mb5.3
BGF Bois d'Agland 87.72 41 *eP* **P 18 38 03.4 -1.0**
BGF pmax pmax
comp=Z,23nm,1.1s,mb5.3
BGF Bois d'Agland 87.72 41 *eP* **P 18 38 03.4 -1.0**
comp=Z,22nm,1.1s,mb5.3
HGN Heimansgroeve 87.73 37⇑*eP* **P 18 38 03.4 -1.0**
comp=Z,3.6nm,1.3s,mb4.4
HGN ⇑*eP* 18 47 55.9
comp=Z,2.2nm,1.1s
EALB Alboran 87.78 53 P **P 18 38 06.0 +1.3**
comp=Z,19nm,0.8s,mb5.4
ETOB Tobarra 87.88 50 P **P 18 38 07.0 +1.9**
comp=Z,18nm,0.8s,mb5.3
CAF Calviac 87.90 43 *eP* **P 18 38 04.7 -0.5**
CAF *epP* pP 18 38 36.1 +23
SSF Saint Saulge 87.92 41 *eP* **P 18 38 04.3 -1.0**
comp=Z,46nm,1.2s,mb5.3
SSF Saint Saulge 87.92 41 *eP* **P 18 38 04.3 -1.0**
SSF pmax pmax
comp=Z,23nm,1.2s,mb5.3
SSF Saint Saulge 87.92 41 *eP* **P 18 38 04.3 -1.0**
comp=Z,23nm,1.2s,mb5.3
AVF Avril sur Loir 87.94 41 *eP* **P 18 38 04.7 -0.7**
AVF *epP* pP 18 38 36.7 +23
ECHE Chera 87.94 49 P **P 18 38 07.5 +2.1**
ECHE pmax pmax
comp=Z,30nm,1.0s,mb5.5
ECHE Chera 87.94 49 P **P 18 38 07.5 +2.1**
comp=Z,30nm,1.0s,mb5.5
EMOS Mosqueruela 88.00 48 P **P 18 38 06.5 +0.8**
comp=Z,28nm,0.8s,mb5.5
ENIJ Nijar 88.02 52 P **P 18 38 05.7 -0.1**
ENIJ pmax pmax
comp=Z,7.0nm,0.5s,mb5.2
ENIJ Nijar 88.02 52 P **P 18 38 05.7 -0.1**
comp=Z,6.7nm,0.5s,mb5.1
LOR Lormes 88.05 40 *eP* **P 18 38 05.2 -0.7**
comp=Z,61nm,1.3s,mb5.4
LOR Lormes 88.05 40 *eP* **P 18 38 05.2 -0.7**
LOR pmax pmax
comp=Z,30nm,1.3s,mb5.4
LOR Lormes 88.05 40 *eP* **P 18 38 05.2 -0.7**
comp=Z,30nm,1.3s,mb5.4
MLS Moulis 88.06 45 *eP* **P 18 38 06.0 0.0**
PYM Petit Puy Mans 88.16 42 *eP* **P 18 38 06.0 -0.5**
BUG Bochum--Univer 88.17 36 *eP* **P 18 38 05.9 -0.6**
comp=Z,11nm,0.7s,mb5.2
SALF Salau 88.20 45 *eP* **P 18 38 07.2 +0.5**
MEZF Maizieres J'vi 88.23 39 *eP* **P 18 38 06.3 -0.5**
SMF Signal de Mont 88.30 41 *eP* **P 18 38 06.4 -0.7**
ERTA Horta de San J 88.33 47 P **P 18 38 08.6 +1.3**
comp=Z,18nm,1.0s,mb5.2
WLF Walferdange 88.35 38 *eP* **P 18 38 07.0 -0.4**
comp=Z,38nm,1.6s,mb5.4
EMUR La Murta 88.41 51 P **P 18 38 08.1 +0.4**
comp=Z,30nm,0.9s,mb5.5
APA Apatity 88.56 15⇓*iP* **P 18 38 09.5 +1.1**
APA *eS* 18 48 52.0
APA pmax pmax
comp=Z,11nm,0.8s,mb5.2
APA MLR MLR
comp=Z,2μm,20.0s,MS5.4
BSEG Bad Segeberg 88.57 33 *eP* **P 18 38 08.0 -0.4**
comp=Z,48nm,1.1s,mb5.7
LVZ Lovozero 88.61 14 PFAKE 18 38 20.0 +11
LVZ LR LR
comp=Z,955nm,19.0s,MS5.2
MTLF Montolieu 88.65 44 *eP* **P 18 38 08.1 -0.7**
comp=Z,32nm,1.2s,mb5.2
MTLF *epP* pP 18 38 38.7 +22
MTLF Montolieu 88.65 44 *eP* **P 18 38 08.1 -0.7**
MTLF pmax pmax
comp=Z,16nm,1.2s,mb5.2
MTLF Montolieu 88.65 44 *eP* **P 18 38 08.1 -0.7**
comp=Z,16nm,1.2s,mb5.2
MTLF *epP* pP 18 38 38.7 +22
COP Copenhagen 88.72 30 *i P* **P 18 38 14.9 +5.8**
comp=Z,36nm,1.1s,mb5.6
COP *i* 18 41 46.4
COP
comp=Z,280nm,17.0s
COP Copenhagen 88.72 30 *eP* **P 18 38 14.9 +5.8**
COP *i* 18 41 46.4
COP pmax pmax
comp=Z,36nm,1.1s,mb5.6
COP MLR MLR
comp=Z,280nm,17.0s,MS4.8
RUP Ruppelstein 88.86 37 *eP* **P 18 38 10.2 +0.4**
THEF They Montfort 88.91 39 *eP* **P 18 38 09.2 -0.8**
YAK Yakutsk 89.12 338 *eP* **P 18 38 10.7 -0.3**
YAK *e* pP 18 38 17.3 -2.0
YAK pmax pmax
comp=Z,51nm,0.8s,mb5.9
YAK MLR MLR
comp=Z,473nm,21.0s,MS4.9
YAK Yakutsk 89.12 338 *eP* **P 18 38 10.7 -0.3**
comp=Z,51nm,0.8s,mb5.9
YAK *e* pP 18 38 17.3 -2.0
YAK LR LR
comp=Z,473nm,21.0s,MS4.9
HAU Haudompre 89.23 39 *eP* **P 18 38 10.9 -0.6**
TNS Taunus Mts 89.40 36 *eP* **P 18 38 12.0 -0.3**
comp=Z,29nm,1.1s,mb5.5
TNS Taunus Mts 89.40 36 *eP* **P 18 38 12.0 -0.3**
TNS pmax pmax
comp=Z,29nm,1.1s,mb5.5
CDF Champ du Feu 89.59 38 *eP* **P 18 38 12.5 -0.7**
comp=Z,15nm,1.0s,mb5.0
CDF Champ du Feu 89.59 38 *eP* **P 18 38 12.5 -0.7**
CDF pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
CDF Champ du Feu 89.59 38 *eP* **P 18 38 12.5 -0.7**
comp=Z,7.5nm,1.0s,mb5.0
VIVF Saint-Julien-l 89.60 42 *eP* **P 18 38 12.6 -0.7**
HINF Hinteralfeld 89.61 39 *eP* **P 18 38 12.4 -0.9**
LANF Langenberg 89.63 38 *eP* **P 18 38 13.3 -0.1**
CLZ Clausthal 89.66 34 *eP* **P 18 38 13.3 -0.2**
comp=Z,38nm,1.1s,mb5.6
CLZ pmax pmax
comp=Z,38nm,1.1s,mb5.6
CABF La Chapelle 89.70 40 *eP* **P 18 38 13.1 -0.6**
UBBA Unterbreizbach 89.97 35 *eP* **P 18 38 14.5 -0.5**
comp=Z,44nm,1.7s,mb5.5
BSD Bornholm Skovb 90.22 30 *i P* **P 18 38 19.5 +3.4**
BSD *e* 18 41 50.1
BSD *i* 18 47 24.7
BSD
comp=Z,680nm,17.0s
BSD Bornholm Skovb 90.22 30 *eP* **P 18 38 19.5 +3.4**
BSD *e* 18 41 50.1
BSD Bornholm Skovb 90.22 30 *eP* **P 18 38 19.5 +3.4**
BSD *e* 18 41 50.1
BSD *i* 18 47 24.7
BFO Black Forest 90.25 38 *eP* **P 18 38 15.3 -1.0**
comp=Z,10.0nm,1.2s,mb5.0
BFO Black Forest 90.25 38 *eP* **P 18 38 15.3 -1.0**
BFO pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
FELD Feldberg im Sc 90.27 39 *eP* **P 18 38 16.3 -0.1**
ORIF Oris-en-Rattie 90.34 42 *eP* **P 18 38 16.0 -0.7**
comp=Z,16nm,1.1s,mb5.0
ORIF Oris-en-Rattie 90.34 42 *eP* **P 18 38 16.0 -0.7**
ORIF pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
ORIF Oris-en-Rattie 90.34 42 *eP* **P 18 38 16.0 -0.7**
comp=Z,8.1nm,1.1s,mb5.0
KAF Kangasniemi 90.48 21 *ep* **P 18 38 12.7 -4.7**
baz=312,slow=4.5
STU Stuttgart 90.53 37 *eP* **P 18 38 17.0 -0.6**
comp=Z,12nm,0.8s,mb5.3
SMRF Simiane la Rot 90.57 43 *eP* **P 18 38 17.4 -0.4**
SMRF *epP* pP 18 38 49.3 +23

LPL	**La Plagne**	**90.61**	**41**	*e*P		**P**	**18 38 17.8**	**-0.1**	
LPG	**La Plagne**	**90.63**	**41**	*e*P		**P**	**18 38 18.0**	**0.0**	
FIA1	**FINESS Array S**	**90.87**	**22**	*e*P		**P**	**18 38 17.3**	**-1.9**	
FINES	**FINESS Array B**	**90.87**	**22**	P		**P**	**18 38 17.1**	**-2.0**	
	comp=Z,3.6nm,0.8s,mb4.7,baz=45,slow=3.0,SNR=11								
FINES				LR		LR	19 18 43.9		
	comp=Z,680nm,18.7s,MS5.1,baz=142,slow=35								
FINES	**FINESS Array B**	**90.87**	**22**	*i* P		**P**	**18 38 17.6**	**-1.6**	
FINES				pmax	pmax				
	comp=Z,4.0nm,0.8s								
MOX	**Moxa**	**90.94**	**35**	*e*P		**P**	**18 38 18.9**	**-0.6**	
	comp=Z,21nm,1.5s,mb5.2								
MOX	**Moxa**	**90.94**	**35**	*e*P		**P**	**18 38 19.2**	**-0.3**	
MOX									
	comp=Z,700nm,19.0s								
MBDF	**Montbardon**	**91.00**	**42**	*e*P		**P**	**18 38 19.2**	**-0.6**	
	comp=Z,15nm,0.9s,mb5.0								
MBDF	**Montbardon**	**91.00**	**42**	*e*P		**P**	**18 38 19.2**	**-0.6**	
MBDF				pmax	pmax				
	comp=Z,7.0nm,0.9s,mb5.0								
MBDF	**Montbardon**	**91.00**	**42**	*e*P		**P**	**18 38 19.2**	**-0.6**	
	comp=Z,7.4nm,0.9s,mb5.0								
GRA1	**Grafenberg Arr**	**91.22**	**36**	*e*P		**P**	**18 38 20.6**	**-0.2**	
	comp=Z,88nm,1.7s,mb5.8								
GRA1				*e*pP		pP	18 38 28.7	-0.3	
GRA1				LR		LR			
	comp=Z,900nm,18.9s,MS5.2								
GRF	**Grafenberg Arr**	**91.22**	**36**	*e*P		**P**	**18 38 20.6**	**-0.2**	
	comp=Z,88nm,1.7s,mb5.8								
GRF				*e*pP		pP	18 38 28.7	-0.3	
GRF				*e*L			19 20 27.0		
	comp=Z,882nm,18.9s								
GRF	**Grafenberg Arr**	**91.22**	**36**	*e*P		**P**	**18 38 20.6**	**-0.2**	
GRF				*e**PP		pP	18 38 28.7	-0.3	
GRF				pmax	pmax				
	comp=Z,88nm,1.7s,mb5.8								
GRF				MLR		MLR			
	comp=Z,900nm,18.9s,MS5.2								
GRF	**Grafenberg Arr**	**91.22**	**36**	*e*P		**P**	**18 38 20.6**	**-0.2**	
GRF				*e**PP		pP	18 38 28.7	-0.3	
GRF				pmax	pmax				
	comp=Z,88nm,1.7s,mb5.8								
GRF				MLR		MLR			
	comp=Z,900nm,18.9s,MS5.2								
CLL	**Collm**	**91.34**	**34**	*e*P		**P**	**18 38 20.4**	**-0.9**	
	comp=Z,13nm,1.1s,mb5.2								
CLL				*e*pP		pP	18 38 27.3	-2.3	
CLL				*e*sP		sP	18 38 33.0	+0.5	
CLL				*e*PP		PP	18 41 54.6	-4.2	
CLL				*e*SKKSac		SKKSac	18 49 02.6	-5.0	
CLL				*e*PS		PS	18 50 33.9	+3.6	
CLL				*e*LR		LR	19 09 31.0		
CLL				*e*L			19 21 46.8		
	comp=Z,740nm,22.0s								
CLL	**Collm**	**91.34**	**34**	P		**P**	**18 38 20.4**	**-0.9**	
	comp=Z,logA/T=1.1,mb5.2								
CLL				*i* *SP		sP	18 38 28.7	-3.8	
CLL				*e*PP		PP	18 42 01.0	+2.2	
CLL				*e*			18 49 01.0		
CLL				*e*PS		PS	18 50 35.0	+4.7	
CLL				*e*			18 50 51.0		
CLL	**Collm**	**91.34**	**34**	*i* P		**P**	**18 38 20.4**	**-0.9**	
	comp=Z,13nm,1.1s,mb5.2								
CLL				*i* sP		sP	18 38 28.7	-3.8	
CLL				*e*PP		PP	18 42 01.0	+2.2	
CLL				*e*SKKSac		SKKSac	18 49 01.0	-6.6	
CLL				*e*PS		PS	18 50 35.0	+4.7	
CLL				*ex*		x	18 50 51.0		
CLL	**Collm**	**91.34**	**34**	*i* P		**P**	**18 38 20.4**	**-0.9**	
CLL				*i* *PP		pP	18 38 28.7	-0.9	
CLL				*i* *SP		sP	18 38 33.4	+0.9	
CLL				pmax	pmax				
	comp=Z,13nm,1.1s,mb5.2								
CLL				MLR		MLR			
	comp=Z,700nm,16.6s,MS5.2								
CLL	**Collm**	**91.34**	**34**	*i* P		**P**	**18 38 20.4**	**-0.9**	
	comp=Z,13nm,1.1s,mb5.2								
CLL				*i* pP		pP	18 38 28.7	-0.9	
CLL				*i* sP		sP	18 38 33.4	+0.9	
CLL				*e*SKKS		SKKSac	18 49 01.0	-6.6	
CLL				LR		LR			
	comp=Z,700nm,16.6s,MS5.2								
WERD	**Werda**	**91.42**	**35**	*e*P		**P**	**18 38 20.9**	**-0.8**	
	comp=Z,44nm,2.1s,mb5.4								
YSS	**Yuzh-Sakhalins**	**91.42**	**321**	⇓*e*P		**P**	**18 38 19.4**	**-2.3**	
YSS				pmax	pmax				
	comp=Z,38nm,2.4s,mb5.3								
YSS	**Yuzh-Sakhalins**	**91.42**	**321**		PFAKE		18 38 30.0	+8.3	
YSS				LR		LR			
	comp=Z,551nm,20.0s,MS5.0								
FRF	**La Foret Royal**	**91.45**	**43**	*e*P		**P**	**18 38 21.0**	**-0.9**	
LMR	**La Mourre**	**91.47**	**43**	*e*P		**P**	**18 38 21.1**	**-0.9**	
	comp=Z,28nm,1.1s,mb5.2								
LMR	**La Mourre**	**91.47**	**43**	*e*P		**P**	**18 38 21.1**	**-0.9**	
LMR				pmax	pmax				
	comp=Z,14nm,1.1s,mb5.2								
LMR	**La Mourre**	**91.47**	**43**	*e*P		**P**	**18 38 21.1**	**-0.9**	
	comp=Z,14nm,1.1s,mb5.2								
JOF	**Joensuu**	**91.52**	**19**	*e*p		**P**	**18 38 18.7**	**-3.5**	
TANN	**Tannenbergstha**	**91.53**	**35**	*e*P		**P**	**18 38 21.7**	**-0.5**	
	comp=Z,16nm,1.3s,mb5.2								
WERN	**Wernitzgruen**	**91.55**	**35**	*e*P		**P**	**18 38 22.2**	**-0.1**	
	comp=Z,32nm,1.5s,mb5.4								
MANZ	**Manzenberg**	**91.56**	**35**	*e*P		**P**	**18 38 22.1**	**-0.3**	
	comp=Z,23nm,1.6s,mb5.3								
NKC	**Novy Kostel**	**91.61**	**35**	*e*P		**P**	**18 38 22.0**	**-0.6**	
NKC				*e*pP		pP	18 38 29.6	-1.3	
DAVA	**Damuels**	**91.67**	**39**	⇓*i* P		**P**	**18 38 22.7**	**-0.1**	
	comp=Z,39nm,2.0s,mb5.4								
ROTZ	**Rotzenmuhle**	**91.73**	**36**	*e*P		**P**	**18 38 23.0**	**-0.1**	
	comp=Z,20nm,1.4s,mb5.2								
FBE	**Freiberg**	**91.73**	**34**	*e*P		**P**	**18 38 22.6**	**-0.6**	
	comp=Z,13nm,1.0s,mb5.2								
SBF	**Sospel**	**91.82**	**42**	*e*P		**P**	**18 38 22.5**	**-1.1**	
BRG	**Berggiesshubel**	**92.07**	**34**	*e*P		**P**	**18 38 23.8**	**-0.9**	
	comp=Z,20nm,1.4s,mb5.2								
BRG	**Berggiesshubel**	**92.07**	**34**	*e*P		**P**	**18 38 23.9**	**-0.8**	
	comp=Z,12nm,1.4s,mb5.0								
BRG				*e*		pP	18 38 31.2	-1.8	
	comp=Z,12nm,1.8s								
BRG				PP		PP	18 41 57.0	-7.6	
BRG				*e*			18 49 04.0		
BRG				S			18 50 44.0		
BRG				SS		SS	18 56 22.0	+47	
BRG									
	comp=N,386nm,14.4s								
BRG									
	comp=E,349nm,15.6s								
BRG									
	comp=Z,502nm,16.7s								
BRG	**Berggiesshubel**	**92.07**	**34**	*e*P		**P**	**18 38 23.9**	**-0.8**	
BRG				*e*		pP	18 38 31.2	-1.8	
BRG				S			18 50 44.0		
BRG				pmax	pmax				
	comp=Z,12nm,1.4s,mb5.0								
BRG				MLR		MLR			
	comp=Z,500nm,16.7s,MS5.0								
BRG	**Berggiesshubel**	**92.07**	**34**	*e*P		**P**	**18 38 23.9**	**-0.8**	
	comp=Z,12nm,1.4s,mb5.0								
BRG				*e*		pP	18 38 31.2	-1.8	
BRG				PP		PP	18 41 57.0	-7.6	
BRG				*e*			18 49 04.0		
BRG				S			18 50 44.0		
BRG				SS		SS	18 56 22.0	+47	
BRG				LR		LR			
	comp=Z,500nm,16.7s,MS5.0								
WET	**Wettzell**	**92.43**	**36**	*e*P		**P**	**18 38 26.2**	**-0.2**	
	comp=Z,23nm,1.4s,mb5.3								
WET	**Wettzell**	**92.43**	**36**	*e*P		**P**	**18 38 26.2**	**-0.2**	
WET				pmax	pmax				
	comp=Z,23nm,1.4s,mb5.3								
PVCC	**Panska Ves**	**92.60**	**34**	*e*P		**P**	**18 38 26.3**	**-0.9**	
WTTA	**Wattenberg**	**92.71**	**38**	⇑*i* P		**P**	**18 38 27.7**	**0.0**	
	comp=Z,80nm,2.4s,mb5.7								
WTTA	**Wattenberg**	**92.71**	**38**	⇑*i* P		**P**	**18 38 27.7**	**0.0**	
WTTA				pmax	pmax				
	comp=Z,80nm,2.4s,mb5.7								
KHC	**Kasperske Hory**	**92.82**	**36**	*e*P		**P**	**18 38 28.1**	**-0.1**	
KHC				*e*pP		pP	18 38 35.6	-0.9	
PRU	**Pruhonice**	**92.88**	**35**	*e*P		**P**	**18 38 28.0**	**-0.5**	
PRU				*e*pP		pP	18 38 35.9	-0.8	
GEC2	**GERESS Array S**	**93.05**	**36**	*e*P		**P**	**18 38 28.9**	**-0.3**	
	comp=Z,20nm,1.3s,mb5.4								
GEC2	**GERESS Array S**	**93.05**	**36**	*e*P		**P**	**18 38 28.9**	**-0.3**	
GEC2				pmax	pmax				
	comp=Z,20nm,1.3s,mb5.4								
GERES	**GERESS Array B**	**93.05**	**36**	P		**P**	**18 38 28.7**	**-0.5**	
	comp=Z,4.8nm,0.9s,mb4.9,baz=319,slow=3.9,SNR=35								
GERES				LR		LR	19 25 52.6		
	comp=Z,582nm,18.1s,MS5.1,baz=343,slow=39								
VSU	**Vasula**	**93.17**	**24**	*d* *i* P		**P**	**18 38 28.3**	**-1.5**	
UPC	**Upice**	**93.37**	**34**	*e*P		**P**	**18 38 30.3**	**-0.4**	
UPC				*e*pP		pP	18 38 37.6	-1.4	
UPC	**Upice**	**93.37**	**34**	*e*P		**P**	**18 38 30.3**	**-0.4**	
UPC				*e*pP		pP	18 38 37.6	-1.4	
DPC	**Dobruska-Polom**	**93.62**	**34**	*e*P		**P**	**18 38 31.2**	**-0.7**	
DPC				*e*pP		pP	18 38 38.6	-1.5	
TREC	**Trest**	**93.78**	**35**	*e*P		**P**	**18 38 32.0**	**-0.6**	
TREC				*e*pP		pP	18 38 40.2	-0.7	
KBA	**Koelnbreinsper**	**93.80**	**37**	⇓*i* P		**P**	**18 38 32.4**	**-0.3**	
	comp=Z,82nm,2.6s,mb5.7								
KBA	**Koelnbreinsper**	**93.80**	**37**	⇓*i* P		**P**	**18 38 32.4**	**-0.3**	
KBA				pmax	pmax				
	comp=Z,82nm,2.6s,mb5.7								
MOA	**Molln**	**93.91**	**36**	⇓*i* P		**P**	**18 38 32.8**	**-0.4**	
	comp=Z,61nm,1.6s,mb5.8								
VRAC	**Vranov**	**94.37**	**34**	LR		LR	19 22 47.5		
	comp=Z,777nm,18.0s,MS5.2,baz=8.7,slow=37								
CONA	**Conrad Observa**	**94.75**	**36**	⇑*i* P		**P**	**18 38 30.5**	**-6.6**	
	comp=Z,123nm,2.5s,mb5.9								
OBKA	**Obir**	**94.80**	**37**	⇑*i* P		**P**	**18 38 36.9**	**-0.4**	
	comp=Z,41nm,1.8s,mb5.6								
ARSA	**Arzberg**	**94.95**	**37**	⇓*i* P		**P**	**18 38 36.9**	**-1.1**	
	comp=Z,123nm,3.0s,mb5.8								
SMOL	**Smolenice**	**95.28**	**35**	*e*P		**P**	**18 38 39.8**	**+0.3**	
SMOL				*e*			18 38 49.5		
ZST	**Bratislava**	**95.28**	**35**	*e*P		**P**	**18 38 39.8**	**+0.3**	
ZST				*e*		pP	18 38 48.5	+0.7	
ZST				pmax	pmax				
	comp=Z,22nm,1.0s,mb5.5								
ZST	**Bratislava**	**95.28**	**35**	*e*P		**P**	**18 38 39.8**	**+0.3**	
	comp=Z,22nm,1.0s,mb5.5								
ZST				*e*		pP	18 38 48.5	+0.7	
KLMR	**Klimovskoe**	**95.54**	**17**	*e*P		**P**	**18 38 38.3**	**-2.4**	
KLMR				pmax	pmax				
	comp=Z,30nm,1.6s,mb5.5								
SNZO	**South Karori**	**95.76**	**228**	PFAKE			18 38 50.0	+8.3	
SNZO				LR		LR			
	comp=Z,1μm,19.0s,MS5.4								
VYHS	**Vyhne**	**96.04**	**34**	*e*P		**P**	**18 38 43.2**	**+0.2**	
VYHS				pmax	pmax				
	comp=Z,11nm,1.3s,mb5.1								
VYHS	**Vyhne**	**96.04**	**34**	*e*P		**P**	**18 38 43.2**	**+0.2**	
	comp=Z,11nm,1.3s,mb5.1								
DBIC	**Dimbokro**	**96.52**	**81**	P		**P**	**18 38 45.2**	**+0.1**	
	comp=Z,5.5nm,0.9s,mb5.0,baz=255,slow=5.8,SNR=4.2								
DBIC				LR		LR	19 23 30.6		
	comp=Z,304nm,18.9s,MS4.8,baz=278,slow=36								
PSZ	**Piszkesteto**	**96.95**	**34**	⇑*e*P		**P**	**18 38 47.5**	**+0.4**	
KEST	**Kesra**	**96.98**	**49**	P		**P**	**18 38 47.3**	**+0.1**	
	comp=Z,3.2nm,1.0s,mb4.7,baz=252,slow=3.2,SNR=6.3								
CRVS	**Cervenica-Dubn**	**97.17**	**33**	*e*P		**P**	**18 38 48.0**	**-0.1**	
PKSM	**Moragy**	**97.30**	**36**	⇑*e*P		**P**	**18 38 47.9**	**-0.8**	
KOLS	**Kolonicke sedl**	**97.56**	**32**	*e*P		**P**	**18 38 49.0**	**-0.8**	
BOD	**Bodaibo**	**97.56**	**341**	*e*P		**P**	**18 38 47.8**	**-2.0**	
BOD				pmax	pmax				
	comp=Z,4.0nm,1.5s,mb4.7								
HNR	**Honiara**	**98.62**	**263**	PFAKE			18 39 10.0	+15	
HNR				LR		LR			
	comp=Z,584nm,20.0s,MS5.1								
OBN	**Obninsk**	**99.27**	**22**	⇓*i* P		**P**	**18 38 56.2**	**-1.3**	
OBN				*i*		pP	18 39 04.9	-0.9	
OBN				*e*			18 49 36.1		
OBN				pmax	pmax				
	comp=Z,12nm,1.2s,mb5.3								
OBN				MLR		MLR			
	comp=Z,800nm,19.0s,MS5.2								
OBN	**Obninsk**	**99.27**	**22**	PFAKE			18 39 10.0	+12	
OBN				LR		LR			
	comp=Z,808nm,20.0s,MS5.2								
BZS	**Buzias**	**99.31**	**35**	⇑*i* P		**P**	**18 38 57.4**	**-0.3**	
AKASG	**Malin Array Be**	**99.68**	**28**	P		Pdif	18 38 57.0	-2.3	
	comp=Z,1.7nm,0.7s,baz=302,slow=3.8,SNR=14								
AKASG				LR		LR	19 25 10.6		
	comp=Z,701nm,18.6s,MS5.2,baz=345,slow=36								
AKASG	**Malin Array Be**	**99.68**	**28**	*i* P		Pdif	18 38 57.5	-1.8	
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.7s								
AKASG	**Malin Array Be**	**99.68**	**28**	P		Pdif	18 38 57.0	-2.3	
AKASG				LR		LR	19 25 10.6		
AKBB	**Malin Array Si**	**99.68**	**28**	P		Pdif	18 38 56.8	-2.5	
TORD	**Torodi Ar. Bea**	**100.28**	**72**	P		Pdif	18 39 02.0	0.0	
	comp=Z,1.3nm,0.8s,baz=300,slow=4.0,SNR=5.7								
MDJ	**Mudanjiang**	**100.34**	**324**	P		Pdif	18 39 01.3	-1.0	
MDJ				AP			18 39 04.3		
MDJ				AMB		AMB			
	comp=Z,5.0nm,0.8s								
MDJ				AMB		AMB			
	comp=Z,79nm,5.7s								
MDJ				LR		LR			
	comp=N,148nm,16.4s,MS5.0								
MDJ				LR		LR			
	comp=E,460nm,20.4s,MS5.0								
MDJ				LR		LR			
	comp=Z,342nm,17.7s,MS4.9								
MDJ	**Mudanjiang**	**100.34**	**324**	PFAKE			18 39 10.0	+7.7	
MDJ				LR		LR			
	comp=Z,350nm,19.0s,MS4.9								
HIA	**Hailar**	**102.05**	**332**	PFAKE			18 39 20.0	+10	
HIA				LR		LR			
	comp=Z,501nm,20.0s,MS5.0								
ARU	**Arti**	**103.81**	**10**	PFAKE			18 39 30.0	+12	
ARU				LR		LR			
	comp=Z,712nm,19.0s,MS5.2								
TLY	**Talaya**	**105.93**	**343**	PFAKE			18 43 50.0	+11	
TLY				LR		LR			
	comp=Z,243nm,21.0s,MS4.7								
INCN	**Inchon**	**106.61**	**320**	PFAKE			18 43 50.0	+9.3	
INCN				LR		LR			
	comp=Z,277nm,20.0s,MS4.8								
SBA	**Scott Base**	**107.91**	**193**	PFAKE			18 43 50.0	+6.9	
SBA				LR		LR			
	comp=Z,600nm,20.0s,MS5.2								
ULN	**Ulaanbaatar**	**108.19**	**339**	PFAKE			18 44 00.0	+16	
ULN				LR		LR			
	comp=Z,387nm,20.0s,MS5.0								
BRVK	**Borovoye**	**108.45**	**4**	PFAKE			18 44 00.0	+16	
BRVK				LR		LR			
	comp=Z,763nm,20.0s,MS5.3								
QSPA	**South Pole Qui**	**108.53**	**180**	PFAKE			18 44 00.0	+16	
QSPA				LR		LR			
	comp=Z,461nm,19.0s,MS5.1								
VNDA	**Vanda**	**108.95**	**193**	PFAKE			18 44 00.0	+15	
VNDA				LR		LR			
	comp=Z,252nm,19.0s,MS4.8								
ANTO	**Ankara**	**109.24**	**34**	PFAKE			18 44 00.0	+14	
ANTO				LR		LR			
	comp=Z,330nm,19.0s,MS4.9								
BR131	**Keskin Array S**	**109.79**	**34**	PFAKE			18 44 00.0	+13	
BR131				LR		LR			
	comp=Z,350nm,20.0s,MS4.9								
BJI	**Beijing**	**110.65**	**328**	PKP		PKiKP	18 43 47.0	-1.2	
BJI				PP		PP	18 44 31.5	+6.7	
BJI				LR		LR			
	comp=N,374nm,20.0s,MS5.1								
BJI				LR		LR			
	comp=E,321nm,22.2s,MS5.1								
BJI				LR		LR			
	comp=Z,146nm,24.6s,MS4.5								
KIV	**Kislovodsk**	**110.67**	**25**	PFAKE			18 44 00.0	+12	
KIV				LR		LR			
	comp=Z,609nm,20.0s,MS5.2								
BJT	**Baijiatuan**	**110.67**	**328**	PFAKE			18 44 00.0	+12	
BJT				LR		LR			
	comp=Z,478nm,20.0s,MS5.1								
PMG	**Port Moresby**	**110.69**	**267**	PFAKE			18 44 00.0	+12	
PMG				LR		LR			
	comp=Z,356nm,19.0s,MS5.0								
KURK	**Kurchatov**	**110.93**	**358**	PFAKE			18 44 00.0	+11	
KURK				LR		LR			
	comp=Z,630nm,19.0s,MS5.2								
HHC	**Hu-ho-hao-te**	**112.22**	**332**	PKP		PKiKP	18 43 51.0	-0.2	
HHC				PP		PP	18 44 40.5	+4.5	
HHC				PKS			18 47 26.5		
HHC				SKS		SKSdf	18 51 01.8	+0.2	
HHC				SKKS		SKKSac	18 51 34.3	-2.6	
HHC				SS		SS	19 00 16.5	+3.1	
HHC				PP		PP			
	comp=Z,115nm,10.7s								
HHC				LR		LR			
	comp=N,165nm,22.6s,MS4.8								
HHC				LR		LR			
	comp=E,238nm,22.6s,MS4.8								
HHC				LR		LR			
	comp=Z,280nm,22.6s,MS4.8								
CTAO	**Charters Tower**	**114.15**	**256**	PFAKE			18 44 10.0	+15	
CTAO				LR		LR			
	comp=Z,214nm,20.0s,MS4.7								
SSE	**Sheshan**	**114.20**	**318**	PKP		PKiKP	18 43 56.5	+1.5	
SSE				PP		PP	18 44 56.5	+6.4	
SSE				SS		SS	19 00 43.0	+3.4	
SSE				PP		PP			
	comp=Z,26nm,13.8s								
SSE				LR		LR			
	comp=N,70nm,18.8s,MS4.6								
SSE				LR		LR			
	comp=E,141nm,18.8s,MS4.6								
SSE				LR		LR			
	comp=Z,165nm,14.2s,MS4.8								
MKAR	**Makanchi Array**	**114.64**	**355**	PKP		PKiKP	18 43 55.0	-0.9	
	comp=Z,1.3nm,0.9s,baz=28,slow=2.1,SNR=8.8								
MKAR				PKKPab		PKKPab	18 54 45.8	+5.9	
	comp=Z,0.7nm,0.9s,baz=170,slow=7.4,SNR=4.4								
MKAR	**Makanchi Array**	**114.64**	**355**	PKP		PKiKP	18 43 55.0	-0.9	
MKAR				PKKPab		PKKPab	18 54 45.8	+5.9	
GNI	**Garni**	**114.69**	**26**	PFAKE			18 44 10.0	+14	
GNI				LR		LR			
	comp=Z,618nm,19.0s,MS5.2								
WMQ	**Urumqi**	**116.94**	**351**	PKP		PKPdf	18 43 56.8	-3.5	
WMQ				PP		PP			
	comp=Z,67nm,9.2s								
WMQ				LR		LR			
	comp=N,302nm,21.0s,MS5.0								
WMQ				LR		LR			
	comp=E,227nm,19.9s,MS5.0								
WMQ				LR		LR			
	comp=Z,272nm,21.5s,MS4.8								
TATO	**Taipei**	**118.02**	**313**	PFAKE			18 44 10.0	+7.7	
TATO				LR		LR			
	comp=Z,387nm,19.0s,MS5.0								
AAK	**Ala-Archa**	**119.03**	**1**	⇑*i* PKIKP		PKPdf	18 44 03.6	-0.7	
AAK	**Ala-Archa**	**119.03**	**1**	PFAKE			18 44 20.0	+16	
AAK				LR		LR			
	comp=Z,2μm,19.0s,MS5.7								
LZH	**Lanzhou**	**119.53**	**334**	*e*P		PKPdf	18 44 04.3	-0.9	
LZH				PP		PP	18 45 45.0	+18	
LZH				S		Sx	18 50 17.0		
LZH				*e*SS		Sdif	18 53 20.0	+3.3	
LZH				AMB		AMB			
	comp=Z,70nm,1.2s								
LZH				AMB		AMB			
	comp=Z,180nm,4.5s								
LZH				LR		LR			
	comp=N,2μm,12.6s								
LZH				LR		LR			
	comp=Z,2μm,14.8s,MS5.9								
CD2	**Chengdu**	**123.97**	**331**	*e*PKP		PKPdf	18 44 12.3	-1.5	
CD2				LR		LR			
	comp=E,210nm,22.8s								
CD2				LR		LR			
	comp=Z,260nm,20.4s,MS4.9								
DAV	**Davao City (W)**	**124.83**	**293**	PFAKE			18 44 30.0	+15	
DAV				LR		LR			
	comp=Z,375nm,22.0s,MS5.0								
WB2	**Warramunga Arr**	**125.13**	**258**	*e*P		PKPdf	18 44 15.9	-0.1	
WRA	**Warramunga Arr**	**125.14**	**258**	PKP		PKPdf	18 44 16.0	0.0	
	comp=Z,2.6nm,0.7s,baz=77,slow=2.3,SNR=34								
AS31	**Alice Springs**	**126.04**	**254**	*e*PKPdf		PKPdf	18 44 16.3	-1.4	
ASAR	**Alice Springs**	**126.04**	**254**	PKP		PKPdf	18 44 17.1	-0.7	
	comp=Z,2.5nm,0.9s,baz=104,slow=1.9,SNR=22								
GYA	**Guiyang**	**126.18**	**325**	PKP		PKPdf	18 44 17.5	-0.5	
GYA				LR		LR			
	comp=N,260nm,20.4s,MS5.0								
GYA				LR		LR			
	comp=E,240nm,21.4s,MS5.0								
GYA				LR		LR			
	comp=Z,270nm,20.8s,MS4.9								
CASY	**Casey**	**127.32**	**197**	PFAKE			18 44 30.0	+10	
CASY				LR		LR			
	comp=Z,532nm,19.0s,MS5.2								
KMI	**Kunming**	**129.31**	**328**	PKP		PKPdf	18 44 24.8	+0.8	
KMI				XPKP			18 44 32.3		
KMI				LR		LR			
	comp=N,160nm,20.9s								
KMI				LR		LR			
	comp=E,142nm,27.9s								
KMI				LR		LR			
	comp=Z,138nm,39.7s								
QIZ	**Qiongzhong**	**129.94**	**317**	PFAKE			18 44 40.0	+15	
QIZ				LR		LR			
	comp=Z,251nm,19.0s,MS4.9								
MAW	**Mawson**	**130.33**	**173**	PKP		PKPdf	18 44 25.0	-0.9	
	comp=Z,2.5nm,1.0s,baz=323,slow=4.7,SNR=4.8								
MAW	**Mawson**	**130.33**	**173**	PKP		PKPdf	18 44 25.0	-0.8	
MAW				LR		LR			
	comp=Z,1μm,19.0s,MS5.6								
LSZ	**Lusaka**	**134.27**	**93**	PFAKE			18 44 50.0	+17	
LSZ				LR		LR			
	comp=Z,481nm,20.0s,MS5.2								
CHTO	**Chiang Mai**	**136.49**	**328**	*e*PKIKP		PKPdf	18 44 39.4	+1.9	
CHTO				MLR		MLR			
	comp=Z,337nm,19.0s,MS5.1								
KULM	**Kulim**	**146.00**	**312**	*e*PKPdf

*ISCJB **31** 18:36:13.2±1.0,5174N±004×15930E±005,h26km±6km, mb5.2/168,MS4.8/38 Error ellipse: s-maj=7.2km s-min=4.1km az=100.2*
*SZGRF **31** 18:36:21.0,5261N×15858E,h33km,mb5.3,Near east coast of Kamchatka Peninsula, Russia*
ISC 31 18:36:16.4±0.6,5181N±004×15925E±005,h36km±4km, h29km±4.1km:pP-P,n535,σθ97/552,mb5.2/168,MS4.8/38, 57C-21D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.77**	**324**	P	**Pn**	**18 36 31.7**	**+0.9**
PET	**Petropavlovsk**	**1.27**	**343**	P	**Pn**	**18 36 38.5**	**+0.9**
PET				S	**Sn**	**18 36 58.5**	**+5.1**
PET	**Petropavlovsk**	**1.27**	**343**	*k* PN	**Pn**	**18 36 38.2**	**+0.6**
PET				*e*S	**Sn**	**18 36 59.1**	**+5.7**
PET				pmax	pmax		
	comp=Z,5μm,0.6s						
PET				pmax	pmax		
	comp=Z,9μm,2.4s						
PET				smax			
	comp=E,72μm,2.2s						
PET				smax			
	comp=N,76μm,0.9s						
PET				smax			
	comp=N,70μm,0.8s						
PET	**Petropavlovsk**	**1.27**	**343**	*e*P	**Pn**	**18 36 38.9**	**+1.3**
PET				*e*S	**Sn**	**18 37 01.8**	**+8.4**
NLC	**Nalytchevo**	**1.36**	**2**	P	**Pn**	**18 36 39.6**	**+0.7**
KII	**Karymskiy**	**2.23**	**3**	P	**Pn**	**18 36 52.9**	**+2.0**
SKR	**Severo-Kuril's**	**2.27**	**241**	*i* PN	**Pn**	**18 36 48.5**	**-2.9**
SKR				*i* S	**Sn**	**18 37 17.5**	**-0.7**
SKR				pmax	pmax		
	comp=N,2μm,2.0s						
SKR				pmax	pmax		
	comp=E,2μm,2.0s						
SKR				pmax	pmax		
	comp=Z,3μm,2.0s						
SKR				pmax	pmax		
	comp=N,290nm,0.5s						
SKR				pmax	pmax		
	comp=E,480nm,0.5s						
SKR				pmax	pmax		
	comp=Z,2μm,0.5s						
SKR				smax			
	comp=N,7μm,0.6s						
SKR				smax			
	comp=E,10μm,0.6s						
SKR				smax			
	comp=Z,2μm,0.6s						
SKR				smax			
	comp=N,23μm,5.0s						
SKR				smax			
	comp=Z,13μm,5.0s						
SKR				smax			
	comp=E,16μm,2.0s						
SKR				MLR	MLR		
	comp=Z,23μm,12.0s						
MKZ	**Mys Kozlova**	**3.13**	**28**	P	**Pn**	**18 37 01.0**	**-2.2**
MKZ				S	**Sn**	**18 37 37.2**	**-2.1**
KOZ	**Kozyrevsk**	**4.27**	**5**	P	**Pn**	**18 37 20.8**	**+1.9**
KOZR	**Kozyr**	**4.28**	**5**	PN	**Pn**	**18 37 20.8**	**+1.8**
KLY	**Klyuchi**	**4.58**	**10**	P	**Pn**	**18 37 25.4**	**+2.2**
KBTR	**Krutoberegovo**	**4.88**	**24**	P	**Pn**	**18 37 26.5**	**-0.8**
MA2	**Magadan**	**9.13**	**332**	*e*PN	**Pn**	**18 38 22.7**	**-2.9**
MA2				pmax	pmax		
	comp=Z,32nm,1.7s						
SMY	**Shemya**	**9.15**	**78**	*e*PN	**Pn**	**18 38 20.3**	**-5.7**
SMY				pmax	pmax		
	comp=Z,65nm,0.6s						
SMY	**Shemya**	**9.15**	**78**	*e*P	**Pn**	**18 38 20.3**	**-5.6**
	comp=Z,65nm,0.6s						
KUR	**Kuril'sk**	**10.01**	**233**	*e*PN	**Pn**	**18 38 41.0**	**+3.3**
KUR				pmax	pmax		
	comp=Z,150nm,0.7s						
UGL	**Uglegorsk**	**11.29**	**263**	*e*PN	**Pn**	**18 39 00.5**	**+5.3**
UGL				pmax	pmax		
	comp=Z,60nm,0.8s						
UGL				pmax	pmax		
	comp=Z,500nm,8.0s						
UGL				MLR	MLR		
	comp=Z,4μm,14.0s						
UGL				MLR	MLR		
	comp=N,4μm,13.0s						
UGL				MLR	MLR		
	comp=E,5μm,13.0s						
YSS	**Yuzh-Sakhalins**	**11.79**	**252**	*e*PN	**Pn**	**18 39 07.1**	**+5.1**
YSS				S	**Sn**	**18 41 20.0**	**+7.7**
YSS				MLR	MLR		
	comp=Z,3μm,15.0s						
YSS				MLR	MLR		
	comp=E,2μm,17.0s						
YSS	**Yuzh-Sakhalins**	**11.79**	**252**	*e*P	**Pn**	**18 39 06.3**	**+4.2**
	comp=E,142nm,1.4s						
ASAJ	**Asahikawa**	**13.54**	**242**	Pn	**Pn**	**18 39 26.3**	**+0.4**
	comp=E,1.4nm,0.3s,baz=61,slow=12,SNR=13						
ASAJ	**Asahikawa**	**13.54**	**242**	PN	**Pn**	**18 39 26.3**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HABR	**Khabarovsk**	**15.85**	**267**	⇑*i*P	**Pn**	**18 39 59.6**	**+2.9**
HABR				*e*S	**S**	**18 42 57.6**	**-7.0**
HABR				pmax	pmax		
	comp=Z,100nm,1.7s						
BILL	**Bilibino**	**16.63**	**9**	*c i*P	**Pn**	**18 40 07.7**	**+1.0**
BILL				pmax	pmax		
	comp=Z,43nm,1.3s						
BILL	**Bilibino**	**16.63**	**9**	*e*P	**Pn**	**18 40 05.9**	**-0.9**
	comp=Z,12nm,1.0s						
KLR	**Kul'dur**	**17.64**	**272**	*e*P	**Pn**	**18 40 18.2**	**-1.0**
KLR				*e*S	**S**	**18 43 40.5**	**-0.6**
KLR				pmax	pmax		
	comp=E,110nm,1.6s						
KLR				pmax	pmax		
	comp=Z,120nm,1.6s						
KLR				pmax	pmax		
	comp=E,900nm,11.0s						
KLR				pmax	pmax		
	comp=Z,1μm,11.0s						
KLR				MLR	MLR		
	comp=Z,6μm,13.0s						
YAK	**Yakutsk**	**18.93**	**314**	*e*P	**Pn**	**18 40 33.1**	**-1.8**
YAK				*e*S	**S**	**18 44 07.0**	**+0.1**
YAK				pmax	pmax		
	comp=Z,55nm,1.2s						
YAK				pmax	pmax		
	comp=N,17nm,1.5s						
YAK				pmax	pmax		
	comp=E,37nm,1.1s						
YAK				smax			
	comp=N,30nm,1.3s						
YAK				smax			
	comp=E,18nm,1.2s						
YAK				smax			
	comp=Z,5.0nm,1.2s						
YAK				MLR	MLR		
	comp=E,1μm,13.0s						
YAK				MLR	MLR		
	comp=Z,2μm,13.0s						
YAK				MLR	MLR		
	comp=N,728nm,12.0s						
YAK	**Yakutsk**	**18.93**	**314**	*e*P	**Pn**	**18 40 33.0**	**-1.9**
	comp=N,39nm,0.5s						
VLA	**Vladivostok**	**20.34**	**255**	⇑*i*P	**P**	**18 40 48.5**	**-1.0**
VLA				pmax	pmax		
	comp=Z,76nm,1.7s						
VLA				MLR	MLR		
	comp=Z,2μm,15.0s,MS4.5						
CLNS	**Chul'man**	**20.51**	**298**	*e*P	**P**	**18 40 50.3**	**-1.0**
CLNS				pmax	pmax		
	comp=Z,39nm,0.9s						
CLNS				pmax	pmax		
	comp=N,16nm,0.8s						
CLNS				pmax	pmax		
	comp=E,43nm,1.1s						
MDJ	**Mudanjiang**	**20.93**	**262**	P	**P**	**18 40 57.0**	**+1.1**
MDJ				AP		18 41 08.3	
MDJ				S	**S**	**18 44 47.5**	**+0.4**
MDJ				SCP	ScP	18 48 39.0	+2.4
MDJ				SCS	ScS	18 52 18.8	-1.3
MDJ				AMB	AMB		
	comp=Z,19nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,99nm,3.8s						
MDJ				LR	LR		
	comp=N,2μm,14.3s,MS4.6						
MDJ				LR	LR		
	comp=E,1μm,14.8s,MS4.6						
MDJ				LR	LR		
	comp=Z,2μm,15.9s,MS4.7						
MDJ	**Mudanjiang**	**20.93**	**262**	*e*P	**P**	**18 40 55.5**	**-0.4**
	comp=Z,99nm,1.4s						
MAJO	**Matsushiro**	**21.35**	**233**	*e*P	**P**	**18 41 01.0**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,64nm,0.6s,mb5.1						
MAJO	**Matsushiro**	**21.35**	**233**	*e*P	**P**	**18 41 01.0**	**+0.6**
	comp=Z,64nm,0.6s,mb5.1						
MAT	**Matsushiro**	**21.35**	**233**	P	**P**	**18 41 00.8**	**+0.4**
MAT				S	**S**	**18 45 04.0**	**+8.6**
MAT	**Matsushiro**	**21.35**	**233**	*e*P	**P**	**18 41 01.0**	**+0.6**
MAT				*e*S	**S**	**18 45 06.0**	**+11**
MAT				pmax	pmax		
	comp=Z,172nm,1.5s,mb5.2						
MAT				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.4						
MAT	**Matsushiro**	**21.35**	**233**	*e*P	**P**	**18 41 01.0**	**+0.6**
	comp=Z,172nm,1.5s,mb5.2						
MAT				*e*S	**S**	**18 45 06.0**	**+11**
MAT				LR	LR		
	comp=Z,1μm,20.0s,MS4.4						
MJAR	**Matsushiro Arr**	**21.35**	**233**	P	**P**	**18 41 01.2**	**+0.8**
	comp=Z,40nm,1.0s,mb4.7,baz=26,slow=10,SNR=63						
MJAR				LR	LR	18 49 45.7	
	comp=Z,1μm,20.9s,MS4.3,baz=55,slow=38						
CN2	**Changchun**	**23.90**	**264**	*e*P	**P**	**18 41 26.3**	**-0.4**
CN2				*e*S	**S**	**18 45 34.3**	**-6.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
CN2				LR	LR		
	comp=N,2μm,17.0s,MS4.6						
CN2				LR	LR		
	comp=E,1μm,17.0s,MS4.6						
CN2				LR	LR		
	comp=Z,2μm,16.0s,MS4.6						
TIXI	**Tiksi**	**24.04**	**337**	*e*P	**P**	**18 41 25.7**	**-2.3**
TIXI				*e*S	**S**	**18 45 40.3**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,35nm,0.8s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,2μm,15.0s,MS4.7						
HIA	**Hailar**	**25.03**	**280**	*d i*P	**P**	**18 41 36.8**	**-0.2**
HIA	**Hailar**	**25.03**	**280**	*e*P	**P**	**18 41 36.3**	**-0.7**
	comp=Z,52nm,0.6s,mb5.2						
BOD	**Bodaibo**	**26.34**	**301**	*e*P	**P**	**18 41 47.5**	**-1.4**
BOD				pmax	pmax		
	comp=Z,28nm,1.4s,mb4.6						
CIT	**Chita**	**27.83**	**289**	*e*P	**P**	**18 42 02.2**	**-0.1**
CIT				pmax	pmax		
	comp=Z,61nm,2.0s,mb4.9						
CBIJ	**Chichi jima**	**27.84**	**214**	LR	LR	18 54 51.0	
	comp=Z,189nm,18.1s,MS3.7,baz=349,slow=40						
COLA	**College**	**29.68**	**43**	⇑*e*P	**P**	**18 42 20.9**	**+2.2**
BJI	**Beijing**	**31.73**	**265**	P	**P**	**18 42 40.3**	**+3.4**
BJI				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.3						
BJI				LR	LR		
	comp=N,2μm,17.7s,MS4.9						
BJI				LR	LR		
	comp=E,1μm,16.7s,MS4.9						
BJI				LR	LR		
	comp=Z,1μm,19.9s,MS4.5						
IRK	**Irkutsk**	**33.14**	**293**	*e*P	**P**	**18 42 48.9**	**-0.3**
IRK				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.2						
ULN	**Ulaanbaatar**	**33.30**	**284**	P	**P**	**18 42 51.1**	**+0.5**
	SNR=6.2						
ULN				P		18 42 51.4	
	SNR=15						
ULN	**Ulaanbaatar**	**33.30**	**284**	*c i*P	**P**	**18 42 49.8**	**-0.7**
ULN	**Ulaanbaatar**	**33.30**	**284**	*e*P	**P**	**18 42 50.0**	**-0.6**
	comp=Z,14nm,1.1s,mb4.8						
SONM	**Songino Array**	**33.71**	**285**	P	**P**	**18 42 54.8**	**+0.7**
	comp=Z,1.3nm,0.4s,mb4.2,baz=66,slow=8.3,SNR=26						
SONM				PP	PP	18 44 05.3	-5.4
	comp=Z,1.9nm,1.0s,baz=64,slow=6.6,SNR=2.8						
SONM				PcP	PcP	18 45 33.4	+0.2
	comp=Z,2.8nm,1.1s,baz=119,slow=3.4,SNR=4.1						
SONM				LR	LR	18 57 45.6	
	comp=Z,1μm,18.5s,MS4.6,baz=63,slow=38						
SONM	**Songino Array**	**33.71**	**285**	P	**P**	**18 42 54.8**	**+0.7**
SONM						18 44 05.3	
SONM						18 45 33.4	
TLY	**Talaya**	**33.71**	**292**	P	**P**	**18 42 55.2**	**+1.0**
	SNR=11						
TLY	**Talaya**	**33.71**	**292**	*e*P	**P**	**18 42 53.4**	**-0.8**
TLY				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.1						
TLY				MLR	MLR		
	comp=Z,847nm,14.0s,MS4.6						
TLY	**Talaya**	**33.71**	**292**	*e*P	**P**	**18 42 54.8**	**+0.7**
	comp=Z,10nm,0.9s,mb4.8						
HHC	**Hu-ho-hao-te**	**34.12**	**270**	P	**P**	**18 42 58.5**	**+0.8**
HHC				AMB	AMB		
	comp=Z,18nm,0.5s,mb5.3						
HHC				AMB	AMB		
	comp=Z,159nm,6.4s						
HHC				LR	LR		
	comp=N,2μm,13.7s,MS5.0						
HHC				LR	LR		
	comp=E,1μm,13.7s,MS5.0						
HHC				LR	LR		
	comp=Z,2μm,14.3s,MS5.0						
ZAK	**Zakamensk**	**34.45**	**290**	⇑*i*P	**P**	**18 43 00.4**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7						
SSE	**Sheshan**	**34.70**	**248**	P	**P**	**18 43 00.5**	**-2.2**
SSE				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,102nm,9.1s						
SSE				LR	LR		
	comp=N,424nm,18.4s,MS4.3						
SSE				LR	LR		
	comp=E,283nm,18.5s,MS4.3						
SSE				LR	LR		
	comp=Z,440nm,16.1s,MS4.3						
INK	**Inuvik**	**35.20**	**36**	P	**P**	**18 43 06.1**	**-0.9**
	comp=Z,11nm,0.9s,mb4.8,baz=274,slow=8.7,SNR=16						
INK	**Inuvik**	**35.20**	**36**	*e*P	**P**	**18 43 05.5**	**-1.6**
INK				pmax	pmax		
	comp=Z,21nm,1.1s						
INK	**Inuvik**	**35.20**	**36**	*e*P	**P**	**18 43 05.5**	**-1.6**
	comp=Z,21nm,1.1s,mb5.0						
NJ2	**Nanjing**	**35.36**	**252**	*e*P	**P**	**18 43 07.0**	**-1.4**
NJ2				AP	pP	18 43 17.0	-1.8
NJ2				XP	sP	18 43 20.8	-2.3
NJ2				PP	PP	18 44 25.0	-4.0
NJ2				S	**S**	**18 48 37.0**	**-3.4**
NJ2				XS	sS	18 48 53.0	-4.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,312nm,3.6s						
NJ2				LR	LR		
	comp=N,2μm,20.0s,MS5.2						
NJ2				LR	LR		
	comp=E,3μm,19.8s,MS5.2						
KRAR	**Krasnoyarsk**	**37.97**	**303**	*i* P	**P**	**18 43 29.8**	**-0.8**
GUMO	**Guam**	**39.85**	**202**	LR	LR	18 57 44.5	
	comp=E,158nm,19.9s,MS3.9,baz=354,slow=32						
XAN	**Xi'an**	**40.01**	**264**	P	**P**	**18 43 47.8**	**+0.1**
XAN				AP	pP	18 43 54.0	-4.2
XAN				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.3						
GTA	**Gaotai**	**42.24**	**277**	*e*P	**P**	**18 44 06.8**	**+0.7**
GTA				PP	PP	18 45 47.3	+3.1
GTA				PCP	PcP	18 46 01.0	+1.5
GTA				PPP		18 46 21.5	
GTA				SCP	ScP	18 49 44.8	-2.5
GTA				S	**S**	**18 50 22.0**	**-2.0**
GTA				SS	SS	18 53 25.3	-7.7
GTA				AMB	AMB		
	comp=Z,21nm,1.6s,mb4.5						
GTA				AMB	AMB		
	comp=Z,76nm,6.5s						
GTA				LR	LR		
	comp=N,687nm,20.5s,MS4.7						
GTA				LR	LR		
	comp=E,550nm,19.0s,MS4.7						
GTA				LR	LR		
	comp=Z,2μm,13.7s						
ZAL	**Zalesovo**	**43.06**	**303**	P	**P**	**18 44 10.4**	**-2.3**
	comp=Z,5.1nm,1.1s,mb4.2,baz=59,slow=7.6,SNR=11						
ZAL				PcP	PcP	18 46 02.3	0.0
	comp=Z,2.3nm,0.4s,baz=65,slow=5.3,SNR=7.4						
ZAL				LR	LR	19 04 23.9	
	comp=Z,2μm,19.4s,MS5.0,baz=54,slow=39						
ZAL	**Zalesovo**	**43.06**	**303**	P	**P**	**18 44 10.4**	**-2.3**
ZAL						18 46 02.3	
NVS	**Novosibirsk**	**43.42**	**305**	⇑*i*P	**P**	**18 44 13.7**	**-1.9**
NVS				*e*		18 45 51.5	
NVS				pmax	pmax		
	comp=Z,104nm,1.6s,mb5.3						
NVS				pmax	pmax		
	comp=N,39nm,1.7s						
NVS				pmax	pmax		
	comp=E,68nm,1.4s						
ALE	**Alert**	**44.26**	**7**	P	**P**	**18 44 22.0**	**-0.3**
	comp=E,94nm,0.6s,mb5.7,SNR=5.1						
YKA	**Yellowknife Ar**	**44.46**	**41**	P	**P**	**18 44 23.2**	**-0.8**
	comp=E,9.8nm,1.1s,mb4.4,baz=298,slow=8.1,SNR=6.6						
YKA	**Yellowknife Ar**	**44.46**	**41**	P	**P**	**18 44 23.2**	**-0.8**
GZH	**Guangzhou**	**45.29**	**249**	P	**P**	**18 44 26.5**	**-4.1**
GZH				S	**S**	**18 51 03.0**	**-5.5**
GZH				LR	LR		
	comp=N,548nm,17.0s,MS4.7						
GZH				LR	LR		
	comp=E,449nm,12.0s,MS4.7						
GZH				LR	LR		
	comp=Z,882nm,14.8s,MS4.8						
CD2	**Chengdu**	**45.33**	**265**	*e*P	**P**	**18 44 29.5**	**-1.4**
CD2				AP	pP	18 44 43.5	+2.0
CD2				PCP	PcP	18 46 09.5	-0.5
CD2				PP	PP	18 46 16.3	-1.0
CD2				SCP	ScP	18 49 57.0	-2.9
CD2				PCS	PcS	18 50 02.5	-1.5
CD2				S	**S**	**18 51 05.0**	**-4.1**
CD2				XS	sS	18 51 28.5	+1.9
CD2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.4						
CD2				AMB	AMB		
	comp=Z,130nm,5.6s						
CD2				LR	LR		
	comp=E,480nm,15.6s						
CD2				LR	LR		
	comp=Z,480nm,15.6s,MS4.5						
GYA	**Guiyang**	**46.72**	**258**	⇑*i*P	**P**	**18 44 42.0**	**+0.2**
GYA				PP	PP	18 46 33.3	+1.4
GYA				SCP	ScP	18 49 59.5	-6.1
GYA				S	**S**	**18 51 31.8**	**+2.8**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,270nm,5.2s						
GYA				LR	LR		
	comp=N,460nm,17.8s,MS4.6						
GYA				LR	LR		
	comp=E,430nm,17.4s,MS4.6						
GYA				LR	LR		
	comp=Z,450nm,17.1s,MS4.5						
WMQ	**Urumqi**	**46.91**	**290**	P	**P**	**18 44 46.0**	**+2.7**
WMQ				PCP	PcP	18 46 18.0	+2.4
WMQ				PP	PP	18 46 36.5	+2.6
WMQ				SCP	ScP	18 50 06.8	+0.3
WMQ				S	**S**	**18 51 33.3**	**+1.5**
WMQ				AMB	AMB		
	comp=Z,55nm,1.5s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,297nm,5.1s						
WMQ				LR	LR		
	comp=N,2μm,16.4s,MS5.2						
WMQ				LR	LR		
	comp=E,1μm,15.3s,MS5.2						
WMQ				LR	LR		
	comp=Z,2μm,16.9s,MS5.1						
KURK	**Kurchatov**	**47.98**	**302**	P	**P**	**18 44 50.0**	**-1.6**
	comp=Z,406nm,0.8s,SNR=29						
KURK	**Kurchatov**	**47.98**	**302**	P	**P**	**18 44 50.5**	**-1.1**
	SNR=19						
KURK	**Kurchatov**	**47.98**	**302**	*c i*P	**P**	**18 44 49.8**	**-1.8**
KURK	**Kurchatov**	**47.98**	**302**	*e*P	**P**	**18 44 50.0**	**-1.6**
	comp=Z,67nm,1.0s,mb5.6						
KBS	**Kingsbay**	**48.07**	**352**	*e*P	**P**	**18 44 52.6**	**+0.3**
KBS				AMb	AMB	18 44 54.5	
	comp=Z,45nm,0.7s,mb5.6						
KBS				AMS	AMS	19 13 01.0	
	comp=Z,647nm,13.1s,MS4.8						
KBS	**Kingsbay**	**48.07**	**352**	*c i*P	**P**	**18 44 52.1**	**-0.2**
KBS	**Kingsbay**	**48.07**	**352**	*e*P	**P**	**18 44 52.6**	**+0.3**
	comp=Z,45nm,0.7s,mb5.6						
MK31	**Makanchi Array**	**48.25**	**296**	P	**P**	**18 44 52.6**	**-1.1**
MK31				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
MKAR	**Makanchi Array**	**48.25**	**296**	P	**P**	**18 44 52.9**	**-0.8**
	comp=Z,5.4nm,0.5s,mb4.8,baz=56,slow=6.4,SNR=50						
SPB4	**Spitsbergen Ar**	**48.32**	**350**	*e*P	**P**	**18 44 54.1**	**0.0**
EDM	**Edmonton**	**49.96**	**52**	P	**P**	**18 45 04.9**	**-1.9**
KMI	**Kunming**	**50.09**	**260**	P	**P**	**18 45 08.5**	**+0.7**
KMI				AP	pP	18 45 16.8	-1.7
KMI				XP	sP	18 45 22.3	-0.5
KMI				PP	PP	18 47 04.8	+1.8
KMI				PPP		18 47 55.8	
KMI				S	**S**	**18 52 18.0**	**+1.4**
KMI				XS	sS	18 52 32.5	-1.8
KMI				SS	SS	18 55 48.5	-1.5
KMI				SSS		18 57 16.3	
KMI				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.9						
KMI				AMB	AMB		
	comp=Z,232nm,6.5s						
KMI				LR	LR		
	comp=N,546nm,17.5s,MS4.7						
KMI				LR	LR		
	comp=E,531nm,19.9s,MS4.7						
KMI				LR	LR		
	comp=Z,399nm,18.9s,MS4.5						
QIZ	**Qiongzhong**	**50.49**	**249**	P	**P**	**18 45 12.3**	**+1.5**
QIZ				S	**S**	**18 52 23.3**	**+1.2**
QIZ				AMB	AMB		
	comp=Z,28nm,1.2s,mb5.2						
QIZ				AMB	AMB		
	comp=Z,118nm,13.5s						
QIZ				LR	LR		
	comp=N,419nm,15.2s						
QIZ				LR	LR		
	comp=Z,465nm,13.7s,MS4.7						
QIZ	**Qiongzhong**	**50.49**	**249**	*e*P	**P**	**18 45 13.8**	**+3.0**
	comp=Z,35nm,1.1s,mb5.3						
VOSK	**Vostochnaya**	**50.68**	**308**	P	**P**	**18 45 10.4**	**-1.8**
VOSK				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
BVAO	**Borovoye Array**	**50.78**	**309**	*i* P	**P**	**18 45 11.3**	**-1.7**
BVAR	**Borovoye Array**	**50.78**	**309**	P	**P**	**18 45 11.7**	**-1.3**
	comp=Z,15nm,0.4s,mb5.2,baz=58,slow=7.1,SNR=60						
BVAR				PcP	PcP	18 46 31.2	+1.6
	comp=Z,2.8nm,0.6s,baz=82,slow=2.9,SNR=3.0						
BRVK	**Borovoye**	**50.82**	**309**	P	**P**	**18 45 12.2**	**-1.0**
	comp=Z,216nm,0.5s,SNR=10.0						
BRVK	**Borovoye**	**50.82**	**309**	P	**P**	**18 45 12.4**	**-0.8**
	SNR=12						
BRVK	**Borovoye**	**50.82**	**309**	*e*P	**P**	**18 45 12.0**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
BRVK	**Borovoye**	**50.82**	**309**	*e*P	**P**	**18 45 12.0**	**-1.2**
	comp=Z,12nm,0.6s,mb5.0						
BJO	**Bjornoya**	**51.16**	**347**	*e*P	**P**	**18 45 16.0**	**+0.2**
BJO				AMS	AMS	19 14 45.0	
	comp=Z,2μm,22.3s,MS5.0						
BJO1	**Bjornoya**	**51.19**	**347**	*e*P	**P**	**18 45 16.0**	**0.0**
ZRNK	**Zerenda**	**51.50**	**309**	*i* P	**P**	**18 45 16.1**	**-2.2**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**51.50**	**309**	*e*P	**P**	**18 45 16.9**	**-1.5**
	comp=Z,32nm,1.2s,mb5.1						
DAG	**Danmarks Havn**	**51.68**	**359**	⇑*i*P	**P**	**18 45 18.6**	**-1.1**
	comp=Z,16nm,0.9s,mb5.0						
DAG							
	comp=Z,810nm,17.0s						
DAG	**Danmarks Havn**	**51.68**	**359**	⇑*i*P	**P**	**18 45 18.6**	**-1.1**
DAG				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
DAG				MLR	MLR		
	comp=Z,820nm,17.0s,MS4.8						
SVE	**Sverdlovsk**	**52.86**	**317**	⇑*e*P	**P**	**18 45 26.5**	**-2.0**
SVE				pmax	pmax		
	comp=Z,56nm,1.6s,mb5.2						
WVOR	**Wild Horse Val**	**53.84**	**65**	*e*P	**P**	**18 45 35.2**	**-0.5**
WVOR				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						

WVOR Wild Horse Val 53.84 65 *e*P **P 18 45 35.2 -0.5**
comp=Z,8.4nm,1.2s,mb4.5
KEV Kevo 53.87 341 *e*p **P 18 45 34.7 -1.2**
comp=Z,17nm,0.7s,mb5.1
KEV Kevo 53.87 341 *e*P **P 18 45 34.7 -1.2**
KEV pmax pmax
comp=Z,17nm,0.7s,mb5.1
CHMT Chamberlain Mo 53.89 58 *e*P **P 18 45 33.3 -2.7**
ARU Arti 53.99 318 P **P 18 45 35.4 -1.4**
comp=Z,136nm,0.6s,mb6.0,SNR=6.4
ARU Arti 53.99 318⇑ *i*P **P 18 45 30.3 -6.5**
ARU *e*S **S 18 53 00.2 -10**
ARU pmax pmax
comp=Z,25nm,1.3s,mb5.0
APA Apatity 54.24 337⇑ *i*P **P 18 45 37.8 -0.8**
APA *i* 18 46 44.0
APA *i* 18 47 36.0
APA *e*S **S 18 53 10.0 -3.4**
APA *e*PS 18 53 30.0
APA pmax pmax
comp=Z,47nm,1.3s,mb5.3
ARCES ARCESS Array B 54.34 342 P **P 18 45 38.8 -0.6**
comp=Z,40nm,0.9s,mb5.3,baz=39,slow=7.8,SNR=57
ARE0 ARCESS Array S 54.34 342 *e*P **P 18 45 38.0 -1.4**
TKM2 Tokmak 2 54.38 296 P **P 18 45 39.6 0.0**
SNR=6.4
USP Ospenovka 54.77 297 P **P 18 45 42.1 -0.3**
SNR=20
CHMS Chumysh 54.80 297 P **P 18 45 43.2 +0.5**
SNR=5.5
KBK Karagaybulak 54.92 296 P **P 18 45 43.4 -0.1**
SNR=8.4
FRU Bishkek 54.99 297 *e*P **P 18 45 44.0 0.0**
FRU pmax pmax
comp=Z,50nm,1.5s,mb5.3
AAK Ala-Archa 55.19 296 P **P 18 45 45.3 -0.1**
SNR=5.8
AAK Ala-Archa 55.19 296 P **P 18 45 44.8 -0.7**
SNR=8.2
AAK Ala-Archa 55.19 296*c i*P **P 18 45 43.8 -1.6**
AAK pmax pmax
comp=Z,38nm,1.7s,mb5.2
AAK MLR MLR
comp=Z,700nm,17.0s,MS4.8
AAK Ala-Archa 55.19 296 *e*P **P 18 45 44.3 -1.2**
comp=Z,30nm,1.2s,mb5.2
SUMG Summit 55.29 6 *e*P **P 18 45 45.9 -0.3**
comp=Z,68nm,1.1s,mb5.6
TRO Tromso 55.45 344 *e*P **P 18 45 45.6 -1.8**
TRO AMb AMB 18 45 48.1
comp=Z,61nm,1.4s,mb5.4
TRO AMS AMS 19 15 15.1
comp=Z,538nm,22.5s,MS4.6
TRO Tromso 55.45 344 *e*P **P 18 45 45.6 -1.8**
comp=Z,61nm,1.4s,mb5.4
EKS2 Erkin-Say 55.56 297 P **P 18 45 48.1 -0.1**
SNR=16
BOZ Bozeman (W) 55.57 58 *e*P **P 18 45 47.8 -0.4**
BOZ pmax pmax
comp=Z,30nm,1.0s,mb5.3
BOZ Bozeman (W) 55.57 58 *e*P **P 18 45 47.8 -0.4**
comp=Z,3.3nm,1.0s,mb4.3
AML Almayashu 55.96 296 P **P 18 45 48.6 -2.4**
SNR=6.2
QLMT Earthquake Lak 56.22 59 *e*P **P 18 45 52.6 -0.2**
KSH Kashi 56.42 293 *e*P **P 18 45 55.0 +0.7**
KSH *e*PCP PcP 18 46 52.0 +1.0
KSH *e*PP PP 18 48 02.8 +2.7
KSH *e*PPP 18 49 22.5
KSH *e*SCP ScP 18 50 42.5 -5.0
KSH *e*PCS PcS 18 50 51.5 -0.1
KSH *e*S **S 18 53 41.3 -1.3**
KSH *e*PS 18 53 58.5
KSH *e*SCS ScS 18 55 34.5 -6.2
KSH *e*SS SS 18 57 30.8 +0.8
KSH AMB AMB
comp=Z,234nm,12.7s
KSH LR LR
comp=N,1μm,11.7s,MS5.4
KSH LR LR
comp=E,2μm,13.5s,MS5.4
KSH LR LR
comp=Z,382nm,5.7s
NVAR Mina Array Bea 56.68 69 P **P 18 45 57.6 +1.5**
comp=Z,0.7nm,0.8s,baz=292,slow=7.6,SNR=5.6
KKTK Khon Kaen 56.72 253 P **P 18 46 00.0 +3.6**
comp=Z,247nm,0.6s
KK31 Karatay Array 57.06 299 *i*P **P 18 45 57.6 -1.2**
KK31 pmax pmax
comp=Z,30nm,1.1s,mb5.2
KKAR Karatay Array 57.06 299 P **P 18 45 57.6 -1.2**
KKAR pmax pmax
comp=Z,35nm,1.2s,mb5.3
CHG Chiang Mai 57.14 258 ⇓P **P 18 46 01.5 +2.1**
comp=Z,28nm,1.0s,mb5.2
CHTO Chiang Mai 57.14 258 P **P 18 46 01.8 +2.5**
SNR=8.2
CHTO Chiang Mai 57.14 258 *e*P **P 18 46 00.2 +0.8**
CHTO pmax pmax
comp=Z,42nm,1.3s,mb5.3
CHTO Chiang Mai 57.14 258 *e*P **P 18 46 00.2 +0.8**
comp=Z,42nm,1.3s,mb5.3
LOF Lofoten 57.68 346 *e*P **P 18 46 03.8 +0.7**
LOF AMb AMB 18 46 06.2
comp=Z,206nm,1.2s,mb6.0
LOF Lofoten 57.68 346 *e*P **P 18 46 03.8 +0.7**
comp=Z,206nm,1.2s,mb6.0
KLMR Klimovskoe 57.80 330 *e*P **P 18 46 02.7 -1.3**
KLMR pmax pmax
comp=Z,50nm,1.6s,mb5.3
KLMR MLR MLR
comp=Z,750nm,16.0s,MS4.9
AB31 Akbulak array 58.23 310 *i*P **P 18 46 05.3 -1.8**
AB31 pmax pmax
comp=Z,13nm,0.9s,mb5.0
AKTK Aktyubinsk 58.31 313 P **P 18 46 06.6 -1.0**
AKTO Aktyubinsk 58.31 313 P **P 18 46 06.6 -1.0**
comp=Z,7.4nm,0.9s,mb4.7,baz=55,slow=7.6,SNR=15
JOF Joensuu 58.51 335 *e*p **P 18 46 08.5 -0.5**
comp=Z,13nm,0.4s,mb5.3
GUN Gumba 58.52 276 *e*P **P 18 46 09.1 +0.1**
DUG Dugway 58.59 64 P **P 18 46 09.5 -0.1**
DUG pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
DUG Dugway 58.59 64 P **P 18 46 09.5 -0.1**
comp=Z,5.5nm,0.9s,mb4.6
PDAR Pinedale Array 58.61 60 P **P 18 46 09.2 -0.6**
comp=Z,1.8nm,0.9s,mb4.1,baz=318,slow=2.0,SNR=15
TPNV Topopah Spring 58.88 69 *e*P **P 18 46 10.4 -1.2**
TPNV pmax pmax
comp=Z,5.0nm,0.3s,mb5.0
TPNV Topopah Spring 58.88 69 *e*P **P 18 46 10.4 -1.2**
comp=Z,5.2nm,0.3s,mb5.0
KKN Kakani 58.97 276 *e*P **P 18 46 12.7 +0.5**
comp=Z,41nm,0.5s,mb5.7
KKN Kakani 58.97 276 *e*P **P 18 46 12.7 +0.5**
KKN pmax pmax
comp=Z,41nm,0.5s,mb5.7
PKI Pulchoki 59.05 276 *e*P **P 18 46 13.2 +0.5**
comp=Z,29nm,0.6s,mb5.5
PKI Pulchoki 59.05 276 *e*P **P 18 46 13.2 +0.5**
PKI pmax pmax
comp=Z,29nm,0.6s,mb5.5
DMN Daman 59.21 276 *e*P **P 18 46 14.8 +0.9**
comp=Z,41nm,0.6s,mb5.6
GKN Gorkha 59.22 277 *e*P **P 18 46 14.3 +0.4**
comp=Z,100nm,1.1s,mb5.8
MOR8 Moi Rana 59.32 344 *e*P **P 18 46 13.1 -1.6**
MOR8 AMb AMB 18 46 14.7
comp=Z,93nm,1.3s,mb5.7
MOR8 Moi Rana 59.32 344 *e*P **P 18 46 13.1 -1.6**
comp=Z,93nm,1.3s,mb5.7
KOLN Koldanda 60.02 278 *e*P **P 18 46 19.8 +0.3**
comp=Z,62nm,1.0s,mb5.6
ULM Lac du Bonnet 60.08 46 P **P 18 46 18.6 -1.2**
comp=Z,8.4nm,1.1s,mb4.7,baz=338,slow=6.4,SNR=4.9
ULM Lac du Bonnet 60.08 46 *e*P **P 18 46 18.8 -1.1**
comp=Z,8.2nm,1.0s,mb4.7
KAF Kangasniemi 60.46 337 *e*p **P 18 46 21.1 -1.4**
comp=Z,14nm,0.4s,mb5.3,baz=32,slow=6.4
KAF Kangasniemi 60.46 337 *e*P **P 18 46 21.1 -1.4**
KAF pmax pmax
comp=Z,14nm,0.4s,mb5.3
FIA1 FINESS Array S 61.09 336 *e*P **P 18 46 26.5 -0.3**
FINES FINESS Array B 61.09 336 P **P 18 46 26.5 -0.3**
comp=Z,13nm,0.6s,mb5.2,baz=42,slow=7.1,SNR=83

NSS Namsos 61.25 345 *e*P **P 18 46 26.6 -1.2**
NSS AMb AMB 18 46 28.8
comp=Z,56nm,1.3s,mb5.5
NSS AMS AMS 19 15 41.2
comp=Z,1μm,17.5s,MS5.1
NSS Namsos 61.25 345 *e*P **P 18 46 26.6 -1.2**
comp=Z,56nm,1.3s,mb5.5
MOS Moscow 62.45 327 *e*P **P 18 46 34.5 -1.4**
MOS *e* 18 47 11.1
MOS *e* 18 48 51.6
MOS pmax pmax
comp=Z,100nm,1.9s,mb5.6
MOS pmax pmax
comp=Z,82nm,1.5s,mb5.6
MOS MLR MLR
comp=Z,1μm,17.7s,MS5.2
MOS MLR MLR
comp=N,1μm,16.4s,MS5.2
MOS MLR MLR
comp=E,500nm,16.8s,MS5.2
ISCO Idaho Springs 62.81 60 *e*P **P 18 46 38.1 -0.2**
ISCO pmax pmax
comp=Z,19nm,1.3s,mb5.1
ISCO Idaho Springs 62.81 60 *e*P **P 18 46 38.0 -0.2**
comp=Z,19nm,1.3s,mb5.1
OBN Obninsk 63.32 327*c i*P **P 18 46 40.3 -1.4**
OBN *e* pP 18 46 50.2 -2.4
OBN *e* 18 47 18.5
OBN pmax pmax
comp=Z,58nm,1.6s,mb5.5
OBN MLR MLR
comp=Z,900nm,15.0s,MS5.1
OBN Obninsk 63.32 327 *e*P **P 18 46 40.0 -1.7**
comp=Z,135nm,1.8s,mb5.8
VSU Vasula 63.49 334*c i*P **P 18 46 42.2 -0.6**
MOL Molde 63.79 346 *e*P **P 18 46 46.2 +1.4**
NB2 NORSAR Subarra 64.63 343 P **P 18 46 50.1 -0.2**
comp=Z,87nm,1.7s,mb5.5,baz=20,slow=6.9
NOA NORSAR Array B 64.63 343 P **P 18 46 49.5 -0.8**
comp=Z,12nm,0.8s,mb5.0,baz=21,slow=6.6,SNR=40
NAO01 NORSAR Array S 64.87 344 *e*P **P 18 46 52.0 +0.2**
comp=Z,42nm,1.3s,mb5.3
VRSR Storozhevoye 65.55 323 *e*P **P 18 46 56.2 -0.1**
VRSR pmax pmax
comp=Z,20nm,1.1s,mb5.1
VRSR pmax pmax
comp=N,20nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,1.0s
SUE Sulen 65.64 347 *e*P **P 18 46 58.7 +1.9**
ANMO Albuquerque 65.86 64⇑ *e*P **P 18 46 57.7 -0.6**
LAZ Ladron 65.89 65 *e*P **P 18 46 59.3 +0.9**
LAZ *e* 18 47 06.9
ASK Askoy 66.13 346 *e*P **P 18 47 00.4 +0.4**
BER Bergen 66.20 346 *e*P **P 18 47 00.6 +0.2**
BER *e*P 18 47 01.3
BER AMb AMB 18 47 02.8
comp=Z,49nm,1.1s,mb5.5
BER Bergen 66.20 346 *e*P **P 18 47 01.3 +0.8**
BER pmax pmax
comp=Z,49nm,1.1s,mb5.5
BER Bergen 66.20 346 *e*P **P 18 47 01.3 +0.8**
comp=Z,49nm,1.1s,mb5.5
KONO Kongsberg 66.22 344⇑ *i*P **P 18 47 01.3 +0.8**
EGD Espegrend 66.33 346 *e*P **P 18 47 02.1 +0.8**
ODD1 Odda 66.46 345 *e*P **P 18 47 02.1 0.0**
ODD1 AMb AMB 18 47 05.0
comp=Z,46nm,1.4s,mb5.3
ODD1 Odda 66.46 345 *e*P **P 18 47 02.1 0.0**
comp=Z,46nm,1.4s,mb5.3
MNK Minsk 66.59 332 *e*P **P 18 47 00.0 -3.0**
BLS5 Blasjo 66.95 345 *e*P **P 18 47 05.9 +0.7**
BLS5 AMb AMB 18 47 13.2
comp=Z,45nm,1.3s,mb5.3
BLS5 Blasjo 66.95 345 *e*P **P 18 47 05.9 +0.7**
comp=Z,45nm,1.3s,mb5.3
SCHQ Schefferville 67.03 27 P **P 18 47 03.6 -2.1**
comp=Z,4.5nm,0.8s,mb4.6,baz=27,slow=9.2,SNR=4.2
ABKT Ailbek 67.35 303 P **P 18 47 08.4 +0.6**
comp=Z,128nm,0.8s,mb6.0,SNR=13
SNART Snartemo 67.86 345 *e*P **P 18 47 11.7 +0.7**
SNART AMb AMB 18 47 13.0
comp=Z,38nm,1.2s,mb5.3
KAKA Kakadu 69.33 208 *e*P **P 18 47 13.7 -0.2**
comp=Z,15nm,1.2s,mb4.9
SUW Suwalki 68.35 334 *e*P **P 18 47 13.3 -0.7**
comp=Z,0.2nm,2.1s
SUW L 19 21 11.2
comp=Z,0.8nm,19.5s
GOF Gofitskoye 68.98 317 *e*P **P 18 47 19.0 +1.0**
AKASG Malin Array Be 69.44 329 P **P 18 47 19.9 -1.0**
comp=Z,18nm,0.6s,mb5.2,baz=30,slow=6.1,SNR=122
AKASG Malin Array Be 69.44 329 *i*P **P 18 47 19.8 -1.1**
AKASG pmax pmax
comp=Z,18nm,0.6s
AKBB Malin Array Si 69.44 329 *e*P **P 18 47 19.7 -1.2**
KIV Kislovodsk 70.02 317 P **P 18 47 24.4 0.0**
SNR=5.7
KIV Kislovodsk 70.02 317*d i*P **P 18 47 24.9 +0.5**
KIV pmax pmax
comp=Z,22nm,1.7s,mb4.8
KIV Kislovodsk 70.02 317 *e*P **P 18 47 23.8 -0.6**
comp=Z,6.6nm,0.6s,mb4.7
ZEI Tsey 70.45 315 *e*P **P 18 47 26.9 -0.1**
ZEI pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
WAR Warsaw 70.52 334 *e*P **P 18 47 28.7 +1.3**
WAR L 19 20 36.2
comp=Z,0.7nm,24.9s
GKP Gorka Klasztor 70.55 337 *e*P **P 18 47 26.6 -1.1**
GKP L 19 24 17.8
comp=Z,1.0nm,17.1s
BSEG Bad Segeberg 71.47 341 *e*P **P 18 47 33.5 +0.3**
comp=Z,52nm,1.3s,mb5.3
ANN Anapa 71.49 320 *e*P **P 18 47 32.3 -1.0**
ANN *e*S S 18 56 53.2 +3.8
ANN pmax pmax
comp=Z,47nm,1.6s,mb5.2
SOC Sochi 71.57 318*d i*P **P 18 47 33.9 +0.1**
SOC *e*PPP 18 51 59.4
SOC *e*S S 18 56 48.6 -1.8
SOC *e* 18 57 41.6
SOC pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
SOC MLR MLR
comp=Z,401nm,17.0s,MS4.8
LVV L'vov 71.83 331 *i*P **P 18 47 34.9 -0.5**
LVV *e* 18 47 59.2
LVV *e*S S 18 56 55.4 +2.0
RUE Ruedersdorf 72.09 339 *e*P **P 18 47 37.4 +0.4**
comp=Z,108nm,1.4s,mb5.6
RUE Ruedersdorf 72.09 339 *e*P **P 18 47 37.8 +0.8**
GNI Garni 72.17 313*d i*P **P 18 47 38.7 +1.2**
GNI pmax pmax
comp=Z,49nm,1.7s
GNI MLR MLR
comp=Z,700nm,17.0s
ESK Eskdalemuir 72.25 350 *e*P **P 18 47 38.0 +0.1**
ESK pmax pmax
comp=Z,19nm,1.0s,mb5.0
ESK Eskdalemuir 72.25 350 *e*P **P 18 47 38.0 +0.1**
comp=Z,19nm,1.0s,mb5.0
KWP Kalwaria 72.39 332 *e*P **P 18 47 39.1 +0.4**
comp=Z,0.4nm,1.2s
KWP *e*pP pP 18 47 46.7 -3.2
KWP L 19 23 33.8
comp=Z,1.1nm,18.5s
OJC Ojcow 72.68 334 *e*P **P 18 47 40.5 +0.1**
KIS Kishinev 72.78 327 *e*P **P 18 47 38.0 -3.1**
KIS *e* 18 52 06.0
KSP Ksiaz 73.02 336 *e*P **P 18 47 42.5 0.0**
KSP L 19 23 42.4
comp=Z,1.7nm,19.1s
KOLS Kolonicke sedl 73.14 332 *e*P **P 18 47 43.6 +0.4**
WIT Witteveen 73.23 343 *e*P **P 18 47 44.9 +1.2**
NIE Niedzica 73.26 333 *e*P **P 18 47 44.2 +0.3**
USIN University of 73.27 49 *e*P **P 18 47 43.3 -0.7**
CLL Collm 73.36 339 *e*P **P 18 47 44.4 -0.1**
comp=Z,45nm,1.1s,mb5.3
CLL Collm 73.36 339 ⇓P **P 18 47 44.7 +0.2**
comp=Z,logA/T=1.6,mb5.3
CLL Collm 73.36 339⇓ *i*P **P 18 47 44.7 +0.2**
comp=Z,45nm,1.1s,mb5.3
CLL Collm 73.36 339⇓ *i*P **P 18 47 44.7 +0.2**
CLL pmax pmax
comp=Z,45nm,1.1s,mb5.3
CLL Collm 73.36 339⇓ *i*P **P 18 47 44.7 +0.2**
comp=Z,45nm,1.1s,mb5.3
UPC Upice 73.39 336 *e*P **P 18 47 45.2 +0.5**
CRVS Cervenica-Dubn 73.40 332 *e*P **P 18 47 44.9 +0.2**
BURAR Bucovina Array 73.42 330⇑ *i*P **P 18 47 45.1 +0.2**
BURAR Bucovina Array 73.42 330⇑ P **P 18 47 45.1 +0.3**
CLZ Clausthal 73.43 340 *e*P **P 18 47 45.3 +0.4**
comp=Z,64nm,1.3s,mb5.4
CLZ Clausthal 73.43 340 *e*P **P 18 47 45.4 +0.5**
CLZ pmax pmax
comp=Z,64nm,1.3s,mb5.4
CLZ Clausthal 73.43 340 *e*P **P 18 47 45.4 +0.5**
comp=Z,64nm,1.3s,mb5.4
DPC Dobruska-Polom 73.46 336 *e*P **P 18 47 45.4 +0.3**
DPC AMS AMS 19 22 40.0
comp=Z,800nm,18.4s
OKC Ostrava-Krasne 73.47 335 *e*P **P 18 47 45.3 +0.2**
OKC AMS AMS 19 26 00.0
comp=Z,600nm,17.2s
BRG Berggiesshubel 73.55 338 *e*P **P 18 47 45.5 -0.1**
comp=Z,34nm,1.4s,mb5.1
BRG Berggiesshubel 73.55 338 *i*P **P 18 47 45.6 0.0**
comp=Z,6.8nm,1.3s,mb4.4
FBE Freiberg 73.64 338 *e*P **P 18 47 46.3 +0.1**
comp=Z,77nm,1.6s,mb5.4
MORC Moravsky Berou 73.68 335⇓ *i*P **P 18 47 47.1 +0.7**
MORC Moravsky Berou 73.68 335 *e*P **P 18 47 46.6 +0.2**
MORC pmax pmax
comp=Z,61nm,1.2s,mb5.4
MORC Moravsky Berou 73.68 335 *e*P **P 18 47 46.6 +0.2**
comp=Z,61nm,1.2s,mb5.4
PVCC Panska Ves 73.73 337 *e*P **P 18 47 47.1 +0.5**
PVCC AMS AMS 19 25 40.0
comp=Z,1μm,14.5s
PRU Pruhonice 74.23 337 *e*P **P 18 47 49.8 +0.2**
PRU AMS AMS 19 25 50.0
comp=Z,900nm,14.5s
MOX Moxa 74.30 339 *e*P **P 18 47 50.0 0.0**
comp=Z,39nm,1.4s,mb5.1
MOX Moxa 74.30 339 *e*P **P 18 47 49.8 -0.2**
comp=Z,29nm,1.5s,mb5.0
MOX Moxa 74.30 339 *e*P **P 18 47 49.8 -0.2**
MOX pmax pmax
comp=Z,29nm,1.5s,mb5.0
TANN Tannenbergstha 74.32 339 *e*P **P 18 47 50.3 +0.2**
comp=Z,39nm,1.7s,mb5.1
WERD Werda 74.33 339 *e*P **P 18 47 50.2 +0.1**
comp=Z,37nm,1.4s,mb5.1
VRAC Vranov 74.35 336⇑ *i*P **P 18 47 51.3 +1.0**
VRAC Vranov 74.35 336 P **P 18 47 51.4 +1.1**
BUG Bochum--Univer 74.43 342 *e*P **P 18 47 50.9 +0.1**
comp=Z,42nm,1.2s,mb5.2
WERN Wernitzgruen 74.46 339 *e*P **P 18 47 51.1 +0.2**
comp=Z,24nm,1.1s,mb5.0
UBBA Unterbreizbach 74.48 340 *e*P **P 18 47 51.0 0.0**
comp=Z,40nm,1.7s,mb5.1
NKC Novy Kostel 74.50 339 *e*P **P 18 47 51.7 +0.6**
VYHS Vyhne 74.51 334 *i*P **P 18 47 51.7 +0.5**
VYHS pmax pmax
comp=Z,33nm,1.3s,mb5.1
VYHS Vyhne 74.51 334 *i*P **P 18 47 51.7 +0.5**
comp=Z,33nm,1.3s,mb5.1
KELT Kelkit 74.60 316 *i*P **P 18 47 52.4 +0.6**
CFR Carcaliu 74.61 326⇑ *i*P **P 18 47 51.9 +0.1**
CFR Carcaliu 74.61 326⇑ P **P 18 47 51.9 +0.1**
TREC Trest 74.65 336 *e*P **P 18 47 52.6 +0.6**
TREC AMS AMS 19 21 50.0
comp=Z,1μm,17.5s
WRAB Tennant Creek 74.69 204 P **P 18 47 51.5 -0.7**
comp=Z,78nm,1.2s,mb5.5,SNR=6.8
WRAB Tennant Creek 74.69 204*c i*P **P 18 47 51.2 -1.0**
WB2 Warramunga Arr 74.69 204 *e*P **P 18 47 51.8 -0.5**
WRA Warramunga Arr 74.70 204 P **P 18 47 51.8 -0.5**
comp=Z,8.8nm,1.0s,mb4.6,baz=18,slow=6.0,SNR=24
WRA Warramunga Arr 74.70 204 *i*P **P 18 47 51.7 -0.6**
WRA pmax pmax
comp=Z,9.0nm,1.0s
ACCN Adirondack Com 74.71 37 *e*P **P 18 47 50.4 -2.0**
PSZ Piszkesteto 74.74 333⇑ *e*P **P 18 47 53.4 +0.9**
PSZ Piszkesteto 74.74 333⇓ *i*P **P 18 47 53.5 +1.0**
MANZ Manzenberg 74.80 339 *e*P **P 18 47 53.5 +0.6**
comp=Z,27nm,1.4s,mb5.0
SMOL Smolenice 74.87 335 *e*P **P 18 47 54.9 +1.6**
DRGR 74.93 331⇑ *i*P **P 18 47 54.0 +0.3**
DRGR 74.93 331 P **P 18 47 54.0 +0.4**
ROTZ Rotzenmuhle 74.99 339 *e*P **P 18 47 54.3 +0.3**
comp=Z,34nm,1.3s,mb5.1
MLR Muntele Rosu 75.07 328⇑ *i*P **P 18 47 55.1 +0.7**
MLR Muntele Rosu 75.07 328 P **P 18 47 55.3 +0.9**
TIRR Tirgusor 75.14 326⇓ *i*P **P 18 47 55.1 +0.3**
TIRR Tirgusor 75.14 326 *e*P **P 18 47 55.0 +0.1**
ZST Bratislava 75.25 335 *e*P **P 18 47 56.7 +1.2**
ZST pmax pmax
comp=Z,26nm,1.2s,mb5.0
ZST Bratislava 75.25 335 *e*P **P 18 47 56.7 +1.2**
comp=Z,26nm,1.2s,mb5.0
KHC Kasperske Hory 75.26 337 *e*P **P 18 47 56.2 +0.6**
KHC *ex* x 18 48 06.0
KHC AMS AMS 19 26 20.0
comp=Z,2μm,14.7s
GRA1 Grafenberg Arr 75.28 339 *e*P **P 18 47 56.5 +0.8**
comp=Z,49nm,1.2s,mb5.3
GRF Grafenberg Arr 75.28 339 *e*P **P 18 47 56.5 +0.8**
comp=Z,49nm,1.2s,mb5.3
GRF Grafenberg Arr 75.28 339 *e*P **P 18 47 56.5 +0.8**
GRF pmax pmax
comp=Z,49nm,1.2s,mb5.3
GRF Grafenberg Arr 75.28 339 *e*P **P 18 47 56.5 +0.8**
GRF pmax pmax
comp=Z,49nm,1.2s,mb5.3
BOYT Boyabat 75.33 320 *i*P **P 18 47 57.1 +1.1**
BEBN Eben Emael 75.34 343 P **P 18 47 56.0 0.0**
TNS Taunus Mts 75.36 341 *e*P **P 18 47 56.2 +0.1**
TNS pmax pmax
comp=Z,30nm,1.1s,mb5.1
TNS Taunus Mts 75.36 341 *e*P **P 18 47 56.2 +0.1**
comp=Z,30nm,1.1s,mb5.1
SSPA Standing Stone 75.39 41 P **P 18 47 54.0 -2.3**
comp=Z,22nm,1.1s,mb5.0
VOIR 75.41 329⇓ *i*P **P 18 47 57.4 +1.0**
VOIR 75.41 329⇓ P **P 18 47 57.4 +1.0**
WET Wettzell 75.42 338 *e*P **P 18 47 56.8 +0.4**
comp=Z,46nm,1.3s,mb5.2
WET Wettzell 75.42 338 *e*P **P 18 47 56.8 +0.4**
WET pmax pmax
comp=Z,46nm,1.3s,mb5.2
MEM Membach 75.46 343 P **P 18 47 56.6 -0.1**
GEC2 GERESS Array S 75.50 337 *e*P **P 18 47 57.0 +0.1**
comp=Z,28nm,1.3s,mb5.0
GEC2 GERESS Array S 75.50 337 P **P 18 47 57.4 +0.5**
GERES GERESS Array B 75.50 337 P **P 18 47 57.1 +0.1**
comp=Z,7.7nm,0.8s,mb4.7,baz=35,slow=4.9,SNR=40
FITZ Fitzroy Crossi 75.54 213 *e*P **P 18 47 57.6 +0.4**
comp=Z,17nm,1.2s,mb4.8
FITZ Fitzroy Crossi 75.54 213 P **P 18 47 57.6 +0.5**
comp=Z,13nm,1.2s,mb4.8,baz=16,slow=8.8,SNR=13
UCC Uccle 75.57 344 P **P 18 47 56.5 -0.8**
MTUR Matau 75.59 328 P **P 18 47 59.6 +2.2**
PKS7 Kunszentmiklos 75.74 333⇑ *e*P **P 18 48 00.0 +1.7**
BCLA Clavier 75.77 343 P **P 18 47 59.1 +0.6**
CONA Conrad Observa 75.82 336⇑ *i*P **P 18 47 53.6 -5.2**
comp=Z,73nm,1.5s,mb5.4,SNR=23
BALT Daday 75.83 321 *i*P **P 18 47 59.1 +0.3**
SNF Seneffe 75.87 344 P **P 18 47 58.6 -0.4**
TOD Tromm 75.87 341 *e*P **P 18 47 59.9 +0.8**
PSN Preselentsi 75.90 326 *i*P **P 18 47 59.8 +0.6**
PKS8 Sarbogard 76.03 333⇓ *e*P **P 18 48 00.5 +0.6**
BUC1 Bucharest 76.05 327 P **P 18 48 00.6 +0.5**
MSL Mosul 76.06 312 *ex* x 18 48 05.0
ELZG Elazig 76.08 316 *i*P **P 18 48 01.7 +1.4**
GIVF Givet 76.16 343 *e*P **P 18 48 00.5 -0.2**
MENF Mencas 76.17 345 *e*P **P 18 48 02.6 +1.8**
DOU Dourbes 76.21 344 P **P 18 48 00.1 -0.8**
MARD Mardin 76.28 314 *i*P **P 18 48 01.4 0.0**
MOA Molln 76.29 337⇑ *i*P **P 18 48 01.6 +0.2**
comp=Z,42nm,1.6s,mb5.1,SNR=9.5
SWET Sewanee 76.31 50 *e*P **P 18 48 00.1 -1.5**
BAIF Baives 76.31 344 *e*P **P 18 48 01.8 +0.2**
comp=Z,41nm,1.0s,mb5.0
BAIF Baives 76.31 344 *e*P **P 18 48 01.8 +0.2**
BAIF pmax pmax
comp=Z,21nm,1.0s,mb5.0
BAIF Baives 76.31 344 *e*P **P 18 48 01.8 +0.2**
comp=Z,20nm,1.0s,mb5.0

BZS	Buzias	76.32 331	⇑*i*P	P	18 48 01.5	-0.1	
BZS	Buzias	76.32 331	P	P	18 48 01.9	+0.3	
WLF	Walferdange	76.34 342	*e*P	P	18 48 02.3	+0.6	
	comp=Z,30nm,1.6s,mb5.0						
WLF	Walferdange	76.34 342	P	P	18 48 02.4	+0.7	
PKS9	Tamasi	76.41 333	⇑*i*P	P	18 48 03.0	+0.9	
MALT	Malatya	76.48 316	⇓*i*P	P	18 48 03.9	+1.4	
MALT	Malatya	76.48 316	*e*P	P	18 48 03.5	+0.9	
	comp=Z,76nm,1.3s,mb5.5						
ARSA	Arzberg	76.53 336	⇑*i*P	P	18 48 03.5	+0.7	
	comp=Z,86nm,1.7s,mb5.4,SNR=20						
STU	Stuttgart	76.58 340	*e*P	P	18 48 03.6	+0.5	
	comp=Z,31nm,1.1s,mb5.2						
PRD	Provadia	76.59 326	*i* P	P	18 48 04.1	+0.9	
PKSM	Moragy	76.65 333	⇑*i*P	P	18 48 03.3	-0.2	
PKSM	Moragy	76.65 333	P	P	18 48 03.6	+0.1	
PKSM	Moragy	76.65 333	⇑*e*P	P	18 48 03.0	-0.5	
LANF	Langenberg	76.67 341	*e*P	P	18 48 04.4	+0.8	
FUR	Furstenfeldbru	76.70 339	*e*P	P	18 48 04.7	+0.9	
FUR			pmax	pmax			
	comp=Z,34nm,1.0s,mb5.2						
FUR	Furstenfeldbru	76.70 339	*e*P	P	18 48 04.7	+0.9	
	comp=Z,34nm,1.0s,mb5.2						
ELDT	Eldivan	76.71 321	*i* P	P	18 48 04.9	+1.1	
SZH	Strazhica	77.04 327	*i* P	P	18 48 05.8	+0.1	
CDAG	Cicekdag	77.07 319	*i* P	P	18 48 05.9	+0.1	
SGKT	Sivrigoynuk	77.17 322	*i* P	P	18 48 07.2	+0.8	
BFO	Black Forest	77.19 341	*e*P	P	18 48 06.6	+0.1	
BFO			pmax	pmax			
	comp=Z,23nm,1.3s,mb5.0						
BFO	Black Forest	77.19 341	*e*P	P	18 48 06.6	+0.1	
	comp=Z,23nm,1.3s,mb5.0						
PERS	Pernice	77.20 336	*i* P	P	18 48 07.2	+0.6	
KBA	Koelnbreinsper	77.24 337	⇑*i*P	P	18 48 07.9	+1.1	
	comp=Z,104nm,1.4s,mb5.6,SNR=38						
KBA	Koelnbreinsper	77.24 337	⇑*i*P	P	18 48 07.9	+1.1	
KBA			pmax	pmax			
	comp=Z,105nm,1.4s,mb5.6						
BR131	Keskin Array S	77.28 320	*e*P	P	18 48 07.0	0.0	
	comp=Z,26nm,1.1s,mb5.1						
BRTR	Keskin Array B	77.28 320	P	P	18 48 06.9	-0.1	
	comp=Z,19nm,1.0s,mb5.0,baz=60,slow=3.0,SNR=90						
BRTR			PP	PP	18 51 01.7	+0.4	
	comp=Z,2.0nm,1.0s,baz=64,slow=4.5,SNR=4.0						
BRTR	Keskin Array B	77.28 320	⇑*e*P	P	18 48 07.5	+0.5	
WLS	Welschbruch	77.30 341	*e*P	P	18 48 08.1	+1.0	
CDF	Champ du Feu	77.32 341	*e*P	P	18 48 07.4	+0.2	
	comp=Z,85nm,1.2s,mb5.2						
CDF	Champ du Feu	77.32 341	*e*P	P	18 48 07.4	+0.2	
CDF			pmax	pmax			
	comp=Z,42nm,1.2s,mb5.2						
CDF	Champ du Feu	77.32 341	*e*P	P	18 48 07.4	+0.2	
	comp=Z,42nm,1.2s,mb5.2						
HENT	Hendek	77.40 322	*i* P	P	18 48 07.0	-0.6	
WATA	Walderalm	77.42 338	⇑*i*P	P	18 48 08.3	+0.5	
	comp=Z,34nm,1.3s,mb5.1						
WATA	Walderalm	77.42 338	⇑*i*P	P	18 48 08.3	+0.5	
WATA			pmax	pmax			
	comp=Z,34nm,1.3s,mb5.1						
OBKA	Obir	77.47 336	*i* P	P	18 48 08.7	+0.6	
	comp=Z,89nm,1.7s,mb5.4,SNR=15						
WTTA	Wattenberg	77.47 338	*i* P	P	18 48 09.1	+1.0	
	comp=Z,90nm,1.5s,mb5.5,SNR=15						
WTTA	Wattenberg	77.47 338	*i* P	P	18 48 09.1	+1.0	
WTTA			pmax	pmax			
	comp=Z,90nm,1.5s,mb5.5						
ANTO	Ankara	77.49 321	⇑*i*P	P	18 48 09.1	+0.9	
ANTO	Ankara	77.49 321	P	P	18 48 09.1	+0.9	
	SNR=19						
ANTO	Ankara	77.49 321	*e*P	P	18 48 08.7	+0.5	
	comp=Z,123nm,1.5s,mb5.6						
MOTA	Moosalm	77.52 338	⇑*i*P	P	18 48 09.0	+0.7	
	comp=Z,32nm,1.1s,mb5.2,SNR=12						
MOTA	Moosalm	77.52 338	⇑*i*P	P	18 48 09.0	+0.7	
MOTA			pmax	pmax			
	comp=Z,32nm,1.1s,mb5.2						
JMB	Yambol	77.52 326	*i* P	P	18 48 08.6	+0.2	
ECH	Echery	77.53 341	*e*P	P	18 48 09.2	+0.8	
BANOM	Banah	77.55 296	⇑P	P	18 48 04.0	-4.5	
	SNR=7.3						
AVNT	Avonos	77.59 319	*i* P	P	18 48 09.2	+0.4	
SQTA	Sankt Quirin	77.61 338	⇑*i*P	P	18 48 09.6	+0.8	
	comp=Z,29nm,1.1s,mb5.1,SNR=12						
SQTA	Sankt Quirin	77.61 338	⇑*i*P	P	18 48 09.6	+0.8	
SQTA			pmax	pmax			
	comp=Z,29nm,1.1s,mb5.1						
GZT	Gaziantep	77.65 316	*i* P	P	18 48 10.1	+1.0	
MEZF	Maizieres J'vi	77.66 343	*e*P	P	18 48 09.3	+0.2	
FELD	Feldberg im Sc	77.68 341	*e*P	P	18 48 10.0	+0.7	
THEF	They Montfort	77.75 342	*e*P	P	18 48 10.5	+0.9	
DAVA	Damuels	77.84 339	⇑*i*P	P	18 48 10.7	+0.5	
	comp=Z,131nm,2.6s,mb5.4,SNR=5.5						
MOF	Molkenrain	77.88 341	*e*P	P	18 48 11.1	+0.7	
HAU	Haudompre	77.89 342	*e*P	P	18 48 10.5	+0.1	
HAU			*e*R				
	comp=Z,2μm,17.8s						
HAU	Haudompre	77.89 342	*e*P	P	18 48 10.5	+0.1	
HAU			LR	LR			
	comp=Z,2μm,17.8s,MS5.4						
HINF	Hinteralfeld	77.97 341	*e*P	P	18 48 10.7	-0.2	
ELBA	Catalca	78.03 324	*i* P	P	18 48 10.9	-0.3	
PGB	Panagyurishte	78.27 328	*i* P	P	18 48 13.0	+0.5	
FLN	La Foliniere	78.32 346	*e*P	P	18 48 12.6	-0.2	
FLN			*e*R				
	comp=Z,2μm,18.5s						
FLN	La Foliniere	78.32 346	*e*P	P	18 48 12.6	-0.2	
FLN			LR	LR			
	comp=Z,2μm,18.5s,MS5.3						
WSAR	Wadi Sarin	78.33 293	P	P	18 48 14.0	+1.2	
	comp=Z,24nm,1.0s,mb5.1,baz=40,slow=8.1,SNR=8.6						
WSAR	Wadi Sarin	78.33 293	P	P	18 48 14.0	+1.2	
AS31	Alice Springs	78.37 204	*e*P	P	18 48 13.2	+0.1	
ASAR	Alice Springs	78.38 204	P	P	18 48 13.1	0.0	
	comp=Z,1.1nm,0.5s,baz=17,slow=5.4,SNR=17						
ASPA	Alice Springs	78.38 204	*e*P	P	18 48 13.2	+0.1	
LOMF	Lomont	78.42 341	*e*P	P	18 48 14.3	+0.9	
LDF	La Druitiere	78.43 346	*e*P	P	18 48 13.1	-0.3	
	comp=Z,60nm,1.2s,mb5.1						
LDF	La Druitiere	78.43 346	*e*P	P	18 48 13.1	-0.3	
LDF			pmax	pmax			
	comp=Z,30nm,1.2s,mb5.1						
LDF	La Druitiere	78.43 346	*e*P	P	18 48 13.1	-0.3	
	comp=Z,30nm,1.2s,mb5.1						
VTS	Vitosha	78.54 328	*e*P	P	18 48 14.3	+0.2	
VTS	Vitosha	78.54 328	*i* P	P	18 48 13.9	-0.1	
ESKT	Eskisehir	78.55 322	*i* P	P	18 48 14.2	+0.1	
KDZ	Kurdzhali	78.65 327	*i* P	P	18 48 15.6	+1.0	
ULDT	Uludag	78.65 323	*i* P	P	18 48 14.9	+0.2	
ASHO	Ashiyiah	78.66 295	⇑P	P	18 48 08.4	-6.3	
	SNR=5.8						
GRR	Gorron	78.74 347	*e*P	P	18 48 15.2	+0.1	
	comp=Z,232nm,1.6s,mb5.6						
GRR	Gorron	78.74 347	*e*P	P	18 48 15.2	+0.1	
GRR			pmax	pmax			
	comp=Z,116nm,1.6s,mb5.6						
GRR	Gorron	78.74 347	*e*P	P	18 48 15.2	+0.1	
	comp=Z,116nm,1.6s,mb5.6						
SMDO	Samad	78.80 293	⇓P	P	18 48 13.2	-2.2	
	SNR=6.6						
HOQ	Hoqain	78.81 294	⇓P	P	18 48 12.6	-2.9	
	SNR=11						
KDHN	Kadinhani	78.91 320	*i* P	P	18 48 15.4	-0.7	
COBT	Iskenderun	78.92 316	*i* P	P	18 48 17.2	+1.1	
LOR	Lormes	79.07 343	*e*P	P	18 48 17.0	+0.1	
	comp=Z,62nm,0.9s,mb5.2						
LOR			*e*R				
	comp=Z,1μm,18.0s						
LOR	Lormes	79.07 343	*e*P	P	18 48 17.0	+0.1	
LOR			pmax	pmax			
	comp=Z,31nm,0.9s,mb5.2						
LOR			MLR	MLR			
	comp=Z,1μm,18.0s,MS5.2						
LOR	Lormes	79.07 343	*e*P	P	18 48 17.0	+0.1	
LOR			LR	LR			
	comp=Z,31nm,0.9s,mb5.2						
LOR			LR	LR			
	comp=Z,1μm,18.0s,MS5.2						
ALN	Alexandroupoli	79.10 326	*e*P	P	18 48 17.4	+0.3	
SGMF	Saint Gilles	79.11 348	*e*P	P	18 48 17.1	0.0	
ROSF	Rostrenen	79.12 348	*e*P	P	18 48 17.2	0.0	
KKB	Krupnik	79.23 328	*i* P	P	18 48 18.1	+0.3	
MIB	Mutribah	79.26 305	*e*P	P	18 48 17.5	-0.5	
MIB			AMb	AMB	18 48 19.5		
	comp=Z,175nm,0.6s,mb6.2						
MMB	Musomiste	79.27 328	*i* P	P	18 48 18.1	+0.1	
UMR	Umm Al-Rimmam	79.27 304	*e*P	P	18 48 17.1	-1.0	
UMR			AMb	AMB	18 48 19.6		
	comp=Z,127nm,0.7s,mb5.9						
CABF	La Chapelle	79.28 342	*e*P	P	18 48 17.4	-0.7	
	comp=Z,94nm,1.4s,mb5.2						
CABF	La Chapelle	79.28 342	*e*P	P	18 48 17.4	-0.7	
CABF			pmax	pmax			
	comp=Z,47nm,1.4s,mb5.2						
CABF	La Chapelle	79.28 342	*e*P	P	18 48 17.4	-0.7	
	comp=Z,47nm,1.4s,mb5.2						
JMDO	Jabal Madar	79.31 292	⇑P	P	18 48 15.5	-2.7	
	SNR=8.2						
SSF	Saint Saulge	79.33 343	*e*P	P	18 48 18.5	+0.2	
	comp=Z,31nm,0.9s,mb4.9						
SSF	Saint Saulge	79.33 343	*e*P	P	18 48 18.5	+0.2	
SSF			pmax	pmax			
	comp=Z,15nm,0.9s,mb4.9						
SSF	Saint Saulge	79.33 343	*e*P	P	18 48 18.5	+0.2	
	comp=Z,15nm,0.9s,mb4.9						
BTOK	Tokmak	79.39 324	*i* P	P	18 48 19.2	+0.5	
GDZ	Gediz	79.44 323	*i* P	P	18 48 18.7	-0.3	
ARQ	Araqi	79.45 294	⇑P	P	18 48 15.5	-3.5	
	SNR=7.3						
QUIF	Quistinic	79.52 348	*e*P	P	18 48 18.9	-0.5	
BSY	Bisya	79.53 293	⇑P	P	18 48 18.3	-1.1	
	SNR=11						
KBD	Kabd	79.59 304	*e*P	P	18 48 19.1	-0.7	
KBD			AMb	AMB	18 48 21.6		
	comp=Z,415nm,1.2s,mb6.2						
AVF	Avril sur Loir	79.62 343	*e*P	P	18 48 20.2	+0.3	
	comp=Z,131nm,1.1s,mb5.5						
AVF	Avril sur Loir	79.62 343	*e*P	P	18 48 20.2	+0.3	
AVF			pmax	pmax			
	comp=Z,66nm,1.1s,mb5.5						
AVF	Avril sur Loir	79.62 343	*e*P	P	18 48 20.2	+0.3	
	comp=Z,66nm,1.1s,mb5.5						
SKO	Skopje	79.67 329	*e*P	P	18 48 21.1	+0.9	
SKO	Skopje	79.67 329	*e*P	P	18 48 20.3	+0.1	
SMF	Signal de Mont	79.67 343	*e*P	P	18 48 20.5	+0.3	
	comp=Z,86nm,1.1s,mb5.3						
SMF	Signal de Mont	79.67 343	*e*P	P	18 48 20.5	+0.3	
SMF			pmax	pmax			
	comp=Z,43nm,1.1s,mb5.3						
SMF	Signal de Mont	79.67 343	*e*P	P	18 48 20.5	+0.3	
	comp=Z,43nm,1.1s,mb5.3						
RST	Umm Al-Ruwasa	79.68 305	*e*P	P	18 48 19.4	-0.8	
RST			AMb	AMB	18 48 21.6		
	comp=Z,182nm,0.8s,mb6.1						
STIP	Stip	79.68 329	*e*P	P	18 48 20.0	-0.3	
STIP	Stip	79.68 329	*e*P	P	18 48 19.8	-0.4	
NAY	Al-Naaiem	79.76 305	*e*P	P	18 48 20.1	-0.6	
NAY			AMb	AMB	18 48 22.3		
	comp=Z,107nm,1.1s,mb5.7						
QRN	Al-Qurain	79.82 304	*e*P	P	18 48 20.2	-0.8	
QRN			AMb	AMB	18 48 22.7		
	comp=Z,151nm,0.6s,mb6.1						
RDF	Al-Radifah	79.86 304	*e*P	P	18 48 21.0	-0.2	
RDF			AMb	AMB	18 48 23.2		
	comp=Z,355nm,1.1s,mb6.2						
VAY	Valandovo	79.89 328	*e*P	P	18 48 21.5	+0.1	
VAY	Valandovo	79.89 328	*e*P	P	18 48 20.8	-0.6	
KNT	Kendrikon	79.93 328	*e*P	P	18 48 21.7	+0.1	
BGF	Bois d'Agland	79.93 344	*e*P	P	18 48 22.0	+0.4	
RSL	Roselend	80.06 341	*e*P	P	18 48 23.9	+1.6	
SOH	Sokhos	80.08 328	*e*P	P	18 48 21.2	-1.2	
ISP	Isparta	80.13 321	*e*P	P	18 48 22.7	0.0	
ISP	Isparta	80.13 321	*c*P	P	18 48 22.2	-0.5	
LPL	La Plagne	80.20 341	*e*P	P	18 48 23.1	0.0	
	comp=Z,48nm,1.1s,mb5.0						
LPL	La Plagne	80.20 341	*e*P	P	18 48 23.1	0.0	
LPL			pmax	pmax			
	comp=Z,24nm,1.1s,mb5.0						
LPL	La Plagne	80.20 341	*e*P	P	18 48 23.1	0.0	
	comp=Z,24nm,1.1s,mb5.0						
ERMK	Ermenek	80.21 319	*i* P	P	18 48 22.6	-0.6	
LPG	La Plagne	80.21 341	*e*P	P	18 48 23.3	+0.2	
	comp=Z,81nm,1.1s,mb5.2						
LPG	La Plagne	80.21 341	*e*P	P	18 48 23.3	+0.2	
LPG			pmax	pmax			
	comp=Z,41nm,1.1s,mb5.3						
LPG	La Plagne	80.21 341	*e*P	P	18 48 23.3	+0.2	
	comp=Z,40nm,1.1s,mb5.3						
LOS	Limnos	80.29 326	*e*P	P	18 48 23.3	-0.3	
TCF	Toulx Ste Croi	80.30 344	*e*P	P	18 48 23.9	+0.3	
	comp=Z,66nm,1.0s,mb5.2						
TCF	Toulx Ste Croi	80.30 344	*e*P	P	18 48 23.9	+0.3	
TCF			pmax	pmax			
	comp=Z,33nm,1.0s,mb5.2						
TCF	Toulx Ste Croi	80.30 344	*e*P	P	18 48 23.9	+0.3	
	comp=Z,33nm,1.0s,mb5.2						
PLDF	La Plantade	80.36 343	*e*P	P	18 48 25.2	+1.3	
AGO	Saint Agoulin	80.37 343	*e*P	P	18 48 25.7	+1.7	
MFF	Saint Martin d	80.38 346	*e*P	P	18 48 24.0	0.0	
PYM	Petit Puy Mans	80.69 343	*e*P	P	18 48 26.2	+0.5	
PAIG	Paliouri	80.78 327	*e*P	P	18 48 25.3	-0.9	
COLF	Collangettes	80.79 343	*e*P	P	18 48 27.8	+1.6	
ORIF	Oris-en-Rattie	80.94 341	*e*P	P	18 48 26.8	-0.2	
	comp=Z,42nm,1.0s,mb5.0						
ORIF			*e*R				
	comp=Z,1μm,18.8s						
ORIF	Oris-en-Rattie	80.94 341	*e*P	P	18 48 26.8	-0.2	
ORIF			pmax	pmax			
	comp=Z,21nm,1.0s,mb5.0						
ORIF	Oris-en-Rattie	80.94 341	*e*P	P	18 48 26.8	-0.2	
	comp=Z,21nm,1.0s,mb5.0						
MBDF	Montbardon	80.95 341	*e*P	P	18 48 26.9	-0.2	
	comp=Z,13nm,0.7s,mb4.7						
MBDF	Montbardon	80.95 341	*e*P	P	18 48 26.9	-0.2	
MBDF			pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.7						
MBDF	Montbardon	80.95 341	*e*P	P	18 48 26.9	-0.2	
	comp=Z,6.6nm,0.7s,mb4.7						
FRNF	Fournols	81.11 344	*e*P	P	18 48 30.4	+2.4	
LBL	Lubilhac	81.14 343	*e*P	P	18 48 29.6	+1.5	
VIVF	Saint-Julien-l	81.24 342	*e*P	P	18 48 28.2	-0.4	
	comp=Z,54nm,1.0s,mb5.1						
VIVF	Saint-Julien-l	81.24 342	*e*P	P	18 48 28.2	-0.4	
VIVF			pmax	pmax			
	comp=Z,27nm,1.0s,mb5.1						
VIVF	Saint-Julien-l	81.24 342	*e*P	P	18 48 28.2	-0.4	
	comp=Z,27nm,1.0s,mb5.1						
CHOS	Chios island	81.32 325	*e*P	P	18 48 27.1	-1.9	
RJF	Les Rejaudoux	81.38 344	*e*P	P	18 48 28.6	-0.7	
	comp=Z,88nm,1.2s,mb5.2						
RJF			*e*R				
	comp=Z,881nm,18.5s						
RJF	Les Rejaudoux	81.38 344	*e*P	P	18 48 28.6	-0.7	
RJF			pmax	pmax			
	comp=Z,44nm,1.2s,mb5.3						
RJF			MLR	MLR			
	comp=Z,880nm,18.5s,MS5.2						
RJF	Les Rejaudoux	81.38 344	*e*P	P	18 48 28.6	-0.7	
	comp=Z,44nm,1.2s,mb5.3						
RJF			LR	LR			
	comp=Z,880nm,18.5s,MS5.2						
OG25	Le Caire	81.43 341	*e*P	P	18 48 25.9	-3.7	
XOR	Xorichti	81.45 327	*e*P	P	18 48 29.7	0.0	
CSS	Prodhromos	81.48 318	*e*P	P	18 48 30.2	+0.3	
SAOF	Saorge	81.49 340	*e*P	P	18 48 30.4	+0.5	
AUTN	L'Aution	81.51 340	*e*P	P	18 48 31.0	+1.0	
TOUF	Mont Tournerai	81.53 340	*e*P	P	18 48 31.0	+0.9	
SBF	Sospel	81.63 340	*e*P	P	18 48 30.8	+0.1	
	comp=Z,53nm,1.1s,mb5.1						
SBF	Sospel	81.63 340	*e*P	P	18 48 30.8	+0.1	
SBF			pmax	pmax			
	comp=Z,26nm,1.1s,mb5.1						
SBF	Sospel	81.63 340	*e*P	P	18 48 30.8	+0.1	
	comp=Z,26nm,1.1s,mb5.1						
AQU	L'Aquila	81.64 335	*e*P	P	18 48 31.1	+0.4	
AQU			pmax	pmax			
	comp=Z,42nm,1.0s,mb5.3						
AQU	L'Aquila	81.64 335	*e*P	P	18 48 31.1	+0.3	
	comp=Z,42nm,1.0s,mb5.3						
CAF	Calviac	81.65 344	*e*P	P	18 48 30.6	-0.2	
	comp=Z,107nm,1.2s,mb5.3						
CAF	Calviac	81.65 344	*e*P	P	18 48 30.6	-0.2	
CAF			pmax	pmax			
	comp=Z,53nm,1.2s,mb5.3						
CAF	Calviac	81.65 344	*e*P	P	18 48 30.6	-0.2	
	comp=Z,53nm,1.2s,mb5.3						
REVF	Revere	81.76 340	*e*P	P	18 48 31.9	+0.5	
LFF	La Frestale	81.86 345	*e*P	P	18 48 31.3	-0.6	
SMRF	Simiane la Rot	81.91 341	*e*P	P	18 48 31.8	-0.4	
	comp=Z,98nm,1.5s,mb5.2						
SMRF	Simiane la Rot	81.91 341	*e*P	P	18 48 31.8	-0.4	
	comp=Z,98nm,1.5s,mb5.5						
FRF	La Foret Royal	82.09 340	*e*P	P	18 48 32.0	-1.1	
	comp=Z,55nm,1.3s,mb5.0						
FRF	La Foret Royal	82.09 340	*e*P	P	18 48 32.0	-1.1	
FRF			pmax	pmax			
	comp=Z,27nm,1.3s,mb5.0						
FRF	La Foret Royal	82.09 340	*e*P	P	18 48 32.0	-1.1	
	comp=Z,27nm,1.3s,mb5.0						
LASF	Ste Croix	82.15 342	*e*P	P	18 48 33.2	-0.2	
	comp=Z,53nm,1.4s,mb5.0						
IGT	Igoumenitsa	82.23 329	*e*P	P	18 48 34.0	+0.1	
MMAI	Mount Meron Ar	82.26 315	P	P	18 48 35.2	+1.2	
	comp=Z,13nm,0.5s,mb5.1,baz=46,slow=7.2,SNR=43						
MMAI			LR	LR	19 30 49.8		
	comp=Z,316nm,19.1s,MS4.7,baz=50,slow=40						
LMR	La Mourre	82.33 340	*e*P	P	18 48 34.0	-0.4	
	comp=Z,66nm,1.3s,mb5.1						
LMR	La Mourre	82.33 340	*e*P	P	18 48 34.0	-0.4	
LMR			pmax	pmax			
	comp=Z,33nm,1.3s,mb5.1						
LMR	La Mourre	82.33 340	*e*P	P	18 48 34.0	-0.4	
	comp=Z,33nm,1.3s,mb5.1						
MTLF	Montolieu	83.16 343	*e*P	P	18 48 38.2	-0.5	
	comp=Z,48nm,1.4s,mb5.0						
MTLF	Montolieu	83.16 343	*e*P	P	18 48 38.2	-0.5	
MTLF			pmax	pmax			
	comp=Z,24nm,1.4s,mb5.0						
MTLF	Montolieu	83.16 343	*e*P	P	18 48 38.2	-0.5	
	comp=Z,24nm,1.4s,mb5.0						
EPF	Esparros	83.78 345	*e*P	P	18 48 41.5	-0.4	
	comp=Z,43nm,1.3s,mb5.1						
EPF	Esparros	83.78 345	*e*P	P	18 48 41.5	-0.4	
EPF			pmax	pmax			
	comp=Z,22nm,1.3s,mb5.1						
EPF	Esparros	83.78 345	*e*P	P	18 48 41.5	-0.4	
	comp=Z,22nm,1.3s,mb5.1						
ETSF	Etsaut	84.06 345	*e*P	P	18 48 43.0	-0.3	
	comp=Z,46nm,1.3s,mb5.2						
ETSF	Etsaut	84.06 345	*e*P	P	18 48 43.0	-0.3	
ETSF			pmax	pmax			
	comp=Z,23nm,1.3s,mb5.2						
ETSF	Etsaut	84.06 345	*e*P	P	18 48 43.0	-0.3	
	comp=Z,23nm,1.3s,mb5.2						
LAST	Lasithi	84.40 324	*e*P	P	18 48 45.0	0.0	
SIVA	Sivas	84.78 324	*e*P	P	18 48 47.5	+0.6	
EIL	Elat	85.32 314	*e*P	P	18 48 49.6	0.0	
	comp=Z,2μm,1.5s						
ESDC	Sonseca Array	87.72 347	P	P	18 49 01.7	+0.3	
	comp=Z,1.7nm,0.6s,mb4.5,baz=2.2,slow=4.0,SNR=12						
KEST	Kesra	88.92 336	P	P	18 49 07.8	+0.7	
	comp=Z,2.1nm,0.5s,mb4.8,baz=291,slow=3.0,SNR=14						
TORD	Torodi Ar. Bea	112.44 336	PP	PP	18 55 21.0	-14	
	comp=Z,2.6nm,1.0s,baz=11,slow=7.6,SNR=7.7						
LPAZ	La Paz	128.48 65	PKP	PKPdf	18 55 19.9	+0.6	
	comp=Z,0.7nm,0.7s,baz=310,slow=3.8,SNR=4.8						
LPAZ	La Paz	128.48 65	PKP	PKPdf	18 55 19.9	+0.6	
SIV	San Ignacio	130.26 57	PKP	PKPdf	18 55 25.6	-0.6	
	comp=Z,1.9nm,1.0s,baz=75,slow=3.1,SNR=6.3						
PLCA	Paso Flores	144.50 92	PKP	PKPdf	18 55 47.1	-1.8	
	comp=Z,2.2nm,1.0s,baz=240,slow=2.4,SNR=4.1						
SYO	Syowa Base	147.35 215	⇑*e*PKPdf	PKPdf	18 55 53.5	-0.2	

IDC 31 18:47:14.8±3.0, 7, 869S×10785E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.6/16, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=128.4km s-min=21.5km az=50.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.66**	**120**	P	Pn	18 51 46.5	+0.1
	0.1nm,0.3s,baz=234,slow=4.0,SNR=5.2						
WRA	**Warramunga Arr**	**27.95**	**116**	P	P	18 53 07.2	+0.4
	0.3nm,0.5s,baz=289,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**29.04**	**124**	P	P	18 53 16.2	-0.3
	0.2nm,0.5s,baz=300,slow=9.0,SNR=6.5						
SONM	**Songino Array**	**56.29**	**359**	P	P	18 56 57.5	+0.4
	0.6nm,0.6s,baz=175,slow=7.0,SNR=6.0						
MKAR	**Makanchi Array**	**59.75**	**340**	P	P	18 57 21.3	-0.1
	0.9nm,0.5s,baz=153,slow=8.1,SNR=13						

*IDC **31** 18:55:14.3±0.7, 1776S×16802E, h0km, mb4.7/13, mb1 4.8/14, mb1mx4.8/17, mbtmp4.7/14, ML4.9/1, MS4.7/6, Ms1 4.6/6, ms1mx4.3/15, Error ellipse: s-maj=21.1km s-min=17.7km az=86.0*

*ISCJB **31** 18:55:17.8±1.1, 1785S±005×16790E±006, h32km±8km, mb4.8/38, MS4.7/13, Error ellipse: s-maj=10.4km s-min=8.8km az=29.2*

*BJI **31** 18:55:18.6, 1790S×16800E, h44km, mB5.3, mb4.7, Ms5.2, Msz5.0*

*MOS **31** 18:55:20.0±2.4, 1779S×16760E, h33km, mb4.9/10, MS4.6/4, Error ellipse: s-maj=12.5km s-min=10.2km az=134.3*

*HRVD **31** 18:55:20.6±0.3, 1791S×16792E, h39km±1km, MW5.2/64, Centroid moment Tensor Solution. LP body waves: s42,c60;Mantle waves: s64,c97; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr4.51±.27; Mθθ-0.43±.17; Mϕϕ-4.08±.19; Mrθ2.28±.20; Mϕθ1.82±.12; Mϕr-4.36±.23; Best double couple: M◎6.78500×10^16^ NP1:ϕs342.00000°, δ22.00000°

ASAR	**Alice Springs**	**32.39**	**254**	P		**P**	**19 01 45.4**	**-0.6**
	comp=Z,16nm,0.7s,mb5.0,baz=81,slow=8.8,SNR=300							
ASAR				LR		LR	19 14 23.4	
	comp=Z,3μm,20.0s,MS4.9,baz=98,slow=36							
ASPA	**Alice Springs**	**32.40**	**254**	*i*P		**P**	**19 01 45.4**	**-0.6**
KAKA	**Kakadu**	**34.68**	**273**	*i*P		**P**	**19 02 05.7**	**-0.2**
	comp=Z,16nm,0.6s,mb5.1							
FORT	**Forrest**	**38.45**	**243**	*e*P		**P**	**19 02 38.1**	**+0.1**
	comp=Z,28nm,0.6s,mb5.2							
FITZ	**Fitzroy Crossi**	**40.27**	**263**	*i*P		**P**	**19 02 53.7**	**+0.5**
	comp=Z,105nm,0.8s,mb5.6							
FITZ	**Fitzroy Crossi**	**40.27**	**263**	P		**P**	**19 02 53.8**	**+0.6**
	comp=Z,53nm,0.7s,mb5.4,baz=105,slow=7.6,SNR=257							
PPT	**Papeete**	**40.32**	**96**	*e*S		**S**	**19 09 03.2**	**+4.2**
	comp=Z,268nm,24.8s							
PPT				*e*LR		LR	19 14 00.4	
	comp=Z,3μm,25.8s,baz=272							
MBWA	**Marble Bar**	**45.53**	**258**	*e*P		**P**	**19 03 36.5**	**+0.7**
	comp=Z,28nm,0.8s,mb5.2							
KLBR	**Kellerberrin**	**47.31**	**243**	*e*P		**P**	**19 03 47.9**	**-1.8**
	comp=Z,193nm,2.0s,mb5.7							
NWAO	**Narrogin (SRO)**	**47.86**	**242**	P		**P**	**19 03 53.9**	**-0.2**
	comp=Z,10nm,0.6s,mb5.0,baz=84,slow=10,SNR=8.0							
NWAO	**Narrogin (SRO)**	**47.86**	**242**	*e*P		**P**	**19 03 53.6**	**-0.4**
TAOE	**Nuku Hiva Isla**	**51.06**	**87**	*e*LR		LR	19 19 14.8	
	comp=Z,6μm,25.1s							
RKT	**Rikitea**	**53.37**	**106**	*e*S		**S**	**19 12 11.8**	**+6.5**
	comp=Z,311nm,31.5s							
RKT				*e*LR		LR	19 20 06.1	
	comp=Z,1μm,27.5s							
VNDA	**Vanda**	**59.80**	**182**	P		**P**	**19 05 20.3**	**-1.0**
	comp=Z,1.4nm,0.6s,mb4.2,baz=348,slow=9.0,SNR=7.1							
VNDA				LR		LR	19 27 03.2	
	comp=Z,260nm,18.7s,MS4.4,baz=19,slow=32							
VNDA	**Vanda**	**59.80**	**182**	P		**P**	**19 05 20.3**	**-1.0**
VNDA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
VNDA				MLR		MLR		
	comp=Z,260nm,18.7s							
VNDA	**Vanda**	**59.80**	**182**	*e*P		**P**	**19 05 22.2**	**+0.9**
	comp=Z,7.8nm,1.4s,mb4.5							
SBA	**Scott Base**	**60.06**	**180**	*e*P		**P**	**19 05 22.4**	**-0.7**
CASY	**Casey**	**60.97**	**203**	*e*P		**P**	**19 05 28.6**	**-0.6**
MJAR	**Matsushiro Arr**	**60.98**	**333**	P		**P**	**19 05 28.7**	**-0.6**
	comp=Z,3.4nm,1.0s,mb4.4,baz=167,slow=7.0,SNR=7.4							
SSE	**Sheshan**	**66.27**	**317**	P		**P**	**19 06 02.3**	**-1.9**
SSE				AMB		AMB		
	comp=Z,29nm,0.7s,mb5.4							
SSE				AMB		AMB		
	comp=Z,114nm,8.1s							
MIR	**Mirnyy**	**67.83**	**205**	*d i*P		**P**	**19 06 15.0**	**+0.9**
MIR				*i*			19 06 42.0	
MIR				pmax		pmax		
	comp=Z,200nm,1.0s,mb6.1							
YSS	**Yuzh-Sakhalins**	**68.39**	**342**	*e*P		**P**	**19 06 15.4**	**-2.2**
YSS				pmax		pmax		
	comp=Z,25nm,1.7s,mb5.0							
NJ2	**Nanjing**	**68.41**	**316**	*e*P		**P**	**19 06 17.0**	**-0.8**
NJ2				AP		pP	19 06 27.3	-1.0
NJ2				PP		PP	19 08 49.0	+0.1
NJ2				S		S	19 15 12.0	-4.9
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.9							
NJ2				AMB		AMB		
	comp=Z,240nm,4.4s							
NJ2				LR		LR		
	comp=N,1μm,21.2s,MS5.3							
NJ2				LR		LR		
	comp=E,1μm,16.2s,MS5.3							
PET	**Petropavlovsk**	**71.02**	**354**	*e*P		**P**	**19 06 34.4**	**+0.5**
PET				pmax		pmax		
	comp=Z,12nm,1.3s,mb4.7							
MDJ	**Mudanjiang**	**71.35**	**332**	*e*P		**P**	**19 06 36.6**	**+0.8**
	comp=Z,3.0nm,0.6s,mb4.4							
QSPA	**South Pole Qui**	**72.22**	**180**	*e*P		**P**	**19 06 40.4**	**-0.7**
	comp=Z,18nm,1.0s,mb5.0							
CN2	**Changchun**	**72.67**	**329**	*e*P		**P**	**19 06 43.0**	**-0.8**
CN2				AMB		AMB		
	comp=Z,10.0nm,1.2s,mb4.6							
CN2				LR		LR		
	comp=N,400nm,19.0s,MS4.8							
CN2				LR		LR		
	comp=E,300nm,19.0s,MS4.8							
CN2				LR		LR		
	comp=Z,300nm,18.0s,MS4.6							
KLR	**Kul'dur**	**74.12**	**336**	*e*P		**P**	**19 06 48.5**	**-3.8**
BJI	**Beijing**	**75.13**	**321**	P		**P**	**19 06 59.3**	**+1.1**
BJI				AMB		AMB		
	comp=Z,9.0nm,1.5s,mb4.5							
KMI	**Kunming**	**76.56**	**302**	P		**P**	**19 07 08.3**	**+2.0**
KMI				AP		pP	19 07 18.0	+1.0
KMI				LR		LR		
	comp=Z,138nm,39.7s,MS4.0							
MAW	**Mawson**	**79.31**	**202**	P		**P**	**19 07 21.8**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.3,baz=20,slow=3.4,SNR=7.0							
MAW				LR		LR	19 40 38.3	
	comp=Z,442nm,18.1s,MS4.8,baz=89,slow=34							
HIA	**Hailar**	**79.33**	**330**	*c i*P		**P**	**19 07 21.6**	**-0.1**
LZH	**Lanzhou**	**80.94**	**312**	*e*P		**P**	**19 07 32.5**	**+2.1**
LZH				AP		pP	19 07 42.5	+1.4
LZH				AMB		AMB		
	comp=Z,30nm,1.2s,mb5.1							
CIT	**Chita**	**84.11**	**330**	*e*P		**P**	**19 07 43.3**	**-3.6**
ULN	**Ulaanbaatar**	**85.06**	**324**	*c i*P		**P**	**19 07 52.2**	**+0.5**
ULN	**Ulaanbaatar**	**85.06**	**324**	*e*P		**P**	**19 07 52.4**	**+0.6**
	comp=Z,10nm,0.9s,mb5.0							
YAK	**Yakutsk**	**85.19**	**343**	*e*P		**P**	**19 07 51.4**	**-1.0**
YAK				pmax		pmax		
	comp=Z,22nm,1.3s,mb5.1							
YAK	**Yakutsk**	**85.19**	**343**	*e*P		**P**	**19 07 51.1**	**-1.3**
	comp=Z,15nm,0.8s,mb5.2							
GTA	**Gaotai**	**85.33**	**314**	*e*P		**P**	**19 07 54.8**	**+1.7**
GTA				XP		sP	19 08 06.5	-1.2
GTA				AMB		AMB		
	comp=Z,9.0nm,1.2s,mb4.8							
GTA				AMB		AMB		
	comp=Z,87nm,4.4s							
GTA				LR		LR		
	comp=N,328nm,16.5s,MS5.0							
GTA				LR		LR		
	comp=E,342nm,16.7s,MS5.0							
GTA				LR		LR		
	comp=Z,570nm,16.4s,MS5.0							
SONM	**Songino Array**	**85.41**	**324**	P		**P**	**19 07 54.4**	**+0.9**
	comp=Z,5.8nm,1.0s,mb4.7,baz=153,slow=7.1,SNR=37							
BILL	**Bilibino**	**85.63**	**359**	*e*P		**P**	**19 07 53.8**	**-0.8**
BILL				pmax		pmax		
	comp=Z,30nm,1.7s,mb5.2							
CMB	**Columbia Colle**	**87.08**	**49**	P		**P**	**19 08 01.0**	**-0.7**
CMB				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.8							
CMB	**Columbia Colle**	**87.08**	**49**	P		**P**	**19 08 01.0**	**-0.7**
	comp=Z,5.2nm,0.8s,mb4.8							
ZAK	**Zakamensk**	**88.49**	**325**	*i*P		**P**	**19 08 08.4**	**0.0**
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.9s,mb4.4							
NVAR	**Mina Array Bea**	**88.73**	**49**	P		**P**	**19 08 10.2**	**+0.6**
	comp=Z,2.2nm,0.8s,mb4.5,baz=234,slow=7.7,SNR=11							
TLY	**Talaya**	**88.96**	**326**	*e*P		**P**	**19 08 10.8**	**+0.2**
TLY				pmax		pmax		
	comp=Z,3.0nm,1.7s,mb4.3							
TLY	**Talaya**	**88.96**	**326**	*e*P		**P**	**19 08 09.4**	**-1.2**
NVL	**N'lazarevskaya**	**90.10**	**188**	*i*P		**P**	**19 08 17.3**	**+1.3**
NVL				pmax		pmax		
	comp=Z,17nm,1.1s,mb5.3							
SNAA	**Sanae**	**90.51**	**183**	*e*P		**P**	**19 08 16.5**	**-1.4**
SNAA				*e*			19 08 18.7	
SNAA				*e*		pP	19 08 27.9	-0.8
SNAA				*e*			19 08 31.9	
TIXI	**Tiksi**	**93.14**	**348**	*e*P		**P**	**19 08 25.7**	**-4.3**
TIXI				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.8							
PDAR	**Pinedale Array**	**96.50**	**47**	LR		LR	19 46 02.0	
	comp=Z,246nm,19.9s,MS4.7,baz=267,slow=32							
MKAR	**Makanchi Array**	**99.34**	**316**	P		Pdif	19 09 02.0	+1.2
	comp=Z,0.5nm,0.6s,baz=88,slow=7.4,SNR=6.2							
YKA	**Yellowknife Ar**	**99.95**	**27**	LR		LR	19 48 25.6	
	comp=Z,269nm,21.6s,MS4.7,baz=245,slow=32							
ARU	**Arti**	**115.43**	**325**	*e*PKIKP		PKPdf	19 13 57.3	-0.4
ARU	**Arti**	**115.43**	**325**	*e*PKiKP		PKiKP	19 13 57.3	-0.4
ARCES	**ARCESS Array B**	**123.42**	**345**	PKP		PKPdf	19 14 11.7	-1.4
	comp=Z,0.8nm,0.5s,baz=76,slow=1.2,SNR=9.0							
KIV	**Kislovodsk**	**127.48**	**312**	*i* PKIKP		PKPdf	19 14 21.3	+0.5
OBN	**Obninsk**	**127.70**	**327**	*i*PKIKP		PKPdf	19 14 19.9	-1.3
OBN				pmax		pmax		
	comp=Z,7.0nm,0.9s							
FINES	**FINESS Array B**	**128.86**	**338**	PKP		PKPdf	19 14 22.2	-1.2
	comp=Z,1.9nm,1.0s,baz=44,slow=8.8,SNR=4.8							
AKASG	**Malin Array Be**	**133.69**	**325**	PKP		PKPdf	19 14 31.7	-0.9
	comp=Z,0.3nm,0.5s,baz=57,slow=2.0,SNR=5.1							
NOA	**NORSAR Array B**	**133.79**	**345**	PKP		PKPdf	19 14 33.4	+0.6
	comp=Z,0.4nm,0.7s,baz=16,slow=3.2,SNR=3.4							
BRTR	**Keskin Array B**	**135.05**	**309**	PKP		PKPdf	19 14 33.5	-1.6
	comp=Z,0.4nm,0.6s,baz=36,slow=4.6,SNR=3.9							
KHC	**Kasperske Hory**	**142.56**	**332**	*e*PKP		PKPdf	19 14 46.0	-2.9
KHC				*ep*PKP		pPKPdf	19 15 05.0	+5.0
GERES	**GERESS Array B**	**142.72**	**332**	PKhKP			19 14 42.9	
	comp=Z,0.5nm,0.5s,baz=64,slow=2.3,SNR=5.6							
GERES				PKP		PKPdf	19 14 48.0	-1.1
	comp=Z,1.3nm,0.8s,baz=42,slow=2.2,SNR=8.0							
GERES	**GERESS Array B**	**142.72**	**332**	PKHKP			19 14 42.9	
GERES							19 14 48.0	
GERES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
GERES				pmax		pmax		
	comp=Z,1.0nm,0.8s							
GERES	**GERESS Array B**	**142.72**	**332**	PKP		PKPdf	19 14 48.0	-1.1
GRA1	**Grafenberg Arr**	**143.14**	**335**	*e*PKPbc		PKPdf	19 14 46.7	-3.2
GRF	**Grafenberg Arr**	**143.14**	**335**	*e*PKPbc		PKPdf	19 14 46.7	-3.2
PERS	**Pernice**	**143.61**	**328**	*i* PKPdf		PKPdf	19 14 47.3	-3.4
PERS				*i* PKPbc		PKPdf	19 15 00.3	+10
TNS	**Taunus Mts**	**143.78**	**338**	*e*PKPbc		PKPdf	19 14 48.7	-2.3
TNS	**Taunus Mts**	**143.78**	**338**	*e*PKPbc		PKPdf	19 14 48.7	-2.3
KBA	**Koelnbreinsper**	**144.17**	**330**	*i*P		PKPdf	19 14 49.5	-2.2
	comp=Z,14nm,1.4s							
FUR	**Furstenfeldbru**	**144.30**	**333**	*e*PKPbc		PKPdf	19 14 50.5	-1.4
FUR	**Furstenfeldbru**	**144.30**	**333**	*e*PKPbc		PKPdf	19 14 50.5	-1.4
BOJS	**Bojanci**	**144.30**	**327**	*e*PKPdf		PKPdf	19 14 50.6	-1.4
BOJS				*i*			19 15 01.2	
LJU	**Ljubljana**	**144.31**	**328**	*i* PKPdf		PKPdf	19 14 50.2	-1.7
LJU				*e*			19 15 10.5	
STU	**Stuttgart**	**144.68**	**336**	*e*PKPbc		PKPdf	19 14 52.1	-0.5
STU				*ep*PKPbc			19 15 12.1	
RUP	**Ruppelstein**	**144.70**	**339**	PKIKP		PKPdf	19 14 52.3	-0.3
WTTA	**Wattenberg**	**144.82**	**332**	*i*P		PKPdf	19 14 52.0	-0.8
	comp=Z,24nm,1.4s							
MOTA	**Moosalm**	**145.00**	**332**	*i*P		PKPdf	19 14 52.2	-0.9
	comp=Z,17nm,1.0s							
LANF	**Langenberg**	**145.04**	**337**	PKP		PKPdf	19 14 53.4	+0.2
SQTA	**Sankt Quirin**	**145.04**	**332**	*i*P		PKPbc	19 14 52.8	+0.2
	comp=Z,10nm,0.9s							
WLF	**Walferdange**	**145.05**	**339**	*e*PKPbc		PKPbc	19 14 52.9	+0.3
WLF				*ep*PKPbc			19 15 13.5	
GIVF	**Givet**	**145.10**	**341**	*e*PKP1		PKPbc	19 14 52.0	-0.8
BAIF	**Baives**	**145.32**	**342**	*e*PKP1		PKPbc	19 14 52.6	-0.9
	comp=Z,20nm,0.9s							
BFO	**Black Forest**	**145.37**	**336**	*e*PKPbc		PKPbc	19 14 53.6	-0.1
BFO				*ep*PKPbc		pPKPbc	19 15 14.1	+9.4
BFO	**Black Forest**	**145.37**	**336**	*e*PKPdf		PKPdf	19 14 53.0	-0.8
BFO				*ep*PKPbc		pPKPbc	19 15 14.1	+9.4
BFO	**Black Forest**	**145.37**	**336**	*e*PKPbc		PKPbc	19 14 53.6	-0.1
STR	**Strasbourg**	**145.38**	**337**	PKP		PKPdf	19 14 54.7	+0.9
DAVA	**Damuels**	**145.57**	**333**	*i*P		PKPdf	19 14 54.5	+0.4
	comp=Z,79nm,1.7s							
WLS	**Welschbruch**	**145.68**	**337**	PKP		PKPdf	19 14 55.3	+1.0
CDF	**Champ du Feu**	**145.71**	**337**	*e*PKP1		PKPbc	19 14 54.1	-0.6
	comp=Z,23nm,0.8s							
FELD	**Feldberg im Sc**	**145.87**	**336**	PKP		PKPdf	19 14 55.5	+0.9
HINF	**Hinteralfeld**	**146.36**	**337**	*e*PKP1		PKPbc	19 14 55.8	-0.9
	comp=Z,9.1nm,0.8s							
HAU	**Haudompre**	**146.39**	**338**	*e*PKP1		PKPbc	19 14 55.9	-0.9
HAU				*e*R				
	comp=Z,188nm,21.8s							
HAU	**Haudompre**	**146.39**	**338**	*e*PKP		PKPdf	19 14 55.9	+0.4
HAU				LR		LR		
	comp=Z,190nm,21.8s,MS4.8							
MEZF	**Maizieres J'vi**	**146.42**	**339**	*e*PKP1		PKPbc	19 14 55.9	-1.0
LOMF	**Lomont**	**146.76**	**336**	PKP		PKPdf	19 14 58.3	+2.2
AQU	**L'Aquila**	**147.38**	**324**	*e*PKP2		PKPab	19 15 00.7	-0.9
CABF	**La Chapelle**	**147.65**	**336**	*e*PKP1		PKPbc	19 14 59.5	-0.9
	comp=Z,35nm,1.0s							
LOR	**Lormes**	**147.89**	**340**	*e*PKP1		PKPbc	19 15 00.4	-0.6
	comp=Z,30nm,1.0s							
LOR				*e*R				
	comp=Z,171nm,21.2s							
LOR	**Lormes**	**147.89**	**340**	*e*PKP		PKPbc	19 15 00.4	-0.6
LOR				LR		LR		
	comp=Z,170nm,21.3s,MS4.8							
SSF	**Saint Saulge**	**148.18**	**340**	*e*PKP1		PKPbc	19 15 01.2	-0.6
	comp=Z,18nm,0.7s							
LPL	**La Plagne**	**148.30**	**335**	*e*PKP1		PKPbc	19 15 01.4	-0.7
	comp=Z,11nm,0.7s							
LPG	**La Plagne**	**148.31**	**335**	*e*PKP1		PKPbc	19 15 01.5	-0.6
	comp=Z,16nm,0.7s							
SMF	**Signal de Mont**	**148.44**	**339**	*e*PKP1		PKPbc	19 15 01.6	-0.8
AVF	**Avril sur Loir**	**148.47**	**340**	*e*PKP1		PKPbc	19 15 01.9	-0.6
BGF	**Bois d'Agland**	**148.84**	**340**	*e*PKP1		PKPbc	19 15 03.1	-0.4
	comp=Z,14nm,0.6s							
MBDF	**Montbardon**	**148.92**	**334**	*e*PKP1		PKPbc	19 15 03.1	-0.6
PLDF	**La Plantade**	**149.10**	**339**	PKP		PKPbc	19 15 05.0	+0.9
ORIF	**Oris-en-Rattie**	**149.14**	**335**	*e*PKP1		PKPbc	19 15 03.4	-0.8
	comp=Z,22nm,0.6s							
ORIF				*e*R				
	comp=Z,191nm,21.0s							
SAOF	**Saorge**	**149.17**	**332**	PKP		PKPbc	19 15 04.4	+0.1
AUTN	**L'Aution**	**149.22**	**332**	PKP		PKPbc	19 15 05.1	+0.7
TCF	**Toulx Ste Croi**	**149.29**	**341**	*e*PKP1		PKPbc	19 15 03.8	-0.8
	comp=Z,33nm,1.1s							
TOUF	**Mont Tournerai**	**149.29**	**332**	PKP		PKPbc	19 15 04.9	+0.3
SBF	**Sospel**	**149.32**	**332**	*e*PKP1		PKPbc	19 15 04.0	-0.7
LUCF	**Luceram**	**149.34**	**332**	PKP		PKPbc	19 15 05.1	+0.4
PYM	**Petit Puy Mans**	**149.50**	**339**	PKP		PKPdf	19 15 05.1	+4.5
VIVF	**Saint-Julien-l**	**149.66**	**336**	*e*PKP1		PKPbc	19 15 05.3	-0.2
LBL	**Lubilhac**	**149.87**	**338**	PKP		PKPbc	19 15 06.9	+0.9
FRF	**La Foret Royal**	**149.91**	**332**	*e*PKP1		PKPbc	19 15 05.2	-0.9
	comp=Z,30nm,0.9s							
SMRF	**Simiane la Rot**	**150.03**	**334**	*e*PKP1		PKPbc	19 15 05.8	-0.6
	comp=Z,51nm,1.1s							
LMR	**La Mourre**	**150.15**	**332**	*e*PKP1		PKPbc	19 15 06.2	-0.5
	comp=Z,30nm,0.8s							
RJF	**Les Rejaudoux**	**150.38**	**341**	*e*PKP1		PKPbc	19 15 06.8	-0.5
	comp=Z,38nm,1.1s							
RJF				*e*R				
	comp=Z,146nm,20.8s							
RJF	**Les Rejaudoux**	**150.38**	**341**	*e*PKP		PKPbc	19 15 06.8	-0.5
RJF				LR		LR		
	comp=Z,150nm,20.8s,MS4.8							
CAF	**Calviac**	**150.54**	**340**	*e*PKP1		PKPbc	19 15 07.4	-0.3
LASF	**Ste Croix**	**150.64**	**336**	*e*PKP1		PKPbc	19 15 07.6	-0.3
	comp=Z,28nm,0.7s							
LFF	**La Frestale**	**150.95**	**341**	*e*PKP1		PKPbc	19 15 08.5	-0.1
MTLF	**Montolieu**	**151.88**	**338**	*e*PKP1		PKPbc	19 15 10.5	-0.3
	comp=Z,8.9nm,0.8s							
EPF	**Esparros**	**152.79**	**340**	*e*PKP1		PKPbc	19 15 12.6	-0.2
ETSF	**Etsaut**	**153.20**	**341**	*e*PKP1		PKPbc	19 15 14.2	+0.5
	comp=Z,5.0nm,0.5s							
SJPF	**Ste Jean**	**153.20**	**342**	*e*PKP1		PKPbc	19 15 14.1	+0.4
TORD	**Torodi Ar. Bea**	**166.04**	**252**	PKP		PKPdf	19 15 21.3	+0.5
	comp=Z,0.8nm,0.8s,baz=29,slow=0.7,SNR=4.4							
TORD				PKPab		PKPab	19 16 21.7	+0.5
	comp=Z,1.9nm,0.8s,baz=90,slow=3.5,SNR=7.0							

IDC ***31*** *18:59:11.3±0.9, 1775S×16805E, h0km, mb4.5/10, mb1 4.6/11,mb1mx4.5/15,mbtmp4.5/11, ML4.8/1, MS4.5/1, Ms1 4.5/1, ms1mx3.3/17, Error ellipse: s-maj=25.1km s-min=22.1km az=76.0*

ISCJB ***31*** *18:59:15.0±1.3, 1783S±0.006×16787E±0.009, h28km±10km, mb4.5/20, MS5.4/2, Error ellipse: s-maj=14.4km s-min=10.8km az=179.7*

BJI ***31*** *18:59:17.7, 1690S×16888E, h42km, mB5.2, mb4.7*

MOS ***31*** *18:59:18.2±2.1, 1788S×16755E, h33km, mb4.6/3, Error ellipse: s-maj=16.5km s-min=12.4km az=15.4*

HRVD ***31*** *18:59:18.4±0.5, 1811S×16777E, h50km±1km, MW5.2/46, Centroid moment Tensor Solution. LP body waves: s29,c32;Mantle waves: s46,c55; Half duration: 0 Moment tensor: Scale 10^17Nm; Mrr0.71±.04; Mθθ-0.13±.03; Mϕϕ-0.57±.03; Mrθ0.08±.03; Mθϕ0.26±.02; Mϕr-0.25±.02; Best double couple: M=0.75500×10^17 NP1:ϕs332.00000°,δ35.00000°,λ86.00000°. NP2: ϕs158.00000°,δ55.00000°,λ93.00000°. Principal axes: T 0.7610, Plg80.0000°, Azm79.0000°; N -0.0130, Plg2.0000°, Azm336.0000°; P -0.7490, Plg10.0000°, Azm246.0000°"; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***31*** *18:59:18.4±1.7, 1781S×16794E, h46km±14km, mb4.9/9 Error ellipse: s-maj=14.0km s-min=9.2km az=66.0*

NEIC Felt at Port-Vila.

LDG ***31*** *18:59:19.9±0.1, 1795S×16705E, h52km, Mb4.8/1, Error ellipse: s-maj=16.8km s-min=2.0km az=91.0*

ISC 31 18:59:16.6±1.1, 1785S±0.007×16798E±0.009, h28km±9km, n81,o0°97/42, mb4.6/19, MS5.4/2, 6C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
BKM	**Butte a Klehm**	**0.30**	**55**	*i*P	**Pb**	**18 59 23.5**		**-0.3**
DZM	**Mont Dzumac**	**4.45**	**199**	*e*P	**Pn**	**19 00 20.1**		**-2.1**
DZM				*e*S	**Sn**	**19 01 07.5**		**-5.4**
DZM	**Mont Dzumac**	**4.45**	**199**	Pn	**Pn**	**19 00 21.0**		**-1.1**
	48nm,0.3s,baz=153,slow=16,SNR=31							
DZM				Sn	**Sn**	**19 01 07.6**		**-5.3**
	27nm,0.3s,baz=329,slow=22,SNR=3.5							
HNR	**Honiara**	**11.44**	**316**	Pn	**Pn**	**19 01 59.2**		**+1.1**
	6.4nm,0.3s,baz=34,slow=0.4,SNR=5.2							
ARMA	**Armidale**	**19.45**	**227**	*e*P	**Pn**	**19 03 43.7**		**+1.5**
CTA	**Charters Tower**	**20.67**	**260**	*e*P	**P**	**19 03 56.1**		**+1.9**
	11nm,0.9s							
CTA	**Charters Tower**	**20.67**	**260**	P	**P**	**19 03 54.6**		**+0.4**
	16nm,1.0s,baz=92,slow=14,SNR=6.0							
CTA	**Charters Tower**	**20.67**	**260**	*e*P	**P**	**19 03 56.1**		**+1.9**
CTA				pmax	pmax			
	comp=Z,11nm,0.9s							
CTAO	**Charters Tower**	**20.67**	**260**	*e*P	**P**	**19 03 54.9**		**+0.7**
URZ	**Urewera**	**21.85**	**160**	P	**P**	**19 04 07.8**		**+0.9**
	comp=Z,26nm,0.8s,mb4.7,baz=331,slow=12,SNR=6.0							
CNB	**Canberra Magne**	**24.01**	**220**	*e*P	**P**	**19 04 29.8**		**+0.9**
	comp=Z,74nm,0.9s,mb5.1							
SNZO	**South Karori**	**24.09**	**168**	*e*P	**P**	**19 04 32.6**		**+2.9**
	comp=Z,66nm,1.1s,mb5.0							
RPZ	**Rata Peaks**	**25.92**	**175**	P	**P**	**19 04 49.2**		**+2.9**
	comp=Z,11nm,1.0s,mb4.4,baz=284,slow=4.2,SNR=3.7							
WB2	**Warramunga Arr**	**31.86**	**261**	*e*P	**P**	**19 05 38.7**		**-0.5**
WB2	**Warramunga Arr**	**31.86**	**261**	*e*P	**P**	**19 05 38.7**		**-0.4**
WRAB	**Tennant Creek**	**31.86**	**261**	*e*P	**P**	**19 05 38.4**		**-0.8**
WRA	**Warramunga Arr**	**31.87**	**261**	P	**P**	**19 05 38.9**		**-0.4**
	comp=Z,1.8nm,0.4s,mb4.2,baz=80,slow=6.2,SNR=15							
WRA				ScP	ScP	19 12 12.7		+1.7
	comp=Z,3.1nm,1.3s,baz=95,slow=4.4,SNR=5.2							
AS31	**Alice Springs**	**32.34**	**254**	*e*P	**P**	**19 05 42.0**		**-1.4**
ASAR	**Alice Springs**	**32.34**	**254**	P	**P**	**19 05 42.6**		**-0.8**
	comp=Z,4.7nm,0.5s,mb4.5,baz=83,slow=8.4,SNR=19							
ASPA	**Alice Springs**	**32.34**	**254**	*e*P	**P**	**19 05 42.7**		**-0.7**
KAKA	**Kakadu**	**34.63**	**273**	*e*P	**P**	**19 06 03.3**		**0.0**
	comp=Z,6.6nm,0.5s,mb4.8							
FORT	**Forrest**	**38.39**	**243**	*e*P	**P**	**19 06 35.5**		**+0.1**
	comp=Z,12nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**40.21**	**263**	*i*P	**P**	**19 06 51.1**		**+0.5**
	comp=Z,49nm,1.1s,mb5.2							
FITZ	**Fitzroy Crossi**	**40.21**	**263**	P	**P**	**19 06 51.0**		**+0.4**
	comp=Z,27nm,0.9s,mb5.0,baz=105,slow=7.8,SNR=19							
PPT	**Papeete**	**40.37**	**96**	*e*LR	LR	19 17 59.0		
	comp=Z,1μm,25.5s							
MBWA	**Marble Bar**	**45.47**	**258**	*e*P	**P**	**19 07 33.5**		**+0.3**
NWAO	**Narrogin (SRO)**	**47.81**	**242**	P	**P**	**19 07 51.6**		**+0.1**
	comp=Z,10.0nm,0.9s,mb4.9,baz=84,slow=10,SNR=3.3							
NWAO	**Narrogin (SRO)**	**47.81**	**242**	*e*P	**P**

ellipse: s-maj=3.8km s-min=1.3km az=66.0
*MDD **31** 19:09:20.6±0.6, 37.76N×8.99W, h22$^{km}_{\pm}$3, mbLg2.5/11, Error ellipse: s-maj=10.2km s-min=3.0km az=61.0, PRXIMO*

ISC 31 19:09:20.4±0.5, 3785N±002×880W±004, h16^{km}, n58, σ1°04/103, Portugal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**0.31**	**168**	*i* Pg	**Pg**	**19 09 27.3**	**+0.3**
PTEO				*e*Sg	**Sg**	**19 09 31.9**	**+0.5**
PTEO	205nm,0.3s						
PTEO	**Sao Teotonio**	**0.31**	**168**	*e*Sg	**Sg**	**19 09 31.9**	**+0.5**
MORF	205nm,0.3s **Marmelete**	**0.56**	**167**	*e*P	**Pg**	**19 09 30.7**	**-0.7**
MORF				*e*S	**Sg**	**19 09 37.9**	**-0.9**
MORF				*e*S	**Sg**	**19 09 38.0**	**-0.9**
MORF				AML	AML	19 09 39.2	
MORF	comp=E,390nm,0.2s **Marmelete**	**0.56**	**167**	*e*P	**Pg**	**19 09 30.7**	**-0.7**
MORF				*e*S	**Sg**	**19 09 37.9**	**-1.0**
PLML	**Palmela**	**0.71**	**354**	*e*Pg	**Pg**	**19 09 35.5**	**+1.2**
PLML				*e*Sg	**Sg**	**19 09 45.8**	**+2.2**
MOE	**Montemor**	**0.76**	**28**	*e*P	**Pg**	**19 09 37.1**	**+1.8**
MOE				*e*S	**Sg**	**19 09 49.6**	**+4.3**
PBEJ	**Beja**	**0.76**	**76**	*e*P	**Pg**	**19 09 37.6**	**+2.3**
PBEJ				*e*S	**Sg**	**19 09 49.9**	**+4.6**
PBEJ	comp=E,122nm,0.1s						
PBEJ	**Beja**	**0.76**	**76**	*e*P	**Pg**	**19 09 37.6**	**+2.3**
PBEJ				*e*S	**Sg**	**19 09 49.9**	**+4.6**
LIS	comp=E,122nm,0.1s **Lisbon**	**0.91**	**343**	*e*P	**Pb**	**19 09 37.5**	**-0.3**
LIS				*e*S	**Sb**	**19 09 49.5**	**-0.1**
LIS				*e*S	**Sb**	**19 09 49.5**	**-0.1**
LIS				AML	AML	19 09 51.5	
LIS	comp=E,280nm,0.2s **Lisbon**	**0.91**	**343**	P	**Pb**	**19 09 37.5**	**-0.3**
LIS				P		19 09 37.5	
LIS				S	**Sb**	**19 09 49.5**	**-0.1**
LIS	**Lisbon**	**0.91**	**343**	*e*P	**Pb**	**19 09 37.5**	**-0.3**
LIS				*e*S	**Sb**	**19 09 49.5**	**-0.1**
PLOU	**Loures**	**1.07**	**345**	*e*P	**Pb**	**19 09 40.3**	**-0.3**
PLOU				*e*S	**Sb**	**19 09 55.1**	**+0.8**
PLOU	comp=E,47nm,0.1s						
PLOU	**Loures**	**1.07**	**345**	*e*P	**Pb**	**19 09 40.3**	**-0.3**
PLOU				*e*S	**Sb**	**19 09 55.1**	**+0.8**
EGRO	comp=E,47nm,0.1s **El Granado**	**1.09**	**106**	Pg	**Pg**	**19 09 40.6**	**-1.0**
EGRO	comp=E,0.4nm,0.1s,SNR=32			Lg		19 09 58.8	
PMAFR	comp=E,83nm,0.3s,SNR=15 **Mafra**	**1.17**	**341**	*e*P	**Pn**	**19 09 41.6**	**-0.5**
PMAFR				*e*S	**Sb**	**19 09 57.0**	**-0.1**
ALMR	**Almeirim**	**1.32**	**8**	*e*P	**Pn**	**19 09 44.3**	**+0.1**
ALMR				*e*S	**Sn**	**19 10 01.6**	**+0.2**
ALMR				*e*S	**Sn**	**19 10 01.6**	**+0.2**
ALMR				AML	AML	19 10 06.3	
ALMR	comp=N,157nm,0.2s **Almeirim**	**1.32**	**8**	*e*P	**Pn**	**19 09 44.3**	**+0.1**
ALMR				*e*S	**Sn**	**19 10 01.6**	**+0.2**
PESTR	**Estremoz**	**1.39**	**43**	*e*LR	LR	19 08 09.9	
PESTR	**Estremoz**	**1.39**	**43**	*e*P	**Pn**	**19 09 46.5**	**+1.3**
PESTR				*e*S	**Sn**	**19 10 05.3**	**+2.0**
EBAD	**Badajoz**	**1.67**	**57**	Pn	**Pn**	**19 09 48.9**	**-0.2**
EBAD	comp=N,0.2nm,0.1s,SNR=14			Pg	**Pg**	**19 09 52.8**	**+0.2**
EBAD	comp=N,4.0nm,0.1s,SNR=39			Lg		19 10 18.0	
EBAD	comp=N,8.3nm,0.1s,SNR=4.9 **Badajoz**	**1.67**	**57**	Pn	**Pn**	**19 09 48.9**	**-0.2**
EBAD	comp=N,0.2nm,0.1s,SNR=14 **Badajoz**	**1.67**	**57**	Pg	**Pg**	**19 09 52.8**	**+0.2**
EMIN	comp=N,4.0nm,0.1s,SNR=39 **Mina Concepcio**	**1.69**	**92**	Pn	**Pn**	**19 09 49.0**	**-0.3**
EMIN	comp=N,0.3nm,0.3s,SNR=24			Pg	**Pg**	**19 09 53.1**	**+0.1**
EMIN	comp=N,0.1nm,0.1s,SNR=14			Lg		19 10 17.2	
EMIN	comp=N,8.5nm,0.1s,SNR=20 **Mina Concepcio**	**1.69**	**92**	Pn	**Pn**	**19 09 49.0**	**-0.3**
EMIN	comp=N,0.3nm,0.3s,SNR=24 **Mina Concepcio**	**1.69**	**92**	Pg	**Pg**	**19 09 53.1**	**+0.2**
PTOM	comp=N,0.1nm,0.1s,SNR=14 **Tomar**	**1.79**	**10**	*e*Pn	**Pn**	**19 09 51.1**	**+0.4**
PTOM				*e*Sn	**Sn**	**19 10 13.8**	**+0.6**
PTOM	comp=N,90nm,0.5s						
PTOM	**Tomar**	**1.79**	**10**	*e*Pn	**Pn**	**19 09 51.1**	**+0.4**
PTOM	comp=N,90nm,0.5s			*e*Sn	**Sn**	**19 10 13.8**	**+0.6**
PCBR	**Castelo Branco**	**2.24**	**27**	*e*Pn	**Pn**	**19 09 57.9**	**+1.0**
PCBR				*e*Sn	**Sn**	**19 10 25.1**	**+0.9**
PCBR	comp=N,15nm,0.3s						
PCBR	**Castelo Branco**	**2.24**	**27**	*e*Pn	**Pn**	**19 09 57.9**	**+1.0**
PCBR	comp=N,15nm,0.3s			*e*Sn	**Sn**	**19 10 25.1**	**+0.9**
ESPR	**Espera**	**2.54**	**112**	Pn	**Pn**	**19 10 01.5**	**+0.5**
ESPR	comp=N,1.8nm,0.1s,SNR=7.9			Pg	**Pg**	**19 10 09.2**	**0.0**
ESPR	comp=N,5.8nm,0.2s,SNR=8.3			Sn	**Sn**	**19 10 33.5**	**+1.8**
ESPR	comp=N,8.9nm,0.1s,SNR=7.9			Lg		19 10 44.9	
ESPR	comp=N,1.9nm,0.1s,SNR=5.1 **Espera**	**2.54**	**112**	Pn	**Pn**	**19 10 00.2**	**-0.9**
ESPR	comp=N,2.3nm,0.3s,SNR=7.9 **Espera**	**2.54**	**112**	Pg	**Pg**	**19 10 09.2**	**0.0**
ESPR	comp=N,5.8nm,0.2s,SNR=8.3			Sn	**Sn**	**19 10 32.8**	**+1.1**
MTE	comp=N,7.7nm,0.2s,SNR=7.9 **Manteigas**	**2.73**	**21**	*e*LR	LR	19 08 55.9	
MTE	comp=N,651nm,21.0s **Manteigas**	**2.73**	**21**	*e*Pn	**Pn**	**19 10 03.7**	**+0.1**
MTE				*e*Sn	**Sn**	**19 10 36.5**	**+0.2**
MTE	comp=N,30nm,0.7s						
MTE	**Manteigas**	**2.73**	**21**	*e*Pn	**Pn**	**19 10 03.7**	**+0.1**
MTE	comp=N,30nm,0.7s			*e*Sn	**Sn**	**19 10 36.5**	**+0.2**
PTO	**Porto**	**3.29**	**3**	*e*Sn	**Sn**	**19 10 48.3**	**-1.8**
EADA	**Adamuz**	**3.35**	**83**	Pn	**Pn**	**19 10 12.0**	**-0.2**
EADA	comp=N,0.2nm,0.1s,SNR=5.0			Sn	**Sn**	**19 10 51.6**	**-0.1**
EADA	comp=N,1.8nm,0.3s,SNR=7.7			Lg		19 11 10.0	
EADA	comp=N,3.3nm,0.2s,SNR=7.0 **Adamuz**	**3.35**	**83**	Pn	**Pn**	**19 10 12.9**	**+0.7**
EADA	comp=N,0.8nm,0.3s,SNR=5.0 **Adamuz**	**3.35**	**83**	Pg	**Pg**	**19 10 21.8**	**-2.9**
EADA	comp=N,0.4nm,0.2s,SNR=7.9			Sn	**Sn**	**19 10 51.1**	**-0.6**
EMIJ	comp=N,1.8nm,0.3s,SNR=7.7 **Mijas**	**3.46**	**111**	Pn	**Pn**	**19 10 14.2**	**+0.5**
EMIJ	comp=N,11nm,0.8s,SNR=7.9			Sn	**Sn**	**19 10 54.4**	**0.0**
EMIJ	comp=N,1.4nm,0.2s,SNR=7.9 **Mijas**	**3.46**	**111**	Pn	**Pn**	**19 10 14.2**	**+0.5**
EMIJ	comp=N,11nm,0.8s,SNR=7.9			Sn	**Sn**	**19 10 53.2**	**-1.2**
PVRL	comp=N,8.6nm,2.8s,SNR=7.9 **Vila Real**	**3.52**	**13**	*e*Pn	**Pn**	**19 10 14.8**	**+0.3**
PVRL				*e*Sn	**Sn**	**19 10 54.5**	**-1.4**
PVRL	comp=N,43nm,0.1s						
PCAB	**Cabril**	**3.90**	**9**	*e*Pn	**Pn**	**19 10 19.7**	**0.0**
PCAB				*e*Sn	**Sn**	**19 11 03.3**	**-1.9**
PCAB	comp=N,13nm,0.2s						
EBAN	**Banos Encina**	**3.98**	**84**	Lg		19 11 29.6	
ELOB	comp=N,9.1nm,0.4s,SNR=7.6 **Lobios**	**4.05**	**8**	Pn	**Pn**	**19 10 21.8**	**0.0**
ELOB	comp=N,1.9nm,0.1s,SNR=12			Sn	**Sn**	**19 11 05.3**	**-3.7**
ELOB	comp=N,16nm,1.0s **Lobios**	**4.05**	**8**	Pn	**Pn**	**19 10 21.8**	**0.0**
ELOB	comp=N,1.1nm,0.4s,SNR=12			Sn	**Sn**	**19 11 05.3**	**-3.6**
ESDC	comp=N,16nm,1.0s **Sonseca Array**	**4.20**	**63**	Pn	**Pn**	**19 10 23.4**	**-0.4**
ESDC	comp=N,0.6nm,0.3s,baz=247,slow=13,SNR=9.5			Sn	**Sn**	**19 11 10.4**	**-2.2**
ESDC	baz=251,slow=23,SNR=7.9			Lg		19 11 37.6	
ESDC	comp=N,0.8nm,0.3s,baz=256,slow=28,SNR=6.6 **Sonseca Array**	**4.20**	**63**	Pn	**Pn**	**19 10 23.4**	**-0.4**
ESDC	comp=N,0.6nm,0.3s,SNR=9.5			Sn	**Sn**	**19 11 10.4**	**-2.2**
PBRG	SNR=7.9 **Braganca**	**4.26**	**21**	*e*Pn	**Pn**	**19 10 24.7**	**+0.1**
PBRG				*e*Sn	**Sn**	**19 11 12.3**	**-1.7**
PBRG	comp=N,5.2nm,0.1s						
EGUA	**Guajares**	**4.30**	**102**	Sn	**Sn**	**19 11 15.1**	**+0.2**
EGUA	SNR=7.9			Lg		19 11 40.1	
EQUE	SNR=7.9 **Quentar**	**4.31**	**97**	Sn	**Sn**	**19 11 15.6**	**+0.3**
EQUE	comp=N,1.5nm,0.4s,SNR=7.9			Lg		19 11 41.4	
ECAL	comp=N,1.1nm,0.3s,SNR=7.9 **Calabor**	**4.38**	**21**	Pn	**Pn**	**19 10 26.6**	**+0.2**
ECAL	comp=N,0.7nm,0.1s,SNR=69			Sn	**Sn**	**19 11 17.0**	**-0.1**
ECAL	comp=N,3.3nm,0.3s,SNR=6.0			Lg		19 11 44.6	
ECAL	comp=N,7.9nm,0.4s,SNR=7.9 **Calabor**	**4.38**	**21**	Pn	**Pn**	**19 10 26.9**	**+0.5**
ECAL	comp=N,4.3nm,0.9s,SNR=69			Sn	**Sn**	**19 11 17.0**	**-0.1**
EMAZ	comp=N,3.3nm,0.3s,SNR=6.0 **Mazaricos**	**5.09**	**359**	Pn	**Pn**	**19 10 35.6**	**-0.5**
EMAZ	comp=N,1.7nm,0.1s,SNR=7.9			Sn	**Sn**	**19 11 30.0**	**-4.6**
EMAZ	comp=N,1.7nm,0.1s,SNR=7.9 **Mazaricos**	**5.09**	**359**	Pn	**Pn**	**19 10 34.8**	**-1.3**
EMAZ	SNR=7.9			Sn	**Sn**	**19 11 28.8**	**-5.8**
EPON	SNR=7.9 **Pontenova**	**5.61**	**12**	Pn	**Pn**	**19 10 43.0**	**-0.3**
EPON	comp=N,0.2nm,0.1s,SNR=7.9			Sn	**Sn**	**19 11 46.5**	**-0.9**
EPON	comp=N,0.7nm,0.2s,SNR=4.0 **Pontenova**	**5.61**	**12**	Pn	**Pn**	**19 10 41.7**	**-1.6**
EPON	SNR=7.9			Sn	**Sn**	**19 11 44.7**	**-2.7**
EARI	SNR=7.9 **Arriondas**	**6.09**	**26**	Pn	**Pn**	**19 10 51.7**	**+1.9**
EARI	comp=N,0.1nm,0.1s,SNR=7.9			Sn	**Sn**	**19 11 57.7**	**-1.6**
	comp=N,0.2nm,0.1s,SNR=7.9						

IDC 31 19:25:24.5±2.3, 470S×12848E, h0^{km}, mb3.5/1, mb1 3.5/3, mb1mx3.3/13, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=167.7km s-min=30.7km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.19**	**160**	Pn	Pn	19 29 14.0	+0.6
	0.1nm,0.3s,baz=342,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**19.57**	**165**	P	Pn	19 29 54.0	-1.1
	0.1nm,0.3s,baz=350,slow=11,SNR=9.5						
MKAR	**Makanchi Array**	**65.49**	**327**	P	P	19 36 09.6	+0.2
	0.2nm,0.7s,baz=127,slow=7.8,SNR=3.6						

IDC 31 19:39:55.3±0.9, 5538S×12397W, h0^{km}, mb3.9/5, mb1 4.2/5, mb1mx4.0/11, mbtmp3.9/5, MS3.9/5, Ms1 3.9/5, ms1mx3.6/16, Error ellipse: s-maj=59.3km s-min=21.9km az=162.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**33.35**	**202**	P	P	19 46 35.4	+0.4
	0.9nm,0.8s,baz=112,slow=7.2,SNR=3.6						
VNDA				LR	LR	19 56 57.6	
	comp=Z,238nm,20.5s,baz=64,slow=31						
PLCA	**Paso Flores**	**37.61**	**90**	P	P	19 47 10.4	-1.2
	0.6nm,0.7s,baz=260,slow=6.1,SNR=2.6						
PLCA				LR	LR	19 58 53.7	
	comp=Z,116nm,21.1s,baz=112,slow=30						
LPAZ	**La Paz**	**57.55**	**70**	P	P	19 49 48.0	+1.5
	2.2nm,1.1s,baz=182,slow=10,SNR=5.0						
LPAZ				LR	LR	20 07 44.6	
	comp=Z,54nm,18.6s,baz=184,slow=29						
ASAR	**Alice Springs**	**77.42**	**247**	P	P	19 51 51.6	-0.6
	1.3nm,0.9s,baz=140,slow=4.8,SNR=7.5						
WRA	**Warramunga Arr**	**80.23**	**249**	P	P	19 52 07.4	-0.3
	2.7nm,0.9s,baz=145,slow=4.9,SNR=20						
WRA				LR	LR	20 24 43.5	
	comp=Z,94nm,21.4s,baz=135,slow=34						
PMG	**Port Moresby**	**81.70**	**266**	LR	LR	20 21 00.3	
	comp=Z,130nm,18.6s,baz=148,slow=30						
PKI	**Pulchoki**	**145.04**	**229**	*e*P	PKPbc	19 59 33.3	-0.6
GUN	**Gumba**	**145.13**	**230**	*e*P	PKPbc	19 59 33.4	-0.8
DMN	**Daman**	**145.20**	**229**	*e*P	PKPbc	19 59 33.6	-0.8
	56nm,1.1s						
KKN	**Kakani**	**145.28**	**229**	*e*P	PKPbc	19 59 34.0	-0.7
	33nm,1.1s						
GKN	**Gorkha**	**145.75**	**229**	*e*P	PKPdf	19 59 35.1	-0.6
KOLN	**Koldanda**	**145.98**	**227**	*e*P	PKPdf	19 59 35.3	-0.8
SONM	**Songino Array**	**148.44**	**278**	PKPbc	PKPbc	19 59 43.7	0.0
	0.4nm,0.7s,baz=146,slow=1.6,SNR=5.3						
GERES	**GERESS Array B**	**153.53**	**86**	PKPbc	PKPbc	19 59 54.8	-1.0
	0.3nm,0.5s,baz=205,slow=4.3,SNR=2.8						
MKAR	**Makanchi Array**	**161.49**	**253**	PKPab	PKPab	20 00 40.8	-1.6
	0.6nm,0.8s,baz=111,slow=6.6,SNR=5.0						

IDC 31 19:40:51.6±8.6, 661S×12957E, h111$^{km}_{\pm}$83^{km}, mb3.2/1, mb1 3.1/4, mb1mx3.0/12, mbtmp3.4/4, ML3.0/3, Error ellipse: s-maj=95.7km s-min=29.1km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.05**	**198**	P	Pn	19 43 40.2	+0.6
	0.0nm,0.3s,baz=180,slow=19,SNR=5.2						
WRA	**Warramunga Arr**	**14.04**	**161**	P	Pn	19 44 04.0	-1.5
	0.1nm,0.3s,baz=341,slow=13,SNR=8.2						
WRA				S	Sn	19 46 30.8	-10
	0.3nm,0.3s,baz=332,slow=23,SNR=7.7						
ASAR	**Alice Springs**	**17.47**	**167**	P	Pn	19 44 47.8	-0.4
	0.1nm,0.3s,baz=344,slow=9.5,SNR=12						
ASAR				S	S	19 48 04.3	+1.4
	0.1nm,0.3s,baz=356,slow=23,SNR=6.0						
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	19 51 36.9	+0.2
	0.2nm,0.3s,baz=123,slow=7.6,SNR=6.7						

*IDC **31** 20:15:55.0±14.0, 1938S×17556W, h103$^{km}_{\pm}$123^{km}, mb4.4/6, mb1 4.5/7, mb1mx4.1/15, mbtmp4.7/7, ML4.5/1, Error ellipse: s-maj=55.3km s-min=26.3km az=55.0*
*ISCJB **31** 20:16:02.6±1.5, 194S×02×1755W×02, h200^{km}, mb4.3/10, Error ellipse: s-maj=29.8km s-min=19.5km az=127.3*
*NEIC **31** 20:16:09.7±6.9, 1959S×17577W, h233$^{km}_{\pm}$59^{km}, mb4.7/6, Error ellipse: s-maj=39.4km s-min=18.6km az=50.0*

ISC 31 20:16:04.8±1.4, 195S±02×1755W±02, h200^{km}, n22, σ0°86/19, mb4.3/10, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**17.09**	**258**	*e*P	**P**	**20 19 53.8**	**+3.2**
DZM	**Mont Dzumac**	**17.09**	**258**	P	**P**	**20 19 52.8**	**+2.2**
	2.3nm,0.3s,baz=75,slow=18,SNR=45						
URZ	**Urewera**	**19.80**	**197**	P	**P**	**20 20 18.9**	**-1.1**
	1.4nm,0.3s,baz=341,slow=3.2,SNR=6.3						
CTA	**Charters Tower**	**35.95**	**262**	*e*P	**P**	**20 22 46.7**	**+0.5**
	20nm,0.5s,mb4.9						
CTA	**Charters Tower**	**35.95**	**262**	P	**P**	**20 22 46.6**	**+0.4**
	26nm,0.5s,mb5.0,baz=93,slow=10,SNR=65						
CTAO	**Charters Tower**	**35.95**	**262**	*e*P	**P**	**20 22 46.6**	**+0.4**
	26nm,0.6s,mb4.9						
AS31	**Alice Springs**	**47.05**	**255**	*e*P	**P**	**20 24 16.5**	**+0.2**
ASAR	**Alice Springs**	**47.05**	**255**	P	**P**	**20 24 16.1**	**-0.2**
	14nm,0.6s,mb4.5,baz=92,slow=8.4,SNR=205						
ASPA	**Alice Springs**	**47.06**	**255**	*e*P	**P**	**20 24 16.5**	**+0.2**
WB2	**Warramunga Arr**	**47.08**	**261**	*e*P	**P**	**20 24 15.8**	**-0.6**
WRAB	**Tennant Creek**	**47.08**	**261**	*e*P	**P**	**20 24 15.9**	**-0.6**
	7.7nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**47.09**	**261**	P	**P**	**20 24 15.8**	**-0.7**
	5.9nm,0.6s,mb4.1,baz=97,slow=5.7,SNR=131						
KAKA	**Kakadu**		**50.33 269**	⇑*i*P	**P**	**20 24 41.2**	**0.0**
	8.4nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**55.51**	**261**	*e*P	**P**	**20 25 19.3**	**+0.3**
	4.8nm,0.6s,mb4.2						
VNDA	**Vanda**	**59.15**	**186**	P	**P**	**20 25 44.1**	**-0.3**
	1.3nm,0.8s,mb3.6,baz=2.2,slow=2.8,SNR=7.5						
MBWA	**Marble Bar**	**60.38**	**256**	*e*P	**P**	**20 25 52.5**	**-0.3**
QSPA	**South Pole Qui**	**70.60**	**180**	*e*P	**P**	**20 27 00.5**	**+2.2**
	5.9nm,0.2s,mb4.9						
MJAR	**Matsushiro Arr**	**70.81**	**322**	P	**P**	**20 26 60.0**	**+0.4**
	3.0nm,0.8s,mb4.0,baz=157,slow=5.7,SNR=7.7						
JOW	**Kunigami**	**71.34**	**308**	P	**P**	**20 27 01.9**	**-0.8**
	6.1nm,1.0s,mb4.2,baz=146,slow=17,SNR=2.7						
CLL	**Collm**	**147.53**	**350**	*i* PKPbc	PKPbc	20 35 28.0	+2.8
	comp=Z,5.0nm,1.0s						
BRTR	**Keskin Array B**	**147.83**	**315**	PKPbc	PKPbc	20 35 28.1	+2.1
	comp=Z,1.1nm,0.6s,baz=129,slow=3.3,SNR=8.8						
GERES	**GERESS Array B**	**149.77**	**348**	PKPbc	PKPbc	20 35 33.4	+2.5
	comp=Z,0.2nm,0.6s,baz=333,slow=2.1,SNR=5.0						

IGQ 31 20:21:05.5, 045S×8186W, h7$^{km}_{\pm}$13^{km}, Mb4.3, Ms4.1, 4C-2D, Error ellipse: s-maj=20.5km s-min=6.4km az=13.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAG1	**Magdalena**	**2.12**	**80**	⇑P	Pn	20 21 42.3	+0.9
MAG1				S	Sn	20 22 08.2	+0.2
QIL1	**Quilotoa**	**2.95**	**98**	P	Pn	20 21 51.4	-1.4
QIL1				S	Sn	20 22 19.0	-9.4
JUA2	**San Juan 2**	**3.26**	**86**	P	Pn	20 21 57.1	0.0
PINO	**Pino**	**3.27**	**85**	⇓P	Pn	20 21 56.6	-0.5
TERV	**Terraza Guagua**	**3.27**	**85**	P	Pn	20 21 58.0	+0.9
GGP	**Refugio Guagua**	**3.28**	**85**	⇓P	Pn	20 21 57.1	-0.1
YANA	**Yana**	**3.31**	**84**	P	Pn	20 21 57.5	-0.2
CAMI	**Rancho Maria**	**3.36**	**94**	P	Pn	20 22 00.1	+1.7
IGUA	**Igualata**	**3.38**	**108**	P	Pn	20 21 59.7	+1.0
VC1	**Cotopaxi 1**	**3.46**	**93**	⇑P	Pn	20 22 01.2	+1.4
TAMB	**Tambo**	**3.50**	**94**	⇑P	Pn	20 22 01.4	+1.0
PISA	**Pisayambo**	**3.53**	**100**	P	Pn	20 22 02.2	+1.6
JUIV	**Juive**	**3.53**	**106**	P	Pn	20 22 01.5	+0.7
ARRY	**Arrayan**	**3.56**	**107**	⇑P	Pn	20 22 01.9	+0.7
ARRY				S	Sn	20 22 37.7	-5.8
PATA	**Patacocha**	**3.58**	**107**	P	Pn	20 22 02.5	+1.0
ULBA	**Ulba**	**3.59**	**106**	P	Pn	20 22 02.8	+1.2
COTA	**Cotacachi**	**3.61**	**78**	P	Pn	20 22 03.8	+2.0
ANTI	**Antisana**	**3.70**	**90**	P	Pn	20 22 04.6	+1.6
CAYR	**Refugio Cayamb**	**3.88**	**83**	P	Pn	20 22 08.2	+2.7
CAYA	**Cayambe**	**3.90**	**82**	P	Pn	20 22 08.1	+2.2

MOS 31 20:26:30.6±1.4, 5120N×9830E, h10^{km}, mb4.3/1, Error ellipse: s-maj=33.4km s-min=24.2km az=50.3, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ORL	**Orlik**	**1.64**	**34**	*e*PN	Pn	20 27 00.5	+1.1
ORL				*e*		20 27 22.7	
ORL				pmax	pmax		
	comp=Z,38nm,0.4s						
ORL				smax			
	comp=E,371nm,1.0s						
MOY	**Mondy**	**1.75**	**73**	*e*PN	Pn	20 27 02.2	+1.2
MOY				*e*		20 27 26.4	
MOY				pmax	pmax		
	comp=Z,58nm,0.4s						
MOY				smax			
	comp=N,329nm,0.8s						
ARS	**Arshan**	**2.67**	**73**	*e*PN	Pn	20 27 15.4	+1.7
ARS				*e*		20 27 55.1	
ARS				pmax	pmax		
	comp=Z,18nm,0.3s						
ARS				smax			
	comp=E,280nm,0.6s						
IRK	**Irkutsk**	**3.86**	**72**	*e*PN	Pn	20 27 39.1	+9.1
IRK				*e*		20 28 29.7	
IRK				pmax	pmax		
	comp=Z,26nm,0.4s						
IRK				smax			
	comp=N,346nm,1.1s						
OGRR	**Ongureny**	**6.19**	**63**	*e*PN	Pn	20 28 23.1	+21
OGRR				*e*		20 29 41.6	
OGRR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
OGRR				smax			
	comp=E,55nm,1.2s						

*ISCJB **31** 20:44:24.7±1.1, 2028S×0.10×178.11W±009, h494$^{km}_{\pm}$14^{km}, mb4.0/15, Error ellipse: s-maj=17.5km s-min=9.7km az=110.2*
*IDC **31** 20:44:25.8±1.8, 2024S×17809W, h496$^{km}_{\pm}$21^{km}, mb3.6/11, mb1 3.8/14, mb1mx3.8/18, mbtmp4.6/14, Error ellipse: s-maj=17.0km s-min=11.6km az=142.0*
*NEIC **31** 20:44:26.6±0.9, 2030S×17809W, h508$^{km}_{\pm}$10^{km}, mb4.2/4, Error ellipse: s-maj=12.6km s-min=7.7km az=148.0*

ISC 31 20:44:26.9±1.2, 203S±01×17808W±009, h509$^{km}_{\pm}$15^{km}, n39, σ0°68/31, mb4.0/15, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.78**	**44**	P	**P**	**20 46 31.2**	**-0.3**
	31nm,0.3s,baz=42,slow=3.7,SNR=31						
AFI				S	**S**	**20 48 07.7**	**-6.2**
	7.8nm,0.3s,baz=217,slow=20,SNR=5.1						
AFI	**Afiamalu**	**8.78**	**44**	*e*P	**P**	**20 46 30.8**	**-0.7**
	180nm,0.6s						
AFI				*e*S	**S**	**20 48 08.0**	**-6.0**
DZM	**Mont Dzumac**	**14.54**	**260**	P	**P**	**20 47 31.7**	**-0.3**
	0.8nm,0.3s,baz=88,slow=17,SNR=5.8						
URZ	**Urewera**	**18.34**	**192**	P	**P**	**20 48 09.3**	**-0.5**
	1.6nm,0.3s,baz=351,slow=7.9,SNR=6.7						
CTA	**Charters Tower**	**33.43**	**264**	P	**P**	**20 50 23.7**	**+0.8**
	5.7nm,0.5s,mb4.3,baz=110,slow=8.8,SNR=7.2						
CTAO	**Charters Tower**	**33.43**	**264**	*e*P	**P**	**20 50 24.0**	**+1.1**
AS31	**Alice Springs**	**44.48**	**257**	*e*P	**P**	**20 51 53.0**	**+0.6**
ASAR	**Alice Springs**	**44.48**	**257**	P	**P**	**20 51 52.6**	**+0.2**
	16nm,0.8s,mb4.6,baz=98,slow=7.6,SNR=150						
ASAR				S	**S**	**20 57 47.6**	**-2.4**
	1.6nm,1.1s,baz=92,slow=16,SNR=7.2						
ASPA	**Alice Springs**	**44.49**	**257**	*e*P	**P**	**20 51 53.0**	**+0.6**
WB2	**Warramunga Arr**	**44.54**	**262**	*e*P	**P**	**20 51 52.7**	**-0.1**
WB2				*e*		20 52 15.6	
WRAB	**Tennant Creek**	**44.54**	**262**	*e*P	**P**	**20 51 52.7**

comp=Z,2.9nm,0.8s
GRA1 Grafenberg Arr 149.79 348 *e*PKP PKPab 21 03 26.3 -0.3
KHC Kasperske Hory 149.79 345 *e*PKPbc PKPbc 21 03 18.0 -1.1
KHC PKPab PKPab 21 03 26.5 -0.2
KHC Kasperske Hory 149.79 345 *e*P PKPbc 21 03 18.0 -1.1
KHC *e* PKPab 21 03 26.5 -0.2
GERES GERESS Array B 150.03 344 PKPbc PKPbc 21 03 19.1 -0.6
comp=Z,1.1nm,0.8s,baz=21,slow=1.9,SNR=6.9
TORD Torodi Ar. Bea 172.84 178 PKP PKPdf 21 03 35.9 -1.3
comp=Z,1.2nm,0.9s,baz=221,slow=2.4,SNR=5.9
TORD PKPab PKPab 21 05 08.8 +1.6
comp=Z,0.5nm,0.6s,baz=171,slow=2.0,SNR=6.0

KRSC ***31*** *20:47:49,5158N×15976E,h11km,ML4.3*
MOS ***31*** *20:47:49.5±2.9,5158N×15976E,h11km,mb4.1/2,Error ellipse: s-maj=16.8km s-min=9.0km az=97.9*
ISCJB ***31*** *20:47:55.5±1.9,518N±0.1×1597E±0.02,h67km±11km, mb3.8/10,Error ellipse: s-maj=25.5km s-min=9.9km az=98.8*
IDC ***31*** *20:47:55.7±4.5,5247N×158.14E,h0km,mb3.9/7, mb1 4.1/7,mb1mx3.8/19,mbtmp3.9/7,MS2.8/1,Ms1 2.8/1, ms1mx2.4/33,Error ellipse: s-maj=118.3km s-min=32.5km az=118.0*
NEIC ***31*** *20:48:00.2±0.9,5268N×15729E,h10km,mb4.1/2,Error ellipse: s-maj=21.3km s-min=10.4km az=160.0*
ISC 31 20:47:56.8±1.8,518N±01×1597E±02,h64km±11km,n25, σ1§37/30,mb3.9/10,3C-1D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.95**	**310**	P		P	**Pn**	**20 48 11.0**	**-3.3**
RUS				S		S	**Sn**	**20 48 27.2**	**0.0**
PET	**Petropavlovsk**	**1.35**	**332**	P		P	**Pn**	**20 48 18.2**	**-1.4**
PET				S		S	**Sn**	**20 48 39.4**	**+2.7**
PET	**Petropavlovsk**	**1.35**	**332**	⇑*i*	PN	P	**Pn**	**20 48 17.9**	**-1.7**
PET				*e*	S	S	**Sn**	**20 48 37.3**	**+0.6**
PET	comp=Z,273nm,0.5s			pmax	pmax				
PET	comp=N,2μm,1.0s			smax					
PET	comp=N,3μm,0.9s			smax					
PET	**Petropavlovsk**	**1.35**	**332**	*e*	P	P	**Pn**	**20 48 17.8**	**-1.7**
KII	**Karymskiy**	**2.21**	**356**	P		P	**Pn**	**20 48 32.4**	**+1.3**
KII				S		S	**Sn**	**20 49 03.2**	**+5.9**
SKR	**Severo-Kuril's**	**2.53**	**244**	*e*	PN	P	**Pn**	**20 48 29.3**	**-6.2**
SKR	comp=N,50nm,0.5s			pmax	pmax				
SKR	comp=E,80nm,0.5s			pmax	pmax				
SKR	comp=Z,150nm,0.5s			pmax	pmax				
MKZ	**Mys Kozlova**	**2.99**	**23**	P		P	**Pn**	**20 48 40.5**	**-1.2**
MKZ				S		S	**Sn**	**20 49 16.9**	**+0.6**
YSS	**Yuzh-Sakhalins**	**12.07**	**253**	⇑*e*	PN	P	**Pn**	**20 50 46.9**	**+1.1**
ASAJ	**Asahikawa**	**13.79**	**243**	LR		LR		20 56 06.2	
	comp=Z,43nm,21.2s,baz=320,slow=37								
HABR	**Khabarovsk**	**16.13**	**268**	*e*	P	P	**Pn**	**20 51 39.8**	**+0.5**
HABR				*e*	S	S		**20 54 42.5**	**-4.8**
BILL	**Bilibino**	**16.57**	**9**	⇑*e*	P	P	**Pn**	**20 51 40.8**	**-4.0**
BILL	comp=Z,2.0nm,0.4s			pmax	pmax				
BILL	comp=Z,100nm,19.0s			MLR	MLR				
MJAR	**Matsushiro Arr**	**21.59**	**233**	P		P	**P**	**20 52 43.2**	**+2.0**
	comp=Z,2.5nm,0.7s,mb3.8,baz=31,slow=9.5,SNR=6.6								
KURK	**Kurchatov**	**48.20**	**303**	⇓*i*	P	P	**P**	**20 56 29.2**	**-1.6**
KURK	**Kurchatov**	**48.20**	**303**	*e*	P	P	**P**	**20 56 28.3**	**-2.5**
	comp=Z,2.2nm,0.7s,mb4.3								
MKAR	**Makanchi Array**	**48.49**	**296**	P		P	**P**	**20 56 31.0**	**-2.1**
	comp=Z,0.3nm,0.2s,mb3.9,baz=55,slow=8.5,SNR=3.3								
ARCES	**ARCESS Array B**	**54.41**	**342**	P		P	**P**	**20 57 17.7**	**+0.4**
	comp=Z,2.1nm,0.8s,mb4.1,baz=18,slow=8.4,SNR=7.1								
ARCES	**ARCESS Array B**	**54.41**	**342**	P		P	**P**	**20 57 17.7**	**+0.4**
JOF	**Joensuu**	**58.61**	**335**	*ep*		P	**P**	**20 57 47.2**	**+0.1**
	comp=Z,0.8nm,0.4s,mb4.1								
KAF	**Kangasniemi**	**60.55**	**337**	*ep*		P	**P**	**20 57 59.6**	**-0.8**
	comp=Z,0.4nm,0.4s,mb3.9								
FINES	**FINESS Array B**	**61.18**	**337**	P		P	**P**	**20 58 05.0**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.9,baz=39,slow=7.3,SNR=7.0								
NB2	**NORSAR Subarra**	**64.69**	**344**	P		P	**P**	**20 58 29.0**	**+1.0**
	comp=Z,0.6nm,0.6s,mb3.8,baz=21,slow=6.9								
NOA	**NORSAR Array B**	**64.69**	**344**	P		P	**P**	**20 58 28.9**	**+0.9**
	comp=Z,0.7nm,0.6s,mb3.9,baz=21,slow=6.8,SNR=5.2								
AKASG	**Malin Array Be**	**69.57**	**329**	P		P	**P**	**20 58 59.1**	**+0.2**
	comp=Z,0.3nm,0.3s,mb3.6,baz=33,slow=6.0,SNR=6.2								
AKASG	**Malin Array Be**	**69.57**	**329**	*i*	P	P	**P**	**20 58 58.0**	**-0.9**
GERES	**GERESS Array B**	**75.59**	**338**	P		P	**P**	**20 59 36.7**	**+2.0**
	comp=Z,0.2nm,0.4s,mb3.4,baz=48,slow=2.0,SNR=3.7								

IDC 31 20:50:50.3±1.4,672N×9155E,h0km,mb3.5/5,mb1 3.7/5, mb1mx3.5/18,mbtmp3.5/5,Error ellipse: s-maj=60.2km s-min=22.5km az=52.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.71**	**350**	P		P		20 58 32.5	-0.2
	0.3nm,0.2s,baz=178,slow=8.4,SNR=4.3								
SONM	**Songino Array**	**42.88**	**15**	P		P		20 58 50.6	+0.2
	0.4nm,0.6s,baz=195,slow=6.4,SNR=3.8								
WRA	**Warramunga Arr**	**49.74**	**123**	P		P		20 59 44.7	+0.4
	0.6nm,0.6s,baz=300,slow=8.7,SNR=8.0								
ASAR	**Alice Springs**	**51.20**	**128**	P		P		20 59 55.9	+0.5
	0.4nm,0.5s,baz=300,slow=8.0,SNR=8.2								
BRTR	**Keskin Array B**	**61.25**	**312**	P		P		21 01 07.8	+0.5
	0.5nm,0.9s,baz=111,slow=7.9,SNR=3.8								

ISCJB ***31*** *21:22:11.8±0.7,3913N±003×2361E±004,h8km±5km, Error ellipse: s-maj=6.2km s-min=4.6km az=97.1*
THE ***31*** *21:22:11.9,3907N×2364E,h9km*
NEIC ***31*** *21:22:12.6,3917N×2362E,h6km,MD3.2(ATH),After ATH.*
CSEM ***31*** *21:22:12.5±0.2,3913N×2362E,h2km,MD3.2,Error ellipse: s-maj=4.6km s-min=3.4km az=156.0*
ATH ***31*** *21:22:12.4,3917N×2361E,h11km±9km,MD3.0/3*
ISC 31 21:22:12.0±0.7,3910N±003×2364E±004,h11km±4km,n17, σ0§90/33,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.20**	**70**	*e*	Pg		**Pg**	**21 22 16.6**	**+0.4**
AOS				*e*	Sg		**Sg**	**21 22 19.4**	**+0.3**
NEO	**Neokhori**	**0.38**	**303**	*e*	PB		**Pg**	**21 22 18.9**	**-0.6**
NEO				*e*	SB		**Sg**	**21 22 23.8**	**-0.8**
NEO	**Neokhori**	**0.38**	**303**	*e*	Pb		**Pg**	**21 22 19.2**	**-0.3**
NEO				*e*	Sb		**Sg**	**21 22 24.0**	**-0.6**
XOR	**Xorichti**	**0.44**	**307**	*e*	Pg		**Pg**	**21 22 19.7**	**-0.8**
XOR				*e*	Sg		**Sg**	**21 22 28.2**	**+1.9**
XOR	**Xorichti**	**0.44**	**307**	*e*	Pg		**Pg**	**21 22 19.7**	**-0.8**
XOR				*e*	Sg		**Sg**	**21 22 28.2**	**+1.9**
LKR	**Lokris**	**0.67**	**228**	*e*	PB		**Pb**	**21 22 25.8**	**+0.1**
LKR				*e*	SB		**Sb**	**21 22 35.6**	**+0.5**
LKR	**Lokris**	**0.67**	**228**	*e*	Pb		**Pb**	**21 22 26.2**	**+0.5**
PAIG	**Paliouri**	**0.82**	**2**	*e*	Pg		**Pg**	**21 22 28.0**	**+0.2**
PAIG				*e*	Sg		**Sg**	**21 22 40.1**	**+1.4**
AGG	**Agios Georgios**	**1.02**	**266**	*e*	Pg		**Pg**	**21 22 31.2**	**-0.4**
AGG				*e*	Sg		**Sg**	**21 22 45.6**	**+0.7**
OUR	**Ouranopolis**	**1.26**	**12**	*e*	Pg		**Pg**	**21 22 34.9**	**-1.3**
OUR				*e*	Sg		**Sg**	**21 22 53.3**	**+0.8**
PLG	**Polygyros**	**1.28**	**353**	*e*	PB		**Pb**	**21 22 34.8**	**-1.3**
PLG				*e*	SB		**Sb**	**21 22 51.0**	**-1.5**
PLG	**Polygyros**	**1.28**	**353**	*e*	Pb		**Pb**	**21 22 34.8**	**-1.3**
PLG				*e*	Sb		**Sb**	**21 22 51.3**	**-1.2**
LIT	**Litokhoron**	**1.33**	**319**	*e*	Pg		**Pg**	**21 22 35.9**	**-1.7**
LIT				*e*	Sg		**Sg**	**21 22 55.0**	**0.0**
SRS	**Serrai**	**2.01**	**359**	*e*	Pn		**Pn**	**21 22 45.7**	**-0.2**
SRS				*e*	Sn		**Sn**	**21 23 11.7**	**+0.6**
SRS	**Serrai**	**2.01**	**359**	*e*	Pn		**Pn**	**21 22 45.7**	**-0.2**
SRS				*e*	Sn		**Sn**	**21 23 11.6**	**+0.5**
KNT	**Kendrikon**	**2.13**	**345**	*e*	Pn		**Pn**	**21 22 47.9**	**+0.3**
KNT				*e*	Sn		**Sn**	**21 23 15.1**	**+1.0**
KNT	**Kendrikon**	**2.13**	**345**	*e*	Pn		**Pn**	**21 22 47.8**	**+0.2**
KNT				*e*	Sn		**Sn**	**21 23 15.1**	**+1.0**

IDC ***31*** *21:35:22.6±10.0,1770S×16777E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.8/12,mbtmp3.8/4,Error ellipse: s-maj=300.3km s-min=47.1km az=133.0*
ISCJB ***31*** *21:35:28.1±4.2,1825±03×1679E±06,h60km±55km, mb3.8/4,Error ellipse: s-maj=94.8km s-min=34.6km az=47.5*
ISC 31 21:35:29.0±4.3,182S±04×1681E±06,h63km±62km,n6, σ1§01/7,mb3.8/4,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.17**	**201**	*e*	P	P	**Pn**	**21 36 30.1**	**0.0**
DZM				*e*	S	S	**Sn**	**21 37 17.4**	**-0.1**
NOUC	**Port Laguerre**	**4.25**	**203**	*e*	P	P	**Pn**	**21 36 31.3**	**+0.1**
WRA	**Warramunga Arr**	**31.90**	**261**	P		P	**P**	**21 41 46.8**	**-1.5**
	0.2nm,0.5s,mb3.2,baz=91,slow=8.3,SNR=4.9								
ASAR	**Alice Springs**	**32.33**	**254**	P		P	**P**	**21 41 52.9**	**+0.8**
	1.1nm,0.7s,mb3.8,baz=77,slow=8.9,SNR=12								
FITZ	**Fitzroy Crossi**	**40.26**	**263**	P		P	**P**	**21 43 00.5**	**+0.9**
	1.8nm,0.8s,mb3.9,baz=123,slow=8.8,SNR=6.9								
SONM	**Songino Array**	**85.70**	**324**	P		P	**P**	**21 48 00.8**	**-0.2**
	1.2nm,0.9s,mb4.1,baz=138,slow=6.1,SNR=9.1								

KRSC 31 21:55:44,5149N×15976E,h15km,ML3.9,Off east coast of Kamchatka Peninsula

MOS ***31*** *21:58:18.4±1.8,5640N×11750E,h13km,mb4.4/1,Error ellipse: s-maj=38.7km s-min=23.6km az=27.6*
BYKL 31 21:58:19.3±0.3,5643N×11752E,h17km±11km,2C-4D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**0.63**	**41**	⇑*i*	Pg	Pg		21 58 31.2	-0.5
CRS				*i*	Sg	Sg		21 58 39.5	-0.5
CRS	103nm,1.0s			Pmax					
CRS	407nm,1.5s			Smax					
NLYR	**Nelyaty**	**1.01**	**274**	⇓*i*	Pg	Pg		21 58 37.0	-1.9
NLYR				*e*	Pb	Pb		21 58 39.1	+0.8
NLYR				*i*	Sg	Sg		21 58 50.6	-1.5
NLYR				*e*	Sb	Sb		21 58 54.5	+3.2
NLYR	169nm,0.6s			max					
NLYR	2μm,0.8s			max					
NLYR	**Nelyaty**	**1.01**	**274**	*e*	PG	Pg		21 58 36.9	-2.0
NLYR				*e*				21 58 50.3	
NLYR	comp=Z,29nm,0.2s			pmax	pmax				
NLYR	comp=N,2μm,0.8s			smax					
KHNR	**Khani**	**1.44**	**69**	*e*	Pg	Pg		21 58 45.8	-1.3
KHNR				*e*	Sg	Sg		21 59 05.4	-0.5
SVKR	**Severomuysk**	**2.23**	**264**	*e*	Pg	Pg		21 58 59.1	-3.0
SVKR				*e*	Sg	Sg		21 59 28.5	-2.6
SVKR	comp=N,93nm,0.2s			Pmax					
SVKR	comp=N,248nm,0.8s			Smax					
BOD	**Bodaibo**	**2.37**	**307**	*e*	Pg	Pg		21 59 01.4	-3.4
BOD				*e*	Sg	Sg		21 59 32.4	-3.1
BOD	comp=N,28nm,0.6s			Pmax					
BOD	comp=N,496nm,1.2s			Smax					
BOD	**Bodaibo**	**2.37**	**307**	⇑*i*	PN	Pn		21 59 01.4	+4.0
BOD				*i*				21 59 32.4	
BOD	comp=Z,29nm,0.5s			pmax	pmax				
BOD	comp=N,496nm,0.8s			smax					
UKT	**Uakit**	**2.38**	**248**	⇓*i*	Pn	Pn		21 58 58.4	+0.8
UKT				*e*	Pg	Pg		21 59 01.3	-3.7
UKT				*i*	Sg	Sg		21 59 32.3	-3.7
UKT	comp=N,45nm,0.9s			Pmax					
UKT	comp=N,82nm,1.0s			Smax					
TUP	**Tupik**	**2.44**	**144**	*e*	Pn	Pn		21 58 59.3	+0.9
TUP				*e*	Pg	Pg		21 59 02.1	-4.0
TUP				*e*	Sg	Sg		21 59 33.9	-3.9
TUP				*e*				21 59 45.3	
TUP	comp=N,86nm,0.8s			Pmax					
TUP	comp=N,115nm,0.5s			max					
TUP	**Tupik**	**2.44**	**144**	*e*	PN	Pn		21 58 58.8	+0.4
TUP				*e*				21 59 02.1	
TUP				*e*	S	Sn		21 59 28.5	+0.7
TUP				*e*				21 59 33.6	
TUP	comp=Z,64nm,0.7s			pmax	pmax				
TUP	comp=E,305nm,1.1s			smax					
YOA	**Uoyan**	**3.25**	**267**	*e*	PN	Pn		21 59 16.7	+7.3
YOA				*i*				21 59 59.8	
YOA	comp=Z,105nm,0.6s			pmax	pmax				
YOA	comp=N,332nm,1.8s			smax					
KMO	**Kumora**	**3.58**	**264**	⇓*i*	Pn	Pn		21 59 14.9	+0.9
KMO				*e*	Pg	Pg		21 59 22.2	-5.6
KMO				*i*	Sg	Sg		22 00 09.0	-5.2
KMO	comp=N,23nm,1.2s			Pmax					
KMO	comp=N,112nm,1.2s			Smax					
KMO	**Kumora**	**3.58**	**264**	*e*	PN	Pn		21 59 13.6	-0.4
KMO				*e*				21 59 22.0	
KMO				*e*	S	Sn		21 59 56.1	+0.3
KMO				*e*				22 00 08.8	
KMO	comp=Z,11nm,0.3s			pmax	pmax				
KMO	comp=N,112nm,1.1s			smax					
YLYR	**Ulyunkhan**	**3.92**	**249**	⇓*i*	Pn	Pn		21 59 19.5	+0.8
YLYR				*e*	Pg	Pg		21 59 29.4	-5.1
YLYR				*i*	Sg	Sg		22 00 21.7	-3.6
YLYR	comp=N,11nm,0.7s			Pmax					
YLYR	comp=N,40nm,0.9s			Smax					
CLNS	**Chul'man**	**4.09**	**81**	*e*	Pn	Pn		21 59 21.1	0.0
CLNS				*e*	Pg	Pg		21 59 31.7	-6.0
CLNS				*e*	Sg	Sg		22 00 25.2	-5.5
NIZ	**Nizh Angarsk**	**4.52**	**265**	*e*	Pg	Pg		21 59 39.9	-5.9
NIZ				*e*	Sg	Sg		22 00 39.0	-5.3
NIZ	comp=N,2.0nm,0.4s			Pmax					
NIZ	comp=N,22nm,0.9s			Smax					
CIT	**Chita**	**4.99**	**209**	*e*	Pg	Pg		21 59 49.2	-5.7
CIT				*e*	Sg	Sg		22 00 55.0	-4.6
CIT	comp=N,10.0nm,0.2s			Pmax					
CIT	comp=N,86nm,1.3s			Smax					
SYVR	**Suvo**	**5.14**	**240**	*e*	Pg	Pg		21 59 51.3	-6.4
SYVR				*e*	Sg	Sg		22 00 59.3	-5.0
SYVR	comp=N,1.0nm,0.3s			Pmax					
SYVR	comp=N,48nm,1.4s			Smax					
OGRR	**Ongureny**	**6.35**	**248**	*e*		Pn		21 59 50.3	-1.8
OGRR				*e*	Sg	Sn		22 01 37.2	+33
OGRR	comp=N,8.0nm,1.9s			Smax					
CGD	**Chagda**	**7.41**	**66**	*e*	Sg	Sn		22 02 08.3	+38
KPC	**Khapcheranga**	**7.41**	**207**	*e*		Px		22 01 55.2	
KPC				*e*	Sg	Sn		22 02 08.1	+38
KPC	comp=N,56nm,1.3s			Smax					
TRG	**Tyrgan**	**7.46**	**245**	*e*	Sg	Sn		22 02 10.7	+39
TRG	comp=N,6.0nm,0.1s			Smax					
LSTR	**Listvyanka**	**8.73**	**244**	*e*	Sg	Sn		22 02 50.6	+48
LSTR	comp=N,6.0nm,1.1s			Smax					
ARS	**Arshan**	**9.93**	**249**	*e*	Sg	Sn		22 03 26.6	+54
ARS	comp=N,5.0nm,0.3s			Smax					

NEIC ***31*** *21:59:53.1,3142S×7166W,h10km,ML2.9(GUC),After GUC.*
GUC 31 21:59:53.1±0.8,3142S×7166W,h10km±6km,MD3.6, ML2.9,7C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.48**	**164**	⇑*i*	P	Pg		22 00 02.7	+0.2
CHNG				*i*	S	Sg		22 00 10.9	+2.0
CMCH	**Combarbala**	**0.61**	**67**	⇑*i*	P	Pg		22 00 05.2	+0.1
CMCH				*i*	S	Sg		22 00 14.5	+1.4
CMCH	comp=E,2μm,0.3s			AML		AML		22 00 15.7	
CMCH	**Combarbala**	**0.61**	**67**	⇑*i*	P	Pg		22 00 05.2	+0.1
CMCH				*i*	S	Sg		22 00 14.5	+1.4
OVCH	**Ovalle**	**0.90**	**26**	⇑*i*	P	Pg		22 00 09.9	-0.5
OVCH				*i*	S	Sg		22 00 22.3	+0.2
OVCH	comp=E,388nm,0.3s			AML		AML		22 00 23.0	
OVCH	**Ovalle**	**0.90**	**26**	⇑*i*	P	Pg		22 00 09.9	-0.5
OVCH				*i*	S	Sg		22 00 22.3	+0.2
TLL	**Tololo Astrono**	**1.45**	**31**	*e*	P	Pn		22 00 18.9	-0.4
TLL				*i*	S	Sn		22 00 38.7	+0.3
TLL	comp=N,255nm,0.8s			AML		AML		22 00 42.3	
TLL	**Tololo Astrono**	**1.45**	**31**	*e*	P	Pn		22 00 18.9	-0.4
TLL				*i*	S	Sn		22 00 38.7	+0.3
JACH	**Jahuel**	**1.55**	**145**	⇓*i*	P	Pn		22 00 20.5	-0.2
JACH				*i*	S	Sn		22 00 40.7	-0.2
PEL	**Peldehue**	**1.91**	**155**	⇑*i*	P	Pn		22 00 25.9	+0.3
PEL				*i*	S	Sn		22 00 50.3	+0.6
PEL	comp=E,321nm,0.2s			AML		AML		22 00 53.3	
PEL	**Peldehue**	**1.91**	**155**	⇑*i*	P	Pn		22 00 25.9	+0.3
PEL				*i*	S	Sn		22 00 50.3	+0.6
FCH	**Farellones**	**2.23**	**149**	*i*	P	Pn		22 00 30.7	+0.7
FCH				*i*	S	Sn		22 01 00.5	+2.9
FCH	comp=N,78nm,0.2s			AML		AML		22 01 07.2	

IDC ***31*** *22:10:45.5±0.9,5176N×15940E,h0km,mb4.1/14, mb1 4.2/15,mb1mx4.1/22,mbtmp4.1/15,ML3.5/1,MS3.7/5, Ms1 3.7/5,ms1mx3.1/36,Error ellipse: s-maj=25.4km s-min=18.0km az=113.0*
MOS ***31*** *22:10:46.5±1.4,5169N×15921E,h12km,mb4.5/22,Error ellipse: s-maj=11.8km s-min=5.2km az=97.4*
BJI ***31*** *22:10:46.2,5202N×15981E,h29km,mB4.6,mb4.5,Ms4.4*
KRSC ***31*** *22:10:46,5160N×15973E,h15km,ML4.8*
ISCJB ***31*** *22:10:47.6±1.5,5156N±005×15953E±009,h26km±9km, mb4.4/51,MS3.8/6,Error ellipse: s-maj=10.4km s-min=5.4km az=73.6*
NEIC ***31*** *22:10:48.1±0.5,5177N×15926E,h10km,mb4.5/28,Error ellipse: s-maj=13.3km s-min=8.8km az=119.0*
ISC 31 22:10:48.8±1.7,5163N±004×15951E±008,h22km±11km, n132,σ1§16/139,mb4.4/51,MS3.8/6,3C-4D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.01**	**323**	P		P	**Pn**	**22 11 07.1**	**-0.5**
RUS				S		S	**Sn**	**22 11 22.2**	**+1.1**
PET	**Petropavlovsk**	**1.49**	**340**	P		P	**Pn**	**22 11 13.8**	**-0.4**
PET				S		S	**Sn**	**22 11 33.5**	**+0.6**
PET	**Petropavlovsk**	**1.49**	**340**	*e*	P	P	**Pn**	**22 11 13.6**	**-0.6**
PET				*e*	Sn	S	**Sn**	**22 11 27.9**	**-5.0**
NLC	**Nalytchevo**	**1.55**	**356**	P		P	**Pn**	**22 11 15.1**	**+0.2**
NLC				S		S	**Sn**	**22 11 35.6**	**+1.3**
SKR	**Severo-Kuril's**	**2.34**	**247**	*e*	PN	P	**Pn**	**22 11 25.0**	**-0.8**
SKR				*i*	S	S	**Sn**	**22 11 53.5**	**-0.3**
SKR	comp=N,90nm,0.5s			pmax	pmax				
SKR	comp=E,150nm,0.5s			pmax	pmax				
SKR	comp=Z,250nm,0.5s			pmax	pmax				
SKR	comp=N,1μm,0.7s			smax					
SKR	comp=Z,560nm,0.7s			smax					
SKR	comp=E,2μm,0.5s			smax					
SKR	comp=N,3μm,2.0s			smax					
SKR	comp=E,4μm,2.0s			smax					
SKR	comp=Z,2μm,2.0s			smax					
KII	**Karymskiy**	**2.41**	**359**	P		P	**Pn**	**22 11 28.1**	**+1.3**
KII				S		S	**Sn**	**22 11 58.6**	**+3.0**
MKZ	**Mys Kozlova**	**3.22**	**24**	P		P	**Pn**	**22 11 36.6**	**-1.4**
MKZ				S		S	**Sn**	**22 12 12.6**	**-3.0**
KOZ	**Kozyrevsk**	**4.44**	**3**	P		P	**Pn**	**22 11 57.5**	**+2.8**
KOZR	**Kozyr**	**4.45**	**3**	PN		P	**Pn**	**22 11 57.5**	**+2.6**
KBTR	**Krutoberegovo**	**4.99**	**22**	P		P	**Pn**	**22 12 02.2**	**0.0**
KBTR				S		S	**Sn**	**22 12 57.4**	**-1.7**
YSS	**Yuzh-Sakhalins**	**11.89**	**253**	⇑*e*	PN	P	**Pn**	**22 13 40.9**	**+4.0**
ASAJ	**Asahikawa**	**13.59**	**243**	Pn		Pn	**Pn**	**22 13 59.6**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=79,slow=16,SNR=2.0								
HABR	**Khabarovsk**	**16.00**	**268**	*e*	P	P	**Pn**	**22 14 32.5**	**+0.2**
HABR				*e*	S	S	**Sn**	**22 17 32.0**	**+2.9**
BILL	**Bilibino**	**16.79**	**9**	⇓*e*	P	P	**Pn**	**22 14 41.1**	**-1.3**
BILL	comp=Z,16nm,2.5s			pmax	pmax				
BILL	comp=Z,100nm,20.0s			MLR	MLR				
YAK	**Yakutsk**	**19.17**	**314**	⇓*i*	P	P	**Pn**	**22 15 07.4**	**-4.2**
YAK	comp=Z,15nm,0.6s			pmax	pmax				
MJAR	**Matsushiro Arr**	**21.37**	**233**	P		P	**P**	**22 15 36.1**	**+1.6**
	comp=Z,4.1nm,0.5s,mb4.0,baz=43,slow=8.5,SNR=3.9								
TIXI	**Tiksi**	**24.27**	**337**	*c*	P	P	**P**	**22 16 03.1**	**-1.1**
TIXI	comp=Z,5.0nm,0.5s,mb4.2			pmax	pmax				
HIA	**Hailar**	**25.22**	**280**	*e*	P	P	**P**	**22 16 11.9**	**-0.9**
HIA	comp=Z,11nm,0.8s			pmax	pmax				
HIA	**Hailar**	**25.22**	**280**	*e*	P	P	**P**	**22 16 11.9**	**-0.9**
	comp=Z,11nm,0.8s,mb4.4								
BOD	**Bodaibo**	**26.57**	**301**	*e*	P	P	**P**	**22 16 22.8**	**-2.3**
BOD	comp=Z,4.0nm,0.8s,mb4.0			pmax	pmax				
ULN	**Ulaanbaatar**	**33.50**	**285**	⇑*e*	P	P	**P**	**22 17 26.7**	**+0.3**
ULN	**Ulaanbaatar**	**33.50**	**285**	*e*	P	P	**P**	**22 17 26.6**	**+0.2**
	comp=Z,0.8nm,0.6s,mb3.8								
SONM	**Songino Array**	**33.91**	**285**	P		P	**P**	**22 17 29.8**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=47,slow=7.2,SNR=5.7								
SONM	comp=Z,61nm,19.2s,MS3.3,baz=326,slow=38			LR		LR		22 32 11.5	
ZAK	**Zakamensk**	**34.66**	**291**	*e*	P	P	**P**	**22 17 36.2**	**-0.3**
ZAK	comp=Z,1.0nm,1.3s,mb3.6			pmax	pmax				
INK	**Inuvik**	**35.26**	**36**	P		P	**P**	**22 17 41.5**	**-0.1**
	comp=Z,2.3nm,0.9s,mb4.1,baz=303,slow=10,SNR=3.3								
INK	**Inuvik**	**35.26**	**36**	*e*	P	P	**P**	**22 17 41.6**	**0.0**
INK	comp=Z,2.0nm,0.6s			pmax	pmax				
INK	**Inuvik**	**35.26**	**36**	*e*	P	P	**P**	**22 17 41.6**	**0.0**
	comp=Z,1.6nm,0.6s,mb4.1								
NJ2	**Nanjing**	**35.46**	**252**	*e*	P	P	**P**	**22 17 43.3**	**-0.1**
NJ2					AP	pP		22 17 53.0	+2.8
NJ2					XP

BRVK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BRVK Borovoye 51.06 309 *eP* **P 22 19 47.1 -2.2**
comp=Z,2.2nm,0.7s,mb4.2
ZRNK Zerenda 51.74 310 *eP* **P 22 19 52.4 -1.9**
ZRNK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ZRNK Zerenda 51.74 310 *eP* **P 22 19 52.4 -2.0**
comp=Z,2.0nm,0.7s,mb4.2
KEV Kevo 54.09 342 *ep* **P 22 20 10.2 -1.5**
comp=Z,5.4nm,0.8s,mb4.5
KEV Kevo 54.09 342 *eP* **P 22 20 10.2 -1.5**
KEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ARU Arti 54.23 318 *eP* **P 22 20 11.1 -1.7**
ARU pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
ARU Arti 54.23 318 *eP* **P 22 20 11.1 -1.6**
comp=Z,2.0nm,0.5s,mb4.3
ARCES ARCESS Array B 54.57 342 P **P 22 20 14.0 -1.2**
comp=Z,3.3nm,0.7s,mb4.5,baz=40,slow=6.3,SNR=8.9
ARCES LR LR 22 49 01.2
comp=Z,40nm,21.8s,MS3.5,baz=349,slow=42
PDAR Pinedale Array 58.56 60 P **P 22 20 43.5 -0.1**
comp=Z,0.3nm,0.4s,mb3.7,baz=225,slow=4.0,SNR=3.8
GUN Gumba 58.70 276 *eP* **P 22 20 46.2 +1.7**
JOF Joensuu 58.74 335 *ep* **P 22 20 43.2 -1.7**
comp=Z,2.0nm,0.5s,mb4.4
KKN Kakani 59.15 277 *eP* **P 22 20 48.3 +0.6**
comp=Z,8.5nm,0.5s,mb5.0
KKN Kakani 59.15 277 *eP* **P 22 20 48.3 +0.6**
KKN pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
PKI Pulchoki 59.23 276 *eP* **P 22 20 48.4 +0.2**
DMN Daman 59.39 277 *eP* **P 22 20 49.8 +0.5**
GKN Gorkha 59.40 277 *eP* **P 22 20 50.7 +1.3**
comp=Z,10nm,0.6s,mb5.0
KOLN Koldanda 60.20 278 *eP* **P 22 20 55.1 +0.2**
comp=Z,4.9nm,0.6s,mb4.7
KAF Kangasniemi 60.69 337 *ep* **P 22 20 56.2 -2.1**
comp=Z,2.6nm,0.5s,mb4.6,baz=32,slow=6.1
KAF Kangasniemi 60.69 337 *eP* **P 22 20 56.2 -2.1**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
FINES FINESS Array B 61.32 337 P **P 22 21 01.6 -0.9**
comp=Z,2.0nm,0.6s,mb4.4,baz=35,slow=7.0,SNR=11
NB2 NORSAR Subarra 64.85 344 P **P 22 21 25.0 -1.0**
comp=Z,3.6nm,0.7s,mb4.5,baz=21,slow=6.9
NOA NORSAR Array B 64.85 344 P **P 22 21 25.4 -0.5**
comp=Z,2.8nm,0.6s,mb4.5,baz=21,slow=6.7,SNR=24
NOA NORSAR Array B 64.85 344 P **P 22 21 25.4 -0.5**
AKASG Malin Array Be 69.68 329 P **P 22 21 54.8 -1.8**
comp=Z,2.5nm,0.6s,mb4.3,baz=30,slow=6.2,SNR=15
AKASG Malin Array Be 69.68 329 *i P* **P 22 21 55.5 -1.1**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AFI Afiamalu 69.88 150 LR LR 22 49 42.6
comp=Z,151nm,20.7s,MS4.2,baz=148,slow=33
KWP Kalwaria 72.62 332 *eP* **P 22 22 14.9 +0.5**
KWP Kalwaria 72.62 332 *eP* **P 22 22 14.6 +0.1**
comp=Z,12nm,0.8s,mb4.9
OJC Ojcow 72.91 334 *eP* **P 22 22 14.1 -2.0**
KOLS Kolonicke sedl 73.38 332 *eP* **P 22 22 19.0 +0.1**
KOLS Kolonicke sedl 73.38 332 *eP* **P 22 22 19.1 +0.2**
NIE Niedzica 73.49 344 *eP* **P 22 22 20.7 +1.1**
CLL Collm 73.59 339 *eP* **P 22 22 21.0 +0.9**
CLL Collm 73.59 339 *eP* **P 22 22 18.0 -2.1**
CLL *i* 22 22 21.4
CRVS Cervenica-Dubn 73.64 333 *eP* **P 22 22 21.0 +0.6**
BURAR Bucovina Array 73.66 330 *ǁiP* **P 22 22 20.1 -0.4**
DPC Dobruska-Polom 73.69 336 *eP* **P 22 22 21.4 +0.7**
MORC Moravsky Berou 73.91 335 *eP* **P 22 22 22.0 0.0**
MORC pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MORC Moravsky Berou 73.91 335 *eP* **P 22 22 22.0 0.0**
comp=Z,4.0nm,0.9s,mb4.3
WRAB Tennant Creek 74.59 205 *eP* **P 22 22 30.0 +4.0**
WRAB pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
WRAB Tennant Creek 74.59 205 *eP* **P 22 22 30.0 +4.0**
comp=Z,0.6nm,0.3s,mb4.0
WB2 Warramunga Arr 74.60 205 *eP* **P 22 22 26.2 +0.2**
WRA Warramunga Arr 74.60 205 P **P 22 22 26.8 +0.8**
comp=Z,1.3nm,0.9s,mb3.9,baz=20,slow=6.2,SNR=6.1
VYHS Vyhne 74.74 334 *eP* **P 22 22 27.5 +0.7**
VYHS pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
VYHS Vyhne 74.74 334 *eP* **P 22 22 27.5 +0.7**
comp=Z,2.2nm,1.1s,mb4.0
KHC Kasperske Hory 75.49 338 *eP* **P 22 22 31.1 -0.1**
GERES GERESS Array B 75.73 337 P **P 22 22 32.2 -0.3**
comp=Z,1.1nm,0.6s,mb4.0,baz=38,slow=6.8,SNR=9.0
GERES LR LR 23 02 05.2
comp=Z,26nm,18.1s,MS3.6,baz=62,slow=41
BAIF Baives 76.53 344 *eP* **P 22 22 38.9 +1.8**
BR131 Keskin Array S 77.52 320 P **P 22 22 41.7 -1.0**
comp=Z,1.6nm,0.7s,mb4.1
BRTR Keskin Array B 77.52 320 P **P 22 22 42.3 -0.3**
comp=Z,1.7nm,0.7s,mb4.1,baz=72,slow=4.0,SNR=11
BRTR Keskin Array B 77.52 320 *i P* **P 22 22 42.9 +0.3**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
CDF Champ du Feu 77.54 341 *eP* **P 22 22 43.7 +0.9**
comp=Z,7.8nm,0.8s,mb4.4
CDF Champ du Feu 77.54 341 *eP* **P 22 22 43.7 +0.9**
CDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CDF Champ du Feu 77.54 341 *eP* **P 22 22 43.7 +0.9**
comp=Z,3.9nm,0.8s,mb4.4
ASAR Alice Springs 78.27 204 P **P 22 22 47.1 +0.2**
comp=Z,0.3nm,0.5s,mb3.5,baz=23,slow=5.0,SNR=4.5
FLN La Foliniere 78.53 347 *eP* **P 22 22 49.5 +1.2**
LOR Lormes 79.29 343 *eP* **P 22 22 53.7 +1.3**
comp=Z,5.1nm,0.7s,mb4.3
LOR Lormes 79.29 343 *eP* **P 22 22 53.7 +1.3**
LOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LOR Lormes 79.29 343 *eP* **P 22 22 53.7 +1.3**
comp=Z,2.5nm,0.7s,mb4.2
SGMF Saint Gilles 79.32 348 *eP* **P 22 22 54.3 +1.7**
ROSF Rostrenen 79.33 348 *eP* **P 22 22 54.6 +2.0**
MIB Mutribah 79.50 305 *eP* **P 22 22 53.0 -0.6**
MIB AMb AMB 22 22 54.4
comp=Z,33nm,0.6s,mb5.4
SSF Saint Saulge 79.55 344 *eP* **P 22 22 55.1 +1.3**
comp=Z,7.0nm,0.8s,mb4.4
SSF Saint Saulge 79.55 344 *eP* **P 22 22 55.1 +1.3**
SSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SSF Saint Saulge 79.55 344 *eP* **P 22 22 55.1 +1.3**
comp=Z,3.5nm,0.8s,mb4.3
AVF Avril sur Loir 79.84 344 *eP* **P 22 22 56.3 +0.9**
comp=Z,35nm,1.5s,mb4.8
AVF Avril sur Loir 79.84 344 *eP* **P 22 22 56.3 +0.9**
AVF pmax pmax
comp=Z,18nm,1.5s,mb4.8
AVF Avril sur Loir 79.84 344 *eP* **P 22 22 56.3 +0.9**
comp=Z,18nm,1.5s,mb4.8
RST Umm Al-Ruwaisa 79.92 305 *eP* **P 22 22 54.8 -1.0**
RST AMb AMB 22 22 56.0
comp=Z,27nm,0.6s,mb5.3
NAY Al-Naaiem 80.00 305 *eP* **P 22 22 55.4 -0.8**
NAY AMb AMB 22 22 56.7
comp=Z,11nm,0.7s,mb4.9
LPL La Plagne 80.42 341 *eP* **P 22 22 59.0 +0.4**
comp=Z,3.6nm,0.7s,mb4.1
LPL La Plagne 80.42 341 *eP* **P 22 22 59.0 +0.4**
LPL pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
LPL La Plagne 80.42 341 *eP* **P 22 22 59.0 +0.4**
comp=Z,1.8nm,0.7s,mb4.1
LPG La Plagne 80.44 341 *eP* **P 22 22 59.5 +0.9**
comp=Z,3.9nm,0.6s,mb4.2
LPG La Plagne 80.44 341 *eP* **P 22 22 59.5 +0.9**
LPG pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
LPG La Plagne 80.44 341 *eP* **P 22 22 59.5 +0.9**
comp=Z,2.0nm,0.6s,mb4.2
TCF Toulx Ste Croi 80.52 344 *eP* **P 22 22 59.9 +0.8**
ORIF Oris-en-Rattie 81.17 341 *eP* **P 22 23 03.2 +0.7**
comp=Z,6.3nm,0.8s,mb4.3
ORIF Oris-en-Rattie 81.17 341 *eP* **P 22 23 03.2 +0.7**
ORIF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
ORIF Oris-en-Rattie 81.17 341 *eP* **P 22 23 03.2 +0.7**
comp=Z,3.2nm,0.8s,mb4.3
MBDF Montbardon 81.17 341 *eP* **P 22 23 03.2 +0.6**
comp=Z,6.6nm,0.9s,mb4.2
VIVF Saint-Julien-l 81.46 342 *eP* **P 22 23 04.6 +0.5**
comp=Z,6.5nm,0.8s,mb4.3
VIVF Saint-Julien-l 81.46 342 *eP* **P 22 23 04.6 +0.5**
VIVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
VIVF Saint-Julien-l 81.46 342 *eP* **P 22 23 04.6 +0.5**
comp=Z,3.3nm,0.8s,mb4.3
RJF Les Rejaudoux 81.59 344 *eP* **P 22 23 05.2 +0.4**
comp=Z,51nm,1.6s,mb4.9
RJF Les Rejaudoux 81.59 344 *eP* **P 22 23 05.2 +0.4**
RJF pmax pmax
comp=Z,26nm,1.6s,mb4.9
RJF Les Rejaudoux 81.59 344 *eP* **P 22 23 05.2 +0.4**
comp=Z,26nm,1.6s,mb4.9
SBF Sospel 81.86 340 *eP* **P 22 23 06.2 0.0**
comp=Z,13nm,0.8s,mb4.6
CAF Calviac 81.87 344 *eP* **P 22 23 06.7 +0.4**
LFF La Frestale 82.08 345 *eP* **P 22 23 08.2 +0.9**
comp=Z,42nm,1.2s,mb5.0
LFF La Frestale 82.08 345 *eP* **P 22 23 08.2 +0.9**
LFF pmax pmax
comp=Z,21nm,1.2s,mb4.9
LFF La Frestale 82.08 345 *eP* **P 22 23 08.2 +0.9**
comp=Z,21nm,1.2s,mb5.0
LASF Ste Croix 82.37 343 *eP* **P 22 23 09.4 +0.5**
comp=Z,11nm,1.0s,mb4.5
MTLF Montolieu 83.38 344 *eP* **P 22 23 14.3 +0.2**
SJPF Ste Jean 84.17 346 *eP* **P 22 23 17.9 -0.2**
comp=Z,22nm,1.2s,mb4.9
SJPF Ste Jean 84.17 346 *eP* **P 22 23 17.9 -0.2**
SJPF pmax pmax
comp=Z,11nm,1.2s,mb4.9
SJPF Ste Jean 84.17 346 *eP* **P 22 23 17.9 -0.2**
comp=Z,11nm,1.2s,mb4.8
VNA1 Neumayer--Stat 160.10 192 *e*PKPdf PKPdf 22 30 51.2 +5.0
VNA1 Neumayer--Stat 160.10 192 *e*PKPdf PKPdf 22 30 51.2 +5.0
VNA1 *e* 22 30 56.7
VNA1 *e* 22 31 08.4
VNA1 *e* 22 31 14.1
VNA1 *e* 22 31 33.2
VNA1 *e* 22 31 51.1

NIED ***31*** *22:13:00,3960N×142.10E,h56km,Mw3.8 Best double couple: M0 6.17000×10^14 NP1:ϕs36.00000°,δ68.00000°, λ91.00000°. NP2:ϕs213.00000°,δ22.00000°,λ87.00000°.*
ISCJB ***31*** *22:13:32.2±0.8,3964N±004×1422E±0.1,h58km±5km, mb3.7/7, Error ellipse: s-maj=14.9km s-min=5.9km az=18.1*
JMA ***31*** *22:13:33.5±0.1,3964N×142.10E,h48km±1km,M3.7 Broadband fault plane solution: P waves. NP1: ϕs217.00000°,δ20.00000°,λ100.00000°. NP2: ϕs26.00000°,δ70.00000°,λ86.00000°. Principal axes: T Plg65.0000°, Azm290.0000°; N Plg3.0000°, Azm27.0000°; P Plg25.0000°, Azm119.0000°;*
JMA Felt II J1.
IDC ***31*** *22:13:34.8±2.9,3958N×142.34E,h80km±21km,mb3.5/6, mb1 3.6/8,mb1mx3.4/22,mbtmp3.8/8 Error ellipse: s-maj=33.8km s-min=17.9km az=121.0*
NEIC ***31*** *22:13:34.1±2.0,3963N×142.38E,h72km±19km,mb4.0/1, Error ellipse: s-maj=21.0km s-min=15.8km az=57.0*

ISC 31 22:13:32.9±0.9,3965N±004×1422E±01,h51km±5km,n26, σ0§98/37,mb3.7/7,1C-7D,Near east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.27**	**255**	**ǁP**		**Pn**		**22 13 41.9**	**0.0**
MIYJ						S		**Sn**	**22 13 47.5**	**-0.8**
JTH	**Tanohata**	**0.37**	**322**	**ǁP**		**Pn**		**22 13 42.9**	**+0.1**
JTH						S		**Sn**	**22 13 49.5**	**-0.4**
OFUJ	**Ofunato**	**0.68**	**214**	**ĩP**		**Pn**		**22 13 46.3**	**-0.2**
OFUJ						S		**Sn**	**22 13 55.2**	**-1.1**
JOM	**Ohasama**	**0.69**	**256**	**ǁP**		**Pn**		**22 13 46.7**	**+0.1**
JOM						S		**Sn**	**22 13 56.1**	**-0.4**
JKZ	**Kuzumaki**	**0.72**	**298**	**ǁP**		**Pn**		**22 13 47.2**	**+0.2**
JKZ						S		**Sn**	**22 13 56.8**	**-0.4**
JANG	**Nango**	**0.88**	**326**	**ǁP**		**Pn**		**22 13 49.1**	**+0.1**
JANG						S		**Sn**	**22 14 00.6**	**-0.3**
JMK	**Ichinoseki**	**1.01**	**227**	**P**		**Pn**		**22 13 50.7**	**0.0**
JMK					eS			**Sn**	**22 14 03.1**	**-0.8**
JAH	**Hinai**	**1.29**	**295**	**ǁP**		**Pn**		**22 13 54.9**	**+0.3**
JIO	**Ouri**	**1.35**	**208**	**P**		**Pn**		**22 13 55.5**	**+0.2**
JTM	**Tenmabayashi**	**1.42**	**324**	**ǁP**		**Pn**		**22 13 56.6**	**+0.4**
MAJO	**Matsushiro**	**4.40**	**226**	***e*Pn**		**Pn**		**22 14 39.9**	**+2.8**
MAJO					*e*Sn			**Sn**	**22 15 38.3**	**+11**
MAT	**Matsushiro**	**4.40**	**226**	**P**		**Pn**		**22 14 39.9**	**+2.8**
MAT					S			**Sn**	**22 15 35.6**	**+8.6**
MAT	**Matsushiro**	**4.40**	**226**	***e*P**		**Pn**		**22 14 40.0**	**+2.9**
MAT					*e*S			**Sn**	**22 15 40.0**	**+13**
MJAR	**Matsushiro Arr**	**4.40**	**226**	**P**		**Pn**		**22 14 39.8**	**+2.7**
	2.6nm,0.3s,baz=33,slow=13,SNR=40								
ASAJ	**Asahikawa**	**4.48**	**4**	**P**		**Pn**		**22 14 40.8**	**+2.5**
	1.1nm,0.3s,baz=204,slow=12,SNR=6.9								
ASAJ						S		**Sn**	**22 15 33.2**	**+4.2**
	1.1nm,0.3s,baz=228,slow=16,SNR=3.4								
SONM	**Songino Array**	**26.91**	**300**	**P**		**P**		**22 19 09.1**	**-0.1**
	0.5nm,0.6s,mb3.2,baz=86,slow=9.2,SNR=4.5								
MKAR	**Makanchi Array**	**43.28**	**300**	**P**		**P**		**22 21 29.8**	**+0.3**
	0.7nm,0.4s,mb3.7,baz=75,slow=9.8,SNR=4.7								
BVAR	**Borovoye Array**	**49.28**	**311**	**P**		**P**		**22 22 16.1**	**-0.5**
	0.5nm,0.5s,mb3.8,baz=56,slow=9.5,SNR=3.4								
BRVK	**Borovoye**	**49.34**	**311**	**P**		**P**		**22 22 17.1**	**+0.2**
ZRNK	**Zerenda**	**50.11**	**311**	***e*P**		**P**		**22 22 23.2**	**+0.3**
	0.7nm,0.5s,mb4.0								
DLBC	**Dease Lake**	**56.22**	**39**	**P**		**P**		**22 23 05.7**	**-2.1**
	1.0nm,0.5s,mb4.1,baz=254,slow=7.4,SNR=3.8								
WB2	**Warramunga Arr**	**59.72**	**189**	**P**		**P**		**22 23 31.3**	**-1.0**
FINES	**FINESS Array B**	**66.78**	**332**	**P**		**P**		**22 24 18.5**	**-0.5**
	0.3nm,0.5s,mb3.6,baz=40,slow=10,SNR=5.2								
NB2	**NORSAR Subarra**	**72.01**	**337**	**P**		**P**		**22 24 51.3**	**0.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=38,slow=6.2								
NOA	**NORSAR Array B**	**72.01**	**337**	**P**		**P**		**22 24 50.4**	**-0.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=39,slow=6.1,SNR=4.4								
NOA	**NORSAR Array B**	**72.01**	**337**	**P**		**P**		**22 24 50.4**	**-0.9**

IDC ***31*** *22:22:33.4±1.7,003S×9705E,h0km,mb4.0/4,mb1 4.0/5, mb1mx3.6/17,mbtmp3.9/5,ML3.0/1, Error ellipse: s-maj=50.7km s-min=29.8km az=54.0*
ISCJB ***31*** *22:22:37.4±1.0,01N±0.1×972E±0.1,h33km,mb3.8/5, Error ellipse: s-maj=21.9km s-min=15.6km az=138.3*
NEIC ***31*** *22:22:38.5±0.7,007N×97.13E,h30km,mb4.0/1, Error ellipse: s-maj=15.8km s-min=11.2km az=66.0*

ISC 31 22:22:39.6±1.0,01N±01×972E±01,h35km,n13,σ0§43/13, mb3.8/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.18**	**34**	Pn		**Pn**		**22 23 26.8**	**-0.3**
	1.6nm,0.3s,baz=180,slow=12,SNR=4.1								
PSI	**Prapat**	**3.18**	**34**	Pn		**Pn**		**22 23 26.8**	**-0.4**
KULM	**Kulim**	**6.19**	**34**	*e*Pn		**Pn**		**22 24 08.6**	**+0.1**
WRA	**Warramunga Arr**	**41.52**	**121**	P		**P**		**22 30 22.9**	**-0.6**
	0.5nm,0.7s,mb3.3,baz=299,slow=9.1,SNR=5.2								
WRAB	**Tennant Creek**	**41.53**	**121**	*e*P		**P**		**22 30 23.9**	**+0.4**
	1.7nm,0.6s,mb3.9								
SONM	**Songino Array**	**48.18**	**8**	P		**P**		**22 31 16.7**	**+0.2**
	baz=187,slow=9.4								
MKAR	**Makanchi Array**	**48.25**	**346**	P		**P**		**22 31 17.8**	**+0.7**
	1.2nm,0.7s,mb4.1,baz=152,slow=8.0,SNR=5.9								
MKAR	**Makanchi Array**	**48.25**	**346**	P		**P**		**22 31 17.8**	**+0.7**
KURK	**Kurchatov**	**52.80**	**345**	P		**P**		**22 31 51.2**	**-0.1**
HNR	**Honiara**	**63.21**	**101**	P		**P**		**22 33 04.7**	**+0.4**
FINES	**FINESS Array B**	**80.91**	**333**	P		**P**		**22 34 49.6**	**-0.6**
	1.0nm,0.8s,mb3.8,baz=126,slow=9.7,SNR=5.0								
ARCES	**ARCESS Array B**	**83.51**	**340**	P		**P**		**22 35 03.7**	**-0.1**
	1.6nm,0.8s,mb4.2,baz=95,slow=5.8,SNR=5.4								
ARCES	**ARCESS Array B**	**83.51**	**340**	P		**P**		**22 35 03.7**	**-0.1**

ISCJB ***31*** *22:42:08.5±1.2,246S±007×1395E±03,h35km,mb4.0/7, Error ellipse: s-maj=38.1km s-min=10.0km az=1.0*
NEIC ***31*** *22:42:09.5±0.6,244S×13962E,h35km,mb4.2/6, Error ellipse: s-maj=20.3km s-min=7.2km az=94.0*
IDC ***31*** *22:42:11.7±5.1,254S×13952E,h49km±45km,mb3.9/4, mb1 4.2/5,mb1mx3.8/11,mbtmp4.2/5,ML4.0/1,MS3.3/1, Ms1 3.3/1,ms1mx2.5/23,Error ellipse: s-maj=54.5km s-min=14.4km az=94.0*

ISC 31 22:42:10.2±3.0,245S±009×1396E±03,h36km±23km,n21, σ0§45/19,mb4.0/7,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.40**	**214**	*e*P		**Pn**		**22 45 03.4**	**-0.7**
	17nm,0.5s								
WRAB	**Tennant Creek**	**18.11**	**196**	*e*P		**Pn**		**22 46 19.1**	**+0.4**
	13nm,0.8s								
WB2	**Warramunga Arr**	**18.12**	**196**	*e*P		**Pn**		**22 46 19.1**	**+0.2**
WRA	**Warramunga Arr**	**18.12**	**196**	P		**Pn**		**22 46 18.9**	**0.0**
	0.6nm,0.3s,baz=16,slow=12,SNR=29								
CTA	**Charters Tower**	**18.71**	**160**	LR		LR		22 54 28.7	
	comp=Z,90nm,19.4s,baz=355,slow=40								
FITZ	**Fitzroy Crossi**	**20.70**	**220**	*e*P		**P**		**22 46 47.4**	**+0.2**
	15nm,0.8s								
FITZ	**Fitzroy Crossi**	**20.70**	**220**	P		**P**		**22 46 47.2**	**+0.1**
	11nm,1.0s,baz=49,slow=11,SNR=23								
AS31	**Alice Springs**	**21.79**	**194**	*e*P		**P**		**22 46 59.0**	**+0.1**
ASAR	**Alice Springs**	**21.79**	**194**	P		**P**		**22 46 58.8**	**-0.1**
	7.0nm,0.9s,mb4.1,baz=25,slow=9.8,SNR=37								
ASAR						S		**S**	**22 50 57.0**	**-0.8**
	1.0nm,1.0s,baz=15,slow=25,SNR=2.9								
ASAR	**Alice Springs**	**21.79**	**194**	P		**P**		**22 46 58.8**	**-0.1**
ASAR						S		**S**	**22 50 57.0**	**-0.8**
ASPA	**Alice Springs**	**21.79**	**194**	*e*P		**P**		**22 46 59.0**	**+0.1**
MBWA	**Marble Bar**	**26.82**	**225**	*e*P		**P**		**22 47 47.4**	**+0.5**
	5.9nm,0.7s,mb4.2								
KULM	**Kulim**	**39.63**	**281**	P		**P**		**22 49 38.5**	**+0.2**
MKAR	**Makanchi Array**	**70.11**	**322**	P		**P**		**22 53 19.4**	**+0.7**
	1.6nm,0.7s,mb4.1,baz=108,slow=7.8,SNR=9.5								
KURK	**Kurchatov**	**74.00**	**325**	*e*P		**P**		**22 53 42.0**	**+0.1**
	1.0nm,0.4s,mb4.1								
BVAR	**Borovoye Array**	**79.59**	**325**	P		**P**		**22 54 13.8**	**+0.3**
	1.4nm,0.6s,mb4.1,baz=110,slow=7.8,SNR=8.4								
BRVK	**Borovoye**	**79.66**	**325**	*e*P		**P**		**22 54 13.0**	**-0.9**
	0.8nm,0.4s,mb4.0								
ZRNK	**Zerenda**	**80.37**	**325**	*e*P		**P**		**22 54 16.9**	**-0.7**
	0.5nm,0.4s,mb3.8								
DBIC	**Dimbokro**	**144.30**	**278**	PKP		PKPdf		23 01 41.7	-0.5
	7.0nm,1.1s,baz=90,slow=7.1,SNR=5.2								
DBIC	**Dimbokro**	**144.30**	**278**	PKP		PKPdf		23 01 41.7	-0.5
LPAZ	**La Paz**	**146.90**	**125**	PKPbc		PKPbc		23 01 49.8	+1.2
	0.6nm,0.7s,baz=214,slow=7.3,SNR=3.9								

IDC ***31*** *23:01:34.0±7.5,2139S×17866W,h586km±45km,mb3.7/3, mb1 3.8/4,mb1mx3.3/13,mbtmp4.6/4,Error ellipse: s-maj=216.8km s-min=37.0km az=151.0*

NEIC 31 23:01:37.6±6.3,2136S×17886W,h622km±61km,mb4.3/5, Error ellipse: s-maj=50.3km s-min=27.8km az=90.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.68**	**264**	P		P		23 04 33.4	+0.7
	0.6nm,0.3s,baz=81,slow=21,SNR=7.4								
CTA	**Charters Tower**	**32.62**	**266**	P		P		23 07 20.1	-0.1
	8.8nm,0.4s,baz=95,slow=11,SNR=19								
CTAO	**Charters Tower**	**32.62**	**266**	*e*P		P		23 07 20.7	+0.4
	8.5nm,0.3s								
AS31	**Alice Springs**	**43.55**	**258**	*e*P		P		23 08 49.1	+0.8
ASAR	**Alice Springs**	**43.55**	**258**	P		P		23 08 49.0	+0.6
	7.3nm,0.5s,baz=96,slow=7.8,SNR=90								
ASAR						ScP	ScP	23 13 18.9	+4.1
	0.4nm,0.5s,baz=110,slow=4.3,SNR=4.7								
ASPA	**Alice Springs**	**43.55**	**258**	*e*P		P		23 08 49.1	+0.8
WB2	**Warramunga Arr**	**43.69**	**263**	*e*P		P		23 08 49.3	-0.1
WRAB	**Tennant Creek**	**43.69**	**263**	*e*P		P		23 08 49.3	-0.1
	5.8nm,0.3s								
WRA	**Warramunga Arr**	**43.70**	**263**	P		P		23 08 49.5	0.0
	3.0nm,0.3s,baz=95,slow=8.6,SNR=19								
KAKA	**Kakadu**	**47.20**	**272**	*e*P		P		23 09 16.0	0.0
	4.0nm,0.3s								
FITZ	**Fitzroy Crossi**	**52.13**	**263**	*e*P		P		23 09 52.9	+1.0
	2.4nm,0.3s								
MBWA	**Marble Bar**	**56.89**	**258**	*e*P		P		23 10 25.6	+0.6
	6.0nm,0.4s								
KLBR	**Kellerberrin**	**56.97**	**246**	*e*P		P		23 10 26.8	+1.2
MAW	**Mawson**	**80.48**	**200**	P		P		23 12 45.2	-1.1
ARCES	**ARCESS Array B**	**129.62**	**349**	PKP		PKPdf		23 19 36.9	-0.3
	1.6nm,0.7s,baz=305,slow=4.3,SNR=3.5								
AKASG	**Malin Array Be**	**143.37**	**330**	PKP		PKPdf		23 20 00.7	-1.8
	1.6nm,0.4s,baz=43,slow=4.0,SNR=20								
BRTR	**Keskin Array B**	**146.81**	**311**	PKPbc		PKPbc		23 20 11.7	+0.4
	0.6nm,0.6s,baz=150,slow=4.5,SNR=5.7								
GERES	**GERESS Array B**	**150.80**	**343**	PKPbc		PKPbc		23 20 21.3	+0.4
	0.3nm,0.5s,baz=31,slow=3.1,SNR=4.4								

IDC ***31*** *23:11:44.1±5.2,3451S×17928E,h182km±42km,mb3.4/2, mb1 3.6/3,mb1mx3.4/10,mbtmp3.9/3,MS3.2/1,Ms1 3.3/1, ms1mx2.6/13,Error ellipse: s-maj=52.5km s-min=26.9km az=36.0*
ISCJB ***31*** *23:11:47.4±1.3,352S±02×1794E±03,h260km±16km, mb3.4/2,Error ellipse: s-maj=48.1km s-min=12.0km az=57.3*

ISC 31 23:11:49.5±1.2,353S±02×1793E±03,h260km±16km,n25, σ1§14/26,mb3.4/2,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.40**	**200**	PN		**Pn**		**23 12 35.2**	**-1.2**
MXZ						SN		**S**	**23 13 11.9**	**-1.7**
PUZ	**Puketiti**	**2.89**	**197**	PN		**Pn**		**23 12 41.3**	**-0.1**
PUZ						SN		**S**	**23 13 24.5**	**+2.0**
MWZ	**Matawai**	**3.35**	**205**	PN		**Pn**		**23 12 46.6**	**+0.3**
URZ	**Urewera**	**3.45**	**211**	P		**Pn**		**23 12 47.7**	**+0.4**
	2.2nm,0.3s,baz=295,slow=5.3,SNR=16								
URZ						S		**S**	**23 13 35.9**	**+2.6**
	8.3nm,0.3s,baz=279,slow=21,SNR=14								
URZ	**Urewera**	**3.45**	**211**	PN		**Pn**		**23 12 47.3**	**-0.1**
URZ						SN		**S**	**23 13 35.4**	**+2.0**
PXZ	**Pawanui**	**5.11**	**202**	PN		**Pn**		**23 13 06.6**	**-0.2**
PXZ						SN		**S**	**23 14 10.3**	**+1.6**
BFZ	**Birch Farm**	**5.89**	**204**	PN		**Pn**		**23 13 16.3**	**-0.2**
BFZ						SN		**S**	**23 14 27.3**	**+1.2**
TIWZ	**Tintock**	**6.10**	**205**	SN		**S**		**23 14 32.2**	**+1.4**
MRZ	**Mangatainoka R**	**6.11**	**208**	PN		**Pn**		**23 13 18.4**	**-0.8**
MRZ						SN		**S**	**23 14 30.6**	**-0.5**
KIW	**Kapiti Island**	**6.55**	**211**	PN		**Pn**		**23 13

ARS				*e*			23 30 34.6		
ARS				*e*			23 31 09.5		
ARS					pmax	pmax			
	comp=Z,32nm,0.4s								
ARS					smax				
	comp=E,421nm,0.5s								
ZAK	**Zakamensk**	**3.27**	**100**	*e*PN		Pn	23 30 40.7	+6.6	
ZAK				*e*S		Sn	23 31 24.3	+11	
ZAK					pmax	pmax			
	comp=Z,24nm,0.8s								
ZAK					smax				
	comp=N,167nm,0.9s								
TLY	**Talaya**	**3.44**	**77**	⇓*i*PN		Pn	23 30 44.2	+7.7	
TLY				*e*			23 31 29.4		
TLY					pmax	pmax			
	comp=Z,10.0nm,0.5s								
TLY					smax				
	comp=N,77nm,0.7s								
IRK	**Irkutsk**	**3.94**	**70**	*e*PN		Pn	23 30 53.2	+10	
IRK				*e*			23 31 44.1		
IRK					pmax	pmax			
	comp=Z,265nm,0.1s								
IRK					smax				
	comp=N,400nm,0.5s								
LSTR	**Listvyanka**	**4.20**	**76**	*e*PN		Pn	23 30 59.3	+12	
LSTR				*e*			23 31 51.8		
LSTR					pmax	pmax			
	comp=Z,10.0nm,0.9s								
LSTR					smax				
	comp=N,79nm,1.0s								
OGRR	**Ongureny**	**6.29**	**62**	*e*PN		Pn	23 31 37.0	+21	
OGRR				*e*			23 32 57.4		
OGRR					pmax	pmax			
	comp=Z,6.0nm,1.0s								
OGRR					smax				
	comp=N,75nm,0.9s								

*ISCJB **31** 23:51:15.5±0.3, 1401N±005×14663E±006, h36km, mb4.6/40, MS4.1/18, Error ellipse: s-maj=7.7km s-min=7.6km az=4.6*

*IDC **31** 23:51:16.9±0.6, 1402N×14664E, h36km±4km, mb4.3/16, mb1 4.4/16, mb1mx4.3/19, mbtmp4.5/16, MS3.9/11, Ms1 4.0/11, ms1mx3.6/22, Error ellipse: s-maj=16.4km s-min=14.6km az=85.0*

*NEIC **31** 23:51:16.9±0.2, 1402N×14661E, mb4.8/15, Error ellipse: s-maj=8.2km s-min=6.7km az=86.0*

*BJI **31** 23:51:17.8, 1421N×146.19E, h19km, mB4.8, mb4.8, Ms4.3, Msz4.1*

*HRVD **31** 23:51:17.0±0.7, 1389N×146.75E, h17km±2km, MW4.8/43, Centroid moment Tensor Solution. LP body waves: s10,c11;Mantle waves: s43,c59; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.14±.12; $M_{\theta\theta}$1.20±.10; $M_{\phi\phi}$-1.33±.10; $M_{r\theta}$-0.14±.27; $M_{\theta\phi}$1.01±.09; $M_{\phi r}$-0.35±.28; Best double couple: $M_0$1.66200×10^{16} NP1:ϕ_s296.00000°, δ77.00000°, λ1.00000°. NP2:ϕ_s206.00000°, δ89.00000°, λ167.00000°. Principal axes: T 1.5950, Plg10.0000°, Azm160.0000°; N 0.1400, Plg77.0000°, Azm23.0000°; P -1.7280, Plg9.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 31 23:51:17.6±0.3, 1402N±005×14666E±005, h38km, h38km±.7km:pP-P, n75, σ1$13/69, mb4.6/40, MS4.1/18, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.79**	**256**	Pn		**Pn**	**23 51 45.5**	**-0.5**
	364nm,0.3s,baz=125,slow=5.7,SNR=94							
GUMO				Sn		**Sn**	**23 52 08.6**	**+1.1**
	149nm,0.3s,baz=38,slow=22,SNR=7.2							
JOW	**Kunigami**	**21.40**	**309**	P		**P**	**23 56 02.0**	**+0.1**
	38nm,0.8s,mb4.8,baz=132,slow=11,SNR=20							
PMG	**Port Moresby**	**23.28**	**179**	P		**P**	**23 56 21.3**	**-0.6**
	20nm,0.9s,mb4.6,baz=254,slow=5.9,SNR=3.9							
PMG	**Port Moresby**	**23.28**	**179**	*e*P		**P**	**23 56 21.3**	**-0.6**
	41nm,1.3s,mb4.7							
PMG				*e*			23 56 32.7	
MJAR	**Matsushiro Arr**	**23.67**	**343**	P		**P**	**23 56 24.0**	**-1.6**
	3.0nm,0.6s,mb3.9,baz=167,slow=9.4,SNR=8.4							
MAJO	**Matsushiro**	**23.67**	**343**	P		**P**	**23 56 24.3**	**-1.3**
YHNB	**Yeheng**	**26.06**	**298**	P		**P**	**23 56 47.9**	**+0.6**
TATO	**Taipei**	**26.06**	**299**	*e*P		**P**	**23 56 47.0**	**-0.4**
	13nm,0.3s,mb5.0							
MDJ	**Mudanjiang**	**33.78**	**338**	P		**P**	**23 57 55.7**	**-0.1**
CTAO	**Charters Tower**	**33.90**	**181**	P		**P**	**23 57 56.7**	**0.0**
CN2	**Changchun**	**34.80**	**333**	*e*P		**P**	**23 58 07.5**	**+3.0**
CN2				LR		LR		
	comp=N,200nm,20.0s,MS4.1							
CN2				LR		LR		
	comp=E,300nm,20.0s,MS4.1							
WRAB	**Tennant Creek**	**35.85**	**200**	*e*P		**P**	**23 58 13.1**	**-0.4**
	comp=E,17nm,0.8s,mb5.0							
WRAB				*e*pP		pP	23 58 24.7	+0.4
BJT	**Baijiatuau**	**37.20**	**320**	*e*P		**P**	**23 58 28.0**	**+2.9**
BJT				*e*pP		pP	23 58 34.9	-1.0
BJI	**Beijing**	**37.21**	**320**	P		**P**	**23 58 28.5**	**+3.3**
BJI				AMB		AMB		
	comp=Z,16nm,1.4s,mb4.7							
BJI				LR		LR		
	comp=N,178nm,18.8s,MS4.1							
BJI				LR		LR		
	comp=E,210nm,17.5s,MS4.1							
BJI				LR		LR		
	comp=Z,196nm,16.4s,MS4.0							
AS31	**Alice Springs**	**39.48**	**199**	*e*P		**P**	**23 58 45.0**	**+0.8**
AS31				*e*pP		pP	23 58 55.1	0.0
ASAR	**Alice Springs**	**39.48**	**199**	P		**P**	**23 58 44.0**	**-0.2**
	comp=Z,5.5nm,1.1s,mb4.2,baz=23,slow=7.0,SNR=20							
ASAR				LR		LR	00 13 04.2	
	comp=Z,178nm,21.2s,MS3.9,baz=14,slow=33							
HHC	**Hu-ho-hao-te**	**40.60**	**318**	P		**P**	**23 58 54.3**	**+0.8**
HHC				AP		pP	23 59 06.0	+1.6
HHC				XP		sP	23 59 10.3	+1.4
HHC				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb4.7							
HHC				AMB		AMB		
	comp=Z,104nm,7.8s							
HHC				LR		LR		
	comp=E,136nm,17.8s,MS4.0							
HHC				LR		LR		
	comp=N,133nm,19.0s,MS4.0							
HHC				LR		LR		
	comp=Z,263nm,22.0s,MS4.0							
DZM	**Mont Dzumac**	**40.78**	**151**	P		**P**	**23 58 54.0**	**-1.0**
	comp=Z,8.7nm,1.1s,mb4.3,baz=313,slow=8.8,SNR=4.6							
KMI	**Kunming**	**42.66**	**292**	P		**P**	**23 59 10.8**	**+0.4**
KMI				AP		pP	23 59 22.8	+1.5
KMI				XP		sP	23 59 26.5	+0.7
KMI				AMB		AMB		
	comp=Z,5.0nm,0.8s,mb4.3							
KMI				AMB		AMB		
	comp=Z,107nm,6.2s							
KMI				LR		LR		
	comp=N,162nm,15.4s,MS4.1							
KMI				LR		LR		
	comp=E,133nm,15.4s,MS4.1							
KMI				LR		LR		
	comp=Z,123nm,18.8s,MS3.8							
CD2	**Chengdu**	**42.77**	**300**	*e*P		**P**	**23 59 09.5**	**-1.8**
CD2				AP		pP	23 59 20.8	-1.4
CD2				XP		sP	23 59 24.8	-1.9
CD2				AMB		AMB		
	comp=Z,20nm,0.6s,mb5.0							
CD2				AMB		AMB		
	comp=Z,80nm,4.8s							
CD2				LR		LR		
	comp=E,130nm,17.9s							
CD2				LR		LR		
	comp=Z,140nm,15.6s,MS4.0							
MBWA	**Marble Bar**	**43.84**	**218**	*e*P		**P**	**23 59 20.9**	**+1.0**
	comp=Z,3.3nm,0.6s,mb4.2							
MBWA				*e*pP		pP	23 59 31.4	+0.6
LZH	**Lanzhou**	**44.12**	**308**	*e*P		**P**	**23 59 24.0**	**+1.8**
LZH				AP		pP	23 59 34.5	+1.4
LZH				XP		sP	23 59 38.5	+0.9
LZH				AMB		AMB		
	comp=Z,43nm,1.5s,mb5.0							
LZH				AMB		AMB		
	comp=Z,211nm,4.6s							
LZH				LR		LR		
	comp=N,356nm,15.6s							
LZH				LR		LR		
	comp=Z,653nm,16.4s,MS4.6							
ULN	**Ulaanbaatar**	**47.04**	**324**	*e*P		**P**	**23 59 45.8**	**+0.5**
	comp=Z,12nm,1.0s,mb4.8							
ULN				*e*pP		pP	23 59 56.4	+0.1
SONM	**Songino Array**	**47.40**	**324**	P		**P**	**23 59 48.0**	**0.0**
	comp=Z,5.2nm,0.8s,mb4.5,baz=136,slow=7.4,SNR=11							
SONM				LR		LR	00 21 44.7	
	comp=Z,197nm,18.4s,MS4.1,baz=113,slow=39							
GTA	**Gaotai**	**48.20**	**311**	*e*P		**P**	**23 59 56.0**	**+1.7**
GTA				AMB		AMB		
	comp=Z,4.0nm,1.2s,mb4.3							
GTA				AMB		AMB		
	comp=Z,101nm,6.5s							
GTA				LR		LR		
	comp=N,194nm,18.3s,MS4.3							
GTA				LR		LR		
	comp=E,154nm,15.6s,MS4.3							
GTA				LR		LR		
	comp=Z,278nm,16.0s,MS4.3							
YAK	**Yakutsk**	**49.46**	**350**	P		**P**	**00 00 04.2**	**+0.3**
TLY	**Talaya**	**50.93**	**327**	*e*P		**P**	**00 00 14.9**	**-0.2**
TLY				*e*pP		pP	00 00 26.4	+0.2
GUN	**Gumba**	**57.90**	**294**	*e*P		**P**	**00 01 07.0**	**+1.3**
PKI	**Pulchoki**	**58.32**	**294**	*e*P		**P**	**00 01 08.2**	**-0.4**
KKN	**Kakani**	**58.43**	**294**	*e*P		**P**	**00 01 10.3**	**+0.9**
	comp=Z,8.4nm,0.7s,mb4.9							
DMN	**Daman**	**58.59**	**294**	*e*P		**P**	**00 01 10.4**	**-0.1**
	comp=Z,31nm,1.3s,mb5.2							
GKN	**Gorkha**	**59.00**	**294**	*e*P		**P**	**00 01 13.5**	**+0.1**
KOLN	**Koldanda**	**59.92**	**294**	*e*P		**P**	**00 01 19.6**	**-0.1**
	comp=Z,24nm,1.1s,mb5.2							
MKAR	**Makanchi Array**	**62.40**	**316**	P		**P**	**00 01 36.2**	**-0.2**
	comp=Z,2.8nm,0.7s,mb4.5,baz=84,slow=8.4,SNR=21							
KDAK	**Kodiak Island**	**62.79**	**32**	P		**P**	**00 01 39.2**	**+0.1**
	comp=Z,5.3nm,0.7s,mb4.8,baz=297,slow=5.6,SNR=3.9							
KDAK	**Kodiak Island**	**62.79**	**32**	P		**P**	**00 01 39.2**	**+0.1**
SLKM	**Skilak Lake**	**64.76**	**29**	*e*P		**P**	**00 01 52.2**	**+0.1**
SLKM				*e*pP		pP	00 02 03.0	-0.5
SLKM				*e*sP		sP	00 02 07.3	-0.6
KURK	**Kurchatov**	**65.38**	**320**	*e*P		**P**	**00 01 55.4**	**-0.7**
	comp=Z,37nm,1.1s,mb5.3							
KURK				*e*pP		pP	00 02 06.7	-0.8
AAK	**Ala-Archa**	**67.55**	**311**	*e*P		**P**	**00 02 09.5**	**-0.5**
PPT	**Papeete**	**70.30**	**115**	LR		LR	00 27 14.7	
	comp=Z,203nm,21.6s,MS4.3,baz=313,slow=31							
DAWY	**Dawson**	**70.47**	**27**	*e*P		**P**	**00 02 28.5**	**+0.4**
DAWY				*e*pP		pP	00 02 39.4	-0.3
BRVK	**Borovoye**	**70.74**	**322**	*e*P		**P**	**00 02 29.1**	**-0.6**
	comp=Z,8.3nm,1.0s,mb4.6							
BRVK				*e*pP		pP	00 02 40.4	-0.9
ZRNK	**Zerenda**	**71.51**	**321**	*e*P		**P**	**00 02 33.5**	**-0.9**
	comp=Z,20nm,1.3s,mb4.9							
ZRNK				*e*pP		pP	00 02 44.7	-1.2
INK	**Inuvik**	**73.31**	**22**	P		**P**	**00 02 43.6**	**-1.4**
	comp=Z,1.6nm,0.8s,mb4.0,baz=288,slow=2.9,SNR=6.1							
INK	**Inuvik**	**73.31**	**22**	*e*P		**P**	**00 02 43.5**	**-1.6**
ARU	**Arti**	**77.41**	**325**	*e*P		**P**	**00 03 08.1**	**-0.6**
	comp=Z,4.4nm,0.6s,mb4.6							
ARU				*e*		pP	00 03 19.2	-1.1
CMB	**Columbia Colle**	**83.79**	**52**	*e*P		**P**	**00 03 44.1**	**+1.3**
	comp=Z,10.0nm,1.3s,mb4.8							
CMB				*e*pP		pP	00 03 54.7	+0.1
NVAR	**Mina Array Bea**	**85.29**	**52**	P		**P**	**00 03 51.8**	**+1.4**
	comp=Z,3.0nm,0.7s,mb4.5,baz=267,slow=7.2,SNR=20							
NVAR				pP		pP	00 04 02.8	+0.6
	comp=Z,4.3nm,0.8s,baz=262,slow=8.6,SNR=13							
WALA	**Waterton Lakes**	**85.60**	**41**	*e*P		**P**	**00 03 53.2**	**+1.3**
	comp=Z,9.6nm,1.1s,mb4.9							
WALA				*e*pP		pP	00 04 04.3	+0.6
TPH	**Tonopah**	**86.20**	**52**	P		**P**	**00 03 56.0**	**+1.0**
KEV	**Kevo**	**86.65**	**342**	*e*p		**P**	**00 03 55.6**	**-1.5**
	comp=Z,3.1nm,0.6s,mb4.7							
ARCES	**ARCESS Array B**	**87.21**	**342**	P		**P**	**00 03 58.4**	**-1.4**
	comp=Z,4.5nm,0.7s,mb4.8,baz=49,slow=5.5,SNR=14							
ARCES				pP		pP	00 04 10.0	-1.6
	comp=Z,4.0nm,0.6s,baz=55,slow=5.0,SNR=4.1							
ARCES				LR		LR	00 50 46.8	
	comp=Z,66nm,19.0s,MS4.1,baz=197,slow=41							
ARE0	**ARCESS Array S**	**87.21**	**342**	*e*P		**P**	**00 03 58.9**	**-1.0**
ARE0				*e*pP		pP	00 04 10.6	-1.0
MCMT	**McKenzie Canyo**	**87.51**	**44**	*e*P		**P**	**00 03 59.8**	**-1.5**
MCMT				*e*pP		pP	00 04 11.9	-1.2
HRY	**Holter Researc**	**87.63**	**42**	*e*P		**P**	**00 04 02.7**	**+0.8**
HRY				*e*pP		pP	00 04 13.7	0.0
QLMT	**Earthquake Lak**	**88.47**	**44**	*e*P		**P**	**00 04 07.4**	**+1.5**
QLMT				*e*pP		pP	00 04 18.1	+0.3
JOF	**Joensuu**	**88.63**	**336**	*e*p		**P**	**00 04 03.9**	**-2.7**
	comp=Z,3.5nm,0.6s,mb4.9							
IMW	**Indian Meadow**	**89.10**	**45**	*e*P		**P**	**00 04 10.8**	**+1.9**
	comp=Z,2.2nm,0.7s,mb4.6							
IMW				*e*pP		pP	00 04 20.2	-0.4
GNI	**Garni**	**89.95**	**311**	LR		LR	00 51 54.9	
	comp=Z,31nm,18.2s,MS3.8,baz=339,slow=40							
KIV	**Kislovodsk**	**90.16**	**316**	*e*P		**P**	**00 04 13.6**	**-0.2**
PDAR	**Pinedale Array**	**90.42**	**46**	P		**P**	**00 04 15.3**	**+0.3**
	comp=Z,0.6nm,0.6s,mb4.1,baz=256,slow=3.6,SNR=7.5							
PDAR				pP		pP	00 04 27.0	+0.1
	comp=Z,0.6nm,0.7s,baz=218,slow=1.7,SNR=4.4							
PDAR				LR		LR	00 36 09.1	
	comp=Z,98nm,21.0s,MS4.2,baz=118,slow=30							
SRU	**San Rafael**	**90.93**	**49**	*e*P		**P**	**00 04 18.2**	**+0.8**
	comp=Z,1.3nm,0.6s,mb4.4							
SRU				*e*pP		pP	00 04 29.3	+0.1
KAF	**Kangasniemi**	**91.04**	**336**	*e*p		**P**	**00 04 14.9**	**-3.0**
	comp=Z,2.6nm,0.6s,mb4.7,baz=54,slow=4.4							
FINES	**FINESS Array B**	**91.50**	**336**	P		**P**	**00 04 17.8**	**-2.2**
	comp=Z,3.2nm,0.7s,mb4.8,baz=64,slow=4.4,SNR=16							
FINES				pP		pP	00 04 28.9	-3.0
	comp=Z,2.4nm,0.6s,baz=68,slow=4.8,SNR=5.8							
FINES				LR		LR	00 47 44.6	
	comp=Z,42nm,18.7s,MS3.9,baz=245,slow=37							
VNDA	**Vanda**	**91.79**	**177**	P		**P**	**00 04 18.6**	**-2.8**
	comp=Z,0.9nm,0.9s,mb4.1,baz=18,slow=6.4,SNR=2.7							
VNDA				LR		LR	00 41 15.7	
	comp=Z,69nm,19.9s,MS4.1,baz=344,slow=33							
PV10	**Paradox Valley**	**92.27**	**50**	P		**P**	**00 04 24.8**	**+1.3**
PV01	**Paradox Valley**	**92.70**	**50**	*e*P		**P**	**00 04 26.1**	**+0.6**
PV01				*e*pP		pP	00 04 37.2	-0.2
AKASG	**Malin Array Be**	**95.66**	**325**	LR		LR	00 49 05.6	
	comp=Z,63nm,19.8s,MS4.1,baz=70,slow=36							
NB2	**NORSAR Subarra**	**97.26**	**340**	P		**P**	**00 04 44.8**	**-1.6**
	comp=Z,0.7nm,0.8s,mb4.1,baz=46,slow=4.6							
NOA	**NORSAR Array B**	**97.26**	**340**	P		**P**	**00 04 45.0**	**-1.4**
	comp=Z,1.3nm,0.9s,mb4.4,baz=48,slow=4.8,SNR=5.1							
NOA				LR		LR	00 54 09.3	
	comp=Z,46nm,18.7s,MS4.0,baz=0.0,slow=39							
BRTR	**Keskin Array B**	**98.02**	**314**	P		**P**	**00 04 49.1**	**-0.7**
	comp=Z,0.6nm,0.8s,mb4.2,baz=101,slow=2.5,SNR=4.7							
BRTR				LR		LR	00 50 21.3	
	comp=Z,32nm,19.7s,MS3.8,baz=238,slow=36							
TORD	**Torodi Ar. Bea**	**136.03**	**306**	PKP		PKPdf	00 10 36.3	+1.8
	comp=Z,0.8nm,1.1s,baz=8.8,slow=1.5,SNR=5.5							
DBIC	**Dimbokro**	**145.05**	**304**	PKPbc		PKPbc	00 10 51.5	+1.3
	comp=Z,17nm,0.8s,baz=43,slow=4.7,SNR=23							
DBIC				pPKPbc			00 11 02.5	
	comp=Z,15nm,0.6s,baz=24,slow=4.4,SNR=6.7							
DBIC	**Dimbokro**	**145.05**	**304**	PKPbc		PKPbc	00 10 51.5	+1.3
DBIC				pPKPbc			00 11 02.5	
LPAZ	**La Paz**	**146.37**	**98**	PKPbc		PKPbc	00 10 56.0	+1.8
	comp=Z,1.8nm,0.7s,baz=293,slow=2.9,SNR=10							

ISC Computed Locations for July 2006

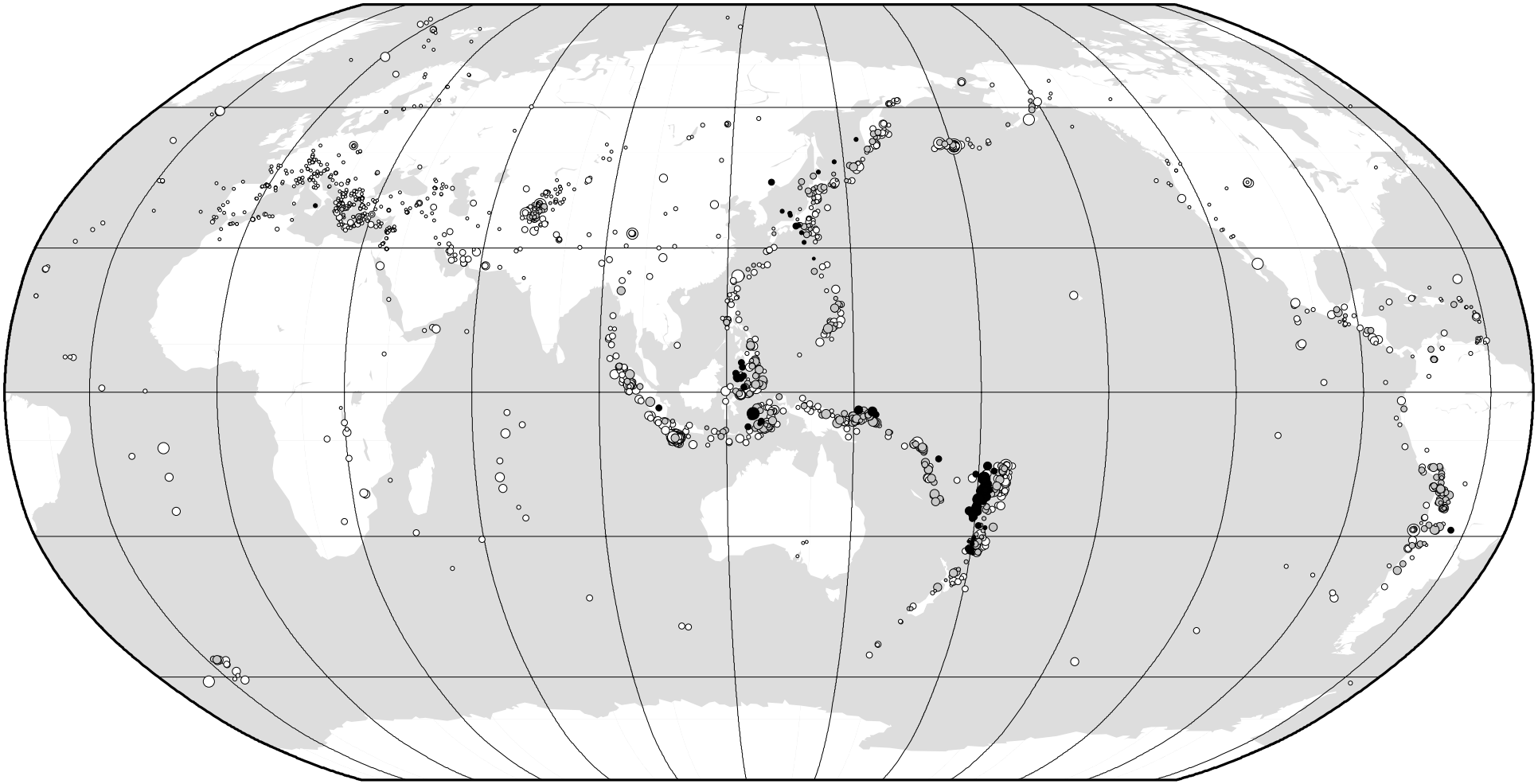

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2279 Events